Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

WEL 01 00:06:17.7±0.4, 46°.06S×165°.97E, h29km±1km, ML3.6/14, Error ellipse: s-maj=3.6km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**55**	PN	Pn	00 06 35.7	-0.2
DCZ				*e*SN	Sn	00 06 48.6	-0.6
DCZ				AML	AML	00 06 50.4	
DCZ				AML	AML	00 06 50.4	
DCZ				AML	AML	00 06 52.6	
APZ	**The Paps**	**1.59**	**120**	PN	Pn	00 06 44.0	-0.1
APZ				SN	Sn	00 07 03.1	-0.6
MLZ	**Mavora Lakes**	**1.70**	**66**	PN	Pn	00 06 46.9	+1.4
MLZ				AML	AML	00 07 15.1	
MLZ				AML	AML	00 07 16.9	
MSZ	**Milford Sound**	**1.96**	**45**	PN	Pn	00 06 50.7	+1.7
MSZ				*e*SN	Sn	00 07 14.3	+1.8
MSZ				AML	AML	00 07 26.9	
SYZ	**Scrubby Hill**	**2.25**	**103**	PN	Pn	00 06 54.2	+1.3
WKZ	**Wanaka**	**2.47**	**61**	PN	Pn	00 06 58.1	+2.0
WKZ				AML	AML	00 07 02.7	
EAZ	**Earnscleugh**	**2.48**	**72**	*e*PN	Pn	00 06 57.5	+1.4
EAZ				AML	AML	00 07 21.0	
EAZ				AML	AML	00 07 35.2	
TUZ	**Tuapeka**	**2.55**	**89**	AML	AML	00 07 32.7	
TUZ				AML	AML	00 08 39.2	
JCZ	**Jackson Bay**	**2.80**	**46**	AML	AML	00 07 54.0	
JCZ				AML	AML	00 07 56.6	
LBZ	**Lake Benmore**	**3.42**	**62**	AML	AML	00 07 51.8	
LBZ				AML	AML	00 08 17.4	
ODZ	**Otahua Downs**	**3.44**	**74**	PN	Pn	00 07 10.0	+0.8

GUC 01 00:08:47.0±0.7, 44°.48S×72°.98W, h16km±10km, ML3.7, 1C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYCH	**Puerto Aysen**	**0.94**	**168**	*e*P	Pb	00 09 04.1	-0.8
AYCH				*i* S	Sb	00 09 17.3	+0.1
AYCH				AML	AML	00 09 19.0	
	comp=N,711μm,0.5s						
CHFR	**Pto Chacabuco**	**0.98**	**176**	*e*P	Pb	00 09 05.3	-0.3
CHFR				*e*S	Sg	00 09 18.9	-0.1
CHFR				AML	AML	00 09 19.7	
	comp=E,7μm,0.3s						
COYC	**Coyhaique**	**1.26**	**150**	*i*P	Pb	00 09 10.6	+0.1
COYC				*i* S	Sg	00 09 27.5	-0.5
COYC				AML	AML	00 09 29.1	
	comp=E,2μm,0.3s						
FUTA	**Futaleufœ**	**1.53**	**33**	*e*P	Pb	00 09 14.8	-0.1
FUTA				*i* S	Sg	00 09 35.2	-1.1
HUNY	**Huinay**	**2.14**	**11**	*e*P	Pb	00 09 24.3	-1.0
HUNY				*e*S	Sb	00 09 53.4	+1.8
HUNY				AML	AML	00 10 00.1	
	comp=N,846nm,0.7s						

*DJA **01** 00:14:03.7±2.6, 9°.S±16°.×11°.3E±°, h22km±23km, M4.8/10, mb5.4/2, mB5.4/1, MLv4.5/10, Mw(mB)4.9/1*
*ISCJB **01** 00:14:04.7±0.4, 9°.12S±0°.06×113°.04E±0°.04, h63km, mb3.8/7, Error ellipse: s-maj=9.5km s-min=4.5km az=18.4*
*AUST **01** 00:14:04.7, 9°.44S×112°.90E, h35km*
*IDC **01** 00:14:08.8±6.0, 8°.90S×113°.25E, h88km±53km, mb3.5/7, mb1 3.7/9, mb1mx3.6/21, mbtmp3.6/9, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/25, Error ellipse: s-maj=45.6km s-min=15.8km az=62.0*

ISC 01 00:14:06.0±0.6, 9°.05S±0°.08×113°.04E±0°.04, h63km, n32, σ1§36/34, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.05**	**327**	P	**Pn**	**00 14 25.2**	**+0.4**
BLJI	**Banyuglugur**	**1.41**	**23**	P	**Pn**	**00 14 30.7**	**+1.2**
BYJI	**Banyuwangi**	**1.54**	**58**	P	**Pn**	**00 14 31.9**	**+0.6**
SJI	**Sawahan**	**1.81**	**316**	P	**Pn**	**00 14 36.0**	**+1.0**
PCJI	**Pacitan**	**2.02**	**295**	P	**Pn**	**00 14 37.9**	**+0.1**
IGBI	**Denpasar**	**2.10**	**84**	P	**Pn**	**00 14 37.3**	**-1.5**
SRBI	**Singaraja**	**2.35**	**66**	P	**Pn**	**00 14 42.4**	**+0.1**
WOJI	**Wonogiri, Jawa**	**2.41**	**300**	P	**Pn**	**00 14 43.8**	**+0.7**
UGM	**Wanagama**	**2.73**	**294**	P	**Pn**	**00 14 48.1**	**+0.7**
	baz=2.8,SNR=29						
UGM				S	**Sn**	**00 15 19.7**	**+0.3**
	baz=2.8,SNR=6.6						
BJII	**Banjamegara**	**3.71**	**297**	P	**Pn**	**00 15 03.0**	**+2.2**
CISI	**Cisompet, Garu**	**5.37**	**286**	P	**Pn**	**00 15 24.1**	**+0.4**
	133nm,0.7s,4μm0.6nm						
CISI	**Cisompet, Garu**	**5.37**	**286**	P	**Pn**	**00 15 24.4**	**+0.7**
	baz=5.4,SNR=7.3						
CISI				S	**Sn**	**00 16 21.2**	**-3.1**
	baz=5.4,SNR=8.6						
SKJI	**Sukabumi**	**6.73**	**287**	P	**Pn**	**00 15 40.4**	**-1.8**
XMIS	**Christmas Isla**	**7.42**	**258**	P	**Pn**	**00 15 50.6**	**-1.0**
	baz=7.2,SNR=7.1						
KAPI	**Kappang**	**7.78**	**59**	P	**Pn**	**00 15 56.0**	**-0.5**
	1.5nm,0.3s,baz=223,slow=11,SNR=5.9						
KAPI				S	**Sn**	**00 17 18.9**	**-4.3**
	0.8nm,0.3s,baz=71,slow=23,SNR=5.9						
BATI	**Baumata**	**10.54**	**97**	P	**Pn**	**00 16 36.4**	**+2.0**
	3.6nm,0.3s,baz=278,slow=7.1,SNR=2.7						
BATI				S	**Sn**	**00 18 29.7**	**-1.3**
	2.1nm,0.3s,baz=282,slow=19,SNR=2.0						
MNAI	**Manna**	**11.04**	**294**	P	**Pn**	**00 16 42.3**	**+1.1**
	baz=11,SNR=4.6						
KSI	**Kapahiang**	**11.68**	**297**	P	**Pn**	**00 16 50.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**15.19**	**128**	LR	LR	00 23 02.8	
	comp=Z,104nm,19.7s,slow=35						
KNRA	**Kununurra**	**16.71**	**115**	P	**P**	**00 17 57.4**	**-0.1**
	baz=17,SNR=5.4						
MTN	**Manton Dam**	**18.16**	**104**	S	Sn	00 21 20.2	-16
	baz=18,SNR=3.9						
MEEK	**Meekatharra**	**18.28**	**164**	P	**P**	**00 18 14.8**	**+0.1**
	baz=18,SNR=8.7						
MEEK				S	Sn	00 21 19.8	-19
	baz=18,SNR=13						
FAKI	**Fak Fak**	**20.05**	**74**	P	Pn	00 18 46.5	+10
	baz=20,SNR=7.3						
WRA	**Warramunga Arr**	**23.27**	**120**	P	**P**	**00 19 07.3**	**-1.0**
	1.3nm,0.6s,baz=296,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**24.69**	**129**	P	**P**	**00 19 21.1**	**-0.2**
	2.9nm,0.7s,baz=303,slow=8.8,SNR=30						
ASAR				PcP	**PcP**	**00 22 58.2**	**+0.9**
	0.4nm,0.4s,baz=308,slow=1.6,SNR=7.9						
STKA	**Stephens Creek**	**34.90**	**135**	P	**P**	**00 20 51.9**	**+0.3**
	1.8nm,0.4s,baz=297,slow=8.3,SNR=10.0						
STKA	**Stephens Creek**	**34.90**	**135**	P	**P**	**00 20 52.3**	**+0.6**
	baz=35,SNR=4.3						
YNG	**Young**	**41.02**	**133**	P	**P**	**00 21 44.5**	**+1.4**
	baz=41,SNR=6.8						
MKAR	**Makanchi Array**	**61.98**	**337**	P	**P**	**00 24 19.1**	**-0.4**
	0.6nm,0.5s,baz=150,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**67.14**	**342**	P	**P**	**00 24 52.5**	**-0.4**
	0.4nm,0.4s,baz=166,slow=6.4,SNR=3.2						
VNDA	**Vanda**	**72.91**	**170**	P	**P**	**00 25 27.6**	**-0.3**
	0.4nm,0.8s,baz=320,slow=7.2,SNR=2.6						
BRTR	**Keskin Array B**	**87.67**	**311**	P	**P**	**00 26 48.9**	**+0.9**
	0.4nm,0.8s,baz=90,slow=6.2,SNR=3.6						

*ISCJB **01** 00:27:23.7±0.5, 67°.14N±0°.02×21°.19E±0°.08, h0km, Error ellipse: s-maj=4.5km s-min=3.1km az=12.5*
*HEL **01** 00:27:24.0±0.1, 67°.19N×20°.66E, h0km, ML2.3, ML1.5(UPP), Suspected explosion*
*NAO **01** 00:27:24.0±1.0, 67°.10N×21°.09E, ML2.7*
*IDC **01** 00:27:24.1±0.8, 67°.18N×20°.96E, h0km, mb1 3.1/4, mb1mx2.9/28, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=14.2km s-min=6.2km az=116.0*
*BER **01** 00:27:25.4±4.2, 67°.16N×20°.81E, h0km, ML2.9, ML2.7(NAO), Suspected explosion*

ISC 01 00:27:22.9±0.7, 67°.15N±0°.03×20°.72E±0°.04, h0km, n30, σ1§55/53, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**1.03**	**28**	*i* P	**Pg**	**00 27 41.8**	**-0.8**
LANU				*i* SB	**Sg**	**00 27 56.4**	**+0.5**
SJUU	**Sjulsmark**	**1.69**	**167**	*e*P	**Pn**	**00 27 54.6**	**+1.0**
SJUU				*e*S	**Sg**	**00 28 17.7**	**+0.7**
HEF	**Hetta**	**1.69**	**40**	*e*P	**Pn**	**00 27 53.5**	**-0.2**
HEF				*e*SG	**Sn**	**00 28 15.8**	**-0.2**
HEF				MSG		00 28 15.8	
	comp=Z,32nm,0.4s						
KIF	**Kilpisjarvi**	**1.87**	**1**	*e*PN	**Pn**	**00 27 57.0**	**+0.9**
LILU	**Lilltraesk**	**1.90**	**191**	*e*P	**Pb**	**00 27 58.2**	**-0.3**
LILU				*e*S	**Sg**	**00 28 24.2**	**+0.3**
KTK1	**Kautokeino**	**2.10**	**26**	*e*P	**Pn**	**00 28 00.8**	**+1.5**
KTK1				*e*Sg	**Sb**	**00 28 28.9**	**+0.5**
KTK1				AML	AML	00 28 29.9	
	comp=Z,359nm,0.6s						
RNF	**Rovaniemi**	**2.16**	**102**	*e*PB	**Pb**	**00 28 02.0**	**-0.8**
RNF				MSG	**Sg**	**00 28 31.6**	**-0.6**
	comp=Z,7.1nm,0.2s						
RNF				*e*SG	**Sg**	**00 28 31.6**	**-0.6**
SGF	**Sodankyl**	**2.27**	**80**	*e*P	**Pn**	**00 28 02.8**	**+1.1**
SGF				MSG	**Sb**	**00 28 34.0**	**+0.6**
	comp=Z,32nm,0.4s						
SGF				*e*SG	**Sb**	**00 28 34.0**	**+0.6**
MOR8	**Moi Rana**	**2.69**	**252**	*e*Sg	**Sn**	**00 28 43.1**	**+2.5**
MOR8				AML	AML	00 28 46.7	
	comp=Z,56nm,0.5s						
SVAU	**Svanoeiden**	**2.71**	**191**	*e*P	**Pn**	**00 28 09.4**	**+1.7**
OUL	**Oulu**	**2.95**	**132**	*e*P	**Pn**	**00 28 13.0**	**+2.0**
OUL				*e*SG	**Sb**	**00 28 55.5**	**+2.5**
ARA0	**ARCESS Array S**	**2.98**	**34**	Pn	**Pn**	**00 28 12.1**	**+0.6**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**00 28 47.9**	**0.0**
	baz=213,slow=22						
ARA0	**ARCESS Array S**	**2.98**	**34**	Pn	**Pn**	**00 28 12.1**	**+0.6**
	baz=214,slow=14						
ARA0				Sn	**Sn**	**00 28 47.9**	**0.0**
	baz=213,slow=22						
ARCES	**ARCESS Array B**	**2.98**	**34**	Pn	**Pn**	**00 28 12.0**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=216,slow=13,SNR=49						
ARCES				Sn	**Sn**	**00 28 47.7**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=214,slow=23,SNR=9.4						
ARCES				Lg	Lg	00 28 54.4	
	comp=Z,8.4nm,0.3s,baz=217,slow=33,SNR=19						
UMAU	**Umeaa**	**3.28**	**180**	*e*P	**Pn**	**00 28 17.0**	**+1.5**
VRF	**Varrio**	**3.48**	**76**	*e*P	**Pn**	**00 28 20.4**	**+2.2**
VRF				MSG	**Sb**	**00 29 11.5**	**+3.4**
	comp=Z,13nm,0.4s						
VRF				*e*SG	**Sb**	**00 29 11.5**	**+3.4**
KEV	**Kevo**	**3.50**	**39**	*e*P	**Pn**	**00 28 19.3**	**+0.8**
MSF	**Maaselka**	**3.55**	**107**	*e*SG	**Sg**	**00 29 14.1**	**-2.8**
MSF				MSG		00 29 14.1	
	comp=Z,4.4nm,0.4s						
KU6	**Riekki**	**3.83**	**103**	*e*P	**Pn**	**00 28 24.2**	**+1.1**
KU6				*e*SG	**Sg**	**00 29 24.4**	**-1.4**
KU6				MSG		00 29 24.4	
	comp=Z,8.6nm,0.4s						
APA0	**Apatity Array**	**4.76**	**79**	Sn	**Sn**	**00 29 30.4**	**-1.2**
	baz=264,slow=22						
APA0				Lg	Lg	00 29 45.5	
	baz=262,slow=37						
APA0	**Apatity Array**	**4.76**	**79**	Sn	**Sn**	**00 29 30.4**	**-1.2**
	baz=264,slow=22						
APA0				Lg	Lg	00 29 45.5	
	baz=262,slow=37						
FIA0	**FINESS Array S**	**6.18**	**155**	Pn	**Pn**	**00 28 56.8**	**+1.5**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**00 30 06.0**	**-0.5**
	baz=349,slow=28						
FIA0				Lg	Lg	00 30 35.3	
	baz=339,slow=37						
FIA0	**FINESS Array S**	**6.18**	**155**	Pn	**Pn**	**00 28 56.8**	**+1.5**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**00 30 06.0**	**-0.5**
	baz=349,slow=28						
FIA0				Lg	Lg	00 30 35.3	
	baz=339,slow=37						
FINES	**FINESS Array B**	**6.18**	**155**	Pn	**Pn**	**00 28 57.3**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=345,slow=11,SNR=8.5						
FINES				Sn	**Sn**	**00 30 07.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=340,slow=22,SNR=10						
FINES				Lg	Lg	00 30 38.3	
	comp=Z,1.1nm,0.3s,baz=342,slow=30,SNR=12						
NB2	**NORSAR Subarra**	**7.40**	**219**	Pn	**Pn**	**00 29 13.2**	**+1.1**
NB2				Lg	Lg	00 31 15.6	
	baz=35,slow=37						
NB2	**NORSAR Subarra**	**7.40**	**219**	Pn	**Pn**	**00 29 13.2**	**+1.1**
NB2				Lg	Lg	00 31 15.6	
	baz=35,slow=37						
NOA	**NORSAR Array B**	**7.40**	**219**	Pn	**Pn**	**00 29 13.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=37,slow=12,SNR=3.1						
NOA				Sn	**Sn**	**00 30 33.8**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=37,slow=18,SNR=3.9						
NOA				Lg	Lg	00 31 15.7	
	comp=Z,0.9nm,0.3s,baz=52,slow=23,SNR=5.4						
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**00 29 16.1**	**0.0**
	baz=25,slow=14						
HFS				Sn	**Sn**	**00 30 40.7**	**-3.2**
	baz=18,slow=22						
HFS				Lg	Lg	00 31 20.8	
	baz=27,slow=28						
HFS	**Hagfors**	**7.70**	**207**	P	**Pn**	**00 29 16.1**	**0.0**
	baz=25,slow=14						
HFS				Sn	**Sn**	**00 30 40.7**	**-3.2**
	baz=18,slow=22						
HFS				Lg	Lg	00 31 20.8	
	baz=27,slow=28						
HFS	**Hagfors**	**7.70**	**207**	Pn	**Pn**	**00 29 16.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=6.2						
HFS				Sn	**Sn**	**00 30 42.4**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=25,slow=21,SNR=12						
HFS				Lg	Lg	00 31 28.1	
	comp=Z,0.8nm,0.3s,baz=29,slow=28,SNR=6.3						

ROM 01 00:33:28.9±0.3, 42°.39N×13°.35E, h9km, Md1.5/3, Ml0.5/1, Error ellipse: s-maj=6.4km s-min=1.7km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.05**	**134**	Pg	Pg	00 33 30.9	+0.1
AQU				Sg	Sg	00 33 32.4	+0.2
	28nm,0.1s						
FAGN	**Fagnano**	**0.21**	**126**	Pg	Pg	00 33 34.2	+0.9
FAGN				Sg	Sg	00 33 37.6	+1.3
	7.0nm,0.3s						

*CSEM **01** 00:35:01.5±0.2, 50°.13N×18°.36E, h1km, ML2.6/8, Error ellipse: s-maj=5.6km s-min=3.2km az=2.0*
*IPEC **01** 00:35:02.0±0.2, 50°.06N×18°.48E, h0km, ML1.9/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*

PRU 01 00:35:03.1, 50°.07N×18°.36E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.11**	**277**	*e*Sg	Sg	00 35 09.6	+3.0
OKC	**Ostrava-Krasne**	**0.27**	**211**	*e*PG	Pg	00 35 08.4	+0.1
OKC				*e*SG	Sg	00 35 12.1	+0.3
	comp=Z,48nm,0.5s						
OKC	**Ostrava-Krasne**	**0.27**	**211**	Pg	Pg	00 35 08.4	+0.1
OKC				Sg	Sg	00 35 12.1	+0.3
	48nm,0.5s						
MORC	**Moravsky Berou**	**0.60**	**241**	*e*Pg	Pg	00 35 14.5	-0.3
	baz=64						
MORC				*e*Sg	Sg	00 35 23.6	+0.9
	25nm,0.4s,baz=64						
OJC	**Ojcow**	**0.94**	**80**	*e*Pg	Pg	00 35 18.8	-2.3
OJC				*e*Sg	Sg	00 35 31.6	-1.7
KRLC	**Kraliky**	**1.02**	**271**	*e*PG	Pg	00 35 21.5	-1.2
KRLC				*e*SG	Sg	00 35 35.9	-0.1
KRLC	**Kraliky**	**1.02**	**271**	Pg	Pg	00 35 21.5	-1.2
KRLC				Sg	Sg	00 35 35.9	-0.1
DPC	**Dobruska-Polom**	**1.34**	**283**	*e*PG	Pg	00 35 27.9	-1.0
DPC				*e*SG	Sg	00 35 46.3	0.0
DPC	**Dobruska-Polom**	**1.34**	**283**	Pg	Pg	00 35 27.9	-1.0
DPC				Sg	Sg	00 35 46.3	0.0
VRAC	**Vranov**	**1.38**	**237**	*e*Pg	Pg	00 35 28.5	-1.1
VRAC				*e*Sg	Sg	00 35 47.0	-0.4
	12nm,0.3s,baz=58						
NIE	**Niedzica**	**1.43**	**116**	*e*Pg	Pb	00 35 30.6	0.0
VYHS	**Vyhne**	**1.61**	**169**	*e*PN	Pn	00 35 31.5	-1.3
VYHS				*e*SN	Sn	00 35 52.7	-1.6
KRUC	**Moravsky**	**1.63**	**232**	*e*Pn	Pn	00 35 32.1	-1.0
	baz=53						
KRUC				*e*Sg	Sn	00 35 54.8	+0.1
	11nm,0.4s,baz=53						
SMOL	**Smolenice**	**1.67**	**202**	*e*PN	Pn	00 35 32.2	-1.5
SMOL				*e*SN	Sn	00 35 54.8	-1.0
SMOL	**Smolenice**	**1.67**	**202**	*e*Pn	Pn	00 35 32.2	-1.5
SMOL				*e*Sn	Sn	00 35 54.8	-1.0
STHS	**Stebnicka Huta**	**1.98**	**108**	*e*PN	Pb	00 35 39.7	-0.4
STHS				*e*SN	Sg	00 36 06.5	-0.4
STHS	**Stebnicka Huta**	**1.98**	**108**	*e*Pn	Pb	00 35 39.7	-0.4
TREC	**Trest**	**2.02**	**249**	*e*PG	Pn	00 35 39.3	+0.8
TREC				*e*SG	Sb	00 36 06.5	0.0
	comp=Z,4.3nm,0.3s						
TREC	**Trest**	**2.02**	**249**	Pg	Pn	00 35 39.3	+0.8
TREC				Sg	Sb	00 36 06.5	0.0
	4.3nm,0.3s						
PRU	**Pruhonice**	**2.46**	**270**	*e*PN	Pn	00 35 42.7	-1.8
PRU				*e*PG	Pb	00 35 47.2	-1.1
PRU				*e*SG	Sb	00 36 20.5	+1.3
	comp=Z,2.7nm,0.4s						
PRU	**Pruhonice**	**2.46**	**270**	Pn	Pn	00 35 42.7	-1.8
PRU	**Pruhonice**	**2.46**	**270**	Pg	Pb	00 35 47.2	-1.1
PRU				Sg	Sb	00 36 20.5	+1.3
	2.7nm,0.4s						
PVCC	**Panska Ves**	**2.47**	**282**	*e*PG	Pb	00 35 48.1	-0.3
PVCC				*e*SG	Sg	00 36 22.3	-0.3
	comp=Z,8.7nm,0.3s						
PVCC	**Panska Ves**	**2.47**	**282**	Pg	Pb	00 35 48.1	-0.3
PVCC				Sg	Sg	00 36 22.3	-0.3
	8.7nm,0.3s						
KOLS	**Kolonicke sedl**	**2.79**	**113**	*e*	Pg	00 35 55.3	-1.4
BRG	**Berggiesshubel**	**2.93**	**288**	PG	Pb	00 35 56.8	+0.5
BRG				SG	Sg	00 36 35.8	-1.6
	3.8nm,0.4s						
KHC	**Kasperske Hory**	**3.25**	**255**	*e*PN	Pn	00 35 54.3	-1.1
KHC				*e*PG	Pb	00 36 01.7	0.0
KHC				*e*SG	Sg	00 36 46.5	-1.1
	comp=Z,3.8nm,0.6s						
KHC	**Kasperske Hory**	**3.25**	**255**	Pn	Pn	00 35 54.3	-1.1
KHC				Sg	Sg	00 36 46.5	-1.1
	3.8nm,0.6s						
CLL	**Collm**	**3.62**	**292**	*e*Sg	Sg	00 37 01.0	+1.4
CLL				*i*		00 37 16.0	
NKC	**Novy Kostel**	**3.81**	**275**	*e*SG	Sg	00 37 04.4	-1.1
NKC	**Novy Kostel**	**3.81**	**275**	Sg	Sg	00 37 04.4	-1.1

MAN 01 00:59:17, 5°.78N×125°.26E, h18km, mb3.8, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.24**	**352**	↓*e*P	Pg	00 59 42.6	+1.6
KCP				*i* S	Sb	00 59 51.6	-4.0
MATI	**Mati**	**1.52**	**40**	*e*P	Pn	00 59 43.3	-0.1
BUKP	**Musuan**	**2.10**	**355**	*e*P	Pn	00 59 51.6	+0.2
PAGZ	**Pagadian**	**2.78**	**318**	*e*P	Pn	01 00 02.7	+2.0
IPIL	**Ipil**	**3.34**	**307**	*e*P	Pn	01 00 08.9	+0.6

*IDC **01** 01:16:03.8±0.5, 20°.78S×174°.06W, h0km, mb4.5/14, mb1 4.7/15, mb1mx4.6/20, mbtmp4.5/15, ML4.2/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/25, Error ellipse: s-maj=25.3km s-min=15.6km az=117.0*
*AUST **01** 01:16:03.0±4.3, 21°.51S×172°.96W, h41km, Error ellipse: s-maj=3.3km s-min=1.4km az=355.0*
*NEIC **01** 01:16:05.2±0.2, 20°.67S×174°.18W, h10km, mb4.8/35, Error ellipse: s-maj=9.6km s-min=5.2km az=134.0*
*ISCJB **01** 01:16:07.3±0.3, 20°.80S±0°.07×174°.16W±0°.06, h33km, mb4.7/58, MS4.2/13, Error ellipse: s-maj=10.9km s-min=6.1km az=150.4*
*BJI **01** 01:16:07.0, 21°.05S×174°.19W, h35km, mB5.2/12, mb5.0/19, Ms4.9/7, Ms7 4.7/7*

ISC 01 01:16:08.9±0.4, 20°.63S±0°.06×174°.08W±0°.07, h34km±1km, h35km:pP-P, n193, σ1§41/220, mb4.7/58, MS4.1/13, 20C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.20**	**69**	P	Pn	01 17 00.6	-10
	baz=3.7,SNR=28						
AFI	**Afiamalu**	**7.04**	**19**	Pn	**Pn**	**01 17 47.2**	**-2.3**
AFI				Sn	**Sn**	**01 19 06.7**	**-1.7**
AFI	**Afiamalu**	**7.04**	**19**	Pn	**Pn**	**01 17 47.2**	**-2.3**
	4.3nm,0.3s,baz=220,slow=7.9,SNR=4.4						
AFI				Sn	**Sn**	**01 19 06.7**	**-1.7**
	10nm,0.3s,baz=204,slow=20,SNR=5.4						
MSVF	**Nonsavu**	**7.98**	**290**	*e*Pn	Pn	01 18 10.4	+7.9
RAO	**Raoul Island**	**9.26**	**201**	LR	LR	01 21 17.2	
	comp=Z,282nm,20.1s,baz=65,slow=34						
RAR	**Rarotonga**	**13.38**	**95**	Pn	Pn	01 19 05.7	-11
RAR	**Rarotonga**	**13.38**	**95**	Pn	Pn	01 19 05.7	-11
	4.9nm,0.3s,baz=270,slow=14,SNR=4.8						
RAR				LR	LR	01 23 22.6	
	comp=Z,392nm,21.8s,baz=269,slow=33						
DZM	**Mont Dzumac**	**18.20**	**262**	*e*LR	LR	01 24 42.9	
	370nm,20.9s						
URZ	**Urewera**	**19.15**	**202**	P	**P**	**01 20 27.1**	**-2.1**
URZ	**Urewera**	**19.15**	**202**	P	**P**	**01 20 27.1**	**-2.1**
	0.8nm,0.3s,baz=50,slow=14,SNR=3.9						
TBI	**Tubuai**	**22.98**	**101**	*e*S	**S**	**01 25 17.1**	**-1.7**
	588nm,27.0s						
TBI				*e*LR	LR	01 26 26.6	
	305nm,23.0s,baz=278						
PPT2	**Papeete2**	**23.34**	**87**	*e*S	**S**	**01 25 22.7**	**-2.3**
	670nm,25.2s						
PPT2				*e*LR	LR	01 26 51.5	
	272nm,21.5s,baz=257						
PPT	**Papeete**	**23.35**	**87**	LR	LR	01 28 46.3	
	comp=Z,384nm,18.4s,baz=345,slow=33						
RPZ	**Rata Peaks**	**26.15**	**205**	P	**P**	**01 21 40.1**	**+0.2**
RPZ	**Rata Peaks**	**26.15**	**205**	P	**P**	**01 21 40.1**	**+0.2**
	26nm,1.2s,baz=0.0,slow=8.1,SNR=3.9						
RPZ				LR	LR	01 30 58.3	
	comp=Z,423nm,20.1s,baz=351,slow=34						
RMQ	**Roma**	**34.48**	**253**	P	**P**	**01 22 53.7**	**-0.1**
	baz=35,SNR=5.2						
CTAO	**Charters Tower**	**37.13**	**264**	*e*P	**P**	**01 23 18.9**	**+2.3**
	7.7nm,0.8s						
PMG	**Port Moresby**	**38.97**	**281**	*e*P	P	01 23 28.4	-3.7
	26nm,1.0s						
STKA	**Stephens Creek**	**41.05**	**245**	P	**P**	**01 23 47.1**	**-2.1

MTUM	Tungsten Hills	77.82	42	*e*P		P	01 28 03.7 +0.6
WAKR	Walker	77.99	41	*e*P		P	01 28 04.7 +0.7
YBH	Yreka Blue Hor	78.15	37	*e*P		P	01 28 05.3 +0.6
	19nm,1.9s						
NVAR	Mina Array Bea	78.64	41	P		P	01 28 08.6 +0.9
NVAR	Mina Array Bea	78.64	41	P		P	01 28 08.6 +0.9
	7.6nm,1.0s,baz=226,slow=8.4,SNR=25						
KSRS	Korea Array	79.46	317	P		P	01 28 14.0 +2.2
	1.5nm,0.8s,baz=136,slow=5.6,SNR=7.6						
KSRS				LR		LR	02 00 19.9
	comp=Z,58nm,18.5s,baz=163,slow=33						
KSAR	Wonju Array Be	79.48	317	P		P	01 28 14.0 +2.1
TUC	Tucson	80.20	50	*e*P		P	01 28 17.2 +1.1
	3.4nm,1.3s						
WVOR	Wild Horse Val	80.92	38	*e*P		P	01 28 20.6 +0.8
	6.7nm,1.1s						
USRK	Ussuriysk Arra	81.18	324	P		P	01 28 23.1 +2.2
	2.6nm,1.0s,baz=111,slow=4.3,SNR=8.4						
USRK				LR		LR	02 00 06.0
	comp=Z,168nm,20.9s,baz=298,slow=32						
CCUT	Cedar City	81.28	45	*e*P		P	01 28 23.1 +1.1
	13nm,1.9s						
MSU	Marysvale	82.59	44	*e*P		P	01 28 30.1 +1.2
MSU				*e*PP		PP	01 31 38.6 -0.3
MAW	Mawson	82.66	199	P		P	01 28 28.2 -0.2
MAW	Mawson	82.66	199	P		P	01 28 28.2 -0.2
	2.4nm,0.7s,baz=128,slow=6.9,SNR=4.5						
MAW				LR		LR	02 03 46.4
	comp=Z,142nm,18.3s,baz=323,slow=35						
MDJ	Mudanjiang	82.78	323	P		P	01 28 30.7 +1.4
MDJ				pP		pP	01 28 40.3 +0.1
MDJ				sP		sP	01 28 44.1 -0.1
MDJ				pmax		pmax	
	comp=Z,8.0nm,0.9s						
MDJ				pmax		pmax	
	comp=Z,51nm,6.9s						
MDJ				LR		LR	
	comp=N,53nm,21.3s						
MDJ				LR		LR	
	comp=E,36nm,19.5s						
MDJ				LR		LR	
	comp=Z,91nm,19.5s						
NJ2	Nanjing	82.82	308	*e*P		P	01 28 30.9 +1.0
NJ2				pmax		pmax	
	comp=Z,16nm,1.0s						
MFID	Camas Ranch	83.15	39	*e*P		P	01 28 32.4 +0.9
	comp=Z,6.4nm,1.1s						
BMO	Blue Mountains	83.17	37	*e*P		P	01 28 31.3 -0.2
	comp=Z,3.0nm,1.1s						
BGU	Big Grassy Mou	83.40	42	*e*P		P	01 28 34.2 +1.4
	comp=Z,2.2nm,1.0s						
TMUT	Trail Mountain	83.66	44	*e*P		P	01 28 35.5 +1.1
	comp=Z,9.8nm,1.1s						
SRU	San Rafael	84.00	44	*e*P		P	01 28 36.3 +0.2
	comp=Z,7.9nm,1.0s						
TXAR	Lajitas Array	84.06	56	P		P	01 28 37.2 +0.7
TXAR	Lajitas Array	84.06	56	P		P	01 28 37.2 +0.7
	comp=Z,1.0nm,0.8s,baz=219,slow=5.3,SNR=8.2						
HLID	Hailey	84.07	39	*e*P		P	01 28 37.4 +1.1
	comp=Z,9.2nm,1.1s						
QIZ	Qiongzhong	84.28	293	P		P	01 28 37.1 -0.5
QIZ				S		S	01 39 01.0 -0.2
QIZ				pmax		pmax	
	comp=Z,10.0nm,1.7s						
ANMO	Albuquerque	84.65	50	*e*P		P	01 28 40.4 +1.0
	comp=Z,4.5nm,1.1s						
PV01	Paradox Valley	84.79	46	*e*P		P	01 28 41.4 +1.3
	comp=Z,327nm,1.3s						
MCMT	McKenzie Canyo	85.72	39	*e*P		P	01 28 45.0 +0.4
	comp=Z,2.0nm,1.0s						
MCMT				*e*pP		pP	01 28 55.0 -0.5
MCMT				*e*sP		sP	01 29 00.9 +1.4
TRF	Thorofare Moun	85.86	10	*e*P		P	01 28 43.3 -1.5
	comp=Z,6.7nm,1.0s						
DLMT	Dillon	86.17	38	*e*P		P	01 28 47.0 +0.3
	comp=Z,4.0nm,1.1s						
MCK	McKinley	86.35	11	*e*P		P	01 28 47.2 +0.2
	comp=Z,11nm,1.1s						
MCK				*e*pP		pP	01 28 57.8 -0.1
PLCA	Paso Flores	86.49	132	LR		LR	02 01 34.8
	comp=Z,124nm,18.8s,baz=181,slow=32						
PDAR	Pinedale Array	86.58	42	P		P	01 28 48.8 -0.1
PDAR	Pinedale Array	86.58	42	P		P	01 28 48.8 -0.1
	comp=Z,2.0nm,0.9s,baz=228,slow=3.8,SNR=10						
IPM	Ipoh	86.80	276	*e*P		P	01 28 50.5 +0.2
	comp=Z,22nm,1.0s						
BOZ	Bozeman (W)	86.89	39	*e*P		P	01 28 50.9 +0.6
	comp=Z,1.3nm,1.0s						
KULM	Kulim	87.43	277	*e*P		P	01 28 54.2 +0.8
	comp=Z,33nm,1.2s						
COLA	College	87.59	11	*e*P		P	01 28 53.5 +0.6
	comp=Z,38nm,1.1s						
ILAR	Eielson Array	87.67	11	P		P	01 28 54.1 +0.7
ILAR	Eielson Array	87.67	11	P		P	01 28 54.1 +0.7
	comp=Z,4.5nm,1.2s,baz=213,slow=4.1,SNR=15						
DAWY	Dawson	88.62	14	*e*P		P	01 28 58.9 +0.9
EGAK	Eagle	88.83	13	*e*P		P	01 28 59.4 +0.5
	comp=Z,14nm,1.5s						
GYA	Guiyang	89.93	298	*e*P		P	01 29 04.8 -0.3
GYA				pP		pP	01 29 15.6 -0.4
GYA				sP		sP	01 29 20.0 0.0
GYA				PP		PP	01 32 41.2 +2.8
GYA				SKS		SKSac	01 39 30.7 -3.0
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
GYA				pmax		pmax	
	comp=Z,80nm,5.3s						
HHC	Hu-ho-hao-te	92.10	313	*e*P		P	01 29 15.9 +1.1
HHC				pP		pP	01 29 26.7 +0.9
HHC				sP		sP	01 29 30.4 +0.7
HHC				PP		PP	01 32 58.5 +3.2
HHC				S		S	01 40 11.8 -3.0
HHC				sS		sS	01 40 29.7 -3.4
HHC				SS		SS	01 46 25.5 +0.3
HHC				pmax		pmax	
	comp=Z,31nm,0.9s						
HHC				pmax		pmax	
	comp=Z,300nm,7.6s						
HHC				LR		LR	
	comp=N,130nm,16.7s						
HHC				LR		LR	
	comp=E,150nm,16.7s						
HHC				LR		LR	
	comp=Z,250nm,16.7s						
DGMT	Dagmar	92.70	39	*e*P		P	01 29 18.9 +1.6
	comp=Z,24nm,1.3s						
KMI	Kunming	92.70	296	P		P	01 29 18.4 +0.3
KMI				pmax		pmax	
	comp=Z,9.0nm,0.8s						
CMAR	Chiang Mai Arr	93.63	288	P		P	01 29 23.4 +1.1
CMAR	Chiang Mai Arr	93.63	288	P		P	01 29 23.4 +1.1
	comp=Z,2.0nm,0.3s,baz=97,slow=3.0,SNR=6.3						
CD2	Chengdu	93.97	301	*e*P		P	01 29 24.3 +0.7
CD2				pP		pP	01 29 35.1 +0.5
CD2				sP		sP	01 29 39.2 +0.7
CD2				PP		PP	01 33 13.0 +2.8
CD2				SKS		SKSac	01 39 54.4 -1.7
CD2				S		S	01 40 28.5 -3.2
CD2				sS		sS	01 40 47.3 -2.7
CD2				SS		SS	01 46 52.6 +0.2
CD2				pmax		pmax	
	comp=Z,10.0nm,1.2s						
CD2				pmax		pmax	
	comp=Z,30nm,6.4s						
CD2				LR		LR	
	comp=E,190nm,14.2s						
CD2				LR		LR	
	comp=Z,220nm,14.2s						
YKA	Yellowknife Ar	95.12	24	P		P	01 29 28.9 +0.9
YKA	Yellowknife Ar	95.12	24	P		P	01 29 28.9 +0.9
	comp=Z,0.6nm,0.7s,baz=243,slow=4.1,SNR=3.3						
ECSD	EROS Data Cent	95.39	45	*e*P		P	01 29 28.7 -1.0
	comp=Z,6.7nm,1.3s						
LZH	Lanzhou	95.79	306	*e*P		P	01 29 32.8 +0.9
LZH				pP		pP	01 29 41.9 -1.0
LZH				sP		sP	01 29 46.2 -0.7
LZH				pmax		pmax	
	comp=Z,12nm,1.0s						
FFC	Flin Flon	96.80	34	*e*P		P	01 29 36.3 +0.5
	comp=Z,3.9nm,0.9s						
LPAZ	La Paz	98.60	111	LR		LR	02 07 22.8
	comp=Z,81nm,19.4s,baz=39,slow=31						
MKAR	Makanchi Array	113.97	313	PKP		PKiKP	01 34 44.9 +0.6
MKAR	Makanchi Array	113.97	313	PKP		PKiKP	01 34 44.9 +0.6
	comp=Z,0.6nm,0.9s,baz=101,slow=4.6,SNR=4.7						
KURK	Kurchatov	116.58	317	PKP		PKPdf	01 34 48.9 -0.2
KURBB	Kurchatov Arra	116.64	317	PKP		PKPdf	01 34 48.9 -0.3
	comp=Z,0.9nm,0.8s,baz=80,slow=1.8,SNR=9.8						
BRVK	Borovoye	121.59	320	*e*PKPdf		PKPdf	01 34 59.0 +0.3
KKAR	Karatay Array	122.20	309	*e*PKPdf		PKPdf	01 34 59.6 -0.5
ABKAR	Abkulak array	128.69	317	*e*PKPdf		PKPdf	01 35 12.2 -0.2
ARCES	ARCESS Array B	129.66	351	PKP		PKPdf	01 35 12.4 -1.3
ARCES	ARCESS Array B	129.66	351	PKP		PKPdf	01 35 12.4 -1.3
	comp=Z,1.7nm,0.8s,baz=67,slow=1.6,SNR=5.1						
LSZ	Lusaka	138.15	213	*e*PKPdf		PKPdf	01 35 31.9 +0.5
NA001	NORSAR Array S	139.67	356	*e*PKPdf		PKPdf	01 35 32.5 -0.1
GNI	Garni	141.66	309	*e*PKPdf		PKPdf	01 35 37.7 +0.6
KMBO	Kilima Mbogo	142.47	239	*e*PKPdf		PKPdf	01 35 39.0 -0.4
SUW	Suwalki	144.16	343	*e*PKP		PKPdf	01 35 40.0 -0.8
KIEV	Kiev	144.83	334	*e*PKPdf		PKPab	01 35 40.9 -0.1
ASCN	Ascension	145.31	143	*e*PKPbc		PKPdf	01 35 44.5 +0.4
BSEG	Bad Segeberg	146.58	355	*e*PKP		PKPab	01 35 48.0 +0.5
MALT	Malatya	146.89	309 ⇑	*i*P		PKPab	01 36 06.3 +17
KIS	Kishinev	147.78	330	*e*P		PKPbc	01 35 50.0 0.0
NRDL	Niedersach Rie	148.03	355	*e*PKP		PKPbc	01 35 51.7 +1.3
KWP	Kalwaria Pacla	148.12	339 ⇑	*i*P		PKPbc	01 35 51.9 +1.0
KWP	Kalwaria Pacla	148.12	339	*e*PKP		PKPbc	01 35 51.9 +1.0
IBBN	Ibbenburen	148.35	358	*e*PKP		PKPbc	01 35 52.8 +1.4
LEOM	Leova	148.43	330 ⇑	*i*P		PKPbc	01 35 52.9 +1.1
KSP	Ksiaz	148.76	347	*e*PKP		PKPbc	01 35 53.7 +1.2
STHS	Stebnicka Huta	148.78	341	*e*PKP		PKPbc	01 35 54.4 +1.7
BUR08	Bucovina Ar. S	148.86	334	*e*PKPbc		PKPbc	01 35 54.8 +1.8
KOLS	Kolonicke sedl	148.87	339	*e*PKP		PKPbc	01 35 54.7 +1.8
BURAR	Bucovina Array	148.88	334 ⇑	*i*P		PKPbc	01 35 55.0 +1.9
CLL	Collm	148.88	351	*e*PKP		PKPbc	01 35 54.2 +1.4
CLL	Collm	148.88	351	*i* PKPbc		PKPbc	01 35 53.5 +0.7
	comp=Z,14nm,1.1s						
CLL				*i* PKPab		PKPab	01 35 57.6 +0.9
	comp=Z,16nm,1.6s						
CLL				*e*pPKPab		pPKPab	01 36 02.0 -5.8
TLCR		149.08	328 ⇓	*i*P		PKPab	01 35 55.8 -1.9
NEUB	Neuenburg	149.14	353	*e*PKP		PKPbc	01 35 55.1 +1.7
BRG	Berggiesshubel	149.16	350	*e*PKP		PKPbc	01 35 54.3 +0.8
	comp=Z,12nm,1.2s						
FBE	Freiberg	149.21	351	*e*PKP		PKPbc	01 35 55.6 +2.0
DPC	Dobruska-Polom	149.22	347	*e*PKPDF		PKPdf	01 35 48.2 -1.3
DPC			⇑	*e*PKP		PKiKP	01 35 55.1 +0.1
DPC				*ex*		x	01 36 07.1
BUG	Bochum--Univer	149.23	358	*e*PKP		PKPbc	01 35 55.0 +1.4
OKC	Ostrava-Krasne	149.28	344 ⇑	*e*PKP		PKPbc	01 35 54.8 +1.0
OKC				*e*pPKP		pPKPdf	01 36 05.4 +4.6
KRLC	Kraliky	149.38	346 ⇑	*e*PKP		PKPbc	01 35 55.3 +1.1
KRLC				*e*pPKP		pPKPdf	01 36 05.8 +4.7
PVCC	Panska Ves	149.39	349 ⇑	*e*PKP		PKPbc	01 35 55.7 +1.6
PVCC				*ex*		x	01 36 06.5
CFR	Carcaliu	149.42	328 ⇓	*i*P		PKPbc	01 35 52.8 -1.5
TRPA	Tarpa	149.47	338 ⇑	*i*P		PKPbc	01 35 55.0 +0.7
MORC	Moravsky Berou	149.48	345	*e*PKPbc		PKPbc	01 35 54.6 +0.2
VRI	Vrincioaia	149.58	331 ⇑	*i*P		PKPbc	01 35 53.9 -0.9
BR131	Keskin Array S	149.59	315	*e*PKPbc		PKPbc	01 35 55.5 +0.4
BRTR	Keskin Array B	149.59	315	PKPbc		PKPbc	01 35 55.8 +0.6
BRTR	Keskin Array B	149.59	315	PKPbc		PKPbc	01 35 55.8 +0.6
	comp=Z,6.3nm,1.1s,baz=97,slow=4.0,SNR=22						
PLOR	Plostina	149.63	331 ⇑	*i*P		PKPbc	01 35 55.0 +0.1
MOX	Moxa	149.71	353	*e*PKP		PKPbc	01 35 56.3 +1.4
PLN	Plauen	149.80	352	*e*PKP		PKPbc	01 35 56.7 +1.6
WERD	Werda	149.82	352	*e*PKP		PKPbc	01 35 56.7 +1.5
TANN	Tannenbergstha	149.83	352	*e*PKP		PKPbc	01 35 56.7 +1.4
KECS	Kecovo	149.84	341	*e*PKP		PKPbc	01 35 55.6 +0.3
GUNZ	Gunzen	149.90	352	*e*PKP		PKPbc	01 35 57.1 +1.7
PRU	Pruhonice	149.91	349 ⇑	*e*PKP		PKPbc	01 35 56.4 +1.0
PRU				*ex*		x	01 36 08.8
WERN	Wernitzgruen	149.97	352	*e*PKP		PKPbc	01 35 57.4 +1.8
NKC	Novy Kostel	150.01	352 ⇑	*e*PKP		PKPbc	01 35 56.7 +1.0
ANTO	Ankara	150.07	316	*e*PKPbc		PKPbc	01 35 56.4 +0.2
MLR	Muntele Rosu	150.23	331 ⇓	*i*P		PKPbc	01 35 56.9 +0.4
MANZ	Manzenberg	150.30	352	*e*PKP		PKPbc	01 35 57.9 +1.5
VYHS	Vyhne	150.32	343	*e*PKP		PKPbc	01 35 57.6 +1.1
TREC	Trest	150.40	347 ⇑	*e*PKP		PKPbc	01 35 57.4 +0.8
TREC				*e*PKPab		PKPab	01 36 06.3 +3.3
TNS	Taunus Mts	150.40	357	*e*PKP		PKPbc	01 35 57.9 +1.2
ROTZ	Rotzenmuhle	150.50	352	*e*PKP		PKPbc	01 35 58.5 +1.7
PSZ	Piszkesteto	150.53	341 ⇓	*i*P		PKPbc	01 35 58.5 +1.4
PSZ	Piszkesteto	150.53	341	*e*PKPbc		PKPbc	01 35 57.8 +0.7
DRGR		150.53	336 ⇓	*i*P		PKPbc	01 35 57.4 +0.3
VOIR		150.67	332 ⇑	*i*P		PKPbc	01 35 59.5 +2.0
SMOL	Smolenice	150.68	344	*e*PKP		PKPbc	01 35 59.4 +2.1
GRF	Grafenberg Arr	150.70	353	*e*PKP		PKPbc	01 35 58.7 +1.4
GRF				*e*L		L	02 48 34.0
	comp=Z,62nm,18.5s						
ARR	Arges	150.91	332 ⇓	*i*P		PKPbc	01 35 59.4 +1.4
KHC	Kasperske Hory	150.91	350 ⇑	*e*PKP		PKPbc	01 35 58.1 +0.2
KHC				*e*PKPAB		PKPab	01 36 07.0 +1.8
KHC				*e*pPKP		pPKPdf	01 36 10.9 +7.4
KHC	Kasperske Hory	150.91	350	*e*PKPbc		PKPbc	01 35 58.5 +0.6
WET	Wettzell	151.01	351	*e*PKP		PKPbc	01 35 59.6 +1.5
WLF	Walferdange	151.03	360	*e*PKP		PKPbc	01 35 59.8 +1.7
WLF	Walferdange	151.03	360	*e*PKPbc		PKPbc	01 35 58.7 +0.6
GEC2	GERESS Array S	151.16	349	*e*PKP		PKPbc	01 35 59.7 +1.1
GERES	GERESS Array B	151.16	349	PKPbc		PKPbc	01 35 59.2 +0.7
GERES				PKPab		PKPab	01 36 07.0 +0.7
GERES	GERESS Array B	151.16	349	PKPbc		PKPbc	01 35 59.2 +0.7
	comp=Z,4.7nm,1.1s,baz=48,slow=2.0,SNR=18						
GERES				PKPab		PKPab	01 36 07.0 +0.7
	comp=Z,1.3nm,0.8s,baz=11,slow=1.4,SNR=4.8						
LOT	Lotru	151.21	333 ⇑	*i*P		PKPbc	01 35 59.7 +0.9
CONA	Conrad Observa	151.61	346 ⇑	*i*PKiKP		PKPbc	01 35 59.7 +0.1
	comp=Z,9.7nm,1.3s,SNR=7.4						
STU	Stuttgart	151.80	355	*e*PKP		PKPbc	01 36 01.2 +1.3
STU	Stuttgart	151.80	355	*e*PKPdf		PKPdf	01 35 53.5 0.0
STU				*e*PKPbc		PKPbc	01 35 59.6 -0.3
BZS	Buzias	151.93	336 ⇑	*i*P		PKPbc	01 36 00.4 +0.1
FUR	Furstenfeldbru	152.19	352	*e*PKP		PKPbc	01 36 01.8 +1.0
BFO	Black Forest	152.30	357	*e*PKP		PKPbc	01 36 02.1 +1.0
BFO	Black Forest	152.30	357	*e*PKPbc		PKPbc	01 36 01.4 +0.3
PKSM	Moragy	152.44	341 ⇑	*i*P		PKPbc	01 36 02.5 +1.1
ESDC	Sonseca Array	159.21	22	PKPab		PKPab	01 36 42.1 +1.3
ESDC	Sonseca Array	159.21	22	PKPab		PKPab	01 36 42.1 +1.3
	comp=Z,0.1nm,0.3s,baz=316,slow=6.2,SNR=4.9						
DBIC	Dimbokro	162.63	142	*e*PKPab		PKPab	01 36 57.0 +0.6
TORD	Torodi Ar. Bea	171.53	151	PKPab		PKPab	01 37 34.1 -1.4
TORD	Torodi Ar. Bea	171.53	151	PKPab		PKPab	01 37 34.2 -1.4
	comp=Z,1.2nm,1.0s,baz=234,slow=4.8,SNR=3.3						
TAM	Tamanrasset	177.82	10	*e*PKPdf		PKPdf	01 36 16.5 -0.1

ISCJB ***01*** *01:24:58.8±0.5, 35°.64S±0°.05×71°.2W±0°.1, h109km±6km, mb3.7/4, Error ellipse: s-maj=15.1km s-min=5.2km az=25.6*

IDC ***01*** *01:24:58.3±2.6, 35°.54S×70°.86W, h91km±24km, mb3.6/4, mb1 3.7/6, mb1mx3.5/17, mbtmp3.5/6, Error ellipse: s-maj=43.5km s-min=19.7km az=92.0*

NEIC ***01*** *01:25:00.2, 35°.60S×71°.23W, h98km, MG4.2(GUC), After GUC.*

NEIC Felt [II] at Talca.

GUC ***01*** *01:25:00.2±0.5, 35°.60S×71°.23W, h98km±3km, ML4.2*

ISC 01 01:24:59.5±0.8, 35°.62S±0°.04×71°.23W±0°.08, h105km±8km, n27, σ0°60/47, mb3.7/4, 14C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TALC	Talca	0.40	304 ⇑	*i*P		Pn	01 25 14.9	-0.3
TALC				*i* S		Sn	01 25 26.6	-0.4
TALC	Talca	0.40	304 ⇑	*i*P		Pn	01 25 14.9	-0.3
TALC				*i* S		Sn	01 25 26.6	-0.4
TALC				AML		AML	01 25 27.1	
	comp=N,24μm,0.1s							
CTCH	Constitucion	1.01	286 ⇑	*i*P		Pn	01 25 20.7	+0.3
CTCH				*i* S		Sn	01 25 36.1	-0.1
CTCH	Constitucion	1.01	286 ⇑	*i*P		Pn	01 25 20.7	+0.3
CTCH				*i* S		Sn	01 25 36.1	-0.1
CTCH				AML		AML	01 25 46.2	
	comp=E,11μm,0.4s							
CCHI	Chillan	1.20	215 ⇑	*i*P		Pn	01 25 23.0	+0.5
CCHI				*i* S		Sn	01 25 40.3	+0.5
CCHI	Chillan	1.20	215 ⇑	*i*P		Pn	01 25 23.0	+0.5
CCHI				*i* S		Sn	01 25 40.3	+0.5
CACH	El Canelo	1.59	19 ⇑	*i*P		Pn	01 25 27.8	+0.5
CACH				*i* S		Sn	01 25 48.5	+0.2
CACH	El Canelo	1.59	19 ⇑	*i*P		Pn	01 25 27.8	+0.5
CACH				*i* S		Sn	01 25 48.5	+0.2
LNV	Longovilo	1.67	355 ⇑	*i*P		Pn	01 25 28.4	+0.2
LNV				*i* S		Sn	01 25 49.9	0.0
LNV	Longovilo	1.67	355 ⇑	*i*P		Pn	01 25 28.4	+0.2
LNV				*i* S		Sn	01 25 49.9	0.0
CHCH	Chadas Angostu	1.75	16 ⇑	*i*P		Pn	01 25 29.5	+0.3
CHCH				*i* S		Sn	01 25 51.7	-0.1
CHCH	Chadas Angostu	1.75	16 ⇑	*i*P		Pn	01 25 29.5	+0.3
CHCH				*i* S		Sn	01 25 51.7	-0.1
LMEL	Las Melosas	1.96	26	*e*P		Pn	01 25 32.9	+0.9
LMEL				*i* S		Sn	01 25 57.2	+0.5
LMEL	Las Melosas	1.96	26	*e*P		Pn	01 25 32.9	+0.9
LMEL			⇓	*i*P		Pn	01 25 32.9	+0.9
LMEL				*i* S		Sn	01 25 57.2	+0.5
LMEL				AML		AML	01 26 02.4	
	comp=N,2μm,0.2s							
TACH	Talagante	1.98	7 ⇑	*i*P		Pn	01 25 31.8	-0.3
TACH				*i* S		Sn	01 25 56.2	-0.7
TACH	Talagante	1.98	7 ⇑	*i*P		Pn	01 25 31.8	-0.3
TACH				*i* S		Sn	01 25 56.2	-0.7
PCH	Pirque	2.08	17	*e*P		Pn	01 25 33.8	+0.3
PCH				*i* S		Sn	01 25 59.6	+0.3
PCH	Pirque	2.08	17	*e*P		Pn	01 25 33.8	+0.3
PCH				*i* S		Sn	01 25 59.6	+0.3
CLCH	Cerro Calan	2.29	15 ⇓	*i*P		Pn	01 25 36.8	+0.6
CLCH				*i* S		Sn	01 26 04.4	+0.2
CLCH				AML		AML	01 26 06.8	
	comp=E,1μm,0.4s							
CFAA	Coronel Fontan	4.72	33	P		Pn	01 26 03.2	-5.3
	comp=E,0.1nm,0.3s,baz=242,slow=12,SNR=6.0							
CFAA				S		Sn	01 27 00.5	-1.7
	comp=E,1.2nm,0.3s,baz=92,slow=19,SNR=14							
PLCA	Paso Flores	5.13	174	P		Pn	01 26 14.6	+0.5
	comp=E,0.8nm,0.3s,baz=340,slow=13,SNR=14							
USHA	Ushuaia	19.31	175	P		Pn	01 29 17.8	-0.3
	comp=E,0.3nm,0.3s,baz=339,slow=12,SNR=3.9							
LPAZ	La Paz	19.45	9	P		Pn	01 29 22.1	+1.3
	comp=E,0.1nm,0.3s,baz=217,slow=10,SNR=3.0							
PMSA	Palmer Station	29.50	174	P		P	01 30 52.3	-1.1
	comp=E,0.9nm,0.4s,baz=6.8,slow=7.4,SNR=5.4							
TXAR	Lajitas Array	71.47	330	P		P	01 36 09.8	+1.1
	comp=E,0.4nm,0.6s,baz=156,slow=8.0,SNR=5.1							
BOSA	Boshof	78.73	117	P		P	01 36 50.0	-0.7
	comp=E,4.9nm,1.1s,baz=266,slow=5.7,SNR=3.7							
TORD	Torodi Ar. Bea	84.15	69	P		P	01 37 18.7	-0.5
	comp=E,0.9nm,1.0s,baz=220,slow=3.8,SNR=4.1							

IDC 01 01:48:40.6±52.0, 17°.24S×179°.22W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=949.3km s-min=151.0km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.28	240	P		P	01 56 03.1	+0.2
	1.5nm,0.8s,baz=75,slow=12,SNR=2.8							
WRA	Warramunga Arr	44.00	259	P		P	01 56 50.0	-0.2
	0.8nm,0.3s,baz=95,slow=7.5,SNR=5.6							
ASAR	Alice Springs	44.23	254	P		P	01 56 51.8	-0.4
	3.8nm,0.5s,baz=87,slow=8.6,SNR=66							

ISCJB ***01*** *02:15:25.9±0.8, 13°.42N±0°.09×91°.92W±0°.05, h37km, mb3.9/9, MS3.4/6, Error ellipse: s-maj=13.3km s-min=6.2km az=19.8*

CASC ***01*** *02:15:27.6±1.7, 13°.48N×91°.85W, h38km±19km, MD3.9*

IDC ***01*** *02:15:32.9±3.5, 13°.78N×91°.47W, h79km±31km, mb3.6/8, mb1 3.9/11, mb1mx3.6/25, mbtmp3.7/11, MS3.4/7, Ms1 3.4/7, ms1mx3.0/32, Error ellipse: s-maj=38.2km s-min=17.9km az=53.0*

ISC 01 02:15:27.3±1.0, 13°.5N±0°.1×91°.87W±0°.09, h37km, n30, σ1°12/26, mb3.7/9, MS3.2/6, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JAT	Jato	0.86	15 ⇑	*e*P		Pn	02 15 43.7	+0.9
FUG	Fuego 3	1.39	46	*e*P		Pn	02 15 50.6	+0.4
PCG	Pacaya	1.52	53	*e*P		Pn	02 15 53.1	+0.9
NBG	Las Nubes	1.84	53	*e*P		Pn	02 15 57.9	+1.3
RTR	El Retiro	2.20	79	*e*P		Pn	02 16 01.7	+0.2
SBLS	San Blas	2.21	81	*e*P		Pn	02 16 01.6	-0.1
SBLS

WRA	**Warramunga Arr**	**14.17**	**160**	P	**Pn**	**02 26 05.3**	**-0.1**
	0.5nm,0.3s,baz=338,slow=12,SNR=6.8						
WRA				S	**Sn**	**02 28 39.3**	**-3.7**
	0.8nm,0.3s,baz=331,slow=22,SNR=5.8						
COEN	**Coen**	**15.47**	**119**	P	**P**	**02 26 24.8**	**+2.3**
	baz=15,SNR=5.7						
ASAR	**Alice Springs**	**17.57**	**166**	P	**Pn**	**02 26 47.6**	**+0.7**
	0.7nm,0.3s,baz=343,slow=10.0,SNR=39						
ASAR				S	**S**	**02 29 56.7**	**-3.3**
	0.1nm,0.3s,baz=345,slow=25,SNR=4.3						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	02 33 39.7	+10
	0.2nm,0.5s,baz=115,slow=8.2,SNR=3.0						

WEL 01 02:37:10.6±0.2, 44°.97S×167°.54E, h128km±2km, ML3.6/11, 7C-2D, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.41**	**43**	⇑PN	Pn	02 37 29.1	+0.2
MSZ				SN	Sn	02 37 42.6	-0.1
MSZ				AML	AML	02 37 43.4	
MSZ				AML	AML	02 37 43.4	
MSZ				AML	AML	02 37 45.1	
DCZ	**Deep Cove**	**0.57**	**208**	PN	Pn	02 37 29.3	-0.5
DCZ				SN	Sn	02 37 43.7	-0.7
DCZ				AML	AML	02 37 44.5	
DCZ				AML	AML	02 37 44.6	
DCZ				AML	AML	02 37 44.8	
MLZ	**Mavora Lakes**	**0.59**	**130**	⇑PN	Pn	02 37 29.8	-0.2
MLZ				SN	Sn	02 37 44.4	-0.3
MLZ				AML	AML	02 37 45.4	
WHZ	**Wether Hill Ro**	**0.97**	**163**	⇑PN	Pn	02 37 32.8	-0.2
WHZ				SN	Sn	02 37 49.5	-0.5
WHZ				AML	AML	02 37 50.1	
WKZ	**Wanaka**	**1.06**	**83**	⇑PN	Pn	02 37 33.9	0.0
WKZ				SN	Sn	02 37 51.0	-0.6
WKZ				AML	AML	02 37 52.2	
WKZ				AML	AML	02 37 52.2	
WKZ				AML	AML	02 37 52.7	
JCZ	**Jackson Bay**	**1.25**	**45**	⇑PN	Pn	02 37 35.4	-0.5
JCZ				SN	Sn	02 37 53.9	-1.3
JCZ				AML	AML	02 37 54.7	
EAZ	**Earnscleugh**	**1.28**	**102**	⇑PN	Pn	02 37 35.8	-0.3
EAZ				SN	Sn	02 37 53.5	-2.0
EAZ				AML	AML	02 37 54.5	
EAZ				AML	AML	02 37 54.6	
EAZ				AML	AML	02 37 55.2	
TUZ	**Tuapeka**	**1.77**	**124**	⇓PN	Pn	02 37 41.2	-0.4
TUZ				AML	AML	02 38 05.0	
TUZ				AML	AML	02 38 05.1	
APZ	**The Paps**	**1.89**	**171**	*e*PN	Pn	02 37 43.1	0.0
SYZ	**Scrubby Hill**	**1.93**	**145**	⇓PN	Pn	02 37 43.0	-0.4
LBZ	**Lake Benmore**	**1.98**	**74**	PN	Pn	02 37 42.5	-1.6
LBZ				AML	AML	02 38 06.9	
LBZ				AML	AML	02 38 07.1	
ODZ	**Otahua Downs**	**2.21**	**93**	⇑PN	Pn	02 37 45.6	-1.3
RPZ	**Rata Peaks**	**2.82**	**65**	AML	AML	02 38 26.1	
LTZ	**Lake Taylor**	**4.06**	**59**	PN	Pn	02 38 10.2	-1.0

MEX 01 03:01:30.5±0.4, 15°.64N×96°.24W, h4km±4km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.18**	**44**	*i* P	Pg	03 01 33.7	-0.3
HUIG				*i* S	Sg	03 01 36.5	+0.1
VHO	**Vista Hermosa**	**1.50**	**342**	*i* P	Pn	03 01 54.4	-4.1
VHO				*i* S	Sn	03 02 13.5	-5.1
PNIG	**Pinotepa**	**1.97**	**293**	*i* P	Pn	03 02 01.5	-3.1
PNIG				*i* S	Sn	03 02 25.8	-4.0
PCIG		**2.91**	**88**	*i* P	Pn	03 02 14.7	-2.8
PCIG				*i* S	Sn	03 02 48.6	-4.2
TGIG		**3.20**	**69**	*i* P	Pn	03 02 19.7	-1.9
TGIG				*i* S	Sn	03 02 56.5	-3.7

SZGRF ***01*** *03:02:45.0, 19°.24S×175°.25W, h33km, Tonga Islands*
ISCJB ***01*** *03:02:57.0±1.1, 18°.89S±0°.06×175°.22W±0.05, h133km±10km, mb4.5/54, Error ellipse: s-maj=11.6km s-min=6.3km az=150.7*
IDC ***01*** *03:02:57.1±0.6, 18°.84S×175°.17W, h122km±4km, mb4.3/15, mb1 4.4/16, mb1mx4.4/19, mbtmp4.3/16, Error ellipse: s-maj=18.4km s-min=11.4km az=120.0*
AUST ***01*** *03:02:59.8±0.8, 18°.68S×174°.84W, h167km, Error ellipse: s-maj=1.5km s-min=1.1km az=17.0*
BJI ***01*** *03:03:00.5, 18°.80S×175°.24W, h160km, mB4.8/12, mb4.7/20*
NEIC ***01*** *03:03:02.5±1.5, 18°.90S×175°.20W, h172km±13km, mb4.7/28, Error ellipse: s-maj=9.1km s-min=5.2km az=158.0*

ISC 01 03:02:57.3±0.4, 18°.77S±0°.06×175°.12W±0°.06, h125km±3km, n222, σ1§10/256, mb4.6/53, 10C-22D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.93**	**94**	P	**Pn**	**03 04 12.1**	**+2.8**
	baz=4.7,SNR=16						
NIUE				S	**Sn**	**03 05 03.8**	**-1.5**
	baz=4.7,SNR=12						
AFI	**Afiamalu**	**5.80**	**34**	*e*Pn	**Pn**	**03 04 22.0**	**+0.8**
AFI				*e*Sn	**Sn**	**03 05 22.8**	**-3.9**
AFI	**Afiamalu**	**5.80**	**34**	P	**Pn**	**03 04 22.5**	**+1.3**
	52nm,0.3s,baz=168,slow=2.0,SNR=21						
AFI				S	**Sn**	**03 05 24.1**	**-2.6**
	153nm,0.3s,baz=202,slow=19,SNR=15						
MSVF	**Nonsavu**	**6.57**	**278**	*e*Pn	Pn	03 04 40.7	+9.2
RAR	**Rarotonga**	**14.63**	**102**	P	**P**	**03 06 21.7**	**+0.6**
RAR	**Rarotonga**	**14.63**	**102**	P	**P**	**03 06 21.7**	**+0.6**
	4.6nm,0.3s,baz=270,slow=16,SNR=4.2						
DZM	**Mont Dzumac**	**17.59**	**256**	*e*P	**Pn**	**03 06 56.5**	**+1.8**
	62nm,0.7s						
DZM	**Mont Dzumac**	**17.59**	**256**	P	**Pn**	**03 06 57.2**	**+2.5**
	1.9nm,0.3s,baz=91,slow=16,SNR=20						
NOUC	**Port Laguerre**	**17.72**	**256**	*e*P	**Pn**	**03 06 56.9**	**+0.7**
URZ	**Urewera**	**20.56**	**198**	*e*P	**P**	**03 07 25.0**	**-1.0**
	74nm,1.0s						
URZ	**Urewera**	**20.56**	**198**	P	**P**	**03 07 25.5**	**-0.5**
	36nm,0.5s,baz=4.9,slow=7.3,SNR=32						
PPT2	**Papeete2**	**24.29**	**91**	*e*LR	LR	03 13 57.2	
	62nm,28.3s						
TBI	**Tubuai**	**24.36**	**105**	*e*LR	LR	03 14 14.7	
	174nm,39.8s						
RPZ	**Rata Peaks**	**27.45**	**202**	P	**P**	**03 08 30.6**	**-0.8**
RPZ	**Rata Peaks**	**27.45**	**202**	P	**P**	**03 08 30.6**	**-0.8**
	22nm,0.6s,baz=19,slow=7.5,SNR=7.0						
EIDS	**Eidsvold**	**31.94**	**252**	*e*P	**P**	**03 09 11.3**	**0.0**
	30nm,0.8s						
EIDS	**Eidsvold**	**31.94**	**252**	P	**P**	**03 09 11.2**	**0.0**
	baz=32,SNR=13						
ARMA	**Armidale**	**32.26**	**243**	*e*P	**P**	**03 09 15.2**	**+1.0**
	18nm,0.6s						
ARMA	**Armidale**	**32.26**	**243**	P	**P**	**03 09 15.2**	**+1.0**
	baz=32,SNR=21						
RMQ	**Roma**	**34.12**	**250**	P	**P**	**03 09 31.1**	**+0.8**
	baz=34,SNR=25						
CNB	**Canberra Magne**	**35.43**	**235**	P	**P**	**03 09 41.4**	**-0.2**
	baz=36,SNR=12						
CTAO	**Charters Tower**	**36.40**	**261**	*e*P	**P**	**03 09 49.8**	**0.0**
CMSA	**Cobar Meteorol**	**37.48**	**242**	P	**P**	**03 09 58.5**	**-0.4**
	baz=38,SNR=17						
PMG	**Port Moresby**	**37.68**	**279**	*e*P	**P**	**03 10 01.6**	**+0.8**
	53nm,1.0s						
MTSU	**Mount Surprise**	**38.42**	**264**	P	**P**	**03 10 06.8**	**-0.2**
	baz=39,SNR=30						
TOO	**Toolangi**	**39.10**	**233**	P	**P**	**03 10 12.0**	**-0.4**
	baz=39,SNR=5.5						
COEN	**Coen**	**40.23**	**270**	*e*P	**P**	**03 10 21.7**	**-0.3**
COEN	**Coen**	**40.23**	**270**	P	**P**	**03 10 22.2**	**+0.2**
	baz=40,SNR=14						
STKA	**Stephens Creek**	**40.98**	**243**	*e*P	**P**	**03 10 27.8**	**-0.3**
	6.5nm,1.1s						
STKA	**Stephens Creek**	**40.98**	**243**	P	**P**	**03 10 27.7**	**-0.3**
	7.7nm,0.5s,baz=82,slow=8.5,SNR=30						
STKA	**Stephens Creek**	**40.98**	**243**	P	**P**	**03 10 27.7**	**-0.3**
	baz=41,SNR=16						
BBOO	**Buckleboo**	**45.74**	**242**	P	**P**	**03 11 05.0**	**-1.2**
	baz=46,SNR=20						
JAY	**Jayapura**	**46.15**	**285**	P	**P**	**03 11 10.3**	**+0.7**
	baz=46,SNR=3.6						
WRAB	**Tennant Creek**	**47.54**	**260**	*e*P	**P**	**03 11 19.1**	**-1.3**
	46nm,0.6s						
WRA	**Warramunga Arr**	**47.55**	**260**	P	**P**	**03 11 19.6**	**-0.9**
WRA				PcP	**PcP**	**03 12 48.8**	**+0.2**
WRA	**Warramunga Arr**	**47.55**	**260**	P	**P**	**03 11 19.6**	**-0.9**
	34nm,0.4s,baz=97,slow=5.6,SNR=272						
WRA				PcP	**PcP**	**03 12 48.8**	**+0.2**
	1.2nm,0.4s,baz=100,slow=3.4,SNR=4.9						
AS31	**Alice Springs**	**47.57**	**255**	*e*P	**P**	**03 11 19.6**	**-1.0**
ASAR	**Alice Springs**	**47.57**	**255**	P	**P**	**03 11 20.2**	**-0.4**
ASAR				PcP	**PcP**	**03 12 48.4**	**-0.2**
ASAR				S	S	03 17 60.0	-6.7
ASAR	**Alice Springs**	**47.57**	**255**	P	**P**	**03 11 20.2**	**-0.4**
	63nm,0.8s,baz=96,slow=7.7,SNR=572						
ASAR				PcP	**PcP**	**03 12 48.4**	**-0.2**
	4.2nm,0.7s,baz=107,slow=3.3,SNR=5.9						
ASAR				S	S	03 17 60.0	-6.7
	0.6nm,0.8s,baz=92,slow=15,SNR=4.6						
KDU	**Kakadu**	**50.66**	**269**	P	**P**	**03 11 43.6**	**-0.6**
	baz=51,SNR=9.9						
MTN	**Manton Dam**	**51.89**	**268**	P	**P**	**03 11 52.6**	**-0.8**
	baz=52,SNR=6.8						
FORT	**Forrest**	**52.47**	**245**	*e*P	**P**	**03 11 55.4**	**-2.1**
	62nm,0.8s						
FORT	**Forrest**	**52.47**	**245**	P	**P**	**03 11 56.0**	**-1.5**
	baz=53,SNR=16						
KNRA	**Kununurra**	**53.51**	**264**	P	**P**	**03 12 04.5**	**-0.7**
	baz=54,SNR=24						
FITZ	**Fitzroy Crossi**	**55.97**	**260**	*e*P	**P**	**03 12 22.7**	**-0.2**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.97**	**260**	P	**P**	**03 12 22.6**	**-0.4**
	baz=56,SNR=30						
SOEI	**Soe**	**59.19**	**270**	P	**P**	**03 12 47.0**	**+1.2**
	baz=59,SNR=11						
VNDA	**Vanda**	**59.87**	**186**	*e*P	**P**	**03 12 50.4**	**+1.1**
	5.2nm,1.2s						
VNDA	**Vanda**	**59.87**	**186**	P	**P**	**03 12 50.0**	**+0.7**
	2.9nm,0.8s,baz=6.8,slow=6.4,SNR=18						
MBWA	**Marble Bar**	**60.89**	**256**	*e*P	**P**	**03 12 55.3**	**-1.8**
	16nm,0.8s						
MEEK	**Meekatharra**	**61.05**	**249**	P	**P**	**03 12 56.4**	**-1.8**
	baz=61,SNR=8.5						
KLBR	**Kellerberrin**	**61.24**	**244**	P	**P**	**03 12 58.0**	**-1.3**
	baz=62,SNR=15						
BLDU	**Ballidu**	**62.23**	**245**	P	**P**	**03 13 04.5**	**-1.5**
	baz=62,SNR=26						
MORW	**Morawa**	**63.00**	**246**	P	**P**	**03 13 09.7**	**-1.4**
	baz=63,SNR=13						
MAJO	**Matsushiro**	**70.49**	**322**	*e*P	**P**	**03 13 58.7**	**+0.3**
	7.6nm,0.8s						
MAT	**Matsushiro**	**70.49**	**322**	P	**P**	**03 13 58.7**	**+0.3**
QSPA	**South Pole Qui**	**71.29**	**180**	*e*P	**P**	**03 14 03.2**	**+0.2**
	6.5nm,0.6s						
KKM	**Kota Kinabalu**	**71.98**	**283**	*e*P	**P**	**03 14 07.0**	**-0.9**
	27nm,0.8s						
JNU	**Nakatsue**	**72.94**	**315**	*e*P	**P**	**03 14 12.8**	**-0.4**
	3.3nm,0.6s						
PETK	**Petropavlovsk-**	**75.35**	**343**	P	**P**	**03 14 26.8**	**+0.2**
PETK	**Petropavlovsk-**	**75.35**	**343**	P	**P**	**03 14 26.8**	**+0.2**
	1.8nm,0.4s,baz=116,slow=10,SNR=5.9						
KSM	**Kuching**	**75.89**	**276**	*e*P	**P**	**03 14 30.8**	**+0.2**
	11nm,0.6s						
KSRS	**Korea Array**	**77.44**	**317**	P	**P**	**03 14 40.3**	**+1.5**
	5.0nm,0.7s,baz=131,slow=6.1,SNR=20						
KSAR	**Wonju Array Be**	**77.46**	**317**	P	**P**	**03 14 40.3**	**+1.4**
NVAR	**Mina Array Bea**	**77.92**	**42**	P	**P**	**03 14 43.0**	**+1.3**
NVAR				sP	**sP**	**03 15 25.4**	**-1.2**
NVAR	**Mina Array Bea**	**77.92**	**42**	P	**P**	**03 14 43.0**	**+1.3**
	0.9nm,0.7s,baz=219,slow=9.8,SNR=6.6						
NVAR				sP	**sP**	**03 15 25.4**	**-1.2**
	1.1nm,0.9s,baz=223,slow=10,SNR=2.5						
USRK	**Ussuriysk Arra**	**79.11**	**324**	P	**P**	**03 14 48.8**	**+1.0**
	1.2nm,0.7s,baz=107,slow=2.0,SNR=5.0						
TUC	**Tucson**	**79.79**	**51**	*e*P	**P**	**03 14 53.4**	**+1.5**
	0.9nm,0.6s						
WVOR	**Wild Horse Val**	**80.08**	**39**	*e*P	**P**	**03 14 53.9**	**+0.5**
	1.6nm,0.8s						
MDJ	**Mudanjiang**	**80.71**	**323**	P	**P**	**03 14 58.0**	**+1.6**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,35nm,6.7s						
DUG	**Dugway**	**82.44**	**43**	*e*P	**P**	**03 15 06.0**	**+0.1**
	comp=Z,1.6nm,0.9s						
CN2	**Changchun**	**82.63**	**321**	*e*P	**P**	**03 15 07.8**	**+1.3**
CN2				*e*pP	pP	03 15 50.6	+12
CN2				*e*S	**S**	**03 25 10.8**	**-2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**82.66**	**293**	P	**P**	**03 15 05.8**	**-1.4**
QIZ				S	**S**	**03 25 12.9**	**-1.9**
QIZ				pmax	pmax		
	comp=Z,11nm,2.0s						
HLID	**Hailey**	**83.26**	**40**	*e*P	**P**	**03 15 11.2**	**+1.1**
	comp=Z,2.4nm,0.7s						
SRU	**San Rafael**	**83.38**	**45**	*e*P	**P**	**03 15 11.9**	**+1.1**
	comp=Z,2.4nm,0.6s						
MNTX	**Cornudas Mount**	**83.55**	**54**	*e*P	**P**	**03 15 12.5**	**+0.9**
TXAR	**Lajitas Array**	**83.85**	**56**	P	**P**	**03 15 14.8**	**+1.6**
TXAR				pP	**pP**	**03 15 45.7**	**+0.6**
TXAR				sP	**sP**	**03 15 58.5**	**0.0**
TXAR	**Lajitas Array**	**83.85**	**56**	P	**P**	**03 15 14.8**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=216,slow=6.8,SNR=5.6						
TXAR				pP	**pP**	**03 15 45.7**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=218,slow=6.3,SNR=7.4						
TXAR				sP	**sP**	**03 15 58.5**	**0.0**
	comp=Z,1.0nm,1.1s,baz=224,slow=5.2,SNR=3.6						
HWUT	**Hardware Ranch**	**83.98**	**42**	*e*P	**P**	**03 15 14.1**	**+0.3**
	comp=Z,1.8nm,0.7s						
MAW	**Mawson**	**84.08**	**199**	P	**P**	**03 15 13.7**	**0.0**
MAW	**Mawson**	**84.08**	**199**	P	**P**	**03 15 13.7**	**0.0**
	comp=Z,9.8nm,0.6s,baz=125,slow=6.2,SNR=40						
MAW	**Mawson**	**84.08**	**199**	P	**P**	**03 15 13.7**	**0.0**
	baz=84,SNR=24						
ANMO	**Albuquerque**	**84.22**	**50**	*e*P	**P**	**03 15 16.6**	**+1.4**
	comp=Z,1.5nm,1.0s						
MCK	**McKinley**	**84.73**	**11**	*e*P	**P**	**03 15 16.6**	**-0.2**
	comp=Z,3.9nm,0.7s						
IPM	**Ipoh**	**85.62**	**276**	*e*P	**P**	**03 15 22.6**	**+0.1**
	comp=Z,22nm,0.8s						
LOHW	**Long Hollow**	**85.63**	**41**	*e*P	**P**	**03 15 23.3**	**+1.3**
BW06	**Boulder Array**	**85.86**	**42**	*e*P	**P**	**03 15 23.8**	**+0.5**
	comp=Z,1.1nm,0.8s						
PDAR	**Pinedale Array**	**85.86**	**42**	P	**P**	**03 15 23.8**	**+0.5**
PDAR				sP	**sP**	**03 16 07.6**	**-0.9**
PDAR	**Pinedale Array**	**85.86**	**42**	P	**P**	**03 15 23.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=226,slow=4.2,SNR=8.4						
PDAR				sP	**sP**	**03 16 07.6**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=222,slow=2.0,SNR=3.2						
COLA	**College**	**85.97**	**11**	*e*P	**P**	**03 15 22.9**	**0.0**
	comp=Z,50nm,0.9s						
ILAR	**Eielson Array**	**86.06**	**12**	P	**P**	**03 15 23.3**	**-0.1**
ILAR				sP	**sP**	**03 16 08.3**	**-0.3**
ILAR	**Eielson Array**	**86.06**	**12**	P	**P**	**03 15 23.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=228,slow=5.8,SNR=42						
ILAR				sP	**sP**	**03 16 08.3**	**-0.3**
	comp=Z,3.9nm,1.2s,baz=215,slow=5.6,SNR=4.6						
BOZ	**Bozeman (W)**	**86.06**	**39**	*e*P	**P**	**03 15 24.7**	**+0.6**
SDCO	**Great Sand Dun**	**86.19**	**48**	*e*P	**P**	**03 15 25.9**	**+0.9**
EGAK	**Eagle**	**87.27**	**14**	*e*P	**P**	**03 15 29.6**	**+0.3**
ENH	**Enshi**	**87.35**	**303**	*e*P	**P**	**03 15 31.8**	**+1.3**
	comp=Z,5.4nm,0.5s						
GYA	**Guiyang**	**88.18**	**299**	*e*P	**P**	**03 15 34.7**	**0.0**
GYA				pP	pP	03 16 15.0	+8.1
GYA				sP	sP	03 16 32.5	+12
GYA				PP	**PP**	**03 19 05.4**	**+1.7**
GYA				SKS	SKSac	03 25 45.3	-6.9
GYA				S	**SKKSac**	**03 26 03.8**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SYO	**Syowa Base**	**88.98**	**192**	⇓*e*P	**P**	**03 15 35.6**	**-1.9**
XAN	**Xi'an**	**89.27**	**306**	P	**P**	**03 15 40.7**	**+1.2**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,17nm,10.9s						
SNAA	**Sanae**	**89.63**	**178**	*e*P	**P**	**03 15 39.6**	**-1.0**
	comp=Z,2.9nm,0.8s						
WMOK	**Wichita Mounta**	**89.84**	**53**	*e*P	**P**	**03 15 42.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**90.12**	**313**	*e*P	**P**	**03 15 43.8**	**+0.4**
HHC				PP	**PP**	**03 19 20.7**	**+1.9**
HHC				S	**S**	**03 26 28.8**	**+2.4**
HHC				SS	**SS**	**03 32 31.1**	**+2.4**
HHC				pmax	pmax		
	comp=Z,48nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,7.3s						
HHC				LR	LR		
	comp=N,170nm,16.7s						
HHC				LR	LR		
	comp=E,240nm,17.8s						
HHC				LR	LR		
	comp=Z,210nm,17.8s						
KMI	**Kunming**	**91.01**	**296**	P	**P**	**03 15 49.9**	**+1.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
INK	**Inuvik**	**91.92**	**14**	*e*P	**P**	**03 15 50.9**	**0.0**
	comp=Z,11nm,1.3s						
CMAR	**Chiang Mai Arr**	**92.12**	**289**	P	**P**	**03 15 54.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**92.12**	**289**	P	**P**	**03 15 54.1**	**+1.1**
	comp=Z,8.2nm,1.0s,baz=110,slow=2.6,SNR=24						
CD2	**Chengdu**	**92.17**	**302**	*e*P	**P**	**03 15 53.5**	**+0.5**
CD2				pP	pP	03 16 34.0	+8.7
CD2				sP	sP	03 16 50.8	+12
CD2				PP	**PP**	**03 19 38.5**	**+3.4**
CD2				SKS	**SKSac**	**03 26 09.7**	**-5.2**
CD2				S	S	03 26 39.5	-5.8
CD2				SS	**SS**	**03 32 57.0**	**-1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.6s						
CD2				pmax	pmax		
	comp=Z,50nm,7.2s						
CHTO	**Chiang Mai**	**92.23**	**289**	*e*P	**P**	**03 15 54.4**	**+0.9**
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**93.83**	**24**	P	**P**	**03 16 00.3**	**+0.4**
YKA	**Yellowknife Ar**	**93.83**	**24**	P	**P**	**03 16 00.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=250,slow=4.1,SNR=3.0						
LZH	**Lanzhou**	**93.90**	**307**	*e*P	P	03 16 09.3	+8.2
LZH				pP	pP	03 16 49.6	+16
LZH				sP	sP	03 17 06.4	+20
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**93.90**	**307**	*e*P	**P**	**03 16 01.1**	**0.0**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONM	**Songino Array**	**96.25**	**318**	P	**P**	**03 16 12.8**	**+1.3**
SONM	**Songino Array**	**96.25**	**318**	P	**P**	**03 16 12.8**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=104,slow=4.6,SNR=3.2						
GTA	**Gaotai**	**98.00**	**309**	*e*P	**P**	**03 16 19.6**	**0.0**
GTA				pP	pP	03 16 58.7	+6.7
GTA				sP	sP	03 17 17.2	+12
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WVT	**Waverly**	**98.72**	**55**	*e*P	Pdif	03 16 23.2	+0.6
	comp=Z,6.8nm,1.3s						
ZALV	**Zalesovo Beam**	**110.85**	**321**	PKiKP	**PKiKP**	**03 21 13.8**	**-1.4**
ZALV	**Zalesovo Beam**	**110.85**	**321**	PKiKP	**PKiKP**	**03 21 13.8**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=94,slow=0.5,SNR=6.0						
MK31	**Makanchi Array**	**111.98**	**314**	*e*PKP	**PKiKP**	**03 21 16.2**	**-1.5**
MKAR	**Makanchi Array**	**111.98**	**314**	PKiKP	**PKiKP**	**03 21 16.3**	**-1.4**
MKAR	**Makanchi Array**	**111.98**	**314**	PKiKP	**PKiKP**	**03 21 16.3**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=100,slow=1.0,SNR=12						
BVAR	**Borovoye Array**	**119.48**	**321**	PKP	**PKPdf**	**03 21 31.1**	**-0.8**
BVAR	**Borovoye Array**	**119.48**	**321**	PKP	**PKPdf**	**03 21 31.1**	**-0.8**
	comp=Z,4.3nm,0.4s,baz=120,slow=2.4,SNR=15						
ABKAR	**Akbulak array**	**126.67**	**318**	*e*PKPdf	**PKPdf**	**03 21 45.0**	**-0.7**
KEV	**Kevo**	**127.26**	**351**	*ep*	**PKPdf**	**03 21 42.2**	**-4.0**
	comp=Z,1.5nm,0.6s						
AKTO	**Aktyubinsk**	**127.55**	**320**	PKP	**PKPdf**	**03 21 47.3**	**-0.1**
AKTO	**Aktyubinsk**	**127.55**	**320**	PKP	**PKPdf**	**03 21 47.3**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=125,slow=5.6,SNR=5.7						
ARCES	**ARCESS Array B**	**127.69**	**351**	PKP	**PKPdf**	**03 21 46.3**	**-0.8**
ARCES	**ARCESS Array B**	**127.69**	**351**	PKP	**PKPdf**	**03 21 46.3**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=118,slow=0.4,SNR=26						
BOSA	**Boshof**	**128.94**	**203**	PKP	**PKPdf**	**03 21 50.4**	**-0.6**
BOSA	**Boshof**	**128.94**	**203**	PKP	**PKPdf**	**03 21 50.4**	**-0.6**
	comp=Z,4.5nm,1.1s,baz=179,slow=1.9,SNR=4.5						
JOF	**Joensuu**	**132.28**	**344**	*ep*	**PKPdf**	**03 21 51.7**	**-4.3**
	comp=Z,2.1nm,0.8s						
KAF	**Kangasniemi**	**134.19**	**346**	*ep*	**PKPdf**	**03 21 58.0**	**-1.6**
	comp=Z,1.8nm,0.7s						
FINES	**FINESS Array B**	**134.83**	**346**	PKP	**PKPdf**	**03 22 01.6**	**+0.8**
FINES	**FINESS Array B**	**134.83**	**346**	PKP	**PKPdf**	**03 22 01.6**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=11,slow=3.9,SNR=10.0						
NAO01	**NORSAR Array S**	**137.76**	**356**	*e*PKPdf	**PKPdf**	**03 22 06.3**	**0.0**
LSZ	**Lusaka**	**139.11**	**216**	*e*PKPdf	**PKPdf**	**03 22 11.6**	**+1.3**
BSEG	**Bad Segeberg**	**144.65**	**354**	*e*PKPbc	PKPbc	03 22 18.5	+0.6
KIS	**Kishinev**	**145.68**	**330**	*e*P	**PKPdf**	**03 22 20.0**	**-0.8**
KWP	**Kalwaria Pacla**	**146.05**	**339**	⇓*i*P	**PKPdf**	**03 22 20.5**	**-0.9**
KWP	**Kalwaria Pacla**	**146.05**	**339**	*e*PKPbc	**PKPdf**	**03 22 22.0**	**+0.6**
KWP	**Kalwaria Pacla**	**146.05**	**339**	*e*PKP	**PKPbc**	**03 22 22.3**	**-0.2**
NRDL	**Niedersach Rie**	**146.10**	**354**	*e*P

STU	**Stuttgart**	**149.87**	**354**	*e*PKPbc	**PKPbc**	**03 22 32.7**	**+0.1**
CSS	**Prodhromos**	**150.07**	**308**	*e*PKPbc	**PKPbc**	**03 22 32.8**	**-0.8**
CSS				*e*PKPab	**PKPab**	**03 22 40.3**	**+0.5**
FUR	**Furstenfeldbru**	**150.22**	**351**	*e*PKPbc	**PKPbc**	**03 22 33.6**	**+0.1**
BFO	**Black Forest**	**150.38**	**355**	*e*PKPbc	**PKPbc**	**03 22 33.7**	**-0.2**
RJOB	**Jochberg**	**150.40**	**349**	*e*PKPbc	**PKPbc**	**03 22 34.3**	**+0.3**
KBA	**Koelnbreinsper**	**150.93**	**348**	⇓*i*PKPbc	**PKPbc**	**03 22 34.2**	**-1.2**
	comp=Z,5.4nm,0.5s						
SOKA	**Soboth**	**150.94**	**346**	⇓*i*PKPbc	**PKPbc**	**03 22 34.4**	**-1.0**
	comp=Z,3.8nm,0.7s						
PERS	**Pernice**	**150.96**	**345**	*i* PKPdf	**PKPbc**	**03 22 34.4**	**-1.0**
WATA	**Walderalm**	**150.99**	**351**	⇓*i*PKPbc	**PKPbc**	**03 22 35.1**	**-0.5**
	comp=Z,5.8nm,0.5s						
WTTA	**Wattenberg**	**151.05**	**350**	⇑*i*PKiKP	**PKPbc**	**03 22 35.4**	**-0.3**
	comp=Z,14nm,0.5s,SNR=9.2						
ABTA	**Abfaltersbach**	**151.40**	**349**	⇓*i*PKPbc	**PKPbc**	**03 22 35.4**	**-1.1**
	comp=Z,9.6nm,0.5s,SNR=6.2						
VTS	**Vitosha**	**151.63**	**331**	⇑*i*P	**PKPbc**	**03 22 37.1**	**-0.1**
VISS	**Visnje**	**151.81**	**345**	*i* PKPdf	**PKPbc**	**03 22 37.0**	**-0.3**
VOJS	**Vojsko**	**151.81**	**347**	*i* PKPdf	**PKPbc**	**03 22 36.2**	**-1.2**
JAVS	**Javornik**	**151.91**	**346**	*i* PKPdf	**PKPbc**	**03 22 36.8**	**-0.8**
BOJS	**Bojanci**	**151.99**	**344**	*i* PKPdf	**PKPbc**	**03 22 37.5**	**-0.2**
BNI	**Bardonecchia**	**153.75**	**357**	*e*PKPbc	**PKPbc**	**03 22 42.1**	**+0.4**
BNI				*e*PKPab	**PKPab**	**03 22 55.2**	**+0.2**
ESDC	**Sonseca Array**	**157.81**	**18**	PKPab	**PKPab**	**03 23 13.1**	**+0.6**
ESDC	**Sonseca Array**	**157.81**	**18**	PKPab	**PKPab**	**03 23 13.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=330,slow=3.8,SNR=9.7						
TOA0	**Torodi Ar. Sit**	**173.62**	**151**	*e*PKPdf	**PKPdf**	**03 22 50.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**173.62**	**151**	PKP	**PKPdf**	**03 22 50.8**	**-1.9**
TORD				PKPab	**PKPab**	**03 24 22.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**173.62**	**151**	PKP	**PKPdf**	**03 22 50.8**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=250,slow=1.4,SNR=5.9						
TORD				PKPab	**PKPab**	**03 24 22.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=201,slow=3.0,SNR=3.6						
TAM	**Tamanrasset**	**175.96**	**352**	*e*PKPdf	**PKPdf**	**03 22 53.0**	**-0.4**

ROM 01 03:05:56.3±0.3, 42°24N×13°49E, h7km±1km, Md1.8/4, Ml1.2/3, Error ellipse: s-maj=4.7km s-min=1.3km az=24.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.07**	**66**	Pg	Pg	03 05 58.7	+0.3
FAGN				Sg	Sg	03 06 00.0	+0.2
	128nm,0.2s						
AQU	**L'Aquila**	**0.14**	**331**	Pg	Pg	03 05 59.8	+0.5
AQU				Sg	Sg	03 06 02.0	+0.6
	14nm,0.3s						

ROM 01 03:19:58.5±0.1, 42°40N×13°39E, h7km, Md1.4/3, Error ellipse: s-maj=0.4km s-min=0.2km az=99.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.05**	**168**	Pg	Pg	03 20 00.3	+0.1
AQU				Sg	Sg	03 20 01.7	+0.3
	55nm,0.5s						
CAMP	**Campotosto**	**0.13**	**7**	Pg	Pg	03 20 01.8	+0.2
CAMP				Sg	Sg	03 20 04.2	+0.6
	3.0nm,0.4s						

*NNC **01** 03:23:44.6±5.5, 35°87N×69°67E, h92km±100km, mb3.3, mpv3.5, Error ellipse: s-maj=43.9km s-min=40.3km az=117.0*

ISC 01 03:23:46.1±3.3, 36°0N±0°2×69°7E±0°1, h112km, n9, σ1§40/12, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.92**	**26**	P	**Pn**	**03 25 24.5**	**-0.8**
	SNR=39						
KK31	**Karatay Array**	**7.17**	**5**	P	**Pn**	**03 25 27.9**	**-0.4**
	0.7nm,0.3s,baz=195,slow=16,SNR=21						
KK31				⇑S	**Sn**	**03 26 50.2**	**+2.0**
	0.8nm,0.2s,baz=193,slow=25,SNR=6.5						
EKS2	**Erkin-Say**	**7.42**	**24**	P	**Pn**	**03 25 32.9**	**+1.1**
	SNR=11						
AAK	**Ala-Archa**	**7.65**	**28**	P	**Pn**	**03 25 34.0**	**-1.0**
	SNR=5.2						
CHMS	**Chumysh**	**8.06**	**28**	P	**Pn**	**03 25 40.2**	**-0.2**
	SNR=5.7						
USP	**Ospenovka**	**8.20**	**26**	P	**Pn**	**03 25 42.3**	**0.0**
	SNR=11						
TKM2	**Tokmak 2**	**8.34**	**32**	⇑P	**Pn**	**03 25 43.4**	**-0.9**
	2.0nm,0.5s						
TKM2				⇓S	**Sn**	**03 27 16.7**	**0.0**
	3.9nm,0.6s						
AB31	**Akbulak array**	**15.08**	**335**	P	**Pn**	**03 27 12.3**	**-0.9**
	0.7nm,0.3s,baz=164,slow=12,SNR=43						
AB31				⇓S	**Sn**	**03 29 57.4**	**-2.3**
	0.9nm,0.8s,baz=144,slow=22,SNR=4.9						
AKTO	**Aktyubinsk**	**16.75**	**333**	⇑P	**P**	**03 27 36.2**	**+1.9**
	1.6nm,0.6s						

MEX 01 03:30:59.0±0.9, 15°12N×96°21W, h20km±58km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.65**	**9**	*i* P	Pb	03 31 09.2	-2.5
HUIG				*i* S	Sb	03 31 18.0	-2.3
VHO	**Vista Hermosa**	**2.00**	**345**	*i* P	Pn	03 31 29.7	-2.3
VHO				*i* S	Sn	03 31 53.2	-3.5
PNIG	**Pinotepa**	**2.24**	**305**	*i* P	Pn	03 31 33.2	-1.8
PNIG				*i* S	Sn	03 31 57.8	-4.3
TGIG		**3.39**	**61**	*i* P	Pn	03 31 48.5	-2.4
TGIG				*i* S	Sn	03 32 27.4	-3.3

IDC 01 03:33:16.9±1.4, 4°02S×144°66E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.4/2, MS4.1/1, Ms1 4.1/1, ms1mx2.7/18, Error ellipse: s-maj=41.4km s-min=23.2km az=103.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.90**	**155**	Pn	Pn	03 34 46.0	+0.4
	1.6nm,0.3s,baz=328,slow=13,SNR=3.1						
PMG				Sn	Sn	03 35 40.8	-13
	2.5nm,0.3s,baz=155,slow=21,SNR=7.4						
WRA	**Warramunga Arr**	**18.75**	**212**	P	P	03 37 37.4	-0.1
	0.3nm,0.3s,baz=31,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**22.12**	**207**	P	P	03 38 13.3	-0.8
	0.5nm,0.4s,baz=35,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**23.29**	**232**	P	P	03 38 26.8	+0.3
	1.2nm,0.4s,baz=58,slow=12,SNR=8.7						
DZM	**Mont Dzumac**	**27.72**	**132**	LR	LR	03 48 15.8	
	comp=Z,396nm,21.1s,baz=180,slow=32						
MKAR	**Makanchi Array**	**74.50**	**321**	P	P	03 44 57.9	+0.5
	0.2nm,0.5s,baz=120,slow=5.7,SNR=3.0						
ILAR	**Eielson Array**	**84.60**	**24**	P	P	03 45 51.4	-0.5
	0.3nm,0.8s,baz=249,slow=4.8,SNR=4.1						

SKHL 01 03:40:14.0±0.8, 53°07N×142°48E, h10km, mb3.9/5, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.55**	**29**	*e*Pg	Pn	03 40 27.3	-0.6
OKH				⇓*i*Pg	Pn	03 40 27.3	-0.6
OKH				AMB	AMB	03 40 27.9	
	900nm,0.3s						
OKH				⇓*i*Sg	Sn	03 40 36.3	-0.9
OKH				*e*Sg	Sb	03 40 36.8	+3.1
OKH				A	A	03 40 37.5	
	3μm,0.5s						
OKH				A	A	03 40 37.5	
	3μm,0.5s						
NKL	**Nikolayevsk**	**1.09**	**275**	*e*Pg	Pn	03 40 35.7	+0.4
NKL				AMB	AMB	03 40 36.8	
	147nm,0.7s						
NKL				*e*Sg	Sn	03 40 51.5	+1.2
NKL				A	A	03 40 55.0	
	1μm,1.2s						
TYV	**Tymovskoe**	**2.21**	**177**	*e*P	Pn	03 40 51.5	+0.8
TYV				AMB	AMB	03 40 55.5	
	9.0nm,0.6s						
TYV				*e*Pg	Pg	03 40 58.2	+1.8
TYV				AMB	AMB	03 41 03.5	
	24nm,0.8s						
TYV				*e*Sg	Sg	03 41 28.8	+3.7
TYV				A	A	03 41 32.0	
	15nm,0.6s						
TYV				A	A	03 41 32.0	
	19nm,0.6s						
GRNR	**Gornyy**	**4.40**	**241**	*e*Pg	Pg	03 41 41.4	+3.1
GRNR				AMB	AMB	03 41 42.3	
	9.0nm,0.7s						
GRNR				*e*Sg	Sg	03 42 41.8	+6.5
GRNR				A	A	03 42 50.0	
	24nm,0.7s						
EKMR	**Ekimchan**	**5.75**	**274**	*e*Pg	Pg	03 42 06.0	+1.9
EKMR				AMB	AMB	03 42 06.5	
	4.0nm,0.5s						
EKMR				*e*Sg	Sg	03 43 25.5	+7.0
EKMR				A	A	03 43 28.5	
	22nm,0.6s						
EKMR				A	A	03 43 28.5	
	6.0nm,0.6s						
EKMR				A	A	03 43 28.5	
	8.0nm,0.6s						

*NIED **01** 04:08:00, 29°40N×130°80E, h17km, Mw4.0 Best double couple: M₀1.26000×10¹⁵ NP1:φ₁12.00000°, δ85.00000°, λ64.00000°. NP2:φ₂272.00000°, δ27.00000°, λ169.00000°.*
*IDC **01** 04:08:17.2±0.8, 29°45N×130°56E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.8/26, mbtmp3.7/14, ML3.5/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/36, Error ellipse: s-maj=30.2km s-min=16.8km az=76.0*
*JMA **01** 04:08:21.1±0.2, 29°43N×130°81E, h74km, M3.7*
*ISCJB **01** 04:08:22.1±0.9, 29°44N±0°05×130°8E±0°1, h53km±6km, mb3.6/12, MS3.6/3, Error ellipse: s-maj=17.9km s-min=4.9km az=22.1*

ISC 01 04:08:23.5±1.4, 29°48N±0°06×130°7E±0°1, h45km±13km, n26, σ1§02/30, mb3.7/12, MS3.7/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.81**	**296**	P	**Pn**	**04 08 39.0**	**+0.4**
JKC	**Kuchinoerabu**	**1.07**	**335**	P	**Pn**	**04 08 42.2**	**+0.1**
JTN	**Tanegashima 3**	**1.19**	**11**	P	**Pn**	**04 08 42.6**	**-1.1**
JTN				*e*S	**Sn**	**04 08 59.1**	**+0.4**
JAM	**Amami Oshima**	**1.44**	**222**	P	**Pn**	**04 08 45.9**	**-1.3**
JAM				*e*S	**Sn**	**04 09 04.1**	**-0.8**
JTSR	**Tashiro 2**	**1.69**	**6**	P	**Pn**	**04 08 50.1**	**-0.5**
JTSR				S	**Sn**	**04 09 12.0**	**+1.0**
JAMN	**Amaminishikomi**	**1.83**	**228**	P	**Pn**	**04 08 51.6**	**-0.9**
JAMN				*e*S	**Sn**	**04 09 14.9**	**+0.5**
JSU	**Suzuyama**	**2.03**	**354**	P	**Pn**	**04 08 54.8**	**-0.4**
JSU				*e*S	**Sn**	**04 09 20.2**	**+0.8**
JNAR	**Kushima--Naru**	**2.09**	**13**	P	**Pn**	**04 08 55.9**	**-0.2**
JTK	**Tokunoshima**	**2.29**	**223**	P	**Pn**	**04 08 58.1**	**-0.8**
JNU	**Nakatsue**	**3.63**	**2**	Pn	**Pn**	**04 09 17.4**	**+0.2**
	8.0nm,0.3s,baz=185,slow=3.8,SNR=56						
JNU				Sn	**Sn**	**04 09 58.9**	**+0.1**
	5.8nm,0.3s,baz=192,slow=19,SNR=6.0						
KSRS	**Korea Array**	**8.28**	**344**	Pn	**Pn**	**04 10 18.1**	**-2.9**
	0.2nm,0.3s,baz=161,slow=14,SNR=3.4						
KSRS				LR	LR	04 13 53.6	
	comp=Z,111nm,19.2s,baz=162,slow=41						
USRK	**Ussuriysk Arra**	**14.72**	**4**	Pn	**Pn**	**04 11 50.8**	**+2.0**
	0.1nm,0.3s,baz=182,slow=11,SNR=2.0						
ASAJ	**Asahikawa**	**17.40**	**30**	LR	LR	04 19 12.7	
	comp=Z,63nm,20.7s,baz=155,slow=38						
SONM	**Songino Array**	**26.21**	**321**	P	**P**	**04 13 53.4**	**-0.7**
	0.3nm,0.4s,baz=128,slow=11,SNR=3.9						
CMAR	**Chiang Mai Arr**	**30.94**	**256**	LR	LR	04 28 56.7	
	comp=Z,56nm,18.1s,baz=270,slow=40						
ZALV	**Zalesovo Beam**	**41.09**	**320**	P	**P**	**04 16 03.0**	**+0.3**
	0.4nm,0.3s,baz=99,slow=6.3,SNR=2.2						
MKAR	**Makanchi Array**	**41.12**	**309**	P	**P**	**04 16 02.4**	**-0.7**
	0.6nm,0.5s,baz=91,slow=10,SNR=14						
WRA	**Warramunga Arr**	**49.26**	**175**	P	**P**	**04 17 07.7**	**-0.2**
	0.5nm,0.7s,baz=354,slow=8.1,SNR=3.1						
ASAR	**Alice Springs**	**52.93**	**176**	P	**P**	**04 17 35.1**	**-0.4**
	0.2nm,0.8s,baz=1.0,slow=5.6,SNR=2.7						
ILAR	**Eielson Array**	**60.54**	**29**	P	**P**	**04 18 29.0**	**+0.1**
	0.1nm,0.5s,baz=289,slow=6.5,SNR=3.4						
ARCES	**ARCESS Array B**	**67.79**	**338**	P	**P**	**04 19 16.5**	**+0.1**
	1.6nm,0.9s,baz=59,slow=7.2,SNR=4.9						
ARCES				LR	LR	04 54 16.2	
	comp=Z,48nm,20.4s,baz=266,slow=41						
KBZ	**Khabaz**	**68.81**	**309**	P	**P**	**04 19 23.2**	**0.0**
	2.5nm,0.8s,baz=84,slow=4.8,SNR=5.6						
FINES	**FINESS Array B**	**71.12**	**331**	P	**P**	**04 19 36.1**	**-0.9**
	1.1nm,0.5s,baz=62,slow=4.9,SNR=13						
FINES				LR	LR	04 54 37.4	
	comp=Z,48nm,18.7s,baz=187,slow=39						
BRTR	**Keskin Array B**	**76.77**	**308**	P	**P**	**04 20 10.1**	**-0.5**
	0.6nm,0.5s,baz=82,slow=4.8,SNR=3.7						
NOA	**NORSAR Array B**	**77.36**	**334**	P	**P**	**04 20 12.6**	**-0.8**
	0.8nm,0.8s,baz=50,slow=5.7,SNR=3.0						
PDAR	**Pinedale Array**	**89.26**	**40**	P	**P**	**04 21 17.1**	**+1.9**
	0.4nm,0.8s,baz=284,slow=0.4,SNR=3.1						

IDC 01 04:16:28.1±3.3, 20°15S×179°15W, h650km±44km, mb2.9/6, mb1 3.3/6, mb1mx3.0/17, mbtmp2.9/6, Error ellipse: s-maj=99.6km s-min=13.5km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.55**	**257**	P	P	04 23 37.7	+0.3
	2.0nm,0.6s,baz=97,slow=7.5,SNR=30						
ASAR				PcP	PcP	04 25 09.2	-0.6
	0.4nm,0.6s,baz=108,slow=3.7,SNR=4.8						
ASAR				S	S	04 29 23.5	+1.7
	0.7nm,0.9s,baz=91,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**43.58**	**262**	P	P	04 23 37.4	-0.3
	1.2nm,0.7s,baz=97,slow=7.7,SNR=7.1						
WRA				S	S	04 29 21.9	-0.3
	0.5nm,0.7s,baz=98,slow=14,SNR=4.9						
NVAR	**Mina Array Bea**	**81.52**	**44**	P	P	04 27 40.6	+0.6
	0.2nm,0.3s,baz=212,slow=5.3,SNR=4.3						
TXAR	**Lajitas Array**	**87.78**	**58**	P	P	04 28 10.7	+0.3
	0.5nm,0.8s,baz=232,slow=6.2,SNR=6.2						
ILAR	**Eielson Array**	**88.22**	**13**	P	P	04 28 11.8	+0.3
	0.6nm,1.0s,baz=234,slow=5.6,SNR=4.1						
PDAR	**Pinedale Array**	**89.45**	**44**	P	P	04 28 16.9	-1.2
	0.5nm,1.0s,baz=231,slow=5.7,SNR=3.9						
BRTR	**Keskin Array B**	**145.81**	**312**	PKPbc	PKPbc	04 34 57.0	+0.2
	0.3nm,0.4s,baz=124,slow=6.9,SNR=3.7						
GERES	**GERESS Array B**	**149.56**	**343**	PKPbc	PKPbc	04 35 05.4	-0.5
	0.3nm,0.5s,baz=29,slow=2.2,SNR=4.5						

IDC 01 04:31:42.9±9.0, 31°55S×179°49E, h339km±101km, mb2.6/2, mb1 3.0/3, mb1mx2.8/17, mbtmp2.8/3, Error ellipse: s-maj=106.9km s-min=43.4km az=3.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.98**	**196**	P	Pn	04 33 24.8	+0.2
	2.5nm,0.3s,baz=341,slow=9.4,SNR=36						
URZ				S	S	04 34 47.6	+0.3
	5.3nm,0.3s,baz=72,slow=20,SNR=16						
ASAR	**Alice Springs**	**40.92**	**269**	P	P	04 38 52.9	-0.6
	0.3nm,0.8s,baz=103,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**42.01**	**275**	P	P	04 39 02.5	+0.2
	0.3nm,0.3s,baz=112,slow=6.3,SNR=6.8						
FINES	**FINESS Array B**	**145.43**	**338**	PKPbc	PKPdf	04 50 39.8	-0.2
	1.2nm,0.7s,baz=56,slow=4.8,SNR=8.5						

IDC 01 04:34:16.9±7.7, 16°63S×174°78W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=347.2km s-min=35.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.28**	**258**	P	P	04 43 00.1	-0.1
	0.4nm,0.5s,baz=95,slow=7.9,SNR=2.7						
ASAR	**Alice Springs**	**48.48**	**253**	P	P	04 43 02.0	+0.3
	1.0nm,0.5s,baz=86,slow=7.9,SNR=15						
ILAR	**Eielson Array**	**83.91**	**12**	P	P	04 46 49.0	+0.7
	0.3nm,0.6s,baz=211,slow=5.4,SNR=7.5						
BRTR	**Keskin Array B**	**146.24**	**319**	PKPbc	PKPdf	04 53 57.1	-1.7
	0.5nm,0.8s,baz=62,slow=3.4,SNR=3.3						

*NEIC **01** 05:06:19.4±0.8, 9°11S×113°28E, h50km±8km, mb4.4/7, Error ellipse: s-maj=8.3km s-min=5.9km az=48.0*
NEIC Felt at Blitar.
*BJI **01** 05:06:20.3, 9°10S×113°30E, h50km, mB5.0/10, mb4.7/14, Ms4.6/3, Ms7 4.4/3*
*DJA **01** 05:06:21.7±1.5, 9°S±11°×11°3E±°, h29km±13km, M4.9/12, mb5.3/1, mB5.7/1, MLv4.7/12, Mw(mB)5.2/1*
*ISCJB **01** 05:06:21.0±0.5, 9°20S±0°05×113°27E±0°03, h81km±5km, mb4.2/29, Error ellipse: s-maj=7.9km s-min=5.1km az=21.8*
*IDC **01** 05:06:21.9±0.7, 9°00S×113°38E, h70km±6km, mb3.8/17, mb1 3.9/19, mb1mx3.9/25, mbtmp3.9/19, MS3.1/3, Ms1 3.1/3, ms1mx2.7/27, Error ellipse: s-maj=16.8km s-min=10.3km az=63.0*
*AUST **01** 05:06:23.6±0.0, 8°87S×113°19E, h133km, Error ellipse: s-maj=1.6km s-min=0.8km az=354.0*

ISC 01 05:06:20.7±0.4, 9°21S±0°05×113°29E±0°05, h56km±3km, h55km:pP-P, n101, σ1§69/121, mb4.3/29, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.94**	**9**	P	**Pn**	**05 06 38.4**	**+0.6**
BYJI	**Banyuwangi**	**1.44**	**47**	P	Pn	05 06 48.1	+3.6
BLJI	**Banyuglugur**	**1.48**	**12**	P	**Pn**	**05 06 47.4**	**+2.4**
IGBI	**Denpasar**	**1.87**	**78**	P	**Pn**	**05 06 50.9**	**+0.6**
PWJI	**Pagerwojo**	**1.88**	**309**	P	**Pn**	**05 06 52.1**	**+1.6**
SJI	**Sawahan**	**2.10**	**314**	P	**Pn**	**05 06 55.3**	**+1.8**
SRBI	**Singaraja**	**2.20**	**60**	P	**Pn**	**05 06 56.2**	**+1.3**
KMMI	**Kalianget**	**2.24**	**17**	P	**Pn**	**05 06 58.1**	**+2.7**
PCJI	**Pacitan**	**2.32**	**296**	P	**Pn**	**05 06 57.8**	**+1.4**
WOJI	**Wonogiri, Jawa**	**2.71**	**300**	P	**Pn**	**05 07 03.7**	**+2.0**
UGM	**Wanagama**	**3.02**	**295**	P	**Pn**	**05 07 08.1**	**+2.0**
UGM	**Wanagama**	**3.02**	**295**	P	**Pn**	**05 07 07.8**	**+1.7**
	baz=2.8,SNR=61						
UGM				S	**Sn**	**05 07 43.1**	**+1.9**
	baz=2.8,SNR=4.9						
BJII	**Banjamegara**	**4.00**	**297**	P	Pn	05 07 24.4	+4.8
CISI	**Cisompet, Garu**	**5.66**	**286**	P	Pn	05 07 45.7	+3.4
CISI	**Cisompet, Garu**	**5.66**	**286**	P	**Pn**	**05 07 43.5**	**+1.2**
	baz=5.5,SNR=8.7						
CISI				S	**Sn**	**05 08 44.2**	**-1.9**
	baz=5.5,SNR=3.5						
XMI	**Christmas Isla**	**7.59**	**260**	P	**Pn**	**05 08 08.5**	**-0.2**
	baz=7.6,SNR=5.6						
XMIS	**Christmas Isla**	**7.63**	**260**	*e*Pn	**Pn**	**05 08 08.2**	**-1.2**
XMIS				*e*Sn	Sn	05 09 24.7	-10
XMIS	**Christmas Isla**	**7.63**	**260**	P	**Pn**	**05 08 08.1**	**-1.2**
	baz=7.6,SNR=14						
KAPI	**Kappang**	**7.64**	**57**	*e*Pn	**Pn**	**05 08 09.3**	**-0.2**
	21nm,0.3s						
KAPI				S	**Sn**	**05 09 31.3**	**-3.5**
KAPI	**Kappang**	**7.64**	**57**	P	**Pn**	**05 08 08.5**	**-0.9**
	11nm,0.3s,baz=225,slow=7.8,SNR=19						
KAPI				S	**Sn**	**05 09 31.3**	**-3.5**
	2.9nm,0.3s,baz=143,slow=20,SNR=4.7						
KAPI				LR	LR	05 11 39.3	
	comp=Z,62nm,21.3s,baz=60,slow=42						
BKSI	**Bulukumba**	**7.80**	**61**	P	Pn	05 08 15.3	+3.7
SPSI	**Sidrap Palu**	**8.28**	**51**	P	Pn	05 08 23.6	+5.5
BATI	**Baumata**	**10.28**	**96**	P	**Pn**	**05 08 45.4**	**-0.2**
BATI	**Baumata**	**10.28**	**96**	P	**Pn**	**05 08 45.4**	**-0.2**
	6.6nm,0.3s,baz=271,slow=9.5,SNR=5.1						
PMBI	**Palembang**	**10.52**	**306**	S	Sn	05 10 37.1	-8.1
	baz=10,SNR=5.5						
SOEI	**Soe**	**10.84**	**94**	P	**Pn**	**05 08 53.8**	**+0.4**
	baz=11,SNR=4.0						
MNAI	**Manna**	**11.33**	**294**	P	**Pn**	**05 08 60.0**	**0.0**
	baz=11,SNR=10						
MBWA	**Marble Bar**	**13.41**	**153**	*e*Pn	Pn	05 09 23.8	-4.4
	12nm,0.4s						
MBWA				*e*Sn	Sn	05 11 37.7	-18
FITZ	**Fitzroy Crossi**	**14.90**	**128**	*e*P	**Pn**	**05 09 45.8**	**-2.2**
	9.7nm,1.1s						
FITZ				S	Sn	05 12 19.0	-13
FITZ	**Fitzroy Crossi**	**14.90**	**128**	P	**Pn**	**05 09 45.9**	**-2.2**
	0.3nm,0.3s,baz=280,slow=16,SNR=14						
FITZ				S	Sn	05 12 19.0	-13
	0.4nm,0.3s,baz=24,slow=20,SNR=3.2						
FITZ				LR	LR	05 15 49.0	
	comp=Z,81nm,19.9s,baz=126,slow=38						
FITZ	**Fitzroy Crossi**	**14.90**	**128**	P	**Pn**	**05 09 50.0**	**+1.9**
	baz=15,SNR=5.6						
KNRA	**Kununurra**	**16.41**	**115**	P	**P**	**05 10 09.6**	**+0.2**
	baz=17,SNR=4.5						
MTN	**Manton Dam**	**17.88**	**103**	P	Pn	05 10 42.5	+17
	baz=18,SNR=3.2						
MEEK	**Meekatharra**	**18.06**	**164**	P	**P**	**05 10 27.8**	**+0.2**
	baz=18,SNR=31						
MEEK				S	Sn	05 13 30.7	-18
	baz=18,SNR=17						
KDU	**Kakadu**	**19.15**	**102**	P	**P**	**05 10 39.8**	**+0.2**
	baz=19,SNR=5.9						
MORW	**Morawa**	**19.93**	**173**	P	**Pn**	**05 10 50.9**	**+0.9**
	baz=20,SNR=5.5						
MORW				S	S	05 14 14.8	-14
	baz=20,SNR=5.5						
WRA	**Warramunga Arr**	**22.97**	**120**	P	**P**	**05 11 19.4**	**-1.3**
WRA				pP	**pP**	**05 11 36.9**	**+3.5**
WRA	**Warramunga Arr**	**22.97**	**120**	P	**P**	**05 11 19.4**	**-1.3**
	4.8nm,0.9s,baz=296,slow=11,SNR=19						
WRA				pP	**pP**	**05 11 36.9**	**+3.5**
	1.9nm,0.5s,baz=296,slow=11,SNR=5.4						
WRAB	**Tennant Creek**	**22.97**	**120**	*e*P	**P**	**05 11 20.5**	**-0.3**
	28nm,1.4s						
NWAO	**Narrogin (SRO)**	**23.89**	**172**	P	**P**	**05 11 30.1**	**+0.9**
NWAO	**Narrogin (SRO)**	**23.89**	**172**	P	**P**	**05 11 30.1**	**+0.9**
	6.5nm,0.8s,baz=31,slow=12,SNR=3.9						
NWAO				LR	L

HHC SS SS 05 25 46.7 -0.9
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,220nm,6.6s
HHC LR LR
comp=N,180nm,16.2s
HHC LR LR
comp=E,330nm,16.7s
HHC LR LR
comp=Z,140nm,16.7s
CN2 Changchun 53.90 11 *e*P P 05 15 42.3 +4.0
MDJ Mudanjiang 55.56 14 P **P** **05 15 52.4 +2.0**
MDJ pP **pP** **05 16 04.6 -0.7**
MDJ pmax pmax
comp=Z,3.0nm,0.7s
MDJ pmax pmax
comp=Z,58nm,5.2s
USRK Ussuriysk Arra 55.80 16 P **P** **05 15 50.4 -1.6**
comp=Z,3.9nm,0.8s,baz=189,slow=6.5,SNR=14
SONM Songino Array 57.12 354 P **P** **05 16 00.4 -1.2**
SONM Songino Array 57.12 354 P **P** **05 16 00.4 -1.2**
comp=Z,1.5nm,0.6s,baz=175,slow=8.3,SNR=10
WMQ Urumqi 57.67 338 *e*P **P** **05 16 06.1 +0.7**
MK31 Makanchi Array 62.23 336 *e*P **P** **05 16 35.0 -1.6**
MKAR Makanchi Array 62.23 336 P **P** **05 16 35.0 -1.6**
MKAR pP **pP** **05 16 53.6 +1.8**
MKAR Makanchi Array 62.23 336 P **P** **05 16 35.0 -1.6**
comp=Z,1.7nm,0.4s,baz=148,slow=7.7,SNR=40
MKAR pP **pP** **05 16 53.6 +1.8**
comp=Z,0.6nm,0.6s,baz=148,slow=6.8,SNR=3.8
KURBB Kurchatov Arra 66.79 337 P **P** **05 17 04.5 -1.7**
comp=Z,0.7nm,0.7s,baz=152,slow=5.4,SNR=7.2
KURBB pP **pP** **05 17 22.8 +1.2**
comp=Z,0.6nm,0.7s,baz=161,slow=5.2,SNR=4.3
KURK Kurchatov 66.83 337 P **P** **05 17 04.5 -2.0**
KURK pP **pP** **05 17 22.8 +1.0**
MAW Mawson 67.18 199 P **P** **05 17 08.7 +0.2**
MAW Mawson 67.18 199 P **P** **05 17 08.7 +0.2**
comp=Z,0.7nm,0.4s,baz=47,slow=10,SNR=4.3
ZALV Zalesovo Beam 67.37 342 P **P** **05 17 07.8 -2.1**
ZALV Zalesovo Beam 67.37 342 P **P** **05 17 07.8 -2.1**
comp=Z,1.3nm,0.4s,baz=134,slow=4.8,SNR=6.8
BVAR Borovoye Array 71.93 334 P **P** **05 17 35.9 -2.1**
BVAR Borovoye Array 71.93 334 P **P** **05 17 35.9 -2.1**
comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=3.2
PETK Petropavlovsk- 72.64 26 P **P** **05 17 41.0 -1.2**
PETK Petropavlovsk- 72.64 26 P **P** **05 17 41.0 -1.2**
comp=Z,1.2nm,0.6s,baz=225,slow=1.9,SNR=4.0
VNDA Vanda 72.71 170 P **P** **05 17 42.8 +0.4**
VNDA Vanda 72.71 170 P **P** **05 17 42.8 +0.4**
comp=Z,0.6nm,0.9s,baz=309,slow=2.2,SNR=4.0
ABKAR Akbulak array 74.57 327 *e*P **P** **05 17 52.2 -1.4**
comp=Z,3.6nm,0.8s
AKTO Aktyubinsk 76.26 327 P **P** **05 18 02.9 -0.5**
AKTO Aktyubinsk 76.26 327 P **P** **05 18 02.9 -0.5**
comp=Z,0.8nm,0.6s,baz=99,slow=19,SNR=3.5
QSPA South Pole Qui 80.79 180 *e*P **P** **05 18 27.9 -0.3**
comp=Z,7.1nm,1.3s
LSZ Lusaka 82.94 256 *e*P **P** **05 18 40.5 0.0**
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 87.96 311 *e*P **P** **05 19 04.2 -0.8**
comp=Z,0.6nm,0.4s
BRTR Keskin Array B 87.96 311 P **P** **05 19 04.3 -0.7**
BRTR Keskin Array B 87.96 311 P **P** **05 19 04.3 -0.7**
comp=Z,2.1nm,0.9s,baz=115,slow=5.6,SNR=9.0
YKA Yellowknife Ar 116.62 23 PKP **PKPdf** **05 24 57.0 -1.2**
YKA Yellowknife Ar 116.62 23 PKP **PKPdf** **05 24 57.0 -1.2**
comp=Z,0.2nm,0.6s,baz=322,slow=0.8,SNR=5.6
NVAR Mina Array Bea 125.46 49 PKP **PKPdf** **05 25 16.2 0.0**
NVAR Mina Array Bea 125.46 49 PKP **PKPdf** **05 25 16.2 0.0**
comp=Z,0.5nm,0.7s,baz=251,slow=2.8,SNR=2.9
TXAR Lajitas Array 140.03 55 PKPpre PKPpre 05 25 38.5
TXAR PKP **PKPdf** **05 25 43.1 -0.6**
TXAR Lajitas Array 140.03 55 PKhKP PKPpre 05 25 38.5
comp=Z,0.1nm,0.7s,baz=258,slow=3.5,SNR=2.5
TXAR PKP **PKPdf** **05 25 43.1 -0.6**
comp=Z,0.2nm,0.7s,baz=264,slow=3.5,SNR=3.5
WCI Wyandotte Cave 146.15 28 *e*PKPdf **PKPdf** **05 25 53.5 -0.7**
WVT Waverly 147.02 32 *e*PKPdf **PKPbc** **05 25 56.6 -1.1**
OXF Oxford 147.33 36 *e*PKPbc **PKPbc** **05 25 58.4 -0.2**
SIV San Ignacio 154.35 193 PKP **PKPdf** **05 26 07.4 -0.2**
SIV PKPab **PKPab** **05 26 30.2 +0.4**
SIV San Ignacio 154.35 193 PKP **PKPdf** **05 26 07.4 -0.2**
comp=Z,0.5nm,0.6s,baz=252,slow=19,SNR=2.7
SIV PKPab **PKPab** **05 26 30.2 +0.4**
comp=Z,1.0nm,0.9s,baz=117,slow=11,SNR=4.2
LPAZ La Paz 154.63 177 PKP **PKPdf** **05 26 08.3 -0.4**
LPAZ PKPab **PKPab** **05 26 32.8 +1.0**
LPAZ La Paz 154.63 177 PKP **PKPdf** **05 26 08.3 -0.4**
comp=Z,1.5nm,1.1s,baz=16,slow=9.4,SNR=3.5
LPAZ PKPab **PKPab** **05 26 32.8 +1.0**
comp=Z,1.0nm,0.7s,baz=232,slow=1.7,SNR=6.3

*ISCJB **01** 05:15:37.5±0.5,23°.81S±0°.04×66°.80W±0°.05,h181km, mb3.5/6,Error ellipse: s-maj=7.4km s-min=5.4km az=148.5*
*IDC **01** 05:15:39.6±1.6,23°.68S×66°.82W,h195km±15km,mb3.4/6, mb1 3.6/11,mb1mx3.4/20,mbtmp3.4/11,Error ellipse: s-maj=19.3km s-min=14.6km az=70.0*
*NEIC **01** 05:15:40.9,23°.55S×67°.39W,h242km,MG4.5(GUC), After GUC.*
*GUC **01** 05:15:40.9±0.6,23°.55S×67°.39W,h242km±19km,ML4.5*
ISC 01 05:15:38.3±0.6,23°.76S±0°.06×66°.82W±0°.07,h181km,n28,
σ1$42/35,mb3.7/6,8C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.24**	**300**	↑*e*P	Pn	05 16 21.6	+3.4
LVC	**Limon Verde**	**2.24**	**300**	↑*e*P	Pn	05 16 21.6	+3.4
PB09	**Plate Boundary**	**2.97**	**311**	*e*P	**Pn**	**05 16 29.3**	**+2.5**
PB09				*e*S	**Sn**	**05 17 06.0**	**+1.4**
PB09	**Plate Boundary**	**2.97**	**311**	*e*P	**Pn**	**05 16 29.3**	**+2.5**
PB09				*e*S	**Sn**	**05 17 06.0**	**+1.4**
PB09				AML	AML	05 17 11.0	
	comp=N,690nm,0.7s						
PB10	**Plate Boundary**	**3.43**	**273**	*e*P	**Pn**	**05 16 34.0**	**+1.8**
PB10				*e*S	**Sn**	**05 17 14.0**	**-0.4**
PB10				AML	AML	05 17 18.3	
	comp=E,2μm,0.3s						
PB07	**Plate Boundary**	**3.48**	**305**	↑*e*P	**Pn**	**05 16 34.8**	**+1.8**
PB07				S	**Sn**	**05 17 14.3**	**-1.5**
PB07	**Plate Boundary**	**3.48**	**305**	↑*e*P	**Pn**	**05 16 34.8**	**+1.8**
PB07				*e*S	**Sn**	**05 17 14.3**	**-1.5**
PB07				AML	AML	05 17 17.5	
	comp=N,280nm,0.1s						
PB01	**Plate Boundary**	**3.66**	**317**	↑*e*P	**Pn**	**05 16 36.7**	**+1.5**
PB01				*e*S	**Sn**	**05 17 19.5**	**-0.3**
PB01	**Plate Boundary**	**3.66**	**317**	↑*e*P	**Pn**	**05 16 36.7**	**+1.5**
PB01				*e*S	**Sn**	**05 17 19.5**	**-0.3**
PB01				AML	AML	05 17 22.7	
	comp=N,312nm,0.2s						
HMBC	**Humberstone**	**4.48**	**320**	P	**Pn**	**05 16 45.9**	**+0.2**
HMBC	**Humberstone**	**4.48**	**320**	*e*P	**Pn**	**05 16 45.9**	**+0.2**
PSGC	**Pisagua**	**5.16**	**323**	P	**Pn**	**05 16 53.7**	**-0.7**
PSGC	**Pisagua**	**5.16**	**323**	↑*e*P	**Pn**	**05 16 53.7**	**-0.7**
MNMC	**Minimini**	**5.28**	**330**	P	**Pn**	**05 16 56.9**	**+0.7**
MNMC	**Minimini**	**5.28**	**330**	↑*e*P	**Pn**	**05 16 56.9**	**+0.7**
LPAZ	**La Paz**	**7.53**	**350**	P	**Pn**	**05 17 27.3**	**+1.2**
	comp=N,2.0nm,0.3s,baz=180,slow=8.3,SNR=77						
LPAZ				S	**Sn**	**05 18 51.4**	**+0.2**
	comp=N,0.6nm,0.3s,baz=203,slow=18,SNR=8.8						
CFAA	**Coronel Fontan**	**7.92**	**189**	P	**Pn**	**05 17 32.2**	**+1.8**
	comp=N,0.1nm,0.3s,baz=13,slow=11,SNR=26						
CFAA				S	**Sn**	**05 18 55.9**	**-3.4**
	comp=N,0.5nm,0.3s,baz=60,slow=20,SNR=21						
CPUP	**Villa Florida**	**8.98**	**109**	P	**Pn**	**05 17 45.9**	**+1.5**
	comp=N,0.2nm,0.3s,baz=257,slow=9.6,SNR=2.9						
SIV	**San Ignacio**	**9.43**	**36**	P	**Pn**	**05 17 50.1**	**-0.3**
	comp=N,1.8nm,0.3s,baz=249,slow=9.6,SNR=24						
PLCA	**Paso Flores**	**17.21**	**190**	P	**Pn**	**05 19 28.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=0.9,slow=18,SNR=2.7						
BDFB	**Brasilia**	**19.45**	**69**	P	**P**	**05 19 52.3**	**+1.0**
	comp=N,1.3nm,0.3s,baz=245,slow=11,SNR=23						
TXAR	**Lajitas Array**	**63.58**	**324**	P	**P**	**05 25 50.0**	**+0.2**
	comp=N,0.2nm,0.6s,baz=152,slow=6.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.33**	**69**	P	**P**	**05 27 07.2**	**-0.5**
	comp=N,1.0nm,0.5s,baz=256,slow=5.5,SNR=22						
PDAR	**Pinedale Array**	**77.03**	**329**	P	**P**	**05 27 11.9**	**+0.6**
	comp=N,0.2nm,0.5s,baz=130,slow=8.4,SNR=2.3						
ULM	**Lac du Bonnet**	**78.05**	**341**	P	**P**	**05 27 14.7**	**-1.8**
	comp=N,1.5nm,0.4s,baz=101,slow=3.0,SNR=2.9						
SCHQ	**Schefferville**	**78.27**	**360**	P	**P**	**05 27 15.9**	**-1.7**
	comp=N,1.7nm,0.8s,baz=103,slow=10,SNR=2.4						
YKA	**Yellowknife Ar**	**93.95**	**340**	P	**P**	**05 28 34.7**	**-0.2**
	comp=N,0.2nm,0.5s,baz=134,slow=4.7,SNR=4.0						
MKAR	**Makanchi Array**	**146.24**	**39**	PKPbc	**PKPdf**	**05 34 56.7**	**+0.7**
	comp=N,1.5nm,0.6s,baz=303,slow=3.4,SNR=20						

*ISCJB **01** 05:22:42.3±0.4,40°.42S±0°.03×176°.52E±0°.05,h45km±5km, mb3.6/2,Error ellipse: s-maj=7.4km s-min=3.5km az=29.0*
*WEL **01** 05:22:43.7±0.1,40°.36S×176°.40E,h36km±1km,ML3.8/18, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0*
WEL Felt between Hawke Bay Wairarapa, maximum reported intensity MM 4.
*IDC **01** 05:22:43.5±1.5,40°.21S×176°.32E,h30km±7km,mb3.5/2, mb1 3.7/4,mb1mx3.5/16,mbtmp3.5/4,ML3.1/2,Error ellipse: s-maj=36.1km s-min=23.3km az=126.0*
ISC 01 05:22:42.5±1.1,40°.45S±0°.04×176°.50E±0°.05,h36km±1km, n72,σ1$18/80,12C-6D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.21**	**30**	P*	**Pn**	**05 22 50.3**	**-0.6**
PRHZ				S*	**Sn**	**05 22 55.5**	**-3.0**
DVHZ	**Dannevirke**	**0.29**	**300**	↓P*	**Pn**	**05 22 49.8**	**-0.8**
DVHZ				S*	**Sn**	**05 22 54.5**	**-2.8**
BFZ	**Birch Farm**	**0.30**	**219**	↓P*	**Pn**	**05 22 52.6**	**+2.0**
WPHZ	**Waipukurau**	**0.38**	**353**	↑P*	**Pn**	**05 22 51.1**	**-0.3**
WPHZ				S*	**Sn**	**05 22 56.9**	**-1.0**
PXZ	**Pawanui**	**0.50**	**34**	↓P*	**Pn**	**05 22 54.1**	**+1.0**
PXZ				AML	AML	05 23 02.8	
PXZ				AML	AML	05 23 02.8	
PXZ				AML	AML	05 23 03.2	
PXZ				AML	AML	05 23 03.2	
POWZ	**Post Office Ro**	**0.56**	**275**	↑P*	**Pn**	**05 22 54.2**	**+0.2**
TSZ	**Takapari Road**	**0.56**	**313**	↑P*	**Pn**	**05 22 53.0**	**-1.2**
TSZ				AML	AML	05 23 00.1	
TSZ				AML	AML	05 23 00.2	
TSZ				AML	AML	05 23 00.3	
TSZ				AML	AML	05 23 00.5	
TIWZ	**Tintock**	**0.57**	**235**	P*	**Pn**	**05 22 55.9**	**+1.6**
PNHZ	**Pukenui**	**0.58**	**337**	↑P*	**Pn**	**05 22 53.3**	**-1.1**
PNHZ				S*	**Sn**	**05 23 00.7**	**-1.9**
KAHZ	**Kahuranaki**	**0.71**	**24**	↓PN	**Pn**	**05 22 56.8**	**+0.6**
MRZ	**Mangatainoka R**	**0.73**	**253**	P*	**Pn**	**05 22 57.2**	**+0.9**
MRZ				AML	AML	05 23 08.2	
MRZ				AML	AML	05 23 08.4	
TMWZ	**Te Maipa**	**0.81**	**215**	↑P*	**Pn**	**05 22 59.2**	**+1.9**
HOWZ	**Holdsworth Sta**	**0.87**	**239**	P*	**Pn**	**05 22 59.5**	**+1.2**
CKHZ	**Cape Kidnapper**	**0.90**	**30**	PN	**Pn**	**05 22 58.9**	**+0.2**
BHHZ	**Black Hill Sta**	**1.01**	**341**	↑PN	**Pn**	**05 22 59.9**	**-0.4**
MCHZ	**McNeill Hill**	**1.01**	**9**	PN	**Pn**	**05 23 00.5**	**+0.4**
MTW	**Mount Morrison**	**1.04**	**226**	↓P*	**Pn**	**05 23 01.6**	**+1.1**
MTW				AML	AML	05 23 30.0	
MTW				AML	AML	05 23 30.3	
OGWZ	**Otaki Gorge**	**1.08**	**249**	P*	**Pn**	**05 23 02.1**	**+1.0**
TRWZ	**Traveller**	**1.13**	**213**	P*	**Pn**	**05 23 03.3**	**+1.5**
TRWZ				AML	AML	05 23 32.8	
TRWZ				AML	AML	05 23 33.8	
MOVZ	**Moawhango**	**1.19**	**331**	↑PN	**Pn**	**05 23 02.7**	**+0.1**
PAWZ	**Paruwai Farm**	**1.24**	**221**	PN	**Pn**	**05 23 04.4**	**+1.2**
PAWZ				AML	AML	05 23 22.2	
PAWZ				AML	AML	05 23 42.9	
CAW	**Cannon Point**	**1.27**	**238**	↓PN	**Pn**	**05 23 04.5**	**+0.8**
CAW				AML	AML	05 23 27.7	
CAW				AML	AML	05 23 37.4	
KIW	**Kapiti Island**	**1.28**	**251**	PN	**Pn**	**05 23 04.8**	**+1.0**
KIW				AML	AML	05 23 24.4	
KIW				AML	AML	05 23 26.0	
BKZ	**Black Stump Fm**	**1.28**	**360**	↑PN	**Pn**	**05 23 03.8**	**-0.1**
BKZ				AML	AML	05 23 32.5	
BKZ				AML	AML	05 23 32.9	
WNVZ	**Wahianoa**	**1.31**	**328**	↑PN	**Pn**	**05 23 04.9**	**+0.5**
MTVZ	**Mangateitei**	**1.32**	**323**	PN	**Pn**	**05 23 05.0**	**+0.5**
TUVZ	**Tukino**	**1.34**	**331**	PN	**Pn**	**05 23 05.4**	**+0.6**
WAZ	**Wanganui**	**1.35**	**300**	↑PN	**Pn**	**05 23 06.0**	**+1.2**
MSWZ	**Moikau Station**	**1.35**	**224**	PN	**Pn**	**05 23 05.4**	**+0.6**
MSWZ				AML	AML	05 23 23.7	
MSWZ				AML	AML	05 23 54.1	
TRVZ	**Turoa**	**1.36**	**327**	PN	**Pn**	**05 23 05.5**	**+0.4**
NMHZ	**Naumai**	**1.37**	**10**	PN	**Pn**	**05 23 05.5**	**+0.4**
DRZ	**Dome Shelter**	**1.37**	**328**	PN	**Pn**	**05 23 06.7**	**+1.4**
FWVZ	**Far West T-bar**	**1.40**	**328**	↑PN	**Pn**	**05 23 06.1**	**+0.4**
OTVZ	**Oturere**	**1.43**	**333**	PN	**Pn**	**05 23 06.4**	**+0.3**
WPVZ	**Whakapapa**	**1.44**	**329**	PN	**Pn**	**05 23 06.6**	**+0.5**
NGZ	**Ngauruhoe**	**1.45**	**331**	PN	**Pn**	**05 23 06.6**	**+0.3**
PKVZ	**Pokaka**	**1.46**	**322**	PN	**Pn**	**05 23 06.8**	**+0.5**
PLWZ	**Palliser**	**1.47**	**220**	↑PN	**Pn**	**05 23 07.1**	**+0.7**
KRVZ	**Karewarewa**	**1.50**	**334**	PN	**Pn**	**05 23 07.7**	**+0.7**
WTVZ	**West Tongariro**	**1.50**	**332**	PN	**Pn**	**05 23 07.7**	**+0.8**
RITZ	**Rihia Road**	**1.55**	**341**	PN	**Pn**	**05 23 08.3**	**+0.7**
WEL	**Wellington**	**1.56**	**237**	PN	**Pn**	**05 23 08.2**	**+0.5**
BHW	**Baring Head**	**1.56**	**232**	PN	**Pn**	**05 23 08.1**	**+0.4**
BHW				AML	AML	05 23 28.2	
BHW				AML	AML	05 23 28.4	
HATZ	**Hinemaiaia**	**1.58**	**348**	PN	**Pn**	**05 23 08.2**	**+0.2**
RAHZ	**Arahi**	**1.59**	**17**	PN	**Pn**	**05 23 08.3**	**+0.1**
KATZ	**Kakaramea**	**1.59**	**337**	PN	**Pn**	**05 23 09.1**	**+0.8**
TWVZ	**Taurewa**	**1.60**	**329**	*e*PN	**Pn**	**05 23 09.0**	**+0.7**
SNZO	**South Karori**	**1.61**	**237**	PN	**Pn**	**05 23 08.7**	**+0.4**
SNZO				AML	AML	05 23 28.9	
SNZO				AML	AML	05 23 30.1	
MHGZ	**Mahia Peninsul**	**1.69**	**40**	PN	**Pn**	**05 23 09.3**	**-0.1**
KNZ	**Kokohu**	**1.69**	**33**	PN	**Pn**	**05 23 09.0**	**-0.4**
TCW	**Tory Channel**	**1.85**	**245**	PN	**Pn**	**05 23 12.1**	**+0.5**
TCW				AML	AML	05 23 44.5	
TCW				AML	AML	05 23 44.6	
PRGZ	**Paritu Road**	**1.86**	**36**	PN	**Pn**	**05 23 11.4**	**-0.4**
RAEZ	**Rainy Point**	**1.99**	**305**	PN	**Pn**	**05 23 15.0**	**+1.4**
DFE	**Dawson Falls**	**2.16**	**301**	PN	**Pn**	**05 23 17.6**	**+1.6**
TUWZ	**Tuamarina**	**2.17**	**242**	PN	**Pn**	**05 23 15.8**	**-0.2**
TUWZ				AML	AML	05 23 43.1	
TUWZ				AML	AML	05 23 54.2	
NEZ	**North Egmont**	**2.19**	**302**	PN	**Pn**	**05 23 18.1**	**+1.7**
TARZ	**Mount Tarawera**	**2.21**	**0**	*e*PN	**Pn**	**05 23 16.3**	**-0.4**
URZ	**Urewera**	**2.24**	**12**	PN	**Pn**	**05 23 16.1**	**-0.8**
URZ				AML	AML	05 24 10.3	
URZ				AML	AML	05 24 11.4	
URZ	**Urewera**	**2.24**	**12**	Pn	**Pn**	**05 23 16.1**	**-0.8**
	4.0nm,0.3s,baz=244,slow=5.4,SNR=18						
URZ				Sn	**Sn**	**05 23 41.5**	**-1.7**
	11nm,0.3s,baz=142,slow=17,SNR=9.2						
MWZ	**Matawai**	**2.25**	**21**	PN	**Pn**	**05 23 16.5**	**-0.8**
MWZ				AML	AML	05 23 44.6	
MWZ				AML	AML	05 23 45.2	
MWZ				AML	AML	05 24 09.6	
MWZ				AML	AML	05 24 09.9	
PKE	**Pukeiti**	**2.30**	**302**	PN	**Pn**	**05 23 19.7**	**+1.8**
BSWZ	**Blackbirch Sta**	**2.35**	**237**	PN	**Pn**	**05 23 18.5**	**-0.1**
BSWZ				AML	AML	05 24 05.8	
CNGZ	**Carnagh Statio**	**2.36**	**35**	PN	**Pn**	**05 23 18.2**	**-0.5**
NNZ	**Nelson**	**2.49**	**251**	PN	**Pn**	**05 23 20.9**	**+0.4**
PUZ	**Puketiti**	**2.74**	**30**	PN	**Pn**	**05 23 22.9**	**-1.0**
PUZ				AML	AML	05 23 56.1	
KHZ	**Kahutara**	**2.97**	**228**	PN	**Pn**	**05 23 26.3**	**-0.8**
THZ	**Tophouse**	**3.02**	**243**	PN	**Pn**	**05 23 27.5**	**-0.3**
DSZ	**Denniston Nort**	**3.78**	**248**	PN	**Pn**	**05 23 38.1**	**-0.1**
RPZ	**Rata Peaks**	**5.20**	**229**	Pn	Pn	05 24 01.9	+4.1
	1.0nm,0.3s,baz=58,slow=19,SNR=2.6						
RPZ				Sn	**Sn**	**05 24 51.8**	**-4.7**
	4.1nm,0.3s,baz=18,slow=16,SNR=14						
ASAR	**Alice Springs**	**39.37**	**282**	P	**P**	**05 30 08.4**	**-0.3**
	0.7nm,0.9s,baz=122,slow=6.8,SNR=5.4						
ASAR				pP	**pP**	**05 30 17.4**	**-1.7**
	0.4nm,0.5s,baz=126,slow=6.9,SNR=3.8						
WRA	**Warramunga Arr**	**41.30**	**287**	P	**P**	**05 30 24.6**	**0.0**
	0.8nm,0.3s,baz=125,slow=8.3,SNR=6.3						
WRA				pP	**pP**	**05 30 33.6**	**-1.4**
	0.6nm,0.5s,baz=125,slow=8.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**152.42**	**191**	PKPbc	**PKPbc**	**05 42 36.7**	**+1.6**
	0.3nm,0.9s,baz=180,slow=2.9,SNR=2.9						
TORD				pPKPbc	**pPKPbc**	**05 42 47.5**	**+0.7**
	0.3nm,0.6s,baz=167,slow=2.7,SNR=1.9						

IDC 01 05:50:26.0±1.5,7°.89S×117°.56E,h0km,mb3.5/4, mb1 3.8/6,mb1mx3.6/22,mbtmp3.7/6,ML3.3/2,Error ellipse: s-maj=52.5km s-min=21.3km az=57.0,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.59**	**37**	Pn	Pn	05 51 22.8	-0.2
	17nm,0.3s,baz=219,slow=5.4,SNR=44						
KAPI				Sn	Sn	05 52 03.9	-2.2
	8.2nm,0.3s,baz=238,slow=16,SNR=10						
FITZ	**Fitzroy Crossi**	**12.84**	**143**	Pn	Pn	05 53 29.5	-0.4
	0.0nm,0.3s,baz=323,slow=15,SNR=2.4						
FITZ				Sn	Sn	05 55 45.3	-8.3
	0.1nm,0.3s,baz=299,slow=8.8,SNR=2.3						
WRA	**Warramunga Arr**	**20.19**	**128**	P	P	05 55 02.1	-0.4
	0.5nm,0.6s,baz=301,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**22.17**	**137**	P	P	05 55 24.2	+0.4
	0.8nm,0.4s,baz=309,slow=9.1,SNR=30						
MKAR	**Makanchi Array**	**62.83**	**334**	P	P	06 00 54.0	+0.4
	0.8nm,0.6s,baz=148,slow=7.0,SNR=7.0						
ZALV	**Zalesovo Beam**	**67.51**	**340**	P	P	06 01 23.2	-0.5
	0.6nm,0.5s,baz=140,slow=5.4,SNR=3.1						

WEL 01 06:33:07.2±0.1,39°.04S×177°.70E,h30km±1km,ML3.6/15, 2C-5D,Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.02**	**314**	P*	Pb	06 33 11.5	-0.7
KNZ				S*	Sb	06 33 15.2	-0.3
PRGZ	**Paritu Road**	**0.18**	**52**	↓P*	Pb	06 33 13.4	+0.1
PRGZ				*e*S*	Sb	06 33 17.7	+0.2
MHGZ	**Mahia Peninsul**	**0.20**	**125**	P*	Pn	06 33 14.3	+0.1
RAHZ	**Arahi**	**0.49**	**284**	↑P*	Pb	06 33 17.1	-0.4
RAHZ				S*	Sb	06 33 24.7	+0.1
CNGZ	**Carnagh Statio**	**0.68**	**36**	PN	Pb	06 33 20.6	0.0
NMHZ	**Naumai**	**0.69**	**265**	PN	Pb	06 33 20.7	-0.2
NMHZ				*e*SN	Sb	06 33 30.6	+0.2
MWZ	**Matawai**	**0.71**	**349**	PN	Pb	06 33 20.4	-0.8
MWZ				SN	Sb	06 33 30.6	-0.1
MWZ				AML	AML	06 33 31.2	
MWZ				AML	AML	06 33 31.7	
MWZ				AML	AML	06 33 31.7	
CKHZ	**Cape Kidnapper**	**0.79**	**217**	↓PN	Pn	06 33 22.1	-0.2
MCHZ	**McNeill Hill**	**0.88**	**242**	PN	Pn	06 33 23.4	-0.1
URZ	**Urewera**	**0.90**	**329**	PN	Pn	06 33 23.0	-0.8
URZ				AML	AML	06 33 35.7	
URZ				AML	AML	06 33 35.8	
BKZ	**Black Stump Fm**	**0.95**	**262**	↓PN	Pn	06 33 24.2	-0.4
BKZ				AML	AML	06 33 38.7	
BKZ				AML	AML	06 33 38.8	
KAHZ	**Kahuranaki**	**0.99**	**220**	↓PN	Pn	06 33 24.6	-0.5
PUZ	**Puketiti**	**1.06**	**25**	*e*PN	Pn	06 33 25.2	-0.9
PUZ				AML	AML	06 33 47.5	
PUZ				AML	AML	06 33 51.8	
PRRZ	**Plateau Road**	**1.15**	**297**	PN	Pn	06 33 26.7	-0.6
RRRZ	**Republican Roa**	**1.16**	**307**	PN	Pn	06 33 26.8	-0.6
ALRZ	**Allen Road**	**1.16**	**294**	PN	Pn	06 33 26.9	-0.5
PXZ	**Pawanui**	**1.18**	**213**	PN	Pn	06 33 26.5	-1.3
PXZ				AML	AML	06 34 03.2	
PXZ				AML	AML	06 34 03.3	
PXZ				AML	AML	06 34 11.9	
PXZ				AML	AML	06 34 11.9	
TARZ	**Mount Tarawera**	**1.23**	**310**	PN	Pn	06 33 28.1	-0.4
BHHZ	**Black Hill Sta**	**1.34**	**250**	↓PN	Pn	06 33 29.6	-0.5
WPHZ	**Waipukurau**	**1.41**	**223**	PN	Pn	06 33 30.0	-0.9
RITZ	**Rihia Road**	**1.43**	**272**	*e*PN	Pn	06 33 32.1	+0.9
RITZ				AML	AML	06 33 59.6	
RITZ				AML	AML	06 34 04.3	
PNHZ	**Pukenui**	**1.45**	**232**	PN	Pn	06 33 30.6	-0.9
OPRZ	**Ohinepanea**	**1.49**	**323**	PN	Pn	06 33 30.8	-1.1
MOVZ	**Moawhango**	**1.55**	**256**	↑PN	Pn	06 33 33.3	+0.4
MOVZ				AML	AML	06 34 01.0	
MOVZ				AML	AML	06 34 12.4	
KRVZ	**Karewarewa**	**1.60**	**267**	PN	Pn	06 33 33.7	+0.1
KRVZ				AML	AML	06 34 06.6	
KRVZ				AML	AML	06 34 08.8	
TUVZ	**Tukino**	**1.60**	**261**	PN	Pn	06 33 34.8	+1.1
NGZ	**Ngauruhoe**	**1.64**	**264**	PN	Pn	06 33 34.4	+0.2
NGZ				AML	AML	06 34 06.0	
NGZ				AML	AML	06 34 16.6	
WNVZ	**Wahianoa**	**1.66**	**259**	PN	Pn	06 33 35.0	+0.5
WNVZ				AML	AML	06 34 12.7	
WNVZ				AML	AML	06 34 14.0	
FWVZ	**Far West T-bar**	**1.68**	**262**	AML	AML	06 34 07.2	
FWVZ				AML	AML	06 34 08.5	
WPVZ	**Whakapapa**	**1.68**	**264**	*e*PN	Pn	06 33 35.2	+0.5
WPVZ				AML	AML	06 34 04.6	
WPVZ				AML	AML	06 34 05.1	
TSZ	**Takapari Road**	**1.69**	**232**	PN	Pn	06 33 33.4	-1.3
TRVZ	**

0.4nm,0.3s,baz=322,slow=15,SNR=3.7
MBWA Marble Bar 20.90 219 *e*P P 06 39 03.0 +5.7
33nm,1.3s
FORT Forrest 26.00 191 *e*P P 06 39 52.8 +5.2
23nm,0.9s
STKA Stephens Creek 27.54 165 P **P 06 40 02.1 +0.7**
STKA Stephens Creek 27.54 165 P **P 06 40 02.1 +0.7**
1.2nm,0.6s,baz=335,slow=14,SNR=2.4
STKA LR LR 06 51 54.2
comp=Z,153nm,20.1s,baz=17,slow=38
MK31 Makanchi Array 68.85 325 *e*P P 06 45 21.1 +2.1
MKAR Makanchi Array 68.85 325 P **P 06 45 19.1 +0.2**
MKAR Makanchi Array 68.85 325 P **P 06 45 19.1 +0.2**
0.5nm,0.3s,baz=114,slow=6.5,SNR=9.7
AAK Ala-Archa 71.65 318 LR LR 07 23 43.5
comp=Z,57nm,18.0s,baz=158,slow=42
VNDA Vanda 73.80 174 P **P 06 45 50.7 +2.3**
VNDA Vanda 73.80 174 P **P 06 45 50.7 +2.3**
0.4nm,0.4s,baz=323,slow=2.3,SNR=7.8
SBA Scott Base 74.64 173 *e*P **P 06 45 54.1 +0.9**
4.2nm,0.9s
LPAZ La Paz 149.59 135 *e*PKPbc **PKPbc 06 54 05.8 +0.1**
LPAZ La Paz 149.59 135 PKPbc **PKPbc 06 54 06.7 +1.0**
0.4nm,0.7s,baz=252,slow=3.2,SNR=2.1

IDC 01 06:42:52.9±11.0, 25°.30S×179°.69W, h426km±120km, mb3.1/4, mb1 3.3/5, mb1mx3.0/18, mbtmp3.2/5, Error ellipse: s-maj=86.5km s-min=44.5km az=27.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.20**	**191**	P	P	06 45 45.5	+0.5
	1.0nm,0.3s,baz=339,slow=8.6,SNR=7.0						
URZ				S	S	06 48 04.3	-2.9
	0.3nm,0.3s,baz=36,slow=14,SNR=2.7						
STKA	**Stephens Creek**	**34.49**	**250**	P	P	06 49 03.8	+0.4
	1.2nm,0.4s,baz=97,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**42.10**	**262**	P	P	06 50 05.7	-0.3
	0.5nm,0.4s,baz=90,slow=7.2,SNR=23						
WRA	**Warramunga Arr**	**42.61**	**268**	P	P	06 50 09.5	-0.6
	0.7nm,0.4s,baz=103,slow=8.3,SNR=5.7						
FITZ	**Fitzroy Crossi**	**51.01**	**267**	P	P	06 51 14.1	0.0
	1.5nm,0.6s,baz=90,slow=20,SNR=3.9						
HFS	**Hagfors**	**143.97**	**349**	PKP	PKPab	07 01 37.4	+0.5
	2.3nm,0.9s,baz=35,slow=3.6,SNR=5.4						

IDC 01 07:09:33.0±2.5, 22°.89S×174°.84W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.6/5, Error ellipse: s-maj=151.9km s-min=27.4km az=156.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.88**	**258**	P	P	07 18 06.3	+0.9
	0.3nm,0.6s,baz=93,slow=6.9,SNR=5.7						
WRA	**Warramunga Arr**	**47.22**	**264**	P	P	07 18 06.8	-1.3
	1.0nm,0.5s,baz=103,slow=8.4,SNR=5.6						
NVAR	**Mina Array Bea**	**80.80**	**42**	P	P	07 21 48.9	0.0
	0.4nm,0.7s,baz=214,slow=8.9,SNR=4.3						
TXAR	**Lajitas Array**	**85.91**	**56**	P	P	07 22 14.9	-0.4
	0.4nm,0.9s,baz=224,slow=6.6,SNR=4.7						
ILAR	**Eielson Array**	**90.02**	**12**	P	P	07 22 34.4	+0.4
	0.2nm,0.8s,baz=218,slow=5.7,SNR=3.5						

GUC 01 07:19:38.7±0.6, 24°.04S×67°.25W, h208km±30km, ML3.7, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.09**	**313**	⇑*e*P	Pn	07 20 20.4	+1.3
PB04	**Plate Boundary**	**2.72**	**310**	⇓*e*P	Pn	07 20 32.9	+7.4
PB04				*e*S	S	07 21 14.0	+12
PB04				AML	AML	07 21 15.5	
	comp=N,70nm,0.4s						
PB09	**Plate Boundary**	**2.90**	**320**	*e*P	Pn	07 20 29.5	+1.7
PB09				*e*S	S	07 21 08.6	+2.8
PB09				AML	AML	07 21 13.5	
	comp=E,97nm,0.4s						
ANCH	**Antofagasta**	**2.92**	**276**	*e*P	Pn	07 20 29.4	+1.7
ANCH				*e*S	S	07 21 08.3	+2.7
PB10	**Plate Boundary**	**3.07**	**279**	*e*P	Pn	07 20 31.8	+2.1
PB10				*e*S	S	07 21 10.9	+2.0
PB10				AML	AML	07 21 21.7	
	comp=E,133nm,0.1s						
PSGC	**Pisagua**	**5.17**	**328**	*e*P	Pn	07 20 55.9	+0.3

---

*NNC **01** 07:22:26.4±5.3, 40°.25N×70°.36E, h18km±20km, mb3.6, mpv3.3, Error ellipse: s-maj=36.4km s-min=19.0km az=3.0*

ISC 01 07:22:23.8±3.5, 40°.1N±0°.2×70°.2E±0°.1, h17km, n9, σ1§05/12, 6C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.00**	**4**	⇑Pn	**Pn**	**07 23 12.5**	**+1.9**
	1.2nm,0.2s,baz=155,slow=7.7,SNR=220						
KK31				⇑Pg	**Pb**	**07 23 17.8**	**+1.0**
	4.8nm,0.3s						
KK31				Lg	Lg	07 23 58.4	
	55nm,0.5s,baz=156,slow=19,SNR=22						
AML	**Almayashu**	**3.31**	**51**	P	**Pn**	**07 23 14.7**	**-0.5**
	SNR=80						
EKS2	**Erkin-Say**	**3.69**	**45**	P	**Pn**	**07 23 20.8**	**+0.5**
	SNR=6.0						
KZA	**Kyzart**	**4.28**	**61**	P	**Pn**	**07 23 28.6**	**+0.1**
	SNR=21						
TKM2	**Tokmak 2**	**4.91**	**53**	⇑Pn	**Pn**	**07 23 36.9**	**-0.2**
	6.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**07 24 32.8**	**-0.8**
	10nm,0.6s						
TKM2				⇑Lg	Lg	07 24 55.0	
	17nm,0.8s						
TKM2	**Tokmak 2**	**4.91**	**53**	P	**Pn**	**07 23 37.0**	**-0.1**
	SNR=23						
ULHL	**Ulahol**	**5.02**	**63**	P	**Pn**	**07 23 38.1**	**-0.4**
	SNR=5.4						
MK31	**Makanchi Array**	**11.02**	**49**	P	**Pn**	**07 25 01.1**	**+0.5**
	0.4nm,0.6s,baz=229,slow=14,SNR=4.2						
AB31	**Akbulak array**	**11.70**	**325**	⇑Pn	**Pn**	**07 25 10.1**	**+0.2**
	0.3nm,0.3s,baz=132,slow=13,SNR=9.3						
AB31				⇓Sn	**Sn**	**07 27 18.1**	**-1.9**
	0.3nm,0.3s,baz=170,slow=21,SNR=3.8						

---

*ISCJB **01** 07:24:40.9±0.5, 67°.15N±0°.03×20°.49E±0°.07, h0km, Error ellipse: s-maj=4.1km s-min=3.5km az=27.8*
*HEL **01** 07:24:41.8±0.3, 67°.16N×20°.31E, h0km, ML2.1, Suspected explosion*
*IDC **01** 07:24:43.7±0.8, 67°.23N×20°.85E, h0km, mb1 3.1/5, mb1mx3.0/29, mbtmp3.1/5, ML2.6/5, Error ellipse: s-maj=13.6km s-min=6.4km az=113.0*
*NAO **01** 07:24:43.6±1.1, 67°.15N×20°.78E, ML2.6*
*CSEM **01** 07:24:43.1±0.2, 67°.17N×20°.59E, h2km, ML2.1, Error ellipse: s-maj=4.5km s-min=3.8km az=107.0, Suspected Mining explosion.*
*BER **01** 07:24:46.8±4.8, 67°.17N×20°.78E, h0km, ML3.0, ML2.6(NAO), Suspected explosion*

ISC 01 07:24:42.7±0.7, 67°.16N±0°.03×20°.71E±0°.03, h0km, n41, σ1§43/70, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**1.02**	**28**	*e*P	**Pg**	**07 25 01.4**	**-0.8**
LANU				*e*S	**Sg**	**07 25 16.0**	**+0.6**
LANU	**Lannavaara**	**1.02**	**28**	P	**Pg**	**07 25 01.3**	**-0.8**
LANU				S	**Sg**	**07 25 15.9**	**+0.6**
HEF	**Hetta**	**1.68**	**40**	*e*P	**Pn**	**07 25 13.0**	**-0.4**
HEF				*e*S	**Sg**	**07 25 36.4**	**-0.2**
HEF				*e*SN	**Sb**	**07 25 38.4**	**+2.3**
HEF				MSG		07 25 39.6	
	comp=Z,19nm,0.4s						
HEF	**Hetta**	**1.68**	**40**	P	**Pn**	**07 25 12.9**	**-0.4**
HEF				S	**Sg**	**07 25 36.4**	**-0.2**
HEF				Sn	**Sb**	**07 25 38.4**	**+2.3**
KIF	**Kilpisjarvi**	**1.85**	**1**	*e*P	**Pn**	**07 25 16.1**	**+0.4**
KIF				*e*S	**Sn**	**07 25 39.5**	**-0.2**
KIF				MSG		07 25 43.2	
	comp=Z,4.1nm,0.1s						
KIF	**Kilpisjarvi**	**1.85**	**1**	P	**Pn**	**07 25 16.0**	**+0.4**
KIF				S	**Sn**	**07 25 39.4**	**-0.2**
KTK1	**Kautokeino**	**2.09**	**26**	*e*P	**Pb**	**07 25 20.7**	**-0.6**
KTK1				*e*Sg	**Sg**	**07 25 50.4**	**+0.8**
KTK1				AML	AML	07 25 56.0	
	comp=Z,375nm,0.7s						
KTK1	**Kautokeino**	**2.09**	**26**	*e*P	**Pb**	**07 25 20.7**	**-0.6**
	SNR=50						
KTK1				*e*Sg	**Sg**	**07 25 50.4**	**+0.8**
	comp=Z,375nm,0.7s,SNR=90						
RNF	**Rovaniemi**	**2.17**	**102**	*e*P	**Pb**	**07 25 21.5**	**-1.2**
RNF				*e*S	**Sb**	**07 25 49.8**	**-0.3**
RNF				MSG	**Sg**	**07 25 52.8**	**+0.6**
	comp=Z,23nm,0.4s						
RNF				*e*SG	**Sg**	**07 25 52.8**	**+0.6**
RNF	**Rovaniemi**	**2.17**	**102**	P	**Pb**	**07 25 21.5**	**-1.2**
RNF				S	**Sb**	**07 25 49.7**	**-0.3**
RNF				Sg	**Sg**	**07 25 52.8**	**+0.6**
SGF	**Sodankyl**	**2.27**	**80**	*e*PB	**Pb**	**07 25 23.8**	**-0.7**
SGF				MSG	**Sg**	**07 25 55.3**	**-0.3**
	comp=Z,1.9nm,0.1s						
SGF				*e*SB	**Sg**	**07 25 55.3**	**-0.3**
MOR8	**Moi Rana**	**2.69**	**251**	*e*Sg	**Sb**	**07 26 06.9**	**+1.9**
MOR8				AML	AML	07 26 11.0	
	comp=Z,92nm,0.5s						
MOR8	**Moi Rana**	**2.69**	**251**	*e*Sg	**Sb**	**07 26 06.9**	**+1.9**
	comp=Z,92nm,0.5s,SNR=90						
OUL	**Oulu**	**2.97**	**132**	*e*SB	**Sb**	**07 26 13.6**	**+0.6**
OUL				MSG		07 26 13.6	
	comp=Z,2.8nm,0.4s						
ARCES	**ARCESS Array B**	**2.97**	**35**	Pn	**Pn**	**07 25 30.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=219,slow=12,SNR=25						
ARCES				Lg	Lg	07 26 12.3	
	comp=Z,3.0nm,0.3s,baz=216,slow=31,SNR=9.1						
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn	**Pn**	**07 25 31.7**	**+0.6**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**07 26 09.8**	**+2.4**
	baz=213,slow=18						
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn	**Pn**	**07 25 31.7**	**+0.6**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**07 26 09.8**	**+2.4**
	baz=213,slow=18						
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn	**Pn**	**07 25 31.7**	**+0.6**
	baz=212,slow=14,SNR=50						
ARA0				Sn	**Sn**	**07 26 09.8**	**+2.4**
	baz=213,slow=18,SNR=50						
VRF	**Varrio**	**3.48**	**76**	*e*SG	**Sg**	**07 26 33.8**	**-0.5**
VRF				MSG		07 26 33.8	
	comp=Z,8.5nm,0.4s						
VRF	**Varrio**	**3.48**	**76**	Sg	**Sg**	**07 26 33.8**	**-0.5**
KEV	**Kevo**	**3.49**	**39**	*e*PB	**Pb**	**07 25 42.7**	**-2.5**
KEV				*e*S	**Sn**	**07 26 20.6**	**+0.6**
MSF	**Maaselka**	**3.56**	**107**	*e*S	**Sn**	**07 26 23.1**	**+1.3**
MSF				*e*SG	**Sg**	**07 26 37.1**	**+0.2**
MSF				MSG		07 26 37.1	
	comp=Z,6.0nm,0.4s						
MSF	**Maaselka**	**3.56**	**107**	S	**Sn**	**07 26 23.1**	**+1.3**
MSF				Sg	**Sg**	**07 26 37.1**	**+0.2**
KU6	**Riekki**	**3.84**	**103**	*e*P	**Pn**	**07 25 44.6**	**+1.6**
KU6				*e*S	**Sn**	**07 26 32.4**	**+3.7**
KU6				*e*SG	**Sg**	**07 26 43.0**	**-2.8**
KU6				MSG		07 26 46.2	
	comp=Z,4.5nm,0.4s						
KU6	**Riekki**	**3.84**	**103**	P	**Pn**	**07 25 44.5**	**+1.6**
KU6				S	**Sn**	**07 26 32.3**	**+3.7**
APA0	**Apatity Array**	**4.76**	**79**	Sn	**Sn**	**07 26 52.0**	**+0.5**
	baz=270,slow=28						
APA0				Lg	Lg	07 27 11.3	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.76**	**79**	Sn	**Sn**	**07 26 52.0**	**+0.5**
	baz=270,slow=28						
APA0				Lg	Lg	07 27 11.3	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.76**	**79**	Sn	**Sn**	**07 26 52.0**	**+0.5**
	baz=270,slow=25,SNR=50						
APA0				Lg	Lg	07 27 11.4	
	baz=270,slow=23						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**07 26 16.7**	**+1.4**
	baz=333,slow=16						
FIA0				Sn	**Sn**	**07 27 26.2**	**-0.5**
	baz=4.8,slow=18						
FIA0				Lg	Lg	07 27 58.3	
	baz=337,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**07 26 16.7**	**+1.4**
	baz=333,slow=16						
FIA0				Sn	**Sn**	**07 27 26.2**	**-0.5**
	baz=4.8,slow=18						
FIA0				Lg	Lg	07 27 58.3	
	baz=337,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	Pn	**Pn**	**07 26 16.7**	**+1.4**
	baz=333,slow=15,SNR=50						
FIA0				Sn	**Sn**	**07 27 26.2**	**-0.5**
	baz=4.8,slow=17,SNR=50						
FIA0				Lg	Lg	07 27 58.3	
	baz=337,slow=33,SNR=6.6						
FINES	**FINESS Array B**	**6.20**	**155**	Pn	**Pn**	**07 26 17.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=337,slow=12,SNR=10						
FINES				Sn	**Sn**	**07 27 29.2**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=345,slow=22,SNR=12						
FINES				Lg	Lg	07 27 59.6	
	comp=Z,1.8nm,0.3s,baz=337,slow=33,SNR=11						
NB2	**NORSAR Subarra**	**7.41**	**218**	Lg	Lg	07 28 39.0	
NB2	**NORSAR Subarra**	**7.41**	**218**	Lg	Lg	07 28 39.0	
NB2	**NORSAR Subarra**	**7.41**	**218**	Lg	Lg	07 28 39.0	
NOA	**NORSAR Array B**	**7.41**	**218**	Pn	**Pn**	**07 26 34.2**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=11,SNR=4.0						
NOA				Sn	**Sn**	**07 27 54.5**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=32,slow=21,SNR=6.3						
NOA				Lg	Lg	07 28 36.4	
	comp=Z,0.7nm,0.3s,baz=43,slow=14,SNR=4.8						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**07 26 35.9**	**-0.2**
	baz=12,slow=18						
HFS				Sn	Sn	07 27 58.8	-5.1
	baz=39,slow=22						
HFS				Lg	Lg	07 28 45.3	
	baz=36,slow=28						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**07 26 35.9**	**-0.2**
	baz=12,slow=18						
HFS				Sn	Sn	07 27 58.8	-5.1
	baz=39,slow=22						
HFS				Lg	Lg	07 28 45.3	
	baz=36,slow=28						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**07 26 36.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=4.8						
HFS				Sn	**Sn**	**07 28 00.7**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=21,slow=17,SNR=4.2						
HFS				Lg	Lg	07 28 47.0	
	comp=Z,0.5nm,0.3s,baz=26,slow=28,SNR=4.0						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**07 26 35.8**	**-0.2**
	baz=12,slow=16,SNR=50						
HFS				Lg	Lg	07 28 45.3	
	baz=36,slow=26						
SPITS	**Spitsbergen Ar**	**11.15**	**355**	Pn	**Pn**	**07 27 22.6**	**-0.4**
	baz=173,slow=20,SNR=2.3						

CASC 01 07:24:50.3±1.6, 9°.09N×83°.82W, h30km±4km, MD3.5, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.46**	**7**	⇓*i*P	Pb	07 25 01.0	+0.2
QCR	**Quepos**	**0.48**	**314**	⇑*e*P	Pb	07 25 00.4	0.0
QCR				*e*S	Sn	07 25 08.3	-0.2
URSC	**Urasca**	**0.74**	**3**	⇓*e*P	Pn	07 25 04.6	-0.4
URSC				*e*S	Sb	07 25 15.0	0.0
ACR	**Cerro Adams**	**0.77**	**124**	⇑*e*P	Pn	07 25 04.6	-0.6
ACR				*e*S	Sn	07 25 16.4	+0.4
SJS	**Escuela Geolog**	**0.87**	**344**	⇑*e*P	Pn	07 25 06.6	-0.1
SJS				*e*S	Sb	07 25 20.3	+1.6
CGA2	**Cerro Gallo 2**	**1.12**	**325**	*e*P	Pn	07 25 09.9	-0.2
CGA2				*e*S	Sn	07 25 25.0	+0.3
BRU2	**Volcan**	**1.15**	**105**	*e*S	Sn	07 25 25.9	+0.5
CNI	**Changuinola**	**1.32**	**76**	⇓*i*P	Pn	07 25 13.3	+0.7

---

*ISCJB **01** 07:41:42.3±0.8, 42°.1S±0°.1×89°.6W±0°.1, h10km, mb3.9/10, MS4.2/19, Error ellipse: s-maj=21.3km s-min=13.1km az=176.5*
*IDC **01** 07:41:42.8±0.9, 42°.01S×89°.77W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.7/7, ML3.4/1, MS4.2/21, Ms1 4.2/21, ms1mx4.1/27, Error ellipse: s-maj=34.1km s-min=23.7km az=134.0*
*NEIC **01** 07:41:43.8±0.9, 42°.01S×89°.71W, h10km, mb4.4/2, Error ellipse: s-maj=23.8km s-min=16.2km az=179.0*
*GCMT **01** 07:41:45.8±0.2, 41°.33S×89°.42W, h17km±1km, MW5.1, Moment Tensor Solution. s55,c77; s92,c143; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.37±.15; $M_{\theta\theta}$0.39±.14; $M_{\phi\phi}$-0.02±.14; $M_{r\theta}$-0.04±.33; $M_{\theta\phi}$-6.06±.12; $M_{r\phi}$0.92±.33; Best double couple: M_0=6.10000×10^{16} NP1:ϕ_s179.00000°, δ89.00000°, λ-9.00000°. NP2:ϕ_s269.00000°, δ81.00000°, λ-179.00000°. Principal axes: T 6.3200, Plg6.0000°, Azm224.0000°; N -0.3700, Plg81.0000°, Azm355.0000°; P -5.9500, Plg6.0000°, Azm134.0000°; Data Used: IU II G CN IC.*

ISC 01 07:41:44.2±0.8, 42°.1S±0°.2×89°.7W±0°.1, h10km, n43, σ0§81/24, mb3.8/10, MS4.3/20, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**14.43**	**91**	Pn	**Pn**	**07 45 09.5**	**+0.9**
PLCA	**Paso Flores**	**14.43**	**91**	Pn	**Pn**	**07 45 09.5**	**+0.9**
	0.0nm,0.3s,baz=342,slow=20,SNR=1.8						
PLCA				LR	LR	07 49 18.2	
	comp=Z,754nm,21.9s,baz=256,slow=31						
USHA	**Ushuaia**	**18.95**	**140**	LR	LR	07 52 02.9	
	comp=Z,2μm,21.0s,baz=122,slow=33						
CFAA	**Coronel Fontan**	**20.04**	**66**	P	**P**	**07 46 17.5**	**+0.1**
CFAA	**Coronel Fontan**	**20.04**	**66**	P	**P**	**07 46 17.5**	**+0.1**
	0.3nm,0.9s,baz=217,slow=8.1,SNR=4.0						
CFAA				LR	LR	07 52 04.7	
	comp=Z,164nm,20.2s,baz=230,slow=31						
TRQA	**Tornquist**	**21.55**	**89**	P	**P**	**07 46 31.1**	**-2.5**
	18nm,1.5s						
PMSA	**Palmer Station**	**27.05**	**156**	LR	LR	07 55 28.4	
	comp=Z,473nm,20.3s,baz=301,slow=30						
CPUP	**Villa Florida**	**30.80**	**70**	LR	LR	07 59 09.2	
	comp=Z,798nm,18.3s,baz=224,slow=34						
LPAZ	**La Paz**	**31.65**	**42**	P	**P**	**07 48 08.3**	**-0.1**
LPAZ	**La Paz**	**31.65**	**42**	P	**P**	**07 48 08.3**	**-0.1**
	1.9nm,0.8s,baz=171,slow=8.2,SNR=8.6						
LPAZ				LR	LR	07 57 47.5	
	comp=Z,689nm,18.9s,baz=215,slow=30						
SIV	**San Ignacio**	**35.76**	**52**	P	**P**	**07 48 44.1**	**+0.7**
SIV	**San Ignacio**	**35.76**	**52**	P	**P**	**07 48 44.1**	**+0.7**
	0.7nm,0.8s,baz=253,slow=14,SNR=3.2						
SAML	**Samuel**	**40.39**	**43**	P	**P**	**07 49 21.1**	**-1.4**
	1.1nm,1.1s						
RKT	**Rikitea**	**42.01**	**282**	*e*LR	LR	08 01 14.2	
	639nm,26.8s						
ROSC	**El Rosal**	**48.73**	**21**	LR	LR	08 07 39.0	
	comp=Z,425nm,21.9s,baz=180,slow=32						
JTS	**JuntasAbangare**	**52.26**	**6**	LR	LR	08 07 20.8	
	comp=Z,398nm,18.8s,baz=14,slow=29						
TBI	**Tubuai**	**52.58**	**271**	*e*LQ	LQ	08 03 54.0	
	492nm,30.5s						
TBI				*e*LR	LR	08 06 03.8	
	479nm,26.5s,baz=122						
VNDA	**Vanda**	**53.13**	**195**	P	**P**	**07 51 01.2**	**-0.2**
VNDA	**Vanda**	**53.13**	**195**	P	**P**	**07 51 01.2**	**-0.2**
	0.6nm,1.0s,baz=141,slow=5.2,SNR=2.5						
VNDA				LR	LR	08 08 56.0	
	comp=Z,287nm,20.8s,baz=118,slow=31						
PPT2	**Papeete2**	**56.16**	**277**	*e*S	**S**	**07 59 14.4**	**+0.7**
	94nm,25.5s						
PPT2				*e*LQ	LQ	08 05 20.9	
	427nm,28.2s						
PPT2				*e*LR	LR	08 07 46.7	
	284nm,25.5s						
PPT	**Papeete**	**56.17**	**277**	LR	LR	08 08 03.9	
	comp=Z,124nm,19.1s,baz=346,slow=28						
TEIG	**Tepich**	**61.97**	**2**	LR	LR	08 12 47.5	
	comp=Z,90nm,21.6s,baz=298,slow=30						
LPIG	**La Paz**	**68.52**	**340**	LR	LR	08 14 41.2	
	comp=Z,7.0nm,21.9s,baz=220,slow=29						
MAW	**Mawson**	**68.72**	**169**	LR	LR	08 21 53.7	
	comp=Z,183nm,19.1s,baz=199,slow=35						
TXAR	**Lajitas Array**	**72.19**	**347**	P	**P**	**07 53 08.8**	**-0.4**
TXAR	**Lajitas Array**	**72.19**	**347**	P	**P**	**07 53 08.8**	**-0.4**
	1.6nm,0.9s,baz=167,slow=8.2,SNR=6.2						
TXAR				LR	LR	08 19 25.8	
	comp=Z,67nm,19.0s,baz=5.0,slow=31						
TKL	**Tuckaleechee C**	**77.52**	**5**	LR	LR	08 22 12.5	
	comp=Z,151nm,19.9s,baz=269,slow=31						
ANMO	**Albuquerque**	**78.15**	**346**	LR	LR	08 21 48.4	
	comp=Z,48nm,19.8s,baz=167,slow=31						
NVAR	**Mina Array Bea**	**84.23**	**338**	P	**P**	**07 54 15.7**	**-0.2**
NVAR	**Mina Array Bea**	**84.23**	**338**	P	**P**	**07 54 15.7**	**-0.2**
	0.1nm,0.3s,baz=162,slow=6.4,SNR=2.4						
ECSD	**EROS Data Cent**	**85.62**	**355**	P	P	07 54 18.9	-3.5
	5.2nm,1.1s						
PDAR	**Pinedale Array**	**86.31**	**345**	P	**P**	**07 54 25.6**	**-0.5**
PDAR	**Pinedale Array**	**86.31**	**345**	P	**P**	**07 54 25.6**	**-0.5**
	0.2nm,0.5s,baz=143,slow=6.6,SNR=3.0						
PDAR				LR	LR	08 27 52.8	
	comp=Z,52nm,18.5s,baz=354,slow=32						
BOSA	**Boshof**	**87.61**	**127**	LR	LR	08 25 34.0	
	comp=Z,142nm,20.1s,baz=154,slow=30						
DBIC	**Dimbokro**	**90.60**	**82**	LR	LR	08 34 12.8	
	comp=Z,124nm,19.3s,baz=105,slow=35						
ULM	**Lac du Bonnet**	**92.07**	**356**	P	**P**	**07 54 53.2**	**+0.4**
ULM	**Lac du Bonnet**	**92.07**	**356**	P	**P**	**07 54 53.2**	**+0.4**
	2.7nm,0.7s,baz=138,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**92.62**	**222**	LR	LR	08 30 10.7	
	comp=Z,214nm,20.6s,baz=206,slow=31						
NEW	**Newport**	**93.13**	**342**	LR	LR	08 29 57.4	
	comp=Z,70nm,18.3s,baz=150,slow=31						
TORD	**Torodi Ar. Bea**	**99.69**	**81**	LR	LR	08 36 42.8	
	comp=Z,77nm,19.1s,baz=255,slow=33						
USRK	**Ussuriysk Arra**	**149.72**	**288**	PKPbc	**PKPbc**	**08 01 33.8**	**+0.1**
	0.6nm,0.6s,baz=64,slow=3.4,SNR=4.0						
KSRS	**Korea Array**	**150.88**	**274**	PKPbc	**PKPbc**	**08 01 37.5**	**+0.8**
	0.6nm,0.5s,baz=91,slow=4.3,SNR=3.4						
KSAR	**Wonju Array Be**	**150.90**	**274**	PKPbc	**PKPbc**	**08 01 37.5**	**+0.7**

---

*ISCJB **01** 08:30:48.1±0.5, 30°.50N±0°.05×138°.34E±0°.08, h470km±4km, mb3.5/19, Error ellipse: s-maj=11.3km s-min=7.6km az=162.9*
*JMA **01** 08:30:48.1±0.3, 30°.56N×138°.42E, h488km±5km, M3.5*
*IDC **01** 08:30:50.9±2.0, 30°.52N×138°.01E, h475km±23km, mb3.1/16, mb1 3.3/20, mb1mx3.2/30, mbtmp3.1/20, Error ellipse: s-maj=18.2km s-min=10.3km az=89.0*

ISC 01 08:30:49.4±0.8, 30°.55N±0°.07×138°.20E±0°.08, h460km±8km, n39, σ1§94/52, mb3.7/19, Southeast of Honshu

| Code | Station Name | Δ

1.9nm,0.6s,baz=56,slow=7.3,SNR=12
ZALV Zalesovo Beam 44.59 317 P **P 08 38 17.9 -1.2**
0.5nm,0.5s,baz=119,slow=12,SNR=2.6
MKAR Makanchi Array 45.60 307 P **P 08 38 26.4 -0.6**
0.4nm,0.5s,baz=92,slow=10,SNR=6.1
WRA Warramunga Arr 50.34 185 P **P 08 39 02.4 -0.5**
3.5nm,0.4s,baz=0.7,slow=7.7,SNR=48
ASAR Alice Springs 54.06 185 P **P 08 39 29.6 -0.2**
2.3nm,0.4s,baz=23,slow=11,SNR=60
ILAR Eielson Array 56.41 30 P **P 08 39 46.0 +0.3**
0.2nm,0.7s,baz=244,slow=6.1,SNR=4.1
INK Inuvik 61.37 25 P **P 08 40 19.3 +0.3**
1.6nm,0.6s,baz=296,slow=9.1,SNR=7.6
STKA Stephens Creek 62.17 177 P **P 08 40 24.7 0.0**
1.4nm,0.5s,baz=323,slow=24,SNR=4.9
SPITS Spitsbergen Ar 66.35 349 P **P 08 40 51.6 +0.7**
0.9nm,0.5s,baz=80,slow=25,SNR=2.8
KEV Kevo 68.56 340 *ep* **P 08 41 02.3 -2.2**
0.5nm,0.3s
ARCES ARCESS Array B 69.12 340 P **P 08 41 08.2 +0.2**
2.0nm,0.4s,baz=64,slow=8.9,SNR=26
JOF Joensuu 70.43 332 *ep* **P 08 41 14.6 -1.3**
0.8nm,0.3s
YKA Yellowknife Ar 70.76 28 P **P 08 41 18.9 +1.0**
0.4nm,0.5s,baz=297,slow=6.0,SNR=3.4
KAF Kangasniemi 72.83 333 *ep* **P 08 41 27.2 -2.8**
0.9nm,0.3s
FINES FINESS Array B 73.29 332 P **P 08 41 32.2 -0.5**
2.0nm,0.6s,baz=64,slow=5.7,SNR=21
NB2 NORSAR Subarra 79.09 337 P **P 08 42 03.7 -1.2**
comp=Z,0.9nm,0.6s,baz=46,slow=5.1
NOA NORSAR Array B 79.09 337 P **P 08 42 04.2 -0.7**
comp=Z,1.2nm,0.7s,baz=48,slow=4.8,SNR=5.2
NVAR Mina Array Bea 81.09 51 P **P 08 42 18.1 +2.0**
comp=Z,0.3nm,0.6s,baz=311,slow=4.7,SNR=3.3
TXAR Lajitas Array 96.24 51 P **P 08 43 30.0 +2.1**
comp=Z,0.1nm,0.6s,baz=349,slow=0.9,SNR=2.5

*ISCJB **01** 09:07:55.5±0.9, 44°.42N±0°.08×148°.0E±0°.1, h70km±8km, mb3.5/5, Error ellipse: s-maj=17.3km s-min=5.3km az=135.2*
*JMA **01** 09:07:55.6±0.2, 44°.00N×147°.87E, h0km, M4.2*
*MOS **01** 09:07:56.0±0.9, 44°.53N×148°.03E, h71km, mb4.2/1, Error ellipse: s-maj=20.8km s-min=12.5km az=65.8*
*IDC **01** 09:07:56.3±5.9, 44°.38N×148°.00E, h62km±39km, mb3.2/4, mb1 3.4/6, mb1mx3.2/25, mbtmp3.3/6, ML2.7/1, Error ellipse: s-maj=90.7km s-min=27.2km az=167.0*
ISC 01 09:07:55.5±1.0, 44°.35N±0°.08×148°.15E±0°.09, h55km±9km, n27, σ1§32/36, mb3.7/5, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.91**	**347**	*d i* PN	**Pn**	**09 08 11.8**	**-0.3**
KUR				*i* S	**Sn**	**09 08 23.3**	**-1.0**
KUR	comp=N,32nm,0.2s			pmax	pmax		
KUR	comp=E,95nm,0.2s			pmax	pmax		
KUR	comp=Z,395nm,0.2s			pmax	pmax		
KUR	comp=E,925nm,0.5s			smax	smax		
KUR	comp=N,1.0nm,0.2s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.68**	**260**	*d i* PN	**Pn**	**09 08 22.6**	**+0.1**
YUK				*i* S	**Sn**	**09 08 41.7**	**-1.1**
YUK	comp=Z,138nm,0.2s			pmax	pmax		
YUK	comp=E,25nm,0.1s			pmax	pmax		
YUK	comp=N,13nm,0.2s			pmax	pmax		
YUK	comp=N,306nm,0.2s			smax	smax		
YUK	comp=E,700nm,0.4s			smax	smax		
NEM2	**Nemuro 2**	**2.00**	**241**	P	**Pn**	**09 08 26.4**	**-0.5**
NEM2				*e*S	**Sn**	**09 08 48.4**	**-2.3**
JRA	**Rausu**	**2.22**	**260**	P	**Pn**	**09 08 31.0**	**+1.2**
JRA				*e*S	**Sn**	**09 08 57.1**	**+1.0**
JNK	**Nakash**	**2.59**	**254**	P	**Pn**	**09 08 35.7**	**+0.7**
JNK				*e*S	**Sn**	**09 09 05.0**	**-0.3**
JAK	**Akkeshi**	**2.85**	**243**	P	**Pn**	**09 08 38.4**	**-0.1**
JAK				*e*S	**Sn**	**09 09 10.0**	**-1.5**
JTKR	**Abashiri--Toko**	**3.08**	**264**	P	**Pn**	**09 08 42.6**	**+1.0**
JAR	**Ashorobuto**	**3.34**	**253**	P	**Pn**	**09 08 46.7**	**+1.5**
JAR				*e*S	**Sn**	**09 09 24.7**	**+1.1**
JOB	**Onbets**	**3.45**	**247**	P	**Pn**	**09 08 47.5**	**+0.8**
JOB				*e*S	**Sn**	**09 09 25.5**	**-0.8**
JMP	**Maruseppu**	**3.46**	**266**	P	**Pn**	**09 08 48.6**	**+1.7**
JCH	**Churui**	**3.89**	**245**	P	**Pn**	**09 08 53.5**	**+0.7**
JCH				*e*S	**Sn**	**09 09 36.3**	**-0.9**
JKK2	**Kamakawa 2**	**3.92**	**265**	P	Pn	09 08 56.5	+3.3
JFR	**Furan**	**4.20**	**255**	P	**Pn**	**09 08 59.5**	**+2.5**
ERM	**Erimo**	**4.33**	**239**	*c i* PN	**Pn**	**09 09 01.9**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.45**	**244**	P	**Pn**	**09 09 01.1**	**+0.7**
JNBK				*e*S	**Sn**	**09 09 49.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.59**	**306**	*e*PN	**Pn**	**09 09 04.0**	**+1.7**
PETK	**Petropavlovsk-**	**10.79**	**32**	PN	**Pn**	**09 10 28.4**	**+1.3**
PETK	**Petropavlovsk-**	**10.79**	**32**	P	**Pn**	**09 10 28.4**	**+1.3**
	comp=E,0.1nm,0.3s,baz=210,slow=16,SNR=2.4						
MAJO	**Matsushiro**	**10.87**	**228**	*i* PN	Pn	09 10 31.8	+3.5
PET	**Petropavlovsk**	**11.10**	**35**	*i* PN	**Pn**	**09 10 32.7**	**+1.3**
USRK	**Ussuriysk Arra**	**11.58**	**275**	P	**Pn**	**09 10 37.0**	**-1.0**
	baz=82,slow=15,SNR=4.0						
TIXI	**Tiksi**	**28.92**	**348**	*i* P	**P**	**09 13 47.2**	**-1.7**
TIXI	comp=Z,2.0nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array**	**44.95**	**297**	*i* P	**P**	**09 16 05.0**	**+0.2**
MKAR	**Makanchi Array**	**44.95**	**297**	P	**P**	**09 16 04.7**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=79,slow=8.3,SNR=4.6						
YKA	**Yellowknife Ar**	**54.90**	**34**	P	**P**	**09 17 20.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=303,slow=7.4,SNR=4.2						
FINES	**FINESS Array B**	**64.67**	**333**	P	**P**	**09 18 26.0**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=64,slow=6.3,SNR=3.8						
TXAR	**Lajitas Array**	**81.72**	**57**	P	**P**	**09 20 08.5**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=304,slow=3.9,SNR=3.4						
TXAR				pP	**pP**	**09 20 23.0**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=294,slow=4.1,SNR=4.2						

*IDC **01** 09:15:48.6±2.7, 0°.04N×123°.50E, h117km±25km, mb3.4/7, mb1 3.5/9, mb1mx3.4/22, mbtmp3.4/9, Error ellipse: s-maj=30.1km s-min=13.9km az=74.0*
*ISCJB **01** 09:15:49.4±0.5, 0°.20S±0°.04×123°.69E±0°.04, h110km, mb3.7/7, Error ellipse: s-maj=6.5km s-min=5.7km az=35.3*
*DJA **01** 09:15:51.0±0.8, 0°.S±.5°×12°.4E±°, h101km±9km, M4.4/9, mb4.4/1, mB4.8/1, MLv4.5/9, Mw(mB)4.0/1*
ISC 01 09:15:49.8±0.8, 0°.14S±0°.05×123°.72E±0°.05, h110km, n19, σ1§36/23, mb3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.76**	**21**	P	**Pn**	**09 16 08.4**	**-0.3**
KMSI				S	**Sn**	**09 16 23.9**	**+1.0**
GTOI	**Gorontalo**	**1.04**	**317**	P	**Pn**	**09 16 12.2**	**+0.7**
GTOI				S	**Sn**	**09 16 30.0**	**+2.2**
LUWI	**Luwuk**	**1.30**	**226**	P	**Pn**	**09 16 16.3**	**+2.0**
MRSI	**Marisa**	**1.88**	**289**	P	Pn	09 16 18.9	-2.4
MNI	**Manado**	**1.93**	**36**	P	**Pn**	**09 16 22.0**	**0.0**
SKSI	**Soroako, Sulaw**	**3.36**	**225**	P	**Pn**	**09 16 41.2**	**+0.5**
SKSI				S	**Sn**	**09 17 18.2**	**-1.9**
LBMI	**Labuha**	**3.82**	**98**	P	**Pn**	**09 16 46.9**	**+0.1**
NLAI	**Namlea**	**4.58**	**132**	P	**Pn**	**09 16 58.1**	**+1.1**
NLAI				S	**Sn**	**09 17 50.7**	**+1.6**
TTSI	**Tana Toraja**	**4.85**	**233**	P	**Pn**	**09 17 01.6**	**+1.0**
SPSI	**Sidrap Palu**	**5.48**	**226**	P	**Pn**	**09 17 10.7**	**+1.5**
KAPI	**Kappang**	**6.26**	**219**	P	**Pn**	**09 17 20.0**	**+0.3**
	2.6nm,0.3s,baz=39,slow=6.5,SNR=6.2						
KAPI				S	**Sn**	**09 18 28.0**	**-1.8**
	1.5nm,0.3s,baz=48,slow=23,SNR=1.7						
FITZ	**Fitzroy Crossi**	**17.95**	**174**	P	**P**	**09 19 52.4**	**+0.8**
	0.2nm,0.3s,baz=280,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**22.27**	**153**	P	**P**	**09 20 37.7**	**-0.4**
	2.0nm,0.5s,baz=335,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**09 21 08.2**	**+1.0**
	0.4nm,0.6s,baz=348,slow=14,SNR=10						
ASAR				pP	**pP**	**09 21 31.8**	**+0.5**
	0.5nm,0.9s,baz=341,slow=14,SNR=3.4						
ASAR				PcP	**PcP**	**09 24 35.6**	**-1.4**
	0.4nm,0.6s,baz=353,slow=1.7,SNR=7.1						
ASAR				ScP	**ScP**	**09 28 03.7**	**-2.7**
	0.3nm,0.7s,baz=343,slow=3.8,SNR=4.1						
STKA	**Stephens Creek**	**35.81**	**153**	P	**P**	**09 22 39.0**	**+0.2**
	1.6nm,0.5s,baz=317,slow=14,SNR=8.1						
USRK	**Ussuriysk Arra**	**44.76**	**8**	P	P	09 23 48.8	-3.5
	1.2nm,0.6s,baz=211,slow=10,SNR=7.2						
SONM	**Songino Array**	**50.10**	**345**	P	P	09 24 30.2	-3.6
	0.4nm,0.6s,baz=152,slow=4.4,SNR=3.0						
MKAR	**Makanchi Array**	**59.11**	**328**	P	P	09 25 35.1	-3.7
	1.1nm,0.7s,baz=122,slow=8.3,SNR=10.0						
MKAR				pP	pP	09 26 01.8	-3.8
	0.4nm,0.9s,baz=91,slow=8.3,SNR=3.2						
MKAR				PcP	PcP	09 26 22.3	-4.1
	0.4nm,0.4s,baz=172,slow=2.7,SNR=6.7						
VNDA	**Vanda**	**80.01**	**172**	P	**P**	**09 27 45.5**	**-1.1**
	0.2nm,0.3s,baz=304,slow=8.4,SNR=3.5						

GUC 01 09:16:55.7±0.5, 23°.80S×67°.21W, h234km±20km, ML3.6, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.96**	**307**	*e*P	Pn	09 17 38.3	+1.4
PB09	**Plate Boundary**	**2.74**	**316**	*e*P	Pn	09 17 47.0	+2.3
PB09				*e*S	S	09 18 26.5	+3.4
PB09	comp=E,84nm,0.3s			AML	AML	09 18 32.9	
ANCH	**Antofagasta**	**2.94**	**272**	*e*P	Pn	09 17 48.6	+2.1
ANCH				*e*S	S	09 18 28.5	+2.1
PB10	**Plate Boundary**	**3.08**	**275**	*e*P	Pn	09 17 50.1	+2.0
PB10				*e*S	S	09 18 31.4	+2.0
PB10	comp=E,82nm,0.4s			AML	AML	09 18 35.0	
PB07	**Plate Boundary**	**3.22**	**309**	*e*P	Pn	09 17 52.1	+2.1
PB07				*e*S	S	09 18 35.3	+2.6
PB07	comp=E,42nm,0.3s			AML	AML	09 18 38.3	
PB01	**Plate Boundary**	**3.46**	**322**	*e*P	Pn	09 17 54.5	+1.9
PB01				*e*S	S	09 18 40.0	+2.5
PB01	comp=E,29nm,0.1s			AML	AML	09 18 43.1	

*IDC **01** 09:45:43.6±0.4, 37°.75N×141°.84E, h0km, mb4.9/33, mb1 5.1/35, mb1mx5.1/36, mbtmp4.9/35, ML4.2/2, MS4.3/23, Ms1 4.3/23, ms1mx4.1/41, Error ellipse: s-maj=13.4km s-min=10.9km az=122.0*
*BKK **01** 09:45:45.0±0.8, 38°.N±8°×14°.2E±1°.3, h10km, M5.1/24, mB5.5/7, mb5.3/24, Mw(mB)5.0/7*
*BJI **01** 09:45:46.8, 37°.52N×141°.79E, h34km, mB4.9/33, mb5.2/60, Ms4.5/59, Ms7 4.3/57*
*JMA **01** 09:45:48.3±0.1, 37°.57N×141°.91E, h36km±3km, M5.0*
JMA Felt II J1.
*MOS **01** 09:45:48.6±0.8, 37°.75N×141°.78E, h35km, mb5.4/99, MS4.3/28, Error ellipse: s-maj=6.2km s-min=4.1km az=107.1*
*ISCJB **01** 09:45:49.3±0.3, 37°.61N±0°.02×141°.82E±0°.02, h46km±2km, mb5.1/290, MS4.5/52, Error ellipse: s-maj=3.9km s-min=2.6km az=136.2*
*NEIC **01** 09:45:50.8±0.5, 37°.58N×141°.79E, h47km±4km, mb5.0/109, MW4.9(NIED), Error ellipse: s-maj=4.4km s-min=2.6km az=145.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi and [1 JMA] in Ibaraki, Iwate, Tochigi and Yamagata.
*GCMT **01** 09:45:52.4±0.2, 37°.54N×142°.09E, h43km±1km, MW5.0, Moment Tensor Solution. s52,c67; s78,c114; Moment tensor: Scale 10^16Nm; Mrr3.62±.15; Mθθ-0.44±.10; Mφφ-3.18±.11; Mrθ0.90±.10; Mrφ-1.35±.07; Mθφ2.46±.09; Best double couple: M0 4.50000×10^16 NP1:φs21.00000°, δ63.00000°, λ89.00000°. NP2:φs204.00000°, δ27.00000°, λ92.00000°. Principal axes: T 4.4600, Plg72.0000°, Azm288.0000°; N 0.1100, Plg1.0000°, Azm22.0000°; P -4.5700, Plg18.0000°, Azm112.0000°; Data Used: IU II IC G CN.*
*SZGRF **01** 09:45:53.1, 38°.26N×142°.88E, h44km, mb5.4, MS4.4, Near east coast of eastern Honshu, Japan*
*DJA **01** 09:45:56.1±4.5, 38°.N±8°×14°.2E±1°.6, h92km±38km, M5.1/16, mB5.5/5, mb5.1/16, Mw(mB)5.0/5*
*NIED **01** 09:46:00, 37°.60N×141°.90E, h38km, Mw5.0 Best double couple: M0 3.25000×10^16 NP1:φs26.00000°, δ69.00000°, λ93.00000°. NP2:φs196.00000°, δ21.00000°, λ81.00000°.*
ISC 01 09:45:48.9±0.3, 37°.59N±0°.03×141°.84E±0°.03, h33km±1km, h33km:pP-P, n896, σ1§13/1021, mb5.2/297, MS4.5/53, 91C-53D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.80**	**254**	↓P	**Pn**	**09 46 03.9**	**0.0**
JFK				*e*S	**Sn**	**09 46 14.7**	**0.0**
JMM	**Marumori**	**0.88**	**289**	↓P	**Pn**	**09 46 05.3**	**+0.4**
JMM				*e*S	**Sb**	**09 46 16.9**	**-0.3**
JIO	**Ouri**	**0.95**	**336**	↓P	**Pn**	**09 46 06.0**	**+0.1**
JIO				S	**Sn**	**09 46 18.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.96**	**240**	↓P	**Pn**	**09 46 05.9**	**-0.2**
ONAJ				S	**Sn**	**09 46 18.5**	**-0.2**
JFT	**Otama**	**1.20**	**267**	↓P	**Pb**	**09 46 10.6**	**-0.5**
JFT				S	**Sb**	**09 46 26.4**	**+0.1**
JOU	**Okura**	**1.21**	**310**	↓P	**Pn**	**09 46 10.5**	**+0.9**
JOU				S	**Sb**	**09 46 26.8**	**0.0**
JHO	**Hitachi**	**1.41**	**227**	↓P	**Pn**	**09 46 11.5**	**-0.7**
JMK	**Ichinoseki**	**1.45**	**340**	↓P	**Pn**	**09 46 13.4**	**+0.6**
JMK				*e*S	**Sn**	**09 46 31.5**	**+0.8**
OFUJ	**Ofunato**	**1.50**	**355**	↓P	**Pn**	**09 46 13.3**	**-0.2**
JYS	**Shirataka**	**1.54**	**295**	↓P	**Pn**	**09 46 15.2**	**+1.1**
JSB	**Shiboa**	**1.65**	**249**	↓P	**Pn**	**09 46 16.7**	**+1.1**
JFY	**Yanaizu**	**1.71**	**265**	↓P	**Pn**	**09 46 17.7**	**+1.3**
JYK	**Kaneyama**	**1.77**	**319**	↓P	**Pn**	**09 46 18.3**	**+1.1**
JOM	**Ohasama**	**1.93**	**347**	↓P	**Pn**	**09 46 20.2**	**+0.7**
JYA	**Atsumi**	**1.96**	**302**	↓P	**Pn**	**09 46 21.2**	**+1.4**
MIYJ	**Miyakonagasawa**	**1.99**	**359**	↓P	**Pn**	**09 46 19.8**	**-0.4**
JNS	**Sasagawa**	**2.02**	**277**	↓P	**Pn**	**09 46 22.1**	**+1.5**
JRG	**Rokugo**	**2.04**	**333**	↓P	**Pn**	**09 46 22.4**	**+1.5**
JAW	**Awa shima**	**2.23**	**294**	P	**Pn**	**09 46 24.8**	**+1.3**
JAG	**Ashikaga**	**2.24**	**240**	↓P	**Pn**	**09 46 24.1**	**+0.5**
JHK	**Hiroka**	**2.27**	**262**	↓P	**Pn**	**09 46 25.6**	**+1.5**
JYW	**Yuwa**	**2.33**	**327**	↓P	**Pn**	**09 46 26.7**	**+1.8**
JTB	**Tobi-shima**	**2.41**	**313**	↓P	**Pn**	**09 46 27.1**	**+1.1**
JKZ	**Kuzumaki**	**2.43**	**351**	↓P	**Pn**	**09 46 27.0**	**+0.7**
JAH	**Hinai**	**2.77**	**340**	↓P	**Pn**	**09 46 32.6**	**+1.7**
JANG	**Nango**	**2.80**	**355**	↑P	**Pn**	**09 46 31.5**	**+0.2**
JRY	**Ryogami san**	**2.83**	**237**	↓P	**Pn**	**09 46 32.3**	**+0.4**
JSD	**Sado**	**2.87**	**280**	↓P	**Pn**	**09 46 33.1**	**+0.7**
JJN	**Nakama**	**2.97**	**262**	↓P	**Pn**	**09 46 35.6**	**+1.9**
MAJO	**Matsushiro**	**3.09**	**251**	*d i* P	**Pn**	**09 46 37.4**	**+2.0**
MAJO	**Matsushiro**	**3.09**	**251**	*e*Pn	**Pn**	**09 46 37.4**	**+2.0**
MAT	**Matsushiro**	**3.09**	**251**	P	**Pn**	**09 46 37.4**	**+2.0**
MAT				*e*S	**Sb**	**09 47 17.5**	**-2.9**
MAT	**Matsushiro**	**3.09**	**251**	P	**Pn**	**09 46 37.4**	**+2.0**
JNG	**Nsakai**	**3.22**	**250**	↓P	**Pn**	**09 46 39.1**	**+1.9**
JIW	**Iwasaki**	**3.33**	**335**	↓P	**Pn**	**09 46 40.3**	**+1.7**
AJI	**Ajiro2**	**3.37**	**222**	P	**Pn**	**09 46 40.1**	**+0.9**
JYN	**Shimob**	**3.38**	**233**	P	**Pn**	**09 46 40.3**	**+0.9**
JNT	**Takato**	**3.43**	**241**	P	**Pn**	**09 46 42.2**	**+2.0**
JSI2	**Shiura 2**	**3.64**	**343**	P	**Pn**	**09 46 45.0**	**+2.1**
JIZS	**Izushimoda**	**3.73**	**221**	P	**Pn**	**09 46 44.8**	**+0.6**
JGN	**Niukaw**	**3.88**	**251**	P	Pn	09 46 50.4	+4.2
JHG	**Hegura jima**	**3.91**	**275**	↓P	**Pn**	**09 46 48.0**	**+1.4**
JKO	**Kozu shima**	**4.04**	**214**	P	**Pn**	**09 46 49.2**	**+0.8**
JGF	**Kuroka**	**4.12**	**243**	P	**Pn**	**09 46 52.2**	**+2.7**
JAO	**Obara**	**4.36**	**239**	P	**Pn**	**09 46 55.9**	**+3.0**
JGM	**Miyama**	**4.53**	**247**	P	Pn	09 46 59.1	+3.9
ERM	**Erimo**	**4.54**	**12**	Pn	**Pn**	**09 46 55.5**	**+0.3**
	1μm,1.2s,SNR=18						
ERM	**Erimo**	**4.54**	**12**	*d i* P	**Pn**	**09 46 55.3**	**+0.1**
ERM	comp=Z,123nm,1.0s			pmax	pmax		
ERM	**Erimo**	**4.54**	**12**	*e*Pn	**Pn**	**09 46 54.7**	**-0.5**
ERM				*e*Sn	**Sn**	**09 47 46.5**	**-0.3**
JFM	**Mihama**	**5.14**	**248**	P	**Pn**	**09 47 06.7**	**+3.1**
JWT	**Wachi**	**5.68**	**248**	P	**Pn**	**09 47 13.8**	**+2.9**
ASAJ	**Asahikawa**	**6.55**	**5**	Pn	**Pn**	**09 47 22.1**	**-0.7**
ASAJ				*e*Sn	**Sn**	**09 48 35.2**	**-1.2**
ASAJ				Sn	**Sn**	**09 48 36.3**	**0.0**
ASAJ	**Asahikawa**	**6.55**	**5**	Pn	**Pn**	**09 47 22.1**	**-0.7**
	comp=Z,8.0nm,0.3s,baz=229,slow=15,SNR=33						
ASAJ				Sn	**Sn**	**09 48 36.3**	**0.0**
	comp=Z,12nm,0.3s,baz=349,slow=28,SNR=6.2						
JAD	**Aida**	**6.74**	**249**	P	**Pn**	**09 47 28.4**	**+2.9**
YUK	**Yuzh-Kuril'sk**	**7.13**	**24**	*i* P	**Pn**	**09 47 27.7**	**-3.0**
YUK				*i* S	Sn	09 48 43.5	-7.0
YUK	comp=E,48nm,0.5s			pmax	pmax		
YUK	comp=N,51nm,0.5s			pmax	pmax		
YUK	comp=Z,22μm,0.5s			pmax	pmax		
YUK	comp=Z,165nm,0.5s			pmax	pmax		
KUR	**Kuril'sk**	**8.88**	**29**	*e*P	**Pn**	**09 47 54.1**	**-0.7**
KUR				*e*S	Sn	09 49 26.6	-7.0
KUR	comp=E,31nm,0.5s			pmax	pmax		
KUR	comp=N,31nm,0.4s			pmax	pmax		
KUR	comp=Z,60nm,0.8s			pmax	pmax		
KUR	comp=E,439nm,4.8s			smax	smax		
YSS	**Yuzh-Sakhalins**	**9.39**	**4**	↑*e*P	**Pn**	**09 48 02.1**	**+0.4**
YSS				*e*S	**Sn**	**09 49 46.0**	**0.0**
YSS	comp=Z,60nm,1.0s			pmax	pmax		
YSS	comp=E,500nm,2.0s			smax	smax		
YSS	comp=Z,800nm,14.0s			MLR	MLR		
YSS	comp=N,600nm,16.0s			MLR	MLR		
VLA	**Vladivostok**	**9.39**	**309**	*d i* P	Pn	09 48 06.0	+4.1
JFA	**Akaike**	**9.79**	**250**	P	Pn	09 48 11.4	+4.1
JKIT	**Kitakata**	**9.84**	**243**	P	**Pn**	**09 48 11.2**	**+3.1**
USRK	**Ussuriysk Arra**	**9.96**	**315**	Pn	**Pn**	**09 48 11.4**	**+1.8**
	comp=N,2.0nm,0.3s,baz=116,slow=13,SNR=126						
USRK				LR	LR	09 51 39.9	
	comp=N,2μm,21.2s,baz=115,slow=36						
JNU	**Nakatsue**	**10.00**	**247**	*e*Pn	**Pn**	**09 48 13.0**	**+2.8**
JNU	**Nakatsue**	**10.00**	**247**	Pn	**Pn**	**09 48 13.4**	**+3.2**
	comp=N,1.0nm,0.3s,baz=56,slow=8.0,SNR=31						
JTSN	**Tsuno**	**10.02**	**241**	P	**Pn**	**09 48 12.9**	**+2.4**
JUR	**Ureshino**	**10.70**	**249**	P	Pn	09 48 24.1	+4.3
KSRS	**Korea Array**	**11.06**	**274**	Pn	Pn	09 48 28.9	+4.2
	comp=N,1.4nm,0.3s,baz=86,slow=13,SNR=59						
KSRS				LR	LR	09 52 23.7	
	comp=N,2μm,19.8s,baz=80,slow=36						
KSAR	**Wonju Array Be**	**11.09**	**274**	Pn	Pn	09 48 28.9	+3.7
MDJ	**Mudanjiang**	**11.60**	**311**	P	Pn	09 48 37.9	+5.8
MDJ				S	Sn	09 50 49.2	+8.8
MDJ				PcP	**PcP**	**09 54 24.6**	**+3.2**
MDJ				ScP	**ScP**	**09 57 55.1**	**+3.5**
MDJ				PcS	**PcS**	**09 57 58.9**	**+3.7**
MDJ	comp=Z,150nm,1.1s			pmax	pmax		
MDJ	comp=Z,380nm,7.2s			pmax	pmax		
MDJ	comp=N,1μm,19.5s			LR	LR		
MDJ	comp=E,940nm,19.5s			LR	LR		
MDJ	comp=Z,2μm,19.5s			LR	LR		
MDJ	**Mudanjiang**	**11.60**	**311**	*e*Pn	**Pn**	**09 48 35.0**	**+3.0**
	comp=Z,180nm,1.1s						
MDJ				*e*Sn	Sn	09 50 54.2	+14
HABR	**Khabarovsk**	**11.96**	**338**	*e*P	**Pn**	**09 48 36.1**	**-0.8**
HABR				*e*S	**Sn**	**09 50 48.4**	**-0.6**
HABR	comp=E,40nm,1.8s			pmax	pmax		
HABR	comp=Z,62nm,1.4s			pmax	pmax		
HABR	comp=N,31nm,1.4s			pmax	pmax		
HABR	comp=Z,2μm,16.0s			MLR	MLR		
INCN	**Inchon**	**12.08**	**274**	Pn	Pn	09 48 43.3	+4.6
	SNR=9.7						
INCN	**Inchon**	**12.08**	**274**	*e*Pn	**Pn**	**09 48 40.2**	**+1.6**
KLR	**Kul'dur**	**13.74**	**331**	*e*P	**Pn**	**09 48 58.4**	**-2.9**
KLR	comp=N,800nm,16.0s			MLR	MLR		
KLR	comp=Z,900nm,16.0s			MLR	MLR		
CN2	**Changchun**	**13.89**	**302**	*e*P	**Pn**	**09 49 04.6**	**+1.2**
CN2				*ep*P	**P**	**09 49 12.0**	**+0.8**
CN2				*es*P		09 49 16.2	
CN2				*e*S	**Sn**	**09 51 37.6**	**+1.2**
CN2	comp=Z,20nm,0.9s			pmax	pmax		
CN2	comp=Z,200nm,6.0s			pmax	pmax		
CN2	comp=N,400nm,20.0s			LR	LR		
CN2	comp=E,900nm,20.0s			LR	LR		
CN2	comp=Z,1μm,20.0s			LR	LR		
JOW	**Kunigami**	**15.69**	**231**	*e*Pn	**Pn**	**09 49 28.7**	**+1.1**
	comp=Z,26nm,1.3s						
SKR	**Severo-Kuril's**	**16.59**	**33**	*e*P	**Pn**	**09 49 37.8**	**-0.9**
SKR	comp=Z,50nm,0.8s			pmax	pmax		
SKR	comp=N,1μm,18.0s			MLR	MLR		
SKR	comp=Z,1μm,18.0s			MLR	MLR		
SKR	comp=E,800nm,14.0s			MLR	MLR		
SSE	**Sheshan**	**18.23**	**255**	P	**Pn**	**09 50 00.2**	**+0.9**
SSE				S	**Sn**	**09 53 22.1**	**+0.3**
SSE	comp=Z,78nm,1.2s			pmax	pmax		
SSE	comp=Z,250nm,9.3s			pmax	pmax		
SSE	comp=N,860nm,21.3s			LR	LR		
SSE	comp=E,620nm,21.3s			LR	LR		
SSE	comp=Z,1μm,16.1s			LR	LR		
PEA0B	**Petropavlovsk-**	**19.04**	**30**	*e*P	**Pn**	**09 50 08.6**	**-0.4**
PETK	**Petropavlovsk-**	**19.04**	**30**	P	**Pn**	**09 50 08.7**	**-0.3**
PETK	comp=Z,236nm,19.3s			MLR	MLR		
PETK	**Petropavlovsk-**	**19.04**	**30**	P	**Pn**	**09 50 08.7**	**-0.3**
PETK				PcP	**PcP**	**09 54 32.4**	**+0.5**
PETK	**Petropavlovsk-**	**19.04**	**30**	P	**Pn**	**09 50 08.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=191,slow=8.4,SNR=16						
PETK				PcP	**PcP**	**09 54 32.3**	**+0.5**
	baz=222,slow=1.9,SNR=3.8						
PETK				LR	LR	09 57 29.3	
	com

comp=Z,1μm,15.5s
BJI Beijing 20.13 285 P P 09 50 19.3 -0.7
BJI S **S** **09 54 04.6 +0.3**
BJI pmax pmax
comp=Z,70nm,0.8s
BJI pmax pmax
comp=Z,200nm,3.6s
BJI LR LR
comp=N,340nm,21.7s
BJI LR LR
comp=E,350nm,21.0s
BJI LR LR
comp=Z,420nm,25.9s
BJT Baijiatuau 20.14 285 *e*P **P 09 50 19.3 -0.8**
comp=Z,61nm,0.6s
YHNB Yeheng 21.68 239 *e*P **P 09 50 35.6 -1.4**
comp=Z,15nm,0.6s
NACB Ninganchiao 21.87 238 P **P 09 50 38.5 -0.3**
comp=Z,9.3nm,0.4s
CLNS Chul'man 22.32 335 *e*P **P 09 50 42.1 -1.4**
CLNS *e**PP **pP** **09 50 53.6 +1.2**
CLNS *e* 09 51 05.4
CLNS *e* 09 54 38.6
CLNS *e*S **S** **09 54 43.6 -3.3**
CLNS *e*SS **SnSn** **09 55 19.0 +3.3**
CLNS pmax pmax
comp=Z,74nm,1.0s
CLNS pmax pmax
comp=N,69nm,1.0s
CLNS pmax pmax
comp=E,25nm,0.9s
CLNS pmax pmax
comp=E,40nm,1.1s
CLNS pmax pmax
comp=N,43nm,1.2s
CLNS pmax pmax
comp=Z,30nm,0.8s
CLNS smax smax
comp=N,136nm,10.5s
CLNS smax smax
comp=E,193nm,11.9s
CLNS MLR MLR
comp=E,611nm,18.0s
CLNS MLR MLR
comp=N,747nm,16.0s
CLNS MLR MLR
comp=Z,1μm,18.0s
SSLB Suanglung 22.56 238 *e*P **P 09 50 44.0 -2.3**
comp=Z,41nm,1.1s
YULB Yu-li 22.59 237 *e*P **P 09 50 44.9 -1.8**
comp=Z,8.3nm,0.5s
TPUB Ta-pu 23.11 238 *e*P **P 09 50 48.9 -3.1**
comp=Z,37nm,0.9s
HHC Hu-ho-hao-te 23.63 287 *e*P **P 09 50 55.2 -1.9**
HHC pP **pP** **09 51 03.8 -2.6**
HHC sP **sP** **09 51 08.6 -1.9**
HHC PP **PnPn** **09 51 27.7 +2.9**
HHC S **S** **09 55 03.4 -6.1**
HHC sS sS 09 55 17.0 -8.2
HHC SS **SnSn** **09 55 52.1 +4.2**
HHC pmax pmax
comp=Z,72nm,0.6s
HHC pmax pmax
comp=Z,360nm,4.2s
HHC LR LR
comp=N,490nm,11.4s
HHC LR LR
comp=E,1μm,11.9s
HHC LR LR
comp=Z,1μm,14.9s
WHN Wuhan 23.78 261 ⇑P **P 09 50 57.7 -0.8**
WHN S **S** **09 55 12.3 +0.5**
WHN LR LR
comp=N,760nm,11.0s
WHN LR LR
comp=E,1μm,15.0s
WHN LR LR
comp=Z,2μm,18.0s
CIT Chita 24.52 315 *e*P **P 09 51 05.4 +0.2**
CIT *e* 09 51 10.7
CIT *e* 09 51 17.6
CIT *e* 09 51 46.6
CIT pmax pmax
comp=Z,574nm,1.3s
YAK Yakutsk 25.61 347*c i*P **P 09 51 14.4 -0.4**
YAK *e* 09 51 56.4
YAK *e* 09 54 42.4
YAK *e*S **S** **09 55 36.1 -4.4**
YAK *e* 10 02 06.9
YAK pmax pmax
comp=Z,83nm,0.8s
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.7s
YAK pmax pmax
comp=Z,22nm,0.7s
YAK pmax pmax
comp=E,44nm,1.6s
YAK smax smax
comp=N,52nm,1.1s
YAK smax smax
comp=E,45nm,1.5s
FX1 Attu Island--F 26.57 45 P **P 09 51 25.3 +1.6**
FX1 Attu Island--F 26.57 45 P **P 09 51 25.3 +1.6**
comp=E,12nm,0.9s,baz=0.0,slow=12,SNR=3.0
FX1 LR LR 10 00 20.5
comp=E,210nm,19.6s,baz=254,slow=33
XAN Xi'an 26.85 272 P **P 09 51 25.9 -0.6**
XAN pP **pP** **09 51 35.5 -0.5**
XAN sP **sP** **09 51 39.7 -0.3**
XAN PP **PnPn** **09 52 10.3 +1.4**
XAN S **S** **09 55 56.4 -4.5**
XAN SS **SnSn** **09 57 07.7 +0.9**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN pmax pmax
comp=Z,38nm,8.4s
XAN LR LR
comp=N,350nm,17.1s
XAN LR LR
comp=E,120nm,20.9s
XAN LR LR
comp=Z,160nm,19.4s
ULN Ulaanbaatar 27.33 303 P **P 09 51 31.4 +0.7**
SNR=38
ULN Ulaanbaatar 27.33 303 *e*P **P 09 51 31.5 +0.7**
comp=Z,102nm,1.4s
ULN Ulaanbaatar 27.33 303 P **P 09 51 31.2 +0.4**
comp=Z,56nm,1.1s,comp=Z,470nm
ENH Enshi 27.72 264 *e*P **P 09 51 34.0 -0.4**
comp=Z,127nm,0.8s
SONM Songino Array 27.77 303 P **P 09 51 34.5 -0.1**
SONM PcP **PcP** **09 54 50.4 -0.1**
SONM Songino Array 27.77 303 P **P 09 51 34.5 -0.1**
comp=Z,40nm,0.7s,baz=99,slow=8.1,SNR=252
SONM PcP **PcP** **09 54 50.4 -0.1**
comp=Z,3.0nm,0.9s,baz=196,slow=1.0,SNR=4.1
SONM LR LR 10 03 00.9
comp=Z,516nm,18.6s,baz=50,slow=37
TGY Tagaytay City 29.88 224 P **P 09 51 54.2 +0.7**
TGY Tagaytay City 29.88 224 P **P 09 51 54.2 +0.7**
comp=Z,92nm,0.3s,baz=90,slow=1.0,SNR=2.4
IRK Irkutsk 29.99 311 *e*P **P 09 51 53.6 -0.6**
IRK pmax pmax
comp=Z,31nm,1.2s
ZAK Zakamensk 30.20 308⇑*i*P **P 09 51 56.7 +0.5**
ZAK pmax pmax
comp=Z,34nm,1.2s
LZH Lanzhou 30.32 279 ⇑P **P 09 51 57.6 +0.2**
LZH pP **pP** **09 52 06.0 -1.0**
LZH sP **sP** **09 52 09.7 -1.3**
LZH S **S** **09 56 51.8 -3.7**
LZH SS **SnSn** **09 58 33.1 +1.7**
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
LZH LR LR
comp=N,510nm,13.7s
LZH LR LR
comp=E,530nm,15.2s
LZH LR LR
comp=Z,660nm,16.6s
GYA Guiyang 31.65 260⇑*i*P **P 09 52 08.7 -0.6**
GYA pP **pP** **09 52 18.2 -0.6**
GYA PP **PnPn** **09 53 11.9 -1.6**
GYA PcP **PcP** **09 55 02.3 +1.5**
GYA S **S** **09 57 15.6 -0.9**
GYA sS **sS** **09 57 27.4 -4.9**
GYA ScP **ScP** **09 58 41.0 -0.5**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA LR LR
comp=N,1μm,16.8s
GYA LR LR
comp=E,1μm,19.9s
GYA LR LR
comp=Z,2μm,21.4s
MOY Mondy 31.85 309 *e*P **P 09 52 09.6 -1.1**
MOY pmax pmax
comp=Z,82nm,0.9s
CD2 Chengdu 32.02 269 *e*P **P 09 52 12.2 -0.1**
CD2 pP **pP** **09 52 23.0 +1.1**
CD2 sP **sP** **09 52 26.1 +0.2**
CD2 PP **PnPn** **09 53 18.8 +0.7**
CD2 PcP **PcP** **09 55 02.5 +0.9**
CD2 S **S** **09 57 20.0 -2.0**
CD2 sS **sS** **09 57 36.4 -1.4**
CD2 SS **SnSn** **09 59 12.7 0.0**
CD2 ScS **ScS** **10 02 38.5 -2.8**
CD2 pmax pmax
comp=Z,80nm,0.9s
CD2 pmax pmax
comp=Z,320nm,6.8s
CD2 LR LR
comp=E,550nm,15.5s
CD2 LR LR
comp=Z,740nm,19.0s
GTA Gaotai 32.73 286 P **P 09 52 18.5 -0.1**
GTA pP **pP** **09 52 29.6 +1.4**
GTA sP **sP** **09 52 33.1 +0.9**
GTA PP **PnPn** **09 53 29.3 +2.1**
GTA PcP **PcP** **09 55 04.2 +0.6**
GTA S **S** **09 57 31.6 -1.5**
GTA ScP **ScP** **09 58 43.5 -1.5**
GTA PcS **PcS** **09 58 48.4 -0.5**
GTA SS **SnSn** **09 59 33.2 +3.2**
GTA ScS **ScS** **10 02 43.1 -1.8**
GTA pmax pmax
comp=Z,34nm,0.7s
GTA pmax pmax
comp=Z,120nm,6.2s
GTA LR LR
comp=N,330nm,18.5s
GTA LR LR
comp=E,540nm,18.5s
GTA LR LR
comp=Z,600nm,24.2s
QIZ Qiongzhong 33.47 245 P **P 09 52 25.2 +0.1**
QIZ S **S** **09 57 46.3 +1.7**
QIZ pmax pmax
comp=Z,15nm,1.6s
QIZ LR LR
comp=N,460nm,18.4s
QIZ LR LR
comp=E,140nm,19.3s
QIZ LR LR
comp=Z,410nm,17.9s
QIZ Qiongzhong 33.47 245 *e*P **P 09 52 26.0 +0.9**
comp=Z,13nm,0.9s
TIXI Tiksi 34.78 353*c i*P **P 09 52 35.3 -0.6**
TIXI pmax pmax
comp=Z,16nm,1.3s
TIXI MLR MLR
comp=Z,538nm,19.0s
KMI Kunming 35.38 261 ⇑P **P 09 52 41.6 -0.3**
KMI pP **pP** **09 52 52.4 +0.9**
KMI sP **sP** **09 52 56.4 +0.9**
KMI PP **PP** **09 54 01.8 -0.7**
KMI S **S** **09 58 12.8 -1.8**
KMI sS **sS** **09 58 31.1 +0.7**
KMI SS **SnSn** **10 00 31.9 -2.9**
KMI pmax pmax
comp=Z,67nm,1.0s
KMI pmax pmax
comp=Z,160nm,3.1s
KMI LR LR
comp=N,430nm,13.2s
KMI LR LR
comp=E,700nm,16.0s
KMI LR LR
comp=Z,750nm,17.8s
HVS Khovu-Aksy 36.33 308*c i*P **P 09 52 50.2 +0.7**
KRAR Krasnoyarsk 37.30 316 *e*P **P 09 52 58.4 +0.8**
KRAR pmax pmax
comp=Z,156nm,1.6s
PANO Nakornpanom 38.49 248 P **P 09 53 10.0 +2.0**
comp=Z,32nm,0.9s
MYLDM Lahad Datu 38.66 219 P **P 09 53 11.5 +2.1**
comp=Z,55nm,1.3s
UBPT Khong Chiam 39.07 245 P **P 09 53 11.8 -1.1**
comp=Z,39nm,1.8s
UBPT Khong Chiam 39.07 245 P **P 09 53 14.4 +1.5**
comp=Z,63nm,0.8s
TNA Tin City 40.21 30 P P 09 53 14.6 -7.2
PAYA Payao 40.73 255 P P 09 53 30.6 +3.8
comp=Z,5.0nm,0.9s,comp=Z,112nm
LOEI Loei 40.77 252 P **P 09 53 24.5 -2.5**
comp=Z,30nm,0.9s,comp=Z,1μm
WMQ Urumqi 40.90 296 P **P 09 53 28.4 +0.4**
WMQ sP **sP** **09 53 41.8 +0.1**
WMQ S **S** **09 59 37.5 +0.2**
WMQ sS **sS** **09 59 50.3 -3.1**
WMQ SS **SS** **10 02 34.3 -5.0**
WMQ ScS **ScS** **10 03 32.1 +1.8**
WMQ pmax pmax
comp=Z,120nm,1.0s
WMQ LR LR
comp=N,210nm,13.0s
WMQ LR LR
comp=E,340nm,21.0s
WMQ LR LR
comp=Z,410nm,21.0s
CMAI Chiengmai2 41.04 257 P **P 09 53 30.7 +1.2**
comp=Z,59nm,0.3s,comp=Z,2μm
CHAI Chaiyaphum 41.22 249 P **P 09 53 31.6 +0.8**
comp=Z,9.1nm,1.1s,comp=Z,122nm
PBKT Sadao Pong 41.56 251 P **P 09 53 34.1 +0.6**
comp=Z,19nm,1.2s
PBKT Sadao Pong 41.56 251 P **P 09 53 34.3 +0.8**
comp=Z,19nm,1.2s
CMMT Chiang Mai 41.76 255 P **P 09 53 35.3 +0.1**
comp=Z,18nm,1.2s
CMMT Chiang Mai 41.76 255 P **P 09 53 35.8 +0.6**
comp=Z,18nm,1.2s
CHTO Chiang Mai 41.76 255 *e*P **P 09 53 35.4 +0.2**
CHTO pmax pmax
comp=Z,29nm,1.3s
CHTO Chiang Mai 41.76 255 P **P 09 53 36.3 +1.1**
SNR=5.1
CHTO Chiang Mai 41.76 255 *e*P **P 09 53 35.4 +0.2**
comp=Z,29nm,1.3s
CHTO Chiang Mai 41.76 255 P **P 09 53 35.8 +0.6**
comp=Z,20nm,1.2s
CHTO Chiang Mai 41.76 255 P **P 09 53 36.0 +0.8**
comp=Z,20nm,1.2s
ZAA0 Zalesovo Array 41.80 312 *e*P **P 09 53 34.8 -0.3**
ZAA0 *e*PcP **PcP** **09 55 30.3 -0.4**
ZALV Zalesovo Beam 41.80 312 *i* P **P 09 53 35.0 -0.1**
ZALV pmax pmax
comp=Z,53nm,0.9s
ZALV Zalesovo Beam 41.80 312 P **P 09 53 34.7 -0.4**
ZALV PcP **PcP** **09 55 30.3 -0.4**
ZALV Zalesovo Beam 41.80 312 P **P 09 53 34.7 -0.4**
comp=Z,52nm,0.9s,baz=90,slow=7.4,SNR=140
ZALV PcP **PcP** **09 55 30.3 -0.4**
comp=Z,13nm,0.7s,baz=96,slow=2.4,SNR=5.9
ZALV LR LR 10 11 49.3
comp=Z,656nm,18.1s,baz=250,slow=37
CMAR Chiang Mai Arr 41.97 255 P **P 09 53 37.1 +0.2**
CMAR Chiang Mai Arr 41.97 255 P **P 09 53 37.1 +0.2**
comp=Z,1.7nm,0.3s,baz=43,slow=5.3,SNR=7.7
CMAR LR LR 10 12 13.2
comp=Z,260nm,19.7s,baz=268,slow=38
LSA Lhasa 42.50 275 P **P 09 53 42.0 +0.3**
LSA Lhasa 42.50 275 P **P 09 53 43.2 +1.5**
LSA pmax pmax
comp=Z,50nm,0.9s
LSA Lhasa 42.50 275 P **P 09 53 43.2 +1.5**
comp=Z,50nm,0.9s
NVS Novosibirsk 42.71 313⇑*i*P **P 09 53 41.7 -0.8**
NVS pmax pmax
comp=Z,79nm,1.1s
NVS pmax pmax
comp=E,59nm,1.2s
SHL Shillong 43.76 269 *ex* **P 09 53 52.0 +0.5**
MK31 Makanchi Array 44.12 302 *e*P **P 09 53 54.3 +0.3**
MK31 Makanchi Array 44.12 302 *e*P **P 09 53 54.3 +0.3**
MKAR Makanchi Array 44.12 302*ce*P **P 09 53 54.4 +0.4**
MKAR pmax pmax
comp=Z,59nm,0.9s
MKAR Makanchi Array 44.12 302 P **P 09 53 54.2 +0.1**
MKAR Makanchi Array 44.12 302 P **P 09 53 54.2 +0.1**
comp=Z,58nm,0.9s,baz=86,slow=9.4,SNR=384
MKAR LR LR 10 13 23.1
comp=Z,207nm,18.2s,baz=82,slow=38
SBUM Sibu 44.30 225 P **P 09 53 55.4 -0.3**
comp=Z,13nm,1.2s
SVW2 Sparrevohn 44.88 38 *e*P **P 09 53 58.7 -1.2**
comp=Z,16nm,1.0s
PHET Kaeng Krachan 44.88 248 P P 09 54 04.3 +3.9
comp=Z,100nm,1.0s
KURK Kurchatov 45.86 308 P **P 09 54 08.2 +0.4**
KURK pmax pmax
comp=Z,82nm,0.8s
KURK Kurchatov 45.86 308 P **P 09 54 08.2 +0.4**
KURBB Kurchatov Arra 45.93 308 P **P 09 54 08.2 -0.2**
comp=Z,82nm,0.8s,baz=78,slow=7.5,SNR=279
OHAK Old Harbor 46.12 43 *e*P **P 09 54 09.9 +0.3**
comp=Z,23nm,1.0s
KSM Kuching 46.18 226 *e*P **P 09 54 11.5 +0.9**
comp=Z,27nm,1.0s
KSM *e*PcP **PcP** **09 55 45.8 -0.4**
KSM Kuching 46.18 226 P **P 09 54 11.9 +1.3**
comp=Z,30nm,1.0s
RSO Redoubt South 46.26 39 *e*P **P 09 54 11.8 +0.8**
SPU Mount Spurr 46.59 38 *e*P **P 09 54 13.7 +0.3**
KAPI Kappang 47.11 211 *e*P **P 09 54 17.8 -0.1**
comp=Z,44nm,1.1s
KAPI Kappang 47.11 211 P **P 09 54 17.7 -0.1**
comp=Z,40nm,1.4s
KAPI Kappang 47.11 211 P **P 09 54 17.4 -0.5**
comp=Z,17nm,1.0s,baz=296,slow=6.4,SNR=4.5
RAMN Ramite 47.31 274 *e*P **P 09 54 20.2 +0.5**
comp=Z,191nm,0.9s
JIRN Jiri 47.31 275 *e*P **P 09 54 20.5 +0.6**
comp=Z,173nm,1.1s
GUN Gumba 47.44 275 *e*P **P 09 54 21.4 +0.5**
comp=Z,283nm,0.9s
KKN Kakani 47.97 276 *e*P **P 09 54 25.2 +0.4**
comp=Z,179nm,0.9s
PKIN Phulchoki 47.98 275 *e*P **P 09 54 24.7 -0.2**
comp=Z,52nm,0.7s
PMR Palmer 47.98 37 *e*P **P 09 54 23.6 -0.5**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 47.98 37 *e*P **P 09 54 23.6 -0.5**
comp=Z,14nm,1.0s
MCK McKinley 47.98 34 *e*P **P 09 54 24.8 +0.6**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 47.98 34 *e*P **P 09 54 24.8 +0.6**
comp=Z,9.4nm,1.0s
SML Sawmill 48.35 37 *e*P **P 09 54 27.6 +0.5**
SML pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 48.35 37 *e*P **P 09 54 27.6 +0.5**
comp=Z,3.5nm,0.8s
COLA College 48.43 32 *e*P **P 09 54 28.0 +0.5**
COLA pmax pmax
comp=Z,23nm,0.7s
COLA College 48.43 32 *e*P **P 09 54 28.0 +0.5**
comp=Z,22nm,0.7s
ILAR Eielson Array 48.84 33 P **P 09 54 30.6 -0.2**
ILAR Eielson Array 48.84 33 P **P 09 54 30.6 -0.2**
comp=Z,8.2nm,0.9s,baz=266,slow=6.4,SNR=26
KOLN Koldanda 49.31 276 *e*P **P 09 54 35.6 +0.5**
comp=Z,108nm,0.9s
KULM Kulim 49.39 240 *e*P **P 09 54 36.0 +0.4**
comp=Z,8.8nm,0.7s
DIV Divide 49.63 37 *e*P **P 09 54 37.5 +0.6**
comp=Z,21nm,1.0s
PYUN Piuthan 49.64 277 *e*P **P 09 54 38.1 +0.5**
comp=Z,567nm,1.1s
TKM2 Tokmak 2 49.67 298 *e*P **P 09 54 38.6 +0.9**
TKM2 pmax pmax
comp=Z,54nm,0.6s
TKM2 Tokmak 2 49.67 298 P **P 09 54 38.8 +1.1**
SNR=74
TKM2 Tokmak 2 49.67 298 *e*P **P 09 54 38.6 +0.9**
comp=Z,54nm,0.6s
IPM Ipoh 49.72 239 *e*P **P 09 54 37.8 -0.3**
comp=Z,26nm,1.0s
IPM Ipoh 49.72 239 P **P 09 54 37.7 -0.3**
comp=Z,28nm,0.9s
HNR Honiara 49.75 156 LR LR 10 14 21.8
comp=Z,387nm,20.2s,baz=99,slow=35
VOSK Vostochnaya 50.17 312 P **P 09 54 40.3 -0.8**
VOSK pmax pmax
comp=Z,54nm,1.0s
KBK Karagaybulak 50.21 298 *i* P **P 09 54 43.6 +1.9**
KBK Karagaybulak 50.21 298 P **P 09 54 42.6 +0.9**
SNR=25
BMRM Bremner River 50.21 38 *e*P **P 09 54 42.1 +0.8**
comp=Z,21nm,1.0s
BMRM *e*PcP **PcP** **09 56 00.8 +0.8**
CHMS Chumysh 50.24 298 *i* P **P 09 54 42.3 +0.5**
CHMS Chumysh 50.24 298 P **P 09 54 42.3 +0.5**
SNR=11
FRU Bishkek 50.38 298⇑*i*P **P 09 54 43.0 +0.1**
FRU pmax pmax
comp=Z,100nm,2.0s
FRU MLR MLR
comp=Z,500nm,21.0s
BVA0 Borovoye Array 50.46 312 P **P 09 54 43.1 -0.1**
BVA0 pmax pmax
comp=Z,23nm,0.8s
BVAR Borovoye Array 50.46 312 P **P 09 54 43.2 0.0**
BVAR 09 56 01.3
BVAR pmax pmax
comp=Z,19nm,0.7s
BVAR Borovoye Array 50.46 312 P **P 09 54 43.2 0.0**
BVAR PcP **PcP** **09 56 01.3 +0.3**
BVAR Borovoye Array 50.46 312 P **P 09 54 43.2 0.0**
comp=Z,19nm,0.7s,baz=72,slow=7.3,SNR=51
BVAR PcP **PcP** **09 56 01.3 +0.3**
comp=Z,13nm,0.7s,baz=98,slow=2.6,SNR=8.0
KSH Kashi 50.49 294 P P 09 54 48.1 +4.2
KSH pP pP 09 54 58.1 +4.3
KSH PP PP 09 56 45.1 +5.5
KSH PcS **PcS** **10 00 01.1 +2.1**
KSH S **S** **10 01 59.0 +3.3**
KSH sS sS 10 02 17.1 +5.1
KSH SS **SS** **10 05 33.2 +3.7**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH pmax pmax
comp=Z,140nm,5.4s
KSH LR LR
comp=N,470nm,15.2s
KSH LR LR
comp=E,380nm,13.9s
KSH LR LR
comp=Z,570nm,16.3s
BRVK Borovoye 50.51 312 P **P 09 54 43.8 +0.2**
comp=Z,215nm,1.0s,SNR=14
BRVK Borovoye 50.51 312*c i*P **P 09 54 44.0 +0.4**
BRVK pmax pmax
comp=Z,39nm,1.0s
BRVK Borovoye 50.51 312 P **P 09 54 44.1 +0.5**
SNR=13
BRVK Borovoye 50.51 312 *e*P **P 09 54 43.0 -0.6**
comp=Z,36nm,1.0s
BRVK *e*PcP **PcP** **09 56 01.7 +0.4**
AAK Ala-Archa 50.53 298 P **P 09 54 44.5 +0.4**
comp=Z,221nm,0.7s,SNR=6.8
AAK Ala-Archa 50.53 298*c i*P **P 09 54 44.6 +0.4**
AAK pmax pmax
comp=Z,55nm,0.7s
AAK Ala-Archa 50.53 298 P **P 09 54 45.0 +0.8**
SNR=15
AAK Ala-Archa 50.53 298 P **P 09 54 44.4 +0.2**
SNR=12
AAK Ala-Archa 50.53 298 *e*P **P 09 54 44.3 +0.2**
comp=Z,25nm,0.8s
EKS2 Erkin-Say 51.02 298 *e*P **P 09 54 48.1 +0.3**

EKS2 *e* 09 56 04.0
EKS2 pmax pmax
comp=Z,25nm,0.8s
EKS2 Erkin-Say 51.02 298 P **P** **09 54 48.3 +0.5**
SNR=15
EKS2 Erkin-Say 51.02 298 *e*P **P** **09 54 48.1 +0.3**
comp=Z,25nm,0.8s
EKS2 *e*PcP **PcP** **09 56 04.0 +0.5**
AML Almayashu 51.25 298 *i* P **P** **09 54 50.9 +1.1**
AML Almayashu 51.25 298 P **P** **09 54 51.0 +1.1**
SNR=30
EGAK Eagle 51.29 32 *e*P **P** **09 54 49.6 +0.3**
comp=Z,5.9nm,0.9s
PSI Prapat 52.37 239 P **P** **09 54 58.2 0.0**
PSI Prapat 52.37 239 P **P** **09 54 58.2 0.0**
comp=Z,17nm,0.7s,baz=4.2,slow=3.7,SNR=8.3
KK31 Karatay Array 53.15 300 *i* P **P** **09 55 03.2 -0.3**
KK31 pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 53.15 300 *e*P **P** **09 55 03.6 +0.1**
KKAR pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 53.15 300 *e*P **P** **09 55 03.6 +0.1**
comp=Z,11nm,0.6s
HYT Haines Junctio 53.65 37 *e*P **P** **09 55 08.0 +1.0**
INK Inuvik 53.74 27 *e*P **P** **09 55 08.0 +0.6**
comp=Z,24nm,1.4s
INK Inuvik 53.74 27 P **P** **09 55 08.0 +0.6**
comp=Z,7.6nm,0.8s,baz=281,slow=7.9,SNR=11
UGM Wanagama 53.90 220 *e*P **P** **09 55 08.8 -0.4**
comp=Z,351nm,1.3s
NDI New Delhi 53.91 281 *ex* **P** **09 55 07.0 -2.2**
JBP Jabalpur 54.38 273 *ex* **P** **09 55 13.2 +0.6**
SVE Sverdlovsk 54.96 318*d i*P **P** **09 55 17.2 +0.8**
SVE *e*S **S** **10 02 56.7 +0.9**
SVE pmax pmax
comp=Z,147nm,0.9s
SOKR Solikamsk 56.10 322*c i*P **P** **09 55 24.9 +0.4**
SOKR pmax pmax
comp=Z,60nm,1.5s
SOKR MLR MLR
comp=Z,180nm,13.0s
ARU Arti 56.17 318*c i*P **P** **09 55 25.3 +0.1**
ARU 09 56 20.8
ARU 09 57 27.2
ARU PPP PPP 09 58 43.7
ARU S **S** **10 03 14.4 +2.4**
ARU pmax pmax
comp=Z,136nm,1.0s
ARU MLR MLR
comp=Z,665nm,18.0s
ARU Arti 56.17 318 P **P** **09 55 25.9 +0.7**
comp=Z,937nm,0.6s,SNR=41
KBL Kabul 57.54 291 *e*P **P** **09 55 35.3 -0.2**
KBL pmax pmax
comp=Z,48nm,1.1s
KBL Kabul 57.54 291 *e*P **P** **09 55 35.3 -0.2**
comp=Z,48nm,1.1s
WRAB Tennant Creek 57.64 188 P **P** **09 55 35.9 0.0**
comp=Z,106nm,0.8s,SNR=5.6
WRAB Tennant Creek 57.64 188 *e*P **P** **09 55 35.0 -0.9**
WRAB pmax pmax
comp=Z,14nm,0.8s
WRAB Tennant Creek 57.64 188 *e*P **P** **09 55 35.0 -0.9**
comp=Z,14nm,0.8s
WRA Warramunga Arr 57.66 188 P **P** **09 55 34.8 -1.2**
WRA Warramunga Arr 57.66 188 P **P** **09 55 34.8 -1.2**
comp=Z,17nm,0.9s,baz=5.9,slow=7.1,SNR=64
AB31 Akbulak array 57.85 310 *i* P **P** **09 55 36.5 -0.6**
AB31 pmax pmax
comp=Z,26nm,0.5s
ABKAR Akbulak array 57.85 310 *e*P **P** **09 55 36.9 -0.2**
comp=Z,28nm,0.6s
DLBC Dease Lake 57.98 38 P **P** **09 55 39.4 +1.3**
DLBC Dease Lake 57.98 38 P **P** **09 55 39.4 +1.3**
comp=Z,8.5nm,0.9s,baz=294,slow=7.2,SNR=14
HYB Hyderabad 58.56 268 *i* P **P** **09 55 41.5 -1.1**
HYB *e* 09 55 53.0
HYB *e* 09 56 06.0
ALE Alert 59.54 4 P **P** **09 55 48.6 +0.2**
comp=Z,205nm,0.8s,SNR=9.6
SPITS Spitsbergen Ar 60.05 349 P **P** **09 55 51.7 -0.3**
SPITS Spitsbergen Ar 60.05 349 P **P** **09 55 51.7 -0.3**
comp=Z,6.9nm,0.7s,baz=106,slow=12,SNR=8.1
KBS Kingsbay 60.17 350⇑*i*P **P** **09 55 53.2 +0.4**
KBS AMB AMB 09 55 55.3
comp=Z,53nm,1.2s
KBS Kingsbay 60.17 350*c i*P **P** **09 55 53.4 +0.6**
KBS pmax pmax
comp=Z,62nm,1.3s
KBS Kingsbay 60.17 350 *e*P **P** **09 55 53.4 +0.6**
comp=Z,34nm,0.8s
AS31 Alice Springs 61.38 188 *e*P **P** **09 56 01.1 -0.5**
ASAR Alice Springs 61.38 188 P **P** **09 56 01.0 -0.6**
ASAR Alice Springs 61.38 188 P **P** **09 56 01.0 -0.6**
comp=Z,12nm,0.8s,baz=12,slow=6.1,SNR=118
ASAR LR LR 10 19 44.2
comp=Z,125nm,21.0s,baz=182,slow=33
BBB Bella Bella 61.43 45 LR LR 10 19 23.6
comp=Z,99nm,19.6s,baz=113,slow=33
LVZ Lovozero 61.75 336⇑*i*P **P** **09 56 03.1 -0.6**
LVZ pmax pmax
comp=Z,17nm,0.8s
MBWA Marble Bar 62.03 203 *e*P **P** **09 56 05.7 -0.3**
comp=Z,28nm,0.8s
APA Apatity 62.33 336⇑*i*P **P** **09 56 08.0 +0.5**
APA pmax pmax
comp=Z,31nm,1.0s
APA MLR MLR
comp=Z,500nm,18.0s
TMCR Tamitsa 62.43 331 *e*P **P** **09 56 08.5 +0.3**
TMCR pmax pmax
comp=Z,38nm,1.0s
PALK Pallekele 62.82 258 P **P** **09 56 11.9 +0.3**
KEV Kevo 63.05 339 *e*P **P** **09 56 12.4 +0.1**
KEV pmax pmax
comp=Z,19nm,0.9s
KEV Kevo 63.05 339 *e*p **P** **09 56 12.2 -0.1**
comp=Z,0.8nm,0.4s
KEV Kevo 63.05 339 *e*P **P** **09 56 12.4 +0.1**
comp=Z,19nm,0.9s
YKA Yellowknife Ar 63.16 30 P **P** **09 56 12.7 -0.4**
YKA Yellowknife Ar 63.16 30 P **P** **09 56 12.7 -0.4**
comp=Z,5.0nm,0.6s,baz=302,slow=6.4,SNR=27
ARCES ARCESS Array B 63.60 339 P **P** **09 56 15.9 -0.1**
ARCES ARCESS Array B 63.60 339 P **P** **09 56 15.9 -0.1**
comp=Z,13nm,0.9s,baz=46,slow=9.1,SNR=29
ARCES LR LR 10 28 58.5
comp=Z,362nm,18.1s,baz=46,slow=41
ARE0 ARCESS Array S 63.60 339 *e*P **P** **09 56 16.0 0.0**
DZM Mont Dzumac 63.70 154 *e*LR LR 10 15 19.1
comp=Z,710nm,21.8s
KTK1 Kautokeino 64.56 339 *e*P **P** **09 56 22.7 +0.4**
KTK1 AMB AMB 09 56 23.5
comp=Z,308nm,1.8s
DAG Danmarks Havn 65.25 355⇑*i*P **P** **09 56 26.3 -0.3**
DAG pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 65.25 355⇑*i*P **P** **09 56 26.3 -0.3**
comp=Z,24nm,0.8s
TRO Tromso 65.30 341 *e*P **P** **09 56 24.9 -2.1**
TRO AMS AMS 10 29 59.0
comp=Z,264nm,12.2s
JOF Joensuu 65.64 332 *e*P **P** **09 56 29.6 +0.3**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 65.64 332 *e*p **P** **09 56 29.6 +0.3**
comp=Z,1.3nm,0.3s
NLWA Neilton Lookou 66.09 48 *e*P **P** **09 56 32.8 +0.2**
comp=Z,40nm,1.7s
MOS Moscow 67.01 323 *e*P **P** **09 56 36.5 -1.7**
MOS *e* 09 56 48.5
MOS *e* 09 57 04.2
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,81nm,1.2s
VRHR Novokhopersk 67.51 318 *e*P **P** **09 56 40.2 -1.3**
VRHR pmax pmax
comp=Z,50nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.7s
OBN Obninsk 67.86 323⇑*i*P **P** **09 56 43.2 -0.4**
OBN *e* 09 59 12.4
OBN *e*SS SS 10 09 55.5 -5.0
OBN pmax pmax
comp=Z,53nm,1.2s
OBN MLR MLR
comp=Z,200nm,16.0s
KAF Kangasniemi 67.97 333 *e*P **P** **09 56 43.0 -1.2**
KAF pmax pmax
comp=Z,6.0nm,0.4s
KAF Kangasniemi 67.97 333 *e*p **P** **09 56 43.0 -1.2**
comp=Z,6.0nm,0.4s
FIA1 FINESS Array S 68.48 332 *e*P **P** **09 56 47.0 -0.4**
FIA1 *e*PP **PP** **09 59 18.5 +0.3**
FINES FINESS Array B 68.49 332 P **P** **09 56 47.3 -0.1**
FINES PP **PP** **09 59 13.3 -4.9**
FINES FINESS Array B 68.49 332 P **P** **09 56 47.3 -0.1**
comp=Z,42nm,0.7s,baz=53,slow=7.6,SNR=135
FINES PP **PP** **09 59 13.3 -4.9**
comp=Z,3.5nm,0.8s,baz=116,slow=6.5,SNR=2.8
FINES LR LR 10 29 07.5
comp=Z,310nm,18.9s,baz=43,slow=38
EDM Edmonton 68.70 39 *e*P **P** **09 56 49.5 +0.5**
EDM Edmonton 68.70 39 *e*P **P** **09 56 49.5 +0.5**
VSR Storozhevoye 68.74 319 *e*P **P** **09 56 48.8 -0.4**
VSR pmax pmax
comp=Z,50nm,0.7s
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,40nm,0.8s
FRIS Frissel Point 68.79 50 P **P** **09 56 51.0 +1.2**
IRO Indian Ridge 68.81 50 P **P** **09 56 50.9 +0.9**
MOR8 Moi Rana 68.97 340⇑*i*P **P** **09 56 48.9 -1.5**
MOR8 AMB AMB 09 56 50.9
comp=Z,38nm,1.6s
MOR8 *e*pP **pP** **09 57 00.1 -0.6**
CROR Criterion Ridg 69.05 49 P **P** **09 56 52.4 +1.0**
STKA Stephens Creek 69.11 180 P **P** **09 56 51.2 -0.3**
STKA Stephens Creek 69.11 180 P **P** **09 56 51.2 -0.3**
comp=Z,2.8nm,0.9s,baz=329,slow=11,SNR=4.2
HUMO Hull Mountain 69.11 52 *e*P **P** **09 56 51.6 -0.1**
comp=Z,3.8nm,1.0s
FORT Forrest 69.22 193 *e*P **P** **09 56 52.1 -0.2**
comp=Z,39nm,0.7s
NEW Newport 69.50 44 *e*P **P** **09 56 54.4 +0.4**
comp=Z,9.3nm,1.1s
NEW Newport 69.50 44 P **P** **09 56 54.8 +0.7**
baz=69,SNR=9.1
YBH Yreka Blue Hor 69.74 53 *e*P **P** **09 56 56.9 +1.2**
comp=Z,14nm,1.3s
A12A Yaak River Ran 69.93 43 P **P** **09 56 58.1 +1.4**
baz=70,SNR=5.2
SUMG Summit 70.13 0 *e*P **P** **09 56 58.5 +0.5**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 70.13 0⇑*i*P **P** **09 56 58.4 +0.5**
comp=Z,23nm,0.9s
SUMG Summit 70.13 0 *e*P **P** **09 56 58.5 +0.5**
comp=Z,23nm,0.9s
VSU Vasula 70.15 330*c i*P **P** **09 56 58.0 +0.2**
BBOO Buckleboo 70.24 185 *e*P **P** **09 56 58.3 -0.2**
comp=Z,269nm,1.0s
ZEI Tsey 70.71 309 *e*P **P** **09 57 00.5 -1.3**
ZEI pmax pmax
comp=Z,18nm,0.7s
WALA Waterton Lakes 70.80 42 *e*P **P** **09 57 02.6 +0.5**
comp=Z,0.4nm,0.9s
KBZ Khabaz 70.80 311 P **P** **09 57 02.5 +0.5**
KBZ pmax pmax
comp=Z,24nm,0.8s
KBZ MLR MLR
comp=Z,182nm,19.9s
KBZ Khabaz 70.80 311 P **P** **09 57 02.5 +0.5**
KBZ Khabaz 70.80 311 P **P** **09 57 02.5 +0.5**
comp=Z,24nm,0.8s,baz=67,slow=3.5,SNR=49
KBZ LR LR 10 32 39.9
comp=Z,182nm,19.9s,baz=244,slow=40
KIV Kislovodsk 70.80 311*c i*P **P** **09 57 02.8 +0.6**
KIV *i* 09 57 08.5
KIV *i* 09 57 16.7
KIV *e* 09 59 38.9
KIV pmax pmax
comp=Z,81nm,1.3s
KIV MLR MLR
comp=Z,200nm,18.0s
KIV Kislovodsk 70.80 311 P **P** **09 57 02.4 +0.2**
comp=Z,498nm,0.6s,SNR=6.6
LTIM Timbered Crate 70.81 53 P **P** **09 57 03.3 +1.0**
NSS Namsos 70.89 339 *e*P **P** **09 57 01.9 -0.2**
B13A Whitefish 70.89 43 P **P** **09 57 03.9 +1.3**
baz=71,SNR=13
BSMT Bassoo Peak 71.02 44 *e*P **P** **09 57 03.8 +0.2**
A14A Double T Ranch 71.11 42 P **P** **09 57 04.5 +0.5**
baz=71,SNR=12
C13A Hot Springs 71.24 44 P **P** **09 57 05.7 +1.0**
baz=71,SNR=8.0
BMO Blue Mountains 71.30 48 *e*P **P** **09 57 05.7 +0.5**
comp=Z,6.3nm,0.9s
BANOM Banah 71.36 289 P **P** **09 57 06.8 +1.1**
SNR=5.1
JTMT Jette 71.36 44 *e*P **P** **09 57 06.5 +0.9**
A15A Johnson Ranch, 71.48 42 P **P** **09 57 06.2 0.0**
baz=71,SNR=14
C14A Swan Lake 71.64 44 P **P** **09 57 08.1 +1.0**
baz=71,SNR=6.3
GNI Garni 71.65 307 P **P** **09 57 09.2 +1.8**
SNR=5.6
GNI Garni 71.65 307 *e*P **P** **09 57 08.9 +1.5**
comp=Z,34nm,1.1s
SWMT Swartz Lake 71.65 44 *e*P **P** **09 57 07.5 +0.3**
OHCM Honcut 71.83 54 *e*P **P** **09 57 08.8 +0.5**
WVOR Wild Horse Val 71.88 50 *e*P **P** **09 57 09.3 +0.6**
WVOR pmax pmax
comp=Z,16nm,1.4s
WVOR Wild Horse Val 71.88 50 *e*P **P** **09 57 09.3 +0.6**
comp=Z,16nm,1.4s
B15A Bradely Ranch, 71.96 43 P **P** **09 57 09.6 +0.5**
baz=72,SNR=25
UOSS Wadi Hilu 71.97 288 P **P** **09 57 09.9 +0.5**
comp=Z,265nm,0.7s,SNR=8.4
MSO Missoula 72.08 44 *e*P **P** **09 57 10.2 +0.4**
comp=Z,5.8nm,0.9s
MSO Missoula 72.08 44 P **P** **09 57 10.3 +0.4**
baz=72,SNR=5.9
SLMT Seeley Lake 72.09 44 *e*P **P** **09 57 09.6 -0.4**
ASHO Ashiyiah 72.22 288 P **P** **09 57 11.4 +0.5**
SNR=6.1
BEKR Beckworth 72.25 53 *e*P **P** **09 57 11.6 +0.5**
comp=Z,4.3nm,0.9s
C15A Salmond Ranch, 72.26 43 P **P** **09 57 11.8 +0.9**
baz=72,SNR=14
ISAL Salakas 72.30 328 *e*P **P** **09 57 10.7 -0.1**
ISAL AMB AMB 09 57 12.8
comp=Z,28nm,1.2s
ISAL *e*pP **pP** **09 57 24.8 +3.7**
B16A M & M Farms, S 72.36 42 P **P** **09 57 11.8 +0.4**
baz=72,SNR=12
IIGN Ignalina 72.40 327 *e*P **P** **09 57 11.8 +0.3**
IIGN AMB AMB 09 57 12.5
comp=Z,21nm,0.8s
IIGN *e*pP **pP** **09 57 25.4 +3.7**
CHMT Chamberlain Mo 72.42 44 *e*P **P** **09 57 11.6 -0.4**
comp=Z,8.5nm,1.6s
NACGM Naroch 72.46 327 *e* **P** **09 57 09.0 -2.8**
A17A Triple J Farms 72.57 41 P **P** **09 57 13.0 +0.3**
baz=72,SNR=21
ARQ Aragi 72.61 286 P **P** **09 57 14.1 +0.8**
SNR=8.8
C16A Fuhringer Ranc 72.71 43 P **P** **09 57 14.1 +0.5**
baz=72,SNR=15
SOC Sochi 72.78 312 *e*P **P** **09 57 13.1 -0.8**
SOC *e**PP **pP** **09 57 23.9 -0.3**
SOC *e**SP **sP** **09 57 29.6 +1.5**
SOC *e*S **S** **10 06 34.1 -3.3**
SOC *e*SSS SSS 10 14 27.4
SOC pmax pmax
comp=Z,52nm,0.9s
SOC MLR MLR
comp=Z,216nm,16.0s
B17A L&G Farms, Che 72.91 42 P **P** **09 57 15.2 +0.5**
baz=73,SNR=15
PAHR Pah Rah Range 72.96 53 *e*P **P** **09 57 16.1 +0.8**
comp=Z,22nm,1.4s
MFID Camas Ranch 73.00 48 *e*P **P** **09 57 16.1 +0.7**
comp=Z,11nm,1.1s
MFID Camas Ranch 73.00 48 P **P** **09 57 16.1 +0.7**
baz=73,SNR=8.1
A18A Metzger Ranch, 73.03 41 P **P** **09 57 15.6 +0.2**
baz=73,SNR=23
FFC Flin Flon 73.06 33 P **P** **09 57 15.3 -0.1**
comp=Z,123nm,0.8s,SNR=7.6
FFC Flin Flon 73.06 33*c e*P **P** **09 57 15.6 +0.2**
FFC Flin Flon 73.06 33 *e*P **P** **09 57 15.4 +0.1**
comp=Z,19nm,0.9s
CMB Columbia Colle 73.27 55 *e*P **P** **09 57 17.6 +0.6**
CMB pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 73.27 55 *e*P **P** **09 57 17.6 +0.6**
comp=Z,12nm,1.0s
HRY Holter Researc 73.32 44 *e*P **P** **09 57 17.7 +0.5**
C17A Wharram Farm, 73.34 42 P **P** **09 57 17.2 0.0**
baz=73,SNR=13
FCC Fort Churchill 73.36 27 *e*P **P** **09 57 17.0 0.0**
FCC Fort Churchill 73.36 27 *e*P **P** **09 57 17.0 0.0**
comp=Z,0.7nm,1.1s
B18A Beardsley Farm 73.39 41 P **P** **09 57 18.1 +0.6**
baz=73,SNR=11
ANN Anapa 73.39 314 *e*P **P** **09 57 16.4 -1.1**
ANN pmax pmax
comp=Z,70nm,1.4s
ANN MLR MLR
comp=Z,206nm,18.0s
LRM Limekiln Ridge 73.51 45 *e*P **P** **09 57 19.0 +0.5**
A19A Klindworth Far 73.59 40 P **P** **09 57 19.4 +0.6**
baz=73,SNR=20
WAKR Walker 73.61 54 *e*P **P** **09 57 19.6 +0.4**
EGMT Eagleton 73.63 42 *e*P **P** **09 57 19.4 +0.4**
comp=Z,25nm,1.1s
EGMT Eagleton 73.63 42 P **P** **09 57 19.7 +0.7**
baz=73,SNR=11
MOL Molde 73.66 340 *e*P **P** **09 57 19.3 +0.6**
D17A Six Diamond Ra 73.67 43 P **P** **09 57 19.9 +0.6**
baz=74,SNR=8.6
DLMT Dillon 73.71 45 *e*P **P** **09 57 20.6 +1.0**
comp=Z,24nm,1.3s
HLID Hailey 73.75 47 *e*P **P** **09 57 20.6 +0.8**
comp=Z,7.0nm,0.9s
HLID Hailey 73.75 47 P **P** **09 57 20.7 +0.8**
baz=74,SNR=12
B19A Brinkman Farms 73.79 41 P **P** **09 57 20.5 +0.7**
baz=74,SNR=16
NWAO Narrogin (SRO) 73.81 201 *e*P **P** **09 57 19.9 0.0**
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 73.81 337 P **P** **09 57 19.5 -0.2**
comp=Z,34nm,0.8s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.81 337 P **P** **09 57 19.5 -0.2**
baz=39,slow=6.2
NOA NORSAR Array B 73.81 337 P **P** **09 57 19.6 -0.2**
NOA PP PP 09 59 57.3 -6.6
NOA NORSAR Array B 73.81 337 P **P** **09 57 19.6 -0.2**
comp=Z,27nm,0.8s,baz=38,slow=5.9,SNR=89
NOA PP PP 09 59 57.3 -6.6
comp=Z,1.7nm,0.8s,baz=34,slow=7.1,SNR=3.2
NOA LR LR 10 32 07.3
comp=Z,434nm,22.0s,baz=35,slow=38
LCCM Lewis and Clar 73.82 44 P **P** **09 57 20.6 +0.4**
MCMT McKenzie Canyo 73.89 46 *e*P **P** **09 57 20.4 -0.4**
comp=Z,1.1nm,0.9s
NC602 NORSAR Array S 73.95 337 *e*P **P** **09 57 20.3 -0.1**
E17A Martinsdale 74.00 43 P **P** **09 57 22.1 +0.8**
baz=74,SNR=13
A20A Cobblestone Ra 74.05 40 P **P** **09 57 21.9 +0.5**
baz=74,SNR=9.1
BOZ Bozeman (W) 74.08 44 *e*P **P** **09 57 22.4 +0.7**
BOZ pmax pmax
comp=Z,8.0nm,0.8s
BOZ Bozeman (W) 74.08 44 *e*P **P** **09 57 22.4 +0.7**
comp=Z,8.3nm,0.8s
KIEV Kiev 74.08 322 *e*P **P** **09 57 21.1 -0.3**
KIEV pmax pmax
comp=Z,21nm,0.6s
KIEV Kiev 74.08 322 *e*P **P** **09 57 21.1 -0.3**
comp=Z,21nm,0.6s
I14A Mackay 74.09 47 P **P** **09 57 22.9 +1.1**
baz=74,SNR=31
D18A Linhart Farms, 74.12 42 P **P** **09 57 22.6 +0.7**
baz=74,SNR=8.8
C19A Slack Wire Ran 74.18 42 P **P** **09 57 23.0 +0.8**
baz=74,SNR=34
B20A Solberg Farm, 74.28 41 P **P** **09 57 23.1 +0.3**
baz=74,SNR=8.2
NVAR Mina Array Bea 74.38 53 P **P** **09 57 24.2 +0.4**
NVAR Mina Array Bea 74.38 53 P **P** **09 57 24.2 +0.4**
comp=Z,6.3nm,1.0s,baz=288,slow=5.9,SNR=31
E18A Harlowton 74.45 43 P **P** **09 57 24.8 +0.9**
baz=74,SNR=9.9
F17A Fitzpatrick Pl 74.45 44 P **P** **09 57 24.6 +0.7**
baz=74,SNR=14
NV11 Mina Array Sit 74.48 53 *e*P **P** **09 57 23.5 -0.7**
A21A Bergtoll Ranch 74.48 40 P **P** **09 57 24.5 +0.6**
baz=74,SNR=10
SUW Suwalki 74.61 328 *e*P **P** **09 57 24.5 +0.1**
SUW pmax pmax
comp=Z,54nm,1.0s
SUW Suwalki 74.61 328 *e*P **P** **09 57 24.5 +0.1**
comp=Z,54nm,1.0s
SUW Suwalki 74.61 328 *e*P **P** **09 57 24.2 -0.2**
D19A Cripps Ranch, 74.63 42 P **P** **09 57 25.8 +0.9**
baz=74,SNR=24
QLMT Earthquake Lak 74.69 45 *e*P **P** **09 57 26.4 +1.0**
C20A Veseth Ranch, 74.74 41 P **P** **09 57 25.9 +0.5**
baz=74,SNR=21
PTRM Twissleman Ran 74.75 57 *e*P **P** **09 57 26.8 +1.1**
G17A Pierce Place, 74.77 44 P **P** **09 57 27.1 +1.4**
baz=75,SNR=12
B21A Ellsworth Farm 74.80 40 P **P** **09 57 26.5 +0.8**
baz=75,SNR=17
H16A Russell Place, 74.87 45 P **P** **09 57 27.3 +0.9**
baz=75,SNR=9.9
F18A Big Timber 74.97 43 P **P** **09 57 27.6 +0.8**
baz=75,SNR=20
A22A Carney Farms, 74.99 39 P **P** **09 57 27.0 +0.2**
baz=75,SNR=26
YMR Madison River 75.05 45 *e*P **P** **09 57 28.1 +0.6**
comp=Z,12nm,1.2s
GCMT Greycliff 75.07 43 *e*P **P** **09 57 27.9 +0.5**
comp=Z,9.3nm,1.0s
D20A Manuel Ranch, 75.07 42 P **P** **09 57 28.2 +0.8**
baz=75,SNR=21
E19A Rath Farm, Rou 75.12 42 P **P** **09 57 28.5 +0.8**
baz=75,SNR=22
C21A Desert Coulee 75.14 41 P **P** **09 57 28.3 +0.6**
baz=75,SNR=8.5
SIM Simferopol' 75.17 316 *e*P **P** **09 57 27.5 -0.4**
SIM pmax pmax
comp=Z,31nm,0.6s
SIM MLR MLR
comp=Z,110nm,13.3s
I16A Newdale 75.24 46 P **P** **09 57 30.0 +1.5**
baz=75,SNR=37
YFT Old Faithful 75.26 45 *e*P **P** **09 57 31.2 +2.5**
comp=Z,14nm,1.0s
SFJD Kangerlussuaq 75.31 5 *i* P **P** **09 57 28.7 +0.5**
comp=Z,11nm,0.9s
B22A Reddig Ranch S 75.40 40 P **P** **09 57 29.5 +0.3**
baz=75,SNR=7.1
KONO Kongsberg 75.40 337 *e*P **P** **09 57 29.3 +0.4**
KONO *e*pP **PcP** **09 57 41.5 -0.5**
KONO AMS AMS 10 32 49.2
comp=Z,307nm,15.0s
F19A Roth Farm, Mol 75.42 43 P **P** **09 57 30.1 +0.6**
baz=75,SNR=8.1
LKWY Lake 75.43 45 *e*P **P** **09 57 32.0 +2.3**
LKWY pmax pmax
comp=Z,11nm,1.0s
LKWY Lake 75.43 45 *e*P **P** **09 57 32.0 +2.3**
comp=Z,11nm,1.0s
H17A Grant Village 75.44 45 P **P** **09 57 32.6 +2.8**
baz=75,SNR=19
E20A Meyer Farm, Mu 75.45 42 P **P** **09 57 30.3 +0.8**
baz=75,SNR=13
IMW Indian Meadow 75.54 45 *e*P **P** **09 57 31.7 +1.3**
comp=Z,12nm,0.8s
D21A La Casta Ranch 75.69 41 P **P** **09 57 31.5 +0.6**
baz=76,SNR=11
RLMT Red Lodge 75.71 44 *e*P **P** **09 57 32.3 +1.0**
comp=Z,14nm,1.1s
I17A Pilgrim Ck. 75.73 45 P **P** **09 57 33.5 +2.1**
baz=76,SNR=9.5
MOOW Moose Ponds 75.74 46 *e*P **P** **09 57 32.5 +1.0**
comp=Z,5.1nm,0.8s
H18A Shoshone NF, C 75.77 44 P **P** **09 57 32.9 +1.2**
baz=76,SNR=10
HVU Hansel Valley 75.78 48 *e*P **P** **09 57 32.6 +0.9**

HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 75.78 48 *eP* **P 09 57 32.6 +0.9**
comp=Z,8.4nm,1.0s
TPAW Teton Pass 75.79 46 *eP* **P 09 57 33.0 +1.2**
comp=Z,10nm,0.8s
B23A Brockton 75.80 39 P **P 09 57 31.9 +0.4**
baz=76,SNR=32
C22A Vida 75.82 40 P **P 09 57 31.7 +0.1**
baz=76,SNR=8.0
KBD Kabd 75.86 296 *eP* **P 09 57 31.6 -0.5**
KBD AMb AMB 09 57 33.5
comp=Z,51nm,1.1s
ISA Isabella 75.89 56 *eP* **P 09 57 32.2 -0.1**
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella 75.89 56 *eP* **P 09 57 32.2 -0.1**
comp=Z,5.8nm,1.0s
LOHW Long Hollow 75.91 46 *eP* **P 09 57 33.7 +1.3**
comp=Z,3.3nm,0.8s
SNOW Snow King Moun 75.92 46 *eP* **P 09 57 33.4 +0.9**
comp=Z,10nm,0.9s
REDW Red Top Meadow 75.92 46 *eP* **P 09 57 33.4 +0.8**
comp=Z,8.9nm,0.9s
ASK Askoy 76.02 339 *eP* **P 09 57 31.4 -1.0**
ASK *ep*P **PcP 09 57 44.0 -0.5**
RUND Rundenannen 76.03 339 *eP* **P 09 57 32.2 -0.3**
RUND *ep*P **PcP 09 57 43.9 -0.8**
D22A Cohagen 76.06 41 P **P 09 57 33.5 +0.6**
baz=76,SNR=23
ODD1 Odda 76.08 339 *eP* **P 09 57 33.5 +0.7**
ODD1 AMB AMB 09 57 35.2
comp=Z,34nm,1.3s
RDF Al-Radifah 76.11 296 *eP* **P 09 57 33.0 -0.5**
RDF AMb AMB 09 57 34.4
comp=Z,133nm,1.0s
C23A Lambert 76.14 40 P **P 09 57 33.9 +0.5**
baz=76,SNR=14
NAY Al-Naaiem 76.14 296 *eP* **P 09 57 32.9 -0.8**
NAY AMb AMB 09 57 34.2
comp=Z,48nm,1.2s
R11A Troy Canyon, C 76.15 52 P **P 09 57 34.5 +0.7**
baz=76,SNR=20
BGU Big Grassy Mou 76.16 49 *eP* **P 09 57 34.4 +0.6**
comp=Z,5.6nm,0.9s
DGMT Dagmar 76.19 39 *eP* **P 09 57 33.8 +0.1**
comp=Z,31nm,1.1s
DGMT Dagmar 76.19 39 P **P 09 57 33.9 +0.1**
baz=76,SNR=6.2
G20A Bridger 76.22 43 P **P 09 57 33.9 -0.1**
baz=76,SNR=6.3
MPMC Manual Prospec 76.30 55 P **P 09 57 35.2 +0.5**
baz=76,SNR=12
FURC Furnace Creek, 76.47 54 P **P 09 57 36.2 +0.8**
baz=76,SNR=14
BLS5 Blasjo 76.53 338 *eP* **P 09 57 37.5 +2.0**
D23A Lindsay 76.54 40 P **P 09 57 36.8 +1.0**
baz=76,SNR=13
HWUT Hardware Ranch 76.60 48 *eP* **P 09 57 36.8 +0.5**
comp=Z,15nm,1.1s
E22A Miles City 76.64 41 P **P 09 57 37.0 +0.7**
baz=76,SNR=7.1
EDW2 Edwards Air Fo 76.67 56 P **P 09 57 37.3 +0.6**
baz=76,SNR=8.3
KIS Kishinev 76.70 320 *eP* **P 09 57 35.0 -1.5**
KIS LRM MLR 10 34 30.0
comp=Z,400nm,16.0s
DUG Dugway 76.74 49 *eP* **P 09 57 37.7 +0.6**
DUG pmax pmax
comp=Z,11nm,0.8s
DUG Dugway 76.74 49 *eP* **P 09 57 37.7 +0.6**
comp=Z,11nm,0.8s
DUG Dugway 76.74 49 P **P 09 57 38.1 +1.0**
baz=76,SNR=16
G21A Lodge Grass 76.76 43 P **P 09 57 37.4 +0.3**
baz=76,SNR=5.3
F22A Rosebud 76.91 42 P **P 09 57 38.5 +0.6**
baz=77,SNR=6.3
E23A Ismay 76.94 41 P **P 09 57 38.8 +0.8**
baz=77,SNR=18
A26A Wade Farm, Ken 76.97 37 P **P 09 57 38.5 +0.5**
baz=77,SNR=8.5
J19A Crowheart 77.00 45 P **P 09 57 39.4 +0.8**
baz=77,SNR=23
D24A Glendive 77.03 40 P **P 09 57 39.2 +0.7**
baz=77,SNR=19
BW06 Boulder Array 77.04 46 *eP* **P 09 57 38.9 0.0**
comp=Z,8.9nm,0.9s
PDAR Pinedale Array 77.04 46 P **P 09 57 38.9 0.0**
PDAR Pinedale Array 77.04 46 P **P 09 57 38.9 0.0**
comp=Z,5.1nm,0.6s,baz=269,slow=2.0,SNR=63
BSD Bornholm Skovb 77.12 332⇑ *iP* **P 09 57 38.5 -0.2**
BSD pmax pmax
comp=Z,33nm,1.0s
BSD Bornholm Skovb 77.12 332⇑ *iP* **P 09 57 38.5 -0.2**
comp=Z,33nm,1.0s
LVV L'vov 77.14 324 *eP* **P 09 57 38.4 -0.5**
BEL Belsk 77.17 327 *eP* **P 09 57 40.0 +0.9**
C25A Freed Ranch, W 77.17 39 P **P 09 57 40.2 +1.0**
baz=77,SNR=5.3
SNART Snartemo 77.19 337 *eP* **P 09 57 39.7 +0.6**
SNART *ep*P **PcP 09 57 50.9 +1.1**
GSC Goldstone 77.20 55 *eP* **P 09 57 40.3 +0.6**
GSC pmax pmax
comp=Z,56nm,2.1s
GSC Goldstone 77.20 55 *eP* **P 09 57 40.3 +0.6**
comp=Z,56nm,2.1s
GSC Goldstone 77.20 55 P **P 09 57 40.3 +0.6**
baz=77,SNR=5.9
H21A Big Horn, Sher 77.24 43 P **P 09 57 40.5 +0.7**
baz=77,SNR=9.7
G22A Birney 77.26 42 P **P 09 57 40.2 +0.3**
baz=77,SNR=6.0
L18A Fontenelle, Gr 77.30 47 P **P 09 57 41.4 +1.1**
baz=77,SNR=6.4
JLU Jordanelle 77.30 48 *eP* **P 09 57 40.9 +0.5**
comp=Z,8.4nm,1.0s
NLU North Lily Min 77.33 49 *eP* **P 09 57 41.4 +0.9**
comp=Z,7.9nm,0.9s
F23A Volborg 77.40 41 P **P 09 57 41.0 +0.3**
baz=77,SNR=17
K19A Absolon Red Bu 77.40 45 P **P 09 57 40.7 -0.2**
baz=77,SNR=7.3
J20A Shoshoni 77.49 45 P **P 09 57 41.9 +0.6**
baz=77,SNR=11
DAU Daniels Canyon 77.53 48 *eP* **P 09 57 42.7 +0.9**
DAU Daniels Canyon 77.53 48 *eP* **P 09 57 42.7 +0.9**
MPU Maple Canyon 77.56 49 *eP* **P 09 57 42.4 +0.6**
comp=Z,15nm,1.0s
L19A Farson 77.57 46 P **P 09 57 42.4 +0.5**
baz=77,SNR=6.2
COP Copenhagen 77.59 333⇑ *iP* **P 09 57 41.7 +0.4**
COP pmax pmax
comp=Z,32nm,0.8s
COP MLR MLR
comp=Z,130nm,20.0s
COP Copenhagen 77.59 333⇑ *iP* **P 09 57 41.7 +0.4**
comp=Z,32nm,0.8s
COP
comp=Z,120nm,20.0s
I21A Big Trails, Te 77.63 44 P **P 09 57 42.4 +0.4**
baz=77,SNR=16
H22A Clearmont 77.63 43 P **P 09 57 42.6 +0.6**
baz=77,SNR=5.4
TUQ Turquoise Moun 77.69 55 P **P 09 57 43.4 +0.9**
baz=78,SNR=7.2
G23A Biddle 77.75 42 P **P 09 57 43.0 +0.5**
baz=78,SNR=7.5
K20A Yellowstone Ra 77.79 45 P **P 09 57 43.1 +0.1**
baz=78,SNR=5.2
HEC Hector,Ludlow 77.80 55 P **P 09 57 43.8 +0.8**
baz=78,SNR=6.4
F24A Ekalaka 77.82 41 P **P 09 57 43.1 +0.1**
baz=78,SNR=13
ARUT Antelope Range 77.84 52 *eP* **P 09 57 43.8 +0.5**
ARUT pmax pmax
comp=Z,37nm,1.4s
ARUT Antelope Range 77.84 52 *eP* **P 09 57 43.8 +0.5**
comp=Z,38nm,1.4s
J21A Lysite 77.85 44 P **P 09 57 43.8 +0.4**
baz=78,SNR=11
KWP Kalwaria Pacla 77.88 324 *eP* **P 09 57 44.1 +1.0**
E25A Miller Ranch, 77.91 40 P **P 09 57 44.0 +0.5**
baz=78,SNR=16
LLD Lille Linde 77.94 333 *eP* **P 09 57 44.0 +0.7**
LLD pmax pmax
comp=Z,42nm,0.7s
LLD Lille Linde 77.94 333 *i* P **P 09 57 44.0 +0.7**
comp=Z,42nm,0.7s
I22A 9 Mile Ranch, 78.02 43 P **P 09 57 45.0 +0.8**
baz=78,SNR=7.6
CCUT Cedar City 78.03 52 *eP* **P 09 57 45.2 +0.7**
comp=Z,48nm,1.9s
BUR08 Bucovina Ar. S 78.08 322 *eP* **P 09 57 44.8 +0.4**
BURAR Bucovina Array 78.09 322⇓ *iP* **P 09 57 44.6 +0.1**
BURAR Bucovina Array 78.09 322⇓ *iP* **P 09 57 44.6 +0.1**
MUD Monsted U'grnd 78.10 335 *eP* **P 09 57 45.1 +1.0**
MUD pmax pmax
comp=Z,13nm,1.0s
MUD Monsted U'grnd 78.10 335 *i* P **P 09 57 45.1 +1.0**
comp=Z,13nm,1.0s
TESR Tescani 78.13 320⇑ *iP* **P 09 57 45.0 +0.4**
RGN Rugen 78.15 332 *eP* **P 09 57 45.2 +0.7**
comp=Z,63nm,0.9s
MVU Marysvale 78.15 50 *eP* **P 09 57 46.2 +1.1**
comp=Z,9.7nm,0.9s
MSU Marysvale 78.17 50 *eP* **P 09 57 46.5 +1.3**
MSU Marysvale 78.17 50 *eP* **P 09 57 46.5 +1.3**
G24A Alzada 78.18 41 P **P 09 57 45.1 +0.1**
baz=78,SNR=5.7
CFR Carcaliu 78.26 319⇑ P **P 09 57 46.9 +1.6**
CFR Carcaliu 78.26 319⇑ *iP* **P 09 57 46.9 +1.6**
J22A Midwest 78.34 44 P **P 09 57 46.3 +0.3**
baz=78,SNR=26
E26A Carlson Angus 78.41 39 P **P 09 57 46.4 +0.2**
baz=78,SNR=6.3
K21A Alcova 78.42 45 P **P 09 57 46.8 +0.3**
baz=78,SNR=11
H24A Dirks Ranch, A 78.50 42 P **P 09 57 46.5 -0.2**
baz=78,SNR=8.7
Q16A Castle Valley 78.52 50 P **P 09 57 48.1 +0.9**
baz=78,SNR=7.4
VRI Vrincioaia 78.53 320⇓ P **P 09 57 47.7 +0.9**
VRI Vrincioaia 78.53 320⇓ *iP* **P 09 57 47.7 +0.9**
KOLS Kolonicke sedl 78.58 324 *eP* **P 09 57 47.2 +0.2**
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 78.58 324 *eP* **P 09 57 47.2 +0.2**
KOLS *eP*P **PP 10 00 42.7 -1.6**
STHS Stebnicka Huta 78.70 325 *eP* **P 09 57 49.0 +1.3**
STHS pmax pmax
comp=Z,17nm,1.2s
STHS Stebnicka Huta 78.70 325 *eP* **P 09 57 49.0 +1.3**
F26A Lodgepole 78.73 40 P **P 09 57 48.2 +0.3**
baz=78,SNR=9.3
BRTR Keskin Array B 78.74 312 P **P 09 57 48.2 -0.1**
BRTR PP **PP 10 00 44.0 -2.2**
BRTR Keskin Array B 78.74 312 P **P 09 57 48.2 -0.1**
comp=Z,18nm,1.1s,baz=90,slow=3.7,SNR=38
BRTR PP **PP 10 00 43.9 -2.2**
comp=Z,2.5nm,1.0s,baz=75,slow=6.5,SNR=4.0
BRTR LR LR 10 37 16.2
comp=Z,94nm,18.8s,baz=222,slow=39
OJC Ojcow 78.77 326 *eP* **P 09 57 48.6 +0.6**
OJC pmax pmax
comp=Z,57nm,1.1s
OJC Ojcow 78.77 326 *eP* **P 09 57 48.6 +0.6**
comp=Z,57nm,1.1s
UZH Uzhgorod 78.78 324 *eP* **P 09 57 48.0 -0.1**
UZH *e* 09 57 54.9
SRU San Rafael 78.79 49 *eP* **P 09 57 49.2 +0.6**
SRU pmax pmax
comp=Z,20nm,0.7s
SRU San Rafael 78.79 49 *eP* **P 09 57 49.2 +0.6**
comp=Z,20nm,0.7s
L21A Rawlins 78.79 45 P **P 09 57 48.7 +0.1**
baz=79,SNR=9.3
K22A Casper 78.82 44 P **P 09 57 49.1 +0.4**
baz=79,SNR=6.2
ULM Lac du Bonnet 78.85 34 *eP* **P 09 57 48.3 -0.2**
ULM Lac du Bonnet 78.85 34 P **P 09 57 47.3 -1.2**
comp=Z,8.7nm,1.0s,baz=302,slow=6.8,SNR=4.8
O19A Miners Draw (B 78.86 47 P **P 09 57 49.1 +0.1**
baz=79,SNR=7.4
BAR Barrett 78.87 57 *eP* **P 09 57 49.0 +0.1**
comp=Z,5.6nm,0.8s
N20A Spence Gulch, 79.02 47 P **P 09 57 50.7 +0.8**
baz=79,SNR=11
TRPA Tarpa 79.02 323⇑ *iP* **P 09 57 50.1 +0.7**
TRPA Tarpa 79.02 323⇑ *eP* **P 09 57 50.1 +0.7**
M21A Separation Pea 79.03 46 P **P 09 57 50.5 +0.5**
baz=79,SNR=5.6
RWWY Rawlins 79.06 45 *eP* **P 09 57 50.3 +0.2**
comp=Z,9.0nm,0.8s
H25A Fruitdale 79.08 41 P **P 09 57 50.4 +0.4**
baz=79,SNR=7.9
NIE Niedzica 79.12 325 *i* P **P 09 57 52.7 +2.7**
ISR Istrita 79.13 319⇓ P **P 09 57 51.6 +1.4**
ISR Istrita 79.13 319⇓ *iP* **P 09 57 51.6 +1.4**
DOPR Dopca 79.14 321⇓ *iP* **P 09 57 50.3 +0.1**
G26A Maurine 79.14 40 P **P 09 57 50.4 +0.1**
baz=79,SNR=8.9
MLR Muntele Rosu 79.19 320⇓ *iP* **P 09 57 51.4 +0.8**
MLR Muntele Rosu 79.19 320 P **P 09 57 49.7 -0.8**
MLR Muntele Rosu 79.19 320 P **P 09 57 49.7 -0.8**
comp=Z,1.4nm,0.8s,baz=314,slow=3.2,SNR=8.2
RSSD Black Hills 79.19 42 *eP* **P 09 57 50.9 +0.2**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 79.19 42 *eP* **P 09 57 50.9 +0.2**
comp=Z,8.2nm,0.9s
L22A Ellis Ranch, M 79.28 45 P **P 09 57 52.2 +1.0**
baz=79,SNR=7.4
P19A Cripple Cowboy 79.38 48 P **P 09 57 52.3 +0.5**
baz=79,SNR=17
U15A North Rim 79.40 52 P **P 09 57 53.2 +1.1**
baz=79,SNR=12
I25A Rochford 79.42 42 P **P 09 57 52.2 +0.2**
baz=79,SNR=6.5
G27A Dupree 79.43 40 P **P 09 57 52.0 +0.2**
baz=79,SNR=5.2
N21A Black Mountain 79.49 46 P **P 09 57 53.2 +0.8**
baz=79,SNR=6.3
M22A Cedar Creek Ra 79.60 45 P **P 09 57 53.7 +0.6**
baz=79,SNR=6.8
L23A Garrett 79.63 44 P **P 09 57 53.0 -0.2**
baz=79,SNR=8.7
VOIR 79.68 320⇑ P **P 09 57 54.0 +0.8**
VOIR 79.68 320⇑ *iP* **P 09 57 54.0 +0.8**
BSEG Bad Segeberg 79.72 333 *eP* **P 09 57 53.6 +0.5**
comp=Z,70nm,1.0s
BSEG *ep*P **pP 09 58 06.2 +2.7**
BSEG Bad Segeberg 79.72 333 *eP* **P 09 57 53.6 +0.5**
BSEG *e*PP **pP 09 58 06.2 +2.7**
BSEG pmax pmax
comp=Z,70nm,1.0s
KECS Kecovo 79.72 325 *eP* **P 09 57 53.3 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 79.72 325 *eP* **P 09 57 53.3 0.0**
OKC Ostrava-Krasne 79.78 327⇑ *iP* **P 09 57 53.9 +0.4**
OKC *e* 09 58 02.3
OKC MLR MLR
comp=Z,300nm,17.9s
OKC Ostrava-Krasne 79.78 327⇑ *iP* **P 09 57 53.9 +0.4**
OKC *e*PCP **PcP 09 58 02.3 +1.2**
OKC AMS AMS 10 36 10.0
comp=Z,300nm,17.9s
KSP Ksiaz 79.81 328⇑ *eP* **P 09 57 54.3 +0.6**
KSP Ksiaz 79.81 328 *eP* **P 09 57 54.3 +0.6**
H27A Howes 79.87 41 P **P 09 57 54.8 +0.6**
baz=80,SNR=12
GLA Glamis 79.87 56 *eP* **P 09 57 55.0 +0.6**
GLA pmax pmax
comp=Z,13nm,0.9s
GLA Glamis 79.87 56 *eP* **P 09 57 55.0 +0.6**
comp=Z,13nm,0.9s
I26A New Underwood 79.87 41 P **P 09 57 54.7 +0.4**
baz=80,SNR=8.9
DRGR 79.89 322⇓ P **P 09 57 53.9 -0.4**
DRGR 79.89 322⇓ *iP* **P 09 57 53.9 -0.4**
ARR Arges 79.94 320⇓ *iP* **P 09 57 55.7 +1.1**
N22A Wattenberg Ran 80.08 46 P **P 09 57 56.9 +1.2**
baz=80,SNR=8.4
MORC Moravsky Berou 80.08 327 *eP* **P 09 57 55.8 +0.5**
MORC pmax pmax
comp=Z,28nm,1.0s
MORC Moravsky Berou 80.08 327 *eP* **P 09 57 55.8 +0.5**
comp=Z,28nm,1.0s
L24A Wheatland 80.10 44⇓ P **P 09 57 57.2 +1.6**
baz=80,SNR=55
PV10 Paradox Valley 80.15 49 *eP* **P 09 57 57.2 +1.1**
comp=Z,563nm,0.7s
DPC Dobruska-Polom 80.17 328 *eP* **P 09 57 56.6 +0.8**
DPC Dobruska-Polom 80.17 328⇑ *iP* **P 09 57 56.5 +0.8**
DPC *e*PCP **PcP 09 58 02.9 0.0**
DPC *ep*P **pP 09 58 09.6 +3.5**
DPC Dobruska-Polom 80.17 328 *eP* **P 09 57 56.6 +0.8**
comp=Z,414nm,1.6s
KRLC Kraliky 80.19 328⇑ *eP* **P 09 57 56.2 +0.4**
KRLC *e* 09 58 08.2
KRLC Kraliky 80.19 328⇑ *eP* **P 09 57 56.2 +0.4**
KRLC *e*PCP **PcP 09 58 00.8 -2.2**
KRLC *ep*P **pP 09 58 08.2 +2.0**
Q20A Ridgley Place, 80.22 48 P **P 09 57 56.8 +0.4**
baz=80,SNR=8.4
PV04 Paradox Valley 80.22 49 *eP* **P 09 57 57.6 +1.2**
I27A Quinn 80.27 41 P **P 09 57 56.8 +0.4**
baz=80,SNR=14
AGMN Agassiz Nation 80.29 35 *eP* **P 09 57 55.6 -0.7**
comp=Z,12nm,1.0s
N23A Red Feather La 80.30 45 P **P 09 57 57.9 +1.0**
baz=80,SNR=11
H28A Mission Ridge 80.38 40 P **P 09 57 57.7 +0.7**
baz=80,SNR=11
PSZ Piszkesteto 80.41 325⇑ P **P 09 57 57.8 +0.7**
PSZ Piszkesteto 80.41 325⇑ *iP* **P 09 57 57.8 +0.7**
PSZ Piszkesteto 80.41 325 *eP* **P 09 57 57.7 +0.7**
comp=Z,33nm,1.0s
PSZ Piszkesteto 80.41 325⇑ *eP* **P 09 57 57.7 +0.7**
O22A Kremmling 80.45 46 P **P 09 57 58.4 +0.7**
baz=80,SNR=6.8
VYHS Vyhne 80.47 326 *eP* **P 09 57 57.9 +0.6**
VYHS pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 80.47 326 *eP* **P 09 57 57.9 +0.6**
VYHS *eP*P **PP 10 00 56.6 -3.4**
Y14A Wickenburg 80.51 54 P **P 09 57 58.5 +0.6**
baz=80,SNR=9.9
M24A Cheyenne 80.55 44 P **P 09 57 59.4 +1.3**
baz=80,SNR=8.9
WUAZ Wupatki 80.55 52 *eP* **P 09 57 59.4 +1.2**
comp=Z,18nm,1.0s
WUAZ Wupatki 80.55 52 P **P 09 57 59.4 +1.2**
baz=80,SNR=7.6
PV01 Paradox Valley 80.59 49 *eP* **P 09 57 58.6 +0.1**
R20A Redvale 80.67 49 P **P 09 57 59.6 +0.8**
baz=80,SNR=15
P22A Eagle 80.70 47 P **P 09 57 59.8 +0.8**
baz=80,SNR=14
BRG Berggiesshubel 80.75 330 *eP* **P 09 57 58.9 +0.2**
comp=Z,28nm,1.1s
BRG
comp=N,322nm,19.6s
BRG
comp=E,226nm,17.6s
BRG
comp=Z,558nm,17.3s
BRG Berggiesshubel 80.75 330 *eP* **P 09 57 58.9 +0.2**
BRG pmax pmax
comp=Z,2.0nm,1.1s
BRG MLR MLR
comp=N,28μm,19.6s
BRG MLR MLR
comp=E,322nm,17.6s
BRG MLR MLR
comp=Z,226nm,17.3s
RAYN Ar Rayn 80.76 292 P **P 09 57 59.0 -0.4**
comp=Z,144nm,1.1s,SNR=10
RAYN Ar Rayn 80.76 292 *eP* **P 09 57 59.2 -0.1**
comp=Z,28nm,1.0s
PVCC Panska Ves 80.76 329 *eP* **P 09 57 59.6 +0.8**
PVCC *e* 09 58 07.4
PVCC MLR MLR
comp=Z,500nm,18.8s
PVCC Panska Ves 80.76 329⇑ *eP* **P 09 57 59.6 +0.8**
PVCC *e*PCP **pP 09 58 07.4 -1.9**
PVCC AMS AMS 10 36 00.0
comp=Z,500nm,18.8s
O23A Lake Granby, G 80.77 46 P **P 09 58 00.6 +1.1**
baz=81,SNR=8.6
I28A Midland 80.78 41 P **P 09 57 59.1 +0.1**
baz=80,SNR=16
CLL Collm 80.79 330 *eP* **P 09 57 59.0 0.0**
comp=Z,49nm,1.0s
CLL *ep*P **pP 09 58 11.5 +2.1**
CLL Collm 80.79 330⇑ *iP* **P 09 57 58.9 0.0**
CLL *i* *SP **sP 09 58 14.4 +1.2**
CLL pmax pmax
comp=Z,49nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.8s
CLL Collm 80.79 330⇑ *iP* **P 09 57 58.9 0.0**
comp=Z,49nm,1.0s
CLL *i* pP **sP 09 58 14.4 +1.2**
CLL LmH 10 36 00.0
comp=N,200nm,18.7s
CLL LmH 10 36 00.0
comp=E,100nm,19.0s
CLL LmV 10 38 00.0
comp=Z,300nm,18.8s
VRAC Vranov 80.84 327 P **P 09 57 59.9 +0.6**
VRAC Vranov 80.84 327 P **P 09 57 59.9 +0.6**
comp=Z,24nm,0.9s,baz=48,slow=4.7,SNR=29
SMCO Snowmass 80.85 47 *eP* **P 09 58 00.9 +0.9**
S20A Disappointment 80.91 49 P **P 09 58 00.8 +0.6**
baz=81,SNR=7.1
FBE Freiberg 80.95 330 *eP* **P 09 58 00.4 +0.6**
comp=Z,52nm,1.1s
FBE *ep*P **pP 09 58 12.9 +2.7**
NRDL Niedersach Rie 80.95 332 *eP* **P 09 57 59.8 +0.1**
comp=Z,15nm,0.9s
NRDL *ep*P **pP 09 58 12.5 +2.4**
R21A Cimarron 81.04 48 P **P 09 58 01.8 +0.9**
baz=81,SNR=11
SMOL Smolenice 81.08 326 *eP* **P 09 58 02.1 +1.6**
SMOL Smolenice 81.08 326 *eP* **P 09 58 02.1 +1.6**
Q22A Crested Butte, 81.09 47 P **P 09 58 02.2 +1.0**
baz=81,SNR=8.7
J28A Allard Ranch, 81.14 41 P **P 09 58 01.4 +0.4**
baz=81,SNR=9.6
PKSN Nyarlorinc 81.17 324⇓ *eP* **P 09 58 02.3 +1.3**
PRA Prague 81.17 329⇑ P **P 09 58 02.0 +1.0**
PRU Pruhonice 81.19 329⇑ *iP* **P 09 58 01.5 +0.4**
PRU *e* 09 58 13.0
PRU MLR MLR
comp=Z,300nm,22.0s
PRU Pruhonice 81.19 329⇑ *iP* **P 09 58 01.5 +0.4**
PRU *e*PCP **PcP 09 58 06.9 -0.4**
PRU *ep*P **pP 09 58 13.0 +1.5**
PRU AMS AMS 10 35 30.0
comp=Z,300nm,22.0s
X16A Lo Mia Camp, P 81.21 53 P **P 09 58 02.8 +1.0**
baz=81,SNR=15
ISCO Idaho Springs 81.22 46 *eP* **P 09 58 02.9 +1.0**
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 81.22 46 *eP* **P 09 58 02.9 +1.0**
comp=Z,6.0nm,0.9s
MVCO Mesa Verde 81.23 50 P **P 09 58 02.9 +1.0**
baz=81,SNR=7.3
BZS Buzias 81.26 322⇑ P **P 09 58 01.6 0.0**
BZS Buzias 81.26 322⇑ *iP* **P 09 58 01.5 0.0**
TREC Trest 81.33 328⇑ *iP* **P 09 58 02.4 +0.5**
TREC MLR MLR
comp=Z,300nm,17.6s
TREC Trest 81.33 328⇑ *iP* **P 09 58 02.4 +0.5**
TREC AMS AMS 10 37 30.0
comp=Z,300nm,17.6s
NEUB Neuenburg 81.34 331 *eP* **P 09 58 02.2 +0.3**
comp=Z,73nm,1.2s
NEUB *ep*P **pP 09 58 14.7 +2.4**
S21A Coal Bank Pass 81.36 49 P **P 09 58 03.9 +1.2**
baz=81,SNR=10
PKS7 Kunszentmiklos 81.38 324⇓ *eP* **P 09 58 03.2 +1.0**
PKSG 81.48 325⇓ *eP* **P 09 58 03.5 +0.8**
PKS6 Bocsa 81.53 324 *eP* **P 09 58 04.4 +1.5**
K28A Ten Mile Ranch 81.57 42 P **P 09 58 03.7 +0.3**
baz=81,SNR=9.2
R22A Saguache, Gunn 81.61 48 P **P 09 58 05.6 +1.7**
baz=81,SNR=9.6
TANN Tannenbergstha 81.70 330 *eP* **P 09 58 04.0 +0.1**
comp=Z,15nm,1.4s
TANN *ep*P **pP 09 58 16.7 +2.4**
WERD Werda 81.74 330 *eP* **P 09 58 04.2 +0.2**
comp=Z,16nm,1.2s
WERD *ep*P **pP 09 58 16.8 +2.3**
PKST T^'s 81.74 325⇑ *eP* **P 09 58 04.3 +0.2**

PLN **Plauen** 81.77 330 *e*P P 09 58 04.4 +0.2
comp=Z,90nm,1.3s
PLN *e*pP **pP** 09 58 17.1 +2.5
GUNZ Gunzen 81.79 330 *e*P P 09 58 04.7 +0.4
comp=Z,21nm,1.2s
GUNZ *e*pP **pP** 09 58 17.3 +2.5
MPEP Malo Peshtene 81.81 319 *i*P P 09 58 04.2 -0.3
WERN Wernitzgruen 81.83 330 *e*P P 09 58 04.9 +0.3
comp=Z,20nm,1.0s
WERN *e*pP **pP** 09 58 17.7 +2.7
MOX Moxa 81.85 331 *e*P P 09 58 04.8 +0.2
comp=Z,26nm,1.3s
MOX *e*pP **pP** 09 58 17.5 +2.4
MOX Moxa 81.85 331 *e*P P 09 58 04.8 +0.2
MOX *e**PP **pP** 09 58 17.5 +2.4
MOX pmax pmax
comp=Z,26nm,1.3s
S22A 4UR Ranch, Cre 81.88 48 P P 09 58 06.8 +1.4
baz=82,SNR=11
IBBN Ibbenburen 81.95 334 *e*P P 09 58 05.2 +0.2
comp=Z,59nm,1.2s
CSS Prodhromos 81.99 308 *e*P P 09 58 06.0 +0.4
PKS9 Tamasi 82.13 325⇑ *e*P P 09 58 06.1 0.0
PGB Panagyurishte 82.15 319 *i*P P 09 58 06.5 +0.1
R23A Moffat 82.18 47 P P 09 58 08.2 +1.2
baz=82,SNR=12
V20A Brimhall 82.18 51 P P 09 58 07.4 +0.5
baz=82,SNR=8.8
MANZ Manzenberg 82.18 330 *e*P P 09 58 06.7 +0.3
comp=Z,20nm,1.2s
MANZ *e*pP **pP** 09 58 19.3 +2.5
URZ Urewera 82.18 153 LR LR 10 29 22.5
comp=Z,352nm,18.1s,baz=220,slow=32
CONA Conrad Observa 82.21 327⇑ *i*P P 09 58 07.4 +0.8
comp=Z,30nm,1.2s,SNR=18
P25A Willow Gulch B 82.24 46 P P 09 58 08.0 +0.9
baz=82,SNR=5.6
PKSM Moragy 82.24 324 ⇓P P 09 58 06.4 -0.3
PKSM Moragy 82.24 324 ⇓ *i*P P 09 58 06.4 -0.3
PKSM Moragy 82.24 324⇑ *e*P P 09 58 06.4 -0.3
KHC Kasperske Hory 82.25 329 *e*P P 09 58 06.4 -0.4
KHC Kasperske Hory 82.25 329⇑ *i*P P 09 58 07.1 +0.3
KHC *e*PCP **PcP** 09 58 13.9 +1.8
KHC *e*pP **pP** 09 58 19.5 +2.3
KHC AMS AMS 10 36 10.0
comp=Z,300nm,18.9s
KHC Kasperske Hory 82.25 329 *e*P P 09 58 06.4 -0.4
U21A Nageezi 82.26 50 P P 09 58 08.1 +0.8
baz=82,SNR=8.7
ROTZ Rotzenmuhle 82.31 330 *e*P P 09 58 07.8 +0.8
comp=Z,34nm,1.3s
ROTZ *e*pP **pP** 09 58 20.5 +3.0
T22A Edith 82.32 49 P P 09 58 08.8 +1.2
baz=82,SNR=10
UBBA Unterbreizbach 82.33 332 *e*P P 09 58 07.0 0.0
comp=Z,16nm,1.5s
GEC2 GERESS Array S 82.42 328 *e*P P 09 58 07.8 0.0
comp=Z,21nm,1.2s
GEC2 GERESS Array S 82.42 328 *e*P P 09 58 07.8 0.0
GEC2 pmax pmax
comp=Z,21nm,1.2s
GERES GERESS Array B 82.42 328 P P 09 58 07.4 -0.3
GERES PP PP 10 01 10.1 -6.1
GERES GERESS Array B 82.42 328 P P 09 58 07.4 -0.3
comp=Z,8.9nm,0.8s,baz=35,slow=4.9,SNR=62
GERES PP PP 10 01 10.1 -6.1
comp=Z,0.5nm,0.7s,baz=55,slow=5.3,SNR=4.1
GERES LR LR 10 39 57.0
comp=Z,266nm,20.2s,baz=202,slow=40
WET Wettzell 82.53 329 *e*P P 09 58 08.6 +0.4
comp=Z,29nm,1.3s
WET Wettzell 82.53 329 *e*P P 09 58 08.6 +0.4
WET pmax pmax
comp=Z,29nm,1.3s
R24A Sanders Place, 82.57 47 P P 09 58 09.8 +0.9
baz=82,SNR=7.5
W20A Ramah 82.60 51 P P 09 58 09.8 +0.8
baz=82,SNR=5.2
VTS Vitosha 82.62 319 ⇓P P 09 58 09.3 +0.3
VTS Vitosha 82.62 319 *i*P P 09 58 08.6 -0.4
VTS Vitosha 82.62 319 ⇓ *i*P P 09 58 09.3 +0.3
SDCO Great Sand Dun 82.67 48 *e*P P 09 58 09.8 +0.3
comp=Z,4.0nm,0.9s
GRF Grafenberg Arr 82.76 330 *e*P P 09 58 10.1 +0.7
comp=Z,60nm,1.2s
GRF *e*L L 10 39 43.9
comp=Z,159nm,21.0s
GRF Grafenberg Arr 82.76 330 *e*P P 09 58 10.1 +0.7
GRF pmax pmax
comp=Z,60nm,1.2s
GRFO Grafenberg 82.76 330 *e*P P 09 58 10.1 +0.7
GRFO pmax pmax
comp=Z,41nm,1.0s
GRFO Grafenberg 82.76 330 *e*P P 09 58 10.1 +0.7
comp=Z,41nm,1.0s
U22A Llaves 82.78 49 P P 09 58 10.6 +0.6
baz=83,SNR=6.7
BUG Bochum--Univer 82.83 333 *e*P P 09 58 09.6 -0.1
comp=Z,22nm,1.0s
BUG *e*pP **pP** 09 58 22.2 +2.1
ARSA Arzberg 82.87 326⇑ *i*P P 09 58 10.4 +0.4
comp=Z,16nm,1.1s,SNR=7.3
MOA Molln 82.96 327⇑ *i*P P 09 58 10.6 +0.1
comp=Z,19nm,1.2s,SNR=12
TUC Tucson 82.98 55 *e*P P 09 58 11.7 +0.7
TUC pmax pmax
comp=Z,117nm,1.9s
TUC Tucson 82.98 55 *e*P P 09 58 11.7 +0.7
comp=Z,117nm,1.9s
V22A San Miguel Ran 83.05 50 P P 09 58 12.2 +0.8
baz=83,SNR=11
MMB Musomiste 83.06 318 *i*P P 09 58 11.2 +0.1
KKB Krupnik 83.20 319 *i*P P 09 58 12.2 +0.4
U23A El Rito 83.21 49 P P 09 58 13.4 +1.2
baz=83,SNR=32
ECSD EROS Data Cent 83.27 38 *e*P P 09 58 11.7 -0.5
comp=Z,12nm,0.8s
TNS Taunus Mts 83.40 332 *e*P P 09 58 12.9 +0.2
comp=Z,23nm,1.4s
TNS *e*pP **pP** 09 58 25.6 +2.4
TNS Taunus Mts 83.40 332 *e*P P 09 58 12.9 +0.2
TNS *e**PP **pP** 09 58 25.6 +2.4
TNS pmax pmax
comp=Z,23nm,1.4s
Y20A Horse Springs, 83.47 52 P P 09 58 14.9 +1.2
baz=83,SNR=14
R26A Arlington 83.48 46 P P 09 58 13.7 +0.2
baz=83,SNR=9.2
X21A Alamocita Cree 83.49 51 P P 09 58 15.1 +1.4
baz=83,SNR=11
PERS Pernice 83.52 326 *i*P P 09 58 13.4 0.0
SOKA Soboth 83.53 326⇑ *i*P P 09 58 13.5 0.0
comp=Z,48nm,1.3s,SNR=26
P28A Saint Francis 83.55 44 P P 09 58 13.9 +0.2
baz=83,SNR=6.1
V23A Ortiz Mt. (NFS 83.60 49 P P 09 58 16.2 +2.0
baz=83,SNR=8.1
RJOB Jochberg 83.67 328 *e*P P 09 58 14.6 +0.4
comp=Z,37nm,1.0s
T25A Trinidad 83.71 47 P P 09 58 15.4 +0.6
baz=84,SNR=10
Y21A Point of Rocks 83.84 52 P P 09 58 17.0 +1.4
baz=84,SNR=9.5
Z20A Nine Sixteen R 83.86 53 P P 09 58 16.6 +1.0
baz=84,SNR=19
VAY Valandovo 83.86 319 *i*P P 09 58 15.0 -0.2
LAZ Ladron 83.92 51 *e*P P 09 58 16.4 +0.5
comp=Z,3.9nm,1.2s
KBA Koelnbreinsper 83.95 327⇑ *i*P P 09 58 15.6 -0.2
comp=Z,16nm,0.8s,SNR=9.9
FUR Furstenfeldbru 83.95 329 *e*P P 09 58 16.1 +0.5
comp=Z,46nm,0.9s
FUR Furstenfeldbru 83.95 329 *e*P P 09 58 16.1 +0.5
FUR pmax pmax
comp=Z,46nm,0.9s
ANMO Albuquerque 83.97 50 *e*P P 09 58 17.1 +1.0
comp=Z,9.8nm,1.0s
MEM Membach 83.97 333 P P 09 58 15.9 +0.3
comp=Z,15nm,1.3s
MEM AP **pP** 09 58 27.6 +1.6
SKO Skopje 83.98 320 *i*P P 09 58 17.7 +1.9
W23A Werner Place, 84.01 50 P P 09 58 17.5 +1.1
baz=84,SNR=6.9
V24A Rampart Ranch, 84.16 49 P P 09 58 18.5 +1.3
baz=84,SNR=20
T26A Comanche Natio 84.17 47 P P 09 58 17.0 -0.1
baz=84,SNR=12
MYKA Terra Mystica 84.17 327⇑ *i*P P 09 58 16.1 -0.6
comp=Z,15nm,0.8s,SNR=8.0
120A U Bar Ranch, L 84.20 53 P P 09 58 18.2 +0.9
baz=84,SNR=5.7
U25A Circle Dot Ran 84.22 48 P P 09 58 18.3 +0.9
baz=84,SNR=11
LPM Los Pinos Moun 84.29 51 *e*P P 09 58 18.3 +0.5
comp=Z,0.9nm,0.4s
STU Stuttgart 84.30 331 *e*P P 09 58 17.4 +0.1
comp=Z,57nm,1.3s
STU Stuttgart 84.30 331 *e*P P 09 58 17.3 0.0
STU pmax pmax
comp=Z,35nm,1.0s
STU Stuttgart 84.30 331 *e*P P 09 58 17.3 0.0
comp=Z,35nm,1.0s
Z21A St. Cloud Mine 84.31 52 P P 09 58 18.9 +1.0
baz=84,SNR=14
BOJS Bojanci 84.33 325 *i*P P 09 58 17.1 -0.4
Y22A Socorro 84.33 51 P P 09 58 18.8 +0.8
baz=84,SNR=6.8
EIL Elat 84.36 303 P P 09 58 18.2 +0.2
EIL Elat 84.36 303 P P 09 58 18.2 +0.2
comp=Z,42nm,1.1s,baz=28,slow=2.7,SNR=20
BNM Barren Site 84.40 51 *e*P P 09 58 18.7 +0.4
comp=Z,3.9nm,0.8s
W24A Lazy 6 Ranch, 84.43 49 P P 09 58 19.6 +1.1
baz=84,SNR=19
V25A Rancho No Teng 84.48 48 P P 09 58 19.6 +0.9
baz=84,SNR=15
319A Douglas 84.56 54 P P 09 58 19.9 +0.9
baz=84,SNR=6.5
JAVS Javornik 84.56 326 *i*P P 09 58 17.7 -1.1
ABTA Abfaltersbach 84.56 328⇑ *i*P P 09 58 17.7 -1.1
comp=Z,18nm,1.2s,SNR=7.5
PPT2 Papeete2 84.59 117 *e*LR LR 10 24 52.6
comp=Z,360nm,24.5s,baz=318
U26A Atchley Ranch, 84.61 48 P P 09 58 20.3 +0.9
baz=84,SNR=9.1
LANF Langenberg 84.66 332 *e*P P 09 58 19.1 0.0
MOTA Moosalm 84.68 329⇑ *i*P P 09 58 19.1 -0.3
comp=Z,40nm,1.4s,SNR=13
220A Playas Peak, P 84.69 54 P P 09 58 20.8 +1.0
baz=84,SNR=5.2
WLF Walferdange 84.70 333 P P 09 58 19.8 +0.5
comp=Z,22nm,1.8s
WLF Walferdange 84.70 333 *e*P P 09 58 19.4 +0.1
comp=Z,47nm,1.6s
WLF *e*pP **pP** 09 58 32.5 +2.7
RETA Reutte 84.70 329⇑ *i*P P 09 58 19.6 +0.1
comp=Z,49nm,1.3s,SNR=18
SCHQ Schefferville 84.71 16 *e*P P 09 58 19.0 -0.3
comp=Z,7.7nm,0.6s
SCHQ Schefferville 84.71 16 P P 09 58 19.0 -0.3
comp=Z,8.9nm,0.7s,baz=6.3,slow=7.2,SNR=18
SCHQ LR LR 10 40 56.9
comp=Z,104nm,20.9s,baz=349,slow=39
Z22A Elephant Butte 84.79 52 P P 09 58 20.7 +0.5
baz=85,SNR=12
GIVF Givet 84.81 334⇑ *i*P P 09 58 19.5 -0.3
comp=Z,54nm,1.3s
S28A Manter 84.85 46 P P 09 58 20.9 +0.5
baz=85,SNR=5.5
SKDS Skadanscina 84.85 326 *i*P P 09 58 16.1 -4.1
P31A Stockton 84.89 43 P P 09 58 20.4 -0.1
baz=85,SNR=6.0
DOU Dourbes 84.90 334 P P 09 58 20.4 +0.2
comp=Z,11nm,1.5s
DOU AP **pP** 09 58 32.2 +1.5
Y23A Lovelace Mesa, 84.90 51 P P 09 58 21.6 +0.7
baz=85,SNR=11
BFO Black Forest 84.99 331 P P 09 58 20.4 -0.4
comp=Z,218nm,0.9s,SNR=14
BFO Black Forest 84.99 331 *e*P P 09 58 20.9 +0.1
comp=Z,47nm,1.1s
BFO Black Forest 84.99 331 *e*P P 09 58 20.9 +0.1
BFO pmax pmax
comp=Z,47nm,1.1s
BFO Black Forest 84.99 331 *e*P P 09 58 20.1 -0.8
W25A X Bar L Ranch, 84.99 49 P P 09 58 22.3 +1.0
baz=85,SNR=21
V26A Tequesquite Ra 85.00 48 P P 09 58 21.6 +0.4
baz=85,SNR=11
BAIF Baives 85.06 334⇑ *i*P P 09 58 20.9 -0.2
comp=Z,50nm,1.2s
FETA Feichten 85.09 329⇑ *i*P P 09 58 21.4 -0.1
comp=Z,24nm,1.2s,SNR=14
U27A Thompson Grove 85.13 47 P P 09 58 22.5 +0.6
baz=85,SNR=7.4
RPZ Rata Peaks 85.15 159 LR LR 10 28 49.5
comp=Z,298nm,20.9s,baz=2.6,slow=30
DAVA Damuels 85.22 329⇑ *i*P P 09 58 22.1 -0.1
comp=Z,40nm,1.0s,SNR=13
CDF Champ du Feu 85.33 332⇑ *i*P P 09 58 22.4 -0.2
comp=Z,74nm,1.1s
X25A Clemmons Ranch 85.34 49 P P 09 58 23.7 +0.7
baz=85,SNR=6.3
ECH Echery 85.53 332 *e*P P 09 58 22.9 -0.6
ECH pmax pmax
comp=Z,34nm,1.1s
ECH Echery 85.53 332 *e*P P 09 58 22.9 -0.6
comp=Z,34nm,1.1s
ECH Echery 85.53 332 *e*P P 09 58 23.2 -0.3
V27A Dan Oppiter Fa 85.58 48 P P 09 58 24.6 +0.5
baz=85,SNR=7.2
FUORN Ofenpass-Fuorn 85.60 329 *e*P P 09 58 24.4 +0.2
Y25A Mesa, Roswell 85.73 50 P P 09 58 25.0 0.0
baz=86,SNR=5.3
PAGF Fort de Pagny 85.78 332⇑ *i*P P 09 58 24.9 +0.2
comp=Z,29nm,1.2s
MOF Molkenrain 85.84 331 *e*P P 09 58 24.7 -0.5
W27A Bowe Ranch, En 85.93 48 P P 09 58 26.8 +0.9
baz=86,SNR=26
THEF They Montfort 85.96 332 *e*P P 09 58 25.0 -0.6
HINF Hinteralfeld 85.98 331⇑ *i*P P 09 58 25.2 -0.6
comp=Z,34nm,1.2s
HAU Haudompre 86.01 332⇑ *i*P P 09 58 25.4 -0.5
comp=Z,26nm,0.8s
HAU *e*R
comp=Z,245nm,19.5s
MEZF Maizieres J'vi 86.07 333⇑ *i*P P 09 58 26.3 +0.1
comp=Z,91nm,1.2s
TUE Stuetta 86.10 329 *e*P P 09 58 26.8 +0.2
comp=Z,16nm,1.0s
124A Stringfield Ra 86.10 51 P P 09 58 27.1 +0.3
baz=86,SNR=6.2
Z25A Roswell 86.16 50 P P 09 58 27.6 +0.6
baz=86,SNR=8.5
X27A F and S Farms, 86.20 48 P P 09 58 28.0 +0.8
baz=86,SNR=7.5
SFTF Sexfontaines 86.33 333⇑ *i*P P 09 58 27.3 -0.1
comp=Z,103nm,1.1s
LOMF Lomont 86.37 331 *e*P P 09 58 27.1 -0.7
T31A Randall Ranch, 86.45 45 P P 09 58 28.6 +0.3
baz=86,SNR=7.7
224A Cornudas Mount 86.48 52 P P 09 58 29.2 +0.6
baz=86,SNR=8.1
125A Gardner Draw, 86.62 51 P P 09 58 30.0 +0.7
baz=86,SNR=8.9
KSU1 Kansas State U 86.67 42 *e*P P 09 58 28.8 -0.5
comp=Z,13nm,0.8s
MNTX Cornudas Mount 86.82 52 *e*P P 09 58 29.5 -0.7
comp=Z,3.0nm,1.0s
AMTX Amarillo 86.87 47 *e*P P 09 58 31.0 +0.6
comp=Z,11nm,0.7s
SENIN Lac Senin/Sane 87.00 330 *e*P P 09 58 31.6 +0.5
Z27A Tatum 87.05 49 P P 09 58 31.7 +0.3
baz=87,SNR=5.2
GDL2 Guadalupe Moun 87.11 51 *e*P P 09 58 32.7 +1.0
X29A Tulia 87.16 48 P P 09 58 32.7 +0.8
baz=87,SNR=8.7
CABF La Chapelle 87.27 331⇑ *i*P P 09 58 31.9 -0.3
comp=Z,17nm,1.0s
LOR Lormes 87.55 333⇑ *i*P P 09 58 33.2 -0.2
comp=Z,63nm,1.1s
LOR *e*R
comp=Z,217nm,19.8s
W31A Holland Ranch, 87.66 46 P P 09 58 35.0 +0.8
baz=87,SNR=5.7
FLN La Foliniere 87.75 336 *e*P P 09 58 33.9 -0.4
FLN *e*R
comp=Z,503nm,19.5s
LDF La Druitiere 87.78 336 *e*P P 09 58 34.1 -0.3
comp=Z,78nm,1.3s
SSF Saint Saulge 87.85 333⇑ *i*P P 09 58 34.7 -0.1
comp=Z,39nm,1.1s
LPL La Plagne 87.93 330⇑ *i*P P 09 58 35.2 -0.3
comp=Z,20nm,0.9s
LPG La Plagne 87.93 330 *e*P P 09 58 35.3 -0.3
comp=Z,23nm,0.8s
326A Caldwell Ranch 87.96 51 P P 09 58 36.0 +0.2
baz=88,SNR=5.7
Z29A Hungry Hill Ra 87.99 49 P P 09 58 36.5 +0.6
baz=88,SNR=5.3
X31A McDonald Ranch 88.04 47 P P 09 58 36.5 +0.5
baz=88,SNR=7.9
SMF Signal de Mont 88.08 333 *e*P P 09 58 35.8 -0.2
comp=Z,63nm,1.3s
AVF Avril sur Loir 88.14 333⇑ *i*P P 09 58 36.1 -0.1
comp=Z,78nm,1.1s
GRR Gorron 88.19 336⇑ *i*P P 09 58 36.5 +0.1
comp=Z,106nm,1.4s
TIP Timpagrande 88.44 320 *e*P P 09 58 38.0 +0.2
comp=Z,10.0nm,0.8s
TBI Tubuai 88.52 121 *e*LR LR 10 26 32.7
comp=Z,294nm,23.2s,baz=312
BGF Bois d'Agland 88.52 333 *e*P P 09 58 38.0 0.0
MBDF Montbardon 88.56 330 *e*P P 09 58 37.3 -1.2
comp=Z,9.7nm,0.7s
WMOK Wichita Mounta 88.65 46 *e*P P 09 58 38.8 -0.1
WMOK pmax pmax
comp=Z,9.0nm,1.2s
WMOK Wichita Mounta 88.65 46 *e*P P 09 58 38.8 -0.1
comp=Z,9.3nm,1.2s
ORIF Oris-en-Rattie 88.76 330 *e*P P 09 58 38.8 -0.5
comp=Z,9.9nm,0.8s
ORIF *e*R
comp=Z,302nm,21.0s
AGO Saint Agoulin 88.84 333 *e*P P 09 58 40.9 +1.3
SGMF Saint Gilles 88.85 337 *e*P P 09 58 39.5 0.0
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 88.97 333 *e*P P 09 58 40.4 +0.2
comp=Z,14nm,0.9s
SBF Sospel 89.01 329 *e*P P 09 58 39.7 -0.8
PYM Petit Puy Mans 89.15 333 *e*P P 09 58 41.6 +0.5
Z32A Haskell 89.27 47 P P 09 58 42.3 +0.5
baz=89,SNR=10
VIVF Saint-Julien-I 89.28 331 *e*P P 09 58 41.5 -0.2
TUL1 Tulsa 89.46 43 P P 09 58 43.0 +0.4
baz=89,SNR=5.2
528A Cox Ranch, San 89.49 51 P P 09 58 43.2 +0.2
baz=89,SNR=6.0
TXAR Lajitas Array 89.51 53 P P 09 58 43.0 -0.2
TXAR Lajitas Array 89.51 53 P P 09 58 43.0 -0.2
comp=Z,2.3nm,0.6s,baz=303,slow=3.1,SNR=46
TXAR LR LR 10 37 08.8
comp=Z,69nm,20.3s,baz=5.0,slow=34
MFF Saint Martin d 89.52 335⇑ *i*P P 09 58 42.9 +0.2
comp=Z,60nm,1.3s
CEL Celeste 89.58 320 *e*P P 09 58 41.8 -1.5
RJF Les Rejaudoux 90.07 333 *e*P P 09 58 45.5 +0.2
comp=Z,14nm,0.8s
RJF *e*R
comp=Z,172nm,17.8s
232A Coleman 90.19 48 P P 09 58 46.1 0.0
baz=90,SNR=8.3
CAF Calviac 90.20 333⇑ *i*P P 09 58 46.4 +0.4
comp=Z,14nm,0.8s
LASF Ste Croix 90.25 331 *e*P P 09 58 46.2 0.0
comp=Z,42nm,1.4s
530A J-C Ranch, Com 90.40 51 P P 09 58 47.5 +0.3
baz=90,SNR=5.7
332A Millersview 90.49 49 P P 09 58 48.0 +0.4
baz=90,SNR=7.9
LFF La Frestale 90.66 334⇑ *i*P P 09 58 48.4 +0.4
comp=Z,30nm,0.9s
631A Perdido Creek 91.39 51 P P 09 58 52.5 +0.8
baz=91,SNR=7.5
SIUC Southern Illin 91.49 38 *e*P P 09 58 52.8 +0.7
comp=Z,9.6nm,0.9s
MTLF Montolieu 91.50 332 *e*P P 09 58 52.2 +0.2
comp=Z,16nm,1.1s
EPF Esparros 92.46 333 *e*P P 09 58 56.0 -0.5
ETSF Etsaut 92.90 333 *e*P P 09 58 59.0 +0.4
comp=Z,5.6nm,0.8s
SJPF Ste Jean 92.95 334 *e*P P 09 58 58.3 -0.4
comp=Z,6.2nm,0.9s
KEST Kesra 94.79 323 *e*P P 09 59 07.0 -0.4
KEST Kesra 94.79 323 P P 09 59 06.8 -0.6
comp=Z,3.7nm,1.1s,baz=247,slow=4.6,SNR=6.0
KEST LR LR 10 46 59.5
comp=Z,103nm,19.7s,baz=249,slow=39
ESDC Sonseca Array 96.94 334 P P 09 59 16.9 -0.2
ESDC Sonseca Array 96.94 334 P P 09 59 16.9 -0.2
comp=Z,0.2nm,0.3s,baz=23,slow=3.7,SNR=6.6
ESDC LR LR 10 47 35.7
comp=Z,259nm,20.2s,baz=345,slow=38
RKT Rikitea 98.65 112 *e*LR LR 10 31 30.4
comp=Z,343nm,27.2s,baz=320
SBA Scott Base 116.17 174 *e*PKIKP **PKPdf** 10 04 27.1 -0.2
SBA Scott Base 116.17 174 *e*PKPdf **PKPdf** 10 04 27.1 -0.2
TORD Torodi Ar. Bea 117.18 315 PKP **PKPdf** 10 04 29.8 -1.4
TORD PP PP 10 05 30.0 -11
TORD Torodi Ar. Bea 117.18 315 PKP **PKPdf** 10 04 29.8 -1.4
comp=Z,1.6nm,0.7s,baz=23,slow=1.9,SNR=17
TORD PP PP 10 05 30.0 -11
comp=Z,1.7nm,0.7s,baz=28,slow=7.8,SNR=5.4
MAW Mawson 120.18 206 PKP **PKPdf** 10 04 35.1 -0.1
MAW Mawson 120.18 206 PKP **PKPdf** 10 04 35.1 -0.1
comp=Z,2.0nm,0.7s,baz=38,slow=2.2,SNR=5.6
DBIC Dimbokro 126.12 318 PKP **PKPdf** 10 04 47.9 -0.5
DBIC Dimbokro 126.12 318 PKP **PKPdf** 10 04 47.9 -0.5
comp=Z,4.9nm,0.7s,baz=13,slow=3.7,SNR=4.8
LIC Lamto 126.58 317 *e*PKIKP **PKPdf** 10 04 48.4 -0.9
BOSA Boshof 127.01 260 PKP **PKPdf** 10 04 49.9 +0.1
BOSA Boshof 127.01 260 PKP **PKPdf** 10 04 49.9 +0.1
comp=Z,3.9nm,0.9s,baz=179,slow=7.1,SNR=3.6
QSPA South Pole Qui 127.33 180 *e*PKPdf **PKPdf** 10 04 48.1 -0.9
SNAA Sanae 141.38 197 *e*PKPdf PKPdf 10 05 08.3 -6.9
SAML Samuel 143.62 45 *e*PKPdf PKPab 10 05 17.1 -0.3
LPAZ La Paz 146.12 59 *e*PKPbc **PKPbc** 10 05 26.8 +0.1
LPAZ La Paz 146.12 59 PKPbc **PKPbc** 10 05 26.4 -0.4
comp=Z,15nm,0.7s,baz=334,slow=2.7,SNR=68
LVC Limon Verde 149.66 69 *e*PKPbc **PKPbc** 10 05 36.9 +1.2
LCO Las Campanas 151.60 82 *e*PKPbc **PKPbc** 10 05 40.3 +0.2
PLCA Paso Flores 154.76 107 PKP **PKPdf** 10 05 36.3 -1.6
PLCA PKPab **PKPab** 10 06 00.8 -0.9
PLCA Paso Flores 154.76 107 PKP **PKPdf** 10 05 36.3 -1.6
comp=Z,1.0nm,0.7s,baz=341,slow=8.2,SNR=2.9
PLCA PKPab **PKPab** 10 06 00.8 -0.9
comp=Z,4.3nm,1.0s,baz=247,slow=8.0,SNR=3.7

FUNV 01 09:52:27.9,6°98N×72°91W,h157km,MW3.5,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.05**	**34⇑**	*i*P	Pn	09 52 53.0	-1.2
CAPV				*e*S	Sn	09 53 12.8	-1.4
VIGV	**El Vigia**	**2.39**	**39**	*e*P	Pn	09 53 07.1	-1.1
VIGV				*e*S	Sn	09 53 35.7	-3.6
SOCV	**Socops**	**2.41**	**57**	*e*P	Pn	09 53 07.3	-1.0
SOCV				*e*S	Sn	09 53 36.0	-3.5
ELOV	**Elorza**	**3.40**	**89**	*e*P	Pn	09 53 19.5	-1.1
VIRV	**Villa del Rosa**	**3.53**	**8**	*e*P	Pn	09 53 20.2	-2.1
VIRV				*e*S	Sn	09 54 00.2	-4.5
QARV	**Quebrada Arrib**	**3.98**	**36**	*e*P	Pn	09 53 26.7	-1.4
QARV				*e*S	Sn	09 54 10.7	-4.3
CURV	**Curarigua**	**4.19**	**44**	*e*P	Pn	09 53 30.0	-1.0
CURV				*e*S	Sn	09 54 14.8	-5.3
DABV	**Dabajuro**	**4.51**	**30**	*e*P	Pn	09 53 33.8	-1.3
TEPV	**Terepaima**	**4.72**	**51**	*e*P	Pn	09 53 35.9	-1.9
SIQV	**Siquisique**	**4.76**	**40**	*e*P	Pn	09 53 37.3	-1.1
BAUV	**El Baul**	**5.20**	**68**	*e*P	Pn	09 53 41.7	-2.4
MAPV	**Macapo**	**5.23**	**57**	*e*P	Pn	09 53 43.2	-1.4
MONV	**Montecano**	**5.73**	**30**	*e*P	Pn	09 53 49.1	-1.9
TURV	**Turiamo**	**6.08**	**55**	*e*P	Pn	09 53 53.5	-2.2
BIRV	**Birongo**	**7.42**	**62**	*e*P	Pn	09 54 10.7	-3.0

IDC 01 10:03:58.7±2.0,6°49S×129°61E,h0km,mb3.4/1, mb1 3.9/4,mb1mx3.6/19,mbtmp3.7/4,ML3.8/3,Error ellipse: s-maj=80.8km s-min=27.4km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.17**	**198**	Pn	Pn	10 06 54.6	+1.2
0.3nm,0.3s,baz=28,slow=13,SNR=20							
FITZ				Sn	Sn	10 08 57.6	-12
0.7nm,0.3s,baz=72,slow=23,SNR=2.4							
WRA	**Warramunga Arr**	**14.14**	**161**	Pn	Pn	10 07 19.3	-1.1

0.6nm,0.3s,baz=339,slow=13,SNR=20
WRA Sn Sn 10 09 45.0 -13
baz=333,slow=22,SNR=4.9
ASAR Alice Springs 17.57 167 P Pn 10 08 05.0 -0.2
0.4nm,0.3s,baz=351,slow=11,SNR=46
ASAR S Sn 10 11 09.2 -12
0.2nm,0.3s,baz=345,slow=25,SNR=5.5
MKAR Makanchi Array 67.59 327 P P 10 14 57.2 0.0
0.1nm,0.3s,baz=120,slow=8.8,SNR=2.7

IDC 01 10:17:15.4±0.9, 16°.23S×178°.14E, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/18, mbtmp3.9/9, MS3.8/14, Ms1 3.8/14, ms1mx3.7/29, Error ellipse: s-maj=51.0km s-min=20.3km az=145.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.01**	**78**	LR	LR	10 22 45.3	
	comp=Z,405nm,19.3s,baz=272,slow=33						
HNR	**Honiara**	**18.97**	**289**	LR	LR	10 27 53.2	
	comp=Z,373nm,19.3s,baz=151,slow=34						
PPT2	**Papeete2**	**30.90**	**97**	eLR	LR	10 31 39.0	
	604nm,31.8s						
TBI	**Tubuai**	**31.25**	**108**	eLR	LR	10 31 43.7	
	686nm,30.8s						
STKA	**Stephens Creek**	**36.62**	**238**	P	P	10 24 22.7	-1.0
	2.4nm,1.0s,baz=75,slow=16,SNR=2.8						
STKA				LR	LR	10 37 15.9	
	comp=Z,208nm,19.3s,baz=33,slow=33						
WRA	**Warramunga Arr**	**41.71**	**258**	P	P	10 25 05.8	-0.7
	1.5nm,0.9s,baz=91,slow=8.4,SNR=5.7						
ASAR	**Alice Springs**	**42.10**	**253**	P	P	10 25 09.4	-0.2
	1.9nm,0.9s,baz=82,slow=8.8,SNR=14						
ASAR				LR	LR	10 41 25.3	
	comp=Z,124nm,20.3s,baz=266,slow=34						
RKT	**Rikitea**	**44.53**	**107**	eLR	LR	10 37 53.5	
	378nm,27.0s						
FITZ	**Fitzroy Crossi**	**50.06**	**260**	LR	LR	10 44 15.9	
	comp=Z,112nm,19.9s,baz=95,slow=32						
JNU	**Nakatsue**	**66.66**	**318**	LR	LR	10 51 24.7	
	comp=Z,79nm,20.6s,baz=255,slow=31						
FX1	**Attu Island--F**	**68.96**	**357**	LR	LR	10 52 04.2	
	comp=Z,38nm,21.4s,baz=55,slow=30						
PETK	**Petropavlovsk-**	**71.27**	**347**	LR	LR	10 58 35.1	
	comp=Z,38nm,19.4s,baz=2.3,slow=35						
KSRS	**Korea Array**	**71.27**	**320**	LR	LR	10 54 19.1	
	comp=Z,87nm,21.1s,baz=135,slow=31						
NVAR	**Mina Array Bea**	**80.56**	**45**	P	P	10 29 30.4	+0.3
	0.6nm,0.9s,baz=233,slow=5.7,SNR=4.9						
MAW	**Mawson**	**84.30**	**200**	P	P	10 29 49.6	+0.7
	1.8nm,0.8s,baz=68,slow=5.5,SNR=3.1						
ILAR	**Eielson Array**	**85.04**	**14**	P	P	10 29 51.8	-0.8
	1.7nm,0.8s,baz=236,slow=6.3,SNR=20						
CMAR	**Chiang Mai Arr**	**85.20**	**291**	LR	LR	11 01 58.1	
	comp=Z,78nm,21.6s,baz=333,slow=32						
TXAR	**Lajitas Array**	**87.92**	**59**	P	P	10 30 07.6	-0.1
	0.3nm,1.0s,baz=295,slow=3.5,SNR=3.2						
TXAR				LR	LR	11 01 01.7	
	comp=Z,47nm,18.7s,baz=170,slow=30						
PDAR	**Pinedale Array**	**88.45**	**45**	P	P	10 30 08.9	-1.2
	0.2nm,0.8s,baz=212,slow=5.3,SNR=3.6						
PDAR				LR	LR	11 03 40.3	
	comp=Z,38nm,19.0s,baz=79,slow=32						
SONM	**Songino Array**	**90.14**	**320**	P	P	10 30 19.4	+1.7
	0.5nm,0.8s,baz=130,slow=4.5,SNR=3.7						
SONM				LR	LR	11 10 37.7	
	comp=Z,70nm,19.5s,baz=66,slow=36						
PLCA	**Paso Flores**	**94.87**	**135**	LR	LR	11 03 04.2	
	comp=Z,77nm,20.6s,baz=175,slow=29						

---

*IDC **01** 10:29:33.5±0.8, 7°.00N×126°.51E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=18.6km s-min=10.9km az=17.0*
*ISCJB **01** 10:29:36.3±4.5, 6°.96N±0°.09×126°.37E±0°.09, h32km±34km, mb3.7/7, Error ellipse: s-maj=16.2km s-min=14.0km az=23.4*
*MAN **01** 10:29:37, 6°.95N×126°.27E, h25km*
ISC 01 10:29:37.2±0.9, 7°.0N±0°.1×126°.2E±0°.1, h26km±6km, n10, σ1§09/14, mb3.9/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.07**	**111**	eP	**Pb**	**10 29 41.8**	**0.0**
MATI				eS	**Sb**	**10 29 44.8**	**-0.2**
DAV	**Davao City (W)**	**0.61**	**279**	Pg	**Pn**	**10 29 50.8**	**+0.6**
	246nm,0.3s,baz=163,slow=2.0,SNR=11						
DAV				Lg	Lg	10 30 04.7	
	240nm,0.3s,baz=77,slow=23,SNR=5.1						
BUKP	**Musuan**	**1.43**	**309**	eP	**Pn**	**10 30 02.7**	**+1.1**
BUKP				eS	**Sn**	**10 30 17.4**	**-2.2**
FITZ	**Fitzroy Crossi**	**24.92**	**181**	P	**P**	**10 34 57.9**	**-0.5**
	2.3nm,0.7s,baz=11,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**27.92**	**163**	P	**P**	**10 35 25.3**	**-0.2**
	0.7nm,0.7s,baz=346,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**31.37**	**166**	P	**P**	**10 35 56.2**	**+0.1**
	0.5nm,0.5s,baz=343,slow=7.0,SNR=20						
ASAR				PcP	**PcP**	**10 38 49.2**	**-0.4**
	0.4nm,0.5s,baz=348,slow=2.6,SNR=6.4						
ASAJ	**Asahikawa**	**39.69**	**19**	P	**P**	**10 37 07.3**	**+0.2**
	1.5nm,0.4s,baz=260,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**41.34**	**160**	P	**P**	**10 37 21.0**	**0.0**
	1.8nm,0.5s,baz=334,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**54.61**	**324**	P	**P**	**10 39 05.3**	**+1.7**
	0.8nm,0.5s,baz=120,slow=8.3,SNR=11						
MKAR				PcP	**PcP**	**10 40 06.8**	**+0.4**
	0.5nm,0.7s,baz=103,slow=5.2,SNR=3.1						
ILAR	**Eielson Array**	**82.43**	**26**	P	**P**	**10 41 55.6**	**-1.4**
	0.2nm,0.6s,baz=250,slow=4.9,SNR=4.3						

---

*IDC **01** 10:39:10.8±2.8, 23°.57S×179°.97W, h513km±32km, mb3.4/7, mb1 3.7/8, mb1mx3.3/18, mbtmp3.4/8, Error ellipse: s-maj=51.3km s-min=17.9km az=162.0*
*AUST **01** 10:39:18.4, 22°.67S×179°.75E, h600km*
ISC 01 10:39:13.7±0.7, 24°.0S±0°.1×179°.9W±0°.1, h550km, n21, σ1§21/23, mb3.9/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.51**	**64**	S	**S**	**10 43 35.8**	**+1.2**
	baz=10,SNR=3.2						
URZ	**Urewera**	**14.46**	**189**	P	**P**	**10 42 18.0**	**+0.6**
	1.1nm,0.3s,baz=231,slow=11,SNR=7.4						
URZ				S	**S**	**10 44 47.4**	**-1.4**
	0.2nm,0.3s,baz=124,slow=15,SNR=2.0						
EIDS	**Eidsvold**	**26.36**	**261**	P	**P**	**10 44 07.4**	**+0.8**
	baz=26,SNR=4.6						
RMQ	**Roma**	**28.41**	**258**	P	**P**	**10 44 26.1**	**+1.6**
	baz=28,SNR=5.6						
MTSU	**Mount Surprise**	**33.81**	**273**	P	**P**	**10 45 10.8**	**0.0**
	baz=33,SNR=11						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**10 45 19.1**	**+0.6**
	7.8nm,1.3s,baz=118,slow=9.1,SNR=9.1						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**10 45 19.4**	**+0.9**
	baz=35,SNR=8.0						
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**10 46 17.9**	**-0.3**
	5.5nm,0.7s,baz=100,slow=7.2,SNR=73						
ASAR				ScP	**ScP**	**10 51 01.6**	**+3.2**
	1.2nm,0.7s,baz=109,slow=4.4,SNR=14						
WRA	**Warramunga Arr**	**42.47**	**266**	P	**P**	**10 46 19.9**	**-1.2**
	7.5nm,0.5s,baz=102,slow=8.5,SNR=115						
FORT	**Forrest**	**46.35**	**250**	P	**P**	**10 46 50.6**	**-0.2**
	baz=46,SNR=13						
KDU	**Kakadu**	**46.37**	**275**	P	**P**	**10 46 49.7**	**-1.4**
	baz=46,SNR=5.5						
MTN	**Manton Dam**	**47.53**	**274**	P	**P**	**10 46 58.6**	**-1.3**
	baz=47,SNR=4.5						
KNRA	**Kununurra**	**48.76**	**270**	P	**P**	**10 47 08.5**	**-0.5**
	baz=48,SNR=10						
FITZ	**Fitzroy Crossi**	**50.89**	**266**	P	**P**	**10 47 24.6**	**-0.1**
	3.5nm,0.7s,baz=89,slow=8.0,SNR=10						
FITZ	**Fitzroy Crossi**	**50.89**	**266**	P	**P**	**10 47 25.2**	**+0.5**
	baz=51,SNR=5.8						
BLDU	**Ballidu**	**56.06**	**248**	P	**P**	**10 48 01.2**	**0.0**
	baz=56,SNR=5.7						
MORW	**Morawa**	**56.91**	**250**	P	**P**	**10 48 07.2**	**+0.2**
	baz=57,SNR=4.2						
NVAR	**Mina Array Bea**	**84.76**	**44**	P	**P**	**10 50 49.6**	**-0.9**
	0.4nm,0.6s,baz=220,slow=8.2,SNR=3.6						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**10 51 17.5**	**+0.4**
	0.8nm,0.6s,baz=215,slow=7.3,SNR=14						
PDAR	**Pinedale Array**	**92.70**	**44**	P	**P**	**10 51 26.1**	**-1.5**
	0.3nm,0.6s,baz=222,slow=2.0,SNR=4.0						
EKA	**Eskdalemuir Ar**	**148.60**	**4**	PKPbc	**PKPbc**	**10 57 57.2**	**-1.4**
	2.0nm,0.8s,baz=325,slow=2.1,SNR=4.3						

---

*ISCJB **01** 10:39:53.6±0.4, 47°.38N±0°.04×145°.3E±0°.1, h450km, mb3.3/11, Error ellipse: s-maj=12.0km s-min=5.2km az=14.7*
*MOS **01** 10:39:54.5±1.1, 47°.55N×145°.08E, h461km, mb3.9/4, Error ellipse: s-maj=25.5km s-min=11.9km az=74.1*
*JMA **01** 10:39:55.8±0.5, 47°.07N×145°.50E, h465km, M3.4*
*IDC **01** 10:39:55.3±1.7, 47°.61N×145°.15E, h448km±21km, mb2.9/10, mb1 3.0/11, mb1mx2.9/26, mbtmp2.9/11, Error ellipse: s-maj=18.8km s-min=15.5km az=91.0*
ISC 01 10:39:54.3±0.7, 47°.25N±0°.07×145°.4E±0°.1, h450km, n32, σ1§59/35, mb3.2/11, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.81**	**262**	ePN	**P**	**10 40 56.8**	**+3.0**
YSS				eS	**S**	**10 41 43.6**	**+1.5**
YSS				smax	smax		
	comp=N,50nm,0.9s						
JSE	**Soyaes**	**3.00**	**221**	P	**P**	**10 41 03.8**	**+2.5**
JWK2	**Keihoku**	**3.09**	**233**	P	P	10 41 05.0	+3.0
JRA	**Rausu**	**3.31**	**183**	P	**P**	**10 41 06.1**	**+2.3**
JTKR	**Abashiri--Toko**	**3.44**	**198**	P	**P**	**10 41 06.9**	**+2.2**
ASAJ	**Asahikawa**	**3.69**	**213**	P	P	10 41 09.7	+2.8
	comp=N,1.5nm,0.3s,baz=301,slow=5.9,SNR=19						
NEM2	**Nemuro 2**	**3.89**	**176**	P	**P**	**10 41 08.8**	**+0.3**
NEM2				eS	**S**	**10 42 07.9**	**-1.0**
JAK	**Akkeshi**	**4.28**	**187**	P	**P**	**10 41 13.0**	**+1.1**
JAK				eS	**S**	**10 42 14.6**	**-0.5**
JFR	**Furan**	**4.53**	**207**	P	P	10 41 17.0	+2.7
JCH	**Churui**	**4.85**	**198**	P	**P**	**10 41 18.1**	**+0.9**
JCH				eS	**S**	**10 42 23.4**	**-1.4**
JEW	**Eniwo**	**5.21**	**214**	P	**P**	**10 41 23.0**	**+2.3**
JNBK	**Urakawa-nobuka**	**5.31**	**202**	P	**P**	**10 41 22.7**	**+1.0**
JNBK				eS	**S**	**10 42 31.5**	**-1.4**
ERM	**Erimo**	**5.47**	**198**	i PN	**P**	**10 41 25.5**	**+2.3**
JKB	**Kayabe**	**6.19**	**212**	P	**P**	**10 41 31.6**	**+1.0**
JKB				eS	**S**	**10 42 48.3**	**-0.9**
JOT	**Ohata**	**6.63**	**209**	P	**P**	**10 41 36.9**	**+1.7**
JOT				eS	**S**	**10 42 56.1**	**-1.6**
JANG	**Nango**	**7.42**	**203**	P	**P**	**10 41 45.2**	**+1.7**
JANG				eS	**S**	**10 43 11.5**	**-1.4**
PET	**Petropavlovsk**	**10.29**	**51**	i PN	**P**	**10 42 14.8**	**+0.5**
COLA	**College**	**39.05**	**39**	eP	**P**	**10 46 39.7**	**-0.6**
ILAR	**Eielson Array**	**39.47**	**39**	P	**P**	**10 46 43.1**	**-0.7**
	comp=N,0.5nm,0.8s,baz=283,slow=8.1,SNR=9.4						
MKAR	**Makanchi Array**	**41.95**	**294**	P	**P**	**10 47 03.3**	**-0.7**
MKAR	**Makanchi Array**	**41.95**	**294**	P	**P**	**10 47 03.3**	**-0.7**
	comp=N,0.5nm,0.5s,baz=64,slow=8.6,SNR=5.5						
KURK	**Kurchatov**	**42.61**	**300**	P	**P**	**10 47 08.4**	**-0.7**
KURBB	**Kurchatov Arra**	**42.70**	**300**	P	**P**	**10 47 08.4**	**-1.4**
	comp=N,0.8nm,0.7s,baz=72,slow=8.7,SNR=4.4						
BRVK	**Borovoye**	**46.42**	**306**	i P	P	10 47 35.1	-3.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**55.53**	**338**	P	**P**	**10 48 43.7**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=46,slow=6.9,SNR=3.7						
FINES	**FINESS Array B**	**61.20**	**331**	P	**P**	**10 49 21.9**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=35,slow=7.0,SNR=13						
NB2	**NORSAR Subarra**	**65.89**	**338**	P	**P**	**10 49 52.3**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**65.89**	**338**	P	**P**	**10 49 52.4**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=33,slow=6.3,SNR=5.8						
HFS	**Hagfors**	**65.98**	**336**	P	**P**	**10 49 52.8**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=40,slow=4.8,SNR=12						
WRA	**Warramunga Arr**	**67.61**	**191**	P	**P**	**10 50 07.5**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=6.6,slow=6.8,SNR=4.6						
PDAR	**Pinedale Array**	**68.60**	**50**	P	**P**	**10 50 12.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=333,slow=3.3,SNR=3.3						
ASAR	**Alice Springs**	**71.34**	**191**	P	P	10 50 30.8	+3.5
	comp=Z,0.1nm,0.5s,baz=4.7,slow=5.2,SNR=3.7						

IDC 01 10:46:52.1±1.1, 19°.52N×121°.61E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, MS3.5/2, Ms1 3.5/2, ms1mx2.9/27, Error ellipse: s-maj=67.0km s-min=18.6km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.70**	**16**	P	P	10 51 11.9	-0.1
	0.3nm,0.3s,baz=196,slow=11,SNR=9.2						
SONM	**Songino Array**	**30.83**	**340**	P	P	10 53 09.6	-0.3
	0.2nm,0.3s,baz=151,slow=9.2,SNR=3.0						
WRA	**Warramunga Arr**	**41.16**	**162**	P	P	10 54 37.7	-0.7
	0.6nm,0.6s,baz=342,slow=9.0,SNR=5.2						
MKAR	**Makanchi Array**	**42.04**	**319**	P	P	10 54 45.5	0.0
	0.5nm,0.7s,baz=113,slow=8.8,SNR=4.7						
MKAR				LR	LR	11 13 53.6	
	comp=Z,27nm,21.4s,baz=265,slow=39						
ZALV	**Zalesovo Beam**	**44.40**	**330**	P	P	10 55 04.3	-0.1
	0.4nm,0.3s,baz=150,slow=6.1,SNR=2.3						
ASAR	**Alice Springs**	**44.57**	**164**	P	P	10 55 06.4	+0.3
	0.3nm,0.3s,baz=343,slow=6.9,SNR=14						
EIL	**Elat**	**77.79**	**297**	LR	LR	11 35 47.9	
	comp=Z,56nm,20.0s,baz=96,slow=38						

IDC 01 11:24:08.1±5.1, 4°.73S×151°.38E, h102km±43km, mb3.4/3, mb1 3.6/4, mb1mx3.2/18, mbtmp3.4/4, Error ellipse: s-maj=118.9km s-min=30.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**222**	P	Pn	11 25 39.1	+1.2
	1.7nm,0.3s,baz=27,slow=6.8,SNR=5.6						
PMG				S	Sn	11 26 47.8	-0.2
	1.9nm,0.3s,baz=166,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**22.45**	**226**	P	P	11 28 58.6	-0.3
	0.7nm,0.3s,baz=51,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**25.27**	**220**	P	P	11 29 25.1	+0.1
	1.4nm,0.4s,baz=57,slow=9.1,SNR=41						
ILAR	**Eielson Array**	**82.63**	**22**	P	P	11 36 19.3	-0.5
	0.2nm,0.6s,baz=237,slow=6.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.94**	**288**	PKPbc	PKPbc	11 43 45.1	-0.1
	0.4nm,0.7s,baz=103,slow=4.5,SNR=3.1						

---

*NEIC **01** 12:55:55.6, 34°.26N×117°.38W, h7km, MW3.5(PAS), After PAS.*
NEIC Felt [III] at Cedarpines Park and [II] at Apple Valley, Blue Jay, Colton, Crestline, Fontana, Glendale, Hawthorne, Hesperia, Highland, Lake Arrowhead, Loma Linda, Mount Baldy, Ontario, Pasadena, Phelan, Pinon Hills, Rancho Cucamonga, Rialto, Riverside, San Bernardino, Upland, Victorville and Wrightwood.
ISC 01 12:55:55.5±0.8, 34°.24N±0°.03×117°.38W±0°.03, h11km±5km, n32, σ1§82/45, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**0.57**	**269**	ePg	**Pg**	**12 56 06.0**	**-0.6**
MWC				eSg	**Sg**	**12 56 13.6**	**-0.5**
PASC	**Pasadena Art C**	**0.68**	**264**	ePg	**Pg**	**12 56 07.7**	**-0.9**
PASC				eSg	**Sg**	**12 56 16.8**	**-0.6**
PFO	**Pinyon Flat Ob**	**0.99**	**129**	ePg	**Pg**	**12 56 13.9**	**-0.7**
PFO				eSg	**Sg**	**12 56 26.7**	**-0.8**
GSC	**Goldstone**	**1.16**	**24**	ePg	**Pg**	**12 56 16.7**	**-1.1**
GSC				eSg	**Sn**	**12 56 33.8**	**0.0**
OSI	**Osito Adit**	**1.18**	**289**	ePg	**Pg**	**12 56 15.8**	**-2.3**
OSI				eSg	**Sg**	**12 56 33.0**	**-0.4**
BAR	**Barrett**	**1.66**	**159**	ePn	**Pn**	**12 56 24.2**	**-0.5**
BAR				eSn	**Sn**	**12 56 45.9**	**-0.1**
ISA	**Isabella**	**1.68**	**328**	ePn	**Pn**	**12 56 24.1**	**-0.9**
ISA				eSn	**Sb**	**12 56 47.7**	**-0.1**
LDFC	**Landfair**	**2.05**	**65**	ePn	**Pn**	**12 56 28.8**	**-1.2**
LDFC				eSn	**Sb**	**12 56 58.5**	**+0.2**
GLA	**Glamis**	**2.43**	**118**	ePn	**Pn**	**12 56 35.0**	**-0.3**
GLA				eSg	**Sb**	**12 57 12.2**	**+2.8**
PTRM	**Twissleman Ran**	**2.72**	**302**	ePn	**Pn**	**12 56 38.4**	**-0.9**
MTUM	**Tungsten Hills**	**3.25**	**343**	ePb	**Pn**	**12 56 49.2**	**+2.5**
SAO	**San Andreas Ge**	**4.17**	**308**	ePn	**Pn**	**12 56 57.8**	**-1.4**
NV11	**Mina Array Sit**	**4.23**	**352**	ePn	**Pn**	**12 56 59.5**	**-0.6**
NV11				Sg	**Sg**	**12 58 16.2**	**+4.8**
CMB	**Columbia Colle**	**4.50**	**328**	ePn	**Pn**	**12 57 04.4**	**+0.7**
CMB				eSn	**Sn**	**12 57 55.8**	**-0.4**
WAKR	**Walker**	**4.57**	**339**	ePn	**Pn**	**12 57 07.3**	**+2.5**
WAKR				eSg	**Sg**	**12 58 17.6**	**-4.7**
CCUT	**Cedar City**	**4.64**	**43**	ePn	**Pn**	**12 57 07.1**	**+1.3**
ARUT	**Antelope Range**	**4.77**	**41**	ePn	**Pn**	**12 57 08.3**	**+0.8**
WUAZ	**Wupatki**	**5.09**	**74**	ePn	**Pn**	**12 57 11.4**	**-0.7**
	16nm,0.7s						
WUAZ				eSg	**Sg**	**12 58 36.8**	**-2.4**
TUC	**Tucson**	**5.84**	**107**	ePn	**Pn**	**12 57 20.1**	**-2.1**
TUC				eSg	Sg	12 58 57.7	-5.5
MVU	**Marysvale**	**5.95**	**43**	ePn	**Pn**	**12 57 25.6**	**+1.7**
	10nm,0.5s						
MVU				eSn	**Sn**	**12 58 32.5**	**+0.2**
MSU	**Marysvale**	**5.98**	**43**	ePn	**Pn**	**12 57 24.4**	**+0.2**
DUG	**Dugway**	**6.97**	**30**	ePg	Pg	12 58 03.8	-5.2
DUG				eSg	**Sg**	**12 59 35.0**	**-4.2**
TMUT	**Trail Mountain**	**7.07**	**43**	ePg	Pg	12 58 07.1	-3.8
BGU	**Big Grassy Mou**	**7.51**	**26**	ePg	Pg	12 58 15.8	-3.6
BGU				eSg	**Sg**	**12 59 56.3**	**-0.3**
PV04	**Paradox Valley**	**7.99**	**56**	ePn	**Pn**	**12 57 50.9**	**-1.0**
PV01	**Paradox Valley**	**8.11**	**59**	ePn	**Pn**	**12 57 53.5**	**0.0**
	655nm,0.7s						
PV01				eSg	Sg	13 00 08.5	-7.2
MNTX	**Cornudas Mount**	**10.39**	**101**	ePn	**Pn**	**12 58 25.2**	**+0.7**
	0.6nm,0.4s						
MNTX				eSn	**Sn**	**13 00 22.2**	**+1.2**
HHC	**Hu-ho-hao-te**	**92.75**	**325**	eP	**P**	**13 09 07.0**	**-1.1**
HHC				pP	**pP**	**13 09 11.0**	**-0.7**
HHC				sP	**sP**	**13 09 15.2**	**+2.2**
HHC				PP	**PP**	**13 12 52.6**	**+3.4**
HHC	**Hu-ho-hao-te**	**92.75**	**325**	S	S	13 20 08.0	-5.3
HHC	**Hu-ho-hao-te**	**92.75**	**325**	sS	S	13 20 25.4	+12
HHC	**Hu-ho-hao-te**	**92.75**	**325**	SS	SS	13 26 27.6	+3.0
HHC				pmax	pmax		
	comp=Z,43nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,6.4s						
HHC				LR	LR		
	comp=N,160nm,17.9s						
HHC				LR	LR		
	comp=E,120nm,17.6s						
HHC				LR	LR		
	comp=Z,83nm,17.0s						
WMQ	**Urumqi**	**99.02**	**342**	eP	Pdif	13 09 37.9	+1.4

---

*IDC **01** 13:16:23.4±1.8, 30°.14N×51°.04E, h0km, mb3.6/8, mb1 3.6/10, mb1mx3.5/29, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=41.1km s-min=21.3km az=159.0*
*CSEM **01** 13:16:27.2±0.1, 30°.16N×51°.02E, h2km, ML3.5, Error ellipse: s-maj=3.8km s-min=2.6km az=146.0*
*TEH **01** 13:16:27.4, 30°.11N×51°.01E, h1km, ML3.5*
ISC 01 13:16:26.7±1.5, 30°.10N±0°.05×51°.04E±0°.04, h16km±8km, n52, σ1§91/59, mb3.8/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.94**	**111**	ePn	**Pn**	**13 17 01.9**	**+2.7**
ISRV				e	Sg	13 17 40.4	+11
	comp=Z,3μm,0.4s						
ISRV	**Sarvestan**	**1.94**	**111**	ePn	**Pn**	**13 17 01.9**	**+2.7**
IGAR	**Gharneh**	**2.45**	**20**	e	**Pg**	**13 17 13.8**	**+0.1**
	comp=Z,2μm,0.1s						
IGAR				ePn	**Pn**	**13 17 08.3**	**+2.1**
IPIR	**Pirpir**	**2.58**	**357**	ePn	**Pn**	**13 17 10.4**	**+2.4**
IPIR				eSg	**Sb**	**13 17 47.4**	**+3.1**
IPIR				e		13 17 48.0	
	comp=Z,3μm,0.3s						
IPIR	**Pirpir**	**2.58**	**357**	ePn	**Pn**	**13 17 10.4**	**+2.4**
IPIR				eSg	**Sb**	**13 17 47.4**	**+3.1**
ISAD	**Sadrabad**	**2.90**	**51**	ePn	**Pn**	**13 17 14.7**	**+2.3**
ISAD				e	**Sg**	**13 18 02.8**	**+2.8**
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**2.90**	**51**	ePn	**Pn**	**13 17 14.7**	**+2.3**
UMR	**Umm Al-Rimmam**	**2.94**	**260**	eP	**Pn**	**13 17 15.2**	**+2.5**
UMR				AML	AML	13 17 55.7	
	comp=Z,156nm,0.4s						
UMR	**Umm Al-Rimmam**	**2.94**	**260**	eP	**Pn**	**13 17 15.2**	**+2.5**
IZEF	**Zefreh**	**3.00**	**21**	ePn	**Pn**	**13 17 15.7**	**+2.0**
IZEF				e	Pg	13 17 28.2	+4.1
	comp=Z,891nm,0.2s						
IZEF	**Zefreh**	**3.00**	**21**	ePn	**Pn**	**13 17 15.7**	**+2.0**
KBD	**Kabd**	**3.06**	**253**	eP	**Pn**	**13 17 16.4**	**+2.1**
KBD				AML	AML	13 17 58.7	
	comp=Z,63nm,0.3s						
KBD	**Kabd**	**3.06**	**253**	eP	**Pn**	**13 17 16.4**	**+2.1**
IKLH	**Kolahrood**	**3.24**	**8**	ePn	**Pn**	**13 17 19.1**	**+2.0**
IKLH				e	Sg	13 18 17.2	+6.4
	comp=Z,2μm,0.5s						
IKLH	**Kolahrood**	**3.24**	**8**	ePn	**Pn**	**13 17 19.1**	**+2.0**
RDF	**Al-Radifah**	**3.26**	**250**	eP	**Pn**	**13 17 19.1**	**+2.0**
RDF				AML	AML	13 18 01.0	
	comp=Z,103nm,0.7s						
RDF	**Al-Radifah**	**3.26**	**250**	eP	**Pn**	**13 17 19.1**	**+2.0**
IMEH	**Mehriz**	**3.33**	**66**	ePn	**Pn**	**13 17 20.6**	**+2.3**
IMEH				e	**Sg**	**13 18 11.2**	**-2.6**
	comp=Z,534nm,0.3s						
IMEH	**Mehriz**	**3.33**	**66**	ePn	**Pn**	**13 17 20.6**	**+2.3**
NAY	**Al-Naaiem**	**3.41**	**257**	eP	**Pn**	**13 17 21.3**	**+2.1**
NAY				AML	AML	13 18 04.3

SIGR			S	Sg	13 17 59.0	0.0
SIGR	**SIGRI**	**0.29 126**	P	Pg	13 17 54.6	-0.1
SIGR			S	Sg	13 17 59.0	0.0
PRK	**Paraskevi**	**0.57 103**	P	Pb	13 18 00.0	-0.1
PRK			S	Sb	13 18 07.8	-0.2
PRK	**Paraskevi**	**0.57 103**	P	Pb	13 18 00.0	-0.1
PRK			S	Sb	13 18 07.8	-0.2
LIA	**Limnos Island**	**0.59 331**	P	Pb	13 18 00.8	+0.4
LIA			S	Sb	13 18 08.4	-0.1
LIA	**Limnos Island**	**0.59 331**	*e*PN	Pb	13 18 01.0	+0.6
LIA			*e*SN	Sn	13 18 10.6	-0.8
LIA	**Limnos Island**	**0.59 331**	P	Pb	13 18 00.8	+0.4
LIA			S	Sb	13 18 08.4	-0.1
CHOS	**Chios island**	**1.07 158**	P	Pb	13 18 08.6	-0.1
CHOS			S	Sb	13 18 22.5	+0.1
CHOS	**Chios island**	**1.07 158**	P	Pb	13 18 08.6	-0.1
CHOS			S	Sb	13 18 22.5	+0.1
SMTH	**Samothraki Isl**	**1.09 359**	P	Pb	13 18 08.1	-0.9
SMTH			S	Sb	13 18 23.1	+0.2
SMTH	**Samothraki Isl**	**1.09 359**	P	Pb	13 18 08.1	-0.9
SMTH			S	Sb	13 18 23.1	+0.2
AOS	**Alonnisos**	**1.32 261**	P	Pn	13 18 10.7	-1.5
AOS	**Alonnisos**	**1.32 261**	P	Pn	13 18 10.7	-1.5

*ATH **01** 13:17:46.4, 40.°13N×24.°30E, h28km±2km, MD3.0/5*
*ISCJB **01** 13:17:52.7±0.7, 40.°03N±0.°04×23.°56E±0.°07, h12km±5km, Error ellipse: s-maj=8.8km s-min=6.4km az=175.9*
*CSEM **01** 13:17:52.3±0.2, 40.°00N×23.°55E, h13km±1km, ML1.7/4, Error ellipse: s-maj=4.5km s-min=3.3km az=90.0*
*THE **01** 13:17:53.5, 40.°07N×23.°61E, h11km±1km, ML1.7/4, Error ellipse: s-maj=2.6km s-min=1.0km az=238.0*

ISC 01 13:17:52.7±0.9, 40.°04N±0.°03×23.°61E±0.°04, h17km±7km, n22, σ0.83/32, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.12**	**154**	P	**Pb**	**13 17 56.6**	**0.0**
PAIG				S	**Sg**	**13 17 58.9**	**0.0**
PAIG	**Paliouri**	**0.12**	**154**	*e*PN	**Pb**	**13 17 56.6**	**0.0**
PAIG	**Paliouri**	**0.12**	**154**	P	**Pb**	**13 17 56.6**	**0.0**
PAIG				S	**Sg**	**13 17 58.9**	**0.0**
PLG	**Polygyros**	**0.36**	**340**	P	**Pb**	**13 18 00.2**	**-0.4**
PLG				S	**Sg**	**13 18 04.6**	**-0.6**
PLG	**Polygyros**	**0.36**	**340**	*e*PN	**Pb**	**13 18 00.3**	**-0.4**
PLG	**Polygyros**	**0.36**	**340**	P	**Pb**	**13 18 00.2**	**-0.4**
PLG				S	**Sg**	**13 18 04.6**	**-0.6**
OUR	**Ouranopolis**	**0.41**	**44**	P	**Pb**	**13 18 01.5**	**0.0**
OUR				S	**Sb**	**13 18 06.9**	**-0.6**
OUR	**Ouranopolis**	**0.41**	**44**	P	**Pb**	**13 18 01.5**	**0.0**
OUR				S	**Sb**	**13 18 06.9**	**-0.6**
HORT	**Hortiatis**	**0.68**	**325**	P	**Pb**	**13 18 06.0**	**-0.2**
HORT	**Hortiatis**	**0.68**	**325**	P	**Pb**	**13 18 06.0**	**-0.2**
NEO	**Neokhori**	**0.79**	**202**	*e*PN	**Pg**	**13 18 08.2**	**+0.1**
NEO	**Neokhori**	**0.79**	**202**	*e*Pn	**Pg**	**13 18 08.2**	**+0.1**
SOH	**Sokhos**	**0.81**	**346**	P	**Pb**	**13 18 08.2**	**-0.1**
SOH				S	**Sn**	**13 18 19.6**	**-1.4**
SOH	**Sokhos**	**0.81**	**346**	P	**Pb**	**13 18 08.2**	**-0.1**
SOH				S	**Sn**	**13 18 19.6**	**-1.4**
AOS	**Alonnisos**	**0.89**	**166**	*e*PN	Pg	13 18 06.2	-3.8
AOS	**Alonnisos**	**0.89**	**166**	*e*Pn	Pg	13 18 06.2	-3.8
SRS	**Serrai**	**1.08**	**359**	P	**Pn**	**13 18 13.8**	**+0.7**
SRS	**Serrai**	**1.08**	**359**	P	**Pn**	**13 18 13.8**	**+0.7**
KAVA	**Kavala**	**1.18**	**36**	P	**Pg**	**13 18 15.8**	**+0.3**
KAVA				S	**Sn**	**13 18 30.3**	**+0.2**
KAVA	**Kavala**	**1.18**	**36**	P	**Pg**	**13 18 15.8**	**+0.3**
KAVA				S	**Sn**	**13 18 30.3**	**+0.2**
GRG	**Griva**	**1.30**	**315**	*e*PN	**Pn**	**13 18 15.8**	**-0.3**
GRG				*e*SN	**Sg**	**13 18 37.1**	**+2.4**
GRG	**Griva**	**1.30**	**315**	*e*Pn	**Pn**	**13 18 15.8**	**-0.3**
GRG				*e*Sn	**Sg**	**13 18 37.1**	**+2.4**

*IDC **01** 13:20:57.5±1.4, 11.°47N×126.°87E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, Error ellipse: s-maj=129.4km s-min=18.4km az=68.0*
*ISCJB **01** 13:21:03.6±0.8, 11.°23N±0.°08×126.°01E±0.°08, h49km, mb3.7/10, Error ellipse: s-maj=13.6km s-min=8.8km az=135.9*
*MAN **01** 13:21:07, 11.°12N×125.°63E, h1km, mb4.6, ML3.5, MS3.4*

ISC 01 13:21:04.9±0.9, 11.°21N±0.°09×126.°0E±0.°1, h49km, n14, σ1.51/15, mb3.9/10, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.98**	**268**	∥ *i*P	**Pn**	**13 21 20.0**	**-2.4**
PLP				*i* S	**Sn**	**13 21 33.1**	**-2.2**
OCLP	**Ormoc**	**1.35**	**263**	*e*P	**Pn**	**13 21 27.9**	**+0.4**
MSLP	**Maasin**	**1.53**	**226**	*e*P	**Pn**	**13 21 30.3**	**+0.4**
MSLP				*e*S	**Sn**	**13 21 49.9**	**+1.2**
GUIM	**Jordan**	**3.38**	**260**	*e*P	**Pn**	**13 21 57.4**	**+2.1**
ASAR	**Alice Springs**	**35.52**	**167**	P	**P**	**13 27 57.2**	**-0.1**
	0.2nm,0.4s,baz=344,slow=7.0,SNR=12						
SONM	**Songino Array**	**40.05**	**339**	P	**P**	**13 28 35.3**	**-0.1**
	0.4nm,0.6s,baz=164,slow=10.0,SNR=3.9						
STKA	**Stephens Creek**	**45.38**	**161**	P	**P**	**13 29 16.4**	**-2.2**
	2.2nm,0.9s,baz=315,slow=7.1,SNR=3.9						
MKAR	**Makanchi Array**	**51.11**	**322**	P	**P**	**13 30 04.1**	**+1.3**
	0.6nm,0.5s,baz=117,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**53.67**	**331**	P	**P**	**13 30 21.4**	**-0.1**
	0.5nm,0.3s,baz=90,slow=6.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**55.14**	**325**	P	**P**	**13 30 33.5**	**+1.2**
	0.9nm,0.6s,baz=126,slow=6.9,SNR=13						
BVAR	**Borovoye Array**	**60.74**	**325**	P	**P**	**13 31 12.1**	**+0.6**
	0.4nm,0.6s,baz=114,slow=9.6,SNR=2.6						
ARCES	**ARCESS Array B**	**83.22**	**340**	P	**P**	**13 33 26.9**	**+1.1**
	1.0nm,0.8s,baz=76,slow=7.7,SNR=4.2						
BRTR	**Keskin Array B**	**84.72**	**309**	P	P	13 33 37.7	+3.4
	0.3nm,0.7s,baz=38,slow=9.5,SNR=2.5						
FINES	**FINESS Array B**	**84.93**	**332**	P	**P**	**13 33 35.3**	**+0.7**
	0.4nm,0.4s,baz=35,slow=4.7,SNR=8.5						

*IDC **01** 13:33:28.0±0.4, 56.°28S×124.°22W, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.5/19, mbtmp4.3/15, MS5.4/20, Ms1 5.3/20, ms1mx5.3/23, Error ellipse: s-maj=21.6km s-min=15.0km az=155.0*
*ISCJB **01** 13:33:28.6±0.3, 56.°35S±0.°06×124.°3W±0.°1, h10km, mb4.9/44, MS5.4/182, Error ellipse: s-maj=10.2km s-min=7.3km az=136.0*
*NEIC **01** 13:33:29.9±0.2, 56.°23S×124.°30W, h10km, mb5.2/29, MS5.4/147, MW5.9, MW6.1, Error ellipse: s-maj=10.4km s-min=7.8km az=145.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.66; $M_{\theta\theta}$5.09; $M_{\phi\phi}$-4.43; $M_{r\theta}$-0.09; $M_{\theta\phi}$6.66; $M_{\phi r}$0.44; Best double couple: $M_0$8.20000×10^{17} NP1:ϕ_s198.00000°, δ88.00000°, λ-177.00000°. NP2:ϕ_s108.00000°, δ87.00000°, λ-2.00000°. Principal axes: T 8.5200, Plg0.0000°, Azm332.0000°; N -0.6400, Plg86.0000°, Azm229.0000°; P -7.8800, Plg3.0000°, Azm62.0000°;*
*MOS **01** 13:33:29.0±1.3, 56.°38S×124.°21W, h10km, mb5.3/12, MS5.2/11 Error ellipse: s-maj=27.0km s-min=14.0km az=76.5*
*GCMT **01** 13:33:38.5±0.1, 55.°70S×124.°58W, h20km, MW6.0, Moment Tensor Solution. s107, c249; s98, c150; Moment tensor: Scale 10^{18}Nm; M_{rr}-0.12±.01; $M_{\theta\theta}$0.89±.01; $M_{\phi\phi}$-0.77±.01; $M_{r\theta}$0.04±.02; $M_{\theta\phi}$1.11±.01; $M_{\phi r}$0.03±.02; Best double couple: $M_0$1.40000×10^{18} NP1:ϕ_s18.00000°, δ89.00000°, λ178.00000°. NP2: ϕ_s108.00000°, δ88.00000°, λ1.00000°. Principal axes: T 1.4500, Plg2.0000°, Azm333.0000°; N -0.1200, Plg88.0000°, Azm165.0000°; P -1.3300, Plg0.0000°, Azm63.0000°; Data Used: II IU CN IC G. Surface waves: sta=18, comp=263, per= 50.*
*NEIC **01** 13:33:56.4±0.0, 56.°21S×124.°07W, h10km, Moment Tensor Solution. s134 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.12; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-0.77; $M_{r\theta}$0.16; $M_{\theta\phi}$1.01; $M_{\phi r}$-0.95; Best double couple: $M_0$1.60000×10^{18} NP1:ϕ_s285.00000°, δ60.00000°, λ-13.00000°. NP2:ϕ_s22.00000°, δ78.00000°, λ-149.00000°. Principal axes: T 1.4200, Plg11.0000°, Azm150.0000°; N 0.3500, Plg57.0000°, Azm41.0000°; P -1.7700, Plg29.0000°, Azm247.0000°;*

ISC 01 13:33:30.8±0.3, 56.°34S±0.°09×124.°12W±0.°06, h10km, n354, σ1.78/214, mb5.0/43, MS5.4/182, 13C-5D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**29.60**	**131**	*e*P	**P**	**13 39 37.3**	**+1.8**
	41nm,1.4s						
PMSA	**Palmer Station**	**29.60**	**131**	LR	LR	13 48 42.2	
	comp=Z,4μm,19.2s,baz=263,slow=31						
USHA	**Ushuaia**	**30.79**	**111**	LR	LR	13 49 13.1	
	comp=Z,4μm,20.9s,baz=222,slow=31						
RPN	**Rapa Nui**	**31.06**	**26**	*e*P	**P**	**13 39 50.8**	**+2.0**
	3μm,2.6s						
RPN				LR	LR		
	comp=Z,5μm,19.0s						
SBA	**Scott Base**	**31.38**	**202**	*e*P	**P**	**13 39 51.8**	**+0.6**
SBA				pmax	pmax		
	comp=Z,32nm,1.4s						
SBA				MLR	MLR		
	comp=Z,5μm,21.0s						
SBA	**Scott Base**	**31.38**	**202**	*e*P	**P**	**13 39 51.8**	**+0.6**
	comp=Z,32nm,1.4s						
SBA				LR	LR		
	comp=Z,5μm,21.0s						
VNDA	**Vanda**	**32.43**	**203**	*e*P	**P**	**13 39 59.5**	**-1.0**
	comp=Z,25nm,1.5s						
VNDA	**Vanda**	**32.43**	**203**	P	P	13 40 04.9	+4.4
	comp=Z,1.1nm,0.9s,baz=119,slow=4.8,SNR=7.6						
QSPA	**South Pole Qui**	**33.84**	**180**	P	**P**	**13 40 12.2**	**-0.9**
QSPA				LR	LR		
	comp=Z,6μm,20.0s						
QSPA	**South Pole Qui**	**33.84**	**180**	P	**P**	**13 40 12.1**	**-0.9**
	comp=Z,1.9nm,1.1s,baz=46,slow=3.4,SNR=2.7						
RKT	**Rikitea**	**34.13**	**342**	*e*S	S	13 45 33.2	-8.3
	comp=Z,2μm,27.2s						
RKT				*e*LQ	LQ	13 47 45.2	
	comp=Z,5μm,35.0s						
RKT				*e*LR	LR	13 48 57.0	
	comp=Z,33μm,28.8s,baz=169						
PLCA	**Paso Flores**	**37.70**	**89**	P	**P**	**13 40 44.7**	**-1.6**
PLCA	**Paso Flores**	**37.70**	**89**	P	**P**	**13 40 44.7**	**-1.6**
	comp=Z,4.2nm,1.1s,baz=212,slow=11,SNR=3.5						
PLCA				LR	LR	13 52 29.0	
	comp=Z,3μm,18.9s,baz=228,slow=30						
EFI	**East Falkland**	**37.75**	**112**	*e*P	**P**	**13 40 48.2**	**+1.7**
EFI	**East Falkland**	**37.75**	**112**	*e*P	**P**	**13 40 48.2**	**+1.7**
	comp=Z,464nm,1.8s						
EFI				LR	LR		
	comp=Z,3μm,22.0s						
TBI	**Tubuai**	**37.82**	**320**	*e*S	S	13 46 29.5	-8.7
	comp=Z,3μm,28.5s						
TBI				*e*LQ	LQ	13 49 14.4	
	comp=Z,10μm,24.0s						
TBI				*e*LR	LR	13 50 33.0	
	comp=Z,25μm,29.5s,baz=161						
ODZ	**Otahua Downs**	**41.31**	**257**	*e*P	**P**	**13 41 16.9**	**+0.7**
	comp=Z,564nm,2.5s						
SNZO	**South Karori**	**41.54**	**264**	PFAKE		13 41 30.0	+12
SNZO				LR	LR		
	comp=Z,4μm,19.0s						
RPZ	**Rata Peaks**	**41.95**	**259**	LR	LR	13 54 52.5	
	comp=Z,5μm,18.1s,baz=123,slow=31						
URZ	**Urewera**	**42.31**	**270**	LR	LR	13 54 55.3	
	comp=Z,9μm,18.6s,baz=133,slow=30						
DRV	**Dumont d'Urvil**	**42.34**	**216**	P	P	13 41 21.0	-3.4
DRV				S	**S**	**13 47 41.0**	**-3.9**
DRV				L	L	13 51 00.0	
DRV				R		13 54 00.0	
PPT2	**Papeete2**	**43.19**	**323**	*e*S	S	13 47 49.9	-8.6
	comp=Z,5μm,26.2s						
PPT2				*e*LQ	LQ	13 51 09.2	
	comp=Z,30μm,27.0s						
PPT2				*e*LR	LR	13 53 17.5	
	comp=Z,28μm,25.8s,baz=161						
PPT	**Papeete**	**43.21**	**323**	LR	LR	13 54 41.5	
	comp=Z,9μm,18.9s,baz=152,slow=30						
RAR	**Rarotonga**	**43.86**	**308**	LR	LR	13 54 31.9	
	comp=Z,4μm,20.1s,baz=117,slow=29						
TRQA	**Tornquist**	**44.33**	**93**	*e*P	**P**	**13 41 42.6**	**+1.8**
	comp=Z,144nm,1.5s						
TRQA				LR	LR		
	comp=Z,3μm,19.0s						
CFAA	**Coronel Fontan**	**45.60**	**81**	P	**P**	**13 41 49.8**	**-1.3**
CFAA	**Coronel Fontan**	**45.60**	**81**	P	**P**	**13 41 49.8**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=216,slow=7.3,SNR=6.1						
SNAA	**Sanae**	**45.86**	**158**	*e*P	**P**	**13 41 52.2**	**-0.3**
	comp=Z,45nm,1.4s						
SNAA	**Sanae**	**45.86**	**158**	P	**P**	**13 41 52.3**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=233,slow=5.2,SNR=6.5						
LCO	**Las Campanas**	**46.25**	**77**	PFAKE		13 42 10.0	+13
LCO				LR	LR		
	comp=Z,970nm,22.0s						
RAO	**Raoul Island**	**46.27**	**283**	PFAKE		13 42 10.0	+14
RAO				LR	LR		
	comp=Z,3μm,21.0s						
CASY	**Casey**	**51.01**	**205**	*e*P	**P**	**13 42 31.2**	**-1.0**
	comp=Z,49nm,1.6s						
CASY				LR	LR		
	comp=Z,5μm,20.0s						
LVC	**Limon Verde**	**52.33**	**73**	*e*P	**P**	**13 42 41.4**	**-1.5**
	comp=Z,36nm,1.5s						
LVC				LR	LR		
	comp=Z,2μm,21.0s						
MIR	**Mirnyy**	**54.30**	**197**	*e*P	P	13 43 13.0	+16
MIR				*e*S	S	13 50 46.0	+12
MIR				*e*PS	PnS	13 50 56.0	+13
MIR				pmax	pmax		
	comp=Z,40nm,1.5s						
SYO	**Syowa Base**	**54.40**	**173** ⇑	*e*P	**P**	**13 42 58.2**	**+1.0**
TAU	**Tasmania Unive**	**54.99**	**244**	PFAKE		13 43 10.0	+8.1
TAU				LR	LR		
	comp=Z,9μm,21.0s						
CPUP	**Villa Florida**	**55.71**	**87**	*e*P	**P**	**13 43 06.0**	**-1.3**
	comp=Z,32nm,1.0s						
CPUP	**Villa Florida**	**55.71**	**87**	P	**P**	**13 43 06.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=152,slow=8.8,SNR=3.6						
CPUP				LR	LR	14 03 17.5	
	comp=Z,3μm,20.9s,baz=210,slow=32						
AFI	**Afiamalu**	**55.76**	**300**	LR	LR	14 03 02.0	
	comp=Z,1μm,19.0s,baz=153,slow=32						
MAW	**Mawson**	**56.26**	**183**	P	**P**	**13 43 10.9**	**+0.2**
MAW	**Mawson**	**56.26**	**183**	P	**P**	**13 43 10.9**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=164,slow=6.0,SNR=5.0						
MAW				LR	LR	14 05 27.2	
	comp=Z,7μm,20.6s,baz=165,slow=34						
NNA	**Nana**	**57.24**	**59**	PFAKE		13 43 30.0	+12
NNA				LR	LR		
	comp=Z,2μm,22.0s						
MSVF	**Nonsavu**	**57.72**	**287**	PFAKE		13 43 30.0	+8.2
MSVF				LR	LR		
	comp=Z,1μm,20.0s						
LPAZ	**La Paz**	**57.95**	**70**	P	**P**	**13 43 23.6**	**-0.5**
	comp=Z,13nm,1.4s						
LPAZ	**La Paz**	**57.95**	**70**	P	**P**	**13 43 23.6**	**-0.5**
	comp=Z,5.1nm,1.2s,baz=210,slow=3.8,SNR=4.9						
LPAZ				LR	LR	14 02 49.0	
	comp=Z,1μm,20.0s,baz=206,slow=30						
CAN	**Canberra**	**59.81**	**251**	PFAKE		13 43 50.0	+14
CAN				LR	LR		
	comp=Z,4μm,21.0s						
DZM	**Mont Dzumac**	**60.55**	**274**	*e*S	**S**	**13 51 54.4**	**-2.7**
	comp=Z,5μm,36.2s						
DZM				*e*LQ	LQ	13 58 57.4	
	comp=Z,13μm,32.1s						
DZM				*e*LR	LR	14 01 32.6	
	comp=Z,8μm,25.6s						
PAYG	**Puerto Ayora**	**61.82**	**39**	PFAKE		13 44 00.0	+10
PAYG				LR	LR		
	comp=Z,4μm,22.0s						
ARMA	**Armidale**	**62.19**	**256**	*e*P	**P**	**13 43 51.6**	**-0.8**
	comp=Z,45nm,1.5s						
FUNA	**Funafuti**	**64.86**	**294**	PFAKE		13 44 20.0	+10
FUNA				LR	LR		
	comp=Z,13μm,19.0s						
STKA	**Stephens Creek**	**66.35**	**248**	P	**P**	**13 44 17.6**	**-2.0**
STKA	**Stephens Creek**	**66.35**	**248**	P	**P**	**13 44 17.6**	**-2.0**
	comp=Z,3.6nm,1.0s,baz=108,slow=11,SNR=6.3						
STKA				LR	LR	14 08 51.8	
	comp=Z,3μm,18.7s,baz=132,slow=32						
SAML	**Samuel**	**66.69**	**70**	*e*P	P	13 44 16.5	-5.4
	comp=Z,12nm,1.0s						
SAML				LR	LR		
	comp=Z,1μm,21.0s						
OTAV	**Otavalo**	**67.31**	**51**	*e*P	**P**	**13 44 25.9**	**-0.4**
	comp=Z,16nm,1.3s						
OTAV				LR	LR		
	comp=Z,448nm,20.0s						
BBOO	**Buckleboo**	**68.41**	**243**	*e*P	**P**	**13 44 32.0**	**-0.6**
	comp=Z,922nm,1.5s						
BDFB	**Brasilia**	**69.43**	**87**	LR	LR	14 12 14.1	
	comp=Z,4μm,21.6s,baz=208,slow=34						
ROSC	**El Rosal**	**73.24**	**53**	LR	LR	14 10 58.2	
	comp=Z,847nm,22.0s,baz=199,slow=31						
CTA	**Charters Tower**	**73.32**	**259**	P	**P**	**13 45 01.1**	**-1.5**
CTA	**Charters Tower**	**73.32**	**259**	P	**P**	**13 45 01.1**	**-1.5**
	comp=Z,10nm,1.2s,baz=97,slow=9.7,SNR=2.2						
CTAO	**Charters Tower**	**73.32**	**259**	*e*P	**P**	**13 45 02.0**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,40nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,2μm,20.0s						
CTAO	**Charters Tower**	**73.32**	**259**	*e*P	**P**	**13 45 02.0**	**-0.6**
	comp=Z,40nm,1.1s						
CTAO				LR	LR		
	comp=Z,2μm,20.0s						
JTS	**JuntasAbangare**	**73.89**	**40**	LR	LR	14 10 17.1	
	comp=Z,2μm,20.6s,baz=201,slow=30						
FORT	**Forrest**	**73.97**	**238**	*e*P	**P**	**13 45 06.1**	**-0.1**
	comp=Z,37nm,1.1s						
PAF	**Port-aux-Franc**	**74.01**	**190**	PFAKE		13 45 20.0	+14
PAF				LR	LR		
	comp=Z,3μm,19.0s						
HNR	**Honiara**	**74.41**	**276**	PFAKE		13 45 20.0	+11
HNR				LR	LR		
	comp=Z,1μm,21.0s						
BCIP	**Isla Barro Col**	**74.80**	**46**	PFAKE		13 45 20.0	+8.9
BCIP				LR	LR		
	comp=Z,1μm,20.0s						
TARA	**Tarawa**	**76.49**	**294**	PFAKE		13 45 30.0	+9.1
TARA				LR	LR		
	comp=Z,2μm,20.0s						
ASAR	**Alice Springs**	**76.96**	**247**	P	**P**	**13 45 22.1**	**-1.4**
ASAR	**Alice Springs**	**76.96**	**247**	P	**P**	**13 45 22.1**	**-1.4**
	comp=Z,5.6nm,1.0s,baz=154,slow=4.5,SNR=12						
ASAR				LR	LR	14 13 33.0	
	comp=Z,5μm,21.9s,baz=133,slow=31						
AS31	**Alice Springs**	**76.97**	**247**	*e*P	**P**	**13 45 22.5**	**-1.1**
NWAO	**Narrogin (SRO)**	**77.01**	**229**	PFAKE		13 45 30.0	+6.3
NWAO				LR	LR		
	comp=Z,1μm,22.0s						
SDV	**Santo Domingo**	**78.46**	**54**	PFAKE		13 45 40.0	+7.9
SDV				LR	LR		
	comp=Z,241nm,19.0s						
WRA	**Warramunga Arr**	**79.82**	**249**	P	**P**	**13 45 37.7**	**-1.7**
WRA	**Warramunga Arr**	**79.82**	**249**	P	**P**	**13 45 37.7**	**-1.7**
	comp=Z,15nm,1.1s,baz=143,slow=4.9,SNR=15						
WRAB	**Tennant Creek**	**79.82**	**249**	*e*P	**P**	**13 45 38.2**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,37nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,5μm,19.0s						
WRAB	**Tennant Creek**	**79.82**	**249**	*e*P	**P**	**13 45 38.2**	**-1.2**
	comp=Z,37nm,1.3s						
WRAB				LR	LR		
	comp=Z,5μm,19.0s						
PMG	**Port Moresby**	**81.54**	**266**	PFAKE		13 46 00.0	+11
PMG				LR	LR		
	comp=Z,3μm,20.0s						
TEIG	**Tepich**	**82.04**	**34**	PFAKE		13 46 00.0	+9.1
TEIG				LR	LR		
	comp=Z,625nm,20.0s						
KIP	**Kipapa**	**82.58**	**328**	PFAKE		13 46 00.0	+6.3
KIP				LR	LR		
	comp=Z,5μm,20.0s						
RCBR	**Riachuelo**	**84.20**	**92**	PFAKE		13 46 10.0	+7.5
RCBR				LR	LR		
	comp=Z,1μm,21.0s						
GRGR	**Grenville**	**85.51**	**60**	PFAKE		13 46 20.0	+11
GRGR				LR	LR		
	comp=Z,658nm,22.0s						
FITZ	**Fitzroy Crossi**	**85.80**	**243**	P	**P**	**13 46 09.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**85.80**	**243**	P	**P**	**13 46 09.2**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=156,slow=12,SNR=2.9						
MBWA	**Marble Bar**	**86.05**	**237**	*e*P	**P**	**13 46 08.5**	**-3.2**
	comp=Z,40nm,1.3s						
MBWA				LR	LR		
	comp=Z,2μm,19.0s						
GTBY	**Guantanamo Bay**	**86.43**	**45**	PFAKE		13 46 20.0	+6.8
GTBY				LR	LR		
	comp=Z,778nm,21.0s						
KVTX	**Kingsville**	**86.47**	**23**	PFAKE		13 46 20.0	+6.7
KVTX				LR	LR		
	comp=Z,1μm,20.0s						
SUR	**Sutherland**	**86.73**	**151**	PFAKE		13 46 30.0	+15
SUR				LR	LR		
	comp=Z,2μm,20.0s						
TXAR	**Lajitas Array**	**87.09**	**18**	P	**P**	**13 46 15.8**	**-0.5**
TXAR	**Lajitas Array**	**87.09**	**18**	P	**P**	**13 46 15.8**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=192,slow=5.2,SNR=14						
TXAR				LR	LR	14 16 46.0	
	comp=Z,1μm,21.2s,baz=295,slow=30						
SDDR	**Presa de Saban**	**87.14**	**49**	PFAKE		13 46 30.0	+13
SDDR				LR	LR		
	comp=Z,718nm,20.0s						
BBGH	**Gun Hill**	**87.40**	**62**	PFAKE		13 46 30.0	+12
BBGH				LR	LR		
	comp=Z,1μm,19.0s						
FDF	**Fort de France**	**88.00**	**60**	PFAKE		13 46 30.0	+9.0
FDF				LR	LR		
	comp=Z,908nm,22.0s						
SJG	**San Juan**	**88.61**	**54**	PFAKE		13 46 30.0	+6.2
SJG				LR	LR		
	comp=Z,651nm,21.0s						
JCT	**Junction City**	**88.92**	**21**	*e*P	**P**	**13 46 24.1**	**-0.9**
JCT				pmax	pmax		
	comp=Z,19nm,1.1s						
JCT				MLR	MLR		
	comp=Z,466nm,19.0s						
JCT	**Junction City**	**88.92**	**21**	*e*P	**P**	**13 46 24.1**	**-0.9**
	comp=Z,19nm,1.1s						
JCT				LR	LR		
	comp=Z,466nm,19.0s						
TUC	**Tucson**	**89.02**	**11**	*e*P	**P**	**13 46 24.8**	**-0.7**
TUC				pmax	pmax		
	comp=Z,14nm,1.3s						
TUC				MLR	MLR		
	comp=Z,2μm,20.0s						
TUC	**Tucson**	**89.02**	**11**	*e*P	**P**	**13 46 24.8**	**-0.7**
	comp=Z,14nm,1.3s						
TUC				LR	LR		
	comp=Z,2μm,20.0s						
MNTX	**Cornudas Mount**	**89.13**	**16**	*e*P	P	13 46 22.0	-3.9
	comp=Z,9.7nm,1.3s						
MNTX				LR	LR		
	comp=Z,2μm,21.0s						

MVCO				LR	LR		
	comp=Z,2µm,20.0s						
ASCN	**Ascension**	**94.16**	**111**	PFAKE		13 47 00.0	+10
ASCN				LR	LR		
	comp=Z,416nm,21.0s						
TPH	**Tonopah**	**94.23**	**5**	PFAKE		13 47 00.0	+10
TPH				LR	LR		
	comp=Z,2µm,20.0s						
LRAL	**Lakeview Retre**	**94.45**	**31**	PFAKE		13 47 00.0	+9.4
LRAL				LR	LR		
	comp=Z,575nm,21.0s						
NVAR	**Mina Array Bea**	**94.53**	**5**	P	**P**	**13 46 50.1**	**-1.0**
NVAR	**Mina Array Bea**	**94.53**	**5**	P	**P**	**13 46 50.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=177,slow=3.6,SNR=3.9						
NVAR				LR	LR	14 19 13.6	
	comp=Z,3µm,21.0s,baz=167,slow=29						
WAKR	**Walker**	**94.56**	**4**	*e*P	**P**	**13 46 49.9**	**-1.3**
MVU	**Marysvale**	**95.02**	**9**	*e*P	**P**	**13 46 52.0**	**-1.4**
	comp=Z,6.6nm,1.1s						
MVU				LR	LR		
	comp=Z,3µm,22.0s						
SDCO	**Great Sand Dun**	**95.05**	**15**	PFAKE		13 47 00.0	+6.4
SDCO				LR	LR		
	comp=Z,1µm,20.0s						
OXF	**Oxford**	**95.19**	**28**	PFAKE		13 47 00.0	+6.1
OXF				LR	LR		
	comp=Z,444nm,22.0s						
MIDW	**Midway**	**95.54**	**315**	PFAKE		13 47 10.0	+14
MIDW				LR	LR		
	comp=Z,2µm,20.0s						
SRU	**San Rafael**	**95.78**	**11**	*e*P	**P**	**13 46 56.2**	**-0.5**
SRU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SRU	**San Rafael**	**95.78**	**11**	*e*P	**P**	**13 46 56.2**	**-0.5**
	comp=Z,5.2nm,1.2s						
BMN	**Battle Mountai**	**96.58**	**5**	PFAKE		13 47 10.0	+10
BMN				LR	LR		
	comp=Z,3µm,20.0s						
DUG	**Dugway**	**96.64**	**9**	PFAKE		13 47 10.0	+9.4
DUG				LR	LR		
	comp=Z,2µm,22.0s						
ISCO	**Idaho Springs**	**97.05**	**14**	PFAKE		13 47 10.0	+7.2
ISCO				LR	LR		
	comp=Z,3µm,20.0s						
KSU1	**Kansas State U**	**97.90**	**21**	PFAKE		13 47 20.0	+14
KSU1				LR	LR		
	comp=Z,778nm,20.0s						
TSUM	**Tsumeb**	**98.13**	**144**	PFAKE		13 47 20.0	+12
TSUM				LR	LR		
	comp=Z,1µm,22.0s						
HWUT	**Hardware Ranch**	**98.15**	**9**	PFAKE		13 47 20.0	+13
HWUT				LR	LR		
	comp=Z,2µm,20.0s						
OGNE	**Ogallala**	**98.70**	**17**	PFAKE		13 47 20.0	+10
OGNE				LR	LR		
	comp=Z,2µm,19.0s						
CNNC	**Cliffs of the**	**99.31**	**37**	PFAKE		13 47 20.0	+7.5
CNNC				LR	LR		
	comp=Z,1µm,21.0s						
AHID	**Auburn Hatcher**	**99.34**	**10**	PFAKE		13 47 20.0	+7.2
AHID				LR	LR		
	comp=Z,2µm,21.0s						
BW06	**Boulder Array**	**99.50**	**11**	PFAKE		13 47 20.0	+6.5
BW06				LR	LR		
	comp=Z,3µm,20.0s						
PDAR	**Pinedale Array**	**99.50**	**11**	P	**Pdif**	**13 47 12.7**	**-0.8**
PDAR	**Pinedale Array**	**99.50**	**11**	P	**Pdif**	**13 47 12.7**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=116,slow=10,SNR=2.4						
PDAR				LR	LR	14 23 45.3	
	comp=Z,2µm,19.5s,baz=206,slow=30						
HLID	**Hailey**	**99.87**	**7**	PFAKE		13 47 20.0	+5.0
HLID				LR	LR		
	comp=Z,1µm,19.0s						
KAPI	**Kappang**	**99.92**	**245**	PFAKE		13 47 30.0	+14
KAPI				LR	LR		
	comp=Z,2µm,21.0s						
BLA	**Blacksburg**	**100.30**	**34**	PFAKE		13 47 30.0	+13
BLA				LR	LR		
	comp=Z,591nm,19.0s						
HDIL	**Hopedale**	**100.93**	**26**	PFAKE		13 47 30.0	+10
HDIL				LR	LR		
	comp=Z,720nm,20.0s						
BMO	**Blue Mountains**	**100.98**	**5**	PFAKE		13 47 30.0	+10
BMO				LR	LR		
	comp=Z,2µm,20.0s						
LKWY	**Lake**	**101.19**	**10**	PFAKE		13 47 30.0	+9.0
LKWY				LR	LR		
	comp=Z,2µm,19.0s						
SCIA	**State Center**	**101.30**	**23**	PFAKE		13 47 30.0	+8.8
SCIA				LR	LR		
	comp=Z,511nm,20.0s						
BBSR	**BB Station**	**101.70**	**48**	PFAKE		13 47 30.0	+6.8
BBSR				LR	LR		
	comp=Z,493nm,21.0s						
RLMT	**Red Lodge**	**101.86**	**11**	PFAKE		13 47 30.0	+6.1
RLMT				LR	LR		
	comp=Z,2µm,20.0s						
BOZ	**Bozeman (W)**	**102.15**	**9**	PFAKE		13 47 40.0	+15
BOZ				LR	LR		
	comp=Z,2µm,19.0s						
CBN	**Corbin**	**102.18**	**36**	PFAKE		13 47 40.0	+15
CBN				LR	LR		
	comp=Z,2µm,21.0s						
ECSD	**EROS Data Cent**	**102.36**	**20**	PFAKE		13 47 40.0	+14
ECSD				LR	LR		
	comp=Z,692nm,21.0s						
RER	**Riviere de l'E**	**102.81**	**180**	PFAKE		13 47 40.0	+11
RER				LR	LR		
	comp=Z,3µm,19.0s						
NLWA	**Neilton Lookou**	**103.36**	**0**	PFAKE		13 47 40.0	+10
NLWA				LR	LR		
	comp=Z,1µm,20.0s						
COCO	**West Island**	**103.71**	**221**	PFAKE		13 47 40.0	+7.3
COCO				LR	LR		
	comp=Z,2µm,21.0s						
NEW	**Newport**	**104.39**	**5**	PFAKE		13 47 50.0	+15
NEW				LR	LR		
	comp=Z,2µm,21.0s						
ABPO	**Ambohimpanom**	**104.59**	**172**	PFAKE		13 47 50.0	+13
ABPO				LR	LR		
	comp=Z,2µm,20.0s						
EGMT	**Eagleton**	**104.68**	**10**	PFAKE		13 47 50.0	+14
EGMT				LR	LR		
	comp=Z,669nm,21.0s						
LSZ	**Lusaka**	**104.98**	**152**	PFAKE		13 52 00.0	
LSZ				LR	LR		
	comp=Z,2µm,19.0s						
DGMT	**Dagmar**	**105.75**	**14**	PFAKE		13 52 00.0	
DGMT				LR	LR		
	comp=Z,1µm,19.0s						
GLMI	**Grayling**	**106.12**	**28**	PFAKE		13 52 00.0	
GLMI				LR	LR		
	comp=Z,695nm,19.0s						
BINY	**Binghamton**	**106.24**	**35**	PFAKE		13 52 10.0	
BINY				LR	LR		
	comp=Z,2µm,22.0s						
AGMN	**Agassiz Nation**	**106.90**	**19**	PFAKE		13 52 10.0	
AGMN				LR	LR		
	comp=Z,1µm,20.0s						
DAV	**Davao City (W)**	**107.06**	**257**	PFAKE		13 52 10.0	
DAV				LR	LR		
	comp=Z,679nm,22.0s						
EYMN	**Ely**	**107.43**	**22**	PFAKE		13 52 10.0	
EYMN				LR	LR		
	comp=Z,643nm,20.0s						
NCB	**Newcomb**	**108.40**	**36**	PFAKE		13 52 10.0	
NCB				LR	LR		
	comp=Z,1µm,22.0s						
LONY	**Lake Ozonia**	**108.86**	**35**	PFAKE		13 52 10.0	
LONY				LR	LR		
	comp=Z,1µm,20.0s						
DIB	**Dawson Inlet,**	**109.39**	**355**	T	T	15 49 44.4	
	SNR=36						
LBNH	**Lisbon**	**109.40**	**37**	PFAKE		13 52 10.0	
LBNH				LR	LR		
	comp=Z,905nm,21.0s						
VIB	**Van Inlet**	**109.44**	**355**	T	T	15 48 09.8	
	SNR=20						
KSM	**Kuching**	**110.19**	**240**	PFAKE		13 52 10.0	
KSM				LR	LR		
	comp=Z,744nm,20.0s						
KKM	**Kota Kinabalu**	**111.16**	**248**	PFAKE		13 52 20.0	
KKM				LR	LR		
	comp=Z,2µm,22.0s						
FFC	**Flin Flon**	**112.17**	**14**	PFAKE		13 52 20.0	
FFC				LR	LR		
	comp=Z,2µm,22.0s						
DGAR	**Diego Garcia**	**115.02**	**198**	PFAKE		13 52 20.0	+7.9
DGAR				LR	LR		
	comp=Z,2µm,20.0s						
ADK	**Adak**	**116.23**	**327**	PFAKE		13 52 20.0	+6.9
ADK				LR	LR		
	comp=Z,3µm,21.0s						
KULM	**Kulim**	**118.02**	**233**	PFAKE		13 52 30.0	+12
KULM				LR	LR		
	comp=Z,1µm,22.0s						
MSEY	**Mahe Island**	**119.20**	**180**	PFAKE		13 52 30.0	+10
MSEY				LR	LR		
	comp=Z,2µm,21.0s						
MBAR	**Mbarara**	**119.70**	**151**	PFAKE		13 52 30.0	+8.7
MBAR				LR	LR		
	comp=Z,581nm,20.0s						
TORD	**Torodi Ar. Bea**	**120.34**	**114**	PKP	**PKPdf**	**13 52 19.9**	**-2.3**
TORD	**Torodi Ar. Bea**	**120.34**	**114**	PKP	**PKPdf**	**13 52 19.9**	**-2.3**
	comp=Z,0.6nm,0.9s,baz=242,slow=1.3,SNR=2.3						
KMBO	**Kilima Mbogo**	**120.76**	**158**	PFAKE		13 52 30.0	+6.5
KMBO				LR	LR		
	comp=Z,1µm,20.0s						
EGAK	**Eagle**	**121.49**	**352**	PFAKE		13 52 30.0	+7.2
EGAK				LR	LR		
	comp=Z,3µm,20.0s						
ILAR	**Eielson Array**	**122.03**	**349**	PKP	**PKPdf**	**13 52 21.4**	**-2.5**
ILAR	**Eielson Array**	**122.03**	**349**	PKP	**PKPdf**	**13 52 21.4**	**-2.5**
	comp=Z,0.6nm,0.8s,baz=205,slow=2.6,SNR=6.8						
COLA	**College**	**122.24**	**348**	PFAKE		13 52 30.0	+5.8
COLA				LR	LR		
	comp=Z,2µm,19.0s						
MAJO	**Matsushiro**	**123.53**	**287**	*i* PKIKP	**PKPdf**	**13 52 28.6**	**+0.9**
MAJO				MLR	MLR		
	comp=Z,523nm,20.0s						
MAJO	**Matsushiro**	**123.53**	**287**	PFAKE		13 52 40.0	+12
MAJO				LR	LR		
	comp=Z,861nm,22.0s						
YHNB	**Yeheng**	**123.70**	**264**	PFAKE		13 52 40.0	+12
YHNB				LR	LR		
	comp=Z,716nm,22.0s						
CMLA	**Cha da Macela**	**124.92**	**73**	PFAKE		13 52 40.0	+10
CMLA				LR	LR		
	comp=Z,804nm,19.0s						
ERM	**Erimo**	**125.00**	**295**	PFAKE		13 52 40.0	+10
ERM				LR	LR		
	comp=Z,1µm,20.0s						
YUK	**Yuzh-Kuril'sk**	**125.13**	**298**	*i* PKIKP	PKPdf	13 52 36.3	+5.8
YUK				*i*		13 54 26.8	
YUK				*i*		13 59 38.2	
YUK				*i* SS	SS	14 11 13.6	-3.7
QIZ	**Qiongzhong**	**125.39**	**250**	PKP	**PKPdf**	**13 52 33.8**	**+2.0**
QIZ				PP	**PP**	**13 54 22.9**	**+0.6**
QIZ				SS	SS	14 11 25.5	+5.1
QIZ				LR	LR		
	comp=N,390nm,24.2s						
QIZ				LR	LR		
	comp=Z,840nm,25.2s						
QIZ	**Qiongzhong**	**125.39**	**250**	PFAKE		13 52 40.0	+8.2
QIZ				LR	LR		
	comp=Z,425nm,19.0s						
PETK	**Petropavlovsk-**	**126.44**	**313**	PKIKP	**PKPdf**	**13 52 31.7**	**-1.0**
PETK	**Petropavlovsk-**	**126.44**	**313**	PKP	**PKPdf**	**13 52 31.6**	**-1.0**
PETK	**Petropavlovsk-**	**126.44**	**313**	PKP	**PKPdf**	**13 52 31.6**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=147,slow=6.5,SNR=3.8						
KSRS	**Korea Array**	**129.76**	**280**	PKP	**PKPdf**	**13 52 37.0**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=225,slow=1.0,SNR=2.5						
KSAR	**Wonju Array Be**	**129.78**	**280**	PKP	**PKPdf**	**13 52 37.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**130.36**	**238**	PKP	**PKPdf**	**13 52 41.2**	**0.0**
CMAR	**Chiang Mai Arr**	**130.36**	**238**	PKP	**PKPdf**	**13 52 41.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=211,slow=1.6,SNR=2.2						
TAM	**Tamanrasset**	**130.38**	**111**	PFAKE		13 52 50.0	+8.6
TAM				LR	LR		
	comp=Z,529nm,20.0s						
INCN	**Inchon**	**130.49**	**279**	PFAKE		13 52 50.0	+9.0
INCN				LR	LR		
	comp=Z,365nm,20.0s						
CHTO	**Chiang Mai**	**130.67**	**239**	PFAKE		13 52 50.0	+8.1
CHTO				LR	LR		
	comp=Z,601nm,20.0s						
NJ2	**Nanjing**	**130.81**	**268**	*e*PKP	**PKPdf**	**13 52 43.2**	**+1.5**
NJ2				sPKP		13 52 48.0	
NJ2				PP	**PP**	**13 54 57.9**	**-0.2**
NJ2				SKKS		14 01 54.3	
NJ2				AMB	AMB		
	comp=Z,260nm,10.7s						
NJ2				LR	LR		
	comp=N,2µm,30.3s						
NJ2				LR	LR		
	comp=E,2µm,27.8s						
NJ2				LR	LR		
	comp=Z,1µm,26.5s						
GYA	**Guiyang**	**133.13**	**252**	*e*Pdif	**Pdif**	**13 49 43.6**	**+0.2**
GYA				PKP	**PKiKP**	**13 52 48.0**	**+0.3**
GYA				PP	**PP**	**13 55 12.3**	**-0.8**
GYA				PKS	**PKSdf**	**13 56 22.3**	**-0.8**
GYA				SKKS		14 02 07.8	
GYA				SS	**SS**	**14 12 57.6**	**+1.4**
GYA				AMB	AMB		
	comp=Z,130nm,7.6s						
GYA				LR	LR		
	comp=N,130nm,21.0s						
GYA				LR	LR		
	comp=E,120nm,22.1s						
GYA				LR	LR		
	comp=Z,150nm,20.4s						
HABR	**Khabarovsk**	**133.60**	**296**	*i* PKIKP	PKPdf	13 52 52.2	+5.8
HABR				*e*PS	**PS**	**14 05 34.3**	**+0.6**
HABR				*e*PS	PS	14 05 34.6	+0.9
HABR				*e*SS	SS	14 13 03.8	+2.2
HABR				*e*SSS	SSS	14 18 00.5	
MDJ	**Mudanjiang**	**133.86**	**288**	PFAKE		13 53 00.0	+13
MDJ				LR	LR		
	comp=Z,473nm,19.0s						
KMI	**Kunming**	**134.10**	**247**	PKP	**PKPdf**	**13 52 50.1**	**+1.6**
KMI				sPKP		13 52 54.5	
KMI				PP	PP	13 55 25.0	+5.7
KMI				SKKS		14 02 14.4	
KMI				SS	**SS**	**14 13 10.0**	**+2.0**
KMI				AMB	AMB		
	comp=Z,220nm,8.0s						
KMI				LR	LR		
	comp=N,480nm,27.3s						
KMI				LR	LR		
	comp=E,390nm,22.4s						
KMI				LR	LR		
	comp=Z,1µm,36.1s						
SFJD	**Kangerlussuaq**	**134.55**	**32**	PFAKE		13 53 00.0	+12
SFJD				LR	LR		
	comp=Z,957nm,19.0s						
CN2	**Changchun**	**135.53**	**284**	*e*PKP	**PKPdf**	**13 52 49.2**	**-1.0**
CN2				PP	**PP**	**13 55 30.2**	**+1.9**
CN2				LR	LR		
	comp=N,200nm,20.0s						
CN2				LR	LR		
	comp=E,300nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,20.0s						
MTE	**Manteigas**	**136.59**	**84**	PFAKE		13 53 00.0	+7.6
MTE				LR	LR		
	comp=Z,713nm,19.0s						
PAB	**San Pablo**	**137.78**	**87**	PFAKE		13 53 10.0	+15
PAB				LR	LR		
	comp=Z,708nm,21.0s						
BJT	**Baijiatuau**	**138.07**	**273**	PFAKE		13 53 10.0	+15
BJT				LR	LR		
	comp=Z,617nm,21.0s						
ESDC	**Sonseca Array**	**138.08**	**87**	PKP	**PKPdf**	**13 52 54.0**	**-1.2**
ESDC	**Sonseca Array**	**138.08**	**87**	PKP	**PKPdf**	**13 52 54.0**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=176,slow=1.0,SNR=3.3						
CD2	**Chengdu**	**138.21**	**253**	*e*PKP	**PKPdf**	**13 52 56.3**	**+0.6**
CD2				PP	**PP**	**13 55 48.5**	**+3.5**
CD2				SKS	**SKSdf**	**14 00 04.0**	**-2.2**
CD2				SKKS	**SKKSac**	**14 02 37.9**	**-1.1**
CD2				SS	**SS**	**14 13 58.0**	**+1.1**
CD2				AMB	AMB		
	comp=Z,300nm,9.6s						
CD2				LR	LR		
	comp=E,590nm,23.8s						
CD2				LR	LR		
	comp=Z,620nm,26.2s						
HHC	**Hu-ho-hao-te**	**141.20**	**271**	*e*PKP	**PKPdf**	**13 53 02.4**	**+1.5**
HHC				PP	**PP**	**13 56 07.9**	**+4.3**
HHC				PKS	**PKSdf**	**13 56 36.8**	**0.0**
HHC				SKS	**SKSdf**	**14 00 10.7**	**0.0**
HHC				SKKS	**SKKSac**	**14 02 58.1**	**+1.8**
HHC				SS	**SS**	**14 14 35.2**	**+2.9**
HHC				AMB	AMB		
	comp=Z,200nm,9.0s						
HHC				LR	LR		
	comp=N,500nm,20.3s						
HHC				LR	LR		
	comp=E,370nm,20.9s						
HHC				LR	LR		
	comp=Z,560nm,20.9s						
SJPF	**Ste Jean**	**141.91**	**85**	*e*PKIKP	**PKPdf**	**13 53 00.7**	**-1.3**
	comp=Z,34nm,1.4s						
HIA	**Hailar**	**142.03**	**287**	PFAKE		13 53 10.0	+8.0
HIA				LR	LR		
	comp=Z,877nm,20.0s						
LZH	**Lanzhou**	**142.10**	**258**	*e*PKP	**PKPdf**	**13 53 02.8**	**+0.1**
LZH				SKKS		14 02 58.8	
LZH				SS	**SS**	**14 14 42.3**	**-0.5**
LZH				AMB	AMB		
	comp=Z,100nm,5.6s						
LZH				LR	LR		
	comp=N,430nm,17.6s						
LZH				LR	LR		
	comp=E,330nm,15.4s						
LZH				LR	LR		
	comp=Z,530nm,18.4s						
BORG	**Borgarnes**	**143.43**	**45**	PFAKE		13 53 10.0	+6.1
BORG				LR	LR		
	comp=Z,712nm,19.0s						
LSA	**Lhasa**	**143.61**	**238**	PFAKE		13 53 20.0	+14
LSA				LR	LR		
	comp=Z,576nm,21.0s						
MTLF	**Montolieu**	**143.98**	**88**	*e*PKIKP	**PKPdf**	**13 53 05.7**	**+0.1**
	comp=Z,58nm,1.8s						
LFF	**La Frestale**	**144.17**	**85**	*e*PKIKP	**PKPdf**	**13 53 05.2**	**-0.7**
	comp=Z,64nm,1.4s						
MFF	**Saint Martin d**	**144.70**	**82**	*e*PKIKP	**PKPdf**	**13 53 06.5**	**-0.2**
	comp=Z,65nm,1.5s						
RJF	**Les Rejaudoux**	**144.83**	**85**	*e*PKIKP	**PKPdf**	**13 53 07.0**	**0.0**
	comp=Z,29nm,0.9s						
CAF	**Calviac**	**144.90**	**86**	*e*PKIKP	**PKPdf**	**13 53 07.9**	**+0.7**
	comp=Z,100nm,1.5s						
GRR	**Gorron**	**145.36**	**79**	*e*PKIKP	**PKPbc**	**13 53 07.3**	**-0.4**
	comp=Z,77nm,1.4s						
LASF	**Ste Croix**	**145.36**	**88**	*e*PKIKP	**PKPab**	**13 53 09.2**	**+1.1**
	comp=Z,92nm,1.5s						
VSL	**Villasalto**	**145.36**	**99**	PFAKE		13 53 20.0	+12
VSL				LR	LR		
	comp=Z,574nm,21.0s						
WDD	**Wield Dalam**	**145.49**	**109**	PFAKE		13 53 20.0	+11
WDD				LR	LR		
	comp=Z,849nm,20.0s						
FLN	**La Foliniere**	**145.78**	**78**	*e*PKIKP	**PKPdf**	**13 53 08.1**	**-0.4**
	comp=Z,88nm,1.2s						
TCF	**Toulx Ste Croi**	**145.81**	**84**	*e*PKIKP	**PKPdf**	**13 53 08.8**	**+0.1**
	comp=Z,123nm,1.7s						
LDF	**La Druitiere**	**145.88**	**79**	*e*PKIKP	**PKPdf**	**13 53 07.3**	**-1.4**
	comp=Z,189nm,1.7s						
AGO	**Saint Agoulin**	**146.18**	**85**	PKP	PKPab	13 53 18.8	+7.7
SMRF	**Simiane la Rot**	**146.25**	**90**	*e*PKIKP	**PKPdf**	**13 53 09.7**	**+0.2**
	comp=Z,72nm,1.4s						
VIVF	**Saint-Julien-l**	**146.30**	**88**	*e*PKIKP	**PKPbc**	**13 53 10.6**	**-0.2**
	comp=Z,42nm,1.3s						
RAYN	**Ar Rayn**	**146.35**	**163**	*e*PKPdf	**PKPdf**	**13 53 10.7**	**+0.3**
LMR	**La Mourre**	**146.36**	**91**	*e*PKIKP	**PKPbc**	**13 53 11.0**	**0.0**
	comp=Z,59nm,1.3s						
SSB	**Saint Sauveur**	**146.49**	**87**	*e*PKP2	**PKPdf**	**13 53 09.6**	**-0.3**
SSB				MLR	MLR		
	comp=Z,490nm,20.0s						
SSB	**Saint Sauveur**	**146.49**	**87**	*e*PKPdf	**PKPdf**	**13 53 09.6**	**-0.3**
SSB				LR	LR		
	comp=Z,490nm,20.0s						
FRF	**La Foret Royal**	**146.58**	**91**	*e*PKIKP	**PKPdf**	**13 53 10.6**	**+0.5**
	comp=Z,83nm,1.3s						
GTA	**Gaotai**	**146.71**	**258**	PKPbc	**PKPdf**	**13 53 09.1**	**-1.5**
GTA				pPKP	**PKiKP**	**13 53 15.7**	**+0.7**
GTA				sPKP		13 53 18.6	
GTA				PP	**PP**	**13 56 40.3**	**+3.7**
GTA				SKS	**SKSdf**	**14 00 13.1**	**-6.1**
GTA				SKKS	**SKKSac**	**14 03 23.1**	**-4.8**
GTA				SS	**SS**	**14 15 38.0**	**+2.4**
GTA				AMB	AMB		
	comp=Z,190nm,8.6s						
GTA				LR	LR		
	comp=N,250nm,26.1s						
GTA				LR	LR		
	comp=E,370nm,19.0s						
GTA				LR	LR		
	comp=Z,480nm,24.7s						
AVF	**Avril sur Loir**	**146.75**	**84**	*e*PKIKP	**PKPdf**	**13 53 10.1**	**-0.1**
	comp=Z,47nm,1.2s						
SMF	**Signal de Mont**	**146.93**	**85**	*e*PKIKP	**PKPdf**	**13 53 10.7**	**+0.1**
	comp=Z,46nm,1.2s						
ORIF	**Oris-en-Rattie**	**147.01**	**89**	*e*PKIKP	**PKPbc**	**13 53 12.3**	**-0.7**
	comp=Z,42nm,1.2s						
MVIF	**Mont Vial**	**147.08**	**91**	PKP	PKPab	13 53 24.6	+10
TIXI	**Tiksi**	**147.08**	**326**	*e*PKP2	**PKPab**	**13 53 13.9**	**+0.1**
REVF	**Revere**	**147.10**	**92**	PKP	PKPab	13 53 20.9	+6.1
LUCF	**Luceram**	**147.19**	**91**	PKP	PKPab	13 53 23.0	+7.8
SBF	**Sospel**	**147.22**	**91**	*e*PKIKP	**PKPbc**	**13 53 12.4**	**-1.1**
	comp=Z,98nm,1.3s						
PGF	**Pioggiola**	**147.23**	**95**	*e*PKIKP	**PKPdf**	**13 53 12.0**	**+0.7**
	comp=Z,71nm,1.2s						
LOR	**Lormes**	**147.31**	**84**	*e*PKIKP	**PKPdf**	**13 53 11.1**	**-0.1**
	comp=Z,43nm,1.2s						
MBDF	**Montbardon**	**147.39**	**90**	*e*PKIKP	**PKPdf**	**13 53 11.6**	**0.0**
	comp=Z,37nm,1.2s						
DAG	**Danmarks Havn**	**147.40**	**24**	*i* P	PKPab	13 53 22.9	+7.9
BNI	**Bardonecchia**	**147.54**	**89**	*e*PKP2	**PKPab**	**13 53 18.4**	**+1.7**
BNI				MLR	MLR		
	comp=Z,841nm,21.0s						
BNI	**Bardonecchia**	**147.54**	**89**	*e*PKPab	**PKPab**	**13 53 18.4**	**+1.7**
BNI				LR	LR		
	comp=Z,841nm,21.0s						
ESK	**Eskdalemuir**	**147.68**	**67**	PFAKE		13 53 20.0	+3.3
ESK				LR	LR		
	comp=Z,747nm,20.0s						
LPG	**La Plagne**	**147.86**	**89**	*e*PKIKP	**PKPdf**	**13 53 13.4**	**+0.9**
	comp=Z,54nm,1.2s						
LPL	**La Plagne**	**147.86**	**88**	*e*PKIKP	**PKPdf**	**13 53 12.2**	**-0.2**
	comp=Z,41nm,1.1s						
CEL	**Celeste**	**148.00**	**107**	*e*PKPdf	**PKPdf**	**13 53 12.3**	**-0.4**
CEL				*e*PKPab	**PKPab**	**13 53 18.9**	**+0.3**
CEL				LR	LR		
	comp=Z,517nm,21.0s						
ULN	**Ulaanbaatar**	**148.12**	**277**	*e*PKPdf	**PKPdf**	**13 53 12.4**	**-0.3**
ULN				*e*PKPab	**PKPab**	**13 53 18.7**	**-0.2**
ULN				LR	LR		
	comp=Z,786nm,20.0s						
CABF	**La Chapelle**	**148.16**	**86**	*e*PKIKP	**PKPdf**	**13 53 13.1**	**+0.4**
	comp=Z,58nm,1.2s						
SONM	**Songino Array**	**148.47**	**276**	PKPbc	**PKPdf**	**13 53 13.7**	**+0.5**
SONM	**Songino Array**	**148.47**	**276**	PKPbc	**PKPdf**	**13 53 13.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=123,slow=5.3,SNR=2.6						
NDI	**New Delhi**	**148.47**	**218**	*e*P	**PKPab**	**13 53 23.0**	**+2.4**
LOMF	**Lomont**	**149.00**	**86**	PKP	**PKPab**	**13 53 25.7**	**+3.3**
VLC	**Villacollemand**	**149.05**	**94**	PFAKE		13 53 20.0	+1.7
VLC				LR	LR		
	comp=Z,703nm,20.0s						
BAIF	**Baives**	**149.05**	**79**	*e*PKIKP	**PKPdf**	**13 53 13.1**	**-0.8**
	comp=Z,40nm,1.2s						
TIP	**Timpagrande**	**149.14**	**107**	*e*PKPab	**PKPab**	**13 53 23.4**	**+0.3**
TIP				LR	LR		
	comp=Z,450nm,20.0s						
CUC	**Castrocucco**	**149.22**	**105**	*e*PKPdf	**PKPdf**	**13 53 13.6**	**-1.0**
CUC				LR	LR		
	comp=Z,661nm,22.0s						
HINF	**Hinteralfeld**	**149.28**	**85**	*e*

WLF	Walferdange	149.91	81	PKPbc	PKPbc	13 53 21.3	+1.2
WLF	Walferdange	149.91	81	PFAKE		13 53 30.0	+4.1
WLF				LR	LR		
comp=Z,818nm,22.0s							
MEM	Membach	150.32	80	PKPab	PKPab	13 53 30.2	+2.6
DAVOX	Davos/Dischmat	150.37	89	PKPbc	PKPdf	13 53 18.9	+2.5
DAVOX	Davos/Dischmat	150.37	89	PKPbc	PKPdf	13 53 18.9	+2.5
comp=Z,2.6nm,0.9s,baz=230,slow=5.9,SNR=2.4							
BFO	Black Forest	150.39	85	*e*PKPab	PKPab	13 53 27.9	-0.1
BFO				LR	LR		
comp=Z,696nm,22.0s							
DAVA	Damuels	150.66	88	⇓*i*PKPab	pPKPab	13 53 31.5	-1.2
comp=Z,23nm,1.1s,SNR=5.3							
FETA	Feichten	150.98	89	⇑*i*PKPab	PKPab	13 53 32.3	+1.6
comp=Z,35nm,1.2s,SNR=7.5							
RETA	Reutte	151.27	89	⇓*i*pPKPbc	pPKPbc	13 53 27.7	+0.7
comp=Z,26nm,1.5s,SNR=6.3							
MOTA	Moosalm	151.38	89	⇓*i*pPKiKP	PKPab	13 53 28.4	-3.9
comp=Z,14nm,0.9s,SNR=5.4							
SANT	Santorini	151.40	121	PFAKE		13 53 30.0	-2.5
SANT				LR	LR		
comp=Z,573nm,21.0s							
ZAK	Zakamensk	151.57	278	*e*PKIKP	PKPbc	13 53 27.2	+3.0
ZAK				pmax	pmax		
comp=Z,10.0nm,1.7s							
ABTA	Abfaltersbach	151.81	91	⇑*is*PKiKP	sPKiKP	13 53 31.9	+2.1
comp=Z,12nm,1.0s							
IRK	Irkutsk	151.93	282	*e*PKIKP	PKPbc	13 53 23.0	-1.9
IRK				pmax	pmax		
comp=Z,28nm,1.7s							
TIR	Tirane	152.35	107	PFAKE		13 53 30.0	+3.9
TIR				LR	LR		
comp=Z,910nm,22.0s							
KBS	Kingsbay	153.18	17	PFAKE		13 53 30.0	+3.1
KBS				LR	LR		
comp=Z,1μm,22.0s							
GERES	GERESS Array B	153.66	89	PKPbc	PKPbc	13 53 29.0	+0.1
GERES	GERESS Array B	153.66	89	PKPbc	PKPbc	13 53 29.0	+0.1
comp=Z,0.7nm,0.8s,baz=197,slow=1.4,SNR=5.9							
CSS	Prodhromos	153.67	135	PFAKE		13 53 30.0	+0.7
CSS				LR	LR		
comp=Z,913nm,21.0s							
NKC	Novy Kostel	153.69	85	⇑*e*PKP	PKPbc	13 53 29.0	+0.2
NKC				*e*PKPAB	PKPab	13 53 40.1	-1.6
NKC				*e*PP	PP	13 57 24.1	+7.4
NKC				AMS	AMS	15 11 30.0	
comp=Z,500nm,20.4s							
KHC	Kasperske Hory	153.74	88	*e*PKPAB	PKPab	13 53 37.9	-4.1
KHC				*e*PP	PP	13 57 21.9	+4.8
KHC				*e*SS	SS	14 16 48.8	-4.9
KHC				*e*SKSSKS		14 22 57.5	
KHC				*ex*	x	14 26 54.9	
KHC				AMS	AMS	15 19 30.0	
comp=Z,700nm,21.3s							
CLL	Collm	154.52	83	*e*(PKPbc)	PKPbc	13 53 36.0	+5.5
comp=Z,14nm,1.5s							
CLL				*e*PKPab	PKPab	13 53 47.0	+1.8
CLL				*e*PKSdf	PKSdf	13 56 58.0	+2.0
CLL				*e*PP	PP	13 57 28.0	+6.7
CLL				*e*PPP	PPP	14 00 54.0	
CLL				*e*PSKS		14 07 36.0	
CLL				*e*SS	SS	14 17 06.0	+4.0
CLL				*e*(SSS)		14 22 30.0	
CLL				*e*SSSS		14 26 54.0	
MUD	Monsted U'grnd	154.53	70	*i* P	PKPab	13 53 51.8	+6.7
PRA	Prague	154.71	87	⇑PKP	PKPbc	13 53 35.0	+4.1
PRA				AMS	AMS	15 19 00.0	
PRU	Pruhonice	154.72	87	⇑*e*PKP	PKPbc	13 53 34.2	+3.2
PRU				*ex*	x	13 53 55.1	
PRU				*e*PP	PP	13 57 31.8	+9.3
PRU				*e*SS	SS	14 17 15.3	+11
PRU				*ex*	x	14 23 08.9	
PRU				AMS	AMS	15 18 30.0	
comp=Z,900nm,21.4s							
BRG	Berggiesshubel	154.83	85	*e*PKP	PKPab	13 53 40.2	-6.4
comp=Z,11nm,1.4s							
BRG				PP	PP	13 57 38.0	+15
BRG				SS	SS	14 17 00.0	-5.4
BRG							
comp=N,613nm,22.2s							
BRG							
comp=E,363nm,18.2s							
BRG							
comp=Z,833nm,18.5s							
TREC	Trest	154.89	89	⇑*e*PKP	PKPbc	13 53 32.0	+0.6
TREC				*e*PKPAB	PKPab	13 53 45.3	-1.6
TREC				*ex*	x	13 57 34.0	
TREC				*ex*	x	14 18 06.4	
TREC				AMS	AMS	15 19 50.0	
comp=Z,1μm,23.1s							
PKSM	Moragy	154.90	98	⇑*i*P	PKPab	13 53 57.1	+10
ISP	Isparta	154.92	127	PFAKE		13 53 30.0	-2.0
ISP				LR	LR		
comp=Z,832nm,22.0s							
VTS	Vitosha	154.99	109	⇑*i*P	PKPbc	13 53 32.7	+0.7
PVCC	Panska Ves	155.01	86	*ex*	x	13 57 36.1	
PVCC				AMS	AMS	15 12 20.0	
comp=Z,700nm,21.6s							
ZST	Bratislava	155.20	93	*e*PKIKP	PKPdf	13 53 23.3	+0.2
ZST	Bratislava	155.20	93	*e*PKP	PKPdf	13 53 23.3	+0.2
KONO	Kongsberg	155.64	63	PFAKE		13 53 30.0	+6.7
KONO				LR	LR		
comp=Z,795nm,20.0s							
DPC	Dobruska-Polom	155.90	88	⇑*e*PKP	PKPdf	13 53 32.3	+8.2
DPC				*ex*	x	13 54 00.9	
DPC				*ex*	x	13 54 14.2	
DPC				*e*PP	PP	13 57 29.4	+0.3
DPC				*e*SS	SS	14 17 27.2	+10
DPC				*ex*	x	14 23 24.7	
COP	Copenhagen	156.00	73	*e*PKP2	PKPab	13 53 44.8	-6.5
COP	Copenhagen	156.00	73	*i* P	PKPab	13 53 44.8	-6.5
BZS	Buzias	156.16	102	⇓*i*P	PKPdf	13 53 34.0	+9.5
WMQ	Urumqi	156.29	252	*e*PKP	PKPdf	13 53 27.3	+2.4
WMQ				PKPab	PKPab	13 53 56.9	+3.8
WMQ				PKS	PKSdf	13 57 00.0	+1.3
WMQ				PP	PP	13 57 36.2	+4.9
WMQ				SS	SS	14 17 26.9	+5.7
WMQ				LR	LR		
comp=N,680nm,40.0s							
WMQ				LR	LR		
comp=E,680nm,37.0s							
WMQ				LR	LR		
comp=Z,930nm,40.0s							
VYHS	Vyhne	156.33	94	*e*PKIKP	PKPdf	13 53 28.7	+4.0
VYHS	Vyhne	156.33	94	*e*PKP	PKPdf	13 53 28.7	+4.0
PSZ	Piszkesteto	156.59	96	PFAKE		13 53 40.0	-14
PSZ				LR	LR		
comp=Z,840nm,21.0s							
OKC	Ostrava-Krasne	156.66	90	*e*PP	PP	13 57 32.9	-0.4
OKC				*e*SS	SS	14 17 32.9	+7.8
OKC				*ex*	x	14 23 40.8	
OKC				AMS	AMS	15 13 40.0	
comp=Z,700nm,21.2s							
BSD	Bornholm Skovb	157.13	76	*e*PKP2	PKPab	13 53 48.3	-8.0
BSD	Bornholm Skovb	157.13	76	*i* P	PKPab	13 53 48.3	-8.0
DRGR		157.48	101	⇑*i*P	PKPdf	13 53 37.1	+11
ANTO	Ankara	157.61	128	PFAKE		13 53 40.0	+13
ANTO				LR	LR		
comp=Z,669nm,21.0s							
BRTR	Keskin Array B	157.86	129	PKP	PKPdf	13 53 24.6	-2.5
BRTR	Keskin Array B	157.86	129	PKP	PKPdf	13 53 24.6	-2.5
comp=Z,0.3nm,0.4s,baz=168,slow=7.4,SNR=3.3							
VOIR		157.90	106	⇓*i*P	PKPdf	13 53 37.5	+11
CRVS	Cervenica-Dubn	158.01	95	*e*	PKPab	13 54 11.1	+11
UZH	Uzhgorod	158.32	97	*i* PKIKP	PKPdf	13 53 31.0	+3.9
UZH				*e*		13 53 38.5	
UZH				*e*		13 54 02.3	
MLR	Muntele Rosu	158.41	107	⇑*i*P	PKPdf	13 53 36.9	+9.4
KOLS	Kolonicke sedl	158.47	96	*e*	PKPab	13 54 18.6	+16
MALT	Malatya	158.55	140	PFAKE		13 53 40.0	+12
MALT				LR	LR		
comp=Z,1μm,22.0s							
VRI	Vrincioaia	159.07	108	⇑*i*P	PKPdf	13 53 38.0	+10
KWP	Kalwaria Pacla	159.09	95	PFAKE		13 53 40.0	+12
KWP				LR	LR		
comp=Z,1μm,22.0s							
KIS	Kishinev	160.90	108	*e*PKP	PKPdf	13 53 37.0	+6.9
MKAR	Makanchi Array	161.12	251	PKIKP	PKPdf	13 53 28.7	-1.7
MKAR						13 54 13.7	
MKAR						13 58 03.8	
MKAR	Makanchi Array	161.12	251	PKP	PKPdf	13 53 28.7	-1.7
MKAR				PKPab	PKPab	13 54 13.7	-0.2
MKAR				PP	PP	13 58 03.8	+6.3
MKAR	Makanchi Array	161.12	251	PKP	PKPdf	13 53 28.7	-1.7
comp=Z,0.2nm,0.8s,baz=336,slow=1.7,SNR=2.3							
MKAR				PKPab	PKPab	13 54 13.7	-0.2
comp=Z,2.4nm,0.9s,baz=123,slow=4.5,SNR=7.4							
MKAR				PP	PP	13 58 03.8	+6.3
comp=Z,0.9nm,0.9s,baz=151,slow=5.4,SNR=3.5							
ARCES	ARCESS Array B	161.17	33	PKPab	PKPab	13 54 10.8	-2.7
comp=Z,0.7nm,0.7s,baz=279,slow=7.2,SNR=2.4							
KEV	Kevo	161.51	32	PFAKE		13 53 40.0	+10
KEV				LR	LR		
comp=Z,1μm,21.0s							
TKM2	Tokmak 2	161.56	232	PFAKE		13 53 40.0	+8.7
TKM2				LR	LR		
comp=Z,1μm,22.0s							
AAK	Ala-Archa	161.80	229	PFAKE		13 53 40.0	+8.5
AAK				LR	LR		
comp=Z,871nm,19.0s							
EKS2	Erkin-Say	162.12	228	PFAKE		13 53 40.0	+8.2
EKS2				LR	LR		
comp=Z,936nm,20.0s							
GNI	Garni	162.22	151	PFAKE		13 53 40.0	+8.0
GNI				LR	LR		
comp=Z,993nm,20.0s							
KIEV	Kiev	163.22	98	PFAKE		13 53 40.0	+7.7
KIEV				LR	LR		
comp=Z,1μm,21.0s							
ZALV	Zalesovo Beam	163.34	274	PKPab	PKPab	13 54 21.9	-1.5
comp=Z,3.7nm,0.8s,baz=106,slow=4.5,SNR=8.7							
SOC	Sochi	163.59	134	*e*PKIKP	PKPdf	13 53 32.4	-0.6
SOC				*e*SS	SS	14 18 36.6	-0.8
SOC				*e*SSS	SSS	14 24 53.7	
ANN	Anapa	163.61	127	*e*PKIKP	PKPdf	13 53 40.4	+7.5
NVS	Novosibirsk	164.50	276	*e*PKP2	PKPab	13 54 27.1	-1.4
KBZ	Khabaz	164.91	141	PKPab	PKPab	13 54 33.6	+3.1
comp=Z,0.6nm,0.4s,baz=289,slow=3.5,SNR=4.0							
MAK	Makhachkala	165.57	155	*e*PKIKP	PKPdf	13 53 30.3	-4.4
MAK				*e*		13 58 17.1	
MAK				*e*PPP	PPP	14 02 10.8	
MAK				*e*SS	SS	14 18 51.9	-5.2
MAK				*e*SSS	SSS	14 25 17.3	
MAK				pmax	pmax		
comp=Z,171nm,2.7s							
BRVK	Borovoye	171.04	255	PFAKE		13 53 50.0	+12
BRVK				LR	LR		
comp=Z,2μm,21.0s							

IDC 01 13:45:32.2±9.6, 19°.89S×178°.22W, h502km±107km, mb3.3/6, mb1 3.5/6, mb1mx3.1/19, mbtmp3.3/6, Error ellipse: s-maj=96.5km s-min=39.9km az=169.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.35	263	P	P	13 51 28.0	-0.4
5.8nm,1.0s,baz=92,slow=10,SNR=6.9							
STKA	Stephens Creek	37.87	243	P	P	13 52 05.8	-0.1
1.3nm,0.5s,baz=81,slow=12,SNR=11							
ASAR	Alice Springs	44.46	256	P	P	13 52 58.5	+0.1
8.3nm,0.6s,baz=91,slow=8.4,SNR=195							
WRA	Warramunga Arr	44.48	261	P	P	13 52 58.4	-0.3
3.2nm,0.5s,baz=98,slow=5.9,SNR=27							
FITZ	Fitzroy Crossi	52.91	262	P	P	13 54 01.4	+0.1
1.2nm,0.5s,baz=96,slow=8.7,SNR=10							
TXAR	Lajitas Array	86.90	57	P	P	13 57 24.1	+0.3
0.5nm,0.6s,baz=217,slow=5.9,SNR=7.6							
ARCES	ARCESS Array B	128.28	350	PKP	PKPdf	14 03 38.0	-2.7
1.1nm,0.8s,baz=343,slow=2.8,SNR=4.2							
BRTR	Keskin Array B	146.28	313	PKPbc	PKPbc	14 04 17.0	+0.3
0.6nm,0.7s,baz=48,slow=2.1,SNR=3.4							

IDC 01 13:46:07.3±1.1, 23°.35N×44°.85W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/27, mbtmp3.7/6, MS3.8/1, Ms1 3.8/1, ms1mx2.6/29, Error ellipse: s-maj=38.3km s-min=26.3km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	45.18	95	P	P	13 54 26.1	-0.3
0.7nm,0.8s,baz=305,slow=10.0,SNR=3.4							
LPAZ	La Paz	45.50	212	P	P	13 54 29.5	0.0
0.7nm,0.8s,baz=50,slow=7.9,SNR=3.6							
DAVOX	Davos/Dischmat	49.38	48	LR	LR	14 12 56.8	
comp=Z,90nm,20.2s,baz=258,slow=33							
TXAR	Lajitas Array	52.58	290	P	P	13 55 22.9	-0.3
0.2nm,0.7s,baz=101,slow=9.3,SNR=3.4							
PDAR	Pinedale Array	56.23	307	P	P	13 55 49.1	-0.7
0.8nm,0.9s,baz=113,slow=3.9,SNR=6.2							
NEW	Newport	61.30	313	P	P	13 56 25.2	+0.5
1.7nm,0.8s,baz=95,slow=8.1,SNR=4.9							
ILAR	Eielson Array	74.10	334	P	P	13 57 45.3	+0.2
1.0nm,0.9s,baz=71,slow=4.6,SNR=11							

*SKO **01** 13:50:57.4, 41°.76N×22°.70E, h15km, M1.1, ML1.6*
*CSEM **01** 13:50:58.6±0.3, 41°.72N×22°.74E, h20km, ML1.6/4, Error ellipse: s-maj=8.0km s-min=5.2km az=97.0*
*THE **01** 13:50:58.2, 41°.74N×22°.74E, h14km±6km, ML1.6/4, Error ellipse: s-maj=8.2km s-min=1.4km az=258.0*
*ATH **01** 13:50:58.2, 41°.70N×22°.72E, h63km±12km*
*BEO **01** 13:50:58.6±0.4, 41°.76N×22°.68E, h0km, ML1.4/3*

ISC 01 13:50:57.8±1.0, 41°.75N±0°.02×22°.72E±0°.04, h16km±10km, n25, σ0s59/44, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.44	195	P	Pg	13 51 06.6	-0.1
VAY				S	Sg	13 51 12.3	-0.4
VAY	Valandovo	0.44	195	*i* Pg	Pg	13 51 01.4	-5.3
VAY				*i* Sg	Sg	13 51 13.3	+0.6
VAY				*e*Lg	Lg	13 51 13.5	
comp=E,30nm,0.4s							
VAY				*e*Lg	Lg	13 51 13.5	
comp=N,38nm,0.6s							
VAY	Valandovo	0.44	195	*e*Pg	Pg	13 51 06.0	-0.7
VAY	Valandovo	0.44	195	*e*Pg	Pg	13 51 06.0	-0.7
VAY	Valandovo	0.44	195	P	Pg	13 51 06.6	-0.1
VAY				S	Sg	13 51 12.3	-0.4
VAY				*i* Sg	Sg	13 51 13.2	+0.6
VAY				*e*Lg	Lg	13 51 13.5	
comp=N,30nm,0.4s							
KNT	Kendrikon	0.60	167	P	Pb	13 51 10.2	+0.2
KNT				S	Sb	13 51 18.4	+0.2
KNT	Kendrikon	0.60	167	P	Pb	13 51 10.2	+0.2
KNT				S	Sb	13 51 18.4	+0.2
GRG	Griva	0.82	197	*e*P	Pn	13 51 14.8	0.0
GRG				*e*S	Sb	13 51 25.7	+1.0
GRG	Griva	0.82	197	*e*P	Pn	13 51 14.8	0.0
GRG				*e*S	Sb	13 51 25.7	+1.0
SRS	Serrai	0.91	133	P	Pb	13 51 15.6	+0.4
SRS				S	Sg	13 51 27.9	+0.5
SRS	Serrai	0.91	133	P	Pb	13 51 15.6	+0.4
SRS				S	Sg	13 51 27.9	+0.5
VTS	Vitosha	0.92	23	P	Pb	13 51 15.9	+0.4
VTS				S	Sb	13 51 27.6	0.0
VTS	Vitosha	0.92	23	*e*Pg	Pb	13 51 15.6	+0.1
VTS				*e*Sg	Sb	13 51 27.6	0.0
VTS	Vitosha	0.92	23	*e*Pg	Pb	13 51 15.6	+0.1
VTS	Vitosha	0.92	23	P	Pb	13 51 15.9	+0.4
VTS				*e*Sg	Sb	13 51 27.6	0.0
NVR	Nevrokopi	0.95	114	P	Pb	13 51 16.2	+0.3
NVR				S	Sb	13 51 28.2	0.0
NVR	Nevrokopi	0.95	114	*e*P	Pb	13 51 16.1	+0.2
NVR				*e*S	Sg	13 51 29.2	+0.6
NVR	Nevrokopi	0.95	114	*e*P	Pb	13 51 16.1	+0.2
NVR				S	Sb	13 51 28.2	0.0
SOH	Sokhos	1.04	152	P	Pg	13 51 18.8	+0.8
SOH				S	Sg	13 51 31.7	+0.1
SOH	Sokhos	1.04	152	*e*P	Pb	13 51 17.5	0.0
SOH				*e*S	Sb	13 51 31.6	+0.7
SOH	Sokhos	1.04	152	*e*P	Pb	13 51 17.5	0.0
SOH				S	Sg	13 51 31.7	+0.1
PLG	Polygyros	1.48	158	*e*P	Pn	13 51 22.1	-1.7
PLG	Polygyros	1.48	158	*e*P	Pn	13 51 22.1	-1.7
ZAPS	Zavoj	1.53	358	*e*Pg	Pb	13 51 26.5	+0.7
ZAPS				*e*Sg	Sb	13 51 45.6	+0.7
SELS	Selova	1.89	322	*e*Pn	Pb	13 51 31.9	0.0

*IDC **01** 15:18:41.5±50.0, 14°.90S×172°.91W, h0km, mb4.7/3, mb1 4.9/3, mb1mx3.9/20, mbtmp4.7/3, Error ellipse: s-maj=959.4km s-min=164.4km az=78.0*

*AUST **01** 15:20:09.3±0.0, 16°.45S×179°.85E, h317km, Error ellipse: s-maj=3.1km s-min=1.4km az=335.0*

ISC 01 15:18:55.7±11.0, 15°.3S±0°.8×17°.5W±°, h10km, n13, σ0s80/11, mb4.5/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	34.46	238	P	P	15 25 44.5	+0.5
baz=29,SNR=5.2							
RMQ	Roma	35.93	246	P	P	15 25 56.9	+0.2
baz=30,SNR=5.9							
CMSA	Cobar Meteorol	39.67	239	P	P	15 26 27.8	-0.3
baz=34,SNR=11							
TOO	Toolangi	41.69	230	P	P	15 26 45.7	+0.9
baz=37,SNR=4.4							
STKA	Stephens Creek	43.14	240	P	P	15 26 56.7	+0.1
3.2nm,0.4s,baz=82,slow=7.7,SNR=30							
STKA	Stephens Creek	43.14	240	P	P	15 26 56.8	+0.1
baz=38,SNR=26							
BBOO	Buckleboo	47.92	239	P	P	15 27 34.1	-0.4
baz=43,SNR=13							
WRA	Warramunga Arr	48.80	257	P	P	15 27 40.5	-1.0
2.6nm,0.6s,baz=94,slow=7.0,SNR=33							
ASAR	Alice Springs	49.10	252	P	P	15 27 43.7	-0.1
20nm,0.5s,baz=89,slow=7.8,SNR=821							
KDU	Kakadu	51.38	266	P	P	15 28 03.9	+2.9
baz=46,SNR=4.3							
MTN	Manton Dam	52.64	265	P	P	15 28 12.9	+2.4
baz=47,SNR=3.2							
KNRA	Kununurra	54.49	261	P	P	15 28 25.7	+1.6
baz=49,SNR=6.0							
MEEK	Meekatharra	62.84	248	P	P	15 29 21.8	-0.3
baz=57,SNR=4.0							

IDC 01 15:25:30.4±2.2, 15°.48S×177°.41W, h391km±24km, mb3.2/7, mb1 3.5/8, mb1mx3.2/19, mbtmp3.2/8, Error ellipse: s-maj=31.4km s-min=14.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.67	75	P	Pn	15 26 59.3	0.0
3.1nm,0.3s,baz=74,slow=2.6,SNR=5.6							
STKA	Stephens Creek	40.66	239	P	P	15 32 34.0	-0.6
2.1nm,0.9s,baz=110,slow=15,SNR=3.1							
WRA	Warramunga Arr	46.06	257	P	P	15 33 17.2	-0.2
1.6nm,0.8s,baz=89,slow=7.0,SNR=8.7							
ASAR	Alice Springs	46.41	252	P	P	15 33 20.1	+0.1
12nm,0.7s,baz=84,slow=7.8,SNR=171							
VNDA	Vanda	62.94	185	P	P	15 35 16.4	+0.1
0.2nm,0.5s,baz=352,slow=5.6,SNR=3.9							
NVAR	Mina Array Bea	77.02	44	P	P	15 36 41.7	-0.1
0.1nm,0.3s,baz=231,slow=9.7,SNR=4.8							
ILAR	Eielson Array	83.32	13	P	P	15 37 13.9	-0.2
0.6nm,0.8s,baz=225,slow=6.4,SNR=7.1							
TXAR	Lajitas Array	83.89	57	P	P	15 37 17.9	0.0
0.5nm,0.7s,baz=218,slow=7.8,SNR=5.9							
BRTR	Keskin Array B	143.69	318	PKP	PKPab	15 44 18.1	-0.1
0.8nm,0.7s,baz=115,slow=2.8,SNR=4.7							
GERES	GERESS Array B	145.50	347	PKPbc	PKPbc	15 44 23.5	-0.2
0.2nm,0.3s,baz=247,slow=2.0,SNR=2.7							

*ISCJB **01** 15:45:32.4±0.6, 36°.09N±0°.03×27°.59E±0°.04, h7km±5km, Error ellipse: s-maj=6.1km s-min=3.8km az=136.8*
*CSEM **01** 15:45:32.8±0.2, 36°.10N×27°.58E, h5km, MD3.1, Error ellipse: s-maj=6.0km s-min=3.7km az=133.0*
*THE **01** 15:45:32.8, 36°.05N×27°.66E, h7km±2km, ML2.6/1, Error ellipse: s-maj=2.7km s-min=0.7km az=75.0*
*ATH **01** 15:45:32.0, 35°.90N×27°.90E, h32km±5km, MD3.1/7*
*ISK **01** 15:45:33.4, 36°.17N×27°.52E, h15km, MD2.9*

ISC 01 15:45:32.9±1.0, 36°.10N±0°.02×27°.61E±0°.02, h12km±9km, n38, σ1s00/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.43	74	P	Pg	15 45 41.0	-0.5
ARG				S	Sb	15 45 47.3	-1.8
ARG	Arkhangelos	0.43	74	*e*PB	Pb	15 45 41.2	-1.4
ARG				*e*SB	Sb	15 45 47.4	-1.7
ARG	Arkhangelos	0.43	74	*e*Pb	Pb	15 45 41.2	-1.4
ARG				S	Sb	15 45 47.3	-1.8
NIS1	Nisyros Isl.	0.61	326	P	Pg	15 45 45.3	+0.4
NIS1				S	Sn	15 45 56.5	-0.9
NIS1	Nisyros Isl.	0.61	326	P	Pg	15 45 45.3	+0.4
NIS1				S	Sn	15 45 56.5	-0.9
DAT	Datca	0.63	358	*e*PG	Pg	15 45 44.4	-0.9
DAT				*e*SG	Sg	15 45 53.1	-0.5
DAT	Datca	0.63	358	*e*Pg	Pg	15 45 44.4	-0.9
DAT				*e*Sg	Sg	15 45 53.1	-0.5
KARP	Karpathos	0.66	214	P	Pg	15 45 45.2	-0.5
KARP				S	Sg	15 45 55.6	+1.2
KARP	Karpathos	0.66	214	*e*PN	Pg	15 45 45.3	-0.5
KARP				*e*SN	Sb	15 45 56.6	+1.0
KARP	Karpathos	0.66	214	P	Pg	15 45 45.2	-0.5
KARP				S	Sg	15 45 55.6	+1.2
BODT	Bodrum	0.99	346	*e*PG	Pb	15 45 51.3	-0.8
BODT				*e*SG	Sb	15 46 04.6	-0.6
BODT	Bodrum	0.99	346	*e*Pg	Pb	15 45 51.3	-0.8
BODT				*e*Sg	Sb	15 46 04.6	-0.6
DALY	Dalyan (Mu¨la	1.11	49	*e*PN	Pg	15 45 54.8	+0.5
DALY				*e*SN	Sn	15 46 10.9	+1.4
DALY	Dalyan (Mu¨la	1.11	49	*e*Pn	Pg	15 45 54.8	+0.5
DALY				*e*Sn	Sn	15 46 10.9	+1.4
YER	Yerkesik	1.17	27	*e*PN	Pg	15 45 55.1	-0.4
YER	Yerkesik	1.17	27	*e*Pn	Pg	15 45 55.1	-0.4
MLSB	Milas	1.20	6	*e*PN	Pb	15 45 55.4	-0.4
MLSB	Milas	1.20	6	*e*Pn	Pb	15 45 55.4	-0.4
FETY	Fethiye	1.31	65	*e*PN	Pg	15 45 58.9	+0.9
FETY	Fethiye	1.31	65	*e*Pn	Pg	15 45 58.9	+0.9
ZKR	Zakros	1.50	230	*e*PN	Pn	15 46 00.1	+0.4
ZKR	Zakros	1.50	230	*e*Pn	Pn	15 46 00.1	+0.4
SMG	Samos	1.72	339	*e*PN	Pb	15 46 04.7	+0.1
SMG				*e*SN	Sg	15 46 30.2	+1.8
SMG	Samos	1.72	339	*e*Pn	Pb	15 46 04.7	+0.1
NPS	Neapolis

MW4.7(NIED), Error ellipse: s-maj=5.2km s-min=3.8km az=145.0
NEIC Felt at Aizuwakamatsu and Kitakata. Recorded [3 JMA] in Fukushima, Niigata and Yamagata; [2 JMA] in Gumma; [1 JMA] in Akita, Iwate, Miyagi and Nagano.
ISC 01 15:57:01.2±0.4,38.24N±0.03×138.75E±0.03,h16km±2km, h16km:pP-P,n471,σ1§38/560,mb4.9/179,MS4.6/52, 26C-14D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JSD	**Sado**	**0.44**	**242**	⇓P	**Pn**	**15 57 11.9**	**-0.9**
JSD				S	**Sn**	**15 57 19.1**	**-1.3**
JAW	**Awa shima**	**0.44**	**61**	⇑P	**Pg**	**15 57 10.2**	**+0.1**
JAW				S	**Sg**	**15 57 16.1**	**-0.1**
JNS	**Sasagawa**	**0.62**	**133**	⇓P	**Pb**	**15 57 13.6**	**+0.1**
JNS				S	**Sb**	**15 57 22.3**	**+0.4**
JIZZ	**Izumozaki**	**0.71**	**183**	P	**Pn**	**15 57 16.3**	**-0.2**
JIZZ				S	**Sn**	**15 57 28.3**	**+1.2**
JYA	**Atsumi**	**0.83**	**65**	⇓P	**Pb**	**15 57 16.6**	**-0.6**
JYA				S	**Sb**	**15 57 27.6**	**-0.5**
JHK	**Hiroka**	**1.02**	**168**	⇑P	**Pb**	**15 57 20.4**	**0.0**
JHK				S	**Sn**	**15 57 34.3**	**-0.3**
JYS	**Shiratake**	**1.03**	**91**	⇓P	**Pb**	**15 57 19.9**	**-0.8**
JYS				S	**Sb**	**15 57 33.6**	**-0.4**
JFY	**Yanaizu**	**1.12**	**138**	P	**Pb**	**15 57 21.7**	**-0.5**
JFY				S	**Sg**	**15 57 37.3**	**-0.4**
MAJO	**Matsushiro**	**1.75**	**195**	*c iP*	**Pn**	**15 57 31.8**	**+0.9**
MAJO	**Matsushiro**	**1.75**	**195**	*e*Pn	**Pn**	**15 57 31.7**	**+0.8**
MAJO				*e*Sn	**Sn**	**15 57 51.3**	**-1.6**
MAT	**Matsushiro**	**1.75**	**195**	P	**Pn**	**15 57 31.6**	**+0.7**
MAT				S	**Sb**	**15 57 54.2**	**-0.5**
ERM	**Erimo**	**5.06**	**40**	Pn	**Pn**	**15 58 19.1**	**+2.9**
	502nm,0.6s,SNR=15						
ERM	**Erimo**	**5.06**	**40**	*c iP*	**Pn**	**15 58 18.6**	**+2.4**
ERM				pmax	pmax		
	comp=Z,54nm,1.0s						
ERM	**Erimo**	**5.06**	**40**	*e*Pn	**Pn**	**15 58 18.9**	**+2.6**
ERM				*e*Sn	**Sn**	**15 59 14.0**	**-0.2**
ASAJ	**Asahikawa**	**6.54**	**25**	*e*Pn	**Pn**	**15 58 38.5**	**+1.8**
ASAJ				Pn	**Pn**	**15 58 38.9**	**+2.2**
ASAJ				*e*Sn	**Sn**	**15 59 53.0**	**+2.1**
ASAJ	**Asahikawa**	**6.54**	**25**	Pn	**Pn**	**15 58 38.9**	**+2.2**
	comp=Z,2.8nm,0.3s,baz=239,slow=16,SNR=20						
ASAJ				LR	LR	16 01 22.5	
	comp=Z,2μm,18.7s,baz=65,slow=40						
VLA	**Vladivostok**	**7.14**	**315**	⇑*iP*	**Pn**	**15 58 44.5**	**-0.3**
USRK	**Ussuriysk Arra**	**7.83**	**322**	Pn	**Pn**	**15 58 54.1**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=132,slow=14,SNR=14						
USRK				Sn	**Sn**	**16 00 21.2**	**-1.5**
	baz=129,slow=23,SNR=2.6						
YUK	**Yuzh-Kuril'sk**	**7.89**	**41**	*d iP*	**Pn**	**15 58 55.8**	**+0.7**
YUK				*i* S	**Sn**	**16 00 19.4**	**-4.5**
YUK				pmax	pmax		
	comp=E,8.0nm,0.3s						
YUK				pmax	pmax		
	comp=N,17nm,0.3s						
YUK				pmax	pmax		
	comp=Z,48nm,0.3s						
JNU	**Nakatsue**	**8.19**	**234**	*e*Pn	**Pn**	**15 58 59.8**	**+0.4**
JNU				Pn	Pn	15 59 03.0	+3.6
JNU				*e*Sn	**Sn**	**16 00 28.3**	**-3.4**
JNU	**Nakatsue**	**8.19**	**234**	Pn	Pn	15 59 03.0	+3.6
	baz=25,slow=0.0						
JNU				LR	LR	16 02 25.5	
	comp=Z,2μm,18.3s,baz=41,slow=40						
KSRS	**Korea Array**	**8.61**	**268**	Pn	**Pn**	**15 59 05.5**	**+0.6**
	comp=Z,7.2nm,0.3s,baz=81,slow=14,SNR=256						
KSRS				Sn	**Sn**	**16 00 45.1**	**+3.4**
	comp=Z,4.9nm,0.3s,baz=78,slow=24,SNR=17						
KSRS				LR	LR	16 01 57.0	
	comp=Z,1μm,18.0s,baz=72,slow=35						
KSAR	**Wonju Array Be**	**8.64**	**268**	Pn	**Pn**	**15 59 05.5**	**+0.1**
KSAR				Sn	**Sn**	**16 00 45.1**	**+2.6**
YSS	**Yuzh-Sakhalins**	**9.19**	**17**	*αeP*	Pn	15 59 16.5	+3.6
YSS				*e*S	Sn	16 01 02.0	+6.1
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS				MLR	MLR		
	comp=Z,2μm,12.0s						
YSS				MLR	MLR		
	comp=E,2μm,13.0s						
MDJ	**Mudanjiang**	**9.37**	**316**	P	Pn	15 59 21.3	+5.9
MDJ				pmax	pmax		
	comp=Z,11nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,170nm,8.2s						
MDJ				LR	LR		
	comp=N,1μm,15.5s						
MDJ				LR	LR		
	comp=E,2μm,14.2s						
MDJ				LR	LR		
	comp=Z,3μm,16.8s						
MDJ	**Mudanjiang**	**9.37**	**316**	*e*Pn	**Pn**	**15 59 16.6**	**+1.1**
	comp=Z,11nm,0.8s						
MDJ				*e*Sn	**Sn**	**16 00 59.5**	**-0.9**
KUR	**Kuril'sk**	**9.75**	**41**	*d iP*	**Pn**	**15 59 21.1**	**+0.5**
KUR				S	**Sn**	**16 01 07.5**	**-2.2**
KUR				pmax	pmax		
	comp=Z,7μm,1.1s						
KUR				smax	smax		
	comp=N,5μm,3.7s						
KUR				smax	smax		
	comp=E,6μm,3.5s						
HABR	**Khabarovsk**	**10.57**	**346**	*ceP*	Pn	15 59 37.9	+6.0
HABR				*e*		16 01 35.3	
HABR				pmax	pmax		
	comp=Z,162nm,1.8s						
HABR				pmax	pmax		
	comp=N,109nm,1.8s						
HABR				pmax	pmax		
	comp=E,55nm,1.8s						
HABR				MLR	MLR		
	comp=N,1μm,14.0s						
HABR				MLR	MLR		
	comp=Z,2μm,14.0s						
HABR				MLR	MLR		
	comp=E,701nm,11.0s						
CN2	**Changchun**	**11.48**	**303**	*e*P	Pn	15 59 48.0	+3.7
CN2				*es*P		15 59 56.5	
CN2				*e*S	**Sn**	**16 01 55.3**	**+3.2**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
KLR	**Kul'dur**	**12.09**	**338**	*e*P	**Pn**	**15 59 53.8**	**+1.2**
KLR				*e*		16 02 14.0	
KLR				pmax	pmax		
	comp=N,40nm,1.8s						
KLR				pmax	pmax		
	comp=E,50nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s						
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
SNY	**Shenyang**	**12.17**	**292**	⇓P	P	16 00 02.1	-4.2
SNY				S	Sn	16 02 17.9	+8.9
SNY				pmax	pmax		
	comp=Z,200nm,6.9s						
SNY				LR	LR		
	comp=N,1μm,12.9s						
SNY				LR	LR		
	comp=E,4μm,14.7s						
SNY				LR	LR		
	comp=Z,4μm,14.1s						
DL2	**Dalian**	**13.42**	**278**	P	**P**	**16 00 17.7**	**-2.5**
DL2				pmax	pmax		
	comp=Z,65nm,0.6s						
DL2				pmax	pmax		
	comp=Z,160nm,4.1s						
DL2				LR	LR		
	comp=N,410nm,12.0s						
DL2				LR	LR		
	comp=E,540nm,9.6s						
DL2				LR	LR		
	comp=Z,700nm,11.0s						
SSE	**Sheshan**	**16.10**	**249**	P	**Pn**	**16 00 46.0**	**-0.8**
SSE				S	**Sn**	**16 03 45.0**	**0.0**
SSE				pmax	pmax		
	comp=Z,19nm,0.8s						
SSE				pmax	pmax		
	comp=Z,370nm,10.7s						
SSE				LR	LR		
	comp=N,2μm,15.5s						
SSE				LR	LR		
	comp=E,980nm,15.5s						
SSE				LR	LR		
	comp=Z,1μm,12.3s						
NJ2	**Nanjing**	**17.39**	**255**	*e*P	**Pn**	**16 01 02.3**	**-0.8**
NJ2				pP	**pP**	**16 01 07.0**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,300nm,11.5s						
NJ2				LR	LR		
	comp=N,1μm,24.9s						
NJ2				LR	LR		
	comp=E,1μm,25.5s						
NJ2				LR	LR		
	comp=Z,2μm,25.5s						
SKR	**Severo-Kuril's**	**17.50**	**39**	*e*P	**Pn**	**16 01 03.2**	**-1.1**
SKR				pmax	pmax		
	comp=Z,110nm,1.0s						
SKR				pmax	pmax		
	comp=N,500nm,2.0s						
SKR				pmax	pmax		
	comp=Z,600nm,2.0s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
SKR				MLR	MLR		
	comp=N,800nm,14.0s						
SKR				MLR	MLR		
	comp=E,1μm,16.0s						
HIA	**Hailar**	**17.55**	**315**	*e*Pn	**Pn**	**16 01 04.1**	**-1.0**
	comp=E,14nm,0.9s						
HIA				*e*Sn	**Sn**	**16 04 18.0**	**-2.1**
BJI	**Beijing**	**17.60**	**283**	P	**P**	**16 01 09.2**	**+2.6**
BJI				S	**Sn**	**16 04 19.5**	**-1.8**
BJI				pmax	pmax		
	comp=Z,32nm,0.6s						
BJI				pmax	pmax		
	comp=Z,140nm,3.7s						
BJI				LR	LR		
	comp=N,870nm,13.5s						
BJI				LR	LR		
	comp=E,840nm,15.1s						
BJI				LR	LR		
	comp=Z,290nm,14.6s						
PEA0B	**Petropavlovsk-**	**19.81**	**35**	*e*P	**Pn**	**16 01 31.8**	**-0.5**
PETK	**Petropavlovsk-**	**19.81**	**35**	P	**P**	**16 01 30.7**	**-0.1**
PETK				MLR	MLR		
	comp=Z,342nm,18.6s						
PETK	**Petropavlovsk-**	**19.81**	**35**	P	**P**	**16 01 30.7**	**-0.1**
PETK	**Petropavlovsk-**	**19.81**	**35**	P	**P**	**16 01 30.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=219,slow=8.3,SNR=16						
PETK				LR	LR	16 09 23.7	
	comp=Z,342nm,18.6s,baz=87,slow=38						
PET	**Petropavlovsk**	**20.20**	**37**	*e*P	Pn	16 01 42.5	+5.6
PET				*e*S	Sn	16 05 22.9	-0.9
PET				pmax	pmax		
	comp=Z,200nm,4.2s						
PET				pmax	pmax		
	comp=Z,19nm,1.7s						
PET				MLR	MLR		
	comp=Z,800nm,20.0s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
CLNS	**Chul'man**	**20.75**	**338**	*e*P	Pn	16 01 45.0	+1.6
CLNS				*e**PP	pP	16 01 53.3	+7.7
CLNS				*e*		16 02 01.0	
CLNS				*e*S	**S**	**16 05 29.6**	**-2.3**
CLNS				*e*		16 05 58.5	
CLNS				smax	smax		
	comp=N,172nm,11.3s						
CLNS				smax	smax		
	comp=E,68nm,10.4s						
CLNS				MLR	MLR		
	comp=N,590nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,821nm,14.0s						
CLNS				MLR	MLR		
	comp=E,451nm,12.0s						
HHC	**Hu-ho-hao-te**	**21.10**	**286**	*e*P	**P**	**16 01 46.3**	**+1.3**
HHC				sP	**sP**	**16 01 52.1**	**+0.3**
HHC				PP	**PnPn**	**16 02 09.2**	**+5.2**
HHC				S	**S**	**16 05 34.1**	**-5.1**
HHC				sS	Sn	16 05 43.3	-2.6
HHC				PcP	**PcP**	**16 05 54.0**	**+3.1**
HHC				SS	**SnSn**	**16 06 05.6**	**+5.0**
HHC				ScP	**ScP**	**16 09 29.2**	**+2.2**
HHC				pmax	pmax		
	comp=Z,37nm,0.6s						
HHC				pmax	pmax		
	comp=Z,310nm,4.8s						
HHC				LR	LR		
	comp=N,2μm,13.2s						
HHC				LR	LR		
	comp=E,2μm,12.9s						
HHC				LR	LR		
	comp=Z,2μm,11.8s						
QZH	**Quanzhou**	**21.64**	**238**	*e*P	**P**	**16 01 52.0**	**+1.3**
QZH				S	**S**	**16 05 45.0**	**-4.8**
QZH				LR	LR		
	comp=N,3μm,14.8s						
QZH				LR	LR		
	comp=E,2μm,13.6s						
QZH				LR	LR		
	comp=Z,3μm,14.9s						
XAN	**Xi'an**	**24.40**	**269**	P	**P**	**16 02 17.6**	**-1.2**
XAN				PP	PnPn	16 02 57.0	+7.7
XAN				S	**S**	**16 06 42.7**	**+4.8**
XAN				LR	LR		
	comp=N,430nm,12.8s						
XAN				LR	LR		
	comp=E,190nm,12.3s						
XAN				LR	LR		
	comp=Z,210nm,13.0s						
YAK	**Yakutsk**	**24.46**	**350**	*e*P	**P**	**16 02 17.5**	**-1.5**
YAK				*e**PP	**pP**	**16 02 23.6**	**-0.5**
YAK				*e*		16 02 48.4	
YAK				*e*PPP	PPP	16 02 59.3	
YAK				*e*		16 05 54.0	
YAK				*e*S	**S**	**16 06 35.9**	**-2.3**
YAK				*e*SS	**SnSn**	**16 07 22.3**	**-0.3**
YAK				*e*		16 13 21.2	
YAK				pmax	pmax		
	comp=Z,14nm,1.3s						
YAK				pmax	pmax		
	comp=N,13nm,1.2s						
YAK				pmax	pmax		
	comp=Z,57nm,1.5s						
YAK				pmax	pmax		
	comp=N,67nm,3.0s						
YAK				pmax	pmax		
	comp=E,15nm,1.5s						
YAK				smax	smax		
	comp=N,289nm,2.3s						
YAK				smax	smax		
	comp=E,100nm,2.7s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,761nm,15.0s						
YAK				MLR	MLR		
	comp=E,359nm,12.0s						
ULN	**Ulaanbaatar**	**24.93**	**303**	*e*P	**P**	**16 02 22.0**	**-1.5**
	comp=E,22nm,1.3s						
SONM	**Songino Array**	**25.36**	**303**	P	**P**	**16 02 26.5**	**-0.9**
SONM				PcP	**PcP**	**16 05 59.9**	**+0.2**
SONM	**Songino Array**	**25.36**	**303**	P	**P**	**16 02 26.5**	**-0.9**
	comp=E,4.8nm,0.6s,baz=106,slow=9.2,SNR=31						
SONM				PcP	**PcP**	**16 05 59.9**	**+0.2**
	comp=E,0.8nm,0.5s,baz=128,slow=2.4,SNR=4.3						
ENH	**Enshi**	**25.39**	**261**	*e*P	**P**	**16 02 26.7**	**-1.1**
	comp=E,12nm,0.6s						
LZH	**Lanzhou**	**27.81**	**276**	*e*P	**P**	**16 02 51.2**	**+1.5**
LZH				pP	**pP**	**16 02 55.1**	**+0.4**
LZH				sP	**sP**	**16 02 58.8**	**+2.0**
LZH				PP	**PnPn**	**16 03 40.5**	**+4.6**
LZH				S	**S**	**16 07 29.1**	**-3.0**
LZH				sS	**sS**	**16 07 38.2**	**-2.2**
LZH				SS	**SnSn**	**16 08 46.3**	**+1.3**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=N,430nm,12.2s						
LZH				LR	LR		
	comp=E,880nm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,16.8s						
ZAK	**Zakamensk**	**27.86**	**307**	*e*P	**P**	**16 02 48.8**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
FX1	**Attu Island--F**	**27.87**	**47**	P	**P**	**16 02 50.5**	**+0.6**
FX1	**Attu Island--F**	**27.87**	**47**	P	**P**	**16 02 50.5**	**+0.6**
	comp=Z,3.2nm,0.5s,baz=81,slow=20,SNR=6.9						
GYA	**Guiyang**	**29.40**	**256**	*e*P	**P**	**16 03 02.6**	**-1.3**
GYA				PP	**PnPn**	**16 04 01.2**	**+3.5**
GYA				PcP	**PcP**	**16 06 11.6**	**+1.9**
GYA				S	**S**	**16 07 56.9**	**-0.3**
GYA				SS	**SnSn**	**16 09 27.3**	**+3.3**
GYA				ScP	**ScP**	**16 09 51.2**	**+0.5**
GYA				ScS	**ScS**	**16 13 45.0**	**-0.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.5s						
GYA				LR	LR		
	comp=N,730nm,13.7s						
GYA				LR	LR		
	comp=E,740nm,14.3s						
GYA				LR	LR		
	comp=Z,970nm,14.0s						
CD2	**Chengdu**	**29.60**	**266**	*e*P	**P**	**16 03 07.2**	**+1.7**
CD2				pP	**pP**	**16 03 11.9**	**+1.3**
CD2				sP	**sP**	**16 03 14.2**	**+1.6**
CD2				PP	**PnPn**	**16 04 02.7**	**+2.4**
CD2				PcP	**PcP**	**16 06 13.2**	**+3.1**
CD2				SS	**SnSn**	**16 09 32.9**	**+4.3**
CD2				ScS	**ScS**	**16 13 47.2**	**+1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=E,2μm,13.1s						
CD2				LR	LR		
	comp=Z,2μm,13.2s						
GTA	**Gaotai**	**30.20**	**285**	*e*P	**P**	**16 03 11.0**	**+0.1**
GTA				pP	**pP**	**16 03 14.9**	**-1.0**
GTA				sP	**sP**	**16 03 17.6**	**-0.4**
GTA				PP	**PnPn**	**16 04 11.3**	**+2.9**
GTA				PcP	**PcP**	**16 06 12.4**	**+0.8**
GTA				S	**S**	**16 08 10.5**	**+0.9**
GTA				sS	**sS**	**16 08 18.6**	**+0.7**
GTA				SS	**ScP**	**16 09 49.3**	**-3.9**
GTA				PcS	**PcS**	**16 09 56.0**	**+0.8**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,4.3s						
GTA				LR	LR		
	comp=N,640nm,12.4s						
GTA				LR	LR		
	comp=E,530nm,12.8s						
GTA				LR	LR		
	comp=Z,650nm,13.3s						
QIZ	**Qiongzhong**	**31.59**	**241**	P	**P**	**16 03 22.0**	**-1.1**
QIZ				S	**S**	**16 08 32.9**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,12nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,100nm,4.6s						
QIZ				LR	LR		
	comp=N,660nm,13.5s						
QIZ				LR	LR		
	comp=E,430nm,13.3s						
QIZ				LR	LR		
	comp=Z,1μm,14.0s						
KMI	**Kunming**	**33.11**	**257**	P	**P**	**16 03 38.0**	**+1.3**
KMI				pP	**pP**	**16 03 41.4**	**-0.3**
KMI				PP	**PnPn**	**16 04 48.3**	**+1.9**
KMI				S	**S**	**16 08 55.0**	**-0.4**
KMI				SS	**SnSn**	**16 10 54.2**	**-0.1**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,82nm,3.3s						
KMI				LR	LR		
	comp=N,1μm,10.9s						
KMI				LR	LR		
	comp=E,730nm,11.2s						
KMI				LR	LR		
	comp=Z,1μm,12.4s						
TIXI	**Tiksi**	**33.86**	**354**	*e*P	**P**	**16 03 45.4**	**+3.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,458nm,15.0s						
HVS	**Khovu-Aksy**	**33.98**	**307**	*d iP*	**P**	**16 03 43.3**	**-0.6**
HVS				pmax	pmax		
	comp=Z,47nm,1.6s						
HVS				MLR	MLR		
	comp=Z,3μm,16.0s						
WMQ	**Urumqi**	**38.41**	**295**	*e*P	**P**	**16 04 22.7**	**+0.9**
WMQ				PP	**PnPn**	**16 05 54.2**	**+2.7**
WMQ				S	**S**	**16 10 16.6**	**+0.5**
WMQ				SS	**SnSn**	**16 12 55.3**	**-6.7**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
WMQ				LR	LR		
	comp=N,480nm,13.0s						
WMQ				LR	LR		
	comp=E,570nm,15.0s						
WMQ				LR	LR		
	comp=Z,300nm,16.0s						
ZAA0	**Zalesovo Array**	**39.54**	**311**	*e*P	**P**	**16 04 28.4**	**-2.6**
ZALV	**Zalesovo Beam**	**39.54**	**311**	P	**P**	**16 04 30.0**	**-1.0**
ZALV						16 06 37.8	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**39.54**	**311**	P	**P**	**16 04 30.0**	**-1.0**
ZALV				PcP	**PcP**	**16 06 37.8**	**-0.5**
ZALV	**Zalesovo Beam**	**39.54**	**311**	P	**P**	**16 04 30.0**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=98,slow=7.6,SNR=13						
ZALV				PcP	**PcP**	**16 06 37.8**	**-0.5**
	comp=Z,3.9nm,0.5s,baz=101,slow=2.9,SNR=14						
CMAR	**Chiang Mai Arr**	**39.81**	**252**	P	**P**	**16 04 33.0**	**-0.7**
CMAR				PcP	**PcP**	**16 06 39.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**39.81**	**252**	P	**P**	**16 04 33.0**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=43,slow=7.2,SNR=7.5						
CMAR				PcP	**PcP**	**16 06 39.9**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=30,slow=1.7,SNR=13						
CMAR				LR	LR	16 20 27.5	
	comp=Z,61nm,21.1s,baz=65,slow=35						
NVS	**Novosibirsk**	**40.47**	**313**	*e*P	**P**	**16 04 36.5**	**-2.3**
MK31	**Makanchi Array**	**41.69**	**301**	*e*P	**P**	**16 04 46.6**	**-2.3**
MK31				*e*		16 06 43.4	
MK31	**Makanchi Array**	**41.69**	**301**	*e*P	**P**	**16 04 46.5**	**-2.3**
MK31				*e*PcP	**PcP**	**16 06 43.4**	**-2.0**
MKAR	**Makanchi Array**	**41.69**	**301**	*i* P	**P**	**16 04 47.7**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**41.69**	**301**	P	**P**	**16 04 47.8**	**-1.1**
MKAR				*e*P	pP	16 04 48.0	-6.1
MKAR				PcP	**PcP**	**16 06 45.9**	**+0.6**
MKAR	**Makanchi Array**	**41.69**	**301**	P	**P**	**16 04 47.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=88,slow=9.9,SNR=16						
MKAR				PcP	**PcP**	**16 06 45.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=84,slow=6.2,SNR=5.1						
MKAR				LR	LR	16 22 35.2	
	comp=Z,126nm,20.8s,baz=1.2,slow=37						
KURK	**Kurchatov**	**43.52**	**307**	P	**P**	**16 05 02.7**	**-1.0**
KURK						16 06 51.5	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**43.52**	**307**	P	**P**	**16 05 02.7**	**-1.0**
KURK				PcP	**PcP**	**16 06 51.5**	**+0.2**
KURBB	**Kurchatov Arra**	**43.59**	**307**	P	**P**	**16 05 02.7**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=157,slow=5.1,SNR=4.2						
KURBB				PcP	**PcP**	**16 06 51.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=120,slow=1.9,SNR=4.3						
KSM	**Kuching**	**44.94**	**222**	*e*P	**P**	**16 05 14.6**	**-0.9**
	comp=Z,19nm,0.8s						

SVW2 Sparrevohn 45.86 38 *e*P **P 16 05 24.0 +1.8**
comp=Z,15nm,0.7s
TKM2 Tokmak 2 47.20 297 P **P 16 05 32.5 -0.8**
TKM2 pmax pmax
comp=Z,9.0nm,1.2s
TKM2 Tokmak 2 47.20 297 *e*P **P 16 05 31.9 -1.3**
comp=Z,3.0nm,0.6s
RSO Redoubt South 47.27 39 *e*P **P 16 05 31.6 -2.0**
OHAK Old Harbor 47.31 43 *e*P **P 16 05 34.0 +0.3**
comp=Z,19nm,1.0s
OHAK *e*PcP **PcP 16 07 03.5 -0.9**
PPLA Purkeypile 47.40 36 *e*P **P 16 05 34.5 0.0**
comp=Z,98nm,1.8s
PPLA *e*PcP **PcP 16 07 02.7 -2.1**
SPU Mount Spurr 47.56 38 *e*P **P 16 05 35.3 -0.3**
VOSK Vostochnaya 47.90 311 P **P 16 05 36.1 -2.2**
VOSK pmax pmax
comp=Z,10.0nm,1.0s
KSH Kashi 47.99 292 *e*P P 16 05 43.3 +4.0
KSH sP sP 16 05 50.3 +3.7
KSH PP **PP 16 07 35.6 +4.3**
KSH S **S 16 12 40.7 +4.1**
KSH ScS **ScS 16 15 33.2 +1.1**
KSH SS **SS 16 16 05.6 +0.4**
KSH pmax pmax
comp=Z,43nm,2.5s
KSH LR LR
comp=N,450nm,13.3s
KSH LR LR
comp=E,260nm,11.1s
KSH LR LR
comp=Z,130nm,7.1s
AAK Ala-Archa 48.06 297 *e*P **P 16 05 40.2 +0.3**
AAK pmax pmax
comp=Z,10.0nm,1.4s
AAK MLR MLR
comp=Z,2μm,18.0s
AAK Ala-Archa 48.06 297 LR LR 16 26 57.6
comp=Z,665nm,18.7s,baz=149,slow=38
COLD Coldfoot 48.13 30 *e*P **P 16 05 40.7 +0.8**
comp=Z,16nm,1.1s
BVAR Borovoye Array 48.19 311 P **P 16 05 39.5 -1.1**
BVAR 16 07 07.4
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 48.19 311 P **P 16 05 39.5 -1.1**
BVAR PcP **PcP 16 07 07.4 -0.2**
BVAR Borovoye Array 48.19 311 P **P 16 05 39.5 -1.1**
comp=Z,1.8nm,0.5s,baz=85,slow=7.0,SNR=15
BVAR PcP **PcP 16 07 07.4 -0.2**
comp=Z,2.0nm,0.6s,baz=83,slow=3.0,SNR=6.3
TRF Thorofare Moun 48.23 35 *e*P P 16 05 37.6 -3.3
comp=Z,7.2nm,0.7s
TRF *e*PcP **PcP 16 07 07.1 -0.7**
BRVK Borovoye 48.25 311⇑ *i*P **P 16 05 40.4 -0.6**
BRVK pmax pmax
comp=Z,11nm,1.9s
BRVK MLR MLR
comp=Z,733nm,18.0s
BRVK Borovoye 48.25 311 *e*P **P 16 05 39.6 -1.4**
comp=Z,3.1nm,0.7s
BRVK *e*PcP **PcP 16 07 06.7 -1.2**
MCK McKinley 48.81 34 *e*P **P 16 05 44.4 -0.8**
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 48.81 34 *e*P **P 16 05 44.4 -0.8**
comp=Z,22nm,1.1s
PMR Palmer 48.93 37 *e*P **P 16 05 45.7 -0.3**
PMR pmax pmax
comp=Z,20nm,1.1s
PMR Palmer 48.93 37 *e*P **P 16 05 45.7 -0.3**
comp=Z,20nm,1.1s
COLA College 49.19 33 *e*P **P 16 05 46.6 -1.4**
COLA pmax pmax
comp=Z,27nm,0.7s
COLA College 49.19 33 *e*P **P 16 05 46.6 -1.4**
comp=Z,26nm,0.7s
SML Sawmill 49.28 37 *e*P **P 16 05 48.2 -0.6**
SML pmax pmax
comp=Z,5.0nm,0.9s
SML Sawmill 49.28 37 *e*P **P 16 05 48.2 -0.6**
comp=Z,4.6nm,0.9s
ILAR Eielson Array 49.61 33 P **P 16 05 51.5 +0.2**
ILAR Eielson Array 49.61 33 P **P 16 05 51.5 +0.2**
comp=Z,5.5nm,0.7s,baz=272,slow=5.6,SNR=73
ILAR LR LR 16 27 21.8
comp=Z,125nm,19.4s,baz=283,slow=37
PAX Paxson 50.45 35 *e*P **P 16 05 57.7 -0.1**
PAX *e* 16 07 17.3
PAX pmax pmax
comp=Z,8.0nm,1.2s
PAX Paxson 50.45 35 *e*P **P 16 05 57.7 -0.1**
comp=Z,7.9nm,1.2s
PAX *e*PcP **PcP 16 07 17.3 +1.5**
DIV Divide 50.59 37 *e*P **P 16 05 59.1 +0.2**
comp=Z,79nm,1.7s
KK31 Karatay Array 50.69 298 *e*P **P 16 05 59.3 -0.5**
KK31 pmax pmax
comp=Z,1.0nm,0.6s
BMRM Bremner River 51.18 38 *e*P **P 16 06 02.7 -0.6**
comp=Z,28nm,1.1s
EGAK Eagle 52.04 32 *e*P **P 16 06 08.1 -1.5**
comp=Z,32nm,1.6s
COEN Coen 52.09 175 *e*P **P 16 06 11.7 +1.3**
SVE Sverdlovsk 52.84 318⇑ *i*P **P 16 06 16.4 +0.8**
SVE pmax pmax
comp=Z,52nm,1.3s
SVE MLR MLR
comp=Z,738nm,14.0s
DAWY Dawson 52.94 33 *e*P **P 16 06 16.1 -0.2**
PNL Peninsula 54.00 38 *e*P **P 16 06 22.9 -1.2**
ARU Arti 54.05 317 *c i*P **P 16 06 24.3 -0.2**
ARU 16 08 22.7
ARU S **S 16 13 56.9 -2.9**
ARU SS **SKiKP 16 17 29.7 -6.2**
ARU pmax pmax
comp=Z,65nm,1.7s
ARU MLR MLR
comp=Z,526nm,15.0s
INK Inuvik 54.28 27 *e*P **P 16 06 26.0 +0.1**
comp=Z,22nm,1.1s
INK Inuvik 54.28 27 LR LR 16 33 00.7
comp=Z,77nm,18.6s,baz=268,slow=40
HYT Haines Junctio 54.59 37 *e*P **P 16 06 29.0 +0.4**
KBL Kabul 55.02 289 *e*P **P 16 06 31.5 -0.6**
KBL pmax pmax
comp=Z,15nm,1.2s
KBL Kabul 55.02 289 *e*P **P 16 06 31.5 -0.6**
comp=Z,15nm,1.2s
AB31 Akbulak array 55.54 309 *e*P **P 16 06 35.3 -0.1**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
ABKAR Akbulak array 55.54 309 *e*P **P 16 06 34.6 -0.8**
AKTO Aktyubinsk 56.29 311 P **P 16 06 40.4 -0.4**
AKTO pmax pmax
comp=Z,4.0nm,0.5s
AKTO Aktyubinsk 56.29 311 P **P 16 06 40.4 -0.4**
AKTO Aktyubinsk 56.29 311 P **P 16 06 40.4 -0.4**
comp=Z,3.5nm,0.5s,baz=67,slow=11,SNR=12
WRAB Tennant Creek 58.02 185 P **P 16 06 53.4 +0.2**
comp=Z,112nm,0.8s,SNR=11
WRAB Tennant Creek 58.02 185 *e*P **P 16 06 50.9 -2.3**
WRAB pmax pmax
comp=Z,10.0nm,0.6s
WRAB Tennant Creek 58.02 185 *e*P **P 16 06 50.9 -2.3**
comp=Z,9.6nm,0.6s
WRA Warramunga Arr 58.02 185 P **P 16 06 53.2 0.0**
WRA PcP **PcP 16 07 45.9 +0.8**
WRA Warramunga Arr 58.02 185 P **P 16 06 53.2 0.0**
comp=Z,16nm,0.7s,baz=0.8,slow=7.3,SNR=152
WRA PcP **PcP 16 07 45.9 +0.8**
comp=Z,3.2nm,0.5s,baz=358,slow=4.5,SNR=5.8
CTAO Charters Tower 58.45 172 *e*P **P 16 06 57.7 +1.5**
CTAO pmax pmax
comp=Z,55nm,1.6s
CTAO Charters Tower 58.45 172 *e*P **P 16 06 57.7 +1.5**
comp=Z,54nm,1.6s
DLBC Dease Lake 58.97 38 LR LR 16 36 20.6
comp=Z,118nm,18.4s,baz=314,slow=40
KBS Kingsbay 59.10 350 *e*P **P 16 07 03.0 +2.9**
KBS pmax pmax
comp=Z,7.0nm,1.1s
KBS MLR MLR
comp=Z,116nm,14.0s
LVZ Lovozero 60.13 335 *c i*P **P 16 07 06.6 -0.8**
LVZ pmax pmax
comp=Z,25nm,1.5s
LVZ MLR MLR
comp=Z,460nm,19.0s
TMCR Tamitsa 60.66 330 *e*P **P 16 07 11.5 +0.5**
TMCR pmax pmax
comp=Z,45nm,1.5s
APA Apatity 60.71 335⇓ *e*P **P 16 07 11.0 -0.3**
APA MLR MLR
comp=Z,400nm,14.0s
KEV Kevo 61.55 338 *e*P **P 16 07 17.0 +0.1**
KEV pmax pmax
comp=Z,25nm,1.4s
KEV Kevo 61.55 338 *e*p **P 16 07 16.8 -0.1**
comp=Z,1.0nm,0.4s
KEV Kevo 61.55 338 *e*P **P 16 07 17.0 +0.1**
comp=Z,25nm,1.4s
MBWA Marble Bar 61.73 200 *e*P **P 16 07 19.2 +0.5**
comp=Z,14nm,0.8s
AS31 Alice Springs 61.75 185 *e*P **P 16 07 17.9 -0.9**
ASAR Alice Springs 61.75 185 P **P 16 07 19.3 +0.5**
ASAR Alice Springs 61.75 185 P **P 16 07 19.3 +0.5**
comp=Z,9.2nm,0.7s,baz=16,slow=5.7,SNR=118
ARCES ARCESS Array B 62.11 339 P **P 16 07 20.8 +0.1**
ARCES ARCESS Array B 62.11 339 P **P 16 07 20.8 +0.1**
comp=Z,1.5nm,0.5s,baz=58,slow=8.0,SNR=20
YKA Yellowknife Ar 63.81 30 P **P 16 07 32.3 +0.2**
YKA Yellowknife Ar 63.81 30 P **P 16 07 32.3 +0.2**
comp=Z,3.1nm,0.5s,baz=302,slow=6.0,SNR=24
JOF Joensuu 63.89 331 *e*P **P 16 07 31.6 -1.0**
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 63.89 331 *e*p **P 16 07 31.6 -1.0**
comp=Z,3.8nm,0.4s
EIDS Eidsvold 64.33 168 *e*P **P 16 07 37.0 +1.1**
comp=Z,16nm,1.1s
DAG Danmarks Havn 64.38 354 *i* P **P 16 07 35.2 -0.4**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 64.38 354 *i* P **P 16 07 35.2 -0.4**
comp=Z,4.3nm,0.8s
MOS Moscow 65.01 322 *e*P **P 16 07 38.8 -1.3**
MOS *e* 16 07 46.1
MOS *e* 16 07 54.1
MOS *e* 16 10 01.1
MOS *e* 16 16 51.0
MOS pmax pmax
comp=Z,44nm,1.1s
MOS MLR MLR
comp=Z,700nm,17.0s
VRHR Novokhopersk 65.37 316 *e*P **P 16 07 40.0 -2.5**
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,9.0nm,0.5s
OBN Obninsk 65.85 322 *c i*P **P 16 07 45.3 -0.2**
OBN *i* 16 07 52.8
OBN pmax pmax
comp=Z,44nm,1.5s
OBN MLR MLR
comp=Z,400nm,16.0s
MAK Makhachkala 66.05 307 *e*P P 16 07 41.0 -6.0
MAK *e* 16 08 15.1
MAK *e* 16 10 13.1
MAK *e*PPP PPP 16 11 45.3
MAK *e*S S 16 16 25.6 -8.6
MAK MLR MLR
comp=Z,473nm,12.0s
KAF Kangasniemi 66.25 332 *e*P **P 16 07 47.1 -0.9**
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 66.25 332 *e*p **P 16 07 47.1 -0.9**
comp=Z,3.4nm,0.4s
VSR Storozhevoye 66.62 317 *e*P **P 16 07 49.9 -0.7**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,20nm,1.1s
VORD Divnogorie 66.69 317 *e*P **P 16 07 49.7 -1.3**
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=Z,7.0nm,0.4s
VORD pmax pmax
comp=E,40nm,0.7s
FIA1 FINESS Array S 66.75 331 *e*P **P 16 07 50.2 -0.9**
FINES FINESS Array B 66.75 331 P **P 16 07 51.1 -0.1**
FINES FINESS Array B 66.75 331 P **P 16 07 51.1 -0.1**
comp=E,9.2nm,0.6s,baz=56,slow=8.4,SNR=54
FINES LR LR 16 38 56.1
comp=E,203nm,18.4s,baz=148,slow=38
NLWA Neilton Lookou 67.44 47 *e*P **P 16 07 56.6 +0.7**
comp=E,20nm,1.3s
VSU Vasula 68.33 328 *c i*P **P 16 08 00.7 -0.5**
VSU pmax pmax
comp=Z,97nm,1.4s
VSU MLR MLR
comp=Z,518nm,17.0s
KBZ Khabaz 68.51 309 P **P 16 08 02.6 0.0**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ MLR MLR
comp=Z,153nm,18.2s
KBZ Khabaz 68.51 309 P **P 16 08 02.5 0.0**
KBZ Khabaz 68.51 309 P **P 16 08 02.5 0.0**
comp=Z,7.0nm,1.0s,baz=51,slow=2.7,SNR=16
KBZ LR LR 16 43 04.2
comp=Z,153nm,18.1s,baz=274,slow=40
KIV Kislovodsk 68.51 309⇑ *i*P **P 16 08 03.4 +0.6**
KIV *i* 16 08 13.4
KIV pmax pmax
comp=Z,74nm,1.5s
KIV MLR MLR
comp=Z,200nm,19.0s
LON Longmire 68.97 47 *e*P **P 16 08 06.7 +1.2**
LON pmax pmax
comp=Z,4.0nm,1.1s
LON Longmire 68.97 47 *e*P **P 16 08 06.7 +1.2**
comp=Z,4.2nm,1.1s
GNI Garni 69.29 305 P **P 16 08 08.5 +0.7**
GNI Garni 69.29 305 P **P 16 08 08.5 +0.7**
comp=Z,2.9nm,0.4s,baz=356,slow=20,SNR=4.7
GNI LR LR 16 40 21.3
comp=Z,48nm,20.5s,baz=342,slow=38
FORT Forrest 69.39 190 *e*P **P 16 08 08.1 +0.1**
comp=Z,21nm,0.6s
SUMG Summit 69.46 359 *e*P **P 16 08 07.6 -1.0**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 69.46 359 *i* P **P 16 08 08.7 +0.2**
comp=Z,12nm,0.9s
SUMG Summit 69.46 359 *e*P **P 16 08 07.6 -1.0**
comp=Z,17nm,0.9s
EDM Edmonton 69.69 38 *e*P **P 16 08 10.5 +0.6**
EDM Edmonton 69.69 38 *e*P **P 16 08 10.5 +0.6**
STKA Stephens Creek 69.81 177 P **P 16 08 10.9 +0.3**
STKA Stephens Creek 69.81 177 P **P 16 08 10.9 +0.3**
comp=Z,3.9nm,0.6s,baz=318,slow=7.7,SNR=15
HUMO Hull Mountain 70.61 51 *e*P **P 16 08 16.7 +1.1**
comp=Z,21nm,1.9s
NEW Newport 70.72 43 *e*P **P 16 08 14.8 -1.5**
comp=Z,12nm,1.2s
NEW P **P 16 08 17.4 +1.2**
NEW Newport 70.72 43 P **P 16 08 17.4 +1.2**
comp=Z,2.6nm,0.7s,baz=311,slow=7.4,SNR=9.2
NEW Newport 70.72 43 P **P 16 08 17.2 +1.0**
baz=70,SNR=5.9
ANN Anapa 71.16 312 *e*P **P 16 08 17.4 -1.5**
ANN pmax pmax
comp=Z,56nm,1.3s
ANN MLR MLR
comp=N,280nm,19.0s
ANN MLR MLR
comp=E,183nm,19.0s
ANN MLR MLR
comp=Z,250nm,19.0s
YBH Yreka Blue Hor 71.26 51 P **P 16 08 20.2 +0.5**
YBH Yreka Blue Hor 71.26 51 P **P 16 08 20.2 +0.5**
comp=Z,1.2nm,0.5s,baz=22,slow=0.6,SNR=5.5
WALA Waterton Lakes 71.94 41 *e*P **P 16 08 22.5 -1.3**
comp=Z,0.6nm,1.5s
KIEV Kiev 72.05 321 *e*P **P 16 08 23.9 -0.3**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 72.05 321 *e*P **P 16 08 23.9 -0.3**
comp=Z,6.7nm,0.6s
B13A Whitefish 72.07 42⇓ P **P 16 08 25.2 +0.8**
baz=72,SNR=8.6
BSMT Bassoo Peak 72.22 43 *e*P **P 16 08 26.2 +0.7**
NB2 NORSAR Subarra 72.24 336 P **P 16 08 24.8 -0.4**
comp=Z,19nm,1.0s,baz=39,slow=6.2
NB2 NORSAR Subarra 72.24 336 P **P 16 08 24.8 -0.4**
baz=39,slow=6.2
NOA NORSAR Array B 72.24 336 P **P 16 08 25.1 -0.1**
NOA NORSAR Array B 72.24 336 P **P 16 08 25.1 -0.1**
comp=Z,6.9nm,0.8s,baz=40,slow=6.0,SNR=19
NOA LR LR 16 43 02.7
comp=Z,298nm,18.2s,baz=30,slow=38
A14A Double T Ranch 72.25 41⇑ P **P 16 08 26.0 +0.4**
baz=72,SNR=5.4
BLMT Blacktail Moun 72.35 42 *e*P **P 16 08 26.9 +0.6**
C13A Hot Springs 72.44 43⇓ P **P 16 08 27.1 +0.5**
baz=72,SNR=7.3
A15A Johnson Ranch, 72.60 41 P **P 16 08 27.9 +0.2**
baz=72,SNR=9.8
BMO Blue Mountains 72.64 46 *e*P **P 16 08 27.4 -0.5**
comp=Z,7.8nm,1.0s
B14A Marquette Ranc 72.71 42⇓ P **P 16 08 29.0 +0.7**
baz=72,SNR=11
SWMT Swartz Lake 72.85 43 *e*P **P 16 08 29.5 +0.4**
SIM Simferopol' 72.98 314 *e*P **P 16 08 29.2 -0.6**
SIM pmax pmax
comp=Z,12nm,1.3s
SIM MLR MLR
comp=Z,90nm,12.2s
B15A Bradely Ranch, 73.11 41 P **P 16 08 31.4 +0.7**
baz=73,SNR=21
MIB Mutribah 73.27 295 *e*P **P 16 08 31.4 -0.4**
MIB AMb AMB 16 08 33.0
comp=Z,27nm,0.8s
SLMT Seeley Lake 73.28 43 *e*P **P 16 08 32.4 +0.6**
WVOR Wild Horse Val 73.31 49 *e*P **P 16 08 32.6 +0.6**
WVOR pmax pmax
comp=Z,16nm,1.5s
WVOR Wild Horse Val 73.31 49 *e*P **P 16 08 32.6 +0.6**
comp=Z,16nm,1.5s
KBD Kabd 73.37 294 *e*P **P 16 08 32.5 +0.1**
KBD AMb AMB 16 08 33.5
comp=Z,27nm,0.6s
OHCM Honcut 73.40 53 *e*P **P 16 08 33.0 +0.7**
RDF Al-Radifah 73.61 294 *e*P **P 16 08 33.8 0.0**
RDF AMb AMB 16 08 36.9
comp=Z,48nm,1.4s
CHMT Chamberlain Mo 73.62 43 *e*P **P 16 08 33.3 -0.5**
NAY Al-Naaiem 73.65 294 *e*P **P 16 08 33.5 -0.5**
NAY AMb AMB 16 08 35.2
comp=Z,18nm,0.7s
A17A Triple J Farms 73.66 40 P **P 16 08 34.8 +0.9**
baz=73,SNR=6.9
FFC Flin Flon 73.81 32 *i* P **P 16 08 35.4 +0.9**
FFC Flin Flon 73.81 32 *e*P **P 16 08 33.6 -0.9**
comp=Z,14nm,1.0s
C16A Fuhringer Ranc 73.85 41⇑ P **P 16 08 35.7 +0.6**
baz=74,SNR=5.3
B17A L&G Farms, Che 74.03 41 P **P 16 08 37.2 +1.1**
baz=74,SNR=6.5
MFID Camas Ranch 74.36 47 *e*P **P 16 08 37.2 -0.9**
comp=Z,38nm,1.8s
MFID Camas Ranch 74.36 47 P **P 16 08 39.8 +1.7**
baz=74,SNR=6.0
C17A Wharram Farm, 74.47 41⇑ P **P 16 08 38.7 +0.1**
baz=74,SNR=6.4
B18A Beardsley Farm 74.48 40 P **P 16 08 39.9 +1.2**
baz=74,SNR=13
KIS Kishinev 74.59 318 *e*P **P 16 08 38.0 -1.2**
KIS LRM MLR 16 44 13.0
comp=Z,600nm,16.0s
A19A Klindworth Far 74.66 39 P **P 16 08 40.4 +0.8**
baz=74,SNR=9.5
EGMT Eagleton 74.74 40 *e*P **P 16 08 38.5 -1.6**
comp=Z,34nm,1.3s
EGMT Eagleton 74.74 40 P **P 16 08 41.2 +1.0**
baz=74,SNR=9.5
LRM Limekiln Ridge 74.74 43 *e*P **P 16 08 39.0 -1.4**
D17A Six Diamond Ra 74.82 41⇑ P **P 16 08 41.3 +0.6**
baz=75,SNR=6.7
B19A Brinkman Farms 74.87 40 P **P 16 08 42.0 +1.1**
baz=75,SNR=9.1
CMB Columbia Colle 74.87 53 *e*P **P 16 08 40.3 -0.8**
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 74.87 53 *e*P **P 16 08 40.3 -0.8**
comp=Z,5.2nm,0.9s
DLMT Dillon 74.95 44 *e*P **P 16 08 40.8 -0.7**
comp=Z,14nm,0.8s
HLID Hailey 75.07 46 *e*P **P 16 08 42.6 +0.2**
comp=Z,7.0nm,1.3s
HLID Hailey 75.07 46 P **P 16 08 43.9 +1.5**
baz=75,SNR=7.5
LVV L'vov 75.15 323 *e*P **P 16 08 41.8 -0.6**
LVV *e* 16 08 49.2
LVV MLR MLR
comp=Z,200nm,16.0s
LVV MLR MLR
comp=N,500nm,18.0s
LVV MLR MLR
comp=E,400nm,18.0s
E17A Martinsdale 75.18 42 P **P 16 08 44.2 +1.3**
baz=75,SNR=17
WAKR Walker 75.18 53 *e*P **P 16 08 41.8 -1.3**
D18A Linhart Farms, 75.25 41⇑ P **P 16 08 43.9 +0.7**
baz=75,SNR=7.5
C19A Slack Wire Ran 75.29 40 P **P 16 08 44.5 +1.2**
baz=75,SNR=19
BOZ Bozeman (W) 75.29 43 *e*P **P 16 08 42.8 -0.7**
BOZ pmax pmax
comp=Z,16nm,1.2s
BOZ Bozeman (W) 75.29 43 *e*P **P 16 08 42.8 -0.7**
comp=Z,16nm,1.2s
I14A Mackay 75.39 45 P **P 16 08 45.8 +1.6**
baz=75,SNR=13
E18A Harlowton 75.61 42⇑ P **P 16 08 46.2 +0.9**
baz=75,SNR=10
F17A Fitzpatrick Pl 75.64 42⇑ P **P 16 08 46.1 +0.6**
baz=75,SNR=11
D19A Cripps Ranch, 75.75 41 P **P 16 08 46.9 +0.9**
baz=76,SNR=11
KWP Kalwaria Pacla 75.91 323 *e*P **P 16 08 48.1 +1.3**
NVAR Mina Array Bea 75.93 52 P **P 16 08 48.5 +1.1**
NVAR Mina Array Bea 75.93 52 P **P 16 08 48.5 +1.1**
comp=Z,3.3nm,0.6s,baz=293,slow=5.8,SNR=32
BUR08 Bucovina Ar. S 76.03 320 *e*P **P 16 08 46.8 -0.9**
FRB Frobisher Bay 76.06 12 LR LR 16 46 18.7
comp=Z,96nm,18.1s,baz=266,slow=39
H16A Russell Place, 76.11 44 P **P 16 08 49.5 +1.2**
baz=76,SNR=8.8
F18A Big Timber 76.14 42 P **P 16 08 49.5 +1.1**
baz=76,SNR=19
D20A Manuel Ranch, 76.18 40 P **P 16 08 49.6 +1.1**
baz=76,SNR=7.7
GCMT Greycliff 76.24 42 *e*P **P 16 08 49.2 +0.3**
comp=Z,11nm,1.0s
E19A Rath Farm, Rou 76.26 41 P **P 16 08 50.4 +1.5**
baz=76,SNR=18
RGN Rugen 76.40 331 *e*P **P 16 08 51.0 +1.6**
BRTR Keskin Array B 76.46 310 P **P 16 08 50.0 -0.3**
BRTR Keskin Array B 76.46 310 P **P 16 08 50.0 -0.3**
comp=Z,3.7nm,0.8s,baz=73,slow=4.1,SNR=22
YFT Old Faithful 76.49 44 *e*P **P 16 08 52.0 +1.5**
comp=Z,39nm,1.5s
I16A Newdale 76.51 44⇓ P **P 16 08 52.4 +1.9**
baz=76,SNR=12
E20A Meyer Farm, Mu 76.57 41 P **P 16 08 51.9 +1.2**
baz=76,SNR=7.0
F19A Roth Farm, Mol 76.58 42 P **P 16 08 51.7 +0.9**
baz=76,SNR=14
KOLS Kolonicke sedl 76.59 323 *e*P **P 16 08 51.1 +0.4**
KOLS pmax pmax
comp=Z,9.0nm,1.5s
KOLS Kolonicke sedl 76.59 323 *e*P **P 16 08 51.0 +0.4**
H17A Grant Village 76.67 44 P P 16 08 54.7 +3.2
baz=76,SNR=9.2
STHS Stebnicka Huta 76.74 323 *e*P **P 16 08 52.6 +1.1**
STHS pmax pmax
comp=Z,5.0nm,0.5s
STHS Stebnicka Huta 76.74 323 *e*P **P 16 08 52.6 +1.1**
D21A La Casta Ranch 76.77 40 P **P 16 08 52.5 +0.7**
baz=76,SNR=6.8
UZH Uzhgorod 76.79 322 *e*P **P 16 08 51.3 -0.5**
UZH *e* 16 09 08.0

IMW	Indian Meadow	76.80	44	eP		P	16 08 52.3	0.0
	comp=Z,15nm,1.2s							
FLWY	Flagg Ranch	76.81	44	eP		P	16 08 52.2	0.0
	comp=Z,26nm,1.4s							
OJC	Ojcow	76.85	325⇑	eP		P	16 08 52.5	+0.4
OJC	Ojcow	76.85	325	eP		P	16 08 51.2	-0.9
	comp=Z,36nm,1.5s							
ANTO	Ankara	76.88	311	eP		P	16 08 53.9	+1.4
ANTO					pmax	pmax		
	comp=Z,9.0nm,1.0s							
ANTO	Ankara	76.88	311	eP		P	16 08 53.9	+1.4
	comp=Z,8.6nm,1.0s							
RLMT	Red Lodge	76.90	42	eP		P	16 08 53.5	+0.7
	comp=Z,6.5nm,0.7s							
RRI2	Red Ridge	76.95	45	eP		P	16 08 53.0	-0.1
	comp=Z,18nm,1.3s							
H18A	Shoshone NF, C	76.98	43	P		P	16 08 54.5	+1.3
	baz=77,SNR=6.1							
CRVS	Cervenica-Dubn	77.00	323	eP		P	16 08 53.1	+0.1
CRVS					pmax	pmax		
	comp=Z,36nm,2.4s							
CRVS	Cervenica-Dubn	77.00	323	eP		P	16 08 53.1	+0.1
MOOW	Moose Ponds	77.00	44	eP		P	16 08 53.8	+0.4
	comp=Z,17nm,1.4s							
TPAW	Teton Pass	77.06	44	eP		P	16 08 54.5	+0.7
	comp=Z,14nm,1.3s							
HVU	Hansel Valley	77.14	47	eP		P	16 08 54.8	+0.7
HVU					pmax	pmax		
	comp=Z,35nm,1.6s							
HVU	Hansel Valley	77.14	47	eP		P	16 08 54.8	+0.7
	comp=Z,35nm,1.6s							
LOHW	Long Hollow	77.17	44	eP		P	16 08 54.7	+0.4
	comp=Z,6.9nm,1.3s							
NIE	Niedzica	77.18	324	eP		P	16 08 56.9	+2.9
REDW	Red Top Meadow	77.19	45	eP		P	16 08 54.6	+0.1
	comp=Z,14nm,1.2s							
G20A	Bridger	77.39	42	P		P	16 08 55.8	+0.4
	baz=77,SNR=5.3							
GRAC	Grapevine Rang	77.40	53	P		P	16 08 56.9	+1.5
	baz=77,SNR=11							
R11A	Troy Canyon, C	77.66	51	P		P	16 08 58.2	+1.1
	baz=78,SNR=15							
I19A	Meeteetse	77.76	43	P		P	16 08 59.9	+2.3
	baz=78,SNR=5.2							
OKC	Ostrava-Krasne	77.86	325	eP		P	16 08 57.8	0.0
OKC				e			16 09 05.6	
OKC					MLR	MLR		
	comp=Z,400nm,13.1s							
OKC	Ostrava-Krasne	77.86	325	eP		P	16 08 57.8	0.0
OKC				ePCP		PcP	16 09 05.6	-2.0
OKC					AMS	AMS	16 47 20.0	
	comp=Z,400nm,13.1s							
MPMC	Manual Prospec	77.90	54	P		P	16 08 59.3	+0.8
	baz=78,SNR=7.7							
HWUT	Hardware Ranch	77.94	46	eP		P	16 08 57.5	-1.1
	comp=Z,9.4nm,0.6s							
KSP	Ksiaz	77.95	327	eP		P	16 08 58.6	+0.4
KSP	Ksiaz	77.95	327	eP		P	16 08 59.5	+1.3
H20A	Greybull	77.99	42	P		P	16 08 59.7	+1.0
	baz=78,SNR=6.2							
BSEG	Bad Segeberg	78.01	332	eP		P	16 08 59.4	+0.9
	comp=Z,39nm,1.4s							
BSEG	Bad Segeberg	78.01	332	eP		P	16 08 59.4	+0.9
BSEG					pmax	pmax		
	comp=Z,39nm,1.4s							
FURC	Furnace Creek,	78.05	53	P		P	16 09 00.1	+1.1
	baz=78,SNR=7.6							
MORC	Moravsky Berou	78.18	325	eP		P	16 09 00.0	+0.4
MORC					pmax	pmax		
	comp=Z,14nm,1.4s							
MORC	Moravsky Berou	78.18	325	eP		P	16 08 60.0	+0.4
	comp=Z,14nm,1.4s							
J19A	Crowheart	78.25	44	P		P	16 09 01.8	+1.5
	baz=78,SNR=16							
RAYN	Ar Rayn	78.25	291	eP		P	16 08 58.4	-2.0
	comp=Z,22nm,1.5s							
I20A	Worland	78.28	43	P		P	16 09 02.1	+1.8
	baz=78,SNR=7.0							
DPC	Dobruska-Polom	78.30	326	eP		P	16 09 01.0	+0.8
DPC				e			16 09 06.7	
DPC	Dobruska-Polom	78.30	326	eP		P	16 09 01.0	+0.8
DPC				ePCP		pP	16 09 06.7	+1.0
DPC	Dobruska-Polom	78.30	326	eP		P	16 08 58.8	-1.4
KRLC	Kraliky	78.30	326	eP		P	16 09 01.1	+0.8
KRLC	Kraliky	78.30	326	eP		P	16 09 01.1	+0.8
BW06	Boulder Array	78.30	44	eP		P	16 09 00.2	-0.5
	comp=Z,4.9nm,0.6s							
PDAR	Pinedale Array	78.30	44	P		P	16 09 01.1	+0.4
PDAR	Pinedale Array	78.30	44	P		P	16 09 01.1	+0.4
	comp=Z,4.4nm,0.5s,baz=91,slow=0.1,SNR=42							
EDW2	Edwards Air Fo	78.32	55	P		P	16 09 01.7	+1.0
	baz=78,SNR=6.6							
PSZ	Piszkesteto	78.43	323	eP		P	16 09 02.2	+1.1
PSZ					pmax	pmax		
	comp=Z,13nm,1.2s							
PSZ	Piszkesteto	78.43	323	eP		P	16 09 02.2	+1.1
	comp=Z,13nm,1.2s							
VYHS	Vyhne	78.52	324	eP		P	16 09 02.0	+0.5
VYHS					pmax	pmax		
	comp=Z,15nm,2.1s							
VYHS	Vyhne	78.52	324	eP		P	16 09 02.0	+0.5
L18A	Fontenelle, Gr	78.59	45	P		P	16 09 03.7	+1.4
	baz=78,SNR=11							
K19A	Absolon Red Bu	78.65	44	P		P	16 09 02.5	0.0
	baz=78,SNR=6.1							
J20A	Shoshoni	78.71	43	P		P	16 09 03.8	+1.0
	baz=78,SNR=8.5							
I21A	Big Trails, Te	78.82	42	P		P	16 09 04.8	+1.4
	baz=79,SNR=12							
L19A	Farson	78.85	45	P		P	16 09 04.8	+1.1
	baz=79,SNR=6.9							
PVCC	Panska Ves	78.92	327	eP		P	16 09 04.3	+0.7
PVCC				e			16 09 11.9	
PVCC					MLR	MLR		
	comp=Z,300nm,17.8s							
PVCC	Panska Ves	78.92	327	eP		P	16 09 04.3	+0.7
PVCC				ePCP		PcP	16 09 11.9	-0.3
PVCC					AMS	AMS	16 47 50.0	
	comp=Z,300nm,17.8s							
BRG	Berggiesshubel	78.92	328	eP		P	16 09 03.9	+0.3
	comp=Z,37nm,1.9s							
BRG	Berggiesshubel	78.92	328	eP		P	16 09 03.9	+0.3
VRAC	Vranov	78.94	326	LR		LR	16 46 41.9	
	comp=Z,153nm,18.4s,baz=289,slow=38							
CLL	Collm	78.98	329	eP		P	16 09 04.5	+0.6
	comp=Z,24nm,1.6s							
CLL	Collm	78.98	329⇑	iP		P	16 09 03.8	-0.1
CLL				i			16 09 10.5	
CLL					pmax	pmax		
	comp=Z,24nm,1.6s							
CLL	Collm	78.98	329⇑	iP		P	16 09 03.8	-0.1
	comp=Z,24nm,1.6s							
CLL				i PcP		pP	16 09 10.5	+1.2
FBE	Freiberg	79.13	328	eP		P	16 09 05.9	+1.2
	comp=Z,38nm,1.9s							
TUQ	Turquoise Moun	79.29	53	P		P	16 09 08.1	+2.1
	baz=79,SNR=6.7							
PRU	Pruhonice	79.33	327	eP		P	16 09 06.2	+0.3
PRU				e			16 09 13.5	
PRU					MLR	MLR		
	comp=Z,400nm,12.0s							
PRU	Pruhonice	79.33	327	eP		P	16 09 06.2	+0.3
PRU				ePCP		PcP	16 09 13.5	-0.5
PRU					AMS	AMS	16 48 40.0	
	comp=Z,400nm,12.0s							
TREC	Trest	79.44	326	eP		P	16 09 06.4	-0.1
TREC				e			16 09 13.9	
TREC					MLR	MLR		
	comp=Z,400nm,15.3s							
TREC	Trest	79.44	326	eP		P	16 09 06.4	-0.1
TREC				ePCP		PcP	16 09 13.9	-0.7
TREC					AMS	AMS	16 48 00.0	
	comp=Z,400nm,15.3s							
L20A	Wamsutter	79.48	44	P		P	16 09 09.0	+1.9
	baz=79,SNR=5.6							
CCUT	Cedar City	79.52	50	eP		P	16 09 07.1	-0.3
	comp=Z,19nm,1.9s							
J22A	Midwest	79.53	42	P		P	16 09 07.7	+0.4
	baz=79,SNR=13							
MMAI	Mount Meron Ar	79.54	304	LR		LR	16 47 55.6	
	comp=Z,153nm,18.2s,baz=270,slow=38							
MVU	Marysvale	79.59	49	eP		P	16 09 09.7	+1.9
	comp=Z,9.3nm,1.4s							
MSU	Marysvale	79.60	49	eP		P	16 09 07.7	-0.2
MSU	Marysvale	79.60	49	eP		P	16 09 07.7	-0.2
ULM	Lac du Bonnet	79.63	32	P		P	16 09 07.6	+0.1
ULM				eP		pP	16 09 08.2	-4.7
ULM	Lac du Bonnet	79.63	32	P		P	16 09 07.6	+0.1
	comp=Z,9.9nm,0.8s,baz=308,slow=5.7,SNR=6.0							
K21A	Alcova	79.65	43	P		P	16 09 08.7	+0.6
	baz=79,SNR=17							
TMUT	Trail Mountain	79.66	48	eP		P	16 09 05.0	-3.3
	comp=Z,19nm,1.2s							
TANN	Tannenbergstha	79.89	328	eP		P	16 09 10.0	+1.1
	comp=Z,27nm,2.3s							
WERD	Werda	79.92	329	eP		P	16 09 10.1	+1.0
	comp=Z,26nm,1.9s							
PLN	Plauen	79.96	329	eP		P	16 09 10.4	+1.1
	comp=Z,114nm,2.0s							
GUNZ	Gunzen	79.98	328	eP		P	16 09 10.5	+1.1
	comp=Z,14nm,1.6s							
GUNZ				epP		PcP	16 09 16.4	-0.5
WERN	Wernitzgruen	80.02	328	eP		P	16 09 10.7	+1.1
	comp=Z,11nm,1.3s							
NKC	Novy Kostel	80.03	328	eP		P	16 09 09.8	+0.1
NKC					AMS	AMS	16 47 50.0	
	comp=Z,200nm,14.9s							
L21A	Rawlins	80.04	44	P		P	16 09 10.7	+0.6
	baz=80,SNR=9.8							
MOX	Moxa	80.06	329	eP		P	16 09 10.6	+0.8
	comp=Z,14nm,1.5s							
MOX	Moxa	80.06	329	eP		P	16 09 10.6	+0.8
MOX					pmax	pmax		
	comp=Z,14nm,1.5s							
PFO	Pinyon Flat Ob	80.10	55	P		P	16 09 10.8	+0.2
PFO	Pinyon Flat Ob	80.10	55	P		P	16 09 10.8	+0.2
	comp=Z,3.3nm,0.8s,baz=320,slow=5.6,SNR=5.0							
SRU	San Rafael	80.18	48	eP		P	16 09 11.6	+0.7
SRU					pmax	pmax		
	comp=Z,15nm,0.5s							
SRU	San Rafael	80.18	48	eP		P	16 09 11.6	+0.7
	comp=Z,15nm,0.5s							
IBBN	Ibbenburen	80.25	332	eP		P	16 09 11.3	+0.6
	comp=Z,26nm,1.4s							
M21A	Separation Pea	80.29	44	P		P	16 09 12.2	+0.6
	baz=80,SNR=10							
CONA	Conrad Observa	80.29	325⇑	iP		P	16 09 10.7	-0.6
	comp=Z,13nm,1.5s,SNR=6.5							
N20A	Spence Gulch,	80.31	45	P		P	16 09 12.8	+1.1
	baz=80,SNR=16							
RWWY	Rawlins	80.31	44	eP		P	16 09 12.5	+0.8
	comp=Z,11nm,0.9s							
MANZ	Manzenberg	80.36	328	eP		P	16 09 12.5	+1.0
	comp=Z,12nm,1.8s							
MANZ				epP		PcP	16 09 18.6	0.0
KHC	Kasperske Hory	80.39	327	eP		P	16 09 12.4	+0.7
KHC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
KHC	Kasperske Hory	80.39	327	eP		P	16 09 11.9	+0.2
KHC				ePCP		pP	16 09 18.0	+0.9
KHC					AMS	AMS	16 48 50.0	
	comp=Z,400nm,13.3s							
KHC	Kasperske Hory	80.39	327	eP		P	16 09 12.4	+0.7
	comp=Z,5.0nm,0.9s							
ROTZ	Rotzenmuhle	80.49	328	eP		P	16 09 13.6	+1.5
	comp=Z,18nm,1.5s							
ROTZ				epP		PcP	16 09 19.7	+0.6
GEC2	GERESS Array S	80.56	327	eP		P	16 09 13.4	+0.7
	comp=Z,8.0nm,1.5s							
GEC2				epP		PcP	16 09 19.8	+0.3
GEC2	GERESS Array S	80.56	327	eP		P	16 09 13.4	+0.7
GEC2				e*PP		PcP	16 09 19.8	+0.3
GEC2					pmax	pmax		
	comp=Z,8.0nm,1.5s							
GERES	GERESS Array B	80.56	327	P		P	16 09 12.9	+0.2
GERES	GERESS Array B	80.56	327	P		P	16 09 12.9	+0.2
	comp=Z,0.9nm,0.5s,baz=42,slow=4.2,SNR=12							
GERES					LR	LR	16 48 11.5	
	comp=Z,175nm,18.6s,baz=258,slow=38							
UBBA	Unterbreizbach	80.57	330	eP		P	16 09 13.3	+0.9
	comp=Z,7.0nm,1.5s							
WET	Wettzell	80.68	327	eP		P	16 09 14.2	+1.0
	comp=Z,13nm,1.5s							
WET	Wettzell	80.68	327	eP		P	16 09 14.2	+1.0
WET					pmax	pmax		
	comp=Z,13nm,1.5s							
P19A	Cripple Cowboy	80.72	46	P		P	16 09 15.1	+1.2
	baz=80,SNR=6.4							
L23A	Garrett	80.84	43	P		P	16 09 14.8	+0.3
	baz=81,SNR=7.5							
GRF	Grafenberg Arr	80.95	329	eP		P	16 09 16.1	+1.5
	comp=Z,22nm,1.2s							
GRF	Grafenberg Arr	80.95	329	eP		P	16 09 16.1	+1.5
GRF					pmax	pmax		
	comp=Z,22nm,1.2s							
GRFO	Grafenberg	80.95	329	eP		P	16 09 15.1	+0.4
GRFO	Grafenberg	80.95	329	eP		P	16 09 15.1	+0.4
BUG	Bochum-Univer	81.12	332	eP		P	16 09 16.0	+0.6
	comp=Z,11nm,1.0s							
N22A	Wattenberg Ran	81.34	44	P		P	16 09 18.8	+1.6
	baz=81,SNR=5.7							
PHWY	Pilot Hill	81.53	43	eP		P	16 09 19.8	+1.6
	comp=Z,7.1nm,1.1s							
N23A	Red Feather La	81.55	44	P		P	16 09 19.5	+1.2
	baz=81,SNR=7.8							
Q20A	Ridgley Place,	81.57	47	P		P	16 09 19.1	+0.8
	baz=81,SNR=9.0							
SOKA	Soboth	81.60	325	i P		P	16 09 18.4	+0.2
	comp=Z,13nm,1.3s,SNR=10.0							
PV04	Paradox Valley	81.60	47	eP		P	16 09 20.2	+1.7
O22A	Kremmling	81.73	45	P		P	16 09 20.3	+1.0
	baz=82,SNR=15							
RJOB	Jochberg	81.79	326	eP		P	16 09 20.3	+1.1
	comp=Z,24nm,1.8s							
P22A	Eagle	82.00	45	P		P	16 09 22.9	+2.2
	baz=82,SNR=7.5							
O23A	Lake Granby, G	82.04	44	P		P	16 09 22.3	+1.3
	baz=82,SNR=6.3							
R20A	Redvale	82.04	47	P		P	16 09 22.1	+1.2
	baz=82,SNR=7.1							
KBA	Koelnbreinsper	82.06	326⇓	iP		P	16 09 20.2	-0.5
	comp=Z,10nm,1.5s,SNR=5.2							
FUR	Furstenfeldbru	82.11	328	eP		P	16 09 22.0	+1.2
	comp=Z,17nm,0.7s							
FUR	Furstenfeldbru	82.11	328	eP		P	16 09 22.0	+1.2
FUR					pmax	pmax		
	comp=Z,17nm,0.7s							
SMCO	Snowmass	82.17	46	eP		P	16 09 22.9	+1.2
	comp=Z,11nm,1.4s							
S20A	Disappointment	82.30	47	P		P	16 09 23.8	+1.5
	baz=82,SNR=5.8							
Q22A	Crested Butte,	82.42	46	P		P	16 09 24.6	+1.6
	baz=82,SNR=7.3							
ISCO	Idaho Springs	82.50	44	eP		P	16 09 24.8	+1.4
ISCO					pmax	pmax		
	comp=Z,65nm,3.0s							
ISCO	Idaho Springs	82.50	44	eP		P	16 09 24.8	+1.4
	comp=Z,65nm,3.0s							
STU	Stuttgart	82.50	329	eP		P	16 09 23.8	+1.0
	comp=Z,22nm,1.4s							
MVCO	Mesa Verde	82.64	48	eP		P	16 09 25.1	+1.1
	comp=Z,19nm,1.5s							
S21A	Coal Bank Pass	82.74	47	P		P	16 09 26.6	+1.9
	baz=82,SNR=10							
WLF	Walferdange	82.98	331	eP		P	16 09 26.2	+0.9
	comp=Z,17nm,1.5s							
BFO	Black Forest	83.20	329	eP		P	16 09 27.3	+0.8
	comp=Z,18nm,1.2s							
BFO	Black Forest	83.20	329	eP		P	16 09 27.3	+0.8
BFO					pmax	pmax		
	comp=Z,18nm,1.2s							
BFO	Black Forest	83.20	329	eP		P	16 09 25.9	-0.6
EYMN	Ely	83.23	31	eP		P	16 09 26.7	+0.1
S22A	4UR Ranch, Cre	83.24	47	P		P	16 09 29.6	+2.4
	baz=83,SNR=6.9							
R23A	Moffat	83.50	46	P		P	16 09 30.3	+1.7
	baz=83,SNR=6.3							
CDF	Champ du Feu	83.56	330	eP		P	16 09 28.0	-0.4
	comp=Z,39nm,1.4s							
U21A	Nageezi	83.67	48	P		P	16 09 30.6	+1.3
	baz=84,SNR=7.9							
T22A	Edith	83.70	47	P		P	16 09 31.0	+1.4
	baz=84,SNR=8.9							
FUORN	Ofenpass-Fuorn	83.75	327	eP		P	16 09 30.3	+0.7
	comp=Z,12nm,1.0s							
DAVOX	Davos/Dischmat	83.79	327	LR		LR	16 50 07.2	
	comp=Z,212nm,19.7s,baz=83,slow=38							
PAGF	Fort de Pagny	84.05	331	eP		P	16 09 30.5	-0.3
	comp=Z,18nm,1.3s							
U22A	Llaves	84.17	48	P		P	16 09 33.8	+1.8
	baz=84,SNR=7.2							
HINF	Hinteralfeld	84.20	330	eP		P	16 09 30.8	-0.9
	comp=Z,64nm,1.9s							
ECSD	EROS Data Cent	84.24	37	eP		P	16 09 31.6	-0.3
	comp=Z,55nm,2.3s							
HAU	Haudompre	84.25	330	eP		P	16 09 31.2	-0.7
HAU				eR				
	comp=Z,94nm,18.5s							
MEZF	Maizieres J'vi	84.35	331	eP		P	16 09 32.1	-0.2
V22A	San Miguel Ran	84.46	48	P		P	16 09 35.1	+1.6
	baz=84,SNR=5.9							
TUC	Tucson	84.56	53	eP		P	16 09 34.4	+0.6
TUC					pmax	pmax		
	comp=Z,82nm,1.9s							
TUC	Tucson	84.56	53	eP		P	16 09 34.4	+0.6
	comp=Z,82nm,1.9s							
U23A	El Rito	84.59	47	P		P	16 09 35.7	+1.6
	baz=84,SNR=14							
SFTF	Sexfontaines	84.59	331	eP		P	16 09 33.1	-0.5
SCHQ	Schefferville	84.73	15	P		P	16 09 34.7	+0.6
SCHQ	Schefferville	84.73	15	P		P	16 09 34.7	+0.6
	comp=Z,3.7nm,0.7s,baz=219,slow=16,SNR=5.1							
SCHQ					LR	LR	16 48 32.8	
	comp=Z,138nm,19.6s,baz=283,slow=36							
X21A	Alamocita Cree	84.95	50	P		P	16 09 37.8	+1.8
	baz=85,SNR=10.0							
Y20A	Horse Springs,	84.96	50	P		P	16 09 37.6	+1.6
	baz=85,SNR=7.9							
Z20A	Nine Sixteen R	85.38	51	P		P	16 09 39.7	+1.7
	baz=85,SNR=5.7							
ANMO	Albuquerque	85.39	48	P		P	16 09 38.5	+0.5
ANMO				eP		PcP	16 09 39.7	-1.4
ANMO	Albuquerque	85.39	48	P		P	16 09 38.5	+0.5
	comp=Z,9.3nm,1.3s,baz=306,slow=6.8,SNR=12							
V24A	Rampart Ranch,	85.54	47	P		P	16 09 40.7	+1.9
	baz=85,SNR=9.1							
LOR	Lormes	85.82	331	eP		P	16 09 39.0	-0.7
	comp=Z,40nm,1.3s							
LOR				eR				
	comp=Z,74nm,21.0s							
W24A	Lazy 6 Ranch,	85.82	48	P		P	16 09 42.4	+2.1
	baz=86,SNR=8.9							
LPL	La Plagne	86.11	328	eP		P	16 09 41.0	-0.5
LPG	La Plagne	86.12	328	eP		P	16 09 41.2	-0.4
	comp=Z,18nm,1.4s							
FLN	La Foliniere	86.12	334	eP		P	16 09 40.5	-0.7
FLN				eR				
	comp=Z,197nm,19.2s							
SSF	Saint Saulge	86.12	331	eP		P	16 09 40.6	-0.6
SMF	Signal de Mont	86.34	331	eP		P	16 09 41.5	-0.8
	comp=Z,70nm,1.6s							
AVF	Avril sur Loir	86.41	331	eP		P	16 09 42.0	-0.6
	comp=Z,34nm,1.3s							
GRR	Gorron	86.57	334	eP		P	16 09 42.7	-0.7
	comp=Z,32nm,1.1s							
TCF	Toulx Ste Croi	87.26	331	eP		P	16 09 46.7	-0.1
PGF	Pioggiola	87.52	325	eP		P	16 09 47.0	-1.3
	comp=Z,32nm,1.2s							
MFF	Saint Martin d	87.86	333	eP		P	16 09 49.5	-0.2
	comp=Z,34nm,1.3s							
RJF	Les Rejaudoux	88.35	331	eP		P	16 09 51.6	-0.5
RJF				eR				
	comp=Z,151nm,20.8s							
GDL2	Guadalupe Moun	88.56	49	eP		P	16 10 02.4	+9.0
TXAR	Lajitas Array	91.02	51	P		P	16 10 05.9	+0.9
TXAR	Lajitas Array	91.02	51	P		P	16 10 05.9	+0.9
	comp=Z,1.6nm,0.6s,baz=287,slow=2.7,SNR=29							
TORD	Torodi Ar. Bea	114.97	313	PKP		PKPdf	16 15 40.9	-0.9
TORD	Torodi Ar. Bea	114.97	313	PKP		PKPdf	16 15 40.9	-0.9
	comp=Z,0.4nm,0.5s,baz=40,slow=1.2,SNR=9.2							
VNDA	Vanda	116.37	175	PKP		PKPdf	16 15 42.2	-0.4
VNDA	Vanda	116.37	175	PKP		PKPdf	16 15 42.2	-0.4
	comp=Z,0.4nm,0.9s,baz=337,slow=6.1,SNR=5.4							
BOSA	Boshof	124.73	259	PKP		PKPdf	16 15 59.8	-0.5
BOSA	Boshof	124.73	259	PKP		PKPdf	16 15 59.8	-0.5
	comp=Z,0.9nm,0.4s,baz=72,slow=20,SNR=6.4							
QSPA	South Pole Qui	127.98	180	PKP		PKPdf	16 16 05.0	-0.2
QSPA	South Pole Qui	127.98	180	PKP		PKPdf	16 16 05.0	-0.2
	comp=Z,1.2nm,0.5s,baz=305,slow=2.0,SNR=6.3							
LPAZ	La Paz	147.81	55	PKPbc		PKPbc	16 16 45.5	-0.9
LPAZ	La Paz	147.81	55	PKPbc		PKPbc	16 16 45.5	-0.9
	comp=Z,6.5nm,0.7s,baz=349,slow=2.9,SNR=23							

MEX 01 16:14:53.2±1.1, 18°.46N×101°.19W, h38km±110km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.82	103	i P	Pn	16 15 07.4	-0.9
ARIG				i S	Sn	16 15 16.1	-3.2
ZIIG	Zihuatanejo	0.89	197	i P	Pn	16 15 07.4	-1.8
ZIIG				i S	Sn	16 15 19.2	-1.7
MMIG	Aquila	2.05	266	i P	Pn	16 15 22.9	-2.2
MMIG				i S	Sn	16 15 47.8	-1.8
PNIG	Pinotepa	3.58	125	i P	Pn	16 15 44.7	-1.5
PNIG				i S	Sn	16 16 25.5	-1.8

*IDC **01** 16:16:07.0±1.0, 0°.72S×98°.48E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.1/25, mbtmp4.3/15, ML4.0/2, Error ellipse: s-maj=34.7km s-min=15.2km az=56.0*
*AUST **01** 16:16:08.4, 0°.91S×98°.50E, h0km*
*ISCJB **01** 16:16:10.2±0.7, 0°.64S±0°.06×98°.50E±0°.07, h32km, mb4.3/13, Error ellipse: s-maj=11.1km s-min=7.6km az=138.0*

ISC 01 16:16:12.0±0.9, 0°.67S±0°.10×98°.5E±0°.1, h32km, n33, σ1°.04/32, mb4.3/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.94	84	P	Pn	16 16 43.0	+0.3
	baz=2.0,SNR=60						
BKNI	Bangkinang	2.75	69	P	Pn	16 16 56.4	+2.4
	baz=2.8,SNR=3.9						
PSI	Prapat	3.47	7	Pn	Pn	16 17 02.5	-1.6
	6.6nm,0.3s,baz=177,slow=9.9,SNR=12						
PSI	Prapat	3.47	7	P	Pn	16 17 03.8	-0.2
	baz=3.6,SNR=7.2						
FRIM	Kepong	5.00	39	P	Pn	16 17 24.6	-0.3
KGM	Kluang	5.53	61	P	Pn	16 17 32

ARCES	**ARCESS Array B**	**84.71**	**340**	P		**P**	**16 28 42.6**	**+0.1**
	0.8nm,0.7s,baz=98,slow=6.6,SNR=4.6						
TXAR	**Lajitas Array**	**144.53**	**35**	PKP		PKPbc	16 35 45.5	+0.7
	0.8nm,0.5s,baz=238,slow=0.9,SNR=16						

IDC 01 16:24:45.3±8.0, 7°.34S×128°.60E, h119km±69km, mb3.6/1, mb1 3.6/4, mb1mx3.2/19, mbtmp3.5/4, Error ellipse: s-maj=95.9km s-min=44.9km az=179.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.65**	**239**	P	Pn	16 26 08.5	+1.4
	6.9nm,0.3s,baz=77,slow=6.7,SNR=17						
BATI				S	Sn	16 27 10.2	-0.7
	17nm,0.3s,baz=342,slow=15,SNR=11						
WRA	**Warramunga Arr**	**13.71**	**157**	P	Pn	16 27 54.1	-0.8
	0.6nm,0.3s,baz=344,slow=13,SNR=14						
WRA				S	Sn	16 30 15.5	-11
	1.6nm,0.3s,baz=334,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.02**	**163**	P	Pn	16 28 37.6	+1.4
	0.5nm,0.3s,baz=340,slow=11,SNR=38						
ASAR				S	Sn	16 31 35.3	-11
	0.3nm,0.3s,baz=344,slow=26,SNR=4.3						
STKA	**Stephens Creek**	**27.26**	**155**	P	P	16 30 18.1	-0.3
	1.0nm,0.5s,baz=311,slow=11,SNR=5.1						

*IDC **01** 16:27:32.9±5.7, 36°.80N×71°.46E, h75km±51km, mb3.4/4, mb1 3.7/9, mb1mx3.3/29, mbtmp3.6/9, ML3.9/5, Error ellipse: s-maj=38.0km s-min=25.4km az=26.0*
*ISCJB **01** 16:27:34.7±0.4, 36°.97N±0°.03×71°.46E±0°.08, h106km, mb3.6/6, Error ellipse: s-maj=8.8km s-min=4.1km az=173.3*
*NNC **01** 16:27:41.2±3.8, 37°.35N×71°.35E, h164km±41km, mb3.3, mpv4.2, Error ellipse: s-maj=33.1km s-min=17.7km az=16.0*
ISC 01 16:27:35.8±0.7, 36°.93N±0°.05×71°.64E±0°.08, h106km, n37, σ1s79/39, mb3.6/6, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.11**	**176**	P	**Pn**	**16 28 25.6**	**+2.2**
CEP				S	**Sn**	**16 29 03.0**	**+3.0**
CHCP	**Chirah Chowk**	**3.53**	**157**	P	Pn	16 28 32.3	+3.5
THW	**Thamme Wali**	**4.13**	**179**	P	**Pn**	**16 28 38.0**	**+1.1**
SARP	**Sargodha**	**5.07**	**170**	P	**Pn**	**16 28 51.0**	**+1.4**
SARP				S	**Sn**	**16 29 45.0**	**-2.0**
AML	**Almayashu**	**5.43**	**16**	P	**Pn**	**16 28 56.3**	**+1.6**
	SNR=25						
DLH	**Dalhousie**	**5.65**	**140**	*e*P	**Pn**	**16 29 00.0**	**+2.4**
DLH				*e*S	**Sn**	**16 30 02.0**	**+0.8**
EKS2	**Erkin-Say**	**5.95**	**15**	P	**Pn**	**16 29 03.7**	**+2.1**
	SNR=20						
AAK	**Ala-Archa**	**6.10**	**20**	P	**Pn**	**16 29 06.0**	**+2.4**
	SNR=12						
AAK	**Ala-Archa**	**6.10**	**20**	P	**Pn**	**16 29 05.0**	**+1.4**
	5.2nm,0.3s,baz=177,slow=6.2,SNR=17						
AAK				S	**Sn**	**16 30 13.1**	**+1.0**
	2.0nm,0.3s,baz=328,slow=19,SNR=8.3						
KK31	**Karatay Array**	**6.22**	**352**	⇓P	**Pn**	**16 29 04.8**	**-0.3**
	14nm,0.5s,baz=184,slow=13,SNR=328						
KK31				⇑S	**Sn**	**16 30 12.1**	**-2.7**
	6.5nm,0.5s,baz=173,slow=22,SNR=6.3						
KBK	**Karagaybulak**	**6.26**	**23**	P	Pn	16 29 09.2	+3.5
	SNR=5.8						
CHMS	**Chumysh**	**6.51**	**21**	P	**Pn**	**16 29 11.1**	**+2.0**
	SNR=25						
USP	**Ospenovka**	**6.69**	**18**	P	**Pn**	**16 29 13.0**	**+1.5**
	SNR=12						
TKM2	**Tokmak 2**	**6.71**	**26**	⇓P	**Pn**	**16 29 13.9**	**+2.0**
	14nm,0.7s						
TKM2				⇓S	**Sn**	**16 30 27.0**	**+0.2**
	5.6nm,0.8s						
TKM2	**Tokmak 2**	**6.71**	**26**	P	**Pn**	**16 29 13.8**	**+2.0**
	SNR=23						
SDNR	**Sundarnagar**	**6.99**	**139**	*e*x	Sn	16 30 24.0	-10
SMLA	**Simla**	**7.39**	**140**	*e*P	**Pn**	**16 29 22.0**	**+1.1**
SMLA				*i* P	**Pn**	**16 29 22.0**	**+1.1**
SMLA				*i* S	**Sn**	**16 30 39.5**	**-3.7**
SMLA				*e*S	**S**	**16 30 40.7**	**-2.5**
SMLA				*i* S	**S**	**16 30 40.7**	**-2.5**
KHET	**Khetri**	**9.51**	**157**	*e*S	Sn	16 31 26.8	-8.1
KHET				AML	AML	16 31 31.0	
	comp=E,90nm,0.1s						
KHET				AML	AML	16 31 31.1	
	comp=N,94nm,0.1s						
AYAN	**Aya Nagar**	**9.61**	**150**	*e*S	Sn	16 31 29.3	-8.0
SONA	**Sohna**	**9.80**	**151**	*e*S	Sn	16 31 34.3	-7.6
SONA				AML	AML	16 31 40.9	
	comp=E,22nm,0.2s						
SONA				AML	AML	16 31 41.7	
	comp=N,16nm,0.2s						
AGRA	**Agra**	**11.05**	**149**	*e*S	Sn	16 32 03.7	-8.6
AGRA				AML	AML	16 32 44.5	
	comp=E,77nm,0.5s						
AGRA				AML	AML	16 32 44.6	
	comp=N,113nm,0.2s						
MK31	**Makanchi Array**	**12.64**	**35**	P	**Pn**	**16 30 32.1**	**+0.5**
	comp=N,2.5nm,0.7s,baz=231,slow=12,SNR=31						
MKAR	**Makanchi Array**	**12.64**	**35**	P	**Pn**	**16 30 32.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=227,slow=14,SNR=37						
KURBB	**Kurchatov Arra**	**14.55**	**18**	P	**Pn**	**16 30 54.3**	**-2.0**
	comp=N,0.0nm,0.3s,baz=216,slow=12,SNR=6.2						
AB31	**Akbulak array**	**14.96**	**329**	P	Pn	16 30 58.0	-3.7
	comp=N,0.9nm,0.3s,baz=137,slow=13,SNR=60						
AB31				⇑⇑S	Sn	16 33 35.8	-11
	comp=N,1.9nm,0.5s,baz=148,slow=23,SNR=9.7						
VOSK	**Vostochnaya**	**15.80**	**359**	⇑⇑P	**Pn**	**16 31 10.2**	**-1.8**
	comp=N,3.8nm,0.9s						
BVA0	**Borovoye Array**	**16.11**	**357**	⇓P	**Pn**	**16 31 14.4**	**-1.6**
	comp=N,3.1nm,0.8s						
BVAR	**Borovoye Array**	**16.11**	**357**	P	**Pn**	**16 31 14.9**	**-1.1**
	comp=N,0.3nm,0.3s,baz=162,slow=11,SNR=8.9						
AKTO	**Aktyubinsk**	**16.67**	**328**	⇓P	**Pn**	**16 31 21.1**	**-1.8**
	comp=N,7.6nm,1.0s						
AKTO	**Aktyubinsk**	**16.67**	**328**	P	**Pn**	**16 31 21.3**	**-1.5**
	comp=N,0.6nm,0.3s,baz=158,slow=9.2,SNR=12						
AKTO				S	Sn	16 34 18.4	-9.5
	comp=N,0.2nm,0.3s,baz=89,slow=22,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.31**	**24**	P	**Pn**	**16 31 53.8**	**-0.6**
	comp=N,0.8nm,0.3s,baz=223,slow=11,SNR=15						
JOF	**Joensuu**	**35.75**	**330**	*e*p	**P**	**16 34 23.9**	**-0.2**
	comp=N,0.5nm,0.3s						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**16 34 39.5**	**+1.4**
	comp=N,0.4nm,0.3s,baz=118,slow=7.8,SNR=9.4						
KAF	**Kangasniemi**	**37.54**	**327**	*e*p	**P**	**16 34 40.0**	**+0.7**
	comp=N,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**40.94**	**337**	P	**P**	**16 35 08.0**	**+0.5**
	comp=N,0.6nm,0.5s,baz=116,slow=8.2,SNR=8.2						
TORD	**Torodi Ar. Bea**	**66.24**	**269**	P	**P**	**16 38 11.8**	**-1.0**
	comp=N,0.2nm,0.4s,baz=61,slow=4.4,SNR=4.0						
WRA	**Warramunga Arr**	**81.79**	**122**	P	**P**	**16 39 44.1**	**+1.0**
	comp=N,0.3nm,0.5s,baz=323,slow=4.6,SNR=3.0						

IDC 01 16:34:37.7±1.0, 76°.76N×124°.83W, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.5/29, mbtmp3.5/8, ML3.7/3, Error ellipse: s-maj=41.5km s-min=16.8km az=82.0, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**8.87**	**201**	Pn	Pn	16 36 47.2	+0.3
	1.9nm,0.3s,baz=33,slow=19,SNR=67						
INK				Sn	Sn	16 38 21.9	-5.4
	5.9nm,0.3s,baz=249,slow=21,SNR=9.5						
ILAR	**Eielson Array**	**13.89**	**222**	Pn	Pn	16 37 53.5	-2.0
	0.0nm,0.3s,baz=29,slow=14,SNR=3.3						
ILAR				Sn	Sn	16 40 27.1	-3.2
	0.3nm,0.3s,baz=28,slow=15,SNR=7.2						
YKA	**Yellowknife Ar**	**14.72**	**161**	Pn	Pn	16 38 02.2	-4.6
	0.6nm,0.3s,baz=341,slow=12,SNR=16						
YKA				Sn	Sn	16 40 36.7	-14
	0.6nm,0.3s,baz=346,slow=23,SNR=7.7						
PDAR	**Pinedale Array**	**34.70**	**160**	P	P	16 41 29.0	-0.1
	0.9nm,0.6s,baz=14,slow=7.3,SNR=8.8						
FINES	**FINESS Array B**	**40.84**	**21**	P	P	16 42 19.9	-0.5
	1.0nm,0.9s,baz=347,slow=5.7,SNR=3.1						
TXAR	**Lajitas Array**	**48.55**	**155**	P	P	16 43 22.4	+0.1
	0.3nm,0.6s,baz=346,slow=6.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**52.03**	**341**	P	P	16 43 49.2	+0.9
	0.4nm,0.6s,baz=5.9,slow=7.4,SNR=7.4						
MKAR	**Makanchi Array**	**55.53**	**338**	P	P	16 44 13.2	-0.8
	0.3nm,0.7s,baz=14,slow=6.5,SNR=4.2						

*BYKL **01** 16:40:24.7±0.3, 56°.43N×112°.58E*
MOS 01 16:40:24.0±0.9, 56°.44N×112°.64E, h12km, mb4.4/1, 7C-10D, Error ellipse: s-maj=23.8km s-min=9.9km az=54.8, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.98**	**236**	⇓*i*Pg	Pb	16 40 43.1	+0.2
KMO				*e*Pb	Pn	16 40 45.1	+1.5
KMO				*i* Sg	Sg	16 40 55.6	-0.1
KMO				max			
	186nm,0.4s						
KMO				Smax			
	2μm,0.7s						
KMO	**Kumora**	**0.98**	**236**	*e*PG	Pb	16 40 43.2	+0.3
KMO				*e*		16 40 56.2	
KMO				pmax	pmax		
	comp=Z,78nm,0.2s						
KMO				smax	smax		
	comp=E,2μm,0.7s						
BOD	**Bodaibo**	**1.57**	**28**	*e*Pn	Pb	16 40 52.6	-0.4
BOD				⇑*i*Pg	Pg	16 40 53.3	-0.8
	comp=E,170nm,0.4s						
BOD				⇑*i*Pg	Pg	16 40 53.3	-0.8
	comp=E,60nm,0.4s						
BOD				⇑*i*Pg	Pg	16 40 53.3	-0.8
	comp=E,149nm,0.4s						
BOD				*e*		16 40 55.9	
BOD				*i* Sg	Sg	16 41 14.4	-0.1
BOD				Pmax			
	comp=E,347nm,0.3s						
BOD				Smax			
	comp=E,2μm,0.7s						
BOD	**Bodaibo**	**1.57**	**28**	*e*PN	Pb	16 40 52.5	-0.5
BOD				*e*		16 40 52.9	
BOD				*e*		16 41 14.3	
BOD				pmax	pmax		
	comp=Z,352nm,0.3s						
BOD				smax	smax		
	comp=E,2μm,0.6s						
NLYR	**Nelyaty**	**1.70**	**87**	*e*PN	Pb	16 40 55.0	-0.3
NLYR				*e*		16 41 16.9	
NLYR				pmax	pmax		
	comp=Z,210nm,0.5s						
NLYR				smax	smax		
	comp=N,792nm,0.8s						
YLYR	**Ulyunkhan**	**1.78**	**209**	⇑*i*Pg	Pb	16 40 55.8	-0.8
	comp=N,18nm,0.5s						
YLYR				⇑*i*Pg	Pb	16 40 55.8	-0.8
	comp=N,6.0nm,0.5s						
YLYR				⇓*i*Pg	Pb	16 40 55.8	-0.8
	comp=N,30nm,0.5s						
YLYR				*e*		16 40 57.9	
YLYR				*i* Sg	Sb	16 41 19.3	+0.5
YLYR				Pmax			
	comp=N,113nm,0.4s						
YLYR				Smax			
	comp=N,2μm,0.4s						
YLYR	**Ulyunkhan**	**1.78**	**209**	*e*PN	Pb	16 40 55.7	-0.9
YLYR				*e*		16 41 19.1	
YLYR				pmax	pmax		
	comp=Z,114nm,0.4s						
YLYR				smax	smax		
	comp=E,2μm,0.4s						
NIZ	**Nizh Angarsk**	**1.86**	**250**	⇑*i*Pg	Pb	16 40 57.5	-0.4
NIZ				⇓*i*		16 40 58.7	
NIZ				*e*Sg	Sb	16 41 22.3	+1.1
NIZ				*e*		16 41 24.1	
NIZ				max			
	comp=E,174nm,0.5s						
NIZ				max			
	comp=E,2μm,0.9s						
NIZ	**Nizh Angarsk**	**1.86**	**250**	*e*PN	Pb	16 40 57.4	-0.5
NIZ				*e*		16 40 58.8	
NIZ				*e*S	Sb	16 41 21.8	+0.6
NIZ				*e*		16 41 23.4	
NIZ				pmax	pmax		
	comp=Z,331nm,0.8s						
NIZ				smax	smax		
	comp=N,2μm,0.9s						
VTMR	**Vitim**	**3.01**	**359**	*e*Pn	Pn	16 41 11.4	0.0
VTMR				⇑*i*		16 41 14.8	
VTMR				Pg	Pb	16 41 18.1	+0.6
VTMR				*e*Sg	Sg	16 41 57.6	-3.0
VTMR				*e*		16 42 00.3	
VTMR				*e*		16 42 05.7	
CRS	**Chara**	**3.14**	**79**	*e*Pn	Pn	16 41 15.1	+1.8
CRS				*e*Pg	Pb	16 41 21.0	+1.2
CRS				⇓*i*		16 41 25.0	
CRS				*i* Sg	Sg	16 42 03.2	-1.8
CRS	**Chara**	**3.14**	**79**	*e*PN	Pg	16 41 22.7	-1.5
CRS				*e*		16 42 03.1	
CRS				pmax	pmax		
	comp=Z,86nm,0.8s						
CRS				smax	smax		
	comp=E,589nm,1.9s						
SYVR	**Suvo**	**3.18**	**210**	*e*Pn	Pn	16 41 13.5	-0.3
SYVR				⇓*i*Pg	Pb	16 41 20.7	+0.3
SYVR				⇓*i*PgPg	PbPb	16 41 22.9	-0.6
SYVR				*e*		16 41 38.9	
SYVR				*i* Sg	Sb	16 42 02.1	+3.1
SYVR				*e*		16 42 08.7	
SYVR				max			
	comp=E,49nm,0.7s						
SYVR				max			
	comp=E,263nm,1.2s						
SYVR	**Suvo**	**3.18**	**210**	*e*PN	Pn	16 41 14.7	+0.9
SYVR				*e*		16 41 20.6	
SYVR				*e*		16 42 00.7	
SYVR				pmax	pmax		
	comp=Z,48nm,0.7s						
SYVR				smax	smax		
	comp=E,266nm,1.2s						
MXMB	**Maximikha**	**3.90**	**217**	*e* Pb		16 41 29.8	-2.9
MXMB				*e*Pg	Pg	16 41 34.9	-3.8
MXMB				*e*		16 42 06.2	
MXMB				*i* Sg	Sg	16 42 24.6	-4.6
MXMB				Pmax			
	comp=E,23nm,0.6s						
MXMB				Smax			
	comp=E,495nm,1.2s						
OGRR	**Ongureny**	**4.03**	**228**	⇓*i*Pn	Pn	16 41 26.1	+0.5
OGRR				*e*Pg	Pb	16 41 36.2	+1.2
OGRR				*e*		16 41 39.8	
OGRR				*e*		16 42 10.6	
OGRR				*i* Sg	Sb	16 42 28.4	+4.7
OGRR				max			
	comp=E,11nm,0.3s						
OGRR				Smax			
	comp=E,137nm,1.0s						
OGRR	**Ongureny**	**4.03**	**228**	*e*PN	Pn	16 41 26.5	+0.9
OGRR				*e*		16 41 35.6	
OGRR				*e*		16 42 28.4	
OGRR				pmax	pmax		
	comp=Z,18nm,0.8s						
OGRR				smax	smax		
	comp=N,148nm,1.5s						
KHNR	**Khani**	**4.08**	**80**	*e*Pg	Pb	16 41 38.5	+2.8
KHNR				*e*		16 41 40.4	
KHNR				*e*Sg	Sg	16 42 31.9	-3.1
KHNR				*e*		16 42 33.7	
CIT	**Chita**	**4.46**	**173**	*e*Pg	Pb	16 41 43.5	+1.2
CIT				*e*		16 42 40.2	
CIT				*e*Sg	Sg	16 42 43.2	-4.1
CIT				Pmax			
	comp=N,29nm,0.3s						
CIT				Smax			
	comp=N,185nm,0.2s						
CIT	**Chita**	**4.46**	**173**	*e*PN	Pb	16 41 44.9	+2.6
CIT				*e*		16 42 42.2	
CIT				pmax	pmax		
	comp=Z,25nm,1.4s						
CIT				smax	smax		
	comp=E,150nm,1.1s						
TUP	**Tupik**	**4.63**	**113**	⇓*i*Pn	Pn	16 41 34.1	+0.3
TUP				*e*		16 41 38.1	
TUP				⇓Pg	Pb	16 41 46.9	+1.7
TUP				*i* Sn	Sn	16 42 24.5	-3.0
TUP				*i* Sg	Sg	16 42 49.0	-3.7
TUP				Pmax			
	comp=E,8.0nm,0.3s						
TUP				Smax			
	comp=E,251nm,0.9s						
TUP	**Tupik**	**4.63**	**113**	*e*PN	Pb	16 41 46.9	+1.7
TUP				*e*		16 42 48.1	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.4s						
TUP				smax	smax		
	comp=N,252nm,0.9s						
YKLR	**Yuktali**	**5.00**	**85**	*e*	Pb	16 41 45.2	-6.1
YKLR				*e*Pg	Pg	16 41 54.8	-4.9
YKLR				*e*		16 41 58.6	
YKLR				*e*Sg	Sg	16 43 00.2	-4.1
ZRHB	**Zarechye**	**5.04**	**222**	*e*	Sn	16 42 34.6	-2.9
ZRHB				*e*Sg	Sg	16 43 01.1	-4.6
ZRHB				*e*		16 43 09.6	
ZRHB				max			
	comp=N,305nm,0.9s						
TRG	**Tyrgan**	**5.19**	**227**	⇓*i*	Pn	16 41 41.9	+0.4
TRG				*e*		16 41 53.9	
TRG				Pg	Pb	16 41 57.2	+2.4
TRG				*e*Sg	Sb	16 43 03.7	+6.6
TRG				Pmax			
	comp=N,10.0nm,0.9s						
TRG				Smax			
	comp=N,61nm,0.6s						
UUDB	**Ulan-Yde**	**5.43**	**215**	*e*	Pn	16 41 40.7	-4.1
UUDB				*e*Pg	Pb	16 42 01.2	+2.3
UUDB				*e*		16 42 03.3	
UUDB				*e*Sg	Sg	16 43 12.3	-6.2
UUDB				max			
	comp=N,13nm,0.9s						
UUDB				Smax			
	comp=N,150nm,1.3s						
HRMR	**Khuramsha**	**5.87**	**217**	*e*	Pn	16 41 56.9	+6.1
HRMR				Pg	Pb	16 42 09.3	+3.0
HRMR				*e*		16 42 12.9	
HRMR				*e*Sn	Sn	16 42 54.6	-3.4
HRMR				*e*		16 43 18.2	
HRMR				*e*Sg	Sg	16 43 25.0	-7.4
HRMR				*e*		16 43 30.8	
HRMR				max			
	comp=N,18nm,0.6s						
HRMR				max			
	comp=N,275nm,1.6s						
IRK	**Irkutsk**	**6.45**	**233**	*e*Sn	Sn	16 43 22.4	+10
IRK				*e*Sg	Sg	16 43 43.5	-7.5
IRK				Smax			
	comp=N,161nm,0.4s						
LSTR	**Listvyanka**	**6.48**	**228**	*e*	Pg	16 42 23.5	-4.5
LSTR				*e*		16 42 38.4	
LSTR				*e*Sg	Sg	16 43 44.3	-7.6
LSTR				Smax			
	comp=N,140nm,1.6s						
KPC	**Khapcheranga**	**6.75**	**181**	*e*Pn	Pn	16 42 01.9	-1.1
KPC				*e*Pg	Pb	16 42 26.2	+4.9
KPC				*e*Sg	Sg	16 43 53.1	-7.7
KPC				*e*		16 43 57.7	
KPC				Pmax			
	comp=N,6.0nm,0.4s						
KPC				max			
	comp=N,99nm,1.3s						
KPC	**Khapcheranga**	**6.75**	**181**	*e*PN	Pn	16 42 02.1	-0.9
KPC				*e*		16 42 26.6	
KPC				*e*		16 43 53.3	
KPC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KPC				smax	smax		
	comp=E,99nm,1.2s						
TLY	**Talaya**	**7.12**	**232**	Pg	Pb	16 42 31.6	+4.0
TLY				*e*		16 42 35.0	
TLY				*e*Sg	Sb	16 44 02.4	+10
TLY				*e*		16 44 08.6	
TLY				max			
	comp=E,5.0nm,0.6s						
TLY				max			
	comp=E,43nm,0.7s						
TLY	**Talaya**	**7.12**	**232**	*e*PG	Pg	16 42 34.5	-5.8
ARS	**Arshan**	**7.51**	**237**	*e*Pn	Pn	16 42 16.9	+3.6
ARS				Pg	Pb	16 42 38.1	+3.9
ARS				*e*		16 42 43.9	
ARS				*e*Sg	Sg	16 44 15.7	-9.3
ARS				max			
	comp=E,8.0nm,0.5s						
ARS				Smax			
	comp=E,144nm,0.9s						
ARS	**Arshan**	**7.51**	**237**	*e*PG	Pb	16 42 39.6	+5.4
ARS				*e*		16 44 16.1	
ARS				pmax	pmax		
	comp=Z,13nm,0.4s						
ARS				smax	smax		
	comp=E,144nm,0.9s						
ZAK	**Zakamensk**	**8.25**	**227**	*e*	Pg	16 42 54.9	-7.0
ZAK				*e*		16 42 59.5	
ZAK				*e*		16 43 05.3	
ZAK				*e*Sg	Sg	16 44 39.9	-8.8
ZAK				*e*		16 44 42.4	
ZAK				max			
	comp=E,22nm,1.3s						
ZAK	**Zakamensk**	**8.25**	**227**	*e*PN	Pn	16 42 32.8	+9.3
ZAK				*e*		16 42 56.8	
ZAK				*e*S	Sn	16 43 57.5	+0.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK				pmax	pmax		
	comp=E,22nm,1.2s						
MOY	**Mondy**	**8.35**	**240**	*e*	Pn	16 42 27.8	+2.9
MOY				Pg	Pb	16 42 55.1	+6.5
MOY				*e*		16 44 13.6	
MOY				*e*Sg	Sg	16 44 43.9	-8.2
MOY				Pmax			
	comp=E,8.0nm,1.0s						
MOY				Smax			
	comp=E,49nm,1.6s						
MOY	**Mondy**	**8.35**	**240**	*e*PN	Pn	16 42 27.4	+2.5
MOY				*e*		16 42 57.1	
MOY				pmax	pmax		
	comp=Z,7.0nm,0.2s						
ORL	**Orlik**	**8.43**	**248**	*e*Pn	Pn	16 42 28.9	+2.9
ORL				*e*		16 42 37.2	
ORL				*e*Pg	Pb	16 42 56.0	+6.1
ORL				*e*		16 44 13.0	
ORL				*e*Sg	Sg	16 44 45.6	-8.9
ORL				Pmax			
	comp=Z,7.0nm,0.5s						
ORL				Smax			
	comp=Z,46nm,1.2s						
ORL	**Orlik**	**8.43**	**248**	*e*PN	Pn	16 42 28.5	+2.5
ORL				*e*		16 42 57.3	
ORL				*e*S	Sn	16 44 01.2	+0.1
ORL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ORL				smax	smax		
	comp=N,46nm,1.4s						
ULN	**Ulaanbaatar**	**9.25**	**204**	*e*		16 43 41.8	
ULN				*e*		16 44 44.0	
ULN				*e*		16 45 07.8	
ULN				*e*Sg	Sn	16 45 12.3	+51
YAK	**Yakutsk**	**10.35**	**50**	*e*P	Pn	16 42 54.4	+2.3
YAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KRAR	**Krasnoyarsk**	**11.01**	**276**	*e*P	Pn	16 42 58.2	-2.9
HVS	**Khovu-Aksy**	**12.38**	**253**	*i* P	Pn	16 43 24.4	+4.4
ZALV	**Zalesovo Beam**	**16.03**	**273**	*i* P	P	16 44 11.5	-1.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**16.62**	**277**	*e*P	Pn	16 44 16.9	+0.4

*BEO **01** 16:42:23.3, 40°.44N×31°.06E, h0km, ML3.9/5*
*IDC **01** 16:42:38.4±1.1, 40°.37N×28°.18E, h0km, mb3.5/6, mb1 3.5/10, mb1mx3.4/29, mbtmp3.4/10, ML3.2/4, Error ellipse: s-maj=20.6km s-min=13.0km az=29.0*
*ISCJB **01** 16:42:38.9±0.3, 40°.39N±0°.01×28°.25E±0°.02, h10km±2km, mb3.4/6, Error ellipse: s-maj=2.3km s-min=2.0km az=19.2*
*DDA **01** 16:42:39.3, 40°.33N×28°.24E, h31km, ML3.7*
*ATH **01** 16:42:39.2, 40°.38N×28°.37E, h38km, MD3.7/10*
*THE **01** 16:42:39.1, 40°.40N×28°.29E, h0km±1km, ML4.2/2, Error ellipse: s-maj=1.2km s-min=0.8km az=357.0*
*ISK **01** 16:42:39.0, 40°.37N×28°.28E, h10km, ML4.3*
*CSEM **01** 16:42:39.7±0.1, 40°.37N×28°.27E, h8km, ML4.3, Error ellipse: s-maj=1.6km s-min=1.4km az=13.0*
ISC 01 16:42:39.7±0.8, 40°.37N±0°.02×28°.28E±0°.01, h12km±5km, n334, σ0s99/388, mb3.5/6, 28C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	Karacabey (Bur	0.12	150	PG	Pg	16 42 42.6	-0.2
KCTX				eSG	Sg	16 42 44.6	-0.4
KCTX	Karacabey (Bur	0.12	150	i Pg	Pg	16 42 42.6	-0.2
KCTX				eSg	Sg	16 42 44.6	-0.4
BNT	Bandirma	0.28	268	PG	Pg	16 42 45.7	+0.3
BNT	Bandirma	0.28	268	i Pg	Pg	16 42 45.7	+0.3
MDNY	Mudanya-Bursa	0.46	89	PG	Pg	16 42 48.7	-0.1
MDNY				eSG	Sg	16 42 55.6	+0.7
MDNY	Mudanya-Bursa	0.46	89	i Pg	Pg	16 42 48.7	-0.1
MDNY				eSg	Sg	16 42 55.6	+0.7
ARMT	Armutlu	0.49	66	PG	Pg	16 42 49.1	-0.2
ARMT				eSG	Sg	16 42 56.5	+0.8
ARMT	Armutlu	0.49	66	i Pg	Pg	16 42 49.1	-0.2
ARMT				eSg	Sg	16 42 56.5	+0.8
GONE	Gonen-Balikesi	0.56	235	ePG	Pg	16 42 50.3	-0.3
GONE	Gonen-Balikesi	0.56	235	ePg	Pg	16 42 50.3	-0.3
ORLT	Orhaneli	0.57	124	ePG	Pg	16 42 50.6	-0.3
ORLT	Orhaneli	0.57	124	ePg	Pg	16 42 50.6	-0.3
ULDT	Uludag	0.69	109	i P	Pg	16 42 52.7	-0.5
ULDT				i S	Sg	16 43 00.6	-1.7
ULDT	Uludag	0.69	109	i P	Pg	16 42 52.7	-0.5
ULDT				i S	Sg	16 43 00.6	-1.7
GEMT	Gemlik	0.70	84	ePG	Pg	16 42 52.9	-0.3
GEMT				eSG	Sb	16 43 03.3	-0.1
GEMT	Gemlik	0.70	84	ePg	Pg	16 42 52.9	-0.3
GEMT				eSg	Sb	16 43 03.3	-0.1
KRBG	Karabiga-Canak	0.75	272	ePG	Pg	16 42 53.6	-0.7
KRBG	Karabiga-Canak	0.75	272	ePg	Pg	16 42 53.6	-0.7
DURS	Dursunbey	0.78	169	i P	Pg	16 42 54.6	-0.2
DURS				i S	Sg	16 43 04.8	-0.2
DURS	Dursunbey	0.78	169	i P	Pg	16 42 54.6	-0.2
DURS				i S	Sg	16 43 04.8	-0.2
BALB	Balikesir	0.79	203	ePG	Pg	16 42 54.7	-0.3
BALB	Balikesir	0.79	203	ePg	Pg	16 42 54.7	-0.3
ELBA	Catalca	0.79	8	i P	Pg	16 42 55.0	0.0
ELBA				i S	Sg	16 43 05.3	0.0
ELBA	Catalca	0.79	8	i P	Pg	16 42 55.0	0.0
ELBA				i S	Sg	16 43 05.3	0.0
BALY	Balya	0.81	219	i P	Pg	16 42 55.1	-0.2
BALY				i S	Sg	16 43 06.0	+0.1
BALY	Balya	0.81	219	i P	Pg	16 42 55.1	-0.2
BALY				i S	Sg	16 43 06.0	+0.1
DST	Dursunbey	0.81	161	ePG	Pg	16 42 55.1	-0.2
DST	Dursunbey	0.81	161	ePg	Pg	16 42 55.1	-0.2
TKR	Tekirdag	0.84	318	ePG	Pb	16 42 56.6	+0.2
TKR	Tekirdag	0.84	318	ePg	Pb	16 42 56.6	+0.2
YLV	Yalova	0.86	76	ePG	Pg	16 42 56.0	-0.3
YLV	Yalova	0.86	76	ePg	Pg	16 42 56.0	-0.3
SLVT	Silivri	0.86	356	ePG	Pg	16 42 56.2	-0.2
SLVT	Silivri	0.86	356	ePg	Pg	16 42 56.2	-0.2
MFT	Murefte	0.87	299	ePG	Pg	16 42 56.3	-0.2
MFT	Murefte	0.87	299	ePg	Pg	16 42 56.3	-0.2
CTKS	Kestanelik-??a	0.89	11	ePG	Pg	16 42 56.5	-0.3
CTKS	Kestanelik-??a	0.89	11	ePg	Pg	16 42 56.5	-0.3
BGKT	Bogazkoy	0.90	25	ePG	Pg	16 42 56.8	-0.3
BGKT	Bogazkoy	0.90	25	ePg	Pg	16 42 56.8	-0.3
SART	Tekirdag	0.90	291	i P	Pg	16 42 56.7	-0.4
SART				i S	Sg	16 43 09.0	+0.2
SART	Tekirdag	0.90	291	i P	Pg	16 42 56.7	-0.4
SART				i S	Sg	16 43 09.0	+0.2
RKY	Sarkoy-Tekirda	0.90	291	ePG	Pg	16 42 56.8	-0.3
RKY	Sarkoy-Tekirda	0.90	291	ePg	Pg	16 42 56.8	-0.3
ISK	Istanbul-Kandi	0.92	40	ePG	Pg	16 42 57.0	-0.4
ISK	Istanbul-Kandi	0.92	40	P	Pg	16 42 57.0	-0.4
ISK				S	Sg	16 43 09.3	-0.1
ISK	Istanbul-Kandi	0.92	40	P	Pg	16 42 57.0	-0.4
ISK				S	Sg	16 43 09.3	-0.1
KLYT	Kilyos	1.06	33	ePG	Pb	16 42 59.8	-0.2
KLYT	Kilyos	1.06	33	ePg	Pb	16 42 59.8	-0.2
CTYL	Yal??k??y-??at	1.11	0	ePN	Pb	16 43 00.7	-0.2
CTYL	Yal??k??y-??at	1.11	0	ePn	Pb	16 43 00.7	-0.2
ADVT	Abdulvahap	1.11	86	ePN	Pb	16 43 00.3	-0.7
ADVT	Abdulvahap	1.11	86	ePn	Pb	16 43 00.3	-0.7
HRT	Hereke	1.15	66	ePN	Pb	16 43 01.2	-0.4
HRT	Hereke	1.15	66	ePn	Pb	16 43 01.2	-0.4
LPK	Lapseki	1.16	271	ePN	Pb	16 43 01.1	-0.7
LPK	Lapseki	1.16	271	ePn	Pb	16 43 01.1	-0.7
CAVI	Cavuskoy	1.21	97	ePN	Pn	16 43 01.6	-0.9
CAVI	Cavuskoy	1.21	97	ePn	Pn	16 43 01.6	-0.9
SILT	Sile	1.30	52	ePN	Pn	16 43 03.8	0.0
SILT	Sile	1.30	52	ePn	Pn	16 43 03.8	0.0
GELI	Tayfur-Gelibol	1.38	272	ePN	Pn	16 43 04.6	-0.2
GELI	Tayfur-Gelibol	1.38	272	ePn	Pn	16 43 04.6	-0.2
PHSR	Pinarhisar	1.39	336	ePN	Pn	16 43 05.1	+0.1
PHSR	Pinarhisar	1.39	336	ePn	Pn	16 43 05.1	+0.1
AKHS	Akhisar	1.53	194	i P	Pn	16 43 06.6	-0.3
AKHS				i S	Sn	16 43 25.5	-1.3
AKHS	Akhisar	1.53	194	i P	Pn	16 43 06.6	-0.3
AKHS				i S	Sn	16 43 25.5	-1.3
GPA	Golpazari	1.55	92	ePN	Pn	16 43 07.7	+0.5
GDZ	Gediz	1.58	144	i P	Pn	16 43 08.4	+0.7
GDZ				i S	Sb	16 43 29.8	+0.9
GDZ	Gediz	1.58	144	i P	Pn	16 43 08.4	+0.7
GDZ				i S	Sb	16 43 29.8	+0.9
SPNC	Sapanca-Adapaz	1.58	78	ePN	Pn	16 43 07.9	+0.3
SPNC	Sapanca-Adapaz	1.58	78	ePn	Pn	16 43 07.9	+0.3
EZN	Ezine	1.59	251	ePN	Pn	16 43 08.2	+0.4
EZN	Ezine	1.59	251	ePn	Pn	16 43 08.2	+0.4
AYVA	Ayvalik	1.62	230	i P	Pn	16 43 08.4	+0.3
AYVA				i S	Sn	16 43 29.4	+0.5
AYVA	Ayvalik	1.62	230	i P	Pn	16 43 08.4	+0.3
AYVA				i S	Sn	16 43 29.4	+0.5
ENEZ	Enez	1.66	284	ePN	Pn	16 43 08.8	+0.1
ENEZ	Enez	1.66	284	ePn	Pn	16 43 08.8	+0.1
GULT	Gulveren	1.71	87	ePN	Pn	16 43 09.7	+0.2
GULT	Gulveren	1.71	87	ePn	Pn	16 43 09.7	+0.2
BORA	Eskisehir	1.73	106	i P	Pn	16 43 09.9	0.0
BORA				i S	Sg	16 43 35.9	+0.3
BORA	Eskisehir	1.73	106	i P	Pn	16 43 09.9	0.0
BORA				i S	Sg	16 43 35.9	+0.3
ALN	Alexandroupoli	1.78	288	P	Pn	16 43 10.2	-0.2
ALN				S	Sn	16 43 34.0	+1.0
ALN	Alexandroupoli	1.78	288	ePN	Pn	16 43 10.2	-0.2
ALN	Alexandroupoli	1.78	288	P	Pn	16 43 10.2	-0.2
ALN				S	Sn	16 43 34.0	+1.0
KULA	Kula-Manisa	1.87	171	ePN	Pn	16 43 11.6	-0.1
KULA	Kula-Manisa	1.87	171	P	Pn	16 43 11.5	-0.2
KULA				S	Sb	16 43 36.8	-0.6
KULA	Kula-Manisa	1.87	171	ePn	Pn	16 43 11.6	-0.1
KULA				S	Sb	16 43 36.8	-0.6
EDRB	Edirne	1.88	322	ePN	Pn	16 43 12.1	+0.3
EDRB	Edirne	1.88	322	P	Pn	16 43 11.6	-0.2
EDRB	Edirne	1.88	322	P	Pn	16 43 11.6	-0.2
EDRB	Edirne	1.88	322	ePn	Pn	16 43 12.1	+0.3
PRK	Paraskevi	1.91	235	P	Pn	16 43 12.4	+0.3
PRK				S	Sb	16 43 38.5	+0.2
PRK	Paraskevi	1.91	235	ePB	Pn	16 43 12.7	+0.6
PRK	Paraskevi	1.91	235	P	Pn	16 43 12.4	+0.3
PRK	Paraskevi	1.91	235	ePb	Pn	16 43 12.7	+0.6
PRK				S	Sb	16 43 38.5	+0.2
ALT	Altintas	1.93	132	ePN	Pn	16 43 12.8	+0.3
ALT	Altintas	1.93	132	P	Pn	16 43 12.8	+0.3
ALT				S	Sb	16 43 38.6	-0.3
ALT	Altintas	1.93	132	P	Pn	16 43 12.8	+0.3
ALT				S	Sb	16 43 38.6	-0.3
SMTH	Samothraki Isl	2.10	274	P	Pn	16 43 14.3	-0.5
SMTH				S	Sb	16 43 43.1	-0.8
SMTH	Samothraki Isl	2.10	274	P	Pn	16 43 14.3	-0.5
SMTH				S	Sb	16 43 43.1	-0.8
IZM	Izmir	2.12	202	ePN	Pn	16 43 14.6	-0.5
IZM	Izmir	2.12	202	ePn	Pn	16 43 14.6	-0.5
ESKT	Eskisehir	2.15	112	ePN	Pn	16 43 16.1	+0.5
ESKT	Eskisehir	2.15	112	ePn	Pn	16 43 16.1	+0.5
SEYT	Eskypehyr	2.15	112	i P	Pn	16 43 15.4	-0.2
SEYT	Eskypehyr	2.15	112	i P	Pn	16 43 15.4	-0.2
SIGR	SIGRI	2.20	239	P	Pn	16 43 16.0	-0.1
SIGR				S	Sb	16 43 46.0	-0.6
SIGR	SIGRI	2.20	239	P	Pn	16 43 16.0	-0.1
SIGR				S	Sb	16 43 46.0	-0.6
KHAL	Karahalli	2.20	154	i P	Pn	16 43 16.3	0.0
KHAL				i S	Sb	16 43 47.8	+0.9
KHAL	Karahalli	2.20	154	i P	Pn	16 43 16.3	0.0
KHAL				i S	Sb	16 43 47.8	+0.9
RDO	Rodhopi	2.22	291	P	Pn	16 43 16.5	+0.1
RDO	Rodhopi	2.22	291	ePN	Pn	16 43 16.6	+0.1
RDO	Rodhopi	2.22	291	ePn	Pn	16 43 16.6	+0.1
MDUB	Mudurnu	2.23	86	ePN	Pn	16 43 17.2	+0.5
MDUB	Mudurnu	2.23	86	ePn	Pn	16 43 17.2	+0.5
KHL	Karahalli	2.26	154	ePN	Pn	16 43 17.5	+0.5
KHL	Karahalli	2.26	154	ePn	Pn	16 43 17.5	+0.5
URLA	Izmir	2.39	214	i P	Pn	16 43 18.2	-0.6
URLA				i S	Sg	16 43 56.9	+0.3
URLA	Izmir	2.39	214	i P	Pn	16 43 18.2	-0.6
LIA	Limnos Island	2.42	260	P	Pn	16 43 19.0	-0.1
LIA				S	Sn	16 43 50.7	+2.0
LIA	Limnos Island	2.42	260	ePN	Pn	16 43 19.8	+0.7
LIA	Limnos Island	2.42	260	P	Pn	16 43 19.0	-0.1
LIA	Limnos Island	2.42	260	ePn	Pn	16 43 19.8	+0.7
LIA				S	Sn	16 43 50.7	+2.0
JMB	Yambol	2.46	329	P	Pn	16 43 21.2	+1.5
JMB	Yambol	2.46	329	P	Pn	16 43 21.2	+1.5
SHUT	Suhut-Afyon	2.52	135	ePN	Pn	16 43 21.3	+0.6
SHUT	Suhut-Afyon	2.52	135	ePn	Pn	16 43 21.3	+0.6
KDZE	Karadeniz Ereo	2.58	67	ePN	Pn	16 43 22.2	+0.8
KDZE	Karadeniz Ereo	2.58	67	ePn	Pn	16 43 22.2	+0.8
CHOS	Chios island	2.62	222	P	Pn	16 43 21.7	-0.3
CHOS	Chios island	2.62	222	ePN	Pn	16 43 21.6	-0.4
CHOS	Chios island	2.62	222	P	Pn	16 43 21.7	-0.3
BOLV	Bolvadin	2.64	128	i P	Pn	16 43 22.9	+0.6
BOLV				i S	Sb	16 44 00.8	+1.3
BOLV	Bolvadin	2.64	128	i P	Pn	16 43 22.9	+0.6
SVRH	Sivrihisar-ESK	2.66	109	ePN	Pn	16 43 23.7	+1.2
SVRH	Sivrihisar-ESK	2.66	109	ePn	Pn	16 43 23.7	+1.2
AYDN	Tasoluk	2.72	187	i P	Pn	16 43 22.4	-1.0
AYDN				i S	Sb	16 44 04.3	+2.6
AYDN	Tasoluk	2.72	187	i P	Pn	16 43 22.4	-1.0
SMG	Samos	2.88	203	P	Pn	16 43 25.5	0.0
SMG	Samos	2.88	203	ePN	Pn	16 43 25.9	+0.4
SMG	Samos	2.88	203	P	Pn	16 43 25.5	0.0
SMG	Samos	2.88	203	ePn	Pn	16 43 25.9	+0.4
KAVA	Kavala	2.93	284	P	Pn	16 43 26.6	+0.4
KAVA	Kavala	2.93	284	P	Pn	16 43 26.6	+0.4
MLSB	Milas	3.09	187	ePN	Pn	16 43 29.8	+1.4
MLSB	Milas	3.09	187	ePn	Pn	16 43 29.8	+1.4
KIZT	Kizilcal	3.15	117	ePN	Pn	16 43 29.7	+0.4
KIZT	Kizilcal	3.15	117	ePn	Pn	16 43 29.7	+0.4
PLD	Plovdiv	3.21	304	P	Pn	16 43 30.2	+0.2
PLD	Plovdiv	3.21	304	ePn	Pn	16 43 30.4	+0.4
PLD				eSn	Sn	16 44 07.5	-0.7
PLD	Plovdiv	3.21	304	P	Pn	16 43 30.2	+0.2
PLD				eSn	Sn	16 44 07.5	-0.7
YER	Yerkesik	3.23	180	ePN	Pn	16 43 31.0	+0.7
YER	Yerkesik	3.23	180	ePn	Pn	16 43 31.0	+0.7
OUR	Ouranopolis	3.29	271	P	Pn	16 43 30.4	-0.6
OUR	Ouranopolis	3.29	271	P	Pn	16 43 30.4	-0.6
BODT	Bodrum	3.38	193	ePN	Pn	16 43 33.6	+1.1
BODT	Bodrum	3.38	193	ePn	Pn	16 43 33.6	+1.1
BCK	Bucak	3.41	147	ePN	Pn	16 43 34.0	+0.1
BCK	Bucak	3.41	147	ePn	Pn	16 43 34.0	+1.1
MANR	Mangalia	3.46	4	‖ i P	Pb	16 43 42.5	+1.6
SAFT	Safranbolu	3.46	74	ePN	Pn	16 43 34.7	+1.3
SAFT	Safranbolu	3.46	74	ePn	Pn	16 43 34.7	+1.3
NVR	Nevrokopi	3.49	288	P	Pn	16 43 34.1	+0.2
NVR	Nevrokopi	3.49	288	ePN	Pn	16 43 34.1	+0.2
NVR	Nevrokopi	3.49	288	P	Pn	16 43 34.1	+0.2
PAIG	Paliouri	3.55	264	P	Pn	16 43 34.0	-0.7
PAIG	Paliouri	3.55	264	ePN	Pn	16 43 35.0	+0.3
PAIG	Paliouri	3.55	264	P	Pn	16 43 34.0	-0.7
PAIG	Paliouri	3.55	264	ePn	Pn	16 43 35.0	+0.3
DALY	Dalyan (Mu¯la	3.56	175	ePN	Pn	16 43 35.2	+0.4
DALY	Dalyan (Mu¯la	3.56	175	ePn	Pn	16 43 35.2	+0.4
SUTC	Sutluce-Ispart	3.58	143	ePN	Pn	16 43 36.4	+1.1
SUTC	Sutluce-Ispart	3.58	143	ePn	Pn	16 43 36.4	+1.1
AOS	Alonnisos	3.59	252	P	Pn	16 43 36.0	+0.7
AOS	Alonnisos	3.59	252	ePN	Pn	16 43 35.5	+0.2
AOS	Alonnisos	3.59	252	ePN	Pn	16 43 35.8	+0.5
AOS	Alonnisos	3.59	252	ePn	Pn	16 43 35.5	+0.2
AOS	Alonnisos	3.59	252	P	Pn	16 43 36.0	+0.7
SRS	Serrai	3.64	283	P	Pn	16 43 35.6	-0.4
SRS	Serrai	3.64	283	P	Pn	16 43 35.6	-0.4
DAT	Datca	3.67	189	ePN	Pn	16 43 37.7	+1.2
DAT	Datca	3.67	189	ePn	Pn	16 43 37.7	+1.2
PLG	Polygyros	3.69	272	P	Pn	16 43 36.4	-0.3
PLG	Polygyros	3.69	272	ePN	Pn	16 43 36.6	-0.1
PLG	Polygyros	3.69	272	ePn	Pn	16 43 36.6	-0.1
FETY	Fethiye	3.78	170	ePN	Pn	16 43 38.9	+1.0
FETY	Fethiye	3.78	170	ePn	Pn	16 43 38.9	+1.0
SOH	Sokhos	3.78	279	ePN	Pn	16 43 37.6	-0.3
SOH	Sokhos	3.78	279	ePN	Pn	16 43 37.7	-0.2
SOH	Sokhos	3.78	279	ePn	Pn	16 43 37.7	-0.2
AFSR	Af¯ar-Bala (A	3.80	102	ePN	Pn	16 43 39.9	+1.7
AFSR	Af¯ar-Bala (A	3.80	102	ePn	Pn	16 43 39.9	+1.7
ELL	Elmali	3.83	160	ePN	Pn	16 43 40.3	+1.6
ELL	Elmali	3.83	160	ePn	Pn	16 43 40.3	+1.6
LADK	Ladik-KONYA	3.84	123	ePN	Pn	16 43 40.3	+1.5
LADK	Ladik-KONYA	3.84	123	ePn	Pn	16 43 40.3	+1.5
APE	Apeiranthos	3.93	214	ePN	Pn	16 43 41.7	+1.6
APE	Apeiranthos	3.93	214	ePN	Pn	16 43 39.7	-0.3
APE	Apeiranthos	3.93	214	‖ i P	Pg	16 43 53.1	-2.0
APE	Apeiranthos	3.93	214	ePn	Pn	16 43 39.7	-0.3
HORT	Hortiatis	3.96	275	P	Pn	16 43 40.0	-0.4
HORT	Hortiatis	3.96	275	P	Pn	16 43 40.0	-0.4
KONT	Konya--Tatoy	3.99	126	ePN	Pn	16 43 42.3	+1.5
KONT	Konya--Tatoy	3.99	126	ePn	Pn	16 43 42.3	+1.5
MRKA	Markates	3.99	247	P	Pn	16 43 41.0	+0.2
MRKA	Markates	3.99	247	P	Pn	16 43 41.0	+0.2
NEO	Neokhori	4.03	256	P	Pn	16 43 40.9	-0.5
NEO	Neokhori	4.03	256	P	Pn	16 43 40.9	-0.5
XOR	Xorichti	4.04	257	P	Pn	16 43 41.0	-0.5
XOR	Xorichti	4.04	257	P	Pn	16 43 41.0	-0.5
TIRR	Tirgusor	4.09	1	‖ i P	Pn	16 43 42.7	+0.6
TIRR	Tirgusor	4.09	1	‖ i P	Pn	16 43 42.7	+0.6
PTL	Penteli	4.14	237	P	Pn	16 43 43.0	+0.2
PTL	Penteli	4.14	237	P	Pn	16 43 43.0	+0.2
ARG	Arkhangelos	4.14	182	ePN	Pn	16 43 42.9	0.0
ARG	Arkhangelos	4.14	182	ePn	Pn	16 43 42.9	0.0
BRTR	Keskin Array B	4.16	97	Pn	Pn	16 43 43.2	-0.1
	1.5nm,0.3s,baz=266,slow=12,SNR=32						
BRTR				Pg	Pg	16 43 57.5	-2.0
	6.1nm,0.3s,baz=272,slow=15,SNR=69						
BRTR				Lg	Lg	16 44 55.2	
	4.4nm,0.3s,baz=273,slow=21,SNR=6.1						
KNT	Kendrikon	4.16	283	P	Pn	16 43 43.6	+0.4
KNT	Kendrikon	4.16	283	P	Pn	16 43 43.6	+0.4
VTS	Vitosha	4.41	302	P	Pn	16 43 47.3	+0.6
VTS	Vitosha	4.41	302	‖ i P	Pn	16 43 47.1	+0.4
VTS	Vitosha	4.41	302	ePn	Pn	16 43 47.0	+0.3
VTS				eSn	Sn	16 44 36.5	-1.6
VTS	Vitosha	4.41	302	ePn	Pn	16 43 47.0	+0.4
VTS	Vitosha	4.41	302	P	Pn	16 43 47.3	+0.6
VTS				eSn	Sn	16 44 36.5	-1.6
VAY	Valandovo	4.43	284	P	Pn	16 43 46.8	-0.1
VAY	Valandovo	4.43	284	ePn	Pn	16 43 47.0	+0.1
VAY	Valandovo	4.43	284	ePn	Pn	16 43 50.1	+3.2
VAY				eSn	Sn	16 44 42.8	+4.4
VAY	Valandovo	4.43	284	eSn	Sn	16 44 42.8	+4.4
LIT	Litokhoron	4.44	268	ePN	Pn	16 43 46.9	-0.1
LIT	Litokhoron	4.44	268	ePN	Pn	16 43 46.7	-0.3
LIT	Litokhoron	4.44	268	ePn	Pn	16 43 46.9	-0.1
GRG	Griva	4.51	279	P	Pn	16 43 48.3	+0.4
GRG	Griva	4.51	279	ePN	Pn	16 43 48.6	+0.7
GRG	Griva	4.51	279	ePN	Pn	16 43 48.7	+0.8
GRG	Griva	4.51	279	P	Pn	16 43 48.3	+0.4
GRG	Griva	4.51	279	ePn	Pn	16 43 48.6	+0.7
AGG	Agios Georgios	4.78	256	ePN	Pn	16 43 51.7	+0.1
AGG	Agios Georgios	4.78	256	ePN	Pn	16 43 51.8	+0.1
AGG	Agios Georgios	4.78	256	ePn	Pn	16 43 51.8	+0.1
CFR	Carcaliu	4.81	359	‖ i P	Pn	16 43 52.3	+0.3
CFR	Carcaliu	4.81	359	‖ i P	Pn	16 43 52.3	+0.3
TLCR		4.83	4	‖ i P	Pn	16 43 53.6	+1.3
TLCR		4.83	4	‖ i P	Pn	16 43 53.6	+1.3
THL	Klokotos Trika	4.88	263	P	Pn	16 43 53.3	+0.3
THL	Klokotos Trika	4.88	263	P	Pn	16 43 53.3	+0.3
KARP	Karpathos	4.89	191	ePN	Pn	16 43 53.4	+0.2
KARP	Karpathos	4.89	191	ePn	Pn	16 43 53.4	+0.2
ISR	Istrita	4.92	346	‖ i P	Pn	16 43 54.3	+0.7
ISR	Istrita	4.92	346	‖ i P	Pn	16 43 54.3	+0.7
ZAPS	Zavoj	5.12	306	ePn	Pn	16 43 57.6	+1.3
ZAPS				eSn	Sn	16 44 51.8	-3.6
EVR	Evrytania	5.20	256	ePN	Pn	16 43 57.0	-0.5
EVR	Evrytania	5.20	256	ePn	Pn	16 43 57.0	-0.5
TRIZ	Trizonia	5.21	249	P	Pn	16 43 58.6	+1.1
TRIZ	Trizonia	5.21	249	ePN	Pn	16 43 58.4	+0.9
TRIZ	Trizonia	5.21	249	ePn	Pn	16 43 58.4	+0.9
GUR	Goura	5.21	244	P	Pn	16 43 58.3	+0.6
GUR	Goura	5.21	244	ePN	Pn	16 43 58.2	+0.5
GUR	Goura	5.21	244	ePn	Pn	16 43 58.2	+0.6
FNA	Florina	5.27	277	P	Pn	16 43 59.1	+0.6
FNA	Florina	5.27	277	ePN	Pn	16 43 59.0	+0.6
FNA	Florina	5.27	277	ePn	Pn	16 43 59.0	+0.6
KLV	Kalavryta, Ach	5.30	246	ePN	Pn	16 43 59.1	+0.3
KLV	Kalavryta, Ach	5.30	246	ePn	Pn	16 43 59.1	+0.3
EFP	Efpalio	5.30	251	ePN	Pn	16 44 00.0	+1.2
EFP	Efpalio	5.30	251	ePn	Pn	16 44 00.0	+1.2
LAKA	Lakka	5.33	249	ePN	Pn	16 44 00.5	+1.3
LAKA	Lakka	5.33	249	ePn	Pn	16 44 00.5	+1.3
MLR	Muntele Rosu	5.40	342	‖ i P	Pn	16 44 02.4	+2.1
MLR	Muntele Rosu	5.40	342	Pn	Pn	16 44 01.5	+1.2
	0.6nm,0.3s,baz=210,slow=4.1,SNR=12						
MLR	Muntele Rosu	5.40	342	‖ i P	Pn	16 44 02.4	+2.1
VLI	Veliai	5.55	231	P	Pn	16 44 02.2	0.0
VLI	Veliai	5.55	231	ePN	Pn	16 44 03.6	+1.4
VLI	Veliai	5.55	231	P	Pn	16 44 02.2	0.0
VLI	Veliai	5.55	231	ePn	Pn	16 44 03.6	+1.4
VOIR		5.60	336	‖ i P	Pn	16 44 03.9	+1.0
VOIR		5.60	336	‖ i P	Pn	16 44 03.9	+1.0
PLOR	Plostina	5.61	348	‖ i P	Pn	16 44 05.0	+1.9
PLOR	Plostina	5.61	348	‖ i P	Pn	16 44 05.0	+1.9
VRI	Vrincioaia	5.61	349	‖ i P	Pn	16 44 04.7	+1.6
VRI	Vrincioaia	5.61	349	‖ i P	Pn	16 44 04.7	+1.6
ARR	Arges	5.67	333	‖ i P	Pn	16 44 04.6	+0.7
ARR	Arges	5.67	333	‖ i P	Pn	16 44 04.6	+0.7
KYTH	Kithira	5.80	227	P	Pn	16 44 05.7	+0.1
KYTH	Kithira	5.80	227	ePN	Pn	16 44 06.0	+0.4
KYTH	Kithira	5.80	227	ePN	Pn	16 44 06.8	+1.2
KYTH	Kithira	5.80	227	P	Pn	16 44 05.7	+0.1
KYTH	Kithira	5.80	227	ePn	Pn	16 44 06.0	+0.4
BOLS	Boljevac	5.84	308	ePN	Pn	16 44 05.0	-1.2
BOLS	Boljevac	5.84	308	ePn	Pn	16 44 05.0	-1.2
AMT	Artemida-Makis	5.85	243	ePN	Pn	16 44 08.0	+1.6
AMT	Artemida-Makis	5.85	243	ePn	Pn	16 44 08.0	+1.6
DYR	Agios Nikonas	5.89	234	ePN	Pn	16 44 09.3	+2.5
DYR	Agios Nikonas	5.89	234	ePn	Pn	16 44 09.3	+2.5
ITM	Ithomi	5.90	239	ePN	Pn	16 44 08.0	+1.0
ITM	Ithomi	5.90	239	ePn	Pn	16 44 08.0	+1.0
DOPR	Dopca	5.98	340	‖ i P	Pn	16 44 09.8	+1.6
DOPR	Dopca	5.98	340	‖ i P	Pn	16 44 09.8	+1.

baz=12,SNR=3.2
TTSI Tana Toraja 12.29 214 P **Pn 16 56 32.1 +2.4**
38nm,1.1s
KAPI Kappang 14.00 209 *e*Pn **Pn 16 56 50.2 -1.5**
KAPI *e*Sn **Sn 16 59 25.3 -1.3**
KAPI Kappang 14.00 209 P **Pn 16 56 50.8 -0.9**
0.9nm,0.3s,baz=60,slow=17,SNR=3.3
SBUM Sibu 15.09 252 P **P 16 57 10.6 +3.3**
104nm,0.7s,843nm
TPUB Ta-pu 16.91 341 *e*P **P 16 57 25.5 -1.9**
462nm,2.9s
SOEI Soe 17.09 188 P **Pn 16 57 33.0 +2.9**
baz=17,SNR=8.2
KSM Kuching 17.21 251 *e*P **P 16 57 30.4 -0.5**
14nm,0.8s
KSM Kuching 17.21 251 P **Pn 16 57 33.0 +1.5**
21nm,1.2s
KSM Kuching 17.21 251 P **Pn 16 57 33.3 +1.8**
baz=17,SNR=6.2
KSM S **S 17 00 40.6 -2.7**
baz=17,SNR=4.0
SSLB Suanglung 17.27 342 *e*P **P 16 57 30.0 -1.3**
57nm,1.8s
BATI Baumata 17.63 190 P **P 16 57 33.9 -1.4**
BATI Baumata 17.63 190 P **P 16 57 33.9 -1.4**
1.9nm,0.3s,baz=307,slow=20,SNR=4.5
YHNB Yeheng 17.98 345 *e*P **P 16 57 38.6 -0.6**
135nm,2.1s
QIZ Qiongzhong 20.02 307 P **P 16 57 59.4 -1.9**
QIZ S **S 17 01 37.8 -1.0**
QIZ pmax pmax
comp=Z,15nm,1.9s
QIZ Qiongzhong 20.02 307 *e*P **P 16 57 58.8 -2.5**
KDU Kakadu 20.70 164 P **P 16 58 09.7 +1.1**
baz=21,SNR=11
KNRA Kununurra 22.93 175 P **P 16 58 32.7 +1.3**
baz=23,SNR=12
MYKOM Kota Tinggi 23.30 258 P **P 16 58 37.5 +2.6**
comp=Z,33nm,1.0s
SKJI Sukabumi 24.51 235 P P 16 58 52.1 +6.2
comp=Z,143nm,0.7s,comp=Z,3μm
FITZ Fitzroy Crossi 25.25 182 P **P 16 58 53.0 +0.5**
FITZ Fitzroy Crossi 25.25 182 P **P 16 58 53.0 +0.5**
comp=Z,4.5nm,0.5s,baz=360,slow=6.2,SNR=28
FITZ Fitzroy Crossi 25.25 182 P **P 16 58 55.5 +3.0**
baz=26,SNR=4.8
NJ2 Nanjing 25.66 345 *e*P **P 16 58 56.2 0.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
PMG Port Moresby 26.38 129 *e*P **P 16 59 02.2 -0.6**
COEN Coen 26.78 142 P **P 16 59 08.6 +2.2**
baz=27,SNR=6.5
GYA Guiyang 26.87 318 *e*P **P 16 59 07.2 -0.1**
GYA pP **pP 16 59 36.5 -0.4**
GYA sP **sP 16 59 55.3 +2.2**
GYA PcP **PcP 17 02 25.7 -0.6**
GYA S **S 17 03 31.0 -2.8**
GYA ScP **ScP 17 05 50.7 -2.9**
GYA PcS **PcS 17 06 05.2 -2.8**
GYA ScS **ScS 17 09 41.8 -3.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 28.12 164 *e*P **P 16 59 15.7 -2.6**
WRA Warramunga Arr 28.12 164 P **P 16 59 18.1 -0.2**
WRA S **S 17 03 50.2 -3.1**
WRA Warramunga Arr 28.12 164 P **P 16 59 18.1 -0.2**
comp=Z,0.5nm,0.5s,baz=347,slow=9.0,SNR=6.5
WRA S **S 17 03 50.2 -3.1**
comp=Z,0.7nm,0.6s,baz=341,slow=15,SNR=4.4
KMI Kunming 28.86 311 P **P 16 59 26.2 +1.1**
KMI pmax pmax
comp=Z,4.0nm,1.0s
MBWA Marble Bar 29.06 193 *e*P **P 16 59 23.5 -3.1**
CMAR Chiang Mai Arr 29.09 295 P **P 16 59 27.2 +0.3**
CMAR Chiang Mai Arr 29.09 295 P **P 16 59 27.2 +0.3**
comp=Z,1.0nm,0.5s,baz=95,slow=8.0,SNR=6.2
ASAR Alice Springs 31.59 167 P **P 16 59 49.5 +0.5**
ASAR PcP **PcP 17 02 39.1 +0.9**
ASAR S **S 17 04 46.0 -1.6**
ASAR ScP **ScP 17 06 09.6 +1.0**
ASAR Alice Springs 31.59 167 P **P 16 59 49.5 +0.5**
comp=Z,1.0nm,0.6s,baz=356,slow=8.0,SNR=14
ASAR PcP **PcP 17 02 39.1 +0.9**
comp=Z,0.9nm,0.5s,baz=348,slow=2.2,SNR=11
ASAR S **S 17 04 46.0 -1.6**
comp=Z,0.5nm,0.6s,baz=356,slow=20,SNR=8.9
ASAR ScP **ScP 17 06 09.6 +1.0**
comp=Z,0.4nm,0.6s,baz=360,slow=2.4,SNR=5.2
MEEK Meekatharra 34.60 193 P **P 17 00 15.8 +0.8**
baz=35,SNR=4.8
LZH Lanzhou 35.41 327 *e*P **P 17 00 21.1 -0.9**
LZH pP **pP 17 00 51.8 -0.6**
LZH sP **sP 17 01 08.3 -0.1**
LZH pmax pmax
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 36.00 340 *e*P **P 17 00 26.7 -0.3**
HHC pP **pP 17 00 57.4 0.0**
HHC sP **sP 17 01 13.8 +0.4**
HHC PP **PnPn 17 01 53.0 +0.3**
HHC S **S 17 05 55.5 +0.1**
HHC sS **sS 17 06 47.7 -0.9**
HHC SS **SnSn 17 08 26.9 -9.3**
HHC pmax pmax
comp=Z,31nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.7s
HHC LR LR
comp=N,190nm,14.2s
HHC LR LR
comp=E,170nm,14.3s
HHC LR LR
comp=Z,160nm,14.3s
CN2 Changchun 36.38 359 *e*P **P 17 00 31.3 +1.3**
USRK Ussuriysk Arra 37.07 6 P **P 17 00 35.0 -0.8**
comp=Z,1.1nm,0.6s,baz=187,slow=10,SNR=4.5
USRK pP **pP 17 01 03.0 -3.3**
comp=Z,2.3nm,0.8s,baz=192,slow=8.2,SNR=7.3
MDJ Mudanjiang 37.27 4 P **P 17 00 37.3 -0.2**
MDJ pmax pmax
comp=Z,3.0nm,0.6s
MDJ pmax pmax
comp=Z,42nm,6.4s
MORW Morawa 37.55 195 P **P 17 00 40.9 +0.9**
baz=38,SNR=6.9
FORT Forrest 37.88 178 P **P 17 00 44.1 +1.3**
baz=38,SNR=7.0
BLDU Ballidu 38.86 194 P **P 17 00 52.0 +1.0**
baz=39,SNR=10
ASAJ Asahikawa 39.26 18 P **P 17 00 55.1 +0.9**
ASAJ Asahikawa 39.26 18 P **P 17 00 55.1 +0.9**
comp=Z,1.1nm,0.4s,baz=72,slow=22,SNR=5.8
KLBR Kellerberrin 39.58 192 P **P 17 00 58.0 +1.1**
baz=40,SNR=14
RMQ Roma 39.88 148 P P 17 00 49.6 -10
baz=40,SNR=4.1
RMQ S **S 17 07 00.1 +6.0**
baz=40,SNR=4.6
GTA Gaotai 40.01 327 P **P 17 01 01.7 +1.1**
GTA pP **pP 17 01 32.3 +0.7**
GTA sP **sP 17 01 50.5 +3.0**
GTA pmax pmax
comp=Z,6.0nm,0.7s
BBOO Buckleboo 40.89 168 P **P 17 01 09.2 +1.4**
baz=41,SNR=8.9
STKA Stephens Creek 41.51 161 P **P 17 01 13.7 +0.9**
STKA Stephens Creek 41.51 161 P **P 17 01 13.7 +0.9**
comp=Z,1.7nm,0.4s,baz=327,slow=8.2,SNR=3.8
SONM Songino Array 43.90 340 P **P 17 01 33.1 +1.0**
SONM PcP **PcP 17 03 16.4 +0.7**
SONM Songino Array 43.90 340 P **P 17 01 33.1 +1.0**
comp=Z,0.5nm,0.6s,baz=155,slow=9.6,SNR=5.3
SONM PcP **PcP 17 03 16.4 +0.7**
comp=Z,0.5nm,0.8s,baz=144,slow=3.3,SNR=3.9
DZM Mont Dzumac 48.77 128 P **P 17 02 11.2 +0.8**
DZM Mont Dzumac 48.77 128 P **P 17 02 11.2 +0.8**
comp=Z,11nm,1.0s,baz=108,slow=14,SNR=7.2
WMQ Urumqi 49.76 323 *e*P **P 17 02 18.4 +0.7**
PETK Petropavlovsk- 52.22 23 P **P 17 02 37.0 +1.2**
PETK Petropavlovsk- 52.22 23 P **P 17 02 37.0 +1.2**
comp=Z,0.8nm,0.6s,baz=181,slow=3.6,SNR=7.6
MK31 Makanchi Array 54.58 324 *e*P **P 17 02 50.2 -2.9**
MKAR Makanchi Array 54.58 324 *e*P **P 17 02 52.2 -0.9**
MKAR PcP **PcP 17 03 54.9 +0.3**
MKAR Makanchi Array 54.58 324 P **P 17 02 53.9 +0.7**
comp=Z,3.4nm,0.4s,baz=114,slow=7.3,SNR=59
MKAR PcP **PcP 17 03 54.9 +0.3**
comp=Z,2.8nm,0.8s,baz=118,slow=4.3,SNR=7.8
KSH Kashi 55.46 313 *e*P **P 17 03 01.3 +1.5**
KSH sP **sP 17 03 50.3 +2.4**
KSH PP **PP 17 05 09.1 +3.9**
KSH S **S 17 10 33.1 -1.0**
KSH ScS **ScS 17 12 33.4 -2.0**
KSH SS **SS 17 14 21.2 +0.2**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,58nm,3.8s
KSH LR LR
comp=N,85nm,7.0s
KSH LR LR
comp=E,63nm,5.6s
KSH LR LR
comp=Z,94nm,5.8s
ZALV Zalesovo Beam 57.37 332 P **P 17 03 12.7 -0.2**
ZALV Zalesovo Beam 57.37 332 P **P 17 03 12.7 -0.2**
comp=Z,1.9nm,0.4s,baz=123,slow=6.1,SNR=8.1
KURK Kurchatov 58.69 326 P **P 17 03 22.5 +0.4**
KURBB Kurchatov Arra 58.69 326 P **P 17 03 22.5 +0.4**
comp=Z,3.5nm,0.6s,baz=124,slow=7.5,SNR=33
KKAR Karatay Array 60.56 316 *e*P **P 17 03 33.9 -1.2**
BVAR Borovoye Array 64.28 326 P **P 17 04 00.2 +0.6**
BVAR Borovoye Array 64.28 326 P **P 17 04 00.2 +0.6**
comp=Z,1.9nm,0.5s,baz=108,slow=6.0,SNR=9.1
BRVK Borovoye 64.35 326 *e*P **P 17 03 58.6 -1.4**
comp=Z,6.0nm,1.1s
ABKAR Akbulak array 69.33 320 *e*P **P 17 04 30.7 -0.9**
AKTO Aktyubinsk 70.80 321 P **P 17 04 40.8 +0.2**
AKTO Aktyubinsk 70.80 321 P **P 17 04 40.8 +0.2**
comp=Z,4.9nm,0.7s,baz=82,slow=7.5,SNR=16
RAYN Ar Rayn 78.97 293 *e*P **P 17 05 26.9 -1.3**
comp=Z,8.1nm,0.8s
KBZ Khabaz 80.44 313 P **P 17 05 35.7 +0.1**
KBZ Khabaz 80.44 313 P **P 17 05 35.7 +0.1**
comp=Z,0.8nm,0.3s,baz=261,slow=3.5,SNR=4.0
ILAR Eielson Array 81.97 26 P **P 17 05 43.2 -0.1**
ILAR Eielson Array 81.97 26 P **P 17 05 43.2 -0.1**
comp=Z,0.4nm,0.6s,baz=241,slow=5.5,SNR=6.5
JOF Joensuu 85.96 333 *e*p **P 17 06 04.3 +0.8**
KEV Kevo 86.51 340 *e*p **P 17 06 05.8 -0.3**
comp=Z,0.3nm,0.3s
VNDA Vanda 86.96 173 P **P 17 06 08.4 +0.3**
VNDA Vanda 86.96 173 P **P 17 06 08.4 +0.3**
comp=Z,0.6nm,0.8s,baz=294,slow=5.6,SNR=5.2
ARCES ARCESS Array B 87.07 340 P **P 17 06 08.7 -0.1**
ARCES ARCESS Array B 87.07 340 P **P 17 06 08.7 -0.1**
comp=Z,1.0nm,0.8s,baz=64,slow=8.2,SNR=5.4
BRTR Keskin Array B 87.65 310 P **P 17 06 11.9 -0.5**
BRTR Keskin Array B 87.65 310 P **P 17 06 11.9 -0.5**
comp=Z,1.6nm,0.7s,baz=112,slow=4.0,SNR=9.1
KAF Kangasniemi 88.39 332 *e*p **P 17 06 14.8 -0.4**
comp=Z,0.3nm,0.3s
FINES FINESS Array B 88.64 332 P **P 17 06 16.2 -0.2**
FINES FINESS Array B 88.64 332 P **P 17 06 16.2 -0.2**
comp=Z,0.9nm,0.4s,baz=76,slow=4.5,SNR=10
KOLS Kolonicke sedl 93.83 320 *e*P **P 17 06 43.1 +2.3**
CRVS Cervenica-Dubn 94.35 320 *e*P **P 17 06 44.6 +1.4**
KECS Kecovo 95.09 320 *e*P **P 17 06 47.2 +0.6**
GERES GERESS Array B 99.21 322 P **Pdif 17 07 05.9 +0.7**
GERES GERESS Array B 99.21 322 P **Pdif 17 07 05.9 +0.7**
comp=Z,0.4nm,0.7s,baz=70,slow=4.4,SNR=4.7
TORD Torodi Ar. Bea 121.61 290 PKP **PKPdf 17 12 17.7 +0.2**
TORD Torodi Ar. Bea 121.61 290 PKP **PKPdf 17 12 17.7 +0.2**
comp=Z,0.8nm,0.7s,baz=66,slow=1.9,SNR=6.0

*BJI **01** 17:04:53.2,0°.52N×124°.73E,h239km,mB4.4/12,mb4.5/21*
*AUST **01** 17:04:58.2±0.6, 1°.23N×124°.42E,h218km,Error ellipse:*
s-maj=1.4km s-min=1.0km az=235.0
*ISCJB **01** 17:04:58.6±0.4, 1°.23N±0°.03×124°.39E±0°.04,h239km±4km,*
mb4.2/47,Error ellipse: s-maj=7.7km s-min=4.8km
az=154.3
*NEIC **01** 17:04:59.6±0.7, 1°.24N×124°.45E,h238km±7km,mb4.3/19,*
Error ellipse: s-maj=8.1km s-min=5.2km az=75.0
*BKK **01** 17:05:00.3±0.3,1°N±7°×12°5E±°,h232km±4km,M4.7/7,*
mB5.7/2,mb4.8/7,MLv4.6/4,Mw(mB)5.3/2
*IDC **01** 17:05:01.3±1.4, 1°.17N×124°.33E,h254km±13km,mb3.9/23,*
mb1 3.9/25,mb1mx3.9/29,mbtmp3.9/25,Error ellipse:
s-maj=14.8km s-min=6.3km az=76.0
*DJA **01** 17:05:02.1±1.5, 1°N±12°×12°4E±°,h206km±17km,M3.9/3,*
MLv3.9/3
ISC 01 17:04:59.5±0.4,**1°.17N**±0°.04×**124°.44E**±0°.05,**h234**km±3km,
n125,σ1$**35**/157,**mb4.2**/47,**Minahassa Peninsula,**
Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**0.48**	**56**	P	**Pn**	**17 05 30.6**	**+0.1**
GTOI	**Gorontalo**	**1.53**	**250**	P	**Pn**	**17 05 37.3**	**+0.8**
MRSI	**Marisa**	**2.59**	**255**	P	**Pn**	**17 05 47.6**	**+1.0**
MRSI				S	**S**	**17 06 22.1**	**-1.5**
LUWI	**Luwuk**	**2.76**	**217**	P	**Pn**	**17 05 47.4**	**-1.0**
LUWI	**Luwuk**	**2.76**	**217**	P	**Pn**	**17 05 47.9**	**-0.6**
baz=2.8,SNR=15							
LUWI				S	**S**	**17 06 24.2**	**-2.7**
baz=2.8,SNR=4.6							
TNTI	**Ternate**	**2.95**	**98**	Pn	**Pn**	**17 05 50.7**	**+0.2**
TNTI	**Ternate**	**2.95**	**98**	P	**Pn**	**17 05 50.3**	**-0.2**
LBMI	**Labuha**	**3.55**	**120**	P	**Pn**	**17 05 57.1**	**-0.2**
TOLI	**Toli-Toli**	**3.65**	**269**	P	**Pn**	**17 05 58.9**	**+0.4**
KAPI	**Kappang**	**7.73**	**217**	P	**Pn**	**17 06 48.7**	**-0.6**
KAPI	**Kappang**	**7.73**	**217**	P	**Pn**	**17 06 48.7**	**-0.6**
0.8nm,0.3s,baz=48,slow=15,SNR=5.4							
SOEI	**Soe**	**10.86**	**181**	P	P	17 07 38.6	+4.0
baz=11,SNR=4.3							
SOEI				S	S	17 09 52.7	+22
baz=11,SNR=5.0							
KSM	**Kuching**	**14.13**	**271**	*e*Pn	**P**	**17 08 11.8**	**+0.9**
6.9nm,0.6s							
KSM	**Kuching**	**14.13**	**271**	P	**P**	**17 08 13.6**	**+2.7**
baz=14,SNR=4.2							
JAY	**Jayapura**	**16.67**	**103**	P	**Pn**	**17 08 42.4**	**+2.0**
baz=17,SNR=3.0							
KNRA	**Kununurra**	**17.28**	**166**	P	**Pn**	**17 08 46.9**	**-0.5**
baz=17,SNR=30							
FITZ	**Fitzroy Crossi**	**19.19**	**177**	*e*P	**P**	**17 09 05.8**	**-0.2**
7.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.19**	**177**	P	**P**	**17 09 06.2**	**+0.1**
1.6nm,0.3s,baz=26,slow=8.3,SNR=14							
FITZ	**Fitzroy Crossi**	**19.19**	**177**	P	**P**	**17 09 06.3**	**+0.3**
baz=19,SNR=9.0							
XMIS	**Christmas Isla**	**21.99**	**238**	S	**S**	**17 13 24.5**	**+3.8**
baz=22,SNR=3.4							
TPUB	**Ta-pu**	**22.31**	**351**	*e*P	**P**	**17 09 36.1**	**-1.7**
35nm,0.6s							
MBWA	**Marble Bar**	**22.67**	**191**	*e*P	**P**	**17 09 41.2**	**+0.1**
13nm,0.6s							
WRAB	**Tennant Creek**	**23.11**	**156**	*e*P	**P**	**17 09 45.6**	**+0.4**
48nm,0.6s							
WRA	**Warramunga Arr**	**23.12**	**156**	P	**P**	**17 09 45.7**	**+0.5**
WRA				S	**S**	**17 13 36.9**	**-2.0**
WRA	**Warramunga Arr**	**23.12**	**156**	P	**P**	**17 09 45.7**	**+0.5**
49nm,0.6s,baz=336,slow=10,SNR=112							
WRA				S	**S**	**17 13 36.9**	**-2.0**
2.2nm,0.7s,baz=335,slow=16,SNR=4.4							
YHNB	**Yeheng**	**23.55**	**353**	*e*P	**P**	**17 09 49.2**	**+0.1**
COEN	**Coen**	**23.88**	**130**	P	**P**	**17 09 53.0**	**+0.8**
baz=24,SNR=11							
PMG	**Port Moresby**	**24.95**	**115**	P	**P**	**17 10 00.3**	**-1.5**
PSI	**Prapat**	**25.55**	**274**	P	**P**	**17 10 07.2**	**-0.3**
PSI	**Prapat**	**25.55**	**274**	P	**P**	**17 10 07.2**	**-0.3**
4.3nm,0.5s,baz=106,slow=9.1,SNR=4.4							
AS31	**Alice Springs**	**26.35**	**160**	*e*P	**P**	**17 10 15.1**	**+0.7**
ASAR	**Alice Springs**	**26.35**	**160**	P	**P**	**17 10 15.2**	**+0.9**
ASAR				S	**S**	**17 14 27.9**	**-2.0**
ASAR				ScP	**ScP**	**17 16 51.1**	**-0.4**
ASAR	**Alice Springs**	**26.35**	**160**	P	**P**	**17 10 15.2**	**+0.9**
9.3nm,0.6s,baz=340,slow=7.5,SNR=83							
ASAR				S	**S**	**17 14 27.9**	**-2.0**
1.8nm,0.8s,baz=338,slow=15,SNR=4.9							
ASAR				ScP	**ScP**	**17 16 51.1**	**-0.4**
0.4nm,0.5s,baz=352,slow=2.6,SNR=4.4							
LOEI	**Loei**	**27.98**	**307**	P	**P**	**17 10 27.2**	**-1.7**
40nm,1.1s							
MEEK	**Meekatharra**	**28.21**	**191**	P	**P**	**17 10 31.3**	**+0.5**
baz=28,SNR=7.9							
CMAR	**Chiang Mai Arr**	**30.35**	**306**	P	**P**	**17 10 50.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.35**	**306**	P	**P**	**17 10 50.1**	**+0.3**
1.1nm,0.6s,baz=133,slow=7.9,SNR=7.8							

GYA Guiyang 30.41 327 *e*P **P 17 10 51.0 +0.7**
GYA pP **pP 17 11 37.6 +0.4**
GYA sP **sP 17 12 05.4 +1.1**
GYA PcP **PcP 17 13 44.3 +0.2**
GYA S **S 17 15 33.2 -0.5**
GYA ScP **ScP 17 17 04.0 -0.3**
GYA ScS **ScS 17 20 58.5 -2.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 30.54 307 *e*P **P 17 10 52.0 +0.6**
comp=Z,4.9nm,0.8s
FORT Forrest 31.96 174 P **P 17 11 04.8 +1.1**
baz=32,SNR=14
ENH Enshi 32.24 335 *e*P **P 17 11 05.5 -0.7**
comp=Z,5.3nm,0.6s
JNU Nakatsue 32.35 10 P **P 17 11 06.3 -0.8**
JNU Nakatsue 32.35 10 P **P 17 11 06.3 -0.8**
comp=Z,12nm,0.9s,baz=197,slow=2.4,SNR=6.2
BLDU Ballidu 32.46 192 P **P 17 11 08.5 +0.5**
baz=33,SNR=5.0
KLBR Kellerberrin 33.20 190 P **P 17 11 15.7 +1.2**
baz=33,SNR=13
NWAO Narrogin (SRO) 34.59 191 *e*P **P 17 11 27.2 +0.8**
comp=Z,17nm,1.0s
NWAO Narrogin (SRO) 34.59 191 P **P 17 11 27.5 +1.1**
comp=Z,7.2nm,0.6s,baz=30,slow=3.7,SNR=8.0
BBOO Buckleboo 35.53 163 P **P 17 11 35.3 +0.8**
baz=36,SNR=12
KSAR Wonju Array Be 36.23 5 P **P 17 11 40.4 +0.1**
KSAR ScP **ScP 17 17 24.1 -0.2**
KSRS Korea Array 36.25 5 P **P 17 11 40.4 -0.1**
comp=Z,4.7nm,0.9s,baz=183,slow=10,SNR=18
KSRS ScP **ScP 17 17 24.1 -0.2**
comp=Z,0.8nm,0.8s,baz=181,slow=2.6,SNR=5.2
STKA Stephens Creek 36.67 155 *e*P **P 17 11 45.5 +1.4**
comp=Z,2.3nm,0.9s
STKA Stephens Creek 36.67 155 P **P 17 11 45.4 +1.4**
comp=Z,6.3nm,0.4s,baz=326,slow=10.0,SNR=16
STKA Stephens Creek 36.67 155 P **P 17 11 45.5 +1.4**
baz=37,SNR=7.7
MAJO Matsushiro 37.43 18 *e*P **P 17 11 49.4 -1.0**
comp=Z,8.8nm,0.8s
MAT Matsushiro 37.43 18 P **P 17 11 49.6 -0.9**
CMSA Cobar Meteorol 38.27 150 P **P 17 11 59.6 +2.0**
baz=38,SNR=19
LZH Lanzhou 39.65 333 *e*P **P 17 12 10.6 +1.5**
LZH pP **pP 17 12 55.2 -2.4**
LZH pmax pmax
comp=Z,14nm,1.0s
ARMA Armidale 40.71 143 P **P 17 12 20.2 +2.4**
baz=41,SNR=10
HHC Hu-ho-hao-te 41.19 345 *e*P **P 17 12 23.0 +1.5**
HHC pP **pP 17 13 11.7 +1.3**
HHC sP **sP 17 13 35.7 -1.3**
HHC PP **PP 17 14 04.9 +3.0**
HHC S **S 17 18 19.7 +2.6**
HHC SS **SS 17 21 27.6 -2.7**
HHC pmax pmax
comp=Z,34nm,0.6s
HHC pmax pmax
comp=Z,79nm,5.7s
HHC LR LR
comp=N,190nm,14.2s
HHC LR LR
comp=E,140nm,13.3s
HHC LR LR
comp=Z,150nm,14.2s
MGCD Mangrove Creek 42.44 146 P **P 17 12 34.5 +2.9**
baz=43,SNR=5.7
CN2 Changchun 42.46 1 *e*P **P 17 12 34.7 +3.2**
LSA Lhasa 42.51 315 *e*P **P 17 12 33.3 +0.4**
comp=Z,4.7nm,0.5s
CNB Canberra Magne 43.13 150 P **P 17 12 40.2 +3.0**
baz=43,SNR=9.9
TOO Toolangi 43.19 155 P **P 17 12 40.3 +2.7**
baz=43,SNR=4.2
USRK Ussuriysk Arra 43.37 8 P **P 17 12 39.2 +0.4**
comp=Z,6.0nm,0.4s,baz=196,slow=7.3,SNR=44
MDJ Mudanjiang 43.50 5 P **P 17 12 40.4 +0.5**
MDJ pP **pP 17 13 29.0 -0.3**
MDJ sP **sP 17 13 55.7 -0.1**
MDJ PP **PP 17 14 26.9 +0.6**
MDJ S **S 17 18 52.8 +2.2**
MDJ pmax pmax
comp=Z,14nm,0.7s
MDJ pmax pmax
comp=Z,57nm,4.5s
MDJ Mudanjiang 43.50 5 *e*P **P 17 12 40.0 +0.1**
comp=Z,3.9nm,0.6s
TAPN Taplejung 43.78 310 *e*P **P 17 12 43.4 +0.6**
ODAN Odare 43.79 309 *e*P **P 17 12 43.4 +0.6**
GTA Gaotai 44.20 332 P **P 17 12 47.5 +1.8**
GTA pmax pmax
comp=Z,12nm,0.5s
JIRN Jiri 45.11 309 *e*P **P 17 12 53.2 -0.2**
GUN Gumba 45.47 309 *e*P **P 17 12 56.0 -0.2**
comp=Z,31nm,0.4s
ASAJ Asahikawa 45.71 18 P **P 17 12 57.6 +0.3**
ASAJ Asahikawa 45.71 18 P **P 17 12 57.6 +0.3**
comp=Z,6.2nm,0.7s,baz=266,slow=9.4,SNR=13
KOLN Koldanda 47.19 308 *e*P **P 17 13 09.3 0.0**
comp=Z,33nm,0.6s
DANN Dangsing 47.33 309 *e*P **P 17 13 10.2 -0.3**
comp=Z,36nm,0.6s
HIA Hailar 48.08 356 *e*P **P 17 13 14.8 -0.8**
comp=Z,8.6nm,0.8s
ULN Ulaanbaatar 48.89 345 *e*P **P 17 13 20.9 -1.0**
comp=Z,6.9nm,1.0s
SONM Songino Array 49.05 344 P **P 17 13 22.5 -0.6**
SONM PcP **PcP 17 14 42.2 -0.9**
SONM Songino Array 49.05 344 P **P 17 13 22.5 -0.6**
comp=Z,5.6nm,0.7s,baz=157,slow=8.8,SNR=37
SONM PcP **PcP 17 14 42.2 -0.9**
comp=Z,0.7nm,0.7s,baz=174,slow=4.7,SNR=3.2
WMQ Urumqi 53.57 327 P **P 17 13 58.3 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,1.4s
MK31 Makanchi Array 58.40 327 *e*P **P 17 14 29.6 -1.1**
MK31 *e*PcP **PcP 17 15 18.1 -0.7**
MKAR Makanchi Array 58.40 327 *e*P **P 17 14 29.9 -0.8**
MKAR PcP **PcP 17 15 18.3 -0.5**
MKAR Makanchi Array 58.40 327 P **P 17 14 29.9 -0.8**
comp=Z,3.5nm,0.3s,baz=126,slow=7.9,SNR=113
MKAR PcP **PcP 17 15 18.3 -0.5**
comp=Z,2.1nm,0.6s,baz=128,slow=4.8,SNR=7.6
PETK Petropavlovsk- 58.65 23 P **P 17 14 33.3 +1.0**
PETK PcP **PcP 17 15 19.4 -0.2**
PETK Petropavlovsk- 58.65 23 P **P 17 14 33.3 +1.0**
comp=Z,3.5nm,0.6s,baz=192,slow=6.0,SNR=28
PETK PcP **PcP 17 15 19.4 -0.2**
comp=Z,1.9nm,1.0s,baz=183,slow=5.8,SNR=2.7
TKM2 Tokmak 2 60.19 320 *e*P **P 17 14 42.5 -0.8**
comp=Z,4.5nm,0.7s
AAK Ala-Archa 60.76 320 P **P 17 14 47.9 +0.8**
AAK Ala-Archa 60.76 320 P **P 17 14 47.9 +0.8**
comp=Z,1.9nm,0.4s,baz=203,slow=8.4,SNR=4.6
EKS2 Erkin-Say 61.24 319 *e*P **P 17 14 48.9 -1.3**
KBL Kabul 61.31 309 *e*P **P 17 14 50.8 -0.1**
comp=Z,11nm,0.6s
KBL Kabul 61.31 309 P **P 17 14 51.6 +0.7**
baz=61,SNR=4.0
ZAA0 Zalesovo Array 61.86 335 *e*P **P 17 14 52.1 -1.8**
ZALV Zalesovo Beam 61.86 335 P **P 17 14 52.2 -1.7**
ZALV Zalesovo Beam 61.86 335 P **P 17 14 52.2 -1.7**
comp=Z,4.1nm,0.6s,baz=118,slow=6.7,SNR=20
KURBB Kurchatov Arra 62.69 329 P **P 17 14 58.3 -1.2**
comp=Z,6.2nm,0.6s,baz=134,slow=6.6,SNR=67
KURK Kurchatov 62.70 329 P **P 17 14 58.3 -1.2**
KKAR Karatay Array 63.58 319 *e*P **P 17 15 04.4 -1.1**
VOSK Vostochnaya 67.78 328 P **P 17 15 30.6 -1.5**
CASY Casey 68.03 186 P **P 17 15 34.2 +0.9**
comp=Z,1.3nm,0.7s
BVAR Borovoye Array 68.24 328 P **P 17 15 33.8 -1.2**
BVAR Borovoye Array 68.24 328 P **P 17 15 33.8 -1.2**
comp=Z,2.1nm,0.6s,baz=131,slow=8.3,SNR=15
BRVK Borovoye 68.31 328 *e*P **P 17 15 33.5 -1.9**
ABKAR Akbulak array 72.70 322 *e*P **P 17 16 01.0 -1.0**
VNDA Vanda 81.20 172 *e*P **P 17 16 49.4 +0.7**
comp=Z,0.8nm,0.6s
VNDA Vanda 81.20 172 P **P 17 16 49.9 +1.1**
comp=Z,0.7nm,0.5s,baz=313,slow=6.5,SNR=9.3
SBA Scott Base 82.14 172 *e*P **P 17 16 55.0 +1.4**
comp=Z,7.6nm,1.7s
KBZ Khabaz 83.08 314 P **P 17 16 58.1 -1.0**
KBZ Khabaz 83.08 314 P **P 17 16 58.1 -1.0**
comp=Z,1.2nm,0.6s,baz=167,slow=15,SNR=4.3

KMBO	Kilima Mbogo	87.21	269		P	P	17 17 19.8	-0.8
KMBO	Kilima Mbogo	87.21	269		P	P	17 17 19.8	-0.8
	comp=Z,1.4nm,0.5s,baz=44,slow=7.5,SNR=5.8							
ILAR	Eielson Array	88.38	25		P	P	17 17 23.6	-1.0
ILAR	Eielson Array	88.38	25		P	P	17 17 23.6	-1.0
	comp=Z,0.3nm,0.5s,baz=244,slow=4.6,SNR=5.7							
BRTR	Keskin Array B	89.88	310		P	P	17 17 31.9	-0.5
BRTR	Keskin Array B	89.88	310		P	P	17 17 31.9	-0.5
	comp=Z,1.2nm,0.8s,baz=123,slow=6.0,SNR=5.9							
JOF	Joensuu	90.40	333	*ep*		P	17 17 31.1	-3.0
	comp=Z,1.8nm,0.3s							
KEV	Kevo	91.49	340	*ep*		P	17 17 39.0	0.0
	comp=Z,0.3nm,0.3s							
ARCES	ARCESS Array B	92.04	340		P	P	17 17 39.7	-1.9
ARCES	ARCESS Array B	92.04	340		P	P	17 17 39.7	-1.9
	comp=Z,2.6nm,0.9s,baz=89,slow=6.1,SNR=8.7							
KAF	Kangasniemi	92.79	332	*ep*		P	17 17 43.1	-2.0
	comp=Z,1.0nm,0.4s							
FINES	FINESS Array B	92.99	332		P	P	17 17 43.8	-2.3
FINES	FINESS Array B	92.99	332		P	P	17 17 43.8	-2.3
	comp=Z,0.9nm,0.6s,baz=57,slow=6.2,SNR=9.2							
TCBU	Trout Butte	105.39	43		P	PKiKP	17 22 51.3	-3.7
TORD	Torodi Ar. Bea	121.48	286		PKP	PKPdf	17 23 25.9	-0.3
TORD	Torodi Ar. Bea	121.48	286		PKP	PKPdf	17 23 25.9	-0.3
	comp=Z,0.4nm,0.3s,baz=97,slow=2.1,SNR=9.5							

IDC 01 17:19:27.8±3.1, 23°.26N×143°.31E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/23, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=130.4km s-min=22.8km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.36	320	P	Pn	17 23 56.5	+0.4
	0.1nm,0.3s,baz=138,slow=13,SNR=4.2						
WRA	Warramunga Arr	43.83	192	P	P	17 27 35.7	-0.1
	0.3nm,0.5s,baz=18,slow=8.8,SNR=5.0						
ASAR	Alice Springs	47.54	192	P	P	17 28 05.0	-0.1
	0.2nm,0.7s,baz=10,slow=6.4,SNR=4.2						
ZALV	Zalesovo Beam	53.07	321	P	P	17 28 45.3	-1.4
	0.4nm,0.4s,baz=95,slow=8.8,SNR=3.7						
MKAR	Makanchi Array	53.74	312	P	P	17 28 52.0	+0.1
	0.5nm,0.5s,baz=89,slow=9.5,SNR=10						
FINES	FINESS Array B	81.83	334	P	P	17 31 49.2	+0.6
	2.0nm,1.1s,baz=76,slow=5.9,SNR=4.8						

WEL 01 17:33:12.5±0.2, 45°.78S×165°.87E, h33km, ML3.5/14, 1C, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.69	125	⇑PN	Pn	17 33 25.5	-0.5
PYZ				SN	Sb	17 33 35.4	-0.2
DCZ	Deep Cove	0.95	72	PN	Pn	17 33 29.2	-0.3
DCZ				SN	Sn	17 33 41.5	-0.5
DCZ				AML	AML	17 33 41.8	
DCZ				AML	AML	17 33 42.9	
DCZ				AML	AML	17 33 42.9	
WHZ	Wether Hill Ro	1.46	95	PN	Pb	17 33 37.9	-1.3
WHZ				SN	Sb	17 33 57.9	+0.5
WHZ				AML	AML	17 34 03.2	
MLZ	Mavora Lakes	1.68	76	PN	Pn	17 33 40.5	+0.9
MLZ				SN	Sb	17 34 02.2	-1.5
MLZ				AML	AML	17 34 03.6	
MSZ	Milford Sound	1.83	54	PN	Pn	17 33 43.2	+1.6
MSZ				AML	AML	17 34 13.3	
MSZ				AML	AML	17 34 18.3	
MSZ				AML	AML	17 34 21.9	
MSZ				AML	AML	17 34 29.4	
SYZ	Scrubby Hill	2.40	110	PN	Pn	17 33 50.6	+1.1
WKZ	Wanaka	2.42	68	AML	AML	17 34 33.2	
EAZ	Earnscleugh	2.48	79	PN	Pn	17 33 52.8	+2.2
EAZ				AML	AML	17 34 32.0	
EAZ				AML	AML	17 34 32.0	
EAZ				AML	AML	17 34 32.8	
EAZ				AML	AML	17 34 37.7	
TUZ	Tuapeka	2.64	95	PN	Pn	17 33 54.3	+1.6
TUZ				AML	AML	17 34 34.8	
TUZ				AML	AML	17 34 35.5	
JCZ	Jackson Bay	2.67	51	AML	AML	17 34 37.8	
JCZ				AML	AML	17 34 48.5	
LBZ	Lake Benmore	3.36	67	PN	Pn	17 34 04.0	+1.3
ODZ	Otahua Downs	3.44	79	PN	Pn	17 34 04.4	+0.6

IDC 01 17:48:31.4±0.9, 3°.16S×147°.79E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, MS3.7/9, Ms1 3.7/9, ms1mx3.4/27, Error ellipse: s-maj=42.6km s-min=19.3km az=116.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.22	217	P	P	17 53 19.3	+0.2
	16nm,1.2s,baz=44,slow=11,SNR=22						
DAV	Davao City (W)	24.39	295	LR	LR	18 02 44.5	
	comp=Z,59nm,20.3s,baz=210,slow=35						
ASAR	Alice Springs	24.41	212	P	P	17 53 52.2	+0.3
	3.6nm,0.7s,baz=38,slow=7.2,SNR=49						
ASAR				LR	LR	18 03 07.3	
	comp=Z,186nm,18.7s,baz=156,slow=36						
FITZ	Fitzroy Crossi	26.29	234	P	P	17 54 09.5	+0.5
	8.7nm,1.0s,baz=51,slow=7.1,SNR=7.7						
FITZ				LR	LR	18 05 21.8	
	comp=Z,302nm,18.5s,baz=54,slow=38						
STKA	Stephens Creek	29.15	191	LR	LR	18 06 47.4	
	comp=Z,174nm,19.6s,baz=22,slow=38						
JNU	Nakatsue	39.48	337	LR	LR	18 11 09.5	
	comp=Z,61nm,18.4s,baz=112,slow=34						
NWAO	Narrogin (SRO)	41.17	221	LR	LR	18 14 01.9	
	comp=Z,158nm,19.7s,baz=282,slow=37						
URZ	Urewera	44.02	146	LR	LR	18 12 38.7	
	comp=Z,186nm,20.9s,baz=350,slow=33						
KSRS	Korea Array	44.43	337	LR	LR	18 15 00.9	
	comp=Z,39nm,18.2s,baz=178,slow=36						
PETK	Petropavlovsk-	56.68	7	P	P	17 58 16.8	+0.3
	1.9nm,0.8s,baz=148,slow=8.7,SNR=3.9						
VNDA	Vanda	74.68	177	P	P	18 00 11.7	-0.7
	1.2nm,0.8s,baz=328,slow=6.7,SNR=8.5						
MKAR	Makanchi Array	75.84	320	P	P	18 00 19.2	-0.5
	0.7nm,0.9s,baz=74,slow=9.0,SNR=4.4						
ILAR	Eielson Array	82.58	23	P	P	18 00 55.8	-0.3
	0.6nm,0.7s,baz=249,slow=5.0,SNR=6.3						
MAW	Mawson	85.15	203	LR	LR	18 38 35.2	
	comp=Z,48nm,18.5s,baz=120,slow=35						
NVAR	Mina Array Bea	95.01	52	P	P	18 01 57.7	+1.0
	0.3nm,0.5s,baz=296,slow=2.9,SNR=3.1						
LPAZ	La Paz	139.58	120	PKP	PKPdf	18 08 03.0	+0.1
	1.2nm,0.3s,baz=295,slow=3.8,SNR=4.8						
TORD	Torodi Ar. Bea	145.05	288	PKPbc	PKPbc	18 08 10.0	-1.3
	1.1nm,0.9s,baz=120,slow=2.9,SNR=4.8						

MAN 01 17:48:42, 18°.32N×120°.82E, h33km, mb4.3, ML3.2, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.19	272	⇓*iP*	Pb	17 48 50.1	+1.6
SIPP	Brgy, Tapao	0.52	221	⇑*iP*	Pn	17 48 55.2	+2.0
APYP	Conner	0.61	138	*eP*	Pb	17 48 55.7	+1.4
APYP				*eS*	Sb	17 49 00.8	-1.9
ABRA	Dolores	0.67	189	*eP*	Pb	17 48 56.0	+0.6
ABRA				*eS*	Sb	17 49 03.0	-1.5

WEL 01 17:49:07.2±0.1, 45°.44S×166°.66E, h17km, ML3.5/14, 3C-4D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.35	97	⇓P*	Pg	17 49 14.6	+0.1
DCZ				S*	Sg	17 49 19.3	-0.3
DCZ				AML	AML	17 49 19.6	
DCZ				AML	AML	17 49 19.6	
DCZ				AML	AML	17 49 19.9	
PYZ	Puysegur Point	0.73	179	⇑P*	Pb	17 49 20.5	-1.0
PYZ				S*	Sg	17 49 29.5	-1.7
WHZ	Wether Hill Ro	1.01	117	⇓P*	Pb	17 49 25.7	-0.6
WHZ				S*	Sb	17 49 39.5	+0.1
WHZ				AML	AML	17 49 42.7	
MLZ	Mavora Lakes	1.07	86	⇓P*	Pb	17 49 26.1	-1.3
MLZ				S*	Sb	17 49 39.8	-1.4
MLZ				AML	AML	17 49 39.8	
MSZ	Milford Sound	1.18	50	⇓PN	Pn	17 49 28.2	-0.7
MSZ				AML	AML	17 49 48.5	
MSZ				AML	AML	17 49 48.5	
MSZ				AML	AML	17 49 49.1	
MSZ				AML	AML	17 49 49.1	
APZ	The Paps	1.68	147	⇑PN	Pn	17 49 36.6	+0.8
APZ				SN	Sn	17 49 57.1	+0.1
WKZ	Wanaka	1.78	71	PN	Pn	17 49 38.2	+1.0
WKZ				AML	AML	17 50 07.0	
WKZ				AML	AML	17 50 08.5	
WKZ				AML	AML	17 50 08.5	
WKZ				AML	AML	17 50 10.4	
EAZ	Earnscleugh	1.88	85	⇑PN	Pn	17 49 39.7	+1.1
EAZ				SN	Sn	17 50 02.9	+0.9
EAZ				AML	AML	17 50 08.7	
EAZ				AML	AML	17 50 09.5	
EAZ				AML	AML	17 50 09.5	
JCZ	Jackson Bay	2.03	48	AML	AML	17 50 15.1	
JCZ				AML	AML	17 50 19.5	
SYZ	Scrubby Hill	2.05	123	PN	Pn	17 49 41.9	+1.0
TUZ	Tuapeka	2.15	105	AML	AML	17 50 18.0	
LBZ	Lake Benmore	2.72	68	PN	Pn	17 49 50.2	+0.1
ODZ	Otahua Downs	2.84	83	PN	Pn	17 49 51.7	-0.1

*ISCJB **01** 17:49:54.3±0.5, 40°.39N±0°.05×28°.27E±0°.03, h9km±7km, Error ellipse: s-maj=7.9km s-min=4.5km az=176.3*
*ISK **01** 17:49:54.0, 40°.39N×28°.26E, h5km, MD2.5*
*CSEM **01** 17:49:54.6±0.1, 40°.38N×28°.27E, h8km, MD2.5, Error ellipse: s-maj=2.3km s-min=1.6km az=172.0*
*DDA **01** 17:49:55.3, 40°.31N×28°.32E, h7km, MD2.7*
ISC 01 17:49:54.8±1.0, 40°.38N±0°.03×28°.27E±0°.02, h10km±10km, n26, σ0°.42/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	Karacabey (Bur	0.13	149	*e*PG	Pg	17 49 57.4	-0.5
KCTX	Karacabey (Bur	0.13	149	*e*Pg	Pg	17 49 57.4	-0.5
BNT	Bandirma	0.27	265	*e*PG	Pg	17 50 00.1	-0.1
BNT				*e*SG	Sg	17 50 04.6	+0.8
BNT	Bandirma	0.27	265	*e*Pg	Pg	17 50 00.1	-0.1
BNT				*e*Sg	Sg	17 50 04.6	+0.8
ARMT	Armutlu	0.49	68	*e*PG	Pg	17 50 04.3	0.0
ARMT				*e*SG	Sg	17 50 11.5	+0.7
ARMT	Armutlu	0.49	68	*e*Pg	Pg	17 50 04.3	0.0
ARMT				*e*Sg	Sg	17 50 11.5	+0.7
GONE	Gonen-Balikesi	0.56	233	*e*PG	Pg	17 50 05.3	-0.3
GONE	Gonen-Balikesi	0.56	233	*e*Pg	Pg	17 50 05.3	-0.3
GEMT	Gemlik	0.71	85	*e*PG	Pg	17 50 08.3	-0.1
GEMT	Gemlik	0.71	85	*e*Pg	Pg	17 50 08.3	-0.1
KRBG	Karabiga-Canak	0.74	271	*e*PG	Pg	17 50 08.6	-0.5
KRBG	Karabiga-Canak	0.74	271	*e*Pg	Pg	17 50 08.6	-0.5
DURS	Dursunbey	0.80	168	*i* P	Pg	17 50 10.3	+0.2
DURS				*i* S	Sg	17 50 19.9	-0.6
DURS	Dursunbey	0.80	168	*i* P	Pg	17 50 10.3	+0.2
DURS				*i* S	Sg	17 50 19.9	-0.6
BALY	Balya	0.81	218	*i* P	Pg	17 50 10.4	0.0
BALY				*i* S	Sg	17 50 21.2	+0.3
BALY	Balya	0.81	218	*i* P	Pg	17 50 10.4	0.0
BALY				*i* S	Sg	17 50 21.2	+0.3
MFT	Murefte	0.85	299	*e*PG	Pg	17 50 11.3	+0.1
MFT	Murefte	0.85	299	*e*Pg	Pg	17 50 11.3	+0.1
YLV	Yalova	0.86	77	*e*PG	Pg	17 50 11.3	-0.1
YLV	Yalova	0.86	77	*e*Pg	Pg	17 50 11.3	-0.1
CTKS	Kestanelik-??a	0.87	12	*e*PG	Pg	17 50 11.0	-0.6
CTKS	Kestanelik-??a	0.87	12	*e*Pg	Pg	17 50 11.0	-0.6
RKY	Sarkoy-Tekirda	0.89	291	*e*PG	Pg	17 50 11.2	-0.6
RKY				*e*SG	Sb	17 50 23.9	-0.2
RKY	Sarkoy-Tekirda	0.89	291	*e*Pg	Pg	17 50 11.2	-0.6
RKY				*e*Sg	Sb	17 50 23.9	-0.2
GELI	Tayfur-Gelibol	1.37	271	*e*PN	Pb	17 50 20.5	+0.1
GELI	Tayfur-Gelibol	1.37	271	*e*Pn	Pb	17 50 20.5	+0.1

WEL 01 17:53:51.5±0.1, 45°.78S×165°.88E, h33km, ML3.6/14, 3C-2D, Error ellipse: s-maj=1.4km s-min=0.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.68	125	⇑PN	Pn	17 54 04.3	-0.5
PYZ				*e*SN	Sb	17 54 13.8	-0.4
DCZ	Deep Cove	0.95	72	⇑PN	Pn	17 54 08.0	-0.4
DCZ				SN	Sn	17 54 20.2	-0.6
DCZ				AML	AML	17 54 25.8	
DCZ				AML	AML	17 54 25.9	
WHZ	Wether Hill Ro	1.45	95	PN	Pb	17 54 16.7	-1.1
WHZ				SN	Sn	17 54 34.5	+1.2
WHZ				AML	AML	17 54 42.9	
MLZ	Mavora Lakes	1.67	76	⇓PN	Pn	17 54 19.4	+1.0
MLZ				AML	AML	17 54 47.1	
MLZ				AML	AML	17 54 47.6	
APZ	The Paps	1.80	126	⇑PN	Pn	17 54 21.0	+0.7
APZ				SN	Sn	17 54 42.8	+0.8
MSZ	Milford Sound	1.82	53	AML	AML	17 55 00.7	
MSZ				AML	AML	17 55 07.7	
MSZ				AML	AML	17 55 08.3	
MSZ				AML	AML	17 55 08.3	
SYZ	Scrubby Hill	2.39	110	PN	Pn	17 54 29.5	+1.3
WKZ	Wanaka	2.41	68	PN	Pb	17 54 31.7	-2.5
WKZ				AML	AML	17 55 21.5	
EAZ	Earnscleugh	2.47	78	PN	Pn	17 54 31.6	+2.1
EAZ				AML	AML	17 55 03.7	
EAZ				AML	AML	17 55 09.1	
EAZ				AML	AML	17 55 09.1	
EAZ				AML	AML	17 55 17.8	
TUZ	Tuapeka	2.63	95	PN	Pn	17 54 33.2	+1.6
TUZ				AML	AML	17 55 10.2	
TUZ				AML	AML	17 55 12.0	
JCZ	Jackson Bay	2.67	51	PN	Pn	17 54 34.0	+1.8
JCZ				AML	AML	17 55 30.9	
JCZ				AML	AML	17 55 37.8	
LBZ	Lake Benmore	3.35	67	PN	Pn	17 54 42.9	+1.4
ODZ	Otahua Downs	3.44	79	⇓PN	Pn	17 54 43.2	+0.6

*NIED **01** 17:54:00, 38°.30N×138°.80E, h11km, Mw4.5 Best double couple: M0:5.48000×10^15 NP1:φs=29.00000°, δ=49.00000°, λ=82.00000°. NP2:φs=220.00000°, δ=42.00000°, λ=99.00000°.*
*IDC **01** 17:54:28.5±0.4, 38°.31N×138°.64E, h0km, mb4.6/29, mb1 4.8/31, mb1mx4.7/36, mbtmp4.6/31, ML4.0/3, MS3.5/8, Ms1 3.6/8, ms1mx3.3/32, Error ellipse: s-maj=12.7km s-min=10.1km az=120.0*
*ISCJB **01** 17:54:30.1±0.5, 38°.33N±0°.02×138°.69E±0°.02, h19km±3km, mb4.7/129, MS4.1/26, Error ellipse: s-maj=3.9km s-min=2.8km az=154.2*
*JMA **01** 17:54:31.3±0.1, 38°.31N×138°.77E, h26km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs=216.00000°, δ=59.00000°, λ=91.00000°. NP2:φs=34.00000°, δ=31.00000°, λ=88.00000°. Principal axes: T Plg76.0000°, Azm129.0000°; N Plg1.0000°, Azm35.0000°; P Plg14.0000°, Azm305.0000°;*
JMA Felt III J1.
*BJI **01** 17:54:32.9, 38°.30N×138°.60E, h20km, mB4.8/22, mb4.5/40, Ms4.2/35, Ms7 4.2/33*
*MOS **01** 17:54:32.0±0.9, 38°.33N×138°.66E, h33km, mb4.8/52, Error ellipse: s-maj=6.8km s-min=4.7km az=97.4*
*NEIC **01** 17:54:33.9±0.5, 38°.28N×138°.62E, h35km±4km, mb4.7/60, MW4.4(NIED), Error ellipse: s-maj=4.0km s-min=2.8km az=144.0*
NEIC Recorded [3 JMA] in Niigata and Yamagata; [2 JMA] in Fukushima; [1 JMA] in Akita, Gumma and Miyagi.
ISC 01 17:54:32.1±0.4, 38°.27N±0°.03×138°.78E±0°.03, h24km±2km, h24km:pP-P, n426, σ1°.21/499, mb4.7/129, MS4.2/26, 38C-12D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	Awa shima	0.41	63	⇑P	Pb	17 54 39.6	-1.3
JAW				S	Sb	17 54 45.6	-1.2
JSD	Sado	0.47	241	⇓P	Pb	17 54 41.3	-0.5
JSD				S	Sb	17 54 48.2	-0.2
JNS	Sasagawa	0.62	137	⇓P	Pb	17 54 43.2	-1.1
JNS				S	Sb	17 54 52.0	-0.6
JIZZ	Izumozaki	0.74	184	⇓P	Pb	17 54 45.9	-0.4
JIZZ				*e*S	Sn	17 54 57.3	-0.2
JYA	Atsumi	0.80	66	⇓P	Pb	17 54 46.2	-1.2
JYA				S	Sb	17 54 57.1	-0.7
JYS	Shiratake	1.01	92	⇓P	Pn	17 54 49.6	-1.2
JYS				S	Sb	17 55 03.3	-0.6
JHK	Hiroka	1.04	169	⇓P	Pn	17 54 50.1	-1.0
JHK				S	Sb	17 55 04.0	-0.6
JFY	Yanaizu	1.13	139	⇓P	Pn	17 54 51.5	-1.0
JFY				*e*S	Sn	17 55 05.8	-1.4
MAJO	Matsushiro	1.78	195	*c i*P	Pn	17 55 01.5	+0.1
MAJO	Matsushiro	1.78	195	*e*Pn	Pn	17 55 01.3	-0.1
MAT	Matsushiro	1.78	195	P	Pn	17 55 01.4	0.0
MAT				S	Sn	17 55 23.7	+0.4
ERM	Erimo	5.02	41	*c i*P	Pn	17 55 48.0	+2.1
ERM				pmax	pmax		
	comp=Z,75nm,1.1s						
ERM	Erimo	5.02	41	*e*Pn	Pn	17 55 47.6	+1.7
ASAJ	Asahikawa	6.51	25	Pn	Pn	17 56 07.8	+1.5
ASAJ	Asahikawa	6.51	25	Pn	Pn	17 56 07.8	+1.5
	comp=Z,2.2nm,0.3s,baz=233,slow=12,SNR=28						
ASAJ				LR	LR	17 58 51.7	
	comp=Z,572nm,18.3s,baz=55,slow=40						
VLA	Vladivostok	7.13	315	*e*P	Pn	17 56 13.5	-1.4
VLA				pmax	pmax		
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Arra	7.83	321	Pn	Pn	17 56 22.4	-1.9
	comp=Z,0.8nm,0.3s,baz=136,slow=14,SNR=8.5						
USRK				Sn	Sn	17 57 50.2	-1.9
	comp=Z,0.6nm,0.3s,baz=139,slow=27,SNR=4.3						
USRK				LR	LR	17 58 52.7	
	comp=Z,181nm,20.9s,baz=128,slow=34						
YUK	Yuzh-Kuril'sk	7.85	41	*d i*P	Pn	17 56 24.9	+0.2
YUK				*i* S	Sn	17 57 52.3	-0.5
YUK				pmax	pmax		
	comp=E,10.0nm,0.3s						
YUK				pmax	pmax		
	comp=Z,46nm,0.3s						
YUK				pmax	pmax		
	comp=N,7.0nm,0.3s						
YUK				MLR	MLR		
	comp=E,313nm,17.0s						
YUK				MLR	MLR		
	comp=Z,186nm,17.0s						
JNU	Nakatsue	8.22	234	Pn	Pn	17 56 32.1	+2.2
JNU	Nakatsue	8.22	234	Pn	Pn	17 56 32.1	+2.2
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=3.4						
KSRS	Korea Array	8.63	268	Pn	Pn	17 56 35.6	+0.2
	comp=Z,3.3nm,0.3s,baz=82,slow=14,SNR=201						
KSRS				Sn	Sn	17 58 14.4	+2.5
	comp=Z,2.2nm,0.3s,baz=79,slow=24,SNR=9.4						
KSRS				LR	LR	17 59 16.4	
	comp=Z,165nm,19.4s,baz=48,slow=34						
KSAR	Wonju Array Be	8.66	268	Pn	Pn	17 56 35.6	-0.2
KSAR				Sn	Sn	17 58 14.4	+1.7
YSS	Yuzh-Sakhalins	9.16	17	⇑*e*P	Pn	17 56 46.0	+3.4
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
MDJ	Mudanjiang	9.37	316	P	Pn	17 56 49.8	+4.3
MDJ				PcP	PcP	18 03 05.2	+1.5
MDJ				PcS	PcS	18 06 38.8	+1.9
MDJ				ScS	ScS	18 10 09.8	+1.4
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,55nm,4.0s						
MDJ				LR	LR		
	comp=N,420nm,17.7s						
MDJ				LR	LR		
	comp=E,450nm,12.9s						
MDJ				LR	LR		
	comp=Z,860nm,13.6s						
MDJ	Mudanjiang	9.37	316	Pn	Pn	17 56 45.4	-0.1
KUR	Kuril'sk	9.72	41	*d i*P	Pn	17 56 50.5	+0.2
KUR				S	Sn	17 58 38.9	+0.3
KUR				pmax	pmax		
	comp=Z,36nm,1.0s						
KUR				pmax	pmax		
	comp=N,5.0nm,0.5s						
KUR				pmax	pmax		
	comp=E,7.0nm,1.0s						
KUR				smax	smax		
	comp=E,5μm,3.6s						
KUR				MLR	MLR		
	comp=N,157nm,16.0s						
KUR				MLR	MLR		
	comp=Z,424nm,16.0s						
KUR				MLR	MLR		
	comp=E,315nm,12.0s						
HABR	Khabarovsk	10.55	346	*de*P	Pn	17 57 06.5	+4.8
HABR				*e*		17 59 04.2	
HABR				pmax	pmax		
	comp=Z,44nm,1.6s						
HABR				MLR	MLR		
	comp=N,395nm,14.0s						
HABR				MLR	MLR		
	comp=E,326nm,13.0s						
HABR				MLR	MLR		
	comp=Z,630nm,14.0s						
CN2	Changchun	11.48	303	*e*P	Pn	17 57 16.6	+2.2
CN2				*es*P		17 57 26.5	
CN2				*e*S	Sn	17 59 23.2	+1.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,13.0s						
CN2				LR	LR		
	comp=E,600nm,13.0s						
CN2				LR	LR		
	comp=Z,700nm,13.0s						
KLR	Kul'dur	12.07	337	*e*P	Pn	17 57 23.3	+0.8
KLR				pmax	pmax		
	comp=E,35nm,2.0s						
KLR				pmax	pmax		
	comp=Z,72nm,2.0s						
KLR				MLR	MLR		
	comp=Z,800nm,15.0s						
SNY	Shenyang	12.18	292	⇓P	Pn	17 57 28.3	+4.3
SNY				S	Sn	17 59 44.2	+5.3
SNY				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SNY				LR	LR		
	comp=N,240nm,9.6s						
SNY				LR	LR		
	comp=E,1μm,13.8s						
SNY				LR	LR		
	comp=Z,1μm,14.7s						
DL2	Dalian	13.44	278	P	P	17 57 49.0	-1.3
DL2				S	S	18 00 24.1	-8.9
DL2				pmax	pmax		
	comp=Z,69nm,0.7s						
DL2				LR	LR		
	comp=N,150nm,13.6s						
DL2				LR	LR		
	comp=E,220nm,12.3s						
DL2				LR	LR		
	comp=Z,280nm,10.8s						
NJ2	Nanjing	17.42	255	*e*P	Pn	17 58 32.4	-1.1
NJ2				pP	pP	17 58 42.2	+1.0
NJ2				S	Sn	18 01 43.9	-2.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,82nm,5.9s						
NJ2				LR	LR		
	comp=N,520nm,18.2s						
NJ2				LR	LR		
	comp=E,450nm,17.3s						
NJ2				LR	LR		
	comp=Z,630nm,21.1s						
SKR	Severo-Kuril's	17.47	39	*e*P	Pn	17 58 33.1	-0.8
SKR				pmax	pmax		
	comp=

comp=N,300nm,13.0s
BJI LR LR
comp=E,290nm,13.3s
BJT Baijiatuau 17.62 283 *e*Pn **P** **P** **17 58 37.6 +0.8**
PETK Petropavlovsk- 19.78 35 P **P** **17 59 00.1 -0.2**
PETK Petropavlovsk- 19.78 35 P **P** **17 59 00.1 -0.2**
PETK PcP **PcP** **18 03 17.6 -0.2**
PETK Petropavlovsk- 19.78 35 P **P** **17 59 00.1 -0.2**
comp=E,0.3nm,0.3s,baz=226,slow=7.3,SNR=5.5
PETK PcP **PcP** **18 03 17.6 -0.2**
comp=E,0.0nm,0.3s,baz=176,slow=4.3,SNR=4.2
PET Petropavlovsk 20.16 37 *e*P Pn 17 59 06.9 +0.4
PET pmax pmax
comp=Z,19nm,0.7s
PET pmax pmax
comp=Z,100nm,4.1s
PET MLR MLR
comp=Z,200nm,19.0s
PET MLR MLR
comp=Z,200nm,18.0s
HHC Hu-ho-hao-te 21.11 286 *e*P **P** **17 59 13.7 -1.3**
HHC pP **pP** **17 59 20.3 -1.5**
HHC sP **sP** **17 59 24.0 -0.9**
HHC PP **PnPn** **17 59 36.3 +2.0**
HHC S S 18 03 00.6 -8.2
HHC PcP **PcP** **18 03 21.1 +0.5**
HHC SS **SnSn** **18 03 35.6 +5.0**
HHC ScP **ScP** **18 06 55.4 -0.4**
HHC PcS **PcS** **18 06 57.9 -0.8**
HHC pmax pmax
comp=Z,38nm,0.6s
HHC pmax pmax
comp=Z,230nm,4.6s
HHC LR LR
comp=N,560nm,11.2s
HHC LR LR
comp=E,750nm,12.4s
HHC LR LR
comp=Z,660nm,11.2s
XAN Xi'an 24.42 269 P **P** **17 59 47.2 -1.6**
XAN pP **pP** **17 59 53.4 -2.7**
XAN sP **sP** **17 59 56.6 -2.5**
XAN PP **PnPn** **18 00 21.8 +2.1**
XAN S **S** **18 04 00.2 -7.1**
XAN LR LR
comp=N,180nm,12.0s
XAN LR LR
comp=E,69nm,12.2s
XAN LR LR
comp=Z,77nm,12.8s
YAK Yakutsk 24.44 350 *e*P **P** **17 59 46.4 -2.2**
YAK pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 24.93 303 *e*P **P** **17 59 52.7 -0.7**
comp=Z,12nm,1.0s
SONM Songino Array 25.36 303 P **P** **17 59 56.8 -0.5**
SONM PcP **PcP** **18 03 29.4 0.0**
SONM Songino Array 25.36 303 P **P** **17 59 56.8 -0.5**
comp=Z,9.1nm,0.9s,baz=102,slow=9.2,SNR=38
SONM PcP **PcP** **18 03 29.4 0.0**
comp=Z,0.9nm,0.7s,baz=161,slow=6.3,SNR=3.9
SONM LR LR 18 10 04.5
comp=Z,140nm,18.8s,baz=13,slow=37
ENH Enshi 25.41 261 *e*P **P** **17 59 56.6 -1.2**
comp=Z,8.1nm,0.8s
LZH Lanzhou 27.82 276 *e*P **P** **18 00 19.1 -0.6**
LZH pP **pP** **18 00 25.3 -1.6**
LZH sP **sP** **18 00 29.6 -0.3**
LZH PP **PnPn** **18 01 07.0 +0.8**
LZH *e*S S 18 04 53.3 -8.2
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.0s
LZH LR LR
comp=N,220nm,11.9s
LZH LR LR
comp=E,340nm,11.1s
LZH LR LR
comp=Z,490nm,12.4s
FX1 Attu Island--F 27.84 47 *e*P **P** **18 00 20.6 +1.2**
FX1 Attu Island--F 27.84 47 P **P** **18 00 20.7 +1.3**
comp=Z,3.1nm,0.5s,baz=8.6,slow=4.9,SNR=6.2
ZAK Zakamensk 27.86 307 *e*P **P** **18 00 18.3 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
GYA Guiyang 29.43 256 *e*P **P** **18 00 33.8 -0.2**
GYA pP **pP** **18 00 41.5 +0.3**
GYA PP **PnPn** **18 01 30.0 +1.8**
GYA PcP **PcP** **18 03 41.8 +2.3**
GYA S **S** **18 05 25.4 -1.3**
GYA ScP **ScP** **18 07 20.3 +0.7**
GYA ScS **ScS** **18 11 12.6 -1.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,430nm,15.7s
GYA LR LR
comp=E,340nm,16.3s
GYA LR LR
comp=Z,470nm,15.0s
CD2 Chengdu 29.62 266 *e*P **P** **18 00 37.5 +1.9**
CD2 pP **pP** **18 00 41.7 -1.1**
CD2 sP **sP** **18 00 44.8 -1.0**
CD2 PP **PnPn** **18 01 32.8 +2.1**
CD2 S **S** **18 05 30.7 +1.1**
CD2 SS **SnSn** **18 07 02.2 +3.4**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,50nm,5.2s
CD2 LR LR
comp=E,620nm,12.0s
CD2 LR LR
comp=Z,640nm,13.2s
GTA Gaotai 30.21 285 *e*P **P** **18 00 40.0 -0.8**
GTA pP **pP** **18 00 47.7 -0.4**
GTA sP **sP** **18 00 50.9 -0.2**
GTA PcP **PcP** **18 03 42.3 +1.0**
GTA S **S** **18 05 36.3 -2.6**
GTA sS **sS** **18 05 48.7 -2.2**
GTA ScP **ScP** **18 07 22.1 +0.1**
GTA PcS **PcS** **18 07 24.9 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA LR LR
comp=N,240nm,14.2s
GTA LR LR
comp=E,220nm,14.2s
GTA LR LR
comp=Z,250nm,14.2s
QIZ Qiongzhong 31.62 241 P **P** **18 00 53.8 +0.6**
QIZ S **S** **18 06 01.5 +0.6**
QIZ pmax pmax
comp=Z,8.0nm,1.7s
QIZ LR LR
comp=N,370nm,11.5s
QIZ LR LR
comp=E,150nm,13.1s
QIZ LR LR
comp=Z,520nm,14.1s
KMI Kunming 33.13 257 P **P** **18 01 08.3 +1.6**
KMI sP **sP** **18 01 17.4 +0.4**
KMI PP **PnPn** **18 02 16.9 +0.2**
KMI S **S** **18 06 23.4 -1.5**
KMI SS **SnSn** **18 08 22.9 -1.7**
KMI pmax pmax
comp=Z,5.0nm,0.9s
KMI LR LR
comp=N,320nm,11.0s
KMI LR LR
comp=E,280nm,11.7s
KMI LR LR
comp=Z,320nm,11.9s
TIXI Tiksi 33.84 354⇑ *i*P **P** **18 01 12.0 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
HVS Khovu-Aksy 33.98 307*c i*P **P** **18 01 12.4 -1.3**
HVS pmax pmax
comp=Z,20nm,1.1s
WMQ Urumqi 38.42 295 *e*P **P** **18 01 52.9 +1.2**
WMQ LR LR
comp=N,210nm,10.0s
WMQ LR LR
comp=E,110nm,12.5s
WMQ LR LR
comp=Z,110nm,16.0s
ZAA0 Zalesovo Array 39.53 311 *e*P **P** **18 01 59.0 -1.8**
ZALV Zalesovo Beam 39.53 311 *i*P **P** **18 01 59.5 -1.2**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 39.53 311 P **P** **18 01 59.6 -1.2**
ZALV PcP **PcP** **18 04 07.6 -0.3**
ZALV Zalesovo Beam 39.53 311 P **P** **18 01 59.6 -1.2**
comp=Z,5.2nm,0.8s,baz=90,slow=7.4,SNR=22
ZALV PcP **PcP** **18 04 07.6 -0.3**
comp=Z,5.7nm,0.7s,baz=98,slow=2.8,SNR=17
CMAR Chiang Mai Arr 39.84 252 P **P** **18 02 02.7 -1.1**
CMAR PcP **PcP** **18 04 10.6 +1.1**
CMAR Chiang Mai Arr 39.84 252 P **P** **18 02 02.7 -1.1**
comp=Z,1.0nm,0.6s,baz=47,slow=7.9,SNR=5.5
CMAR PcP **PcP** **18 04 10.6 +1.1**
comp=Z,2.0nm,0.7s,baz=356,slow=1.6,SNR=10
NVS Novosibirsk 40.47 313 *e*P P 18 02 03.1 -5.4
NVS *e* 18 04 07.5
SHL Shillong 41.36 266 *e*P **P** **18 02 16.5 0.0**
MK31 Makanchi Array 41.69 301 *e*P **P** **18 02 17.3 -1.4**
MK31 Makanchi Array 41.69 301 *e*P **P** **18 02 17.3 -1.4**
MKAR Makanchi Array 41.69 301 *i*P **P** **18 02 17.7 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 41.69 301 P **P** **18 02 17.8 -1.0**
MKAR PcP **PcP** **18 04 14.7 -0.4**
MKAR Makanchi Array 41.69 301 P **P** **18 02 17.8 -1.0**
comp=Z,1.3nm,0.7s,baz=87,slow=8.9,SNR=13
MKAR PcP **PcP** **18 04 14.7 -0.4**
comp=Z,1.6nm,0.8s,baz=73,slow=5.7,SNR=6.3
MKAR LR LR 18 19 51.7
comp=Z,40nm,19.6s,baz=173,slow=37
KURK Kurchatov 43.52 307 PcP **PcP** **18 04 20.6 -0.5**
KURBB Kurchatov Arra 43.59 307 PcP **PcP** **18 04 20.6 -0.7**
comp=Z,0.5nm,0.3s,baz=79,slow=4.3,SNR=4.2
KSM Kuching 44.97 222 *e*P **P** **18 02 45.9 +0.4**
comp=Z,16nm,0.8s
SVW2 Sparrevohn 45.83 38 *e*P **P** **18 02 53.4 +1.6**
comp=Z,14nm,0.7s
KAPI Kappang 46.55 207 *e*P **P** **18 02 57.4 -0.5**
comp=Z,4.3nm,1.1s
KAPI Kappang 46.55 207 P **P** **18 02 57.4 -0.5**
comp=Z,25nm,1.1s,baz=53,slow=7.0,SNR=5.5
TKM2 Tokmak 2 47.20 297 P **P** **18 03 02.7 -0.4**
TKM2 pmax pmax
comp=Z,1.0nm,0.6s
TKM2 Tokmak 2 47.20 297 *e*P **P** **18 03 02.1 -1.0**
comp=Z,3.5nm,0.8s
RSO Redoubt South 47.24 39 *e*P **P** **18 03 04.0 +0.9**
OHAK Old Harbor 47.28 43 *e*P **P** **18 03 03.1 -0.1**
comp=Z,15nm,0.9s
PPLA Purkeypile 47.37 36 *e*P **P** **18 03 05.5 +1.5**
comp=Z,14nm,0.7s
SPU Mount Spurr 47.53 38 *e*P **P** **18 03 06.1 +1.0**
VOSK Vostochnaya 47.90 311 P **P** **18 03 05.6 -2.5**
VOSK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 48.07 297 *e*P **P** **18 03 09.3 -0.4**
AAK pmax pmax
comp=Z,8.0nm,1.1s
COLD Coldfoot 48.10 30 *e*P **P** **18 03 10.3 +0.9**
comp=Z,20nm,1.3s
TRF Thorofare Moun 48.20 35 *e*P **P** **18 03 09.7 -0.7**
comp=Z,8.8nm,0.8s
BRVK Borovoye 48.25 311*ce*P **P** **18 03 10.2 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 48.25 311 *e*P **P** **18 03 09.6 -1.1**
comp=Z,3.3nm,0.6s
EKS2 Erkin-Say 48.56 297 P **P** **18 03 13.3 -0.2**
EKS2 Erkin-Say 48.56 297 P **P** **18 03 13.3 -0.2**
MCK McKinley 48.78 34 *e*P **P** **18 03 15.7 +1.0**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 48.78 34 *e*P **P** **18 03 15.7 +1.0**
comp=Z,13nm,0.8s
PMR Palmer 48.89 37 *e*P **P** **18 03 15.4 -0.2**
PMR Palmer 48.89 37 *e*P **P** **18 03 15.3 -0.2**
COLA College 49.16 33 *e*P **P** **18 03 17.7 +0.1**
COLA College 49.16 33 *e*P **P** **18 03 17.7 +0.1**
comp=Z,40nm,0.8s
SML Sawmill 49.25 37 *e*P **P** **18 03 18.9 +0.5**
SML pmax pmax
comp=Z,5.0nm,0.7s
SML Sawmill 49.25 37 *e*P **P** **18 03 18.9 +0.5**
comp=Z,4.8nm,0.7s
ILAR Eielson Array 49.58 33 P **P** **18 03 21.0 +0.2**
ILAR Eielson Array 49.58 33 P **P** **18 03 21.0 +0.2**
comp=Z,9.7nm,0.7s,baz=276,slow=6.5,SNR=102
BATI Baumata 50.25 200 P **P** **18 03 26.2 -0.2**
BATI Baumata 50.25 200 P **P** **18 03 26.2 -0.2**
comp=Z,38nm,0.6s,baz=69,slow=0.9,SNR=12
PAX Paxson 50.42 35 *e*P **P** **18 03 27.8 +0.5**
PAX *e* 18 04 46.0
PAX pmax pmax
comp=Z,7.0nm,1.2s
PAX Paxson 50.42 35 *e*P **P** **18 03 27.8 +0.5**
comp=Z,7.0nm,1.2s
PAX *e*PcP **PcP** **18 04 46.0 +0.6**
DIV Divide 50.56 37 *e*P **P** **18 03 29.8 +1.4**
comp=Z,19nm,0.8s
KK31 Karatay Array 50.70 298 *i*P **P** **18 03 29.1 -0.5**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 50.70 298 *e*P **P** **18 03 28.9 -0.7**
KKAR Karatay Array 50.70 298 *e*P **P** **18 03 28.9 -0.7**
BMRM Bremner River 51.15 38 *e*P **P** **18 03 33.7 +0.9**
comp=Z,21nm,1.0s
BMRM *e*PcP **PcP** **18 04 49.2 +1.2**
MENT Mentasta 51.21 35 *e*P **P** **18 03 34.4 +1.1**
EGAK Eagle 52.01 32 *e*P **P** **18 03 39.3 +0.2**
SVE Sverdlovsk 52.83 318⇑ *e*P **P** **18 03 46.0 +0.7**
SVE *e*S **S** **18 11 16.3 +4.1**
SVE pmax pmax
comp=Z,34nm,1.1s
SVE MLR MLR
comp=Z,264nm,15.0s
DAWY Dawson 52.90 33 *e*P **P** **18 03 46.4 +0.6**
ARU Arti 54.04 317*c i*P **P** **18 03 53.9 -0.3**
ARU 18 04 58.4
ARU 18 05 53.5
ARU S **S** **18 11 29.3 +0.6**
ARU SS **SKiKP** **18 14 59.7 -5.0**
ARU pmax pmax
comp=Z,40nm,1.7s
ARU MLR MLR
comp=Z,169nm,15.0s
INK Inuvik 54.24 27 P **P** **18 03 55.3 -0.1**
INK Inuvik 54.24 27 P **P** **18 03 55.3 -0.1**
comp=Z,11nm,0.8s,baz=291,slow=8.2,SNR=16
HYT Haines Junctio 54.56 37 *e*P **P** **18 03 59.9 +1.9**
KBL Kabul 55.03 289 *e*P **P** **18 04 01.2 -0.8**
KBL pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 55.03 289 *e*P **P** **18 04 01.2 -0.8**
comp=Z,8.6nm,1.0s
AB31 Akbulak array 55.54 309 P **P** **18 04 03.8 -1.4**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 55.54 309 *e*P **P** **18 04 04.7 -0.5**
AKTO Aktyubinsk 56.29 311 P **P** **18 04 09.9 -0.6**
AKTO pmax pmax
comp=Z,12nm,1.5s
FITZ Fitzroy Crossi 57.41 195 P **P** **18 04 19.4 +0.7**
FITZ Fitzroy Crossi 57.41 195 P **P** **18 04 19.4 +0.7**
comp=Z,9.3nm,0.8s,baz=11,slow=6.2,SNR=13
WRAB Tennant Creek 58.04 185 *e*P **P** **18 04 23.0 -0.2**
WRAB pmax pmax
comp=Z,30nm,1.1s
WRAB Tennant Creek 58.04 185 *e*P **P** **18 04 22.9 -0.2**
comp=Z,30nm,1.1s
WRA Warramunga Arr 58.05 185 P **P** **18 04 23.1 -0.2**
WRA PcP **PcP** **18 05 15.6 +0.7**
WRA Warramunga Arr 58.05 185 P **P** **18 04 23.1 -0.2**
comp=Z,20nm,0.9s,baz=2.0,slow=7.2,SNR=67
WRA PcP **PcP** **18 05 15.6 +0.7**
comp=Z,2.9nm,0.6s,baz=357,slow=4.2,SNR=5.1
DLBC Dease Lake 58.94 38 P **P** **18 04 29.0 -0.1**
DLBC Dease Lake 58.94 38 P **P** **18 04 29.0 -0.1**
comp=Z,5.0nm,0.8s,baz=323,slow=5.8,SNR=7.5
TMCR Tamitsa 60.65 330 *e*P **P** **18 04 40.3 -0.3**
TMCR pmax pmax
comp=Z,15nm,1.0s
APA Apatity 60.69 335⇑ *e*P **P** **18 04 40.6 -0.3**
APA MLR MLR
comp=Z,200nm,14.0s
KEV Kevo 61.54 338 *e*p P 18 04 59.2 +13
comp=Z,0.4nm,0.3s
MBWA Marble Bar 61.76 200 *e*P **P** **18 04 48.4 -0.2**
AS31 Alice Springs 61.78 185 *e*P **P** **18 04 48.8 0.0**
ASAR Alice Springs 61.78 185 P **P** **18 04 49.0 +0.2**
ASAR Alice Springs 61.78 185 P **P** **18 04 49.0 +0.2**
comp=Z,8.6nm,0.8s,baz=11,slow=6.7,SNR=54
ARCES ARCESS Array B 62.09 339 P **P** **18 04 49.6 -0.8**
ARCES ARCESS Array B 62.09 339 P **P** **18 04 49.6 -0.8**
comp=Z,2.9nm,0.9s,baz=59,slow=7.6,SNR=9.4
YKA Yellowknife Ar 63.78 30 P **P** **18 05 01.9 +0.2**
YKA Yellowknife Ar 63.78 30 P **P** **18 05 01.9 +0.2**
comp=Z,4.1nm,0.6s,baz=305,slow=6.6,SNR=32
JOF Joensuu 63.88 331 *e*P **P** **18 05 01.4 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 63.88 331 *e*p **P** **18 05 01.4 -0.9**
comp=Z,1.8nm,0.4s
EIDS Eidsvold 64.35 168 *e*P **P** **18 05 06.6 +0.9**
comp=Z,15nm,0.9s
DAG Danmarks Havn 64.35 354 *i*P **P** **18 05 05.1 -0.1**
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 64.35 354 *i*P **P** **18 05 05.1 -0.1**
comp=Z,3.5nm,1.0s
OBN Obninsk 65.85 322*c i*P **P** **18 05 15.0 -0.2**
OBN *e* 18 07 38.9
OBN pmax pmax
comp=Z,12nm,0.7s
OBN MLR MLR
comp=Z,100nm,14.0s
KAF Kangasniemi 66.24 332 *e*P **P** **18 05 15.9 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 66.24 332 *e*p **P** **18 05 15.9 -1.8**
comp=Z,1.6nm,0.4s
FIA1 FINESS Array S 66.73 331 *e*P **P** **18 05 20.3 -0.5**
FINES FINESS Array B 66.74 331 P **P** **18 05 20.8 -0.1**
FINES FINESS Array B 66.74 331 P **P** **18 05 20.8 -0.1**
comp=Z,11nm,0.7s,baz=62,slow=8.9,SNR=50
FINES LR LR 18 37 39.9
comp=Z,27nm,18.2s,baz=49,slow=39
NLWA Neilton Lookou 67.41 47 *e*P **P** **18 05 26.4 +0.9**
comp=Z,8.7nm,1.0s
DGRG David-gareji 68.19 306 P P 18 05 38.6 +8.1
VSU Vasula 68.32 328*c i*P **P** **18 05 30.7 -0.2**
TBLG Delisi 68.44 307 *e*P P 18 05 38.8 +6.8
TBLG Delisi 68.44 307 P P 18 05 38.8 +6.8
KBZ Khabaz 68.51 309 P **P** **18 05 31.5 -0.8**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 68.51 309 P **P** **18 05 31.5 -0.8**
KBZ Khabaz 68.51 309 P **P** **18 05 31.5 -0.8**
comp=Z,9.9nm,1.1s,baz=13,slow=3.6,SNR=9.5
KIV Kislovodsk 68.51 309*c i*P **P** **18 05 32.9 +0.4**
KIV *i* 18 05 41.3
ONI Oni 68.78 308 P **P** **18 05 34.6 +0.4**
FORT Forrest 69.42 190 *e*P **P** **18 05 38.4 +0.5**
SUMG Summit 69.43 359 *e*P **P** **18 05 38.1 0.0**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 69.43 359 *i*P **P** **18 05 38.6 +0.5**
comp=Z,9.9nm,0.8s
SUMG Summit 69.43 359 *e*P **P** **18 05 38.1 0.0**
comp=Z,12nm,0.8s
EDM Edmonton 69.66 38 *e*P **P** **18 05 38.1 -1.3**
EDM Edmonton 69.66 38 *e*P **P** **18 05 38.1 -1.3**
STKA Stephens Creek 69.84 177 *e*P **P** **18 05 40.8 +0.4**
comp=Z,1.4nm,0.8s
STKA Stephens Creek 69.84 177 P **P** **18 05 41.4 +0.9**
comp=Z,5.7nm,0.8s,baz=1.4,slow=8.8,SNR=9.9
NEW Newport 70.68 43 *e*P **P** **18 05 46.2 +0.5**
comp=Z,6.2nm,0.9s
NEW Newport 70.68 43 P **P** **18 05 46.2 +0.5**
comp=Z,4.0nm,0.8s,baz=320,slow=6.4,SNR=8.0
YBH Yreka Blue Hor 71.22 51 *e*P **P** **18 05 49.6 +0.4**
comp=Z,1.8nm,0.8s
YBH Yreka Blue Hor 71.22 51 P **P** **18 05 50.6 +1.4**
comp=Z,2.0nm,0.7s,baz=357,slow=5.7,SNR=8.2
B13A Whitefish 72.04 42 P **P** **18 05 55.6 +1.7**
baz=72,SNR=8.3
KIEV Kiev 72.04 321 *e*P **P** **18 05 52.6 -1.3**
KIEV Kiev 72.04 321 *e*P **P** **18 05 52.6 -1.3**
A14A Double T Ranch 72.22 41 P **P** **18 05 56.2 +1.1**
baz=72,SNR=5.3
NB2 NORSAR Subarra 72.22 336 P **P** **18 05 54.3 -0.5**
comp=Z,10nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 72.22 336 P **P** **18 05 54.6 -0.2**
NOA NORSAR Array B 72.22 336 P **P** **18 05 54.6 -0.2**
comp=Z,7.1nm,0.8s,baz=39,slow=6.0,SNR=28
NOA LR LR 18 40 22.3
comp=Z,106nm,18.1s,baz=25,slow=38
JTMT Jette 72.52 43 *e*P **P** **18 05 58.3 +1.4**
A15A Johnson Ranch, 72.57 41 P **P** **18 05 57.8 +0.6**
baz=72,SNR=7.5
BMO Blue Mountains 72.61 46 *e*P **P** **18 05 57.7 +0.2**
comp=Z,7.0nm,1.1s
B14A Marquette Ranc 72.67 42 P **P** **18 05 58.9 +1.0**
baz=72,SNR=6.1
SWMT Swartz Lake 72.82 43 *e*P **P** **18 05 59.1 +0.4**
SIM Simferopol' 72.97 314 *e*P **P** **18 05 59.1 -0.4**
SIM pmax pmax
comp=Z,12nm,0.9s
SIM MLR MLR
comp=Z,60nm,18.1s
B15A Bradely Ranch, 73.07 41 P **P** **18 06 01.0 +0.8**
baz=73,SNR=17
SLMT Seeley Lake 73.25 43 *e*P **P** **18 06 02.2 +0.8**
MSO Missoula 73.27 43 *e*P **P** **18 06 02.1 +0.7**
comp=Z,6.9nm,1.2s
MIB Mutribah 73.27 295 *e*P **P** **18 06 01.0 -0.5**
MIB AMb AMB 18 06 02.1
comp=Z,25nm,0.8s
KBD Kabd 73.38 294 *e*P **P** **18 06 01.8 -0.3**
KBD AMb AMB 18 06 02.3
comp=Z,16nm,0.7s
RDF Al-Radifah 73.62 294 *e*P **P** **18 06 03.4 -0.2**
RDF AMb AMB 18 06 04.5
comp=Z,56nm,1.2s
A17A Triple J Farms 73.63 40 P **P** **18 06 04.3 +0.9**
baz=73,SNR=7.6
NAY Al-Naaiem 73.66 294 *e*P **P** **18 06 03.1 -0.7**
NAY AMb AMB 18 06 04.0
comp=Z,13nm,0.7s
FFC Flin Flon 73.78 32 *i*P **P** **18 06 04.6 +0.5**
FFC Flin Flon 73.78 32 *e*P **P** **18 06 04.3 +0.3**
C16A Fuhringer Ranc 73.82 41 P **P** **18 06 05.7 +1.1**
baz=74,SNR=9.2
A18A Metzger Ranch, 74.08 40 P **P** **18 06 06.9 +0.9**
baz=74,SNR=5.3
MFID Camas Ranch 74.33 47 *e*P **P** **18 06 08.9 +1.2**
C17A Wharram Farm, 74.44 41 P **P** **18 06 08.8 +0.6**
baz=74,SNR=7.6
B18A Beardsley Farm 74.45 40 P **P** **18 06 09.5 +1.2**
baz=74,SNR=5.1
PAHR Pah Rah Range 74.46 52 *e*P **P** **18 06 09.8 +1.3**
comp=Z,6.5nm,0.8s
HRY Holter Researc 74.47 42 *e*P **P** **18 06 09.7 +1.2**
KIS Kishinev 74.59 318 ⇑P **PcP** **18 06 23.7 +0.5**
KIS Kishinev 74.59 318 ⇑*i*P **PcP** **18 06 23.6 +0.4**
A19A Klindworth Far 74.62 39 P **P** **18 06 10.1 +0.8**
baz=74,SNR=10.0
EGMT Eagleton 74.70 40 *e*P **P** **18 06 10.2 +0.5**
comp=Z,21nm,0.8s
EGMT Eagleton 74.70 40 P **P** **18 06 10.8 +1.1**
baz=74,SNR=11
LRM Limekiln Ridge 74.70 43 *e*P **P** **18 06 10.5 +0.6**
D17A Six Diamond Ra 74.79 41 P **P** **18 06 11.3 +1.0**
baz=75,SNR=5.9
B19A Brinkman Farms 74.83 40 P **P** **18 06 11.2 +0.8**
baz=75,SNR=9.5
CMB Columbia Colle 74.83 53 *e*P **P** **18 06 11.2 +0.6**
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 74.83 53 *e*P **P** **18 06 11.2 +0.6**
comp=Z,5.9nm,0.8s
DLMT Dillon 74.92 44 *e*P **P** **18 06 12.1 +1.0**
comp=Z,18nm,1.0s
HLID Hailey 75.04 46 *e*P **P** **18 06 12.5 +0.6**
comp=Z,5.4nm,1.3s
HLID Hailey 75.04 46 P **P** **18 06 13.1 +1.3**

baz=75,SNR=7.5
MCMT McKenzie Canyo 75.12 44 P **P 18 06 13.0 +0.6**
LVV L'vov 75.14 323 *e*P **P 18 06 11.4 -0.7**
LVV MLR MLR
comp=Z,100nm,16.0s
E17A Martinsdale 75.14 42 P **P 18 06 14.0 +1.6**
baz=75,SNR=14
WAKR Walker 75.15 53 *e*P **P 18 06 13.4 +0.8**
C19A Slack Wire Ran 75.25 40 P **P 18 06 14.0 +1.1**
baz=75,SNR=17
BOZ Bozeman (W) 75.26 43 *e*P **P 18 06 13.7 +0.7**
BOZ pmax pmax
comp=Z,12nm,1.1s
BOZ Bozeman (W) 75.26 43 *e*P **P 18 06 13.7 +0.7**
comp=Z,12nm,1.1s
I14A Mackay 75.35 45 P **P 18 06 15.2 +1.6**
baz=75,SNR=9.1
E18A Harlowton 75.57 42 P **P 18 06 16.1 +1.2**
baz=75,SNR=11
F17A Fitzpatrick Pl 75.61 42 P **P 18 06 16.1 +1.0**
baz=75,SNR=6.2
D19A Cripps Ranch, 75.72 41 P **P 18 06 16.6 +1.1**
baz=76,SNR=12
C20A Veseth Ranch, 75.80 40 P **P 18 06 16.9 +1.0**
baz=76,SNR=5.7
NVAR Mina Array Bea 75.90 52 P **P 18 06 18.2 +1.2**
NVAR Mina Array Bea 75.90 52 P **P 18 06 18.2 +1.2**
comp=Z,4.9nm,0.7s,baz=296,slow=5.4,SNR=38
A22A Carney Farms, 75.97 38 P **P 18 06 17.6 +0.7**
baz=76,SNR=5.3
BUR08 Bucovina Ar. S 76.03 320 *e*P **P 18 06 17.4 0.0**
FRB Frobisher Bay 76.03 12 P **P 18 06 17.5 +0.6**
FRB Frobisher Bay 76.03 12 P **P 18 06 17.5 +0.6**
comp=Z,6.9nm,0.7s,baz=345,slow=11,SNR=3.6
BURAR Bucovina Array 76.04 320 ⇑P **P 18 06 17.5 +0.1**
BURAR Bucovina Array 76.04 320 ⇑*i*P **P 18 06 17.5 +0.1**
TESR Tescani 76.04 319 ⇑*i*P **P 18 06 16.8 -0.5**
H16A Russell Place, 76.07 44 P **P 18 06 19.4 +1.5**
baz=76,SNR=5.9
F18A Big Timber 76.11 42 P **P 18 06 19.1 +1.2**
baz=76,SNR=21
D20A Manuel Ranch, 76.14 40 P **P 18 06 19.1 +1.2**
baz=76,SNR=8.2
C21A Desert Coulee 76.18 39 P **P 18 06 18.9 +0.7**
baz=76,SNR=5.1
E19A Rath Farm, Rou 76.23 41 P **P 18 06 19.4 +0.9**
baz=76,SNR=30
MTUM Tungsten Hills 76.40 53 *e*P **P 18 06 21.2 +1.4**
VRI Vrincioaia 76.42 318 ⇑P **P 18 06 19.8 +0.3**
VRI Vrincioaia 76.42 318 ⇑*i*P **P 18 06 19.8 +0.3**
BRTR Keskin Array B 76.46 310 P **P 18 06 20.4 +0.3**
BRTR Keskin Array B 76.46 310 P **P 18 06 20.4 +0.3**
comp=Z,4.9nm,0.9s,baz=88,slow=4.2,SNR=26
I16A Newdale 76.48 44 P **P 18 06 22.1 +2.0**
baz=76,SNR=14
E20A Meyer Farm, Mu 76.54 41 P **P 18 06 21.4 +1.1**
baz=76,SNR=8.2
F19A Roth Farm, Mol 76.55 42 P **P 18 06 21.3 +1.0**
baz=76,SNR=8.4
KOLS Kolonicke sedl 76.58 323 *e*P **P 18 06 20.5 +0.1**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 76.58 323 *e*P **P 18 06 20.5 +0.1**
STHS Stebnicka Huta 76.73 323 *e*P **P 18 06 21.9 +0.7**
STHS pmax pmax
comp=Z,8.0nm,1.5s
STHS Stebnicka Huta 76.73 323 *e*P **P 18 06 21.8 +0.6**
D21A La Casta Ranch 76.74 40 P **P 18 06 22.1 +0.8**
baz=76,SNR=6.7
IMW Indian Meadow 76.77 44 *e*P **P 18 06 23.3 +1.4**
comp=Z,11nm,1.3s
B23A Brockton 76.77 38 P **P 18 06 22.1 +0.7**
baz=77,SNR=9.4
FLWY Flagg Ranch 76.78 44 *e*P **P 18 06 24.7 +2.9**
UZH Uzhgorod 76.78 322 *e*P **P 18 06 22.1 +0.7**
UZH *e* 18 06 28.7
UZH *e* 18 06 35.1
UZH *e*S **S 18 16 01.7 -5.4**
OJC Ojcow 76.84 325 ⇑*i*P **P 18 06 22.0 +0.2**
OJC Ojcow 76.84 325 *e*P **P 18 06 21.8 0.0**
comp=Z,11nm,0.9s
RLMT Red Lodge 76.86 42 *e*P **P 18 06 23.2 +1.0**
comp=Z,7.2nm,0.8s
RRI2 Red Ridge 76.91 45 *e*P **P 18 06 23.8 +1.1**
comp=Z,8.3nm,0.9s
MOOW Moose Ponds 76.97 44 *e*P **P 18 06 24.1 +1.2**
comp=Z,7.9nm,1.1s
CRVS Cervenica-Dubn 76.99 323 *e*P **P 18 06 23.1 +0.4**
CRVS pmax pmax
comp=Z,17nm,2.2s
CRVS Cervenica-Dubn 76.99 323 *e*P **P 18 06 23.1 +0.4**
TRPA Tarpa 77.01 322 ⇓*i*P **P 18 06 23.3 +0.6**
ISR Istrita 77.02 318 ⇑P **P 18 06 23.8 +0.9**
ISR Istrita 77.02 318 ⇑*i*P **P 18 06 23.8 +0.9**
TPAW Teton Pass 77.02 44 *e*P **P 18 06 25.1 +1.8**
comp=Z,6.5nm,0.9s
MLR Muntele Rosu 77.08 318 ⇑*i*P **P 18 06 23.7 +0.3**
LOHW Long Hollow 77.14 44 *e*P **P 18 06 25.0 +1.2**
comp=Z,7.0nm,1.4s
DGMT Dagmar 77.15 37 *e*P **P 18 06 25.6 +2.0**
comp=Z,13nm,0.6s
REDW Red Top Meadow 77.16 45 *e*P **P 18 06 25.6 +1.6**
comp=Z,12nm,1.2s
NIE Niedzica 77.17 324 *e*P **P 18 06 26.3 +2.6**
GRAC Grapevine Rang 77.36 53 P **P 18 06 26.8 +1.8**
baz=77,SNR=5.8
BGU Big Grassy Mou 77.51 48 *e*P **P 18 06 27.3 +1.4**
VOIR 77.58 319 ⇑P **P 18 06 27.0 +0.9**
VOIR 77.58 319 ⇑*i*P **P 18 06 27.0 +0.9**
R11A Troy Canyon, C 77.62 51 P **P 18 06 27.8 +1.1**
baz=78,SNR=16
KECS Kecovo 77.75 323 *e*P **P 18 06 26.8 -0.1**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 77.75 323 *e*P **P 18 06 26.8 -0.1**
DRGR 77.85 321 ⇑P P 18 06 18.2 -9.4
DRGR 77.85 321 ⇑*i*P P 18 06 18.2 -9.4
OKC Ostrava-Krasne 77.86 325 *e*P **P 18 06 27.3 -0.1**
OKC *e* 18 06 35.2
OKC MLR MLR
comp=Z,100nm,17.6s
OKC Ostrava-Krasne 77.86 325⇑*e*P **P 18 06 27.3 -0.1**
OKC *e*pP **pP 18 06 35.2 -0.1**
OKC AMS AMS 18 44 20.0
comp=Z,100nm,17.6s
MPMC Manual Prospec 77.87 54 P **P 18 06 29.0 +1.0**
baz=78,SNR=7.9
HWUT Hardware Ranch 77.91 46 *e*P **P 18 06 28.8 +0.7**
comp=Z,16nm,1.3s
KSP Ksiaz 77.94 327 *e*P **P 18 06 28.2 +0.3**
KSP *e**PP **pP 18 06 34.1 -1.7**
FURC Furnace Creek, 78.01 53 P **P 18 06 29.7 +1.2**
baz=78,SNR=7.5
DUG Dugway 78.10 48 *e*P **P 18 06 29.4 +0.2**
DUG pmax pmax
comp=Z,11nm,1.4s
DUG Dugway 78.10 48 *e*P **P 18 06 29.4 +0.2**
comp=Z,11nm,1.4s
DUG Dugway 78.10 48 P **P 18 06 30.8 +1.6**
baz=78,SNR=5.8
MORC Moravsky Berou 78.17 326 *e*P **P 18 06 29.6 +0.3**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 78.17 326 *e*P **P 18 06 29.6 +0.3**
comp=Z,3.1nm,0.9s
J19A Crowheart 78.21 44 P **P 18 06 31.4 +1.5**
baz=78,SNR=17
I20A Worland 78.25 43 P **P 18 06 31.7 +1.8**
baz=78,SNR=7.4
RAYN Ar Rayn 78.26 291 *e*P **P 18 06 30.6 +0.4**
comp=Z,11nm,1.4s
BW06 Boulder Array 78.27 44 *e*P **P 18 06 30.5 +0.3**
comp=Z,7.3nm,0.9s
PDAR Pinedale Array 78.27 44 P **P 18 06 30.6 +0.4**
PDAR Pinedale Array 78.27 44 P **P 18 06 30.6 +0.4**
comp=Z,3.6nm,0.6s,baz=267,slow=0.8,SNR=43
EDW2 Edwards Air Fo 78.29 55 P **P 18 06 31.3 +1.1**
baz=78,SNR=6.8
DPC Dobruska-Polom 78.29 326 *e*P **P 18 06 30.0 +0.1**
DPC *e* 18 06 36.5
DPC *e* 18 06 41.4
DPC Dobruska-Polom 78.29 326 *e*P **P 18 06 30.0 +0.1**
DPC *e*PCP **pP 18 06 36.5 -1.3**
DPC *e*pP **PcP 18 06 41.4 +2.1**
PSZ Piszkesteto 78.42 323 ⇑P **P 18 06 31.3 +0.6**
PSZ Piszkesteto 78.42 323 ⇑*i*P **P 18 06 31.3 +0.6**
PSZ Piszkesteto 78.42 323 *e*P **P 18 06 31.3 +0.6**
F23A Volborg 78.46 40 P **P 18 06 31.7 +0.7**
baz=78,SNR=5.9
VYHS Vyhne 78.51 324 *e*P **P 18 06 31.6 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,1.7s
VYHS Vyhne 78.51 324 *e*P **P 18 06 31.6 +0.5**
L18A Fontenelle, Gr 78.56 45 P **P 18 06 33.2 +1.4**
baz=78,SNR=6.2
J20A Shoshoni 78.68 43 P **P 18 06 33.3 +1.0**
baz=78,SNR=6.9
GSC Goldstone 78.78 54 *e*P **P 18 06 33.4 +0.4**
GSC Goldstone 78.78 54 *e*P **P 18 06 33.4 +0.4**
I21A Big Trails, Te 78.79 42 P **P 18 06 34.0 +1.0**
baz=79,SNR=13
L19A Farson 78.82 45 P **P 18 06 34.4 +1.1**
baz=79,SNR=5.7
PVCC Panska Ves 78.91 327 *e*P **P 18 06 33.3 0.0**
PVCC Panska Ves 78.91 327⇑*e*P **P 18 06 33.3 0.0**
BRG Berggiesshubel 78.91 328 *e*P **P 18 06 33.3 +0.1**
comp=Z,2.3nm,0.7s
BRG *e* 18 06 41.8
comp=Z,5.8nm,1.3s
BRG
comp=N,124nm,13.6s
BRG
comp=E,82nm,15.8s
BRG
comp=Z,162nm,13.6s
BRG Berggiesshubel 78.91 328 *e*P **P 18 06 33.3 +0.1**
BRG *e* 18 06 41.8
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG MLR MLR
comp=E,124nm,15.8s
BRG MLR MLR
comp=Z,82nm,13.6s
CLL Collm 78.97 329 *e*P **P 18 06 33.0 -0.6**
CLL *i* 18 06 40.7
CLL *e* 18 06 43.0
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 78.97 329 *e*P **P 18 06 33.0 -0.6**
comp=Z,4.0nm,0.7s
CLL *i* PcP **pP 18 06 40.7 -0.7**
CLL *e*pP **PcP 18 06 43.0 +0.9**
PRU Pruhonice 79.32 327 *e*P **P 18 06 35.4 -0.1**
PRU *e* 18 06 43.4
PRU *e* 18 06 50.5
PRU MLR MLR
comp=Z,200nm,13.5s
PRU Pruhonice 79.32 327⇑*e*P **P 18 06 35.4 -0.1**
PRU *e*pP **pP 18 06 43.4 0.0**
PRU *e*sP **sP 18 06 50.5 +4.2**
PRU AMS AMS 18 46 10.0
comp=Z,200nm,13.5s
TREC Trest 79.43 326 ⇑AMS AMS 18 45 20.0
comp=Z,100nm,17.4s
CCUT Cedar City 79.48 50 *e*P **P 18 06 38.5 +1.5**
J22A Midwest 79.50 42 P **P 18 06 37.4 +0.6**
baz=79,SNR=9.5
MVU Marysvale 79.56 49 *e*P **P 18 06 38.3 +0.9**
comp=Z,16nm,1.8s
MSU Marysvale 79.57 49 *e*P **P 18 06 38.5 +1.1**
MSU Marysvale 79.57 49 *e*P **P 18 06 38.5 +1.1**
ULM Lac du Bonnet 79.60 32 P **P 18 06 37.1 +0.1**
ULM Lac du Bonnet 79.60 32 P **P 18 06 37.1 +0.1**
comp=Z,11nm,0.7s,baz=314,slow=5.5,SNR=7.2
K21A Alcova 79.61 43 P **P 18 06 38.2 +0.7**
baz=79,SNR=16
GMRC Granite Mounta 79.84 54 P **P 18 06 40.1 +1.3**
baz=80,SNR=5.5
L21A Rawlins 80.01 44 P **P 18 06 40.3 +0.6**
baz=80,SNR=9.8
NKC Novy Kostel 80.02 328 *e*P **P 18 06 39.5 +0.2**
NKC *e* 18 06 47.4
NKC Novy Kostel 80.02 328⇑*e*P **P 18 06 39.5 +0.2**
NKC *e*pP **pP 18 06 47.4 +0.2**
PFO Pinyon Flat Ob 80.07 55 P **P 18 06 40.7 +0.6**
PFO Pinyon Flat Ob 80.07 55 P **P 18 06 40.7 +0.6**
comp=Z,4.6nm,0.8s,baz=296,slow=4.1,SNR=7.3
BELC Belle Mtn. Jos 80.12 54 P **P 18 06 41.0 +0.7**
baz=80,SNR=6.7
SRU San Rafael 80.15 48 *e*P **P 18 06 41.1 +0.6**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael 80.15 48 *e*P **P 18 06 41.1 +0.6**
comp=Z,7.4nm,0.9s
M21A Separation Pea 80.25 44 P **P 18 06 41.6 +0.5**
baz=80,SNR=7.3
RSSD Black Hills 80.27 41 *e*P **P 18 06 41.2 +0.1**
RSSD pmax pmax
comp=Z,6.0nm,1.2s
RSSD Black Hills 80.27 41 *e*P **P 18 06 41.2 +0.1**
comp=Z,5.6nm,1.2s
N20A Spence Gulch, 80.28 45 P **P 18 06 42.5 +1.2**
baz=80,SNR=13
RWWY Rawlins 80.28 44 *e*P **P 18 06 41.1 -0.2**
comp=Z,14nm,1.1s
KHC Kasperske Hory 80.38 327 *e*P **P 18 06 41.2 -0.2**
KHC pmax pmax
comp=Z,12nm,1.5s
KHC Kasperske Hory 80.38 327⇑*e*P **P 18 06 41.5 +0.1**
KHC *e*PCP **PcP 18 06 47.4 -1.0**
KHC *e*pP **pP 18 06 52.2 +3.0**
KHC AMS AMS 18 46 20.0
comp=Z,200nm,15.9s
KHC Kasperske Hory 80.38 327 *e*P **P 18 06 41.2 -0.2**
comp=Z,12nm,1.5s
VTS Vitosha 80.50 318 ⇑P **P 18 06 42.9 +0.6**
VTS Vitosha 80.50 318 ⇑*i*P **P 18 06 42.9 +0.6**
GERES GERESS Array B 80.55 327 P **P 18 06 42.2 -0.1**
GERES GERESS Array B 80.55 327 P **P 18 06 42.2 -0.1**
comp=Z,0.8nm,0.5s,baz=34,slow=6.5,SNR=12
IRM Iron Mountain 80.56 54 P **P 18 06 43.6 +1.0**
baz=80,SNR=5.3
BC3 Big Chuckawall 80.69 54 P **P 18 06 44.2 +0.9**
baz=81,SNR=5.2
P19A Cripple Cowboy 80.69 46 P **P 18 06 44.4 +0.9**
baz=80,SNR=6.0
N21A Black Mountain 80.75 45 P **P 18 06 44.9 +1.1**
baz=81,SNR=6.6
L23A Garrett 80.81 43 P **P 18 06 44.1 +0.1**
baz=81,SNR=5.9
U15A North Rim 80.87 51 P **P 18 06 46.0 +1.5**
baz=81,SNR=10
GRF Grafenberg Arr 80.94 329 *e*P **P 18 06 44.7 +0.4**
comp=Z,13nm,1.1s
GRF Grafenberg Arr 80.94 329 *e*P **P 18 06 44.7 +0.4**
GRF pmax pmax
comp=Z,13nm,1.1s
N23A Red Feather La 81.52 44 P **P 18 06 49.4 +1.5**
baz=81,SNR=6.4
Q20A Ridgley Place, 81.54 47 P **P 18 06 48.2 +0.4**
baz=81,SNR=7.3
PV04 Paradox Valley 81.57 47 *e*P **P 18 06 50.0 +2.0**
P21A Newcastle 81.63 46 P **P 18 06 50.2 +1.8**
baz=82,SNR=6.3
O22A Kremmling 81.70 45 P **P 18 06 49.6 +0.8**
baz=82,SNR=12
PV01 Paradox Valley 81.94 47 *e*P **P 18 06 50.2 +0.1**
comp=Z,552nm,1.1s
R20A Redvale 82.01 47 P **P 18 06 51.7 +1.2**
baz=82,SNR=6.6
WUAZ Wupatki 82.03 51 *e*P **P 18 06 51.3 +0.8**
comp=Z,6.2nm,0.9s
WUAZ Wupatki 82.03 51 P **P 18 06 52.2 +1.7**
baz=82,SNR=6.2
SMCO Snowmass 82.14 46 *e*P **P 18 06 51.4 +0.1**
comp=Z,5.3nm,0.9s
R21A Cimarron 82.36 47 P **P 18 06 53.7 +1.3**
baz=82,SNR=5.5
ISCO Idaho Springs 82.46 44 *e*P **P 18 06 53.6 +0.7**
ISCO Idaho Springs 82.46 44 *e*P **P 18 06 53.6 +0.7**
STU Stuttgart 82.49 329 P **P 18 06 52.6 +0.1**
STU Stuttgart 82.49 329 P **P 18 06 52.6 +0.1**
S21A Coal Bank Pass 82.71 47 P **P 18 06 55.6 +1.4**
baz=82,SNR=11
S22A 4UR Ranch, Cre 83.20 47 P **P 18 06 58.1 +1.3**
baz=83,SNR=7.4
R23A Moffat 83.47 46 P **P 18 06 59.8 +1.7**
baz=83,SNR=7.1
CDF Champ du Feu 83.54 330 *e*P **P 18 06 57.5 -0.5**
comp=Z,29nm,1.4s
U21A Nageezi 83.63 48 P **P 18 07 00.1 +1.2**
baz=84,SNR=7.2
T22A Edith 83.67 47 P **P 18 07 00.9 +1.8**
baz=84,SNR=6.2
R24A Sanders Place, 83.84 45 P **P 18 07 01.9 +2.0**
baz=84,SNR=6.1
SDCO Great Sand Dun 83.96 46 *e*P **P 18 07 01.2 +0.6**
comp=Z,2.7nm,0.8s
PAGF Fort de Pagny 84.03 331 *e*P **P 18 07 00.1 -0.3**
HINF Hinteralfeld 84.19 330 *e*P **P 18 07 00.3 -1.0**
comp=Z,12nm,1.1s
ECSD EROS Data Cent 84.21 37 *e*P **P 18 07 01.0 -0.4**
comp=Z,3.8nm,0.7s
HAU Haudompre 84.24 330 *e*P **P 18 07 00.6 -0.9**
HAU *e*R
comp=Z,69nm,17.5s
V22A San Miguel Ran 84.42 48 P **P 18 07 04.5 +1.6**
baz=84,SNR=5.7
TUC Tucson 84.53 53 *e*P **P 18 07 03.6 +0.2**
TUC pmax pmax
comp=Z,11nm,1.4s
TUC Tucson 84.53 53 *e*P **P 18 07 03.6 +0.2**
comp=Z,11nm,1.4s
U23A El Rito 84.55 47 P **P 18 07 05.2 +1.6**
baz=84,SNR=13
SFTF Sexfontaines 84.58 331 *e*P **P 18 07 02.6 -0.6**
comp=Z,46nm,1.1s
SCHQ Schefferville 84.70 15 LR LR 18 49 31.8
comp=Z,43nm,18.7s,baz=343,slow=39
X21A Alamocita Cree 84.92 50 P **P 18 07 07.0 +1.6**
baz=85,SNR=8.0
Y20A Horse Springs, 84.93 50 P **P 18 07 07.2 +1.6**
baz=85,SNR=9.7
V23A Ortiz Mt. (NFS 84.97 48 P **P 18 07 08.2 +2.5**
baz=85,SNR=6.1
T25A Trinidad 85.00 46 P **P 18 07 07.0 +1.1**
baz=85,SNR=6.2
Z20A Nine Sixteen R 85.34 51 P **P 18 07 08.9 +1.4**
baz=85,SNR=9.3
ANMO Albuquerque 85.36 48 *e*P **P 18 07 08.6 +1.0**
comp=Z,6.9nm,1.1s
V24A Rampart Ranch, 85.51 47 P **P 18 07 10.3 +1.9**
baz=85,SNR=6.2
W24A Lazy 6 Ranch, 85.79 48 P **P 18 07 11.7 +1.9**
baz=86,SNR=11
LOR Lormes 85.81 331 *e*P **P 18 07 08.4 -1.0**
LOR *e*R
comp=Z,60nm,18.0s
V25A Rancho No Teng 85.81 47 P **P 18 07 11.5 +1.6**
baz=86,SNR=6.4
BNM Barren Site 85.81 49 *e*P **P 18 07 10.7 +0.8**
comp=Z,2.1nm,0.8s
LPL La Plagne 86.10 328 *e*P **P 18 07 10.5 -0.7**
LPG La Plagne 86.11 328 *e*P **P 18 07 10.4 -0.9**
SSF Saint Saulge 86.11 331 *e*P **P 18 07 09.9 -1.0**
comp=Z,15nm,1.1s
SMF Signal de Mont 86.33 331 *e*P **P 18 07 11.0 -1.0**
comp=Z,16nm,1.2s
W25A X Bar L Ranch, 86.33 47 P **P 18 07 13.7 +1.3**
baz=86,SNR=7.1
AVF Avril sur Loir 86.39 331 *e*P **P 18 07 11.4 -0.9**
comp=Z,23nm,1.0s
GRR Gorron 86.56 334 *e*P **P 18 07 12.4 -0.6**
comp=Z,30nm,1.1s
MFF Saint Martin d 87.84 333 *e*P **P 18 07 18.8 -0.5**
TXAR Lajitas Array 90.99 51 P **P 18 07 35.4 +0.9**
TXAR Lajitas Array 90.99 51 P **P 18 07 35.4 +0.9**
comp=Z,2.2nm,0.6s,baz=290,slow=3.0,SNR=36
TORD Torodi Ar. Bea 114.97 313 PKP PKPdf 18 13 09.8 -1.7
TORD Torodi Ar. Bea 114.97 313 PKP PKPdf 18 13 09.8 -1.7
comp=Z,0.3nm,0.6s,baz=26,slow=1.9,SNR=4.5
BOSA Boshof 124.75 259 PKP **PKPdf 18 13 29.6 -0.4**
BOSA Boshof 124.75 259 PKP **PKPdf 18 13 29.6 -0.4**
comp=Z,2.7nm,0.9s,baz=329,slow=2.3,SNR=4.4
SAML Samuel 144.74 40 *e*PKPdf **PKPab 18 14 06.0 -0.1**
LPAZ La Paz 147.78 55 *e*PKPdf **PKPdf 18 14 14.3 +1.1**
LPAZ PKPbc **PKPbc 18 14 16.6 +0.6**
LPAZ *e*PKPbc **PKiKP 18 14 16.7 -1.3**
LPAZ La Paz 147.78 55 PKPbc **PKPbc 18 14 16.6 +0.6**
comp=Z,9.0nm,0.7s,baz=324,slow=2.3,SNR=36

ISCJB ***01*** *17:59:47.3±0.2,40°.16N±0°.03×141°.03E±0°.04, h109km±2km, mb4.1/45, Error ellipse: s-maj=5.6km s-min=3.9km az=27.4*
BJI ***01*** *17:59:48.2,40°.30N×140°.80E, h89km, mB4.8/6, mb4.6/16, Ms4.1/4, Ms7 4.0/4*
NEIC ***01*** *17:59:48.5±0.3,40°.21N×140°.90E, mb4.3/9, Error ellipse: s-maj=9.5km s-min=4.9km az=143.0*
JMA ***01*** *17:59:48.5±0.1,40°.14N×141°.06E, h103km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=130.00000°, δ77.00000°, λ41.00000°. NP2:φs=29.00000°, δ51.00000°, λ164.00000°. Principal axes: T Plg37.0000°, Azm358.0000°; N Plg48.0000°, Azm144.0000°; P Plg17.0000°, Azm254.0000°;*
JMA Felt II J1.
MOS ***01*** *17:59:48.1±0.8,40°.35N×140°.91E, h108km, mb4.3/26 Error ellipse: s-maj=9.7km s-min=6.4km az=79.3*
IDC ***01*** *17:59:49.2±2.1,40°.15N×140°.92E, h111km±18km, mb3.8/22, mb1 4.0/26, mb1mx3.9/32, mbtmp3.8/26, Error ellipse: s-maj=15.0km s-min=11.4km az=151.0*
NIED ***01*** *18:00:00,40°.20N×141°.10E, h104km, Mw4.2 Best double couple: M0=2.37000×10^15 NP1:φs=138.00000°, δ75.00000°, λ44.00000°. NP2:φs=33.00000°, δ48.00000°, λ159.00000°.*

ISC 01 17:59:47.4±0.5, 40°.16N±0°.03×141°.10E±0°.04, h98km±3km, h97km:pP-P, n123, σ1$41/153, mb4.2/45, 14C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKZ	**Kuzumaki**	**0.25**	**134**	⇑P	**Pn**	**18 00 03.4**	**+1.8**
JKZ				S	**Sn**	**18 00 14.4**	**+2.3**
JAH	**Hinai**	**0.35**	**275**	⇑P	**Pn**	**18 00 03.5**	**+1.5**
JAH				S	**Sn**	**18 00 14.7**	**+1.8**
JANG	**Nango**	**0.38**	**56**	⇓P	**Pn**	**18 00 04.0**	**+1.8**
JANG				S	**Sn**	**18 00 15.9**	**+2.7**
JTM	**Tenmabayashi**	**0.63**	**358**	⇓P	**Pn**	**18 00 05.7**	**+1.8**
JTM				S	**Sn**	**18 00 18.4**	**+2.1**
JOM	**Ohasama**	**0.70**	**168**	⇑P	**Pn**	**18 00 05.8**	**+1.2**
JOM				S	**Sn**	**18 00 19.2**	**+1.7**
JRG	**Rokugo**	**0.84**	**205**	⇑P	**Pn**	**18 00 07.4**	**+1.4**
JRG				*e*S	**Sn**	**18 00 21.8**	**+1.9**
JIW	**Iwasaki**	**0.94**	**298**	⇓P	**Pn**	**18 00 08.4**	**+1.4**
JIW				S	**Sn**	**18 00 23.8**	**+2.1**
JMK	**Ichinoseki**	**1.21**	**175**	⇑P	**Pn**	**18 00 11.1**	**+1.1**
JMK				S	**Sn**	**18 00 28.1**	**+1.0**
JOT	**Ohata**	**1.22**	**358**	⇑P	**Pn**	**18 00 12.0**	**+1.9**
JOT				S	**Sn**	**18 00 29.6**	**+2.3**
JYK	**Kaneyama**	**1.37**	**205**	⇑P	**Pn**	**18 00 12.8**	**+0.9**
JYK				*e*S	**Sn**	**18 00 30.6**	**+0.2**
JKB	**Kayabe**	**1.73**	**358**	⇑P	**Pn**	**18 00 18.3**	**+2.0**
JKB				S	**Sn**	**18 00 40.4**	**+2.1**
ERM	**Erimo**	**2.42**	**39**	*c i*P	**Pn**	**18 00 26.5**	**+1.2**
ERM	**Erimo**	**2.42**	**39**	*e*Pn	**Pn**	**18 00 27.1**	**+1.8**
ERM				*e*Sn	**Sn**	**18 00 53.5**	**-0.9**
ASAJ	**Asahikawa**	**4.11**	**15**	*e*Pn	**Pn**	**18 00 48.5**	**+0.6**
ASAJ	**Asahikawa**	**4.11**	**15**	P	**Pn**	**18 00 48.9**	**+0.9**
9.1nm,0.3s,baz=221,slow=15,SNR=70							
MAJO	**Matsushiro**	**4.27**	**213**	⇑*i*P	**Pn**	**18 00 52.3**	**+2.1**
MAJO	**Matsushiro**	**4.27**	**213**	*e*Pn	**Pn**	**18 00 52.3**	**+2.1**
MAT	**Matsushiro**	**4.27**	**213**	P	**Pn**	**18 00 52.0**	**+1.8**
MAT				*e*S	**Sn**	**18 01 40.8**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**5.25**	**41**	*d i*P	**Pn**	**18 01 03.8**	**+0.4**
YUK				*i* S	**Sn**	**18 01 59.2**	**-3.3**
YUK				pmax	pmax		
comp=Z,113nm,0.5s							
YUK				pmax	pmax		
comp=N,23nm,0.2s							
YUK				pmax	pmax		
comp=E,27nm,0.2s							
YUK				smax	smax		
comp=N,606nm,0.5s							
YUK				smax	smax		
comp=E,211nm,0.4s							
YSS	**Yuzh-Sakhalins**	**6.90**	**10**	⇓*e*P	**Pn**	**18 01 27.0**	**+1.3**
YSS				*e*S	**Sn**	**18 02 45.0**	**+2.4**
YSS				pmax	pmax		
comp=N,30nm,0.9s							
YSS				pmax	pmax		
comp=Z,30nm,0.9s							
KUR	**Kuril'sk**	**7.11**	**42**	*e*P	**Pn**	**18 01 29.3**	**+0.7**
KUR				*e*S	**Sn**	**18 02 45.8**	**-2.0**

KUR				pmax	pmax		
	comp=Z,47nm,0.6s						
KUR				pmax	pmax		
	comp=N,16nm,0.6s						
KUR				pmax	pmax		
	comp=E,16nm,0.2s						
KUR				smax	smax		
	comp=N,59nm,0.4s						
KUR				smax	smax		
	comp=E,48nm,0.5s						
VLA	**Vladivostok**	**7.50**	**296** *c*	*i*P	**Pn**	**18 01 36.2**	**+2.2**
USRK	**Ussuriysk Arra**	**7.87**	**304**	P	**Pn**	**18 01 40.3**	**+1.3**
	comp=E,1.6nm,0.3s,baz=112,slow=14,SNR=27						
KSRS	**Korea Array**	**10.63**	**259**	P	**Pn**	**18 02 17.8**	**+1.2**
	comp=E,0.3nm,0.3s,baz=75,slow=13,SNR=19						
KSAR	**Wonju Array Be**	**10.66**	**259**	P	**Pn**	**18 02 17.8**	**+0.7**
JNU	**Nakatsue**	**10.80**	**233**	P	**Pn**	**18 02 19.4**	**+0.5**
JNU	**Nakatsue**	**10.80**	**233**	P	**Pn**	**18 02 19.4**	**+0.5**
	comp=E,0.5nm,0.3s,baz=82,slow=6.9,SNR=5.0						
CN2	**Changchun**	**12.20**	**292**	*e*P	**Pn**	**18 02 40.2**	**+2.5**
CN2				*e*S	**Sn**	**18 04 53.2**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,300nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
SKR	**Severo-Kuril's**	**14.87**	**40**	*e*P	**Pn**	**18 03 13.5**	**+1.2**
BJI	**Beijing**	**19.05**	**278**	P	**P**	**18 04 01.0**	**-0.8**
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC	**Hu-ho-hao-te**	**22.42**	**281**	*e*P	**P**	**18 04 35.3**	**-2.8**
HHC				pP	**pP**	**18 04 56.2**	**-1.0**
HHC				sP	**sP**	**18 05 07.3**	**-2.1**
HHC				S	S	18 08 27.7	-10
HHC				PcP	**PcP**	**18 08 30.6**	**+1.5**
HHC				ScP	**ScP**	**18 11 57.8**	**+0.2**
HHC				PcS	**PcS**	**18 12 07.9**	**0.0**
HHC				pmax	pmax		
	comp=Z,30nm,0.6s						
HHC				pmax	pmax		
	comp=Z,280nm,5.7s						
HHC				LR	LR		
	comp=N,180nm,12.0s						
HHC				LR	LR		
	comp=E,360nm,12.3s						
HHC				LR	LR		
	comp=Z,280nm,12.7s						
YAK	**Yakutsk**	**22.97**	**346**	*e*P	**P**	**18 04 40.3**	**-2.9**
YAK				*e**PP	**pP**	**18 04 59.6**	**-3.1**
YAK				*e*		18 08 30.4	
YAK				*e*S	**S**	**18 08 43.6**	**-2.1**
YAK				*e**SS	**sS**	**18 09 19.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				smax	smax		
	comp=N,20nm,1.4s						
YAK				smax	smax		
	comp=E,11nm,1.1s						
SONM	**Songino Array**	**25.95**	**299**	P	**P**	**18 05 09.3**	**-1.4**
SONM	**Songino Array**	**25.95**	**299**	P	**P**	**18 05 09.3**	**-1.4**
	comp=E,0.9nm,0.5s,baz=90,slow=8.1,SNR=7.0						
ENH	**Enshi**	**27.52**	**259**	*e*P	**P**	**18 05 22.9**	**-1.9**
	comp=E,4.0nm,0.7s						
ZAK	**Zakamensk**	**28.23**	**304**	*e*P	**P**	**18 05 30.8**	**-0.2**
ZAK				*e*		18 06 23.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
LZH	**Lanzhou**	**29.45**	**274**	*e*P	**P**	**18 05 42.8**	**+0.8**
LZH				pP	**pP**	**18 06 02.3**	**-1.6**
LZH				sP	**sP**	**18 06 12.0**	**-3.3**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GYA	**Guiyang**	**31.64**	**255**	*e*P	**P**	**18 06 02.3**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIXI	**Tiksi**	**32.16**	**353** ⇑	*i*P	**P**	**18 06 04.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
WMQ	**Urumqi**	**39.29**	**293**	*e*P	P	18 07 16.8	+10
ZALV	**Zalesovo Beam**	**39.68**	**310**	*i*P	**P**	**18 07 09.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**39.68**	**310**	P	**P**	**18 07 09.4**	**-0.2**
ZALV				PcP	**PcP**	**18 09 14.2**	**-0.1**
ZALV	**Zalesovo Beam**	**39.68**	**310**	P	**P**	**18 07 09.4**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=85,slow=7.6,SNR=11						
ZALV				PcP	**PcP**	**18 09 14.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=73,slow=2.2,SNR=3.6						
CHTO	**Chiang Mai**	**41.92**	**252**	*e*P	**P**	**18 07 28.3**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**41.92**	**252**	*e*P	**P**	**18 07 28.3**	**-0.1**
	comp=Z,4.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**42.15**	**252**	P	**P**	**18 07 30.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.15**	**252**	P	**P**	**18 07 30.1**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=43,slow=7.3,SNR=9.7						
MKAR	**Makanchi Array**	**42.31**	**299**	P	**P**	**18 07 31.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**42.31**	**299**	*e*P	**P**	**18 07 30.9**	**-0.4**
MKAR	**Makanchi Array**	**42.31**	**299**	P	**P**	**18 07 31.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=84,slow=11,SNR=19						
SVW2	**Sparrevohn**	**43.23**	**39**	*e*P	**P**	**18 07 40.7**	**+2.2**
	comp=Z,4.8nm,1.0s						
KURK	**Kurchatov**	**43.86**	**306**	P	**P**	**18 07 44.2**	**+0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK	**Kurchatov**	**43.86**	**306**	P	**P**	**18 07 44.2**	**+0.5**
KURBB	**Kurchatov Arra**	**43.94**	**305**	P	**P**	**18 07 44.2**	**-0.1**
	comp=Z,5.2nm,0.5s,baz=82,slow=8.5,SNR=24						
COLD	**Coldfoot**	**45.57**	**31**	*e*P	**P**	**18 07 58.6**	**+1.5**
	comp=Z,4.5nm,0.9s						
SML	**Sawmill**	**46.65**	**38**	*e*P	**P**	**18 08 06.8**	**+1.1**
SML				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SML	**Sawmill**	**46.65**	**38**	*e*P	**P**	**18 08 06.8**	**+1.1**
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**47.01**	**34**	P	**P**	**18 08 09.6**	**+1.2**
ILAR	**Eielson Array**	**47.01**	**34**	P	**P**	**18 08 09.6**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=272,slow=6.0,SNR=23						
BRVK	**Borovoye**	**48.38**	**310**	*i*P	**P**	**18 08 18.3**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**48.84**	**296**	*i*P	**P**	**18 08 20.5**	**-2.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
EGAK	**Eagle**	**49.45**	**33**	P	**P**	**18 08 27.6**	**+0.5**
	comp=Z,3.3nm,0.6s						
EGAK				*e*		18 08 37.7	
INK	**Inuvik**	**51.74**	**28**	P	**P**	**18 08 45.2**	**+1.0**
INK	**Inuvik**	**51.74**	**28**	P	**P**	**18 08 45.2**	**+1.0**
	comp=Z,5.2nm,0.7s,baz=293,slow=8.2,SNR=8.0						
HYT	**Haines Junctio**	**51.96**	**38**	*e*P	**P**	**18 08 49.2**	**+3.0**
SVE	**Sverdlovsk**	**52.67**	**317**	*e*P	**P**	**18 08 51.8**	**+0.5**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	**Arti**	**53.88**	**317** *d*	*i*P	**P**	**18 09 00.1**	**-0.1**
ARU						18 10 58.9	
ARU				S	**S**	**18 16 29.2**	**+1.6**
ARU				SS	**SKiKP**	**18 20 01.3**	**-1.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	**Akbulak array**	**55.77**	**308**	*e*P	**P**	**18 09 13.5**	**-0.4**
WRA	**Warramunga Arr**	**60.12**	**187**	P	**P**	**18 09 43.8**	**-0.7**
WRA				pP	**pP**	**18 10 09.0**	**+0.3**
WRA	**Warramunga Arr**	**60.12**	**187**	P	**P**	**18 09 43.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=4.8,slow=6.9,SNR=4.7						
WRA				pP	**pP**	**18 10 09.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=6.0,slow=7.0,SNR=6.7						
ARCES	**ARCESS Array B**	**60.99**	**339**	P	**P**	**18 09 49.2**	**-0.7**
ARCES	**ARCESS Array B**	**60.99**	**339**	P	**P**	**18 09 49.2**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=58,slow=9.2,SNR=4.6						
YKA	**Yellowknife Ar**	**61.24**	**31**	P	**P**	**18 09 52.5**	**+0.8**
YKA	**Yellowknife Ar**	**61.24**	**31**	P	**P**	**18 09 52.4**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=300,slow=6.7,SNR=13						
JOF	**Joensuu**	**63.10**	**331**	*e*P	**P**	**18 10 03.3**	**-0.8**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**63.10**	**331**	*e*p	**P**	**18 10 03.3**	**-0.8**
	comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**63.85**	**187**	P	**P**	**18 10 09.1**	**-0.4**
ASAR				pP	**pP**	**18 10 34.1**	**+0.2**
ASAR	**Alice Springs**	**63.85**	**187**	P	**P**	**18 10 09.1**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=359,slow=6.6,SNR=11						
ASAR				pP	**pP**	**18 10 34.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=9.6,slow=5.8,SNR=9.7						
KAF	**Kangasniemi**	**65.43**	**332**	*e*P	**P**	**18 10 18.4**	**-0.9**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**65.43**	**332**	*e*p	**P**	**18 10 18.4**	**-0.9**
	comp=Z,0.8nm,0.4s						
FINES	**FINESS Array B**	**65.94**	**332**	P	**P**	**18 10 22.1**	**-0.5**
FINES	**FINESS Array B**	**65.94**	**332**	P	**P**	**18 10 22.1**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=34,slow=10.0,SNR=20						
VSU	**Vasula**	**67.64**	**329** *c*	*i*P	P	18 10 29.7	-3.7
NEW	**Newport**	**68.08**	**45**	*e*P	**P**	**18 10 38.0**	**+1.6**
NEW	**Newport**	**68.08**	**45**	P	**P**	**18 10 37.5**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=338,slow=3.6,SNR=5.2						
YBH	**Yreka Blue Hor**	**68.65**	**53**	P	**P**	**18 10 42.0**	**+1.9**
YBH	**Yreka Blue Hor**	**68.65**	**53**	P	**P**	**18 10 42.0**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=353,slow=4.8,SNR=8.9						
KIV	**Kislovodsk**	**68.69**	**310**	*e*P	P	18 10 37.1	-3.3
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**68.70**	**310**	P	**P**	**18 10 40.2**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**68.70**	**310**	P	**P**	**18 10 40.1**	**-0.1**
KBZ	**Khabaz**	**68.70**	**310**	P	**P**	**18 10 40.1**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=357,slow=2.2,SNR=5.7						
NB2	**NORSAR Subarra**	**71.22**	**337**	P	**P**	**18 10 54.8**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.22**	**337**	P	**P**	**18 10 55.1**	**-0.3**
NOA	**NORSAR Array B**	**71.22**	**337**	P	**P**	**18 10 55.1**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=38,slow=6.1,SNR=8.8						
FFC	**Flin Flon**	**71.22**	**33**	*e*P	**P**	**18 10 56.2**	**+0.7**
FFC	**Flin Flon**	**71.22**	**33**	*e*P	**P**	**18 10 56.2**	**+0.7**
LRM	**Limekiln Ridge**	**72.10**	**45**	*e*P	**P**	**18 11 02.2**	**+1.0**
EGMT	**Eagleton**	**72.10**	**42**	*e*P	**P**	**18 11 02.4**	**+1.4**
	comp=Z,4.7nm,0.8s						
DLMT	**Dillon**	**72.31**	**45**	*e*P	**P**	**18 11 04.3**	**+1.8**
NVAR	**Mina Array Bea**	**73.33**	**54**	P	**P**	**18 11 10.5**	**+1.8**
NVAR	**Mina Array Bea**	**73.33**	**54**	P	**P**	**18 11 10.5**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=288,slow=6.5,SNR=10						
FRB	**Frobisher Bay**	**73.79**	**13**	P	**P**	**18 11 10.7**	**+0.1**
FRB	**Frobisher Bay**	**73.79**	**13**	P	**P**	**18 11 10.7**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=184,slow=18,SNR=3.7						
MOOW	**Moose Ponds**	**74.36**	**46**	*e*P	**P**	**18 11 17.0**	**+2.4**
DUG	**Dugway**	**75.51**	**49**	*e*P	**P**	**18 11 22.7**	**+1.5**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DUG	**Dugway**	**75.51**	**49**	*e*P	**P**	**18 11 22.6**	**+1.5**
	comp=Z,4.1nm,0.9s						
PDAR	**Pinedale Array**	**75.66**	**46**	P	**P**	**18 11 23.0**	**+0.9**
PDAR	**Pinedale Array**	**75.66**	**46**	P	**P**	**18 11 23.0**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=263,slow=0.9,SNR=29						
BRTR	**Keskin Array B**	**76.61**	**311**	P	**P**	**18 11 27.2**	**-0.3**
BRTR	**Keskin Array B**	**76.61**	**311**	P	**P**	**18 11 27.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=79,slow=3.1,SNR=3.7						
SRU	**San Rafael**	**77.55**	**49**	*e*P	**P**	**18 11 34.5**	**+1.7**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SRU	**San Rafael**	**77.55**	**49**	*e*P	**P**	**18 11 34.5**	**+1.7**
	comp=Z,3.7nm,0.9s						
CLL	**Collm**	**78.27**	**330**	*e*P	**P**	**18 11 36.0**	**-0.3**
CLL	**Collm**	**78.27**	**330**	*e*P	**P**	**18 11 36.0**	**-0.3**
GERES	**GERESS Array B**	**79.93**	**328**	P	**P**	**18 11 45.3**	**-0.2**
GERES	**GERESS Array B**	**79.93**	**328**	P	**P**	**18 11 45.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=58,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**88.41**	**52**	P	**P**	**18 12 29.8**	**+1.0**
TXAR	**Lajitas Array**	**88.41**	**52**	P	**P**	**18 12 29.8**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=301,slow=2.9,SNR=9.1						
MIR	**Mirnyy**	**112.57**	**199** ⇑	*i*PKIKP	**PKiKP**	**18 18 07.5**	**-3.5**
MIR				pmax	pmax		
	comp=Z,126nm,1.0s						
TORD	**Torodi Ar. Bea**	**114.94**	**316**	PKP	PKPdf	18 18 16.1	-1.2
TORD	**Torodi Ar. Bea**	**114.94**	**316**	PKP	PKPdf	18 18 16.1	-1.2
	comp=Z,0.2nm,0.6s,baz=34,slow=1.7,SNR=2.5						
LPAZ	**La Paz**	**145.22**	**55**	PKPbc	**PKPbc**	**18 19 14.4**	**-0.1**
LPAZ	**La Paz**	**145.22**	**55**	PKPbc	**PKPbc**	**18 19 14.4**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=354,slow=3.9,SNR=14						

*ISCJB **01** 18:07:46.5±0.4, 7°.53S±0°.07×119°.35E±0°.05, h300km, mb3.7/6, Error ellipse: s-maj=10.0km s-min=5.1km az=27.9*
*AUST **01** 18:07:46.9±0.0, 7°.56S×119°.37E, h276km, Error ellipse: s-maj=1.1km s-min=1.1km az=355.0*
*IDC **01** 18:07:46.3±2.8, 7°.69S×119°.16E, h278km±25km, mb3.4/6, mb1 3.4/10, mb1mx3.2/24, mbtmp3.3/10, Error ellipse: s-maj=78.7km s-min=10.7km az=60.0*

ISC 01 18:07:47.5±0.6, 7°.64S±0°.07×119°.34E±0°.06, h300km, n25, σ2°.31/30, mb3.8/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.23**	**155**	P	**Pn**	**18 08 34.2**	**-2.0**
	baz=2.3,SNR=23						
WSI				S	**S**	**18 09 10.2**	**-4.7**
	baz=2.3,SNR=5.1						
KAPI	**Kappang**	**2.64**	**9**	P	**Pn**	**18 08 37.9**	**-1.9**
	2.2nm,0.3s,baz=164,slow=6.0,SNR=11						
BATI	**Baumata**	**4.98**	**121**	P	**Pn**	**18 09 04.2**	**-0.6**
	18nm,0.3s,baz=316,slow=2.0,SNR=35						
BATI				S	**S**	**18 10 01.6**	**-5.4**
	35nm,0.3s,baz=316,slow=23,SNR=14						
SOEI	**Soe**	**5.31**	**114**	P	**Pn**	**18 09 07.5**	**-1.3**
	baz=5.3,SNR=24						
SOEI				S	S	18 10 00.6	-14
	baz=5.3,SNR=3.9						
UGM	**Wanagama**	**8.74**	**268**	P	**Pn**	**18 09 51.1**	**+0.9**
	baz=8.8,SNR=7.8						
UGM				S	**S**	**18 11 25.1**	**-4.8**
	baz=8.8,SNR=6.8						
FITZ	**Fitzroy Crossi**	**12.08**	**150**	P	**P**	**18 10 31.6**	**-0.8**
	0.2nm,0.3s,baz=322,slow=12,SNR=4.9						
FITZ				S	**S**	**18 12 46.2**	**+0.8**
	0.6nm,0.3s,baz=239,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**12.08**	**150**	P	**P**	**18 10 35.0**	**+2.6**
	baz=12,SNR=9.9						
KNRA	**Kununurra**	**12.21**	**132**	P	**Pn**	**18 10 31.8**	**-0.8**
	baz=12,SNR=7.3						
KNRA				S	**S**	**18 12 45.9**	**-2.5**
	baz=12,SNR=4.3						
MTN	**Manton Dam**	**12.71**	**115**	P	**P**	**18 10 38.9**	**-0.4**
	baz=13,SNR=23						
MTN				S	S	18 12 52.6	-7.1
	baz=13,SNR=6.3						
SWI	**Sorong**	**13.66**	**61**	P	**Pn**	**18 10 50.8**	**+0.7**
	baz=14,SNR=3.2						
FAKI	**Fak Fak**	**13.68**	**71**	P	**P**	**18 10 48.6**	**-1.6**
	baz=14,SNR=17						
KDU	**Kakadu**	**13.87**	**112**	P	**Pn**	**18 10 53.2**	**+0.6**
	baz=14,SNR=8.4						
KDU				S	**S**	**18 13 23.9**	**-1.4**
	baz=14,SNR=3.8						
PMBI	**Palembang**	**15.23**	**287**	S	**S**	**18 13 49.4**	**-3.7**
	baz=15,SNR=4.0						
MEEK	**Meekatharra**	**18.91**	**182**	P	**P**	**18 11 49.6**	**+2.7**
	baz=19,SNR=4.2						
MEEK				S	S	18 15 33.4	+28
	baz=19,SNR=6.8						
WRA	**Warramunga Arr**	**19.00**	**132**	P	**P**	**18 11 48.4**	**+0.4**
	0.4nm,0.3s,baz=305,slow=13,SNR=9.6						
WRA				S	S	18 15 24.2	+17
	0.4nm,0.3s,baz=301,slow=23,SNR=6.0						
BKNI	**Bangkinang**	**19.88**	**293**	P	P	18 12 05.8	+8.4
	baz=20,SNR=3.3						
ASAR	**Alice Springs**	**21.20**	**140**	P	**P**	**18 12 12.0**	**+1.6**
	0.3nm,0.3s,baz=315,slow=8.8,SNR=15						
MTSU	**Mount Surprise**	**26.46**	**116**	P	**P**	**18 12 58.9**	**+1.0**
	baz=26,SNR=4.9						
STKA	**Stephens Creek**	**31.81**	**142**	P	**P**	**18 13 46.2**	**+1.5**
	4.1nm,1.1s,baz=320,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**31.81**	**142**	P	**P**	**18 13 46.9**	**+2.1**
	baz=32,SNR=5.1						
SONM	**Songino Array**	**56.40**	**350**	P	**P**	**18 17 00.0**	**+1.7**
	0.8nm,0.5s,baz=167,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**63.40**	**332**	P	**P**	**18 17 47.0**	**+1.4**
	1.0nm,0.3s,baz=144,slow=5.0,SNR=26						
ZALV	**Zalesovo Beam**	**67.89**	**339**	P	**P**	**18 18 14.4**	**+0.5**
	1.6nm,0.3s,baz=137,slow=5.4,SNR=8.7						
KURBB	**Kurchatov Arra**	**67.90**	**333**	P	**P**	**18 18 13.8**	**-0.2**
	1.1nm,0.6s,baz=147,slow=5.5,SNR=14						
TORD	**Torodi Ar. Bea**	**118.54**	**281**	PKP	**PKPdf**	**18 26 01.7**	**+1.0**
	0.4nm,0.5s,baz=52,slow=2.1,SNR=4.9						

MEX 01 18:09:24.9±0.3, 17°.67N×100°.68W, h57km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.68**	**28**	*i*P	Pn	18 09 37.5	-1.3
ARIG				*i*S	Sn	18 09 46.9	-2.1
CAIG	**El Cayaco**	**0.74**	**147**	*i*P	Pn	18 09 37.9	-1.6
CAIG				*i*S	Sn	18 09 48.4	-1.7
ZIIG	**Zihuatanejo**	**0.75**	**265**	*i*P	Pn	18 09 38.1	-1.5
ZIIG				*i*S	Sn	18 09 48.6	-1.8

IGQ 01 18:41:57.2, 2°.38S×80°.89W, h10km±163km, Mb4.1, Ms3.9, 1D, Error ellipse: s-maj=23.1km s-min=4.7km az=21.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**1.33**	**7**	P	Pb	18 42 22.4	+0.1
CHIS	**Cerro-Chispas-**	**1.33**	**7**	S	Sb	18 42 39.2	-0.3
BMAS	**Trigal station**	**2.56**	**70**	P	Pn	18 42 41.2	+1.9
BULB	**Ulba Tungurahu**	**2.65**	**69**	P	Pn	18 42 41.8	+1.3
CAMI	**Rancho Maria**	**2.92**	**55**	P	Pn	18 42 46.8	+2.4
BNAS	**Cotopaxi Volca**	**2.94**	**55**	P	Pn	18 42 47.1	+2.4
BREF	**Cotopaxi Volca**	**2.98**	**55**	⇓P	Pb	18 42 48.8	-2.5
BTAM	**Cotopaxi Volca**	**3.01**	**56**	P	Pn	18 42 48.1	+2.4
TAMB	**Tambo**	**3.02**	**56**	P	Pn	18 42 48.4	+2.5
VC1	**Cotopaxi 1**	**3.02**	**55**	P	Pn	18 42 48.6	+2.7
PITA	**Cotopaxi Volc**	**3.05**	**54**	P	Pn	18 42 48.7	+2.6
JUA2	**San Juan 2**	**3.14**	**47**	P	Pn	18 42 49.6	+2.3
TERV	**Terraza Guagua**	**3.16**	**46**	P	Pn	18 42 49.9	+2.1
GGP	**Refugio Guagua**	**3.17**	**46**	P	Pn	18 42 49.2	+1.2
PINO	**Pino**	**3.17**	**46**	P	Pn	18 42 49.1	+1.1
ANTI	**Antisana**	**3.33**	**55**	P	Pn	18 42 53.1	+3.0
OTAV	**Otavalo**	**3.56**	**43**	P	Pn	18 42 54.0	+0.8
COTA	**Cotacachi**	**3.71**	**43**	P	Pn	18 42 56.8	+1.5

NDI 01 18:49:57.5±1.9, 22°.30N×79°.70E, h10km, ML3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBP	**Jabalpur**	**0.90**	**17**	*e*P	Pb	18 50 15.3	+0.1
JBP				*e*S	Sg	18 50 26.4	-0.2
JBP				AML	AML	18 50 34.2	
	comp=N,1μm,0.1s						
JBP				AML	AML	18 50 34.3	
	comp=E,939nm,0.1s						
NGP	**Nagpur**	**1.29**	**208**	*e*P	Pg	18 50 22.3	-0.1
NGP				*e*S	Sg	18 50 39.8	+0.5
NGP				AML	AML	18 50 43.4	
	comp=N,285nm,0.4s						
NGP				AML	AML	18 50 43.6	
	comp=E,244nm,0.2s						
VIS	**Vishakhapatnam**	**5.70**	**142**	*e*S	Sn	18 52 24.6	-3.0
AJM	**Ajmer**	**6.21**	**313**	*e*S	Sn	18 52 37.0	-3.4
AJM				*e*S	Sn	18 52 37.1	-3.2
AJM				AML	AML	18 52 40.5	
	comp=N,187nm,0.1s						
AJM				AML	AML	18 52 41.2	
	comp=E,287nm,0.4s						
POO	**Poona**	**6.64**	**237**	*e*S	Sn	18 52 45.9	-5.3

*NIED **01** 18:53:00, 38°.30N×138°.80E, h11km, Mw3.6 Best double couple: M0 3.00000×10^14 NP1:φs30.00000°, δ55.00000°, λ69.00000°. NP2:φs243.00000°, δ40.00000°, λ117.00000°.*
*IDC **01** 18:53:05.8±0.9, 38°.32N×138°.80E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=30.3km s-min=23.2km az=81.0*
*ISCJB **01** 18:53:08.5±0.6, 38°.33N±0°.04×138°.76E±0°.04, h31km±4km, mb3.7/6, Error ellipse: s-maj=6.7km s-min=5.1km az=143.7*
*JMA **01** 18:53:09.1, 38°.30N×138°.77E, h27km±1km, M3.9*
JMA Felt I J1.

ISC 01 18:53:09.2±1.1, 38°.28N±0°.05×138°.81E±0°.04, h24km±8km, n17, σ0°.69/26, mb3.8/6, 2C-6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.39**	**63**	⇑P	**Pb**	**18 53 17.5**	**0.0**
JAW				S	**Sb**	**18 53 23.4**	**+0.2**
JSD	**Sado**	**0.49**	**241**	⇓P	**Pb**	**18 53 19.1**	**-0.2**
JSD				S	**Sb**	**18 53 25.9**	**-0.2**
JNS	**Sasagawa**	**0.61**	**139**	⇓P	**Pb**	**18 53 21.0**	**-0.3**
JNS				S	**Sb**	**18 53 29.9**	**+0.4**
JIZZ	**Izumozaki**	**0.75**	**186**	⇓P	**Pb**	**18 53 23.7**	**+0.1**
JIZZ				S	**Sn**	**18 53 35.2**	**+0.3**
JYA	**Atsumi**	**0.78**	**66**	⇓P	**Pb**	**18 53 24.0**	**-0.1**
JYA				S	**Sb**	**18 53 35.0**	**+0.8**
JYS	**Shirataka**	**0.99**	**93**	⇓P	**Pn**	**18 53 27.3**	**-0.3**
JYS				S	**Sn**	**18 53 41.0**	**+0.1**
**

JAR	Ashorobuto	6.55	261	P	Pn	19 08 48.5 +0.9
JAR				eS	Sn	19 10 00.5 -0.9
JOB	Onbets	6.61	258	P	Pn	19 08 49.0 +0.5
JOB				eS	Sn	19 10 00.4 -2.6
JMP	Maruseppu	6.69	268	P	Pn	19 08 51.3 +1.6
JMP				eS	Sn	19 10 05.3 +0.2
JCH	Churui	7.04	256	P	Pn	19 08 55.1 +0.8
JCH				eS	Sn	19 10 10.1 -3.4
JKK2	Kamakawa 2	7.15	267	P	Pn	19 08 57.9 +2.0
JSE	Soyaes	7.17	276	P	Pn	19 08 58.0 +1.9
ASAJ	Asahikawa	7.22	269	P	Pn	19 08 59.3 +2.4
ASAJ	Asahikawa	7.22	269	Pn	Pn	19 08 58.4 +1.5
	comp=N,1.8nm,0.3s,baz=80,slow=17,SNR=30					
YSS	Yuzh-Sakhalins	7.29	292	ePN	Pn	19 09 02.3 +4.5
YSS				eS	Sn	19 10 30.9 +11
ERM	Erimo	7.40	253	i PN	Pn	19 09 02.0 +2.7
JEM	Erimo	7.40	253	P	Pn	19 09 01.2 +1.9
JEM				eS	Sn	19 10 18.5 -3.9
JFR	Furan	7.41	262	P	Pn	19 09 01.1 +1.6
JFR				eS	Sn	19 10 19.3 -3.4
JNBK	Urakawa-nobuka	7.58	255	P	Pn	19 09 01.7 -0.1
JNBK				eS	Sn	19 10 23.4 -3.4
JAB	Ashibetsu	7.59	265	P	Pn	19 09 04.8 +2.8
JBT2	Biratori 2	7.68	260	P	Pn	19 09 02.9 -0.3
JBT2				eS	Sn	19 10 22.9 -6.4
JEW	Eniwo	8.31	261	P	Pn	19 09 14.4 +2.6
JEW				eS	Sn	19 10 44.7 0.0
JNB	Noboribetsu	8.71	260	P	Pn	19 09 17.7 +0.4
JNB				eS	Sn	19 10 50.8 -3.8
JKB	Kayabe	8.91	256	P	Pn	19 09 20.1 +0.1
JKB				eS	Sn	19 10 52.9 -6.7
PETK	Petropavlovsk-	9.10	20	PN	Pn	19 09 19.6 -3.0
PETK	Petropavlovsk-	9.10	20	Pn	Pn	19 09 19.6 -3.0
	comp=N,1.2nm,0.3s,baz=191,slow=12,SNR=14					
PETK				LR	LR	19 12 39.9
	comp=N,39nm,19.8s,baz=205,slow=36					
JANG	Nango	9.26	246	P	Pn	19 09 23.5 -1.4
JANG				eS	Sn	19 10 59.8 -8.4
JTH	Tanohata	9.27	243	P	Pn	19 09 22.7 -2.3
JTH				eS	Sn	19 10 58.5 -10
JTM	Tenmabayashi	9.35	250	P	Pn	19 09 25.8 -0.3
JTM				eS	Sn	19 11 02.7 -7.7
OFUJ	Ofunato	9.89	240	P	Pn	19 09 32.7 -0.8
OFUJ				eS	Sn	19 11 15.2 -8.5
JOSM	Okushiri--Mats	9.93	260	P	Pn	19 09 34.8 +0.8
JRG	Rokugo	10.36	244	P	Pn	19 09 39.5 -0.4
JIO	Ouri	10.48	238	P	Pn	19 09 39.7 -1.8
JIO				eS	Sn	19 11 27.5 -11
MAJO	Matsushiro	13.62	239	eP	Pn	19 10 24.5 0.0
MAT	Matsushiro	13.62	239	P	Pn	19 10 24.6 +0.1
MAT				eS	Sn	19 13 00.2 +5.2
USRK	Ussuriysk Arra	14.76	276	Pn	Pn	19 10 39.6 -0.4
	comp=N,0.3nm,0.3s,baz=80,slow=13,SNR=15					
KSRS	Korea Array	19.93	257	P	Pn	19 11 44.9 +0.2
	comp=N,0.7nm,0.7s,baz=67,slow=11,SNR=3.9					
JNU	Nakatsue	20.42	243	P	Pn	19 11 49.5 -0.9
	comp=N,9.6nm,1.0s,baz=45,slow=5.5,SNR=3.6					
YAK	Yakutsk	21.96	331	eP	P	19 12 00.8 -3.7
YAK				pmax	pmax	
	comp=Z,13nm,0.9s					
TIXI	Tiksi	29.41	345	i P	P	19 13 11.3 -2.6
TIXI				pmax	pmax	
	comp=Z,3.0nm,0.9s					
SONM	Songino Array	31.78	292	P	P	19 13 36.9 +1.6
	comp=Z,0.9nm,0.6s,baz=74,slow=7.6,SNR=8.6					
SONM				LR	LR	19 26 58.5
	comp=Z,54nm,18.6s,baz=271,slow=37					
ZAK	Zakamensk	33.32	298	eP	P	19 13 43.0 -5.7
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.8s					
ILAR	Eielson Array	38.41	37	P	P	19 14 31.9 -0.1
	comp=Z,0.3nm,0.8s,baz=290,slow=6.3,SNR=4.6					
ZALV	Zalesovo Beam	43.61	307	P	P	19 15 16.9 +2.0
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.4s					
ZALV				MLR	MLR	
	comp=Z,60nm,18.1s					
ZALV	Zalesovo Beam	43.61	307	P	P	19 15 16.9 +2.0
	comp=Z,0.5nm,0.4s,baz=83,slow=8.4,SNR=3.9					
ZALV				LR	LR	19 34 12.3
	comp=Z,60nm,18.1s,baz=69,slow=37					
INK	Inuvik	43.61	31	P	P	19 15 14.4 -0.3
	comp=Z,3.7nm,0.7s,baz=298,slow=11,SNR=6.3					
MKAR	Makanchi Array	47.65	299	P	P	19 15 47.8 +0.9
MKAR				pmax	pmax	
	comp=Z,2.0nm,0.8s					
MKAR				MLR	MLR	
	comp=Z,52nm,21.2s					
MKAR	Makanchi Array	47.65	299	P	P	19 15 47.8 +0.9
	comp=Z,1.7nm,0.8s,baz=63,slow=6.5,SNR=12					
MKAR				LR	LR	19 35 52.0
	comp=Z,52nm,21.2s,baz=245,slow=36					
CMAR	Chiang Mai Arr	51.58	258	LR	LR	19 38 02.0
	comp=Z,24nm,19.0s,baz=180,slow=36					
BVAR	Borovoye Array	51.96	311	LR	LR	19 39 09.6
	comp=Z,42nm,18.1s,baz=108,slow=37					
YKA	Yellowknife Ar	52.82	36	P	P	19 16 25.3 -0.5
	comp=Z,1.0nm,0.7s,baz=290,slow=6.3,SNR=3.9					
AAK	Ala-Archa	54.50	297	LR	LR	19 39 11.4
	comp=Z,44nm,18.2s,baz=24,slow=35					
ARCES	ARCESS Array B	59.74	341	P	P	19 17 15.5 +0.4
	comp=Z,2.4nm,0.9s,baz=55,slow=4.7,SNR=5.8					
FFC	Flin Flon	62.57	39	i P	P	19 17 38.4 +3.9
JOF	Joensuu	63.08	334	eP	P	19 17 38.1 +0.4
JOF				pmax	pmax	
	comp=Z,1.0nm,0.4s					
JOF	Joensuu	63.08	334	ep	P	19 17 38.1 +0.4
	comp=Z,0.6nm,0.4s					
NVAR	Mina Array Bea	63.72	61	P	P	19 17 43.2 +0.6
	comp=Z,0.4nm,0.3s,baz=278,slow=6.3,SNR=3.7					
KAF	Kangasniemi	65.22	335	eP	P	19 17 54.8 +3.1
KAF	Kangasniemi	65.22	335	ep	P	19 17 54.8 +3.1
	comp=Z,0.2nm,0.3s					
FINES	FINESS Array B	65.81	335	P	P	19 17 56.8 +1.2
	comp=Z,1.6nm,0.6s,baz=32,slow=8.2,SNR=20					
FINES				LR	LR	19 52 25.4
	comp=Z,27nm,20.7s,baz=18,slow=41					
PDAR	Pinedale Array	66.27	53	P	P	19 17 59.0 -0.1
	comp=Z,0.4nm,0.7s,baz=273,slow=2.8,SNR=3.9					
WRA	Warramunga Arr	66.41	199	P	P	19 18 00.4 +0.5
	comp=Z,1.1nm,0.6s,baz=16,slow=6.8,SNR=6.6					
ASAR	Alice Springs	70.11	198	P	P	19 18 23.6 +0.7
	comp=Z,1.1nm,0.6s,baz=14,slow=6.5,SNR=32					
NB2	NORSAR Subarra	70.12	341	P	P	19 18 25.1 +2.4
	comp=Z,1.0nm,0.6s,baz=26,slow=6.5					
NOA	NORSAR Array B	70.12	341	P	P	19 18 23.1 +0.4
	comp=Z,1.8nm,0.8s,baz=28,slow=6.4,SNR=6.8					
KBZ	Khabaz	72.09	314	P	P	19 18 36.1 +1.2
KBZ				pmax	pmax	
	comp=Z,5.0nm,1.0s					
KBZ				MLR	MLR	
	comp=Z,21nm,20.4s					
KBZ	Khabaz	72.09	314	P	P	19 18 36.0 +1.2
	comp=Z,5.1nm,1.0s,baz=212,slow=1.8,SNR=6.0					
KBZ				LR	LR	19 55 16.1
	comp=Z,21nm,20.4s,baz=296,slow=40					
STKA	Stephens Creek	76.82	190	P	P	19 19 03.5 +1.3
	comp=Z,1.6nm,0.8s,baz=359,slow=23,SNR=4.3					
TXAR	Lajitas Array	78.82	60	P	P	19 19 14.2 +0.3
	comp=Z,0.9nm,0.6s,baz=312,slow=5.1,SNR=11					
BRTR	Keskin Array B	79.70	317	P	P	19 19 19.9 +1.2
	comp=Z,0.6nm,0.9s,baz=111,slow=7.0,SNR=3.9					
GERES	GERESS Array B	80.20	334	P	P	19 19 23.8 +2.7
	comp=Z,0.5nm,0.6s,baz=28,slow=6.5,SNR=5.3					
LOR	Lormes	84.43	339	eP	P	19 19 42.4 -0.8
LPL	La Plagne	85.28	337	eP	P	19 19 47.1 -0.6
	comp=Z,5.5nm,0.6s					
LPG	La Plagne	85.29	337	eP	P	19 19 47.2 -0.6
	comp=Z,3.9nm,0.6s					
ORIF	Oris-en-Rattie	86.07	337	eP	P	19 19 50.6 -0.9
	comp=Z,5.3nm,0.7s					
PLCA	Paso Flores	148.28	98	PKPbc	PKPbc	19 26 56.7 +0.1
	comp=Z,2.2nm,0.8s,baz=217,slow=3.0,SNR=4.2					

NIED ***01*** *19:27:00, 32.˚30N×141.˚90E, h5km, Mw3.8 Best double couple: M₀=4.79000×10¹⁴ NP1:φs=350.00000°, δ65.00000°, λ87.00000°. NP2:φs=176.00000°, δ25.00000°, λ96.00000°.*
IDC ***01*** *19:27:30.5±1.1, 32.˚28N×141.˚84E, h0km, mb3.6/7, mb1 3.6/9, mb1mx3.5/26, mbtmp3.6/9, ML2.9/2, MS2.5/1, Ms1 2.5/1, ms1mx2.0/35, Error ellipse: s-maj=35.4km s-min=19.4km az=79.0*
ISCJB ***01*** *19:27:33.1±0.7, 32.˚37N±0.˚05×141.˚97E±0.˚08, h39km, mb3.6/7, Error ellipse: s-maj=10.0km s-min=6.2km az=154.1*
JMA ***01*** *19:27:33.0±0.1, 32.˚31N×141.˚93E, h62km, M3.6*

ISC 01 19:27:35.1±0.8, 32.˚30N±0.˚06×141.˚94E±0.˚09, h39km, n19, σ1.˚36/24, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.96	294	P	Pn	19 28 04.3	-1.5
JHCJ				eS	Sn	19 28 27.9	-1.3
JHJ2	Mitsune	1.96	295	P	Pn	19 28 04.5	-1.3
JHJ2				eS	Sn	19 28 28.3	-0.9
BSO1	Boso 1	2.48	341	P	Pn	19 28 12.0	-0.4
JOD2	Odawara 2	3.79	322	P	Pn	19 28 29.9	-1.1
JOD2				eS	Sn	19 29 13.0	-1.3
JYT	Yasato	4.17	340	P	Pn	19 28 35.5	-0.7
HMMJ	Hamamatsu 2	4.34	307	P	Pn	19 28 37.9	-0.7
JHO	Hitachi	4.45	346	P	Pn	19 28 38.9	-1.1
JHO				eS	Sn	19 29 27.3	-3.1
JAG	Ashikaga	4.60	334	P	Pn	19 28 41.4	-0.7
JAG				eS	Sn	19 29 32.4	-1.8
CBIJ	Chichi jima	5.19	178	P	Pn	19 28 49.6	-0.6
CBIJ				eS	Sn	19 29 47.4	-1.5
ASAJ	Asahikawa	11.81	2	Pn	Pn	19 30 19.1	-1.7
	0.2nm,0.3s,baz=216,slow=8.7,SNR=4.4						
KSRS	Korea Array	12.60	298	LR	LR	19 34 56.0	
	comp=Z,21nm,21.0s,baz=220,slow=36						
USRK	Ussuriysk Arra	14.20	330	Pn	Pn	19 30 54.5	+1.0
	0.1nm,0.3s,baz=134,slow=11,SNR=2.1						
SONM	Songino Array	30.99	310	P	P	19 33 50.0	+1.2
	0.5nm,0.5s,baz=110,slow=8.5,SNR=6.6						
ZALV	Zalesovo Beam	45.52	316	P	P	19 35 50.6	+0.1
	0.4nm,0.4s,baz=94,slow=6.1,SNR=3.1						
MKAR	Makanchi Array	47.12	306	P	P	19 36 04.0	+0.6
	0.8nm,0.8s,baz=88,slow=11,SNR=7.0						
KURBB	Kurchatov Arra	49.35	311	P	P	19 36 20.4	0.0
	0.7nm,0.5s,baz=90,slow=8.0,SNR=14						
WRA	Warramunga Arr	52.45	189	P	P	19 36 44.3	+0.3
	0.7nm,0.4s,baz=5.5,slow=7.6,SNR=9.1						
ILAR	Eielson Array	53.30	30	P	P	19 36 51.6	+1.8
	0.2nm,0.8s,baz=247,slow=5.8,SNR=3.5						
ASAR	Alice Springs	56.18	189	P	P	19 37 12.4	+1.4
	0.2nm,0.5s,baz=359,slow=6.4,SNR=6.3						

BJI ***01*** *19:34:15.0, 17.˚80N×106.˚00W, h10km, Ms5.0/2, Ms7 4.6/2*
NEIC ***01*** *19:34:15.6±0.5, 17.˚76N×106.˚01W, h10km, mb4.5/51, Error ellipse: s-maj=9.7km s-min=5.8km az=218.0*
IDC ***01*** *19:34:15.9±1.3, 17.˚97N×105.˚96W, h0km, mb4.1/7, mb1 4.4/11, mb1mx4.1/26, mbtmp4.1/11, ML3.8/4, MS3.9/24, Ms1 3.9/24, ms1mx3.9/34, Error ellipse: s-maj=36.4km s-min=21.2km az=57.0*
MEX ***01*** *19:34:16.8±1.2, 17.˚90N×106.˚02W, h15km±66km, MD4.6*
ISCJB ***01*** *19:34:17.7±1.9, 17.˚89N±0.˚05×105.˚85W±0.˚03, h30km±13km, mb4.4/44, MS4.1/23, Error ellipse: s-maj=8.7km s-min=5.1km az=17.9*
GCMT ***01*** *19:34:19.5±0.5, 17.˚91N×105.˚90W, h16km±1km, MW4.9, Moment Tensor Solution. s25,c28; s62,c96; Moment tensor: Scale 10¹⁶Nm; Mrr=2.08±.20; Mθθ 0.20±.12; Mφφ 1.88±.17; Mrθ-0.41±.39; Mrφ-2.55±.10; Mθφ 0.12±.41; Best double couple: M₀3.00000×10¹⁶ NP1:φs 123.00000°, δ53.00000°, λ-121.00000°. NP2:φs 347.00000°, δ47.00000°, λ-56.00000°. Principal axes: T 3.˚7500, Plg3.0000°, Azm234.0000°; N -1.5300, Plg24.0000°, Azm142.0000°; P -2.2200, Plg66.0000°, Azm331.0000°; Data Used: IU II IC G CN.*

ISC 01 19:34:15.9±0.5, 17.˚79N±0.˚05×105.˚85W±0.˚05, h10km, n223, σ1.˚53/178, mb4.5/45, MS4.1/23, 22C-26D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	1.86	24	i P	Pn	19 34 44.4	-3.5
CJM				i S	Sn	19 35 05.4	-6.1
R15V		2.24	52	i P	Pn	19 34 51.7	-1.4
R15V				i S	Sn	19 35 17.7	-3.1
MMIG	Aquila	2.43	78	i P	Pn	19 34 55.0	-0.7
MMIG				i S	Sn	19 35 24.2	-1.3
EZ5V		2.71	51	i P	Pn	19 34 59.6	-0.2
EZ5V				i S	Sn	19 35 31.1	-1.7
ANIG	Ahuacatlan	3.48	21	i P	Pn	19 35 06.7	-3.5
ANIG				i S	Sn	19 35 49.0	-2.6
SFJM	Santa Fe	3.77	44	eP	Pn	19 35 10.4	-3.9
ZIIG	Zihuatanejo	4.18	92	i P	Pn	19 35 19.4	-0.3
ZIIG				i S	Sn	19 36 09.8	+1.2
LPIG	La Paz	7.54	327	LR	LR	19 38 26.7	
	comp=Z,114nm,18.4s,baz=202,slow=34						
TXAR	Lajitas Array	11.66	9	Pn	Pn	19 37 04.8	+2.3
TXAR	Lajitas Array	11.66	9	Pn	Pn	19 37 04.8	+2.3
	0.3nm,0.3s,baz=194,slow=11,SNR=46						
626A	Big Bend Ranch	11.81	7	P	Pn	19 37 08.3	+3.6
	baz=12,SNR=11						
627A	Terlingua Ranc	11.82	11	⇑P	Pn	19 37 07.9	+3.1
	baz=12,SNR=14						
732A	Laxson Ranch,	12.15	25	P	Pn	19 37 13.1	+4.0
	baz=12,SNR=7.7						
527A	Woodward Ranch	12.47	9	⇑P	Pn	19 37 16.3	+2.6
	baz=13,SNR=7.8						
631A	Perdido Creek	12.53	22	⇑P	Pn	19 37 17.7	+3.3
	baz=13,SNR=8.4						
528A	Cox Ranch, San	12.63	12	⇓P	Pn	19 37 18.2	+2.4
	baz=13,SNR=9.2						
529A	Stev Forest Ra	12.72	14	P	Pn	19 37 20.5	+3.6
	baz=13,SNR=6.5						
426A	McDonald Obser	12.93	7	P	Pn	19 37 23.1	+3.1
	baz=13,SNR=6.2						
425A	Indio Mountain	12.96	3	⇓P	Pn	19 37 22.3	+2.0
	baz=13,SNR=7.0						
530A	J-C Ranch, Com	12.97	18	P	Pn	19 37 23.9	+3.4
	baz=13,SNR=28						
428A	Kincaid Ranch,	13.20	12	⇓P	Pn	19 37 27.1	+3.6
	baz=13,SNR=18						
531A	Rocksprings	13.23	20	⇓P	Pn	19 37 27.4	+3.4
	baz=13,SNR=13						
429A	Davenport Ranc	13.27	15	P	Pn	19 37 28.3	+3.7
	baz=13,SNR=11						
532A	Rocksprings	13.42	23	P	Pn	19 37 30.1	+3.5
	baz=14,SNR=25						
430A	Baggett Ranch,	13.60	17	P	Pn	19 37 33.2	+4.2
	baz=14,SNR=35						
431A	Sonora	13.69	19	P	Pn	19 37 34.0	+3.7
	baz=14,SNR=13						
320A	Kipp Ranch, An	13.71	350	P	Pn	19 37 33.5	+3.0
	baz=14,SNR=8.2						
JCT	Junction City	13.78	22	ePn	Pn	19 37 33.1	+1.7
JCT	Junction City	13.78	22	P	Pn	19 37 34.7	+3.2
	baz=14,SNR=5.6						
328A	Wristen Ranch,	13.81	11	P	Pn	19 37 35.4	+3.6
	baz=14,SNR=7.8						
MNTX	Cornudas Mount	13.85	2	eP	Pn	19 37 34.2	+1.7
	5.7nm,1.1s						
319A	Douglas	13.88	348	⇑P	Pn	19 37 35.3	+2.4
	baz=14,SNR=11						
432A	Menard	14.14	22	⇑P	Pn	19 37 39.0	+2.6
	baz=14,SNR=8.3						
330A	Mertzon	14.20	16	P	Pn	19 37 40.0	+2.8
	baz=14,SNR=9.7						
220A	Playas Peak, P	14.26	351	P	Pn	19 37 40.2	+2.1
	baz=14,SNR=18						
222A	Williams Famil	14.30	356	⇑P	Pn	19 37 40.7	+2.1
	baz=14,SNR=5.8						
226B	Tecolote Peak,	14.31	6	P	P	19 37 42.4	-3.6
	baz=14,SNR=12						
331A	San Angelo	14.33	19	P	Pn	19 37 42.0	+3.1
	baz=14,SNR=12						
GDL2	Guadalupe Moun	14.41	5	ePn	P	19 37 43.7	-3.4
	3.1nm,0.6s						
229A	Bryant Ranch,	14.58	14	P	Pn	19 37 45.3	+2.9
	baz=15,SNR=6.1						
332A	Millersview	14.62	21	P	Pn	19 37 45.1	+2.2
	baz=15,SNR=9.1						
121A	Cookes Peak, D	14.78	354	⇓P	P	19 37 47.7	-3.6
	baz=15,SNR=5.8						
124A	Stringfield Ra	14.85	1	P	P	19 37 53.2	+1.1
	baz=15,SNR=7.6						
120A	U Bar Ranch, L	14.91	351	⇓P	Pn	19 37 48.8	+1.9
	baz=15,SNR=8.5						
231A	Bronte	14.95	19	P	Pn	19 37 49.2	+1.8
	baz=15,SNR=6.2						
128A	Castleberry Fa	15.08	11	⇓P	Pn	19 37 50.9	+1.8
	baz=15,SNR=9.8						
232A	Coleman	15.12	21	⇑P	Pn	19 37 51.5	+1.9
	baz=15,SNR=8.7						
TUC	Tucson	15.13	344	ePn	Pn	19 37 50.0	+0.1
214A	Organ Pipe Nat	15.45	337	⇓P	P	19 37 56.7	-1.8
	baz=16,SNR=8.2						
Z24A	Sheeppen Canyo	15.48	2	⇑P	P	19 37 56.6	-2.5
	baz=16,SNR=10.0						
Z26A	Caprock	15.51	6	P	Pn	19 37 56.9	+2.0
	baz=16,SNR=23						
131A	Roby	15.62	17	⇑P	Pn	19 37 57.0	+0.8
	baz=16,SNR=6.2						
Z28A	Tucker Farm, M	15.74	11	P	P	19 37 60.0	-1.9
	baz=16,SNR=7.9						
ABTX	Abilene, Hawle	15.79	20	⇑P	Pn	19 37 59.8	+1.3
	baz=16,SNR=7.8						
Z29A	Hungry Hill Ra	15.85	13	P	Pn	19 38 00.0	+0.8
	baz=16,SNR=17						
Z30A	Sanderson Ranc	16.00	14	P	Pn	19 38 02.2	+1.0
	baz=16,SNR=11						
Y24A	Capitan	16.07	1	P	P	19 38 04.8	-0.8
	baz=16,SNR=12						
Y25A	Mesa, Roswell	16.10	3	P	P	19 38 05.0	-0.9
	baz=16,SNR=10						
Y27A	Causey	16.21	8	⇓P	Pn	19 38 05.1	+1.2
	baz=16,SNR=7.3						
Y20A	Horse Springs,	16.21	352	⇓P	P	19 38 07.6	+0.4
	baz=16,SNR=8.0						
BNM	Barren Site	16.31	358	eP	P	19 38 06.8	-1.5
	13nm,1.4s						
MSTX	Muleshoe	16.35	9	Pn	Pn	19 38 06.7	+1.0
MSTX	Muleshoe	16.35	9	P	P	19 38 07.5	-1.1
	baz=16,SNR=17						
Y28A	McKinney Farm,	16.37	11	⇓P	Pn	19 38 06.4	+0.4
	baz=16,SNR=17						
Z32A	Haskell	16.48	19	⇓P	Pn	19 38 07.6	+0.3
	baz=17,SNR=13						
TEIG	Tepich	16.79	79	eP	Pn	19 38 11.9	+0.6
TEIG	Tepich	16.79	79	Pn	Pn	19 38 12.1	+0.8
	0.4nm,0.3s,baz=356,slow=2.7,SNR=3.3						
TEIG				LR	LR	19 44 55.9	
	comp=Z,492nm,21.5s,baz=293,slow=38						
Y31A	Rekieta Farm,	16.86	16	P	Pn	19 38 12.8	+0.7
	baz=17,SNR=8.6						
X29A	Tulia	17.00	12	⇓P	Pn	19 38 14.5	+0.6
	baz=17,SNR=5.7						
ANMO	Albuquerque	17.10	358	Pn	Pn	19 38 15.6	+0.4
ANMO	Albuquerque	17.10	358	Pn	Pn	19 38 15.6	+0.4
	0.1nm,0.3s,baz=186,slow=10,SNR=12						
X30A	Coker Ranch, T	17.17	14	P	P	19 38 17.5	-0.2
	baz=17,SNR=5.3						
X16A	Lo Mia Camp, P	17.30	344	⇑P	P	19 38 18.6	-0.6
	baz=17,SNR=8.4						
W24A	Lazy 6 Ranch,	17.36	1	P	P	19 38 21.5	+1.6
	baz=18,SNR=5.8						
W27A	Bowe Ranch, En	17.38	8	⇓P	P	19 38 19.5	-0.5
	baz=18,SNR=10.0						
W25A	X Bar L Ranch,	17.40	4	⇓P	P	19 38 20.7	+0.4
	baz=18,SNR=7.2						
AMTX	Amarillo	17.43	11	eP	P	19 38 19.9	-0.6
	24nm,1.0s						
BAR	Barrett	17.75	329	ePn	P	19 38 23.4	-0.6
	59nm,1.8s						
MONP	Monument Peak	17.80	330	⇑P	P	19 38 25.6	+0.8
	baz=18,SNR=7.4						
V25A	Rancho No Teng	18.01	3	P	P	19 38 28.7	+1.6
	baz=18,SNR=14						
WMOK	Wichita Mounta	18.02	19	eP	Pn	19 38 25.9	-0.6
	86nm,1.9s						
V26A	Tequesquite Ra	18.03	5	⇑P	P	19 38 28.2	+1.0
	baz=18,SNR=17						
WUAZ	Wupatki	18.33	346	eP	P	19 38 32.0	+1.4
	10nm,0.9s						
WUAZ	Wupatki	18.33	346	P	P	19 38 32.5	+1.9
	baz=18,SNR=6.1						
PFO	Pinyon Flat Ob	18.41	331	eP	Pn	19 38 29.0	-2.4
	51nm,2.0s						
PFO	Pinyon Flat Ob	18.41	331	P	P	19 38 31.6	+0.2
	0.3nm,0.3s,baz=140,slow=7.3,SNR=9.1						
PFO				LR	LR	19 44 39.8	
	comp=Z,189nm,19.1s,baz=148,slow=34						
BELC	Belle Mtn. Jos	18.53	333	P	Pn	19 38 34.1	+1.2
	baz=18,SNR=7.7						
U25A	Circle Dot Ran	18.58	4	P	Pn	19 38 35.2	+1.6
	baz=19,SNR=17						
V31A	Spring Creek L	18.69	15	⇓P	Pn	19 38 36.0	+1.2
	baz=19,SNR=5.9						
U27A	Thompson Grove	18.75	8	⇓P	Pn	19 38 36.5	+0.9
	baz=19,SNR=7.0						
GMRC	Granite Mounta	19.05	335	⇑P	Pn	19 38 38.6	-0.6
	baz=19,SNR=7.5						
U15A	North Rim	19.42	344	⇓P	Pn	19 38 44.0	+0.2
	baz=20,SNR=8.6						
MVCO	Mesa Verde	19.49	354	eP	P	19 38 42.6	-0.7
	46nm,1.9s						
MWC	Mount Wilson	19.68	329	eP	P	19 38 43.2	-2.1
	59nm,1.6s						
S26A	Kim	19.87	6	⇑P	Pn	19 38 49.2	+0.2
	baz=20,SNR=15						
S21A	Coal Bank Pass	19.87	355	⇓P	Pn	19 38 48.8	-0.4
	baz=20,SNR=8.3						
SDCO	Great Sand Dun	19.88	1	eP	P	19 38 48.1	+0.4
	12nm,1.3s						
VBMS	Vicksburg	19.95	41	eP	Pn	19 38 51.1	+1.2
GSC	Goldstone	19.98	333	eP	Pn	19 38 49.5	-0.8
	83nm,2.0s						
TUL1	Tulsa	20.13	24	eP	P	19 38 50.3	+0.2
TUL1	Tulsa	20.13	24	P	Pn	19 38 51.4	-0.6
	baz=20,SNR=11						
R24A	Sanders Place,	20.38	2	⇑P	Pn	19 38 54.6	-0.5
	baz=20,SNR=7.7

NVAR	Mina Array Bea	23.27	335	P	P	19 39 23.7	-0.3
NVAR	Mina Array Bea	23.27	335	P	P	19 39 23.7	-0.3
	2.0nm,0.6s,baz=169,slow=9.7,SNR=9.0						
NVAR				LR	LR	19 47 32.1	
	comp=Z,131nm,20.9s,baz=167,slow=35						
PHWY	Pilot Hill	23.43	1	eP	P	19 39 23.6	-2.1
	12nm,1.4s						
GLAT	Glass	23.52	35	eP	P	19 39 27.9	+1.7
PARMO	Parma	23.56	34	eP	P	19 39 26.4	-0.2
WAKR	Walker	23.81	333	eP	P	19 39 27.4	-1.9
CMB	Columbia Colle	23.85	331	eP	P	19 39 28.8	-0.7
	4.9nm,0.8s						
BGU	Big Grassy Mou	23.87	346	eP	P	19 39 29.4	-0.4
	48nm,2.2s						
HWUT	Hardware Ranch	24.24	350	eP	P	19 39 33.6	+0.4
	3.6nm,0.9s						
SIUC	Southern Illin	24.63	33	eP	P	19 39 38.2	+1.6
	45nm,1.4s						
HVU	Hansel Valley	24.64	347	eP	P	19 39 35.6	-1.2
	4.4nm,0.8s						
K21A	Alcova	24.79	358	⇓P	P	19 39 40.6	+2.3
	baz=25,SNR=5.6						
PAHR	Pah Rah Range	24.80	334	eP	P	19 39 37.7	-0.5
	5.4nm,0.9s						
SLM	Saint Louis	24.84	30	eP	P	19 39 39.8	+1.3
	50nm,1.0s						
K19A	Absolon Red Bu	25.09	355	⇑P	P	19 39 41.0	+0.1
	baz=25,SNR=6.1						
PDAR	Pinedale Array	25.10	354	P	P	19 39 40.6	-0.4
PDAR	Pinedale Array	25.10	354	P	P	19 39 40.6	-0.4
	1.8nm,0.9s,baz=164,slow=12,SNR=11						
GOGA	Godfrey	25.40	48	eP	P	19 39 45.3	+1.8
J19A	Crowheart	25.54	355	P	P	19 39 46.1	+1.1
	baz=26,SNR=7.2						
USIN	University of	25.64	35	eP	P	19 39 46.6	+0.8
	40nm,0.9s						
REDW	Red Top Meadow	25.84	352	eP	P	19 39 47.5	-0.3
	38nm,1.5s						
CPCT	Cooper Cave	25.84	43	eP	P	19 39 50.9	+3.3
RRI2	Red Ridge	25.90	351	eP	P	19 39 48.2	-0.1
	13nm,0.8s						
SNOW	Snow King Moun	25.93	352	eP	P	19 39 47.5	-1.1
	16nm,1.1s						
TPAW	Teton Pass	25.98	351	eP	P	19 39 49.4	+0.3
	48nm,1.9s						
LOHW	Long Hollow	26.05	352	eP	P	19 39 49.7	0.0
	136nm,2.8s						
I20A	Worland	26.15	356	P	P	19 39 51.7	+1.2
	baz=26,SNR=6.1						
MOOW	Moose Ponds	26.21	352	eP	P	19 39 51.0	-0.1
	26nm,2.0s						
IMW	Indian Meadow	26.38	352	eP	P	19 39 53.7	+1.0
	13nm,1.4s						
TKL	Tuckaleechee C	26.45	43	eP	P	19 39 53.6	+0.4
TKL	Tuckaleechee C	26.45	43	P	P	19 39 55.5	+2.3
	4.4nm,0.8s,baz=203,slow=11,SNR=6.2						
TKL				LR	LR	19 52 54.5	
	comp=Z,355nm,20.0s,baz=252,slow=42						
WCI	Wyandotte Cave	26.59	36	eP	P	19 39 56.0	+1.6
	7.3nm,0.8s						
HLID	Hailey	26.70	346	eP	P	19 39 55.4	-0.1
	8.5nm,1.3s						
HLID	Hailey	26.70	346	⇑P	P	19 39 55.9	+0.5
	baz=27,SNR=8.3						
HDIL	Hopedale	26.80	29	P	P	19 39 55.8	-0.4
	39nm,1.2s						
MCMT	McKenzie Canyo	27.59	349	eP	P	19 40 04.8	+1.2
	3.7nm,1.4s						
YBH	Yreka Blue Hor	27.89	332	LR	LR	19 50 31.2	
	comp=Z,155nm,18.8s,baz=143,slow=35						
DLMT	Dillon	28.06	350	eP	P	19 40 06.0	-1.7
	6.4nm,1.0s						
BOZ	Bozeman (W)	28.19	351	eP	P	19 40 09.0	+0.2
	11nm,1.4s						
LRM	Limekiln Ridge	28.49	350	eP	P	19 40 11.7	+0.1
E19A	Rath Farm, Rou	28.69	356	P	P	19 40 13.9	+0.7
	baz=29,SNR=5.8						
D19A	Cripps Ranch,	29.40	356	P	P	19 40 20.6	+1.1
	baz=30,SNR=5.0						
CHMT	Chamberlain Mo	29.68	350	eP	P	19 40 22.0	-0.1
MSO	Missoula	29.72	349	eP	P	19 40 22.2	-0.2
	12nm,1.2s						
MSO	Missoula	29.72	349	⇓P	P	19 40 22.5	+0.2
	baz=30,SNR=8.1						
C17A	Wharram Farm,	30.04	353	⇓P	P	19 40 25.1	0.0
	baz=30,SNR=5.5						
NEW	Newport	31.76	346	eP	P	19 40 40.4	+0.2
	17nm,1.8s						
OTAV	Otavalo	32.09	120	eP	P	19 40 46.2	+2.2
	9.8nm,1.2s						
ULM	Lac du Bonnet	33.36	12	LR	LR	19 54 12.3	
	comp=Z,193nm,20.7s,baz=229,slow=36						
NNA	Nana	41.18	134	eP	P	19 42 01.8	+0.8
	74nm,1.9s						
DLBC	Dease Lake	44.32	342	eP	P	19 42 26.3	+0.3
YKA	Yellowknife Ar	45.08	354	P	P	19 42 31.3	-0.5
YKA	Yellowknife Ar	45.08	354	P	P	19 42 31.3	-0.5
	2.0nm,0.8s,baz=169,slow=7.2,SNR=9.4						
SCHQ	Schefferville	47.47	30	LR	LR	20 01 53.3	
	comp=Z,127nm,19.3s,baz=268,slow=35						
RKT	Rikitea	49.63	216	eLR	LR	19 57 14.1	
	550nm,26.0s						
SAML	Samuel	49.81	119	eP	P	19 43 09.3	-0.1
LPAZ	La Paz	50.27	130	eP	P	19 43 14.9	+1.4
	7.2nm,1.3s						
LPAZ	La Paz	50.27	130	P	P	19 43 15.9	+2.4
	2.0nm,0.9s,baz=269,slow=5.4,SNR=5.7						
LPAZ				LR	LR	20 01 59.8	
	comp=Z,88nm,18.3s,baz=298,slow=33						
INK	Inuvik	53.44	348	P	P	19 43 34.4	-1.4
INK	Inuvik	53.44	348	P	P	19 43 34.4	-1.4
	8.2nm,0.9s,baz=113,slow=5.7,SNR=7.7						
ILAR	Eielson Array	54.38	340	P	P	19 43 41.9	-0.8
ILAR	Eielson Array	54.38	340	P	P	19 43 41.9	-0.8
	2.5nm,0.8s,baz=151,slow=6.8,SNR=26						
ILAR				LR	LR	20 09 31.0	
	comp=Z,43nm,18.4s,baz=343,slow=39						
TRF	Thorofare Moun	54.76	337	eP	P	19 43 45.5	-0.2
	7.4nm,0.9s						
PPLA	Purkeypile	55.16	336	eP	P	19 43 46.4	-2.2
	15nm,1.3s						
PPT	Papeete	55.55	233	LR	LR	20 01 00.6	
	comp=Z,279nm,19.3s,baz=180,slow=29						
PPT2	Papeete2	55.56	233	eS	S	19 51 35.8	-2.2
	149nm,26.0s						
PPT2				eLR	LR	19 59 49.1	
	608nm,26.2s,baz=51						
TBI	Tubuai	59.05	228	eS	S	19 52 20.2	-3.3
	99nm,28.2s						
TBI				eLR	LR	20 01 21.4	
	612nm,28.2s,baz=49						
RAR	Rarotonga	65.53	236	LR	LR	20 06 49.5	
	comp=Z,171nm,19.4s,baz=269,slow=30						
PLCA	Paso Flores	66.82	151	LR	LR	20 10 32.8	
	comp=Z,78nm,18.0s,baz=349,slow=32						
AFI	Afiamalu	72.25	249	LR	LR	20 09 22.8	
	comp=Z,184nm,19.8s,baz=73,slow=29						
PETK	Petropavlovsk-	79.76	323	LR	LR	20 15 45.7	
	comp=Z,28nm,18.3s,baz=269,slow=31						
NOA	NORSAR Array B	86.89	26	LR	LR	20 24 45.7	
	comp=Z,75nm,20.4s,baz=300,slow=35						
ESDC	Sonseca Array	87.61	49	LR	LR	20 25 20.4	
	comp=Z,74nm,20.6s,baz=310,slow=35						
HFS	Hagfors	88.41	26	LR	LR	20 29 43.9	
	comp=Z,79nm,18.1s,baz=306,slow=38						
URZ	Urewera	91.09	230	LR	LR	20 18 24.6	
	comp=Z,160nm,19.9s,baz=30,slow=29						
FINES	FINESS Array B	92.27	21	LR	LR	20 28 12.5	
	comp=Z,135nm,20.6s,baz=316,slow=35						
DAVOX	Davos/Dischmat	93.65	38	LR	LR	20 29 00.6	
	comp=Z,243nm,19.6s,baz=278,slow=35						
DZM	Mont Dzumac	94.48	248	eLR	LR	20 18 06.0	
	495nm,26.4s						
GERES	GERESS Array B	94.73	35	LR	LR	20 29 13.5	
	comp=Z,140nm,20.9s,baz=302,slow=35						
VRAC	Vranov	96.02	34	LR	LR	20 30 20.0	
	comp=Z,127nm,21.2s,baz=306,slow=35						
KEST	Kesra	98.82	48	LR	LR	20 32 34.1	
	comp=Z,35nm,21.3s,baz=168,slow=35						
CN2	Changchun	102.82	325	eP	Pdif	19 48 13.2	-0.9
HHC	Hu-ho-hao-te	112.10	330	ePKP	PKiKP	19 52 50.9	-1.2
HHC				PP	PP	19 53 37.3	+2.1
HHC				PKS	PKSdf	19 56 26.9	-2.0
HHC				SKS	SKSdf	19 59 58.3	-6.4
HHC				SKKS	SKKSac	20 00 27.6	-12
HHC				SS	SS	20 09 08.0	-5.0
HHC				LR	LR		
	comp=N,130nm,20.3s						
HHC				LR	LR		
	comp=E,190nm,20.4s						
HHC				LR	LR		
	comp=Z,180nm,21.8s						
WMQ	Urumqi	117.45	349	ePKP	PKPdf	19 53 03.0	+0.7
LZH	Lanzhou	119.50	333	ePKP	PKPdf	19 53 03.8	-2.7
LZH				LR	LR		
	comp=N,91nm,16.3s						
LZH				LR	LR		
	comp=E,100nm,17.8s						
LZH				LR	LR		
	comp=Z,120nm,19.0s						
CD2	Chengdu	123.83	329	ePKP	PKPdf	19 53 13.5	-1.4
ASAR	Alice Springs	124.15	253	PKP	PKPdf	19 53 18.7	+3.1
ASAR	Alice Springs	124.15	253	PKP	PKPdf	19 53 18.7	+3.1
	comp=Z,0.3nm,0.7s,baz=75,slow=2.4,SNR=5.1						
KMI	Kunming	129.06	326	PKP	PKPdf	19 53 23.1	-2.1

*IDC **01** 19:34:27.4±1.3,3°.93S×34°.91E,h0km,mb3.7/5,mb1 3.8/6,*
mb1mx3.5/26,mbtmp3.7/6,ML3.9/1,MS3.3/1,Ms1 3.2/1,
ms1mx2.4/29,Error ellipse: s-maj=37.6km s-min=17.1km
az=133.0
*BUL **01** 19:34:34.1±14.0,4°.20S×35°.13E,h0km±118km,MD3.8*
ISC 01 19:34:31.0±0.8,**4°.04S**±0°.05×**35°.08E**±0°.07,**h22km,n12,**
σ1§47/15,mb3.6/5,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	KOND	0.64	142	i P	Pn	19 34 53.1	+8.3
KOND				i S	Sn	19 35 10.2	+16
KOND				AMP		19 35 13.6	
	comp=Z,137μm,0.7s						
DODT	Dodoma, Tanzan	2.23	163	i P	Pn	19 35 07.9	+1.1
DODT				i S	Sb	19 35 38.1	0.0
KMBO	Kilima Mbogo	3.62	37	Pn	Pn	19 35 25.7	-0.3
	comp=Z,9.1nm,0.3s,baz=219,slow=18,SNR=56						
KMBO				Pg	Pb	19 35 35.4	+0.9
	comp=Z,39nm,0.3s,baz=216,slow=17,SNR=60						
KMBO				Sn	Sn	19 36 09.2	+1.0
	comp=Z,70nm,0.3s,baz=271,slow=18,SNR=6.7						
KMBO				Lg	Lg	19 36 20.9	
	comp=Z,90nm,0.3s,baz=84,slow=23,SNR=10						
KMBO	Kilima Mbogo	3.62	37	i P	Pn	19 35 25.8	-0.3
KMBO				i S	Sb	19 36 18.2	+0.1
ENT	Entebbe	4.84	327	i P	Pb	19 35 55.7	+0.5
ENT				i S	Sn	19 36 41.7	+3.6
MBAR	Mbarara	5.52	308	i P	Pn	19 35 47.2	-4.9
MBAR				i S	Sn	19 36 37.1	-18
MZM	Mzuzu	7.42	188	i P	Pn	19 36 19.3	+1.3
MZM				i S	Sn	19 37 51.8	+10
BOSA	Boshof	26.16	200	P	P	19 40 03.9	-0.1
	comp=Z,2.5nm,0.8s,baz=33,slow=12,SNR=3.9						
BOSA				LR	LR	19 50 15.9	
	comp=Z,60nm,19.4s,baz=189,slow=36						
TORD	Torodi Ar. Bea	37.29	298	P	P	19 41 39.6	-2.2
	comp=Z,0.4nm,0.6s,baz=109,slow=6.6,SNR=3.8						
GERES	GERESS Array B	55.87	343	P	P	19 44 05.3	-1.7
	comp=Z,0.4nm,0.6s,baz=156,slow=7.5,SNR=6.0						
MKAR	Makanchi Array	65.50	34	P	P	19 45 12.3	-0.3
	comp=Z,0.5nm,0.7s,baz=229,slow=5.2,SNR=4.0						
KURBB	Kurchatov Arra	65.96	29	P	P	19 45 15.9	+0.4
	comp=Z,0.4nm,0.9s,baz=230,slow=6.8,SNR=6.3						

*IDC **01** 20:05:25.0±1.5,17°.69S×168°.26E,h0km,mb3.9/5,*
mb1 4.1/6,mb1mx3.8/18,mbtmp3.9/6,ML4.1/1,MS3.5/4,
Ms1 3.5/4,ms1mx3.1/31,Error ellipse: s-maj=57.2km
s-min=24.7km az=131.0
*ISCJB **01** 20:05:31.9±1.4,18°.04S±0°.08×168°.3E±0°.3,h69km,*
mb3.7/5,Error ellipse: s-maj=35.6km s-min=8.3km
az=12.4
ISC 01 20:05:33.1±1.3,**18°.1S**±0°.1×**168°.4E**±0°.3,**h69km,n16,**
σ1§03/15,mb3.8/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	4.32	199	eS	Sn	20 07 26.3	+0.7
DZM	Mont Dzumac	4.40	204	ePn	Pn	20 06 37.4	-0.1
	49nm,0.2s						
DZM				eSn	Sn	20 07 27.9	+0.4
	53nm,0.3s						
DZM	Mont Dzumac	4.40	204	Pn	Pn	20 06 37.4	-0.1
	8.1nm,0.3s,baz=155,slow=18,SNR=112						
DZM				Sn	Sn	20 07 28.0	+0.4
	17nm,0.3s,baz=157,slow=21,SNR=7.3						
DZM				LR	LR	20 08 19.1	
	comp=Z,314nm,18.4s,baz=203,slow=37						
NOUC	Port Laguerre	4.48	205	eP	Pn	20 06 37.9	-0.7
NOUC				eS	Sn	20 07 27.9	-1.6
STKA	Stephens Creek	27.82	235	P	P	20 11 18.2	+2.2
	2.1nm,0.8s,baz=59,slow=12,SNR=3.6						
RAR	Rarotonga	30.13	101	LR	LR	20 20 52.3	
	comp=Z,94nm,20.1s,baz=91,slow=31						
WRA	Warramunga Arr	32.21	261	P	P	20 11 54.5	-0.6
	0.6nm,0.5s,baz=80,slow=6.0,SNR=6.7						
ASAR	Alice Springs	32.65	254	P	P	20 11 57.8	-1.1
	0.8nm,0.4s,baz=76,slow=8.9,SNR=41						
PPT2	Papeete2	39.97	96	eLR	LR	20 24 32.5	
	81nm,26.2s						
SONM	Songino Array	85.78	323	P	P	20 18 05.7	+0.7
	0.9nm,0.7s,baz=155,slow=6.5,SNR=8.9						
ILAR	Eielson Array	89.34	18	P	P	20 18 20.6	-1.0
	0.3nm,0.6s,baz=236,slow=5.1,SNR=5.4						
ANMO	Albuquerque	96.30	55	LR	LR	20 54 19.4	
	comp=Z,35nm,18.5s,baz=55,slow=30						
PDAR	Pinedale Array	96.40	47	LR	LR	20 53 21.5	
	comp=Z,25nm,20.9s,baz=255,slow=30						
ARCES	ARCESS Array B	123.71	345	PKP	PKPdf	20 24 22.2	-0.1
	2.1nm,0.9s,baz=95,slow=3.1,SNR=6.9						
FINES	FINESS Array B	129.18	338	PKP	PKPdf	20 24 34.0	+1.1
	0.3nm,0.6s,baz=64,slow=4.8,SNR=4.6						
DAVOX	Davos/Dischmat	146.31	333	PKPbc	PKPab	20 25 07.0	-0.1
	2.7nm,0.5s,baz=359,slow=3.2,SNR=9.2						

*IDC **01** 20:09:36.4±1.2,33°.99N×25°.25E,h0km,mb3.7/6,*
mb1 3.7/9,mb1mx3.6/25,mbtmp3.6/9,ML3.5/4,Error
ellipse: s-maj=38.3km s-min=19.1km az=160.0
*ISCJB **01** 20:09:37.1±0.8,33°.88N±0°.08×25°.42E±0°.08,h17km,*
mb3.6/6,Error ellipse: s-maj=12.7km s-min=8.4km
az=25.9
*ATH **01** 20:09:46.3,34°.51N×25°.25E,h30km±4km,MD3.4/9*
ISC 01 20:09:39.3±1.0,**34°.0N**±0°.1×**25°.32E**±0°.05,**h17km,n36,**
σ0§99/36,mb3.8/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.08	337	ePN	Pb	20 09 59.4	-0.1
SIVA	Sivas	1.08	337	ePn	Pb	20 09 58.9	-0.6
SIVA	Sivas	1.08	337	ePn	Pb	20 09 58.9	-0.6
LAST	Lasithi	1.14	7	ePN	Pb	20 10 00.0	-0.7
LAST	Lasithi	1.14	7	ePN	Pb	20 09 59.7	-1.0
LAST	Lasithi	1.14	7	ePn	Pb	20 09 59.7	-1.0
NPS	Neapolis	1.26	11	ePN	Pn	20 10 02.0	-0.2
NPS	Neapolis	1.26	11	ePN	Pn	20 10 02.0	-0.2
NPS	Neapolis	1.26	11	ePn	Pn	20 10 02.0	-0.2
IDI	Anoyia	1.31	344	ePN	Pn	20 10 02.5	-0.4
IDI	Anoyia	1.31	344	ePN	Pn	20 10 02.7	-0.2
IDI	Anoyia	1.31	344	ePn	Pn	20 10 02.7	-0.2
VAM	Vamos	1.66	327	ePN	Pb	20 10 10.2	+0.7
VAM	Vamos	1.66	327	ePN	Pb	20 10 10.1	+0.6
VAM	Vamos	1.66	327	ePn	Pb	20 10 10.1	+0.6
KARN	Karanos	1.79	320	ePB	Pb	20 10 11.3	-0.5
KARN	Karanos	1.79	320	ePN	Pb	20 10 11.5	-0.3
KARN	Karanos	1.79	320	ePn	Pb	20 10 11.5	-0.3
KARP	Karpathos	2.15	44	ePN	Pb	20 10 18.5	+0.7
KARP	Karpathos	2.15	44	ePn	Pb	20 10 18.5	+0.7
ANKY	Antikythira Is	2.48	319	ePN	Pn	20 10 21.5	+2.6
ANKY	Antikythira Is	2.48	319	ePn	Pn	20 10 21.5	+2.6
APE	Apeiranthos	3.04	3	ePN	Pn	20 10 27.5	+0.8
DID	Didima	3.87	335	ePN	Pn	20 10 39.0	+1.0
DID	Didima	3.87	335	ePN	Pn	20 10 39.2	+1.2
DID	Didima	3.87	335	ePn	Pn	20 10 39.2	+1.2
MMAI	Mount Meron Ar	8.48	94	Pn	Pn	20 11 41.0	-0.5
	0.7nm,0.3s,baz=266,slow=11,SNR=5.1						
BRTR	Keskin Array B	8.76	47	Pn	Pn	20 11 45.7	+0.3
	0.1nm,0.3s,baz=238,slow=13,SNR=2.6						
KBZ	Khabaz	16.74	49	Pn	P	20 13 36.4	+1.3
	0.1nm,0.3s,baz=288,slow=3.2,SNR=2.5						
GERES	GERESS Array B	17.15	333	P	Pn	20 13 38.1	0.0
	0.1nm,0.3s,baz=146,slow=12,SNR=12						
ESDC	Sonseca Array	24.04	292	P	P	20 14 52.7	-0.9
	0.2nm,0.4s,baz=112,slow=9.7,SNR=3.6						
TORD	Torodi Ar. Bea	29.87	232	P	P	20 15 45.6	-0.5
	0.3nm,0.6s,baz=32,slow=7.7,SNR=6.2						
MKAR	Makanchi Array	44.30	56	P	P	20 17 49.7	+1.5
	1.2nm,0.5s,baz=270,slow=7.3,SNR=18						
ZALV	Zalesovo Beam	45.70	45	P	P	20 17 59.8	+0.7
	0.8nm,0.5s,baz=278,slow=9.3,SNR=4.8						
SONM	Songino Array	60.11	50	P	P	20 19 45.0	-0.8
	0.5nm,0.7s,baz=282,slow=7.0,SNR=5.0						
USRK	Ussuriysk Arra	77.56	45	P	P	20 21 32.9	-1.3
	0.8nm,0.6s,baz=271,slow=5.6,SNR=4.5						

*IDC **01** 20:46:18.8±1.2,3°.57N×127°.81E,h0km,mb3.7/6,*
mb1 3.9/6,mb1mx3.6/22,mbtmp3.7/6,Error ellipse:
s-maj=89.6km s-min=17.9km az=72.0
*DJA **01** 20:46:28.9±0.6,1°.S±5°.×12°.E±°,h4km±7km,M3.5/5,*
MLv3.5/5
ISC 01 20:46:19.6±1.3,**1°.1N**±0°.1×**121°.0E**±0°.1,**h29km,n10,**
σ1§98/8,mb3.6/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.15	125	P	Sn	20 46 54.1	-0.5
GTOI	Gorontalo	2.08	104	P	Pn	20 46 53.7	+1.2
MNI	Manado	3.86	85	P	Pn	20 47 17.0	0.0
TTSI	Tana Toraja	4.32	196	P	Pn	20 47 27.4	+4.0
TTSI				S	Sn	20 48 12.8	0.0
FITZ	Fitzroy Crossi	19.66	167	P	Pn	20 51 12.2	+24
	3.8nm,1.1s,baz=4.1,slow=14,SNR=2.8						
WRA	Warramunga Arr	24.70	149	P	P	20 51 36.7	-1.7
	1.4nm,0.5s,baz=343,slow=10,SNR=10						
ASAR	Alice Springs	27.67	154	P	P	20 52 08.8	+3.5
	0.3nm,0.4s,baz=344,slow=6.9,SNR=5.6						
STKA	Stephens Creek	38.20	151	P	P	20 53 35.3	-1.6
	1.3nm,0.3s,baz=336,slow=6.2,SNR=11						
SONM	Songino Array	48.20	347	P	P	20 54 57.7	+0.1
	0.2nm,0.6s,baz=157,slow=9.4,SNR=2.7						
MKAR	Makanchi Array	56.60	329	P	P	20 56 15.7	+16
	0.3nm,0.5s,baz=114,slow=7.1,SNR=9.3						

IDC 01 20:53:24.7±2.1,**22°.63N**×**145°.49E,h0km,mb3.5/5,**
mb1 3.7/5,mb1mx3.4/24,mbtmp3.5/5,Error ellipse:
s-maj=102.8km s-min=24.1km az=84.0,North Pacific
Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	21.15	318	P	P	20 58 11.7	+0.3
	0.2nm,0.6s,baz=149,slow=9.3,SNR=4.2						
WRA	Warramunga Arr	43.69	195	P	P	21 01 31.6	+0.1
	0.3nm,0.3s,baz=18,slow=8.7,SNR=6.1						
ASAR	Alice Springs	47.38	194	P	P	21 02 00.6	-0.2
	0.3nm,0.8s,baz=9.9,slow=7.8,SNR=7.0						
ARCES	ARCESS Array B	78.72	342	P	P	21 05 29.6	+1.0
	1.0nm,0.7s,baz=64,slow=8.2,SNR=4.4						
FINES	FINESS Array B	83.26	335	P	P	21 05 51.9	-1.0
	0.3nm,0.3s,baz=45,slow=3.6,SNR=7.3						

IDC 01 20:57:24.2±1.5,**0°.40S**×**132°.09E,h0km,mb3.9/5,**
mb1 4.0/7,mb1mx3.7/20,mbtmp3.9/7,ML3.8/2,MS3.6/1,
Ms1 3.6/1,ms1mx2.4/33,Error ellipse: s-maj=93.1km
s-min=18.9km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	12.85	220	LR	LR	21 06 07.2	
	comp=Z,241nm,18.2s,baz=140,slow=41						
FITZ	Fitzroy Crossi	18.70	199	P	P	21 01 43.5	-0.8
	0.2nm,0.3s,baz=16,slow=9.7,SNR=8.0						
WRA	Warramunga Arr	19.55	174	P	P	21 01 53.4	-0.3
	0.3nm,0.3s,baz=354,slow=11,SNR=8.2						
ASAR	Alice Springs	23.20	176	P	P	21 02 33.4	+0.5
	6.5nm,0.9s,baz=356,slow=8.9,SNR=31						
STKA	Stephens Creek	32.58	165	P	P	21 03 57.6	+0.3
	1.2nm,0.8s,baz=353,slow=13,SNR=2.7						
SONM	Songino Array	52.98	339	P	P	21 06 41.8	-1.0
	0.4nm,0.6s,baz=139,slow=6.8,SNR=4.0						
MKAR	Makanchi Array	63.99	324	P	P	21 08 00.1	+0.6
	0.8nm,0.6s,baz=120,slow=7.7,SNR=9.4						
VNDA	Vanda	78.72	174	P	P	21 09 27.6	-0.4
	1.1nm,0.9s,baz=326,slow=8.9,SNR=4.8						

*AZER **01** 21:15:52.9,42°.05N×43°.06E,h7km*
*NSSP **01** 21:15:55.7,41°.43N×43°.45E,h13km,Ms3.6*
*TIF **01** 21:15:56.1,41°.47N×43°.49E,h20km±2km*
*MOS **01** 21:15:56.3±1.0,41°.39N×43°.32E,h11km,mb4.0/5,Error*
ellipse: s-maj=6.2km s-min=4.4km az=90.1
*ISK **01** 21:15:56.0,41°.58N×43°.43E,h5km,ML3.7*
*IDC **01** 21:15:57.0±0.7,41°.47N×43°.46E,h0km,mb3.5/7,*
mb1 3.7/11,mb1mx3.5/30,mbtmp3.5/11,ML3.4/4,MS2.8/3,
Ms1 2.8/3,ms1mx2.4/33,Error ellipse: s-maj=15.2km
s-min=7.5km az=56.0
*CSEM **01** 21:15:57.5±0.1,41°.48N×43°.46E,h2km,mb4.0,mb3.6/5,*
Error ellipse: s-maj=2.9km s-min=2.8km az=160.0
*DDA **01** 21:16:00.0,41°.32N×43°.26E,h7km,MD3.4*
*NNC **01** 21:16:06.5±7.0,41°.85N×44°.55E,h0km,mb3.7,Error*
ellipse: s-maj=145.7km s-min=71.6km az=123.0
ISC 01 21:15:58.1±0.7,**41°.48N**±0°.01×**43°.48E**±0°.02,**h9km**±5km,
n215,σ1§34/265,mb3.5/12,35C-24D,
Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.07	171	ePG	Pg	21 15 59.9	-0.5
AKH	Akhalkalaki	0.07	171	P	Pg	21 15 59.9

BCA	**Borcka**	**1.39**	**269**	*e*Pn	**Pn**	**21 16 22.7**	**-1.1**
VNNZ	**Vanand**	**1.40**	**169**	*e*P	**Pn**	**21 16 22.9**	**-1.0**
VNNZ				*e*S	**Sb**	**21 16 42.5**	**-0.1**
VNNZ	**Vanand**	**1.40**	**169**	P	**Pn**	**21 16 22.9**	**-1.0**
VNNZ				S	**Sb**	**21 16 42.5**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.42**	**3**	*e*PG	**Pn**	**21 16 22.9**	**-1.3**
DIGR	**Digorskoe uzhe**	**1.42**	**3**	*e*Pg	**Pn**	**21 16 22.9**	**-1.3**
DBAD	**Bademkaya**	**1.42**	**251**	*i* P	**Pn**	**21 16 23.7**	**-0.5**
DBAD				*i* S	**Sb**	**21 16 40.4**	**-2.7**
DBAD	**Bademkaya**	**1.42**	**251**	*i* P	**Pn**	**21 16 23.7**	**-0.5**
DBAD				*i* S	**Sb**	**21 16 40.4**	**-2.7**
DGRG	**David-gareji**	**1.43**	**91**	*e*PG	**Pn**	**21 16 23.3**	**-0.9**
DGRG	**David-gareji**	**1.43**	**91**	P	**Pn**	**21 16 23.3**	**-0.9**
DGRG				S	**Sb**	**21 16 43.1**	**-0.1**
DGRG	**David-gareji**	**1.43**	**91**	P	**Pn**	**21 16 23.3**	**-0.9**
DGRG				S	**Sb**	**21 16 43.1**	**-0.1**
KAPZ	**Kaputan**	**1.48**	**141**	*e*P	**Pn**	**21 16 24.6**	**-0.6**
KAPZ				*e*S	**Sn**	**21 16 44.4**	**-0.3**
KAPZ	**Kaputan**	**1.48**	**141**	P	**Pn**	**21 16 24.5**	**-0.6**
KAPZ				S	**Sn**	**21 16 44.4**	**-0.3**
PAAR	**P'arak'ar**	**1.50**	**152**	*e*P	**Pn**	**21 16 24.6**	**-0.6**
PAAR				*e*S	**Sn**	**21 16 45.4**	**+0.4**
PAAR	**P'arak'ar**	**1.50**	**152**	P	**Pn**	**21 16 24.6**	**-0.6**
PAAR				S	**Sn**	**21 16 45.3**	**+0.4**
VRNZ	**Vardanashen**	**1.53**	**159**	*e*P	**Pn**	**21 16 25.8**	**+0.1**
VRNZ				*e*S	**Sn**	**21 16 46.6**	**+0.9**
VRNZ	**Vardanashen**	**1.53**	**159**	P	**Pn**	**21 16 25.8**	**+0.1**
VRNZ				S	**Sn**	**21 16 46.7**	**+0.9**
GNI	**Garni**	**1.64**	**144**	*e*PN	**Pn**	**21 16 28.4**	**+1.1**
GNI	**Garni**	**1.64**	**144**	⇑*i*P	**Pn**	**21 16 28.2**	**+0.8**
GNI				⇑*i*S	**Sb**	**21 16 51.1**	**+1.6**
GNI	**Garni**	**1.64**	**144**	Pg	**Pn**	**21 16 28.1**	**+0.8**
	48nm,0.3s,baz=315,slow=5.4,SNR=111						
GNI				Lg	Lg	21 16 50.8	
	180nm,0.3s,baz=188,slow=17,SNR=16						
GNI	**Garni**	**1.64**	**144**	Pn	**Pn**	**21 16 28.1**	**+0.8**
GNI				S	**Sb**	**21 16 51.1**	**+1.6**
KORR	**Kora**	**1.66**	**15**	⇑*i*PN	**Pn**	**21 16 28.2**	**+0.8**
KORR	**Kora**	**1.66**	**15**	*i* Pn	**Pn**	**21 16 28.2**	**+0.8**
ARNR	**Ardon**	**1.80**	**19**	*e*PN	**Pb**	**21 16 30.9**	**-0.3**
ARNR	**Ardon**	**1.80**	**19**	*e*PN	**Pb**	**21 16 30.9**	**-0.3**
VLKR	**Vladikavkaz**	**1.80**	**29**	⇑*i*PN	**Pb**	**21 16 31.3**	**+0.1**
VLKR				*i* S	**Sg**	**21 16 57.1**	**+1.2**
VLKR	**Vladikavkaz**	**1.80**	**29**	*i* Pn	**Pb**	**21 16 31.3**	**+0.1**
VLKR				*i* Sg	**Sg**	**21 16 57.1**	**+1.2**
SNJR	**Sundja**	**1.87**	**32**	⇓*i*PN	**Pb**	**21 16 32.3**	**-0.1**
SNJR				*i* S	**Sg**	**21 16 59.2**	**+1.1**
SNJR	**Sundja**	**1.87**	**32**	*i* Pn	**Pb**	**21 16 32.3**	**-0.1**
SNJR				*i* Sg	**Sg**	**21 16 59.2**	**+1.1**
STDR	**Stavd-Durt**	**1.93**	**13**	*e*PN	**Pb**	**21 16 33.0**	**-0.5**
STDR	**Stavd-Durt**	**1.93**	**13**	*e*Pn	**Pb**	**21 16 33.0**	**-0.5**
AGRB	**Hanur-Agry**	**1.94**	**191**	*e*PN	**Pn**	**21 16 32.7**	**+1.3**
AGRB	**Hanur-Agry**	**1.94**	**191**	*e*Pn	**Pn**	**21 16 32.7**	**+1.3**
PZAR	**Pazar-Rize**	**1.96**	**262**	*e*PN	**Pn**	**21 16 31.4**	**-0.1**
PZAR	**Pazar-Rize**	**1.96**	**262**	*e*Pn	**Pn**	**21 16 31.5**	**-0.1**
NCK	**Nalchik**	**2.01**	**2**	*i* PN	**Pn**	**21 16 34.1**	**+1.8**
NCK	**Nalchik**	**2.01**	**2**	*i* Pn	**Pn**	**21 16 34.1**	**+1.8**
BTKR	**Batakoyurt**	**2.04**	**22**	*e*PN	**Pn**	**21 16 34.5**	**+1.8**
BTKR				*e*S	**Sg**	**21 17 02.7**	**-1.1**
BTKR	**Batakoyurt**	**2.04**	**22**	*e*Pn	**Pn**	**21 16 34.5**	**+1.8**
VADZ	**Vardenis**	**2.16**	**127**	⇓*i*P	Pn	21 16 29.0	-5.5
VADZ				⇑*i*S	**Sn**	**21 16 59.0**	**-2.6**
VADZ	**Vardenis**	**2.16**	**127**	⇓P	Pn	21 16 29.0	-5.5
VADZ				S	**Sn**	**21 16 59.0**	**-2.6**
EZM	**Erzurum**	**2.25**	**226**	*e*PN	**Pn**	**21 16 36.4**	**+0.6**
KBZ	**Khabaz**	**2.28**	**349**	PN	**Pn**	**21 16 37.9**	**+2.0**
KBZ				pmax	pmax		
	comp=Z,11nm,0.3s						
KBZ	**Khabaz**	**2.28**	**349**	Pn	**Pn**	**21 16 37.9**	**+2.0**
	comp=Z,11nm,0.3s,baz=177,slow=10,SNR=108						
KBZ				Lg	Lg	21 17 09.9	
	comp=Z,18nm,0.3s,baz=336,slow=21,SNR=11						
KBZ	**Khabaz**	**2.28**	**349**	Pn	**Pn**	**21 16 37.9**	**+2.0**
PRTR	**Priterechnaya**	**2.34**	**14**	⇑*i*PN	**Pn**	**21 16 37.9**	**+1.1**
PRTR				*e*S	**Sb**	**21 17 08.6**	**-0.9**
PRTR	**Priterechnaya**	**2.34**	**14**	*i* Pn	**Pn**	**21 16 37.9**	**+1.1**
PRTR				*e*Sn	**Sb**	**21 17 08.6**	**-0.9**
CLDR	**Caldiran**	**2.36**	**172**	*e*PN	**Pn**	**21 16 38.5**	**+1.3**
CLDR	**Caldiran**	**2.36**	**172**	*e*Pn	**Pn**	**21 16 38.5**	**+1.3**
TRKR	**Terskaya**	**2.42**	**22**	*i* PN	**Pn**	**21 16 38.0**	**+0.1**
TRKR	**Terskaya**	**2.42**	**22**	*i* Pn	**Pn**	**21 16 38.0**	**+0.1**
GRO	**Groznyy**	**2.49**	**42**	⇑*i*PN	**Pb**	**21 16 41.4**	**-1.6**
GRO				*i* S	**Sb**	**21 17 14.0**	**+0.3**
KIV	**Kislovodsk**	**2.54**	**347**	⇑*e*PN	**Pn**	**21 16 40.4**	**+0.9**
KIV				*i* S	**Sb**	**21 17 14.2**	**-1.0**
KIV				*e*		21 17 19.8	
KIV				pmax	pmax		
	comp=Z,106nm,1.0s						
KIV	**Kislovodsk**	**2.54**	**347**	*e*Pn	**Pn**	**21 16 40.4**	**+0.9**
	comp=Z,106nm,1.0s						
KIV				*e*Sb	**Sg**	**21 17 19.8**	**+0.2**
BEYR	**Belyy Ugol+**	**2.57**	**349**	*d*PN	**Pn**	**21 16 41.4**	**+1.4**
BEYR	**Belyy Ugol+**	**2.57**	**349**	*i* Pn	**Pn**	**21 16 41.4**	**+1.4**
BAYT	**Ayd¨-ntepe-Bay**	**2.75**	**248**	*e*PN	**Pn**	**21 16 42.9**	**+0.4**
BAYT	**Ayd¨-ntepe-Bay**	**2.75**	**248**	*e*Pn	**Pn**	**21 16 42.9**	**+0.4**
NAX	**Nakhchivan**	**2.77**	**146**	⇑P	**Pb**	**21 16 49.9**	**+2.0**
	SNR=17						
NAX				⇑S	**Sg**	**21 17 26.1**	**-1.2**
KMKR	**Kumukh**	**2.78**	**75**	PN	**Pn**	**21 16 46.0**	**+3.0**
KMKR				*e*S	**Sb**	**21 17 25.0**	**+2.6**
KMKR				pmax	pmax		
	comp=Z,95nm,0.4s						
SEKA	**Sheki**	**2.81**	**94**	⇑P	**Pn**	**21 16 45.2**	**+1.9**
	SNR=79						
SEKA				⇑S	**Sb**	**21 17 22.2**	**-1.0**
SEKA	**Sheki**	**2.81**	**94**	P	**Pn**	**21 16 45.2**	**+1.9**
	SNR=79						
SEKA				S	**Sb**	**21 17 22.2**	**-1.0**
DLMR	**Dylym**	**2.83**	**55**	⇑*i*PN	**Pn**	**21 16 45.7**	**+2.3**
DLMR				*e*S	**Sb**	**21 17 25.5**	**+2.1**
DLMR	**Dylym**	**2.83**	**55**	*i* Pn	**Pn**	**21 16 45.7**	**+2.3**
MTKZ	**Martakert**	**2.84**	**116**	⇓*i*P	**Pn**	**21 16 45.8**	**+2.1**
MTKZ				⇓*i*S	**Sb**	**21 17 22.9**	**-1.0**
MTKZ	**Martakert**	**2.84**	**116**	⇓P	**Pn**	**21 16 45.8**	**+2.1**
MTKZ				S	**Sb**	**21 17 22.9**	**-1.0**
GRS	**Goris**	**2.94**	**131**	⇓*i*P	**Pb**	**21 16 50.0**	**-0.8**
GRS				⇓*i*S	**Sb**	**21 17 29.0**	**+2.0**
BRDA	**Brd**	**3.06**	**112**	⇑P	**Pb**	**21 16 52.0**	**-0.7**
	SNR=49						
BRDA				⇑S	**Sb**	**21 17 31.9**	**+1.7**
GUMT	**Gumushane**	**3.19**	**253**	*e*PN	**Pn**	**21 16 49.3**	**+0.7**
GUMT	**Gumushane**	**3.19**	**253**	*e*Pn	**Pn**	**21 16 49.3**	**+0.7**
BNGB	**Bing¨¶l**	**3.28**	**222**	*e*PN	**Pn**	**21 16 51.5**	**+1.7**
MAK	**Makhachkala**	**3.34**	**62**	*e*PN	**Pn**	**21 16 52.1**	**+1.7**
MAK	**Makhachkala**	**3.34**	**62**	*e*Pn	**Pn**	**21 16 52.1**	**+1.7**
ERZN	**Erzincan**	**3.43**	**238**	*e*PN	**Pn**	**21 16 52.9**	**+1.0**
BINT	**Bingol**	**3.47**	**222**	*e*Pn	**Pn**	**21 16 51.5**	**-0.9**
SOC	**Sochi**	**3.48**	**308**	*c* *i*PN	**Pn**	**21 16 52.0**	**-0.4**
SOC				*e*		21 16 59.6	
SOC				*e*PPP	PPP	21 17 03.5	
SOC				*e*		21 17 35.0	
SOC				*e*SS	**Sb**	**21 17 46.0**	**+3.7**
SOC				pmax	pmax		
	comp=Z,21nm,0.6s						
SOC				smax	smax		
	comp=N,101nm,0.9s						
SOC				smax	smax		
	comp=E,119nm,0.9s						
SOC				MLR	MLR		
	comp=Z,156nm,9.0s						
SOC				MLR	MLR		
	comp=E,141nm,9.0s						
SOC				MLR	MLR		
	comp=N,306nm,9.0s						
SOC	**Sochi**	**3.48**	**308**	*i* Pn	**Pn**	**21 16 52.0**	**-0.4**
	comp=N,21nm,0.6s						
SOC	**Sochi**	**3.48**	**308**	*e*Pg	**Pg**	**21 17 03.5**	**-1.3**
SOC				*e*Sn	**Sn**	**21 17 35.0**	**+1.3**
	comp=N,156nm,9.0s						
EZC	**Erzincan**	**3.58**	**242**	*e*PN	**Pn**	**21 16 54.9**	**+0.9**
EZC	**Erzincan**	**3.58**	**242**	*e*Pn	**Pn**	**21 16 52.9**	**-1.1**
IML	**Ismayilli**	**3.62**	**99**	⇑P	Pn	21 16 58.8	+4.4
	SNR=9.8						
IML	**Ismayilli**	**3.62**	**99**	P	Pn	21 16 58.8	+4.4
	SNR=9.8						
ESPY	**Espiye-Giresun**	**3.63**	**263**	*e*PN	**Pn**	**21 16 54.9**	**+0.5**
ESPY	**Espiye-Giresun**	**3.63**	**263**	*e*Pn	**Pn**	**21 16 54.9**	**+0.5**
QUBA	**Quba, Azerbaij**	**3.77**	**90**	⇓P	Pn	21 17 00.8	+4.3
	SNR=5.9						
QUBA	**Quba, Azerbaij**	**3.77**	**90**	P	Pn	21 17 00.8	+4.3
	SNR=5.9						
PQL	**Pirkuli**	**3.93**	**98**	⇓P	Pn	21 17 02.9	+4.2
	SNR=7.7						
PQL	**Pirkuli**	**3.93**	**98**	P	Pn	21 17 02.9	+4.2
	SNR=7.7						
SIRT	**Sirnak**	**4.06**	**192**	*e*PN	**Pn**	**21 17 02.8**	**+2.3**
SIRT	**Sirnak**	**4.06**	**192**	*e*Pn	**Pn**	**21 17 02.8**	**+2.3**
PTK	**Pertek**	**4.06**	**232**	*e*PN	**Pn**	**21 17 02.0**	**+1.4**
PTK	**Pertek**	**4.06**	**232**	*e*Pn	**Pn**	**21 17 02.0**	**+1.4**
SIZA	**Siyzn**	**4.11**	**94**	⇑P	Pn	21 17 06.2	+5.2
	SNR=10.0						
CUKT	**Cukurca**	**4.23**	**179**	*e*PN	**Pn**	**21 17 05.2**	**+2.3**
CUKT	**Cukurca**	**4.23**	**179**	*e*Pn	**Pn**	**21 17 05.2**	**+2.3**
ILIC	**ilic-Erzincan**	**4.26**	**243**	*e*PN	**Pn**	**21 17 04.6**	**+1.4**
ILIC	**ilic-Erzincan**	**4.26**	**243**	*e*Pn	**Pn**	**21 17 04.6**	**+1.4**
GLBA	**Cilabad**	**4.37**	**119**	⇑P	Pb	21 17 10.7	-4.4
	SNR=18						
RSDY	**Resadiye-TOKAT**	**4.78**	**259**	*e*PN	**Pn**	**21 17 11.6**	**+1.3**
RSDY	**Resadiye-TOKAT**	**4.78**	**259**	*e*Pn	**Pn**	**21 17 11.6**	**+1.3**
LKRN	**Lenkeran, Azer**	**4.92**	**123**	⇑P	Pn	21 17 18.0	+5.8
	SNR=6.1						
SVSK	**Karacayir**	**5.17**	**254**	*e*PN	**Pn**	**21 17 17.3**	**+1.8**
SVSK	**Karacayir**	**5.17**	**254**	*e*Pn	**Pn**	**21 17 17.3**	**+1.8**
DARE	**Darende-Malaty**	**5.44**	**240**	*e*PN	**Pn**	**21 17 21.9**	**+2.4**
ANN	**Anapa**	**5.53**	**309**	*e*P	**Pn**	**21 17 22.1**	**+1.6**
ANN				*e*S	**Sn**	**21 18 26.5**	**+2.4**
ANN				MLR	MLR		
	comp=Z,204nm,15.0s						
ANN	**Anapa**	**5.53**	**309**	*e*P	**Pn**	**21 17 22.1**	**+1.6**
	comp=Z,204nm,15.0s						
ANN				*e*S	**Sn**	**21 18 26.5**	**+2.4**
SUDU	**Sudak**	**7.07**	**302**	⇑*e*P	**Pn**	**21 17 41.4**	**-0.3**
SUDU				*e*S	**Sn**	**21 19 01.5**	**-0.6**
SUDU	**Sudak**	**7.07**	**302**	*e*P	**Pn**	**21 17 41.4**	**-0.3**
SUDU				*e*S	**Sn**	**21 19 01.5**	**-0.6**
ALU	**Alushta**	**7.37**	**299**	*e*P	**Pn**	**21 17 45.7**	**-0.1**
ALU				*e*S	**Sn**	**21 19 08.1**	**-1.4**
ALU	**Alushta**	**7.37**	**299**	*e*P	**Pn**	**21 17 45.7**	**-0.1**
ALU				*e*S	**Sn**	**21 19 08.1**	**-1.4**
YAL	**Yalta**	**7.46**	**297**	*e*P	**Pn**	**21 17 47.4**	**+0.3**
YAL				*e*S	**Sn**	**21 19 11.8**	**0.0**
YAL	**Yalta**	**7.46**	**297**	*e*P	**Pn**	**21 17 47.4**	**+0.3**
YAL				*e*S	**Sn**	**21 19 11.8**	**0.0**
SIM	**Simferopol'**	**7.66**	**300**	*e*P	**Pn**	**21 17 49.6**	**-0.2**
SIM				*e*S	**Sn**	**21 19 13.3**	**-3.5**
SIM	**Simferopol'**	**7.66**	**300**	*e*P	**Pn**	**21 17 49.6**	**-0.2**
BRTR	**Keskin Array B**	**7.69**	**260**	Pn	**Pn**	**21 17 50.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=5.8						
BRTR	**Keskin Array B**	**7.69**	**260**	P	**Pn**	**21 17 50.9**	**+0.5**
SEV	**Sevastopol'**	**7.81**	**296**	*e*P	**Pn**	**21 17 50.7**	**-1.1**
SEV				*e*S	**Sn**	**21 19 18.7**	**-1.7**
SEV	**Sevastopol'**	**7.81**	**296**	*e*P	**Pn**	**21 17 50.7**	**-1.1**
SEV				*e*S	**Sn**	**21 19 18.7**	**-1.7**
MMAI	**Mount Meron Ar**	**10.62**	**220**	LR	LR	21 23 23.0	
	comp=Z,44nm,19.2s,baz=225,slow=42						
TLCR		**11.30**	**294**	⇑P	**Pn**	**21 18 37.7**	**-1.9**
TLCR		**11.30**	**294**	⇑*i*P	**Pn**	**21 18 37.7**	**-1.9**
TLCR		**11.30**	**294**	P	**Pn**	**21 18 37.7**	**-1.9**
TIRR	**Tirgusor**	**11.43**	**290**	⇑P	Pn	21 18 38.5	-2.9
TIRR	**Tirgusor**	**11.43**	**290**	⇑*i*P	Pn	21 18 38.5	-2.9
CFR	**Carcaliu**	**11.77**	**293**	⇓P	**Pn**	**21 18 44.3**	**-1.7**
CFR	**Carcaliu**	**11.77**	**293**	⇓*i*P	**Pn**	**21 18 44.3**	**-1.7**
CFR	**Carcaliu**	**11.77**	**293**	P	**Pn**	**21 18 44.3**	**-1.7**
VRI	**Vrincioaia**	**12.89**	**295**	⇓P	**Pn**	**21 19 00.6**	**-0.8**
VRI	**Vrincioaia**	**12.89**	**295**	⇓*i*P	**Pn**	**21 19 00.6**	**-0.8**
VRI	**Vrincioaia**	**12.89**	**295**	P	**Pn**	**21 19 00.6**	**-0.8**
PLOR	**Plostina**	**12.94**	**295**	⇑P	**Pn**	**21 19 02.3**	**+0.2**
PLOR	**Plostina**	**12.94**	**295**	⇑*i*P	**Pn**	**21 19 02.3**	**+0.2**
MLR	**Muntele Rosu**	**13.34**	**293**	⇑*i*P	**Pn**	**21 19 07.7**	**0.0**
MLR	**Muntele Rosu**	**13.34**	**293**	Pn	**Pn**	**21 19 09.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=133,slow=5.1,SNR=12						
MLR	**Muntele Rosu**	**13.34**	**293**	P	**Pn**	**21 19 07.7**	**0.0**
AKTO	**Aktyubinsk**	**13.49**	**44**	⇓P	Pn	21 19 06.2	-3.3
	comp=Z,3.7nm,1.1s						
AKTO				⇑S	Sn	21 21 31.6	-7.8
	comp=Z,4.1nm,1.1s						
AKTO	**Aktyubinsk**	**13.49**	**44**	P	Pn	21 19 06.9	-2.6
AKTO	**Aktyubinsk**	**13.49**	**44**	Pn	Pn	21 19 06.9	-2.6
	comp=Z,0.1nm,0.3s,baz=236,slow=11,SNR=3.5						
KIEV	**Kiev**	**13.50**	**318**	*e*P	**Pn**	**21 19 10.7**	**+1.0**
KIEV	**Kiev**	**13.50**	**318**	*e*P	**Pn**	**21 19 10.7**	**+1.0**
EIL	**Elat**	**13.67**	**213**	LR	LR	21 24 23.1	
	comp=Z,51nm,20.7s,baz=102,slow=37						
AB31	**Akbulak array**	**13.92**	**51**	⇓P	**Pn**	**21 19 14.2**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=250,slow=11,SNR=12						
AB31				⇓S	Sn	21 21 39.9	-10
	comp=Z,3.7nm,1.2s,baz=241,slow=11,SNR=7.9						
AB31	**Akbulak array**	**13.92**	**51**	P	**Pn**	**21 19 14.2**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=250,SNR=12						
VOIR		**13.95**	**293**	⇓P	**Pn**	**21 19 18.3**	**+2.3**
VOIR		**13.95**	**293**	⇓*i*P	**Pn**	**21 19 18.3**	**+2.3**
VOIR		**13.95**	**293**	P	**Pn**	**21 19 18.3**	**+2.3**
BURAR	**Bucovina Array**	**14.38**	**301**	⇑P	**Pn**	**21 19 20.2**	**-1.6**
BURAR	**Bucovina Array**	**14.38**	**301**	⇑*i*P	**Pn**	**21 19 20.2**	**-1.6**
OBN	**Obninsk**	**14.38**	**344**	*e*P	**Pn**	**21 19 22.7**	**+1.0**
ARU	**Arti**	**17.88**	**28**	*d* *i*P	**P**	**21 20 08.1**	**+0.7**
ARU				S	**Sn**	**21 23 28.1**	**+2.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**17.88**	**28**	*i* P	**P**	**21 20 08.1**	**+0.7**
	comp=Z,3.0nm,1.0s						
SVE	**Sverdlovsk**	**18.93**	**30**	*e*P	**P**	**21 20 16.4**	**-2.7**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KK31	**Karatay Array**	**20.04**	**76**	⇓P	**P**	**21 20 31.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=288,slow=9.3,SNR=17						
KK31	**Karatay Array**	**20.04**	**76**	P	**P**	**21 20 31.1**	**-0.2**
	comp=Z,1.1nm,0.6s,SNR=17						
DPC	**Dobruska-Polom**	**20.77**	**304**	*e*P	Pn	21 20 44.8	+3.1
DPC	**Dobruska-Polom**	**20.77**	**304**	*e*P	Pn	21 20 44.8	+3.1
BRVK	**Borovoye**	**21.42**	**48**	⇑P	**P**	**21 20 45.6**	**-0.6**
	comp=Z,4.4nm,0.7s						
BRVK	**Borovoye**	**21.42**	**48**	*c* *i*P	**P**	**21 20 46.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**21.42**	**48**	*i* P	**P**	**21 20 46.3**	**+0.1**
	comp=Z,2.0nm,0.9s						
BVA0	**Borovoye Array**	**21.47**	**48**	⇑P	**P**	**21 20 45.1**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=237,slow=7.9,SNR=10						
BVA0	**Borovoye Array**	**21.47**	**48**	P	**P**	**21 20 45.1**	**-1.6**
	comp=Z,1.5nm,0.7s,SNR=10						
BVAR	**Borovoye Array**	**21.47**	**48**	P	**P**	**21 20 46.8**	**+0.1**
BVAR	**Borovoye Array**	**21.47**	**48**	P	**P**	**21 20 46.8**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=253,slow=9.1,SNR=12						
BVAR	**Borovoye Array**	**21.47**	**48**	P	**P**	**21 20 46.8**	**+0.1**
VOSK	**Vostochnaya**	**21.70**	**49**	⇓P	**P**	**21 20 52.8**	**+3.7**
	comp=Z,2.4nm,1.0s						
GERES	**GERESS Array B**	**22.14**	**300**	P	**P**	**21 20 54.8**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=106,slow=8.4,SNR=8.8						
GERES	**GERESS Array B**	**22.14**	**300**	P	**P**	**21 20 54.8**	**+0.7**
KHC	**Kasperske Hory**	**22.27**	**300**	*e*P	**P**	**21 20 57.1**	**+1.8**
KHC	**Kasperske Hory**	**22.27**	**300**	*e*P	**P**	**21 20 57.1**	**+1.8**
KHC	**Kasperske Hory**	**22.27**	**300**	*e*P	**P**	**21 20 57.1**	**+1.8**
BRG	**Berggiesshubel**	**22.37**	**305**	*e*P	P	21 21 05.9	+10
	comp=Z,4.6nm,1.3s						
BRG	**Berggiesshubel**	**22.37**	**305**	*e*P	P	21 21 05.9	+10
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
FINES	**FINESS Array B**	**22.60**	**338**	P	**P**	**21 20 58.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=144,slow=14,SNR=10.0						
FINES	**FINESS Array B**	**22.60**	**338**	P	**P**	**21 20 58.6**	**0.0**
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**23.05**	**306**	*e*P	**P**	**21 21 04.0**	**+0.5**
CLL	**Collm**	**23.05**	**306**	*e*P	**P**	**21 21 04.0**	**+0.5**
CLL	**Collm**	**23.05**	**306**	*e*P	**P**	**21 21 04.0**	**+0.5**
DAVOX	**Davos/Dischmat**	**24.57**	**294**	LR	LR	21 32 38.2	
	comp=Z,27nm,19.2s,baz=82,slow=41						
KURBB	**Kurchatov Arra**	**25.78**	**57**	P	**P**	**21 21 29.8**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=268,slow=9.2,SNR=14						
KURK	**Kurchatov**	**25.85**	**57**	P	**P**	**21 21 29.8**	**+0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**25.85**	**57**	P	**P**	**21 21 29.8**	**+0.1**
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**26.14**	**326**	P	**P**	**21 21 31.9**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=137,slow=9.3,SNR=6.9						
HFS	**Hagfors**	**26.14**	**326**	P	**P**	**21 21 31.9**	**-0.4**
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**28.15**	**66**	P	**P**	**21 21 51.2**	**+0.7**
MKAR	**Makanchi Array**	**28.15**	**66**	P	**P**	**21 21 51.2**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=274,slow=9.0,SNR=2.7						
MKAR	**Makanchi Array**	**28.15**	**66**	P	**P**	**21 21 51.2**	**+0.7**
ESDC	**Sonseca Array**	**35.73**	**283**	P	**P**	**21 22 58.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=90,slow=11,SNR=3.4						

PRU 01 21:17:40.4, 49°.90N×18°.43E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.19**	**251**	*e*PG	Pg	21 17 44.2	+0.1
OKC				*e*SG	Sg	21 17 46.8	+0.1
	4.2nm,0.4s						
KRLC	**Kraliky**	**1.08**	**280**	*e*SG	Sg	21 18 14.8	-0.4
DPC	**Dobruska-Polom**	**1.43**	**289**	*e*PG	Pn	21 18 06.2	-1.5
DPC				*e*SG	Sg	21 18 25.9	-0.6

MAN 01 21:23:42, 8°.92N×123°.08E, h2km, mb4.2, ML3.1, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.42**	**141**	⇓*i*P	Pb	21 23 51.4	-0.8
DCPH				*i* S	Sb	21 23 58.0	-1.0
TBP	**Tagbilaran**	**1.09**	**45**	*e*P	Pn	21 24 04.3	0.0
TBP				*e*S	Sn	21 24 20.1	+0.2
PAGZ	**Pagadian**	**1.10**	**164**	*e*P	Pb	21 24 03.5	-0.3
IPIL	**Ipil**	**1.23**	**204**	*e*P	Pb	21 24 06.1	+0.1
IPIL				*e*S	Sg	21 24 18.6	-3.0
BUKP	**Musuan**	**2.21**	**118**	*e*P	Pb	21 24 21.6	-1.3

IDC ***01*** *21:38:03.2±0.5, 20°.75S×174°.03W, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.4/25, mbtmp4.2/22, ML3.9/2, MS3.8/10, Ms1 3.8/10, ms1mx3.5/43, Error ellipse: s-maj=21.0km s-min=14.3km az=139.0*

ISCJB ***01*** *21:38:05.8±0.3, 20°.78S±0°.07×174°.08W±0°.06, h27km, mb4.3/29, MS3.9/7, Error ellipse: s-maj=11.1km s-min=7.1km az=151.2*

NEIC ***01*** *21:38:06.5±4.2, 20°.74S×174°.05W, h21km±28km, mb4.7/8, Error ellipse: s-maj=9.4km s-min=8.3km az=143.0*

AUST ***01*** *21:38:08.5±1.5, 20°.57S×173°.45W, h59km, Error ellipse: s-maj=2.1km s-min=1.1km az=355.0*

SZGRF ***01*** *21:38:11.2, 19°.54S×172°.90W, h33km, Tonga Islands region*

**ISC 01 21:38:07.0±0.4, 20°.69S±0°.08×173°.98W±0°.08, h27km, n157, σ1°.39/141, mb4.5/28, MS3.9/7, 18C-2D,

KSRS	Korea Array	79.57	317	P		P	21 50 12.7	+1.0
	0.6nm,0.7s,baz=136,slow=5.8,SNR=5.1							
KSAR	Wonju Array Be	79.58	317	P		P	21 50 12.7	+0.9
USRK	Ussuriysk Arra	81.28	324	P		P	21 50 22.3	+1.6
	0.8nm,0.7s,baz=108,slow=4.7,SNR=7.0							
MVU	Marysvale	82.54	44	eP		P	21 50 28.9	+1.0
	11nm,1.5s							
MAW	Mawson	82.64	199	P		P	21 50 27.4	-0.2
MAW	Mawson	82.64	199	P		P	21 50 27.4	-0.2
	2.0nm,0.7s,baz=135,slow=9.9,SNR=4.5							
TXAR	Lajitas Array	84.01	56	P		P	21 50 36.1	+0.6
TXAR	Lajitas Array	84.01	56	P		P	21 50 36.1	+0.6
	0.6nm,1.0s,baz=193,slow=5.1,SNR=4.7							
HLID	Hailey	84.05	39	eP		P	21 50 35.8	+0.4
	5.4nm,1.1s							
TRF	Thorofare Moun	85.89	10	eP		P	21 50 43.8	-0.4
	4.7nm,0.7s							
PLCA	Paso Flores	86.38	132	P		P	21 50 47.1	-0.2
PLCA	Paso Flores	86.38	132	P		P	21 50 47.1	-0.2
	30nm,0.9s,baz=195,slow=12,SNR=3.8							
PLCA				LR		LR	22 23 41.9	
	comp=Z,101nm,18.6s,baz=82,slow=32							
PDAR	Pinedale Array	86.55	42	P		P	21 50 49.1	+1.1
PDAR	Pinedale Array	86.55	42	P		P	21 50 49.1	+1.1
	0.5nm,0.8s,baz=263,slow=2.5,SNR=4.4							
ILAR	Eielson Array	87.71	11	P		P	21 50 54.0	+1.2
ILAR	Eielson Array	87.71	11	P		P	21 50 54.0	+1.2
	1.0nm,1.0s,baz=210,slow=5.4,SNR=4.5							
DAWY	Dawson	88.65	14	eP		P	21 50 58.7	+1.3
EGAK	Eagle	88.86	13	eP		P	21 50 59.1	+0.8
	4.9nm,1.0s							
ENH	Enshi	89.29	303	eP		P	21 50 56.9	-4.3
CFAA	Coronel Fontan	91.92	125	LR		LR	22 23 44.5	
	comp=Z,7.7nm,19.7s,baz=173,slow=30							
JTS	JuntasAbangare	92.67	80	LR		LR	22 23 24.1	
	comp=Z,46nm,19.9s,baz=37,slow=29							
CMAR	Chiang Mai Arr	93.74	288	P		P	21 51 21.5	-0.5
CMAR	Chiang Mai Arr	93.74	288	P		P	21 51 21.5	-0.5
	0.4nm,0.6s,baz=120,slow=3.6,SNR=3.1							
YKA	Yellowknife Ar	95.14	24	P		P	21 51 27.2	-0.2
YKA	Yellowknife Ar	95.14	24	P		P	21 51 27.2	-0.2
	0.5nm,0.7s,baz=236,slow=4.4,SNR=2.7							
SONM	Songino Array	98.39	318	P		Pdif	21 51 44.5	+1.8
SONM	Songino Array	98.39	318	P		Pdif	21 51 44.5	+1.8
	0.3nm,0.8s,baz=112,slow=6.4,SNR=2.5							
LPAZ	La Paz	98.49	111	LR		LR	22 27 15.1	
	comp=Z,70nm,19.9s,baz=126,slow=30							
ZALV	Zalesovo Beam	113.00	321	PKiKP		PKiKP	21 56 42.0	+0.6
ZALV	Zalesovo Beam	113.00	321	PKiKP		PKiKP	21 56 42.0	+0.6
	0.6nm,0.5s,baz=117,slow=1.4,SNR=3.3							
MKAR	Makanchi Array	114.07	313	PKP		PKPdf	21 56 43.3	-0.4
MKAR	Makanchi Array	114.07	313	PKP		PKPdf	21 56 43.3	-0.4
	0.3nm,0.4s,baz=161,slow=0.5,SNR=11							
ARCES	ARCESS Array B	129.73	351	PKP		PKPdf	21 57 14.3	+1.2
ARCES	ARCESS Array B	129.73	351	PKP		PKPdf	21 57 14.3	+1.2
	1.2nm,0.6s,baz=340,slow=1.8,SNR=7.6							
FINES	FINESS Array B	136.94	346	PKP		PKPdf	21 57 27.9	+1.1
FINES	FINESS Array B	136.94	346	PKP		PKPdf	21 57 27.9	+1.1
	0.6nm,0.6s,baz=22,slow=2.1,SNR=4.7							
KIEV	Kiev	144.93	334	ePKPdf		PKPdf	21 57 41.0	-0.5
RGN	Rugen	145.74	352	ePKPbc		PKPab	21 57 44.3	+0.8
BSEG	Bad Segeberg	146.64	355	ePKPbc		PKPab	21 57 47.3	+0.3
MALT	Malatya	147.00	309	⇑iP		PKPab	21 58 06.6	+17
KIS	Kishinev	147.87	330	eP		PKPab	21 57 50.0	-2.1
KWP	Kalwaria Pacla	148.21	339	⇑iP		PKPab	21 57 51.2	-2.2
KWP	Kalwaria Pacla	148.21	339	ePKPbc		PKPab	21 57 51.7	-1.8
KWP	Kalwaria Pacla	148.21	339	eP		PKPab	21 57 51.6	-1.8
IBBN	Ibbenburen	148.41	358	ex		x	21 58 03.1	
KSP	Ksiaz	148.84	347	eP		PKPab	21 57 53.4	-2.5
STHS	Stebnicka Huta	148.87	341	ePKP		PKPab	21 57 54.2	-1.9
BUR08	Bucovina Ar. S	148.95	334	ePKPbc		PKPab	21 57 53.6	-2.9
CLL	Collm	148.95	351	ePKPbc		PKPab	21 57 53.6	-2.7
CLL				ex		x	21 58 04.6	
CLL	Collm	148.95	351	iPKPbc		PKPbc	21 57 52.6	+0.3
	comp=Z,10.0nm,1.3s							
CLL				iPKPab		PKPab	21 57 56.3	0.0
	comp=Z,7.0nm,1.0s							
CLL				⇑iPpKPab		pPKPab	21 58 01.9	-3.2
CLL				iSPKPab		sPKPab	21 58 03.9	-4.3
	comp=Z,19nm,1.4s							
CLL				i			21 58 14.2	
CLL				ePP		PP	22 01 14.0	-8.3
KOLS	Kolonicke sedl	148.96	339	ePKP		PKPab	21 57 54.5	-1.9
BURAR	Bucovina Array	148.97	334	⇑iP		PKPab	21 57 54.0	-2.6
NEUB	Neuenburg	149.21	353	ex		x	21 58 05.1	
TESR	Tescani	149.22	332	⇓iP		PKPab	21 57 59.8	+2.2
BRG	Berggiesshubel	149.23	350	ePKP		PKPbc	21 57 54.0	+1.0
	comp=Z,3.1nm,1.0s							
BRG				e			22 19 39.3	
	comp=Z,11nm,1.4s							
CRVS	Cervenica-Dubn	149.25	340	ePKP		PKPab	21 57 54.9	-2.7
FBE	Freiberg	149.28	351	ex		x	21 58 05.6	
DPC	Dobruska-Polom	149.30	347	⇑ePKP		PKPbc	21 57 54.5	+1.3
DPC				ePKPAB		PKPab	21 58 00.2	+2.4
DPC				epPKP		pPKPdf	21 58 05.8	+7.9
OKC	Ostrava-Krasne	149.35	345	ePKPAB		PKPab	21 57 58.1	+0.1
OKC				epPKP		pPKPdf	21 58 04.8	+6.8
KRLC	Kraliky	149.46	346	⇑ePKP		PKPbc	21 57 54.4	+0.7
KRLC				ePKPAB		PKPab	21 58 01.0	+2.5
KRLC				epPKP		pPKPdf	21 58 06.5	+8.3
PVCC	Panska Ves	149.46	349	ePKP		PKPab	21 57 55.6	-2.8
PVCC				epPKP		pPKPdf	21 58 06.1	+8.0
CFR	Carcaliu	149.52	328	⇑iP		PKPdf	21 57 45.4	-3.9
TRPA	Tarpa	149.55	338	⇑iP		PKPbc	21 57 55.3	+1.4
MORC	Moravsky Berou	149.56	345	ePKPbc		PKPbc	21 57 54.6	+0.7
VRI	Vrincioaia	149.68	331	⇑iP		PKPbc	21 57 52.9	-1.4
BRTR	Keskin Array B	149.70	315	PKPbc		PKPbc	21 57 55.6	+0.9
BRTR	Keskin Array B	149.70	315	PKPbc		PKPbc	21 57 55.6	+0.9
	comp=Z,2.4nm,0.7s,baz=134,slow=3.7,SNR=11							
PLOR	Plostina	149.73	331	⇑iP		PKPbc	21 57 54.8	+0.4
MOX	Moxa	149.78	353	ePKPbc		PKPbc	21 57 55.6	+1.2
MOX				ex		x	21 58 06.8	
PLN	Plauen	149.87	352	ePKPbc		PKPbc	21 57 55.9	+1.3
PLN				ex		x	21 58 07.0	
WERD	Werda	149.89	352	ePKPbc		PKPbc	21 57 56.1	+1.4
WERD				ex		x	21 58 07.0	
TANN	Tannenbergstha	149.90	352	ePKPbc		PKPbc	21 57 56.1	+1.4
TANN				ex		x	21 58 07.1	
KECS	Kecovo	149.93	341	ePKP		PKPbc	21 57 53.8	-1.0
GUNZ	Gunzen	149.97	352	ex		x	21 58 07.4	
PRU	Pruhonice	149.99	349	⇑ePKP		PKPbc	21 57 56.0	+1.1
PRU				epPKP		PKPab	21 58 06.9	+6.3
WERN	Wernitzgruen	150.03	352	ePKPbc		PKPbc	21 57 56.6	+1.6
WERN				ex		x	21 58 07.7	
NKC	Novy Kostel	150.08	352	⇑ePKP		PKPab	21 57 57.7	-3.3
NKC				epPKP		pPKPdf	21 58 07.8	+8.6
ANTO	Ankara	150.18	316	ePKPbc		PKPbc	21 57 55.7	-0.1
MLR	Muntele Rosu	150.32	331	⇑iP		PKPbc	21 57 57.0	+1.0
MANZ	Manzenberg	150.37	352	ePKPbc		PKPbc	21 57 57.2	+1.4
MANZ				ex		x	21 58 08.3	
VYHS	Vyhne	150.40	343	ePKP		PKPbc	21 57 57.0	+1.0
VYHS				e			21 58 08.2	
TNS	Taunus Mts	150.46	357	ePKPbc		PKPbc	21 57 57.1	+1.0
TREC	Trest	150.47	347	⇑ePKP		PKPbc	21 57 56.6	+0.5
TREC				ePKPAB		PKPab	21 58 04.9	+2.3
ROTZ	Rotzenmuhle	150.57	352	ex		x	21 58 08.4	
PSZ	Piszkesteto	150.61	341	ePKPbc		PKPbc	21 57 57.0	+0.5
DRGR		150.62	336	⇑iP		PKPbc	21 57 57.2	+0.6
GRF	Grafenberg Arr	150.76	353	ex		x	21 58 09.3	
VOIR		150.76	332	⇑iP		PKPdf	21 57 51.1	-0.3
KHC	Kasperske Hory	150.98	350	⇑ePKP		PKPbc	21 57 58.2	+0.9
KHC				ePKPAB		PKPab	21 58 03.1	-1.7
KHC				ex		x	21 58 07.8	
KHC	Kasperske Hory	150.98	350	ePKPbc		PKPbc	21 57 58.0	+0.6
ARR	Arges	151.00	332	⇑iP		PKPbc	21 57 59.2	+1.7
WET	Wettzell	151.08	351	ePKPbc		PKPbc	21 57 58.6	+1.0
WET				ex		x	21 58 09.8	
WLF	Walferdange	151.08	360	ePKPbc		PKPbc	21 57 59.1	+1.6
GEC2	GERESS Array S	151.24	349	ePKPbc		PKPbc	21 57 59.0	+1.0
GEC2				ex		x	21 58 10.0	
GERES	GERESS Array B	151.24	349	PKPbc		PKPbc	21 57 58.8	+0.8
GERES	GERESS Array B	151.24	349	PKPbc		PKPbc	21 57 58.8	+0.8
	comp=Z,0.7nm,0.7s,baz=20,slow=1.7,SNR=12							
BZS	Buzias	152.02	336	⇓iP		PKPbc	21 58 01.0	+1.2
BFO	Black Forest	152.36	357	ePKPbc		PKPbc	21 58 01.5	+1.0

TIF ***01*** *21:47:41.4,41.°53N×43.°53E,h12km±2km*
DDA ***01*** *21:47:46.1,41.°35N×43.°20E,h7km,MD2.9*
CSEM 01 21:47:41.9±0.1,41.°51N×43.°45E,h5km,MD2.9,Error ellipse: s-maj=4.6km s-min=2.5km az=167.0, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.10	163	P	Pg	21 47 44.7	+0.4
AKH				S	Sg	21 47 46.7	+0.8
AKH	Akhalkalaki	0.10	163	P	Pg	21 47 44.7	+0.4
AKH				S	Sg	21 47 46.7	+0.7
KZR	Kazreti	0.73	100	P	Pg	21 47 55.3	-0.8
KZR				S	Sg	21 48 04.7	-1.1
TBLG	Delisi	0.99	77	P	Pg	21 47 59.9	-1.1
TBLG				S	Sg	21 48 13.5	-0.3
ONI	Oni	1.08	0	P	Pg	21 48 02.1	-0.7
ONI				S	Sg	21 48 17.2	+0.3
ARTV	Artvin	1.19	255	iP	Pg	21 48 05.1	+0.1
ARTV				iS	Sg	21 48 19.9	-0.8
ARTV	Artvin	1.19	255	iP	Pg	21 48 05.1	0.0
ARTV				iS	Sg	21 48 19.9	-0.9
DBOC	Borcka	1.35	264	iP	Pb	21 48 07.8	0.0
DBOC				iS	Sb	21 48 24.5	-0.9
DBOC	Borcka	1.35	264	iP	Pb	21 48 07.8	0.0
DBOC				iS	Sb	21 48 24.5	-1.0
DBAD	Bademkaya	1.41	250	iP	Pn	21 48 08.5	+0.1
DBAD				iS	Sb	21 48 25.5	-1.9
DBAD	Bademkaya	1.41	250	iP	Pn	21 48 08.5	+0.1
DBAD				iS	Sb	21 48 25.5	-1.8
DGRG	David-gareji	1.45	92	P	Pn	21 48 08.7	-0.1
DGRG				S	Sg	21 48 28.6	+0.1
DGRG	David-gareji	1.45	92	P	Pn	21 48 08.7	-0.1
DGRG				S	Sg	21 48 28.6	+0.1

IDC ***01*** *21:52:09.8±0.6,18.°85N×147.°75E,h0km,mb4.3/24, mb1 4.5/24,mb1mx4.4/28,mbtmp4.3/24,MS3.7/8, Ms1 3.7/8,ms1mx3.3/40,Error ellipse: s-maj=18.3km s-min=13.7km az=103.0*
ISCJB ***01*** *21:52:12.0±1.6,18.°86N±0.°04×147.°75E±0.°05, h25km±11km,mb4.5/64,MS3.8/15,Error ellipse: s-maj=8.8km s-min=7.2km az=21.8*
BJI ***01*** *21:52:13.8,19.°02N×147.°87E,h36km,mB4.9/24,mb4.7/42, Ms4.5/24,Ms7 4.1/23*
NEIC ***01*** *21:52:14.4±3.4,18.°87N×147.°76E,h30km±23km,mb4.7/25, Error ellipse: s-maj=8.1km s-min=6.5km az=94.0*
ISC 01 21:52:15.4±0.5,18.°85N±0.°07×147.°74E±0.°07,h37km±5km, h37km:pP-P,n112,σ1§42/142,mb4.6/64,MS3.8/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.91	208	ePn	Pn	21 53 40.2	-0.3
GUMO				eSn	Sn	21 54 46.7	-0.4
MAJO	Matsushiro	19.52	336	eP	P	21 56 39.4	-0.2
	31nm,0.8s						
MAJO				eS	S	22 00 02.2	-16
MAT	Matsushiro	19.52	336	P	P	21 56 38.8	-0.8
MAT				S	Sn	22 00 27.4	+8.2
JNU	Nakatsue	20.73	317	eP	P	21 56 52.5	-0.3
	23nm,1.0s						
JNU	Nakatsue	20.73	317	P	P	21 56 52.2	-0.7
	54nm,1.1s,baz=104,slow=4.6,SNR=14						
JNU				LR	LR	22 03 50.0	
	comp=Z,161nm,21.3s,baz=100,slow=34						
YHNB	Yeheng	25.14	288	eP	P	21 57 35.9	-1.4
	22nm,0.7s						
KSRS	Korea Array	25.38	321	P	P	21 57 39.1	0.0
	15nm,0.9s,baz=140,slow=8.5,SNR=39						
KSRS				LR	LR	22 06 43.6	
	comp=Z,167nm,21.1s,baz=136,slow=34						
KSAR	Wonju Array Be	25.39	321	P	P	21 57 39.1	-0.2
SSLB	Suanglong	25.41	286	eP	P	21 57 39.8	+0.1
	19nm,0.7s						
ASAJ	Asahikawa	25.56	351	eP	P	21 57 41.3	+0.6
	6.7nm,0.8s						
ASAJ	Asahikawa	25.56	351	P	P	21 57 40.8	+0.1
	14nm,0.8s,baz=204,slow=16,SNR=17						
ASAJ				LR	LR	22 07 23.5	
	comp=Z,183nm,18.6s,baz=177,slow=36						
INCN	Inchon	26.18	320	eP	P	21 57 45.5	-0.9
	24nm,0.7s						
USRK	Ussuriysk Arra	28.51	336	P	P	21 58 08.1	+0.9
	7.7nm,0.7s,baz=144,slow=9.0,SNR=24						
USRK				LR	LR	22 08 45.4	
	comp=Z,118nm,21.7s,baz=330,slow=35						
NJ2	Nanjing	29.10	303	eP	P	21 58 14.4	+1.7
NJ2				pP	pP	21 58 23.4	+0.2
NJ2				sP	sP	21 58 26.9	-0.8
NJ2				S	S	22 03 04.1	+2.0
NJ2				sS	sS	22 03 20.4	+0.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.8s						
NJ2				LR	LR		
	comp=N,330nm,25.4s						
NJ2				LR	LR		
	comp=E,200nm,25.9s						
NJ2				LR	LR		
	comp=Z,270nm,27.8s						
MDJ	Mudanjiang	29.83	333	P	P	21 58 19.9	+0.9
MDJ				pP	pP	21 58 28.8	-0.7
MDJ				sP	sP	21 58 32.9	-1.1
MDJ				ScS	ScS	22 08 56.1	+0.1
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,45nm,4.5s						
MDJ				LR	LR		
	comp=N,85nm,22.9s						
MDJ				LR	LR		
	comp=E,73nm,22.9s						
MDJ				LR	LR		
	comp=Z,130nm,24.2s						
CN2	Changchun	31.13	328	eP	P	21 58 30.7	+0.2
CN2				esP	sP	21 58 45.2	-0.4
CN2				eS	S	22 03 32.0	-1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
BJI	Beijing	34.38	315	P	P	21 58 58.7	-0.2
BJI				S	S	22 04 26.3	+2.0
BJI				pmax	pmax		
	comp=Z,17nm,1.0s						
BJI				pmax	pmax		
	comp=Z,110nm,4.1s						
BJI				LR	LR		
	comp=N,180nm,13.6s						
BJI				LR	LR		
	comp=E,140nm,19.0s						
BJI				LR	LR		
	comp=Z,110nm,28.5s						
PETK	Petropavlovsk-	35.06	10	P	P	21 59 05.5	+0.9
PETK	Petropavlovsk-	35.06	10	P	P	21 59 05.5	+0.9
	comp=Z,3.4nm,1.0s,baz=179,slow=10,SNR=5.0						
ENH	Enshi	36.44	296	eP	P	21 59 16.1	-0.8
	comp=Z,6.8nm,0.6s						
BATI	Baumata	37.38	221	LR	LR	22 13 15.6	
	comp=Z,440nm,19.2s,baz=239,slow=34						
XAN	Xi'an	37.66	302	P	P	21 59 26.6	-0.6
XAN				sP	sP	21 59 41.7	-0.6
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,22nm,5.6s						
HIA	Hailar	37.77	330	eP	P	21 59 27.5	-0.4
	comp=Z,34nm,0.8s						
HHC	Hu-ho-hao-te	37.89	313	eP	P	21 59 29.4	+0.3
HHC				PP	PnPn	22 00 59.6	+2.1
HHC				PcP	PcP	22 01 45.8	+1.0
HHC				S	S	22 05 16.7	-1.5
HHC				ScP	ScP	22 05 27.9	-1.7
HHC				PcS	PcS	22 05 34.1	+0.4
HHC				SS	SnSn	22 07 54.0	-7.4
HHC				ScS	ScS	22 09 36.1	-2.6
HHC				pmax	pmax		
	comp=Z,54nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,5.4s						
HHC				LR	LR		
	comp=N,350nm,13.3s						
HHC				LR	LR		
	comp=E,460nm,14.4s						
HHC				LR	LR		
	comp=Z,300nm,13.7s						
GYA	Guiyang	38.53	289	P	P	21 59 35.1	+0.4
GYA				pP	pP	21 59 46.8	+1.4
GYA				sP	sP	21 59 53.4	+3.5
GYA				PP	PnPn	22 01 08.0	+2.6
GYA				PcP	PcP	22 01 48.5	+1.4
GYA				S	S	22 05 27.2	-1.0
GYA				ScP	ScP	22 05 33.7	+1.4
GYA				ScS	ScS	22 09 41.0	-1.9
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,17.7s						
GYA				LR	LR		
	comp=E,430nm,18.3s						
GYA				LR	LR		
	comp=Z,490nm,17.0s						
WRAB	Tennant Creek	40.72	200	eP	P	21 59 53.8	+1.1
	comp=Z,25nm,1.3s						
WRA	Warramunga Arr	40.73	200	P	P	21 59 53.0	+0.1
WRA	Warramunga Arr	40.73	200	P	P	21 59 53.0	+0.1
	comp=Z,8.3nm,1.0s,baz=22,slow=8.9,SNR=14						
CD2	Chengdu	41.42	296	eP	P	22 00 03.6	+5.0
CD2				pP	pP	22 00 08.5	-0.9
CD2				sP	sP	22 00 10.8	-3.0
CD2				PP	PnPn	22 01 42.5	+3.0
CD2				S	S	22 06 18.2	+6.9
CD2				sS	sS	22 06 24.8	-4.3
CD2				SS	SS	22 09 16.5	+0.2
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,60nm,4.2s						
CD2				LR	LR		
	comp=E,120nm,13.2s						
CD2				LR	LR		
	comp=Z,130nm,13.6s						
KMI	Kunming	42.04	287	P	P	22 00 05.4	+1.5
KMI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LZH	Lanzhou	42.17	303	eP	P	22 00 05.8	+1.0
LZH				pP	pP	22 00 18.3	+2.7
LZH				sP	sP	22 00 23.0	+3.0
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
FITZ	Fitzroy Crossi	42.66	212	P	P	22 00 09.0	+0.4
FITZ	Fitzroy Crossi	42.66	212	P	P	22 00 09.0	+0.4
	comp=Z,3.3nm,0.7s,baz=50,slow=9.8,SNR=18						
ULN	Ulaanbaatar	43.86	321	eP	P	22 00 18.5	+0.2
	comp=Z,10nm,0.7s						
SONM	Songino Array	44.25	320	P	P	22 00 21.5	+0.2
SONM	Songino Array	44.25	320	P	P	22 00 21.5	+0.2
	comp=Z,8.2nm,0.6s,baz=139,slow=8.0,SNR=77						
AS31	Alice Springs	44.36	198	eP	P	22 00 23.6	+1.2
ASAR	Alice Springs	44.36	198	P	P	22 00 21.2	-1.1
ASAR	Alice Springs	44.36	198	P	P	22 00 21.2	-1.1
	comp=Z,0.5nm,0.5s,baz=17,slow=6.4,SNR=17						
GTA	Gaotai	46.00	307	P	P	22 00 35.6	+0.3
GTA				pP	pP	22 00 45.1	-1.1
GTA				sP	sP	22 00 49.1	-1.6
GTA				S	S	22 07 16.1	-1.9
GTA				sS	sS	22 07 35.6	-0.4
GTA				SS	ScS	22 10 30.4	+2.0
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,90nm,4.8s						
GTA				LR	LR		
	comp=N,130nm,19.0s						
GTA				LR	LR		
	comp=E,99nm,14.7s						
GTA				LR	LR		
	comp=Z,150nm,14.3s						
CMAR	Chiang Mai Arr	46.12	278	P	P	22 00 36.5	+0.1
CMAR	Chiang Mai Arr	46.12	278	P	P	22 00 36.5	+0.1
	comp=Z,2.5nm,0.8s,baz=66,slow=7.4,SNR=18						
PSI	Prapat	50.32	258	P	P	22 01 07.8	-1.3
PSI	Prapat	50.32	258	P	P	22 01 07.8	-1.3
	comp=Z,3.0nm,0.8s,baz=72,slow=9.6						
LSA	Lhasa	52.26	293	eP	P	22 01 24.7	+0.8
	comp=Z,9.7nm,1.0s						
WMQ	Urumqi	55.68	311	P	P	22 01 49.3	+1.2
WMQ				pmax	pmax		
	comp=Z,16nm,1.5s						
SVW2	Sparrevohn	57.76	29	eP	P	22 02 02.1	-0.4
	comp=Z,6.3nm,0.9s						
ZAA0	Zalesovo Array	59.08	322	eP	P	22 02 10.7	-1.1
ZALV	Zalesovo Beam	59.08	322	P	P	22 02 11.3	-0.5
ZALV	Zalesovo Beam	59.08	322	P	P	22 02 11.3	-0.5
	comp=Z,11nm,0.8s,baz=99,slow=6.8,SNR=44						
MK31	Makanchi Array	59.75	314	eP	P	22 02 16.9	+0.2
MKAR	Makanchi Array	59.75	314	eP	P	22 02 17.1	+0.5
MKAR	Makanchi Array	59.75	314	P	P	22 02 16.9	+0.3
	comp=Z,7.7nm,0.8s,baz=92,slow=9.0,SNR=65						
TRF	Thorofare Moun	60.86	27	eP	P	22 02 22.7	-1.4
	comp=Z,8.8nm,1.0s						
SML	Sawmill	61.29	29	eP	P	22 02 27.7	+0.8
	comp=Z,2.5nm,1.0s						
ILAR	Eielson Array	62.66	26	P	P	22 02 35.0	-0.9
ILAR	Eielson Array	62.66	26	P	P	22 02 35.0	-0.9
	comp=Z,3.4nm,1.0s,baz=261,slow=5.6,SNR=22						
KSH	Kashi	64.36	305	P	P	22 02 51.3	+3.5
KSH				sP	sP	22 03 06.4	+3.0
KSH				PP	PP	22 05 17.0	+7.5
KSH				S	S	22 11 24.1	+0.4
KSH				sS	sS	22 11 44.2	+1.8
KSH				ScS	SKKSac	22 12 39.2	-0.2
KSH				SS	SS	22 15 40.9	+7.1
KSH				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH				pmax	pmax		
	comp=Z,80nm,5.9s						
KSH				LR	LR		
	comp=N,100nm,4.2s						
KSH				LR	LR		
	comp=E,47nm,4.3s						
KSH				LR	LR		
	comp=Z,81nm,4.6s						
TKM2	Tokmak 2	64.45	309	P	P	22 02 49.4	+1.0
	SNR=11						
TKM2	Tokmak 2	64.45	309	eP	P	22 02 49.0	+0.5
	comp=Z,7.5n

PFO	Pinyon Flat Ob	84.43	57	P	P	22 04 44.0	-0.7
	comp=Z,1.3nm,0.6s,baz=325,slow=12,SNR=2.2						
JOF	Joensuu	84.68	336	*e*p	P	22 04 43.8	-1.3
	comp=Z,1.7nm,0.3s						
FFC	Flin Flon	85.92	33	*e*P	P	22 04 52.0	+0.5
	comp=Z,59nm,2.3s						
FFC				*e*pP	pP	22 05 04.0	+0.9
PDAR	Pinedale Array	86.33	46	P	P	22 04 52.5	-1.6
PDAR	Pinedale Array	86.33	46	P	P	22 04 52.5	-1.6
	comp=Z,0.2nm,0.4s,baz=295,slow=8.6,SNR=2.5						
KAF	Kangasniemi	87.06	336	*e*p	P	22 04 50.1	-6.8
	comp=Z,0.3nm,0.3s						
KBZ	Khabaz	87.40	315	P	P	22 04 57.7	-1.2
KBZ	Khabaz	87.40	315	P	P	22 04 57.7	-1.2
	comp=Z,1.2nm,0.8s,baz=76,slow=4.2,SNR=2.7						
FINES	FINESS Array B	87.55	336	P	P	22 04 58.0	-1.3
FINES	FINESS Array B	87.55	336	P	P	22 04 58.0	-1.3
	comp=Z,1.7nm,0.7s,baz=67,slow=4.6,SNR=20						
WUAZ	Wupatki	87.72	53	*e*P	P	22 05 00.5	-0.3
MIB	Mutribah	89.42	301	*e*P	P	22 05 07.7	-1.1
MIB				AMb	AMB	22 05 08.6	
	comp=Z,18nm,0.6s						
RDF	Al-Radifah	89.56	300	*e*P	P	22 05 08.4	-1.1
RDF				AMb	AMB	22 05 17.6	
	comp=Z,30nm,1.4s						
NAY	Al-Naaiem	89.69	301	*e*P	P	22 05 08.8	-1.3
NAY				AMb	AMB	22 05 12.1	
	comp=Z,9.4nm,1.2s						
LPIG	La Paz	92.80	64	LR	LR	22 38 40.1	
	comp=Z,5.4nm,21.6s,baz=167,slow=30						
NOA	NORSAR Array B	93.09	340	P	P	22 05 26.4	+1.2
NOA	NORSAR Array B	93.09	340	P	P	22 05 26.4	+1.2
	comp=Z,0.5nm,0.7s,baz=67,slow=6.7,SNR=2.8						
BRTR	Keskin Array B	95.38	315	P	P	22 05 36.9	+0.6
BRTR	Keskin Array B	95.38	315	P	P	22 05 36.9	+0.6
	comp=Z,0.7nm,0.8s,baz=50,slow=4.6,SNR=4.7						
TXAR	Lajitas Array	96.15	56	P	P	22 05 41.5	+1.5
TXAR	Lajitas Array	96.15	56	P	P	22 05 41.6	+1.5
	comp=Z,0.3nm,0.9s,baz=317,slow=4.9,SNR=2.5						
LSZ	Lusaka	122.34	264	PKP	PKPdf	22 11 07.7	+0.1
LSZ	Lusaka	122.34	264	PKP	PKPdf	22 11 07.7	+0.1
	baz=8.1,slow=7.1						
LPAZ	La Paz	145.74	91	PKPbc	PKPab	22 11 53.9	+1.4
	comp=Z,2.9nm,0.9s,baz=345,slow=1.9,SNR=10						
SAML	Samuel	148.46	76	*e*PKPbc	PKPbc	22 11 60.0	+0.9

MOS ***01*** *22:00:42.2±1.1,9.°04S×123.°12E,h49km,mb5.6/44,Error ellipse: s-maj=10.9km s-min=6.1km az=116.0*
BJI ***01*** *22:00:44.1,9.°76S×123.°70E,h125km,mB5.2/24,mb5.3/55*
BKK ***01*** *22:00:49.5±0.2,9.°S±3.°×12.°3E±.°,h97km,M5.4/45, mb5.5/45,mB5.8/30,MLv5.7/3,Mw(mB)5.3/30,Mwp9.5/2*
ISCJB ***01*** *22:00:49.4±0.3,9.°26S±0.°02×123.°15E±0.°02,h122km±2km, mb5.2/125,Error ellipse: s-maj=4.0km s-min=3.0km az=29.3*
AUST ***01*** *22:00:49.7±0.1,9.°37S×123.°09E,h102km,Error ellipse: s-maj=0.6km s-min=0.4km az=25.0*
NEIC ***01*** *22:00:50.5±0.2,9.°19S×123.°18E,mb5.3/43,Error ellipse: s-maj=7.8km s-min=4.5km az=54.0*
IDC ***01*** *22:00:50.5±0.3,9.°17S×123.°21E,h107km±2km,mb4.8/30, mb1 4.8/31,mb1mx4.8/31,mbtmp4.8/31,MS4.1/14, Ms1 4.1/14,ms1mx3.9/26,Error ellipse: s-maj=11.1km s-min=5.3km az=66.0*
TEH ***01*** *22:00:51.0,9.°16S×123.°18E,h120km,ML5.4*
DJA ***01*** *22:00:51.3±0.2,9.°S±2.°×12.°3E±.°,h106km±2km,M5.4/96, mb5.5/96,mB5.8/67,MLv5.8/14,Mw(mB)5.4/67,Mwp5.8/1*
GCMT ***01*** *22:00:52.7±0.1,9.°35S×123.°28E,h120km±1km,MW5.3, Moment Tension Solution. s76,c109; s91,c163; Moment tensor: Scale 10^16Nm; Mrr-3.73±.18; Mθθ-1.42±.19; Mφφ5.15±.20; Mrθ6.36±.12; Mθφ2.04±.19; Mφr4.98±.15; Best double couple: M0 9.50000×10^16 NP1:φ227.00000°, δ78.00000°,λ-69.00000°. NP2:φ345.00000°,δ25.00000°, λ-149.00000°. Principal axes: T 9.5100, Plg29.0000°, Azm299.0000°; N 0.0100, Plg21.0000°, Azm42.0000°; P -9.5300, Plg53.0000°, Azm162.0000°; Data Used: II IU IC G CN.*

ISC 01 22:00:51.1±0.2,**9.°24S**±0.°03×**123.°14E**±0.°03,**h120**km±1km, **h119**km:**pP-P,n539,**σ1**957/687,mb5.2**/127,**31C-13D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.07	304	P	Pn	22 01 13.4	-0.4
BATI	Baumata	1.09	152	P	Pn	22 01 12.3	-1.8
BATI				S	Sn	22 01 29.2	-2.3
BATI	Baumata	1.09	152	P	Pn	22 01 12.1	-2.0
BATI	Baumata	1.09	152	P	Pn	22 01 12.3	-1.8
	13μm,0.3s,baz=345,slow=1.3						
BATI				S	Sn	22 01 29.2	-2.3
	9μm,0.3s,baz=288,slow=19,SNR=17						
SOEI	Soe	1.23	115	P	Pn	22 01 13.3	-2.3
SOEI	Soe	1.23	115	P	Pn	22 01 12.7	-2.8
	baz=1.2,SNR=1000						
BASI	Baing, Sumba	2.71	249	P	Pn	22 01 33.8	+0.2
WSI	Waingapu	2.84	261	P	Pn	22 01 35.1	-0.2
WSI	Waingapu	2.84	261	P	Pn	22 01 35.0	-0.2
	baz=2.8,SNR=94						
WSI				S	Sn	22 02 08.8	-0.6
	baz=2.8,SNR=7.2						
WBSI	Waikabubak, Su	3.72	263	P	Pn	22 01 45.9	-1.1
WBSI				S	Sn	22 02 27.9	-2.4
BBSI	Bau Bau	3.77	351	P	Pn	22 01 49.3	+1.7
BSSI	Bau Bau, Buton	4.04	319	P	Pn	22 01 53.3	+2.0
KAPI	Kappang	5.38	321	Pn	Pn	22 02 10.9	+1.7
	13μm,0.9s						
KAPI	Kappang	5.38	321	Pn	Pn	22 02 10.4	+1.3
	SNR=141						
KAPI	Kappang	5.38	321	*e*Pn	Pn	22 02 10.1	+0.9
KAPI				S	Sn	22 03 13.4	+3.5
KAPI	Kappang	5.38	321	P	Pn	22 02 09.8	+0.6
	2μm,1.1s,19μm7.3nm						
KAPI	Kappang	5.38	321	P	Pn	22 02 08.5	-0.6
	28nm,0.3s,baz=152,slow=9.5,SNR=338						
KAPI				S	Sn	22 03 13.4	+3.5
	baz=61,slow=19,SNR=1.9						
KAPI				LR	LR	22 04 34.2	
	comp=Z,3μm,20.4s,baz=150,slow=42						
TTSI	Tana Toraja	6.98	332	P	Pn	22 02 33.4	+2.6
	752nm,0.9s,8μm2.6nm						
DNP	Denpasar	7.86	273	P	Pn	22 02 42.2	-0.5
	1μm,0.6s,19μm13nm						
DNP				S	Sn	22 04 09.8	-0.2
	1μm,0.6s,19μm13nm						
IGBI	Denpasar	7.91	272	P	Pn	22 02 42.2	-1.2
	1μm,0.8s,20μm5.7nm						
IGBI				S	Sn	22 04 09.0	-2.3
	1μm,0.8s,20μm5.7nm						
LUWI	Luwuk	8.15	357	P	Pn	22 02 47.7	+1.1
	375nm,1.3s,7μm2.4nm						
LUWI	Luwuk	8.15	357	P	Pn	22 02 47.8	+1.2
	baz=8.3,SNR=7.3						
BNDI	Bandanaira	8.19	56	P	Pn	22 02 35.6	-12
	baz=8.3,SNR=3.8						
MSAI	Masohi	8.20	45	P	Pn	22 02 50.4	+3.0
	76nm,0.8s,1μm0.2nm						
KNRA	Kununurra	8.43	140	P	Pn	22 02 44.9	-5.6
	baz=8.4,SNR=700						
KNRA				S	Sn	22 04 12.1	-12
	baz=8.4,SNR=43						
MTN	Manton Dam	8.62	115	P	Pn	22 02 48.5	-4.6
	baz=8.6,SNR=720						
MTN				S	Sn	22 04 16.4	-12
	baz=8.6,SNR=13						
FITZ	Fitzroy Crossi	9.14	165	P	Pn	22 02 55.6	-4.5
FITZ				S	Sn	22 04 28.5	-13
FITZ	Fitzroy Crossi	9.14	165	P	Pn	22 02 55.6	-4.5
	37nm,0.3s,baz=2.7,slow=8.5,SNR=331						
FITZ				S	Sn	22 04 28.5	-13
	182nm,0.3s,baz=263,slow=18,SNR=31						
FITZ				LR	LR	22 07 00.4	
	comp=Z,1μm,19.7s,baz=343,slow=40						
KMMI	Kalianget	9.34	283	P	Pn	22 03 04.4	+1.7
	686nm,0.9s,6μm						
KMMI				S	Sn	22 04 48.5	+2.5
	686nm,0.9s,6μm						
BLJI	Banyuglugur	9.56	278	P	Pn	22 03 04.1	-1.6
	443nm,0.8s,5μm						
LBMI	Labuha	9.58	27	P	Pn	22 03 09.0	+3.0
	265nm,1.3s,3μm						
GMJI	Gumukmas	9.63	275	P	Pn	22 03 04.1	-2.6
	256nm,0.9s,3μm						
GMJI				S	Sn	22 04 49.4	-3.8
	256nm,0.9s,3μm						
MRSI	Marisa	9.72	353	P	Pn	22 03 08.6	+0.7
	269nm,1.0s,2μm						
KDU	Kakadu	9.78	111	P	Pn	22 03 03.5	-5.2
	baz=9.8,SNR=496						
KDU				S	Sn	22 04 45.0	-12
	baz=9.8,SNR=6.2						
GTOI	Gorontalo	9.81	359	P	Pn	22 03 12.6	+3.5
	193nm,0.8s,2μm						
BBKI	Banjar Baru	10.04	304	P	Pn	22 03 14.8	+2.5
	370nm,1.0s,5μm						
TOLI	Toli-Toli	10.55	347	P	Pn	22 03 30.8	+12
KRKI	Karangkates	10.62	275	P	Pn	22 03 20.1	0.0
	1μm,0.8s,13μm						
KRKI				S	Sn	22 05 15.8	-1.4
	1μm,0.8s,13μm						
MNI	Manado	10.74	9	P	Pn	22 03 23.5	+1.8
	161nm,0.9s,3μm						
TNTI	Ternate	10.79	23	P	Pn	22 03 24.0	+1.6
	236nm,1.1s,4μm						
FAKI	Fak Fak	11.01	56	P	Pn	22 03 22.6	-2.8
	149nm,0.7s						
FAKI				S	Sn	22 05 22.0	-4.7
	149nm,0.7s						
FAKI	Fak Fak	11.01	56	P	Pn	22 03 23.9	-1.4
	baz=11,SNR=14						
PWJI	Pagerwojo	11.28	275	P	Pn	22 03 27.2	-1.6
	475nm,0.6s,17μm						
PWJI				S	Sn	22 05 29.9	-3.1
	475nm,0.6s,17μm						
SJI	Sawahan	11.35	277	P	Pn	22 03 29.0	-0.9
	522nm,0.8s,8μm						
SWI	Sorong	11.60	45	P	P	22 03 38.2	-3.4
	192nm,1.0s,2μm						
SWI				S	Sn	22 05 48.4	+7.6
	192nm,1.0s,2μm						
SWI	Sorong	11.60	45	P	P	22 03 38.2	-3.4
	baz=12,SNR=4.9						
MTKI	Muara Teweh, K	11.63	315	P	Pn	22 03 35.2	+1.7
	382nm,1.1s,6μm						
PCJI	Pacitan	11.87	274	P	Pn	22 03 33.8	-2.9
	2μm,0.9s,16μm						
PCJI				S	Sn	22 05 45.4	-2.1
	2μm,0.9s,16μm						
WOJI	Wonogiri, Jawa	12.16	276	P	Pn	22 03 38.4	-2.1
	715nm,0.9s,7μm						
MBWA	Marble Bar	12.30	195	P	Pn	22 03 41.5	-0.8
	SNR=8.5						
MBWA	Marble Bar	12.30	195	*e*Pn	Pn	22 03 38.9	-3.4
MBWA				*e*Sn	Sn	22 05 45.8	-12
UGM	Wanagama	12.55	275	*e*Pn	Pn	22 03 43.5	-2.2
UGM	Wanagama	12.55	275	P	Pn	22 03 43.4	-2.2
	685nm,0.9s,7μm						
UGM	Wanagama	12.55	275	P	Pn	22 03 43.2	-2.4
	baz=12,SNR=20						
YOGI	Yogyakarta	12.78	275	P	Pn	22 03 46.2	-2.5
	747nm,1.3s						
PBKI	Pangkalan Bun	13.12	299	P	Pn	22 03 54.5	+1.5
	281nm,1.0s,4μm						
RKPI	Ransiki, Papua	13.39	56	P	Pn	22 03 53.1	-3.5
	919nm,0.7s,7μm						
BJII	Banjamegara	13.43	277	P	Pn	22 03 55.0	-2.1
	578nm,1.0s,5μm						
CLJI	Cilicap	14.05	275	P	Pn	22 04 00.8	-4.3
	173nm,1.3s,8μm						
TGJI	Tegal	14.08	279	P	Pn	22 04 02.7	-2.7
	630nm,1.2s						
TSM	Tawau	14.43	338	P	P	22 04 15.5	+2.3
STKI	Sintang	14.84	308	P	P	22 04 16.6	-1.2
	257nm,1.0s						
MYLDM	Lahad Datu	15.05	342	P	P	22 04 24.9	+4.8
MYLDM	Lahad Datu	15.05	342	P	P	22 04 23.5	+3.4
	337nm,1.2s,6μm						
BAKI	Biak	15.18	59	P	P	22 04 21.0	-0.5
	113nm,0.9s,2μm						
WRA	Warramunga Arr	15.18	136	P	Pn	22 04 13.4	-5.9
WRA				S	Sn	22 06 51.2	-16
WRA	Warramunga Arr	15.18	136	P	Pn	22 04 13.4	-5.9
	12nm,0.3s,baz=311,slow=13,SNR=167						
WRA				S	Sn	22 06 51.2	-16
	31nm,0.3s,baz=307,slow=24,SNR=19						
WRA				LR	LR	22 10 12.6	
	comp=Z,1μm,20.9s,baz=310,slow=37						
WRAB	Tennant Creek	15.18	136	Pn	Pn	22 04 13.0	-6.3
	3μm,0.9s,SNR=74						
WRAB	Tennant Creek	15.18	136	*e*P	Pn	22 04 12.8	-6.6
WRAB				pmax	pmax		
	comp=Z,346nm,0.8s						
WRAB	Tennant Creek	15.18	136	*e*Pn	Pn	22 04 12.8	-6.6
	comp=Z,346nm,0.8s						
WRAB				*e*Sn	Sn	22 06 47.2	-20
CISI	Cisompet, Garu	15.25	275	P	Pn	22 04 16.5	-3.8
	comp=Z,784nm,0.6s,comp=Z,11μm						
CISI	Cisompet, Garu	15.25	275	P	Pn	22 04 16.5	-3.8
	baz=15,SNR=37						
LEM	Lembang	15.56	278	P	Pn	22 04 22.1	-2.1
	comp=Z,468nm,0.9s,comp=Z,5μm						
LEM	Lembang	15.56	278	P	Pn	22 04 18.8	-5.5
	baz=16,SNR=16						
BTM	Bintulu	15.91	320	P	P	22 04 30.8	+1.1
SBUM	Sibu	15.91	316	P	P	22 04 30.5	+0.8
SBUM	Sibu	15.91	316	P	P	22 04 31.3	+1.6
	comp=Z,272nm,1.4s,comp=Z,3μm						
SDKM	Sandakan	15.92	338	P	P	22 04 32.0	+2.2
WAMI	Wamena	16.35	72	P	P	22 04 38.2	+3.6
	comp=Z,313nm,0.9s						
CBJI	Citeko	16.38	279	P	Pn	22 04 30.3	-3.9
DBJI	Dramaga	16.45	278	P	Pn	22 04 32.8	-2.3
	comp=Z,756nm,1.1s,comp=Z,6μm						
SKJI	Sukabumi	16.57	276	P	Pn	22 04 33.8	-2.7
	comp=Z,1μm,0.8s,comp=Z,10μm						
KSM	Kuching	16.63	309	*e*P	P	22 04 38.8	+1.1
	comp=Z,202nm,1.1s						
KSM	Kuching	16.63	309	P	P	22 04 39.5	+1.9
KSM	Kuching	16.63	309	P	P	22 04 38.9	+1.2
	comp=Z,184nm,1.0s,comp=Z,2μm						
KSM	Kuching	16.63	309	P	P	22 04 38.9	+1.2
	baz=17,SNR=11						
KKM	Kota Kinabalu	16.68	335	*e*P	P	22 04 39.5	+1.3
	comp=Z,565nm,1.2s						
KKM	Kota Kinabalu	16.68	335	P	P	22 04 41.0	+2.7
KKM	Kota Kinabalu	16.68	335	P	P	22 04 40.3	+2.1
	comp=Z,403nm,1.3s,comp=Z,5μm						
KKM	Kota Kinabalu	16.68	335	P	P	22 04 40.2	+1.9
	baz=17,SNR=17						
TPI	Tanungpandan	16.69	292	P	P	22 04 38.7	+0.4
	comp=Z,154nm,1.1s,comp=Z,2μm						
MMPI	Merauke	17.05	89	S	Sn	22 07 36.2	-16
MMPI	Merauke	17.05	89	S	Sn	22 07 42.0	-11
	baz=17,SNR=5.7						
SBJI	Serang	17.14	279	P	P	22 04 43.3	0.0
	comp=Z,457nm,0.9s,comp=Z,4μm						
KDM	Kudat	17.23	338	P	Pn	22 04 49.2	+4.6
XMI	Christmas Isla	17.24	265	P	Pn	22 04 46.9	+2.2
	baz=17,SNR=6.1						
XMIS	Christmas Isla	17.28	264	*e*P	P	22 04 42.3	-2.5
	comp=Z,4μm,1.3s						
XMIS	Christmas Isla	17.28	264	P	P	22 04 38.3	-6.4
	baz=17,SNR=6.8						
AS31	Alice Springs	17.66	146	*e*P	P	22 04 46.5	-2.4
AS31				*e*S	S	22 07 47.3	-19
ASAR	Alice Springs	17.66	146	P	P	22 04 47.4	-1.6
ASAR				S	S	22 07 50.3	-16
ASAR	Alice Springs	17.66	146	P	P	22 04 47.4	-1.6
	comp=Z,21nm,0.3s,baz=322,slow=12,SNR=527						
ASAR				S	S	22 07 50.3	-16
	comp=Z,12nm,0.3s,baz=319,slow=23,SNR=25						
ASAR				LR	LR	22 12 36.7	
	comp=Z,1μm,18.4s,baz=319,slow=40						
MEEK	Meekatharra	17.83	193	P	P	22 04 50.6	-0.2
	baz=18,SNR=80						
MEEK				S	S	22 07 58.1	-12
	baz=18,SNR=5.6						
BLSI	Bandar Lampung	18.16	281	P	Pn	22 04 55.9	+0.1
	comp=Z,399nm,0.9s,comp=Z,3μm						
PPBI	Pangkal Pinang	18.31	292	P	P	22 04 55.9	-0.3
	comp=Z,151nm,1.2s,comp=Z,2μm						
JAY	Jayapura	18.69	70	P	Pn	22 05 02.3	+0.2
	comp=Z,65nm,1.1s						
JAY	Jayapura	18.69	70	P	P	22 05 00.2	-0.2
	baz=19,SNR=11						
KLSI		18.82	283	P	P	22 05 00.9	-0.8
	comp=Z,477nm,1.1s,comp=Z,5μm						
KASI	Kota Agung	18.85	280	P	P	22 05 02.0	0.0
	comp=Z,754nm,0.9s,comp=Z,10μmcomp=Z,14μm						
KASI				S	S	22 08 31.1	+0.8
	comp=Z,754nm,0.9s,comp=Z,10μmcomp=Z,14μm						
PMBI	Palembang	19.30	288	P	Pn	22 05 10.1	+0.9
	comp=Z,405nm,1.0s						
LWLI	Liwa	19.39	281	P	P	22 05 08.2	+0.2
	comp=Z,492nm,0.7s,comp=Z,4μm						
PALU	Palau	19.97	35	P	P	22 05 14.1	0.0
	baz=20,SNR=5.1						
COEN	Coen	20.17	105	*e*P	P	22 05 15.2	-1.1
	comp=Z,716nm,0.9s						
COEN				*e*S	S	22 08 40.7	-16
COEN	Coen	20.17	105	P	P	22 05 15.3	-1.1
	baz=20,SNR=27						
COEN				S	S	22 08 41.5	-15
	baz=20,SNR=6.8						
MNAI	Manna	20.61	282	P	P	22 05 20.2	-0.9
	comp=Z,1μm,0.9s						
MNAI	Manna	20.61	282	P	P	22 05 20.0	-1.1
	baz=21,SNR=17						
MNAI				S	S	22 09 02.6	-2.7
	baz=21,SNR=4.3						
MORW	Morawa	20.83	198	P	P	22 05 23.0	-0.3
	baz=21,SNR=98						
KSI	Kapahiang	21.15	284	P	P	22 05 26.9	-0.1
	comp=Z,920nm,0.8s,comp=Z,6μm						
MASI	Maura Aman, Be	21.63	285	P	P	22 05 31.5	-0.6
	comp=Z,507nm,1.0s,comp=Z,4μm						
FORT	Forrest	21.92	169	*e*P	P	22 05 32.9	-1.9
	comp=Z,856nm,0.8s						
FORT				*e*S	S	22 09 28.0	-1.4
FORT	Forrest	21.92	169	P	P	22 05 33.4	-1.5
	baz=22,SNR=43						
FORT				S	S	22 09 31.6	+2.2
	baz=22,SNR=6.4						
BTDF	Bukit Timah Da	21.98	298	P	P	22 05 35.4	-0.2
	baz=22,SNR=12						
BTDF				P	P	22 05 35.4	-0.2
	baz=22,SNR=12						
BLDU	Ballidu	22.10	195	P	P	22 05 36.0	-0.8
	baz=22,SNR=85						
MYKOM	Kota Tinggi	22.12	299	P	P	22 05 37.6	+0.4
MYKOM	Kota Tinggi	22.12	299	P	P	22 05 37.1	0.0
	comp=Z,109nm,2.0s,comp=Z,3μm						
MTSU	Mount Surprise	22.37	116	P	P	22 05 39.0	-0.7
	baz=22,SNR=123						
MTSU				S	S	22 09 44.4	+7.0
	baz=22,SNR=7.2						
KGM	Kluang	22.69	299	P	P	22 05 42.9	0.0
KLBR	Kellerberrin	22.80	192	P	P	22 05 43.0	-0.8
	baz=23,SNR=76						
KLBR				S	S	22 09 53.2	+9.3
	baz=23,SNR=6.3						
TGY	Tagaytay City	23.29	355	P	P	22 05 48.9	+0.4
TGY	Tagaytay City	23.29	355	P	P	22 05 48.9	+0.4
	comp=Z,173nm,0.4s,baz=211,slow=4.0,SNR=8.2						
PMG	Port Moresby	23.70	92	*e*P	P	22 05 52.6	+0.4
	comp=Z,222nm,1.1s						
PMG	Port Moresby	23.70	92	P	P	22 05 52.7	+0.4
	comp=Z,39nm,0.9s,baz=273,slow=11,SNR=5.4						
BKNI	Bangkinang	23.97	292	P	P	22 05 55.4	+0.7
	comp=Z,436nm,1.2s,comp=Z,4μm						
BKNI	Bangkinang	23.97	292	P	P	22 05 56.2	+1.4
	baz=24,SNR=9.2						
NWAO	Narrogin (SRO)	24.20	192	P	P	22 05 56.2	-0.4
	SNR=9.8						
NWAO	Narrogin (SRO)	24.20	192	*e*P	P	22 05 56.2	-0.4
	comp=Z,169nm,0.9s						
NWAO				*e*S	S	22 10 03.6	-2.7
NWAO	Narrogin (SRO)	24.20	192	P	P	22 05 56.0	-0.5
	comp=Z,153nm,0.8s,baz=20,slow=9.9,SNR=45						
PPI	Padang Panjang	24.26	290	P	P	22 05 55.5	-1.8
	comp=Z,92nm,1.0s						
PPI	Padang Panjang	24.26	290	P	P	22 05 55.5	-1.8
	baz=24,SNR=13						
KTGM	Kuala Trenggan	24.64	305	P	P	22 06 02.0	+1.3
FRIM	Kepong	24.77	299	P	P	22 06 01.9	0.0
CTA	Charters Tower	24.79	118	P	P	22 06 02.2	+0.1
CTA	Charters Tower	24.79	118	P	P	22 06 02.2	+0.1
	comp=Z,51nm,1.0s,baz=290,slow=12,SNR=19						
CTA				LR	LR	22 17 01.1	
	comp=Z,460nm,20.3s,baz=355,slow=39						
CTAO	Charters Tower	24.79	118	*e*P	P	22 06 02.5	+0.4
CTAO				pmax	pmax		
	comp=Z,97nm,1.1s						
CTAO	Charters Tower	24.79	118	*e*P	P	22 06 02.5	+0.4
	comp=Z,97nm,1.1s						
MANU	Manus Island	25.13	75	P	P	22 06 05.6	+0.4
	baz=25,SNR=4.1						
RKGY	Rocky Gully	25.88	192	P	P	22 06 12.8	+1.0
	baz=26,SNR=41						
IPM	Ipoh	25.91	301	*e*P	P	22 06 11.7	-0.7
	comp=Z,54nm,1.0s						
IPM	Ipoh	25.91	301	P	P	22 06 12.1	-0.2
IPM	Ipoh	25.91	301	P	P	22 06 11.9	-0.5
	comp=Z,39nm,1.2s						
BBOO	Buckleboo	26.32	155	*e*P	P	22 06 15.2	-0.7
	comp=Z,3μm,0.9s						
BBOO				*e*S	S	22 10 33.8	-6.2
BBOO	Buckleboo	26.32	155	P	P	22 06 14.9	-0.9
	baz=26,SNR=50						
KULM	Kulim	26.66	302	*e*P	P	22 06 18.0	-1.0
	comp=Z,56nm,1.2s						
KULM	Kulim	26.66	302	P	P	22 06 18.5	-0.6
PSI	Prapat	26.93	295	P	P	22 06 20.4	-1.3
PSI	Prapat	26.93	295	P	P	22 06 20.4	-1.3
	comp=Z,26nm,0.8s,baz=135,slow=6.0,SNR=13						
PSI				LR	LR	22 17 24.4	
	comp=Z,511nm,20.1s,baz=114,slow=37						
TSI	Tuntungan	27.57	296	P	P	22 06 26.4	-0.8
	comp=Z,158nm,1.8s						
SKLT	Songkhla	27.73	305	P	P	22 06 29.3	+0.7
	comp=Z,53nm,1.1s,comp=Z,1μm						
SKLT	Songkhla	27.73	305	P	P	22 06 29.3	+0.7
	comp=Z,53nm,1.1s,comp=Z,1μm						
KCSI	Kotacane, Aceh	28.28	296	P	P	22 06 30.7	-2.9
	comp=Z,67nm,1.3s						
STKA	Stephens Creek	28.30	145	*e*P	P	22 06 33.3	-0.2
	comp=Z,24nm,1.0s						
STKA	Stephens Creek	28.30	145	P	P	22 06 33.3	-0.2
	comp=Z,81nm,0.8s,baz=314,slow=8.9,SNR=89						
STKA				LR	LR	22 19 24.5	
	comp=Z,1μm,18.8s,baz

CAN	**Canberra**	**35.09 142**	*e*P	**P**	**22 07 31.2**	**-1.8**
CAN			pmax	pmax		
comp=Z,166nm,1.6s						
CAN	**Canberra**	**35.09 142**	*e*P	**P**	**22 07 31.2**	**-1.8**
comp=Z,166nm,1.6s						
MGCD	**Mangrove Creek**	**35.13 137**	P	**P**	**22 07 35.0**	**+1.7**
baz=35,SNR=18						
CNB	**Canberra Magne**	**35.31 141**	P	**P**	**22 07 35.6**	**+0.7**
baz=35,SNR=11						
LAMP	**Lampang**	**36.04 320**	P	**P**	**22 07 41.8**	**+0.6**
comp=Z,18nm,1.0s,comp=Z,168nm						
HNR	**Honiara**	**36.31 93**	*e*P	**P**	**22 07 41.4**	**-2.2**
comp=Z,176nm,1.2s						
HNR	**Honiara**	**36.31 93**	P	**P**	**22 07 43.2**	**-0.4**
comp=Z,43nm,0.5s,baz=209,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**36.43 319**	P	**P**	**22 07 44.7**	**+0.1**
CMAR			pP	**pP**	**22 08 10.8**	**-0.4**
CMAR			PcP	**PcP**	**22 10 07.7**	**+1.3**
CMAR			ScP	**ScP**	**22 13 44.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**36.43 319**	P	**P**	**22 07 44.7**	**+0.1**
comp=Z,13nm,0.9s,baz=141,slow=6.7,SNR=61						
CMAR			pP	**pP**	**22 08 10.8**	**-0.4**
comp=Z,15nm,1.0s,baz=146,slow=6.3,SNR=4.3						
CMAR			PcP	**PcP**	**22 10 07.7**	**+1.3**
comp=Z,3.1nm,0.7s,baz=174,slow=2.2,SNR=4.4						
CMAR			ScP	**ScP**	**22 13 44.0**	**+2.0**
comp=Z,5.4nm,1.1s,baz=172,slow=2.9,SNR=7.1						
CMAR			LR	LR	22 22 44.5	
comp=Z,272nm,21.2s,baz=144,slow=36						
PAYA	**Payao**	**36.52 321**	P	**P**	**22 07 43.6**	**-1.7**
comp=Z,8μm,0.9s,comp=Z,512μm						
CMMT	**Chiang Mai**	**36.69 319**	P	**P**	**22 07 46.5**	**-0.2**
comp=Z,46nm,1.4s,comp=Z,862nm						
CMMT	**Chiang Mai**	**36.69 319**	P	**P**	**22 07 46.5**	**-0.2**
comp=Z,46nm,1.4s,comp=Z,862nm						
CHTO	**Chiang Mai**	**36.69 319**	*e*P	**P**	**22 07 46.9**	**+0.1**
CHTO			pmax	pmax		
comp=Z,71nm,1.4s						
CHTO	**Chiang Mai**	**36.69 319**	P	**P**	**22 07 47.2**	**+0.4**
SNR=10						
CHTO	**Chiang Mai**	**36.69 319**	*e*P	**P**	**22 07 46.9**	**+0.1**
comp=Z,71nm,1.4s						
CHTO	**Chiang Mai**	**36.69 319**	P	**P**	**22 07 46.8**	**0.0**
comp=Z,51nm,1.5s,comp=Z,1μm						
CHTO	**Chiang Mai**	**36.69 319**	P	**P**	**22 07 46.8**	**0.0**
comp=Z,51nm,1.5s,comp=Z,1μm						
CRAI	**Chiangrai**	**36.87 323**	P	**P**	**22 07 46.1**	**-2.1**
CMAI	**Chiengmai2**	**37.46 321**	P	**P**	**22 07 53.8**	**+0.4**
comp=Z,37nm,1.7s,comp=Z,3μm						
GYA	**Guiyang**	**38.92 336**⇑	*i*P	**P**	**22 08 05.4**	**-0.1**
GYA			pP	**pP**	**22 08 34.4**	**+2.0**
GYA			sP	**sP**	**22 08 49.5**	**+3.5**
GYA			PP	**PnPn**	**22 09 42.1**	**+1.2**
GYA			PcP	**PcP**	**22 10 15.6**	**+1.6**
GYA			ScP	**ScP**	**22 13 51.0**	**-0.4**
GYA			S	**S**	**22 13 55.8**	**+0.5**
GYA			sS	**sS**	**22 14 45.6**	**+3.7**
GYA			SS	**SS**	**22 16 47.0**	**-5.0**
GYA			pmax	pmax		
comp=Z,40nm,1.0s						
GYA			pmax	pmax		
comp=Z,170nm,4.7s						
GYA			LR	LR		
comp=N,780nm,17.6s						
GYA			LR	LR		
comp=E,630nm,18.0s						
GYA			LR	LR		
comp=Z,720nm,17.5s						
MOO	**Moorlands**	**39.24 152**	P	**P**	**22 08 09.7**	**+1.9**
baz=39,SNR=3.2						
KMI	**Kunming**	**39.52 330**	⇑P	**P**	**22 08 12.0**	**+1.4**
KMI			pP	**pP**	**22 08 40.3**	**+2.7**
KMI			sP	**sP**	**22 08 54.9**	**+3.8**
KMI			PP	**PnPn**	**22 09 49.4**	**+1.4**
KMI			S	**S**	**22 14 06.0**	**+1.6**
KMI			sS	**sS**	**22 14 55.9**	**+4.8**
KMI			pmax	pmax		
comp=Z,91nm,1.1s						
KMI			pmax	pmax		
comp=Z,280nm,3.1s						
KMI			LR	LR		
comp=N,220nm,11.1s						
KMI			LR	LR		
comp=E,250nm,11.6s						
KMI			LR	LR		
comp=Z,380nm,21.2s						
TAU	**Tasmania Unive**	**39.66 152**	*e*P	**P**	**22 08 13.0**	**+1.7**
TAU			pmax	pmax		
comp=Z,184nm,1.3s						
TAU	**Tasmania Unive**	**39.66 152**	*e*P	**P**	**22 08 13.0**	**+1.7**
comp=Z,184nm,1.3s						
WHN	**Wuhan**	**40.44 348**	⇑P	**P**	**22 08 17.8**	**-0.1**
WHN			S	**S**	**22 14 15.3**	**-2.3**
NJ2	**Nanjing**	**41.26 354**	*e*P	**P**	**22 08 25.3**	**+0.8**
NJ2			pP	**pP**	**22 08 52.1**	**+0.4**
NJ2			sP	**sP**	**22 09 06.1**	**+0.9**
NJ2			PP	**PP**	**22 10 03.1**	**+0.8**
NJ2			S	**S**	**22 14 31.9**	**+2.3**
NJ2			sS	**sS**	**22 15 18.1**	**+1.5**
NJ2			pmax	pmax		
comp=Z,32nm,0.8s						
NJ2			pmax	pmax		
comp=Z,220nm,8.8s						
NJ2			LR	LR		
comp=N,330nm,24.9s						
NJ2			LR	LR		
comp=E,230nm,26.5s						
NJ2			LR	LR		
comp=Z,320nm,20.7s						
ENH	**Enshi**	**41.41 342**	*e*P	**P**	**22 08 25.1**	**-0.9**
comp=Z,33nm,1.0s						
JNU	**Nakatsue**	**42.76 10**	P	**P**	**22 08 35.4**	**-1.4**
JNU	**Nakatsue**	**42.76 10**	P	**P**	**22 08 35.4**	**-1.4**
comp=Z,9.5nm,0.9s,baz=116,slow=12,SNR=4.3						
DZM	**Mont Dzumac**	**43.45 112**	P	**P**	**22 08 42.4**	**-0.3**
DZM	**Mont Dzumac**	**43.45 112**	P	**P**	**22 08 42.4**	**-0.3**
comp=Z,35nm,1.0s,baz=281,slow=10,SNR=5.8						
CD2	**Chengdu**	**44.04 336**	*e*P	**P**	**22 08 46.9**	**-0.2**
CD2			pP	**pP**	**22 09 15.0**	**+0.5**
CD2			sP	**sP**	**22 09 29.1**	**+1.1**
CD2			PcP	**PcP**	**22 10 29.8**	**-0.8**
CD2			PP	**PP**	**22 10 34.2**	**+2.0**
CD2			S	**S**	**22 15 10.5**	**-0.1**
CD2			sS	**sS**	**22 15 59.2**	**+1.3**
CD2			ScS	**SS**	**22 18 30.0**	**-2.4**
CD2			pmax	pmax		
comp=Z,120nm,1.5s						
CD2			pmax	pmax		
comp=Z,300nm,6.2s						
XAN	**Xi'an**	**45.10 343**	P	**P**	**22 08 54.2**	**-1.4**
XAN			pP	**pP**	**22 09 22.2**	**-0.9**
XAN			sP	**sP**	**22 09 37.0**	**+0.5**
XAN			PP	**PP**	**22 10 39.4**	**-4.1**
XAN			S	S	22 15 19.1	-6.8
XAN			pmax	pmax		
comp=Z,13nm,0.9s						
XAN			pmax	pmax		
comp=Z,31nm,6.1s						
SHL	**Shillong**	**46.07 319**	*e*P	**P**	**22 09 03.5**	**0.0**
SHL			*e*S	**S**	**22 15 36.0**	**-4.3**
KSAR	**Wonju Array Be**	**46.64 5**	P	**P**	**22 09 06.7**	**-0.8**
KSAR			PcP	**PcP**	**22 10 40.2**	**+0.8**
KSAR			ScP	**ScP**	**22 14 22.4**	**+0.3**
KSRS	**Korea Array**	**46.66 5**	P	**P**	**22 09 06.7**	**-0.9**
comp=Z,7.6nm,0.9s,baz=179,slow=9.3,SNR=33						
KSRS			PcP	**PcP**	**22 10 40.2**	**+0.8**
comp=Z,2.3nm,1.0s,baz=190,slow=5.4,SNR=4.1						
KSRS			ScP	**ScP**	**22 14 22.4**	**+0.3**
comp=Z,4.0nm,1.0s,baz=185,slow=3.2,SNR=11						
KSRS			LR	LR	22 26 44.4	
comp=Z,120nm,21.2s,baz=346,slow=33						
MAJO	**Matsushiro**	**47.69 16**	*c i*P	**P**	**22 09 14.1**	**-1.6**
MAJO			pmax	pmax		
comp=Z,34nm,1.7s						
MAJO	**Matsushiro**	**47.69 16**	*e*P	**P**	**22 09 14.0**	**-1.7**
comp=Z,14nm,0.6s						
MAT	**Matsushiro**	**47.69 16**	P	**P**	**22 09 13.9**	**-1.8**
MAT			S	**S**	**22 16 00.2**	**-2.5**
LZH	**Lanzhou**	**48.61 339**	⇑P	**P**	**22 09 23.6**	**+0.7**
LZH			pP	**pP**	**22 09 53.3**	**+2.5**
LZH			sP	**sP**	**22 10 04.5**	**+0.4**
LZH			PP	**PP**	**22 11 14.5**	**-2.6**
LZH			S	**S**	**22 16 13.0**	**-3.0**
LZH			pmax	pmax		
comp=Z,130nm,1.3s						
LZH			pmax	pmax		
comp=Z,300nm,4.0s						
LZH			LR	LR		
comp=N,280nm,14.0s						
LZH			LR	LR		
comp=E,250nm,14.6s						
LZH			LR	LR		
comp=Z,360nm,16.2s						
BJT	**Baijiatuau**	**49.43 353**	*e*P	**P**	**22 09 27.8**	**-1.1**
comp=Z,21nm,0.6s						
BJI	**Beijing**	**49.45 353**	P	**P**	**22 09 27.4**	**-1.6**
BJI			S	**S**	**22 16 29.4**	**+2.2**
BJI			pmax	pmax		
comp=Z,27nm,1.0s						
BJI			pmax	pmax		
comp=Z,130nm,3.5s						
BJI			LR	LR		
comp=N,140nm,19.1s						
BJI			LR	LR		
comp=E,170nm,14.4s						
BJI			LR	LR		
comp=Z,220nm,22.0s						
LSA	**Lhasa**	**49.47 323**	P	**P**	**22 09 30.1**	**+0.1**
LSA	**Lhasa**	**49.47 323**	*e*P	**P**	**22 09 30.0**	**+0.1**
LSA			pmax	pmax		
comp=Z,46nm,0.8s						
LSA	**Lhasa**	**49.47 323**	*e*P	**P**	**22 09 30.0**	**0.0**
comp=Z,46nm,0.8s						
RAMN	**Ramite**	**50.50 316**	*e*P	**P**	**22 09 37.1**	**-0.4**
SNY	**Shenyang**	**50.81 0**	⇓P	**P**	**22 09 37.8**	**-1.5**
SNY			S	**S**	**22 16 40.7**	**-5.4**
SNY			pmax	pmax		
comp=Z,19nm,0.8s						
SNY			LR	LR		
comp=N,130nm,19.2s						
SNY			LR	LR		
comp=E,88nm,12.9s						
SNY			LR	LR		
comp=Z,140nm,17.7s						
JIRN	**Jiri**	**51.23 317**	*e*P	**P**	**22 09 42.5**	**-0.7**
HYB	**Hyderabad**	**51.41 301**	*i* P	P	22 09 41.0	-3.2
HYB			*e*		22 09 52.5	
HYB			*e*pP	pP	22 10 10.0	-2.4
GUN	**Gumba**	**51.60 317**	*e*P	**P**	**22 09 45.4**	**-0.5**
PKI	**Pulchoki**	**51.71 316**	*e*P	**P**	**22 09 45.6**	**-1.1**
PKIN	**Phulchoki**	**51.72 316**	*e*P	**P**	**22 09 46.0**	**-0.7**
DMN	**Daman**	**51.94 316**	*e*P	**P**	**22 09 47.3**	**-1.0**
VLA	**Vladivostok**	**52.71 8**	*c i*P	**P**	**22 09 52.4**	**-0.9**
VLA			pmax	pmax		
comp=Z,46nm,1.1s						
CN2	**Changchun**	**52.83 2**	*e*P	**P**	**22 09 52.0**	**-2.2**
CN2			*e*pP	**pP**	**22 10 22.0**	**-0.5**
CN2			*e*S	**S**	**22 17 10.0**	**-3.6**
CN2			pmax	pmax		
comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**53.02 337**	⇑P	**P**	**22 09 56.4**	**+0.4**
GTA			pP	**pP**	**22 10 26.0**	**+1.8**
GTA			sP	**sP**	**22 10 37.6**	**+0.1**
GTA			S	**S**	**22 17 12.7**	**-4.1**
GTA			ScS	**ScS**	**22 19 30.4**	**-3.5**
GTA			pmax	pmax		
comp=Z,54nm,1.0s						
GTA			pmax	pmax		
comp=Z,110nm,7.1s						
GTA			LR	LR		
comp=N,100nm,17.6s						
GTA			LR	LR		
comp=E,130nm,17.1s						
GTA			LR	LR		
comp=Z,190nm,20.0s						
KOLN	**Koldanda**	**53.08 315**	*e*P	**P**	**22 09 55.6**	**-1.1**
comp=Z,148nm,1.1s						
DANN	**Dangsing**	**53.33 316**	*e*P	**P**	**22 09 57.7**	**-0.9**
comp=Z,354nm,1.0s						
PYUN	**Piuthan**	**53.71 315**	*e*P	**P**	**22 10 00.4**	**-0.9**
USRK	**Ussurisk Arra**	**53.78 8**	P	**P**	**22 10 00.1**	**-1.1**
comp=Z,8.9nm,0.4s,baz=189,slow=7.0,SNR=44						
USRK			pP	**pP**	**22 10 27.2**	**-2.4**
comp=Z,14nm,0.7s,baz=189,slow=7.0,SNR=6.3						
USRK			ScP	**ScP**	**22 14 52.5**	**-0.1**
comp=Z,4.5nm,1.0s,baz=231,slow=4.7,SNR=6.2						
RPZ	**Rata Peaks**	**53.87 138**	*e*P	**P**	**22 10 01.6**	**-0.4**
RPZ	**Rata Peaks**	**53.87 138**	P	**P**	**22 10 02.6**	**+0.5**
comp=Z,63nm,0.9s,baz=32,slow=2.7,SNR=12						
MSVF	**Nonsavu**	**53.90 105**	P	**P**	**22 10 04.9**	**+2.2**
comp=Z,337nm,1.3s,SNR=6.4						
MSVF	**Nonsavu**	**53.90 105**	*e*P	**P**	**22 10 04.4**	**+1.7**
MSVF			pmax	pmax		
comp=Z,108nm,1.3s						
MSVF	**Nonsavu**	**53.90 105**	*e*P	**P**	**22 10 04.4**	**+1.7**
comp=Z,108nm,1.3s						
MDJ	**Mudanjiang**	**53.91 6**	P	**P**	**22 10 01.8**	**-0.4**
MDJ			pP	**pP**	**22 10 29.8**	**-0.7**
MDJ			sP	**sP**	**22 10 43.7**	**-0.1**
MDJ			PcP	**PcP**	**22 11 05.4**	**-0.7**
MDJ			PP	**PP**	**22 12 03.6**	**-1.2**
MDJ			ScP	**ScP**	**22 14 51.6**	**-1.6**
MDJ			PcS	**PcS**	**22 15 05.3**	**-0.1**
MDJ			S	**S**	**22 17 29.3**	**+1.0**
MDJ			SS	**SS**	**22 21 12.6**	**+1.1**
MDJ			pmax	pmax		
comp=Z,48nm,1.1s						
MDJ			LR	LR		
comp=N,100nm,31.2s						
MDJ			LR	LR		
comp=E,69nm,19.2s						
MDJ			LR	LR		
comp=Z,160nm,36.0s						
MDJ	**Mudanjiang**	**53.91 6**	*e*P	**P**	**22 10 01.5**	**-0.7**
comp=Z,40nm,0.9s						
KHZ	**Kahutara**	**55.03 136**	*e*P	**P**	**22 10 10.8**	**+0.5**
comp=Z,427nm,2.2s						
ASAJ	**Asahikawa**	**55.95 17**	*e*P	**P**	**22 10 16.5**	**-0.4**
ASAJ			pP	**pP**	**22 10 42.8**	**-2.6**
ASAJ	**Asahikawa**	**55.95 17**	P	**P**	**22 10 16.4**	**-0.4**
comp=Z,23nm,0.8s,baz=230,slow=11,SNR=25						
ASAJ			pP	**pP**	**22 10 42.8**	**-2.6**
comp=Z,30nm,0.8s,baz=245,slow=11,SNR=6.3						
URZ	**Urewera**	**56.26 130**	*e*P	**P**	**22 10 18.7**	**-0.5**
comp=Z,32nm,0.9s						
CASY	**Casey**	**57.62 186**	*e*P	**P**	**22 10 28.6**	**+0.3**
comp=Z,36nm,1.1s						
HIA	**Hailar**	**58.33 357**	*e*P	**P**	**22 10 33.0**	**-0.5**
comp=Z,34nm,1.0s						
HABR	**Khabarovsk**	**58.41 9**	*e*P	**P**	**22 10 33.9**	**-0.1**
HABR			*e*		22 11 22.0	
HABR			*e*SS	SS	22 22 28.2	+6.1
HABR			pmax	pmax		
comp=Z,70nm,1.4s						
HABR			pmax	pmax		
comp=N,13nm,0.9s						
HABR			pmax	pmax		
comp=E,12nm,1.0s						
HABR			MLR	MLR		
comp=Z,56nm,17.0s						
YSS	**Yuzh-Sakhalins**	**58.61 16**	*e*P	**P**	**22 10 35.0**	**-0.4**
YSS			pmax	pmax		
comp=Z,30nm,1.0s						
ULN	**Ulaanbaatar**	**58.61 347**	P	**P**	**22 10 35.5**	**-0.2**
SNR=25						
ULN	**Ulaanbaatar**	**58.61 347**	*e*P	**P**	**22 10 35.1**	**-0.6**
comp=Z,28nm,0.9s						
ULN	**Ulaanbaatar**	**58.61 347**	P	**P**	**22 10 35.3**	**-0.4**
comp=Z,40nm,0.8s,comp=Z,412nm						
KLR	**Kul'dur**	**58.70 7**	*e*P	P	22 10 31.1	-5.0
KLR			pmax	pmax		
comp=Z,43nm,1.4s						
SONM	**Songino Array**	**58.73 347**	P	**P**	**22 10 35.5**	**-1.0**
SONM			pP	**pP**	**22 11 03.5**	**-1.7**
SONM			ScP	**ScP**	**22 15 14.7**	**+0.2**
SONM			⇑*e*		22 40 25.9	
SONM			P'P'ab	**P'P'ab**	**22 40 36.3**	**+1.0**
SONM	**Songino Array**	**58.73 347**	P	**P**	**22 10 35.5**	**-1.0**
comp=Z,11nm,0.5s,baz=168,slow=7.8,SNR=108						
SONM			pP	**pP**	**22 11 03.5**	**-1.7**
comp=Z,25nm,1.1s,baz=167,slow=7.8,SNR=4.9						
SONM			ScP	**ScP**	**22 15 14.7**	**+0.2**
comp=Z,2.5nm,1.0s,baz=173,slow=3.9,SNR=4.0						
SONM			PKP2bc		22 40 25.9	
comp=Z,1.1nm,1.0s,baz=342,slow=0.5,SNR=4.5						
SONM			PKP2ab		22 40 36.3	
comp=Z,0.8nm,0.9s,baz=1.9,slow=4.3,SNR=3.7						
MIR	**Mirnyy**	**60.80 193**	⇓*i*P	**P**	**22 10 52.0**	**+1.8**
MIR			*i*		22 11 32.0	
MIR			pmax	pmax		
comp=Z,50nm,1.0s						
WMQ	**Urumqi**	**61.83 332**⇑	*i*P	**P**	**22 10 57.9**	**+0.3**
WMQ			pP	**pP**	**22 11 27.6**	**+1.0**
WMQ			PcP	**PcP**	**22 11 37.2**	**-0.3**
WMQ			S	**S**	**22 19 10.5**	**-1.2**
WMQ			pmax	pmax		
comp=Z,95nm,1.2s						
WMQ			LR	LR		
comp=N,140nm,27.0s						
WMQ			LR	LR		
comp=E,180nm,29.0s						
WMQ			LR	LR		
comp=Z,160nm,27.0s						
ZAK	**Zakamensk**	**61.84 346**⇑	*i*P	**P**	**22 10 56.9**	**-0.7**
ZAK			pmax	pmax		
comp=Z,18nm,1.2s						
IRK	**Irkutsk**	**63.34 347**	*e*P	**P**	**22 11 05.7**	**-1.7**
IRK			pmax	pmax		
comp=Z,51nm,2.0s						
MOY	**Mondy**	**63.59 345**	*e*P	**P**	**22 11 09.2**	**0.0**
MOY			pmax	pmax		
comp=Z,53nm,2.0s						
KSH	**Kashi**	**65.28 321**⇑	*i*P	**P**	**22 11 20.3**	**-0.2**
KSH			sP	**sP**	**22 12 05.3**	**+2.5**
KSH			PP	**PP**	**22 13 48.5**	**+2.8**
KSH			S	S	22 19 48.3	-6.6
KSH			sS	**sS**	**22 20 46.2**	**+0.9**
KSH			ScS	**SKSac**	**22 20 58.2**	**-6.4**
KSH			SS	**SS**	**22 24 10.6**	**+0.3**
KSH			pmax	pmax		
comp=Z,75nm,1.1s						
KSH			LR	LR		
comp=N,73nm,4.8s						
KSH			LR	LR		
comp=E,76nm,5.8s						
KSH			LR	LR		
comp=Z,120nm,4.8s						
HVS	**Khovu-Aksy**	**65.30 340**	*c i*P	**P**	**22 11 19.9**	**-0.4**
HVS			pmax	pmax		
comp=Z,314nm,1.3s						
CLNS	**Chul'man**	**65.85 1**	*e*P	**P**	**22 11 23.8**	**+0.2**
CLNS			*e**PP	pP	22 11 46.6	-6.4
CLNS			*e*		22 11 54.4	
CLNS			*e*		22 13 48.1	
CLNS			*e*S	**S**	**22 20 00.3**	**-0.6**
CLNS			*e**SS	**sS**	**22 20 47.9**	**-3.5**
CLNS			*e*		22 21 09.5	
CLNS			pmax	pmax		
comp=Z,40nm,0.9s						
CLNS			pmax	pmax		
comp=E,14nm,1.0s						
CLNS			pmax	pmax		
comp=N,28nm,1.0s						
CLNS			pmax	pmax		
comp=E,8.0nm,1.3s						
CLNS			pmax	pmax		
comp=Z,2.0nm,1.0s						
CLNS			pmax	pmax		
comp=N,5.0nm,1.0s						
CLNS			smax	smax		
comp=N,3.0nm,1.2s						
CLNS			smax	smax		
comp=E,5.0nm,1.3s						
MK31	**Makanchi Array**	**66.60 331**	*e*P	**P**	**22 11 28.5**	**-0.1**
MK31	**Makanchi Array**	**66.60 331**	*e*P	**P**	**22 11 28.5**	**-0.1**
MKAR	**Makanchi Array**	**66.60 331**	*e*P	**P**	**22 11 28.7**	**+0.1**
MKAR			*PP	**PcP**	**22 11 55.4**	**-1.6**
MKAR			S	**S**	**22 20 10.8**	**+0.5**
MKAR	**Makanchi Array**	**66.60 331**	*e*P	**P**	**22 11 28.7**	**+0.1**
MKAR			pP	**PcP**	**22 11 55.4**	**-1.6**
MKAR			S	**S**	**22 20 10.8**	**+0.5**
MKAR			⇑*e*		22 39 58.8	
MKAR	**Makanchi Array**	**66.60 331**	P	**P**	**22 11 28.5**	**-0.1**
comp=E,49nm,0.8s,baz=137,slow=6.7,SNR=220						
MKAR			pP	**PcP**	**22 11 55.4**	**-1.6**
comp=E,87nm,0.9s,baz=139,slow=7.7,SNR=8.4						
MKAR			S	**S**	**22 20 10.8**	**+0.5**
comp=E,1.0nm,0.9s,baz=149,slow=9.7,SNR=4.0						
MKAR			PKP2bc		22 39 58.8	
comp=E,1.2nm,1.1s,baz=289,slow=3.7,SNR=4.0						
KBL	**Kabul**	**67.18 313**	*e*P	**P**	**22 11 31.9**	**-0.9**
KBL			pmax	pmax		
comp=Z,73nm,1.2s						
KBL	**Kabul**	**67.18 313**	*e*P	**P**	**22 11 31.9**	**-0.9**
comp=Z,73nm,1.2s						
KBL	**Kabul**	**67.18 313**	P	**P**	**22 11 32.1**	**-0.7**
baz=67,SNR=9.5						
KZA	**Kyzart**	**67.27 323**	P	**P**	**22 11 34.2**	**+0.8**
SNR=14						
TKM2	**Tokmak 2**	**67.58 324**	*i* P	**P**	**22 11 34.9**	**-0.2**
TKM2	**Tokmak 2**	**67.58 324**	P	**P**	**22 11 35.0**	**-0.2**
SNR=28						
TKM2	**Tokmak 2**	**67.58 324**	*e*P	**P**	**22 11 34.7**	**-0.5**
comp=Z,18nm,0.8s						
KBK	**Karagaybulak**	**67.80 324**	P	**P**	**22 11 36.6**	**+0.1**
SNR=21						
AAK	**Ala-Archa**	**68.05 323**	P	**P**	**22 11 38.6**	**+0.5**
comp=Z,201nm,1.0s,SNR=11						
AAK	**Ala-Archa**	**68.05 323**	*c i*P	**P**	**22 11 38.2**	**+0.1**
AAK			*i* *PP	**PcP**	**22 12 03.3**	**-0.1**
AAK			pmax	pmax		
comp=Z,150nm,1.7s						
AAK	**Ala-Archa**	**68.05 323**	P	**P**	**22 11 38.5**	**+0.4**
SNR=26						
AAK	**Ala-Archa**	**68.05 323**	P	**P**	**22 11 38.1**	**+0.1**
SNR=18						
AAK	**Ala-Archa**	**68.05 323**	*e*P	**P**	**22 11 38.0**	**0.0**
comp=Z,29nm,0.8s						
FRU	**Bishkek**	**68.10 324**⇓	*i*P	**P**	**22 11 38.0**	**-0.2**
FRU			*i*		22 12 09.0	
FRU			pmax	pmax		
comp=Z,60nm,2.0s						
CHMS	**Chumysh**	**68.12 324**	P	**P**	**22 11 37.8**	**-0.5**
SNR=8.2						
AML	**Almayashu**	**68.23 323**	P	**P**	**22 11 39.5**	**+0.1**
SNR=11						
USP	**Ospenovka**	**68.43 324**	P	**P**	**22 11 40.0**	**-0.3**
SNR=44						
EKS2	**Erkin-Say**	**68.50 323**	*e*P	**P**	**22 11 40.6**	**-0.2**
EKS2			pmax	pmax		
comp=Z,38nm,1.1s						
EKS2	**Erkin-Say**	**68.50 323**	P	**P**	**22 11 40.8**	**+0.1**
SNR=31						
EKS2	**Erkin-Say**	**68.50 323**	*e*P	**P**	**22 11 40.6**	**-0.2**
comp=Z,38nm,1.1s						
PEA0B	**Petropavlovsk-**	**68.72 22**	*e*P	**P**	**22 11 40.9**	**-0.8**
PETK	**Petropavlovsk-**	**68.72 22**	P	**P**	**22 11 41.6**	**-0.1**
PETK	**Petropavlovsk-**	**68.72 22**	P	**P**	**22 11 41.6**	**-0.1**
PETK	**Petropavlovsk-**	**68.72 22**	P	**P**	**22 11 41.6**	**-0.1**
comp=Z,11nm,0.5s,baz=198,slow=4.2,SNR=28						
PETK			LR	LR	22 39 25.7	
comp=Z,55nm,20.4s,baz=210,slow=34						
PET	**Petropavlovsk**	**69.00 22**	*e*P	P	22 11 40.0	-3.4
PET			*e*		22 11 54.9	
PET			*e**PP	**PcP**	**22 12 09.1**	**+2.3**
PET			*e*S	**S**	**22 20 37.4**	**-1.2**
PET			pmax	pmax		
comp=Z,200nm,9.8s						
PET			pmax	pmax		
comp=Z,100nm,14.1s						
PET			pmax	pmax		
comp=Z,35nm,1.2s						
KRAR	**Krasnoyarsk**	**69.70 342**⇑	*e*P	**P**	**22 11 47.8**	**+0.1**
KRAR			pmax	pmax		
comp=Z,74nm,1.3s						
MAW	**Mawson**	**70.44 201**	P	**P**	**22 11 53.2**	**+1.2**
MAW	**Mawson**	**70.44 201**	P	**P**	**22 11 53.2**	**+1.2**
comp=Z,29nm,0.9s,baz=70,slow=7.0,SNR=55						
MAW			LR	LR	22 38 30.4	
comp=Z,114nm,18.9s,baz=49,slow=32						
MAW	**Mawson**	**70.44 201**	P	**P**	**22 11 53.3**	**+1.2**
baz=70,SNR=32						
KKAR	**Karatay Array**	**70.71 322**	*e*P	**P**	**22 11 53.3**	**-0.9**
KKAR	**Karatay Array**	**70.71 322**	*e*P	**P**	**22 11 53.3**	**-0.9**
ZAA0	**Zalesovo Array**	**70.78 337**	*e*P	**P**	**22 11 52.8**	**-1.5**
ZALV	**Zalesovo Beam**	**70.78 337**	*i* P	**P**	**22 11 53.0**	**-1.3**
ZALV			pmax	pmax		
comp=Z,64nm,0.9s						

ZALV S S 22 20 51.8 -7.6
comp=Z,8.6nm,1.1s,baz=124,slow=12,SNR=13
ZALV PKP2bc 22 39 49.6
comp=Z,1.4nm,0.8s,baz=310,slow=5.6,SNR=7.2
ZALV LR LR 22 41 31.9
comp=Z,108nm,21.6s,baz=159,slow=34
VNDA Vanda 71.14 172 *eP* **P 22 11 56.5 +0.3**
VNDA Vanda 71.14 172 P **P 22 11 56.5 +0.3**
comp=Z,6.3nm,0.9s,baz=317,slow=6.0,SNR=48
YAK Yakutsk 71.23 3 *eP* **P 22 11 56.2 -0.7**
YAK *e* 22 12 17.3
YAK *e* 22 14 32.8
YAK *e*PPP PPP 22 16 16.7
YAK *e*S **S 22 21 00.3 -3.9**
YAK *e* 22 21 45.8
YAK *e**SS **ScS 22 21 51.5 +1.5**
YAK *e*SS **SS 22 25 43.8 +2.9**
YAK *e*SSS SSS 22 28 51.7
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=Z,49nm,4.3s
YAK pmax pmax
comp=N,36nm,4.0s
YAK pmax pmax
comp=E,27nm,2.6s
YAK smax smax
comp=E,124nm,1.7s
YAK smax smax
comp=N,151nm,3.0s
NVS Novosibirsk 72.06 337⇑ *iP* **P 22 11 59.6 -2.4**
NVS *e* 22 12 10.8
NVS *e* 22 21 47.3
NVS pmax pmax
comp=Z,78nm,1.4s
NVS pmax pmax
comp=N,30nm,1.2s
NVS pmax pmax
comp=E,29nm,1.2s
SBA Scott Base 72.11 171 *eP* **P 22 12 03.5 +1.5**
SBA Scott Base 72.11 171 *eP* **P 22 12 03.5 +1.5**
OPO Ambohidratompo 73.87 253 P **P 22 12 16.3 +2.5**
OPO Ambohidratompo 73.87 253 P **P 22 12 16.3 +2.5**
comp=E,6.5nm,0.8s,baz=72,slow=7.3,SNR=3.9
IMYA Miami 74.50 312 *eP* **P 22 12 16.4 -0.6**
ISRO Mashad 74.95 311 *eP* **P 22 12 19.3 -0.2**
FX1 Attu Island--F 75.08 29 *eP* **P 22 12 20.1 +0.5**
IKRD Kardeh 75.84 312 *eP* P 22 12 20.4 -4.4
BRVK Borovoye 76.55 330 P **P 22 12 27.6 -0.5**
comp=E,156nm,1.2s,SNR=15
BRVK Borovoye 76.55 330*c iP* **P 22 12 27.3 -0.7**
BRVK pmax pmax
comp=Z,41nm,1.3s
BRVK Borovoye 76.55 330 P **P 22 12 27.8 -0.3**
SNR=18
BRVK Borovoye 76.55 330 *eP* **P 22 12 27.4 -0.7**
ISRV Sarvestan 77.50 303 *eP* **P 22 12 34.6 +0.2**
SYO Syowa Base 79.12 201⇑ *eP* **P 22 12 41.6 -0.5**
SYO Syowa Base 79.12 201⇑ *e*PcP **PcP 22 12 49.4 -0.7**
ISHM Shahmirzad 79.42 309 *eP* **P 22 12 44.2 -0.6**
ILAS Lasjerd 79.54 309 *eP* **P 22 12 45.0 -0.3**
ABKAR Akbulak array 80.14 324 *eP* **P 22 12 47.2 -0.7**
IDMV Damavand 80.32 309 *eP* **P 22 12 49.1 -0.5**
QSPA South Pole Qui 80.76 180 *eP* **P 22 12 51.9 +0.7**
comp=Z,77nm,1.3s
TIXI Tiksi 80.80 2⇓ *iP* **P 22 12 50.3 -0.7**
TIXI pmax pmax
comp=Z,26nm,1.0s
IRAZ Razeghan 81.90 308 *eP* **P 22 12 57.6 -0.3**
KBD Kabd 81.98 301 *eP* **P 22 12 57.9 -0.2**
KBD AMb AMB 22 12 59.3
comp=Z,50nm,1.3s
RDF Al-Radifah 82.03 301 *eP* **P 22 12 58.3 -0.2**
RDF AMb AMB 22 13 00.2
comp=Z,142nm,1.2s
UMR Umm Al-Rimmam 82.06 302 *eP* **P 22 12 58.1 -0.4**
UMR AMb AMB 22 12 59.7
comp=Z,92nm,1.1s
NAY Al-Naaiem 82.38 301 *eP* **P 22 12 59.7 -0.5**
NAY AMb AMB 22 13 01.7
comp=Z,52nm,1.3s
MIB Mutribah 82.44 302 *eP* **P 22 12 59.9 -0.6**
MIB AMb AMB 22 13 07.3
comp=Z,84nm,1.1s
ATD Arta Tunnel 82.45 283 P **P 22 13 02.6 +1.6**
ATD Arta Tunnel 82.45 283 P **P 22 13 02.6 +1.6**
comp=Z,8.2nm,0.8s,baz=33,slow=4.1,SNR=6.1
RAYN Ar Rayn 82.49 295 P **P 22 13 01.5 +0.5**
comp=Z,270nm,1.0s,SNR=32
RAYN Ar Rayn 82.49 295 *eP* **P 22 13 01.3 +0.3**
comp=Z,48nm,1.0s
SVE Sverdlovsk 83.26 331⇓ *eP* **P 22 13 03.2 -0.9**
SVE pmax pmax
comp=Z,69nm,1.4s
ARU Arti 84.10 330*c iP* **P 22 13 07.3 -1.2**
ARU 22 16 22.3
ARU S **S 22 23 26.9 +3.9**
ARU pmax pmax
comp=Z,33nm,1.2s
ARU Arti 84.10 330 P **P 22 13 07.2 -1.2**
comp=Z,139nm,1.3s,SNR=17
ISRB Sarab 84.33 310 *eP* **P 22 13 10.3 -0.1**
PPT Papeete 84.69 107 P **P 22 13 14.9 +2.6**
PPT Papeete 84.69 107 P **P 22 13 14.9 +2.6**
comp=Z,53nm,0.8s,baz=36,slow=6.9,SNR=3.7
PPT LR LR 22 50 10.7
comp=Z,110nm,19.0s,baz=72,slow=35
IAZR Azarshahr 85.58 309 *eP* **P 22 13 16.8 +0.1**
KMBO Kilima Mbogo 85.76 270 *eP* **P 22 13 19.3 +1.2**
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 85.76 270 P **P 22 13 20.1 +2.0**
comp=Z,4.6nm,0.9s,baz=51,slow=6.6,SNR=13
KMBO LR LR 22 46 22.0
comp=Z,57nm,19.6s,baz=87,slow=32
SOKR Solikamsk 86.32 332*d iP* **P 22 13 19.4 0.0**
SOKR pmax pmax
comp=Z,20nm,1.0s
DGRG David-gareji 87.01 313 P **P 22 13 24.4 +1.1**
GNI Garni 87.15 311 *eP* **P 22 13 24.4 +0.3**
comp=Z,19nm,0.9s
TBLG Delisi 87.55 313 *eP* **P 22 13 26.0 +0.2**
TBLG Delisi 87.55 313 P **P 22 13 26.0 +0.2**
DUS Dusheti 87.66 313 P **P 22 13 27.5 +1.1**
MAIT Maitri 88.22 198 *eP* **P 22 13 27.3 -1.1**
MAIT *e* 22 13 58.8
AKH Akhalkalaki 88.37 312 P **P 22 13 29.9 -0.1**
ZEI Tsey 88.41 314 *eP* **P 22 13 30.5 +0.4**
ZEI pmax pmax
comp=Z,41nm,1.3s
ONI Oni 88.68 313 P **P 22 13 29.4 -1.9**
KBZ Khabaz 89.34 314 P **P 22 13 34.1 -0.1**
KBZ Khabaz 89.34 314 P **P 22 13 34.1 -0.1**
KBZ pP **pP 22 14 04.2 -0.9**
KBZ PKKPbc **PKKPbc 22 31 11.4 0.0**
KBZ Khabaz 89.34 314 P **P 22 13 34.1 -0.1**
comp=Z,2.9nm,0.9s,baz=76,slow=2.1,SNR=5.3
KBZ pP **pP 22 14 04.2 -0.9**
comp=Z,6.9nm,1.0s,baz=115,slow=4.3,SNR=3.6
KBZ PKKPbc **PKKPbc 22 31 11.4 0.0**
comp=Z,4.6nm,0.9s,baz=337,slow=0.8,SNR=9.8
KIV Kislovodsk 89.55 315⇓ *eP* **P 22 13 35.3 0.0**
KIV pmax pmax
comp=Z,12nm,1.8s
VRHR Novokhopersk 91.83 321 *eP* **P 22 13 46.1 +0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.8s
SNAA Sanae 91.85 195 *eP* **P 22 13 46.6 +1.1**
comp=E,40nm,1.0s
MBAR Mbarara 92.28 269 P **P 22 13 49.1 +0.4**
MBAR Mbarara 92.28 269 P **P 22 13 49.2 +0.4**
comp=E,8.1nm,1.1s,baz=123,slow=3.9,SNR=7.8
LSZ Lusaka 92.32 254 *eP* **P 22 13 50.5 +1.6**
comp=E,18nm,0.8s
LSZ Lusaka 92.32 254 P **P 22 13 51.0 +2.2**
comp=E,4.3nm,0.6s,baz=59,slow=6.3,SNR=11
BOSA Boshof 92.47 241 P **P 22 13 51.0 +1.7**
BOSA Boshof 92.47 241 P **P 22 13 51.0 +1.7**
comp=E,14nm,1.1s,baz=91,slow=7.2,SNR=11
LBTB Lobatse 92.90 244 P **P 22 13 51.9 +0.6**
comp=E,7.8nm,1.0s,baz=131,slow=1.4,SNR=5.5
LBTB Lobatse 92.90 244 P **P 22 13 51.9 +0.6**
comp=E,7.8nm,1.0s,baz=131,slow=1.4,SNR=5.5
VORD Divnogorie 93.25 321 *eP* **P 22 13 50.4 -1.7**
VORD pmax pmax
comp=Z,6.0nm,1.4s
VORD pmax pmax
comp=N,1.0nm,0.3s
VORD pmax pmax
comp=E,4.0nm,0.6s
VSR Storozhevoye 93.37 321 *eP* **P 22 13 50.6 -2.1**
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,9.0nm,1.2s
VSR pmax pmax
comp=N,2.0nm,0.4s
MOS Moscow 95.04 326 *eP* **P 22 13 57.9 -2.3**
MOS *e* 22 17 46.5
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,30nm,1.1s
BRTR Keskin Array B 95.44 309 P **P 22 14 01.6 -1.1**
BRTR pP **pP 22 14 31.4 -2.3**
BRTR PP **PP 22 17 54.9 -0.2**
BRTR PKKPbc **PKKPdf 22 30 56.0 +0.1**
BRTR Keskin Array B 95.44 309 P **P 22 14 01.6 -1.1**
comp=Z,2.2nm,1.0s,baz=133,slow=5.4,SNR=13
BRTR pP **pP 22 14 31.4 -2.3**
comp=Z,4.1nm,0.9s,baz=126,slow=6.3,SNR=6.3
BRTR PP **PP 22 17 54.9 -0.2**
comp=Z,2.7nm,1.2s,baz=104,slow=5.2,SNR=4.8
BRTR PKKPbc **PKKPdf 22 30 56.0 +0.1**
comp=Z,0.6nm,0.7s,baz=180,slow=6.2,SNR=4.1
OBN Obninsk 95.54 325⇑ *eP* **P 22 14 01.1 -1.4**
OBN pmax pmax
comp=Z,18nm,1.6s
ILAR Eielson Array 98.27 26 P **P 22 14 11.6 -3.1**
ILAR PP **PP 22 18 13.2 -2.7**
ILAR PKKPbc **PKKPbc 22 30 47.0 -1.7**
ILAR Eielson Array 98.27 26 P **P 22 14 11.6 -3.1**
comp=Z,0.6nm,0.9s,baz=300,slow=5.4,SNR=7.2
ILAR PP **PP 22 18 13.2 -2.7**
comp=Z,0.8nm,1.0s,baz=246,slow=6.8,SNR=5.3
ILAR PKKPbc **PKKPbc 22 30 47.0 -1.7**
comp=Z,0.9nm,0.9s,baz=101,slow=1.9,SNR=7.0
ARCES ARCESS Array B 101.27 339 P **Pdif 22 14 27.5 -0.5**
ARCES pP pP 22 14 57.5 -1.6
ARCES PP **PP 22 18 37.5 -0.9**
ARCES PKKPbc **PKKPbc 22 30 37.5 -2.8**
ARCES ARCESS Array B 101.27 339 P **Pdif 22 14 27.5 -0.5**
comp=Z,3.6nm,0.9s,baz=104,slow=5.1,SNR=8.2
ARCES pP pP 22 14 57.5 -1.6
comp=Z,12nm,1.0s,baz=46,slow=5.2,SNR=7.3
ARCES PP **PP 22 18 37.5 -0.9**
comp=Z,2.4nm,0.9s,baz=354,slow=7.3,SNR=3.8
ARCES PKKPbc **PKKPbc 22 30 37.5 -2.8**
comp=Z,0.6nm,0.4s,baz=271,slow=4.3,SNR=15
FINES FINESS Array B 101.43 331 P **Pdif 22 14 27.7 -1.1**
FINES PKiKP **pKiKP 22 18 54.1 +1.8**
FINES FINESS Array B 101.43 331 P **Pdif 22 14 27.7 -1.1**
comp=Z,2.0nm,0.9s,baz=64,slow=4.4,SNR=4.9
FINES PKiKP **PKiKP 22 18 54.1 +1.8**
comp=Z,1.0nm,0.8s,baz=77,slow=4.1,SNR=4.1
KOLS Kolonicke sedl 104.04 318 *iP* **Pdif 22 14 41.7 +1.0**
KOLS Kolonicke sedl 104.04 318 PDIF **Pdif 22 14 41.7 +1.0**
KRLC Kraliky 107.52 320 *e*PP PP 22 19 24.5 -0.9
HFS Hagfors 107.61 330 PKKPbc PKKPbc 22 30 19.6 -1.2
HFS Hagfors 107.61 330 PKKPbc PKKPbc 22 30 19.6 -1.2
comp=Z,3.1nm,1.0s,baz=204,slow=3.3,SNR=6.1
DPC Dobruska-Polom 107.78 320 *e*PP PP 22 19 22.9 -4.4
DPC *ex* x 22 19 35.4
TREC Trest 108.45 319 *e*PP PP 22 19 27.7 -4.5
NOA NORSAR Array B 108.58 332 PP PP 22 19 34.6 +1.9
NOA NORSAR Array B 108.58 332 PP PP 22 19 34.6 +1.9
comp=Z,1.7nm,0.9s,baz=79,slow=7.3,SNR=4.9
PRU Pruhonice 108.97 320 *e*PP PP 22 19 36.6 +0.8
PRA Prague 109.02 320 PP PP 22 19 37.0 +0.8
GERES GERESS Array B 109.68 319 PKiKP **PKiKP 22 19 08.7 +0.6**
GERES PKKPbc **PKKPbc 22 30 13.2 -0.8**
GERES PKKPab **PKKPab 22 30 25.1 +1.1**
GERES GERESS Array B 109.68 319 PKiKP **PKiKP 22 19 08.7 +0.6**
comp=Z,0.7nm,0.8s,baz=90,slow=1.3,SNR=6.3
GERES PKKPbc **PKKPbc 22 30 13.2 -0.8**
comp=Z,0.7nm,0.9s,baz=222,slow=1.8,SNR=6.2
GERES PKKPab **PKKPab 22 30 25.1 +1.1**
comp=Z,1.0nm,0.9s,baz=299,slow=2.7,SNR=7.0
KHC Kasperske Hory 109.72 319 *eP* Pdif 22 15 21.5 +15
KHC *e* 22 19 46.6
KHC Kasperske Hory 109.72 319 *ex* x 22 15 21.5
KHC *e*PP **PP 22 19 38.2 -3.1**
KHC *ex* x 22 19 46.6
CLL Collm 109.72 321 *e*pPKiKP pPKiKP 22 19 38.0 -2.3
CLL *e*PP **PP 22 19 44.0 +2.8**
CLL *e* 22 19 48.0
CLL *es*PKiKP sPKiKP 22 19 51.0 -1.6
NKC Novy Kostel 110.26 320 *e*PP PP 22 19 43.8 -1.4
NKC *ex* x 22 19 51.0
YKA Yellowknife Ar 112.69 25 PKiKP **PKiKP 22 19 12.9 -0.3**
YKA PKKPbc **PKKPbc 22 30 02.1 -2.3**
YKA Yellowknife Ar 112.69 25 PKiKP **PKiKP 22 19 12.9 -0.3**
comp=Z,1.0nm,0.6s,baz=301,slow=1.8,SNR=5.8
YKA PKKPbc **PKKPbc 22 30 02.1 -2.3**
comp=Z,1.5nm,0.8s,baz=110,slow=3.8,SNR=8.4
CDF Champ du Feu 113.94 319 *e*PKIKP **PKiKP 22 19 16.3 +0.1**
HINF Hinteralfeld 114.36 318 *e*PKIKP PKPdf 22 19 17.5 +0.6
HAU Haudompre 114.64 319 *e*PKIKP PKPdf 22 19 17.5 0.0
LPG La Plagne 114.96 316 *e*PKIKP PKPdf 22 19 19.3 +0.8
LPL La Plagne 114.97 316 *e*PKIKP PKPdf 22 19 19.2 +0.8
comp=Z,1.6nm,0.5s
MBDF Montbardon 115.11 315 *e*PKIKP **PKPdf 22 19 19.4 +0.8**
comp=Z,4.2nm,0.8s
CABF La Chapelle 115.15 317 *e*PKIKP **PKPdf 22 19 18.9 +0.3**
comp=Z,3.8nm,0.5s
LOR Lormes 116.46 318 *e*PKIKP **PKPdf 22 19 21.2 +0.2**
comp=Z,9.2nm,1.0s
SMF Signal de Mont 116.64 318 *e*PKIKP **PKPdf 22 19 21.2 -0.1**
SSF Saint Saulge 116.75 318 *e*PKIKP **PKPdf 22 19 21.9 +0.4**
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 116.92 318 *e*PKIKP **PKPdf 22 19 21.8 0.0**
BGF Bois d'Agland 117.33 318 *e*PKIKP **PKPdf 22 19 23.2 +0.6**
comp=Z,9.8nm,0.7s
NVAR Mina Array Bea 117.99 51 PKP **PKPdf 22 19 25.9 +1.4**
NVAR pPKP **pPKPdf 22 19 56.0 -0.8**
NVAR PKKPbc **PKKPab 22 29 47.8 +0.1**
NVAR Mina Array Bea 117.99 51 PKP **PKPdf 22 19 25.9 +1.4**
comp=Z,1.1nm,0.8s,baz=252,slow=3.1,SNR=6.4
NVAR pPKP **pPKPdf 22 19 56.0 -0.8**
comp=Z,1.6nm,0.8s,baz=288,slow=4.4,SNR=3.6
NVAR PKKPbc **PKKPab 22 29 47.8 +0.1**
comp=Z,1.6nm,0.9s,baz=81,slow=2.1,SNR=4.6
MFID Camas Ranch 118.69 45 *e*PKPdf **PKPdf 22 19 26.1 +0.6**
GRR Gorron 119.13 321 *e*PKIKP **PKPdf 22 19 25.9 -0.1**
MFF Saint Martin d 119.28 319 *e*PKIKP **PKPdf 22 19 26.5 +0.1**
comp=Z,4.0nm,0.5s
HLID Hailey 119.64 45 *e*PKPdf **PKPdf 22 19 28.2 +0.8**
GSC Goldstone 119.74 55 *e*PKIKP **PKPdf 22 19 28.1 +0.3**
GSC Goldstone 119.74 55 *e*PKPdf **PKPdf 22 19 28.1 +0.3**
PFO Pinyon Flat Ob 120.32 56 PKP **PKPdf 22 19 30.6 +1.6**
PFO Pinyon Flat Ob 120.32 56 PKP **PKPdf 22 19 30.6 +1.6**
comp=Z,1.5nm,0.4s,baz=200,slow=2.4,SNR=5.8
HVU Hansel Valley 121.31 46 *e*PKIKP **PKPdf 22 19 30.9 +0.2**
HVU Hansel Valley 121.31 46 *e*PKPdf **PKPdf 22 19 30.9 +0.2**
HVU *ep*PKPdf **pPKPdf 22 20 02.9 -0.1**
DUG Dugway 121.72 48 *e*PKIKP **PKPdf 22 19 31.2 -0.3**
DUG Dugway 121.72 48 *e*PKPdf **PKPdf 22 19 31.2 -0.3**
REDW Red Top Meadow 122.17 44 *e*PKPdf **PKPdf 22 19 33.5 +1.1**
REDW *ep*PKPdf **pPKPdf 22 20 03.9 -0.8**
LOHW Long Hollow 122.25 44 *e*PKPdf **PKPdf 22 19 33.4 +0.9**
TORD Torodi Ar. Bea 122.53 280 PKP **PKPdf 22 19 34.1 +0.6**
TORD pPKP **pPKPdf 22 20 05.2 -0.7**
TORD PKKPbc **PKKPab 22 29 28.9 +0.6**
TORD Torodi Ar. Bea 122.53 280 PKP **PKPdf 22 19 34.1 +0.6**
comp=Z,3.8nm,0.7s,baz=56,slow=2.0,SNR=56
TORD pPKP **pPKPdf 22 20 05.2 -0.7**
comp=Z,8.3nm,0.7s,baz=71,slow=1.5,SNR=6.1
TORD PKKPbc **PKKPab 22 29 28.9 +0.6**
comp=Z,0.7nm,0.8s,baz=289,slow=3.8,SNR=6.6
MSU Marysvale 122.65 50 *e*PKIKP **PKPdf 22 19 35.2 +1.7**
MSU Marysvale 122.65 50 *e*PKPdf **PKPdf 22 19 35.1 +1.7**
MSU *ep*PKPdf **pPKPdf 22 20 06.9 +1.1**
PDAR Pinedale Array 123.26 44 PKP **PKPdf 22 19 35.3 +0.8**
PDAR pPKP **pPKPdf 22 20 05.2 -1.7**
PDAR PKKPbc **PKKPbc 22 29 26.3 +0.2**
PDAR Pinedale Array 123.26 44 PKP **PKPdf 22 19 35.3 +0.8**
comp=Z,0.8nm,0.4s,baz=242,slow=3.2,SNR=8.2
PDAR pPKP **pPKPdf 22 20 05.2 -1.7**
comp=Z,2.0nm,0.9s,baz=205,slow=0.9,SNR=4.7
PDAR PKKPbc **PKKPbc 22 29 26.3 +0.2**
comp=Z,2.1nm,0.7s,baz=108,slow=6.6,SNR=16
SRU San Rafael 123.73 49 *e*PKIKP **PKPdf 22 19 35.7 +0.3**
SRU San Rafael 123.73 49 *e*PKPdf **PKPdf 22 19 35.7 +0.3**
K19A Absolon Red Bu 123.73 44 P **PKPdf 22 19 36.1 +0.8**
comp=Z,124,SNR=5.8
WUAZ Wupatki 124.03 53 *e*PKPdf **PKPdf 22 19 37.6 +1.5**
WUAZ *ep*PKPdf **pPKPdf 22 20 08.9 +0.5**
J20A Shoshoni 124.06 43 P **PKPdf 22 19 37.5 +1.7**
baz=124,SNR=5.5
ESDC Sonseca Array 124.13 312 PKP **PKPdf 22 19 36.6 +0.6**
ESDC pPKP **pPKPdf 22 20 07.3 -1.0**
ESDC Sonseca Array 124.13 312 PKP **PKPdf 22 19 36.6 +0.6**
comp=Z,0.4nm,0.4s,baz=15,slow=3.6,SNR=7.4
ESDC pPKP **pPKPdf 22 20 07.3 -1.0**
comp=Z,3.9nm,1.0s,baz=46,slow=3.2,SNR=5.8
N20A Spence Gulch, 124.83 46 P **PKPdf 22 19 39.0 +1.5**
baz=125,SNR=6.7
K21A Alcova 124.89 44 P **PKPdf 22 19 38.5 +0.9**
baz=125,SNR=5.4
O20A White River Ci 125.08 47 P **PKPdf 22 19 39.6 +1.6**
baz=125,SNR=6.9
PV04 Paradox Valley 125.15 49 *e*PKPdf **PKPdf 22 19 38.9 +0.7**
TUC Tucson 125.24 57 *e*PKIKP **PKPdf 22 19 39.6 +1.2**
TUC Tucson 125.24 57 *e*PKPdf **PKPdf 22 19 39.6 +1.2**
TUC *ep*PKPdf **pPKPdf 22 20 10.3 -0.4**
Q20A Ridgley Place, 125.43 48 P **PKPdf 22 19 40.5 +1.8**
baz=125,SNR=9.6
MVCO Mesa Verde 125.81 51 *e*PKPdf **PKPdf 22 19 40.7 +1.1**
S21A Coal Bank Pass 126.21 50 P **PKPdf 22 19 42.6 +2.2**
baz=126,SNR=12
W20A Ramah 126.41 53 P **PKPdf 22 19 42.6 +1.8**
baz=126,SNR=7.8
RSSD Black Hills 126.43 41 *e*PKIKP **PKPdf 22 19 40.2 -0.3**
RSSD Black Hills 126.43 41 *e*PKPdf **PKPdf 22 19 40.2 -0.3**
RSSD *ep*PKPdf **pPKPdf 22 20 11.7 -1.1**
U21A Nageezi 126.69 51 P **PKPdf 22 19 43.9 +2.6**
baz=127,SNR=8.5
319A Douglas 126.69 58 P **PKPdf 22 19 43.9 +2.6**
baz=127,SNR=5.4
S22A 4UR Ranch, Cre 126.91 49 P **PKPdf 22 19 43.9 +2.1**
baz=127,SNR=6.7
120A U Bar Ranch, L 126.96 56 P **PKPdf 22 19 44.1 +2.3**
baz=127,SNR=7.0
T22A Edith 127.09 50 P **PKPdf 22 19 44.3 +2.3**
baz=127,SNR=7.1
ISCO Idaho Springs 127.09 47 *e*PKIKP **PKPdf 22 19 42.6 +0.6**
ISCO Idaho Springs 127.09 47 *e*PKPdf **PKPdf 22 19 42.6 +0.6**
X21A Alamocita Cree 127.16 54 P **PKPdf 22 19 44.9 +2.7**
baz=127,SNR=9.1
220A Playas Peak, P 127.20 57⇓ P **PKPdf 22 19 44.0 +1.7**
baz=127,SNR=11
320A Kipp Ranch, An 127.33 58 P **PKPdf 22 19 44.8 +2.3**
baz=127,SNR=7.1
SDCO Great Sand Dun 127.90 49 *e*PKPdf **PKPdf 22 19 42.3 -1.3**
SDCO *ep*PKPdf **pPKPdf 22 20 15.4 -0.6**
DBIC Dimbokro 128.47 271 PKP **PKPdf 22 19 44.6 -0.3**
DBIC Dimbokro 128.47 271 PKP **PKPdf 22 19 44.6 -0.3**
comp=Z,15nm,1.2s,baz=290,slow=1.8,SNR=6.1
LIC Lamto 128.59 271 *e*PKIKP **PKPdf 22 19 45.4 +0.2**
PLCA Paso Flores 128.70 167 *e*PKPdf **PKPdf 22 19 46.1 +1.3**
PLCA PKP **PKPdf 22 19 46.3 +1.5**
PLCA Paso Flores 128.70 167 PKP **PKPdf 22 19 46.3 +1.5**
comp=Z,6.7nm,1.0s,baz=152,slow=2.5,SNR=7.6
Y24A Capitan 129.17 54 P **PKPdf 22 19 48.3 +2.3**
baz=129,SNR=8.1
Z24A Sheeppen Canyo 129.40 54 P **PKPdf 22 19 48.8 +2.3**
baz=129,SNR=7.7
124A Stringfield Ra 129.51 55 P **PKPdf 22 19 48.9 +2.2**
baz=129,SNR=9.5
224A Cornudas Mount 129.63 56⇓ P **PKPdf 22 19 49.2 +2.3**
baz=130
324A Moseley Ranch, 129.83 57 P **PKPdf 22 19 49.4 +2.1**
baz=130,SNR=7.3
325A Bean Ranch, Si 130.27 57⇑ P **PKPdf 22 19 48.9 +0.7**
baz=130
425A Indio Mountain 130.41 57⇓ P **PKPdf 22 19 49.8 +1.4**
baz=130,SNR=5.5
ECSD EROS Data Cent 131.30 38 *e*PKPdf **PKPdf 22 19 48.4 -1.1**
ECSD *e*SKPbc **SKPbc 22 23 02.2 -1.5**
526A Mary Lane Ranc 131.35 58 P **PKPdf 22 19 53.0 +2.9**
baz=131,SNR=5.2
527A Woodward Ranch 131.72 58⇓ P **PKPdf 22 19 52.3 +1.4**
baz=132,SNR=5.2
TXAR Lajitas Array 131.89 59 PKPpre PKPpre 22 19 35.4
TXAR PKP **PKiKP 22 19 52.9 +0.7**
TXAR pPKP pPKPdf 22 20 20.5 -3.0
TXAR SKPbc **SKPab 22 23 07.5 +0.2**
TXAR Lajitas Array 131.89 59 PKhKP PKPpre 22 19 35.4
comp=Z,0.1nm,0.5s,baz=177,slow=2.4,SNR=3.6
TXAR PKP **PKiKP 22 19 52.9 +0.7**
comp=Z,0.5nm,0.4s,baz=264,slow=3.8,SNR=3.6
TXAR pPKP pPKPdf 22 20 20.5 -3.0
comp=Z,2.5nm,0.8s,baz=279,slow=1.7,SNR=3.0
TXAR SKPbc **SKPab 22 23 07.5 +0.2**
comp=Z,9.6nm,1.1s,baz=267,slow=2.1,SNR=26
428A Kincaid Ranch, 132.33 57⇓ P **PKPdf 22 19 53.4 +1.5**
baz=132
529A Stev Forest Ra 132.89 57⇑ P **PKPdf 22 19 53.4 +0.4**
baz=133
429A Davenport Ranc 133.01 57⇑ P **PKPdf 22 19 53.8 +0.6**
baz=133
330A Mertzon 133.36 55⇑ P **PKPdf 22 19 55.1 +1.3**
baz=133
430A Baggett Ranch, 133.51 56⇑ P **PKPdf 22 19 55.1 +1.0**
baz=133
530A J-C Ranch, Com 133.61 57⇑ P **PKPdf 22 19 55.2 +0.9**
baz=134
SCHQ Schefferville 133.83 8 PKP **PKPdf 22 19 55.3 +1.4**
SCHQ SKPbc **SKPbc 22 23 12.9 +0.8**
SCHQ Schefferville 133.83 8 PKP **PKPdf 22 19 55.3 +1.4**
comp=Z,3.7nm,0.8s,baz=235,slow=6.0,SNR=6.5
SCHQ SKPbc **SKPbc 22 23 12.9 +0.8**
comp=Z,6.9nm,1.0s,baz=284,slow=8.3,SNR=3.5
431A Sonora 134.05 56⇓ P **PKPdf 22 19 56.5 +1.4**
baz=134
WMOK Wichita Mounta 134.06 50 *e*PKHKP PKPpre 22 19 46.8
WMOK Wichita Mounta 134.06 50 *e*PKPdf PKPpre 22 19 46.8
WMOK *e*SKPbc **SKPbc 22 23 13.7 +0.2**
JCT Junction City 134.78 56 *e*PKIKP **PKPdf 22 19 53.8 -2.7**
JCT Junction City 134.78 56 *e*PKPdf **PKPdf 22 19 53.8 -2.7**
JCT *e*SKPbc **SKPbc 22 23 15.9 0.0**
JCT Junction City 134.78 56⇑ P **PKPdf 22 19 57.9 +1.4**
baz=135
532A Rocksprings 134.80 56⇑ P **PKPdf 22 19 57.7 +1.1**
baz=135
632A Uvalde 135.09 57⇑ P **PKPdf 22 19 58.4 +1.3**
baz=135
CFAA Coronel Fontan 137.96 165 PKPpre PKPpre 22 19 53.8
CFAA PKP **PKPdf 22 20 03.0 +0.6**
CFAA Coronel Fontan 137.96 165 PKhKP PKPpre 22 19 53.8
comp=Z,0.7nm,0.8s,baz=224,slow=3.6,SNR=9.6
CFAA PKP **PKPdf 22 20 03.0 +0.6**
comp=Z,1.0nm,0.9s,baz=241,slow=1.3,SNR=4.9
SADO Sadowa 139.69 25 SKPbc **SKPbc 22 23 29.9 -0.1**
SADO Sadowa 139.69 25 SKPbc **SKPbc 22 23 29.9 -0.1**
comp=Z,3.1nm,0.5s,baz=347,slow=2.9,SNR=5.4
WVT Waverly 141.16 42 *e*PKHKP PKPpre 22 20 00.4
WVT Waverly 141.16 42 *e*PKPdf PKPpre 22 20 00.4
WVT *ep*PKPdf pPKPdf 22 20 40.1 -0.2
WVT *e*SKPdf **SKPbc 22 23 33.1 -1.0**
LRAL Lakeview Retre 143.48 45 *e*PKPdf PKPab 22 20 08.7 0.0
LRAL *e*SKPbc **SKiKP 22 23 40.4 -0.5**
TKL Tuckaleechee C 144.04 39 PKPpre PKPpre 22 20 08.1
TKL *e*PKPdf **PKPab 22 20 08.5 -2.3**
TKL PKP PKPbc 22 20 11.5 +0.1
TKL SKPbc **SKiKP 22 23 42.1 +0.1**
TKL Tuckaleechee C 144.04 39 PKhKP PKPpre 22 20 08.1
comp=Z,4.7nm,0.6s,baz=129,slow=2.5,SNR=8.8
TKL PKP PKPbc 22 20 11.5 +0.1
comp=Z,3.4nm,0.5s,baz=255,slow=2.7,SNR=8.9
TKL SKPbc **SKiKP 22 23 42.1 +0.1**
comp=Z,14nm,1.1s,baz=280,slow=3.6,SNR=3.6
BRAL Brewton 144.52 48 *e*PKPdf PKPbc 22 20 12.9 -0.1
BLA Blacksburg 144.93 34 *e*PKIKP PKPbc 22 20 13.0 -1.1
BLA Blacksburg 144.93 34 *e*PKPbc PKPbc 22 20 13.0 -1.2
CBN Corbin 145.75 29 *e*PKPdf **PKPdf 22 20 14.0 -1.9**
JSRW J. Sargeant Re 145.90 31 *e*PKPbc **PKPdf 22 20 16.2 -0.1**
JSRW *ep*PKPdf **pPKPdf 22 20 46.7 -1.9**
LVC Limon Verde 146.22 160 *e*PKPbc **PKPab 22 20 19.4 -0.2**
TEIG Tepich 147.77 67 *e*PKPdf **PKPdf 22 20 20.2 +0.4**

TEIG					PKPbc	**PKPbc**	**22 20 22.2**	**-0.7**
TEIG					*e*PKPbc	**PKiKP**	**22 20 23.5**	**-1.3**
TEIG	**Tepich**	**147.77**	**67**	PKP	PKPbc	**PKPbc**	**22 20 22.2**	**-0.7**
comp=Z,15nm,0.4s,baz=326,slow=4.1,SNR=13								
NNA	**Nana**	**151.03**	**136**	*e*PKPdf	**PKPdf**	**22 20 26.7**	**+1.4**
NNA				PKPbc	**PKiKP**	**22 20 32.1**	**+0.4**
NNA				*e*PKPbc	**PKiKP**	**22 20 32.2**	**+0.4**
NNA	**Nana**	**151.03**	**136**	PKPbc	**PKiKP**	**22 20 32.1**	**+0.4**
comp=Z,86nm,0.9s,baz=260,slow=4.6,SNR=24								
LPAZ	**La Paz**	**152.29**	**156**	*e*PKPdf	**PKPdf**	**22 20 29.2**	**+1.3**
LPAZ				PKP	**PKPdf**	**22 20 29.4**	**+1.5**
LPAZ				*e*PKPbc	**PKiKP**	**22 20 35.7**	**+0.7**
LPAZ				PKPbc	**PKiKP**	**22 20 36.0**	**+1.0**
LPAZ				*e*PKPab	PKPab	22 20 45.9	+1.1
LPAZ				PKPab	PKPab	22 20 46.3	+1.5
LPAZ	**La Paz**	**152.29**	**156**	PKP	**PKPdf**	**22 20 29.4**	**+1.5**
comp=Z,4.0nm,1.0s,baz=43,slow=2.4,SNR=14								
LPAZ				PKPbc	**PKiKP**	**22 20 36.0**	**+1.0**
comp=Z,17nm,0.7s,baz=247,slow=3.1,SNR=43								
LPAZ				PKPab	**PKPab**	**22 20 46.3**	**+1.5**
comp=Z,33nm,0.9s,baz=158,slow=4.5,SNR=27								
JTS	**JuntasAbangare**	**152.30**	**85**	PKPbc	**PKPbc**	**22 20 35.1**	**+1.1**
JTS	**JuntasAbangare**	**152.30**	**85**	PKPbc	**PKPbc**	**22 20 35.1**	**+1.1**
comp=Z,24nm,0.8s,baz=333,slow=3.3,SNR=10								
ATAH	**Atahualpa**	**153.07**	**126**	PKP	**PKPdf**	**22 20 31.4**	**+2.5**
ATAH				PKPbc	**PKiKP**	**22 20 38.5**	**+2.1**
ATAH				PKPab	**PKPab**	**22 20 50.5**	**+2.4**
ATAH	**Atahualpa**	**153.07**	**126**	PKP	**PKPdf**	**22 20 31.4**	**+2.5**
comp=Z,7.5nm,0.9s,baz=313,slow=5.1,SNR=4.7								
ATAH				PKPbc	**PKiKP**	**22 20 38.5**	**+2.1**
comp=Z,21nm,0.8s,baz=292,slow=4.5,SNR=10								
ATAH				PKPab	**PKPab**	**22 20 50.5**	**+2.4**
comp=Z,24nm,0.8s,baz=248,slow=2.4,SNR=11								
BDFB	**Brasilia**	**153.78**	**200**	PKP	**PKPdf**	**22 20 31.0**	**+1.6**
BDFB				PKPbc	**PKiKP**	**22 20 38.7**	**+1.3**
BDFB				PKPab	**PKPab**	**22 20 52.1**	**+1.7**
BDFB	**Brasilia**	**153.78**	**200**	PKP	**PKPdf**	**22 20 31.0**	**+1.6**
comp=Z,6.9nm,0.9s,baz=231,slow=0.1,SNR=6.1								
BDFB				PKPbc	**PKiKP**	**22 20 38.7**	**+1.3**
comp=Z,2.7nm,0.5s,baz=82,slow=5.2,SNR=5.2								
BDFB				PKPab	**PKPab**	**22 20 52.1**	**+1.7**
comp=Z,13nm,1.0s,baz=266,slow=0.9,SNR=7.1								
RCBR	**Riachuelo**	**154.31**	**235**	*e*PKPab	**PKPab**	**22 20 54.1**	**+1.3**
SIV	**San Ignacio**	**154.59**	**171**	PKP	**PKPdf**	**22 20 32.1**	**+1.7**
SIV				PKPab	**PKPab**	**22 20 55.0**	**+1.3**
SIV	**San Ignacio**	**154.59**	**171**	PKP	**PKPdf**	**22 20 32.1**	**+1.7**
comp=Z,5.2nm,1.0s,baz=232,slow=3.8,SNR=6.6								
SIV				PKPab	**PKPab**	**22 20 55.0**	**+1.3**
comp=Z,14nm,0.9s,baz=218,slow=4.2,SNR=11								
SAML	**Samuel**	**160.87**	**161**	*e*PKPdf	**PKPdf**	**22 20 38.9**	**+0.7**
SAML				*e*PKPab	**PKPab**	**22 21 20.9**	**0.0**
ROSC	**El Rosal**	**162.13**	**103**	PKP	**PKPdf**	**22 20 41.4**	**+1.3**
ROSC				PKPab	**PKPab**	**22 21 29.1**	**+1.9**
ROSC	**El Rosal**	**162.13**	**103**	PKP	**PKPdf**	**22 20 41.4**	**+1.3**
comp=Z,3.0nm,0.3s,baz=198,slow=9.6,SNR=4.6								
ROSC				PKPab	**PKPab**	**22 21 29.1**	**+1.9**
comp=Z,7.5nm,0.4s,baz=276,slow=9.6,SNR=8.4								

IDC 01 22:11:00.9±27.0, 4°.20N×102°.26W, h0km, mb3.4/3, mb1 3.9/3, mb1mx3.7/18, mbtmp3.4/3, Error ellipse: s-maj=877.3km s-min=137.4km az=115.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**25.03**	**357**	P	P	22 16 26.6	-0.3
0.5nm,0.9s,baz=175,slow=11,SNR=4.4							
PDAR	**Pinedale Array**	**38.95**	**351**	P	P	22 18 29.2	+0.2
1.2nm,1.1s,baz=164,slow=10,SNR=4.5							
ILAR	**Eielson Array**	**68.29**	**341**	P	P	22 22 03.4	-0.1
0.3nm,0.7s,baz=160,slow=5.6,SNR=5.4							

*CSEM **01** 22:11:46.3, 33°.95N×25°.60E, h10km, MD3.5, After ATH*

ATH 01 22:11:46.3, 33°.95N×25°.60E, h10km±2km, MD3.5/9, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.21**	**355**	*e*PN	Pn	22 12 08.8	-0.7
LAST	**Lasithi**	**1.21**	**355**	*e*Pn	Pn	22 12 08.8	-0.7
SIVA	**Sivas**	**1.25**	**329**	*e*PB	Pg	22 12 10.6	+0.3
SIVA	**Sivas**	**1.25**	**329**	*e*Pb	Pg	22 12 10.6	+0.3
ZKR	**Zakros**	**1.27**	**24**	*e*PB	Pb	22 12 10.5	+0.2
ZKR	**Zakros**	**1.27**	**24**	*e*Pb	Pb	22 12 10.5	+0.2
NPS	**Neapolis**	**1.31**	**0**	*e*PB	Pn	22 12 10.4	-0.3
NPS	**Neapolis**	**1.31**	**0**	*e*Pb	Pn	22 12 10.4	-0.3
IDI	**Anoyia**	**1.46**	**337**	*e*PB	Pg	22 12 14.2	-0.2
IDI	**Anoyia**	**1.46**	**337**	*e*Pb	Pg	22 12 14.2	-0.2
VAM	**Vamos**	**1.86**	**322**	*e*PN	Pb	22 12 19.9	-0.4
VAM				*e*SN	Sg	22 12 45.7	-0.3
VAM	**Vamos**	**1.86**	**322**	*e*Pn	Pb	22 12 19.9	-0.4
VAM				*e*Sn	Sg	22 12 45.7	-0.3
KARN	**Karanos**	**2.00**	**317**	*e*PN	Pb	22 12 22.4	-0.5
KARN	**Karanos**	**2.00**	**317**	*e*Pn	Pb	22 12 22.4	-0.5
KARP	**Karpathos**	**2.05**	**38**	*e*PN	Pb	22 12 23.2	-0.5
KARP	**Karpathos**	**2.05**	**38**	*e*Pn	Pb	22 12 23.2	-0.5
ANKY	**Antikythira Is**	**2.69**	**316**	*e*PN	Pb	22 12 32.5	-2.0
ANKY				*e*SN	Sb	22 13 05.6	-2.0
ANKY	**Antikythira Is**	**2.69**	**316**	*e*Pn	Pb	22 12 32.5	-2.0
ANKY				*e*Sn	Sb	22 13 05.6	-2.0
VLI	**Veliai**	**3.52**	**323**	*e*PN	Pn	22 12 43.3	+2.3
VLI	**Veliai**	**3.52**	**323**	*e*Pn	Pn	22 12 43.3	+2.3
DID	**Didima**	**4.04**	**332**	*e*PN	Pn	22 12 50.6	+2.4
DID	**Didima**	**4.04**	**332**	*e*Pn	Pn	22 12 50.6	+2.4
ITM	**Ithomi**	**4.40**	**318**	*e*PN	Pn	22 12 56.0	+2.8
ITM	**Ithomi**	**4.40**	**318**	*e*Pn	Pn	22 12 56.0	+2.8

*MOS **01** 23:06:59.5±1.0, 11°.98S×75°.47W, h87km, mb5.1/37, Error ellipse: s-maj=10.7km s-min=6.0km az=113.1*

*ISCJB **01** 23:07:00.2±0.6, 12°.05S±0°.04×75°.42W±0°.04, h99km±5km, mb5.0/194, Error ellipse: s-maj=8.0km s-min=4.4km az=40.2*

*NEIC **01** 23:07:02.0±0.6, 12°.10S×75°.41W, h101km±5km, mb5.1/106, Error ellipse: s-maj=6.5km s-min=3.9km az=61.0*

NEIC Felt [V] at Concepcion and Huancayo; [IV] at Tarma; [II] at Cerro de Pasco, Ica and Lima. Also felt at Barranca, Chosica, Chupaca, Huacho, Huancavelica, Huanta, Huarmey, Jauja, Junin, Mala, Pisco, Pucallpa, San Luis and Satipo.

*IDC **01** 23:07:03.3±0.4, 12°.11S×75°.60W, h115km±3km, mb4.5/22, mb1 4.6/24, mb1mx4.6/25, mbtmp4.5/24, MS3.8/14, Ms1 3.8/14, ms1mx3.6/28, Error ellipse: s-maj=10.4km s-min=7.3km az=14.0*

*GCMT **01** 23:07:06.7±0.2, 12°.24S×75°.35W, h115km±1km, MW5.2, Moment Tensor Solution. s52,c66; s62,c97; Moment tensor: Scale 10^{16}Nm; M_{rr}=5.04±.18; $M_{\theta\theta}$=5.05±.24; $M_{\phi\phi}$=-0.01±.29; $M_{r\theta}$=-0.05±.15; $M_{\theta\phi}$=-5.16±.19; $M_{r\phi}$=2.41±.17; Best double couple: M_0=7.40000×10^{16} NP1:ϕ_s=149.00000°, δ58.00000°, λ-52.00000°. NP2:ϕ_s=273.00000°, δ48.00000°, λ-135.00000°. Principal axes: T 8.4000, Plg6.0000°, Azm213.0000°; N -1.9700, Plg32.0000°, Azm307.0000°; P -6.4300, Plg58.0000°, Azm114.0000°; Data Used: II IU G CN IC.*

ISC 01 23:07:03.4±0.3, 12°.15S±0°.05×75°.46W±0°.06, h117km±2km, h117km:pP-P, n590, σ1.907/637, mb5.0/186, 21C-21D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.36**	**277**	Pn	Pn	23 07 26.0	-3.1
43μm,0.8s							
NNA	**Nana**	**1.36**	**277**	*i* Pn	Pn	23 07 26.1	-3.1
NNA				*e*Sn	**Sn**	**23 07 45.6**	**-3.1**
NNA	**Nana**	**1.36**	**277**	P	Pn	23 07 26.1	-3.1
1μm,0.3s,baz=102,slow=9.9,SNR=1603							
NNA				S	**Sn**	**23 07 45.0**	**-3.6**
4μm,0.3s,baz=292,slow=20,SNR=93							
ATAH	**Atahualpa**	**5.76**	**330**	P	**Pn**	**23 08 24.2**	**-2.8**
ATAH				S	**Sn**	**23 09 32.6**	**+0.5**
ATAH	**Atahualpa**	**5.76**	**330**	P	**Pn**	**23 08 24.2**	**-2.8**
16nm,0.3s,baz=154,slow=5.1,SNR=54							
ATAH				S	**Sn**	**23 09 32.6**	**+0.5**
18nm,0.3s,baz=40,slow=22,SNR=7.7							
LPAZ	**La Paz**	**8.21**	**121**	*e*Pn	**Pn**	**23 08 59.0**	**-1.3**
LPAZ				S	**Sn**	**23 10 31.1**	**-0.7**
LPAZ	**La Paz**	**8.21**	**121**	P	**Pn**	**23 08 59.1**	**-1.1**
7.4nm,0.3s,baz=303,slow=11,SNR=162							
LPAZ				S	**Sn**	**23 10 31.1**	**-0.7**
1.7nm,0.3s,baz=197,slow=20,SNR=2.2							
LVC	**Limon Verde**	**12.13**	**150**	*e*Pn	Pn	23 09 49.4	-3.3
LVC				*e*Sn	Sn	23 11 57.1	-9.3
SAML	**Samuel**	**12.48**	**76**	*e*Pn	Pn	23 09 51.3	-5.8
1.4nm,1.4s							
OTAV	**Otavalo**	**12.66**	**346**	*e*Pn	**Pn**	**23 10 00.1**	**+0.2**
SIV	**San Ignacio**	**14.47**	**107**	P	**Pn**	**23 10 19.8**	**-3.0**
SIV	**San Ignacio**	**14.47**	**107**	P	**Pn**	**23 10 19.8**	**-3.0**
0.8nm,0.3s,baz=299,slow=14,SNR=24							
SIV				LR	LR	23 17 17.5	
comp=Z,451nm,18.2s,slow=42							
ROSC	**El Rosal**	**16.93**	**4**	*e*Pn	**P**	**23 10 55.3**	**+1.4**
ROSC	**El Rosal**	**16.93**	**4**	P	**P**	**23 10 54.5**	**+0.7**
1.7nm,0.3s,baz=232,slow=5.1,SNR=23							
ROSC				LR	LR	23 18 25.0	
comp=Z,238nm,21.8s,baz=201,slow=40							
LCO	**Las Campanas**	**17.35**	**166**	*e*Pn	**Pn**	**23 10 59.5**	**+0.9**
51nm,1.1s							
CFAA	**Coronel Fontan**	**20.47**	**162**	P	**P**	**23 11 32.6**	**+0.7**
CFAA	**Coronel Fontan**	**20.47**	**162**	P	**P**	**23 11 32.6**	**+0.7**
2.3nm,0.8s,baz=339,slow=9.1,SNR=34							
SDV	**Santo Domingo**	**21.44**	**13**	*e*P	**P**	**23 11 42.6**	**0.0**
264nm,0.9s							
BCIP	**Isla Barro Col**	**21.62**	**348**	*e*P	**P**	**23 11 44.9**	**+0.6**
97nm,1.0s							
JTS	**JuntasAbangare**	**24.21**	**337**	P	**P**	**23 12 08.6**	**-0.7**
JTS	**JuntasAbangare**	**24.21**	**337**	P	**P**	**23 12 08.6**	**-0.7**
3.2nm,0.5s,baz=217,slow=5.1,SNR=2.0							
BDFB	**Brasilia**	**26.86**	**101**	P	**P**	**23 12 32.9**	**-0.6**
BDFB	**Brasilia**	**26.86**	**101**	P	**P**	**23 12 32.9**	**-0.6**
22nm,0.8s,baz=258,slow=10,SNR=33							
BDFB				LR	LR	23 24 21.1	
comp=Z,231nm,19.6s,baz=229,slow=38							
GRGR	**Grenville**	**27.75**	**30**	*e*P	**P**	**23 12 41.3**	**+0.1**
195nm,0.8s							
TRQA	**Tornquist**	**28.47**	**157**	*e*P	**P**	**23 12 47.1**	**-0.4**
53nm,1.0s							
PLCA	**Paso Flores**	**28.80**	**172**	*e*P	**P**	**23 12 50.6**	**+0.2**
18nm,0.9s							
PLCA	**Paso Flores**	**28.80**	**172**	P	**P**	**23 12 50.0**	**-0.3**
5.1nm,0.8s,baz=349,slow=5.2,SNR=12							
PLCA				LR	LR	23 22 38.5	
comp=Z,147nm,21.9s,baz=175,slow=32							
CRPR	**Cabo Rojo, PR**	**31.08**	**16**	*e*P	**P**	**23 13 08.3**	**-2.3**
CELP	**Cerrillos**	**31.29**	**16**	*e*P	**P**	**23 13 11.8**	**-0.6**
LRS	**Lares**	**31.42**	**16**	*e*P	**P**	**23 13 14.7**	**+1.0**
AOPR	**Arecibo Observ**	**31.50**	**16**	*e*P	**P**	**23 13 14.8**	**+0.4**
60nm,0.8s							
AOPR				*e*pP	**pP**	**23 13 40.6**	**+0.5**
CBYP	**Canovanas**	**31.68**	**18**	*e*P	**P**	**23 13 15.5**	**-0.5**
43nm,0.8s							
ANWB	**Willy Bob**	**32.56**	**25**	*e*P	**P**	**23 13 22.2**	**-1.4**
144nm,0.6s							
ANWB				*e*pP	**pP**	**23 13 44.9**	**-4.5**
TEIG	**Tepich**	**34.56**	**338**	*e*P	**P**	**23 13 40.7**	**-0.2**
TEIG	**Tepich**	**34.56**	**338**	P	**P**	**23 13 40.0**	**-0.9**
8.5nm,0.7s,baz=174,slow=9.2,SNR=7.9							
USHA	**Ushuaia**	**42.94**	**174**	P	**P**	**23 14 50.2**	**-0.2**
USHA	**Ushuaia**	**42.94**	**174**	P	**P**	**23 14 50.2**	**-0.2**
7.2nm,0.9s,baz=17,slow=3.2,SNR=3.8							
GOGA	**Godfrey**	**45.95**	**351**	*e*P	**P**	**23 15 12.9**	**-1.7**
GOGA				pmax	pmax		
comp=Z,29nm,0.9s							
GOGA	**Godfrey**	**45.95**	**351**	*e*P	**P**	**23 15 12.9**	**-1.7**
comp=Z,29nm,0.9s							
LRAL	**Lakeview Retre**	**46.26**	**347**	*e*P	**P**	**23 15 15.7**	**-1.4**
comp=Z,15nm,0.9s							
732A	**Laxson Ranch,**	**47.05**	**330**	P	**P**	**23 15 23.5**	**+0.2**
baz=47,SNR=8.3							
CPCT	**Cooper Cave**	**48.11**	**350**	*e*P	**P**	**23 15 30.4**	**-1.0**
CPCT				*e*pP	pP	23 15 50.8	-8.0
TKL	**Tuckaleechee C**	**48.20**	**351**	*e*P	**P**	**23 15 31.0**	**-1.0**
TKL	**Tuckaleechee C**	**48.20**	**351**	P	**P**	**23 15 30.9**	**-1.2**
comp=Z,4.0nm,0.8s,baz=189,slow=10,SNR=6.8							
PLAL	**Pickwick Lake**	**48.38**	**346**	*e*P	**P**	**23 15 31.9**	**-1.6**
comp=Z,18nm,0.8s							
530A	**J-C Ranch, Com**	**48.89**	**330**	⇓P	**P**	**23 15 37.5**	**0.0**
baz=49,SNR=5.6							
431A	**Sonora**	**48.98**	**331**	⇓P	**P**	**23 15 37.9**	**-0.3**
baz=49,SNR=6.4							
TZTN	**Tazewell**	**49.03**	**351**	*e*P	**P**	**23 15 37.4**	**-1.1**
comp=Z,24nm,0.8s							
529A	**Stev Forest Ra**	**49.30**	**329**	⇓P	**P**	**23 15 41.0**	**+0.3**
baz=50,SNR=5.5							
BLA	**Blacksburg**	**49.32**	**355**	*e*P	**P**	**23 15 40.1**	**-0.6**
BLA				pmax	pmax		
comp=Z,16nm,0.6s							
BLA	**Blacksburg**	**49.32**	**355**	*e*P	**P**	**23 15 40.1**	**-0.6**
comp=Z,16nm,0.6s							
UALR	**University of**	**49.34**	**342**	*e*P	**P**	**23 15 40.4**	**-0.5**
comp=Z,42nm,1.0s							
UALR				*e*pP	**pP**	**23 16 05.9**	**-2.4**
430A	**Baggett Ranch,**	**49.36**	**330**	⇑P	**P**	**23 15 40.8**	**-0.3**
baz=50,SNR=9.0							
331A	**San Angelo**	**49.41**	**332**	P	**P**	**23 15 41.2**	**-0.3**
baz=50,SNR=7.4							
TXAR	**Lajitas Array**	**49.42**	**327**	P	**P**	**23 15 41.5**	**-0.2**
TXAR				pP	**pP**	**23 16 09.8**	**+0.7**
TXAR				PcP	**PcP**	**23 17 02.1**	**-0.2**
TXAR	**Lajitas Array**	**49.42**	**327**	P	**P**	**23 15 41.5**	**-0.2**
comp=Z,2.2nm,0.7s,baz=149,slow=9.0,SNR=26							
TXAR				pP	**pP**	**23 16 09.8**	**+0.7**
comp=Z,3.0nm,0.7s,baz=151,slow=8.0,SNR=5.2							
TXAR				PcP	**PcP**	**23 17 02.1**	**-0.2**
comp=Z,1.5nm,0.6s,baz=158,slow=5.7,SNR=3.7							
WVT	**Waverly**	**49.42**	**347**	*e*P	P	23 15 37.9	-3.5
WVT				pmax	pmax		
comp=Z,9.0nm,0.7s							
WVT	**Waverly**	**49.42**	**347**	*e*P	P	23 15 37.9	-3.5
comp=Z,8.7nm,0.7s							
232A	**Coleman**	**49.54**	**333**	P	**P**	**23 15 42.5**	**0.0**
baz=50,SNR=8.2							
626A	**Big Bend Ranch**	**49.84**	**327**	⇑P	**P**	**23 15 45.1**	**+0.3**
baz=50,SNR=15							
527A	**Woodward Ranch**	**50.03**	**328**	P	**P**	**23 15 46.1**	**-0.2**
baz=50,SNR=8.4							
ABTX	**Abilene, Hawle**	**50.17**	**333**	P	**P**	**23 15 47.1**	**-0.1**
baz=50,SNR=9.7							
PARMO	**Parma**	**50.39**	**345**	*e*P	**P**	**23 15 48.0**	**-0.7**
PARMO				*e*pP	**pP**	**23 16 17.1**	**+0.8**
328A	**Wristen Ranch,**	**50.62**	**329**	⇑P	**P**	**23 15 50.7**	**+0.1**
baz=51,SNR=7.3							
130A	**Snyder**	**50.74**	**332**	⇓P	**P**	**23 15 51.1**	**-0.4**
baz=51,SNR=6.0							
Z31A	**Sharp Cattle R**	**50.98**	**333**	P	**P**	**23 15 53.2**	**0.0**
baz=51,SNR=26							
WCI	**Wyandotte Cave**	**51.13**	**349**	*e*P	**P**	**23 15 52.2**	**-2.1**
WCI				pmax	pmax		
comp=Z,15nm,0.8s							
WCI	**Wyandotte Cave**	**51.13**	**349**	*e*P	**P**	**23 15 52.2**	**-2.1**
comp=Z,16nm,0.8s							
USIN	**University of**	**51.15**	**348**	*e*P	**P**	**23 15 53.2**	**-1.2**
comp=Z,40nm,0.7s							
USIN				*e*pP	pP	23 16 14.8	-7.2
SIUC	**Southern Illin**	**51.26**	**346**	*e*P	**P**	**23 15 54.0**	**-1.2**
comp=Z,45nm,0.7s							
SIUC				*e*pP	pP	23 16 16.6	-6.2
425A	**Indio Mountain**	**51.26**	**327**	P	**P**	**23 15 55.4**	**-0.2**
baz=51,SNR=8.8							
Z30A	**Sanderson Ranc**	**51.39**	**332**	P	**P**	**23 15 56.2**	**-0.1**
baz=52,SNR=12							
TUL1	**Tulsa**	**51.52**	**339**	P	**P**	**23 15 57.6**	**+0.4**
baz=52,SNR=5.1							
Y31A	**Rekieta Farm,**	**51.58**	**334**	P	**P**	**23 15 57.9**	**+0.2**
baz=52,SNR=15							
WMOK	**Wichita Mounta**	**51.62**	**335**	*e*P	**P**	**23 15 57.0**	**-1.0**
WMOK				pmax	pmax		
comp=Z,11nm,1.1s							
WMOK	**Wichita Mounta**	**51.62**	**335**	*e*P	**P**	**23 15 57.0**	**-1.0**
comp=Z,11nm,1.1s							
Z29A	**Hungry Hill Ra**	**51.63**	**332**	P	**P**	**23 15 58.2**	**0.0**
baz=52,SNR=5.1							
226B	**Tecolote Peak,**	**51.86**	**329**	P	**P**	**23 16 00.7**	**+0.7**
baz=52,SNR=9.0							
324A	**Moseley Ranch,**	**52.04**	**327**	P	**P**	**23 16 01.4**	**+0.1**
baz=52,SNR=6.0							
GDL2	**Guadalupe Moun**	**52.06**	**329**	*e*P	**P**	**23 16 01.3**	**-0.1**
BLO	**Bloomington**	**52.09**	**349**	*e*P	**P**	**23 16 00.0**	**-1.4**
BLO				pmax	pmax		
comp=Z,63nm,0.7s							
BLO	**Bloomington**	**52.09**	**349**	*e*P	**P**	**23 16 00.0**	**-1.4**
comp=Z,63nm,0.7s							
MNTX	**Cornudas Mount**	**52.19**	**327**	*e*P	**P**	**23 16 02.3**	**0.0**
comp=Z,12nm,1.3s							
225A	**Deer Hill, Car**	**52.22**	**328**	P	**P**	**23 16 03.8**	**+1.1**
baz=52,SNR=5.8							
Z27A	**Tatum**	**52.39**	**331**	P	**P**	**23 16 03.5**	**-0.3**
baz=53,SNR=6.8							
Y28A	**McKinney Farm,**	**52.42**	**332**	P	**P**	**23 16 03.6**	**-0.5**
baz=53,SNR=5.2							
125A	**Gardner Draw,**	**52.57**	**329**	P	**P**	**23 16 05.7**	**+0.5**
baz=53,SNR=6.6							
X29A	**Tulia**	**52.62**	**333**	P	**P**	**23 16 05.1**	**-0.4**
baz=53,SNR=5.4							
Z26A	**Caprock**	**52.73**	**330**	P	**P**	**23 16 07.0**	**+0.6**
baz=53,SNR=8.7							
Y27A	**Causey**	**52.83**	**331**	P	**P**	**23 16 06.7**	**-0.4**
baz=53,SNR=5.3							
124A	**Stringfield Ra**	**53.01**	**328**	P	**P**	**23 16 09.5**	**+0.8**
baz=53,SNR=9.4							
Z25A	**Roswell**	**53.10**	**329**	P	**P**	**23 16 08.9**	**-0.2**
baz=53,SNR=9.6							
SFIN	**Scholer Farm**	**53.37**	**349**	P	**P**	**23 16 08.7**	**-2.1**
baz=54,SNR=14							
Z24A	**Sheepppen Canyo**	**53.47**	**329**	P	**P**	**23 16 11.7**	**-0.2**
baz=54,SNR=24							
Y25A	**Mesa, Roswell**	**53.60**	**330**	P	**P**	**23 16 12.7**	**-0.1**
baz=54,SNR=6.6							
BRYW	**Bryant College**	**53.92**	**4**	*e*P	**P**	**23 16 14.8**	**0.0**
comp=Z,88nm,1.1s							
HDIL	**Hopedale**	**53.99**	**347**	*e*P	**P**	**23 16 13.5**	**-1.7**
comp=Z,33nm,0.8s							
ȥ20A	**Playas Peak, P**	**54.06**	**325**	P	**P**	**23 16 16.6**	**+0.4**
baz=54,SNR=14							
BINY	**Binghamton**	**54.08**	**360**	*e*P	**P**	**23 16 15.8**	**-0.2**
comp=Z,20nm,0.9s							
319A	**Douglas**	**54.09**	**324**	P	**P**	**23 16 17.2**	**+0.8**
baz=54,SNR=7.5							
121A	**Cookes Peak, D**	**54.12**	**326**	P	**P**	**23 16 17.6**	**+0.9**
baz=54,SNR=6.4							
Y23A	**Lovelace Mesa,**	**54.29**	**329**	P	**P**	**23 16 18.6**	**+0.7**
baz=54,SNR=5.5							
HRV	**Adam Dziewonsk**	**54.51**	**4**	*e*P	**P**	**23 16 17.9**	**-1.1**
HRV				pmax	pmax		
comp=Z,51nm,1.2s							
HRV	**Adam Dziewonsk**	**54.51**	**4**	*e*P	**P**	**23 16 17.9**	**-1.1**
comp=Z,51nm,1.2s							
Z21A	**St. Cloud Mine**	**54.65**	**327**	P	**P**	**23 16 22.0**	**+1.5**
baz=55,SNR=7.0							
KSU1	**Kansas State U**	**54.67**	**340**	*e*P	pP	23 16 46.0	-2.2
V26A	**Tequesquite Ra**	**54.69**	**332**	P	**P**	**23 16 20.4**	**-0.2**
baz=55,SNR=6.0							
Z20A	**Nine Sixteen R**	**55.00**	**326**	⇓P	**P**	**23 16 23.8**	**+0.8**
baz=55,SNR=11							
V25A	**Rancho No Teng**	**55.11**	**331**	P	**P**	**23 16 23.1**	**-0.6**
baz=55,SNR=7.2							
Y21A	**Point of Rocks**	**55.19**	**327**	⇓P	**P**	**23 16 25.9**	**+1.4**
baz=55,SNR=10.0							
LAZ	**Ladron**	**55.22**	**328**	*e*P	**P**	**23 16 24.7**	**+0.1**
comp=Z,8.6nm,1.3s							
ACCN	**Adirondack Com**	**55.29**	**2**	*e*P	**P**	**23 16 24.5**	**-0.2**
comp=Z,64nm,1.6s							
ACCN				*e*pP	**pP**	**23 16 55.9**	**+3.3**
ANMO	**Albuquerque**	**55.30**	**329**	*e*P	**P**	**23 16 25.2**	**+0.1**
comp=Z,12nm,1.3s							
S28A	**Manter**	**55.35**	**335**	P	**P**	**23 16 24.7**	**-0.7**
baz=56,SNR=6.1							
U25A	**Circle Dot Ran**	**55.47**	**332**	P	**P**	**23 16 26.3**	**0.0**
baz=56,SNR=6.9							
Y20A	**Horse Springs,**	**55.49**	**327**	P	**P**	**23 16 27.9**	**+1.4**
baz=56,SNR=5.1							
X21A	**Alamocita Cree**	**55.59**	**328**	⇓P	**P**	**23 16 28.5**	**+1.2**
baz=56,SNR=15							
TUC	**Tucson**	**55.64**	**324**	*e*P	**P**	**23 16 27.9**	**+0.4**
TUC				*e**PP	**pP**	**23 16 56.4**	**+0.9**
TUC				pmax	pmax		
comp=Z,39nm,1.1s							
TUC	**Tucson**	**55.64**	**324**	*e*P	**P**	**23 16 27.9**	**+0.4**
comp=Z,39nm,1.1s							
TUC				*e*pP	**pP**	**23 16 56.4**	**+0.9**
NCB	**Newcomb**	**55.86**	**1**	*e*P	**P**	**23 16 28.8**	**+0.1**
comp=

P19A	Cripple Cowboy	60.22	331	P	P	23 17 00.1 +0.6
	baz=60,SNR=10					
GMRC	Granite Mounta	60.26	322	⇑P	P	23 17 00.4 +0.6
	baz=60,SNR=6.7					
O20A	White River Ci	60.26	331	P	P	23 17 00.1 +0.4
	baz=60,SNR=5.9					
N21A	Black Mountain	60.43	332	P	P	23 17 02.3 +1.4
	baz=61,SNR=5.7					
SRU	San Rafael	60.57	329	eP	P	23 17 02.3 +0.4
SRU				pmax	pmax	
	comp=Z,15nm,1.2s					
SRU	San Rafael	60.57	329	eP	P	23 17 02.3 +0.4
	comp=Z,15nm,1.2s					
HEC	Hector,Ludlow	60.70	322	P	P	23 17 04.5 +1.9
	baz=61,SNR=8.8					
Q16A	Castle Valley	60.76	329	⇑P	P	23 17 03.3 +0.2
	baz=61,SNR=7.3					
O19A	Miners Draw (B	60.81	331	P	P	23 17 03.7 +0.3
	baz=61,SNR=12					
N20A	Spence Gulch,	60.83	332	P	P	23 17 03.7 +0.1
	baz=61,SNR=12					
CCUT	Cedar City	60.90	326	eP	P	23 17 05.5 +1.3
	comp=Z,14nm,1.1s					
CCUT				epP	pP	23 17 35.5 +2.9
MSU	Marysvale	60.97	328	eP	P	23 17 06.0 +1.4
MSU	Marysvale	60.97	328	eP	P	23 17 06.0 +1.4
MVU	Marysvale	60.98	328	eP	P	23 17 05.4 +0.7
	comp=Z,14nm,1.1s					
RWWY	Rawlins	61.04	333	eP	P	23 17 05.8 +0.8
	comp=Z,72nm,1.7s					
M21A	Separation Pea	61.04	333	⇑P	P	23 17 05.1 +0.1
	baz=61,SNR=12					
ARUT	Antelope Range	61.12	326	eP	P	23 17 06.7 +1.2
ARUT				pmax	pmax	
	comp=Z,15nm,0.9s					
ARUT	Antelope Range	61.12	326	eP	P	23 17 06.7 +1.2
	comp=Z,15nm,0.9s					
GSC	Goldstone	61.30	322	eP	P	23 17 07.4 +0.6
GSC				pmax	pmax	
	comp=Z,9.0nm,1.0s					
GSC	Goldstone	61.30	322	eP	P	23 17 07.4 +0.6
	comp=Z,8.8nm,1.0s					
GSC	Goldstone	61.30	322	⇓P	P	23 17 07.7 +0.9
	baz=62,SNR=5.6					
M20A	Sweetwater, Wa	61.32	332	P	P	23 17 06.8 -0.1
	baz=62,SNR=13					
L21A	Rawlins	61.33	333	P	P	23 17 06.7 -0.3
	baz=62,SNR=13					
K22A	Casper	61.52	334	P	P	23 17 08.6 +0.4
	baz=62,SNR=8.0					
I25A	Rochford	61.55	337	P	P	23 17 08.9 +0.6
	baz=62,SNR=18					
RSSD	Black Hills	61.75	337	eP	P	23 17 08.6 -1.1
RSSD				pmax	pmax	
	comp=Z,14nm,1.3s					
RSSD	Black Hills	61.75	337	eP	P	23 17 08.6 -1.1
	comp=Z,14nm,1.3s					
L20A	Wamsutter	61.80	333	P	P	23 17 10.8 +0.7
	baz=62,SNR=5.2					
K21A	Alcova	61.82	334	P	P	23 17 11.1 +0.8
	baz=62,SNR=13					
DAU	Daniels Canyon	61.93	330	eP	P	23 17 12.1 +0.9
DAU	Daniels Canyon	61.93	330	eP	P	23 17 12.1 +0.9
NLU	North Lily Min	62.00	329	eP	P	23 17 11.8 +0.4
	comp=Z,19nm,1.4s					
G27A	Dupree	62.06	339	P	P	23 17 11.4 -0.2
	baz=62,SNR=5.8					
FURC	Furnace Creek,	62.13	323	P	P	23 17 13.8 +1.7
	baz=62,SNR=6.5					
JLU	Jordanelle	62.17	330	eP	P	23 17 12.7 0.0
	comp=Z,27nm,1.2s					
G26A	Maurine	62.22	339	P	P	23 17 12.1 -0.6
	baz=62,SNR=6.0					
MPMC	Manual Prospec	62.23	322	P	P	23 17 13.3 +0.2
	baz=62,SNR=7.4					
K20A	Yellowstone Ra	62.32	333	P	P	23 17 13.3 -0.2
	baz=62,SNR=14					
L19A	Farson	62.33	332	P	P	23 17 14.5 +0.8
	baz=62,SNR=11					
M17A	Scullys Gap (B	62.46	331	P	P	23 17 14.4 -0.1
	baz=63,SNR=14					
H24A	Dirks Ranch, A	62.47	337	P	P	23 17 14.3 -0.1
	baz=63,SNR=5.6					
J21A	Lysite	62.48	334	P	P	23 17 14.8 +0.2
	baz=63,SNR=13					
L18A	Fontenelle, Gr	62.51	331	P	P	23 17 15.9 +1.1
	baz=63,SNR=8.2					
I22A	9 Mile Ranch,	62.53	335	P	P	23 17 14.4 -0.4
	baz=63,SNR=8.2					
DUG	Dugway	62.55	328	eP	P	23 17 15.7 +0.6
DUG				pmax	pmax	
	comp=Z,26nm,0.9s					
DUG	Dugway	62.55	328	eP	P	23 17 15.7 +0.6
	comp=Z,26nm,0.9s					
DUG	Dugway	62.55	328	P	P	23 17 15.8 +0.6
	baz=63,SNR=27					
ISA	Isabella	62.56	321	eP	P	23 17 15.6 +0.4
ISA				pmax	pmax	
	comp=Z,8.0nm,0.9s					
ISA	Isabella	62.56	321	eP	P	23 17 15.6 +0.4
	comp=Z,7.8nm,0.9s					
K19A	Absolon Red Bu	62.67	333	P	P	23 17 15.5 -0.4
	baz=63,SNR=11					
R11A	Troy Canyon, C	62.70	325	P	P	23 17 17.0 +0.9
	baz=63,SNR=20					
I21A	Big Trails, Te	62.80	335	P	P	23 17 16.0 -0.7
	baz=63,SNR=12					
AGMN	Agassiz Nation	62.85	345	eP	P	23 17 15.9 -0.8
	comp=Z,28nm,0.8s					
PDAR	Pinedale Array	62.95	332	P	P	23 17 17.1 -0.7
PDAR	Pinedale Array	62.95	332	P	P	23 17 17.1 -0.7
	comp=Z,4.6nm,1.0s,baz=142,slow=7.5,SNR=27					
PDAR				LR	LR	23 46 55.2
	comp=Z,39nm,20.2s,baz=285,slow=38					
HWUT	Hardware Ranch	62.99	330	eP	P	23 17 17.1 -1.0
	comp=Z,20nm,0.8s					
J19A	Crowheart	63.12	333	P	P	23 17 19.2 +0.4
	baz=63,SNR=11					
G23A	Biddle	63.18	337	P	P	23 17 19.1 +0.1
	baz=63,SNR=6.9					
E26A	Carlson Angus	63.19	339	P	P	23 17 19.0 0.0
	baz=63,SNR=6.1					
SPUT	South Promonto	63.20	329	eP	P	23 17 17.2 -2.1
	comp=Z,28nm,1.4s					
BGU	Big Grassy Mou	63.20	329	eP	P	23 17 19.0 -0.4
	comp=Z,11nm,1.0s					
I20A	Worland	63.26	334	P	P	23 17 20.1 +0.5
	baz=64,SNR=6.3					
F24A	Ekalaka	63.36	338	P	P	23 17 20.3 +0.1
	baz=64,SNR=6.5					
H20A	Greybull	63.64	335	P	P	23 17 21.4 -0.8
	baz=64,SNR=14					
AHID	Auburn Hatcher	63.66	331	eP	P	23 17 22.3 -0.1
	comp=Z,23nm,1.2s					
I19A	Meeteetse	63.70	334	P	P	23 17 23.2 +0.6
	baz=64,SNR=5.4					
HVU	Hansel Valley	63.72	330	eP	P	23 17 22.3 -0.5
HVU				pmax	pmax	
	comp=Z,15nm,0.8s					
HVU	Hansel Valley	63.72	330	eP	P	23 17 22.3 -0.5
	comp=Z,15nm,0.8s					
MTUM	Tungsten Hills	63.73	323	eP	P	23 17 24.0 +1.0
REDW	Red Top Meadow	64.00	332	eP	P	23 17 25.0 +0.3
	comp=Z,21nm,1.4s					
LOHW	Long Hollow	64.09	332	eP	P	23 17 25.6 +0.4
	comp=Z,7.9nm,0.8s					
TPAW	Teton Pass	64.15	332	eP	P	23 17 25.8 0.0
	comp=Z,6.4nm,0.9s					
BBTS	Babate	64.16	67	P	P	23 17 26.1 +0.2
BBTS	Babate	64.16	67	P	P	23 17 26.1 +0.2
	comp=Z,109nm,0.9s,baz=264,slow=2.4,SNR=18					
RRI2	Red Ridge	64.21	332	eP	P	23 17 26.5 +0.4
	comp=Z,31nm,0.8s					
NV11	Mina Array Sit	64.22	324	eP	P	23 17 26.7 +0.6
E23A	Ismay	64.23	338	P	P	23 17 26.1 +0.2
	baz=64,SNR=7.5					
MOOW	Moose Ponds	64.26	332	eP	P	23 17 26.1 -0.2
	comp=Z,12nm,1.3s					
NVAR	Mina Array Bea	64.30	324	P	P	23 17 27.1 +0.4
NVAR				pP	pP	23 17 56.1 +0.6
NVAR	Mina Array Bea	64.30	324	P	P	23 17 27.1 +0.4
	comp=Z,5.3nm,0.7s,baz=147,slow=7.1,SNR=26					
NVAR				pP	pP	23 17 56.1 +0.6
	comp=Z,3.0nm,0.9s,baz=135,slow=6.7,SNR=3.0					
G20A	Bridger	64.33	335	P	P	23 17 26.6 0.0
	baz=64,SNR=7.9					
D24A	Glendive	64.40	339	P	P	23 17 27.8 +0.9
	baz=65,SNR=5.7					
IMW	Indian Meadow	64.46	332	eP	P	23 17 28.5 +0.7
	comp=Z,15nm,1.2s					
FLWY	Flagg Ranch	64.50	333	eP	P	23 17 28.8 +0.9
	comp=Z,28nm,0.8s					
H18A	Shoshone NF, C	64.50	334	P	P	23 17 28.2 +0.3
	baz=65,SNR=8.8					
ULM	Lac du Bonnet	64.66	346	P	P	23 17 27.3 -1.2
	comp=Z,17nm,0.7s,baz=155,slow=4.7,SNR=15					
RLMT	Red Lodge	64.69	334	eP	P	23 17 28.1 -1.0
	comp=Z,62nm,1.9s					
I16A	Newdale	64.69	332	P	P	23 17 30.2 +1.1
	baz=65,SNR=11					
D23A	Lindsay	64.77	338	P	P	23 17 30.6 +1.2
	baz=65,SNR=5.5					
G18A	Lazy EL Ranch,	64.97	334	P	P	23 17 30.8 -0.1
	baz=65,SNR=15					
WAKR	Walker	65.01	323	eP	P	23 17 32.6 +1.3
BMN	Battle Mountai	65.06	326	eP	P	23 17 31.2 -0.3
BMN				pmax	pmax	
	comp=Z,9.0nm,1.0s					
BMN	Battle Mountai	65.06	326	eP	P	23 17 31.2 -0.3
	comp=Z,8.6nm,1.0s					
D22A	Cohagen	65.11	337	P	P	23 17 32.0 +0.5
	baz=65,SNR=28					
F19A	Roth Farm, Mol	65.14	335	P	P	23 17 32.5 +0.7
	baz=65,SNR=8.6					
H16A	Russell Place,	65.23	333	P	P	23 17 34.2 +1.6
	baz=65,SNR=12					
CMB	Columbia Colle	65.27	322	eP	P	23 17 34.0 +1.2
CMB				pmax	pmax	
	comp=Z,6.0nm,0.9s					
CMB	Columbia Colle	65.27	322	eP	P	23 17 34.0 +1.2
	comp=Z,6.3nm,0.9s					
E20A	Meyer Farm, Mu	65.33	336	P	P	23 17 34.1 +1.1
	baz=66,SNR=11					
D21A	La Casta Ranch	65.35	337	P	P	23 17 33.8 +0.7
	baz=66,SNR=16					
QLMT	Earthquake Lak	65.41	333	eP	P	23 17 35.4 +1.6
C22A	Vida	65.50	338	P	P	23 17 34.5 +0.4
	baz=66,SNR=12					
F18A	Big Timber	65.50	334	P	P	23 17 34.3 +0.1
	baz=66,SNR=19					
DGMT	Dagmar	65.51	339	eP	P	23 17 35.2 +1.2
	comp=Z,32nm,1.1s					
DGMT	Dagmar	65.51	339	P	P	23 17 35.3 +1.2
	baz=66,SNR=6.6					
E19A	Rath Farm, Rou	65.56	335	P	P	23 17 34.8 +0.2
	baz=66,SNR=17					
I14A	Mackay	65.66	331	P	P	23 17 36.5 +1.1
	baz=66,SNR=19					
PAHR	Pah Rah Range	65.78	324	eP	P	23 17 37.3 +1.1
	comp=Z,33nm,0.9s					
B23A	Brockton	65.78	339	P	P	23 17 36.6 +0.7
	baz=66,SNR=9.9					
D20A	Manuel Ranch,	65.81	336	P	P	23 17 36.4 +0.3
	baz=66,SNR=11					
A24A	Westby	65.83	340	P	P	23 17 37.6 +1.4
	baz=66,SNR=9.2					
HLID	Hailey	65.85	330	eP	P	23 17 37.3 +0.7
	comp=Z,8.3nm,0.8s					
HLID	Hailey	65.85	330	P	P	23 17 37.4 +0.7
	baz=66,SNR=16					
F17A	Fitzpatrick Pl	65.91	334	P	P	23 17 36.9 0.0
	baz=66,SNR=10					
C21A	Desert Coulee	66.02	337	P	P	23 17 37.8 +0.4
	baz=66,SNR=6.2					
MCMT	McKenzie Canyo	66.05	332	P	P	23 17 38.6 +0.7
E18A	Harlowton	66.11	335	P	P	23 17 38.8 +0.6
	baz=66,SNR=10.0					
BOZ	Bozeman (W)	66.13	333	eP	P	23 17 37.8 -0.5
BOZ				pmax	pmax	
	comp=Z,8.0nm,0.9s					
BOZ	Bozeman (W)	66.13	333	eP	P	23 17 37.8 -0.5
	comp=Z,7.5nm,0.9s					
D19A	Cripps Ranch,	66.17	336	P	P	23 17 38.7 +0.3
	baz=66,SNR=10					
DLMT	Dillon	66.34	332	eP	P	23 17 40.4 +0.7
	comp=Z,15nm,1.2s					
E17A	Martinsdale	66.43	334	P	P	23 17 40.6 +0.4
	baz=67,SNR=11					
MFID	Camas Ranch	66.44	329	eP	P	23 17 41.0 +0.6
	comp=Z,34nm,1.0s					
MFID	Camas Ranch	66.44	329	P	P	23 17 41.1 +0.8
	baz=67,SNR=26					
BEKR	Beckworth	66.45	324	eP	P	23 17 40.8 +0.2
	comp=Z,7.0nm,0.9s					
B21A	Ellsworth Farm	66.48	338	P	P	23 17 41.2 +0.9
	baz=67,SNR=5.6					
A22A	Carney Farms,	66.56	339	P	P	23 17 41.5 +0.6
	baz=67,SNR=8.8					
D18A	Linhart Farms,	66.57	335	P	P	23 17 42.0 +1.0
	baz=67,SNR=5.9					
LRM	Limekiln Ridge	66.63	333	eP	P	23 17 42.4 +0.7
C19A	Slack Wire Ran	66.70	336	P	P	23 17 42.1 +0.3
	baz=67,SNR=14					
OHCM	Honcut	66.76	323	eP	P	23 17 43.5 +1.2
D17A	Six Diamond Ra	66.90	335	P	P	23 17 44.1 +0.9
	baz=67,SNR=17					
HRY	Holter Researc	67.04	334	eP	P	23 17 45.1 +1.0
SCHQ	Schefferville	67.12	5	eP	P	23 17 44.3 0.0
	comp=Z,26nm,1.0s					
SCHQ				epP	pP	23 18 13.1 -0.1
SCHQ	Schefferville	67.12	5	P	P	23 17 43.5 -0.7
	comp=Z,6.7nm,0.7s,baz=190,slow=5.8,SNR=8.0					
WVOR	Wild Horse Val	67.21	327	eP	P	23 17 45.0 -0.2
WVOR				pmax	pmax	
	comp=Z,13nm,1.3s					
WVOR	Wild Horse Val	67.21	327	eP	P	23 17 45.0 -0.2
	comp=Z,14nm,1.3s					
EGMT	Eagleton	67.21	336	eP	P	23 17 43.5 -1.6
	comp=Z,25nm,1.1s					
EGMT	Eagleton	67.21	336	P	P	23 17 43.5 -1.6
	baz=67,SNR=6.4					
B19A	Brinkman Farms	67.24	337	P	P	23 17 45.5 +0.3
	baz=67,SNR=9.0					
C17A	Wharram Farm,	67.31	335	P	P	23 17 45.9 +0.2
	baz=68,SNR=8.5					
B18A	Beardsley Farm	67.52	336	P	P	23 17 47.4 +0.4
	baz=68,SNR=16					
A19A	Klindworth Far	67.55	337	P	P	23 17 47.1 0.0
	baz=68,SNR=10					
CHMT	Chamberlain Mo	67.82	333	eP	P	23 17 49.5 +0.5
C16A	Fuinger Ranc	67.86	334	P	P	23 17 49.7 +0.6
	baz=68,SNR=10					
A18A	Metzger Ranch,	67.97	336	P	P	23 17 49.9 +0.1
	baz=68,SNR=11					
MSO	Missoula	68.07	333	eP	P	23 17 51.8 +1.4
	comp=Z,26nm,1.1s					
MSO				epP	pP	23 18 21.3 +1.8
MSO	Missoula	68.07	333	P	P	23 17 51.9 +1.4
	baz=68,SNR=20					
WDC	Whiskeytown Da	68.18	323	eP	P	23 17 49.5 -1.7
WDC				pmax	pmax	
	comp=Z,6.0nm,0.7s					
WDC	Whiskeytown Da	68.18	323	eP	P	23 17 49.5 -1.7
	comp=Z,6.4nm,0.7s					
C15A	Salmond Ranch,	68.20	334	P	P	23 17 52.5 +1.2
	baz=68,SNR=16					
BMO	Blue Mountains	68.22	329	eP	P	23 17 50.9 -0.6
	comp=Z,17nm,1.5s					
A17A	Triple J Farms	68.33	336	P	P	23 17 52.3 +0.3
	baz=68,SNR=7.7					
B15A	Bradely Ranch,	68.60	334	P	P	23 17 54.0 +0.2
	baz=69,SNR=9.8					
SWMT	Swartz Lake	68.61	333	eP	P	23 17 55.1 +1.3
B14A	Marquette Ranc	68.94	334	P	P	23 17 56.9 +1.0
	baz=69,SNR=11					
C13A	Hot Springs	68.99	333	P	P	23 17 56.7 +0.5
	baz=69,SNR=12					
YBH	Yreka Blue Hor	69.02	324	eP	P	23 17 55.3 -1.1
	comp=Z,10nm,0.9s					
KHMM	Horse Mountain	69.07	323	eP	P	23 17 58.2 +1.3
	comp=Z,23nm,1.1s					
A15A	Johnson Ranch,	69.19	335	P	P	23 17 57.4 0.0
	baz=69,SNR=5.4					
BSMT	Bassoo Peak	69.21	333	eP	P	23 17 59.0 +1.3
C12B	Naegeli Ranch,	69.42	332	P	P	23 17 59.6 +0.8
	baz=70,SNR=6.6					
A14A	Double T Ranch	69.47	334	P	P	23 17 59.0 -0.1
	baz=70,SNR=9.7					
KRMB	Red Mountain	69.58	323	eP	P	23 18 01.4 +1.4
	comp=Z,74nm,2.8s					
KRMB				epP	pP	23 18 31.0 +1.9
HUMO	Hull Mountain	69.72	325	eP	P	23 18 00.1 -0.5
	comp=Z,3.0nm,0.8s					
WALA	Waterton Lakes	69.75	334	eP	P	23 18 00.5 -0.3
	comp=Z,0.4nm,0.8s					
IRO	Indian Ridge	70.23	326	P	P	23 18 04.8 +0.8
FFC	Flin Flon	70.29	344	iP	P	23 18 04.1 +0.2
FFC	Flin Flon	70.29	344	eP	P	23 18 03.4 -0.5
	comp=Z,5.8nm,0.8s					
A12A	Yaak River Ran	70.41	333	P	P	23 18 05.8 +0.9
	baz=71,SNR=6.1					
NEW	Newport	70.58	332	eP	P	23 18 06.6 +0.8
	comp=Z,10nm,1.0s					
NEW	Newport	70.58	332	P	P	23 18 06.6 +0.8
	baz=71,SNR=5.1					
VFP	Flag Point	70.67	327	P	P	23 18 08.2 +1.5
RNO	Roman Nose	70.99	325	P	P	23 18 10.2 +1.7
COR	Corvallis	71.18	326	eP	P	23 18 11.4 +2.0
COR				pmax	pmax	
	comp=Z,25nm,0.8s					
COR	Corvallis	71.18	326	eP	P	23 18 11.4 +2.0
	comp=Z,25nm,0.8s					
MPOR	Mary's Peak	71.26	326	P	P	23 18 11.9 +1.8
NAC	Naches	71.29	329	P	P	23 18 11.9 +1.7
ETW	Entiat	71.64	330	P	P	23 18 13.8 +1.4
LIC	Lamto	72.36	79	⇑iP	P	23 18 16.5 -0.6
	comp=Z,70nm,0.9s,baz=257					
LIC				eR		
	comp=Z,110nm,19.5s					
LIC	Lamto	72.36	79	eP	P	23 18 16.6 -0.6
	comp=Z,102nm,0.9s					
TIC	Toumodi	72.47	79	eP	P	23 18 17.4 -0.5
	comp=Z,236nm,1.5s					
DBIC	Dimbokro	72.63	79	eP	P	23 18 18.8 0.0
	comp=Z,63nm,0.9s					
DBIC	Dimbokro	72.63	79	P	P	23 18 18.6 -0.2
	comp=Z,49nm,0.8s,baz=237,slow=6.2,SNR=68					
DBIC				LR	LR	23 49 05.4
	comp=Z,73nm,18.0s,baz=228,slow=35					
KIC	Kosan Boka	72.67	79	eP	P	23 18 18.8 -0.2
	comp=Z,183nm,0.9s					
EDM	Edmonton	72.73	337	eP	P	23 18 17.8 -0.8
EDM	Edmonton	72.73	337	eP	P	23 18 17.8 -0.8
SNAA	Sanae	73.09	162	eP	P	23 18 21.4 +0.8
	comp=Z,45nm,1.1s					
NLWA	Neilton Lookou	73.29	328	eP	P	23 18 23.8 +1.7
	comp=Z,36nm,1.1s					
FRB	Frobisher Bay	75.85	3	LR	LR	23 51 00.2
	comp=Z,81nm,21.4s,baz=193,slow=35					
MAIT	Maitri	77.69	160	eP	P	23 18 45.5 -1.2
QSPA	South Pole Qui	77.98	180	eP	P	23 18 49.9 +1.3
	comp=Z,30nm,1.2s					
MORF	Marmelete	79.58	48	eP	P	23 18 59.9 +2.1
	comp=Z,65nm,1.5s					
MORF				epP	pP	23 19 28.4 +0.8
PNCL	Nicolau / Gran	80.00	47	eP	P	23 19 00.8 +0.9
	comp=Z,39nm,0.9s					
PNCL				epP	pP	23 19 29.9 +0.2
PACT	Alcochete	80.05	47	eP	P	23 19 02.1 +1.9
	comp=Z,163nm,1.6s					
PBDV	Barranco-do-Ve	80.08	48	eP	P	23 19 01.5 +1.0
	comp=Z,30nm,1.1s					
PBDV				epP	pP	23 19 31.3 +1.0
PCVE	Castro Verde	80.16	48	eP	P	23 19 02.9 +2.1
	comp=Z,50nm,1.2s					
PCVE				epP	pP	23 19 31.1 +0.5
YKA	Yellowknife Ar	80.39	343	P	P	23 19 00.9 -0.5
YKA				pP	pP	23 19 30.8 -0.5
YKA	Yellowknife Ar	80.39	343	P	P	23 19 00.9 -0.5
	comp=Z,11nm,0.7s,baz=137,slow=5.7,SNR=85					
YKA				pP	pP	23 19 30.8 -0.5
	comp=Z,22nm,0.8s,baz=137,slow=5.8,SNR=16					
PBEJ	Beja	80.44	48	eP	P	23 19 03.9 +1.6
	comp=Z,23nm,1.5s					
PBEJ				epP	pP	23 19 32.8 +0.6
YKW3	Yellowknife Ar	80.45	343	eP	P	23 19 01.0 -0.8
	comp=Z,0.8nm,1.1s					
TORD	Torodi Ar. Bea	80.53	74	P	P	23 19 03.3 0.0
TORD				pP	pP	23 19 32.6 -0.5
TORD	Torodi Ar. Bea	80.53	74	P	P	23 19 03.3 0.0
	comp=Z,79nm,0.8s,baz=275,slow=5.4,SNR=365					
TORD				pP	pP	23 19 32.6 -0.5
	comp=Z,20nm,1.0s,baz=265,slow=5.2,SNR=2.6					
TORD				LR	LR	23 55 12.2
	comp=Z,45nm,19.2s,baz=305,slow=36					
EVO	Evora	80.54	47	⇓iP	P	23 19 03.5 +0.6
	comp=Z,55nm,0.9s					
EVO				epP	pP	23 19 31.5 -1.2
EVO				eR		
	comp=Z,98nm,22.8s					
EVO	Evora	80.54	47	eP	P	23 19 03.4 +0.6
	comp=Z,23nm,1.8s					
EVO				epP	pP	23 19 33.0 +0.3
PMTG	Montargil	80.60	47	eP	P	23 19 04.3 +1.1
	comp=Z,40nm,0.6s					
PMTG				epP	pP	23 19 33.4 +0.4
PTOM	Tomar	80.69	46	eP	P	23 19 05.1 +1.5
PESTR	Estremoz	80.97	47	eP	P	23 19 06.2 +1.0
	comp=Z,38nm,1.9s					
PESTR				epP	pP	23 19 35.3 +0.2
PBAR	Barrancos	81.10	48	eP	P	23 19 07.6 +1.8
	comp=Z,21nm,2.1s					
PBAR				epP	pP	23 19 36.1 +0.4
PMRV	Marv??o	81.34	47	eP	P	23 19 06.5 -0.6
	comp=Z,19nm,2.1s					
PCBR	Castelo Branco	81.44	46	eP	P	23 19 07.5 -0.1
	comp=Z,37nm,1.2s					
PCBR				epP	pP	23 19 37.5 0.0
MTE	Manteigas	81.62	46	eP	P	23 19 08.8 +0.2
	comp=Z,49nm,1.9s					
MTE				epP	pP	23 19 38.6 +0.1
PCAB	Cabril	81.82	44	eP	P	23 19 10.9 +1.3
	comp=Z,56nm,1.6s					
POLO	Lamas de Olo	81.84	45	eP	P	23 19 08.9 -0.9
	comp=Z,13nm,1.9s					
POLO				epP	pP	23 19 39.7 0.0
MVO	Moncorvo	82.28	45	eP	P	23 19 13.6 +1.5
	comp=Z,61nm,1.1s					
MVO				epP	pP	23 19 42.2 +0.2
PBRG	Braganca	82.73	45	eP	P	23 19 15.6 +1.2
	comp=Z,55nm,1.9s					
PBRG				epP	pP	23 19 44.6 +0.2
DLBC	Dease Lake	83.09	334	eP	P	23 19 16.2 +0.3
DLBC	Dease Lake	83.09	334	LR	LR	23 55 54.1
	comp=Z,67nm,19.4s,baz=124,slow=35					
PAB	San Pablo	83.56	47	eP	P	23 19 20.0 +1.3
PAB				pmax	pmax	
	comp=Z,37nm,1.3s					
PAB	San Pablo	83.56	47	eP	P	23 19 20.0 +1.3
	comp=Z,37nm,1.3s					
SBA	Scott Base	83.81	191	eP	P	23 19 21.0 +1.8
SBA				pmax	pmax	
	comp=Z,18nm,1.3s					
SBA	Scott Base	83.81	191	eP	P	23 19 21.0 +1.8
	comp=Z,18nm,1.3s					
ESDC	Sonseca Array	83.89	47	P	P	23 19 21.5 +1.1
ESDC				pP	pP	23 19 50.1 -0.2
ESDC	Sonseca Array	83.89	47	P	P	23 19 21.5 +1.1
	comp=Z,8.9nm,0.9s,baz=264,slow=5.2,SNR=36					
ESDC				pP	pP	23 19 50.1 -0.2
	comp=Z,11nm,1.0s,baz=245,slow=6.0,SNR=8.2					
ESLA	Sonseca Array	83.89	47	eP	P	23 19 21.1 +0.7
	comp=Z,2.6nm,0.9s					
VNDA	Vanda	84.88	191	eP	P	23 19 26.5 +1.9
VNDA				pP	pP	23 19 55.7 +0.9
VNDA	Vanda	84.88	191	P	P	23 19 26.6 +1.9
	comp=Z,6.1nm,0.9s,baz=131,slow=4.2,SNR=28					
VNDA	

comp=Z,70nm,0.9s
SUMG Summit 87.95 10 *e*P **P 23 19 40.5 +0.5**
comp=Z,99nm,1.0s
EPF Esparros 88.07 45 *e*P **P 23 19 39.0 -1.8**
comp=Z,6.0nm,0.7s
MFF Saint Martin d 88.89 42 *e*P **P 23 19 43.6 -0.9**
comp=Z,22nm,0.9s
LFF La Freestale 88.94 44 *e*P **P 23 19 42.9 -1.9**
comp=Z,48nm,1.2s
GRR Gorron 89.02 40 *e*P **P 23 19 43.8 -1.3**
comp=Z,45nm,1.0s
GRR *e*pP **pP 23 20 14.4 -1.0**
FLN La Foliniere 89.38 40 *e*P **P 23 19 45.8 -0.9**
comp=Z,41nm,0.9s
FLN *e*R
comp=Z,52nm,22.8s
MTLF Montolieu 89.47 45 *e*P **P 23 19 46.1 -1.3**
LDF La Druitiere 89.55 40 *e*P **P 23 19 46.5 -1.1**
comp=Z,41nm,0.9s
LDF *e*pP **pP 23 20 17.0 -0.9**
RJF Les Rejaudoux 89.58 43 *e*P **P 23 19 46.6 -1.2**
comp=Z,88nm,1.6s
RJF *e*pP **pP 23 20 17.2 -1.0**
RJF *e*R
comp=Z,42nm,19.5s
CAF Calviac 89.84 44 *e*P **P 23 19 48.0 -1.1**
comp=Z,20nm,1.0s
ESK Eskdalemuir 90.07 33 *i* P **P 23 19 51.4 +1.6**
INK Inuvik 90.11 342 *e*P **P 23 19 49.8 +0.1**
comp=Z,37nm,1.0s
TCF Toulx Ste Croi 90.34 43 *e*P **P 23 19 50.1 -1.3**
comp=Z,36nm,1.2s
RAGM Ragged Mountai 90.53 332 *e*P **P 23 19 53.3 +1.4**
comp=Z,40nm,1.3s
BMRM Bremner River 90.73 333 *e*P **P 23 19 52.6 -0.3**
BMRM *e*pP **pP 23 20 24.4 +1.2**
LASF Ste Croix 90.82 45 *e*P **P 23 19 53.0 -0.7**
BGF Bois d'Agland 90.84 43 *e*P **P 23 19 52.5 -1.1**
comp=Z,41nm,0.9s
BGF *e*pP **pP 23 20 23.0 -1.0**
HYF Humbligny 90.91 42 *e*P **P 23 19 53.1 -0.9**
EGAK Eagle 90.95 337 *e*P **P 23 19 53.2 -0.5**
comp=Z,26nm,1.1s
AVF Avril sur Loir 91.24 42 *e*P **P 23 19 54.1 -1.4**
comp=Z,27nm,1.1s
AVF *e*pP **pP 23 20 24.6 -1.3**
DIV Divide 91.32 333 *e*P **P 23 19 54.8 -0.8**
comp=Z,22nm,0.9s
SSF Saint Saulge 91.41 42 *e*P **P 23 19 54.9 -1.4**
comp=Z,22nm,1.2s
SSF *e*pP **pP 23 20 25.2 -1.5**
SMF Signal de Mont 91.52 43 *e*P **P 23 19 55.7 -1.1**
comp=Z,29nm,1.0s
SMF *e*pP **pP 23 20 26.1 -1.1**
VIVF Saint-Julien-l 91.59 45 *e*P **P 23 19 56.7 -0.5**
comp=Z,16nm,1.0s
LOR Lormes 91.70 42 *e*P **P 23 19 56.1 -1.6**
comp=Z,21nm,1.2s
LOR *e*pP **pP 23 20 26.7 -1.4**
LOR *e*R
comp=Z,48nm,17.8s
PAX Paxson 91.91 335 *e*P **P 23 19 58.3 0.0**
PAX Paxson 91.91 335 *e*P **P 23 19 58.3 0.0**
SMRF Simiane la Rot 91.99 46 *e*P **P 23 19 57.8 -1.3**
ORIF Oris-en-Rattie 92.44 45 *e*P **P 23 20 00.9 -0.3**
comp=Z,29nm,1.0s
ORIF *e*pP **pP 23 20 31.4 -0.2**
ORIF *e*R
comp=Z,56nm,21.0s
LMR La Mourre 92.48 46 *e*P **P 23 20 00.5 -0.8**
comp=Z,30nm,1.2s
FRF La Foret Royal 92.64 46 *e*P **P 23 20 01.1 -0.9**
comp=Z,17nm,0.9s
FRF *e*pP **pP 23 20 31.6 -0.8**
BAIF Baives 92.69 39 *e*P **P 23 20 01.0 -1.1**
SML Sawmill 92.71 333 *e*P **P 23 20 01.9 -0.1**
SML pmax pmax
comp=Z,9.0nm,0.8s
SML Sawmill 92.71 333 *e*P **P 23 20 01.9 -0.1**
comp=Z,9.3nm,0.8s
SFTF Sexfontaines 92.72 41 *e*P **P 23 20 01.2 -1.1**
SFTF *e*pP **pP 23 20 31.6 -1.1**
KEST Kesra 92.84 54 P **P 23 20 02.5 -0.7**
KEST Kesra 92.84 54 P **P 23 20 02.5 -0.7**
comp=Z,1.8nm,0.8s,baz=273,slow=6.8,SNR=7.2
PMR Palmer 92.99 333 *e*P **P 23 20 03.4 +0.2**
PMR pmax pmax
comp=Z,28nm,1.7s
PMR Palmer 92.99 333 *e*P **P 23 20 03.4 +0.2**
comp=Z,28nm,1.7s
CABF La Chapelle 93.00 43 *e*P **P 23 20 02.7 -1.1**
comp=Z,20nm,1.2s
MBDF Montbardon 93.01 45 *e*P **P 23 20 03.4 -0.5**
GIVF Givet 93.08 39 *e*P **P 23 20 02.9 -1.0**
GIVF *e*pP **pP 23 20 33.6 -0.7**
LPL La Plagne 93.17 44 *e*P **P 23 20 04.5 -0.2**
comp=Z,7.4nm,0.7s
LPL *e*pP **pP 23 20 34.8 -0.4**
LPG La Plagne 93.18 44 *e*P **P 23 20 04.7 -0.2**
comp=Z,14nm,0.8s
ILAR Eielson Array 93.18 336 P **P 23 20 04.0 0.0**
ILAR pP **pP 23 20 34.5 0.0**
ILAR Eielson Array 93.18 336 P **P 23 20 04.0 0.0**
comp=Z,3.7nm,0.8s,baz=148,slow=2.9,SNR=45
ILAR pP **pP 23 20 34.5 0.0**
comp=Z,3.9nm,0.8s,baz=136,slow=3.4,SNR=8.5
ILAR LR LR 00 04 03.6
comp=Z,43nm,20.2s,baz=140,slow=37
PAGF Fort de Pagny 93.25 41 *e*P **P 23 20 03.8 -1.0**
comp=Z,29nm,1.7s
SBF Sospel 93.26 46 *e*P **P 23 20 03.9 -1.1**
BOSA Boshof 93.45 120 P **P 23 20 06.2 -0.1**
BOSA Boshof 93.45 120 P **P 23 20 06.2 -0.1**
comp=Z,5.5nm,0.8s,baz=207,slow=6.2,SNR=7.7
BOSA LR LR 00 02 40.6
comp=Z,58nm,18.4s,baz=76,slow=36
HAU Haudompre 93.52 42 *e*P **P 23 20 04.7 -1.3**
HAU *e*R
comp=Z,63nm,21.8s
COLA College 93.60 336 *e*P **P 23 20 06.5 +0.5**
COLA College 93.60 336 *e*P **P 23 20 06.5 +0.5**
HINF Hinteralfeld 93.80 42 *e*P **P 23 20 06.0 -1.4**
comp=Z,34nm,1.6s
PGF Pioggiola 94.08 48 *e*P **P 23 20 07.2 -1.6**
TRF Thorofare Moun 94.12 334 *e*P **P 23 20 07.3 -1.4**
comp=Z,11nm,0.6s
SPU Mount Spurr 94.19 332 *e*P **P 23 20 08.9 +0.1**
CDF Champ du Feu 94.22 42 *e*P **P 23 20 08.1 -1.2**
comp=Z,20nm,1.2s
CDF *e*pP **pP 23 20 38.7 -1.1**
RSO Redoubt South 94.31 331 *e*P **P 23 20 09.7 +0.1**
DAG Danmarks Havn 94.60 11 *i* P **P 23 20 09.6 -0.7**
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 94.60 11 *i* P **P 23 20 09.6 -0.7**
comp=Z,4.2nm,0.9s
DAG Danmarks Havn 94.60 11 *i* P pP 23 20 41.5 +0.7
comp=Z,10nm,0.9s
PPLA Purkeypile 94.77 333 *e*P **P 23 20 11.4 -0.1**
BUG Bochum--Univer 94.91 39 *e*P **P 23 20 13.5 +1.2**
comp=Z,8.0nm,1.0s
MAW Mawson 94.97 165 P **P 23 20 13.1 +0.7**
MAW Mawson 94.97 165 P **P 23 20 13.1 +0.7**
comp=Z,5.0nm,0.8s,baz=232,slow=6.7,SNR=11
MAW LR LR 00 00 26.7
comp=Z,91nm,19.9s,baz=33,slow=34
TUE Stuetta 95.16 44 *e*P **P 23 20 15.1 +1.2**
comp=Z,12nm,1.2s
IBBN Ibbenburen 95.40 38 *e*P **P 23 20 14.7 +0.2**
comp=Z,17nm,1.2s
STU Stuttgart 95.54 41 *e*P **P 23 20 15.2 0.0**
comp=Z,9.0nm,1.0s
MOTA Moosalm 96.52 43⇓*i*P **P 23 20 19.7 -0.3**
comp=Z,8.9nm,0.7s,SNR=13
FUR Furstenfeldbru 96.78 42 *e*P **P 23 20 21.2 +0.3**
comp=Z,17nm,1.3s
FUR Furstenfeldbru 96.78 42 *e*P **P 23 20 21.2 +0.3**
FUR pmax pmax
comp=Z,17nm,1.3s
WATA Walderalm 96.83 43⇓*i*PcP **PcP 23 20 21.6 +0.2**
comp=Z,6.1nm,0.8s,SNR=7.6
NRDL Niedersach Rie 96.85 38 *e*P **P 23 20 21.5 +0.5**
comp=Z,5.0nm,0.9s
WTTA Wattenberg 96.86 43⇑*i*P **P 23 20 21.4 -0.1**
comp=Z,17nm,0.8s,SNR=11
GRF Grafenberg Arr 97.02 41 *e*P **P 23 20 22.1 +0.1**
comp=Z,16nm,1.6s
GRF Grafenberg Arr 97.02 41 *e*P **P 23 20 22.1 +0.1**
GRF pmax pmax
comp=Z,16nm,1.6s
BSEG Bad Segeberg 97.24 36 *e*P Pdif 23 20 23.5 +0.7
comp=Z,14nm,0.9s
BSEG Bad Segeberg 97.24 36 *e*P Pdif 23 20 23.5 +0.7
BSEG pmax pmax
comp=Z,14nm,0.9s
ABTA Abfaltersbach 97.36 44⇓*i*PcP Pdif 23 20 23.8 +0.1
comp=Z,20nm,1.0s,SNR=13
MANZ Manzenberg 97.64 41 *e*P Pdif 23 20 25.5 +0.7
comp=Z,7.0nm,1.3s
ROTZ Rotzenmuhle 97.67 41 *e*P Pdif 23 20 25.6 +0.7
comp=Z,10.0nm,1.5s
RJOB Jochberg 97.71 43 *e*P Pdif 23 20 25.3 +0.1
comp=Z,8.0nm,0.9s
WERD Werda 97.84 40 *e*P Pdif 23 20 27.5 +1.8
comp=Z,5.0nm,1.4s
TANN Tannenbergstha 97.94 40 *e*P Pdif 23 20 26.8 +0.7
comp=Z,9.0nm,1.5s
WET Wettzell 98.00 42 *e*P Pdif 23 20 26.7 +0.3
comp=Z,11nm,1.4s
WET Wettzell 98.00 42 *e*P Pdif 23 20 26.7 +0.3
WET pmax pmax
comp=Z,11nm,1.4s
MYKA Terra Mystica 98.11 44⇓*i*Pdiff Pdif 23 20 27.0 0.0
comp=Z,6.0nm,0.8s
CLL Collm 98.42 39 *e*P Pdif 23 20 28.6 +0.5
comp=Z,4.0nm,1.0s
CLL Collm 98.42 39 *e*P Pdif 23 20 29.0 +0.8
CLL *e* 23 20 59.0
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 98.42 39 *e*Pdif Pdif 23 20 29.0 +0.8
comp=Z,4.0nm,1.0s
CLL *e*pPdif pP 23 20 59.0 +0.4
KHC Kasperske Hory 98.45 42⇑*i*P Pdif 23 20 29.0 +0.6
KHC *e* 23 20 59.0
KHC Kasperske Hory 98.45 42⇑*i*PDIFF Pdif 23 20 29.0 +0.6
KHC *e*pP pP 23 20 59.0 +0.1
KHC *ex* x 23 21 12.0
GEC2 GERESS Array S 98.49 42 *e*P Pdif 23 20 28.6 -0.1
comp=Z,5.0nm,1.0s
GEC2 GERESS Array S 98.49 42 *e*P Pdif 23 20 28.6 -0.1
GEC2 pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 98.49 42 P Pdif 23 20 29.1 +0.5
GERES pP pP 23 20 59.3 +0.1
GERES GERESS Array B 98.49 42 P Pdif 23 20 29.1 +0.5
comp=Z,2.1nm,0.8s,baz=242,slow=2.9,SNR=19
GERES pP pP 23 20 59.3 +0.1
comp=Z,1.9nm,0.9s,baz=179,slow=16,SNR=5.6
MOA Molln 98.71 43⇓*i*Pdiff Pdif 23 20 29.8 +0.2
comp=Z,9.5nm,0.8s,SNR=7.9
NB2 NORSAR Subarra 98.92 29 P Pdif 23 20 31.4 +1.1
comp=Z,7.5nm,0.9s,baz=262,slow=4.6
NB2 NORSAR Subarra 98.92 29 P Pdif 23 20 31.4 +1.1
baz=262,slow=4.6
NOA NORSAR Array B 98.92 29 P Pdif 23 20 31.6 +1.3
NOA pP pP 23 21 01.4 +0.7
NOA NORSAR Array B 98.92 29 P Pdif 23 20 31.6 +1.3
comp=Z,3.4nm,0.9s,baz=260,slow=4.6,SNR=6.5
NOA pP pP 23 21 01.4 +0.7
comp=Z,2.8nm,0.9s,baz=259,slow=4.5,SNR=4.5
NOA LR LR 00 01 43.6
comp=Z,36nm,20.4s,baz=270,slow=33
BRG Berggiesshubel 98.94 40 *e*P Pdif 23 20 31.5 +1.0
comp=Z,5.4nm,1.2s
BRG *e*pP pP 23 21 01.6 +0.6
comp=Z,8.7nm,1.5s
BRG *e*sP sP 23 21 16.7 +3.3
comp=Z,11nm,1.8s
BRG Berggiesshubel 98.94 40 *e*P Pdif 23 20 31.5 +1.0
BRG *e**PP pP 23 21 01.6 +0.6
BRG pmax pmax
comp=Z,11nm,1.2s
PRU Pruhonice 99.19 41 *e*P **Pdif 23 20 32.6 +0.9**
PRU *e* 23 21 05.4
PRU Pruhonice 99.19 41⇑*e*PDIFF **Pdif 23 20 32.6 +0.9**
PRU *ex* x 23 21 05.4
PVCC Panska Ves 99.28 40 *e*P **Pdif 23 20 32.9 +0.9**
PVCC 23 21 06.0
PVCC Panska Ves 99.28 40⇑*e*PDIFF **Pdif 23 20 32.9 +0.9**
PVCC *ex* x 23 21 06.0
TREC Trest 99.71 42 *e*P **Pdif 23 20 35.1 +1.1**
TREC *e* 23 21 05.3
TREC Trest 99.71 42⇑*e*PDIFF **Pdif 23 20 35.1 +1.1**
TREC *e*pP **pP 23 21 05.3 +0.7**
DPC Dobruska-Polom 100.37 41 *e*P **Pdif 23 20 38.0 +1.0**
DPC Dobruska-Polom 100.37 41 *e*PDIFF **Pdif 23 20 38.0 +1.0**
DPC *e*pP pP 23 21 08.0 +0.4
DPC Dobruska-Polom 100.37 41 *e*Pdif **Pdif 23 20 38.5 +1.5**
KRLC Kraliky 100.64 41 *e*P **Pdif 23 20 40.0 +1.8**
KRLC Kraliky 100.64 41⇑*e*PDIFF **Pdif 23 20 40.0 +1.8**
KRLC *ex* x 23 21 10.9
OKC Ostrava-Krasne 101.49 41 *e*P **Pdif 23 20 44.3 +2.4**
OKC Ostrava-Krasne 101.49 41⇑*e*PDIFF **Pdif 23 20 44.3 +2.4**
OKC *ex* x 23 21 16.5
VYHS Vyhne 101.82 43 *e*P **Pdif 23 20 44.1 +0.7**
VYHS pmax pmax
comp=Z,11nm,2.1s
VYHS Vyhne 101.82 43 PDIF **Pdif 23 20 44.1 +0.7**
VYHS *e* 23 21 14.1
KECS Kecovo 102.92 43 *e*P **Pdif 23 20 49.5 +1.2**
KECS pmax pmax
comp=Z,3.0nm,1.3s
KECS Kecovo 102.92 43 PDIF **Pdif 23 20 49.5 +1.2**
FINES FINESS Array B 106.11 29 PP PP 23 25 23.3 -3.8
FINES PKKPbc **PKKPbc 23 36 36.6 -1.4**
FINES FINESS Array B 106.11 29 PP PP 23 25 23.3 -3.8
comp=Z,1.1nm,0.9s,baz=264,slow=6.7,SNR=3.9
FINES PKKPbc **PKKPbc 23 36 36.6 -1.4**
comp=Z,0.9nm,0.7s,baz=135,slow=0.8,SNR=4.1
BRTR Keskin Array B 112.33 52 PKiKP **PKiKP 23 25 25.8 -0.2**
BRTR PP **PP 23 26 12.2 -0.9**
BRTR Keskin Array B 112.33 52 PKiKP **PKiKP 23 25 25.8 -0.2**
comp=Z,0.5nm,0.7s,baz=260,slow=1.2,SNR=3.7
BRTR PP **PP 23 26 12.2 -0.9**
comp=Z,0.4nm,0.7s,baz=246,slow=6.1,SNR=3.1
KBZ Khabaz 118.74 47 PKIKP **PKPdf 23 25 38.6 +0.7**
KBZ Khabaz 118.74 47 PKP **PKPdf 23 25 38.6 +0.7**
KBZ Khabaz 118.74 47 PKP **PKPdf 23 25 38.6 +0.7**
comp=Z,3.9nm,0.8s,baz=224,slow=2.1,SNR=9.2
PETK Petropavlovsk- 121.36 326 PKIKP **PKPdf 23 25 42.9 +0.2**
PETK Petropavlovsk- 121.36 326 PKP **PKPdf 23 25 42.9 +0.2**
PETK Petropavlovsk- 121.36 326 PKP **PKPdf 23 25 42.9 +0.2**
comp=Z,1.7nm,0.7s,baz=93,slow=5.8,SNR=3.6
ARU Arti 123.47 29 *i* PKIKP **PKPdf 23 25 46.3 -0.3**
ARU 23 32 36.0
STKA Stephens Creek 123.64 218 PKP **PKPdf 23 25 48.9 +1.1**
STKA Stephens Creek 123.64 218 PKP **PKPdf 23 25 48.9 +1.1**
comp=Z,4.3nm,0.7s,baz=173,slow=1.5,SNR=8.0
YAK Yakutsk 127.00 345 *e*PKIKP **PKPdf 23 25 52.8 -0.4**
YAK pmax pmax
comp=Z,13nm,0.9s
ABKAR Akbulak array 127.90 36 *e*PKPdf **PKPdf 23 25 56.4 +1.1**
CTA Charters Tower 127.93 232 PKP **PKPdf 23 25 57.3 +0.9**
CTA Charters Tower 127.93 232 PKP **PKPdf 23 25 57.3 +0.9**
comp=Z,6.4nm,1.0s,baz=227,slow=2.6,SNR=2.8
NVS Novosibirsk 134.24 17 *e*PKIKP **PKPdf 23 26 06.4 -0.8**
NVS pmax pmax
comp=Z,17nm,1.7s
NVS pmax pmax
comp=E,6.0nm,1.5s
ASAR Alice Springs 134.26 219 PKP **PKPdf 23 26 08.7 +0.4**
ASAR pPKP **pPKPdf 23 26 39.2 -0.8**
ASAR Alice Springs 134.26 219 PKP **PKPdf 23 26 08.7 +0.4**
comp=E,5.5nm,0.7s,baz=134,slow=2.0,SNR=46
ASAR pPKP **pPKPdf 23 26 39.2 -0.8**
comp=E,2.0nm,0.8s,baz=138,slow=2.0,SNR=3.7
ASAJ Asahikawa 134.40 322 PKP **PKPdf 23 26 08.8 +1.0**
ASAJ Asahikawa 134.40 322 PKP **PKPdf 23 26 08.8 +1.0**
comp=E,5.4nm,0.7s,baz=77,slow=4.6,SNR=6.1
ZAA0 Zalesovo Array 135.47 17 *e*PKPdf **PKPdf 23 26 10.0 +0.5**
ZALV Zalesovo Beam 135.47 17 PKIKP PKPpre 23 26 04.4
ZALV 23 26 41.0
ZALV Zalesovo Beam 135.47 17 PKPpre PKPpre 23 26 04.3
ZALV PKP **PKPdf 23 26 10.3 +0.8**
ZALV pPKP pPKPdf 23 26 41.0 -0.2
ZALV Zalesovo Beam 135.47 17 PKhKP PKPpre 23 26 04.3
comp=E,2.0nm,0.6s,baz=323,slow=1.0,SNR=10.0
ZALV PKP **PKPdf 23 26 10.3 +0.8**
comp=E,12nm,0.7s,baz=306,slow=2.1,SNR=45
ZALV pPKP pPKPdf 23 26 41.0 -0.2
comp=E,3.3nm,0.7s,baz=276,slow=2.5,SNR=3.0
WRA Warramunga Arr 136.67 223 PKP **PKPdf 23 26 13.6 +0.8**
WRA pPKP **pPKPdf 23 26 44.5 -0.1**
WRA Warramunga Arr 136.67 223 PKP **PKPdf 23 26 13.6 +0.8**
comp=E,12nm,0.8s,baz=138,slow=1.5,SNR=34
WRA pPKP **pPKPdf 23 26 44.5 -0.1**
comp=E,8.9nm,1.0s,baz=145,slow=1.5,SNR=4.9
WRAB Tennant Creek 136.67 223 *e*PKIKP **PKPdf 23 26 12.4 -0.4**
WRAB Tennant Creek 136.67 223 *e*PKPdf **PKPdf 23 26 12.4 -0.4**
KKAR Karatay Array 137.39 37 *e*PKIKP **PKPdf 23 26 14.1 +0.6**
KKAR Karatay Array 137.39 37 *e*PKPdf **PKPdf 23 26 14.1 +0.6**
EKS2 Erkin-Say 139.56 36 *e*PKIKP **PKPdf 23 26 19.2 +1.6**
EKS2 Erkin-Say 139.56 36 *e*PKPdf **PKPdf 23 26 19.2 +1.6**
USRK Ussuriysk Arra 140.31 329 PKhKP PKPpre 23 26 12.2
comp=E,2.7nm,0.7s,baz=49,slow=2.0,SNR=7.0
USRK PKP **PKPdf 23 26 18.2 -0.5**
comp=E,3.0nm,0.7s,baz=278,slow=4.1,SNR=6.7
TKM2 Tokmak 2 140.40 34 *e*PKIKP **PKPdf 23 26 20.3 +1.1**
TKM2 Tokmak 2 140.40 34 *e*PKPdf **PKPdf 23 26 20.3 +1.1**
MK31 Makanchi Array 140.70 24 *e*PKHKP PKPpre 23 26 12.5
MK31 Makanchi Array 140.70 24 *e*PKPdf PKPpre 23 26 12.5
MKAR Makanchi Array 140.70 24 PKHKP PKPpre 23 26 11.5
MKAR 23 26 19.6
MKAR Makanchi Array 140.70 24 PKPpre PKPpre 23 26 11.5
MKAR PKP **PKPdf 23 26 19.6 +0.2**
MKAR Makanchi Array 140.70 24 PKhKP PKPpre 23 26 11.5
comp=E,2.5nm,0.7s,baz=326,slow=2.5,SNR=18
MKAR PKP **PKPdf 23 26 19.6 +0.2**
comp=E,2.5nm,0.7s,baz=320,slow=2.3,SNR=10
MAJO Matsushiro 141.21 315 *e*PKHKP PKPpre 23 26 14.3
MAJO Matsushiro 141.21 315 *e*PKPdf PKPpre 23 26 14.3
ZAK Zakamensk 141.87 1 *e*PKHKP PKPpre 23 26 16.6
ZAK pmax pmax
comp=Z,3.0nm,1.2s
KSH Kashi 142.83 38 PKP **PKPdf 23 26 22.0 -1.6**
KSH sPKP 23 26 59.0
KSH PKS **PKSdf 23 29 56.5 -2.9**
KSH SKS **SKSdf 23 33 19.9 -3.0**
KSH SKKS **SKKSac 23 36 13.5 -2.1**
KSH SS **SS 23 48 01.0 -0.5**
KSH AMB AMB
comp=Z,69nm,4.1s
KSH LR LR
comp=N,53nm,4.9s
KSH LR LR
comp=E,78nm,4.8s
KSH LR LR
comp=Z,100nm,4.9s
ULN Ulaanbaatar 144.34 357 *e*PKPdf **PKPdf 23 26 25.5 -0.5**
SONM Songino Array 144.40 358 PKP **PKPdf 23 26 25.7 -0.4**
SONM pPKP **pPKPdf 23 26 57.7 -0.2**
SONM Songino Array 144.40 358 PKP **PKPdf 23 26 25.7 -0.4**
comp=Z,32nm,0.9s,baz=331,slow=2.7,SNR=202
SONM pPKP **pPKPdf 23 26 57.7 -0.2**
comp=Z,4.4nm,0.8s,baz=352,slow=2.2,SNR=2.5
WMQ Urumqi 145.26 22 PKPbc **PKPdf 23 26 28.0 +0.4**
WMQ pPKP **pPKPdf 23 26 59.5 +0.1**
WMQ PP **PP 23 29 51.7 +4.7**
WMQ PKS **PKSdf 23 30 02.0 -1.1**
WMQ SKS **SKSdf 23 33 20.9 -5.3**
WMQ SKKS **SKKSac 23 36 27.1 -1.9**
WMQ LR LR
comp=N,60nm,32.0s
WMQ LR LR
comp=E,39nm,28.0s
WMQ LR LR
comp=Z,61nm,38.0s
SNY Shenyang 146.08 334⇑PKPbc **PKPbc 23 26 30.3 +0.3**
KSRS Korea Array 147.24 324 PKPbc **PKPdf 23 26 32.1 +1.1**
comp=Z,18nm,1.0s,baz=28,slow=2.0,SNR=41
KSRS pPKPbc **pPKPbc 23 27 04.0 -0.9**
comp=Z,6.6nm,0.8s,baz=35,slow=2.1,SNR=3.8
KSAR Wonju Array Be 147.27 324 PKPbc **PKPdf 23 26 32.1 +1.1**
KSAR pPKPbc **pPKPbc 23 27 04.0 -1.0**
JNU Nakatsue 148.12 315 *e*PKPdf **PKPdf 23 26 32.0 -0.7**
JNU PKPbc **PKPbc 23 26 35.1 -1.0**
JNU Nakatsue 148.12 315 PKPbc **PKPbc 23 26 35.1 -1.0**
comp=Z,19nm,0.8s,baz=41,slow=3.3,SNR=11
BJI Beijing 150.38 342 P **PKPbc 23 26 41.6 +0.2**
BJI pmax pmax
comp=Z,72nm,0.6s
BJT Baijiatuan 150.40 342 *e*PKPbc **PKPbc 23 26 41.0 -0.4**
GTA Gaotai 152.53 8 PKPbc **PKPdf 23 26 40.8 +1.3**
GTA sPKP 23 27 21.4
GTA PP PP 23 30 35.0 +6.1
GTA SKS **SKSdf 23 33 38.4 +2.1**
GTA SS SS 23 49 57.5 +8.6
GTA AMB AMB
comp=Z,75nm,6.6s
LZH Lanzhou 156.16 1 *e*PKP **PKPdf 23 26 44.3 -0.4**
LZH PP **PP 23 30 49.8 +0.5**
LZH SKS **SKSdf 23 33 37.0 -3.6**
LZH AMB AMB
comp=Z,110nm,4.3s
LZH LR LR
comp=N,280nm,18.8s
LZH LR LR
comp=E,220nm,17.3s
LZH LR LR
comp=Z,330nm,19.6s
NJ2 Nanjing 156.22 329 *e*PKP **PKPdf 23 26 43.6 -1.1**
SHL Shillong 162.09 40 *e*P **PKPdf 23 26 54.0 +2.1**
GYA Guiyang 165.63 352 PKP **PKPdf 23 26 53.9 -1.2**
GYA PKPab **PKPab 23 27 55.3 +1.1**
GYA PKS **PKSdf 23 30 25.0 -3.1**
GYA PP **PP 23 31 42.8 +2.8**
GYA AMB AMB
comp=Z,120nm,7.9s
KMI Kunming 166.99 7 PKP **PKPdf 23 26 57.5 +1.2**
CMAR Chiang Mai Arr 171.73 40 PKP **PKPdf 23 27 00.0 +0.9**
CMAR PKPab **PKPab 23 28 22.3 +1.0**
CMAR Chiang Mai Arr 171.73 40 PKP **PKPdf 23 27 00.0 +0.9**
comp=Z,2.9nm,0.9s,baz=300,slow=1.2,SNR=4.1
CMAR PKPab **PKPab 23 28 22.3 +1.0**
comp=Z,3.0nm,0.7s,baz=319,slow=5.6,SNR=6.1

IDC 01 23:16:04.9±1.9, 41°30N×131°49E, h558km±24km, mb3.0/1, mb1 2.9/4, mb1mx2.5/27, mbtmp2.9/4, Error ellipse: s-maj=57.2km s-min=33.4km az=138.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**2.92**	**7**	P	P	23 17 20.0	+0.2
	2.9nm,0.3s,baz=184,slow=4.6,SNR=52						
KSRS	**Korea Array**	**4.73**	**217**	P	P	23 17 33.1	+0.1
	0.7nm,0.3s,baz=27,slow=8.6,SNR=24						
ASAJ	**Asahikawa**	**8.65**	**67**	P	P	23 18 09.1	-0.1
	1.0nm,0.3s,baz=270,slow=3.0,SNR=9.1						
ARCES	**ARCESS Array B**	**57.14**	**336**	P	P	23 24 58.2	-0.1
	1.5nm,0.9s,baz=48,slow=8.6,SNR=3.8						

CASC 01 23:41:41.0±2.1, 8°29N×82°87W, h14km±11km, MD3.9, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.46**	**321**⇑	*e*P	Pg	23 41 49.7	-0.6
ACR				*e*S	Sg	23 41 57.0	+0.4
BRU2	**Volcan**	**0.53**	**20**⇓	*i*P	Pg	23 41 51.4	-0.4
BRU2				*e*S	Sb	23 42 00.4	+0.3
TBS2		**0.54**	**23**	*e*P	Pb	23 41 52.4	-0.2
TBS2				*e*S	Sb	23 42 00.6	+0.2
BRU	**Baru**	**0.60**	**31**	*e*P	Pg	23 41 52.7	-0.7
CNI	**Changuinola**	**1.17**	**17**⇓	*i*P	Pn	23 42 01.7	-1.3
CNI				*e*S	Sb	23 42 18.0	-0.1
BUS	**Buena Vista**	**1.53**	**325**⇑	*e*P	Pn	23 42 07.0	-1.5
BUS				*e*S	Sn	23 42 28.7	+0.1
QCR	**Quepos**	**1.70**	**312**⇓	*i*P	Pn	23 42 10.3	0.0
QCR				*e*S	Sb	23 42 32.8	-0.6
URSC	**Urasca**	**1.78**	**330**⇑	*e*P	Pn	23 42 11.3	-0.3
URSC				*e*S	Sn	23 42 34.1	0.0
SJS	**Escuela Geolog**	**2.01**	**325**	*e*P	Pn	23 42 16.1	+1.4
CGA2	**Cerro Gallo 2**	**2.33**	**318**	*e*P	Pn	23 42 20.8	+1.8
ZANG	**Zanguenga, Cho**	**3.05**	**77**	*e*P	Pn	23 42 28.6	-0.1
BCIP	**Isla Barro Col**	**3.13**	**74**	*e*P	Pn	23 42 29.2	-0.7
BCIP				*e*S	Sb	23 43 13.8	-0.6

MEX 01 23:48:10.3±0.4, 18°06N×103°23W, h8km±3km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.25**	**334**	*i* P	Pg	23 48 14.8	-0.5
MMIG				*i* S	Sg	23 48 18.8	+0.1
R15V		**1.31**	**327**	*i* P	Pn	23 48 31.4	-3.6
R15V				*i* S	Sb	23 48 47.6	-4.8
EZ5V		**1.45**	**346**	*i* P	Pn	23 48 33.7	-3.5
EZ5V				*i* S	Sn	23 48 51.2	-5.5

IDC ***02*** *00:09:43.3±1.1, 36°.99N×28°.09E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/27, Error ellipse: s-maj=21.3km s-min=19.9km az=153.0*
ISCJB ***02*** *00:09:43.7±0.5, 37°.04N±0°.02×28°.12E±0°.02, h6km±3km, mb3.3/4, Error ellipse: s-maj=3.0km s-min=2.6km az=35.0*
ISK ***02*** *00:09:43.5, 37°.04N×28°.11E, h10km, ML3.4*
DDA ***02*** *00:09:44.2, 37°.08N×28°.07E, h6km, MD3.5*
CSEM ***02*** *00:09:44.5±0.1, 37°.05N×28°.10E, h5km, Mw3.1, Error ellipse: s-maj=1.9km s-min=1.7km az=27.0*
ATH ***02*** *00:09:45.5, 37°.05N×27°.98E, h25km, MD3.4/14*
THE ***02*** *00:09:45.2, 37°.02N×28°.09E, h1km±1km, ML3.2/2, Error ellipse: s-maj=1.5km s-min=0.8km az=100.0*
NIC ***02*** *00:09:48.0±0.3, 36°.90N×28°.12E, h86km, ML3.2, MW3.1*
ISC 02 00:09:44.4±1.0, 37°.04N±0°.02×28°.11E±0°.02, h5km±8km, n167, σ0°89/204, mb3.4/4, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**56**	PG	**Pg**	**00 09 47.7**	**-0.1**
YER	**Yerkesik**	**0.17**	**56**	*i* Pg	**Pg**	**00 09 47.7**	**-0.1**
MLSB	**Milas**	**0.37**	**314**	PG	**Pg**	**00 09 51.5**	**0.0**
MLSB	**Milas**	**0.37**	**314**	*i* Pg	**Pg**	**00 09 51.5**	**0.0**
TURN	**Turunc**	**0.43**	**113**	*i* P	**Pg**	**00 09 50.2**	**-2.5**
TURN				*i* S	**Sg**	**00 09 55.4**	**-2.9**
TURN	**Turunc**	**0.43**	**113**	*i* P	**Pg**	**00 09 50.2**	**-2.5**
TURN				*i* S	**Sg**	**00 09 55.4**	**-2.9**
DALY	**Dalyan (Mu¨la**	**0.49**	**117**	PG	**Pg**	**00 09 53.5**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.49**	**117**	*i* Pg	**Pg**	**00 09 53.5**	**-0.4**
DAT	**Datca**	**0.53**	**234**	PG	**Pg**	**00 09 54.2**	**-0.4**
DAT	**Datca**	**0.53**	**234**	*i* Pg	**Pg**	**00 09 54.2**	**-0.4**
BODT	**Bodrum**	**0.64**	**272**	PG	**Pg**	**00 09 56.4**	**-0.3**
BODT	**Bodrum**	**0.64**	**272**	*i* Pg	**Pg**	**00 09 56.4**	**-0.3**
AYDN	**Tasoluk**	**0.64**	**344**	*i* P	**Pg**	**00 09 57.3**	**+0.5**
AYDN				*i* S	**Sg**	**00 10 05.7**	**+0.5**
AYDN	**Tasoluk**	**0.64**	**344**	*i* P	**Pg**	**00 09 57.3**	**+0.5**
AYDN				*i* S	**Sg**	**00 10 05.7**	**+0.5**
ARG	**Arkhangelos**	**0.82**	**179**	P	**Pg**	**00 10 00.0**	**-0.3**
ARG				S	**Sb**	**00 10 13.2**	**+0.5**
ARG	**Arkhangelos**	**0.82**	**179**	*e*PN	**Pb**	**00 10 01.8**	**+0.5**
ARG	**Arkhangelos**	**0.82**	**179**	P	**Pg**	**00 10 00.0**	**-0.3**
ARG	**Arkhangelos**	**0.82**	**179**	*e*Pn	**Pb**	**00 10 01.8**	**+0.5**
ARG				S	**Sb**	**00 10 13.2**	**+0.5**
NIS1	**Nisyros Isl.**	**0.87**	**240**	P	**Pb**	**00 10 01.8**	**-0.2**
NIS1				S	**Sn**	**00 10 15.1**	**-1.3**
NIS1	**Nisyros Isl.**	**0.87**	**240**	*e*PN	**Pg**	**00 10 01.0**	**-0.1**
NIS1	**Nisyros Isl.**	**0.87**	**240**	*e*Pn	**Pg**	**00 10 01.0**	**-0.1**
NIS1	**Nisyros Isl.**	**0.87**	**240**	P	**Pb**	**00 10 01.8**	**-0.2**
NIS1				S	**Sn**	**00 10 15.1**	**-1.3**
FETY	**Fethiye**	**0.88**	**117**	*e*PG	**Pg**	**00 10 00.8**	**-0.6**
FETY				*e*SG	**Sg**	**00 10 13.4**	**+0.7**
FETY	**Fethiye**	**0.88**	**117**	*e*Pg	**Pg**	**00 10 00.8**	**-0.6**
FETY				*e*Sg	**Sg**	**00 10 13.5**	**+0.7**
GCAM	**G?zelcaml?**	**0.96**	**314**	*i* P	**Pb**	**00 10 03.1**	**-0.5**
GCAM				*i* S	**Sg**	**00 10 15.5**	**+0.2**
GCAM	**G?zelcaml?**	**0.96**	**314**	*i* P	**Pb**	**00 10 03.1**	**-0.5**
GCAM				*i* S	**Sg**	**00 10 15.5**	**+0.2**
GOLH	**Golhisar**	**1.18**	**80**	*i* P	**Pb**	**00 10 07.5**	**+0.2**
GOLH				*i* S	**Sn**	**00 10 24.8**	**+0.6**
GOLH	**Golhisar**	**1.18**	**80**	*i* P	**Pb**	**00 10 07.5**	**+0.2**
GOLH				*i* S	**Sn**	**00 10 24.8**	**+0.6**
SMG	**Samos**	**1.21**	**304**	P	**Pg**	**00 10 07.6**	**-0.1**
SMG				S	**Sn**	**00 10 24.8**	**-0.1**
SMG	**Samos**	**1.21**	**304**	*e*PN	**Pg**	**00 10 06.7**	**-1.0**
SMG	**Samos**	**1.21**	**304**	*e*Pn	**Pg**	**00 10 06.7**	**-1.0**
SMG	**Samos**	**1.21**	**304**	P	**Pg**	**00 10 07.6**	**-0.1**
SMG				S	**Sn**	**00 10 24.8**	**-0.1**
AKAS	**Kas**	**1.45**	**123**	*i* P	**Pg**	**00 10 12.2**	**0.0**
AKAS				*i* S	**Sg**	**00 10 35.4**	**+4.4**
AKAS	**Kas**	**1.45**	**123**	*i* P	**Pg**	**00 10 12.2**	**0.0**
AKAS				*i* S	**Sg**	**00 10 35.4**	**+4.4**
KSL	**Kastellorizon**	**1.48**	**126**	*e*PN	**Pg**	**00 10 13.9**	**+1.0**
MANT	**Manisa**	**1.49**	**14**	*i* P	**Pn**	**00 10 11.6**	**-0.5**
MANT				*i* S	**Sn**	**00 10 31.8**	**-0.3**
MANT	**Manisa**	**1.49**	**14**	*i* P	**Pn**	**00 10 11.6**	**-0.5**
MANT				*i* S	**Sn**	**00 10 31.8**	**-0.3**
IZM	**Izmir**	**1.51**	**334**	*e*PN	**Pn**	**00 10 11.5**	**-0.7**
IZM	**Izmir**	**1.51**	**334**	*e*Pn	**Pn**	**00 10 11.5**	**-0.7**
KULA	**Kula-Manisa**	**1.53**	**16**	*e*PN	**Pn**	**00 10 11.8**	**-0.8**
KULA	**Kula-Manisa**	**1.53**	**16**	P	**Pn**	**00 10 12.1**	**-0.5**
KULA				S	**Sg**	**00 10 34.7**	**+0.9**
KULA	**Kula-Manisa**	**1.53**	**16**	*e*Pn	**Pn**	**00 10 11.8**	**-0.8**
KULA	**Kula-Manisa**	**1.53**	**16**	P	**Pn**	**00 10 12.1**	**-0.5**
KULA				S	**Sg**	**00 10 34.7**	**+0.9**
KARP	**Karpathos**	**1.68**	**207**	P	**Pn**	**00 10 14.4**	**-0.1**
KARP				S	**Sn**	**00 10 36.2**	**-0.2**
KARP	**Karpathos**	**1.68**	**207**	*e*PN	**Pn**	**00 10 14.4**	**-0.1**
KARP				*e*SN	**Sn**	**00 10 36.1**	**-0.3**
KARP	**Karpathos**	**1.68**	**207**	P	**Pn**	**00 10 14.4**	**-0.1**
KARP				S	**Sn**	**00 10 36.2**	**-0.2**
KHL	**Karahalli**	**1.70**	**41**	*e*PN	**Pn**	**00 10 14.2**	**-0.7**
KHL	**Karahalli**	**1.70**	**41**	*e*Pn	**Pn**	**00 10 14.2**	**-0.7**
BCK	**Bucak**	**2.02**	**77**	*e*PN	**Pn**	**00 10 18.7**	**-0.6**
BCK	**Bucak**	**2.02**	**77**	*e*Pn	**Pn**	**00 10 18.7**	**-0.6**
APE	**Apeiranthos**	**2.06**	**272**	*e*PN	**Pn**	**00 10 19.6**	**-0.2**
APE	**Apeiranthos**	**2.06**	**272**	P	**Pn**	**00 10 19.8**	**-0.1**
APE	**Apeiranthos**	**2.06**	**272**	*e*PN	**Pn**	**00 10 19.7**	**-0.1**
APE				*e*SN	**Sn**	**00 10 44.1**	**-1.9**
APE	**Apeiranthos**	**2.06**	**272**	P	**Pn**	**00 10 19.8**	**-0.1**
APE				*e*Sn	**Sn**	**00 10 44.1**	**-1.9**
ISP	**Isparta**	**2.07**	**67**	*e*PN	**Pn**	**00 10 19.8**	**-0.2**
ISP	**Isparta**	**2.07**	**67**	P	**Pb**	**00 10 22.5**	**-0.1**
ISP	**Isparta**	**2.07**	**67**	*e*Pn	**Pn**	**00 10 19.8**	**-0.2**
ISP	**Isparta**	**2.07**	**67**	P	**Pb**	**00 10 22.5**	**-0.1**
CHOS	**Chios island**	**2.11**	**310**	P	**Pn**	**00 10 20.5**	**0.0**
CHOS				S	**Sn**	**00 10 47.1**	**-0.1**
CHOS	**Chios island**	**2.11**	**310**	*e*PB	**Pn**	**00 10 20.2**	**-0.3**
CHOS	**Chios island**	**2.11**	**310**	*e*Pb	**Pn**	**00 10 20.2**	**-0.3**
CHOS	**Chios island**	**2.11**	**310**	P	**Pn**	**00 10 20.5**	**0.0**
CHOS				S	**Sn**	**00 10 47.1**	**-0.1**
SUTC	**Sutluce-Ispart**	**2.35**	**78**	*e*PN	**Pn**	**00 10 23.2**	**-0.6**
SUTC	**Sutluce-Ispart**	**2.35**	**78**	*e*Pn	**Pn**	**00 10 23.2**	**-0.6**
SHUT	**Suhut-Afyon**	**2.45**	**51**	*e*PN	**Pn**	**00 10 24.8**	**-0.5**
SHUT	**Suhut-Afyon**	**2.45**	**51**	*e*Pn	**Pn**	**00 10 24.8**	**-0.5**
ZKR	**Zakros**	**2.46**	**219**	*e*PN	**Pn**	**00 10 25.6**	**+0.4**
ZKR	**Zakros**	**2.46**	**219**	*e*Pn	**Pn**	**00 10 25.6**	**+0.4**
ALT	**Altintas**	**2.56**	**38**	*e*PN	**Pn**	**00 10 26.3**	**-0.4**
ALT	**Altintas**	**2.56**	**38**	P	**Pn**	**00 10 27.3**	**+0.6**
ALT	**Altintas**	**2.56**	**38**	*e*Pn	**Pn**	**00 10 26.3**	**-0.4**
ALT	**Altintas**	**2.56**	**38**	P	**Pn**	**00 10 27.3**	**+0.6**
BALB	**Balikesir**	**2.60**	**356**	*e*PN	**Pn**	**00 10 26.9**	**-0.3**
BALB	**Balikesir**	**2.60**	**356**	*e*Pn	**Pn**	**00 10 26.9**	**-0.3**
PRK	**Paraskevi**	**2.63**	**327**	P	**Pn**	**00 10 27.4**	**-0.2**
PRK	**Paraskevi**	**2.63**	**327**	P	**Pn**	**00 10 27.4**	**-0.2**
NPS	**Neapolis**	**2.69**	**229**	P	**Pn**	**00 10 27.6**	**-0.8**
NPS	**Neapolis**	**2.69**	**229**	*e*PN	**Pn**	**00 10 28.1**	**-0.3**
NPS	**Neapolis**	**2.69**	**229**	P	**Pn**	**00 10 27.6**	**-0.8**
NPS	**Neapolis**	**2.69**	**229**	*e*Pn	**Pn**	**00 10 28.1**	**-0.3**
SIGR	**SIGRI**	**2.80**	**321**	P	**Pn**	**00 10 30.1**	**+0.2**
SIGR				S	**Sn**	**00 11 04.3**	**+0.2**
SIGR	**SIGRI**	**2.80**	**321**	P	**Pn**	**00 10 30.1**	**+0.2**
SIGR				S	**Sn**	**00 11 04.3**	**+0.2**
LAST	**Lasithi**	**2.84**	**229**	*e*PN	**Pn**	**00 10 30.9**	**+0.4**
LAST	**Lasithi**	**2.84**	**229**	*e*Pn	**Pn**	**00 10 30.9**	**+0.4**
GONE	**Gonen-Balikesi**	**3.02**	**354**	*e*PN	**Pn**	**00 10 32.4**	**-0.5**
GONE	**Gonen-Balikesi**	**3.02**	**354**	*e*Pn	**Pn**	**00 10 32.4**	**-0.5**
IDI	**Anoyia**	**3.14**	**237**	*e*PN	**Pn**	**00 10 35.6**	**+1.0**
IDI	**Anoyia**	**3.14**	**237**	*e*Pn	**Pn**	**00 10 35.6**	**+1.0**
KCTX	**Karacabey (Bur**	**3.23**	**3**	*e*PN	**Pn**	**00 10 35.1**	**-0.7**
KCTX	**Karacabey (Bur**	**3.23**	**3**	*e*Pn	**Pn**	**00 10 35.1**	**-0.7**
BNT	**Bandirma**	**3.31**	**358**	*e*PN	**Pn**	**00 10 36.2**	**-0.8**
BNT	**Bandirma**	**3.31**	**358**	*e*Pn	**Pn**	**00 10 36.2**	**-0.8**
SIVA	**Sivas**	**3.35**	**234**	*e*PN	**Pn**	**00 10 38.1**	**+0.6**
SIVA	**Sivas**	**3.35**	**234**	*e*Pn	**Pn**	**00 10 38.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**3.38**	**10**	*e*PN	**Pn**	**00 10 38.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**3.38**	**10**	*e*Pn	**Pn**	**00 10 38.2**	**+0.4**
KRBG	**Karabiga-Canak**	**3.41**	**350**	*e*PN	**Pn**	**00 10 37.7**	**-0.5**
KRBG	**Karabiga-Canak**	**3.41**	**350**	*e*Pn	**Pn**	**00 10 37.7**	**-0.5**
LPK	**Lapseki**	**3.49**	**343**	*e*PN	**Pn**	**00 10 39.1**	**-0.3**
LPK	**Lapseki**	**3.49**	**343**	*e*Pn	**Pn**	**00 10 39.1**	**-0.3**
GEMT	**Gemlik**	**3.49**	**14**	*e*PN	**Pn**	**00 10 39.8**	**+0.3**
GEMT	**Gemlik**	**3.49**	**14**	*e*Pn	**Pn**	**00 10 39.8**	**+0.3**
KIZT	**Kizilcal**	**3.50**	**57**	*e*PN	**Pn**	**00 10 39.9**	**+0.2**
KIZT	**Kizilcal**	**3.50**	**57**	*e*Pn	**Pn**	**00 10 39.9**	**+0.2**
KONT	**Konya--Tatoy**	**3.50**	**74**	*e*PN	**Pn**	**00 10 39.9**	**+0.3**
KONT	**Konya--Tatoy**	**3.50**	**74**	*e*Pn	**Pn**	**00 10 39.9**	**+0.3**
VAM	**Vamos**	**3.56**	**244**	*e*PN	**Pn**	**00 10 40.6**	**+0.3**
VAM	**Vamos**	**3.56**	**244**	*e*Pn	**Pn**	**00 10 40.6**	**+0.3**
ARMT	**Armutlu**	**3.57**	**9**	*e*PN	**Pn**	**00 10 40.8**	**+0.3**
ARMT	**Armutlu**	**3.57**	**9**	*e*Pn	**Pn**	**00 10 40.8**	**+0.3**
LADK	**Ladik-KONYA**	**3.57**	**70**	*e*PN	**Pn**	**00 10 40.8**	**+0.2**
LADK	**Ladik-KONYA**	**3.57**	**70**	*e*Pn	**Pn**	**00 10 40.8**	**+0.2**
GELI	**Tayfur-Gelibol**	**3.59**	**340**	*e*PN	**Pn**	**00 10 40.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**3.59**	**340**	*e*Pn	**Pn**	**00 10 40.6**	**-0.1**
SVRH	**Sivrihisar-ESK**	**3.60**	**47**	*e*PN	**Pn**	**00 10 41.1**	**0.0**
SVRH	**Sivrihisar-ESK**	**3.60**	**47**	*e*Pn	**Pn**	**00 10 41.1**	**0.0**
YLV	**Yalova**	**3.66**	**15**	*e*PN	**Pn**	**00 10 42.3**	**+0.5**
YLV	**Yalova**	**3.66**	**15**	*e*Pn	**Pn**	**00 10 42.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**3.71**	**349**	*e*PN	**Pn**	**00 10 42.1**	**-0.4**
RKY	**Sarkoy-Tekirda**	**3.71**	**349**	*e*Pn	**Pn**	**00 10 42.1**	**-0.4**
KARN	**Karanos**	**3.76**	**245**	*e*PN	**Pn**	**00 10 44.0**	**+0.8**
KARN	**Karanos**	**3.76**	**245**	*e*Pn	**Pn**	**00 10 44.0**	**+0.8**
MFT	**Murefte**	**3.79**	**350**	*e*PN	**Pn**	**00 10 44.3**	**+0.6**
MFT	**Murefte**	**3.79**	**350**	*e*Pn	**Pn**	**00 10 44.3**	**+0.6**
GULT	**Gulveren**	**3.87**	**28**	*e*PN	**Pn**	**00 10 45.1**	**+0.3**
GULT	**Gulveren**	**3.87**	**28**	*e*Pn	**Pn**	**00 10 45.1**	**+0.3**
AOS	**Alonnisos**	**3.95**	**304**	*e*PN	**Pn**	**00 10 46.6**	**+0.8**
AOS	**Alonnisos**	**3.95**	**304**	*e*Pn	**Pn**	**00 10 46.6**	**+0.8**
AKMC	**Akamas**	**3.97**	**119**	⇑P	**Pn**	**00 10 46.8**	**+0.8**
AKMC	**Akamas**	**3.97**	**119**	⇑*i*P	**Pn**	**00 10 46.8**	**+0.8**
SMTH	**Samothraki Isl**	**3.97**	**330**	P	**Pn**	**00 10 46.2**	**+0.1**
SMTH	**Samothraki Isl**	**3.97**	**330**	P	**Pn**	**00 10 46.2**	**+0.1**
ENEZ	**Enez**	**3.99**	**338**	*e*PN	**Pn**	**00 10 46.5**	**+0.2**
ENEZ	**Enez**	**3.99**	**338**	*e*Pn	**Pn**	**00 10 46.5**	**+0.2**
PPCY	**Paphos**	**4.05**	**121**	P	**Pn**	**00 10 47.9**	**+0.7**
PPCY	**Paphos**	**4.05**	**121**	P	**Pn**	**00 10 47.9**	**+0.7**
ISK	**Istanbul-Kandi**	**4.08**	**10**	*e*PN	**Pn**	**00 10 48.1**	**+0.5**
ISK	**Istanbul-Kandi**	**4.08**	**10**	*e*Pn	**Pn**	**00 10 48.1**	**+0.5**
ALFC	**Alevga**	**4.09**	**116**	P	**Pn**	**00 10 48.3**	**+0.5**
ALFC	1.3nm,0.2s			S	**Sn**	**00 11 34.9**	**-1.2**
ALFC	**Alevga**	**4.09**	**116**	P	**Pn**	**00 10 48.3**	**+0.5**
ALFC	1.3nm,0.2s			S	**Sn**	**00 11 34.9**	**-1.2**
ALN	**Alexandroupoli**	**4.17**	**338**	P	**Pn**	**00 10 48.7**	**-0.1**
ALN	**Alexandroupoli**	**4.17**	**338**	P	**Pn**	**00 10 48.7**	**-0.1**
MDUB	**Mudurnu**	**4.19**	**34**	*e*PN	**Pn**	**00 10 49.8**	**+0.7**
MDUB	**Mudurnu**	**4.19**	**34**	*e*Pn	**Pn**	**00 10 49.8**	**+0.7**
CTKS	**Kestanelik-??a**	**4.20**	**4**	*e*PN	**Pn**	**00 10 49.8**	**+0.7**
CTKS	**Kestanelik-??a**	**4.20**	**4**	*e*Pn	**Pn**	**00 10 49.8**	**+0.7**
LEF	**Lefka**	**4.32**	**115**	*e*PN	**Pn**	**00 10 50.7**	**-0.1**
LEF	**Lefka**	**4.32**	**115**	*e*Pn	**Pn**	**00 10 50.7**	**-0.1**
IKL	**Isikli**	**4.56**	**98**	*e*PN	**Pn**	**00 10 54.7**	**+0.7**
IKL	**Isikli**	**4.56**	**98**	*e*Pn	**Pn**	**00 10 54.7**	**+0.7**
AFSR	**Af¨ar-Bala (A**	**4.58**	**57**	*e*PN	**Pn**	**00 10 55.4**	**+0.8**
AFSR	**Af¨ar-Bala (A**	**4.58**	**57**	*e*Pn	**Pn**	**00 10 55.4**	**+0.8**
CSS	**Prodhromos**	**4.71**	**115**	P	**Pn**	**00 10 56.9**	**+0.6**
CSS				S	**Sn**	**00 11 51.7**	**+0.3**
CSS	**Prodhromos**	**4.71**	**115**	P	**Pn**	**00 10 56.9**	**+0.6**
CSS				S	**Sn**	**00 11 51.7**	**+0.3**
BRTR	**Keskin Array B**	**5.10**	**57**	Pn	**Pn**	**00 11 03.4**	**+1.7**
BRTR	0.9nm,0.3s,baz=240,slow=16,SNR=39			Sn	**Sn**	**00 12 02.9**	**+1.8**
SRS	**Serrai**	**5.38**	**321**	P	**Pn**	**00 11 05.7**	**+0.4**
SRS	**Serrai**	**5.38**	**321**	P	**Pn**	**00 11 05.7**	**+0.4**
NVR	**Nevrokopi**	**5.42**	**324**	P	**Pn**	**00 11 06.5**	**+0.5**
NVR	**Nevrokopi**	**5.42**	**324**	P	**Pn**	**00 11 06.5**	**+0.5**
MMAI	**Mount Meron Ar**	**7.21**	**122**	Pn	**Pn**	**00 11 30.4**	**-0.2**
MMAI	4.6nm,0.3s,baz=310,slow=12,SNR=27			Sn	**Sn**	**00 12 48.0**	**-4.9**
MLR	**Muntele Rosu**	**8.60**	**350**	Pn	**Pn**	**00 11 50.5**	**+0.8**
EIL	**Elat**	**9.31**	**140**	Pn	**Pn**	**00 11 58.1**	**-1.3**
GERES	**GERESS Array B**	**15.79**	**323**	Pn	**P**	**00 13 31.9**	**+0.3**
GERES	0.1nm,0.3s,baz=116,slow=10,SNR=2.7			LR	LR	00 18 39.5	
FINES	**FINESS Array B**	**24.46**	**358**	P	**P**	**00 15 03.7**	**-0.3**
ESDC	**Sonseca Array**	**25.22**	**286**	P	**P**	**00 15 11.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**33.53**	**232**	P	**P**	**00 16 24.2**	**-1.0**
MKAR	**Makanchi Array**	**40.75**	**59**	P	**P**	**00 17 26.0**	**-0.3**

ISCJB ***02*** *00:14:55.7±0.4, 13°.16N±0°.05×89°.16W±0°.05, h73km±3km, mb4.2/29, Error ellipse: s-maj=10.3km s-min=4.5km az=41.4*
NEIC ***02*** *00:14:55.9±0.7, 13°.10N×89°.19W, h65km±4km, mb4.4/16, MD4.8(SNET), Error ellipse: s-maj=14.2km s-min=6.0km az=216.0*
NEIC Felt [IV] at San Salvador.
CASC ***02*** *00:14:56.5±1.5, 13°.07N×89°.25W, h43km±16km, MD3.9, ML4.7, mb4.4(NEIC)*
IDC ***02*** *00:14:59.4±2.1, 13°.26N×88°.90W, h95km±18km, mb3.8/15, mb1 4.0/17, mb1mx3.8/28, mbtmp3.8/17, MS3.1/6, Ms1 3.1/6, ms1mx2.7/33, Error ellipse: s-maj=27.2km s-min=10.5km az=58.0*
ISC 02 00:14:55.4±1.0, 13°.09N±0°.06×89°.25W±0°.05, h63km±7km, n151, σ1°33/165, mb4.3/29, 13C-14D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.41**	**27**	*e*P	**Pn**	**00 15 06.3**	**-0.4**
AIES				*e*S	**Sn**	**00 15 14.7**	**-0.3**
AIES	comp=Z,57μm,0.2s			AML	AML	00 15 16.1	
LFRS	**El Faro**	**0.56**	**19**	⇑*i*P	**Pn**	**00 15 08.2**	**-0.2**
LFRS	**El Faro**	**0.56**	**19**	⇑*i*P	**Pn**	**00 15 08.2**	**-0.2**
SNET	**Serv Nac Est T**	**0.59**	**1**	*e*P	**Pn**	**00 15 08.9**	**+0.2**
SNET				*e*S	**Sn**	**00 15 18.3**	**-0.2**
SNET	comp=Z,46μm,0.3s			AML	AML	00 15 20.3	
SNET	**Serv Nac Est T**	**0.59**	**1**	*e*P	**Pn**	**00 15 08.7**	**0.0**
SNET				*e*S	**Sn**	**00 15 18.2**	**-0.2**
BOQS	**Boqueron**	**0.64**	**357**	*e*P	**Pn**	**00 15 09.6**	**+0.2**
BOQS	**Boqueron**	**0.64**	**357**	*e*P	**Pn**	**00 15 09.6**	**+0.2**
SNVI	**San Vicente**	**0.65**	**37**	*e*P	**Pn**	**00 15 09.2**	**-0.2**
SNVI	**San Vicente**	**0.65**	**37**	*e*P	**Pn**	**00 15 09.2**	**-0.2**
LFU	**La Fuente**	**0.67**	**11**	*e*P	**Pn**	**00 15 10.0**	**+0.5**
LFU				*e*S	**Sn**	**00 15 20.1**	**+0.2**
LFU	**La Fuente**	**0.67**	**11**	*e*P	**Pn**	**00 15 10.0**	**+0.5**
LFU				*e*S	**Sn**	**00 15 20.1**	**+0.2**
LBRS	**Las Brisas**	**0.68**	**17**	⇑*i*P	**Pn**	**00 15 10.0**	**+0.4**
SBLS	**San Blas**	**0.83**	**334**	*e*P	**Pn**	**00 15 11.8**	**+0.1**
SBLS	**San Blas**	**0.83**	**334**	*e*P	**Pn**	**00 15 11.8**	**+0.1**
SNJE	**San Jose**	**0.85**	**336**	*e*P	**Pn**	**00 15 12.1**	**+0.2**
SNJE	**San Jose**	**0.85**	**336**	*e*P	**Pn**	**00 15 12.1**	**+0.2**
RTR	**El Retiro**	**0.89**	**334**	*e*P	**Pn**	**00 15 12.8**	**+0.4**
RTR	**El Retiro**	**0.89**	**334**	*e*P	**Pn**	**00 15 12.8**	**+0.4**
VSM	**San Miguel**	**1.00**	**70**	⇑*i*P	**Pn**	**00 15 14.4**	**+0.5**
VSM	**San Miguel**	**1.00**	**70**	⇑*i*P	**Pn**	**00 15 14.4**	**+0.5**
BLLM	**Bellamira**	**1.04**	**70**	*e*P	**Pn**	**00 15 14.7**	**+0.6**
BLLM	**Bellamira**	**1.04**	**70**	*e*P	**Pn**	**00 15 14.7**	**+0.6**
CUSS	**Cusmapa**	**1.06**	**320**	*e*P	**Pn**	**00 15 14.2**	**-0.2**
RBDL	**Robledal**	**1.10**	**337**	*e*P	**Pn**	**00 15 16.0**	**+0.9**
RBDL	**Robledal**	**1.10**	**337**	*e*P	**Pn**	**00 15 16.0**	**+0.9**
CAHU	**Cacacuatique**	**1.21**	**56**	*e*P	**Pn**	**00 15 17.5**	**+1.0**
CAHU				*e*S	**Sn**	**00 15 35.0**	**+2.7**
CAHU	**Cacacuatique**	**1.21**	**56**	*e*P	**Pn**	**00 15 17.5**	**+1.0**
CAHU				*e*S	**Sn**	**00 15 35.0**	**+2.7**
CNCH	**Conchagua**	**1.39**	**82**	*e*P	**Pn**	**00 15 19.1**	**+0.4**
CNCH	**Conchagua**	**1.39**	**82**	*e*P	**Pn**	**00 15 19.1**	**+0.4**
IXG	**Ixpaco**	**1.59**	**313**	*e*P	**Pn**	**00 15 22.7**	**+1.1**
IXG				*e*S	**Sn**	**00 15 42.9**	**+1.6**
NBG	**Las Nubes**	**1.83**	**324**	*e*P	**Pn**	**00 15 27.7**	**+2.8**
MRL	**Marmol**	**2.01**	**348**	‖*e*P	**Pn**	**00 15 29.9**	**+2.7**
FUG	**Fuego 3**	**2.06**	**311**	*e*P	**Pn**	**00 15 29.3**	**+1.5**
JAT	**Jato**	**2.62**	**298**	*e*P	**Pn**	**00 15 37.2**	**+1.8**
JTS	**JuntasAbangare**	**5.04**	**123**	P	**Pn**	**00 16 09.7**	**+1.2**
JTS				S	**Sn**	**00 17 05.4**	**-0.1**
JTS	**JuntasAbangare**	**5.04**	**123**	P	**Pn**	**00 16 09.7**	**+1.2**
JTS	comp=Z,5.9nm,0.3s,baz=309,slow=22,SNR=26			S	**Sn**	**00 17 05.4**	**-0.1**
JCR	**Jicaral**	**5.18**	**128**	*e*P	**Pn**	**00 16 11.2**	**+0.9**
CGA2	**Cerro Gallo 2**	**5.59**	**123**	*e*P	**Pn**	**00 16 18.8**	**+2.7**
URSC	**Urasca**	**6.26**	**121**	*e*P	**Pn**	**00 16 28.4**	**+3.1**
BUS	**Buena Vista**	**6.43**	**123**	*e*P	**Pn**	**00 16 30.6**	**+2.8**
TEIG	**Tepich**	**7.16**	**7**	*e*Pn	**Pn**	**00 16 39.8**	**+2.4**
TEIG	**Tepich**	**7.16**	**7**	P	**Pn**	**00 16 39.6**	**+2.2**
TEIG	comp=Z,5.3nm,0.3s,baz=103,slow=1.1,SNR=13			S	**Sn**	**00 17 58.1**	**+0.8**
TEIG	baz=204,slow=20,SNR=2.0			LR	LR	00 19 48.8	
ACR	**Cerro Adams**	**7.42**	**126**	*e*P	**Pn**	**00 16 44.2**	**+3.1**
ROSC	**El Rosal**	**16.84**	**118**	LR	LR	00 24 03.5	
532A	**Rocksprings**	**19.62**	**331**	⇓P	**P**	**00 19 20.3**	**+1.6**
JCT	**Junction City**	**19.87**	**332**	*e*Pn	**P**	**00 19 23.0**	**+1.5**
432A	**Menard**	**20.20**	**333**	⇑P	**P**	**00 19 26.1**	**+1.0**
331A	**San Angelo**	**20.85**	**332**	⇓P	**P**	**00 19 33.0**	**+0.9**
627A	**Terlingua Ranc**	**20.91**	**323**	⇑P	**P**	**00 19 35.2**	**+2.3**
TXAR	**Lajitas Array**	**20.99**	**323**	P	**P**	**00 19 35.8**	**+2.1**
TXAR	**Lajitas Array**	**20.99**	**323**	P	**P**	**00 19 35.8**	**+2.1**
429A	**Davenport Ranc**	**21.00**	**328**	P	**P**	**00 19 35.1**	**+1.4**
232A	**Coleman**	**21.01**	**335**	⇓P	**P**	**00 19 33.9**	**+0.1**
130A	**Snyder**	**22.18**	**333**	P	**P**	**00 19 46.1**	**-0.2**
Z32A	**Haskell**	**22.19**	**337**	P	**P**	**00 19 46.6**	**+0.3**
Z31A	**Sharp Cattle R**	**22.46**	**336**	⇑P	**P**

C19A	**Slack Wire Ran**	38.29	338	P	P	00 22 11.2	+1.5
	baz=38,SNR=6.7						
D17A	**Six Diamond Ra**	38.42	336	P	P	00 22 11.9	+1.0
	baz=38,SNR=5.3						
EGMT	**Eagleton**	38.79	338	*e*P	P	00 22 15.3	+1.3
	comp=Z,12nm,0.8s						
A20A	**Cobblestone Ra**	38.89	340	P	P	00 22 16.1	+1.4
	baz=39,SNR=12						
SIV	**San Ignacio**	40.14	135	P	P	00 22 25.9	+0.4
SIV	**San Ignacio**	40.14	135	P	P	00 22 25.9	+0.4
	comp=Z,3.0nm,0.7s,baz=322,slow=8.6,SNR=15						
A15A	**Johnson Ranch,**	40.71	336	P	P	00 22 30.8	+0.9
	baz=41,SNR=5.2						
FFC	**Flin Flon**	42.73	349	*e*P	P	00 22 46.0	-0.2
	comp=Z,3.5nm,0.4s						
SCHQ	**Schefferville**	45.20	18	P	P	00 23 04.2	-1.7
SCHQ				PcP	PcP	00 24 43.8	-1.4
SCHQ	**Schefferville**	45.20	18	P	P	00 23 04.2	-1.7
	comp=Z,1.8nm,0.4s,baz=211,slow=13,SNR=11						
SCHQ				PcP	PcP	00 24 43.8	-1.4
	comp=Z,1.1nm,0.3s,baz=305,slow=1.7,SNR=5.3						
YKA	**Yellowknife Ar**	52.55	345	P	P	00 24 01.6	-0.4
YKA	**Yellowknife Ar**	52.55	345	P	P	00 24 01.6	-0.4
	comp=Z,2.6nm,0.3s,baz=146,slow=6.8,SNR=47						
INK	**Inuvik**	62.08	343	*e*P	P	00 25 08.6	-0.6
INK	**Inuvik**	62.08	343	P	P	00 25 08.9	-0.2
	comp=Z,3.2nm,0.6s,baz=121,slow=4.3						
ILAR	**Eielson Array**	64.73	336	P	P	00 25 26.2	-0.6
ILAR	**Eielson Array**	64.73	336	P	P	00 25 26.2	-0.6
	comp=Z,0.7nm,0.5s,baz=134,slow=6.4,SNR=18						
ARCES	**ARCESS Array B**	86.15	19	P	P	00 27 28.2	-1.1
ARCES	**ARCESS Array B**	86.15	19	P	P	00 27 28.2	-1.1
	comp=Z,1.2nm,0.6s,baz=297,slow=5.3,SNR=6.4						
FINES	**FINESS Array B**	90.17	26	P	P	00 27 48.0	-0.5
FINES	**FINESS Array B**	90.17	26	P	P	00 27 48.0	-0.5
	comp=Z,1.0nm,0.8s,baz=287,slow=5.7,SNR=2.6						
VRAC	**Vranov**	90.22	39	P	P	00 27 48.7	-0.4
VRAC	**Vranov**	90.22	39	P	P	00 27 48.7	-0.4
	comp=Z,0.6nm,0.3s,baz=79,slow=17,SNR=3.3						
SONM	**Songino Array**	117.77	348	PKP	PKPdf	00 33 34.6	-0.3
SONM	**Songino Array**	117.77	348	PKP	PKPdf	00 33 34.6	-0.3
	comp=Z,0.4nm,0.6s,baz=323,slow=2.4,SNR=4.0						
MKAR	**Makanchi Array**	119.91	7	PKP	PKPdf	00 33 37.5	-1.4
MKAR	**Makanchi Array**	119.91	7	PKP	PKPdf	00 33 37.5	-1.4
	comp=Z,0.3nm,0.4s,baz=299,slow=3.0,SNR=10						
WRA	**Warramunga Arr**	137.75	255	PKP	PKPdf	00 34 14.3	+0.9
WRA	**Warramunga Arr**	137.75	255	PKP	PKPdf	00 34 14.3	+0.9
	comp=Z,0.5nm,0.5s,baz=85,slow=2.2,SNR=4.7						
ASAR	**Alice Springs**	137.87	249	PKPpre	PKPpre	00 34 04.4	
ASAR				PKP	PKPdf	00 34 15.1	+1.6
ASAR	**Alice Springs**	137.87	249	PKhKP	PKPpre	00 34 04.4	
	comp=Z,0.2nm,0.7s,baz=110,slow=3.7,SNR=3.3						
ASAR				PKP	PKPdf	00 34 15.1	+1.6
	comp=Z,0.3nm,0.7s,baz=91,slow=2.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	147.63	345	PKPbc	PKPbc	00 34 33.4	-0.2
CMAR	**Chiang Mai Arr**	147.63	345	PKPbc	PKPbc	00 34 33.4	-0.2
	comp=Z,2.5nm,0.6s,baz=343,slow=3.8,SNR=13						

MOS ***02*** *00:54:33.8±2.7,55°.53N×160°.34E,h131km,mb3.9/4,Error ellipse: s-maj=20.4km s-min=10.6km az=74.4*
IDC ***02*** *00:54:35.7±2.5,55°.38N×160°.39E,h130km±35km,mb3.3/6, mb1 3.6/9,mb1mx3.3/28,mbtmp3.4/9,MS2.8/1,Ms1 2.9/1, ms1mx2.2/20,Error ellipse: s-maj=42.3km s-min=15.2km az=170.0*
KRSC ***02*** *00:54:36.1±0.3,55°.02N×160°.65E,h174km±34km,ML3.9*
ISCJB ***02*** *00:54:37.5±0.3,55°.04N±0°.02×160°.63E±0°.06, h167km±3km,mb3.6/8,Error ellipse: s-maj=6.4km s-min=2.9km az=28.8*

ISC 02 00:54:38.2±0.7,55°.04N±0°.03×160°.58E±0°.05,h168km±6km, n50,σ1§11/81,mb3.6/8,1C-1D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	0.35	314	S	Sn	00 55 20.1	+1.3
KMNR	**Kamenistaya**	0.74	345	P	Pn	00 55 03.0	0.0
KMNR				S	Sn	00 55 22.0	-0.1
MKZ	**Mys Kozlova**	0.82	126	P	Pn	00 55 02.5	-0.9
MKZ				S	Sn	00 55 21.3	-1.3
BZMR	**Bezymyannaya**	0.90	357	P	Pn	00 55 03.7	-0.3
BZMR				S	Sn	00 55 24.4	+0.4
BZGR	**Bezymyannyi-Gr**	0.90	4	P	Pn	00 55 03.8	-0.2
BZGR				S	Sn	00 55 24.1	+0.1
KIRR	**Kirishev**	0.92	352	P	Pn	00 55 03.4	-0.8
KIRR				S	Sn	00 55 23.5	-0.9
KPT	**Kopyto**	0.95	348	P	Pn	00 55 04.0	-0.3
KPT				S	Sn	00 55 24.1	-0.5
KOZ	**Kozyrevsk**	1.09	339	P	Pn	00 55 05.0	-0.4
KOZ				S	Sn	00 55 26.0	-0.5
KRSR	**Krestovskiy**	1.18	360	S	Sn	00 55 27.6	-0.3
KII	**Karymskiy**	1.21	214	P	Pn	00 55 06.4	-0.1
KII				S	Sn	00 55 29.0	+0.8
KLY	**Klyuchi**	1.27	2	P	Pn	00 55 06.7	-0.2
KLY				S	Sn	00 55 28.7	-0.5
SRDR	**Sredinnyy**	1.37	339	P	Pn	00 55 07.1	-0.8
SRDR				S	Sn	00 55 29.0	-1.9
ESO	**Esso**	1.39	310	P	Pn	00 55 07.2	-0.8
ESO				S	Sn	00 55 29.3	-1.8
BDR	**Baidarnaya**	1.57	13	P	Pn	00 55 09.5	-0.4
BDR				S	Sn	00 55 34.0	-0.4
SMKR	**Semkarok**	1.62	18	P	Pn	00 55 10.1	-0.3
SMKR				S	Sn	00 55 34.5	-0.8
SRKR	**Sorokina**	1.65	11	P	Pn	00 55 10.5	-0.2
SRKR				S	Sn	00 55 35.4	-0.4
KBG	**Krutoberegovo**	1.71	44	P	Pn	00 55 10.9	-0.3
KBG				S	Sn	00 55 35.6	-1.1
NLC	**Nalytchevo**	2.01	202	P	Pn	00 55 13.8	-0.7
NLC				S	Sn	00 55 41.3	-1.3
SDLR	**Sedlovina**	2.03	210	P	Pn	00 55 15.0	+0.1
SDLR				S	Sn	00 55 43.5	+0.3
KRER	**Koryakskii**	2.05	212	P	Pn	00 55 15.4	+0.2
KRER				S	Sn	00 55 44.0	+0.3
GNL	**Ganaly**	2.05	230	P	Pn	00 55 14.9	-0.2
GNL				S	Sn	00 55 43.1	-0.5
SMAR	**Somma**	2.07	211	P	Pn	00 55 15.5	+0.1
SMAR				S	Sn	00 55 43.9	-0.3
AVH	**Avacha**	2.09	212	P	Pn	00 55 15.5	0.0
AVH				S	Sn	00 55 44.9	+0.6
KOK	**Koryaka**	2.10	214	P	Pn	00 55 16.0	+0.4
KOK				S	Sn	00 55 44.8	+0.3
UGLR	**Uglovaya**	2.11	210	P	Pn	00 55 15.9	+0.1
UGLR				S	Sn	00 55 44.9	+0.1
PET	**Petropavlovsk**	2.32	210	⇓*i*PN	Pn	00 55 17.8	-0.3
PET				*i* S	Sn	00 55 47.7	-1.2
PET				smax	smax		
	comp=E,183nm,0.6s						
PET	**Petropavlovsk**	2.32	210	P	Pn	00 55 17.8	-0.3
PET				S	Sn	00 55 47.9	-1.0
PETK	**Petropavlovsk-**	2.58	222	PN	Pn	00 55 20.8	-0.4
PETK				S	Sn	00 55 53.2	-1.2
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	2.58	222	P	Pn	00 55 20.8	-0.4
	comp=N,1.6nm,0.3s,baz=67,slow=13,SNR=15						
PETK				S	Sn	00 55 53.1	-1.2
	comp=N,1.3nm,0.3s,baz=89,slow=15,SNR=6.0						
RUS	**Russkaya**	2.89	206	P	Pn	00 55 23.5	-1.4
RUS				S	Sn	00 55 58.7	-2.4
APC	**Apacha**	2.93	225	P	Pn	00 55 25.5	+0.1
APC				S	Sn	00 56 01.8	-0.2
MTVR	**Mutnovka**	2.93	210	P	Pn	00 55 25.5	-0.1
MTVR				S	Sn	00 56 01.8	-0.6
BKI	**Bering**	3.10	85	P	Pn	00 55 27.4	0.0
BKI				S	Sn	00 56 04.2	-1.5
ASAK	**Asacha**	3.11	212	P	Pn	00 55 27.4	-0.3
ASAK				S	Sn	00 56 04.9	-1.2
SKR	**Severo-Kuril's**	5.14	214	*e*PN	Pn	00 55 49.5	-4.2
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR	**Severo-Kuril's**	5.14	214	P	Pn	00 55 52.7	-1.0
SKR				S	Sn	00 56 48.9	-3.8
FX1	**Attu Island--F**	7.73	101	P	Pn	00 56 28.9	+1.0
	comp=Z,1.3nm,0.3s,baz=72,slow=7.3,SNR=7.4						
FX1				S	Sn	00 57 53.5	-0.9
	comp=Z,3.7nm,0.3s,baz=202,slow=19,SNR=10						
YSS	**Yuzh-Sakhalins**	13.81	241	*i* P	P	00 57 48.7	-1.1
ASAJ	**Asahikawa**	15.94	234	P	P	00 58 14.2	+0.8
	comp=Z,1.2nm,0.3s,baz=55,slow=8.0,SNR=21						
ERM	**Erimo**	17.34	228	*e*P	Pn	00 58 33.1	+3.0
ERM				pmax	pmax		
	comp=Z,52nm,1.6s						
YAK	**Yakutsk**	17.44	306	*e*P	P	00 58 22.1	-7.7
TIXI	**Tiksi**	21.45	333	⇑*i*P	P	00 59 03.5	-9.3
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
COLA	**College**	26.84	48	*e*P	P	00 59 58.7	-3.9
ILAR	**Eielson Array**	27.26	48	P	P	01 00 06.2	-0.2
	comp=Z,0.7nm,0.5s,baz=252,slow=5.9,SNR=7.7						
ILAR				LR	LR	01 11 05.9	
	comp=Z,18nm,18.1s,baz=116,slow=36						
YKA	**Yellowknife Ar**	41.54	44	P	P	01 02 08.4	-0.2
	comp=Z,0.7nm,0.7s,baz=299,slow=7.3,SNR=3.4						
NVAR	**Mina Array Bea**	54.83	72	P	P	01 03 52.6	+1.6
	comp=Z,0.6nm,0.6s,baz=321,slow=8.5,SNR=3.2						
PDAR	**Pinedale Array**	56.34	62	P	P	01 04 02.9	+1.2
	comp=Z,0.5nm,0.4s,baz=345,slow=3.4,SNR=3.5						
FINES	**FINESS Array B**	58.44	336	P	P	01 04 13.7	-2.0
	comp=Z,0.7nm,0.9s,baz=34,slow=7.6,SNR=5.2						
OBN	**Obninsk**	61.03	327	*e*P	P	01 04 34.8	+1.3
OBN				*e*		01 05 15.4	
OBN				*e*		01 06 42.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TXAR	**Lajitas Array**	69.62	68	P	P	01 05 30.6	+1.3
	comp=Z,0.5nm,0.5s,baz=294,slow=5.0,SNR=6.0						

ISCJB ***02*** *00:57:01.9±0.9,45°.40S±0°.05×166°.68E±0°.05,h16km±9km, mb3.6/2,MS3.5/1,Error ellipse: s-maj=8.0km s-min=5.8km az=157.8*
IDC ***02*** *00:57:01.2±1.3,45°.87S×167°.11E,h0km,mb3.5/2, mb1 3.9/4,mb1mx3.7/14,mbtmp3.8/4,ML4.2/2,MS3.2/2, Ms1 3.2/2,ms1mx3.0/20,Error ellipse: s-maj=44.4km s-min=24.0km az=161.0*
AUST ***02*** *00:57:02.6,45°.46S×166°.50E,h15km*
WEL ***02*** *00:57:03.8±0.3,45°.46S×166°.76E,h23km±1km,ML4.7/22, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0*
WEL Felt from Otago to Fiordland, maximum reported intensity MM 4.
NEIC ***02*** *00:57:03.5,45°.44S×166°.75E,h11km,ML4.6(WEL),After WEL.*

ISC 02 00:57:01.6±1.4,45°.40S±0°.04×166°.73E±0°.04,h3km±10km, n73,σ1§08/74,2C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	0.31	105	⇑P*	Pb	00 57 10.2	+0.4
DCZ				S*	Sb	00 57 14.2	-1.0
DCZ				AML	AML	00 57 14.6	
DCZ				AML	AML	00 57 14.7	
DCZ				AML	AML	00 57 14.7	
DCZ	**Deep Cove**	0.31	105	Pg	Pb	00 57 09.5	-0.3
DCZ				Sg	Sb	00 57 14.2	-1.0
PYZ	**Puysegur Point**	0.77	182	P*	Pg	00 57 16.6	+0.2
PYZ				S*	Sg	00 57 25.5	-0.9
WHZ	**Wether Hill Ro**	0.99	121	P*	Pb	00 57 21.2	-0.1
WHZ				S*	Sg	00 57 33.8	+0.4
WHZ				AML	AML	00 57 42.9	
WHZ	**Wether Hill Ro**	0.99	121	P*	Pg	00 57 20.8	+0.3
WHZ				S*	Sg	00 57 33.8	+0.4
MLZ	**Mavora Lakes**	1.02	88	⇑PN	Pg	00 57 21.4	+0.2
MLZ				AML	AML	00 57 37.0	
MLZ				AML	AML	00 57 40.3	
MLZ	**Mavora Lakes**	1.02	88	P*	Pg	00 57 21.0	-0.1
MSZ	**Milford Sound**	1.12	50	PN	Pg	00 57 22.6	-0.4
MSZ				AML	AML	00 57 42.8	
MSZ				AML	AML	00 57 42.8	
MSZ				AML	AML	00 57 49.7	
MSZ				AML	AML	00 57 49.7	
MSZ	**Milford Sound**	1.12	50	P*	Pg	00 57 22.6	-0.4
APZ	**The Paps**	1.68	149	PN	Pn	00 57 32.2	+0.2
APZ	**The Paps**	1.68	149	Pn	Pn	00 57 32.4	+0.4
EAZ	**Earnscleugh**	1.83	86	PN	Pn	00 57 34.6	+0.6
EAZ				AML	AML	00 58 02.4	
EAZ				AML	AML	00 58 03.8	
EAZ	**Earnscleugh**	1.83	86	Pn	Pn	00 57 34.5	+0.6
JCZ	**Jackson Bay**	1.96	48	PN	Pn	00 57 37.0	+1.2
JCZ				AML	AML	00 58 08.6	
JCZ				AML	AML	00 58 12.2	
JCZ	**Jackson Bay**	1.96	48	Pn	Pb	00 57 37.1	-0.8
SYZ	**Scrubby Hill**	2.03	125	PN	Pn	00 57 37.0	+0.3
SYZ	**Scrubby Hill**	2.03	125	Pn	Pn	00 57 37.1	+0.4
TUZ	**Tuapeka**	2.11	106	PN	Pn	00 57 38.1	+0.3
TUZ				AML	AML	00 58 11.0	
TUZ				AML	AML	00 58 12.0	
TUZ	**Tuapeka**	2.11	106	Pn	Pn	00 57 38.0	+0.3
LBZ	**Lake Benmore**	2.66	69	PN	Pn	00 57 45.1	-0.1
LBZ				AML	AML	00 58 39.4	
LBZ				AML	AML	00 58 42.7	
LBZ	**Lake Benmore**	2.66	69	Pn	Pn	00 57 45.2	-0.1
ODZ	**Otahua Downs**	2.79	84	PN	Pn	00 57 46.9	-0.2
ODZ	**Otahua Downs**	2.79	84	*e*Pn	Pn	00 57 46.8	-0.3
ODZ				*e*Sn	Sn	00 58 19.8	-1.4
FOZ	**Fox Glacier**	2.80	50	PN	Pn	00 57 49.6	+2.4
FOZ				AML	AML	00 58 41.8	
FOZ				AML	AML	00 58 41.8	
FOZ				AML	AML	00 58 42.8	
FOZ				AML	AML	00 58 42.8	
FOZ	**Fox Glacier**	2.80	50	Pn	Pn	00 57 49.1	+1.9
RPZ	**Rata Peaks**	3.52	63	PN	Pn	00 57 56.4	-0.7
RPZ				AML	AML	00 58 48.9	
RPZ				AML	AML	00 59 01.9	
RPZ	**Rata Peaks**	3.52	63	*e*Pn	Pn	00 57 56.2	-0.9
RPZ				Sn	Sn	00 58 41.4	+2.2
RPZ	**Rata Peaks**	3.52	63	Pn	Pn	00 57 58.1	+1.0
	78nm,0.3s,baz=216,slow=5.2,SNR=74						
RPZ				Sn	Sn	00 58 41.4	+2.2
	31nm,0.3s,baz=319,slow=24,SNR=8.2						
RPZ				LR	LR	00 59 09.4	
	comp=Z,234nm,21.5s,baz=232,slow=36						
WVZ	**Waitaha Valley**	3.70	53	PN	Pn	00 58 00.1	+0.6
WVZ				AML	AML	00 59 03.3	
WVZ				AML	AML	00 59 06.2	
WVZ	**Waitaha Valley**	3.70	53	Pn	Pn	00 58 00.1	+0.6
MQZ	**McQueen's Vall**	4.56	70	PN	Pn	00 58 12.2	+0.8
MQZ				SN	Sn	00 59 05.5	+0.7
MQZ				AML	AML	00 59 11.8	
MQZ	**McQueen's Vall**	4.56	70	Pn	Pn	00 58 10.0	-1.4
CRLZ	**Canterbury Las**	4.59	69	PN	Pn	00 58 13.6	+1.7
CRLZ	**Canterbury Las**	4.59	69	Pn	Pn	00 58 12.5	+0.7
LTZ	**Lake Taylor**	4.77	59	PN	Pn	00 58 15.6	+1.2
LTZ				AML	AML	00 59 21.6	
LTZ				AML	AML	00 59 22.0	
LTZ	**Lake Taylor**	4.77	59	Pn	Pn	00 58 14.6	+0.3
DSZ	**Denniston Nort**	5.19	47	PN	Pn	00 58 20.3	+0.2
DSZ				AML	AML	00 59 26.4	
DSZ				AML	AML	00 59 28.7	
DSZ				AML	AML	00 59 29.0	
DSZ				AML	AML	00 59 29.0	
DSZ	**Denniston Nort**	5.19	47	Pn	Pn	00 58 20.4	+0.3
KHZ	**Kahutara**	5.75	61	*e*Pn	Pn	00 58 28.2	+0.4
	118nm,1.4s						
THZ	**Tophouse**	5.77	53	PN	Pn	00 58 27.2	-1.0
THZ				AML	AML	00 59 44.0	
THZ				AML	AML	00 59 45.3	
THZ	**Tophouse**	5.77	53	Pn	Pn	00 58 28.3	+0.1
NNZ	**Nelson**	6.40	52	PN	Pn	00 58 37.7	+1.0
NNZ				AML	AML	00 59 59.3	
NNZ	**Nelson**	6.40	52	Pn	Pn	00 58 37.6	+1.0
TUWZ	**Tuamarina**	6.58	55	PN	Pn	00 58 42.2	+3.0
TUWZ	**Tuamarina**	6.58	55	Pn	Pn	00 58 42.2	+3.0
TCW	**Tory Channel**	6.91	55	PN	Pn	00 58 47.2	+3.5
TCW	**Tory Channel**	6.91	55	Pn	Pn	00 58 47.2	+3.5
KIW	**Kapiti Island**	7.50	56	PN	Pn	00 58 55.8	+3.9
HIZ	**Hauiti**	9.16	44	PN	Pn	00 59 15.7	+1.1
HIZ	**Hauiti**	9.16	44	Pn	Pn	00 59 15.7	+1.1
URZ	**Urewera**	10.52	51	*e*Pn	Pn	00 59 33.3	+0.1
URZ	**Urewera**	10.52	51	Pn	Pn	00 59 35.7	+2.5
	0.4nm,0.3s,baz=248,slow=9.6,SNR=3.4						
URZ				Sn	Sn	01 01 29.1	-2.5
	0.9nm,0.3s,baz=78,slow=10,SNR=4.2						
MOO	**Moorlands**	14.39	275	P	Pn	01 00 25.6	-0.4
	baz=14,SNR=5.8						
MILA	**Mila**	15.61	296	P	Pn	01 00 41.5	-1.0
	baz=16,SNR=9.5						
MILA				S	Sn	01 03 23.4	-13
	baz=16,SNR=5.3						
TOO	**Toolangi**	17.70	289	P	P	01 01 10.7	+0.8
	baz=18,SNR=15						
NIUE	**Niue**	32.61	44	P	P	01 03 45.8	+11
	baz=33,SNR=3.4						
ASAR	**Alice Springs**	34.30	298	P	P	01 03 53.6	+4.4
ASAR	**Alice Springs**	34.30	298	P	P	01 03 53.6	+4.4
	0.5nm,0.7s,baz=131,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	36.84	303	P	P	01 04 15.7	+4.7
WRA	**Warramunga Arr**	36.84	303	P	P	01 04 15.7	+4.7
	0.4nm,0.3s,baz=136,slow=8.3,SNR=7.8						
QSPA	**South Pole Qui**	44.73	180	LR	LR	01 22 31.7	
	comp=Z,55nm,20.7s,baz=35,slow=35						
BR131	**Keskin Array S**	145.38	278	*e*PKPdf	PKPab	01 16 40.9	+0.2
BRTR	**Keskin Array B**	145.38	278	PKPbc	PKPab	01 16 41.5	+0.7
BRTR	**Keskin Array B**	145.38	278	PKPbc	PKPab	01 16 41.5	+0.7
	1.2nm,0.6s,baz=136,slow=5.7,SNR=11						
TORD	**Torodi Ar. Bea**	145.43	206	PKPbc	PKPbc	01 16 40.5	-0.7
TORD	**Torodi Ar. Bea**	145.43	206	PKPbc	PKPbc	01 16 40.5	-0.7
	3.9nm,0.5s,baz=145,slow=2.4,SNR=132						
KEV	**Kevo**	148.47	335	*e*p	PKPbc	01 16 47.5	-0.7
	2.1nm,0.5s						
ARCES	**ARCESS Array B**	149.03	335	PKPbc	PKPbc	01 16 49.7	0.0
ARCES	**ARCESS Array B**	149.03	335	PKPbc	PKPbc	01 16 49.7	0.0
	4.4nm,0.7s,baz=67,slow=2.5,SNR=28						
JOF	**Joensuu**	149.38	321	*e*p	PKPbc	01 16 50.0	-0.7
	1.6nm,0.5s						
KAF	**Kangasniemi**	151.84	321	*e*p	PKPbc	01 16 55.6	-1.0
	2.4nm,0.4s						
FINES	**FINESS Array B**	152.15	319	PKPbc	PKPbc	01 16 57.2	0.0
FINES	**FINESS Array B**	152.15	319	PKPbc	PKPbc	01 16 57.2	0.0
	3.1nm,0.5s,baz=88,slow=3.8,SNR=42						

BJI ***02*** *01:07:31.6,7°.36S×131°.31E,h95km,mB4.9/21,mb4.8/39*
ISCJB ***02*** *01:07:36.9±0.5,6°.72S±0°.02×130°.72E±0°.04,h83km±4km, mb4.8/73,Error ellipse: s-maj=6.2km s-min=3.8km az=168.4*
AUST ***02*** *01:07:37.9±0.2,6°.63S×131°.05E,h84km,Error ellipse: s-maj=0.7km s-min=0.6km az=253.0*
BKK ***02*** *01:07:38.8±0.7,7°.5S±7°×13°.1E±°,h73km±8km,M5.2/16, mB5.8/6,mb5.2/16,MLv5.1/1,Mw(mB)5.4/6*
DJA ***02*** *01:07:39.4±0.3,7°.5S±3°×13°.1E±°,h80km,M5.4/10,mb5.5/9, mB5.8/6,MLv5.3/10,Mw(mB)5.4/6*
NEIC ***02*** *01:07:39.4±0.8,6°.54S×130°.61E,h82km±7km,mb4.8/29, Error ellipse: s-maj=6.5km s-min=4.3km az=59.0*
MOS ***02*** *01:07:39.3±1.2,6°.47S×130°.58E,h90km,mb4.9/31,Error ellipse: s-maj=13.2km s-min=6.8km az=117.1*
IDC ***02*** *01:07:42.3±0.6,6°.63S×130°.45E,h106km±4km,mb4.5/16, mb1 4.5/17,mb1mx4.4/22,mbtmp4.5/17,MS3.5/10, Ms1 3.5/10,ms1mx3.3/30,Error ellipse: s-maj=16.1km s-min=10.0km az=83.0*

ISC 02 01:07:40.9±0.3,6°.69S±0°.04×130°.59E±0°.05,h98km±2km, h98km:pP-P,n353,σ1§21/401,mb4.8/73,11C-1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	2.26	342	P	Pn	01 08 15.2	-1.6
BNDI	**Bandanaira**	2.26	342	P	Pn	01 08 15.4	-1.5
	baz=2.4,SNR=16						
MSAI	**Masohi**	3.71	333	P	Pn	01 08 35.6	-0.6
MSAI				S	Sn	01 09 19.4	+0.3
AAI	**Ambon**	3.82	321	P	Pn	01 08 36.5	-1.2
AAI	**Ambon**	3.82	321	P	Pn	01 08 36.9	-0.8
	baz=4.1,SNR=24						
FAKI	**Fak Fak**	4.10	24	P	Pn	01 08 37.6	-3.8
FAKI				S	Sn	01 09 21.5	-6.8
FAKI	**Fak Fak**	4.10	24	P	Pn	01 08 37.6	-3.8
	baz=3.9,SNR=156						
FAKI				S	Sn	01 09 21.0	-7.4
	baz=3.9,SNR=15						
NLAI	**Namlea**	4.88	314	P	Pn	01 08 52.4	+0.3
	417nm,0.7s,6μm1.8nm						
SWI	**Sorong**	5.83	7	P	Pn	01 09 01.1	-3.8
	165nm,0.7s,11μm2.7nm						
SWI	**Sorong**	5.83	7	P	Pn	01 09 01.0	-3.8
	baz=5.8,SNR=23						
SWI				S	Sn	01 10 01.0	-9.4
	baz=5.8,SNR=12						
MTN	**Manton Dam**	6.14	175	P	Pn	01 09 06.6	-2.4
	baz=6.2,SNR=566						
MTN				S	Sn	01 10 13.8	-4.0
	baz=6.2,SNR=9.0						
KDU	**Kakadu**	6.24	163	P	Pn	01 09 07.8	-2.6
	baz=6.2,SNR=756						
RKPI	**Ransiki, Papua**	6.27	35	P	Pn	01 09 07.4	-3.5
	1μm,0.7s,24μm						
LBMI	**Labuha**	6.76	333	P	Pn	01 09 17.7	+0.1

MTSU	Mount Surprise	17.56	132	P	P	01 11 37.4 -1.9
	baz=17,SNR=96					
MBWA	Marble Bar	17.81	215	eP	P	01 11 39.6 -2.3
	comp=Z,35nm,1.0s					
MBWA				eS	Sn	01 14 50.4 -11
SDKM	Sandakan	18.13	312	P	Pn	01 11 47.1 +0.6
KKM	Kota Kinabalu	19.13	311	eP	P	01 11 56.3 -0.2
	comp=Z,44nm,0.7s					
KKM	Kota Kinabalu	19.13	311	P	P	01 11 56.7 +0.2
KKM	Kota Kinabalu	19.13	311	P	P	01 11 56.8 +0.3
	baz=20,SNR=4.4					
CTA	Charters Tower	20.21	133	P	Pn	01 12 09.8 -1.1
CTA	Charters Tower	20.21	133	P	Pn	01 12 09.8 -1.1
	comp=Z,27nm,0.9s,baz=312,slow=13,SNR=19					
CTAO	Charters Tower	20.21	133	eP	P	01 12 08.5 +0.4
CTAO				pmax	pmax	
	comp=Z,27nm,0.8s					
CTAO	Charters Tower	20.21	133	eP	P	01 12 08.5 +0.4
	comp=Z,27nm,0.8s					
SBUM	Sibu	20.46	296	P	P	01 12 11.7 +0.8
TGY	Tagaytay City	22.77	335	P	P	01 12 34.9 -0.5
TGY	Tagaytay City	22.77	335	P	P	01 12 34.9 -0.5
	comp=Z,114nm,0.4s,baz=196,slow=1.3,SNR=4.2					
MEEK	Meekatharra	22.88	209	P	P	01 12 37.5 +1.2
	baz=23,SNR=24					
FORT	Forrest	24.08	185	eP	P	01 12 48.7 +1.5
	comp=Z,87nm,0.7s					
FORT	Forrest	24.08	185	P	P	01 12 48.9 +1.6
	baz=24,SNR=7.9					
MORW	Morawa	26.15	210	P	P	01 13 06.5 +0.4
	baz=26,SNR=14					
MORW				S	S	01 18 02.3 +32
	baz=26,SNR=4.0					
RMQ	Roma	26.21	141	P	P	01 13 11.8 +5.1
	baz=26,SNR=5.0					
BBOO	Buckleboo	26.48	170	eP	P	01 13 09.2 +0.2
	comp=Z,566nm,0.7s					
BBOO	Buckleboo	26.48	170	P	P	01 13 09.4 +0.4
	baz=27,SNR=15					
STKA	Stephens Creek	27.08	159	eP	P	01 13 15.1 +0.6
	comp=Z,4.4nm,0.8s					
STKA	Stephens Creek	27.08	159	P	P	01 13 15.1 +0.6
	comp=Z,2.5nm,0.3s,baz=349,slow=7.1,SNR=13					
STKA				LR	LR	01 25 42.7
	comp=Z,189nm,20.6s,baz=223,slow=40					
STKA	Stephens Creek	27.08	159	P	P	01 13 15.0 +0.6
	baz=27,SNR=10					
BLDU	Ballidu	27.13	207	P	P	01 13 15.9 +1.0
	baz=28,SNR=9.6					
KLBR	Kellerberrin	27.53	204	P	P	01 13 19.4 +1.0
	baz=28,SNR=13					
CMSA	Cobar Meteorol	28.47	152	P	P	01 13 28.1 +1.3
	baz=28,SNR=27					
NWAO	Narrogin (SRO)	28.91	204	P	P	01 13 31.6 +1.0
NWAO	Narrogin (SRO)	28.91	204	P	P	01 13 31.6 +1.0
	comp=Z,4.1nm,0.4s,baz=63,slow=7.3,SNR=10					
NWAO				LR	LR	01 26 12.6
	comp=Z,167nm,21.6s,baz=172,slow=38					
RKGY	Rocky Gully	30.49	202	P	P	01 13 47.0 +2.3
	baz=31,SNR=5.5					
KULM	Kulim	32.17	291	eP	P	01 13 57.2 -2.4
	comp=Z,10nm,0.6s					
KULM	Kulim	32.17	291	P	P	01 13 58.5 -1.1
QIZ	Qiongzhong	32.73	322	P	P	01 14 05.2 +0.7
QIZ				pP	pP	01 14 25.4 -1.3
QIZ				S	S	01 19 17.0 +2.9
QIZ				pmax	pmax	
	comp=Z,10.0nm,1.1s					
QIZ				pmax	pmax	
	comp=Z,91nm,2.8s					
UBPT	Khong Chiam	33.11	311	P	P	01 14 07.2 -0.6
	comp=Z,28nm,0.8s,comp=Z,1μm					
SURA	Surathani	34.64	297	P	P	01 14 25.2 +4.1
	comp=Z,0.7nm,0.8s,comp=Z,14nm					
PANO	Nakornpanom	34.94	313	P	P	01 14 23.1 -0.5
	comp=Z,282nm,1.3s					
LHI	Lord Howe Isla	36.30	137	S	S	01 19 42.6 -26
	baz=36,SNR=3.1					
LAMP	Lampang	39.50	310	P	P	01 15 02.2 0.0
	comp=Z,6.1nm,0.6s					
JNU	Nakatsue	39.59	0	eP	P	01 15 01.6 -1.2
	comp=Z,10nm,1.1s					
CMAR	Chiang Mai Arr	39.99	309	P	P	01 15 06.1 -0.2
CMAR				pP	pP	01 15 31.2 +2.2
CMAR				PcP	PcP	01 17 10.9 +1.2
CMAR	Chiang Mai Arr	39.99	309	P	P	01 15 06.1 -0.2
	comp=Z,5.9nm,0.5s,baz=134,slow=7.0,SNR=28					
CMAR				pP	pP	01 15 31.2 +2.2
	comp=Z,3.3nm,0.6s,baz=142,slow=7.7,SNR=3.1					
CMAR				PcP	PcP	01 17 10.9 +1.2
	comp=Z,2.5nm,0.6s,baz=178,slow=2.9,SNR=7.0					
CMAR				LR	LR	01 33 59.2
	comp=Z,48nm,18.6s,baz=332,slow=40					
NJ2	Nanjing	40.12	344	eP	P	01 15 06.6 -0.5
NJ2				pmax	pmax	
	comp=Z,21nm,1.1s					
WHN	Wuhan	40.16	338	eP	P	01 15 08.2 +0.7
CMMT	Chiang Mai	40.19	310	P	P	01 15 07.2 -0.8
	comp=Z,22nm,0.9s					
CHTO	Chiang Mai	40.20	310	eP	P	01 15 07.0 -1.0
CHTO				pmax	pmax	
	comp=Z,12nm,0.7s					
CHTO	Chiang Mai	40.20	310	eP	P	01 15 07.0 -1.0
	comp=Z,12nm,0.7s					
CHTO	Chiang Mai	40.20	310	P	P	01 15 07.5 -0.5
	comp=Z,24nm,1.0s					
GYA	Guiyang	40.31	326	eP	P	01 15 10.0 +1.1
GYA				pP	pP	01 15 31.2 -0.5
GYA				sP	sP	01 15 42.0 -0.9
GYA				PP	PnPn	01 16 47.2 -1.0
GYA				PcP	PcP	01 17 11.8 +1.0
GYA				ScP	ScP	01 20 51.4 +0.1
GYA				S	S	01 21 11.0 +1.4
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
GYA				pmax	pmax	
	comp=Z,90nm,4.9s					
CMAI	Chiengmai2	40.78	311	P	P	01 15 12.1 -0.9
	comp=Z,33nm,0.8s,comp=Z,2μm					
KMI	Kunming	41.65	320	P	P	01 15 21.0 +0.9
KMI				pP	pP	01 15 43.6 +0.6
KMI				pmax	pmax	
	comp=Z,6.0nm,0.9s					
MAJO	Matsushiro	43.60	9	eP	P	01 15 33.6 -1.8
MAJO				pmax	pmax	
	comp=Z,15nm,0.9s					
MAJO	Matsushiro	43.60	9	eP	P	01 15 33.6 -1.8
	comp=Z,15nm,0.9s					
MAT	Matsushiro	43.60	9	P	P	01 15 33.4 -2.0
KSAR	Wonju Array Be	43.98	357	P	P	01 15 38.0 -0.4
KSAR				PcP	PP	01 17 23.1 +0.3
KSRS	Korea Array	43.99	357	P	P	01 15 38.0 -0.5
	comp=Z,3.3nm,0.6s,baz=176,slow=9.6,SNR=23					
KSRS				PcP	PP	01 17 23.1 +0.2
	comp=Z,2.2nm,0.8s,baz=196,slow=3.5,SNR=7.5					
KSRS				LR	LR	01 34 27.5
	comp=Z,21nm,21.8s,baz=170,slow=37					
CD2	Chengdu	45.36	327	eP	P	01 15 51.0 +1.4
CD2				sP	sP	01 16 23.5 -0.4
CD2				PP	PP	01 17 39.8 +2.1
CD2				S	S	01 22 25.0 +1.6
CD2				pmax	pmax	
	comp=Z,10.0nm,0.9s					
CD2				pmax	pmax	
	comp=Z,40nm,5.8s					
CD2				LR	LR	
	comp=E,270nm,14.2s					
CD2				LR	LR	
	comp=Z,160nm,9.5s					
XAN	Xi'an	45.41	334	P	P	01 15 48.8 -1.1
XAN				pP	pP	01 16 12.8 -0.4
XAN				sP	sP	01 16 23.2 -1.1
XAN				pmax	pmax	
	comp=Z,4.0nm,1.0s					
XAN				pmax	pmax	
	comp=Z,16nm,5.2s					
BJT	Baijiatuau	48.35	345	eP	P	01 16 11.6 -1.0
	comp=Z,32nm,0.6s					
BJI	Beijing	48.37	345	P	P	01 16 11.7 -1.1
BJI				pmax	pmax	
	comp=Z,60nm,0.7s					
BJI				pmax	pmax	
	comp=Z,140nm,3.8s					
LZH	Lanzhou	49.41	331	⇑P	P	01 16 21.8 +0.7
LZH				pP	pP	01 16 44.8 +0.2
LZH				sP	sP	01 16 57.2 +1.6
LZH				pmax	pmax	
	comp=Z,19nm,1.0s					
LZH				pmax	pmax	
	comp=Z,130nm,5.4s					
LZH				LR	LR	
	comp=N,280nm,12.3s					
LZH				LR	LR	
	comp=Z,410nm,13.6s					
SHL	Shillong	49.43	312	eP	P	01 16 22.0 +0.6
HHC	Hu-ho-hao-te	50.44	341	eP	P	01 16 29.4 +0.7
HHC				pP	pP	01 16 53.0 +0.7
HHC				sP	sP	01 17 02.8 -0.5
HHC				PP	PP	01 18 28.2 +2.8
HHC				ScP	ScP	01 21 31.7 -1.1
HHC				PcS	PcS	01 21 41.6 -1.4
HHC				S	S	01 23 34.5 -0.4
HHC				sS	sS	01 24 15.1 -0.4
HHC				pmax	pmax	
	comp=Z,41nm,0.7s					
HHC				pmax	pmax	
	comp=Z,110nm,6.2s					
HHC				LR	LR	
	comp=N,190nm,16.9s					
HHC				LR	LR	
	comp=E,170nm,16.7s					
HHC				LR	LR	
	comp=Z,250nm,16.7s					
CN2	Changchun	50.47	355	eP	P	01 16 27.4 -1.3
CN2				epP	pP	01 16 50.7 -1.6
CN2				pmax	pmax	
	comp=Z,20nm,0.6s					
USRK	Ussuriysk Arra	50.67	1	P	P	01 16 29.6 -0.6
	comp=Z,4.8nm,0.6s,baz=184,slow=7.6,SNR=26					
USRK				pP	pP	01 16 55.5 +1.6
	comp=Z,4.1nm,0.7s,baz=194,slow=9.0,SNR=5.1					
MDJ	Mudanjiang	51.08	359	P	P	01 16 32.8 -0.5
MDJ				pP	pP	01 16 52.7 -4.2
MDJ				sP	sP	01 17 01.8 -6.1
MDJ				pmax	pmax	
	comp=Z,9.0nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,41nm,4.3s					
ASAJ	Asahikawa	51.72	11	LR	LR	01 35 36.8
	comp=Z,30nm,19.6s,baz=184,slow=32					
LSA	Lhasa	52.39	316	eP	P	01 16 43.8 0.0
LSA				pmax	pmax	
	comp=Z,7.0nm,0.6s					
LSA	Lhasa	52.39	316	eP	P	01 16 43.8 0.0
	comp=Z,7.2nm,0.6s					
ODAN	Odare	53.50	310	eP	P	01 16 51.0 -0.8
	comp=Z,62nm,0.8s					
GTA	Gaotai	53.99	331	P	P	01 16 55.4 +0.4
GTA				pP	pP	01 17 17.1 -1.8
GTA				sP	sP	01 17 28.3 -1.6
GTA				PcP	PcP	01 17 58.0 -1.1
GTA				pmax	pmax	
	comp=Z,7.0nm,0.7s					
RAMN	Ramite	54.15	310	eP	P	01 16 56.1 -0.5
	comp=Z,125nm,0.6s					
HABR	Khabarovsk	55.07	4	eP	P	01 17 00.0 -2.5
HABR				e*PP	pP	01 17 24.4 -2.0
HABR				e*SP	sP	01 17 35.7 -1.6
HABR						01 18 00.1
HABR						01 19 04.9
HABR				ePPP	PPP	01 20 18.0
HABR				e		01 26 39.1
HABR				eSS	SS	01 28 23.0 +0.1
HABR				pmax	pmax	
	comp=N,10.0nm,1.0s					
HABR				pmax	pmax	
	comp=E,22nm,1.4s					
HABR				pmax	pmax	
	comp=Z,26nm,1.4s					
HABR				MLR	MLR	
	comp=Z,64nm,20.0s					
PKIN	Phulchoki	55.39	310	eP	P	01 17 04.8 -0.7
	comp=Z,15nm,0.6s					
KLR	Kul'dur	55.70	1	eP	P	01 17 02.3 -4.7
HYB	Hyderabad	56.71	296	i P	P	01 17 13.0 -1.8
KOLN	Koldanda	56.86	309	eP	P	01 17 15.3 -0.6
	comp=Z,61nm,0.7s					
DANN	Dangsing	57.02	310	eP	P	01 17 16.6 -0.6
ULN	Ulaanbaatar	58.16	342	eP	P	01 17 24.6 0.0
	comp=Z,23nm,0.7s					
ULN				e		01 17 51.5
SONM	Songino Array	58.34	341	P	P	01 17 26.0 +0.2
SONM				pP	pP	01 17 52.4 +2.4
SONM	Songino Array	58.34	341	P	P	01 17 26.0 +0.2
	comp=Z,8.0nm,0.6s,baz=161,slow=6.7,SNR=13					
SONM				pP	pP	01 17 52.4 +2.4
	comp=Z,3.6nm,0.8s,baz=164,slow=5.6,SNR=3.5					
ZAK	Zakamensk	61.57	340	eP	P	01 17 47.3 -0.6
ZAK				e		01 18 14.1
ZAK				e		01 18 28.4
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.1s					
MOY	Mondy	63.43	340	eP	P	01 18 01.1 +0.9
MOY				pmax	pmax	
	comp=Z,17nm,1.5s					
WMQ	Urumqi	63.46	327	P	P	01 18 00.9 +0.4
WMQ				pmax	pmax	
	comp=Z,13nm,1.4s					
PETK	Petropavlovsk-	63.85	18	P	P	01 18 03.0 +0.2
PETK				*PP	pP	01 18 30.0 +2.6
PETK	Petropavlovsk-	63.85	18	P	P	01 18 03.0 +0.2
PETK				pP	pP	01 18 29.9 +2.6
PETK	Petropavlovsk-	63.85	18	P	P	01 18 03.0 +0.2
	comp=Z,11nm,0.7s,baz=193,slow=7.3,SNR=27					
PETK				pP	pP	01 18 29.9 +2.6
	comp=Z,3.1nm,0.7s,baz=181,slow=7.4,SNR=2.8					
HVS	Khovu-Aksy	65.76	335c	i P	P	01 18 15.5 +0.2
HVS				i *PP	pP	01 18 42.5 +2.5
KSH	Kashi	68.19	317	eP	P	01 18 31.5 +0.4
KSH				sP	sP	01 19 07.4 +0.8
KSH				PP	PP	01 21 06.6 +3.7
KSH				S	S	01 27 19.8 -4.1
KSH				sS	sS	01 28 06.9 +0.5
KSH				ScS	SKiKP	01 28 18.3 +1.6
KSH				pmax	pmax	
	comp=Z,4.0nm,0.6s					
KSH				pmax	pmax	
	comp=Z,43nm,5.3s					
KSH				LR	LR	
	comp=N,68nm,5.5s					
KSH				LR	LR	
	comp=E,120nm,5.7s					
KSH				LR	LR	
	comp=Z,120nm,4.6s					
MK31	Makanchi Array	68.29	326	eP	P	01 18 31.0 -0.4
MK31				pmax	pmax	
	comp=Z,26nm,0.8s					
MK31	Makanchi Array	68.29	326	eP	P	01 18 31.4 -0.1
MKAR	Makanchi Array	68.29	326	eP	P	01 18 31.6 +0.2
MKAR				*PP	PcP	01 18 58.3 +1.9
MKAR	Makanchi Array	68.29	326	eP	P	01 18 31.6 +0.2
MKAR				pP	PcP	01 18 58.3 +1.9
MKAR	Makanchi Array	68.29	326	P	P	01 18 31.6 +0.2
	comp=Z,20nm,0.6s,baz=126,slow=7.7,SNR=171					
MKAR				pP	PcP	01 18 58.3 +1.9
	comp=Z,5.7nm,0.5s,baz=113,slow=9.3,SNR=4.5					
YAK	Yakutsk	68.52	360	eP	P	01 18 31.7 -0.8
YAK				pmax	pmax	
	comp=Z,31nm,0.9s					
YAK				pmax	pmax	
	comp=N,4.0nm,0.8s					
FX1	Attu Island--F	69.44	26	eP	P	01 18 37.4 -1.0
TKM2	Tokmak 2	70.12	320	i P	P	01 18 43.3 +0.3
TKM2	Tokmak 2	70.12	320	P	P	01 18 43.4 +0.3
	SNR=15					
AAK	Ala-Archa	70.69	320c	i P	P	01 18 46.8 +0.4
AAK				pmax	pmax	
	comp=Z,33nm,1.1s					
AAK	Ala-Archa	70.69	320	P	P	01 18 47.5 +1.0
	SNR=5.1					
AAK	Ala-Archa	70.69	320	eP	P	01 18 47.4 +1.0
	comp=Z,10nm,0.9s					
AAK				e		01 19 13.9
AML	Almayashu	70.97	319	P	P	01 18 49.2 +0.8
	SNR=17					
USP	Ospenovka	70.99	320	P	P	01 18 48.5 +0.3
	SNR=23					
KBL	Kabul	71.02	310	eP	P	01 18 48.3 -0.3
KBL				pmax	pmax	
	comp=Z,13nm,1.0s					
KBL	Kabul	71.02	310	eP	P	01 18 48.3 -0.3
	comp=Z,12nm,1.0s					
EKS2	Erkin-Say	71.16	319	P	P	01 18 50.5 +1.2
	SNR=6.0					
ZAA0	Zalesovo Array	71.57	333	eP	P	01 18 50.1 -1.2
ZAA0				e		01 19 16.8
ZALV	Zalesovo Beam	71.57	333	i P	P	01 18 50.2 -1.0
ZALV				pmax	pmax	
	comp=Z,10.0nm,0.5s					
ZALV	Zalesovo Beam	71.57	333	P	P	01 18 50.3 -1.0
ZALV				pP	pP	01 19 17.1 +0.8
ZALV	Zalesovo Beam	71.57	333	P	P	01 18 50.3 -1.0
	comp=Z,10nm,0.5s,baz=118,slow=4.8,SNR=54					
ZALV				pP	pP	01 19 17.1 +0.8
	comp=Z,10.0nm,0.9s,baz=105,slow=5.1,SNR=4.5					
VNDA	Vanda	72.68	173	eP	P	01 18 59.0 +1.4
	comp=Z,8.2nm,1.1s					
VNDA	Vanda	72.68	173	P	P	01 18 58.8 +1.2
	comp=Z,3.9nm,0.5s,baz=322,slow=6.7,SNR=58					
VNDA				LR	LR	01 49 00.2
	comp=Z,34nm,21.2s,baz=319,slow=34					
NVS	Novosibirsk	72.86	334⇑	i P	P	01 18 56.8 -2.1
NVS				e		01 19 23.8
NVS				pmax	pmax	
	comp=N,6.0nm,0.9s					
NVS				pmax	pmax	
	comp=Z,13nm,0.9s					
NVS				pmax	pmax	
	comp=E,7.0nm,0.8s					
KK31	Karatay Array	73.50	319	i P	P	01 19 02.5 -0.5
KK31				pmax	pmax	
	comp=Z,7.0nm,0.9s					
KKAR	Karatay Array	73.50	319	eP	P	01 19 03.0 0.0
KKAR				pmax	pmax	
	comp=Z,7.0nm,0.9s					
KKAR	Karatay Array	73.50	319	eP	P	01 19 03.0 0.0
	comp=Z,7.1nm,0.9s					
SBA	Scott Base	73.56	173	eP	P	01 19 05.5 +2.7
SBA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
SBA	Scott Base	73.56	173	eP	P	01 19 05.5 +2.7
	comp=Z,5.2nm,0.9s					
MAW	Mawson	75.45	201	LR	LR	01 47 07.9
	comp=Z,53nm,19.8s,baz=104,slow=31					
MAW	Mawson	75.45	201	P	P	01 19 15.5 +1.7
	baz=76,SNR=6.2					
VOSK	Vostochnaya	77.66	328	P	P	01 19 25.2 -1.4
VOSK				pmax	pmax	
	comp=Z,11nm,0.4s					
BVA0	Borovoye Array	78.12	328	i P	P	01 19 28.5 -0.6
BVA0				pmax	pmax	
	comp=Z,6.0nm,0.6s					
BVAR	Borovoye Array	78.12	328	P	P	01 19 28.7 -0.4
BVAR				*PP	pP	01 19 55.2 +0.7
BVAR	Borovoye Array	78.12	328	P	P	01 19 28.7 -0.4
BVAR				pP	pP	01 19 55.1 +0.7
BVAR	Borovoye Array	78.12	328	P	P	01 19 28.7 -0.4
	comp=Z,8.7nm,0.6s,baz=134,slow=6.4,SNR=33					
BVAR				pP	pP	01 19 55.1 +0.7
	comp=Z,2.8nm,0.5s,baz=131,slow=6.7,SNR=4.1					
BRVK	Borovoye	78.19	328	eP	P	01 19 29.2 -0.3
BRVK				e*PP	pP	01 19 55.9 +1.1
BRVK				pmax	pmax	
	comp=Z,13nm,0.9s					
BRVK	Borovoye	78.19	328	eP	P	01 19 29.2 -0.3
	comp=Z,13nm,0.9s					
BRVK				epP	pP	01 19 55.9 +1.1
TIXI	Tiksi	78.19	359c	i P	P	01 19 28.4 -0.7
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.2s					
AB31	Akbulak array	82.63	321	i P	P	01 19 52.2 -1.1
AB31				pmax	pmax	
	comp=Z,5.0nm,0.6s					
ABKAR	Akbulak array	82.63	321	eP	P	01 19 52.1 -1.2
	comp=Z,3.5nm,0.5s					
QSPA	South Pole Qui	83.28	180	eP	P	01 19 57.3 +0.7
	comp=Z,12nm,0.8s					
QSPA	South Pole Qui	83.28	180	P	P	01 19 57.1 +0.6
	comp=Z,16nm,0.8s,baz=314,slow=1.3,SNR=92					
AKTO	Aktyubinsk	84.19	322	P	P	01 20 00.7 -0.6
AKTO				pmax	pmax	
	comp=Z,5.0nm,0.7s					
AKTO	Aktyubinsk	84.19	322	P	P	01 20 01.3 0.0
AKTO	Aktyubinsk	84.19	322	P	P	01 20 01.3 0.0
	comp=Z,4.9nm,0.6s,baz=103,slow=7.1,SNR=22					
SVE	Sverdlovsk	84.81	329⇑	eP	P	01 20 03.8 -0.5
SVE				e		01 20 31.3
SVE				pmax	pmax	
	comp=Z,20nm,0.9s					
ARU	Arti	85.76	328c	i P	P	01 20 07.9 -1.1
ARU				*PP	pP	01 20 34.5 -0.3
ARU						01 23 24.8
ARU				S	S	01 30 23.9 -10
ARU				SS	SS	01 36 07.9 -4.7
ARU				pmax	pmax	
	comp=Z,9.0nm,0.7s					
OHAK	Old Harbor	88.14	32	eP	P	01 20 20.7 +0.2
	comp=Z,20nm,0.7s					
OHAK				epP	pP	01 20 47.7 +1.3
RAYN	Ar Rayn	88.16	294	eP	P	01 20 21.5 0.0
	comp=Z,11nm,0.8s					
GNI	Garni	91.10	310	eP	P	01 20 35.4 +0.4
	comp=Z,2.5nm,0.6s					
MCK	McKinley	91.75	26	eP	P	01 20 36.3 -1.0
MCK				pmax	pmax	
	comp=Z,5.0nm,0.6s					
MCK	McKinley	91.75	26	eP	P	01 20 36.3 -1.0
	comp=Z,5.5nm,0.6s					
COLD	Coldfoot	91.96	22	eP	P	01 20 38.2 0.0
	comp=Z,7.4nm,0.8s					
COLD				epP	pP	01 21 06.0 +1.8
COLA	College	92.43	25	eP	P	01 20 39.0 -1.3
COLA				pmax	pmax	
	comp=Z,16nm,0.7s					
COLA	College	92.43	25	eP	P	01 20 39.0 -1.3
	comp=Z,16nm,0.7s					
ILAR	Eielson Array	92.82	25	P	P	01 20 40.2 -2.0
ILAR				pP	pP	01 21 08.0 -0.2
ILAR	Eielson Array	92.82	25	P	P	01 20 40.2 -2.0
	comp=Z,4.0nm,0.7s,baz=269,slow=4.3,SNR=55					
ILAR				pP	pP	01 21 08.0 -0.2
	comp=Z,1.1nm,0.8s,baz=265,slow=4.7,SNR=3.7					
KIV	Kislovodsk	93.09	314	eP	P	01 20 41.8 -2.2
KIV				pmax	pmax	
	comp=Z,5.0nm,1.2s					
KIV				MLR	MLR	
	comp=Z,23nm,20.0s					
KMBO	Kilima Mbogo	93.19	268	eP	P	01 20 46.2 +0.9
MENT	Mentasta	93.95	27	eP	P	01 20 46.9 -0.6
EGAK	Eagle	95.26	25	eP	P	01 20 53.2 -0.1
	comp=Z,5.6nm,0.8s					
SNAA	Sanae	96.10	193	eP	P	01 20 58.3 +1.1
SNAA	Sanae	96.10	193	epP	pP	01 21 25.9 +2.7
SNAA	Sanae	96.10	193	esP	sP	01 21 36.2 +2.5
SNAA	Sanae	96.10	193	eP	P	01 20 57.6 +0.3
	comp=Z,5.0nm,1.2s					
SNAA	Sanae	96.10	193	P	P	01 20 58.2 +1.1
	comp=Z,0.9nm,0.9s,baz=153,slow=2.5,SNR=6.7					
INK	Inuvik	98.36	22	eP	P	01 21 05.9 -1.3
	comp=Z,1.6nm,0.5s					
LSZ	Lusaka	100.11	253	ePdif	Pdif	01 21 16.5 +0.1
BOSA	Boshof	100.12	239	P	Pdif	01 21 16.5 +0.2
BOSA	Boshof	100.12	239	P	Pdif	01 21 16.5 +0.2
	comp=Z,3.2nm,0.9s,baz=170,slow=8.5,SNR=3.4					
LBTB	Lobatse	100.63	243	ePdif	Pdif	01 21 18.8 +0.2
ARCES	ARCESS Array B	101.50	340	P	Pdif	01 21 19.4 -1.9
ARCES				PKiKP	PKiKP	01 25 44.4 -0.3
ARCES	ARCESS Array B	101.50	340	P	Pdif	01 21 19.4 -1.9
	comp=Z,2.2nm,0.8s,baz=66,slow=5.9,SNR=9.2					
ARCES				PKiKP	PKiKP	01 25 44.3 -0.3
	comp=Z,0.7nm,0.5s,baz=111,slow=1.4,SNR=8.1					
KAF	Kangasniemi	102.56	332	ep	PKiKP	01 25 48.8 +2.0
	comp=Z,0.4nm,0.3s					
FINES	FINESS Array B	102.78	332	P	Pdif	01 21 24.9 -2.2
FINES				PKiKP	PKiKP	01 25 47.2 +0.1
FINES	FINESS Array B	102.78	332	P	Pdif	01 21 24.9 -2.2
	comp=Z,1.5nm,0.9s,baz=46,slow=5.5,SNR=8.8					
FINES				PKiKP	PKiKP	01 25 47.2 +0.1
	comp=Z,1.5nm,0.5s,baz=104,slow=3.4,SNR=16					
BUR08	Bucovina Ar. S	105.28	317	ePKP	PKiKP	01 25 53.2 +0.8
YKW3	Yellowknife Ar	107.19	26	ePKP	PKiKP	01 25 54.7 -0.6
YKA	Yellowknife Ar	107.22	26	PKiKP	PKiKP	01 25 55.1 -0.2
YKA	Yellowknife Ar	107.22	26	PKiKP	PKiKP	01 25 55.1 -0.2
	comp=Z,0.7nm,0.6s,baz=289,slow=1.8,SNR=5.2					

KECS	Kecovo	108.28 319	*i* P		Pdif	01 21 52.5 +0.6
KECS	Kecovo	108.28 319	PDIF		Pdif	01 21 52.5 +0.6
HFS	Hagfors	108.97 332	Pdif		Pdif	01 21 53.0 -1.7
HFS			PKiKP		PKiKP	01 25 57.9 -0.8
HFS	Hagfors	108.97 332	Pdiff		Pdif	01 21 53.0 -1.7
	comp=Z,0.9nm,0.8s,baz=152,slow=6.7,SNR=4.8					
HFS			PKiKP		PKiKP	01 25 57.9 -0.8
	comp=Z,0.9nm,0.6s,baz=182,slow=4.5,SNR=7.7					
VYHS	Vyhne	109.35 319	*i* P		Pdif	01 21 59.0 +2.3
VYHS	Vyhne	109.35 319	PDIF		Pdif	01 21 59.0 +2.3
OKC	Ostrava-Krasne	109.50 321	*e*PKP		PKiKP	01 26 00.4 +0.4
NEW	Newport	109.75 41	*e*PKP		PKiKP	01 25 59.9 -0.7
NB2	NORSAR Subarra	109.77 333	PKPdf		PKiKP	01 26 00.2 0.0
	comp=Z,1.2nm,0.9s,baz=68,slow=1.9					
NOA	NORSAR Array B	109.77 333	PKiKP		PKiKP	01 26 00.5 +0.2
NOA	NORSAR Array B	109.77 333	PKiKP		PKiKP	01 26 00.5 +0.2
	comp=Z,1.3nm,0.8s,baz=260,slow=3.4,SNR=4.7					
MORC	Moravsky Berou	109.89 321	*e*PKiKP		PKiKP	01 26 01.6 +0.8
DPC	Dobruska-Polom	110.51 321	*e*PKiKP		PKiKP	01 26 02.2 +0.2
DPC	Dobruska-Polom	110.51 321	*e*PKP		PKiKP	01 26 02.2 +0.2
DPC			*ex*		x	01 26 07.8
NVAR	Mina Array Bea	110.64 52	PKKPbc		PKKPbc	01 37 03.4 +0.3
NVAR	Mina Array Bea	110.64 52	PKKPbc		PKKPbc	01 37 03.4 +0.3
	comp=Z,0.5nm,0.5s,baz=102,slow=3.1,SNR=4.5					
TREC	Trest	111.31 320	*e*PKiKP		PKiKP	01 26 03.9 +0.4
TREC	Trest	111.31 320	*e*PKP		PKiKP	01 26 03.9 +0.4
PRU	Pruhonice	111.71 321	*e*PKiKP		PKiKP	01 26 04.3 +0.1
PRU	Pruhonice	111.71 321	*e*PKP		PKiKP	01 26 04.3 +0.1
BRG	Berggiesshubel	111.83 322	*e*PKP		PKiKP	01 26 05.2 +0.8
	comp=Z,1.3nm,0.7s					
BRG	Berggiesshubel	111.83 322	*e*PKiKP		PKiKP	01 26 05.2 +0.8
BRG			pmax		pmax	
	comp=Z,1.0nm,0.7s					
CLL	Collm	112.26 323	*i* PKiKP		PKiKP	01 26 05.4 +0.2
CLL	Collm	112.26 323	*i* PKiKP		PKiKP	01 26 05.4 +0.2
KHC	Kasperske Hory	112.56 321	*e*PKiKP		PKiKP	01 26 05.5 -0.4
KHC	Kasperske Hory	112.56 321	*e*PKP		PKiKP	01 26 05.5 -0.4
GERES	GERESS Array B	112.56 320	PKiKP		PKiKP	01 26 05.8 -0.1
GERES	GERESS Array B	112.56 320	PKiKP		PKiKP	01 26 05.8 -0.1
	comp=Z,2.8nm,0.4s,baz=90,slow=1.4,SNR=58					
HLID	Hailey	112.62 46	*e*PKiKP		PKiKP	01 26 08.1 +1.7
TIP	Timpagrande	112.63 310	*e*PKP		PKiKP	01 26 06.9 +0.5
ABTA	Abfaltersbach	113.92 318	⇑ *i*PKPdf		PKiKP	01 26 07.9 -0.8
	comp=Z,5.3nm,0.8s					
WTTA	Wattenberg	114.35 319	⇑ *i*PKiKP		PKPdf	01 26 09.5 -0.1
	comp=Z,18nm,0.4s,SNR=15					
WATA	Walderalm	114.36 319	⇑ *i*PKPdf		PKPdf	01 26 09.2 -0.4
	comp=Z,5.2nm,0.4s,SNR=10					
AQU	L'Aquila	114.46 314	*e*PKP		PKPdf	01 26 10.7 +0.9
DUG	Dugway	114.52 49	*e*PKiKP		PKPdf	01 26 11.3 +1.2
DUG	Dugway	114.52 49	*e*PKP		PKPdf	01 26 11.3 +1.2
MOTA	Moosalm	114.67 319	⇓ *i*PKPdf		PKPdf	01 26 09.7 -0.4
	comp=Z,5.0nm,0.4s,SNR=10					
FETA	Feichten	115.01 319	⇑ *i*PKiKP		PKiKP	01 26 10.8 -0.1
	comp=Z,2.6nm,0.4s					
TPAW	Teton Pass	115.08 45	*e*PKP		PKPdf	01 26 11.9 +0.7
HWUT	Hardware Ranch	115.12 47	*e*PKP		PKPdf	01 26 11.5 +0.2
MOOW	Moose Ponds	115.16 45	*e*PKP		PKPdf	01 26 11.6 +0.3
SNOW	Snow King Moun	115.22 45	*e*PKP		PKPdf	01 26 12.1 +0.6
LOHW	Long Hollow	115.29 45	*e*PKP		PKPdf	01 26 11.6 +0.1
STU	Stuttgart	115.41 321	*e*PKiKP		PKPdf	01 26 11.5 +0.2
STU	Stuttgart	115.41 321	*e*PKPdf		PKPdf	01 26 11.5 +0.2
FUORN	Ofenpass-Fuorn	115.44 319	*e*PKiKP		PKPdf	01 26 12.0 +0.2
DAVA	Damuels	115.48 320	*i* PKiKP		PKiKP	01 26 11.6 -0.1
	comp=Z,9.3nm,0.4s,SNR=7.3					
BW06	Boulder Array	116.26 45	*e*PKPdf		PKPdf	01 26 13.3 -0.2
PDAR	Pinedale Array	116.26 45	PKP		PKPdf	01 26 13.8 +0.4
PDAR			PKKPbc		PKKPbc	01 36 43.4 -1.0
PDAR	Pinedale Array	116.26 45	PKP		PKPdf	01 26 13.8 +0.4
	comp=Z,0.8nm,0.7s,baz=211,slow=3.2,SNR=6.6					
PDAR			PKKPbc		PKKPbc	01 36 43.4 -1.0
	comp=Z,0.4nm,0.4s,baz=101,slow=7.7,SNR=4.2					
CDF	Champ du Feu	116.73 321	*e*PKiKP		PKPdf	01 26 14.5 +0.5
	comp=Z,2.3nm,0.5s					
HINF	Hinteralfeld	117.22 321	*e*PKiKP		PKPdf	01 26 14.4 -0.5
	comp=Z,13nm,0.6s					
HAU	Haudompre	117.46 321	*e*PKiKP		PKPdf	01 26 15.0 -0.3
	comp=Z,14nm,0.9s					
GIVF	Givet	117.54 324	*e*PKiKP		PKPdf	01 26 15.7 +0.3
PGF	Pioggiola	117.55 315	*e*PKiKP		PKPdf	01 26 15.6 -0.2
	comp=Z,6.6nm,0.4s					
PAGF	Fort de Pagny	117.63 322	*e*PKiKP		PKPdf	01 26 15.5 -0.1
TUC	Tucson	117.68 57	*e*PKiKP		PKPdf	01 26 17.2 +0.9
TUC	Tucson	117.68 57	*e*PKPdf		PKPdf	01 26 17.2 +0.9
BAIF	Baives	117.92 324	*e*PKiKP		PKPdf	01 26 16.4 +0.3
	comp=Z,6.5nm,0.6s					
MEZF	Maizieres J'vi	118.06 322	*e*PKiKP		PKPdf	01 26 16.4 0.0
	comp=Z,5.5nm,0.5s					
LPG	La Plagne	118.12 319	*e*PKiKP		PKPdf	01 26 17.1 +0.1
	comp=Z,9.2nm,0.5s					
LPL	La Plagne	118.13 319	*e*PKiKP		PKPdf	01 26 17.0 +0.1
	comp=Z,14nm,0.4s					
CABF	La Chapelle	118.15 320	*e*PKiKP		PKPdf	01 26 17.0 +0.2
	comp=Z,24nm,0.5s					
SFTF	Sexfontaines	118.19 322	*e*PKiKP		PKPdf	01 26 16.8 +0.1
	comp=Z,4.6nm,0.5s					
SBF	Sospel	118.22 317	*e*PKiKP		PKPdf	01 26 16.7 -0.3
	comp=Z,8.4nm,0.6s					
BNI	Bardonecchia	118.33 318	*e*PKiKP		PKPdf	01 26 17.2 0.0
BNI	Bardonecchia	118.33 318	*e*PKPdf		PKPdf	01 26 17.2 0.0
MBDF	Montbardon	118.38 318	*e*PKiKP		PKPdf	01 26 16.4 -1.0
	comp=Z,4.3nm,0.4s					
FRF	La Foret Royal	118.86 316	*e*PKiKP		PKPdf	01 26 18.0 -0.1
	comp=Z,3.2nm,0.4s					
ORIF	Oris-en-Rattie	118.90 318	*e*PKiKP		PKPdf	01 26 18.2 -0.1
	comp=Z,7.7nm,0.5s					
LMR	La Mourre	119.03 316	*e*PKiKP		PKPdf	01 26 18.3 -0.1
KEST	Kesra	119.11 307	*e*PKPdf		PKPdf	01 26 19.1 +0.2
KEST			PKP		PKPdf	01 26 19.5 +0.6
KEST	Kesra	119.11 307	PKP		PKPdf	01 26 19.5 +0.6
	comp=Z,1.0nm,0.5s,baz=242,slow=9.0,SNR=17					
EKA	Eskdalemuir Ar	119.17 332	PKP		PKPdf	01 26 18.2 -0.1
EKA	Eskdalemuir Ar	119.17 332	PKP		PKPdf	01 26 18.2 -0.1
	comp=Z,2.5nm,0.5s,baz=33,slow=3.1,SNR=26					
ESK	Eskdalemuir	119.21 332	*e*PKiKP		PKPdf	01 26 18.6 +0.2
ESK	Eskdalemuir	119.21 332	*e*PKPdf		PKPdf	01 26 18.6 +0.2
LOR	Lormes	119.30 321	*e*PKiKP		PKPdf	01 26 18.8 -0.1
	comp=Z,3.7nm,0.4s					
SMRF	Simiane la Rot	119.44 317	*e*PKiKP		PKPdf	01 26 19.6 +0.3
	comp=Z,22nm,0.9s					
SMF	Signal de Mont	119.56 321	*e*PKiKP		PKPdf	01 26 19.1 -0.3
	comp=Z,4.8nm,0.4s					
SSF	Saint Saulge	119.60 321	*e*PKiKP		PKPdf	01 26 19.6 +0.2
	comp=Z,18nm,0.6s					
RSSD	Black Hills	119.63 43	*e*PKiKP		PKPdf	01 26 20.0 +0.1
RSSD	Black Hills	119.63 43	*e*PKPdf		PKPdf	01 26 20.0 +0.1
VIVF	Saint-Julien-l	119.72 318	*e*PKiKP		PKPdf	01 26 19.7 -0.1
	comp=Z,8.1nm,0.7s					
AVF	Avril sur Loir	119.81 321	*e*PKiKP		PKPdf	01 26 19.6 -0.2
	comp=Z,5.9nm,0.4s					
BGF	Bois d'Agland	120.22 321	*e*PKiKP		PKPdf	01 26 21.0 +0.4
	comp=Z,25nm,0.5s					
LASF	Ste Croix	120.56 318	*e*PKiKP		PKPdf	01 26 21.3 -0.1
SDCO	Great Sand Dun	120.65 50	*e*PKPdf		PKPdf	01 26 22.5 +0.4
ANMO	Albuquerque	120.65 53	*e*PKPdf		PKPdf	01 26 23.6 +1.5
TCF	Toulx Ste Croi	120.73 321	*e*PKiKP		PKPdf	01 26 21.9 +0.2
	comp=Z,8.4nm,0.6s					
LDF	La Druitiere	121.11 324	*e*PKiKP		PKPdf	01 26 22.1 -0.2
FLN	La Foliniere	121.24 324	*e*PKiKP		PKPdf	01 26 22.5 0.0
	comp=Z,5.9nm,0.5s					
CAF	Calviac	121.40 319	*e*PKiKP		PKPdf	01 26 23.4 +0.4
	comp=Z,2.8nm,0.6s					
RJF	Les Rejaudoux	121.59 320	*e*PKiKP		PKPdf	01 26 23.5 +0.2
GRR	Gorron	121.64 324	*e*PKiKP		PKPdf	01 26 23.3 0.0
MTLF	Montolieu	121.94 318	*e*PKiKP		PKPdf	01 26 23.9 -0.2
	comp=Z,3.9nm,0.5s					
MFF	Saint Martin d	122.06 322	*e*PKiKP		PKPdf	01 26 24.3 +0.1
	comp=Z,24nm,0.5s					
LFF	La Frestale	122.25 320	*e*PKiKP		PKPdf	01 26 25.1 +0.5
MNTX	Cornudas Mount	122.30 57	*e*PKPdf		PKPdf	01 26 25.8 +0.7
SGMF	Saint Gilles	122.69 325	*e*PKiKP		PKPdf	01 26 25.2 -0.1
	comp=Z,9.6nm,0.4s					
ROSF	Rostrenen	123.06 325	*e*PKiKP		PKPdf	01 26 25.9 -0.1
QUIF	Quistinic	123.21 324	*e*PKiKP		PKPdf	01 26 26.3 0.0
EPF	Esparros	123.32 318	*e*PKiKP		PKPdf	01 26 26.9 +0.1
	comp=Z,4.9nm,0.4s					
ETSF	Etsaut	123.97 318	*e*PKiKP		PKPdf	01 26 28.9 +0.8
TXAR	Lajitas Array	124.27 59	PKP		PKPdf	01 26 29.8 +0.7
TXAR	Lajitas Array	124.27 59	PKP		PKPdf	01 26 29.8 +0.7
	comp=Z,1.0nm,0.6s,baz=230,slow=1.0,SNR=4.3					
SJPF	Ste Jean	124.32 319	*e*PKiKP		PKPdf	01 26 28.4 -0.2
	comp=Z,6.2nm,0.5s					
ECSD	EROS Data Cent	124.67 40	*e*PKPdf		PKPdf	01 26 29.3 0.0
TAM	Tamanrasset	124.84 293	*e*PKiKP		PKPdf	01 26 31.3 +0.9
TAM	Tamanrasset	124.84 293	*e*PKPdf		PKPdf	01 26 31.3 +0.9
WMOK	Wichita Mounta	126.75 51	*e*PKiKP		PKPdf	01 26 33.8 +0.2
WMOK	Wichita Mounta	126.75 51	*e*PKPdf		PKPdf	01 26 33.8 +0.2
JCT	Junction City	127.24 57	*e*PKiKP		PKPdf	01 26 36.0 +1.4
JCT	Junction City	127.24 57	*e*PKPdf		PKPdf	01 26 36.0 +1.4
ESDC	Sonseca Array	127.69 316	PKP		PKPdf	01 26 35.4 +0.1
ESDC	Sonseca Array	127.69 316	PKP		PKPdf	01 26 35.4 +0.1
	comp=Z,0.7nm,0.6s,baz=18,slow=2.5,SNR=6.1					
PLCA	Paso Flores	128.96 159	*e*PKPdf		PKPdf	01 26 39.3 +1.6
PLCA			PKP		PKPdf	01 26 39.6 +1.9
PLCA	Paso Flores	128.96 159	PKP		PKPdf	01 26 39.6 +1.9
	comp=Z,1.5nm,0.7s,baz=338,slow=22,SNR=4.6					
TORD	Torodi Ar. Bea	129.32 281	PKP		PKPdf	01 26 39.1 +0.2
TORD	Torodi Ar. Bea	129.32 281	PKP		PKPdf	01 26 39.1 +0.2
	comp=Z,4.0nm,0.7s,baz=64,slow=1.8,SNR=34					
SCHQ	Schefferville	130.00 13	PKP		PKPdf	01 26 39.5 +0.3
SCHQ	Schefferville	130.00 13	PKP		PKPdf	01 26 39.5 +0.3
	comp=Z,3.4nm,0.7s,baz=74,slow=5.6,SNR=5.4					
EVO	Evora	131.01 317	*e*PKiKP		PKPdf	01 26 40.4 -1.1
	comp=Z,25nm,1.0s					
TRQA	Tornquist	133.97 166	*e*PKPdf		PKPdf	01 26 48.6 +1.4
WCI	Wyandotte Cave	134.19 41	*e*PKiKP		PKPdf	01 26 47.5 -0.1
WCI	Wyandotte Cave	134.19 41	*e*PKPdf		PKPdf	01 26 47.5 -0.1
WVT	Waverly	134.26 45	*e*PKiKP		PKPdf	01 26 48.2 +0.5
WVT	Waverly	134.26 45	*e*PKPdf		PKPdf	01 26 48.2 +0.5
DBIC	Dimbokro	135.76 273	PKP		PKPdf	01 26 52.2 +1.1
DBIC			*e*PKPdf		PKiKP	01 26 52.5 -0.2
DBIC	Dimbokro	135.76 273	PKP		PKPdf	01 26 52.2 +1.1
	comp=Z,3.0nm,0.5s,baz=133,slow=9.0,SNR=7.0					
LIC	Lamto	135.91 272	*e*PKiKP		PKPdf	01 26 51.3 -0.1
	comp=Z,6.6nm,0.4s					
LVC	Limon Verde	145.18 147	*e*PKPdf		PKPdf	01 27 10.6 +2.4
NNA	Nana	147.00 124	*e*PKPdf		PKPdf	01 27 11.4 +0.2
NNA			*e*PKPbc		PKPab	01 27 14.5 -0.5
BCIP	Isla Barro Col	149.77 83	*e*PKPbc		PKPbc	01 27 20.1 -0.4
BCIP			*e*PKPab		PKPab	01 27 25.6 -0.5
OTAV	Otavalo	150.33 101	*e*PKPdf		PKPbc	01 27 19.8 -2.7
LPAZ	La Paz	150.59 141	PKP		PKPdf	01 27 18.8 +1.1
LPAZ			*e*PKPbc		PKiKP	01 27 24.6 +0.7
LPAZ			PKPbc		PKiKP	01 27 24.9 +1.0
LPAZ	La Paz	150.59 141	PKP		PKPdf	01 27 18.8 +1.1
	comp=Z,1.0nm,0.6s,baz=205,slow=4.7,SNR=4.0					
LPAZ			PKPbc		PKiKP	01 27 24.9 +1.0
	comp=Z,9.4nm,0.4s,baz=27,slow=1.9,SNR=60					
ROSC	El Rosal	155.14 93	*e*PKPbc		PKPdf	01 27 34.1 +10
SAML	Samuel	159.27 138	*e*PKPdf		PKPdf	01 27 29.0 +0.1
SAML			*e*PKPab		PKPab	01 28 06.9 +0.5

CASC 02 01:25:35.0±1.5, 8.70N×83.48W, h1km±5km, MD3.5, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.31	99 ⇓	*e*P	Pb	01 25 42.7	-0.8
ACR				*e*S	Sb	01 25 47.9	-1.3
BRU2	Volcan	0.79	83	*e*P	Pb	01 25 51.2	-0.5
BRU2				*e*S	Sb	01 26 04.3	+1.2
QCR	Quepos	0.98 317		*e*P	Pg	01 25 48.1	-5.8
QCR				*e*S	Sb	01 26 08.8	+0.4
URSC	Urasca	1.16 345	⇓	*e*P	Pg	01 25 57.1	-0.4
URSC				*e*S	Sb	01 26 13.9	-0.1
CNI	Changuinola	1.19	53	*e*P	Pg	01 25 58.0	+0.2
CGA2	Cerro Gallo 2	1.63 323		*e*P	Pn	01 26 05.2	+0.1

IDC 02 01:29:04.0±6.2, 5.66S×151.61E, h53km±51km, mb3.4/4, mb1 3.8/5, mb1mx3.3/18, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=97.5km s-min=33.5km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.77 230		P	Pn	01 30 28.0	+0.9
	1.6nm,0.3s,baz=117,slow=9.0,SNR=4.6						
PMG				S	Sn	01 31 32.3	+0.3
	1.2nm,0.3s,baz=106,slow=20,SNR=3.6						
WRA	Warramunga Arr	21.99 228		P	P	01 33 53.7	-0.2
	0.8nm,0.7s,baz=54,slow=10,SNR=3.7						
ASAR	Alice Springs	24.72 222		P	P	01 34 20.8	+0.2
	1.3nm,0.6s,baz=56,slow=9.0,SNR=11						
FITZ	Fitzroy Crossi	28.21 242		P	P	01 34 52.1	0.0
	2.8nm,0.8s,baz=63,slow=11,SNR=6.2						
ILAR	Eielson Array	83.40 22		P	P	01 41 24.9	-0.4
	0.2nm,0.5s,baz=251,slow=5.6,SNR=5.0						
TORD	Torodi Ar. Bea	149.43 286		PKPbc	PKPbc	01 48 48.1	-0.3
	0.2nm,0.3s,baz=88,slow=2.5,SNR=16						

KRSC 02 01:33:26.7±0.5, 50.41N×157.04E, h5km±5km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.65 295		*i* P	Pb	01 33 40.0	-0.5
SKR				*i* S	Sb	01 33 48.9	-0.9
PAU	Pauzhetka	1.07 352		*e*P	Pn	01 33 48.0	-0.3
PAU				*i* S	Sn	01 34 03.6	+0.1
MIPR	Malaya Ipel'ka	1.88 355		*e*P	Pn	01 33 59.5	0.0
ASAK	Asacha	2.05 15		*e*P	Pn	01 34 02.8	+0.9
ASAK				*i* S	Sn	01 34 29.1	+1.2
MTVR	Mutnovka	2.20 19		*e*P	Pn	01 34 04.9	+0.9
MTVR				*i* S	Sb	01 34 33.5	-1.2
RUS	Russkaya	2.23 24		*e*P	Pn	01 34 04.7	+0.5
RUS				*i* S	Sn	01 34 33.2	+1.1
PET	Petropavlovsk	2.80 20		*e*P	Pn	01 34 13.3	+1.2
PET				*i* S	Sn	01 34 48.4	+2.1
UGLR	Uglovaya	3.01 21		*e*P	Pn	01 34 17.5	+2.3
AVH	Avacha	3.05 20		*e*P	Pn	01 34 17.8	+2.2
KOK	Koryaka	3.05 18		*e*P	Pn	01 34 17.8	+2.1
SMAR	Somma	3.06 20		*e*P	Pn	01 34 18.0	+2.0
KRER	Koryakskii	3.09 19		*e*P	Pn	01 34 18.0	+1.7
SDLR	Sedlovina	3.09 21		*e*P	Pn	01 34 18.3	+2.0
GNL	Ganaly	3.34 9		*e*P	Pn	01 34 21.1	+1.4
GNL				*i* S	Sn	01 35 02.1	+2.3
MKZ	Mys Kozlova	5.04 33		*e*P	Pn	01 34 44.5	+1.6

IDC 02 01:35:25.7±1.9, 2.57N×128.40E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=180.0km s-min=19.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.12 166		P	P	01 40 34.1	+0.6
	0.3nm,0.3s,baz=344,slow=10,SNR=3.3						
ASAR	Alice Springs	26.62 169		P	P	01 41 05.7	-0.5
	0.3nm,0.6s,baz=354,slow=7.6,SNR=5.7						
STKA	Stephens Creek	36.48 161		P	P	01 42 32.0	-0.6
	0.8nm,0.3s,baz=330,slow=8.1,SNR=3.9						
MKAR	Makanchi Array	59.46 325		P	P	01 45 30.8	+0.3
	0.4nm,0.4s,baz=111,slow=8.6,SNR=6.1						
KURBB	Kurchatov Arra	63.61 327		P	P	01 45 58.4	0.0
	0.7nm,0.5s,baz=123,slow=5.8,SNR=4.7						

*IDC **02** 01:39:32.6±0.7, 30.70N×83.63E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/28, mbtmp3.9/15, ML4.6/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/36, Error ellipse: s-maj=23.5km s-min=16.8km az=54.0*

*ISCJB **02** 01:39:34.4±0.4, 30.85N±0.05×83.47E±0.09, h11km, mb3.9/14, MS3.1/4, Error ellipse: s-maj=11.5km s-min=6.5km az=174.1*

*DMN **02** 01:39:35.1±3.2, 31.08N×83.57E, h33km, Mb5.9/1, Error ellipse: s-maj=103.0km s-min=10.7km az=158.0*

ISC 02 01:39:35.3±0.6, 30.87N±0.07×83.68E±0.08, h11km, n28, σ1§64/27, mb3.9/14, MS3.2/4, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	Koldanda	3.09 181		*e*P	Pn	01 40 26.0	+1.9
PKIN	Phulchoki	3.61 155		*e*P	Pn	01 40 33.7	+2.4
	90nm,0.6s						
TAPN	Taplejung	4.97 134		*e*P	Pn	01 40 52.9	+2.7
ODAN	Odare	5.15 140		*e*P	Pn	01 40 55.2	+2.6
	307nm,0.6s						
NDI	New Delhi	6.02 250		*ex*	Pn	01 41 05.0	+0.7
JBP	Jabalpur	8.35 204	⇑	*i* P	Pn	01 41 39.2	+3.0
JBP				*e*S	Sn	01 43 09.9	-0.5
SHL	Shillong	8.96 124		*ex*	Pn	01 41 45.2	+0.4
AAK	Ala-Archa	13.85 331		Pn	P	01 43 00.7	+0.7
	0.3nm,0.3s,baz=211,slow=7.1,SNR=4.0						
MKAR	Makanchi Array	15.94 357		Pn	P	01 43 22.6	-0.5
	0.2nm,0.3s,baz=175,slow=11,SNR=18						
CMAR	Chiang Mai Arr	18.55 128		P	P	01 43 50.1	-2.0
	0.8nm,0.3s,baz=308,slow=12,SNR=9.7						
KURBB	Kurchatov Arra	20.11 350		P	P	01 44 09.2	+0.3
	4.1nm,0.9s,baz=173,slow=10,SNR=21						
ZALV	Zalesovo Beam	23.08 2		P	P	01 44 41.8	+1.1
	2.5nm,0.7s,baz=189,slow=10,SNR=7.1						
BVAR	Borovoye Array	24.17 340		P	P	01 44 53.3	+1.9
	1.4nm,0.8s,baz=152,slow=6.6,SNR=5.9						
SONM	Songino Array	24.27 39		P	P	01 44 54.2	+1.6
	2.0nm,0.7s,baz=225,slow=10,SNR=11						
GNI	Garni	32.80 297		LR	LR	02 00 09.5	
	comp=Z,27nm,19.8s,baz=94,slow=38						
KSRS	Korea Array	36.94 68		LR	LR	02 03 36.5	
	comp=Z,38nm,18.6s,baz=203,slow=39						
BRTR	Keskin Array B	41.33 296		P	P	01 47 21.8	+0.5
	1.1nm,1.0s,baz=79,slow=6.4,SNR=5.0						
JOF	Joensuu	46.03 330		*ep*	P	01 48 00.6	+2.0
	4.4nm,0.7s						
FINES	FINESS Array B	48.00 327		P	P	01 48 13.3	-0.6
	2.9nm,0.7s,baz=106,slow=6.9,SNR=12						
FINES				LR	LR	02 10 04.3	
	comp=Z,31nm,18.5s,baz=212,slow=38						
NB2	NORSAR Subarra	55.10 326		P	P	01 49 06.0	-1.2
	comp=Z,1.5nm,0.7s,baz=88,slow=7.4						
NOA	NORSAR Array B	55.10 326		P	P	01 49 05.9	-1.2
	comp=Z,1.2nm,0.7s,baz=88,slow=7.1,SNR=5.7						
NOA				LR	LR	02 14 14.0	
	comp=Z,19nm,20.8s,baz=90,slow=38						
ESDC	Sonseca Array	69.39 305		P	P	01 50 44.7	+1.4
	comp=Z,0.5nm,0.7s,baz=46,slow=6.4,SNR=4.3						
WRA	Warramunga Arr	70.14 129		P	P	01 50 47.2	-0.8
	comp=Z,1.7nm,0.7s,baz=324,slow=6.3,SNR=6.9						
ASAR	Alice Springs	72.51 132		P	P	01 51 01.3	-1.0
	comp=Z,1.0nm,0.9s,baz=306,slow=6.3,SNR=5.4						
TORD	Torodi Ar. Bea	76.57 277		P	P	01 51 24.4	-1.7
	comp=Z,0.5nm,0.8s,baz=44,slow=4.5,SNR=5.1						
ILAR	Eielson Array	76.87 20		P	P	01 51 26.2	-0.8
	comp=Z,1.4nm,0.8s,baz=302,slow=4.7,SNR=16						
BOSA	Boshof	81.22 229		P	P	01 51 49.7	-1.7
	comp=Z,2.5nm,0.8s,baz=45,slow=4.3,SNR=4.0						
YKA	Yellowknife Ar	85.81 8		P	P	01 52 13.3	-1.1
	comp=Z,0.9nm,0.8s,baz=334,slow=5.7,SNR=3.2						

*IDC **02** 02:07:37.5±0.8, 0.92N×126.69E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=54.4km s-min=16.4km az=70.0*

*ISCJB **02** 02:07:41.7±0.5, 0.85N±0.06×126.38E±0.06, h39km, mb4.1/11, Error ellipse: s-maj=10.4km s-min=6.6km az=38.6*

*NEIC **02** 02:07:42.8±0.4, 0.86N×126.66E, h35km, mb4.4/4, Error ellipse: s-maj=17.8km s-min=7.4km az=70.0*

*DJA **02** 02:07:44.1±2.1, 1.1N±12.1×12.7E±14.4, h69km±27km, M4.3/5, MLv4.3/5*

ISC 02 02:07:43.9±0.6, 0.86N±0.08×126.57E±0.06, h39km, n35, σ1§47/38, mb4.2/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.80	96	P	Pn	02 08 00.3	+1.6
TNTI				S	Sn	02 08 11.4	+1.9
TNTI	Ternate	0.80	96	P	Pn	02 08 01.3	+2.6
	4μm,0.8s,56μm16nm						
LBMI	Labuha	1.75 148		P	Pn	02 08 12.1	+0.3
LBMI				S

0.3nm,0.6s,baz=40,slow=4.8,SNR=3.0
PDAR Pinedale Array 86.85 44 P **P 02 22 11.8 -2.6**
0.3nm,0.6s,baz=201,slow=2.5,SNR=3.9

---

*ISCJB **02** 02:22:39.3±0.3,40.38N±0.02×28.26E±0.02,h5km±3km, Error ellipse: s-maj=3.1km s-min=2.5km az=163.4*
*CSEM **02** 02:22:39.7±0.1,40.38N×28.26E,h5km,MD3.1*
*DDA **02** 02:22:39.2,40.32N×28.27E,h17km,MD3.1*
*ISK **02** 02:22:39.2,40.38N×28.26E,h5km,MD3.1*
ISC 02 02:22:39.8±0.9,40.37N±0.02×28.26E±0.01,h9km±7km, n109,σ0963/135,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	**Karacabey (Bur**	**0.13**	**144**	PG	**Pg**	**02 22 42.5**	**-0.2**
KCTX	**Karacabey (Bur**	**0.13**	**144**	*i* Pg	**Pg**	**02 22 42.6**	**-0.2**
BNT	**Bandirma**	**0.26**	**266**	PG	**Pg**	**02 22 45.1**	**+0.1**
BNT				*e*SG	**Sb**	**02 22 49.6**	**-1.6**
BNT	**Bandirma**	**0.26**	**266**	*i* Pg	**Pg**	**02 22 45.1**	**+0.1**
BNT				*e*Sg	**Sb**	**02 22 49.6**	**-1.6**
MDNY	**Mudanya-Bursa**	**0.48**	**90**	PG	**Pg**	**02 22 49.0**	**-0.2**
MDNY				*e*SG	**Sg**	**02 22 55.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.48**	**90**	*i* Pg	**Pg**	**02 22 49.0**	**-0.2**
MDNY				*e*Sg	**Sg**	**02 22 55.8**	**+0.3**
ARMT	**Armutlu**	**0.50**	**67**	*e*PG	**Pg**	**02 22 49.5**	**-0.1**
ARMT				*e*SG	**Sg**	**02 22 56.4**	**+0.3**
ARMT	**Armutlu**	**0.50**	**67**	*e*Pg	**Pg**	**02 22 49.5**	**-0.1**
ARMT				*e*Sg	**Sg**	**02 22 56.4**	**+0.3**
GONE	**Gonen-Balikesi**	**0.55**	**233**	*e*PG	**Pg**	**02 22 50.4**	**0.0**
GONE				*e*SG	**Sg**	**02 22 58.0**	**+0.6**
GONE	**Gonen-Balikesi**	**0.55**	**233**	*e*Pg	**Pg**	**02 22 50.4**	**0.0**
GONE				*e*Sg	**Sg**	**02 22 58.1**	**+0.6**
ORLT	**Orhaneli**	**0.59**	**123**	*e*PG	**Pg**	**02 22 50.7**	**-0.5**
ORLT	**Orhaneli**	**0.59**	**123**	*e*Pg	**Pg**	**02 22 50.7**	**-0.5**
GEMT	**Gemlik**	**0.71**	**85**	*e*PG	**Pg**	**02 22 53.2**	**-0.4**
GEMT	**Gemlik**	**0.71**	**85**	*e*Pg	**Pg**	**02 22 53.2**	**-0.4**
KRBG	**Karabiga-Canak**	**0.73**	**272**	*e*PG	**Pg**	**02 22 53.6**	**-0.3**
KRBG				*e*SG	**Sb**	**02 23 04.3**	**-0.5**
KRBG	**Karabiga-Canak**	**0.73**	**272**	*e*Pg	**Pg**	**02 22 53.7**	**-0.3**
KRBG				*e*Sg	**Sb**	**02 23 04.3**	**-0.5**
ELBA	**Catalca**	**0.79**	**10**	*i* P	**Pb**	**02 22 55.0**	**-0.6**
ELBA				*i* S	**Sg**	**02 23 05.3**	**+0.1**
ELBA	**Catalca**	**0.79**	**10**	*i* P	**Pb**	**02 22 55.0**	**-0.6**
ELBA				*i* S	**Sg**	**02 23 05.3**	**+0.1**
BALB	**Balikesir**	**0.79**	**202**	*e*PG	**Pg**	**02 22 54.4**	**-0.6**
BALB	**Balikesir**	**0.79**	**202**	*e*Pg	**Pg**	**02 22 54.4**	**-0.6**
DURS	**Dursunbey**	**0.79**	**168**	*i* P	**Pg**	**02 22 54.7**	**-0.3**
DURS				*i* S	**Sg**	**02 23 04.9**	**-0.4**
DURS	**Dursunbey**	**0.79**	**168**	*i* P	**Pg**	**02 22 54.7**	**-0.3**
DURS				*i* S	**Sg**	**02 23 04.9**	**-0.4**
BALY	**Balya**	**0.80**	**218**	*i* P	**Pg**	**02 22 55.2**	**0.0**
BALY				*i* S	**Sg**	**02 23 05.9**	**+0.3**
BALY	**Balya**	**0.80**	**218**	*i* P	**Pg**	**02 22 55.2**	**0.0**
BALY				*i* S	**Sg**	**02 23 05.9**	**+0.3**
BUY	**Buyukada**	**0.81**	**54**	*e*PG	**Pb**	**02 22 55.6**	**-0.5**
BUY	**Buyukada**	**0.81**	**54**	*i* P	**Pb**	**02 22 55.5**	**-0.5**
BUY				*i* S	**Sb**	**02 23 06.9**	**-0.2**
BUY	**Buyukada**	**0.81**	**54**	*i* P	**Pb**	**02 22 55.5**	**-0.5**
BUY				*i* S	**Sb**	**02 23 06.9**	**-0.2**
DST	**Dursunbey**	**0.82**	**160**	*e*PG	**Pg**	**02 22 55.4**	**-0.1**
DST	**Dursunbey**	**0.82**	**160**	*e*Pg	**Pg**	**02 22 55.4**	**-0.1**
TKR	**Tekirdag**	**0.82**	**319**	*e*PG	**Pg**	**02 22 55.2**	**-0.5**
TKR	**Tekirdag**	**0.82**	**319**	*e*Pg	**Pg**	**02 22 55.2**	**-0.5**
MFT	**Murefte**	**0.85**	**299**	*e*PG	**Pb**	**02 22 56.8**	**0.0**
MFT	**Murefte**	**0.85**	**299**	*e*Pg	**Pb**	**02 22 56.8**	**0.0**
SLVT	**Silivri**	**0.86**	**358**	*e*PG	**Pg**	**02 22 56.0**	**-0.3**
SLVT	**Silivri**	**0.86**	**358**	*e*Pg	**Pg**	**02 22 56.0**	**-0.3**
YLV	**Yalova**	**0.87**	**77**	*e*PG	**Pb**	**02 22 56.7**	**-0.5**
YLV	**Yalova**	**0.87**	**77**	*e*Pg	**Pb**	**02 22 56.7**	**-0.5**
SART	**Tekirdag**	**0.88**	**291**	*i* P	**Pb**	**02 22 56.8**	**-0.4**
SART				*i* S	**Sb**	**02 23 09.7**	**+0.6**
SART	**Tekirdag**	**0.88**	**291**	*i* P	**Pb**	**02 22 56.8**	**-0.4**
SART				*i* S	**Sb**	**02 23 09.7**	**+0.6**
RKY	**Sarkoy-Tekirda**	**0.88**	**291**	*e*PG	**Pg**	**02 22 56.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.88**	**291**	*e*Pg	**Pg**	**02 22 56.5**	**-0.3**
CTKS	**Kestanelik-??a**	**0.88**	**12**	*e*PG	**Pg**	**02 22 56.5**	**-0.3**
CTKS	**Kestanelik-??a**	**0.88**	**12**	*e*Pg	**Pg**	**02 22 56.5**	**-0.3**
BGKT	**Bogazkoy**	**0.90**	**26**	*e*PG	**Pg**	**02 22 56.8**	**-0.3**
BGKT	**Bogazkoy**	**0.90**	**26**	*e*Pg	**Pg**	**02 22 56.8**	**-0.3**
ISK	**Istanbul-Kandi**	**0.92**	**41**	*e*PG	**Pg**	**02 22 57.2**	**-0.3**
ISK	**Istanbul-Kandi**	**0.92**	**41**	*e*Pg	**Pg**	**02 22 57.2**	**-0.3**
KLYT	**Kilyos**	**1.06**	**34**	*e*PG	**Pb**	**02 23 00.0**	**-0.3**
KLYT	**Kilyos**	**1.06**	**34**	*e*Pg	**Pb**	**02 23 00.0**	**-0.3**
CTYL	**Yal??k??y-??at**	**1.10**	**1**	*e*PN	**Pb**	**02 23 00.6**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.10**	**1**	*e*Pn	**Pb**	**02 23 00.5**	**-0.5**
ADVT	**Abdulvahap**	**1.13**	**86**	*e*PN	**Pg**	**02 23 00.8**	**-0.8**
ADVT	**Abdulvahap**	**1.13**	**86**	*e*Pn	**Pg**	**02 23 00.8**	**-0.8**
LPK	**Lapseki**	**1.14**	**270**	*e*PN	**Pb**	**02 23 01.4**	**-0.3**
LPK	**Lapseki**	**1.14**	**270**	*e*Pn	**Pb**	**02 23 01.4**	**-0.3**
HRT	**Hereke**	**1.17**	**67**	*e*PN	**Pn**	**02 23 02.3**	**0.0**
HRT	**Hereke**	**1.17**	**67**	*e*Pn	**Pn**	**02 23 02.3**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**97**	*e*PN	**Pb**	**02 23 03.0**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**97**	*e*Pn	**Pb**	**02 23 03.0**	**-0.1**
SILT	**Sile**	**1.31**	**53**	*e*PN	**Pn**	**02 23 04.2**	**0.0**
SILT	**Sile**	**1.31**	**53**	*e*Pn	**Pn**	**02 23 04.2**	**0.0**
GELI	**Tayfur-Gelibol**	**1.36**	**272**	*e*PN	**Pg**	**02 23 05.4**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.36**	**272**	*e*Pn	**Pg**	**02 23 05.4**	**-0.5**
PHSR	**Pinarhisar**	**1.37**	**336**	*e*PN	**Pb**	**02 23 05.4**	**-0.2**
PHSR	**Pinarhisar**	**1.37**	**336**	*e*Pn	**Pb**	**02 23 05.4**	**-0.2**
AKHS	**Akhisar**	**1.53**	**193**	*i* P	**Pn**	**02 23 06.7**	**-0.6**
AKHS				*i* S	**Sn**	**02 23 27.2**	**0.0**
AKHS	**Akhisar**	**1.53**	**193**	*i* P	**Pn**	**02 23 06.7**	**-0.6**
AKHS				*i* S	**Sn**	**02 23 27.2**	**0.0**
GPA	**Golpazari**	**1.57**	**92**	*e*PN	**Pb**	**02 23 08.6**	**-0.4**
GPA	**Golpazari**	**1.57**	**92**	*e*Pn	**Pb**	**02 23 08.6**	**-0.4**
GDZ	**Gediz**	**1.59**	**143**	*i* P	**Pn**	**02 23 08.1**	**-0.1**
GDZ				*i* S	**Sn**	**02 23 29.6**	**+0.6**
GDZ	**Gediz**	**1.59**	**143**	*i* P	**Pn**	**02 23 08.1**	**-0.1**
GDZ				*i* S	**Sn**	**02 23 29.6**	**+0.6**
SPNC	**Sapanca-Adapaz**	**1.59**	**78**	*e*PN	**Pb**	**02 23 08.8**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.59**	**78**	*e*Pn	**Pb**	**02 23 08.8**	**-0.6**
AYVA	**Ayvalik**	**1.61**	**229**	*i* P	**Pn**	**02 23 08.7**	**+0.4**
AYVA				*i* S	**Sb**	**02 23 30.4**	**+0.4**
AYVA	**Ayvalik**	**1.61**	**229**	*i* P	**Pn**	**02 23 08.7**	**+0.4**
AYVA				*i* S	**Sb**	**02 23 30.4**	**+0.4**
ENEZ	**Enez**	**1.64**	**283**	*e*PN	**Pn**	**02 23 09.3**	**+0.5**
ENEZ	**Enez**	**1.64**	**283**	*e*Pn	**Pn**	**02 23 09.3**	**+0.5**
GULT	**Gulveren**	**1.73**	**87**	*e*PN	**Pn**	**02 23 10.6**	**+0.6**
GULT	**Gulveren**	**1.73**	**87**	*e*Pn	**Pn**	**02 23 10.6**	**+0.6**
EDRB	**Edirne**	**1.86**	**323**	*e*PN	**Pn**	**02 23 12.4**	**+0.5**
EDRB	**Edirne**	**1.86**	**323**	*e*Pn	**Pn**	**02 23 12.4**	**+0.5**
KULA	**Kula-Manisa**	**1.88**	**170**	*e*PN	**Pb**	**02 23 13.3**	**-1.0**
KULA	**Kula-Manisa**	**1.88**	**170**	*e*Pn	**Pb**	**02 23 13.3**	**-1.0**
ALT	**Altintas**	**1.94**	**132**	*e*PN	**Pn**	**02 23 13.8**	**+0.8**
ALT	**Altintas**	**1.94**	**132**	*e*Pn	**Pn**	**02 23 13.8**	**+0.8**
IZM	**Izmir**	**2.12**	**202**	*e*PN	**Pn**	**02 23 16.6**	**+1.2**
IZM	**Izmir**	**2.12**	**202**	*e*Pn	**Pn**	**02 23 16.6**	**+1.2**
ESKT	**Eskisehir**	**2.17**	**112**	*e*PN	**Pn**	**02 23 17.3**	**+1.1**
ESKT	**Eskisehir**	**2.17**	**112**	*e*Pn	**Pn**	**02 23 17.3**	**+1.1**
MDUB	**Mudurnu**	**2.25**	**87**	*e*PN	**Pn**	**02 23 18.5**	**+1.3**
MDUB	**Mudurnu**	**2.25**	**87**	*e*Pn	**Pn**	**02 23 18.5**	**+1.3**
KHL	**Karahalli**	**2.27**	**154**	*e*PN	**Pn**	**02 23 18.7**	**+1.2**
KHL	**Karahalli**	**2.27**	**154**	*e*Pn	**Pn**	**02 23 18.7**	**+1.2**
JMB	**Yambol**	**2.44**	**330**	*i* P	**Pn**	**02 23 21.6**	**+1.8**
JMB	**Yambol**	**2.44**	**330**	*i* P	**Pn**	**02 23 21.6**	**+1.8**
KDZ	**Kurdzhali**	**2.50**	**302**	*i* P	**Pn**	**02 23 20.0**	**-0.6**
KDZ	**Kurdzhali**	**2.50**	**302**	*i* P	**Pn**	**02 23 20.0**	**-0.6**
SHUT	**Suhut-Afyon**	**2.54**	**135**	*e*PN	**Pn**	**02 23 22.3**	**+1.0**
SHUT	**Suhut-Afyon**	**2.54**	**135**	*e*Pn	**Pn**	**02 23 22.3**	**+1.0**
DIM	**Dimitrovgrad**	**2.65**	**310**	*i* P	**Pn**	**02 23 23.1**	**+0.4**
DIM	**Dimitrovgrad**	**2.65**	**310**	*i* P	**Pn**	**02 23 23.1**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.68**	**109**	*e*PN	**Pn**	**02 23 24.1**	**+1.0**
SVRH	**Sivrihisar-ESK**	**2.68**	**109**	*e*Pn	**Pn**	**02 23 24.1**	**+1.0**
RZN	**Rozhen**	**2.98**	**297**	*i* P	**Pn**	**02 23 27.2**	**-0.2**
RZN	**Rozhen**	**2.98**	**297**	*i* P	**Pn**	**02 23 27.2**	**-0.2**
KIZT	**Kizilcal**	**3.17**	**117**	*e*PN	**Pn**	**02 23 31.1**	**+1.2**
KIZT	**Kizilcal**	**3.17**	**117**	*e*Pn	**Pn**	**02 23 31.2**	**+1.2**
SZH	**Strazhica**	**3.37**	**330**	*i* P	**Pn**	**02 23 32.8**	**+0.2**
SZH	**Strazhica**	**3.37**	**330**	*i* P	**Pn**	**02 23 32.8**	**+0.2**

---

*IDC **02** 02:35:03.0±4.8,39.76N×71.46E,h0km,mb3.3/1, mb1 3.4/3,mb1mx3.2/27,mbtmp3.4/3,ML3.0/1,Error ellipse: s-maj=198.4km s-min=20.9km az=146.0*
*NNC **02** 02:35:08.4±3.7,40.46N×71.18E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=36.4km s-min=20.5km az=6.0*
ISC 02 02:35:10.2±2.1,40.4N±0.2×71.1E±0.1,h36km,n9,σ1°98/9,
3C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.72**	**351**	⇑Pn	**Pn**	**02 35 53.9**	**+2.6**
	7.2nm,0.2s,baz=166,slow=12,SNR=5.8						
KK31				⇑Lg	Lg	02 36 34.0	
	18nm,0.3s,baz=167,slow=30,SNR=7.1						
TKM2	**Tokmak 2**	**4.22**	**52**	⇓Pn	**Pn**	**02 36 14.1**	**+2.0**
	6.2nm,0.4s						
TKM2				⇓Lg	Lg	02 37 19.5	
	34nm,0.7s						
MK31	**Makanchi Array**	**10.33**	**48**	⇓Pn	**Pn**	**02 37 33.7**	**-2.1**
	0.4nm,0.5s,baz=228,slow=14,SNR=5.5						
MKAR	**Makanchi Array**	**10.33**	**48**	Pn	**Pn**	**02 37 36.7**	**+0.9**
	0.1nm,0.3s,baz=227,slow=15,SNR=6.2						
MKAR				Lg	Lg	02 40 35.9	
	0.1nm,0.3s,baz=242,slow=26,SNR=4.2						
AB31	**Akbulak array**	**11.84**	**322**	Pn	**Pn**	**02 37 55.4**	**-1.0**
	1.2nm,0.5s,baz=128,slow=14,SNR=18						
VOSK	**Vostochnaya**	**12.31**	**360**	⇓Pn	**Pn**	**02 38 00.6**	**-2.2**
	1.8nm,1.0s						
AKTO	**Aktyubinsk**	**13.56**	**322**	⇑Pn	**Pn**	**02 38 18.6**	**-1.3**
	2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**16.41**	**30**	Pn	**P**	**02 39 00.3**	**+0.4**
	baz=235,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.92**	**267**	P	**P**	**02 45 52.7**	**-0.1**
	0.2nm,0.5s,baz=49,slow=6.2,SNR=5.6						

---

*ISCJB **02** 03:52:22.9±1.1,23.04S±0.07×67.2W±0.2,h256km±23km, mb3.4/1,Error ellipse: s-maj=32.3km s-min=10.6km az=9.0*
*GUC **02** 03:52:23.6±0.7,23.04S×67.22W,h228km±24km,ML4.7*
*IDC **02** 03:52:29.5±9.4,22.52S×66.37W,h243km±63km,mb3.2/1, mb1 3.0/3,mb1mx2.9/17,mbtmp3.0/3,Error ellipse: s-maj=112.2km s-min=33.6km az=24.0*
ISC 02 03:52:23.1±1.5,23.03S±0.09×67.0W±0.2,h226km±22km, n10,σ1°16/16,1C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.78**	**283**	↑*i*P	**Pn**	**03 53 02.5**	**+0.6**
PB01	**Plate Boundary**	**3.02**	**310**	*e*P	**Pn**	**03 53 15.2**	**+0.7**
PB01				*e*S	**S**	**03 53 55.6**	**+0.9**
PB01				AML	AML	03 53 56.8	
	comp=N,457nm,0.3s						
ANCH	**Antofagasta**	**3.17**	**258**	*e*P	**Pn**	**03 53 16.9**	**+0.9**
ANCH				*e*S	**S**	**03 53 57.0**	**-0.5**
ANCH				AML	AML	03 53 58.9	
	comp=N,1μm,0.3s						
PB10	**Plate Boundary**	**3.28**	**261**	⇓*e*P	**Pn**	**03 53 18.0**	**+0.7**
PB10				*e*S	**S**	**03 53 58.8**	**-1.0**
PB10				AML	AML	03 54 05.0	
	comp=E,1μm,0.3s						
HMBC	**Humberstone**	**3.81**	**315**	*e*P	**Pn**	**03 53 24.3**	**+0.5**
HMBC				*e*S	**S**	**03 54 11.2**	**-0.3**
HMBC				AML	AML	03 54 14.4	
	comp=E,319nm,0.3s						
PSGC	**Pisagua**	**4.47**	**319**	*e*P	**Pn**	**03 53 31.4**	**-0.3**
PSGC				*e*S	**S**	**03 54 24.2**	**-1.6**
LPAZ	**La Paz**	**6.79**	**351**	P	**Pn**	**03 54 03.2**	**+1.8**
	comp=E,0.5nm,0.3s,baz=169,slow=7.6,SNR=13						
LPAZ				S	**S**	**03 55 18.7**	**-1.0**
	comp=E,0.1nm,0.3s,baz=353,slow=16,SNR=5.1						
BDFB	**Brasilia**	**19.38**	**71**	P	**P**	**03 56 30.8**	**-1.5**
	comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P	**P**	**04 03 46.8**	**-0.4**
	comp=E,0.5nm,0.5s,baz=259,slow=5.9,SNR=26						
MKAR	**Makanchi Array**	**145.79**	**39**	PKPbc	**PKPab**	**04 11 37.7**	**+1.4**
	comp=E,1.2nm,0.7s,baz=306,slow=3.0,SNR=9.5						

IDC 02 03:54:09.1±2.5,37.89N×121.47E,h0km,mb3.6/2, mb1 3.6/4,mb1mx3.3/25,mbtmp3.5/4,ML3.1/2,MS3.0/1, Ms1 3.0/1,ms1mx2.1/30,Error ellipse: s-maj=59.3km s-min=21.1km az=22.0,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**5.14**	**93**	Pn	Pn	03 55 25.1	-2.2
	0.2nm,0.3s,baz=276,slow=13,SNR=4.3						
KSRS				Pg	Pb	03 55 41.0	+1.2
	0.6nm,0.3s,baz=278,slow=18,SNR=6.5						
KSRS				Lg	Lg	03 56 53.1	
	0.5nm,0.3s,baz=280,slow=30,SNR=4.3						
JNU	**Nakatsue**	**9.03**	**119**	Pn	Pn	03 56 21.1	+0.3
	0.3nm,0.3s,baz=326,slow=11,SNR=6.0						
ILAR	**Eielson Array**	**57.12**	**31**	P	P	04 03 57.4	+0.5
	0.4nm,1.0s,baz=290,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**59.96**	**326**	P	P	04 04 16.5	-0.3
	2.0nm,1.1s,baz=53,slow=7.4,SNR=4.2						
FINES				LR	LR	04 33 12.0	
	comp=Z,12nm,19.0s,baz=210,slow=39						

---

*ISCJB **02** 04:05:21.7±0.6,58.2S±0.2×139.8W±0.2,h10km,mb4.4/13, MS3.9/15,Error ellipse: s-maj=24.0km s-min=12.1km az=170.5*
*IDC **02** 04:05:21.7±0.7,58.18S×139.77W,h0km,mb4.2/7, mb1 4.3/7,mb1mx4.2/14,mbtmp4.2/7,MS3.9/15, Ms1 3.8/15,ms1mx3.8/22,Error ellipse: s-maj=32.5km s-min=21.3km az=174.0*
*NEIC **02** 04:05:23.4±0.3,58.20S×139.81W,h10km,mb4.6/9,Error ellipse: s-maj=15.9km s-min=9.7km az=173.0*
ISC 02 04:05:23.4±0.6,58.2S±0.2×139.7W±0.1,h10km,n51, σ0°76/41,mb4.5/13,MS3.9/15,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.30**	**204**	*e*P	**P**	**04 11 09.3**	**+1.7**
	8.7nm,1.6s						
VNDA	**Vanda**	**27.30**	**204**	P	**P**	**04 11 08.5**	**+0.8**
	1.1nm,1.2s,baz=59,slow=5.4,SNR=4.2						
VNDA				LR	LR	04 19 03.5	
	comp=Z,148nm,21.1s,baz=140,slow=30						
QSPA	**South Pole Qui**	**31.92**	**180**	*e*P	**P**	**04 11 49.8**	**+0.9**
	40nm,2.0s						
QSPA	**South Pole Qui**	**31.92**	**180**	P	**P**	**04 11 48.6**	**-0.2**
	3.7nm,1.2s,baz=128,slow=2.7,SNR=6.4						
RKT	**Rikitea**	**35.25**	**8**	*e*LR	LR	04 21 35.6	
	413nm,30.5s						
TBI	**Tubuai**	**35.55**	**345**	*e*LR	LR	04 21 39.9	
	346nm,27.5s,baz=176						
RAO	**Raoul Island**	**39.11**	**301**	LR	LR	04 26 17.2	
	comp=Z,150nm,19.3s,baz=40,slow=32						
PPT2	**Papeete2**	**41.23**	**346**	*e*LR	LR	04 24 20.7	
	323nm,25.0s,baz=176						
PPT	**Papeete**	**41.25**	**346**	LR	LR	04 25 04.5	
	comp=Z,167nm,21.5s,baz=282,slow=29						
PLCA	**Paso Flores**	**46.02**	**99**	P	**P**	**04 13 47.4**	**+0.6**
PLCA	**Paso Flores**	**46.02**	**99**	P	**P**	**04 13 47.4**	**+0.6**
	3.1nm,1.0s,baz=236,slow=9.3,SNR=3.2						
PLCA				LR	LR	04 28 43.5	
	comp=Z,113nm,18.4s,baz=189,slow=30						
SNAA	**Sanae**	**46.94**	**163**	*e*P	**P**	**04 13 51.6**	**-2.1**
	2.1nm,0.7s						
AFI	**Afiamalu**	**50.34**	**318**	LR	LR	04 30 26.6	
	comp=Z,107nm,18.2s,baz=278,slow=30						
TRQA	**Tornquist**	**52.45**	**103**	*e*P	**P**	**04 14 37.0**	**+1.0**
	9.0nm,1.2s						
MAW	**Mawson**	**53.37**	**191**	LR	LR	04 35 16.0	
	comp=Z,65nm,18.3s,baz=36,slow=34						
LCO	**Las Campanas**	**54.89**	**89**	*e*P	**P**	**04 14 54.6**	**+0.4**
	12nm,0.9s						
STKA	**Stephens Creek**	**57.69**	**261**	P	**P**	**04 15 15.1**	**+1.1**
STKA	**Stephens Creek**	**57.69**	**261**	P	**P**	**04 15 15.1**	**+1.1**
	3.8nm,1.0s,baz=235,slow=4.9,SNR=3.6						
STKA				LR	LR	04 37 14.5	
	comp=Z,102nm,20.2s,baz=13,slow=33						
LVC	**Limon Verde**	**60.99**	**86**	*e*P	**P**	**04 15 38.3**	**+1.1**
	5.2nm,0.9s						
FORT	**Forrest**	**65.50**	**251**	*e*P	**P**	**04 16 06.2**	**-0.4**
	25nm,1.1s						
LPAZ	**La Paz**	**66.62**	**83**	*e*P	**P**	**04 16 15.2**	**+0.5**
	7.2nm,1.4s						
LPAZ	**La Paz**	**66.62**	**83**	P	**P**	**04 16 14.8**	**+0.1**
	1.2nm,0.5s,baz=167,slow=4.9,SNR=6.2						
LPAZ				LR	LR	04 39 58.9	
	comp=Z,23nm,18.8s,baz=302,slow=31						
ASAR	**Alice Springs**	**68.31**	**260**	P	**P**	**04 16 24.4**	**-0.3**
ASAR	**Alice Springs**	**68.31**	**260**	P	**P**	**04 16 24.4**	**-0.3**
	5.3nm,1.0s,baz=146,slow=6.7,SNR=20						
ASAR				LR	LR	04 42 56.3	
	comp=Z,95nm,18.9s,baz=347,slow=33						
AS31	**Alice Springs**	**68.31**	**260**	*e*P	**P**	**04 16 24.1**	**-0.6**
WRA	**Warramunga Arr**	**71.15**	**263**	P	**P**	**04 16 41.6**	**-0.6**
WRA	**Warramunga Arr**	**71.15**	**263**	P	**P**	**04 16 41.6**	**-0.6**
	4.2nm,1.1s,baz=149,slow=5.5,SNR=10						
SAML	**Samuel**	**75.37**	**83**	*e*P	**P**	**04 17 06.4**	**-0.6**
	5.0nm,1.4s						
BDFB	**Brasilia**	**77.76**	**100**	LR	LR	04 49 09.6	
	comp=Z,103nm,21.3s,baz=325,slow=34						
ROSC	**El Rosal**	**81.49**	**66**	LR	LR	04 46 02.3	
	comp=Z,58nm,18.3s,baz=18,slow=30						
BATI	**Baumata**	**84.86**	**259**	LR	LR	04 55 47.7	
	comp=Z,174nm,18.6s,baz=147,slow=36						
TXAR	**Lajitas Array**	**92.31**	**31**	LR	LR	04 49 21.7	
	comp=Z,36nm,19.0s,baz=180,slow=29						
BOSA	**Boshof**	**92.58**	**167**	LR	LR	04 59 56.0	
	comp=Z,56nm,18.5s,baz=166,slow=35						
NVAR	**Mina Array Bea**	**97.96**	**17**	LR	LR	04 53 06.3	
	comp=Z,68nm,18.4s,baz=339,slow=29						
PETK	**Petropavlovsk-**	**122.01**	**321**	PKP	**PKPdf**	**04 24 16.5**	**-0.3**
PETK	**Petropavlovsk-**	**122.01**	**321**	PKP	**PKPdf**	**04 24 16.5**	**-0.3**
	1.8nm,0.9s,baz=200,slow=6.9,SNR=3.8						
ILAR	**Eielson Array**	**122.80**	**356**	PKP	**PKPdf**	**04 24 17.7**	**-0.2**
ILAR	**Eielson Array**	**122.80**	**356**	PKP	**PKPdf**	**04 24 17.7**	**-0.2**
	4.7nm,0.9s,baz=223,slow=1.4,SNR=37						
COLA	**College**	**122.94**	**356**	*e*PKPdf	**PKPdf**	**04 24 18.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**126.50**	**131**	PKP	**PKPdf**	**04 24 25.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**126.50**	**131**	PKP	**PKPdf**	**04 24 25.3**	**-1.2**
	0.9nm,1.1s,baz=213,slow=1.9,SNR=8.2						
TAM	**Tamanrasset**	**136.72**	**130**	*e*PKPdf	**PKPdf**	**04 24 46.1**	**+0.3**
SUMG	**Summit**	**147.18**	**33**	*i* P	**PKPbc**	**04 25 06.0**	**+0.5**
	7.2nm,0.8s						
SUMG	**Summit**	**147.18**	**33**	*e*PKPbc	**PKPbc**	**04 25 05.7**	**+0.1**
MK31	**Makanchi Array**	**152.44**	**264**	*e*PKPdf	**PKPdf**	**04 25 11.3**	**-0.6**
MK31				*e*PKPbc	**PKPbc**	**04 25 18.7**	**-0.1**
MKAR	**Makanchi Array**	**152.44**	**264**	PKPbc	**PKPbc**	**04 25 18.7**	**-0.1**
MKAR	**Makanchi Array**	**152.44**	**264**	PKPbc	**PKPbc**	**04 25 18.7**	**-0.1**
	2.4nm,0.9s,baz=134,slow=3.5,SNR=9.4						
DAG	**Danmarks Havn**	**152.71**	**25**	*i* P	**PKPbc**	**04 25 18.5**	**+0.1**
	2.2nm,0.8s						
TKM2	**Tokmak 2**	**153.23**	**251**	*e*PKPdf	**PKPdf**	**04 25 13.8**	**+0.4**
TKM2				*e*PKPbc	**PKPbc**	**04 25 20.4**	**-0.4**
TKM2				*e*PKPab	**PKPab**	**04 25 33.1**	**+0.3**
ZALV	**Zalesovo Beam**	**155.13**	**279**	PKPab	**PKPab**	**04 25 39.4**	**-0.8**
ZALV	**Zalesovo Beam**	**155.13**	**279**	PKPab	**PKPab**	**04 25 39.4**	**-0.8**
	2.0nm,0.7s,baz=128,slow=4.

MLSB				*e*Sn	Sn	04 19 29.7	+1.7
BODT	**Bodrum**	**1.38**	**159**	*e*PN	Pn	04 19 10.0	-0.4
BODT				*e*SN	Sn	04 19 29.2	+0.8
BODT	**Bodrum**	**1.38**	**159**	*e*Pn	Pn	04 19 10.0	-0.4
BODT				*e*Sn	Sn	04 19 29.2	+0.8
MANT	**Manisa**	**1.47**	**84**	*i* P	Pg	04 19 12.6	-1.3
MANT				*i* S	Sg	04 19 32.5	-0.6
MANT	**Manisa**	**1.47**	**84**	*i* P	Pg	04 19 12.6	-1.3
EZN	**Ezine**	**1.50**	**349**	*e*PN	Pg	04 19 13.4	-1.0
EZN	**Ezine**	**1.50**	**349**	*e*Pn	Pg	04 19 13.4	-1.0
KULA	**Kula-Manisa**	**1.55**	**83**	*e*PN	Pg	04 19 15.0	-0.5
KULA	**Kula-Manisa**	**1.55**	**83**	P	Pn	04 19 12.4	-0.5
KULA				S	Sg	04 19 34.0	-1.7
KULA	**Kula-Manisa**	**1.55**	**83**	P	Pn	04 19 12.4	-0.5
KULA	**Kula-Manisa**	**1.55**	**83**	*e*Pn	Pg	04 19 15.0	-0.5
KULA				S	Sg	04 19 34.0	-1.7
BALY	**Balya**	**1.56**	**27**	*i* P	Pn	04 19 12.8	-0.3
BALY				*i* S	Sn	04 19 33.5	+0.4
APE	**Apeiranthos**	**1.58**	**216**	*e*PN	Pn	04 19 12.4	-0.8
APE	**Apeiranthos**	**1.58**	**216**	P	Pn	04 19 12.0	-1.2
APE				S	Sg	04 19 36.3	-0.1
APE	**Apeiranthos**	**1.58**	**216**	*e*PN	Pn	04 19 10.9	-2.3
APE				*e*SN	Sg	04 19 37.4	+1.0
APE	**Apeiranthos**	**1.58**	**216**	P	Pn	04 19 12.0	-1.2
APE	**Apeiranthos**	**1.58**	**216**	*e*Pn	Pn	04 19 12.4	-0.8
BALB	**Balikesir**	**1.58**	**35**	*e*PN	Pg	04 19 15.3	-0.7
BALB	**Balikesir**	**1.58**	**35**	*e*Pn	Pg	04 19 15.3	-0.7
DEMI	**Demirci**	**1.73**	**66**	*i* P	Pg	04 19 18.0	-0.8
DEMI				*i* S	Sg	04 19 41.0	-0.2
DEMI	**Demirci**	**1.73**	**66**	*i* P	Pg	04 19 18.0	-0.8
DEMI				*i* S	Sg	04 19 41.0	-0.2
YER	**Yerkesik**	**1.75**	**133**	*e*PN	Pn	04 19 16.3	+0.7
YER	**Yerkesik**	**1.75**	**133**	*e*Pn	Pn	04 19 16.3	+0.7
DAT	**Datca**	**1.77**	**156**	*e*PN	Pn	04 19 15.9	0.0
DAT	**Datca**	**1.77**	**156**	*e*Pn	Pn	04 19 15.9	0.0
MRMA	**Marmari**	**1.85**	**262**	P	Pn	04 19 17.2	+0.3
MRMA	**Marmari**	**1.85**	**262**	P	Pn	04 19 17.2	+0.3
GONE	**Gonen-Balikesi**	**1.86**	**24**	*e*PN	Pg	04 19 19.6	-1.7
GONE	**Gonen-Balikesi**	**1.86**	**24**	*e*Pn	Pg	04 19 19.6	-1.7
DURS	**Dursunbey**	**1.87**	**47**	*i* P	Pn	04 19 16.8	-0.4
DURS				*i* S	Sn	04 19 40.3	-0.3
LIA	**Limnos Island**	**1.94**	**323**	P	Pn	04 19 18.1	0.0
LIA				S	Sn	04 19 43.9	+1.6
LIA	**Limnos Island**	**1.94**	**323**	*e*PN	Pn	04 19 17.7	-0.4
LIA	**Limnos Island**	**1.94**	**323**	*e*Pn	Pn	04 19 17.7	-0.4
LIA	**Limnos Island**	**1.94**	**323**	P	Pn	04 19 18.1	0.0
LIA				S	Sn	04 19 43.9	+1.6
DST	**Dursunbey**	**1.95**	**50**	*e*PN	Pg	04 19 21.1	-2.0
DST	**Dursunbey**	**1.95**	**50**	*e*Pn	Pg	04 19 21.1	-2.0
LPK	**Lapseki**	**2.02**	**1**	*e*PN	Pb	04 19 20.9	-1.2
LPK	**Lapseki**	**2.02**	**1**	*e*Pn	Pb	04 19 20.9	-1.2
KRBG	**Karabiga-Canak**	**2.09**	**13**	*e*PN	Pb	04 19 22.3	-1.0
KRBG	**Karabiga-Canak**	**2.09**	**13**	*e*Pn	Pb	04 19 22.3	-1.0
THR1	**Thera Island**	**2.21**	**207**	P	Pg	04 19 26.9	-1.1
BNT	**Bandirma**	**2.22**	**25**	*e*PN	Pb	04 19 24.3	-1.2
BNT	**Bandirma**	**2.22**	**25**	*e*Pn	Pb	04 19 24.3	-1.2
KHL	**Karahalli**	**2.23**	**90**	*e*PN	Pb	04 19 24.8	-0.8
KHL	**Karahalli**	**2.23**	**90**	*e*Pn	Pb	04 19 24.8	-0.8
THR6	**Thira Island,**	**2.24**	**208**	P	Pg	04 19 27.1	-1.5
THR6				S	Sg	04 19 58.7	+1.0
SMTH	**Samothraki Isl**	**2.30**	**337**	P	Pn	04 19 22.6	-0.5
SMTH	**Samothraki Isl**	**2.30**	**337**	*e*PB	Pn	04 19 23.8	+0.7
SMTH	**Samothraki Isl**	**2.30**	**337**	P	Pn	04 19 22.6	-0.5
SMTH	**Samothraki Isl**	**2.30**	**337**	*e*Pb	Pn	04 19 23.8	+0.7
KCTX	**Karacabey (Bur**	**2.31**	**34**	*e*PN	Pb	04 19 25.4	-1.6
KCTX	**Karacabey (Bur**	**2.31**	**34**	*e*Pn	Pb	04 19 25.4	-1.6
AOS	**Alonnisos**	**2.35**	**291**	P	Pn	04 19 23.5	-0.2
AOS	**Alonnisos**	**2.35**	**291**	*e*PB	Pb	04 19 27.8	+0.1
AOS	**Alonnisos**	**2.35**	**291**	P	Pn	04 19 23.5	-0.2
AOS	**Alonnisos**	**2.35**	**291**	*e*Pb	Pb	04 19 27.8	+0.1
RKY	**Sarkoy-Tekirda**	**2.36**	**9**	*e*PN	Pb	04 19 25.9	-2.1
RKY	**Sarkoy-Tekirda**	**2.36**	**9**	*e*Pn	Pb	04 19 25.9	-2.1
SART	**Tekirdag**	**2.37**	**9**	*i* P	Pg	04 19 29.5	-1.4
SART				*i* S	Sg	04 20 02.3	+0.6
ATH	**Athens Observa**	**2.38**	**262**	P	Pb	04 19 26.5	-1.7
ATH	**Athens Observa**	**2.38**	**262**	P	Pb	04 19 26.5	-1.7
ORLT	**Orhaneli**	**2.41**	**45**	*e*PN	Pb	04 19 27.3	-1.4
ORLT	**Orhaneli**	**2.41**	**45**	*e*Pn	Pb	04 19 27.3	-1.4
ARG	**Arkhangelos**	**2.42**	**151**	P	Pn	04 19 24.1	-0.6
ARG	**Arkhangelos**	**2.42**	**151**	*e*PN	Pn	04 19 21.6	-3.1
ARG	**Arkhangelos**	**2.42**	**151**	*e*Pn	Pn	04 19 21.6	-3.1
ARG	**Arkhangelos**	**2.42**	**151**	P	Pn	04 19 24.1	-0.6
ENEZ	**Enez**	**2.42**	**350**	*e*PN	Pn	04 19 26.4	+1.7
ENEZ	**Enez**	**2.42**	**350**	*e*Pn	Pn	04 19 26.4	+1.7
MRKA	**Markates**	**2.46**	**279**	P	Pn	04 19 24.6	-0.7
MRKA	**Markates**	**2.46**	**279**	P	Pn	04 19 24.6	-0.7
MFT	**Murefte**	**2.48**	**10**	*e*PN	Pb	04 19 28.3	-1.6
MFT	**Murefte**	**2.48**	**10**	*e*Pn	Pb	04 19 28.3	-1.6
FETY	**Fethiye**	**2.56**	**131**	*e*PN	Pn	04 19 28.0	+1.3
FETY	**Fethiye**	**2.56**	**131**	*e*Pn	Pn	04 19 28.0	+1.3
ALN	**Alexandroupoli**	**2.59**	**349**	P	Pb	04 19 30.9	-0.9
ALN	**Alexandroupoli**	**2.59**	**349**	*e*PN	Pn	04 19 24.4	-2.7
ALN	**Alexandroupoli**	**2.59**	**349**	*e*Pn	Pn	04 19 24.4	-2.7
ALN	**Alexandroupoli**	**2.59**	**349**	P	Pb	04 19 30.9	-0.9
MDNY	**Mudanya-Bursa**	**2.64**	**39**	*e*PN	Pb	04 19 30.4	-2.2
MDNY	**Mudanya-Bursa**	**2.64**	**39**	*e*Pn	Pb	04 19 30.4	-2.2
SKIA	**Skiathos**	**2.65**	**289**	P	Pn	04 19 27.9	0.0
SKIA	**Skiathos**	**2.65**	**289**	P	Pn	04 19 27.9	0.0
TKR	**Tekirdag**	**2.71**	**14**	*e*PN	Pb	04 19 31.2	-2.8
TKR	**Tekirdag**	**2.71**	**14**	*e*Pn	Pb	04 19 31.2	-2.8
ALT	**Altintas**	**2.77**	**74**	*e*PN	Pb	04 19 32.3	-2.5
ALT	**Altintas**	**2.77**	**74**	*e*Pn	Pb	04 19 32.3	-2.5
ARMT	**Armutlu**	**2.78**	**37**	*e*PN	Pb	04 19 32.5	-2.5
ARMT	**Armutlu**	**2.78**	**37**	*e*Pn	Pb	04 19 32.5	-2.5
GEMT	**Gemlik**	**2.84**	**42**	*e*PN	Pb	04 19 33.4	-2.7
GEMT	**Gemlik**	**2.84**	**42**	*e*Pn	Pb	04 19 33.4	-2.7
DID	**Didima**	**2.86**	**254**	P	Pn	04 19 32.4	+1.6
DID	**Didima**	**2.86**	**254**	P	Pn	04 19 32.4	+1.6
LTK	**Loutraki**	**2.95**	**265**	P	Pn	04 19 32.4	+0.3
LTK	**Loutraki**	**2.95**	**265**	P	Pn	04 19 32.4	+0.3
YLV	**Yalova**	**3.03**	**42**	*e*PN	Pb	04 19 36.8	-2.6
YLV	**Yalova**	**3.03**	**42**	*e*Pn	Pb	04 19 36.8	-2.6
SHUT	**Suhut-Afyon**	**3.04**	**85**	*e*PN	Pn	04 19 35.9	+2.6
SHUT	**Suhut-Afyon**	**3.04**	**85**	*e*Pn	Pn	04 19 35.9	+2.6
SLVT	**Silivri**	**3.10**	**22**	*e*PN	Pn	04 19 36.8	+2.7
SLVT	**Silivri**	**3.10**	**22**	*e*Pn	Pn	04 19 36.8	+2.7
BUY	**Buyukada**	**3.12**	**36**	*e*PN	Pn	04 19 37.2	+2.9
BUY	**Buyukada**	**3.12**	**36**	*e*Pn	Pn	04 19 37.3	+2.9
ADVT	**Abdulvahap**	**3.15**	**48**	*e*PN	Pb	04 19 37.9	-3.4
ADVT	**Abdulvahap**	**3.15**	**48**	*e*Pn	Pb	04 19 37.9	-3.4
CTKS	**Kestanelik-??a**	**3.20**	**25**	*e*PN	Pb	04 19 38.6	-3.7
CTKS	**Kestanelik-??a**	**3.20**	**25**	*e*Pn	Pb	04 19 38.6	-3.7
BCK	**Bucak**	**3.21**	**105**	*e*PN	Pn	04 19 38.0	+2.4
BCK	**Bucak**	**3.21**	**105**	*e*Pn	Pn	04 19 38.1	+2.4
BGKT	**Bogazkoy**	**3.25**	**29**	*e*PN	Pn	04 19 39.1	+3.0
BGKT	**Bogazkoy**	**3.25**	**29**	*e*Pn	Pn	04 19 39.1	+3.0
ISK	**Istanbul-Kandi**	**3.27**	**33**	*e*PN	Pn	04 19 39.5	+3.1
ISK	**Istanbul-Kandi**	**3.27**	**33**	*e*Pn	Pn	04 19 39.5	+3.1
DSF	**Desfina**	**3.27**	**272**	P	Pn	04 19 36.6	0.0
DSF	**Desfina**	**3.27**	**272**	P	Pn	04 19 36.6	0.0
CTYL	**Yal??k??y-??at**	**3.35**	**21**	*e*PN	Pn	04 19 40.5	+2.9
CTYL	**Yal??k??y-??at**	**3.35**	**21**	*e*Pn	Pn	04 19 40.5	+2.9
HRT	**Hereke**	**3.37**	**42**	*e*PN	Pn	04 19 41.1	+3.2
HRT	**Hereke**	**3.37**	**42**	*e*Pn	Pn	04 19 41.1	+3.2
VLI	**Veliai**	**3.40**	**243**	P	Pn	04 19 37.6	-0.6
VLI	**Veliai**	**3.40**	**243**	P	Pn	04 19 37.6	-0.6
KLYT	**Kilyos**	**3.42**	**31**	*e*PN	Pn	04 19 41.5	+3.1
KLYT	**Kilyos**	**3.42**	**31**	*e*Pn	Pn	04 19 41.5	+3.1
GUR	**Goura**	**3.46**	**264**	P	Pn	04 19 39.5	+0.4
GUR	**Goura**	**3.46**	**264**	P	Pn	04 19 39.5	+0.4
EDRB	**Edirne**	**3.49**	**1**	*e*PN	Pn	04 19 42.5	+3.0
EDRB	**Edirne**	**3.49**	**1**	P	Pn	04 19 39.5	0.0
EDRB	**Edirne**	**3.49**	**1**	P	Pn	04 19 39.5	0.0
EDRB	**Edirne**	**3.49**	**1**	*e*Pn	Pn	04 19 42.5	+3.0
SUTC	**Sutluce-Ispart**	**3.52**	**103**	*e*PN	Pn	04 19 42.8	+2.8
SUTC	**Sutluce-Ispart**	**3.52**	**103**	*e*Pn	Pn	04 19 42.8	+2.8
VLX	**Vlachokerasia**	**3.55**	**255**	P	Pn	04 19 40.9	+0.5
VLX	**Vlachokerasia**	**3.55**	**255**	P	Pn	04 19 40.9	+0.5
KLV	**Kalavryta, Ach**	**3.59**	**267**	P	Pn	04 19 41.3	+0.4
KLV	**Kalavryta, Ach**	**3.59**	**267**	P	Pn	04 19 41.3	+0.4
SILT	**Sile**	**3.61**	**38**	*e*PN	Pn	04 19 44.1	+3.1
SILT	**Sile**	**3.61**	**38**	*e*Pn	Pn	04 19 44.1	+3.1
GULT	**Gulveren**	**3.62**	**54**	*e*PN	Pn	04 19 44.8	+3.5
GULT	**Gulveren**	**3.62**	**54**	*e*Pn	Pn	04 19 44.8	+3.5
SVRH	**Sivrihisar-ESK**	**3.92**	**72**	*e*PN	Pn	04 19 48.9	+3.4
SVRH	**Sivrihisar-ESK**	**3.92**	**72**	*e*Pn	Pn	04 19 48.9	+3.4
MDUB	**Mudurnu**	**4.08**	**57**	*e*PN	Pn	04 19 51.2	+3.5
MDUB	**Mudurnu**	**4.08**	**57**	*e*Pn	Pn	04 19 51.2	+3.5
KIZT	**Kizilcal**	**4.10**	**81**	*e*PN	Pn	04 19 51.3	+3.4
KIZT	**Kizilcal**	**4.10**	**81**	*e*Pn	Pn	04 19 51.3	+3.4
KONT	**Konya--Tatoy**	**4.49**	**93**	*e*PN	Pn	04 19 56.8	+3.6
KONT	**Konya--Tatoy**	**4.49**	**93**	*e*Pn	Pn	04 19 56.8	+3.6

IDC 02 04:43:56.4±0.9,**19°.56N**×**121°.72E, h0**km,**mb3.6**/8,
mb1 3.7/9,**mb1mx3.6**/25,**mbtmp3.6**/9,**ML3.9**/1,**Error ellipse: s-maj=36.8km s-min=18.2km az=72.0,**
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.64**	**16**	P	Pn	04 48 16.4	+0.5
	0.4nm,0.3s,baz=196,slow=1.31,SNR=9.4						
SONM	**Songino Array**	**30.83**	**340**	P	P	04 50 14.3	0.0
	0.8nm,0.9s,baz=160,slow=8.9,SNR=4.4						
WRA	**Warramunga Arr**	**41.16**	**162**	P	P	04 51 42.4	-0.3
	0.4nm,0.8s,baz=347,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**42.08**	**319**	P	P	04 51 49.4	-0.7
	0.4nm,0.6s,baz=114,slow=8.8,SNR=5.1						
PETK	**Petropavlovsk-**	**43.48**	**31**	P	P	04 52 01.8	+0.4
	2.3nm,0.9s,baz=172,slow=5.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**44.43**	**330**	P	P	04 52 09.1	+0.2
	0.5nm,0.3s,baz=116,slow=6.6,SNR=2.5						
ASAR	**Alice Springs**	**44.58**	**164**	P	P	04 52 10.8	+0.4
	0.2nm,0.4s,baz=340,slow=6.8,SNR=5.1						
KURBB	**Kurchatov Arra**	**46.02**	**323**	P	P	04 52 21.8	+0.2
	0.3nm,0.5s,baz=117,slow=7.4,SNR=3.1						
ILAR	**Eielson Array**	**73.09**	**27**	P	P	04 55 27.4	-1.0
	0.1nm,0.5s,baz=277,slow=5.3,SNR=4.0						

ATH ***02*** *04:46:44.6,38°.00N×19°.69E,h14km±1km,MD3.6/23*
CSEM ***02*** *04:46:45.5±0.3,38°.02N×19°.74E,h0km±1km,ML2.6/3,*
Error ellipse: s-maj=6.6km s-min=3.7km az=49.0
THE ***02*** *04:46:48.5,38°.12N×19°.93E,h0km±2km,ML2.6/3,Error ellipse: s-maj=3.2km s-min=1.1km az=217.0*
ISC 02 04:46:45.9±1.6,**38°.09N**±0°.04×**19°.73E**±0°.04,**h5**km±10km,
n83,σ1°**28**/125,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.69**	**82**	P	Pg	04 46 58.2	-0.8
VLS				S	Sg	04 47 05.7	-2.3
VLS	**Valsamata**	**0.69**	**82**	*e*PG	Pg	04 46 58.3	-0.8
VLS				*e*SB	Sg	04 47 08.7	+0.7
VLS	**Valsamata**	**0.69**	**82**	*e*Pg	Pg	04 46 58.3	-0.8
VLS				*e*Sb	Sg	04 47 08.7	+0.7
LKD2	**Lefkada island**	**1.01**	**46**	P	Pg	04 47 04.5	-0.8
LKD2				S	Sg	04 47 18.5	+0.1
LKD2	**Lefkada island**	**1.01**	**46**	*e*PG	Pg	04 47 04.8	-0.5
LKD2				*e*SB	Sn	04 47 21.0	-0.4
LKD2	**Lefkada island**	**1.01**	**46**	*e*Pg	Pg	04 47 04.8	-0.5
LKD2				S	Sg	04 47 18.5	+0.1
LKD2				*e*Sb	Sn	04 47 21.0	-0.4
AXS	**Araxos**	**1.30**	**85**	P	Pg	04 47 10.7	-0.2
AXS				S	Sg	04 47 27.2	-0.6
AXS	**Araxos**	**1.30**	**85**	P	Pg	04 47 10.7	-0.2
AXS				S	Sg	04 47 27.2	-0.6
RLS	**Riolos of Patr**	**1.37**	**91**	P	Pn	04 47 12.1	+0.4
RLS				S	Sg	04 47 28.9	-1.1
RLS	**Riolos of Patr**	**1.37**	**91**	*e*PB	Pn	04 47 12.1	+0.4
RLS				*e*SB	Sb	04 47 30.3	+0.5
RLS	**Riolos of Patr**	**1.37**	**91**	P	Pn	04 47 12.1	+0.4
RLS				S	Sg	04 47 28.9	-1.1
RLS				*e*Sb	Sb	04 47 30.3	+0.5
IGT	**Igoumenitsa**	**1.52**	**18**	P	Pn	04 47 14.1	+0.4
IGT				S	Sg	04 47 36.0	+1.3
IGT	**Igoumenitsa**	**1.52**	**18**	P	Pn	04 47 14.1	+0.4
IGT				S	Sg	04 47 36.0	+1.3
KEK	**Kerkira**	**1.62**	**2**	P	Pb	04 47 16.8	+0.5
KEK	**Kerkira**	**1.62**	**2**	*e*PN	Pn	04 47 16.2	+1.1
KEK	**Kerkira**	**1.62**	**2**	*e*Pn	Pn	04 47 16.2	+1.1
KEK	**Kerkira**	**1.62**	**2**	P	Pb	04 47 16.8	+0.5
AMT	**Artemida-Makis**	**1.66**	**109**	P	Pn	04 47 16.0	+0.3
AMT	**Artemida-Makis**	**1.66**	**109**	*e*PG	Pn	04 47 16.0	+0.3
AMT				*e*SB	Sn	04 47 37.5	+0.1
AMT	**Artemida-Makis**	**1.66**	**109**	P	Pn	04 47 16.0	+0.3
AMT				*e*Sb	Sn	04 47 37.5	+0.1
EFP	**Efpalio**	**1.75**	**78**	*e*PN	Pn	04 47 17.0	+0.2
EFP				*e*SN	Sb	04 47 41.3	+0.7
EFP	**Efpalio**	**1.75**	**78**	*e*Pn	Pn	04 47 17.0	+0.2
EFP				*e*Sn	Sb	04 47 41.3	+0.7
LAKA	**Lakka**	**1.78**	**84**	P	Pn	04 47 17.1	-0.2
LAKA				S	Sn	04 47 39.3	-1.0
LAKA	**Lakka**	**1.78**	**84**	*e*PN	Pn	04 47 17.5	+0.2
LAKA				*e*SN	Sg	04 47 42.8	-0.3
LAKA	**Lakka**	**1.78**	**84**	P	Pn	04 47 17.1	-0.2
LAKA	**Lakka**	**1.78**	**84**	*e*Pn	Pn	04 47 17.5	+0.2
LAKA				S	Sn	04 47 39.3	-1.0
LAKA				*e*Sn	Sg	04 47 42.8	-0.3
JAN	**Janina**	**1.79**	**29**	P	Pb	04 47 18.9	-0.4
JAN	**Janina**	**1.79**	**29**	*e*PN	Pn	04 47 18.4	+0.9
JAN	**Janina**	**1.79**	**29**	*e*Pn	Pn	04 47 18.4	+0.9
JAN	**Janina**	**1.79**	**29**	P	Pb	04 47 18.9	-0.4
SRN	**Sarande**	**1.80**	**7**	P	Pn	04 47 18.9	+1.3
SRN				S	Sg	04 47 44.5	+0.7
SRN	**Sarande**	**1.80**	**7**	P	Pn	04 47 18.9	+1.3
EVR	**Evrytania**	**1.83**	**62**	P	Pn	04 47 19.2	+1.1
EVR	**Evrytania**	**1.83**	**62**	*e*PG	Pb	04 47 19.6	-0.3
EVR	**Evrytania**	**1.83**	**62**	P	Pn	04 47 19.2	+1.1
EVR	**Evrytania**	**1.83**	**62**	*e*Pg	Pb	04 47 19.6	-0.3
TRIZ	**Trizonia**	**1.87**	**81**	P	Pn	04 47 19.1	+0.6
TRIZ	**Trizonia**	**1.87**	**81**	*e*PN	Pn	04 47 19.0	+0.6
TRIZ				*e*SN	Sb	04 47 44.3	+0.2
TRIZ	**Trizonia**	**1.87**	**81**	*e*Pn	Pn	04 47 19.0	+0.6
TRIZ				*e*Sn	Sb	04 47 44.3	+0.2
KLV	**Kalavryta, Ach**	**1.91**	**91**	P	Pn	04 47 19.5	+0.3
KLV				S	Sn	04 47 44.2	+0.6
KLV	**Kalavryta, Ach**	**1.91**	**91**	*e*PN	Pn	04 47 19.7	+0.5
KLV				*e*SN	Sn	04 47 44.7	+1.1
KLV	**Kalavryta, Ach**	**1.91**	**91**	P	Pn	04 47 19.5	+0.3
KLV				S	Sn	04 47 44.2	+0.6
KALE	**Kalithea**	**1.92**	**80**	P	Pn	04 47 19.9	+0.6
KALE	**Kalithea**	**1.92**	**80**	*e*PN	Pn	04 47 19.9	+0.6
KALE				*e*SN	Sb	04 47 45.4	-0.4
KALE	**Kalithea**	**1.92**	**80**	P	Pn	04 47 19.9	+0.6
KALE				*e*Sn	Sb	04 47 45.4	-0.4
ITM	**Ithomi**	**1.97**	**117**	*e*PN	Pn	04 47 19.4	-0.5
ITM				*e*SN	Sn	04 47 44.0	-0.9
ITM	**Ithomi**	**1.97**	**117**	*e*Pn	Pn	04 47 19.4	-0.5
ITM				*e*Sn	Sn	04 47 44.0	-0.9
PYL	**PYLOS**	**2.00**	**126**	*e*PG	Pn	04 47 21.5	+1.3
PYL	**PYLOS**	**2.00**	**126**	*e*Pg	Pn	04 47 21.5	+1.3
GUR	**Goura**	**2.07**	**93**	*e*PN	Pn	04 47 22.5	+1.1
GUR	**Goura**	**2.07**	**93**	*e*Pn	Pn	04 47 22.5	+1.1
VLX	**Vlachokerasia**	**2.22**	**108**	*e*PN	Pn	04 47 21.3	-2.1
VLX	**Vlachokerasia**	**2.22**	**108**	*e*Pn	Pn	04 47 21.3	-2.1
AGG	**Agios Georgios**	**2.24**	**65**	P	Pn	04 47 24.8	+1.1
AGG	**Agios Georgios**	**2.24**	**65**	*e*PN	Pn	04 47 24.8	+1.1
AGG	**Agios Georgios**	**2.24**	**65**	P	Pn	04 47 24.8	+1.1
THL	**Klokotos Trika**	**2.32**	**50**	P	Pn	04 47 26.3	+1.7
THL				S	Sn	04 47 54.3	+0.8
THL	**Klokotos Trika**	**2.32**	**50**	P	Pn	04 47 26.3	+1.7
THL				S	Sn	04 47 54.3	+0.8
DYR	**Agios Nikonas**	**2.46**	**122**	*e*PN	Pn	04 47 27.4	+0.8
DYR	**Agios Nikonas**	**2.46**	**122**	*e*Pn	Pn	04 47 27.4	+0.8
NEST	**Nestorio**	**2.54**	**23**	P	Pn	04 47 29.9	+2.1
NEST	**Nestorio**	**2.54**	**23**	P	Pn	04 47 29.9	+2.1
LKR	**Lokris**	**2.63**	**77**	*e*PN	Pn	04 47 28.4	-0.6
LKR	**Lokris**	**2.63**	**77**	*e*Pn	Pn	04 47 28.4	-0.6
DID	**Didima**	**2.84**	**101**	*e*PN	Pn	04 47 32.2	+0.3
DID	**Didima**	**2.84**	**101**	*e*Pn	Pn	04 47 32.2	+0.3
FNA	**Florina**	**2.98**	**25**	P	Pn	04 47 34.9	+1.1
FNA	**Florina**	**2.98**	**25**	*e*PN	Pn	04 47 34.9	+1.1
FNA	**Florina**	**2.98**	**25**	P	Pn	04 47 34.9	+1.1
KYTH	**Kithira**	**3.20**	**123**	*e*PB	Pn	04 47 38.9	+2.1
KYTH	**Kithira**	**3.20**	**123**	*e*Pb	Pn	04 47 38.9	+2.1
GRG	**Griva**	**3.53**	**35**	*e*PN	Pn	04 47 42.7	+1.3
GRG	**Griva**	**3.53**	**35**	*e*Pn	Pn	04 47 42.7	+1.3
STON	**Ston**	**5.02**	**343**	*i* Pn	Pn	04 48 02.6	+0.7
STON				Sn	Sn	04 48 57.0	-3.2
STON	**Ston**	**5.02**	**343**	*i* Pn	Pn	04 48 02.5	+0.7
STON				Sn	Sn	04 48 56.9	-3.2
UDBI	**Udbina**	**7.09**	**336**	*e*Pn	Pn	04 48 33.1	+2.8
UDBI				Sn	Sn	04 49 49.4	-1.9
NVLJ	**Novalja**	**7.43**	**332**	Sn	Sn	04 49 56.4	-3.1

IDC ***02*** *04:50:09.1±1.1,38°.16N×19°.91E,h0km,mb3.7/11,*
mb1 3.7/15,mb1mx3.7/32,mbtmp3.6/15,ML3.9/3,MS3.5/2,
Ms1 3.6/2,ms1mx2.4/33,Error ellipse: s-maj=19.7km
s-min=17.5km az=160.0
ATH ***02*** *04:50:09.1,38°.04N×19°.74E,h19km±1km,MD3.7/34,*
ML4.0
ROM ***02*** *04:50:09.7±0.6,37°.95N×20°.19E,h30km,Ml4.0/38,Error ellipse: s-maj=9.8km s-min=3.6km az=128.0*
THE ***02*** *04:50:10.8,38°.09N×19°.84E,h0km±1km,ML3.9/8,Error ellipse: s-maj=1.6km s-min=0.7km az=238.0*
CSEM ***02*** *04:50:11.8±0.1,38°.13N×19°.89E,h10km,ML4.0,Mw3.4,*
Error ellipse: s-maj=2.6km s-min=1.5km az=24.0
PDG ***02*** *04:50:12.6±1.1,38°.14N×19°.93E,h22km±2km,ML3.9/11,*
Error ellipse: s-maj=1.8km s-min=1.2km az=90.0
ISCJB ***02*** *04:50:12.0±0.5,38°.17N±0°.02×19°.85E±0°.02,h23km±4km,*
mb3.7/13,MS3.5/2,Error ellipse: s-maj=3.1km
s-min=1.8km az=26.5
HLW ***02*** *04:50:16.3,37°.34N×19°.33E,h9km±1km,Md4.7,Ml0.0*
BEO ***02*** *04:50:24.4±1.9,38°.84N×20°.05E,h76km±3km,ML3.8/1*
ISC 02 04:50:10.9±1.1,**38°.14N**±0°.02×**19°.85E**±0°.02,**h12**km±8km,
n415,σ1°**39**/503,**mbb3.8**/13,**21C-19D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.58**	**86**	P	Pg	04 50 21.9	-0.3
VLS				S	Sb	04 50 30.8	-0.5
VLS	**Valsamata**	**0.58**	**86**	*e*PB	Pg	04 50 21.7	-0.5
VLS	**Valsamata**	**0.58**	**86**	P	Pg	04 50 21.9	-0.3
VLS				S	Sb	04 50 30.8	-0.5
**KFL

SCTE	Santa Cesarea	2.21	331	Pn	Pn	04 50 48.5 +1.1
	944nm,0.6s					
THAL	Thalero	2.22	92	P	Pn	04 50 48.4 +0.9
THAL	Thalero	2.22	92	P	Pn	04 50 48.4 +0.9
AXAR	Agios Charalam	2.29	73	P	Pn	04 50 50.4 +1.9
AXAR	Agios Charalam	2.29	73	P	Pn	04 50 50.4 +1.9
DYR	Agios Nikonas	2.40	124	P	Pn	04 50 51.3 +1.2
DYR	Agios Nikonas	2.40	124	ePB	Pn	04 50 50.7 +0.6
DYR	Agios Nikonas	2.40	124	ePb	Pn	04 50 50.7 +0.6
DYR	Agios Nikonas	2.40	124	P	Pn	04 50 51.3 +1.2
NEST	Nestorio	2.46	22	P	Pb	04 50 53.3 -1.8
NEST	Nestorio	2.46	22	P	Pb	04 50 53.3 -1.8
LTK	Loutraki	2.46	92	P	Pn	04 50 51.3 +0.4
LTK	Loutraki	2.46	92	ePN	Pn	04 50 51.0 +0.1
LTK	Loutraki	2.46	92	ePn	Pn	04 50 51.0 +0.1
LTK	Loutraki	2.46	92	P	Pn	04 50 51.3 +0.4
LKR	Lokris	2.53	77	ePN	Pn	04 50 52.1 +0.4
LKR	Lokris	2.53	77	ePn	Pn	04 50 52.1 +0.4
KBN	Korca	2.59	16	P	Pb	04 50 55.2 -2.1
KBN	Korca	2.59	16	P	Pb	04 50 55.2 -2.1
KZN	Kozani	2.63	34	P	Pn	04 50 54.8 +1.5
KZN	Kozani	2.63	34	ePN	Pn	04 50 54.7 +1.5
KZN	Kozani	2.63	34	ePn	Pn	04 50 54.7 +1.5
TIP	Timpagrande	2.64	294	P	Pn	04 50 55.0 +1.7
TIP	Timpagrande	2.64	294	P	Pn	04 50 55.0 +1.7
SERS	Sersale	2.64	291	Pn	Pn	04 50 55.2 +1.8
SERS				Sn	Sn	04 51 27.2 +1.8
	138nm,0.6s					
SERS	Sersale	2.64	291	Pn	Pn	04 50 55.2 +1.8
SERS				Sn	Sn	04 51 27.2 +1.8
	138nm,0.6s					
PLAC	Placanica	2.70	278	Pn	Pn	04 50 55.9 +1.7
	86nm,0.4s					
PLAC	Placanica	2.70	278	Pn	Pn	04 50 55.9 +1.7
	86nm,0.4s					
SMIA	Simia	2.74	73	P	Pn	04 50 56.6 +1.9
SMIA	Simia	2.74	73	P	Pn	04 50 56.6 +1.9
DIDY	Didyma	2.74	103	P	Pn	04 50 54.9 +0.1
DIDY				S	Sn	04 51 30.6 +2.7
DIDY	Didyma	2.74	103	P	Pn	04 50 54.9 +0.1
DIDY				S	Sn	04 51 30.6 +2.7
DID	Didima	2.75	102	P	Pn	04 50 55.9 +1.0
DID				S	Sn	04 51 30.6 +2.5
DID	Didima	2.75	102	ePN	Pn	04 50 55.6 +0.7
DID	Didima	2.75	102	ePn	Pn	04 50 55.6 +0.7
DID	Didima	2.75	102	P	Pn	04 50 55.9 +1.0
VLI	Veliai	2.83	119	P	Pn	04 50 56.9 +0.9
VLI	Veliai	2.83	119	ePN	Pn	04 50 56.5 +0.5
VLI	Veliai	2.83	119	ePn	Pn	04 50 56.5 +0.5
VLI	Veliai	2.83	119	P	Pn	04 50 56.9 +0.9
LIT	Litokhoron	2.84	45	P	Pn	04 50 58.1 +2.0
LIT	Litokhoron	2.84	45	P	Pn	04 50 58.1 +2.0
NEO	Neokhori	2.88	65	P	Pn	04 50 57.9 +1.2
NEO	Neokhori	2.88	65	ePN	Pn	04 50 57.8 +1.1
NEO	Neokhori	2.88	65	ePn	Pn	04 50 57.8 +1.1
XOR	Xorichti	2.89	64	P	Pn	04 50 57.8 +1.1
XOR	Xorichti	2.89	64	P	Pn	04 50 57.8 +1.1
FNA	Florina	2.90	24	P	Pn	04 50 58.6 +1.7
FNA	Florina	2.90	24	P	Pn	04 50 58.6 +1.7
NAIG	Nisos Aigina	2.90	96	ePB	Pn	04 50 58.6 +1.7
NAIG	Nisos Aigina	2.90	96	ePb	Pn	04 50 58.6 +1.7
MESG	Mesagne	2.90	328	Pn	Pn	04 50 58.8 +1.9
	909nm,0.9s					
MESG	Mesagne	2.90	328	Pn	Pn	04 50 58.8 +1.9
	909nm,0.9s					
MRKA	Markates	2.99	78	P	Pn	04 50 58.4 +0.3
MRKA	Markates	2.99	78	P	Pn	04 50 58.4 +0.3
SOI	Samo	3.00	270	Pn	Pn	04 50 59.9 +1.7
SOI	Samo	3.00	270	Pn	Pn	04 50 59.9 +1.7
MPAZ	Palizzi	3.04	268	Pn	Pn	04 51 00.7 +1.8
	102nm,0.5s					
MPAZ	Palizzi	3.04	268	Pn	Pn	04 51 00.7 +1.8
	102nm,0.5s					
CARO	Carolei	3.05	293	Pn	Pn	04 51 01.7 +2.6
CARO				Sn	Sn	04 51 37.9 +2.3
	233nm,0.5s					
CARO	Carolei	3.05	293	Pn	Pn	04 51 01.7 +2.6
CARO				Sn	Sn	04 51 37.9 +2.3
	233nm,0.5s					
ATH	Athens Observa	3.06	92	P	Pn	04 50 59.4 +0.4
ATH	Athens Observa	3.06	92	ePN	Pn	04 50 59.8 +0.8
ATH				eSN	Sn	04 51 37.0 +1.5
ATH	Athens Observa	3.06	92	P	Pn	04 50 59.4 +0.4
ATH	Athens Observa	3.06	92	ePn	Pn	04 50 59.8 +0.8
ATH				eSn	Sn	04 51 37.0 +1.5
CEL	Celeste	3.12	273	Pn	Pn	04 51 01.6 +1.6
	184nm,0.7s					
CEL	Celeste	3.12	273	Pn	Pn	04 51 01.6 +1.6
	184nm,0.7s					
KYTH	Kithira	3.15	125	P	Pn	04 51 02.3 +2.0
KYTH	Kithira	3.15	125	ePB	Pn	04 51 02.3 +2.0
KYTH	Kithira	3.15	125	P	Pn	04 51 02.3 +2.0
JOPP	Joppolo	3.15	280	Pn	Pn	04 51 02.4 +2.0
	117nm,0.7s					
JOPP	Joppolo	3.15	280	Pn	Pn	04 51 02.4 +2.0
	117nm,0.7s					
PTL	Penteli	3.17	90	P	Pn	04 51 01.4 +0.8
PTL	Penteli	3.17	90	ePN	Pn	04 51 00.5 -0.1
PTL				eSN	Sn	04 51 39.8 +1.5
PTL	Penteli	3.17	90	ePn	Pn	04 51 00.5 -0.1
PTL	Penteli	3.17	90	P	Pn	04 51 01.4 +0.8
PTL				eSn	Sn	04 51 39.8 +1.5
TIR	Tirane	3.21	0	P	Pn	04 51 02.6 +1.5
TIR	Tirane	3.21	0	Pn	Pn	04 51 02.9 +1.8
	720nm,1.1s					
TIR	Tirane	3.21	0	P	Pn	04 51 02.6 +1.5
TIR	Tirane	3.21	0	Pn	Pn	04 51 02.9 +1.8
	720nm,1.1s					
AOS	Alonnisos	3.32	71	P	Pn	04 51 03.4 +0.8
AOS	Alonnisos	3.32	71	ePN	Pn	04 51 04.0 +1.4
AOS	Alonnisos	3.32	71	P	Pn	04 51 03.4 +0.8
AOS	Alonnisos	3.32	71	ePn	Pn	04 51 04.0 +1.4
NOCI	Noci	3.42	322	Pn	Pn	04 51 05.3 +1.3
	421nm,0.6s					
NOCI	Noci	3.42	322	Pn	Pn	04 51 05.3 +1.3
	421nm,0.6s					
MSRU	Castanea	3.42	273	Pn	Pn	04 51 05.7 +1.6
	162nm,0.6s					
MSRU	Castanea	3.42	273	Pn	Pn	04 51 05.7 +1.6
	162nm,0.6s					
GRG	Griva	3.44	34	P	Pn	04 51 05.3 +1.0
GRG	Griva	3.44	34	ePN	Pn	04 51 04.9 +0.6
GRG	Griva	3.44	34	ePn	Pn	04 51 04.9 +0.6
GRG	Griva	3.44	34	P	Pn	04 51 05.3 +1.0
CRAC	Craco	3.46	311	Pn	Pn	04 51 07.2 +2.6
	721nm,0.8s					
CRAC	Craco	3.46	311	Pn	Pn	04 51 07.2 +2.6
	721nm,0.8s					
PAIG	Paliouri	3.48	58	P	Pn	04 51 05.9 +1.1
PAIG	Paliouri	3.48	58	ePN	Pn	04 51 05.0 +0.2
PAIG	Paliouri	3.48	58	ePn	Pn	04 51 05.0 +0.2
PAIG	Paliouri	3.48	58	P	Pn	04 51 05.9 +1.1
MMN	Mormanno	3.48	301	Pn	Pn	04 51 08.5 +3.7
	39nm,0.3s					
MMN	Mormanno	3.48	301	Pn	Pn	04 51 08.5 +3.7
	39nm,0.3s					
MATE	Matera	3.50	317	Pn	Pn	04 51 06.7 +1.6
	231nm,0.5s					
MATE	Matera	3.50	317	Pn	Pn	04 51 06.7 +1.6
	231nm,0.5s					
HORT	Hortiatis	3.52	45	P	Pn	04 51 06.1 +0.6
HORT	Hortiatis	3.52	45	P	Pn	04 51 06.1 +0.6
ANKY	Antikythira Is	3.57	128	P	Pn	04 51 07.5 +1.4
ANKY	Antikythira Is	3.57	128	ePN	Pn	04 51 07.6 +1.4
ANKY				eSN	Sn	04 51 47.8 -0.4
ANKY	Antikythira Is	3.57	128	P	Pn	04 51 07.5 +1.4
ANKY				eSn	Sn	04 51 47.8 -0.4
PHP	Peshkopia	3.57	7	P	Pn	04 51 07.3 +1.1
PHP	Peshkopia	3.57	7	P	Pn	04 51 07.3 +1.1
PLG	Polygyros	3.58	50	P	Pn	04 51 07.0 +0.8
PLG	Polygyros	3.58	50	ePN	Pn	04 51 07.0 +0.8
PLG	Polygyros	3.58	50	P	Pn	04 51 07.0 +0.8
SCHR	S. Chirico Rap	3.59	306	Pn	Pn	04 51 09.1 +2.7
	108nm,0.8s					
SCHR	S. Chirico Rap	3.59	306	Pn	Pn	04 51 09.1 +2.7
	108nm,0.8s					
MIGL	Miglionico	3.62	314	Pn	Pn	04 51 08.7 +2.0
	952nm,0.7s					
MIGL	Miglionico	3.62	314	Pn	Pn	04 51 08.7 +2.0
	952nm,0.7s					
MMME	Mongiuffi-Meli	3.64	268	Pn	Pn	04 51 08.3 +1.2
	87nm,0.5s					
MMME	Mongiuffi-Meli	3.64	268	Pn	Pn	04 51 08.3 +1.2
	87nm,0.5s					
CUC	Castrocucco	3.65	302	Pn	Pn	04 51 09.9 +2.7
	162nm,0.5s					
CUC	Castrocucco	3.65	302	Pn	Pn	04 51 09.9 +2.7
	162nm,0.5s					
SIRI	Monte Sirino -	3.71	305	Pn	Pn	04 51 10.9 +2.8
	137nm,0.5s					
SIRI	Monte Sirino -	3.71	305	Pn	Pn	04 51 10.9 +2.8
	137nm,0.5s					
AMUR	Altamura	3.74	319	Pn	Pn	04 51 09.8 +1.4
	114nm,0.4s					
AMUR	Altamura	3.74	319	Pn	Pn	04 51 09.8 +1.4
	114nm,0.4s					
BAI	Bari	3.75	323	ePn	Pn	04 51 11.7 +3.1
VAY	Valandovo	3.81	33	P	Pn	04 51 09.3 -0.1
VAY	Valandovo	3.81	33	i Pn	Pn	04 51 01.4 -8.0
VAY	Valandovo	3.81	33	P	Pn	04 51 09.3 -0.1
SOH	Sokhos	3.81	44	P	Pn	04 51 11.1 +1.6
SOH	Sokhos	3.81	44	ePN	Pn	04 51 11.2 +1.7
SOH	Sokhos	3.81	44	P	Pn	04 51 11.1 +1.6
KNT	Kendrikon	3.83	37	P	Pn	04 51 10.7 +1.0
KNT	Kendrikon	3.83	37	P	Pn	04 51 10.7 +1.0
MCEL	Monticello	3.83	306	Pn	Pn	04 51 12.4 +2.6
	67nm,0.7s					
MCEL	Monticello	3.83	306	Pn	Pn	04 51 12.4 +2.6
	67nm,0.7s					
MTSN	Montesano sull	3.83	305	Pn	Pn	04 51 12.5 +2.7
	195nm,0.7s					
MTSN	Montesano sull	3.83	305	Pn	Pn	04 51 12.5 +2.7
	195nm,0.7s					
ULC	Ulcinj	3.85	353⇑	iPn	Pn	04 51 09.8 -0.2
ULC				i Sn	Sn	04 51 56.5 +1.3
ULC	Ulcinj	3.85	353⇑	iPn	Pn	04 51 09.8 -0.2
ULC				i Sn	Sn	04 51 56.5 +1.3
LLI	Lipari	3.87	276	Pn	Pn	04 51 12.2 +2.0
	664nm,0.9s					
LLI	Lipari	3.87	276	Pn	Pn	04 51 12.2 +2.0
	664nm,0.9s					
OUR	Ouranopolis	3.89	54	P	Pn	04 51 11.7 +1.3
OUR	Ouranopolis	3.89	54	P	Pn	04 51 11.7 +1.3
MGR	Morigerati	3.90	302	Pn	Pn	04 51 12.7 +2.1
	94nm,0.6s					
MGR	Morigerati	3.90	302	Pn	Pn	04 51 12.7 +2.1
	94nm,0.6s					
HCRL	Carlentini	3.92	259	Pn	Pn	04 51 10.3 -0.5
	170nm,0.4s					
HCRL	Carlentini	3.92	259	Pn	Pn	04 51 10.3 -0.5
	170nm,0.4s					
HAVL	Avola	3.94	254	Pn	Pn	04 51 10.9 -0.2
	146nm,0.3s					
HAVL	Avola	3.94	254	Pn	Pn	04 51 10.9 -0.2
	146nm,0.3s					
BULG	Bulgheria - Ca	3.98	301	Pn	Pn	04 51 13.8 +1.9
	129nm,0.4s					
BULG	Bulgheria - Ca	3.98	301	Pn	Pn	04 51 13.8 +1.9
	129nm,0.4s					
ACER	Acerenza	4.02	312	Pn	Pn	04 51 14.4 +2.1
	693nm,0.6s					
ACER	Acerenza	4.02	312	Pn	Pn	04 51 14.4 +2.1
	693nm,0.6s					
SKO	Skopje	4.02	17	i Pn	Pn	04 51 13.5 +1.2
SKO	Skopje	4.02	17	i Pn	Pn	04 51 13.5 +1.2
MRVN	Minervino Murg	4.06	317	Pn	Pn	04 51 14.2 +1.3
	198nm,0.8s					
MRVN	Minervino Murg	4.06	317	Pn	Pn	04 51 14.2 +1.3
	198nm,0.8s					
MNO	Monte Soro	4.08	269	Pn	Pn	04 51 15.0 +1.7
	50nm,0.6s					
MNO	Monte Soro	4.08	269	Pn	Pn	04 51 15.0 +1.7
	50nm,0.6s					
DRME	Dracevica, Mon	4.08	353⇑	iPn	Pn	04 51 13.1 0.0
DRME				eSn	Sn	04 52 01.9 +1.1
DRME	Dracevica, Mon	4.08	353⇑	iPn	Pn	04 51 13.1 0.0
DRME				eSn	Sn	04 52 01.9 +1.1
PALZ	Palazzo San Ge	4.11	314	Pn	Pn	04 51 15.2 +1.6
	343nm,0.7s					
PALZ	Palazzo San Ge	4.11	314	Pn	Pn	04 51 15.2 +1.6
	343nm,0.7s					
SRS	Serrai	4.15	43	P	Pn	04 51 15.1 +1.0
SRS	Serrai	4.15	43	P	Pn	04 51 15.1 +1.0
CMPR	Campora	4.15	303	Pn	Pn	04 51 16.1 +2.0
	85nm,0.6s					
CMPR	Campora	4.15	303	Pn	Pn	04 51 16.1 +2.0
	85nm,0.6s					
HVZN	Vizzini	4.19	258	Pn	Pn	04 51 14.3 -0.3
	352nm,0.6s					
HVZN	Vizzini	4.19	258	Pn	Pn	04 51 14.3 -0.3
	352nm,0.6s					
BUM	Brajici-Budva	4.22	350⇓	iPn	Pn	04 51 16.1 +0.9
BUM				i Sn	Sn	04 52 05.5 +1.0
BUM	Brajici-Budva	4.22	350⇓	iPn	Pn	04 51 16.1 +0.9
BUM				i Sn	Sn	04 52 05.5 +1.0
KARN	Karanos	4.25	129	P	Pn	04 51 15.8 +0.3
KARN	Karanos	4.25	129	ePN	Pn	04 51 15.8 +0.3
KARN	Karanos	4.25	129	P	Pn	04 51 15.8 +0.3
PDG	Podgorica	4.31	354	P	Pn	04 51 16.3 0.0
PDG				S	Sn	04 52 05.8 -0.7
PDG	Podgorica	4.31	354	Pn	Pn	04 51 16.2 0.0
	98nm,0.7s					
PDG	Podgorica	4.31	354	ePn	Pn	04 51 16.4 +0.1
PDG	Podgorica	4.31	354	P	Pn	04 51 16.3 0.0
PDG	Podgorica	4.31	354	iPn	Pn	04 51 18.4 +2.1
PDG				S	Sn	04 52 05.8 -0.7
PDG				i Sn	Sn	04 52 07.6 +1.1
TTG	Podgorica	4.31	354	iPn	Pn	04 51 18.4 +2.1
TTG				i Sn	Sn	04 52 07.6 +1.1
VAM	Vamos	4.43	127	P	Pn	04 51 18.4 +0.5
VAM	Vamos	4.43	127	ePN	Pn	04 51 18.0 +0.1
VAM	Vamos	4.43	127	ePn	Pn	04 51 18.0 +0.1
VAM	Vamos	4.43	127	P	Pn	04 51 18.4 +0.5
HCY	Herceg Novi	4.43	347⇑	iPn	Pn	04 51 17.5 -0.4
HCY				eSn	Sn	04 52 10.2 +0.7
HCY	Herceg Novi	4.43	347⇑	iPn	Pn	04 51 17.5 -0.4
HCY				eSn	Sn	04 52 10.2 +0.7
PVY	Plav	4.46	1⇑	iPn	Pn	04 51 20.2 +1.8
PVY				i Sn	Sn	04 52 11.0 +0.8
PVY	Plav	4.46	1⇑	iPn	Pn	04 51 20.2 +1.8
PVY				i Sn	Sn	04 52 11.0 +0.8
NVR	Nevrokopi	4.46	43	P	Pn	04 51 19.6 +1.3
NVR	Nevrokopi	4.46	43	P	Pn	04 51 19.6 +1.3
MCRV	Calabrutti - M	4.49	308	Pn	Pn	04 51 22.0 +3.2
	59nm,0.3s					
MCRV	Calabrutti - M	4.49	308	Pn	Pn	04 51 22.0 +3.2
	59nm,0.3s					
CAFE	Carife	4.59	310	Pn	Pn	04 51 22.9 +2.7
	71nm,0.5s					
CAFE	Carife	4.59	310	Pn	Pn	04 51 22.9 +2.7
	71nm,0.5s					
KAVA	Kavala	4.60	50	P	Pn	04 51 21.3 +1.1
KAVA	Kavala	4.60	50	P	Pn	04 51 21.3 +1.1
APE	Apeiranthos	4.63	102	ePN	Pn	04 51 23.1 +2.3
APE	Apeiranthos	4.63	102	ePn	Pn	04 51 23.1 +2.3
MS1	Monte Sant'Ang	4.66	321	ePn	Pn	04 51 22.6 +1.4
NKME	Niksic	4.68	352⇓	iPn	Pn	04 51 21.7 +0.3
NKME				eSn	Sn	04 52 16.9 +1.3
NKME	Niksic	4.68	352⇓	iPn	Pn	04 51 21.7 +0.3
NKME				eSn	Sn	04 52 16.9 +1.3
MSAG	Monte S. Angel	4.68	321	Pn	Pn	04 51 22.8 +1.3
	130nm,0.5s					
MSAG	Monte S. Angel	4.68	321	Pn	Pn	04 51 22.8 +1.3
	130nm,0.5s					
NKY	Niksic	4.72	352⇑	iPn	Pn	04 51 23.3 +1.3
NKY				eSn	Sn	04 52 17.5 +0.8
NKY	Niksic	4.72	352⇑	iPn	Pn	04 51 23.3 +1.3
NKY				eSn	Sn	04 52 17.5 +0.8
BEY	Berane	4.73	0⇓	iPn	Pn	04 51 23.9 +1.8
BEY				i Sn	Sn	04 52 17.7 +0.7
IVA	Berane	4.73	0⇓	iPn	Pn	04 51 23.9 +1.8
IVA				i Sn	Sn	04 52 17.7 +0.7
SGRT	San Giovanni R	4.80	320	Pn	Pn	04 51 24.3 +1.2
	64nm,0.4s					
SGRT	San Giovanni R	4.80	320	Pn	Pn	04 51 24.3 +1.2
	64nm,0.4s					
BRY	Bratogost	4.87	349⇑	iPn	Pn	04 51 24.5 +0.5
BRY				i Sn	Sn	04 52 20.9 +0.5
BRY	Bratogost	4.87	349⇑	iPn	Pn	04 51 24.5 +0.5
BRY				i Sn	Sn	04 52 20.9 +0.5
IDI	Anoyia	4.95	124	P	Pn	04 51 26.4 +1.3
IDI	Anoyia	4.95	124	ePN	Pn	04 51 26.9 +1.8
IDI	Anoyia	4.95	124	P	Pn	04 51 26.4 +1.3
IDI	Anoyia	4.95	124	ePn	Pn	04 51 26.9 +1.8
STON	Ston	5.01	342	i Pn	Pn	04 51 26.4 +0.5
STON				Sn	Sn	04 52 21.5 -2.1
STON	Ston	5.01	342	i Pn	Pn	04 51 26.3 +0.5
STON				Sn	Sn	04 52 21.5 -2.1
UPM	Unac-Piva	5.11	352⇑	iPn	Pn	04 51 28.7 +1.2
UPM				i Sn	Sn	04 52 27.1 +0.5
UPM	Unac-Piva	5.11	352⇑	iPn	Pn	04 51 28.7 +1.2
UPM				i Sn	Sn	04 52 27.1 +0.5
SJES	Sjenica	5.12	1	ePn	Pn	04 51 27.4 -0.1
SJES				eSn	Sn	04 52 11.7 -15
SJES	Sjenica	5.12	1	ePn	Pn	04 51 27.4 -0.1
VTS	Vitosha	5.14	29	P	Pn	04 51 29.3 +1.5
VTS	Vitosha	5.14	29	iP	Pn	04 51 29.0 +1.2
VTS	Vitosha	5.14	29	ePn	Pn	04 51 28.7 +0.9
VTS				eSn	Sn	04 52 11.6 -16
VTS	Vitosha	5.14	29	ePn	Pn	04 51 28.7 +0.9
VTS	Vitosha	5.14	29	P	Pn	04 51 29.3 +1.5
SELS	Selova	5.17	10	ePn	Pn	04 51 28.0 -0.1
SELS				eSn	Sn	04 52 12.4 -15
PLE	Pljevlja	5.20	356⇓	iPn	Pn	04 51 31.1 +2.5
PLE				i Sn	Sn	04 52 29.0 +0.4
PLE	Pljevlja	5.20	356⇓	iPn	Pn	04 51 31.1 +2.5
PLE				i Sn	Sn	04 52 29.0 +0.4
PTRJ	Pietraroja	5.22	310	Pn	Pn	04 51 31.2 +2.4
	87nm,0.5s					
PTRJ	Pietraroja	5.22	310	Pn	Pn	04 51 31.2 +2.4
	87nm,0.5s					
BSSO	Busso	5.29	312	Pn	Pn	04 51 32.9 +3.1
	61nm,0.9s					
BSSO	Busso	5.29	312	Pn	Pn	04 51 32.9 +3.1
	61nm,0.9s					
SMG	Samos	5.54	92	ePN	Pn	04 51 34.9 +1.7
SMG	Samos	5.54	92	ePn	Pn	04 51 34.9 +1.7
ZAPS	Zavoj	5.55	21	ePn	Pn	04 51 33.9 +0.6
ZAPS				eSn	Sn	04 52 21.9 -15
CERA	Filignano	5.67	309	Pn	Pn	04 51 37.7 +2.8
	35nm,0.6s					
CERA	Filignano	5.67	309	Pn	Pn	04 51 37.7 +2.8
	35nm,0.6s					
BBLS	Lazići	5.74	357	ePn	Pn	04 51 36.3 +0.4
BBLS				eSn	Sn	04 52 25.8 -16
BBLS	Lazići	5.74	357	ePn	Pn	04 51 36.3 +0.4
GRUS	Gruza	5.79	6	ePn	Pn	04 51 37.4 +0.9
GRUS				eSn	Sn	04 52 27.5 -15
GRUS	Gruza	5.79	6	ePn	Pn	04 51 37.4 +0.9
POFI	Posta Fibreno	5.92	309	Pn	Pn	04 51 41.1 +2.6
	14nm,0.7s					
POFI	Posta Fibreno	5.92	309	Pn	Pn	04 51 41.1 +2.6
	14nm,0.7s					
DIVS	Divibare	5.96	1	P	Pn	04 51 39.2 +0.2
DIVS	Divibare	5.96	1	ePn	Pn	04 51 39.0 0.0
DIVS				eSn	Sn	04 52 31.1 -16
DIVS	Divibare	5.96	1	P	Pn	04 51 39.2 +0.2
INTR	Introdacqua	5.98	312	Pn	Pn	04 51 42.8 +3.5
	39nm,0.6s					
INTR	Introdacqua	5.98	312	Pn	Pn	04 51 42.8 +3.5
	39nm,0.6s					
TERO	Teramo	6.54	315	Pn	Pn	04 51 49.7 +2.7
	18nm,0.5s					
TERO	Teramo	6.54	315	Pn	Pn	04 51 49.7 +2.7
	18nm,0.5s					
BLY	Banja Luka	6.91	344	ePn	Pn	04 51 53.3 +1.4
BLY				eSn	Sn	04 52 57.2 -13
BLY	Banja Luka	6.91	344	ePn	Pn	04 51 53.3 +1.4
LTBQ	Tobruq	6.92	150	i P	Pn	04 51 52.5 +0.4
	118nm,1.3s,SNR=23					
UDBI	Udbina	7.09	336	ePn	Pn	04 51 56.3 +1.8
UDBI				Sn	Sn	04 53 12.0 -3.0
UDBI	Udbina	7.09	336	ePn	Pn	04 51 56.3 +1.8
NVLJ	Novalja	7.43	331	ePn	Pn	04 52 00.6 +1.4
NVLJ				Sn	Sn	04 53 20.0 -3.4
NVLJ	Novalja	7.43	331	ePn	Pn	04 52 00.5 +1.4
BZS	Buzias	7.59	9⇓	iP	Pn	04 52 01.9 +0.6
BZS	Buzias	7.59	9⇓	iP	Pn	04 52 01.9 +0.6
SLUM		7.96	145	S	Sn	04 53 25.5 -11
ARR	Arges	8.06	25⇑	iP	Pn	04 52 08.1 +0.3
ARR	Arges	8.06	25⇑	iP	Pn	04 52 08.1 +0.3
BOJS	Bojanci	8.12	336	i Pn	Pn	04 52 09.5 +0.8
BOJS				i Sn	Sn	04 53 37.5 -2.8
BOJS	Bojanci	8.12	336	ePn	Pn	04 52 09.4 +0.8
BOJS				eSn	Sn	04 53 26.4 -14
BOJS	Bojanci	8.12	336	ePn	Pn	04 52 09.4 +0.8
VOIR		8.26	26	iP	Pn	04 52 12.1 +1.5
VOIR		8.26	26	iP	Pn	04 52 12.1 +1.5
ISP	Isparta	8.43	89⇑	iP	Pb	04 52 37.3 +0.4
ISP	Isparta	8.43	89⇑	iP	Pb	04 52 37.3 +0.4
MLR	Muntele Rosu	8.64	30⇓	iP	Pn	04 52 18.0 +2.2
MLR	Muntele Rosu	8.64	30	Pn	Pn	04 52 17.6 +1.8
	0.1nm,0.3s,baz=206,slow=8.9,SNR=11					
MLR	Muntele Rosu	8.64	30⇓	iP	Pn	04 52 18.0 +2.2
JAVS	Javornik	8.87	333	i Pn	Pn	04 52 20.1 +1.2
JAVS				i Sn	Sn	04 53 54.9 -3.9
JAVS	Javornik	8.87	333	i Pn	Pn	04 52 20.1 +1.2
VOY	Vojsko	9.05	333	ePn	Pn	04 52 22.3 +1.0
VOY				eSn	Sn	04 53 58.2 -5.0
VOY	Vojsko	9.05	333	ePn	Pn	04 52 22.3 +1.0
PERS	Pernice	9.19	339	i Pn	Pn	04 52 23.0 -0.2
PERS				i Sn	Sn	04

NB2	NORSAR Subarra	23.56	349	P		P	04 55 21.3	+0.3
	comp=Z,1.1nm,0.7s,SNR=5.9							
NOA	NORSAR Array B	23.56	349	P		P	04 55 20.9	-0.1
	comp=Z,1.1nm,0.8s,baz=161,slow=9.5,SNR=5.0							
FINES	FINESS Array B	23.65	7	P		P	04 55 21.1	-0.7
	comp=Z,1.4nm,0.5s,baz=169,slow=9.7,SNR=14							
KAF	Kangasniemi	24.33	7	*ep*		P	04 55 29.0	+0.8
	comp=Z,5.3nm,1.0s							
KAF	Kangasniemi	24.33	7	*eP*		P	04 55 29.0	+0.8
	comp=Z,5.3nm,1.0s							
JOF	Joensuu	25.78	12	*ep*		P	04 55 42.2	+0.9
	comp=Z,0.8nm,0.4s							
JOF	Joensuu	25.78	12	*eP*		P	04 55 42.2	+0.9
	comp=Z,0.8nm,0.4s							
TORD	Torodi Ar. Bea	29.67	218	P		P	04 56 17.3	+0.7
	comp=Z,1.8nm,0.8s,baz=35,slow=9.3,SNR=19							
TORD				LR		LR	05 09 08.3	
	comp=Z,48nm,18.3s,baz=285,slow=38							
ARCES	ARCESS Array B	31.61	4	P		P	04 56 32.7	-0.5
	comp=Z,0.9nm,0.8s,baz=190,slow=11,SNR=5.5							
BVAR	Borovoye Array	37.55	50	P		P	04 57 24.7	-0.1
	comp=Z,0.4nm,0.5s,baz=304,slow=3.1,SNR=3.8							
KURBB	Kurchatov Arra	42.68	53	P		P	04 58 06.1	-1.2
	comp=Z,0.3nm,0.5s,baz=278,slow=8.7,SNR=4.5							
MKAR	Makanchi Array	45.77	58	P		P	04 58 31.1	-1.1
	comp=Z,0.5nm,0.4s,baz=277,slow=7.0,SNR=13							
ZALV	Zalesovo Beam	46.11	48	P		P	04 58 34.1	-0.7
	comp=Z,3.4nm,0.4s,baz=274,slow=8.8,SNR=13							
SONM	Songino Array	60.89	50	P		P	05 00 22.8	-0.7
	comp=Z,0.2nm,0.5s,baz=232,slow=4.7,SNR=2.8							
LPAZ	La Paz	98.32	256	LR		LR	05 46 33.9	
	comp=Z,33nm,20.4s,baz=132,slow=34							

*ISCJB **02** 04:52:30.4±0.5, 38°.09N±0°.03×30°.86E±0°.06, h7km, Error ellipse: s-maj=6.8km s-min=4.3km az=5.3*
*CSEM **02** 04:52:30.4±0.1, 38°.09N×30°.88E, h12km, MD2.6, Error ellipse: s-maj=4.0km s-min=2.8km az=105.0*
*DDA **02** 04:52:30.9, 38°.09N×30°.94E, h7km, MD2.8*
*ISK **02** 04:52:30.0, 38°.11N×30°.91E, h8km, MD2.6*

ISC 02 04:52:30.3±0.9, 38°.10N±0°.02×30°.90E±0°.03, h7km, n26, σ0°40/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.41	227	*e*PG	Pg	04 52 38.7	+0.5
ISP	Isparta	0.41	227	*e*Pg	Pg	04 52 38.7	+0.5
SHUT	Suhut-Afyon	0.53	329	*e*PG	Pg	04 52 40.7	+0.1
SHUT	Suhut-Afyon	0.53	329	*e*Pg	Pg	04 52 40.7	+0.1
BOLV	Bolvadin	0.62	4	*i* P	Pb	04 52 43.2	-0.4
BOLV				*i* S	Sb	04 52 52.3	-0.3
BOLV	Bolvadin	0.62	4	*i* P	Pb	04 52 43.2	-0.4
BOLV				*i* S	Sb	04 52 52.3	-0.3
SUTC	Sutluce-Ispart	0.62	173	*e*PG	Pg	04 52 42.5	+0.1
SUTC				*e*SG	Sb	04 52 52.1	-0.5
SUTC	Sutluce-Ispart	0.62	173	*e*Pg	Pg	04 52 42.5	+0.1
SUTC				*e*Sg	Sb	04 52 52.1	-0.5
BCK	Bucak	0.68	201	*e*PG	Pb	04 52 44.0	-0.6
BCK	Bucak	0.68	201	*e*Pg	Pb	04 52 44.0	-0.6
KDHN	Kadinhani	1.05	66	*i* P	Pg	04 52 50.6	+0.1
KDHN				*i* S	Sn	04 53 07.5	+1.0
KDHN	Kadinhani	1.05	66	*i* P	Pg	04 52 50.6	+0.1
KDHN				*i* S	Sn	04 53 07.5	+1.0
KIZT	Kizilcal	1.10	44	*e*PN	Pg	04 52 51.4	0.0
KIZT	Kizilcal	1.10	44	*e*Pn	Pg	04 52 51.4	0.0
KHL	Karahalli	1.11	282	*e*PN	Pg	04 52 51.7	+0.1
KHL	Karahalli	1.11	282	*e*Pn	Pg	04 52 51.7	+0.1
ALT	Altintas	1.14	327	*e*PN	Pg	04 52 52.2	0.0
ALT	Altintas	1.14	327	*e*Pn	Pg	04 52 52.2	0.0
LADK	Ladik-KONYA	1.16	84	*e*PN	Pg	04 52 52.4	-0.2
LADK	Ladik-KONYA	1.16	84	*e*Pn	Pg	04 52 52.4	-0.2
KONT	Konya--Tatoy	1.17	97	*e*PN	Pb	04 52 52.7	-0.1
KONT	Konya--Tatoy	1.17	97	*e*Pn	Pb	04 52 52.7	-0.1
ESKT	Eskisehir	1.42	358	*e*PN	Pn	04 52 56.7	0.0
ESKT	Eskisehir	1.42	358	*e*Pn	Pn	04 52 56.7	0.0
SVRH	Sivrihisar-ESK	1.43	20	*e*PN	Pn	04 52 56.8	0.0
SVRH	Sivrihisar-ESK	1.43	20	*e*Pn	Pn	04 52 56.8	0.0

IDC 02 04:53:60.0±4.8, 30°.98S×179°.46W, h231km±40km, mb3.7/4, mb1 3.9/5, mb1mx3.5/18, mbtmp3.8/5, Error ellipse: s-maj=35.1km s-min=19.3km az=43.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.79	200	P	Pn	04 55 51.7	+1.2
	7.4nm,0.3s,baz=274,slow=4.6,SNR=24						
URZ				S	S	04 57 15.5	-3.6
	4.6nm,0.3s,baz=358,slow=23,SNR=12						
RPZ	Rata Peaks	14.77	208	P	Pn	04 57 15.4	-2.7
	1.6nm,0.3s,baz=301,slow=16,SNR=3.9						
STKA	Stephens Creek	33.12	258	P	P	05 00 14.9	+0.4
	2.6nm,0.6s,baz=105,slow=11,SNR=6.4						
ASAR	Alice Springs	41.82	268	P	P	05 01 27.6	+0.1
	0.8nm,0.3s,baz=106,slow=7.4,SNR=27						
ASAR				PcP	PcP	05 03 17.7	-1.2
	0.4nm,0.6s,baz=116,slow=4.1,SNR=5.0						
WRA	Warramunga Arr	42.87	274	P	P	05 01 35.8	-0.1
	1.7nm,0.3s,baz=111,slow=8.1,SNR=45						
QSPA	South Pole Qui	59.13	180	P	P	05 03 37.0	+0.8
	3.2nm,0.7s,baz=62,slow=0.6,SNR=32						
FINES	FINESS Array B	145.24	339	PKPbc	PKPdf	05 13 09.1	-0.1
	2.6nm,0.5s,baz=57,slow=3.7,SNR=58						
NB2	NORSAR Subarra	149.11	350	PKP	PKPbc	05 13 19.5	-0.7
	comp=Z,1.0nm,0.8s,baz=17,slow=2.6						
NOA	NORSAR Array B	149.11	350	PKPbc	PKPbc	05 13 19.1	-1.1
	comp=Z,0.4nm,0.4s,baz=18,slow=4.1,SNR=3.1						
HFS	Hagfors	149.54	347	PKPbc	PKPbc	05 13 20.7	-0.6
	comp=Z,0.7nm,0.4s,baz=126,slow=2.6,SNR=13						
BRTR	Keskin Array B	151.75	297	PKPbc	PKPbc	05 13 26.4	-0.9
	comp=Z,0.8nm,0.5s,baz=135,slow=3.9,SNR=6.0						
TORD	Torodi Ar. Bea	162.22	184	PKPab	PKPab	05 14 20.9	-1.5
	comp=Z,0.7nm,0.8s,baz=167,slow=4.4,SNR=3.8						

*IDC **02** 04:54:06.4±0.7, 18°.75S×176°.18E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.3/18, mbtmp4.1/14, MS3.7/19, Ms1 3.7/19, ms1mx3.6/25, Error ellipse: s-maj=25.0km s-min=18.3km az=125.0*
*ISCJB **02** 04:54:09.4±0.3, 18°.73S±0°.09×176°.06E±0°.07, h26km, mb4.3/36, MS3.7/15, Error ellipse: s-maj=13.9km s-min=7.6km az=145.8*
*SZGRF **02** 04:54:14.9, 17°.53S×177°.53E, h33km, Fiji Islands*
*NEIC **02** 04:54:15.9±1.5, 18°.73S×176°.03E, h69km±13km, mb4.4/22, Error ellipse: s-maj=9.6km s-min=7.0km az=152.0*

ISC 02 04:54:10.6±0.5, 18°.75±0°.1×176°.2E±0°.1, h26km, n100, σ0°77/83, mb4.4/36, MS3.8/15, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.74	248	*e*LR	LR	04 58 43.5	
	1μm,26.1s						
DZM	Mont Dzumac	9.74	248	Pn	Pn	04 56 30.9	+1.7
DZM	Mont Dzumac	9.74	248	Pn	Pn	04 56 30.9	+1.7
	0.3nm,0.3s,baz=107,slow=18,SNR=4.1						
DZM				LR	LR	04 58 25.7	
	comp=Z,216nm,20.3s,baz=201,slow=27						
RAO	Raoul Island	11.79	154	LR	LR	05 00 26.2	
	comp=Z,608nm,21.6s,baz=296,slow=32						
HNR	Honiara	18.25	298	LR	LR	05 04 28.0	
	comp=Z,103nm,19.9s,baz=176,slow=34						
URZ	Urewera	19.50	178	P	Pn	04 58 37.6	+0.5
URZ	Urewera	19.50	178	P	Pn	04 58 37.6	+0.5
	baz=79,slow=6.3,SNR=4.1						
URZ				LR	LR	05 04 51.1	
	comp=Z,93nm,21.0s,baz=10,slow=33						
RAR	Rarotonga	22.72	100	LR	LR	05 05 43.8	
	comp=Z,317nm,21.6s,baz=256,slow=31						
ARMA	Armidale	25.14	238	*e*P	P	04 59 33.8	-0.1
	11nm,1.0s						
RPZ	Rata Peaks	25.30	189	LR	LR	05 08 04.1	
	comp=Z,84nm,20.3s,baz=14,slow=33						
CTA	Charters Tower	28.26	262	LR	LR	05 09 14.6	
	comp=Z,260nm,21.6s,baz=47,slow=32						
CTAO	Charters Tower	28.26	262	*e*P	P	05 00 01.6	-0.4
	4.6nm,0.5s						
PMG	Port Moresby	29.61	284	LR	LR	05 10 29.5	
	comp=Z,167nm,18.6s,baz=83,slow=33						
TBI	Tubuai	32.34	104	*e*LR	LR	05 09 15.6	
	414nm,29.0s						
PPT2	Papeete2	32.52	94	*e*LR	LR	05 09 23.1	
	513nm,25.8s						
PPT	Papeete	32.52	94	LR	LR	05 10 16.1	
	comp=Z,257nm,19.7s,baz=186,slow=30						
STKA	Stephens Creek	33.77	240	P	P	05 00 50.1	-0.3
STKA	Stephens Creek	33.77	240	P	P	05 00 50.1	-0.3
	4.8nm,0.7s,baz=118,slow=8.3,SNR=8.0						
STKA				LR	LR	05 11 37.1	
	comp=Z,202nm,20.6s,baz=31,slow=31						
WRA	Warramunga Arr	39.45	261	P	P	05 01 38.4	-0.6
WRA	Warramunga Arr	39.45	261	P	P	05 01 38.4	-0.6
	1.8nm,0.3s,baz=112,slow=7.6,SNR=46						
AS31	Alice Springs	39.63	255	*e*P	P	05 01 40.0	-0.5
ASAR	Alice Springs	39.64	255	P	P	05 01 39.5	-1.0
ASAR	Alice Springs	39.64	255	P	P	05 01 39.5	-1.0
	2.8nm,0.8s,baz=86,slow=9.2,SNR=14						
ASAR				LR	LR	05 16 59.6	
	comp=Z,183nm,19.6s,baz=93,slow=35						
FORT	Forrest	45.03	245	*e*P	P	05 02 24.4	+0.1
	19nm,0.8s						
FITZ	Fitzroy Crossi	47.84	262	*e*P	P	05 02 45.9	-0.7
	18nm,1.2s						
VNDA	Vanda	59.27	184	P	P	05 04 10.1	+0.6
VNDA	Vanda	59.27	184	P	P	05 04 10.1	+0.6
	0.4nm,0.8s,baz=312,slow=5.2,SNR=3.0						
VNDA				LR	LR	05 24 08.6	
	comp=Z,46nm,20.9s,baz=140,slow=30						
MAJO	Matsushiro	65.64	327	*e*P	P	05 04 52.2	-0.4
	17nm,1.5s						
QSPA	South Pole Qui	71.34	180	P	P	05 05 26.9	-1.2
QSPA	South Pole Qui	71.34	180	P	P	05 05 26.8	-1.2
	4.6nm,1.1s,baz=43,slow=3.0,SNR=5.2						
KSRS	Korea Array	72.00	321	P	P	05 05 32.7	+0.5
	1.3nm,0.9s,baz=147,slow=7.2,SNR=6.9						
KSRS				LR	LR	05 31 33.6	
	comp=Z,39nm,18.9s,baz=23,slow=31						
KSAR	Wonju Array Be	72.02	321	P	P	05 05 32.7	+0.4
PETK	Petropavlovsk-	73.29	348	P	P	05 05 39.6	0.0
PETK	Petropavlovsk-	73.29	348	P	P	05 05 39.6	0.0
	3.9nm,0.9s,baz=130,slow=7.8,SNR=6.3						
PETK				LR	LR	05 32 26.0	
	comp=Z,22nm,19.3s,baz=320,slow=31						
MAW	Mawson	81.33	201	P	P	05 06 23.1	-1.4
MAW	Mawson	81.33	201	P	P	05 06 23.1	-1.4
	3.0nm,0.9s,baz=177,slow=4.4,SNR=3.6						
CMB	Columbia Colle	82.00	45	*e*P	P	05 06 29.3	+0.8
	4.2nm,1.3s						
WAKR	Walker	82.88	45	*e*P	P	05 06 34.8	+1.5
	3.9nm,1.0s						
NVAR	Mina Array Bea	83.61	46	P	P	05 06 37.5	+0.4
NVAR	Mina Array Bea	83.61	46	P	P	05 06 37.5	+0.4
	1.4nm,0.8s,baz=228,slow=8.4,SNR=10						
CMAR	Chiang Mai Arr	84.37	292	P	P	05 06 41.5	+0.3
CMAR	Chiang Mai Arr	84.37	292	P	P	05 06 41.5	+0.3
	0.6nm,0.4s,baz=130,slow=3.3,SNR=6.4						
CMAR				LR	LR	05 39 29.9	
	comp=Z,39nm,21.2s,baz=205,slow=32						
WVOR	Wild Horse Val	85.39	42	*e*P	P	05 06 47.2	+1.3
	14nm,1.8s						
TUC	Tucson	86.29	54	*e*P	P	05 06 51.5	+1.0
	2.6nm,1.1s						
ILAR	Eielson Array	87.90	15	P	P	05 06 56.3	-1.2
ILAR	Eielson Array	87.90	15	P	P	05 06 56.3	-1.2
	0.8nm,0.9s,baz=239,slow=5.9,SNR=8.6						
ILAR				LR	LR	05 39 57.6	
	comp=Z,40nm,20.9s,baz=195,slow=31						
DUG	Dugway	88.20	46	*e*P	P	05 06 59.9	+0.2
	0.8nm,0.6s						
HLID	Hailey	88.65	43	*e*P	P	05 07 02.8	+0.9
	3.8nm,1.5s						
NEW	Newport	89.23	38	*e*P	P	05 07 04.3	+0.1
	2.7nm,1.1s						
HWUT	Hardware Ranch	89.66	46	*e*P	P	05 07 07.2	+0.5
	2.0nm,0.9s						
MCMT	McKenzie Canyo	90.23	42	*e*P	P	05 07 10.2	+1.0
	1.7nm,1.2s						
MNTX	Cornudas Mount	90.26	57	*e*P	P	05 07 10.8	+1.4
	2.8nm,1.4s						
ANMO	Albuquerque	90.65	53	*e*P	P	05 07 11.8	+0.4
	2.1nm,1.1s						
TXAR	Lajitas Array	90.78	59	P	P	05 07 13.2	+1.2
TXAR	Lajitas Array	90.78	59	P	P	05 07 13.2	+1.2
	1.0nm,0.9s,baz=224,slow=3.5,SNR=8.0						
TXAR				LR	LR	05 42 22.1	
	comp=Z,26nm,18.7s,baz=0.0,slow=32						
SONM	Songino Array	90.87	321	P	P	05 07 11.8	-0.2
SONM	Songino Array	90.87	321	P	P	05 07 11.8	-0.2
	0.9nm,0.9s,baz=117,slow=5.2,SNR=6.0						
REDW	Red Top Meadow	90.89	44	*e*P	P	05 07 13.5	+1.2
	9.9nm,1.5s						
MOOW	Moose Ponds	91.12	44	*e*P	P	05 07 14.5	+1.1
	1.2nm,0.8s						
LOHW	Long Hollow	91.16	44	*e*P	P	05 07 14.2	+0.7
	1.1nm,0.8s						
BW06	Boulder Array	91.50	45	*e*P	P	05 07 16.0	+0.8
	5.1nm,1.5s						
PDAR	Pinedale Array	91.50	45	P	P	05 07 14.9	-0.3
PDAR	Pinedale Array	91.50	45	P	P	05 07 14.9	-0.3
	0.4nm,0.8s,baz=216,slow=1.3,SNR=3.9						
PDAR				LR	LR	05 41 51.0	
	comp=Z,35nm,19.2s,baz=83,slow=31						
SDCO	Great Sand Dun	92.41	51	*e*P	P	05 07 20.1	+0.5
	2.5nm,1.2s						
INK	Inuvik	94.06	17	*e*P	P	05 07 23.9	-2.2
	5.0nm,1.1s						
AMTX	Amarillo	94.29	55	*e*P	P	05 07 28.5	+0.4
PLCA	Paso Flores	94.42	136	LR	LR	05 39 07.0	
	comp=Z,64nm,20.6s,baz=195,slow=29						
BSEG	Bad Segeberg	143.19	346	*e*PKPbc	PKPbc	05 13 39.1	0.0
CSS	Prodhromos	143.37	304	*e*PKPdf	PKPdf	05 13 43.5	+0.3
OKC	Ostrava-Krasne	144.31	335	*e*PKP	PKPbc	05 13 43.1	+0.5
DPC	Dobruska-Polom	144.58	338	*e*PKP	PKPbc	05 13 43.9	+0.4
DPC				*ex*	x	05 13 50.4	
MORC	Moravsky Berou	144.60	336	*e*PKPdf	PKPbc	05 13 43.9	+0.3
CLL	Collm	144.86	342	*e*PKPbc	PKPbc	05 13 44.7	+0.4
CLL	Collm	144.86	342	*i*PKPdf	PKPab	05 13 44.0	-0.2
	comp=Z,10.0nm,1.0s						
CLL				*i*		05 13 52.4	
CLL				*i*		05 14 01.1	
BRG	Berggiesshubel	144.95	340	*e*P	PKPbc	05 13 44.8	+0.2
	comp=Z,12nm,1.1s						
PVCC	Panska Ves	145.04	339	*e*PKP	PKPdf	05 13 45.8	+0.2
PSZ	Piszkesteto	145.06	332	*e*PKPdf	PKPbc	05 13 45.2	0.0
VYHS	Vyhne	145.08	333	*e*PKP	PKPdf	05 13 45.6	-0.1
FBE	Freiberg	145.09	341	*e*PKPbc	PKPdf	05 13 45.5	+0.3
IBBN	Ibbenburen	145.27	348	*e*PKPbc	PKPdf	05 13 46.0	+0.1
NEUB	Neuenburg	145.30	343	*e*PKPbc	PKPdf	05 13 46.4	+0.4
PRU	Pruhonice	145.51	339	*e*PKP	PKPdf	05 13 46.3	-0.1
TANN	Tannenbergstha	145.81	341	*e*PKPbc	PKPab	05 13 48.2	+0.3
WERD	Werda	145.83	342	*e*PKPbc	PKPab	05 13 48.1	+0.2
PLN	Plauen	145.84	342	*e*PKPbc	PKPab	05 13 48.2	+0.3
GUNZ	Gunzen	145.89	341	*e*PKPbc	PKPab	05 13 48.3	+0.1
WERN	Wernitzgruen	145.95	341	*e*PKPbc	PKPab	05 13 48.6	+0.2
NKC	Novy Kostel	145.97	341	*e*PKP	PKPab	05 13 48.5	0.0
ROTZ	Rotzenmuhle	146.46	341	*e*PKPbc	PKPab	05 13 50.2	-0.1
KHC	Kasperske Hory	146.57	339	*e*PKP	PKPbc	05 13 50.0	+0.2
KHC				*ex*	x	05 13 58.5	
KHC	Kasperske Hory	146.57	339	*e*PKPbc	PKPbc	05 13 49.0	-0.7
GEC2	GERESS Array S	146.77	339	*e*PKPbc	PKPbc	05 13 50.7	+0.3
GERES	GERESS Array B	146.77	339	PKPbc	PKPbc	05 13 50.1	-0.3
GERES	GERESS Array B	146.77	339	PKPbc	PKPbc	05 13 50.1	-0.3
	comp=Z,1.6nm,1.0s,baz=45,slow=2.1,SNR=14						
WET	Wettzell	146.79	340	*e*PKPbc	PKPbc	05 13 50.9	+0.5
TNS	Taunus Mts	147.07	345	*e*PKPbc	PKPbc	05 13 51.5	+0.3
WLF	Walferdange	148.10	348	*e*PKPbc	PKPbc	05 13 55.0	+1.1
WLF	Walferdange	148.10	348	*e*PKPbc	PKPbc	05 13 53.7	-0.2
DAVOX	Davos/Dischmat	149.83	341	PKPbc	PKPbc	05 13 58.3	-0.4
DAVOX	Davos/Dischmat	149.83	341	PKPbc	PKPbc	05 13 58.3	-0.4
	baz=7.1,slow=8.1						

MEX 02 05:17:00.7±0.8, 15°.73N×98°.79W, h5km±13km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.92	44	*i* P	Pg	05 17 16.0	-2.3
PNIG				*i* S	Sg	05 17 27.6	-2.7
ACX	Acapulco	1.53	318	*i* P	Pn	05 17 25.6	-3.1
ACX				*i* S	Sn	05 17 45.3	-3.7
CAIG	El Cayaco	1.93	313	*i* P	Pn	05 17 29.9	-4.3
CAIG				*i* S	Sn	05 17 54.6	-4.2
VHO	Vista Hermosa	2.38	56	*i* P	Pn	05 17 38.3	-2.4
VHO				*i* S	Sn	05 18 06.7	-3.8
HUIG	Huatulco	2.58	89	*i* P	Pn	05 17 40.3	-2.9
HUIG				*i* S	Sn	05 18 10.7	-4.3
PLIG	Platanillo	2.73	346	*i* P	Pn	05 17 42.0	-3.4
PLIG				*i* S	Sn	05 18 15.0	-3.9
ARIG	Puente Sto Nin	2.94	330	*i* P	Pn	05 17 46.1	-2.1
ARIG				*i* S	Sn	05 18 20.5	-3.4
YAIG	Yautepec	3.12	355	*i* P	Pn	05 17 47.6	-3.3
YAIG				*i* S	Sn	05 18 25.4	-3.3
ZIIG	Zihuatanejo	3.17	306	*i* P	Pn	05 17 48.4	-2.9
ZIIG				*i* S	Sn	05 18 25.7	-3.8

MEX 02 05:21:13.8±0.6, 15°.97N×98°.79W, h16km±12km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.76	57	*i* P	Pg	05 21 25.9	-2.7
PNIG				*i* S	Sg	05 21 34.6	-4.1
CAIG	El Cayaco	1.78	307	*i* P	Pn	05 21 40.0	-3.9
CAIG				*i* S	Sn	05 22 00.9	-5.3
VHO	Vista Hermosa	2.25	61	*i* P	Pn	05 21 48.2	-2.5
VHO				*i* S	Sn	05 22 13.6	-4.7
PLIG	Platanillo	2.50	344	*i* P	Pn	05 21 51.3	-2.7
PLIG				*i* S	Sn	05 22 19.8	-4.5
HUIG	Huatulco	2.58	94	*i* P	Pn	05 21 51.9	-3.1
HUIG				*i* S	Sn	05 22 20.9	-5.2
ARIG	Puente Sto Nin	2.74	327	*i* P	Pn	05 21 54.7	-2.4
ARIG				*i* S	Sn	05 22 25.6	-4.3
YAIG	Yautepec	2.88	355	*i* P	Pn	05 21 56.4	-3.0
YAIG				*i* S	Sn	05 22 30.0	-3.9
PCIG		5.36	92	*i* P	Pn	05 22 31.6	-1.7

MEX 02 05:40:04.2±0.8, 17°.10N×100°.17W, h5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.11	241	*i* P	Pg	05 40 05.2	-1.2
CAIG				*i* S	Sg	05 40 08.6	+0.6
ACX	Acapulco	0.38	128	*i* P	Pg	05 40 11.1	-0.4
ACX				*i* S	Sg	05 40 14.8	-1.7
ARIG	Puente Sto Nin	1.19	352	*i* P	Pg	05 40 23.4	-3.7
ARIG				*i* S	Sg	05 40 39.2	-3.3
ZIIG	Zihuatanejo	1.33	292	*i* P	Pn	05 40 26.1	-3.4
ZIIG				*i* S	Sb	05 40 43.1	-4.1
PLIG	Platanillo	1.43	26	*i* P	Pn	05 40 27.1	-3.9
PLIG				*i* S	Sb	05 40 45.4	-4.9
YAIG	Yautepec	2.04	31	*e*P	Pn	05 40 35.5	-3.9
YAIG				*i* S	Sn	05 41 00.9	-4.6
PNIG	Pinotepa	2.08	109	*i* P	Pn	05 40 36.5	-3.3
PNIG				*i* S	Sn	05 41 02.1	-4.1

IDC 02 05:44:33.6±2.5, 4°.06N×126°.79E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=202.0km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.98	163	P	P	05 49 59.6	+0.4
	0.4nm,0.4s,baz=342,slow=10,SNR=5.3						
ASAR	Alice Springs	28.41	166	P	P	05 50 29.7	-0.5
	0.4nm,0.8s,baz=350,slow=9.7,SNR=3.1						
MKAR	Makanchi Array	57.33	325	P	P	05 54 23.6	0.0
	0.2nm,0.4s,baz=120,slow=6.4,SNR=4.1						

*TAP **02** 05:58:26.9, 23°.85N×121°.00E, h16km, ML4.0, B*
*IDC **02** 05:58:26.3±1.4, 23°.41N×121°.27E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, MS3.7/1, Ms1 3.7/1, ms1mx2.7/21, Error ellipse: s-maj=74.6km s-min=24.1km az=68.0*
*ISCJB **02** 05:58:27.8±0.2, 23°.85N±0°.01×121°.02E±0°.02, h10km±2km, mb3.3/4, MS3.7/1, Error ellipse: s-maj=2.6km s-min=1.7km az=31.4*

ISC 02 05:58:27.3±0.8, 23°.83N±0°.02×121°.02E±0°.02, h14km±6km, n65, σ0°70/102, mb3.4/4, 19C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	Sun Moon Lake	0.12	296	⇓*i*P	Pg	05 58 30.6	-0.1
	baz=288						
SMLT				S	Sg	05 58 33.8	+0.7
	baz=288						
TYC	Yuchr	0.17	296	⇓*i*P	Pg	05 58 31.0	-0.2
	baz=293						
WNT	Mingjian	0.31	279	⇑*i*P	Pb	05 58 34.1	-0.5
	baz=275						
WNT				*i* S	Sb	05 58 39.4	-0.2
	baz=275						
YUS	Yu-Shan	0.34	190	⇑*i*P	Pb	05 58 35.4	-0.1
	baz=179						
YUS				*i* S	Sb	05 58 40.6	-0.5
	baz=179						
ALS	Alishan	0.37	212	⇑*e*P

WTP				*e*S		**Sb**	**05 58 51.3**	**+0.7**
	baz=210							
STYT	**Tauyuan**	**0.71**	**200**	*e*P		**Pb**	**05 58 41.5**	**+0.1**
	baz=197							
STYT				S		**Sb**	**05 58 51.8**	**+0.8**
	baz=197							
TWK	**Hsinying**	**0.74**	**221**	⇓P		**Pb**	**05 58 41.9**	**-0.1**
	baz=218							
TWK				S		**Sb**	**05 58 52.9**	**+0.7**
	baz=218							
WSF	**Szhu**	**0.76**	**255**	*e*P		**Pg**	**05 58 41.7**	**-0.3**
	baz=253							
WSF				*e*S		**Sb**	**05 58 52.6**	**+0.2**
	baz=253							
CHN1	**Nanshi**	**0.79**	**215**	*e*P		**Pb**	**05 58 42.5**	**-0.2**
	baz=213							
CHN1				S		**Sb**	**05 58 54.1**	**+0.8**
	baz=213							
CHKT	**Chengkung**	**0.79**	**156**	P		**Pn**	**05 58 44.1**	**0.0**
	baz=138							
CHKT				S		**Sn**	**05 58 57.2**	**+1.4**
	baz=138							
NSTT	**Nanjuang**	**0.80**	**359**	⇓P		**Pg**	**05 58 42.5**	**-0.2**
	baz=348							
NSTT				S		**Sg**	**05 58 53.3**	**0.0**
	baz=348							
SGST	**Jiashian**	**0.85**	**208**	*e*P		**Pb**	**05 58 44.3**	**+0.5**
	baz=217							
ENA	**Nanau**	**0.89**	**48**	⇑P		**Pg**	**05 58 43.8**	**-0.7**
	baz=50							
NSK	**Sanguang**	**0.90**	**20**	⇓*i*P		**Pg**	**05 58 43.7**	**-1.0**
	baz=23							
ENTT	**Nioudou**	**0.95**	**32**	*e*P		**Pg**	**05 58 44.5**	**-1.2**
	baz=29							
ENTT				*e*S		**Sg**	**05 58 58.1**	**0.0**
	baz=29							
CHN3	**Shinhua**	**0.96**	**219**	*e*P		**Pn**	**05 58 46.4**	**0.0**
	baz=228							
HSN	**Hsinchu**	**0.97**	**357**	*e*P		**Pg**	**05 58 46.1**	**+0.1**
	baz=1.0							
HSN				*e*S		**Sb**	**05 58 59.7**	**+1.1**
	baz=1.0							
SCLT	**Jiali**	**1.00**	**229**	*e*P		**Pb**	**05 58 46.3**	**-0.1**
	baz=227							
SCLT				*e*S		**Sn**	**05 59 01.9**	**+1.0**
	baz=227							
TWG	**Pinlang**	**1.01**	**177**	P		**Pn**	**05 58 47.2**	**+0.2**
	baz=168							
TWG				*e*S		**Sb**	**05 59 00.4**	**+0.7**
	baz=168							
TWE	**Neicheng**	**1.07**	**34**	*e*P		**Pg**	**05 58 46.8**	**-1.0**
	baz=36							
TWE				*e*S		**Sg**	**05 59 01.6**	**-0.2**
	baz=36							
TAI1	**Yung-k'ang**	**1.07**	**223**	*e*P		**Pn**	**05 58 48.2**	**+0.3**
	baz=231							
TAI1				*e*S		**Sn**	**05 59 03.7**	**+1.2**
	baz=231							
TTN	**Taitung**	**1.08**	**174**	*e*P		**Pg**	**05 58 47.0**	**-1.1**
	baz=172							
TWC	**Suao**	**1.08**	**44**	*e*P		**Pg**	**05 58 47.3**	**-0.9**
	baz=46							
TWC				*e*S		**Sg**	**05 59 01.7**	**-0.7**
	baz=46							
TWM1	**Shoushan**	**1.14**	**209**	*e*P		**Pn**	**05 58 50.1**	**+1.2**
	baz=208							
NCU	**National Centr**	**1.15**	**8**	*e*P		**Pg**	**05 58 47.8**	**-1.6**
	baz=9.0							
ECL	**Taimali**	**1.23**	**183**	*e*P		**Pn**	**05 58 50.5**	**+0.5**
	baz=181							
ECL				*e*S		**Sn**	**05 59 07.6**	**+1.1**
	baz=181							
TWA	**Mucha**	**1.25**	**24**	*e*P		**Pn**	**05 58 50.9**	**+0.4**
	baz=26							
TWA				*e*S		**Sg**	**05 59 07.3**	**-0.5**
	baz=26							
TAP1	**Taipei**	**1.29**	**21**	*e*P		**Pn**	**05 58 51.2**	**+0.3**
	baz=22							
TWS1	**Kuangyinshan**	**1.32**	**16**	*e*P		**Pn**	**05 58 51.0**	**-0.3**
	baz=3.0							
TWS1				*e*S		**Sn**	**05 59 10.9**	**+2.2**
	baz=3.0							
PNG	**Penghu**	**1.37**	**259**	P		**Pn**	**05 58 50.7**	**-1.3**
	baz=251							
PNG				*e*S		**Sb**	**05 59 08.8**	**-1.3**
	baz=251							
WDGT	**Dungji**	**1.37**	**246**	*e*P		**Pn**	**05 58 51.0**	**-1.0**
	baz=244							
WDGT				*e*S		**Sb**	**05 59 09.9**	**-0.2**
	baz=244							
NWF	**Wu-fen Shan**	**1.42**	**29**	*e*P		**Pb**	**05 58 53.9**	**+0.3**
	baz=41							
NWF				*e*S		**Sg**	**05 59 13.4**	**+0.4**
	baz=41							
TWB1	**Santiao Chiao**	**1.47**	**37**	⇓P		**Pb**	**05 58 54.8**	**+0.4**
	baz=48							
TWB1				*e*S		**Sg**	**05 59 15.1**	**+0.5**
	baz=48							
TAW	**Tawu**	**1.47**	**184**	*e*P		**Pb**	**05 58 54.4**	**0.0**
	baz=173							
SCZT	**Fangliau**	**1.50**	**194**	*e*P		**Pn**	**05 58 54.3**	**+0.6**
	baz=193							
SCZT				*e*S		**Sg**	**05 59 15.1**	**-0.4**
	baz=193							
TWY	**Chenhua**	**1.53**	**20**	*e*P		**Pn**	**05 58 54.9**	**+0.7**
	baz=22							
HEN	**Hengchun**	**1.83**	**188**	*e*P		**Pg**	**05 59 02.6**	**+0.1**
	baz=188							
TWK1	**Hengchun**	**1.89**	**186**	*e*P		**Pg**	**05 59 02.2**	**-1.3**
	baz=202							
YOJ	**Yonaguni jima**	**1.93**	**71**	*e*P		**Pn**	**05 58 59.7**	**+0.1**
	baz=70							
PCYT	**Pengchaiyu**	**2.03**	**28**	*e*P		**Pn**	**05 59 01.6**	**+0.5**
	baz=15							
KSRS	**Korea Array**	**14.81**	**22**	Pn		**P**	**06 02 00.8**	**-1.4**
	baz=196,slow=13,SNR=4.8							
SONM	**Songino Array**	**26.64**	**338**	P		P	06 04 11.2	+5.6
	0.3nm,0.5s,baz=117,slow=8.3,SNR=2.8							
MKAR	**Makanchi Array**	**38.49**	**316**	P		P	06 05 53.8	+4.7
	0.3nm,0.5s,baz=106,slow=9.4,SNR=4.1							
ZALV	**Zalesovo Beam**	**40.46**	**327**	P		P	06 06 09.9	+4.6
	0.6nm,0.4s,baz=166,slow=9.4,SNR=4.0							
WRA	**Warramunga Arr**	**45.40**	**162**	P		P	06 06 43.0	-2.7
	0.4nm,0.8s,baz=344,slow=8.6,SNR=3.5							
ASAR	**Alice Springs**	**48.84**	**164**	LR		LR	06 26 23.1	
	comp=Z,87nm,20.7s,baz=101,slow=35							

*ISCJB **02** 06:07:28.5±0.5, 38°.03N±0°.02×21°.53E±0°.02, h13km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=31.1*
*CSEM **02** 06:07:28.4±0.1, 38°.02N×21°.54E, h12km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.6km az=46.0*
*ATH **02** 06:07:28.1, 38°.02N×21°.52E, h19km±1km, MD3.0/17*
*THE **02** 06:07:29.0, 38°.02N×21°.56E, h3km±1km, ML2.2/4, Error ellipse: s-maj=1.5km s-min=0.4km az=315.0*

ISC 02 06:07:28.7±0.8, 38°.02N±0°.02×21°.54E±0°.02, h14km±4km, n66, σ0§66/119, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.07**	**304**	P	**Pg**	**06 07 31.2**	**-0.4**
RLS				S	**Sg**	**06 07 32.9**	**-0.6**
RLS	**Riolos of Patr**	**0.07**	**304**	*e*PB	**Pg**	**06 07 31.5**	**-0.1**
RLS				*e*SB	**Sg**	**06 07 34.2**	**+0.7**
RLS	**Riolos of Patr**	**0.07**	**304**	P	**Pg**	**06 07 31.2**	**-0.4**
RLS	**Riolos of Patr**	**0.07**	**304**	*e*Pb	**Pg**	**06 07 31.5**	**-0.1**
RLS				S	**Sg**	**06 07 32.9**	**-0.6**
RLS				*e*Sb		06 07 34.2	
AXS	**Araxos**	**0.22**	**324**	P	**Pg**	**06 07 33.3**	**-0.3**
AXS				S	**Sg**	**06 07 37.5**	**+0.6**
AXS	**Araxos**	**0.22**	**324**	P	**Pg**	**06 07 33.3**	**-0.3**
AXS				S	**Sg**	**06 07 37.5**	**+0.6**
LAKA	**Lakka**	**0.41**	**57**	P	**Pg**	**06 07 36.2**	**-0.7**
LAKA				S	**Sg**	**06 07 43.0**	**+0.5**
LAKA	**Lakka**	**0.41**	**57**	*e*PB	**Pg**	**06 07 36.4**	**-0.5**
LAKA				*e*SB	**Sb**	**06 07 43.3**	**-0.5**
LAKA	**Lakka**	**0.41**	**57**	*e*Pb	**Pg**	**06 07 36.4**	**-0.5**
LAKA				S	**Sg**	**06 07 43.0**	**+0.5**
KLV	**Kalavryta, Ach**	**0.48**	**87**	P	**Pg**	**06 07 37.3**	**-1.0**
KLV				S	**Sg**	**06 07 45.2**	**+0.5**
KLV	**Kalavryta, Ach**	**0.48**	**87**	*e*PB	**Pg**	**06 07 37.2**	**-1.0**
KLV				*e*SB	**Sg**	**06 07 45.2**	**+0.5**
KLV	**Kalavryta, Ach**	**0.48**	**87**	P	**Pg**	**06 07 37.3**	**-1.0**
KLV				S	**Sg**	**06 07 45.2**	**+0.5**
EFP	**Efpalio**	**0.50**	**35**	P	**Pg**	**06 07 38.2**	**-0.4**
EFP				S	**Sb**	**06 07 46.1**	**-0.2**
EFP	**Efpalio**	**0.50**	**35**	*e*PN	**Pg**	**06 07 38.0**	**-0.6**
EFP				*e*SN	**Sb**	**06 07 46.7**	**+0.4**
EFP	**Efpalio**	**0.50**	**35**	P	**Pg**	**06 07 38.2**	**-0.4**
EFP				S	**Sb**	**06 07 46.1**	**-0.2**
AMT	**Artemida-Makis**	**0.50**	**165**	P	**Pg**	**06 07 38.5**	**-0.1**
AMT				S	**Sb**	**06 07 46.1**	**-0.3**
AMT	**Artemida-Makis**	**0.50**	**165**	*e*PN	**Pg**	**06 07 38.0**	**-0.6**
AMT				*e*SN	**Sb**	**06 07 46.3**	**-0.1**
AMT	**Artemida-Makis**	**0.50**	**165**	*e*Pn	**Pg**	**06 07 38.0**	**-0.6**
AMT	**Artemida-Makis**	**0.50**	**165**	P	**Pg**	**06 07 38.5**	**-0.1**
AMT				S	**Sb**	**06 07 46.1**	**-0.3**
TRIZ	**Trizonia**	**0.54**	**50**	P	**Pg**	**06 07 38.7**	**-0.7**
TRIZ				S	**Sg**	**06 07 46.6**	**-0.1**
TRIZ	**Trizonia**	**0.54**	**50**	*e*PN	**Pg**	**06 07 38.6**	**-0.8**
TRIZ				*e*SN	**Sg**	**06 07 46.7**	**0.0**
TRIZ	**Trizonia**	**0.54**	**50**	P	**Pg**	**06 07 38.7**	**-0.7**
TRIZ				S	**Sg**	**06 07 46.6**	**-0.1**
KALE	**Kalithea**	**0.60**	**51**	P	**Pg**	**06 07 39.6**	**-0.9**
KALE				S	**Sb**	**06 07 49.6**	**+0.3**
KALE	**Kalithea**	**0.60**	**51**	*e*PB	**Pg**	**06 07 39.5**	**-0.9**
KALE				*e*SN	**Sb**	**06 07 49.4**	**+0.1**
KALE	**Kalithea**	**0.60**	**51**	P	**Pg**	**06 07 39.6**	**-0.9**
KALE				*e*Sn	**Sb**	**06 07 49.4**	**+0.1**
KFL	**Anninata**	**0.60**	**279**	P	**Pg**	**06 07 40.1**	**-0.4**
KFL				S	**Sb**	**06 07 50.0**	**+0.7**
KFL	**Anninata**	**0.60**	**279**	P	**Pg**	**06 07 40.1**	**-0.4**
KFL				S	**Sb**	**06 07 50.0**	**+0.7**
GUR	**Goura**	**0.64**	**97**	P	**Pg**	**06 07 40.0**	**-1.2**
GUR				S	**Sg**	**06 07 50.0**	**+0.3**
GUR	**Goura**	**0.64**	**97**	*e*PB	**Pg**	**06 07 40.0**	**-1.2**
GUR				*e*SN	**Sg**	**06 07 50.0**	**+0.3**
GUR	**Goura**	**0.64**	**97**	P	**Pg**	**06 07 40.0**	**-1.2**
GUR				S	**Sg**	**06 07 50.0**	**+0.3**
VLS	**Valsamata**	**0.77**	**282**	P	**Pb**	**06 07 43.6**	**-0.2**
VLS				S	**Sb**	**06 07 54.7**	**+0.6**
VLS	**Valsamata**	**0.77**	**282**	*e*PN	**Pg**	**06 07 42.2**	**-1.4**
VLS				*e*SN	**Sb**	**06 07 54.7**	**+0.6**
VLS	**Valsamata**	**0.77**	**282**	P	**Pb**	**06 07 43.6**	**-0.2**
VLS				S	**Sb**	**06 07 54.7**	**+0.6**
DSF	**Desfina**	**0.87**	**63**	P	**Pg**	**06 07 44.2**	**-1.4**
DSF				S	**Sb**	**06 07 57.5**	**+0.4**
DSF	**Desfina**	**0.87**	**63**	P	**Pg**	**06 07 44.2**	**-1.4**
DSF				S	**Sb**	**06 07 57.5**	**+0.4**
ITM	**Ithomi**	**0.89**	**160**	P	**Pg**	**06 07 44.9**	**-1.0**
ITM				S	**Sn**	**06 07 59.0**	**-0.4**
ITM	**Ithomi**	**0.89**	**160**	*e*PN	**Pg**	**06 07 45.0**	**-1.0**
ITM				*e*SN	**Sn**	**06 07 59.7**	**+0.3**
ITM	**Ithomi**	**0.89**	**160**	P	**Pg**	**06 07 44.9**	**-1.0**
ITM				S	**Sn**	**06 07 59.0**	**-0.4**
EVR	**Evrytania**	**0.92**	**13**	P	**Pg**	**06 07 46.3**	**-0.3**
EVR				S	**Sn**	**06 08 00.1**	**-0.3**
EVR	**Evrytania**	**0.92**	**13**	*e*PN	**Pb**	**06 07 46.6**	**+0.1**
EVR	**Evrytania**	**0.92**	**13**	P	**Pg**	**06 07 46.3**	**-0.3**
EVR	**Evrytania**	**0.92**	**13**	*e*Pn	**Pb**	**06 07 46.6**	**+0.1**
EVR				S	**Sn**	**06 08 00.1**	**-0.3**
VLX	**Vlachokerasia**	**0.93**	**134**	P	**Pg**	**06 07 46.3**	**-0.3**
VLX				S	**Sb**	**06 07 59.8**	**+1.1**
VLX	**Vlachokerasia**	**0.93**	**134**	*e*PN	**Pg**	**06 07 46.0**	**-0.6**
VLX				*e*SN	**Sn**	**06 08 00.1**	**-0.4**
VLX	**Vlachokerasia**	**0.93**	**134**	*e*Pn	**Pg**	**06 07 46.0**	**-0.6**
VLX	**Vlachokerasia**	**0.93**	**134**	P	**Pg**	**06 07 46.3**	**-0.3**
VLX				S	**Sb**	**06 07 59.8**	**+1.1**
VLX				*e*Sn	**Sn**	**06 08 00.1**	**-0.4**
LKD2	**Lefkada island**	**1.04**	**318**	P	**Pg**	**06 07 48.4**	**-0.3**
LKD2	**Lefkada island**	**1.04**	**318**	*e*PB	**Pb**	**06 07 47.1**	**-1.3**
LKD2				*e*SN	**Sg**	**06 08 02.1**	**-0.2**
LKD2	**Lefkada island**	**1.04**	**318**	*e*Pb	**Pb**	**06 07 47.1**	**-1.3**
LKD2	**Lefkada island**	**1.04**	**318**	P	**Pg**	**06 07 48.4**	**-0.3**
LKD2				*e*Sn	**Sg**	**06 08 02.1**	**-0.2**
LTK	**Loutraki**	**1.12**	**89**	*e*PN	**Pg**	**06 07 50.3**	**-0.1**
LTK	**Loutraki**	**1.12**	**89**	*e*Pn	**Pg**	**06 07 50.3**	**-0.1**
PYL	**PYLOS**	**1.13**	**172**	P	**Pb**	**06 07 49.6**	**-0.4**
PYL				S	**Sn**	**06 08 07.0**	**+1.6**
PYL	**PYLOS**	**1.13**	**172**	*e*PN	**Pb**	**06 07 49.6**	**-0.4**
PYL	**PYLOS**	**1.13**	**172**	P	**Pb**	**06 07 49.6**	**-0.4**
PYL				S	**Sn**	**06 08 07.0**	**+1.6**
AGG	**Agios Georgios**	**1.18**	**31**	*e*PN	**Pn**	**06 07 50.8**	**+0.1**
AGG				*e*SN	**Sn**	**06 08 08.1**	**+1.5**
AGG	**Agios Georgios**	**1.18**	**31**	*e*Pn	**Pn**	**06 07 50.8**	**+0.1**
AGG				*e*Sn	**Sn**	**06 08 08.1**	**+1.5**
DYR	**Agios Nikonas**	**1.40**	**153**	P	**Pb**	**06 07 54.4**	**-0.2**
DYR	**Agios Nikonas**	**1.40**	**153**	*e*PN	**Pb**	**06 07 54.4**	**-0.2**
DYR	**Agios Nikonas**	**1.40**	**153**	P	**Pb**	**06 07 54.4**	**-0.2**
DIDY	**Didyma**	**1.43**	**112**	P	**Pb**	**06 07 55.5**	**+0.4**
DIDY				S	**Sg**	**06 08 14.9**	**+0.1**
DIDY	**Didyma**	**1.43**	**112**	P	**Pb**	**06 07 55.5**	**+0.4**
DIDY				S	**Sg**	**06 08 14.9**	**+0.1**
DID	**Didima**	**1.44**	**110**	P	**Pn**	**06 07 54.7**	**+0.4**
DID				S	**Sg**	**06 08 15.3**	**+0.3**
DID	**Didima**	**1.44**	**110**	*e*PN	**Pn**	**06 07 54.1**	**-0.2**
DID				*e*SN	**Sg**	**06 08 15.9**	**+0.9**
DID	**Didima**	**1.44**	**110**	*e*Pb	**Pn**	**06 07 54.1**	**-0.2**
DID	**Didima**	**1.44**	**110**	P	**Pn**	**06 07 54.7**	**+0.4**
DID				S	**Sg**	**06 08 15.3**	**+0.3**

*IDC **02** 06:07:50.9±1.2, 34°.05N×25°.59E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/25, mbtmp3.7/9, ML3.8/3, Error ellipse: s-maj=29.0km s-min=20.5km az=178.0*
*CSEM **02** 06:07:54.7±0.4, 34°.11N×25°.56E, h10km, Mw3.7, Error ellipse: s-maj=11.5km s-min=6.7km az=147.0*
*ATH **02** 06:07:54.6, 34°.13N×25°.58E, h26km±6km, MD3.8/10*

ISC 02 06:07:57.7±1.6, 34°.16N±0°.10×25°.50E±0°.05, h46km±17km, n44, σ1§48/52, mb3.4/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.73**	**12**	*e*PB	Pn	06 08 08.1	-3.6
XRY	**Khrisi**	**0.73**	**12**	*e*Pb	Pn	06 08 08.1	-3.6
LAST	**Lasithi**	**1.00**	**359**	*e*PN	**Pn**	**06 08 14.8**	**-0.7**
LAST	**Lasithi**	**1.00**	**359**	*e*Pn	**Pn**	**06 08 14.8**	**-0.7**
SIVA	**Sivas**	**1.03**	**327**	*e*PN	**Pn**	**06 08 16.1**	**+0.3**
SIVA	**Sivas**	**1.03**	**327**	*e*Pn	**Pn**	**06 08 16.1**	**+0.3**
NPS	**Neapolis**	**1.11**	**5**	*e*PN	**Pn**	**06 08 16.9**	**+0.1**
NPS	**Neapolis**	**1.11**	**5**	*e*Pn	**Pn**	**06 08 16.9**	**+0.1**
ZKR	**Zakros**	**1.12**	**31**	*e*PN	**Pn**	**06 08 16.5**	**-0.5**
ZKR	**Zakros**	**1.12**	**31**	*e*Pn	**Pn**	**06 08 16.5**	**-0.5**
IDI	**Anoyia**	**1.24**	**336**	P	**Pn**	**06 08 20.8**	**+2.1**
IDI	**Anoyia**	**1.24**	**336**	*e*PN	**Pn**	**06 08 19.2**	**+0.5**
IDI	**Anoyia**	**1.24**	**336**	*e*Pn	**Pn**	**06 08 19.2**	**+0.5**
IDI	**Anoyia**	**1.24**	**336**	P	**Pn**	**06 08 20.8**	**+2.1**
VAM	**Vamos**	**1.65**	**320**	*e*PN	**Pn**	**06 08 22.1**	**-2.1**
KARN	**Karanos**	**1.80**	**314**	*e*PN	**Pn**	**06 08 27.1**	**+0.8**
KARN	**Karanos**	**1.80**	**314**	*e*Pn	**Pn**	**06 08 27.1**	**+0.8**
LTBQ	**Tobrug**	**2.48**	**213**	*i* P	**Pn**	**06 08 34.7**	**-0.9**
	SNR=24						
ARG	**Arkhangelos**	**2.97**	**46**	*e*PN	**Pn**	**06 08 42.7**	**+0.3**
ARG				*e*SN	**Sn**	**06 09 16.6**	**-0.2**
ARG	**Arkhangelos**	**2.97**	**46**	*e*Pn	**Pn**	**06 08 42.7**	**+0.3**
ARG				*e*Sn	**Sn**	**06 09 16.6**	**-0.2**
DYR	**Agios Nikonas**	**3.67**	**316**	*e*PB	Pn	06 08 56.9	+5.0
TURN	**Turunc**	**3.71**	**42**	*i* P	**Pn**	**06 08 50.2**	**-2.2**
TURN				*i* S	**Sn**	**06 09 29.8**	**-5.0**
TURN	**Turunc**	**3.71**	**42**	*i* P	**Pn**	**06 08 50.2**	**-2.2**
AKAS	**Kas**	**3.95**	**57**	*i* P	**Pn**	**06 08 56.3**	**+0.5**
AKAS				*i* S	**Sn**	**06 09 41.1**	**+0.2**
AKAS	**Kas**	**3.95**	**57**	*i* P	**Pn**	**06 08 56.3**	**+0.5**
AKAS				*i* S	**Sn**	**06 09 41.1**	**+0.2**
GOLH	**Golhisar**	**4.51**	**46**	*i* P	**Pn**	**06 09 04.1**	**+0.5**
GOLH				*i* S	**Sn**	**06 09 56.6**	**+1.8**
GOLH	**Golhisar**	**4.51**	**46**	*i* P	**Pn**	**06 09 04.1**	**+0.5**
GOLH				*i* S	**Sn**	**06 09 56.6**	**+1.8**
KORT	**Korkueli**	**4.86**	**53**	*i* P	**Pn**	**06 09 09.8**	**+1.4**
KORT				*i* S	**Sn**	**06 10 07.4**	**+3.9**
KORT	**Korkueli**	**4.86**	**53**	*i* P	**Pn**	**06 09 09.8**	**+1.4**
KORT				*i* S	**Sn**	**06 10 07.4**	**+3.9**
KHAL	**Karahalli**	**5.30**	**36**	*i* P	**Pn**	**06 09 15.6**	**+1.3**
KHAL				*i* S	**Sn**	**06 10 13.5**	**-0.7**
KHAL	**Karahalli**	**5.30**	**36**	*i* P	**Pn**	**06 09 15.6**	**+1.2**
KHAL				*i* S	**Sn**	**06 10 13.5**	**-0.7**
LJBD	**Adjabya**	**5.53**	**236**	*i* P	**Pn**	**06 09 16.1**	**-1.3**
	SNR=23						
GULE	**Gulek**	**8.16**	**65**	*i* P	**Pn**	**06 09 52.9**	**-0.8**
GULE				*i* S	**Sn**	**06 11 23.7**	**-0.9**
GULE	**Gulek**	**8.16**	**65**	*i* P	**Pn**	**06 09 52.9**	**-0.8**
GULE				*i* S	**Sn**	**06 11 23.7**	**-0.9**
MMAI	**Mount Meron Ar**	**8.34**	**95**	Pn	Pn	06 09 52.3	-3.7
	1.5nm,0.3s,baz=265,slow=17,SNR=2.4						
BRTR	**Keskin Array B**	**8.56**	**47**	Pn	**Pn**	**06 09 59.5**	**+0.4**
	0.1nm,0.3s,baz=211,slow=14,SNR=4.6						
EIL	**Elat**	**9.19**	**117**	Pn	Pn	06 10 02.6	-5.0
	0.5nm,0.3s,baz=324,slow=19,SNR=5.1						
GERES	**GERESS Array B**	**17.10**	**333**	P	**Pn**	**06 11 53.8**	**+0.4**
	0.2nm,0.3s,baz=152,slow=12,SNR=18						
ESDC	**Sonseca Array**	**24.14**	**292**	P	**P**	**06 13 09.7**	**+0.4**
	0.2nm,0.3s,baz=90,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**27.31**	**1**	P	**P**	**06 13 36.9**	**-0.8**
	0.5nm,0.6s,baz=163,slow=13,SNR=4.6						
TORD	**Torodi Ar. Bea**	**30.08**	**232**	P	**P**	**06 14 01.9**	**-0.9**
	0.3nm,0.5s,baz=32,slow=9.1,SNR=5.3						
MKAR	**Makanchi Array**	**44.10**	**56**	P	**P**	**06 16 01.0**	**-0.3**
	0.5nm,0.7s,baz=278,slow=3.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**45.50**	**45**	P	**P**	**06 16 12.0**	**-0.3**
	0.9nm,0.4s,baz=256,slow=8.8,SNR=1.4						
SCHQ	**Schefferville**	**64.13**	**320**	P	**P**	**06 18 27.9**	**+0.8**
	1.6nm,0.6s,baz=52,slow=15,SNR=4.1						

*IDC **02** 06:14:47.3±2.7, 36°.79S×179°.06E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, MS3.9/2, Ms1 3.9/2, ms1mx2.9/27, Error ellipse: s-maj=66.6km s-min=31.0km az=129.0*
*WEL **02** 06:14:50.9±0.6, 36°.74S×178°.76E, h12km, ML3.9/10, Error ellipse: s-maj=5.2km s-min=3.3km az=90.0*
*ISCJB **02** 06:14:53.8±1.4, 36°.93S±0°.08×178°.7E±0°.1, h46km, mb3.6/2, MS3.9/2, Error ellipse: s-maj=16.0km s-min=7.8km az=147.5*

ISC 02 06:14:54.0±1.4, 36°.82S±0°.08×178°.79E±0°.10, h46km, n41, σ1§71/40, 3C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.83**	**207**	P*	Pn	06 15 05.7	-3.7
MXZ				AML	AML	06 15 19.3	
MXZ				AML	AML	06 15 19.4	
PUZ	**Puketiti**	**1.32**	**198**	PN	**Pn**	**06 15 15.5**	**-0.6**
PUZ				SN	**Sn**	**06 15 34.8**	**+2.3**
PUZ				AML	AML	06 15 38.4	
WIZ	**White Island**	**1.46**	**241**	P*	**Pn**	**06 15 15.1**	**-2.7**
WIZ				S*	**Sn**	**06 15 32.2**	**-3.6**
CNGZ	**Carnagh Statio**	**1.72**	**195**	PN	**Pn**	**06 15 21.3**	**-0.2**
MWZ	**Matawai**	**1.81**	**213**	P*	**Pn**	**06 15 22.5**	**-0.3**
MWZ				AML	AML	06 15 50.9	
MWZ				AML	AML	06 15 51.5	
MWZ				AML	AML	06 15 51.6	
MWZ				AML	AML	06 15 55.5	
URZ	**Urewera**	**1.96**	**222**	⇑P*	**Pn**	**06 15 23.6**	**-1.1**
URZ				AML	AML	06 15 52.9	
URZ				AML	AML	06 15 54.6	
URZ	**Urewera**	**1.96**	**222**	Pn	**Pn**	**06 15 23.6**	**-1.1**
	51nm,0.3s,baz=236,slow=1.9,SNR=103						
URZ				Sn	**Sn**	**06 15 52.2**	**+4.1**
	52nm,0.3s,baz=112,slow=20,SNR=16						
PRGZ	**Paritu Road**	**2.22**	**199**	PN	**Pn**	**06 15 27.4**	**-0.9**
KARZ	**Kaharoa**	**2.35**	**239**	P*	**Pn**	**06 15 28.6**	**-1.5**
KNZ	**Kokohu**	**2.37**	**201**	PN	**Pn**	**06 15 29.1**	**-1.3**
MHGZ	**Mahia Peninsul**	**2.43**	**196**	PN	**Pn**	**06 15 30.4**	**-0.9**
KUZ	**Kuaotunu**	**2.46**	**271**	PN	**Pn**	**06 15 29.8**	**-1.8**
KUZ				AML	AML	06 15 59.7	
KUZ				AML	AML	06 16 00.7	
RAHZ	**Arahi**	**2.49**	**212**	PN	**Pn**	**06 15 32.4**	**+0.3**
PRRZ	**Plateau Road**	**2.53**	**228**	P*	**Pn**	**06 15 31.6**	**-1.0**
ALRZ	**Allen Road**	**2.60**	**227**	P*	**Pn**	**06 15 33.0**	**-0.6**
TOZ	**Tahuroa Road**	**2.77**	**250**	P*	**Pn**	**06 15 34.3**	**-1.6**
MKAZ	**Moumakai**	**2.91**	**263**	⇑PN	**Pn**	**06 15 37.0**	**-0.8**
BKZ	**Black Stump Fm**	**2.96**	**217**	P*	**Pn**	**06 15 38.6**	**0.0**
BKZ				AML	AML	06 16 19.8	
BKZ				AML	AML	06 16 28.6	
MCHZ	**McNeill Hill**	**3.09**	**212**	PN	**Pn**	**06 15 40.3**	**0.0**
OTAZ	**Otara**	**3.10**	**266**	PN	**Pn**	**06 15 39.9**	**-0.4**
RVAZ	**Riverhead Bore**	**3.38**	**270**	PN	**Pn**	**06 15 44.2**	**0.0**
MOVZ	**Moawhango**	**3.52**	**222**	P*	**

PMG			S	Sn	06 38 38.6	-2.4	
	13nm,0.3s,baz=294,slow=22,SNR=6.1						
COEN	**Coen**	**9.23 189**	P	**Pn**	06 38 38.9	**+1.4**	
	baz=9.2,SNR=59						
MTSU	**Mount Surprise**	**13.26 182**	P	**Pn**	06 39 33.4	**+1.1**	
	baz=13,SNR=12						
KDU	**Kakadu**	**14.39 236**	P	**Pn**	06 39 45.5	**-1.5**	
	baz=14,SNR=4.7						
CTA	**Charters Tower**	**15.28 174**	P	**P**	06 40 02.8	**+1.4**	
	1.0nm,0.3s,baz=5.2,slow=16,SNR=6.4						
MTN	**Manton Dam**	**15.60 238**	P	**Pn**	06 40 02.2	**-0.3**	
	baz=16,SNR=6.7						
WRA	**Warramunga Arr**	**18.12 213**	P	**P**	06 40 31.9	**-0.9**	
	3.1nm,0.3s,baz=36,slow=12,SNR=94						
WRA			LR	LR	06 47 36.7		
	comp=Z,82nm,20.6s,baz=115,slow=37						
EIDS	**Eidsvold**	**21.35 164**	P	**P**	06 41 09.9	**+2.0**	
	baz=22,SNR=4.0						
ASAR	**Alice Springs**	**21.45 208**	P	**P**	06 41 08.1	**-1.0**	
	8.4nm,0.7s,baz=34,slow=10,SNR=88						
ASAR			LR	LR	06 48 46.6		
	comp=Z,123nm,21.2s,baz=222,slow=34						
RMQ	**Roma**	**21.91 170**	P	**P**	06 41 17.2	**+3.3**	
	baz=22,SNR=8.0						
FITZ	**Fitzroy Crossi**	**22.85 233**	P	**P**	06 41 24.2	**+0.3**	
	5.6nm,0.6s,baz=57,slow=8.2,SNR=21						
FITZ			LR	LR	06 50 31.0		
	comp=Z,102nm,20.0s,baz=87,slow=37						
FITZ	**Fitzroy Crossi**	**22.85 233**	P	**P**	06 41 23.7	**-0.1**	
	baz=23,SNR=14						
WSI	**Waingapu**	**24.68 257**	P	P	06 41 34.5	-6.2	
	baz=24,SNR=3.9						
ARMA	**Armidale**	**26.31 166**	P	**P**	06 41 57.1	**+1.6**	
	baz=26,SNR=4.2						
STKA	**Stephens Creek**	**27.10 186**	P	**P**	06 42 02.2	**-0.1**	
	3.6nm,0.8s,baz=352,slow=15,SNR=5.9						
STKA			LR	LR	06 52 02.2		
	comp=Z,148nm,21.0s,baz=26,slow=34						
STKA	**Stephens Creek**	**27.10 186**	P	**P**	06 42 02.2	**-0.1**	
	baz=27,SNR=4.9						
MEEK	**Meekatharra**	**33.05 226**	P	**P**	06 42 54.7	**-0.4**	
	baz=33,SNR=6.5						
MORW	**Morawa**	**36.32 225**	P	**P**	06 43 23.0	**-0.2**	
	baz=36,SNR=5.5						
XMI	**Christmas Isla**	**39.04 259**	S	S	06 50 04.7	+25	
	baz=39,SNR=3.5						
KSRS	**Korea Array**	**44.84 341**	P	**P**	06 44 33.2	**-0.1**	
	1.8nm,0.9s,baz=156,slow=9.2,SNR=10.0						
KSRS			LR	LR	07 02 47.3		
	comp=Z,27nm,18.2s,baz=137,slow=35						
CMAR	**Chiang Mai Arr**	**50.66 298**	P	**P**	06 45 19.6	**+1.0**	
	2.6nm,0.7s,baz=123,slow=5.9,SNR=12						
SONM	**Songino Array**	**62.26 332**	P	**P**	06 46 41.0	**+0.3**	
	0.6nm,0.7s,baz=158,slow=9.7,SNR=4.5						
VNDA	**Vanda**	**73.25 176**	P	**P**	06 47 49.4	**+0.3**	
	1.2nm,0.9s,baz=327,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**75.12 321**	P	**P**	06 48 00.7	**+0.1**	
	2.3nm,0.8s,baz=109,slow=7.0,SNR=19						
ZALV	**Zalesovo Beam**	**76.78 328**	P	**P**	06 48 09.0	**-0.8**	
	1.4nm,0.7s,baz=101,slow=6.2,SNR=6.3						
ILAR	**Eielson Array**	**85.29 24**	P	**P**	06 48 53.4	**-1.4**	
	2.9nm,0.7s,baz=254,slow=5.2,SNR=39						
GERES	**GERESS Array B**	**119.62 325**	PKP	**PKPdf**	06 55 08.2	**+0.4**	
	0.2nm,0.5s,baz=90,slow=1.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**142.57 285**	PKhKP	PKPpre	06 55 45.7		
	0.8nm,0.5s,baz=47,slow=3.9,SNR=7.4						
KIC	**Kosan Boka**	**149.54 274**	*e*PKIKP	**PKPbc**	06 56 08.5	**+0.2**	
	67nm,1.5s						
DBIC	**Dimbokro**	**149.65 275**	PKPbc	**PKPbc**	06 56 09.1	**+0.5**	
	10nm,0.6s,baz=78,slow=1.1,SNR=14						
TIC	**Toumodi**	**149.81 275**	*e*PKIKP	**PKPbc**	06 56 09.0	**0.0**	
	32nm,1.0s						
LIC	**Lamto**	**149.83 274**	*e*PKIKP	**PKPbc**	06 56 09.0	**0.0**	
	38nm,0.6s						

IDC 02 06:40:18.7±0.8, 19°.72N×145°.16E, h0km, mb3.9/10, mb1 4.2/10, mb1mx3.9/24, mbtmp3.9/10, Error ellipse: s-maj=29.4km s-min=19.7km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.20**	**323**	P	P	06 45 28.4	+1.1
	2.1nm,0.9s,baz=146,slow=8.8,SNR=8.5						
WRA	**Warramunga Arr**	**40.81**	**196**	P	P	06 48 02.0	-0.2
	1.2nm,0.7s,baz=16,slow=8.8,SNR=3.9						
ASAR	**Alice Springs**	**44.49**	**195**	P	P	06 48 32.0	-0.1
	0.8nm,0.7s,baz=7.1,slow=6.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**56.90**	**322**	P	P	06 50 05.4	0.0
	0.7nm,0.6s,baz=86,slow=5.3,SNR=2.5						
MKAR	**Makanchi Array**	**57.39**	**313**	P	P	06 50 10.0	+0.9
	0.9nm,0.7s,baz=92,slow=9.8,SNR=6.5						
ILAR	**Eielson Array**	**62.97**	**26**	P	P	06 50 46.5	-0.5
	1.2nm,0.8s,baz=251,slow=5.5,SNR=7.3						
YKA	**Yellowknife Ar**	**77.33**	**28**	P	P	06 52 15.4	+0.3
	1.7nm,0.7s,baz=286,slow=5.4,SNR=6.4						
ARCES	**ARCESS Array B**	**81.37**	**342**	P	P	06 52 36.0	-1.0
	1.3nm,0.8s,baz=39,slow=9.2,SNR=2.8						
NVAR	**Mina Array Bea**	**82.92**	**52**	P	P	06 52 47.0	+1.0
	0.8nm,0.7s,baz=266,slow=5.4,SNR=9.2						
FINES	**FINESS Array B**	**85.75**	**335**	P	P	06 52 58.2	-1.4
	2.0nm,0.7s,baz=54,slow=5.0,SNR=9.7						
LPAZ	**La Paz**	**148.19**	**89**	PKPbc	PKPbc	07 00 07.7	-0.6
	0.7nm,0.7s,baz=249,slow=5.3,SNR=3.8						

*ATH **02** 06:50:35.6, 36°.23N×21°.69E, h5km±4km, MD3.5/23*
*THE **02** 06:50:37.9, 36°.29N×21°.82E, h0km±4km, ML3.0/3, Error ellipse: s-maj=5.3km s-min=1.0km az=213.0*
*CSEM **02** 06:50:38.0±0.4, 36°.29N×21°.82E, h2km, ML3.0/3, Error ellipse: s-maj=8.5km s-min=4.6km az=46.0*

ISC 02 06:50:37.8±1.6, 36°.29N±0°.04×21°.78E±0°.04, h3km±11km, n75, σ0°.76/98, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.61**	**357**	P	**Pg**	06 50 48.6	**-0.9**
PYL				S	**Sb**	06 50 58.9	**-1.2**
PYL	**PYLOS**	**0.61**	**357**	*e*PB	**Pg**	06 50 48.5	**-0.9**
PYL				*e*SB	**Sg**	06 50 58.4	**+1.0**
PYL	**PYLOS**	**0.61**	**357**	P	**Pg**	06 50 48.6	**-0.9**
PYL				*e*Sb	**Sg**	06 50 58.4	**+1.0**
DYR	**Agios Nikonas**	**0.65**	**43**	P	**Pg**	06 50 49.5	**-0.8**
DYR				S	**Sg**	06 50 59.8	**+1.1**
DYR	**Agios Nikonas**	**0.65**	**43**	*e*PG	**Pg**	06 50 49.5	**-0.8**
DYR				*e*SB	**Sb**	06 51 01.4	**+0.1**
DYR	**Agios Nikonas**	**0.65**	**43**	P	**Pg**	06 50 49.5	**-0.8**
DYR				S	**Sg**	06 50 59.8	**+1.1**
DYR				*e*Sb	**Sb**	06 51 01.4	**+0.1**
ITM	**Ithomi**	**0.90**	**7**	P	**Pg**	06 50 55.2	**+0.2**
ITM				S	**Sg**	06 51 07.5	**+0.8**
ITM	**Ithomi**	**0.90**	**7**	*e*PN	**Pg**	06 50 54.4	**-0.6**
ITM	**Ithomi**	**0.90**	**7**	*e*Pn	**Pg**	06 50 54.4	**-0.6**
ITM	**Ithomi**	**0.90**	**7**	P	**Pg**	06 50 55.2	**+0.2**
ITM				S	**Sg**	06 51 07.5	**+0.8**
KYTH	**Kithira**	**1.01**	**90**	P	**Pg**	06 50 56.6	**-0.6**
KYTH	**Kithira**	**1.01**	**90**	*e*PB	**Pg**	06 50 56.8	**-0.4**
KYTH	**Kithira**	**1.01**	**90**	*e*Pb	**Pg**	06 50 56.8	**-0.4**
VLI	**Veliai**	**1.03**	**65**	P	**Pg**	06 50 56.6	**-0.9**
VLI				S	**Sg**	06 51 11.0	**+0.2**
VLI	**Veliai**	**1.03**	**65**	*e*PG	**Pg**	06 50 56.3	**-1.2**
VLI				*e*SB	**Sb**	06 51 12.5	**+0.4**
VLI	**Veliai**	**1.03**	**65**	*e*Pg	**Pg**	06 50 56.3	**-1.2**
VLI	**Veliai**	**1.03**	**65**	P	**Pg**	06 50 56.6	**-0.9**
VLI				S	**Sg**	06 51 11.0	**+0.2**
VLI				*e*Sb	**Sb**	06 51 12.5	**+0.4**
VLX	**Vlachokerasia**	**1.18**	**24**	P	**Pg**	06 50 59.7	**-0.8**
VLX				S	**Sb**	06 51 17.2	**+0.4**
VLX	**Vlachokerasia**	**1.18**	**24**	*e*PG	**Pg**	06 50 59.2	**-1.3**
VLX	**Vlachokerasia**	**1.18**	**24**	*e*Pg	**Pg**	06 50 59.2	**-1.3**
VLX	**Vlachokerasia**	**1.18**	**24**	P	**Pg**	06 50 59.7	**-0.8**
VLX				S	**Sb**	06 51 17.2	**+0.4**
AMT	**Artemida-Makis**	**1.25**	**357**	P	**Pg**	06 51 01.4	**-0.3**
AMT				S	**Sn**	06 51 19.2	**-0.3**
AMT	**Artemida-Makis**	**1.25**	**357**	*e*PB	**Pg**	06 51 00.6	**-1.1**
AMT	**Artemida-Makis**	**1.25**	**357**	*e*Pb	**Pg**	06 51 00.6	**-1.1**
AMT	**Artemida-Makis**	**1.25**	**357**	P	**Pg**	06 51 01.4	**-0.3**
AMT				S	**Sn**	06 51 19.2	**-0.3**
ANKY	**Antikythira Is**	**1.30**	**108**	P	**Pg**	06 51 01.7	**-1.0**
ANKY	**Antikythira Is**	**1.30**	**108**	*e*PB	**Pg**	06 51 02.3	**-0.4**
ANKY				*e*SB	**Sn**	06 51 20.7	**0.0**
ANKY	**Antikythira Is**	**1.30**	**108**	P	**Pg**	06 51 01.7	**-1.0**
ANKY	**Antikythira Is**	**1.30**	**108**	*e*Pb	**Pg**	06 51 02.3	**-0.4**
ANKY				*e*Sb	**Sn**	06 51 20.7	**0.0**
DIDY	**Didyma**	**1.65**	**44**	P	**Pn**	06 51 08.1	**+0.3**
DIDY	**Didyma**	**1.65**	**44**	P	**Pn**	06 51 08.1	**+0.3**
DID	**Didima**	**1.69**	**43**	P	**Pn**	06 51 07.6	**-0.6**
DID	**Didima**	**1.69**	**43**	*e*PG	**Pn**	06 51 08.8	**+0.6**
DID				*e*SN	**Sg**	06 51 33.8	**+1.8**
DID	**Didima**	**1.69**	**43**	P	**Pn**	06 51 07.6	**-0.6**
DID	**Didima**	**1.69**	**43**	*e*Pg	**Pn**	06 51 08.8	**+0.6**
DID				*e*Sn	**Sg**	06 51 33.8	**+1.8**
GUR	**Goura**	**1.71**	**15**	P	**Pn**	06 51 08.5	**-0.1**
GUR	**Goura**	**1.71**	**15**	*e*PN	**Pn**	06 51 09.0	**+0.4**
GUR	**Goura**	**1.71**	**15**	P	**Pn**	06 51 08.5	**-0.1**
GUR	**Goura**	**1.71**	**15**	*e*Pn	**Pn**	06 51 09.0	**+0.4**
KLV	**Kalavryta, Ach**	**1.78**	**9**	P	**Pn**	06 51 09.3	**-0.2**
KLV	**Kalavryta, Ach**	**1.78**	**9**	*e*PG	**Pn**	06 51 09.7	**+0.2**
KLV	**Kalavryta, Ach**	**1.78**	**9**	P	**Pn**	06 51 09.3	**-0.2**
KLV	**Kalavryta, Ach**	**1.78**	**9**	*e*Pg	**Pn**	06 51 09.7	**+0.2**
RLS	**Riolos of Patr**	**1.79**	**352**	*e*PN	**Pb**	06 51 11.4	**+0.2**
RLS	**Riolos of Patr**	**1.79**	**352**	*e*Pn	**Pb**	06 51 11.4	**+0.2**
LAKA	**Lakka**	**1.96**	**5**	P	**Pb**	06 51 13.2	**-0.9**
LAKA				S	**Sb**	06 51 38.8	**-0.1**
LAKA	**Lakka**	**1.96**	**5**	*e*PG	**Pb**	06 51 13.4	**-0.7**
LAKA	**Lakka**	**1.96**	**5**	P	**Pb**	06 51 13.2	**-0.9**
LAKA				S	**Sb**	06 51 38.8	**-0.1**
LTK	**Loutraki**	**1.98**	**28**	P	**Pn**	06 51 13.0	**+0.8**
LTK	**Loutraki**	**1.98**	**28**	*e*PN	**Pb**	06 51 13.3	**-1.1**
LTK	**Loutraki**	**1.98**	**28**	P	**Pn**	06 51 13.0	**+0.8**
LTK	**Loutraki**	**1.98**	**28**	*e*Pn	**Pb**	06 51 13.3	**-1.1**
NAIG	**Nisos Aigina**	**2.01**	**42**	*e*PG	**Pg**	06 51 16.1	**-0.1**
NAIG	**Nisos Aigina**	**2.01**	**42**	*e*Pg	**Pg**	06 51 16.1	**-0.1**
TRIZ	**Trizonia**	**2.09**	**6**	*e*PG	**Pb**	06 51 15.9	**-0.4**
TRIZ	**Trizonia**	**2.09**	**6**	*e*Pg	**Pb**	06 51 15.9	**-0.4**
VLS	**Valsamata**	**2.11**	**334**	*e*PN	**Pn**	06 51 14.6	**+0.5**
VLS	**Valsamata**	**2.11**	**334**	*e*Pn	**Pn**	06 51 14.6	**+0.5**
KALE	**Kalithea**	**2.12**	**8**	P	**Pn**	06 51 15.2	**+1.0**
KALE	**Kalithea**	**2.12**	**8**	*e*PN	**Pb**	06 51 15.7	**-1.2**
KALE	**Kalithea**	**2.12**	**8**	P	**Pn**	06 51 15.2	**+1.0**
KALE	**Kalithea**	**2.12**	**8**	*e*Pn	**Pb**	06 51 15.7	**-1.2**
EFP	**Efpalio**	**2.14**	**3**	*e*PG	**Pb**	06 51 17.1	**-0.1**
EFP	**Efpalio**	**2.14**	**3**	*e*Pg	**Pb**	06 51 17.1	**-0.1**
VAM	**Vamos**	**2.15**	**113**	*e*PN	**Pn**	06 51 15.2	**+0.6**
VAM	**Vamos**	**2.15**	**113**	*e*Pn	**Pn**	06 51 15.2	**+0.6**
DSF	**Desfina**	**2.20**	**15**	P	**Pn**	06 51 16.3	**+1.0**
DSF	**Desfina**	**2.20**	**15**	P	**Pn**	06 51 16.3	**+1.0**
PTL	**Penteli**	**2.42**	**43**	*e*PN	**Pn**	06 51 19.1	**+0.8**
PTL	**Penteli**	**2.42**	**43**	*e*Pn	**Pn**	06 51 19.1	**+0.8**
LKR	**Lokris**	**2.55**	**22**	*e*PB	**Pn**	06 51 19.2	**-0.9**
EVR	**Evrytania**	**2.63**	**0**	*e*PN	**Pn**	06 51 21.9	**+0.7**
EVR	**Evrytania**	**2.63**	**0**	*e*Pn	**Pn**	06 51 21.9	**+0.7**
KEK	**Kerkira**	**3.76**	**336**	*e*PN	**Pn**	06 51 37.1	**+0.4**
KEK	**Kerkira**	**3.76**	**336**	*e*Pn	**Pn**	06 51 37.1	**+0.4**

PRE 02 07:18:36.1±0.5, 26°.45S×27°.59E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**204**	*e*P	Pg	07 18 45.7	-0.5
PRYS				*e*S	Sg	07 18 53.4	+0.2
PRYS				AML	AML	07 18 55.5	
	comp=Z,9.0nm,0.2s						
ERPM	**east rand prop**	**0.59**	**80**	*e*P	Pg	07 18 47.9	+0.1
ERPM				AML	AML	07 18 55.2	
	comp=Z,19nm,0.1s						
ERPM				*e*S	Sg	07 18 56.9	+1.2
KSR	**Koster**	**0.86**	**313**	*e*P	Pg	07 18 52.5	-0.4
KSR				*e*S	Sg	07 19 04.5	+0.2
KSR				AML	AML	07 19 13.9	
	comp=Z,8.8nm,0.1s						
SEK	**Senekal**	**1.87**	**179**	*e*P	Pn	07 19 09.4	+0.1
SEK				*e*S	Sn	07 19 34.0	+0.3
SEK				AML	AML	07 19 37.1	
	comp=Z,5.9nm,0.4s						
SEK	**Senekal**	**1.87**	**179**	*e*P	Pg	07 19 13.6	+1.4
SEK				*e*S	Sg	07 19 37.5	+0.9
SEK				AML	AML	07 19 38.0	
	comp=Z,7.9nm,0.7s						
SWZ	**Schweizer**	**2.15**	**250**	*e*P	Pn	07 19 13.6	+0.5
SWZ				*e*S	Sn	07 19 41.1	+0.6
SWZ				AML	AML	07 19 44.8	
	comp=Z,9.2nm,0.7s						
SWZ	**Schweizer**	**2.15**	**250**	*e*P	Pn	07 19 13.9	+0.8
SWZ				*e*S	Sn	07 19 37.7	-2.8
SWZ				AML	AML	07 19 44.3	
	comp=Z,9.4nm,0.8s						
LBTB	**Lobatse**	**2.30**	**308**	*e*P	Pn	07 19 15.4	+0.3
LBTB				*e*S	Sn	07 19 44.3	+0.1
LBTB				AML	AML	07 19 48.0	
	comp=Z,8.5nm,0.6s						
LBTB	**Lobatse**	**2.30**	**308**	*e*P	Pn	07 19 14.7	-0.5
LBTB				*e*S	Sn	07 19 41.9	-2.2
LBTB				AML	AML	07 19 47.2	
	comp=Z,11nm,0.7s						
BOSA	**Boshof**	**2.99**	**223**	*e*P	Pn	07 19 25.3	+0.6
BOSA				*e*S	Sn	07 20 01.3	0.0
BOSA				AML	AML	07 20 07.4	
	comp=Z,3.9nm,0.8s						
BOSA	**Boshof**	**2.99**	**223**	*e*P	Pn	07 19 25.1	+0.3
BOSA				*e*S	Sn	07 20 00.3	-1.0
BOSA				AML	AML	07 20 06.9	
	comp=Z,3.8nm,0.8s						

WEL 02 07:51:10.8±0.5, 46°.11S×166°.31E, h29km±1km, ML3.9/15, 4D, Error ellipse: s-maj=5.5km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.27**	**104**	⇓P*	Pb	07 51 17.3	-0.4
PYZ				S*	Sb	07 51 22.1	-0.3
DCZ	**Deep Cove**	**0.86**	**44**	⇓PN	Pn	07 51 26.2	-0.7
DCZ				SN	Sn	07 51 39.0	+0.5
DCZ				AML	AML	07 51 43.4	
WHZ	**Wether Hill Ro**	**1.16**	**80**	PN	Pn	07 51 31.5	+0.4
WHZ				SN	Sb	07 51 48.3	+1.3
WHZ				SN	Sn	07 51 48.7	+2.7
APZ	**The Paps**	**1.37**	**123**	⇓PN	Pn	07 51 32.4	-1.6
MLZ	**Mavora Lakes**	**1.51**	**61**	PN	Pb	07 51 37.2	-1.1
MLZ				AML	AML	07 52 04.4	
MLZ				AML	AML	07 52 05.1	
MSZ	**Milford Sound**	**1.83**	**39**	PN	Pn	07 51 41.1	+0.8
MSZ				AML	AML	07 52 20.6	
MSZ				AML	AML	07 52 20.6	
MSZ				AML	AML	07 52 22.0	
MSZ				AML	AML	07 52 22.0	
SYZ	**Scrubby Hill**	**2.01**	**103**	⇓PN	Pn	07 51 42.5	-0.2
EAZ	**Earnscleugh**	**2.28**	**69**	PN	Pn	07 51 48.5	+2.1
EAZ				AML	AML	07 52 21.4	
EAZ				AML	AML	07 52 21.4	
EAZ				AML	AML	07 52 22.3	
EAZ				AML	AML	07 52 22.3	
TUZ	**Tuapeka**	**2.32**	**88**	PN	Pn	07 51 47.6	+0.6
TUZ				AML	AML	07 52 20.7	
TUZ				AML	AML	07 52 20.7	
JCZ	**Jackson Bay**	**2.67**	**41**	PN	Pb	07 51 55.2	-2.8
JCZ				AML	AML	07 52 43.5	
JCZ				AML	AML	07 52 50.1	
ODZ	**Otahua Downs**	**3.23**	**72**	PN	Pn	07 51 59.6	+0.1
LBZ	**Lake Benmore**	**3.23**	**59**	PN	Pn	07 52 00.4	+0.8
LBZ				AML	AML	07 52 45.8	
LBZ				AML	AML	07 52 48.5	
FOZ	**Fox Glacier**	**3.50**	**45**	PN	Pb	07 52 07.9	-4.0
RPZ	**Rata Peaks**	**4.13**	**56**	PN	Pn	07 52 12.2	+0.2
RPZ				AML	AML	07 53 07.5	
RPZ				AML	AML	07 53 19.3	
WVZ	**Waitaha Valley**	**4.38**	**48**	PN	Pn	07 52 16.4	+1.1
WVZ				AML	AML	07 52 46.0	
LTZ	**Lake Taylor**	**5.41**	**54**	PN	Pn	07 52 32.0	+2.5

WEL 02 07:55:04.2±0.4, 46°.10S×165°.98E, h12km, ML4.0/16, 1D, Error ellipse: s-maj=3.2km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.49**	**98**	⇓P*	Pg	07 55 14.1	+0.1
PYZ				S*	Sg	07 55 20.7	+0.1
DCZ	**Deep Cove**	**1.03**	**53**	P*	Pb	07 55 22.3	-1.7
DCZ				AML	AML	07 55 35.8	
DCZ				AML	AML	07 55 36.2	
APZ	**The Paps**	**1.57**	**118**	PN	Pn	07 55 30.2	-1.8
MLZ	**Mavora Lakes**	**1.71**	**65**	PN	Pn	07 55 33.3	-0.6
MLZ				SN	Sn	07 55 55.5	-0.3
MLZ				AML	AML	07 56 01.5	
MSZ	**Milford Sound**	**1.98**	**45**	PN	Pn	07 55 37.0	-0.6
MSZ				AML	AML	07 56 21.9	
MSZ				AML	AML	07 56 21.9	
MSZ				AML	AML	07 56 23.2	
MSZ				AML	AML	07 56 23.2	
SYZ	**Scrubby Hill**	**2.23**	**102**	PN	Pn	07 55 40.2	-0.9
EAZ	**Earnscleugh**	**2.49**	**71**	PN	Pn	07 55 45.1	+0.5
EAZ				AML	AML	07 56 22.9	
EAZ				AML	AML	07 56 26.2	
TUZ	**Tuapeka**	**2.55**	**88**	PN	Pn	07 55 45.1	-0.3
TUZ				SN	Sn	07 56 16.2	-0.1
TUZ				AML	AML	07 56 20.3	
JCZ	**Jackson Bay**	**2.83**	**45**	PN	Pn	07 55 50.6	+1.2
JCZ				AML	AML	07 56 40.2	
JCZ				AML	AML	07 56 41.2	
LBZ	**Lake Benmore**	**3.43**	**62**	PN	Pn	07 55 56.8	-0.7
LBZ				AML	AML	07 56 43.2	
LBZ				AML	AML	07 57 10.7	
ODZ	**Otahua Downs**	**3.44**	**74**	PN	Pn	07 55 56.2	-1.5
FOZ	**Fox Glacier**	**3.66**	**47**	PN	Pn	07 56 02.6	+2.0
FOZ				AML	AML	07 57 21.4	
RPZ	**Rata Peaks**	**4.32**	**58**	PN	Pn	07 56 08.5	-1.3
RPZ				SN	Sn	07 56 56.5	-3.6
RPZ				AML	AML	07 57 07.2	
WVZ	**Waitaha Valley**	**4.55**	**50**	PN	Pn	07 56 12.2	-0.7
WVZ				AML	AML	07 57 26.7	
WVZ				AML	AML	07 57 44.0	
LTZ	**Lake Taylor**	**5.59**	**56**	PN	Pn	07 56 25.4	-1.9

CASC 02 07:55:15.9±1.2, 4°.65N×82°.71W, h20km±204km, MD4.4, 2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**4.00**	**354**	*e*P	Pn	07 56 15.8	-0.4
BRU2	**Volcan**	**4.11**	**0**	*e*P	Pn	07 56 18.2	+0.3
BRU2				*e*S	Sn	07 57 06.4	+0.8
CNI	**Changuinola**	**4.74**	**2**	*e*P	Pn	07 56 28.7	+2.4
CNI				*e*S	Sn	07 57 24.5	+3.9
QCR	**Quepos**	**4.95**	**343**	⇓*e*P	Pn	07 56 29.4	+0.1
QCR				*e*S	Sn	07 57 27.2	+1.2
BUS	**Buena Vista**	**4.98**	**348**	⇓*e*P	Pn	07 56 30.9	+0.8
BUS				*e*S	Sn	07 57 28.2	+0.5
ZANG	**Zanguenga, Cho**	**5.12**	**33**	*e*P	Pn	07 56 34.6	+3.0
URSC	**Urasca**	**5.26**	**348**	*e*P	Pn	07 56 34.7	+1.1
URSC				*e*P	Pn	07 56 35.2	+1.6
URSC				*e*S	Sn	07 57 35.0	+1.1
BCIP	**Isla Barro Col**	**5.32**	**32**	*e*P	Pn	07 56 36.2	+2.0
BCIP				*e*S	Sn	07 57 35.8	+0.8
CGA2	**Cerro Gallo 2**	**5.60**	**342**	*e*P	Pn	07 56 39.3	+1.0
JCR	**Jicaral**	**5.68**	**335**	*e*P	Pn	07 56 39.6	+0.2

MEX 02 08:12:53.9±0.4, 15°.32N×99°.30W, h5km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.55**	**47**	*i* P	Pn	08 13 18.4	-3.9
PNIG				*i* S	Sn	08 13 38.2	-4.7
ACX	**Acapulco**	**1.63**	**341**	*i* P	Pn	08 13 19.4	-3.9
CAIG	**El Cayaco**	**1.95**	**332**	*i* P	Pn	08 13 24.2	-3.5
CAIG				*i* S	Sn	08 13 48.5	-4.1
VHO	**Vista Hermosa**	**3.02**	**54**	*i* P	Pn	08 13 40.6	-2.1
VHO				*i* S	Sn	08 14 15.2	-4.3
PLIG	**Platanillo**	**3.06**	**356**	*i* P	Pn	08 13 40.8	-2.3
PLIG				*i* S	Sn	08 14 16.8	-3.4
ARIG	**Puente Sto Nin**	**3.11**	**341**	*i* P	Pn	08 13 40.0	-3.7
ARIG				*i* S	Sn	08 14 18.4	-2.9
HUIG	**Huatulco**	**3.11**	**81**	*i* P	Pn	08 13 41.5	-2.1
HUIG				*i* S	Sn	08 14 17.6	-3.7
YAIG	**Yautepec**	**3.53**	**4**	*i* P	Pn	08 13 46.8	-2.8
YAIG				*i* S	Sn	08 14 27.3	-4.6

**IDC 02 08:15:25.6±21.0, 16°.79S×178°.97W, h358km±200km, mb3.2/4, mb1 3.4/4

s-maj=0.6km s-min=0.5km az=23.0
TEH **02** 08:54:36.0, 0°.56S×132°.93E, h33km, ML6.3
GCMT **02** 08:54:37.2±0.1, 0°.42S×132°.92E, h28km, MW6.1, Moment Tensor Solution. s115,c260; s87,c128; Moment tensor: Scale 10^{18}Nm; M_{rr}1.31±.01; $M_{\theta\theta}$-1.18±.01; $M_{\phi\phi}$-0.13±.01; $M_{r\theta}$-0.21±.02; $M_{r\phi}$0.73±.01; $M_{\theta\phi}$-0.29±.02; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s281.00000°, δ48.00000°, λ67.00000°. NP2:ϕ_s133.00000°, δ46.00000°, λ114.00000°. Principal axes: T 1.4200, Plg73.0000°, Azm121.0000°; N 0.1400, Plg17.0000°, Azm297.0000°; P -1.5500, Plg1.0000°, Azm27.0000°; Data Used: II IU CN IC G. Surface waves: sta=112, comp=263, per= 50.
DJA **02** 08:54:38.4±0.2, 1°S±2°×13°3E±°, h50km±3km, M6.2/85, mb6.1/85, mB6.5/81, MLv6.5/12, Mw(mB)6.3/81, Mwp6.1/28
BKK **02** 08:54:39.6±0.2, 1°S±3°×13°3E±°, h63km, M6.1/45, mb5.9/45, mB6.4/41, MLv6.5/3, Mw(mB)6.1/41, Mwp5.9/10
NEIC **02** 08:54:44.9±0.0, 0°.73S×133°.12E, h27km, Moment Tensor Solution. s139 Moment tensor: Scale 10^{18}Nm; M_{rr}1.33; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$-0.19; $M_{r\theta}$-0.47; $M_{\phi\phi}$0.73; $M_{\phi r}$0.11; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s293.00000°, δ54.00000°, λ83.00000°. NP2:ϕ_s125.00000°, δ36.00000°, λ100.00000°. Principal axes: T 1.4200, Plg79.0000°, Azm175.0000°; N 0.1900, Plg5.0000°, Azm297.0000°; P -1.6100, Plg8.0000°, Azm27.0000°;
ISC 02 08:54:35.9±0.2, 0°.45S±0.02×132°.95E±0°.03, h39km±1km, h39km:pP-P, n1493, o1°53/1704, mb5.9/214, MS5.8/232, 84C-23D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.61**	**131**	P	**Pn**	**08 55 01.4**	**-0.4**
RKPI				S	**Sn**	**08 55 23.8**	**+2.4**
SWI	**Sorong**	**1.74**	**256**	P	**Pn**	**08 55 03.0**	**-0.6**
SWI				S	**Sn**	**08 55 27.9**	**+3.3**
SWI	**Sorong**	**1.74**	**256**	P	**Pn**	**08 55 03.3**	**-0.3**
	baz=1.7,SNR=1000						
SWI				S	**Sn**	**08 55 27.3**	**+2.7**
	baz=1.7,SNR=10						
FAKI	**Fak Fak**	**2.55**	**196**	P	**Pn**	**08 55 15.0**	**+0.3**
FAKI				S	**Sn**	**08 55 46.2**	**+1.6**
FAKI	**Fak Fak**	**2.55**	**196**	P	**Pn**	**08 55 14.3**	**-0.5**
	baz=2.5,SNR=1000						
FAKI				S	**Sn**	**08 55 46.0**	**+1.4**
	baz=2.5,SNR=12						
BAKI	**Biak**	**3.24**	**103**	P	**Pn**	**08 55 23.3**	**-0.9**
BAKI				S	**Sn**	**08 56 03.6**	**+2.1**
SRPI	**Serui, Papua**	**3.57**	**113**	P	**Pn**	**08 55 27.7**	**-1.1**
MSAI	**Masohi**	**4.94**	**234**	P	**Pn**	**08 55 50.1**	**+2.4**
MSAI				S	Sn	08 56 49.7	+6.0
BNDI	**Bandanaira**	**5.06**	**217**	P	**Pn**	**08 55 51.5**	**+2.2**
BNDI				S	**Sn**	**08 56 50.1**	**+3.6**
BNDI	**Bandanaira**	**5.06**	**217**	P	**Pn**	**08 55 50.9**	**+1.6**
	baz=5.0,SNR=62						
LBMI	**Labuha**	**5.46**	**268**	P	**Pn**	**08 55 55.4**	**+0.7**
	5μm,1.0s,116μm70μm30nm						
LBMI				S	**Sn**	**08 56 58.5**	**+2.2**
	5μm,1.0s,116μm70μm30nm						
TNTI	**Ternate**	**5.72**	**282**	P	**Pn**	**08 56 00.0**	**+1.7**
	3μm,1.3s,52μm73μm15nm						
TNTI				S	**Sn**	**08 57 04.4**	**+1.7**
	3μm,1.3s,52μm73μm15nm						
AAI	**Ambon**	**5.74**	**236**	P	**Pn**	**08 55 59.6**	**+1.0**
	11μm,0.8s,138μm363μm41nm						
AAI				S	**Sn**	**08 57 06.1**	**+2.8**
	11μm,0.8s,138μm363μm41nm						
AAI	**Ambon**	**5.74**	**236**	P	**Pn**	**08 55 59.8**	**+1.2**
	baz=5.7,SNR=228						
AAI				S	**Sn**	**08 57 06.5**	**+3.3**
	baz=5.7,SNR=6.3						
NLAI	**Namlea**	**6.47**	**245**	P	**Pn**	**08 56 10.1**	**+1.4**
	3μm,0.6s,59μm158μm21nm						
NLAI				S	**Sn**	**08 57 24.0**	**+2.7**
	3μm,0.6s,59μm158μm21nm						
PALU	**Palau**	**7.89**	**11**	P	**Pn**	**08 56 27.8**	**-0.4**
	baz=8.0,SNR=45						
PALU				S	**Sn**	**08 57 53.4**	**-2.9**
	baz=8.0,SNR=4.7						
JAY	**Jayapura**	**8.01**	**105**	P	**Pn**	**08 56 30.6**	**+0.7**
	183nm,0.9s,1.3nm						
JAY	**Jayapura**	**8.01**	**105**	P	**Pn**	**08 56 27.7**	**-2.2**
	baz=8.0,SNR=3.8						
MNI	**Manado**	**8.33**	**283**	P	**Pn**	**08 56 37.3**	**+3.1**
	2μm,0.9s,16μm						
KMSI	**Cibinong**	**9.03**	**276**	P	**Pn**	**08 56 46.9**	**+3.1**
	4μm,1.0s,37μm45μm						
MATI	**Mati**	**9.93**	**318**	*e*P	**Sn**	**08 58 42.9**	**-3.6**
GTOI	**Gorontalo**	**10.00**	**276**	P	Pn	08 57 00.9	+3.8
	3μm,0.9s,30μm						
LUWI	**Luwuk**	**10.20**	**267**	P	**Pn**	**08 56 59.5**	**-0.3**
	3μm,0.9s,29μm						
LUWI	**Luwuk**	**10.20**	**267**	P	**Pn**	**08 56 60.0**	**+0.1**
	baz=10,SNR=38						
DAV	**Davao City (W)**	**10.49**	**316**	⇑*i*P	Pn	08 57 09.1	+5.3
DAV	**Davao City (W)**	**10.49**	**316**	Pn	**Pn**	**08 57 05.5**	**+1.7**
DAV	**Davao City (W)**	**10.49**	**316**	P	Pn	08 57 07.1	+3.3
	697nm,1.0s,17μm						
DAV	**Davao City (W)**	**10.49**	**316**	Pn	**Pn**	**08 57 05.5**	**+1.7**
	15nm,0.3s,baz=243,slow=1.8,SNR=3.8						
DAV				LR	LR	09 01 38.2	
	comp=Z,40μm,18.1s,baz=129,slow=41						
MRSI	**Marisa**	**11.05**	**275**	P	**Pn**	**08 57 13.2**	**+1.7**
	673nm,1.1s,8μm29μm						
BUKP	**Musuan**	**11.42**	**317**	*e*P	**Pn**	**08 57 19.4**	**+2.8**
BUKP				*e*S	Px	08 57 34.5	
BBSI	**Bau Bau**	**11.51**	**244**	P	**Pn**	**08 57 20.4**	**+2.6**
	1μm,1.8s,27μm43μm						
CTBH	**Cotabato--PC H**	**11.56**	**311**	⇑*i*P	**Pn**	**08 57 19.4**	**+1.0**
SKSI	**Soroako, Sulaw**	**11.80**	**260**	P	**Pn**	**08 57 22.4**	**+0.6**
	570nm,0.8s,7μm						
BUTP	**Butuan**	**11.87**	**322**	*e*P	Pn	08 57 27.6	+4.9
BUTP				*e*S	Px	08 57 40.9	
KKSI	**Kolaka, Sulawe**	**11.88**	**252**	P	**Pn**	**08 57 25.4**	**+2.5**
KDU	**Kakadu**	**12.16**	**182**	P	**Pn**	**08 57 24.2**	**-2.5**
	baz=12,SNR=794						
KDU				S	**Sn**	**08 59 36.7**	**-4.4**
	baz=12,SNR=9.3						
MTN	**Manton Dam**	**12.44**	**188**	P	**Pn**	**08 57 27.4**	**-3.1**
	baz=12,SNR=329						
MTN				S	**Sn**	**08 59 43.4**	**-4.5**
	baz=12,SNR=16						
PAGZ	**Pagadian**	**12.61**	**311**	*e*P	**Pn**	**08 57 34.3**	**+1.4**
SOEI	**Soe**	**12.65**	**223**	P	**Pn**	**08 57 34.8**	**+1.3**
	3μm,1.9s,44μm137μm						
SOEI	**Soe**	**12.65**	**223**	P	**Pn**	**08 57 35.6**	**+2.0**
	baz=13,SNR=35						
SOEI				S	Sn	09 00 04.3	+11
	baz=13,SNR=4.2						
TTSI	**Tana Toraja**	**13.38**	**259**	P	**Pn**	**08 57 43.8**	**+0.5**
	564nm,1.5s,9μm34μm						
BATI	**Baumata**	**13.39**	**223**	Pn	**Pn**	**08 57 44.7**	**+1.2**
BATI	**Baumata**	**13.39**	**223**	P	**Pn**	**08 57 44.1**	**+0.6**
	2μm,1.0s,21μm						
BATI	**Baumata**	**13.39**	**223**	Pn	**Pn**	**08 57 44.7**	**+1.2**
	58nm,0.3s,baz=113,slow=1.2,SNR=88						
BATI				LR	LR	09 03 23.7	
	comp=Z,32μm,21.0s,baz=276,slow=40						
MMRI	**Maumere**	**13.42**	**232**	P	**Pn**	**08 57 45.4**	**+1.5**
	1μm,1.3s,22μm80μm						
SPSI	**Sidrap Palu**	**13.63**	**255**	P	**Pn**	**08 57 49.1**	**+2.4**
	801nm,1.1s,17μm						
BSSI	**Bau Bau, Buton**	**13.66**	**245**	P	**Pn**	**08 57 49.2**	**+2.0**
	605nm,1.3s,10μm58μm						
BKSI	**Bulukumba**	**13.70**	**249**	P	**Pn**	**08 57 49.5**	**+1.9**
	750nm,1.3s,12μm44μm						
KAPI	**Kappang**	**13.94**	**251**	Pn	**Pn**	**08 57 52.5**	**+1.5**
	3μm,0.9s,SNR=28						
KAPI	**Kappang**	**13.94**	**251**	Pn	**Pn**	**08 57 52.7**	**+1.6**
	SNR=52						
KAPI	**Kappang**	**13.94**	**251**	Pn	**Pn**	**08 57 51.7**	**+0.7**
KAPI	**Kappang**	**13.94**	**251**	P	**Pn**	**08 57 52.1**	**+1.1**
	846nm,1.2s,15μm43μm						
KAPI	**Kappang**	**13.94**	**251**	Pn	**Pn**	**08 57 51.7**	**+0.7**
	8.3nm,0.3s,baz=98,slow=6.9,SNR=43						
KAPI				LR	LR	09 03 39.4	
	comp=Z,22μm,19.4s,baz=84,slow=39						
LLP	**Lapu-Lapu**	**13.94**	**320**	*e*P	**Pn**	**08 57 52.4**	**+1.4**
MANU	**Manus Island**	**14.49**	**96**	P	P	08 58 08.1	+3.5
	baz=14,SNR=6.2						
GUIM	**Jordan**	**15.08**	**317**	*e*P	**P**	**08 58 10.2**	**-0.9**
SGKI	**Sangatta, Kali**	**15.35**	**270**	P	**P**	**08 58 15.9**	**+1.8**
	2μm,1.7s,23μm47μm						
MYLDM	**Lahad Datu**	**15.48**	**291**	P	**P**	**08 58 13.7**	**-1.9**
MYLDM	**Lahad Datu**	**15.48**	**291**	P	**P**	**08 58 16.7**	**+1.1**
	966nm,1.7s,20μm						
WSI	**Waingapu**	**15.57**	**234**	P	**P**	**08 58 17.8**	**+1.3**
	2μm,0.6s,33μm						
WSI	**Waingapu**	**15.57**	**234**	P	P	08 58 29.9	+13
	baz=16,SNR=3.4						
BASI	**Baing, Sumba**	**15.67**	**231**	P	**P**	**08 58 17.3**	**-0.4**
	2μm,1.3s,21μm						
KNRA	**Kununurra**	**15.68**	**195**	P	**Pn**	**08 58 10.1**	**-4.1**
	baz=16,SNR=367						
KNRA				S	Sn	09 00 56.6	-10
	baz=16,SNR=12						
TSM	**Tawau**	**15.79**	**288**	P	**P**	**08 58 17.5**	**-1.5**
BKB	**Balikpapan**	**16.08**	**267**	P	**P**	**08 58 23.1**	**+0.9**
	2μm,2.0s,44μm						
WBSI	**Waikabubak, Su**	**16.29**	**236**	P	**Pn**	**08 58 22.8**	**+0.7**
PMG	**Port Moresby**	**16.70**	**123**	*e*Pn	**P**	**08 58 28.2**	**-0.9**
	247nm,1.2s						
PMG				*e*S	**S**	**09 01 43.4**	**+1.7**
PMG	**Port Moresby**	**16.70**	**123**	P	**P**	**08 58 29.5**	**+0.4**
	797nm,1.6s,20μm37μm						
PMG	**Port Moresby**	**16.70**	**123**	Pn	**P**	**08 58 28.2**	**-0.9**
	3.1nm,0.3s,baz=329,slow=5.8,SNR=48						
OTRP	**Odiongan**	**16.73**	**320**	*e*P	**P**	**08 58 33.1**	**+3.7**
COEN	**Coen**	**16.80**	**143**	*e*P	**Pn**	**08 58 25.2**	**-3.3**
	229nm,0.7s						
COEN				*e*S	**S**	**09 01 40.7**	**-3.1**
COEN	**Coen**	**16.80**	**143**	P	**Pn**	**08 58 26.0**	**-2.5**
	baz=17,SNR=34						
SDKM	**Sandakan**	**16.86**	**291**	P	**P**	**08 58 31.3**	**+0.3**
KBKI	**Kotabaru**	**17.01**	**260**	P	**P**	**08 58 32.6**	**0.0**
	481nm,1.9s,11μm						
AUQP	**San Andres**	**17.06**	**324**	*e*P	**P**	**08 58 37.5**	**+4.4**
SJMP	**San Jose**	**17.39**	**318**	*e*P	**P**	**08 58 38.0**	**+1.2**
BOAC	**Boac**	**17.67**	**322**	*e*P	**P**	**08 58 42.3**	**+2.4**
KDM	**Kudat**	**17.67**	**295**	P	**P**	**08 58 42.2**	**+2.3**
KKM	**Kota Kinabalu**	**17.91**	**291**	*e*Pn	**Pn**	**08 58 41.7**	**-0.6**
	662nm,1.3s						
KKM				*e*S	**S**	**09 02 06.1**	**-0.5**
KKM	**Kota Kinabalu**	**17.91**	**291**	P	**P**	**08 58 44.4**	**+1.7**
KKM	**Kota Kinabalu**	**17.91**	**291**	P	**P**	**08 58 43.9**	**+1.3**
	431nm,1.5s,12μm						
KKM	**Kota Kinabalu**	**17.91**	**291**	P	**P**	**08 58 43.5**	**+0.9**
	baz=18,SNR=11						
MTKI	**Muara Teweh, K**	**18.06**	**268**	P	**P**	**08 58 47.3**	**+3.1**
	1μm,2.4s,43μm						
GUMO	**Guam**	**18.28**	**40**	P	**Pn**	**08 58 47.4**	**+0.8**
	245nm,2.9s						
GUMO				*e*S	**S**	**09 02 20.3**	**+6.6**
BBKI	**Banjar Baru**	**18.35**	**260**	P	**Pn**	**08 58 49.6**	**+2.1**
	1μm,1.2s,31μm						
TGY	**Tagaytay City**	**18.73**	**321**	P	**Pn**	**08 58 53.9**	**+1.7**
TGY	**Tagaytay City**	**18.73**	**321**	P	**Pn**	**08 58 53.9**	**+1.7**
	24nm,0.3s,baz=146,slow=2.7,SNR=9.0						
FITZ	**Fitzroy Crossi**	**18.95**	**202**	*e*P	**P**	**08 58 51.4**	**-2.5**
FITZ				*e*S	Sn	09 02 08.3	-18
FITZ				S	S	09 02 08.9	-18
FITZ	**Fitzroy Crossi**	**18.95**	**202**	P	**P**	**08 58 50.9**	**-3.0**
	4.5nm,0.3s,baz=25,slow=13,SNR=67						
FITZ				S	Sn	09 02 08.9	-17
	10nm,0.3s,baz=164,slow=7.9,SNR=5.5						
FITZ				LR	LR	09 06 42.4	
	comp=Z,20μm,21.2s,baz=27,slow=38						
FITZ	**Fitzroy Crossi**	**18.95**	**202**	P	**P**	**08 58 50.8**	**-3.0**
	baz=19,SNR=91						
FITZ				S	Sn	09 02 17.3	-8.9
	baz=19,SNR=3.9						
SRBI	**Singaraja**	**19.24**	**246**	P	**Pn**	**08 58 58.6**	**+0.3**
	1μm,2.8s,45μm						
WRAB	**Tennant Creek**	**19.41**	**176**	P	**P**	**08 58 58.0**	**-0.9**
	4μm,0.9s						
WRAB	**Tennant Creek**	**19.41**	**176**	*e*P	**P**	**08 58 57.6**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,1μm,1.3s						
WRAB	**Tennant Creek**	**19.41**	**176**	*e*P	**P**	**08 58 57.6**	**-1.3**
	comp=Z,1μm,1.3s						
WRAB				*e*S	S	09 02 21.9	-15
WRAB				*e*ScP	**ScP**	**09 06 54.8**	**+1.9**
WRA	**Warramunga Arr**	**19.42**	**176**	P	**P**	**08 58 57.5**	**-1.5**
WRA				S	S	09 02 25.4	-11
WRA	**Warramunga Arr**	**19.42**	**176**	P	**P**	**08 58 57.5**	**-1.5**
	comp=Z,14nm,0.3s,baz=355,slow=11,SNR=154						
WRA				S	S	09 02 25.4	-11
	comp=Z,29nm,0.3s,baz=357,slow=22,SNR=8.0						
DNP	**Denpasar**	**19.47**	**245**	P	**Pn**	**08 59 02.9**	**+1.8**
	comp=Z,2μm,1.2s,comp=Z,43μm						
RABL	**Rabaul**	**19.55**	**101**	P	**Pn**	**08 59 03.2**	**+1.2**
	baz=20,SNR=14						
IGBI	**Denpasar**	**19.59**	**244**	P	**Pn**	**08 59 02.4**	**0.0**
	comp=Z,1μm,0.9s,comp=Z,23μmcomp=Z,44μm						
KMMI	**Kalianget**	**20.04**	**250**	P	Pn	08 59 08.9	+1.1
	comp=Z,842nm,1.9s,comp=Z,18μm						
BYJI	**Banyuwangi**	**20.07**	**247**	P	Pn	08 59 08.4	+0.2
	comp=Z,5μm,0.9s						
BTM	**Bintulu**	**20.19**	**280**	P	Pn	08 59 10.9	+1.2
BLJI	**Banyuglugur**	**20.61**	**249**	P	**P**	**08 59 13.1**	**+1.1**
	comp=Z,1μm,0.9s,comp=Z,28μmcomp=Z,42μm						
MTSU	**Mount Surprise**	**20.82**	**148**	P	**P**	**08 59 14.8**	**+0.5**
	baz=21,SNR=80						
SBUM	**Sibu**	**20.93**	**278**	P	Pn	08 59 17.7	-0.5
SBUM	**Sibu**	**20.93**	**278**	P	Pn	08 59 17.4	-0.8
	comp=Z,856nm,1.9s,comp=Z,16μmcomp=Z,32μm						
GMJI	**Gumukmas**	**20.93**	**248**	P	**P**	**08 59 14.9**	**-0.6**
	comp=Z,1μm,1.1s,comp=Z,20μm						
PBKI	**Pangkalan Bun**	**21.39**	**264**	P	**P**	**08 59 21.2**	**+0.7**
STKI	**Sintang**	**21.48**	**271**	P	**P**	**08 59 22.7**	**+1.2**
	comp=Z,535nm,1.0s,comp=Z,13μmcomp=Z,14μm						
KRKI	**Karangkates**	**21.82**	**249**	P	**P**	**08 59 26.9**	**+1.9**
	comp=Z,1μm,0.8s,comp=Z,29μm						
SJI	**Sawahan**	**22.32**	**251**	P	**P**	**08 59 30.6**	**0.0**
	comp=Z,606nm,2.3s,comp=Z,18μm						
PWJI	**Pagerwojo**	**22.38**	**250**	P	**P**	**08 59 30.2**	**-0.9**
	comp=Z,407nm,1.3s,comp=Z,21μm						
KSM	**Kuching**	**22.73**	**275**	*e*P	**P**	**08 59 35.1**	**+0.3**
	comp=Z,548nm,1.3s						
KSM				*e*S	**S**	**09 03 44.2**	**+3.2**
KSM				LR	LR		
	comp=Z,17μm,21.0s						
KSM	**Kuching**	**22.73**	**275**	P	**P**	**08 59 35.6**	**+0.9**
KSM	**Kuching**	**22.73**	**275**	P	**P**	**08 59 35.1**	**+0.3**
	comp=Z,399nm,1.5s,comp=Z,10μm						
KSM	**Kuching**	**22.73**	**275**	P	**P**	**08 59 35.4**	**+0.6**
	baz=23,SNR=67						
KSM				S	Sn	09 03 52.3	-4.7
	baz=23,SNR=5.1						
PCJI	**Pacitan**	**23.02**	**250**	P	**P**	**08 59 36.1**	**-1.7**
	comp=Z,932nm,0.9s,comp=Z,9μm						
AS31	**Alice Springs**	**23.09**	**178**	*e*P	**P**	**08 59 38.0**	**-0.5**
AS31				*e*S	**S**	**09 03 51.2**	**+4.1**
ASAR	**Alice Springs**	**23.09**	**178**	P	**P**	**08 59 37.9**	**-0.6**
ASAR				S	**S**	**09 03 52.8**	**+5.7**
ASAR	**Alice Springs**	**23.09**	**178**	P	**P**	**08 59 37.9**	**-0.6**
	comp=Z,3μm,1.0s,baz=5.2,slow=5.9,SNR=925						
ASAR				S	**S**	**09 03 52.8**	**+5.7**
	comp=Z,490nm,1.1s,baz=359,slow=26,SNR=9.4						
WOJI	**Wonogiri, Jawa**	**23.15**	**251**	P	**P**	**08 59 38.3**	**-0.8**
	comp=Z,728nm,1.9s,comp=Z,18μm						
CTA	**Charters Tower**	**23.46**	**147**	P	**P**	**08 59 42.7**	**+0.6**
CTA	**Charters Tower**	**23.46**	**147**	P	**P**	**08 59 42.7**	**+0.6**
	comp=Z,603nm,0.9s,baz=327,slow=12,SNR=95						
CTA				LR	LR	09 10 05.5	
	comp=Z,63μm,19.0s,baz=328,slow=40						
CTAO	**Charters Tower**	**23.46**	**147**	*e*P	**P**	**08 59 42.6**	**+0.5**
CTAO				*e*S	**S**	**09 03 55.8**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,891nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,70μm,19.0s						
CTAO	**Charters Tower**	**23.46**	**147**	*e*P	**P**	**08 59 42.6**	**+0.5**
	comp=Z,891nm,1.0s						
CTAO				*e*S	**S**	**09 03 55.8**	**+2.7**
CTAO				LR	LR		
	comp=Z,70μm,19.0s						
UGM	**Wanagama**	**23.55**	**251**	*e*P	**P**	**08 59 41.9**	**-1.2**
UGM	**Wanagama**	**23.55**	**251**	P	**P**	**08 59 43.0**	**-0.1**
	comp=Z,1μm,1.3s,comp=Z,23μm						
UGM	**Wanagama**	**23.55**	**251**	P	**P**	**08 59 42.6**	**-0.5**
	baz=24,SNR=12						
YOGI	**Yogyakarta**	**23.74**	**251**	P	**P**	**08 59 45.1**	**+0.3**
	comp=Z,3μm,1.0s,comp=Z,49μm						
BJII	**Banjamegara**	**24.16**	**253**	P	**P**	**08 59 49.8**	**+0.9**
	comp=Z,2μm,2.4s,comp=Z,51μmcomp=Z,77μm						
MBWA	**Marble Bar**	**24.30**	**211**	P	**P**	**08 59 50.5**	**+0.6**
	SNR=73						
MBWA	**Marble Bar**	**24.30**	**211**	*e*P	**P**	**08 59 50.0**	**+0.1**
	comp=Z,1μm,0.9s						
MBWA				*e*S	**S**	**09 04 08.7**	**+2.2**
MBWA				LR	LR		
	comp=Z,30μm,22.0s						
TGJI	**Tegal**	**24.61**	**254**	P	**P**	**08 59 53.8**	**+0.9**
CLJI	**Cilicap**	**24.93**	**253**	P	**P**	**08 59 54.8**	**-0.9**
	comp=Z,283nm,0.8s,comp=Z,14μm						
TPI	**Tanjungpandan**	**25.39**	**265**	P	**P**	**09 00 01.2**	**+1.2**
	comp=Z,150nm,1.8s,comp=Z,4μm						
CISI	**Cisompet, Garu**	**26.04**	**254**	P	**P**	**09 00 04.6**	**-1.3**
	comp=Z,2μm,1.1s,comp=Z,16μm						
CISI	**Cisompet, Garu**	**26.04**	**254**	P	**P**	**09 00 06.8**	**+0.9**
	baz=26,SNR=6.5						
LEM	**Lembang**	**26.05**	**255**	P	**P**	**09 00 06.5**	**+0.4**
	comp=Z,570nm,0.9s,comp=Z,11μm						
LEM	**Lembang**	**26.05**	**255**	P	**P**	**09 00 08.6**	**+2.5**
	baz=26,SNR=4.7						
YULB	**Yu-li**	**26.27**	**335**	P	**P**	**09 00 08.9**	**+1.1**
	comp=Z,45nm,0.8s						
YULB				*e*S	**S**	**09 04 37.3**	**-0.6**
TPUB	**Ta-pu**	**26.48**	**334**	*e*P	**P**	**09 00 06.8**	**-2.9**
	comp=Z,192nm,1.3s						
CBJI	**Citeko**	**26.71**	**257**	P	**P**	**09 00 11.7**	**-0.2**
	comp=Z,1μm,1.1s,comp=Z,20μm						
SSLB	**Suanglung**	**26.77**	**335**	*e*P	**P**	**09 00 10.3**	**-2.0**
	comp=Z,158nm,0.9s						
SSLB				*e*S	**S**	**09 04 40.3**	**-5.5**
DBJI	**Dramaga**	**26.84**	**256**	P	**P**	**09 00 12.3**	**-0.7**
	comp=Z,342nm,1.4s,comp=Z,8μm						
NACB	**Ninganchiao**	**26.85**	**337**	*e*P	**P**	**09 00 13.3**	**+0.4**
	comp=Z,1μm,2.1s						
NACB				*e*S	**S**	**09 04 42.2**	**-4.8**
PPBI	**Pangkal Pinang**	**26.86**	**266**	P	**P**	**09 00 13.9**	**+0.6**
	comp=Z,186nm,1.8s						
SKJI	**Sukabumi**	**27.12**	**255**	P	**P**	**09 00 17.9**	**+2.3**
SBJI	**Serang**	**27.36**	**258**	P	**P**	**09 00 19.4**	**+1.7**
	comp=Z,398nm,1.1s,comp=Z,7μm						
YHNB	**Yeheng**	**27.38**	**337**	*e*P	**P**	**09 00 17.8**	**0.0**
	comp=Z,443nm,1.4s						
YHNB				LR	LR		
	comp=Z,10μm,19.0s						
JOW	**Kunigami**	**27.50**	**351**	*e*P	**P**	**09 00 18.9**	**+0.1**
JOW				*e*S	S	09 05 04.6	+7.4
TATO	**Taipei**	**27.61**	**337**	PFAKE		09 00 30.0	+10
TATO				LR	LR		
	comp=Z,7μm,19.0s						
HNR	**Honiara**	**28.31**	**109**	P	**P**	**09 00 26.5**	**+0.3**
	comp=Z,31nm,0.9s						
HNR				LR	LR		
	comp=Z,1μm,22.0s						
HNR	**Honiara**	**28.31**	**109**	P	**P**	**09 00 26.5**	**+0.3**
	comp=Z,330nm,0.9s,baz=193,slow=2.7,SNR=45						
KLSI	**Sukolilo**	**28.50**	**261**	P	**P**	**09 00 27.8**	**-0.1**
	comp=Z,156nm,2.5s,comp=Z,6μm						
QZH	**Quanzhou**	**28.82**	**332**	⇓*i*P	**P**	**09 00 30.4**	**-0.2**
QZH				S	**S**	**09 05 18.0**	**-0.1**
QZH				pmax	pmax		
	comp=Z,320nm,1.3s						
QZH				pmax	pmax		
	comp=Z,2μm,4.2s						
QZH				LR	LR		
	comp=N,12μm,14.3s						
QZH				LR	LR		
	comp=E,2μm,8.0s						
QZH				LR	LR		
	comp=Z,20μm,16.7s						
KASI	**Kota Agung**	**28.85**	**259**	P	**P**	**09 00 30.2**	**-0.8**
	comp=Z,237nm,1.1s,comp=Z,3μm						
XMIS	**Christmas Isla**	**28.91**	**249**	*e*P	**P**	**09 00 30.0**	**-1.6**
	comp=Z,198nm,0.8s						
XMIS	**Christmas Isla**	**28.91**	**249**	P	**P**	**09 00 30.6**	**-1.0**
	baz=29,SNR=7.4						
MYKOM	**Kota Tinggi**	**29.19**	**274**	P	**P**	**09 00 35.2**	**+1.2**
MYKOM	**Kota Tinggi**	**29.19**	**274**	P	**P**	**09 00 34.5**	**+0.5**
	comp=Z,212nm,2.3s,comp=Z,5μm						
LWLI	**Liwa**	**29.21**	**261**	P	**P**	**09 00 34.6**	**+0.2**
	comp=Z,477nm,1.0s,comp=Z,20μm						
BTDF	**Bukit Timah Da**	**29.23**	**274**	P	**P**	**09 00 35.3**	**+0.9**
	comp=Z,127nm,1.9s,comp=Z,3μm						
BTDF	**Bukit Timah Da**	**29.23**	**274**	P	**P**	**09 00 35.3**	**+0.9**
	baz=29,SNR=7.0						
BTDF				P	**P**	**09 00 35.3**	**+0.9**
	baz=29,SNR=7.0						
MEEK	**Meekatharra**	**29.47**	**207**	P	**P**	**09 00 35.7**	**-0.7**
	baz=30,SNR=42						
KGM	**Kluang**	**29.73**	**275**	P	**P**	**09 00 40.0**	**+1.2**
QIZ	**Qiongzhong**	**29.83**	**312**	P	**P**	**09 00 39.8**	**+0.2**
QIZ				pP	**pP**	**09 00 49.7**	**-0.7**
QIZ				S	**S**

SSE				pmax	pmax	
	comp=Z,150nm,1.2s					
SSE				pmax	pmax	
	comp=Z,2μm,8.8s					
SSE				LR	LR	
	comp=N,4μm,19.9s					
SSE				LR	LR	
	comp=E,4μm,20.0s					
SSE				LR	LR	
	comp=Z,6μm,19.3s					
JNU	**Nakatsue**	**33.45 357**	*e*P	**P**		**09 01 11.1 -0.3**
	comp=Z,124nm,1.4s					
JNU			*e*S	**S**		**09 06 26.7 -3.7**
JNU	**Nakatsue**	**33.45 357**	LR	LR		09 13 38.3
	comp=Z,14μm,19.5s,baz=173,slow=34					
BLDU	**Ballidu**	**33.73 206**	P	**P**		**09 01 13.5 -0.3**
	baz=34,SNR=110					
KLBR	**Kellerberrin**	**34.15 203**	P	**P**		**09 01 17.3 -0.1**
	baz=34,SNR=71					
PSI	**Prapat**	**34.17 276**	P	**P**		**09 01 17.2 -0.7**
PSI	**Prapat**	**34.17 276**	P	**P**		**09 01 17.2 -0.7**
	comp=Z,174nm,0.9s,baz=106,slow=5.4,SNR=53					
PSI			LR	LR		09 15 58.0
	comp=Z,7μm,21.7s,baz=240,slow=38					
PSI	**Prapat**	**34.17 276**	P	**P**		**09 01 17.3 -0.7**
	baz=34,SNR=48					
PSI			S	**S**		**09 06 44.4 +2.1**
	baz=34,SNR=8.5					
NAYO	**Nakonayok**	**34.58 296**	P	**P**		**09 01 19.3 -2.0**
	comp=Z,742nm,1.0s,comp=Z,10μm					
ARMA	**Armidale**	**34.69 151**	*e*P	**P**		**09 01 22.1 -0.1**
	comp=Z,343nm,0.9s					
ARMA	**Armidale**	**34.69 151**	P	**P**		**09 01 22.1 -0.1**
	baz=35,SNR=100					
NJ2	**Nanjing**	**34.97 339**	*e*P	**P**		**09 01 25.7 +1.2**
NJ2			pP	**pP**		**09 01 33.6 -1.8**
NJ2			sP	**sP**		**09 01 39.4 -0.6**
NJ2			S	**S**		**09 06 56.5 +2.7**
NJ2			pmax	pmax		
	comp=Z,150nm,1.1s					
NJ2			LR	LR		
	comp=N,8μm,17.7s					
NJ2			LR	LR		
	comp=E,7μm,17.8s					
NJ2			LR	LR		
	comp=Z,7μm,14.4s					
PKDT	**Phuket**	**35.50 284**	P	**P**		**09 01 30.1 +0.8**
	comp=Z,196nm,1.5s,comp=Z,6μm					
NWAO	**Narrogin (SRO)**	**35.53 203**	P	**P**		**09 01 29.8 +0.5**
	SNR=8.7					
NWAO	**Narrogin (SRO)**	**35.53 203**	*e*P	**P**		**09 01 28.8 -0.6**
	comp=Z,119nm,1.0s					
NWAO			LR	LR		
	comp=Z,8μm,19.0s					
WHN	**Wuhan**	**35.55 332⇓**	*i*P	**P**		**09 01 31.1 +1.7**
WHN			pP	**pP**		**09 01 40.6 +0.3**
WHN			pmax	pmax		
	comp=Z,420nm,1.1s					
WHN			LR	LR		
	comp=N,5μm,11.8s					
WHN			LR	LR		
	comp=E,10μm,15.4s					
WHN			LR	LR		
	comp=Z,12μm,17.4s					
LHMI	**Lhok Sumawe**	**36.40 279**	P	**P**		**09 01 37.5 +0.4**
	baz=36,SNR=8.3					
YNG	**Young**	**36.64 158**	P	**P**		**09 01 38.8 -0.1**
	baz=37,SNR=55					
MGCD	**Mangrove Creek**	**36.79 154**	P	**P**		**09 01 41.1 +1.1**
	baz=37,SNR=17					
GYA	**Guiyang**	**36.85 319⇑**	*i*P	**P**		**09 01 41.5 +0.7**
GYA			pP	**pP**		**09 01 51.8 0.0**
GYA			sP	**sP**		**09 01 57.0 +0.6**
GYA			PP	**PnPn**		**09 03 08.9 +3.3**
GYA			PcP	**PcP**		**09 04 03.2 +0.9**
GYA			S	**S**		**09 07 25.0 +2.0**
GYA			sS	**sS**		**09 07 41.6 +0.5**
GYA			SS	**SnSn**		**09 09 54.5 -2.7**
GYA			pmax	pmax		
	comp=Z,80nm,1.0s					
GYA			pmax	pmax		
	comp=Z,1μm,9.3s					
GYA			LR	LR		
	comp=N,7μm,21.5s					
GYA			LR	LR		
	comp=E,7μm,19.9s					
GYA			LR	LR		
	comp=Z,9μm,20.9s					
RKGY	**Rocky Gully**	**37.12 202**	P	**P**		**09 01 44.2 +1.3**
	baz=37,SNR=5.3					
MAJO	**Matsushiro**	**37.13 7**	*e*P	**P**		**09 01 39.9 -3.1**
MAJO			*e*			09 03 07.7
MAJO			*e*S	**S**		**09 07 25.8 -1.0**
MAJO			pmax	pmax		
	comp=Z,26nm,0.8s					
MAJO			MLR	MLR		
	comp=Z,17μm,20.0s					
MAJO	**Matsushiro**	**37.13 7**	*e*P	**P**		**09 01 39.9 -3.1**
	comp=Z,4.3nm,0.8s					
MAJO			*e*PP	**PP**		**09 03 07.7 -0.4**
MAJO			*e*S	**S**		**09 07 25.8 -1.0**
MAJO			LR	LR		
	comp=Z,11μm,20.0s					
MAT	**Matsushiro**	**37.13 7**	P	**P**		**09 01 40.5 -2.4**
MAT			S	**S**		**09 07 26.8 0.0**
COCO	**West Island**	**37.68 251**	*i* P	**P**		**09 01 49.4 +1.5**
COCO	**West Island**	**37.68 251**	PFAKE			09 02 00.0 +12
COCO			LR	LR		
	comp=Z,8μm,20.0s					
CAN	**Canberra**	**37.78 158**	*e*P	**P**		**09 01 48.6 +0.1**
CAN			pmax	pmax		
	comp=Z,311nm,1.1s					
CAN			MLR	MLR		
	comp=Z,10μm,21.0s					
CAN	**Canberra**	**37.78 158**	*e*P	**P**		**09 01 48.6 +0.1**
	comp=Z,311nm,1.1s					
CAN			LR	LR		
	comp=Z,10μm,21.0s					
ENH	**Enshi**	**37.85 326**	*e*P	**P**		**09 01 49.2 0.0**
	comp=Z,75nm,1.0s					
ENH			LR	LR		
	comp=Z,43nm,19.0s					
CNB	**Canberra Magne**	**37.91 158**	P	**P**		**09 01 49.7 +0.1**
	baz=38,SNR=18					
KSAR	**Wonju Array Be**	**38.00 353**	P	**P**		**09 01 50.3 +0.1**
KSAR			PcP	**PcP**		**09 04 06.5 +1.2**
KSRS	**Korea Array**	**38.00 353**	P	**P**		**09 01 50.3 0.0**
	comp=Z,26nm,1.0s,baz=172,slow=10,SNR=89					
KSRS			PcP	**PcP**		**09 04 06.5 +1.1**
	comp=Z,9.6nm,0.9s,baz=185,slow=4.1,SNR=6.7					
KSRS			LR	LR		09 18 06.2
	comp=Z,10μm,18.0s,baz=172,slow=37					
INCN	**Inchon**	**38.20 352**	P	**P**		**09 01 53.0 +1.0**
	SNR=9.3					
INCN	**Inchon**	**38.20 352**	*e*P	**P**		**09 01 52.1 +0.1**
	comp=Z,14nm,1.0s					
INCN			LR	LR		
	comp=Z,11μm,21.0s					
CMAR	**Chiang Mai Arr**	**38.34 301**	P	**P**		**09 01 54.0 +0.5**
CMAR			*e*			09 32 04.3
CMAR	**Chiang Mai Arr**	**38.34 301**	P	**P**		**09 01 54.0 +0.5**
	comp=Z,73nm,1.0s,baz=126,slow=7.3,SNR=180					
CMAR			P3KPbc			09 32 04.3
	comp=Z,0.9nm,0.4s,baz=296,slow=5.8,SNR=5.9					
WAKE	**Wake Island**	**38.44 57**	PFAKE			09 02 00.0 +5.8
WAKE			LR	LR		
	comp=Z,8μm,19.0s					
CHTO	**Chiang Mai**	**38.50 302**	*e*P	**P**		**09 01 54.8 +0.1**
CHTO			*e*			09 04 08.8
CHTO			pmax	pmax		
	comp=Z,141nm,1.1s					
CHTO			MLR	MLR		
	comp=Z,5μm,20.0s					
CHTO	**Chiang Mai**	**38.50 302**	P	**P**		**09 01 55.3 +0.6**
	SNR=29					
CHTO	**Chiang Mai**	**38.50 302**	*e*P	**P**		**09 01 54.8 +0.1**
	comp=Z,35nm,1.1s					
CHTO			*e*PcP	**PcP**		**09 04 08.8 +1.5**
CHTO			LR	LR		
	comp=Z,5μm,20.0s					
CHTO	**Chiang Mai**	**38.50 302**	P	**P**		**09 01 54.6 -0.1**
	comp=Z,136nm,1.1s,comp=Z,3μm					
TOO	**Toolangi**	**38.71 164**	P	**P**		**09 01 56.8 +0.6**
	baz=39,SNR=74					
KMI	**Kunming**	**38.74 313**	P	**P**		**09 01 57.9 +0.9**
KMI			pP	**pP**		**09 02 06.4 -1.5**
KMI			sP	**sP**		**09 02 09.5 -3.0**
KMI			PP	**PnPn**		**09 03 29.4 +0.9**
KMI			S	**ScP**		**09 07 53.5 -0.1**
KMI			pmax	pmax		
	comp=Z,160nm,1.4s					
KMI			pmax	pmax		
	comp=Z,1μm,5.1s					
KMI			LR	LR		
	comp=N,3μm,23.4s					
KMI			LR	LR		
	comp=E,6μm,20.4s					
KMI			LR	LR		
	comp=Z,9μm,22.6s					
CMAI	**Chiengmai2**	**38.91 303**	P	**P**		**09 01 58.2 -0.2**
	comp=Z,145nm,1.8s,comp=Z,3μm					
NOUC	**Port Laguerre**	**38.96 126**	*e*P	**P**		**09 02 00.8 +2.3**
DZM	**Mont Dzumac**	**39.06 126**	*e*LR	LR		09 12 45.7
	comp=Z,19μm,23.5s					
DZM	**Mont Dzumac**	**39.06 126**	P	**P**		**09 01 58.8 -0.7**
DZM	**Mont Dzumac**	**39.06 126**	P	**P**		**09 01 58.8 -0.7**
	comp=Z,15nm,1.0s,baz=93,slow=22,SNR=4.9					
TIA	**Tai'an**	**39.34 340**	⇑P	**P**		**09 02 01.7 +0.2**
TIA			PP	**PnPn**		**09 03 36.7 +1.4**
TIA			S	**S**		**09 08 04.0 +3.8**
TIA			LR	LR		
	comp=N,8μm,17.5s					
TIA			LR	LR		
	comp=E,14μm,18.8s					
TIA			LR	LR		
	comp=Z,9μm,17.4s					
MILA	**Mila**	**39.38 159**	P	**P**		**09 02 02.4 +0.4**
	baz=39,SNR=14					
LHI	**Lord Howe Isla**	**39.56 144**	P	**P**		**09 02 03.8 +0.3**
	baz=40,SNR=4.8					
CMBY	**CAMPBELL BAY**	**39.63 282**	*e*P	**P**		**09 02 03.1 -1.2**
CMBY			AMB	AMB		09 04 13.6
	comp=Z,257nm,5.0s					
TARA	**Tarawa**	**40.01 87**	PFAKE			09 02 20.0 +13
TARA			LR	LR		
	comp=Z,17μm,19.0s					
DL2	**Dalian**	**40.53 346**	⇑P	**P**		**09 02 12.6 +1.3**
DL2			S	**S**		**09 08 21.3 +3.5**
DL2			pmax	pmax		
	comp=Z,260nm,1.0s					
DL2			pmax	pmax		
	comp=Z,3μm,6.5s					
DL2			LR	LR		
	comp=N,4μm,18.5s					
DL2			LR	LR		
	comp=E,5μm,19.4s					
DL2			LR	LR		
	comp=Z,5μm,20.1s					
XAN	**Xi'an**	**41.06 329**	P	**P**		**09 02 15.7 -0.2**
XAN			pP	**pP**		**09 02 24.3 -2.6**
XAN			sP	**sP**		**09 02 29.0 -2.5**
XAN			PP	**PnPn**		**09 03 53.8 -1.9**
XAN			PcP	**PcP**		**09 04 16.9 +1.6**
XAN			ScP	**ScP**		**09 07 58.9 -3.3**
XAN			S	**S**		**09 08 24.4 -1.7**
XAN			ScS	**ScS**		**09 12 16.9 -0.8**
XAN			pmax	pmax		
	comp=Z,42nm,1.0s					
XAN			pmax	pmax		
	comp=Z,510nm,14.4s					
XAN			LR	LR		
	comp=N,1μm,15.8s					
XAN			LR	LR		
	comp=E,2μm,17.2s					
XAN			LR	LR		
	comp=Z,2μm,17.4s					
PBA	**Port Blair**	**41.71 288**	*e*P	P		09 02 21.2 -0.2
CD2	**Chengdu**	**41.73 321**	*e*P	**P**		**09 02 21.5 0.0**
CD2			pP	**pP**		**09 02 31.9 -0.6**
CD2			sP	**sP**		**09 02 35.8 -1.3**
CD2			PP	**PnPn**		**09 04 01.9 -1.7**
CD2			PcP	**PcP**		**09 04 17.5 0.0**
CD2			S	**S**		**09 08 36.9 +0.7**
CD2			sS	**sS**		**09 08 53.8 -0.6**
CD2			SS	**SS**		**09 11 38.5 -4.5**
CD2			ScS	**ScS**		**09 12 19.5 -2.4**
CD2			pmax	pmax		
	comp=Z,250nm,1.6s					
CD2			pmax	pmax		
	comp=Z,2μm,9.5s					
CD2			LR	LR		
	comp=E,5μm,14.2s					
CD2			LR	LR		
	comp=Z,8μm,14.2s					
DGPR	**DIGLIPUR**	**41.92 290**	*e*P	**P**		**09 02 20.8 -2.4**
DGPR			AMB	AMB		09 02 30.3
	comp=Z,138nm,0.0s					
TIY	**Taiyuan**	**42.44 336**	*e*P	**P**		**09 02 27.8 +0.6**
TIY			pP	**pP**		**09 02 37.5 -0.7**
TIY			PP	PcP		09 04 14.4 -5.4
TIY			S	**S**		**09 08 43.5 -3.0**
TIY			pmax	pmax		
	comp=Z,120nm,0.8s					
TIY			LR	LR		
	comp=N,4μm,17.3s					
TIY			LR	LR		
	comp=E,2μm,11.6s					
TIY			LR	LR		
	comp=Z,2μm,17.5s					
SNY	**Shenyang**	**42.93 350**	⇑P	**P**		**09 02 31.5 +0.6**
SNY			PP	**PP**		**09 04 12.6 +1.4**
SNY			S	**S**		**09 08 49.2 -4.1**
SNY			pmax	pmax		
	comp=Z,120nm,1.2s					
SNY			pmax	pmax		
	comp=Z,1μm,12.0s					
SNY			LR	LR		
	comp=N,10μm,19.2s					
SNY			LR	LR		
	comp=Z,10μm,20.2s					
BJT	**Baijiatuau**	**43.10 341**	*e*P	**P**		**09 02 32.9 +0.6**
	comp=Z,543nm,1.1s					
BJT			*e*S	**S**		**09 08 59.3 +3.5**
BJT			LR	LR		
	comp=Z,6μm,19.0s					
BJI	**Beijing**	**43.12 341**	P	**P**		**09 02 33.1 +0.6**
BJI			S	**S**		**09 08 59.3 +3.2**
BJI			pmax	pmax		
	comp=Z,420nm,1.1s					
BJI			LR	LR		
	comp=N,6μm,18.6s					
BJI			LR	LR		
	comp=E,4μm,21.2s					
BJI			LR	LR		
	comp=Z,4μm,20.2s					
ERM	**Erimo**	**43.27 11**	PFAKE			09 02 40.0 +6.3
ERM			LR	LR		
	comp=Z,13μm,19.0s					
VLA	**Vladivostok**	**43.39 359⇓**	*i*P	**P**		**09 02 35.4 +0.8**
VLA			*e*PP	**PP**		**09 04 14.5 -1.5**
VLA			*e*S	**S**		**09 09 00.9 +0.9**
MOO	**Moorlands**	**43.72 165**	P	**P**		**09 02 38.0 +0.7**
	baz=44,SNR=14					
TAU	**Tasmania Unive**	**44.19 165**	*e*P	**P**		**09 02 41.5 +0.4**
TAU			pmax	pmax		
	comp=Z,226nm,1.0s					
TAU			MLR	MLR		
	comp=Z,18μm,20.0s					
TAU	**Tasmania Unive**	**44.19 165**	*e*P	**P**		**09 02 41.5 +0.4**
	comp=Z,227nm,1.0s					
TAU			LR	LR		
	comp=Z,18μm,20.0s					
USRK	**Ussuriysk Arra**	**44.47 359**	P	**P**		**09 02 43.9 +0.7**
	comp=Z,31nm,0.9s,baz=182,slow=7.6,SNR=66					
USRK			LR	LR		09 20 12.6
	comp=Z,9μm,18.3s,baz=161,slow=35					
CN2	**Changchun**	**44.57 352**	*e*P	**P**		**09 02 43.7 -0.4**
CN2			*e*pP	**pP**		**09 02 53.7 -1.5**
CN2			*e*sP	**sP**		**09 02 57.6 -2.2**
CN2			*e*PP	**PP**		**09 04 29.3 +0.6**
CN2			*e*S	**S**		**09 09 18.1 +0.9**
CN2			*e*SS	SS		09 12 30.6 -7.6
CN2			pmax	pmax		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,9μm,16.0s					
CN2			LR	LR		
	comp=E,4μm,16.0s					
CN2			LR	LR		
	comp=Z,10μm,16.0s					
MDJ	**Mudanjiang**	**44.97 357**	P	**P**		**09 02 47.3 0.0**
MDJ			pP	**pP**		**09 02 57.0 -1.4**
MDJ			PP	**PP**		**09 04 32.7 -0.3**
MDJ			ScP	**ScP**		**09 08 18.9 +1.2**
MDJ			PcS	**PcS**		**09 08 23.0 +1.4**
MDJ			S	**S**		**09 09 24.2 +1.1**
MDJ			pmax	pmax		
	comp=Z,98nm,1.4s					
MDJ			pmax	pmax		
	comp=Z,3μm,14.7s					
MDJ			LR	LR		
	comp=N,6μm,19.3s					
MDJ			LR	LR		
	comp=E,3μm,20.9s					
MDJ			LR	LR		
	comp=Z,6μm,20.9s					
MDJ	**Mudanjiang**	**44.97 357**	*e*P	**P**		**09 02 47.5 +0.2**
	comp=Z,98nm,1.1s					
MDJ			*e*S	**S**		**09 09 24.8 +1.7**
MDJ			LR	LR		
	comp=Z,7μm,21.0s					
ASAJ	**Asahikawa**	**45.20 10**	*e*P	**P**		**09 02 48.8 -0.3**
	comp=Z,59nm,1.4s					
ASAJ			*e*S	**S**		**09 09 24.0 -2.4**
ASAJ	**Asahikawa**	**45.20 10**	LR	LR		09 20 29.7
	comp=Z,10μm,20.1s,baz=185,slow=34					
LZH	**Lanzhou**	**45.33 326**	⇑P	**P**		**09 02 51.7 +1.2**
LZH			pP	**pP**		**09 03 03.6 +2.0**
LZH			sP	**sP**		**09 03 07.4 +1.2**
LZH			S	**S**		**09 09 32.0 +3.2**
LZH			sS	**sS**		**09 09 47.3 +0.1**
LZH			SS	**ScS**		**09 12 47.0 +2.5**
LZH			pmax	pmax		
	comp=Z,330nm,1.3s					
LZH			LR	LR		
	comp=E,3μm,13.6s					
LZH			LR	LR		
	comp=Z,5μm,14.8s					
HHC	**Hu-ho-hao-te**	**45.48 337**	⇑P	**P**		**09 02 52.5 +1.0**
HHC			pP	**pP**		**09 03 02.1 -0.6**
HHC			sP	**sP**		**09 03 05.8 -1.4**
HHC			PP	**PP**		**09 04 40.1 +1.6**
HHC			ScP	**ScP**		**09 08 19.5 -0.5**
HHC			PcS	**PcS**		**09 08 23.8 -0.3**
HHC			S	**S**		**09 09 32.6 +1.9**
HHC			sS	**sS**		**09 09 49.1 0.0**
HHC			SS	**ScS**		**09 12 48.5 +3.4**
HHC			pmax	pmax		
	comp=Z,430nm,1.0s					
HHC			LR	LR		
	comp=N,6μm,16.7s					
HHC			LR	LR		
	comp=E,8μm,16.5s					
HHC			LR	LR		
	comp=Z,10μm,17.8s					
YUK	**Yuzh-Kuril'sk**	**45.77 13***c*	*i*P	**P**		**09 02 54.4 +0.8**
YUK			*i*			09 04 47.5
YUK			*i* S	**S**		**09 09 34.8 +0.3**
YUK			*i* SS	**SS**		**09 12 54.9 -4.6**
YUK			pmax	pmax		
	comp=Z,1μm,1.6s					
YUK			pmax	pmax		
	comp=E,753nm,1.5s					
YUK			pmax	pmax		
	comp=Z,619nm,1.5s					
YUK			pmax	pmax		
	comp=N,297nm,0.8s					
BTO	**Baotou**	**45.89 336**	*e*P	**P**		**09 02 54.7 -0.1**
FUNA	**Funafuti**	**46.75 101**	*e*P	**P**		**09 03 03.6 +1.8**
	comp=N,229nm,0.9s					
SHL	**Shillong**	**47.35 306⇑**	*i*P	**P**		**09 03 07.0 +0.4**
SHL			*i* x	x		09 09 45.0
KUR	**Kuril'sk**	**47.37 14***c*	*i*P	P		09 02 59.3 -6.8
KUR			*i* PPP	PPP		09 05 50.5
KUR			pmax	pmax		
	comp=Z,275nm,1.8s					
KUR			pmax	pmax		
	comp=N,144nm,1.8s					
KUR			pmax	pmax		
	comp=E,62nm,1.8s					
KUR			pmax	pmax		
	comp=Z,3μm,5.8s					
KUR			MLR	MLR		
	comp=N,1μm,18.0s					
KUR			MLR	MLR		
	comp=E,2μm,18.0s					
KUR			MLR	MLR		
	comp=Z,3μm,18.0s					
MSVF	**Nonsavu**	**47.53 114**	P	**P**		**09 03 10.6 +2.6**
	comp=Z,1μm,0.9s,SNR=21					
MSVF	**Nonsavu**	**47.53 114**	*e*P	**P**		**09 03 09.7 +1.7**
MSVF			*e*			09 05 00.9
MSVF			pmax	pmax		
	comp=Z,201nm,1.0s					
MSVF			MLR	MLR		
	comp=Z,11μm,21.0s					
MSVF	**Nonsavu**	**47.53 114**	*e*P	**P**		**09 03 09.7 +1.7**
	comp=Z,228nm,1.0s					
MSVF			*e*PP	**PP**		**09 05 00.9 +1.1**
MSVF			LR	LR		
	comp=Z,12μm,21.0s					
YSS	**Yuzh-Sakhalins**	**47.99 9**α	*i*P	**P**		**09 03 11.3 +0.4**
YSS			*e*			09 03 30.0
YSS			*e*			09 05 04.0
YSS			*e*S	**S**		**09 10 08.0 +1.9**
YSS			*e*PS			09 10 28.0
YSS			pmax	pmax		
	comp=Z,80nm,0.7s					
YSS			pmax	pmax		
	comp=Z,3μm,6.0s					
HABR	**Khabarovsk**	**48.77 2***ce*	P	**P**		**09 03 16.5 -0.4**
HABR			*e**PP	**pP**		**09 03 25.0 -3.1**
HABR			*e**SP	**sP**		**09 03 29.7 -2.9**
HABR			*e*			09 04 40.7
HABR			*e*			09 05 08.3
HABR			PPP	PPP		09 05 59.8
HABR			*e*S	**S**		**09 10 17.5 +0.5**
HABR			*e**SS	**sS**		**09 10 32.9 -2.7**
HABR			*e*			09 13 04.6
HABR			pmax	pmax		
	comp=Z,1μm,3.2s					
HABR			pmax	pmax		
	comp=E,77nm,1.7s					
HABR			pmax	pmax		
	comp=Z,432nm,2.3s					
HABR			pmax	pmax		
	comp=N,165nm,2.3s					
HABR			MLR	MLR		
	comp=E,5μm,17.0s					
HABR			MLR	MLR		
	comp=N,4μm,17.0s					
HABR			MLR	MLR		
	comp=Z,4μm,17.0s					
KLR	**Kul'dur**	**49.50 359**	*e*P	**P**		**09 03 19.5 -3.0**
KLR			*e*S	**S**		**09 10 28.0 +0.6**
KLR			pmax	pmax		
	comp=N,2μm,11.0s					
KLR			pmax	pmax		
	comp=Z,4μm,11.0s					
KLR			smax	smax		
	comp=N,2μm,9.0s					
KLR			smax	smax		
	comp=E,3μm,9.0s					
KLR			MLR	MLR		
	comp=N,3μm,16.0s					
KLR			MLR	MLR		
	comp=Z,4μm,16.0s					
LSA	**Lhasa**	**49.86 311**	P	**P**		**09 03 28.3 +2.1**
LSA			pP	**pP**		**09 03 35.8 -1.6**
LSA			sP	**sP**		**09 03 39.6 -2.3**
LSA			PP	**PP**		**09 05 23.3 +2.1**
LSA			S	**S**		**09 10 34.4 +0.4**
LSA			sS	**sS**		**09 10 53.6 +1.0**
LSA			pmax	pmax		
	comp=Z,130nm,1.1s					
LSA			LR	LR		
	comp=N,1μm,22.8s					
LSA			LR	LR		
	comp=E,2μm,24.5s					
LSA			LR	LR		
	comp=Z,4μm,22.0s					
LSA	**Lhasa**	**49.86 311**	*e*P	**P**		**09 03 27.1 +0.9**
LSA			*e*S	**S**		**09 10 35.6 +1.6**
LSA			pmax	pmax		
	comp=Z,177nm,1.0s					
LSA			MLR	MLR		

comp=Z,5μm,22.0s
LSA Lhasa 49.86 311 *e*P P 09 03 27.1 +0.9
comp=Z,176nm,1.0s
LSA *e*S **S 09 10 35.6 +1.6**
LSA LR LR
comp=Z,5μm,22.0s
GTA Gaotai 49.93 326 ⇑P P 09 03 27.1 +1.0
GTA pP **pP 09 03 37.0 -0.4**
GTA sP **sP 09 03 41.8 -0.1**
GTA PcP **PcP 09 04 44.8 -1.3**
GTA PP **PP 09 05 21.1 -0.2**
GTA PcS **PcS 09 08 42.7 -0.4**
GTA S **S 09 10 35.1 +1.1**
GTA SS **SS 09 14 03.2 -4.2**
GTA pmax pmax
comp=Z,110nm,1.3s
GTA pmax pmax
comp=Z,2μm,9.0s
GTA LR LR
comp=N,3μm,16.6s
GTA LR LR
comp=E,3μm,16.2s
GTA LR LR
comp=Z,5μm,17.1s
HIA Hailar 50.82 349 *e*P P 09 03 32.9 +0.4
comp=Z,86nm,1.2s
HIA *e*PcP **PcP 09 04 50.6 +1.6**
HIA *e*S **S 09 10 49.6 +3.8**
HIA LR LR
comp=Z,9μm,19.0s
OUZ Omahuta 51.26 137 *e*P P 09 03 36.8 +0.7
comp=Z,45nm,1.2s
TAPN Taplejung 51.49 306⇑*i*P P 09 03 38.3 0.0
comp=Z,444nm,1.1s
ODAN Odare 51.55 305⇑*i*P P 09 03 38.6 -0.1
comp=Z,424nm,0.9s
BOK Bokaro 51.63 301 *e*P P 09 03 39.0 -0.1
BOK AMB AMB 09 03 47.1
comp=Z,109nm,0.7s
VIS Vishakhapatnam 52.05 293 *i*P P 09 03 42.3 +0.1
VIS *i*4 09 05 48.0
RAMN Ramite 52.23 305⇑*i*P P 09 03 43.9 +0.1
comp=Z,638nm,1.1s
PALK Pallekele 52.68 279 *e*P P 09 03 46.7 -0.3
comp=Z,128nm,1.6s
JIRN Jiri 52.85 306⇑*i*P P 09 03 48.3 -0.2
comp=Z,393nm,1.0s
ULN Ulaanbaatar 53.14 338 P P 09 03 51.5 +1.5
SNR=175
ULN Ulaanbaatar 53.14 338 *e*P P 09 03 51.1 +1.2
comp=Z,453nm,1.5s
ULN *e*S **S 09 11 21.4 +3.4**
ULN LR LR
comp=Z,5μm,21.0s
GUN Gumba 53.20 306⇑*i*P P 09 03 51.0 -0.1
comp=Z,593nm,1.0s
SONM Songino Array 53.36 338 P P 09 03 52.5 +1.0
SONM ⇑*e* 09 34 27.7
SONM Songino Array 53.36 338 P P 09 03 52.5 +1.0
comp=Z,39nm,0.9s,baz=148,slow=8.0,SNR=174
SONM PKP2bc 09 34 27.7
comp=Z,3.4nm,1.1s,baz=292,slow=1.9,SNR=7.2
PKI Pulchoki 53.45 305⇑*i*P P 09 03 52.3 -0.5
comp=Z,251nm,1.2s
PKIN Phulchoki 53.46 305⇑*i*P P 09 03 52.8 -0.1
KKN Kakani 53.64 306⇑*i*P P 09 03 53.8 -0.3
comp=Z,231nm,0.9s
DMN Daman 53.71 305⇑*i*P P 09 03 54.4 -0.3
comp=Z,319nm,0.9s
SKR Severo-Kuril's 54.63 18 *e*P P 09 03 57.5 -3.1
SKR *e*S **S 09 11 36.0 -1.7**
SKR *e*SS **SS 09 15 22.0 +0.9**
SKR pmax pmax
comp=Z,480nm,1.5s
SKR pmax pmax
comp=N,2μm,10.0s
SKR pmax pmax
comp=E,2μm,10.0s
SKR pmax pmax
comp=Z,3μm,10.0s
SKR smax smax
comp=N,7μm,24.0s
SKR smax smax
comp=E,4μm,24.0s
SKR MLR MLR
comp=N,1μm,16.0s
SKR MLR MLR
comp=E,2μm,16.0s
SKR MLR MLR
comp=Z,2μm,16.0s
CIT Chita 54.78 345 *e*P P 09 04 02.8 +1.0
CIT *e* 09 04 14.6
CIT *e* 09 11 56.0
CIT pmax pmax
comp=Z,1μm,1.8s
RPZ Rata Peaks 54.83 147 *e*P P 09 04 02.6 +0.3
comp=Z,436nm,1.1s
RAO Raoul Island 54.85 126 PFAKE 09 04 10.0 +7.3
RAO LR LR
comp=Z,5μm,19.0s
KOLN Koldanda 55.00 305⇑*i*P P 09 04 04.2 +0.2
comp=Z,602nm,1.0s
DANN Dangsing 55.09 306⇑*i*P P 09 04 04.7 -0.1
comp=Z,695nm,1.0s
URZ Urewera 55.28 138 *e*P P 09 04 05.4 -0.1
comp=Z,237nm,1.1s
KHZ Kahutara 55.42 144 *e*P P 09 04 06.5 0.0
comp=Z,247nm,1.1s
MIDW Midway 55.43 55 *e*P P 09 04 07.7 +0.8
comp=Z,65nm,0.9s
MIDW LR LR
comp=Z,4μm,21.0s
SNZO South Karori 55.45 142 PFAKE 09 04 20.0 +13
SNZO LR LR
comp=Z,14μm,21.0s
ODZ Otahua Downs 55.49 148 *e*P P 09 04 08.1 +1.2
comp=Z,105nm,1.0s
PYUN Piuthan 55.63 305⇑*i*P P 09 04 08.7 +0.2
comp=Z,1μm,1.0s
AFI Afiamalu 56.28 106 P P 09 04 14.8 +1.5
AFI LR LR
comp=Z,4μm,19.0s
AFI Afiamalu 56.28 106 P P 09 04 14.8 +1.5
comp=Z,83nm,0.9s,baz=102,slow=23,SNR=7.7
HYB Hyderabad 56.40 291 *i*P P 09 04 11.5 -2.5
comp=Z,120nm,1.0s
HYB *e* 09 04 19.0
HYB *e*pP **pP 09 04 25.5 +0.1**
HYB *e*PP **PP 09 06 24.0 +4.1**
HYB *e*S **S 09 12 00.0 -2.5**
HYB *e*ScS **ScS 09 14 04.0 +3.1**
HYB Hyderabad 56.40 291 *e*P P 09 04 12.3 -1.7
HYB AMB AMB 09 04 21.7
comp=Z,113nm,2.3s
TRD Trivandrum 56.49 280 *e*P P 09 04 13.5 -1.2
JBP Jabalpur 56.55 298 *e*4 P 09 04 14.9 0.0
ZAK Zakamensk 56.62 338 *e*P P 09 04 15.3 +0.2
ZAK pmax pmax
comp=Z,77nm,1.7s
NGP Nagpur 56.83 296 *e*4 P 09 04 12.0 -5.0
NGP *e*4 S 09 12 01.9 -6.2
PETK Petropavlovsk- 57.23 17 P P 09 04 19.5 +0.3
PETK pmax pmax
comp=Z,124nm,1.0s
PETK Petropavlovsk- 57.23 17 P P 09 04 19.5 +0.3
PETK Petropavlovsk- 57.23 17 P P 09 04 19.5 +0.3
comp=Z,124nm,1.0s,baz=194,slow=5.5,SNR=138
PETK LR LR 09 25 18.5
comp=Z,4μm,21.3s,baz=209,slow=32
PET Petropavlovsk 57.45 18α*i*P P 09 04 20.7 0.0
PET *i*S **S 09 12 13.6 -1.5**
PET *e*SS **SS 09 16 03.1 -2.3**
PET pmax pmax
comp=Z,2μm,6.9s
PET pmax pmax
comp=Z,251nm,1.3s
PET pmax pmax
comp=Z,2μm,16.7s
CLNS Chul'man 57.48 355 *e*P P 09 04 21.5 +0.5
CLNS *e**PP **pP 09 04 34.7 +2.3**
CLNS *e* 09 05 13.6
CLNS *e* 09 06 26.5
CLNS *e*S **S 09 12 17.4 +1.9**
CLNS *e* 09 14 11.2
CLNS *e*SS **SS 09 16 09.9 +4.0**
CLNS pmax pmax
comp=Z,68nm,1.0s
CLNS pmax pmax
comp=N,60nm,1.5s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS pmax pmax
comp=Z,24nm,1.3s
CLNS pmax pmax
comp=N,34nm,1.4s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS smax smax
comp=E,1μm,12.5s
CLNS smax smax
comp=N,1μm,16.3s
CLNS MLR MLR
comp=Z,3μm,17.0s
CLNS MLR MLR
comp=N,2μm,14.0s
CLNS MLR MLR
comp=E,1μm,19.0s
IRK Irkutsk 57.78 340 *e*P P 09 04 23.2 +0.1
IRK *e* 09 12 26.2
IRK pmax pmax
comp=Z,394nm,2.1s
LATR Latur 58.47 292 *e*P P 09 04 26.1 -2.4
BHPL Bhopal 58.84 298 *e*P P 09 04 29.7 -1.3
WMQ Urumqi 59.73 323⇑*i*P P 09 04 37.8 +0.9
WMQ sP **sP 09 04 53.4 +0.5**
WMQ PcP **PcP 09 05 24.8 +1.3**
WMQ S **S 09 12 45.3 0.0**
WMQ pmax pmax
comp=Z,270nm,1.6s
WMQ pmax pmax
comp=Z,2μm,4.5s
WMQ LR LR
comp=N,2μm,16.0s
WMQ LR LR
comp=E,4μm,17.0s
WMQ LR LR
comp=Z,3μm,25.0s
DDI Dehra Dun 60.45 306 *e*P P 09 04 41.5 -0.6
DDI AMB AMB 09 04 50.3
comp=Z,1μm,1.0s
DGAR Diego Garcia 60.70 262 PFAKE 09 04 50.0 +6.0
DGAR LR LR
comp=Z,4μm,20.0s
POO Poona 61.01 291 *e*P P 09 04 44.0 -2.1
HVS Khovu-Aksy 61.20 333*c*i*P P 09 04 48.0 +1.2
HVS pmax pmax
comp=Z,1μm,1.6s
HVS MLR MLR
comp=Z,8μm,17.0s
SMLA Simla 61.44 306 *i*P P 09 04 49.2 +0.6
SMLA AMb AMB 09 04 57.2
comp=Z,462nm,0.8s
SMLA *i*4 x 09 12 45.1
BHK Bhakra 62.14 306 *ex* P 09 04 52.5 -1.0
YAK Yakutsk 62.37 358*c*i*P P 09 04 54.4 +0.1
YAK *e**PP **pP 09 05 04.7 -1.2**
YAK *e* 09 05 34.6
YAK *e* 09 07 12.3
YAK *e*S **S 09 13 19.3 +1.2**
YAK *e**SS **sS 09 13 42.0 +4.9**
YAK *e* 09 14 41.3
YAK pmax pmax
comp=N,107nm,1.1s
YAK pmax pmax
comp=Z,236nm,1.0s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,257nm,3.4s
YAK pmax pmax
comp=Z,264nm,3.0s
YAK pmax pmax
comp=E,89nm,2.5s
YAK smax smax
comp=E,192nm,5.4s
YAK smax smax
comp=N,981nm,5.3s
YAK MLR MLR
comp=Z,6μm,18.0s
YAK MLR MLR
comp=E,2μm,17.0s
YAK MLR MLR
comp=N,3μm,18.0s
DHRM DHARAMSHALA 62.51 307 *e*P P 09 04 56.2 0.0
DHRM AMB AMB 09 05 04.3
comp=Z,410nm,2.6s
PONG Pong 62.69 307 *e*P P 09 04 57.0 -0.1
FX1 Attu Island--F 62.84 26 *e*P P 09 04 58.0 +0.4
FX1 Attu Island--F 62.84 26 P P 09 04 58.0 +0.4
comp=Z,97nm,1.0s,baz=233,slow=1.0,SNR=28
FX1 LR LR 09 32 49.8
comp=Z,3μm,19.0s,baz=239,slow=36
DLH Dalhousie 62.87 307 *e*P P 09 04 58.0 -0.6
THN Thein Dam 63.04 307 *ex* P 09 04 56.7 -2.7
SMY Shemya 63.15 27 *e*P P 09 05 00.0 +0.3
SMY pmax pmax
comp=Z,334nm,1.4s
SMY Shemya 63.15 27 *e*P P 09 04 60.0 +0.3
comp=Z,334nm,1.4s
MK31 Makanchi Array 64.55 324 P P 09 05 09.7 +0.6
MK31 pmax pmax
comp=Z,295nm,1.3s
MK31 Makanchi Array 64.55 324 *e*P P 09 05 09.5 +0.4
MK31 *e*S **S 09 13 43.0 -2.9**
MKAR Makanchi Array 64.55 324 P P 09 05 09.8 +0.7
MKAR pmax pmax
comp=Z,46nm,0.9s
MKAR MLR MLR
comp=Z,3μm,18.7s
MKAR Makanchi Array 64.55 324 P P 09 05 09.8 +0.7
MKAR ⇑*e* 09 33 49.5
MKAR *e* 09 42 05.2
MKAR Makanchi Array 64.55 324 P P 09 05 09.8 +0.7
comp=Z,46nm,0.8s,baz=116,slow=8.2,SNR=244
MKAR PKP2bc 09 33 49.5
comp=Z,3.3nm,1.0s,baz=292,slow=3.3,SNR=9.7
MKAR LR LR 09 34 25.7
comp=Z,3μm,18.7s,baz=115,slow=37
MKAR P4KPbc 09 42 05.2
comp=Z,1.1nm,0.9s,baz=116,slow=5.5,SNR=5.4
SEY Seymchan 64.89 10*c*e*P P 09 05 11.6 +0.7
KSH Kashi 65.39 314⇑*i*P P 09 05 16.5 +1.6
KSH sP **sP 09 05 30.3 -0.6**
KSH PP **PP 09 07 42.5 +3.4**
KSH S **S 09 13 55.0 -1.7**
KSH SS **SS 09 18 12.1 +1.6**
KSH pmax pmax
comp=Z,170nm,1.1s
KSH pmax pmax
comp=Z,1μm,3.3s
KSH LR LR
comp=N,1μm,14.2s
KSH LR LR
comp=E,2μm,16.3s
KSH LR LR
comp=Z,2μm,17.3s
BHJ Bhuj 65.79 296 *ex* P 09 05 11.2 -6.4
BHJ AMB AMB 09 05 25.6
comp=Z,144nm,3.0s
AAA Alma-Ata 66.23 319 *e*P P 09 05 21.3 +1.1
AAA *e*S **S 09 14 11.5 +4.7**
AAA pmax pmax
comp=Z,3μm,11.3s
AAA smax smax
comp=E,4μm,15.0s
AAA MLR MLR
comp=Z,3μm,17.0s
DRV Dumont d'Urvil 66.26 177 PP PP 09 07 30.0 -16
DRV S S 09 13 46.0 -20
DRV L L 09 21 00.0
DRV R 09 25 00.0
ULHL Ulahol 66.28 317 P P 09 05 21.6 +0.9
SNR=28
KZA Kyzart 66.89 317 P P 09 05 26.2 +1.4
SNR=50
TKM2 Tokmak 2 66.99 318 *i*P P 09 05 26.0 +0.8
TKM2 Tokmak 2 66.99 318 P P 09 05 26.0 +0.8
SNR=29
TKM2 Tokmak 2 66.99 318 *e*P P 09 05 25.8 +0.6
comp=Z,181nm,1.5s
TKM2 *e*PP **PP 09 07 53.1 0.0**
TKM2 *e*S **S 09 14 11.1 -5.1**
TKM2 LR LR
comp=Z,4μm,19.0s
ADK Adak 67.09 31 *e*P P 09 05 25.2 -0.1
ADK pmax pmax
comp=Z,1μm,1.5s
ADK MLR MLR
comp=Z,5μm,22.0s
ADK Adak 67.09 31 *e*P P 09 05 25.2 -0.1
comp=Z,290nm,1.5s
ADK LR LR
comp=Z,5μm,22.0s
ZAA0 Zalesovo Array 67.16 331 *e*P P 09 05 25.4 -0.3
ZAA0 *e*S **S 09 14 17.2 -0.2**
ZALV Zalesovo Beam 67.16 331 P P 09 05 25.5 -0.3
ZALV pmax pmax
comp=Z,107nm,1.0s
ZALV MLR MLR
comp=Z,2μm,18.7s
ZALV Zalesovo Beam 67.16 331 P P 09 05 25.4 -0.3
ZALV ⇑*e* 09 33 43.0
ZALV Zalesovo Beam 67.16 331 P P 09 05 25.4 -0.3
comp=Z,106nm,1.0s,baz=108,slow=4.8,SNR=184
ZALV PKP2bc 09 33 43.0
comp=Z,0.6nm,0.4s,baz=346,slow=5.4,SNR=3.7
ZALV LR LR 09 38 15.5
comp=Z,2μm,18.7s,baz=251,slow=39
KBK Karagaybulak 67.32 317 P P 09 05 28.2 +1.0
SNR=11
UCH Uchtor 67.45 317 P P 09 05 30.3 +1.8
SNR=12
CHMS Chumysh 67.59 318 P P 09 05 29.2 +0.5
SNR=12
CASY Casey 67.59 190 *e*P P 09 05 27.9 -0.3
comp=Z,68nm,0.9s
CASY LR LR
comp=Z,7μm,22.0s
FRU Bishkek 67.62 317 *e*P P 09 05 28.5 -0.4
FRU *i* 09 05 50.0
FRU pmax pmax
comp=Z,342nm,2.2s
FRU MLR MLR
comp=Z,3μm,23.0s
AAK Ala-Archa 67.62 317 *i*P P 09 05 30.1 +1.0
AAK MLR MLR
comp=Z,8μm,18.0s
AAK Ala-Archa 67.62 317 P P 09 05 30.3 +1.2
SNR=69
AAK Ala-Archa 67.62 317 P P 09 05 30.1 +1.0
SNR=12
AAK Ala-Archa 67.62 317 P P 09 05 28.8 -0.4
AAK *e*S **S 09 14 28.1 +4.4**
AAK ⇑*e* 09 33 53.8
AAK Ala-Archa 67.62 317 P P 09 05 28.8 -0.4
comp=Z,13nm,1.0s,baz=119,slow=4.5,SNR=5.5
AAK PKP2bc 09 33 53.8
comp=Z,2.0nm,0.3s,baz=274,slow=3.6,SNR=7.2
AAK LR LR 09 36 47.7
comp=Z,3μm,19.4s,baz=101,slow=38
USP Ospenovka 67.86 318 P P 09 05 31.1 +0.6
SNR=69
AML Almayashu 67.98 316 P P 09 05 33.4 +1.7
SNR=13
EKS2 Erkin-Say 68.12 317 *e*P P 09 05 33.2 +0.9
EKS2 *e*S **S 09 14 28.1 -1.5**
EKS2 pmax pmax
comp=Z,79nm,1.1s
EKS2 MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 68.12 317 P P 09 05 33.4 +1.2
SNR=29
EKS2 Erkin-Say 68.12 317 *e*P P 09 05 33.2 +0.9
comp=Z,80nm,1.1s
EKS2 *e*S **S 09 14 28.1 -1.5**
EKS2 LR LR
comp=Z,3μm,20.0s
NVS Novosibirsk 68.44 332⇑*i*P P 09 05 33.5 -0.2
NVS *e*S **S 09 14 26.7 -5.9**
NVS *e* 09 15 25.3
NVS pmax pmax
comp=Z,426nm,1.8s
NVS pmax pmax
comp=N,187nm,1.7s
NVS pmax pmax
comp=E,220nm,1.7s
NVS smax smax
comp=N,140nm,3.1s
KURK Kurchatov 68.62 326 P P 09 05 35.2 +0.2
KURK S **S 09 14 34.5 -0.4**
KURK pmax pmax
comp=Z,164nm,0.9s
KURK Kurchatov 68.62 326 P P 09 05 35.2 +0.2
KURK S **S 09 14 34.5 -0.4**
KURK ⇑*e* 09 33 41.5
KURBB Kurchatov Arra 68.62 326 P P 09 05 35.2 +0.2
comp=Z,164nm,0.9s,baz=116,slow=6.5,SNR=426
KURBB S **S 09 14 34.5 -0.5**
comp=Z,0.3nm,0.3s,baz=119,slow=25,SNR=5.3
KURBB PKP2bc 09 33 41.5
comp=Z,0.4nm,0.6s,baz=290,slow=3.3,SNR=4.2
RAR Rarotonga 68.70 113 PFAKE 09 05 50.0 +14
RAR LR LR
comp=Z,3μm,22.0s
KBL Kabul 68.99 307 *e*P P 09 05 37.6 -0.3
KBL pmax pmax
comp=Z,74nm,0.9s
KBL Kabul 68.99 307 *e*P P 09 05 37.6 -0.3
comp=Z,74nm,0.9s
KBL Kabul 68.99 307 P P 09 05 38.7 +0.8
baz=69,SNR=8.6
XMAS Kiritimati 69.63 88 *e*P P 09 05 44.7 +2.7
comp=Z,149nm,0.9s
XMAS LR LR
comp=Z,8μm,21.0s
KK31 Karatay Array 70.52 316 *i*P P 09 05 47.1 +0.2
KK31 pmax pmax
comp=Z,166nm,1.2s
HON Honolulu 70.69 67 *e*P P 09 05 49.5 +1.2
HON Honolulu 70.69 67 *e*P P 09 05 49.5 +1.2
KIP Kipapa 70.70 67*c*e*P P 09 05 50.7 +2.3
KIP pmax pmax
comp=Z,769nm,2.5s
KIP Kipapa 70.70 67 *e*P P 09 05 50.1 +1.7
comp=Z,336nm,1.1s
KIP LR LR
comp=Z,5μm,21.0s
MIR Mirnyy 71.70 196⇑*i*P P 09 05 55.5 +2.0
MIR *e* 09 08 41.0
MIR *e*S **S 09 15 16.0 +5.6**
MIR *e*PS **PnS 09 15 38.0 -5.6**
MIR pmax pmax
comp=Z,2μm,3.0s
MIR pmax pmax
comp=Z,188nm,1.0s
TIXI Tiksi 72.03 359*c*i*P P 09 05 54.5 -0.9
TIXI pmax pmax
comp=Z,124nm,1.0s
TIXI MLR MLR
comp=Z,9μm,21.0s
PAF Port-aux-Franc 72.22 218 PFAKE 09 06 10.0 +13
PAF LR LR
comp=Z,7μm,20.0s
UNV Unalaska Valle 73.44 33 *e*P P 09 06 04.5 +0.3
comp=Z,75nm,1.0s
VOSK Vostochnaya 73.77 326 P P 09 06 06.0 -0.1
VOSK pmax pmax
comp=Z,192nm,1.1s
AKUT Akutan 73.95 32 *e*P P 09 06 07.9 +0.8
comp=Z,429nm,1.7s
BVAR Borovoye Array 74.22 326 P P 09 06 09.1 +0.4
BVAR pmax pmax
comp=Z,178nm,0.9s
BVAR Borovoye Array 74.22 326 P P 09 06 09.1 +0.4
BVAR Borovoye Array 74.22 326 P P 09 06 09.1 +0.4
comp=Z,178nm,0.9s,baz=116,slow=6.8,SNR=628
BRVK Borovoye 74.29 326 P P 09 06 09.0 -0.1
comp=Z,2μm,1.2s
BRVK Borovoye 74.29 326*c*i*P P 09 06 09.5 +0.4
BRVK pmax pmax
comp=Z,510nm,1.7s
BRVK Borovoye 74.29 326 P P 09 06 09.9 +0.8
SNR=184
BRVK Borovoye 74.29 326 *e*P P 09 06 09.6 +0.5
comp=Z,319nm,1.0s
BRVK *e*S **S 09 15 41.0 +0.7**
BRVK LR LR
comp=Z,3μm,20.0s

IDAH	**Dahanechah**	**76.06 304**	*e*P	**P**	**09 06 20.8**	**+0.7**
IMON	**Monand**	**76.30 304**	*e*P	**P**	**09 06 22.4**	**+0.9**
SMDO	**Samad**	**76.30 294**	P	**P**	**09 06 22.2**	**+0.8**
	SNR=5.4					
IMYA	**Miami**	**76.50 307**	*e*P	**P**	**09 06 22.8**	**+0.3**
IKOO	**Kooshah**	**76.72 303**	*e*P	**P**	**09 06 24.3**	**+0.4**
HOQ	**Hoqain**	**77.03 294**	P	**P**	**09 06 26.3**	**+0.8**
	SNR=12					
BSY	**Bisya**	**77.05 293**	P	**P**	**09 06 26.1**	**+0.4**
	SNR=8.3					
MSEY	**Mahe Island**	**77.48 265**	PFAKE		09 06 40.0	+12
MSEY			LR	LR		
	comp=Z,3μm,22.0s					
IAKL	**Akhelmad**	**77.62 308**	*e*P	**P**	**09 06 29.4**	**+0.5**
ARQ	**Araqi**	**77.73 294**	P	**P**	**09 06 30.1**	**+0.7**
	SNR=13					
IKRD	**Kardeh**	**77.84 308**	*e*P	P	09 06 26.1	-4.0
IEMG	**Emamgholi**	**77.84 308**	*e*P	**P**	**09 06 31.0**	**+0.9**
PPT	**Papeete**	**77.92 108**	P	**P**	**09 06 32.3**	**+1.8**
PPT	**Papeete**	**77.92 108**	P	**P**	**09 06 32.3**	**+1.8**
	comp=Z,106nm,1.1s,baz=42,slow=1.9,SNR=4.9					
PPT			LR	LR	09 37 55.3	
	comp=Z,2μm,18.8s,baz=271,slow=33					
PPT2	**Papeete2**	**77.92 108**	*e*P	**P**	**09 06 32.5**	**+1.9**
	comp=Z,156nm,1.3s					
PPT2			*e*S	**S**	**09 16 21.0**	**-0.7**
	comp=Z,3μm,26.2s					
PPT2			*e*SS	**SS**	**09 21 23.5**	**+0.2**
	comp=Z,1μm,24.5s					
PPT2			*e*LQ	LQ	09 27 24.9	
	comp=Z,8μm,35.8s					
PPT2			*e*LR	LR	09 30 47.2	
	comp=Z,5μm,25.2s					
PAE	**Paea**	**77.92 108**	*e*P	**P**	**09 06 32.3**	**+1.8**
	comp=Z,16nm,1.1s					
TIAR	**Tiarei**	**78.14 108**	*e*P	**P**	**09 06 33.8**	**+2.0**
	comp=Z,108nm,1.0s					
UOSS	**Wadi Hilu**	**78.18 295**	P	**P**	**09 06 31.0**	**-0.9**
	comp=Z,206nm,1.4s,SNR=10.0					
BANOM	**Banah**	**78.20 296**	P	**P**	**09 06 33.3**	**+1.3**
	SNR=8.6					
ASHO	**Ashiyiah**	**78.29 295**	P	**P**	**09 06 32.7**	**+0.2**
	SNR=10					
ISFR	**Sfrayin**	**78.29 308**	*e*P	**P**	**09 06 33.5**	**+0.9**
TBI	**Tubuai**	**78.42 114**	*e*S	**S**	**09 16 29.0**	**+2.2**
	comp=Z,2μm,27.0s					
TBI			*e*SS	**SS**	**09 21 30.7**	**+0.2**
	comp=Z,1μm,29.2s					
TBI			*e*LQ	LQ	09 27 36.9	
	comp=Z,3μm,32.2s					
TBI			*e*LR	LR	09 31 01.3	
	comp=Z,5μm,31.2s					
VNDA	**Vanda**	**78.57 174**	*e*P	**P**	**09 06 33.0**	**0.0**
	comp=Z,42nm,0.8s					
VNDA	**Vanda**	**78.57 174**	P	**P**	**09 06 33.2**	**+0.2**
	comp=Z,44nm,0.8s,baz=321,slow=6.1,SNR=196					
VNDA			LR	LR	09 42 17.3	
	comp=Z,12μm,18.1s,baz=352,slow=36					
ISHV	**Shirvan**	**78.60 308**	*e*P	**P**	**09 06 34.9**	**+0.7**
AB31	**Akbulak array**	**79.31 320**	*i* P	**P**	**09 06 37.2**	**-0.3**
AB31			pmax	pmax		
	comp=Z,83nm,0.7s					
SBA	**Scott Base**	**79.42 173**	*e*P	**P**	**09 06 38.8**	**+1.2**
SBA			*e*		09 09 34.4	
SBA			pmax	pmax		
	comp=Z,77nm,1.0s					
SBA			MLR	MLR		
	comp=Z,4μm,20.0s					
SBA	**Scott Base**	**79.42 173**	*e*P	**P**	**09 06 38.8**	**+1.2**
	comp=Z,77nm,1.0s					
SBA			*e*PP	**PP**	**09 09 34.4**	**-3.6**
SBA			LR	LR		
	comp=Z,4μm,20.0s					
SVE	**Sverdlovsk**	**80.77 328***d i*P		**P**	**09 06 45.5**	**+0.2**
SVE			*e*		09 09 57.3	
SVE			*e*S	**S**	**09 16 49.3**	**-1.1**
SVE			pmax	pmax		
	comp=Z,328nm,1.6s					
SVE			pmax	pmax		
	comp=Z,1μm,12.4s					
SVE			smax	smax		
	comp=E,875nm,10.2s					
SVE			MLR	MLR		
	comp=Z,2μm,20.0s					
AKTO	**Aktyubinsk**	**80.78 321**	P	**P**	**09 06 45.5**	**0.0**
AKTO			pmax	pmax		
	comp=Z,305nm,1.4s					
AKTO	**Aktyubinsk**	**80.78 321**	P	**P**	**09 06 45.5**	**0.0**
AKTO	**Aktyubinsk**	**80.78 321**	P	**P**	**09 06 45.5**	**0.0**
	comp=Z,97nm,1.0s,baz=97,slow=6.7,SNR=107					
IANJ	**Anjilo**	**81.33 306**	*e*P	**P**	**09 06 48.9**	**-0.2**
IGLO	**Ghaloghah**	**81.53 307**	*e*P	**P**	**09 06 49.8**	**-0.2**
IKIA	**Kiasar**	**81.61 307**	*e*P	**P**	**09 06 50.7**	**+0.2**
OHAK	**Old Harbor**	**81.63 32**	*e*P	**P**	**09 06 49.9**	**+0.1**
	comp=Z,78nm,1.0s					
ARU	**Arti**	**81.78 327***c i*P		**P**	**09 06 50.4**	**-0.2**
ARU					09 09 55.6	
ARU			PPP	PPP	09 11 45.2	
ARU			S	**S**	**09 17 01.1**	**+0.2**
ARU			SSS	SSS	09 25 42.9	
ARU			pmax	pmax		
	comp=Z,165nm,1.0s					
ARU	**Arti**	**81.78 327**	P	**P**	**09 06 50.4**	**-0.2**
	comp=Z,862nm,1.1s,SNR=56					
ISHM	**Shahmirzad**	**81.88 306**	*e*P	**P**	**09 06 52.1**	**+0.1**
MAW	**Mawson**	**82.08 201**	P	**P**	**09 06 52.7**	**+0.8**
MAW	**Mawson**	**82.08 201**	P	**P**	**09 06 52.7**	**+0.8**
	comp=Z,41nm,0.9s,baz=75,slow=6.5,SNR=29					
MAW			LR	LR	09 42 25.0	
	comp=Z,4μm,19.9s,baz=71,slow=35					
MAW	**Mawson**	**82.08 201**	P	**P**	**09 06 52.5**	**+0.6**
	baz=82,SNR=23					
IFIR	**Firoozkooh**	**82.30 306**	*e*P	**P**	**09 06 54.5**	**+0.3**
IALA	**Alasht**	**82.30 306**	*e*P	**P**	**09 06 54.6**	**+0.4**
IZEF	**Zefreh**	**82.37 303**	*e*P	**P**	**09 06 55.2**	**+0.6**
ISFB	**Sefidab**	**82.58 305**	*e*P	**P**	**09 06 55.5**	**0.0**
RSO	**Redoubt South**	**82.69 29**	*e*P	**P**	**09 06 55.4**	**-0.1**
	comp=Z,103nm,0.9s					
IKLH	**Kolahrood**	**83.03 303**	*e*P	**P**	**09 07 00.6**	**+2.5**
IVRN	**Varamin**	**83.07 305**	*e*P	**P**	**09 06 57.7**	**-0.2**
SOKR	**Solikamsk**	**83.40 330***c i*P		**P**	**09 06 59.1**	**+0.1**
SOKR					09 10 05.6	
SOKR			S	**S**	**09 17 18.0**	**+0.8**
SOKR			SS	**SS**	**09 22 42.1**	**-1.0**
SOKR			pmax	pmax		
	comp=Z,160nm,0.9s					
SOKR			MLR	MLR		
	comp=Z,3μm,23.0s					
PPLA	**Purkeypile**	**83.53 26**	*e*P	**P**	**09 06 59.8**	**0.0**
	comp=Z,202nm,1.6s					
IPIR	**Pirpir**	**83.56 303**	*e*P	**P**	**09 07 02.0**	**+1.2**
IR3	**Iran Long-Peri**	**83.68 306**	*e*P	**P**	**09 07 01.6**	**+0.5**
IGZV	**Ghazvin**	**84.41 306**	*e*P	**P**	**09 07 04.6**	**-0.4**
TRF	**Thorofare Moun**	**84.50 26**	*e*P	**P**	**09 07 03.3**	**-1.4**
	comp=Z,122nm,1.4s					
IRAZ	**Razeghan**	**84.57 305**	*e*P	**P**	**09 07 05.8**	**0.0**
PMR	**Palmer**	**84.65 28**	*e*P	**P**	**09 07 04.8**	**-0.5**
PMR			pmax	pmax		
	comp=Z,47nm,1.0s					
PMR	**Palmer**	**84.65 28**	*e*P	**P**	**09 07 04.8**	**-0.5**
	comp=Z,47nm,1.0s					
SML	**Sawmill**	**85.06 28**	*e*P	**P**	**09 07 07.4**	**-0.1**
SML			pmax	pmax		
	comp=Z,37nm,1.2s					
SML	**Sawmill**	**85.06 28**	*e*P	**P**	**09 07 07.4**	**-0.1**
	comp=Z,37nm,1.2s					
MCK	**McKinley**	**85.14 26**	*e*P	**P**	**09 07 07.3**	**-0.5**
MCK			pmax	pmax		
	comp=Z,293nm,1.5s					
MCK	**McKinley**	**85.14 26**	*e*P	**P**	**09 07 07.3**	**-0.5**
	comp=Z,292nm,1.5s					
COLD	**Coldfoot**	**85.33 22**	*e*P	**P**	**09 07 08.8**	**+0.1**
	comp=Z,48nm,1.1s					
MID	**Middleton Isla**	**85.65 30**	*e*P	**P**	**09 07 11.6**	**+1.2**
MID	**Middleton Isla**	**85.65 30**	*e*P	**P**	**09 07 11.6**	**+1.2**
ABPO	**Ambohimpanom**	**85.81 251**	*e*P	**P**	**09 07 12.1**	**-0.2**
ABPO			pmax	pmax		
	comp=Z,80nm,1.3s					
ABPO			MLR	MLR		
	comp=Z,3μm,21.0s					
ABPO	**Ambohimpanom**	**85.81 251**	*e*P	**P**	**09 07 12.1**	**-0.2**
	comp=Z,80nm,1.3s					
ABPO			LR	LR		
	comp=Z,3μm,21.0s					
COLA	**College**	**85.82 25**	*e*P	**P**	**09 07 09.9**	**-1.2**
COLA			pmax	pmax		
	comp=Z,106nm,0.9s					
COLA			MLR	MLR		
	comp=Z,2μm,19.0s					
COLA	**College**	**85.82 25**	*e*P	**P**	**09 07 09.8**	**-1.2**
	comp=Z,28nm,0.9s					
COLA			LR	LR		
	comp=Z,2μm,19.0s					
OPO	**Ambohidratompo**	**85.84 252**	LR	LR	09 40 26.1	
	comp=Z,3μm,21.7s,baz=100,slow=32					
UMR	**Umm Al-Rimmam**	**86.07 299**	*e*P	**P**	**09 07 12.5**	**-0.7**
UMR			AMb	AMB	09 07 17.6	
	comp=Z,159nm,2.1s					
KBD	**Kabd**	**86.08 299**	*e*P	**P**	**09 07 12.6**	**-0.6**
KBD			AMb	AMB	09 07 17.5	
	comp=Z,91nm,2.4s					
DIV	**Divide**	**86.17 29**	*e*P	**P**	**09 07 13.5**	**+0.5**
	comp=Z,226nm,1.1s					
RDF	**Al-Radifah**	**86.19 299**	*e*P	**P**	**09 07 12.6**	**-1.2**
RDF			AMb	AMB	09 07 21.7	
	comp=Z,114nm,1.3s					
ILAR	**Eielson Array**	**86.21 25**	P	**P**	**09 07 11.9**	**-1.1**
ILAR			PP	**PP**	**09 10 31.0**	**-3.0**
ILAR			PKKP	**PKKPbc**	**09 25 12.0**	**-2.4**
ILAR	**Eielson Array**	**86.21 25**	P	**P**	**09 07 11.9**	**-1.1**
	comp=Z,34nm,0.9s,baz=261,slow=4.6,SNR=137					
ILAR			PP	**PP**	**09 10 31.0**	**-3.0**
	comp=Z,7.5nm,1.1s,baz=253,slow=6.6,SNR=4.5					
ILAR			PKKP	**PKKPbc**	**09 25 12.0**	**-2.4**
	comp=Z,1.5nm,0.9s,baz=18,slow=0.4,SNR=8.5					
ILAR			LR	LR	09 47 09.4	
	comp=Z,2μm,19.2s,baz=266,slow=37					
NAY	**Al-Naaiem**	**86.47 299**	*e*P	**P**	**09 07 14.1**	**-1.0**
NAY			AMb	AMB	09 07 18.1	
	comp=Z,80nm,1.1s					
PAX	**Paxson**	**86.56 27**	*e*P	**P**	**09 07 15.1**	**+0.1**
PAX			pmax	pmax		
	comp=Z,445nm,1.9s					
PAX	**Paxson**	**86.56 27**	*e*P	**P**	**09 07 15.1**	**+0.1**
	comp=Z,445nm,1.9s					
BMRM	**Bremner River**	**86.72 29**	*e*P	**P**	**09 07 15.9**	**+0.2**
	comp=Z,186nm,1.2s					
MAK	**Makhachkala**	**86.97 313**	*e*P	**P**	**09 07 18.4**	**+1.2**
MAK			*e*		09 10 42.6	
MAK			*e*PPP	PPP	09 12 41.8	
MAK			*e*S	**SKSac**	**09 17 42.3**	**+0.8**
MAK			*e*SSS	SSS	09 27 11.7	
MAK			pmax	pmax		
	comp=Z,224nm,1.3s					
MENT	**Mentasta**	**87.35 27**	*e*P	**P**	**09 07 19.1**	**+0.4**
IBDR	**Badra**	**87.75 303**	*i* P	P	09 07 17.0	-4.2
IBDR			*i* PP	pP	09 07 38.0	+4.8
IBDR			*i* SKS	**SKSac**	**09 17 46.0**	**-0.7**
IBDR			*i* S	**S**	**09 18 00.0**	**-1.1**
RAYN	**Ar Rayn**	**87.84 293**	P	**P**	**09 07 21.0**	**-0.9**
	comp=Z,217nm,0.8s,SNR=23					
DGRG	**David-gareji**	**88.48 311**	P	**P**	**09 07 24.9**	**+0.3**
EGAK	**Eagle**	**88.65 25**	*e*P	**P**	**09 07 25.1**	**+0.4**
	comp=Z,11nm,0.8s					
EGAK			*e*PP	**PP**	**09 10 52.7**	**-0.8**
EGAK			LR	LR		
	comp=Z,3μm,19.0s					
GNI	**Garni**	**88.92 310**	P	**P**	**09 07 27.7**	**+0.9**
	SNR=18					
GNI	**Garni**	**88.92 310**	P	**P**	**09 07 27.0**	**+0.1**
	comp=Z,6.0nm,1.4s					
GNI			*e*PP	**PP**	**09 10 59.4**	**+2.8**
GNI			*e*S	**S**	**09 18 12.1**	**-0.3**
GNI			LR	LR		
	comp=Z,758nm,21.0s					
GNI	**Garni**	**88.92 310**	P	**P**	**09 07 27.0**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=198,slow=15,SNR=9.5					
TBLG	**Delisi**	**88.96 312**	*e*P	**P**	**09 07 27.2**	**+0.4**
TBLG	**Delisi**	**88.96 312**	P	**P**	**09 07 27.2**	**+0.4**
DUS	**Dusheti**	**89.00 312**	P	**P**	**09 07 27.3**	**+0.3**
BHD	**Baghdad**	**89.05 303**	*i* P	**P**	**09 07 27.5**	**+0.1**
BHD			*i* SKS	**SKSac**	**09 17 54.0**	**-0.5**
BHD			*i* SKS	**S**	**09 18 14.0**	**+0.5**
GUDG	**Gudauri**	**89.18 312**	P	P	09 07 35.3	+7.2
PNL	**Peninsula**	**89.19 30**	*e*P	**P**	**09 07 28.2**	**+0.7**
	comp=Z,33nm,0.8s					
KZR	**Kazreti**	**89.20 311**	P	**P**	**09 07 29.5**	**+1.5**
QSPA	**South Pole Qui**	**89.48 180**	*e*P	**P**	**09 07 28.4**	**-0.4**
	comp=Z,109nm,0.9s					
QSPA			LR	LR		
	comp=Z,4μm,20.0s					
ZEI	**Tsey**	**89.61 313**	*e*P	**P**	**09 07 28.5**	**-1.6**
ZEI			pmax	pmax		
	comp=Z,44nm,0.9s					
AKH	**Akhalkalaki**	**89.89 311**	P	**P**	**09 07 32.1**	**+0.7**
ONI	**Oni**	**89.94 312**	P	**P**	**09 07 32.0**	**+0.5**
HYT	**Haines Junctio**	**90.17 29**	*e*P	**P**	**09 07 32.7**	**+0.6**
	comp=Z,14nm,0.9s					
ATD	**Arta Tunnel**	**90.19 281**	P	**P**	**09 07 33.2**	**+0.1**
ATD	**Arta Tunnel**	**90.19 281**	P	**P**	**09 07 33.2**	**+0.1**
	comp=Z,19nm,0.8s,baz=241,slow=21,SNR=10					
ATD			LR	LR	09 48 25.7	
	comp=Z,1μm,18.8s,baz=255,slow=36					
KBZ	**Khabaz**	**90.35 314**	P	**P**	**09 07 31.9**	**-1.3**
KBZ			pmax	pmax		
	comp=Z,7.0nm,0.9s					
KBZ	**Khabaz**	**90.35 314**	P	**P**	**09 07 31.9**	**-1.3**
KBZ	**Khabaz**	**90.35 314**	P	**P**	**09 07 31.9**	**-1.3**
	comp=Z,6.8nm,0.9s,baz=128,slow=1.8,SNR=9.5					
KIV	**Kislovodsk**	**90.50 314**	*e*P	**P**	**09 07 33.6**	**-0.5**
KIV			*e*		09 11 09.0	
KIV			*e*		09 18 01.6	
KIV			*e*SS	SS	09 24 28.4	+0.3
KIV			*e*SSS	SSS	09 28 01.0	
KIV			pmax	pmax		
	comp=Z,222nm,5.1s					
KIV			pmax	pmax		
	comp=Z,16nm,1.0s					
SYO	**Syowa Base**	**90.79 201**‖	*e*P	**P**	**09 07 33.2**	**-1.5**
SYO	**Syowa Base**	**90.79 201**‖	*i* pP	pP	09 07 45.0	-1.7
VRHR	**Novokhopersk**	**91.19 321**	*e*P	**P**	**09 07 34.8**	**-2.1**
VRHR			*e*		09 11 14.1	
VRHR			*e*S	**S**	**09 18 33.0**	**+0.6**
VRHR			pmax	pmax		
	comp=N,10.0nm,1.0s					
VRHR			pmax	pmax		
	comp=Z,40nm,1.0s					
VRHR			pmax	pmax		
	comp=E,9.0nm,0.5s					
VRHR			pmax	pmax		
	comp=N,60nm,1.6s					
VRHR			pmax	pmax		
	comp=E,120nm,1.6s					
VRHR			pmax	pmax		
	comp=Z,80nm,1.6s					
VRHR			smax	smax		
	comp=N,320nm,2.2s					
VRHR			smax	smax		
	comp=E,470nm,2.2s					
VRHR			smax	smax		
	comp=Z,120nm,2.2s					
VRHR			MLR	MLR		
	comp=N,420nm,23.0s					
VRHR			MLR	MLR		
	comp=E,1μm,23.0s					
VRHR			MLR	MLR		
	comp=Z,2μm,23.0s					
SKAG	**Skagway**	**91.26 31**	*e*P	**P**	**09 07 37.6**	**+0.5**
	comp=Z,20nm,0.8s					
SKAG			*e*PP	**PP**	**09 11 15.2**	**+0.8**
INK	**Inuvik**	**91.73 22**	*e*P	**P**	**09 07 37.8**	**-1.2**
	comp=Z,30nm,1.3s					
INK			*e*PP	**PP**	**09 11 16.8**	**-1.0**
INK	**Inuvik**	**91.73 22**	LR	LR	09 46 57.4	
	comp=Z,2μm,21.3s,baz=259,slow=34					
RKT	**Rikitea**	**91.73 113**	*e*LR	LR	09 37 10.5	
	comp=Z,5μm,26.8s					
TMCR	**Tamitsa**	**92.56 334**	*e*P	**P**	**09 07 41.9**	**-1.1**
TMCR			*e*		09 11 22.9	
TMCR			pmax	pmax		
	comp=Z,51nm,0.8s					
SOC	**Sochi**	**92.66 313***c i*P		**P**	**09 07 42.3**	**-1.6**
SOC			*e**PP	**pP**	**09 07 50.8**	**-5.2**
SOC			*e*		09 11 24.9	
SOC			*e*		09 18 13.0	
SOC			*e*		09 18 50.3	
SOC			*e*SSS	SSS	09 28 37.7	
SOC			pmax	pmax		
	comp=Z,39nm,1.0s					
VORD	**Divnogorie**	**92.66 321**	*e*P	**P**	**09 07 41.5**	**-2.3**
VORD			pmax	pmax		
	comp=N,10.0nm,0.7s					
VORD			pmax	pmax		
	comp=E,20nm,0.7s					
VORD			pmax	pmax		
	comp=Z,20nm,0.7s					
VSR	**Storozhevoye**	**92.73 321**	*e*P	**P**	**09 07 41.7**	**-2.4**
VSR			*e*S	**S**	**09 18 43.7**	**-2.6**
VSR			*e*SP	SPn	09 20 00.9	+2.2
VSR			*e*PS	PnS	09 20 03.5	-0.6
VSR			*e*SS	**SS**	**09 24 57.6**	**-1.9**
VSR			pmax	pmax		
	comp=N,8.0nm,0.9s					
VSR			pmax	pmax		
	comp=E,20nm,0.9s					
VSR			pmax	pmax		
	comp=Z,40nm,0.9s					
VSR			smax	smax		
	comp=N,330nm,3.5s					
VSR			smax	smax		
	comp=E,210nm,3.5s					
VSR			smax	smax		
	comp=Z,80nm,3.5s					
WRAK	**Wrangell Islan**	**92.98 34**	*e*P	**P**	**09 07 46.6**	**+1.5**
	comp=Z,33nm,0.9s					
WRAK			LR	LR		
	comp=Z,2μm,21.0s					
DIB	**Dawson Inlet,**	**93.11 37**	T	T	10 51 25.6	
MOS	**Moscow**	**93.38 326**	*e*P	**P**	**09 07 44.9**	**-2.1**
MOS			*e*		09 11 30.3	
MOS			*e*		09 18 14.7	
MOS			*e*		09 18 51.3	
MOS			*i* PS	**PS**	**09 20 07.8**	**-1.9**
MOS			pmax	pmax		
	comp=Z,400nm,3.2s					
MOS			pmax	pmax		
	comp=Z,70nm,1.4s					
MOS			MLR	MLR		
	comp=E,2μm,20.0s					
MOS			MLR	MLR		
	comp=Z,3μm,20.0s					
LVZ	**Lovozero**	**93.55 338***c i*P		**P**	**09 07 44.8**	**-2.8**
LVZ			pmax	pmax		
	comp=Z,52nm,1.9s					
LVZ			MLR	MLR		
	comp=Z,4μm,19.0s					
MALT	**Malatya**	**93.84 308**	PFAKE		09 08 00.0	+10
MALT			LR	LR		
	comp=Z,2μm,19.0s					
OBN	**Obninsk**	**94.03 325***c i*P		**P**	**09 07 47.8**	**-2.1**
OBN			*e*		09 08 03.8	
OBN			*e*		09 11 36.2	
OBN			*e*PS	**PS**	**09 20 17.2**	**+0.3**
OBN			pmax	pmax		
	comp=Z,106nm,1.7s					
OBN			MLR	MLR		
	comp=Z,2μm,17.0s					
OBN	**Obninsk**	**94.03 325**	P	**P**	**09 07 48.3**	**-1.6**
	comp=Z,309nm,0.8s,SNR=5.0					
APA	**Apatity**	**94.07 338**⇑ *i*P		**P**	**09 07 48.2**	**-1.7**
APA			*i*		09 11 36.0	
APA			*e*		09 18 22.0	
APA			*i* S	**S**	**09 19 00.0**	**+2.6**
APA			*i* PS	**PS**	**09 20 18.0**	**+1.2**
APA			*i* SS	**SS**	**09 25 14.0**	**-3.7**
APA			pmax	pmax		
	comp=Z,28nm,1.0s					
DLBC	**Dease Lake**	**94.07 32**	*e*P	**P**	**09 07 49.7**	**-0.5**
	comp=Z,62nm,1.9s					
DLBC			*e*PP	**PP**	**09 11 37.6**	**+1.0**
DLBC	**Dease Lake**	**94.07 32**	LR	LR	09 44 09.7	
	comp=Z,3μm,22.0s,baz=297,slow=32					
ANN	**Anapa**	**94.25 315***c i*P		**P**	**09 07 48.8**	**-2.4**
ANN			*e**PP	**pP**	**09 07 58.9**	**-4.3**
ANN			*e*		09 11 39.1	
ANN			*e*		09 18 20.8	
ANN			*e*PS	**PS**	**09 20 12.3**	**-7.4**
ANN			*e*SS	SS	09 25 21.6	+0.2
ANN			pmax	pmax		
	comp=Z,281nm,8.6s					
ANN			pmax	pmax		
	comp=Z,300nm,9.6s					
ANN			pmax	pmax		
	comp=N,17nm,1.2s					
ANN			pmax	pmax		
	comp=E,17nm,1.2s					
KMBO	**Kilima Mbogo**	**95.69 269**	P	**P**	**09 07 59.6**	**+0.7**
	SNR=9.8					
KMBO	**Kilima Mbogo**	**95.69 269**	*e*P	**P**	**09 07 58.9**	**+0.1**
	comp=E,6.5nm,1.1s					
KMBO			*e*PP	**PP**	**09 11 49.3**	**-1.5**
KMBO			PP	**PP**	**09 11 55.5**	**+4.7**
KMBO	**Kilima Mbogo**	**95.69 269**	P	**P**	**09 07 59.2**	**+0.4**
	comp=E,16nm,1.0s,baz=51,slow=5.9,SNR=28					
KMBO			PP	**PP**	**09 11 55.5**	**+4.7**
	comp=E,2.9nm,0.9s,baz=46,slow=9.4,SNR=3.6					
KMBO			LR	LR	09 47 03.9	
	comp=E,3μm,21.8s,baz=93,slow=33					
KMBO	**Kilima Mbogo**	**95.69 269**	P	**P**	**09 07 59.2**	**+0.4**
	baz=96,SNR=12					
SPA0	**Spitsbergen Ar**	**95.74 349**	*e*	**P**	**09 07 56.2**	**-1.2**
SPA0			*e*PP	**PP**	**09 11 48.0**	**-1.0**
SPITS	**Spitsbergen Ar**	**95.74 349**	LR	LR	09 51 58.1	
	comp=E,4μm,20.6s,baz=35,slow=36					
BBB	**Bella Bella**	**95.84 38**	LR	LR	09 42 44.8	
	comp=E,5μm,21.0s,baz=266,slow=30					
KEV	**Kevo**	**95.91 340**	*e*P	**P**	**09 07 56.4**	**-1.9**
KEV			*e*		09 11 50.9	
KEV			pmax	pmax		
	comp=Z,27nm,1.0s					
KEV			MLR	MLR		
	comp=Z,4μm,22.0s					
KEV	**Kevo**	**95.91 340**	*e*p	**P**	**09 07 55.6**	**-2.7**
	comp=Z,25nm,0.9s					
KEV	**Kevo**	**95.91 340**	*e*P	**P**	**09 07 56.4**	**-1.9**
	comp=Z,27nm,1.0s					
KEV			*e*PP	**PP**	**09 11 50.9**	**+0.5**
KEV			LR	LR		
	comp=Z,4μm,22.0s					
KBS	**Kingsbay**	**96.16 350**	*e*	**P**	**09 07 59.1**	**-0.2**
KBS			*e*PP	**PP**	**09 11 51.5**	**-0.7**
KBS			*e*PP	**PP**	**09 11 51.6**	**-0.7**
KBS			*e*SS	SS	09 25 50.9	+3.9
KBS			AMS	AMS	09 52 53.9	
	comp=Z,2μm,18.3s					
KBS	**Kingsbay**	**96.16 350***ce*P		**P**	**09 07 57.4**	**-1.9**
KBS			pmax	pmax		
	comp=Z,29nm,2.5s					
KBS			MLR	MLR		
	comp=Z,3μm,21.0s					
KBS	**Kingsbay**	**96.16 350**	*e*P	**P**	**09 07 58.0**	**-1.3**
	comp=Z,1.4nm,0.8s					
KBS			LR	LR		
	comp=Z,3μm,19.0s					
ARCES	**ARCESS Array B**	**96.48 340**	P	**P**	**09 07 59.8**	**-1.1**
ARCES			PKKP	**PKKPbc**	**09 24 46.6**	**-1.7**
ARCES	**ARCESS Array B**	**96.48 340**	P	**P**	**09 07 59.8**	**-1.1**
	comp=Z,34nm,0.9s,baz=75,slow=5.1,SNR=73					
ARCES			PKKP	**PKKPbc**	**09 24 46.6**	**-1.7**
	comp=Z,2.7nm,0.9s,baz=247,slow=2.5,SNR=7.1					
ARCES			LR	LR	10 00 19.4	
	comp=Z,4μm,18.0s,baz=72,slow=41					
ARE0	**ARCESS Array S**	**96.48 340**	*e*	P	09 07 57.6	-3.2
ARE0	**ARCESS Array S**	**96.48 340**	*e*P	**P**	**09 07 59.1**	**-1.8**
SIM	**Simferopol'**	**96.58 315***de*P		**P**	**09 07 59.1**	**-2.8**
SIM			*e*		09 18 36.0	
SIM			*e*PS	**PS**	**09 20 43.0**	**-2.4**
SIM			pmax	pmax		
	comp=Z,24nm,0.8s					
SIM			MLR	MLR		
	comp=Z,500nm,19.0s					
BJO	**Bjornoya**	**96.66 346**	*e*PP	PP	09 11 56.3	+0.2
BJO			AMS	AMS	09 53 35.6	
	comp=Z,3μm,22.3s					
EIL	**Elat**	**97.18 300**	P	**P**	**09 08 03.9**	**-1.1**
EIL	**Elat**	**97.18 300**	P	**P**	**09 08 03.9**	**-1.1**
	comp=Z,3.2nm,0.5s,ba

comp=Z,3.6nm,0.9s,baz=96,slow=8.8,SNR=3.8
BRTR LR LR 10 02 49.4
comp=Z,718nm,18.1s,baz=252,slow=42
ANTO Ankara 98.09 310 PFAKE 09 08 20.0 +11
ANTO LR LR
comp=Z,1µm,21.0s
KAF Kangasniemi 98.14 333 *e*P **P 09 08 05.4 -3.1**
KAF pmax pmax
comp=Z,28nm,1.0s
KAF Kangasniemi 98.14 333 *e*p **P 09 08 05.4 -3.1**
comp=Z,28nm,1.0s
CSS Prodhromos 98.15 305 PFAKE 09 08 20.0 +11
CSS LR LR
comp=Z,347nm,20.0s
FIA1 FINESS Array S 98.42 332 *e*P **P 09 08 07.8 -1.9**
FIA1 *e*PP **PP 09 12 09.9 0.0**
FINES FINESS Array B 98.42 332 P **P 09 08 08.5 -1.2**
FINES PKKPbc **PKKPbc 09 24 40.7 -2.0**
FINES FINESS Array B 98.42 332 P **P 09 08 08.5 -1.2**
comp=Z,18nm,1.0s,baz=94,slow=5.7,SNR=39
FINES PKKPbc **PKKPbc 09 24 40.7 -2.0**
comp=Z,3.2nm,0.9s,baz=0.0,slow=1.9,SNR=7.4
FINES LR LR 09 54 52.0
comp=Z,2µm,18.9s,baz=334,slow=37
TRO Tromso 98.62 341 *e* **P 09 08 07.6 -2.9**
TRO *e*PP **PP 09 12 11.1 -0.1**
TRO *e*SS SS 09 26 26.2 +4.3
KIEV Kiev 99.04 321 *e*P **Pdif 09 08 10.7 -2.1**
KIEV pmax pmax
comp=Z,17nm,1.1s
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 99.04 321 *e*P **Pdif 09 08 10.7 -2.1**
comp=Z,17nm,1.1s
KIEV LR LR
comp=Z,3µm,20.0s
MICGM Minsk 99.09 325 *e*P **Pdif 09 08 11.0 -1.9**
MNK Minsk 99.12 325 *e*P **Pdif 09 08 11.0 -2.1**
MNK *e* 09 19 28.0
MNK *e*PS **PS 09 21 06.0 -6.4**
MNK *e*SS SS 09 26 38.0 +8.3
MNK MLR MLR
comp=Z,6µm,18.0s
NLWA Neilton Lookou 99.24 42 PFAKE 09 08 20.0 +6.1
NLWA LR LR
comp=Z,3µm,22.0s
KIS Kishinev 99.96 318 *e*P **Pdif 09 08 16.0 -1.0**
KIS Kishinev 99.96 318 *e*PKP PP 09 12 14.0 -8.2
KIS *e*SKS **SKSac 09 18 50.0 -2.8**
KIS *e*SKKS SKKSac 09 19 08.0 -18
KIS Kishinev 99.96 318 *e*PPS PPS 09 21 10.0
KIS LRM MLR 09 58 12.0
comp=Z,800nm,18.0s
KIS Kishinev 99.96 318 *e*P **Pdif 09 08 16.0 -1.0**
KIS *e* 09 14 40.0
KIS *e* 09 18 50.0
KIS *e* 09 21 10.0
ISP Isparta 100.09 308 PFAKE 09 08 30.0 +12
ISP LR LR
comp=Z,1µm,21.0s
YKA Yellowknife Ar 100.61 26 P **Pdif 09 08 18.9 -0.6**
YKA PKKP PKKPdf 09 24 55.3 +14
YKA Yellowknife Ar 100.61 26 P **Pdif 09 08 18.9 -0.6**
comp=Z,1.7nm,0.8s,baz=290,slow=5.1,SNR=5.3
YKA PKKP PKKPdf 09 24 55.3 +14
comp=Z,2.8nm,1.0s,baz=94,slow=4.6,SNR=4.9
KCPM Cahto Peak 100.64 50 *e*Pdif **Pdif 09 08 21.1 +0.7**
comp=Z,42nm,1.9s
HUMO Hull Mountain 100.66 47 *e*Pdif **Pdif 09 08 20.9 +0.6**
comp=Z,73nm,2.2s
KIPM Iron Peak 100.70 50 *e*Pdif **Pdif 09 08 21.9 +1.3**
comp=Z,66nm,1.9s
YBH Yreka Blue Hor 100.98 48 P **Pdif 09 08 22.3 +0.5**
comp=Z,0.6nm,1.4s
YBH PP PP 09 12 20.5 -10
YBH *e*PP **PP 09 12 31.0 +0.8**
YBH Yreka Blue Hor 100.98 48 P **Pdif 09 08 22.3 +0.5**
comp=Z,4.6nm,1.1s,baz=156,slow=1.3,SNR=11
YBH PP PP 09 12 20.5 -10
comp=Z,2.5nm,1.1s,baz=143,slow=2.3,SNR=3.2
WDC Whiskeytown Da 101.29 49 *e*P **Pdif 09 08 24.3 +1.2**
WDC pmax pmax
comp=Z,26nm,1.7s
WDC Whiskeytown Da 101.29 49 *e*Pdif **Pdif 09 08 24.3 +1.2**
comp=Z,26nm,1.7s
TESR Tescani 101.51 317⇑*i*P **Pdif 09 08 22.7 -1.2**
VRI Vrincioaia 101.59 317⇑P **Pdif 09 08 24.1 -0.2**
VRI Vrincioaia 101.59 317⇑*i*P **Pdif 09 08 24.1 -0.2**
PLOR Plostina 101.64 317⇑P **Pdif 09 08 24.1 -0.5**
PLOR Plostina 101.64 317⇑*i*P **Pdif 09 08 24.1 -0.5**
SUW Suwalki 101.89 325 *e*P **Pdif 09 08 21.9 -3.5**
SUW pmax pmax
comp=Z,18nm,0.4s
SUW Suwalki 101.89 325 *e*Pdif **Pdif 09 08 21.9 -3.5**
comp=Z,18nm,0.4s
SUW Suwalki 101.89 325 *e*Pdiff **Pdif 09 08 24.1 -1.3**
SUW *e*PP **PP 09 12 37.7 +1.2**
SUW *e*SKSac **SKSac 09 19 00.7 -1.2**
SUW *e*SP **SP 09 21 36.9 +0.3**
SUW LMZ LR 09 58 51.9
DAG Danmarks Havn 102.14 354 *i*P **Pdif 09 08 24.9 -1.1**
DAG *i* 09 12 33.5
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG MLR MLR
comp=Z,1µm,21.0s
DAG Danmarks Havn 102.14 354 *i*P **Pdif 09 08 24.9 -1.1**
comp=Z,6.6nm,1.0s
DAG *i* 09 12 33.5
DAG
comp=Z,980nm,21.0s
MLR Muntele Rosu 102.20 317⇑*i*P **Pdif 09 08 26.1 -1.1**
MLR Muntele Rosu 102.20 317 P **Pdif 09 08 26.2 -0.9**
MLR Muntele Rosu 102.20 317 P **Pdif 09 08 26.2 -0.9**
comp=Z,2.9nm,0.9s,baz=356,slow=1.1,SNR=14
MBAR Mbarara 102.21 269 P **Pdif 09 08 26.4 -1.5**
MBAR LR LR
comp=Z,639nm,21.0s
MBAR Mbarara 102.21 269 P **Pdif 09 08 26.5 -1.5**
comp=Z,1.9nm,0.3s,baz=58,slow=21,SNR=6.2
BURAR Bucovina Array 102.23 319⇓P **Pdif 09 08 26.2 -1.0**
BURAR Bucovina Array 102.23 319⇓*i*P **Pdif 09 08 26.2 -1.0**
BUR08 Bucovina Ar. S 102.24 319 *e*Pdif **Pdif 09 08 26.3 -1.0**
LVV L'vov 102.48 321 *e*P **Pdif 09 08 27.1 -1.0**
LVV *e* 09 12 45.5
LVV *e*S **Sdif 09 20 01.9 -7.8**
LVV *e*PS **PS 09 21 43.1 -5.4**
SNAA Sanae 102.67 193 *e*Pdiff **Pdif 09 08 32.6 +4.0**
SNAA Sanae 102.67 193 *e*PP PP 09 12 43.5 +1.6
SNAA Sanae 102.67 193 *e*PKiKP **PKiKP 09 12 49.3 0.0**
SNAA Sanae 102.67 193 *e*Pdif **Pdif 09 08 21.3 -7.3**
comp=Z,12nm,1.3s
SAO San Andreas Ge 102.74 52 *e*P **Pdif 09 08 31.2 +1.5**
SAO pmax pmax
comp=Z,12nm,1.4s
SAO San Andreas Ge 102.74 52 *e*Pdif **Pdif 09 08 31.1 +1.5**
comp=Z,3.2nm,1.4s
BEKR Beckworth 103.06 49 *e*Pdif **Pdif 09 08 31.0 -0.2**
comp=Z,13nm,1.6s
NSS Namsos 103.28 338 *e*PP PP 09 12 46.8 +0.2
NSS AMS AMS 10 00 25.6
comp=Z,2µm,19.4s
KWP Kalwaria Pacla 103.36 321 PFAKE 09 08 40.0 +7.9
KWP LR LR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 103.36 321 *e*Pdiff **Pdif 09 08 31.0 -1.1**
KWP *e*PP **PP 09 12 46.2 -1.5**
KWP LMZ LR 10 01 13.9
CMB Columbia Colle 103.37 51 *e*P **Pdif 09 08 32.9 +0.5**
CMB pmax pmax
comp=Z,21nm,1.4s
CMB Columbia Colle 103.37 51 *e*Pdif **Pdif 09 08 32.9 +0.5**
comp=Z,20nm,1.4s
NEW Newport 103.50 40 PP PP 09 12 43.0 -5.9
NEW LR LR
comp=Z,3µm,21.0s
NEW Newport 103.50 40 PP PP 09 12 43.0 -5.9
comp=Z,1.9nm,1.1s,baz=268,slow=15,SNR=3.1
NEW Newport 103.50 40⇓P **Pdif 09 08 32.0 -0.8**
baz=104
KOLS Kolonicke sedl 103.81 321 *i*P **Pdif 09 08 33.9 -0.2**
KOLS *e* 09 21 50.6
KOLS MLR MLR
comp=Z,2µm,23.1s
KOLS Kolonicke sedl 103.81 321 PDIF **Pdif 09 08 33.9 -0.2**
KOLS *e* 09 11 53.4
KOLS *e*SP SP 09 21 50.6 -6.7
WVOR Wild Horse Val 103.83 46 *e*P **Pdif 09 08 35.0 +0.5**
WVOR pmax pmax
comp=Z,22nm,1.6s
WVOR MLR MLR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 103.83 46 *e*Pdif **Pdif 09 08 35.0 +0.5**
comp=Z,22nm,1.6s
WVOR LR LR
comp=Z,4µm,19.0s
RZN Rozhen 103.86 313 *e*P **PP 09 12 56.9 +4.9**
UZH Uzhgorod 103.88 320⇑*i*P **Pdif 09 08 34.4 0.0**
UZH *i* 09 12 53.4
UZH *i* PPP PPP 09 15 03.8
UZH *e* 09 19 13.6
UZH *e*S **Sdif 09 20 17.8 -3.6**
UZH *i* PS **PS 09 21 59.0 -4.3**
UZH *e*SS **SS 09 27 29.6 -6.4**
BEL Belsk 103.90 324 *e*Pdiff **Pdif 09 08 34.6 +0.2**
BEL *e*PKiKP **PKiKP 09 12 55.3 +3.4**
BEL *e*SKSac **SKSac 09 19 14.2 +2.8**
BEL LMZ LR 10 04 15.2
WAKR Walker 104.02 50 *e*Pdif **Pdif 09 08 36.4 +0.9**
comp=Z,26nm,1.7s
PGB Panagyurishte 104.08 314 *e*P **PP 09 12 57.3 +3.9**
DRGR 104.09 318⇓P **Pdif 09 08 34.5 -1.0**
DRGR 104.09 318⇓*i*P **Pdif 09 08 34.5 -1.0**
LSZ Lusaka 104.12 254 PFAKE 09 08 50.0 +14
LSZ LR LR
comp=Z,3µm,21.0s
MPEP Malo Peshtene 104.21 315 *e*P **PP 09 12 58.5 +4.3**
BMO Blue Mountains 104.23 44 *e*Pdif **Pdif 09 08 35.9 -0.3**
comp=Z,3.5nm,1.0s
BMO LR LR
comp=Z,3µm,20.0s
SANT Santorini 104.32 307 PFAKE 09 08 50.0 +13
SANT LR LR
comp=Z,853nm,19.0s
STHS Stebnicka Huta 104.33 321 *i*P **Pdif 09 08 36.8 +0.4**
STHS Stebnicka Huta 104.33 321 PDIF **Pdif 09 08 36.8 +0.4**
CRVS Cervenica-Dubn 104.34 321 *i*P **Pdif 09 08 35.9 -0.6**
CRVS *e* 09 22 01.0
CRVS MLR MLR
comp=Z,1µm,25.9s
CRVS Cervenica-Dubn 104.34 321 PDIF **Pdif 09 08 35.9 -0.6**
CRVS *e* 09 12 05.7
CRVS *e*SP SP 09 22 01.0 -1.8
PKM Peak Mountain 104.35 54⇑P **Pdif 09 08 38.1 +1.0**
baz=104
EDM Edmonton 104.35 35 P **Pdif 09 08 36.1 -0.4**
EDM Edmonton 104.35 35 Pdif **Pdif 09 08 36.1 -0.4**
comp=Z,11nm,1.2s
TBLU Trondheim 104.56 337 *e* PP 09 13 04.2 +8.1
TBLU AMS AMS 10 01 25.2
comp=Z,4µm,21.7s
HFS Hagfors 104.56 333 Pdif **Pdif 09 08 36.1 -1.1**
HFS PKKPbc **PKKPbc 09 24 23.1 -1.7**
HFS Hagfors 104.56 333 Pdiff **Pdif 09 08 36.1 -1.1**
comp=Z,13nm,0.9s,baz=43,slow=2.6,SNR=15
HFS PKKPbc **PKKPbc 09 24 23.1 -1.7**
comp=Z,3.1nm,0.8s,baz=251,slow=4.5,SNR=5.5
MMB Musomiste 104.61 313 *e*P **PP 09 13 01.1 +3.8**
VTS Vitosha 104.76 314 *e*P **PP 09 13 03.4 +4.9**
NVAR Mina Array Bea 104.90 50 Pdif **Pdif 09 08 41.2 +1.8**
NVAR PP **PKiKP 09 12 56.0 +1.5**
NVAR Mina Array Bea 104.90 50 Pdiff **Pdif 09 08 41.2 +1.8**
comp=Z,4.6nm,1.0s,baz=264,slow=5.8,SNR=33
NVAR PP **PKiKP 09 12 56.0 +1.5**
comp=Z,2.9nm,1.1s,baz=272,slow=5.3,SNR=5.1
NIE Niedzica 104.91 321 *e*P **Pdif 09 08 41.0 +2.0**
OJC Ojcow 104.99 322 *e*P **Pdif 09 08 39.6 +0.3**
KKB Krupnik 105.02 313 *e*P **PP 09 13 04.2 +3.9**
NV11 Mina Array Sit 105.02 50 *e*PKPdf **PKiKP 09 12 56.5 +1.9**
KECS Kecovo 105.08 320 *i*P **Pdif 09 08 38.9 -0.8**
KECS Kecovo 105.08 320 PDIF **Pdif 09 08 38.9 -0.8**
NB2 NORSAR Subarra105.24 335 P **Pdif 09 08 38.5 -1.7**
comp=Z,8.4nm,1.0s,baz=63,slow=4.4
NB2 NORSAR Subarra105.24 335 P **Pdif 09 08 38.5 -1.7**
baz=63,slow=4.4
NOA NORSAR Array B105.24 335 Pdif **Pdif 09 08 38.9 -1.4**
NOA PP **PKiKP 09 12 53.0 -1.3**
NOA PKKPbc **PKKPbc 09 24 21.4 -1.4**
NOA NORSAR Array B105.24 335 Pdiff **Pdif 09 08 38.9 -1.4**
comp=Z,4.3nm,0.9s,baz=62,slow=4.5,SNR=12
NOA PP **PKiKP 09 12 53.0 -1.3**
comp=Z,1.0nm,0.8s,baz=72,slow=7.4,SNR=3.3
NOA PKKPbc **PKKPbc 09 24 21.4 -1.4**
comp=Z,3.3nm,0.9s,baz=73,slow=3.2,SNR=7.6
NC602 NORSAR Array S105.24 334 *e* **Pdif 09 08 39.6 -0.6**
NC602 *e*PP **PP 09 13 03.3 +2.0**
BOSA Boshof 105.28 240 Pdif **Pdif 09 08 39.9 -1.3**
BOSA PKKPbc **PKKPbc 09 24 20.4 -1.3**
BOSA Boshof 105.28 240 Pdiff **Pdif 09 08 39.9 -1.3**
comp=Z,6.1nm,1.2s,baz=63,slow=9.3,SNR=4.3
BOSA PKKPbc **PKKPbc 09 24 20.4 -1.3**
comp=Z,6.2nm,0.9s,baz=293,slow=5.9,SNR=7.2
JMIC Jan Mayen 105.29 348 *e* **Pdif 09 08 43.8 +3.7**
JMIC *e*PP **PP 09 13 06.0 +4.8**
JMIC *e*SS SS 09 27 56.2 +2.3
ISA Isabella 105.30 53 *e*P **Pdif 09 08 41.5 +0.3**
ISA pmax pmax
comp=Z,7.0nm,1.0s
ISA Isabella 105.30 53 *e*Pdif **Pdif 09 08 41.5 +0.3**
comp=Z,1.6nm,1.0s
ISA Isabella 105.30 53⇑P **Pdif 09 08 41.1 -0.1**
baz=105
BMN Battle Mountai 105.30 48 PFAKE 09 13 10.0
BMN LR LR
comp=Z,3µm,20.0s
C13A Hot Springs 105.31 40 PKiKP **PKiKP 09 12 54.9 +0.1**
baz=105
C13A Hot Springs 105.31 40 PKiKP **PKiKP 09 12 54.9 +0.1**
baz=105
WALA Waterton Lakes 105.33 39 PKPdf **PKiKP 09 12 58.1 +3.2**
GKP Gorka Klasztor 105.48 326 *e*PKiKP **PKiKP 09 12 54.2 -0.6**
GKP LMZ LR 10 01 14.2
LBTB Lobatse 105.51 244 PKKPbc PKKPbc 09 24 20.0 -0.9
LBTB Lobatse 105.51 244 PKKPbc PKKPbc 09 24 20.0 -0.9
comp=Z,3.7nm,0.9s,baz=16,slow=4.7,SNR=5.6
MFID Camas Ranch 105.61 45 *e*Pdif **Pdif 09 08 43.8 +1.4**
comp=Z,30nm,1.8s
PSZ Piszkesteto 105.62 320 PFAKE 09 13 10.0
PSZ LR LR
comp=Z,3µm,20.0s
A14A Double T Ranch 105.66 39⇑P **Pdif 09 08 41.2 -1.3**
baz=106
SWMT Swartz Lake 105.73 40 *e*PKPdf **PKiKP 09 12 55.9 +0.3**
TPH Tonopah 105.81 51 PFAKE 09 13 10.0
TPH LR LR
comp=Z,6µm,21.0s
EDW2 Edwards Air Fo 105.84 54⇓P **Pdif 09 08 45.4 +1.9**
baz=106
MWC Mount Wilson 105.90 55 *e*P **Pdif 09 08 46.7 +2.7**
MWC pmax pmax
comp=Z,10.0nm,1.1s
MWC Mount Wilson 105.90 55 *e*Pdif **Pdif 09 08 46.6 +2.7**
comp=Z,10nm,1.1s
B14A Marquette Ranc 105.94 39⇑P **Pdif 09 08 45.5 +1.8**
baz=106
LRMC Laurel Mountai 105.97 53⇑P **Pdif 09 08 44.8 +0.7**
baz=106
MSO Missoula 105.97 41 PKiKP **PKiKP 09 12 56.3 +0.2**
baz=106
MSO Missoula 105.97 41 PKiKP **PKiKP 09 12 56.3 +0.2**
baz=106
MOL Molde 105.98 337 *e*PP PP 09 13 07.0 +0.5
MPMC Manual Prospec 106.01 53⇑P **Pdif 09 08 45.7 +1.3**
baz=106
RAC Raciborz 106.01 323 *e*P **Pdif 09 08 44.8 +1.0**
BSD Bornholm Skovb 106.05 328⇑*i*P **Pdif 09 08 43.7 -0.2**
BSD *i* 09 13 03.0
BSD *i* 09 20 43.8
BSD pmax pmax
comp=Z,9.0nm,0.8s
BSD MLR MLR
comp=Z,2µm,18.0s
BSD Bornholm Skovb 106.05 328⇑*i*P **Pdif 09 08 43.7 -0.2**
comp=Z,9.3nm,0.8s
BSD *i* 09 13 03.0
BSD *i* 09 20 43.8
BSD
comp=Z,2µm,18.0s
A15A Johnson Ranch, 106.09 39⇑P **Pdif 09 08 44.4 0.0**
baz=106
OKC Ostrava-Krasne 106.12 322 *e*P **Pdif 09 08 43.7 -0.6**
OKC *e* 09 13 04.7
OKC *e* 09 15 28.0
OKC *e* 09 19 24.3
OKC *e*SP SP 09 22 22.1 +0.9
OKC *e* 09 23 25.3
OKC MLR MLR
comp=Z,2µm,18.3s
OKC Ostrava-Krasne 106.12 322 *e*PDIF **Pdif 09 08 43.7 -0.6**
OKC *e*PP **PP 09 13 04.7 -3.4**
OKC *ex* x 09 15 28.0
OKC *e*SKS **SKSac 09 19 24.3 +2.8**
OKC *e*XS XS 09 20 56.9
OKC *e*SP **SP 09 22 22.1 +0.9**
OKC *ex* x 09 23 25.3
OKC AMS AMS 10 05 50.0
comp=Z,2µm,18.3s
VYHS Vyhne 106.12 321 *i*P **Pdif 09 08 44.4 0.0**
VYHS *e* 09 22 21.5
VYHS *e*SS SS 09 28 23.2 +17
VYHS Vyhne 106.12 321 PDIF **Pdif 09 08 44.4 0.0**
VYHS *e* 09 12 02.1
VYHS *e*SP SP 09 22 21.5 +0.2
VYHS *e*SS SS 09 28 23.2 +17
SLMT Seeley Lake 106.14 41 *e*PKPdf **PKiKP 09 12 55.7 -0.8**
CHMT Chamberlain Mo 106.40 41 *e*PKPdf **PKiKP 09 12 57.0 0.0**
FURC Furnace Creek, 106.43 52⇓P **Pdif 09 08 46.5 +0.5**
baz=106
C15A Salmond Ranch, 106.55 40 PKiKP **PKiKP 09 12 57.2 0.0**
baz=106
C15A Salmond Ranch, 106.55 40 PKiKP **PKiKP 09 12 57.2 0.0**
baz=106
HLID Hailey 106.56 44 *e*Pdif **Pdif 09 08 48.2 +1.4**
comp=Z,13nm,1.8s
HLID LR LR
comp=Z,3µm,20.0s
HLID Hailey 106.56 44⇑P **Pdif 09 08 48.1 +1.4**
baz=107
HLID PKiKP **PKiKP 09 12 57.1 -0.3**
baz=107
HLID PKiKP **PKiKP 09 12 57.1 -0.3**
baz=107
HLID PKiKP **PKiKP 09 12 57.1 -0.3**
baz=107
KONO Kongsberg 106.62 334 PFAKE 09 13 10.0
KONO LR LR
comp=Z,3µm,20.0s
GSC Goldstone 106.71 53 *e*P **Pdif 09 08 48.3 +0.9**
GSC pmax pmax
comp=Z,2.0nm,0.3s
GSC Goldstone 106.71 53 *e*Pdif **Pdif 09 08 48.3 +0.9**
comp=Z,0.5nm,0.3s
GSC Goldstone 106.71 53⇓P **Pdif 09 08 48.4 +1.0**
baz=107
KSP Ksiaz 106.89 324 *e*P **Pdif 09 08 46.9 -0.8**
KSP *e* 09 13 15.7
KSP *e*SP SP 09 22 26.7 -2.4
KSP *e*SS SS 09 28 27.7 +11
KSP Ksiaz 106.89 324 *e*Pdiff **Pdif 09 08 47.3 -0.4**
KSP *e*PKiKP **PKiKP 09 12 55.8 -1.7**
KSP *e*PP **PP 09 13 15.6 +1.9**
KSP *e*SKSac **SKSac 09 19 24.1 -0.8**
KSP *e*SP **SP 09 22 29.2 +0.2**
KSP *e*PS **PS 09 22 40.4 +5.9**
KSP *e*SS SS 09 28 34.4 +18
KSP LMZ LR 10 01 15.0
R11A Troy Canyon, C 107.01 50⇓P **Pdif 09 08 48.5 -0.3**
baz=107
R11A PKiKP **PKiKP 09 12 58.2 -0.1**
baz=107
R11A PKiKP **PKiKP 09 12 58.2 -0.1**
baz=107
R11A PKiKP **PKiKP 09 12 58.2 -0.1**
baz=107
DPC Dobruska-Polom 107.05 323 *e*P **Pdif 09 08 48.2 -0.3**
DPC *e* 09 13 12.9
DPC *e* 09 15 37.1
DPC *e*SP SP 09 22 28.0 -2.8
DPC *e* 09 23 34.6
DPC Dobruska-Polom 107.05 323 *e*PDIF **Pdif 09 08 48.2 -0.3**
DPC *ex* x 09 08 54.8
DPC *e*SP 09 09 04.0
DPC *e*PKP PKiKP 09 13 03.6 +5.7
DPC *e*PP **PP 09 13 12.9 -2.1**
DPC *ex* x 09 15 37.1
DPC *e*SDIF **Sdif 09 20 56.1 +8.2**
DPC *e*SP **SP 09 22 28.0 -2.8**
DPC *ex* x 09 23 34.6
DPC AMS AMS 10 05 20.0
COP Copenhagen 107.10 329⇑*i*P **Pdif 09 08 49.1 +0.6**
COP *i* 09 13 14.1
COP MLR MLR
comp=Z,2µm,18.0s
COP Copenhagen 107.10 329⇑*i*P **Pdif 09 08 49.1 +0.6**
COP *i* 09 13 14.1
COP
comp=Z,2µm,18.0s
HEC Hector,Ludlow 107.18 54⇓P **Pdif 09 08 50.5 +0.9**
baz=107
VRAC Vranov 107.25 322 Pdif **Pdif 09 08 49.2 -0.2**
VRAC PP PKiKP 09 13 07.2 +9.0
VRAC Vranov 107.25 322 Pdiff **Pdif 09 08 49.2 -0.2**
comp=Z,4.2nm,0.7s,baz=49,slow=3.7,SNR=7.7
VRAC PP PKiKP 09 13 07.2 +9.0
comp=Z,2.2nm,0.5s,baz=67,slow=8.9,SNR=4.0
MCMT McKenzie Canyo 107.29 43 *e*Pdif **Pdif 09 08 48.3 -1.7**
comp=Z,21nm,2.0s
ZST Bratislava 107.31 321 *i*P **Pdif 09 08 51.3 +1.6**
ZST Bratislava 107.31 321 PDIF **Pdif 09 08 51.2 +1.6**
PFO Pinyon Flat Ob 107.33 55 *e*Pdif **Pdif 09 08 51.4 +1.2**
PFO LR LR
comp=Z,4µm,19.0s
A17A Triple J Farms 107.37 38⇑P **Pdif 09 08 51.8 +1.7**
baz=107
A17A PKiKP **PKiKP 09 12 58.7 +0.2**
baz=107
A17A PKiKP **PKiKP 09 12 58.7 +0.2**
baz=107
A17A PKiKP **PKiKP 09 12 58.7 +0.2**
baz=107
TUQ Turquoise Moun 107.39 53⇓P **Pdif 09 08 51.9 +1.4**
baz=107
TIR Tirane 107.48 313 PFAKE 09 13 10.0
TIR LR LR
comp=Z,1µm,20.0s
MONP Monument Peak 107.50 56⇑P **Pdif 09 08 52.9 +1.7**
baz=108
BELC Belle Mtn. Jos 107.62 54⇑P **Pdif 09 08 51.9 +0.3**
baz=108
GMRC Granite Mounta 107.73 54⇓P **Pdif 09 08 53.1 +1.1**
baz=108
ODD1 Odda 107.77 335 *e*PP PP 09 13 25.8 +5.9
C17A Wharram Farm, 107.77 40⇑P **Pdif 09 08 53.3 +1.4**
baz=108
C17A PKiKP **PKiKP 09 12 59.3 0.0**
baz=108
C17A PKiKP **PKiKP 09 12 59.3 0.0**
baz=108
C17A PKiKP **PKiKP 09 12 59.3 0.0**
baz=108
SUMG Summit 107.78 357 *i*P **Pdif 09 08 49.9 -1.8**
SUMG *i* 09 13 28.8
SUMG *e* 09 20 18.0
SUMG *i* 09 22 43.6
SUMG
comp=Z,3µm,20.0s
HOMB Homborsund 107.79 333 *e*PP PP 09 13 20.0 0.0
BOZ Bozeman (W) 107.86 42 PFAKE 09 13 10.0
BOZ LR LR
comp=Z,3µm,21.0s
A18A Metzger Ranch, 107.90 38 PKiKP **PKiKP 09 12 59.6 0.0**
baz=108
A18A Metzger Ranch, 107.90 38 PKiKP **PKiKP 09 12 59.6 0.0**
baz=108
SUE Sulen 107.92 336 *e* **Pdif 09 08 55.0 +3.0**
SUE *e*PP **PP 09 13 18.4 -2.3**
SUE AMS AMS 10 00 19.3
comp=Z,2µm,24.4s
TREC Trest 107.93 322 *e*P **Pdif 09 08 49.6 -2.8**
TREC *e* 09 13 21.8
TREC *e* 09 15 39.2
TREC *e*SP SP 09 22 32.8 -7.0

TREC				*e*		09 23 44.3	
TREC				MLR	MLR		
	comp=Z,2μm,18.2s						
TREC	**Trest**	**107.93**	**322**	*e*PDIFF	**Pdif**	**09 08 49.6**	**-2.8**
TREC				*e*PP	**PP**	**09 13 21.8**	**+0.4**
TREC				*e*x	x	09 15 39.2	
TREC				*e*SP	SP	09 22 32.8	-7.0
TREC				*e*x	x	09 23 44.3	
TREC				AMS	AMS	10 05 40.0	
	comp=Z,2μm,18.2s						
PVCC	**Panska Ves**	**108.03**	**324**	*e*P	**Pdif**	**09 08 52.4**	**-0.4**
PVCC				*e*		09 13 27.4	
PVCC				*e*		09 15 45.3	
PVCC				*e*SP	SP	09 22 36.9	-3.8
PVCC				*e*		09 23 44.3	
PVCC				MLR	MLR		
	comp=Z,2μm,18.1s						
PVCC	**Panska Ves**	**108.03**	**324**	*e*PDIFF	**Pdif**	**09 08 52.4**	**-0.4**
PVCC				*e*PP	PP	09 13 27.4	+5.4
PVCC				*e*x	x	09 15 45.3	
PVCC				*e*SP	SP	09 22 36.9	-3.8
PVCC				*e*x	x	09 23 44.3	
PVCC				AMS	AMS	10 09 30.0	
	comp=Z,2μm,18.1s						
BER	**Bergen**	**108.06**	**336**	*e*PP	PP	09 13 19.4	-2.5
BER				AMS	AMS	10 06 26.6	
	comp=Z,3μm,17.1s						
E17A	**Martinsdale**	**108.10**	**41**	PKiKP	**PKiKP**	**09 12 59.5**	**-0.6**
	baz=108						
E17A	**Martinsdale**	**108.10**	**41**	PKiKP	**PKiKP**	**09 12 59.5**	**-0.6**
	baz=108						
LDFC	**Landfair**	**108.11**	**53**	*e*Pdif	**Pdif**	**09 08 52.1**	**-1.6**
B18A	**Beardsley Farm**	**108.13**	**39**	PKiKP	**PKiKP**	**09 13 00.0**	**0.0**
	baz=108						
B18A	**Beardsley Farm**	**108.13**	**39**	PKiKP	**PKiKP**	**09 13 00.0**	**0.0**
	baz=108						
PRU	**Pruhonice**	**108.25**	**323**	*e*P	**Pdif**	**09 08 53.4**	**-0.4**
PRU				*e*		09 13 24.8	
PRU				*e*		09 15 39.7	
PRU				*e*SP	SP	09 22 39.8	-3.1
PRU				*e*		09 23 43.5	
PRU				MLR	MLR		
	comp=Z,3μm,19.2s						
PRU	**Pruhonice**	**108.25**	**323**	*e*PDIFF	**Pdif**	**09 08 53.4**	**-0.4**
PRU				*e*pP		09 09 01.8	
PRU				*e*PP	**PP**	**09 13 24.8**	**+1.1**
PRU				*e*x	x	09 15 39.7	
PRU				*e*SDIF		09 21 03.7	
PRU				*e*SP	**SP**	**09 22 39.8**	**-3.1**
PRU				*e*x	x	09 23 43.5	
PRU				AMS	AMS	10 06 30.0	
	comp=Z,3μm,19.2s						
BRG	**Berggiesshubel**	**108.26**	**324**	*e*PDIF	**Pdif**	**09 08 53.3**	**-0.5**
	comp=Z,30nm,1.7s						
BRG				*e*		09 12 54.0	
	comp=Z,10nm,1.6s						
BRG				*e*PP	**PP**	**09 13 20.1**	**-3.6**
	comp=Z,74nm,2.2s						
BRG				SDIF		09 21 09.0	
BRG				*e*		09 23 57.8	
	comp=Z,21nm,2.0s						
BRG				SS	**SS**	**09 28 42.0**	**+6.6**
BRG							
	comp=N,2μm,17.7s						
BRG							
	comp=E,2μm,18.7s						
BRG							
	comp=Z,4μm,20.3s						
BRG	**Berggiesshubel**	**108.26**	**324**	*e*P	**Pdif**	**09 08 53.3**	**-0.5**
BRG				*e*		09 13 20.1	
BRG				SS	SS	09 28 42.0	+6.6
BRG				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BRG				MLR	MLR		
	comp=N,21μm,17.7s						
BRG				MLR	MLR		
	comp=E,2μm,18.7s						
BRG				MLR	MLR		
	comp=Z,2μm,20.3s						
BGU	**Big Grassy Mou**	**108.27**	**47**	PKPdf	**PKiKP**	**09 13 01.5**	**+0.9**
EGMT	**Eagleton**	**108.28**	**39**	*e*PKPdf	**PKiKP**	**09 13 01.1**	**+0.8**
EGMT				LR	LR		
	comp=Z,3μm,21.0s						
EGMT	**Eagleton**	**108.28**	**39**	PKiKP	**PKiKP**	**09 12 59.6**	**-0.7**
	baz=108						
EGMT	**Eagleton**	**108.28**	**39**	PKiKP	**PKiKP**	**09 12 59.6**	**-0.7**
	baz=108						
IRM	**Iron Mountain**	**108.28**	**54**	⇑P	**Pdif**	**09 08 54.9**	**+0.6**
	baz=108						
IRM				PKiKP	**PKiKP**	**09 13 00.5**	**-0.2**
	baz=108						
IRM				PKiKP	**PKiKP**	**09 13 00.5**	**-0.2**
	baz=108						
IRM				PKiKP	**PKiKP**	**09 13 00.5**	**-0.2**
	baz=108						
PRA	**Prague**	**108.28**	**323**	PDIFF	**Pdif**	**09 08 54.0**	**+0.1**
PRA				PP	**PP**	**09 13 25.0**	**+1.1**
PRA				AMS	AMS	10 07 00.0	
SUR	**Sutherland**	**108.34**	**236**	PKKPbc	PKKPbc	09 24 12.0	-0.4
SUR				LR	LR		
	comp=Z,3μm,22.0s						
SUR	**Sutherland**	**108.34**	**236**	PKKPbc	PKKPbc	09 24 12.0	-0.4
	comp=Z,8.5nm,0.9s,baz=243,slow=9.0,SNR=3.7						
MUD	**Monsted U'grnd**	**108.37**	**331**	*i* P	**Pdif**	**09 08 55.4**	**+1.3**
MUD				*i*		09 13 27.0	
MUD				MLR	MLR		
	comp=Z,3μm,19.0s						
MUD	**Monsted U'grnd**	**108.37**	**331**	*i* P	**Pdif**	**09 08 55.4**	**+1.3**
MUD				*i*		09 13 27.0	
MUD				*i*		09 21 13.3	
MUD							
	comp=Z,3μm,18.0s						
F17A	**Fitzpatrick Pl**	**108.42**	**41**	PKiKP	**PKiKP**	**09 13 01.1**	**+0.4**
	baz=108						
F17A	**Fitzpatrick Pl**	**108.42**	**41**	PKiKP	**PKiKP**	**09 13 01.1**	**+0.4**
	baz=108						
I16A	**Newdale**	**108.51**	**43**	⇓P	**Pdif**	**09 08 57.3**	**+2.0**
	baz=108						
I16A				PKiKP	**PKiKP**	**09 13 01.3**	**+0.3**
	baz=108						
I16A				PKiKP	**PKiKP**	**09 13 01.3**	**+0.3**
	baz=108						
I16A				PKiKP	**PKiKP**	**09 13 01.3**	**+0.3**
	baz=108						
FBE	**Freiberg**	**108.58**	**325**	*e*Pdiff	**Pdif**	**09 08 56.3**	**+1.0**
	comp=Z,25nm,1.6s						
B19A	**Brinkman Farms**	**108.63**	**38**	⇓P	**Pdif**	**09 08 56.3**	**+0.7**
	baz=109						
B19A				PKiKP	**PKiKP**	**09 13 01.2**	**+0.3**
	baz=109						
B19A				PKiKP	**PKiKP**	**09 13 01.2**	**+0.3**
	baz=109						
B19A				PKiKP	**PKiKP**	**09 13 01.2**	**+0.3**
	baz=109						
DUG	**Dugway**	**108.63**	**47**	*e*P	**Pdif**	**09 08 56.2**	**+0.3**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DUG				MLR	MLR		
	comp=Z,4μm,19.0s						
DUG	**Dugway**	**108.63**	**47**	*e*Pdif	**Pdif**	**09 08 56.1**	**+0.3**
	comp=Z,1.0nm,0.8s						
DUG				LR	LR		
	comp=Z,4μm,19.0s						
DUG	**Dugway**	**108.63**	**47**	⇓P	**Pdif**	**09 08 56.5**	**+0.6**
	baz=109						
DUG				PKiKP	**PKiKP**	**09 13 00.8**	**-0.5**
	baz=109						
DUG				PKiKP	**PKiKP**	**09 13 00.8**	**-0.5**
	baz=109						
DUG				PKiKP	**PKiKP**	**09 13 00.8**	**-0.5**
	baz=109						
CLL	**Collm**	**108.63**	**325**	*e*Pdiff	**Pdif**	**09 08 55.9**	**+0.4**
	comp=Z,29nm,1.8s						
CLL	**Collm**	**108.63**	**325**	*e*P	**Pdif**	**09 08 55.0**	**-0.5**
CLL				*i*		09 13 27.8	
CLL				pmax	pmax		
	comp=Z,13nm,1.2s						
CLL				MLR	MLR		
	comp=Z,3μm,19.0s						
CLL	**Collm**	**108.63**	**325**	*e*Pdif	**Pdif**	**09 08 55.0**	**-0.5**
	comp=Z,13nm,1.2s						
CLL				*e*		09 09 31.0	
CLL				*e*		09 12 34.0	
CLL				*e*PKiKP	**PKiKP**	**09 13 02.0**	**+1.3**
	comp=Z,11nm,1.4s						
CLL				*i* PP	**PP**	**09 13 27.8**	**+1.4**
	comp=Z,40nm,1.7s						
CLL				*i*		09 13 50.2	
CLL				*e*PPP	PPP	09 15 36.0	
CLL				*e*SKSac	**SKSac**	**09 19 36.0**	**+3.6**
CLL				*e*SKSdf	**SKSdf**	**09 20 12.0**	**+2.3**
CLL				*e*Sdif	**Sdif**	**09 21 00.0**	**-1.0**
CLL				*e*SP	**SP**	**09 22 44.0**	**-2.7**
CLL				*e*PPS	PPS	09 23 48.0	
CLL				*e*SS	SS	09 28 49.0	+8.7
CLL				*e*		09 29 48.0	
CLL				*e*SSS	SSS	09 32 42.0	
CLL				*e*SSSS		09 36 00.0	
CLL				*e*		09 40 00.0	
CLL				LmH		09 54 00.0	
	comp=N,3μm,19.9s						
CLL				LmH		09 54 00.0	
	comp=E,2μm,21.1s						
CLL				LmV		10 08 00.0	
	comp=Z,3μm,19.0s						
E18A	**Harlowton**	**108.68**	**40**	PKiKP	**PKiKP**	**09 13 02.2**	**+1.0**
	baz=109						
E18A	**Harlowton**	**108.68**	**40**	PKiKP	**PKiKP**	**09 13 02.2**	**+1.0**
	baz=109						
IMW	**Indian Meadow**	**108.88**	**43**	*e*PKPdf	**PKiKP**	**09 13 01.9**	**+0.1**
CCUT	**Cedar City**	**108.91**	**50**	*e*Pdif	**Pdif**	**09 08 58.5**	**+1.1**
	comp=Z,7.8nm,1.6s						
CCUT				*e*PKPdf	**PKiKP**	**09 12 60.0**	**-2.0**
TPAW	**Teton Pass**	**109.00**	**44**	PKPdf	**PKiKP**	**09 13 02.8**	**+0.7**
LKWY	**Lake**	**109.03**	**43**	PFAKE		09 13 10.0	
LKWY				LR	LR		
	comp=Z,4μm,19.0s						
F18A	**Big Timber**	**109.04**	**41**	PKiKP	**PKiKP**	**09 13 02.0**	**+0.2**
	baz=109						
F18A	**Big Timber**	**109.04**	**41**	PKiKP	**PKiKP**	**09 13 02.0**	**+0.2**
	baz=109						
MOOW	**Moose Ponds**	**109.06**	**43**	*e*PKPdf	PKiKP	09 12 52.4	-10
W13A	**Hualapai Mount**	**109.09**	**53**	PKiKP	**PKiKP**	**09 13 03.0**	**+0.6**
	baz=109						
W13A	**Hualapai Mount**	**109.09**	**53**	PKiKP	**PKiKP**	**09 13 03.0**	**+0.6**
	baz=109						
REDW	**Red Top Meadow**	**109.10**	**44**	*e*PKPdf	**PKiKP**	**09 13 03.2**	**+1.0**
AHID	**Auburn Hatcher**	**109.12**	**44**	PFAKE		09 13 10.0	
AHID				LR	LR		
	comp=Z,4μm,20.0s						
D19A	**Cripps Ranch,**	**109.14**	**40**	PKiKP	**PKiKP**	**09 13 02.6**	**+0.7**
	baz=109						
D19A	**Cripps Ranch,**	**109.14**	**40**	PKiKP	**PKiKP**	**09 13 02.6**	**+0.7**
	baz=109						
HWUT	**Hardware Ranch**	**109.14**	**46**	*e*PKPdf	**PKiKP**	**09 13 02.2**	**-0.1**
HWUT				LR	LR		
	comp=Z,5μm,21.0s						
SNOW	**Snow King Moun**	**109.14**	**44**	*e*PKPdf	**PKiKP**	**09 13 03.3**	**+1.0**
KHC	**Kasperske Hory**	**109.16**	**323**	*e*P	**Pdif**	**09 08 56.4**	**-1.5**
KHC				*e*		09 19 35.6	
KHC				*e*SP	SP	09 22 47.3	-5.0
KHC				*e*		09 23 54.4	
KHC				MLR	MLR		
	comp=Z,3μm,17.9s						
KHC	**Kasperske Hory**	**109.16**	**323**	*e*PDIF	**Pdif**	**09 08 56.4**	**-1.5**
KHC				*e*pP		09 09 04.9	
KHC				*e*sP		09 09 11.6	
KHC				*e*PKP	PKiKP	09 13 09.0	+7.1
KHC				*e*PP	PP	09 13 25.0	-5.3
KHC				*e*SKS	**SKSac**	**09 19 35.6**	**+0.8**
KHC				*e*SDIF	**Sdif**	**09 21 09.1**	**+3.6**
KHC				*e*SP	**SP**	**09 22 47.3**	**-5.0**
KHC				*e*x	x	09 23 54.4	
KHC				AMS	AMS	10 07 10.0	
	comp=Z,3μm,17.9s						
GEC2	**GERESS Array S**	**109.19**	**322**	*e*Pdiff	**Pdif**	**09 08 58.7**	**+0.6**
	comp=Z,19nm,1.8s						
GEC2				*e*PP	PP	09 13 36.2	+5.5
GEC2	**GERESS Array S**	**109.19**	**322**	*e*P	**Pdif**	**09 08 58.7**	**+0.6**
GEC2				*e*		09 13 36.2	
GEC2				pmax	pmax		
	comp=Z,19nm,1.8s						
GERES	**GERESS Array B**	**109.19**	**322**	Pdif	**Pdif**	**09 08 57.8**	**-0.3**
GERES				PP	**PKiKP**	**09 12 58.3**	**-3.7**
GERES				PKKPbc	**PKKPbc**	**09 24 09.4**	**-0.8**
GERES				⇑*e*		09 30 26.1	
GERES	**GERESS Array B**	**109.19**	**322**	Pdiff	**Pdif**	**09 08 57.8**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=72,slow=4.3,SNR=11						
GERES				PP	**PKiKP**	**09 12 58.3**	**-3.7**
	comp=Z,1.9nm,0.9s,baz=86,slow=6.8,SNR=3.9						
GERES				PKKPbc	**PKKPbc**	**09 24 09.4**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=247,slow=2.8,SNR=4.6						
GERES				PKP2bc		09 30 26.1	
	comp=Z,0.2nm,0.3s,baz=347,slow=4.1,SNR=3.8						
LOHW	**Long Hollow**	**109.20**	**44**	*e*PKPdf	**PKiKP**	**09 13 03.6**	**+1.3**
TANN	**Tannenbergstha**	**109.31**	**324**	*e*Pdiff	**Pdif**	**09 08 59.3**	**+0.7**
	comp=Z,18nm,1.9s						
TANN				*e*PP	**PP**	**09 13 35.5**	**+4.1**
NEUB	**Neuenburg**	**109.38**	**325**	*e*Pdiff	**Pdif**	**09 08 59.5**	**+0.7**
	comp=Z,76nm,2.3s						
NEUB				*e*PP	**PP**	**09 13 35.8**	**+4.0**
WERD	**Werda**	**109.39**	**324**	*e*Pdiff	**Pdif**	**09 08 59.5**	**+0.6**
	comp=Z,18nm,1.6s						
WERD				*e*PP	**PP**	**09 13 36.2**	**+4.3**
NKC	**Novy Kostel**	**109.39**	**324**	*e*P	**Pdif**	**09 08 59.6**	**+0.7**
NKC				*e*		09 13 35.2	
NKC				*e*SP	SP	09 22 48.5	-6.1
NKC				*e*		09 24 04.7	
NKC				MLR	MLR		
	comp=Z,3μm,19.0s						
NKC	**Novy Kostel**	**109.39**	**324**	*e*PDIF	**Pdif**	**09 08 59.6**	**+0.7**
NKC				*e*PP	**PP**	**09 13 35.2**	**+3.2**
NKC				*e*SP	SP	09 22 48.5	-6.1
NKC				*e*PKKP	**PKKPbc**	**09 24 04.7**	**-4.8**
NKC				AMS	AMS	10 08 10.0	
	comp=Z,3μm,19.0s						
GUNZ	**Gunzen**	**109.41**	**324**	*e*Pdiff	**Pdif**	**09 08 59.6**	**+0.6**
	comp=Z,20nm,1.4s						
GUNZ				*e*PP	**PP**	**09 13 36.3**	**+4.2**
WERN	**Wernitzgruen**	**109.41**	**324**	*e*Pdiff	**Pdif**	**09 08 59.9**	**+0.9**
	comp=Z,12nm,1.5s						
WERN				*e*PP	**PP**	**09 13 36.3**	**+4.2**
PLN	**Plauen**	**109.46**	**324**	*e*Pdiff	**Pdif**	**09 08 59.9**	**+0.7**
	comp=Z,86nm,1.6s						
PLN				*e*PP	**PP**	**09 13 37.0**	**+4.6**
MVU	**Marysvale**	**109.53**	**49**	*e*PKPdf	**PKiKP**	**09 13 04.3**	**+1.2**
MVU				LR	LR		
	comp=Z,4μm,20.0s						
MSU	**Marysvale**	**109.56**	**49**	*e*PKPdf	**PKiKP**	**09 13 04.5**	**+1.3**
WET	**Wettzell**	**109.57**	**323**	*e*Pdiff	**Pdif**	**09 09 00.7**	**+0.9**
	comp=Z,10.0nm,1.5s						
WET				*e*PP	PP	09 13 39.1	+5.7
WET	**Wettzell**	**109.57**	**323**	*e*P	**Pdif**	**09 09 00.7**	**+0.9**
WET				*e*		09 13 39.1	
WET				pmax	pmax		
	comp=Z,10.0nm,1.5s						
RLMT	**Red Lodge**	**109.60**	**42**	PFAKE		09 13 10.0	
RLMT				LR	LR		
	comp=Z,3μm,20.0s						
MANZ	**Manzenberg**	**109.69**	**324**	*e*Pdiff	**Pdif**	**09 09 01.4**	**+1.1**
	comp=Z,10.0nm,1.6s						
MANZ				*e*PP	**PP**	**09 13 38.6**	**+4.4**
MOX	**Moxa**	**109.70**	**325**	*e*Pdiff	**Pdif**	**09 09 01.1**	**+0.8**
	comp=Z,22nm,1.6s						
MOX				*e*PP	**PP**	**09 13 38.5**	**+4.3**
MOX	**Moxa**	**109.70**	**325**	*e*P	**Pdif**	**09 09 01.1**	**+0.8**
MOX				*e*		09 13 38.5	
MOX				pmax	pmax		
	comp=Z,22nm,1.6s						
ROTZ	**Rotzenmuhle**	**109.72**	**324**	*e*Pdiff	**Pdif**	**09 09 01.4**	**+1.0**
	comp=Z,43nm,2.0s						
ROTZ				*e*PP	**PP**	**09 13 39.2**	**+4.8**
NRDL	**Niedersach Rie**	**109.75**	**327**	*e*Pdiff	**Pdif**	**09 09 01.5**	**+1.2**
	comp=Z,27nm,1.4s						
FFC	**Flin Flon**	**109.86**	**30**	PFAKE		09 13 10.0	
FFC				LR	LR		
	comp=Z,4μm,19.0s						
U15A	**North Rim**	**110.02**	**51**	⇑P	**Pdif**	**09 09 04.6**	**+2.2**
	baz=110						
Y14A	**Wickenburg**	**110.06**	**54**	⇓P	**Pdif**	**09 09 03.7**	**+1.3**
	baz=110						
BW06	**Boulder Array**	**110.19**	**44**	*e*PKPdf	**PKiKP**	**09 13 04.0**	**-0.2**
BW06				LR	LR		
	comp=Z,4μm,21.0s						
PDAR	**Pinedale Array**	**110.19**	**44**	Pdif	**Pdif**	**09 09 10.4**	**+7.5**
PDAR				PKiKP	**PKiKP**	**09 13 03.4**	**-0.9**
PDAR				PKKPbc	**PKKPbc**	**09 24 04.9**	**-2.0**
PDAR	**Pinedale Array**	**110.19**	**44**	Pdiff	**Pdif**	**09 09 10.4**	**+7.5**
	comp=Z,0.5nm,0.9s,baz=197,slow=1.5,SNR=4.9						
PDAR				PKiKP	**PKiKP**	**09 13 03.4**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=202,slow=1.6,SNR=7.2						
PDAR				PKKPbc	**PKKPbc**	**09 24 04.9**	**-2.0**
	comp=Z,2.1nm,0.9s,baz=112,slow=4.6,SNR=11						
Q16A	**Castle Valley**	**110.20**	**48**	PKiKP	**PKiKP**	**09 13 04.4**	**0.0**
	baz=110						
Q16A	**Castle Valley**	**110.20**	**48**	PKiKP	**PKiKP**	**09 13 04.4**	**0.0**
	baz=110						
G20A	**Bridger**	**110.27**	**41**	PKiKP	**PKiKP**	**09 13 04.6**	**+0.4**
	baz=110						
G20A	**Bridger**	**110.27**	**41**	PKiKP	**PKiKP**	**09 13 04.6**	**+0.4**
	baz=110						
GRF	**Grafenberg Arr**	**110.34**	**324**	*e*PP	PP	09 13 43.4	+4.6
GRF				*e*L	L	10 04 14.9	
	comp=Z,4μm,20.9s						
TIP	**Timpagrande**	**110.37**	**312**	PFAKE		09 13 10.0	
TIP				LR	LR		
	comp=Z,527nm,22.0s						
J19A	**Crowheart**	**110.38**	**43**	PKiKP	**PKiKP**	**09 13 04.6**	**+0.1**
	baz=110						
J19A	**Crowheart**	**110.38**	**43**	PKiKP	**PKiKP**	**09 13 04.6**	**+0.1**
	baz=110						
UBBA	**Unterbreizbach**	**110.56**	**325**	*e*Pdiff	**Pdif**	**09 09 04.7**	**+0.8**
	comp=Z,27nm,1.7s						
UBBA				*e*PP	**PP**	**09 13 44.5**	**+4.3**
SRU	**San Rafael**	**110.63**	**48**	*e*PKIKP	**PKiKP**	**09 13 04.3**	**-0.9**
SRU	**San Rafael**	**110.63**	**48**	*e*PKPdf	**PKiKP**	**09 13 04.3**	**-0.9**
K19A	**Absolon Red Bu**	**110.67**	**44**	PKiKP	**PKiKP**	**09 13 04.5**	**-0.6**
	baz=111						
K19A	**Absolon Red Bu**	**110.67**	**44**	PKiKP	**PKiKP**	**09 13 04.5**	**-0.6**
	baz=111						
H20A	**Greybull**	**110.67**	**42**	PKiKP	**PKiKP**	**09 13 04.8**	**-0.2**
	baz=111						
H20A	**Greybull**	**110.67**	**42**	PKiKP	**PKiKP**	**09 13 04.8**	**-0.2**
	baz=111						
214A	**Organ Pipe Nat**	**110.67**	**56**	PKiKP	**PKiKP**	**09 13 05.8**	**+0.6**
	baz=111						
214A	**Organ Pipe Nat**	**110.67**	**56**	PKiKP	**PKiKP**	**09 13 05.8**	**+0.6**
	baz=111						
ABTA	**Abfaltersbach**	**110.74**	**321**	⇑*i*PKiKP	**PKiKP**	**09 13 02.8**	**-2.2**
	comp=Z,7.1nm,1.0s						
I20A	**Worland**	**110.77**	**43**	PKiKP	**PKiKP**	**09 13 05.6**	**+0.4**
	baz=111						
I20A	**Worland**	**110.77**	**43**	PKiKP	**PKiKP**	**09 13 05.6**	**+0.4**
	baz=111						
C22A	**Vida**	**110.79**	**38**	PKiKP	**PKiKP**	**09 13 05.4**	**+0.4**
	baz=111						
C22A	**Vida**	**110.79**	**38**	PKiKP	**PKiKP**	**09 13 05.4**	**+0.4**
	baz=111						
CUC	**Castrocucco**	**110.82**	**313**	PFAKE		09 13 20.0	
CUC				LR	LR		
	comp=Z,1μm,20.0s						
D22A	**Cohagen**	**110.85**	**39**	PKiKP	**PKiKP**	**09 13 05.8**	**+0.7**
	baz=111						
D22A	**Cohagen**	**110.85**	**39**	PKiKP	**PKiKP**	**09 13 05.8**	**+0.7**
	baz=111						
WUAZ	**Wupatki**	**110.97**	**52**	*e*Pdif	**Pdif**	**09 09 06.9**	**+0.4**
WUAZ				PKPdf	PKiKP	09 12 55.9	-10
WUAZ				LR	LR		
	comp=Z,4μm,20.0s						
J20A	**Shoshoni**	**111.01**	**43**	PKiKP	**PKiKP**	**09 13 05.4**	**-0.3**
	baz=111						
J20A	**Shoshoni**	**111.01**	**43**	PKiKP	**PKiKP**	**09 13 05.4**	**-0.3**
	baz=111						
K20A	**Yellowstone Ra**	**111.07**	**44**	PKiKP	**PKiKP**	**09 13 06.0**	**+0.1**
	baz=111						
K20A	**Yellowstone Ra**	**111.07**	**44**	PKiKP	**PKiKP**	**09 13 06.0**	**+0.1**
	baz=111						
WTTA	**Wattenberg**	**111.08**	**321**	⇑*i*PKiKP	**PKiKP**	**09 13 05.9**	**+0.1**
	comp=Z,15nm,1.0s						
C23A	**Lambert**	**111.20**	**38**	PKiKP	**PKiKP**	**09 13 06.0**	**+0.2**
	baz=111						
C23A	**Lambert**	**111.20**	**38**	PKiKP	**PKiKP**	**09 13 06.0**	**+0.2**
	baz=111						
E22A	**Miles City**	**111.28**	**39**	PKiKP	**PKiKP**	**09 13 06.5**	**+0.6**
	baz=111						
E22A	**Miles City**	**111.28**	**39**	PKiKP	**PKiKP**	**09 13 06.5**	**+0.6**
	baz=111						
CEL	**Celeste**	**111.28**	**311**	PFAKE		09 13 20.0	
CEL				LR	LR		
	comp=Z,1μm,20.0s						
O19A	**Miners Draw (B**	**111.30**	**46**	PKiKP	**PKiKP**	**09 13 06.2**	**-0.1**
	baz=111						
O19A	**Miners Draw (B**	**111.30**	**46**	PKiKP	**PKiKP**	**09 13 06.2**	**-0.1**
	baz=111						
MOTA	**Moosalm**	**111.38**	**322**	⇑*i*PKiKP	**PKiKP**	**09 13 05.3**	**-0.9**
	comp=Z,6.5nm,0.7s						
I21A	**Big Trails, Te**	**111.39**	**42**	PKiKP	**PKiKP**	**09 13 06.3**	**-0.1**
	baz=111						
I21A	**Big Trails, Te**	**111.39**	**42**	PKiKP	**PKiKP**	**09 13 06.3**	**-0.1**
	baz=111						
D23A	**Lindsay**	**111.45**	**39**	PKiKP	**PKiKP**	**09 13 06.5**	**+0.3**
	baz=111						
D23A	**Lindsay**	**111.45**	**39**	PKiKP	**PKiKP**	**09 13 06.5**	**+0.3**
	baz=111						
J21A	**Lysite**	**111.45**	**43**	PKiKP	**PKiKP**	**09 13 06.7**	**+0.1**
	baz=111						
J21A	**Lysite**	**111.45**	**43**	PKiKP	**PKiKP**	**09 13 06.7**	**+0.1**
	baz=111						
DGMT	**Dagmar**	**111.52**	**37**	PFAKE		09 13 20.0	
DGMT				LR	LR		
	comp=Z,3μm,22.0s						
E23A	**Ismay**	**111.66**	**39**	PKiKP	**PKiKP**	**09 13 07.3**	**+0.6**
	baz=112						
E23A	**Ismay**	**111.66**	**39**	PKiKP	**PKiKP**	**09 13 07.3**	**+0.6**
	baz=112						
TNS	**Taunus Mts**	**111.71**	**325**	*e*PP	PP	09 13 53.1	+4.4
N20A	**Spence Gulch,**	**111.74**	**46**	PKiKP	**PKiKP**	**09 13 07.7**	**+0.5**
	baz=112						
N20A	**Spence Gulch,**	**111.74**	**46**	PKiKP	**PKiKP**	**09 13 07.7**	**+0.5**
	baz=112						
AQU	**L'Aquila**	**111.77**	**316**	PFAKE		09 13 20.0	
AQU				LR	LR		
	comp=Z,2μm,22.0s						
C24A	**Savage**	**111.78**	**38**	PKiKP	**PKiKP**	**09 13 07.5**	**+0.6**
	baz=112						
C24A	**Savage**	**111.78**	**38**	PKiKP	**PKiKP**	**09 13 07.5**	**+0.6**
	baz=112						
BUG	**Bochum--Univer**	**111.79**	**327**	*e*PP	PP	09 13 53.4	+4.3
K21A	**Alcova**	**111.84**	**44**	PKiKP	**PKiKP**	**09 13 07.7**	**+0.4**
	baz=112						
K21A	**Alcova**	**111.84**	**44**	PKiKP	**PKiKP**	**09 13 07.7**	**+0.4**
	baz=112						
F23A	**Volborg**	**111.91**	**40**	PKiKP	**PKiKP**	**09 13 07.0**	**-0.2**
	baz=112						
F23A	**Volborg**	**111.91**	**40**	PKiKP	**PKi

D25A	Fairfield	112.62	38	PKiKP	PKiKP	09 13 08.8	+0.3
	baz=113						
D25A	Fairfield	112.62	38	PKiKP	PKiKP	09 13 08.8	+0.3
	baz=113						
BFO	Black Forest	112.64	323	PFAKE		09 13 20.0	
BFO				LR	LR		
	comp=Z,3μm,19.0s						
MVCO	Mesa Verde	112.72	49	*e*PKPdf	PKiKP	09 13 09.7	+0.5
MVCO				LR	LR		
	comp=Z,4μm,19.0s						
M22A	Cedar Creek Ra	112.73	45	PKiKP	PKiKP	09 13 08.7	-0.5
	baz=113						
M22A	Cedar Creek Ra	112.73	45	PKiKP	PKiKP	09 13 08.7	-0.5
	baz=113						
TUE	Stuetta	112.84	321	*e*PKPdf	PKiKP	09 13 08.4	-0.7
TUE				LR	LR		
	comp=Z,4μm,19.0s						
H24A	Dirks Ranch, A	112.85	41	PKiKP	PKiKP	09 13 08.8	-0.2
	baz=113						
H24A	Dirks Ranch, A	112.85	41	PKiKP	PKiKP	09 13 08.8	-0.2
	baz=113						
E25A	Miller Ranch,	112.85	39	PKiKP	PKiKP	09 13 09.6	+0.6
	baz=113						
E25A	Miller Ranch,	112.85	39	PKiKP	PKiKP	09 13 09.6	+0.6
	baz=113						
WDD	Wield Dalam	113.03	309	PFAKE		09 13 20.0	
WDD				LR	LR		
	comp=Z,867nm,22.0s						
N22A	Wattenberg Ran	113.04	45	PKiKP	PKiKP	09 13 10.4	+0.6
	baz=113						
N22A	Wattenberg Ran	113.04	45	PKiKP	PKiKP	09 13 10.4	+0.6
	baz=113						
VLC	Villacollemand	113.13	319	PFAKE		09 13 20.0	
VLC				LR	LR		
	comp=Z,3μm,20.0s						
BORG	Borgarnes	113.17	348	PFAKE		09 13 20.0	
BORG				LR	LR		
	comp=Z,2μm,21.0s						
SMCO	Snowmass	113.23	47	*e*PKPdf	PKiKP	09 13 10.6	+0.2
WLF	Walferdange	113.28	326	P	Pdif	09 09 17.2	+1.1
WLF	Walferdange	113.28	326	*e*Pdiff	Pdif	09 09 17.7	+1.5
	comp=Z,69nm,2.1s						
WLF	Walferdange	113.28	326	PFAKE		09 13 20.0	
WLF				LR	LR		
	comp=Z,4μm,19.0s						
ECH	Echery	113.39	324	PFAKE		09 13 20.0	
ECH				LR	LR		
	comp=Z,3μm,19.0s						
RSSD	Black Hills	113.44	41	*e*PKiKP	PKiKP	09 13 10.1	-0.3
RSSD	Black Hills	113.44	41	*e*PKPdf	PKiKP	09 13 10.1	-0.3
E26A	Carlson Angus	113.45	38	PKiKP	PKiKP	09 13 09.7	-0.4
	baz=113						
E26A	Carlson Angus	113.45	38	PKiKP	PKiKP	09 13 09.7	-0.4
	baz=113						
SFJD	Kangerlussuaq	113.55	2	*i* P	Pdif	09 09 14.1	-2.8
	comp=Z,4.9nm,0.7s						
SFJD				*i*		09 14 02.0	
SFJD				*i*		09 21 44.6	
SFJD							
	comp=Z,1μm,18.0s						
SFJD	Kangerlussuaq	113.55	2	PFAKE		09 13 20.0	
SFJD				LR	LR		
	comp=Z,2μm,22.0s						
F26A	Lodgepole	113.59	39	PKiKP	PKiKP	09 13 10.3	-0.1
	baz=114						
F26A	Lodgepole	113.59	39	PKiKP	PKiKP	09 13 10.3	-0.1
	baz=114						
I25A	Rochford	113.68	41	PKiKP	PKiKP	09 13 10.8	0.0
	baz=114						
I25A	Rochford	113.68	41	PKiKP	PKiKP	09 13 10.8	0.0
	baz=114						
TSUM	Tsumeb	113.72	249	PFAKE		09 13 20.0	
TSUM				LR	LR		
	comp=Z,2μm,20.0s						
PMSA	Palmer Station	113.75	172	PFAKE		09 13 20.0	
PMSA				LR	LR		
	comp=Z,3μm,20.0s						
HINF	Hinteralfeld	113.76	323	*e*PKiKP	PKiKP	09 13 09.8	-0.8
	comp=Z,13nm,1.0s						
GIVF	Givet	113.80	326	*e*PKiKP	PKiKP	09 13 11.4	+0.8
G26A	Maurine	113.88	40	PKiKP	PKiKP	09 13 11.0	0.0
	baz=114						
G26A	Maurine	113.88	40	PKiKP	PKiKP	09 13 11.0	0.0
	baz=114						
J25A	Sunshine Ranch	113.89	42	PKiKP	PKiKP	09 13 10.8	-0.3
	baz=114						
J25A	Sunshine Ranch	113.89	42	PKiKP	PKiKP	09 13 10.8	-0.3
	baz=114						
HAU	Haudompre	113.97	324	*e*PKiKP	PKiKP	09 13 10.4	-0.6
F27A	Lemmon	113.99	39	PKiKP	PKiKP	09 13 11.0	-0.2
	baz=114						
F27A	Lemmon	113.99	39	PKiKP	PKiKP	09 13 11.0	-0.2
	baz=114						
ISCO	Idaho Springs	114.00	46	*e*PKiKP	PKiKP	09 13 12.3	+0.6
ISCO				MLR	MLR		
	comp=Z,3μm,20.0s						
ISCO	Idaho Springs	114.00	46	*e*PKPdf	PKiKP	09 13 12.3	+0.6
ISCO				LR	LR		
	comp=Z,3μm,20.0s						
ISCO	Idaho Springs	114.00	46	PKiKP	PKiKP	09 13 12.2	+0.5
	baz=114						
ISCO	Idaho Springs	114.00	46	PKiKP	PKiKP	09 13 12.2	+0.5
	baz=114						
E27A	Carson	114.03	38	PKiKP	PKiKP	09 13 11.6	+0.4
	baz=114						
E27A	Carson	114.03	38	PKiKP	PKiKP	09 13 11.6	+0.4
	baz=114						
H26A	Fairpoint	114.06	40	PKiKP	PKPdf	09 13 11.3	0.0
	baz=114						
H26A	Fairpoint	114.06	40	PKiKP	PKPdf	09 13 11.3	0.0
	baz=114						
PAGF	Fort de Pagny	114.07	325	*e*PKiKP	PKPdf	09 13 10.7	-0.4
X21A	Alamocita Cree	114.10	52	PKiKP	PKiKP	09 13 12.5	+0.6
	baz=114						
X21A	Alamocita Cree	114.10	52	PKiKP	PKiKP	09 13 12.5	+0.6
	baz=114						
BAIF	Baives	114.17	327	*e*PKiKP	PKPdf	09 13 11.2	-0.1
	comp=Z,20nm,1.1s						
U22A	Llaves	114.23	50	PKiKP	PKiKP	09 13 13.3	+1.2
	baz=114						
U22A	Llaves	114.23	50	PKiKP	PKiKP	09 13 13.3	+1.2
	baz=114						
G27A	Dupree	114.27	39	PKiKP	PKPdf	09 13 11.5	-0.2
	baz=114						
G27A	Dupree	114.27	39	PKiKP	PKPdf	09 13 11.5	-0.2
	baz=114						
Y21A	Point of Rocks	114.32	53	PKiKP	PKiKP	09 13 13.5	+1.1
	baz=114						
Y21A	Point of Rocks	114.32	53	PKiKP	PKiKP	09 13 13.5	+1.1
	baz=114						
V22A	San Miguel Ran	114.34	50	PKiKP	PKiKP	09 13 12.8	+0.4
	baz=114						
V22A	San Miguel Ran	114.34	50	PKiKP	PKiKP	09 13 12.8	+0.4
	baz=114						
320A	Kipp Ranch, An	114.37	56	PKiKP	PKiKP	09 13 13.5	+1.1
	baz=114						
320A	Kipp Ranch, An	114.37	56	PKiKP	PKiKP	09 13 13.5	+1.1
	baz=114						
J26A	Sides Ranch, S	114.41	42	PKiKP	PKiKP	09 13 12.2	+0.1
	baz=114						
J26A	Sides Ranch, S	114.41	42	PKiKP	PKiKP	09 13 12.2	+0.1
	baz=114						
R23A	Moffat	114.41	48	PKiKP	PKiKP	09 13 13.5	+1.0
	baz=114						
R23A	Moffat	114.41	48	PKiKP	PKiKP	09 13 13.5	+1.0
	baz=114						
H27A	Howes	114.50	40	PKiKP	PKiKP	09 13 12.1	-0.1
	baz=114						
H27A	Howes	114.50	40	PKiKP	PKiKP	09 13 12.1	-0.1
	baz=114						
Z21A	St. Cloud Mine	114.52	53	PKiKP	PKiKP	09 13 13.9	+1.1
	baz=114						
Z21A	St. Cloud Mine	114.52	53	PKiKP	PKiKP	09 13 13.9	+1.1
	baz=114						
MDND	Maddock	114.54	36	PKiKP	PKPdf	09 13 12.1	0.0
	baz=114						
MDND	Maddock	114.54	36	PKiKP	PKPdf	09 13 12.1	0.0
	baz=114						
K26A	Motz Farm, Whi	114.59	42	PKiKP	PKiKP	09 13 12.3	-0.1
	baz=115						
K26A	Motz Farm, Whi	114.59	42	PKiKP	PKiKP	09 13 12.3	-0.1
	baz=115						
LAZ	Ladron	114.62	52	*e*PKPdf	PKPdf	09 13 13.1	+0.2
T23A	Casias Ranch,	114.64	49	PKiKP	PKiKP	09 13 14.2	+1.2
	baz=115						
T23A	Casias Ranch,	114.64	49	PKiKP	PKiKP	09 13 14.2	+1.2
	baz=115						
121A	Cookes Peak, D	114.65	54	PKiKP	PKiKP	09 13 14.0	+1.0
	baz=115						
121A	Cookes Peak, D	114.65	54	PKiKP	PKiKP	09 13 14.0	+1.0
	baz=115						
X22A	Bernardo	114.69	52	PKiKP	PKiKP	09 13 14.8	+1.9
	baz=115						
X22A	Bernardo	114.69	52	PKiKP	PKiKP	09 13 14.8	+1.9
	baz=115						
PGF	Pioggiola	114.71	318	*e*PKIKP	PKPdf	09 13 11.9	-0.8
	comp=Z,34nm,1.3s						
ESK	Eskdalemuir	114.75	334	PFAKE		09 13 20.0	+7.8
ESK				LR	LR		
	comp=Z,3μm,20.0s						
U23A	El Rito	114.76	50	PKiKP	PKiKP	09 13 13.7	+0.5
	baz=115						
U23A	El Rito	114.76	50	PKiKP	PKiKP	09 13 13.7	+0.5
	baz=115						
I27A	Quinn	114.76	41	PKiKP	PKiKP	09 13 12.5	-0.2
	baz=115						
I27A	Quinn	114.76	41	PKiKP	PKiKP	09 13 12.5	-0.2
	baz=115						
CABF	La Chapelle	114.79	323	*e*PKIKP	PKPdf	09 13 12.5	-0.2
	comp=Z,29nm,1.2s						
SDCO	Great Sand Dun	114.80	48	*e*PKPdf	PKPdf	09 13 13.7	+0.5
SDCO				LR	LR		
	comp=Z,5μm,20.0s						
LPG	La Plagne	114.90	321	*e*PKIKP	PKPdf	09 13 12.0	-1.2
	comp=Z,15nm,0.8s						
LPL	La Plagne	114.90	321	*e*PKIKP	PKPdf	09 13 11.8	-1.3
	comp=Z,12nm,0.8s						
Y22A	Socorro	114.90	52	PKiKP	PKPdf	09 13 14.5	+1.1
	baz=115						
Y22A	Socorro	114.90	52	PKiKP	PKPdf	09 13 14.5	+1.1
	baz=115						
R24A	Sanders Place,	114.92	47	PKiKP	PKPdf	09 13 14.3	+0.9
	baz=115						
R24A	Sanders Place,	114.92	47	PKiKP	PKPdf	09 13 14.3	+0.9
	baz=115						
V23A	Ortiz Mt. (NFS	114.95	50	PKiKP	PKPdf	09 13 15.3	+1.8
	baz=115						
V23A	Ortiz Mt. (NFS	114.95	50	PKiKP	PKPdf	09 13 15.3	+1.8
	baz=115						
ANMO	Albuquerque	114.99	51	*e*PKPdf	PKPdf	09 13 14.5	+0.9
ANMO				LR	LR		
	comp=Z,4μm,20.0s						
ANMO	Albuquerque	114.99	51	PKP	PKPdf	09 13 14.6	+1.0
	comp=Z,9.5nm,1.0s,baz=212,slow=2.7,SNR=27						
G28A	Parade	115.04	39	PKiKP	PKPdf	09 13 13.2	0.0
	baz=115						
G28A	Parade	115.04	39	PKiKP	PKPdf	09 13 13.2	0.0
	baz=115						
LPM	Los Pinos Moun	115.05	52	*e*PKPdf	PKPdf	09 13 14.6	+0.9
S24A	Houchin Ranch,	115.05	48	PKiKP	PKPdf	09 13 15.3	+1.5
	baz=115						
S24A	Houchin Ranch,	115.05	48	PKiKP	PKPdf	09 13 15.3	+1.5
	baz=115						
BNM	Barren Site	115.10	52	*e*PKPdf	PKPdf	09 13 14.8	+0.9
Z22A	Elephant Butte	115.10	53	PKiKP	PKPdf	09 13 14.7	+0.9
	baz=115						
Z22A	Elephant Butte	115.10	53	PKiKP	PKPdf	09 13 14.7	+0.9
	baz=115						
J27A	Elkhorn Farm,	115.14	41	PKiKP	PKPdf	09 13 14.6	+1.1
	baz=115						
J27A	Elkhorn Farm,	115.14	41	PKiKP	PKPdf	09 13 14.6	+1.1
	baz=115						
P25A	Willow Gulch B	115.14	46	PKiKP	PKPdf	09 13 14.3	+0.5
	baz=115						
P25A	Willow Gulch B	115.14	46	PKiKP	PKPdf	09 13 14.3	+0.5
	baz=115						
BNI	Bardonecchia	115.15	321	PFAKE		09 13 20.0	+6.5
BNI				LR	LR		
	comp=Z,3μm,21.0s						
H28A	Mission Ridge	115.16	40	PKiKP	PKiKP	09 13 13.4	0.0
	baz=115						
H28A	Mission Ridge	115.16	40	PKiKP	PKiKP	09 13 13.4	0.0
	baz=115						
W23A	Werner Place,	115.16	51	PKiKP	PKPdf	09 13 15.1	+1.1
	baz=115						
W23A	Werner Place,	115.16	51	PKiKP	PKPdf	09 13 15.1	+1.1
	baz=115						
K27A	Flueckinger Fa	115.22	42	PKiKP	PKiKP	09 13 13.5	-0.2
	baz=115						
K27A	Flueckinger Fa	115.22	42	PKiKP	PKiKP	09 13 13.5	-0.2
	baz=115						
122A	Conniff Cattle	115.24	54	PKiKP	PKPdf	09 13 15.6	+1.5
	baz=115						
122A	Conniff Cattle	115.24	54	PKiKP	PKPdf	09 13 15.6	+1.5
	baz=115						
Q25A	Bedland, Calha	115.31	47	PKiKP	PKiKP	09 13 14.1	0.0
	baz=115						
Q25A	Bedland, Calha	115.31	47	PKiKP	PKiKP	09 13 14.1	0.0
	baz=115						
X23A	Hourglass Bar	115.32	52	PKiKP	PKPdf	09 13 14.9	+0.6
	baz=115						
X23A	Hourglass Bar	115.32	52	PKiKP	PKPdf	09 13 14.9	+0.6
	baz=115						
222A	Williams Famil	115.33	54	PKiKP	PKPdf	09 13 15.1	+0.9
	baz=115						
222A	Williams Famil	115.33	54	PKiKP	PKPdf	09 13 15.1	+0.9
	baz=115						
I28A	Midland	115.36	40	PKiKP	PKiKP	09 13 13.7	-0.1
	baz=115						
I28A	Midland	115.36	40	PKiKP	PKiKP	09 13 13.7	-0.1
	baz=115						
ULM	Lac du Bonnet	115.38	32	PKP	PKPdf	09 13 13.2	-0.3
ULM				PKKPbc	PKKPab	09 23 52.4	-1.4
ULM	Lac du Bonnet	115.38	32	PKP	PKPdf	09 13 13.2	-0.3
	comp=Z,4.7nm,0.9s,baz=340,slow=4.5,SNR=4.5						
ULM				PKKPbc	PKKPab	09 23 52.4	-1.4
	comp=Z,15nm,0.8s,baz=126,slow=3.0,SNR=18						
U24A	Moreno Valley	115.42	49	PKiKP	PKPdf	09 13 16.2	+1.7
	baz=115						
U24A	Moreno Valley	115.42	49	PKiKP	PKPdf	09 13 16.2	+1.7
	baz=115						
R25A	Fountain Ranch	115.56	47	PKiKP	PKPdf	09 13 14.9	+0.4
	baz=116						
R25A	Fountain Ranch	115.56	47	PKiKP	PKPdf	09 13 14.9	+0.4
	baz=116						
J28A	Allard Ranch,	115.57	41	PKiKP	PKiKP	09 13 14.1	-0.1
	baz=116						
J28A	Allard Ranch,	115.57	41	PKiKP	PKiKP	09 13 14.1	-0.1
	baz=116						
Y23A	Lovelace Mesa,	115.62	52	PKiKP	PKiKP	09 13 15.6	+0.8
	baz=116						
Y23A	Lovelace Mesa,	115.62	52	PKiKP	PKiKP	09 13 15.6	+0.8
	baz=116						
S25A	Robets Cordova	115.62	48	PKiKP	PKPdf	09 13 15.5	+0.8
	baz=116						
S25A	Robets Cordova	115.62	48	PKiKP	PKPdf	09 13 15.5	+0.8
	baz=116						
VSL	Villasalto	115.65	314	PFAKE		09 13 20.0	+5.5
VSL				LR	LR		
	comp=Z,971nm,19.0s						
V24A	Rampart Ranch,	115.66	50	PKiKP	PKPdf	09 13 16.7	+1.8
	baz=116						
V24A	Rampart Ranch,	115.66	50	PKiKP	PKPdf	09 13 16.7	+1.8
	baz=116						
Z23A	Rita Site, Whi	115.69	53	PKiKP	PKiKP	09 13 16.4	+1.5
	baz=116						
Z23A	Rita Site, Whi	115.69	53	PKiKP	PKiKP	09 13 16.4	+1.5
	baz=116						
ORIF	Oris-en-Rattie	115.71	321	*e*PKIKP	PKPdf	09 13 14.0	-0.5
P26A	Davis Ranch, A	115.71	46	PKiKP	PKPdf	09 13 15.1	+0.3
	baz=116						
P26A	Davis Ranch, A	115.71	46	PKiKP	PKPdf	09 13 15.1	+0.3
	baz=116						
W24A	Lazy 6 Ranch,	115.72	51	PKiKP	PKiKP	09 13 15.9	+0.9
	baz=116						
W24A	Lazy 6 Ranch,	115.72	51	PKiKP	PKiKP	09 13 15.9	+0.9
	baz=116						
K28A	Ten Mile Ranch	115.80	42	PKiKP	PKPdf	09 13 14.8	0.0
	baz=116						
K28A	Ten Mile Ranch	115.80	42	PKiKP	PKPdf	09 13 14.8	0.0
	baz=116						
N27A	Anderson Farm,	115.80	44	PKiKP	PKiKP	09 13 14.8	-0.1
	baz=116						
N27A	Anderson Farm,	115.80	44	PKiKP	PKiKP	09 13 14.8	-0.1
	baz=116						
LOR	Lormes	115.80	324	*e*PKIKP	PKPdf	09 13 14.1	-0.4
	comp=Z,23nm,1.4s						
T25A	Trinidad	115.83	48	PKiKP	PKiKP	09 13 15.9	+0.7
	baz=116						
T25A	Trinidad	115.83	48	PKiKP	PKiKP	09 13 15.9	+0.7
	baz=116						
Q26A	Hugo	115.83	46	PKiKP	PKiKP	09 13 16.1	+1.1
	baz=116						
Q26A	Hugo	115.83	46	PKiKP	PKiKP	09 13 16.1	+1.1
	baz=116						
X24A	Lazy VL Ranch,	115.91	51	PKiKP	PKiKP	09 13 15.9	+0.5
	baz=116						
X24A	Lazy VL Ranch,	115.91	51	PKiKP	PKiKP	09 13 15.9	+0.5
	baz=116						
O27A	Beecher Island	116.08	45	PKiKP	PKPdf	09 13 15.3	-0.1
	baz=116						
O27A	Beecher Island	116.08	45	PKiKP	PKPdf	09 13 15.3	-0.1
	baz=116						
OGNE	Ogallala	116.09	44	PFAKE		09 13 30.0	+15
OGNE				LR	LR		
	comp=Z,2μm,22.0s						
U25A	Circle Dot Ran	116.09	49	PKiKP	PKiKP	09 13 15.9	+0.2
	baz=116						
U25A	Circle Dot Ran	116.09	49	PKiKP	PKiKP	09 13 15.9	+0.2
	baz=116						
SSF	Saint Saulge	116.11	324	*e*PKIKP	PKPdf	09 13 14.9	-0.2
	comp=Z,33nm,1.4s						
Y24A	Capitan	116.11	52	PKiKP	PKiKP	09 13 16.2	+0.4
	baz=116						
Y24A	Capitan	116.11	52	PKiKP	PKiKP	09 13 16.2	+0.4
	baz=116						
R26A	Arlington	116.12	47	PKiKP	PKiKP	09 13 15.8	+0.2
	baz=116						
R26A	Arlington	116.12	47	PKiKP	PKiKP	09 13 15.8	+0.2
	baz=116						
V25A	Rancho No Teng	116.12	50	PKiKP	PKiKP	09 13 16.2	+0.5
	baz=116						
V25A	Rancho No Teng	116.12	50	PKiKP	PKiKP	09 13 16.2	+0.5
	baz=116						
SMF	Signal de Mont	116.12	323	*e*PKIKP	PKPdf	09 13 14.5	-0.7
P27A	Ficken Ranch,	116.26	45	PKiKP	PKiKP	09 13 16.4	+0.6
	baz=116						
P27A	Ficken Ranch,	116.26	45	PKiKP	PKiKP	09 13 16.4	+0.6
	baz=116						
AVF	Avril sur Loir	116.34	324	*e*PKIKP	PKPdf	09 13 14.6	-0.9
S26A	Kim	116.35	48	PKiKP	PKiKP	09 13 16.6	+0.5
	baz=116						
S26A	Kim	116.35	48	PKiKP	PKiKP	09 13 16.6	+0.5
	baz=116						
Z24A	Sheeppen Canyo	116.36	53	PKiKP	PKiKP	09 13 16.9	+0.6
	baz=116						
Z24A	Sheeppen Canyo	116.36	53	PKiKP	PKiKP	09 13 16.9	+0.6
	baz=116						
SSB	Saint Sauveur	116.37	322	PFAKE		09 13 30.0	+14
SSB				LR	LR		
	comp=Z,2μm,19.0s						
T26A	Comanche Natio	116.42	48	PKiKP	PKiKP	09 13 17.0	+0.7
	baz=116						
T26A	Comanche Natio	116.42	48	PKiKP	PKiKP	09 13 17.0	+0.7
	baz=116						
KSCO	Kaye Shedlock'	116.44	46	PKiKP	PKiKP	09 13 16.8	+0.6
	baz=116						
KSCO	Kaye Shedlock'	116.44	46	PKiKP	PKiKP	09 13 16.8	+0.6
	baz=116						
W25A	X Bar L Ranch,	116.45	50	PKiKP	PKiKP	09 13 17.0	+0.6
	baz=116						
W25A	X Bar L Ranch,	116.45	50	PKiKP	PKiKP	09 13 17.0	+0.6
	baz=116						
AGMN	Agassiz Nation	116.46	34	PFAKE		09 13 30.0	+14
AGMN				LR	LR		
	comp=Z,5μm,22.0s						
K29A	Lazy Trails An	116.47	41	PKiKP	PKPdf	09 13 16.0	0.0
	baz=116						
K29A	Lazy Trails An	116.47	41	PKiKP	PKPdf	09 13 16.0	0.0
	baz=116						
124A	Stringfield Ra	116.48	53	PKiKP	PKiKP	09 13 17.1	+0.6
	baz=116						
124A	Stringfield Ra	116.48	53	PKiKP	PKiKP	09 13 17.1	+0.6
	baz=116						
VIVF	Saint-Julien-l	116.50	321	*e*PKIKP	PKPdf	09 13 14.4	-1.6
	comp=Z,17nm,1.0s						
N28A	Pribbeno Ranch	116.53	44	PKiKP	PKiKP	09 13 16.5	+0.3
	baz=116						
N28A	Pribbeno Ranch	116.53	44	PKiKP	PKiKP	09 13 16.5	+0.3
	baz=116						
U26A	Atchley Ranch,	116.59	49	PKiKP	PKiKP	09 13 17.4	+0.8
	baz=117						
U26A	Atchley Ranch,	116.59	49	PKiKP	PKiKP	09 13 17.4	+0.8
	baz=117						
R27A	Eads	116.60	47	PKiKP	PKiKP	09 13 17.3	+0.8
	baz=117						
R27A	Eads	116.60	47	PKiKP	PKiKP	09 13 17.3	+0.8
	baz=117						
224A	Cornudas Mount	116.61	54	PKiKP	PKiKP	09 13 17.5	+0.8
	baz=117						
224A	Cornudas Mount	116.61	54	PKiKP	PKiKP	09 13 17.5	+0.8
	baz=117						
L29A	Maesberg Ranch	116.67	42	PKiKP	PKPdf	09 13 16.3	-0.2
	baz=117						
L29A	Maesberg Ranch	116.67	42	PKiKP	PKPdf	09 13 16.3	-0.2
	baz=117						
Y25A	Mesa, Roswell	116.70	52	PKiKP	PKiKP	09 13 17.5	+0.7
	baz=117						
Y25A	Mesa, Roswell	116.70	52	PKiKP	PKiKP	09 13 17.5	+0.7
	baz=117						
BGF	Bois d'Agland	116.76	324	*e*PKIKP	PKPdf	09 13 16.1	-0.3
	comp=Z,46nm,1.2s						
V26A	Tequesquite Ra	116.77	50	PKiKP	PKiKP	09 13 17.4	+0.5
	baz=117						
V26A	Tequesquite Ra	116.77	50	PKiKP	PKiKP	09 13 17.4	+0.5
	baz=117						
M29A	Burnside Ranch	116.80	43	PKiKP	PKiKP	09 13 16.8	0.0
	baz=117						
M29A	Burnside Ranch	116.80	43	PKiKP	PKiKP	09 13 16.8	0.0
	baz=117						
324A	Moseley Ranch,	116.84	55	PKiKP	PKiKP	09 13 17.6	+0.4
	baz=117						
324A	Moseley Ranch,	116.84	55	PKiKP	PKiKP	09 13 17.6	+0.4
	baz=117						
P28A	Saint Francis	116.84	45	PKiKP	PKiKP	09 13 17.1	+0.2
	baz=117						
P28A	Saint Francis	116.84	45	PKiKP	PKiKP	09 13 17.1	+0.2
	baz=117						
MNTX	Cornudas Mount	116.84	54	*e*PKPdf	PKPdf	09 13 17.4	+0.3
MNTX				LR	LR		
	comp=Z,3μm,20.0s						
Z25A	Roswell	116.89	53	PKiKP	PKiKP	09 13 17.9	+0.7
	baz=117						
Z25A	Roswell	116.89	53	PKiKP	PKiKP	09 13 17.9	+0.7
	baz=117						
Q28A	Sharon Springs	116.99	46	PKiKP	PKiKP	09 13 18.1	+0.9
	baz=117						
Q28A	Sharon Springs	116.99	46	PKiKP	PKiKP	09 13 18.1	+0.9
	baz=117						
W26A	Owens Ranch, T	117.03	50	PKiKP	PKiKP	09 13 17.9	+0.5
	baz=117						
W26A	Owens Ranch, T	117.03	50	PKiKP	PKiKP	09 13 17.9	+0.5
	baz=117						
N29A	Votaw Ranch, W	117.11	43	PKiKP	PKiKP	09 13 17.5	+0.2
	baz=117						
N29A	Votaw Ranch, W	117.11	43	PKiKP	PKiKP	09 13 17.5	+0.2
	baz=117						

P29A	Atwood	117.41	45	PKiKP	PKiKP	09 13 18.2	+0.2
	baz=117						
425A	Indio Mountain	117.44	55	PKiKP	PKiKP	09 13 18.8	+0.5
	baz=117						
425A	Indio Mountain	117.44	55	PKiKP	PKiKP	09 13 18.8	+0.5
	baz=117						
Z26A	Caprock	117.47	52	PKiKP	PKPdf	09 13 17.8	-0.5
	baz=118						
Z26A	Caprock	117.47	52	PKiKP	PKPdf	09 13 17.8	-0.5
	baz=118						
N30A	Hueftle Ranch,	117.48	43	PKiKP	PKiKP	09 13 18.3	+0.3
	baz=117						
N30A	Hueftle Ranch,	117.48	43	PKiKP	PKiKP	09 13 18.3	+0.3
	baz=117						
V27A	Dan Oppiter Fa	117.51	49	PKiKP	PKiKP	09 13 18.5	+0.2
	baz=118						
V27A	Dan Oppiter Fa	117.51	49	PKiKP	PKiKP	09 13 18.5	+0.2
	baz=118						
S28A	Manter	117.52	47	PKiKP	PKPdf	09 13 18.1	-0.1
	baz=118						
S28A	Manter	117.52	47	PKiKP	PKPdf	09 13 18.1	-0.1
	baz=118						
T28A	Walsh	117.54	48	PKiKP	PKPdf	09 13 18.2	-0.2
	baz=118						
T28A	Walsh	117.54	48	PKiKP	PKPdf	09 13 18.2	-0.2
	baz=118						
W27A	Bowe Ranch, En	117.58	50	PKiKP	PKiKP	09 13 18.8	+0.3
	baz=118						
W27A	Bowe Ranch, En	117.58	50	PKiKP	PKiKP	09 13 18.8	+0.3
	baz=118						
126A	Clayton Basin,	117.65	53	PKiKP	PKiKP	09 13 18.7	0.0
	baz=118						
126A	Clayton Basin,	117.65	53	PKiKP	PKiKP	09 13 18.7	0.0
	baz=118						
Q29A	Oakley	117.67	45	PKiKP	PKiKP	09 13 18.7	+0.2
	baz=118						
Q29A	Oakley	117.67	45	PKiKP	PKiKP	09 13 18.7	+0.2
	baz=118						
X27A	F and S Farms,	117.70	51	PKiKP	PKiKP	09 13 18.7	0.0
	baz=118						
X27A	F and S Farms,	117.70	51	PKiKP	PKiKP	09 13 18.7	0.0
	baz=118						
226B	Tecolote Peak,	117.71	54	PKiKP	PKiKP	09 13 18.8	0.0
	baz=118						
226B	Tecolote Peak,	117.71	54	PKiKP	PKiKP	09 13 18.8	0.0
	baz=118						
O30A	MW Ranch, Wils	117.78	44	PKiKP	PKiKP	09 13 18.8	+0.2
	baz=118						
O30A	MW Ranch, Wils	117.78	44	PKiKP	PKiKP	09 13 18.8	+0.2
	baz=118						
GRR	Gorron	117.86	327	*e*PKIKP	PKPdf	09 13 18.0	-0.4
Y27A	Causey	117.91	51	PKiKP	PKiKP	09 13 19.5	+0.4
	baz=118						
Y27A	Causey	117.91	51	PKiKP	PKiKP	09 13 19.5	+0.4
	baz=118						
P30A	Selden	117.91	44	PKiKP	PKiKP	09 13 19.1	+0.1
	baz=118						
P30A	Selden	117.91	44	PKiKP	PKiKP	09 13 19.1	+0.1
	baz=118						
Z27A	Tatum	118.06	52	PKiKP	PKiKP	09 13 19.8	+0.3
	baz=118						
Z27A	Tatum	118.06	52	PKiKP	PKiKP	09 13 19.8	+0.3
	baz=118						
CAF	Calviac	118.07	323	*e*PKIKP	PKPdf	09 13 17.9	-1.1
	comp=Z,23nm,1.3s						
S29A	Ulysses	118.08	47	PKiKP	PKiKP	09 13 19.8	+0.4
	baz=118						
S29A	Ulysses	118.08	47	PKiKP	PKiKP	09 13 19.8	+0.4
	baz=118						
326A	Caldwell Ranch	118.10	54	PKiKP	PKPdf	09 13 19.5	-0.1
	baz=118						
326A	Caldwell Ranch	118.10	54	PKiKP	PKPdf	09 13 19.5	-0.1
	baz=118						
T29A	Hugoton	118.13	47	PKiKP	PKPdf	09 13 19.4	0.0
	baz=118						
T29A	Hugoton	118.13	47	PKiKP	PKPdf	09 13 19.4	0.0
	baz=118						
127A	Arkansas Junct	118.16	53	PKiKP	PKiKP	09 13 20.0	+0.3
	baz=118						
127A	Arkansas Junct	118.16	53	PKiKP	PKiKP	09 13 20.0	+0.3
	baz=118						
W28A	Vega	118.17	50	PKiKP	PKPdf	09 13 19.3	-0.3
	baz=118						
W28A	Vega	118.17	50	PKiKP	PKPdf	09 13 19.3	-0.3
	baz=118						
Q30A	Quinter	118.17	45	PKiKP	PKiKP	09 13 19.6	+0.1
	baz=118						
Q30A	Quinter	118.17	45	PKiKP	PKiKP	09 13 19.6	+0.1
	baz=118						
MSTX	Muleshoe	118.19	51	PKiKP	PKiKP	09 13 20.0	+0.3
	baz=118						
MSTX	Muleshoe	118.19	51	PKiKP	PKiKP	09 13 20.0	+0.3
	baz=118						
426A	McDonald Obser	118.26	55	PKiKP	PKiKP	09 13 20.1	0.0
	baz=118						
426A	McDonald Obser	118.26	55	PKiKP	PKiKP	09 13 20.1	0.0
	baz=118						
ECSD	EROS Data Cent	118.39	39	*e*PKPdf	PKPdf	09 13 17.8	-1.9
ECSD				*e*PP	PP	09 14 34.1	-1.7
ECSD				LR	LR		
	comp=Z,3μm,19.0s						
526A	Mary Lane Ranc	118.39	56	PKiKP	PKiKP	09 13 20.4	+0.1
	baz=118						
526A	Mary Lane Ranc	118.39	56	PKiKP	PKiKP	09 13 20.4	+0.1
	baz=118						
R30A	Dighton	118.42	46	PKiKP	PKiKP	09 13 20.2	+0.3
	baz=118						
R30A	Dighton	118.42	46	PKiKP	PKiKP	09 13 20.2	+0.3
	baz=118						
227A	Bennet, Jal	118.43	53	PKiKP	PKiKP	09 13 21.0	+0.8
	baz=118						
227A	Bennet, Jal	118.43	53	PKiKP	PKiKP	09 13 21.0	+0.8
	baz=118						
X28A	Dimmitt	118.44	50	PKiKP	PKiKP	09 13 21.0	+0.8
	baz=118						
X28A	Dimmitt	118.44	50	PKiKP	PKiKP	09 13 21.0	+0.8
	baz=118						
V29A	Stinnett	118.46	49	PKiKP	PKiKP	09 13 20.8	+0.7
	baz=118						
V29A	Stinnett	118.46	49	PKiKP	PKiKP	09 13 20.8	+0.7
	baz=118						
MFF	Saint Martin d	118.48	325	*e*PKIKP	PKPdf	09 13 19.2	-0.5
	comp=Z,18nm,0.9s						
626A	Big Bend Ranch	118.51	56	PKiKP	PKPdf	09 13 20.2	-0.2
	baz=118						
626A	Big Bend Ranch	118.51	56	PKiKP	PKPdf	09 13 20.2	-0.2
	baz=118						
BGNE	Belgrade	118.52	42	PKiKP	PKPdf	09 13 19.4	-0.5
	baz=118						
BGNE	Belgrade	118.52	42	PKiKP	PKPdf	09 13 19.4	-0.5
	baz=118						
P31A	Stockton	118.53	44	PKiKP	PKPdf	09 13 19.5	-0.5
	baz=118						
P31A	Stockton	118.53	44	PKiKP	PKPdf	09 13 19.5	-0.5
	baz=118						
S30A	Montezuma	118.55	47	PKiKP	PKiKP	09 13 20.5	+0.3
	baz=118						
S30A	Montezuma	118.55	47	PKiKP	PKiKP	09 13 20.5	+0.3
	baz=118						
Y28A	McKinney Farm,	118.62	51	PKiKP	PKiKP	09 13 20.8	+0.3
	baz=119						
Y28A	McKinney Farm,	118.62	51	PKiKP	PKiKP	09 13 20.8	+0.3
	baz=119						
W29A	Amraillo	118.64	50	PKiKP	PKiKP	09 13 20.9	+0.4
	baz=119						
W29A	Amraillo	118.64	50	PKiKP	PKiKP	09 13 20.9	+0.4
	baz=119						
AMTX	Amarillo	118.70	50	*e*PKPdf	PKPdf	09 13 20.7	+0.1
AMTX				LR	LR		
	comp=Z,5μm,20.0s						
427A	Hayter Ranch,	118.72	55	PKiKP	PKiKP	09 13 21.3	+0.5
	baz=119						
427A	Hayter Ranch,	118.72	55	PKiKP	PKiKP	09 13 21.3	+0.5
	baz=119						
Z28A	Tucker Farm, M	118.72	52	PKiKP	PKPdf	09 13 20.6	-0.1
	baz=119						
Z28A	Tucker Farm, M	118.72	52	PKiKP	PKPdf	09 13 20.6	-0.1
	baz=119						
T30A	Plains	118.74	47	PKiKP	PKiKP	09 13 21.3	+0.7
	baz=119						
T30A	Plains	118.74	47	PKiKP	PKiKP	09 13 21.3	+0.7
	baz=119						
Q31A	Ellis	118.74	45	PKiKP	PKiKP	09 13 21.2	+0.7
	baz=119						
Q31A	Ellis	118.74	45	PKiKP	PKiKP	09 13 21.2	+0.7
	baz=119						
527A	Woodward Ranch	118.76	56	PKiKP	PKPdf	09 13 20.9	0.0
	baz=119						
527A	Woodward Ranch	118.76	56	PKiKP	PKPdf	09 13 20.9	0.0
	baz=119						
X29A	Tulia	118.85	50	PKiKP	PKiKP	09 13 21.1	+0.2
	baz=119						
X29A	Tulia	118.85	50	PKiKP	PKiKP	09 13 21.1	+0.2
	baz=119						
U30A	WK&E Inc. Balk	118.85	48	PKiKP	PKiKP	09 13 21.1	+0.2
	baz=119						
U30A	WK&E Inc. Balk	118.85	48	PKiKP	PKiKP	09 13 21.1	+0.2
	baz=119						
128A	Castleberry Fa	118.88	53	PKiKP	PKPdf	09 13 20.7	-0.3
	baz=119						
128A	Castleberry Fa	118.88	53	PKiKP	PKPdf	09 13 20.7	-0.3
	baz=119						
R31A	Burdett	118.95	46	PKiKP	PKPdf	09 13 20.9	0.0
	baz=119						
R31A	Burdett	118.95	46	PKiKP	PKPdf	09 13 20.9	0.0
	baz=119						
228A	UT Block 9, Go	118.96	53	PKiKP	PKPdf	09 13 20.6	-0.6
	baz=119						
228A	UT Block 9, Go	118.96	53	PKiKP	PKPdf	09 13 20.6	-0.6
	baz=119						
TXAR	Lajitas Array	118.96	56	PKP	PKPdf	09 13 21.6	+0.4
TXAR				PKKPbc	PKKPbc	09 23 36.4	+0.2
TXAR	Lajitas Array	118.96	56	PKP	PKPdf	09 13 21.6	+0.4
	comp=Z,6.1nm,0.9s,baz=275,slow=1.3,SNR=37						
TXAR				PKKPbc	PKKPbc	09 23 36.4	+0.2
	comp=Z,4.0nm,1.0s,baz=121,slow=5.3,SNR=14						
328A	Wristen Ranch,	119.03	54	PKiKP	PKPdf	09 13 21.3	0.0
	baz=119						
328A	Wristen Ranch,	119.03	54	PKiKP	PKPdf	09 13 21.3	0.0
	baz=119						
EYMN	Ely	119.06	33	PFAKE		09 13 30.0	+9.2
EYMN				LR	LR		
	comp=Z,3μm,21.0s						
Y29A	Porterfield Fa	119.08	51	PKiKP	PKiKP	09 13 22.3	+0.8
	baz=119						
Y29A	Porterfield Fa	119.08	51	PKiKP	PKiKP	09 13 22.3	+0.8
	baz=119						
V30A	Spur Ranch, Mi	119.12	49	PKiKP	PKiKP	09 13 22.1	+0.7
	baz=119						
V30A	Spur Ranch, Mi	119.12	49	PKiKP	PKiKP	09 13 22.1	+0.7
	baz=119						
627A	Terlingua Ranc	119.16	56	PKiKP	PKiKP	09 13 21.8	+0.1
	baz=119						
627A	Terlingua Ranc	119.16	56	PKiKP	PKiKP	09 13 21.8	+0.1
	baz=119						
S31A	Mullinville	119.26	46	PKiKP	PKiKP	09 13 21.8	+0.2
	baz=119						
S31A	Mullinville	119.26	46	PKiKP	PKiKP	09 13 21.8	+0.2
	baz=119						
Z29A	Hungry Hill Ra	119.27	52	PKiKP	PKPdf	09 13 21.7	0.0
	baz=119						
Z29A	Hungry Hill Ra	119.27	52	PKiKP	PKPdf	09 13 21.7	0.0
	baz=119						
T31A	Randall Ranch,	119.34	47	PKiKP	PKiKP	09 13 21.8	+0.1
	baz=119						
T31A	Randall Ranch,	119.34	47	PKiKP	PKiKP	09 13 21.8	+0.1
	baz=119						
428A	Kincaid Ranch,	119.34	55	PKiKP	PKiKP	09 13 22.4	+0.4
	baz=119						
428A	Kincaid Ranch,	119.34	55	PKiKP	PKiKP	09 13 22.4	+0.4
	baz=119						
129A	Stewart Farms,	119.36	52	PKiKP	PKPdf	09 13 21.8	-0.1
	baz=119						
129A	Stewart Farms,	119.36	52	PKiKP	PKPdf	09 13 21.8	-0.1
	baz=119						
528A	Cox Ranch, San	119.44	55	PKiKP	PKiKP	09 13 22.3	+0.1
	baz=119						
528A	Cox Ranch, San	119.44	55	PKiKP	PKiKP	09 13 22.3	+0.1
	baz=119						
X30A	Coker Ranch, T	119.48	50	PKiKP	PKiKP	09 13 22.3	+0.2
	baz=120						
X30A	Coker Ranch, T	119.48	50	PKiKP	PKiKP	09 13 22.3	+0.2
	baz=120						
628A	Black Gap, Mar	119.56	56	PKiKP	PKiKP	09 13 22.8	+0.4
	baz=120						
628A	Black Gap, Mar	119.56	56	PKiKP	PKiKP	09 13 22.8	+0.4
	baz=120						
229A	Bryant Ranch,	119.64	53	PKiKP	PKiKP	09 13 22.9	+0.4
	baz=120						
229A	Bryant Ranch,	119.64	53	PKiKP	PKiKP	09 13 22.9	+0.4
	baz=120						
329A	Wagon Wheel Ra	119.66	54	PKiKP	PKiKP	09 13 22.8	+0.2
	baz=120						
329A	Wagon Wheel Ra	119.66	54	PKiKP	PKiKP	09 13 22.8	+0.2
	baz=120						
Y30A	Stafford Cattl	119.68	51	PKiKP	PKiKP	09 13 22.9	+0.4
	baz=120						
Y30A	Stafford Cattl	119.68	51	PKiKP	PKiKP	09 13 22.9	+0.4
	baz=120						
Z30A	Sanderson Ranc	119.71	51	PKiKP	PKPdf	09 13 22.4	-0.2
	baz=120						
Z30A	Sanderson Ranc	119.71	51	PKiKP	PKPdf	09 13 22.4	-0.2
	baz=120						
V31A	Spring Creek L	119.75	48	PKiKP	PKiKP	09 13 23.0	+0.4
	baz=120						
V31A	Spring Creek L	119.75	48	PKiKP	PKiKP	09 13 23.0	+0.4
	baz=120						
W31A	Holland Ranch,	119.91	49	PKiKP	PKiKP	09 13 23.0	+0.1
	baz=120						
W31A	Holland Ranch,	119.91	49	PKiKP	PKiKP	09 13 23.0	+0.1
	baz=120						
SPMN	St. Paul	119.91	36	PKiKP	PKPdf	09 13 22.2	-0.3
	baz=120						
SPMN	St. Paul	119.91	36	PKiKP	PKPdf	09 13 22.2	-0.3
	baz=120						
529A	Stev Forest Ra	119.91	55	PKiKP	PKiKP	09 13 23.2	+0.1
	baz=120						
529A	Stev Forest Ra	119.91	55	PKiKP	PKiKP	09 13 23.2	+0.1
	baz=120						
429A	Davenport Ranc	120.02	54	PKiKP	PKiKP	09 13 23.4	+0.1
	baz=120						
429A	Davenport Ranc	120.02	54	PKiKP	PKiKP	09 13 23.4	+0.1
	baz=120						
130A	Snyder	120.09	52	PKiKP	PKiKP	09 13 23.5	+0.1
	baz=120						
130A	Snyder	120.09	52	PKiKP	PKiKP	09 13 23.5	+0.1
	baz=120						
X31A	McDonald Ranch	120.10	50	PKiKP	PKiKP	09 13 23.5	+0.2
	baz=120						
X31A	McDonald Ranch	120.10	50	PKiKP	PKiKP	09 13 23.5	+0.2
	baz=120						
EPF	Esparros	120.12	321	*e*PKIKP	PKPdf	09 13 22.6	-0.4
Y31A	Rekieta Farm,	120.14	50	PKiKP	PKiKP	09 13 23.5	+0.1
	baz=120						
Y31A	Rekieta Farm,	120.14	50	PKiKP	PKiKP	09 13 23.5	+0.1
	baz=120						
230A	Sterling City	120.22	53	PKiKP	PKiKP	09 13 23.7	0.0
	baz=120						
230A	Sterling City	120.22	53	PKiKP	PKiKP	09 13 23.7	0.0
	baz=120						
330A	Mertzon	120.34	53	PKiKP	PKPdf	09 13 23.5	-0.3
	baz=120						
330A	Mertzon	120.34	53	PKiKP	PKPdf	09 13 23.5	-0.3
	baz=120						
Z31A	Sharp Cattle R	120.47	51	PKiKP	PKPdf	09 13 24.0	0.0
	baz=120						
Z31A	Sharp Cattle R	120.47	51	PKiKP	PKPdf	09 13 24.0	0.0
	baz=120						
430A	Baggett Ranch,	120.50	54	PKiKP	PKiKP	09 13 24.4	+0.1
	baz=120						
430A	Baggett Ranch,	120.50	54	PKiKP	PKiKP	09 13 24.4	+0.1
	baz=120						
131A	Roby	120.51	52	PKiKP	PKiKP	09 13 24.4	+0.2
	baz=120						
131A	Roby	120.51	52	PKiKP	PKiKP	09 13 24.4	+0.2
	baz=120						
530A	J-C Ranch, Com	120.63	55	PKiKP	PKiKP	09 13 24.7	+0.2
	baz=121						
530A	J-C Ranch, Com	120.63	55	PKiKP	PKiKP	09 13 24.7	+0.2
	baz=121						
KSU1	Kansas State U	120.64	43	*e*PKPdf	PKPdf	09 13 24.3	+0.2
KSU1				*e*PP	PP	09 14 50.7	-0.8
KSU1				LR	LR		
	comp=Z,3μm,19.0s						
Y32A	R-V Farms, Ver	120.75	50	PKiKP	PKiKP	09 13 24.8	+0.3
	baz=121						
Y32A	R-V Farms, Ver	120.75	50	PKiKP	PKiKP	09 13 24.8	+0.3
	baz=121						
231A	Bronte	120.84	53	PKiKP	PKiKP	09 13 25.0	+0.2
	baz=121						
231A	Bronte	120.84	53	PKiKP	PKiKP	09 13 25.0	+0.2
	baz=121						
WMOK	Wichita Mounta	120.96	49	*e*PKIKP	PKPdf	09 13 24.5	-0.4
WMOK				*e*		09 14 52.8	
WMOK				MLR	MLR		
	comp=Z,4μm,20.0s						
WMOK	Wichita Mounta	120.96	49	*e*PKPdf	PKPdf	09 13 24.5	-0.4
WMOK				*e*PP	PP	09 14 52.8	-1.1
WMOK				LR	LR		
	comp=Z,4μm,20.0s						
331A	San Angelo	120.97	53	PKiKP	PKiKP	09 13 25.1	0.0
	baz=121						
331A	San Angelo	120.97	53	PKiKP	PKiKP	09 13 25.1	0.0
	baz=121						
Z32A	Haskell	120.99	51	PKiKP	PKiKP	09 13 25.2	+0.2
	baz=121						
Z32A	Haskell	120.99	51	PKiKP	PKiKP	09 13 25.2	+0.2
	baz=121						
431A	Sonora	121.04	54	PKiKP	PKPdf	09 13 25.1	0.0
	baz=121						
431A	Sonora	121.04	54	PKiKP	PKPdf	09 13 25.1	0.0
	baz=121						
ABTX	Abilene, Hawle	121.12	52	PKiKP	PKiKP	09 13 25.4	+0.1
	baz=121						
ABTX	Abilene, Hawle	121.12	52	PKiKP	PKiKP	09 13 25.4	+0.1
	baz=121						
531A	Rocksprings	121.27	55	PKiKP	PKiKP	09 13 25.9	+0.1
	baz=121						
531A	Rocksprings	121.27	55	PKiKP	PKiKP	09 13 25.9	+0.1
	baz=121						
232A	Coleman	121.38	52	PKiKP	PKPdf	09 13 25.8	+0.1
	baz=121						
232A	Coleman	121.38	52	PKiKP	PKPdf	09 13 25.8	+0.1
	baz=121						
SCIA	State Center	121.48	39	*e*PKPdf	PKPdf	09 13 25.4	-0.3
SCIA				*e*PP	PP	09 14 56.4	-0.7
SCIA				LR	LR		
	comp=Z,2μm,20.0s						
332A	Millersview	121.49	53	PKiKP	PKiKP	09 13 26.1	0.0
	baz=122						
332A	Millersview	121.49	53	PKiKP	PKiKP	09 13 26.1	0.0
	baz=122						
631A	Perdido Creek	121.50	55	PKiKP	PKiKP	09 13 26.2	0.0
	baz=122						
631A	Perdido Creek	121.50	55	PKiKP	PKiKP	09 13 26.2	0.0
	baz=122						
432A	Menard	121.63	53	PKiKP	PKPdf	09 13 26.2	-0.1
	baz=122						
432A	Menard	121.63	53	PKiKP	PKPdf	09 13 26.2	-0.1
	baz=122						
JCT	Junction City	121.76	54	*e*PKIKP	PKPdf	09 13 26.5	-0.1
JCT				MLR	MLR		
	comp=Z,4μm,20.0s						
JCT	Junction City	121.76	54	*e*PKPdf	PKPdf	09 13 26.5	-0.1
JCT				LR	LR		
	comp=Z,4μm,20.0s						
JCT	Junction City	121.76	54	PKiKP	PKiKP	09 13 26.8	+0.1
	baz=122						
JCT	Junction City	121.76	54	PKiKP	PKiKP	09 13 26.8	+0.1
	baz=122						
532A	Rocksprings	121.80	54	PKiKP	PKPdf	09 13 26.7	+0.1
	baz=122						
532A	Rocksprings	121.80	54	PKiKP	PKPdf	09 13 26.7	+0.1
	baz=122						
632A	Uvalde	122.11	55	PKiKP	PKiKP	09 13 27.7	+0.4
	baz=122						
632A	Uvalde	122.11	55	PKiKP	PKiKP	09 13 27.7	+0.4
	baz=122						
732A	Laxson Ranch,	122.22	56	PKiKP	PKiKP	09 13 27.9	+0.3
	baz=122						
732A	Laxson Ranch,	122.22	56	PKiKP	PKiKP	09 13 27.9	+0.3
	baz=122						
TUL1	Tulsa	122.67	46	PKiKP	PKiKP	09 13 28.3	0.0
	baz=123						
TUL1	Tulsa	122.67	46	PKiKP	PKiKP	09 13 28.3	0.0
	baz=123						
WHTX	Lake Whitney	123.07	51	PKiKP	PKiKP	09 13 29.8	+0.6
	baz=123						
WHTX	Lake Whitney	123.07	51	PKiKP	PKiKP	09 13 29.8	+0.6
	baz=123						
RFTA	Plano	123.25	50	*e*PKPdf	PKPdf	09 13 29.9	+0.7
RFTA				*e*PP	PP	09 15 08.3	-1.1
SCHQ	Schefferville	123.42	14	PKP	PKPdf	09 13 28.9	-0.1
SCHQ				PKKPbc	PKKPab	09 23 16.4	-2.3
SCHQ	Schefferville	123.42	14	PKP	PKPdf	09 13 28.9	-0.1
	comp=Z,8.6nm,1.0s,baz=327,slow=2.7,SNR=5.3						
SCHQ				PKKPbc	PKKPab	09 23 16.4	-2.3
	comp=Z,4.1nm,0.9s,baz=136,slow=7.0,SNR=3.8						
TAM	Tamanrasset	124.33	297	*e*PKIKP	PKPdf	09 13 32.3	+0.5
TAM				MLR	MLR		
	comp=Z,1μm,20.0s						
TAM	Tamanrasset	124.33	297	*e*PKPdf	PKPdf	09 13 32.3	+0.5
TAM				LR	LR		
	comp=Z,1μm,20.0s						
KVTX	Kingsville	124.35	57	PFAKE		09 13 40.0	+8.5
KVTX				LR	LR		
	comp=Z,3μm,20.0s						
ESDC	Sonseca Array	124.66	320	PKP	PKPdf	09 13 31.4	-0.5
ESDC				PP	PP	09 15 19.0	+0.4
ESDC	Sonseca Array	124.66	320	PKP	PKPdf	09 13 31.4	-0.5
	comp=Z,1.1nm,0.7s,baz=27,slow=1.9,SNR=7.0						
ESDC				PP	PP	09 15 19.0	+0.4
	comp=Z,5.0nm,1.1s,baz=49,slow=7.6,SNR=4.0						
GLMI	Grayling	124.72	32	*e*PKPdf	PKPdf	09 13 32.2	+0.5
GLMI				LR	LR		
	comp=Z,4μm,22.0s						
PAB	San Pablo	124.98	320	*e*PKIKP	PKPdf	09 13 30.7	-1.8
PAB				MLR	MLR		
	comp=Z,2μm,19.0s						
PAB	San Pablo	124.98	320	*e*PKPdf	PKPdf	09 13 30.7	-1.8
PAB				LR	LR		
	comp=Z,1μm,19.0s						
SLM	Saint Louis	125.16	41	*e*PKIKP	PKPdf	09 13 32.8	+0.1
SLM	Saint Louis	125.16	41	*e*PKPdf	PKPdf	09 13 32.8	+0.1
MVO	Moncorvo	125.69	323	*e*PKP	PKPdf	09 13 34.6	+0.8
MVO	Moncorvo	125.69	323	*e*LQ	LQ	09 46 27.5	
UALR	University of	125.70	46	*e*PKPdf	PKPdf	09 13 33.9	0.0
UALR				*e*PP	PP	09 15 23.9	-1.8
PGAV	Gavieira, Arco	125.92	325	*e*SS	SS	09 32 35.3	+10
PCAB	Cabril	125.94	324	*e*PKP	PKPdf	09 13 35.2	+1.0
POLO	Lamas de Olo	126.01	324	*e*PKP	PKPdf	09 13 35.0	+0.6
PVRL	Vila Real	126.03	324	*e*PKP	PKPdf	09 13 35.1	+0.7
SFIN	Scholer Farm	126.14	37	PKiKP	PKiKP	09 13 34.9	-0.2
	baz=126						
SFIN	Scholer Farm	126.14	37	PKiKP	PKiKP	09 13 34.9	-0.2
	baz=126						
SIUC	Southern Illin	126.34	41	*e*PKPdf	PKPdf	09 13 35.4	+0.4
MTE	Manteigas	126.46	323	*e*PKP	PKPdf	09 13 36.0	+0.7
MTE	Manteigas	126.46	323	*e*SS	SS	09 32 47.4	+15
MTE	Manteigas	126.46	323	*e*LQ	LQ	09 47 39.4	
MTE				*e*LR	LR	09 53 19.0	
	comp=Z,161nm,15.1s						
MTE	Manteigas	126.46	323	PFAKE

WCI	**Wyandotte Cave**	**127.93**	**39**	*e*PKIKP	**PKPdf**	**09 13 38.3**	**+0.2**
WCI	**Wyandotte Cave**	**127.93**	**39**	*e*PKPdf	**PKPdf**	**09 13 38.3**	**+0.2**
PBEJ	**Beja**	**128.10**	**321**	*e*PKP	**PKPdf**	**09 13 39.9**	**+1.5**
PBEJ	**Beja**	**128.10**	**321**	*e*PP	PP	09 15 43.7	+2.4
WVT	**Waverly**	**128.14**	**42**	*e*PKIKP	**PKPdf**	**09 13 38.2**	**-0.3**
WVT	**Waverly**	**128.14**	**42**	*e*PKPdf	**PKPdf**	**09 13 38.2**	**-0.3**
VBMS	**Vicksburg**	**128.26**	**48**	*e*PKPdf	**PKPdf**	**09 13 39.4**	**+0.5**
VBMS				*e*PP	**PP**	**09 15 42.8**	**0.0**
VBMS				LR	LR		
	comp=Z,5μm,22.0s						
PVAQ	**Vaqueiros**	**128.37**	**320**	*e*SS	SS	09 33 06.0	+10
PCVE	**Castro Verde**	**128.44**	**320**	*e*PKP	**PKPdf**	**09 13 40.0**	**+0.9**
PCVE	**Castro Verde**	**128.44**	**320**	*e*PP	PP	09 15 46.8	+3.2
PNCL	**Nicolau / Gran**	**128.46**	**321**	*e*PKP	**PKPdf**	**09 13 40.5**	**+1.4**
PNCL	**Nicolau / Gran**	**128.46**	**321**	*e*PP	PP	09 15 45.9	+2.2
LIS	**Lisbon**	**128.48**	**322**	*e*P	**PKPdf**	**09 13 39.3**	**+0.2**
LIS				*e*PP	**PP**	**09 15 44.5**	**+0.8**
LIS				AMS	AMS	10 13 59.9	
	comp=Z,2μm,18.3s						
LIS	**Lisbon**	**128.48**	**322**	*e*PKIKP	**PKPdf**	**09 13 39.3**	**+0.2**
LIS				*e*		09 15 44.5	
MORF	**Marmelete**	**129.03**	**320**	*e*PKIKP	**PKPdf**	**09 13 40.3**	**0.0**
MORF				*e*		09 15 47.8	
LONY	**Lake Ozonia**	**129.70**	**25**	PFAKE		09 13 50.0	+8.7
LONY				LR	LR		
	comp=Z,2μm,20.0s						
TOA0	**Torodi Ar. Sit**	**130.10**	**287**	*e*PKPdf	**PKPdf**	**09 13 42.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**130.10**	**287**	PKPpre	PKPpre	09 13 32.8	
TORD				PKP	**PKPdf**	**09 13 42.2**	**-0.6**
TORD				⇑*e*		09 26 08.2	
TORD	**Torodi Ar. Bea**	**130.10**	**287**	PKhKP	PKPpre	09 13 32.8	
	comp=Z,1.2nm,0.8s,baz=100,slow=2.0,SNR=5.6						
TORD				PKP	**PKPdf**	**09 13 42.2**	**-0.6**
	comp=Z,13nm,1.1s,baz=49,slow=1.4,SNR=29						
TORD				PKP2bc		09 26 08.2	
	comp=Z,1.2nm,1.0s,baz=255,slow=5.8,SNR=3.6						
NCB	**Newcomb**	**130.37**	**26**	*e*PKPdf	**PKPdf**	**09 13 43.4**	**+0.8**
NCB				*e*PP	**PP**	**09 15 55.2**	**-0.5**
NCB				LR	LR		
	comp=Z,2μm,20.0s						
LRAL	**Lakeview Retre**	**130.40**	**45**	*e*PKPdf	**PKPdf**	**09 13 42.7**	**-0.2**
LRAL				*e*PP	PP	09 15 47.5	-9.1
LRAL				LR	LR		
	comp=Z,3μm,20.0s						
PQI	**Presque Isle**	**130.44**	**19**	*e*PKPdf	**PKPdf**	**09 13 41.8**	**-0.8**
TZTN	**Tazewell**	**130.69**	**39**	*e*PKPdf	**PKPdf**	**09 13 43.7**	**+0.3**
TZTN				*e*PP	**PP**	**09 15 55.6**	**-2.6**
CPCT	**Cooper Cave**	**130.73**	**41**	*e*PKPdf	**PKPdf**	**09 13 44.2**	**+0.7**
MDV	**Middlebury**	**130.79**	**25**	*e*PKPdf	**PKPdf**	**09 13 43.9**	**+0.6**
BINY	**Binghamton**	**130.96**	**28**	*e*PKPdf	**PKPdf**	**09 13 43.9**	**+0.1**
TKL	**Tuckaleechee C**	**131.09**	**40**	*e*PKPdf	**PKPdf**	**09 13 43.9**	**-0.3**
LBNH	**Lisbon**	**131.11**	**24**	PFAKE		09 13 50.0	+6.0
LBNH				LR	LR		
	comp=Z,3μm,21.0s						
BRAL	**Brewton**	**131.42**	**47**	PFAKE		09 14 00.0	+15
BRAL				LR	LR		
	comp=Z,5μm,22.0s						
BLA	**Blacksburg**	**132.18**	**36**	*e*PKIKP	**PKPdf**	**09 13 46.6**	**+0.4**
BLA				MLR	MLR		
	comp=Z,2μm,21.0s						
BLA	**Blacksburg**	**132.18**	**36**	*e*PKPdf	**PKPdf**	**09 13 46.6**	**+0.4**
BLA				LR	LR		
	comp=Z,2μm,21.0s						
SDMD	**Soldier's Deli**	**132.63**	**32**	*e*PKPdf	**PKPdf**	**09 13 47.4**	**+0.4**
CBN	**Corbin**	**133.22**	**33**	*e*PKPdf	**PKPdf**	**09 13 48.7**	**+0.6**
CBN				LR	LR		
	comp=Z,5μm,22.0s						
JSRW	**J. Sargeant Re**	**133.31**	**34**	*e*PKPdf	**PKPdf**	**09 13 48.1**	**-0.1**
PLCA	**Paso Flores**	**133.77**	**155**	*e*PKPdf	**PKPdf**	**09 13 48.6**	**-0.5**
PLCA				PKP	**PKPdf**	**09 13 49.4**	**+0.2**
PLCA	**Paso Flores**	**133.77**	**155**	PKP	**PKPdf**	**09 13 49.4**	**+0.2**
	comp=Z,20nm,0.9s,baz=221,slow=4.3,SNR=6.7						
CNNC	**Cliffs of the**	**135.01**	**36**	PFAKE		09 14 00.0	+8.5
CNNC				LR	LR		
	comp=Z,5μm,20.0s						
TEIG	**Tepich**	**135.15**	**61**	PFAKE		09 14 00.0	+7.8
TEIG				LR	LR		
	comp=Z,2μm,21.0s						
SHEL	**Horse Pasture**	**136.10**	**246**	PFAKE		09 14 00.0	+5.9
SHEL				LR	LR		
	comp=Z,4μm,21.0s						
KIC	**Kosan Boka**	**137.39**	**279**	*e*P	**PKPdf**	**09 13 52.9**	**-3.6**
	comp=Z,55nm,1.1s						
DBIC	**Dimbokro**	**137.47**	**279**	PKPpre	PKPpre	09 13 48.1	
DBIC	**Dimbokro**	**137.47**	**279**	PKhKP	PKPpre	09 13 48.1	
	comp=Z,3.9nm,0.7s,baz=68,slow=4.5,SNR=6.7						
TIC	**Toumodi**	**137.63**	**279**	*e*P	PKPpre	09 13 47.9	
	comp=Z,143nm,1.5s						
LIC	**Lamto**	**137.68**	**279**	*e*PKIKP	**PKPdf**	**09 13 56.3**	**-0.8**
	comp=Z,29nm,0.8s						
LIC	**Lamto**	**137.68**	**279**	*e*P	**PKPdf**	**09 13 52.8**	**-4.3**
	comp=Z,46nm,0.8s						
BART	**Pico Bartolome**	**137.74**	**334**	*e*PP	PP	09 16 45.3	+2.7
PGRA	**Graciosa**	**137.82**	**338**	*e*PKP	**PKPdf**	**09 13 53.8**	**-2.9**
PGRA	**Graciosa**	**137.82**	**338**	*e*PP	PP	09 16 44.8	+1.9
CMLA	**Cha da Macela**	**137.91**	**334**	*e*PKP	**PKPdf**	**09 13 54.3**	**-2.6**
CMLA	**Cha da Macela**	**137.91**	**334**	*e*PP	PP	09 16 43.5	0.0
CMLA	**Cha da Macela**	**137.91**	**334**	PFAKE		09 14 10.0	+13
CMLA				LR	LR		
	comp=Z,3μm,20.0s						
PSET	**Sete Cidades**	**137.94**	**335**	*e*PKP	**PKPdf**	**09 13 53.9**	**-3.1**
PSET	**Sete Cidades**	**137.94**	**335**	*e*PP	PP	09 16 43.1	-0.7
ROSA	**Rosais**	**138.19**	**338**	*e*PKP	**PKPdf**	**09 13 56.5**	**-0.9**
ROSA	**Rosais**	**138.19**	**338**	*e*PP	PP	09 16 46.4	+1.2
PSMN	**Pico do Norte,**	**138.33**	**333**	*e*PKP	**PKPdf**	**09 13 55.6**	**-2.1**
PSMN	**Pico do Norte,**	**138.33**	**333**	*e*PP	PP	09 16 49.3	+3.1
PSMA	**Santa Maria**	**138.37**	**333**	*e*PKP	**PKPdf**	**09 14 00.5**	**+2.8**
PSMA	**Santa Maria**	**138.37**	**333**	*e*PP	PP	09 16 48.9	+2.5
PCAN	**Candelaria**	**138.51**	**338**	*e*PP	PP	09 16 48.9	+1.7
TRQA	**Tornquist**	**139.28**	**162**	*e*PKPdf	**PKPdf**	**09 13 59.7**	**+0.3**
TRQA				LR	LR		
	comp=Z,5μm,20.0s						
LCO	**Las Campanas**	**142.99**	**144**	*e*PKPdf	**PKPdf**	**09 14 03.3**	**-3.3**
LCO				LR	LR		
	comp=Z,3μm,20.0s						
LPA	**La Plata**	**143.38**	**165**	PKIKP	PKPbc	09 14 05.0	+1.1
LPA				PKIKP	**PKiKP**	**09 14 10.0**	**-0.1**
BBSR	**BB Station**	**144.15**	**26**	*e*PKPdf	**PKPdf**	**09 14 07.6**	**-0.6**
BBSR				LR	LR		
	comp=Z,2μm,20.0s						
MBJ	**Montego Bay**	**144.87**	**58**	*i* P	PKPbc	09 14 09.3	+0.3
CVJ	**Coleyville**	**145.23**	**58**	*i* P	**PKPdf**	**09 14 10.8**	**+0.2**
MTDJ	**Mount Denham**	**145.23**	**58**	*e*PKPbc	**PKPdf**	**09 14 10.7**	**+0.2**
MTDJ				LR	LR		
	comp=Z,1μm,20.0s						
MCJ	**Malvern**	**145.24**	**58**	*i* P	**PKPdf**	**09 14 10.5**	**-0.1**
STH	**Stony Hill**	**145.91**	**57**	*i* P	**PKPab**	**09 14 12.7**	**-0.2**
HOJ	**Hope**	**145.99**	**57**	⇑*iP*	**PKPbc**	**09 14 12.7**	**+0.2**
BCIP	**Isla Barro Col**	**146.23**	**74**	*e*PKPbc	**PKPab**	**09 14 14.2**	**+0.1**
BCIP				LR	LR		
	comp=Z,3μm,21.0s						
ASCN	**Ascension**	**146.37**	**255**	*e*PKPbc	**PKPbc**	**09 14 14.1**	**+0.3**
ASCN				LR	LR		
	comp=Z,2μm,20.0s						
GTBY	**Guantanamo Bay**	**146.39**	**53**	*e*PKPbc	**PKPbc**	**09 14 13.8**	**+0.1**
GTBY				LR	LR		
	comp=Z,2μm,21.0s						
NNA	**Nana**	**147.94**	**114**	*e*PKPdf	**PKPdf**	**09 14 15.7**	**+0.5**
NNA				LR	LR		
	comp=Z,3μm,19.0s						
GRTK	**Grand Turk**	**148.53**	**47**	*e*PKPbc	**PKPbc**	**09 14 20.1**	**+0.5**
GRTK				LR	LR		
	comp=Z,2μm,22.0s						
OTAV	**Otavalo**	**148.59**	**90**	PFAKE		09 14 30.0	+5.9
OTAV				LR	LR		
	comp=Z,3μm,20.0s						
LVC	**Limon Verde**	**148.71**	**139**	*e*PKPdf	**PKPdf**	**09 14 18.3**	**+1.8**
LVC				*e*PKPbc	**PKiKP**	**09 14 22.5**	**+0.7**
LVC				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	**Presa de Saban**	**149.92**	**51**	*e*PKPdf	**PKPdf**	**09 14 19.2**	**+0.9**
SDDR				*e*PKPbc	**PKPbc**	**09 14 23.3**	**+0.2**
SDDR				LR	LR		
	comp=Z,2μm,22.0s						
ROSC	**El Rosal**	**152.40**	**80**	*e*PKPdf	**PKPdf**	**09 14 23.1**	**+0.4**
ROSC				PKPbc	**PKiKP**	**09 14 30.3**	**+0.5**
ROSC				*e*PKPbc	**PKPbc**	**09 14 30.6**	**+1.0**
ROSC				PKPab	**PKPab**	**09 14 40.6**	**+0.9**
ROSC	**El Rosal**	**152.40**	**80**	PKP	**PKPdf**	**09 14 23.1**	**+0.4**
	comp=Z,3.6nm,0.3s,baz=92,slow=16,SNR=10						
ROSC				PKPbc	**PKiKP**	**09 14 30.3**	**+0.5**
	comp=Z,68nm,0.9s,baz=113,slow=3.4,SNR=26						
ROSC				PKPab	**PKPab**	**09 14 40.6**	**+0.9**
	comp=Z,64nm,0.8s,baz=260,slow=8.3,SNR=10.0						
LPAZ	**La Paz**	**153.36**	**130**	*e*PKPdf	**PKPdf**	**09 14 24.8**	**+0.5**
LPAZ				PKP	**PKPdf**	**09 14 25.2**	**+1.0**
LPAZ				PKPbc	**PKiKP**	**09 14 33.3**	**+1.3**
LPAZ				PKPab	**PKPab**	**09 14 46.5**	**+2.7**
LPAZ				*e*PKPab	PKPab	09 14 47.0	+3.1
LPAZ	**La Paz**	**153.36**	**130**	PKP	**PKPdf**	**09 14 25.2**	**+1.0**
	comp=Z,12nm,0.9s,baz=20,slow=1.5,SNR=42						
LPAZ				PKPbc	**PKiKP**	**09 14 33.3**	**+1.3**
	comp=Z,24nm,0.8s,baz=317,slow=4.1,SNR=28						
LPAZ				PKPab	**PKPab**	**09 14 46.5**	**+2.7**
	comp=Z,40nm,0.7s,baz=245,slow=3.9,SNR=16						
LSP	**Las Mesas**	**153.58**	**47**	*e*PKPdf	**PKPdf**	**09 14 24.5**	**+0.7**
LSP				*e*PKPbc	**PKPbc**	**09 14 31.2**	**-0.4**
LSP				*e*PKPab	**PKPab**	**09 14 44.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**153.67**	**47**	*e*PKPdf	**PKPdf**	**09 14 25.1**	**+1.2**
CRPR				*e*PKPbc	**PKiKP**	**09 14 32.0**	**+0.2**
LRS	**Lares**	**153.68**	**47**	*e*PKPbc	**PKPbc**	**09 14 32.1**	**+0.4**
LRS				*e*PKPab	**PKPab**	**09 14 45.0**	**+0.6**
CELP	**Cerrillos**	**154.01**	**47**	*e*PKPdf	**PKPdf**	**09 14 23.7**	**-0.7**
CELP				*e*PKPbc	**PKiKP**	**09 14 33.3**	**+0.8**
CELP				*e*PKPab	**PKPab**	**09 14 46.6**	**+0.8**
OBIP	**Obispado Ponce**	**154.02**	**47**	*e*PKPdf	**PKPdf**	**09 14 24.9**	**+0.5**
OBIP				*e*PKPbc	**PKiKP**	**09 14 32.8**	**+0.4**
OBIP				*e*PKPab	**PKPab**	**09 14 46.9**	**+1.1**
SJG	**San Juan**	**154.30**	**46**	*e*PKPdf	**PKPdf**	**09 14 24.9**	**+0.1**
SJG				*e*PKPbc	**PKPbc**	**09 14 32.8**	**-0.2**
SJG				*e*PKPab	**PKPab**	**09 14 48.3**	**+1.4**
SJG				LR	LR		
	comp=Z,1μm,20.0s						
MTP	**Monte Pirata**	**154.74**	**45**	*e*PKPdf	**PKPdf**	**09 14 25.1**	**-0.3**
MTP				*e*PKPbc	**PKiKP**	**09 14 34.0**	**+0.1**
MTP				*e*PKPab	**PKPab**	**09 14 49.8**	**+1.0**
SDV	**Santo Domingo**	**155.06**	**70**	*e*PKPdf	**PKPdf**	**09 14 26.4**	**+0.2**
SDV				*e*PKPbc	PKPbc	09 14 35.8	
SDV				*e*PKPab	**PKPab**	**09 14 52.0**	**+1.3**
SDV				LR	LR		
	comp=Z,233nm,22.0s						
CDVI	**St. Croix**	**155.52**	**44**	*e*PKPdf	**PKPdf**	**09 14 26.5**	**+0.1**
CDVI				*e*PKPab	**PKPab**	**09 14 52.8**	**+0.6**
ANWB	**Willy Bob**	**157.57**	**39**	PFAKE		09 14 40.0	+11
ANWB				LR	LR		
	comp=Z,2μm,22.0s						
FDF	**Fort de France**	**160.11**	**44**	PFAKE		09 14 40.0	+7.8
FDF				LR	LR		
	comp=Z,2μm,22.0s						
SAML	**Samuel**	**161.41**	**121**	*e*PKPdf	**PKPdf**	**09 14 33.8**	**+0.1**
SAML				*e*PKPab	**PKPab**	**09 15 18.6**	**+0.7**
SAML				LR	LR		
	comp=Z,2μm,20.0s						
GRGR	**Grenville**	**161.43**	**51**	PFAKE		09 14 40.0	+6.4
GRGR				LR	LR		
	comp=Z,2μm,22.0s						
BBGH	**Gun Hill**	**162.32**	**44**	PFAKE		09 14 40.0	+5.5
BBGH				LR	LR		
	comp=Z,3μm,20.0s						
BDFB	**Brasilia**	**163.98**	**177**	PKP	**PKPdf**	**09 14 36.1**	**-0.1**
BDFB	**Brasilia**	**163.98**	**177**	PKP	**PKPdf**	**09 14 36.1**	**-0.1**
	comp=Z,8.8nm,1.0s,baz=158,slow=4.0,SNR=8.1						
RCBR	**Riachuelo**	**167.24**	**241**	PFAKE		09 14 50.0	+11
RCBR				LR	LR		
	comp=Z,2μm,20.0s						

IDC ***02*** *09:06:40.4±1.9, 0°.45S×133°.14E, h0km, mb4.4/3, mb1 4.6/5, mb1mx4.0/20, mbtmp4.4/5, ML3.8/2, Error ellipse: s-maj=81.5km s-min=23.5km az=75.0*
ISCJB ***02*** *09:06:43.1±1.2, 0°.38S±0°.09×133°.11E±0°.08, h32km, mb4.4/3, Error ellipse: s-maj=13.4km s-min=11.3km az=18.6*
DJA ***02*** *09:06:46.8±1.0, 0°.S±7°×13°.3E±°, h40km, M4.4/3, MLv4.4/3*
ISC 02 09:06:44.6±1.4, 0°.4S±0°.1×133°.09E±0°.10, h32km, n8, σ0.98/10, mb4.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.56**	**136**	P	**Pb**	**09 07 12.2**	**-0.7**
SWI	**Sorong**	**1.89**	**255**	P	**Pn**	**09 07 14.1**	**-0.5**
SWI				S	**Sn**	**09 07 37.3**	**-0.1**
FAKI	**Fak Fak**	**2.66**	**198**	P	**Pn**	**09 07 26.8**	**+1.6**
FAKI				S	**Sn**	**09 07 56.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.07**	**202**	P	**P**	**09 11 03.8**	**-0.7**
	0.3nm,0.3s,baz=30,slow=14,SNR=6.9						
WRA	**Warramunga Arr**	**19.48**	**176**	P	**P**	**09 11 08.6**	**-0.5**
	0.3nm,0.3s,baz=355,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**23.16**	**178**	P	**P**	**09 11 48.9**	**+0.3**
	13nm,1.0s,baz=357,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**32.34**	**166**	P	**P**	**09 13 10.2**	**-0.9**
	34nm,1.1s,baz=330,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**64.57**	**324**	P	**P**	**09 17 20.1**	**+1.4**
	0.9nm,0.9s,baz=122,slow=7.1,SNR=3.0						

CSEM ***02*** *09:08:24.9, 28°.39N×15°.26W, h20km, ML1.9, After MDD*
MDD 02 09:08:24.9±0.1, 28°.39N×15°.26W, h20km, mb4.1/6, mbLg1.9/6, 3D, Error ellipse: s-maj=2.0km s-min=1.0km az=151.0, PRXIMO, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOSO	**Osorio**	**0.41**	**219**	⇓P	Pb	09 08 32.8	-0.8
	32nm,0.1s,SNR=18						
EOSO				S	Sb	09 08 38.3	-1.2
	60nm,0.1s,SNR=26						
EOSO	**Osorio**	**0.41**	**219**	P	Pb	09 08 32.8	-0.8
	32nm,0.1s,SNR=18						
EOSO				S	Sb	09 08 38.3	-1.2
	60nm,0.1s,SNR=26						
EBAJ	**Bajamar**	**0.97**	**279**	⇓P	Pb	09 08 40.6	-2.4
	3.7nm,0.2s,SNR=18						
EBAJ				S	Sb	09 08 50.4	-5.1
	1.5nm,0.1s,SNR=9.9						
EBAJ	**Bajamar**	**0.97**	**279**	P	Pb	09 08 40.6	-2.4
	3.7nm,0.2s,SNR=18						
EBAJ				S	Sb	09 08 50.4	-5.0
	1.5nm,0.1s,SNR=9.9						
CFUE	**Fuerteventura**	**1.19**	**77**	⇓P	Pn	09 08 43.3	-3.2
	2.2nm,0.1s,SNR=18						
CFUE				S	Sb	09 08 57.0	-4.9
	4.9nm,0.0s,SNR=7.9						
CFUE	**Fuerteventura**	**1.19**	**77**	P	Pn	09 08 43.3	-3.2
	2.2nm,0.1s,SNR=18						
CFUE				S	Sb	09 08 57.0	-4.8
	4.9nm,0.0s,SNR=7.9						
CCAN	**Las Canadas**	**1.20**	**262**	P	Pn	09 08 42.0	-5.0
	0.5nm,0.2s,SNR=7.9						
CCAN				S	Sb	09 08 56.0	-6.7
	1.3nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.20**	**262**	P	Pn	09 08 42.0	-4.9
	0.5nm,0.2s,SNR=7.9						
CCAN				S	Sb	09 08 56.0	-6.7
	1.3nm,0.1s,SNR=7.9						
EFAM	**Famara**	**1.69**	**64**	P	Pn	09 08 50.7	-2.5
	0.6nm,0.1s,SNR=7.9						
EFAM				S	Sn	09 09 08.4	-5.9
	0.8nm,0.1s,SNR=7.9						
EFAM	**Famara**	**1.69**	**64**	P	Pn	09 08 50.7	-2.6
	0.6nm,0.1s,SNR=7.9						
EFAM				S	Sn	09 09 08.4	-5.9
	0.8nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**1.74**	**263**	P	Pn	09 08 51.1	-2.9
	1.2nm,0.1s,SNR=7.9						
EGOM				S	Sn	09 09 09.8	-5.7
	1.9nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**1.74**	**263**	P	Pn	09 08 51.1	-2.8
	1.2nm,0.1s,SNR=7.9						
EGOM				S	Sn	09 09 09.8	-5.7
	1.9nm,0.1s,SNR=7.9						

IDC ***02*** *09:53:35.6±0.9, 19°.37N×65°.76W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=30.1km s-min=21.0km az=37.0*
ISCJB ***02*** *09:53:37.5±0.5, 19°.37N±0°.03×65°.70W±0°.04, h16km, mb3.6/8, Error ellipse: s-maj=5.3km s-min=4.6km az=40.6*
RSPR ***02*** *09:53:41.7, 19°.21N×65°.67W, h7km±1km, MD3.7/14*
NEIC ***02*** *09:53:41.7, 19°.21N×65°.67W, h7km, MD3.7(RSPR), After RSPR.*
ISC 02 09:53:37.9±0.6, 19°.31N±0°.05×65°.68W±0°.03, h16km, n68, σ0.84/85, mb3.8/8, 26C-18D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.05**	**189**	⇑*eP*	**Pb**	**09 53 58.0**	**+0.3**
CBYP	**Canovanas**	**1.05**	**189**	*eS*	**Sb**	**09 54 11.7**	**+0.4**
CBYP	**Canovanas**	**1.05**	**189**	⇑*eP*	**Pb**	**09 53 58.0**	**+0.3**
CBYP				*eS*	**Sb**	**09 54 11.7**	**+0.4**
HUMP	**Col San Antoni**	**1.18**	**188**	⇑*eP*	**Pn**	**09 53 59.7**	**+0.1**
HUMP	**Col San Antoni**	**1.18**	**188**	⇑*eP*	**Pn**	**09 53 59.7**	**+0.1**
HUMP	**Col San Antoni**	**1.18**	**188**	⇑*eP*	**Pn**	**09 53 59.7**	**+0.1**
MTP	**Monte Pirata**	**1.22**	**174**	⇑*eP*	**Pb**	**09 54 00.8**	**+0.3**
MTP	**Monte Pirata**	**1.22**	**174**	⇑*eP*	**Pb**	**09 54 00.8**	**+0.3**
MTP	**Monte Pirata**	**1.22**	**174**	⇑*eP*	**Pb**	**09 54 00.8**	**+0.3**
SJG	**San Juan**	**1.27**	**200**	⇑*eP*	**Pn**	**09 54 01.4**	**+0.4**
SJG	**San Juan**	**1.27**	**200**	⇑*eP*	**Pn**	**09 54 01.4**	**+0.4**
SJG				*eS*	**Sb**	**09 54 16.9**	**-0.8**
SJG	**San Juan**	**1.27**	**200**	⇑*eP*	**Pn**	**09 54 01.4**	**+0.4**
SJG				*eS*	**Sb**	**09 54 16.9**	**-0.8**
SJG	**San Juan**	**1.27**	**200**	⇑*eP*	**Pn**	**09 54 01.4**	**+0.4**
SJG	**San Juan**	**1.27**	**200**	⇑*eP*	**Pn**	**09 54 01.4**	**+0.4**
SJG				*eS*	**Sb**	**09 54 16.8**	**-0.8**
SJG				*eS*	**Sb**	**09 54 16.9**	**-0.8**
CPD	**Cerro la Pandu**	**1.29**	**190**	⇑*eP*	**Pn**	**09 54 01.6**	**+0.3**
CPD	**Cerro la Pandu**	**1.29**	**190**	*eS*	**Sb**	**09 54 17.1**	**-1.0**
CPD	**Cerro la Pandu**	**1.29**	**190**	⇑*eP*	**Pn**	**09 54 01.6**	**+0.3**
CPD				*eS*	**Sb**	**09 54 17.1**	**-1.0**
CPD	**Cerro la Pandu**	**1.29**	**190**	⇑*eP*	**Pn**	**09 54 01.6**	**+0.3**
CPD				*eS*	**Sb**	**09 54 17.9**	**-0.2**
TBVI	**Tortola**	**1.35**	**131**	⇓*iP*	**Pn**	**09 54 02.7**	**+0.7**
TBVI				*eS*	**Sn**	**09 54 18.9**	**-0.7**
TBVI	**Tortola**	**1.35**	**131**	⇓*iP*	**Pn**	**09 54 02.7**	**+0.7**
TBVI				*eS*	**Sn**	**09 54 18.9**	**-0.7**
TBVI	**Tortola**	**1.35**	**131**	⇓*iP*	**Pn**	**09 54 02.7**	**+0.7**
TBVI				*eS*	**Sn**	**09 54 18.9**	**-0.7**
AOPR	**Arecibo Observ**	**1.40**	**227**	*eS*	**Sn**	**09 54 21.1**	**+0.2**
AOPR	**Arecibo Observ**	**1.40**	**227**	⇓*eP*	**Pn**	**09 54 03.2**	**+0.4**
AOPR	**Arecibo Observ**	**1.40**	**227**	⇓*eP*	**Pn**	**09 54 03.2**	**+0.4**
AOPR				*eS*	**Sn**	**09 54 21.1**	**+0.2**
AOPR	**Arecibo Observ**	**1.40**	**227**	⇓*eP*	**Pn**	**09 54 03.2**	**+0.4**
AOPR				*eS*	**Sb**	**09 54 21.9**	**+0.7**
ABV	**Anegada**	**1.40**	**114**	⇓*eP*	**Pn**	**09 54 03.8**	**+1.0**
ABV	**Anegada**	**1.40**	**114**	⇓*eP*	**Pn**	**09 54 03.8**	**+1.0**
ABVI	**Anegada Island**	**1.40**	**114**	⇓*eP*	**Pn**	**09 54 03.8**	**+1.0**
CELP	**Cerrillos**	**1.50**	**215**	⇓*eP*	**Pn**	**09 54 04.8**	**+0.7**
CELP	**Cerrillos**	**1.50**	**215**	⇓*eP*	**Pn**	**09 54 04.8**	**+0.7**
CELP	**Cerrillos**	**1.50**	**215**	⇓*eP*	**Pn**	**09 54 04.8**	**+0.7**
LRS	**Lares**	**1.50**	**227**	⇑*eP*	**Pn**	**09 54 04.8**	**+0.6**
LRS				*eS*	**Sn**	**09 54 23.3**	**-0.1**
LRS	**Lares**	**1.50**	**227**	⇑*eP*	**Pn**	**09 54 04.8**	**+0.6**
LRS				*eS*	**Sn**	**09 54 23.3**	**-0.1**
LRS	**Lares**	**1.50**	**227**	⇑*eP*	**Pn**	**09 54 04.8**	**+0.6**
LRS				*eS*	**Sn**	**09 54 23.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.54**	**215**	*eS*	**Sn**	**09 54 24.0**	**-0.3**
OBIP	**Obispado Ponce**	**1.54**	**215**	⇑*eP*	**Pn**	**09 54 05.3**	**+0.7**
OBIP	**Obispado Ponce**	**1.54**	**215**	⇑*eP*	**Pn**	**09 54 05.3**	**+0.7**
OBIP				*eS*	**Sn**	**09 54 24.0**	**-0.3**
OBIP	**Obispado Ponce**	**1.54**	**215**	⇑*eP*	**Pn**	**09 54 05.3**	**+0.7**
OBIP				*eS*	**Sn**	**09 54 24.0**	**-0.3**
AGPR	**Aguadilla, PR**	**1.59**	**238**	*e*Pn	**Pn**	**09 54 06.1**	**+0.7**
LSP	**Las Mesas**	**1.75**	**230**	⇑*eP*	**Pn**	**09 54 08.8**	**+1.3**
LSP	**Las Mesas**	**1.75**	**230**	⇑*eP*	**Pn**	**09 54 08.8**	**+1.3**
**LSP

IDC 02 10:05:48.3±3.6, 36°.70S×96°.37W, h0km, mb3.6/3, mb1 4.1/3, mb1mx3.9/15, mbtmp3.7/3, MS4.8/1, Ms1 4.8/1, ms1mx3.9/23, Error ellipse: s-maj=95.4km s-min=29.5km az=30.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**20.52**	**109**	P	P	10 10 28.0	-0.2
	2.9nm,0.8s,baz=277,slow=9.2,SNR=5.9						
PLCA				LR	LR	10 17 06.4	
	comp=Z,3μm,18.9s,baz=177,slow=33						
CFAA	**Coronel Fontan**	**23.79**	**86**	P	P	10 11 03.5	+0.7
	0.3nm,0.7s,baz=221,slow=9.3,SNR=5.3						
LPAZ	**La Paz**	**32.24**	**58**	P	P	10 12 18.7	-0.6
	13nm,1.1s,baz=212,slow=4.3,SNR=18						
TXAR	**Lajitas Array**	**66.04**	**353**	P	P	10 16 37.8	+1.0
	0.3nm,0.9s,baz=166,slow=8.0,SNR=3.4						
PDAR	**Pinedale Array**	**80.00**	**350**	P	P	10 17 58.9	-0.6
	0.7nm,0.8s,baz=160,slow=5.6,SNR=6.4						

*IDC **02** 10:12:53.7±3.3, 3°.36S×100°.88E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.9/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/37, Error ellipse: s-maj=137.7km s-min=19.1km az=56.0*

*ISCJB **02** 10:13:01.0±1.1, 3°.0S×0°.1×101°.3E±0°.1, h53km, mb3.9/6, Error ellipse: s-maj=24.5km s-min=7.3km az=41.3*

*DJA **02** 10:13:06.8±1.8, 3°.5±18°.×10°.2E±2°.0, h36km±16km, M3.7/4, MLv3.7/4*

ISC 02 10:13:03.3±1.3, 2°.9S±0°.2×101°.4E±0°.2, h53km, n12, σ0s81/12, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.85**	**103**	P	**Pn**	**10 13 19.4**	**+0.3**
MASI				S	**Sn**	**10 13 30.4**	**-0.3**
KSI	**Kapahiang**	**1.37**	**121**	P	Pn	10 13 30.9	+4.8
KSI				S	**Sn**	**10 13 43.9**	**+0.7**
MNAI	**Manna**	**2.08**	**133**	P	**Pn**	**10 13 36.9**	**+1.1**
MNAI				S	**Sn**	**10 14 00.3**	**-0.3**
PPI	**Padang Panjang**	**2.67**	**338**	P	Pn	10 13 48.5	+4.6
PSI	**Prapat**	**6.23**	**336**	LR	LR	10 17 37.5	
	comp=Z,255nm,19.7s,baz=54,slow=45						
CMAR	**Chiang Mai Arr**	**21.41**	**354**	P	**P**	**10 17 47.9**	**+1.0**
	0.8nm,0.6s,baz=184,slow=8.9,SNR=5.4						
WRA	**Warramunga Arr**	**36.30**	**120**	P	**P**	**10 20 01.0**	**-1.2**
	0.6nm,0.4s,baz=302,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**37.56**	**126**	P	**P**	**10 20 12.1**	**-0.7**
	0.7nm,0.7s,baz=299,slow=8.5,SNR=15						
SONM	**Songino Array**	**50.76**	**4**	P	**P**	**10 21 58.7**	**+0.6**
	0.7nm,0.4s,baz=190,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**52.32**	**343**	P	**P**	**10 22 09.2**	**-0.5**
	2.4nm,0.6s,baz=150,slow=7.9,SNR=31						
ZALV	**Zalesovo Beam**	**58.36**	**349**	P	**P**	**10 22 52.1**	**-0.8**
	4.3nm,0.5s,baz=170,slow=5.4,SNR=22						
TXAR	**Lajitas Array**	**144.56**	**40**	PKPbc	**PKPab**	**10 32 33.2**	**-0.1**
	0.5nm,0.6s,baz=274,slow=1.3,SNR=9.6						

*NEIC **02** 10:14:15.0, 19°.48N×65°.60W, h12km, MD3.1(RSPR), After RSPR.*

RSPR 02 10:14:15.0, 19°.48N×65°.60W, h12km±11km, MD3.1/5, 9C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.22**	**192**	⇓eP	Pn	10 14 34.5	-3.5
CBYP	**Canovanas**	**1.22**	**192**	⇓eP	Pn	10 14 34.5	-3.5
CBYP	**Canovanas**	**1.22**	**192**	⇓eP	Pn	10 14 34.5	-3.5
HUMP	**Col San Antoni**	**1.35**	**190**	⇑eP	Pn	10 14 36.4	-3.2
HUMP	**Col San Antoni**	**1.35**	**190**	⇑eP	Pn	10 14 36.4	-3.2
HUMP	**Col San Antoni**	**1.35**	**190**	⇑eP	Pn	10 14 36.4	-3.2
MTP	**Monte Pirata**	**1.37**	**178**	⇑eP	Pn	10 14 37.2	-2.8
MTP	**Monte Pirata**	**1.37**	**178**	eS	Sn	10 14 53.9	-4.1
MTP	**Monte Pirata**	**1.37**	**178**	⇑eP	Pn	10 14 37.2	-2.8
MTP				eS	Sn	10 14 53.9	-4.1
MTP	**Monte Pirata**	**1.37**	**178**	⇑eP	Pn	10 14 37.2	-2.8
MTP				eS	Sn	10 14 53.9	-4.1
SJG	**San Juan**	**1.46**	**201**	⇑eP	Pn	10 14 38.0	-3.1
SJG				eS	Sn	10 14 56.4	-3.7
SJG	**San Juan**	**1.46**	**201**	⇑eP	Pn	10 14 38.0	-3.1
SJG				eS	Sn	10 14 56.4	-3.7
SJG	**San Juan**	**1.46**	**201**	⇑eP	Pn	10 14 38.0	-3.1
SJG				eS	Sn	10 14 56.4	-3.7
CPD	**Cerro la Pandu**	**1.46**	**192**	⇓eP	Pn	10 14 38.3	-2.9
CPD	**Cerro la Pandu**	**1.46**	**192**	⇓eP	Pn	10 14 38.3	-2.9
CPD	**Cerro la Pandu**	**1.46**	**192**	⇓eP	Pn	10 14 38.3	-2.9
AOPR	**Arecibo Observ**	**1.57**	**224**	⇓eP	Pn	10 14 39.9	-2.8
AOPR	**Arecibo Observ**	**1.57**	**224**	eS	Sn	10 14 58.8	-4.2
AOPR	**Arecibo Observ**	**1.57**	**224**	⇓eP	Pn	10 14 39.9	-2.8
AOPR				eS	Sn	10 14 58.8	-4.2
AOPR	**Arecibo Observ**	**1.57**	**224**	⇓eP	Pn	10 14 39.9	-2.8
AOPR				eS	Sn	10 14 58.8	-4.2

*IDC **02** 10:42:38.0±2.1, 12°.17N×92°.48E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=66.8km s-min=23.7km az=69.0*

ISC 02 10:42:40.3±0.9, 12°.22N±0°.06×92°.08E±0°.08, h27km, n10, σ3s00/11, mb3.6/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.86**	**131**	eP	Pn	10 42 56.6	-0.1
PBA				eS	Sn	10 43 07.8	-0.5
PBA				eS	Sb	10 43 08.0	+0.2
PBA				AML	AML	10 43 09.0	
	comp=N,121μm,0.3s						
PBA				AML	AML	10 43 09.3	
	comp=E,132μm,0.3s						
DGPR	**DIGLIPUR**	**1.26**	**41**	e4	**Sn**	**10 43 17.3**	**-1.0**
DGPR				eS	**Sb**	**10 43 22.9**	**+3.5**
CMBY	**CAMPBELL BAY**	**5.49**	**160**	e4	Pn	10 43 53.9	-6.5
CMBY				eS	**Sn**	**10 45 01.0**	**-1.7**
CMBY				AML	AML	10 45 04.1	
	comp=E,148nm,0.9s						
CMAR	**Chiang Mai Arr**	**9.07**	**46**	Pn	**Pn**	**10 44 48.1**	**-1.5**
	comp=E,0.3nm,0.3s,baz=232,slow=15,SNR=4.3						
VIS	**Vishakhapatnam**	**10.06**	**304**	eP	**Pn**	**10 45 05.8**	**+2.6**
VIS				AMb	AMB	10 45 09.9	
	comp=Z,4.2nm,0.2s						
VIS				eS	**Sn**	**10 46 52.6**	**-2.6**
VIS				AML	AML	10 46 56.9	
	comp=E,8.1nm,0.1s						
VIS				AML	AML	10 46 56.9	
	comp=N,12nm,0.1s						
SHL	**Shillong**	**13.28**	**359**	eS	**Sn**	**10 48 08.5**	**-5.6**
MKAR	**Makanchi Array**	**35.44**	**348**	P	**P**	**10 49 36.8**	**+2.7**
	comp=N,0.8nm,0.7s,baz=165,slow=7.3,SNR=6.3						
SONM	**Songino Array**	**37.47**	**16**	P	**P**	**10 49 52.4**	**+0.7**
	comp=N,0.3nm,0.5s,baz=203,slow=9.4,SNR=4.0						
WRA	**Warramunga Arr**	**52.46**	**127**	P	**P**	**10 51 50.1**	**-1.0**
	comp=N,0.6nm,0.6s,baz=308,slow=8.0,SNR=8.9						
ASAR	**Alice Springs**	**54.27**	**131**	P	**P**	**10 52 04.0**	**-0.3**
	comp=N,0.2nm,0.5s,baz=313,slow=7.3,SNR=8.4						

*NEIC **02** 10:52:33.6, 19°.42N×65°.61W, h15km, MD3.3(RSPR), After RSPR.*

RSPR 02 10:52:33.6, 19°.42N×65°.61W, h15km±25km, MD3.3/3, 14C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.17**	**192**	⇑eP	Pn	10 52 51.5	-4.0
CBYP	**Canovanas**	**1.17**	**192**	eS	Sb	10 53 06.8	-3.8
CBYP	**Canovanas**	**1.17**	**192**	⇑eP	Pn	10 52 51.5	-4.0
CBYP				eS	Sb	10 53 06.8	-3.8
CBYP	**Canovanas**	**1.17**	**192**	⇑eP	Pn	10 52 51.5	-4.0
CBYP				eS	Sb	10 53 06.8	-3.8
HUMP	**Col San Antoni**	**1.29**	**190**	⇑eP	Pn	10 52 54.3	-2.8
HUMP	**Col San Antoni**	**1.29**	**190**	eS	Sb	10 53 09.3	-4.7
HUMP	**Col San Antoni**	**1.29**	**190**	⇑eP	Pn	10 52 54.3	-2.8
HUMP				eS	Sb	10 53 09.3	-4.7
HUMP	**Col San Antoni**	**1.29**	**190**	⇑eP	Pn	10 52 54.3	-2.8
HUMP				eS	Sb	10 53 09.3	-4.7
MTP	**Monte Pirata**	**1.32**	**178**	⇑eP	Pn	10 52 54.5	-3.0
MTP	**Monte Pirata**	**1.32**	**178**	eS	Sb	10 53 11.1	-3.7
MTP	**Monte Pirata**	**1.32**	**178**	⇑eP	Pn	10 52 54.5	-3.0
MTP				eS	Sb	10 53 11.1	-3.7
MTP	**Monte Pirata**	**1.32**	**178**	⇑eP	Pn	10 52 54.5	-3.0
MTP				eS	Sb	10 53 11.1	-3.7
SJG	**San Juan**	**1.40**	**202**	⇑eP	Pn	10 52 55.8	-2.8
SJG				eS	Sn	10 53 13.2	-3.7
SJG	**San Juan**	**1.40**	**202**	⇑eP	Pn	10 52 56.1	-2.5
SJG				eS	Sn	10 53 13.3	-3.5
SJG	**San Juan**	**1.40**	**202**	⇑eP	Pn	10 52 55.8	-2.8
SJG				eS	Sn	10 53 13.2	-3.7
SJG	**San Juan**	**1.40**	**202**	⇑eP	Pn	10 52 55.8	-2.8
SJG	**San Juan**	**1.40**	**202**	⇑eP	Pn	10 52 56.1	-2.5
SJG				eS	Sn	10 53 13.2	-3.7
SJG				eS	Sb	10 53 13.3	-3.8
AOPR	**Arecibo Observ**	**1.52**	**226**	eS	Sn	10 53 15.7	-4.2
AOPR	**Arecibo Observ**	**1.52**	**226**	eS	Sn	10 53 15.7	-4.2

IDC 02 11:10:28.2±1.4, 52°.62N×158°.06E, h130km±10km, mb3.2/4, mb1 3.6/5, mb1mx3.1/25, mbtmp3.2/5, Error ellipse: s-maj=43.3km s-min=23.0km az=160.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.54**	**336**	P	Pn	11 10 47.8	+0.3
	23nm,0.3s,baz=124,slow=8.7,SNR=215						
PETK				S	Sn	11 11 03.6	+1.5
	3.6nm,0.3s,baz=328,slow=5.3,SNR=9.3						
FX1	**Attu Island--F**	**9.17**	**82**	P	Pn	11 12 38.4	+1.2
	1.3nm,0.3s,baz=324,slow=8.7,SNR=5.7						
FX1				S	Sn	11 14 15.1	-3.5
	8.1nm,0.3s,baz=81,slow=16,SNR=16						
ILAR	**Eielson Array**	**30.02**	**45**	P	P	11 16 23.2	-1.0
	0.7nm,0.7s,baz=263,slow=7.2,SNR=13						
NVAR	**Mina Array Bea**	**57.06**	**68**	P	P	11 20 01.4	+0.7
	0.3nm,0.6s,baz=301,slow=7.3,SNR=3.8						
PDAR	**Pinedale Array**	**58.83**	**59**	P	P	11 20 13.2	+0.2
	0.4nm,0.6s,baz=309,slow=3.5,SNR=4.6						
TXAR	**Lajitas Array**	**71.96**	**65**	P	P	11 21 37.6	+0.1
	0.3nm,0.4s,baz=301,slow=5.4,SNR=10						

JMA 02 11:34:03.7±0.1, 29°.37N×128°.38E, h238km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**1.32**	**148**	P	Pn	11 34 39.9	+0.3
JAMN				eS	S	11 35 06.9	-0.7
JAM	**Amami Oshima**	**1.44**	**131**	P	Pn	11 34 40.8	+0.4
JAM				eS	S	11 35 07.9	-1.2
JTK	**Tokunoshima**	**1.66**	**162**	P	Pn	11 34 42.6	+0.4
JTK				eS	S	11 35 11.8	-0.6
JZK	**Kikaishima**	**1.75**	**127**	eS	S	11 35 14.3	+0.6
JIH	**Iheya**	**2.35**	**189**	P	Pn	11 34 48.7	0.0
JIH				eS	S	11 35 22.9	-1.1
JOW	**Kunigami**	**2.53**	**182**	P	Pn	11 34 50.4	-0.1
JOW				eS	S	11 35 25.8	-1.5
JSJ	**Shimokoshiki**	**2.57**	**26**	P	Pn	11 34 51.3	+0.5
JAGN	**Aguni-jima**	**2.95**	**200**	P	Pn	11 34 55.2	+0.3
JKE	**Kume jima 2**	**3.34**	**205**	P	Pn	11 34 58.9	-0.5
JTZ	**Takazaki**	**3.44**	**42**	P	Pn	11 35 00.1	-0.2
JTZ				eS	S	11 35 41.4	-3.7

*BJI **02** 11:34:46.5, 23°.90N×121°.01E, h6km, mB4.7/16, mb4.4/25, ML4.2/4, Ms4.5/29, Ms7 4.4/29*

*NEIC **02** 11:34:47.7±1.0, 23°.78N×121°.13E, h18km±6km, mb4.5/9, ML4.9(TAP), Error ellipse: s-maj=8.5km s-min=6.9km az=107.0*

NEIC Felt [III] at T'ai-chung. Also felt at Pu-li and Tou-liu. Recorded [3 TAP] in Chang-hua, Nan-t'ou and Yun-lin; [2 TAP] in Hua-lien, I-lan and T'ai-chung; [1 TAP] in Chia-i, Hsin-chu, Kao-hsiung, Miao-li, P'eng-hu, T'ai-nan and T'ai-tung.

*MOS **02** 11:34:47.9±2.2, 23°.78N×121°.15E, h33km, mb4.8/17, Error ellipse: s-maj=13.7km s-min=7.4km az=115.0*

*TAP **02** 11:34:47.6, 23°.83N×121°.04E, h23km, ML4.8, B*

*ISCJB **02** 11:34:48.4±0.1, 23°.83N±0°.01×121°.06E±0°.01, h26km±1km, mb4.2/41, MS4.1/13, Error ellipse: s-maj=2.3km s-min=1.6km az=38.6*

*JMA **02** 11:34:48.8±0.4, 23°.95N×121°.05E, h83km, M4.1*

*IDC **02** 11:34:52.7±3.7, 23°.74N×121°.19E, h67km±35km, mb3.6/16, mb1 3.8/18, mb1mx3.7/27, mbtmp3.6/18, ML3.5/2, MS4.0/6, Ms1 4.0/6, ms1mx3.7/30, Error ellipse: s-maj=21.6km s-min=13.3km az=71.0*

ISC 02 11:34:48.8±0.4, 23°.83N±0°.01×121°.06E±0°.01, h17km±2km, n191, σ1s70/229, mb4.4/41, MS4.1/13, 35C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.10**	**246**	ePg	**Pb**	**11 34 51.6**	**-0.7**
SSLB				eSg	**Sg**	**11 34 55.0**	**+0.2**
SMLT	**Sun Moon Lake**	**0.15**	**290**	⇓iP	**Pg**	**11 34 52.6**	**-0.4**
	baz=294						
SMLT				i S	**Sb**	**11 34 56.3**	**+0.1**
	baz=294						
TYC	**Yuchr**	**0.20**	**292**	⇓iP	**Pg**	**11 34 53.0**	**-0.5**
	baz=296						
WNT	**Mingjian**	**0.34**	**278**	⇑iP	**Pg**	**11 34 55.8**	**-0.2**
	baz=279						
WNT				S	**Sb**	**11 35 01.4**	**-0.2**
	baz=279						
ESL	**Shilin**	**0.35**	**92**	⇑iP	**Pg**	**11 34 56.1**	**0.0**
	baz=92						
ESL				S	**Sb**	**11 35 01.7**	**0.0**
	baz=92						
YUS	**Yu-Shan**	**0.35**	**196**	⇓iP	**Pg**	**11 34 56.1**	**-0.3**
	baz=194						
YUS				eS	**Sg**	**11 35 01.6**	**0.0**
	baz=194						
WHF	**Hehuan Shan**	**0.37**	**31**	⇑iP	**Pg**	**11 34 56.3**	**-0.4**
	baz=33						
ALS	**Alishan**	**0.39**	**216**	⇓P	**Pg**	**11 34 56.6**	**-0.4**
	baz=214						
ALS				eS	**Sg**	**11 35 02.9**	**+0.3**
	baz=214						
EHY	**Hungye**	**0.40**	**143**	⇑iP	**Pg**	**11 34 57.0**	**-0.1**
	baz=134						
EHY				i S	**Sb**	**11 35 03.3**	**-0.1**
	baz=134						
CHN5	**Tsauling**	**0.42**	**236**	⇑iP	**Pg**	**11 34 56.8**	**-0.5**
	baz=235						
TWT	**Tachien**	**0.44**	**15**	⇑iP	**Pg**	**11 34 56.8**	**-0.9**
	baz=16						
TWT				eS	**Sg**	**11 35 02.6**	**-1.1**
	baz=16						
TEGC	**Jichi Village**	**0.46**	**105**	P	**Pb**	**11 34 58.6**	**+0.2**
	baz=104						
TEGC				S	**Sb**	**11 35 06.3**	**+1.4**
	baz=104						
TCU	**Taichung**	**0.47**	**312**	⇑iP	**Pg**	**11 34 58.0**	**-0.2**
	baz=304						
TCU				S	**Sb**	**11 35 05.3**	**+0.1**
	baz=304						
YULB	**Yu-li**	**0.49**	**153**	ePg	**Pg**	**11 34 57.9**	**-0.7**
YULB				eSg	**Sg**	**11 35 05.5**	**+0.2**
HWA	**Hwalien**	**0.52**	**74**	⇑iP	**Pg**	**11 34 59.2**	**-0.1**
	baz=74						
HWA				S	**Sb**	**11 35 06.5**	**-0.3**
	baz=74						
TWF1	**Yuli**	**0.52**	**155**	⇑iP	**Pg**	**11 34 59.0**	**-0.3**
	baz=145						
TWF1				S	**Sb**	**11 35 06.7**	**-0.2**
	baz=145						
TWD	**Chiawan**	**0.55**	**63**	⇑iP	**Pg**	**11 34 59.2**	**-0.7**
	baz=63						
TWD				S	**Sg**	**11 35 06.9**	**-0.4**
	baz=63						
TWQ1	**Liyutan**	**0.58**	**333**	⇑iP	**Pg**	**11 34 60.0**	**-0.3**
	baz=335						
TWQ1				eS	**Sb**	**11 35 08.6**	**+0.2**
	baz=335						
NACB	**Ninganchiao**	**0.60**	**55**	ePg	**Pg**	**11 34 59.4**	**-1.3**
NACB				eSg	**Sg**	**11 35 07.1**	**-1.6**
CHN2	**Minshiung**	**0.61**	**241**	⇑iP	**Pg**	**11 35 00.1**	**-0.8**
	baz=241						
CHN2				i S	**Sb**	**11 35 09.7**	**+0.5**
	baz=241						
CHN4	**Tsaushan**	**0.64**	**222**	⇑iP	**Pg**	**11 35 00.5**	**-0.9**
	baz=221						
ELDTW	**Lidau**	**0.64**	**183**	⇓iP	**Pg**	**11 35 00.6**	**-0.8**
	baz=173						
ELDTW				eS	**Sg**	**11 35 09.6**	**-0.4**
	baz=173						
NSY	**Sanyi**	**0.64**	**335**	⇑iP	**Pg**	**11 35 01.5**	**0.0**
	baz=337						
NSY				S	**Sb**	**11 35 10.6**	**+0.3**
	baz=337						
TPUB	**Ta-pu**	**0.66**	**217**	ePg	**Pg**	**11 35 00.3**	**-1.4**
TPUB				eSg	**Sg**	**11 35 10.6**	**+0.1**
CHY	**Chiayi**	**0.67**	**240**	⇑iP	**Pg**	**11 35 00.9**	**-1.0**
	baz=240						
CHY				S	**Sb**	**11 35 10.9**	**+0.1**
	baz=240						
NNS	**Nan Shan**	**0.67**	**25**	⇑iP	**Pg**	**11 35 00.9**	**-1.2**
	baz=28						
NNS				eS	**Sg**	**11 35 10.1**	**-1.0**
	baz=28						
WTP	**Ta-pu**	**0.71**	**215**	⇑iP	**Pb**	**11 35 01.4**	**-1.2**
	baz=214						
WTP				eS	**Sg**	**11 35 11.9**	**-0.2**
	baz=214						
WTCT	**Ta-ch'eng**	**0.71**	**273**	⇑iP	**Pb**	**11 35 01.3**	**-1.3**
	baz=273						
WTCT				S	**Sb**	**11 35 11.9**	**-0.2**
	baz=273						
STYT	**Tauyuan**	**0.72**	**203**	⇑iP	**Pb**	**11 35 02.1**	**-0.8**
	baz=210						
STYT				S	**Sb**	**11 35 12.2**	**-0.3**
	baz=210						
TWK	**Hsinying**	**0.77**	**223**	⇓eP	**Pb**	**11 35 02.2**	**-1.4**
	baz=223						
TWK				eS	**Sb**	**11 35 13.3**	**-0.5**
	baz=223						
CHKT	**Chengkung**	**0.78**	**159**	⇓iP	**Pb**	**11 35 03.8**	**-0.1**
	baz=143						
CHKT				S	**Sn**	**11 35 16.0**	**-0.3**
	baz=143						
WSF	**Szhu**	**0.79**	**256**	eP	**Pb**	**11 35 02.5**	**-1.5**
	baz=257						
WSF				eS	**Sb**	**11 35 13.8**	**-0.6**
	baz=257						
EHP	**Heping Village**	**0.79**	**53**	eP	**Pb**	**11 35 03.3**	**-0.7**
	baz=61						
EHP				S	**Sb**	**11 35 14.2**	**-0.3**
	baz=61						
NSTT	**Nanjuang**	**0.80**	**356**	⇓iP	**Pb**	**11 35 04.0**	**-0.3**
	baz=356						
NSTT				S	**Sb**	**11 35 14.5**	**-0.3**
	baz=356						
CHN1	**Nanshi**	**0.80**	**217**	⇑iP	**Pb**	**11 35 03.0**	**-1.3**
	baz=218						
CHN1				i S	**Sb**	**11 35 14.9**	**+0.1**
	baz=218						
SGST	**Jiashian**	**0.86**	**210**	eP	**Pb**	**11 35 03.8**	**-1.5**
	baz=211						
SGST				eS	**Sg**	**11 35 17.2**	**+0.3**
	baz=211						
ENA	**Nanau**	**0.86**	**46**	⇑iP	**Pb**	**11 35 04.4**	**-0.9**
	baz=45						
ENA				eS	**Sb**	**11 35 16.0**	**-0.7**
	baz=45						
YHNB	**Yeheng**	**0.89**	**19**	ePn	**Pb**	**11 35 04.5**	**-1.3**
NSK	**Sanguang**	**0.89**	**18**	⇑iP	**Pb**	**11 35 04.8**	**-1.0**
	baz=18						
NSK				eS	**Sb**	**11 35 15.1**	**-2.2**
	baz=18						
ENTT	**Nioudou**	**0.93**	**30**	⇑P	**Pb**	**11 35 05.4**	**-1.1**
	baz=29						
ENTT				S	**Sb**	**11 35 19.0**	**+0.4**
	baz=29						
HSN	**Hsinchu**	**0.97**	**355**	eP	**Pb**	**11 35 06.9**	**-0.3**
	baz=356						
HSN				eS	**Sn**	**11 35 21.4**	**+0.4**
	baz=356						
CHN3	**Shinhua**	**0.98**	**220**	eP	**Pb**	**11 35 06.9**	**-0.4**
	baz=234						
CHN3				eS	**Sn**	**11 35 22.5**	**+1.3**
	baz=234						
TWG	**Pinlang**	**1.00**	**179**	⇑P	**Pb**	**11 35 07.3**	**-0.4**
	baz=175						
TWG				eS	**Sb**	**11 35 20.9**	**+0.3**
	baz=175						
TWG	**Pinlang**	**1.00**	**179**	ePn	**Pb**	**11 35 07.4**	**-0.3**
SCLT	**Jiali**	**1.02**	**231**	eP	**Pb**	**11 35 06.8**	**-1.3**
	baz=231						
SCLT				eS	**Sn**	**11 35 22.4**	**+0.2**
	baz=231						
TWE	**Neicheng**	**1.05**	**32**	⇑P	**Pb**	**11 35 07.9**	**-0.6**
	baz=31						
TWE				S	**Sb**	**11 35 21.9**	**0.0**
	baz=31						
TWC	**Suao**	**1.06**	**43**	⇑iP	**Pb**	**11 35 08.1**	**-0.6**
	baz=41						
TWC				S	**Sb**	**11 35 21.6**	**-0.7**
	baz=41						
TTN	**Taitung**	**1.07**	**175**	eP	**Pn**	**11 35 09.2**	**+0.1**
	baz=176						
TAI1	**Yung-k'ang**	**1.09**	**224**	eP	**Pb**	**11 35 08.4**	**-0.8**
	baz=225						
ILA	**Ilan**	**1.13**	**34**	eP	**Pn**	**11 35 09.4**	**-0.3**
	baz=32						
ILA				eS	**Sg**	**11 35 26.1**	**+0.7**
	baz=32						
NCU	**National Centr**	**1.14**	**6**	eP	**Pn**	**11 35 09.1**	**-0.9**
	baz=4.0						
NCU				eS	**Sn**	**11 35 25.4**	**+0.2**
	baz=4.0						
TWM1	**Shoushan**	**1.16**	**210**	⇑P	**Pn**	**11 35 10.1**	**-0.1**
	baz=227						
SGLT	**Jiouru**	**1.22**	**205**	eP	**Pb**	**11 35 11.3**	**0.0**
	baz=222						
ECL	**Taimali**	**1.23**	**184**	⇑iP	**Pn**	**11 35 10.8**	**-0.3**
	baz=171						
ECL				S	**Sn**	**11 35 27.7**	**+0.3**
	baz=171						
TWA	**Mucha**	**1.24**	**23**	⇓P	**Pn**	**11 35 10.4**	**-1.0**
	baz=1.0						
TWA				eS	**Sg**	**11 35 29.6**	**+0.5**
	baz=1.0						
TAP	**Taipei**	**1.27**	**19**	eP	**Pn**	**11 35 10.9**	**-0.8**
	baz=1.0						
TAP1	**Taipei**	**1.28**	**19**	eP	**Pn**	**11 35 11.3**	**-0.5**
	baz=1.0						
TAP1				eS	**Sb**	**11 35 27.4**	**-1.1**
	baz=1.0						
PNG	**Penghu**	**1.40**	**260**	⇑P	**Pn**	**11 35 11.5**	**-2.0**
	baz=260						
PNG				eS	**Sn**	**11 35 30.4**	**-1.2**
	baz=260						
WDGT	**Dungji**	**1.40**	**246**	⇑eP	**Pn**	**11 35 11.5**	**-2.0**
	baz=247						
WDGT				eS	**Sn**	**11 35 30.2**	**-1.4**
	baz=247						
NWF	**Wu-fen Shan**	**1.40**	**28**	eP	**Pn**	**11 35 13.6**	**0.0**
	baz=11						
NWF				eS	**Sg**	**11 35 33.6**	**-0.5**
	baz=11						
TWB1	**Santiao Chiao**	**1.45**	**36**	P	**Pb**	**11 35 14.9**	**-0.4**
	baz=33						
TWB1				S	**Sb**	**11 35 34.1**	**+0.7**
	baz=33						
TAW	**Tawu**	**1.47**

HATJ	**Hateruma jima**	**2.53**	**84**	P	**Pn**	**11 35 28.4 -0.6**
HATJ				S	**Sn**	**11 35 58.4 -1.0**
JKRS	**Kuro-shima**	**2.73**	**81**	P	**Pn**	**11 35 31.3 -0.5**
JIJ	**Ishigaki jima**	**2.87**	**79**	P	**Pn**	**11 35 32.6 -1.2**
JIJ				*e*S	**Sn**	**11 36 06.2 -1.7**
JTJ	**Tarama**	**3.42**	**76**	P	**Pn**	**11 35 40.7 -0.7**
JTJ				*e*S	**Sn**	**11 36 21.2 -0.4**
JOW	**Kunigami**	**7.18**	**64**	*e*Pn	**Pn**	**11 36 31.3 -1.8**
	comp=E,18nm,0.4s					
SSE	**Sheshan**	**7.24**	**1**	P	Pn	11 36 39.3 +5.5
SSE				LR	LR	
	comp=N,230nm,14.7s					
SSE				LR	LR	
	comp=E,1μm,14.7s					
SSE				LR	LR	
	comp=Z,750nm,10.5s					
NJ2	**Nanjing**	**8.42**	**347**	*e*P	Pn	11 36 54.4 +4.4
NJ2				S	Sn	11 38 18.1 -6.5
NJ2				LR	LR	
	comp=N,1μm,8.2s					
NJ2				LR	LR	
	comp=E,1μm,8.2s					
NJ2				LR	LR	
	comp=Z,1μm,6.2s					
WHN	**Wuhan**	**8.96**	**320**	S	Sn	11 38 29.5 -8.5
WHN				LR	LR	
	comp=N,3μm,8.3s					
WHN				LR	LR	
	comp=E,3μm,8.0s					
WHN				LR	LR	
	comp=Z,5μm,11.4s					
QIZ	**Qiongzhong**	**11.48**	**248**	P	**Pn**	**11 37 32.6 +0.6**
QIZ				S	**Sn**	**11 39 42.6 +2.7**
JNU	**Nakatsue**	**12.65**	**41**	*e*Pn	**Pn**	**11 37 50.9 +2.9**
JNU	**Nakatsue**	**12.65**	**41**	P	**Pn**	**11 37 50.3 +2.3**
	comp=Z,0.1nm,0.3s,baz=230,slow=15,SNR=3.0					
GYA	**Guiyang**	**13.30**	**284**	P	**Pn**	**11 37 57.1 +0.2**
GYA				PP	**P**	**11 38 09.0 +2.4**
GYA				SS	**S**	**11 40 43.2 -5.5**
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
GYA				pmax	pmax	
	comp=Z,50nm,4.1s					
GYA				LR	LR	
	comp=N,570nm,9.2s					
GYA				LR	LR	
	comp=E,1μm,13.1s					
GYA				LR	LR	
	comp=Z,2μm,14.0s					
XAN	**Xi'an**	**14.70**	**317**	P	P	11 38 27.3 +5.3
XAN				S	**S**	**11 41 20.5 +3.3**
XAN				pmax	pmax	
	comp=Z,3.0nm,0.9s					
XAN				pmax	pmax	
	comp=Z,21nm,5.8s					
XAN				LR	LR	
	comp=N,480nm,14.4s					
XAN				LR	LR	
	comp=E,340nm,15.8s					
XAN				LR	LR	
	comp=Z,440nm,14.9s					
KSAR	**Wonju Array Be**	**14.78**	**22**	P	**Pn**	**11 38 18.6 +1.6**
KSRS	**Korea Array**	**14.80**	**22**	P	**Pn**	**11 38 18.6 +1.3**
	comp=Z,0.4nm,0.3s,baz=202,slow=13,SNR=18					
KSRS				LR	LR	11 44 14.9
	comp=Z,330nm,20.3s,baz=249,slow=38					
KMI	**Kunming**	**16.73**	**278**	P	**Pn**	**11 38 43.8 +1.2**
KMI				pP	**pP**	**11 38 47.8 -1.9**
KMI				sP	**sP**	**11 38 50.3 -1.6**
KMI				PP	PP	11 38 57.5
KMI				S	**Sn**	**11 41 49.6 +1.4**
KMI				SS	**SnSn**	**11 42 07.9 +6.6**
KMI				pmax	pmax	
	comp=Z,8.0nm,0.7s					
KMI				pmax	pmax	
	comp=Z,120nm,4.6s					
KMI				LR	LR	
	comp=N,420nm,9.6s					
KMI				LR	LR	
	comp=E,2μm,11.7s					
KMI				LR	LR	
	comp=Z,2μm,12.2s					
CD2	**Chengdu**	**16.89**	**298**	*e*P	**P**	**11 38 47.4 +0.9**
CD2				pP	**pP**	**11 38 50.7 -0.6**
CD2				sP	**sP**	**11 38 54.2 +0.6**
CD2				PP	PP	11 39 01.5
CD2				S	**Sn**	**11 41 55.1 +3.1**
CD2				sS	**S**	**11 41 59.9 -2.3**
CD2				SS	SnSn	11 42 15.7 +10
CD2				pmax	pmax	
	comp=Z,60nm,0.9s					
CD2				pmax	pmax	
	comp=Z,400nm,4.2s					
CD2				LR	LR	
	comp=E,2μm,10.7s					
CD2				LR	LR	
	comp=Z,2μm,14.3s					
SNY	**Shenyang**	**18.07**	**6**	⇓P	P	11 39 08.5 +9.2
SNY				S	**S**	**11 42 31.4 +5.6**
SNY				pmax	pmax	
	comp=Z,20nm,0.9s					
SNY				pmax	pmax	
	comp=Z,2μm,10.7s					
SNY				LR	LR	
	comp=N,410nm,9.8s					
SNY				LR	LR	
	comp=Z,510nm,14.9s					
HHC	**Hu-ho-hao-te**	**18.75**	**337**	*e*P	**Pn**	**11 39 08.0 +0.6**
HHC				PP	**PnPn**	**11 39 24.2 +4.6**
HHC				S	**Sn**	**11 42 34.1 -2.7**
HHC				SS	**SnSn**	**11 42 59.8 +8.9**
HHC				PcP	**PcP**	**11 43 35.7 +1.4**
HHC				pmax	pmax	
	comp=Z,47nm,0.6s					
HHC				pmax	pmax	
	comp=Z,420nm,5.7s					
HHC				LR	LR	
	comp=N,1μm,11.6s					
HHC				LR	LR	
	comp=E,920nm,11.6s					
HHC				LR	LR	
	comp=Z,620nm,13.4s					
LZH	**Lanzhou**	**19.24**	**313**	*e*P	P	11 39 05.2 -7.2
LZH				pP	Pn	11 39 08.0 -5.4
LZH				sP	sP	11 39 12.1 -7.5
LZH				PP	pP	11 39 20.7 +3.4
LZH				*e*S	Sn	11 42 35.0 -14
LZH				sS	S	11 42 41.4 -8.5
LZH				SS	**SnSn**	**11 42 59.1 -4.0**
LZH				pmax	pmax	
	comp=Z,62nm,1.8s					
LZH				pmax	pmax	
	comp=Z,96nm,4.0s					
LZH				LR	LR	
	comp=E,1μm,9.0s					
LZH				LR	LR	
	comp=Z,2μm,11.0s					
CN2	**Changchun**	**20.25**	**9**	*e*P	Pn	11 39 32.3 +7.2
CN2				*e*PP	PnPn	11 39 52.3 +12
CN2				*e*S	Sn	11 43 14.1 +1.4
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				pmax	pmax	
	comp=Z,200nm,3.0s					
CN2				LR	LR	
	comp=N,1μm,22.0s					
CN2				LR	LR	
	comp=E,700nm,22.0s					
CN2				LR	LR	
	comp=Z,600nm,23.0s					
CHTO	**Chiang Mai**	**21.19**	**261**	*e*P	**P**	**11 39 32.3 -1.3**
CHTO				pmax	pmax	
	comp=Z,10.0nm,1.1s					
CHTO	**Chiang Mai**	**21.19**	**261**	*e*P	**P**	**11 39 32.3 -1.3**
	comp=Z,10nm,1.1s					
CMAR	**Chiang Mai Arr**	**21.30**	**260**	P	**P**	**11 39 34.7 0.0**
CMAR	**Chiang Mai Arr**	**21.30**	**260**	P	**P**	**11 39 34.7 0.0**
	comp=Z,3.1nm,0.8s,baz=60,slow=8.0,SNR=11					
CMAR				LR	LR	11 48 33.8
	comp=Z,299nm,19.4s,baz=1.1,slow=38					
MDJ	**Mudanjiang**	**21.88**	**17**	P	**P**	**11 39 41.4 +0.7**
MDJ				pP	**pP**	**11 39 44.0 -1.7**
MDJ				S	**S**	**11 43 44.9 +3.1**
MDJ				pmax	pmax	
	comp=Z,12nm,1.1s					
MDJ				LR	LR	
	comp=N,300nm,19.7s					
MDJ				LR	LR	
	comp=E,390nm,17.6s					
MDJ				LR	LR	
	comp=Z,620nm,15.6s					
USRK	**Ussuriysk Arra**	**22.21**	**21**	P	**P**	**11 39 44.2 -0.1**
	comp=Z,1.5nm,0.7s,baz=205,slow=9.2,SNR=4.1					
GTA	**Gaotai**	**23.75**	**316**	*e*P	**P**	**11 40 02.4 +2.0**
GTA				pP	**pP**	**11 40 06.7 +1.1**
GTA				sP	**sP**	**11 40 09.5 +1.7**
GTA				S	**S**	**11 44 18.9 +3.7**
GTA				sS	**sS**	**11 44 26.0 +2.2**
GTA				pmax	pmax	
	comp=Z,180nm,7.1s					
GTA				LR	LR	
	comp=N,590nm,10.9s					
GTA				LR	LR	
	comp=E,750nm,17.1s					
GTA				LR	LR	
	comp=Z,910nm,13.3s					
ULN	**Ulaanbaatar**	**26.45**	**339**	*e*P	**P**	**11 40 25.1 +0.2**
	comp=Z,14nm,1.2s					
SHL	**Shillong**	**26.54**	**280**	*ex*	**P**	**11 40 24.0 -2.0**
SONM	**Songino Array**	**26.65**	**338**	P	**P**	**11 40 26.1 -0.6**
SONM	**Songino Array**	**26.65**	**338**	P	**P**	**11 40 26.1 -0.6**
	comp=Z,1.7nm,0.6s,baz=155,slow=9.1,SNR=5.9					
KLR	**Kul'dur**	**26.71**	**16**	*e*P	**P**	**11 40 31.1 +4.0**
ASAJ	**Asahikawa**	**26.85**	**36**	LR	LR	11 51 28.6
	comp=Z,431nm,19.5s,baz=71,slow=37					
ZAK	**Zakamensk**	**29.90**	**337**	*e*P	**P**	**11 40 53.4 -2.2**
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.4s					
WMQ	**Urumqi**	**33.82**	**314**	*e*P	**P**	**11 41 30.4 +0.3**
MK31	**Makanchi Array**	**38.51**	**316**	*e*P	**P**	**11 42 09.2 -1.0**
MK31	**Makanchi Array**	**38.51**	**316**	*e*P	**P**	**11 42 09.2 -1.0**
MKAR	**Makanchi Array**	**38.51**	**316**	P	**P**	**11 42 09.3 -0.9**
MKAR	**Makanchi Array**	**38.51**	**316**	P	**P**	**11 42 09.3 -0.9**
MKAR	**Makanchi Array**	**38.51**	**316**	P	**P**	**11 42 09.3 -0.9**
	comp=Z,1.2nm,0.5s,baz=102,slow=9.9,SNR=17					
YAK	**Yakutsk**	**38.63**	**7**	*e*P	P	11 42 16.6 +5.7
YAK				pmax	pmax	
	comp=Z,10.0nm,0.9s					
YAK				pmax	pmax	
	comp=E,2.0nm,0.9s					
YAK				pmax	pmax	
	comp=N,3.0nm,1.1s					
YAK				MLR	MLR	
	comp=Z,325nm,13.0s					
YAK				MLR	MLR	
	comp=N,215nm,14.0s					
YAK				MLR	MLR	
	comp=E,79nm,15.0s					
PETK	**Petropavlovsk-**	**40.23**	**34**	LR	LR	11 57 35.0
	comp=E,140nm,21.1s,baz=278,slow=34					
ZAA0	**Zalesovo Array**	**40.48**	**327**	*e*P	**P**	**11 42 25.5 -0.9**
ZALV	**Zalesovo Beam**	**40.48**	**327**	*i* P	**P**	**11 42 29.0 +2.6**
ZALV				pmax	pmax	
	comp=Z,14nm,1.1s					
ZALV	**Zalesovo Beam**	**40.48**	**327**	P	**P**	**11 42 25.9 -0.5**
ZALV	**Zalesovo Beam**	**40.48**	**327**	P	**P**	**11 42 25.9 -0.5**
	comp=Z,14nm,1.1s,baz=131,slow=9.0,SNR=6.1					
KSH	**Kashi**	**40.99**	**303**	*e*P	P	11 42 39.8 +8.7
KSH				sP	sP	11 42 46.9 +8.3
KSH				PP	**PnPn**	**11 44 16.4 +6.4**
KSH				S	S	11 48 56.9 +14
KSH				sS	sS	11 49 03.7 +12
KSH				SS	**SnSn**	**11 51 55.0 +2.7**
KSH				pmax	pmax	
	comp=Z,3.0nm,0.4s					
KSH				pmax	pmax	
	comp=Z,40nm,3.2s					
KSH				LR	LR	
	comp=N,380nm,7.8s					
KSH				LR	LR	
	comp=E,300nm,7.7s					
KSH				LR	LR	
	comp=Z,160nm,9.2s					
NVS	**Novosibirsk**	**41.74**	**328**⇑	*i* P	P	11 42 40.5 +3.7
NVS				pmax	pmax	
	comp=Z,24nm,2.0s					
NVS				pmax	pmax	
	comp=N,8.0nm,1.6s					
NVS				pmax	pmax	
	comp=E,13nm,1.8s					
KURK	**Kurchatov**	**42.29**	**320**	P	**P**	**11 42 40.7 -0.6**
KURK	**Kurchatov**	**42.29**	**320**	P	**P**	**11 42 40.7 -0.6**
KURBB	**Kurchatov Arra**	**42.30**	**320**	P	**P**	**11 42 40.7 -0.7**
	comp=E,0.5nm,0.4s,baz=122,slow=6.7,SNR=4.6					
AAK	**Ala-Archa**	**42.63**	**308**⇑	*i* P	P	11 42 51.2 +6.8
AAK				pmax	pmax	
	comp=Z,11nm,1.2s					
WRAB	**Tennant Creek**	**45.39**	**162**	*e*P	P	11 42 58.9 -7.6
WRAB				pmax	pmax	
	comp=Z,4.0nm,0.8s					
WRAB	**Tennant Creek**	**45.39**	**162**	*e*P	P	11 42 58.9 -7.6
	comp=Z,3.5nm,0.8s					
WRA	**Warramunga Arr**	**45.39**	**162**	P	P	11 43 03.0 -3.6
WRA	**Warramunga Arr**	**45.39**	**162**	P	P	11 43 03.0 -3.6
	comp=Z,0.7nm,0.5s,baz=344,slow=8.7,SNR=6.3					
KBL	**Kabul**	**46.21**	**296**	*e*P	**P**	**11 43 14.7 +1.4**
KBL				pmax	pmax	
	comp=Z,14nm,1.0s					
KBL	**Kabul**	**46.21**	**296**	*e*P	**P**	**11 43 14.7 +1.4**
	comp=Z,14nm,1.0s					
BRVK	**Borovoye**	**47.94**	**321**	*e*P	**P**	**11 43 28.4 +2.2**
BRVK				pmax	pmax	
	comp=Z,8.0nm,0.8s					
BRVK	**Borovoye**	**47.94**	**321**	*e*P	**P**	**11 43 28.4 +2.2**
	comp=Z,8.2nm,0.8s					
ASAR	**Alice Springs**	**48.83**	**164**	P	**P**	**11 43 31.0 -2.4**
ASAR	**Alice Springs**	**48.83**	**164**	P	**P**	**11 43 31.0 -2.4**
	comp=Z,0.3nm,0.3s,baz=337,slow=6.8,SNR=13					
SVE	**Sverdlovsk**	**54.26**	**324**⇓	*e*P	P	11 44 19.9 +6.3
SVE				pmax	pmax	
	comp=Z,17nm,1.2s					
ARU	**Arti**	**55.32**	**323**	*c i* P	P	11 44 27.2 +5.9
ARU						11 46 27.7
ARU				S	**S**	**11 52 07.3 +2.8**
ARU				SS	**SS**	**11 55 44.8 -3.9**
ARU				pmax	pmax	
	comp=Z,15nm,1.0s					
STKA	**Stephens Creek**	**58.77**	**160**	*e*P	**P**	**11 44 43.4 -2.6**
	comp=Z,1.1nm,0.8s					
STKA	**Stephens Creek**	**58.77**	**160**	P	**P**	**11 44 42.9 -3.1**
	comp=Z,2.0nm,0.5s,baz=340,slow=9.4,SNR=13					
KIV	**Kislovodsk**	**65.72**	**309**	*e*P	P	11 45 38.9 +6.2
KIV				pmax	pmax	
	comp=Z,10.0nm,1.1s					
KIV				MLR	MLR	
	comp=Z,74nm,17.0s					
OBN	**Obninsk**	**67.70**	**322**	*e*P	P	11 45 52.9 +7.9
OBN				pmax	pmax	
	comp=Z,2.0nm,0.5s					
OBN				MLR	MLR	
	comp=Z,100nm,18.0s					
TRF	**Thorofare Moun**	**68.37**	**29**	*e*P	**P**	**11 45 48.9 -0.4**
	comp=Z,3.4nm,0.7s					
ANN	**Anapa**	**69.23**	**311**	*e*P	P	11 45 48.0 -6.8
ANN				*e*		11 46 16.5
ANN				pmax	pmax	
	comp=Z,29nm,1.1s					
PMR	**Palmer**	**69.25**	**31**	*e*P	**P**	**11 45 51.9 -2.6**
PMR				pmax	pmax	
	comp=Z,6.0nm,1.0s					
PMR	**Palmer**	**69.25**	**31**	*e*P	**P**	**11 45 51.9 -2.6**
	comp=Z,6.4nm,1.0s					
KEV	**Kevo**	**69.26**	**338**	*e*P	P	11 45 59.9 +5.4
KEV				pmax	pmax	
	comp=Z,6.0nm,0.7s					
KEV	**Kevo**	**69.26**	**338**	*ep*	P	11 45 59.9 +5.4
	comp=Z,5.9nm,0.7s					
ILAR	**Eielson Array**	**69.58**	**27**	P	**P**	**11 45 54.0 -2.6**
ILAR	**Eielson Array**	**69.58**	**27**	P	**P**	**11 45 54.0 -2.6**
	comp=Z,0.3nm,0.5s,baz=277,slow=5.1,SNR=11					
ARCES	**ARCESS Array B**	**69.82**	**338**	P	**P**	**11 45 56.5 -1.5**
ARCES	**ARCESS Array B**	**69.82**	**338**	P	**P**	**11 45 56.5 -1.5**
	comp=Z,0.9nm,0.7s,baz=71,slow=4.1,SNR=3.7					
KAF	**Kangasniemi**	**71.40**	**330**	*e*P	P	11 46 13.0 +5.3
KAF				pmax	pmax	
	comp=Z,3.0nm,0.5s					
KAF	**Kangasniemi**	**71.40**	**330**	*ep*	P	11 46 13.0 +5.3
	comp=Z,2.5nm,0.5s					
FIA1	**FINESS Array S**	**71.69**	**330**	*e*P	**P**	**11 46 08.7 -0.7**
FINES	**FINESS Array B**	**71.69**	**330**	P	**P**	**11 46 08.3 -1.2**
FINES	**FINESS Array B**	**71.69**	**330**	P	**P**	**11 46 08.3 -1.2**
	comp=Z,0.9nm,0.6s,baz=53,slow=5.8,SNR=6.7					
BRTR	**Keskin Array B**	**73.29**	**306**	P	**P**	**11 46 18.9 -0.7**
BRTR	**Keskin Array B**	**73.29**	**306**	P	**P**	**11 46 18.9 -0.7**
	comp=Z,0.5nm,0.5s,baz=104,slow=3.8,SNR=3.1					
INK	**Inuvik**	**73.60**	**22**	*e*P	**P**	**11 46 19.8 -0.9**
	comp=Z,5.3nm,1.0s					
NB2	**NORSAR Subarra**	**78.48**	**332**	P	**P**	**11 46 46.7 -2.0**
	comp=Z,6.3nm,1.0s,baz=62,slow=5.6					
NOA	**NORSAR Array B**	**78.48**	**332**	P	**P**	**11 46 46.8 -2.0**
NOA	**NORSAR Array B**	**78.48**	**332**	P	**P**	**11 46 46.8 -2.0**
	comp=Z,0.9nm,0.9s,baz=64,slow=5.4,SNR=2.7					
NOA				LR	LR	12 25 23.0
	comp=Z,145nm,18.3s,baz=55,slow=38					
OJC	**Ojcow**	**78.87**	**320**	*e*P	**P**	**11 46 51.0 0.0**
OJC	**Ojcow**	**78.87**	**320**	*e*P	**P**	**11 46 51.0 0.0**
DLBC	**Dease Lake**	**79.31**	**30**	LR	LR	12 21 01.9
	comp=Z,79nm,19.4s,baz=299,slow=35					
VYHS	**Vyhne**	**80.15**	**319**	*e*P	P	11 47 04.1 +6.0
VYHS				pmax	pmax	
	comp=Z,3.0nm,1.2s					
VYHS	**Vyhne**	**80.15**	**319**	*e*P	P	11 47 04.1 +6.0
DPC	**Dobruska-Polom**	**80.83**	**321**	*e*P	P	11 47 07.7 +6.0
DPC	**Dobruska-Polom**	**80.83**	**321**	*ep*P	P	11 47 07.7 +6.0
DPC				AMS	AMS	12 25 40.0
PRU	**Pruhonice**	**82.02**	**321**	*e*P	P	11 47 15.6 +7.7
PRU				MLR	MLR	
	comp=Z,100nm,19.4s					
PRU	**Pruhonice**	**82.02**	**321**	*ep*P	P	11 47 15.6 +7.7
PRU				AMS	AMS	12 26 30.0
	comp=Z,100nm,19.4s					
CLL	**Collm**	**82.26**	**323**	*e*P	P	11 47 15.0 +5.8
CLL	**Collm**	**82.26**	**323**	*ep*P	P	11 47 15.0 +5.8
KHC	**Kasperske Hory**	**82.98**	**321**	*e*P	P	11 47 19.1 +6.1
KHC				MLR	MLR	
	comp=Z,100nm,12.6s					
KHC	**Kasperske Hory**	**82.98**	**321**	*ep*P	P	11 47 19.1 +6.1
KHC				AMS	AMS	12 29 10.0
	comp=Z,100nm,12.6s					
GERES	**GERESS Array B**	**83.04**	**321**	P	**P**	**11 47 12.5 -0.9**
GERES	**GERESS Array B**	**83.04**	**321**	P	**P**	**11 47 12.5 -0.9**
	comp=Z,0.3nm,0.6s,baz=95,slow=5.2,SNR=3.8					
YKA	**Yellowknife Ar**	**83.34**	**23**	P	**P**	**11 47 12.2 -2.3**
YKA	**Yellowknife Ar**	**83.34**	**23**	P	**P**	**11 47 12.2 -2.3**
	comp=Z,0.8nm,0.7s,baz=307,slow=4.7,SNR=4.3					
CDF	**Champ du Feu**	**86.93**	**322**	*e*P	P	11 47 27.1 -5.9
CABF	**La Chapelle**	**88.59**	**321**	*e*P	P	11 47 34.5 -6.5
LPG	**La Plagne**	**88.83**	**320**	*e*P	P	11 47 35.8 -6.5
LPL	**La Plagne**	**88.83**	**320**	*e*P	P	11 47 36.6 -5.7
	comp=Z,7.0nm,0.9s					
MBDF	**Montbardon**	**89.24**	**319**	*e*P	P	11 47 37.4 -6.7
ORIF	**Oris-en-Rattie**	**89.66**	**320**	*e*P	P	11 47 39.6 -6.4
	comp=Z,12nm,1.1s					
SMF	**Signal de Mont**	**89.85**	**322**	*e*P	P	11 47 41.0 -5.8
AVF	**Avril sur Loir**	**90.04**	**323**	*e*P	P	11 47 41.2 -6.4
TCF	**Toulx Ste Croi**	**90.97**	**323**	*e*P	P	11 47 45.7 -6.3
	comp=Z,17nm,1.2s					
SDV	**Santo Domingo**	**145.54**	**21**	*e*PKPdf	**PKPab**	**11 54 28.3 +0.8**

MEX 02 11:41:54.1±0.6, 16°.06N×97°.11W, h25km±12km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.00**	**107**	*e*P	Pn		11 42 09.2	-3.4
HUIG				*i* S	Sb		11 42 22.6	-3.0
PNIG	**Pinotepa**	**1.03**	**289**	*i* P	Pn		11 42 10.2	-2.9
PNIG				*i* S	Sb		11 42 23.4	-3.3
VHO	**Vista Hermosa**	**1.06**	**20**	*i* P	Pn		11 42 10.6	-3.1
VHO				*i* S	Sb		11 42 24.1	-3.8
OXX	**Oaxaca**	**1.08**	**20**	*i* P	Pb		11 42 15.5	+1.1
OXX				*i* S	Sb		11 42 27.4	-0.9
TPIG	**Tehuac#an**	**2.36**	**354**	*i* P	Pn		11 42 29.8	-1.7
TPIG				*i* S	Sn		11 42 57.1	-2.7
ACX	**Acapulco**	**2.76**	**287**	*i* P	Pn		11 42 35.6	-1.2
ACX				*i* S	Sn		11 43 07.5	-1.9
CAIG	**El Cayaco**	**3.19**	**288**	*i* P	Pn		11 42 40.5	-2.1
CAIG				*i* S	Sn		11 43 17.3	-2.6
PLIG	**Platanillo**	**3.26**	**316**	*e*P	Pn		11 42 42.2	-1.5
PLIG				*i* S	Sn		11 43 19.0	-2.8
PPM	**Popocatepetl**	**3.32**	**334**	*i* P	Pn		11 42 43.5	-1.7
PPM				*i* S	Sn		11 43 22.0	-2.3
YAIG	**Yautepec**	**3.35**	**326**	*i* P	Pn		11 42 44.0	-1.2
YAIG				*i* S	Sn		11 43 20.8	-3.6
ARIG	**Puente Sto Nin**	**3.80**	**306**	*i* P	Pn		11 42 48.6	-2.6
ARIG				*i* S	Sn		11 43 32.4	-2.8

NIED ***02*** *11:57:00, 25°.90N×125°.40E, h210km, Mw4.6 Best double couple: M₀1.00000×10¹⁶ NP1:φ₀37.00000°, δ79.00000°, λ-117.00000°. NP2:φ₀287.00000°, δ29.00000°, λ-23.00000°.*

ISCJB ***02*** *11:57:40.8±0.2, 25°.86N±0°.05×125°.46E±0°.04, h111km±3km, mb4.2/29, Error ellipse: s-maj=9.6km s-min=2.7km az=145.0*

BJI ***02*** *11:57:40.1, 26°.00N×125°.10E, h33km, mb4.1/6*

IDC ***02*** *11:57:42.5±2.4, 25°.88N×125°.45E, h112km±22km, mb3.8/16, mb1 3.9/18, mb1mx3.9/27, mbtmp3.8/18, Error ellipse: s-maj=16.6km s-min=13.6km az=93.0*

JMA ***02*** *11:57:42.1±0.1, 25°.94N×125°.37E, h100km, M4.4*

NEIC ***02*** *11:57:42.2±0.6, 25°.79N×125°.46E, h110km±6km, mb4.5/11, MW4.6(NIED), Error ellipse: s-maj=10.7km s-min=6.5km az=140.0*

ISC 02 11:57:42.8±0.6, 25°.80N±0°.06×125°.53E±0°.05, h117km±5km, n81, σ1°.952/109, mb4.2/30, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.00**	**192**	P	**Pn**		**11 58 04.2**	**-0.4**
JMJ				S	**Sn**		**11 58 19.9**	**-1.1**
JOGS	**Gusukube**	**1.04**	**186**	P	**Pn**		**11 58 04.9**	**-0.1**
JOGS				S	**Sn**		**11 58 21.2**	**-0.5**
JKE	**Kume jima 2**	**1.25**	**65**	P	**Pn**		**11 58 06.7**	**-0.5**
JKE				S	**Sn**		**11 58 24.7**	**-1.0**
JTJ	**Tarama**	**1.37**	**213**	P	**Pn**		**11 58 07.7**	**-0.9**
JTJ				S	**Sn**		**11 58 26.1**	**-2.0**
JAGN	**Aguni-jima**	**1.73**	**63**	P	**Pn**		**11 58 12.5**	**-0.3**
JAGN				S	**Sn**		**11 58 34.2**	**-1.5**
JIJ	**Ishigaki jima**	**1.90**	**222**	P	**Pn**		**11 58 13.7**	**-1.2**
JIJ				S	**Sn**		**11 58 35.9**	**-3.5**
JJT2	**Tamagusuku 2**	**2.03**	**80**	P	**Pn**		**11 58 16.7**	**+0.2**
JJT2				S	**Sn**		**11 58 41.8**	**-0.4**
JKRS	**Kuro-shima**	**2.08**	**222**	P	**Pn**		**11 58 16.1**	**-1.0**
JKRS				S	**Sn**		**11 58 41.0**	**-2.3**
IRIF	**Iriomote-Funau**	**2.19**	**229**	P	**Pn**		**11 58 17.3**	**-1.2**
IRIF				S	**Sn**		**11 58 42.9**	**-2.8**
HATJ	**Hateruma jima**	**2.33**	**222**	P	**Pn**		**11 58 19.5**	**-0.9**
HATJ				S	**Sn**		**11 58 47.6**	**-1.5**
JIH	**Iheya**	**2.51**	**60**	P	**Pn**		**11 58 22.2**	**-0.4**
JIH				S	**Sn**		**11 58 51.2**	**-2.0**
YOJ	**Yonaguni jima**	**2.64**	**240**	P	**Pn**		**11 58 23.8**	**-0.5**
YOJ				S	**Sn**		**11 58 54.1**	**-2.1**
JOW	**Kunigami**	**2.67**	**67**	*e*Pn	**Pn**		**11 58 23.6**	**-1.1**
JOW				*e*Sn	**Sn**		**11 58 54.6**	**-2.4**
JOW	**Kunigami**	**2.67**	**67**	P	**Pn**		**11 58 23.8**	**-1.0**
JOW				S	**Sn**		**11 58 54.3**	**-2.7**
JTK	**Tokunoshima**	**3.65**	**56**	P	**Pn**		**11 58 36.1**	**-1.5**
JTK				S	**Sn**		**11 59 16.9**	**-3.0**
NACB	**Ninganchiao**	**3.92**	**246**	*e*Pn	**Pn**		**11 58 39.6**	**-1.6**
NACB				*e*Sn	**Sn**		**11 59 21.6**	**-4.9**
YHNB	**Yeheng**	**3.92**	**254**	*e*Pn	**Pn**		**11 58 42.2**	**+0.8**
JAMN	**Amaminishikomi**	**4.07**	**52**	P	**Pn**		**11 58 41.3**	**-1.9**
JAMN				S	**Sn**		**11 59 26.7**	**-3.2**
JAM	**Amami Oshima**

JNU				S	Sn	12 01 22.4	+1.2
	0.1nm,0.3s,baz=311,slow=20,SNR=1.4						
KSAR	Wonju Array Be	11.78	9	P	Pn	12 00 28.9	+1.8
KSRS	Korea Array	11.80	9	P	Pn	12 00 28.9	+1.6
	0.6nm,0.3s,baz=191,slow=13,SNR=46						
USRK	Ussuriysk Arra	19.10	14	P	P	12 01 56.8	+0.5
	0.7nm,0.3s,baz=182,slow=8.8,SNR=13						
LZH	Lanzhou	21.20	304	*e*P	P	12 02 25.8	+6.6
LZH				pP	pP	12 02 30.0	-11
LZH				sP	sP	12 02 32.3	-23
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
ASAJ	Asahikawa	22.94	33	*e*P	P	12 02 36.0	-0.8
	comp=Z,1.4nm,0.6s						
ASAJ	Asahikawa	22.94	33	P	P	12 02 36.0	-0.8
	comp=Z,2.6nm,0.3s,baz=228,slow=7.7,SNR=14						
GTA	Gaotai	25.46	309	P	pP	12 03 27.6	+2.3
GTA				pP	sP	12 03 33.3	-5.6
GTA				sP	sP	12 03 36.0	-2.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	25.65	259	P	P	12 03 02.0	+0.1
CMAR	Chiang Mai Arr	25.65	259	P	P	12 03 02.0	+0.1
	comp=Z,0.8nm,0.6s,baz=59,slow=7.8,SNR=4.2						
ULN	Ulaanbaatar	26.40	331	*e*P	P	12 03 11.0	+2.6
	comp=Z,1.8nm,0.6s						
SONM	Songino Array	26.66	331	P	P	12 03 10.0	-0.8
SONM	Songino Array	26.66	331	P	P	12 03 10.0	-0.8
	comp=Z,2.4nm,0.5s,baz=148,slow=9.8,SNR=20						
PETK	Petropavlovsk-	36.36	33	P	P	12 04 34.2	-1.2
PETK	Petropavlovsk-	36.36	33	P	P	12 04 34.2	-1.2
	comp=Z,2.4nm,0.8s,baz=235,slow=6.8,SNR=6.9						
MK31	Makanchi Array	40.03	313	*e*P	P	12 05 06.1	-0.2
MKAR	Makanchi Array	40.03	313	P	P	12 05 05.8	-0.5
MKAR				ScP	ScP	12 10 48.5	+1.2
MKAR	Makanchi Array	40.03	313	P	P	12 05 05.8	-0.5
	comp=Z,1.9nm,0.4s,baz=99,slow=10.0,SNR=50						
MKAR				ScP	ScP	12 10 48.5	+1.2
	comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=3.8						
ZALV	Zalesovo Beam	41.15	324	P	P	12 05 13.9	-1.4
ZALV	Zalesovo Beam	41.15	324	P	P	12 05 13.9	-1.4
	comp=Z,3.8nm,0.4s,baz=117,slow=7.1,SNR=19						
FX1	Attu Island--F	44.57	40	*e*P	P	12 05 44.0	+1.0
WRAB	Tennant Creek	46.26	168	*e*P	P	12 05 57.5	+0.9
	comp=Z,5.2nm,0.9s						
WRA	Warramunga Arr	46.27	168	P	P	12 05 57.0	+0.4
WRA				pP	pP	12 06 24.1	+0.3
WRA	Warramunga Arr	46.27	168	P	P	12 05 57.0	+0.4
	comp=Z,1.0nm,0.6s,baz=350,slow=8.5,SNR=8.3						
WRA				pP	pP	12 06 24.1	+0.3
	comp=Z,2.6nm,0.9s,baz=351,slow=9.0,SNR=7.0						
BRVK	Borovoye	49.06	319	*e*P	P	12 06 17.6	-0.3
	comp=Z,4.5nm,0.4s						
ASAR	Alice Springs	49.84	170	P	P	12 06 25.2	+1.1
ASAR				pP	pP	12 06 51.7	+0.2
ASAR	Alice Springs	49.84	170	P	P	12 06 25.2	+1.1
	comp=Z,0.5nm,0.5s,baz=353,slow=7.1,SNR=15						
ASAR				pP	pP	12 06 51.7	+0.2
	comp=Z,0.6nm,0.6s,baz=355,slow=13,SNR=3.7						
COLD	Coldfoot	64.30	25	*e*P	P	12 08 06.8	+1.4
	comp=Z,3.9nm,0.5s						
MCK	McKinley	65.24	29	*e*P	P	12 08 12.3	+0.7
	comp=Z,8.9nm,0.6s						
PMR	Palmer	65.47	32	*e*P	P	12 08 13.4	+0.3
	comp=Z,2.6nm,0.4s						
COLA	College	65.54	28	*e*P	P	12 08 14.3	+0.8
	comp=Z,10nm,0.4s						
ILAR	Eielson Array	65.96	28	P	P	12 08 16.2	0.0
ILAR	Eielson Array	65.96	28	P	P	12 08 16.2	0.0
	comp=Z,1.8nm,0.5s,baz=260,slow=6.3,SNR=43						
KBZ	Khabaz	67.54	309	P	P	12 08 26.4	-0.1
KBZ	Khabaz	67.54	309	P	P	12 08 26.4	-0.1
	comp=Z,4.2nm,0.8s,baz=98,slow=3.1,SNR=13						
EGAK	Eagle	68.36	27	*e*P	P	12 08 31.9	+0.6
	comp=Z,5.5nm,0.7s						
KEV	Kevo	68.94	338	*e*p	P	12 08 33.6	-1.2
	comp=Z,3.2nm,0.5s						
DAWY	Dawson	69.29	28	*e*P	P	12 08 38.6	+1.4
ARCES	ARCESS Array B	69.51	338	P	P	12 08 37.5	-0.9
ARCES	ARCESS Array B	69.51	338	P	P	12 08 37.5	-0.9
	comp=Z,0.6nm,0.4s,baz=70,slow=7.8,SNR=12						
INK	Inuvik	70.24	23	*e*P	P	12 08 43.6	+0.8
	comp=Z,7.6nm,0.6s						
KAF	Kangasniemi	71.69	331	*e*p	P	12 08 50.3	-1.4
	comp=Z,2.2nm,0.6s						
FINES	FINESS Array B	72.03	330	P	P	12 08 53.0	-0.7
FINES	FINESS Array B	72.03	330	P	P	12 08 53.0	-0.7
	comp=Z,1.4nm,0.4s,baz=54,slow=6.2,SNR=29						
BRTR	Keskin Array B	75.37	307	P	P	12 09 13.8	-0.1
BRTR	Keskin Array B	75.37	307	P	P	12 09 13.8	-0.1
	comp=Z,1.0nm,0.6s,baz=85,slow=4.3,SNR=6.2						
BUR08	Bucovina Ar. S	77.90	317	*e*P	P	12 09 26.6	-1.4
NB2	NORSAR Subarra	78.61	333	P	P	12 09 30.5	-1.0
	comp=Z,1.5nm,0.5s,baz=53,slow=5.6						
NOA	NORSAR Array B	78.61	333	P	P	12 09 30.6	-0.8
NOA	NORSAR Array B	78.61	333	P	P	12 09 30.6	-0.8
	comp=Z,1.9nm,0.5s,baz=52,slow=5.7,SNR=13						
YKA	Yellowknife Ar	79.93	24	P	P	12 09 39.2	+0.7
YKA	Yellowknife Ar	79.93	24	P	P	12 09 39.2	+0.7
	comp=Z,2.4nm,0.6s,baz=306,slow=5.5,SNR=14						
GERES	GERESS Array B	84.06	322	P	P	12 10 00.6	+0.1
GERES	GERESS Array B	84.06	322	P	P	12 10 00.6	+0.1
	comp=Z,0.1nm,0.3s,baz=33,slow=5.9,SNR=3.6						
HLID	Hailey	91.78	39	*e*P	P	12 10 39.5	+1.7
	comp=Z,0.8nm,0.6s						

CSEM ***02*** *12:44:00.8,36.°39N×21.°74E,h14km,MD3.5,After ATH*

ATH 02 12:44:00.8,36.°39N×21.°74E,h14km±2km,MD3.5/13,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.51	0	*e*PB	Pg	12 44 10.0	-0.8
PYL				*e*SB	Sg	12 44 17.9	+0.3
PYL	PYLOS	0.51	0	*e*Pb	Pg	12 44 10.0	-0.8
PYL				*e*Sb	Sg	12 44 17.9	+0.3
DYR	Agios Nikonas	0.60	52	*e*PB	Pg	12 44 12.9	+0.2
DYR				*e*SB	Sb	12 44 21.5	-0.2
DYR	Agios Nikonas	0.60	52	*e*Pb	Pg	12 44 12.9	+0.2
DYR				*e*Sb	Sb	12 44 21.5	-0.2
ITM	Ithomi	0.80	11	*e*PG	Pg	12 44 15.8	-0.7
ITM				*e*SB	Sb	12 44 27.3	-0.1
ITM	Ithomi	0.80	11	*e*Pg	Pg	12 44 15.8	-0.7
ITM				*e*Sb	Sb	12 44 27.3	-0.1
VLI	Veliai	1.02	71	*e*PN	Pn	12 44 20.7	0.0
VLI				*e*SN	Sg	12 44 34.1	+0.3
VLI	Veliai	1.02	71	*e*Pn	Pn	12 44 20.7	0.0
VLI				*e*Sn	Sg	12 44 34.1	+0.3
KYTH	Kithira	1.05	96	*e*PN	Pn	12 44 21.4	+0.2
KYTH	Kithira	1.05	96	*e*Pn	Pn	12 44 21.4	+0.2
VLX	Vlachokerasia	1.10	27	*e*PG	Pb	12 44 21.5	-0.4
VLX				*e*SB	Sn	12 44 37.5	+0.3
VLX	Vlachokerasia	1.10	27	*e*Pg	Pb	12 44 21.5	-0.4
VLX				*e*Sb	Sn	12 44 37.5	+0.3
AMT	Artemida-Makis	1.14	359	*e*PN	Pb	12 44 22.3	-0.1
AMT				*e*SB	Sn	12 44 38.4	+0.5
AMT	Artemida-Makis	1.14	359	*e*Pn	Pb	12 44 22.3	-0.1
AMT				*e*Sb	Sn	12 44 38.4	+0.5
ANKY	Antikythira Is	1.37	112	*e*PG	Pb	12 44 25.9	-0.3
ANKY	Antikythira Is	1.37	112	*e*Pg	Pb	12 44 25.9	-0.3
GUR	Goura	1.62	17	*e*PG	Pb	12 44 30.4	-0.2
GUR				*e*SB	Sg	12 44 52.9	-0.3
GUR	Goura	1.62	17	*e*Pg	Pb	12 44 30.4	-0.2
GUR				*e*Sb	Sg	12 44 52.9	-0.3
DID	Didima	1.64	47	*e*PB	Pb	12 44 31.3	+0.5
DID	Didima	1.64	47	*e*Pb	Pb	12 44 31.3	+0.5
RLS	Riolos of Patr	1.68	353	*e*PB	Pb	12 44 31.7	+0.2
RLS	Riolos of Patr	1.68	353	*e*Pb	Pb	12 44 31.7	+0.2
KLV	Kalavryta, Ach	1.68	11	*e*PB	Pb	12 44 31.7	0.0
KLV	Kalavryta, Ach	1.68	11	*e*Pb	Pb	12 44 31.7	0.0
LAKA	Lakka	1.86	6	*e*PN	Pb	12 44 34.7	+0.1
LAKA	Lakka	1.86	6	*e*Pn	Pb	12 44 34.7	+0.1
LTK	Loutraki	1.90	31	*e*PG	Pb	12 44 36.0	+0.7
LTK	Loutraki	1.90	31	*e*Pg	Pb	12 44 36.0	+0.7
TRIZ	Trizonia	1.99	8	*e*PN	Pb	12 44 36.0	-0.8
TRIZ	Trizonia	1.99	8	*e*Pn	Pb	12 44 36.0	-0.8
KALE	Kalithea	2.02	9	*e*PN	Pb	12 44 36.3	-1.2
KALE	Kalithea	2.02	9	*e*Pn	Pb	12 44 36.3	-1.2
EFP	Efpalio	2.04	4	*e*PG	Pb	12 44 38.0	+0.4
EFP	Efpalio	2.04	4	*e*Pg	Pb	12 44 38.0	+0.4

ISCJB ***02*** *13:08:14.2±0.5,55.°49S±0.°10×124.°4W±0.°1,h10km, mb4.5/18,MS4.5/16,Error ellipse: s-maj=14.6km s-min=11.2km az=156.2*

IDC ***02*** *13:08:14.2±0.5,55.°41S×124.°48W,h0km,mb4.4/11, mb1 4.6/11,mb1mx4.5/17,mbtmp4.4/11,MS4.4/16, Ms1 4.4/16,ms1mx4.3/20,Error ellipse: s-maj=27.5km s-min=14.7km az=163.0*

NEIC ***02*** *13:08:15.8±0.3,55.°52S×124.°46W,h10km,mb4.7/12, Error ellipse: s-maj=14.7km s-min=9.0km az=160.0*

GCMT ***02*** *13:08:20.6±0.2,55.°66S×124.°46W,h16km±1km,MW5.1, Moment Tensor Solution. s34,c49; s82,c127; Moment tensor: Scale 10^16^Nm; Mrr-1.07±.16; Mθθ3.48±.16; Mφφ-2.41±.13; Mrθ0.63±.41; Mθφ4.07±.12; Mφr0.80±.41; Best double couple: M0 5.10000×10^16^ NP1:φs 18.00000°, δ90.00000°, λ169.00000°. NP2:φs 108.00000°, δ79.00000°, λ0.00000°. Principal axes: T 5.6900, Plg8.0000°, Azm333.0000°; N -1.1400, Plg79.0000°, Azm196.0000°; P -4.5400, Plg7.0000°, Azm64.0000°; Data Used: IU II G IC CN.*

ISC 02 13:08:15.9±0.5,55.°5S±0.°1×124.°40W±0.°10,h10km,n88,
σ0°91/78,mb4.6/18,MS4.5/16,1C-1D,Southern East
Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	Palmer Station	30.29	132	LR	LR	13 23 22.7	
	comp=Z,716nm,18.6s,baz=241,slow=30						
USHA	Ushuaia	31.25	112	LR	LR	13 23 54.2	
	comp=Z,698nm,20.9s,baz=58,slow=30						
VNDA	Vanda	33.16	202	*e*P	P	13 14 54.3	+2.4
	5.0nm,1.1s						
VNDA				PcP	PcP	13 17 34.2	-0.1
VNDA	Vanda	33.16	202	P	P	13 14 54.1	+2.2
	2.5nm,1.0s,baz=89,slow=9.5,SNR=7.6						
VNDA				PcP	PcP	13 17 34.2	-0.1
	0.9nm,1.0s,baz=156,slow=2.8,SNR=3.4						
RKT	Rikitea	33.26	342	*e*LR	LR	13 23 40.1	
	2μm,27.5s,baz=163						
QSPA	South Pole Qui	34.70	180	*e*P	P	13 15 03.2	-2.4
	62nm,2.0s						
QSPA	South Pole Qui	34.70	180	P	P	13 15 06.3	+0.7
	3.6nm,0.9s,baz=89,slow=7.4,SNR=9.8						
TBI	Tubuai	37.06	320	*e*LQ	LQ	13 23 54.3	
	37.6nm,24.2s						
TBI				*e*LR	LR	13 25 30.7	
	1μm,26.2s,baz=162						
PLCA	Paso Flores	37.85	90	*e*P	P	13 15 33.9	+1.2
	4.5nm,1.0s						
PLCA	Paso Flores	37.85	90	P	P	13 15 33.0	+0.3
	2.0nm,0.9s,baz=236,slow=9.8,SNR=3.6						
PLCA				LR	LR	13 27 10.2	
	comp=Z,373nm,20.4s,baz=28,slow=30						
PPT2	Papeete2	42.41	323	*e*S	S	13 22 31.8	-0.3
	170nm,25.2s						
PPT2				*e*LQ	LQ	13 25 49.7	
	1μm,28.5s						
PPT2				*e*LR	LR	13 27 58.4	
	2μm,25.8s,baz=157						
PPT	Papeete	42.43	323	LR	LR	13 29 22.9	
	comp=Z,583nm,18.1s,baz=155,slow=30						
TRQA	Tornquist	44.54	94	*e*P	P	13 16 27.9	+0.3
	27nm,1.4s						
CFAA	Coronel Fontan	45.63	82	P	P	13 16 35.6	-0.8
CFAA	Coronel Fontan	45.63	82	P	P	13 16 35.6	-0.8
	0.9nm,1.0s,baz=214,slow=9.0,SNR=10.0						
SNAA	Sanae	46.72	158	*e*P	P	13 16 43.7	-0.8
	17nm,1.3s						
CASY	Casey	51.72	205	*e*P	P	13 17 23.0	+0.4
	7.5nm,1.0s						
SYO	Syowa Base	55.27	173↑	*e*P	P	13 17 46.0	-2.6
SYO	Syowa Base	55.27	173↑	*e*P	P	13 17 50.8	+2.2
MAW	Mawson	57.11	183	LR	LR	13 40 08.9	
	comp=Z,551nm,20.7s,baz=168,slow=34						
LPAZ	La Paz	57.81	71	*e*P	P	13 18 09.1	+1.0
	28nm,1.3s						
LPAZ	La Paz	57.81	71	P	P	13 18 08.9	+0.8
	14nm,1.1s,baz=195,slow=6.1,SNR=20						
LPAZ				LR	LR	13 37 19.8	
	comp=Z,260nm,19.6s,baz=7.3,slow=30						
DZM	Mont Dzumac	60.33	274	*e*LR	LR	13 36 14.6	
	568nm,25.7s						
STKA	Stephens Creek	66.53	248	*e*P	P	13 19 06.2	+0.5
	4.6nm,1.7s						
STKA	Stephens Creek	66.53	248	P	P	13 19 05.9	+0.1
	6.4nm,0.8s,baz=148,slow=7.8,SNR=6.9						
STKA				LR	LR	13 44 59.0	
	comp=Z,272nm,18.4s,baz=297,slow=33						
SAML	Samuel	66.56	71	*e*P	P	13 19 05.6	-0.5
	4.6nm,0.8s						
BDFB	Brasilia	69.55	88	P	P	13 19 24.1	-1.0
BDFB	Brasilia	69.55	88	P	P	13 19 24.1	-1.0
	3.9nm,1.0s,baz=195,slow=12,SNR=3.3						
BDFB				LR	LR	13 47 03.9	
	comp=Z,435nm,19.4s,baz=218,slow=34						
ROSC	El Rosal	72.84	53	LR	LR	13 46 33.5	
	comp=Z,106nm,21.3s,baz=203,slow=32						
ASAR	Alice Springs	77.15	247	P	P	13 20 08.8	-1.0
ASAR	Alice Springs	77.15	247	P	P	13 20 08.8	-1.0
	4.2nm,0.8s,baz=148,slow=6.8,SNR=35						
ASAR				LR	LR	13 48 14.4	
	comp=Z,344nm,21.0s,baz=72,slow=31						
AS31	Alice Springs	77.15	247	P	P	13 20 09.2	-0.5
NWAO	Narrogin (SRO)	77.45	229	LR	LR	13 45 31.0	
	comp=Z,306nm,22.0s,baz=301,slow=29						
WRA	Warramunga Arr	79.97	250	P	P	13 20 24.6	-0.7
WRA	Warramunga Arr	79.97	250	P	P	13 20 24.6	-0.7
	7.6nm,0.9s,baz=146,slow=4.9,SNR=28						
WRAB	Tennant Creek	79.97	250	*e*P	P	13 20 24.6	-0.7
	15nm,1.1s						
PMG	Port Moresby	81.44	266	LR	LR	13 48 18.7	
	comp=Z,316nm,18.2s,baz=160,slow=30						
FITZ	Fitzroy Crossi	86.04	244	P	P	13 20 55.9	-0.8
FITZ	Fitzroy Crossi	86.04	244	P	P	13 20 55.9	-0.8
	4.7nm,0.7s						
TXAR	Lajitas Array	86.32	18	P	P	13 20 58.6	+0.9
TXAR	Lajitas Array	86.32	18	P	P	13 20 58.6	+0.9
	0.8nm,0.9s,baz=187,slow=6.9,SNR=6.4						
TXAR				LR	LR	13 52 41.3	
	comp=Z,61nm,19.7s,baz=5.0,slow=31						
ANMO	Albuquerque	91.37	15	*e*P	P	13 21 22.1	+0.4
	1.1nm,0.9s						
BOSA	Boshof	92.31	154	LR	LR	13 57 33.3	
	comp=Z,241nm,19.2s,baz=165,slow=32						
NVAR	Mina Array Bea	93.69	5	LR	LR	13 56 42.6	
	comp=Z,202nm,18.5s,baz=298,slow=31						
KIPM	Iron Peak	94.92	1	*e*P	P	13 21 34.2	-3.6
	3.0nm,0.6s						
PDAR	Pinedale Array	98.68	11	LR	LR	13 58 56.0	
	comp=Z,150nm,18.4s,baz=234,slow=31						
PETK	Petropavlovsk-	125.73	313	PKP	PKPdf	13 27 16.4	-0.1
PETK	Petropavlovsk-	125.73	313	PKP	PKPdf	13 27 16.4	-0.1
	2.8nm,0.9s,baz=142,slow=8.1,SNR=5.3						
ESDC	Sonseca Array	138.19	87	PKP	PKPdf	13 27 40.9	+0.4
ESDC	Sonseca Array	138.19	87	PKP	PKPdf	13 27 40.9	+0.4
	0.5nm,0.7s,baz=289,slow=0.8,SNR=5.4						
RJF	Les Rejaudoux	144.90	84	*e*PKIKP	PKPab	13 27 51.0	-0.4
	14nm,0.8s						
FLN	La Foliniere	145.75	77	*e*PKIKP	PKPab	13 27 54.5	0.0
TCF	Toulx Ste Croi	145.87	83	*e*PKIKP	PKPab	13 27 56.0	+0.9
BGF	Bois d'Agland	146.39	83	*e*PKIKP	PKPab	13 27 56.6	-0.4
	18nm,0.8s						
SMRF	Simiane la Rot	146.40	89	*e*PKIKP	PKPbc	13 27 56.5	+0.3
	13nm,0.9s						
VIVF	Saint-Julien-l	146.42	87	*e*PKIKP	PKPab	13 27 56.9	-0.3
LMR	La Mourre	146.53	90	*e*PKIKP	PKPab	13 27 58.3	+0.7
	37nm,1.1s						
SSB	Saint Sauveur	146.60	86	*e*PKPbc	PKPab	13 27 58.1	+0.3
FRF	La Foret Royal	146.75	90	*e*PKIKP	PKPbc	13 27 57.6	+0.4
AVF	Avril sur Loir	146.81	83	*e*PKIKP	PKPbc	13 27 57.5	+0.2
	19nm,1.2s						
SMF	Signal de Mont	147.00	83	*e*PKIKP	PKPbc	13 27 58.2	+0.4
	20nm,1.0s						
ORIF	Oris-en-Rattie	147.15	88	*e*PKIKP	PKPbc	13 27 57.5	-0.9
LOR	Lormes	147.36	83	*e*PKIKP	PKPbc	13 27 59.0	+0.2
	14nm,1.1s						
SBF	Sospel	147.39	90	*e*PKIKP	PKPbc	13 27 58.6	-0.5
	35nm,1.0s						
PGF	Pioggiola	147.45	94	*e*PKIKP	PKPbc	13 27 59.8	+0.4
	38nm,1.2s						
MBDF	Montbardon	147.54	89	*e*PKIKP	PKPdf	13 27 58.1	+1.2
ULN	Ulaanbaatar	147.85	278	*e*PKPbc	PKPbc	13 28 00.2	-0.2
LPG	La Plagne	147.99	87	*e*PKIKP	PKPbc	13 28 00.1	-0.8
LPL	La Plagne	147.99	87	*e*PKIKP	PKPbc	13 27 59.4	-1.5
	26nm,1.1s						
SONM	Songino Array	148.21	278	PKPbc	PKPbc	13 28 01.0	-0.2
SONM	Songino Array	148.21	278	PKPbc	PKPbc	13 28 01.0	-0.2
	3.2nm,0.8s,baz=118,slow=2.1,SNR=12						
BAIF	Baives	149.04	78	*e*PKIKP	PKPdf	13 28 00.6	+1.6
HINF	Hinteralfeld	149.36	84	*e*PKIKP	PKPdf	13 28 00.6	+0.9
TIP	Timpagrande	149.53	106	*e*PKPbc	PKPbc	13 28 04.5	-0.3
GERES	GERESS Array B	153.78	87	PKPbc	PKPbc	13 28 14.5	+0.2
GERES	GERESS Array B	153.78	87	PKPbc	PKPbc	13 28 14.5	+0.2
	1.4nm,0.9s,baz=222,slow=1.3,SNR=8.3						
BRTR	Keskin Array B	158.52	128	PKP	PKPdf	13 28 13.5	+0.5
BRTR				PKPab	PKPab	13 28 47.7	-0.3
BRTR	Keskin Array B	158.52	128	PKP	PKPdf	13 28 13.5	+0.5
	0.7nm,0.8s,baz=264,slow=4.3,SNR=4.0						
BRTR				PKPab	PKPab	13 28 47.7	-0.3
	1.4nm,0.7s,baz=202,slow=4.1,SNR=7.3						
MKAR	Makanchi Array	161.23	254	PKPab	PKPab	13 28 58.7	-0.8
MKAR	Makanchi Array	161.23	254	PKPab	PKPab	13 28 58.7	-0.8
	1.0nm,0.6s,baz=112,slow=4.8,SNR=11						
ZALV	Zalesovo Beam	163.10	277	PKPab	PKPab	13 29 07.3	-0.2
ZALV	Zalesovo Beam	163.10	277	PKPab	PKPab	13 29 07.3	-0.2
	2.0nm,0.7s,baz=114,slow=4.8,SNR=8.7						
KURK	Kurchatov	165.40	261	PKPab	PKPab	13 29 16.5	-1.2
KURBB	Kurchatov Arra	165.41	260	PKPab	PKPab	13 29 16.5	-1.2
	1.5nm,0.9s,baz=126,slow=3.2,SNR=12						
KBZ	Khabaz	165.67	140	PKPab	PKPab	13 29 18.1	-0.8
KBZ	Khabaz	165.67	140	PKPab	PKPab	13 29 18.1	-0.8
	1.9nm,0.9s,baz=77,slow=4.2,SNR=5.2						
BVAR	Borovoye Array	171.00	260	PKPab	PKPab	13 29 41.4	-1.0
BVAR	Borovoye Array	171.00	260	PKPab	PKPab	13 29 41.4	-1.0
	1.6nm,0.8s,baz=107,slow=5.0,SNR=12						

BKK ***02*** *13:21:00.7±0.4,8.°N±4.°×12.°7E±.°,h10km,M5.4/29, mB5.8/10,mb5.2/29,MLv5.5/3,Mw(mB)5.3/10*

IDC ***02*** *13:21:06.9±0.6,7.°75N×126.°37E,h80km±4km,mb4.4/26, mb1 4.5/28,mb1mx4.5/31,mbtmp4.5/28,MS3.6/8, Ms1 3.6/8,ms1mx3.3/29,Error ellipse: s-maj=16.1km s-min=8.6km az=79.0*

BJI ***02*** *13:21:06.5,7.°73N×126.°61E,h95km,mB5.0/17,mb4.7/31*

ISCJB ***02*** *13:21:07.2±0.4,7.°80N±0.°02×126.°58E±0.°03,h95km±3km, mb4.8/93,Error ellipse: s-maj=5.1km s-min=3.2km az=163.4*

MAN ***02*** *13:21:07,7.°69N×126.°53E,h90km,mb5.3,ML4.3,MS4.6*

MAN INTENSITY II - DAVAO CITY.

NEIC ***02*** *13:21:09.9±0.8,7.°72N×126.°45E,h107km±7km,mb4.7/26, Error ellipse: s-maj=8.0km s-min=4.9km az=78.0*

NEIC Felt [II PIVS] at Davao. Also felt at Tagum.

TEH ***02*** *13:21:09.0,7.°72N×126.°46E,h96km,ML4.7*

AUST ***02*** *13:21:10.3,7.°50N×126.°52E,h100km*

DJA ***02*** *13:21:10.8±0.7,8.°N±5.°×12.°7E±.°,h83km±6km,M5.1/47, mB5.5/20,mb5.1/47,MLv5.6/5,Mw(mB)4.9/20,Mwp6.6/1*

MOS ***02*** *13:21:11.5±1.3,7.°72N×126.°41E,h137km,mb4.7/28,Error ellipse: s-maj=12.5km s-min=6.2km az=116.8*

ISC 02 13:21:08.5±0.3,7.°75N±0.°03×126.°56E±0.°04,h94km±2km,
h94km:pP-P,n330,σ1°58/404,mb4.8/93,9C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.85	201	*e*P	Pn	13 21 25.9	-1.0
MATI				*e*S	Sn	13 21 39.8	-0.8
DAV	Davao City (W)	1.19	235	*e*Pn	Pn	13 21 30.3	-0.3
DAV				S	Sn	13 21 47.1	-0.1
DAV	Davao City (W)	1.19	235	P	Pn	13 21 30.6	0.0
DAV	Davao City (W)	1.19	235	P	Pn	13 21 30.3	-0.3
	2μm,0.3s,baz=64,slow=18,SNR=159						
DAV				S	Sn	13 21 47.1	-0.1
	2μm,0.3s,baz=270,slow=20,SNR=31						
DMPH	Davao City--Mi	1.24	238⇑	*e*P	Pn	13 21 30.9	-0.3
DMPH				*e*S	Sn	13 21 48.0	-0.3
BUKP	Musuan	1.49	275	*e*P	Pn	13 21 33.7	-0.7
BUKP				*e*S	Sn	13 21 53.8	-0.2
BUTP	Butuan	1.53	322	*e*P	Pn	13 21 35.1	+0.3
KCP	Kidapawan	1.64	243⇑	*i*P	Pn	13 21 34.2	-2.0
KCP				*i* S	Sn	13 21 55.2	-2.0
CGP	Cagayan de Oro	1.98	291	*e*P	Pn	13 21 39.5	-1.0
CGP				*i* S	Sn	13 22 03.5	-1.5
GSPH	General Santos	2.30	224⇓	*i*P	Pn	13 21 43.1	-1.8
GSPH				*

JAY	Jayapura	17.41	125	P	Pn	13 25 07.5 +1.9
	baz=17,SNR=5.3					
SOEI	Soe	17.54	188	P	Pn	13 25 08.8 +1.6
	109nm,0.9s					
SOEI	Soe	17.54	188	P	Pn	13 25 08.5 +1.2
	baz=17,SNR=6.2					
BATI	Baumata	18.07	189	P	Pn	13 25 13.6 0.0
BATI	Baumata	18.07	189	P	Pn	13 25 15.6 +2.0
	125nm,1.0s					
BATI	Baumata	18.07	189	P	Pn	13 25 13.6 0.0
	21nm,0.3s,baz=3.8,slow=1.4,SNR=22					
JOW	Kunigami	19.05	5	eP	Pn	13 25 25.0 -0.1
	22nm,0.8s					
KMMI	Kalianget	19.34	221	P	Pn	13 25 30.4 +1.8
	218nm,1.0s					
QIZ	Qiongzhong	19.73	306	P	P	13 25 31.1 +0.2
QIZ				pP	pP	13 25 48.8 -0.1
QIZ				sP	sP	13 26 00.2 -0.5
QIZ				S	S	13 29 09.1 +0.7
QIZ				LR	LR	
	comp=Z,230nm,18.6s					
QIZ	Qiongzhong	19.73	306	eP	P	13 25 31.8 +0.9
	comp=Z,70nm,1.0s					
MTN	Manton Dam	20.96	167	P	P	13 25 45.1 +1.0
	baz=21,SNR=9.2					
MTN				S	Sn	13 29 39.5 -4.9
	baz=21,SNR=4.3					
KDU	Kakadu	21.14	164	P	P	13 25 46.3 +0.3
	baz=21,SNR=23					
SJI	Sawahan	21.31	224	P	P	13 25 50.4 +2.4
	comp=Z,115nm,0.9s,comp=Z,3μm					
PWJI	Pagerwojo	21.49	224	P	P	13 25 52.3 +2.5
	comp=Z,50nm,1.0s,comp=Z,9μm					
TPI	Tanjungpandan	21.56	242	P	P	13 25 52.3 +1.7
	comp=Z,39nm,1.3s,comp=Z,399nm					
UBPT	Khong Chiam	21.97	292	P	P	13 25 55.1 +0.2
	comp=Z,64nm,1.4s					
UBPT	Khong Chiam	21.97	292	P	P	13 25 55.1 +0.2
	comp=Z,64nm,1.4s					
BJII	Banjamegara	22.51	229	P	P	13 26 03.0 +2.3
	comp=Z,71nm,1.1s					
MANU	Manus Island	22.92	114	P	P	13 26 07.8 +3.0
	baz=23,SNR=3.5					
PANO	Nakornpanom	23.36	296	P	P	13 26 05.3 -3.6
	comp=Z,2μm,0.8s,comp=Z,32μm					
KNRA	Kununurra	23.38	175	P	P	13 26 09.0 0.0
	baz=23,SNR=37					
MYKOM	Kota Tinggi	23.39	256	P	P	13 26 09.8 +0.6
MYKOM	Kota Tinggi	23.39	256	P	P	13 26 10.1 +0.9
	comp=Z,96nm,1.1s					
KTGM	Kuala Trenggan	23.40	266	P	P	13 26 10.3 +1.0
BTDF	Bukit Timah Da	23.58	256	P	P	13 26 11.6 +0.7
	baz=24,SNR=12					
BTDF				P	P	13 26 11.6 +0.7
	baz=24,SNR=12					
LEM	Lembang	23.80	233	P	P	13 26 16.1 +3.0
	comp=Z,53nm,1.5s					
KGM	Kluang	23.84	257	P	P	13 26 14.3 +1.0
DBJI	Dramaga	24.34	235	P	P	13 26 25.6 +7.8
	comp=Z,60nm,0.9s					
CHBT	CHBT	24.35	284	P	P	13 26 19.9 +2.0
	comp=Z,75nm,1.3s					
CHBT	CHBT	24.35	284	P	P	13 26 19.9 +2.0
	comp=Z,75nm,1.3s					
SBJI	Serang	24.60	236	P	P	13 26 25.8 +5.6
	comp=Z,138nm,1.2s					
KLSI		25.04	241	P	P	13 26 25.5 +1.3
	comp=Z,40nm,1.1s					
FRIM	Kepong	25.22	261	P	P	13 26 27.8 +2.0
CHAI	Chaiyaphum	25.36	291	P	P	13 26 29.2 +2.1
	comp=Z,12nm,0.8s,comp=Z,112nm					
JNU	Nakatsue	25.56	8	eP	P	13 26 27.7 -1.1
JNU	Nakatsue	25.56	8	P	P	13 26 27.5 -1.2
	comp=Z,20nm,1.0s,baz=47,slow=0.5,SNR=6.8					
IPM	Ipoh	25.59	264	eP	P	13 26 29.0 -0.3
	comp=Z,46nm,1.2s					
IPM	Ipoh	25.59	264	P	P	13 26 30.3 +1.0
IPM	Ipoh	25.59	264	P	P	13 26 32.0 +2.7
	comp=Z,36nm,1.5s					
NAYO	Nakonayok	25.60	287	P	P	13 26 32.0 +2.7
	comp=Z,107nm,0.8s,comp=Z,11μm					
FITZ	Fitzroy Crossi	25.70	182	eP	P	13 26 30.0 -0.1
	comp=Z,37nm,0.9s					
FITZ				ScP	ScP	13 33 28.3 -1.1
FITZ	Fitzroy Crossi	25.70	182	P	P	13 26 30.2 +0.2
	comp=Z,34nm,0.8s,baz=15,slow=6.5,SNR=36					
FITZ				ScP	ScP	13 33 28.3 -1.1
	comp=Z,5.6nm,0.7s,baz=344,slow=4.1,SNR=8.5					
FITZ	Fitzroy Crossi	25.70	182	P	P	13 26 30.0 -0.1
	baz=26,SNR=28					
KULM	Kulim	25.86	266	P	P	13 26 32.4 +0.7
KULM	Kulim	25.86	266	P	P	13 26 34.3 +2.7
	comp=Z,63nm,1.2s					
PBKT	Sadao Pong	26.48	292	P	P	13 26 38.6 +1.4
	comp=Z,34nm,1.8s					
PBKT	Sadao Pong	26.48	292	P	P	13 26 38.6 +1.4
	comp=Z,34nm,1.8s					
BKNI	Bangkinang	26.49	255	P	P	13 26 40.6 +3.3
	comp=Z,116nm,1.1s,comp=Z,1μm					
GYA	Guiyang	26.53	317	eP	P	13 26 38.7 +1.0
GYA				pP	pP	13 27 01.2 +2.5
GYA				sP	sP	13 27 13.8 +4.1
GYA				PP	PnPn	13 27 26.9 +3.3
GYA				PcP	PcP	13 30 01.4 +1.1
GYA				S	S	13 31 03.0 -2.4
GYA				sS	sS	13 31 42.3 +0.2
GYA				PcS	PcS	13 33 41.5 -0.3
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
GYA				pmax	pmax	
	comp=Z,80nm,4.6s					
PHET	Kaeng Krachan	26.98	283	P	P	13 26 45.7 +4.0
	comp=Z,349nm,1.1s,comp=Z,4μm					
COEN	Coen	27.15	143	eP	P	13 26 43.0 -0.1
	comp=Z,287nm,0.9s					
COEN	Coen	27.15	143	P	P	13 26 43.3 +0.2
	baz=27,SNR=26					
PPI	Padang Panjang	27.33	254	P	P	13 26 45.3 +0.4
	comp=Z,43nm,1.4s					
NANT	Nan	27.42	296	P	P	13 26 51.6 +6.0
PSI	Prapat	27.95	261	P	P	13 26 48.9 -1.6
PSI				PcP	PcP	13 30 02.9 -1.0
PSI	Prapat	27.95	261	P	P	13 26 48.9 -1.6
	comp=Z,5.6nm,0.7s,baz=107,slow=11,SNR=4.6					
PSI				PcP	PcP	13 30 02.9 -1.0
	comp=Z,6.6nm,0.8s,baz=180,slow=3.0,SNR=4.6					
PSI	Prapat	27.95	261	P	P	13 26 51.9 +1.4
	baz=28,SNR=3.0					
LAMP	Lampang	28.28	295	P	P	13 26 55.2 +1.9
	comp=Z,9.9nm,1.0s					
KMI	Kunming	28.56	310	P	P	13 26 57.5 +1.6
KMI				pP	pP	13 27 19.4 +2.3
KMI				sP	sP	13 27 31.7 +3.7
KMI				PP	PnPn	13 27 52.5 +1.8
KMI				S	S	13 31 36.9 -0.6
KMI				SS	SnSn	13 33 09.7 +2.8
KMI				pmax	pmax	
	comp=Z,32nm,0.6s					
KMI				pmax	pmax	
	comp=Z,40nm,3.1s					
KMI				LR	LR	
	comp=N,120nm,22.1s					
KMI				LR	LR	
	comp=E,160nm,30.3s					
KMI				LR	LR	
	comp=Z,190nm,35.2s					
WRAB	Tennant Creek	28.56	165	eP	P	13 26 55.0 -0.7
WRAB				pmax	pmax	
	comp=Z,14nm,0.8s					
WRAB	Tennant Creek	28.56	165	eP	P	13 26 55.0 -0.7
	comp=Z,14nm,0.8s					
WRA	Warramunga Arr	28.56	165	P	P	13 26 54.8 -0.9
WRA				PcP	PcP	13 30 05.3 +0.2
WRA				S	S	13 31 33.7 -3.6
WRA				ScP	ScP	13 33 36.4 -1.7
WRA	Warramunga Arr	28.56	165	P	P	13 26 54.8 -0.9
	comp=Z,2.4nm,0.7s,baz=348,slow=9.4,SNR=12					
WRA				PcP	PcP	13 30 05.3 +0.2
	comp=Z,2.3nm,0.6s,baz=338,slow=2.6,SNR=4.7					
WRA				S	S	13 31 33.7 -3.6
	comp=Z,2.5nm,0.8s,baz=341,slow=15,SNR=5.2					
WRA				ScP	ScP	13 33 36.4 -1.7
	comp=Z,2.0nm,0.9s,baz=347,slow=3.0,SNR=6.7					
CMAR	Chiang Mai Arr	28.88	294	P	P	13 26 58.5 -0.1
CMAR				PcP	PcP	13 30 06.6 +0.6
CMAR				ScP	ScP	13 33 40.2 +1.0
CMAR	Chiang Mai Arr	28.88	294	P	P	13 26 58.5 -0.1
	comp=Z,3.1nm,0.8s,baz=123,slow=7.8,SNR=14					
CMAR				PcP	PcP	13 30 06.6 +0.6
	comp=Z,3.0nm,0.8s,baz=105,slow=1.8,SNR=7.6					
CMAR				ScP	ScP	13 33 40.2 +1.0
	comp=Z,0.7nm,0.7s,baz=117,slow=3.1,SNR=7.0					
CMAR				LR	LR	13 38 55.7
	comp=Z,101nm,18.4s,baz=274,slow=37					
CMMT	Chiang Mai	28.99	295	P	P	13 27 00.5 +0.9
	comp=Z,9.0nm,1.3s					
CMMT	Chiang Mai	28.99	295	P	P	13 27 00.5 +0.9
	comp=Z,9.0nm,1.3s					
CHTO	Chiang Mai	28.99	295	P	P	13 26 59.0 -0.6
CHTO				pmax	pmax	
	comp=Z,6.0nm,0.8s					
CHTO	Chiang Mai	28.99	295	P	P	13 26 59.0 -0.6
	comp=Z,5.7nm,0.8s					
CHTO	Chiang Mai	28.99	295	P	P	13 27 00.8 +1.2
	comp=Z,9.9nm,2.0s					
CHTO	Chiang Mai	28.99	295	P	P	13 27 00.8 +1.2
	comp=Z,9.9nm,2.0s					
CMAI	Chiengmai2	29.28	297	P	P	13 27 03.2 +0.9
	comp=Z,214nm,1.0s					
KSAR	Wonju Array Be	29.58	2	P	P	13 27 03.1 -1.4
KSAR				PcP	PcP	13 30 07.7 +0.3
KSRS	Korea Array	29.59	2	P	P	13 27 03.2 -1.5
	comp=Z,3.2nm,0.9s,baz=185,slow=10,SNR=16					
KSRS				PcP	PcP	13 30 07.7 +0.3
	comp=Z,1.0nm,0.6s,baz=184,slow=2.3,SNR=6.7					
KSRS				LR	LR	13 38 29.9
	comp=Z,57nm,19.6s,baz=311,slow=35					
MAJO	Matsushiro	30.56	19	P	P	13 27 12.7 -0.6
MAJO				pmax	pmax	
	comp=Z,6.0nm,0.8s					
MAJO	Matsushiro	30.56	19	P	P	13 27 12.7 -0.6
	comp=Z,6.3nm,0.8s					
MAT	Matsushiro	30.56	19	P	P	13 27 12.5 -0.8
XAN	Xi'an	30.81	331	P	P	13 27 14.5 -1.0
XAN				pmax	pmax	
	comp=Z,3.0nm,0.8s					
XAN				pmax	pmax	
	comp=Z,23nm,5.0s					
MTSU	Mount Surprise	31.12	146	P	P	13 27 19.2 +0.8
	baz=31,SNR=13					
CD2	Chengdu	31.39	320	eP	P	13 27 32.9 +12
CD2				pP	pP	13 27 37.2 -4.8
CD2				sP	sP	13 27 40.0 -13
CD2				PP	PP	13 28 36.6 +3.3
CD2				S	S	13 32 40.1 +19
CD2				sS	sS	13 32 46.4 -12
CD2				SS	SnSn	13 34 26.9 +11
CD2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CD2				pmax	pmax	
	comp=Z,40nm,4.8s					
CD2				LR	LR	
	comp=E,180nm,12.0s					
CD2				LR	LR	
	comp=Z,150nm,9.5s					
AS31	Alice Springs	32.04	167	eP	P	13 27 25.8 -0.6
ASAR	Alice Springs	32.04	167	P	P	13 27 25.8 -0.6
ASAR				PcP	PcP	13 30 14.6 +0.4
ASAR				pPcP		13 30 35.4
ASAR				S	S	13 32 30.7 -0.9
ASAR				ScP	ScP	13 33 48.5 -0.8
ASAR	Alice Springs	32.04	167	P	P	13 27 25.8 -0.6
	comp=Z,2.8nm,0.5s,baz=354,slow=7.9,SNR=60					
ASAR				PcP	PcP	13 30 14.6 +0.4
	comp=Z,4.0nm,0.6s,baz=352,slow=2.7,SNR=12					
ASAR				pPcP		13 30 35.4
	comp=Z,2.0nm,0.6s,baz=4.8,slow=2.1,SNR=4.1					
ASAR				S	S	13 32 30.7 -0.9
	comp=Z,2.0nm,0.8s,baz=358,slow=18,SNR=6.0					
ASAR				ScP	ScP	13 33 48.5 -0.8
	comp=Z,1.6nm,0.7s,baz=346,slow=2.6,SNR=5.6					
BJI	Beijing	33.47	345	P	P	13 27 40.5 +1.9
BJI				pmax	pmax	
	comp=Z,12nm,0.4s					
LZH	Lanzhou	35.02	327	eP	P	13 27 54.9 +2.6
LZH				pP	pP	13 28 17.7 +3.9
LZH				sP	sP	13 28 28.6 +3.9
LZH				pmax	pmax	
	comp=Z,21nm,1.0s					
MEEK	Meekatharra	35.04	192	P	P	13 27 51.7 -0.8
	baz=35,SNR=11					
HHC	Hu-ho-hao-te	35.57	340	eP	P	13 27 57.4 +0.5
HHC				pP	pP	13 28 19.8 +1.3
HHC				PP	PP	13 29 20.7 +1.3
HHC				PcP	PcP	13 30 24.2 +0.2
HHC				S	S	13 33 26.8 +0.8
HHC				ScP	ScP	13 34 00.1 -1.6
HHC				PcS	PcS	13 34 10.4 -0.9
HHC				SS	SnSn	13 35 51.4 -4.9
HHC				ScS	ScS	13 38 03.4 -3.2
HHC				pmax	pmax	
	comp=Z,41nm,0.6s					
HHC				pmax	pmax	
	comp=Z,300nm,5.4s					
HHC				LR	LR	
	comp=N,290nm,14.4s					
HHC				LR	LR	
	comp=E,220nm,13.3s					
HHC				LR	LR	
	comp=Z,250nm,13.1s					
CN2	Changchun	35.92	359	eP	P	13 28 00.8 +1.1
USRK	Ussuriysk Arra	36.62	7	P	P	13 28 05.5 -0.1
	comp=Z,9.8nm,0.5s,baz=188,slow=8.1,SNR=42					
USRK				pP	pP	13 28 24.5 -2.8
	comp=Z,8.1nm,0.8s,baz=180,slow=7.0,SNR=5.2					
USRK				LR	LR	13 42 14.9
	comp=Z,43nm,19.9s,baz=353,slow=35					
MDJ	Mudanjiang	36.82	4	P	P	13 28 07.3 -0.1
MDJ				pP	pP	13 28 26.3 -2.7
MDJ				sP	sP	13 28 37.3 -2.5
MDJ				PP	PP	13 29 32.6 -0.4
MDJ				S	S	13 33 45.2 +0.4
MDJ				pmax	pmax	
	comp=Z,9.0nm,1.2s					
MDJ				pmax	pmax	
	comp=Z,60nm,4.2s					
MDJ				LR	LR	
	comp=N,51nm,33.0s					
MDJ				LR	LR	
	comp=E,50nm,35.7s					
MDJ				LR	LR	
	comp=Z,69nm,37.3s					
MDJ	Mudanjiang	36.82	4	eP	P	13 28 07.5 +0.2
	comp=Z,7.6nm,0.8s					
SHL	Shillong	37.48	302	eP	P	13 28 14.0 +0.5
MORW	Morawa	37.98	195	P	P	13 28 17.3 -0.1
	baz=38,SNR=9.6					
FORT	Forrest	38.34	178	eP	P	13 28 20.8 +0.5
	comp=Z,30nm,0.6s					
FORT	Forrest	38.34	178	P	P	13 28 20.9 +0.7
	baz=38,SNR=16					
ASAJ	Asahikawa	38.84	18	eP	P	13 28 25.8 +1.5
	comp=Z,16nm,1.0s					
ASAJ				pP	pP	13 28 44.2 -2.0
ASAJ				e		13 28 44.2
ASAJ	Asahikawa	38.84	18	P	P	13 28 25.6 +1.3
	comp=Z,11nm,0.7s,baz=226,slow=7.6,SNR=24					
ASAJ				pP	pP	13 28 44.2 -2.0
	comp=Z,18nm,0.7s,baz=235,slow=14,SNR=6.1					
ASAJ				LR	LR	13 43 27.9
	comp=Z,71nm,20.3s,baz=345,slow=34					
BLDU	Ballidu	39.30	193	P	P	13 28 28.1 -0.3
	baz=39,SNR=9.9					
LSA	Lhasa	39.76	308	P	P	13 28 32.8 0.0
LSA	Lhasa	39.76	308	eP	P	13 28 33.6 +0.8
LSA				pmax	pmax	
	comp=Z,9.0nm,0.7s					
LSA	Lhasa	39.76	308	eP	P	13 28 33.6 +0.8
	comp=Z,9.4nm,0.7s					
KLBR	Kellerberrin	40.02	192	P	P	13 28 34.5 +0.2
	baz=40,SNR=8.4					
EIDS	Eidsvold	40.66	145	P	P	13 28 39.9 +0.1
	baz=41,SNR=4.5					
HABR	Khabarovsk	41.22	9	P	P	13 28 44.5 +0.6
HABR				e*SP	sP	13 29 17.1 +0.4
HABR				e		13 30 19.5
HABR						13 30 39.0
HABR				eS	S	13 34 51.8 +1.2
HABR				i		13 37 46.4
HABR				e		13 38 35.4
BBOO	Buckleboo	41.34	168	eP	P	13 28 45.6 +0.4
	comp=Z,537nm,1.0s					
BBOO	Buckleboo	41.34	168	P	P	13 28 45.5 +0.4
	baz=41,SNR=28					
YSS	Yuzh-Sakhalins	41.45	17	eP	P	13 28 47.0 +1.1
KLR	Kul'dur	41.57	5	eP	P	13 28 39.7 -7.2
TAPN	Taplejung	41.61	303	eP	P	13 28 47.8 -0.1
	comp=Z,21nm,0.6s					
ODAN	Odare	41.71	302	eP	P	13 28 48.3 -0.4
	comp=Z,35nm,0.7s					
STKA	Stephens Creek	41.94	161	P	P	13 28 50.2 +0.1
STKA	Stephens Creek	41.94	161	P	P	13 28 50.2 +0.1
	comp=Z,4.7nm,0.5s,baz=337,slow=9.8,SNR=39					
STKA	Stephens Creek	41.94	161	P	P	13 28 50.4 +0.2
	baz=42,SNR=26					
RAMN	Ramite	42.41	302	eP	P	13 28 54.3 0.0
	comp=Z,29nm,0.6s					
JIRN	Jiri	42.98	303	eP	P	13 28 59.0 -0.2
	comp=Z,26nm,0.7s					
ULN	Ulaanbaatar	43.28	341	eP	P	13 28 59.9 -1.1
	comp=Z,9.3nm,0.6s					
GUN	Gumba	43.33	303	eP	P	13 29 01.5 -0.4
	comp=Z,31nm,0.7s					
SONM	Songino Array	43.47	340	P	P	13 29 02.6 +0.2
SONM				ScP	ScP	13 34 32.4 +0.2
SONM	Songino Array	43.47	340	P	P	13 29 02.6 +0.2
	comp=Z,3.8nm,0.4s,baz=156,slow=8.8,SNR=28					
SONM				ScP	ScP	13 34 32.4 +0.2
	comp=Z,1.5nm,0.8s,baz=151,slow=3.3,SNR=5.6					
PKI	Pulchoki	43.61	302	eP	P	13 29 03.3 -0.8
KKN	Kakani	43.79	302	eP	P	13 29 04.9 -0.5
DMN	Daman	43.88	302	eP	P	13 29 05.3 -0.9
	comp=Z,30nm,0.8s					
KOLN	Koldanda	45.19	302	eP	P	13 29 16.2 -0.4
	comp=Z,35nm,0.6s					
DANN	Dangsing	45.24	302	eP	P	13 29 16.5 -0.6
	comp=Z,37nm,0.6s					
HYB	Hyderabad	47.72	286	i P	P	13 29 35.0 -1.3
MOY	Mondy	48.58	339	eP	P	13 29 43.9 +1.4
WMQ	Urumqi	49.39	323	P	P	13 29 49.2 +0.4
WMQ				pmax	pmax	
	comp=Z,9.0nm,1.0s					
WMQ				LR	LR	
	comp=N,170nm,29.0s					
WMQ				LR	LR	
	comp=E,100nm,28.0s					
WMQ				LR	LR	
	comp=Z,100nm,28.0s					
HVS	Khovu-Aksy	51.06	334c	i P	P	13 30 01.9 +0.6
HVS				pmax	pmax	
	comp=Z,48nm,0.6s					
PETK	Petropavlovsk-	51.81	23	P	P	13 30 08.0 +1.3
PETK	Petropavlovsk-	51.81	23	P	P	13 30 08.0 +1.3
PETK				pP	pP	13 30 27.6 -1.9
PETK	Petropavlovsk-	51.81	23	P	P	13 30 08.0 +1.3
	comp=Z,6.6nm,0.7s,baz=198,slow=7.1,SNR=11					
PETK				pP	pP	13 30 27.6 -1.9
	comp=Z,11nm,0.8s,baz=203,slow=6.9,SNR=12					
MK31	Makanchi Array	54.21	324	eP	P	13 30 24.1 -0.4
MK31	Makanchi Array	54.21	324	eP	P	13 30 24.1 -0.4
MKAR	Makanchi Array	54.21	324	P	P	13 30 24.0 -0.5
MKAR				S	S	13 37 54.4 -0.2
MKAR	Makanchi Array	54.21	324	P	P	13 30 23.9 -0.5
MKAR				ScP	ScP	13 35 16.6 -1.0
MKAR				S	S	13 37 54.4 -0.2
MKAR	Makanchi Array	54.21	324	P	P	13 30 23.9 -0.5
	comp=Z,22nm,0.5s,baz=118,slow=7.4,SNR=169					
MKAR				ScP	ScP	13 35 16.6 -1.0
	comp=Z,1.2nm,0.8s,baz=106,slow=4.8,SNR=4.3					
MKAR				S	S	13 37 54.4 -0.2
	comp=Z,0.6nm,1.0s,baz=110,slow=17,SNR=5.2					
MKAR				LR	LR	13 54 47.1
	comp=Z,48nm,18.0s,baz=234,slow=37					
YAK	Yakutsk	54.22	2	eP	P	13 30 22.9 -1.3
YAK				e		13 31 25.8
YAK				eS	S	13 37 53.2 -0.9
YAK				e		13 40 02.5
YAK				pmax	pmax	
	comp=Z,11nm,1.1s					
YAK				pmax	pmax	
	comp=E,2.0nm,1.3s					
YAK				pmax	pmax	
	comp=N,4.0nm,1.1s					
YAK				smax	smax	
	comp=N,23nm,2.1s					
YAK				smax	smax	
	comp=E,15nm,2.3s					
KSH	Kashi	55.14	313	eP	P	13 30 32.4 +0.9
KSH				sP	sP	13 31 07.4 +2.4
KSH				PP	PP	13 32 37.7 +1.9
KSH				S	S	13 38 03.8 -3.8
KSH				ScS	ScS	13 40 05.9 -6.2
KSH				pmax	pmax	
	comp=Z,6.0nm,1.0s					
KSH				pmax	pmax	
	comp=Z,93nm,4.4s					
KSH				LR	LR	
	comp=N,140nm,6.2s					
KSH				LR	LR	
	comp=E,130nm,6.4s					
KSH				LR	LR	
	comp=Z,84nm,4.4s					
TKM2	Tokmak 2	56.68	317	eP	P	13 30 43.1 +0.6
TKM2				pmax	pmax	
	comp=Z,4.0nm,0.6s					
TKM2	Tokmak 2	56.68	317	eP	P	13 30 43.1 +0.6
	comp=Z,3.8nm,0.6s					
MSVF	Nonsavu	56.80	117	eP	P	13 30 45.8 +2.2
MSVF				pmax	pmax	
	comp=Z,25nm,0.9s					
MSVF	Nonsavu	56.80	117	eP	P	13 30 45.8 +2.2
	comp=Z,25nm,0.9s					
ZAA0	Zalesovo Array	56.97	332	eP	P	13 30 42.5 -1.6
ZALV	Zalesovo Beam	56.97	332	P	P	13 30 42.4 -1.7
ZALV	Zalesovo Beam	56.97	332	P	P	13 30 42.4 -1.7
ZALV	Zalesovo Beam	56.97	332	P	P	13 30 42.4 -1.7
	comp=Z,6.4nm,0.4s,baz=125,slow=6.7,SNR=26					
AAK	Ala-Archa	57.32	316	LR	LR	13 57 11.1
	comp=Z,94nm,21.8s,baz=267,slow=38					
EKS2	Erkin-Say	57.82	316	eP	P	13 30 50.5 0.0
EKS2				pmax	pmax	
	comp=Z,6.0nm,0.8s					
EKS2	Erkin-Say	57.82	316	eP	P	13 30 50.5 0.0
	comp=Z,6.0nm,0.8s					
NVS	Novosibirsk	58.25	332	eP	P	13 30 45.6 -7.4
NVS				pmax	pmax	
	comp=N,3.0nm,0.7s					
NVS				pmax	pmax	
	comp=Z,5.0nm,0.7s					
NVS				pmax	pmax	
	comp=E,6.0nm,0.6s					
KURK	Kurchatov	58.30	326	P	P	13 30 52.5 -1.0
KURK	Kurchatov	58.30	326	P	P	13 30 52.5 -1.0
KURBB	Kurchatov Arra	58.30	326	P	P	13 30 52.5 -1.0
	comp=E,16nm,0.6s,baz=122,slow=7.5,SNR=110					
FX1	Attu Island--F	58.72	31	eP	P	13 30 58.0 +1.6
KBL	Kabul	59.01	306	eP	P	13 30 58.2 -0.8
KBL				pmax	pmax	
	comp=Z,10.0nm,0.6s					
KBL	Kabul	59.01	306	eP	P	13 30 58.2 -0.8
	comp=Z,10nm,0.6s					
KK31	Karatay Array	60.23	316	i P	P	13 31 06.0 -1.0
KK31				pmax	pmax	
	comp=Z,6.0nm,0.8s					
VOSK	Vostochnaya	63.45	326	P	P	13 31 26.7 -1.6
VOSK				pmax	pmax	
	comp=Z,7.0nm,0.6s					
BVA0	Borovoye Array	63.90	326	P	P	13 31 30.1 -1.2
BVA0				pmax	pmax	
	comp=Z,8.0nm,0.7s					
BVAR	Borovoye Array	63.90	326	P	P	13 31 30.3 -1.0
BVAR	Borovoye Array	63.90	326	P	P	13 31 30.3 -1.0
BVAR	Borovoye Array	63.90	326	P	P	13 31 30.3 -1.0
	comp=Z,9.4nm,0.5s,baz=113,slow=5.3,SNR=45					
BVAR				LR	LR	14 00 28.6
	comp=Z,46nm,18.3s,baz=277,slow=37					
BRVK	Borovoye	63.97	326	eP	P	13 31 30.8 -0.9
BRVK				pmax	pmax	
	comp=Z,13nm,0.8s					
BRVK	Borovoye	63.97	326	eP	P	13 31 30.8 -0.9
	comp=Z,14nm,0.8s					
IDAH	Dahanechah	66.26	302	eP	P	13 31 46.0 -1.3
IMYA	Miami	66.51	306	eP	P	13 31 47.8 -0.9
ISRO	Mashad	67.01	306	eP	P	13 31 51.

AB31	**Akbulak array**	**68.97**	**320**	*i* P	**P**	**13 32 02.5**	**-1.2**
AB31				pmax	pmax		
comp=Z,3.0nm,0.5s							
UNV	**Unalaska Valle**	**70.25**	**35**	*e*P	**P**	**13 32 12.3**	**+0.9**
AKTO	**Aktyubinsk**	**70.44**	**321**	P	**P**	**13 32 11.9**	**-0.8**
AKTO	**Aktyubinsk**	**70.44**	**321**	P	**P**	**13 32 11.9**	**-0.8**
AKTO	**Aktyubinsk**	**70.44**	**321**	P	**P**	**13 32 11.9**	**-0.8**
comp=Z,5.7nm,0.8s,baz=85,slow=7.7,SNR=18							
SVE	**Sverdlovsk**	**70.48**	**328⇑**	*e*P	**P**	**13 32 11.3**	**-1.5**
SVE				pmax	pmax		
comp=Z,13nm,0.6s							
IMEH	**Mehriz**	**70.61**	**300**	*e*P	**P**	**13 32 11.4**	**-3.0**
IANJ	**Anjilo**	**71.42**	**305**	*e*P	**P**	**13 32 17.9**	**-1.4**
ARU	**Arti**	**71.48**	**327**	*c i*P	**P**	**13 32 17.5**	**-1.4**
ARU				*PP	**pP**	**13 32 44.3**	**+1.4**
ARU						13 34 55.1	
ARU				S	**S**	**13 41 29.5**	**-0.5**
ARU				SS	SS	13 45 58.8	-7.7
ARU				pmax	pmax		
comp=Z,10.0nm,0.7s							
IGLO	**Ghaloghah**	**71.56**	**306**	*e*P	**P**	**13 32 19.5**	**-0.5**
ISRV	**Sarvestan**	**71.83**	**298**	*e*P	**P**	**13 32 20.7**	**-1.3**
IALA	**Alasht**	**72.35**	**305**	*e*P	**P**	**13 32 24.4**	**-0.5**
ISFB	**Sefidab**	**72.73**	**303**	*e*P	**P**	**13 32 25.7**	**-1.2**
IDMV	**Damavand**	**72.96**	**305**	*e*P	**P**	**13 32 26.9**	**-1.6**
IVRN	**Varamin**	**73.18**	**304**	*e*P	**P**	**13 32 28.0**	**-1.6**
CASY	**Casey**	**74.76**	**187**	*e*P	**P**	**13 32 38.3**	**+0.4**
comp=Z,3.6nm,0.7s							
IAZR	**Azarshahr**	**77.87**	**307**	*e*P	**P**	**13 32 56.1**	**-0.4**
ISHB	**Shabestar**	**78.15**	**307**	*e*P	**P**	**13 32 57.5**	**-0.5**
ZEI	**Tsey**	**79.41**	**312**	*e*P	**P**	**13 33 04.0**	**-0.8**
ZEI				pmax	pmax		
comp=Z,15nm,1.1s							
TRF	**Thorofare Moun**	**80.05**	**27**	*e*P	**P**	**13 33 07.3**	**-0.4**
comp=Z,9.9nm,1.0s							
KBZ	**Khabaz**	**80.12**	**313**	P	**P**	**13 33 07.6**	**-0.8**
KBZ	**Khabaz**	**80.12**	**313**	P	**P**	**13 33 07.5**	**-0.8**
KBZ	**Khabaz**	**80.12**	**313**	P	**P**	**13 33 07.5**	**-0.8**
comp=Z,5.1nm,1.0s,baz=74,slow=8.3,SNR=7.9							
KIV	**Kislovodsk**	**80.27**	**313**	*e*P	**P**	**13 33 08.8**	**-0.5**
KIV				pmax	pmax		
comp=Z,12nm,1.1s							
KIV				MLR	MLR		
comp=Z,28nm,19.0s							
COLD	**Coldfoot**	**80.28**	**23**	*e*P	**P**	**13 33 09.8**	**+1.0**
PMR	**Palmer**	**80.52**	**29**	*e*P	**P**	**13 33 09.8**	**-0.3**
PMR	**Palmer**	**80.52**	**29**	*e*P	**P**	**13 33 09.8**	**-0.3**
MCK	**McKinley**	**80.66**	**27**	*e*P	**P**	**13 33 11.0**	**+0.1**
MCK				pmax	pmax		
comp=Z,12nm,0.8s							
MCK	**McKinley**	**80.66**	**27**	*e*P	**P**	**13 33 11.0**	**+0.1**
comp=Z,12nm,0.8s							
SML	**Sawmill**	**80.91**	**29**	*e*P	**P**	**13 33 12.6**	**+0.4**
SML				pmax	pmax		
comp=Z,2.0nm,0.7s							
SML	**Sawmill**	**80.91**	**29**	*e*P	**P**	**13 33 12.6**	**+0.4**
comp=Z,2.3nm,0.7s							
COLA	**College**	**81.16**	**26**	*e*P	**P**	**13 33 13.2**	**-0.2**
COLA	**College**	**81.16**	**26**	*e*P	**P**	**13 33 13.2**	**-0.2**
ILAR	**Eielson Array**	**81.57**	**26**	P	**P**	**13 33 15.3**	**-0.4**
ILAR	**Eielson Array**	**81.57**	**26**	P	**P**	**13 33 15.3**	**-0.4**
comp=Z,2.8nm,0.6s,baz=251,slow=4.9,SNR=28							
KBSD	**Kabsdagh**	**82.22**	**306**	*e*P	P	13 33 09.7	-10
PAX	**Paxson**	**82.23**	**27**	*e*P	**P**	**13 33 20.0**	**+0.7**
PAX				pmax	pmax		
comp=Z,3.0nm,0.7s							
PAX	**Paxson**	**82.23**	**27**	*e*P	**P**	**13 33 20.0**	**+0.7**
comp=Z,3.4nm,0.7s							
MENT	**Mentasta**	**83.03**	**27**	*e*P	**P**	**13 33 24.3**	**+1.0**
KSRV	**Kasrt alli**	**83.55**	**305**	*e*P	P	13 33 22.7	-3.8
EGAK	**Eagle**	**84.02**	**25**	*e*P	**P**	**13 33 29.0**	**+0.7**
DAWY	**Dawson**	**84.86**	**26**	*e*P	**P**	**13 33 33.9**	**+1.3**
ZALF	**Zalf**	**85.20**	**302**	*e*P	**P**	**13 33 34.9**	**-0.1**
KFRA	**Kufra**	**85.40**	**305**	*e*P	**P**	**13 33 35.1**	**-0.8**
BTCH	**Batrach**	**85.58**	**306**	*e*P	**P**	**13 33 36.3**	**-0.6**
SALA	**Sala**	**85.72**	**302**	*e*P	**P**	**13 33 37.9**	**+0.1**
MARH	**Ras Al Marh**	**85.79**	**304**	*e*P	**P**	**13 33 38.1**	**-0.1**
HAWK	**Haweek**	**85.79**	**304**	*e*P	**P**	**13 33 36.4**	**-1.6**
BIDA	**Albida**	**85.81**	**305**	*e*P	**P**	**13 33 37.7**	**-0.3**
TOTH	**TOTAH**	**85.91**	**303**	*e*P	P	13 33 34.1	-4.4
ARNB	**Al Arnab**	**86.00**	**305**	*e*P	**P**	**13 33 37.2**	**-1.7**
KEV	**Kevo**	**86.08**	**340**	*e*P	**P**	**13 33 38.5**	**0.0**
KEV				pmax	pmax		
comp=Z,2.0nm,0.5s							
KEV	**Kevo**	**86.08**	**340**	*e*p	**P**	**13 33 38.5**	**0.0**
comp=Z,1.9nm,0.5s							
BRBR	**Barbar**	**86.30**	**303**	*e*P	**P**	**13 33 38.5**	**-2.2**
SIM	**Simferopol'**	**86.31**	**315**	*e*P	**P**	**13 33 38.9**	**-1.3**
SIM				pmax	pmax		
comp=Z,22nm,0.7s							
TCHB	**Talchebab**	**86.37**	**302**	*e*P	**P**	**13 33 40.6**	**-0.2**
PPT	**Papeete**	**86.51**	**108**	LR	LR	14 06 26.6	
comp=Z,94nm,21.6s,baz=311,slow=31							
ARCES	**ARCESS Array B**	**86.64**	**340**	P	**P**	**13 33 40.2**	**-1.1**
ARCES	**ARCESS Array B**	**86.64**	**340**	P	**P**	**13 33 40.2**	**-1.1**
comp=Z,3.9nm,0.6s,baz=81,slow=6.5,SNR=26							
BR131	**Keskin Array S**	**87.35**	**310**	*e*P	**P**	**13 33 44.1**	**-1.4**
comp=Z,3.2nm,0.6s							
BRTR	**Keskin Array B**	**87.35**	**310**	P	**P**	**13 33 44.0**	**-1.6**
BRTR	**Keskin Array B**	**87.35**	**310**	P	**P**	**13 33 44.0**	**-1.6**
comp=Z,4.5nm,0.7s,baz=106,slow=5.1,SNR=29							
VNDA	**Vanda**	**87.41**	**173**	*e*P	**P**	**13 33 45.2**	**+0.5**
comp=Z,4.9nm,0.8s							
VNDA	**Vanda**	**87.41**	**173**	P	**P**	**13 33 45.4**	**+0.6**
comp=Z,5.0nm,0.8s,baz=313,slow=6.3,SNR=35							
MAW	**Mawson**	**87.45**	**200**	P	**P**	**13 33 43.7**	**-1.4**
baz=87,SNR=9.9							
KAF	**Kangasniemi**	**87.98**	**332**	*e*P	**P**	**13 33 46.9**	**-0.9**
KAF				pmax	pmax		
comp=Z,7.0nm,0.7s							
KAF	**Kangasniemi**	**87.98**	**332**	*e*p	**P**	**13 33 46.9**	**-0.9**
comp=Z,6.5nm,0.7s							
FIA1	**FINESS Array S**	**88.23**	**332**	*e*P	**P**	**13 33 47.7**	**-1.4**
FINES	**FINESS Array B**	**88.23**	**332**	P	**P**	**13 33 47.6**	**-1.4**
FINES	**FINESS Array B**	**88.23**	**332**	P	**P**	**13 33 47.6**	**-1.4**
comp=Z,5.7nm,0.5s,baz=76,slow=5.9,SNR=82							
KOLS	**Kolonicke sedl**	**93.47**	**320**	*e*P	**P**	**13 34 13.5**	**-0.2**
KOLS	**Kolonicke sedl**	**93.47**	**320**	*e*P	**P**	**13 34 13.5**	**-0.2**
UZH	**Uzhgorod**	**93.54**	**320⇑**	*e*P	**P**	**13 34 14.2**	**+0.2**
STHS	**Stebnicka Huta**	**93.99**	**321**	*e*P	**P**	**13 34 16.7**	**+0.6**
STHS	**Stebnicka Huta**	**93.99**	**321**	*e*P	**P**	**13 34 16.7**	**+0.6**
CRVS	**Cervenica-Dubn**	**94.00**	**320**	*e*P	**P**	**13 34 16.3**	**+0.2**
CRVS				pmax	pmax		
comp=Z,7.0nm,1.5s							
CRVS	**Cervenica-Dubn**	**94.00**	**320**	*e*P	**P**	**13 34 16.3**	**+0.2**
KECS	**Kecovo**	**94.74**	**320**	*e*P	**P**	**13 34 19.2**	**-0.3**
KECS				pmax	pmax		
comp=Z,2.0nm,0.8s							
KECS	**Kecovo**	**94.74**	**320**	*e*P	**P**	**13 34 19.2**	**-0.3**
NB2	**NORSAR Subarra**	**95.13**	**334**	P	**P**	**13 34 19.8**	**-1.3**
comp=Z,0.8nm,0.5s,baz=64,slow=4.6							
NOA	**NORSAR Array B**	**95.13**	**334**	P	**P**	**13 34 19.6**	**-1.5**
NOA	**NORSAR Array B**	**95.13**	**334**	P	**P**	**13 34 19.6**	**-1.5**
comp=Z,1.2nm,0.7s,baz=65,slow=4.6,SNR=6.0							
YKA	**Yellowknife Ar**	**95.92**	**24**	P	**P**	**13 34 25.7**	**+1.1**
YKA				pP	**pP**	**13 34 45.2**	**-4.3**
YKA	**Yellowknife Ar**	**95.92**	**24**	P	**P**	**13 34 25.7**	**+1.1**
comp=Z,1.5nm,0.8s,baz=295,slow=4.0,SNR=3.2							
YKA				pP	**pP**	**13 34 45.2**	**-4.3**
comp=Z,2.6nm,0.7s,baz=299,slow=4.4,SNR=5.2							
SYO	**Syowa Base**	**96.09**	**201⇓**	*e*X	pP	13 34 45.0	-5.1
GERES	**GERESS Array B**	**98.84**	**322**	P	**P**	**13 34 38.2**	**0.0**
GERES				pP	**pP**	**13 34 58.5**	**-4.8**
GERES	**GERESS Array B**	**98.84**	**322**	P	**P**	**13 34 38.2**	**0.0**
comp=Z,1.1nm,0.9s,baz=69,slow=5.4,SNR=7.5							
GERES				pP	**pP**	**13 34 58.5**	**-4.8**
comp=Z,0.9nm,0.9s,baz=86,slow=6.8,SNR=3.3							
TXAR	**Lajitas Array**	**119.23**	**50**	PKP	**PKPdf**	**13 39 48.8**	**+1.2**
TXAR				pPKP	**pPKPdf**	**13 40 09.3**	**-4.2**
TXAR	**Lajitas Array**	**119.23**	**50**	PKP	**PKPdf**	**13 39 48.8**	**+1.2**
comp=Z,0.8nm,0.6s,baz=0.0,slow=0.1,SNR=14							
TXAR				pPKP	**pPKPdf**	**13 40 09.3**	**-4.2**
comp=Z,1.2nm,0.9s,baz=222,slow=1.7,SNR=5.3							
TORD	**Torodi Ar. Bea**	**121.44**	**290**	PKP	**PKPdf**	**13 39 51.4**	**-0.6**
TORD				pPKP	**pPKPdf**	**13 40 12.2**	**-5.7**
TORD	**Torodi Ar. Bea**	**121.44**	**290**	PKP	**PKPdf**	**13 39 51.4**	**-0.6**
comp=Z,3.8nm,0.7s,baz=55,slow=2.3,SNR=26							
TORD				pPKP	**pPKPdf**	**13 40 12.2**	**-5.7**
comp=Z,1.6nm,0.8s,baz=75,slow=1.5,SNR=4.3							
JCT	**Junction City**	**121.52**	**47**	*e*PKIKP	**PKPdf**	**13 39 52.2**	**+0.3**
JCT	**Junction City**	**121.52**	**47**	*e*PKPdf	**PKPdf**	**13 39 52.1**	**+0.3**
MIAR	**Mount Ida**	**123.35**	**40**	*e*PKIKP	**PKPdf**	**13 39 55.7**	**+0.5**
MIAR	**Mount Ida**	**123.35**	**40**	*e*PKPdf	**PKPdf**	**13 39 55.7**	**+0.5**
DBIC	**Dimbokro**	**129.48**	**285**	PKP	**PKPdf**	**13 40 07.6**	**+0.2**
DBIC	**Dimbokro**	**129.48**	**285**	PKP	**PKPdf**	**13 40 07.6**	**+0.2**
comp=Z,4.9nm,1.0s,baz=70,slow=1.7,SNR=3.7							
DWPF	**Disney**	**135.25**	**36**	*e*PKPdf	**PKPdf**	**13 40 17.2**	**-0.7**
PLCA	**Paso Flores**	**143.79**	**158**	PKP	PKPbc	13 40 30.9	0.0
PLCA	**Paso Flores**	**143.79**	**158**	PKP	PKPbc	13 40 30.9	0.0
comp=Z,3.2nm,0.8s,baz=216,slow=1.8,SNR=3.2							
TRQA	**Tornquist**	**148.85**	**167**	*e*PKPbc	**PKPbc**	**13 40 44.8**	**-0.9**
LRS	**Lares**	**150.94**	**27**	*e*PKPbc	**PKPbc**	**13 40 52.0**	**+0.7**
LPAZ	**La Paz**	**163.32**	**122**	PKP	**PKPdf**	**13 41 03.1**	**+1.2**
LPAZ				PKPab	**PKPab**	**13 41 55.2**	**+2.2**
LPAZ	**La Paz**	**163.32**	**122**	PKP	**PKPdf**	**13 41 03.1**	**+1.2**
comp=Z,1.6nm,0.7s,baz=253,slow=1.8,SNR=7.4							
LPAZ				PKPab	**PKPab**	**13 41 55.2**	**+2.2**
comp=Z,2.5nm,0.8s,baz=177,slow=1.4,SNR=6.3							

IDC 02 13:43:35.5±1.3, 55°.92S×28°.01W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.6/15, mbtmp3.6/2, Error ellipse: s-maj=91.9km s-min=36.4km az=104.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.68**	**183**	P	P	13 52 05.9	+0.8
0.7nm,0.7s,baz=192,slow=7.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**73.17**	**30**	P	P	13 55 08.8	+0.9
0.2nm,0.4s,baz=204,slow=6.8,SNR=3.5							
ILAR	**Eielson Array**	**149.69**	**312**	PKPbc	PKPbc	14 03 24.8	-0.8
0.4nm,0.6s,baz=131,slow=2.2,SNR=7.4							
SONM	**Songino Array**	**151.18**	**87**	PKPbc	PKPbc	14 03 28.0	-1.9
0.8nm,0.6s,baz=218,slow=3.8,SNR=5.2							

*IDC **02** 13:46:28.6±3.6, 43°.23N×45°.69E, h80km±38km, mb3.1/2, mb1 3.3/5, mb1mx2.9/26, mbtmp3.2/5, Error ellipse: s-maj=70.1km s-min=23.6km az=2.0*
*CSEM **02** 13:46:29.9±0.3, 43°.27N×45°.64E, h118km±2km, mb4.1, Error ellipse: s-maj=5.5km s-min=3.4km az=7.0*
*TIF **02** 13:46:29.4, 43°.25N×45°.83E, h29km±4km*
*ISCJB **02** 13:46:30.0±0.5, 43°.26N±0°.03×45°.63E±0°.03, h116km±4km, mb3.0/2, Error ellipse: s-maj=5.7km s-min=3.5km az=11.6*
*MOS **02** 13:46:30.3±1.1, 43°.34N×45°.63E, h110km, mb4.1/1, Error ellipse: s-maj=11.7km s-min=9.2km az=20.8*

ISC 02 13:46:30.3±0.9, 43°.26N±0°.04×45°.62E±0°.03, h114km±6km, n65, σ1.9 04/116, 9C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.11**	**58⇑**	*i* P	**Pn**	**13 46 46.5**	**+0.6**
GRO				*e*S	**Sn**	**13 46 57.3**	**-0.4**
GRO	**Groznyy**	**0.11**	**58**	*i* P	**Pn**	**13 46 46.5**	**+0.6**
GRO				*e*S	**Sn**	**13 46 57.3**	**-0.4**
SNJR	**Sundja**	**0.62**	**252⇑**	*i* P	**Pn**	**13 46 49.0**	**+0.6**
SNJR				*e*S	**Sn**	**13 47 01.9**	**-0.2**
SNJR	**Sundja**	**0.62**	**252**	*i* P	**Pn**	**13 46 49.0**	**+0.6**
SNJR				*e*S	**Sn**	**13 47 01.9**	**-0.2**
VLKR	**Vladikavkaz**	**0.72**	**253⇓**	*i* P	**Pn**	**13 46 49.8**	**+0.6**
VLKR				*e*S	**Sn**	**13 47 03.2**	**-0.3**
VLKR	**Vladikavkaz**	**0.72**	**253**	*i* P	**Pn**	**13 46 49.8**	**+0.6**
VLKR				*e*S	**Sn**	**13 47 03.2**	**-0.3**
DLMR	**Dylym**	**0.76**	**104**	*e*P	**Pn**	**13 46 49.7**	**+0.1**
DLMR				*e*S	**Sn**	**13 47 04.2**	**+0.1**
DLMR	**Dylym**	**0.76**	**104**	*e*P	**Pn**	**13 46 49.7**	**+0.1**
DLMR				*e*S	**Sn**	**13 47 04.2**	**+0.1**
BTKR	**Batakoyurt**	**0.79**	**279⇑**	*i* P	**Pn**	**13 46 50.7**	**+0.9**
BTKR				*e*S	**Sn**	**13 47 05.2**	**+0.6**
BTKR	**Batakoyurt**	**0.79**	**279**	*i* P	**Pn**	**13 46 50.7**	**+0.9**
BTKR				*e*S	**Sn**	**13 47 05.2**	**+0.6**
TRKR	**Terskaya**	**0.80**	**306**	*e*P	**Pn**	**13 46 51.0**	**+1.2**
TRKR				*e*S	**Sn**	**13 47 05.8**	**+1.3**
TRKR	**Terskaya**	**0.80**	**306**	*e*P	**Pn**	**13 46 51.0**	**+1.2**
TRKR				*e*S	**Sn**	**13 47 05.8**	**+1.3**
DBC	**Dubki**	**0.92**	**105⇑**	*i* P	**Pn**	**13 46 51.1**	**0.0**
DBC				*i* S	**Sn**	**13 47 05.9**	**-0.8**
DBC	**Dubki**	**0.92**	**105**	*i* P	**Pn**	**13 46 51.1**	**0.0**
DBC				*i* S	**Sn**	**13 47 05.9**	**-0.8**
ARNR	**Ardon**	**0.98**	**266⇓**	*i* P	**Pn**	**13 46 52.5**	**+0.9**
ARNR				*e*S	**Sn**	**13 47 08.2**	**+0.5**
ARNR	**Ardon**	**0.98**	**266**	*i* P	**Pn**	**13 46 52.5**	**+0.9**
ARNR				*e*S	**Sn**	**13 47 08.2**	**+0.5**
KRNR	**Karanay**	**1.04**	**114**	*i* P	**Pn**	**13 46 52.5**	**+0.2**
KRNR				*e*S	**Sn**	**13 47 08.0**	**-0.9**
KRNR	**Karanay**	**1.04**	**114**	*i* P	**Pn**	**13 46 52.5**	**+0.2**
KRNR				*e*S	**Sn**	**13 47 08.0**	**-0.9**
XNZR	**Khunzakh**	**1.07**	**132**	*e*P	**Pn**	**13 46 53.5**	**+0.8**
XNZR				*i* S	**Sn**	**13 47 09.5**	**-0.2**
XNZR				pmax	pmax		
comp=Z,88nm,0.1s							
XNZR	**Khunzakh**	**1.07**	**132**	*e*P	**Pn**	**13 46 53.5**	**+0.8**
comp=Z,88nm,0.1s							
XNZR				*i* S	**Sn**	**13 47 09.5**	**-0.2**
PRTR	**Priterechnaya**	**1.09**	**297⇑**	*i* P	**Pn**	**13 46 54.0**	**+1.3**
PRTR				*e*S	**Sn**	**13 47 11.1**	**+1.5**
PRTR	**Priterechnaya**	**1.09**	**297**	*i* P	**Pn**	**13 46 54.0**	**+1.3**
PRTR				*e*S	**Sn**	**13 47 11.1**	**+1.5**
STDR	**Stavd-Durt**	**1.14**	**276**	*i* P	**Pn**	**13 46 54.5**	**+1.3**
STDR				*e*S	**Sn**	**13 47 11.3**	**+0.7**
STDR	**Stavd-Durt**	**1.14**	**276**	*i* P	**Pn**	**13 46 54.5**	**+1.3**
STDR				*e*S	**Sn**	**13 47 11.3**	**+0.7**
KORR	**Kora**	**1.15**	**262⇑**	*i* P	**Pn**	**13 46 53.9**	**+0.5**
KORR				*e*S	**Sn**	**13 47 11.0**	**+0.2**
KORR	**Kora**	**1.15**	**262**	*i* P	**Pn**	**13 46 53.9**	**+0.5**
KORR				*e*S	**Sn**	**13 47 11.0**	**+0.2**
GUDG	**Gudauri**	**1.16**	**227**	P	**Pn**	**13 46 53.6**	**0.0**
GUDG				S	**Sn**	**13 47 10.7**	**-0.6**
GUDG	**Gudauri**	**1.16**	**227**	P	**Pn**	**13 46 53.6**	**0.0**
GUDG				S	**Sn**	**13 47 10.7**	**-0.6**
ARKR	**Arakani**	**1.21**	**123**	*e*P	**Pn**	**13 46 54.8**	**+0.8**
ARKR				*e*S	**Sn**	**13 47 11.5**	**-0.4**
ARKR				pmax	pmax		
comp=Z,38nm,0.2s							
ARKR	**Arakani**	**1.21**	**123**	*e*P	**Pn**	**13 46 54.8**	**+0.8**
comp=Z,38nm,0.2s							
ARKR				*e*S	**Sn**	**13 47 11.5**	**-0.4**
DUS	**Dusheti**	**1.35**	**210**	P	**Pn**	**13 46 56.5**	**+0.8**
DUS				S	**Sn**	**13 47 15.8**	**+0.9**
DUS	**Dusheti**	**1.35**	**210**	P	**Pn**	**13 46 56.5**	**+0.8**
DUS				S	**Sn**	**13 47 15.8**	**+0.9**
ZEI	**Tsey**	**1.35**	**249⇓**	*i* P	**Pn**	**13 46 55.2**	**-0.7**
ZEI				*i* S	**Sn**	**13 47 13.3**	**-1.9**
ZEI	**Tsey**	**1.35**	**249**	*i* P	**Pn**	**13 46 55.2**	**-0.7**
ZEI				*i* S	**Sn**	**13 47 13.3**	**-1.9**
DIGR	**Digorskoe uzhe**	**1.54**	**257⇑**	*i* P	**Pn**	**13 46 57.7**	**-0.3**
DIGR				*i* S	**Sn**	**13 47 17.7**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.54**	**257**	*i* P	**Pn**	**13 46 57.7**	**-0.3**
DIGR				*i* S	**Sn**	**13 47 17.7**	**-1.2**
KMKR	**Kumukh**	**1.57**	**135**	*e*P	**Pn**	**13 46 59.0**	**+0.6**
KMKR				*e*S	**Sn**	**13 47 19.2**	**-0.5**
KMKR				pmax	pmax		
comp=Z,42nm,0.2s							
KMKR	**Kumukh**	**1.57**	**135**	*e*P	**Pn**	**13 46 59.0**	**+0.6**
comp=Z,42nm,0.2s							
KMKR				*e*S	**Sn**	**13 47 19.2**	**-0.5**
MNSR	**Manas**	**1.64**	**109**	P	**Pn**	**13 47 00.0**	**+1.1**
MNSR				*e*S	**Sn**	**13 47 23.0**	**+2.3**
MNSR	**Manas**	**1.64**	**109**	P	**Pn**	**13 47 00.0**	**+1.1**
MNSR				*e*S	**Sn**	**13 47 23.0**	**+2.3**
TBLG	**Delisi**	**1.66**	**203**	P	**Pn**	**13 46 59.8**	**+0.5**
TBLG				S	**Sn**	**13 47 21.4**	**+0.1**
TBLG	**Delisi**	**1.66**	**203**	P	**Pn**	**13 46 59.8**	**+0.5**
TBLG				S	**Sn**	**13 47 21.4**	**+0.1**
TBLG	**Delisi**	**1.66**	**203**	P	**Pn**	**13 46 59.8**	**+0.5**
TBLG				S	**Sn**	**13 47 21.4**	**+0.1**
ONI	**Oni**	**1.73**	**248**	P	**Pn**	**13 47 01.2**	**+1.1**
ONI				S	**Sn**	**13 47 24.8**	**+2.0**
ONI	**Oni**	**1.73**	**248**	P	**Pn**	**13 47 01.2**	**+1.1**
ONI				S	**Sn**	**13 47 24.8**	**+2.0**
DGRG	**David-gareji**	**1.82**	**186**	P	**Pn**	**13 47 02.3**	**+1.1**
DGRG				S	**Sn**	**13 47 26.3**	**+1.5**
DGRG	**David-gareji**	**1.82**	**186**	P	**Pn**	**13 47 02.3**	**+1.1**
DGRG				S	**Sn**	**13 47 26.3**	**+1.5**
URKR	**Urkarakh**	**1.84**	**126**	P	Pn	13 47 05.0	+3.4
URKR				*e*S	**Sn**	**13 47 26.0**	**+0.5**
KBZ	**Khabaz**	**2.04**	**284**	P	**Pn**	**13 47 03.7**	**-0.1**
KBZ				S	**Sn**	**13 47 27.2**	**-2.3**
KBZ				pmax	pmax		
comp=Z,8.0nm,0.3s							
KBZ				smax	smax		
comp=N,11nm,0.3s							
KBZ	**Khabaz**	**2.04**	**284**	P	**Pn**	**13 47 03.7**	**-0.1**
comp=N,8.3nm,0.3s,baz=134,slow=5.1,SNR=170							
KBZ				S	**Sn**	**13 47 27.1**	**-2.3**
comp=N,11nm,0.3s,baz=316,slow=19,SNR=7.0							
KBZ	**Khabaz**	**2.04**	**284**	P	**Pn**	**13 47 03.7**	**-0.1**
comp=N,8.0nm,0.3s							
KZR	**Kazreti**	**2.08**	**206**	P	**Pn**	**13 47 04.6**	**+0.1**
KZR				S	**Sn**	**13 47 30.1**	**-0.5**
KZR	**Kazreti**	**2.08**	**206**	P	**Pn**	**13 47 04.6**	**+0.1**
KZR				S	**Sn**	**13 47 30.1**	**-0.5**
GNI	**Garni**	**3.17**	**192**	S	**Sn**	**13 47 56.5**	**+0.1**
comp=N,1.7nm,0.3s,baz=160,slow=22,SNR=3.6							
AKTO	**Aktyubinsk**	**11.11**	**45**	⇑Pn	**Pn**	**13 49 03.4**	**-2.3**
comp=N,0.8nm,0.4s							
AKTO				⇓Sn	Sn	13 50 55.9	-12
comp=N,1.8nm,0.8s							
AKTO	**Aktyubinsk**	**11.11**	**45**	P	**Pn**	**13 49 03.7**	**-2.0**
AKTO				S	Sn	13 50 57.8	-10
AKTO	**Aktyubinsk**	**11.11**	**45**	P	**Pn**	**13 49 03.7**	**-2.0**
comp=N,0.4nm,0.3s,baz=14,SNR=4.6							
AKTO				S	Sn	13 50 57.8	-10
comp=N,0.1nm,0.3s,baz=45,slow=20,SNR=3.4							
AKTO	**Aktyubinsk**	**11.11**	**45**	Pn	**Pn**	**13 49 03.4**	**-2.3**
comp=N,0.8nm,0.4s							
AKTO				Sn	Sn	13 50 55.9	-12
comp=N,1.8nm,0.8s							
AB31	**Akbulak array**	**11.58**	**54**	⇑Pn	**Pn**	**13 49 10.1**	**-1.9**
comp=N,0.4nm,0.2s,baz=242,slow=11,SNR=69							
AB31				⇓Sn	Sn	13 51 10.8	-8.4
comp=N,0.6nm,0.4s,baz=246,slow=22,SNR=4.4							
AB31	**Akbulak array**	**11.58**	**54**	Pn	**Pn**	**13 49 10.1**	**-1.9**
comp=N,0.4nm,0.2s,SNR=69							
BVAR	**Borovoye Array**	**19.11**	**51**	P	**Pn**	**13 50 45.0**	**-1.2**
BVAR	**Borovoye Array**	**19.11**	**51**	P	**Pn**	**13 50 45.0**	**-1.2**
comp=N,0.2nm,0.3s,baz=256,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**21.62**	**334**	P	**P**	**13 51 13.0**	**+2.1**
comp=N,0.8nm,0.8s,baz=145,slow=10.0,SNR=4.5							
MKAR	**Makanchi Array**	**26.01**	**69**	P	**P**	**13 51 52.9**	**+0.4**
MKAR	**Makanchi Array**	**26.01**	**69**	P	**P**	**13 51 52.9**	**+0.4**
comp=N,0.2nm,0.3s,baz=266,slow=9.1,SNR=4.2							

WEL 02 14:04:00.5±0.2, 45°.59S×166°.43E, h18km±1km, ML3.6/13, 1D, Error ellipse: s-maj=2.2km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.52**	**78**	P*	Pg	14 04 10.3	-0.6
DCZ				S*	Sg	14 04 17.3	-0.6
DCZ				AML	AML	14 04 17.6	
DCZ				AML	AML	14 04 17.9	
DCZ				AML	AML	14 04 17.9	
PYZ	**Puysegur Point**	**0.60**	**163**	P*	Pg	14 04 11.7	-0.8
PYZ				S*	Sg	14 04 20.2	-0.4
WHZ	**Wether Hill Ro**	**1.10**

mb3.5/1, Error ellipse: s-maj=20.8km s-min=6.1km az=0.7
*GUC **02** 14:31:30.5±0.5, 20.°00S×69.°28W, h102km±4km, ML3.8*
*IDC **02** 14:31:36.0±8.2, 19.°78S×68.°66W, h138km±59km, mb3.4/1, mb1 3.3/2, mb1mx3.0/19, mbtmp3.3/2, Error ellipse: s-maj=78.1km s-min=65.5km az=26.0*

ISC 02 14:31:31.0±0.9, 19.°96S±0.°04×69.°4W±0.°1, h108km±9km, n14, σ1§66/20, 4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.58**	**236**	⇓*i*P			**Pn**	**14 31 48.1**	**-0.3**
HMBC					*e*S		**Sn**	**14 32 01.6**	**+0.1**
HMBC					AML		AML	14 32 03.1	
	comp=E,3μm,0.4s								
PSGC	**Pisagua**	**0.79**	**297**	⇓*i*P			**Pn**	**14 31 50.5**	**+0.4**
PSGC					*i* S		**Sn**	**14 32 05.5**	**+1.0**
PSGC					AML		AML	14 32 06.4	
	comp=E,1μm,0.6s								
MNMC	**Minimini**	**0.85**	**346**	⇓*i*P			**Pn**	**14 31 51.0**	**+0.1**
MNMC					*i* S		**Sn**	**14 32 06.3**	**+0.5**
MNMC					AML		AML	14 32 07.6	
	comp=E,6μm,0.5s								
PB01	**Plate Boundary**	**1.09**	**186**	⇓*i*P			**Pn**	**14 31 52.2**	**-0.8**
PB01					*e*S		**Sn**	**14 32 08.5**	**-1.3**
PB01					AML		AML	14 32 09.9	
	comp=N,2μm,0.2s								
PB07	**Plate Boundary**	**1.82**	**195**	*e*S			**Sn**	**14 32 25.3**	**-0.1**
PB07					AML		AML	14 32 32.8	
	comp=E,1μm,0.5s								
PB09	**Plate Boundary**	**1.83**	**176**	*e*P			**Pn**	**14 32 01.6**	**-0.4**
PB09					*e*S		**Sn**	**14 32 25.2**	**-0.5**
PB09					AML		AML	14 32 32.4	
	comp=E,2μm,0.3s								
PB04	**Plate Boundary**	**2.30**	**183**	*e*P			**Pn**	**14 32 10.5**	**+2.7**
PB04					*i* S		**Sn**	**14 32 40.7**	**+4.8**
PB04					AML		AML	14 32 51.3	
	comp=E,482nm,0.3s								
LVC	**Limon Verde**	**2.68**	**171**	*e*P			**Pn**	**14 32 12.9**	**-0.1**
PB10	**Plate Boundary**	**3.71**	**197**	*e*P			**Pn**	**14 32 25.4**	**-0.9**
ANCH	**Antofagasta**	**3.83**	**194**	*e*P			Pn	14 32 33.1	+5.1
LPAZ	**La Paz**	**3.83**	**18**	P			**Pn**	**14 32 30.2**	**+1.5**
	comp=E,2.5nm,0.3s,baz=192,slow=7.8,SNR=52								
LPAZ					S		**Sn**	**14 33 12.5**	**-0.8**
	comp=E,0.4nm,0.3s,baz=184,slow=18,SNR=4.0								
TORD	**Torodi Ar. Bea**	**77.26**	**71**	P			**P**	**14 43 11.7**	**-2.1**
	comp=E,0.5nm,0.5s,baz=256,slow=5.2,SNR=8.6								
MKAR	**Makanchi Array**	**144.63**	**34**	PKP			**PKPab**	**14 50 54.4**	**+0.6**
	comp=E,0.1nm,0.3s,baz=357,slow=3.2,SNR=3.1								
SONM	**Songino Array**	**151.98**	**6**	PKPbc			**PKPbc**	**14 51 14.3**	**+0.8**
	comp=E,0.4nm,0.4s,baz=325,slow=3.9,SNR=2.5								

*IDC **02** 15:09:33.3±4.1, 23.°52S×69.°68W, h0km, mb3.7/1, mb1 3.5/2, mb1mx3.3/17, mbtmp3.4/2, ML3.3/1, Error ellipse: s-maj=131.9km s-min=60.3km az=82.0*
*ISCJB **02** 15:09:48.1±0.9, 22.°73S±0.°06×69.°28W±0.°06, h99km±7km, mb3.4/1, Error ellipse: s-maj=9.9km s-min=9.5km az=30.7*
*GUC **02** 15:09:50.0±0.8, 22.°75S×69.°30W, h72km±7km, ML3.7*

ISC 02 15:09:49.2±1.3, 22.°72S±0.°06×69.°27W±0.°06, h89km±10km, n9, σ0§87/13, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.35**	**72**	*e*P			**Pn**	**15 10 02.1**	**-0.9**
LVC					*i* S		**Sn**	**15 10 12.2**	**-1.1**
PB09	**Plate Boundary**	**0.92**	**2**	⇓*e*P			**Pn**	**15 10 08.6**	**+0.5**
PB09					*e*S		**Sn**	**15 10 22.9**	**+0.8**
PB09					AML		AML	15 10 24.2	
	comp=N,7μm,0.5s								
SPCH	**San Pedro de A**	**1.00**	**101**	*e*P			**Pn**	**15 10 09.6**	**+0.5**
SPCH					*i* S		**Sn**	**15 10 25.2**	**+1.2**
SPCH					AML		AML	15 10 32.3	
	comp=N,2μm,0.5s								
PB07	**Plate Boundary**	**1.14**	**330**	⇓*i*P			**Pn**	**15 10 11.0**	**+0.4**
PB07					*i* S		**Sn**	**15 10 27.6**	**+0.9**
PB07					AML		AML	15 10 28.9	
	comp=E,3μm,0.2s								
PB10	**Plate Boundary**	**1.42**	**236**	*e*P			**Pn**	**15 10 14.0**	**+0.1**
PB10					*i* S		**Sn**	**15 10 32.3**	**-0.2**
PB10					AML		AML	15 10 34.4	
	comp=E,1μm,0.2s								
MNMC	**Minimini**	**3.58**	**355**	*e*P			**Pn**	**15 10 41.7**	**-1.1**
LPAZ	**La Paz**	**6.49**	**10**	Pn			**Pn**	**15 11 22.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=192,slow=9.3,SNR=6.8								
TORD	**Torodi Ar. Bea**	**78.08**	**70**	P			P	15 21 38.0	-0.8
	comp=E,0.7nm,1.0s,baz=242,slow=6.4,SNR=2.6								
MKAR	**Makanchi Array**	**146.81**	**37**	PKPbc			**PKPdf**	**15 29 19.0**	**-0.1**
	comp=E,0.2nm,0.8s,baz=325,slow=1.8,SNR=3.2								

MAN 02 15:13:18, 6.°54N×125.°54E, h40km, mb4.1, ML2.9, MS2.7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.54**	**357**	⇓*i*P			Pn	15 13 31.1	+1.8
DMPH					*i* S		Sn	15 13 36.3	-1.0
KCP	**Kidapawan**	**0.65**	**316**	⇑*i*P			Pn	15 13 33.9	+3.1
KCP					*i* S		Sn	15 13 42.9	+2.9
GSPH	**General Santos**	**0.74**	**233**	⇑*e*P			Pn	15 13 40.8	+8.6
GSPH					*e*S		Sn	15 13 55.7	+13
MATI	**Mati**	**0.82**	**60**	*e*P			Pn	15 13 34.9	+1.8
BUKP	**Musuan**	**1.41**	**340**	*e*P			Pn	15 13 43.1	+1.8
BUKP					*e*S		Sn	15 14 00.3	+1.6
CTBH	**Cotabato--PC H**	**1.45**	**298**	⇓*i*P			Pn	15 13 46.8	+5.0
BUTP	**Butuan**	**2.41**	**2**	*e*P			Pn	15 13 56.6	+1.5

*NIED **02** 15:26:00, 46.°90N×152.°90E, h32km, Mw4.1 Best double couple: M0:1.39000×10^15^ NP1:φs309.00000°, δ87.00000°, λ22.00000°. NP2:φs218.00000°, δ68.00000°, λ177.00000°.*
*ISCJB **02** 15:26:23.5±0.4, 46.°73N±0.°06×152.°86E±0.°08, h40km, mb4.1/28, MS3.5/4, Error ellipse: s-maj=11.2km s-min=3.6km az=141.6*
*JMA **02** 15:26:23.9±0.8, 46.°86N×152.°94E, h30km, M4.6*
*MOS **02** 15:26:25.0±1.2, 46.°83N×152.°84E, h51km, mb4.3/21, Error ellipse: s-maj=9.8km s-min=7.5km az=75.6*
*IDC **02** 15:26:28.4±2.3, 46.°83N×152.°79E, h68km±20km, mb3.7/20, mb1 3.9/24, mb1mx3.9/30, mbtmp3.7/24, MS3.2/8, Ms1 3.2/8, ms1mx2.9/37, Error ellipse: s-maj=17.0km s-min=10.6km az=147.0*

ISC 02 15:26:24.9±0.6, 46.°64N±0.°09×152.°92E±0.°07, h40km, n120, σ1§63/117, mb4.1/28, MS3.5/4, 5C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.80**	**250**	*c*iPN			**Pn**	**15 27 23.4**	**+2.6**
KUR					*e*S		**Sn**	**15 28 09.0**	**+4.8**
KUR					pmax		pmax		
	comp=N,34nm,0.5s								
KUR					pmax		pmax		
	comp=Z,65nm,0.5s								
KUR					pmax		pmax		
	comp=E,31nm,0.3s								
KUR					smax		smax		
	comp=E,103nm,0.5s								
KUR					smax		smax		
	comp=N,270nm,0.5s								
SKR	**Severo-Kuril's**	**4.57**	**26**	*e*PN			**Pn**	**15 27 29.5**	**-1.9**
SKR					pmax		pmax		
	comp=N,40nm,0.5s								
SKR					pmax		pmax		
	comp=E,30nm,0.5s								
SKR					pmax		pmax		
	comp=Z,60nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.62**	**245**	*i* PN			Pn	15 27 49.6	+3.8
YUK					*e*S		**Sn**	**15 28 54.2**	**+5.2**
YUK					pmax		pmax		
	comp=E,57nm,0.9s								
YUK					pmax		pmax		
	comp=N,75nm,1.0s								
YUK					pmax		pmax		
	comp=Z,111nm,1.0s								
YUK					smax		smax		
	comp=N,145nm,0.7s								
YUK					smax		smax		
	comp=E,286nm,0.7s								
NEM2	**Nemuro 2**	**6.05**	**240**	P			**Pn**	**15 27 52.2**	**+0.5**
NEM2					*e*S		**Sn**	**15 28 57.4**	**-2.3**
JRA	**Rausu**	**6.13**	**247**	P			**Pn**	**15 27 55.5**	**+2.7**
JNK	**Nakash**	**6.56**	**245**	P			**Pn**	**15 28 01.0**	**+2.3**
JNK					*e*S		**Sn**	**15 29 12.6**	**+0.4**
JAK	**Akkeshi**	**6.89**	**241**	P			**Pn**	**15 28 03.7**	**+0.4**
JAK					*e*S		**Sn**	**15 29 17.3**	**-3.0**
JTKR	**Abashiri--Toko**	**6.89**	**251**	P			**Pn**	**15 28 06.5**	**+3.2**
YSS	**Yuzh-Sakhalins**	**6.99**	**276**	*e*PN			Pn	15 28 08.3	+3.7
YSS					pmax		pmax		
	comp=Z,30nm,0.9s								
PETK	**Petropavlovsk-**	**7.17**	**24**	*e*PN			**Pn**	**15 28 08.3**	**+1.1**
PETK					pmax		pmax		
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**7.17**	**24**	P			**Pn**	**15 28 07.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=182,slow=12,SNR=35								
PETK					S		Sn	15 29 36.5	+9.2
	baz=161,slow=18,SNR=1.5								
PETK					LR		LR	15 30 47.0	
	comp=Z,49nm,21.9s,baz=78,slow=37								
JMP	**Maruseppu**	**7.24**	**252**	P			Pn	15 28 11.3	+3.2
JAR	**Ashorobuto**	**7.30**	**246**	P			**Pn**	**15 28 11.3**	**+2.4**
JAR					*e*S		**Sn**	**15 29 30.4**	**0.0**
PET	**Petropavlovsk**	**7.39**	**28**	*e*PN			Pn	15 28 17.2	+7.1
JOB	**Onbets**	**7.47**	**243**	P			**Pn**	**15 28 13.0**	**+1.8**
JOB					*e*S		**Sn**	**15 29 32.0**	**-2.5**
JKK2	**Kamakawa 2**	**7.69**	**253**	P			Pn	15 28 17.7	+3.4
ASAJ	**Asahikawa**	**7.70**	**255**	P			Pn	15 28 18.6	+4.2
ASAJ	**Asahikawa**	**7.70**	**255**	P			Pn	15 28 18.5	+4.2
	comp=Z,2.1nm,0.3s,baz=66,slow=13,SNR=23								
ASAJ					S		**Sn**	**15 29 43.0**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=20,SNR=2.4								
ASAJ					LR		LR	15 31 06.4	
	comp=Z,105nm,20.0s,baz=160,slow=36								
JCH	**Churui**	**7.92**	**243**	P			**Pn**	**15 28 18.3**	**+1.0**
JCH					*e*S		**Sn**	**15 29 42.8**	**-2.8**
JFR	**Furan**	**8.11**	**248**	P			**Pn**	**15 28 22.5**	**+2.4**
JAB	**Ashibetsu**	**8.20**	**251**	P			Pn	15 28 24.9	+3.7
ERM	**Erimo**	**8.38**	**240**	*e*PN			**Pn**	**15 28 25.9**	**+2.1**
JBT2	**Biratori 2**	**8.45**	**247**	P			**Pn**	**15 28 26.3**	**+1.6**
JNBK	**Urakawa-nobuka**	**8.48**	**243**	P			**Pn**	**15 28 25.2**	**+0.2**
JNBK					*e*S		**Sn**	**15 29 55.3**	**-4.0**
JNB	**Noboribetsu**	**9.45**	**248**	P			**Pn**	**15 28 39.9**	**+1.5**
JNB					*e*S		**Sn**	**15 30 21.4**	**-1.8**
JKB	**Kayabe**	**9.76**	**245**	P			**Pn**	**15 28 42.1**	**-0.5**
JKB					*e*S		**Sn**	**15 30 25.0**	**-5.8**
JSH	**Shimam**	**10.01**	**251**	P			**Pn**	**15 28 48.2**	**+2.2**
JYM2	**Yakumo 2**	**10.06**	**248**	P			**Pn**	**15 28 47.5**	**+0.8**
JANG	**Nango**	**10.38**	**237**	P			**Pn**	**15 28 49.1**	**-2.0**
JANG					*e*S		Sn	15 30 36.3	-10
JTM	**Tenmabayashi**	**10.38**	**240**	P			**Pn**	**15 28 50.2**	**-0.9**
JTM					*e*S		Sn	15 30 38.0	-8.0
JTH	**Tanohata**	**10.47**	**234**	*e*S			Sn	15 30 38.2	-10
JOSM	**Okushiri--Mats**	**10.65**	**250**	P			**Pn**	**15 28 55.0**	**+0.2**
OFUJ	**Ofunato**	**11.18**	**232**	P			**Pn**	**15 28 59.9**	**-2.2**
JRG	**Rokugo**	**11.54**	**236**	P			**Pn**	**15 29 05.9**	**-1.0**
JRG					*e*S		Sn	15 31 06.2	-8.2
JIO	**Ouri**	**11.81**	**230**	*e*S			Sn	15 31 11.4	-10
HABR	**Khabarovsk**	**12.22**	**285**	PN			**Pn**	**15 29 15.2**	**-0.9**
KLR	**Kul'dur**	**14.42**	**288**	*e*P			**P**	**15 29 50.2**	**-2.2**
FX1	**Attu Island--F**	**14.47**	**57**	P			**Pn**	**15 29 47.3**	**+0.4**
	comp=Z,3.1nm,0.3s,baz=3.1,slow=19,SNR=8.4								
FX1					S		Sn	15 32 16.6	-9.3
	comp=Z,2.3nm,0.3s,baz=28,slow=23,SNR=4.6								
FX1					LR		LR	15 34 45.7	
	comp=Z,36nm,20.4s,baz=92,slow=34								
USRK	**Ussuriysk Arra**	**14.90**	**268**	P			**Pn**	**15 29 54.4**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=72,slow=11,SNR=11								
USRK					LR		LR	15 35 09.6	
	comp=Z,61nm,19.9s,baz=151,slow=35								
MAJO	**Matsushiro**	**14.91**	**233**	*i* P			**Pn**	**15 29 52.9**	**+0.1**
MAT	**Matsushiro**	**14.91**	**233**	P			**P**	**15 30 00.0**	**+2.2**
YAK	**Yakutsk**	**20.35**	**328**	⇑*e*P			**P**	**15 30 57.6**	**+0.1**
KSRS	**Korea Array**	**20.64**	**253**	P			Pn	15 31 02.6	-0.8
	comp=Z,2.6nm,0.7s,baz=58,slow=9.3,SNR=18								
JNU	**Nakatsue**	**21.55**	**239**	P			**P**	**15 31 12.2**	**+1.5**
	comp=Z,4.8nm,0.8s,baz=35,slow=5.8,SNR=6.3								
SONM	**Songino Array**	**31.25**	**290**	P			**P**	**15 32 41.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=98,slow=6.1,SNR=3.7								
SONM					LR		LR	15 46 23.0	
	comp=Z,58nm,18.2s,baz=201,slow=38								
ILAR	**Eielson Array**	**36.72**	**38**	P			**P**	**15 33 27.7**	**0.0**
	comp=Z,1.1nm,0.9s,baz=280,slow=8.7,SNR=11								
INK	**Inuvik**	**41.82**	**32**	P			**P**	**15 34 11.0**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=314,slow=6.3,SNR=8.3								
ZALV	**Zalesovo Beam**	**42.57**	**306**	P			**P**	**15 34 14.6**	**-1.9**
ZALV								15 36 07.6	
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.4s								
ZALV					MLR		MLR		
	comp=Z,74nm,19.5s								
ZALV	**Zalesovo Beam**	**42.57**	**306**	P			**P**	**15 34 14.6**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=64,slow=6.8,SNR=3.8								
ZALV					PcP		**PcP**	**15 36 07.6**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=76,slow=6.3,SNR=4.9								
ZALV					LR		LR	15 53 03.8	
	comp=Z,74nm,19.5s,baz=69,slow=38								
MKAR	**Makanchi Array**	**46.88**	**297**	P			**P**	**15 34 49.5**	**-1.4**
MKAR								15 36 23.1	
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
MKAR					MLR		MLR		
	comp=Z,68nm,19.9s								
MKAR	**Makanchi Array**	**46.88**	**297**	P			**P**	**15 34 49.5**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=69,slow=7.9,SNR=10								
MKAR					PcP		**PcP**	**15 36 23.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=77,slow=1.1,SNR=7.4								
MKAR					LR		LR	15 55 36.8	
	comp=Z,68nm,19.9s,baz=119,slow=37								
BRVK	**Borovoye**	**50.87**	**309**	*i* P			**P**	**15 35 20.2**	**-1.2**
BRVK					pmax		pmax		
	comp=Z,7.0nm,2.5s								
CMAR	**Chiang Mai Arr**	**52.22**	**256**	P			**P**	**15 35 33.0**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=33,slow=7.5,SNR=7.5								
TAPN	**Taplejung**	**53.98**	**273**	*e*P			**P**	**15 35 46.7**	**+1.6**
ODAN	**Odare**	**54.51**	**273**	*e*P			**P**	**15 35 49.9**	**+1.0**
JIRN	**Jiri**	**54.83**	**275**	*e*P			**P**	**15 35 52.1**	**+0.7**
	comp=Z,20nm,0.6s								
RAMN	**Ramite**	**54.99**	**274**	*e*P			**P**	**15 35 52.5**	**+0.1**
	comp=Z,16nm,0.5s								
KKN	**Kakani**	**55.37**	**275**	*e*P			**P**	**15 35 56.1**	**+1.0**
	comp=Z,17nm,0.7s								
PKI	**Pulchoki**	**55.42**	**275**	*e*P			**P**	**15 35 56.1**	**+0.5**
DMN	**Daman**	**55.60**	**275**	*e*P			**P**	**15 35 57.6**	**+0.8**
	comp=Z,19nm,0.7s								
DANN	**Dangsing**	**56.06**	**277**	*e*P			**P**	**15 36 01.1**	**+1.0**
	comp=Z,23nm,0.7s								
KOLN	**Koldanda**	**56.53**	**276**	*e*P			**P**	**15 36 04.1**	**+0.7**
	comp=Z,14nm,0.7s								
KEV	**Kevo**	**57.41**	**340**	*e*P			P	15 36 16.8	+8.1
KEV					pmax		pmax		
	comp=Z,8.0nm,1.1s								
KEV	**Kevo**	**57.41**	**340**	*ep*			P	15 36 16.8	+8.1
	comp=Z,7.9nm,1.1s								
ARCES	**ARCESS Array B**	**57.92**	**341**	P			**P**	**15 36 11.4**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=27,slow=8.2,SNR=9.2								
FFC	**Flin Flon**	**60.91**	**40**	*i* P			**P**	**15 36 34.9**	**+1.7**
NVAR	**Mina Array Bea**	**62.60**	**62**	P			**P**	**15 36 46.3**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=290,slow=7.6,SNR=5.3								
KAF	**Kangasniemi**	**63.49**	**335**	*e*P			**P**	**15 36 48.5**	**-1.8**
KAF					pmax		pmax		
	comp=Z,3.0nm,0.6s								
KAF	**Kangasniemi**	**63.49**	**335**	*ep*			**P**	**15 36 48.5**	**-1.8**
	comp=Z,3.2nm,0.6s								
FINES	**FINESS Array B**	**64.09**	**335**	P			**P**	**15 36 52.9**	**-1.3**
	comp=Z,4.4nm,0.4s,baz=35,slow=7.3,SNR=79								
FINES					PcP		**PcP**	**15 37 28.1**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=53,slow=3.9,SNR=3.8								
FINES					LR		LR	16 07 14.6	
	comp=Z,25nm,18.4s,baz=198,slow=38								
PDAR	**Pinedale Array**	**64.92**	**54**	P			**P**	**15 37 00.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=318,slow=2.0,SNR=6.9								
OBN	**Obninsk**	**65.33**	**325**	*e*P			**P**	**15 37 00.5**	**-1.9**
OBN					*e*			15 37 31.9	
OBN					pmax		pmax		
	comp=Z,4.0nm,0.8s								
ULM	**Lac du Bonnet**	**66.69**	**41**	P			**P**	**15 37 11.0**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=347,slow=7.9,SNR=2.7								
NB2	**NORSAR Subarra**	**68.29**	**341**	P			**P**	**15 37 20.0**	**-1.3**
	comp=Z,3.6nm,0.6s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.29**	**341**	P			**P**	**15 37 20.3**	**-1.0**
	comp=Z,3.4nm,0.6s,baz=27,slow=6.4,SNR=21								
WRA	**Warramunga Arr**	**68.36**	**199**	P			**P**	**15 37 22.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=21,slow=6.6,SNR=4.5								
KBZ	**Khabaz**	**70.84**	**314**	P			**P**	**15 37 36.4**	**-0.9**
KBZ					pmax		pmax		
	comp=Z,2.0nm,0.6s								
KBZ	**Khabaz**	**70.84**	**314**	P			**P**	**15 37 36.4**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=17,slow=4.1,SNR=5.6								
KIEV	**Kiev**	**71.58**	**326**	*i* P			**P**	**15 37 40.0**	**-1.6**
ASAR	**Alice Springs**	**72.06**	**198**	P			**P**	**15 37 45.8**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=12,slow=5.6,SNR=25								
STHS	**Stebnicka Huta**	**75.55**	**330**	*e*P			**P**	**15 38 05.1**	**+0.1**
STHS					pmax		pmax		
	comp=Z,3.0nm,0.9s								
STHS	**Stebnicka Huta**	**75.55**	**330**	*e*P			**P**	**15 38 05.1**	**+0.1**
KOLS	**Kolonicke sedl**	**75.59**	**329**	*e*P			**P**	**15 38 04.0**	**-1.2**
KOLS					pmax		pmax		
	comp=Z,3.0nm,1.1s								
KOLS	**Kolonicke sedl**	**75.59**	**329**	*e*P			**P**	**15 38 04.0**	**-1.2**
BURAR	**Bucovina Array**	**75.61**	**326**	⇑*i*P			**P**	**15 38 04.8**	**-0.7**
BURAR	**Bucovina Array**	**75.61**	**326**	⇑*i*P			**P**	**15 38 04.8**	**-0.7**
CRVS	**Cervenica-Dubn**	**75.91**	**329**	*e*P			P	15 38 03.0	-4.0
CRVS	**Cervenica-Dubn**	**75.91**	**329**	*e*P			P	15 38 03.0	-4.0
TESR	**Tescani**	**75.96**	**325**	⇓*i*P			**P**	**15 38 06.8**	**-0.6**
TRPA	**Tarpa**	**76.18**	**328**	⇓*i*P			**P**	**15 38 08.0**	**-0.5**
OKC	**Ostrava-Krasne**	**76.23**	**332**	*e*P			**P**	**15 38 10.1**	**+1.3**
OKC	**Ostrava-Krasne**	**76.23**	**332**	*e*P			**P**	**15 38 10.1**	**+1.3**
DPC	**Dobruska-Polom**	**76.37**	**333**	*e*P			**P**	**15 38 09.6**	**0.0**
DPC	**Dobruska-Polom**	**76.37**	**333**	*e*P			**P**	**15 38 09.6**	**0.0**
KRLC	**Kraliky**	**76.46**	**333**	*e*P			**P**	**15 38 09.0**	**-1.2**
KRLC	**Kraliky**	**76.46**	**333**	*e*P			**P**	**15 38 09.0**	**-1.2**
CLL	**Collm**	**76.52**	**335**	⇓*i*P			**P**	**15 38 09.5**	**-0.9**
CLL					pmax		pmax		
	comp=Z,5.0nm,1.0s								
CLL	**Collm**	**76.52**	**335**	⇓*i*P			**P**	**15 38 09.5**	**-0.9**
	comp=Z,5.0nm,1.0s								
BRG	**Berggiesshubel**	**76.63**	**335**	*e*P			P	15 38 05.3	-5.7
	comp=Z,1.3nm,0.3s								
BRG	**Berggiesshubel**	**76.63**	**335**	*e*P			P	15 38 05.3	-5.7
BRG					pmax		pmax		
	comp=Z,1.0nm,0.4s								
PVCC	**Panska Ves**	**76.75**	**334**	*e*P			**P**	**15 38 13.2**	**+1.5**
PVCC	**Panska Ves**	**76.75**	**334**	*e*P			**P**	**15 38 13.2**	**+1.5**
COCO	**West Island**	**77.06**	**236**	*i* P			P	15 38 21.3	+7.4
MLR	**Muntele Rosu**	**77.08**	**325**	⇑*i*P			**P**	**15 38 14.5**	**+0.6**
VYHS	**Vyhne**	**77.16**	**331**	*e*P			**P**	**15 38 13.6**	**-0.5**
VYHS					pmax		pmax		
	comp=Z,2.0nm,1.1s								
VYHS	**Vyhne**	**77.16**	**331**	*e*P			**P**	**15 38 13.6**	**-0.5**
PRU	**Pruhonice**	**77.23**	**334**	*e*P			**P**	**15 38 13.8**	**-0.7**
PRU	**Pruhonice**	**77.23**	**334**	*e*P			**P**	**15 38 13.8**	**-0.7**
VOIR		**77.48**	**325**	⇓P			**P**	**15 38 16.0**	**0.0**
VOIR		**77.48**	**325**	⇓*i*P			**P**	**15 38 16.0**	**0.0**
TXAR	**Lajitas Array**	**77.66**	**60**	P			**P**	**15 38 17.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=295,slow=4.3,SNR=13								
ARR	**Arges**	**77.70**	**326**	⇓*i*P			**P**	**15 38 18.4**	**+1.1**
KHC	**Kasperske Hory**	**78.28**	**334**	*e*P			**P**	**15 38 20.0**	**-0.4**
KHC					*e*			15 38 24.0	
KHC	**Kasperske Hory**	**78.28**	**334**	*e*P			**P**	**15 38 20.0**	**-0.4**
KHC					*ex*		x	15 38 24.0	
BRTR	**Keskin Array B**	**78.38**	**317**	P			**P**	**15 38 20.8**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=76,slow=3.1,SNR=6.6								
GERES	**GERESS Array B**	**78.50**	**334**	P			**P**	**15 38 20.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=23,slow=4.4,SNR=5.7								
VTS	**Vitosha**	**80.59**	**325**	⇓P			**P**	**15 38 33.1**	**-0.1**
VTS	**Vitosha**	**80.59**	**325**	⇓*i*P			**P**	**15 38 33.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**115.12**	**329**	PKP			**PKPdf**	**15 45 01.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=33,slow=2.8,SNR=2.6								

baz=38,SNR=4.9
PPT Papeete 40.73 100 LR LR 16 25 54.3
comp=Z,65nm,20.9s,baz=207,slow=30
FITZ Fitzroy Crossi 40.74 259 P **P 16 13 36.4 -0.1**
baz=41,SNR=3.7
LUWI Luwuk 46.76 283 S **S 16 21 08.3 -4.6**
baz=47,SNR=3.8
MEEK Meekatharra 47.45 247 P **P 16 14 30.2 0.0**
baz=48,SNR=3.5
NWAO Narrogin (SRO) 49.36 239 P **P 16 14 44.5 -0.2**
13nm,1.1s,baz=52,slow=8.4,SNR=3.3
MORW Morawa 49.91 244 P **P 16 14 48.5 -0.6**
baz=50,SNR=3.5
JNU Nakatsue 59.43 324 P **P 16 15 58.0 0.0**
4.3nm,0.8s,baz=124,slow=3.6,SNR=3.0
VNDA Vanda 62.80 182 P **P 16 16 19.7 -0.4**
0.3nm,0.7s,baz=349,slow=5.9,SNR=3.3
KSRS Korea Array 64.23 325 P **P 16 16 30.2 +0.1**
0.9nm,0.9s,baz=134,slow=8.8,SNR=5.4
USRK Ussuriysk Arra 67.30 333 P **P 16 16 49.7 0.0**
3.3nm,1.0s,baz=129,slow=5.2,SNR=8.1
CMAR Chiang Mai Arr 75.67 294 P **P 16 17 41.7 +0.9**
1.7nm,0.9s,baz=126,slow=4.6,SNR=8.2
SONM Songino Array 83.01 323 P **P 16 18 20.8 +0.5**
3.2nm,1.1s,baz=138,slow=5.9,SNR=15
ILAR Eielson Array 86.37 18 P **P 16 18 35.8 -0.9**
0.8nm,0.8s,baz=235,slow=5.2,SNR=12
MKAR Makanchi Array 97.78 316 P Pdif 16 19 30.8 +0.5
1.6nm,0.8s,baz=100,slow=6.3,SNR=13
ZALV Zalesovo Beam 97.90 324 P Pdif 16 19 30.0 -0.5
0.6nm,0.3s,baz=104,slow=6.3,SNR=3.9
ARCES ARCESS Array B 120.52 346 PKP **PKPdf 16 24 46.1 +0.3**
1.5nm,0.9s,baz=20,slow=3.9,SNR=4.5
GERES GERESS Array B 140.06 334 PKP **PKPdf 16 25 24.4 +0.9**
0.3nm,0.7s,baz=149,slow=2.8,SNR=4.5

*IDC **02** 16:17:16.1±2.7,21°.87S×177°.96W,h343km±26km,*
mb3.7/13,mb1 3.9/15,mb1mx3.8/22,mbtmp3.7/15,Error
ellipse: s-maj=17.2km s-min=13.3km az=134.0
*ISCJB **02** 16:17:18.6±0.5,21°.80S±0°.09×178°.15W±0°.09,h373km,*
mb3.9/13,Error ellipse: s-maj=13.0km s-min=9.2km
az=141.5
*AUST **02** 16:17:21.6±2.7,20°.53S×177°.72W,h454km,Error ellipse:*
s-maj=3.2km s-min=1.4km az=356.0
ISC 02 16:17:18.9±0.6,21°.9S±0°.1×177°.97W±0°.10,h373km,n36,
σ0§91/35,mb4.0/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.06**	**71**	P	**P**	**16 19 15.7**	**-0.1**
	baz=7.5,SNR=5.4						
AFI	**Afiamalu**	**9.92**	**37**	P	Pn	16 19 31.2	-4.9
	3.0nm,0.3s,baz=148,slow=22,SNR=6.2						
AFI				S	S	16 21 15.7	-13
	8.4nm,0.3s,baz=30,slow=16,SNR=8.9						
DZM	**Mont Dzumac**	**14.46**	**267**	P	**Pn**	**16 20 29.6**	**+0.5**
	0.3nm,0.3s,baz=52,slow=21,SNR=5.1						
URZ	**Urewera**	**16.82**	**193**	P	**P**	**16 20 50.5**	**-1.4**
	1.5nm,0.3s,baz=276,slow=12,SNR=11						
URZ				S	**S**	**16 23 49.5**	**+1.1**
	0.6nm,0.3s,baz=225,slow=19,SNR=4.3						
ARMA	**Armidale**	**28.49**	**246**	P	**P**	**16 22 42.8**	**+1.2**
	baz=29,SNR=9.7						
EIDS	**Eidsvold**	**28.52**	**257**	P	**P**	**16 22 42.1**	**+0.4**
	baz=29,SNR=4.0						
RMQ	**Roma**	**30.63**	**255**	P	**P**	**16 23 01.6**	**+1.3**
	baz=31,SNR=15						
CTA	**Charters Tower**	**33.40**	**266**	P	**P**	**16 23 24.7**	**+0.5**
	22nm,0.6s,baz=98,slow=10,SNR=25						
CMSA	**Cobar Meteorol**	**33.70**	**246**	P	**P**	**16 23 27.0**	**+0.3**
	baz=34,SNR=9.2						
MTSU	**Mount Surprise**	**35.57**	**269**	P	**P**	**16 23 42.9**	**+0.2**
	baz=36,SNR=8.0						
PMG	**Port Moresby**	**35.71**	**285**	P	**P**	**16 23 44.0**	**+0.1**
	21nm,1.0s,baz=97,slow=8.1,SNR=5.0						
STKA	**Stephens Creek**	**37.21**	**246**	P	**P**	**16 23 56.4**	**+0.2**
	5.0nm,0.5s,baz=90,slow=11,SNR=35						
STKA	**Stephens Creek**	**37.21**	**246**	P	**P**	**16 23 56.4**	**+0.2**
	baz=38,SNR=20						
ASAR	**Alice Springs**	**44.23**	**258**	P	**P**	**16 24 52.5**	**-0.6**
	19nm,0.8s,baz=96,slow=8.4,SNR=211						
WRA	**Warramunga Arr**	**44.45**	**263**	P	**P**	**16 24 53.8**	**-1.0**
	9.5nm,0.7s,baz=98,slow=7.3,SNR=45						
KDU	**Kakadu**	**48.02**	**273**	P	**P**	**16 25 21.5**	**-0.8**
	baz=48,SNR=9.1						
FORT	**Forrest**	**48.77**	**248**	P	**P**	**16 25 26.9**	**-0.8**
	baz=50,SNR=9.5						
MTN	**Manton Dam**	**49.22**	**272**	P	**P**	**16 25 30.2**	**-1.1**
	baz=49,SNR=6.0						
MTN				S	S	16 31 47.9	-20
	baz=49,SNR=3.8						
KNRA	**Kununurra**	**50.61**	**267**	P	**P**	**16 25 41.0**	**-0.6**
	baz=51,SNR=16						
KLBR	**Kellerberrin**	**57.49**	**246**	P	**P**	**16 26 29.5**	**-1.1**
	baz=58,SNR=7.1						
MORW	**Morawa**	**59.32**	**248**	P	**P**	**16 26 42.9**	**-0.3**
	baz=60,SNR=4.6						
QSPA	**South Pole Qui**	**68.14**	**180**	P	**P**	**16 27 40.7**	**+1.1**
	4.1nm,0.9s,baz=49,slow=2.8,SNR=14						
PETK	**Petropavlovsk-**	**77.66**	**345**	P	**P**	**16 28 35.7**	**+0.9**
	1.8nm,0.8s,baz=133,slow=10,SNR=3.9						
KSRS	**Korea Array**	**77.98**	**319**	P	**P**	**16 28 37.6**	**+0.7**
	0.5nm,0.7s,baz=136,slow=5.8,SNR=3.8						
USRK	**Ussuriysk Arra**	**80.16**	**326**	P	**P**	**16 28 49.0**	**+0.6**
	2.0nm,0.8s,baz=178,slow=5.5,SNR=5.0						
MAW	**Mawson**	**80.23**	**200**	P	P	16 28 55.3	+6.8
	baz=81,SNR=13						
NVAR	**Mina Array Bea**	**82.04**	**43**	P	**P**	**16 29 00.2**	**+1.5**
	0.1nm,0.3s,baz=232,slow=4.9,SNR=3.8						
TXAR	**Lajitas Array**	**87.80**	**57**	P	P	16 29 29.1	+2.0
	0.5nm,0.9s,baz=209,slow=6.9,SNR=4.1						
ILAR	**Eielson Array**	**89.70**	**13**	P	**P**	**16 29 33.9**	**-1.1**
	0.8nm,0.5s,baz=215,slow=5.6,SNR=21						
CMAR	**Chiang Mai Arr**	**90.62**	**290**	P	**P**	**16 29 41.3**	**+1.0**
	1.0nm,0.7s,baz=124,slow=2.8,SNR=5.8						
ARCES	**ARCESS Array B**	**130.33**	**349**	PKP	**PKPdf**	**16 35 43.0**	**-1.7**
	0.9nm,0.4s,baz=8.3,slow=1.8,SNR=13						
BRTR	**Keskin Array B**	**147.81**	**311**	PKPbc	**PKPbc**	**16 36 19.4**	**-1.3**
	1.0nm,0.6s,baz=139,slow=5.3,SNR=7.3						
CLL	**Collm**	**149.46**	**346**	*i P*	**PKPbc**	**16 36 23.7**	**-0.6**
	comp=Z,5.0nm,0.5s						
BRG	**Berggiesshubel**	**149.65**	**345**	*eP*	**PKPbc**	**16 36 24.4**	**-0.3**
	comp=Z,2.6nm,0.6s						
GERES	**GERESS Array B**	**151.58**	**344**	PKPbc	**PKPbc**	**16 36 28.9**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=29,slow=3.0,SNR=8.9						
TORD	**Torodi Ar. Bea**	**171.26**	**178**	PKP	**PKPdf**	**16 36 43.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=134,slow=1.2,SNR=3.5						
TORD				PKPab	**PKPab**	**16 38 06.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=172,slow=3.1,SNR=3.2						

*IDC **02** 16:24:21.5±3.0,0°.45S×133°.82E,h0km,mb3.8/3,*
mb1 3.9/4,mb1mx3.5/19,mbtmp3.7/4,ML3.7/1,Error
ellipse: s-maj=188.2km s-min=23.9km az=73.0
*AUST **02** 16:26:16.9±0.9,8°.95S×131°.59E,h0km±3km,Error*
ellipse: s-maj=8.3km s-min=1.6km az=285.0
ISC 02 16:24:23.5±7.9,0°.3S±0°.7×132°.8E±0°.7,h35km,n7,σ1§21/6,
mb3.8/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**12.33**	**182**	P	**Pn**	**16 27 17.1**	**+0.5**
	baz=3.8,SNR=11						
MTN	**Manton Dam**	**12.59**	**188**	P	**Pn**	**16 27 19.1**	**-1.2**
	baz=3.9,SNR=7.1						
KNRA	**Kununurra**	**15.81**	**195**	P	**Pn**	**16 28 04.2**	**+0.6**
	baz=7.3,SNR=3.9						
WRA	**Warramunga Arr**	**19.59**	**176**	P	**P**	**16 28 49.2**	**+0.4**
	0.2nm,0.3s,baz=355,slow=13,SNR=4.8						
WRA				S	S	16 32 18.4	-10
	0.1nm,0.3s,baz=358,slow=30,SNR=3.1						
ASAR	**Alice Springs**	**23.26**	**178**	P	**P**	**16 29 29.5**	**+1.4**
	2.6nm,0.8s,baz=354,slow=10,SNR=21						
STKA	**Stephens Creek**	**32.49**	**166**	P	**P**	**16 30 50.2**	**-0.7**
	3.6nm,1.1s,baz=333,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**64.34**	**324**	P	P	16 35 03.9	+8.1
	0.2nm,0.4s,baz=112,slow=11,SNR=3.3						

GUC 02 16:33:38.4±0.8,21°.31S×69°.09W,h118km±4km,ML3.8,
3C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.46**	**306**	↑*iP*	Pn	16 33 56.6	+0.5
PB01				*i* S	Sn	16 34 10.0	+0.7
PB01				AML	AML	16 34 10.7	
	comp=E,4μm,0.3s						
PB09	**Plate Boundary**	**0.50**	**196**	↑*iP*	Pn	16 33 56.8	+0.3
PB09				*eS*	Sn	16 34 10.5	+0.5
PB09				AML	AML	16 34 11.8	
	comp=N,8μm,0.3s						
PB04	**Plate Boundary**	**1.02**	**201**	*eP*	Pn	16 34 06.0	+5.5
PB04				*eS*	Sn	16 34 26.2	+9.0
PB04				AML	AML	16 34 27.5	
	comp=E,2μm,0.5s						
HMBC	**Humberstone**	**1.27**	**324**	↑*iP*	Pn	16 34 03.8	+0.4
HMBC				*eS*	Sn	16 34 23.0	+0.9
HMBC				AML	AML	16 34 25.5	
	comp=N,2μm,0.5s						
LVC	**Limon Verde**	**1.31**	**173**	*eP*	Pn	16 34 03.8	-0.1
PSGC	**Pisagua**	**1.96**	**330**	*eP*	Pn	16 34 11.2	-0.2
PSGC				*eS*	Sn	16 34 36.6	0.0
PSGC				AML	AML	16 34 38.0	
	comp=N,345nm,0.2s						
MNMC	**Minimini**	**2.22**	**348**	↓*eP*	Pn	16 34 15.6	+0.6
MNMC				*eS*	Sn	16 34 44.5	+1.6
MNMC				AML	AML	16 34 48.5	
	comp=E,1μm,0.3s						

*ISCJB **02** 16:40:14.1±0.6,14°.07N±0°.05×93°.15W±0°.04,h37km,*
mb4.0/16,MS3.7/20,Error ellipse: s-maj=7.5km
s-min=5.9km az=22.8
*MEX **02** 16:40:15.1±1.1,14°.00N×93°.16W,h16km±20km,MD4.2*
*IDC **02** 16:40:18.9±3.5,14°.23N×92°.77W,h56km±29km,mb3.8/16,*
mb1 4.0/19,mb1mx3.9/28,mbtmp3.8/19,ML4.1/3,MS3.7/22,
Ms1 3.7/22,ms1mx3.6/35,Error ellipse: s-maj=29.1km
s-min=16.5km az=42.0
ISC 02 16:40:15.5±0.8,14°.05N±0°.08×93°.09W±0°.05,h37km,n36,
σ1§50/31,mb4.0/16,MS3.8/20,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.17**	**43**	*i P*	**Pn**	**16 40 34.0**	**-1.2**
THIG				*i* S	**Sn**	**16 40 48.6**	**-1.3**
CCIG	**Comitan**	**2.40**	**22**	*eP*	**Pn**	**16 40 52.8**	**+0.3**
CCIG				*i* S	**Sn**	**16 41 20.4**	**-0.3**
TGIG		**2.71**	**359**	*eP*	**Pn**	**16 40 56.7**	**+0.1**
TGIG				*i* S	**Sn**	**16 41 28.2**	**0.0**
HUIG	**Huatulco**	**3.38**	**301**	*eP*	**Pn**	**16 41 03.7**	**-2.0**
HUIG				*i* S	**Sn**	**16 41 41.5**	**-3.1**
TUIG	**Tuzandepetl**	**4.16**	**342**	*i P*	**Pn**	**16 41 16.2**	**-0.3**
VHO	**Vista Hermosa**	**4.62**	**311**	*i P*	**Pn**	**16 41 21.9**	**-1.1**
VHO				*i* S	**Sn**	**16 42 14.5**	**-1.0**
TEIG	**Tepich**	**7.67**	**36**	P	**Pn**	**16 42 02.7**	**-2.1**
	14nm,0.3s,baz=228,slow=3.3,SNR=65						
TEIG				S	**Sn**	**16 43 27.2**	**-3.2**
	baz=80,slow=20,SNR=2.6						
TEIG				LR	LR	16 45 22.9	
	comp=Z,1μm,20.4s,baz=288,slow=41						
JTS	**JuntasAbangare**	**8.79**	**114**	P	**Pn**	**16 42 20.9**	**+0.8**
	1.1nm,0.3s,baz=308,slow=17,SNR=4.8						
JTS				Lg	Lg	16 44 43.4	
	0.2nm,0.3s,baz=55,slow=21,SNR=8.3						
TXAR	**Lajitas Array**	**18.09**	**329**	P	**P**	**16 44 26.0**	**+1.8**
	0.1nm,0.3s,baz=160,slow=11,SNR=26						
TXAR				LR	LR	16 51 21.9	
	comp=Z,67nm,20.1s,baz=200,slow=37						
LPIG	**La Paz**	**19.08**	**304**	LR	LR	16 53 25.2	
	comp=Z,13nm,18.8s,baz=97,slow=41						
ROSC	**El Rosal**	**20.62**	**114**	P	Pn	16 44 55.5	+0.7
	2.6nm,0.3s,baz=291,slow=18,SNR=5.5						
TKL	**Tuckaleechee C**	**23.09**	**20**	P	**P**	**16 45 17.7**	**-0.3**
	4.8nm,1.1s,baz=219,slow=8.4,SNR=3.3						
TKL				LR	LR	16 56 06.8	
	comp=Z,217nm,18.1s,baz=357,slow=42						
ANMO	**Albuquerque**	**24.05**	**332**	P	**P**	**16 45 29.1**	**+1.7**
	1.6nm,0.7s,baz=151,slow=8.9,SNR=8.5						
ANMO				LR	LR	16 55 56.4	
	comp=Z,111nm,18.2s,baz=260,slow=39						
ATAH	**Atahualpa**	**25.61**	**144**	LR	LR	16 54 15.7	
	comp=Z,106nm,19.1s,baz=102,slow=33						
PFO	**Pinyon Flat Ob**	**28.79**	**317**	LR	LR	16 57 52.1	
	comp=Z,130nm,18.7s,baz=317,slow=36						
PDAR	**Pinedale Array**	**31.95**	**337**	P	**P**	**16 46 39.1**	**+1.0**
	1.1nm,0.9s,baz=141,slow=7.6,SNR=6.9						
PDAR				LR	LR	17 01 30.3	
	comp=Z,84nm,18.2s,baz=60,slow=40						
SADO	**Sadowa**	**32.84**	**18**	LR	LR	17 01 40.3	
	comp=Z,242nm,18.7s,baz=264,slow=39						
NVAR	**Mina Array Bea**	**32.98**	**322**	P	**P**	**16 46 50.0**	**+2.8**
	2.9nm,0.7s,baz=136,slow=8.4,SNR=31						
ULM	**Lac du Bonnet**	**36.17**	**357**	P	**P**	**16 47 12.9**	**-1.4**
	2.1nm,0.5s,baz=183,slow=7.1,SNR=4.0						
ULM				LR	LR	17 05 47.5	
	comp=Z,137nm,18.4s,baz=43,slow=42						
YBH	**Yreka Blue Hor**	**37.68**	**323**	P	**P**	**16 47 27.6**	**+0.2**
	0.5nm,0.5s,baz=146,slow=7.3,SNR=3.4						
YBH				LR	LR	17 04 36.9	
	comp=Z,150nm,19.5s,baz=148,slow=39						
LPAZ	**La Paz**	**38.95**	**140**	LR	LR	17 01 09.9	
	comp=Z,39nm,20.5s,baz=285,slow=32						
NEW	**Newport**	**39.49**	**335**	LR	LR	17 05 03.7	
	comp=Z,36nm,19.7s,baz=132,slow=38						
SIV	**San Ignacio**	**43.50**	**132**	P	**P**	**16 48 16.4**	**+0.7**
	1.0nm,0.6s,baz=325,slow=14,SNR=3.7						
SIV				LR	LR	17 06 16.6	
	comp=Z,106nm,19.3s,slow=36						
SCHQ	**Schefferville**	**45.55**	**21**	LR	LR	17 09 26.6	
	comp=Z,362nm,18.1s,baz=117,slow=39						
BBB	**Bella Bella**	**47.20**	**331**	LR	LR	17 08 23.4	
	comp=Z,78nm,20.3s,baz=132,slow=36						
YKA	**Yellowknife Ar**	**50.74**	**347**	P	**P**	**16 49 12.0**	**+0.6**
	5.7nm,0.6s,baz=149,slow=7.8,SNR=13						
DLBC	**Dease Lake**	**52.18**	**336**	P	**P**	**16 49 24.4**	**+2.0**
	2.6nm,0.8s,baz=169,slow=6.0,SNR=6.2						
DLBC				LR	LR	17 14 35.8	
	comp=Z,96nm,21.2s,baz=136,slow=40						
FRB	**Frobisher Bay**	**52.51**	**13**	LR	LR	17 15 00.4	
	comp=Z,89nm,18.2s,baz=311,slow=40						
INK	**Inuvik**	**60.09**	**344**	P	**P**	**16 50 19.5**	**+0.9**
	3.5nm,0.6s,baz=124,slow=7.6,SNR=8.8						
INK				LR	LR	17 20 44.4	
	comp=Z,82nm,18.9s,baz=192,slow=40						
ILAR	**Eielson Array**	**62.38**	**337**	P	**P**	**16 50 34.9**	**+0.7**
	1.8nm,0.9s,baz=130,slow=4.2,SNR=15						
ILAR				LR	LR	17 21 29.2	
	comp=Z,84nm,19.1s,baz=183,slow=40						
ESDC	**Sonseca Array**	**80.51**	**51**	P	**P**	**16 52 22.1**	**-2.0**
	0.1nm,0.2s,baz=297,slow=7.1,SNR=4.9						
NOA	**NORSAR Array B**	**84.60**	**28**	P	**P**	**16 52 45.4**	**+0.5**
	0.6nm,0.6s,baz=290,slow=5.1,SNR=2.6						
NOA				LR	LR	17 28 31.2	
	comp=Z,68nm,21.9s,baz=285,slow=34						
ARCES	**ARCESS Array B**	**86.42**	**18**	P	**P**	**16 52 54.4**	**+0.6**
	1.2nm,0.7s,baz=319,slow=4.8,SNR=4.5						
GERES	**GERESS Array B**	**90.23**	**39**	LR	LR	17 32 35.7	
	comp=Z,51nm,19.3s,baz=288,slow=35						
FINES	**FINESS Array B**	**90.90**	**25**	P	**P**	**16 53 14.7**	**-0.4**
	1.3nm,1.0s,baz=298,slow=3.0,SNR=5.6						
FINES				LR	LR	17 35 41.0	
	comp=Z,67nm,19.0s,baz=344,slow=37						
TORD	**Torodi Ar. Bea**	**91.39**	**76**	P	**P**	**16 53 17.7**	**-0.7**
	0.2nm,0.6s,baz=290,slow=5.7,SNR=2.3						

*ISCJB **02** 16:49:21.7±0.6,13°.97N±0°.05×92°.13W±0°.06,h54km,*
mb3.9/16,Error ellipse: s-maj=9.1km s-min=5.5km
az=141.5
*MEX **02** 16:49:21.8±0.3,13°.94N×92°.58W,h59km±22km,MD4.2*
*CASC **02** 16:49:26.3±2.2,13°.96N×91°.72W,h20km±17km,MD3.9*
*IDC **02** 16:49:28.4±2.9,14°.09N×91°.73W,h88km±24km,mb3.6/16,*
mb1 3.9/19,mb1mx3.8/28,mbtmp3.7/19,MS3.1/1,
Ms1 3.1/1,ms1mx2.5/30,Error ellipse: s-maj=25.7km
s-min=12.9km az=55.0
ISC 02 16:49:24.1±0.7,14°.07N±0°.08×92°.03W±0°.09,h54km,n39,
σ1§52/41,mb3.9/16,2D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.46**	**57**	↓*iP*	**Pn**	**16 49 35.4**	**+0.2**
THIG		**0.86**	**345**	*eP*	**Pn**	**16 49 38.3**	**-1.9**
THIG				*i* S	**Sn**	**16 49 51.6**	**-0.3**
FUG	**Fuego 3**	**1.21**	**72**	↓*eP*	**Pn**	**16 49 44.5**	**-0.5**
PCG	**Pacaya**	**1.42**	**77**	*eP*	**Pn**	**16 49 47.4**	**-0.5**
IXG	**Ixpaco**	**1.53**	**86**	*eP*	**Pn**	**16 49 48.3**	**-1.1**
NBG	**Las Nubes**	**1.71**	**72**	*eP*	**Pn**	**16 49 53.0**	**+1.1**
CCIG	**Comitan**	**2.20**	**357**	*i P*	**Pn**	**16 49 57.5**	**-1.0**
CCIG				*eS*	**Sn**	**16 50 24.6**	**0.0**
RBDL	**Robledal**	**2.28**	**89**	*eP*	**Pn**	**16 49 58.4**	**-1.1**
SBLS	**San Blas**	**2.35**	**95**	*eP*	**Pn**	**16 49 59.5**	**-1.1**
MRL	**Marmol**	**2.47**	**66**	*eP*	**Pn**	**16 50 03.6**	**+1.4**
BOQS	**Boqueron**	**2.69**	**97**	*eP*	**Pn**	**16 50 05.1**	**-0.2**
TGIG		**2.89**	**339**	*i P*	Pn	16 50 04.9	-2.9
TGIG				*i* S	**Sn**	**16 50 36.6**	**-4.8**
LFRS	**El Faro**	**2.92**	**98**	*eP*	**Pn**	**16 50 07.6**	**-0.6**
HUIG	**Huatulco**	**4.29**	**294**	*i P*	Pn	16 50 17.8	-9.1
HUIG				*i* S	Sn	16 51 01.9	-14
VHO	**Vista Hermosa**	**5.42**	**304**	*i P*	Pn	16 50 34.7	-8.0
VHO				*i* S	Sn	16 51 32.0	-12
TEIG	**Tepich**	**7.10**	**30**	P	**Pn**	**16 51 06.6**	**+1.2**
	32nm,0.3s,baz=226,slow=3.5,SNR=142						
TEIG				S	Sn	16 52 29.9	+5.2
	baz=226,slow=23,SNR=4.2						
TEIG				LR	LR	16 54 16.2	
	comp=Z,181nm,21.8s,baz=204,slow=42						
JTS	**JuntasAbangare**	**7.88**	**118**	P	**Pn**	**16 51 16.7**	**+0.6**
	2.2nm,0.3s,baz=300,slow=17,SNR=6.5						
TXAR	**Lajitas Array**	**18.62**	**327**	P	**Pn**	**16 53 40.2**	**+2.0**
	0.3nm,0.3s,baz=154,slow=14,SNR=36						
TKL	**Tuckaleechee C**	**22.74**	**18**	P	**P**	**16 54 22.1**	**+0.3**
	2.5nm,0.7s,baz=183,slow=15,SNR=4.1						
ANMO	**Albuquerque**	**24.52**	**330**	P	**P**	**16 54 41.0**	**+2.1**
	4.8nm,0.8s,baz=146,slow=11,SNR=22						
PDAR	**Pinedale Array**	**32.34**	**336**	P	**P**	**16 55 49.6**	**+1.0**
	0.3nm,0.4s,baz=138,slow=11,SNR=2.7						
PDAR				PcP	**PcP**	**16 58 36.4**	**+0.9**
	0.4nm,0.5s,baz=126,slow=7.0,SNR=4.0						
NVAR	**Mina Array Bea**	**33.60**	**321**	P	**P**	**16 56 02.7**	**+3.1**
	2.9nm,0.6s,baz=131,slow=8.3,SNR=37						
NVAR				PcP	**PcP**	**16 58 40.8**	**+1.7**
	0.5nm,0.7s,baz=126,slow=4.1,SNR=4.3						
LPAZ	**La Paz**	**38.31**	**141**	P	**P**	**16 56 39.6**	**-1.0**
	0.8nm,0.6s,baz=304,slow=7.2,SNR=5.3						
NEW	**Newport**	**39.92**	**334**	P	**P**	**16 56 54.0**	**+1.0**
	0.9nm,0.5s,baz=131,slow=9.3,SNR=4.5						
SIV	**San Ignacio**	**42.76**	**133**	P	**P**	**16 57 15.8**	**-0.9**
	1.4nm,0.8s,baz=308,slow=8.5,SNR=6.0						
SCHQ	**Schefferville**	**45.17**	**20**	P	**P**	**16 57 34.4**	**-1.1**
	2.5nm,0.9s,baz=221,slow=9.3,SNR=4.0						
YKA	**Yellowknife Ar**	**50.95**	**347**	P	**P**	**16 58 20.2**	**+0.2**
	2.3nm,0.8s,baz=152,slow=7.3,SNR=6.3						
DLBC	**Dease Lake**	**52.58**	**336**	P	**P**	**16 58 34.0**	**+1.7**
	3.8nm,0.9s,baz=100,slow=3.5,SNR=4.5						
INK	**Inuvik**	**60.36**	**344**	P	**P**	**16 59 27.5**	**+0.2**
	2.5nm,0.6s,baz=141,slow=2.1,SNR=10.0						
ILAR	**Eielson Array**	**62.76**	**337**	P	**P**	**16 59 44.1**	**+0.5**
	2.0nm,1.0s,baz=130,slow=4.6,SNR=16						
ESDC	**Sonseca Array**	**79.70**	**52**	P	**P**	**17 01 24.9**	**-1.6**
	0.1nm,0.3s,baz=291,slow=6.2,SNR=2.6						
NOA	**NORSAR Array B**	**84.10**	**28**	P	**P**	**17 01 48.6**	**-0.5**
	0.7nm,0.8s,baz=289,slow=5.2,SNR=3.9						
GERES	**GERESS Array B**	**89.57**	**39**	P	**P**	**17 02 14.0**	**-2.0**
	0.2nm,0.4s,baz=243,slow=4.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**90.39**	**76**	P	**P**	**17 02 17.8**	**-2.7**
	0.5nm,0.9s,baz=291,slow=5.7,SNR=2.5						
SONM	**Songino Array**	**116.22**	**346**	PKP	**PKPdf**	**17 08 03.4**	**+1.6**
	0.2nm,0.5s,baz=45,slow=0.8,SNR=2.6						
KSRS	**Korea Array**	**116.47**	**325**	PKP	**PKPdf**	**17 08 03.9**	**+1.5**
	0.4nm,0.6s,baz=6.1,slow=1.9,SNR=3.9						
MKAR	**Makanchi Array**	**119.20**	**4**	PKP	**PKPdf**	**17 08 07.5**	**+0.1**
	0.2nm,0.6s,baz=318,slow=1.9,SNR=3.4						
ASAR	**Alice Springs**	**135.66**	**251**	PKP	**PKPdf**	**17 08 40.2**	**+0.8**
	0.4nm,0.8s,baz=103,slow=3.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**145.91**	**341**	PKPbc	**PKPab**	**17 08 59.4**	**+0.4**
	5.4nm,0.7s,baz=330,slow=3.3,SNR=23						

IDC 02 16:51:42.5±0.6,12°.32N×144°.23E,h0km,mb4.1/16,
mb1 4.3/16,mb1mx4.2/26,mbtmp4.1/16,MS3.7/4,
Ms1 3.7/4,ms1mx3.1/31,Error ellipse: s-maj=23.2km
s-min=16.8km az=92.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**28.97**	**333**	P	P	16 57 44.0	+0.2
	0.9nm,0.7s,baz=134,slow=8.3,SNR=6.6						
WRA	**Warramunga Arr**	**33.51**	**197**	P	P	16 58 23.6	-0.4
	1.3nm,0.6s,baz=20,slow=9.6,SNR=8.2						
ASAR	**Alice Springs**	**37.17**	**196**	P	P	16 58 55.4	-0.1
	1.2nm,0.7s,baz=18,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**43.99**	**284**	P	P	16 59 52.4	+0.3
	3.1nm,0.7s,baz=87,slow=6.4,SNR=17						
CMAR				LR	LR	17 16 59.0

ILAR	**Eielson Array**	**149.31 313**	PKPbc	PKPbc	17 19 48.6	-0.3
	4.8nm,0.7s,baz=134,slow=2.3,SNR=56					
SONM	**Songino Array**	**151.11 86**	PKPbc	PKPbc	17 19 53.3	-0.6
	1.0nm,0.7s,baz=224,slow=3.2,SNR=9.3					

NIED ***02*** *17:11:00,40°.10N×142°.30E,h32km,Mw3.4 Best double couple: M0 1.37000×10^14 NP1:φ8 177.00000°,δ85.00000°, λ-87.00000°. NP2:φ8 329.00000°,δ6.00000°, λ-118.00000°.*

JMA 02 17:10:56.1±0.1,40°.09N×142°.35E,h34km±1km,M3.8,6C Broadband fault plane solution: P waves. NP1: φ8 43.00000°,δ75.00000°,λ-75.00000°. **NP2:** φ8 176.00000°,δ21.00000°,λ-135.00000°. **Principal axes:** T Plg29.0000°, Azm121.0000°; N Plg15.0000°, Azm219.0000°; P Plg57.0000°, Azm333.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.40**	**248**	⇑P	Pb	17 11 05.3	0.0
JTH				eS	Sn	17 11 11.8	0.0
MIYJ	**Miyakonagasawa**	**0.66**	**219**	P	Pn	17 11 08.4	-0.5
MIYJ				eS	Sn	17 11 17.2	-0.9
JANG	**Nango**	**0.70**	**294**	⇑P	Pn	17 11 09.1	-0.5
JANG				eS	Sn	17 11 18.0	-1.2
JKZ	**Kuzumaki**	**0.79**	**263**	⇑P	Pn	17 11 11.1	+0.2
JKZ				eS	Sn	17 11 21.3	-0.3
JOM	**Ohasama**	**1.02**	**233**	⇑P	Pn	17 11 14.6	+0.6
JOM				S	Sb	17 11 28.0	-0.5
OFUJ	**Ofunato**	**1.14**	**208**	P	Pn	17 11 16.0	+0.4
OFUJ				eS	Sb	17 11 31.2	-0.6
JTM	**Tenmabayashi**	**1.20**	**306**	⇑P	Pn	17 11 16.8	+0.3
JTM				eS	Sn	17 11 31.9	+0.3
JAH	**Hinai**	**1.32**	**275**	⇑P	Pn	17 11 19.1	+1.0
JAH				eS	Sn	17 11 35.6	+1.1
JMK	**Ichinoseki**	**1.43**	**218**	P	Pn	17 11 20.6	+0.9
JMK				eS	Sb	17 11 39.0	-1.2
MAT	**Matsushiro**	**4.81**	**224**	P	Pn	17 12 10.3	+4.1
MAT				eS	Sn	17 13 03.2	+2.4

IDC ***02*** *17:19:56.2±1.6,6°.93S×129°.31E,h0km,mb3.8/2, mb1 4.1/4,mb1mx3.7/18,mbtmp4.0/4,ML4.2/2,MS3.4/1, Ms1 3.4/1,ms1mx2.8/28 Error ellipse: s-maj=111.5km s-min=25.4km az=65.0*

NEIC ***02*** *17:20:01.0±0.9,6°.85S×129°.42E,h35km,mb4.7/2,Error ellipse: s-maj=19.8km s-min=11.9km az=78.0*

AUST ***02*** *17:20:21.5±0.0,8°.18S×129°.15E,h168km,Error ellipse: s-maj=1.3km s-min=1.1km az=279.0*

ISC 02 17:20:09.4±1.2,7°.51S±0°.08×129°.25E±0°.10,h79km,n28, σ2°.24/29,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.41**	**245**	P	Pn	17 21 33.9	+6.3
	baz=5.1,SNR=16						
FAKI	**Fak Fak**	**5.45**	**33**	P	**Pn**	**17 21 28.4**	**+0.3**
	baz=6.1,SNR=12						
MTN	**Manton Dam**	**5.61**	**161**	P	Pn	17 21 37.0	+6.7
	baz=5.1,SNR=55						
MTN				S	**Sn**	**17 22 38.7**	**+5.2**
	baz=5.1,SNR=12						
KDU	**Kakadu**	**6.04**	**149**	P	Pn	17 21 42.0	+5.8
	baz=5.6,SNR=152						
KDU				S	**Sn**	**17 22 47.3**	**+3.4**
	baz=5.6,SNR=11						
KNRA	**Kununurra**	**8.13**	**183**	P	Pn	17 22 09.5	+4.8
	baz=7.5,SNR=53						
KNRA				S	**Sn**	**17 23 36.3**	**+1.2**
	baz=7.5,SNR=16						
FITZ	**Fitzroy Crossi**	**11.10**	**198**	ePn	**Pn**	**17 22 47.1**	**+1.9**
FITZ				Sn	**Sn**	**17 24 46.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.10**	**198**	Sn	**Sn**	**17 24 46.0**	**-1.6**
	1.5nm,0.3s,baz=78,slow=20,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.10**	**198**	P	**Pn**	**17 22 47.6**	**+2.4**
	baz=10,SNR=14						
FITZ				S	**Sn**	**17 24 46.4**	**-1.2**
	baz=10,SNR=4.2						
WRAB	**Tennant Creek**	**13.30**	**159**	ePn	**Pn**	**17 23 15.2**	**+0.1**
	10nm,0.8s						
WRA	**Warramunga Arr**	**13.31**	**159**	Pn	**Pn**	**17 23 15.4**	**+0.3**
WRA				Sn	**Sn**	**17 25 37.2**	**-4.2**
WRA	**Warramunga Arr**	**13.31**	**159**	Pn	**Pn**	**17 23 15.4**	**+0.3**
	1.0nm,0.3s,baz=338,slow=13,SNR=21						
WRA				Sn	**Sn**	**17 25 37.2**	**-4.2**
	2.6nm,0.3s,baz=336,slow=22,SNR=14						
COEN	**Coen**	**15.10**	**116**	ePn	**Pn**	**17 23 34.9**	**-3.6**
	55nm,0.9s						
COEN	**Coen**	**15.10**	**116**	P	**P**	**17 23 42.1**	**+0.3**
	baz=15,SNR=7.1						
AS31	**Alice Springs**	**16.67**	**165**	ePn	**P**	**17 23 58.9**	**-0.4**
ASAR	**Alice Springs**	**16.67**	**165**	P	**P**	**17 23 59.9**	**+0.6**
ASAR				S	**Sn**	**17 27 00.3**	**-2.7**
ASAR	**Alice Springs**	**16.67**	**165**	P	**P**	**17 23 59.9**	**+0.6**
	1.1nm,0.3s,baz=341,slow=9.3,SNR=131						
ASAR				S	**Sn**	**17 27 00.3**	**-2.7**
	0.7nm,0.3s,baz=317,slow=15,SNR=11						
MTSU	**Mount Surprise**	**18.07**	**127**	P	**Pn**	**17 24 17.4**	**+2.1**
	baz=18,SNR=4.9						
FORT	**Forrest**	**23.18**	**183**	eP	**P**	**17 25 06.8**	**-2.6**
	4.3nm,0.2s						
BBOO	**Buckleboo**	**25.96**	**167**	P	**P**	**17 25 34.2**	**-0.4**
	baz=26,SNR=5.2						
STKA	**Stephens Creek**	**26.84**	**156**	P	**P**	**17 25 41.9**	**-0.6**
STKA	**Stephens Creek**	**26.84**	**156**	P	**P**	**17 25 41.9**	**-0.6**
	1.4nm,0.6s,baz=326,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**26.84**	**156**	P	**P**	**17 25 42.0**	**-0.6**
	baz=26,SNR=4.3						
CMSA	**Cobar Meteorol**	**28.41**	**149**	P	**P**	**17 25 56.3**	**-0.2**
	baz=28,SNR=11						
HNR	**Honiara**	**30.41**	**96**	LR	LR	17 37 20.5	
	comp=Z,71nm,18.6s,baz=82,slow=34						
ARPS	**Mount Arapiles**	**31.30**	**160**	P	**P**	**17 26 22.4**	**+0.3**
	baz=31,SNR=8.2						
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	17 30 56.2	-5.5
MKAR	**Makanchi Array**	**68.25**	**327**	P	P	17 30 56.2	-5.5
	0.2nm,0.4s,baz=112,slow=8.6,SNR=7.1						
RSO	**Redoubt South**	**90.61**	**29**	eP	P	17 32 55.8	-7.2

IDC ***02*** *17:22:21.5±0.8,12°.34N×144°.29E,h0km,mb4.0/15, mb1 4.2/15,mb1mx4.1/26,mbtmp4.0/15,MS3.5/6, Ms1 3.5/6,ms1mx3.1/38,Error ellipse: s-maj=26.5km s-min=20.3km az=82.0*

ISCJB ***02*** *17:22:24.2±0.6,12°.31N±0°.08×144°.2E±0°.1,h30km, mb4.2/21,MS3.5/6,Error ellipse: s-maj=15.7km s-min=9.0km az=31.4*

NEIC ***02*** *17:22:26.5±0.5,12°.30N×144°.26E,h35km,mb4.7/6,Error ellipse: s-maj=13.7km s-min=11.2km az=109.0*

ISC 02 17:22:25.6±0.7,12°.31N±0°.10×144°.4E±0°.1,h30km,n45, σ0°.85/44,mb4.2/21,MS3.5/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.36**	**21**	ePn	**Pb**	**17 22 50.2**	**-0.3**
GUMO				eSn	**Sn**	**17 23 05.0**	**-0.6**
PMG	**Port Moresby**	**21.75**	**173**	LR	LR	17 34 47.4	
	comp=Z,122nm,21.9s,baz=87,slow=34						
JNU	**Nakatsue**	**24.12**	**331**	LR	LR	17 36 22.4	
	comp=Z,55nm,18.3s,baz=84,slow=35						
KSRS	**Korea Array**	**29.05**	**332**	P	**P**	**17 28 23.9**	**+0.6**
	0.9nm,0.7s,baz=135,slow=9.7,SNR=7.0						
KSAR	**Wonju Array Be**	**29.06**	**332**	P	**P**	**17 28 23.9**	**+0.5**
WRA	**Warramunga Arr**	**33.54**	**197**	P	**P**	**17 29 02.9**	**-0.1**
WRA	**Warramunga Arr**	**33.54**	**197**	P	**P**	**17 29 02.9**	**-0.1**
	1.4nm,0.6s,baz=23,slow=9.8,SNR=4.0						
ASAR	**Alice Springs**	**37.20**	**196**	P	**P**	**17 29 34.7**	**+0.3**
ASAR	**Alice Springs**	**37.20**	**196**	P	**P**	**17 29 34.7**	**+0.3**
	1.1nm,0.6s,baz=8.7,slow=9.1,SNR=4.4						
PETK	**Petropavlovsk-**	**42.07**	**12**	LR	LR	17 47 03.3	
	comp=Z,22nm,18.1s,baz=288,slow=35						
CMAR	**Chiang Mai Arr**	**44.14**	**284**	P	**P**	**17 30 30.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.14**	**284**	P	**P**	**17 30 30.8**	**-1.1**
	0.9nm,0.3s,baz=104,slow=6.8,SNR=4.6						
SONM	**Songino Array**	**47.50**	**326**	P	**P**	**17 30 59.0**	**+0.8**
SONM				PcP	**PcP**	**17 32 29.2**	**+1.2**
SONM	**Songino Array**	**47.50**	**326**	P	**P**	**17 30 59.0**	**+0.8**
	0.7nm,0.6s,baz=149,slow=7.7,SNR=5.7						
SONM				PcP	**PcP**	**17 32 29.2**	**+1.2**
	0.4nm,0.8s,baz=159,slow=4.6,SNR=3.7						
SONM				LR	LR	17 51 29.4	
	comp=Z,117nm,19.1s,baz=35,slow=37						
MKAR	**Makanchi Array**	**62.08**	**317**	P	**P**	**17 32 44.2**	**+0.6**
MKAR	**Makanchi Array**	**62.08**	**317**	P	**P**	**17 32 44.2**	**+0.6**
	0.8nm,0.8s,baz=94,slow=8.6,SNR=9.0						
ZALV	**Zalesovo Beam**	**62.38**	**325**	P	**P**	**17 32 45.5**	**0.0**
ZALV				PcP	**PcP**	**17 33 24.7**	**-0.2**
ZALV	**Zalesovo Beam**	**62.38**	**325**	P	**P**	**17 32 45.5**	**0.0**
	0.4nm,0.5s,baz=115,slow=8.5,SNR=3.0						
ZALV				PcP	**PcP**	**17 33 24.7**	**-0.2**
	0.6nm,0.5s,baz=124,slow=2.6,SNR=2.4						
KURK	**Kurchatov**	**65.25**	**320**	P	**P**	**17 33 05.0**	**+0.5**
KURBB	**Kurchatov Arra**	**65.29**	**320**	P	**P**	**17 33 05.0**	**+0.3**
	2.5nm,0.6s,baz=104,slow=6.6,SNR=15						
TKM2	**Tokmak 2**	**66.20**	**312**	eP	**P**	**17 33 10.6**	**-0.4**
	4.8nm,0.5s						
AAK	**Ala-Archa**	**66.98**	**311**	eP	**P**	**17 33 14.6**	**-1.4**
	9.3nm,0.6s						
ILAR	**Eielson Array**	**69.92**	**25**	P	**P**	**17 33 33.1**	**-0.6**
ILAR	**Eielson Array**	**69.92**	**25**	P	**P**	**17 33 33.1**	**-0.6**
	1.0nm,0.7s,baz=253,slow=4.7,SNR=12						
ILAR				LR	LR	18 01 33.2	
	comp=Z,42nm,20.5s,baz=180,slow=34						
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**17 33 38.4**	**+0.1**
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**17 33 38.4**	**+0.1**
	2.1nm,0.5s,baz=101,slow=7.9,SNR=19						
BRVK	**Borovoye**	**70.70**	**322**	eP	**P**	**17 33 36.9**	**-1.8**
	8.9nm,1.3s						
AKTO	**Aktyubinsk**	**78.32**	**319**	P	**P**	**17 34 22.7**	**-0.3**
AKTO	**Aktyubinsk**	**78.32**	**319**	P	**P**	**17 34 22.7**	**-0.3**
	1.2nm,0.7s,baz=112,slow=4.6,SNR=5.0						
YBH	**Yreka Blue Hor**	**84.07**	**49**	LR	LR	18 06 55.5	
	comp=Z,47nm,19.2s,baz=3.0,slow=32						
YKA	**Yellowknife Ar**	**84.21**	**27**	P	**P**	**17 34 54.7**	**+0.7**
YKA	**Yellowknife Ar**	**84.21**	**27**	P	**P**	**17 34 54.7**	**+0.7**
	1.6nm,0.9s,baz=291,slow=4.6,SNR=3.6						
BMO	**Blue Mountains**	**87.23**	**45**	eP	**P**	**17 35 09.3**	**-0.2**
	1.9nm,0.8s						
NVAR	**Mina Array Bea**	**88.09**	**51**	P	**P**	**17 35 15.9**	**+1.9**
NVAR	**Mina Array Bea**	**88.09**	**51**	P	**P**	**17 35 15.9**	**+1.9**
	1.2nm,0.8s,baz=262,slow=5.8,SNR=9.2						
BSMT	**Bassoo Peak**	**88.12**	**41**	eP	**P**	**17 35 13.1**	**-0.8**
	7.5nm,1.4s						
ARCES	**ARCESS Array B**	**88.15**	**342**	P	**P**	**17 35 13.9**	**+0.6**
ARCES	**ARCESS Array B**	**88.15**	**342**	P	**P**	**17 35 13.9**	**+0.6**
	0.9nm,0.7s,baz=42,slow=9.6,SNR=5.4						
MFID	**Camas Ranch**	**88.63**	**46**	eP	**P**	**17 35 16.4**	**+0.2**
	3.4nm,0.8s						
FINES	**FINESS Array B**	**92.11**	**335**	P	**P**	**17 35 30.8**	**-1.1**
FINES	**FINESS Array B**	**92.11**	**335**	P	**P**	**17 35 30.8**	**-1.1**
	1.5nm,0.6s,baz=67,slow=4.3,SNR=15						
DBIC	**Dimbokro**	**144.07**	**300**	PKP	PKPbc	17 41 58.2	+0.7
DBIC	**Dimbokro**	**144.07**	**300**	PKP	PKPbc	17 41 58.2	+0.7
	2.2nm,0.7s,baz=74,slow=4.2,SNR=6.1						
LPAZ	**La Paz**	**148.27**	**101**	PKPbc	**PKPab**	**17 42 12.6**	**-1.2**
LPAZ	**La Paz**	**148.27**	**101**	PKPbc	**PKPab**	**17 42 12.6**	**-1.2**
	0.6nm,0.6s,baz=276,slow=6.0,SNR=3.6						

IDC ***02*** *17:31:28.6±2.1,36°.19N×68°.97E,h0km,mb3.5/3, mb1 3.5/8,mb1mx3.3/30,mbtmp3.5/8,ML3.3/4,MS3.0/4, Ms1 3.0/4,ms1mx2.7/22,Error ellipse: s-maj=41.6km s-min=19.9km az=140.0*

ISCJB ***02*** *17:31:32.6±0.8,36°.41N±0°.05×68°.7E±0°.1,h43km,mb3.4/2, MS3.1/2,Error ellipse: s-maj=13.4km s-min=6.7km az=169.7*

ISC 02 17:31:34.7±1.1,36°.36N±0°.08×68°.8E±0°.1,h43km,n15, σ2°.08/16,1C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.60**	**134**	P	**Pn**	**17 32 28.8**	**+0.7**
CEP				S	Sn	17 33 15.0	+5.5
THW	**Thamme Wali**	**4.32**	**145**	P	**Pn**	**17 32 38.8**	**+1.0**
CHCP	**Chirah Chowk**	**4.56**	**125**	P	**Pn**	**17 32 41.5**	**+0.3**
KK31	**Karatay Array**	**6.86**	**11**	⇓Pn	**Pn**	**17 33 12.5**	**-0.3**
	2.1nm,0.5s,baz=182,slow=13,SNR=6.3						
KK31				⇓Sn	**Sn**	**17 34 30.8**	**+1.3**
	3.4nm,0.5s,baz=182,slow=27						
KK31				⇑Lg	Lg	17 35 08.6	
	20nm,0.8s,baz=182,slow=27,SNR=4.2						
AAK	**Ala-Archa**	**7.66**	**33**	Pn	**Pn**	**17 33 23.6**	**-0.2**
	2.0nm,0.3s,baz=212,slow=6.2,SNR=8.0						
AAK				Sn	**Sn**	**17 34 52.4**	**+3.1**
	0.6nm,0.3s,baz=285,slow=20,SNR=3.7						
AAK				Lg	Lg	17 35 34.6	
	0.5nm,0.3s,baz=0.0,slow=20,SNR=1.9						
AAK				LR	LR	17 36 57.9	
	comp=Z,83nm,19.5s,baz=60,slow=43						
SDNR	**Sundarnagar**	**8.35**	**123**	eP	**Pn**	**17 33 35.0**	**+1.8**
SDNR				eS	**Sn**	**17 35 04.0**	**-2.2**
MKAR	**Makanchi Array**	**14.49**	**40**	Pn	**Pn**	**17 34 54.8**	**-2.2**
	0.1nm,0.3s,baz=229,slow=14,SNR=8.7						
MKAR				LR	LR	17 41 02.0	
	comp=Z,37nm,18.9s,baz=4.2,slow=39						
KURBB	**Kurchatov Arra**	**15.89**	**23**	Pn	**Pn**	**17 35 10.7**	**-4.4**
	baz=214,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**16.07**	**334**	Pn	**Pn**	**17 35 16.9**	**-0.6**
	0.1nm,0.3s,baz=162,slow=9.6,SNR=2.1						
BVAR	**Borovoye Array**	**16.70**	**3**	Pn	**Pn**	**17 35 22.6**	**-2.7**
	0.1nm,0.3s,baz=181,slow=14,SNR=2.4						
ZALV	**Zalesovo Beam**	**20.82**	**27**	P	**P**	**17 36 11.4**	**-0.9**
	1.1nm,0.5s,baz=215,slow=10,SNR=8.1						
SONM	**Songino Array**	**29.88**	**56**	P	**P**	**17 37 39.7**	**+1.4**
	0.5nm,0.8s,baz=243,slow=7.9,SNR=2.7						
NOA	**NORSAR Array B**	**43.42**	**323**	LR	LR	18 00 59.7	
	comp=Z,19nm,18.0s,baz=45,slow=41						
KSRS	**Korea Array**	**46.61**	**70**	LR	LR	18 02 11.1	
	comp=Z,25nm,18.4s,baz=215,slow=40						
TORD	**Torodi Ar. Bea**	**63.93**	**267**	P	**P**	**17 42 04.2**	**+0.7**
	0.2nm,0.5s,baz=45,slow=6.2,SNR=3.2						

CSEM ***02*** *17:54:05.1,40°.36N×29°.44W,h5km,ML2.6,After PDA*

PDA 02 17:54:05.1±1.3,40°.36N×29°.44W,h5km,MD3.7,ML2.6, Error ellipse: s-maj=21.0km s-min=9.7km az=68.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.74**	**139**	eS	Sn	17 54 50.3	-8.3
PGRA				A	A	17 54 52.1	
	14nm,0.2s						
PGRA	**Graciosa**	**1.74**	**139**	eS	Sn	17 54 50.3	-8.3
PCED	**Cedros**	**1.82**	**161**	eP	Pn	17 54 31.9	-5.1
PCED				eS	Sn	17 54 52.5	-8.0
PCED				A	A	17 54 55.8	
	6.8nm,0.1s						
PCED	**Cedros**	**1.82**	**161**	eP	Pn	17 54 31.9	-5.1
PCED				eS	Sn	17 54 52.5	-8.0
CALA	**Caldeira**	**1.86**	**162**	eS	Sn	17 54 53.5	-8.3
CALA	**Caldeira**	**1.86**	**162**	eS	Sn	17 54 53.5	-8.3
ROSA	**Rosais**	**1.88**	**150**	eP	Pn	17 54 32.9	-5.0
ROSA				eS	Sn	17 54 54.3	-7.7
ROSA				A	A	17 54 56.3	
	16nm,0.1s						
ROSA	**Rosais**	**1.88**	**150**	eP	Pn	17 54 32.9	-5.0
ROSA				eS	Sn	17 54 54.3	-7.7
PICO	**Pico**	**2.01**	**157**	eP	Pn	17 54 35.1	-4.7
PICO	**Pico**	**2.01**	**157**	eP	Pn	17 54 35.1	-4.7
PMAN	**Manadas**	**2.02**	**148**	eS	Sn	17 54 57.9	-7.4
PMAN				A	A	17 55 00.5	
	28nm,0.1s						
PMAN	**Manadas**	**2.02**	**148**	eS	Sn	17 54 57.9	-7.4
PCAN	**Candelaria**	**2.03**	**158**	eP	Pn	17 54 35.7	-4.3
PCAN				eS	Sn	17 54 58.0	-7.8
PCAN				A	A	17 55 02.9	
	18nm,0.1s						
PCAN	**Candelaria**	**2.03**	**158**	eP	Pn	17 54 35.7	-4.3
PCAN				eS	Sn	17 54 58.0	-7.8

ISCJB ***02*** *18:02:51.9±0.2,43°.75N±0°.02×105°.32W±0°.02,h0km, mb4.0/3,Error ellipse: s-maj=2.4km s-min=2.2km az=1.0*

NEIC ***02*** *18:02:52.9±0.3,43°.81N×105°.28W,h0km,ML3.3,Error ellipse: s-maj=4.8km s-min=4.6km az=140.0,Suspected Mining explosion.*

NEIC 55 km [35 miles] SSE of Gillette.

IDC ***02*** *18:02:52.1±1.0,43°.82N×105°.49W,h0km,mb3.9/3, mb1 3.9/7,mb1mx3.5/27,mbtmp3.7/7,ML3.5/4,MS2.8/1, Ms1 2.8/1,ms1mx2.0/42,Error ellipse: s-maj=25.5km s-min=8.2km az=148.0*

ISC 02 18:02:52.3±0.6,43°.76N±0°.02×105°.32W±0°.02,h0km,n153, σ1°.02/167,mb4.0/3,34C-38D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.23**	**333**	P	**Pg**	**18 02 58.7**	**+1.9**
	baz=0.2,SNR=775						
I23A	**Meade Ranch, G**	**0.23**	**333**	P	**Pg**	**18 02 58.7**	**+1.9**
	baz=0.2,SNR=775						
J23A	**Dilts Ranch, B**	**0.39**	**206**	P	**Pg**	**18 03 00.9**	**+1.2**
	baz=0.4,SNR=172						
J23A	**Dilts Ranch, B**	**0.39**	**206**	P	**Pg**	**18 03 00.9**	**+1.2**
	baz=0.4,SNR=172						
I24A	**Kuemmerle Ranc**	**0.51**	**78**	⇑P	**Pg**	**18 03 03.0**	**+0.8**
	baz=0.5,SNR=336						
I24A				⇓S	**Sg**	**18 03 10.1**	**+1.3**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.51**	**78**	⇑P	**Pg**	**18 03 03.0**	**+0.8**
	baz=0.5,SNR=336						
I24A				⇓S	**Sg**	**18 03 10.1**	**+1.3**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.64**	**131**	P	**Pg**	**18 03 05.2**	**+0.6**
	baz=0.7,SNR=70						
J24A	**Dixon Ranch, L**	**0.64**	**131**	P	**Pg**	**18 03 05.2**	**+0.6**
	baz=0.7,SNR=70						
H23A	**Clabaugh Cattl**	**0.81**	**356**	P	**Pb**	**18 03 08.6**	**-0.7**
	baz=0.8,SNR=62						
H23A	**Clabaugh Cattl**	**0.81**	**356**	P	**Pb**	**18 03 08.6**	**-0.7**
	baz=0.8,SNR=62						
I22A	**9 Mile Ranch,**	**0.85**	**280**	P	**Pb**	**18 03 09.7**	**-0.5**
	baz=0.9,SNR=1000						
I22A	**9 Mile Ranch,**	**0.85**	**280**	P	**Pb**	**18 03 09.7**	**-0.5**
	baz=0.9,SNR=1000						
J22A	**Midwest**	**0.91**	**248**	⇑P	**Pg**	**18 03 10.0**	**+0.3**
	baz=1.0						
J22A	**Midwest**	**0.91**	**248**	⇑P	**Pg**	**18 03 10.0**	**+0.3**
	baz=1.0						
RSSD	**Black Hills**	**1.00**	**68**	eP	**Pg**	**18 03 11.6**	**+0.2**
K23A	**Bowen Ranch, D**	**1.02**	**193**	⇑P	**Pg**	**18 03 12.4**	**+0.4**
	baz=1.1,SNR=10						
K23A	**Bowen Ranch, D**	**1.02**	**193**	⇑P	**Pg**	**18 03 12.4**	**+0.4**
	baz=1.1,SNR=10						
K24A	**Anderson Ranch**	**1.10**	**160**	⇑P	**Pg**	**18 03 13.5**	**+0.2**
	baz=1.1						
K24A	**Anderson Ranch**	**1.10**	**160**	⇑P	**Pg**	**18 03 13.5**	**+0.2**
	baz=1.1						
H22A	**Clearmont**	**1.12**	**319**	P	**Pb**	**18 03 14.7**	**0.0**
	baz=1.1,SNR=92						
H22A	**Clearmont**	**1.12**	**319**	P	**Pb**	**18 03 14.7**	**0.0**
	baz=1.1,SNR=92						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇓P	**Pg**	**18 03 14.0**	**-0.1**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇓P	**Pg**	**18 03 14.0**	**-0.1**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.16**	**108**	P	**Pg**	**18 03 14.7**	**+0.1**
	baz=1.1,SNR=608						
J25A	**Sunshine Ranch**	**1.16**	**108**	P	**Pg**	**18 03 14.7**	**+0.1**
	baz=1.1,SNR=608						
I25A	**Rochford**	**1.18**	**76**	Pb	**Pg**	**18 03 14.8**	**-0.1**
	baz=1.1,SNR=226						
I25A	**Rochford**	**1.18**	**76**	Pb	**Pg**	**18 03 14.8**	**-0.1**
	baz=1.1,SNR=226						
K22A	**Casper**	**1.41**	**219**	Pb	**Pn**	**18 03 19.0**	**-0.5**
	baz=1.5,SNR=471						
K22A	**Casper**	**1.41**	**219**	Pb	**Pn**	**18 03 19.0**	**-0.5**
	baz=1.5,SNR=471						
I21A	**Big Trails, Te**	**1.43**	**273**	⇑Pb	**Pn**	**18 03 19.0**	**-0.7**
	baz=1.4						
I21A				⇓Sb	**Sb**	**18 03 38.5**	**-0.3**
	baz=1.4						
I21A	**Big Trails, Te**	**1.43**	**273**	⇑Pb	**Pn**	**18 03 19.0**	**-0.7**
	baz=1.4						
I21A				⇓Sb	**Sb**	**18 03 38.5**	**-0.3**
	baz=1.4						
G23A	**Biddle**	**1.45**	**358**	⇑Pb	**Pn**	**18 03 19.7**	**-0.2**
	baz=1.4						
G23A	**Biddle**	**1.45**	**358**	⇑Pb	**Pn**	**18 03 19.7**	**-0.2**
	baz=1.4						
H25A	**Fruitdale**	**1.51**	**54**	⇑Pb	**Pn**	**18 03 21.0**	**+0.3**
	baz=1.5,SNR=56						
H25A	**Fruitdale**	**1.51**	**54**	⇑Pb	**Pn**	**18 03 21.0**	**+0.3**
	baz=1.5,SNR=56						
H21A	**Big Horn, Sher**	**1.52**	**306**	Pb	**Pg**	**18 03 21.6**	**+0.2**
	baz=1.5,SNR=290						
H21A	**Big Horn, Sher**	**1.52**	**306**	Pb	**Pg**	**18 03 21.6**	**+0.2**
	baz=1.5,SNR=290						
K25A	**Mack Ranch, Ha**	**1.56**	**137**	Pb	**Pb**	**18 03 22.1**	**0.0**
	baz=1.6,SNR=115						
K25A	**Mack Ranch, Ha**	**1.56**	**137**	Pb	**Pb**	**18 03 22.1**	**0.0**
	baz=1.6,SNR=115						
J21A	**Lysite**	**1.60**	**256**	Pb	**Pn**	**18 03 21.9**	**-0.1**
	baz=1.6,SNR=252						
J21A	**Lysite**	**1.60**	**256**	Pb	**Pn**	**18 03 21.9**	**-0.1**
	baz=1.6,SNR=252						
G22A	**Birney**	**1.62**	**335**	⇓Pb	**Pg**	**18 03 23.3**	**-0.1**
	baz=1.6						
G22A	**Birney**	**1.62**	**335**	⇓Pb	**Pg**	**18 03 23.3**	**-0.1**
	baz=1.6						
L23A	**Garr

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=2.1,SNR=64						
F22A				⇓Sb	**Sg**	**18 03 59.8**	**-1.0**
	baz=2.1						
F22A	**Rosebud**	**2.13**	**342**	⇓Pb	**Pn**	**18 03 30.3**	**+1.0**
	baz=2.1,SNR=64						
F22A				⇓Sb	**Sg**	**18 03 59.8**	**-1.0**
	baz=2.1						
F24A	**Ekalaka**	**2.18**	**16**	⇑Pb	**Pb**	**18 03 31.6**	**-1.2**
	baz=2.1,SNR=34						
F24A	**Ekalaka**	**2.18**	**16**	⇑Pb	**Pb**	**18 03 31.6**	**-1.2**
	baz=2.1,SNR=34						
M24A	**Cheyenne**	**2.31**	**171**	Pb	**Pn**	**18 03 33.5**	**+1.7**
	baz=2.4,SNR=205						
M24A	**Cheyenne**	**2.31**	**171**	Pb	**Pn**	**18 03 33.5**	**+1.7**
	baz=2.4,SNR=205						
L21A	**Rawlins**	**2.34**	**221**	Pb	**Pn**	**18 03 33.7**	**+1.4**
	baz=2.4,SNR=113						
L21A				⇑Sb	**Sb**	**18 04 04.6**	**-0.4**
	baz=2.4						
L21A	**Rawlins**	**2.34**	**221**	Pb	**Pn**	**18 03 33.7**	**+1.4**
	baz=2.4,SNR=113						
L21A				⇑Sb	**Sb**	**18 04 04.6**	**-0.4**
	baz=2.4						
L26A	**Underwood Farm**	**2.38**	**135**	⇓Pb	**Pb**	**18 03 34.7**	**-1.4**
	baz=2.4						
L26A	**Underwood Farm**	**2.38**	**135**	⇓Pb	**Pb**	**18 03 34.7**	**-1.4**
	baz=2.4						
I27A	**Quinn**	**2.38**	**81**	⇑Pb	**Pb**	**18 03 35.4**	**-0.7**
	baz=2.3						
I27A	**Quinn**	**2.38**	**81**	⇑Pb	**Pb**	**18 03 35.4**	**-0.7**
	baz=2.3						
PHWY	**Pilot Hill**	**2.45**	**182**	*e*P	**Pn**	**18 03 33.1**	**-0.8**
PHWY				*e*Sn	**Sn**	**18 04 05.4**	**+0.6**
J27A	**Elkhorn Farm,**	**2.46**	**101**	⇑Pb	**Pb**	**18 03 36.1**	**-1.4**
	baz=2.4						
J27A	**Elkhorn Farm,**	**2.46**	**101**	⇑Pb	**Pb**	**18 03 36.1**	**-1.4**
	baz=2.4						
K20A	**Yellowstone Ra**	**2.47**	**245**	⇓Pb	**Pb**	**18 03 36.7**	**-1.0**
	baz=2.5						
K20A	**Yellowstone Ra**	**2.47**	**245**	⇓Pb	**Pb**	**18 03 36.7**	**-1.0**
	baz=2.5						
K27A	**Flueckinger Fa**	**2.49**	**114**	⇓Pb	**Pb**	**18 03 36.4**	**-1.6**
	baz=2.5,SNR=53						
K27A	**Flueckinger Fa**	**2.49**	**114**	⇓Pb	**Pb**	**18 03 36.4**	**-1.6**
	baz=2.5,SNR=53						
RWWY	**Rawlins**	**2.49**	**215**	*e*Pn	**Pb**	**18 03 36.6**	**-1.5**
RWWY				*e*Sn	**Sn**	**18 04 04.3**	**-1.3**
M22A	**Cedar Creek Ra**	**2.53**	**202**	⇓Pb	**Pb**	**18 03 37.5**	**-1.3**
	baz=2.6						
M22A	**Cedar Creek Ra**	**2.53**	**202**	⇓Pb	**Pb**	**18 03 37.5**	**-1.3**
	baz=2.6						
M21A	**Separation Pea**	**2.62**	**216**	⇑Pb	**Pb**	**18 03 38.8**	**-1.6**
	baz=2.7						
M21A	**Separation Pea**	**2.62**	**216**	⇑Pb	**Pb**	**18 03 38.8**	**-1.6**
	baz=2.7						
K19A	**Absolon Red Bu**	**2.74**	**251**	⇑Pb	**Pb**	**18 03 41.2**	**-1.0**
	baz=2.8						
K19A	**Absolon Red Bu**	**2.74**	**251**	⇑Pb	**Pb**	**18 03 41.2**	**-1.0**
	baz=2.8						
RLMT	**Red Lodge**	**3.14**	**297**	*e*Pn	**Pn**	**18 03 44.5**	**+1.2**
RLMT				*e*Sn	Sn	18 04 15.2	-6.4
BW06	**Boulder Array**	**3.25**	**254**	*e*Pn	**Pn**	**18 03 46.1**	**+1.3**
BW06				*e*S	**Sb**	**18 04 33.5**	**+2.2**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**18 03 46.2**	**+1.4**
PDAR				Lg	Lg	18 04 31.2	
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**18 03 46.2**	**+1.4**
	6.2nm,0.3s,baz=70,slow=16,SNR=55						
PDAR				Lg	Lg	18 04 31.2	
	20nm,0.3s,baz=71,slow=30,SNR=14						
OGNE	**Ogallala**	**3.72**	**138**	*e*Pn	**Pn**	**18 03 52.6**	**+1.5**
OGNE				*e*Sn	**Sn**	**18 04 36.6**	**+1.0**
LKWY	**Lake**	**3.75**	**284**	*e*Pn	**Pn**	**18 03 50.2**	**-1.4**
LOHW	**Long Hollow**	**3.84**	**270**	*e*Pn	**Pn**	**18 03 54.4**	**+1.6**
FLWY	**Flagg Ranch**	**3.90**	**277**	*e*Pn	**Pn**	**18 03 54.8**	**+1.1**
MOOW	**Moose Ponds**	**3.93**	**272**	*e*Pn	**Pn**	**18 03 54.8**	**+0.6**
ISCO	**Idaho Springs**	**3.96**	**183**	*e*Pn	**Pb**	**18 03 55.8**	**+1.2**
SNOW	**Snow King Moun**	**3.96**	**268**	*e*Pn	**Pb**	**18 04 01.1**	**-2.1**
REDW	**Red Top Meadow**	**4.04**	**266**	*e*Pn	**Pn**	**18 03 57.0**	**+1.4**
IMW	**Indian Meadow**	**4.07**	**274**	*e*Pn	**Pn**	**18 03 58.4**	**+2.2**
TPAW	**Teton Pass**	**4.10**	**268**	*e*Pn	**Pn**	**18 03 55.6**	**-0.9**
DGMT	**Dagmar**	**4.78**	**9**	*e*Pn	**Pn**	**18 04 06.7**	**+1.1**
BOZ	**Bozeman (W)**	**4.88**	**295**	*e*Pn	**Pn**	**18 04 07.1**	**0.0**
HWUT	**Hardware Ranch**	**5.08**	**247**	*e*Pn	**Pn**	**18 04 10.4**	**+0.5**
	14nm,0.4s						
EGMT	**Eagleton**	**5.27**	**326**	*e*Pn	**Pn**	**18 04 12.5**	**+0.1**
	30nm,0.5s						
DLMT	**Dillon**	**5.44**	**290**	*e*Pn	**Pn**	**18 04 15.5**	**+0.6**
	6.4nm,0.7s						
HRY	**Holter Researc**	**5.47**	**305**	*e*Pn	**Pn**	**18 04 16.2**	**+1.1**
	14nm,0.3s						
LRM	**Limekiln Ridge**	**5.48**	**295**	*e*Pn	**Pn**	**18 04 15.4**	**0.0**
	13nm,0.3s						
MCMT	**McKenzie Canyo**	**5.51**	**284**	*e*Pn	Pn	18 04 21.4	+5.6
	3.1nm,0.4s						
DAU	**Daniels Canyon**	**5.54**	**235**	*e*Pn	**Pn**	**18 04 18.4**	**+2.1**
	10nm,0.4s						
JLU	**Jordanelle**	**5.54**	**237**	*e*Pn	**Pn**	**18 04 15.3**	**-1.0**
	10.0nm,0.5s						
HVU	**Hansel Valley**	**5.83**	**253**	*e*Pn	**Pn**	**18 04 20.8**	**+0.6**
	7.5nm,0.6s						
PV04	**Paradox Valley**	**6.00**	**208**	*e*Pn	**Pn**	**18 04 24.6**	**+2.0**
SRU	**San Rafael**	**6.07**	**222**	*e*Pn	**Pn**	**18 04 24.1**	**+0.6**
	16nm,0.6s						
PV01	**Paradox Valley**	**6.13**	**205**	*e*Pn	**Pn**	**18 04 25.2**	**+0.8**
	637nm,0.6s						
TMUT	**Trail Mountain**	**6.27**	**227**	*e*Pn	**Pn**	**18 04 27.5**	**+1.1**
	12nm,0.4s						
ECSD	**EROS Data Cent**	**6.31**	**87**	*e*Pn	**Pn**	**18 04 26.8**	**+0.3**
	8.5nm,0.5s						
BGU	**Big Grassy Mou**	**6.37**	**246**	*e*Pn	**Pn**	**18 04 28.0**	**+0.4**
	2.4nm,0.3s						
CHMT	**Chamberlain Mo**	**6.42**	**302**	*e*Pn	**Pn**	**18 04 29.4**	**+1.0**
	3.5nm,0.6s						
HLID	**Hailey**	**6.60**	**271**	*e*Pn	**Pn**	**18 04 32.7**	**+1.9**
	1.7nm,0.5s						
DUG	**Dugway**	**6.62**	**240**	*e*Pn	**Pn**	**18 04 31.8**	**+0.8**
	3.0nm,0.4s						
SWMT	**Swartz Lake**	**7.15**	**305**	*e*Pn	**Pn**	**18 04 39.0**	**+0.8**
	2.7nm,0.4s						
YBMT	**Yellow Bay**	**7.33**	**307**	*e*Pn	**Pn**	**18 04 42.5**	**+1.8**
	3.6nm,0.4s						
MVU	**Marysvale**	**7.39**	**227**	*e*Pn	**Pn**	**18 04 42.7**	**+1.0**
	3.9nm,0.6s						
WALA	**Waterton Lakes**	**7.96**	**315**	*e*Pn	**Pn**	**18 04 47.3**	**-2.1**
	0.1nm,0.4s						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**18 05 04.3**	**-1.2**
ULM				Lg	Lg	18 07 35.4	
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**18 05 04.3**	**-1.2**
	1.7nm,0.3s,baz=231,slow=12,SNR=9.8						
ULM				Lg	Lg	18 07 35.4	
	0.6nm,0.3s,baz=317,slow=19,SNR=2.5						
WUAZ	**Wupatki**	**9.46**	**212**	*e*Pn	**Pn**	**18 05 11.8**	**+1.9**
	6.6nm,0.5s						
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**18 05 34.0**	**+0.9**
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**18 05 34.0**	**+0.9**
	0.2nm,0.3s,baz=59,slow=12,SNR=4.5						
PFO	**Pinyon Flat Ob**	**13.34**	**224**	LR	LR	18 12 06.3	
	comp=Z,41nm,18.6s,baz=156,slow=42						
TXAR	**Lajitas Array**	**14.45**	**174**	Pn	**Pn**	**18 06 20.5**	**+2.2**
TXAR				Lg	Lg	18 10 29.4	
TXAR	**Lajitas Array**	**14.45**	**174**	Pn	**Pn**	**18 06 20.5**	**+2.2**
	0.0nm,0.3s,baz=42,slow=8.4,SNR=2.4						
TXAR				Lg	Lg	18 10 29.4	
	0.0nm,0.3s,baz=338,slow=6.8,SNR=3.3						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**18 13 08.3**	**-1.5**
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**18 13 08.3**	**-1.5**
	1.8nm,0.8s,baz=338,slow=6.8,SNR=5.6						
ZALV	**Zalesovo Beam**	**82.29**	**354**	P	**P**	**18 15 14.6**	**-0.8**
ZALV	**Zalesovo Beam**	**82.29**	**354**	P	**P**	**18 15 14.6**	**-0.8**
	0.4nm,0.4s,baz=352,slow=5.6,SNR=3.8						
MKAR	**Makanchi Array**	**89.58**	**355**	P	**P**	**18 15 50.8**	**-0.9**
MKAR	**Makanchi Array**	**89.58**	**355**	P	**P**	**18 15 50.8**	**-0.9**
	0.5nm,0.7s,baz=18,slow=4.3,SNR=4.2						

AUST ***02*** *18:47:54.9±3.9, 7°.28S×104°.94E, h0km, Error ellipse: s-maj=1.7km s-min=1.2km az=38.0*
IDC ***02*** *18:47:54.6±1.1, 6°.47S×105°.46E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/22, mbtmp3.9/11, MS3.4/4, Ms1 3.4/4, ms1mx3.0/35, Error ellipse: s-maj=52.1km s-min=15.3km az=53.0*
ISCJB ***02*** *18:47:55.1±1.7, 7°.08S±0°.05×105°.07E±0°.05, h14km±12km, mb3.8/11, MS3.5/3, Error ellipse: s-maj=9.7km s-min=6.3km az=138.9*
DJA ***02*** *18:47:55.5±0.7, 7°.5S±4°×10°.5E±°, h10km, M4.5/8, MLv4.5/8*

ISC 02 18:47:53.9±1.6, 6°.97S±0°.06×105°.03E±0°.05, h6km±9km, n36, σ1§73/41, mb3.9/11, MS3.5/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.38**	**52**	P	**Pn**	**18 48 19.2**	**-0.5**
SKJI	**Sukabumi**	**1.52**	**91**	P	**Pn**	**18 48 20.7**	**-0.8**
KASI	**Kota Agung**	**1.53**	**340**	P	**Pg**	**18 48 24.0**	**+0.7**
KASI				S	**Sg**	**18 48 44.8**	**+1.6**
BLSI	**Bandar Lampung**	**1.61**	**8**	P	**Pb**	**18 48 24.3**	**+0.3**
BLSI				S	**Sg**	**18 48 45.9**	**+0.3**
DBJI	**Dramaga**	**1.76**	**76**	P	**Pn**	**18 48 25.0**	**+0.1**
DBJI				S	**Sn**	**18 48 47.1**	**-0.5**
TNG	**Tangerang**	**1.79**	**64**	P	Pg	18 48 31.9	+3.6
TNG				S	**Sg**	**18 48 49.9**	**-1.6**
KLSI		**2.29**	**352**	P	**Pb**	**18 48 35.1**	**-0.5**
KLSI				S	**Sg**	**18 49 07.8**	**+0.4**
LEM	**Lembang**	**2.57**	**87**	P	**Pb**	**18 48 39.1**	**-1.5**
LEM	**Lembang**	**2.57**	**87**	P	**Pb**	**18 48 39.0**	**-1.6**
	baz=2.7,SNR=27						
CISI	**Cisompet, Garu**	**2.82**	**102**	P	**Pn**	**18 48 39.3**	**-0.3**
CISI	**Cisompet, Garu**	**2.82**	**102**	P	**Pn**	**18 48 39.6**	**0.0**
	baz=2.9,SNR=60						
MNAI	**Manna**	**3.31**	**321**	P	**Pb**	**18 48 50.7**	**-2.5**
	baz=3.5,SNR=5.6						
XMIS	**Christmas Isla**	**3.54**	**170**	P	**Pn**	**18 48 48.4**	**-1.1**
	baz=3.3,SNR=13						
UGM	**Wanagama**	**5.53**	**100**	P	**Pn**	**18 49 18.5**	**+1.7**
	baz=5.6,SNR=9.1						
KAPI	**Kappang**	**14.77**	**83**	LR	LR	18 57 08.5	
	comp=Z,46nm,19.7s,baz=18,slow=39						
WSI	**Waingapu**	**15.34**	**101**	S	**S**	**18 54 34.8**	**-3.4**
	baz=15,SNR=3.9						
BATI	**Baumata**	**18.70**	**101**	P	**Pn**	**18 52 15.3**	**+1.8**
	2.8nm,0.3s,baz=353,slow=3.8,SNR=6.6						
SOEI	**Soe**	**19.23**	**100**	P	**Pn**	**18 52 20.1**	**0.0**
	baz=19,SNR=12						
SOEI				S	**S**	**18 56 00.3**	**+2.7**
	baz=19,SNR=3.6						
FITZ	**Fitzroy Crossi**	**22.93**	**121**	P	**P**	**18 52 59.7**	**+0.8**
	2.5nm,0.9s,baz=312,slow=14,SNR=2.9						
FITZ				LR	LR	19 00 42.5	
	comp=Z,101nm,19.5s,baz=271,slow=34						
KNRA	**Kununurra**	**24.80**	**112**	P	**P**	**18 53 17.8**	**+0.9**
	baz=25,SNR=6.6						
CMAR	**Chiang Mai Arr**	**25.97**	**347**	P	**P**	**18 53 24.0**	**-3.5**
	0.4nm,0.5s,baz=182,slow=8.6,SNR=2.9						
MTN	**Manton Dam**	**26.35**	**105**	P	**P**	**18 53 33.7**	**+2.7**
	baz=26,SNR=9.9						
KDU	**Kakadu**	**27.62**	**104**	P	**P**	**18 53 46.8**	**+4.4**
	baz=28,SNR=6.0						
NWAO	**Narrogin (SRO)**	**28.21**	**158**	LR	LR	19 05 06.3	
	comp=Z,138nm,18.0s,baz=207,slow=36						
WRA	**Warramunga Arr**	**31.21**	**117**	P	**P**	**18 54 14.4**	**+0.1**
	0.9nm,0.5s,baz=289,slow=10.0,SNR=6.4						
ASAR	**Alice Springs**	**32.31**	**124**	P	**P**	**18 54 24.4**	**+0.5**
	0.3nm,0.4s,baz=302,slow=8.3,SNR=14						
ASAR				PcP	**PcP**	**18 57 13.5**	**+1.3**
	0.3nm,0.4s,baz=302,slow=2.2,SNR=5.9						
ASAR				LR	LR	19 07 10.8	
	comp=Z,111nm,21.6s,baz=126,slow=36						
PALU	**Palau**	**32.63**	**65**	S	**S**	**18 59 43.5**	**+0.2**
	baz=33,SNR=3.5						
STKA	**Stephens Creek**	**42.12**	**131**	P	**P**	**18 55 48.8**	**+1.6**
	3.3nm,0.8s,baz=309,slow=9.7,SNR=13						
STKA	**Stephens Creek**	**42.12**	**131**	P	**P**	**18 55 49.9**	**+2.7**
	baz=42,SNR=8.1						
SONM	**Songino Array**	**54.58**	**1**	P	**P**	**18 57 21.6**	**-1.5**
	0.4nm,0.5s,baz=163,slow=8.6,SNR=6.5						
SONM				PcP	**PcP**	**18 58 26.4**	**+0.1**
	0.4nm,0.4s,baz=183,slow=4.4,SNR=5.6						
USRK	**Ussuriysk Arra**	**56.45**	**23**	P	**P**	**18 57 34.0**	**-2.5**
	1.1nm,0.4s,baz=201,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**57.22**	**342**	P	**P**	**18 57 41.3**	**-0.7**
	0.3nm,0.3s,baz=162,slow=8.0,SNR=9.5						
ZALV	**Zalesovo Beam**	**63.04**	**347**	P	**P**	**18 58 20.4**	**-1.3**
	0.9nm,0.3s,baz=156,slow=6.0,SNR=5.4						
BRTR	**Keskin Array B**	**80.35**	**312**	P	**P**	**19 00 08.4**	**+1.9**
	0.8nm,0.6s,baz=126,slow=7.3,SNR=6.7						
FINES	**FINESS Array B**	**90.82**	**332**	P	**P**	**19 00 58.5**	**+0.6**
	0.3nm,0.4s,baz=82,slow=4.0,SNR=4.6						
TXAR	**Lajitas Array**	**144.99**	**47**	PKP	**PKPdf**	**19 07 33.0**	**0.0**
	0.4nm,0.5s,baz=258,slow=2.7,SNR=7.4						

IDC 02 18:54:45.2±2.4, 21°.54N×38°.03E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, MS2.6/1, Ms1 2.7/1, ms1mx2.2/22, Error ellipse: s-maj=73.4km s-min=28.6km az=162.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**33.44**	**330**	P	P	19 01 25.9	-0.1
	0.4nm,0.8s,baz=128,slow=8.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**35.60**	**262**	P	P	19 01 44.8	-0.1
	1.1nm,1.1s,baz=67,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**43.67**	**44**	P	P	19 02 51.7	-0.1
	0.5nm,0.7s,baz=248,slow=6.1,SNR=8.1						
NOA	**NORSAR Array B**	**43.68**	**341**	LR	LR	19 22 38.8	
	comp=Z,7.7nm,20.8s,baz=270,slow=38						
SONM	**Songino Array**	**59.94**	**46**	P	P	19 04 53.4	-0.1
	0.7nm,0.7s,baz=268,slow=5.8,SNR=8.0						

WEL 02 18:58:40.5±0.5, 37°.08S×176°.72E, h231km±4km, ML3.7/14, 1C, Error ellipse: s-maj=6.4km s-min=4.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.22**	**166**	PN	Pn	18 59 14.8	-0.1
URZ				SN	S	18 59 42.5	+0.7
MWZ	**Matawai**	**1.41**	**153**	PN	Pn	18 59 16.2	0.0
MWZ				SN	S	18 59 44.4	0.0
MWZ				AML	AML	18 59 46.3	
MWZ				AML	AML	18 59 46.5	
PUZ	**Puketiti**	**1.57**	**130**	PN	Pn	18 59 17.3	-0.3
PUZ				SN	S	18 59 45.6	-1.0
PUZ				AML	AML	18 59 47.6	
CNGZ	**Carnagh Statio**	**1.83**	**141**	PN	Pn	18 59 20.2	+0.4
RAHZ	**Arahi**	**1.86**	**171**	PN	Pn	18 59 20.7	+0.6
KNZ	**Kokohu**	**2.08**	**159**	PN	Pn	18 59 21.9	-0.2
BKZ	**Black Stump Fm**	**2.09**	**185**	⇑PN	Pn	18 59 22.3	0.0
BKZ				SN	S	18 59 55.1	-0.1
MHGZ	**Mahia Peninsul**	**2.27**	**156**	PN	Pn	18 59 24.7	+0.7
MCHZ	**McNeill Hill**	**2.36**	**181**	PN	Pn	18 59 25.5	+0.5
MOVZ	**Moawhango**	**2.45**	**198**	PN	Pn	18 59 26.8	+0.9
BHHZ	**Black Hill Sta**	**2.46**	**192**	PN	Pn	18 59 26.0	0.0
CKHZ	**Cape Kidnapper**	**2.59**	**174**	PN	Pn	18 59 27.3	0.0
CKHZ				SN	S	19 00 02.2	-1.9
KAHZ	**Kahuranaki**	**2.72**	**178**	PN	Pn	18 59 28.7	0.0
PNHZ	**Pukenui**	**2.86**	**188**	PN	Pn	18 59 29.7	-0.5
PXZ	**Pawanui**	**2.95**	**178**	PN	Pn	18 59 30.6	-0.5
PXZ				SN	S	19 00 10.4	-0.7
WPHZ	**Waipukurau**	**2.99**	**184**	PN	Pn	18 59 32.1	+0.5
TSZ	**Takapari Road**	**3.04**	**191**	PN	Pn	18 59 31.7	-0.5
DVHZ	**Dannevirke**	**3.25**	**188**	PN	Pn	18 59 33.6	-1.0
BFZ	**Birch Farm**	**3.62**	**186**	PN	Pn	18 59 39.9	+1.1
MRZ	**Mangatainoka R**	**3.69**	**194**	PN	Pn	18 59 38.3	-1.4
TIWZ	**Tintock**	**3.75**	**190**	PN	Pn	18 59 39.5	-1.0
OGWZ	**Otaki Gorge**	**3.93**	**197**	PN	Pn	18 59 41.2	-1.2
KIW	**Kapiti Island**	**4.03**	**200**	PN	Pn	18 59 42.8	-1.0
TMWZ	**Te Maipa**	**4.08**	**189**	PN	Pn	18 59 45.3	+1.0
MTW	**Mount Morrison**	**4.18**	**193**	PN	Pn	18 59 44.1	-1.5
CAW	**Cannon Point**	**4.23**	**197**	PN	Pn	18 59 44.4	-1.7
PAWZ	**Paruwai Farm**	**4.42**	**193**	PN	Pn	18 59 49.0	+0.6
TCW	**Tory Channel**	**4.55**	**204**	PN	Pn	18 59 48.8	-1.2
PLWZ	**Palliser**	**4.63**	**194**	PN	Pn	18 59 48.9	-2.1
TUWZ	**Tuamarina**	**4.85**	**206**	PN	Pn	18 59 52.3	-1.4
NNZ	**Nelson**	**4.88**	**211**	PN	Pn	18 59 52.3	-1.8
THZ	**Tophouse**	**5.54**	**211**	PN	Pn	19 00 01.7	-0.7
KHZ	**Kahutara**	**5.87**	**204**	PN	Pn	19 00 04.9	-1.6
LTZ	**Lake Taylor**	**6.65**	**210**	PN	Pn	19 00 14.5	-1.9
ODZ	**Otahua Downs**	**9.19**	**208**	PN	Pn	19 00 48.4	-0.4

AUST ***02*** *19:03:23.4±63.0, 2°.92N×135°.00E, h0km±5km, Error ellipse: s-maj=7.0km s-min=1.5km az=246.0*
IDC ***02*** *19:04:04.6±15.0, 0°.33N×132°.99E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/21, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=244.9km s-min=101.0km az=164.0*
ISC 02 19:04:12.3±4.0, 0°.0S±0°.3×133°.0E±0°.2, h35km, n9, σ1§71/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.92**	**244**	P	**Pn**	**19 04 43.3**	**+0.7**
	baz=5.3,SNR=45						
FAKI	**Fak Fak**	**2.97**	**194**	P	**Pn**	**19 04 58.4**	**+1.4**
	baz=6.5,SNR=9.6						
KDU	**Kakadu**	**12.59**	**182**	P	**Pn**	**19 07 07.2**	**-1.9**
	baz=16,SNR=11						
MTN	**Manton Dam**	**12.87**	**188**	P	**Pn**	**19 07 12.8**	**-0.1**
	baz=16,SNR=6.8						
KNRA	**Kununurra**	**16.11**	**195**	P	**Pn**	**19 07 53.4**	**-2.7**
	baz=20,SNR=8.5						
FITZ	**Fitzroy Crossi**	**19.36**	**202**	P	**Pn**	**19 08 35.0**	**-1.4**
	0.1nm,0.3s,baz=23,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**19.84**	**176**	P	**Pn**	**19 08 41.6**	**-0.4**
	0.3nm,0.4s,baz=356,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**23.52**	**178**	P	**P**	**19 09 20.8**	**+1.4**
	1.2nm,0.8s,baz=356,slow=11,SNR=20						
STKA	**Stephens Creek**	**32.71**	**166**	P	**P**	**19 10 41.2**	**-0.4**
	3.5nm,1.0s,baz=354,slow=10,SNR=3.2						

NIED ***02*** *19:08:00.46°.90N×153°.20E, h14km, Mw3.9 Best double couple: M0 7.23000×10^14 NP1:φ=309.00000°, δ87.00000°, λ32.00000°. NP2:φ=217.00000°, δ58.00000°, λ176.00000°.*
ISCJB ***02*** *19:08:47.4±0.5, 46°.69N±0°.08×153°.10E±0°.09, h56km, mb4.0/20, MS3.5/5, Error ellipse: s-maj=13.7km s-min=3.8km az=142.3*
JMA ***02*** *19:08:47.3±0.8, 46°.89N×153°.22E, h30km, M4.7*
MOS ***02*** *19:08:47.5±1.1, 47°.04N×153°.03E, h46km, mb4.3/14, Error ellipse: s-maj=13.4km s-min=8.9km az=61.8*
BJI ***02*** *19:08:51.9, 47°.43N×153°.17E, h93km, mB4.5/5, mb4.2/8*
IDC ***02*** *19:08:51.5±2.7, 47°.03N×152°.88E, h67km±24km, mb3.6/18, mb1 3.8/21, mb1mx3.8/28, mbtmp3.6/21, MS3.4/6, Ms1 3.4/6, ms1mx2.8/35, Error ellipse: s-maj=19.2km s-min=12.2km az=147.0*

ISC 02 19:08:49.1±0.7, 46°.8N±0°.1×153°.13E±0°.08, h56km, n84, σ1§64/84, mb3.9/20, MS3.3/5, 9C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**249**	⇑*i*PN	**Pn**	**19 09 49.5**	**+2.0**
KUR				*e*S	**Sn**	**19 10 35.5**	**+2.7**
KUR				pmax	pmax		
	comp=E,11nm,0.1s						
KUR				pmax	pmax		
	comp=Z,56nm,0.4s						
KUR				pmax	pmax		
	comp=N,24nm,0.1s						
KUR				smax	smax		
	comp=N,227nm,0.5s						
KUR				smax	smax		
	comp=E,66nm,0.2s						
SKR	**Severo-Kuril's**	**4.39**	**26**	*e*PN	Pn	19 09 49.5	-3.7
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.80**	**245**	*c i*PN	**Pn**	**19 10 14.6**	**+2.1**
YUK				*e*S	**Sn**	**19 11 23.1**	**+5.5**
YUK				pmax	pmax		
	comp=N,40nm,0.3s						
YUK				pmax	pmax		
	comp=Z,75nm,0.8s						
YUK				pmax	pmax		
	comp=E,69nm,0.8s						
YUK				smax	smax		
	comp=N,150nm,0.8s						
YUK				smax	smax		
	comp=E,248nm,0.4s						
YUK				MLR	MLR		
	comp=Z,342nm,5.0s						
NEM2	**Nemuro 2**	**6.24**	**240**	P	**Pn**	**19 10 18.2**	**-0.3**
NEM2				*e*S	**Sn**	**19 11 24.8**	**-3.6**
JRA	**Rausu**	**6.31**	**246**	P	**Pn**	**19 10 21.6**	**+2.1**
JNK	**Nakash**	**6.74**	**245**	P	**Pn**	**19 10 26.7**	**+1.3**
JNK				*e*S	**Sn**	**19 11 41.8**	**+1.0**
PETK	**Petropavlovsk-**	**7.00**	**23**	*e*PN	Pn	19 10 33.1	+4.1
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.00**	**23**	P	**Pn**	**19

MKAR LR LR 19 38 12.1
comp=Z,49nm,19.8s,baz=248,slow=38
YKA Yellowknife Ar 50.91 37 P P 19 17 44.6 +0.5
comp=Z,1.3nm,0.7s,baz=288,slow=6.6,SNR=3.9
CMAR Chiang Mai Arr 52.39 256 P P 19 17 57.0 +1.2
comp=Z,1.5nm,0.7s,baz=36,slow=7.3,SNR=13
ARCES ARCESS Array B 57.85 341 P P 19 18 33.0 -1.4
comp=Z,1.1nm,0.7s,baz=17,slow=8.9,SNR=3.9
SUMG Summit 60.69 4 *i* P **P 19 18 54.4 0.0**
comp=Z,7.2nm,0.9s
NVAR Mina Array Bea 62.42 62 P **P 19 19 08.3 +1.9**
comp=Z,0.3nm,0.6s,baz=295,slow=8.2,SNR=4.3
KAF Kangasniemi 63.44 335 *e*P **P 19 19 11.0 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 63.44 335 *e*p **P 19 19 11.0 -1.5**
comp=Z,2.8nm,0.6s
FINES FINESS Array B 64.04 335 P **P 19 19 15.1 -1.3**
comp=Z,2.8nm,0.6s,baz=38,slow=7.5,SNR=24
PDAR Pinedale Array 64.73 54 P **P 19 19 22.6 +0.9**
comp=Z,0.9nm,0.8s,baz=270,slow=1.0,SNR=7.5
NB2 NORSAR Subarra 68.22 341 P **P 19 19 42.5 -0.8**
comp=Z,2.0nm,0.7s,baz=27,slow=6.5
NOA NORSAR Array B 68.22 341 P **P 19 19 42.6 -0.7**
comp=Z,3.0nm,0.7s,baz=26,slow=6.3,SNR=14
NOA LR LR 19 53 19.9
comp=Z,17nm,19.4s,baz=60,slow=39
WRA Warramunga Arr 68.53 199 P **P 19 19 46.8 +1.2**
comp=Z,0.7nm,0.7s,baz=14,slow=6.7,SNR=3.0
ASAR Alice Springs 72.22 198 P **P 19 20 10.3 +2.2**
comp=Z,0.7nm,0.6s,baz=12,slow=5.9,SNR=21
BURAR Bucovina Array 75.59 327 ⇓P **P 19 20 27.8 0.0**
BURAR Bucovina Array 75.59 327 ⇓*i*P **P 19 20 27.8 0.0**
TESR Tescani 75.94 325 ⇓*i*P **P 19 20 29.7 0.0**
TRPA Tarpa 76.15 328 ⇑*i*P **P 19 20 31.4 +0.6**
DPC Dobruska-Polom 76.32 333 *e*P **P 19 20 32.1 +0.3**
DPC Dobruska-Polom 76.32 333 *e*P **P 19 20 32.1 +0.3**
CFR Carcaliu 76.44 323 ⇑P **P 19 20 32.2 -0.3**
CFR Carcaliu 76.44 323 ⇑*i*P **P 19 20 32.2 -0.3**
CLL Collm 76.46 336 *i* P **P 19 20 31.8 -0.7**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 76.46 336 *i* P **P 19 20 31.8 -0.7**
comp=Z,6.0nm,1.1s
MLR Muntele Rosu 77.06 325 ⇑*i*P **P 19 20 37.2 +1.0**
VOIR 77.46 325 ⇓P **P 19 20 38.9 +0.5**
VOIR 77.46 325 ⇓*i*P **P 19 20 38.8 +0.4**
TXAR Lajitas Array 77.47 61 P **P 19 20 40.0 +1.2**
comp=Z,0.9nm,0.5s,baz=296,slow=4.5,SNR=17
ARR Arges 77.68 326 ⇑*i*P **P 19 20 40.8 +1.2**
KHC Kasperske Hory 78.23 334 *e*P **P 19 20 42.3 -0.2**
KHC Kasperske Hory 78.23 334 *e*P **P 19 20 42.3 -0.2**
BRTR Keskin Array B 78.39 317 P **P 19 20 42.5 -1.3**
comp=Z,1.2nm,0.8s,baz=76,slow=5.2,SNR=7.2
GERES GERESS Array B 78.45 334 P **P 19 20 43.3 -0.6**
comp=Z,0.7nm,0.6s,baz=34,slow=6.2,SNR=7.8
STKA Stephens Creek 78.96 190 LR LR 19 52 58.1
comp=Z,126nm,21.8s,baz=185,slow=33
VTS Vitosha 80.57 325 ⇑P **P 19 20 55.9 +0.4**
VTS Vitosha 80.57 325 ⇑*i*P **P 19 20 55.9 +0.4**

*ISCJB **02** 19:19:52.8±0.5, 37°.14N±0°.03×138°.80E±0°.05, h14km, mb3.4/3, Error ellipse: s-maj=6.0km s-min=4.6km az=4.7*
*JMA **02** 19:19:53.4, 37°.15N×138°.81E, h11km±1km, M3.4*
Broadband fault plane solution: P waves. NP1: ϕ_s=191.00000°, δ60.00000°, λ83.00000°. NP2:ϕ_s=25.00000°, δ31.00000°, λ102.00000°. Principal axes: T Plg74.0000°, Azm83.0000°; N Plg6.0000°, Azm194.0000°; P Plg15.0000°, Azm286.0000°;
JMA Felt II J1.
*IDC **02** 19:19:53.5±3.6, 36°.80N×138°.70E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.0/1 Error ellipse: s-maj=106.4km s-min=28.4km az=54.0*
ISC 02 19:19:52.8±0.8, 37°.15N±0°.03×138°.77E±0°.07, h14km, n13, σ1§40/16, mb3.7/3, 5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.22**	**63**	⇓P	**Pg**	**19 19 57.5**	**-0.2**
JHK				S	**Sg**	**19 20 00.6**	**-0.4**
JIZZ	**Izumozaki**	**0.38**	**353**	⇓P	**Pb**	**19 20 01.7**	**+0.3**
JIZZ				*e*S	**Sb**	**19 20 06.9**	**-0.3**
JKT	**Katashina**	**0.54**	**135**	⇓P	**Pg**	**19 20 03.4**	**-0.1**
JKT				S	**Sg**	**19 20 10.7**	**0.0**
JGK	**Kuni**	**0.60**	**190**	P	**Pb**	**19 20 05.0**	**-0.1**
MAT	**Matsushiro**	**0.76**	**217**	P	**Pn**	**19 20 07.4**	**-1.7**
MAT				S	**Sb**	**19 20 17.5**	**-0.5**
MAT	**Matsushiro**	**0.76**	**217**	P	**Pn**	**19 20 07.5**	**-1.7**
JNS	**Sasagawa**	**0.80**	**33**	P	**Pg**	**19 20 07.5**	**-0.8**
JAG	**Ashikaga**	**0.91**	**143**	⇓P	**Pg**	**19 20 10.2**	**-0.2**
JSD	**Sado**	**0.97**	**335**	⇓P	**Pb**	**19 20 10.6**	**-0.9**
KSRS	**Korea Array**	**8.65**	**275**	Pn	Pn	19 22 00.2	+2.7
	0.2nm,0.3s,baz=88,slow=14,SNR=4.3						
SONM	**Songino Array**	**25.97**	**305**	P	**P**	**19 25 29.2**	**+4.2**
	0.4nm,0.9s,baz=111,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**56.94**	**185**	P	**P**	**19 29 37.6**	**0.0**
	0.4nm,0.5s,baz=2.0,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**60.66**	**185**	P	**P**	**19 30 04.2**	**+0.7**
	0.6nm,1.0s,baz=2.1,slow=5.8,SNR=5.0						

*IDC **02** 19:32:05.3±2.0, 23°.84S×175°.97W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.1/7, MS3.5/5, Ms1 3.5/5, ms1mx3.1/32, Error ellipse: s-maj=88.3km s-min=25.7km az=149.0*
*AUST **02** 19:32:21.6, 22°.75S×175°.35W, h200km*
ISC 02 19:32:08.8±1.0, 23°.7S±0°.3×175°.7W±0°.2, h30km, n26, σ1§57/18, mb4.1/7, MS3.5/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.09**	**50**	P	**Pn**	**19 33 47.8**	**-2.7**
	baz=6.3,SNR=4.8						
NIUE				S	Sn	19 35 00.2	-10
	baz=6.3,SNR=3.2						
DZM	**Mont Dzumac**	**16.55**	**272**	*e*LR	LR	19 39 42.0	
	204nm,23.9s						
TBI	**Tubuai**	**24.04**	**94**	*e*LR	LR	19 43 23.1	
	173nm,29.5s						
PPT2	**Papeete2**	**25.16**	**81**	*e*LR	LR	19 43 54.5	
	178nm,25.0s						
PPT	**Papeete**	**25.17**	**81**	LR	LR	19 46 19.5	
	comp=Z,139nm,19.0s,baz=266,slow=34						
HNR	**Honiara**	**27.27**	**297**	LR	LR	19 46 35.3	
	comp=Z,100nm,20.1s,baz=122,slow=32						
MTSU	**Mount Surprise**	**37.68**	**271**	P	**P**	**19 39 21.4**	**-0.4**
	baz=38,SNR=6.2						
STKA	**Stephens Creek**	**38.45**	**248**	P	**P**	**19 39 27.4**	**-0.7**
	1.7nm,0.6s,baz=85,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**38.45**	**248**	P	**P**	**19 39 28.4**	**+0.2**
	baz=39,SNR=3.9						
ASAR	**Alice Springs**	**45.95**	**259**	P	**P**	**19 40 27.8**	**-1.6**
	1.0nm,0.4s,baz=97,slow=7.4,SNR=36						
ASAR				LR	LR	19 58 17.7	
	comp=Z,152nm,18.3s,baz=255,slow=34						
WRA	**Warramunga Arr**	**46.36**	**265**	P	**P**	**19 40 30.9**	**-1.7**
	4.3nm,0.7s,baz=102,slow=8.2,SNR=20						
KDU	**Kakadu**	**50.21**	**273**	P	**P**	**19 41 00.3**	**-2.0**
	baz=50,SNR=3.4						
KNRA	**Kununurra**	**52.64**	**268**	P	**P**	**19 41 19.8**	**-0.7**
	baz=53,SNR=5.4						
BLDU	**Ballidu**	**59.75**	**247**	P	**P**	**19 42 09.8**	**-1.4**
	baz=60,SNR=6.4						
MORW	**Morawa**	**60.63**	**249**	P	**P**	**19 42 16.3**	**-1.0**
	baz=61,SNR=3.7						
TGY	**Tagaytay City**	**72.45**	**295**	LR	LR	20 09 01.1	
	comp=Z,5.6nm,20.4s,baz=83,slow=31						
MAW	**Mawson**	**79.26**	**199**	P	**P**	**19 44 12.0**	**+1.1**
	baz=80,SNR=11						
PETK	**Petropavlovsk-**	**79.94**	**344**	P	**P**	**19 44 16.9**	**+2.3**
	1.8nm,0.7s,baz=158,slow=12,SNR=4.3						
KSRS	**Korea Array**	**80.71**	**318**	LR	LR	20 14 26.2	
	comp=Z,27nm,18.6s,baz=160,slow=32						
TXAR	**Lajitas Array**	**87.02**	**56**	P	P	19 44 54.7	+3.0
	0.7nm,1.0s,baz=229,slow=6.9,SNR=3.9						
ILAR	**Eielson Array**	**90.99**	**12**	P	**P**	**19 45 10.7**	**+1.2**
	0.3nm,0.7s,baz=213,slow=4.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**93.19**	**289**	P	**P**	**19 45 21.8**	**+1.0**
	2.4nm,0.8s,baz=128,slow=3.3,SNR=14						
FINES	**FINESS Array B**	**139.45**	**344**	PKP	**PKPdf**	**19 51 33.4**	**+0.7**
	1.3nm,0.9s,baz=255,slow=4.2,SNR=3.2						
BRTR	**Keskin Array B**	**150.57**	**310**	PKPbc	**PKPbc**	**19 51 58.4**	**+0.4**
	0.8nm,0.7s,baz=153,slow=4.4,SNR=7.1						
CLL	**Collm**	**151.66**	**348**	*e*P	**PKPbc**	**19 52 02.0**	**+2.0**
BRG	**Berggiesshubel**	**151.89**	**347**	*e*P	**PKPbc**	**19 52 02.2**	**+1.6**
	3.5nm,0.7s						

WEL 02 19:38:15.1±0.5, 44°.58S×175°.50E, h33km, ML3.5/10, 2C, Error ellipse: s-maj=5.2km s-min=3.2km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**2.23**	**292**	PN	Pn	19 38 48.1	-1.7
MQZ				SN	Sn	19 39 13.3	-2.8
KHZ	**Kahutara**	**2.59**	**326**	PN	Pn	19 38 54.2	-0.5
KHZ				SN	Sn	19 39 24.0	-1.0
TUWZ	**Tuamarina**	**3.35**	**339**	PN	Pn	19 39 04.6	-0.5
THZ	**Tophouse**	**3.40**	**325**	PN	Pn	19 39 05.8	-0.1
TCW	**Tory Channel**	**3.49**	**345**	PN	Pn	19 39 06.3	-0.7
ODZ	**Otahua Downs**	**3.49**	**261**	PN	Pn	19 39 06.2	-0.8
LBZ	**Lake Benmore**	**3.81**	**271**	⇑PN	Pn	19 39 11.2	-0.3
MRZ	**Mangatainoka R**	**3.92**	**1**	PN	Pn	19 39 11.4	-1.5
DSZ	**Denniston Nort**	**3.92**	**315**	PN	Pn	19 39 11.6	-1.4
TUZ	**Tuapeka**	**4.37**	**250**	⇑PN	Pn	19 39 18.5	-0.6
EAZ	**Earnscleugh**	**4.45**	**259**	PN	Pn	19 39 20.3	+0.1
TSZ	**Takapari Road**	**4.53**	**4**	PN	Pn	19 39 19.8	-1.6
SYZ	**Scrubby Hill**	**4.88**	**244**	PN	Pn	19 39 25.6	-0.5

*ISK **02** 19:56:26.8, 39°.68N×38°.20E, h11km, MD3.1*
*ISCJB **02** 19:56:27.2±0.5, 39°.65N±0°.03×38°.19E±0°.03, h5km±5km, Error ellipse: s-maj=4.6km s-min=3.3km az=34.0*
*CSEM **02** 19:56:27.4±0.1, 39°.66N×38°.21E, h8km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.5km az=27.0*
*DDA **02** 19:56:27.1, 39°.65N×38°.23E, h25km, ML3.6*
ISC 02 19:56:27.5±1.1, 39°.68N±0°.02×38°.20E±0°.02, h7km±9km, n50, σ0§64/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.36**	**128**	*e*PG	**Pg**	**19 56 34.6**	**-0.1**
ILIC				*e*SG	**Sg**	**19 56 40.1**	**+0.7**
ILIC	**ilic-Erzincan**	**0.36**	**128**	*e*Pg	**Pg**	**19 56 34.6**	**-0.1**
ILIC				*e*Sg	**Sg**	**19 56 40.2**	**+0.7**
KEMA	**Kemaliye**	**0.47**	**151**	*i* P	**Pg**	**19 56 36.0**	**-0.6**
KEMA				*i* S	**Sg**	**19 56 43.2**	**+0.5**
KEMA	**Kemaliye**	**0.47**	**151**	*i* P	**Pg**	**19 56 36.0**	**-0.6**
KEMA				*i* S	**Sg**	**19 56 43.2**	**+0.5**
SUSE	**Susehri**	**0.53**	**0**	*i* P	**Pg**	**19 56 38.4**	**+0.6**
SUSE				*i* S	**Sb**	**19 56 47.0**	**-0.2**
SUSE	**Susehri**	**0.53**	**0**	*i* P	**Pg**	**19 56 38.4**	**+0.6**
SUSE				*i* S	**Sb**	**19 56 47.0**	**-0.2**
SCER	**sogukcermik**	**0.85**	**283**	*e*P	**Pg**	**19 56 43.7**	**-0.1**
SCER				*e*S	**Sn**	**19 56 57.8**	**-0.9**
SCER	**sogukcermik**	**0.85**	**283**	*e*P	**Pg**	**19 56 43.7**	**-0.1**
SCER				*e*S	**Sn**	**19 56 57.8**	**-0.9**
EZC	**Erzincan**	**0.89**	**85**	*e*PG	**Pg**	**19 56 44.3**	**-0.4**
EZC	**Erzincan**	**0.89**	**85**	*e*Pg	**Pg**	**19 56 44.3**	**-0.4**
KELT	**Kelkit**	**0.94**	**60**	*i* P	**Pg**	**19 56 45.3**	**-0.3**
KELT				*i* S	**Sb**	**19 56 58.9**	**-0.1**
KELT	**Kelkit**	**0.94**	**60**	*i* P	**Pg**	**19 56 45.3**	**-0.3**
KELT				*i* S	**Sb**	**19 56 58.9**	**-0.1**
SVSK	**Karacayir**	**0.96**	**285**	*e*PG	**Pg**	**19 56 45.7**	**-0.2**
SVSK				*e*SG	**Sb**	**19 56 59.5**	**+0.2**
SVSK	**Karacayir**	**0.96**	**285**	*e*Pg	**Pg**	**19 56 45.7**	**-0.2**
SVSK				*e*Sg	**Sb**	**19 56 59.5**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.98**	**317**	*e*PG	**Pg**	**19 56 46.1**	**-0.3**
RSDY				*e*SG	**Sb**	**19 57 00.2**	**+0.1**
RSDY	**Resadiye-TOKAT**	**0.98**	**317**	*e*Pg	**Pg**	**19 56 46.1**	**-0.3**
RSDY				*e*Sg	**Sb**	**19 57 00.2**	**+0.1**
EUZM	**Uzumlu**	**1.16**	**88**	*e*P	**Pb**	**19 56 49.5**	**-0.4**
EUZM				*i* S	**Sn**	**19 57 07.5**	**+1.1**
EUZM	**Uzumlu**	**1.16**	**88**	*e*P	**Pb**	**19 56 49.5**	**-0.4**
EUZM				*i* S	**Sn**	**19 57 07.5**	**+1.1**
ERZN	**Erzincan**	**1.18**	**94**	*e*PN	**Pb**	**19 56 49.8**	**-0.5**
PTK	**Pertek**	**1.21**	**130**	*e*PN	**Pn**	**19 56 50.0**	**-1.0**
PTK	**Pertek**	**1.21**	**130**	*e*Pn	**Pn**	**19 56 50.1**	**-1.0**
DARE	**Darende-Malaty**	**1.24**	**207**	*e*PN	**Pn**	**19 56 50.8**	**-0.6**
GRSN	**GIRESUNGRSN**	**1.25**	**2**	*i* P	**Pn**	**19 56 50.7**	**-0.7**
GRSN				*i* S	**Sn**	**19 57 09.5**	**+1.0**
GRSN	**GIRESUNGRSN**	**1.25**	**2**	*i* P	**Pn**	**19 56 50.7**	**-0.7**
GRSN				*i* S	**Sn**	**19 57 09.5**	**+1.0**
GUMT	**Gumushane**	**1.25**	**51**	*e*PN	**Pn**	**19 56 50.7**	**-0.9**
GUMT	**Gumushane**	**1.25**	**51**	*e*Pn	**Pn**	**19 56 50.7**	**-0.9**
ESPY	**Espiye-Giresun**	**1.30**	**18**	*e*PN	**Pn**	**19 56 51.4**	**-0.8**
ESPY	**Espiye-Giresun**	**1.30**	**18**	*e*Pn	**Pn**	**19 56 51.4**	**-0.8**
MYA	**Malataya**	**1.36**	**173**	*e*PN	**Pn**	**19 56 52.2**	**-0.8**
MYA	**Malataya**	**1.36**	**173**	*e*Pn	**Pn**	**19 56 52.2**	**-0.8**
TOKT	**Tokat**	**1.42**	**297**	*e*PN	**Pn**	**19 56 53.4**	**-0.5**
TOKT	**Tokat**	**1.42**	**297**	*e*Pn	**Pn**	**19 56 53.4**	**-0.5**
ERBA	**Erbaa**	**1.49**	**313**	*i* P	**Pb**	**19 56 55.2**	**-0.4**
ERBA				*i* S	**Sg**	**19 57 15.4**	**-0.1**
ERBA	**Erbaa**	**1.49**	**313**	*i* P	**Pb**	**19 56 55.2**	**-0.4**
ERBA				*i* S	**Sg**	**19 57 15.4**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**64**	*e*PN	**Pn**	**19 56 56.7**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.65**	**64**	*e*Pn	**Pn**	**19 56 56.7**	**-0.4**
BINT	**Bingol**	**1.95**	**114**	*e*Pn	**Pn**	**19 57 02.0**	**+0.8**
BNN	**Bunyan**	**2.00**	**246**	*e*PN	**Pn**	**19 57 01.6**	**-0.3**
BNN	**Bunyan**	**2.00**	**246**	*e*Pn	**Pn**	**19 57 01.6**	**-0.3**
BNGB	**Bing¶ll**	**2.04**	**109**	*e*PN	**Pn**	**19 57 01.9**	**-0.5**
KMRS	**Kahramanmaras**	**2.40**	**206**	*e*PN	**Pn**	**19 57 07.2**	**0.0**
KMRS	**Kahramanmaras**	**2.40**	**206**	*e*Pn	**Pn**	**19 57 07.2**	**0.0**
EZM	**Erzurum**	**2.45**	**84**	*e*PN	**Pn**	**19 57 07.9**	**-0.2**
CORM	**Corum**	**2.79**	**281**	*e*PN	**Pn**	**19 57 12.9**	**+0.2**
CORM	**Corum**	**2.79**	**281**	*e*Pn	**Pn**	**19 57 12.9**	**+0.2**
KOZT	**Kozan**	**2.88**	**221**	*e*PN	**Pn**	**19 57 14.0**	**+0.2**
KOZT	**Kozan**	**2.88**	**221**	*e*Pn	**Pn**	**19 57 14.0**	**+0.2**
CDAG	**Cicekdag**	**2.96**	**270**	*i* P	**Pb**	**19 57 20.2**	**-0.4**
CDAG				*i* S	**Sb**	**19 57 59.4**	**+2.4**
BCA	**Borcka**	**3.15**	**55**	*e*PN	**Pn**	**19 57 17.8**	**+0.3**
BCA	**Borcka**	**3.15**	**55**	*e*Pn	**Pn**	**19 57 17.8**	**+0.3**

IDC 02 19:57:43.5±7.5, 2°.89N×127°.06E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/21, mbtmp3.8/4, MS3.5/1, Ms1 3.4/1, ms1mx2.4/32, Error ellipse: s-maj=126.9km s-min=98.2km az=127.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.91**	**184**	P	P	20 02 28.2	+0.6
	2.1nm,0.8s,baz=13,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**23.79**	**163**	P	P	20 02 57.8	-0.2
	1.1nm,0.3s,baz=341,slow=10,SNR=21						
ASAR	**Alice Springs**	**27.23**	**166**	P	P	20 03 29.2	-0.1
	0.5nm,0.5s,baz=346,slow=7.2,SNR=15						
STKA	**Stephens Creek**	**37.23**	**159**	P	P	20 04 56.8	-0.1
	0.9nm,0.3s,baz=340,slow=10,SNR=14						
STKA				LR	LR	20 20 40.0	
	comp=Z,73nm,21.7s,baz=197,slow=37						

*MAN **02** 20:08:07, 6°.44N×127°.05E, h98km, mb4.7, ML3.6, MS3.5*
*ISCJB **02** 20:08:09.2±1.0, 6°.31N±0°.07×126°.6E±0°.1, h133km±8km, mb3.7/14, Error ellipse: s-maj=22.9km s-min=9.9km az=165.2*
*IDC **02** 20:08:10.1±2.2, 6°.41N×126°.77E, h126km±16km, mb3.6/14, mb1 3.6/14, mb1mx3.5/25, mbtmp3.6/14, Error ellipse: s-maj=51.6km s-min=10.5km az=66.0*
ISC 02 20:08:09.7±0.8, 6°.33N±0°.07×126°.7E±0°.1, h122km±6km, n23, σ1§05/33, mb3.8/14, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.75**	**326**	*e*P	**Pn**	**20 08 26.4**	**-3.2**
DAV	**Davao City (W)**	**1.32**	**304**	P	**Pn**	**20 08 35.6**	**+0.4**
	359nm,0.3s,baz=194,slow=4.2,SNR=18						
DAV				S	**Sn**	**20 08 56.2**	**+1.5**
	114nm,0.3s,baz=270,slow=23,SNR=18						
DMPH	**Davao City--Mi**	**1.39**	**303**	⇓*e*P	**Pn**	**20 08 36.0**	**0.0**
DMPH				*e*S	**Sn**	**20 08 57.0**	**+1.0**
GSPH	**General Santos**	**1.74**	**262**	⇓*i*P	**Pn**	**20 08 38.4**	**-1.8**
GSPH				*e*S	**Sn**	**20 09 01.5**	**-2.0**
BUKP	**Musuan**	**2.23**	**314**	*e*P	**Pn**	**20 08 46.0**	**-0.2**
BUKP				*e*S	**Sn**	**20 09 14.9**	**+0.8**
BUTP	**Butuan**	**2.83**	**338**	*e*P	**Pn**	**20 08 53.7**	**-0.1**
CGP	**Cagayan de Oro**	**2.89**	**317**	*e*P	**Pn**	**20 08 54.7**	**+0.1**
CGP				*e*S	**Sn**	**20 09 28.4**	**-1.0**
PAGZ	**Pagadian**	**3.61**	**295**	*e*P	**Pn**	**20 09 05.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.29**	**182**	P	**P**	**20 13 16.6**	**+0.8**
	2.9nm,0.8s,baz=4.1,slow=14,SNR=11						
WRA	**Warramunga Arr**	**27.17**	**164**	P	**P**	**20 13 42.8**	**+1.0**
	0.9nm,1.0s,baz=345,slow=11,SNR=3.0						
WRA				PcP	**PcP**	**20 16 59.4**	**-0.1**
	0.3nm,0.5s,baz=336,slow=1.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**29.60**	**297**	P	**P**	**20 14 03.5**	**0.0**
	0.7nm,0.6s,baz=118,slow=8.1,SNR=5.0						
ASAR	**Alice Springs**	**30.63**	**167**	P	**P**	**20 14 12.7**	**+0.2**
	0.6nm,0.9s,baz=344,slow=7.3,SNR=16						
ASAR				pP	**pP**	**20 14 40.2**	**+1.1**
	0.4nm,0.4s,baz=351,slow=8.3,SNR=9.0						
ASAR				PcP	**PcP**	**20 17 08.1**	**0.0**
	0.4nm,0.4s,baz=354,slow=2.7,SNR=6.5						
STKA	**Stephens Creek**	**40.56**	**160**	P	**P**	**20 15 37.6**	**+0.4**
	2.4nm,1.0s,baz=335,slow=10,SNR=5.6						
STKA				pP	**pP**	**20 16 06.6**	**+1.9**
	5.4nm,1.1s,baz=321,slow=9.1,SNR=3.8						
SONM	**Songino Array**	**44.84**	**341**	P	**P**	**20 16 11.2**	**-0.6**
	0.3nm,0.5s,baz=165,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**55.42**	**324**	P	**P**	**20 17 31.4**	**0.0**
	1.4nm,0.7s,baz=114,slow=7.3,SNR=21						
MKAR				PcP	**PcP**	**20 18 30.0**	**-0.3**
	0.4nm,0.6s,baz=118,slow=5.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**58.28**	**332**	P	**P**	**20 17 50.8**	**-0.6**
	0.7nm,0.3s,baz=133,slow=6.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**59.55**	**327**	P	**P**	**20 17 59.9**	**-0.4**
	1.4nm,0.4s,baz=126,slow=5.9,SNR=12						
BVAR	**Borovoye Array**	**65.14**	**326**	P	**P**	**20 18 37.5**	**0.0**
	1.6nm,0.6s,baz=125,slow=7.8,SNR=12						
AKTO	**Aktyubinsk**	**71.62**	**321**	P	**P**	**20 19 18.0**	**+0.1**
	3.0nm,0.7s,baz=101,slow=7.6,SNR=9.3						
ARCES	**ARCESS Array B**	**88.01**	**340**	P	**P**	**20 20 45.1**	**-0.7**
	0.8nm,0.7s,baz=64,slow=6.2,SNR=3.2						
BRTR	**Keskin Array B**	**88.34**	**310**	P	**P**	**20 20 47.8**	**-0.3**
	0.5nm,0.5s,baz=114,slow=5.8,SNR=4.9						
FINES	**FINESS Array B**	**89.54**	**332**	P	**P**	**20 20 52.8**	**-0.3**
	0.3nm,0.4s,baz=96,slow=3.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**122.04**	**290**	PKP	**PKPdf**	**20 26 50.5**	**-0.3**
	0.5nm,0.7s,baz=68,slow=1.6,SNR=7.1						

IDC 02 20:18:56.4±10.0, 22°.41N×143°.95E, h199km±88km, mb3.3/8, mb1 3.4/8, mb1mx3.1/25, mbtmp3.3/8, MS3.0/1, Ms1 3.0/1, ms1mx2.4/15, Error ellipse: s-maj=108.2km s-min=12.8km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.39**	**321**	P	P	20 23 18.5	+0.6
	2.9nm,0.5s,baz=148,slow=9.0,SNR=18						
USRK	**Ussuriysk Arra**	**23.86**	**338**	LR	LR	20 33 49.2	
	comp=Z,35nm,19.1s,baz=322,slow=37						
SONM	**Songino Array**	**39.25**	**320**	P	P	20 26 05.1	-0.6
	0.4nm,0.4s,baz=124,slow=6.7,SNR=6.6						
WRA	**Warramunga Arr**	**43.13**	**193**	P	P	20 26 37.1	-0.3
	0.7nm,0.3s,baz=16,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	**44.07**	**205**	P	P	20 26 45.1	+0.3
	1.2nm,0.6s,baz=18,slow=9.6,SNR=7.1						
ASAR	**Alice Springs**	**46.83**	**193**	P	P	20 27 06.2	-0.3
	0.3nm,0.6s,baz=14,slow=13,SNR=9.8						
ZALV	**Zalesovo Beam**	**54.09**	**321**	P	P	20 27 59.9	-0.5
	0.9nm,0.4s,baz=116,slow=8.8,SNR=4.5						
MKAR	**Makanchi Array**	**54.74**	**312**	P	P	20 28 05.3	0.0
	0.9nm,0.8s,baz=94,slow=6.8,SNR=11						
FINES	**FINESS Array B**	**82.84**	**335**	P	P	20 30 58.6	+0.3
	0.3nm,0.3s,baz=64,slow=4.1,SNR=14						

IDC 02 20:26:36.0±1.8, 16°.36S×178°.45W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=176.0km s-min=25.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.36**	**239**	P	P	20 34 07.5	+0.2
	4.9nm,1.2s,baz=90,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**44.89**	**258**	P	P	20 34 53.0	+0.3
	0.3nm,0.5s,baz=89,slow=7.2,SNR=3.7						
ASAR	**Alice Springs**	**45.19**	**253**	P	P	20 34 54.5	-0.6
	3.9nm,0.6s,baz=87,slow=8.2,SN

JIRN	Jiri	13.04	118	*e*P		Pn	20 37 54.2	-2.9
	comp=E,31nm,0.4s							
RAMN	Ramite	13.75	120	*e*P		Pn	20 38 02.9	-3.8
	comp=E,21nm,0.6s							
MK31	Makanchi Array	14.00	27	⇑P		Pn	20 38 10.2	+0.4
	comp=E,0.2nm,0.3s,baz=203,slow=10,SNR=5.4							
MKAR	Makanchi Array	14.00	27	Pn		Pn	20 38 10.0	+0.2
	comp=E,0.1nm,0.3s,baz=205,slow=12,SNR=9.4							
TAPN	Taplejung	14.33	116	*e*P		Pn	20 38 10.0	-4.7
	comp=E,7.7nm,0.3s							
ODAN	Odare	14.38	118	*e*P		Pn	20 38 10.9	-4.3
	comp=E,12nm,0.5s							
KURBB	Kurchatov Arra	16.51	12	Pn		Pn	20 38 40.8	-2.0
	comp=E,0.1nm,0.3s,baz=201,slow=10,SNR=4.7							
AB31	Akbulak array	17.67	330	⇓P		Pn	20 38 57.5	+0.1
	comp=E,0.5nm,0.5s,baz=135,slow=9.7,SNR=4.7							
BVA0	Borovoye Array	18.57	355	P		Pn	20 39 08.3	-0.1
	comp=E,1.0nm,0.5s,baz=179,slow=5.3,SNR=14							
BVAR	Borovoye Array	18.57	355	P		P	20 39 08.0	-0.1
	comp=E,0.7nm,0.3s,baz=156,slow=9.1,SNR=17							
AKTO	Aktyubinsk	19.38	330	⇓P		Pn	20 39 17.5	-0.6
	comp=E,2.9nm,0.7s							
AKTO	Aktyubinsk	19.38	330	P		Pn	20 39 17.7	-0.4
	comp=E,0.4nm,0.3s,baz=148,slow=12,SNR=11							
ZALV	Zalesovo Beam	21.03	19	P		P	20 39 34.4	-0.4
	comp=E,4.0nm,0.3s,baz=207,slow=9.7,SNR=31							
CMAR	Chiang Mai Arr	27.92	118	P		P	20 40 40.0	-1.4
	comp=E,0.8nm,0.5s,baz=320,slow=11,SNR=3.7							
SONM	Songino Array	28.02	52	P		P	20 40 41.9	-0.3
	comp=E,0.2nm,0.4s,baz=264,slow=7.2,SNR=2.6							
FINES	FINESS Array B	40.11	327	P		P	20 42 26.2	-0.3
	comp=E,0.7nm,0.7s,baz=143,slow=10,SNR=3.7							
NOA	NORSAR Array B	47.03	324	P		P	20 43 22.1	-0.2
	comp=E,0.9nm,0.9s,baz=92,slow=8.9,SNR=3.3							
TORD	Torodi Ar. Bea	67.54	271	P		P	20 45 46.9	-0.9
	comp=E,0.4nm,0.5s,baz=51,slow=5.4,SNR=9.6							
ILAR	Eielson Array	76.13	17	P		P	20 46 38.1	-0.5
	comp=E,0.1nm,0.5s,baz=282,slow=4.5,SNR=3.0							
WRA	Warramunga Arr	79.41	123	P		P	20 46 56.6	-0.8
	comp=E,0.6nm,0.8s,baz=322,slow=5.0,SNR=4.3							
ASAR	Alice Springs	81.64	126	P		P	20 47 08.8	-0.6
	comp=E,0.3nm,0.6s,baz=312,slow=5.3,SNR=7.8							

DJA 02 20:49:17.7±2.3, 1°N±40°×12°4E±1°4, h32km±26km, M3.8/3, MLv3.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.75**	**225**	P	Pn	20 49 31.9	-0.2
GTOI				S	Sn	20 49 43.3	+1.0
MNI	**Manado**	**1.33**	**78**	P	Pn	20 49 40.3	+0.2
MNI				S	Sn	20 49 57.1	+0.4
MRSI	**Marisa**	**1.74**	**247**	P	Pn	20 49 46.0	+0.3
MRSI				S	Sn	20 50 07.8	+1.0

IDC 02 21:19:32.8±0.9, 5°73N×77°65W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, ML2.3/1, MS3.6/1, Ms1 3.5/1, ms1mx2.5/22, Error ellipse: s-maj=29.7km s-min=17.8km az=38.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.42**	**105**	Pn	Pn	21 20 29.2	+1.3
	5.6nm,0.3s,baz=285,slow=14,SNR=17						
ROSC				Lg	Lg	21 21 22.0	
	5.7nm,0.3s,baz=87,slow=22,SNR=4.2						
LPAZ	**La Paz**	**23.82**	**157**	P	P	21 24 48.9	+0.4
	1.2nm,0.6s,baz=329,slow=10,SNR=7.6						
SIV	**San Ignacio**	**27.12**	**143**	P	P	21 25 17.1	-0.6
	2.4nm,0.7s,baz=334,slow=11,SNR=11						
BDFB	**Brasilia**	**36.23**	**126**	LR	LR	21 42 22.4	
	comp=Z,83nm,19.3s,baz=218,slow=38						
YKA	**Yellowknife Ar**	**62.80**	**342**	P	P	21 29 59.9	0.0
	0.9nm,0.7s,baz=138,slow=6.5,SNR=3.6						
ESDC	**Sonseca Array**	**73.81**	**50**	P	P	21 31 09.5	-0.1
	0.3nm,0.6s,baz=288,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**76.06**	**336**	P	P	21 31 22.1	+0.1
	0.2nm,0.6s,baz=110,slow=4.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**78.37**	**78**	P	P	21 31 35.5	-0.4
	0.9nm,0.6s,baz=284,slow=5.8,SNR=13						
GERES	**GERESS Array B**	**86.62**	**41**	P	P	21 32 18.8	+0.4
	0.5nm,0.7s,baz=297,slow=4.4,SNR=5.0						
ASAR	**Alice Springs**	**144.79**	**236**	PKP	PKPbc	21 39 11.7	+0.1
	0.4nm,0.4s,baz=119,slow=3.8,SNR=13						
WRA	**Warramunga Arr**	**145.85**	**243**	PKPbc	PKPdf	21 39 14.6	+0.1
	0.7nm,0.9s,baz=121,slow=1.6,SNR=3.1						

MEX 02 21:46:19.0±0.6, 15°25N×93°46W, h65km±15km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.21**	**106**	*i* P	Pn	21 46 38.5	-1.4
THIG				*i* S	Sn	21 46 53.7	-1.8
TGIG		**1.55**	**12**	*i* P	Pn	21 46 43.5	-1.2
TGIG				*i* S	Sn	21 47 01.7	-2.3
CCIG	**Comitan**	**1.64**	**51**	*e*P	Pn	21 46 44.8	-1.2
CCIG				*i* S	Sn	21 47 04.4	-1.9

IDC 02 22:02:49.6±10.0, 2°66N×95°13E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/25, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=209.4km s-min=109.5km az=151.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.14**	**13**	Pn	Pn	22 06 38.1	+0.1
	0.1nm,0.3s,baz=204,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**45.36**	**348**	P	P	22 11 09.6	-0.1
	0.6nm,0.5s,baz=162,slow=8.3,SNR=11						
SONM	**Songino Array**	**46.05**	**11**	P	P	22 11 15.0	-0.2
	0.2nm,0.3s,baz=188,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**51.82**	**352**	P	P	22 11 59.2	0.0
	0.7nm,0.5s,baz=176,slow=7.4,SNR=4.6						

*ISK **02** 22:05:40.8, 37°67N×27°04E, h9km, MD2.6*
*CSEM **02** 22:05:41.6±0.4, 37°65N×27°00E, h15km, MD2.6, Error ellipse: s-maj=8.4km s-min=6.2km az=86.0*
*DDA **02** 22:05:41.5, 37°69N×26°90E, h7km, MD2.2*
ISC 02 22:05:42.3±1.1, 37°65N±0°03×27°04E±0°05, h25km±7km, n18, σ0°85/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.16**	**72**	*i* P	Pb	22 05 46.9	-0.6
GCAM				*i* S	Sb	22 05 51.5	+0.4
GCAM	**G?zelcaml?**	**0.16**	**72**	*i* P	Pb	22 05 46.9	-0.6
GCAM				*i* S	Sb	22 05 51.5	+0.4
BODT	**Bodrum**	**0.63**	**160**	*e*PG	Pb	22 05 53.6	-1.1
BODT				*e*SG	Sb	22 06 03.1	+0.1
BODT	**Bodrum**	**0.63**	**160**	*e*Pg	Pb	22 05 53.6	-1.1
BODT				*e*Sg	Sb	22 06 03.1	+0.1
AYDN	**Tasoluk**	**0.66**	**89**	*i* P	Pn	22 05 56.4	+0.3
AYDN				*i* S	Sn	22 06 06.7	+0.9
AYDN	**Tasoluk**	**0.66**	**89**	*i* P	Pn	22 05 56.4	+0.3
AYDN				*i* S	Sn	22 06 06.7	+0.9
MLSB	**Milas**	**0.68**	**121**	*e*PG	Pb	22 05 54.6	-1.1
MLSB				*e*SG	Sb	22 06 04.7	0.0
MLSB	**Milas**	**0.68**	**121**	*e*Pg	Pb	22 05 54.6	-1.1
MLSB				*e*Sg	Sb	22 06 04.7	0.0
IZM	**Izmir**	**0.77**	**13**	*e*PG	Pb	22 05 55.6	-1.4
IZM				*e*SG	Sb	22 06 06.5	-0.6
IZM	**Izmir**	**0.77**	**13**	*e*Pg	Pb	22 05 55.6	-1.4
IZM				*e*Sg	Sb	22 06 06.5	-0.6
DAT	**Datca**	**1.01**	**155**	*e*PG	Pn	22 06 01.0	0.0
DAT	**Datca**	**1.01**	**155**	*e*Pg	Pn	22 06 01.0	0.0
YER	**Yerkesik**	**1.11**	**117**	*e*PN	Pn	22 06 02.7	+0.3
YER	**Yerkesik**	**1.11**	**117**	*e*Pn	Pn	22 06 02.7	+0.3
APE	**Apeiranthos**	**1.34**	**245**	*e*PN	Pn	22 06 06.4	+1.0
APE	**Apeiranthos**	**1.34**	**245**	*e*Pn	Pn	22 06 06.4	+1.0
KULA	**Kula-Manisa**	**1.54**	**55**	*e*PN	Pn	22 06 09.4	+1.2
KULA	**Kula-Manisa**	**1.54**	**55**	*e*Pn	Pn	22 06 09.5	+1.2

MEX 02 22:11:49.7±0.6, 17°81N×103°16W, h8km±18km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.51**	**340**	*i* P	Pg	22 11 59.0	-0.6
MMIG				*i* S	Sg	22 12 06.0	-0.3
R15V		**1.56**	**330**	*e*P	Pn	22 12 14.4	-3.5
R15V				*e*S	Sn	22 12 33.7	-4.7
ZIIG	**Zihuatanejo**	**1.63**	**97**	*e*P	Pn	22 12 15.3	-3.4
ZIIG				*e*S	Sn	22 12 34.8	-5.0
EZ5V		**1.71**	**346**	*e*P	Pn	22 12 16.7	-3.6
EZ5V				*i* S	Sn	22 12 38.3	-4.3

WEL 02 22:21:26.2±0.3, 45°76S×166°62E, h24km±1km, ML3.8/13, 1D, Error ellipse: s-maj=3.7km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**174**	P*	Pb	22 21 34.3	-0.7
PYZ				*e*S*	Sb	22 21 39.7	-1.3
DCZ	**Deep Cove**	**0.47**	**54**	P*	Pb	22 21 35.3	-0.5
DCZ				S*	Sb	22 21 41.0	-1.3
DCZ				AML	AML	22 21 41.8	
DCZ				AML	AML	22 21 42.9	
DCZ				AML	AML	22 21 43.1	
WHZ	**Wether Hill Ro**	**0.94**	**99**	PN	Pb	22 21 43.5	-0.4
WHZ				SN	Sb	22 21 55.7	-0.2
WHZ				AML	AML	22 21 57.7	
MLZ	**Mavora Lakes**	**1.17**	**70**	⇓PN	Pn	22 21 46.4	-0.7
MLZ				SN	Sn	22 22 01.3	-1.0
MLZ				AML	AML	22 22 07.6	
MSZ	**Milford Sound**	**1.42**	**41**	*e*PN	Pn	22 21 49.4	-1.1
MSZ				AML	AML	22 22 15.0	
MSZ				AML	AML	22 22 17.1	
APZ	**The Paps**	**1.44**	**139**	PN	Pn	22 21 50.9	+0.1
SYZ	**Scrubby Hill**	**1.92**	**115**	PN	Pb	22 21 59.1	-1.4
EAZ	**Earnscleugh**	**1.96**	**76**	PN	Pb	22 22 00.5	-0.7
EAZ				AML	AML	22 22 27.1	
EAZ				AML	AML	22 22 27.2	
EAZ				AML	AML	22 22 28.0	
TUZ	**Tuapeka**	**2.12**	**97**	PN	Pb	22 22 02.0	-1.8
TUZ				AML	AML	22 22 29.9	
TUZ				AML	AML	22 22 34.4	
JCZ	**Jackson Bay**	**2.27**	**43**	PN	Pb	22 22 05.0	-1.5
JCZ				AML	AML	22 22 41.8	
JCZ				AML	AML	22 22 43.0	
LBZ	**Lake Benmore**	**2.87**	**63**	PN	Pn	22 22 11.8	+1.3
ODZ	**Otahua Downs**	**2.92**	**77**	PN	Pn	22 22 12.2	+1.0
RPZ	**Rata Peaks**	**3.76**	**59**	PN	Pn	22 22 23.5	+0.8

NNC 02 22:28:39.8±8.6, 36°76N×71°05E, h0km, mb3.5, mpv3.3, 1C-1D, Error ellipse: s-maj=102.0km s-min=68.1km az=63.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.35**	**356**	Pn	Pn	22 30 16.4	+1.7
	0.7nm,0.3s,baz=176,slow=12,SNR=45						
KK31				⇓Sn	Sn	22 31 28.9	+0.9
	0.7nm,0.3s,baz=170,slow=21,SNR=5.8						
TKM2	**Tokmak 2**	**7.08**	**28**	⇑Pn	Pn	22 30 24.2	-0.7
	2.0nm,0.8s						
AB31	**Akbulak array**	**14.88**	**331**	P	Pn	22 32 08.9	-2.5
	0.2nm,0.3s,baz=355,slow=25,SNR=9.8						

*ISCJB **02** 22:30:54.6±0.2, 61°70N±0°02×149°58W±0°04, h64km±3km, mb4.0/14, Error ellipse: s-maj=3.9km s-min=2.9km az=167.2*
*IDC **02** 22:30:54.5±0.9, 61°61N×149°65W, h49km±5km, mb3.7/13, mb1 3.8/16, mb1mx3.7/27, mbtmp3.7/16, MS2.8/3, Ms1 2.8/3, ms1mx2.5/29, Error ellipse: s-maj=19.2km s-min=12.4km az=134.0*
*NEIC **02** 22:30:56.2, 61°69N×149°59W, h33km, ML3.8(AEIC), After AEIC.*
NEIC Felt [III] at Anchorage, Chugiak and Eagle River; [II] at Palmer and Wasilla. Also felt at Fort Richardson, Talkeetna, Trapper Creek and Willow.
ISC 02 22:30:54.9±0.5, 61°69N±0°03×149°59W±0°03, h48km±4km, n109, σ1°15/131, mb4.0/14, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.24**	**114**	P	Pn	22 31 02.2	-1.1
PMR				S	Sn	22 31 08.3	-0.9
SUA	**Susitna One**	**0.60**	**248**	P	Pn	22 31 06.8	-0.6
SML	**Sawmill**	**0.61**	**78**	P	Pn	22 31 06.8	-0.6
SML				S	Sn	22 31 16.3	-0.2
SKT	**Skwentna**	**0.97**	**288**	P	Pn	22 31 11.8	-0.3
SCM	**Sheep Creek Mo**	**1.08**	**81**	P	Pn	22 31 14.1	+0.2
SCM				S	Sn	22 31 29.0	+1.3
STLK	**Strandline Lak**	**1.09**	**261**	P	Pn	22 31 14.2	+0.4
SLKM	**Skilak Lake**	**1.23**	**195**	P	Pn	22 31 15.9	+0.2
SPCG	**Spurr Capps Gl**	**1.23**	**252**	P	Pn	22 31 16.8	+0.9
SPCG				S	Sn	22 31 33.1	+1.7
SPU	**Mount Spurr**	**1.29**	**248**	P	Pn	22 31 17.2	+0.6
SPBG	**Spurr Blockage**	**1.40**	**253**	P	Pn	22 31 19.4	+1.2
BGL	**Barrier Glacie**	**1.41**	**254**	P	Pn	22 31 19.7	+1.4
CKL	**Chakachamna La**	**1.41**	**251**	P	Pn	22 31 19.2	+0.9
GLI	**Glacier Island**	**1.45**	**123**	P	Pn	22 31 19.5	+0.8
JPK	**Jack Peak**	**1.57**	**113**	P	Pn	22 31 21.5	+1.0
BGRM	**Barrier Glacie**	**1.66**	**237**	P	Pn	22 31 22.6	+1.0
VLZ	**Valdez**	**1.66**	**108**	P	Pn	22 31 22.4	+0.8
PPLA	**Purkeypile**	**1.71**	**316**	P	Pn	22 31 22.9	+0.5
DHY	**Denali Highway**	**1.73**	**36**	P	Pn	22 31 23.6	+0.9
RND	**Reindeer**	**1.75**	**11**	P	Pn	22 31 23.9	+1.0
KLU	**Klutina**	**1.77**	**95**	P	Pn	22 31 24.1	+1.0
RDT	**Redoubt**	**1.77**	**232**	P	Pn	22 31 23.9	+0.8
TRF	**Thorofare Moun**	**1.80**	**350**	P	Pn	22 31 23.9	+0.3
DFR	**Drift River**	**1.86**	**235**	P	Pn	22 31 25.4	+0.9
DIV	**Divide**	**1.92**	**105**	P	Pn	22 31 25.9	+0.7
RSO	**Redoubt South**	**1.97**	**233**	*e*Pn	Pn	22 31 26.6	+0.6
NCT	**North Crescent**	**1.98**	**237**	P	Pn	22 31 27.1	+1.1
MCK	**McKinley**	**2.07**	**8**	P	Pn	22 31 28.6	+1.4
EYAK	**Eyakora Ski Ar**	**2.19**	**120**	P	Pn	22 31 29.3	+0.5
HARP	**HAARP**	**2.21**	**69**	P	Pn	22 31 31.0	+1.9
PAX	**Paxson**	**2.31**	**54**	P	Pn	22 31 32.7	+2.1
CNPM	**China Poot**	**2.32**	**201**	P	Pn	22 31 31.1	+0.4
SGAM	**Sherman Glacie**	**2.44**	**117**	P	Pn	22 31 32.8	+0.5
BMRM	**Bremner River**	**2.51**	**105**	P	Pn	22 31 33.6	+0.3
GOAT	**Goat Mountain**	**2.61**	**113**	P	Pn	22 31 35.2	+0.6
OPT	**Oil Point**	**2.72**	**223**	P	Pn	22 31 37.8	+1.7
RAGM	**Ragged Mountai**	**2.73**	**117**	P	Pn	22 31 36.9	+0.7
MID	**Middleton Isla**	**2.78**	**143**	*e*Pn	Pn	22 31 39.5	+2.6
MID				*e*Sn	Sn	22 32 10.8	+1.7
WRH	**Wood River Hil**	**2.87**	**13**	P	Pn	22 31 39.1	+1.0
NEA	**Nenana**	**2.91**	**4**	P	Pn	22 31 39.4	+0.8
SVW2	**Sparrevohn**	**2.94**	**261**	P	Pn	22 31 39.6	+0.5
HDA	**Harding Lake**	**2.98**	**23**	P	Pn	22 31 41.0	+1.4
VRDI	**Verde Repeater**	**2.98**	**96**	P	Pn	22 31 41.3	+1.4
MENT	**Mentasta**	**3.01**	**63**	*e*Pn	Pn	22 31 41.4	+1.3
MENT				*e*Sn	Sn	22 32 17.3	+2.3
NICHA	**Nichawak Mount**	**3.10**	**116**	P	Pn	22 31 41.7	+0.3
BERG	**Berg Lake**	**3.15**	**112**	P	Pn	22 31 42.1	+0.2
MCARA	**McCarthy VSAT**	**3.16**	**93**	P	Pn	22 31 44.3	+2.2
TT01	**Tatalina**	**3.24**	**295**	P	Pn	22 31 43.6	+0.4
COLA	**College**	**3.29**	**13**	P	Pn	22 31 44.8	+1.0
ILAR	**Eielson Array**	**3.32**	**20**	P	Pn	22 31 45.2	+0.8
ILAR				S	Sn	22 32 24.7	+2.1
ILAR	**Eielson Array**	**3.32**	**20**	P	Pn	22 31 45.2	+0.8
	16nm,0.3s,baz=204,slow=14,SNR=254						
ILAR				S	Sn	22 32 24.7	+2.1
	24nm,0.3s,baz=194,slow=20,SNR=6.8						
IL1	**Eielson Array**	**3.33**	**20**	P	Pn	22 31 45.1	+0.8
MDM	**Murphy Dome**	**3.34**	**10**	P	Pn	22 31 45.6	+1.0
GRIN	**Grindle Hills**	**3.37**	**112**	P	Pn	22 31 46.1	+1.1
MLY	**Manley**	**3.39**	**352**	P	Pn	22 31 46.1	+0.8
SCRK	**Sand Creek**	**3.44**	**46**	P	Pn	22 31 47.0	+0.9
GLM	**Gilmore Dome**	**3.45**	**16**	P	Pn	22 31 47.6	+1.4
PTPK	**Patty Peak**	**3.46**	**95**	P	Pn	22 31 47.6	+1.2
BALM	**Baldy**	**3.55**	**97**	P	Pn	22 31 48.6	+1.1
KIAG	**Kiagna River**	**3.57**	**99**	P	Pn	22 31 48.4	+0.5
ISLE	**Juniper Island**	**3.68**	**104**	P	Pn	22 31 51.8	+2.4
BARK	**Barkley Ridge**	**3.69**	**107**	P	Pn	22 31 50.8	+1.4
BAGL	**Bagley Icefiel**	**3.83**	**105**	P	Pn	22 31 52.6	+1.3
BARN	**Barnard Glacie**	**3.87**	**96**	P	Pn	22 31 54.3	+2.3
BCA3	**Beaver Creek A**	**3.89**	**66**	P	Pn	22 31 54.0	+1.8
GRNC	**Granite Creek**	**3.91**	**101**	P	Pn	22 31 54.0	+1.4
MESA	**MESA**	**4.02**	**109**	P	Pn	22 31 55.5	+1.4
KABR	**Katmai Barrier**	**4.48**	**220**	P	Pn	22 32 01.1	+0.8
IM3	**Indian Mountai**	**4.69**	**339**	P	Pn	22 32 03.8	+0.8
OHAK	**Old Harbor**	**4.86**	**204**	P	Pn	22 32 05.1	-0.3
EGAK	**Eagle**	**4.91**	**47**	*e*Pn	Pn	22 32 07.2	+1.2
EGAK				*e*Sn	Sn	22 33 02.5	+1.0
DAWY	**Dawson**	**5.24**	**59**	P	Pn	22 32 12.3	+1.6
PNL	**Peninsula**	**5.40**	**108**	*e*Pn	Pn	22 32 14.7	+1.9
	20nm,0.5s						
PNL				Sn	Sn	22 33 13.7	0.0
COLD	**Coldfoot**	**5.56**	**358**	P	Pn	22 32 16.6	+1.5
HYT	**Haines Junctio**	**5.90**	**93**	*e*Pn	Pn	22 32 21.6	+1.9
HYT				*e*Sn	Sn	22 33 26.9	+1.0
BM3	**Burnt Mountain**	**6.14**	**18**	P	Pn	22 32 23.9	+1.0
INK	**Inuvik**	**9.47**	**39**	*e*Pn	Pn	22 33 10.4	+1.9
	4.1nm,0.5s						
INK				*e*Sn	Sn	22 34 55.1	+1.7
INK	**Inuvik**	**9.47**	**39**	P	Pn	22 33 10.7	+2.2
	0.5nm,0.3s,baz=231,slow=18,SNR=17						
INK				S	Sn	22 34 55.4	+2.0
	1.0nm,0.3s,baz=352,slow=26,SNR=5.9						
INK				LR	LR	22 37 07.8	
	comp=Z,47nm,20.0s,baz=47,slow=39						
DLBC	**Dease Lake**	**10.29**	**100**	P	Pn	22 33 19.6	-0.3
DLBC	**Dease Lake**	**10.29**	**100**	P	Pn	22 33 19.6	-0.3
	0.1nm,0.3s,baz=243,slow=14,SNR=2.6						
DLBC				LR	LR	22 38 17.8	
	comp=Z,42nm,18.9s,baz=327,slow=43						
BBB	**Bella Bella**	**15.02**	**120**	LR	LR	22 39 33.2	
	comp=Z,43nm,18.5s,baz=253,slow=35						
TXAR	**Lajitas Array**	**44.11**	**116**	P	P	22 38 56.9	-1.5
TXAR	**Lajitas Array**	**44.11**	**116**	P	P	22 38 56.9	-1.5
	0.2nm,0.5s,baz=319,slow=4.0,SNR=3.4						
ARCES	**ARCESS Array B**	**49.01**	**2**	P	P	22 39 36.3	+0.1
ARCES				PcP	PcP	22 40 57.6	-1.6
ARCES	**ARCESS Array B**	**49.01**	**2**	P	P	22 39 36.3	+0.1
	3.2nm,1.1s,baz=345,slow=10,SNR=3.4						
ARCES				PcP	PcP	22 40 57.6	-1.6
	0.4nm,0.6s,baz=352,slow=3.1,SNR=3.8						
CN2	**Changchun**	**50.46**	**291**	*e*P	P	22 39 46.2	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSRS	**Korea Array**	**54.41**	**284**	P	P	22 40 16.9	+0.2
	comp=Z,2.0nm,0.8s,baz=27,slow=5.0,SNR=7.6						
KSAR	**Wonju Array Be**	**54.44**	**284**	P	P	22 40 16.9	0.0
SONM	**Songino Array**	**55.12**	**307**	P	P	22 40 22.5	+0.5
SONM				pP	pP	22 40 35.1	-0.1
SONM				sP	sP	22 40 40.7	-0.1
SONM	**Songino Array**	**55.12**	**307**	P	P	22 40 22.5	+0.5
	comp=Z,2.0nm,0.8s,baz=32,slow=8.7,SNR=11						
SONM				pP	pP	22 40 35.1	-0.1
	comp=Z,1.5nm,0.8s,baz=20,slow=6.7,SNR=2.8						
SONM				sP	sP	22 40 40.7	-0.1
	comp=Z,1.6nm,0.8s,baz=28,slow=5.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.97**	**325**	P	P	22 40 33.4	-1.5
ZALV	**Zalesovo Beam**	**56.97**	**325**	P	P	22 40 33.4	-1.5
	comp=Z,0.7nm,0.3s,baz=28,slow=6.6,SNR=4.4						
FINES	**FINESS Array B**	**57.14**	**2**	P	P	22 40 36.4	+0.4
FINES	**FINESS Array B**	**57.14**	**2**	P	P	22 40 36.4	+0.4
	comp=Z,0.4nm,0.5s,baz=347,slow=7.8,SNR=8.1						
HFS	**Hagfors**	**57.82**	**10**	P	P	22 40 40.3	-0.5
HFS	**Hagfors**	**57.82**	**10**	P	P	22 40 40.3	-0.5
	comp=Z,1.0nm,0.9s,baz=347,slow=3.1,SNR=2.8						
EKA	**Eskdalemuir Ar**	**60.36**	**21**	P	P	22 40 58.5	+0.1
EKA	**Eskdalemuir Ar**	**60.36**	**21**	P	P	22 40 58.5	+0.1
	comp=Z,0.5nm,0.3s,baz=327,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**64.12**	**323**	P	P	22 41 22.3	-1.4
MKAR				sP	sP	22 41 43.8	+1.1
MKAR	**Makanchi Array**	**64.12**	**323**	P	P	22 41 22.3	-1.4
	comp=Z,0.7nm,0.5s,baz=34,slow=6.6,SNR=25						
MKAR				sP	sP	22 41 43.8	+1.1
	comp=Z,0.3nm,0.5s,baz=46,slow=6.6,SNR=2.9						
KBZ	**Khabaz**	**74.45**	**351**	P	P	22 42 27.7	+0.2
KBZ	**Khabaz**	**74.45**	**351**	P	P	22 42 27.7	+0.2
	comp=Z,1.5nm,0.7s,baz=318,slow=4.0,SNR=4.6						
ESDC	**Sonseca Array**	**75.21**	**27**	P	P	22 42 32.6	+0.5
ESDC				pP	PcP	22 42 46.1	+0.7
ESDC	**Sonseca Array**	**75.21**	**27**	P	P	22 42 32.6	+0.5
	comp=Z,0.3nm,0.5s,baz=341,slow=5.8,SNR=3.4						
ESDC				pP	PcP	22 42 46.1	+0.7
	comp=Z,0.6nm,0.6s,baz=342,slow=6.0,SNR=5.1						
BRTR	**Keskin Array B**	**78.90**	**357**	P	P	22 42 52.9	-0.1
BRTR	**Keskin Array B**	**78.90**	**357**	P	P	22 42 52.9	-0.1
	comp=Z,1.2nm,0.9s,baz=0.0,slow=2.5,SNR=6.8						
CMAR	**Chiang Mai Arr**	**83.62**	**297**	P	P	22 43 17.4	-0.7
CMAR	**Chiang Mai Arr**	**83.62**	**297**	P	P	22 43 17.4	-0.7
	comp=Z,0.9nm,0.3s,baz=3.4,slow=6.3,SNR=4.7						
BOSA	**Boshof**	**146.74**	**8**	PKPbc	PKPbc	22 50 31.9	+0.7
BOSA				pPKPbc	pPKPbc	22 50 44.2	-1.4
BOSA	**Boshof**	**146.74**	**8**	PKPbc	P

BART			eS	Sb	22 32 02.8	-7.5
PSMA	**Santa Maria**	**1.92 132**	eP	Pn	22 31 52.2	-4.6
PSMA			eS	Sn	22 32 13.0	-8.3
PSMA			A	A	22 32 14.4	
	17nm,0.2s					
PSMN	**Pico do Norte,**	**1.95 131**	eP	Pn	22 31 52.6	-4.7
PSMN			A	A	22 32 13.7	
	9.4nm,0.3s					
PSMN			eS	Sn	22 32 14.0	-8.2
PSMN	**Pico do Norte,**	**1.95 131**	eP	Pn	22 31 52.6	-4.7
PSMN			eS	Sn	22 32 14.0	-8.2

*ISCJB **02** 22:39:27.9±0.2, 42°.36N±0°.02×13°.36E±0°.03, h14km±2km, mb3.2/1, Error ellipse: s-maj=3.3km s-min=2.9km az=142.0*
*CSEM **02** 22:39:28.5±0.1, 42°.35N×13°.35E, h10km, ML2.9, Error ellipse: s-maj=2.9km s-min=2.4km az=60.0*
*LDG **02** 22:39:28.7±0.1, 42°.34N×13°.38E, h2km, Ml2.9/6, Error ellipse: s-maj=4.7km s-min=3.0km az=48.0*
*ROM **02** 22:39:28.3±0.1, 42°.35N×13°.39E, h10km, Ml3.2/34, Error ellipse: s-maj=1.0km s-min=0.8km az=57.0*
*IDC **02** 22:39:28.9±1.7, 42°.45N×13°.66E, h0km, mb3.2/2, mb1 3.4/5, mb1mx3.2/27, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=51.7km s-min=14.0km az=98.0*
*BEO **02** 22:39:44.3±0.9, 43°.06N×14°.77E, h1km±4km, ML2.8/8*
ISC 02 22:39:28.5±0.7, 42°.36N±0°.02×13°.37E±0°.02, h13km±4km, n120, σ1§60/148, 1C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.03**	**99**	Pg	**Pg**	**22 39 30.3**	**-0.6**
AQU				Sg	**Sg**	**22 39 31.2**	**-1.4**
	12μm,0.2s						
AQU	**L'Aquila**	**0.03**	**99**	Pg	**Pg**	**22 39 30.3**	**-0.6**
FAGN	**Fagnano**	**0.19**	**119**	Pg	**Pg**	**22 39 32.8**	**0.0**
FAGN				Sg	**Sg**	**22 39 36.0**	**+0.3**
	25μm,0.3s						
FAGN	**Fagnano**	**0.19**	**119**	Pg	**Pg**	**22 39 32.8**	**0.0**
FAGN				Sg	**Sg**	**22 39 36.0**	**+0.3**
	25μm,0.3s						
FIAM	**Fiamignano**	**0.20**	**244**	Pg	**Pg**	**22 39 33.7**	**+0.6**
FIAM				Sg	**Sb**	**22 39 37.4**	**-0.6**
	8μm,0.6s						
FIAM	**Fiamignano**	**0.20**	**244**	Pg	**Pg**	**22 39 33.7**	**+0.6**
FIAM				Sg	**Sb**	**22 39 37.4**	**-0.6**
	8μm,0.6s						
TERO	**Teramo**	**0.32**	**34**	Pg	**Pg**	**22 39 34.7**	**-0.4**
TERO				Sg	**Sg**	**22 39 39.3**	**-0.2**
	4μm,0.3s						
TERO	**Teramo**	**0.32**	**34**	Pg	**Pg**	**22 39 34.7**	**-0.4**
TERO				Sg	**Sg**	**22 39 39.3**	**-0.2**
	4μm,0.3s						
PTQR	**Pietraquaria**	**0.34**	**175**	Pg	**Pg**	**22 39 35.5**	**+0.1**
PTQR				Sg	**Sg**	**22 39 40.9**	**+0.9**
PTQR	**Pietraquaria**	**0.34**	**175**	Pg	**Pg**	**22 39 35.5**	**+0.1**
PTQR				Sg	**Sg**	**22 39 40.9**	**+0.9**
LNSS	**Leonessa**	**0.34**	**316**	Pg	**Pg**	**22 39 35.8**	**+0.3**
LNSS				Sg	**Sb**	**22 39 41.5**	**-0.5**
	2μm,0.5s						
LNSS	**Leonessa**	**0.34**	**316**	Pg	**Pg**	**22 39 35.8**	**+0.3**
LNSS				Sg	**Sb**	**22 39 41.5**	**-0.5**
	2μm,0.5s						
VCEL	**Villa Celiera**	**0.35**	**84**	Pg	**Pg**	**22 39 35.5**	**-0.2**
VCEL				Sg	**Sb**	**22 39 41.9**	**-0.4**
	8μm,0.7s						
VCEL	**Villa Celiera**	**0.35**	**84**	Pg	**Pg**	**22 39 35.5**	**-0.2**
VCEL				Sg	**Sb**	**22 39 41.9**	**-0.4**
	8μm,0.7s						
CERT	**Cerreto**	**0.50**	**215**	Pg	**Pg**	**22 39 38.4**	**+0.1**
	3μm,0.4s						
CERT	**Cerreto**	**0.50**	**215**	Pg	**Pg**	**22 39 38.4**	**+0.1**
	3μm,0.4s						
MNS	**Montasola**	**0.51**	**273**	Pg	**Pg**	**22 39 38.6**	**+0.1**
	1μm,0.6s						
MNS	**Montasola**	**0.51**	**273**	Pg	**Pg**	**22 39 38.6**	**+0.1**
	1μm,0.6s						
NRCA	**Norcia**	**0.51**	**339**	Pg	**Pg**	**22 39 38.4**	**-0.2**
NRCA				Sg	**Sb**	**22 39 46.3**	**-0.5**
	3μm,0.1s						
NRCA	**Norcia**	**0.51**	**339**	Pg	**Pg**	**22 39 38.4**	**-0.2**
NRCA				Sg	**Sb**	**22 39 46.3**	**-0.5**
	3μm,0.1s						
VVLD	**Villa Vallelon**	**0.52**	**158**	Pg	**Pg**	**22 39 38.4**	**-0.4**
	779nm,0.5s						
VVLD	**Villa Vallelon**	**0.52**	**158**	Pg	**Pg**	**22 39 38.4**	**-0.4**
	779nm,0.5s						
INTR	**Introdacqua**	**0.53**	**131**	Pg	**Pg**	**22 39 38.6**	**-0.3**
	2μm,0.4s						
INTR	**Introdacqua**	**0.53**	**131**	Pg	**Pg**	**22 39 38.6**	**-0.3**
	2μm,0.4s						
GUAR	**Guarcino**	**0.56**	**184**	Pg	**Pg**	**22 39 39.3**	**-0.3**
	886nm,0.4s						
GUAR	**Guarcino**	**0.56**	**184**	Pg	**Pg**	**22 39 39.3**	**-0.3**
	886nm,0.4s						
MTCE	**Montecelio**	**0.57**	**234**	Pg	**Pg**	**22 39 39.8**	**+0.1**
	488nm,0.3s						
MTCE	**Montecelio**	**0.57**	**234**	Pg	**Pg**	**22 39 39.8**	**+0.1**
	488nm,0.3s						
TRTR	**Tortoreto Alta**	**0.61**	**42**	Pg	**Pb**	**22 39 40.9**	**-0.1**
	5μm,0.8s						
TRTR	**Tortoreto Alta**	**0.61**	**42**	Pg	**Pb**	**22 39 40.9**	**-0.1**
	5μm,0.8s						
OFFI	**Offida**	**0.62**	**22**	Pg	**Pb**	**22 39 41.1**	**-0.2**
	11μm,0.6s						
OFFI	**Offida**	**0.62**	**22**	Pg	**Pb**	**22 39 41.1**	**-0.2**
	11μm,0.6s						
CESX	**Cesi**	**0.63**	**294**	Pg	**Pg**	**22 39 40.6**	**-0.3**
	982nm,0.5s						
CESX	**Cesi**	**0.63**	**294**	Pg	**Pg**	**22 39 40.6**	**-0.3**
	982nm,0.5s						
LPEL	**Lama dei Pelig**	**0.68**	**117**	Pg	**Pg**	**22 39 41.1**	**-0.7**
	1μm,0.4s						
LPEL	**Lama dei Pelig**	**0.68**	**117**	Pg	**Pg**	**22 39 41.1**	**-0.7**
	1μm,0.4s						
POFI	**Posta Fibreno**	**0.69**	**158**	Pg	**Pg**	**22 39 41.1**	**-0.9**
	470nm,0.4s						
POFI	**Posta Fibreno**	**0.69**	**158**	Pg	**Pg**	**22 39 41.1**	**-0.9**
	470nm,0.4s						
FDMO	**Fiordimonte**	**0.71**	**343**	Pg	**Pg**	**22 39 41.9**	**-0.4**
	460nm,0.4s						
FDMO	**Fiordimonte**	**0.71**	**343**	Pg	**Pg**	**22 39 41.9**	**-0.4**
	460nm,0.4s						
SDI	**San Donato**	**0.73**	**153**	Pg	**Pg**	**22 39 41.9**	**-0.8**
SDI	**San Donato**	**0.73**	**153**	Pg	**Pg**	**22 39 41.9**	**-0.8**
CESI	**CESI - Serrava**	**0.73**	**332**	Pg	**Pg**	**22 39 42.4**	**-0.3**
	183nm,0.3s						
CESI	**CESI - Serrava**	**0.73**	**332**	Pg	**Pg**	**22 39 42.4**	**-0.3**
	183nm,0.3s						
RMP	**Rome, Mte Porz**	**0.74**	**222**	Pg	**Pg**	**22 39 42.5**	**-0.3**
	848nm,0.4s						
RMP	**Rome, Mte Porz**	**0.74**	**222**	Pg	**Pg**	**22 39 42.5**	**-0.3**
	848nm,0.4s						
CAFR	**Castel Frentan**	**0.74**	**100**	Pg	**Pg**	**22 39 42.7**	**-0.2**
	2μm,0.4s						
CAFR	**Castel Frentan**	**0.74**	**100**	Pg	**Pg**	**22 39 42.7**	**-0.2**
	2μm,0.4s						
RDP	**Rocca di Papa**	**0.77**	**219**	Pg	**Pg**	**22 39 43.2**	**-0.2**
	2μm,0.4s						
RDP	**Rocca di Papa**	**0.77**	**219**	Pg	**Pg**	**22 39 43.2**	**-0.2**
	2μm,0.4s						
GIUL	**Giuliano Di Ro**	**0.80**	**186**	Pg	**Pg**	**22 39 43.4**	**-0.7**
	527nm,0.7s						
GIUL	**Giuliano Di Ro**	**0.80**	**186**	Pg	**Pg**	**22 39 43.4**	**-0.7**
	527nm,0.7s						
GUMA	**Gualdo di Mace**	**0.82**	**31**	Pg	**Pg**	**22 39 42.1**	**-2.3**
	3μm,0.4s						
GUMA	**Gualdo di Mace**	**0.82**	**31**	Pg	**Pg**	**22 39 42.1**	**-2.3**
	3μm,0.4s						
ASSB	**Assisi San Ben**	**0.86**	**323**	Pg	**Pg**	**22 39 44.7**	**-0.5**
	459nm,0.2s						
ASSB	**Assisi San Ben**	**0.86**	**323**	Pg	**Pg**	**22 39 44.7**	**-0.5**
	459nm,0.2s						
RNI2	**Rionero Sannit**	**0.88**	**138**	Pg	**Pg**	**22 39 45.1**	**-0.4**
	790nm,0.8s						
RNI2	**Rionero Sannit**	**0.88**	**138**	Pg	**Pg**	**22 39 45.1**	**-0.4**
	790nm,0.8s						
CERA	**Filignano**	**0.90**	**147**	Pg	**Pg**	**22 39 44.8**	**-1.2**
	626nm,0.6s						
CERA	**Filignano**	**0.90**	**147**	Pg	**Pg**	**22 39 44.8**	**-1.2**
	626nm,0.6s						
MIDA	**Miranda**	**0.98**	**137**	Pg	**Pb**	**22 39 45.9**	**-1.4**
	338nm,0.6s						
MIDA	**Miranda**	**0.98**	**137**	Pg	**Pb**	**22 39 45.9**	**-1.4**
	338nm,0.6s						
CING	**Cingoli**	**1.02**	**353**	Pg	**Pb**	**22 39 47.4**	**-0.8**
	518nm,0.4s						
CING	**Cingoli**	**1.02**	**353**	Pg	**Pb**	**22 39 47.4**	**-0.8**
	518nm,0.4s						
TOLF	**Tolfa**	**1.05**	**254**	Pg	**Pb**	**22 39 48.4**	**-0.3**
	220nm,0.4s						
TOLF	**Tolfa**	**1.05**	**254**	Pg	**Pb**	**22 39 48.4**	**-0.3**
	220nm,0.4s						
MGAB	**Montegabbione**	**1.08**	**301**	Pg	**Pb**	**22 39 49.1**	**0.0**
	539nm,0.5s						
MGAB	**Montegabbione**	**1.08**	**301**	Pg	**Pb**	**22 39 49.1**	**0.0**
	539nm,0.5s						
MURB	**Monte Urbino**	**1.09**	**326**	Pg	**Pb**	**22 39 49.3**	**-0.1**
MURB	**Monte Urbino**	**1.09**	**326**	Pg	**Pb**	**22 39 49.3**	**-0.1**
ARVD	**Arcevia**	**1.18**	**345**	Pg	**Pn**	**22 39 50.3**	**-0.5**
	339nm,0.9s						
ARVD	**Arcevia**	**1.18**	**345**	Pg	**Pn**	**22 39 50.3**	**-0.5**
	339nm,0.9s						
AOI	**Ancona**	**1.20**	**8**	Pg	**Pb**	**22 39 51.3**	**+0.1**
	499nm,0.9s						
AOI	**Ancona**	**1.20**	**8**	Pg	**Pb**	**22 39 51.3**	**+0.1**
	499nm,0.9s						
PIEI	**Pieia**	**1.32**	**333**	Pg	**Pb**	**22 39 53.2**	**-0.1**
	207nm,0.8s						
PIEI	**Pieia**	**1.32**	**333**	Pg	**Pb**	**22 39 53.2**	**-0.1**
	207nm,0.8s						
PGF	**Pioggiola**	**3.24**	**275**	ePn	**Pn**	**22 40 20.7**	**+1.6**
PGF				eSn	**Sn**	**22 40 55.3**	**-2.3**
	12nm,0.7s						
PGF	**Pioggiola**	**3.24**	**275**	ePn	**Pn**	**22 40 20.7**	**+1.6**
PGF				eSn	**Sn**	**22 40 55.3**	**-2.3**
	6.1nm,0.7s						
STON	**Ston**	**3.24**	**79**	ePn	**Pn**	**22 40 21.0**	**+1.9**
STON				eSg	**Sn**	**22 40 52.2**	**-5.3**
STON	**Ston**	**3.24**	**79**	ePn	**Pn**	**22 40 21.0**	**+1.9**
STON				eSg	**Sn**	**22 40 52.2**	**-5.3**
BOJS	**Bojanci**	**3.43**	**23**	ePn	**Pn**	**22 40 24.1**	**+2.4**
BOJS				eSg	**Sn**	**22 41 03.0**	**+0.9**
BOJS	**Bojanci**	**3.43**	**23**	ePn	**Pn**	**22 40 24.1**	**+2.4**
BOJS				eSg	**Sn**	**22 41 03.0**	**+0.9**
VOY	**Vojsko**	**3.69**	**6**	ePn	Pn	22 40 29.2	+3.8
VOY				e		22 40 35.9	
VOY				eSn	**Sn**	**22 41 11.5**	**+2.7**
VOY	**Vojsko**	**3.69**	**6**	ePn	Pn	22 40 29.2	+3.8
VOY				eSn	**Sn**	**22 41 11.5**	**+2.7**
PDG	**Podgorica**	**4.36**	**87**	ePn	**Pn**	**22 40 37.2**	**+2.7**
PDG	**Podgorica**	**4.36**	**87**	ePn	**Pn**	**22 40 37.2**	**+2.7**
ABTA	**Abfaltersbach**	**4.43**	**352**	⇑iPn	**Pn**	**22 40 37.9**	**+2.4**
	SNR=17						
ABTA	**Abfaltersbach**	**4.43**	**352**	Pn	**Pn**	**22 40 37.9**	**+2.4**
	SNR=17						
SBF	**Sospel**	**4.59**	**291**	ePn	**Pn**	**22 40 38.5**	**+0.7**
SBF	**Sospel**	**4.59**	**291**	ePn	**Pn**	**22 40 38.5**	**+0.7**
BBLS	**Lazići**	**4.67**	**69**	eSn	Sn	22 41 20.9	-12
SJES	**Sjenica**	**4.95**	**77**	ePn	**Pn**	**22 40 44.1**	**+1.5**
SJES				eSn	Sn	22 41 28.6	-11
DAVOX	**Davos/Dischmat**	**5.07**	**332**	Pn	Pn	22 40 48.3	+3.8
	1.1nm,0.3s,baz=149,slow=17,SNR=12						
DAVOX				Sn	**Sn**	**22 41 45.8**	**+2.8**
	0.3nm,0.3s,baz=287,slow=19,SNR=1.8						
FRF	**La Foret Royal**	**5.07**	**286**	ePn	**Pn**	**22 40 44.5**	**+0.2**
FRF				eSn	**Sn**	**22 41 40.0**	**-2.7**
	6.0nm,0.7s						
FRF	**La Foret Royal**	**5.07**	**286**	ePn	**Pn**	**22 40 44.5**	**+0.2**
FRF				eSn	**Sn**	**22 41 40.0**	**-2.7**
	3.0nm,0.7s						
ARSA	**Arzberg**	**5.13**	**17**	ePn	Pn	22 40 49.0	+4.0
ARSA				eSn	**Sn**	**22 41 38.5**	**-5.6**
DIVS	**Divibare**	**5.14**	**68**	ePn	**Pn**	**22 40 46.3**	**+1.0**
DIVS	**Divibare**	**5.14**	**68**	ePn	**Pn**	**22 40 46.3**	**+1.0**
MBDF	**Montbardon**	**5.34**	**299**	ePn	**Pn**	**22 40 47.2**	**-0.9**
MBDF				eSn	**Sn**	**22 41 46.3**	**-3.3**
	0.6nm,0.2s						
MBDF	**Montbardon**	**5.34**	**299**	ePn	**Pn**	**22 40 47.2**	**-0.9**
MBDF				eSn	**Sn**	**22 41 46.3**	**-3.3**
	0.3nm,0.2s						
GRUS	**Gruza**	**5.59**	**72**	ePn	**Pn**	**22 40 52.7**	**+1.3**
GRUS				eSn	Sn	22 41 42.2	-13
GRUS	**Gruza**	**5.59**	**72**	ePn	**Pn**	**22 40 52.7**	**+1.3**
LPL	**La Plagne**	**5.74**	**306**	eP	**Pn**	**22 40 56.6**	**+3.0**
SELS	**Selova**	**5.77**	**79**	ePn	**Pn**	**22 40 55.7**	**+1.8**
SELS				eSn	Sn	22 41 47.6	-12
ORIF	**Oris-en-Rattie**	**6.00**	**298**	eP	Pn	22 41 00.8	+3.7
GERES	**GERESS Array B**	**6.49**	**2**	Pn	**Pn**	**22 41 05.0**	**+1.1**
	0.3nm,0.3s,baz=176,slow=13,SNR=9.7						
GERES				Sn	**Sn**	**22 42 17.0**	**-0.8**
	0.7nm,0.3s,baz=177,slow=23,SNR=7.7						
KHC	**Kasperske Hory**	**6.78**	**1**	ePN	**Pn**	**22 41 09.5**	**+1.8**
KHC				eSN	**Sn**	**22 42 24.4**	**-0.3**
ZAPS	**Zavoj**	**6.88**	**79**	ePn	**Pn**	**22 41 10.8**	**+1.7**
ZAPS				eSn	Sn	22 42 14.5	-13
HINF	**Hinteralfeld**	**7.14**	**322**	ePn	**Pn**	**22 41 13.5**	**+0.8**
HINF				eSn	**Sn**	**22 42 28.9**	**-4.8**
	2.6nm,0.5s						
HINF	**Hinteralfeld**	**7.14**	**322**	ePn	**Pn**	**22 41 13.5**	**+0.8**
KEST	**Kesra**	**7.32**	**207**	Pn	Pn	22 41 21.2	+6.0
	0.6nm,0.3s,baz=327,slow=2.8,SNR=25						
CDF	**Champ du Feu**	**7.42**	**327**	ePn	**Pn**	**22 41 17.2**	**+0.7**
CDF				eSn	**Sn**	**22 42 35.7**	**-4.8**
	1.5nm,0.3s						
CDF	**Champ du Feu**	**7.42**	**327**	ePn	**Pn**	**22 41 17.2**	**+0.7**
HAU	**Haudompre**	**7.51**	**321**	ePn	**Pn**	**22 41 18.0**	**+0.2**
HAU				eSn	**Sn**	**22 42 37.8**	**-5.0**
	3.8nm,0.4s						
HAU	**Haudompre**	**7.51**	**321**	ePn	**Pn**	**22 41 18.0**	**+0.2**
PRU	**Pruhonice**	**7.67**	**6**	ePN	**Pn**	**22 41 21.5**	**+1.5**
PRU				eSN	**Sn**	**22 42 46.5**	**-0.2**
PRU	**Pruhonice**	**7.67**	**6**	Pn	**Pn**	**22 41 21.5**	**+1.5**
PRU				Sn	**Sn**	**22 42 46.5**	**-0.2**
MLR	**Muntele Rosu**	**9.60**	**67**	Pn	**Pn**	**22 41 49.5**	**+3.0**
	baz=267,slow=12						
FINES	**FINESS Array B**	**20.59**	**17**	P	Pn	22 44 09.0	-0.2
	1.2nm,0.9s,baz=197,slow=6.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.82**	**203**	P	**P**	**22 45 46.9**	**+2.7**
	0.2nm,0.5s,baz=24,slow=7.2,SNR=3.5						

IDC 02 22:53:54.4±2.7, 19°.46S×177°.39W, h616km±84km, mb3.4/3, mb1 3.5/5, mb1mx3.0/20, mbtmp3.4/5, Error ellipse: s-maj=121.3km s-min=58.1km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.71**	**45**	P	P	22 55 52.3	+0.6
	3.1nm,0.3s,baz=198,slow=3.2,SNR=6.0						
AFI				S	S	22 57 27.1	-0.6
	1.6nm,0.3s,baz=117,slow=17,SNR=2.8						
DZM	**Mont Dzumac**	**15.34**	**257**	P	P	22 57 06.2	+1.0
	0.5nm,0.3s,baz=90,slow=15,SNR=4.6						
STKA	**Stephens Creek**	**38.76**	**243**	P	P	23 00 27.5	-0.5
	2.3nm,0.5s,baz=92,slow=9.9,SNR=11						
WRA	**Warramunga Arr**	**45.32**	**261**	P	P	23 01 19.2	-0.2
	2.9nm,0.3s,baz=97,slow=7.5,SNR=2.5						
ASAR	**Alice Springs**	**45.32**	**256**	P	P	23 01 19.6	+0.3
	4.5nm,0.7s,baz=88,slow=8.5,SNR=80						

NNC 02 23:07:25.0±19.0, 37°.14N×70°.64E, h230km±252km, mb2.7, mpv3.8, 2C-4D, Error ellipse: s-maj=203.7km s-min=103.3km az=9.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.96**	**359**	⇓P	Pn	23 08 52.1	0.0
	1.3nm,0.2s,baz=180,slow=12,SNR=147						
KK31				⇓S	S	23 10 03.8	+2.3
	3.0nm,0.5s,baz=187,slow=24,SNR=7.5						
TKM2	**Tokmak 2**	**6.91**	**32**	⇑P	Pn	23 09 05.2	+0.8
	6.4nm,0.6s						
TKM2				⇑S	S	23 10 20.7	-3.2
	3.4nm,0.7s						
AB31	**Akbulak array**	**14.38**	**331**	⇓P	Pn	23 10 37.3	-0.9
	0.6nm,0.4s,baz=147,slow=11,SNR=18						
AKTO	**Aktyubinsk**	**16.08**	**330**	⇓P	Pn	23 10 58.8	+0.1
	3.2nm,0.8s						

IDC 02 23:25:54.2±0.9, 22°.88N×144°.09E, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.8/24, mbtmp3.7/12, MS3.1/2, Ms1 3.1/2, ms1mx2.5/50, Error ellipse: s-maj=31.3km s-min=19.5km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.11**	**320**	P	Pn	23 30 31.2	-0.2
	1.2nm,0.7s,baz=142,slow=10,SNR=6.1						
KSRS				LR	LR	23 37 10.2	
	comp=Z,34nm,20.9s,baz=145,slow=34						
USRK	**Ussuriysk Arra**	**23.48**	**338**	P	P	23 31 06.2	+0.8
	2.5nm,0.8s,baz=160,slow=11,SNR=6.3						
SONM	**Songino Array**	**38.98**	**319**	P	P	23 33 22.9	+0.5
	0.3nm,0.3s,baz=118,slow=6.6,SNR=3.2						
WRA	**Warramunga Arr**	**43.61**	**193**	P	P	23 34 00.5	0.0
	0.4nm,0.3s,baz=17,slow=9.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**53.81**	**321**	P	P	23 35 18.4	-0.2
	0.5nm,0.5s,baz=115,slow=6.8,SNR=2.7						
STKA	**Stephens Creek**	**54.50**	**183**	P	P	23 35 23.8	0.0
	2.1nm,1.0s,baz=326,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**54.52**	**312**	P	P	23 35 24.1	+0.1
	0.5nm,0.8s,baz=87,slow=10,SNR=5.6						
ILAR	**Eielson Array**	**60.61**	**27**	P	P	23 36 06.0	-0.5
	0.4nm,0.7s,baz=248,slow=5.5,SNR=5.3						
YKA	**Yellowknife Ar**	**75.02**	**28**	P	P	23 37 37.7	+0.4
	0.5nm,0.6s,baz=294,slow=6.1,SNR=2.8						
KBZ	**Khabaz**	**82.15**	**314**	P	P	23 38 17.1	+0.1
	3.0nm,0.9s,baz=92,slow=3.5,SNR=7.5						
FINES	**FINESS Array B**	**82.48**	**335**	P	P	23 38 17.2	-1.2
	0.4nm,0.4s,baz=63,slow=4.7,SNR=9.4						
BRTR	**Keskin Array B**	**90.14**	**314**	P	P	23 38 55.4	-1.4
	0.3nm,0.6s,baz=103,slow=4.7,SNR=2.9						
VRAC	**Vranov**	**94.31**	**329**	LR	LR	00 21 51.2	
	comp=Z,15nm,19.4s,baz=211,slow=36						
LPAZ	**La Paz**	**148.99**	**84**	PKPbc	PKPbc	23 45 46.5	+0.6
	0.6nm,0.5s,baz=243,slow=4.0,SNR=4.1						

*IDC **02** 23:33:43.9±1.4, 6°.58S×127°.21E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=185.5km s-min=27.4km az=67.0*
*AUST **02** 23:34:04.8±0.0, 6°.61S×128°.57E, h269km, Error ellipse: s-maj=2.1km s-min=1.1km az=293.0*
*ISCJB **02** 23:34:06.2±0.8, 6°.73S±0°.06×128°.77E±0°.07, h200km, mb3.4/3, Error ellipse: s-maj=10.5km s-min=7.6km az=13.6*
ISC 02 23:34:04.7±0.9, 6°.69S±0°.07×128°.7E±0°.1, h200km, n11, σ2§65/14, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.17**	**44**	P	**Pn**	**23 35 23.7**	**+2.3**
	baz=5.2,SNR=13						
SOEI	**Soe**	**5.32**	**235**	P	Pn	23 35 25.6	+2.2
	baz=5.3,SNR=12						
SOEI				S	**Sn**	**23 36 29.1**	**+3.6**
	baz=5.3,SNR=3.3						
SWI	**Sorong**	**6.34**	**24**	P	**Pn**	**23 35 38.4**	**+2.0**
	baz=6.3,SNR=3.9						
MTN	**Manton Dam**	**6.57**	**159**	P	**Pn**	**23 35 42.0**	**+2.6**
	baz=6.7,SNR=26						
KDU	**Kakadu**	**7.03**	**148**	P	**Pn**	**23 35 48.1**	**+2.8**
	baz=7.2,SNR=35						
KNRA	**Kununurra**	**8.93**	**179**	P	**Pn**	**23 36 11.2**	**+1.1**
	baz=9.1,SNR=4.0						
KNRA				S	**Sn**	**23 37 50.1**	**-0.2**
	baz=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**14.27**	**158**	Pn	**Pn**	**23 37 18.0**	**-0.1**
	0.4nm,0.3s,baz=332,slow=13,SNR=4.4						
WRA				Sn	**S**	**23 39 54.0**	**-3.0**
	0.4nm,0.3s,baz=332,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**17.61**	**164**	P	**P**	**23 37 57.5**	**+1.1**
	0.8nm,0.3s,baz=340,slow=11,SNR=34						
ASAR				S	**S**	**23 41 05.5**	**-3.4**
	0.1nm,0.3s,baz=339,slow=18,SNR=5.8						
SONM	**Songino Array**	**57.75**	**342**	P	**P**	**23 43 33.5**	**-1.3**
	0.4nm,0.7s,baz=144,slow=5.2,SNR=2.7						
MKAR	**Makanchi Array**	**67.26**	**327**	P	**P**	**23 44 35.2**	**-2.5**
	0.9nm,0.5s,baz=122,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**70.74**	**334**	P	**P**	**23 44 55.9**	**-3.0**
	0.6nm,0.5s,baz=139,slow=6.2,SNR=3.6						

*ISCJB **02** 23:36:39.5±0.8, 32°.48N±0°.09×138°.1E±0°.1, h376km, mb3.4/7, Error ellipse: s-maj=13.3km s-min=10.5km az=144.0*
*JMA **02** 23:36:39.7±0.3, 32°.43N×138°.00E, h366km, M3.2*
*IDC **02** 23:36:40.4±4.6, 32°.35N×138°.01E, h355km±40km, mb3.1/7, mb1 3.2/9, mb1mx3.0/26, mbtmp3.1/9, Error ellipse: s-maj=61.5km s-min=18.2km az=74.0*
ISC 02 23:36:41.1±1.0, 32°.5N±0°.1×138°.16E±0°.10, h376km, n23, σ2§07/26, mb3.5/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.53**	**66**	P	**Pn**	**23 37 31.2**	**-0.7**
JHJ2				eS	S	**23 38 10.3**	**-2.6**
TTO2	**TONANKAI O.B.S**	**1.56**	**323**	P	**Pn**	**23 37 30.1**	**-1.6**
TTO1	**TONANKAI O.B.S**	**1.62**	**315**	P	**Pn**	**23 37 29.9**	**-2.1**
JIE	**Ise**	**2.25**	**328**	P	**Pn**	**23 37 34.5**	**-1.9**
JWZ	**Kozaga**	**2.30**	**298**	P	**Pn**	**23 37 33.7**	**-3.1**
JWY	**K

baz=245
ESL eS Sn 23 44 34.9 -0.4
baz=245
TWE Neicheng 0.94 322 P Pn 23 44 25.6 -0.2
baz=328
TWE eS Sb 23 44 38.0 0.0
baz=328
ENTT Nioudou 0.94 314 P Pn 23 44 25.9 +0.1
baz=323
ENTT eS Sb 23 44 38.1 -0.1
baz=323
WHF Hehuan Shan 0.96 280⇓iP Pn 23 44 26.4 -0.2
baz=277
WHF eS Sb 23 44 39.2 0.0
baz=277
NNS Nan Shan 0.96 298⇓iP Pn 23 44 26.3 +0.1
baz=295
EHY Hungye 1.02 243⇓iP Pn 23 44 26.7 -0.1
baz=240
EHY eS Sn 23 44 41.2 +0.9
baz=240
TWB1 Santiao Chiao 1.06 344 eP Pn 23 44 27.6 +0.1
baz=330
TWB1 eS Sn 23 44 40.4 -1.1
baz=330
TWT Tachien 1.07 285 eP Pb 23 44 28.6 +0.3
baz=270
NSK Sanguang 1.11 309 P Pn 23 44 28.5 +0.3
baz=306
TWF1 Yuli 1.11 236⇓iP Pn 23 44 28.5 +0.3
baz=222
TWF1 eS Sb 23 44 43.8 +0.7
baz=222
NWF Wu-fen Shan 1.19 336 eP Pn 23 44 29.8 +0.5
baz=333
NWF eS Sb 23 44 45.4 +0.2
baz=333
TWA Mucha 1.19 327 eP Pb 23 44 30.5 +0.2
baz=324
TWA eS Sb 23 44 46.6 +1.3
baz=324
CHKT Chengkung 1.23 225 eP Pn 23 44 29.3 -0.5
baz=212
CHKT eS Sn 23 44 44.6 -0.9
baz=212
TAP1 Taipei 1.27 326 eP Pb 23 44 31.6 0.0
baz=322
TAP1 eS Sb 23 44 48.1 +0.5
baz=322
SMLT Sun Moon Lake 1.29 266⇓iP Pb 23 44 31.6 -0.4
baz=252
SMLT eS Sb 23 44 49.0 +0.8
baz=252
TYC Yuchr 1.33 267 ⇓P Pb 23 44 32.0 -0.6
baz=265
TYC eS Sb 23 44 50.0 +0.8
baz=265
YUS Yu-Shan 1.33 249 P Pn 23 44 32.3 +0.7
baz=247
YUS S Sn 23 44 49.5 +0.7
baz=247
IRIF Iriomote-Funau 1.35 75 P Pn 23 44 32.2 +0.8
IRIF eS Sb 23 44 50.7 +0.9
NSTT Nanjuang 1.35 299 eP Pb 23 44 32.8 -0.2
baz=296
NSTT eS Sb 23 44 50.3 +0.3
baz=296
HATJ Hateruma jima 1.38 87 P Pb 23 44 32.7 -0.7
HATJ eS Sb 23 44 51.3 +0.8
TWS1 Kuangyinshan 1.38 324 eP Pb 23 44 32.9 -0.5
baz=333
TWS1 eS Sb 23 44 51.2 +0.6
baz=333
ELDTW Lidau 1.42 237 eP Pn 23 44 32.5 0.0
baz=235
ELDTW eS Sn 23 44 50.2 -0.2
baz=235
TWY Chenhua 1.44 334 eP Pb 23 44 34.1 -0.4
baz=331
TWY eS Sb 23 44 52.3 -0.1
baz=331
TWQ1 Liyutan 1.45 285 eP Pb 23 44 34.8 +0.2
baz=282
TWQ1 eS Sb 23 44 53.0 +0.5
baz=282
ALS Alishan 1.45 251⇓iP Pb 23 44 34.4 -0.4
baz=250
ALS eS Sn 23 44 52.4 +1.0
baz=250
NSY Sanyi 1.47 287 eP Pb 23 44 35.0 -0.1
baz=284
NSY eS Sb 23 44 54.5 +1.1
baz=284
WNT Mingjian 1.49 266 eP Pb 23 44 35.2 -0.1
baz=264
TCU Taichung 1.50 277 ⇓P Pb 23 44 35.8 +0.4
baz=274
CHN5 Tsauling 1.54 256 ⇓P Pb 23 44 36.0 -0.2
baz=243
CHN5 S Sb 23 44 56.2 +0.9
baz=243
JKRS Kuro-shima 1.58 80 P Pb 23 44 36.1 -0.8
JKRS eS Sb 23 44 58.0 +1.6
TWG Pinlang 1.62 225 eP Pn 23 44 35.0 -0.2
baz=237
TWG eS Sn 23 44 54.8 -0.3
baz=237
TTN Taitung 1.62 221 eP Pn 23 44 35.7 +0.5
baz=220
STYT Tauyuan 1.64 240 eP Pb 23 44 36.7 -1.2
baz=228
STYT eS Sb 23 44 57.4 -0.7
baz=228
PCYT Pengchaiyu 1.66 353 eP Pn 23 44 36.2 +0.5
baz=350
CHN4 Tsaushan 1.69 249 eP Pb 23 44 38.4 -0.4
baz=248
CHN4 eS Sb 23 45 01.1 +1.6
baz=248
WTP Ta-pu 1.71 245 eP Pb 23 44 38.4 -0.8
baz=244
WTP eS Sb 23 45 00.5 +0.2
baz=244
JIJ Ishigaki jima 1.72 77 P Pn 23 44 37.0 +0.4
JIJ eS Sb 23 44 59.4 -1.1
CHY Chiayi 1.79 255 eP Pb 23 44 39.6 -0.8
baz=253
TWK Hsinying 1.81 247 eP Pb 23 44 40.1 -0.7
baz=246
TWK eS Sb 23 45 03.6 +0.5
baz=246
CHN1 Nanshi 1.81 244 eP Pb 23 44 40.3 -0.5
baz=244
CHN1 eS Sb 23 45 04.0 +0.9
baz=244
SGST Jiashian 1.81 241 eP Pb 23 44 40.2 -0.7
baz=228
SGST eS Sb 23 45 04.0 +0.8
baz=228
ECL Taimali 1.85 222 eP Pn 23 44 38.3 0.0
baz=233
WTCT Ta-ch'eng 1.85 267 eP Pb 23 44 40.5 -1.1
baz=265
WTCT eS Sb 23 45 05.3 +1.0
baz=265
WSF Szhu 1.94 260 eP Pn 23 44 40.7 +1.2
baz=259
TWM1 Shoushan 2.08 237 eP Pb 23 44 44.5 -0.8
baz=235
SCZT Fangliau 2.23 224 eP Pn 23 44 45.0 +1.5
baz=217
JTJ Tarama 2.29 73 P Pn 23 44 45.1 +0.8
JTJ eS Sn 23 45 13.9 +2.3
HEN Hengchun 2.44 217 eP Pb 23 44 49.9 -1.6
baz=216
TSEB Hengchuen, Pin 2.44 212 eP Pn 23 44 46.5 0.0
baz=213
TWK1 Hengchun 2.45 215 eP Pn 23 44 47.1 +0.4
baz=214
WDGT Dungji 2.53 254 eP Pn 23 44 48.8 +1.1
baz=253
PNG Penghu 2.55 261 eP Pn 23 44 49.3 +1.3
baz=260
KSRS Korea Array 14.27 18 P P 23 47 40.6 +5.1
0.2nm,0.3s,baz=190,slow=11,SNR=3.5
SONM Songino Array 26.96 336 P P 23 49 47.4 -0.4
1.0nm,0.7s,baz=151,slow=9.8,SNR=7.3
MKAR Makanchi Array 39.20 316 P P 23 51 34.0 -0.2
0.3nm,0.6s,baz=97,slow=9.4,SNR=5.9
ZALV Zalesovo Beam 40.97 327 P P 23 51 47.5 -1.3
0.8nm,0.6s,baz=127,slow=7.4,SNR=3.8
FINES FINESS Array B 72.14 330 P P 23 55 30.2 0.0
0.5nm,0.7s,baz=50,slow=11,SNR=3.3
BRTR Keskin Array B 74.11 307 P P 23 55 43.0 +0.4
0.5nm,0.7s,baz=106,slow=5.1,SNR=5.1

ISCJB ***02*** *23:47:21.2±0.4, 7°.66S±0°.04×124°.06E±0°.06, h272km±4km, mb3.8/9, Error ellipse: s-maj=9.5km s-min=6.0km az=152.0*
IDC ***02*** *23:47:22.8±1.2, 7°.67S×124°.02E, h274km±13km, mb3.6/9, mb1 3.7/13, mb1mx3.6/22, mbtmp3.6/13, Error ellipse: s-maj=23.7km s-min=9.9km az=72.0*
AUST ***02*** *23:47:23.0±0.3, 7°.76S×124°.14E, h269km, Error ellipse: s-maj=1.3km s-min=0.8km az=356.0*
DJA ***02*** *23:47:28.2±1.6, 8°S±6°×12°4E±°, h215km±18km, M4.2/5, MLv4.2/5*
ISC 02 23:47:22.1±0.6,**7°.69S**±0°.05×**124°.03E**±0°.05,**h269**km±6km, **n43**,σ1¶**59**/55,**mb3.8**/9,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.01**	**242**	P	**Pn**	**23 48 07.3**	**+1.0**
SOEI	**Soe**	**2.06**	**174**	P	**Pn**	**23 48 07.3**	**+0.4**
SOEI				S	**S**	**23 48 41.2**	**-1.2**
SOEI	**Soe**	**2.06**	**174**	P	**Pn**	**23 48 07.1**	**+0.2**
baz=2.0,SNR=106							
SOEI				S	**S**	**23 48 42.0**	**-0.4**
baz=2.0,SNR=6.8							
BATI	**Baumata**	**2.52**	**188**	P	**Pn**	**23 48 11.9**	**+0.9**
BATI				S	**S**	**23 48 48.8**	**-1.1**
BATI	**Baumata**	**2.52**	**188**	P	**Pn**	**23 48 11.9**	**+0.9**
336nm,0.3s,baz=36,slow=2.2,SNR=114							
BATI				S	**S**	**23 48 49.4**	**-0.5**
311nm,0.3s,baz=300,slow=19,SNR=20							
BBSI	**Bau Bau**	**2.63**	**326**	P	**Pn**	**23 48 12.2**	**+0.1**
WSI	**Waingapu**	**4.18**	**242**	P	**Pn**	**23 48 31.4**	**+2.5**
WSI				S	**S**	**23 49 17.7**	**-4.5**
WSI	**Waingapu**	**4.18**	**242**	P	Pn	23 48 32.4	+3.5
baz=4.3,SNR=3.4							
WSI				S	**S**	**23 49 18.1**	**-4.1**
baz=4.3,SNR=5.7							
BASI	**Baing, Sumba**	**4.24**	**233**	S	**S**	**23 49 20.0**	**-3.3**
KAPI	**Kappang**	**5.02**	**302**	P	**Pn**	**23 48 39.5**	**+0.7**
1.5nm,0.3s,baz=152,slow=10,SNR=6.4							
MTN	**Manton Dam**	**8.66**	**127**	P	**Pn**	**23 49 23.0**	**-0.8**
baz=8.6,SNR=216							
KNRA	**Kununurra**	**9.19**	**150**	P	**Pn**	**23 49 30.4**	**0.0**
baz=9.1,SNR=66							
FAKI	**Fak Fak**	**9.46**	**60**	P	**Pn**	**23 49 32.5**	**-1.3**
baz=9.4,SNR=14							
FAKI				S	**S**	**23 51 23.8**	**+3.1**
baz=9.4,SNR=4.4							
KDU	**Kakadu**	**9.67**	**122**	P	**Pn**	**23 49 35.0**	**-1.5**
baz=9.6,SNR=22							
FITZ	**Fitzroy Crossi**	**10.46**	**172**	P	**Pn**	**23 49 45.6**	**-0.7**
5.4nm,0.3s,baz=2.7,slow=6.5,SNR=44							
FITZ				S	**S**	**23 51 39.9**	**-3.9**
1.9nm,0.3s,baz=126,slow=7.7,SNR=7.3							
UGM	**Wanagama**	**13.39**	**268**	P	**Pn**	**23 50 22.7**	**+0.3**
baz=14,SNR=7.5							
UGM				S	**S**	**23 52 51.8**	**+0.8**
baz=14,SNR=3.6							
WRA	**Warramunga Arr**	**15.75**	**142**	P	**P**	**23 50 49.5**	**+0.3**
3.2nm,0.3s,baz=316,slow=12,SNR=44							
WRA				S	**S**	**23 53 38.6**	**-2.7**
0.7nm,0.3s,baz=320,slow=21,SNR=5.2							
ASAR	**Alice Springs**	**18.49**	**150**	P	**P**	**23 51 20.1**	**+1.1**
2.6nm,0.3s,baz=332,slow=9.9,SNR=130							
ASAR				S	**S**	**23 54 34.4**	**-1.3**
baz=335,slow=23,SNR=7.0							
ASAR				ScP	**ScP**	**23 58 44.0**	**-2.2**
baz=307,slow=2.2,SNR=4.2							
MEEK	**Meekatharra**	**19.53**	**195**	P	**P**	**23 51 30.6**	**+0.5**
baz=20,SNR=36							
COEN	**Coen**	**19.80**	**110**	P	**P**	**23 51 32.3**	**-0.7**
baz=20,SNR=12							
MTSU	**Mount Surprise**	**22.30**	**120**	P	**P**	**23 51 58.1**	**+0.6**
baz=22,SNR=4.3							
MORW	**Morawa**	**22.56**	**199**	P	**P**	**23 52 00.3**	**+0.6**
baz=23,SNR=21							
FORT	**Forrest**	**23.27**	**171**	P	**P**	**23 52 06.7**	**+0.4**
baz=23,SNR=13							
BLDU	**Ballidu**	**23.81**	**196**	P	**P**	**23 52 11.4**	**+0.3**
baz=24,SNR=51							
KLBR	**Kellerberrin**	**24.49**	**193**	P	**P**	**23 52 17.4**	**+0.2**
baz=25,SNR=10.0							
NWAO	**Narrogin (SRO)**	**25.89**	**193**	P	**P**	**23 52 30.1**	**+0.3**
4.3nm,0.3s,baz=66,slow=8.2,SNR=17							
BBOO	**Buckleboo**	**27.37**	**158**	P	**P**	**23 52 43.4**	**+0.4**
baz=27,SNR=16							
RKGY	**Rocky Gully**	**27.56**	**193**	P	**P**	**23 52 46.6**	**+2.0**
baz=28,SNR=12							
STKA	**Stephens Creek**	**29.10**	**148**	P	**P**	**23 52 59.0**	**+0.7**
8.9nm,0.6s,baz=323,slow=8.1,SNR=22							
STKA				pP	**pP**	**23 53 52.2**	**+1.5**
1.9nm,0.5s,baz=295,slow=11,SNR=1.6							
STKA	**Stephens Creek**	**29.10**	**148**	P	**P**	**23 52 59.2**	**+0.9**
baz=29,SNR=16							
CMSA	**Cobar Meteorol**	**31.16**	**142**	P	**P**	**23 53 17.8**	**+1.4**
baz=31,SNR=8.1							
ARPS	**Mount Arapiles**	**33.18**	**153**	P	**P**	**23 53 35.3**	**+1.5**
baz=33,SNR=15							
YNG	**Young**	**34.71**	**143**	P	**P**	**23 53 48.9**	**+1.9**
baz=35,SNR=7.6							
CMAR	**Chiang Mai Arr**	**35.89**	**317**	P	**P**	**23 53 58.2**	**+1.0**
0.8nm,0.6s,baz=142,slow=6.4,SNR=4.0							
KSRS	**Korea Array**	**45.06**	**4**	P	**P**	**23 55 11.1**	**-0.5**
0.6nm,0.4s,baz=184,slow=8.1,SNR=3.1							
USRK	**Ussuriysk Arra**	**52.15**	**7**	P	**P**	**23 56 05.1**	**-0.2**
2.1nm,0.5s,baz=202,slow=8.6,SNR=7.0							
ASAJ	**Asahikawa**	**54.24**	**16**	P	**P**	**23 56 20.8**	**+0.3**
2.1nm,0.3s,baz=151,slow=19,SNR=3.2							
SONM	**Songino Array**	**57.45**	**346**	P	**P**	**23 56 43.0**	**-0.3**
0.6nm,0.5s,baz=158,slow=6.6,SNR=4.8							
MKAR	**Makanchi Array**	**65.70**	**330**	P	**P**	**23 57 37.9**	**-0.3**
1.2nm,0.5s,baz=126,slow=7.1,SNR=28							
ZALV	**Zalesovo Beam**	**69.72**	**337**	P	**P**	**23 58 01.7**	**-1.2**
0.6nm,0.4s,baz=130,slow=4.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**123.13**	**281**	PKP	**PKPdf**	**00 05 47.2**	**-0.6**
0.8nm,0.7s,baz=69,slow=2.0,SNR=9.9							
TXAR	**Lajitas Array**	**130.34**	**58**	SKPbc	**SKPbc**	**00 08 58.0**	**-1.2**
0.3nm,0.8s,baz=250,slow=3.6,SNR=3.5							
SIV	**San Ignacio**	**155.93**	**168**	PKPab	**PKPab**	**00 07 14.1**	**+0.6**
0.8nm,0.5s,baz=223,slow=10.0,SNR=5.2							

ISCJB ***02*** *23:55:29.7±0.4, 13°.09N±0°.04×89°.13W±0°.04, h73km±2km, mb4.4/53, Error ellipse: s-maj=9.3km s-min=3.8km az=42.2*
CASC ***02*** *23:55:30.8±1.4, 13°.08N×89°.18W, h48km±11km, MD3.9, ML4.5*
NEIC ***02*** *23:55:35.1±0.9, 13°.16N×88°.73W, h118km±7km, mb4.5/34, MD4.4(SNET), Error ellipse: s-maj=11.3km s-min=4.8km az=57.0*
NEIC Felt [III] at San Salvador. Also felt at Apopa and San Miguel.
IDC ***02*** *23:55:35.9±2.5, 13°.45N×88°.77W, h115km±21km, mb3.9/20, mb1 4.0/22, mb1mx3.9/28, mbtmp3.9/22, MS3.3/9, Ms1 3.3/9, ms1mx3.0/32, Error ellipse: s-maj=22.6km s-min=10.4km az=59.0*
ISC 02 23:55:30.9±0.7,**13°.21N**±0°.05×**89°.09W**±0°.05,**h75**km±5km, **n418**,σ1¶**46**/434,**mb4.4**/52,**142C-152D**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.25**	**9**⇓eP		**Pn**	**23 55 40.7**	**-1.7**
AIES				eS	**Sn**	**23 55 49.2**	**-1.7**
AIES				AML	AML	23 55 54.0	
comp=Z,15μm,0.4s							
LFRS	**El Faro**	**0.42**	**4**⇓iP		**Pn**	**23 55 42.5**	**-1.1**
SNVI	**San Vicente**	**0.47**	**32**⇓iP		**Pn**	**23 55 43.5**	**-0.7**
SNET	**Serv Nac Est T**	**0.50**	**344**⇓iP		**Pn**	**23 55 43.1**	**-1.2**
SNET				AML	AML	23 55 43.7	
comp=Z,24μm,0.4s							
SNET				eS	**Sn**	**23 55 52.8**	**-1.3**
LBRS	**Las Brisas**	**0.53**	**5**⇓iP		**Pn**	**23 55 44.3**	**-0.3**
LFU	**La Fuente**	**0.54**	**358**⇓eP		**Pn**	**23 55 44.3**	**-0.4**
LFU				eS	**Sn**	**23 55 54.7**	**-0.1**
BOQS	**Boqueron**	**0.56**	**341**⇑iP		**Pn**	**23 55 44.1**	**-0.9**
SBLS	**San Blas**	**0.81**	**321**⇓iP		**Pn**	**23 55 46.7**	**-1.0**
SNJE	**San Jose**	**0.83**	**323**⇓iP		**Pn**	**23 55 46.9**	**-0.9**
VSM	**San Miguel**	**0.83**	**74**⇓iP		**Pn**	**23 55 48.3**	**+0.5**
BLLM	**Bellamira**	**0.87**	**74**	eP	**Pn**	**23 55 48.5**	**+0.4**
RTR	**El Retiro**	**0.87**	**322**⇓iP		**Pn**	**23 55 47.7**	**-0.6**
CAHU	**Cacacuatique**	**1.03**	**57**	eP	**Pn**	**23 55 50.9**	**+0.7**
CAHU				eS	**Sn**	**23 56 07.0**	**+2.4**
RBDL	**Robledal**	**1.07**	**328**⇓iP		**Pn**	**23 55 50.5**	**-0.2**
CNCH	**Conchagua**	**1.23**	**87**⇓eP		**Pn**	**23 55 53.0**	**+0.4**
IXG	**Ixpaco**	**1.64**	**306**	eP	**Pn**	**23 55 57.8**	**-0.2**
IXG				eS	**Sn**	**23 56 17.2**	**-1.3**
NBG	**Las Nubes**	**1.83**	**319**	eP	**Pn**	**23 56 02.1**	**+1.4**
PCG	**Pacaya**	**1.89**	**309**	eP	**Pn**	**23 56 02.4**	**+1.0**
MRL	**Marmol**	**1.94**	**343**	eP	**Pn**	**23 56 04.2**	**+2.2**
FUG	**Fuego 3**	**2.10**	**306**	eP	**Pn**	**23 56 04.8**	**+0.6**
JTS	**JuntasAbangare**	**4.98**	**125**	ePn	**Pn**	**23 56 44.1**	**+0.9**
JTS				Sn	**Sn**	**23 57 38.1**	**-1.5**
JTS				Lg	Lg	23 57 55.6	
JTS	**JuntasAbangare**	**4.98**	**125**	P	**Pn**	**23 56 44.0**	**+0.8**
comp=Z,12nm,0.3s,baz=314,slow=19,SNR=38							
JTS				S	**Sn**	**23 57 38.8**	**-0.8**
comp=Z,6.4nm,0.3s,baz=131,slow=20,SNR=2.5							
JTS				Lg	Lg	23 57 55.6	
comp=Z,14nm,0.3s,baz=281,slow=21,SNR=4.2							
TEIG	**Tepich**	**7.03**	**6**	ePn	Pn	23 57 14.4	+3.3
TEIG				eSn	**Sn**	**23 58 28.4**	**-1.1**
TEIG	**Tepich**	**7.03**	**6**	P	**Pn**	**23 57 13.9**	**+2.8**
comp=Z,9.1nm,0.3s,baz=152,slow=2.0,SNR=37							
TEIG				S	**Sn**	**23 58 28.3**	**-1.2**
comp=Z,2.7nm,0.3s,baz=0.0,slow=19,SNR=1.7							
CNI	**Changuinola**	**7.47**	**120**	eP	**Pn**	**23 57 19.6**	**+2.4**
BRU2	**Volcan**	**7.66**	**124**	eP	**Pn**	**23 57 21.1**	**+1.1**
BRU2				eS	**Sn**	**23 58 47.7**	**+2.2**
TBS2		**7.69**	**124**	eP	**Pn**	**23 57 21.5**	**+1.2**
TBS2				eS	**Sn**	**23 58 47.9**	**+1.8**
ROSC	**El Rosal**	**16.77**	**118**	ePn	**Pn**	**23 59 18.5**	**-3.0**
ROSC	**El Rosal**	**16.77**	**118**	P	**P**	**23 59 22.7**	**+0.2**
comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=3.0							
732A	**Laxson Ranch,**	**18.47**	**328**	⇑P	**Pn**	**23 59 42.6**	**+0.9**
baz=19							
SDV	**Santo Domingo**	**18.62**	**101**	ePn	**P**	**23 59 41.4**	**-1.3**
comp=Z,24nm,0.6s							
TIGA	**Tifton**	**18.84**	**15**	⇑P	**Pn**	**23 59 47.5**	**+1.4**
baz=19,SNR=16							
632A	**Uvalde**	**19.01**	**330**	⇑P	**P**	**23 59 47.9**	**+1.2**
baz=19,SNR=6.3							
631A	**Perdido Creek**	**19.33**	**328**	⇑P	**P**	**23 59 51.6**	**+1.4**
baz=20,SNR=20							
532A	**Rocksprings**	**19.59**	**331**	⇓P	**P**	**23 59 54.2**	**+1.2**
baz=20,SNR=17							
JCT	**Junction City**	**19.83**	**332**	eP	**P**	**23 59 57.0**	**+1.3**
comp=Z,11nm,0.6s							
JCT	**Junction City**	**19.83**	**332**	⇓P	**P**	**23 59 56.6**	**+0.9**
baz=20,SNR=7.8							
531A	**Rocksprings**	**19.93**	**330**	⇓P	**P**	**23 59 58.0**	**+1.3**
baz=20							
432A	**Menard**	**20.16**	**332**	⇓P	**P**	**00 00 00.4**	**+1.1**
baz=20,SNR=9.2							
WHTX	**Lake Whitney**	**20.21**	**339**	⇓P	**P**	**00 00 00.9**	**+1.2**
baz=20							
530A	**J-C Ranch, Com**	**20.31**	**328**	⇓P	**P**	**00 00 01.9**	**+1.0**
baz=21,SNR=9.5							
431A	**Sonora**	**20.38**	**330**	⇑P	**P**	**00 00 02.1**	**+0.4**
baz=21,SNR=17							
332A	**Millersview**	**20.57**	**333**	⇓P	**P**	**00 00 05.1**	**+1.4**
baz=21,SNR=22							
628A	**Black Gap, Mar**	**20.64**	**324**	⇑P	**P**	**00 00 05.3**	**+0.8**
baz=21,SNR=18							
529A	**Stev Forest Ra**	**20.76**	**326**	⇑P	**P**	**00 00 05.6**	**-0.1**
baz=21,SNR=11							
GOGA	**Godfrey**	**20.76**	**13**	eP	**P**	**00 00 07.5**	**+1.9**
comp=Z,19nm,1.0s							
430A	**Baggett Ranch,**	**20.77**	**329**	⇑P	**P**	**00 00 06.4**	**+0.5**
baz=21,SNR=9.2							
331A	**San Angelo**	**20.82**	**332**	⇓P	**P**	**00 00 06.8**	**+0.5**
baz=21,SNR=18							
627A	**Terlingua Ranc**	**20.91**	**323**	⇓P	**P**	**00 00 08.4**	**+1.0**
baz=21,SNR=13							
232A	**Coleman**	**20.97**	**334**	⇓P	**P**	**00 00 08.1**	**+0.1**
baz=21,SNR=25							
429A	**Davenport Ranc**	**20.98**	**328**	⇑P	**P**	**00 00 09.0**	**+0.9**
baz=21,SNR=36							
TXAR	**Lajitas Array**	**20.99**	**322**	P	**P**	**00 00 10.1**	**+1.8**
TXAR				PcP	**PcP**	**00 04 14.0**	**+1.0**
TXAR	**Lajitas Array**	**20.99**	**322**	P	**P**	**00 00 10.1**	**+1.8**
comp=Z,3.2nm,0.6s,baz=145,slow=11,SNR=52							
TXAR				PcP	**PcP**	**00 04 14.0**	**+1.0**
comp=Z,0.8nm,0.7s,baz=149,slow=2.6,SNR=6.2							
528A	**Cox Ranch, San**	**21.10**	**325**	⇓P	**P**	**00 00 10.1**	**+0.7**
baz=21							
330A	**Mertzon**	**21.25**	**330**	⇑P	**P**	**00 00 10.7**	**-0.3**
baz=22,SNR=9.9							
231A	**Bronte**	**21.30**	**333**	⇑P	**P**	**00 00 11.6**	**+0.2**
baz=22,SNR=5.5							
626A	**Big Bend Ranch**	**21.43**	**322**	⇓P	**P**	**00 00 13.9**	**+1.0**
baz=22,SNR=10							
428A	**Kincaid Ranch,**	**21.48**	**326**	⇑P	**P**	**00 00 14.5**	**+1.0**
baz=22							
527A	**Woodward Ranch**	**21.55**	**324**	⇓P	**P**	**00 00 15.2**	**+0.9**
baz=22							
ABTX	**Abilene, Hawle**	**21.61**	**335**	⇓P	**P**	**00 00 14.8**	**+0.1**
baz=22							
230A	**Sterling City**	**21.62**	**331**	⇓P	**P**	**00 00 15.1**	**+0.2**
baz=22							
MIAR	**Mount Ida**	**21.63**	**350**	eP	**P**	**00 00 16.4**	**+1.5**
comp=Z,26nm,0.7s							
UALR	**University of**	**21.68**	**353**	eP	**P**	**00 00 18.8**	**+3.5**
comp=Z,21nm,0.9s							
UALR				epP	**pP**	**00 00 34.8**	**+3.8**
PLAL	**Pickwick Lake**	**21.70**	**2**	eP	**P**	**00 00 17.0**	**+1.4**
comp=Z,4.7nm,0.6s							
329A	**Wagon Wheel Ra**	**21.71**	**329**	⇓P	**P**	**00 00 15.9**	**0.0**
baz=22,SNR=7.6							
526A	**Mary Lane Ranc**	**21.77**	**323**	⇑P	**P**	**00 00 17.3**	**+0.7**
baz=22							
131A	**Roby**	**21.96**	**334**	⇑P	**P**	**00 00 19.4**	**+0.8**
baz=22,SNR=8.8							
427A	**Hayter Ranch,**	**21.96**	**325**	⇓P	**P**	**00 00 19.5**	**+0.9**
baz=22							
229A	**Bryant Ranch,**	**22.02**	**330**	⇑P	**P**	**00 00 19.9**	**+0.7**
baz=22							
328A	**Wristen Ranch,**	**22.06**	**327**	⇓P	**P**	**00 00 19.6**	**0.0**
baz=22,SNR=15							
Z32A	**Haskell**	**22.14**	**336**	⇓P	**P**	**00 00 20.4**	**0.0**
baz=22,SNR=32							
130A	**Snyder**	**22.15**	**333**	⇓P	**P**	**00 00 19.9**	**-0.7**
baz=22,SNR=13							
426A	**McDonald Obser**	**22.18**	**324**	⇓P	**P**	**00 00 21.3**	**+0.2**
baz=22							
Z31A	**Sharp Cattle R**	**22.42**	**335**	⇑P	**P**	**00 00 23.0**	**-0.4**
baz=23,SNR=19							
228A	**UT Block 9, Go**	**22.53**	**329**	⇑P	**P**	**00 00 22.9**	**-1.9**
baz=23,SNR=5.9							
CPCT	**Cooper Cave**	**22.53**	**10**	eP	**P**	**00 00 26.0**	**+1.4**
129A	**Stewart Farms,**	**22.59**	**331**	⇑P	**P**	**00 00 24.3**	**-1.1**
baz=23,SNR=13							
326A	**Caldwell Ranch**	**22.64**	**325**	⇓P	**P**	**00 00 25.2**	**-0.7**
baz=23,SNR=5.4							
Y32A	**R-V Farms, Ver**	**22.74**	**337**	⇓P	**P**	**00 00 26.3**	**-0.5**
baz=23,SNR=8.5							
227A	**Bennet, Jal**	**22.80**	**327**	⇑P	**P**	**00 00 28.3**	**+0.7**
baz=23							
Z30A	**Sanderson Ranc**	**22.81**	**333**	⇓P	**P**	**00 00 27.4**	**-0.2**
baz=23,SNR=31							
425A	**Indio Mountain**	**22.82**	**323**	⇓P	**P**	**00 00 28.4**	**+0.6**
baz=23							
ATAH	**Atahualpa**	**22.83**	**152**	LR	LR	00 08 30.4	
comp=Z,36nm,21.3s,baz=188,slow=34							
TKL	**Tuckaleechee C**	**22.87**	**11**	eP	**P**	**00 00 29.3**	**+1.2**
TKL				ePcP	**PcP**	**00 04 15.7**	**-0.8**
TKL	**Tuckaleechee C**	**22.87**	**11**	P	**P**	**00 00 28.9**	**+0.9**
comp=Z,2.5nm,0.5s,baz=179,slow=16,SNR=6.5							
TKL				LR	LR	00 09 55.2	
comp=Z,69nm,21.9s,baz=12,slow=38							
128A	**Castleberry Fa**	**22.88**	**330**	⇓P	**P**	**00 00 27.6**	**-0.8**
baz=23,SNR=11							
KMSC	**Kings Mountain**	**22.94**	**16**	⇑P	**P**	**00 00 26.3**	**-2.6**
baz=23							
Y31A	**Rekieta Farm,**	**23.02**	**336**	⇓P	**P**	**00 00 29.4**	**-0.3**
baz=23,SNR=26							
Z29A	**Hungry Hill Ra**	**23.04**	**332**	⇓P	**P**	**00 00 29.1**	**-0.9**
baz=23,SNR=11							
Y30A	**Stafford Cattl**	**23.21**	**334**	⇑P	**P**	**00 00 31.3**	**-0.2**
baz=24,SNR=15							
325A	**Bean Ranch, Si**	**23.24**	**324**	⇓P	**P**	**00 00 32.7**	**+0.7**
baz=24							
226B	**Tecolote Peak,**	**23.32**	**326**	⇓P	**P**	**00 00 33.1**	**+0.5**
baz=24							

127A **Arkansas Junct** 23.36 328 ⇓P P 00 00 33.4 +0.3
baz=24
PARMO **Parma** 23.37 359 eP P 00 00 35.1 +2.3
Z28A **Tucker Farm, M** 23.38 331 ⇓P P 00 00 32.3 -0.8
baz=24,SNR=7.5
TUL1 **Tulsa** 23.40 346 ⇑P P 00 00 33.7 +0.5
baz=24
X31A **McDonald Ranch** 23.50 337 ⇑P P 00 00 34.1 0.0
baz=24,SNR=9.7
Y29A **Porterfield Fa** 23.53 333 ⇑P P 00 00 34.6 +0.1
baz=24
324A **Moseley Ranch,** 23.59 323 ⇑P P 00 00 35.8 +0.6
baz=24
126A **Clayton Basin,** 23.68 327 ⇑P P 00 00 35.9 0.0
baz=24
X30A **Coker Ranch, T** 23.69 335 ⇑P P 00 00 36.3 +0.4
baz=24,SNR=45
225A **Deer Hill, Car** 23.71 325 ⇑P P 00 00 36.9 +0.7
baz=24,SNR=6.2
Z27A **Tatum** 23.80 330 ⇓P P 00 00 36.6 -0.4
baz=24,SNR=8.7
Y28A **McKinney Farm,** 23.83 332 ⇑P P 00 00 37.4 +0.2
baz=24
W31A **Holland Ranch,** 23.98 338 ⇓P P 00 00 38.9 +0.4
baz=24
125A **Gardner Draw,** 24.03 326 ⇓P P 00 00 39.8 +0.7
baz=24,SNR=10.0
X29A **Tulia** 24.04 334 ⇑P P 00 00 39.4 +0.3
baz=24,SNR=11
224A **Cornudas Mount** 24.08 324 ⇓P P 00 00 40.0 +0.4
baz=24
MSTX **Muleshoe** 24.12 331 ⇓P P 00 00 39.8 0.0
baz=24,SNR=14
W30A **Crocket Farms** 24.22 337 ⇓P P 00 00 41.4 +0.8
baz=24
Y27A **Causey** 24.24 330 ⇑P P 00 00 40.8 -0.1
baz=24,SNR=11
X28A **Dimmitt** 24.32 333 ⇑P P 00 00 41.7 +0.1
baz=25,SNR=7.6
SIUC **Southern Illin** 24.41 360 eP P 00 00 43.7 +1.5
comp=Z,28nm,1.0s
V31A **Spring Creek L** 24.47 339 ⇑P P 00 00 43.7 +0.7
baz=25,SNR=6.7
124A **Stringfield Ra** 24.50 325 ⇑P P 00 00 45.2 +1.7
baz=25,SNR=7.6
Z25A **Roswell** 24.54 327 ⇑P P 00 00 44.6 +0.9
baz=25,SNR=8.4
Y26A **Elida** 24.59 329 ⇑P P 00 00 45.1 +1.0
baz=25
W29A **Amraillo** 24.60 335 ⇓P P 00 00 44.9 +0.8
baz=25
X27A **F and S Farms,** 24.83 332 ⇑P P 00 00 47.4 +1.1
baz=25
Z24A **Sheeppen Canyo** 24.93 326 ⇓P P 00 00 48.6 +1.3
baz=25
W28A **Vega** 24.95 334 ⇑P P 00 00 48.5 +1.1
baz=25
222A **Williams Famil** 25.03 322 ⇓P P 00 00 49.7 +1.6
baz=25
Y25A **Mesa, Roswell** 25.03 328 ⇑P P 00 00 49.0 +0.9
baz=25,SNR=10.0
X26A **CR and CF Fran** 25.09 330 ⇓P P 00 00 49.8 +1.1
baz=25
W27A **Bowe Ranch, En** 25.16 332 ⇑P P 00 00 50.4 +1.0
baz=25,SNR=16
Z23A **Rita Site, Whi** 25.36 325 ⇑P P 00 00 53.8 +2.7
baz=26
V28A **Channing** 25.38 334 ⇑P P 00 00 51.9 +0.6
baz=26,SNR=5.9
320A **Kipp Ranch, An** 25.40 318 ⇑P P 00 00 53.5 +2.0
baz=26
Y24A **Capitan** 25.42 327 ⇓P P 00 00 53.1 +1.3
baz=26,SNR=7.2
U30A **WK&E Inc. Balk** 25.44 338 ⇑P P 00 00 53.6 +1.8
baz=26
X25A **Clemmons Ranch** 25.49 329 ⇓P P 00 00 53.8 +1.4
baz=26
V27A **Dan Oppiter Fa** 25.64 333 ⇑P P 00 00 55.7 +2.0
baz=26
121A **Cookes Peak, D** 25.74 321 ⇑P P 00 00 57.0 +2.4
baz=26
Y23A **Lovelace Mesa,** 25.76 326 ⇓P P 00 00 56.8 +1.9
baz=26,SNR=9.1
220A **Playas Peak, P** 25.77 319 ⇑P P 00 00 56.6 +1.7
baz=26,SNR=5.2
T30A **Plains** 25.86 339 ⇓P P 00 00 57.6 +2.1
baz=26
U28A **Mallet** 25.92 335 ⇓P P 00 00 58.1 +2.0
baz=26
319A **Douglas** 25.92 318 ⇑P P 00 00 58.4 +2.2
baz=26
W25A **X Bar L Ranch,** 25.94 330 ⇑P P 00 00 58.5 +2.0
baz=26
S31A **Mullinville** 26.02 341 ⇑P P 00 00 58.9 +1.9
baz=26
V26A **Tequesquite Ra** 26.10 332 ⇑P P 00 00 58.7 +0.9
baz=26,SNR=11
U27A **Thompson Grove** 26.20 334 ⇑P P 00 01 00.4 +1.7
baz=26,SNR=9.1
T29A **Hugoton** 26.23 338 ⇑P P 00 01 00.5 +1.6
baz=26
Y22A **Socorro** 26.27 325 ⇓P P 00 01 01.3 +1.9
baz=27,SNR=6.9
W24A **Lazy 6 Ranch,** 26.41 329 ⇑P P 00 01 02.6 +2.0
baz=27
T28A **Walsh** 26.51 336 ⇑P P 00 01 02.4 +0.9
baz=27
V25A **Rancho No Teng** 26.52 331 ⇑P P 00 01 02.6 +0.9
baz=27,SNR=9.3
U26A **Atchley Ranch,** 26.58 333 ⇓P P 00 01 03.0 +0.8
baz=27,SNR=8.6
KSU1 **Kansas State U** 26.64 347 eP P 00 01 03.1 +0.6
comp=Z,12nm,0.9s
Y21A **Point of Rocks** 26.72 324 ⇓P P 00 01 05.2 +1.6
baz=27,SNR=5.7
ANMO **Albuquerque** 26.74 327 P P 00 01 04.5 +0.8
ANMO PcP PcP 00 04 26.2 +0.9
ANMO **Albuquerque** 26.74 327 P P 00 01 04.5 +0.8
comp=Z,0.9nm,0.7s,baz=165,slow=13,SNR=5.2
ANMO PcP PcP 00 04 26.2 +0.9
comp=Z,0.9nm,0.8s,baz=169,slow=8.2,SNR=3.4
ANMO LR LR 00 14 54.0
comp=Z,29nm,19.0s,baz=257,slow=43
V24A **Rampart Ranch,** 26.75 330 ⇓P P 00 01 05.0 +1.3
baz=27
W23A **Werner Place,** 26.75 328 ⇑P P 00 01 05.8 +2.1
baz=27
S28A **Manter** 26.84 337 ⇑P P 00 01 05.1 +0.7
baz=27
R30A **Dighton** 26.89 340 ⇑P P 00 01 06.1 +1.4
baz=27
Y20A **Horse Springs,** 27.06 323 ⇓P P 00 01 08.4 +1.9
baz=27
X21A **Alamocita Cree** 27.10 324 ⇓P P 00 01 08.4 +1.5
baz=27,SNR=5.1
T26A **Comanche Natio** 27.17 334 ⇑P P 00 01 09.2 +1.7
baz=27
V23A **Ortiz Mt. (NFS** 27.22 328 ⇓P P 00 01 10.1 +2.2
baz=28
U24A **Moreno Valley** 27.30 331 ⇑P P 00 01 10.2 +1.4
baz=28
S27A **Las Animas** 27.31 336 ⇓P P 00 01 08.7 0.0
baz=28,SNR=7.9
R28A **Tribune** 27.47 338 ⇑P P 00 01 10.8 +0.7
baz=28
T25A **Trinidad** 27.49 333 ⇑P P 00 01 11.6 +1.2
baz=28,SNR=12
S26A **Kim** 27.49 335 ⇑P P 00 01 11.3 +1.0
baz=28
TUC **Tucson** 27.50 317 eP P 00 01 13.6 +3.2
comp=Z,8.4nm,0.8s
U23A **El Rito** 27.68 329 ⇓P P 00 01 13.5 +1.4
baz=28,SNR=14
V22A **San Miguel Ran** 27.72 328 ⇓P P 00 01 14.0 +1.5
baz=28,SNR=7.0
T24A **Torres, Weston** 27.73 332 ⇓P P 00 01 14.3 +1.7
baz=28
P31A **Stockton** 27.74 343 ⇑P P 00 01 13.4 +1.0
baz=28
R27A **Eads** 27.79 336 ⇓P P 00 01 14.3 +1.4
baz=28
NNA **Nana** 27.82 154 eP P 00 01 11.7 -1.6
comp=Z,14nm,1.2s
S25A **Robets Cordova** 27.94 333 ⇑P P 00 01 16.1 +1.7
baz=28
P30A **Selden** 28.02 341 ⇓P P 00 01 16.6 +1.7
baz=28
U22A **Llaves** 28.05 328 ⇓P P 00 01 16.6 +1.1
baz=28
R26A **Arlington** 28.06 336 ⇓P P 00 01 16.6 +1.3
baz=28
S24A **Houchin Ranch,** 28.27 332 ⇑P P 00 01 19.4 +2.0
baz=29
R25A **Fountain Ranch** 28.28 334 ⇓P P 00 01 19.1 +1.8
baz=29
KSCO **Kaye Shedlock'** 28.36 337 ⇓P P 00 01 19.3 +1.3
baz=29
U21A **Nageezi** 28.50 327 ⇑P P 00 01 21.7 +2.3
baz=29,SNR=7.7
O30A **MW Ranch, Wils** 28.55 342 ⇑P P 00 01 21.0 +1.4
baz=29
Q26A **Hugo** 28.63 336 ⇑P P 00 01 22.1 +1.7
baz=29
R24A **Sanders Place,** 28.71 333 ⇓P P 00 01 22.6 +1.4
baz=29,SNR=6.0
T21A **Navajo Lake** 28.87 328 ⇓P P 00 01 25.3 +2.6
baz=29
Q25A **Bedland, Calha** 28.91 335 ⇓P P 00 01 24.7 +1.6
baz=29
R23A **Moffat** 28.99 332 ⇑P P 00 01 25.8 +2.0
baz=29
S22A **4UR Ranch, Cre** 29.11 330 ⇓P P 00 01 26.5 +1.6
baz=29,SNR=19
X16A **Lo Mia Camp, P** 29.27 320 ⇓P P 00 01 27.8 +1.7
baz=30
R22A **Saguache, Gunn** 29.46 331 ⇑P P 00 01 30.0 +2.0
baz=30
S21A **Coal Bank Pass** 29.52 329 ⇑P P 00 01 29.9 +1.4
baz=30,SNR=6.1
MVCO **Mesa Verde** 29.54 327 eP P 00 01 32.0 +3.4
comp=Z,34nm,2.1s
MVCO **Mesa Verde** 29.54 327 ⇓P P 00 01 30.7 +2.1
baz=30
OGNE **Ogallala** 29.87 340 ⇓P P 00 01 32.7 +1.4
baz=30
S20A **Disappointment** 29.93 328 ⇑P P 00 01 34.6 +2.4
baz=30
P23A **Jefferson** 29.97 333 ⇑P P 00 01 34.2 +1.6
baz=30,SNR=13
Q22A **Crested Butte,** 30.04 331 ⇑P P 00 01 34.3 +1.2
baz=30,SNR=12
R20A **Redvale** 30.22 329 ⇑P P 00 01 36.5 +1.9
baz=30
ISCO **Idaho Springs** 30.23 334 eP P 00 01 36.2 +1.4
comp=Z,4.7nm,0.8s
ISCO **Idaho Springs** 30.23 334 ⇓P P 00 01 35.8 +1.0
baz=30,SNR=9.8
O24A **Longmont** 30.27 335 ⇓P P 00 01 36.7 +1.7
baz=30
P22A **Eagle** 30.56 333 ⇑P P 00 01 39.4 +1.8
baz=31
PV04 **Paradox Valley** 30.64 328 eP P 00 01 40.4 +2.1
O23A **Lake Granby, G** 30.70 334 ⇓P P 00 01 40.6 +1.7
baz=31
P21A **Newcastle** 30.82 332 ⇑P P 00 01 41.5 +1.7
baz=31,SNR=7.2
O22A **Kremmling** 30.93 333 ⇓P P 00 01 41.6 +0.7
baz=31,SNR=6.4
K29A **Lazy Trails An** 31.01 344 ⇑P P 00 01 42.9 +1.5
baz=31
ECSD **EROS Data Cent** 31.10 349 eP P 00 01 42.5 +0.4
comp=Z,6.4nm,1.4s
U15A **North Rim** 31.11 322 ⇓P P 00 01 44.8 +2.2
baz=31
P20A **De Beque** 31.24 330 ⇓P P 00 01 45.5 +2.0
baz=32
W13A **Hualapai Mount** 31.25 318 ⇓P P 00 01 45.9 +2.2
baz=32
K28A **Ten Mile Ranch** 31.26 342 ⇑P P 00 01 45.5 +1.9
baz=32
N23A **Red Feather La** 31.28 335 ⇓P P 00 01 45.9 +1.9
baz=32
O21A **Pagoda** 31.38 332 ⇓P P 00 01 47.2 +2.3
baz=32
N22A **Wattenberg Ran** 31.42 334 ⇓P P 00 01 46.2 +1.0
baz=32,SNR=6.0
BC3 **Big Chuckawall** 31.45 315 ⇑P P 00 01 47.0 +1.6
baz=32
O20A **White River Ci** 31.67 331 ⇑P P 00 01 48.4 +1.0
baz=32,SNR=10.0
N21A **Black Mountain** 31.84 333 ⇓P P 00 01 50.9 +1.9
baz=32
J28A **Allard Ranch,** 31.88 343 ⇓P P 00 01 50.0 +1.0
baz=32
SRU **San Rafael** 32.01 328 eP P 00 01 52.9 +2.5
comp=Z,4.5nm,0.7s
SPMN **St. Paul** 32.07 355 ⇑P P 00 01 50.6 0.0
baz=32
L23A **Garrett** 32.22 336 ⇑P P 00 01 53.0 +0.8
baz=32,SNR=5.0
Q16A **Castle Valley** 32.22 327 ⇓P P 00 01 53.9 +1.7
baz=32
O19A **Miners Draw (B** 32.22 331 ⇑P P 00 01 53.5 +1.4
baz=32
N20A **Spence Gulch,** 32.24 332 ⇑P P 00 01 53.6 +1.3
baz=32,SNR=14
BRSD **Miller** 32.26 347 ⇓P P 00 01 53.0 +0.8
baz=32
J26A **Sides Ranch, S** 32.33 341 ⇑P P 00 01 54.8 +1.8
baz=33
I28A **Midland** 32.39 344 ⇓P P 00 01 54.9 +1.5
baz=33
L22A **Ellis Ranch, M** 32.44 336 ⇓P P 00 01 55.8 +1.8
baz=33
M21A **Separation Pea** 32.47 334 ⇓P P 00 01 56.0 +1.6
baz=33
RWWY **Rawlins** 32.47 334 eP P 00 01 56.2 +1.8
comp=Z,14nm,0.8s
MSU **Marysvale** 32.48 325 eP P 00 01 57.3 +2.8
SADO **Sadowa** 32.59 13 ScP ScP 00 08 11.9 -5.4
SADO **Sadowa** 32.59 13 ScP ScP 00 08 11.9 -5.4
comp=Z,4.1nm,1.0s,baz=256,slow=4.2,SNR=3.1
J25A **Sunshine Ranch** 32.64 340 ⇓P P 00 01 57.4 +1.7
baz=33
M20A **Sweetwater, Wa** 32.73 333 ⇑P P 00 01 57.7 +1.1
baz=33,SNR=6.1
K23A **Bowen Ranch, D** 32.73 337 ⇓P P 00 01 58.2 +1.7
baz=33
L21A **Rawlins** 32.76 334 ⇓P P 00 01 57.8 +0.9
baz=33,SNR=9.5
I26A **New Underwood** 32.91 342 ⇓P P 00 01 59.2 +1.1
baz=33
H28A **Mission Ridge** 32.98 344 ⇑P P 00 01 59.8 +1.2
baz=33
K22A **Casper** 32.99 336 ⇑P P 00 02 00.2 +1.3
baz=33
I25A **Rochford** 33.18 341 ⇓P P 00 02 01.8 +1.3
baz=33
M19A **Rock Springs** 33.18 332 ⇑P P 00 02 01.9 +1.3
baz=34
L20A **Wamsutter** 33.22 333 ⇑P P 00 02 01.7 +0.8
baz=34,SNR=8.0
H27A **Howes** 33.23 343 ⇑P P 00 02 02.5 +1.7
baz=34
MPU **Maple Canyon** 33.26 328 eP P 00 02 03.6 +2.4
comp=Z,5.9nm,0.7s
K21A **Alcova** 33.27 335 ⇑P P 00 02 02.5 +1.1
baz=34
DAU **Daniels Canyon** 33.36 328 eP P 00 02 04.8 +2.5
RSSD **Black Hills** 33.37 340 eP P 00 02 03.5 +1.4
H26A **Fairpoint** 33.42 342 ⇑P P 00 02 03.5 +1.1
baz=34
J22A **Midwest** 33.62 337 ⇑P P 00 02 05.7 +1.4
baz=34
H25A **Fruitdale** 33.67 341 ⇑P P 00 02 06.1 +1.5
baz=34
K20A **Yellowstone Ra** 33.74 334 ⇓P P 00 02 06.2 +0.8
baz=34
SAML **Samuel** 33.86 129 eP P 00 02 04.8 -1.7
comp=Z,16nm,0.9s
M17A **Scullys Gap (B** 33.87 330 ⇓P P 00 02 08.0 +1.4
baz=34
G27A **Dupree** 33.87 344 ⇑P P 00 02 07.2 +0.9
baz=34,SNR=7.6
L18A **Fontenelle, Gr** 33.92 331 ⇓P P 00 02 08.4 +1.4
baz=34
J21A **Lysite** 33.94 336 ⇓P P 00 02 08.2 +1.0
baz=34,SNR=12
G26A **Maurine** 33.98 343 ⇑P P 00 02 08.2 +1.0
baz=34
DUG **Dugway** 34.01 327 eP P 00 02 12.0 +4.2
comp=Z,3.4nm,1.4s
I22A **9 Mile Ranch,** 34.03 337 ⇓P P 00 02 08.8 +1.0
baz=34,SNR=9.9
H24A **Dirks Ranch, A** 34.09 340 ⇓P P 00 02 09.2 +0.9
baz=34,SNR=11
K19A **Absolon Red Bu** 34.10 334 ⇓P P 00 02 09.6 +1.1
baz=34
G25A **Newell** 34.13 342 ⇓P P 00 02 09.8 +1.2
baz=34
MPMC **Manual Prospec** 34.19 317 ⇓P P 00 02 11.7 +2.3
baz=34
J20A **Shoshoni** 34.21 335 ⇑P P 00 02 11.5 +2.2
baz=34
I21A **Big Trails, Te** 34.27 336 ⇓P P 00 02 10.8 +0.8
baz=34,SNR=6.8
PDAR **Pinedale Array** 34.36 333 P P 00 02 11.5 +0.6
PDAR PcP PcP 00 04 44.8 -0.5
PDAR **Pinedale Array** 34.36 333 P P 00 02 11.5 +0.6
comp=Z,2.1nm,0.7s,baz=131,slow=11,SNR=19
PDAR PcP PcP 00 04 44.8 -0.5
comp=Z,1.3nm,0.6s,baz=151,slow=4.8,SNR=10
F26A **Lodgepole** 34.51 343 ⇑P P 00 02 13.0 +1.2
baz=35
J19A **Crowheart** 34.54 334 ⇓P P 00 02 13.7 +1.4
baz=35
G24A **Alzada** 34.56 341 ⇑P P 00 02 13.8 +1.4
baz=35
H22A **Clearmont** 34.58 338 ⇓P P 00 02 13.8 +1.2
baz=35
BGU **Big Grassy Mou** 34.65 327 eP P 00 02 15.7 +2.5
comp=Z,2.3nm,0.8s
I20A **Worland** 34.72 336 ⇑P P 00 02 14.9 +1.1
baz=35,SNR=9.9
G23A **Biddle** 34.77 340 ⇓P P 00 02 15.1 +1.0
baz=35
F25A **Bowman** 34.81 342 ⇑P P 00 02 15.4 +0.9
baz=35,SNR=5.2
H21A **Big Horn, Sher** 34.87 337 ⇑P P 00 02 15.6 +0.5
baz=35,SNR=8.9
F24A **Ekalaka** 35.04 341 ⇑P P 00 02 17.3 +0.9
baz=35,SNR=11
G22A **Birney** 35.10 339 ⇓P P 00 02 18.0 +1.0
baz=35
H20A **Greybull** 35.12 336 ⇓P P 00 02 18.4 +1.3
baz=35
HVU **Hansel Valley** 35.14 329 eP P 00 02 22.0 +4.5
comp=Z,4.4nm,0.7s
I19A **Meeteetse** 35.15 335 ⇑P P 00 02 18.5 +1.0
baz=35,SNR=6.1
I18A **Diamond G Ranc** 35.22 334 ⇑P P 00 02 20.0 +1.8
baz=36
F23A **Volborg** 35.24 340 ⇓P P 00 02 19.6 +1.5
baz=36
E25A **Miller Ranch,** 35.31 343 ⇓P P 00 02 19.5 +0.7
baz=36,SNR=8.5
REDW **Red Top Meadow** 35.41 332 eP P 00 02 21.2 +1.4
comp=Z,16nm,0.6s
G21A **Lodge Grass** 35.44 338 ⇑P P 00 02 20.3 +0.4
baz=36,SNR=6.4
SNOW **Snow King Moun** 35.45 332 eP P 00 02 22.1 +1.8
comp=Z,20nm,0.6s
LOHW **Long Hollow** 35.50 333 eP P 00 02 22.8 +2.2
comp=Z,7.7nm,0.6s
TPAW **Teton Pass** 35.56 332 eP P 00 02 23.0 +1.9
comp=Z,6.6nm,0.6s
F22A **Rosebud** 35.58 339 ⇓P P 00 02 22.1 +1.1
baz=36
RRI2 **Red Ridge** 35.62 332 eP P 00 02 23.9 +2.2
comp=Z,5.2nm,0.8s
MDND **Maddock** 35.63 348 ⇑P P 00 02 21.6 +0.2
baz=36,SNR=12
E24A **Baker** 35.63 342 ⇑P P 00 02 22.5 +1.0
baz=36,SNR=11
MOOW **Moose Ponds** 35.67 333 eP P 00 02 25.2 +3.1
comp=Z,3.4nm,0.8s
G20A **Bridger** 35.81 337 ⇑P P 00 02 23.3 +0.1
baz=36,SNR=5.8
E23A **Ismay** 35.89 341 ⇑P P 00 02 24.6 +0.9
baz=36,SNR=7.7
LPAZ **La Paz** 35.89 144 eP P 00 02 20.8 -3.9
comp=Z,29nm,2.6s
LPAZ **La Paz** 35.89 144 P P 00 02 25.2 +0.6
comp=Z,0.9nm,0.5s,baz=349,slow=6.7,SNR=6.9
F21A **Absaloka Mine,** 35.92 338 ⇓P P 00 02 24.9 +1.0
baz=36
H18A **Shoshone NF, C** 35.95 335 ⇑P P 00 02 24.7 +0.3
baz=36,SNR=17
E22A **Miles City** 36.05 340 ⇑P P 00 02 25.7 +0.7
baz=36,SNR=6.1
NVAR **Mina Array Bea** 36.09 319 P P 00 02 27.4 +1.8
NVAR PcP PcP 00 04 51.2 +0.9
NVAR pPcP 00 05 10.2
NVAR **Mina Array Bea** 36.09 319 P P 00 02 27.4 +1.8
comp=Z,1.4nm,0.6s,baz=134,slow=6.5,SNR=9.7
NVAR PcP PcP 00 04 51.2 +0.9
comp=Z,2.0nm,0.7s,baz=127,slow=6.2,SNR=9.5
NVAR pPcP 00 05 10.2
comp=Z,0.8nm,0.6s,baz=114,slow=3.9,SNR=3.9
D24A **Glendive** 36.14 342 ⇑P P 00 02 27.0 +1.2
baz=36,SNR=16
F20A **Billings** 36.28 337 ⇓P P 00 02 28.8 +1.7
baz=36
C25A **Freed Ranch, W** 36.38 344 ⇑P P 00 02 28.8 +1.0
baz=37
G18A **Lazy EL Ranch,** 36.43 335 ⇓P P 00 02 29.0 +0.6
baz=37,SNR=8.9
D23A **Lindsay** 36.46 341 ⇑P P 00 02 29.7 +1.1
baz=37
E21A **Keefer Ranch,** 36.52 339 ⇑P P 00 02 30.1 +1.1
baz=37
C24A **Savage** 36.54 342 ⇓P P 00 02 30.2 +1.0
baz=37
F19A **Roth Farm, Mol** 36.62 337 ⇑P P 00 02 30.7 +0.7
baz=37,SNR=8.0
B26A **Jensen Ranch,** 36.73 345 ⇑P P 00 02 31.7 +0.9
baz=37
D22A **Cohagen** 36.75 340 ⇓P P 00 02 32.2 +1.2
baz=37,SNR=11
E20A **Meyer Farm, Mu** 36.87 338 ⇑P P 00 02 33.1 +1.1
baz=37,SNR=9.5
D21A **La Casta Ranch** 36.95 340 ⇑P P 00 02 33.7 +1.0
baz=37,SNR=7.5
F18A **Big Timber** 36.97 336 ⇓P P 00 02 33.8 +0.8
baz=37,SNR=14
C23A **Lambert** 37.01 342 ⇑P P 00 02 34.4 +1.2
baz=37,SNR=7.3
I14A **Mackay** 37.06 330 ⇓P P 00 02 35.4 +1.5
baz=37,SNR=6.1
E19A **Rath Farm, Rou** 37.07 337 ⇓P P 00 02 35.1 +1.3
baz=37
A26A **Wade Farm, Ken** 37.16 346 ⇑P P 00 02 35.4 +0.9
baz=37
C22A **Vida** 37.18 341 ⇓P P 00 02 35.8 +1.2
baz=37,SNR=18
HLID **Hailey** 37.27 329 eP P 00 02 38.3 +2.7
comp=Z,20nm,2.3s
HLID **Hailey** 37.27 329 ⇓P P 00 02 36.9 +1.3
baz=38
DGMT **Dagmar** 37.33 343 eP P 00 02 37.0 +1.1
comp=Z,35nm,0.6s
DGMT **Dagmar** 37.33 343 ⇓P P 00 02 36.7 +0.8
baz=38,SNR=11
F17A **Fitzpatrick Pl** 37.35 335 ⇓P P 00 02 37.6 +1.3
baz=38,SNR=6.4
ULM **Lac du Bonnet** 37.36 353 P P 00 02 35.1 -0.9
ULM **Lac du Bonnet** 37.36 353 P P 00 02 35.1 -0.9
comp=Z,3.9nm,0.5s,baz=171,slow=9.9,SNR=8.4
ULM LR LR 00 18 28.1
comp=Z,93nm,19.5s,baz=208,slow=37
D20A **Manuel Ranch,** 37.37 338 ⇓P P 00 02 37.4 +1.2
baz=38,SNR=15
A25A **Svangstu Ranch** 37.47 345 ⇓P P 00 02 38.6 +1.5
baz=38
B23A **Brockton** 37.55 343 ⇑P P 00 02 38.8 +1.0
baz=38,SNR=8.4
E18A **Harlowton** 37.59 336 ⇓P P 00 02 39.2 +0.9
baz=38,SNR=5.7
C21A **Desert Coulee** 37.64 340 ⇑P P 00 02 39.5 +0.9
baz=38,SNR=12
A24A **Westby** 37.69 344 ⇑P P 00 02 40.3 +1.4
baz=38
D19A **Cripps Ranch,** 37.70 338 ⇓P P 00 02 40.0 +0.9
baz=38,SNR=9.8
B22A **Reddig Ranch S** 37.71 341 ⇑P P 00 02 40.1 +1.0
baz=38,SNR=9.2
DLMT **Dillon** 37.76 333 eP P 00 02 41.3 +1.6
comp=Z,3.2nm,0.9s
C20A **Veseth Ranch,** 37.85 339 ⇓P P 00 02 41.4 +1.0
baz=38,SNR=21
MFID **Camas Ranch** 37.88 328 eP P 00 02 45.9 +5.1
comp=Z,13nm,2.0s
E17A **Martinsdale** 37.88 335 ⇓P P 00 02 42.2 +1.4
baz=38

A23A	Redstone	37.96	343	⇓P	P	00 02 43.0 +1.8
	baz=38					
LRM	Limekiln Ridge	38.05	333	eP	P	00 02 43.8 +1.6
D18A	Linhart Farms,	38.07	337	⇓P	P	00 02 43.7 +1.5
	baz=38					
C19A	Slack Wire Ran	38.24	338	⇓P	P	00 02 44.7 +1.1
	baz=38,SNR=20					
A22A	Carney Farms,	38.30	342	⇑P	P	00 02 45.2 +1.2
	baz=38,SNR=6.3					
D17A	Six Diamond Ra	38.38	336	⇑P	P	00 02 45.4 +0.6
	baz=39,SNR=6.8					
A21A	Bergtoll Ranch	38.60	341	⇑P	P	00 02 47.8 +1.2
	baz=39,SNR=6.1					
EGMT	Eagleton	38.74	338	eP	P	00 02 49.3 +1.4
	comp=Z,16nm,0.6s					
EGMT	Eagleton	38.74	338	⇑P	P	00 02 48.9 +1.0
	baz=39,SNR=7.7					
C17A	Wharram Farm,	38.80	337	⇓P	P	00 02 49.4 +1.1
	baz=39					
B19A	Brinkman Farms	38.81	339	⇑P	P	00 02 49.4 +1.0
	baz=39,SNR=11					
A20A	Cobblestone Ra	38.83	340	⇑P	P	00 02 49.5 +1.0
	baz=39,SNR=15					
B18A	Beardsley Farm	39.06	338	⇑P	P	00 02 51.9 +1.5
	baz=39					
A19A	Klindworth Far	39.15	339	⇓P	P	00 02 52.1 +0.9
	baz=39,SNR=8.6					
C16A	Fuhringer Ranc	39.32	336	⇑P	P	00 02 53.9 +1.2
	baz=40					
B17A	L&G Farms, Che	39.35	337	⇓P	P	00 02 53.8 +0.9
	baz=40					
MSO	Missoula	39.48	333	⇓P	P	00 02 54.9 +0.9
	baz=40					
A18A	Metzger Ranch,	39.53	338	⇓P	P	00 02 54.9 +0.6
	baz=40,SNR=7.8					
C15A	Salmond Ranch,	39.65	335	⇓P	P	00 02 56.7 +1.2
	baz=40					
B16A	M & M Farms, S	39.80	336	⇓P	P	00 02 57.5 +0.8
	baz=40					
A17A	Triple J Farms	39.86	338	⇓P	P	00 02 57.4 +0.3
	baz=40,SNR=18					
SIV	San Ignacio	40.12	135	P	P	00 03 01.0 +1.4
SIV				PcP	PcP	00 05 04.5 +1.5
SIV	San Ignacio	40.12	135	P	P	00 03 01.0 +1.4
	comp=Z,2.5nm,0.4s,baz=318,slow=9.6,SNR=14					
SIV				PcP	PcP	00 05 04.5 +1.5
	comp=Z,1.9nm,0.7s,baz=279,slow=5.3,SNR=4.4					
A16A	West Butte Ran	40.20	337	⇑P	P	00 03 01.0 +1.0
	baz=40					
A15A	Johnson Ranch,	40.66	336	⇑P	P	00 03 04.8 +1.0
	baz=41					
LVC	Limon Verde	40.72	151	P	P	00 03 02.2 -2.5
A14A	Double T Ranch	40.93	336	⇑P	P	00 03 07.4 +1.3
	baz=41					
NEW	Newport	41.99	332	PcP	PcP	00 05 07.9 -0.6
NEW	Newport	41.99	332	PcP	PcP	00 05 07.9 -0.6
	comp=Z,2.1nm,0.7s,baz=85,slow=4.2,SNR=4.5					
NEW				LR	LR	00 23 14.6
	comp=Z,39nm,18.3s,baz=133,slow=40					
FFC	Flin Flon	42.64	349	eP	P	00 03 20.0 +0.3
	comp=Z,8.3nm,0.5s					
RPN	Rapa Nui	44.65	206	eP	P	00 03 37.1 +1.0
	comp=Z,75nm,0.3s					
SCHQ	Schefferville	45.04	18	P	P	00 03 37.8 -1.2
SCHQ				PcP	PcP	00 05 17.4 -1.3
SCHQ	Schefferville	45.04	18	P	P	00 03 37.8 -1.2
	comp=Z,7.4nm,0.7s,baz=223,slow=7.1,SNR=12					
SCHQ				PcP	PcP	00 05 17.4 -1.3
	comp=Z,2.2nm,0.5s,baz=250,slow=3.8,SNR=7.6					
SCHQ				LR	LR	00 24 25.8
	comp=Z,58nm,20.2s,baz=249,slow=39					
BDFB	Brasilia	49.73	124	P	P	00 04 15.4 -0.6
BDFB	Brasilia	49.73	124	P	P	00 04 15.4 -0.6
	comp=Z,3.1nm,0.6s,baz=301,slow=11,SNR=5.8					
BDFB				LR	LR	00 24 44.8
	comp=Z,47nm,19.6s,baz=283,slow=35					
YKA	Yellowknife Ar	52.47	345	P	P	00 04 35.5 -0.3
YKA	Yellowknife Ar	52.47	345	P	P	00 04 35.4 -0.3
	comp=Z,8.0nm,0.7s,baz=144,slow=7.6,SNR=36					
FRB	Frobisher Bay	52.49	11	P	P	00 04 34.4 -1.4
FRB	Frobisher Bay	52.49	11	P	P	00 04 34.4 -1.4
	comp=Z,12nm,0.5s,baz=210,slow=7.7,SNR=14					
PLCA	Paso Flores	56.35	163	P	P	00 05 02.9 -1.3
PLCA	Paso Flores	56.35	163	P	P	00 05 04.3 +0.1
	comp=Z,2.5nm,1.0s,baz=282,slow=9.3,SNR=3.3					
TRQA	Tornquist	56.98	155	eP	P	00 05 06.8 -1.9
	comp=Z,1.0nm,0.7s					
INK	Inuvik	62.01	343	P	P	00 05 42.4 -0.4
INK	Inuvik	62.01	343	P	P	00 05 42.4 -0.4
	comp=Z,6.1nm,0.7s					
ILAR	Eielson Array	64.69	336	P	P	00 05 59.8 -0.8
ILAR	Eielson Array	64.69	336	P	P	00 05 59.8 -0.8
	comp=Z,1.6nm,0.8s,baz=170,slow=4.8,SNR=18					
EKA	Eskdalemuir Ar	76.95	36	P	P	00 07 11.9 -3.2
EKA	Eskdalemuir Ar	76.95	36	P	P	00 07 11.9 -3.2
	comp=Z,2.0nm,0.7s,baz=268,slow=5.8,SNR=5.9					
ESDC	Sonseca Array	77.99	52	P	P	00 07 20.4 -1.0
ESDC	Sonseca Array	77.99	52	P	P	00 07 20.4 -1.0
	comp=Z,0.5nm,0.6s,baz=284,slow=6.2,SNR=6.4					
SPITS	Spitsbergen Ar	80.30	12	P	P	00 07 32.5 -0.7
SPITS	Spitsbergen Ar	80.30	12	P	P	00 07 32.5 -0.7
	comp=Z,0.8nm,0.4s,baz=174,slow=8.4,SNR=4.0					
NOA	NORSAR Array B	83.48	29	LR	LR	00 43 23.5
	comp=Z,9.4nm,19.4s,baz=300,slow=34					
HFS	Hagfors	84.92	29	P	P	00 07 54.4 -3.0
HFS	Hagfors	84.92	29	P	P	00 07 54.4 -3.0
	comp=Z,2.2nm,1.0s,baz=181,slow=10,SNR=4.2					
ARCES	ARCESS Array B	85.99	19	P	P	00 08 01.9 -0.8
ARCES	ARCESS Array B	85.99	19	P	P	00 08 01.9 -0.8
	comp=Z,1.4nm,0.8s,baz=320,slow=4.7,SNR=6.2					
TORD	Torodi Ar. Bea	87.81	77	P	P	00 08 08.7 -3.9
TORD	Torodi Ar. Bea	87.81	77	P	P	00 08 08.7 -3.9
	comp=Z,0.2nm,0.6s,baz=288,slow=5.3,SNR=7.2					
FINES	FINESS Array B	90.00	26	P	P	00 08 22.1 +0.2
FINES	FINESS Array B	90.00	26	P	P	00 08 22.1 +0.2
	comp=Z,0.7nm,0.8s,baz=272,slow=3.8,SNR=2.7					
FINES				LR	LR	00 49 56.8
	comp=Z,30nm,19.0s,baz=357,slow=36					
SONM	Songino Array	117.68	348	PKP	PKPdf	00 14 08.2 -0.5
SONM	Songino Array	117.68	348	PKP	PKPdf	00 14 08.2 -0.5
	comp=Z,0.8nm,0.6s,baz=12,slow=2.2,SNR=7.2					
MKAR	Makanchi Array	119.78	7	PKP	PKPdf	00 14 10.6 -2.1
MKAR	Makanchi Array	119.78	7	PKP	PKPdf	00 14 10.6 -2.1
	comp=Z,0.2nm,0.5s,baz=333,slow=3.0,SNR=5.1					
HHC	Hu-ho-hao-te	122.92	341	ePKP	PKPdf	00 14 16.2 -2.7
HHC				PP	PP	00 16 00.4 +3.3
HHC				PKS	PKSdf	00 17 52.0 -3.7
HHC				SKS	SKSdf	00 21 16.8 -7.8
HHC				SKKS	SKKSac	00 22 41.8 -8.8
HHC				SS	SS	00 32 33.4 -0.8
HHC				AMB	AMB	
	comp=Z,110nm,9.1s					
HHC				LR	LR	
	comp=N,140nm,21.2s					
HHC				LR	LR	
	comp=E,180nm,20.9s					
HHC				LR	LR	
	comp=Z,190nm,21.3s					
WMQ	Urumqi	123.18	3	ePKP	PKPdf	00 14 16.7 -2.6
STKA	Stephens Creek	130.11	239	PKP	PKPdf	00 14 36.3 +3.6
STKA	Stephens Creek	130.11	239	PKP	PKPdf	00 14 36.3 +3.6
	comp=Z,2.4nm,1.0s,baz=76,slow=4.2,SNR=3.6					
CD2	Chengdu	134.43	344	ePKP	PKPdf	00 14 38.3 -2.8
GYA	Guiyang	137.70	339	ePdif	Pdif	00 11 53.2 -2.9
GYA				PKP	PKPdf	00 14 45.0 -2.3
GYA				sPKP		00 15 28.7
GYA				PP	PP	00 17 36.8 +3.7
GYA				AMB	AMB	
	comp=Z,70nm,7.8s					
WRA	Warramunga Arr	137.93	255	PKPpre	PKPpre	00 14 40.1
WRA				PKP	PKiKP	00 14 49.9 +0.2
WRA	Warramunga Arr	137.93	255	PKhKP	PKPpre	00 14 40.1
	comp=Z,5.9nm,0.3s,baz=86,slow=3.3,SNR=2.1					
WRA				PKP	PKiKP	00 14 49.9 +0.2
	comp=Z,8.0nm,0.4s,baz=87,slow=2.5,SNR=2.1					
ASAR	Alice Springs	138.05	249	PKP	PKPdf	00 14 49.7 +1.8
ASAR	Alice Springs	138.05	249	PKP	PKPdf	00 14 49.7 +1.8
	comp=Z,5.2nm,0.3s,baz=94,slow=2.7,SNR=5.4					
CMAR	Chiang Mai Arr	147.56	346	PKPbc	PKPdf	00 15 05.7 +0.9
CMAR	Chiang Mai Arr	147.56	346	PKPbc	PKPdf	00 15 05.7 +0.9
	comp=Z,3.3nm,0.7s,baz=338,slow=3.5,SNR=18					

*IDC **02** 23:59:01.3±2.2, 6°.80S×129°.35E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=91.7km s-min=28.8km az=76.0*

*ISCJB **02** 23:59:15.6±0.8, 7°.65S±0°.06×129°.01E±0°.09, h131km, mb3.3/1, Error ellipse: s-maj=14.2km s-min=6.7km az=155.8*

*AUST **02** 23:59:15.9, 7°.48S×129°.04E, h100km*

ISC 02 23:59:16.9±1.1, 7°.61S±0°.08×129°.0E±0°.1, h131km, n10, σ2.9 27/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	5.59	159	P	Pn	00 00 42.2	+4.2
	baz=5.7,SNR=4.9						
MTN				S	Sn	00 01 39.8	-1.4
	baz=5.7,SNR=3.3						
KDU	Kakadu	6.07	146	P	Pn	00 00 48.6	+4.2
	baz=6.2,SNR=37						
KDU				S	Sn	00 01 54.0	+1.2
	baz=6.2,SNR=5.4						
KNRA	Kununurra	8.02	182	S	Sn	00 02 39.1	-0.8
	baz=8.2,SNR=4.7						
WSI	Waingapu	8.89	256	P	Pn	00 01 22.4	+0.1
	baz=8.9,SNR=3.7						
LUWI	Luwuk	9.03	316	P	Pn	00 01 23.3	-1.0
	baz=9.0,SNR=4.2						
LUWI				S	Sn	00 02 43.7	-21
	baz=9.0,SNR=6.8						
FITZ	Fitzroy Crossi	10.94	197	Pn	Pn	00 01 49.6	-0.2
	0.2nm,0.3s,baz=27,slow=9.0,SNR=13						
WRA	Warramunga Arr	13.29	158	Pn	Pn	00 02 19.6	-1.1
	0.3nm,0.3s,baz=345,slow=13,SNR=3.1						
WRA				Sn	Sn	00 04 43.9	-3.5
	1.0nm,0.3s,baz=302,slow=14,SNR=4.5						
PALU	Palau	15.81	20	P	P	00 02 53.5	0.0
	baz=16,SNR=3.2						
ASAR	Alice Springs	16.64	164	Pn	P	00 03 06.8	+4.2
	0.0nm,0.3s,baz=345,slow=10,SNR=3.4						
MKAR	Makanchi Array	68.22	327	P	P	00 10 00.7	-2.7
	0.3nm,0.4s,baz=121,slow=8.0,SNR=5.4						

*ISCJB **03** 00:04:21.9±0.6, 37°.65N±0°.02×26°.87E±0°.03, h1km±4km, Error ellipse: s-maj=4.4km s-min=3.2km az=143.8*

*ISK **03** 00:04:21.0, 37°.67N×26°.90E, h5km, MD3.2*

*CSEM **03** 00:04:22.1±0.1, 37°.64N×26°.86E, h2km, MD3.2, Error ellipse: s-maj=3.2km s-min=2.1km az=60.0*

*DDA **03** 00:04:22.1, 37°.67N×26°.90E, h7km, ML3.6*

*ATH **03** 00:04:23.1, 37°.67N×26°.81E, h5km±1km, MD3.2/4*

ISC 03 00:04:22.0±1.0, 37°.64N±0°.02×26°.92E±0°.02, h3km±9km, n71, σ0.89/99, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.10	315	ePG	Pg	00 04 23.8	-0.2
SMG				eSG	Sg	00 04 24.8	-0.5
SMG	Samos	0.10	315	ePg	Pg	00 04 23.8	-0.2
SMG				eSg	Sg	00 04 24.8	-0.5
GCAM	G?zelcaml?	0.25	76	iP	Pb	00 04 28.5	-0.7
GCAM				iS	Sb	00 04 33.2	-0.8
GCAM	G?zelcaml?	0.25	76	iP	Pb	00 04 28.5	-0.7
GCAM				iS	Sb	00 04 33.2	-0.8
BODT	Bodrum	0.65	152	ePG	Pg	00 04 35.2	+0.7
BODT	Bodrum	0.65	152	ePg	Pg	00 04 35.2	+0.7
AYDN	Tasoluk	0.76	88	iP	Pb	00 04 37.6	-0.3
AYDN				iS	Sg	00 04 47.7	+1.3
AYDN	Tasoluk	0.76	88	iP	Pb	00 04 37.6	-0.3
AYDN				iS	Sg	00 04 47.7	+1.3
MLSB	Milas	0.76	117	ePG	Pb	00 04 37.5	-0.4
MLSB				eSG	Sb	00 04 49.7	+1.0
MLSB	Milas	0.76	117	ePg	Pb	00 04 37.5	-0.4
MLSB				eSg	Sb	00 04 49.7	+1.0
URLA	Izmir	0.76	340	iP	Pg	00 04 36.9	+0.2
URLA				iS	Sg	00 04 46.5	-0.1
URLA	Izmir	0.76	340	iP	Pg	00 04 36.9	+0.2
URLA				iS	Sg	00 04 46.5	-0.1
IZM	Izmir	0.80	19	ePG	Pg	00 04 36.9	-0.5
IZM				eSG	Sg	00 04 48.6	+0.8
IZM	Izmir	0.80	19	ePg	Pg	00 04 36.9	-0.5
IZM				eSg	Sg	00 04 48.6	+0.8
CHOS	Chios island	1.01	318	ePB	Pg	00 04 40.9	-0.5
CHOS				eSB	Sg	00 04 54.5	-0.1
CHOS	Chios island	1.01	318	ePb	Pg	00 04 40.9	-0.5
CHOS				eSb	Sg	00 04 54.5	-0.1
DAT	Datca	1.05	150	ePN	Pb	00 04 43.0	+0.2
DAT				eSN	Sn	00 04 59.0	+0.1
DAT	Datca	1.05	150	ePn	Pb	00 04 43.0	+0.2
DAT				eSn	Sn	00 04 59.0	+0.1
NIS1	Nisyros Isl.	1.06	169	ePB	Pn	00 04 44.3	+0.6
NIS1	Nisyros Isl.	1.06	169	ePb	Pn	00 04 44.3	+0.6
YER	Yerkesik	1.20	115	ePN	Pn	00 04 45.7	+0.1
YER	Yerkesik	1.20	115	ePn	Pn	00 04 45.7	+0.1
APE	Apeiranthos	1.25	243	ePN	Pg	00 04 46.0	+0.1
APE	Apeiranthos	1.25	243	ePB	Pg	00 04 46.0	+0.1
APE				eSB	Sg	00 05 02.1	0.0
APE	Apeiranthos	1.25	243	ePb	Pg	00 04 46.0	+0.1
APE				eSb	Sg	00 05 02.1	0.0
AKHS	Akhisar	1.42	29	iP	Pb	00 04 49.2	0.0
AKHS				iS	Sn	00 05 08.5	+0.6
AKHS	Akhisar	1.42	29	iP	Pb	00 04 49.2	0.0
AKHS				iS	Sn	00 05 08.5	+0.6
TURN	Turunc	1.54	119	iP	Pn	00 04 47.9	-2.4
TURN				iS	Sn	00 05 07.4	-3.5
TURN	Turunc	1.54	119	iP	Pn	00 04 47.9	-2.4
TURN				iS	Sn	00 05 07.4	-3.5
DALY	Dalyan (Mu¨la	1.61	120	ePN	Pb	00 04 52.0	-0.3
DALY	Dalyan (Mu¨la	1.61	120	ePn	Pb	00 04 52.0	-0.3
KULA	Kula-Manisa	1.63	57	ePN	Pb	00 04 52.4	-0.3
KULA	Kula-Manisa	1.63	57	ePn	Pb	00 04 52.4	-0.3
AYVA	Ayvalik	1.68	354	eP	Pn	00 04 52.8	+0.6
AYVA				iS	Sn	00 05 14.2	+0.1
AYVA	Ayvalik	1.68	354	eP	Pn	00 04 52.8	+0.6
AYVA				iS	Sn	00 05 14.2	+0.1
PRK	Paraskevi	1.68	343	ePG	Pb	00 04 53.5	-0.1
PRK				eSB	Sg	00 05 16.2	+0.1
PRK	Paraskevi	1.68	343	ePg	Pb	00 04 53.5	-0.1
PRK				eSb	Sg	00 05 16.2	+0.1
DEMI	Demirci	1.99	45	eP	Pg	00 04 59.7	-0.4
DEMI				iS	Sb	00 05 23.8	-0.2
DEMI	Demirci	1.99	45	eP	Pg	00 04 59.7	-0.4
DEMI				iS	Sb	00 05 23.8	-0.2
FETY	Fethiye	2.00	119	ePN	Pn	00 04 57.5	+0.9
FETY	Fethiye	2.00	119	ePn	Pn	00 04 57.5	+0.9
BALB	Balikesir	2.13	20	ePN	Pn	00 04 59.2	+0.7
BALB	Balikesir	2.13	20	ePn	Pn	00 04 59.2	+0.7
KHAL	Karahalli	2.16	69	eP	Pn	00 04 58.9	0.0
KHAL	Karahalli	2.16	69	eP	Pn	00 04 58.9	0.0
KHL	Karahalli	2.17	71	ePN	Pn	00 04 59.9	+0.9
KHL	Karahalli	2.17	71	ePn	Pn	00 04 59.9	+0.9
DST	Dursunbey	2.37	34	ePN	Pn	00 05 02.7	+0.9
DST	Dursunbey	2.37	34	ePn	Pn	00 05 02.7	+0.9
GONE	Gonen-Balikesi	2.48	14	ePN	Pn	00 05 04.1	+0.9
GONE	Gonen-Balikesi	2.48	14	ePn	Pn	00 05 04.1	+0.9
ELL	Elmali	2.54	110	ePN	Pn	00 05 05.3	+1.1
ELL	Elmali	2.54	110	ePn	Pn	00 05 05.3	+1.1
KRBG	Karabiga-Canak	2.77	6	ePN	Pn	00 05 07.6	+0.5
KRBG	Karabiga-Canak	2.77	6	ePn	Pn	00 05 07.6	+0.5
GELI	Tayfur-Gelibol	2.78	353	ePN	Pn	00 05 07.8	+0.5
GELI	Tayfur-Gelibol	2.78	353	ePn	Pn	00 05 07.8	+0.5
KCTX	Karacabey (Bur	2.85	23	ePN	Pn	00 05 09.0	+0.6
KCTX	Karacabey (Bur	2.85	23	ePn	Pn	00 05 09.0	+0.6
ORLT	Orhaneli	2.85	32	ePN	Pn	00 05 09.2	+0.7
ORLT	Orhaneli	2.85	32	ePn	Pn	00 05 09.2	+0.7
RKY	Sarkoy-Tekirda	3.05	4	ePN	Pn	00 05 11.5	+0.3
RKY	Sarkoy-Tekirda	3.05	4	ePn	Pn	00 05 11.5	+0.3
ENEZ	Enez	3.15	349	ePN	Pn	00 05 12.9	+0.5
ENEZ	Enez	3.15	349	ePn	Pn	00 05 12.9	+0.5
MFT	Murefte	3.15	5	ePN	Pn	00 05 13.8	+1.2
MFT	Murefte	3.15	5	ePn	Pn	00 05 13.8	+1.2
ARMT	Armutlu	3.29	27	ePN	Pn	00 05 16.0	+1.6
ARMT	Armutlu	3.29	27	ePn	Pn	00 05 16.0	+1.6
YLV	Yalova	3.49	32	ePN	Pn	00 05 18.4	+1.2
YLV	Yalova	3.49	32	ePn	Pn	00 05 18.4	+1.2

*CSEM **03** 00:20:03.2, 38°.54N×28°.61W, h15km, ML1.0, After PDA*

PDA 03 00:20:03.2±0.6, 38°.54N×28°.61W, h15km±5km, MD2.6, ML1.0, Error ellipse: s-maj=4.3km s-min=2.1km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.09	301	eP	Pg	00 20 06.1	-0.3
CALA				eS	Sg	00 20 08.3	-0.2
CALA	Caldeira	0.09	301	eP	Pg	00 20 06.1	-0.3
CALA				eS	Sg	00 20 08.3	-0.2
PCED	Cedros	0.12	321	eP	Pg	00 20 06.0	-0.7
PCED				eS	Sg	00 20 08.4	-0.6
PCED				A	A	00 20 09.2	
	17nm,0.2s						
PCED	Cedros	0.12	321	eP	Pg	00 20 06.0	-0.7
PCED				eS	Sg	00 20 08.4	-0.6
PCAN	Candelaria	0.12	127	eP	Pg	00 20 06.3	-0.4
PCAN				eS	Sg	00 20 08.6	-0.4
PCAN				A	A	00 20 09.9	
	11nm,0.1s						
PCAN	Candelaria	0.12	127	eP	Pg	00 20 06.3	-0.4
PCAN				eS	Sg	00 20 08.6	-0.4
PICO	Pico	0.15	104	eP	Pg	00 20 06.7	-0.4
PICO				eS	Sg	00 20 09.0	-0.7
PICO	Pico	0.15	104	eP	Pg	00 20 06.7	-0.4
PICO				eS	Sg	00 20 09.0	-0.7
ROSA	Rosais	0.34	57	eP	Pg	00 20 09.0	-1.2
ROSA				eS	Sg	00 20 13.8	-1.2
ROSA				A	A	00 20 13.9	
	4.4nm,0.1s						
ROSA	Rosais	0.34	57	eP	Pg	00 20 09.0	-1.2
ROSA				eS	Sg	00 20 13.8	-1.2

*CSEM **03** 00:20:27.1, 38°.55N×28°.60W, h16km, ML1.1, After PDA*

PDA 03 00:20:27.1±0.9, 38°.55N×28°.60W, h16km±7km, MD2.7, ML1.1, Error ellipse: s-maj=5.5km s-min=3.0km az=46.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	Horta	0.04	230	eP	Pg	00 20 29.5	-0.5
HOR				eS	Sg	00 20 31.6	-0.3
HOR	Horta	0.04	230	eP	Pg	00 20 29.5	-0.5
HOR				eS	Sg	00 20 31.6	-0.3
CALA	Caldeira	0.09	291	eP	Pg	00 20 30.2	-0.3
CALA				eS	Sg	00 20 32.3	-0.5
CALA	Caldeira	0.09	291	eP	Pg	00 20 30.2	-0.3
CALA				eS	Sg	00 20 32.3	-0.5
PCED	Cedros	0.11	313	eP	Pg	00 20 29.9	-0.8
PCED				eS	Sg	00 20 32.4	-0.7
PCED				A	A	00 20 32.9	
	18nm,0.1s						
PCED	Cedros	0.11	313	eP	Pg	00 20 29.9	-0.8
PCED				eS	Sg	00 20 32.4	-0.7
PCAN	Candelaria	0.12	135	eP	Pg	00 20 30.1	-0.7
PCAN				eS	Sg	00 20 33.0	-0.2
PCAN				A	A	00 20 33.8	
	16nm,0.1s						
PCAN	Candelaria	0.12	135	eP	Pg	00 20 30.1	-0.7
PCAN				eS	Sg	00 20 33.0	-0.2
PICO	Pico	0.14	110	eP	Pg	00 20 30.5	-0.6
PICO				eS	Sg	00 20 32.6	-1.2
PICO	Pico	0.14	110	eP	Pg	00 20 30.5	-0.6
PICO				eS	Sg	00 20 32.6	-1.2
ROSA	Rosais	0.32	58	eP	Pg	00 20 32.9	-1.1
ROSA				eS	Sg	00 20 37.1	-1.5
ROSA				A	A	00 20 37.7	
	14nm,0.1s						
ROSA	Rosais	0.32	58	eP	Pg	00 20 32.9	-1.1
ROSA				eS	Sg	00 20 37.1	-1.5
PMAN	Manadas	0.41	78	eS	Sg	00 20 39.3	-1.7
PMAN				A	A	00 20 39.8	
	3.8nm,0.2s						
PMAN	Manadas	0.41	78	eS	Sg	00 20 39.3	-1.7

IDC 03 00:44:11.5±10.0, 5°.81S×154°.55E, h246km±98km, mb3.2/8, mb1 3.4/8, mb1mx3.3/17, mbtmp3.2/8, MS3.6/1, Ms1 3.6/1, ms1mx2.9/10, Error ellipse: s-maj=53.5km s-min=27.8km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.15	233	P	P	00 49 05.9	+0.3
	0.6nm,0.7s,baz=58,slow=9.9,SNR=3.4						
ASAR	Alice Springs	26.65	226	P	P	00 49 27.8	-0.2
	0.2nm,0.3s,baz=58,slow=9.5,SNR=5.0						
URZ	Urewera	38.25	151	LR	LR	01 04 30.4	
	comp=Z,79nm,18.6s,baz=14,slow=32						
KSRS	Korea Array	49.69	332	P	P	00 52 38.2	-0.5
	2.0nm,0.9s,baz=138,slow=6.6,SNR=5.7						
CMAR	Chiang Mai Arr	59.88	295	P	P	00 53 52.0	-0.1
	1.2nm,0.3s,baz=113,slow=6.0,SNR=4.8						
SONM	Songino Array	68.11	327	P	P	00 54 45.9	+0.8
	0.6nm,0.5s,baz=135,slow=5.6,SNR=4.9						
MKAR	Makanchi Array	82.23	319	P	P	00 56 05.8	+0.4
	0.2nm,0.4s,baz=90,slow=6.2,SNR=7.4						
ILAR	Eielson Array	82.44	22	P	P	00 56 06.2	+0.2
	0.4nm,0.5s,baz=237,slow=4.6,SNR=5.3						
ZALV	Zalesovo Beam	82.96	326	P	P	00 56 08.3	-0.6
	0.6nm,0.7s,baz=101,slow=4.6,SNR=3.0						
TORD	Torodi Ar. Bea	152.28	287	PKPbc	PKPbc	01 03 38.8	-0.4
	0.4nm,0.8s,baz=74,slow=2.1,SNR=4.7						

IDC 03 01:05:15.6±63.0, 0°.82N×96°.65E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/23, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=1212.0km s-min=51.6km az=174.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.01	49	Pn	Pn	01 06 02.6	-2.1
	3.9nm,0.

	baz=270						
NSK	**Sanguang**	**0.56 318**	⇓	*i* P	Pg	01 06 14.5	+0.2
	baz=318						
NSK				*i* S	Sg	01 06 22.0	+0.2
	baz=318						
TWA	**Mucha**	**0.74 347**		P	Pb	01 06 18.1	+0.2
	baz=346						
TWA				S	Sg	01 06 27.1	-0.3
	baz=346						
TWB1	**Santiao Chiao**	**0.77 15**		*e*P	Pg	01 06 18.3	+0.1
	baz=14						
TWB1				*e*S	Sg	01 06 28.3	-0.1
	baz=14						
NSTT	**Nanjuang**	**0.79 298**	⇑	*i* P	Pb	01 06 19.0	+0.3
	baz=298						
NSTT				S	Sb	01 06 29.6	+0.2
	baz=298						
TAP1	**Taipei**	**0.81 344**		*e*P	Pn	01 06 19.9	-0.3
	baz=334						
NWF	**Wu-fen Shan**	**0.81 1**		*e*P	Pb	01 06 19.5	+0.3
	baz=352						
NWF				S	Sg	01 06 29.4	-0.4
	baz=352						
TAP	**Taipei**	**0.81 343**		*e*P	Pb	01 06 19.1	0.0
	baz=334						
EHY	**Hungye**	**0.85 209**		*e*P	Pg	01 06 18.3	-1.4
	baz=222						
SMLT	**Sun Moon Lake**	**0.88 245**		*e*P	Pg	01 06 20.6	+0.3
	baz=239						
SMLT				*e*S	Sg	01 06 31.8	-0.1
	baz=239						
NCU	**National Centr**	**0.88 323**		*e*P	Pn	01 06 22.1	+0.9
	baz=323						
NCU				*e*S	Sn	01 06 34.1	+0.3
	baz=323						
TWS1	**Kuangyinshan**	**0.90 339**		*e*P	Pg	01 06 21.0	+0.4
	baz=339						
TWS1				*e*S	Sn	01 06 34.9	+0.7
	baz=339						
TYC	**Yuchr**	**0.90 247**		*e*P	Pb	01 06 20.4	-0.2
	baz=241						
TYC				*e*S	Sg	01 06 32.8	+0.3
	baz=241						
HSN	**Hsinchu**	**0.91 307**		*e*P	Pb	01 06 20.4	-0.3
	baz=309						
TWQ1	**Liyutan**	**0.91 276**		*e*P	Pn	01 06 21.8	+0.2
	baz=276						
NSY	**Sanyi**	**0.93 280**		*e*P	Pn	01 06 22.2	+0.3
	baz=280						
NSY				*e*S	Sn	01 06 35.5	+0.4
	baz=280						
TWF1	**Yuli**	**1.00 206**		*e*P	Pb	01 06 20.8	-1.6
	baz=219						
TCU	**Taichung**	**1.00 264**		*e*P	Pn	01 06 24.2	+1.4
	baz=265						
TCU				*e*S	Sn	01 06 38.2	+1.5
	baz=265						
TWY	**Chenhua**	**1.02 352**		*e*P	Pn	01 06 23.6	+0.5
	baz=335						
WNT	**Mingjian**	**1.06 249**		*e*P	Pg	01 06 23.9	+0.2
	baz=241						
YUS	**Yu-Shan**	**1.07 224**		P	Pb	01 06 23.8	-0.3
	baz=227						
YUS				S	Sg	01 06 39.1	+0.2
	baz=227						
ALS	**Alishan**	**1.15 230**		*e*P	Pn	01 06 24.3	-1.0
	baz=231						
YOJ	**Yonaguni jima**	**1.15 80**		*i* P	Pn	01 06 24.6	-0.3
	baz=68						
CHN5	**Tsauling**	**1.19 237**		*e*P	Pg	01 06 26.4	+0.1
	baz=240						
CHN5				S	Sg	01 06 43.9	+1.9
	baz=240						
CHKT	**Chengkung**	**1.21 198**		*e*P	Pn	01 06 22.7	-3.0
	baz=186						
WGK	**Gukeng**	**1.24 243**		*e*P	Pg	01 06 26.9	-0.2
	baz=245						
ELDTW	**Lidau**	**1.27 213**		*e*P	Pn	01 06 26.0	-0.6
	baz=215						
PCYT	**Pengchaiyu**	**1.39 11**		*e*P	Pb	01 06 29.0	0.0
	baz=9.0						
CHN4	**Tsaushan**	**1.40 230**		*e*P	Pb	01 06 29.7	+0.5
	baz=235						
CHN4				*e*S	Sg	01 06 50.9	+2.3
	baz=235						
STYT	**Tauyuan**	**1.43 220**		*e*P	Pb	01 06 30.2	+0.4
	baz=223						
CHY	**Chiayi**	**1.44 239**		*e*P	Pb	01 06 30.3	+0.5
	baz=228						
WTP	**Ta-pu**	**1.46 227**		*e*P	Pb	01 06 30.1	-0.2
	baz=231						
WTP				*e*S	Sg	01 06 51.9	+1.5
	baz=231						
TWK	**Hsinying**	**1.53 230**		*e*P	Pb	01 06 31.1	-0.4
	baz=233						
WSF	**Szhu**	**1.54 247**		*e*P	Pb	01 06 31.1	-0.4
	baz=250						
CHN1	**Nanshi**	**1.56 227**		*e*P	Pn	01 06 29.9	-0.7
	baz=231						
SGST	**Jiashian**	**1.60 223**		*e*P	Pb	01 06 32.1	-0.4
	baz=226						
ECL	**Taimali**	**1.81 204**		*e*P	Pn	01 06 31.2	-2.9
	baz=195						
EAST	**Anshuo**	**2.05 205**		*e*P	Pn	01 06 38.3	+1.0
	baz=196						
PNG	**Penghu**	**2.14 252**		*e*P	Pn	01 06 38.7	+0.3
	baz=254						
SCZT	**Fangliau**	**2.15 210**		*e*P	Pb	01 06 40.8	-1.2
	baz=198						

ISCJB ***03*** *01:06:57.9±0.6, 35°.53N±0°.05×27°.27E±0°.05, h55km±8km, Error ellipse: s-maj=9.2km s-min=4.6km az=146.6*
ISK ***03*** *01:06:57.0, 35°.50N×27°.24E, h65km, MD3.6*
ATH ***03*** *01:06:58.3, 35°.46N×27°.24E, h45km±1km, MD3.4/6*
DDA ***03*** *01:06:58.9, 35°.65N×27°.17E, h21km, ML3.6*
THE ***03*** *01:06:58.8, 35°.84N×26°.95E, h8km±2km, ML2.8/2, Error ellipse: s-maj=2.5km s-min=0.7km az=110.0*
CSEM ***03*** *01:06:59.0±0.1, 35°.53N×27°.25E, h40km, MD3.4, Error ellipse: s-maj=5.6km s-min=2.5km az=149.0*

ISC 03 01:06:59.2±1.2, 35°.54N±0°.04×27°.23E±0°.03, h44km±6km, n64, σ1°34/89, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.06**	**278**	P	**Pn**	**01 07 05.5**	**-0.7**
KARP				S	**Sn**	**01 07 11.4**	**+0.2**
KARP	**Karpathos**	**0.06**	**278**	*e*P	**Pn**	**01 07 05.9**	**-0.3**
KARP				*e*S	**Sn**	**01 07 11.7**	**+0.5**
KARP	**Karpathos**	**0.06**	**278**	*e*P	**Pn**	**01 07 05.9**	**-0.3**
KARP				S	**Sn**	**01 07 11.4**	**+0.2**
ZKR	**Zakros**	**0.93**	**243**	P	**Pn**	**01 07 15.7**	**-0.1**
ZKR				S	**Sn**	**01 07 29.9**	**+1.9**
ZKR	**Zakros**	**0.93**	**243**	*e*P	**Pn**	**01 07 15.7**	**-0.1**
ZKR				*e*S	**Sn**	**01 07 28.2**	**+0.2**
ZKR	**Zakros**	**0.93**	**243**	*e*P	**Pn**	**01 07 15.7**	**-0.1**
ZKR				*e*S	**Sn**	**01 07 28.2**	**+0.2**
ARG	**Arkhangelos**	**0.99**	**47**	P	**Pn**	**01 07 17.2**	**+0.6**
ARG				S	**Sn**	**01 07 32.1**	**+2.6**
ARG	**Arkhangelos**	**0.99**	**47**	*e*P	**Pn**	**01 07 17.3**	**+0.6**
ARG				*e*S	**Sn**	**01 07 32.3**	**+2.8**
ARG	**Arkhangelos**	**0.99**	**47**	P	**Pn**	**01 07 17.2**	**+0.6**
ARG				S	**Sn**	**01 07 32.1**	**+2.6**
NIS1	**Nisyros Isl.**	**1.06**	**358**	P	Pn	01 07 13.7	-3.9
NIS1				S	**Sn**	**01 07 25.8**	**-5.5**
NIS1	**Nisyros Isl.**	**1.06**	**358**	*e*P	**Pn**	**01 07 18.8**	**+1.2**
NIS1				*e*S	**Sn**	**01 07 34.1**	**+2.8**
NIS1	**Nisyros Isl.**	**1.06**	**358**	*e*P	**Pn**	**01 07 18.8**	**+1.2**
DAT	**Datca**	**1.22**	**13**	*e*PN	**Pn**	**01 07 19.0**	**-0.9**
DAT				*e*SN	**Sn**	**01 07 35.8**	**+0.5**
DAT	**Datca**	**1.22**	**13**	*e*PN	**Pn**	**01 07 19.0**	**-0.9**
DAT				*e*SN	**Sn**	**01 07 35.8**	**+0.5**
NPS	**Neapolis**	**1.35**	**259**	P	**Pn**	**01 07 21.2**	**-0.4**
NPS				S	**Sn**	**01 07 38.0**	**-0.2**
NPS	**Neapolis**	**1.35**	**259**	*e*P	**Pn**	**01 07 21.9**	**+0.3**
NPS				*e*S	**Sn**	**01 07 38.1**	**-0.2**
NPS	**Neapolis**	**1.35**	**259**	*e*P	**Pn**	**01 07 21.9**	**+0.3**
NPS				*e*S	**Sn**	**01 07 38.1**	**-0.2**
LAST	**Lasithi**	**1.48**	**256**	P	**Pn**	**01 07 22.5**	**-0.9**
LAST	**Lasithi**	**1.48**	**256**	*e*P	**Pn**	**01 07 23.8**	**+0.4**
LAST	**Lasithi**	**1.48**	**256**	*e*P	**Pn**	**01 07 23.8**	**+0.4**
BODT	**Bodrum**	**1.52**	**2**	*e*PN	**Pn**	**01 07 23.8**	**-0.1**
BODT	**Bodrum**	**1.52**	**2**	*e*Pn	**Pn**	**01 07 23.8**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.72**	**42**	*e*PN	**Pn**	**01 07 26.0**	**-0.6**
DALY	**Dalyan (Mu˘la**	**1.72**	**42**	*e*Pn	**Pn**	**01 07 26.0**	**-0.6**
TURN	**Turunc**	**1.73**	**39**	*i* P	Pn	01 07 23.3	-3.5
TURN				*i* S	**Sn**	**01 07 44.1**	**-3.6**
TURN	**Turunc**	**1.73**	**39**	*i* P	Pn	01 07 23.3	-3.5
TURN				*i* S	**Sn**	**01 07 44.1**	**-3.6**
YER	**Yerkesik**	**1.81**	**28**	*e*PN	**Pn**	**01 07 27.4**	**-0.5**
YER	**Yerkesik**	**1.81**	**28**	*e*Pn	**Pn**	**01 07 27.4**	**-0.5**
MLSB	**Milas**	**1.81**	**14**	*e*PN	**Pn**	**01 07 27.5**	**-0.3**
MLSB	**Milas**	**1.81**	**14**	*e*Pn	**Pn**	**01 07 27.5**	**-0.3**
FETY	**Fethiye**	**1.86**	**53**	*e*PN	**Pn**	**01 07 28.0**	**-0.6**
FETY	**Fethiye**	**1.86**	**53**	*e*Pn	**Pn**	**01 07 28.0**	**-0.6**
IDI	**Anoyia**	**1.93**	**263**	P	**Pn**	**01 07 28.8**	**-0.7**
IDI	**Anoyia**	**1.93**	**263**	P	**Pn**	**01 07 28.8**	**-0.7**
AKAS	**Kas**	**2.05**	**70**	*i* P	**Pn**	**01 07 30.5**	**-0.8**
AKAS				*i* S	**Sn**	**01 07 53.2**	**-2.5**
AKAS	**Kas**	**2.05**	**70**	*i* P	**Pn**	**01 07 30.5**	**-0.8**
AKAS				*i* S	**Sn**	**01 07 53.2**	**-2.5**
APE	**Apeiranthos**	**2.05**	**319**	*e*PN	**Pn**	**01 07 31.0**	**-0.2**
APE	**Apeiranthos**	**2.05**	**319**	*e*Pn	**Pn**	**01 07 31.0**	**-0.2**
AYDN	**Tasoluk**	**2.18**	**14**	*i* P	**Pn**	**01 07 33.4**	**+0.4**
AYDN				*i* S	**Sn**	**01 07 59.4**	**+0.6**
AYDN	**Tasoluk**	**2.18**	**14**	*i* P	**Pn**	**01 07 33.4**	**+0.4**
AYDN				*i* S	**Sn**	**01 07 59.4**	**+0.6**
ELL	**Elmali**	**2.48**	**60**	*e*PN	**Pn**	**01 07 36.8**	**-0.4**
ELL	**Elmali**	**2.48**	**60**	*e*Pn	**Pn**	**01 07 36.8**	**-0.4**
GOLH	**Golhisar**	**2.53**	**47**	*i* P	**Pn**	**01 07 38.4**	**+0.6**
GOLH				*i* S	**Sn**	**01 08 11.5**	**+4.0**
GOLH	**Golhisar**	**2.53**	**47**	*i* P	**Pn**	**01 07 38.4**	**+0.6**
GOLH				*i* S	**Sn**	**01 08 11.5**	**+4.0**
KARN	**Karanos**	**2.71**	**268**	*e*P	**Pn**	**01 07 40.7**	**+0.5**
KARN	**Karanos**	**2.71**	**268**	*e*P	**Pn**	**01 07 40.7**	**+0.5**
KORT	**Korkueli**	**2.91**	**59**	*i* P	**Pn**	**01 07 43.5**	**+0.4**
KORT	**Korkueli**	**2.91**	**59**	*i* P	**Pn**	**01 07 43.5**	**+0.4**
KULA	**Kula-Manisa**	**3.18**	**21**	*e*PN	**Pn**	**01 07 46.6**	**-0.2**
KULA	**Kula-Manisa**	**3.18**	**21**	*e*Pn	**Pn**	**01 07 46.6**	**-0.2**
BCK	**Bucak**	**3.32**	**54**	*e*PN	**Pn**	**01 07 48.7**	**+0.1**
BCK	**Bucak**	**3.32**	**54**	*e*Pn	**Pn**	**01 07 48.7**	**+0.1**
KHL	**Karahalli**	**3.33**	**33**	*e*PN	**Pn**	**01 07 48.5**	**-0.3**
KHL	**Karahalli**	**3.33**	**33**	*e*Pn	**Pn**	**01 07 48.5**	**-0.3**
KHAL	**Karahalli**	**3.36**	**32**	*i* P	**Pn**	**01 07 48.6**	**-0.6**
KHAL	**Karahalli**	**3.36**	**32**	*i* P	**Pn**	**01 07 48.6**	**-0.6**
SUTC	**Sutluce-Ispart**	**3.60**	**56**	*e*PN	**Pn**	**01 07 52.9**	**+0.4**
SUTC	**Sutluce-Ispart**	**3.60**	**56**	*e*Pn	**Pn**	**01 07 52.9**	**+0.4**
DEMI	**Demirci**	**3.69**	**18**	*i* P	**Pn**	**01 07 54.0**	**+0.2**
DEMI				*i* S	**Sn**	**01 08 34.7**	**-1.4**
DEMI	**Demirci**	**3.69**	**18**	*i* P	**Pn**	**01 07 54.0**	**+0.2**
DEMI				*i* S	**Sn**	**01 08 34.7**	**-1.4**
DURS	**Dursunbey**	**4.17**	**13**	*i* P	**Pn**	**01 08 00.5**	**+0.1**
DURS				*i* S	**Sn**	**01 08 47.8**	**-0.1**
DURS	**Dursunbey**	**4.17**	**13**	*i* P	**Pn**	**01 08 00.5**	**+0.1**
DURS				*i* S	**Sn**	**01 08 47.8**	**-0.1**
KDHN	**Kadinhani**	**4.91**	**51**	*i* P	**Pn**	**01 08 10.3**	**-0.3**
KDHN	**Kadinhani**	**4.91**	**51**	*i* P	**Pn**	**01 08 10.3**	**-0.3**

MEX 03 01:26:36.7±0.3, 17°.33N×101°.14W, h16km±163km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.42**	**312**	*e*P	Pg	01 26 43.8	-1.4
ZIIG				*i* S	Sg	01 26 49.4	-1.5
CAIG	**El Cayaco**	**0.88**	**108**	*e*P	Pb	01 26 50.6	-3.0
CAIG				*e*S	Sb	01 27 01.0	-4.1
ARIG	**Puente Sto Nin**	**1.21**	**38**	*e*P	Pn	01 26 55.6	-3.4
ARIG				*e*S	Sb	01 27 09.4	-5.3
PLIG	**Platanillo**	**1.88**	**56**	*i* P	Pn	01 27 04.8	-3.6
PLIG				*e*S	Sn	01 27 27.1	-4.8
YAIG	**Yautepec**	**2.49**	**52**	*i* P	Pn	01 27 13.0	-3.8
YAIG				*i* S	Sn	01 27 42.2	-4.8

IDC ***03*** *01:30:49.6±0.4, 8°.57S×159°.36E, h0km, mb4.7/19, mb1 4.9/20, mb1mx4.9/21, mbtmp4.7/20, ML3.8/1, MS4.4/10, Ms1 4.5/10, ms1mx4.2/31, Error ellipse: s-maj=14.7km s-min=11.6km az=101.0*
GCMT ***03*** *01:30:54.8±0.3, 8°.42S×159°.86E, h78km±4km, MW5.1, Moment Tensor Solution. s12,c13; s82,c116; Moment tensor: Scale 10^16 Nm; Mrr=1.72±.30; Mθθ=0.12±.22; Mφφ=1.83±.23; Mrθ=2.08±.12; Mrφ=3.76±.20; Mθφ=2.36±.12; Best double couple: M0=5.20000×10^16 NP1:φ=179.00000°, δ=68.00000°, λ=-146.00000°. NP2:φ=75.00000°, δ=58.00000°, λ=-26.00000°. Principal axes: T 4.8100, Plg=6.0000°, Azm=305.0000°; N 0.7300, Plg=50.0000°, Azm=208.0000°; P -5.5500, Plg=39.0000°, Azm=40.0000°; Data Used: II IU G IC CN.*
ISCJB ***03*** *01:30:57.3±1.0, 8°.58S±0°.04×159°.20E±0°.03, h57km±9km, mb5.0/96, MS4.6/24 Error ellipse: s-maj=5.9km s-min=5.5km az=27.1*
MOS ***03*** *01:30:58.4±1.2, 8°.54S×159°.15E, h67km, mb5.3/23, Error ellipse: s-maj=10.6km s-min=7.9km az=51.4*
NEIC ***03*** *01:31:01.4±1.4, 8°.61S×159°.14E, h84km±12km, mb5.0/64, Error ellipse: s-maj=6.2km s-min=5.5km az=145.0*
NEIC Felt at Honiara.
BJI ***03*** *01:31:02.5, 8°.36S×159°.21E, h95km, mB5.1/27, mb4.9/42*
DJA ***03*** *01:31:03.0±1.2, 8°.S±4°.4×15°.9E±°.1, h118km±13km, M5.0/25, mB5.5/4, mb5.0/25, Mw(mB)5.0/4*
AUST ***03*** *01:31:04.7±2.0, 8°.57S×159°.23E, h112km, Error ellipse: s-maj=2.0km s-min=1.0km az=31.0*
BKK ***03*** *01:31:06.0±1.3, 9°.S±7°.×15°.9E±°.1, h115km±13km, M4.9/15, mB5.6/2, mb4.9/15, Mw(mB)5.1/2*

ISC 03 01:31:02.6±0.3, 8°.63S±0°.04×159°.28E±0°.05, h96km±2km, h95km:pP-P, n328, σ1°.66/353, mb5.0/97, 3C-5D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.04**	**140**	Pn	Pn	01 31 10.1	-13
HNR				Sn	Sn	01 31 21.9	-17
HNR	**Honiara**	**1.04**	**140**	Pn	Pn	01 31 10.0	-13
	2μm,0.3s,baz=226,slow=2.3,SNR=145						
HNR				Sn	Sn	01 31 21.9	-17
	10μm,0.3s,baz=336,slow=19,SNR=149						
PMG	**Port Moresby**	**11.99**	**265**	Pn	**Pn**	**01 33 49.5**	**-0.8**
PMG	**Port Moresby**	**11.99**	**265**	Pn	**Pn**	**01 33 49.1**	**-1.2**
	1.1nm,0.3s,baz=77,slow=9.9,SNR=5.3						
PMG				LR	LR	01 38 01.2	
	comp=Z,3μm,21.8s,baz=85,slow=36						
NOUC	**Port Laguerre**	**15.01**	**154**	*e*P	**Pn**	**01 34 28.9**	**-0.7**
NOUC				*e*S	**Sn**	**01 37 10.5**	**-4.8**
DZM	**Mont Dzumac**	**15.04**	**154**	*e*P	**Pn**	**01 34 30.3**	**+0.1**
	219nm,1.4s						
DZM				*e*LR	LR	01 37 59.5	
	2μm,27.1s						
DZM	**Mont Dzumac**	**15.04**	**154**	*e*Pn	**Pn**	**01 34 30.2**	**+0.1**
	201nm,1.4s						
DZM				*e*Sn	**Sn**	**01 37 13.1**	**-3.2**
DZM	**Mont Dzumac**	**15.04**	**154**	Pn	**Pn**	**01 34 26.4**	**-3.8**
	2.2nm,0.3s,baz=337,slow=20,SNR=12						
COEN	**Coen**	**16.65**	**250**	*e*Pn	**P**	**01 34 51.1**	**+0.1**
	782nm,1.4s						
COEN	**Coen**	**16.65**	**250**	P	**P**	**01 34 53.0**	**+2.0**
	baz=17,SNR=5.1						
TARA	**Tarawa**	**16.83**	**55**	*e*Pn	Pn	01 34 46.9	-5.6
	1μm,2.3s						
CTA	**Charters Tower**	**16.98**	**226**	Pn	**Pn**	**01 34 51.2**	**-3.1**
CTA	**Charters Tower**	**16.98**	**226**	Pn	**Pn**	**01 34 51.2**	**-3.1**
	0.2nm,0.3s,baz=62,slow=17,SNR=2.3						
CTAO	**Charters Tower**	**16.98**	**226**	*e*P	**Pn**	**01 34 52.3**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,181nm,1.7s						
CTAO	**Charters Tower**	**16.98**	**226**	*e*Pn	**Pn**	**01 34 52.3**	**-2.0**
	comp=Z,181nm,1.7s						
MTSU	**Mount Surprise**	**17.34**	**235**	P	**Pn**	**01 34 60.0**	**+1.3**
	baz=17,SNR=8.1						
MTSU				S	Sn	01 37 54.6	-17
	baz=17,SNR=4.6						
EIDS	**Eidsvold**	**18.39**	**204**	*e*Pn	**Pn**	**01 35 11.3**	**+0.1**
	comp=Z,58nm,0.9s						
EIDS	**Eidsvold**	**18.39**	**204**	P	**Pn**	**01 35 12.8**	**+1.5**
	baz=18,SNR=16						
KWAJ	**Kwajalein Atol**	**19.20**	**26**	*e*P	**P**	**01 35 19.1**	**+0.1**
KWAJ				pmax	pmax		
	comp=Z,167nm,1.1s						
KWAJ	**Kwajalein Atol**	**19.20**	**26**	*e*P	**P**	**01 35 19.1**	**+0.1**
	comp=Z,167nm,1.1s						
JAY	**Jayapura**	**19.45**	**287**	P	**P**	**01 35 19.5**	**-2.3**
	comp=Z,108nm,0.9s						
JAY	**Jayapura**	**19.45**	**287**	P	**P**	**01 35 21.0**	**-0.8**
	baz=19,SNR=19						
JAY				S	**S**	**01 38 59.3**	**+2.5**
	baz=19,SNR=4.0						
RMQ	**Roma**	**20.38**	**208**	P	Pn	01 35 33.1	-1.5
	baz=20,SNR=32						
MSVF	**Nonsavu**	**20.38**	**118**	*e*P	Pn	01 35 33.3	-1.6
MSVF				pmax	pmax		
	comp=Z,58nm,1.1s						
MSVF	**Nonsavu**	**20.38**	**118**	*e*P	Pn	01 35 33.3	-1.6
	comp=Z,58nm,1.1s						
LHI	**Lord Howe Isla**	**22.78**	**180**	P	**P**	**01 35 57.8**	**+0.7**
	baz=23,SNR=3.5						
ARMA	**Armidale**	**22.83**	**197**	*e*P	**P**	**01 35 57.4**	**-0.4**
	comp=Z,136nm,1.0s						
ARMA	**Armidale**	**22.83**	**197**	P	**P**	**01 35 58.7**	**+0.9**
	baz=23,SNR=11						
BAKI	**Biak**	**24.22**	**287**	P	P	01 36 16.7	+6.1
MGCD	**Mangrove Creek**	**25.60**	**196**	P	**P**	**01 36 25.1**	**+2.1**
	baz=26,SNR=9.0						
CMSA	**Cobar Meteorol**	**26.07**	**207**	P	**P**	**01 36 27.3**	**0.0**
	baz=26,SNR=8.3						
GUMO	**Guam**	**26.30**	**327**	*e*P	**P**	**01 36 28.1**	**-1.4**
WRAB	**Tennant Creek**	**26.60**	**242**	P	**P**	**01 36 32.0**	**-0.2**
	comp=Z,354nm,1.4s,SNR=35						
WRAB	**Tennant Creek**	**26.60**	**242**	*e*P	**P**	**01 36 32.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,167nm,1.5s						
WRAB	**Tennant Creek**	**26.60**	**242**	*e*P	**P**	**01 36 32.4**	**+0.2**
	comp=Z,167nm,1.5s						
WRA	**Warramunga Arr**	**26.61**	**242**	P	**P**	**01 36 32.1**	**-0.2**
WRA				PcP	**PcP**	**01 39 54.2**	**-0.2**
WRA				S	**S**	**01 41 06.7**	**+6.3**
WRA	**Warramunga Arr**	**26.61**	**242**	P	**P**	**01 36 32.1**	**-0.2**
	comp=Z,47nm,0.9s,baz=67,slow=9.2,SNR=56						
WRA				PcP	**PcP**	**01 39 54.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=64,slow=3.4,SNR=3.2						
WRA				S	**S**	**01 41 06.7**	**+6.3**
	comp=Z,3.8nm,1.0s,baz=71,slow=14,SNR=4.5						
KDU	**Kakadu**	**26.64**	**259**	P	**P**	**01 36 32.8**	**+0.3**
	baz=27,SNR=3.2						
YNG	**Young**	**27.44**	**200**	P	**P**	**01 36 43.8**	**+4.3**
	baz=28,SNR=5.4						
MTN	**Manton Dam**	**27.96**	**259**	P	**P**	**01 36 46.0**	**+1.7**
	baz=28,SNR=5.1						
CNB	**Canberra Magne**	**28.07**	**197**	P	**P**	**01 36 46.6**	**+1.4**
	baz=28,SNR=6.0						
STKA	**Stephens Creek**	**28.38**	**213**	*e*P	**P**	**01 36 47.4**	**-0.5**
	comp=Z,3.4nm,0.6s						
STKA	**Stephens Creek**	**28.38**	**213**	P	**P**	**01 36 47.8**	**-0.1**
	comp=Z,7.1nm,0.5s,baz=44,slow=15,SNR=19						
STKA				LR	LR	01 48 07.7	
	comp=Z,2μm,19.1s,baz=11,slow=36						
STKA	**Stephens Creek**	**28.38**	**213**	P	**P**	**01 36 47.9**	**-0.1**
	baz=28,SNR=13						
AS31	**Alice Springs**	**28.52**	**235**	*e*P	**P**	**01 36 48.5**	**-0.8**
ASAR	**Alice Springs**	**28.52**	**235**	P	**P**	**01 36 48.5**	**-0.8**
ASAR				PcP	**PcP**	**01 39 58.6**	**-0.3**
ASAR				S	**S**	**01 41 34.9**	**+4.5**
ASAR	**Alice Springs**	**28.52**	**235**	P	**P**	**01 36 48.5**	**-0.8**
	comp=Z,7.2nm,0.4s,baz=62,slow=10,SNR=87						
ASAR				PcP	**PcP**	**01 39 58.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=79,slow=2.8,SNR=4.2						
ASAR				S	**S**	**01 41 34.9**	**+4.5**
	comp=Z,1.1nm,0.8s,baz=60,slow=16,SNR=4.9						
ASAR				LR	LR	01 47 40.6	
	comp=Z,810nm,19.7s,baz=64,slow=35						
AFI	**Afiamalu**	**28.86**	**103**	LR	LR	01 46 36.9	
	comp=Z,875nm,18.0s,baz=278,slow=33						
OUZ	**Omahuta**	**29.54**	**156**	*e*P	**P**	**01 36 59.0**	**+0.8**
	comp=Z,170nm,2.0s						
KNRA	**Kununurra**	**30.61**	**254**	P	**P**	**01 37 07.6**	**-0.2**
	baz=31,SNR=20						
TOO	**Toolangi**	**31.40**	**201**	P	**P**	**01 37 15.7**	**+1.1**
	baz=32,SNR=4.7						
BBOO	**Buckleboo**	**32.26**	**218**	*e*P	**P**	**01 37 22.0**	**-0.1**
	comp=Z,863nm,1.0s						
BBOO	**Buckleboo**	**32.26**	**218**	P	**P**	**01 37 22.1**	**-0.1**
	baz=32,SNR=16						
URZ	**Urewera**	**33.60**	**154**	*e*P	**P**	**01 37 34.2**	**+0.4**
URZ	**Urewera**	**33.60**	**154**	P	**P**	**01 37 31.8**	**-1.9**
	comp=Z,14nm,0.9s,baz=351,slow=9.0,SNR=4.1						
URZ				LR	LR	01 49 26.6	
	comp=Z,291nm,19.1s,baz=332,slow=33						
FITZ	**Fitzroy Crossi**	**34.00**	**250**	*e*P	**P**	**01 37 36.3**	**-1.2**
	comp=Z,7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**34.00**	**250**	P	**P**	**01 37 36.5**	**-1.0**
	baz=34,SNR=19						
KHZ	**Kahutara**	**35.92**	**162**	*e*P	**P**	**01 37 53.0**	**-0.7**
	comp=Z,529nm,2.6s						
RPZ	**Rata Peaks**	**36.44**	**166**	*e*P	**P**	**01 37 58.5**	**+0.4**
RPZ	**Rata Peaks**	**36.44**	**166**	P	**P**	**01 37 57.4**	**-0.7**
	comp=Z,12nm,0.7s,baz=263,slow=9.2,SNR=6.1						
FORT	**Forrest**	**36.52**	**229**	*e*P	**P**	**01 37 58.9**	**-0.1**
	comp=Z,35nm,0.9s						
FORT	**Forrest**	**36.52**	**229**	P	**P**	**01 37 59.2**	**+0.3**
	baz=37,SNR=6.4						
MMRI	**Maumere**	**36.61**	**267**	P	**P**	**01 37 58.9**

NJ2	**Nanjing**	**55.91 318**	*e*P	P	01 40 23.6	-7.1
NJ2			pP	pP	01 40 54.6	+0.4
NJ2			sP	sP	01 41 05.4	+0.6
NJ2			S	**S**	**01 48 14.5**	**+3.2**
NJ2			sS	sS	01 48 53.4	+1.9
NJ2			pmax	pmax		
	comp=Z,150nm,1.1s					
NJ2			pmax	pmax		
	comp=Z,320nm,5.1s					
NJ2			LR	LR		
	comp=N,1μm,16.3s					
NJ2			LR	LR		
	comp=E,2μm,19.4s					
NJ2			LR	LR		
	comp=Z,2μm,17.3s					
QIZ	**Qiongzhong**	**55.94 300**	P	**P**	**01 40 31.8**	**+0.6**
QIZ			pP	**pP**	**01 40 53.2**	**-1.5**
QIZ			S	**S**	**01 48 11.6**	**-0.6**
QIZ			pmax	pmax		
	comp=Z,20nm,1.9s					
YSS	**Yuzh-Sakhalins**	**57.26 347⇑**	*e*P	**P**	**01 40 41.5**	**+1.5**
YSS			*e*PP	**pP**	**01 41 05.8**	**+2.2**
YSS			*e*S	**S**	**01 48 28.0**	**-0.6**
YSS			MLR	MLR		
	comp=N,400nm,17.0s					
YSS			MLR	MLR		
	comp=Z,500nm,17.0s					
WHN	**Wuhan**	**58.08 314**	P	**P**	**01 40 48.2**	**+2.1**
WHN			LR	LR		
	comp=Z,2μm,21.6s					
USRK	**Ussuriysk Arra**	**58.09 337**	P	**P**	**01 40 44.5**	**-1.5**
	comp=Z,6.5nm,0.9s,baz=141,slow=7.1,SNR=15					
MDJ	**Mudanjiang**	**59.39 336**	P	**P**	**01 40 57.0**	**+2.1**
MDJ			pP	**pP**	**01 41 19.2**	**+0.6**
MDJ			sP	**sP**	**01 41 29.7**	**+0.5**
MDJ			PcP	**PcP**	**01 41 45.0**	**+3.2**
MDJ			PP	**PP**	**01 43 07.9**	**+0.7**
MDJ			ScP	**ScP**	**01 45 37.0**	**+3.0**
MDJ			PcS	**PcS**	**01 45 47.0**	**+3.2**
MDJ			S	**S**	**01 48 57.9**	**+1.5**
MDJ			SS	**SS**	**01 52 53.3**	**+0.2**
MDJ			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,61nm,5.8s					
MDJ			LR	LR		
	comp=N,300nm,23.6s					
MDJ			LR	LR		
	comp=E,560nm,27.1s					
MDJ			LR	LR		
	comp=Z,420nm,23.6s					
CN2	**Changchun**	**60.53 332**	*e*P	**P**	**01 41 03.7**	**+1.0**
CN2			*e*S	**S**	**01 49 13.1**	**+2.0**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,700nm,22.0s					
CN2			LR	LR		
	comp=E,500nm,22.0s					
CN2			LR	LR		
	comp=Z,700nm,24.0s					
ENH	**Enshi**	**61.47 311**	*e*P	**P**	**01 41 09.6**	**+0.1**
	comp=Z,18nm,1.0s					
PEA0B	**Petropavlovsk-**	**61.51 359**	*e*P	**P**	**01 41 11.4**	**+2.2**
PETK	**Petropavlovsk-**	**61.51 359**	P	**P**	**01 41 08.4**	**-0.8**
PETK	**Petropavlovsk-**	**61.51 359**	P	**P**	**01 41 08.4**	**-0.8**
PETK	**Petropavlovsk-**	**61.51 359**	P	**P**	**01 41 08.4**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=142,slow=7.5,SNR=7.3					
GYA	**Guiyang**	**61.82 306**	P	**P**	**01 41 14.0**	**+2.0**
GYA			pP	**pP**	**01 41 37.8**	**+2.0**
GYA			sP	**sP**	**01 41 49.4**	**+3.0**
GYA			PP	**PP**	**01 43 33.0**	**+3.7**
GYA			ScP	**ScP**	**01 45 44.3**	**-1.2**
GYA			S	**S**	**01 49 27.8**	**-0.6**
GYA			sS	**sS**	**01 50 08.7**	**-0.5**
GYA			SS	**SS**	**01 53 32.4**	**+0.2**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,120nm,5.2s					
GYA			LR	LR		
	comp=N,540nm,18.5s					
GYA			LR	LR		
	comp=E,500nm,19.9s					
GYA			LR	LR		
	comp=Z,550nm,18.9s					
KLR	**Kul'dur**	**62.46 340**	*e*P	P	01 41 11.6	-4.0
LOEI	**Loei**	**62.91 295**	P	P	01 41 27.7	+8.4
XAN	**Xi'an**	**63.84 315**	P	**P**	**01 41 25.0**	**-0.1**
XAN			pP	**pP**	**01 41 48.1**	**-1.0**
XAN			sP	**sP**	**01 42 00.3**	**+0.7**
XAN			PP	**PP**	**01 43 48.4**	**+1.6**
XAN			S	**S**	**01 49 56.9**	**+3.7**
XAN			ScS	**SKSac**	**01 51 05.5**	**-4.7**
XAN			pmax	pmax		
	comp=Z,5.0nm,1.2s					
XAN			pmax	pmax		
	comp=Z,28nm,4.2s					
XAN			LR	LR		
	comp=N,250nm,25.6s					
XAN			LR	LR		
	comp=E,59nm,26.3s					
XAN			LR	LR		
	comp=Z,140nm,22.6s					
NANT	**Nan**	**63.85 296**	P	**P**	**01 41 27.5**	**+2.0**
	comp=Z,99nm,0.5s					
RKT	**Rikitea**	**64.40 111**	*e*LR	LR	02 00 41.3	
	comp=Z,348nm,22.8s					
KMI	**Kunming**	**64.45 303**	P	**P**	**01 41 31.0**	**+1.5**
KMI			pP	**pP**	**01 41 49.9**	**-3.6**
KMI			PP	**PP**	**01 43 53.7**	**+1.2**
KMI			S	**S**	**01 50 00.2**	**-1.2**
KMI			pmax	pmax		
	comp=Z,15nm,0.9s					
KMI			pmax	pmax		
	comp=Z,110nm,4.2s					
KMI			LR	LR		
	comp=N,320nm,18.3s					
KMI			LR	LR		
	comp=E,130nm,21.1s					
KMI			LR	LR		
	comp=Z,200nm,19.5s					
LAMP	**Lampang**	**64.72 295**	P	P	01 41 34.6	+3.5
	comp=Z,3.8nm,1.0s					
CMAR	**Chiang Mai Arr**	**65.31 295**	P	**P**	**01 41 35.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**65.31 295**	P	**P**	**01 41 35.0**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=118,slow=5.0,SNR=4.5					
CMAI	**Chiengmai2**	**65.71 296**	P	P	01 41 42.9	+5.2
HHC	**Hu-ho-hao-te**	**65.94 322**	*e*P	P	01 41 34.3	-4.4
HHC			pP	pP	01 41 58.3	-4.6
HHC			sP	sP	01 42 09.5	-3.8
HHC			PP	**PP**	**01 44 03.0**	**-2.2**
HHC			ScP		01 45 56.9	
HHC			PcS		01 46 06.9	
HHC			S	S	01 50 12.8	-6.1
HHC			sS	sS	01 50 54.4	-5.8
HHC			ScS	SKSac	01 51 17.6	-8.4
HHC	**Hu-ho-hao-te**	**65.94 322**	SS	SS	01 54 30.7	-5.3
HHC			pmax	pmax		
	comp=Z,50nm,0.7s					
HHC			pmax	pmax		
	comp=Z,220nm,6.4s					
HHC			LR	LR		
	comp=N,1μm,16.1s					
HHC			LR	LR		
	comp=E,950nm,16.5s					
HHC			LR	LR		
	comp=Z,1μm,16.2s					
CD2	**Chengdu**	**66.11 309**	P	**P**	**01 41 40.4**	**+0.5**
CD2			pP	**pP**	**01 42 04.5**	**+0.4**
CD2			PcP	PcP	01 42 15.4	+5.8
CD2			PP	**PP**	**01 44 09.2**	**+2.5**
CD2			S	**S**	**01 50 19.8**	**-1.3**
CD2			sS	**sS**	**01 51 01.5**	**-0.9**
CD2			ScS	**SKSac**	**01 51 24.9**	**-2.6**
CD2			SS	**SS**	**01 54 38.6**	**-0.2**
CD2			pmax	pmax		
	comp=Z,50nm,1.2s					
CD2			pmax	pmax		
	comp=Z,140nm,6.2s					
CD2			LR	LR		
	comp=E,440nm,17.8s					
CD2			LR	LR		
	comp=Z,350nm,20.4s					
CASY	**Casey**	**66.42 199**	*e*P	**P**	**01 41 41.5**	**+0.3**
	comp=Z,15nm,0.9s					
LZH	**Lanzhou**	**68.46 314**	⇑P	**P**	**01 41 56.0**	**+1.1**
LZH			pP	**PcP**	**01 42 19.5**	**0.0**
LZH			sP	**sP**	**01 42 28.6**	**-1.0**
LZH			PP	**PP**	**01 44 31.0**	**+3.7**
LZH			*e*S	**S**	**01 50 51.8**	**+2.3**
LZH			*e*SS	**SS**	**01 55 16.0**	**+0.7**
LZH			pmax	pmax		
	comp=Z,43nm,1.1s					
LZH			pmax	pmax		
	comp=Z,130nm,4.0s					
LZH			LR	LR		
	comp=E,330nm,13.2s					
LZH			LR	LR		
	comp=Z,590nm,15.2s					
VNDA	**Vanda**	**68.88 179**	*e*P	**P**	**01 41 56.5**	**-0.1**
	comp=Z,12nm,1.0s					
VNDA	**Vanda**	**68.88 179**	P	**P**	**01 41 56.4**	**-0.1**
	comp=Z,9.6nm,1.0s,baz=346,slow=8.3,SNR=32					
VNDA			LR	LR	02 05 45.1	
	comp=Z,495nm,21.8s,baz=348,slow=30					
SBA	**Scott Base**	**69.31 178**	*e*P	**P**	**01 41 59.8**	**+0.6**
SBA			pmax	pmax		
	comp=Z,150nm,2.8s					
SBA	**Scott Base**	**69.31 178**	*e*P	**P**	**01 41 59.8**	**+0.6**
	comp=Z,150nm,2.8s					
CLNS	**Chul'man**	**71.09 341**	*e*P	**P**	**01 42 08.3**	**-2.1**
CLNS			pmax	pmax		
	comp=E,4.0nm,0.7s					
CLNS			pmax	pmax		
	comp=N,5.0nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,11nm,0.8s					
ULN	**Ulaanbaatar**	**72.68 326**	*e*P	**P**	**01 42 21.1**	**+0.9**
	comp=Z,25nm,1.1s					
ULN	**Ulaanbaatar**	**72.68 326**	P	**P**	**01 42 21.3**	**+1.1**
MIR	**Mirnyy**	**72.79 205⇓**	*i*P	**P**	**01 42 23.0**	**+2.7**
MIR			pmax	pmax		
	comp=Z,63nm,1.0s					
SONM	**Songino Array**	**73.03 326**	P	**P**	**01 42 22.9**	**+0.7**
SONM	**Songino Array**	**73.03 326**	P	**P**	**01 42 22.9**	**+0.7**
	comp=Z,6.4nm,0.7s,baz=142,slow=6.6,SNR=54					
SHL	**Shillong**	**73.78 300**	*e*P	**P**	**01 42 26.0**	**-1.2**
YAK	**Yakutsk**	**74.10 346**	*e*P	P	01 42 33.9	+5.9
YAK			pmax	pmax		
	comp=E,8.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,32nm,0.9s					
YAK			pmax	pmax		
	comp=N,5.0nm,1.0s					
ZAK	**Zakamensk**	**76.14 327**	*e*P	**P**	**01 42 40.1**	**0.0**
ZAK			pmax	pmax		
	comp=Z,8.0nm,1.3s					
SVW2	**Sparrevohn**	**77.96 21**	*e*P	**P**	**01 42 49.7**	**-0.3**
	comp=Z,27nm,1.2s					
MOY	**Mondy**	**78.04 327**	*e*P	**P**	**01 42 51.4**	**+0.6**
PMR	**Palmer**	**80.62 22**	*e*P	**P**	**01 43 03.7**	**-0.7**
PMR			pmax	pmax		
	comp=Z,13nm,1.0s					
PMR	**Palmer**	**80.62 22**	*e*P	**P**	**01 43 03.7**	**-0.7**
	comp=Z,14nm,1.0s					
SML	**Sawmill**	**81.06 22**	*e*P	**P**	**01 43 06.5**	**-0.3**
SML			pmax	pmax		
	comp=Z,7.0nm,1.0s					
SML	**Sawmill**	**81.06 22**	*e*P	**P**	**01 43 06.5**	**-0.3**
	comp=Z,7.2nm,1.0s					
QSPA	**South Pole Qui**	**81.36 180**	*e*P	**P**	**01 43 08.0**	**-0.5**
	comp=Z,12nm,1.0s					
QSPA	**South Pole Qui**	**81.36 180**	LR	LR	02 14 56.0	
	comp=Z,158nm,18.0s,baz=34,slow=32					
MCK	**McKinley**	**82.03 21**	*e*P	**P**	**01 43 10.8**	**-1.1**
MCK			pmax	pmax		
	comp=Z,39nm,1.2s					
MCK	**McKinley**	**82.03 21**	*e*P	**P**	**01 43 10.8**	**-1.1**
	comp=Z,39nm,1.2s					
WMQ	**Urumqi**	**82.92 316**	P	**P**	**01 43 17.4**	**+0.4**
WMQ			pP	**pP**	**01 43 39.6**	**-2.4**
WMQ			PP	**PP**	**01 46 30.7**	**+1.8**
WMQ			S	**S**	**01 53 27.5**	**-0.7**
WMQ			SS	**SS**	**01 58 55.5**	**+1.9**
WMQ			pmax	pmax		
	comp=Z,18nm,1.2s					
WMQ			LR	LR		
	comp=N,420nm,16.0s					
WMQ			LR	LR		
	comp=E,350nm,18.0s					
WMQ			LR	LR		
	comp=Z,330nm,20.0s					
ILAR	**Eielson Array**	**83.37 20**	P	**P**	**01 43 17.2**	**-1.6**
ILAR	**Eielson Array**	**83.37 20**	P	**P**	**01 43 17.2**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=237,slow=5.3,SNR=16					
MAW	**Mawson**	**84.53 202**	*e*P	**P**	**01 43 24.7**	**+0.1**
	comp=Z,4.0nm,1.0s					
MAW	**Mawson**	**84.53 202**	P	**P**	**01 43 24.2**	**-0.4**
	comp=Z,14nm,0.9s,baz=94,slow=6.6,SNR=31					
MAW	**Mawson**	**84.53 202**	P	**P**	**01 43 25.7**	**+1.0**
	baz=84,SNR=19					
HYT	**Haines Junctio**	**84.93 26**	*e*P	**P**	**01 43 27.2**	**+0.3**
SKAG	**Skagway**	**85.29 28**	*e*P	**P**	**01 43 28.9**	**+0.4**
	comp=Z,19nm,1.4s					
EGAK	**Eagle**	**85.41 22**	*e*P	**P**	**01 43 29.2**	**+0.2**
	comp=Z,14nm,1.1s					
KCPM	**Cahto Peak**	**85.70 49**	*e*P	**P**	**01 43 31.9**	**+0.7**
	comp=Z,10nm,1.0s					
KIPM	**Iron Peak**	**85.80 49**	*e*P	**P**	**01 43 32.3**	**+0.5**
	comp=Z,23nm,1.3s					
KHMM	**Horse Mountain**	**85.89 48**	*e*P	**P**	**01 43 34.1**	**+1.9**
	comp=Z,38nm,1.4s					
KRMB	**Red Mountain**	**85.93 47**	*e*P	**P**	**01 43 33.3**	**+0.9**
	comp=Z,64nm,2.6s					
WDC	**Whiskeytown Da**	**86.69 48**	*e*P	**P**	**01 43 37.6**	**+1.7**
WDC			pmax	pmax		
	comp=Z,21nm,1.3s					
WDC	**Whiskeytown Da**	**86.69 48**	*e*P	**P**	**01 43 37.6**	**+1.7**
	comp=Z,21nm,1.3s					
YBH	**Yreka Blue Hor**	**86.85 47**	*e*P	**P**	**01 43 37.8**	**+0.9**
	comp=Z,8.1nm,1.0s					
YBH	**Yreka Blue Hor**	**86.85 47**	P	**P**	**01 43 35.7**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=247,slow=4.7,SNR=4.9					
HUMO	**Hull Mountain**	**86.89 46**	*e*P	**P**	**01 43 38.2**	**+1.3**
	comp=Z,14nm,1.0s					
MK31	**Makanchi Array**	**87.44 318**	*e*P	**P**	**01 43 39.4**	**-0.1**
MK31	**Makanchi Array**	**87.44 318**	*e*P	**P**	**01 43 39.4**	**-0.1**
MKAR	**Makanchi Array**	**87.44 318**	*i*P	**P**	**01 43 39.4**	**0.0**
MKAR			pmax	pmax		
	comp=Z,6.0nm,0.5s					
MKAR	**Makanchi Array**	**87.44 318**	P	**P**	**01 43 39.0**	**-0.5**
MKAR	**Makanchi Array**	**87.44 318**	P	**P**	**01 43 39.0**	**-0.5**
	comp=Z,6.3nm,0.5s,baz=93,slow=6.6,SNR=73					
CMB	**Columbia Colle**	**87.73 51**	*e*P	**P**	**01 43 41.2**	**+0.1**
CMB	**Columbia Colle**	**87.73 51**	*e*P	**P**	**01 43 41.2**	**+0.1**
ZALV	**Zalesovo Beam**	**87.91 325**	*i*P	**P**	**01 43 40.5**	**-1.0**
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ZALV	**Zalesovo Beam**	**87.91 325**	P	**P**	**01 43 40.3**	**-1.1**
ZALV	**Zalesovo Beam**	**87.91 325**	P	**P**	**01 43 40.3**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=108,slow=4.7,SNR=9.5					
ZALV			LR	LR	02 25 40.8	
	comp=Z,258nm,18.6s,baz=70,slow=37					
BEKR	**Beckworth**	**88.15 49**	*e*P	**P**	**01 43 43.7**	**+0.5**
	comp=Z,6.0nm,1.2s					
WAKR	**Walker**	**88.56 51**	*e*P	**P**	**01 43 46.8**	**+1.6**
NVS	**Novosibirsk**	**89.06 326**	*e*P	P	01 43 42.6	-4.2
NVAR	**Mina Array Bea**	**89.42 51**	P	**P**	**01 43 48.5**	**-0.7**
NVAR	**Mina Array Bea**	**89.42 51**	P	**P**	**01 43 48.5**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=246,slow=6.6,SNR=10					
WVOR	**Wild Horse Val**	**89.97 47**	*e*P	**P**	**01 43 52.7**	**+1.1**
WVOR			pmax	pmax		
	comp=Z,30nm,1.6s					
WVOR	**Wild Horse Val**	**89.97 47**	*e*P	**P**	**01 43 52.7**	**+1.1**
	comp=Z,30nm,1.6s					
GSC	**Goldstone**	**90.00 54**	*e*P	**P**	**01 43 54.0**	**+2.1**
GSC			pmax	pmax		
	comp=Z,9.0nm,1.1s					
GSC	**Goldstone**	**90.00 54**	*e*P	**P**	**01 43 54.0**	**+2.1**
	comp=Z,8.7nm,1.1s					
KSH	**Kashi**	**90.30 310**	*e*P	**P**	**01 43 54.7**	**+1.5**
KSH			sP	**sP**	**01 44 30.8**	**+2.1**
KSH			PP	**PP**	**01 47 32.2**	**+3.6**
KSH			SKS	**SKSac**	**01 54 11.6**	**-4.5**
KSH			S	**S**	**01 54 35.8**	**-4.1**
KSH			sS	**sS**	**01 55 20.5**	**-3.0**
KSH			SS	**SS**	**02 00 42.7**	**+0.7**
KSH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KSH			pmax	pmax		
	comp=Z,96nm,5.9s					
KSH			LR	LR		
	comp=N,57nm,5.0s					
KSH			LR	LR		
	comp=E,120nm,4.3s					
KSH			LR	LR		
	comp=Z,200nm,17.8s					
GLA	**Glamis**	**91.23 57**	*e*P	**P**	**01 43 58.5**	**+0.9**
GLA			pmax	pmax		
	comp=Z,3.0nm,0.6s					
GLA	**Glamis**	**91.23 57**	*e*P	**P**	**01 43 58.5**	**+0.9**
	comp=Z,2.6nm,0.6s					
BMO	**Blue Mountains**	**91.38 45**	*e*P	**P**	**01 43 58.0**	**-0.1**
BMO			pmax	pmax		
	comp=Z,10.0nm,1.1s					
BMO	**Blue Mountains**	**91.38 45**	*e*P	**P**	**01 43 58.0**	**-0.1**
	comp=Z,9.8nm,1.1s					
AAK	**Ala-Archa**	**91.96 313**	*i*P	**P**	**01 44 00.3**	**-0.6**
AAK			pmax	pmax		
	comp=Z,11nm,1.0s					
AAK	**Ala-Archa**	**91.96 313**	*e*P	**P**	**01 44 00.9**	**+0.1**
	comp=Z,2.3nm,0.3s					
NEW	**Newport**	**92.13 42**	*e*P	**P**	**01 44 00.7**	**-0.7**
	comp=Z,6.1nm,1.3s					
MFID	**Camas Ranch**	**92.17 47**	*e*P	**P**	**01 44 02.9**	**+1.1**
	comp=Z,6.9nm,1.4s					
CCUT	**Cedar City**	**93.11 53**	*e*P	**P**	**01 44 07.6**	**+1.2**
	comp=Z,8.1nm,1.1s					
HLID	**Hailey**	**93.21 47**	*e*P	**P**	**01 44 07.3**	**+0.6**
	comp=Z,15nm,1.4s					
BGU	**Big Grassy Mou**	**93.85 49**	*e*P	**P**	**01 44 10.1**	**+0.4**
	comp=Z,6.7nm,0.9s					
MVU	**Marysvale**	**94.14 52**	*e*P	**P**	**01 44 12.6**	**+1.4**
	comp=Z,6.2nm,1.3s					
HVU	**Hansel Valley**	**94.15 49**	*e*P	**P**	**01 44 11.5**	**+0.5**
HVU			pmax	pmax		
	comp=Z,11nm,1.1s					
HVU	**Hansel Valley**	**94.15 49**	*e*P	**P**	**01 44 11.5**	**+0.5**
	comp=Z,11nm,1.1s					
MSU	**Marysvale**	**94.17 52**	*e*P	**P**	**01 44 14.2**	**+2.9**
MSU	**Marysvale**	**94.17 52**	*e*P	**P**	**01 44 14.2**	**+2.9**
SPUT	**South Promonto**	**94.33 49**	*e*P	**P**	**01 44 14.5**	**+2.7**
	comp=Z,6.8nm,1.1s					
WALA	**Waterton Lakes**	**94.36 41**	*e*P	**P**	**01 44 10.8**	**-1.0**
	comp=Z,0.7nm,1.8s					
NLU	**North Lily Min**	**94.44 50**	*e*P	**P**	**01 44 14.1**	**+1.6**
	comp=Z,6.9nm,1.0s					
TUC	**Tucson**	**94.50 58**	*e*P	**P**	**01 44 13.6**	**+0.9**
TUC			pmax	pmax		
	comp=Z,1.0nm,0.9s					
TUC	**Tucson**	**94.50 58**	*e*P	**P**	**01 44 13.6**	**+0.9**
	comp=Z,1.3nm,0.9s					
MCMT	**McKenzie Canyo**	**94.51 46**	*e*P	**P**	**01 44 14.6**	**+1.9**
	comp=Z,2.6nm,1.3s					
DLMT	**Dillon**	**94.75 45**	*e*P	P	01 44 22.7	+9.1
JLU	**Jordanelle**	**95.00 50**	*e*P	**P**	**01 44 15.4**	**+0.4**
	comp=Z,9.0nm,1.2s					
HWUT	**Hardware Ranch**	**95.03 49**	*e*P	**P**	**01 44 15.2**	**+0.1**
	comp=Z,4.6nm,0.8s					
DAU	**Daniels Canyon**	**95.12 50**	*e*P	P	01 44 20.5	+4.8
DAU	**Daniels Canyon**	**95.12 50**	*e*P	P	01 44 20.5	+4.8
EDM	**Edmonton**	**95.27 37**	*e*P	P	01 44 22.3	+6.6
EDM	**Edmonton**	**95.27 37**	*e*P	P	01 44 22.3	+6.6
BOZ	**Bozeman (W)**	**95.47 45**	*e*P	**P**	**01 44 17.4**	**+0.5**
BOZ			pmax	pmax		
	comp=Z,2.0nm,1.1s					
BOZ	**Bozeman (W)**	**95.47 45**	*e*P	**P**	**01 44 17.4**	**+0.5**
	comp=Z,2.4nm,1.1s					
IMW	**Indian Meadow**	**95.75 47**	*e*P	**P**	**01 44 20.3**	**+1.8**
	comp=Z,1.4nm,0.8s					
YKA	**Yellowknife Ar**	**95.79 28**	P	**P**	**01 44 16.7**	**-1.1**
YKA	**Yellowknife Ar**	**95.79 28**	P	**P**	**01 44 16.7**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=257,slow=4.6,SNR=7.6					
MOOW	**Moose Ponds**	**95.88 47**	*e*P	**P**	**01 44 19.7**	**+0.7**
	comp=Z,3.6nm,1.1s					
BRVK	**Borovoye**	**96.22 323**	*e*P	**P**	**01 44 19.1**	**-0.8**
BRVK			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BRVK	**Borovoye**	**96.22 323**	*e*P	**P**	**01 44 19.1**	**-0.8**
	comp=Z,4.6nm,0.9s					
BW06	**Boulder Array**	**96.64 48**	*e*P	**P**	**01 44 22.2**	**-0.2**
	comp=Z,3.2nm,1.0s					
PDAR	**Pinedale Array**	**96.64 48**	P	**P**	**01 44 21.7**	**-0.8**
PDAR	**Pinedale Array**	**96.64 48**	P	**P**	**01 44 21.7**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=235,slow=2.1,SNR=15					
SNAA	**Sanae**	**99.00 186**	LR	LR	02 25 22.2	
	comp=Z,108nm,21.3s,baz=186,slow=33					
TXAR	**Lajitas Array**	**100.30 62**	P	**Pdif**	**01 44 38.9**	**-0.1**
TXAR	**Lajitas Array**	**100.30 62**	P	**Pdif**	**01 44 38.9**	**-0.1**
	comp=Z,0.1nm,0.7s,baz=234,slow=5.5,SNR=2.7					
AGMN	**Agassiz Nation**	**106.28 42**	*e*Pdif	**Pdif**	**01 45 05.2**	**+0.3**
ARCES	**ARCESS Array B**	**112.34 344**	PKiKP	**PKiKP**	**01 49 26.0**	**-0.8**
ARCES	**ARCESS Array B**	**112.34 344**	PKiKP	**PKiKP**	**01 49 26.0**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=66,slow=1.8,SNR=11					
FINES	**FINESS Array B**	**117.12 337**	PKP	**PKPdf**	**01 49 35.4**	**-0.8**
FINES	**FINESS Array B**	**117.12 337**	PKP	**PKPdf**	**01 49 35.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=74,slow=2.0,SNR=7.7					
BOSA	**Boshof**	**122.22 228**	PKP	**PKPdf**	**01 49 45.8**	**-1.4**
BOSA	**Boshof**	**122.22 228**	PKP	**PKPdf**	**01 49 45.8**	**-1.4**
	comp=Z,4.1nm,1.0s,baz=148,slow=3.7,SNR=7.5					
NB2	**NORSAR Subarra**	**122.59 342**	PKPdf	**PKPdf**	**01 49 45.8**	**-1.0**
	comp=Z,2.5nm,1.1s,baz=44,slow=1.9					
NOA	**NORSAR Array B**	**122.59 342**	PKP	**PKPdf**	**01 49 45.7**	**-1.0**
NOA	**NORSAR Array B**	**122.59 342**	PKP	**PKPdf**	**01 49 45.7**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=42,slow=1.9,SNR=8.7					
BRTR	**Keskin Array B**	**122.63 312**	PKP	**PKPdf**	**01 49 46.6**	**-1.0**
BRTR	**Keskin Array B**	**122.63 312**	PKP	**PKPdf**	**01 49 46.7**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=86,slow=2.8,SNR=4.3					
BUR08	**Bucovina Ar. S**	**125.09 324**	*e*PKPdf	**PKPdf**	**01 49 53.3**	**+1.2**
KOLS	**Kolonicke sedl**	**126.08 326**	*e*PKIKP	**PKPdf**	**01 49 54.0**	**+0.2**
KOLS	**Kolonicke sedl**	**126.08 326**	*e*PKP	**PKPdf**	**01 49 54.0**	**+0.2**
STHS	**Stebnicka Huta**	**126.37 327**	*e*PKIKP	**PKPdf**	**01 49 55.2**	**+0.8**
STHS	**Stebnicka Huta**	**126.37 327**	*e*PKP	**PKPdf**	**01 49 55.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**126.54 327**	*e*PKIKP	**PKPdf**	**01 49 55.7**	**+1.0**
CRVS	**Cervenica-Dubn**	**126.54 327**	*e*PKP	**PKPdf**	**01 49 55.7**	**+1.0**
OKC	**Ostrava-Krasne**	**127.74 329**	*e*PKIKP	PKPdf	01 50 02.5	+5.6
OKC	**Ostrava-Krasne**	**127.74 329**	*e*PKP	PKPdf	01 50 02.5	+5.6
VYHS	**Vyhne**	**128.20 327**	*e*PKIKP	**PKPdf**	**01 49 58.1**	**+0.2**
VYHS	**Vyhne**	**128.20 327**	*e*PKP	**PKPdf**	**01 49 58.1**	**+0.2**
DPC	**Dobruska-Polom**	**128.32 331**	*e*PKIKP	**PKPdf**	**01 49 59.2**	**+1.1**
DPC	**Dobruska-Polom**	**128.32 331**	*e*PKPdf	**PKPdf**	**01 49 59.2**	**+1.1**
DPC			*ex*	x	01 50 03.5	
PVCC	**Panska Ves**	**129.04 332**	*e*PKIKP	PKPdf	01 50 05.1	+5.7
PVCC	**Panska Ves**	**129.04 332**	*e*PKP	PKPdf	01 50 05.1	+5.7
CLL	**Collm**	**129.21 333**	*e*PKPdf	**PKPdf**	**01 49 59.0**	**-0.7**
PRU	**Pruhonice**	**129.41 331**	*e*PKIKP	PKPdf	01 50 06.

WLF	**Walferdange**	**133.34 336**	*e*PKPbc	**SKPdf**	**01 53 37.1**	**+2.9**
BFO	**Black Forest**	**133.46 333**	*e*PKPbc	**SKPdf**	**01 53 36.7**	**+2.2**
BAIF	**Baives**	**133.78 338**	*e*PKIKP	**PKPdf**	**01 50 05.3**	**-3.0**
CDF	**Champ du Feu**	**133.85 334**	*e*PKIKP	**PKPdf**	**01 50 06.3**	**-2.4**
	comp=Z,6.5nm,1.0s					
DAVOX	**Davos/Dischmat**	**133.88 331**	PKP	**PKPdf**	**01 50 09.8**	**+0.9**
DAVOX	**Davos/Dischmat**	**133.88 331**	PKP	**PKPdf**	**01 50 09.8**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=135,slow=2.9,SNR=8.0					
HAU	**Haudompre**	**134.56 335**	*e*PKIKP	**PKPdf**	**01 50 08.4**	**-1.5**
CABF	**La Chapelle**	**135.75 334**	*e*PKIKP	**PKPdf**	**01 50 10.2**	**-2.1**
	comp=Z,75nm,1.9s					
LOR	**Lormes**	**136.18 336**	*e*PKIKP	**PKPdf**	**01 50 10.1**	**-2.9**
	comp=Z,24nm,1.5s					
LPL	**La Plagne**	**136.29 332**	*e*PKIKP	**PKPdf**	**01 50 10.7**	**-2.8**
	comp=Z,17nm,1.2s					
LPG	**La Plagne**	**136.30 332**	*e*PKIKP	**PKPdf**	**01 50 10.8**	**-2.8**
	comp=Z,16nm,1.3s					
SSF	**Saint Saulge**	**136.49 336**	*e*PKIKP	**PKPdf**	**01 50 11.0**	**-2.5**
	comp=Z,31nm,1.5s					
SMF	**Signal de Mont**	**136.69 335**	*e*PKIKP	**PKPdf**	**01 50 11.1**	**-2.8**
	comp=Z,53nm,1.7s					
AVF	**Avril sur Loir**	**136.77 336**	*e*PKIKP	**PKPdf**	**01 50 11.3**	**-2.7**
ORIF	**Oris-en-Rattie**	**137.14 332**	*e*PKIKP	**PKPdf**	**01 50 12.7**	**-2.2**
PGF	**Pioggiola**	**137.30 327**	*e*PKIKP	**PKPdf**	**01 50 12.9**	**-2.4**
	comp=Z,82nm,1.5s					
FRF	**La Foret Royal**	**137.79 330**	*e*PKIKP	**PKPdf**	**01 50 14.5**	**-1.5**
	comp=Z,18nm,1.1s					
LMR	**La Mourre**	**138.02 330**	*e*PKIKP	**PKPdf**	**01 50 14.3**	**-2.2**
	comp=Z,38nm,1.4s					
BDFB	**Brasilia**	**143.78 132**	PKP	**PKPdf**	**01 50 28.5**	**+0.7**
BDFB	**Brasilia**	**143.78 132**	PKP	**PKPdf**	**01 50 28.5**	**+0.7**
	comp=Z,1.8nm,0.4s,baz=263,slow=2.2,SNR=4.1					
PBRG	**Braganca**	**144.72 342**	*e*PKPab	**PKPab**	**01 50 26.9**	**-0.6**
PBRG	**Braganca**	**144.72 342**	*e*PKPdf	**PKPdf**	**01 50 28.7**	**+0.1**
PGAV	**Gavieira, Arco**	**145.02 344**	*e*PKPdf	**PKPdf**	**01 50 29.5**	**+0.3**
PGAV	**Gavieira, Arco**	**145.02 344**	*e*LR	LR	02 50 49.8	
	comp=Z,160nm,18.0s					
PCAB	**Cabril**	**145.19 343**	*e*PKPdf	**PKPdf**	**01 50 29.6**	**+0.2**
MVO	**Moncorvo**	**145.39 342**	*e*PKPab	**PKPab**	**01 50 30.4**	**+0.3**
MVO	**Moncorvo**	**145.39 342**	*e*LR	LR	02 49 57.4	
	comp=Z,183nm,20.0s					
POLO	**Lamas de Olo**	**145.43 343**	*e*PKPab	**PKPab**	**01 50 30.8**	**+0.6**
PVRL	**Vila Real**	**145.50 343**	*e*PKPab	**PKPab**	**01 50 30.9**	**+0.5**
ESDC	**Sonseca Array**	**145.64 337**	PKPbc	**PKPdf**	**01 50 30.4**	**+0.1**
ESDC	**Sonseca Array**	**145.64 337**	PKPbc	**PKPdf**	**01 50 30.4**	**+0.1**
	comp=Z,5.3nm,0.9s,baz=17,slow=3.3,SNR=25					
ESLA	**Sonseca Array**	**145.64 337**	*e*PKPdf	**PKPab**	**01 50 31.4**	**+0.4**
PTO	**Porto**	**145.88 344**	*e*PKPbc	**PKPdf**	**01 50 30.3**	**-0.2**
PAB	**San Pablo**	**145.90 337**	*e*PKP2	**PKPab**	**01 50 32.0**	**0.0**
PAB	**San Pablo**	**145.90 337**	*e*PKPbc	**PKPab**	**01 50 32.0**	**0.0**
PVIS	**Viseu**	**146.07 342**	*e*PKPab	**PKPab**	**01 50 32.7**	**+0.1**
MTE	**Manteigas**	**146.25 342**	*e*PKPdf	**PKPdf**	**01 50 31.1**	**-0.2**
MTE	**Manteigas**	**146.25 342**	*e*PKPab	**PKPab**	**01 50 33.6**	**+0.3**
MTE	**Manteigas**	**146.25 342**	*e*LR	LR	02 49 47.4	
	comp=Z,256nm,20.0s					
MTE	**Manteigas**	**146.25 342**	*e*PKPbc	**PKPab**	**01 50 33.5**	**+0.2**
PCBR	**Castelo Branco**	**146.74 341**	*e*PKPab	**PKPab**	**01 50 34.7**	**-0.4**
PMRV	**Marv??o**	**147.08 341**	*e*PKPab	**PKPab**	**01 50 35.9**	**-0.6**
PMRV	**Marv??o**	**147.08 341**	*e*LR	LR	02 51 45.3	
	comp=Z,178nm,22.0s					
PTOM	**Tomar**	**147.23 342**	*e*PKPab	**PKPab**	**01 50 36.3**	**-0.8**
PESTR	**Estremoz**	**147.66 341**	*e*PKPab	**PKPbc**	**01 50 37.1**	**+0.7**
PMTG	**Montargil**	**147.68 342**	*e*PKPbc	**PKPbc**	**01 50 36.9**	**+0.5**
PBAR	**Barrancos**	**148.09 339**	*e*PKPbc	**PKPdf**	**01 50 35.9**	**+1.6**
EVO	**Evora**	**148.10 341**	*e*PKIKP	**PKPbc**	**01 50 37.6**	**0.0**
	comp=Z,45nm,1.3s					
PNCL	**Nicolau / Gran**	**148.65 341**	*e*PKPbc	**PKPbc**	**01 50 40.0**	**+1.0**
PCVE	**Castro Verde**	**148.93 340**	*e*PKPbc	**PKPbc**	**01 50 41.0**	**+1.2**
PVAQ	**Vaqueiros**	**149.02 340**	*e*LR	LR	02 52 48.2	
	comp=Z,201nm,22.0s					
TAM	**Tamanrasset**	**151.15 302**	*e*PKIKP	**PKPbc**	**01 50 45.9**	**+0.2**
TAM	**Tamanrasset**	**151.15 302**	*e*PKPbc	**PKPbc**	**01 50 45.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**157.54 284**	PKP	**PKPdf**	**01 50 48.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**157.54 284**	PKP	**PKPdf**	**01 50 48.2**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=50,slow=1.1,SNR=5.1					

CSEM ***03*** *01:44:40.1, 36.97N×24.44W, h5km, ML2.7, After PDA*
PDA 03 01:44:40.1±1.1, 36.97N×24.44W, h5km, MD3.9, ML2.7,
Error ellipse: s-maj=6.7km s-min=5.4km az=104.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.50**	**274**	*e*P	Pg	01 44 48.7	-1.1
PSMN				*e*S	Sg	01 44 55.5	-0.9
PSMN				A	A	01 44 55.9	
	133nm,0.2s						
PSMN	**Pico do Norte,**	**0.50**	**274**	*e*P	Pg	01 44 48.7	-1.1
PSMN				*e*S	Sg	01 44 55.5	-0.9
PSMA	**Santa Maria**	**0.55**	**273**	*e*P	Pg	01 44 49.2	-1.6
PSMA				*e*S	Sg	01 44 56.4	-1.6
PSMA				A	A	01 44 56.7	
	89nm,0.1s						
BART	**Pico Bartolome**	**0.99**	**324**	*e*P	Pg	01 44 55.7	-3.6
BART				*e*S	Sg	01 45 07.6	-4.8
BART				A	A	01 45 10.7	
	64nm,0.3s						
BART	**Pico Bartolome**	**0.99**	**324**	*e*P	Pg	01 44 55.7	-3.6
BART				*e*S	Sg	01 45 07.6	-4.8
CMLA	**Cha da Macela**	**1.17**	**313**	*e*P	Pg	01 44 58.5	-4.2
CMLA				*e*S	Sg	01 45 11.9	-6.0
CMLA				A	A	01 45 14.5	
	139nm,0.3s						
CMLA	**Cha da Macela**	**1.17**	**313**	*e*P	Pg	01 44 58.5	-4.2
CMLA				*e*S	Sg	01 45 11.9	-6.0
PDA	**Ponta Delgada**	**1.25**	**309**	*e*P	Pg	01 44 59.2	-4.8
PDA				*e*S	Sg	01 45 13.5	-6.7
PDA				A	A	01 45 15.4	
	39nm,0.2s						
PDA	**Ponta Delgada**	**1.25**	**309**	*e*P	Pg	01 44 59.2	-4.8
PDA				*e*S	Sg	01 45 13.5	-6.7
PSET	**Sete Cidades**	**1.33**	**310**	*e*P	Pn	01 45 00.7	-4.7
PSET				*e*S	Sg	01 45 15.9	-7.1
PSET				A	A	01 45 16.1	
	8.9nm,0.1s						
PSET	**Sete Cidades**	**1.33**	**310**	*e*P	Pn	01 45 00.7	-4.7
PSET				*e*S	Sg	01 45 15.9	-7.1
ROSA	**Rosais**	**3.48**	**301**	*e*P	Pn	01 45 29.9	-5.0
ROSA				A	A	01 45 31.1	
	11nm,0.3s						
ROSA				*e*S	Sn	01 46 08.0	-8.5
ROSA				A	A	01 46 08.8	
	8.6nm,0.3s						
ROSA	**Rosais**	**3.48**	**301**	*e*P	Pn	01 45 29.9	-5.0
ROSA				*e*S	Sn	01 46 08.0	-8.5
PICO	**Pico**	**3.51**	**297**	*e*P	Pn	01 45 31.4	-4.0
PICO				*e*S	Sn	01 46 08.9	-8.5
PICO	**Pico**	**3.51**	**297**	*e*P	Pn	01 45 31.4	-4.0
PICO				*e*S	Sn	01 46 08.9	-8.5
PCAN	**Candelaria**	**3.54**	**296**	*e*P	Pn	01 45 30.8	-4.9
PCAN				*e*S	Sn	01 46 09.5	-8.5
PCAN				A	A	01 46 11.0	
	11nm,0.4s						
PCAN	**Candelaria**	**3.54**	**296**	*e*P	Pn	01 45 30.8	-4.9
PCAN				*e*S	Sn	01 46 09.5	-8.5
PCED	**Cedros**	**3.76**	**297**	*e*P	Pn	01 45 34.6	-4.2
PCED				*e*S	Sn	01 46 15.1	-8.3
PCED				A	A	01 46 15.8	
	6.2nm,0.3s						
PCED	**Cedros**	**3.76**	**297**	*e*P	Pn	01 45 34.6	-4.2
PCED				*e*S	Sn	01 46 15.1	-8.3

BJI ***03*** *01:47:51.1, 12.00N×144.44E, h35km, mB5.1/27, mb4.8/38, Ms4.7/31, Ms7 4.5/32*
IDC ***03*** *01:47:51.2±0.4, 12.34N×144.09E, h0km, mb4.7/30, mb1 4.8/30, mb1mx4.8/31, mbtmp4.7/30, MS4.4/22, Ms1 4.4/22, ms1mx4.2/37, Error ellipse: s-maj=16.7km s-min=11.1km az=97.0*
ISCJB ***03*** *01:47:52.5±1.2, 12.32N±0.03×143.91E±0.03, h16km±8km, mb5.0/153, MS4.5/48, Error ellipse: s-maj=5.6km s-min=5.0km az=176.1*
MOS ***03*** *01:47:54.8±1.2, 12.34N×143.88E, h33km, mb5.2/47, MS4.7/9, Error ellipse: s-maj=9.5km s-min=6.1km az=96.4*
DJA ***03*** *01:47:56.7±0.4, 12°N±6°×14°4E±°, h30km, M5.0/8, mB5.6/2, mb5.1/8, MLv5.0/1, Mw(mB)5.1/2*
NEIC ***03*** *01:47:56.7±0.1, 12.32N×143.93E, h35km, mb5.1/88, Error ellipse: s-maj=5.7km s-min=4.1km az=110.0*
GCMT ***03*** *01:47:57.0±0.2, 12.20N×144.07E, h19km, MW5.2, Moment Tensor Solution. s58,c81; s81,c147; Moment tensor: Scale 10^16Nm; Mrr=7.30±.28; Mθθ=5.52±.18; Mφφ=1.79±.19; Mrθ=2.35±.35; Mrφ=-3.92±.12; Mθφ=2.87±.44; Best double couple: M0=8.50000×10^16 NP1:φ=280.00000°, δ=52.00000°, λ=-121.00000°. NP2:φ=144.00000°, δ=48.00000°, λ=-57.00000°. Principal axes: T 8.0100, Plg=2.0000°, Azm=31.0000°; N 0.9500, Plg=24.0000°, Azm=301.0000°; P -8.9500, Plg=66.0000°, Azm=126.0000°; Data Used: IU II CN G IC.*
TEH ***03*** *01:47:57.0, 12.30N×143.97E, h35km, ML5.1*
ISC 03 01:47:56.5±0.4, 12.36N±0.04×144.06E±0.05, h35km±2km, n598, σ1°12/614, mb5.0/163, MS4.6/48, 144C-123D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.45**	**33**	*e*Pn	**Pn**	**01 48 20.1**	**-0.3**
GUMO				*e*S	**Sn**	**01 48 36.4**	**-1.8**
WAMI	**Wamena**	**16.99**	**199**	P	P	01 52 06.5	+13
CTBH	**Cotabato--PC H**	**20.18**	**257**	∥*i*P	**P**	**01 52 28.5**	**+0.2**
JOW	**Kunigami**	**20.66**	**316**	*e*P	Pn	01 52 37.1	+1.1
	47nm,1.2s						
PMG	**Port Moresby**	**21.84**	**172**	*e*P	**P**	**01 52 46.0**	**-0.2**
PMG	**Port Moresby**	**21.84**	**172**	P	**P**	**01 52 46.0**	**-0.2**
	24nm,0.9s,baz=320,slow=20,SNR=3.9						
PMG				LR	LR	01 59 19.0	
	comp=Z,788nm,18.3s,baz=173,slow=32						
AAI	**Ambon**	**22.42**	**226**	P	**P**	**01 52 54.3**	**+1.8**
	207nm,0.9s						
WAKE	**Wake Island**	**22.79**	**70**	*e*P	**P**	**01 52 52.7**	**-3.6**
	557nm,1.7s						
JNU	**Nakatsue**	**23.93**	**332**	*e*P	**P**	**01 53 08.4**	**+1.0**
	21nm,1.0s						
JNU	**Nakatsue**	**23.93**	**332**	P	**P**	**01 53 07.9**	**+0.4**
	48nm,0.9s,baz=136,slow=4.1,SNR=20						
JNU				LR	LR	02 00 39.0	
	comp=Z,382nm,21.7s,baz=46,slow=32						
YULB	**Yu-li**	**24.25**	**300**	*e*P	**P**	**01 53 08.5**	**-1.9**
	14nm,0.8s						
MAJO	**Matsushiro**	**24.65**	**349**	*e*P	**P**	**01 53 12.5**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,50nm,1.0s						
MAJO	**Matsushiro**	**24.65**	**349**	*e*P	**P**	**01 53 12.5**	**-1.5**
	comp=Z,50nm,1.0s						
MAT	**Matsushiro**	**24.65**	**349**	P	**P**	**01 53 12.5**	**-1.5**
MAT				S	**S**	**01 57 31.4**	**-1.8**
SSLB	**Sanglung**	**24.69**	**301**	*e*P	**P**	**01 53 14.8**	**+0.3**
	comp=Z,8.0nm,0.6s						
LUWI	**Luwuk**	**24.98**	**239**	P	**P**	**01 53 16.7**	**-0.5**
	comp=Z,186nm,1.3s,comp=Z,3μm						
COEN	**Coen**	**26.16**	**182**	*e*P	**P**	**01 53 27.2**	**-0.7**
	comp=Z,199nm,0.8s						
MYLDM	**Lahad Datu**	**26.23**	**256**	P	**P**	**01 53 31.9**	**+3.4**
HNR	**Honiara**	**26.79**	**143**	LR	LR	02 03 28.6	
	comp=Z,500nm,19.4s,baz=119,slow=35						
KSRS	**Korea Array**	**28.87**	**333**	P	**P**	**01 53 51.8**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=140,slow=9.1,SNR=25						
KSRS				PcP	**PcP**	**01 57 01.9**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=170,slow=3.4,SNR=4.3						
KSAR	**Wonju Array Be**	**28.87**	**333**	P	**P**	**01 53 51.8**	**-0.2**
KSAR				PcP	**PcP**	**01 57 01.9**	**+1.1**
ERM	**Erimo**	**29.55**	**359**	*e*P	**P**	**01 53 58.9**	**+1.0**
ERM				pmax	pmax		
	comp=Z,63nm,1.5s						
ERM	**Erimo**	**29.55**	**359**	*e*P	**P**	**01 53 58.9**	**+1.0**
	comp=Z,63nm,1.5s						
KAPI	**Kappang**	**29.70**	**236**	P	**P**	**01 53 58.0**	**-1.5**
KAPI	**Kappang**	**29.70**	**236**	P	**P**	**01 53 58.0**	**-1.5**
	comp=Z,5.6nm,0.7s,baz=79,slow=16,SNR=2.5						
BATI	**Baumata**	**30.22**	**223**	LR	LR	02 04 28.8	
	comp=Z,611nm,21.0s,baz=111,slow=33						
NJ2	**Nanjing**	**30.34**	**314**	*e*P	**P**	**01 54 06.2**	**+1.2**
NJ2				pP	**pP**	**01 54 14.7**	**-0.4**
NJ2				sP	**sP**	**01 54 18.9**	**-0.4**
NJ2				S	**S**	**01 59 04.1**	**+1.0**
NJ2				sS	**sS**	**01 59 19.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,670nm,5.3s						
NJ2				LR	LR		
	comp=N,2μm,17.5s						
NJ2				LR	LR		
	comp=E,2μm,22.4s						
NJ2				LR	LR		
	comp=Z,1μm,20.6s						
ASAJ	**Asahikawa**	**31.67**	**358**	*e*P	**P**	**01 54 18.7**	**+2.1**
ASAJ	**Asahikawa**	**31.67**	**358**	P	**P**	**01 54 16.7**	**+0.1**
	comp=Z,14nm,0.7s,baz=269,slow=33,SNR=7.8						
ASAJ				LR	LR	02 08 02.0	
	comp=Z,436nm,18.2s,baz=185,slow=38						
CTAO	**Charters Tower**	**32.32**	**176**	*e*P	**P**	**01 54 21.9**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,44nm,1.3s						
CTAO	**Charters Tower**	**32.32**	**176**	*e*P	**P**	**01 54 21.9**	**-0.6**
	comp=Z,44nm,1.3s						
WHN	**Wuhan**	**32.89**	**308**	P	**P**	**01 54 26.7**	**-0.8**
WHN				S	**S**	**01 59 40.4**	**-2.6**
WHN				LR	LR		
	comp=Z,1μm,18.6s						
SBUM	**Sibu**	**33.03**	**255**	P	**P**	**01 54 30.5**	**+1.6**
SBUM	**Sibu**	**33.03**	**255**	P	**P**	**01 54 29.5**	**+0.6**
	comp=Z,23nm,1.3s						
DL2	**Dalian**	**33.10**	**327**	P	**P**	**01 54 31.6**	**+2.4**
DL2				S	**S**	**01 59 47.6**	**+1.6**
DL2				pmax	pmax		
	comp=Z,28nm,0.8s						
DL2				LR	LR		
	comp=N,190nm,18.0s						
DL2				LR	LR		
	comp=E,260nm,17.8s						
DL2				LR	LR		
	comp=Z,380nm,16.4s						
USRK	**Ussuriysk Arra**	**33.38**	**344**	P	**P**	**01 54 31.3**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=159,slow=10,SNR=13						
USRK				PcP	**PcP**	**01 57 15.2**	**+2.5**
	comp=Z,1.7nm,0.8s,baz=160,slow=4.6,SNR=3.9						
USRK				ScP	**ScP**	**02 00 55.8**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=186,slow=1.4,SNR=4.6						
WRAB	**Tennant Creek**	**33.48**	**197**	P	**P**	**01 54 32.0**	**-0.7**
	comp=Z,142nm,0.7s,SNR=12						
WRAB	**Tennant Creek**	**33.48**	**197**	*e*P	**P**	**01 54 31.8**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,205nm,2.3s						
WRAB	**Tennant Creek**	**33.48**	**197**	*e*P	**P**	**01 54 31.8**	**-1.0**
	comp=Z,206nm,2.3s						
WRA	**Warramunga Arr**	**33.50**	**197**	P	**P**	**01 54 31.5**	**-1.3**
WRA				PcP	**PcP**	**01 57 13.8**	**+0.4**
WRA	**Warramunga Arr**	**33.50**	**197**	P	**P**	**01 54 31.5**	**-1.3**
	comp=Z,14nm,0.9s,baz=20,slow=9.8,SNR=36						
WRA				PcP	**PcP**	**01 57 13.8**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=16,slow=3.5,SNR=5.0						
WRA				LR	LR	02 07 57.2	
	comp=Z,1μm,18.0s,baz=25,slow=36						
QIZ	**Qiongzhong**	**33.56**	**286**	P	**P**	**01 54 32.7**	**-0.8**
QIZ				sP	**sP**	**01 54 46.6**	**-1.2**
QIZ				S	**S**	**01 59 51.9**	**-1.8**
QIZ				LR	LR		
	comp=N,520nm,17.7s						
QIZ				LR	LR		
	comp=E,230nm,21.3s						
QIZ				LR	LR		
	comp=Z,790nm,19.4s						
MDJ	**Mudanjiang**	**34.45**	**342**	P	**P**	**01 54 42.6**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,81nm,4.7s						
MDJ	**Mudanjiang**	**34.45**	**342**	*e*P	**P**	**01 54 41.4**	**+0.5**
	comp=Z,6.9nm,0.7s						
YSS	**Yuzh-Sakhalins**	**34.50**	**358**	∥*e*P	**P**	**01 54 43.0**	**+1.8**
YSS				*e*S	**S**	**02 00 09.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
KSM	**Kuching**	**35.16**	**255**	*e*P	**P**	**01 54 47.5**	**+0.1**
	comp=Z,28nm,0.9s						
KSM	**Kuching**	**35.16**	**255**	P	**P**	**01 54 48.1**	**+0.7**
KSM	**Kuching**	**35.16**	**255**	P	P	01 54 50.9	+3.5
	comp=Z,34nm,1.1s						
CN2	**Changchun**	**35.20**	**336**	*e*P	P	01 54 51.8	+4.5
CN2				*e*S	**S**	**02 00 23.2**	**+4.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
FITZ	**Fitzroy Crossi**	**35.31**	**211**	*e*P	**P**	**01 54 48.1**	**-0.4**
	comp=Z,49nm,1.6s						
HABR	**Khabarovsk**	**36.78**	**350**	*e*P	P	01 55 08.4	+7.6
HABR				*e*		01 57 20.0	
HABR				*e*S	**S**	**02 00 41.4**	**-1.0**
HABR				*e*		02 00 57.9	
HABR				*e*SS	**SnSn**	**02 03 15.5**	**+0.1**
HABR				*e*		02 05 11.1	
HABR				MLR	MLR		
	comp=Z,471nm,16.0s						
BJT	**Baijiatuau**	**36.92**	**323**	*e*P	**P**	**01 55 02.3**	**+0.1**
	comp=Z,15nm,0.3s						
BJI	**Beijing**	**36.93**	**323**	P	**P**	**01 55 03.4**	**+1.2**
BJI				pmax	pmax		
	comp=Z,19nm,1.3s						
BJI				pmax	pmax		
	comp=Z,140nm,4.1s						
AS31	**Alice Springs**	**37.16**	**196**	*e*P	**P**	**01 55 03.8**	**-0.6**
ASAR	**Alice Springs**	**37.16**	**196**	P	**P**	**01 55 03.5**	**-0.9**
ASAR				PcP	**PcP**	**01 57 24.6**	**+0.5**
ASAR	**Alice Springs**	**37.16**	**196**	P	**P**	**01 55 03.5**	**-0.9**
	comp=Z,7.0nm,0.7s,baz=18,slow=9.7,SNR=68						
ASAR				PcP	**PcP**	**01 57 24.6**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=32,slow=2.6,SNR=8.9						
ASAR				LR	LR	02 10 01.2	
	comp=Z,1μm,19.1s,baz=28,slow=36						
GYA	**Guiyang**	**37.80**	**297**	∥*i*P	**P**	**01 55 11.0**	**+1.0**
GYA				pP	**pP**	**01 55 20.8**	**+0.7**
GYA				sP	**sP**	**01 55 26.5**	**+2.2**
GYA				PP	**PnPn**	**01 56 40.0**	**+2.0**
GYA				PcP	**PcP**	**01 57 27.4**	**+1.1**
GYA				S	**S**	**02 00 58.3**	**-0.6**
GYA				ScP	**ScP**	**02 01 11.2**	**-0.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,590nm,17.8s						
GYA				LR	LR		
	comp=E,520nm,18.0s						
GYA				LR	LR		
	comp=Z,560nm,17.5s						
EIDS	**Eidsvold**	**38.12**	**170**	*e*P	**P**	**01 55 11.0**	**-1.4**
	comp=Z,36nm,1.3s						
KLR	**Kul'dur**	**38.15**	**347**	*e*P	P	01 55 07.2	-5.2
KLR				*e*		01 57 10.2	
HHC	**Hu-ho-hao-te**	**40.20**	**321**	*e*P	**P**	**01 55 28.3**	**-1.6**
HHC				PcP	**PcP**	**01 57 32.4**	**-1.2**
HHC				ScP	**ScP**	**02 01 18.1**	**-2.2**
HHC				PcS	**PcS**	**02 01 21.7**	**-2.3**
HHC				S	**S**	**02 01 32.7**	**-1.9**
HHC				ScS	**ScS**	**02 05 29.9**	**-4.1**
HHC				pmax	pmax		
	comp=Z,41nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,5.7s						
HHC				LR	LR		
	comp=N,1μm,15.4s						
HHC				LR	LR		
	comp=E,950nm,14.9s						
HHC				LR	LR		
	comp=Z,1μm,14.9s						
DZM	**Mont Dzumac**	**40.66**	**147**	*e*P	**P**	**01 55 33.8**	**+0.1**
	comp=Z,79nm,1.4s						
DZM	**Mont Dzumac**	**40.66**	**147**	*e*LR	LR	02 06 43.9	
	comp=Z,325nm,24.4s						
KMI	**Kunming**	**40.97**	**294**	P	**P**	**01 55 37.2**	**+0.6**
KMI				pP	**pP**	**01 55 47.1**	**+0.3**
KMI				sP	**sP**	**01 55 51.0**	**0.0**
KMI				PP	**PnPn**	**01 57 15.8**	**-0.1**
KMI				S	**S**	**02 01 45.9**	**-0.8**
KMI				sS	**sS**	**02 02 04.4**	**+0.8**
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
KMI				pmax	pmax		
	comp=Z,110nm,3.6s						
KMI				LR	LR		
	comp=N,250nm,16.0s						
KMI				LR	LR		
	comp=E,380nm,16.8s						
KMI				LR	LR		
	comp=Z,410nm,15.2s						
MBWA	**Marble Bar**	**41.00**	**216**	*e*P	**P**	**01 55 35.9**	**-0.5**
	comp=Z,142nm,2.3s						
CD2	**Chengdu**	**41.48**	**303**	*e*P	**P**	**01 55 40.5**	**0.0**
CD2				pP	**pP**	**01 55 50.8**	**+0.1**
CD2				sP	**sP**	**01 55 55.2**	**+0.3**
CD2				PP	**PnPn**	**01 57 20.1**	**-1.4**
CD2				PcP	**PcP**	**01 57 38.6**	**+0.8**
CD2				S	**S**	**02 01 53.2**	**-0.6**
CD2				sS	**sS**	**02 02 10.2**	**-0.5**
CD2				ScS	**ScS**	**02 05 39.4**	**-2.5**
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
CD2				pmax	pmax		
	comp=Z,150nm,5.2s						
CD2				LR	LR		
	comp=E,490nm,14.3s						
CD2				LR	LR		
	comp=Z,530nm,16.6s						
HIA	**Hailar**	**41.93**	**336**	*e*P	**P**	**01 55 43.7**	**-0.1**
	comp=Z,36nm,1.1s						
PETK	**Petropavlovsk-**	**42.08**	**12**	P	**P**	**01 55 44.9**	**-0.1**
PETK						01 57 39.7	
PETK	**Petropavlovsk-**	**42.08**	**12**	P	**P**	**01 55 44.9**	**-0.1**
PETK				PcP	**PcP**	**01 57 39.7**	**+0.4**
PETK	**Petropavlovsk-**	**42.08**	**12**	P	**P**	**01 55 44.9**	**-0.1**
	comp=Z,3.4nm

AMKA	**Amchitka**	48.25	29	*e*P		P	01 56 33.9	0.0
	comp=Z,13nm,0.6s							
ZAK	**Zakamensk**	50.43	327	*e*P		P	01 56 50.6	-0.2
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s							
YAK	**Yakutsk**	50.67	351	*e*P		P	01 56 51.3	-0.9
YAK				pmax		pmax		
	comp=Z,24nm,0.9s							
YAK				pmax		pmax		
	comp=N,9.0nm,1.1s							
YAK				MLR		MLR		
	comp=N,365nm,18.0s							
YAK				MLR		MLR		
	comp=Z,548nm,17.0s							
SHL	**Shillong**	50.77	293	*e*P		P	01 56 53.0	-0.8
NWAO	**Narrogin (SRO)**	51.81	209	LR		LR	02 20 24.4	
	comp=Z,371nm,19.2s,baz=20,slow=38							
LSA	**Lhasa**	51.86	298	*e*P		P	01 57 03.0	+0.7
LSA				pmax		pmax		
	comp=Z,5.0nm,0.4s							
LSA	**Lhasa**	51.86	298	*e*P		P	01 57 03.0	+0.7
	comp=Z,5.0nm,0.4s							
ATKA	**Atka Island**	51.95	31	*e*P		P	01 57 01.9	0.0
	comp=Z,44nm,0.9s							
TAPN	**Taplejung**	54.63	295	*e*P		P	01 57 21.9	-0.7
	comp=Z,28nm,0.7s							
ODAN	**Odare**	54.89	294	*e*P		P	01 57 24.2	-0.1
	comp=Z,39nm,1.1s							
RAMN	**Ramite**	55.60	294	*e*P		P	01 57 29.4	-0.1
	comp=Z,30nm,0.7s							
JIRN	**Jiri**	56.00	295	*e*P		P	01 57 31.7	-0.8
	comp=Z,36nm,0.7s							
HVS	**Khovu-Aksy**	56.09	324	*i* P		P	01 57 33.3	+0.9
HVS				pmax		pmax		
	comp=Z,44nm,1.2s							
GUN	**Gumba**	56.29	295	*e*P		P	01 57 34.3	-0.2
	comp=Z,56nm,0.7s							
PKI	**Pulchoki**	56.69	295	*e*P		P	01 57 36.5	-0.9
KKN	**Kakani**	56.82	295	*e*P		P	01 57 37.8	-0.3
	comp=Z,26nm,0.9s							
DMN	**Daman**	56.96	295	*e*P		P	01 57 38.8	-0.4
	comp=Z,32nm,0.8s							
WMQ	**Urumqi**	57.42	314	P		P	01 57 43.0	+1.1
WMQ				PcP		PcP	01 58 35.8	+0.3
WMQ				S		S	02 05 35.7	-1.0
WMQ				sS		sS	02 05 51.9	-2.2
WMQ				ScS		ScS	02 07 25.5	-3.4
WMQ				SS		SS	02 09 26.4	-0.2
WMQ				pmax		pmax		
	comp=Z,15nm,1.2s							
WMQ				pmax		pmax		
	comp=Z,150nm,4.0s							
WMQ				LR		LR		
	comp=N,330nm,16.0s							
WMQ				LR		LR		
	comp=E,340nm,18.0s							
WMQ				LR		LR		
	comp=Z,330nm,20.0s							
DANN	**Dangsing**	58.19	296	*e*P		P	01 57 47.5	-0.4
	comp=Z,55nm,0.9s							
KOLN	**Koldanda**	58.30	295	*e*P		P	01 57 48.3	-0.3
	comp=Z,15nm,0.6s							
PYUN	**Piuthan**	58.85	295	*e*P		P	01 57 52.3	-0.1
	comp=Z,70nm,0.9s							
MK31	**Makanchi Array**	61.83	317	*e*P		P	01 58 12.3	+0.1
MK31	**Makanchi Array**	61.83	317	*e*P		P	01 58 12.3	+0.1
MKAR	**Makanchi Array**	61.83	317	*ce*P		P	01 58 12.3	+0.1
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.5s							
MKAR	**Makanchi Array**	61.83	317	P		P	01 58 12.4	+0.2
MKAR	**Makanchi Array**	61.83	317	P		P	01 58 12.4	+0.2
	comp=Z,4.0nm,0.5s,baz=91,slow=8.4,SNR=50							
MKAR				LR		LR	02 27 36.6	
	comp=Z,143nm,18.1s,baz=89,slow=39							
ZAA0	**Zalesovo Array**	62.16	325	*e*P		P	01 58 13.9	-0.3
ZALV	**Zalesovo Beam**	62.16	325	*i* P		P	01 58 17.5	+3.2
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	62.16	325	P		P	01 58 14.1	-0.2
ZALV	**Zalesovo Beam**	62.16	325	P		P	01 58 14.1	-0.2
	comp=Z,2.5nm,0.6s,baz=116,slow=6.9,SNR=9.6							
NVS	**Novosibirsk**	63.32	326	⇑*i*P		P	01 58 21.7	-0.2
NVS				*e*S		S	02 06 51.7	0.0
NVS				pmax		pmax		
	comp=Z,14nm,1.5s							
NVS				pmax		pmax		
	comp=N,5.0nm,1.4s							
NVS				pmax		pmax		
	comp=E,8.0nm,1.4s							
NVS				smax		smax		
	comp=N,17nm,2.6s							
NVS				smax		smax		
	comp=E,31nm,3.3s							
SVW2	**Sparrevohn**	65.12	28	*e*P		P	01 58 33.4	-0.3
KSH	**Kashi**	65.36	308	*e*P		P	01 58 39.4	+3.6
KSH				sP		sP	01 58 53.3	+2.7
KSH				PP		PP	02 01 05.3	+5.5
KSH				PcS			02 03 12.4	
KSH				S		S	02 07 19.4	+1.6
KSH				sS		sS	02 07 36.3	+0.8
KSH				SS		SS	02 11 35.4	+4.1
KSH				pmax		pmax		
	comp=Z,11nm,1.3s							
KSH				pmax		pmax		
	comp=Z,71nm,3.8s							
KSH				LR		LR		
	comp=N,43nm,3.8s							
KSH				LR		LR		
	comp=E,180nm,5.4s							
KSH				LR		LR		
	comp=Z,230nm,16.0s							
TKM2	**Tokmak 2**	65.93	312	*e*P		P	01 58 39.8	+0.3
TKM2				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TKM2	**Tokmak 2**	65.93	312	*e*P		P	01 58 39.8	+0.3
	comp=Z,3.7nm,0.8s							
RSO	**Redoubt South**	66.22	29	*e*P		P	01 58 40.6	-0.4
FRU	**Bishkek**	66.64	311	*e*P		P	01 58 44.0	+0.1
PPLA	**Purkeypile**	67.23	26	*e*P		P	01 58 47.2	-0.1
	comp=Z,10nm,0.8s							
TRF	**Thorofare Moun**	68.22	26	*e*P		P	01 58 52.0	-1.6
	comp=Z,15nm,1.0s							
PMR	**Palmer**	68.23	28	*e*P		P	01 58 52.5	-0.9
PMR				pmax		pmax		
	comp=Z,18nm,0.8s							
PMR	**Palmer**	68.23	28	*e*P		P	01 58 52.5	-0.9
	comp=Z,18nm,0.8s							
SML	**Sawmill**	68.66	28	*e*P		P	01 58 55.8	-0.4
SML				pmax		pmax		
	comp=Z,9.0nm,0.9s							
SML	**Sawmill**	68.66	28	*e*P		P	01 58 55.8	-0.4
	comp=Z,8.9nm,0.9s							
MCK	**McKinley**	68.88	26	*e*P		P	01 58 56.7	-0.8
MCK				pmax		pmax		
	comp=Z,12nm,1.1s							
MCK	**McKinley**	68.88	26	*e*P		P	01 58 56.7	-0.8
	comp=Z,12nm,1.1s							
COLD	**Coldfoot**	69.38	22	*e*P		P	01 59 01.0	+0.4
	comp=Z,17nm,0.9s							
COLA	**College**	69.63	25	*e*P		P	01 59 01.5	-0.6
COLA				pmax		pmax		
	comp=Z,25nm,0.8s							
COLA	**College**	69.63	25	*e*P		P	01 59 01.5	-0.6
	comp=Z,25nm,0.8s							
KK31	**Karatay Array**	69.67	311	*i* P		P	01 59 02.5	-0.3
KK31				pmax		pmax		
	comp=Z,4.0nm,0.6s							
DIV	**Divide**	69.70	29	*e*P		P	01 59 02.8	+0.1
	comp=Z,23nm,0.9s							
ILAR	**Eielson Array**	70.01	25	P		P	01 59 02.9	-1.6
ILAR	**Eielson Array**	70.01	25	P		P	01 59 02.9	-1.6
	comp=Z,11nm,0.8s,baz=253,slow=5.3,SNR=104							
VOSK	**Vostochnaya**	70.02	322	P		P	01 59 04.1	-0.6
VOSK				pmax		pmax		
	comp=Z,8.0nm,1.3s							
RAGM	**Ragged Mountai**	70.09	30	*e*P		P	01 59 05.6	+0.5
	comp=Z,24nm,1.0s							
PAX	**Paxson**	70.22	27	*e*P		P	01 59 05.6	-0.3
PAX				pmax		pmax		
	comp=Z,16nm,0.9s							
PAX	**Paxson**	70.22	27	*e*P		P	01 59 05.6	-0.3
	comp=Z,16nm,0.9s							
BMRM	**Bremner River**	70.23	29	*e*P		P	01 59 05.8	-0.1
	comp=Z,28nm,1.0s							
BVA0	**Borovoye Array**	70.40	322	P		P	01 59 06.7	-0.4
BVA0				pmax		pmax		
	comp=Z,11nm,0.8s							
BRVK	**Borovoye**	70.47	322	P		P	01 59 07.9	+0.4
	comp=Z,86nm,1.0s,SNR=8.0							
BRVK	**Borovoye**	70.47	322	⇓*i*P		P	01 59 07.5	0.0
BRVK				pmax		pmax		
	comp=Z,24nm,1.8s							
BRVK	**Borovoye**	70.47	322	*e*P		P	01 59 07.5	0.0
	comp=Z,26nm,1.4s							
KBL	**Kabul**	70.82	302	*e*P		P	01 59 09.9	-0.4
KBL				pmax		pmax		
	comp=Z,19nm,1.2s							
KBL	**Kabul**	70.82	302	*e*P		P	01 59 09.8	-0.4
	comp=Z,19nm,1.2s							
PPT	**Papeete**	71.95	113	LR		LR	02 23 45.7	
	comp=Z,193nm,19.8s,baz=130,slow=30							
PPT2	**Papeete2**	71.95	113	*e*LR		LR	02 20 57.9	
	comp=Z,300nm,22.5s							
EGAK	**Eagle**	72.42	26	*e*P		P	01 59 18.9	-0.2
	comp=Z,13nm,0.9s							
DAWY	**Dawson**	73.08	27	*e*P		P	01 59 23.0	0.0
HYT	**Haines Junctio**	73.66	30	*e*P		P	01 59 27.4	+0.8
SKAG	**Skagway**	74.68	31	*e*P		P	01 59 33.2	+0.8
	comp=Z,11nm,0.8s							
INK	**Inuvik**	75.80	22	P		P	01 59 38.0	-0.6
INK	**Inuvik**	75.80	22	P		P	01 59 38.0	-0.6
	comp=Z,26nm,1.0s,baz=284,slow=7.1							
SVE	**Sverdlovsk**	76.16	326	⇑*e*P		P	01 59 41.9	+0.9
SVE				pmax		pmax		
	comp=Z,18nm,0.9s							
SVE				MLR		MLR		
	comp=Z,494nm,19.0s							
WRAK	**Wrangell Islan**	76.27	35	*e*P		P	01 59 42.9	+1.3
	comp=Z,30nm,0.9s							
AB31	**Akbulak array**	76.92	318	P		P	01 59 44.6	-0.8
AB31				pmax		pmax		
	comp=Z,6.0nm,0.5s							
ARU	**Arti**	77.32	325	*c i* P		P	01 59 47.2	-0.3
ARU				S		S	02 09 37.1	+2.0
ARU				pmax		pmax		
	comp=Z,17nm,1.2s							
ARU				MLR		MLR		
	comp=Z,303nm,18.0s							
DLBC	**Dease Lake**	77.44	33	P		P	01 59 47.8	-0.4
DLBC	**Dease Lake**	77.44	33	P		P	01 59 47.8	-0.4
	comp=Z,15nm,0.7s,baz=261,slow=6.5,SNR=22							
DLBC				LR		LR	02 31 17.3	
	comp=Z,237nm,18.8s,baz=149,slow=34							
SOKR	**Solikamsk**	78.07	329	*e*P		P	01 59 51.0	-0.5
SOKR				pmax		pmax		
	comp=Z,10.0nm,1.3s							
SOKR				MLR		MLR		
	comp=Z,660nm,30.0s							
IDAH	**Dahanechah**	78.59	301	*e*P		P	01 59 55.5	+0.1
IPAY	**Payeh**	78.84	305	*e*P		P	01 59 56.5	-0.2
BBB	**Bella Bella**	79.02	39	P		P	01 59 56.9	-0.1
BBB	**Bella Bella**	79.02	39	P		P	01 59 56.9	-0.1
	comp=Z,16nm,0.9s,baz=307,slow=5.1,SNR=3.2							
ITEG	**Tejag**	79.50	301	*e*P		P	02 00 00.5	+0.2
NLWA	**Neilton Lookou**	82.41	43	*e*P		P	02 00 17.0	+1.6
	comp=Z,12nm,0.8s							
KEBM	**Edson Butte**	82.87	48	*e*P		P	02 00 20.1	+2.3
	comp=Z,269nm,2.5s							
MPOR	**Mary's Peak**	83.14	46	P		P	02 00 20.9	+1.6
KRMB	**Red Mountain**	83.43	49	*e*P		P	02 00 22.7	+1.8
	comp=Z,31nm,2.4s							
ISHM	**Shahmirzad**	83.50	305	*e*P		P	02 00 22.7	+1.2
KHMM	**Horse Mountain**	83.68	50	*e*P		P	02 00 24.4	+2.2
	comp=Z,20nm,0.8s							
ILAS	**Lasjerd**	83.84	305	*e*P		P	02 00 20.7	-2.6
LON	**Longmire**	83.91	44	*e*P		P	02 00 24.3	+1.2
LON				pmax		pmax		
	comp=Z,5.0nm,0.9s							
LON	**Longmire**	83.91	44	*e*P		P	02 00 24.3	+1.2
	comp=Z,4.5nm,0.9s							
HUMO	**Hull Mountain**	83.92	48	*e*P		P	02 00 24.8	+1.6
	comp=Z,10nm,0.8s							
KCPM	**Cahto Peak**	84.01	51	*e*P		P	02 00 25.7	+1.8
	comp=Z,15nm,0.8s							
KIPM	**Iron Peak**	84.07	51	*e*P		P	02 00 25.8	+1.6
	comp=Z,14nm,0.8s							
WPW	**White Pass**	84.10	44	P		P	02 00 25.1	+1.0
FRIS	**Frissel Point**	84.22	46	P		P	02 00 26.0	+1.1
VLL	**Laurance Lake**	84.26	45	P		P	02 00 26.3	+1.3
YBH	**Yreka Blue Hor**	84.27	49	*e*P		P	02 00 26.6	+1.5
	comp=Z,15nm,0.8s							
YBH	**Yreka Blue Hor**	84.27	49	P		P	02 00 25.0	-0.1
	comp=Z,18nm,0.8s,baz=280,slow=3.8,SNR=29							
YKA	**Yellowknife Ar**	84.31	27	P		P	02 00 24.3	-0.3
YKA	**Yellowknife Ar**	84.31	27	P		P	02 00 24.3	-0.3
	comp=Z,19nm,0.9s,baz=288,slow=5.5,SNR=52							
ALE	**Alert**	84.50	3	P		P	02 00 26.3	+0.9
	comp=Z,177nm,0.9s,SNR=5.1							
HOPS	**Hopland**	84.54	51	*e*P		P	02 00 27.1	+0.7
	comp=Z,9.4nm,0.9s							
NAC	**Naches**	84.58	43	P		P	02 00 27.8	+1.3
ISFB	**Sefidab**	84.62	304	*e*P		P	02 00 26.6	-0.4
WDC	**Whiskeytown Da**	84.62	50	*e*P		P	02 00 28.2	+1.4
WDC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
WDC	**Whiskeytown Da**	84.62	50	*e*P		P	02 00 28.1	+1.4
	comp=Z,10nm,0.9s							
IZEF	**Zefreh**	84.83	302	*e*P		P	02 00 25.7	-2.6
CROR	**Criterion Ridg**	84.84	45	P		P	02 00 29.0	+1.1
TRW	**Toppenish Ridg**	84.86	44	P		P	02 00 29.1	+1.2
IVRN	**Varamin**	84.91	305	*e*P		P	02 00 27.6	-0.8
IKLH	**Kolahrood**	85.36	303	*e*P		P	02 00 31.2	+0.2
IR3	**Iran Long-Peri**	85.38	305	*e*P		P	02 00 29.4	-1.4
TMCR	**Tamitsa**	85.81	335	*e*P		P	02 00 31.4	-0.8
TMCR				*e*			02 03 52.3	
TMCR				pmax		pmax		
	comp=Z,21nm,1.3s							
IPIR	**Pirpir**	86.06	302	*e*P		P	02 00 35.3	+0.8
SAO	**San Andreas Ge**	86.26	53	*e*P		P	02 00 39.6	+4.6
SAO	**San Andreas Ge**	86.26	53	*e*P		P	02 00 39.6	+4.6
IRAZ	**Razeghan**	86.26	305	*e*P		P	02 00 30.8	-4.6
BEKR	**Beckworth**	86.41	50	*e*P		P	02 00 36.8	+0.9
	comp=Z,7.3nm,0.8s							
MAK	**Makhachkala**	86.42	313	*e*P		P	02 00 47.6	+12
MAK				MLR		MLR		
	comp=Z,478nm,22.0s							
RKT	**Rikitea**	86.66	114	*e*LR		LR	02 28 03.7	
	comp=Z,252nm,28.2s							
NEW	**Newport**	86.67	41	*e*P		P	02 00 37.8	+1.0
	comp=Z,29nm,0.8s							
NEW				*e*			02 00 48.9	
NEW	**Newport**	86.67	41	⇑P		P	02 00 37.4	+0.6
	baz=87,SNR=36							
CMB	**Columbia Colle**	86.80	52	*e*P		P	02 00 38.6	+0.9
CMB	**Columbia Colle**	86.80	52	*e*P		P	02 00 38.6	+0.9
WVOR	**Wild Horse Val**	87.07	47	*e*P		P	02 00 39.9	+0.8
WVOR				pmax		pmax		
	comp=Z,9.0nm,0.8s							
WVOR	**Wild Horse Val**	87.07	47	*e*P		P	02 00 39.9	+0.8
	comp=Z,8.9nm,0.8s							
PAHR	**Pah Rah Range**	87.17	50	*e*P		P	02 00 40.4	+0.7
	comp=Z,10nm,1.0s							
BMO	**Blue Mountains**	87.41	45	*e*P		P	02 00 41.5	+0.9
BMO				pmax		pmax		
	comp=Z,24nm,0.9s							
BMO	**Blue Mountains**	87.41	45	*e*P		P	02 00 41.5	+0.9
	comp=Z,24nm,0.9s							
WAKR	**Walker**	87.42	51	*e*P		P	02 00 42.2	+1.3
	comp=Z,5.4nm,1.1s							
A12A	**Yaak River Ran**	87.43	41	⇓P		P	02 00 41.1	+0.5
	baz=87,SNR=8.7							
KEV	**Kevo**	87.44	342	*e*P		P	02 00 43.7	+3.7
B12A	**Libby**	87.60	41	⇑P		P	02 00 42.7	+1.3
	baz=88							
EDM	**Edmonton**	87.60	36	*e*P		P	02 00 40.1	-1.1
EDM	**Edmonton**	87.60	36	*e*P		P	02 00 40.1	-1.1
SMMC	**Simmler**	87.72	54	⇑P		P	02 00 43.0	+0.7
	baz=88							
ARCES	**ARCESS Array B**	88.00	342	P		P	02 00 42.0	-0.8
ARCES	**ARCESS Array B**	88.00	342	P		P	02 00 42.0	-0.8
	comp=Z,4.2nm,0.9s,baz=72,slow=5.8,SNR=7.8							
RCTC	**Rector, Farmer**	88.09	53	⇓P		P	02 00 45.0	+1.1
	baz=88							
VRHR	**Novokhopersk**	88.14	322	*e*P		P	02 00 45.2	+1.4
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
VRHR				pmax		pmax		
	comp=N,6.0nm,0.4s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.6s							
VRHR				MLR		MLR		
	comp=Z,350nm,16.0s							
VRHR				MLR		MLR		
	comp=N,150nm,22.0s							
VRHR				MLR		MLR		
	comp=E,250nm,20.0s							
A13A	**Flathead Natio**	88.22	40	⇓P		P	02 00 45.7	+1.3
	baz=88							
BSMT	**Bassoo Peak**	88.28	41	*e*P		P	02 00 45.7	+0.9
NVAR	**Mina Array Bea**	88.30	51	P		P	02 00 46.4	+1.3
NVAR	**Mina Array Bea**	88.30	51	P		P	02 00 46.4	+1.3
	comp=E,20nm,0.7s,baz=261,slow=6.0,SNR=135							
VES	**Vestal, Richgr**	88.32	54	⇑P		P	02 00 45.9	+0.9
	baz=88							
B13A	**Whitefish**	88.34	41	⇑P		P	02 00 45.5	+0.6
	baz=88,SNR=11							
MTUM	**Tungsten Hills**	88.36	52	*e*P		P	02 00 46.9	+1.4
C13A	**Hot Springs**	88.47	42	⇓P		P	02 00 45.9	+0.3
	baz=88,SNR=5.7							
IKOM	**Komasi**	88.48	305	*e*P		P	02 00 40.1	-5.9
WALA	**Waterton Lakes**	88.50	40	*e*P		P	02 00 47.0	+1.3
	comp=E,0.3nm,0.9s							
BMN	**Battle Mountai**	88.60	49	*e*P		P	02 00 47.7	+1.2
BMN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BMN	**Battle Mountai**	88.60	49	*e*P		P	02 00 47.7	+1.2
	comp=Z,7.2nm,0.8s							
TIN	**Tinemaha**	88.70	52	⇓P		P	02 00 48.0	+1.0
	baz=89							
ARVC	**Arvin**	88.70	54	⇓P		P	02 00 47.8	+1.0
	baz=89							
MFID	**Camas Ranch**	88.82	46	*e*P		P	02 00 48.5	+1.1
	comp=Z,26nm,0.8s							
MFID	**Camas Ranch**	88.82	46	⇑P		P	02 00 48.2	+0.9
	baz=89,SNR=49							
A14A	**Double T Ranch**	88.83	40	⇓P		P	02 00 48.4	+1.1
	baz=89,SNR=15							
ISA	**Isabella**	88.85	54	*e*P		P	02 00 48.3	+0.7
ISA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
ISA	**Isabella**	88.85	54	*e*P		P	02 00 48.3	+0.7
	comp=Z,5.6nm,0.8s							
ISA	**Isabella**	88.85	54	⇓P		P	02 00 47.9	+0.3
	baz=89,SNR=5.3							
MOS	**Moscow**	88.91	327	*e*P		P	02 00 48.7	+1.4
CWC	**Cottonwood Cre**	88.97	53	⇑P		P	02 00 49.5	+1.2
	baz=89,SNR=8.0							
C14A	**Swan Lake**	88.98	41	⇑P		P	02 00 49.3	+1.3
	baz=89							
B14A	**Marquette Ranc**	89.11	41	⇓P		P	02 00 49.8	+1.1
	baz=89							
MSO	**Missoula**	89.13	42	⇓P		P	02 00 50.2	+1.5
	baz=89							
A15A	**Johnson Ranch,**	89.26	40	⇑P		P	02 00 49.7	+0.4
	baz=89,SNR=11							
SLMT	**Seeley Lake**	89.30	42	*e*P		P	02 00 51.7	+2.1
DECC	**Green Verdugo**	89.31	55	⇓P		P	02 00 50.9	+1.1
	baz=89							
GRAC	**Grapevine Rang**	89.38	52	⇓P		P	02 00 51.2	+1.1
	baz=89							
CIS	**Catalina Islan**	89.46	56	⇑P		P	02 00 51.4	+1.0
	baz=90							
KBZ	**Khabaz**	89.46	315	P		P	02 00 51.7	+1.5
KBZ	**Khabaz**	89.46	315	P		P	02 00 51.7	+1.5
KBZ	**Khabaz**	89.46	315	P		P	02 00 51.7	+1.5
	comp=Z,1.7nm,0.6s,baz=247,slow=5.9,SNR=5.0							
KBZ				LR		LR	02 48 29.2	
	comp=Z,196nm,18.6s,baz=49,slow=41							
LRMC	**Laurel Mountai**	89.52	54	⇑P		P	02 00 51.8	+1.0
	baz=90							
MPMC	**Manual Prospec**	89.52	53	⇑P		P	02 00 52.1	+1.1
	baz=90,SNR=26							
KIV	**Kislovodsk**	89.55	315	*e*P		P	02 00 47.3	-3.4
KIV				*e*			02 11 13.5	
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CHMT	**Chamberlain Mo**	89.56	42	*e*P		P	02 00 50.8	0.0
B15A	**Bradely Ranch,**	89.57	41	⇑P		P	02 00 51.4	+0.6
	baz=90							
VSR	**Storozhevoye**	89.58	323	*e*P		P	02 00 48.8	-1.7
VSR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
VSR				pmax		pmax		
	comp=N,10.0nm,1.1s							
VSR				pmax		pmax		
	comp=E,10.0nm,1.3s							
VSR				MLR		MLR		
	comp=Z,550nm,22.0s							
VSR				MLR		MLR		
	comp=N,130nm,20.0s							
VSR				MLR		MLR		
	comp=E,140nm,20.0s							
VORD	**Divnogorie**	89.58	322	*e*P		P	02 00 48.6	-2.0
VORD				pmax		pmax		
	comp=Z,9.0nm,0.6s							
VORD				pmax		pmax		
	comp=N,7.0nm,1.1s							
VORD				pmax		pmax		
	comp=E,10.0nm,1.1s							
VORD				MLR		MLR		
	comp=Z,360nm,18.0s							
VORD				MLR		MLR		
	comp=N,250nm,23.0s							
VORD				MLR		MLR		
	comp=E,270nm,20.0s							
OBN	**Obninsk**	89.69	327	*d i*P		P	02 00 49.3	-1.7
OBN				*e*			02 04 25.6	
OBN				*e*S		SKSac	02 11 18.7	-0.1
OBN				*i* PS		PnS	02 12 38.4	-11
OBN				*e*SS		SS	02 17 34.9	-1.3
OBN				pmax		pmax		
	comp=Z,20nm,1.0s							
C15A	**Salmond Ranch,**	89.71	41	⇓P		P	02 00 52.5	+1.0
	baz=90							
HLID	**Hailey**	89.76	45	*e*P		P	02 00 53.0	+1.2
	comp=Z,11nm,0.8s							
HLID	**Hailey**	89.76	45	⇑P		P	02 00 52.4	+0.6
	baz=90,SNR=35							
BFSC	**Mount Baldy Ra**	89.85	55	⇑P		P	02 00 53.0	+0.5
	baz=90							
FURC	**Furnace Creek,**	89.91	53	⇓P		P	02 00 53.5	+1.1
	baz=90,SNR=6.9							
A16A	**West Butte Ran**	89.98	40	⇓P		P	02 00 53.2	+0.5
	baz=90							
GSC	**Goldstone**	90.26	54	*e*P		P	02 00 55.8	+1.6
GSC				pmax		pmax	

baz=91
BOZ Bozeman (W) 91.02 43 eP P 02 00 58.5 +0.9
BOZ pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 91.02 43 eP P 02 00 58.5 +0.9
comp=Z,2.4nm,0.7s
A18A Metzger Ranch, 91.08 39 ⇑P P 02 00 58.6 +0.9
baz=91
D17A Six Diamond Ra 91.14 41 ⇑P P 02 00 58.8 +0.6
baz=91,SNR=8.3
MONP Monument Peak 91.20 56 ⇑P P 02 00 59.3 +0.5
baz=91,SNR=8.4
BELC Belle Mtn. Jos 91.25 55 ⇓P P 02 00 59.3 +0.4
baz=91,SNR=5.5
E17A Martinsdale 91.26 42 ⇓P P 02 00 59.6 +0.8
baz=91,SNR=7.1
GMRC Granite Mounta 91.30 54 ⇑P P 02 01 00.1 +0.9
baz=91,SNR=15
QLMT Earthquake Lak 91.42 44 eP P 02 01 01.2 +1.6
EGMT Eagleton 91.44 40 ⇑P P 02 01 00.3 +0.8
baz=91
HVU Hansel Valley 91.45 47 eP P 02 01 00.9 +1.2
HVU pmax pmax
comp=Z,8.0nm,1.1s
HVU Hansel Valley 91.45 47 eP P 02 01 00.9 +1.2
comp=Z,7.7nm,1.1s
KAF Kangasniemi 91.50 335 eP P 02 00 57.7 -1.6
BGU Big Grassy Mou 91.53 48 eP P 02 01 01.2 +1.1
comp=Z,31nm,2.3s
F17A Fitzpatrick Pl 91.58 42 ⇓P P 02 01 00.7 +0.5
baz=92,SNR=6.7
H16A Russell Place, 91.58 44 ⇓P P 02 01 01.7 +1.4
baz=92,SNR=13
I16A Newdale 91.69 44 ⇑P P 02 01 02.2 +1.4
baz=92,SNR=16
SWSC Sam W. Stewart 91.69 56 ⇑P P 02 01 01.6 +0.8
baz=92
D18A Linhart Farms, 91.70 41 ⇑P P 02 01 01.5 +0.8
baz=92
G17A Pierce Place, 91.72 43 ⇓P P 02 01 01.8 +0.9
baz=92
A19A Klindworth Far 91.75 39 ⇑P P 02 01 01.8 +0.9
baz=92
BC3 Big Chuckawall 91.78 55 ⇓P P 02 01 02.3 +1.0
baz=92,SNR=6.5
YMR Madison River 91.78 44 eP P 02 01 01.6 +0.3
comp=Z,18nm,0.7s
B19A Brinkman Farms 91.80 40 ⇓P P 02 01 01.8 +0.7
baz=92
SPUT South Promonto 91.83 47 eP P 02 01 02.6 +1.1
comp=Z,4.7nm,0.8s
E18A Harlowton 91.84 42 ⇓P P 02 01 02.2 +0.8
baz=92,SNR=9.1
IRM Iron Mountain 91.88 55 ⇑P P 02 01 02.8 +1.1
baz=92,SNR=13
DUG Dugway 91.91 48 ⇓P P 02 01 02.5 +0.6
baz=92,SNR=8.9
FIA1 FINESS Array S 91.93 335 eP P 02 00 59.7 -1.6
FINES FINESS Array B 91.94 335 P P 02 00 59.5 -1.8
FINES FINESS Array B 91.94 335 P P 02 00 59.5 -1.8
comp=Z,3.5nm,0.5s,baz=65,slow=4.5,SNR=40
FINES LR LR 02 46 44.9
comp=Z,255nm,19.2s,baz=47,slow=38
YFT Old Faithful 91.94 44 eP P 02 01 05.1 +3.1
comp=Z,17nm,0.9s
C19A Slack Wire Ran 91.99 40 ⇓P P 02 01 02.7 +0.7
baz=92
IMW Indian Meadow 92.06 44 eP P 02 01 04.2 +1.5
comp=Z,9.1nm,0.8s
ARUT Antelope Range 92.16 51 eP P 02 01 04.6 +1.5
ARUT pmax pmax
comp=Z,8.0nm,0.9s
ARUT Antelope Range 92.16 51 eP P 02 01 04.6 +1.5
comp=Z,7.5nm,0.9s
TPAW Teton Pass 92.18 45 eP P 02 01 04.5 +1.3
comp=Z,4.1nm,0.9s
F18A Big Timber 92.20 42 ⇑P P 02 01 03.7 +0.6
baz=92,SNR=13
MOOW Moose Ponds 92.24 44 eP P 02 01 04.6 +1.2
comp=Z,5.0nm,0.8s
GCMT Greycliff 92.27 42 eP P 02 01 04.5 +1.0
comp=Z,8.1nm,0.7s
REDW Red Top Meadow 92.29 45 eP P 02 01 04.6 +0.9
comp=Z,5.5nm,0.9s
CCUT Cedar City 92.29 51 eP P 02 01 05.7 +1.8
comp=Z,4.6nm,0.9s
D19A Cripps Ranch, 92.30 41 ⇓P P 02 01 04.0 +0.6
baz=92,SNR=17
HWUT Hardware Ranch 92.36 47 eP P 02 01 05.0 +1.0
comp=Z,8.7nm,0.9s
LOHW Long Hollow 92.38 45 eP P 02 01 04.8 +0.8
comp=Z,1.7nm,0.7s
GLA Glamis 92.45 56 eP P 02 01 05.7 +1.3
GLA pmax pmax
comp=Z,18nm,0.8s
GLA Glamis 92.45 56 eP P 02 01 05.7 +1.3
comp=Z,18nm,0.8s
GLA Glamis 92.45 56 ⇑P P 02 01 05.7 +1.3
baz=92
Y12C Blythe 92.49 55 ⇑P P 02 01 05.5 +1.0
baz=92,SNR=9.3
G18A Lazy EL Ranch, 92.50 43 ⇑P P 02 01 05.6 +1.1
baz=92,SNR=8.7
NLU North Lily Min 92.52 48 eP P 02 01 05.8 +1.0
comp=Z,4.8nm,0.8s
E19A Rath Farm, Rou 92.61 41 ⇓P P 02 01 05.1 +0.2
baz=93,SNR=10
W13A Hualapai Mount 92.61 53 ⇑P P 02 01 06.2 +0.9
baz=93
PDMCI Parker Dam,Lak 92.64 54 ⇓P P 02 01 06.6 +1.4
baz=93
C20A Veseth Ranch, 92.66 40 ⇓P P 02 01 06.1 +1.0
baz=93,SNR=21
H18A Shoshone NF, C 92.66 43 ⇓P P 02 01 06.5 +1.2
baz=93,SNR=5.9
F19A Roth Farm, Mol 92.72 42 ⇑P P 02 01 06.6 +1.2
baz=93
JLU Jordanelle 92.77 48 eP P 02 01 07.1 +1.1
D20A Manuel Ranch, 92.80 41 ⇑P P 02 01 06.0 +0.2
baz=93,SNR=13
A21A Bergtoll Ranch 92.85 39 ⇓P P 02 01 06.7 +0.8
baz=93
MVU Marysvale 92.87 50 eP P 02 01 07.8 +1.4
comp=Z,4.0nm,0.8s
I18A Diamond G Ranc 92.89 44 ⇓P P 02 01 07.3 +0.8
baz=93
MSU Marysvale 92.89 50 eP P 02 01 08.1 +1.5
MSU Marysvale 92.89 50 eP P 02 01 08.1 +1.5
DAU Daniels Canyon 92.97 48 eP P 02 01 08.1 +1.1
DAU Daniels Canyon 92.97 48 eP P 02 01 08.1 +1.1
E20A Meyer Farm, Mu 93.02 41 ⇑P P 02 01 07.1 +0.3
baz=93,SNR=7.3
M17A Scullys Gap (B 93.04 47 ⇑P P 02 01 07.5 +0.3
baz=93
H19A Powell 93.11 43 ⇓P P 02 01 08.4 +1.1
baz=93,SNR=5.5
C21A Desert Coulee 93.18 40 ⇓P P 02 01 07.9 +0.5
baz=93,SNR=8.9
F20A Billings 93.26 42 ⇑P P 02 01 08.6 +0.7
baz=93
FFC Flin Flon 93.26 32 i P P 02 01 08.4 +0.8
FFC Flin Flon 93.26 32 eP P 02 01 07.6 0.0
comp=Z,4.3nm,0.8s
I19A Meeteetse 93.33 44 ⇓P P 02 01 08.7 +0.3
baz=93,SNR=9.2
L18A Fontenelle, Gr 93.34 46 ⇑P P 02 01 09.9 +1.4
baz=93
PDAR Pinedale Array 93.38 45 P P 02 01 08.8 0.0
PDAR PP PP 02 04 49.5 -3.3
PDAR Pinedale Array 93.38 45 P P 02 01 08.8 0.0
comp=Z,0.8nm,0.4s,baz=297,slow=0.9,SNR=13
PDAR PP PP 02 04 49.5 -3.3
comp=Z,0.1nm,0.3s,baz=260,slow=7.4,SNR=4.3
PDAR LR LR 02 42 12.0
comp=Z,179nm,18.7s,baz=304,slow=35
G20A Bridger 93.43 42 ⇓P P 02 01 09.2 +0.4
baz=93,SNR=9.3
U15A North Rim 93.45 52 ⇓P P 02 01 09.7 +0.5
baz=94,SNR=9.0
A22A Carney Farms, 93.46 38 ⇑P P 02 01 09.1 +0.3
baz=93
Q16A Castle Valley 93.51 49 ⇓P P 02 01 09.9 +0.5
baz=94
D21A La Casta Ranch 93.53 40 ⇓P P 02 01 09.5 +0.4
baz=94,SNR=12
J19A Crowheart 93.56 44 ⇓P P 02 01 10.1 +0.7
baz=94,SNR=17
Y14A Wickenburg 93.65 54 ⇓P P 02 01 11.1 +1.2
baz=94
E21A Keefer Ranch, 93.68 41 ⇓P P 02 01 10.4 +0.6
baz=94,SNR=6.6
B22A Reddig Ranch S 93.68 39 ⇑P P 02 01 10.0 +0.2
baz=94,SNR=6.5
L19A Farson 93.75 46 ⇓P P 02 01 10.5 +0.1
baz=94,SNR=6.7
K19A Absolon Red Bu 93.86 45 ⇓P P 02 01 10.8 0.0
baz=94,SNR=8.4
Z14A Wintersburg 93.87 55 ⇓P P 02 01 11.8 +0.9
baz=94
F21A Absaloka Mine, 93.92 42 ⇓P P 02 01 11.9 +0.9
baz=94
SRU San Rafael 93.92 49 eP P 02 01 12.0 +0.8
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael 93.92 49 eP P 02 01 12.0 +0.8
comp=Z,4.9nm,0.9s
I20A Worland 93.94 44 ⇑P P 02 01 11.9 +0.7
baz=94
C22A Vida 93.97 39 ⇑P P 02 01 11.7 +0.7
baz=94
D22A Cohagen 94.02 40 ⇑P P 02 01 12.0 +0.6
baz=94
G21A Lodge Grass 94.09 42 ⇓P P 02 01 12.2 +0.4
baz=94,SNR=6.1
B23A Brockton 94.23 39 ⇑P P 02 01 12.8 +0.6
baz=94
K20A Yellowstone Ra 94.26 45 ⇑P P 02 01 12.8 +0.1
baz=94,SNR=9.1
C23A Lambert 94.38 39 ⇓P P 02 01 13.7 +0.8
baz=94
214A Organ Pipe Nat 94.39 56 ⇑P P 02 01 14.6 +1.3
baz=94
H21A Big Horn, Sher 94.42 43 ⇑P P 02 01 14.9 +1.6
baz=94
E22A Miles City 94.44 41 ⇑P P 02 01 14.4 +1.2
baz=94
WUAZ Wupatki 94.44 52 eP P 02 01 15.2 +1.6
comp=Z,7.3nm,0.9s
WUAZ Wupatki 94.44 52 ⇑P P 02 01 14.8 +1.1
baz=94,SNR=7.8
F22A Rosebud 94.50 41 ⇑P P 02 01 14.7 +1.2
baz=94
L20A Wamsutter 94.50 45 ⇓P P 02 01 14.8 +0.9
baz=94
I21A Big Trails, Te 94.56 43 ⇓P P 02 01 15.0 +1.0
baz=94
D23A Lindsay 94.62 40 ⇓P P 02 01 15.4 +1.3
baz=95
A24A Westby 94.64 38 ⇑P P 02 01 15.0 +0.9
baz=95
G22A Birney 94.69 42 ⇓P P 02 01 15.6 +1.1
baz=95
DGMT Dagmar 94.71 38 ⇑P P 02 01 15.0 +0.5
baz=95
X16A Lo Mia Camp, P 94.73 53 ⇓P P 02 01 16.3 +1.2
baz=95,SNR=5.7
M20A Sweetwater, Wa 94.79 46 ⇑P P 02 01 15.5 +0.3
baz=95,SNR=5.1
E23A Ismay 94.82 40 ⇑P P 02 01 15.4 +0.4
baz=95
P19A Cripple Cowboy 94.87 48 ⇑P P 02 01 15.8 +0.2
baz=95,SNR=7.4
H22A Clearmont 94.89 42 ⇑P P 02 01 16.2 +0.7
baz=95
C24A Savage 94.96 39 ⇓P P 02 01 16.3 +0.7
baz=95
N20A Spence Gulch, 94.97 47 ⇑P P 02 01 16.4 +0.3
baz=95
K21A Alcova 95.02 45 ⇓P P 02 01 16.2 0.0
baz=95,SNR=5.8
F23A Volborg 95.07 41 ⇓P P 02 01 17.1 +0.9
baz=95
I22A 9 Mile Ranch, 95.07 43 ⇑P P 02 01 16.9 +0.6
baz=95
L21A Rawlins 95.19 45 ⇑P P 02 01 17.8 +0.8
baz=95
O20A White River Ci 95.23 47 ⇓P P 02 01 17.6 +0.3
baz=95
SUMG Summit 95.24 1 i P P 02 01 16.9 +0.1
comp=Z,3.7nm,0.9s
J22A Midwest 95.25 44 ⇑P P 02 01 16.8 -0.4
baz=95,SNR=6.5
G23A Biddle 95.28 42 ⇓P P 02 01 18.1 +0.9
baz=95
M21A Separation Pea 95.32 46 ⇑P P 02 01 18.2 +0.5
baz=95
P20A De Beque 95.35 48 ⇓P P 02 01 18.4 +0.7
baz=95
PV04 Paradox Valley 95.36 49 eP P 02 01 18.7 +0.8
E24A Baker 95.43 40 ⇓P P 02 01 18.7 +0.9
baz=95
N21A Black Mountain 95.52 46 ⇑P P 02 01 19.2 +0.6
baz=96
C25A Freed Ranch, W 95.60 39 ⇑P P 02 01 19.5 +0.9
baz=96
Q20A Ridgley Place, 95.61 48 ⇓P P 02 01 19.2 +0.2
baz=96,SNR=11
F24A Ekalaka 95.63 41 ⇓P P 02 01 19.5 +0.7
baz=96
PV01 Paradox Valley 95.69 49 eP P 02 01 19.8 +0.3
comp=Z,467nm,1.1s
L22A Ellis Ranch, M 95.81 45 ⇑P P 02 01 20.4 +0.5
baz=96
R20A Redvale 95.82 49 ⇑P P 02 01 20.1 +0.2
baz=96
TUC Tucson 95.92 55 eP P 02 01 22.1 +1.7
TUC pmax pmax
comp=Z,5.0nm,1.4s
TUC Tucson 95.92 55 eP P 02 01 22.1 +1.7
comp=Z,4.7nm,1.4s
S20A Disappointment 95.96 49 ⇓P P 02 01 21.1 +0.4
baz=96
H24A Dirks Ranch, A 96.01 42 ⇓P P 02 01 21.1 +0.6
baz=96
E25A Miller Ranch, 96.02 40 ⇑P P 02 01 21.8 +1.3
baz=96
MVCO Mesa Verde 96.07 50 ⇓P P 02 01 21.6 +0.4
baz=96
K23A Bowen Ranch, D 96.08 44 ⇑P P 02 01 21.7 +0.7
baz=96
Q21A Lamborn Mesa, 96.18 48 ⇑P P 02 01 22.4 +0.8
baz=96
F25A Bowman 96.23 40 ⇑P P 02 01 22.5 +1.1
baz=96
N22A Wattenberg Ran 96.26 46 ⇑P P 02 01 22.7 +0.8
baz=96
L23A Garrett 96.28 45 ⇓P P 02 01 22.8 +0.8
baz=96
R21A Cimarron 96.36 49 ⇑P P 02 01 22.9 +0.4
baz=96,SNR=11
O22A Kremmling 96.43 47 ⇓P P 02 01 23.3 +0.5
baz=96
S21A Coal Bank Pass 96.44 49 ⇓P P 02 01 23.5 +0.6
baz=96
SMCO Snowmass 96.49 48 eP P 02 01 23.4 +0.1
comp=Z,3.3nm,0.8s
P22A Eagle 96.49 47 ⇑P P 02 01 23.6 +0.6
baz=96
N23A Red Feather La 96.58 46 ⇓P P 02 01 24.2 +0.7
baz=97
V20A Brimhall 96.58 51 ⇑P P 02 01 24.3 +0.8
baz=97
E26A Carlson Angus 96.62 40 ⇑P P 02 01 24.3 +1.1
baz=97
Q22A Crested Butte, 96.65 48 ⇓P P 02 01 24.1 +0.2
baz=97
H25A Fruitdale 96.68 42 ⇑P P 02 01 24.3 +0.7
baz=97
F26A Lodgepole 96.76 40 ⇓P P 02 01 24.8 +0.9
baz=97
W20A Ramah 96.79 52 ⇑P P 02 01 25.4 +1.0
baz=97
I25A Rochford 96.84 42 ⇓P P 02 01 24.5 +0.1
baz=97
U21A Nageezi 96.97 50 ⇓P P 02 01 25.9 +0.6
baz=97
R22A Saguache, Gunn 97.00 49 ⇓P P 02 01 26.4 +1.0
baz=97
G26A Maurine 97.04 41 ⇑P Pdif 02 01 25.9 +0.6
baz=97
S22A 4UR Ranch, Cre 97.12 49 ⇑P P 02 01 26.5 +0.5
baz=97
M24A Cheyenne 97.14 45 ⇑P Pdif 02 01 27.1 +1.2
baz=97
ISCO Idaho Springs 97.23 47 ⇓P Pdif 02 01 27.2 +0.7
baz=97
P23A Jefferson 97.23 47 ⇓P Pdif 02 01 27.6 +0.9
baz=97
Y20A Horse Springs, 97.30 53 ⇑P Pdif 02 01 28.0 +1.0
baz=97
BRTR Keskin Array B 97.33 313 P P 02 01 25.9 -0.7
BRTR Keskin Array B 97.33 313 P P 02 01 25.9 -0.7
comp=Z,1.3nm,0.9s,baz=98,slow=3.6,SNR=8.1
BRTR LR LR 02 51 35.1
comp=Z,94nm,20.4s,baz=172,slow=39
T22A Edith 97.33 50 ⇓P P 02 01 27.4 +0.5
baz=97
Z20A Nine Sixteen R 97.40 54 ⇑P Pdif 02 01 28.8 +1.5
baz=97
G27A Dupree 97.43 40 ⇓P P 02 01 27.5 +0.6
baz=97
319A Douglas 97.43 56 ⇑P Pdif 02 01 28.7 +1.3
baz=98
120A U Bar Ranch, L 97.56 54 ⇓P Pdif 02 01 29.5 +1.5
baz=98
X21A Alamocita Cree 97.58 52 ⇑P Pdif 02 01 29.5 +1.4
baz=98
U22A Llaves 97.60 50 ⇑P Pdif 02 01 29.4 +1.2
baz=98
220A Playas Peak, P 97.86 55 ⇓P Pdif 02 01 31.2 +1.8
baz=98
NB2 NORSAR Subarra 97.91 339 P P 02 01 26.5 -2.2
comp=Z,3.4nm,1.2s,baz=48,slow=4.6
NOA NORSAR Array B 97.91 339 P P 02 01 27.4 -1.3
NOA NORSAR Array B 97.91 339 P P 02 01 27.4 -1.3
comp=Z,1.1nm,0.9s,baz=52,slow=4.3,SNR=4.6
NOA LR LR 02 51 12.0
comp=Z,212nm,18.8s,baz=45,slow=39
MAW Mawson 98.00 202 P P 02 01 27.8 -0.8
MAW Mawson 98.00 202 P P 02 01 27.8 -0.8
comp=Z,1.3nm,0.8s,baz=80,slow=13,SNR=3.9
MAW LR LR 02 42 55.9
comp=Z,217nm,18.2s,baz=67,slow=34
320A Kipp Ranch, An 98.05 56 ⇓P Pdif 02 01 31.9 +1.7
baz=98
Z21A St. Cloud Mine 98.06 53 ⇑P Pdif 02 01 32.2 +2.0
baz=98
U23A El Rito 98.11 50 ⇑P Pdif 02 01 31.5 +1.1
baz=98
121A Cookes Peak, D 98.24 54 ⇓P Pdif 02 01 32.7 +1.7
baz=98
S24A Houchin Ranch, 98.35 49 ⇓Pdiff Pdif 02 01 32.3 +0.8
baz=98
S24A Houchin Ranch, 98.35 49 ⇓Pdiff Pdif 02 01 32.3 +0.8
baz=98
W23A Werner Place, 98.58 51 ⇑Pdiff Pdif 02 01 33.7 +1.2
baz=99
W23A Werner Place, 98.58 51 ⇑Pdiff Pdif 02 01 33.7 +1.2
baz=99
Z22A Elephant Butte 98.63 53 ⇑Pdiff Pdif 02 01 34.4 +1.7
baz=99
Z22A Elephant Butte 98.63 53 ⇑Pdiff Pdif 02 01 34.4 +1.7
baz=99
ULM Lac du Bonnet 98.69 34 P P 02 01 32.4 0.0
ULM Lac du Bonnet 98.69 34 P P 02 01 32.4 0.0
comp=Z,0.5nm,0.3s,baz=300,slow=8.1,SNR=3.0
R25A Fountain Ranch 98.83 48 ⇓Pdiff Pdif 02 01 34.1 +0.6
baz=99
R25A Fountain Ranch 98.83 48 ⇓Pdiff Pdif 02 01 34.1 +0.6
baz=99
S25A Robets Cordova 98.91 48 ⇓Pdiff P 02 01 34.5 +0.6
baz=99
S25A Robets Cordova 98.91 48 ⇓Pdiff P 02 01 34.5 +0.6
baz=99
222A Williams Famil 98.93 54 ⇓Pdiff Pdif 02 01 35.2 +1.2
baz=99
222A Williams Famil 98.93 54 ⇓Pdiff Pdif 02 01 35.2 +1.2
baz=99
P26A Davis Ranch, A 98.93 46 ⇓Pdiff Pdif 02 01 34.6 +0.6
baz=99
P26A Davis Ranch, A 98.93 46 ⇓Pdiff Pdif 02 01 34.6 +0.6
baz=99
N27A Anderson Farm, 98.98 45 ⇑Pdiff Pdif 02 01 35.8 +1.7
baz=99
N27A Anderson Farm, 98.98 45 ⇑Pdiff Pdif 02 01 35.8 +1.7
baz=99
V24A Rampart Ranch, 99.03 50 ⇑Pdiff Pdif 02 01 35.8 +1.3
baz=99
V24A Rampart Ranch, 99.03 50 ⇑Pdiff Pdif 02 01 35.8 +1.3
baz=99
W24A Lazy 6 Ranch, 99.12 51 ⇑Pdiff Pdif 02 01 36.5 +1.5
baz=99
W24A Lazy 6 Ranch, 99.12 51 ⇑Pdiff Pdif 02 01 36.5 +1.5
baz=99
U25A Circle Dot Ran 99.42 50 ⇓Pdiff Pdif 02 01 37.4 +1.2
baz=99
U25A Circle Dot Ran 99.42 50 ⇓Pdiff Pdif 02 01 37.4 +1.2
baz=99
V25A Rancho No Teng 99.48 50 ⇑Pdiff Pdif 02 01 37.5 +1.0
baz=100
V25A Rancho No Teng 99.48 50 ⇑Pdiff Pdif 02 01 37.5 +1.0
baz=100
S26A Kim 99.63 48 ⇑Pdiff Pdif 02 01 37.2 +0.2
baz=100
S26A Kim 99.63 48 ⇑Pdiff Pdif 02 01 37.2 +0.2
baz=100
T26A Comanche Natio 99.72 49 ⇑Pdiff Pdif 02 01 38.2 +0.7
baz=100
T26A Comanche Natio 99.72 49 ⇑Pdiff Pdif 02 01 38.2 +0.7
baz=100
Z24A Sheeppen Canyo 99.86 53 ⇑Pdiff Pdif 02 01 38.8 +0.6
baz=100
Z24A Sheeppen Canyo 99.86 53 ⇑Pdiff Pdif 02 01 38.8 +0.6
baz=100
U26A Atchley Ranch, 99.91 49 ⇑Pdiff Pdif 02 01 39.1 +0.6
baz=100
U26A Atchley Ranch, 99.91 49 ⇑Pdiff Pdif 02 01 39.1 +0.6
baz=100
S27A Las Animas 100.02 48 ⇓Pdiff Pdif 02 01 39.5 +0.7
baz=100
S27A Las Animas 100.02 48 ⇓Pdiff Pdif 02 01 39.5 +0.7
baz=100
124A Stringfield Ra 100.02 53 ⇑Pdiff Pdif 02 01 40.0 +1.0
baz=100
124A Stringfield Ra 100.02 53 ⇑Pdiff Pdif 02 01 40.0 +1.0
baz=100
Y25A Mesa, Roswell 100.15 52 ⇑Pdiff Pdif 02 01 40.4 +0.9
baz=100
Y25A Mesa, Roswell 100.15 52 ⇑Pdiff Pdif 02 01 40.4 +0.9
baz=100
224A Cornudas Mount 100.19 54 ⇓Pdiff Pdif 02 01 41.0 +1.3
baz=100
224A Cornudas Mount 100.19 54 ⇓Pdiff Pdif 02 01 41.0 +1.3
baz=100
KOLS Kolonicke sedl 100.34 325 eP Pdif 02 01 39.1 -0.7
KOLS Kolonicke sedl 100.34 325 PDIF Pdif 02 01 39.1 -0.7
324A Moseley Ranch, 100.45 55 ⇓Pdiff Pdif 02 01 42.3 +1.4
baz=100
324A Moseley Ranch, 100.45 55 ⇓Pdiff Pdif 02 01 42.3 +1.4
baz=100
X26A CR and CF Fran 100.59 51 ⇑Pdiff Pdif 02 01 42.4 +1.0
baz=101
X26A CR and CF Fran 100.59 51 ⇑Pdiff Pdif 02 01 42.4 +1.0
baz=101
STHS Stebnicka Huta 100.65 326 eP Pdif 02 01 41.2 +0.1
STHS pmax pmax
comp=Z,5.0nm,1.8s
STHS Stebnicka Huta 100.65 326 PDIF Pdif 02 01 41.2 +0.1
125A Gardner Draw, 100.66 53 ⇑Pdiff Pdif 02 01 42.4 +0.7
baz=101
125A Gardner Draw, 100.66 53 ⇑Pdiff Pdif 02 01 42.4 +0.7
baz=101
CRVS Cervenica-Dubn 100.81 326 eP Pdif 02 01 41.9 0.0
CRVS pmax pmax
comp=Z,6.0nm,1.4s
CRVS Cervenica-Dubn 100.81 326 PDIF Pdif 02 01 41.9 0.0
T28A Walsh 100.82 48 ⇑Pdiff Pdif 02 01 43.3 +1.0
baz=101
T28A Walsh 100.82 48 ⇑Pdiff Pdif 02 01 43.3 +1.0
baz=101
325A Bean Ranch, Si 100.89 54 ⇑Pdiff Pdif 02 01 43.7 +0.8
baz=101
325A Bean Ranch, Si 100.89 54 ⇑Pdiff Pdif 02 01 43.7 +0.8
baz=101
Z26A Caprock 100.95 52 ⇓Pdiff Pdif 02 01 44.3 +1.3
baz=101
Z26A Caprock 100.95 52 ⇓Pdiff Pdif 02 01 44.3 +1.3
baz=101
425A Indio Mountain 101.09 55 ⇑Pdiff Pdif 02 01 45.0 +1.3
baz=101
425A Indio Mountain 101.09 55 ⇑Pdiff Pdif 02 01 45.0 +1.3
baz=101
126A Clayton Basin, 101.16 53 ⇓Pdiff Pdif 02 01 45.4 +1.5
baz=101

126A	Clayton Basin,	101.16	53	⇊Pdiff	Pdif	02 01 45.4	+1.5
	baz=101						
326A	Caldwell Ranch	101.70	54	⇊Pdiff	Pdif	02 01 47.6	+1.3
	baz=102						
326A	Caldwell Ranch	101.70	54	⇊Pdiff	Pdif	02 01 47.6	+1.3
	baz=102						
426A	McDonald Obser	101.90	55	⇊Pdiff	Pdif	02 01 48.7	+1.3
	baz=102						
426A	McDonald Obser	101.90	55	⇊Pdiff	Pdif	02 01 48.7	+1.3
	baz=102						
OKC	Ostrava-Krasne	102.06	328	AMS	AMS	02 48 30.0	
	comp=Z,300nm,20.0s						
526A	Mary Lane Ranc	102.08	55	⇑Pdiff	Pdif	02 01 49.5	+1.4
	baz=102						
526A	Mary Lane Ranc	102.08	55	⇑Pdiff	Pdif	02 01 49.5	+1.4
	baz=102						
427A	Hayter Ranch,	102.33	54	⇑Pdiff	Pdif	02 01 50.4	+1.3
	baz=102						
427A	Hayter Ranch,	102.33	54	⇑Pdiff	Pdif	02 01 50.4	+1.3
	baz=102						
527A	Woodward Ranch	102.43	55	⇊Pdiff	Pdif	02 01 51.0	+1.3
	baz=102						
527A	Woodward Ranch	102.43	55	⇊Pdiff	Pdif	02 01 51.0	+1.3
	baz=102						
VYHS	Vyhne	102.48	326	*e*P	Pdif	02 01 49.0	-0.3
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VYHS	Vyhne	102.48	326	PDIF	Pdif	02 01 49.0	-0.3
VYHS				*e*PP	PP	02 06 03.2	+1.4
TXAR	Lajitas Array	102.69	56	P	Pdif	02 01 51.6	+0.9
TXAR	Lajitas Array	102.69	56	P	Pdif	02 01 51.6	+0.9
	comp=Z,0.8nm,1.0s,baz=258,slow=4.2,SNR=5.8						
627A	Terlingua Ranc	102.87	56	⇊Pdiff	Pdif	02 01 52.8	+1.2
	baz=103						
627A	Terlingua Ranc	102.87	56	⇊Pdiff	Pdif	02 01 52.8	+1.2
	baz=103						
428A	Kincaid Ranch,	102.95	54	⇑Pdiff	Pdif	02 01 53.4	+1.5
	baz=103						
428A	Kincaid Ranch,	102.95	54	⇑Pdiff	Pdif	02 01 53.4	+1.5
	baz=103						
528A	Cox Ranch, San	103.08	55	⇑Pdiff	Pdif	02 01 53.4	+0.9
	baz=103						
528A	Cox Ranch, San	103.08	55	⇑Pdiff	Pdif	02 01 53.4	+0.9
	baz=103						
628A	Black Gap, Mar	103.26	56	⇑Pdiff	Pdif	02 01 54.8	+1.5
	baz=103						
628A	Black Gap, Mar	103.26	56	⇑Pdiff	Pdif	02 01 54.8	+1.5
	baz=103						
429A	Davenport Ranc	103.61	54	⇑Pdiff	Pdif	02 01 55.9	+1.0
	baz=104						
429A	Davenport Ranc	103.61	54	⇑Pdiff	Pdif	02 01 55.9	+1.0
	baz=104						
TREC	Trest	103.77	328	AMS	AMS	02 51 40.0	
	comp=Z,300nm,19.9s						
PRU	Pruhonice	103.82	329	AMS	AMS	02 55 40.0	
	comp=Z,300nm,17.2s						
KHC	Kasperske Hory	104.85	329	*e*PKP	PKiKP	02 06 14.0	-0.9
KHC				*ex*	x	02 06 31.0	
KHC				AMS	AMS	02 53 00.0	
	comp=Z,400nm,20.0s						
531A	Rocksprings	104.86	54	⇊Pdiff	Pdif	02 02 01.6	+1.3
	baz=105						
531A	Rocksprings	104.86	54	⇊Pdiff	Pdif	02 02 01.6	+1.3
	baz=105						
SNAA	Sanae	117.44	191	*e*PKP	PKPdf	02 06 37.9	-0.2
SNAA	Sanae	117.44	191	*e*SOUTH	x	02 06 47.5	
LSZ	Lusaka	117.85	259	PKP	PKPdf	02 06 41.3	+0.8
LSZ	Lusaka	117.85	259	PKP	PKPdf	02 06 41.3	+0.8
	comp=Z,1.7nm,0.4s,baz=64,slow=1.1,SNR=6.6						
ESDC	Sonseca Array	120.30	332	PKP	PKPdf	02 06 44.6	+0.1
ESDC	Sonseca Array	120.30	332	PKP	PKPdf	02 06 44.6	+0.1
	comp=Z,0.1nm,0.3s,baz=22,slow=1.4,SNR=3.2						
TORD	Torodi Ar. Bea	134.89	303	PKPpre	PKPpre	02 06 59.9	
TORD				PKP	PKPdf	02 07 13.8	+0.9
TORD				SKPbc	SKPab	02 10 44.3	-0.2
TORD	Torodi Ar. Bea	134.89	303	PKhKP	PKPpre	02 06 59.9	
	comp=Z,0.4nm,1.0s,baz=68,slow=2.6,SNR=4.7						
TORD				PKP	PKPdf	02 07 13.8	+0.9
	comp=Z,0.9nm,0.6s,baz=44,slow=2.1,SNR=6.0						
TORD				SKPbc	SKPab	02 10 44.3	-0.2
	comp=Z,0.7nm,0.8s,baz=66,slow=2.9,SNR=3.6						
PLCA	Paso Flores	138.54	139	PKP	PKPdf	02 07 19.9	+0.9
PLCA	Paso Flores	138.54	139	PKP	PKPdf	02 07 19.9	+0.9
	comp=Z,3.1nm,0.7s,baz=244,slow=1.3,SNR=5.6						
DBIC	Dimbokro	143.78	300	PKPpre	PKPpre	02 07 26.2	
DBIC	Dimbokro	143.78	300	PKhKP	PKPpre	02 07 26.2	
	comp=Z,3.1nm,0.4s,baz=63,slow=2.4,SNR=25						
KIC	Kosan Boka	143.84	299	*e*PKP1	PKPab	02 07 26.9	+0.6
	comp=Z,86nm,1.6s						
TIC	Toumodi	143.93	300	*e*PKP1	PKPab	02 07 27.0	+0.4
	comp=Z,74nm,1.3s						
LIC	Lamto	144.15	299	*e*PKP1	PKPab	02 07 27.6	+0.2
	comp=Z,42nm,0.7s						
TRQA	Tornquist	145.45	142	*e*PKPbc	PKPbc	02 07 31.6	+0.2
LVC	Limon Verde	147.01	113	*e*PKPbc	PKPab	02 07 38.4	0.0
LPAZ	La Paz	148.59	101	*e*PKPdf	PKPdf	02 07 39.0	+1.1
LPAZ				PKP	PKPdf	02 07 39.2	+1.3
LPAZ				PKPbc	PKPbc	02 07 42.4	+0.8
LPAZ				*e*PKPbc	PKPab	02 07 42.7	-2.5
LPAZ	La Paz	148.59	101	PKP	PKPdf	02 07 39.2	+1.3
	comp=Z,11nm,0.8s,baz=305,slow=1.8,SNR=21						
LPAZ				PKPbc	PKPbc	02 07 42.4	+0.8
	comp=Z,13nm,0.8s,baz=27,slow=1.7,SNR=43						
SAML	Samuel	153.02	85	*e*PKPdf	PKPdf	02 07 44.7	+0.6
SAML				*e*PKPbc	PKPbc	02 07 51.9	+0.5
SAML				*e*PKPab	PKPab	02 08 02.8	0.0
BDFB	Brasilia	167.84	107	PKP	PKPdf	02 08 01.7	+1.3
BDFB	Brasilia	167.84	107	PKP	PKPdf	02 08 01.7	+1.3
	comp=Z,4.1nm,0.9s,baz=65,slow=22,SNR=4.9						

*IDC **03** 01:48:23.9±2.9, 51°.80N×171°.55W, h0km, mb3.4/6, mb1 3.8/7, mb1mx3.6/26, mbtmp3.4/7, ML3.9/1, Error ellipse: s-maj=69.0km s-min=31.4km az=33.0*
*ISCJB **03** 01:48:29.6±1.0, 51°.8N±0°.1×171°.30W±0°.07, h48km±9km, mb3.4/6, Error ellipse: s-maj=22.1km s-min=3.8km az=164.5*
*NEIC **03** 01:48:30.6, 51°.91N×171°.23W, h10km, ML3.3(AEIC), After AEIC.*

ISC 03 01:48:31.0±1.8, 51°.9N±0°.2×171°.29W±0°.06, h44km±16km, n33, σ0°71/42, mb3.4/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	Korovin Flat P	1.77	284	P	Pn	01 49 00.0	+0.7
ATKA	Atka Island	1.82	281	P	Pn	01 48 59.5	-0.3
ATKA				S	Sn	01 49 21.8	+0.1
NIKH	Nikolski High	1.85	53	P	Pn	01 48 59.2	-1.1
NIKH				S	Sn	01 49 21.5	-0.9
OKSP	Okmok Steeple	2.29	52	P	Pn	01 49 06.4	+0.1
OKSP				S	Sn	01 49 34.1	+0.8
OKTU	Okmok Mt. Tuli	2.49	51	P	Pn	01 49 09.4	+0.4
GSMY	Great Sitkin M	2.95	275	P	Pn	01 49 15.4	+0.1
GSMY				S	Sn	01 49 50.4	+0.8
GSTD	Great Sitkin T	3.01	275	P	Pn	01 49 16.1	-0.1
GSTD				S	Sn	01 49 50.5	-0.4
GSCK	Great Sitkin C	3.02	274	P	Pn	01 49 15.7	-0.5
GSCK				S	Sn	01 49 51.0	-0.1
ETKA	Kagalaska Isla	3.17	272	P	Pn	01 49 17.8	-0.5
ADAG	Mount Adagdak	3.29	274	P	Pn	01 49 20.5	+0.6
ADK	Adak	3.34	272	*e*Pn	Pn	01 49 20.2	-0.4
ADK				*e*S	Sn	01 49 58.5	-0.5
MREP	Makushin Rep't	3.37	53	P	Pn	01 49 21.7	+0.5
UNV	Unalaska Valle	3.51	54	*e*Pn	Pn	01 49 23.2	+0.2
UNV				*e*S	Sn	01 50 04.9	+1.7
KINC	Kanaga Island	3.61	273	P	Pn	01 49 25.1	+0.6
KIKV	Kanaga Island	3.64	272	P	Pn	01 49 24.8	0.0
TAFP	Tanaga Falls P	4.14	273	P	Pn	01 49 31.7	0.0
GANE	Gareloi Northe	4.64	272	P	Pn	01 49 38.2	-0.3
AMKA	Amchitka	5.88	269	*e*Pn	Pn	01 49 54.5	-1.0
AMKA				*e*S	Sn	01 51 03.7	+2.2
LSSE	Little Sitkin	6.28	274	P	Pn	01 50 00.6	-0.3
ILAR	Eielson Array	18.03	35	P	Pn	01 52 36.9	-1.0
ILAR	Eielson Array	18.03	35	P	Pn	01 52 36.9	-1.0
	0.2nm,0.3s,baz=236,slow=10.0,SNR=6.6						
YKA	Yellowknife Ar	31.45	48	P	P	01 54 48.3	+0.5
YKA	Yellowknife Ar	31.45	48	P	P	01 54 48.3	+0.5
	0.4nm,0.5s,baz=275,slow=7.3,SNR=7.4						
NVAR	Mina Array Bea	38.85	89	P	P	01 55 52.5	+0.6
NVAR	Mina Array Bea	38.85	89	P	P	01 55 52.5	+0.6
	0.3nm,0.7s,baz=301,slow=9.4,SNR=2.8						
PDAR	Pinedale Array	41.66	77	P	P	01 56 15.6	+0.4
PDAR	Pinedale Array	41.66	77	P	P	01 56 15.6	+0.4
	0.3nm,0.6s,baz=296,slow=2.9,SNR=3.4						
TXAR	Lajitas Array	53.95	87	P	P	01 57 49.9	-0.4
TXAR	Lajitas Array	53.95	87	P	P	01 57 49.9	-0.4
	0.5nm,0.7s,baz=302,slow=5.1,SNR=6.4						
NOA	NORSAR Array B	67.41	359	P	P	01 59 21.4	0.0
NOA	NORSAR Array B	67.41	359	P	P	01 59 21.4	0.0
	0.5nm,0.6s,baz=2.3,slow=6.5,SNR=3.7						
GERES	GERESS Array B	79.56	357	P	P	02 00 32.7	-0.3
GERES	GERESS Array B	79.56	357	P	P	02 00 32.7	-0.3
	0.2nm,0.5s,baz=24,slow=7.5,SNR=3.1						

*IDC **03** 02:00:36.4±1.7, 7°.64S×106°.97E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=109.4km s-min=20.1km az=48.0*
*ISCJB **03** 02:00:41.2±0.9, 8°.05S±0°.06×106°.87E±0°.09, h46km, mb3.7/6, Error ellipse: s-maj=13.9km s-min=7.8km az=160.1*
*DJA **03** 02:00:42.1±0.9, 8°S±7°×10°7E±°, h27km±14km, M4.3/6, MLv4.3/6*

ISC 03 02:00:43.3±1.0, 7°.98S±0°.09×106°.99E±0°.09, h46km, n11, σ1°53/13, mb3.8/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.92	63	P	Pn	02 00 58.6	-1.2
SKJI	Sukabumi	1.06	336	P	Pn	02 01 03.9	+2.2
SKJI				S	Sn	02 01 13.0	-2.3
LEM	Lembang	1.30	28	P	Pn	02 01 05.7	+0.5
LEM				S	Sn	02 01 22.9	+1.4
DBJI	Dramaga	1.43	350	P	Pn	02 01 06.5	-0.4
DBJI				S	Sn	02 01 26.0	+1.4
SBJI	Serang	2.03	335	P	Pn	02 01 15.0	-0.1
WRA	Warramunga Arr	29.03	117	P	P	02 06 39.4	+0.1
	0.5nm,0.6s,baz=285,slow=12,SNR=3.0						
ASAR	Alice Springs	30.14	124	P	P	02 06 49.9	+0.8
	0.5nm,0.7s,baz=294,slow=8.2,SNR=5.4						
STKA	Stephens Creek	40.00	131	P	P	02 08 15.5	+1.7
	3.6nm,1.1s,baz=300,slow=8.1,SNR=2.8						
MKAR	Makanchi Array	58.80	340	P	P	02 10 33.2	-3.7
	0.8nm,0.6s,baz=157,slow=6.7,SNR=8.1						
ZALV	Zalesovo Beam	64.47	346	P	P	02 11 13.8	-1.2
	0.7nm,0.3s,baz=158,slow=6.3,SNR=4.8						
BRTR	Keskin Array B	82.47	312	P	P	02 12 59.8	-1.5
	0.6nm,0.8s,baz=122,slow=6.2,SNR=4.2						

TAP 03 02:07:10.2, 24°.31N×121°.74E, h15km±1km, ML2.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.00	329	*e*P	Pg	02 07 12.8	0.0
	baz=87						
ENA	Nanau	0.12	359	⇑*i*P	Pb	02 07 14.3	0.0
	baz=2.0						
ENA				S	Sb	02 07 16.9	0.0
	baz=2.0						
TWC	Suao	0.32	18	*e*P	Pb	02 07 17.6	0.0
	baz=19						
TWC				*e*S	Sb	02 07 22.1	-0.5
	baz=19						
NNS	Nan Shan	0.36	292	*e*P	Pb	02 07 18.4	-0.2
	baz=291						
ENTT	Nioudou	0.37	334	P	Pb	02 07 18.8	+0.3
	baz=334						
WHF	Hehuan Shan	0.47	250	*e*P	Pg	02 07 19.8	-0.2
	baz=249						
WHF				*e*S	Sg	02 07 25.9	-0.9
	baz=249						
NSK	Sanguang	0.51	316	*e*P	Pg	02 07 19.9	-0.5
	baz=316						
NSK				*e*S	Sb	02 07 28.0	-0.2
	baz=316						

TAP 03 02:07:15.5, 24°.27N×121°.76E, h13km, ML2.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.05	341	*e*P	Pg	02 07 17.5	-0.5
	baz=348						
ENA	Nanau	0.16	355	*i* P	Pg	02 07 19.6	+0.2
	baz=357						
ENA				*i* S	Sg	02 07 22.4	+0.3
	baz=357						
TWD	Chiawan	0.24	219	*e*P	Pg	02 07 20.6	0.0
	baz=218						
TWD				*i* S	Sg	02 07 24.5	+0.5
	baz=218						
TWC	Suao	0.35	14	*e*P	Pg	02 07 22.9	+0.3
	baz=7.0						
TWC				S	Sg	02 07 27.7	+0.3
	baz=7.0						
NNS	Nan Shan	0.39	296	*e*P	Pg	02 07 23.7	+0.1
	baz=297						
NNS				*e*S	Sg	02 07 29.2	+0.2
	baz=297						
ENTT	Nioudou	0.41	335	*e*P	Pg	02 07 24.2	+0.4
	baz=335						
ENTT				S	Sg	02 07 30.0	+0.6
	baz=335						
WHF	Hehuan Shan	0.47	255	*e*P	Pg	02 07 25.1	-0.2
	baz=256						
WHF				*e*S	Sg	02 07 31.8	-0.2
	baz=256						
NSK	Sanguang	0.55	318	*e*P	Pb	02 07 27.5	+0.4
	baz=318						

WEL 03 02:27:17.4±0.5, 37°.99S×175°.82E, h177km±4km, ML3.5/11, 2C, Error ellipse: s-maj=5.0km s-min=4.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTU	Utuhina	0.35	123	*e*SN	Sn	02 27 59.9	+0.1
URZ	Urewera	1.06	105	PN	Pn	02 27 45.5	+0.3
URZ				SN	Sn	02 28 05.9	-0.7
TUVZ	Tukino	1.29	186	PN	Pn	02 27 47.8	+0.5
BKZ	Black Stump Fm	1.29	156	PN	Pn	02 27 47.2	-0.1
BKZ				SN	Sn	02 28 08.5	-2.0
NMHZ	Naumai	1.35	145	PN	Pn	02 27 45.9	-1.9
NMHZ				SN	Sn	02 28 11.4	-0.1
RAHZ	Arahi	1.36	133	PN	Pn	02 27 48.1	+0.3
RAHZ				SN	Sn	02 28 10.8	-0.6
MWZ	Matawai	1.39	105	PN	Pn	02 27 48.3	+0.2
MWZ				SN	Sn	02 28 10.6	-1.3
MOVZ	Moawhango	1.42	182	⇑PN	Pn	02 27 48.2	-0.2
BHHZ	Black Hill Sta	1.51	173	PN	Pn	02 27 49.0	-0.3
MCHZ	McNeill Hill	1.61	155	PN	Pn	02 27 50.6	+0.5
KNZ	Kokohu	1.79	126	PN	Pn	02 27 51.5	-0.4
PRGZ	Paritu Road	1.87	121	PN	Pn	02 27 52.6	-0.3
PUZ	Puketiti	1.93	93	PN	Pn	02 27 53.0	-0.4
CKHZ	Cape Kidnapper	1.94	150	PN	Pn	02 27 53.1	-0.4
PNHZ	Pukenui	1.95	171	PN	Pn	02 27 52.7	-1.0
KAHZ	Kahuranaki	1.99	156	PN	Pn	02 27 53.6	-0.6
MHGZ	Mahia Peninsul	2.01	126	PN	Pn	02 27 54.1	-0.2
TSZ	Takapari Road	2.07	177	⇑PN	Pn	02 27 54.0	-1.1
WPHZ	Waipukurau	2.13	167	PN	Pn	02 27 54.5	-1.2
POWZ	Post Office Ro	2.40	181	PN	Pn	02 27 57.0	-1.8
MRZ	Mangatainoka R	2.68	184	PN	Pn	02 27 59.7	-2.2
BFZ	Birch Farm	2.71	173	PN	Pn	02 28 00.3	-2.1
TIWZ	Tintock	2.79	179	PN	Pn	02 28 01.0	-2.3
OGWZ	Otaki Gorge	2.87	190	PN	Pn	02 28 02.1	-2.2
HOWZ	Holdsworth Sta	2.92	185	PN	Pn	02 28 02.2	-2.7
KIW	Kapiti Island	2.96	193	PN	Pn	02 28 02.7	-2.6
CAW	Cannon Point	3.17	190	PN	Pn	02 28 05.1	-2.8
DUWZ	D'Urville Isla	3.17	207	PN	Pn	02 28 05.6	-2.3
MTW	Mount Morrison	3.18	184	PN	Pn	02 28 04.3	-3.7
TCW	Tory Channel	3.44	200	PN	Pn	02 28 08.4	-2.8
BHW	Baring Head	3.50	192	PN	Pn	02 28 08.6	-3.3
PLWZ	Palliser	3.61	187	PN	Pn	02 28 09.6	-3.7
TUWZ	Tuamarina	3.73	202	PN	Pn	02 28 11.9	-3.0
NNZ	Nelson	3.74	209	PN	Pn	02 28 12.2	-2.7
THZ	Tophouse	4.39	210	PN	Pn	02 28 20.3	-3.1
LTZ	Lake Taylor	5.50	208	PN	Pn	02 28 33.6	-4.2

*CSEM **03** 02:28:47.4, 37°.00N×24°.25W, h15km, ML2.4, After PDA*

PDA 03 02:28:47.4±1.1, 37°.00N×24°.25W, h15km, MD3.8, ML2.4, Error ellipse: s-maj=7.8km s-min=5.3km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.65	270	*e*P	Pg	02 28 57.9	-2.3
PSMN				*e*S	Sg	02 29 05.5	-3.4
PSMN				A	A	02 29 06.6	
	50nm,0.2s						
PSMN	Pico do Norte,	0.65	270	*e*P	Pg	02 28 57.9	-2.3
PSMN				*e*S	Sg	02 29 05.5	-3.4
PSMA	Santa Maria	0.70	270	*e*P	Pg	02 28 58.4	-2.7
PSMA				*e*S	Sg	02 29 06.4	-4.0
PSMA				A	A	02 29 07.1	
	29nm,0.2s						
BART	Pico Bartolome	1.06	317	*e*P	Pb	02 29 03.3	-4.4
BART				*e*S	Sb	02 29 15.3	-6.2
BART				A	A	02 29 19.8	
	64nm,0.3s						
BART	Pico Bartolome	1.06	317	*e*P	Pb	02 29 03.3	-4.4
BART				*e*S	Sb	02 29 15.3	-6.2
CMLA	Cha da Macela	1.27	307	*e*P	Pn	02 29 06.6	-4.0
CMLA				*e*S	Sb	02 29 20.3	-6.9
CMLA				A	A	02 29 20.8	
	24nm,0.3s						
CMLA	Cha da Macela	1.27	307	*e*P	Pn	02 29 06.6	-4.0
CMLA				*e*S	Sb	02 29 20.3	-6.9
PDA	Ponta Delgada	1.35	304	A	A	02 29 22.3	
	11nm,0.2s						
PDA				*e*S	Sn	02 29 22.8	-6.5
PDA	Ponta Delgada	1.35	304	*e*S	Sn	02 29 22.8	-6.5
PSET	Sete Cidades	1.43	305	*e*P	Pn	02 29 08.4	-4.5
PSET				*e*S	Sn	02 29 24.8	-6.6
PSET				A	A	02 29 25.3	
	6.5nm,0.1s						
PSET	Sete Cidades	1.43	305	*e*P	Pn	02 29 08.4	-4.5
PSET				*e*S	Sn	02 29 24.8	-6.6
PGRA	Graciosa	3.58	306	*e*P	Sn	02 30 20.3	-4.0
ROSA	Rosais	3.59	300	*e*P	Pn	02 29 38.7	-3.9
ROSA				A	A	02 29 40.1	
	7.4nm,0.3s						
ROSA				*e*S	Sn	02 30 17.0	-7.8
ROSA	Rosais	3.59	300	*e*P	Pn	02 29 38.7	-3.9
ROSA				*e*S	Sn	02 30 17.0	-7.8
PICO	Pico	3.63	296	*e*P	Pn	02 29 39.4	-3.8
PICO				*e*S	Sn	02 30 18.0	-7.8
PICO	Pico	3.63	296	*e*P	Pn	02 29 39.4	-3.8
PICO				*e*S	Sn	02 30 18.0	-7.8

FUNV 03 02:32:20.3, 10°.76N×65°.73W, h1km, MW3.7, 5C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIRV	Birongo	0.60	242	⇑*i*P	Pg	02 32 31.6	-0.3
BIRV				*e*S	Sg	02 32 40.4	+0.6
CUPV	Cœpira	0.70	185	⇑*i*P	Pg	02 32 34.2	+0.3
CUPV				*e*S	Sb	02 32 44.6	-1.1
FUNV	FUNVISIS	1.10	255	*e*P	Pg	02 32 40.5	-1.2
FUNV				*e*S	Sg	02 32 56.2	+0.1
ORCV	Isla La Orchil	1.14	336	⇊*e*P	Pg	02 32 42.2	0.0
PCRV	Puerto La Cruz	1.22	118	*e*P	Pg	02 32 43.9	+0.2
PCRV				*e*S	Sn	02 33 01.3	-0.5
MERV	Las Mercedes	1.60	201	⇑*e*P	Pn	02 32 49.5	-0.3
MERV				*e*S	Sn	02 33 11.2	+0.1
TURV	Turiamo	2.10	262	*e*P	Pn	02 32 55.3	-1.3
TURV				*e*S	Sn	02 33 22.6	-0.8
PRGV	PARIAGUAN	2.25	152	*e*P	Pn	02 32 57.9	-0.9
PRGV				*e*S	Sn	02 33 26.5	-0.7
GUNV	Guanoco	2.80	102	*e*P	Pn	02 33 05.0	-1.2
GUNV				*e*S	Sn	02 33 38.2	-2.5
ORIV	Oritupano	2.83	126	*e*P	Pn	02 33 05.6	-1.2
ORIV				*e*S	Sn	02 33 39.5	-2.1
MAPV	Macapo	2.84	251	*e*P	Pn	02 33 06.4	-0.5
MAPV				*e*S	Sn	02 33 39.5	-2.3
BAUV	El Baul	2.91	232	⇑*e*P	Pn	02 33 07.0	-0.7
BAUV				*e*S	Sn	02 33 41.0	-2.4
GUIV	Guiria	3.44	92	*e*P	Pn	02 33 14.6	-0.5
GUIV				*e*S	Sn	02 33 54.0	-2.6
TEPV	Terepaima	3.50	257	*e*P	Pn	02 33 15.2	-0.7
TEPV				*e*S	Sn	02 33 55.5	-2.6
SANV	Sanarito	3.95	252	*e*P	Pn	02 33 21.7	-0.6
SANV				*e*S	Sn	02 34 05.2	-4.3
SIQV	Siquisique	4.01	269	*e*P	Pn	02 33 20.9	-2.1
SIQV				*e*S	Sn	02 34 07.2	-3.6
CURV	Curarigua	4.23	260	*e*P	Pn	02 33 24.8	-1.3
MONV	Montecano	4.33	286	*e*P	Pn	02 33 26.2	-1.1
MONV				*e*S	Sn	02 34 14.9	-3.6
ELOV	Elorza	5.27	225	*e*P	Pn	02 33 38.5	-1.7
ELOV				*e*S	Sn	02 34 36.2	-5.4
SOCV	Socops	5.63	245	*e*P	Pn	02 33 43.5	-1.7
SOCV				*e*S	Sn	02 34 44.7	-5.9
LUEV	Luepa	6.46	139	⇑*e*P	Pn	02 33 54.9	-1.8
LUEV				*e*S	Sn	02 35 04.0	-7.3

IDC 03 02:55:26.5±0.9, 10°.16S×161°.56E, h91km±7km, mb3.4/7, mb1 3.7/9, mb1mx3.5/21, mbtmp3.5/9, MS3.7/1, Ms1 3.7/1, ms1mx2.9/14, Error ellipse: s-maj=19.5km s-min=12.1km az=36.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.75	294	P	Pn	02 55 55.5	0.0
	223nm,0.3s,baz=153,slow=3.0,SNR=37						
HNR				S	Sn	02 56 17.8	+0.3
	177nm,0.3s,baz=37,slow=20,SNR=4.7						
DZM	Mont Dzumac	12.74	159	P	Pn	02 58 25.8	+1.3
	1.4nm,0.3s,baz=99,slow=21,SNR=14						
DZM				S	Sn	03 00 43.0	-1.6
	0.9nm,0.3s,baz=292,slow=19,SNR=7.2						
CTA	Charters Tower	17.76	234	P	Pn	02 59 29.2	+1.2
	0.6nm,0.3s,baz=64,slow=14,SNR=4.1						
WRA	Warramunga Arr	27.

WKZ				AML	AML	03 05 42.3	
WKZ				AML	AML	03 05 42.3	
SYZ	**Scrubby Hill**	**2.48**	**111**	PN	Pn	03 04 43.8	+0.9
EAZ	**Earnscleugh**	**2.53**	**81**	PN	Pn	03 04 45.5	+2.1
EAZ				AML	AML	03 05 24.9	
EAZ				AML	AML	03 05 24.9	
EAZ				AML	AML	03 05 26.1	
EAZ				AML	AML	03 05 26.1	
JCZ	**Jackson Bay**	**2.67**	**54**	PN	Pn	03 04 45.5	0.0
JCZ				AML	AML	03 05 24.8	
JCZ				AML	AML	03 05 26.3	
TUZ	**Tuapeka**	**2.71**	**97**	PN	Pn	03 04 47.6	+1.7
TUZ				AML	AML	03 05 20.2	
TUZ				AML	AML	03 05 21.1	
LBZ	**Lake Benmore**	**3.38**	**69**	PN	Pn	03 04 56.1	+0.8
LBZ				AML	AML	03 05 56.8	
LBZ				AML	AML	03 05 57.1	
ODZ	**Otahua Downs**	**3.49**	**81**	PN	Pn	03 04 57.4	+0.7
FOZ	**Fox Glacier**	**3.51**	**54**	PN	Pn	03 04 58.2	+1.3
RPZ	**Rata Peaks**	**4.25**	**64**	PN	Pn	03 05 07.2	0.0
RPZ				AML	AML	03 06 33.8	
RPZ				AML	AML	03 06 37.9	
WVZ	**Waitaha Valley**	**4.41**	**55**	PN	Pn	03 05 08.4	-0.9

GUC 03 03:12:30.2±0.9, 20°.77S×69°.56W, h98km±4km, ML3.5, 5C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.28**	**166**	⇓*i*P	Pn	03 12 44.9	+0.4
PB01				*i* S	Sn	03 12 55.5	+0.3
PB01				AML	AML	03 12 56.0	
	comp=N,6μm,0.4s						
HMBC	**Humberstone**	**0.58**	**328**	⇓*i*P	Pn	03 12 47.3	+0.7
HMBC				*i* S	Sn	03 12 59.6	+0.9
HMBC				AML	AML	03 13 01.1	
	comp=N,1μm,0.4s						
PB09	**Plate Boundary**	**1.06**	**164**	⇑*i*P	Pn	03 12 52.1	+0.8
PB09				*i* S	Sn	03 13 08.3	+1.0
PB09				AML	AML	03 13 09.5	
	comp=N,3μm,0.2s						
PSGC	**Pisagua**	**1.28**	**335**	⇓*i*P	Pn	03 12 54.3	+0.4
PSGC				*i* S	Sn	03 13 12.4	+0.7
PSGC				AML	AML	03 13 13.2	
	comp=N,569nm,0.5s						
PB04	**Plate Boundary**	**1.49**	**178**	⇑*i*P	Pn	03 12 59.4	+3.2
PB04				*i* S	Sn	03 13 20.7	+4.9
PB04				AML	AML	03 13 24.6	
	comp=N,237nm,0.4s						
MNMC	**Minimini**	**1.63**	**359**	⇑*i*P	Pn	03 12 58.8	+0.4
MNMC				*e*S	Sn	03 13 20.6	+0.9
MNMC				AML	AML	03 13 21.9	
	comp=N,1μm,0.2s						
LVC	**Limon Verde**	**1.93**	**162**	⇑*i*P	Pn	03 13 03.2	+1.1
LVC				*i* S	Sn	03 13 27.7	+1.3
ANCH	**Antofagasta**	**3.00**	**195**	⇑*i*P	Pn	03 13 16.4	+0.4

*ISCJB **03** 03:30:34.4±0.7, 24°.58S±0°.03×67°.75W±0°.07, h113km±6km, mb4.0/20, Error ellipse: s-maj=10.2km s-min=5.7km az=0.4*
*NEIC **03** 03:30:35.9±0.5, 24°.57S×67°.65W, h115km±5km, mb4.1/11, Error ellipse: s-maj=9.1km s-min=5.7km az=87.0*
*IDC **03** 03:30:36.1±2.0, 24°.48S×67°.71W, h116km±17km, mb3.9/12, mb1 4.1/16, mb1mx3.9/21, mbtmp3.9/16, MS3.3/1, Ms1 3.3/1, ms1mx2.5/23, Error ellipse: s-maj=18.5km s-min=12.8km az=78.0*
*GUC **03** 03:30:39.1±0.8, 24°.31S×68°.25W, h169km±16km, ML4.8*
ISC 03 03:30:34.8±0.8, 24°.64S±0°.04×67°.74W±0°.07, h104km±7km, n334, σ0.8±81/358, mb4.1/20, 135C-135D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**332**	*e*Pn	**Pn**	**03 31 14.4**	**+3.0**
LVC				*e*S	**Sn**	**03 31 42.0**	**+2.6**
LVC	**Limon Verde**	**2.28**	**332**	⇓*i*P	**Pn**	**03 31 14.4**	**+3.0**
LVC				*i* S	**Sn**	**03 31 41.7**	**+2.3**
ANCH	**Antofagasta**	**2.62**	**291**	⇑*i*P	**Pn**	**03 31 17.4**	**+1.8**
ANCH				*i* S	**Sn**	**03 31 46.3**	**-0.6**
ANCH	**Antofagasta**	**2.62**	**291**	⇑*i*P	**Pn**	**03 31 17.4**	**+1.8**
ANCH				*i* S	**Sn**	**03 31 46.3**	**-0.6**
ANCH				AML	AML	03 31 47.3	
	comp=E,3μm,0.4s						
PB10	**Plate Boundary**	**2.81**	**293**	⇑*i*P	**Pn**	**03 31 19.5**	**+1.5**
PB10				*i* S	**Sn**	**03 31 49.5**	**-1.8**
PB10				AML	AML	03 31 57.9	
	comp=E,7μm,0.5s						
PB09	**Plate Boundary**	**3.15**	**334**	⇑*i*P	**Pn**	**03 31 25.3**	**+2.5**
PB09				*e*S	**Sn**	**03 31 59.6**	**-0.1**
PB09	**Plate Boundary**	**3.15**	**334**	⇑*i*P	**Pn**	**03 31 25.3**	**+2.5**
PB09				*e*S	**Sn**	**03 31 59.6**	**-0.1**
PB09				AML	AML	03 32 06.9	
	comp=E,4μm,0.4s						
PB07	**Plate Boundary**	**3.50**	**325**	⇓*i*P	**Pn**	**03 31 28.6**	**+1.0**
PB07				*i* S	**Sn**	**03 32 06.7**	**-1.7**
PB07	**Plate Boundary**	**3.50**	**325**	⇓*i*P	**Pn**	**03 31 28.6**	**+1.0**
PB07				*i* S	**Sn**	**03 32 06.7**	**-1.7**
PB07				AML	AML	03 32 18.4	
	comp=E,958nm,0.4s						
PB01	**Plate Boundary**	**3.92**	**335**	⇑*i*P	**Pn**	**03 31 33.9**	**+0.8**
PB01				*i* S	**Sn**	**03 32 16.9**	**-1.4**
PB01	**Plate Boundary**	**3.92**	**335**	⇑*i*P	**Pn**	**03 31 33.9**	**+0.8**
PB01				*i* S	**Sn**	**03 32 16.9**	**-1.4**
PB01				AML	AML	03 32 19.8	
	comp=E,800nm,0.2s						
LCO	**Las Campanas**	**5.10**	**211**	*e*Pn	**Pn**	**03 31 49.5**	**+0.4**
LCO				*e*S	**Sn**	**03 32 46.6**	**-0.3**
CFAA	**Coronel Fontan**	**6.96**	**184**	P	**Pn**	**03 32 16.1**	**+1.9**
CFAA				S	**Sn**	**03 33 30.2**	**-1.5**
CFAA	**Coronel Fontan**	**6.96**	**184**	P	**Pn**	**03 32 16.1**	**+1.9**
	comp=E,2.2nm,0.3s,baz=355,slow=11,SNR=345						
CFAA				S	**Sn**	**03 33 30.2**	**-1.5**
	comp=E,0.9nm,0.3s,baz=243,slow=18,SNR=3.5						
LPAZ	**La Paz**	**8.31**	**357**	*e*Pn	**Pn**	**03 32 33.8**	**+0.6**
LPAZ				*e*S	**Sn**	**03 34 04.0**	**-1.7**
LPAZ	**La Paz**	**8.31**	**357**	P	**Pn**	**03 32 33.6**	**+0.5**
	comp=E,7.3nm,0.3s,baz=159,slow=5.8,SNR=112						
LPAZ				S	**Sn**	**03 34 04.3**	**-1.4**
	comp=E,0.3nm,0.3s,baz=282,slow=20,SNR=2.4						
SIV	**San Ignacio**	**10.63**	**37**	P	**Pn**	**03 33 02.6**	**-1.5**
SIV	**San Ignacio**	**10.63**	**37**	P	**Pn**	**03 33 02.6**	**-1.5**
	comp=E,16nm,0.3s,baz=249,slow=11,SNR=242						
TRQA	**Tornquist**	**14.25**	**161**	*e*Pn	**P**	**03 33 56.9**	**+1.0**
SAML	**Samuel**	**16.19**	**16**	*e*Pn	**Pn**	**03 34 14.5**	**-1.8**
	comp=E,3.9nm,0.4s						
PLCA	**Paso Flores**	**16.22**	**188**	P	**P**	**03 34 19.1**	**+1.3**
PLCA	**Paso Flores**	**16.22**	**188**	P	**P**	**03 34 19.1**	**+1.3**
	comp=E,0.1nm,0.3s,baz=24,slow=15,SNR=2.7						
PLCA				LR	LR	03 41 45.9	
	comp=E,106nm,18.4s,baz=173,slow=41						
BDFB	**Brasilia**	**20.55**	**68**	P	**P**	**03 35 05.5**	**+0.2**
BDFB	**Brasilia**	**20.55**	**68**	P	**P**	**03 35 05.5**	**+0.2**
	comp=E,22nm,0.6s,baz=236,slow=11,SNR=44						
SNAA	**Sanae**	**58.98**	**160**	*e*P	**P**	**03 40 23.6**	**+0.5**
	comp=E,11nm,1.3s						
732A	**Laxson Ranch,**	**61.45**	**328**	⇑P	**P**	**03 40 39.9**	**-0.6**
	baz=62						
632A	**Uvalde**	**62.01**	**328**	⇑P	**P**	**03 40 44.0**	**-0.2**
	baz=62						
631A	**Perdido Creek**	**62.31**	**328**	⇑P	**P**	**03 40 46.2**	**0.0**
	baz=63						
532A	**Rocksprings**	**62.59**	**329**	⇓P	**P**	**03 40 47.6**	**-0.5**
	baz=63						
JCT	**Junction City**	**62.83**	**329**	⇓P	**P**	**03 40 49.3**	**-0.3**
	baz=63						
531A	**Rocksprings**	**62.92**	**328**	⇑P	**P**	**03 40 50.0**	**-0.3**
	baz=63						
432A	**Menard**	**63.16**	**329**	⇑P	**P**	**03 40 51.1**	**-0.7**
	baz=63						
530A	**J-C Ranch, Com**	**63.29**	**328**	⇓P	**P**	**03 40 52.5**	**-0.3**
	baz=64						
431A	**Sonora**	**63.38**	**328**	⇑P	**P**	**03 40 53.0**	**-0.4**
	baz=64						
628A	**Black Gap, Mar**	**63.53**	**326**	⇑P	**P**	**03 40 54.2**	**-0.1**
	baz=64						
332A	**Millersview**	**63.56**	**330**	⇓P	**P**	**03 40 53.8**	**-0.7**
	baz=64						
529A	**Stev Forest Ra**	**63.71**	**327**	⇑P	**P**	**03 40 55.1**	**-0.4**
	baz=64						
627A	**Terlingua Ranc**	**63.76**	**325**	⇑P	**P**	**03 40 55.6**	**-0.3**
	baz=64						
430A	**Baggett Ranch,**	**63.77**	**328**	⇓P	**P**	**03 40 55.5**	**-0.4**
	baz=64						
TXAR	**Lajitas Array**	**63.81**	**325**	P	**P**	**03 40 55.5**	**-0.7**
TXAR	**Lajitas Array**	**63.81**	**325**	P	**P**	**03 40 55.5**	**-0.7**
	comp=E,0.7nm,0.7s,baz=154,slow=8.7,SNR=10						
331A	**San Angelo**	**63.82**	**329**	⇑P	**P**	**03 40 55.1**	**-1.1**
	baz=64						
232A	**Coleman**	**63.95**	**330**	⇓P	**P**	**03 40 56.2**	**-0.8**
	baz=64						
429A	**Davenport Ranc**	**63.96**	**327**	⇑P	**P**	**03 40 56.7**	**-0.4**
	baz=64						
528A	**Cox Ranch, San**	**64.02**	**326**	⇓P	**P**	**03 40 56.8**	**-0.9**
	baz=64						
626A	**Big Bend Ranch**	**64.22**	**325**	⇑P	**P**	**03 40 58.7**	**-0.3**
	baz=64,SNR=12						
231A	**Bronte**	**64.29**	**329**	⇓P	**P**	**03 40 57.8**	**-1.4**
	baz=64						
527A	**Woodward Ranch**	**64.43**	**326**	⇓P	**P**	**03 40 59.3**	**-1.1**
	baz=65,SNR=5.4						
428A	**Kincaid Ranch,**	**64.43**	**327**	⇓P	**P**	**03 41 00.0**	**-0.2**
	baz=65						
ABTX	**Abilene, Hawle**	**64.56**	**330**	⇑P	**P**	**03 41 00.6**	**-0.4**
	baz=65						
526A	**Mary Lane Ranc**	**64.61**	**325**	⇓P	**P**	**03 41 01.0**	**-0.5**
	baz=65,SNR=6.3						
329A	**Wagon Wheel Ra**	**64.71**	**328**	⇓P	**P**	**03 41 01.4**	**-0.6**
	baz=65						
427A	**Hayter Ranch,**	**64.89**	**326**	⇑P	**P**	**03 41 02.9**	**-0.3**
	baz=65						
131A	**Roby**	**64.94**	**330**	⇑P	**P**	**03 41 02.9**	**-0.6**
	baz=65						
328A	**Wristen Ranch,**	**65.03**	**327**	⇓P	**P**	**03 41 03.7**	**-0.4**
	baz=65						
426A	**McDonald Obser**	**65.06**	**326**	⇓P	**P**	**03 41 04.2**	**-0.3**
	baz=65						
130A	**Snyder**	**65.14**	**329**	⇑P	**P**	**03 41 04.1**	**-0.7**
	baz=65						
Z31A	**Sharp Cattle R**	**65.37**	**330**	⇑P	**P**	**03 41 05.8**	**-0.4**
	baz=66						
228A	**UT Block 9, Go**	**65.52**	**328**	⇓P	**P**	**03 41 06.7**	**-0.5**
	baz=66						
326A	**Caldwell Ranch**	**65.56**	**326**	⇑P	**P**	**03 41 07.1**	**-0.5**
	baz=66						
QSPA	**South Pole Qui**	**65.57**	**180**	*e*P	**P**	**03 41 08.1**	**+0.9**
	comp=E,12nm,1.2s						
129A	**Stewart Farms,**	**65.59**	**329**	⇓P	**P**	**03 41 06.9**	**-0.9**
	baz=66						
425A	**Indio Mountain**	**65.65**	**325**	⇓P	**P**	**03 41 07.5**	**-0.7**
	baz=66						
Z30A	**Sanderson Ranc**	**65.79**	**330**	⇓P	**P**	**03 41 08.3**	**-0.7**
	baz=66						
TUL1	**Tulsa**	**65.80**	**335**	⇓P	**P**	**03 41 08.3**	**-0.6**
	baz=66						
128A	**Castleberry Fa**	**65.88**	**328**	⇓P	**P**	**03 41 08.9**	**-0.6**
	baz=66						
Y31A	**Rekieta Farm,**	**65.97**	**331**	⇓P	**P**	**03 41 09.8**	**-0.3**
	baz=66						
Z29A	**Hungry Hill Ra**	**66.04**	**329**	⇓P	**P**	**03 41 09.7**	**-0.9**
	baz=66						
325A	**Bean Ranch, Si**	**66.11**	**326**	⇑P	**P**	**03 41 10.0**	**-1.2**
	baz=66,SNR=6.7						
226B	**Tecolote Peak,**	**66.26**	**327**	⇑P	**P**	**03 41 12.1**	**0.0**
	baz=66						
X31A	**Mcdonald Ranch**	**66.41**	**331**	⇓P	**P**	**03 41 12.3**	**-0.5**
	baz=67						
324A	**Moseley Ranch,**	**66.43**	**325**	⇑P	**P**	**03 41 12.0**	**-1.2**
	baz=67						
Y29A	**Porterfield Fa**	**66.52**	**330**	⇓P	**P**	**03 41 12.7**	**-1.0**
	baz=67						
225A	**Deer Hill, Car**	**66.62**	**326**	⇓P	**P**	**03 41 14.1**	**-0.3**
	baz=67						
X30A	**Coker Ranch, T**	**66.65**	**331**	⇑P	**P**	**03 41 14.1**	**-0.3**
	baz=67						
126A	**Clayton Basin,**	**66.65**	**327**	⇓P	**P**	**03 41 14.4**	**-0.1**
	baz=67						
Y28A	**McKinney Farm,**	**66.83**	**329**	⇑P	**P**	**03 41 14.4**	**-1.3**
	baz=67						
224A	**Cornudas Mount**	**66.95**	**326**	⇑P	**P**	**03 41 15.7**	**-0.8**
	baz=67						
125A	**Gardner Draw,**	**66.98**	**327**	⇓P	**P**	**03 41 15.6**	**-1.0**
	baz=67						
X29A	**Tulia**	**67.02**	**330**	⇑P	**P**	**03 41 16.3**	**-0.5**
	baz=67						
MSTX	**Muleshoe**	**67.12**	**329**	⇑P	**P**	**03 41 17.0**	**-0.5**
	baz=67						
Z26A	**Caprock**	**67.14**	**327**	⇓P	**P**	**03 41 17.4**	**-0.2**
	baz=67						
Y27A	**Causey**	**67.24**	**328**	⇓P	**P**	**03 41 17.3**	**-0.9**
	baz=68						
X28A	**Dimmitt**	**67.31**	**330**	⇓P	**P**	**03 41 17.9**	**-0.8**
	baz=68						
124A	**Stringfield Ra**	**67.41**	**326**	⇓P	**P**	**03 41 19.7**	**+0.2**
	baz=68						
Z25A	**Roswell**	**67.50**	**327**	⇓P	**P**	**03 41 19.3**	**-0.6**
	baz=68						
Z24A	**Sheeppen Canyo**	**67.87**	**327**	⇑P	**P**	**03 41 22.0**	**-0.3**
	baz=68,SNR=5.8						
Y25A	**Mesa, Roswell**	**68.01**	**327**	⇓P	**P**	**03 41 22.4**	**-0.7**
	baz=68						
X26A	**CR and CF Fran**	**68.09**	**328**	⇓P	**P**	**03 41 23.2**	**-0.5**
	baz=68						
Z23A	**Rita Site, Whi**	**68.25**	**326**	⇓P	**P**	**03 41 24.9**	**+0.2**
	baz=68						
T31A	**Randall Ranch,**	**68.38**	**333**	⇓P	**P**	**03 41 25.1**	**-0.1**
	baz=69						
Y24A	**Capitan**	**68.38**	**327**	⇑P	**P**	**03 41 25.6**	**+0.1**
	baz=69						
220A	**Playas Peak, P**	**68.41**	**323**	⇑P	**P**	**03 41 25.9**	**+0.3**
	baz=69						
319A	**Douglas**	**68.42**	**322**	⇑P	**P**	**03 41 26.3**	**+0.6**
	baz=69						
121A	**Cookes Peak, D**	**68.49**	**324**	⇑P	**P**	**03 41 26.7**	**+0.5**
	baz=69						
Z22A	**Elephant Butte**	**68.63**	**325**	⇓P	**P**	**03 41 26.9**	**-0.1**
	baz=69,SNR=7.1						
V27A	**Dan Oppiter Fa**	**68.63**	**330**	⇓P	**P**	**03 41 27.5**	**+0.6**
	baz=69						
DBIC	**Dimbokro**	**68.64**	**72**	P	**P**	**03 41 26.9**	**-0.4**
DBIC	**Dimbokro**	**68.64**	**72**	P	**P**	**03 41 26.9**	**-0.4**
	comp=E,4.9nm,1.1s,baz=232,slow=7.9,SNR=4.0						
Y23A	**Lovelace Mesa,**	**68.69**	**326**	⇑P	**P**	**03 41 27.9**	**+0.4**
	baz=69						
W25A	**X Bar L Ranch,**	**68.94**	**328**	⇓P	**P**	**03 41 28.5**	**-0.5**
	baz=69						
120A	**U Bar Ranch, L**	**68.96**	**324**	⇑P	**P**	**03 41 28.3**	**-0.7**
	baz=69						
Z21A	**St. Cloud Mine**	**69.04**	**325**	⇑P	**P**	**03 41 30.1**	**+0.5**
	baz=69						
V26A	**Teesequite Ra**	**69.10**	**329**	⇓P	**P**	**03 41 29.7**	**-0.2**
	baz=69						
U27A	**Thompson Grove**	**69.17**	**330**	⇑P	**P**	**03 41 30.9**	**+0.6**
	baz=69						
Z20A	**Nine Sixteen R**	**69.37**	**324**	⇓P	**P**	**03 41 32.3**	**+0.6**
	baz=70						
W24A	**Lazy 6 Ranch,**	**69.39**	**328**	⇓P	**P**	**03 41 31.6**	**-0.2**
	baz=70						
S29A	**Ulysses**	**69.42**	**332**	⇓P	**P**	**03 41 32.1**	**+0.3**
	baz=70						
V25A	**Rancho No Teng**	**69.52**	**329**	⇓P	**P**	**03 41 32.6**	**+0.1**
	baz=70						
U26A	**Atchley Ranch,**	**69.57**	**330**	⇑P	**P**	**03 41 32.8**	**0.0**
	baz=70						
Y21A	**Point of Rocks**	**69.58**	**325**	⇑P	**P**	**03 41 33.9**	**+0.9**
	baz=70						
T27A	**Campo**	**69.65**	**331**	⇓P	**P**	**03 41 33.0**	**-0.3**
	baz=70						
ANMO	**Albuquerque**	**69.70**	**327**	*e*P	**P**	**03 41 33.6**	**0.0**
	comp=E,2.1nm,0.9s						
ANMO	**Albuquerque**	**69.70**	**327**	P	**P**	**03 41 32.9**	**-0.7**
	comp=E,1.8nm,0.8s,baz=143,slow=9.9,SNR=6.3						
W23A	**Werner Place,**	**69.72**	**327**	⇓P	**P**	**03 41 34.2**	**+0.4**
	baz=70						
S28A	**Manter**	**69.73**	**332**	⇑P	**P**	**03 41 32.9**	**-0.8**
	baz=70						
V24A	**Rampart Ranch,**	**69.74**	**328**	⇑P	**P**	**03 41 34.0**	**0.0**
	baz=70						
Y20A	**Horse Springs,**	**69.87**	**325**	⇑P	**P**	**03 41 35.5**	**+0.7**
	baz=70						
U25A	**Circle Dot Ran**	**69.88**	**329**	⇑P	**P**	**03 41 34.7**	**0.0**
	baz=70						
X21A	**Alamocita Cree**	**69.98**	**326**	⇑P	**P**	**03 41 36.1**	**+0.7**
	baz=70						
W22A	**Albuquerque**	**70.01**	**327**	⇓P	**P**	**03 41 36.1**	**+0.5**
	baz=70						
T26A	**Comanche Natio**	**70.14**	**330**	⇑P	**P**	**03 41 36.8**	**+0.5**
	baz=70						
P31A	**Stockton**	**70.33**	**334**	⇑P	**P**	**03 41 37.2**	**0.0**
	baz=71						
X20A	**Quemado**	**70.42**	**325**	⇑P	**P**	**03 41 38.8**	**+0.7**
	baz=71						
W21A	**San Fidel**	**70.44**	**326**	⇑P	**P**	**03 41 39.0**	**+0.9**
	baz=71						
Q29A	**Oakley**	**70.44**	**333**	⇓P	**P**	**03 41 37.8**	**-0.1**
	baz=71						
S26A	**Kim**	**70.45**	**331**	⇓P	**P**	**03 41 38.6**	**+0.5**
	baz=71						
T25A	**Trinidad**	**70.48**	**330**	⇓P	**P**	**03 41 38.6**	**+0.2**
	baz=71						
U23A	**El Rito**	**70.67**	**328**	⇑P	**P**	**03 41 40.4**	**+0.8**
	baz=71						
V22A	**San Miguel Ran**	**70.69**	**327**	⇑P	**P**	**03 41 40.5**	**+0.8**
	baz=71						
W20A	**Ramah**	**70.88**	**325**	⇓P	**P**	**03 41 42.0**	**+1.1**
	baz=71						
S25A	**Robets Cordova**	**70.92**	**330**	⇓P	**P**	**03 41 41.3**	**+0.3**
	baz=71						
Q28A	**Sharon Springs**	**70.94**	**333**	⇓P	**P**	**03 41 41.1**	**+0.1**
	baz=71						
R26A	**Arlington**	**71.00**	**331**	⇑P	**P**	**03 41 41.8**	**+0.4**
	baz=71						
U22A	**Llaves**	**71.03**	**327**	⇑P	**P**	**03 41 42.7**	**+0.9**
	baz=71						
T23A	**Casias Ranch,**	**71.16**	**328**	⇑P	**P**	**03 41 43.0**	**+0.4**
	baz=71						
O30A	**MW Ranch, Wils**	**71.17**	**334**	⇓P	**P**	**03 41 42.9**	**+0.7**
	baz=71						
KSCO	**Kaye Shedlock'**	**71.23**	**332**	⇑P	**P**	**03 41 43.3**	**+0.5**
	baz=72						
R25A	**Fountain Ranch**	**71.25**	**330**	⇑P	**P**	**03 41 43.1**	**+0.2**
	baz=72						
S24A	**Houchin Ranch,**	**71.26**	**329**	⇑P	**P**	**03 41 43.7**	**+0.5**
	baz=72						
V20A	**Brimhall**	**71.38**	**326**	⇓P	**P**	**03 41 44.3**	**+0.4**
	baz=72						
U21A	**Ngegezi**	**71.47**	**327**	⇓P	**P**	**03 41 45.0**	**+0.6**
	baz=72						
SDCO	**Great Sand Dun**	**71.48**	**329**	*e*P	**P**	**03 41 44.5**	**-0.1**
	comp=E,0.7nm,0.6s						
BGNE	**Belgrade**	**71.51**	**336**	⇓P	**P**	**03 41 43.8**	**-0.5**
	baz=72						
Q26A	**Hugo**	**71.55**	**331**	⇑P	**P**	**03 41 45.4**	**+0.7**
	baz=72						
T22A	**Edith**	**71.56**	**328**	⇓P	**P**	**03 41 45.5**	**+0.5**
	baz=72						
P27A	**Ficken Ranch,**	**71.67**	**332**	⇓P	**P**	**03 41 45.8**	**+0.4**
	baz=72						
R24A	**Sanders Place,**	**71.69**	**330**	⇓P	**P**	**03 41 46.3**	**+0.6**
	baz=72						
O28A	**Krutsinger Ran**	**71.81**	**333**	⇓P	**P**	**03 41 46.7**	**+0.5**
	baz=72						
X16A	**Lo Mia Camp, P**	**71.90**	**323**	⇑P	**P**	**03 41 47.6**	**+0.6**
	baz=72						
N29A	**Votaw Ranch, W**	**71.94**	**334**	⇑P	**P**	**03 41 47.3**	**+0.4**
	baz=72						
R23A	**Moffat**	**71.99**	**329**	⇑P	**P**	**03 41 48.3**	**+0.8**
	baz=72						
S22A	**4UR Ranch, Cre**	**72.11**	**328**	⇑P	**P**	**03 41 49.0**	**+0.7**
	baz=72						
O27A	**Beecher Island**	**72.16**	**333**	⇑P	**P**	**03 41 49.2**	**+0.9**
	baz=72						
Q24A	**Divide**	**72.31**	**330**	⇓P	**P**	**03 41 49.9**	**+0.5**
	baz=73						
P25A	**Willow Gulch B**	**72.32**	**331**	⇑P	**P**	**03 41 49.9**	**+0.6**
	baz=73						
R22A	**Saguache, Gunn**	**72.46**	**329**	⇓P	**P**	**03 41 51.0**	**+0.6**
	baz=73						
MVCO	**Mesa Verde**	**72.50**	**327**	⇑P	**P**	**03 41 51.2**	**+0.6**
	baz=73						
S21A	**Coal Bank Pass**	**72.51**	**328**	⇓P	**P**	**03 41 51.5**	**+0.8**
	baz=73						
O26A	**Horse Wrangler**	**72.55**	**332**	⇑P	**P**	**03 41 51.2**	**+0.5**
	baz=73						
WUAZ	**Wupatki**	**72.69**	**324**	⇑P	**P**	**03 41 52.4**	**+0.7**
	baz=73						
O25A	**Wiggins**	**72.79**	**332**	⇓P	**P**	**03 41 53.0**	**+0.9**
	baz=73						
S20A	**Disappointment**	**72.92**	**327**	⇑P	**P**	**03 41 53.8**	**+0.7**
	baz=73						
R21A	**Cimarron**	**72.95**	**328**	⇓P	**P**	**03 41 53.8**	**+0.6**
	baz=73						
P23A	**Jefferson**	**72.95**	**330**	⇓P	**P**	**03 41 54.1**	**+0.8**
	baz=73						
Y12C	**Blythe**	**73.14**	**321**	⇑P	**P**	**03 41 55.2**	**+1.1**
	baz=73						
ISCO	**Idaho Springs**	**73.19**	**330**	⇓P	**P**	**03 41 55.4**	**+0.7**
	baz=74						
SYO	**Syowa Base**	**73.20**	**159**	⇓*e*P	**P**	**03 41 53.4**	**-0.6**
R20A	**Redvale**	**73.21**	**328**	⇓P	**P**	**03 41 55.6**	**+0.9**
	baz=74						
K29A	**Lazy Trails An**	**73.48**	**336**	⇑P	**P**	**03 41 56.1**	**+0.1**
	baz=74						
P22A	**Eagle**	**73.55**	**330**	⇓P	**P**	**03 41 57.4**	**+0.7**
	baz=74						
BC3	**Big Chuckawall**	**73.62**	**320**	⇓P	**P**	**03 41 57.5**	**+0.4**
	baz=74						
O23A	**Lake Granby, G**	**73.67**	**330**	⇑P	**P**	**03 41 57.9**	**+0.5**
	baz=74						
IRM	**Iron Mountain**	**73.80**	**321**	⇓P	**P**	**03 41 58.9**	**+0.9**
	baz=74						
P21A	**Newcastle**	**73.82**	**329**	⇓P	**P**	**03 41 59.0**	**+0.8**
	baz=74						
K28A	**Ten Mile Ranch**	**73.84**	**335**	⇓P	**P**	**03 41 59.0**	**+0.9**
	baz=74						
U15A	**North Rim**	**73.86**	**324**	⇑P	**P**	**03 41 59.6**	**+1.0**
	baz=74						
O22A	**Kremmling**	**73.91**	**330**	⇓P	**P**	**03 41 59.2**	**+0.4**
	baz

baz=77
K20A Yellowstone Ra 76.71 330 ⇓P **P 03 42 14.7 0.0**
baz=77
G25A Newell 76.73 335 ⇓P **P 03 42 14.7 +0.1**
baz=77
L19A Farson 76.74 329 ⇓P **P 03 42 15.3 +0.4**
baz=77
ISA Isabella 76.80 320 ⇑P **P 03 42 16.0 +0.8**
baz=77
H24A Dirks Ranch, A 76.80 334 ⇑P **P 03 42 14.8 -0.3**
baz=77
M17A Scullys Gap (B 76.86 328 ⇑P **P 03 42 15.2 -0.5**
baz=77
I22A 9 Mile Ranch, 76.89 332 ⇑P **P 03 42 15.9 +0.2**
baz=77
L18A Fontenelle, Gr 76.92 329 ⇑P **P 03 42 15.7 -0.2**
baz=77,SNR=6.2
DUG Dugway 76.95 326 *eP* **P 03 42 16.4 +0.4**
comp=E,1.6nm,0.9s
DUG Dugway 76.95 326 ⇑P **P 03 42 16.5 +0.4**
baz=77
F26A Lodgepole 77.00 336 ⇓P **P 03 42 16.0 -0.1**
baz=77
R11A Troy Canyon, C 77.05 323 ⇓P **P 03 42 17.1 +0.4**
baz=77
K19A Absolon Red Bu 77.07 330 ⇑P **P 03 42 16.5 -0.3**
baz=77
I21A Big Trails, Te 77.17 332 ⇓P **P 03 42 16.9 -0.3**
baz=77
G24A Alzada 77.23 334 ⇑P **P 03 42 17.4 0.0**
baz=78
VES Vestal, Richgr 77.28 319 ⇓P **P 03 42 18.5 +0.7**
baz=78
PDAR Pinedale Array 77.35 330 P **P 03 42 17.6 -0.8**
PDAR Pinedale Array 77.35 330 P **P 03 42 17.6 -0.8**
comp=E,0.6nm,0.5s,baz=134,slow=7.8,SNR=8.9
F25A Bowman 77.36 335 ⇓P **P 03 42 18.6 +0.5**
baz=78
HWUT Hardware Ranch 77.40 328 *eP* **P 03 42 18.4 -0.2**
comp=E,2.0nm,0.6s
TOA0 Torodi Ar. Sit 77.42 69 *eP* **P 03 42 18.6 -0.5**
TORD Torodi Ar. Bea 77.42 69 P **P 03 42 18.9 -0.1**
TORD Torodi Ar. Bea 77.42 69 P **P 03 42 18.9 -0.1**
comp=E,2.5nm,0.5s,baz=259,slow=5.3,SNR=79
SMMC Simmler 77.47 319 ⇓P **P 03 42 19.9 +1.0**
baz=78
J19A Crowheart 77.51 330 ⇑P **P 03 42 19.2 0.0**
baz=78
MDND Maddock 77.63 339 ⇑P **P 03 42 19.9 +0.4**
baz=78
F24A Ekalaka 77.67 335 ⇑P **P 03 42 20.1 +0.2**
baz=78
H21A Big Horn, Sher 77.72 332 ⇓P **P 03 42 20.0 -0.3**
baz=78
G22A Birney 77.89 333 ⇑P **P 03 42 21.2 0.0**
baz=78
H20A Greybull 78.02 332 ⇓P **P 03 42 22.0 +0.1**
baz=78
I19A Meeteetse 78.10 331 ⇑P **P 03 42 23.0 +0.6**
baz=78
C27A Sayler Ranch, 78.16 337 ⇑P **P 03 42 22.6 +0.1**
baz=78
I18A Diamond G Ranc 78.20 330 ⇓P **P 03 42 23.3 +0.3**
baz=78
E24A Baker 78.21 335 ⇓P **P 03 42 23.1 +0.3**
baz=78
G21A Lodge Grass 78.28 333 ⇑P **P 03 42 23.4 +0.1**
baz=78
F22A Rosebud 78.33 334 ⇓P **P 03 42 23.6 +0.1**
baz=79
REDW Red Top Meadow 78.41 329 *eP* **P 03 42 24.1 -0.2**
comp=E,3.5nm,1.3s
H19A Powell 78.59 331 ⇓P **P 03 42 25.0 -0.1**
baz=79
NVAR Mina Array Bea 78.61 322 P **P 03 42 25.3 -0.2**
NVAR Mina Array Bea 78.61 322 P **P 03 42 25.3 -0.2**
comp=E,0.7nm,0.8s,baz=160,slow=5.8,SNR=4.6
ULM Lac du Bonnet 78.62 342 P **P 03 42 23.7 -1.2**
ULM Lac du Bonnet 78.62 342 P **P 03 42 23.7 -1.2**
comp=E,1.7nm,0.4s,baz=144,slow=6.4,SNR=6.2
G20A Bridger 78.70 332 ⇑P **P 03 42 24.6 -1.0**
baz=79,SNR=5.1
I17A Pilgrim Ck. 78.72 330 ⇓P **P 03 42 25.4 -0.5**
baz=79
E22A Miles City 78.75 334 ⇓P **P 03 42 25.6 -0.1**
baz=79
IMW Indian Meadow 78.86 330 *eP* **P 03 42 26.7 -0.1**
comp=E,6.5nm,1.2s
H18A Shoshone NF, C 78.90 331 ⇑P **P 03 42 26.2 -0.6**
baz=79,SNR=5.5
C24A Savage 79.06 336 ⇓P **P 03 42 28.0 +0.5**
baz=79
H17A Grant Village 79.08 330 ⇑P **P 03 42 28.6 +0.7**
baz=79
I16A Newdale 79.10 329 ⇑P **P 03 42 28.6 +0.7**
baz=79
E21A Keefer Ranch, 79.29 334 ⇓P **P 03 42 28.8 +0.1**
baz=80
G18A Lazy EL Ranch, 79.36 331 ⇓P **P 03 42 29.4 +0.1**
baz=80
A26A Wade Farm, Ken 79.36 338 ⇑P **P 03 42 29.6 +0.6**
baz=80
D22A Cohagen 79.42 334 ⇑P **P 03 42 29.9 +0.5**
baz=80
F19A Roth Farm, Mol 79.51 332 ⇓P **P 03 42 30.6 +0.6**
baz=80
C23A Lambert 79.58 335 ⇓P **P 03 42 31.0 +0.8**
baz=80
H16A Russell Place, 79.63 330 ⇓P **P 03 42 31.7 +0.9**
baz=80
D21A La Casta Ranch 79.68 334 ⇑P **P 03 42 31.1 +0.3**
baz=80
E20A Meyer Farm, Mu 79.69 333 ⇓P **P 03 42 31.3 +0.4**
baz=80
C22A Vida 79.80 335 ⇓P **P 03 42 31.4 0.0**
baz=80
G17A Pierce Place, 79.88 331 ⇓P **P 03 42 31.7 -0.4**
baz=80
F18A Big Timber 79.88 332 ⇑P **P 03 42 32.0 -0.1**
baz=80,SNR=6.6
E19A Rath Farm, Rou 79.93 333 ⇑P **P 03 42 31.9 -0.3**
baz=80,SNR=6.7
B23A Brockton 80.05 336 ⇓P **P 03 42 33.4 +0.6**
baz=80
I14A Mackay 80.06 328 ⇓P **P 03 42 33.8 +0.6**
baz=80
A24A Westby 80.07 337 ⇑P **P 03 42 33.5 +0.7**
baz=80
D20A Manuel Ranch, 80.16 333 ⇑P **P 03 42 33.3 -0.1**
baz=80
HLID Hailey 80.26 328 *eP* **P 03 42 34.5 +0.4**
HLID *e* pP 03 43 08.0 +7.1
HLID Hailey 80.26 328 ⇑P **P 03 42 35.0 +0.9**
baz=80
F17A Fitzpatrick Pl 80.29 331 ⇓P **P 03 42 34.5 +0.3**
baz=81
B22A Reddig Ranch S 80.30 335 ⇑P **P 03 42 34.3 +0.2**
baz=81
C21A Desert Coulee 80.34 334 ⇑P **P 03 42 34.3 0.0**
baz=81
MCMT McKenzie Canyo 80.46 329 *eP* **P 03 42 35.6 +0.3**
E18A Harlowton 80.49 332 ⇑P **P 03 42 35.2 -0.1**
baz=81
D19A Cripps Ranch, 80.53 333 ⇑P **P 03 42 35.5 +0.1**
baz=81
C20A Veseth Ranch, 80.61 334 ⇑P **P 03 42 35.2 -0.6**
baz=81
B21A Ellsworth Farm 80.79 335 ⇑P **P 03 42 37.3 +0.6**
baz=81
E17A Martinsdale 80.81 331 ⇑P **P 03 42 37.5 +0.5**
baz=81
A22A Carney Farms, 80.83 336 ⇑P **P 03 42 36.9 0.0**
baz=81
MFID Camas Ranch 80.85 327 ⇑P **P 03 42 38.0 +0.8**
baz=81
D18A Linhart Farms, 80.94 332 ⇓P **P 03 42 37.8 +0.2**
baz=81
MAW Mawson 81.03 163 P **P 03 42 38.5 +0.8**
MAW Mawson 81.03 163 P **P 03 42 38.5 +0.8**
comp=E,2.6nm,0.5s,baz=238,slow=8.0,SNR=20
BOSA Boshof 81.04 117 P **P 03 42 39.2 +0.4**
BOSA Boshof 81.04 117 P **P 03 42 39.2 +0.4**
comp=E,1.6nm,0.5s,baz=257,slow=5.6,SNR=7.1
C19A Slack Wire Ran 81.05 333 ⇓P **P 03 42 38.3 +0.1**
baz=81
B20A Solberg Farm, 81.20 334 ⇑P **P 03 42 39.0 +0.1**
baz=82
A21A Bergtoll Ranch 81.22 335 ⇑P **P 03 42 39.1 +0.1**
baz=82
D17A Six Diamond Ra 81.28 332 ⇑P **P 03 42 39.1 -0.3**
baz=82,SNR=7.4
A20A Cobblestone Ra 81.51 334 ⇓P **P 03 42 39.9 -0.7**
baz=82,SNR=5.7
EGMT Eagleton 81.57 333 ⇓P **P 03 42 40.4 -0.5**
baz=82
C17A Wharram Farm, 81.68 332 ⇓P **P 03 42 41.4 -0.2**
baz=82
B18A Beardsley Farm 81.87 333 ⇑P **P 03 42 42.3 -0.1**
baz=82
A19A Klindworth Far 81.88 334 ⇓P **P 03 42 42.3 -0.2**
baz=82
B17A L&G Farms, Che 82.21 333 ⇓P **P 03 42 44.2 0.0**
baz=82
C16A Fuhringer Ranc 82.23 332 ⇑P **P 03 42 44.7 +0.3**
baz=82
MSO Missoula 82.47 330 ⇓P **P 03 42 46.0 +0.4**
baz=83
C15A Salmond Ranch, 82.59 331 ⇑P **P 03 42 46.3 0.0**
baz=83,SNR=6.7
A17A Triple J Farms 82.68 333 ⇓P **P 03 42 46.5 -0.1**
baz=83
B15A Bradely Ranch, 82.98 332 ⇓P **P 03 42 47.7 -0.6**
baz=83
A16A West Butte Ran 83.06 333 ⇑P **P 03 42 48.5 -0.2**
baz=83
B14A Marquette Ranc 83.32 331 ⇓P **P 03 42 49.9 -0.2**
baz=84
C13A Hot Springs 83.39 330 ⇓P **P 03 42 50.3 -0.1**
baz=84
B13A Whitefish 83.86 331 ⇓P **P 03 42 52.8 0.0**
baz=84
A13A Flathead Natio 84.25 331 ⇑P **P 03 42 54.9 +0.1**
baz=84
B12A Libby 84.43 330 ⇑P **P 03 42 55.4 -0.2**
baz=85
A12A Yaak River Ran 84.80 331 ⇓P **P 03 42 58.0 +0.5**
baz=85
NEW Newport 84.98 329 ⇓P **P 03 42 59.6 +1.2**
baz=85
YKA Yellowknife Ar 94.49 340 P **P 03 43 41.9 -1.0**
YKA Yellowknife Ar 94.49 340 P **P 03 43 41.8 -1.0**
comp=E,1.4nm,0.6s,baz=133,slow=4.4,SNR=14
STKA Stephens Creek 117.20 208 PKP **PKPdf 03 49 08.3 0.0**
STKA Stephens Creek 117.20 208 PKP **PKPdf 03 49 08.3 0.0**
comp=E,0.6nm,0.4s,baz=143,slow=5.1,SNR=2.9
ASAR Alice Springs 127.60 205 PKP **PKPdf 03 49 27.8 -0.8**
ASAR Alice Springs 127.60 205 PKP **PKPdf 03 49 27.8 -0.8**
comp=E,1.8nm,0.7s,baz=147,slow=1.8,SNR=22
WRA Warramunga Arr 130.75 208 PKP **PKPdf 03 49 33.8 -0.8**
WRA Warramunga Arr 130.75 208 PKP **PKPdf 03 49 33.8 -0.8**
comp=E,1.2nm,0.5s,baz=159,slow=1.7,SNR=9.6
ZAA0 Zalesovo Array 144.27 28 *e*PKPdf **PKPab 03 49 56.5 +0.1**
ZALV Zalesovo Beam 144.27 28 PKP **PKPab 03 49 56.6 +0.2**
ZALV Zalesovo Beam 144.27 28 PKP **PKPab 03 49 56.6 +0.2**
comp=E,7.7nm,0.6s,baz=311,slow=3.5,SNR=29
MK31 Makanchi Array 147.44 40 *e*PKPbc **PKPbc 03 50 06.3 -0.2**
MKAR Makanchi Array 147.44 40 PKPbc **PKPdf 03 50 04.0 +0.1**
MKAR PKPab **PKPbc 03 50 06.2 -0.3**
MKAR Makanchi Array 147.44 40 PKPbc **PKPdf 03 50 04.0 +0.1**
comp=E,3.7nm,0.5s,baz=302,slow=1.4,SNR=6.0
MKAR PKPab **PKPbc 03 50 06.2 -0.3**
comp=E,3.8nm,0.5s,baz=305,slow=3.0,SNR=32
WMQ Urumqi 152.26 40 *eP* **PKPdf 03 50 12.1 +0.4**
SONM Songino Array 156.38 10 PKP **PKPdf 03 50 17.8 +0.4**
SONM PKPab **PKPab 03 50 44.5 -1.6**
SONM Songino Array 156.38 10 PKP **PKPdf 03 50 17.8 +0.4**
comp=E,0.4nm,0.8s,baz=318,slow=1.9,SNR=3.3
SONM PKPab **PKPab 03 50 44.5 -1.6**
comp=E,0.4nm,0.6s,baz=354,slow=1.4,SNR=3.1
HHC Hu-ho-hao-te 163.82 2 *e*PKP **PKPdf 03 50 25.3 -0.6**
HHC pPKP **pPKPdf 03 50 51.4 -3.0**
HHC PKS **PKSdf 03 53 56.4 -2.5**
HHC PP **PP 03 55 05.6 +2.1**
HHC SKS **SKSdf 03 57 21.1 0.0**

MEX 03 03:44:49.5±0.4, 28°.09N×112°.50W, h15km, MD4.4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.80**	**163**	*e*P	Pg	03 45 02.5	-2.6
SRIG				*e*S	Sg	03 45 12.1	-3.5
HSIG		**1.65**	**55**	*e*P	Pn	03 45 14.3	-3.7
HSIG				*i* S	Sn	03 45 34.4	-4.6
SPIG	**San Pedro Mart**	**3.92**	**320**	*i* P	Pn	03 45 46.7	-2.9
SPIG				*i* S	Sn	03 46 31.3	-4.3
LPIG	**La Paz**	**4.43**	**153**	*i* P	Pn	03 45 56.6	+0.3
LPIG				*i* S	Sn	03 46 43.4	-4.3
CGIG		**4.56**	**59**	*i* P	Pn	03 45 56.3	-1.9
CGIG				*e*S	Sn	03 46 46.7	-4.4

ISK ***03*** *04:44:21.6, 39°.08N×28°.97E, h9km, MD2.7*
ISCJB ***03*** *04:44:22.1±0.5, 39°.07N±0°.04×28°.99E±0°.04, h9km, Error ellipse: s-maj=5.2km s-min=4.7km az=164.8*
CSEM ***03*** *04:44:22.0±0.1, 39°.08N×28°.98E, h8km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.4km az=81.0*
DDA ***03*** *04:44:22.5, 39°.05N×28°.98E, h7km, MD2.7*
ISC 03 04:44:22.4±1.0, 39°.08N±0°.05×28°.99E±0°.03, h9km, n20, σ0°.38/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**259**	*i* P	**Pg**	**04 44 26.8**	**-0.1**
DEMI				*i* S	**Sg**	**04 44 30.3**	**+0.4**
DEMI	**Demirci**	**0.22**	**259**	*i* P	**Pg**	**04 44 26.8**	**-0.1**
DEMI				*i* S	**Sg**	**04 44 30.3**	**+0.4**
KULA	**Kula-Manisa**	**0.62**	**205**	*e*PG	**Pg**	**04 44 33.9**	**-0.6**
KULA				*e*SG	**Sg**	**04 44 42.7**	**0.0**
KULA	**Kula-Manisa**	**0.62**	**205**	*e*Pg	**Pg**	**04 44 33.9**	**-0.6**
KULA				*e*Sg	**Sg**	**04 44 42.7**	**0.0**
KHAL	**Karahalli**	**0.81**	**151**	*i* P	**Pg**	**04 44 37.8**	**-0.3**
KHAL				*i* S	**Sg**	**04 44 49.0**	**+0.4**
KHAL	**Karahalli**	**0.81**	**151**	*i* P	**Pg**	**04 44 37.8**	**-0.3**
KHAL				*i* S	**Sg**	**04 44 49.0**	**+0.4**
KHL	**Karahalli**	**0.87**	**151**	*e*PG	**Pg**	**04 44 38.9**	**-0.2**
KHL	**Karahalli**	**0.87**	**151**	*e*Pg	**Pg**	**04 44 38.9**	**-0.2**
ALT	**Altintas**	**0.87**	**92**	*e*PG	**Pg**	**04 44 38.6**	**-0.6**
ALT				*e*SG	**Sb**	**04 44 52.2**	**+0.6**
ALT	**Altintas**	**0.87**	**92**	*e*Pg	**Pg**	**04 44 38.6**	**-0.6**
ALT				*e*Sg	**Sb**	**04 44 52.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**338**	*e*PN	**Pn**	**04 44 46.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.28**	**338**	*e*Pn	**Pn**	**04 44 46.0**	**-0.5**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*PN	**Pn**	**04 44 46.5**	**-0.2**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*Pn	**Pn**	**04 44 46.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**314**	*e*PN	**Pn**	**04 44 48.0**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**314**	*e*Pn	**Pn**	**04 44 48.0**	**0.0**
YLV	**Yalova**	**1.51**	**11**	*e*PN	**Pn**	**04 44 49.7**	**0.0**
YLV	**Yalova**	**1.51**	**11**	*e*Pn	**Pn**	**04 44 49.7**	**0.0**
GULT	**Gulveren**	**1.79**	**41**	*e*PN	**Pn**	**04 44 53.6**	**+0.1**
GULT	**Gulveren**	**1.79**	**41**	*e*Pn	**Pn**	**04 44 53.6**	**+0.1**

IDC 03 05:11:31.8±4.0, 5°.99S×149°.15E, h0km, mb2.9/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=147.8km s-min=41.9km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**210**	Pn	Pn	05 12 34.2	+0.8
3.6nm,0.3s,baz=37,slow=10,SNR=4.7							
PMG				Sn	Sn	05 13 18.3	-2.0
1.2nm,0.3s,baz=53,slow=20,SNR=2.3							
WRA	**Warramunga Arr**	**19.99**	**225**	P	P	05 16 06.0	-0.2
0.1nm,0.3s,baz=50,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**22.90**	**218**	P	P	05 16 37.0	-0.4
0.3nm,0.6s,baz=45,slow=10,SNR=5.0							
TORD	**Torodi Ar. Bea**	**147.16**	**285**	PKPbc	PKPbc	05 31 17.3	-0.7
0.2nm,0.7s,baz=41,slow=3.7,SNR=2.3							

NIED ***03*** *05:13:00, 38°.30N×138°.80E, h11km, Mw4.0 Best double couple: M₀1.29000×10¹⁵ NP1:φ₀=35.00000°, δ52.00000°, λ75.00000°. NP2:φ₀=239.00000°, δ41.00000°, λ109.00000°.*
ISCJB ***03*** *05:13:42.6±0.5, 38°.29N±0°.04×138°.78E±0°.04, h30km±4km, mb3.9/18, MS3.5/1, Error ellipse: s-maj=7.3km s-min=4.9km az=148.2*
JMA ***03*** *05:13:43.0±0.1, 38°.29N×138°.78E, h25km±2km, M4.7 Broadband fault plane solution: P waves. NP1: φ₀=225.00000°, δ51.00000°, λ97.00000°. NP2:φ₀=34.00000°, δ39.00000°, λ81.00000°. Principal axes: T Plg82.0000°, Azm175.0000°; N Plg6.0000°, Azm41.0000°; P Plg6.0000°, Azm310.0000°;*
JMA Felt II J1.
IDC ***03*** *05:13:48.3±2.9, 38°.27N×138°.64E, h64km±26km, mb3.7/18, mb1 3.9/21, mb1mx3.8/30, mbtmp3.7/21, ML2.9/3, MS3.3/2, Ms1 3.2/2, ms1mx2.7/36 Error ellipse: s-maj=18.0km s-min=13.6km az=84.0*
ISC 03 05:13:41.3±3.1, 38°.24N±0°.05×138°.87E±0°.05, h11km±20km, n33, σ0°.94/38, mb4.0/18, 1C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.37**	**54**	⇑P	**Pn**	**05 13 51.3**	**-1.3**
JAW				S	**Sb**	**05 13 57.2**	**+1.4**
JSD	**Sado**	**0.52**	**248**	⇓P	**Pb**	**05 13 52.8**	**+0.4**
JSD				S	**Sb**	**05 13 59.6**	**-0.3**
JNS	**Sasagawa**	**0.55**	**139**	⇓P	**Pn**	**05 13 54.7**	**-0.4**
JNS				S	**Sn**	**05 14 03.3**	**-0.9**
JIZZ	**Izumozaki**	**0.71**	**190**	⇓P	**Pn**	**05 13 57.4**	**+0.1**
JYA	**Atsumi**	**0.76**	**62**	P	**Pn**	**05 13 57.9**	**0.0**
JYA				S	**Sn**	**05 14 08.7**	**-0.6**
JYS	**Shiratake**	**0.95**	**91**	⇓P	**Pn**	**05 14 01.8**	**+1.3**
JHK	**Hiroka**	**0.99**	**173**	⇓P	**Pn**	**05 14 01.5**	**+0.3**
MAT	**Matsushiro**	**1.77**	**197**	P	**Pb**	**05 14 12.7**	**-1.1**
MAT				S	**Sn**	**05 14 34.7**	**+0.3**
ASAJ	**Asahikawa**	**6.51**	**24**	LR	LR	05 18 03.9	
comp=Z,139nm,18.1s,baz=165,slow=39							
USRK	**Ussuriysk Arra**	**7.89**	**321**	P	Pn	05 15 40.4	+4.5
0.3nm,0.3s,baz=122,slow=13,SNR=3.1							
JNU	**Nakatsue**	**8.26**	**234**	P	Pn	05 15 44.2	+3.1
0.2nm,0.3s,baz=44,slow=15,SNR=2.2							
KSRS	**Korea Array**	**8.69**	**268**	P	**Pn**	**05 15 49.2**	**+2.3**
0.6nm,0.3s,baz=81,slow=14,SNR=16							
KSRS				S	**Sn**	**05 17 26.1**	**+1.3**
1.2nm,0.3s,baz=78,slow=24,SNR=11							
SONM	**Songino Array**	**25.43**	**303**	P	**P**	**05 19 08.5**	**-0.6**
2.8nm,0.9s,baz=105,slow=9.5,SNR=13							
ZALV	**Zalesovo Beam**	**39.61**	**311**	P	**P**	**05 21 10.9**	**-1.6**
1.6nm,0.9s,baz=87,slow=7.6,SNR=6.1							
ZALV				PcP	**PcP**	**05 23 19.1**	**-0.3**
1.2nm,0.6s,baz=88,slow=1.8,SNR=5.0							
MKAR	**Makanchi Array**	**41.77**	**301**	P	**P**	**05 21 29.3**	**-1.2**
0.6nm,0.8s,baz=92,slow=8.7,SNR=3.3							
BVAR	**Borovoye Array**	**48.26**	**311**	P	**P**	**05 22 20.3**	**-1.8**
0.4nm,0.5s,baz=58,slow=8.7,SNR=2.7							
ILAR	**Eielson Array**	**49.57**	**33**	P	**P**	**05 22 32.5**	**+0.5**
1.7nm,0.8s,baz=278,slow=6.4,SNR=24							
AKTO	**Aktyubinsk**	**56.36**	**311**	P	**P**	**05 23 21.6**	**-0.6**
0.8nm,0.4s,baz=58,slow=9.7,SNR=5.0							
FITZ	**Fitzroy Crossi**	**57.40**	**195**	P	**P**	**05 23 29.7**	**-0.1**
1.5nm,0.8s,baz=11,slow=10,SNR=3.1							
WRA	**Warramunga Arr**	**58.02**	**185**	P	**P**	**05 23 34.1**	**-0.1**
3.2nm,0.8s,baz=2.2,slow=7.1,SNR=17							
ASAR	**Alice Springs**	**61.75**	**185**	P	**P**	**05 24 00.5**	**+0.7**
1.7nm,0.8s,baz=14,slow=6.9,SNR=16							
YKA	**Yellowknife Ar**	**63.78**	**30**	P	**P**	**05 24 12.8**	**0.0**
0.7nm,0.7s,baz=320,slow=6.4,SNR=4.2							
FINES	**FINESS Array B**	**66.80**	**331**	P	**P**	**05 24 31.9**	**-0.5**
3.0nm,0.7s,baz=47,slow=8.4,SNR=10							
KBZ	**Khabaz**	**68.58**	**309**	P	**P**	**05 24 43.9**	**-0.1**
1.0nm,0.6s,baz=194,slow=3.4,SNR=4.6							
KBZ				LR	LR	05 59 45.5	
comp=Z,27nm,18.1s,baz=122,slow=40							
NB2	**NORSAR Subarra**	**72.28**	**336**	P	**P**	**05 25 06.0**	**-0.4**
comp=Z,0.2nm,0.7s,baz=47,slow=6.2							
NOA	**NORSAR Array B**	**72.28**	**336**	P	**P**	**05 25 06.2**	**-0.2**
comp=Z,2.0nm,0.8s,baz=39,slow=6.0,SNR=9.3							
NVAR	**Mina Array Bea**	**75.87**	**52**	P	**P**	**05 25 29.2**	**+1.2**
comp=Z,1.0nm,0.8s,baz=290,slow=5.0,SNR=7.1							
BRTR	**Keskin Array B**	**76.54**	**310**	P	**P**	**05 25 32.0**	**+0.3**
comp=Z,1.6nm,0.9s,baz=90,slow=4.9,SNR=7.5							
PDAR	**Pinedale Array**	**78.25**	**44**	P	**P**	**05 25 42.1**	**+0.8**
comp=Z,0.5nm,0.5s,baz=283,slow=2.6,SNR=6.0							
ULM	**Lac du Bonnet**	**79.59**	**32**	P	**P**	**05 25 47.6**	**-0.6**
comp=Z,2.9nm,0.9s,baz=336,slow=7.8,SNR=3.9							
TXAR	**Lajitas Array**	**90.96**	**51**	P	**P**	**05 26 46.9**	**+1.3**
comp=Z,0.4nm,0.7s,baz=298,slow=3.0,SNR=7.2							
LPAZ	**La Paz**	**147.74**	**55**	PKPbc	**PKPbc**	**05 33 27.9**	**+0.7**
comp=Z,1.8nm,0.8s,baz=2.9,slow=3.8,SNR=9.7							
SIV	**San Ignacio**	**151.73**	**44**	PKPbc	**PKPbc**	**05 33 36.6**	**+0.2**
comp=Z,2.0nm,0.7s,baz=268,slow=2.2,SNR=9.7							
SIV				PKPab	**PKPab**	**05 33 44.3**	**-0.9**
comp=Z,1.9nm,1.0s,baz=216,slow=4.9,SNR=4.2							

IDC 03 05:13:45.2±4.5, 1°.26S×77°.42W, h143km±48km, mb3.1/6, mb1 3.4/9, mb1mx3.3/24, mbtmp3.2/9, Error ellipse: s-maj=54.2km s-min=17.9km az=43.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**5.92**	**189**	P	Pn	05 15 10.1	-1.2
5.3nm,0.3s,baz=22,slow=8.1,SNR=24							
ATAH				S	Sn	05 16 11.3	-7.2
3.0nm,0.3s,baz=101,slow=15,SNR=10							
NNA	**Nana**	**10.67**	**177**	P	Pn	05 16 13.3	-1.1
0.7nm,0.3s,baz=344,slow=5.1,SNR=3.1							
NNA				S	Sn	05 17 58.6	-14
0.6nm,0.3s,baz=228,slow=14,SNR=3.3							
LPAZ	**La Paz**	**17.51**	**149**	P	Pn	05 17 41.6	0.0
0.2nm,0.3s,baz=328,slow=5.6,SNR=7.2							
SIV	**San Ignacio**	**21.77**	**133**	P	P	05 18 27.8	+1.9
0.5nm,0.4s,baz=302,slow=9.9,SNR=3.2							
TEIG	**Tepich**	**23.86**	**334**	P	P	05 18 46.1	+0.5
5.7nm,0.9s,baz=225,slow=8.6,SNR=3.1							
TXAR	**Lajitas Array**	**39.44**	**323**	P	P	05 21 02.3	+0.6
0.2nm,0.5s,baz=148,slow=9.6,SNR=4.4							
TXAR				PcP	PcP	05 23 06.4	-0.6
0.3nm,0.9s,baz=153,slow=5.0,SNR=3.2							
NVAR	**Mina Array Bea**	**54.54**	**321**	P	P	05 22 59.1	+0.2
0.2nm,0.3s,baz=126,slow=4.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**79.69**	**76**	P	P	05 25 36.6	-1.1
0.2nm,0.4s,baz=278,slow=6.6,SNR=7.7							
ILAR	**Eielson Array**	**82.50**	**336**	P	P	05 25 51.1	-0.5
0.6nm,0.9s,baz=146,slow=3.7,SNR=6.2							
ASAR	**Alice Springs**	**140.75**	**229**	PKhKP	PKPpre	05 32 49.1	
0.2nm,0.5s,baz=136,slow=4.2,SNR=4.2							
ASAR				PKP	PKPdf	05 32 58.1	-0.9
0.2nm,0.6s,baz=141,slow=1.9,SNR=4.4							
WRA	**Warramunga Arr**	**142.40**	**234**	PKhKP	PKPpre	05 32 54.0	
0.3nm,0.3s,baz=120,slow=3.1,SNR=7.3							
WRA				PKP	PKPdf	05 33 01.8	-0.2
0.6nm,1.0s,baz=112,slow=2.0,SNR=5.3							

GUC 03 05:17:50.1±0.6, 21°.45S×67°.21W, h240km±11km, ML3.6, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.96**	**234**	*e*P	Pn	05 18 33.4	+1.8
LVC				*e*S	S	05 19 06.1	+1.8
PB04	**Plate Boundary**	**2.27**	**249**	⇑*i*P	Pn	05 18 43.1	+8.9
PB04				*i* S	S	05 19 22.8	+14
PB04				AML	AML	05 19 30.7	
comp=E,43nm,0.6s							
PB07	**Plate Boundary**	**2.51**	**263**	⇑*i*P	Pn	05 18 39.2	+2.3
PB07				*i* S	S	05 19 16.0	+2.3
PB07				AML	AML	05 19 17.8	
comp=N,118nm,0.5s							
HMBC	**Humberstone**	**2.77**	**295**	*e*P	Pn	05 18 41.2	+1.6
HMBC				*i* S	S	05 19 20.8	+2.2
HMBC				AML	AML	05 19 23.3	
comp=E,60nm,0.3s							
MNMC	**Minimini**	**3.22**	**315**	⇑*i*P	Pn	05 18 46.8	+1.9
MNMC				*i* S	S	05 19 30.4	+2.5
MNMC				AML	AML	05 19 33.1	
comp=E,58nm,0.3s							
PSGC	**Pisagua**	**3.30**	**304**	*e*P	Pn	05 18 46.5	+1.0
PSGC				*i* S	S	05 19 30.4	+1.3
PSGC				AML	AML	05 19 32.1	
comp=N,18nm,0.4s							
PB10	**Plate Boundary**	**3.71**	**236**	⇑*i*P	Pn	05 18 52.1	+2.1
PB10				AML	AML	05 19 40.4	
comp=N,111nm,0.3s							

IDC ***03*** *05:21:37.9±0.8, 12°.20N×144°.39E, h0km, mb3.9/11, m

mb4.0/15, MS3.5/3, Error ellipse: s-maj=16.9km s-min=8.2km az=26.8
NEIC ***03*** *05:21:43.3±0.5, 12°.17N×144°.28E, h35km, mb4.4/4, Error ellipse: s-maj=18.2km s-min=11.9km az=108.0*
ISC 03 05:21:42.4±0.7, 12°.16N±0°.10×144°.3E±0°.1, h29km, n34, σ1§18/34, mb4.1/15, MS3.6/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**21**	*e*Pn	**Pn**	**05 22 07.2**	**-0.4**
GUMO				*e*Sn	**Sn**	**05 22 26.2**	**-0.3**
KSRS	**Korea Array**	**29.16**	**333**	P	**P**	**05 27 42.2**	**+1.1**
	0.6nm,0.5s,baz=137,slow=8.7,SNR=3.6						
KSAR	**Wonju Array Be**	**29.17**	**332**	P	**P**	**05 27 42.2**	**+1.0**
WRAB	**Tennant Creek**	**33.36**	**197**	*e*P	**P**	**05 28 18.4**	**+0.1**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**33.38**	**197**	P	**P**	**05 28 18.7**	**+0.3**
WRA	**Warramunga Arr**	**33.38**	**197**	P	**P**	**05 28 18.7**	**+0.3**
	2.2nm,0.8s,baz=20,slow=9.8,SNR=8.2						
WRA				LR	LR	05 41 14.8	
	comp=Z,107nm,19.6s,baz=130,slow=35						
ASAR	**Alice Springs**	**37.03**	**196**	P	**P**	**05 28 50.0**	**+0.1**
ASAR	**Alice Springs**	**37.03**	**196**	P	**P**	**05 28 50.0**	**+0.1**
	1.1nm,0.7s,baz=19,slow=10.0,SNR=14						
ASAR				LR	LR	05 42 35.8	
	comp=Z,100nm,20.6s,baz=139,slow=34						
IPM	**Ipoh**	**43.46**	**264**	*e*P	**P**	**05 29 41.4**	**-2.0**
	15nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.12**	**284**	P	**P**	**05 29 49.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**44.12**	**284**	P	**P**	**05 29 49.3**	**+0.7**
	1.2nm,0.3s,baz=84,slow=7.6,SNR=3.2						
SONM	**Songino Array**	**47.60**	**326**	P	**P**	**05 30 16.3**	**+0.5**
SONM	**Songino Array**	**47.60**	**326**	P	**P**	**05 30 16.3**	**+0.5**
	0.4nm,0.7s,baz=121,slow=6.9,SNR=3.2						
MKAR	**Makanchi Array**	**62.15**	**317**	P	**P**	**05 32 00.2**	**-0.8**
MKAR	**Makanchi Array**	**62.15**	**317**	P	**P**	**05 32 00.2**	**-0.8**
	0.5nm,0.8s,baz=107,slow=9.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.48**	**325**	LR	LR	05 59 54.8	
	comp=Z,21nm,19.1s,baz=70,slow=37						
KURK	**Kurchatov**	**65.33**	**320**	P	**P**	**05 32 20.4**	**-1.5**
KURBB	**Kurchatov Arra**	**65.37**	**320**	P	**P**	**05 32 20.4**	**-1.7**
	0.6nm,0.4s,baz=105,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**70.08**	**25**	P	**P**	**05 32 49.6**	**-2.0**
ILAR	**Eielson Array**	**70.08**	**25**	P	**P**	**05 32 49.6**	**-2.0**
	0.7nm,0.9s,baz=263,slow=4.8,SNR=7.0						
YKA	**Yellowknife Ar**	**84.37**	**27**	P	**P**	**05 34 11.9**	**+0.2**
YKA	**Yellowknife Ar**	**84.37**	**27**	P	**P**	**05 34 11.9**	**+0.2**
	1.2nm,0.9s,baz=283,slow=5.2,SNR=5.4						
NEW	**Newport**	**86.65**	**41**	*e*P	**P**	**05 34 24.1**	**+0.7**
	1.7nm,0.8s						
NVAR	**Mina Array Bea**	**88.23**	**51**	P	**P**	**05 34 33.1**	**+1.6**
NVAR	**Mina Array Bea**	**88.23**	**51**	P	**P**	**05 34 33.1**	**+1.6**
	1.2nm,0.8s,baz=264,slow=6.5,SNR=10						
MFID	**Camas Ranch**	**88.78**	**46**	*e*P	**P**	**05 34 35.4**	**+1.6**
	2.2nm,0.9s						
FINES	**FINESS Array B**	**92.23**	**335**	P	**P**	**05 34 50.3**	**+1.0**
FINES	**FINESS Array B**	**92.23**	**335**	P	**P**	**05 34 50.3**	**+1.0**
	0.6nm,0.6s,baz=84,slow=5.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**135.21**	**303**	PKP	**PKPdf**	**05 41 01.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**135.21**	**303**	PKP	**PKPdf**	**05 41 01.8**	**+1.6**
	0.4nm,1.0s,baz=88,slow=1.7,SNR=2.8						
CFAA	**Coronel Fontan**	**144.33**	**128**	PKP	**PKPdf**	**05 41 16.1**	**-0.3**
CFAA	**Coronel Fontan**	**144.33**	**128**	PKP	**PKPdf**	**05 41 16.1**	**-0.3**
	0.2nm,0.8s,baz=334,slow=4.5,SNR=3.9						
LPAZ	**La Paz**	**148.30**	**101**	PKPbc	**PKPbc**	**05 41 26.1**	**-1.5**
LPAZ	**La Paz**	**148.30**	**101**	PKPbc	**PKPbc**	**05 41 26.1**	**-1.5**
	1.3nm,1.0s,baz=252,slow=0.2,SNR=2.1						

IDC ***03*** *05:27:08.2±1.1, 31°.78N×104°.11E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=42.6km s-min=19.9km az=64.0*
ISCJB ***03*** *05:27:09.4±0.6, 31°.89N±0°.05×104°.26E±0°.09, h15km, mb3.8/5, Error ellipse: s-maj=11.4km s-min=5.5km az=26.5*
BJI ***03*** *05:27:14.4, 31°.89N×104°.23E, h17km, mb3.8/1, ML3.6/15*
ISC 03 05:27:11.6±0.7, 31°.79N±0°.05×104°.26E±0°.07, h15km, n11, σ2§00/18, mb4.0/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.98**	**206**	Pg	**Pn**	**05 27 31.4**	**+0.5**
CD2				Sg	**Sn**	**05 27 45.9**	**+1.4**
CD2				smax	smax		
	comp=E,2μm,0.7s						
LZH	**Lanzhou**	**4.30**	**355**	Pn	**Pn**	**05 28 18.2**	**+1.6**
LZH				Pg	**Pg**	**05 28 33.3**	**-0.6**
LZH				Sn	**Sn**	**05 29 11.0**	**+4.5**
LZH				Sg	**Sg**	**05 29 26.3**	**-3.3**
LZH				smax	smax		
	comp=N,110nm,0.5s						
LZH				smax	smax		
	comp=E,180nm,0.6s						
XAN	**Xi'an**	**4.51**	**59**	Pn	**Pn**	**05 28 18.2**	**-1.3**
XAN				Pg	**Pb**	**05 28 31.6**	**+1.0**
XAN				Sn	**Sn**	**05 29 11.5**	**-0.2**
XAN				Sg	**Sb**	**05 29 28.2**	**+3.4**
XAN				smax	smax		
	comp=N,230nm,0.9s						
XAN				smax	smax		
	comp=E,88nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.12**	**201**	Pn	**P**	**05 30 39.9**	**+1.1**
	comp=E,0.3nm,0.3s,baz=8.4,slow=9.0,SNR=5.6						
SONM	**Songino Array**	**16.10**	**5**	Pn	**Pn**	**05 30 58.2**	**+0.7**
	comp=E,0.1nm,0.3s,baz=185,slow=12,SNR=10						
KSRS	**Korea Array**	**20.25**	**67**	P	**P**	**05 31 46.0**	**-0.3**
	comp=E,2.2nm,0.7s,baz=257,slow=10,SNR=8.1						
ZALV	**Zalesovo Beam**	**26.16**	**333**	P	**P**	**05 32 42.9**	**-2.3**
	comp=E,0.6nm,0.3s,baz=140,slow=9.4,SNR=3.3						
FINES	**FINESS Array B**	**57.07**	**326**	P	**P**	**05 36 55.9**	**-0.9**
	comp=E,0.9nm,0.6s,baz=74,slow=5.9,SNR=5.4						
WRA	**Warramunga Arr**	**58.97**	**147**	P	**P**	**05 37 09.8**	**-0.9**
	comp=E,1.0nm,0.6s,baz=341,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**62.01**	**149**	P	**P**	**05 37 31.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=337,slow=6.9,SNR=9.1						
YKA	**Yellowknife Ar**	**80.99**	**17**	P	**P**	**05 39 24.3**	**-1.0**
	comp=E,0.6nm,0.6s,baz=328,slow=5.6,SNR=4.7						

IDC 03 05:29:50.4±1.8, 1°.91N×127°.88E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=138.4km s-min=23.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**164**	P	P	05 34 53.8	+0.7
	0.5nm,0.5s,baz=344,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**26.09**	**167**	P	P	05 35 25.6	-0.5
	0.2nm,0.5s,baz=353,slow=8.3,SNR=6.5						
STKA	**Stephens Creek**	**36.03**	**160**	P	P	05 36 53.0	-0.6
	2.3nm,0.9s,baz=333,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**59.70**	**325**	P	P	05 39 57.1	+0.2
	0.2nm,0.5s,baz=116,slow=8.8,SNR=3.1						

TAP 03 05:41:17.4, 24°.11N×121°.68E, h9km, ML3.7, 2C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.08**	**248**	⇑*i*P	Pg	05 41 19.8	+0.3
	baz=246						
TWD				*i* S	Sg	05 41 21.4	+0.2
	baz=207						
HWA	**Hwalien**	**0.15**	**207**	*e*P	Pg	05 41 21.8	+1.1
	baz=15						
EHP	**Heping Village**	**0.21**	**16**	P	Pg	05 41 22.1	+0.4
	baz=15						
EHP				S	Sg	05 41 25.5	+0.9
	baz=9.0						
ENA	**Nanau**	**0.32**	**10**	*i* P	Pg	05 41 24.0	+0.2
	baz=9.0						
ENA				*i* S	Sg	05 41 28.6	+0.4
	baz=225						
ESL	**Shilin**	**0.37**	**217**	P	Pg	05 41 24.5	-0.2
	baz=225						
ESL				*e*S	Sg	05 41 29.4	-0.2
	baz=274						
WHF	**Hehuan Shan**	**0.38**	**275**	*i* P	Pg	05 41 25.3	-0.1
	baz=274						
WHF				*e*S	Sg	05 41 30.8	-0.1
	baz=200						
TEGC	**Jichi Village**	**0.42**	**198**	*e*P	Pb	05 41 27.0	0.0
	baz=200						
TEGC				*e*S	Sb	05 41 35.4	+1.9
	baz=320						
NNS	**Nan Shan**	**0.43**	**320**	⇑P	Pg	05 41 26.4	+0.4
	baz=320						
NNS				S	Sg	05 41 32.6	+0.7
	baz=286						
TWT	**Tachien**	**0.48**	**287**	*e*P	Pg	05 41 27.3	+0.3
	baz=8.0						
TWC	**Suao**	**0.52**	**17**	*e*P	Pg	05 41 27.9	+0.3
	baz=8.0						
TWC				*e*S	Sg	05 41 35.0	+0.6
	baz=349						
ENTT	**Nioudou**	**0.54**	**349**	P	Pg	05 41 28.4	+0.5
	baz=349						
ENTT				S	Sg	05 41 35.7	+0.7
	baz=332						
NSK	**Sanguang**	**0.64**	**333**	*i* P	Pb	05 41 30.7	-0.1
	baz=332						
NSK				*i* S	Sg	05 41 39.0	+0.8
	baz=3.0						
ILA	**Ilan**	**0.66**	**6**	*e*P	Pg	05 41 30.0	-0.1
	baz=218						
EHY	**Hungye**	**0.68**	**209**	P	Pg	05 41 30.5	-0.1
	baz=252						
SMLT	**Sun Moon Lake**	**0.75**	**253**	*i* P	Pg	05 41 32.0	0.0
	baz=252						
SMLT				S	Sg	05 41 42.2	+0.4
	baz=254						
TYC	**Yuchr**	**0.78**	**255**	*e*P	Pg	05 41 32.4	0.0
	baz=254						
TYC				S	Sg	05 41 43.1	+0.6
	baz=310						
NSTT	**Nanjuang**	**0.81**	**310**	*e*P	Pb	05 41 33.9	+0.3
	baz=310						
NSTT				*e*S	Sb	05 41 44.6	-0.1
	baz=220						
TWF1	**Yuli**	**0.83**	**205**	*e*P	Pg	05 41 33.1	-0.3
	baz=220						
TWQ1	**Liyutan**	**0.86**	**286**	*e*P	Pn	05 41 35.7	0.0
	baz=286						
TWA	**Mucha**	**0.87**	**354**	*e*P	Pg	05 41 32.8	-1.5
	baz=353						
NSY	**Sanyi**	**0.89**	**290**	P	Pn	05 41 35.8	-0.4
	baz=289						
NSY				*e*S	Sb	05 41 47.9	+0.8
	baz=289						
YUS	**Yu-Shan**	**0.91**	**227**	*e*P	Pg	05 41 35.4	-0.2
	baz=240						
TCU	**Taichung**	**0.92**	**273**	P	Pn	05 41 37.0	+0.5
	baz=266						
TCU				S	Sn	05 41 50.3	+0.5
	baz=341						
TAP1	**Taipei**	**0.94**	**351**	*e*P	Pn	05 41 36.5	-0.3
	baz=340						
TAP	**Taipei**	**0.94**	**350**	*e*S	Sb	05 41 48.9	+0.5
	baz=6.0						
TWB1	**Santiao Chiao**	**0.94**	**17**	*e*P	Pg	05 41 35.6	+0.1
	baz=249						
WNT	**Mingjian**	**0.94**	**256**	*e*P	Pn	05 41 36.6	-0.2
	baz=355						
NWF	**Wu-fen Shan**	**0.96**	**6**	*e*P	Pn	05 41 36.9	-0.4
	baz=355						
NWF				*e*S	Sg	05 41 48.5	-0.2
	baz=332						
NCU	**National Centr**	**0.97**	**333**	*e*P	Pn	05 41 37.3	+0.1
	baz=332						
ALS	**Alishan**	**1.00**	**233**	*e*P	Pb	05 41 37.3	0.0
	baz=235						
TWS1	**Kuangyinshan**	**1.01**	**347**	*e*P	Pn	05 41 38.2	+0.3
	baz=346						
TWS1				*e*S	Sn	05 41 51.9	-0.4
	baz=192						
CHKT	**Chengkung**	**1.05**	**196**	*e*P	Pn	05 41 39.5	+1.2
	baz=231						
CHN5	**Tsauling**	**1.05**	**241**	*e*P	Pn	05 41 38.8	+0.3
	baz=231						
CHN5				S	Sn	05 41 54.3	+1.0
	baz=342						
TWY	**Chenhua**	**1.16**	**356**	*e*P	Pb	05 41 39.6	-0.1
	baz=342						
CHN4	**Tsaushan**	**1.25**	**233**	*e*P	Pg	05 41 43.0	+1.6
	baz=226						
CHN4				*e*S	Sn	05 42 01.2	+3.1
	baz=222						
STYT	**Tauyuan**	**1.27**	**222**	*e*P	Pg	05 41 41.9	+0.1
	baz=222						
STYT				*e*S	Sn	05 42 00.5	+1.9
	baz=57						
YOJ	**Yonaguni jima**	**1.27**	**74**	*e*P	Pn	05 41 40.9	-0.4
	baz=243						
CHY	**Chiayi**	**1.30**	**242**	*e*P	Pg	05 41 43.1	+0.8
	baz=231						
WTP	**Ta-pu**	**1.30**	**229**	*e*P	Pg	05 41 42.7	+0.2
	baz=224						
TWK	**Hsinying**	**1.38**	**233**	*e*P	Pb	05 41 43.5	+0.1
	baz=208						
TWG	**Pinlang**	**1.40**	**204**	*e*P	Pn	05 41 40.3	-2.9
	baz=230						
CHN1	**Nanshi**	**1.40**	**229**	*e*P	Pg	05 41 45.0	+0.6
	baz=230						
CHN1				*e*S	Sg	05 42 05.2	+2.6
	baz=250						
WSF	**Szhu**	**1.41**	**251**	*e*P	Pg	05 41 45.8	+1.2
	baz=250						
WSF				*e*S	Sg	05 42 03.9	+1.0
	baz=227						
SGST	**Jiashian**	**1.43**	**225**	*e*P	Pg	05 41 45.6	+0.6
	baz=223						
TWM1	**Shoushan**	**1.72**	**222**	*e*P	Pg	05 41 52.3	+1.8
	baz=214						
SCZT	**Fangliau**	**1.98**	**210**	*e*P	Pb	05 41 53.7	-0.1
	baz=256						
PNG	**Penghu**	**2.02**	**255**	*e*P	Pn	05 41 53.0	+1.3
	baz=248						
WDGT	**Dungji**	**2.03**	**246**	*e*P	Pb	05 41 53.2	-1.3
	baz=248						

IDC ***03*** *06:17:57.9±3.7, 7°.40S×128°.50E, h117km±33km, mb3.9/7, mb1 4.0/10, mb1mx3.8/19, mbtmp3.9/10, MS2.2/1, Ms1 2.2/1, ms1mx2.1/23, Error ellipse: s-maj=37.8km s-min=14.1km az=74.0*
ISCJB ***03*** *06:17:59.7±0.5, 7°.51S±0°.07×128°.41E±0°.08, h151km, mb3.9/9, Error ellipse: s-maj=13.4km s-min=6.3km az=143.1*
NEIC ***03*** *06:17:59.8±1.6, 7°.45S×128°.52E, h135km±15km, mb4.1/5, Error ellipse: s-maj=21.0km s-min=8.2km az=54.0*
ISC 03 06:18:01.4±0.6, 7°.47S±0°.09×128°.44E±0°.09, h151km, n33, σ1§14/39, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.97**	**285**	*e*Pn	**Pn**	**06 20 08.5**	**+0.7**
KAPI				*e*Sn	**Sn**	**06 21 45.1**	**-2.4**
FITZ	**Fitzroy Crossi**	**10.92**	**194**	*e*Pn	**Pn**	**06 20 31.4**	**-2.2**
	15nm,0.5s						
FITZ				S	Sn	06 22 26.1	-8.3
FITZ	**Fitzroy Crossi**	**10.92**	**194**	P	**Pn**	**06 20 31.4**	**-2.2**
	3.9nm,0.3s,baz=27,slow=9.4,SNR=95						
FITZ				S	Sn	06 22 26.1	-8.3
	4.8nm,0.3s,baz=279,slow=22,SNR=7.2						
WRAB	**Tennant Creek**	**13.66**	**156**	*e*Pn	**Pn**	**06 21 07.5**	**-1.5**
	11nm,0.7s						
WRA	**Warramunga Arr**	**13.66**	**156**	P	**Pn**	**06 21 06.1**	**-3.0**
WRA				S	Sn	06 23 27.6	-13
WRA	**Warramunga Arr**	**13.66**	**156**	P	**Pn**	**06 21 06.1**	**-3.0**
	0.8nm,0.3s,baz=102,slow=8.7,SNR=24						
WRA				S	Sn	06 23 27.6	-13
	3.6nm,0.3s,baz=330,slow=22,SNR=13						
AS31	**Alice Springs**	**16.94**	**163**	*e*Pn	**Pn**	**06 21 50.1**	**+0.5**
AS31				*e*Sn	S	06 24 49.3	-8.7
ASAR	**Alice Springs**	**16.94**	**163**	P	**Pn**	**06 21 49.9**	**+0.2**
ASAR				S	S	06 24 44.6	-14
ASAR	**Alice Springs**	**16.94**	**163**	P	**Pn**	**06 21 49.9**	**+0.2**
	1.1nm,0.3s,baz=337,slow=9.5,SNR=51						
ASAR				S	S	06 24 44.6	-14
	0.5nm,0.3s,baz=326,slow=18,SNR=4.4						
CTAO	**Charters Tower**	**21.34**	**128**	*e*P	**P**	**06 22 37.1**	**+0.2**
	2.6nm,0.5s						
TGY	**Tagaytay City**	**22.68**	**341**	LR	LR	06 32 18.3	
	comp=Z,6.1nm,19.9s,baz=44,slow=38						
STKA	**Stephens Creek**	**27.21**	**155**	*e*P	**P**	**06 23 30.9**	**-0.2**
	0.9nm,0.5s						
STKA				PcP	**PcP**	**06 26 47.0**	**-0.6**
STKA	**Stephens Creek**	**27.21**	**155**	P	**P**	**06 23 31.4**	**+0.2**
	4.7nm,0.5s,baz=321,slow=8.2,SNR=19						
STKA				PcP	**PcP**	**06 26 47.0**	**-0.6**
	0.9nm,0.5s,baz=56,slow=3.6,SNR=2.7						
SONM	**Songino Array**	**58.41**	**343**	P	**P**	**06 27 41.8**	**+0.6**
SONM	**Songino Array**	**58.41**	**343**	P	**P**	**06 27 41.8**	**+0.6**
	1.4nm,0.6s,baz=163,slow=8.1,SNR=8.9						
PETK	**Petropavlovsk-**	**65.25**	**19**	P	**P**	**06 28 26.0**	**-0.7**
PETK	**Petropavlovsk-**	**65.25**	**19**	P	**P**	**06 28 26.0**	**-0.7**
	2.1nm,0.7s,baz=165,slow=6.2,SNR=5.6						
MK31	**Makanchi Array**	**67.77**	**328**	*e*P	**P**	**06 28 43.6**	**+0.6**
MKAR	**Makanchi Array**	**67.77**	**328**	P	**P**	**06 28 43.5**	**+0.5**
MKAR				pP	**PcP**	**06 29 08.2**	**-0.4**
MKAR	**Makanchi Array**	**67.77**	**328**	P	**P**	**06 28 43.5**	**+0.5**
	1.6nm,0.4s,baz=115,slow=8.4,SNR=35						
MKAR				pP	**PcP**	**06 29 08.2**	**-0.4**
	0.6nm,0.6s,baz=138,slow=5.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**71.32**	**335**	P	**P**	**06 29 03.8**	**-0.6**
ZALV	**Zalesovo Beam**	**71.32**	**335**	P	**P**	**06 29 03.8**	**-0.6**
	2.4nm,0.5s,baz=128,slow=5.3,SNR=9.8						
VNDA	**Vanda**	**72.18**	**173**	P	**P**	**06 29 09.6**	**+0.3**
VNDA	**Vanda**	**72.18**	**173**	P	**P**	**06 29 09.6**	**+0.3**
	0.4nm,0.4s,baz=319,slow=7.9,SNR=12						
MAW	**Mawson**	**73.95**	**201**	P	**P**	**06 29 20.8**	**+1.0**
MAW	**Mawson**	**73.95**	**201**	P	**P**	**06 29 20.8**	**+1.0**
	0.4nm,0.3s,baz=34,slow=7.3,SNR=4.0						
ABKAR	**Akbulak array**	**81.91**	**322**	*e*P	**P**	**06 30 04.1**	**0.0**
	1.5nm,0.4s						
TXAR	**Lajitas Array**	**126.50**	**59**	PKP	**PKPdf**	**06 36 47.4**	**0.0**
TXAR	**Lajitas Array**	**126.50**	**59**	PKP	**PKPdf**	**06 36 47.4**	**0.0**
	0.2nm,0.4s,baz=185,slow=2.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**127.37**	**281**	PKP	**PKPdf**	**06 36 49.2**	**0.0**
TORD	**Torodi Ar. Bea**	**127.37**	**281**	PKP	**PKPdf**	**06 36 49.2**	**0.0**
	0.6nm,0.9s,baz=33,slow=1.7,SNR=4.5						
LPAZ	**La Paz**	**151.26**	**145**	PKPbc	**PKPbc**	**06 37 39.5**	**+0.6**
LPAZ				PKPab	**PKPab**	**06 37 48.4**	**+1.3**
LPAZ	**La Paz**	**151.26**	**145**	PKPbc	**PKPbc**	**06 37 39.5**	**+0.6**
	1.0nm,0.4s,baz=205,slow=1.8,SNR=11						
LPAZ				PKPab	**PKPab**	**06 37 48.4**	**+1.3**
	2.1nm,0.6s,baz=160,slow=1.1,SNR=13						

MEX 03 06:19:30.9±0.3, 19°.07N×104°.29W, h3km±2km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.31**	**72**	*e*P	Pg	06 19 36.6	-0.3
R15V				*i* S	Sg	06 19 41.1	+0.1
EZ5V		**0.77**	**58**	*e*P	Pg	06 19 44.9	-1.1
EZ5V				*i* S	Sg	06 19 55.5	-0.7
CJM	**Chamela**	**0.83**	**301**	*e*P	Pg	06 19 45.4	-1.4
CJM				*i* S	Sg	06 19 57.0	-0.6
MMIG	**Aquila**	**1.19**	**131**	*e*P	Pg	06 19 50.5	-3.2
MMIG				*e*S	Sg	06 20 06.1	-3.0

IDC ***03*** *06:49:15.9±4.7, 34°.53N×138°.75E, h199km±39km, mb3.2/5, mb1 3.2/7, mb1mx3.0/26, mbtmp3.1/7, Error ellipse: s-maj=62.4km s-min=17.1km az=72.0*
JMA ***03*** *06:49:18.4±0.2, 34°.65N×138°.58E, h215km±2km, M3.3*
ISCJB ***03*** *06:49:19.4±0.6, 34°.74N±0°.09×138°.49E±0°.08, h200km, mb3.3/5, Error ellipse: s-maj=12.5km s-min=8.9km az=177.9*
ISC 03 06:49:18.6±0.9, 34°.65N±0°.07×138°.56E±0°.07, h200km, n14, σ1§92/16, mb3.5/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.75**	**35**	P	**Pn**	**06 49 48.7**	**+1.9**
TK02	**Tokai 2**	**0.97**	**223**	P	**Pn**	**06 49 50.0**	**+2.2**
BSO4	**Boso 4**	**1.50**	**77**	P	**Pn**	**06 49 53.7**	**+1.6**
BSO4				S	**Sn**	**06 50 21.1**	**+2.9**
JIE	**Ise**	**1.55**	**261**	P	**Pn**	**06 49 54.2**	**+1.5**
JIE				S	**Sn**	**06 50 21.5**	**+2.4**
JHJ2	**Mitsune**	**1.86**	**145**	P	**Pn**	**06 49 57.0**	**+1.3**
MAT	**Matsushiro**	**1.91**	**352**	P	**Pn**	**06 49 57.3**	**+1.2**
MAT				S	**Sn**	**06 50 28.2**	**+2.7**
JHO	**Hitachi**	**2.55**	**39**	P	**Pn**	**06 50 03.3**	**+0.3**
KSRS	**Korea Array**	**9.05**	**291**	P	**Pn**	**06 51 25.9**	**+0.5**
	baz=112,slow=13,SNR=4.1						
USRK	**Ussuriysk Arra**	**10.79**	**334**	P	**Pn**	**06 51 47.8**	**-0.1**
	0.2nm,0.3s,baz=147,slow=14,SNR=4.3						
SONM	**Songino Array**	**27.32**	**309**	P	**P**	**06 54 43.6**	**-1.2**
	0.7nm,0.6s,baz=114,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**43.46**	**304**	P	**P**	**06 57 00.9**	**-0.9**
	0.9nm,0.5s,baz=86,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**54.44**	**185**	P	P	06 58 20.9	-4.4
	0.4nm,0.4s,baz=360,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**58.16**	**185**	P	**P**	**06 58 49.1**	**-2.5**
	0.2nm,0.7s,baz=12,slow=9.5,SNR=3.3						
FINES	**FINESS Array B**	**69.82**	**332**	P	**P**	**07 00 05.7**	**-1.3**
	0.6nm,0.3s,baz=55,slow=6.5,SNR=7.0						

IDC 03 06:50:26.3±14.0, 0°.61S×133°.17E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=209.0km s-min=81.6km az=169.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.89**	**203**	P	P	06 54 47.8	-0.8
	0.1nm,0.3s,baz=22,slow=13,SNR=3.5						
FITZ				S	Sn	06 58 06.7	-15
	0.0nm,0.3s,baz=269,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**19.25**	**177**	P	Pn	06 54 53.1	-0.3
	0.2nm,0.3s,baz=356,slow=11,SNR=10						
ASAR	**Alice Springs**	**22.93**	**178**	P	P	06 55 32.7	+0.4
	2.7nm,0.7s,baz=0.1,slow=10,SNR=22						
STKA	**Stephens Creek**	**32.10**	**166**	P	P	06 56 54.9	-0.5
	1.0nm,0.4s,baz=340,slow=11,SNR=3.3						

IDC ***03*** *07:07:49.6±1.2, 23°.94N×121°.61E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/40,

baz=3.0
NSK Sanguang 0.68 329⇑iP Pb 07 08 05.0 -0.4
baz=332
NSK iS Sg 07 08 13.3 -0.2
baz=332
EHY Hungye 0.69 213⇑iP Pg 07 08 04.9 +0.1
baz=219
SMLT Sun Moon Lake 0.79 255⇑iP Pg 07 08 06.7 0.0
baz=253
SMLT S Sg 07 08 16.3 -0.8
baz=253
TYC Yuchr 0.83 257⇑iP Pg 07 08 07.2 -0.2
baz=255
TYC eS Sg 07 08 17.0 -1.1
baz=255
TWF1 Yuli 0.84 209 eP Pg 07 08 07.2 -0.3
baz=221
NSTT Nanjuang 0.86 309⇑iP Pb 07 08 08.5 +0.1
baz=309
NSTT S Sg 07 08 19.0 -0.3
baz=309
TWA Mucha 0.90 351 P **Pb 07 08 09.4 +0.3**
baz=352
TWA S Sg 07 08 20.3 -0.2
baz=352
TWQ1 Liyutan 0.92 287⇑iP Pn 07 08 09.9 -0.4
baz=286
YUS Yu-Shan 0.93 231 eP Pg 07 08 09.6 +0.1
baz=229
YUS eS Sg 07 08 20.9 -0.8
baz=229
TWB1 Santiao Chiao 0.94 14 P **Pn 07 08 10.3 -0.4**
baz=6.0
TWB1 eS Sg 07 08 21.4 -0.6
baz=6.0
NSY Sanyi 0.95 290 P **Pn 07 08 10.8 0.0**
baz=290
TAP1 Taipei 0.97 348 eP Pn 07 08 10.7 -0.3
baz=339
TAP1 S Sg 07 08 22.7 0.0
baz=339
TAP Taipei 0.97 347 eP Pn 07 08 11.1 +0.1
baz=339
TAP S Sg 07 08 22.8 0.0
baz=339
TCU Taichung 0.97 274⇑iP Pn 07 08 11.5 +0.4
baz=267
TCU S Sn 07 08 24.6 -0.3
baz=267
NWF Wu-fen Shan 0.98 2 ⇑P **Pn 07 08 10.9 -0.3**
baz=353
NWF eS Sg 07 08 22.4 -0.6
baz=353
WNT Mingjian 0.99 258 P **Pn 07 08 11.4 +0.2**
baz=251
WNT eS Sn 07 08 24.8 -0.4
baz=251
HSN Hsinchu 1.00 316 eP Pn 07 08 11.9 +0.5
baz=319
NCU National Centr 1.01 330 eP Pn 07 08 11.9 +0.3
baz=331
NCU eS Sn 07 08 27.2 +1.4
baz=331
ALS Alishan 1.03 236⇑iP Pg 07 08 11.4 +0.1
baz=236
CHKT Chengkung 1.04 199 eP Pg 07 08 10.9 -0.5
baz=192
TWS1 Kuangyinshan 1.05 344 eP Pn 07 08 12.6 +0.5
baz=345
TWS1 S Sn 07 08 27.0 +0.2
baz=345
CHN5 Tsauling 1.09 244⇑iP Pn 07 08 13.0 +0.3
baz=242
CHN5 iS Sn 07 08 27.8 -0.1
baz=242
ELDTW Lidau 1.11 217 eP Pb 07 08 11.5 -1.2
baz=207
TWY Chenhua 1.19 354 eP Pg 07 08 14.8 +0.5
baz=2.0
YOJ Yonaguni jima 1.22 72 eP Pg 07 08 15.1 +0.3
baz=84
CHN4 Tsaushan 1.28 235⇑iP Pg 07 08 16.5 +0.5
baz=227
CHN4 eS Sg 07 08 35.1 +2.5
baz=227
CHN2 Minshiung 1.28 245 eP Pg 07 08 16.6 +0.6
baz=245
STYT Tauyuan 1.29 225⇑eP Pn 07 08 15.2 -0.3
baz=224
STYT eS Sg 07 08 33.5 +0.6
baz=224
WTP Ta-pu 1.33 231 P **Pg 07 08 17.2 +0.3**
baz=231
WTP eS Sg 07 08 36.2 +2.0
baz=231
CHY Chiayi 1.34 244 eP Pn 07 08 16.0 -0.1
baz=243
CHY eS Sg 07 08 35.3 +0.8
baz=243
WTCT Ta-ch'eng 1.35 261 eP Pg 07 08 17.5 +0.1
baz=260
WTCT eS Sg 07 08 36.0 +1.1
baz=260
TWG Pinlang 1.40 206 eP Pn 07 08 14.6 -2.4
baz=209
TWK Hsinying 1.41 235 eP Pb 07 08 17.6 -0.1
baz=225
CHN1 Nanshi 1.43 231 P **Pg 07 08 19.1 +0.3**
baz=230
CHN1 eS Sg 07 08 39.0 +1.7
baz=230
SGST Jiashian 1.46 227 eP Pg 07 08 19.4 +0.1
baz=227
SGST eS Sg 07 08 40.5 +2.2
baz=227
PCYT Pengchaiyu 1.56 11 eP Pb 07 08 20.1 -0.4
baz=5.0
CHN3 Shinhua 1.61 232 eP Pg 07 08 23.1 +0.8
baz=234
TWM1 Shoushan 1.74 224 eP Pb 07 08 23.8 +0.3
baz=226
PNG Penghu 2.06 256 eP Pn 07 08 27.2 +1.1
baz=257
WDGT Dungji 2.08 247 eP Pn 07 08 27.4 +1.2
baz=245
WDGT eS Sb 07 08 54.7 -0.2
baz=245
TWK1 Hengchun 2.30 202 eP Pn 07 08 30.2 +0.9
baz=206
QZH Quanzhou 2.99 287 Pn **Pn 07 08 38.1 -0.7**
QZH Sn **Sn 07 09 11.1 -3.6**
QZH smax smax
comp=N,260nm,0.3s
QZH smax smax
comp=E,270nm,0.9s
JNU Nakatsue 12.06 40 Pn **Pn 07 10 45.0 +1.8**
comp=E,0.6nm,0.3s,baz=229,slow=9.3,SNR=3.7
KSRS Korea Array 14.34 20 Pn **P 07 11 19.9 -1.6**
comp=E,0.5nm,0.3s,baz=206,slow=13,SNR=8.6
KSRS LR LR 07 17 22.5
comp=E,26nm,18.6s,baz=210,slow=40
SONM Songino Array 26.66 337 P **P 07 13 32.7 +2.4**
comp=E,0.6nm,0.7s,baz=157,slow=7.8,SNR=3.4
MKAR Makanchi Array 38.76 316 P **P 07 15 15.8 -0.1**
comp=E,0.4nm,0.5s,baz=116,slow=9.9,SNR=4.7
ZALV Zalesovo Beam 40.60 327 P **P 07 15 29.8 -1.2**
comp=E,0.7nm,0.3s,baz=116,slow=9.8,SNR=2.2
WRA Warramunga Arr 45.45 163 P **P 07 16 09.8 -0.9**
comp=E,0.4nm,0.6s,baz=344,slow=8.7,SNR=3.3
YKA Yellowknife Ar 82.86 23 P **P 07 20 16.4 +0.6**
comp=E,0.8nm,0.9s,baz=318,slow=4.0,SNR=4.4

*JMA **03** 07:08:32.7±0.3,24°.30N×127°.00E,h95km,M3.2*
*IDC **03** 07:08:38.7±1.8,23°.30N×125°.36E,h43km±8km,mb3.5/6, mb1 3.6/6,mb1mx3.4/24,mbtmp3.5/6,Error ellipse: s-maj=121.9km s-min=15.8km az=65.0*
ISC 03 07:08:33.8±1.0,24°.22N±0°.08×127°.10E±0°.05,h41km±9km, n22,σ1§98/31,mb3.7/6,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.63**	**290**	P	**Pn**	**07 08 59.1**	**-0.9**
JOGS				*e*S	**Sn**	**07 09 19.7**	**-0.1**
JMJ	**Miyako jima 2**	**1.75**	**290**	P	**Pn**	**07 09 00.8**	**-0.8**
JMJ				*e*S	**Sn**	**07 09 21.8**	**-0.8**
JJT2	**Tamagusuku 2**	**2.00**	**17**	*e*S	**Sn**	**07 09 28.5**	**-0.3**
JKE	**Kume jima 2**	**2.11**	**352**	P	**Pn**	**07 09 06.0**	**-0.7**
JKE				*e*S	**Sn**	**07 09 30.6**	**-1.1**
JTJ	**Tarama**	**2.22**	**281**	P	**Pn**	**07 09 06.9**	**-1.2**
JTJ				*e*S	**Sn**	**07 09 32.0**	**-2.4**
JAGN	**Aguni-jima**	**2.36**	**3**	P	**Pn**	**07 09 09.7**	**-0.4**
JAGN				S	**Sn**	**07 09 36.5**	**-1.3**
JIJ	**Ishigaki jima**	**2.70**	**274**	*e*S	**Sn**	**07 09 42.7**	**-3.5**
JOW	**Kunigami**	**2.81**	**22**	P	**Pn**	**07 09 15.9**	**-0.3**
JOW				*e*S	**Sn**	**07 09 46.3**	**-2.6**
JKRS	**Kuro-shima**	**2.82**	**271**	*e*S	**Sn**	**07 09 46.4**	**-2.7**
JIH	**Iheya**	**2.91**	**15**	*e*S	**Sn**	**07 09 50.1**	**-1.2**
YOJ	**Yonaguni jima**	**3.73**	**275**	*e*S	**Sn**	**07 10 08.3**	**-3.4**
JTK	**Tokunoshima**	**3.92**	**25**	P	**Pn**	**07 09 31.3**	**-0.2**
JTK				*e*S	**Sn**	**07 10 13.6**	**-2.7**
JMZ	**Minamidaito 2**	**4.07**	**66**	P	Pn	07 09 30.1	-3.4
JMZ				*e*S	Sn	07 10 13.3	-6.5
JAMN	**Amaminishikomi**	**4.42**	**25**	P	**Pn**	**07 09 37.6**	**-0.7**
JAMN				*e*S	**Sn**	**07 10 24.6**	**-3.9**
JAM	**Amami Oshima**	**4.74**	**28**	P	**Pn**	**07 09 41.6**	**-1.2**
JAM				*e*S	**Sn**	**07 10 32.3**	**-4.2**
SONM	**Songino Array**	**28.73**	**330**	P	P	07 14 32.8	+5.4
1.2nm,0.5s,baz=146,slow=10,SNR=5.9							
SONM				pP	pP	07 14 44.3	+5.7
1.0nm,0.4s,baz=145,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**42.14**	**314**	P	**P**	**07 16 23.2**	**+1.0**
0.4nm,0.4s,baz=99,slow=10.0,SNR=6.3							
MKAR				pP	**pP**	**07 16 35.1**	**+1.4**
0.5nm,0.5s,baz=95,slow=9.2,SNR=4.6							
WRA	**Warramunga Arr**	**44.46**	**170**	P	**P**	**07 16 40.4**	**-0.7**
0.9nm,0.7s,baz=350,slow=8.7,SNR=5.7							
WRA				pP	**pP**	**07 16 52.9**	**+0.2**
0.4nm,0.4s,baz=349,slow=8.9,SNR=2.6							
KURBB	**Kurchatov Arra**	**45.63**	**318**	P	**P**	**07 16 51.7**	**+1.7**
0.4nm,0.2s,baz=103,slow=7.7,SNR=3.1							
ASAR	**Alice Springs**	**48.06**	**172**	P	**P**	**07 17 09.3**	**0.0**
0.3nm,0.6s,baz=354,slow=12,SNR=4.9							
BVAR	**Borovoye Array**	**51.11**	**320**	P	**P**	**07 17 33.8**	**+1.6**
0.4nm,0.5s,baz=96,slow=8.8,SNR=2.9							
BVAR				pP	**pP**	**07 17 45.9**	**+1.9**
0.7nm,0.7s,baz=116,slow=8.5,SNR=2.4							
YKA	**Yellowknife Ar**	**80.77**	**24**	pP	pP	07 21 07.2	+12
0.2nm,0.5s,baz=296,slow=4.9,SNR=2.0							

JMA 03 07:18:36.8,38°.99N×140°.86E,h6km±1km,M1.9,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.28**	**98**	P	Pg	07 18 42.2	-0.1
JMK				S	Sg	07 18 46.2	+0.1
JYK	**Kaneyama**	**0.40**	**260**	P	Pg	07 18 45.0	+0.5
JYK				*e*S	Sg	07 18 50.2	+0.4
JRG	**Rokugo**	**0.44**	**337**	P	Pg	07 18 45.5	+0.1
JRG				S	Sg	07 18 51.7	+0.5
JOM	**Ohasama**	**0.59**	**35**	P	Pg	07 18 48.3	+0.1
JOM				S	Sg	07 18 55.9	+0.1
JOU	**Okura**	**0.64**	**194**	P	Pg	07 18 49.2	0.0
JOU				S	Sg	07 18 57.5	-0.1
JIO	**Ouri**	**0.66**	**144**	P	Pg	07 18 49.1	-0.3
JYA	**Atsumi**	**0.98**	**246**	S	Sg	07 19 08.8	+0.5

*NIED **03** 07:19:00,37°.20N×141°.50E,h44km,Mw4.5 Best double couple: M₀5.60000×10¹⁵ NP1:φ=21.00000°,δ70.00000°, λ92.00000°. NP2:φ=196.00000°,δ20.00000°,λ85.00000°.*
*BJI **03** 07:19:27.2,37°.12N×141°.71E,h44km,mB4.8/23,mb4.8/41, Ms4.2/15,Ms7 4.0/10*
*JMA **03** 07:19:30.0±0.1,37°.16N×141°.45E,h48km±2km,M4.6*
JMA Felt III J1.
*IDC **03** 07:19:30.6±0.6,37°.17N×141°.42E,h43km±3km,mb4.2/25, mb1 4.3/26,mb1mx4.2/30,mbtmp4.1/26,ML3.9/1,MS3.7/15, Ms1 3.7/15,ms1mx3.4/38,Error ellipse: s-maj=14.5km s-min=12.2km az=171.0*
*MOS **03** 07:19:30.2±0.9,37°.29N×141°.43E,h51km,mb4.8/45,Error ellipse: s-maj=8.3km s-min=5.9km az=104.8*
*ISCJB **03** 07:19:30.0±0.5,37°.22N±0°.03×141°.46E±0°.04,h49km±3km, mb4.5/75,MS4.0/19,Error ellipse: s-maj=5.8km s-min=3.9km az=44.4*
*NEIC **03** 07:19:31.2±0.3,37°.24N×141°.43E,mb4.6/24, MW4.4(NIED),Error ellipse: s-maj=7.8km s-min=4.8km az=150.0*
NEIC Recorded [3 JMA] in Fukushima; [2 JMA] in Ibaraki and Tochigi; [1 JMA] in Chiba, Gumma, Iwate, Miyagi and Saitama.
ISC 03 07:19:31.0±0.4,37°.27N±0°.04×141°.51E±0°.04,h44km±2km, h43km:pP-P,n206,σ1§41/274,mb4.6/74,MS3.8/19,7C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**281**	⇓P	**Pn**	**07 19 41.2**	**-0.9**
JFK				*e*S	**Sn**	**07 19 48.8**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.59**	**254**	⇓P	**Pn**	**07 19 41.5**	**-1.6**
ONAJ				S	**Sn**	**07 19 49.4**	**-2.4**
JMM	**Marumori**	**0.82**	**316**	⇓P	**Pn**	**07 19 45.9**	**-0.3**
JMM				*e*S	**Sn**	**07 19 57.4**	**+0.2**
JFT	**Otama**	**0.97**	**285**	⇓P	**Pn**	**07 19 48.1**	**0.0**
JFT				*e*S	**Sn**	**07 20 00.5**	**-0.2**
JHO	**Hitachi**	**1.00**	**229**	⇓P	**Pn**	**07 19 46.0**	**-2.6**
JHO				*e*S	**Sn**	**07 19 57.2**	**-4.4**
JIO	**Ouri**	**1.19**	**354**	⇓P	**Pn**	**07 19 51.4**	**+0.3**
JIO				*e*S	**Sn**	**07 20 06.6**	**+0.5**
JOU	**Okura**	**1.28**	**329**	⇓P	**Pn**	**07 19 52.9**	**+0.5**
JOU				*e*S	**Sn**	**07 20 10.9**	**+2.5**
JFY	**Yanaizu**	**1.45**	**276**	⇓P	**Pn**	**07 19 54.2**	**-0.5**
JYS	**Shiratake**	**1.49**	**310**	⇓P	**Pn**	**07 19 55.8**	**+0.6**
JYS				*e*S	**Sn**	**07 20 14.9**	**+1.4**
MJAR	**Matsushiro Arr**	**2.75**	**256**	P	**Pn**	**07 20 12.5**	**-0.1**
MJAR				S	**Sn**	**07 20 48.8**	**+4.4**
MJAR	**Matsushiro Arr**	**2.75**	**256**	P	**Pn**	**07 20 12.5**	**-0.1**
baz=83,slow=16							
MJAR				S	**Sn**	**07 20 48.8**	**+4.4**
baz=88,slow=27							
MAJO	**Matsushiro**	**2.75**	**256**	*d*iP	**Pn**	**07 20 12.7**	**+0.2**
MAJO	**Matsushiro**	**2.75**	**256**	*e*Pn	**Pn**	**07 20 12.8**	**+0.3**
MAJO				*e*Sn	Sn	07 20 56.6	+12
MAT	**Matsushiro**	**2.75**	**256**	P	**Pn**	**07 20 12.7**	**+0.2**
MAT				*e*S	**Sn**	**07 20 41.5**	**-3.0**
ERM	**Erimo**	**4.90**	**15**	*e*Pn	**Pn**	**07 20 42.4**	**+0.3**
ERM				*e*Sn	**Sn**	**07 21 39.5**	**+2.0**
ASAJ	**Asahikawa**	**6.89**	**7**	*e*Pn	**Pn**	**07 21 08.4**	**-0.9**
ASAJ				*e*Sn	**Sn**	**07 22 28.4**	**+2.0**
ASAJ				S		07 22 28.7	
ASAJ	**Asahikawa**	**6.89**	**7**	P	**Pn**	**07 21 08.2**	**-1.1**
6.6nm,0.3s,baz=219,slow=8.6,SNR=7.8							
ASAJ				S	**Sn**	**07 22 28.7**	**+2.4**
4.4nm,0.3s,baz=254,slow=19,SNR=3.4							
YUK	**Yuzh-Kuril'sk**	**7.52**	**25**	*c*iP	**Pn**	**07 21 20.6**	**+2.6**
YUK				*i*S	**Sn**	**07 22 39.2**	**-2.7**
YUK				pmax	pmax		
comp=N,41nm,0.3s							
YUK				pmax	pmax		
comp=E,45nm,0.5s							
YUK				pmax	pmax		
comp=Z,78nm,0.5s							
YUK				smax	smax		
comp=N,116nm,0.6s							
YUK				smax	smax		
comp=E,20nm,0.6s							
KUR	**Kuril'sk**	**9.28**	**29**	P	Pn	07 21 48.3	+6.2
KUR				S	**Sn**	**07 23 19.7**	**-5.3**
KUR				pmax	pmax		
comp=Z,32nm,0.1s							
VLA	**Vladivostok**	**9.39**	**311**	⇓*e*P	**Pn**	**07 21 44.7**	**+1.0**
VLA				*e*S	**Sn**	**07 23 28.6**	**+0.7**
VLA				pmax	pmax		
comp=Z,10.0nm,1.0s							
JNU	**Nakatsue**	**9.63**	**248**	*e*Pn	**Pn**	**07 21 49.3**	**+2.2**
JNU	**Nakatsue**	**9.63**	**248**	P	**Pn**	**07 21 48.1**	**+1.0**
comp=Z,1.2nm,0.3s,baz=45,slow=7.4,SNR=10							
JNU				LR	LR	07 25 53.1	
comp=Z,219nm,18.6s,baz=80,slow=40							
YSS	**Yuzh-Sakhalins**	**9.72**	**5**	*e*P	**Pn**	**07 21 50.6**	**+2.5**
YSS				*e*S	**Sn**	**07 23 38.5**	**+2.7**
YSS				MLR	MLR		
comp=Z,200nm,14.0s							
USRK	**Ussuriysk Arra**	**10.00**	**317**	P	**Pn**	**07 21 54.7**	**+2.7**
comp=Z,1.6nm,0.3s,baz=138,slow=15,SNR=28							
USRK				LR	LR	07 25 31.9	
comp=Z,407nm,19.6s,baz=117,slow=36							
KSRS	**Korea Array**	**10.82**	**275**	P	Pn	07 22 06.4	+3.2
comp=Z,0.7nm,0.3s,baz=94,slow=13,SNR=23							
KSRS				LR	LR	07 26 06.0	
comp=Z,322nm,18.4s,baz=159,slow=37							
KSAR	**Wonju Array Be**	**10.85**	**275**	P	**Pn**	**07 22 06.4**	**+2.8**
MDJ	**Mudanjiang**	**11.61**	**313**	P	Pn	07 22 19.0	+5.0
MDJ				S	**Sn**	**07 24 18.2**	**-4.0**
MDJ				PcP	**PcP**	**07 28 03.9**	**+1.8**
MDJ				ScP	**ScP**	**07 31 33.5**	**+2.3**
MDJ				PcS	**PcS**	**07 31 38.1**	**+2.2**
MDJ				pmax	pmax		
comp=Z,24nm,0.9s							
MDJ				pmax	pmax		
comp=Z,94nm,8.3s							
MDJ	**Mudanjiang**	**11.61**	**313**	*e*Pn	Pn	07 22 19.6	+5.6
comp=Z,23nm,0.9s							
HABR	**Khabarovsk**	**12.15**	**339**	*e*P	Pn	07 22 17.1	-4.2
HABR				*e*		07 24 29.6	
HABR				pmax	pmax		
comp=Z,26nm,1.1s							
HABR				pmax	pmax		
comp=E,19nm,1.0s							
HABR				pmax	pmax		
comp=N,12nm,1.1s							
HABR				MLR	MLR		
comp=Z,206nm,17.0s							
CN2	**Changchun**	**13.84**	**303**	*e*P	**Pn**	**07 22 45.0**	**+0.6**
CN2				*e*S	**Sn**	**07 25 15.6**	**-0.9**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,300nm,13.0s							
CN2				LR	LR		
comp=E,300nm,13.0s							
KLR	**Kul'dur**	**13.89**	**332**	*e*P	**P**	**07 22 49.8**	**-2.5**
DL2	**Dalian**	**15.74**	**282**	P	**P**	**07 23 12.4**	**-0.5**
DL2				sP	**sP**	**07 23 26.7**	**-2.2**
DL2				*e*S	**Sn**	**07 26 05.5**	**+2.6**
DL2				pmax	pmax		
comp=Z,39nm,0.5s							
NJ2	**Nanjing**	**19.34**	**261**	*e*P	**Pn**	**07 23 53.7**	**-0.3**
NJ2				pP	**pP**	**07 24 03.3**	**+0.2**
NJ2				sP	**sP**	**07 24 09.2**	**+0.6**
NJ2				S	**S**	**07 27 28.4**	**-0.6**
NJ2				pmax	pmax		
comp=Z,150nm,1.0s							
NJ2				pmax	pmax		
comp=Z,430nm,4.7s							
NJ2				LR	LR		
comp=N,100nm,23.3s							
NJ2				LR	LR		
comp=E,420nm,22.6s							
PETK	**Petropavlovsk-**	**19.44**	**30**	P	**Pn**	**07 23 55.1**	**0.0**
PETK	**Petropavlovsk-**	**19.44**	**30**	P	**Pn**	**07 23 55.1**	**0.0**
PETK	**Petropavlovsk-**	**19.44**	**30**	P	**Pn**	**07 23 55.1**	**0.0**
comp=E,0.3nm,0.3s,baz=202,slow=7.4,SNR=5.2							
BJI	**Beijing**	**19.96**	**286**	P	**P**	**07 23 59.0**	**-0.3**
BJI				S	**S**	**07 27 39.8**	**-1.6**
BJI				pmax	pmax		
comp=Z,14nm,1.0s							
WHN	**Wuhan**	**23.47**	**261**	⇑P	**P**	**07 24 36.1**	**-0.5**
WHN				S	**S**	**07 28 50.1**	**+3.1**
WHN				LR	LR		
comp=Z,700nm,12.2s							
YAK	**Yakutsk**	**25.85**	**347**	*e*P	**P**	**07 24 56.9**	**-1.2**
YAK				pmax	pmax		
comp=Z,21nm,1.0s							
YAK				pmax	pmax		
comp=N,7.0nm,1.0s							
XAN	**Xi'an**	**26.60**	**273**	P	**P**	**07 25 03.9**	**-1.3**
XAN				pP	**pP**	**07 25 13.1**	**-3.8**
XAN				pmax	pmax		
comp=Z,4.0nm,0.7s							
XAN				pmax	pmax		
comp=Z,24nm,5.8s							
ULN	**Ulaanbaatar**	**27.29**	**304**	*e*P	**P**	**07 25 12.1**	**+0.7**
comp=Z,5.5nm,0.6s							
ENH	**Enshi**	**27.43**	**265**	*e*P	**P**	**07 25 11.5**	**-1.1**
comp=Z,22nm,0.4s							
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**07 25 14.8**	**-0.4**
SONM				PcP	**PcP**	**07 28 31.6**	**+0.5**
SONM				pPcP		07 28 44.4	
SONM	**Songino Array**	**27.72**	**304**	P	**P**	**07 25 14.8**	**-0.4**
comp=Z,8.8nm,0.5s,baz=103,slow=9.0,SNR=40							
SONM				PcP	**PcP**	**07 28 31.6**	**+0.5**
comp=Z,0.6nm,0.4s,baz=130,slow=2.3,SNR=3.6							
SONM				pPcP		07 28 44.4	
comp=Z,1.2nm,0.5s,baz=146,slow=3.2,SNR=4.9							
SONM				LR	LR	07 36 40.4	
comp=Z,117nm,19.4s,baz=180,slow=37							
LZH	**Lanzhou**	**30.10**	**279**	*e*P	**P**	**07 25 39.3**	**+2.7**
LZH				pP	**pP**	**07 25 45.0**	**-3.3**
LZH				pmax	pmax		
comp=Z,15nm,1.4s							
ZAK	**Zakamensk**	**30.18**	**308**	*e*P	**P**	**07 25 36.4**	**-0.6**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.1s							
GYA	**Guiyang**	**31.34**	**260**	*e*P	**P**	**07 25 49.7**	**+2.2**
GYA				pP	**pP**	**07 26 02.5**	**+3.3**
GYA				sP	**sP**	**07 26 08.8**	**+4.4**
GYA				PP	**PnPn**	**07 26 53.2**	**+2.2**
GYA				S	**S**	**07 30 51.2**	**-0.5**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**31.75**	**270**	*e*P	**P**	**07 25 52.3**	**+1.3**
CD2				pP	**pP**	**07 26 04.1**	**+1.4**
CD2				sP	**sP**	**07 26 09.4**	**+1.4**
CD2				pmax	pmax		
comp=Z,10.0nm,0.8s							
CD2				pmax	pmax		
comp=Z,30nm,4.2s							
GTA	**Gaotai**	**32.57**	**287**	*e*P	**P**	**07 25 57.6**	**-0.6**
GTA				pP	**pP**	**07 26 08.8**	**-1.1**
GTA				sP	**sP**	**07 26 14.1**	**-1.1**
GTA				PcP	**PcP**	**07 28 44.8**	**+1.0**
GTA				S	**S**	**07 31 09.5**	**-1.2**
GTA				ScP	**ScP**	**07 32 23.0**	**-1.1**
GTA				PcS	**PcS**	**07 32 29.0**	**-0.1**
GTA				pmax	pmax		
comp=Z,8.0nm,0.6s							
QIZ	**Qiongzhong**	**33.10**	**245**	P	**P**	**07 26 03.3**	**+0.5**
QIZ				S	**S**	**07 31 21.8**	**+2.8**
KMI	**Kunming**	**35.07**	**261**	P	**P**	**07 26 19.2**	**-1.0**
KMI				pP	**pP**	**07 26 34.4**	**+2.4**
KMI				sP	**sP**	**07 26 39.0**	**+1.8**
KMI				PP	**PP**	**07 27 41.4**	**+1.2**
KMI				S	**S**	**07 31 51.8**	**+1.9**
KMI				sS	**sS**	**07 32 10.9**	**+1.2**
KMI				SS	**SnSn**	**07 34 05.9**	**-2.8**
KMI				pmax	pmax		
comp=Z,31nm,0.9s							
KMI				pmax	pmax		
comp=Z,95nm,5.9s							
KMI				LR	LR		
comp=N,200nm,18.8s							
KMI				LR	LR		
comp=E,190nm,22.0s							
HVS	**Khovu-Aksy**	**36.31**	**308**	*e*P	**P**	**07 26 30.7**	**+0.4**
HVS				pmax	pmax		
comp=Z,35nm,1.2s							
WMQ	**Urumqi**	**40.80**	**297**	P	**P**	**07 27 08.6**	**+0.5**
WMQ				sP	**sP**	**07 27 24.3**	**-1.0**
WMQ				pmax	pmax		
comp=Z,18nm,1.0s							
WMQ				pmax	pmax		
comp=Z,96nm,3.6s							
CMAR	**Chiang Mai Arr**	**41.63**	**255**	P	**P**	**07 27 14.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.63**	**255**	P	**P**	**07 27 14.2**	**-0.9**
comp=Z,2.9nm,0.8s,baz=51,slow=4.8,SNR=10							
CMAR				LR	LR	07 45 08.6	
comp=Z,97nm,18.0s,baz=343,slow=37							
ZALV	**Zalesovo Beam**	**41.81**	**312**	*i*P	**P**	**07 27 16.3**	**+0.2**
ZALV				pmax	pmax		
comp=Z,9.0nm,0.4s							
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**07 27 16.1**	**0.0**
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**07 27 16.1**	**0.0**
comp=Z,9.1nm,0.4s,baz=91,slow=6.9,SNR=52							
ZALV				LR	LR	07 45 31.8	
comp=Z,86nm,18.6s,baz=69,slow=37							
NVS	**Novosibirsk**	**42.73**	**314**	⇑*i*P	**P**	**07 27 23.6**	**0.0**
NVS				*i*		07 27 35.4	
NVS				pmax	pmax		
comp=N,3.0nm,1.3s							
NVS				pmax	pmax		

comp=E,20nm,1.3s
NVS pmax pmax
comp=Z,23nm,1.3s
SHL Shillong 43.49 269 *e*P **P 07 27 29.0 -1.3**
MK31 Makanchi Array 44.06 302 *e*P **P 07 27 34.4 -0.1**
MK31 Makanchi Array 44.06 302 *e*P **P 07 27 34.4 -0.1**
MKAR Makanchi Array 44.06 302 P **P 07 27 34.5 0.0**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR MLR MLR
comp=Z,47nm,18.9s
MKAR Makanchi Array 44.06 302 P **P 07 27 34.5 0.0**
MKAR Makanchi Array 44.06 302 P **P 07 27 34.5 0.0**
comp=Z,9.7nm,0.6s,baz=87,slow=10.0,SNR=129
MKAR LR LR 07 47 35.9
comp=Z,47nm,18.9s,baz=354,slow=38
KURK Kurchatov 45.85 308 P **P 07 27 48.9 +0.3**
KURK pmax pmax
comp=Z,20nm,0.6s
KURK Kurchatov 45.85 308 P **P 07 27 48.9 +0.3**
KURBB Kurchatov Arra 45.92 308 P **P 07 27 48.9 -0.2**
comp=Z,20nm,0.6s,baz=83,slow=8.0,SNR=133
KAPI Kappang 46.71 210 LR LR 07 45 08.9
comp=Z,65nm,18.6s,baz=312,slow=33
KDAK Kodiak Island 46.87 42 *e*P **P 07 27 57.5 +1.0**
comp=Z,15nm,0.8s
TRF Thorofare Moun 47.79 34 *e*P **P 07 28 04.3 +0.5**
comp=Z,6.3nm,0.9s
COLD Coldfoot 47.91 29 *e*P **P 07 28 06.4 +1.9**
PMR Palmer 48.39 37 *e*P **P 07 28 09.2 +1.0**
PMR pmax pmax
comp=Z,5.0nm,0.6s
PMR Palmer 48.39 37 *e*P **P 07 28 09.2 +1.0**
comp=Z,5.3nm,0.6s
MCK McKinley 48.39 34 *e*P **P 07 28 09.7 +1.5**
MCK McKinley 48.39 34 *e*P **P 07 28 09.7 +1.5**
SML Sawmill 48.76 36 *e*P **P 07 28 12.5 +1.4**
SML pmax pmax
comp=Z,2.0nm,0.8s
SML Sawmill 48.76 36 *e*P **P 07 28 12.5 +1.4**
comp=Z,2.1nm,0.8s
COLA College 48.84 32 *e*P **P 07 28 13.5 +1.9**
COLA pmax pmax
comp=Z,21nm,0.6s
COLA College 48.84 32 *e*P **P 07 28 13.5 +1.9**
comp=Z,21nm,0.6s
ILAR Eielson Array 49.25 32 P **P 07 28 15.6 +0.7**
ILAR Eielson Array 49.25 32 P **P 07 28 15.6 +0.7**
comp=Z,6.4nm,0.7s,baz=268,slow=6.4,SNR=99
HNR Honiara 49.57 156 LR LR 07 45 50.0
comp=Z,94nm,19.9s,baz=66,slow=32
TKM2 Tokmak 2 49.59 298 *e*P **P 07 28 18.6 +0.6**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 49.59 298 *e*P **P 07 28 18.6 +0.6**
comp=Z,8.4nm,0.6s
VOSK Vostochnaya 50.18 312 P **P 07 28 21.1 -0.9**
VOSK pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 50.38 294 *e*P **P 07 28 25.9 +2.0**
KSH sP **sP 07 28 39.9 -1.4**
KSH PP **PP 07 30 22.2 +2.7**
KSH PcS **PcS 07 33 35.9 -3.3**
KSH S **S 07 35 31.9 -2.2**
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH pmax pmax
comp=Z,65nm,4.8s
KSH LR LR
comp=N,120nm,6.9s
KSH LR LR
comp=E,45nm,5.7s
KSH LR LR
comp=Z,110nm,5.0s
AAK Ala-Archa 50.45 298 *c*e*P **P 07 28 24.5 +0.1**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 50.45 298 P **P 07 28 23.7 -0.7**
AAK Ala-Archa 50.45 298 P **P 07 28 23.7 -0.7**
comp=Z,3.0nm,0.3s,baz=190,slow=3.5,SNR=3.6
BVA0 Borovoye Array 50.47 312 *i* P **P 07 28 23.7 -0.5**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 50.47 312 P **P 07 28 24.1 -0.1**
BVAR 07 29 41.7
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR MLR MLR
comp=Z,98nm,18.9s
BVAR Borovoye Array 50.47 312 P **P 07 28 24.1 -0.1**
BVAR PcP **PcP 07 29 41.7 -0.1**
BVAR Borovoye Array 50.47 312 P **P 07 28 24.1 -0.1**
comp=Z,4.0nm,0.6s,baz=90,slow=8.9,SNR=21
BVAR PcP **PcP 07 29 41.7 -0.1**
comp=Z,2.3nm,0.6s,baz=88,slow=4.8,SNR=3.8
BVAR LR LR 07 50 59.8
comp=Z,98nm,18.9s,baz=196,slow=37
BRVK Borovoye 50.52 312 *e*P **P 07 28 24.9 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 50.52 312 *e*P **P 07 28 25.1 +0.4**
comp=Z,8.2nm,0.9s
EGAK Eagle 51.70 32 *e*P **P 07 28 34.1 +0.8**
comp=Z,3.0nm,0.6s
HYT Haines Junctio 54.06 37 *e*P **P 07 28 51.7 +0.8**
SVE Sverdlovsk 55.02 319 *e*P **P 07 28 58.4 +0.7**
SVE pmax pmax
comp=Z,21nm,1.5s
SOKR Solikamsk 56.18 322 *e*P **P 07 29 06.6 +0.6**
SOKR pmax pmax
comp=Z,8.0nm,0.5s
ARU Arti 56.23 318 *c i*P **P 07 29 06.4 0.0**
ARU 07 31 07.3
ARU S **S 07 36 53.9 +1.1**
ARU SS **SS 07 40 38.6 -0.6**
ARU pmax pmax
comp=Z,19nm,1.2s
FITZ Fitzroy Crossi 57.07 198 *e*P **P 07 29 13.2 +0.5**
comp=Z,2.7nm,0.7s
WRAB Tennant Creek 57.30 188 *e*P **P 07 29 14.1 -0.2**
WRAB pmax pmax
comp=Z,5.0nm,0.6s
WRAB Tennant Creek 57.30 188 *e*P **P 07 29 14.1 -0.2**
comp=Z,5.5nm,0.6s
WRA Warramunga Arr 57.31 188 P **P 07 29 12.5 -1.9**
WRA Warramunga Arr 57.31 188 P **P 07 29 12.5 -1.9**
comp=Z,2.5nm,0.4s,baz=63,slow=7.3,SNR=15
KBL Kabul 57.40 291 *e*P **P 07 29 15.1 -0.3**
KBL pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 57.40 291 *e*P **P 07 29 15.1 -0.3**
comp=Z,12nm,1.0s
AB31 Akbulak array 57.84 310 *i* P **P 07 29 17.3 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 57.84 310 *e*P **P 07 29 17.7 -0.3**
comp=Z,4.1nm,0.5s
HYB Hyderabad 58.29 268 *i* P **P 07 29 20.0 -1.5**
AKTO Aktyubinsk 58.57 312 P **P 07 29 22.3 -0.7**
AKTO pmax pmax
comp=Z,5.0nm,0.9s
SPITS Spitsbergen Ar 60.30 349 P **P 07 29 33.9 -0.7**
SPITS Spitsbergen Ar 60.30 349 P **P 07 29 33.9 -0.7**
comp=Z,0.9nm,0.6s,baz=90,slow=14,SNR=2.2
SPITS LR LR 07 56 43.0
comp=Z,38nm,19.4s,baz=20,slow=37
ASAR Alice Springs 61.03 188 P **P 07 29 38.8 -1.4**
ASAR Alice Springs 61.03 188 P **P 07 29 38.8 -1.4**
comp=Z,1.3nm,0.7s,baz=360,slow=4.9,SNR=13
KEV Kevo 63.25 339 *e*P **P 07 29 55.9 +1.5**
YKA Yellowknife Ar 63.56 30 P **P 07 29 57.0 +0.4**
YKA Yellowknife Ar 63.56 30 P **P 07 29 57.0 +0.4**
comp=Z,1.7nm,0.8s,baz=300,slow=6.6,SNR=9.4
ARCES ARCESS Array B 63.80 339 P **P 07 29 58.3 +0.2**
ARCES ARCESS Array B 63.80 339 P **P 07 29 58.3 +0.2**
comp=Z,4.0nm,1.0s,baz=53,slow=8.1,SNR=9.1
ARCES LR LR 07 59 51.6
comp=Z,60nm,21.5s,baz=306,slow=38
OBN Obninsk 67.95 323 *e*P **P 07 30 23.5 -1.5**
OBN *e* 07 32 54.1
OBN *e*SS SS 07 43 45.0 +2.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
KAF Kangasniemi 68.13 333 *e*P **P 07 30 25.5 -0.5**
FINES FINESS Array B 68.64 332 P **P 07 30 29.2 0.0**
FINES pP **pP 07 30 41.6 -0.3**
FINES FINESS Array B 68.64 332 P **P 07 30 29.2 0.0**
comp=Z,3.1nm,0.7s,baz=52,slow=7.5,SNR=11
FINES pP **pP 07 30 41.6 -0.3**
comp=Z,8.9nm,0.7s,baz=38,slow=7.2,SNR=13
BBOO Buckleboo 69.91 185 *e*P **P 07 30 35.8 -1.5**
KBZ Khabaz 70.81 311 P **P 07 30 41.8 -1.0**
KBZ *PP **pP 07 30 55.8 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ MLR MLR
comp=Z,65nm,21.7s
KBZ Khabaz 70.81 311 P **P 07 30 41.8 -1.0**
KBZ pP **pP 07 30 55.8 +0.2**
KBZ Khabaz 70.81 311 P **P 07 30 41.8 -1.0**
comp=Z,2.5nm,0.8s,baz=91,slow=4.2,SNR=7.9
KBZ pP **pP 07 30 55.8 +0.2**
comp=Z,4.5nm,0.7s,baz=53,slow=4.7,SNR=7.4
KBZ LR LR 08 06 08.5
comp=Z,65nm,21.7s,baz=42,slow=40
KIV Kislovodsk 70.81 311 *e*P **P 07 30 43.2 +0.2**
KIV pmax pmax
comp=Z,13nm,1.0s
SLMT Seeley Lake 72.50 44 *e*P **P 07 30 54.3 +1.1**
FFC Flin Flon 73.46 33 *c*e*P **P 07 31 00.0 +1.4**
CMB Columbia Colle 73.67 55 *e*P **P 07 31 01.6 +1.4**
CMB pmax pmax
comp=Z,2.0nm,0.9s
CMB Columbia Colle 73.67 55 *e*P **P 07 31 01.6 +1.4**
comp=Z,1.8nm,0.9s
HRY Holter Researc 73.73 43 *e*P **P 07 31 02.0 +1.6**
comp=Z,1.1nm,0.5s
HFS Hagfors 73.90 336 P **P 07 31 01.0 0.0**
HFS Hagfors 73.90 336 P **P 07 31 01.0 0.0**
comp=Z,1.4nm,0.6s,baz=70,slow=6.5,SNR=6.9
LRM Limekiln Ridge 73.92 44 *e*P **P 07 31 03.0 +1.2**
LRM *e*pP **PcP 07 31 16.2 -0.8**
NB2 NORSAR Subarra 74.00 337 P **P 07 31 01.7 +0.1**
comp=Z,5.8nm,1.0s,baz=39,slow=6.2
NOA NORSAR Array B 74.00 337 P **P 07 31 01.6 0.0**
NOA NORSAR Array B 74.00 337 P **P 07 31 01.6 0.0**
comp=Z,2.8nm,0.8s,baz=38,slow=5.9,SNR=10
NOA LR LR 08 06 55.7
comp=Z,50nm,19.4s,baz=30,slow=38
EGMT Eagleton 74.04 41 *e*P **P 07 31 03.6 +1.4**
DLMT Dillon 74.12 45 *e*P **P 07 31 04.5 +1.7**
comp=Z,3.8nm,0.8s
KIEV Kiev 74.17 322 *e*P **P 07 31 02.4 -0.4**
KIEV pmax pmax
comp=Z,11nm,1.0s
KIEV Kiev 74.17 322 *e*P **P 07 31 02.4 -0.4**
comp=Z,11nm,1.0s
NVAR Mina Array Ba 74.78 53 P **P 07 31 07.9 +1.0**
NVAR pP **PcP 07 31 20.4 -0.4**
NVAR Mina Array Bea 74.78 53 P **P 07 31 07.9 +1.0**
comp=Z,1.5nm,0.8s,baz=277,slow=5.7,SNR=12
NVAR pP **PcP 07 31 20.4 -0.4**
comp=Z,1.9nm,0.8s,baz=283,slow=5.4,SNR=8.2
IMW Indian Meadow 75.95 45 *e*P **P 07 31 13.4 -0.2**
comp=Z,2.1nm,0.6s
MOOW Moose Ponds 76.15 45 *e*P **P 07 31 16.1 +1.5**
comp=Z,1.2nm,0.7s
TPAW Teton Pass 76.20 46 *e*P **P 07 31 16.7 +1.8**
FRB Frobisher Bay 76.52 13 P **P 07 31 16.2 +0.2**
FRB pP **pP 07 31 29.2 +0.3**
FRB Frobisher Bay 76.52 13 P **P 07 31 16.2 +0.2**
comp=Z,5.7nm,0.6s,baz=338,slow=7.3,SNR=6.3
FRB pP **pP 07 31 29.2 +0.3**
comp=Z,8.5nm,0.8s,baz=306,slow=6.8,SNR=3.2
PDAR Pinedale Array 77.44 46 P **P 07 31 22.3 +0.4**
PDAR Pinedale Array 77.44 46 P **P 07 31 22.3 +0.4**
comp=Z,1.1nm,0.6s,baz=261,slow=3.0,SNR=14
MVU Marysvale 78.55 50 *e*P **P 07 31 30.0 +1.9**
comp=Z,1.5nm,0.3s
BRTR Keskin Array B 78.75 312 P **P 07 31 28.8 -0.4**
BRTR pP **pP 07 31 41.8 -0.3**
BRTR Keskin Array B 78.75 312 P **P 07 31 28.8 -0.4**
comp=Z,2.4nm,1.0s,baz=90,slow=3.7,SNR=8.3
BRTR pP **pP 07 31 41.8 -0.3**
comp=Z,1.8nm,0.7s,baz=78,slow=2.9,SNR=5.2
ULM Lac du Bonnet 79.26 33 P **P 07 31 31.0 -0.5**
ULM Lac du Bonnet 79.26 33 P **P 07 31 31.0 -0.5**
comp=Z,1.4nm,0.6s,baz=259,slow=6.9,SNR=3.1
OKC Ostrava-Krasne 79.89 327 *e*P P 07 31 39.1 +4.2
OKC *e* 07 58 00.0
OKC MLR MLR
comp=Z,200nm,12.9s
OKC Ostrava-Krasne 79.89 327 *e*P P 07 31 39.1 +4.2
OKC AMS AMS 07 58 00.0
comp=Z,200nm,12.9s
KSP Ksiaz 79.94 328 *e*P **P 07 31 34.4 -0.8**
KSP *e*PP **pP 07 31 48.8 +0.6**
DPC Dobruska-Polom 80.30 328 *e*P **P 07 31 35.6 -1.6**
DPC *e* 07 31 49.0
DPC Dobruska-Polom 80.30 328 *e*P **P 07 31 35.6 -1.6**
DPC *e*pP **pP 07 31 49.0 -1.2**
RAYN Ar Rayn 80.64 292 *e*P **P 07 31 39.4 -0.1**
BRG Berggiesshubel 80.89 329 *e*(P) pP 07 31 53.4 +0.1
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 80.89 329 *e*P pP 07 31 53.4 +0.1
PVCC Panska Ves 80.89 329 AMS AMS 07 56 30.0
comp=Z,200nm,13.8s
CLL Collm 80.93 330 *e*P **P 07 31 40.0 -0.5**
CLL *e* 07 31 54.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 80.93 330 *e*P **P 07 31 40.0 -0.5**
comp=Z,5.0nm,0.9s
CLL *e*pP **pP 07 31 54.0 +0.5**
VRAC Vranov 80.96 327 P **P 07 31 41.2 +0.5**
VRAC Vranov 80.96 327 P **P 07 31 41.2 +0.5**
comp=Z,1.8nm,0.4s,baz=49,slow=9.0,SNR=3.6
PRU Pruhonice 81.32 329 AMS AMS 07 56 20.0
comp=Z,200nm,14.1s
TREC Trest 81.45 328 *e*P **P 07 31 43.8 +0.5**
TREC MLR MLR
comp=Z,200nm,17.4s
TREC Trest 81.45 328 *e*P **P 07 31 43.8 +0.5**
TREC AMS AMS 07 56 20.0
comp=Z,200nm,17.4s
KHC Kasperske Hory 82.38 328 *e*P **P 07 31 47.0 -1.2**
KHC *e* 07 32 03.5
KHC MLR MLR
comp=Z,100nm,13.7s
KHC Kasperske Hory 82.38 328 *e*P **P 07 31 47.0 -1.2**
KHC *e*pP **pP 07 32 03.5 +2.2**
KHC AMS AMS 07 56 20.0
comp=Z,100nm,13.7s
GERES GERESS Array B 82.55 328 P **P 07 31 49.0 -0.2**
GERES pP **pP 07 32 02.4 +0.1**
GERES GERESS Array B 82.55 328 P **P 07 31 49.0 -0.2**
comp=Z,1.3nm,0.6s,baz=38,slow=5.2,SNR=11
GERES pP **pP 07 32 02.4 +0.1**
comp=Z,1.1nm,0.4s,baz=38,slow=6.0,SNR=5.9
ECSD EROS Data Cent 83.68 38 *e*P **P 07 31 55.3 +0.3**
comp=Z,3.7nm,1.2s
PMOR Pomariorio Ree 84.20 114 *e*T T 09 04 12.6
comp=Z,8.6nm,0.2s
ANMO Albuquerque 84.38 50 *e*P **P 07 32 00.2 +1.3**
comp=Z,2.0nm,1.0s
PPT Papeete 84.67 117 LR LR 08 04 19.8
comp=Z,100nm,21.4s,baz=347,slow=32
PPT2 Papeete2 84.69 117 *e*LR LR 07 58 38.3
comp=Z,90nm,25.5s
SCHQ Schefferville 85.09 16 P **P 07 32 00.0 -1.9**
SCHQ Schefferville 85.09 16 P **P 07 32 00.0 -1.9**
comp=Z,2.8nm,0.6s,baz=358,slow=11,SNR=3.9
CDF Champ du Feu 85.47 331 *e*P **P 07 32 04.0 -0.1**
comp=Z,11nm,0.9s
PAGF Fort de Pagny 85.94 332 *e*P **P 07 32 06.6 +0.3**
HINF Hinteralfeld 86.12 331 *e*P **P 07 32 06.8 -0.5**
HAU Haudompre 86.16 332 *e*P **P 07 32 07.0 -0.4**
SFTF Sexfontaines 86.48 333 *e*P **P 07 32 09.0 0.0**
LOR Lormes 87.70 333 *e*P **P 07 32 14.9 0.0**
SMF Signal de Mont 88.24 332 *e*P **P 07 32 17.4 -0.1**
AVF Avril sur Loir 88.29 333 *e*P **P 07 32 17.7 0.0**
TXAR Lajitas Array 89.91 52 P **P 07 32 26.6 +0.8**
TXAR pP **pP 07 32 39.5 +0.5**
TXAR Lajitas Array 89.91 52 P **P 07 32 26.6 +0.8**
comp=Z,0.9nm,0.7s,baz=300,slow=2.8,SNR=16
TXAR pP **pP 07 32 39.5 +0.5**
comp=Z,0.7nm,0.5s,baz=289,slow=3.1,SNR=8.2
MIAR Mount Ida 92.09 43 *e*P **P 07 32 34.5 -1.1**
MIAR *e*PP **pP 07 32 47.5 -1.3**
MIAR pmax pmax
comp=Z,3.0nm,0.9s
MIAR Mount Ida 92.09 43 *e*P **P 07 32 34.5 -1.1**
comp=Z,2.9nm,0.9s
MIAR *e*pP **pP 07 32 47.5 -1.3**
TORD Torodi Ar. Bea 117.22 315 PKP **PKPdf 07 38 10.7 -1.2**
TORD Torodi Ar. Bea 117.22 315 PKP **PKPdf 07 38 10.7 -1.2**
comp=Z,0.6nm,0.5s,baz=17,slow=2.0,SNR=16
DBIC Dimbokro 126.17 317 PKP **PKPdf 07 38 29.0 -0.2**
DBIC pPKP **pPKPdf 07 38 42.1 -0.7**
DBIC Dimbokro 126.17 317 PKP **PKPdf 07 38 29.0 -0.2**
comp=Z,2.3nm,0.7s,baz=45,slow=1.4,SNR=3.6
DBIC pPKP **pPKPdf 07 38 42.1 -0.7**
comp=Z,2.8nm,0.7s,baz=66,slow=4.1,SNR=2.3
BOSA Boshof 126.69 260 PKPpre PKPpre 07 38 24.9
BOSA Boshof 126.69 260 PKhKP PKPpre 07 38 24.9
comp=Z,2.9nm,0.7s,baz=310,slow=17,SNR=4.9
LPAZ La Paz 146.50 59 PKPbc **PKPbc 07 39 08.8 +0.1**
LPAZ pPKPbc pPKPbc 07 39 20.9 -1.2
LPAZ La Paz 146.50 59 PKPbc **PKPbc 07 39 08.8 +0.1**
comp=Z,2.7nm,0.5s,baz=331,slow=2.5,SNR=34
LPAZ pPKPbc pPKPbc 07 39 20.9 -1.2
comp=Z,4.1nm,0.6s,baz=33,slow=7.3,SNR=8.3

IDC 03 07:21:23.1±1.9, 11°.87S×166°.28E, h50km±8km, mb4.0/6, mb1 4.2/8, mb1mx3.8/21, mbtmp4.1/8, MS3.5/3, Ms1 3.5/3, ms1mx3.0/25, Error ellipse: s-maj=38.4km s-min=23.8km az=55.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.68**	**291**	P		Pn	07 23 00.5	+1.8
	23nm,0.3s,baz=166,slow=8.3,SNR=3.3							
HNR				S		Sn	07 24 14.1	+0.6
	baz=17,slow=17,SNR=2.8							
DZM	**Mont Dzumac**	**10.14**	**179**	P		Pn	07 23 46.8	+0.5
	0.3nm,0.3s,baz=360,slow=19,SNR=4.6							
DZM				S		Sn	07 25 34.5	-4.3
	baz=90,slow=20,SNR=3.4							
AFI	**Afiamalu**	**21.49**	**98**	LR		LR	07 33 21.9	
	comp=Z,110nm,18.0s,baz=169,slow=34							
STKA	**Stephens Creek**	**30.22**	**225**	P		P	07 27 29.9	+0.8
	4.8nm,0.7s,baz=46,slow=9.4,SNR=13							
STKA				pP		pP	07 27 42.0	-0.1
	2.0nm,0.7s,baz=44,slow=3.7,SNR=2.6							
WRA	**Warramunga Arr**	**31.70**	**251**	P		P	07 27 41.9	-0.5
	1.4nm,0.7s,baz=84,slow=9.0,SNR=9.2							
WRA				pP		pP	07 27 55.0	-0.3
	0.7nm,0.8s,baz=84,slow=9.3,SNR=2.2							
ASAR	**Alice Springs**	**32.90**	**245**	P		P	07 27 52.1	-0.7
	2.4nm,0.8s,baz=75,slow=9.4,SNR=23							
ASAR				pP		pP	07 28 04.8	-1.0
	0.9nm,0.6s,baz=68,slow=9.5,SNR=3.7							
FITZ	**Fitzroy Crossi**	**39.68**	**256**	LR		LR	07 43 34.6	
	comp=Z,85nm,20.9s,baz=216,slow=34							
ASAJ	**Asahikawa**	**59.74**	**340**	LR		LR	07 57 10.4	
	comp=Z,29nm,19.4s,baz=143,slow=36							
VNDA	**Vanda**	**65.68**	**181**	P		P	07 32 01.7	-0.2
	1.1nm,1.2s,baz=359,slow=5.5,SNR=5.5							
VNDA				pP		pP	07 32 16.4	+0.5
	0.6nm,0.6s,baz=339,slow=6.9,SNR=3.7							
CMAR	**Chiang Mai Arr**	**72.92**	**294**	P		P	07 32 48.5	+0.8
	2.9nm,0.7s,baz=132,slow=4.3,SNR=11							
MKAR	**Makanchi Array**	**94.48**	**317**	P		P	07 34 36.6	-1.5
	0.8nm,0.6s,baz=78,slow=6.2,SNR=4.5							

---

*BJI **03** 07:23:24.0, 21°.43N×143°.40E, h337km, mB4.5/15, mb4.4/24*
*JMA **03** 07:23:25.8±0.3, 21°.58N×143°.49E, h340km, M4.7*
*ISCJB **03** 07:23:26.7±0.6, 21°.53N±0°.04×143°.00E±0°.05, h333km±5km, mb4.4/73, Error ellipse: s-maj=7.0km s-min=5.9km az=161.6*
*IDC **03** 07:23:27.5±1.4, 21°.54N×143°.07E, h329km±12km, mb4.0/31, mb1 4.1/33, mb1mx4.1/39, mbtmp4.0/33, Error ellipse: s-maj=11.0km s-min=7.9km az=80.0*
*NEIC **03** 07:23:28.6±0.7, 21°.51N×143°.02E, h342km±7km, mb4.5/37, Error ellipse: s-maj=5.4km s-min=4.2km az=89.0*
ISC 03 07:23:28.5±0.5, 21°.59N±0°.05×143°.03E±0°.06, h340km±3km, n391, σ0.9±91/428, mb4.4/72, 120C-105D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.07**	**351**	P		**Pn**	**07 24 47.3**	**-1.2**
JHHJ				*e*S		**S**	**07 25 51.1**	**-2.0**
CBIJ	**Chichi jima**	**5.53**	**352**	P		**Pn**	**07 24 52.2**	**-1.4**
CBIJ				*e*S		**S**	**07 26 00.5**	**-2.0**
GUMO	**Guam**	**8.15**	**167**	*e*Pn		**Pn**	**07 25 23.2**	**-1.3**
JHJ2	**Mitsune**	**11.82**	**347**	P		**Pn**	**07 26 07.8**	**-0.4**
BSO1	**Boso 1**	**13.14**	**353**	P		**Pn**	**07 26 24.1**	**+0.9**
JIE	**Ise**	**13.91**	**338**	P		**Pn**	**07 26 33.8**	**+0.9**
JIE				*e*S		**S**	**07 28 58.5**	**-5.0**
HMMJ	**Hamamatsu 2**	**14.01**	**342**	P		**Pn**	**07 26 35.5**	**+1.4**
JOD2	**Odawara 2**	**14.05**	**347**	P		**Pn**	**07 26 35.0**	**+0.4**
JOD2				*e*S		**S**	**07 29 03.9**	**-2.4**
JTO	**Tosashimizu**	**14.44**	**323**	P		**Pn**	**07 26 40.3**	**+1.2**
JHO	**Hitachi**	**15.12**	**352**	P		**P**	**07 26 45.5**	**+0.7**
MJAR	**Matsushiro Arr**	**15.47**	**345**	P		**P**	**07 26 48.7**	**-0.1**
MJAR				S		**S**	**07 29 29.6**	**-5.1**
MJAR				ScP		**ScP**	**07 34 31.3**	**+0.5**
MJAR	**Matsushiro Arr**	**15.47**	**345**	P		**P**	**07 26 48.7**	**-0.1**
	baz=168,slow=8.9							
MJAR				S		**S**	**07 29 29.6**	**-5.1**
	0.6nm,0.3s,baz=156,slow=27,SNR=4.3							
MJAR				ScP		**ScP**	**07 34 31.3**	**+0.5**
	0.4nm,0.3s,baz=163,slow=3.1,SNR=7.2							
MAJO	**Matsushiro**	**15.48**	**345**	*e*P		**P**	**07 26 49.5**	**+0.8**
	16nm,0.7s							
MAT	**Matsushiro**	**15.48**	**345**	P		**P**	**07 26 48.5**	**-0.2**
MAT				S		**S**	**07 29 33.8**	**-1.0**
MAT	**Matsushiro**	**15.48**	**345**	P		**P**	**07 26 49.3**	**+0.6**
JNU	**Nakatsue**	**15.74**	**319**	P		**Pn**	**07 26 53.4**	**-0.9**
JNU	**Nakatsue**	**15.74**	**319**	P		**Pn**	**07 26 53.4**	**-0.9**
	0.4nm,0.3s,baz=198,slow=19,SNR=2.8							
JHS	**Saijyo**	**15.94**	**329**	P		**P**	**07 26 55.3**	**+1.5**
ERM	**Erimo**	**20.36**	**0**	*e*P		**P**	**07 27 42.4**	**+2.0**
	51nm,0.9s							
KSRS	**Korea Array**	**20.51**	**324**	P		**P**	**07 27 42.5**	**+0.6**
	16nm,0.6s,baz=147,slow=9.0,SNR=72							
KSRS				ScP		**ScP**	**07 34 43.2**	**+1.7**
	2.4nm,0.9s,baz=128,slow=2.4,SNR=9.1							
KSAR	**Wonju Array Be**	**20.53**	**324**	P		**P**	**07 27 42.5**	**+0.5**
KSAR				ScP		**ScP**	**07 34 43.2**	**+1.6**
ASAJ	**Asahikawa**	**22.46**	**359**	P		**P**	**07 28 00.1**	**+0.5**
ASAJ	**Asahikawa**	**22.46**	**359**	P		**P**	**07 28 00.1**	**+0.5**
	5.3nm,0.6s,baz=194,slow=8.5,SNR=4.0							
NJ2	**Nanjing**	**23.91**	**301**	*e*P		**P**	**07 28 14.2**	**+1.4**
USRK	**Ussuriysk Arra**	**24.33**	**340**	P		**P**	**07 28 17.1**	**+0.7**
	10nm,0.6s,baz=159,slow=8.7,SNR=30							
MDJ	**Mudanjiang**	**25.50**	**337**	P		**P**	**07 28 28.1**	**+1.2**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,72nm,5.3s							
CN2	**Changchun**	**26.52**	**331**	*e*P		**P**	**07 28 37.3**	**+1.3**
BJI	**Beijing**	**29.32**	**315**	P		**P**	**07 29 01.6**	**+0.8**
BJI				pmax		pmax		
	comp=Z,21nm,0.5s							
HHC	**Hu-ho-hao-te**	**32.80**	**313**	*e*P		**P**	**07 29 31.3**	**+0.1**
HHC				pP		**pP**	**07 30 37.3**	**+1.4**
HHC				PP		**PnPn**	**07 30 57.7**	**+1.9**
HHC				sP		**sP**	**07 31 16.8**	**+1.5**
HHC				PcP		**PcP**	**07 32 07.3**	**+0.1**
HHC				S		**S**	**07 34 23.2**	**+0.5**
HHC				ScP		**ScP**	**07 35 16.8**	**-1.6**
HHC				sS		**sS**	**07 36 17.9**	**-2.6**
HHC				SS		**SS**	**07 36 55.5**	**-5.7**
HHC				ScS		**ScS**	**07 39 16.7**	**-2.5**
HHC				pmax		pmax		
	comp=Z,38nm,0.6s							
HHC				pmax		pmax		
	comp=Z,130nm,5.9s							
HHC				LR		LR		
	comp=N,320nm,15.0s							
HHC				LR		LR		
	comp=E,320nm,15.8s							
HHC				LR		LR		
	comp=Z,170nm,15.7s							
PETK	**Petropavlovsk-**	**33.41**	**16**	P		**P**	**07 29 36.3**	**+0.2**
PETK	**Petropavlovsk-**	**33.41**	**16**	P		**P**	**07 29 36.3**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=190,slow=7.5,SNR=4.8							
GYA	**Guiyang**	**33.49**	**286**	*e*P		**P**	**07 29 37.6**	**+0.2**
GYA				pP		**pP**	**07 30 42.8**	**+0.6**

GYA sP **sP** 07 31 21.0 -0.6
GYA PcP **PcP** 07 32 09.7 +0.2
GYA S **S** 07 34 33.5 -0.2
GYA ScP **ScP** 07 35 21.4 +0.3
GYA PcS **PcS** 07 35 55.0 -1.0
GYA ScS **ScS** 07 39 21.7 -1.7
GYA pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 36.98 302 *e*P **P** 07 30 08.0 +1.2
LZH pP **pP** 07 31 14.6 +1.9
LZH sP **sP** 07 31 51.9 0.0
LZH pmax pmax
comp=Z,24nm,1.2s
KMI Kunming 37.06 283 P **P** 07 30 07.5 -0.2
KMI pmax pmax
comp=Z,11nm,0.7s
FX1 Attu Island--F 38.85 29 *e*P **P** 07 30 23.0 +1.3
FX1 Attu Island--F 38.85 29 P **P** 07 30 22.6 +0.8
comp=Z,15nm,0.6s,baz=82,slow=3.2,SNR=8.4
SONM Songino Array 39.33 321 P **P** 07 30 26.5 +0.6
SONM ScP **ScP** 07 35 42.7 +0.3
SONM Songino Array 39.33 321 P **P** 07 30 26.5 +0.6
comp=Z,1.3nm,0.4s,baz=126,slow=7.2,SNR=7.6
SONM ScP **ScP** 07 35 42.7 +0.3
comp=Z,0.9nm,0.8s,baz=151,slow=3.3,SNR=2.7
AMKA Amchitka 40.94 34 *e*P **P** 07 30 40.1 +1.3
comp=Z,28nm,1.0s
CMAR Chiang Mai Arr 41.44 274 P **P** 07 30 44.4 +1.0
CMAR Chiang Mai Arr 41.44 274 P **P** 07 30 44.4 +1.0
comp=Z,3.2nm,0.6s,baz=83,slow=6.0,SNR=12
CTA Charters Tower 41.55 175 P **P** 07 30 43.6 -0.5
CTA Charters Tower 41.55 175 P **P** 07 30 43.6 -0.5
comp=Z,15nm,0.7s,baz=14,slow=7.9,SNR=13
CTAO Charters Tower 41.55 175 *e*P **P** 07 30 43.7 -0.4
comp=Z,14nm,0.6s
WRAB Tennant Creek 42.14 192 *e*P **P** 07 30 47.9 -0.9
comp=Z,10nm,0.5s
WRA Warramunga Arr 42.15 192 P **P** 07 30 48.0 -0.9
WRA ScP **ScP** 07 35 55.8 +2.0
WRA Warramunga Arr 42.15 192 P **P** 07 30 48.0 -0.9
comp=Z,6.4nm,0.3s,baz=17,slow=9.2,SNR=31
WRA ScP **ScP** 07 35 55.8 +2.0
comp=Z,1.6nm,0.7s,baz=12,slow=4.7,SNR=8.4
ATKA Atka Island 44.86 36 *e*P **P** 07 31 10.3 +0.4
comp=Z,42nm,0.6s
AS31 Alice Springs 45.86 192 *e*P **P** 07 31 17.8 -0.3
ASAR Alice Springs 45.86 192 P **P** 07 31 16.9 -1.1
ASAR ScP **ScP** 07 36 11.2 +2.3
ASAR S **S** 07 37 34.2 -1.8
ASAR Alice Springs 45.86 192 P **P** 07 31 16.9 -1.1
comp=Z,2.7nm,0.5s,baz=16,slow=13,SNR=14
ASAR ScP **ScP** 07 36 11.2 +2.3
comp=Z,0.7nm,0.7s,baz=16,slow=5.6,SNR=5.4
ASAR S **S** 07 37 34.2 -1.8
comp=Z,2.1nm,0.9s,baz=19,slow=19,SNR=9.7
DZM Mont Dzumac 49.04 151 P **P** 07 31 41.5 -0.9
DZM Mont Dzumac 49.04 151 P **P** 07 31 41.5 -0.9
comp=Z,12nm,0.9s,baz=34,slow=7.3,SNR=3.5
UNV Unalaska Valle 49.78 37 *e*P **P** 07 31 47.2 -0.3
comp=Z,32nm,0.9s
AKUT Akutan 50.28 37 *e*P **P** 07 31 51.5 +0.4
comp=Z,31nm,0.4s
WMQ Urumqi 50.54 310 P **P** 07 31 55.1 +1.7
WMQ pmax pmax
comp=Z,13nm,1.8s
FORT Forrest 54.02 196 *e*P **P** 07 32 18.0 -0.8
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 54.20 322 *e*P **P** 07 32 19.9 +0.1
ZALV Zalesovo Beam 54.20 322 P **P** 07 32 19.9 +0.1
ZALV PcP **PcP** 07 33 19.1 -0.3
ZALV Zalesovo Beam 54.20 322 P **P** 07 32 19.9 +0.1
comp=Z,16nm,0.8s,baz=100,slow=6.6,SNR=25
ZALV PcP **PcP** 07 33 19.1 -0.3
comp=Z,2.9nm,0.4s,baz=126,slow=3.5,SNR=6.7
MK31 Makanchi Array 54.66 313 *e*P **P** 07 32 24.1 +0.8
MKAR Makanchi Array 54.66 313 P **P** 07 32 24.1 +0.9
MKAR PcP **PcP** 07 33 21.5 +0.1
MKAR Makanchi Array 54.66 313 P **P** 07 32 24.1 +0.9
comp=Z,7.4nm,0.6s,baz=91,slow=8.9,SNR=53
MKAR PcP **PcP** 07 33 21.5 +0.1
comp=Z,1.5nm,0.5s,baz=78,slow=6.0,SNR=5.6
SVW2 Sparrevohn 57.57 30 *e*P **P** 07 32 44.4 +1.1
RSO Redoubt South 58.77 31 *e*P **P** 07 32 52.3 +0.4
KSH Kashi 59.17 304 *e*P **P** 07 32 53.2 -1.7
KSH sP **sP** 07 34 46.6 +1.5
KSH PP **PP** 07 35 12.3 +2.3
KSH pmax pmax
comp=Z,44nm,5.4s
KSH LR LR
comp=N,82nm,6.2s
KSH LR LR
comp=E,70nm,7.9s
KSH LR LR
comp=Z,120nm,5.7s
TKM2 Tokmak 2 59.30 308 *e*P **P** 07 32 57.0 +1.3
comp=Z,8.0nm,1.0s
PPLA Purkeypile 59.54 29 *e*P **P** 07 32 57.9 +0.9
comp=Z,60nm,1.9s
TRF Thorofare Moun 60.50 28 *e*P **P** 07 33 02.7 -0.8
comp=Z,18nm,0.8s
PMR Palmer 60.71 31 *e*P **P** 07 33 04.0 -0.6
comp=Z,12nm,0.6s
SML Sawmill 61.12 30 *e*P **P** 07 33 07.5 0.0
comp=Z,6.2nm,0.8s
MCK McKinley 61.15 28 *e*P **P** 07 33 07.5 -0.1
comp=Z,14nm,0.9s
COLD Coldfoot 61.32 24 *e*P **P** 07 33 09.7 +1.1
comp=Z,10nm,0.8s
COLA College 61.80 27 *e*P **P** 07 33 12.0 +0.1
comp=Z,54nm,0.6s
ILAR Eielson Array 62.20 27 P **P** 07 33 13.4 -1.0
ILAR Eielson Array 62.20 27 P **P** 07 33 13.4 -1.0
comp=Z,13nm,0.8s,baz=257,slow=5.5,SNR=123
PAX Paxson 62.59 29 *e*P **P** 07 33 17.4 +0.2
comp=Z,7.2nm,0.6s
BRVK Borovoye 62.72 320 *e*P **P** 07 33 18.4 +0.2
comp=Z,18nm,0.8s
BMRM Bremner River 62.81 32 *e*P **P** 07 33 19.1 +0.4
comp=Z,37nm,1.4s
KKAR Karatay Array 63.01 308 *e*P **P** 07 33 20.9 +0.7
EGAK Eagle 64.64 27 *e*P **P** 07 33 30.5 +0.2
KBL Kabul 65.27 299 *e*P **P** 07 33 35.9 +0.7
comp=Z,9.3nm,0.5s
DAWY Dawson 65.38 28 *e*P **P** 07 33 35.7 +0.6
HYT Haines Junctio 66.28 32 *e*P **P** 07 33 42.0 +1.0
URZ Urewera 67.59 152 P **P** 07 33 48.1 -1.2
URZ Urewera 67.59 152 P **P** 07 33 48.1 -1.2
comp=Z,6.3nm,0.9s,baz=348,slow=19,SNR=4.4
INK Inuvik 67.72 24 P **P** 07 33 49.6 -0.1
INK Inuvik 67.72 24 P **P** 07 33 49.6 -0.1
comp=Z,9.4nm,0.8s,baz=279,slow=0.8
ABKAR Akbulak array 69.53 316 *e*P **P** 07 34 01.5 +0.4
comp=Z,9.1nm,0.6s
DLBC Dease Lake 70.29 34 *e*P **P** 07 34 06.6 +1.0
DLBC Dease Lake 70.29 34 P **P** 07 34 06.6 +1.0
comp=Z,8.0nm,0.8s,baz=294,slow=8.7,SNR=15
SPITS Spitsbergen Ar 75.91 350 P **P** 07 34 37.9 0.0
SPITS Spitsbergen Ar 75.91 350 P **P** 07 34 37.9 0.0
comp=Z,4.1nm,0.6s,baz=86,slow=11,SNR=8.3
YKA Yellowknife Ar 76.61 28 P **P** 07 34 42.0 -0.1
YKA Yellowknife Ar 76.61 28 P **P** 07 34 41.9 -0.1
comp=Z,16nm,0.6s,baz=291,slow=5.7,SNR=82
BMW Boistfort Moun 77.14 45 P **P** 07 34 46.4 +1.0
CMW Cultus Mountai 77.26 43 P **P** 07 34 47.0 +0.9
JCW Jim Creek 77.45 43 P **P** 07 34 48.0 +1.0
FL2 Flat Top 2 77.81 45 P **P** 07 34 50.4 +1.2
TDL Tradedollar La 77.85 45 P **P** 07 34 50.3 +0.9
LON Longmire 77.99 44 *e*P **P** 07 34 51.1 +1.1
VLL Laurance Lake 78.49 46 P **P** 07 34 53.8 +1.0
HUMO Hull Mountain 78.54 49 *e*P **P** 07 34 54.1 +1.1
comp=Z,4.9nm,0.7s
KHMM Horse Mountain 78.54 51 *e*P **P** 07 34 54.4 +1.2
comp=Z,13nm,0.7s
FRIS Frissel Point 78.61 47 P **P** 07 34 54.3 +0.8
ARCES ARCESS Array B 78.97 341 P **P** 07 34 55.1 +0.3
ARCES ARCESS Array B 78.97 341 P **P** 07 34 55.1 +0.3
comp=Z,11nm,0.5s,baz=73,slow=8.5,SNR=69
YBH Yreka Blue Hor 78.99 50 *e*P **P** 07 34 56.7 +1.1
YBH Yreka Blue Hor 78.99 50 P **P** 07 34 56.2 +0.6
comp=Z,5.7nm,0.8s,baz=320,slow=4.2,SNR=17
KCPM Cahto Peak 79.03 52 *e*P **P** 07 34 56.3 +0.4
comp=Z,22nm,1.3s
OD2 Odessa Site #2 79.77 43 P **P** 07 34 59.8 +0.3
NEW Newport 80.45 42 *e*P **P** 07 35 03.6 +0.4
NEW Newport 80.45 42 P **P** 07 35 03.4 +0.2
comp=Z,7.3nm,0.6s,baz=280,slow=4.4,SNR=21
NEW Newport 80.45 42 ⇑P **P** 07 35 03.6 +0.4
baz=80
EDM Edmonton 80.76 36 *e*P **P** 07 35 02.4 -2.3
A12A Yaak River Ran 81.10 41 ⇓P **P** 07 35 08.1 +1.5
baz=81
DAG Danmarks Havn 81.22 356 *i*P **P** 07 35 05.2 -1.4
comp=Z,3.3nm,0.9s
B12A Libby 81.32 41 ⇓P **P** 07 35 08.8 +1.1
baz=81
A13A Flathead Natio 81.86 41 ⇓P **P** 07 35 11.1 +0.5
baz=82,SNR=5.7
CMB Columbia Colle 81.94 52 *e*P **P** 07 35 11.5 +0.3
B13A Whitefish 82.05 41 ⇓P **P** 07 35 12.3 +0.8
baz=82
BSMT Bassoo Peak 82.06 42 *e*P **P** 07 35 12.3 +0.6
C13A Hot Springs 82.26 42 ⇑P **P** 07 35 12.8 +0.1
baz=82
KBZ Khabaz 82.34 314 P **P** 07 35 13.8 +0.8
KBZ Khabaz 82.34 314 P **P** 07 35 13.8 +0.8
comp=Z,7.6nm,0.8s,baz=93,slow=3.2,SNR=17
JTMT Jette 82.41 42 *e*P **P** 07 35 14.1 +0.6
A14A Double T Ranch 82.44 40 ⇓P **P** 07 35 14.2 +0.6
baz=82,SNR=8.6
WAKR Walker 82.46 52 *e*P **P** 07 35 14.2 +0.2
YBMT Yellow Bay 82.53 41 *e*P **P** 07 35 13.7 -0.4
comp=Z,3.1nm,0.6s
SWMT Swartz Lake 82.68 42 *e*P **P** 07 35 15.0 +0.1
C14A Swan Lake 82.73 41 ⇓P **P** 07 35 15.4 +0.3
baz=83
B14A Marquette Ranc 82.78 41 ⇓P **P** 07 35 16.0 +0.6
baz=83,SNR=10
A15A Johnson Ranch, 82.85 40 ⇑P **P** 07 35 16.0 +0.3
baz=83,SNR=17
MSO Missoula 82.99 42 ⇑P **P** 07 35 16.5 0.0
baz=83
SLMT Seeley Lake 83.11 42 *e*P **P** 07 35 16.9 -0.2
MFID Camas Ranch 83.13 46 *e*P **P** 07 35 17.4 +0.1
comp=Z,10nm,1.0s
MFID Camas Ranch 83.13 46 ⇓P **P** 07 35 17.7 +0.4
baz=83
FINES FINESS Array B 83.21 334 P **P** 07 35 16.4 -0.7
FINES FINESS Array B 83.21 334 P **P** 07 35 16.4 -0.7
comp=Z,8.2nm,0.5s,baz=72,slow=6.2,SNR=38
B15A Bradely Ranch, 83.23 41 ⇓P **P** 07 35 17.6 -0.1
baz=83,SNR=12
NVAR Mina Array Bea 83.32 51 P **P** 07 35 18.7 +0.3
NVAR Mina Array Bea 83.32 51 P **P** 07 35 18.7 +0.3
comp=Z,5.6nm,0.7s,baz=272,slow=5.7,SNR=37
CHMT Chamberlain Mo 83.39 42 *e*P **P** 07 35 18.4 -0.3
RCTC Rector, Farmer 83.42 54 ⇓P **P** 07 35 17.8 -0.8
baz=83
C15A Salmond Ranch, 83.43 41 ⇓P **P** 07 35 18.7 0.0
baz=83,SNR=10
MTUM Tungsten Hills 83.53 53 *e*P **P** 07 35 20.0 +0.5
A16A West Butte Ran 83.54 40 ⇓P **P** 07 35 19.2 0.0
baz=83,SNR=14
B16A M & M Farms, S 83.70 40 ⇑P **P** 07 35 20.1 +0.1
baz=84
VES Vestal, Richgr 83.71 54 ⇑P **P** 07 35 19.8 -0.4
baz=84
TIN Tinemaha 83.89 53 ⇓P **P** 07 35 21.1 -0.1
baz=84
C16A Fuhringer Ranc 83.94 41 ⇑P **P** 07 35 21.0 -0.2
baz=84,SNR=19
HLID Hailey 84.02 46 *e*P **P** 07 35 22.0 +0.2
comp=Z,5.1nm,1.0s
HLID Hailey 84.02 46 ⇑P **P** 07 35 22.4 +0.6
baz=84
A17A Triple J Farms 84.08 40 ⇓P **P** 07 35 22.0 +0.2
baz=84,SNR=10
CWC Cottonwood Cre 84.24 53 ⇓P **P** 07 35 22.6 -0.4
baz=84
ISA Isabella 84.24 54 ⇑P **P** 07 35 22.4 -0.5
baz=84
B17A L&G Farms, Che 84.30 40 ⇑P **P** 07 35 23.1 +0.2
baz=84,SNR=31
LRM Limekiln Ridge 84.35 43 *e*P **P** 07 35 23.5 0.0
HRY Holter Researc 84.36 42 *e*P **P** 07 35 23.8 +0.5
DLMT Dillon 84.45 43 *e*P **P** 07 35 24.1 +0.2
comp=Z,15nm,1.5s
I14A Mackay 84.50 45 ⇓P **P** 07 35 24.5 +0.3
baz=84
GRAC Grapevine Rang 84.55 52 ⇓P **P** 07 35 24.4 0.0
baz=84
A18A Metzger Ranch, 84.59 39 ⇑P **P** 07 35 24.7 +0.3
baz=84,SNR=9.3
C17A Wharram Farm, 84.61 41 ⇑P **P** 07 35 24.1 -0.4
baz=84,SNR=7.9
MPMC Manual Prospec 84.82 53 ⇑P **P** 07 35 26.2 +0.2
baz=85
B18A Beardsley Farm 84.87 40 ⇓P **P** 07 35 25.7 -0.1
baz=85,SNR=5.3
D17A Six Diamond Ra 84.87 41 ⇑P **P** 07 35 25.9 -0.1
baz=85,SNR=13
LRMC Laurel Mountai 84.90 54 ⇓P **P** 07 35 26.4 +0.1
baz=85
EGMT Eagleton 85.05 40 *e*P **P** 07 35 27.1 +0.4
comp=Z,12nm,1.0s
EGMT Eagleton 85.05 40 ⇑P **P** 07 35 26.5 -0.2
baz=85,SNR=5.7
E17A Martinsdale 85.07 42 ⇓P **P** 07 35 27.3 +0.3
baz=85,SNR=7.9
FURC Furnace Creek, 85.13 53 ⇑P **P** 07 35 27.7 +0.5
baz=85
A19A Klindworth Far 85.23 39 ⇑P **P** 07 35 27.7 +0.2
baz=85,SNR=12
R11A Troy Canyon, C 85.32 51 ⇑P **P** 07 35 28.4 0.0
baz=85
B19A Brinkman Farms 85.33 39 ⇓P **P** 07 35 27.9 -0.2
baz=85,SNR=15
D18A Linhart Farms, 85.39 41 ⇓P **P** 07 35 28.9 +0.5
baz=85
QLMT Earthquake Lak 85.43 43 *e*P **P** 07 35 29.9 +1.1
F17A Fitzpatrick Pl 85.44 42 ⇓P **P** 07 35 28.8 0.0
baz=85,SNR=7.0
H16A Russell Place, 85.60 44 ⇑P **P** 07 35 31.0 +1.4
baz=86
C19A Slack Wire Ran 85.60 40 ⇓P **P** 07 35 29.6 +0.2
baz=86,SNR=7.0
E18A Harlowton 85.61 41 ⇓P **P** 07 35 30.1 +0.6
baz=86,SNR=20
GSC Goldstone 85.63 54 *e*P **P** 07 35 30.4 +0.5
comp=Z,5.3nm,0.9s
GSC Goldstone 85.63 54 ⇑P **P** 07 35 30.2 +0.3
baz=86
G17A Pierce Place, 85.65 43 ⇑P **P** 07 35 30.6 +0.8
baz=86
A20A Cobblestone Ra 85.73 39 ⇓P **P** 07 35 30.1 +0.1
baz=86
SHOC Shoshone 85.79 53 ⇑P **P** 07 35 30.9 +0.4
baz=86
I16A Newdale 85.81 44 ⇓P **P** 07 35 31.6 +1.0
baz=86
B20A Soberg Farm, 85.89 39 ⇑P **P** 07 35 30.6 -0.2
baz=86,SNR=6.3
D19A Cripps Ranch, 85.97 41 ⇑P **P** 07 35 31.5 +0.3
baz=86,SNR=19
FFC Flin Flon 85.99 32 *e*P **P** 07 35 31.2 +0.2
comp=Z,11nm,1.1s
F18A Big Timber 86.03 42 ⇓P **P** 07 35 32.0 +0.4
baz=86,SNR=6.1
SUMG Summit 86.07 0 *i*P **P** 07 35 32.5 +0.9
comp=Z,9.6nm,0.8s
IMW Indian Meadow 86.16 44 *e*P **P** 07 35 33.3 +0.9
comp=Z,4.9nm,0.9s
HEC Hector,Ludlow 86.18 54 ⇓P **P** 07 35 32.1 -0.4
baz=86
C20A Veseth Ranch, 86.24 40 ⇓P **P** 07 35 33.2 +0.7
baz=86
TUQ Turquoise Moun 86.24 53 ⇑P **P** 07 35 33.1 +0.3
baz=86
A21A Bergtoll Ranch 86.26 38 ⇓P **P** 07 35 32.9 +0.3
baz=86
MOOW Moose Ponds 86.35 44 *e*P **P** 07 35 34.0 +0.7
comp=Z,1.7nm,0.9s
E19A Rath Farm, Rou 86.35 41 ⇓P **P** 07 35 33.5 +0.5
baz=86
D20A Manuel Ranch, 86.45 40 ⇑P **P** 07 35 34.0 +0.4
baz=86,SNR=13
B21A Ellsworth Farm 86.48 39 ⇓P **P** 07 35 33.9 +0.3
baz=86
DUG Dugway 86.51 48 ⇓P **P** 07 35 34.6 +0.5
baz=86
F19A Roth Farm, Mol 86.53 42 ⇓P **P** 07 35 34.4 +0.4
baz=86
PFO Pinyon Flat Ob 86.57 55 *e*P **P** 07 35 34.4 0.0
PFO Pinyon Flat Ob 86.57 55 ⇑P **P** 07 35 34.7 +0.2
baz=86
H18A Shoshone NF, C 86.62 43 ⇑P **P** 07 35 35.7 +1.1
baz=86
GMRC Granite Mounta 86.70 54 ⇑P **P** 07 35 35.3 +0.2
baz=87
C21A Desert Coulee 86.72 39 ⇑P **P** 07 35 35.1 +0.3
baz=87
E20A Meyer Farm, Mu 86.73 41 ⇓P **P** 07 35 35.3 +0.5
baz=87
HWUT Hardware Ranch 86.75 46 *e*P **P** 07 35 35.5 +0.3
comp=Z,6.2nm,1.1s
BELC Belle Mtn. Jos 86.76 55 ⇓P **P** 07 35 35.6 +0.2
baz=87
MONP Monument Peak 86.88 56 ⇑P **P** 07 35 36.0 -0.1
baz=87
I18A Diamond G Ranc 86.97 44 ⇑P **P** 07 35 36.9 +0.6
baz=87
D21A La Casta Ranch 87.15 40 ⇑P **P** 07 35 37.3 +0.5
baz=87
CCUT Cedar City 87.25 51 *e*P **P** 07 35 38.5 +0.8
JLU Jordanelle 87.27 47 *e*P **P** 07 35 38.2 +0.4
comp=Z,1.7nm,0.7s
G20A Bridger 87.28 42 ⇓P **P** 07 35 38.0 +0.3
baz=87
BC3 Big Chuckawall 87.31 55 ⇑P **P** 07 35 38.0 0.0
baz=87
IRM Iron Mountain 87.34 54 ⇑P **P** 07 35 38.4 +0.4
baz=87
SWSC Sam W. Stewart 87.34 56 ⇓P **P** 07 35 38.4 +0.4
baz=87
E21A Keefer Ranch, 87.35 41 ⇓P **P** 07 35 38.3 +0.5
baz=87
M17A Scullys Gap (B 87.42 46 ⇑P **P** 07 35 38.6 +0.2
baz=87
C22A Vida 87.47 39 ⇑P **P** 07 35 38.4 +0.1
baz=87
PDAR Pinedale Array 87.56 45 P **P** 07 35 38.4 -0.7
PDAR Pinedale Array 87.56 45 P **P** 07 35 38.4 -0.7
comp=Z,0.6nm,0.5s,baz=298,slow=1.9,SNR=9.9
D22A Cohagen 87.59 40 ⇑P **P** 07 35 39.9 +0.9
baz=88
J19A Crowheart 87.66 44 ⇑P **P** 07 35 40.0 +0.5
baz=88
C23A Lambert 87.86 39 ⇓P **P** 07 35 40.6 +0.5
baz=88
W13A Hualapai Mount 87.90 53 ⇑P **P** 07 35 40.9 +0.1
baz=88
G21A Lodge Grass 87.91 42 ⇓P **P** 07 35 40.9 +0.4
baz=88
I20A Worland 87.94 43 ⇓P **P** 07 35 41.0 +0.3
baz=88
A24A Westby 87.97 37 ⇑P **P** 07 35 40.9 +0.3
baz=88
Y12C Blythe 87.98 54 ⇓P **P** 07 35 41.6 +0.6
baz=88
L19A Farson 88.00 45 ⇓P **P** 07 35 40.7 -0.5
baz=88
K19A Absolon Red Bu 88.00 44 ⇓P **P** 07 35 40.7 -0.4
baz=88
GLA Glamis 88.04 55 ⇑P **P** 07 35 41.4 +0.1
baz=88
PDMCI Parker Dam,Lak 88.04 54 ⇓P **P** 07 35 41.2 0.0
baz=88
D23A Lindsay 88.16 39 ⇑P **P** 07 35 42.3 +0.7
baz=88
Q16A Castle Valley 88.21 49 ⇓P **P** 07 35 41.9 -0.3
baz=88
F22A Rosebud 88.22 41 ⇓P **P** 07 35 41.9 0.0
baz=88
J20A Shoshoni 88.25 44 ⇑P **P** 07 35 42.3 +0.1
baz=88
H21A Big Horn, Sher 88.30 42 ⇑P **P** 07 35 42.7 +0.3
baz=88
K20A Yellowstone Ra 88.41 44 ⇑P **P** 07 35 42.6 -0.4
baz=88
U15A North Rim 88.50 51 ⇓P **P** 07 35 43.8 0.0
baz=88
I21A Big Trails, Te 88.53 43 ⇑P **P** 07 35 43.8 +0.3
baz=88
SRU San Rafael 88.57 48 *e*P **P** 07 35 44.0 +0.1
comp=Z,2.3nm,0.9s
L20A Wamsutter 88.72 45 ⇓P **P** 07 35 44.7 +0.2
baz=89
H22A Clearmont 88.75 42 ⇓P **P** 07 35 44.1 -0.3
baz=89
HFS Hagfors 88.77 337 P **P** 07 35 42.4 -1.6
HFS Hagfors 88.77 337 P **P** 07 35 42.4 -1.6
comp=Z,2.7nm,0.6s,baz=90,slow=4.4,SNR=13
F23A Volborg 88.77 41 ⇑P **P** 07 35 44.5 0.0
baz=89
113A Mohawk Valley, 88.97 55 ⇑P **P** 07 35 46.0 +0.4
baz=89
NB2 NORSAR Subarra 88.99 339 P **P** 07 35 43.9 -1.2
comp=Z,2.3nm,0.7s,baz=45,slow=4.6
NOA NORSAR Array B 88.99 339 P **P** 07 35 44.0 -1.2
NOA NORSAR Array B 88.99 339 P **P** 07 35 44.0 -1.2
comp=Z,1.7nm,0.7s,baz=46,slow=4.5,SNR=12
O19A Miners Draw (B 88.99 47 ⇑P **P** 07 35 45.3 -0.5
baz=89
I22A 9 Mile Ranch, 89.01 43 ⇓P **P** 07 35 46.0 +0.3
baz=89
C25A Freed Ranch, W 89.02 38 ⇑P **P** 07 35 45.6 0.0
baz=89
Y14A Wickenburg 89.05 54 ⇓P **P** 07 35 46.3 +0.3
baz=89
M20A Sweetwater, Wa 89.06 45 ⇑P **P** 07 35 46.8 +0.6
baz=89
K21A Alcova 89.13 44 ⇓P **P** 07 35 46.4 0.0
baz=89
J22A Midwest 89.25 43 ⇓P **P** 07 35 47.4 +0.5
baz=89
F24A Ekalaka 89.29 40 ⇓P **P** 07 35 47.5 +0.6
baz=89
N20A Spence Gulch, 89.32 46 ⇓P **P** 07 35 47.3 -0.1
baz=89
Z14A Wintersburg 89.34 54 ⇓P **P** 07 35 48.1 +0.8
baz=89
L21A Rawlins 89.37 45 ⇓P **P** 07 35 47.5 -0.1
baz=89
P19A Cripple Cowboy 89.40 47 ⇓P **P** 07 35 47.7 0.0
baz=89,SNR=13
M21A Separation Pea 89.55 45 ⇓P **P** 07 35 47.9 -0.6
baz=89
WUAZ Wupatki 89.57 52 ⇑P **P** 07 35 48.7 +0.2
baz=90
C26A Wahner Farm, P 89.62 38 ⇓P **P** 07 35 48.4 0.0
baz=90
O20A White River Ci 89.67 47 ⇓P **P** 07 35 48.9 -0.1
baz=90
H24A Dirks Ranch, A 89.78 41 ⇑P **P** 07 35 48.9 -0.3
baz=90
F25A Bowman 89.83 40 ⇓P **P** 07 35 49.8 +0.4
baz=90
N21A Black Mountain 89.85 46 ⇑P **P** 07 35 50.0 +0.2
baz=90,SNR=7.6
P20A De Beque 89.86 47 ⇑P **P** 07 35 49.8 0.0
baz=90
L22A Ellis Ranch, M 89.95 44 ⇑P **P** 07 35 50.0 -0.3
baz=90
C27A Sayler Ranch, 90.02 38 ⇓P **P** 07 35 50.7 +0.5
baz=90
214A Organ Pipe Nat 90.04 56 ⇓P **P** 07 35 51.0 +0.3
baz=90
K23A Bowen Ranch, D 90.11 43 ⇑P **P** 07 35 50.9 0.0
baz=90
E26A Carlson Angus 90.14 39 ⇑P **P** 07 35 51.0 +0.2
baz=90
O21A Pagoda 90.15 46 ⇓P **P** 07 35 51.1 -0.1
baz=90
M22A Cedar Creek Ra 90.15 45 ⇑P **P** 07 35 51.1 -0.1
baz=90
Q20A Ridgley Place, 90.19 48 ⇓P **P** 07 35 51.5 +0.1
baz=90,SNR=9.0
G25A Newell 90.24 40 ⇓P **P** 07 35 51.3 -0.1
baz=90
BRTR Keskin Array B 90.31 313 P **P** 07 35 50.7 -1.2
BRTR Keskin Array B 90.31 313 P **P** 07 35 50.7 -1.2
comp=Z,1.5nm,0.7s,baz=100,slow=5.1,SNR=8.3
F26A Lodgepole 90.34 40 ⇑P **P** 07 35 52.4 +0.6
baz=90
L23A Garrett 90.38 44 ⇓P **P** 07 35 52.4 +0.1
baz=90
H25A Fruitdale 90.43 41 ⇓P **P** 07 35 52.4 +0.1
baz=90
J24A Dixon Ranch, L 90.43 42 ⇓P **P** 07 35 52.6 +0.3
baz=90
R20A Redvale 90.49 48 ⇑P **P** 07 35 53.2 +0.3
baz=90

P21A	Newcastle	90.49	47	⇑P	P	07 35 53.2 +0.3
baz=90						
N22A	Wattenberg Ran	90.54	45	⇑P	P	07 35 53.4 +0.3
baz=90						
I25A	Rochford	90.66	42	⇓P	P	07 35 53.9 +0.4
baz=90						
S20A	Disappointment	90.67	49	⇑P	P	07 35 53.6 -0.2
baz=91						
G26A	Maurine	90.68	40	⇑P	P	07 35 53.8 +0.4
baz=90						
Q21A	Lamborn Mesa,	90.74	47	⇑P	P	07 35 54.1 +0.1
baz=91						
O22A	Kremmling	90.79	46	⇑P	P	07 35 54.2 -0.2
baz=91,SNR=5.6						
N23A	Red Feather La	90.83	45	⇑P	P	07 35 55.6 +1.2
baz=91						
MVCO	Mesa Verde	90.86	49	⇑P	P	07 35 55.8 +1.2
baz=91						
P22A	Eagle	90.92	46	⇓P	P	07 35 55.3 +0.5
baz=91,SNR=6.6						
H26A	Fairpoint	90.93	41	⇑P	P	07 35 54.9 +0.4
baz=91						
J25A	Sunshine Ranch	90.94	42	⇓P	P	07 35 54.8 +0.1
baz=91						
R21A	Cimarron	90.98	48	⇑P	P	07 35 55.7 +0.6
baz=91,SNR=6.8						
G27A	Dupree	91.03	40	⇑P	P	07 35 54.9 -0.1
baz=91						
S21A	Coal Bank Pass	91.14	49	⇓P	P	07 35 55.8 -0.3
baz=91						
Q22A	Crested Butte,	91.18	47	⇑P	P	07 35 56.6 +0.5
baz=91,SNR=7.6						
O23A	Lake Granby, G	91.19	46	⇑P	P	07 35 56.6 +0.5
baz=91						
I26A	New Underwood	91.19	41	⇓P	P	07 35 55.9 +0.1
baz=91						
U20A	Newcomb	91.24	50	⇑P	P	07 35 56.4 +0.1
baz=91						
M24A	Cheyenne	91.28	44	⇑P	P	07 35 56.5 +0.2
baz=91						
K25A	Mack Ranch, Ha	91.30	43	⇑P	P	07 35 56.4 0.0
baz=91						
FRB	Frobisher Bay	91.43	13	P	P	07 35 55.4 -0.9
FRB	Frobisher Bay	91.43	13	P	P	07 35 55.4 -0.9
comp=Z,4.4nm,0.7s,baz=302,slow=8.2,SNR=3.7						
J26A	Sides Ranch, S	91.44	42	⇓P	P	07 35 57.0 +0.1
baz=91						
V20A	Brimhall	91.55	50	⇓P	P	07 35 57.6 -0.1
baz=91						
R22A	Saguache, Gunn	91.59	48	⇓P	P	07 35 58.7 +0.6
baz=92						
ISCO	Idaho Springs	91.59	46	⇑P	P	07 35 58.2 +0.2
baz=92						
P23A	Jefferson	91.65	46	⇑P	P	07 35 59.2 +0.8
baz=92						
I27A	Quinn	91.66	41	⇑P	P	07 35 57.8 -0.1
baz=92						
S22A	4UR Ranch, Cre	91.77	48	⇑P	P	07 35 58.9 0.0
baz=92						
G28A	Parade	91.80	40	⇑P	P	07 35 58.7 +0.1
baz=92						
U21A	Nageezi	91.83	50	⇓P	P	07 35 58.5 -0.6
baz=92						
W20A	Ramah	91.84	51	⇑P	P	07 35 59.0 -0.2
baz=92						
Q23A	Hartsel	91.89	47	⇓P	P	07 35 58.9 -0.5
baz=92						
H28A	Mission Ridge	91.96	40	⇑P	P	07 35 59.2 -0.1
baz=92						
T22A	Edith	92.08	49	⇓P	P	07 36 00.3 0.0
baz=92						
X20A	Quemado	92.11	52	⇑P	P	07 36 00.7 +0.2
baz=92						
I28A	Midland	92.24	41	⇑P	P	07 36 00.5 -0.1
baz=92						
R23A	Moffat	92.25	47	⇑P	P	07 36 01.3 +0.2
baz=92						
K27A	Flueckinger Fa	92.28	42	⇑P	P	07 36 00.9 0.0
baz=92						
U22A	Llaves	92.42	49	⇑P	P	07 36 02.1 +0.2
baz=92						
O25A	Wiggins	92.42	45	⇑P	P	07 36 01.6 -0.1
baz=92						
Y20A	Horse Springs,	92.50	52	⇑P	P	07 36 02.7 +0.4
baz=92						
J28A	Allard Ranch,	92.51	41	⇓P	P	07 36 02.2 +0.3
baz=92						
T23A	Casias Ranch,	92.67	48	⇑P	P	07 36 03.4 +0.4
baz=93						
X21A	Alamocita Cree	92.68	51	⇓P	P	07 36 03.3 +0.2
baz=93						
Z20A	Nine Sixteen R	92.71	53	⇑P	P	07 36 03.9 +0.8
baz=93,SNR=6.2						
R24A	Sanders Place,	92.72	47	⇑P	P	07 36 03.6 +0.5
baz=93						
U23A	El Rito	92.91	49	⇑P	P	07 36 03.6 -0.4
baz=93						
120A	U Bar Ranch, L	92.94	53	⇑P	P	07 36 05.0 +0.7
baz=93						
Y21A	Point of Rocks	92.97	52	⇑P	P	07 36 04.6 +0.2
baz=93						
P26A	Davis Ranch, A	93.22	45	⇑P	P	07 36 04.8 -0.6
baz=93						
Z21A	St. Cloud Mine	93.30	52	⇓P	P	07 36 06.6 +0.7
baz=93						
U24A	Moreno Valley	93.51	49	⇑P	P	07 36 06.8 -0.1
baz=93						
W23A	Werner Place,	93.51	50	⇓P	P	07 36 06.8 0.0
baz=93						
Y22A	Socorro	93.52	52	⇓P	P	07 36 06.9 0.0
baz=93						
121A	Cookes Peak, D	93.58	53	⇓P	P	07 36 07.4 +0.3
baz=94						
Z22A	Elephant Butte	93.84	52	⇑P	P	07 36 08.2 -0.2
baz=94						
W24A	Lazy 6 Ranch,	94.02	50	⇓P	P	07 36 08.7 -0.5
baz=94						
U25A	Circle Dot Ran	94.12	48	⇑P	P	07 36 09.1 -0.4
baz=94						
Y23A	Lovelace Mesa,	94.18	51	⇓P	P	07 36 09.4 -0.4
baz=94						
R27A	Eads	94.25	46	⇓P	P	07 36 09.3 -0.8
baz=94						
T26A	Comanche Natio	94.29	47	⇑P	P	07 36 09.9 -0.4
baz=94						
Y24A	Capitan	94.63	51	⇑P	P	07 36 11.7 -0.2
baz=94						
R28A	Tribune	94.88	46	⇑P	P	07 36 12.8 -0.1
baz=95						
T27A	Campo	94.94	47	⇓P	P	07 36 12.6 -0.6
baz=95						
U27A	Thompson Grove	95.21	48	⇑P	P	07 36 13.4 -1.1
baz=95						
124A	Stringfield Ra	95.22	52	⇓P	P	07 36 14.4 -0.3
baz=95						
T28A	Walsh	95.33	47	⇓P	P	07 36 14.3 -0.6
baz=95						
Z25A	Roswell	95.47	51	⇑P	P	07 36 15.1 -0.6
baz=95						
224A	Cornudas Mount	95.48	53	⇓P	P	07 36 15.3 -0.5
baz=95						
S29A	Ulysses	95.73	46	⇑P	P	07 36 15.7 -1.0
baz=96						
Z26A	Caprock	96.01	51	⇓P	P	07 36 17.9 -0.2
baz=96						
426A	McDonald Obser	97.29	53	⇓P	P	07 36 23.0 -1.1
baz=97						
526A	Mary Lane Ranc	97.55	54	⇓Pdiff	P	07 36 24.4 -0.8
baz=97						
526A	Mary Lane Ranc	97.55	54	⇓Pdiff	P	07 36 24.4 -0.8
baz=97						
Z29A	Hungry Hill Ra	97.65	50	⇑Pdiff	P	07 36 25.2 -0.2
baz=98						
Z29A	Hungry Hill Ra	97.65	50	⇑Pdiff	P	07 36 25.2 -0.2
baz=98						
TXAR	Lajitas Array	98.23	54	P	Pdif	07 36 29.1 +1.0
TXAR	Lajitas Array	98.23	54	P	Pdif	07 36 29.1 +1.0
comp=Z,0.2nm,0.6s,baz=348,slow=3.8,SNR=3.3						
329A	Wagon Wheel Ra	98.38	52	⇓Pdiff	Pdif	07 36 27.6 -1.2
baz=98						
329A	Wagon Wheel Ra	98.38	52	⇓Pdiff	Pdif	07 36 27.6 -1.2
baz=98						
Z31A	Sharp Cattle R	98.72	49	⇑Pdiff	Pdif	07 36 29.1 -1.1
baz=99						
Z31A	Sharp Cattle R	98.72	49	⇑Pdiff	Pdif	07 36 29.1 -1.1
baz=99						
628A	Black Gap, Mar	98.74	54	⇑Pdiff	Pdif	07 36 28.7 -1.6
baz=99						
628A	Black Gap, Mar	98.74	54	⇑Pdiff	Pdif	07 36 28.7 -1.6
baz=99						
429A	Davenport Ranc	98.89	52	⇓Pdiff	Pdif	07 36 30.1 -0.9
baz=99						
429A	Davenport Ranc	98.89	52	⇓Pdiff	Pdif	07 36 30.1 -0.9
baz=99						
Z32A	Haskell	99.19	49	⇑Pdiff	**Pdif**	**07 36 32.3 0.0**
baz=99						
Z32A	Haskell	99.19	49	⇑Pdiff	**Pdif**	**07 36 32.3 0.0**
baz=99						
331A	San Angelo	99.60	51	⇑Pdiff	**Pdif**	**07 36 33.7 -0.5**
baz=100						
331A	San Angelo	99.60	51	⇑Pdiff	**Pdif**	**07 36 33.7 -0.5**
baz=100						
332A	Millersview	100.05	51	⇑Pdiff	**Pdif**	**07 36 35.0 -1.1**
baz=100						
332A	Millersview	100.05	51	⇑Pdiff	**Pdif**	**07 36 35.0 -1.1**
baz=100						
TORD	Torodi Ar. Bea	128.70	309	PKP	**PKPdf**	**07 41 56.2 -0.4**
TORD				SKPbc	SKiKP	07 44 46.5 -14
TORD	Torodi Ar. Bea	128.70	309	PKP	**PKPdf**	**07 41 56.2 -0.4**
comp=Z,0.6nm,0.6s,baz=22,slow=2.0,SNR=7.3						
TORD				SKPbc	SKiKP	07 44 46.5 -14
comp=Z,1.5nm,0.9s,baz=27,slow=2.7,SNR=6.9						
PLCA	Paso Flores	145.79	132	*e*PKPbc	**PKPbc**	**07 42 28.6 +0.2**
PLCA	Paso Flores	145.79	132	PKPbc	**PKPbc**	**07 42 28.8 +0.4**
comp=Z,2.6nm,0.6s,baz=262,slow=3.9,SNR=13						
LPAZ	La Paz	150.09	85	*e*PKPdf	**PKPdf**	**07 42 36.2 +0.7**
LPAZ				*e*PKPbc	**PKiKP**	**07 42 41.4 -0.2**
LPAZ				PKPbc	**PKPbc**	**07 42 41.5 +0.6**
LPAZ				*e*PKPab	**PKPab**	**07 42 48.3 +0.1**
LPAZ				PKPab	PKPab	07 42 48.5 +0.4
LPAZ	La Paz	150.09	85	PKPbc	**PKPbc**	**07 42 41.5 +0.6**
comp=Z,6.7nm,0.6s,baz=297,slow=2.1,SNR=34						
LPAZ				PKPab	**PKPab**	**07 42 48.5 +0.4**
comp=Z,4.7nm,0.6s,baz=306,slow=1.6,SNR=11						

IDC 03 07:24:08.5±1.3, 57.77N×32.58W, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/29, mbtmp3.5/6, MS3.2/10, Ms1 3.2/10, ms1mx2.9/39, Error ellipse: s-maj=39.1km s-min=23.4km az=21.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.84**	**33**	Pn	Pn	07 26 22.4	+5.1
0.8nm,0.3s,baz=216,slow=8.7,SNR=4.4							
SFJD	**Kangerlussuaq**	**12.42**	**326**	LR	LR	07 31 29.7	
comp=Z,24nm,18.7s,baz=67,slow=36							
FRB	**Frobisher Bay**	**18.36**	**304**	LR	LR	07 34 31.7	
comp=Z,125nm,18.4s,baz=215,slow=34							
SCHQ	**Schefferville**	**19.11**	**276**	LR	LR	07 35 03.2	
comp=Z,130nm,18.2s,baz=92,slow=34							
NOA	**NORSAR Array B**	**22.21**	**63**	P	P	07 29 06.2	0.0
1.1nm,0.9s,baz=279,slow=10.0,SNR=2.2							
NOA				LR	LR	07 36 51.0	
comp=Z,20nm,18.1s,baz=260,slow=34							
HFS	**Hagfors**	**23.61**	**65**	LR	LR	07 36 26.2	
comp=Z,30nm,19.2s,baz=58,slow=31							
ESDC	**Sonseca Array**	**25.85**	**122**	LR	LR	07 38 40.0	
comp=Z,52nm,21.4s,baz=345,slow=34							
DAVOX	**Davos/Dischmat**	**27.74**	**95**	LR	LR	07 40 25.9	
comp=Z,59nm,19.4s,baz=266,slow=35							
GERES	**GERESS Array B**	**28.54**	**88**	LR	LR	07 41 05.3	
comp=Z,50nm,18.3s,baz=89,slow=36							
VRAC	**Vranov**	**29.81**	**85**	LR	LR	07 42 08.3	
comp=Z,68nm,19.1s,baz=318,slow=36							
MDT	**Midelt**	**31.35**	**131**	LR	LR	07 41 43.1	
comp=Z,49nm,18.8s,baz=299,slow=34							
YKA	**Yellowknife Ar**	**38.53**	**312**	P	P	07 31 32.3	+0.2
0.3nm,0.5s,baz=60,slow=9.3,SNR=2.5							
ILAR	**Eielson Array**	**48.07**	**328**	P	P	07 32 49.1	0.0
1.2nm,1.1s,baz=36,slow=6.7,SNR=8.9							
PDAR	**Pinedale Array**	**48.69**	**287**	P	P	07 32 54.1	-0.4
0.6nm,0.8s,baz=86,slow=6.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**51.52**	**136**	P	P	07 33 16.0	+0.1
0.9nm,0.8s,baz=337,slow=7.3,SNR=4.7							
SONM	**Songino Array**	**69.42**	**28**	P	P	07 35 18.0	-0.1
0.3nm,0.4s,baz=305,slow=5.1,SNR=3.4							
ASAR	**Alice Springs**	**144.56**	**22**	PKP	PKPbc	07 43 45.4	+0.1
0.6nm,1.0s,baz=351,slow=3.4,SNR=3.9							

MEX 03 07:32:30.5±0.4, 18.97N×104.34W, h15km±5km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.39**	**59**	*e*P	Pg	07 32 37.2	-1.3
R15V				*i* S	Sg	07 32 42.9	-1.1
CJM	**Chamela**	**0.85**	**308**	*e*P	Pb	07 32 44.2	-2.7
CJM				*i* S	Sb	07 32 54.2	-3.9
EZ5V		**0.86**	**54**	*e*P	Pb	07 32 44.2	-3.2
EZ5V				*e*S	Sb	07 32 55.1	-3.9
MMIG	**Aquila**	**1.16**	**126**	*e*P	Pn	07 32 48.6	-3.6
MMIG				*i* S	Sb	07 33 02.2	-4.8
ANIG	**Ahuacatlan**	**2.08**	**355**	*i* P	Pn	07 33 02.3	-2.7
ANIG				*i* S	Sn	07 33 26.5	-4.2

*IDC **03** 07:38:49.3±0.6, 57.87N×32.63W, h0km, mb3.9/19, mb1 4.1/22, mb1mx4.0/37, mbtmp4.0/22, ML4.2/2, MS3.6/10, Ms1 3.6/10, ms1mx3.3/27, Error ellipse: s-maj=19.9km s-min=11.8km az=1.0*

*ISCJB **03** 07:38:50.7±0.4, 57.92N±0.08×32.54W±0.08, h18km, mb4.2/39, MS3.6/9, Error ellipse: s-maj=11.4km s-min=5.4km az=168.2*

*NEIC **03** 07:38:50.9±0.3, 57.80N×32.58W, h10km, mb4.4/20, Error ellipse: s-maj=11.4km s-min=4.6km az=176.0*

*CSEM **03** 07:38:50.6±0.2, 57.83N×32.57W, h10km, mb4.4/21, Error ellipse: s-maj=11.2km s-min=4.7km az=174.0*

ISC 03 07:38:52.4±0.5, 57.85N±0.09×32.57W±0.06, h18km, n422, n0 84/423, mb4.3/39, MS3.7/9, 158C-140D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.77**	**33**	Pn	**Pn**	**07 40 58.8**	**+0.7**
BORG				Sn	**Sn**	**07 42 36.5**	**+0.1**
BORG	**Borgarnes**	**8.77**	**33**	Pn	**Pn**	**07 40 58.8**	**+0.7**
0.8nm,0.3s,baz=180,slow=10,SNR=5.2							
BORG				Sn	**Sn**	**07 42 36.5**	**+0.1**
0.1nm,0.3s,baz=255,slow=19,SNR=2.2							
BORG				LR	LR	07 43 41.3	
comp=Z,224nm,18.6s,baz=240,slow=33							
BORG	**Borgarnes**	**8.77**	**33**	Pn	**Pn**	**07 40 58.8**	**+0.7**
BORG				Sn	**Sn**	**07 42 36.5**	**+0.1**
EKA	**Eskdalemuir Ar**	**16.33**	**86**	Pn	**Pn**	**07 42 40.5**	**0.0**
EKA	**Eskdalemuir Ar**	**16.33**	**86**	Pn	**Pn**	**07 42 40.5**	**0.0**
baz=291,slow=12,SNR=4.0							
EKA	**Eskdalemuir Ar**	**16.33**	**86**	Pn	**Pn**	**07 42 40.5**	**0.0**
SCHQ	**Schefferville**	**19.11**	**276**	P	**P**	**07 43 11.6**	**-2.4**
SCHQ	**Schefferville**	**19.11**	**276**	P	**P**	**07 43 11.6**	**-2.4**
0.1nm,0.3s,baz=45,slow=20,SNR=2.5							
SCHQ	**Schefferville**	**19.11**	**276**	P	**P**	**07 43 11.6**	**-2.4**
NB2	**NORSAR Subarra**	**22.17**	**63**	P	**P**	**07 43 46.2**	**-0.9**
comp=Z,7.2nm,1.2s,baz=285,slow=11							
NB2	**NORSAR Subarra**	**22.17**	**63**	P	**P**	**07 43 46.2**	**-0.9**
comp=Z,7.2nm,1.2s,baz=285,slow=10,SNR=3.8							
NOA	**NORSAR Array B**	**22.17**	**63**	P	**P**	**07 43 46.0**	**-1.0**
NOA	**NORSAR Array B**	**22.17**	**63**	P	**P**	**07 43 46.0**	**-1.0**
comp=Z,2.9nm,1.0s,baz=282,slow=10,SNR=3.4							
NOA	**NORSAR Array B**	**22.17**	**63**	P	**P**	**07 43 46.0**	**-1.0**
HFS	**Hagfors**	**23.57**	**65**	P	**P**	**07 44 01.6**	**+0.1**
HFS	**Hagfors**	**23.57**	**65**	P	**P**	**07 44 01.6**	**+0.1**
comp=Z,2.2nm,0.8s,baz=302,slow=8.2,SNR=3.9							
HFS				LR	LR	07 52 04.2	
comp=Z,50nm,18.9s,baz=341,slow=34							
HFS	**Hagfors**	**23.57**	**65**	P	**P**	**07 44 01.6**	**+0.1**
ESDC	**Sonseca Array**	**25.89**	**122**	P	**P**	**07 44 23.8**	**+0.8**
ESDC	**Sonseca Array**	**25.89**	**122**	P	**P**	**07 44 23.8**	**+0.8**
comp=Z,0.5nm,0.4s,baz=318,slow=9.5,SNR=4.2							
ESDC	**Sonseca Array**	**25.89**	**122**	P	**P**	**07 44 23.8**	**+0.8**
ARCES	**ARCESS Array B**	**27.07**	**41**	P	**P**	**07 44 34.2**	**+0.9**
ARCES	**ARCESS Array B**	**27.07**	**41**	P	**P**	**07 44 34.2**	**+0.9**
comp=Z,1.9nm,0.8s,baz=303,slow=6.7,SNR=4.3							
ARCES	**ARCESS Array B**	**27.07**	**41**	P	**P**	**07 44 34.2**	**+0.9**
FINES	**FINESS Array B**	**28.98**	**58**	P	**P**	**07 44 51.0**	**+0.5**
FINES	**FINESS Array B**	**28.98**	**58**	P	**P**	**07 44 51.0**	**+0.5**
comp=Z,1.8nm,1.0s,baz=240,slow=11,SNR=2.7							
FINES	**FINESS Array B**	**28.98**	**58**	P	**P**	**07 44 51.0**	**+0.5**
MDT	**Midelt**	**31.40**	**131**	LR	LR	07 56 19.3	
comp=Z,62nm,18.4s,baz=218,slow=33							
KEST	**Kesra**	**35.41**	**110**	LR	LR	07 58 47.6	
comp=Z,38nm,20.5s,baz=270,slow=34							
KIEV	**Kiev**	**35.62**	**74**	*e*P	**P**	**07 45 48.3**	**-0.3**
comp=Z,6.5nm,0.9s							
KIEV	**Kiev**	**35.62**	**74**	*e*P	**P**	**07 45 48.3**	**-0.3**
comp=Z,6.5nm,0.9s							
EYMN	**Ely**	**35.80**	**280**	*e*P	**P**	**07 45 50.4**	**+0.1**
comp=Z,9.3nm,1.2s							
EYMN	**Ely**	**35.80**	**280**	*e*P	**P**	**07 45 50.4**	**+0.1**
comp=Z,9.3nm,1.2s							
ULM	**Lac du Bonnet**	**36.67**	**286**	LR	LR	07 59 36.4	
comp=Z,137nm,19.2s,baz=105,slow=34							
SPMN	**St. Paul**	**38.24**	**278**	⇑P	**P**	**07 46 11.8**	**+0.8**
baz=38							
YKA	**Yellowknife Ar**	**38.48**	**312**	P	**P**	**07 46 11.3**	**-1.4**
YKA	**Yellowknife Ar**	**38.48**	**312**	P	**P**	**07 46 11.3**	**-1.4**
comp=Z,1.6nm,1.0s,baz=58,slow=9.6,SNR=6.0							
YKA	**Yellowknife Ar**	**38.48**	**312**	P	**P**	**07 46 11.4**	**-1.4**
MDND	**Maddock**	**40.08**	**286**	⇑P	**P**	**07 46 27.1**	**+0.8**
baz=40							
A26A	**Wade Farm, Ken**	**40.65**	**288**	⇑P	**P**	**07 46 32.1**	**+1.0**
baz=40							
C27A	**Sayler Ranch,**	**41.15**	**287**	⇓P	**P**	**07 46 36.0**	**+0.8**
baz=41							
ECSD	**EROS Data Cent**	**41.26**	**279**	*e*P	**P**	**07 46 36.8**	**+0.7**
comp=Z,3.5nm,1.1s							
ECSD	**EROS Data Cent**	**41.26**	**279**	*e*P	**P**	**07 46 36.8**	**+0.7**
comp=Z,3.5nm,1.1s							
A24A	**Westby**	**41.63**	**290**	⇑P	**P**	**07 46 40.2**	**+1.1**
baz=42							
DGMT	**Dagmar**	**42.02**	**289**	⇓P	**P**	**07 46 43.5**	**+1.2**
baz=42							
B23A	**Brockton**	**42.43**	**290**	⇓P	**P**	**07 46 46.8**	**+1.1**
baz=42							
E26A	**Carlson Angus**	**42.46**	**286**	⇑P	**P**	**07 46 46.9**	**+1.0**
baz=42							
A22A	**Carney Farms,**	**42.54**	**291**	⇓P	**P**	**07 46 47.2**	**+0.5**
baz=42							
G28A	**Parade**	**42.60**	**283**	⇑P	**P**	**07 46 47.9**	**+0.8**
baz=42							
C24A	**Savage**	**42.76**	**288**	⇓P	**P**	**07 46 49.0**	**+0.6**
baz=43							
C23A	**Lambert**	**42.96**	**289**	⇓P	**P**	**07 46 50.6**	**+0.6**
baz=43							
F26A	**Lodgepole**	**42.98**	**285**	⇑P	**P**	**07 46 50.8**	**+0.6**
baz=43							
B22A	**Redcig Ranch S**	**43.04**	**290**	⇓P	**P**	**07 46 51.4**	**+0.8**
baz=43							
A21A	**Bergtoll Ranch**	**43.05**	**292**	⇑P	**P**	**07 46 51.4**	**+0.7**
baz=43							
G26A	**Maurine**	**43.32**	**285**	⇓P	**P**	**07 46 53.4**	**+0.5**
baz=43							
E24A	**Baker**	**43.34**	**287**	⇓P	**P**	**07 46 53.4**	**+0.2**
baz=43							
C22A	**Vida**	**43.35**	**290**	⇓P	**P**	**07 46 53.9**	**+0.7**
baz=43							
D23A	**Lindsay**	**43.39**	**289**	⇓P	**P**	**07 46 54.4**	**+0.9**
baz=43							
B21A	**Ellsworth Farm**	**43.46**	**291**	⇑P	**P**	**07 46 55.0**	**+1.0**
baz=43							
I28A	**Midland**	**43.47**	**282**	⇓P	**P**	**07 46 55.4**	**+1.2**
baz=43							
A20A	**Cobblestone Ra**	**43.62**	**292**	⇑P	**P**	**07 46 56.3**	**+1.0**
baz=43							
BGNE	**Belgrade**	**43.69**	**277**	⇑P	**P**	**07 46 57.2**	**+1.3**
baz=44							
G25A	**Newell**	**43.81**	**285**	⇓P	**P**	**07 46 57.7**	**+0.7**
baz=44							
H26A	**Fairpoint**	**43.88**	**284**	⇑P	**P**	**07 46 58.1**	**+0.6**
baz=44							
I27A	**Quinn**	**43.88**	**283**	⇓P	**P**	**07 46 58.3**	**+0.8**
baz=44,SNR=7.1							
K29A	**Lazy Trails An**	**43.88**	**280**	⇓P	**P**	**07 46 58.2**	**+0.7**
baz=44							
E23A	**Ismay**	**43.90**	**288**	⇓P	**P**	**07 46 58.7**	**+1.2**
baz=44							
D22A	**Cohagen**	**43.90**	**289**	⇓P	**P**	**07 46 58.6**	**+1.0**
baz=44							
F24A	**Ekalaka**	**43.90**	**287**	⇓P	**P**	**07 46 58.6**	**+1.0**
baz=44							
J28A	**Allard Ranch,**	**43.90**	**282**	⇓P	**P**	**07 46 58.6**	**+0.9**
baz=44							
C21A	**Desert Coulee**	**43.91**	**291**	⇓P	**P**	**07 46 58.2**	**+0.6**
baz=44							
B20A	**Solberg Farm,**	**43.96**	**292**	⇓P	**P**	**07 46 58.8**	**+0.8**
baz=44							
A19A	**Klindworth Far**	**43.99**	**293**	⇑P	**P**	**07 46 59.1**	**+0.8**
baz=44							
G24A	**Alzada**	**44.24**	**286**	⇑P	**P**	**07 47 01.2**	**+0.8**
baz=44							
E22A	**Miles City**	**44.26**	**288**	⇓P	**P**	**07 47 01.5**	**+1.0**
baz=44							
H25A	**Fruitdale**	**44.30**	**285**	⇑P	**P**	**07 47 01.6**	**+0.7**
baz=44							
I26A	**New Underwood**	**44.33**	**284**	⇑P	**P**	**07 47 02.0**	**+0.9**
baz=44							
D21A	**La Casta Ranch**	**44.37**	**290**	⇑P	**P**	**07 47 02.0**	**+0.6**
baz=44							
B19A	**Brinkman Farms**	**44.40**	**292**	⇑P	**P**	**07 47 02.9**	**+1.3**
baz=44							
C20A	**Veseth Ranch,**	**44.44**	**291**	⇑P	**P**	**07 47 02.9**	**+1.0**
baz=44							
F23A	**Volborg**	**44.48**	**287**	⇓P	**P**	**07 47 03.4**	**+1.1**
baz=44							
A18A	**Metzger Ranch,**	**44.54**	**293**	⇓P	**P**	**07 47 03.7**	**+1.0**
baz=44							
H24A	**Dirks Ranch, A**	**44.71**	**286**	⇑P	**P**	**07 47 04.1**	**0.0**
baz=44,SNR=5.6							
E21A	**Keefer Ranch,**	**44.76**	**289**	⇑P	**P**	**07 47 04.8**	**+0.3**
baz=45							
I25A	**Rochford**	**44.79**	**284**	⇑P	**P**	**07 47 05.1**	**+0.2**
baz=45							
G23A	**Biddle**	**44.82**	**287**	⇑P	**P**	**07 47 05.5**	**+0.4**
baz=45							
B18A	**Beardsley Farm**	**44.86**	**293**	⇓P	**P**	**07 47 06.2**	**+0.9**
baz=45							
F22A	**Rosebud**	**44.87**	**288**	⇓P	**P**	**07 47 06.0**	**+0.6**
baz=45							
K27A	**Flueckinger Fa**	**44.93**	**282**

baz=46,SNR=6.7
A14A **Double T Ranch** 46.24 296 ⇑P P 07 47 16.9 +0.7
baz=46
G20A **Bridger** 46.25 289 ⇓P P 07 47 16.2 -0.2
baz=46
B15A **Bradely Ranch,** 46.27 295 ⇑P P 07 47 16.8 +0.3
baz=46
MIAR **Mount Ida** 46.29 267 *eP* P 07 47 16.4 -0.3
comp=Z,12nm,1.4s
MIAR **Mount Ida** 46.29 267 *eP* P 07 47 16.4 -0.3
comp=Z,12nm,1.4s
I22A **9 Mile Ranch,** 46.30 286 ⇑P P 07 47 17.1 +0.3
baz=46
EGAK **Eagle** 46.33 326 *eP* P 07 47 16.7 +0.1
comp=Z,5.3nm,1.3s
EGAK **Eagle** 46.33 326 *eP* P 07 47 16.7 +0.1
comp=Z,5.3nm,1.3s
TUL1 **Tulsa** 46.45 270 ⇑P P 07 47 18.8 +0.9
baz=46
F18A **Big Timber** 46.53 290 ⇓P P 07 47 18.7 +0.2
baz=46
Q30A **Quinter** 46.54 277 ⇑P P 07 47 19.0 +0.4
baz=46
B14A **Marquette Ranc** 46.59 295 ⇑P P 07 47 19.3 +0.3
baz=46
J22A **Midwest** 46.63 286 ⇑P P 07 47 19.2 -0.2
baz=46
H20A **Greybull** 46.65 288 ⇑P P 07 47 20.0 +0.5
baz=46,SNR=6.4
C15A **Salmond Ranch,** 46.67 294 ⇑P P 07 47 19.8 +0.2
baz=46
E17A **Martinsdale** 46.71 292 ⇑P P 07 47 20.5 +0.4
baz=46,SNR=6.4
A13A **Flathead Natio** 46.74 296 ⇑P P 07 47 20.4 +0.3
baz=47
I21A **Big Trails, Te** 46.77 287 ⇓P P 07 47 20.3 -0.2
baz=47,SNR=7.1
O27A **Beecher Island** 46.85 280 ⇑P P 07 47 21.6 +0.4
baz=47
G18A **Lazy EL Ranch,** 46.86 290 ⇑P P 07 47 21.5 +0.2
baz=47
P28A **Saint Francis** 46.92 278 ⇑P P 07 47 22.2 +0.6
baz=47
DLBC **Dease Lake** 46.99 314 P P 07 47 22.2 +0.3
DLBC **Dease Lake** 46.99 314 P P 07 47 22.2 +0.3
comp=Z,2.9nm,1.1s,baz=0.0,slow=4.0,SNR=2.9
DLBC **Dease Lake** 46.99 314 P P 07 47 22.2 +0.3
F17A **Fitzpatrick Pl** 47.00 291 ⇓P P 07 47 22.7 +0.4
baz=47
Q29A **Oakley** 47.01 277 ⇑P P 07 47 22.9 +0.6
baz=47
H19A **Powell** 47.03 289 ⇑P P 07 47 22.9 +0.4
baz=47
R30A **Dighton** 47.08 276 ⇑P P 07 47 23.2 +0.3
baz=47
I20A **Worland** 47.10 287 ⇓P P 07 47 23.5 +0.4
baz=47
L23A **Garrett** 47.15 284 ⇓P P 07 47 23.4 -0.2
baz=47
B13A **Whitefish** 47.16 296 ⇑P P 07 47 23.9 +0.6
baz=47
M24A **Cheyenne** 47.16 283 ⇑P P 07 47 23.5 -0.1
baz=47
J21A **Lysite** 47.18 286 ⇓P P 07 47 23.6 -0.1
baz=47,SNR=6.6
K22A **Casper** 47.20 285 ⇓P P 07 47 24.0 +0.1
baz=47
KBZ **Khabaz** 47.21 73 P P 07 47 24.2 +0.5
KBZ **Khabaz** 47.21 73 P P 07 47 24.2 +0.5
comp=Z,3.1nm,0.9s,baz=329,slow=8.9,SNR=6.1
KBZ **Khabaz** 47.21 73 P P 07 47 24.2 +0.5
C14A **Swan Lake** 47.23 295 ⇑P P 07 47 24.1 +0.1
baz=47
YBMT **Yellow Bay** 47.29 295 *eP* P 07 47 24.8 +0.3
comp=Z,1.7nm,0.7s
YBMT **Yellow Bay** 47.29 295 *eP* P 07 47 24.8 +0.3
comp=Z,1.7nm,0.7s
Q28A **Sharon Springs** 47.33 278 ⇑P P 07 47 25.8 +0.9
baz=47
H18A **Shoshone NF, C** 47.37 289 ⇓P P 07 47 25.4 +0.1
baz=47
P27A **Ficken Ranch,** 47.37 279 ⇑P P 07 47 26.1 +0.9
baz=47
G17A **Pierce Place,** 47.45 290 ⇓P P 07 47 25.9 +0.1
baz=47
SLMT **Seeley Lake** 47.47 294 *eP* P 07 47 26.1 +0.2
comp=Z,2.7nm,0.9s
SLMT **Seeley Lake** 47.47 294 *eP* P 07 47 26.1 +0.2
comp=Z,2.7nm,0.9s
I19A **Meeteetse** 47.48 288 ⇑P P 07 47 26.2 +0.1
baz=47
J20A **Shoshoni** 47.50 287 ⇑P P 07 47 26.1 -0.1
baz=47,SNR=8.2
SWMT **Swartz Lake** 47.53 295 *eP* P 07 47 26.1 -0.2
comp=Z,3.3nm,1.1s
SWMT **Swartz Lake** 47.53 295 *eP* P 07 47 26.1 -0.2
comp=Z,3.3nm,1.1s
K21A **Alcova** 47.58 285 ⇓P P 07 47 27.1 +0.2
baz=47
L22A **Ellis Ranch, M** 47.59 284 ⇑P P 07 47 26.9 -0.1
baz=47,SNR=6.0
B12A **Libby** 47.63 297 ⇑P P 07 47 27.8 +0.8
baz=47
BOZ **Bozeman (W)** 47.67 291 *eP* P 07 47 28.1 +0.6
comp=Z,8.2nm,1.6s
BOZ **Bozeman (W)** 47.67 291 *eP* P 07 47 28.1 +0.6
comp=Z,8.2nm,1.6s
C13A **Hot Springs** 47.69 295 ⇑P P 07 47 28.0 +0.5
baz=48
P26A **Davis Ranch, A** 47.77 280 ⇓P P 07 47 29.0 +0.6
baz=48
O25A **Wiggins** 47.77 281 ⇑P P 07 47 29.2 +0.9
baz=48
KSCO **Kaye Shedlock'** 47.79 279 ⇓P P 07 47 29.0 +0.5
baz=48
R28A **Tribune** 47.85 277 ⇓P P 07 47 29.1 +0.2
baz=48
MSO **Missoula** 47.98 294 ⇓P P 07 47 29.8 0.0
baz=48
HYT **Haines Junctio** 48.00 320 *eP* P 07 47 31.1 +1.3
HYT **Haines Junctio** 48.00 320 *eP* P 07 47 31.1 +1.3
ILAR **Eielson Array** 48.00 328 P P 07 47 28.8 -0.9
ILAR PcP PcP 07 48 56.8 -0.6
ILAR **Eielson Array** 48.00 328 P P 07 47 28.8 -0.9
comp=Z,3.1nm,1.0s,baz=35,slow=5.7,SNR=27
ILAR PcP PcP 07 48 56.8 -0.6
comp=Z,0.7nm,0.8s,baz=12,slow=2.8,SNR=4.9
ILAR **Eielson Array** 48.00 328 P P 07 47 28.8 -0.9
S29A **Ulysses** 48.02 276 ⇓P P 07 47 31.2 +1.0
baz=48
J19A **Crowheart** 48.06 287 ⇓P P 07 47 30.6 0.0
baz=48
L21A **Rawlins** 48.13 285 ⇑P P 07 47 31.2 0.0
baz=48
K20A **Yellowstone Ra** 48.13 286 ⇓P P 07 47 31.0 -0.1
baz=48,SNR=5.1
M22A **Cedar Creek Ra** 48.13 284 ⇑P P 07 47 31.3 0.0
baz=48
I18A **Diamond G Ranc** 48.13 288 ⇑P P 07 47 31.0 -0.3
baz=48
H16A **Russell Place,** 48.14 290 ⇑P P 07 47 31.4 +0.1
baz=48
N23A **Red Feather La** 48.16 283 ⇑P P 07 47 31.5 +0.1
baz=48
P25A **Willow Gulch B** 48.23 280 ⇑P P 07 47 33.2 +1.2
baz=48
O24A **Longmont** 48.27 281 ⇑P P 07 47 33.3 +1.1
baz=48
K19A **Absolon Red Bu** 48.27 287 ⇓P P 07 47 31.9 -0.3
baz=48
I17A **Pilgrim Ck.** 48.36 289 ⇑P P 07 47 33.4 +0.4
baz=48
M21A **Separation Pea** 48.38 285 ⇓P P 07 47 33.5 +0.3
baz=48
R27A **Eads** 48.41 278 ⇑P P 07 47 33.2 -0.1
baz=48
S28A **Manter** 48.45 277 ⇓P P 07 47 34.2 +0.6
baz=48
N22A **Wattenberg Ran** 48.49 283 ⇓P P 07 47 34.1 0.0
baz=48
NEW **Newport** 48.50 297 ⇑P P 07 47 34.1 +0.4
baz=48
L20A **Wamsutter** 48.59 286 ⇑P P 07 47 35.1 +0.3
baz=48
O23A **Lake Granby, G** 48.64 282 ⇑P P 07 47 36.1 +0.9
baz=48
BW06 **Boulder Array** 48.67 287 *eP* P 07 47 34.6 -0.8
comp=Z,6.1nm,1.3s
BW06 **Boulder Array** 48.67 287 *eP* P 07 47 34.6 -0.8
comp=Z,6.1nm,1.3s
PDAR **Pinedale Array** 48.67 287 P P 07 47 34.5 -0.9
PDAR **Pinedale Array** 48.67 287 P P 07 47 34.5 -0.9
comp=Z,1.8nm,0.9s,baz=59,slow=5.7,SNR=13
PDAR **Pinedale Array** 48.67 287 P P 07 47 34.5 -0.9
Q25A **Bedland, Calha** 48.72 280 ⇑P P 07 47 36.4 +0.7
baz=49
R26A **Arlington** 48.75 279 ⇓P P 07 47 37.0 +1.1
baz=49
SNOW **Snow King Moun** 48.78 289 *eP* P 07 47 36.8 +0.5
comp=Z,3.7nm,1.1s
SNOW **Snow King Moun** 48.78 289 *eP* P 07 47 36.8 +0.5
comp=Z,3.7nm,1.1s
ISCO **Idaho Springs** 48.78 282 *eP* P 07 47 37.2 +0.8
comp=Z,4.7nm,1.3s
ISCO **Idaho Springs** 48.78 282 *eP* P 07 47 37.2 +0.8
comp=Z,4.7nm,1.3s
ISCO **Idaho Springs** 48.78 282 ⇓P P 07 47 36.6 +0.2
baz=49,SNR=6.3
I16A **Newdale** 48.85 290 ⇑P P 07 47 37.6 +0.9
baz=49
MCMT **McKenzie Canyo** 48.86 291 *eP* P 07 47 38.0 +1.2
comp=Z,1.8nm,1.1s
MCMT **McKenzie Canyo** 48.86 291 *eP* P 07 47 38.0 +1.2
comp=Z,1.8nm,1.1s
M20A **Sweetwater, Wa** 48.89 285 ⇑P P 07 47 37.8 +0.8
baz=49
O22A **Kremmling** 49.01 283 ⇑P P 07 47 38.1 0.0
baz=49,SNR=9.6
L19A **Farson** 49.05 286 ⇑P P 07 47 38.2 -0.1
baz=49
N21A **Black Mountain** 49.08 284 ⇓P P 07 47 38.8 +0.3
baz=49
W31A **Holland Ranch,** 49.21 273 ⇓P P 07 47 41.1 +1.7
baz=49
P23A **Jefferson** 49.22 281 ⇓P P 07 47 40.6 +0.9
baz=49,SNR=6.7
S26A **Kim** 49.26 278 ⇓P P 07 47 40.4 +0.5
baz=49
T27A **Campo** 49.28 277 ⇑P P 07 47 41.3 +1.3
baz=49
R25A **Fountain Ranch** 49.30 279 ⇑P P 07 47 41.3 +1.2
baz=49
N20A **Spence Gulch,** 49.41 284 ⇓P P 07 47 41.3 +0.3
baz=49
O21A **Pagoda** 49.45 283 ⇑P P 07 47 41.7 +0.3
baz=49
L18A **Fontenelle, Gr** 49.53 287 ⇑P P 07 47 42.2 +0.2
baz=49
P22A **Eagle** 49.53 282 ⇑P P 07 47 42.8 +0.7
baz=49,SNR=6.3
V29A **Stinnett** 49.53 275 ⇓P P 07 47 43.4 +1.5
baz=49
X31A **McDonald Ranch** 49.65 273 ⇓P P 07 47 44.5 +1.8
baz=50
T26A **Comanche Natio** 49.66 278 ⇑P P 07 47 43.3 +0.3
baz=50
R24A **Sanders Place,** 49.67 280 ⇓P P 07 47 43.4 +0.4
baz=50
S25A **Robets Cordova** 49.74 279 ⇓P P 07 47 43.9 +0.3
baz=50
AKTO **Aktyubinsk** 49.75 57 P P 07 47 42.5 -0.7
AKTO **Aktyubinsk** 49.75 57 P P 07 47 42.5 -0.7
comp=Z,3.9nm,0.9s,baz=300,slow=9.3,SNR=10
AKTO **Aktyubinsk** 49.75 57 P P 07 47 42.5 -0.7
I14A **Mackay** 49.80 291 ⇓P P 07 47 44.1 +0.1
baz=50,SNR=5.3
U27A **Thompson Grove** 49.82 276 ⇓P P 07 47 45.1 +1.0
baz=50
Y32A **R-V Farms, Ver** 49.84 272 ⇓P P 07 47 45.9 +1.7
baz=50
O20A **White River Ci** 49.91 284 ⇓P P 07 47 45.3 +0.5
baz=50
P21A **Newcastle** 49.95 283 ⇑P P 07 47 46.0 +0.9
baz=50,SNR=8.0
R23A **Moffat** 50.08 280 ⇑P P 07 47 46.3 0.0
baz=50
T25A **Trinidad** 50.12 278 ⇑P P 07 47 47.5 +1.0
baz=50
Q22A **Crested Butte,** 50.15 282 ⇓P P 07 47 47.5 +0.7
baz=50
S24A **Houchin Ranch,** 50.17 279 ⇑P P 07 47 47.9 +0.9
baz=50
O19A **Miners Draw (B** 50.25 285 ⇓P P 07 47 48.0 +0.7
baz=50
X30A **Coker Ranch, T** 50.27 273 ⇑P P 07 47 49.3 +1.8
baz=50
Y31A **Rekieta Farm,** 50.31 272 ⇑P P 07 47 49.6 +1.9
baz=50
V27A **Dan Oppiter Fa** 50.32 276 ⇓P P 07 47 49.2 +1.3
baz=50
U26A **Atchley Ranch,** 50.33 277 ⇑P P 07 47 49.2 +1.2
baz=50
Z32A **Haskell** 50.40 271 ⇓P P 07 47 49.5 +1.2
baz=50
P20A **De Beque** 50.45 283 ⇑P P 07 47 49.2 +0.2
baz=50
T24A **Torres, Weston** 50.51 279 ⇑P P 07 47 50.8 +1.3
baz=50
Q21A **Lamborn Mesa,** 50.52 282 ⇑P P 07 47 50.4 +0.9
baz=50
S23A **Nye Farm, Mont** 50.54 280 ⇓P P 07 47 50.3 +0.6
baz=50
HWUT **Hardware Ranch** 50.54 288 *eP* P 07 47 49.0 -0.6
comp=Z,6.0nm,1.2s
HWUT **Hardware Ranch** 50.54 288 *eP* P 07 47 49.0 -0.6
comp=Z,6.0nm,1.2s
R22A **Saguache, Gunn** 50.54 281 ⇓P P 07 47 50.8 +1.1
baz=50,SNR=6.9
HLID **Hailey** 50.55 291 ⇓P P 07 47 50.6 +1.0
baz=50
P19A **Cripple Cowboy** 50.66 284 ⇑P P 07 47 50.7 +0.1
baz=50
U25A **Circle Dot Ran** 50.67 278 ⇑P P 07 47 52.1 +1.4
baz=50
Y30A **Stafford Cattl** 50.72 273 ⇑P P 07 47 51.9 +1.1
baz=51
Z31A **Sharp Cattle R** 50.74 272 ⇓P P 07 47 52.3 +1.3
baz=51
V26A **Tequesquite Ra** 50.80 277 ⇑P P 07 47 52.5 +1.0
baz=51
Q20A **Ridgley Place,** 50.81 283 ⇑P P 07 47 52.1 +0.4
baz=51,SNR=5.3
R21A **Cimarron** 50.85 282 ⇓P P 07 47 53.3 +1.2
baz=51,SNR=9.0
X28A **Dimmitt** 50.92 274 ⇓P P 07 47 53.3 +0.9
baz=51
S22A **4UR Ranch, Cre** 50.94 281 ⇑P P 07 47 53.7 +0.9
baz=51
W27A **Bowe Ranch, En** 50.97 275 ⇑P P 07 47 53.5 +0.7
baz=51
ABTX **Abilene, Hawle** 51.01 271 ⇓P P 07 47 54.1 +1.1
baz=51
T23A **Casias Ranch,** 51.06 279 ⇑P P 07 47 54.7 +1.1
baz=51
U24A **Moreno Valley** 51.13 278 ⇓P P 07 47 55.7 +1.5
baz=51
V25A **Rancho No Teng** 51.21 277 ⇑P P 07 47 55.8 +1.1
baz=51
JLU **Jordanelle** 51.22 287 *eP* P 07 47 54.6 -0.1
comp=Z,3.0nm,1.1s
JLU **Jordanelle** 51.22 287 *eP* P 07 47 54.7 -0.1
comp=Z,3.0nm,1.1s
Z30A **Sanderson Ranc** 51.29 272 ⇑P P 07 47 55.2 0.0
baz=51
X27A **F and S Farms,** 51.30 275 ⇓P P 07 47 56.5 +1.2
baz=51
MFID **Camas Ranch** 51.36 292 ⇓P P 07 47 55.7 +0.1
baz=51
131A **Roby** 51.37 271 ⇓P P 07 47 56.6 +0.9
baz=51
Y28A **McKinney Farm,** 51.41 274 ⇑P P 07 47 56.8 +0.7
baz=51
R20A **Redvale** 51.42 282 ⇑P P 07 47 57.5 +1.2
baz=51
ABKAR **Akbulak array** 51.46 57 *eP* P 07 47 56.7 +0.6
comp=Z,3.7nm,0.9s
ABKAR **Akbulak array** 51.46 57 *eP* P 07 47 56.7 +0.6
comp=Z,3.7nm,0.9s
S21A **Coal Bank Pass** 51.51 281 ⇓P P 07 47 58.2 +1.2
baz=51,SNR=8.7
T22A **Edith** 51.53 280 ⇓P P 07 47 58.0 +0.9
baz=51
TORD **Torodi Ar. Bea** 51.58 136 P P 07 47 55.6 -1.7
TORD **Torodi Ar. Bea** 51.58 136 P P 07 47 55.6 -1.7
comp=Z,2.3nm,0.9s,baz=340,slow=7.6,SNR=12
TORD LR LR 08 07 55.7
comp=Z,48nm,19.3s,baz=335,slow=34
TORD **Torodi Ar. Bea** 51.58 136 P P 07 47 55.6 -1.7
232A **Coleman** 51.58 270 ⇓P P 07 47 59.8 +2.4
baz=51
W25A **X Bar L Ranch,** 51.59 277 ⇓P P 07 47 58.3 +0.8
baz=51,SNR=5.1
Z29A **Hungry Hill Ra** 51.62 273 ⇓P P 07 47 58.9 +1.2
baz=52
V24A **Rampart Ranch,** 51.64 278 ⇓P P 07 47 58.5 +0.5
baz=52
MSTX **Muleshoe** 51.65 274 ⇑P P 07 47 58.4 +0.6
baz=52
U23A **El Rito** 51.67 279 ⇓P P 07 47 58.7 +0.6
baz=52
S20A **Disappointment** 51.68 282 ⇑P P 07 47 58.7 +0.4
baz=52
130A **Snyder** 51.74 272 ⇑P P 07 47 59.6 +1.1
baz=52
T21A **Navajo Lake** 51.88 281 ⇑P P 07 48 00.6 +0.9
baz=52
Y27A **Causey** 51.92 275 ⇓P P 07 48 00.5 +0.5
baz=52
U22A **Llaves** 51.98 280 ⇑P P 07 48 01.5 +1.0
baz=52
332A **Millersview** 52.02 270 ⇓P P 07 48 01.1 +0.4
baz=52
W24A **Lazy 6 Ranch,** 52.10 277 ⇓P P 07 48 02.5 +1.1
baz=52
DUG **Dugway** 52.22 287 ⇓P P 07 48 02.7 +0.6
baz=52
MVCO **Mesa Verde** 52.22 282 *eP* P 07 48 02.2 -0.1
comp=Z,14nm,1.4s
MVCO **Mesa Verde** 52.22 282 *eP* P 07 48 02.2 -0.1
comp=Z,14nm,1.4s
MVCO **Mesa Verde** 52.22 282 ⇓P P 07 48 03.2 +0.9
baz=52
X25A **Clemmons Ranch** 52.23 276 ⇓P P 07 48 03.1 +0.8
baz=52
Y26A **Elida** 52.24 275 ⇓P P 07 48 03.4 +1.0
baz=52
Q16A **Castle Valley** 52.33 285 ⇑P P 07 48 03.0 0.0
baz=52
V22A **San Miguel Ran** 52.36 279 ⇓P P 07 48 03.9 +0.5
baz=52
230A **Sterling City** 52.37 271 ⇑P P 07 48 04.2 +1.0
baz=52
U21A **Nageezi** 52.37 280 ⇑P P 07 48 03.8 +0.4
baz=52
Z27A **Tatum** 52.39 274 ⇑P P 07 48 04.3 +0.9
baz=52
331A **San Angelo** 52.45 270 ⇑P P 07 48 04.3 +0.5
baz=52
128A **Castleberry Fa** 52.53 273 ⇑P P 07 48 04.5 0.0
baz=52
W23A **Werner Place,** 52.53 278 ⇑P P 07 48 05.9 +1.3
baz=52
229A **Bryant Ranch,** 52.68 272 ⇑P P 07 48 07.0 +1.5
baz=52
Y25A **Mesa, Roswell** 52.71 276 ⇓P P 07 48 07.4 +1.6
baz=53
JCT **Junction City** 52.76 269 *eP* P 07 48 05.9 -0.2
comp=Z,4.8nm,1.2s
JCT **Junction City** 52.76 269 *eP* P 07 48 05.9 -0.2
comp=Z,4.8nm,1.2s
JCT **Junction City** 52.76 269 ⇑P P 07 48 06.7 +0.6
baz=53
330A **Mertzon** 52.77 271 ⇑P P 07 48 06.8 +0.6
baz=53
Z26A **Caprock** 52.83 275 ⇓P P 07 48 07.6 +1.0
baz=53
U20A **Newcomb** 52.86 281 ⇑P P 07 48 08.2 +1.2
baz=53
127A **Arkansas Junct** 52.95 274 ⇓P P 07 48 08.3 +0.7
baz=53
X23A **Hourglass Bar** 53.00 278 ⇓P P 07 48 09.1 +1.1
baz=53
431A **Sonora** 53.03 270 ⇓P P 07 48 09.3 +1.2
baz=53
BVAR **Borovoye Array** 53.06 47 P P 07 48 07.0 -0.9
BVAR **Borovoye Array** 53.06 47 P P 07 48 07.0 -0.9
comp=Z,2.4nm,1.0s,baz=299,slow=6.1,SNR=10
BVAR **Borovoye Array** 53.06 47 P P 07 48 07.0 -0.9
532A **Rocksprings** 53.09 269 ⇑P P 07 48 09.2 +0.6
baz=53
Y24A **Capitan** 53.10 276 ⇓P P 07 48 09.4 +0.6
baz=53
Z25A **Roswell** 53.21 275 ⇑P P 07 48 10.9 +1.3
baz=53
V20A **Brimhall** 53.27 280 ⇓P P 07 48 11.3 +1.2
baz=53
126A **Clayton Basin,** 53.33 274 ⇓P P 07 48 10.9 +0.6
baz=53
W21A **San Fidel** 53.36 279 ⇓P P 07 48 11.7 +1.0
baz=53
531A **Rocksprings** 53.41 269 ⇑P P 07 48 11.0 +0.1
baz=53
Y23A **Lovelace Mesa,** 53.42 277 ⇑P P 07 48 12.2 +1.0
baz=53
632A **Uvalde** 53.52 268 ⇓P P 07 48 12.7 +1.1
baz=53
Z24A **Sheeppen Canyo** 53.52 276 ⇑P P 07 48 12.9 +1.0
baz=53
125A **Gardner Draw,** 53.66 275 ⇑P P 07 48 12.5 -0.3
baz=54
328A **Wristen Ranch,** 53.67 272 ⇓P P 07 48 15.2 +2.4
baz=54
429A **Davenport Ranc** 53.77 271 ⇓P P 07 48 15.4 +1.9
baz=54
W20A **Ramah** 53.80 280 ⇑P P 07 48 14.9 +0.9
baz=54
226B **Tecolote Peak,** 53.85 274 ⇑P P 07 48 15.4 +1.3
baz=54
Y22A **Socorro** 53.90 278 ⇑P P 07 48 15.6 +0.9
baz=54
X21A **Alamocita Cree** 53.95 279 ⇑P P 07 48 16.2 +1.2
baz=54,SNR=7.5
Z23A **Rita Site, Whi** 54.03 277 ⇓P P 07 48 16.4 +0.8
baz=54
124A **Stringfield Ra** 54.05 276 ⇓P P 07 48 17.2 +1.3
baz=54
428A **Kincaid Ranch,** 54.11 272 ⇑P P 07 48 18.1 +2.0
baz=54
225A **Deer Hill, Car** 54.17 275 ⇑P P 07 48 17.4 +0.8
baz=54
Y21A **Point of Rocks** 54.22 278 ⇓P P 07 48 18.6 +1.6
baz=54
732A **Laxson Ranch,** 54.23 268 ⇑P P 07 48 18.1 +1.2
baz=54
X20A **Quemado** 54.25 279 ⇓P P 07 48 18.5 +1.3
baz=54
529A **Stev Forest Ra** 54.33 271 ⇑P P 07 48 18.6 +1.0
baz=54
326A **Caldwell Ranch** 54.34 273 ⇓P P 07 48 19.3 +1.6
baz=54
427A **Hayter Ranch,** 54.40 272 ⇑P P 07 48 18.8 +0.6
baz=54
Z22A **Elephant Butte** 54.43 277 ⇓P P 07 48 19.3 +0.9
baz=54,SNR=8.4
224A **Cornudas Mount** 54.57 275 ⇓P P 07 48 19.9 +0.4
baz=54
528A **Cox Ranch, San** 54.61 271 ⇑P P 07 48 20.4 +0.6
baz=54
Y20A **Horse Springs,** 54.67 279 ⇓P P 07 48 21.4 +1.1
baz=54
Z21A **St. Cloud Mine** 54.76 278 ⇓P P 07 48 22.0 +1.1
baz=55
U15A **North Rim** 54.79 284 ⇑P P 07 48 20.7 -0.5
baz=55
426A **McDonald Obser** 54.87 273 ⇑P P 07 48 22.5 +0.7
baz=55,SNR=11
WUAZ **Wupatki** 55.01 282 ⇓P P 07 48 23.2 +0.5
baz=55
R11A **Troy Canyon, C** 55.02 288 ⇑P P 07 48 23.1 +0.4
baz=55
324A **Moseley Ranch,** 55.05 275 ⇓P P 07 48 22.9 0.0
baz=55
527A **Woodward Ranch** 55.06 272 ⇑P P 07 48 23.5 +0.5
baz=55
628A **Black Gap, Mar** 55.19 271 ⇑P P 07 48 25.0 +1.1
baz=55
425A **Indio Mountain** 55.29 274 ⇑P P 07 48 25.8 +1.1
baz=55
526A **Mary Lane Ranc** 55.38 272 ⇑P P 07 48 26.4 +1.0
baz=55,SNR=7.5
Z20A **Nine Sixteen R** 55.40 278 ⇓P P 07 48 26.5 +1.1
baz=55
DBIC **Dimbokro** 55.41 146 LR LR 08 09 23.0
comp=Z,68nm,19.6s,baz=280,slow=33

121A	Cookes Peak, D	55.42	277	⇑P	P	07 48 26.7 +1.0
	baz=55					
627A	Terlingua Ranc	55.48	271	⇑P	P	07 48 27.2 +1.1
	baz=55					
TXAR	Lajitas Array	55.73	271	P	P	07 48 27.8 0.0
TXAR	Lajitas Array	55.73	271	P	P	07 48 27.8 0.0
	comp=Z,1.0nm,1.1s,baz=64,slow=2.9,SNR=6.7					
TXAR	Lajitas Array	55.73	271	P	P	07 48 27.8 0.0
626A	Big Bend Ranch	55.80	272	⇑P	P	07 48 29.0 +0.7
	baz=56,SNR=6.4					
120A	U Bar Ranch, L	55.86	278	⇓P	P	07 48 30.1 +1.3
	baz=56					
X16A	Lo Mia Camp, P	55.89	282	⇓P	P	07 48 30.1 +1.0
	baz=56					
220A	Playas Peak, P	56.30	277	⇑P	P	07 48 32.7 +0.7
	baz=56					
NVAR	Mina Array Bea	56.34	290	P	P	07 48 32.0 -0.2
NVAR	Mina Array Bea	56.34	290	P	P	07 48 32.0 -0.2
	comp=Z,0.6nm,0.7s,baz=52,slow=4.1,SNR=6.4					
NVAR				LR	LR	08 12 24.9
	comp=Z,114nm,18.4s,baz=16,slow=36					
NVAR	Mina Array Bea	56.34	290	P	P	07 48 32.0 -0.2
W13A	Hualapai Mount	56.64	284	⇑P	P	07 48 34.5 +0.1
	baz=56					
320A	Kipp Ranch, An	56.75	277	⇑P	P	07 48 35.9 +0.8
	baz=57					
GRAC	Grapevine Rang	56.96	288	⇑P	P	07 48 36.9 +0.5
	baz=57,SNR=5.5					
FURC	Furnace Creek,	57.11	287	⇓P	P	07 48 37.7 +0.3
	baz=57					
SHOC	Shoshone	57.26	286	⇓P	P	07 48 39.0 +0.5
	baz=57					
PDMCI	Parker Dam,Lak	57.39	284	⇓P	P	07 48 40.6 +1.2
	baz=57					
MPMC	Manual Prospec	57.75	287	⇓P	P	07 48 43.4 +1.1
	baz=58					
CWC	Cottonwood Cre	57.76	288	⇓P	P	07 48 43.1 +0.8
	baz=58					
GMRC	Granite Mounta	57.81	285	⇑P	P	07 48 43.3 +0.8
	baz=58					
GSC	Goldstone	57.99	286	⇑P	P	07 48 44.4 +0.6
	baz=58					
KURK	Kurchatov	58.03	44	P	P	07 48 44.0 +0.3
KURK	Kurchatov	58.03	44	P	P	07 48 44.0 +0.3
KURBB	Kurchatov Arra	58.08	44	P	P	07 48 44.0 0.0
	comp=Z,1.9nm,0.9s,baz=320,slow=7.2,SNR=16					
113A	Mohawk Valley,	58.39	282	⇓P	P	07 48 48.0 +1.5
	baz=58					
RCTC	Rector, Farmer	58.45	289	⇓P	P	07 48 48.1 +1.3
	baz=58					
214A	Organ Pipe Nat	58.52	281	⇓P	P	07 48 48.5 +1.1
	baz=58					
ISA	Isabella	58.56	288	⇑P	P	07 48 48.2 +0.5
	baz=58					
BELC	Belle Mtn. Jos	58.59	285	⇓P	P	07 48 48.7 +0.7
	baz=58					
GLA	Glamis	58.72	283	⇑P	P	07 48 49.6 +0.7
	baz=59					
VES	Vestal, Richgr	58.73	288	⇑P	P	07 48 49.4 +0.6
	baz=58					
BBRC	Big Bear Solar	58.86	286	⇑P	P	07 48 50.7 +0.7
	baz=59					
EKS2	Erkin-Say	62.64	53	*e*P	P	07 49 17.0 +1.4
	comp=Z,1.8nm,0.7s					
EKS2	Erkin-Say	62.64	53	*e*P	P	07 49 17.0 +1.4
	comp=Z,1.8nm,0.7s					
MK31	Makanchi Array	62.64	45	*e*P	P	07 49 14.9 -0.4
MK31	Makanchi Array	62.64	45	*e*P	P	07 49 14.9 -0.4
MKAR	Makanchi Array	62.64	45	P	P	07 49 14.1 -1.3
MKAR	Makanchi Array	62.64	45	P	P	07 49 14.1 -1.3
	comp=Z,1.8nm,0.9s,baz=335,slow=4.9,SNR=12					
MKAR	Makanchi Array	62.64	45	P	P	07 49 14.1 -1.3
SONM	Songino Array	69.35	28	P	P	07 49 58.3 -0.3
SONM	Songino Array	69.35	28	P	P	07 49 58.3 -0.3
	comp=Z,2.3nm,1.0s,baz=333,slow=5.8,SNR=12					
SONM	Songino Array	69.35	28	P	P	07 49 58.3 -0.3
KMBO	Kilima Mbogo	80.33	108	LR	LR	08 31 22.9
	comp=Z,52nm,18.0s,baz=82,slow=39					
BOSA	Boshof	98.76	131	LR	LR	08 38 53.1
	comp=Z,46nm,21.6s,baz=176,slow=36					
ASAR	Alice Springs	144.49	22	PKP	PKPab	07 58 25.4 -0.3
ASAR	Alice Springs	144.49	22	PKP	PKPab	07 58 25.4 -0.3
	comp=Z,1.1nm,1.1s,baz=344,slow=2.5,SNR=4.2					
ASAR	Alice Springs	144.49	22	PKIKP	PKPab	07 58 25.4 -0.3
VNDA	Vanda	159.63	189	PKP	PKPdf	07 58 48.5 +0.5
VNDA				PKPab	PKPab	07 59 27.8 +1.1
VNDA	Vanda	159.63	189	PKP	PKPdf	07 58 48.5 +0.5
	comp=Z,0.3nm,0.7s,baz=207,slow=2.3,SNR=2.6					
VNDA				PKPab	PKPab	07 59 27.8 +1.1
	comp=Z,0.8nm,0.9s,baz=177,slow=3.4,SNR=3.9					
VNDA	Vanda	159.63	189	PKIKP	PKPdf	07 58 48.5 +0.5

ISC 03 07:42:29.7±2.3, 44°.13N±0°.08×15°.10E±0°.07, h3km±16km, n7, σ1§03/12, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	0.47	340	*i* Pg	Pg	07 42 38.1	-0.5
NVLJ				Sg	Sb	07 42 46.8	-0.9
UDBI	Udbina	0.62	50	*e*Pg	Pg	07 42 40.4	-1.3
UDBI				Sg	Sb	07 42 52.1	-0.3
BOJS	Bojanci	1.38	5	*i* Pn	Pb	07 42 56.1	+0.1
BOJS				*i* Sn	Sg	07 43 16.1	+2.1
SKDS	Skadanscina	1.61	332	*i* Pn	Pb	07 42 59.8	-0.3
VISS	Visnje	1.69	354	*i* Pn	Pn	07 43 00.6	+0.6
VOY	Vojsko	2.09	336	*e*Pn	Pn	07 43 05.7	+0.1
VOY				*e*Sn	Sb	07 43 34.3	-0.2
STON	Ston	2.27	123	*e*Pn	Pn	07 43 09.0	+0.9
STON				Sn	Sn	07 43 36.2	-0.3

IDC 03 07:45:10.6±0.7, 57°.88N×32°.65W, h0km, mb3.6/14, mb1 3.8/16, mb1mx3.7/34, mbtmp3.6/16, ML2.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/28, Error ellipse: s-maj=22.5km s-min=14.3km az=1.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.77	34	Pn	Pn	07 47 20.0	+1.6
	0.4nm,0.3s,baz=233,slow=10,SNR=4.1						
BORG				Sn	Sn	07 48 59.2	+1.5
	0.1nm,0.3s,baz=86,slow=14,SNR=2.4						
SFJD	Kangerlussuaq	12.30	325	LR	LR	07 52 07.7	
	comp=Z,222nm,19.1s,baz=169,slow=34						
SCHQ	Schefferville	19.06	275	P	P	07 49 32.7	-1.4
	0.1nm,0.3s,baz=54,slow=17,SNR=2.9						
NOA	NORSAR Array B	22.19	63	P	P	07 50 07.7	-0.3
	0.9nm,0.9s,baz=283,slow=10.0,SNR=2.4						
ESDC	Sonseca Array	25.94	122	P	P	07 50 44.7	+0.3
	0.4nm,0.3s,baz=347,slow=5.3,SNR=4.1						
YKA	Yellowknife Ar	38.43	312	P	P	07 52 32.7	-0.6
	0.6nm,0.8s,baz=61,slow=9.4,SNR=3.0						
BRTR	Keskin Array B	45.27	84	P	P	07 53 30.3	+0.6
	0.6nm,0.6s,baz=266,slow=3.2,SNR=4.9						
ILAR	Eielson Array	47.95	328	P	P	07 53 50.6	+0.4
	0.9nm,0.9s,baz=33,slow=6.1,SNR=8.6						
ILAR				PcP	PcP	07 55 17.4	-1.0
	0.2nm,0.7s,baz=31,slow=2.5,SNR=4.2						
PDAR	Pinedale Array	48.62	287	P	P	07 53 55.6	-0.4
	1.1nm,1.0s,baz=67,slow=8.2,SNR=6.2						
AKTO	Aktyubinsk	49.77	57	P	P	07 54 04.6	+0.2
	1.5nm,0.7s,baz=309,slow=8.6,SNR=7.0						
TORD	Torodi Ar. Bea	51.63	135	P	P	07 54 17.2	-1.5
	0.7nm,0.9s,baz=325,slow=12,SNR=3.7						
BVAR	Borovoye Array	53.07	47	P	P	07 54 29.1	0.0
	0.5nm,0.5s,baz=321,slow=2.0,SNR=5.2						
TXAR	Lajitas Array	55.68	271	P	P	07 54 48.9	+0.4
	0.3nm,0.8s,baz=48,slow=1.9,SNR=3.5						
NVAR	Mina Array Bea	56.28	290	P	P	07 54 53.4	+0.5
	0.2nm,0.4s,baz=48,slow=2.7,SNR=2.6						
MKAR	Makanchi Array	62.65	45	P	P	07 55 35.9	-0.6
	0.6nm,0.7s,baz=339,slow=6.5,SNR=5.8						
SONM	Songino Array	69.34	28	P	P	07 56 19.3	-0.3
	0.2nm,0.3s,baz=270,slow=3.0,SNR=4.4						
SIV	San Ignacio	77.26	208	P	P	07 57 07.8	+1.3
	1.1nm,0.8s,baz=229,slow=2.1,SNR=3.9						
ASAR	Alice Springs	144.47	22	PKP	PKPab	08 04 46.4	-0.4
	0.3nm,0.8s,baz=13,slow=2.0,SNR=4.3						

KRSC 03 07:57:37.3±0.8, 52°.47N×159°.23E, h48km±48km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.44	265	*e*P	Pn	07 57 48.3	+0.6
RUS				*e*S	Sn	07 57 55.8	+0.7
MTVR	Mutnovka	0.64	272	*e*P	Pn	07 57 50.9	+0.5
MTVR				*e*S	Sn	07 58 00.5	+0.7
PET	Petropavlovsk	0.66	328	*e*P	Pn	07 57 50.5	+0.1
PET				*e*S	Sn	07 57 59.9	+0.1
NLC	Nalytchevo	0.71	6	*e*P	Pn	07 57 51.2	+0.2
NLC				*e*S	Sn	07 58 01.0	+0.1
GRL	Gorelyy	0.71	277	*e*P	Pn	07 57 52.5	+1.2
GRL				*e*S	Sn	07 58 03.2	+1.8
UGLR	Uglovaya	0.78	342	*e*P	Pn	07 57 52.8	+0.6
UGLR				*e*S	Sn	07 58 04.2	+1.2
SPN	Mys Shipunski	0.79	37	*e*P	Pn	07 57 52.8	+0.6
SPN				*e*S	Sn	07 58 04.2	+1.2
ASAK	Asacha	0.82	264	*e*P	Pn	07 57 53.4	+0.8
ASAK				*e*S	Sn	07 58 05.3	+1.5
SDLR	Sedlovina	0.84	346	*e*P	Pn	07 57 53.1	+0.2
SDLR				*e*S	Sn	07 58 04.5	+0.1
SMAR	Somma	0.84	342	*e*P	Pn	07 57 53.2	+0.1
SMAR				*e*S	Sn	07 58 04.9	+0.3
AVH	Avacha	0.85	340	*e*P	Pn	07 57 53.7	+0.6
AVH				*e*S	Sn	07 58 05.6	+1.0
KRER	Koryakskii	0.89	341	*e*P	Pn	07 57 54.3	+0.6
KRER				*e*S	Sn	07 58 06.2	+0.5
KOK	Koryaka	0.90	337	*e*P	Pn	07 57 54.5	+0.8
KOK				*e*S	Sn	07 58 06.9	+1.1
APC	Apacha	1.34	291	*e*P	Pn	07 58 00.5	+0.9
APC				*e*S	Sn	07 58 17.6	+1.4
GNL	Ganaly	1.45	328	*e*P	Pn	07 58 02.1	+0.8
GNL				*e*S	Sn	07 58 20.7	+1.4
MIPR	Malaya Ipel'ka	1.53	264	*e*P	Pn	07 58 03.2	+1.0
KII	Karymskiy	1.57	5	*e*P	Pn	07 58 05.3	+2.4
KII				*e*S	Sn	07 58 26.0	+3.8
PAU	Pauzhetka	1.80	237	*e*P	Pn	07 58 07.0	+1.1
PAU				*e*S	Sn	07 58 28.9	+1.4
MKZ	Mys Kozlova	2.57	35	*e*S	Sn	07 58 47.6	+1.3
SKR	Severo-Kuril's	2.64	229	*e*S	Sn	07 58 47.2	-0.9

IDC 03 07:58:41.1±1.0, 18°.75N×69°.25W, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.4/6, Error ellipse: s-maj=35.4km s-min=21.4km az=53.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	33.04	295	P	P	08 05 18.8	+0.3
	0.1nm,0.5s,baz=114,slow=11,SNR=5.3						
TXAR				PcP	PcP	08 08 00.8	-1.5
	0.2nm,0.7s,baz=122,slow=4.0,SNR=3.1						
LPAZ	La Paz	34.83	178	P	P	08 05 36.4	+1.8
	0.2nm,0.5s,baz=342,slow=6.4,SNR=3.0						
SIV	San Ignacio	35.45	166	P	P	08 05 38.7	-0.6
	0.6nm,0.4s,baz=359,slow=7.7,SNR=4.8						
NVAR	Mina Array Bea	46.72	305	P	P	08 07 12.5	+0.2
	0.5nm,0.8s,baz=108,slow=6.8,SNR=4.3						
CFAA	Coronel Fontan	50.08	179	P	P	08 07 36.1	-1.7
	0.1nm,0.3s,baz=330,slow=8.1,SNR=3.5						
TORD	Torodi Ar. Bea	68.07	83	P	P	08 09 43.4	+0.3
	0.3nm,0.6s,baz=281,slow=7.3,SNR=2.7						

IDC 03 08:20:59.7±1.1, 20°.77S×174°.02W, h0km, mb3.6/5, mb1 4.1/7, mb1mx3.8/22, mbtmp3.8/7, ML3.1/2, Error ellipse: s-maj=53.0km s-min=21.3km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.15	18	Pn	Pn	08 22 44.1	-1.6
	5.0nm,0.3s,baz=38,slow=21,SNR=8.5						
AFI				Sn	Sn	08 23 55.9	-12
	1.7nm,0.3s,baz=14,slow=19,SNR=2.2						
URZ	Urewera	19.05	202	P	P	08 25 22.8	-0.6
	0.3nm,0.3s,baz=340,slow=16,SNR=2.4						
ASAR	Alice Springs	48.08	256	P	P	08 29 41.0	-0.4
	0.9nm,0.8s,baz=98,slow=8.5,SNR=9.4						
WRA	Warramunga Arr	48.25	261	P	P	08 29 42.5	-0.3
	0.5nm,0.6s,baz=96,slow=7.8,SNR=7.2						
NVAR	Mina Array Bea	78.71	41	P	P	08 33 05.4	+1.1
	0.7nm,0.7s,baz=224,slow=8.5,SNR=7.8						
PDAR	Pinedale Array	86.64	42	P	P	08 33 43.6	-1.9
	0.5nm,0.9s,baz=268,slow=6.3,SNR=3.4						
ILAR	Eielson Array	87.80	11	P	P	08 33 50.0	-0.2
	0.2nm,0.9s,baz=216,slow=5.6,SNR=2.7						
BRTR	Keskin Array B	149.72	315	PKPbc	PKPbc	08 40 51.5	-0.4
	0.7nm,0.8s,baz=96,slow=4.3,SNR=3.7						
GERES	GERESS Array B	151.31	349	PKPbc	PKPbc	08 40 57.4	+2.1
	0.3nm,0.2s,baz=50,slow=5.4,SNR=3.6						

IDC 03 08:34:46.6±33.0, 16°.18S×176°.93W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/20, mbtmp4.2/4, Error ellipse: s-maj=636.0km s-min=148.6km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.71	240	P	P	08 42 29.4	+0.2
	1.3nm,0.5s,baz=85,slow=6.4,SNR=6.9						
WRA	Warramunga Arr	46.36	258	P	P	08 43 14.6	-0.4
	0.6nm,0.5s,baz=95,slow=7.2,SNR=11						
ASAR	Alice Springs	46.64	253	P	P	08 43 16.9	-0.3
	6.4nm,0.6s,baz=89,slow=8.0,SNR=113						
FITZ	Fitzroy Crossi	54.73	259	P	P	08 44 18.3	0.0
	4.7nm,1.2s,baz=117,slow=2.3,SNR=3.2						

IDC 03 08:43:47.4±2.8, 7°.76S×159°.99E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=64.8km s-min=25.2km az=82.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.66	181	Pn	Pn	08 44 17.9	0.0
	43nm,0.3s,baz=99,slow=0.7,SNR=16						
HNR				Sn	Sn	08 44 40.2	+0.3
	130nm,0.3s,baz=172,slow=23,SNR=17						
WRA	Warramunga Arr	27.64	241	P	P	08 49 37.5	+0.5
	0.9nm,0.4s,baz=68,slow=9.2,SNR=9.9						
ASAR	Alice Springs	29.59	235	P	P	08 49 54.0	-0.4
	0.1nm,0.3s,baz=64,slow=9.8,SNR=4.8						
MKAR	Makanchi Array	87.27	318	P	P	08 56 36.1	-0.1
	0.2nm,0.6s,baz=102,slow=4.0,SNR=2.4						

IDC 03 08:44:59.5±2.7, 23°.55S×179°.59W, h528km±31km, mb3.7/6, mb1 3.8/8, mb1mx3.3/23, mbtmp3.8/8, Error ellipse: s-maj=24.5km s-min=22.4km az=19.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.10	39	P	P	08 47 39.9	+0.5
	2.2nm,0.3s,baz=241,slow=19,SNR=4.2						
AFI				S	S	08 49 44.3	-6.6
	0.7nm,0.3s,baz=0.0,slow=20,SNR=2.6						
URZ	Urewera	14.94	190	P	P	08 48 06.4	-2.1
	2.8nm,0.3s,baz=12,slow=1.5,SNR=19						
URZ				S	S	08 50 37.7	-6.5
	0.6nm,0.3s,baz=252,slow=20,SNR=4.1						
RPZ	Rata Peaks	21.55	199	P	P	08 49 10.6	+0.1
	10nm,0.5s,baz=0.0,slow=5.1,SNR=5.6						
CTA	Charters Tower	31.85	270	P	P	08 50 41.8	+0.5
	14nm,0.3s,baz=98,slow=13,SNR=22						
STKA	Stephens Creek	35.20	248	P	P	08 51 09.7	+0.3
	3.9nm,0.7s,baz=92,slow=8.8,SNR=15						
ASAR	Alice Springs	42.47	260	P	P	08 52 08.0	-0.3
	3.6nm,0.4s,baz=95,slow=7.4,SNR=88						
WRA	Warramunga Arr	42.81	266	P	P	08 52 10.2	-0.9
	7.8nm,0.5s,baz=102,slow=8.6,SNR=93						
FITZ	Fitzroy Crossi	51.23	265	P	P	08 53 14.3	-0.2
	3.1nm,0.6s,baz=108,slow=7.3,SNR=11						
MKAR	Makanchi Array	112.19	313	PKiKP	PKiKP	09 02 34.1	-0.8
	0.2nm,0.6s,baz=289,slow=0.6,SNR=2.9						
ARCES	ARCESS Array B	131.62	348	PKP	PKPdf	09 03 09.7	-1.8
	1.0nm,0.7s,baz=72,slow=2.9,SNR=5.1						
BRTR	Keskin Array B	147.66	308	PKPbc	PKPbc	09 03 44.8	-0.2
	0.4nm,0.4s,baz=84,slow=4.2,SNR=3.1						
TORD	Torodi Ar. Bea	169.59	187	PKPab	PKPab	09 05 24.0	-0.1
	0.2nm,0.6s,baz=135,slow=3.7,SNR=2.6						

*IDC **03** 09:11:10.2±0.7, 20°.74S×174°.05W, h0km, mb3.9/11, mb1 4.1/13, mb1mx4.0/22, mbtmp3.9/13, ML3.3/2, MS3.0/3, Ms1 3.0/3, ms1mx2.9/26, Error ellipse: s-maj=29.3km s-min=17.0km az=125.0*

*NEIC **03** 09:11:11.5±0.5, 20°.79S×173°.87W, h10km, mb4.4/2, Error ellipse: s-maj=15.9km s-min=11.0km az=124.0*

ISC 03 09:11:13.9±0.6, 20°.65S±0°.08×173°.8W±0°.1, h26km, n35, σ1§68/36, mb3.9/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.99	17	Pn	Pn	09 12 53.8	-0.8
AFI				Sn	Sn	09 14 09.6	-3.7
AFI	Afiamalu	6.99	17	Pn	Pn	09 12 53.8	-0.8
	6.1nm,0.3s,baz=207,slow=6.8,SNR=9.3						
AFI				Sn	Sn	09 14 09.6	-3.7
	2.1nm,0.3s,baz=257,slow=14,SNR=2.8						
AFI				LR	LR	09 15 00.6	
	comp=Z,97nm,20.0s,baz=163,slow=32						
MSVF	Nonsavu	8.20	289	*e*Pn	Pn	09 13 13.0	+1.7
	36nm,1.0s						
URZ	Urewera	19.22	202	P	P	09 15 34.3	-1.6
URZ	Urewera	19.22	202	P	P	09 15 34.3	-1.6
	0.4nm,0.3s,baz=342,slow=6.4,SNR=3.7						
URZ				LR	LR	09 20 49.5	
	comp=Z,64nm,18.5s,baz=195,slow=30						
PPT	Papeete	23.12	87	LR	LR	09 22 49.1	
	comp=Z,33nm,18.3s,baz=256,slow=30						
STKA	Stephens Creek	41.25	245	P	P	09 18 56.0	-0.9
STKA	Stephens Creek	41.25	245	P	P	09 18 56.0	-0.9
	2.3nm,1.0s,baz=330,slow=14,SNR=3.3						
ASAR	Alice Springs	48.28	256	P	P	09 19 51.0	-2.2
ASAR	Alice Springs	48.28	256	P	P	09 19 51.0	-2.2
	3.4nm,0.9s,baz=90,slow=8.3,SNR=19						
WRAB	Tennant Creek	48.43	261	P	P	09 19 54.5	+0.1
WRA	Warramunga Arr	48.44	261	P	P	09 19 51.9	-2.6
WRA	Warramunga Arr	48.44	261	P	P	09 19 51.9	-2.6
	1.3nm,0.9s,baz=98,slow=8.8,SNR=7.2						
VNDA	Vanda	58.14	186	P	P	09 21 04.2	-0.6
VNDA	Vanda	58.14	186	P	P	09 21 04.2	-0.6
	1.0nm,1.0s,baz=355,slow=3.7,SNR=4.4						
QSPA	South Pole Qui	69.42	180	*e*P	P	09 22 18.3	-1.3
	4.7nm,0.9s						
MJAR	Matsushiro Arr	72.70	321	P	P	09 22 41.3	+1.6
MJAR	Matsushiro Arr	72.70	321	P	P	09 22 41.3	+1.6
	0.6nm,0.5s,baz=133,slow=5.7,SNR=3.8						
PETK	Petropavlovsk-	77.49	343	P	P	09 23 07.5	+0.7
PETK	Petropavlovsk-	77.49	343	P	P	09 23 07.6	+0.7
	1.2nm,0.8s,baz=160,slow=11,SNR=2.4						
NVAR	Mina Array Bea	78.51	41	P	P	09 23 14.9	+1.8
NVAR	Mina Array Bea	78.51	41	P	P	09 23 14.9	+1.8
	0.7nm,0.6s,baz=226,slow=8.8,SNR=8.4						
MAW	Mawson	82.71	199	P	P	09 23 35.2	+0.3
MAW	Mawson	82.71	199	P	P	09 23 35.2	+0.3
	1.2nm,0.9s,baz=83,slow=7.3,SNR=3.1						
TXAR	Lajitas Array	83.88	56	P	P	09 23 43.7	+1.9
TXAR	Lajitas Array	83.88	56	P	P	09 23 43.7	+1.9
	0.5nm,1.0s,baz=198,slow=5.7,SNR=4.0						
HLID	Hailey	83.94	39	*e*P	P	09 23 42.8	+0.9
	1.7nm,1.0s						
PDAR	Pinedale Array	86.44	42	P	P	09 23 55.4	+0.9
PDAR	Pinedale Array	86.44	42	P	P	09 23 55.4	+0.9
	0.4nm,0.8s,baz=290,slow=2.7,SNR=3.0						
ILAR	Eielson Array	87.65	11	P	P	09 24 00.7	+1.2
ILAR	Eielson Array	87.65	11	P	P	09 24 00.7	+1.2
	0.6nm,1.0s,baz=210,slow=5.2,SNR=3.0						
BRTR	Keskin Array B	149.77	315	PKPbc	PKPbc	09 31 01.6	-0.2
BRTR	Keskin Array B	149.77	315	PKPbc	PKPbc	09 31 01.6	-0.2
	0.5nm,0.4s,baz=138,slow=7.5,SNR=4.3						
GERES	GERESS Array B	151.22	350	PKPbc	PKPbc	09 31 06.2	+1.2
GERES	GERESS Array B	151.22	350	PKPbc	PKPbc	09 31 06.2	+1.2
	0.4nm,0.2s,baz=29,slow=3.0,SNR=5.3						

MEX 03 10:08:41.2±0.5, 15°.38N×91°.96W, h207km±5km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.55	212	*e*P	Pn	10 09 07.6	-1.7
THIG				*i* S	S	10 09 28.9	-2.3
CCIG	Comitan	0.92	349	*i* P	Pn	10 09 10.1	-1.3
CCIG				*i* S	S	10 09 32.3	-2.6
TGIG		1.78	321	*e*P	Pn	10 09 17.3	-0.9
TGIG				*e*S	S	10 09 44.6	-2.2
HUIG	Huatulco	4.02	276	*e*P	Pn	10 09 42.2	-1.3
HUIG				*i* S	S	10 10 29.7	-2.2
VHO	Vista Hermosa	4.88	291	*e*P	Pn	10 09 54.4	-0.2
VHO				*i* S	S	10 10 49.7	-2.4
PNIG	Pinotepa	6.02	280	*e*P	Pn	10 10 08.8	-0.1
PNIG				*i* S	S	10 11 16.3	-1.7

IDC 03 10:15:14.5±1.6, 9°.00N×126°.53E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/23, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx2.1/38, Error ellipse: s-maj=195.7km s-min=19.3km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.77	165	P	P	10 21 21.6	-1.5
	0.3nm,0.3s,baz=344,slow=9.4,SNR=10.0						
ASAR	Alice Springs	33.26	168	P	P	10 21 55.1	+1.3
	0.2nm,0.4s,baz=353,slow=7.2,SNR=11						
SONM	Songino Array	42.29	340	P	P	10 23 09.8	-0.2
	0.3nm,0.5s,baz=159,slow=6.0,SNR=2.6						
MKAR	Makanchi Array	53.19	323	P	P	10 24 34.4	-0.2
	0.4nm,0.6s,baz=129,slow=8.7,

baz=5.9,SNR=11
GSPH General Santos 6.00 334 *e*P **Pn 10 32 51.5 -1.9**
GSPH *e*S **Sn 10 33 56.5 -5.2**
MATI Mati 6.39 348 *e*P **Pn 10 32 59.0 +0.4**
MATI *e*S Px 10 33 21.5
DAV Davao City (W) 6.68 343 *e*Pn **Pn 10 33 01.9 -0.4**
DAV *e*Sn **Sn 10 34 17.0 -0.8**
DAV Davao City (W) 6.68 343 P **Pn 10 33 03.7 +1.4**
967nm,0.8s,12μm4.0nm
KCP Kidapawan 6.78 339⇑ *e*P **Pn 10 33 03.2 -0.5**
SKSI Soroako, Sulaw 6.96 243 P **Pn 10 33 06.6 +0.4**
176nm,0.8s,7μm2.9nm
CTBH Cotabato--PC H 7.31 333⇑ *e*P **Pn 10 33 09.3 -1.4**
BUKP Musuan 7.60 341 *e*P **Pn 10 33 13.9 -0.7**
CGP Cagayan de Oro 8.26 340 *e*P **Pn 10 33 22.2 -1.1**
PAGZ Pagadian 8.27 330 *e*P **Pn 10 33 21.7 -1.7**
BUTP Butuan 8.49 347 *e*P Pn 10 33 22.2 -4.1
TTSI Tana Toraja 8.55 245 P **Pn 10 33 27.8 +0.6**
118nm,0.7s,3μm
IPIL Ipil 8.66 325 *e*P **Pn 10 33 28.6 0.0**
SPSI Sidrap Palu 9.02 239 P Pn 10 33 36.6 +3.2
155nm,0.5s,3μm
BKSI Bulukumba 9.49 231 P **Pn 10 33 42.6 +3.0**
63nm,0.6s,875nm
KAPI Kappang 9.60 234 *e*Pn **Pn 10 33 39.7 -1.4**
KAPI S **Sn 10 35 25.9 -2.0**
KAPI *e*Sn Sn 10 35 26.3 -1.6
KAPI Kappang 9.60 234 P **Pn 10 33 42.9 +1.8**
50nm,0.7s
KAPI Kappang 9.60 234 P **Pn 10 33 40.5 -0.6**
1.9nm,0.3s,baz=80,slow=5.2,SNR=7.9
KAPI S **Sn 10 35 25.9 -2.0**
27nm,0.3s,baz=343,slow=19,SNR=17
BSSI Bau Bau, Buton 9.75 226 P **Pn 10 33 44.4 +1.4**
163nm,1.0s
MYLDM Lahad Datu 10.09 297 P Pn 10 33 51.6 +4.1
TSM Tawau 10.32 291 P **Pn 10 33 53.5 +3.0**
SOEI Soe 10.84 197 P **Pn 10 34 00.1 +2.7**
212nm,0.8s,2μm
SOEI Soe 10.84 197 P P 10 34 01.9 -3.5
baz=11,SNR=6.8
GUIM Jordan 11.07 334 *e*P **Pn 10 33 59.4 -0.9**
SDKM Sandakan 11.46 296 P **P 10 34 10.4 -2.1**
WSI Waingapu 12.53 215 P **P 10 34 24.2 -0.1**
630nm,0.5s,8μm
BASI Baing, Sumba 12.83 213 P **P 10 34 28.3 +0.7**
300nm,1.3s
BBKI Banjar Baru 13.34 252 P P 10 34 36.8 +3.5
MTN Manton Dam 13.87 165 P **Pn 10 34 34.6 -1.6**
baz=14,SNR=27
KDU Kakadu 14.12 160 P **Pn 10 34 37.1 -2.2**
baz=14,SNR=27
SBUM Sibu 15.43 277 P **P 10 34 59.0 +2.6**
IGBI Denpasar 15.53 232 P **P 10 35 00.5 +3.0**
258nm,0.7s
NBBI Negara 15.69 235 P **P 10 34 59.6 +0.2**
153nm,1.0s
BLJI Banyuglugur 16.22 239 P Pn 10 35 11.3 +6.1
222nm,0.6s,2μm
KNRA Kununurra 16.26 176 P **P 10 35 04.9 -0.8**
baz=16,SNR=52
GMJI Gumukmas 16.62 237 P **Pn 10 35 14.5 +4.5**
103nm,1.1s
KSM Kuching 17.25 273 *e*Pn **P 10 35 15.6 -1.1**
13nm,0.6s
KSM Kuching 17.25 273 P **Pn 10 35 19.5 +1.8**
KSM Kuching 17.25 273 S **Sn 10 38 31.3 -0.1**
baz=17,SNR=3.5
SJI Sawahan 17.80 242 P **Pn 10 35 27.9 +3.6**
120nm,1.0s
PWJI Pagerwojo 17.90 241 P **Pn 10 35 27.5 +2.1**
53nm,0.9s,12μm
PCJI Pacitan 18.53 241 P **Pn 10 35 34.0 +1.3**
106nm,0.9s
FITZ Fitzroy Crossi 18.72 186 P **P 10 35 32.1 -0.5**
FITZ Fitzroy Crossi 18.72 186 P **P 10 35 32.1 -0.5**
5.3nm,0.3s,baz=14,slow=9.4,SNR=121
FITZ LR LR 10 42 34.0
comp=Z,119nm,21.8s,baz=38,slow=36
FITZ Fitzroy Crossi 18.72 186 P **P 10 35 32.2 -0.5**
baz=19,SNR=75
BJII Banjamegara 19.48 246 P **Pn 10 35 44.7 +0.7**
COEN Coen 21.22 134 P **P 10 36 00.9 +1.5**
baz=21,SNR=7.3
CISI Cisompet, Garu 21.30 247 P **P 10 36 03.4 +3.0**
baz=21,SNR=4.2
WRAB Tennant Creek 21.51 162 *e*P **P 10 36 01.8 -0.7**
WRAB *e*S **S 10 39 49.2 -1.4**
WRAB pmax pmax
comp=Z,128nm,0.8s
WRAB Tennant Creek 21.51 162 *e*P **P 10 36 01.8 -0.7**
comp=Z,128nm,0.8s
WRAB *e*S **S 10 39 49.2 -1.4**
WRA Warramunga Arr 21.52 162 P **P 10 36 01.9 -0.7**
WRA S **S 10 39 48.9 -1.9**
WRA ScP **ScP 10 43 19.1 -1.1**
WRA Warramunga Arr 21.52 162 P **P 10 36 01.9 -0.7**
comp=Z,30nm,0.4s,baz=340,slow=11,SNR=119
WRA S **S 10 39 48.9 -1.9**
comp=Z,15nm,0.8s,baz=342,slow=17,SNR=14
WRA ScP **ScP 10 43 19.1 -1.1**
comp=Z,4.1nm,0.9s,baz=339,slow=3.1,SNR=8.7
MBWA Marble Bar 22.98 199 *e*P **P 10 36 15.7 -1.1**
comp=Z,29nm,0.9s
TPUB Ta-pu 23.50 344 *e*P **P 10 36 21.9 +0.4**
comp=Z,612nm,2.9s
MTSU Mount Surprise 24.91 139 P **P 10 36 35.8 +1.4**
baz=25,SNR=4.0
AS31 Alice Springs 24.94 166 *e*P **P 10 36 34.4 -0.3**
ASAR Alice Springs 24.94 166 P **P 10 36 34.3 -0.3**
ASAR PcP **PcP 10 40 04.4 -1.4**
ASAR S **S 10 40 45.3 -0.7**
ASAR ScP **ScP 10 43 28.6 -0.8**
ASAR Alice Springs 24.94 166 P **P 10 36 34.3 -0.3**
comp=Z,6.3nm,0.3s,baz=342,slow=7.8,SNR=70
ASAR PcP **PcP 10 40 04.4 -1.4**
comp=Z,1.7nm,0.4s,baz=359,slow=2.3,SNR=5.2
ASAR S **S 10 40 45.3 -0.7**
comp=Z,0.8nm,0.6s,baz=345,slow=20,SNR=3.5
ASAR ScP **ScP 10 43 28.6 -0.8**
comp=Z,0.8nm,0.6s,baz=341,slow=2.7,SNR=4.3
ASAR LR LR 10 47 03.5
comp=Z,147nm,20.6s,baz=83,slow=38
MNAI Manna 25.07 258 S S 10 40 59.5 +11
baz=25,SNR=3.0
QIZ Qiongzhong 25.20 318 P **P 10 36 38.3 +1.3**
QIZ sP **sP 10 37 27.5 -2.8**
QIZ S **S 10 40 54.7 +4.5**
QIZ pmax pmax
comp=Z,36nm,2.4s
QIZ pmax pmax
comp=Z,380nm,4.0s
JOW Kunigami 26.05 1 *e*P **P 10 36 45.5 +1.0**
comp=Z,12nm,0.7s
MEEK Meekatharra 28.46 197 P **P 10 37 05.4 -0.6**
baz=29,SNR=26
PSI Prapat 28.69 275 P **P 10 37 09.0 +0.6**
PSI Prapat 28.69 275 P **P 10 37 09.0 +0.6**
comp=Z,9.8nm,0.9s,baz=180,slow=8.8,SNR=4.4
GSI Gunungsitoli 29.97 271 S S 10 41 36.9 -29
baz=30,SNR=7.1
FORT Forrest 31.25 179 *e*P **P 10 37 30.2 -0.4**
comp=Z,40nm,0.6s
FORT Forrest 31.25 179 P **P 10 37 30.2 -0.4**
baz=32,SNR=24
MORW Morawa 31.53 200 P **P 10 37 32.8 -0.3**
baz=32,SNR=31
WHN Wuhan 32.27 338⇓ *i*P **P 10 37 41.6 +2.1**
WHN pmax pmax
comp=Z,58nm,0.9s
JNU Nakatsue 32.46 5 P **P 10 37 40.5 -0.7**
JNU Nakatsue 32.46 5 P **P 10 37 40.5 -0.7**
comp=Z,5.3nm,0.4s,baz=239,slow=5.4,SNR=14
GYA Guiyang 32.60 324 P **P 10 37 44.3 +1.7**
GYA pP **pP 10 38 19.2 +1.7**
GYA sP **sP 10 38 37.4 +0.9**
GYA PP **PP 10 39 01.2 +1.4**
GYA PcP **PcP 10 40 26.7 +1.6**
GYA S **S 10 42 48.9 +2.7**
GYA sS **sS 10 43 48.0 +0.3**
GYA ScP **ScP 10 43 55.3 +1.7**
GYA PcS **PcS 10 44 11.0 +0.3**
GYA ScS **ScS 10 47 52.1 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
BLDU Ballidu 32.75 197 P **P 10 37 43.4 -0.3**
baz=33,SNR=25
CMAR Chiang Mai Arr 33.20 304 P **P 10 37 47.9 +0.1**
CMAR PcP **PcP 10 40 27.5 +0.7**
CMAR ScP **ScP 10 43 56.5 +0.8**
CMAR Chiang Mai Arr 33.20 304 P **P 10 37 47.9 +0.1**
comp=Z,0.9nm,0.3s,baz=125,slow=6.7,SNR=9.3
CMAR PcP **PcP 10 40 27.5 +0.7**
comp=Z,1.6nm,0.6s,baz=180,slow=2.6,SNR=5.9
CMAR ScP **ScP 10 43 56.5 +0.8**
comp=Z,2.1nm,0.6s,baz=168,slow=1.9,SNR=8.4
CHTO Chiang Mai 33.37 304 *e*P **P 10 37 51.1 +1.9**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 33.37 304 *e*P **P 10 37 51.1 +1.9**
KLBR Kellerberrin 33.38 195 P **P 10 37 49.0 -0.2**
baz=34,SNR=27
HNR Honiara 33.78 108 P **P 10 37 52.9 0.0**
HNR Honiara 33.78 108 P **P 10 37 52.8 0.0**
comp=Z,36nm,0.5s,baz=207,slow=18,SNR=3.7
ENH Enshi 34.10 331 *e*P **P 10 37 56.5 +1.1**
comp=Z,28nm,0.7s
KMI Kunming 34.16 317 P **P 10 37 55.4 -0.8**
KMI pP **pP 10 38 30.4 -0.9**
KMI sP **sP 10 38 47.4 -2.9**
KMI pmax pmax
comp=Z,15nm,1.2s
BBOO Buckleboo 34.23 167 P **P 10 37 56.3 -0.2**
baz=34,SNR=13
NWAO Narrogin (SRO) 34.78 195 *e*P **P 10 38 00.7 -0.5**
comp=Z,19nm,0.6s
NWAO ScP **ScP 10 44 00.3 -0.6**
NWAO Narrogin (SRO) 34.78 195 P **P 10 38 01.1 -0.1**
comp=Z,19nm,0.5s,baz=22,slow=8.3,SNR=37
NWAO ScP **ScP 10 44 00.3 -0.6**
comp=Z,16nm,1.2s,baz=15,slow=6.8,SNR=5.0
STKA Stephens Creek 34.98 159 P **P 10 38 02.6 -0.3**
STKA pP **pP 10 38 38.8 +0.7**
STKA Stephens Creek 34.98 159 P **P 10 38 02.6 -0.3**
comp=Z,2.4nm,0.4s,baz=328,slow=7.9,SNR=6.3
STKA pP **pP 10 38 38.8 +0.7**
comp=Z,5.4nm,0.7s,baz=302,slow=6.7,SNR=2.9
STKA Stephens Creek 34.98 159 P **P 10 38 03.0 +0.1**
baz=35,SNR=4.9
CMSA Cobar Meteorol 36.34 153 P **P 10 38 15.1 +0.6**
baz=36,SNR=14
RKGY Rocky Gully 36.44 195 P **P 10 38 16.3 +0.9**
baz=37,SNR=15
KSAR Wonju Array Be 36.62 0 P **P 10 38 17.4 +0.6**
KSAR PcP **PcP 10 40 36.7 +0.4**
KSRS Korea Array 36.63 1 P **P 10 38 17.4 +0.5**
comp=Z,8.9nm,0.4s,baz=176,slow=9.4,SNR=61
KSRS PcP **PcP 10 40 36.7 +0.4**
comp=Z,3.0nm,0.7s,baz=185,slow=2.9,SNR=12
MJAR Matsushiro Arr 37.06 14 P **P 10 38 19.3 -1.3**
MJAR PcP **PcP 10 40 38.0 +0.2**
MJAR Matsushiro Arr 37.06 14 P **P 10 38 19.3 -1.3**
comp=Z,15nm,0.5s,baz=189,slow=9.4,SNR=73
MJAR PcP **PcP 10 40 38.0 +0.2**
comp=Z,2.1nm,0.8s,baz=171,slow=2.7,SNR=5.3
MAJO Matsushiro 37.06 14 *e*P **P 10 38 19.4 -1.2**
MAJO pmax pmax
comp=Z,26nm,0.5s
MAJO Matsushiro 37.06 14 *e*P **P 10 38 19.4 -1.2**
comp=Z,26nm,0.5s
MAT Matsushiro 37.06 14 P **P 10 38 19.3 -1.3**
XAN Xi'an 37.52 334 P **P 10 38 25.1 +0.5**
XAN pP **pP 10 38 57.4 -2.7**
XAN sP **sP 10 39 18.4 -0.6**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN pmax pmax
comp=Z,46nm,6.8s
CD2 Chengdu 37.61 325 *e*P **P 10 38 26.2 +0.8**
CD2 pP **pP 10 39 01.2 +0.3**
CD2 sP **sP 10 39 19.5 -0.3**
CD2 PP **PnPn 10 40 01.0 +3.1**
CD2 S **S 10 44 04.8 +2.0**
CD2 sS **sS 10 45 05.1 0.0**
CD2 SS **SS 10 46 50.1 -5.1**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.2s
ARMA Armidale 38.47 145 P **P 10 38 34.2 +1.6**
baz=39,SNR=10.0
BJI Beijing 40.56 347 P **P 10 38 49.2 -0.4**
BJI pmax pmax
comp=Z,27nm,0.8s
BJI pmax pmax
comp=Z,120nm,4.3s
LZH Lanzhou 41.57 331 P **P 10 39 00.2 +2.1**
LZH pP **pP 10 39 31.6 -2.7**
LZH sP **sP 10 39 48.2 -4.8**
LZH pmax pmax
comp=Z,92nm,1.4s
LZH pmax pmax
comp=Z,450nm,5.0s
SHL Shillong 42.39 309 *e*P **P 10 39 07.0 +2.0**
HHC Hu-ho-hao-te 42.56 342 *e*P **P 10 39 07.3 +1.2**
HHC pP **pP 10 39 42.7 +0.4**
HHC sP **sP 10 40 01.2 +0.2**
HHC PP **PP 10 40 51.4 +3.1**
HHC ScP **ScP 10 44 31.6 +0.8**
HHC PcS **PcS 10 44 47.8 +0.1**
HHC S **S 10 45 18.2 +2.0**
HHC sS **sS 10 46 20.4 +0.8**
HHC ScS **ScS 10 48 48.5 -1.4**
HHC pmax pmax
comp=Z,61nm,0.7s
HHC pmax pmax
comp=Z,310nm,6.0s
HHC LR LR
comp=N,280nm,15.3s
HHC LR LR
comp=E,380nm,15.2s
HHC LR LR
comp=Z,300nm,15.2s
CN2 Changchun 43.01 358 *e*P **P 10 39 12.3 +2.9**
USRK Ussuriysk Arra 43.55 5 P **P 10 39 14.1 +0.3**
comp=Z,9.2nm,0.4s,baz=186,slow=5.7,SNR=35
USRK pP **pP 10 39 52.0 +1.9**
comp=Z,4.0nm,0.7s,baz=187,slow=9.3,SNR=2.1
MDJ Mudanjiang 43.82 2 P **P 10 39 16.6 +0.7**
MDJ pmax pmax
comp=Z,15nm,1.1s
MDJ pmax pmax
comp=Z,54nm,6.3s
DZM Mont Dzumac 44.13 123 P **P 10 39 20.0 +1.1**
DZM Mont Dzumac 44.13 123 P **P 10 39 20.0 +1.1**
comp=Z,16nm,1.1s,baz=336,slow=12,SNR=3.4
LSA Lhasa 45.11 313 P **P 10 39 29.2 +2.3**
LSA Lhasa 45.11 313 *e*P **P 10 39 29.3 +2.3**
LSA pmax pmax
comp=Z,37nm,0.8s
LSA Lhasa 45.11 313 *e*P **P 10 39 29.3 +2.3**
comp=Z,37nm,0.8s
ASAJ Asahikawa 45.31 15 *e*P **P 10 39 28.5 +0.7**
comp=Z,9.1nm,1.1s
ASAJ Asahikawa 45.31 15 P **P 10 39 28.5 +0.7**
comp=Z,9.8nm,0.6s,baz=236,slow=12,SNR=13
GTA Gaotai 46.15 330 P **P 10 39 35.9 +1.3**
GTA pP **pP 10 40 10.3 -1.1**
GTA sP **sP 10 40 29.5 -0.5**
GTA PcP **PcP 10 41 08.9 +1.1**
GTA ScS **ScS 10 49 11.9 -1.0**
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,73nm,5.2s
TAPN Taplejung 46.52 308⇓ *i*P **P 10 39 39.6 +1.7**
comp=Z,53nm,0.4s
ODAN Odare 46.55 307⇓ *i*P **P 10 39 39.7 +1.7**
comp=Z,162nm,0.7s
RAMN Ramite 47.22 307⇓ *i*P **P 10 39 45.2 +2.0**
comp=Z,198nm,0.6s
JIRN Jiri 47.86 308⇓ *i*P **P 10 39 50.0 +1.6**
comp=Z,124nm,0.8s
YSS Yuzh-Sakhalins 48.00 14⇑ *i*P **P 10 39 50.0 +1.4**
HABR Khabarovsk 48.08 7 *ce*P **P 10 39 47.4 -1.8**
HABR *e**PP **pP 10 40 23.1 -3.1**
HABR *e* 10 41 12.9
HABR *e* 10 41 41.1
HABR S **S 10 46 33.2 -1.7**
HABR *e* 10 49 23.7
HABR *e*SS **SS 10 50 06.2 -0.1**
HABR pmax pmax
comp=N,39nm,2.8s
HABR pmax pmax
comp=E,39nm,2.8s
HABR pmax pmax
comp=Z,14nm,1.1s
HABR MLR MLR
comp=Z,63nm,20.0s
GUN Gumba 48.22 308⇓ *i*P **P 10 39 52.6 +1.5**
comp=Z,167nm,0.7s
PKI Pulchoki 48.44 307⇓ *i*P **P 10 39 53.8 +1.0**
comp=Z,15nm,0.3s
PKIN Phulchoki 48.45 307⇓ *i*P **P 10 39 54.1 +1.3**
comp=Z,7.8nm,0.3s
KLR Kul'dur 48.53 4 *e*P P 10 39 48.3 -4.3
KLR *e* 10 41 11.7
KKN Kakani 48.64 307⇓ *i*P **P 10 39 55.4 +1.3**
comp=Z,28nm,0.5s
DMN Daman 48.70 307⇓ *i*P **P 10 39 56.0 +1.4**
comp=Z,83nm,1.0s
KOLN Koldanda 49.97 307⇓ *i*P **P 10 40 05.9 +1.7**
comp=Z,172nm,0.5s
DANN Dangsing 50.09 307⇓ *i*P **P 10 40 06.6 +1.4**
comp=Z,149nm,0.6s
ULN Ulaanbaatar 50.28 342 *e*P **P 10 40 06.3 +0.2**
SONM Songino Array 50.46 342 P **P 10 40 08.0 +0.5**
SONM pP **pP 10 40 46.3 +1.4**
SONM PcP **PcP 10 41 23.3 +0.1**
SONM Songino Array 50.46 342 P **P 10 40 08.0 +0.5**
comp=Z,9.7nm,0.8s,baz=152,slow=8.4,SNR=46
SONM pP **pP 10 40 46.3 +1.4**
comp=Z,2.0nm,0.8s,baz=155,slow=10,SNR=2.0
SONM PcP **PcP 10 41 23.3 +0.1**
comp=Z,2.4nm,0.6s,baz=166,slow=4.6,SNR=6.1
PYUN Piuthan 50.60 307⇓ *i*P **P 10 40 10.6 +1.6**
comp=Z,159nm,0.6s
HYB Hyderabad 50.97 292 *i*P **P 10 40 12.0 +0.3**
MSVF Nonsavu 52.93 113 *e*P **P 10 40 27.9 +1.7**
MSVF pmax pmax
comp=Z,21nm,1.0s
MSVF Nonsavu 52.93 113 *e*P **P 10 40 27.9 +1.7**
comp=Z,21nm,1.0s
ZAK Zakamensk 53.69 341 *e*P **P 10 40 30.6 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 55.71 326 P **P 10 40 47.3 +1.5**
WMQ pmax pmax
comp=Z,5.0nm,1.8s
HVS Khovu-Aksy 57.86 336 *d*P **P 10 41 01.4 +0.5**
HVS pmax pmax
comp=Z,79nm,0.8s
PETK Petropavlovsk- 57.98 21 P **P 10 41 02.3 +0.8**
PETK Petropavlovsk- 57.98 21 P **P 10 41 02.3 +0.8**
PETK Petropavlovsk- 57.98 21 P **P 10 41 02.3 +0.8**
comp=Z,32nm,0.6s,baz=192,slow=6.4,SNR=33
PET Petropavlovsk 58.26 22 *i*P **P 10 41 04.3 +0.9**
PET pmax pmax
comp=Z,39nm,0.9s
MK31 Makanchi Array 60.54 326 *e*P **P 10 41 19.7 +0.4**
MK31 Makanchi Array 60.54 326 *e*P **P 10 41 19.6 +0.4**
MKAR Makanchi Array 60.54 326 P **P 10 41 19.8 +0.4**
MKAR *PP **pP 10 41 59.2 +1.2**
MKAR Makanchi Array 60.54 326 P **P 10 41 19.8 +0.4**
MKAR pP **pP 10 41 59.2 +1.2**
MKAR Makanchi Array 60.54 326 P **P 10 41 19.8 +0.4**
comp=Z,14nm,0.4s,baz=121,slow=8.6,SNR=172
MKAR pP **pP 10 41 59.2 +1.2**
comp=Z,3.4nm,0.6s,baz=123,slow=6.2,SNR=2.8
KSH Kashi 60.80 316 *e*P **P 10 41 22.9 +1.6**
KSH pmax pmax
comp=Z,8.0nm,0.4s
YAK Yakutsk 61.25 1 *e*P **P 10 41 23.3 -0.4**
YAK pmax pmax
comp=Z,42nm,0.6s
YAK pmax pmax
comp=N,6.0nm,0.7s
YAK pmax pmax
comp=E,6.0nm,0.9s
KZA Kyzart 62.44 318 P **P 10 41 34.0 +1.5**
SNR=5.1
TKM2 Tokmak 2 62.59 319 *i*P **P 10 41 33.7 +0.4**
TKM2 Tokmak 2 62.59 319 P **P 10 41 33.7 +0.4**
SNR=19
TKM2 Tokmak 2 62.59 319 *e*P **P 10 41 33.9 +0.6**
comp=E,14nm,0.6s
AAK Ala-Archa 63.19 319 *d*P **P 10 41 38.1 +0.9**
AAK pmax pmax
comp=Z,22nm,1.4s
AAK Ala-Archa 63.19 319 P **P 10 41 37.6 +0.3**
AAK Ala-Archa 63.19 319 P **P 10 41 37.6 +0.3**
comp=Z,3.3nm,0.3s,baz=124,slow=7.1,SNR=6.3
USP Ospenovka 63.47 319 P **P 10 41 39.6 +0.8**
SNR=9.0
AML Almayashu 63.50 318 P **P 10 41 40.8 +1.2**
SNR=5.0
EKS2 Erkin-Say 63.67 318 *e*P **P 10 41 40.7 +0.3**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 63.67 318 P **P 10 41 41.6 +1.2**
SNR=9.3
EKS2 Erkin-Say 63.67 318 *e*P **P 10 41 40.7 +0.3**
comp=Z,7.0nm,0.7s
ZAA0 Zalesovo Array 63.69 333 *e*P **P 10 41 39.0 -1.0**
ZALV Zalesovo Beam 63.69 333 *i*P **P 10 41 39.2 -0.8**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 63.69 333 P **P 10 41 39.2 -0.8**
ZALV ScP 10 45 59.4
ZALV Zalesovo Beam 63.69 333 P **P 10 41 39.2 -0.8**
comp=Z,5.5nm,0.5s,baz=116,slow=6.4,SNR=25
ZALV ScP 10 45 59.4
comp=Z,0.5nm,0.4s,baz=168,slow=8.5,SNR=2.5
KBL Kabul 64.05 308 *e*P **P 10 41 43.6 +0.5**
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 64.05 308 *e*P **P 10 41 43.6 +0.5**
comp=Z,14nm,0.9s
KURBB Kurchatov Arra 64.76 328 P **P 10 41 47.3 +0.2**
comp=Z,20nm,0.4s,baz=126,slow=6.0,SNR=193
KURK Kurchatov 64.77 328 P **P 10 41 47.3 +0.2**
KURK Kurchatov 64.77 328 P **P 10 41 47.3 +0.2**
NVS Novosibirsk 64.98 334⇓ *i*P **P 10 41 47.3 -1.1**
NVS pmax pmax
comp=N,7.0nm,0.6s
NVS pmax pmax
comp=E,9.0nm,0.6s
NVS pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 66.04 318 *e*P **P 10 41 55.7 +0.2**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 66.04 318 *e*P **P 10 41 55.7 +0.2**
comp=Z,7.7nm,0.8s
AMKA Amchitka 66.63 32 *e*P **P 10 41 58.6 -0.4**
comp=Z,30nm,0.6s
BVAR Borovoye Array 70.34 327 P **P 10 42 21.9 -0.2**
BVAR Borovoye Array 70.34 327 P **P 10 42 21.9 -0.2**
BVAR Borovoye Array 70.34 327 P **P 10 42 21.9 -0.2**
comp=Z,8.2nm,0.7s,baz=132,slow=8.2,SNR=35
BRVK Borovoye 70.41 327 *d*P **P 10 42 22.5 +0.1**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 70.41 327 *e*P **P 10 42 22.6 +0.1**
comp=Z,19nm,1.0s
ATKA Atka Island 70.57 34 *e*P **P 10 42 24.0 +0.5**
comp=Z,35nm,0.7s
TIXI Tiksi 70.90 0 *e*P **P 10 42 24.7 -0.3**
TIXI pmax pmax
comp=Z,13nm,0.4s
ABKAR Akbulak array 75.04 321 *e*P **P 10 42 49.5 -0.3**
comp=Z,2.0nm,0.4s
UNV Unalaska Valle 75.50 34 *e*P **P 10 42 52.9 +0.6**
comp=Z,240nm,2.4s
AKTO Aktyubinsk 76.57 322 P **P 10 42 58.1 -0.5**
AKTO Aktyubinsk 76.57 322 P **P 10 42 58.1 -0.5**
AKTO Aktyubinsk 76.57 322 P **P 10 42 58.1 -0.5**
comp=Z,12nm,0.7s,baz=107,slow=7.4,SNR=45
SVE Sverdlovsk 77.00 329⇓ *e*P **P 10 43 00.8 0.0**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 77.97 328 *d*P **P 10 43 05.2 -1.0**
ARU S **S 10 52 44.4 -1.4**

ARU				pmax	pmax		
	comp=Z,19nm,1.2s						
SDPT	**Sand Point**	**79.29**	**34**	P	**P**	**10 43 13.6**	**+0.2**
VNDA	**Vanda**	**80.28**	**173**	*eP*	**P**	**10 43 18.5**	**+0.1**
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**80.28**	**173**	P	**P**	**10 43 18.4**	**0.0**
	comp=Z,2.7nm,0.7s,baz=318,slow=6.2,SNR=21						
VNDA				LR	LR	11 16 01.9	
	comp=Z,58nm,20.6s,baz=335,slow=33						
MAW	**Mawson**	**81.17**	**201**	P	**P**	**10 43 22.8**	**-0.3**
MAW	**Mawson**	**81.17**	**201**	P	**P**	**10 43 22.8**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=45,slow=2.9,SNR=3.5						
SVW2	**Sparrevohn**	**83.10**	**28**	*eP*	**P**	**10 43 34.8**	**+1.4**
	comp=Z,16nm,0.8s						
KDAK	**Kodiak Island**	**84.05**	**32**	*eP*	**P**	**10 43 39.3**	**+1.0**
	comp=Z,20nm,0.6s						
RSO	**Redoubt South**	**84.36**	**29**	*eP*	**P**	**10 43 40.0**	**-0.1**
ZEI	**Tsey**	**84.89**	**313**	*eP*	**P**	**10 43 41.2**	**-2.0**
ZEI				pmax	pmax		
	comp=Z,24nm,0.9s						
PPLA	**Purkeypile**	**84.99**	**27**	*eP*	**P**	**10 43 43.0**	**-0.1**
	comp=Z,8.0nm,0.5s						
KBZ	**Khabaz**	**85.68**	**314**	P	**P**	**10 43 46.8**	**+0.1**
KBZ	**Khabaz**	**85.68**	**314**	P	**P**	**10 43 46.8**	**+0.1**
KBZ	**Khabaz**	**85.68**	**314**	P	**P**	**10 43 46.8**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=97,slow=2.7,SNR=9.2						
KIV	**Kislovodsk**	**85.85**	**314**	*eP*	**P**	**10 43 47.6**	**-0.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TRF	**Thorofare Moun**	**85.92**	**27**	*eP*	**P**	**10 43 47.0**	**-0.7**
	comp=Z,3.1nm,0.4s						
PMR	**Palmer**	**86.25**	**28**	*eP*	**P**	**10 43 48.7**	**-0.4**
PMR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PMR	**Palmer**	**86.25**	**28**	*eP*	**P**	**10 43 48.7**	**-0.4**
	comp=Z,10nm,1.0s						
COLD	**Coldfoot**	**86.40**	**23**	*eP*	**P**	**10 43 50.4**	**+0.6**
MCK	**McKinley**	**86.55**	**26**	*eP*	**P**	**10 43 50.4**	**-0.2**
MCK	**McKinley**	**86.55**	**26**	*eP*	**P**	**10 43 50.4**	**-0.2**
SML	**Sawmill**	**86.65**	**28**	*eP*	**P**	**10 43 50.5**	**-0.7**
SML				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SML	**Sawmill**	**86.65**	**28**	*eP*	**P**	**10 43 50.5**	**-0.7**
	comp=Z,3.3nm,0.7s						
VRHR	**Novokhopersk**	**86.93**	**321**	*eP*	**P**	**10 43 50.3**	**-2.4**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.2s						
ILAR	**Eielson Array**	**87.52**	**25**	P	**P**	**10 43 53.5**	**-1.8**
ILAR	**Eielson Array**	**87.52**	**25**	P	**P**	**10 43 53.5**	**-1.8**
	comp=E,1.9nm,0.5s,baz=245,slow=4.8,SNR=39						
VORD	**Divnogorie**	**88.40**	**321**	*eP*	**P**	**10 43 57.7**	**-2.0**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,30nm,0.8s						
VORD				pmax	pmax		
	comp=E,30nm,0.8s						
VSR	**Storozhevoye**	**88.48**	**321**	*eP*	**P**	**10 43 57.5**	**-2.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=N,3.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.6s						
MENT	**Mentasta**	**88.85**	**27**	*eP*	**P**	**10 44 01.2**	**-0.4**
EGAK	**Eagle**	**89.97**	**25**	*eP*	**P**	**10 44 06.0**	**-0.8**
	comp=E,7.4nm,1.1s						
OBN	**Obninsk**	**90.04**	**325**	*deP*	**P**	**10 44 04.7**	**-2.5**
OBN				*e*		10 47 45.1	
OBN				*eS*	**SKSac**	**10 54 22.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,12nm,0.4s						
KMBO	**Kilima Mbogo**	**90.31**	**269**	P	**P**	**10 44 08.4**	**-1.4**
KMBO	**Kilima Mbogo**	**90.31**	**269**	P	**P**	**10 44 08.4**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=73,slow=8.7,SNR=5.0						
KMBO	**Kilima Mbogo**	**90.31**	**269**	P	**P**	**10 44 07.3**	**-2.4**
	baz=90,SNR=3.8						
QSPA	**South Pole Qui**	**90.57**	**180**	P	**P**	**10 44 09.5**	**-0.2**
QSPA	**South Pole Qui**	**90.57**	**180**	P	**P**	**10 44 09.5**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=331,slow=10,SNR=10						
HYT	**Haines Junctio**	**91.86**	**29**	*eP*	**P**	**10 44 16.1**	**+0.4**
BRTR	**Keskin Array B**	**92.60**	**310**	P	**P**	**10 44 18.1**	**-1.7**
BRTR	**Keskin Array B**	**92.60**	**310**	P	**P**	**10 44 18.1**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=100,slow=3.8,SNR=4.6						
SKAG	**Skagway**	**93.08**	**30**	*eP*	**P**	**10 44 21.6**	**+0.3**
	comp=Z,11nm,0.8s						
ARCES	**ARCESS Array B**	**93.61**	**340**	P	**P**	**10 44 22.4**	**-1.1**
ARCES	**ARCESS Array B**	**93.61**	**340**	P	**P**	**10 44 22.4**	**-1.1**
	comp=Z,3.3nm,0.4s,baz=85,slow=6.1,SNR=69						
FINES	**FINESS Array B**	**94.92**	**332**	P	**P**	**10 44 28.0**	**-1.6**
FINES	**FINESS Array B**	**94.92**	**332**	P	**P**	**10 44 28.0**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=57,slow=4.9,SNR=26						
CRVS	**Cervenica-Dubn**	**100.04**	**320**	*i* P	**Pdif**	**10 44 51.6**	**-1.4**
CRVS	**Cervenica-Dubn**	**100.04**	**320**	PDIF	**Pdif**	**10 44 51.6**	**-1.4**
NB2	**NORSAR Subarra**	**101.89**	**334**	P	**Pdif**	**10 44 59.2**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=67,slow=4.4						
NB2	**NORSAR Subarra**	**101.89**	**334**	P	**Pdif**	**10 44 59.2**	**-1.8**
	baz=67,slow=4.4						
NOA	**NORSAR Array B**	**101.89**	**334**	P	**Pdif**	**10 44 59.4**	**-1.6**
NOA	**NORSAR Array B**	**101.89**	**334**	P	**Pdif**	**10 44 59.4**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=67,slow=4.5,SNR=8.2						
YKA	**Yellowknife Ar**	**101.94**	**25**	P	**Pdif**	**10 45 00.8**	**-0.3**
YKA				PKiKP	**PKiKP**	**10 49 22.4**	**-0.6**
YKA	**Yellowknife Ar**	**101.94**	**25**	P	**Pdif**	**10 45 00.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=292,slow=4.4,SNR=9.1						
YKA				PKiKP	**PKiKP**	**10 49 22.4**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=307,slow=1.7,SNR=9.2						
GERES	**GERESS Array B**	**104.99**	**321**	PKiKP	**PKiKP**	**10 49 27.2**	**-2.0**
GERES	**GERESS Array B**	**104.99**	**321**	PKiKP	**PKiKP**	**10 49 27.2**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=31,slow=2.5,SNR=4.2						
NVAR	**Mina Array Bea**	**108.32**	**49**	PKiKP	**PKiKP**	**10 49 36.5**	**+0.7**
NVAR	**Mina Array Bea**	**108.32**	**49**	PKiKP	**PKiKP**	**10 49 36.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=260,slow=1.8,SNR=4.7						
PDAR	**Pinedale Array**	**113.10**	**42**	PKiKP	**PKiKP**	**10 49 44.5**	**-0.2**
PDAR	**Pinedale Array**	**113.10**	**42**	PKiKP	**PKiKP**	**10 49 44.5**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=78,slow=0.4,SNR=7.2						
ULM	**Lac du Bonnet**	**117.24**	**30**	PKP	**PKPdf**	**10 49 50.5**	**-1.6**
ULM	**Lac du Bonnet**	**117.24**	**30**	PKP	**PKPdf**	**10 49 50.5**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=316,slow=5.5,SNR=3.6						
TXAR	**Lajitas Array**	**122.78**	**54**	PKP	**PKPdf**	**10 50 03.6**	**+0.1**
TXAR	**Lajitas Array**	**122.78**	**54**	PKP	**PKPdf**	**10 50 03.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=241,slow=0.8,SNR=12						
SCHQ	**Schefferville**	**123.45**	**10**	PKP	**PKPdf**	**10 50 03.4**	**-0.6**
SCHQ	**Schefferville**	**123.45**	**10**	PKP	**PKPdf**	**10 50 03.4**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=21,slow=2.8,SNR=7.4						
TORD	**Torodi Ar. Bea**	**124.61**	**286**	PKP	**PKPdf**	**10 50 06.8**	**-0.4**
TORD				SKPbc	SKiKP	10 53 02.1	-26
TORD				PKKPbc	**PKKPbc**	**10 59 50.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**124.61**	**286**	PKP	**PKPdf**	**10 50 06.8**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=61,slow=2.1,SNR=23						
TORD				SKPbc	SKiKP	10 53 02.1	-26
	comp=Z,0.3nm,0.5s,baz=92,slow=4.4,SNR=3.1						
TORD				PKKPbc	**PKKPbc**	**10 59 50.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=226,slow=3.1,SNR=8.0						
JCT	**Junction City**	**125.40**	**51**	*e*PKIKP	**PKPdf**	**10 50 08.3**	**-0.2**
JCT	**Junction City**	**125.40**	**51**	*e*PKPdf	**PKPdf**	**10 50 08.3**	**-0.2**
MIAR	**Mount Ida**	**127.99**	**44**	*e*PKIKP	**PKPdf**	**10 50 13.5**	**+0.2**
MIAR	**Mount Ida**	**127.99**	**44**	*e*PKPdf	**PKPdf**	**10 50 13.5**	**+0.2**
MDV	**Middlebury**	**131.85**	**20**	*e*PKPdf	**PKPdf**	**10 50 19.7**	**-0.6**
DBIC	**Dimbokro**	**131.95**	**280**	PKP	**PKPdf**	**10 50 21.7**	**+0.4**
DBIC				SKPbc	**SKPbc**	**10 53 30.7**	**-1.5**
DBIC	**Dimbokro**	**131.95**	**280**	PKP	**PKPdf**	**10 50 21.7**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=239,slow=1.0,SNR=3.6						
DBIC				SKPbc	**SKPbc**	**10 53 30.7**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=140,slow=14,SNR=5.7						
LRAL	**Lakeview Retre**	**133.30**	**41**	*e*PKPdf	**PKPdf**	**10 50 24.0**	**+0.6**
PLCA	**Paso Flores**	**136.85**	**160**	PKP	**PKPdf**	**10 50 29.7**	**-0.2**
PLCA	**Paso Flores**	**136.85**	**160**	PKP	**PKPdf**	**10 50 29.7**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=294,slow=3.2,SNR=5.9						
LPAZ	**La Paz**	**158.08**	**136**	PKP	**PKPdf**	**10 51 04.0**	**-1.5**
LPAZ	**La Paz**	**158.08**	**136**	PKP	**PKPdf**	**10 51 04.0**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=255,slow=3.9,SNR=4.5						

MAN 03 10:40:58,10.°42N×125.°17E,h9km,mb4.6,ML3.5,MS3.4, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.42**	**227**	*eP*	Pb	10 41 07.1	-0.4
PLP	**Palo**	**0.76**	**346**	⇓*eP*	Pn	10 41 14.3	-0.7
PLP				*eS*	Sn	10 41 26.5	-0.1
OCLP	**Ormoc**	**0.83**	**319**	*eP*	Pg	10 41 07.1	-7.0
LLP	**Lapu-Lapu**	**1.19**	**265**	*eP*	Pb	10 41 20.6	-0.1
LLP				*eS*	Sn	10 41 38.3	+1.2
BUTP	**Butuan**	**1.51**	**163**	*eP*	Pb	10 41 26.0	-0.2
CGP	**Cagayan de Oro**	**2.01**	**194**	*eP*	Pn	10 41 30.4	-1.7
CGP				*i* S	Sn	10 41 55.1	-2.3
BUKP	**Musuan**	**2.53**	**182**	*eP*	Pn	10 41 39.1	-0.3
PAGZ	**Pagadian**	**3.10**	**215**	*eP*	Pn	10 41 49.3	+2.1

MEX 03 10:42:56.3±0.9,17.°79N×103.°20W,h11km±26km,MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.52**	**344**	*eP*	Pg	10 43 04.9	-1.5
MMIG				*i* S	Sg	10 43 11.9	-1.4
R15V		**1.56**	**332**	*i* P	Pn	10 43 21.4	-2.7
R15V				*eS*	Sn	10 43 39.8	-4.6
ZIIG	**Zihuatanejo**	**1.66**	**96**	*eP*	Pn	10 43 22.2	-3.1
ZIIG				*i* S	Sn	10 43 41.7	-4.9
EZ5V		**1.73**	**347**	*eP*	Pn	10 43 23.8	-2.8
EZ5V				*i* S	Sn	10 43 44.4	-4.4
ARIG	**Puente Sto Nin**	**2.75**	**79**	*eP*	Pn	10 43 38.1	-2.4
ARIG				*eS*	Sn	10 44 10.2	-3.6

ISCJB ***03*** *10:52:19.4±0.8, 17.°6S±0.°3×178.°7W±0.°2, h547km, mb3.9/8, Error ellipse: s-maj=40.2km s-min=12.1km az=150.5*
IDC ***03*** *10:52:23.8±5.0, 17.°39S×178.°85W, h583km±60km, mb3.4/8, mb1 3.7/9, mb1mx3.3/21, mbtmp3.4/9, Error ellipse: s-maj=70.1km s-min=22.2km az=150.0*
AUST ***03*** *10:52:24.3, 18.°05S×178.°47W, h600km*
ISC 03 10:52:20.1±1.1,17.°7S±0.°3×178.°6W±0.°2,h547km,n21, σ0°74/21,mb3.9/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.76**	**250**	P	**P**	**10 55 27.5**	**+0.3**
	0.4nm,0.3s,baz=71,slow=17,SNR=5.6						
CTA	**Charters Tower**	**33.34**	**260**	P	**P**	**10 58 13.3**	**0.0**
	3.5nm,0.4s,baz=93,slow=12,SNR=7.0						
CNB	**Canberra Magne**	**33.43**	**232**	P	**P**	**10 58 14.6**	**+0.7**
	baz=33,SNR=11						
CMSA	**Cobar Meteorol**	**35.12**	**240**	P	**P**	**10 58 28.5**	**+0.4**
	baz=35,SNR=11						
MTSU	**Mount Surprise**	**35.29**	**263**	P	**P**	**10 58 30.4**	**+0.7**
	baz=35,SNR=5.1						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**10 58 57.1**	**+0.4**
	8.5nm,0.8s,baz=89,slow=10.0,SNR=20						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**10 58 57.2**	**+0.6**
	baz=38,SNR=17						
WRA	**Warramunga Arr**	**44.53**	**259**	P	**P**	**10 59 43.0**	**-0.6**
	2.7nm,0.3s,baz=92,slow=7.4,SNR=99						
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**10 59 45.0**	**-0.1**
	24nm,0.5s,baz=88,slow=8.6,SNR=333						
ASAR				PcP	**PcP**	**11 01 14.5**	**-1.1**
	0.6nm,0.4s,baz=98,slow=4.0,SNR=4.4						
KDU	**Kakadu**	**47.42**	**269**	P	**P**	**11 00 05.8**	**+0.1**
	baz=48,SNR=8.6						
MTN	**Manton Dam**	**48.66**	**268**	P	**P**	**11 00 14.8**	**-0.1**
	baz=49,SNR=4.3						
KNRA	**Kununurra**	**50.37**	**264**	P	**P**	**11 00 27.2**	**-0.3**
	baz=50,SNR=6.6						
FITZ	**Fitzroy Crossi**	**52.92**	**260**	P	**P**	**11 00 45.9**	**0.0**
	baz=53,SNR=6.2						
MEEK	**Meekatharra**	**58.37**	**249**	P	**P**	**11 01 22.4**	**-1.1**
	baz=58,SNR=6.0						
KLBR	**Kellerberrin**	**58.79**	**243**	P	**P**	**11 01 25.1**	**-1.2**
	baz=59,SNR=6.4						
LUWI	**Luwuk**	**59.94**	**279**	P	**P**	**11 01 35.2**	**+1.0**
	baz=60,SNR=3.2						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**11 03 30.5**	**+0.5**
	0.9nm,0.7s,baz=223,slow=9.0,SNR=12						
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**11 03 59.9**	**-1.2**
	0.3nm,0.4s,baz=222,slow=5.3,SNR=9.4						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**11 04 04.3**	**+1.0**
	0.8nm,0.7s,baz=219,slow=6.4,SNR=15						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**11 04 09.2**	**-0.1**
	0.6nm,0.6s,baz=218,slow=2.4,SNR=7.6						
BRTR	**Keskin Array B**	**144.55**	**315**	PKP	PKPbc	11 10 53.7	-1.4
	0.4nm,0.6s,baz=33,slow=5.5,SNR=3.0						

IDC 03 10:55:22.1±50.0,23.°34S×174.°93W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.8/3,Error ellipse: s-maj=933.1km s-min=172.2km az=88.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.24**	**248**	P	P	11 02 51.9	-0.6
	0.6nm,0.5s,baz=91,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**46.71**	**259**	P	P	11 03 52.9	-0.3
	0.3nm,0.3s,baz=94,slow=7.0,SNR=8.2						
WRA	**Warramunga Arr**	**47.09**	**264**	P	P	11 03 56.6	+0.4
	1.0nm,0.4s,baz=102,slow=8.2,SNR=9.9						

NERS ***03*** *11:00:17.5, 63.°07N×144.°65E, h7km*
IDC ***03*** *11:00:28.8±15.0, 63.°43N×148.°36E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/27, mbtmp3.4/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/25, Error ellipse: s-maj=298.2km s-min=149.9km az=83.0*
ISC 03 11:00:16.5±0.8,63.°10N±0.°05×144.°60E±0.°04,h10km,n16, σ2°17/32,mb3.3/3,2C-2D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUUS	**Susuman**	**1.67**	**100**	⇑*iP*	**Pb**	**11 00 46.9**	**-0.3**
SUUS				⇑*i*Pg	**Pg**	**11 00 47.8**	**-0.5**
SUUS				Pgmax		11 00 50.5	
	400nm,0.4s						
SUUS				*e*		11 01 03.3	
SUUS				*eS*	**Sn**	**11 01 07.3**	**+0.2**
SUUS				*e*Sg	**Sb**	**11 01 08.5**	**+0.3**
SUUS				Sgmax		11 01 11.0	
	1μm,0.3s						
OCHR	**Omchak**	**2.10**	**132**	⇓*iP*	**Pb**	**11 00 55.0**	**+0.4**
OCHR				*e*Pg	**Pg**	**11 00 57.1**	**+0.5**
OCHR				Pgmax		11 01 00.2	
	200nm,0.2s						
OCHR				*e*Sg	**Sg**	**11 01 24.3**	**+0.5**
OCHR				Sgmax		11 01 25.9	
	700nm,0.2s						
SNGR	**Sinegor'e**	**2.88**	**109**	*eP*	**Pn**	**11 01 04.1**	**+1.8**
SNGR				*e*Pg	**Pg**	**11 01 10.6**	**-1.0**
SNGR				Pgmax		11 01 16.2	
	50nm,0.3s						
SNGR				*eS*	**Sb**	**11 01 40.8**	**-2.3**
SNGR				*e*Sg	**Sg**	**11 01 48.3**	**-0.5**
SNGR				Sgmax		11 01 51.5	
	400nm,0.3s						
SEY	**Seymchan**	**3.55**	**89**	⇓*iP*	**Pn**	**11 01 12.7**	**+1.1**
SEY				Pmax		11 01 13.2	
	10.0nm,0.2s						
SEY				*e*Pg	**Pg**	**11 01 22.4**	**-2.1**
SEY				Pgmax		11 01 22.7	
	20nm,0.3s						
SEY				*eS*	**Sn**	**11 01 53.6**	**0.0**
SEY				Smax		11 01 55.1	
	40nm,0.2s						
SEY				*e*Sg	**Sg**	**11 02 06.9**	**-3.5**
SEY				Sgmax		11 02 10.8	
	200nm,0.3s						
TLAR	**Talaya**	**4.16**	**115**	*eP*	Pn	11 01 24.5	+4.5
TLAR				*e*Pg	**Pg**	**11 01 33.9**	**-2.2**
TLAR				Pgmax		11 01 38.4	
	10.0nm,0.3s						
TLAR				*eS*	**Sn**	**11 02 12.5**	**+3.8**
TLAR				Smax		11 02 14.3	
	20nm,0.3s						
TLAR				Smax		11 02 14.3	
	30nm,0.3s						
TLAR				*e*Sg	**Sg**	**11 02 27.1**	**-2.9**
TLAR				Sgmax		11 02 30.9	
	90nm,0.3s						
TLAR				Sgmax		11 02 30.9	
	70nm,0.3s						
MGD	**Magadan 1**	**4.24**	**134**	*eP*	**Pn**	**11 01 21.6**	**+0.6**
MGD				*e*Pg	**Pg**	**11 01 36.6**	**-1.0**
MGD				Pgmax		11 01 39.0	
	20nm,0.3s						
MGD				*eS*g	**Sg**	**11 02 27.8**	**-4.7**
MGD				Sgmax		11 02 32.5	
	100nm,0.4s						
OMS	**Omsukchan**	**5.16**	**92**	*e*	**Pg**	**11 01 52.7**	**-2.5**
OMS				*eS*	**Sg**	**11 03 06.2**	**+4.2**
OMS				Sgmax		11 03 15.1	
	50nm,0.7s						
USMR	**Ust'-Maya**	**5.48**	**245**	*eP*	**Pn**	**11 01 40.8**	**+2.8**
USMR				*e*Pg	Pg	11 01 58.3	-3.0
	10.0nm,1.0s						
USMR				*e*Sg	**Sg**	**11 03 10.6**	**-1.6**
	30nm,1.4s						
DEPR	**Deputatskiy**	**6.59**	**345**	*e*Sg	**Sg**	**11 03 47.5**	**-0.3**
	20nm,0.9s						
YAK	**Yakutsk**	**6.97**	**268**	*e*Sg	**Sg**	**11 03 57.8**	**-2.3**
	30nm,0.5s						
CGD	**Chagda**	**8.08**	**244**	*e*Sg	**Sg**	**11 04 32.4**	**-3.0**
	40nm,0.6s						
CLNS	**Chul'man**	**11.66**	**246**	*e*Sg		11 06 24.3	
	20nm,0.7s						
PETK	**Petropavlovsk-**	**12.15**	**140**	LR	LR	11 08 42.4	
	comp=Z,22nm,18.9s,baz=299,slow=43						
ILAR	**Eielson Array**	**28.83**	**56**	P	**P**	**11 06 14.6**	**+0.2**
	0.4nm,0.7s,baz=287,slow=9.5,SNR=5.4						
YKA	**Yellowknife Ar**	**41.48**	**44**	P	**P**	**11 08 03.6**	**+0.7**
	0.3nm,0.6s,baz=315,slow=7.9,SNR=4.2						
NVAR	**Mina Array Bea**	**59.53**	**65**	P	**P**	**11 10 22.4**	**+2.5**
	0.4nm,0.8s,baz=323,slow=5.7,SNR=5.5						

IDC ***03*** *11:07:18.5±1.1, 1.°03N×120.°96E, h574km±17km, mb2.8/8, mb1 3.0/10, mb1mx2.8/24, mbtmp2.9/10, Error ellipse: s-maj=33.5km s-min=8.5km az=67.0*
ISC 03 11:07:17.2±0.7,1.°12N±0.°08×121.°2E±0.°2,h550km,n18, σ1°83/20,mb3.4/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**4.57**	**314**	P	**P**	**11 08 43.0**	**-0.5**
MYLDM	**Lahad Datu**	**4.84**	**327**	P	**P**	**11 08 43.6**	**-2.1**
SDKM	**Sandakan**	**6.00**	**319**	P	**P**	**11 08 58.4**	**+2.5**
KAPI	**Kappang**	**6.25**	**193**	P	**P**	**11 08 58.4**	**+0.3**
	3.8nm,0.3s,baz=115,slow=4.2,SNR=7.4						
KAPI				S	**S**	**11 10 21.0**	**+0.3**
	1.2nm,0.3s,baz=80,slow=11,SNR=2.5						
KKM	**Kota Kinabalu**	**6.96**	**315**	P	P	11 09 08.8	+3.8
KDM	**Kudat**	**7.21**	**323**	P	P	11 09 10.8	+3.6
BTM	**Bintulu**	**8.35**	**284**	P	P	11 09 21.8	+3.4
BATI	**Baumata**	**11.52**	**168**	P	**P**	**11 09 52.5**	**+1.6**
	14nm,0.3s,baz=338,slow=1.0,SNR=19						
BATI				S	**S**	**11 11 57.9**	**+0.7**
	5.0nm,0.3s,baz=16,slow=20,SNR=6.1						
TGY	**Tagaytay City**	**12.91**	**359**	P	**P**	**11 10 07.8**	**+2.6**
	22nm,0.3s,baz=110,slow=12,SNR=4.1						
FITZ	**Fitzroy Crossi**	**19.60**	**167**	P	**P**	**11 11 11.4**	**+1.7**
	0.6nm,0.3s,baz=325,slow=15,SNR=17						
WRA	**Warramunga Arr**	**24.59**	**149**	P	**P**	**11 11 54.7**	**+0.2**
	1.6nm,0.6s,baz=334,slow=9.5,SNR=30						
WRA				S	**S**	**11 15 34.8**	**-2.4**
	0.6nm,0.8s,baz=343,slow=25,SNR=3.4						
ASAR	**Alice Springs**	**27.57**	**154**	P	**P**	**11 12 21.3**	**+0.7**
	0.5nm,0.5s,baz=344,slow=14,SNR=9.4						
ASAR				S	**S**	**11 16 20.6**	**-3.3**
	0.7nm,0.7s,baz=335,slow=24,SNR=6.0						
ASAR				ScP	**ScP**	**11 18 07.0**	**-2.3**
	0.2nm,0.7s,baz=346,slow=3.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**27.80**	**310**	P	**P**	**11 12 19.8**	**-3.0**
	0.3nm,0.3s,baz=122,slow=15,SNR=3.1						
KSRS	**Korea Array**	**36.69**	**9**	P	**P**	**11 13 36.9**	**-0.9**
	0.7nm,0.6s,baz=186,slow=9.5,SNR=4.5						
STKA	**Stephens Creek**	**38.09**	**151**	P	**P**	**11 13 50.4**	**+1.0**
	2.8nm,0.6s,baz=311,slow=8.9,SNR=13						
SONM	**Songino Array**	**48.27**	**347**	P	**P**	**11 15 08.5**	**-0.1**
	0.7nm,1.0s,baz=160,slow=9.2,SNR=4.4						
MKAR	**Makanchi Array**	**56.72**	**329**	P	**P**	**11 16 09.0**	**+0.1**
	0.6nm,0.6s,baz=121,slow=8.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**60.56**	**336**	P	**P**	**11 16 33.9**	**-0.5**
	0.4nm,0.3s,baz=103,slow=6.2,SNR=2.9						

JMA 03 11:17:30.7,33.°01N×132.°69E,h12km,M0.8,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTO	**Tosashimizu**	**0.18**	**148**	P	Pg	11 17 34.7	0.0
JTO				S	Sg	11 17 37.6	+0.1
UWA2	**Uwa jima 2**	**0.21**

MAT				S	Sn	11 21 33.9	+0.6
MJAR	**Matsushiro Arr**	**7.62**	**54**	Pn	**Pn**	**11 20 08.4**	**+1.7**
MJAR				Lg	Lg	11 22 18.3	
MJAR	**Matsushiro Arr**	**7.62**	**54**	Pn	**Pn**	**11 20 08.4**	**+1.7**
4.5nm,0.3s,baz=241,slow=14,SNR=50							
MJAR				Lg	Lg	11 22 18.3	
0.2nm,0.3s,baz=233,slow=30,SNR=3.7							
MJAR				LR	LR	11 23 00.5	
comp=Z,622nm,21.4s,baz=250,slow=37							
USRK	**Ussuriysk Arra**	**11.92**	**5**	Pn	**Pn**	**11 21 06.3**	**+0.9**
0.2nm,0.3s,baz=192,slow=12,SNR=10							
USRK				LR	LR	11 25 30.7	
comp=Z,276nm,18.1s,baz=338,slow=37							
ASAJ	**Asahikawa**	**15.11**	**35**	Pn	**Pn**	**11 21 48.7**	**-0.3**
ASAJ	**Asahikawa**	**15.11**	**35**	Pn	**Pn**	**11 21 48.7**	**-0.3**
0.3nm,0.3s,baz=212,slow=10,SNR=4.4							
HIA	**Hailar**	**18.76**	**338**	*eP*	**Pn**	**11 22 34.9**	**-0.2**
ULN	**Ulaanbaatar**	**23.60**	**318**	*eP*	**P**	**11 23 27.5**	**+0.8**
6.3nm,1.0s							
SONM	**Songino Array**	**23.96**	**317**	P	**P**	**11 23 30.7**	**+0.6**
SONM	**Songino Array**	**23.96**	**317**	P	**P**	**11 23 30.7**	**+0.6**
4.2nm,1.0s,baz=128,slow=8.9,SNR=15							
SONM				LR	LR	11 33 45.0	
comp=Z,539nm,18.3s,baz=215,slow=39							
PETK	**Petropavlovsk-**	**28.53**	**35**	LR	LR	11 35 36.9	
comp=Z,63nm,19.7s,baz=55,slow=37							
CHTO	**Chiang Mai**	**31.36**	**252**	*eP*	**P**	**11 24 36.7**	**+0.1**
3.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.55**	**252**	P	**P**	**11 24 38.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**31.55**	**252**	P	**P**	**11 24 38.5**	**+0.2**
1.5nm,0.6s,baz=48,slow=8.2,SNR=8.3							
CMAR				LR	LR	11 38 52.7	
comp=Z,183nm,18.9s,baz=211,slow=39							
FX1	**Attu Island--F**	**36.81**	**43**	LR	LR	11 39 10.0	
comp=Z,90nm,21.2s,baz=88,slow=34							
KAPI	**Kappang**	**38.51**	**197**	LR	LR	11 41 45.2	
comp=Z,77nm,20.2s,baz=16,slow=37							
ZALV	**Zalesovo Beam**	**38.86**	**318**	P	**P**	**11 25 39.4**	**-1.4**
ZALV	**Zalesovo Beam**	**38.86**	**318**	P	**P**	**11 25 39.4**	**-1.4**
0.7nm,0.3s,baz=103,slow=6.2,SNR=2.9							
ZALV				LR	LR	11 42 56.9	
comp=Z,200nm,20.0s,baz=69,slow=38							
MKAR	**Makanchi Array**	**39.27**	**306**	P	**P**	**11 25 43.5**	**-0.9**
MKAR	**Makanchi Array**	**39.27**	**306**	P	**P**	**11 25 43.5**	**-0.9**
0.7nm,0.7s,baz=98,slow=7.7,SNR=4.1							
MKAR				LR	LR	11 43 24.5	
comp=Z,147nm,18.4s,baz=93,slow=38							
PSI	**Prapat**	**41.74**	**232**	LR	LR	11 45 45.9	
comp=Z,92nm,19.0s,baz=26,slow=40							
KURK	**Kurchatov**	**42.02**	**312**	P	**P**	**11 26 06.7**	**-0.3**
KURBB	**Kurchatov Arra**	**42.07**	**312**	P	**P**	**11 26 06.7**	**-0.7**
1.7nm,0.2s,baz=101,slow=4.8,SNR=8.3							
PMG	**Port Moresby**	**44.43**	**156**	LR	LR	11 42 48.8	
comp=Z,135nm,20.1s,baz=231,slow=33							
BVAR	**Borovoye Array**	**47.25**	**314**	LR	LR	11 47 17.3	
comp=Z,224nm,19.1s,baz=101,slow=37							
BRVK	**Borovoye**	**47.32**	**315**	*eP*	**P**	**11 26 48.8**	**-0.5**
4.6nm,0.6s							
KKAR	**Karatay Array**	**47.76**	**301**	*eP*	**P**	**11 26 53.2**	**+0.4**
3.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**50.35**	**186**	P	**P**	**11 27 12.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.35**	**186**	P	**P**	**11 27 12.2**	**-0.6**
4.5nm,0.8s,baz=7.5,slow=7.3,SNR=6.4							
WRA	**Warramunga Arr**	**52.09**	**175**	P	**P**	**11 27 24.9**	**-1.0**
WRA	**Warramunga Arr**	**52.09**	**175**	P	**P**	**11 27 24.9**	**-1.0**
2.4nm,0.9s,baz=354,slow=8.0,SNR=16							
ABKAR	**Akbulak array**	**54.09**	**310**	*eP*	**P**	**11 27 40.3**	**-0.1**
3.5nm,0.6s							
CTA	**Charters Tower**	**54.24**	**162**	P	**P**	**11 27 42.1**	**+0.4**
CTA	**Charters Tower**	**54.24**	**162**	P	**P**	**11 27 42.1**	**+0.4**
1.9nm,0.5s,baz=10,slow=11,SNR=1.8							
AS31	**Alice Springs**	**55.76**	**176**	*eP*	**P**	**11 27 51.9**	**-0.8**
ASAR	**Alice Springs**	**55.76**	**176**	P	**P**	**11 27 52.0**	**-0.7**
ASAR	**Alice Springs**	**55.76**	**176**	P	**P**	**11 27 52.0**	**-0.7**
4.1nm,0.8s,baz=2.9,slow=5.7,SNR=30							
ASAR				LR	LR	11 47 53.0	
comp=Z,116nm,21.2s,baz=338,slow=32							
ILAR	**Eielson Array**	**58.17**	**30**	P	**P**	**11 28 09.1**	**-0.2**
ILAR	**Eielson Array**	**58.17**	**30**	P	**P**	**11 28 09.1**	**-0.2**
0.5nm,0.8s,baz=286,slow=8.0,SNR=7.8							
DZM	**Mont Dzumac**	**64.07**	**143**	P	**P**	**11 28 51.6**	**+1.6**
DZM	**Mont Dzumac**	**64.07**	**143**	P	**P**	**11 28 51.6**	**+1.6**
17nm,1.1s,baz=307,slow=20,SNR=3.8							
STKA	**Stephens Creek**	**64.70**	**170**	P	**P**	**11 28 55.2**	**+1.4**
STKA	**Stephens Creek**	**64.70**	**170**	P	**P**	**11 28 55.2**	**+1.4**
3.1nm,0.7s,baz=15,slow=5.0,SNR=5.2							
STKA				LR	LR	11 55 28.5	
comp=Z,196nm,20.6s,baz=26,slow=34							
ARCES	**ARCESS Array B**	**65.11**	**338**	P	**P**	**11 28 54.3**	**-1.7**
ARCES	**ARCESS Array B**	**65.11**	**338**	P	**P**	**11 28 54.3**	**-1.7**
1.9nm,0.8s,baz=76,slow=4.7,SNR=3.5							
ARCES				LR	LR	12 02 23.4	
comp=Z,182nm,19.0s,baz=75,slow=41							
KBZ	**Khabaz**	**66.92**	**308**	P	**P**	**11 29 07.8**	**-0.3**
KBZ	**Khabaz**	**66.92**	**308**	P	**P**	**11 29 07.8**	**-0.3**
1.4nm,0.7s,baz=72,slow=6.4,SNR=3.7							
FINES	**FINESS Array B**	**68.58**	**330**	P	**P**	**11 29 17.6**	**-0.6**
FINES	**FINESS Array B**	**68.58**	**330**	P	**P**	**11 29 17.6**	**-0.6**
1.0nm,0.4s,baz=70,slow=5.9,SNR=5.2							
FINES				LR	LR	12 02 14.6	
comp=Z,157nm,18.0s,baz=314,slow=38							
YKA	**Yellowknife Ar**	**72.19**	**26**	P	**P**	**11 29 41.6**	**+1.3**
YKA	**Yellowknife Ar**	**72.19**	**26**	P	**P**	**11 29 41.7**	**+1.3**
0.4nm,0.6s,baz=308,slow=5.5,SNR=2.6							
NOA	**NORSAR Array B**	**74.75**	**334**	P	**P**	**11 29 54.1**	**-1.4**
NOA	**NORSAR Array B**	**74.75**	**334**	P	**P**	**11 29 54.1**	**-1.4**
0.7nm,0.6s,baz=50,slow=5.7,SNR=4.3							
NOA				LR	LR	12 08 01.5	
comp=Z,97nm,18.6s,baz=45,slow=40							
BRTR	**Keskin Array B**	**74.90**	**308**	P	**P**	**11 29 55.3**	**-1.6**
BRTR	**Keskin Array B**	**74.90**	**308**	P	**P**	**11 29 55.3**	**-1.6**
1.1nm,0.9s,baz=90,slow=4.0,SNR=4.1							
BRTR				LR	LR	12 04 45.9	
comp=Z,42nm,20.4s,baz=270,slow=37							
GERES	**GERESS Array B**	**81.54**	**323**	LR	LR	12 11 58.8	
comp=Z,109nm,18.2s,baz=260,slow=40							
NVAR	**Mina Array Bea**	**84.89**	**47**	P	**P**	**11 30 51.6**	**+0.5**
NVAR	**Mina Array Bea**	**84.89**	**47**	P	**P**	**11 30 51.6**	**+0.5**
0.9nm,0.6s,baz=304,slow=5.2,SNR=12							
PDAR	**Pinedale Array**	**87.20**	**40**	P	**P**	**11 31 01.7**	**-0.8**
PDAR	**Pinedale Array**	**87.20**	**40**	P	**P**	**11 31 01.7**	**-0.8**
0.8nm,0.7s,baz=260,slow=0.5,SNR=9.6							
ULM	**Lac du Bonnet**	**88.11**	**28**	LR	LR	12 13 42.1	
comp=Z,49nm,18.9s,baz=30,slow=38							
KEST	**Kesra**	**92.71**	**316**	LR	LR	12 17 17.6	
comp=Z,36nm,20.5s,baz=321,slow=38							
ESDC	**Sonseca Array**	**96.86**	**326**	LR	LR	12 23 14.9	
comp=Z,73nm,18.2s,baz=45,slow=40							
TXAR	**Lajitas Array**	**99.98**	**46**	P	**Pdif**	**11 32 00.7**	**-0.7**
TXAR	**Lajitas Array**	**99.98**	**46**	P	**Pdif**	**11 32 00.7**	**-0.7**
0.1nm,0.5s,baz=270,slow=0.9,SNR=3.0							

JMA 03 11:19:17.1, 32.°32N×130.°53E, h7^{km}±1^{km}, M3.1, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.19**	**162**	P	Pg	11 19 20.9	-0.1
JZO				*eS*	Sg	11 19 23.8	+0.2
JIU2	**Izumi 2**	**0.33**	**47**	P	Pg	11 19 23.7	+0.1
JIU2				*eS*	Sg	11 19 28.3	+0.3
JHD	**Hondo**	**0.36**	**294**	P	Pg	11 19 24.4	+0.2
JHD				*eS*	Sg	11 19 29.8	+0.8

WEL 03 11:29:46.9±0.2, 46.°16S×166.°28E, h33^{km}, ML4.2/20, 1C-2D, Error ellipse: s-maj=2.8km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.92**	**42**	⇓PN	Pn	11 30 03.2	-0.2
DCZ				AML	AML	11 30 19.7	
DCZ				AML	AML	11 30 24.2	
WHZ	**Wether Hill Ro**	**1.19**	**78**	PN	Pb	11 30 08.4	-0.6
WHZ				SN	Sb	11 30 25.5	+1.3
WHZ				AML	AML	11 30 25.7	
APZ	**The Paps**	**1.36**	**120**	PN	Pn	11 30 09.0	-0.6
MLZ	**Mavora Lakes**	**1.56**	**59**	PN	Pb	11 30 13.9	-1.3
MLZ				AML	AML	11 30 40.4	
MLZ				AML	AML	11 30 43.0	
MSZ	**Milford Sound**	**1.89**	**39**	PN	Pn	11 30 17.6	+0.8
MSZ				AML	AML	11 31 04.3	
MSZ				AML	AML	11 31 04.3	
MSZ				AML	AML	11 31 04.9	
MSZ				AML	AML	11 31 04.9	
SYZ	**Scrubby Hill**	**2.02**	**102**	PN	Pn	11 30 19.4	+0.8
EAZ	**Earnscleugh**	**2.32**	**67**	⇑PN	Pn	11 30 25.3	+2.6
EAZ				SN	Sb	11 30 56.3	+0.1
EAZ				AML	AML	11 30 57.4	
EAZ				AML	AML	11 30 57.4	
EAZ				AML	AML	11 30 59.2	
WKZ	**Wanaka**	**2.34**	**56**	PN	Pb	11 30 26.4	-2.1
WKZ				AML	AML	11 31 06.6	
WKZ				AML	AML	11 31 13.5	
TUZ	**Tuapeka**	**2.34**	**86**	PN	Pn	11 30 24.6	+1.6
TUZ				AML	AML	11 31 02.8	
TUZ				AML	AML	11 31 05.6	
JCZ	**Jackson Bay**	**2.73**	**41**	PN	Pb	11 30 32.4	-2.7
JCZ				AML	AML	11 31 22.8	
JCZ				AML	AML	11 31 23.4	
ODZ	**Otahua Downs**	**3.26**	**72**	⇓PN	Pn	11 30 36.3	+0.6
LBZ	**Lake Benmore**	**3.28**	**59**	PN	Pn	11 30 37.2	+1.2
LBZ				AML	AML	11 31 22.7	
LBZ				AML	AML	11 31 37.7	
FOZ	**Fox Glacier**	**3.55**	**44**	PN	Pn	11 30 44.1	+4.5
FOZ				AML	AML	11 32 03.3	
RPZ	**Rata Peaks**	**4.18**	**56**	PN	Pn	11 30 49.0	+0.6
RPZ				AML	AML	11 31 44.7	
RPZ				AML	AML	11 32 11.9	
RPZ	**Rata Peaks**	**4.18**	**56**	*eP*	Pn	11 30 48.8	+0.4
81nm,0.8s							
WVZ	**Waitaha Valley**	**4.43**	**47**	PN	Pn	11 30 54.6	+2.8
WVZ				AML	AML	11 32 20.7	
DSZ	**Denniston Nort**	**5.95**	**44**	PN	Pn	11 31 14.6	+1.9
DSZ				AML	AML	11 32 28.3	
DSZ				AML	AML	11 32 50.5	
THZ	**Tophouse**	**6.49**	**50**	PN	Pn	11 31 20.6	+0.4
THZ				AML	AML	11 32 42.9	

*ISCJB **03** 11:30:46.3±0.6, 6.°34S±0.°04×130.°57E±0.°05, h90^{km}, mb3.5/2, Error ellipse: s-maj=7.1km s-min=5.3km az=28.8*
*AUST **03** 11:30:46.1, 6.°48S×130.°54E, h0^{km}*
*IDC **03** 11:30:50.7±4.7, 6.°28S×130.°30E, h159^{km}±42^{km}, mb3.4/2, mb1 3.7/6, mb1mx3.3/20, mbtmp3.6/6, Error ellipse: s-maj=41.1km s-min=18.5km az=62.0*

ISC 03 11:30:47.9±0.9, 6.°33S±0.°06×130.°56E±0.°08, h90^{km}, n18, σ2°07/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.91**	**340**	P	Pn	11 31 23.0	+4.1
baz=2.1,SNR=4.9							
FAKI	**Fak Fak**	**3.78**	**27**	P	**Pn**	**11 31 45.1**	**+1.1**
baz=3.9,SNR=43							
FAKI				S	**Sn**	**11 32 26.6**	**-0.8**
baz=3.9,SNR=14							
SWI	**Sorong**	**5.47**	**7**	P	**Pn**	**11 32 06.5**	**-0.5**
baz=5.7,SNR=3.9							
SWI				S	Sn	11 33 01.1	-7.5
baz=5.7,SNR=21							
MTN	**Manton Dam**	**6.50**	**175**	P	Pn	11 32 25.8	+4.8
baz=6.4,SNR=42							
MTN				S	**Sn**	**11 33 39.2**	**+5.4**
baz=6.4,SNR=4.9							
KDU	**Kakadu**	**6.60**	**164**	P	Pn	11 32 26.8	+4.5
baz=6.5,SNR=33							
SOEI	**Soe**	**7.10**	**241**	P	**Pn**	**11 32 31.3**	**+2.0**
baz=7.0,SNR=8.0							
SOEI				S	**Sn**	**11 33 49.5**	**+0.9**
baz=7.0,SNR=3.7							
BATI	**Baumata**	**7.84**	**240**	P	**Pn**	**11 32 39.8**	**+0.5**
7.7nm,0.3s,baz=92,slow=4.0,SNR=7.7							
BATI				S	**Sn**	**11 34 05.3**	**-1.1**
12nm,0.3s,baz=111,slow=15,SNR=7.4							
KNRA	**Kununurra**	**9.46**	**191**	P	**Pn**	**11 33 03.3**	**+1.9**
baz=9.4,SNR=22							
KNRA				S	**Sn**	**11 34 44.2**	**-1.8**
baz=9.4,SNR=6.0							
FITZ	**Fitzroy Crossi**	**12.65**	**202**	P	**Pn**	**11 33 42.8**	**-1.7**
0.8nm,0.3s,baz=28,slow=12,SNR=29							
FITZ				S	Sn	11 35 55.5	-8.2
2.3nm,0.3s,baz=25,slow=19,SNR=9.0							
FITZ	**Fitzroy Crossi**	**12.65**	**202**	P	**Pn**	**11 33 43.7**	**-0.8**
baz=13,SNR=17							
FITZ				S	Sn	11 35 57.5	-6.2
baz=13,SNR=5.3							
WRA	**Warramunga Arr**	**14.03**	**165**	P	**Pn**	**11 34 03.2**	**+0.5**
0.7nm,0.3s,baz=346,slow=11,SNR=28							
WRA				S	**Sn**	**11 36 35.2**	**-1.8**
0.7nm,0.3s,baz=343,slow=23,SNR=6.7							
COEN	**Coen**	**14.54**	**122**	P	Pn	11 34 15.0	+5.6
baz=14,SNR=12							
COEN				S	Sn	11 36 46.9	-2.8
baz=14,SNR=4.5							
MANU	**Manus Island**	**17.29**	**76**	P	P	11 34 37.9	-5.9
baz=17,SNR=3.3							
ASAR	**Alice Springs**	**17.54**	**170**	P	**P**	**11 34 47.0**	**+0.4**
0.6nm,0.3s,baz=350,slow=10,SNR=82							
ASAR				S	**Sn**	**11 37 59.2**	**-2.7**
0.2nm,0.3s,baz=349,slow=24,SNR=5.2							
STKA	**Stephens Creek**	**27.43**	**159**	P	**P**	**11 36 23.5**	**-1.8**
0.9nm,0.4s,baz=330,slow=9.6,SNR=5.8							
MILA	**Mila**	**34.98**	**154**	S	S	11 43 28.8	+32
baz=35,SNR=5.5							
MKAR	**Makanchi Array**	**67.97**	**326**	P	P	11 41 30.6	-6.7
0.4nm,0.6s,baz=121,slow=7.3,SNR=4.6							
LPAZ	**La Paz**	**150.90**	**141**	PKPbc	**PKPdf**	**11 50 27.5**	**+1.3**
0.6nm,0.7s,baz=252,slow=2.0,SNR=3.7							

MEX 03 11:40:41.7±0.5, 14.°91N×92.°85W, h84^{km}±8^{km}, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.57**	**90**	*eP*	Pn	11 40 55.0	-1.4
THIG				*i* S	Sn	11 41 05.6	-1.7
CCIG	**Comitan**	**1.53**	**27**	*eP*	Pn	11 41 07.0	-0.8
CCIG				*i* S	Sn	11 41 25.6	-1.9
TGIG		**1.87**	**352**	*eP*	Pn	11 41 11.4	-0.8
TGIG				*i* S	Sn	11 41 33.4	-1.9
HUIG	**Huatulco**	**3.25**	**286**	*i* P	Pn	11 41 30.4	-0.2
HUIG				*i* S	Sn	11 42 06.6	-1.8

MEX 03 11:57:16.0±0.8, 17.°08N×99.°73W, h36^{km}±14^{km}, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.24**	**211**	*i* P	Pn	11 57 24.6	+0.3
ACX				*i* S	Sn	11 57 29.9	-1.9
CAIG	**El Cayaco**	**0.51**	**267**	*eP*	Pn	11 57 24.7	-2.1
CAIG				*i* S	Sn	11 57 32.5	-1.9
PLIG	**Platanillo**	**1.33**	**9**	*eP*	Pn	11 57 36.0	-2.1
PLIG				*i* S	Sn	11 57 52.7	-2.0
ARIG	**Puente Sto Nin**	**1.33**	**334**	*eP*	Pn	11 57 36.4	-1.8
ARIG				*i* S	Sn	11 57 53.3	-1.4
PNIG	**Pinotepa**	**1.68**	**114**	*eP*	Pn	11 57 42.3	-0.6
PNIG				*eS*	Sn	11 58 01.8	-1.5
ZIIG	**Zihuatanejo**	**1.74**	**288**	*eP*	Pn	11 57 42.3	-1.4
ZIIG				*eS*	Sn	11 58 02.3	-2.3
YAIG	**Yautepec**	**1.89**	**20**	*eP*	Pn	11 57 44.1	-1.9
YAIG				*i* S	Sn	11 58 06.6	-2.0

TAP 03 12:11:58.2, 21.°99N×119.°71E, h53^{km}, ML3.6, 1C-5D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.70**	**59**	*eP*	Pn	12 12 12.8	+0.6
baz=54							
TWP				S	Sn	12 12 24.2	+1.9
baz=54							
SCZT	**Fangliau**	**0.93**	**65**	⇓P	Pn	12 12 15.7	+0.6
baz=66							
SCZT				*eS*	Sn	12 12 28.8	+1.3
baz=66							
HEN	**Hengchun**	**0.96**	**89**	P	Pn	12 12 16.4	+0.9
baz=86							
HEN				*eS*	Sn	12 12 29.6	+1.5
baz=86							
TWK1	**Hengchun**	**1.02**	**92**	*i* P	Pn	12 12 17.0	+0.7
baz=103							
TWK1				*eS*	Sn	12 12 30.8	+1.2
baz=103							
SGLT	**Jiouru**	**1.03**	**44**	P	Pn	12 12 18.0	+1.5
baz=45							
SGLT				*eS*	Sn	12 12 32.7	+2.8
baz=45							
TWM1	**Shoushan**	**1.06**	**38**	*eP*	Pn	12 12 18.1	+1.2
baz=39							
TWM1				*eS*	Sn	12 12 33.3	+2.5
baz=39							
TSEB	**Hengchuen, Pin**	**1.11**	**94**	*eP*	Pn	12 12 18.1	+0.6
baz=104							
TSEB				*eS*	Sn	12 12 33.6	+1.8
baz=104							
TAI1	**Yung-k'ang**	**1.15**	**25**	*eP*	Pn	12 12 18.8	+0.7
baz=25							
TAI1				*eS*	Sn	12 12 33.8	+1.0
baz=25							
TAW	**Tawu**	**1.16**	**71**	*eP*	Pn	12 12 18.7	+0.5
baz=72							
TAW				*eS*	Sn	12 12 34.7	+1.7
baz=72							
CHN3	**Shinhua**	**1.24**	**29**	*eP*	Pn	12 12 20.2	+0.9
baz=18							
CHN3				*eS*	Sn	12 12 36.7	+1.7
baz=18							
SCLT	**Jiali**	**1.27**	**21**	*eP*	Pn	12 12 20.2	+0.6
baz=21							
SCLT				*eS*	Sn	12 12 37.0	+1.5
baz=21							
WDGT	**Dungji**	**1.27**	**358**	*eP*	Pn	12 12 19.8	+0.1
baz=359							
WDGT				*eS*	Sn	12 12 34.8	-0.9
baz=359							
ECL	**Taimali**	**1.30**	**62**	⇓*i P*	Pn	12 12 21.2	+1.0
baz=62							
ECL				*eS*	Sn	12 12 37.1	+0.6
baz=62							
SGST	**Jiashian**	**1.36**	**36**	⇓*i P*	Pn	12 12 22.1	+1.2
baz=37							
SGST				S	Sn	12 12 39.2	+1.4
baz=37							
CHN1	**Nanshi**	**1.41**	**32**	⇓P	Pn	12 12 22.4	+0.7
baz=21							
CHN1				*eS*	Sn	12 12 39.9	+0.7
baz=21							
TWK	**Hsinying**	**1.46**	**29**	*eP*	Pn	12 12 23.1	+0.7
baz=20							
TWK				*eS*	Sn	12 12 41.6	+1.0
baz=20							
WTP	**Ta-pu**	**1.51**	**34**	*i* P	Pn	12 12 23.8	+0.8
baz=34							
WTP				*eS*	Sn	12 12 42.5	+0.9
baz=34							
TWG	**Pinlang**	**1.51**	**56**	⇓*i P*	Pn	12 12 24.4	+1.5
baz=57							
TWG				*eS*	Sn	12 12 42.9	+1.3
baz=57							
STYT	**Tauyuan**	**1.52**	**39**	P	Pn	12 12 24.1	+0.9
baz=40							
STYT				*eS*	Sn	12 12 42.9	+1.0
baz=40							
PNG	**Penghu**	**1.58**	**355**	*eP*	Pn	12 12 23.1	-0.8
baz=355							
PNG				*eS*	Sn	12 12 42.2	-1.0
baz=355							
CHN4	**Tsaushan**	**1.58**	**31**	*i* P	Pn	12 12 24.9	+0.9
baz=21							
CHN4				S	Sn	12 12 44.5	+1.2
baz=21							
ELDTW	**Lidau**	**1.70**	**45**	*eP*	Pn	12 12 26.7	+0.9
baz=45							
ELDTW				*eS*	Sn	12 12 47.3	+0.8
baz=45							
WSF	**Szhu**	**1.71**	**16**	*eP*	Pn	12 12 24.7	-1.0
baz=7.0							
LAY	**Lan-yu**	**1.71**	**88**	P	Pn	12 12 25.4	-0.3
baz=88							
LAY				*eS*	Sn	12 12 47.1	+0.6
baz=88							
ALS	**Alishan**	**1.82**	**34**	P	Pn	12 12 28.1	+0.5
baz=24							
ALS				*eS*	Sn	12 12 50.0	+0.2
baz=24							
CHN5	**Tsauling**	**1.83**	**29**	P	Pn	12 12 28.1	+0.5
baz=20							
CHN5				*eS*	Sn	12 12 49.6	-0.1
baz=20							
YUS	**Yu-Shan**	**1.89**	**37**	P	Pn	12 12 29.5	+0.8
baz=48							
YUS				*i* S	Sn	12 12 52.3	+0.5
baz=48							
CHKT	**Chengkung**	**1.89**	**54**	*eP*	Pn	12 12 28.2	+0.1
baz=65							
CHKT				*eS*	Sn	12 12 53.1	+2.3
baz=65							
TWF1	**Yuli**	**2.00**	**47**	*i* P	Pn	12 12 31.3	+1.6
baz=47							
TWF1				S	Sn	12 12 54.8	+1.2
baz=47							
EHY	**Hungye**	**2.12**	**44**	*eP*	Pn	12 12 32.8	+1.4
baz=45							
EHY				*eS*	Sn	12 12 58.3	+1.7
baz=45							
TYC	**Yuchr**	**2.18**	**29**	⇑P	Pn	12 12 33.3	+1.2
baz=21							
TYC				*eS*	Sn	12 12 58.9	+0.9
baz=21							
SMLT	**Sun Moon Lake**	**2.18**	**30**	*i* P	Pn	12 12 33.8	+1.5
baz=30							
SMLT				S	Sn	12 12 60.0	+1.7
baz=30							
TCU	**Taichung**	**2.33**	**22**	*eP*	Pn	12 12 35.5	+1.4
baz=23							
ESL	**Shilin**	**2.42**	**41**	*eP*	Pn	12 12 36.1	+0.8
baz=41							
ESL				*eS*	Sn	12 13 04.8	+1.0
baz=41							
TWQ1	**Liyutan**	**2.55**	**22**	*eP*	Pn	12 12 38.8	+1.6
baz=23							
TWQ1				*eS*	Sn	12 13 08.8	+1.9
baz=23							
WHF	**Hehuan Shan**	**2.58**	**33**	*eP*	Pn	12 12 39.6	+1.4
baz=34							
WHF				*eS*	Sn	12 13 10.1	+1.4
baz=34							
NSY	**Sanyi**	**2.60**	**22**	*eP*	Pn	12 12 40.4	+2.4
baz=22							
NSY				*eS*	Sn	12 13 10

Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.13**	**16**	P	Pn	12 15 54.7	-1.3
	0.7nm,0.3s,baz=166,slow=15,SNR=9.9						
WRA	**Warramunga Arr**	**40.84**	**122**	P	P	12 22 56.8	-0.2
	0.5nm,0.7s,baz=304,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**42.23**	**127**	P	P	12 23 08.1	-0.2
	0.5nm,1.1s,baz=300,slow=7.6,SNR=3.9						
SONM	**Songino Array**	**47.43**	**7**	P	P	12 23 49.0	-0.3
	0.4nm,0.5s,baz=171,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**47.96**	**345**	P	P	12 23 51.9	-1.4
	0.4nm,0.4s,baz=170,slow=7.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**54.19**	**350**	P	P	12 24 40.6	+0.8
	1.8nm,0.3s,baz=164,slow=7.0,SNR=10						
BVAR	**Borovoye Array**	**57.05**	**340**	P	P	12 25 00.2	-0.2
	0.8nm,0.6s,baz=156,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**80.92**	**332**	P	P	12 27 28.4	+0.4
	2.0nm,1.1s,baz=177,slow=5.6,SNR=3.4						

IDC 03 12:20:46.9±7.6, 5°.30S×150°.89E, h106km±53km, mb3.7/3, mb1 3.9/5, mb1mx3.3/20, mbtmp3.7/5, Error ellipse: s-maj=74.0km s-min=54.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**222**	P	Pn	12 22 06.4	-0.1
	7.8nm,0.3s,baz=43,slow=8.8,SNR=23						
PMG				S	Sn	12 23 09.4	+0.7
	16nm,0.3s,baz=91,slow=19,SNR=15						
CTA	**Charters Tower**	**15.38**	**197**	P	P	12 24 19.8	-0.6
	0.3nm,0.3s,baz=24,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**21.71**	**226**	P	P	12 25 29.2	-0.3
	1.6nm,0.4s,baz=52,slow=9.7,SNR=38						
ASAR	**Alice Springs**	**24.52**	**220**	P	P	12 25 56.9	+0.2
	2.5nm,0.7s,baz=55,slow=9.4,SNR=65						
FITZ	**Fitzroy Crossi**	**27.76**	**241**	P	P	12 26 25.5	-0.3
	3.2nm,0.9s,baz=58,slow=9.5,SNR=13						
TORD	**Torodi Ar. Bea**	**148.64**	**287**	PKPbc	PKPbc	12 40 22.1	-0.5
	0.2nm,0.5s,baz=84,slow=3.6,SNR=2.6						

KRSC 03 12:31:36.2±0.5, 55°.29N×162°.49E, h28km±17km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.86**	**211**	*e*P	Pn	12 31 49.9	-2.4
MKZ				*e*S	Sb	12 32 00.2	-3.3
KBG	**Krutoberegovo**	**0.97**	**7**	*e*P	Pb	12 31 54.5	+0.1
KBG				*e*S	Sb	12 32 08.5	+1.6
ZLN	**Zelenaya**	**1.20**	**308**	*e*P	Pn	12 31 57.0	-0.3
ZLN				*e*S	Sn	12 32 12.1	-0.7
BZGR	**Bezymyannyi-Gr**	**1.21**	**303**	*e*P	Pn	12 31 57.3	-0.1
BZGR				*e*S	Sn	12 32 13.2	+0.3
CIRR	**Tsirk**	**1.29**	**311**	*e*P	Pb	12 31 59.3	-0.7
CIRR				*e*S	Sb	12 32 16.8	+0.6
LGNR	**Loginova**	**1.29**	**309**	*e*P	Pn	12 31 59.1	+0.3
LGNR				*e*S	Sb	12 32 16.2	-0.5
BZMR	**Bezymyannaya**	**1.31**	**300**	*e*P	Pn	12 31 59.2	+0.4
BZMR				*e*S	Sn	12 32 15.8	+0.4
TUMR	**Tumrok**	**1.34**	**271**	*e*S	Sn	12 32 16.1	-0.1
KMNR	**Kamenistaya**	**1.36**	**291**	*e*P	Pn	12 31 59.6	+0.1
KMNR				*e*S	Sn	12 32 16.7	0.0
KIRR	**Kirishev**	**1.39**	**299**	*e*P	Pb	12 32 00.8	-0.9
KIRR				*e*S	Sn	12 32 18.0	+0.6
SMKR	**Semkarok**	**1.42**	**336**	*e*P	Pn	12 32 00.0	-0.2
SMKR				*e*S	Sn	12 32 17.2	-0.8
KRSR	**Krestovskiy**	**1.43**	**311**	*e*P	Pn	12 32 00.0	-0.4
KRSR				*e*S	Sn	12 32 17.0	-1.4
KPT	**Kopyto**	**1.45**	**299**	*e*P	Pn	12 32 01.4	+0.7
KPT				*e*S	Sb	12 32 20.0	-0.9
KLY	**Klyuchi**	**1.46**	**315**	*e*P	Pn	12 31 59.0	-1.6
KLY				*e*S	Sn	12 32 16.2	-2.6
BDR	**Baidarnaya**	**1.47**	**331**	*e*P	Pn	12 32 00.5	-0.4
BDR				*e*S	Sn	12 32 17.8	-1.5
SRKR	**Sorokina**	**1.56**	**332**	*e*P	Pn	12 32 02.5	+0.4
SRKR				*e*S	Sn	12 32 21.1	-0.3
KOZ	**Kozyrevsk**	**1.67**	**299**	*e*P	Pn	12 32 04.9	+1.3
KOZ				*e*S	Sb	12 32 26.2	-0.7
SRDR	**Sredinnyy**	**1.87**	**304**	*e*P	Pn	12 32 07.8	+1.3
SRDR				*e*S	Sn	12 32 30.9	+1.7
BKI	**Bering**	**2.00**	**91**	*e*P	Pn	12 32 07.6	-0.4
BKI				*e*S	Sn	12 32 30.3	-1.7
KII	**Karymskiy**	**2.17**	**236**	*e*P	Pn	12 32 11.3	+0.8
ESO	**Esso**	**2.24**	**288**	*e*P	Pn	12 32 12.6	+1.1
ESO				*e*S	Sn	12 32 39.3	+1.1
SPN	**Mys Shipunski**	**2.63**	**214**	*e*P	Pn	12 32 16.5	-0.3
SPN				*e*S	Sn	12 32 46.0	-1.7
NLC	**Nalytchevo**	**2.81**	**222**	*e*P	Pn	12 32 19.9	+0.7
NLC				*e*S	Sn	12 32 51.2	-1.0
SDLR	**Sedlovina**	**2.92**	**228**	*e*P	Pn	12 32 22.3	+1.4
SDLR				*e*S	Sn	12 32 56.2	+1.0
KRER	**Koryakskii**	**2.96**	**229**	*e*P	Pn	12 32 23.3	+1.7
KRER				*e*S	Sn	12 32 57.9	+1.6
SMAR	**Somma**	**2.97**	**228**	*e*P	Pn	12 32 21.7	0.0
SMAR				*e*S	Sn	12 32 55.3	-1.2
AVH	**Avacha**	**2.99**	**229**	*e*P	Pn	12 32 24.6	+2.8
AVH				*e*S	Sn	12 32 59.5	+2.7
UGLR	**Uglovaya**	**3.00**	**227**	*e*P	Pn	12 32 24.1	+2.2
UGLR				*e*S	Sn	12 32 59.4	+2.4
KOK	**Koryaka**	**3.02**	**230**	*e*P	Pn	12 32 25.2	+3.0
GNL	**Ganaly**	**3.10**	**241**	*e*P	Pn	12 32 23.4	+0.1
PET	**Petropavlovsk**	**3.20**	**226**	*e*P	Pn	12 32 25.8	+1.2
PET				*e*S	Sn	12 33 02.2	+0.5
RUS	**Russkaya**	**3.71**	**221**	*e*P	Pn	12 32 32.4	+0.9
RUS				*e*S	Sn	12 33 13.4	-0.8
MTVR	**Mutnovka**	**3.79**	**224**	*e*P	Pn	12 32 35.0	+2.0
MTVR				*e*S	Sn	12 33 18.1	+1.3
APC	**Apacha**	**3.93**	**235**	*e*P	Pn	12 32 37.6	+3.0
ASAK	**Asacha**	**3.98**	**225**	*e*P	Pn	12 32 37.9	+2.4
ASAK				*e*S	Sn	12 33 22.4	+1.1

ISK ***03*** *12:47:19.8, 39°.10N×27°.89E, h5km, MD3.3*
DDA ***03*** *12:47:20.1, 39°.07N×27°.97E, h22km, MD3.0*
ATH ***03*** *12:47:20.6, 39°.18N×27°.93E, h17km±4km, MD3.3/4*
CSEM ***03*** *12:47:21.3±0.1, 39°.10N×27°.91E, h2km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.8km az=161.0*
THE ***03*** *12:47:23.1, 38°.98N×28°.00E, h2km±1km, ML3.4/2, Error ellipse: s-maj=1.8km s-min=0.7km az=137.0*
SOF ***03*** *12:47:24.7, 39°.44N×27°.66E, h2km, MD3.0*

ISC 03 12:47:21.4±0.9, 39°.09N±0°.02×27°.92E±0°.02, h10km±8km, n137, σ0°93/175, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.23**	**201**	*i* P	**Pg**	**12 47 26.0**	**-0.2**
AKHS				*i* S	**Sg**	**12 47 29.4**	**0.0**
AKHS	**Akhisar**	**0.23**	**201**	*i* P	**Pg**	**12 47 26.0**	**-0.2**
AKHS				*i* S	**Sg**	**12 47 29.4**	**0.0**
BALB	**Balikesir**	**0.55**	**357**	*e*PG	**Pg**	**12 47 31.4**	**-0.6**
BALB				*e*SG	**Sg**	**12 47 40.0**	**+0.8**
BALB	**Balikesir**	**0.55**	**357**	*e*Pg	**Pg**	**12 47 31.4**	**-0.6**
BALB				*e*Sg	**Sg**	**12 47 40.0**	**+0.8**
DURS	**Dursunbey**	**0.66**	**40**	*i* P	**Pg**	**12 47 33.8**	**-0.4**
DURS				*i* S	**Sg**	**12 47 42.1**	**-0.8**
DURS	**Dursunbey**	**0.66**	**40**	*i* P	**Pg**	**12 47 33.8**	**-0.4**
DURS				*i* S	**Sg**	**12 47 42.1**	**-0.8**
BALY	**Balya**	**0.69**	**340**	*i* P	**Pg**	**12 47 34.6**	**0.0**
BALY				*i* S	**Sg**	**12 47 44.4**	**+0.7**
BALY	**Balya**	**0.69**	**340**	*i* P	**Pg**	**12 47 34.7**	**0.0**
BALY				*i* S	**Sg**	**12 47 44.4**	**+0.7**
DST	**Dursunbey**	**0.74**	**47**	*e*PG	**Pg**	**12 47 35.5**	**-0.2**
DST				*e*SG	**Sb**	**12 47 46.9**	**+0.3**
DST	**Dursunbey**	**0.74**	**47**	*e*Pg	**Pg**	**12 47 35.5**	**-0.2**
DST				*e*Sg	**Sb**	**12 47 46.9**	**+0.3**
KULA	**Kula-Manisa**	**0.82**	**135**	*e*PG	**Pg**	**12 47 36.3**	**-0.8**
KULA	**Kula-Manisa**	**0.82**	**135**	P	**Pg**	**12 47 36.2**	**-0.9**
KULA				S	**Sg**	**12 47 46.7**	**-1.1**
KULA	**Kula-Manisa**	**0.82**	**135**	*e*Pg	**Pg**	**12 47 36.3**	**-0.8**
KULA				S	**Sg**	**12 47 46.7**	**-1.1**
GONE	**Gonen-Balikesi**	**0.97**	**349**	*e*PG	**Pg**	**12 47 39.5**	**-0.5**
GONE				*e*SG	**Sb**	**12 47 53.5**	**+0.5**
GONE	**Gonen-Balikesi**	**0.97**	**349**	*e*Pg	**Pg**	**12 47 39.5**	**-0.5**
GONE				*e*Sg	**Sb**	**12 47 53.5**	**+0.5**
AYVA	**Ayvalik**	**0.98**	**283**	*i* P	**Pg**	**12 47 40.3**	**+0.1**
AYVA				*i* S	**Sb**	**12 47 54.2**	**+0.8**
AYVA	**Ayvalik**	**0.98**	**283**	*i* P	**Pg**	**12 47 40.3**	**+0.1**
AYVA				*i* S	**Sb**	**12 47 54.2**	**+0.8**
ORLT	**Orhaneli**	**1.21**	**38**	*e*PN	**Pn**	**12 47 43.9**	**-0.5**
ORLT	**Orhaneli**	**1.21**	**38**	*e*Pn	**Pn**	**12 47 43.9**	**-0.5**
KCTX	**Karacabey (Bur**	**1.22**	**16**	*e*PN	**Pn**	**12 47 44.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.22**	**16**	*e*Pn	**Pn**	**12 47 44.2**	**-0.2**
BNT	**Bandirma**	**1.26**	**360**	*e*PN	**Pn**	**12 47 44.5**	**-0.4**
BNT	**Bandirma**	**1.26**	**360**	*e*Pn	**Pn**	**12 47 44.6**	**-0.4**
URLA	**Izmir**	**1.27**	**235**	*i* P	**Pn**	**12 47 44.8**	**-0.3**
URLA				*i* S	**Sb**	**12 48 01.9**	**+0.2**
URLA	**Izmir**	**1.27**	**235**	*i* P	**Pn**	**12 47 44.8**	**-0.3**
URLA				*i* S	**Sb**	**12 48 01.9**	**+0.2**
PRK	**Paraskevi**	**1.29**	**277**	*e*PN	**Pn**	**12 47 45.3**	**-0.1**
PRK				*e*SN	**Sb**	**12 48 02.5**	**+0.2**
PRK	**Paraskevi**	**1.29**	**277**	*e*P	**Pn**	**12 47 45.1**	**-0.3**
PRK	**Paraskevi**	**1.29**	**277**	*e*Pn	**Pn**	**12 47 45.3**	**-0.1**
PRK				*e*Sn	**Sb**	**12 48 02.5**	**+0.2**
KRBG	**Karabiga-Canak**	**1.38**	**340**	*e*PN	**Pn**	**12 47 46.1**	**-0.6**
KRBG	**Karabiga-Canak**	**1.38**	**340**	*e*Pn	**Pn**	**12 47 46.1**	**-0.6**
EZN	**Ezine**	**1.44**	**301**	*e*PN	**Pb**	**12 47 47.8**	**-0.3**
EZN				*e*SN	**Sg**	**12 48 07.9**	**+0.3**
EZN	**Ezine**	**1.44**	**301**	*e*Pn	**Pb**	**12 47 47.8**	**-0.3**
EZN				*e*Sn	**Sg**	**12 48 07.9**	**+0.3**
KHL	**Karahalli**	**1.47**	**121**	*e*PN	**Pb**	**12 47 48.6**	**-0.2**
KHL	**Karahalli**	**1.47**	**121**	*e*Pn	**Pb**	**12 47 48.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.47**	**30**	*e*PN	**Pn**	**12 47 48.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.47**	**30**	*e*Pn	**Pn**	**12 47 48.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.49**	**201**	*i* P	**Pn**	**12 47 45.8**	**-2.4**
GCAM				*i* S	**Sn**	**12 48 07.2**	**-0.5**
LPK	**Lapseki**	**1.56**	**325**	*e*PN	**Pn**	**12 47 48.8**	**-0.3**
LPK	**Lapseki**	**1.56**	**325**	*e*Pn	**Pn**	**12 47 48.8**	**-0.3**
SIGR	**SIGRI**	**1.61**	**275**	P	**Pg**	**12 47 52.2**	**-0.1**
SIGR				S	**Sg**	**12 48 14.7**	**+1.5**
SIGR	**SIGRI**	**1.61**	**275**	P	**Pg**	**12 47 52.2**	**-0.1**
SIGR				S	**Sg**	**12 48 14.7**	**+1.5**
CHOS	**Chios island**	**1.62**	**245**	P	**Pb**	**12 47 51.3**	**-0.1**
CHOS				S	**Sg**	**12 48 13.6**	**+0.1**
CHOS	**Chios island**	**1.62**	**245**	*e*PN	**Pb**	**12 47 51.9**	**+0.5**
CHOS				*e*SN	**Sg**	**12 48 13.8**	**+0.3**
CHOS	**Chios island**	**1.62**	**245**	*e*P	**Pb**	**12 47 51.2**	**-0.1**
CHOS	**Chios island**	**1.62**	**245**	P	**Pb**	**12 47 51.3**	**-0.1**
CHOS	**Chios island**	**1.62**	**245**	*e*Pn	**Pb**	**12 47 51.9**	**+0.5**
CHOS				S	**Sg**	**12 48 13.6**	**+0.1**
SMG	**Samos**	**1.62**	**212**	P	**Pb**	**12 47 51.2**	**-0.2**
SMG				S	**Sb**	**12 48 12.6**	**+0.7**
SMG	**Samos**	**1.62**	**212**	*e*PN	**Pb**	**12 47 51.2**	**-0.2**
SMG				*e*SN	**Sg**	**12 48 14.2**	**+0.6**
SMG	**Samos**	**1.62**	**212**	*e*P	**Pb**	**12 47 50.9**	**-0.5**
SMG	**Samos**	**1.62**	**212**	P	**Pb**	**12 47 51.2**	**-0.2**
SMG				S	**Sb**	**12 48 12.6**	**+0.7**
SMG				*e*Sn	**Sg**	**12 48 14.2**	**+0.6**
ARMT	**Armutlu**	**1.64**	**26**	*e*PN	**Pb**	**12 47 51.0**	**+0.8**
ARMT	**Armutlu**	**1.64**	**26**	*e*Pn	**Pn**	**12 47 51.0**	**+0.8**
RKY	**Sarkoy-Tekirda**	**1.69**	**340**	*e*PN	**Pn**	**12 47 50.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.69**	**340**	*e*Pn	**Pn**	**12 47 50.7**	**-0.3**
SART	**Tekirdag**	**1.69**	**341**	*i* P	**Pn**	**12 47 50.8**	**-0.2**
SART				*i* S	**Sn**	**12 48 09.9**	**-2.8**
SART	**Tekirdag**	**1.69**	**341**	*i* P	**Pn**	**12 47 50.8**	**-0.2**
ALT	**Altintas**	**1.70**	**91**	*e*PN	**Pb**	**12 47 52.3**	**-0.5**
ALT	**Altintas**	**1.70**	**91**	P	**Pn**	**12 47 52.0**	**+0.8**
ALT				S	**Sb**	**12 48 14.4**	**+0.1**
ALT	**Altintas**	**1.70**	**91**	P	**Pn**	**12 47 52.0**	**+0.8**
ALT	**Altintas**	**1.70**	**91**	*e*Pn	**Pb**	**12 47 52.3**	**-0.5**
ALT				S	**Sb**	**12 48 14.4**	**+0.1**
MFT	**Murefte**	**1.76**	**344**	*e*PN	**Pn**	**12 47 52.9**	**+1.0**
MFT	**Murefte**	**1.76**	**344**	*e*Pn	**Pn**	**12 47 52.9**	**+1.0**
YLV	**Yalova**	**1.85**	**37**	*e*PN	**Pn**	**12 47 54.1**	**+1.0**
YLV	**Yalova**	**1.85**	**37**	*e*Pn	**Pn**	**12 47 54.2**	**+1.0**
CAVI	**Cavuskoy**	**1.85**	**53**	*e*PN	**Pn**	**12 47 54.2**	**+1.1**
CAVI	**Cavuskoy**	**1.85**	**53**	*e*Pn	**Pn**	**12 47 54.2**	**+1.1**
TKR	**Tekirdag**	**1.92**	**351**	*e*PN	**Pn**	**12 47 54.8**	**+0.8**
TKR	**Tekirdag**	**1.92**	**351**	*e*Pn	**Pn**	**12 47 54.8**	**+0.8**
ADVT	**Abdulvahap**	**1.94**	**46**	*e*PN	**Pn**	**12 47 55.5**	**+1.2**
ADVT	**Abdulvahap**	**1.94**	**46**	*e*Pn	**Pn**	**12 47 55.5**	**+1.2**
BORA	**Eskisehir**	**2.11**	**67**	*i* P	**Pb**	**12 48 00.3**	**+0.6**
BORA				*i* S	**Sb**	**12 48 25.8**	**-0.2**
BORA	**Eskisehir**	**2.11**	**67**	*i* P	**Pb**	**12 48 00.3**	**+0.6**
BORA				*i* S	**Sb**	**12 48 25.8**	**-0.2**
SHUT	**Suhut-Afyon**	**2.12**	**104**	*e*PN	**Pn**	**12 47 58.0**	**+1.0**
SHUT	**Suhut-Afyon**	**2.12**	**104**	*e*Pn	**Pn**	**12 47 58.0**	**+1.0**
ENEZ	**Enez**	**2.13**	**321**	*e*PN	**Pn**	**12 47 57.4**	**+0.4**
ENEZ	**Enez**	**2.13**	**321**	*e*Pn	**Pn**	**12 47 57.4**	**+0.4**
SLVT	**Silivri**	**2.15**	**6**	*e*PN	**Pn**	**12 47 58.1**	**+1.0**
SLVT	**Silivri**	**2.15**	**6**	*e*Pn	**Pn**	**12 47 58.2**	**+1.0**
ISK	**Istanbul-Kandi**	**2.15**	**24**	*e*PN	**Pn**	**12 47 58.4**	**+1.1**
ISK	**Istanbul-Kandi**	**2.15**	**24**	P	**Pb**	**12 48 00.0**	**-0.4**
ISK				S	**Sb**	**12 48 28.4**	**+1.3**
ISK	**Istanbul-Kandi**	**2.15**	**24**	*e*Pn	**Pn**	**12 47 58.4**	**+1.1**
ISK	**Istanbul-Kandi**	**2.15**	**24**	P	**Pb**	**12 48 00.0**	**-0.4**
ISK				S	**Sb**	**12 48 28.4**	**+1.3**
BGKT	**Bogazkoy**	**2.18**	**17**	*e*PN	**Pn**	**12 47 58.9**	**+1.2**
BGKT	**Bogazkoy**	**2.18**	**17**	*e*Pn	**Pn**	**12 47 58.9**	**+1.2**
CTKS	**Kestanelik-??a**	**2.19**	**12**	*e*PN	**Pn**	**12 47 58.8**	**+1.1**
CTKS	**Kestanelik-??a**	**2.19**	**12**	*e*Pn	**Pn**	**12 47 58.8**	**+1.1**
HRT	**Hereke**	**2.19**	**37**	*e*PN	**Pn**	**12 47 59.1**	**+1.3**
HRT	**Hereke**	**2.19**	**37**	*e*Pn	**Pn**	**12 47 59.1**	**+1.3**
GPA	**Golpazari**	**2.19**	**56**	*e*PN	**Pn**	**12 47 59.2**	**+1.3**
GPA	**Golpazari**	**2.19**	**56**	*e*Pn	**Pn**	**12 47 59.2**	**+1.3**
GOLH	**Golhisar**	**2.26**	**145**	*i* P	**Pn**	**12 47 58.1**	**-0.7**
GOLH	**Golhisar**	**2.26**	**145**	*i* P	**Pn**	**12 47 58.1**	**-0.7**
LIA	**Limnos Island**	**2.27**	**292**	*e*PB	**Pn**	**12 47 58.9**	**+0.1**
LIA	**Limnos Island**	**2.27**	**292**	*e*P	**Pn**	**12 47 58.7**	**-0.1**
LIA	**Limnos Island**	**2.27**	**292**	*e*Pb	**Pn**	**12 47 58.9**	**+0.1**
TURN	**Turunc**	**2.28**	**166**	*i* P	Pn	12 47 40.7	-18
TURN				*i* S	Sn	12 47 45.4	-42
SMTH	**Samothraki Isl**	**2.30**	**307**	*e*P	**Pn**	**12 47 59.0**	**-0.3**
ALN	**Alexandroupoli**	**2.31**	**322**	*e*P	**Pn**	**12 47 58.9**	**-0.5**
ESKT	**Eskisehir**	**2.31**	**78**	*e*PN	**Pn**	**12 48 01.1**	**+1.5**
ESKT	**Eskisehir**	**2.31**	**78**	*e*Pn	**Pn**	**12 48 01.1**	**+1.5**
KLYT	**Kilyos**	**2.32**	**21**	*e*PN	**Pn**	**12 48 00.5**	**+0.9**
KLYT	**Kilyos**	**2.32**	**21**	*e*Pn	**Pn**	**12 48 00.5**	**+0.9**
CTYL	**Yal??k??y-??at**	**2.39**	**7**	*e*PN	**Pn**	**12 48 02.1**	**+1.5**
CTYL	**Yal??k??y-??at**	**2.39**	**7**	*e*Pn	**Pn**	**12 48 02.1**	**+1.5**
GULT	**Gulveren**	**2.40**	**55**	*e*PN	**Pn**	**12 48 01.7**	**+0.9**
GULT	**Gulveren**	**2.40**	**55**	*e*Pn	**Pn**	**12 48 01.7**	**+0.9**
ISP	**Isparta**	**2.40**	**121**	*e*PN	**Pn**	**12 48 02.7**	**+1.9**
ISP	**Isparta**	**2.40**	**121**	*e*Pn	**Pn**	**12 48 02.7**	**+1.9**
SILT	**Sile**	**2.44**	**32**	*e*PN	**Pn**	**12 48 02.8**	**+1.6**
SILT	**Sile**	**2.44**	**32**	*e*Pn	**Pn**	**12 48 02.8**	**+1.6**
PHSR	**Pinarhisar**	**2.55**	**353**	*e*PN	**Pn**	**12 48 04.3**	**+1.5**
PHSR	**Pinarhisar**	**2.55**	**353**	*e*Pn	**Pn**	**12 48 04.3**	**+1.5**
APE	**Apeiranthos**	**2.77**	**224**	*e*PN	**Pn**	**12 48 07.7**	**+1.7**
APE	**Apeiranthos**	**2.77**	**224**	*e*Pn	**Pn**	**12 48 07.4**	**+1.7**
SVRH	**Sivrihisar-ESK**	**2.82**	**82**	*e*PN	**Pn**	**12 48 07.9**	**+1.4**
SVRH	**Sivrihisar-ESK**	**2.82**	**82**	*e*Pn	**Pn**	**12 48 07.9**	**+1.4**
ELL	**Elmali**	**2.82**	**146**	*e*PN	**Pn**	**12 48 08.2**	**+1.6**
ELL	**Elmali**	**2.82**	**146**	*e*Pn	**Pn**	**12 48 08.2**	**+1.6**
MDUB	**Mudurnu**	**2.87**	**60**	*e*PN	**Pn**	**12 48 09.0**	**+1.7**
MDUB	**Mudurnu**	**2.87**	**60**	*e*Pn	**Pn**	**12 48 09.0**	**+1.7**
EDRB	**Edirne**	**2.89**	**342**	*e*PN	**Pn**	**12 48 09.0**	**+1.5**
EDRB	**Edirne**	**2.89**	**342**	P	**Pb**	**12 48 11.5**	**-1.5**
EDRB				S	**Sb**	**12 48 48.4**	**0.0**
EDRB	**Edirne**	**2.89**	**342**	*e*Pn	**Pn**	**12 48 09.0**	**+1.5**
EDRB	**Edirne**	**2.89**	**342**	P	**Pb**	**12 48 11.5**	**-1.5**
EDRB				S	**Sb**	**12 48 48.4**	**0.0**
SUTC	**Sutluce-Ispart**	**2.91**	**123**	*e*PN	**Pn**	**12 48 09.5**	**+1.7**
SUTC	**Sutluce-Ispart**	**2.91**	**123**	*e*Pn	**Pn**	**12 48 09.5**	**+1.7**
KIZT	**Kizilcal**	**3.09**	**93**	*e*PN	**Pn**	**12 48 12.0**	**+1.7**
KIZT	**Kizilcal**	**3.09**	**93**	*e*Pn	**Pn**	**12 48 12.0**	**+1.7**
AOS	**Alonnisos**	**3.14**	**273**	*e*P	**Pn**	**12 48 11.0**	**+0.1**
KDZ	**Kurdzhali**	**3.19**	**324**	P	**Pn**	**12 48 11.2**	**-0.3**
KDZ	**Kurdzhali**	**3.19**	**324**	P	**Pn**	**12 48 11.2**	**-0.3**
RZN	**Rozhen**	**3.56**	**318**	P	**Pn**	**12 48 17.3**	**+0.5**
RZN	**Rozhen**	**3.56**	**318**	P	**Pn**	**12 48 17.3**	**+0.5**
PLD	**Plovdiv**	**3.88**	**322**	*e*P	Pn	12 48 24.4	+3.4
PLD	**Plovdiv**	**3.88**	**322**	*e*P	Pn	12 48 24.4	+3.4
MMB	**Musomiste**	**4.06**	**309**	P	**Pn**	**12 48 23.7**	**+0.2**
MMB	**Musomiste**	**4.06**	**309**	P	**Pn**	**12 48 23.7**	**+0.2**

ISCJB ***03*** *12:47:35.3±0.5, 36°.87N±0°.04×27°.91E±0°.03, h11km±7km, Error ellipse: s-maj=6.4km s-min=4.0km az=1.1*
ISK ***03*** *12:47:35.0, 36°.88N×27°.91E, h9km, MD2.8*
CSEM ***03*** *12:47:35.6±0.2, 36°.88N×27°.91E, h10km, MD2.8, Error ellipse: s-maj=4.6km s-min=2.7km az=5.0*

ISC 03 12:47:35.8±1.0, 36°.87N±0°.03×27°.90E±0°.02, h9km±10km, n24, σ1°22/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.29**	**241**	*e*PG	**Pg**	**12 47 41.5**	**-0.2**
DAT				*e*SG	**Sg**	**12 47 46.1**	**+0.5**
DAT	**Datca**	**0.29**	**241**	*e*Pg	**Pg**	**12 47 41.5**	**-0.2**
DAT				*e*Sg	**Sg**	**12 47 46.1**	**+0.5**
YER	**Yerkesik**	**0.41**	**50**	*e*PG	**Pg**	**12 47 43.0**	**-0.8**
YER				*e*SG	**Sg**	**12 47 48.9**	**-0.3**
YER	**Yerkesik**	**0.41**	**50**	*e*Pg	**Pg**	**12 47 43.0**	**-0.8**
YER				*e*Sg	**Sg**	**12 47 48.9**	**-0.3**
MLSB	**Milas**	**0.43**	**347**	*e*PG	**Pg**	**12 47 43.7**	**-0.6**
MLSB				*e*SG	**Sg**	**12 47 50.5**	**+0.4**
MLSB	**Milas**	**0.43**	**347**	*e*Pg	**Pg**	**12 47 43.7**	**-0.6**
MLSB				*e*Sg	**Sg**	**12 47 50.5**	**+0.4**
BODT	**Bodrum**	**0.51**	**292**	*e*PG	**Pg**	**12 47 45.3**	**-0.4**
BODT				*e*SG	**Sb**	**12 47 53.3**	**-1.0**
BODT	**Bodrum**	**0.51**	**292**	*e*Pg	**Pg**	**12 47 45.3**	**-0.4**
BODT				*e*Sg	**Sb**	**12 47 53.3**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.61**	**95**	*e*PG	**Pg**	**12 47 47.3**	**-0.3**
DALY				*e*SG	**Sb**	**12 47 56.1**	**-1.2**
DALY	**Dalyan (Mu¨la**	**0.61**	**95**	*e*Pg	**Pg**	**12 47 47.3**	**-0.3**
DALY				*e*Sg	**Sb**	**12 47 56.1**	**-1.2**
NIS1	**Nisyros Isl.**	**0.64**	**245**	*e*P	**Pg**	**12 47 48.2**	**+0.1**
ARG	**Arkhangelos**	**0.68**	**164**	*e*P	**Pg**	**12 47 48.3**	**-0.6**
FETY	**Fethiye**	**0.98**	**103**	*e*PG	**Pn**	**12 47 54.9**	**-0.9**
FETY				*e*SG	**Sb**	**12 48 07.8**	**-0.3**
FETY	**Fethiye**	**0.98**	**103**	*e*Pg	**Pn**	**12 47 54.9**	**-0.9**
FETY				*e*Sg	**Sb**	**12 48 07.8**	**-0.3**
GOLH	**Golhisar**	**1.38**	**74**	*i* S	**Sg**	**12 48 23.1**	**+2.8**
GOLH	**Golhisar**	**1.38**	**74**	*i* S	**Sg**	**12 48 23.1**	**+2.8**
KARP	**Karpathos**	**1.45

	baz=321							
HSN				eS		Sg	13 18 04.6	+0.1
	baz=321							
NWF	**Wu-fen Shan**	**1.19**	**360**	*e*P		**Pb**	**13 17 48.7**	**+0.5**
	baz=341							
NWF				eS		**Sg**	**13 18 06.9**	**+2.1**
	baz=341							
CHN4	**Tsaushan**	**1.21**	**245**	*e*P		**Pn**	**13 17 47.9**	**-0.4**
	baz=246							
CHN4				eS		**Sn**	**13 18 04.7**	**+0.5**
	baz=246							
TWG	**Pinlang**	**1.24**	**212**	*e*P		**Pn**	**13 17 46.8**	**-1.9**
	baz=209							
WTP	**Ta-pu**	**1.24**	**240**	||*i*P		**Pn**	**13 17 48.9**	**+0.1**
	baz=249							
WTP				S		**Sn**	**13 18 06.0**	**+0.9**
	baz=249							
TWS1	**Kuangyinshan**	**1.26**	**345**	*e*P		**Pb**	**13 17 49.9**	**+0.4**
	baz=341							
TWS1				eS		**Sg**	**13 18 07.2**	**+0.1**
	baz=341							
YOJ	**Yonaguni jima**	**1.27**	**62**	*e*P		**Pn**	**13 17 48.6**	**-0.4**
	baz=69							
YOJ	**Yonaguni jima**	**1.27**	**62**	P		**Pn**	**13 17 49.3**	**+0.3**
YOJ				S		**Sb**	**13 18 05.2**	**-0.3**
CHY	**Chiayi**	**1.30**	**253**	*e*P		**Pb**	**13 17 50.0**	**-0.1**
	baz=252							
TWK	**Hsinying**	**1.33**	**243**	*e*P		**Pn**	**13 17 50.4**	**+0.4**
	baz=244							
TWK				eS		**Sg**	**13 18 08.8**	**-0.5**
	baz=244							
CHN1	**Nanshi**	**1.34**	**239**	*i* P		**Pb**	**13 17 50.9**	**0.0**
	baz=241							
CHN1				eS		**Sg**	**13 18 10.5**	**+0.9**
	baz=241							
SGST	**Jiashian**	**1.36**	**234**	*e*P		**Pb**	**13 17 50.9**	**-0.2**
	baz=226							
SGST				eS		**Sg**	**13 18 09.5**	**-0.5**
	baz=226							
WTCT	**Ta-ch'eng**	**1.37**	**270**	*e*P		**Pn**	**13 17 50.6**	**+0.1**
	baz=268							
TWY	**Chenhua**	**1.40**	**353**	*e*P		**Pb**	**13 17 51.5**	**-0.4**
	baz=333							
WSF	**Szhu**	**1.45**	**261**	*e*P		**Pn**	**13 17 52.1**	**+0.6**
	baz=261							
WSF				eS		**Sb**	**13 18 11.7**	**+0.9**
	baz=261							
ECL	**Taimali**	**1.48**	**211**	*e*P		**Pn**	**13 17 50.6**	**-1.5**
	baz=209							
CHN3	**Shinhua**	**1.53**	**239**	*e*P		**Pb**	**13 17 54.4**	**+0.4**
	baz=238							
TWM1	**Shoushan**	**1.63**	**230**	*e*P		**Pb**	**13 17 55.3**	**-0.5**
	baz=244							
IRIF	**Iriomote-Funau**	**1.84**	**75**	P		**Pn**	**13 17 57.0**	**+0.1**
IRIF				S		**Sn**	**13 18 19.9**	**+0.2**
SCZT	**Fangliau**	**1.84**	**216**	*e*P		**Pb**	**13 17 58.8**	**-0.6**
	baz=195							
HATJ	**Hateruma jima**	**1.86**	**84**	*e*S		**Sn**	**13 18 19.6**	**-0.7**
PNG	**Penghu**	**2.06**	**262**	*e*P		**Pn**	**13 17 59.8**	**-0.2**
	baz=260							
JKRS	**Kuro-shima**	**2.07**	**80**	P		**Pn**	**13 18 01.2**	**+1.1**
JKRS				*e*S		**Sn**	**13 18 26.2**	**+0.8**
JIJ	**Ishigaki jima**	**2.21**	**77**	P		**Pn**	**13 18 02.3**	**+0.3**
JIJ				*e*S		**Sn**	**13 18 28.0**	**-0.9**
JTJ	**Tarama**	**2.77**	**74**	*e*S		**Sn**	**13 18 42.2**	**-0.6**

JMA 03 13:23:29.0±0.2, 43.′75N×147.′18E, h31km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.11**	**250**	P	Pn	13 23 49.0	+0.6
NEM2				*e*S	Sb	13 24 03.3	-0.5
JRA	**Rausu**	**1.50**	**278**	P	Pn	13 23 54.6	+0.9
JRA				*e*S	Sn	13 24 13.0	+0.8
JNK	**Nakash**	**1.79**	**266**	P	Pn	13 23 58.5	+0.7
JNK				*e*S	Sn	13 24 20.7	+1.2
JAK	**Akkeshi**	**1.96**	**248**	P	Pn	13 24 00.8	+0.7
JAK				*e*S	Sn	13 24 24.3	+0.7
JTKR	**Abashiri--Toko**	**2.38**	**276**	P	Pn	13 24 07.0	+1.2
JAR	**Ashorobuto**	**2.52**	**261**	P	Pn	13 24 09.4	+1.6
JAR				*e*S	Sn	13 24 40.3	+2.8
JOB	**Onbets**	**2.58**	**252**	P	Pn	13 24 10.2	+1.6
JOB				*e*S	Sn	13 24 40.7	+1.7
JMP	**Maruseppu**	**2.77**	**277**	P	Pn	13 24 12.7	+1.4
JCH	**Churui**	**3.01**	**249**	P	Pn	13 24 15.6	+1.0
JCH				*e*S	Sn	13 24 50.6	+1.0
JKK2	**Kamakawa 2**	**3.21**	**274**	P	Pn	13 24 19.8	+2.5
JFR	**Furan**	**3.39**	**262**	P	Pn	13 24 22.9	+3.1
JFR				*e*S	Sn	13 25 01.1	+2.1
JEM	**Erimo**	**3.43**	**241**	P	Pn	13 24 23.5	+3.3
JNBK	**Urakawa-nobuka**	**3.56**	**247**	P	Pn	13 24 23.3	+1.2

IDC 03 13:28:32.6±0.8, 12.°48N×143.°88E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/24, mbtmp3.8/8, Error ellipse: s-maj=42.5km s-min=19.5km az=101.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.50**	**349**	P	P	13 33 52.1	-1.6
	0.4nm,0.3s,baz=184,slow=9.3,SNR=4.7						
WRA	**Warramunga Arr**	**33.56**	**196**	P	P	13 35 13.8	-0.7
	0.4nm,0.5s,baz=21,slow=9.8,SNR=9.9						
ASAR	**Alice Springs**	**37.22**	**195**	P	P	13 35 46.0	0.0
	0.4nm,0.6s,baz=22,slow=10,SNR=12						
MKAR	**Makanchi Array**	**61.62**	**317**	P	P	13 38 53.1	+0.9
	0.3nm,0.5s,baz=92,slow=8.9,SNR=6.5						
ILAR	**Eielson Array**	**69.98**	**25**	P	P	13 39 45.4	-0.4
	0.6nm,0.5s,baz=251,slow=5.7,SNR=12						
YKA	**Yellowknife Ar**	**84.28**	**27**	P	P	13 41 06.1	0.0
	0.7nm,0.6s,baz=291,slow=5.2,SNR=6.7						
NVAR	**Mina Array Bea**	**88.36**	**51**	P	P	13 41 27.9	+0.9
	1.1nm,0.7s,baz=269,slow=5.1,SNR=10						
FINES	**FINESS Array B**	**91.75**	**335**	P	P	13 41 42.0	-0.1
	0.5nm,0.3s,baz=57,slow=7.0,SNR=5.0						

*AUST **03** 13:32:50.9±1.5, 29.°26S×175.°00W, h72km, Error ellipse: s-maj=2.6km s-min=1.0km az=287.0*
*BJI **03** 13:33:09.9, 29.°12S×177.°59W, h126km, mB5.0/3, mb5.0/6*
*ISCJB **03** 13:33:12.4±0.6, 28.°75S±0.°08×178.°1W±0.°1, h133km±5km, mb4.2/19, Error ellipse: s-maj=15.5km s-min=12.9km az=11.6*
*IDC **03** 13:33:12.6±0.5, 28.°63S×177.°92W, h125km±4km, mb3.9/11, mb1 4.1/11, mb1mx4.0/17, mbtmp3.9/11, MS3.6/2, Ms1 3.6/2, ms1mx2.8/22, Error ellipse: s-maj=16.8km s-min=14.9km az=66.0*
*NEIC **03** 13:33:13.1±0.4, 28.°58S×177.°97W, mb4.7/11, Error ellipse: s-maj=12.8km s-min=9.5km az=114.0*
ISC 03 13:33:13.2±0.5, 28.°88S±0.°06×178.°1W±0.°1, h133km±3km, h133km:pP-P, n75, σ1°36/79, mb4.2/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.40**	**159**	*e*P	**Pn**	**13 33 32.1**	**0.0**
RAO				S	**Sn**	**13 33 47.5**	**+1.1**
RAO	**Raoul Island**	**0.40**	**159**	P	**Pn**	**13 33 32.3**	**+0.2**
	3μm,0.3s,baz=62,slow=2.6,SNR=244						
RAO				LR	LR	13 33 34.9	
	comp=Z,4μm,18.3s,baz=0.0,slow=36						
RAO				S	**Sn**	**13 33 47.5**	**+1.1**
	973nm,0.3s,baz=73,slow=19,SNR=35						
OUZ	**Omahuta**	**9.47**	**226**	*e*P	Pn	13 35 31.7	+5.3
	64nm,1.1s						
URZ	**Urewera**	**10.18**	**202**	*e*P	Pn	13 35 29.4	-6.3
URZ				S	**Sn**	**13 37 25.4**	**-2.6**
URZ	**Urewera**	**10.18**	**202**	P	Pn	13 35 28.8	-7.0
	2.2nm,0.3s,baz=302,slow=12,SNR=26						
URZ				S	**Sn**	**13 37 25.4**	**-2.6**
	6.5nm,0.3s,baz=342,slow=20,SNR=10.0						
MSVF	**Nonsavu**	**11.65**	**341**	*e*P	**Pn**	**13 35 53.0**	**-2.6**
	231nm,1.4s						
NIUE	**Niue**	**12.28**	**39**	S	Sn	13 37 56.4	-23
	baz=11,SNR=5.2						
SNZO	**South Karori**	**13.73**	**203**	Pn	Pn	13 36 16.7	-5.5
KHZ	**Kahutara**	**15.11**	**204**	*e*P	**Pn**	**13 36 37.6**	**-2.2**
	30nm,0.6s						
DZM	**Mont Dzumac**	**15.52**	**292**	P	Pn	13 36 39.0	-6.1
DZM	**Mont Dzumac**	**15.52**	**292**	P	Pn	13 36 39.0	-6.1
	0.2nm,0.3s,baz=114,slow=20,SNR=1.9						
AFI	**Afiamalu**	**16.01**	**23**	*e*P	Pn	13 36 38.3	-13
	65nm,0.8s						
AFI				S	Sn	13 39 20.0	-29
AFI	**Afiamalu**	**16.01**	**23**	P	Pn	13 36 38.3	-13
	7.9nm,0.3s,baz=190,slow=3.2,SNR=13						
AFI				S	Sn	13 39 20.0	-29
	1.7nm,0.3s,baz=112,slow=19,SNR=3.8						
RPZ	**Rata Peaks**	**17.18**	**208**	P	**P**	**13 37 02.5**	**-2.1**
RPZ				S	S	13 40 02.8	-14
RPZ	**Rata Peaks**	**17.18**	**208**	P	**P**	**13 37 02.5**	**-2.1**
	1.6nm,0.3s,baz=79,slow=5.2,SNR=3.3						
RPZ				S	S	13 40 02.8	-14
	1.5nm,0.3s,baz=11,slow=19,SNR=3.4						
RAR	**Rarotonga**	**18.25**	**69**	S	S	13 40 19.8	-19
	3.5nm,0.3s,baz=270,slow=19,SNR=4.0						
ODZ	**Otahua Downs**	**18.45**	**206**	*e*P	**P**	**13 37 16.8**	**-1.7**
STKA	**Stephens Creek**	**34.78**	**255**	*e*P	**P**	**13 39 53.2**	**+2.2**
STKA	**Stephens Creek**	**34.78**	**255**	P	**P**	**13 39 53.2**	**+2.2**
	1.9nm,0.4s,baz=114,slow=9.6,SNR=10						
STKA				LR	LR	13 51 26.3	
	comp=Z,83nm,18.1s,baz=223,slow=31						
STKA	**Stephens Creek**	**34.78**	**255**	P	**P**	**13 39 53.4**	**+2.3**
	baz=37,SNR=9.4						
AS31	**Alice Springs**	**43.14**	**265**	*e*P	**P**	**13 41 01.7**	**+0.9**
ASAR	**Alice Springs**	**43.14**	**265**	P	**P**	**13 41 01.7**	**+0.9**
ASAR				pP	**pP**	**13 41 30.7**	**0.0**
ASAR	**Alice Springs**	**43.14**	**265**	P	**P**	**13 41 01.7**	**+0.9**
	1.4nm,0.5s,baz=97,slow=6.4,SNR=76						
ASAR				pP	**pP**	**13 41 30.7**	**0.0**
	4.0nm,0.8s,baz=114,slow=8.0,SNR=5.4						
ASAR				LR	LR	13 56 50.1	
	comp=Z,79nm,19.7s,baz=247,slow=33						
WRAB	**Tennant Creek**	**43.98**	**271**	*e*P	**P**	**13 41 07.7**	**+0.1**
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**43.99**	**271**	P	**P**	**13 41 07.9**	**+0.3**
WRA				pP	**pP**	**13 41 38.6**	**+1.0**
WRA	**Warramunga Arr**	**43.99**	**271**	P	**P**	**13 41 07.9**	**+0.3**
	0.7nm,0.3s,baz=109,slow=8.0,SNR=23						
WRA				pP	**pP**	**13 41 38.6**	**+1.0**
	2.9nm,0.8s,baz=107,slow=8.0,SNR=6.0						
SBA	**Scott Base**	**49.54**	**184**	*e*P	P	13 41 54.4	+4.5
	28nm,1.0s						
VNDA	**Vanda**	**49.59**	**186**	*e*P	P	13 41 53.8	+3.5
	5.4nm,0.9s						
VNDA	**Vanda**	**49.59**	**186**	P	P	13 41 54.0	+3.7
	3.8nm,0.8s,baz=6.0,slow=8.1,SNR=20						
MEEK	**Meekatharra**	**55.46**	**256**	P	**P**	**13 42 34.4**	**0.0**
	baz=58,SNR=3.7						
CASY	**Casey**	**56.45**	**207**	*e*P	**P**	**13 42 41.1**	**+0.4**
	12nm,0.5s						
MORW	**Morawa**	**56.91**	**252**	P	**P**	**13 42 43.8**	**-0.8**
	baz=59,SNR=5.0						
MAW	**Mawson**	**73.70**	**200**	*e*P	**P**	**13 44 33.5**	**+1.4**
	0.7nm,0.6s						
MAW	**Mawson**	**73.70**	**200**	P	**P**	**13 44 33.9**	**+1.9**
	5.2nm,0.5s,baz=131,slow=7.5,SNR=15						
MAW	**Mawson**	**73.70**	**200**	P	**P**	**13 44 33.9**	**+1.9**
	baz=74,SNR=12						
MJAR	**Matsushiro Arr**	**76.96**	**325**	P	**P**	**13 44 50.4**	**-0.7**
MJAR	**Matsushiro Arr**	**76.96**	**325**	P	**P**	**13 44 50.4**	**-0.7**
	1.3nm,0.5s,baz=150,slow=5.4,SNR=7.0						
SNAA	**Sanae**	**79.67**	**178**	*e*P	**P**	**13 45 07.0**	**+1.4**
SNAA	**Sanae**	**79.67**	**178**	*e*P	**P**	**13 45 06.7**	**+1.1**
	13nm,1.4s						
VNA1	**Neumayer--Stat**	**80.48**	**177**	*e*P	**P**	**13 45 11.7**	**+1.8**
PETK	**Petropavlovsk-**	**84.33**	**346**	P	**P**	**13 45 29.2**	**-0.7**
PETK	**Petropavlovsk-**	**84.33**	**346**	P	**P**	**13 45 29.2**	**-0.7**
	3.2nm,0.7s,baz=130,slow=8.9,SNR=8.5						
NJ2	**Nanjing**	**85.20**	**311**	*e*P	**P**	**13 45 36.1**	**+1.3**
USRK	**Ussuriysk Arra**	**85.85**	**327**	P	**P**	**13 45 37.9**	**+0.2**
	1.7nm,0.7s,baz=175,slow=5.7,SNR=5.9						
WAKR	**Walker**	**86.55**	**42**	*e*P	**P**	**13 45 40.7**	**-0.9**
	6.0nm,1.3s						
NVAR	**Mina Array Bea**	**87.18**	**43**	P	**P**	**13 45 43.7**	**-0.9**
NVAR	**Mina Array Bea**	**87.18**	**43**	P	**P**	**13 45 43.7**	**-0.9**
	2.2nm,0.8s,baz=222,slow=8.5,SNR=19						
CN2	**Changchun**	**88.89**	**323**	*e*P	**P**	**13 45 54.7**	**+2.4**
GYA	**Guiyang**	**90.73**	**300**	*e*P	**P**	**13 46 02.3**	**+0.8**
GYA				pP	**pP**	**13 46 36.4**	**+0.9**
GYA				sP	**sP**	**13 46 50.0**	**+0.5**
GYA				PP	**PP**	**13 49 41.2**	**+2.1**
GYA				SKS	**SKSac**	**13 56 20.0**	**-1.1**
GYA				S	**S**	**13 56 44.4**	**-2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TXAR	**Lajitas Array**	**91.63**	**57**	P	**P**	**13 46 05.1**	**-0.5**
TXAR	**Lajitas Array**	**91.63**	**57**	P	**P**	**13 46 05.1**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=205,slow=8.3,SNR=5.5						
MNTX	**Cornudas Mount**	**91.66**	**55**	*e*P	**P**	**13 46 05.1**	**-0.5**
	comp=Z,1.4nm,0.8s						
KMI	**Kunming**	**93.07**	**297**	P	**P**	**13 46 15.2**	**+2.7**
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
PDAR	**Pinedale Array**	**95.09**	**43**	P	**P**	**13 46 19.6**	**-1.7**
PDAR	**Pinedale Array**	**95.09**	**43**	P	**P**	**13 46 19.6**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=190,slow=2.7,SNR=6.5						
HHC	**Hu-ho-hao-te**	**95.13**	**314**	*e*P	**P**	**13 46 21.3**	**-0.1**
HHC				pP	**pP**	**13 46 52.7**	**-2.8**
HHC				SKS	**SKSac**	**13 56 44.4**	**-0.2**
HHC				S	**S**	**13 57 22.8**	**-2.2**
HHC				SS	**SS**	**14 03 55.8**	**+0.9**
HHC				LR	LR		
	comp=N,370nm,17.7s						
HHC				LR	LR		
	comp=E,250nm,17.5s						
HHC				LR	LR		
	comp=Z,280nm,17.3s						
CD2	**Chengdu**	**95.22**	**302**	*e*P	**P**	**13 46 23.2**	**+1.2**
CD2				pP	**pP**	**13 46 56.7**	**+0.6**
CD2				sP	**sP**	**13 47 10.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,6.2s						
WMQ	**Urumqi**	**112.23**	**309**	*e*PKP	**PKiKP**	**13 51 32.4**	**-0.7**
MKAR	**Makanchi Array**	**116.74**	**311**	PKPpre	PKPpre	13 51 36.4	
MKAR	**Makanchi Array**	**116.74**	**311**	PKhKP	PKPpre	13 51 36.4	
	comp=Z,0.2nm,0.4s,baz=153,slow=1.3,SNR=2.6						
BVAR	**Borovoye Array**	**125.26**	**317**	PKP	**PKPdf**	**13 51 57.1**	**-0.6**
BVAR	**Borovoye Array**	**125.26**	**317**	PKP	**PKPdf**	**13 51 57.1**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=111,slow=2.1,SNR=4.9						
ARCES	**ARCESS Array B**	**137.09**	**348**	PKP	**PKPdf**	**13 52 19.8**	**+0.1**
ARCES	**ARCESS Array B**	**137.09**	**348**	PKP	**PKPdf**	**13 52 19.8**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=17,slow=1.3,SNR=5.7						
FINES	**FINESS Array B**	**143.70**	**341**	PKPpre	PKPpre	13 52 27.5	
FINES	**FINESS Array B**	**143.70**	**341**	PKhKP	PKPpre	13 52 27.5	
	comp=Z,0.7nm,0.3s,baz=68,slow=4.2,SNR=6.7						
KBZ	**Khabaz**	**144.19**	**306**	PKP	PKPbc	13 52 31.4	-0.2
KBZ	**Khabaz**	**144.19**	**306**	PKP	PKPbc	13 52 31.4	-0.2
	comp=Z,0.9nm,0.6s,baz=80,slow=17,SNR=3.5						
NB2	**NORSAR Subarra**	**147.24**	**352**	PKP	**PKPdf**	**13 52 38.9**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=11,slow=3.2						
NOA	**NORSAR Array B**	**147.24**	**352**	PKPbc	**PKPdf**	**13 52 39.0**	**+1.2**
NOA	**NORSAR Array B**	**147.24**	**352**	PKPbc	**PKPdf**	**13 52 39.0**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=15,slow=4.6,SNR=8.4						
BRTR	**Keskin Array B**	**151.79**	**301**	PKPbc	**PKPbc**	**13 52 51.3**	**-1.1**
BRTR				pPKPbc	**pPKPbc**	**13 53 27.6**	**-0.3**
BRTR	**Keskin Array B**	**151.79**	**301**	PKPbc	**PKPbc**	**13 52 51.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=138,slow=5.4,SNR=6.3						
BRTR				pPKPbc	**pPKPbc**	**13 53 27.6**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=101,slow=2.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**164.34**	**179**	PKP	**PKPdf**	**13 53 01.1**	**-0.5**
TORD				PKPab	**PKPab**	**13 53 57.5**	**+1.2**
TORD	**Torodi Ar. Bea**	**164.34**	**179**	PKP	**PKPdf**	**13 53 01.1**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=179,slow=2.9,SNR=4.8						
TORD				PKPab	**PKPab**	**13 53 57.5**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=175,slow=3.3,SNR=16						

*IDC **03** 13:33:19.9±4.5, 1.°44S×14.°73W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/25, mbtmp4.0/4, ML3.7/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/31, Error ellipse: s-maj=107.2km s-min=39.7km az=100.0*
ISC 03 13:33:23.6±2.1, 1.°5S±0.°2×14.°5W±0.°3, h12km, n15, σ1°44/9, mb4.2/3, MS3.4/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**12.13**	**51**	*e*P	P	13 36 23.8	-5.3
	42nm,1.1s						
TIC	**Toumodi**	**12.40**	**49**	*e*P	**Pn**	**13 36 22.4**	**+2.3**
	146nm,0.3s						
KIC	**Kosan Boka**	**12.44**	**51**	*e*P	**Pn**	**13 36 22.2**	**+1.6**
	152nm,1.8s						
DBIC	**Dimbokro**	**12.54**	**50**	Pn	**Pn**	**13 36 22.8**	**+0.7**
	0.4nm,0.3s,baz=213,slow=15,SNR=6.4						
DBIC				Sn	**Sn**	**13 38 40.2**	**-1.5**
	1.8nm,0.3s,baz=140,slow=22,SNR=9.1						
BBTS	**Babate**	**16.16**	**353**	LR	LR	13 42 10.6	
	comp=Z,140nm,18.1s,baz=146,slow=33						
TORD	**Torodi Ar. Bea**	**21.63**	**47**	P	**P**	**13 38 14.2**	**+0.3**
	10nm,1.0s,baz=231,slow=12,SNR=12						
TORD				S	**S**	**13 42 13.1**	**-0.4**
	1.7nm,0.6s,baz=235,slow=22,SNR=6.2						
TORD				LR	LR	13 46 04.2	
	comp=Z,93nm,19.6s,baz=260,slow=35						
KEST	**Kesra**	**43.17**	**29**	LR	LR	14 01 56.6	
	comp=Z,22nm,18.1s,baz=174,slow=40						
BOSA	**Boshof**	**46.51**	**129**	P	**P**	**13 41 51.1**	**-0.2**
	2.8nm,1.0s,baz=318,slow=8.5,SNR=3.4						
CPUP	**Villa Florida**	**48.03**	**235**	LR	LR	13 57 56.7	
	comp=Z,98nm,21.4s,baz=49,slow=31						
KMBO	**Kilima Mbogo**	**51.70**	**90**	LR	LR	14 02 17.2	
	comp=Z,41nm,21.1s,baz=92,slow=33						
BRTR	**Keskin Array B**	**60.09**	**41**	P	**P**	**13 43 29.8**	**-1.2**
	0.2nm,0.3s,baz=227,slow=7.9,SNR=2.3						
HFS	**Hagfors**	**65.23**	**15**	LR	LR	14 11 48.3	
	comp=Z,29nm,18.1s,baz=68,slow=35						
NOA	**NORSAR Array B**	**65.41**	**13**	LR	LR	14 15 17.0	
	comp=Z,10nm,18.7s,baz=200,slow=38						
ARCES	**ARCESS Array B**	**75.78**	**13**	LR	LR	14 19 44.4	
	comp=Z,32nm,18.1s,baz=168,slow=37						
ASAR	**Alice Springs**	**140.37**	**131**	PKP	**PKPdf**	**13 52 53.6**	**0.0**
	0.5nm,1.0s,baz=217,slow=2.4,SNR=3.0						

*CSEM **03** 13:52:13.7±0.1, 36.°51N×22.°95E, h15km, MD2.8, Error ellipse: s-maj=4.4km s-min=2.3km az=59.0*
*ATH **03** 13:52:13.1, 36.°53N×22.°96E, h27km±1km, MD2.8/10*
THE 03 13:52:14.2, 36.°52N×22.°94E, h14km, ML2.3/2, Error ellipse: s-maj=0.9km s-min=0.4km az=239.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.20**	**358**	P	Pg	13 52 18.6	-0.2
VLI				S	Sg	13 52 21.7	-0.1
VLI	**Veliai**	**0.20**	**358**	*e*PB	Pg	13 52 18.6	-0.2
VLI				*e*SB	Sg	13 52 21.9	+0.1
VLI	**Veliai**	**0.20**	**358**	P	Pg	13 52 18.6	-0.2
VLI				S	Sg	13 52 21.7	-0.1
KYTH	**Kithira**	**0.25**	**163**	P	Pg	13 52 19.9	+0.3
KYTH				S	Sb	13 52 24.1	-0.7
KYTH	**Kithira**	**0.25**	**163**	*e*PB	Pg	13 52 19.8	+0.2
KYTH	**Kithira**	**0.25**	**163**	P	Pg	13 52 19.9	+0.3
KYTH				S	Sb	13 52 24.1	-0.7
DYR	**Agios Nikonas**	**0.55**	**296**	P	Pg	13 52 24.7	-0.3
DYR				S	Sg	13 52 32.8	+0.4
DYR	**Agios Nikonas**	**0.55**	**296**	*e*PN	Pg	13 52 24.7	-0.3
DYR	**Agios Nikonas**	**0.55**	**296**	P	Pg	13 52 24.7	-0.3
DYR				S	Sg	13 52 32.8	+0.4
ANKY	**Antikythira Is**	**0.71**	**156**	P	Pg	13 52 27.6	-0.5
ANKY				S	Sb	13 52 38.3	+0.3
ANKY	**Antikythira Is**	**0.71**	**156**	*e*PN	Pg	13 52 27.9	-0.2
ANKY				*e*SN	Sb	13 52 38.1	+0.1
ANKY	**Antikythira Is**	**0.71**	**156**	P	Pg	13 52 27.6	-0.5
ANKY	**Antikythira Is**	**0.71**	**156**	*e*Pn	Pg	13 52 27.9	-0.2
ANKY				*e*Sn	Sb	13 52 38.1	+0.1
VLX	**Vlachokerasia**	**0.96**	**332**	P	Pb	13 52 32.1	-0.7
VLX				S	Sn	13 52 46.4	-0.6
VLX	**Vlachokerasia**	**0.96**	**332**	*e*PN	Pb	13 52 32.0	-0.8
VLX	**Vlachokerasia**	**0.96**	**332**	P	Pb	13 52 32.1	-0.7
VLX				S	Sn	13 52 46.4	-0.6
DIDY	**Didyma**	**0.98**	**13**	P	Pb	13 52 32.1	-1.0
DIDY				S	Sg	13 52 46.6	+0.4
DIDY	**Didyma**	**0.98**	**13**	P	Pb	13 52 32.1	-1.0
DIDY				S	Sg	13 52 46.6	+0.4
DID	**Didima**	**1.01**	**13**	P	Pb	13 52 32.6	-1.0
DID				S	Sn	13 52 47.7	-0.4
DID	**Didima**	**1.01**	**13**	*e*PN	Pb	13 52 33.2	-0.4
DID	**Didima**	**1.01**	**13**	P	Pb	13 52 32.6	-1.0
DID	**Didima**	**1.01**	**13**	*e*Pn	Pb	13 52 33.2	-0.4
DID				S	Sn	13 52 47.7	-0.4
PYL	**PYLOS**	**1.04**	**292**	P	Pb	13 52 33.7	-0.2
PYL				S	Sg	13 52 47.7	-0.1
PYL	**PYLOS**	**1.04**	**292**	*e*PN	Pb	13 52 33.6	-0.3
PYL				*e*SN	Sb	13 52 47.3	-0.1
PYL	**PYLOS**	**1.04**	**292**	*e*Pn	Pb	13 52 33.6	-0.3
PYL				*e*Sn	Sb	13 52 47.3	-0.1
ITM	**Ithomi**	**1.05**	**309**	P	Pb	13 52 33.4	-0.8
ITM				S	Sg	13 52 48.3	0.0
ITM	**Ithomi**	**1.05**	**309**	*e*PN	Pb	13 52 33.5	-0.7
ITM	**Ith

JAG				*e*S	**Sn**	**14 10 55.9**	**-0.8**
JIM2	**Oshima 3**	**1.02 214**		P	**Pn**	**14 10 42.2**	**-0.8**
JIM2				S	**Sn**	**14 10 56.2**	**-0.8**
JRY	**Ryogami san**	**1.09 294**		P	**Pn**	**14 10 44.0**	**+0.2**
BSO1	**Boso 1**	**1.15 142**		P	**Pn**	**14 10 43.4**	**-0.7**
BSO1				*e*S	**Sn**	**14 10 59.7**	**+0.6**
JYN	**Shimob**	**1.29 267**		P	**Pn**	**14 10 46.6**	**+0.2**
JYN				S	**Sn**	**14 11 03.1**	**0.0**
JIZS	**Izushimoda**	**1.33 230**		P	**Pn**	**14 10 46.8**	**0.0**
JIZS				S	**Sn**	**14 11 03.5**	**-0.4**
JKT	**Katashina**	**1.39 330**		P	**Pn**	**14 10 47.1**	**-0.6**
MJAR	**Matsushiro Arr**	**1.83 303**		P	**Pn**	**14 10 52.9**	**-0.6**
	6.8nm,0.3s,baz=107,slow=14,SNR=78						
MJAR				S	**Sn**	**14 11 17.5**	**+1.7**
	13nm,0.3s,baz=122,slow=28,SNR=17						
MAT	**Matsushiro**	**1.83 303**		P	**Pn**	**14 10 53.9**	**+0.4**
MAT				S	**Sn**	**14 11 15.6**	**-0.2**
MKAR	**Makanchi Array**	**44.03 303**		P	**P**	**14 18 24.4**	**-0.2**
	0.3nm,0.4s,baz=81,slow=9.9,SNR=6.3						
HNR	**Honiara**	**48.52 153**		LR	LR	14 37 30.5	
	comp=Z,176nm,18.6s,baz=353,slow=34						
WRA	**Warramunga Arr**	**55.48 187**		P	**P**	**14 19 52.1**	**+0.5**
	0.2nm,0.4s,baz=0.7,slow=7.3,SNR=4.9						

*IDC **03** 14:12:06.0±2.2, 14°.54S×170°.42E, h0km, mb4.2/5, mb1 4.4/6, mb1mx3.9/21, mbtmp4.2/6, ML4.1/1, MS3.9/17, Ms1 3.9/17, ms1mx3.7/37, Error ellipse: s-maj=68.9km s-min=29.5km az=131.0*

*ISCJB **03** 14:12:09.4±0.9, 14°.8S±0°.1×170°.40E±0°.10, h33km, mb4.3/7, MS3.9/14, Error ellipse: s-maj=21.0km s-min=13.3km az=179.9*

*NEIC **03** 14:12:09.8±6.0, 14°.62S×170°.37E, h23km±44km, mb4.5/2, Error ellipse: s-maj=27.2km s-min=11.5km az=165.0*

ISC 03 14:12:11.4±1.1, 14°.7S±0°.2×170°.4E±0°.1, h35km, n31, σ0§62/16, mb4.2/7, MS3.9/14, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.97**	**114**	*e*P	**Pn**	**14 14 05.2**	**+0.3**
	68nm,1.0s						
DZM	**Mont Dzumac**	**8.26**	**206**	*e*LR	LR	14 15 56.2	
	802nm,25.7s						
DZM	**Mont Dzumac**	**8.26**	**206**	*e*P	**Pn**	**14 14 08.3**	**-0.6**
DZM	**Mont Dzumac**	**8.26**	**206**	Pn	**Pn**	**14 14 07.9**	**-1.0**
	2.4nm,0.3s,baz=44,slow=23,SNR=21						
DZM				LR	LR	14 16 22.0	
	comp=Z,198nm,21.8s,baz=1.5,slow=30						
HNR	**Honiara**	**11.45**	**296**	LR	LR	14 18 46.7	
	comp=Z,203nm,20.8s,baz=128,slow=35						
RAO	**Raoul Island**	**18.10**	**145**	LR	LR	14 21 38.5	
	comp=Z,398nm,21.8s,baz=61,slow=32						
PMG	**Port Moresby**	**23.30**	**280**	LR	LR	14 24 23.2	
	comp=Z,211nm,18.5s,baz=62,slow=32						
URZ	**Urewera**	**24.25**	**167**	LR	LR	14 24 35.5	
	comp=Z,269nm,20.6s,baz=177,slow=31						
RPZ	**Rata Peaks**	**28.96**	**179**	LR	LR	14 27 22.5	
	comp=Z,299nm,19.3s,baz=274,slow=32						
RAR	**Rarotonga**	**29.10**	**107**	LR	LR	14 27 26.6	
	comp=Z,147nm,20.3s,baz=270,slow=32						
STKA	**Stephens Creek**	**31.36**	**232**	P	**P**	**14 18 29.7**	**+0.8**
STKA	**Stephens Creek**	**31.36**	**232**	P	**P**	**14 18 29.7**	**+0.8**
	4.4nm,1.1s,baz=65,slow=17,SNR=3.4						
WRAB	**Tennant Creek**	**34.75**	**256**	*e*P	**P**	**14 18 58.3**	**-0.4**
	7.6nm,1.1s						
WRA	**Warramunga Arr**	**34.76**	**256**	P	**P**	**14 18 58.4**	**-0.3**
WRA	**Warramunga Arr**	**34.76**	**256**	P	**P**	**14 18 58.4**	**-0.3**
	2.7nm,0.8s,baz=88,slow=9.1,SNR=15						
AS31	**Alice Springs**	**35.51**	**250**	*e*P	**P**	**14 19 05.5**	**+0.3**
ASAR	**Alice Springs**	**35.51**	**250**	P	**P**	**14 19 05.6**	**+0.4**
ASAR	**Alice Springs**	**35.51**	**250**	P	**P**	**14 19 05.6**	**+0.4**
	7.6nm,0.7s,baz=74,slow=9.2,SNR=90						
ASAR				LR	LR	14 32 57.6	
	comp=Z,224nm,18.9s,baz=20,slow=35						
PPT	**Papeete**	**38.53**	**100**	LR	LR	14 31 48.2	
	comp=Z,103nm,19.9s,baz=306,slow=31						
FITZ	**Fitzroy Crossi**	**42.98**	**259**	P	**P**	**14 20 08.3**	**+0.7**
FITZ	**Fitzroy Crossi**	**42.98**	**259**	P	**P**	**14 20 08.3**	**+0.7**
	3.6nm,0.9s,baz=86,slow=6.7,SNR=4.8						
FITZ				LR	LR	14 37 48.5	
	comp=Z,276nm,18.6s,baz=39,slow=36						
NWAO	**Narrogin (SRO)**	**51.37**	**239**	LR	LR	14 43 52.6	
	comp=Z,157nm,21.0s,baz=231,slow=37						
MJAR	**Matsushiro Arr**	**59.30**	**330**	LR	LR	14 41 26.1	
	comp=Z,66nm,21.8s,baz=240,slow=30						
VNDA	**Vanda**	**63.02**	**182**	LR	LR	14 44 27.3	
	comp=Z,71nm,19.9s,baz=232,slow=31						
SBA	**Scott Base**	**63.23**	**181**	*e*P	**P**	**14 22 35.9**	**+0.2**
	3.3nm,0.9s						
ASAJ	**Asahikawa**	**63.76**	**338**	LR	LR	14 44 23.5	
	comp=Z,132nm,20.6s,baz=159,slow=30						
PETK	**Petropavlovsk-**	**68.37**	**352**	LR	LR	14 47 13.8	
	comp=Z,121nm,20.0s,baz=336,slow=31						
ILAR	**Eielson Array**	**85.56**	**17**	P	**P**	**14 24 45.0**	**-0.6**
ILAR	**Eielson Array**	**85.56**	**17**	P	**P**	**14 24 45.0**	**-0.6**
	0.7nm,0.7s,baz=230,slow=4.9,SNR=5.7						
SNAA	**Sanae**	**93.75**	**182**	LR	LR	15 04 06.4	
	comp=Z,25nm,18.2s,baz=5.4,slow=33						
USHA	**Ushuaia**	**94.86**	**150**	LR	LR	14 57 18.8	
	comp=Z,292nm,19.2s,baz=27,slow=29						

*MDD **03** 14:14:34.2±2.2, 37°.53N×13°.68W, h0km, mb3.6/8, Error ellipse: s-maj=20.3km s-min=18.0km az=14.0, PRXIMO*

*INMG **03** 14:14:36.3±0.9, 37°.19N×14°.01W, h10km, ML2.6, Error ellipse: s-maj=6.5km s-min=3.1km az=133.0*

*CSEM **03** 14:14:37.4±0.4, 37°.45N×13°.38W, h10km, ML3.2/17, Error ellipse: s-maj=9.7km s-min=6.7km az=6.0*

ISC 03 14:14:33.8±3.8, 37°.46N±0°.10×13°.6W±0°.2, h10km, n66, σ1§49/105, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.71**	**65**	*e*Pn	**Pn**	**14 15 32.8**	**+1.5**
PMAFR				*e*Sn	**Sn**	**14 16 16.7**	**+1.6**
PMAFR				A	A	14 16 27.4	
	23nm,0.4s						
PMAFR	**Mafra**	**3.71**	**65**	Pn	**Pn**	**14 15 31.2**	**-0.1**
	0.5nm,0.0s,SNR=5.6						
PMAFR				Sn	**Sn**	**14 16 16.0**	**+0.9**
	12nm,0.3s,SNR=6.3						
PMAFR	**Mafra**	**3.71**	**65**	*e*Pn	**Pn**	**14 15 32.8**	**+1.5**
PMAFR				Sn	**Sn**	**14 16 16.0**	**+0.9**
	12nm,0.3s,SNR=6.3						
PTEO	**Sao Teotonio**	**3.88**	**87**	*i* Pn	**Pn**	**14 15 34.5**	**+1.0**
PTEO				*e*Sn	**Sn**	**14 16 18.0**	**-1.1**
PTEO				A	A	14 16 21.6	
	8.5nm,0.4s						
PTEO	**Sao Teotonio**	**3.88**	**87**	⇑Pn	**Pn**	**14 15 34.5**	**+1.0**
PTEO				Sn	**Sn**	**14 16 18.0**	**-1.1**
	4.2nm,0.4s						
PTEO	**Sao Teotonio**	**3.88**	**87**	Pn	**Pn**	**14 15 34.5**	**+1.0**
PTEO				*e*Sn	**Sn**	**14 16 18.0**	**-1.1**
	8.5nm,0.4s						
MORF	**Marmelete**	**3.94**	**91**	*e*Pn	**Pn**	**14 15 35.1**	**+0.6**
MORF				*e*Sn	**Sn**	**14 16 19.8**	**-1.0**
MORF				A	A	14 16 22.7	
	10nm,0.2s						
MORF	**Marmelete**	**3.94**	**91**	Pn	**Pn**	**14 15 35.1**	**+0.6**
MORF				Sn	**Sn**	**14 16 19.8**	**-1.0**
	10nm,0.2s						
MORF	**Marmelete**	**3.94**	**91**	Pn	**Pn**	**14 15 35.1**	**+0.6**
MORF				*e*Sn	**Sn**	**14 16 19.8**	**-1.0**
	10nm,0.2s						
PACT	**Alcochete**	**3.98**	**69**	*e*Pn	**Pn**	**14 15 36.5**	**+1.6**
PACT				*e*Sn	**Sn**	**14 16 22.4**	**+0.8**
PACT				A	A	14 16 32.3	
	42nm,0.4s						
PACT	**Alcochete**	**3.98**	**69**	*e*Pn	**Pn**	**14 15 36.5**	**+1.6**
PACT				*e*Sn	**Sn**	**14 16 22.4**	**+0.8**
	42nm,0.4s						
PNCL	**Nicolau / Gran**	**4.07**	**79**	*e*Pn	**Pn**	**14 15 37.0**	**+0.9**
PNCL				*e*Sn	**Sn**	**14 16 23.9**	**+0.1**
PNCL				A	A	14 16 25.9	
	6.0nm,0.3s						
PNCL	**Nicolau / Gran**	**4.07**	**79**	*e*Pn	**Pn**	**14 15 37.0**	**+0.9**
PNCL				*e*Sn	**Sn**	**14 16 23.9**	**+0.1**
	6.0nm,0.3s						
MOE	**Montemor**	**4.28**	**74**	*e*Pn	**Pn**	**14 15 41.1**	**+2.1**
MOE				*e*Sn	**Sn**	**14 16 29.5**	**+0.5**
MOE	**Montemor**	**4.28**	**74**	Pn	**Pn**	**14 15 41.1**	**+2.1**
MOE				Sn	**Sn**	**14 16 29.5**	**+0.5**
MOE	**Montemor**	**4.28**	**74**	Pn	**Pn**	**14 15 41.1**	**+2.1**
MOE				Sn	**Sn**	**14 16 29.5**	**+0.5**
PCVE	**Castro Verde**	**4.42**	**86**	*e*Pn	**Pn**	**14 15 41.8**	**+0.8**
PCVE				*e*Sn	**Sn**	**14 16 31.3**	**-1.2**
PCVE				A	A	14 16 43.6	
	3.5nm,0.4s						
PCVE	**Castro Verde**	**4.42**	**86**	Pn	**Pn**	**14 15 41.8**	**+0.8**
PCVE				Sn	**Sn**	**14 16 31.3**	**-1.2**
	3.5nm,0.4s						
PCVE	**Castro Verde**	**4.42**	**86**	Pn	**Pn**	**14 15 41.8**	**+0.8**
PCVE				*e*Sn	**Sn**	**14 16 31.3**	**-1.2**
	3.5nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.52**	**91**	*e*Sn	**Sn**	**14 16 33.8**	**-1.2**
PBDV				A	A	14 16 39.9	
	7.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.52**	**91**	Sn	**Sn**	**14 16 33.8**	**-1.2**
	7.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.52**	**91**	*e*Sn	**Sn**	**14 16 33.8**	**-1.2**
	7.4nm,0.8s						
PMTG	**Montargil**	**4.53**	**68**	*e*Pn	**Pn**	**14 15 43.1**	**+0.7**
PMTG				*e*Sn	**Sn**	**14 16 35.7**	**+0.7**
PMTG				A	A	14 16 39.4	
	2.4nm,0.1s						
PMTG	**Montargil**	**4.53**	**68**	*e*Pn	**Pn**	**14 15 43.1**	**+0.7**
PMTG				*e*Sn	**Sn**	**14 16 35.7**	**+0.7**
	2.4nm,0.1s						
EVO	**Evora**	**4.54**	**75**	*e*Sn	**Sn**	**14 16 35.5**	**0.0**
EVO	**Evora**	**4.54**	**75**	Sn	**Sn**	**14 16 35.5**	**0.0**
EVO	**Evora**	**4.54**	**75**	Sn	**Sn**	**14 16 35.5**	**0.0**
PBEJ	**Beja**	**4.58**	**81**	*e*Sn	**Sn**	**14 16 36.0**	**-0.4**
PBEJ	**Beja**	**4.58**	**81**	Sn	**Sn**	**14 16 36.0**	**-0.4**
PBEJ	**Beja**	**4.58**	**81**	Sn	**Sn**	**14 16 36.0**	**-0.4**
PTOM	**Tomar**	**4.60**	**60**	*e*Sn	**Sn**	**14 16 37.9**	**+0.9**
PTOM	**Tomar**	**4.60**	**60**	Sn	**Sn**	**14 16 37.9**	**+0.9**
PTOM	**Tomar**	**4.60**	**60**	Sn	**Sn**	**14 16 37.9**	**+0.9**
PVAQ	**Vaqueiros**	**4.68**	**89**	*e*Pn	**Pn**	**14 15 45.8**	**+1.2**
PVAQ				*e*Sn	**Sn**	**14 16 37.8**	**-1.1**
PVAQ				A	A	14 16 42.6	
	5.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.68**	**89**	Pn	**Pn**	**14 15 45.8**	**+1.2**
PVAQ				Sn	**Sn**	**14 16 37.8**	**-1.1**
	5.8nm,0.3s						
PVAQ	**Vaqueiros**	**4.68**	**89**	Pn	**Pn**	**14 15 45.8**	**+1.2**
PVAQ				*e*Sn	**Sn**	**14 16 37.8**	**-1.1**
	5.8nm,0.3s						
PCAS	**Casmilo, Conde**	**4.75**	**55**	*e*Pn	**Pn**	**14 15 47.5**	**+1.9**
PCAS	**Casmilo, Conde**	**4.75**	**55**	*e*Pn	**Pn**	**14 15 47.5**	**+1.9**
EGRO	**El Granado**	**4.86**	**87**	Pn	**Pn**	**14 15 48.4**	**+1.4**
	0.5nm,0.1s,SNR=11						
EGRO				Sn	**Sn**	**14 16 42.1**	**-1.3**
	3.7nm,0.3s,SNR=7.3						
EGRO	**El Granado**	**4.86**	**87**	Pn	**Pn**	**14 15 48.4**	**+1.4**
	0.5nm,0.1s,SNR=11						
EGRO				Sn	**Sn**	**14 16 42.1**	**-1.3**
	3.7nm,0.3s,SNR=7.3						
PMPST	**Porto Santo, M**	**4.91**	**208**	*e*Sn	Sn	14 16 26.0	-19
PMPST				A	A	14 16 26.4	
	21nm,0.8s						
PMPS	**Porto Santo**	**4.93**	**208**	Sn	Sn	14 16 26.0	-19
	10nm,0.8s						
PESTR	**Estremoz**	**4.94**	**72**	*e*Sn	**Sn**	**14 16 45.2**	**-0.1**
PESTR				A	A	14 16 52.2	
	3.8nm,0.5s						
PESTR	**Estremoz**	**4.94**	**72**	Sn	**Sn**	**14 16 45.2**	**-0.1**
	3.8nm,0.5s						
PESTR	**Estremoz**	**4.94**	**72**	*e*Sn	**Sn**	**14 16 45.2**	**-0.1**
	3.8nm,0.5s						
PBAR	**Barrancos**	**5.24**	**80**	*e*Pn	**Pn**	**14 15 54.0**	**+1.7**
PBAR				*e*Sn	**Sn**	**14 16 52.1**	**-0.7**
PBAR				A	A	14 16 58.8	
	1.9nm,0.2s						
PBAR	**Barrancos**	**5.24**	**80**	Pn	**Pn**	**14 15 54.0**	**+1.7**
PBAR				Sn	**Sn**	**14 16 52.1**	**-0.7**
	1.9nm,0.2s						
PBAR	**Barrancos**	**5.24**	**80**	Pn	**Pn**	**14 15 54.0**	**+1.7**
PBAR				*e*Sn	**Sn**	**14 16 52.1**	**-0.7**
	1.9nm,0.2s						
PMRV	**Marv??o**	**5.25**	**66**	*e*Pn	**Pn**	**14 15 53.9**	**+1.4**
PMRV				*e*Sn	**Sn**	**14 16 52.5**	**-0.6**
PMRV				A	A	14 16 55.0	
	4.8nm,0.3s						
PMRV	**Marv??o**	**5.25**	**66**	Pn	**Pn**	**14 15 53.9**	**+1.4**
PMRV				Sn	**Sn**	**14 16 52.5**	**-0.6**
	4.8nm,0.3s						
PMRV	**Marv??o**	**5.25**	**66**	Pn	**Pn**	**14 15 53.9**	**+1.4**
PMRV				*e*Sn	**Sn**	**14 16 52.5**	**-0.6**
	4.8nm,0.3s						
EBAD	**Badajoz**	**5.35**	**74**	Pn	**Pn**	**14 15 55.3**	**+1.5**
	0.2nm,0.0s,SNR=8.2						
EBAD				Sn	**Sn**	**14 16 52.9**	**-2.6**
	1.0nm,0.3s,SNR=6.8						
EBAD	**Badajoz**	**5.35**	**74**	Pn	**Pn**	**14 15 55.3**	**+1.5**
	0.2nm,0.0s,SNR=8.2						
EBAD				Sn	**Sn**	**14 16 52.9**	**-2.6**
	1.0nm,0.3s,SNR=6.8						
EMIN	**Mina Concepcio**	**5.51**	**85**	Pn	**Pn**	**14 15 57.8**	**+1.9**
	0.2nm,0.1s,SNR=6.1						
EMIN				Sn	**Sn**	**14 16 57.2**	**-2.1**
	1.8nm,0.3s,SNR=20						
EMIN	**Mina Concepcio**	**5.51**	**85**	Pn	**Pn**	**14 15 57.8**	**+1.9**
	0.2nm,0.1s,SNR=6.1						
EMIN				Sn	**Sn**	**14 16 57.2**	**-2.1**
	1.8nm,0.3s,SNR=20						
POLO	**Lamas de Olo**	**5.96**	**47**	*e*Sn	**Sn**	**14 17 08.5**	**-2.0**
POLO				A	A	14 17 15.2	
	1.6nm,0.2s						
PGAV	**Gavieira, Arco**	**6.09**	**41**	*e*Pn	**Pn**	**14 16 05.7**	**+1.7**
PGAV	**Gavieira, Arco**	**6.09**	**41**	*e*Pn	**Pn**	**14 16 05.7**	**+1.7**
ELOB	**Lobios**	**6.13**	**42**	Pn	**Pn**	**14 16 03.8**	**-0.8**
	0.0nm,0.0s,SNR=7.9						
ELOB				Sn	**Sn**	**14 17 09.7**	**-5.2**
	1.6nm,0.4s,SNR=4.8						
ECAB	**El Cabril**	**6.51**	**82**	Pn	**Pn**	**14 16 11.0**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
ECAB				Sn	**Sn**	**14 17 21.2**	**-2.8**
	2.2nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.51**	**82**	Pn	**Pn**	**14 16 11.0**	**+1.3**
	0.1nm,0.1s,SNR=7.9						
ECAB				Sn	**Sn**	**14 17 21.2**	**-2.8**
	2.2nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.53**	**31**	Sn	Sn	14 17 17.7	-6.7
	4.7nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.93**	**48**	Pn	**Pn**	**14 16 15.9**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**14 17 30.2**	**-4.2**
	0.2nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.93**	**48**	Pn	**Pn**	**14 16 15.9**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.18**	**82**	Pn	**Pn**	**14 16 20.1**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**14 17 37.5**	**-3.0**
	0.3nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**7.18**	**82**	Pn	**Pn**	**14 16 20.1**	**+1.2**
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**14 17 37.5**	**-3.0**
	0.3nm,0.4s,SNR=7.9						

*BJI **03** 14:18:25.5, 18°.64N×145°.96E, h256km, mB4.7/24, mb4.5/35*

*MOS **03** 14:18:29.6±0.9, 19°.01N×145°.27E, h252km, mb4.9/46, Error ellipse: s-maj=8.7km s-min=5.6km az=97.1*

*ISCJB **03** 14:18:29.4±0.8, 18°.98N±0°.03×145°.43E±0°.03, h244km±7km, mb4.7/193, Error ellipse: s-maj=4.1km s-min=4.0km az=165.2*

*NEIC **03** 14:18:29.3±0.1, 18°.98N×145°.40E, mb4.8/107, Error ellipse: s-maj=4.2km s-min=3.6km az=123.0*

*IDC **03** 14:18:29.5±0.4, 19°.01N×145°.38E, h239km±3km, mb4.4/46, mb1 4.5/48, mb1mx4.5/48, mbtmp4.4/48, Error ellipse: s-maj=8.1km s-min=5.0km az=86.0*

*DJA **03** 14:18:29.9±1.2, 19°N±8°×14°6E±1°.1, h246km±10km, M5.2/19, mB5.2/6, mb5.1/19, MLv5.7/1, Mw(mB)4.6/6*

*GCMT **03** 14:18:30.8±0.2, 19°.00N×145°.54E, h230km±1km, MW5.2, Moment Tensor Solution. s55,c75; s88,c145; Moment tensor: Scale 10^{16}Nm; M_{rr}2.48±.17; $M_{\theta\theta}$1.98±.18; $M_{\phi\phi}$-4.46±.18; $M_{r\theta}$-3.46±.17; $M_{\theta\phi}$5.12±.17; $M_{\phi r}$-2.80±.17; Best double couple: $M_0$7.80000×10^{16} NP1:ϕ_s190.00000°, δ69.00000°, λ148.00000°. NP2:ϕ_s293.00000°, δ60.00000°, λ25.00000°. Principal axes: T 8.1900, Plg38.0000°, Azm149.0000°; N -0.8300, Plg52.0000°, Azm340.0000°; P -7.3600, Plg5.0000°, Azm243.0000°; Data Used: II IU IC G CN.*

*BKK **03** 14:18:31.0±1.3, 19°N±9°×14°6E±1°.2, h249km±10km, M5.1/20, mB5.1/6, mb5.0/20, MLv5.6/1, Mw(mB)4.5/6*

ISC 03 14:18:30.7±0.3, 19°.02N±0°.03×145°.50E±0°.04, h250km±2km, h249km:pP-P, n658, σ1§34/762, mb4.8/201, 147C-138D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.43**	**187**	*e*P	**Pn**	**14 19 51.2**	**-0.7**
	628nm,0.9s						
JOW	**Kunigami**	**17.66**	**299**	*e*P	**Pn**	**14 22 21.2**	**-1.2**
	57nm,0.5s						
MJAR	**Matsushiro Arr**	**18.60**	**341**	P	**P**	**14 22 28.7**	**-1.1**
MJAR				S	**S**	**14 25 47.3**	**-1.1**
MJAR				ScP	**ScP**	**14 29 56.0**	**-2.8**
MJAR	**Matsushiro Arr**	**18.60**	**341**	P	**P**	**14 22 28.7**	**-1.1**
	11nm,0.3s,baz=174,slow=11,SNR=168						
MJAR				S	**S**	**14 25 47.3**	**-1.1**
	1.6nm,0.3s,baz=160,slow=14,SNR=6.6						
MJAR				ScP	**ScP**	**14 29 56.0**	**-2.8**
	0.2nm,0.3s,baz=173,slow=2.9,SNR=6.6						
MAJO	**Matsushiro**	**18.60**	**341**	*d iP*	**P**	**14 22 29.7**	**-0.1**
MAJO	**Matsushiro**	**18.60**	**341**	*e*P	**P**	**14 22 29.5**	**-0.3**
	182nm,0.6s						
MAT	**Matsushiro**	**18.60**	**341**	P	**P**	**14 22 28.7**	**-1.1**
MAT				S	**S**	**14 25 47.4**	**-1.0**
JNU	**Nakatsue**	**19.20**	**320**	*e*P	**P**	**14 22 35.6**	**-0.6**
	33nm,1.0s						
JNU	**Nakatsue**	**19.20**	**320**	P	**P**	**14 22 35.9**	**-0.4**
	0.7nm,0.3s,baz=92,slow=6.6,SNR=12						
JAY	**Jayapura**	**21.91**	**193**	P	**P**	**14 23 03.4**	**-0.7**
MATI	**Mati**	**22.23**	**240**	*e*P	**P**	**14 23 07.4**	**+0.3**
SRPI	**Serui, Papua**	**22.67**	**205**	P	**P**	**14 23 12.2**	**+1.2**
BUKP	**Musuan**	**22.73**	**244**	*e*P	**P**	**14 23 12.1**	**+0.5**
NACB	**Ninganchiao**	**22.80**	**287**	*e*P	**P**	**14 23 11.9**	**-0.3**
	41nm,0.8s						
YULB	**Yu-li**	**22.97**	**285**	*e*P	**P**	**14 23 13.2**	**-0.6**
	27nm,0.6s						
ERM	**Erimo**	**23.01**	**356**	*e*P	**P**	**14 23 15.1**	**+1.3**
ERM				pmax	pmax		
	comp=Z,14nm,1.2s						
ERM	**Erimo**	**23.01**	**356**	*e*P	**P**	**14 23 15.9**	**+2.0**
	comp=Z,71nm,0.9s						
YHNB	**Yeheng**	**23.08**	**288**	*e*P	**P**	**14 23 14.8**	**0.0**
	comp=Z,79nm,0.7s						
SSLB	**Suanglung**	**23.33**	**286**	*e*P	**P**	**14 23 17.2**	**+0.2**
	comp=Z,90nm,0.7s						
SSLB				*e*pP	**pP**	**14 24 00.2**	**-0.9**
TPUB	**Ta-pu**	**23.57**	**285**	*e*P	**P**	**14 23 18.6**	**-0.6**
	comp=Z,27nm,0.8s						
WAMI	**Wamena**	**23.72**	**197**	P	**P**	**14 23 22.6**	**+2.1**
	comp=Z,277nm,0.9s						
CTBH	**Cotabato--PC H**	**23.76**	**243**	‖ *iP*	**P**	**14 23 21.2**	**+0.3**
KSRS	**Korea Array**	**23.95**	**324**	P	**P**	**14 23 21.7**	**-0.7**
	comp=Z,20nm,0.8s,baz=149,slow=9.1,SNR=49						
KSRS				pP	**pP**	**14 24 06.5**	**-1.2**
	comp=Z,31nm,0.7s,baz=146,slow=8.8,SNR=4.0						
KSRS				ScP	**ScP**	**14 30 10.3**	**-1.7**
	comp=Z,4.8nm,0.9s,baz=132,slow=2.9,SNR=13						
KSAR	**Wonju Array Be**	**23.97**	**324**	P	**P**	**14 23 21.7**	**-0.9**
KSAR				pP	**pP**	**14 24 06.5**	**-1.3**
KSAR				ScP	**ScP**	**14 30 10.3**	**-1.8**
TGY	**Tagaytay City**	**24.04**	**262**	P	**P**	**14 23 24.5**	**+1.0**
TGY	**Tagaytay City**	**24.04**	**262**	P	**P**	**14 23 24.5**	**+1.0**
	comp=Z,319nm,0.4s,baz=126,slow=18,SNR=3.7						
PAGZ	**Pagadian**	**24.18**	**246**	*e*P	**P**	**14 23 25.7**	**+0.9**
SWI	**Sorong**	**24.21**	**217**	P	**P**	**14 23 25.7**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**24.95**	**1***c iP*	**P**	**P**	**14 23 35.5**	**+4.2**
YUK			*i* S	**S**	**S**	**14 27 38.1**	**+2.2**
SSE	**Sheshan**	**25.04**	**303**	P	**P**	**14 23 28.7**	**-3.6**
SSE				S	**S**	**14 27 35.5**	**-2.2**
SSE				pmax	pmax		
	comp=Z,21nm,0.7s						
SSE				pmax	pmax		
	comp=Z,66nm,3.1s						
SSE				LR	LR		
	comp=N,300nm,22.0s						
SSE				LR	LR		
	comp=E,270nm,22.0s						
SSE				LR	LR		
	comp=Z,260nm,19.5s						
ASAJ	**Asahikawa**	**25.14**	**355**	*e*P	**P**	**14 23 34.5**	**+1.4**
ASAJ				ScP	**ScP**	**14 30 13.2**	**-2.1**
ASAJ	**Asahikawa**	**25.14**	**355**	P	**P**	**14 23 34.2**	**+1.0**
	comp=Z,14nm,0.6s,baz=218,slow=12,SNR=34						
ASAJ				ScP	**ScP**	**14 30 13.2**	**-2.1**
	comp=Z,10.0nm,0.8s,baz=245,slow=9.4,SNR=4.4						
FAKI	**Fak Fak**	**25.40**	**212**	P	**P**	**14 23 35.5**	**-0.3**
VLA	**Vladivostok**	**26.64**	**337**	*e*P	**P**	**14 23 49.0**	**+2.5**
VLA				pmax	pmax		
	comp=Z,26nm,1.0s						
NJ2

HNR Honiara 31.65 152 P **P** **14 24 30.9 -0.1**
comp=Z,93nm,0.7s,baz=304,slow=1.4,SNR=7.6
SKSI Soroako, Sulaw 31.99 231 P **P** **14 24 35.5 +1.4**
comp=Z,54nm,0.9s,comp=Z,553nm
KLR Kul'dur 32.11 343 *e*P P 14 24 30.8 -3.9
BJI Beijing 32.78 316 P **P** **14 24 42.4 +1.9**
BJI pP **pP** **14 25 33.8 +3.5**
BJI sP **sP** **14 25 59.4 +0.2**
BJI S S 14 29 46.8 +8.2
BJI SS **SS** **14 32 02.5 -5.1**
BJI pmax pmax
comp=Z,15nm,0.5s
BJI pmax pmax
comp=Z,120nm,4.5s
COEN Coen 32.85 184 *e*P **P** **14 24 41.0 -0.4**
comp=Z,216nm,0.7s
TTSI Tana Toraja 33.45 232 P **P** **14 24 47.9 +1.2**
QIZ Qiongzhong 33.68 276 P **P** **14 24 47.7 -0.9**
QIZ pP **pP** **14 25 38.8 +0.2**
QIZ sP **sP** **14 26 08.2 +0.8**
QIZ S **S** **14 29 51.2 -1.8**
QIZ pmax pmax
comp=Z,13nm,1.2s
SPSI Sidrap Palu 34.11 231 P **P** **14 24 52.6 +0.3**
comp=Z,45nm,0.8s,comp=Z,720nm
KAPI Kappang 34.84 229 P **P** **14 24 57.7 -0.8**
KAPI Kappang 34.84 229 P **P** **14 24 57.7 -0.8**
comp=Z,14nm,0.6s,baz=83,slow=7.4,SNR=8.0
PEA0B Petropavlovsk- 35.32 13 *e*P **P** **14 25 03.6 +1.4**
PETK Petropavlovsk- 35.32 13 P **P** **14 25 03.3 +1.1**
PETK *PP **pP** **14 25 50.0 -2.5**
PETK Petropavlovsk- 35.32 13 P **P** **14 25 03.3 +1.1**
PETK pP **pP** **14 25 50.0 -2.5**
PETK ScP **ScP** **14 30 46.3 -2.1**
PETK Petropavlovsk- 35.32 13 P **P** **14 25 03.3 +1.1**
comp=Z,6.1nm,0.7s,baz=180,slow=7.4,SNR=17
PETK pP **pP** **14 25 50.0 -2.5**
comp=Z,8.1nm,0.8s,baz=185,slow=11,SNR=4.1
PETK ScP **ScP** **14 30 46.3 -2.1**
comp=Z,4.0nm,0.8s,baz=161,slow=9.2,SNR=5.0
BTM Bintulu 35.38 248 P **P** **14 25 04.4 +1.2**
PET Petropavlovsk 35.45 14 *e*P **P** **14 25 04.5 +1.3**
PET *e**PP **pP** **14 25 51.2 -2.4**
PET *e*S S **14 30 22.4 +3.2**
PET *e*SS **SS** **14 32 58.2 -6.9**
PET pmax pmax
comp=Z,18nm,0.8s
BATI Baumata 36.15 218 P **P** **14 25 08.5 -1.2**
BATI Baumata 36.15 218 P **P** **14 25 08.5 -1.2**
comp=Z,24nm,0.6s,baz=138,slow=0.9,SNR=6.2
HHC Hu-ho-hao-te 36.25 314 *e*P **P** **14 25 12.0 +1.6**
HHC pP **pP** **14 26 04.1 +3.2**
HHC sP **sP** **14 26 33.2 +3.6**
HHC PcP **PcP** **14 27 32.2 +2.5**
HHC S **S** **14 30 32.4 +0.4**
HHC ScP **ScP** **14 30 52.1 -0.1**
HHC PcS **PcS** **14 31 18.2 +0.4**
HHC sS **sS** **14 32 03.9 +1.6**
HHC SS **SS** **14 33 15.6 -6.1**
HHC ScS **ScS** **14 34 57.5 -1.5**
HHC pmax pmax
comp=Z,42nm,0.6s
HHC pmax pmax
comp=Z,260nm,5.9s
HHC LR LR
comp=N,400nm,13.0s
HHC LR LR
comp=E,380nm,13.9s
HHC LR LR
comp=Z,380nm,14.3s
GYA Guiyang 36.47 289⇑ *i*P **P** **14 25 13.2 +0.7**
GYA pP **pP** **14 26 05.4 +2.3**
GYA sP **sP** **14 26 35.0 +3.3**
GYA S **S** **14 30 35.8 +0.1**
GYA ScP **ScP** **14 30 52.4 -1.0**
GYA PcS **PcS** **14 31 19.0 -0.2**
GYA ScS **ScS** **14 34 57.8 -2.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SBUM Sibu 36.49 247 P **P** **14 25 13.3 +0.7**
SBUM Sibu 36.49 247 P **P** **14 25 13.7 +1.1**
comp=Z,73nm,0.8s,comp=Z,801nm
STKI Sintang 38.33 244 P **P** **14 25 28.4 +0.4**
KSM Kuching 38.63 247 *e*P **P** **14 25 29.7 -0.9**
comp=Z,18nm,0.6s
KSM Kuching 38.63 247 P **P** **14 25 30.6 0.0**
KSM Kuching 38.63 247 P **P** **14 25 30.5 0.0**
comp=Z,30nm,0.7s
PANO Nakornpanom 38.86 274 P **P** **14 25 33.9 +1.6**
comp=Z,56nm,1.3s
CTA Charters Tower 38.87 179 P **P** **14 25 31.6 -0.7**
CTA Charters Tower 38.87 179 P **P** **14 25 31.6 -0.7**
comp=Z,21nm,0.7s,baz=359,slow=7.9,SNR=19
CTAO Charters Tower 38.87 179 *e*P **P** **14 25 31.7 -0.6**
CTAO pmax pmax
comp=Z,27nm,0.8s
CTAO Charters Tower 38.87 179 *e*P **P** **14 25 31.7 -0.6**
comp=Z,27nm,0.8s
CD2 Chengdu 39.44 296 *e*P **P** **14 25 37.2 +0.1**
CD2 pP **pP** **14 26 28.8 +0.4**
CD2 sP **sP** **14 26 56.2 -0.6**
CD2 PP **PnPn** **14 27 16.8 -2.2**
CD2 PcP **PcP** **14 27 41.2 +1.4**
CD2 S **S** **14 31 20.2 +0.1**
CD2 ScS **ScS** **14 35 16.2 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,120nm,4.2s
KMI Kunming 39.97 287 P **P** **14 25 43.1 +1.4**
KMI pP **pP** **14 26 30.1 -3.0**
KMI S **S** **14 31 28.5 +0.1**
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI pmax pmax
comp=Z,65nm,4.4s
KMI LR LR
comp=N,430nm,18.1s
KMI LR LR
comp=E,210nm,20.3s
KMI LR LR
comp=Z,140nm,25.4s
FX1 Attu Island--F 40.05 26 *e*P **P** **14 25 43.6 +2.0**
FX1 Attu Island--F 40.05 26 P **P** **14 25 42.4 +0.7**
comp=Z,24nm,0.7s,baz=126,slow=2.7,SNR=11
WRAB Tennant Creek 40.22 196 *e*P **P** **14 25 43.8 +0.3**
WRAB pmax pmax
comp=Z,121nm,0.8s
WRAB Tennant Creek 40.22 196 *e*P **P** **14 25 43.8 +0.3**
comp=Z,121nm,0.8s
WRA Warramunga Arr 40.24 196 P **P** **14 25 43.5 -0.1**
WRA ScP **ScP** **14 31 06.7 -0.8**
WRA S **S** **14 31 31.6 -0.2**
WRA Warramunga Arr 40.24 196 P **P** **14 25 43.5 -0.1**
comp=Z,74nm,0.7s,baz=16,slow=8.8,SNR=156
WRA ScP **ScP** **14 31 06.7 -0.8**
comp=Z,3.4nm,1.0s,baz=12,slow=4.6,SNR=4.7
WRA S **S** **14 31 31.6 -0.2**
comp=Z,6.4nm,1.1s,baz=16,slow=16,SNR=5.7
LZH Lanzhou 40.32 304 *e*P **P** **14 25 43.2 -1.1**
LZH pmax pmax
comp=Z,15nm,1.0s
CHAI Chaiyaphum 41.55 273 P **P** **14 25 55.1 +0.7**
comp=Z,15nm,0.8s,comp=Z,112nm
FITZ Fitzroy Crossi 41.73 209 P **P** **14 25 56.1 +0.4**
FITZ S **S** **14 31 54.3 +0.5**
FITZ Fitzroy Crossi 41.73 209 P **P** **14 25 56.1 +0.4**
comp=Z,81nm,0.8s,baz=32,slow=9.1,SNR=142
FITZ S **S** **14 31 54.3 +0.5**
comp=Z,9.6nm,1.2s,baz=221,slow=20,SNR=3.4
PBKT Sadao Pong 42.39 274 P **P** **14 26 02.3 +1.1**
comp=Z,31nm,0.8s,comp=Z,888nm
PBKT Sadao Pong 42.39 274 P **P** **14 26 02.3 +1.1**
comp=Z,31nm,0.8s,comp=Z,888nm
ULN Ulaanbaatar 42.41 322 *e*P **P** **14 26 00.3 -0.8**
comp=Z,34nm,1.4s
ULN Ulaanbaatar 42.41 322 P **P** **14 26 00.5 -0.6**
comp=Z,8.3nm,1.0s,comp=Z,262nm
SONM Songino Array 42.78 321 P **P** **14 26 03.6 -0.5**
SONM pP **pP** **14 26 53.0 -3.1**
SONM ScP **ScP** **14 31 16.1 -1.4**
SONM Songino Array 42.78 321 P **P** **14 26 03.6 -0.5**
comp=Z,2.9nm,0.4s,baz=137,slow=10.0,SNR=28
SONM pP **pP** **14 26 53.0 -3.1**
comp=Z,6.4nm,0.6s,baz=129,slow=7.1,SNR=2.8
SONM ScP **ScP** **14 31 16.1 -1.4**
comp=Z,4.1nm,1.0s,baz=125,slow=4.1,SNR=7.8
CMAI Chiengmai2 43.70 279 P **P** **14 26 13.0 +1.2**
comp=Z,24nm,0.5s
AS31 Alice Springs 43.91 195 *e*P **P** **14 26 13.0 -0.1**
ASAR Alice Springs 43.91 195 P **P** **14 26 13.3 +0.2**
ASAR ScP **ScP** **14 31 21.9 -0.3**
ASAR S **S** **14 32 24.9 -0.6**
ASAR Alice Springs 43.91 195 P **P** **14 26 13.3 +0.2**
comp=Z,38nm,0.6s,baz=18,slow=8.0,SNR=668
ASAR ScP **ScP** **14 31 21.9 -0.3**
comp=Z,1.8nm,1.0s,baz=12,slow=4.7,SNR=4.6
ASAR S **S** **14 32 24.9 -0.6**
comp=Z,2.7nm,0.8s,baz=22,slow=18,SNR=6.8
CMMT Chiang Mai 43.94 278 P **P** **14 26 14.7 +1.1**
comp=Z,9.8nm,1.0s
CMMT Chiang Mai 43.94 278 P **P** **14 26 14.7 +1.1**
comp=Z,9.8nm,1.0s
CHTO Chiang Mai 43.94 278 *e*P **P** **14 26 12.4 -1.2**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CHTO Chiang Mai 43.94 278 *e*P **P** **14 26 12.4 -1.2**
comp=Z,6.7nm,1.0s
CHTO Chiang Mai 43.94 278 P **P** **14 26 15.0 +1.4**
comp=Z,11nm,1.0s
CHTO Chiang Mai 43.94 278 P **P** **14 26 15.0 +1.4**
comp=Z,11nm,1.0s
CM31 Chiang Mai Arr 43.99 277 *e*P **P** **14 26 15.1 +1.1**
comp=Z,10nm,0.6s
CMAR Chiang Mai Arr 43.99 277 P **P** **14 26 14.2 +0.2**
CMAR Chiang Mai Arr 43.99 277 P **P** **14 26 14.2 +0.2**
comp=Z,16nm,0.9s,baz=68,slow=6.7,SNR=62
ADK Adak 44.16 33 *e*P **P** **14 26 16.2 +1.5**
ADK pmax pmax
comp=Z,304nm,1.3s
ADK Adak 44.16 33 *e*P **P** **14 26 16.2 +1.5**
comp=Z,304nm,1.3s
GTA Gaotai 44.21 307 *e*P **P** **14 26 16.2 +0.6**
GTA pP **pP** **14 27 10.4 +2.5**
GTA sP **sP** **14 27 38.1 +2.0**
GTA ScP **ScP** **14 31 22.6 -0.9**
MYKOM Kota Tinggi 44.22 252 P **P** **14 26 17.8 +2.0**
comp=Z,65nm,0.9s
YAK Yakutsk 44.38 349 *e*P **P** **14 26 15.7 -0.6**
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
NOUC Port Laguerre 45.65 153 *e*P **P** **14 26 26.2 -0.6**
DZM Mont Dzumac 45.68 152 *e*P **P** **14 26 27.7 +0.5**
comp=E,330nm,1.1s
DZM Mont Dzumac 45.68 152 *e*P **P** **14 26 27.0 -0.1**
KULM Kulim 45.77 259 *e*P **P** **14 26 29.4 +1.4**
comp=E,22nm,0.7s
KULM Kulim 45.77 259 P **P** **14 26 29.9 +1.9**
comp=E,52nm,2.8s
ZAK Zakamensk 45.78 323 *e*P **P** **14 26 26.9 -0.8**
MBWA Marble Bar 47.23 214 *e*P **P** **14 26 38.8 -0.3**
comp=E,24nm,0.8s
PSI Prapat 48.30 256 P **P** **14 26 47.7 +0.1**
PSI Prapat 48.30 256 P **P** **14 26 47.7 +0.1**
comp=E,10nm,0.8s,baz=102,slow=3.5,SNR=7.2
MSVF Nonsavu 48.55 137 *e*P **P** **14 26 51.0 +1.7**
MSVF pmax pmax
comp=Z,113nm,1.1s
MSVF Nonsavu 48.55 137 *e*P **P** **14 26 51.0 +1.7**
comp=Z,113nm,1.1s
ARMA Armidale 49.50 173 *e*P **P** **14 26 55.9 -0.5**
comp=Z,32nm,1.0s
SHL Shillong 49.77 288 *e*P **P** **14 26 59.0 +0.3**
LSA Lhasa 50.25 293 *e*P **P** **14 27 03.5 +0.9**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 50.25 293 *e*P **P** **14 27 03.5 +0.9**
comp=Z,13nm,0.6s
UNV Unalaska Valle 50.50 35 *e*P **P** **14 27 04.0 +0.5**
comp=Z,22nm,0.7s
STKA Stephens Creek 50.74 184 *e*P **P** **14 27 04.7 -0.8**
STKA Stephens Creek 50.74 184 P **P** **14 27 04.5 -0.9**
comp=Z,32nm,0.8s,baz=349,slow=7.9,SNR=45
AKUT Akutan 51.01 35 *e*P **P** **14 27 07.7 +0.5**
HVS Khovu-Aksy 51.67 321 *e*P **P** **14 27 14.7 +2.4**
HVS pmax pmax
comp=Z,17nm,1.0s
FORT Forrest 52.27 199 *e*P **P** **14 27 16.9 +0.1**
comp=Z,197nm,1.2s
AFI Afiamalu 53.30 125 P **P** **14 27 25.6 +1.0**
AFI Afiamalu 53.30 125 P **P** **14 27 25.6 +1.0**
comp=Z,31nm,0.9s,baz=93,slow=19,SNR=3.4
TAPN Taplejung 53.38 290 *e*P **P** **14 27 26.0 +0.5**
comp=Z,20nm,0.5s
TIXI Tiksi 53.53 354 *e*P **P** **14 27 25.2 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI MLR MLR
comp=Z,32nm,18.0s
ODAN Odare 53.70 290 *e*P **P** **14 27 28.2 +0.5**
comp=Z,23nm,0.5s
WMQ Urumqi 53.96 311 P **P** **14 27 31.0 +1.9**
WMQ pP **pP** **14 28 25.0 +1.3**
WMQ PcP **PcP** **14 28 33.0 +2.0**
WMQ PP **PP** **14 29 37.2 +4.0**
WMQ S **S** **14 34 45.1 0.0**
WMQ SS **SS** **14 38 30.9 +0.9**
WMQ pmax pmax
comp=Z,9.0nm,1.2s
WMQ pmax pmax
comp=Z,100nm,4.0s
WMQ LR LR
comp=N,150nm,12.0s
WMQ LR LR
comp=Z,96nm,20.0s
RAMN Ramite 54.40 290 *e*P **P** **14 27 33.2 +0.5**
comp=Z,16nm,0.6s
JIRN Jiri 54.70 291 *e*P **P** **14 27 35.7 +0.6**
comp=Z,42nm,0.6s
GUN Gumba 54.96 291 *e*P **P** **14 27 37.2 +0.3**
comp=Z,23nm,0.5s
PKI Pulchoki 55.40 291 *e*P **P** **14 27 39.8 -0.2**
comp=Z,22nm,0.6s
PKIN Phulchoki 55.41 291 *e*P **P** **14 27 40.0 0.0**
comp=Z,8.8nm,0.5s
KKN Kakani 55.49 291 *e*P **P** **14 27 40.2 -0.3**
comp=Z,30nm,0.9s
DMN Daman 55.66 291 *e*P **P** **14 27 42.6 +0.8**
comp=Z,14nm,0.5s
DANN Dangsing 56.78 292 *e*P **P** **14 27 50.0 +0.3**
comp=Z,108nm,0.7s
KOLN Koldanda 56.98 291 *e*P **P** **14 27 51.3 +0.3**
ZAA0 Zalesovo Array 57.65 322 *e*P **P** **14 27 52.4 -2.5**
ZALV Zalesovo Beam 57.65 322 *i* P **P** **14 27 53.9 -1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 57.65 322 P **P** **14 27 53.9 -1.0**
ZALV pP **PcP** **14 28 45.8 +0.8**
ZALV ScP **ScP** **14 32 20.6 -0.2**
ZALV Zalesovo Beam 57.65 322 P **P** **14 27 53.9 -1.0**
comp=Z,3.3nm,0.5s,baz=103,slow=6.9,SNR=19
ZALV pP **PcP** **14 28 45.8 +0.8**
comp=Z,21nm,0.8s,baz=106,slow=7.3,SNR=8.0
ZALV ScP **ScP** **14 32 20.6 -0.2**
comp=Z,0.7nm,0.4s,baz=70,slow=4.7,SNR=2.7
MK31 Makanchi Array 58.11 314 *i* P **P** **14 27 57.8 -0.5**
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 58.11 314 *e*P **P** **14 27 57.7 -0.7**
MKAR Makanchi Array 58.11 314 P **P** **14 27 58.0 -0.3**
MKAR *PP **pP** **14 28 50.6 -3.1**
MKAR Makanchi Array 58.11 314 P **P** **14 27 58.0 -0.3**
MKAR pP **pP** **14 28 50.6 -3.1**
MKAR Makanchi Array 58.11 314 P **P** **14 27 58.0 -0.3**
comp=Z,4.6nm,0.6s,baz=89,slow=9.1,SNR=50
MKAR pP **pP** **14 28 50.6 -3.1**
comp=Z,16nm,0.8s,baz=90,slow=9.1,SNR=9.4
NWAO Narrogin (SRO) 58.29 208 P **P** **14 27 59.2 -0.4**
NWAO Narrogin (SRO) 58.29 208 P **P** **14 27 59.2 -0.4**
comp=Z,11nm,0.7s,baz=50,slow=7.4,SNR=12
RSO Redoubt South 59.78 30 *e*P **P** **14 28 10.5 +0.8**
comp=Z,36nm,0.9s
KURK Kurchatov 60.91 318 P **P** **14 28 16.8 -0.4**
KURK *PP **pP** **14 29 09.7 -3.5**
KURK Kurchatov 60.91 318 P **P** **14 28 16.8 -0.4**
KURK pP **pP** **14 29 09.7 -3.5**
KURBB Kurchatov Arra 60.96 318 P **P** **14 28 16.8 -0.8**
comp=Z,9.1nm,0.4s,baz=96,slow=7.2,SNR=99
KURBB pP **pP** **14 29 09.7 -3.9**
comp=Z,26nm,0.6s,baz=92,slow=7.6,SNR=8.4
TRF Thorofare Moun 61.69 27 *e*P **P** **14 28 22.1 -0.3**
comp=Z,12nm,0.6s
PMR Palmer 61.77 30 *e*P **P** **14 28 22.3 -0.4**
PMR pmax pmax
comp=Z,8.0nm,0.7s
PMR Palmer 61.77 30 *e*P **P** **14 28 22.3 -0.4**
comp=Z,8.4nm,0.7s
SML Sawmill 62.19 29 *e*P **P** **14 28 26.6 +0.9**
SML pmax pmax
comp=Z,11nm,1.1s
SML Sawmill 62.19 29 *e*P **P** **14 28 26.6 +0.9**
comp=Z,11nm,1.1s
MCK McKinley 62.34 27 *e*P **P** **14 28 27.2 +0.6**
MCK pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 62.34 27 *e*P **P** **14 28 27.2 +0.6**
comp=Z,9.5nm,1.1s
KSH Kashi 62.53 305 *e*P **P** **14 28 31.2 +2.7**
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,24nm,3.3s
COLD Coldfoot 62.74 23 *e*P **P** **14 28 30.1 +1.0**
comp=Z,11nm,0.9s
ILAR Eielson Array 63.44 26 P **P** **14 28 33.6 -0.1**
ILAR pP **pP** **14 29 27.6 -2.6**
ILAR Eielson Array 63.44 26 P **P** **14 28 33.7 -0.1**
comp=Z,5.3nm,0.7s,baz=259,slow=5.2,SNR=49
ILAR pP **pP** **14 29 27.6 -2.6**
comp=Z,7.1nm,1.0s,baz=257,slow=5.3,SNR=3.3
AAK Ala-Archa 63.53 309 *ce*P **P** **14 28 35.4 +0.4**
AAK pmax pmax
comp=Z,18nm,1.9s
AAK Ala-Archa 63.53 309 P **P** **14 28 34.5 -0.5**
AAK Ala-Archa 63.53 309 P **P** **14 28 34.5 -0.5**
comp=Z,2.3nm,0.4s,baz=180,slow=6.1,SNR=3.1
PAX Paxson 63.72 28 *e*P **P** **14 28 35.9 +0.2**
PAX pmax pmax
comp=Z,8.0nm,0.7s
PAX Paxson 63.72 28 *e*P **P** **14 28 35.9 +0.2**
comp=Z,7.7nm,0.7s
URZ Urewera 64.24 153 *e*P **P** **14 28 37.9 -1.4**
comp=Z,15nm,0.7s
URZ Urewera 64.24 153 P **P** **14 28 38.6 -0.7**
comp=Z,16nm,0.7s,baz=18,slow=3.5,SNR=15
VOSK Vostochnaya 65.75 320 P **P** **14 28 46.8 -2.1**
VOSK pmax pmax
comp=Z,4.0nm,0.8s
EGAK Eagle 65.86 27 *e*P **P** **14 28 50.2 +0.8**
comp=Z,6.5nm,0.9s
BVA0 Borovoye Array 66.11 320 *i* P **P** **14 28 50.4 -0.8**
BVA0 pmax pmax
comp=Z,24nm,0.8s
BVAR Borovoye Array 66.11 320 P **P** **14 28 50.6 -0.6**
BVAR *PP **pP** **14 29 44.6 -3.5**
BVAR Borovoye Array 66.11 320 P **P** **14 28 50.6 -0.6**
BVAR pP **pP** **14 29 44.6 -3.5**
BVAR Borovoye Array 66.11 320 P **P** **14 28 50.6 -0.6**
comp=Z,10.0nm,0.4s,baz=94,slow=7.9,SNR=67
BVAR pP **pP** **14 29 44.6 -3.5**
comp=Z,17nm,0.5s,baz=93,slow=9.6,SNR=1.7
BRVK Borovoye 66.18 320 *e*P **P** **14 28 51.2 -0.4**
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 66.18 320 *e*P **P** **14 28 51.1 -0.4**
comp=Z,59nm,1.1s
PNL Peninsula 66.26 32 *e*P **P** **14 28 53.8 +1.7**
comp=Z,5.6nm,0.8s
KHZ Kahutara 66.38 158 *e*P **P** **14 28 50.7 -2.2**
comp=Z,18nm,0.6s
KK31 Karatay Array 66.42 309 *i* P **P** **14 28 53.3 -0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 66.42 309 *e*P **P** **14 28 52.3 -1.1**
KKAR *e**PP **pP** **14 29 46.8 -3.5**
KKAR pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 66.42 309 *e*P **P** **14 28 52.3 -1.1**
comp=Z,13nm,0.6s
KKAR *e*pP **pP** **14 29 46.8 -3.5**
DAWY Dawson 66.56 28 *e*P **P** **14 28 55.0 +1.1**
RPZ Rata Peaks 66.68 160 *e*P **P** **14 28 53.1 -1.7**
comp=Z,85nm,1.2s
RPZ Rata Peaks 66.68 160 P **P** **14 28 53.6 -1.2**
comp=Z,30nm,0.7s,baz=140,slow=4.0,SNR=9.7
RAR Rarotonga 66.84 124 P **P** **14 28 57.3 +1.1**
RAR Rarotonga 66.84 124 P **P** **14 28 57.3 +1.1**
comp=Z,53nm,0.9s,baz=270,slow=4.5,SNR=4.6
HYT Haines Junctio 67.25 31 *e*P **P** **14 29 00.1 +1.7**
SKAG Skagway 68.33 33 *e*P **P** **14 29 06.9 +2.0**
comp=Z,8.8nm,0.9s
KBL Kabul 68.55 300 *e*P **P** **14 29 07.2 +0.1**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 68.55 300 *e*P **P** **14 29 07.2 +0.1**
comp=Z,8.0nm,0.9s
DLBC Dease Lake 71.13 34 *e*P **P** **14 29 23.6 +1.5**
ARU Arti 72.70 324 *d i*P **P** **14 29 31.1 -0.2**
ARU *SP **sP** **14 30 55.0 -1.1**
ARU 14 32 14.8
ARU S **S** **14 38 37.6 +1.9**
ARU SS **SS** **14 43 19.4 -0.9**
ARU pmax pmax
comp=Z,4.0nm,0.6s
AB31 Akbulak array 72.98 317 P **P** **14 29 31.6 -1.5**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 72.98 317 *e*P **P** **14 29 31.8 -1.3**
comp=Z,5.7nm,0.4s
PPT Papeete 73.42 116 P **P** **14 29 37.4 +1.2**
PPT Papeete 73.42 116 P **P** **14 29 37.4 +1.2**
comp=Z,70nm,0.9s,baz=277,slow=8.5,SNR=5.3
PPT2 Papeete2 73.43 116 *e*P **P** **14 29 37.3 +1.0**
comp=Z,112nm,1.3s
PPT2 Papeete2 73.43 116 *e*LR LR 14 52 37.6
comp=Z,98nm,23.8s
PPT2 Papeete2 73.43 116 *e*LR LR 14 30 11.0
comp=Z,249nm,26.2s
TIAR Tiarei 73.61 116 *e*P **P** **14 29 38.0 +0.7**
comp=Z,94nm,1.1s
PMOR Pomariorio Ree 73.75 113 *e*P **P** **14 29 39.8 +1.7**
comp=Z,178nm,1.1s
TVO Taravao 73.79 116 *e*P **P** **14 29 39.6 +1.2**
comp=Z,84nm,0.9s
AKTO Aktyubinsk 74.01 318 P **P** **14 29 37.1 -2.0**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
TBI Tubuai 76.15 121 *e*LR LR 14 30 17.2
comp=Z,184nm,24.8s
NLWA Neilton Lookou 76.67 44 *e*P **P** **14 29 55.9 +1.6**
comp=Z,45nm,1.2s
GNW Green Mountain 77.31 44 P **P** **14 29 59.7 +1.9**
YKW3 Yellowknife Ar 77.77 28 *e*P **P** **14 30 00.4 +0.3**
comp=Z,0.5nm,1.4s
YKW3 *e*PcP **PcP** **14 30 09.0 0.0**
YKW3 *e*pP **pP** **14 30 56.2 -2.6**
YKA Yellowknife Ar 77.80 28 P **P** **14 30 00.4 +0.2**
YKA pP **pP** **14 30 56.3 -2.7**
YKA Yellowknife Ar 77.80 28 P **P** **14 30 00.4 +0.2**
comp=Z,6.2nm,0.7s,baz=290,slow=5.6,SNR=28
YKA pP **pP** **14 30 56.3 -2.7**
comp=Z,7.9nm,0.7s,baz=289,slow=5.5,SNR=6.0
FL2 Flat Top 2 77.97 45 P **P** **14 30 03.9 +2.2**
TDL Tradedollar La 78.02 45 P **P** **14 30 03.8 +1.9**
LON Longmire 78.19 45 *e*P **P** **14 30 03.7 +0.9**
LON pmax pmax
comp=Z,9.0nm,0.9s
LON Longmire 78.19 45 *e*P **P** **14 30 03.7 +0.9**
comp=Z,9.4nm,0.9s
KHMM Horse Mountain 78.37 51 P **P** **14 30 06.1 +2.1**
comp=Z,35nm,1.2s
WPW White Pass 78.38 45 P **P** **14 30 05.3 +1.4**
HUMO Hull Mountain 78.48 49 *e*P **P** **14 30 05.1 +0.7**
comp=Z,32nm,1.2s
IRO Indian Ridge 78.61 47 P **P** **14 30 06.6 +1.3**
VLL Laurance Lake 78.62 46 P **P** **14 30 06.9 +1.7**
FRIS Frissel Point 78.66 47 P **P** **14 30 07.0 +1.5**
KCPM Cahto Peak 78.79 52 *e*P **P** **14 30 08.0 +1.7**
comp=Z,22nm,1.0s
SPITS Spitsbergen Ar 78.83 351 P **P** **14 30 05.5 -0.1**
SPITS Spitsbergen Ar 78.83 351 P **P** **14 30 05.5 -0.1**
comp=Z,3.3nm,0.7s,baz=105,slow=6.5,SNR=11
KIPM Iron Peak 78.84 52 *e*P **P** **14 30 08.0 +1.4**

comp=Z,39nm,1.3s
YBH Yreka Blue Hor 78.89 50 P P 14 30 08.1 +1.4
comp=Z,19nm,0.9s,baz=328,slow=2.3,SNR=52
KBS Kingsbay 78.95 352 *ce*P **P 14 30 06.5 +0.3**
KBS pmax pmax
comp=Z,14nm,1.1s
WDC Whiskeytown Da 79.32 51 *e*P **P 14 30 10.3 +1.3**
WDC pmax pmax
comp=Z,28nm,1.5s
WDC Whiskeytown Da 79.32 51 *e*P **P 14 30 10.3 +1.3**
comp=Z,28nm,1.5s
MDW Midway 79.58 44 P **P 14 30 11.9 +1.6**
MDW Midway 79.58 44 P **P 14 30 11.9 +1.6**
NEW Newport 80.80 42 *e*P **P 14 30 17.6 +0.8**
comp=Z,29nm,1.2s
NEW Newport 80.80 42 P **P 14 30 17.9 +1.1**
comp=Z,14nm,0.8s,baz=279,slow=4.7,SNR=19
NEW Newport 80.80 42 ⇑P **P 14 30 17.8 +1.1**
baz=81
BEKR Beckworth 81.13 51 *e*P **P 14 30 19.7 +0.9**
comp=Z,18nm,0.9s
SAO San Andreas Ge 81.22 54 *e*P **P 14 30 20.1 +0.9**
SAO pmax pmax
comp=Z,8.0nm,0.8s
SAO San Andreas Ge 81.22 54 *e*P **P 14 30 20.1 +0.9**
comp=Z,7.7nm,0.8s
EDM Edmonton 81.44 37 *e*P **P 14 30 17.5 -2.5**
EDM Edmonton 81.44 37 *e*P **P 14 30 17.5 -2.5**
A12A Yaak River Ran 81.51 41 ⇑P **P 14 30 22.2 +1.7**
baz=82
KEV Kevo 81.58 342 *e*P **P 14 30 19.7 -0.6**
WVOR Wild Horse Val 81.59 48 *e*P **P 14 30 22.1 +1.0**
WVOR pmax pmax
comp=Z,15nm,0.9s
WVOR Wild Horse Val 81.59 48 *e*P **P 14 30 22.1 +1.0**
comp=Z,15nm,0.9s
CMB Columbia Colle 81.65 53 *e*P **P 14 30 22.6 +1.2**
CMB pmax pmax
comp=Z,30nm,0.8s
CMB Columbia Colle 81.65 53 *e*P **P 14 30 22.6 +1.2**
comp=Z,30nm,0.8s
BMO Blue Mountains 81.75 45 *e*P **P 14 30 22.9 +1.0**
BMO pmax pmax
comp=Z,47nm,1.5s
BMO Blue Mountains 81.75 45 *e*P **P 14 30 22.9 +1.0**
comp=Z,47nm,1.5s
PAHR Pah Rah Range 81.89 51 *e*P **P 14 30 23.9 +1.1**
comp=Z,30nm,1.2s
ARCES ARCESS Array B 82.14 342 P **P 14 30 22.4 -0.9**
ARCES pP **pP 14 31 19.7 -3.0**
ARCES ARCESS Array B 82.14 342 P **P 14 30 22.4 -0.9**
comp=Z,3.4nm,0.6s,baz=85,slow=8.3,SNR=21
ARCES pP **pP 14 31 19.7 -3.0**
comp=Z,6.9nm,0.6s,baz=60,slow=7.5,SNR=5.5
A13A Flathead Natio 82.28 41 ⇓P **P 14 30 25.9 +1.3**
baz=82
BSMT Bassoo Peak 82.42 42 *e*P **P 14 30 26.5 +1.0**
comp=Z,21nm,1.1s
B13A Whitefish 82.44 41 ⇓P **P 14 30 26.4 +1.1**
baz=82,SNR=12
WALA Waterton Lakes 82.55 41 *e*P **P 14 30 27.3 +1.3**
comp=Z,0.6nm,1.3s
C13A Hot Springs 82.61 42 ⇓P **P 14 30 27.1 +0.8**
baz=83,SNR=12
JTMT Jette 82.77 42 *e*P **P 14 30 28.0 +0.8**
comp=Z,25nm,1.7s
SMMC Simmler 82.78 55 ⇑P **P 14 30 28.7 +1.4**
baz=83
A14A Double T Ranch 82.88 41 ⇓P **P 14 30 29.0 +1.3**
baz=83,SNR=9.4
MLAC Mammoth Lakes 82.94 53 ⇓P **P 14 30 29.6 +1.2**
baz=83
SWMT Swartz Lake 83.04 42 *e*P **P 14 30 28.8 +0.3**
comp=Z,5.1nm,0.9s
NVAR Mina Array Bea 83.09 52 P **P 14 30 30.1 +1.0**
NVAR pP **pP 14 31 26.1 -2.5**
NVAR Mina Array Bea 83.09 52 P **P 14 30 30.1 +1.0**
comp=Z,32nm,0.7s,baz=263,slow=6.1,SNR=246
NVAR pP **pP 14 31 26.1 -2.5**
comp=Z,10nm,0.9s,baz=266,slow=7.1,SNR=3.2
C14A Swan Lake 83.11 42 ⇓P **P 14 30 29.4 +0.6**
baz=83
B14A Marquette Ranc 83.19 41 ⇓P **P 14 30 30.4 +1.1**
baz=83,SNR=13
MFID Camas Ranch 83.23 47 *e*P **P 14 30 30.5 +0.9**
comp=Z,21nm,0.9s
MFID Camas Ranch 83.23 47 ⇓P **P 14 30 30.9 +1.3**
baz=83
SBC Santa Barbara 83.27 56 ⇓P **P 14 30 30.8 +1.0**
baz=83
A15A Johnson Ranch, 83.31 40 ⇑P **P 14 30 30.8 +1.0**
baz=83,SNR=19
VES Vestal, Richgr 83.32 55 ⇓P **P 14 30 30.8 +0.8**
baz=83
SLMT Seeley Lake 83.45 42 *e*P **P 14 30 31.2 +0.6**
comp=Z,21nm,1.2s
TIN Tinemaha 83.59 53 ⇓P **P 14 30 32.8 +1.3**
baz=84
B15A Bradely Ranch, 83.65 41 ⇓P **P 14 30 32.3 +0.7**
baz=84,SNR=18
CHMT Chamberlain Mo 83.72 43 *e*P **P 14 30 30.4 -1.8**
comp=Z,6.3nm,1.2s
ARVC Arvin 83.75 55 ⇓P **P 14 30 33.3 +1.1**
baz=84
C15A Salmond Ranch, 83.82 42 ⇑P **P 14 30 33.3 +0.8**
baz=84,SNR=10
ISA Isabella 83.85 55 *e*P **P 14 30 33.1 +0.3**
ISA pmax pmax
comp=Z,19nm,1.5s
ISA Isabella 83.85 55 *e*P **P 14 30 33.1 +0.3**
comp=Z,19nm,1.5s
ISA Isabella 83.85 55 ⇓P **P 14 30 33.2 +0.3**
baz=84
BLG Laguna Peak 83.89 56 ⇓P **P 14 30 33.8 +0.8**
baz=84
CWC Cottonwood Cre 83.90 54 ⇑P **P 14 30 33.9 +0.8**
baz=84
DAG Danmarks Havn 83.94 356 *i* P pP 14 31 29.2 -2.8
comp=Z,5.3nm,1.0s
A16A West Butte Ran 84.01 40 ⇑P **P 14 30 34.1 +0.7**
baz=84
HLID Hailey 84.14 46 *e*P **P 14 30 35.3 +1.0**
comp=Z,13nm,1.1s
HLID Hailey 84.14 46 ⇓P **P 14 30 35.5 +1.2**
baz=84
B16A M & M Farms, S 84.15 41 ⇓P **P 14 30 34.6 +0.6**
baz=84,SNR=10
GRAC Grapevine Rang 84.25 53 ⇓P **P 14 30 36.0 +1.2**
baz=84
C16A Fuhringer Ranc 84.35 41 ⇓P **P 14 30 35.8 +0.7**
baz=84,SNR=5.5
MPMC Manual Prospec 84.47 54 ⇑P **P 14 30 37.0 +0.9**
baz=84
LRMC Laurel Mountai 84.51 55 ⇓P **P 14 30 37.2 +1.0**
baz=84
A17A Triple J Farms 84.56 40 ⇑P **P 14 30 37.0 +0.9**
baz=84,SNR=13
CIS Catalina Islan 84.64 57 ⇑P **P 14 30 37.2 +0.5**
baz=85
LRM Limekiln Ridge 84.64 43 *e*P **P 14 30 37.2 +0.4**
comp=Z,247nm,1.0s
I14A Mackay 84.67 45 ⇑P **P 14 30 38.4 +1.5**
baz=85
HRY Holter Researc 84.71 42 *e*P **P 14 30 37.9 +1.0**
comp=Z,30nm,0.7s
DLMT Dillon 84.71 44 *e*P **P 14 30 37.3 +0.3**
comp=Z,35nm,1.4s
MCMT McKenzie Canyo 84.74 44 *e*P **P 14 30 37.9 +0.6**
comp=Z,6.1nm,1.1s
B17A L&G Farms, Che 84.75 41 ⇓P **P 14 30 37.9 +0.8**
baz=85,SNR=29
FURC Furnace Creek, 84.82 53 ⇑P **P 14 30 38.8 +1.3**
baz=85
C17A Wharram Farm, 85.03 41 ⇑P **P 14 30 39.2 +0.7**
baz=85
A18A Metzger Ranch, 85.09 40 ⇑P **P 14 30 39.5 +0.8**
baz=85,SNR=19
R11A Troy Canyon, C 85.13 51 ⇑P **P 14 30 40.2 +0.9**
baz=85
VSR Storozhevoye 85.16 323 *e*P **P 14 30 37.1 -1.8**
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=Z,9.0nm,0.4s
VSR pmax pmax
comp=E,20nm,2.2s
DUS Dusheti 85.16 313 P pP 14 31 36.3 -2.8

BOZ Bozeman (W) 85.24 43 *e*P **P 14 30 40.4 +0.8**
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 85.24 43 *e*P **P 14 30 40.4 +0.8**
comp=Z,4.9nm,0.6s
GSC Goldstone 85.25 54 *e*P **P 14 30 40.8 +1.0**
GSC pmax pmax
comp=Z,13nm,0.9s
GSC Goldstone 85.25 54 *e*P **P 14 30 40.8 +1.0**
comp=Z,13nm,0.9s
GSC Goldstone 85.25 54 ⇓P **P 14 30 40.6 +0.7**
baz=85
D17A Six Diamond Ra 85.26 42 ⇑P **P 14 30 40.5 +0.8**
baz=85,SNR=23
TBLG Delisi 85.27 312 P pP 14 31 34.7 -4.9
B18A Beardsley Farm 85.34 40 ⇑P **P 14 30 40.6 +0.6**
baz=85,SNR=10
E17A Martinsdale 85.42 42 ⇑P **P 14 30 41.3 +0.8**
baz=85,SNR=14
SHOC Shoshone 85.45 54 ⇑P **P 14 30 41.7 +1.0**
baz=85
EGMT Eagleton 85.50 41 ⇓P **P 14 30 41.4 +0.6**
baz=85
QLMT Earthquake Lak 85.68 44 *e*P **P 14 30 43.3 +1.4**
comp=Z,4.2nm,0.8s
A19A Klindworth Far 85.75 40 ⇓P **P 14 30 42.9 +0.9**
baz=86
F17A Fitzpatrick Pl 85.76 43 ⇓P **P 14 30 43.0 +0.7**
baz=86,SNR=11
HEC Hector,Ludlow 85.78 55 ⇑P **P 14 30 43.3 +0.9**
baz=86
KBZ Khabaz 85.79 315 P **P 14 30 42.1 0.0**
KBZ Khabaz 85.79 315 P **P 14 30 42.1 0.0**
KBZ Khabaz 85.79 315 P **P 14 30 42.1 0.0**
comp=Z,1.9nm,0.5s,baz=118,slow=4.4,SNR=8.7
B19A Brinkman Farms 85.82 40 ⇓P **P 14 30 43.0 +0.7**
baz=86,SNR=13
H16A Russell Place, 85.85 44 ⇑P **P 14 30 44.1 +1.4**
baz=86,SNR=28
TUQ Turquoise Moun 85.88 54 ⇑P **P 14 30 43.9 +0.9**
baz=86
HVU Hansel Valley 85.92 47 *e*P **P 14 30 44.4 +1.4**
HVU pmax pmax
comp=Z,59nm,1.6s
HVU Hansel Valley 85.92 47 *e*P **P 14 30 44.4 +1.4**
comp=Z,59nm,1.6s
G17A Pierce Place, 85.94 43 ⇑P **P 14 30 44.3 +1.2**
baz=86
E18A Harlowton 85.98 42 ⇑P **P 14 30 44.3 +1.1**
baz=86,SNR=26
C19A Slack Wire Ran 86.05 41 ⇑P **P 14 30 44.6 +1.1**
baz=86
KAF Kangasniemi 86.05 336 *e*P **P 14 30 40.5 -2.5**
BGU Big Grassy Mou 86.05 48 *e*P **P 14 30 44.5 +0.7**
comp=Z,4.3nm,0.9s
PFO Pinyon Flat Ob 86.10 56 P **P 14 30 44.5 +0.4**
PFO Pinyon Flat Ob 86.10 56 P **P 14 30 44.5 +0.4**
comp=Z,9.1nm,1.0s,baz=280,slow=4.4,SNR=7.4
PFO Pinyon Flat Ob 86.10 56 ⇓P **P 14 30 44.8 +0.8**
baz=86
YFT Old Faithful 86.22 44 P **P 14 30 47.1 +2.5**
comp=Z,14nm,0.8s
AKH Akhalkalaki 86.25 312 P pP 14 31 40.1 -4.7
A20A Cobblestone Ra 86.26 39 ⇓P **P 14 30 45.1 +0.6**
baz=86
GMRC Granite Mounta 86.31 55 ⇑P **P 14 30 46.0 +0.9**
baz=86
RRI2 Red Ridge 86.32 45 *e*P **P 14 30 46.4 +1.3**
comp=Z,10nm,0.7s
BELC Belle Mtn. Jos 86.32 55 ⇓P **P 14 30 45.8 +0.6**
baz=86
IMW Indian Meadow 86.36 45 *e*P **P 14 30 46.7 +1.3**
comp=Z,8.2nm,0.8s
F18A Big Timber 86.37 43 ⇓P **P 14 30 46.2 +1.0**
baz=86,SNR=12
MONP Monument Peak 86.38 57 ⇑P **P 14 30 46.2 +0.7**
baz=86
D19A Cripps Ranch, 86.39 41 ⇓P **P 14 30 46.0 +0.8**
baz=86,SNR=20
B20A Solberg Farm, 86.39 40 ⇓P **P 14 30 45.9 +0.8**
baz=86
H17A Grant Village 86.41 44 ⇓P **P 14 30 46.3 +0.8**
baz=86
GCMT Greycliff 86.45 43 *e*P **P 14 30 47.0 +1.5**
comp=Z,2.3nm,0.7s
FLWY Flagg Ranch 86.45 45 P **P 14 30 45.7 0.0**
comp=Z,16nm,0.8s
DUG Dugway 86.48 49 *e*P **P 14 30 46.7 +0.9**
DUG pmax pmax
comp=Z,26nm,1.1s
DUG Dugway 86.48 49 *e*P **P 14 30 46.7 +0.9**
comp=Z,26nm,1.1s
DUG Dugway 86.48 49 ⇑P **P 14 30 46.9 +1.1**
baz=86
TPAW Teton Pass 86.51 45 *e*P **P 14 30 47.1 +1.1**
comp=Z,19nm,1.3s
FIA1 FINESS Array S 86.52 335 *e*P **P 14 30 43.1 -2.2**
FINES FINESS Array B 86.52 335 P **P 14 30 43.2 -2.2**
FINES FINESS Array B 86.52 335 P **P 14 30 43.2 -2.2**
comp=Z,8.5nm,0.3s,baz=68,slow=4.5,SNR=106
MOOW Moose Ponds 86.55 45 *e*P **P 14 30 47.3 +1.1**
comp=Z,3.8nm,0.7s
I17A Pilgrim Ck. 86.59 45 ⇑P **P 14 30 47.1 +0.7**
baz=86
LDFC Landfair 86.63 54 *e*P **P 14 30 47.2 +0.6**
comp=Z,54nm,1.0s
LOHW Long Hollow 86.70 45 *e*P **P 14 30 47.6 +0.7**
comp=Z,8.6nm,1.3s
C20A Veseth Ranch, 86.70 40 ⇑P **P 14 30 47.6 +1.0**
baz=87,SNR=17
G18A Lazy EL Ranch, 86.70 43 ⇓P **P 14 30 47.6 +0.8**
baz=87
CHVG Ch'k'valeri 86.72 314 P **P 14 30 49.0 +2.2**
E19A Rath Farm, Rou 86.73 42 ⇑P **P 14 30 47.4 +0.5**
baz=87,SNR=8.8
A21A Bergtoll Ranch 86.81 39 ⇓P **P 14 30 48.0 +0.9**
baz=87
HWUT Hardware Ranch 86.82 47 *e*P **P 14 30 48.2 +0.8**
comp=Z,42nm,1.4s
SWSC Sam W. Stewart 86.85 56 ⇑P **P 14 30 48.4 +0.9**
baz=87
BC3 Big Chuckawall 86.87 56 ⇑P **P 14 30 48.7 +0.9**
baz=87
D20A Manuel Ranch, 86.88 41 ⇓P **P 14 30 48.1 +0.6**
baz=87,SNR=12
F19A Roth Farm, Mol 86.88 42 ⇓P **P 14 30 48.5 +0.9**
baz=87
H18A Shoshone NF, C 86.89 44 ⇓P **P 14 30 49.2 +1.4**
baz=87,SNR=5.1
ARUT Antelope Range 86.91 51 *e*P **P 14 30 49.1 +1.1**
ARUT pmax pmax
comp=Z,20nm,1.0s
ARUT Antelope Range 86.91 51 *e*P **P 14 30 49.1 +1.1**
comp=Z,20nm,1.0s
FFC Flin Flon 86.92 32 *i* P **P 14 30 48.4 +1.0**
FFC Flin Flon 86.92 32 *e*P **P 14 30 48.1 +0.7**
comp=Z,54nm,1.3s
IRM Iron Mountain 86.93 55 ⇑P **P 14 30 49.0 +1.0**
baz=87
RLMT Red Lodge 86.97 43 *e*P **P 14 30 49.4 +1.2**
comp=Z,30nm,1.4s
CCUT Cedar City 87.06 51 *e*P **P 14 30 50.0 +1.3**
comp=Z,31nm,1.5s
NLU North Lily Min 87.09 49 *e*P **P 14 30 50.0 +1.1**
comp=Z,9.6nm,1.1s
NEE2 Needles Airpor 87.12 54 ⇑P **P 14 30 50.2 +1.4**
baz=87
JLU Jordanelle 87.29 48 *e*P **P 14 30 50.7 +0.9**
comp=Z,12nm,0.8s
JLU *e*pP **pP 14 31 52.6 +2.6**
F20A Billings 87.41 42 ⇑P **P 14 30 50.3 +0.2**
baz=87
M17A Scullys Gap (B 87.49 47 ⇓P **P 14 30 51.3 +0.5**
baz=87
DAU Daniels Canyon 87.50 48 *e*P **P 14 30 51.6 +0.7**
DAU pmax pmax
comp=Z,8.0nm,0.7s
DAU Daniels Canyon 87.50 48 *e*P **P 14 30 51.6 +0.7**
comp=Z,8.1nm,0.7s
MVU Marysvale 87.54 50 *e*P **P 14 30 52.1 +1.0**
comp=Z,16nm,1.4s
MVU *e*pP **pP 14 31 54.3 +3.0**
Y12C Blythe 87.56 55 ⇑P **P 14 30 52.0 +1.0**
baz=88
W13A Hualapai Mount 87.56 54 ⇑P **P 14 30 52.3 +1.1**
baz=88
MSU Marysvale 87.56 50 *e*P **P 14 30 52.4 +1.3**

MSU pmax pmax
comp=Z,29nm,1.5s
MSU Marysvale 87.56 50 *e*P **P 14 30 52.4 +1.3**
comp=Z,29nm,1.5s
GLA Glamis 87.57 56 *e*P **P 14 30 52.0 +0.9**
GLA pmax pmax
comp=Z,17nm,0.6s
GLA Glamis 87.57 56 *e*P **P 14 30 52.0 +0.9**
comp=Z,17nm,0.6s
GLA Glamis 87.57 56 ⇓P **P 14 30 52.4 +1.4**
baz=88
I19A Meeteetse 87.59 44 ⇓P **P 14 30 52.1 +1.0**
D21A La Casta Ranch 87.60 41 ⇑P **P 14 30 51.7 +0.8**
baz=88
G20A Bridger 87.61 43 ⇓P **P 14 30 51.9 +0.7**
baz=88
PDMCI Parker Dam,Lak 87.66 55 ⇓P **P 14 30 52.6 +1.3**
baz=88
B22A Reddig Ranch S 87.67 39 ⇑P **P 14 30 52.1 +0.9**
baz=88
BW06 Boulder Array 87.73 45 *e*P **P 14 30 51.9 0.0**
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 87.73 45 P **P 14 30 52.2 +0.3**
PDAR Pinedale Array 87.73 45 P **P 14 30 52.2 +0.3**
comp=Z,2.6nm,0.7s,baz=251,slow=2.2,SNR=22
L18A Fontenelle, Gr 87.75 46 ⇓P **P 14 30 53.0 +1.1**
baz=88
J19A Crowheart 87.87 45 ⇑P **P 14 30 53.2 +0.8**
baz=88,SNR=14
VSU Vasula 87.92 333 *e*P **P 14 30 54.8 +2.7**
VSU pmax pmax
comp=Z,19nm,1.2s
TMUT Trail Mountain 87.96 49 *e*P **P 14 30 54.5 +1.4**
comp=Z,8.1nm,1.0s
C22A Vida 87.98 40 ⇓P **P 14 30 53.6 +0.9**
baz=88
H20A Greybull 88.06 43 ⇓P **P 14 30 54.1 +0.9**
baz=88
D22A Cohagen 88.06 40 ⇓P **P 14 30 54.0 +0.9**
baz=88
Q16A Castle Valley 88.14 49 ⇑P **P 14 30 54.9 +1.1**
baz=88
L19A Farson 88.14 46 ⇓P **P 14 30 54.5 +0.7**
baz=88
K19A Absolon Red Bu 88.19 45 ⇓P **P 14 30 54.1 +0.1**
baz=88,SNR=8.7
B23A Brockton 88.20 39 ⇑P **P 14 30 54.3 +0.7**
baz=88
I20A Worland 88.20 44 ⇓P **P 14 30 54.8 +1.0**
baz=88
G21A Lodge Grass 88.25 42 ⇓P **P 14 30 55.0 +0.9**
baz=88
U15A North Rim 88.27 52 ⇓P **P 14 30 56.0 +1.4**
baz=88
C23A Lambert 88.38 40 ⇑P **P 14 30 55.5 +0.9**
baz=88
J20A Shoshoni 88.48 44 ⇑P **P 14 30 56.1 +0.9**
baz=88
113A Mohawk Valley, 88.51 56 ⇑P **P 14 30 56.4 +1.0**
baz=88
E22A Miles City 88.52 41 ⇓P **P 14 30 55.9 +0.6**
baz=88
SRU San Rafael 88.52 49 *e*P **P 14 30 56.1 +0.5**
SRU pmax pmax
comp=Z,21nm,1.1s
SRU San Rafael 88.52 49 *e*P **P 14 30 56.1 +0.5**
comp=Z,21nm,1.1s
A24A Westby 88.57 38 ⇑P **P 14 30 56.0 +0.6**
baz=88
K20A Yellowstone Ra 88.60 45 ⇓P **P 14 30 56.3 +0.4**
baz=88,SNR=8.8
SUMG Summit 88.60 1 *i* P pP 14 31 55.8 -0.1
comp=Z,10nm,0.9s
H21A Big Horn, Sher 88.62 43 ⇓P **P 14 30 56.9 +1.1**
baz=88,SNR=6.0
D23A Lindsay 88.65 40 ⇑P **P 14 30 57.0 +1.2**
baz=89
DGMT Dagmar 88.67 39 ⇑P **P 14 30 56.1 +0.2**
baz=89
Y14A Wickenburg 88.67 55 ⇓P **P 14 30 57.5 +1.3**
baz=89
I21A Big Trails, Te 88.81 44 ⇑P **P 14 30 57.2 +0.4**
baz=89
G22A Birney 88.84 42 ⇓P **P 14 30 57.5 +0.7**
baz=89
L20A Wamsutter 88.87 46 ⇓P **P 14 30 57.8 +0.6**
baz=89
E23A Ismay 88.89 41 ⇓P **P 14 30 57.8 +0.8**
baz=89
J21A Lysite 88.90 44 ⇑P **P 14 30 57.8 +0.5**
baz=89,SNR=5.3
Z14A Wintersburg 88.93 55 ⇓P **P 14 30 58.7 +1.4**
baz=89
O19A Miners Draw (B 89.03 48 ⇑P **P 14 30 58.4 +0.5**
baz=89
H22A Clearmont 89.08 43 ⇓P **P 14 30 58.7 +0.8**
baz=89
F23A Volborg 89.18 41 ⇑P **P 14 30 58.9 +0.6**
baz=89
M20A Sweetwater, Wa 89.19 46 ⇓P **P 14 30 59.8 +1.1**
baz=89,SNR=7.2
D24A Glendive 89.21 40 ⇑P **P 14 30 59.6 +1.1**
baz=89
I22A 9 Mile Ranch, 89.30 43 ⇑P **P 14 31 00.2 +1.2**
baz=89
WUAZ Wupatki 89.31 53 *e*P **P 14 31 00.5 +1.2**
comp=Z,38nm,1.0s
WUAZ Wupatki 89.31 53 ⇑P **P 14 31 00.9 +1.6**
baz=89
K21A Alcova 89.34 45 ⇓P **P 14 31 00.0 +0.7**
baz=89,SNR=13
P19A Cripple Cowboy 89.41 48 ⇓P **P 14 31 00.7 +0.9**
baz=89,SNR=22
N20A Spence Gulch, 89.41 47 ⇑P **P 14 31 00.5 +0.7**
baz=89,SNR=8.3
G23A Biddle 89.42 42 ⇑P **P 14 31 00.0 +0.5**
baz=89
E24A Baker 89.48 40 ⇓P **P 14 31 00.7 +0.9**
baz=89
J22A Midwest 89.51 44 ⇑P **P 14 31 00.5 +0.4**
baz=89,SNR=7.3
L21A Rawlins 89.54 45 ⇑P **P 14 31 00.9 +0.6**
baz=90,SNR=5.9
214A Organ Pipe Nat 89.56 56 ⇑P **P 14 31 01.6 +1.2**
baz=90
M21A Separation Pea 89.70 46 ⇑P **P 14 31 01.8 +0.7**
baz=90,SNR=9.1
O20A White River Ci 89.72 47 ⇑P **P 14 31 01.7 +0.5**
baz=90
F24A Ekalaka 89.72 41 ⇓P **P 14 31 01.7 +0.8**
baz=90
K22A Casper 89.81 45 ⇑P **P 14 31 02.5 +1.0**
baz=90
P20A De Beque 89.88 48 ⇓P **P 14 31 02.6 +0.7**
baz=90
N21A Black Mountain 89.95 47 ⇑P **P 14 31 03.2 +0.9**
baz=90,SNR=15
E25A Miller Ranch, 90.06 40 ⇑P **P 14 31 03.5 +1.0**
baz=90
L22A Ellis Ranch, M 90.14 45 ⇑P **P 14 31 04.1 +1.0**
baz=90,SNR=5.7
H24A Dirks Ranch, A 90.16 42 ⇓P **P 14 31 03.3 +0.3**
baz=90
Q20A Ridgley Place, 90.17 48 ⇓P **P 14 31 04.2 +0.9**
baz=90,SNR=22
C26A Wahner Farm, P 90.21 39 ⇑P **P 14 31 04.0 +1.0**
baz=90
O21A Pagoda 90.22 47 ⇑P **P 14 31 04.2 +0.6**
baz=90
F25A Bowman 90.29 41 ⇓P **P 14 31 04.6 +1.1**
baz=90
M22A Cedar Creek Ra 90.31 46 ⇑P **P 14 31 04.8 +0.9**
baz=90,SNR=5.7
K23A Bowen Ranch, D 90.36 44 ⇑P **P 14 31 04.5 +0.4**
baz=90
R20A Redvale 90.43 49 ⇑P **P 14 31 05.2 +0.6**
baz=90
I24A Kuemmerle Ranc 90.51 43 ⇑P **P 14 31 05.1 +0.4**
baz=90
S20A Disappointment 90.59 50 ⇓P **P 14 31 05.7 +0.3**
baz=90,SNR=5.1
L23A Garrett 90.60 45 ⇑P **P 14 31 05.4 +0.2**
baz=90,SNR=9.1
C27A Sayler Ranch, 90.61 38 ⇑P **P 14 31 05.7 +0.7**
baz=90
G25A Newell 90.66 41 ⇓P **P 14 31 05.9 +0.7**
baz=91

N22A	Wattenberg Ran	90.67	46	⇓P	P	14 31 06.6 +1.0
	baz=91					
Q21A	Lamborn Mesa,	90.73	48	⇑P	P	14 31 07.2 +1.3
	baz=91,SNR=8.0					
MVCO	Mesa Verde	90.75	50	eP	P	14 31 06.9 +0.8
	comp=Z,24nm,1.4s					
MVCO	Mesa Verde	90.75	50	⇑P	P	14 31 06.7 +0.6
	baz=91					
X18A	Snowflake	90.77	53	⇓P	P	14 31 07.1 +1.0
	baz=91					
RSSD	Black Hills	90.77	42	eP	P	14 31 06.2 +0.2
RSSD				pmax	pmax	
	comp=Z,11nm,1.3s					
RSSD	Black Hills	90.77	42	eP	P	14 31 06.2 +0.2
	comp=Z,11nm,1.3s					
F26A	Lodgepole	90.81	40	⇑P	P	14 31 05.7 -0.3
	baz=91					
O22A	Kremmling	90.88	47	⇑P	P	14 31 07.4 +0.7
	baz=91,SNR=12					
R21A	Cimarron	90.95	49	⇑P	P	14 31 08.3 +1.3
	baz=91,SNR=26					
N23A	Red Feather La	90.97	46	⇑P	P	14 31 08.5 +1.5
	baz=91,SNR=16					
P22A	Eagle	90.98	47	⇑P	P	14 31 08.1 +1.1
	baz=91,SNR=7.0					
TUC	Tucson	91.01	55	eP	P	14 31 08.5 +1.3
TUC				pmax	pmax	
	comp=Z,23nm,1.4s					
TUC	Tucson	91.01	55	eP	P	14 31 08.5 +1.3
	comp=Z,23nm,1.4s					
SMCO	Snowmass	91.01	48	eP	P	14 31 08.1 +0.6
	comp=Z,10nm,0.9s					
I25A	Rochford	91.01	42	⇑P	P	14 31 07.0 -0.1
	baz=91					
S21A	Coal Bank Pass	91.08	49	⇓P	P	14 31 08.5 +0.8
	baz=91,SNR=9.3					
U20A	Newcomb	91.08	51	⇑P	P	14 31 08.5 +1.0
	baz=91					
PHWY	Pilot Hill	91.12	45	eP	P	14 31 08.1 +0.3
	comp=Z,2.5nm,0.6s					
G26A	Maurine	91.12	41	⇓P	P	14 31 08.0 +0.5
	baz=91					
Q22A	Crested Butte,	91.19	48	⇑P	P	14 31 09.2 +1.0
	baz=91,SNR=6.2					
J25A	Sunshine Ranch	91.26	43	⇑P	P	14 31 08.8 +0.7
	baz=91					
O23A	Lake Granby, G	91.29	47	⇑P	P	14 31 09.8 +1.2
	baz=91,SNR=5.2					
H26A	Fairpoint	91.34	42	⇑P	P	14 31 09.2 +0.7
	baz=91					
V20A	Brimhall	91.36	51	⇑P	P	14 31 10.0 +1.1
	baz=91,SNR=11					
M24A	Cheyenne	91.47	45	⇑P	P	14 31 10.5 +1.2
	baz=91					
G27A	Dupree	91.50	41	⇑P	P	14 31 09.7 +0.5
	baz=91					
T21A	Navajo Lake	91.54	50	⇑P	P	14 31 10.4 +0.7
	baz=92					
I26A	New Underwood	91.56	42	⇑P	P	14 31 09.4 -0.1
	baz=92					
R22A	Saguache, Gunn	91.57	49	⇑P	P	14 31 11.2 +1.2
	baz=92,SNR=5.8					
K25A	Mack Ranch, Ha	91.58	44	⇓P	P	14 31 09.7 0.0
	baz=92					
W20A	Ramah	91.62	52	⇓P	P	14 31 11.0 +0.9
	baz=92,SNR=8.7					
ISCO	Idaho Springs	91.68	47	eP	P	14 31 11.2 +0.7
ISCO				pmax	pmax	
	comp=Z,25nm,1.6s					
ISCO	Idaho Springs	91.68	47	eP	P	14 31 11.2 +0.7
	comp=Z,25nm,1.6s					
ISCO	Idaho Springs	91.68	47	⇑P	P	14 31 11.5 +1.1
	baz=92,SNR=8.1					
U21A	Nageezi	91.69	51	⇑P	P	14 31 11.4 +0.9
	baz=92,SNR=16					
P23A	Jefferson	91.72	47	⇓P	P	14 31 12.4 +1.8
	baz=92,SNR=11					
N24A	Carr	91.72	46	⇑P	P	14 31 11.8 +1.4
	baz=92					
S22A	4UR Ranch, Cre	91.73	49	⇓P	P	14 31 11.9 +1.2
	baz=92,SNR=13					
J26A	Sides Ranch, S	91.77	43	⇑P	P	14 31 10.5 +0.1
	baz=92					
X20A	Quemado	91.86	53	⇑P	P	14 31 13.2 +1.9
	baz=92					
V21A	Milan	91.97	51	⇓P	P	14 31 12.6 +0.9
	baz=92					
T22A	Edith	91.99	50	⇓P	P	14 31 13.0 +1.2
	baz=92,SNR=10					
HFS	Hagfors	92.02	338	P	P	14 31 09.0 -2.2
HFS	Hagfors	92.02	338	P	P	14 31 09.0 -2.2
	comp=Z,1.9nm,0.3s,baz=90,slow=3.0,SNR=28					
NB2	NORSAR Subarra	92.21	340	P	P	14 31 09.9 -2.2
	comp=Z,0.5nm,0.5s,baz=43,slow=4.6					
NOA	NORSAR Array B	92.21	340	P	P	14 31 10.9 -1.1
NOA				PP	PP	14 34 55.1 -0.1
NOA	NORSAR Array B	92.21	340	P	P	14 31 10.9 -1.1
	comp=Z,0.6nm,0.5s,baz=46,slow=4.5,SNR=11					
NOA				PP	PP	14 34 55.1 -0.1
	comp=Z,1.0nm,0.8s,baz=36,slow=8,2,SNR=5.9					
Y20A	Horse Springs,	92.21	53	⇑P	P	14 31 14.6 +1.6
	baz=92,SNR=19					
R23A	Moffat	92.25	48	⇑P	P	14 31 14.5 +1.4
	baz=92					
G28A	Parade	92.27	41	⇓P	P	14 31 13.0 +0.3
	baz=92					
U22A	Llaves	92.30	50	⇓P	P	14 31 14.3 +1.0
	baz=92,SNR=12					
Z20A	Nine Sixteen R	92.38	54	⇓P	P	14 31 15.4 +1.8
	baz=92,SNR=29					
Q24A	Divide	92.38	47	⇑P	P	14 31 13.6 -0.1
	baz=92					
H28A	Mission Ridge	92.40	41	⇓P	P	14 31 13.8 +0.5
	baz=92					
X21A	Alamocita Cree	92.43	52	⇑P	P	14 31 15.3 +1.4
	baz=92,SNR=6.6					
ULM	Lac du Bonnet	92.44	34	P	P	14 31 13.3 0.0
ULM	Lac du Bonnet	92.44	34	P	P	14 31 13.3 0.0
	comp=Z,8.9nm,0.9s,baz=310,slow=3.9,SNR=9.4					
V22A	San Miguel Ran	92.46	51	⇑P	P	14 31 14.9 +0.9
	baz=92					
319A	Douglas	92.56	56	⇓P	P	14 31 15.4 +1.0
	baz=92					
120A	U Bar Ranch, L	92.58	54	⇑P	P	14 31 16.1 +1.6
	baz=92,SNR=18					
I28A	Midland	92.65	42	⇓P	P	14 31 15.2 +0.7
	baz=93					
SDCO	Great Sand Dun	92.67	49	eP	P	14 31 15.7 +0.6
	comp=Z,11nm,1.5s					
Y21A	Point of Rocks	92.70	53	⇓P	P	14 31 16.6 +1.5
	baz=93,SNR=12					
R24A	Sanders Place,	92.74	48	⇑P	P	14 31 16.4 +1.2
	baz=93,SNR=5.0					
U23A	El Rito	92.80	50	⇓P	P	14 31 16.6 +1.0
	baz=93,SNR=6.3					
J28A	Allard Ranch,	92.89	42	⇓P	P	14 31 15.6 +0.1
	baz=93					
220A	Playas Peak, P	92.93	55	⇓P	P	14 31 17.5 +1.3
	baz=93,SNR=14					
S24A	Houchin Ranch,	92.93	49	⇑P	P	14 31 17.6 +1.4
	baz=93					
LAZ	Ladron	92.94	52	eP	P	14 31 17.6 +1.4
	comp=Z,7.6nm,1.5s					
X22A	Bernardo	92.99	52	⇑P	P	14 31 17.7 +1.4
	baz=93					
Q25A	Bedland, Calha	93.03	47	⇓P	P	14 31 17.2 +0.7
	baz=93					
ANMO	Albuquerque	93.21	51	eP	P	14 31 18.4 +1.0
	comp=Z,18nm,1.3s					
121A	Cookes Peak, D	93.24	54	⇓P	P	14 31 19.2 +1.6
	baz=93,SNR=8.1					
Y22A	Socorro	93.27	53	⇓P	P	14 31 19.0 +1.3
	baz=93					
W23A	Werner Place,	93.34	51	⇑P	P	14 31 19.0 +1.0
	baz=93,SNR=5.2					
R25A	Fountain Ranch	93.35	48	⇓P	P	14 31 18.3 +0.3
	baz=93					
S25A	Robets Cordova	93.47	48	⇓P	P	14 31 19.0 +0.5
	baz=93					
AGMN	Agassiz Nation	93.53	36	eP	P	14 31 18.6 +0.3
	comp=Z,13nm,1.4s					
Z22A	Elephant Butte	93.56	53	⇑P	P	14 31 20.3 +1.3
	baz=94,SNR=18					
T25A	Trinidad	93.72	49	⇑P	P	14 31 21.0 +1.3
	baz=94					
V24A	Rampart Ranch,	93.74	50	⇑P	P	14 31 21.1 +1.2
	baz=94,SNR=6.2					
BRTR	Keskin Array B	93.76	314	P	P	14 31 18.6 -1.2
BRTR				pP	pP	14 32 14.6 -5.8
BRTR	Keskin Array B	93.76	314	P	P	14 31 18.6 -1.2
	comp=Z,2.0nm,0.7s,baz=92,slow=4.3,SNR=6.1					
BRTR				pP	pP	14 32 14.6 -5.8
	comp=Z,2.6nm,0.9s,baz=73,slow=4.3,SNR=5.5					
R26A	Arlington	93.87	47	⇓P	P	14 31 20.0 -0.3
	baz=94					
W24A	Lazy 6 Ranch,	93.87	51	⇓P	P	14 31 21.5 +1.1
	baz=94,SNR=9.7					
222A	Williams Famil	93.94	54	⇓P	P	14 31 21.9 +1.1
	baz=94					
Y23A	Lovelace Mesa,	93.95	52	⇓P	P	14 31 21.7 +0.8
	baz=94,SNR=8.3					
U25A	Circle Dot Ran	94.06	49	⇓P	P	14 31 22.1 +0.8
	baz=94,SNR=5.4					
Z23A	Rita Site, Whi	94.11	53	⇓P	P	14 31 23.1 +1.6
	baz=94					
V25A	Rancho No Teng	94.16	50	⇓P	P	14 31 22.8 +1.0
	baz=94,SNR=6.8					
S26A	Kim	94.17	48	⇑P	P	14 31 22.2 +0.5
	baz=94					
T26A	Comanche Natio	94.29	48	⇓P	P	14 31 22.5 +0.2
	baz=94					
R27A	Eads	94.33	47	⇑P	P	14 31 22.3 -0.1
	baz=94					
Y24A	Capitan	94.41	52	⇑P	P	14 31 23.4 +0.4
	baz=94					
U26A	Atchley Ranch,	94.54	49	⇑P	P	14 31 24.3 +0.8
	baz=94					
W25A	X Bar L Ranch,	94.56	51	⇑P	P	14 31 24.0 +0.5
	baz=94					
Q28A	Sharon Springs	94.62	46	⇑P	P	14 31 23.4 -0.3
	baz=94					
Z24A	Sheeppen Canyo	94.73	53	⇑P	P	14 31 25.3 +0.8
	baz=95,SNR=5.3					
124A	Stringfield Ra	94.94	53	⇑P	P	14 31 26.4 +1.0
	baz=95,SNR=7.8					
T27A	Campo	94.96	48	⇓P	P	14 31 26.0 +0.7
	baz=95					
Y25A	Mesa, Roswell	94.97	52	⇑P	P	14 31 25.8 +0.4
	baz=95,SNR=6.4					
R28A	Tribune	94.98	47	⇑P	P	14 31 25.9 +0.5
	baz=95					
Z25A	Roswell	95.24	52	⇓P	P	14 31 27.3 +0.7
	baz=95					
X26A	CR and CF Fran	95.34	51	⇑P	P	14 31 28.0 +0.9
	baz=95					
T28A	Walsh	95.36	48	⇑P	P	14 31 28.2 +1.1
	baz=95					
324A	Moseley Ranch,	95.47	54	⇓P	P	14 31 28.6 +0.8
	baz=95					
125A	Gardner Draw,	95.56	53	⇓P	P	14 31 28.6 +0.5
	baz=96					
W27A	Bowe Ranch, En	95.65	50	⇑P	P	14 31 29.1 +0.7
	baz=96					
Z26A	Caprock	95.79	52	⇓P	P	14 31 29.2 0.0
	baz=96					
325A	Bean Ranch, Si	95.89	54	⇑P	P	14 31 30.1 +0.4
	baz=96					
R30A	Dighton	96.06	46	⇑P	P	14 31 31.1 +1.0
	baz=96					
CRVS	Cervenica-Dubn	96.09	327	eP	P	14 31 30.6 +0.5
CRVS	Cervenica-Dubn	96.09	327	eP	P	14 31 30.5 +0.5
Y27A	Causey	96.12	51	⇑P	P	14 31 31.1 +0.4
	baz=96					
425A	Indio Mountain	96.14	55	⇓P	P	14 31 32.1 +1.3
	baz=96					
226B	Tecolote Peak,	96.19	53	⇓P	P	14 31 32.1 +1.1
	baz=96					
Z27A	Tatum	96.34	52	⇑P	P	14 31 32.1 +0.4
	baz=96					
VNDA	Vanda	96.81	176	P	P	14 31 31.8 -0.7
VNDA	Vanda	96.81	176	P	P	14 31 31.8 -0.7
	comp=Z,1.9nm,0.8s,baz=304,slow=5.8,SNR=9.3					
426A	McDonald Obser	96.93	54	⇓P	P	14 31 34.5 +0.1
	baz=97					
526A	Mary Lane Ranc	97.16	55	⇓P	Pdif	14 31 36.4 +0.9
	baz=97					
Y29A	Porterfield Fa	97.23	51	⇑P	Pdif	14 31 36.4 +0.8
	baz=97					
427A	Hayter Ranch,	97.33	54	⇑P	Pdif	14 31 36.9 +0.8
	baz=97					
626A	Big Bend Ranch	97.35	55	⇑P	P	14 31 36.8 +0.6
	baz=97					
Z29A	Hungry Hill Ra	97.48	51	⇓P	Pdif	14 31 37.4 +0.6
	baz=97					
TXAR	Lajitas Array	97.81	55	P	Pdif	14 31 39.3 +1.0
TXAR				PKKPbc	PKKPdf	14 48 13.6 -0.2
TXAR	Lajitas Array	97.81	55	P	Pdif	14 31 39.3 +1.0
	comp=Z,1.0nm,0.9s,baz=258,slow=4.0,SNR=9.8					
TXAR				PKKPbc	PKKPdf	14 48 13.6 -0.2
	comp=Z,0.7nm,0.8s,baz=132,slow=5.6,SNR=7.8					
Z30A	Sanderson Ranc	97.90	51	⇑Pdiff	Pdif	14 31 39.2 +0.6
	baz=98					
Z30A	Sanderson Ranc	97.90	51	⇑Pdiff	Pdif	14 31 39.2 +0.6
	baz=98					
428A	Kincaid Ranch,	97.94	54	⇓Pdiff	Pdif	14 31 40.0 +1.2
	baz=98					
428A	Kincaid Ranch,	97.94	54	⇓Pdiff	Pdif	14 31 40.0 +1.2
	baz=98					
627A	Terlingua Ranc	97.97	55	⇓Pdiff	Pdif	14 31 39.8 +0.7
	baz=98					
627A	Terlingua Ranc	97.97	55	⇓Pdiff	Pdif	14 31 39.8 +0.7
	baz=98					
X31A	McDonald Ranch	98.08	49	⇓Pdiff	P	14 31 39.8 +0.5
	baz=98					
X31A	McDonald Ranch	98.08	49	⇓Pdiff	P	14 31 39.8 +0.5
	baz=98					
528A	Cox Ranch, San	98.11	54	⇓Pdiff	Pdif	14 31 40.4 +0.7
	baz=98					
528A	Cox Ranch, San	98.11	54	⇓Pdiff	Pdif	14 31 40.4 +0.7
	baz=98					
329A	Wagon Wheel Ra	98.12	53	⇓Pdiff	P	14 31 40.2 +0.6
	baz=98					
329A	Wagon Wheel Ra	98.12	53	⇓Pdiff	P	14 31 40.2 +0.6
	baz=98					
Y31A	Rekieta Farm,	98.20	50	⇑Pdiff	Pdif	14 31 41.0 +1.1
	baz=98					
Y31A	Rekieta Farm,	98.20	50	⇑Pdiff	Pdif	14 31 41.0 +1.1
	baz=98					
628A	Black Gap, Mar	98.35	55	⇓Pdiff	Pdif	14 31 41.5 +0.8
	baz=98					
628A	Black Gap, Mar	98.35	55	⇓Pdiff	Pdif	14 31 41.5 +0.8
	baz=98					
529A	Stev Forest Ra	98.57	54	⇓Pdiff	Pdif	14 31 41.2 -0.5
	baz=98					
529A	Stev Forest Ra	98.57	54	⇓Pdiff	Pdif	14 31 41.2 -0.5
	baz=98					
429A	Davenport Ranc	98.58	54	⇑Pdiff	Pdif	14 31 42.1 +0.4
	baz=98					
429A	Davenport Ranc	98.58	54	⇑Pdiff	Pdif	14 31 42.1 +0.4
	baz=98					
Z32A	Haskell	99.09	50	⇑Pdiff	Pdif	14 31 44.3 +0.4
	baz=99					
Z32A	Haskell	99.09	50	⇑Pdiff	Pdif	14 31 44.3 +0.4
	baz=99					
530A	J-C Ranch, Com	99.23	54	⇓Pdiff	Pdif	14 31 45.2 +0.6
	baz=99					
530A	J-C Ranch, Com	99.23	54	⇓Pdiff	Pdif	14 31 45.2 +0.6
	baz=99					
ABTX	Abilene, Hawle	99.31	51	⇑Pdiff	Pdif	14 31 45.9 +1.0
	baz=99					
ABTX	Abilene, Hawle	99.31	51	⇑Pdiff	Pdif	14 31 45.9 +1.0
	baz=99					
531A	Rocksprings	99.83	53	⇓Pdiff	Pdif	14 31 47.4 +0.2
	baz=100					
531A	Rocksprings	99.83	53	⇓Pdiff	Pdif	14 31 47.4 +0.2
	baz=100					
332A	Millersview	99.84	52	⇓Pdiff	Pdif	14 31 47.9 +0.6
	baz=100					
332A	Millersview	99.84	52	⇓Pdiff	Pdif	14 31 47.9 +0.6
	baz=100					
GERES	GERESS Array B	99.99	330	P	Pdif	14 31 46.0 -1.5
GERES	GERESS Array B	99.99	330	P	Pdif	14 31 46.0 -1.5
	comp=Z,0.2nm,0.3s,baz=33,slow=7.5,SNR=3.5					
ESDC	Sonseca Array	115.02	334	PKKPbc	PKKPbc	14 47 25.0 +5.0
ESDC	Sonseca Array	115.02	334	PKKPbc	PKKPbc	14 47 25.0 +5.0
	comp=Z,0.8nm,0.4s,baz=216,slow=4,6,SNR=7.2					
LSZ	Lusaka	120.25	263	ePKPdf	PKPdf	14 36 53.8 +0.7
SNAA	Sanae	124.20	192	ePKP	PKPdf	14 36 58.3 -0.7
SNAA	Sanae	124.20	192	ePKPdf	PKPdf	14 36 57.7 -1.3
VNA1	Neumayer--Stat	126.03	190	ePKP	PKPdf	14 37 02.6 +0.2
TORD	Torodi Ar. Bea	132.11	309	PKP	PKPdf	14 37 15.9 +0.2
TORD				SKPbc	SKPbc	14 40 16.1 -2.3
TORD	Torodi Ar. Bea	132.11	309	PKP	PKPdf	14 37 15.9 +0.2
	comp=Z,0.6nm,0.5s,baz=34,slow=2.7,SNR=8.4					
TORD				SKPbc	SKPbc	14 40 16.1 -2.3
	comp=Z,5.6nm,0.8s,baz=54,slow=3.4,SNR=15					
LCO	Las Campanas	145.58	114	ePKPbc	PKPbc	14 37 41.1 +0.3
LVC	Limon Verde	147.68	102	ePKPbc	PKPbc	14 37 47.6 +0.8
LPAZ	La Paz	147.86	91	ePKPdf	PKPdf	14 37 44.9 +0.3
LPAZ				PKP	PKPdf	14 37 45.5 +0.8
LPAZ				ePKPbc	PKiKP	14 37 48.5 -1.2
LPAZ				PKPbc	PKPbc	14 37 48.7 +0.8
LPAZ	La Paz	147.86	91	PKP	PKPdf	14 37 45.5 +0.8
	comp=Z,22nm,1.0s,baz=332,slow=3.2,SNR=24					
LPAZ				PKPbc	PKPbc	14 37 48.7 +0.8
	comp=Z,20nm,1.0s,baz=342,slow=4.7,SNR=37					
TRQA	Tornquist	149.47	134	ePKPbc	PKPbc	14 37 50.2 -0.5
SAML	Samuel	150.47	74	ePKPdf	PKPdf	14 37 47.5 -0.7
SAML				ePKPbc	PKPbc	14 37 53.6 -0.1
SAML				ePKPab	PKPab	14 38 01.1 0.0
CPUP	Villa Florida	157.73	113	PKPab	PKPab	14 38 32.4 +0.6
CPUP	Villa Florida	157.73	113	PKPab	PKPab	14 38 32.4 +0.6
	comp=Z,17nm,0.9s,baz=248,slow=6.5,SNR=24					

IDC 03 14:35:50.5±5.3, 19°.01N×145°.47E, h253km±52km, mb3.3/13, mb1 3.5/14, mb1mx3.4/27, mbtmp3.3/14, Error ellipse: s-maj=24.3km s-min=11.4km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	18.60	341	P	P	14 39 48.1	-1.2
	0.3nm,0.3s,baz=167,slow=10,SNR=4.4						
KSRS	Korea Array	23.94	324	P	P	14 40 43.4	+1.6
	0.5nm,0.7s,baz=148,slow=9.1,SNR=4.3						
CTA	Charters Tower	38.87	179	P	P	14 42 51.3	-0.4
	5.4nm,0.8s,baz=350,slow=11,SNR=2.8						
WRA	Warramunga Arr	40.22	196	P	P	14 43 02.8	-0.1
	3.2nm,0.5s,baz=20,slow=9.0,SNR=37						
ASAR	Alice Springs	43.89	195	P	P	14 43 32.4	-0.1
	2.3nm,0.5s,baz=18,slow=6.7,SNR=18						
CMAR	Chiang Mai Arr	43.96	277	P	P	14 43 34.1	+0.9
	0.4nm,0.4s,baz=95,slow=4.4,SNR=4.9						
STKA	Stephens Creek	50.73	184	P	P	14 44 24.1	-0.8
	1.0nm,0.4s,baz=74,slow=9.5,SNR=5.4						
MKAR	Makanchi Array	58.09	314	P	P	14 45 17.3	-0.3
	0.2nm,0.4s,baz=89,slow=6.9,SNR=2.7						
ILAR	Eielson Array	63.46	26	P	P	14 45 52.6	-0.8
	0.3nm,0.7s,baz=251,slow=5.2,SNR=5.9						
BVAR	Borovoye Array	66.10	320	P	P	14 46 10.2	-0.3
	0.7nm,0.4s,baz=96,slow=7.9,SNR=7.5						
YKA	Yellowknife Ar	77.82	28	P	P	14 47 20.3	+0.6
	0.7nm,0.5s,baz=290,slow=5.3,SNR=5.5						
NVAR	Mina Array Bea	83.12	52	P	P	14 47 50.0	+1.4
	1.9nm,0.6s,baz=266,slow=6.1,SNR=24						
FINES	FINESS Array B	86.51	335	P	P	14 48 02.7	-2.0
	0.7nm,0.5s,baz=68,slow=5.2,SNR=8.5						
PDAR	Pinedale Array	87.76	45	P	P	14 48 10.7	-0.7
	0.2nm,0.5s,baz=258,slow=4.4,SNR=2.8						
CFAA	Coronel Fontan	147.19	119	PKPbc	PKPbc	14 55 04.3	-0.1
	0.1nm,0.3s,baz=289,slow=3.9,SNR=3.3						
LPAZ	La Paz	147.90	91	PKPbc	PKPbc	14 55 06.8	-0.6
	0.6nm,0.6s,baz=252,slow=3.2,SNR=2.7						

*ISCJB **03** 14:38:15.7±0.4, 10°.42S±0°.05×116°.62E±0°.04, h33km, mb4.2/17, Error ellipse: s-maj=7.4km s-min=5.8km az=33.8*

*AUST **03** 14:38:16.8, 10°.47S×116°.42E, h25km*

*IDC **03** 14:38:19.4±0.7, 10°.16S×116°.59E, h40km±5km, mb4.0/17, mb1 4.0/19, mb1mx4.0/25, mbtmp4.0/19, ML3.8/2, Error ellipse: s-maj=19.1km s-min=13.7km az=63.0*

ISC 03 14:38:18.3±0.5, 10°.44S±0°.06×116°.68E±0°.06, h35km, n40, σ1§87/43, mb4.3/17, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	3.65	78	P	Pn	14 39 19.4	+7.1
	baz=3.9,SNR=5.3						
KAPI	Kappang	6.19	30	Pn	Pn	14 39 49.8	+2.5
	7.5nm,0.3s,baz=215,slow=7.5,SNR=15						
KAPI				Sn	Sn	14 40 58.7	+1.8
	3.6nm,0.3s,baz=73,slow=19,SNR=3.9						
UGM	Wanagama	6.57	292	P	Pn	14 39 53.0	+0.4
	baz=6.4,SNR=3.7						
BATI	Baumata	6.88	89	Pn	Pn	14 39 58.7	+1.9
	3.6nm,0.3s,baz=75,slow=4.7,SNR=5.1						
BATI				Sn	Sn	14 41 15.7	+1.8
	9.2nm,0.3s,baz=353,slow=23,SNR=7.3						
SOEI	Soe	7.50	85	P	Pn	14 39 56.4	-9.1
	baz=7.8,SNR=3.0						
CISI	Cisompet, Garu	9.21	287	P	Pn	14 40 24.3	-4.5
	baz=9.0,SNR=5.3						
FITZ	Fitzroy Crossi	11.55	132	Pn	Pn	14 41 00.8	0.0
	0.4nm,0.3s,baz=38,slow=6.3,SNR=21						
FITZ				Sn	Sn	14 43 04.4	-4.2
	1.1nm,0.3s,baz=203,slow=20,SNR=8.1						
FITZ	Fitzroy Crossi	11.55	132	P	Pn	14 41 02.1	+1.3
	baz=12,SNR=10						
KNRA	Kununurra	12.87	115	P	Pn	14 41 20.1	+1.2
	baz=13,SNR=5.0						
MTN	Manton Dam	14.36	101	P	Pn	14 41 39.8	+0.5
	baz=15,SNR=4.3						
MTN				S	Sn	14 44 14.1	-3.2
	baz=15,SNR=3.9						
KDU	Kakadu	15.64	100	P	P	14 42 13.2	+13
	baz=16,SNR=3.8						
MEEK	Meekatharra	16.22	174	P	Pn	14 42 00.9	-2.7
	baz=16,SNR=8.6						
MEEK				S	Sn	14 44 43.7	-19
	baz=16,SNR=8.7						
KKM	Kota Kinabalu	16.38	358	P	P	14 42 09.1	+0.8
	baz=16,SNR=3.5						
FAKI	Fak Fak	17.17	65	P	Pn	14 42 15.6	0.0
	baz=17,SNR=5.3						
MORW	Morawa	18.55	182	P	Pn	14 42 32.7	+0.2
	baz=19,SNR=7.3						
MORW				S	Sn	14 45 45.1	-14
	baz=19,SNR=5.3						
WRA	Warramunga Arr	19.47	121	P	Pn	14 42 45.0	+1.3
	0.2nm,0.3s,baz=284,slow=12,SNR=12						
WRA				S	S	14 46 13.6	-7.0
	0.1nm,0.3s,baz=291,slow=23,SNR=3.0						
BLDU	Ballidu	20.08	180	P	Pn	14 42 52.8	+2.0
	baz=20,SNR=6.6						
ASAR	Alice Springs	21.05	131	P	P	14 43 02.7	+3.2
	4.3nm,0.9s,baz=304,slow=10,SNR=72						
ASAR				S	S	14 46 48.3

0.8nm,0.6s,baz=111,slow=5.6,SNR=5.3
LSZ Lusaka 85.86 255 P **P 14 50 55.3 0.0**
1.2nm,0.7s,baz=126,slow=19,SNR=3.1
LSZ pP **pP 14 51 08.3 +1.9**
4.1nm,0.7s,baz=72,slow=9.6,SNR=5.1
BOSA Boshof 86.31 242 pP pP 14 51 10.4 +2.0
3.3nm,0.9s,baz=82,slow=4.7,SNR=4.0
SNAA Sanae 89.00 196 P **P 14 51 11.0 +1.7**
0.6nm,1.1s,baz=151,slow=10,SNR=2.9
SNAA pP **pP 14 51 23.1 +2.7**
0.1nm,0.4s,baz=108,slow=13,SNR=1.8
BRTR Keskin Array B 91.30 310 P **P 14 51 20.2 -0.5**
1.5nm,0.8s,baz=125,slow=6.2,SNR=9.1
NVAR Mina Array Bea 123.69 51 PKP **PKPdf 14 57 15.2 +2.2**
0.2nm,0.5s,baz=299,slow=1.9,SNR=2.5

IDC 03 14:41:50.2±1.0, 52°.61S×25°.69E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=40.9km s-min=27.2km az=73.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**22.88**	**203**	P	P	14 46 55.1	+0.1
0.3nm,0.6s,baz=61,slow=13,SNR=3.9							
VNDA	**Vanda**	**47.32**	**168**	P	P	14 50 23.5	-1.5
0.6nm,0.7s,baz=208,slow=4.5,SNR=4.4							
TORD	**Torodi Ar. Bea**	**68.68**	**335**	P	P	14 52 54.6	-0.8
0.3nm,0.8s,baz=147,slow=3.4,SNR=2.2							
ASAR	**Alice Springs**	**81.86**	**118**	P	P	14 54 12.1	+0.6
0.5nm,0.6s,baz=210,slow=4.9,SNR=9.1							
WRA	**Warramunga Arr**	**85.11**	**117**	P	P	14 54 28.0	-0.1
0.7nm,0.8s,baz=212,slow=4.4,SNR=3.3							
PDAR	**Pinedale Array**	**148.77**	**270**	PKPbc	PKPbc	15 01 39.5	+0.4
0.4nm,0.7s,baz=123,slow=4.8,SNR=3.8							
NVAR	**Mina Array Bea**	**151.41**	**255**	PKPbc	PKPbc	15 01 46.1	+0.5
0.6nm,0.8s,baz=155,slow=3.0,SNR=4.9							

IDC 03 14:54:41.3±0.9, 38°.76S×75°.01W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/18, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=34.1km s-min=19.4km az=71.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.96**	**121**	Pn	Pn	14 55 44.7	+1.3
3.9nm,0.3s,baz=301,slow=10,SNR=31							
PLCA				Sn	Sb	14 56 35.8	-4.8
3.7nm,0.3s,baz=175,slow=12,SNR=2.2							
CFAA	**Coronel Fontan**	**9.04**	**40**	Pn	Pn	14 56 53.0	-0.1
0.1nm,0.3s,baz=210,slow=11,SNR=3.9							
CFAA				Sn	Sn	14 58 34.7	-0.9
0.1nm,0.3s,baz=131,slow=19,SNR=3.9							
SNAA	**Sanae**	**48.15**	**156**	P	P	15 03 21.6	-1.1
0.5nm,0.8s,baz=313,slow=16,SNR=4.1							
QSPA	**South Pole Qui**	**51.48**	**180**	P	P	15 03 48.1	-0.2
0.9nm,0.6s,baz=331,slow=21,SNR=10							
TXAR	**Lajitas Array**	**72.84**	**334**	P	P	15 06 12.2	+0.4
0.9nm,0.6s,baz=151,slow=8.0,SNR=15							
NVAR	**Mina Array Bea**	**86.51**	**327**	P	P	15 07 27.0	+0.9
0.3nm,0.6s,baz=164,slow=3.7,SNR=3.5							
PDAR	**Pinedale Array**	**87.00**	**335**	P	P	15 07 28.0	-0.4
0.6nm,0.9s,baz=134,slow=3.9,SNR=4.1							

*ISCJB **03** 15:05:58.1±0.7, 22°.6S±0°.2×173°.92W±0°.09, h10km, mb4.1/12, MS3.6/5, Error ellipse: s-maj=26.8km s-min=12.4km az=177.0*
*NEIC **03** 15:06:00.3±0.8, 22°.61S×173°.98W, h10km, mb4.9/1, Error ellipse: s-maj=32.7km s-min=13.8km az=176.0*
*IDC **03** 15:06:01.1±1.4, 22°.05S×174°.37W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.2/20, mbtmp4.1/11, MS3.6/6, Ms1 3.6/6, ms1mx3.2/34, Error ellipse: s-maj=54.7km s-min=22.6km az=155.0*
ISC 03 15:06:00.8±0.9, 22°.4S±0°.2×173°.94W±0°.10, h10km, n34, σ1°58/30, mb4.1/12, MS3.5/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.72**	**14**	*e*P	Pn	15 07 58.3	-8.9
AFI				Sn	Sn	15 09 26.4	-19
AFI	**Afiamalu**	**8.72**	**14**	Pn	Pn	15 07 57.7	-10
2.5nm,0.3s,baz=198,slow=16,SNR=4.6							
AFI				Sn	Sn	15 09 26.4	-19
8.9nm,0.3s,baz=18,slow=23,SNR=5.9							
MSVF	**Nonsavu**	**8.86**	**300**	*e*P	**Pn**	**15 08 09.8**	**+0.8**
56nm,1.0s							
RAR	**Rarotonga**	**13.22**	**87**	Pn	**Pn**	**15 09 06.9**	**-1.7**
RAR	**Rarotonga**	**13.22**	**87**	Pn	**Pn**	**15 09 06.9**	**-1.7**
3.5nm,0.3s,baz=270,slow=1.7,SNR=9.1							
RAR				LR	LR	15 12 37.8	
comp=Z,140nm,18.7s,baz=268,slow=29							
TBI	**Tubuai**	**22.57**	**97**	*e*LR	LR	15 16 08.7	
220nm,31.5s							
PPT2	**Papeete2**	**23.39**	**83**	*e*LR	LR	15 16 40.4	
191nm,24.5s							
PPT	**Papeete**	**23.39**	**82**	LR	LR	15 18 29.8	
comp=Z,164nm,18.9s,baz=163,slow=32							
AS31	**Alice Springs**	**47.78**	**258**	*e*P	**P**	**15 14 38.1**	**-0.5**
ASAR	**Alice Springs**	**47.78**	**258**	P	**P**	**15 14 37.5**	**-1.1**
ASAR				PcP	**PcP**	**15 16 09.7**	**+2.0**
ASAR	**Alice Springs**	**47.78**	**258**	P	**P**	**15 14 37.5**	**-1.1**
4.1nm,1.0s,baz=89,slow=8.6,SNR=22							
ASAR				PcP	**PcP**	**15 16 09.6**	**+2.0**
0.8nm,1.0s,baz=116,slow=2.9,SNR=2.5							
WRAB	**Tennant Creek**	**48.09**	**263**	*e*P	**P**	**15 14 39.7**	**-1.3**
12nm,1.2s							
WRA	**Warramunga Arr**	**48.09**	**263**	P	**P**	**15 14 39.2**	**-1.8**
WRA	**Warramunga Arr**	**48.09**	**263**	P	**P**	**15 14 39.2**	**-1.8**
6.4nm,1.1s,baz=96,slow=6.9,SNR=16							
VNDA	**Vanda**	**56.37**	**186**	LR	LR	15 37 00.0	
comp=Z,70nm,18.3s,baz=245,slow=33							
MJAR	**Matsushiro Arr**	**74.03**	**322**	P	**P**	**15 17 34.4**	**-2.5**
MJAR	**Matsushiro Arr**	**74.03**	**322**	P	**P**	**15 17 34.4**	**-2.5**
1.3nm,0.6s,baz=163,slow=7.4,SNR=5.4							
PETK	**Petropavlovsk-**	**79.15**	**343**	P	**P**	**15 18 04.4**	**-1.1**
PETK	**Petropavlovsk-**	**79.15**	**343**	P	**P**	**15 18 04.4**	**-1.1**
2.5nm,0.9s,baz=142,slow=7.3,SNR=3.6							
NVAR	**Mina Array Bea**	**79.91**	**41**	P	**P**	**15 18 12.9**	**+2.7**
NVAR	**Mina Array Bea**	**79.91**	**41**	P	**P**	**15 18 12.9**	**+2.7**
1.7nm,1.0s,baz=225,slow=8.4,SNR=7.1							
KSRS	**Korea Array**	**80.85**	**317**	P	**P**	**15 18 15.6**	**+0.6**
2.1nm,1.1s,baz=142,slow=6.1,SNR=5.8							
KSRS				LR	LR	15 47 48.8	
comp=Z,22nm,19.1s,baz=175,slow=31							
KSAR	**Wonju Array Be**	**80.87**	**317**	P	**P**	**15 18 15.6**	**+0.5**
USRK	**Ussuriysk Arra**	**82.70**	**324**	P	**P**	**15 18 24.6**	**0.0**
0.4nm,0.5s,baz=67,slow=8.0,SNR=3.3							
TXAR	**Lajitas Array**	**84.97**	**56**	P	**P**	**15 18 38.9**	**+2.2**
TXAR	**Lajitas Array**	**84.97**	**56**	P	**P**	**15 18 38.9**	**+2.2**
0.9nm,1.0s,baz=212,slow=8.5,SNR=4.8							
TXAR				LR	LR	15 49 37.9	
comp=Z,37nm,19.9s,baz=335,slow=31							
PDAR	**Pinedale Array**	**87.83**	**42**	P	**P**	**15 18 50.9**	**+0.3**
PDAR	**Pinedale Array**	**87.83**	**42**	P	**P**	**15 18 50.9**	**+0.3**
0.2nm,0.4s,baz=189,slow=3.5,SNR=4.1							
ILAR	**Eielson Array**	**89.41**	**11**	P	**P**	**15 18 56.9**	**-0.3**
ILAR	**Eielson Array**	**89.41**	**11**	P	**P**	**15 18 56.9**	**-0.3**
0.6nm,1.0s,baz=212,slow=4.8,SNR=3.1							
CMAR	**Chiang Mai Arr**	**94.31**	**288**	P	**P**	**15 19 21.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**94.31**	**288**	P	**P**	**15 19 21.2**	**+0.2**
1.1nm,1.0s,baz=114,slow=4.2,SNR=5.5							
CMAR				LR	LR	15 57 51.0	
comp=Z,18nm,19.6s,baz=195,slow=33							
BRTR	**Keskin Array B**	**150.92**	**313**	PKPbc	**PKPbc**	**15 25 55.2**	**+1.1**
BRTR	**Keskin Array B**	**150.92**	**313**	PKPbc	**PKPbc**	**15 25 55.2**	**+1.1**
0.5nm,0.7s,baz=90,slow=5.8,SNR=3.8							

*IDC **03** 15:06:38.6±1.1, 31°.61N×103°.94E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.5/29, mbtmp3.4/8, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/32, Error ellipse: s-maj=36.1km s-min=19.9km az=60.0*
*BJI **03** 15:06:38.2, 31°.26N×103°.66E, h23km, mb3.6/1, ML3.6/13, Ms4.0/2, Ms7 3.7/2*
ISC 03 15:06:38.0±0.8, 31°.26N±0°.04×103°.69E±0°.08, h14km, n11, σ2°31/15, mb3.5/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.35**	**170**	Pg	**Pg**	**15 06 44.3**	**-0.9**
CD2				Sg	**Sg**	**15 06 49.8**	**-0.2**
CD2				smax	smax		
comp=E,5μm,0.5s							
LZH Lanzhou 4.82 2 Pg **Pg 15 08 08.1 -2.2**							
LZH				Sg	**Sb**	**15 09 04.1**	**+3.9**
LZH				smax	smax		
comp=N,120nm,1.3s							
LZH				smax	smax		
comp=E,110nm,1.1s							
XAN Xi'an 5.21 56 Pn **Pn 15 07 54.0 -1.6**							
XAN				Pg	**Pb**	**15 08 09.8**	**+0.8**
XAN				Sn	**Sn**	**15 08 52.8**	**-2.8**
XAN				Sg	**Sb**	**15 09 15.8**	**+4.3**
XAN				smax	smax		
comp=N,160nm,0.9s							
XAN				smax	smax		
comp=E,78nm,0.7s							
CMAR Chiang Mai Arr 13.45 200 Pn **P 15 09 56.9 -0.9**							
comp=E,0.3nm,0.3s,baz=9.7,slow=8.6,SNR=3.9							
SONM Songino Array 16.69 6 Pn **Pn 15 10 30.5 -1.0**							
comp=E,0.1nm,0.3s,baz=184,slow=7.5,SNR=3.0							
KSRS Korea Array 20.91 66 P **P 15 11 18.7 -1.4**							
comp=E,1.6nm,0.7s,baz=261,slow=10,SNR=8.2							
KSRS				LR	LR	15 19 25.2	
comp=E,23nm,18.2s,baz=165,slow=37							
MKAR Makanchi Array 22.63 319 P **P 15 11 40.5 +2.0**							
comp=E,0.2nm,0.4s,baz=119,slow=12,SNR=5.1							
ZALV Zalesovo Beam 26.43 335 P **P 15 12 14.6 +0.5**							
comp=E,0.4nm,0.3s,baz=125,slow=12,SNR=2.6							
KURBB Kurchatov Arra 26.90 323 P **P 15 12 19.1 +0.6**							
comp=E,0.3nm,0.6s,baz=126,slow=10,SNR=2.4							
WRA Warramunga Arr 58.80 146 P **P 15 16 38.4 +2.3**							
comp=E,0.8nm,0.9s,baz=338,slow=7.9,SNR=6.0							
ASAR Alice Springs 61.81 148 P P 15 17 02.6 +6.0							
comp=E,0.3nm,0.8s,baz=330,slow=6.9,SNR=3.6							

*INMG **03** 15:36:10.0±0.4, 32°.89N×6°.84W, h0km, ML2.0, Error ellipse: s-maj=4.5km s-min=2.1km az=32.0*
*CSEM **03** 15:36:10.0±0.5, 32°.98N×6°.59W, h5km, ML2.0, Error ellipse: s-maj=12.1km s-min=9.3km az=71.0*
MDD 03 15:36:07.0±4.0, 32°.71N×6°.59W, h0km, mb3.5/4, Error ellipse: s-maj=57.4km s-min=35.6km az=74.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**4.77**	**349**	*e*Pn	Pn	15 37 19.1	-1.1
PVAQ				*e*Sn	Sn	15 38 11.1	-5.2
PVAQ				A	A	15 38 23.9	
1.7nm,0.7s							
PVAQ	**Vaqueiros**	**4.77**	**349**	Pn	Pn	15 37 19.1	-1.1
PVAQ				Sn	Sn	15 38 11.1	-5.2
1.7nm,0.7s							
PVAQ	**Vaqueiros**	**4.77**	**349**	*e*Pn	Pn	15 37 19.1	-1.1
PVAQ				Sn	Sn	15 38 11.1	-5.2
1.7nm,0.7s							
EGRO	**El Granado**	**4.87**	**352**	Pn	Pn	15 37 20.2	-1.3
0.4nm,0.1s,SNR=7.9							
EGRO				Sn	Sn	15 38 14.4	-4.2
1.0nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**4.87**	**352**	Pn	Pn	15 37 20.2	-1.3
0.4nm,0.1s,SNR=7.9							
EGRO				Sn	Sn	15 38 14.4	-4.2
1.0nm,0.4s,SNR=7.9							
MORF	**Marmelete**	**4.89**	**340**	*e*Pn	Pn	15 37 20.6	-1.3
MORF	**Marmelete**	**4.89**	**340**	Pn	Pn	15 37 20.6	-1.3
MORF	**Marmelete**	**4.89**	**340**	*e*Pn	Pn	15 37 20.6	-1.3
EMIN	**Mina Concepcio**	**5.05**	**359**	Pn	Pn	15 37 22.4	-1.6
0.2nm,0.2s,SNR=7.9							
EMIN				Sn	Sn	15 38 18.7	-4.3
0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.05**	**359**	Pn	Pn	15 37 22.4	-1.6
0.2nm,0.2s,SNR=7.9							
EMIN				Sn	Sn	15 38 18.7	-4.3
0.2nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.44**	**10**	Pn	Pn	15 37 28.4	-1.1
0.9nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.44**	**10**	Pn	Pn	15 37 28.4	-1.0
0.9nm,0.2s,SNR=7.9							
PBAR	**Barrancos**	**5.46**	**356**	*e*Pn	Pn	15 37 29.1	-0.6
PBAR				*e*Sn	Sn	15 38 28.8	-4.5
PBAR	**Barrancos**	**5.46**	**356**	Pn	Pn	15 37 29.1	-0.6
PBAR				Sn	Sn	15 38 28.8	-4.5
PBAR	**Barrancos**	**5.46**	**356**	*e*Pn	Pn	15 37 29.1	-0.6
PBAR				*e*Sn	Sn	15 38 28.8	-4.5
PNCL	**Nicolau / Gran**	**5.62**	**344**	*e*Pn	Pn	15 37 30.5	-1.3
PNCL	**Nicolau / Gran**	**5.62**	**344**	*e*Pn	Pn	15 37 30.5	-1.3
EADA	**Adamuz**	**5.69**	**16**	Pn	Pn	15 37 31.3	-1.6
0.5nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.69**	**16**	Pn	Pn	15 37 31.3	-1.5
0.5nm,0.2s,SNR=7.9							

*IDC **03** 15:38:30.8±1.3, 14°.53N×122°.16E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/26, mbtmp3.9/5, Error ellipse: s-maj=23.6km s-min=15.2km az=2.0*
*ISCJB **03** 15:38:36.2±0.8, 13°.46N±0°.05×120°.04E±0°.06, h16km, mb3.9/5, Error ellipse: s-maj=9.0km s-min=7.3km az=31.3*
*MAN **03** 15:38:38, 13°.46N×120°.13E, h22km, mb4.6, ML3.5, MS3.4*
ISC 03 15:38:36.8±1.0, 13°.45N±0°.07×120°.11E±0°.08, h16km, n12, σ0°85/13, mb4.0/5, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.82**	**86**↑	*i*P	**Pb**	**15 38 52.6**	**-0.1**
TGY	**Tagaytay City**	**1.03**	**51**↑	*i*P	**Pb**	**15 38 56.0**	**-0.3**
TGY				*e*S	**Sb**	**15 39 10.5**	**+0.8**
TGY	**Tagaytay City**	**1.03**	**51**	Pg	**Pb**	**15 38 56.1**	**-0.3**
383nm,0.3s,baz=228,slow=4.9,SNR=27							
TGY				Lg	Lg	15 39 10.9	
659nm,0.3s,baz=330,slow=20,SNR=24							
SJMP	**San Jose**	**1.39**	**135**	*e*P	**Pn**	**15 39 02.0**	**+0.5**
SJMP				*e*S	**Sn**	**15 39 19.7**	**+0.2**
BUSP	**Coron**	**1.44**	**177**	*e*P	**Pn**	**15 39 02.9**	**+0.7**
BOAC	**Boac**	**1.69**	**89**	*e*P	**Pn**	**15 39 06.2**	**+0.6**
ENPP	**El Nido**	**2.33**	**197**	*e*P	**Pn**	**15 39 15.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**31.82**	**170**	P	P	15 45 05.1	+4.1
2.5nm,1.1s,baz=12,slow=19,SNR=3.6							
WRA	**Warramunga Arr**	**36.02**	**157**	P	**P**	**15 45 35.8**	**-1.6**
1.8nm,0.8s,baz=336,slow=9.5,SNR=13							
ASAR	**Alice Springs**	**39.28**	**160**	P	**P**	**15 46 04.5**	**-0.6**
0.9nm,0.7s,baz=341,slow=7.2,SNR=14							
MKAR	**Makanchi Array**	**45.90**	**324**	P	**P**	**15 46 57.9**	**-0.7**
0.2nm,0.7s,baz=101,slow=7.6,SNR=3.0							
AAK	**Ala-Archa**	**48.84**	**316**	P	**P**	**15 47 22.8**	**+1.0**
1.9nm,0.4s,baz=166,slow=8.3,SNR=2.9							

IDC 03 15:39:21.4±1.7, 6°.20S×150°.55E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, ML2.5/1, MS3.8/3, Ms1 3.8/3, ms1mx2.9/20, Error ellipse: s-maj=101.8km s-min=26.7km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.63**	**226**	Pn	Pn	15 40 33.8	+1.2
1.7nm,0.3s,baz=138,slow=16,SNR=7.5							
PMG				Sn	Sn	15 41 26.0	-1.1
3.5nm,0.3s,baz=187,slow=22,SNR=5.7							
WRA	**Warramunga Arr**	**20.85**	**228**	P	P	15 44 04.8	-0.1
1.5nm,0.7s,baz=53,slow=11,SNR=13							
ASAR	**Alice Springs**	**23.62**	**221**	P	P	15 44 34.1	-0.2
0.2nm,0.4s,baz=56,slow=9.2,SNR=9.9							
RAO	**Raoul Island**	**37.56**	**131**	LR	LR	15 59 15.7	
comp=Z,188nm,18.7s,slow=32							
AFI	**Afiamalu**	**37.84**	**105**	LR	LR	15 59 17.8	
comp=Z,191nm,19.7s,slow=32							
CMAR	**Chiang Mai Arr**	**56.47**	**297**	LR	LR	16 15 26.1	
comp=Z,34nm,18.5s,baz=143,slow=38							
NVAR	**Mina Array Bea**	**94.71**	**52**	P	P	15 52 44.8	-0.4
0.3nm,0.6s,baz=258,slow=4.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	PKPbc	15 59 11.1	-0.3
0.4nm,0.5s,baz=61,slow=3.7,SNR=4.0							

IDC 03 15:43:51.9±3.0, 49°.54S×124°.97E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, MS3.5/4, Ms1 3.4/4, ms1mx3.1/18, Error ellipse: s-maj=124.4km s-min=25.1km az=95.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.60**	**41**	P	P	15 48 43.2	0.0
3.7nm,0.8s,baz=199,slow=13,SNR=4.1							
STKA				LR	LR	15 56 44.2	
comp=Z,112nm,19.5s,baz=206,slow=36							
ASAR	**Alice Springs**	**26.76**	**18**	P	P	15 49 33.2	-0.1
1.0nm,0.9s,baz=198,slow=8.4,SNR=13							
ASAR				LR	LR	15 58 28.7	
comp=Z,144nm,21.4s,baz=185,slow=33							
WRA	**Warramunga Arr**	**30.46**	**18**	P	P	15 50 06.5	+0.2
0.6nm,0.8s,baz=194,slow=9.2,SNR=2.8							
VNDA	**Vanda**	**31.37**	**165**	P	P	15 50 13.7	0.0
1.0nm,0.8s,baz=307,slow=8.1,SNR=8.0							
PMG	**Port Moresby**	**44.08**	**32**	LR	LR	16 07 22.5	
comp=Z,49nm,19.5s,baz=248,slow=32							
SNAA	**Sanae**	**53.61**	**198**	LR	LR	16 14 37.6	
comp=Z,29nm,18.6s,baz=4.1,slow=34							

IDC 03 15:49:29.4±3.5, 12°.95N×124°.47E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, Error ellipse: s-maj=332.3km s-min=21.7km az=65.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.10**	**163**	P	P	15 56 15.9	0.0
0.5nm,0.8s,baz=342,slow=8.6,SNR=2.8							
ASAR	**Alice Springs**	**37.54**	**166**	P	P	15 56 45.3	-0.2
0.3nm,0.9s,baz=349,slow=7.3,SNR=7.8							
MKAR	**Makanchi Array**	**48.84**	**322**	P	P	15 58 17.0	+0.3
0.5nm,0.8s,baz=120,slow=9.4,SNR=5.2							
KURBB	**Kurchatov Arra**	**52.88**	**325**	P	P	15 58 46.5	-0.4
0.2nm,0.4s,baz=123,slow=7.2,SNR=3.9							

WEL 03 16:22:09.0±0.2, 46°.25S×166°.28E, h33km, ML3.8/13, Error ellipse: s-maj=2.5km s-min=0.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.98**	**39**	PN	Pn	16 22 26.1	-0.3
DCZ				SN	Sn	16 22 39.0	-0.2
DCZ				AML	AML	16 22 41.6	
DCZ				AML	AML	16 22 41.6	
DCZ				AML	AML	16 22 44.4	
WHZ	**Wether Hill Ro**	**1.21**	**74**	PN	Pn	16 22 30.5	+0.9
WHZ				SN	Sb	16 22 46.7	-0.2
WHZ				AML	AML	16 22 47.9	
APZ	**The Paps**	**1.32**	**117**	PN	Pn	16 22 30.5	-0.6
MLZ	**Mavora Lakes**	**1.60**	**56**	PN	Pb	16 22 37.2	-0.9
MLZ				AML	AML	16 23 00.1	
MLZ				AML	AML	16 23 05.8	
SYZ	**Scrubby Hill**	**2.00**	**99**	PN	Pn	16 22 40.9	+0.5
SYZ				SN	Sn	16 23 04.6	+0.2
TUZ	**Tuapeka**	**2.35**	**84**	PN	Pn	16 22 46.2	+1.0
TUZ				SN	Sn	16 23 14.2	+1.2
TUZ				AML	AML	16 23 20.9	
EAZ	**Earnscleugh**	**2.35**	**66**	PN	Pn	16 22 47.5	+2.2
EAZ				AML	AML	16 23 20.5	
EAZ				AML	AML	16 23 20.5	
EAZ				AML	AML	16 23 21.6	
WKZ	**Wanaka**	**2.39**	**55**	PN	Pb	16 22 49.3	-2.2
WKZ				AML	AML	16 23 23.5	
WKZ				AML	AML	16 23 28.6	
ODZ	**Otahua Downs**	**3.29**	**70**	PN	Pn	16 22 57.9	-0.3
LBZ	**Lake Benmore**	**3.32**	**57**	PN	Pn	16 22 59.6	+0.9
LBZ				AML	AML	16 23 43.6	
LBZ				AML	AML	16 23 57.9	
FOZ	**Fox Glacier**	**3.61**	**43**	PN	Pn	16 23 07.2	+4.6

*IDC **03** 16:44:01.8±1.4, 38°.43N×21°.66E, h0km, mb3.7/6, mb1 3.5/8, mb1mx3.4/29, mbtmp3.5/8, ML3.0/2, Error ellipse: s-maj=32.5km s-min=23.7km az=124.0*
*ISCJB **03** 16:44:03.1±0.3, 38°.40N±0°.01×21°.75E±0°.02, h9km±2km, mb3.6/6, Error ellipse: s-maj=2.3km s-min=2.1km az=14.7*
*CSEM **03** 16:44:03.5±0.1, 38°.39N×21°.76E, h5km, ML3.3, Error ellipse: s-maj=2.4km s-min=2.1km az=92.0*
*ATH **03** 16:44:03.2, 38°.37N×21°.78E, h15km±1km, MD3.4/36, ML3.0*
*THE **03** 16:44:03.5, 38°.39N×21°.76E, h2km, ML3.0/14, Error ellipse: s-maj=0.9km s-min=0.3km az=297.0*
*SOF **03** 16:44:23.4, 39°.95N×21°.90E, h10km, MD2.9*
ISC 03 16:44:03.8±0.7, 38°.39N±0°.01×21°.76E±0°.01, h11km±4km, n160, σ0°89/237, mb3.5/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.10**	**169**	P	**Pg**	**16 44 06.2**	**-0.3**
UPR				S	**Sg**	**16 44 08.3**	**-0.2**
PSA1	**Psathopyrgos**	**0.11**	**122**	*e*PB	**Pg**	**16 44 06.2**	**-0.4**
PSA1				*e*SB	**Sg**	**16 44 08.5**	**-0.2**
EFP	**Efpalio**	**0.12**	**70**	P	**Pg**	**16 44 06.3**	**-0.4**
EFP				S	**Sg**	**16 44 08.2**	**-0.7**
EFP	**Efpalio**	**0.12**	**70**	*e*PB	**Pg**	**16 44 06.4**	**-0.3**
EFP				*e*SB	**Sg**	**16 44 08.9**	**0.0**
EFP	**Efpalio**	**0.12**	**70**	P	**Pg**	**16 44 06.4**	**-0.3**
EFP				S	**Sg**	**16 44 08.6**	**-0.3**
LAKA	**Lakka**	**0.22**	**131**	P	**Pg**	**16 44 08.0**	**-0.4**
LAKA				S	**Sg**	**16 44 11.5**	**-0.2**
LAKA	**Lakka**	**0.22**	**131**	*e*PB	**Pg**	**16 44 08.1**	**-0.4**
LAKA				*e*SB	**Sg**	**16 44 11.4**	**-0.2**
LAKA	**Lakka**	**0.22**	**131**	P	**Pg**	**16 44 08.1**	**-0.4**
LAKA				S	**Sg**	**16 44 11.5**	**-0.2**
TRIZ	**Trizonia**	**0.24**	**95**	P	**Pg**	**16 44 08.5**	**-0.3**
TRIZ				S	**Sg**	**16 44 12.4**	**+0.2**
TRIZ	**Trizonia**	**0.24**	**95**	*e*PB	**Pg**	**16 44 08.7**	**-0.1**
TRIZ				*e*SB	**Sg**	**16 44 12.6**	**+0.4**
**

AXAR	Agios Charalam	0.80	61	P	Pg	16 44 18.2	-1.0
AXAR				S	Sg	16 44 29.8	+0.1
KFL	Anninata	0.81	250	P	Pg	16 44 18.6	-0.9
KFL				S	Sg	16 44 30.2	0.0
KFL	Anninata	0.81	250	P	Pg	16 44 18.9	-0.6
KFL				S	Sg	16 44 30.2	0.0
AMT	Artemida-Makis	0.85	183	P	Pg	16 44 19.6	-0.6
AMT				S	Sg	16 44 31.8	+0.4
AMT	Artemida-Makis	0.85	183	P	Pg	16 44 19.6	-0.6
AMT				S	Sg	16 44 31.8	+0.4
VLS	Valsamata	0.95	258	P	Pg	16 44 20.7	-1.2
VLS				S	Sb	16 44 35.0	+0.2
VLS	Valsamata	0.95	258	ePB	Pg	16 44 20.8	-1.2
VLS				eSN	Sb	16 44 35.8	+1.0
VLS	Valsamata	0.95	258	ePb	Pg	16 44 20.8	-1.2
VLS				S	Sb	16 44 35.0	+0.2
LKD2	Lefkada island	0.95	295	P	Pg	16 44 21.6	-0.6
LKD2				S	Sg	16 44 35.0	+0.4
LKD2	Lefkada island	0.95	295	ePN	Pg	16 44 21.8	-0.4
LKD2	Lefkada island	0.95	295	P	Pg	16 44 21.6	-0.6
LKD2				S	Sg	16 44 35.0	+0.4
LKR	Lokris	1.01	74	ePN	Pg	16 44 22.2	-0.9
LKR				eSN	Sg	16 44 36.2	0.0
LKR	Lokris	1.01	74	ePn	Pg	16 44 22.2	-0.9
LKR				eSn	Sg	16 44 36.2	0.0
LTK	Loutraki	1.02	111	P	Pg	16 44 22.6	-0.7
LTK				S	Sg	16 44 37.2	+0.6
LTK	Loutraki	1.02	111	ePN	Pg	16 44 22.7	-0.6
LTK	Loutraki	1.02	111	P	Pg	16 44 22.6	-0.7
LTK				S	Sg	16 44 37.2	+0.6
VLX	Vlachokerasia	1.13	154	P	Pg	16 44 24.1	-1.3
VLX				S	Sg	16 44 40.7	+0.6
VLX	Vlachokerasia	1.13	154	ePN	Pg	16 44 24.1	-1.3
VLX				eSN	Sg	16 44 38.8	-1.3
VLX	Vlachokerasia	1.13	154	P	Pg	16 44 24.1	-1.3
VLX				eSn	Sg	16 44 38.8	-1.3
VLX				S	Sb	16 44 40.5	+0.5
THL	Klokotos Trika	1.19	9	P	Pg	16 44 26.1	-0.6
THL				S	Sg	16 44 42.1	-0.1
THL	Klokotos Trika	1.19	9	ePN	Pb	16 44 26.8	+0.4
THL	Klokotos Trika	1.19	9	P	Pg	16 44 26.1	-0.6
THL	Klokotos Trika	1.19	9	ePn	Pb	16 44 26.8	+0.4
THL				S	Sg	16 44 42.1	-0.1
ITM	Ithomi	1.21	174	P	Pg	16 44 25.7	-1.4
ITM				S	Sn	16 44 44.2	+1.1
ITM	Ithomi	1.21	174	ePN	Pg	16 44 25.5	-1.6
ITM				eSN	Sg	16 44 42.5	-0.3
ITM	Ithomi	1.21	174	P	Pg	16 44 25.7	-1.4
ITM				eSn	Sg	16 44 42.5	-0.3
ITM				S	Sn	16 44 44.2	+1.1
SFD	Strofades	1.28	208	P	Pn	16 44 27.8	+0.2
SFD	Strofades	1.28	208	P	Pn	16 44 27.8	+0.2
DID	Didima	1.46	127	P	Pn	16 44 29.9	-0.2
DID				S	Sg	16 44 51.2	+0.5
DID	Didima	1.46	127	ePN	Pn	16 44 30.7	+0.6
DID	Didima	1.46	127	P	Pn	16 44 29.9	-0.2
DID	Didima	1.46	127	ePn	Pn	16 44 30.7	+0.6
DID				S	Sg	16 44 51.2	+0.5
DIDY	Didyma	1.46	128	P	Pn	16 44 29.9	-0.3
DIDY				S	Sn	16 44 50.6	+1.2
DIDY	Didyma	1.46	128	P	Pn	16 44 29.9	-0.3
DIDY				S	Sn	16 44 50.6	+1.2
NEO	Neokhori	1.47	51	P	Pn	16 44 30.4	+0.2
NEO				S	Sb	16 44 50.5	+0.8
NEO	Neokhori	1.47	51	ePN	Pn	16 44 30.3	+0.1
NEO	Neokhori	1.47	51	P	Pn	16 44 30.4	+0.2
NEO				S	Sb	16 44 50.5	+0.8
XOR	Xorichti	1.48	48	P	Pn	16 44 30.5	0.0
XOR				S	Sn	16 44 51.0	+1.1
XOR	Xorichti	1.48	48	P	Pn	16 44 30.5	0.0
XOR				S	Sn	16 44 51.0	+1.1
PYL	PYLOS	1.49	181	P	Pn	16 44 30.4	-0.1
PYL				S	Sg	16 44 52.1	+0.5
PYL	PYLOS	1.49	181	ePN	Pn	16 44 30.8	+0.3
PYL	PYLOS	1.49	181	P	Pn	16 44 30.4	-0.1
PYL	PYLOS	1.49	181	ePn	Pn	16 44 30.8	+0.3
PYL				S	Sg	16 44 52.1	+0.5
NAIG	Nisos Aigina	1.50	114	ePN	Pn	16 44 30.5	-0.1
NAIG	Nisos Aigina	1.50	114	ePn	Pn	16 44 30.5	-0.1
SKIA	Skiathos	1.54	59	P	Pn	16 44 31.4	+0.1
SKIA	Skiathos	1.54	59	P	Pn	16 44 31.4	+0.1
ATH	Athens Observa	1.59	104	ePN	Pn	16 44 33.0	+1.1
ATH				eSN	Sb	16 44 54.2	+0.8
ATH	Athens Observa	1.59	104	ePn	Pn	16 44 33.0	+1.1
ATH				eSn	Sb	16 44 54.2	+0.8
ATHU	Athens Univers	1.65	104	P	Pn	16 44 32.6	-0.1
ATHU	Athens Univers	1.65	104	P	Pn	16 44 32.6	-0.1
DYR	Agios Nikonas	1.68	164	P	Pn	16 44 33.8	+0.6
DYR	Agios Nikonas	1.68	164	ePN	Pn	16 44 33.8	+0.6
DYR	Agios Nikonas	1.68	164	P	Pn	16 44 33.8	+0.6
DYR				S	Sb	16 44 56.6	+0.6
PTL	Penteli	1.69	101	P	Pn	16 44 33.2	-0.1
PTL	Penteli	1.69	101	ePN	Pn	16 44 33.8	+0.5
PTL	Penteli	1.69	101	P	Pn	16 44 33.2	-0.1
PTL	Penteli	1.69	101	ePn	Pn	16 44 33.8	+0.5
AOS	Alonnisos	1.83	64	P	Pn	16 44 34.8	-0.4
AOS	Alonnisos	1.83	64	ePN	Pn	16 44 35.3	+0.1
AOS	Alonnisos	1.83	64	P	Pn	16 44 34.8	-0.4
AOS	Alonnisos	1.83	64	ePn	Pn	16 44 35.3	+0.1
VLI	Veliai	1.91	150	P	Pn	16 44 36.5	+0.2
VLI				S	Sn	16 45 02.4	+2.1
VLI	Veliai	1.91	150	ePN	Pb	16 44 38.9	+0.3
VLI	Veliai	1.91	150	P	Pn	16 44 36.5	+0.2
VLI	Veliai	1.91	150	ePn	Pb	16 44 38.9	+0.3
VLI				S	Sn	16 45 02.4	+2.1
SRN	Sarande	2.02	318	P	Pn	16 44 38.6	+0.7
SRN	Sarande	2.02	318	P	Pn	16 44 38.6	+0.7
PAIG	Paliouri	2.14	43	P	Pn	16 44 39.2	-0.2
PAIG	Paliouri	2.14	43	ePB	Pn	16 44 39.3	-0.2
PAIG	Paliouri	2.14	43	P	Pn	16 44 39.2	-0.2
KYTH	Kithira	2.33	154	ePN	Pb	16 44 44.9	-1.0
KYTH	Kithira	2.33	154	ePn	Pb	16 44 44.9	-1.0
FNA	Florina	2.41	353	P	Pn	16 44 43.4	+0.1
FNA	Florina	2.41	353	ePN	Pn	16 44 45.7	+2.4
FNA	Florina	2.41	353	P	Pn	16 44 43.4	+0.1
FNA	Florina	2.41	353	ePn	Pn	16 44 45.7	+2.4
HORT	Hortiatis	2.44	25	P	Pn	16 44 43.4	-0.3
HORT	Hortiatis	2.44	25	P	Pn	16 44 43.4	-0.3
GRG	Griva	2.61	11	ePN	Pn	16 44 47.2	+1.2
GRG	Griva	2.61	11	ePn	Pn	16 44 47.2	+1.2
SOH	Sokhos	2.73	26	ePN	Pn	16 44 48.5	+0.9
SOH	Sokhos	2.73	26	ePn	Pn	16 44 48.5	+0.9
ANKY	Antikythira Is	2.80	153	ePB	Pn	16 44 50.5	+2.0
ANKY	Antikythira Is	2.80	153	ePb	Pn	16 44 50.5	+2.0
KNT	Kendrikon	2.91	17	P	Pn	16 44 50.7	+0.7
KNT	Kendrikon	2.91	17	P	Pn	16 44 50.7	+0.7
VAY	Valandovo	3.00	12	ePn	Pn	16 44 53.8	+2.5
VAY	Valandovo	3.00	12	ePn	Pn	16 44 53.7	+2.5
SRS	Serrai	3.07	27	P	Pn	16 44 53.2	+0.9
SRS	Serrai	3.07	27	P	Pn	16 44 53.2	+0.9
APE	Apeiranthos	3.26	113	P	Pn	16 44 55.9	+0.9
APE	Apeiranthos	3.26	113	ePN	Pn	16 44 56.8	+1.8
APE	Apeiranthos	3.26	113	P	Pn	16 44 55.9	+0.9
APE	Apeiranthos	3.26	113	ePn	Pn	16 44 56.8	+1.8
CHOS	Chios island	3.37	89	P	Pn	16 44 57.2	+0.7
CHOS	Chios island	3.37	89	ePN	Pn	16 44 57.3	+0.7
CHOS	Chios island	3.37	89	P	Pn	16 44 57.2	+0.7
MMB	Musomiste	3.54	25	P	Pn	16 44 59.7	+1.0
MMB	Musomiste	3.54	25	P	Pn	16 44 59.7	+1.0
VAM	Vamos	3.56	146	ePN	Pn	16 45 00.9	+1.9
VAM	Vamos	3.56	146	ePn	Pn	16 45 00.9	+1.9
KKB	Krupnik	3.62	16	eP	Pn	16 44 59.4	-0.4
KKB	Krupnik	3.62	16	eP	Pn	16 44 59.4	-0.4
IDI	Anoyia	3.98	140	ePN	Pn	16 45 06.9	+2.1
IDI	Anoyia	3.98	140	ePn	Pn	16 45 06.9	+2.1
RZN	Rozhen	4.00	34	P	Pn	16 45 07.5	+2.3
RZN	Rozhen	4.00	34	P	Pn	16 45 07.5	+2.3
BARS	Barje	4.43	1	ePn	Pn	16 45 13.2	+2.3
DIVS	Divibare	5.86	347	ePn	Pn	16 45 31.3	+0.6
MLR	Muntele Rosu	7.75	22	Pn	Pn	16 45 58.2	+1.6
	0.1nm,0.3s,baz=344,slow=18,SNR=3.8						
BRTR	Keskin Array B	9.34	78	Pn	Pn	16 46 20.1	+1.6
	0.1nm,0.3s,baz=257,slow=14,SNR=2.8						
LLD	Lille Linde	18.14	342	*i* P	Pn	16 48 14.1	-1.3
HFS	Hagfors	22.36	349	P	P	16 49 00.5	-1.1
	1.3nm,0.8s,baz=161,slow=15,SNR=4.7						
NB2	NORSAR Subarra	23.62	347	P	P	16 49 13.6	-1.0
	comp=Z,1.0nm,0.8s,baz=160,slow=11						
NB2	NORSAR Subarra	23.62	347	P	P	16 49 13.6	-1.0
	comp=Z,1.0nm,0.8s,baz=160,slow=10,SNR=3.8						
NOA	NORSAR Array B	23.62	347	P	P	16 49 13.4	-1.3
	comp=Z,0.4nm,0.7s,baz=160,slow=9.2,SNR=4.0						
TORD	Torodi Ar. Bea	30.82	221	P	P	16 50 20.0	+0.2
	comp=Z,0.4nm,0.6s,baz=37,slow=8.5,SNR=3.6						
MKAR	Makanchi Array	44.36	59	P	P	16 52 14.1	+0.1
	comp=Z,2.0nm,0.4s,baz=276,slow=7.6,SNR=70						
ZALV	Zalesovo Beam	44.82	48	P	P	16 52 17.4	-0.2
	comp=Z,0.8nm,0.3s,baz=270,slow=8.8,SNR=2.1						
KSRS	Korea Array	78.44	51	P	P	16 56 03.0	-1.6
	comp=Z,0.2nm,0.3s,baz=311,slow=4.5,SNR=4.2						

*IDC **03** 17:30:23.7±2.4, 9°.41S×121°.10E, h99km±21km, mb3.5/5, mb1 3.6/9, mb1mx3.4/21, mbtmp3.5/9, Error ellipse: s-maj=33.5km s-min=15.1km az=55.0*
*ISCJB **03** 17:30:24.2±0.4, 9°.52S±0°.05×121°.18E±0°.04, h128km±4km, mb3.6/5, Error ellipse: s-maj=8.2km s-min=5.8km az=28.3*
*DJA **03** 17:30:27.1±0.4, 9°.5±4°×12°.1E±°, h96km±7km, M4.4/10, mb4.9/1, mB5.7/1, MLv4.1/10, Mw(mB)5.2/1*
ISC 03 17:30:25.3±0.8, 9°.53S±0°.05×121°.19E±0°.04, h122km±7km, n21, σ1°74/29, mb3.7/5, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.89	261	P	Pn	17 30 46.2	-0.2
WSI				S	Sn	17 31 01.7	-0.7
BASI	Baing, Sumba	0.91	221	P	Pn	17 30 46.5	-0.1
BASI				S	Sn	17 31 03.8	+1.0
MMRI	Maumere	1.36	50	P	Pn	17 30 51.1	-0.2
MMRI				S	Sn	17 31 09.3	-1.8
LBFI	Labuhan Bajo,	1.65	309	P	Pn	17 30 54.8	+0.2
LBFI				S	Sn	17 31 16.6	-0.4
BATI	Baumata	2.53	106	P	Pn	17 31 06.5	+0.9
BATI				S	Sn	17 31 35.9	-0.6
BATI	Baumata	2.53	106	P	Pn	17 31 06.7	+1.2
	104nm,0.3s,baz=310,slow=3.5,SNR=126						
BATI				S	Sn	17 31 36.4	-0.1
	56nm,0.3s,baz=5.7,slow=6.2,SNR=7.8						
SOEI	Soe	3.04	94	P	Pn	17 31 13.7	+1.4
SOEI				S	Sn	17 31 49.4	+0.8
BSSI	Bau Bau, Buton	3.43	348	P	Pn	17 31 18.5	+1.1
BBSI	Bau Bau	4.24	19	P	Pn	17 31 28.8	+0.6
BKSI	Bulukumba	4.31	346	P	Pn	17 31 30.3	+1.2
KAPI	Kappang	4.71	342	P	Pn	17 31 31.9	-2.5
	2.1nm,0.3s,baz=157,slow=13,SNR=2.9						
IGBI	Denpasar	6.01	276	P	Pn	17 31 52.4	+0.5
FITZ	Fitzroy Crossi	9.55	154	P	Pn	17 32 38.7	-1.1
	0.3nm,0.3s,baz=309,slow=6.0,SNR=15						
FITZ				S	Sn	17 34 18.9	-6.4
	1.5nm,0.3s,baz=217,slow=16,SNR=5.6						
WRA	Warramunga Arr	16.39	131	P	Pn	17 34 06.8	-1.6
	1.4nm,0.3s,baz=301,slow=14,SNR=68						
WRA				S	Sn	17 36 59.1	-12
	0.8nm,0.3s,baz=304,slow=24,SNR=6.5						
ASAR	Alice Springs	18.58	141	P	Pn	17 34 35.4	+0.6
	0.2nm,0.3s,baz=318,slow=12,SNR=26						
ASAR				S	S	17 37 52.4	-6.4
	0.2nm,0.3s,baz=314,slow=23,SNR=7.1						
STKA	Stephens Creek	29.20	143	P	P	17 36 18.0	+2.5
	1.6nm,0.9s,baz=336,slow=18,SNR=3.4						
SONM	Songino Array	58.60	348	P	P	17 40 08.8	-0.7
	0.2nm,0.4s,baz=169,slow=14,SNR=3.4						
MKAR	Makanchi Array	65.92	332	P	P	17 40 58.2	0.0
	0.5nm,0.5s,baz=147,slow=7.0,SNR=10.0						
PETK	Petropavlovsk-	69.71	22	P	P	17 41 23.0	+1.3
	1.6nm,0.7s,baz=178,slow=6.8,SNR=2.8						
ZALV	Zalesovo Beam	70.32	338	P	P	17 41 24.2	-1.2
	0.5nm,0.3s,baz=141,slow=6.9,SNR=2.7						
TORD	Torodi Ar. Bea	120.68	280	PKP	PKPdf	17 49 05.1	+1.2
	0.2nm,0.5s,baz=47,slow=0.6,SNR=4.3						

*NEIC **03** 17:35:55.1±4.5, 12°.25N×143°.95E, h30km±30km, mb4.5/12, Error ellipse: s-maj=13.1km s-min=10.9km az=108.0*
*IDC **03** 17:36:03.9±0.6, 12°.26N×143°.81E, h104km±4km, mb3.8/19, mb1 4.0/19, mb1mx3.9/27, mbtmp3.8/19, MS3.4/3, Ms1 3.4/3, ms1mx2.8/50, Error ellipse: s-maj=18.8km s-min=12.2km az=83.0*
ISC 03 17:36:03.4±0.7, 12°.25N±0°.08×144°.0E±0°.1, h105km±4km, h105km:pP-P, n65, σ1°18/90, mb4.2/34, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.60	34	eP	Pn	17 36 19.9	-11
GUMO				eS	Sn	17 36 38.9	-13
PMG	Port Moresby	21.74	171	LR	LR	17 48 47.2	
	comp=Z,118nm,19.9s,baz=58,slow=35						
JNU	Nakatsue	23.98	332	P	P	17 41 07.7	-0.6
JNU	Nakatsue	23.98	332	P	P	17 41 07.7	-0.6
	4.6nm,0.8s,baz=184,slow=13,SNR=3.4						
MJAR	Matsushiro Arr	24.74	349	P	P	17 41 12.1	-3.0
MJAR	Matsushiro Arr	24.74	349	P	P	17 41 12.1	-3.0
	1.0nm,0.6s,baz=163,slow=9.6,SNR=3.7						
MJAR				LR	LR	17 50 06.9	
	comp=Z,78nm,19.7s,baz=195,slow=34						
KSRS	Korea Array	28.92	333	P	P	17 41 52.6	+0.1
	0.7nm,0.6s,baz=134,slow=11,SNR=4.2						
KSAR	Wonju Array Be	28.93	333	P	P	17 41 52.6	0.0
ASAJ	Asahikawa	31.78	358	P	P	17 42 18.5	+0.9
ASAJ	Asahikawa	31.78	358	P	P	17 42 18.5	+0.9
	3.1nm,0.7s,baz=195,slow=12,SNR=5.9						
WRA	Warramunga Arr	33.36	197	P	P	17 42 31.5	-0.2
WRA	Warramunga Arr	33.36	197	P	P	17 42 31.5	-0.2
	2.5nm,0.8s,baz=19,slow=9.7,SNR=16						
USRK	Ussuriysk Arra	33.46	344	P	P	17 42 31.6	-0.7
	0.7nm,0.5s,baz=158,slow=12,SNR=3.5						
ASAR	Alice Springs	37.02	195	P	P	17 43 03.5	+0.4
ASAR				PP	PnPn	17 44 31.9	+0.7
ASAR				PcP	PcP	17 45 24.5	+2.5
ASAR	Alice Springs	37.02	195	P	P	17 43 03.5	+0.4
	1.0nm,0.6s,baz=20,slow=11,SNR=20						
ASAR				PP	PnPn	17 44 31.9	+0.7
	1.4nm,0.9s,baz=15,slow=11,SNR=5.7						
ASAR				PcP	PcP	17 45 24.5	+2.5
	0.5nm,0.7s,baz=31,slow=3.3,SNR=4.2						
ASAR				LR	LR	17 56 17.9	
	comp=Z,51nm,20.4s,baz=16,slow=33						
CMAR	Chiang Mai Arr	43.76	284	P	P	17 43 57.8	-1.0
CMAR				pP	pP	17 44 23.6	+0.4
CMAR				sP	sP	17 44 36.3	+1.2
CMAR	Chiang Mai Arr	43.76	284	P	P	17 43 57.8	-1.0
	1.0nm,0.6s,baz=77,slow=6.1,SNR=8.1						
CMAR				pP	pP	17 44 23.6	+0.4
	1.1nm,0.7s,baz=87,slow=6.2,SNR=2.6						
CMAR				sP	sP	17 44 36.3	+1.2
	0.9nm,0.5s,baz=89,slow=6.5,SNR=2.3						
STKA	Stephens Creek	43.93	183	P	P	17 43 59.5	-0.3
STKA	Stephens Creek	43.93	183	P	P	17 43 59.5	-0.3
	1.8nm,0.7s,baz=0.0,slow=8.1,SNR=4.9						
SONM	Songino Array	47.33	326	P	P	17 44 27.1	+0.4
SONM				pP	pP	17 44 52.5	+1.1
SONM				PcP	PcP	17 45 54.1	-1.8
SONM	Songino Array	47.33	326	P	P	17 44 27.1	+0.4
	0.5nm,0.6s,baz=144,slow=8.9,SNR=5.0						
SONM				pP	pP	17 44 52.5	+1.1
	0.7nm,0.6s,baz=147,slow=6.8,SNR=3.3						
SONM				PcP	PcP	17 45 54.1	-1.8
	0.5nm,0.5s,baz=132,slow=2.1,SNR=3.6						
MK31	Makanchi Array	61.84	317	eP	P	17 46 11.8	+0.4
MKAR	Makanchi Array	61.84	317	P	P	17 46 12.0	+0.5
MKAR				pP	pP	17 46 37.4	0.0
MKAR	Makanchi Array	61.84	317	P	P	17 46 12.0	+0.5
	1.2nm,0.6s,baz=92,slow=7.8,SNR=23						
MKAR				pP	pP	17 46 37.4	0.0
	1.0nm,0.6s,baz=89,slow=9.9,SNR=4.0						
ZALV	Zalesovo Beam	62.20	325	P	P	17 46 13.4	-0.3
ZALV				pP	pP	17 46 39.4	-0.2
ZALV				sP	sP	17 46 51.7	+0.6
ZALV	Zalesovo Beam	62.20	325	P	P	17 46 13.4	-0.3
	0.4nm,0.3s,baz=98,slow=6.5,SNR=1.9						
ZALV				pP	pP	17 46 39.4	-0.2
	0.7nm,0.4s,baz=97,slow=6.1,SNR=2.8						
ZALV				sP	sP	17 46 51.7	+0.6
	1.4nm,0.3s,baz=117,slow=4.5,SNR=4.3						
KURK	Kurchatov	65.04	320	P	P	17 46 32.7	+0.3
KURK				pP	pP	17 46 58.5	0.0
KURK				sP	sP	17 47 08.8	-1.2
KURBB	Kurchatov Arra	65.08	320	P	P	17 46 32.7	+0.1
	2.3nm,0.6s,baz=104,slow=6.4,SNR=19						
KURBB				pP	pP	17 46 58.5	-0.2
	2.0nm,0.5s,baz=104,slow=6.8,SNR=5.7						
KURBB				sP	sP	17 47 08.8	-1.4
	1.5nm,0.6s,baz=103,slow=6.4,SNR=2.5						
COLD	Coldfoot	69.52	22	eP	P	17 47 00.3	-0.1
	3.4nm,0.8s						
KKAR	Karatay Array	69.67	312	eP	P	17 47 02.5	+0.7
	2.9nm,1.0s						
ILAR	Eielson Array	70.16	25	P	P	17 47 02.5	-1.8
ILAR	Eielson Array	70.16	25	P	P	17 47 02.5	-1.8
	2.3nm,0.6s,baz=256,slow=5.0,SNR=18						
PAX	Paxson	70.37	27	eP	P	17 47 05.1	-0.7
	1.4nm,0.6s						
BVAR	Borovoye Array	70.43	322	P	P	17 47 06.4	+0.2
BVAR				pP	pP	17 47 31.1	-1.6
BVAR	Borovoye Array	70.43	322	P	P	17 47 06.4	+0.2
	3.5nm,0.4s,baz=105,slow=7.9,SNR=39						
BVAR				pP	pP	17 47 31.1	-1.6
	2.3nm,0.5s,baz=99,slow=7.8,SNR=3.7						
BRVK	Borovoye	70.50	322	eP	P	17 47 07.0	+0.4
	3.6nm,0.6s						
BRVK				e		17 47 33.4	
EGAK	Eagle	72.56	26	eP	P	17 47 18.6	-0.2
	1.7nm,0.6s						
HYT	Haines Junctio	73.81	30	eP	P	17 47 27.2	+0.8
ABKAR	Akbulak array	76.94	318	eP	P	17 47 44.5	+0.1
	2.3nm,0.6s						
COR	Corvallis	83.45	46	eP	P	17 48 21.5	+2.1
	82nm,0.7s						
YBH	Yreka Blue Hor	84.42	49	eP	P	17 48 26.0	+1.4
	3.1nm,0.9s						
YBH	Yreka Blue Hor	84.42	49	P	P	17 48 25.3	+0.7
	2.9nm,0.7s,baz=279,slow=2.8,SNR=11						
YKA	Yellowknife Ar	84.45	27	P	P	17 48 24.4	+0.3
YKA	Yellowknife Ar	84.45	27	P	P	17 48 24.4	+0.3
	2.5nm,0.6s,baz=288,slow=5.4,SNR=18						
NEW	Newport	86.82	41	P	P	17 48 37.5	+1.3
NEW	Newport	86.82	41	P	P	17 48 37.5	+1.3
	4.5nm,0.7s,baz=287,slow=4.9,SNR=5.4						
BMO	Blue Mountains	87.56	45	eP	P	17 48 40.6	+0.6
	3.0nm,0.8s						
ARCES	ARCESS Array B	88.08	342	P	P	17 48 42.9	+1.1
ARCES	ARCESS Array B	88.08	342	P	P	17 48 42.9	+1.1
	0.8nm,0.6s,baz=64,slow=8.2,SNR=6.7						
NVAR	Mina Array Bea	88.45	51	P	P	17 48 46.0	+1.5
NVAR	Mina Array Bea	88.45	51	P	P	17 48 46.0	+1.5
	4.8nm,0.7s,baz=264,slow=5.7,SNR=42						
MFID	Camas Ranch	88.97	46	eP	P	17 48 47.9	+1.2
	4.6nm,0.8s						
HLID	Hailey	89.92	45	eP	P	17 48 52.5	+1.3
	2.0nm,0.8s						
FINES	FINESS Array B	92.00	335	P	P	17 48 59.1	-1.0
FINES	FINESS Array B	92.00	335	P	P	17 48 59.1	-1.0
	1.9nm,0.5s,baz=70,slow=4.3,SNR=13						
RLMT	Red Lodge	92.92	43	eP	P	17 49 08.1	+3.0
	2.0nm,0.5s						
PDAR	Pinedale Array	93.54	45	P	P	17 49 08.7	+0.7
PDAR	Pinedale Array	93.54	45	P	P	17 49 08.7	+0.7
	0.3nm,0.5s,baz=224,slow=9.9,SNR=3.6						
MAW	Mawson	97.85	202	eP	P	17 49 25.6	-1.0
	6.8nm,0.5s						
TORD	Torodi Ar. Bea	134.86	303	PKP	PKPdf	17 55 10.4	-0.6
TORD				pPKP	pPKPdf	17 55 37.6	-2.2
TORD	Torodi Ar. Bea	134.86	303	PKP	PKPdf	17 55 10.5	-0.6
	0.3nm,0.6s,baz=0.0,slow=1.4,SNR=3.9						
TORD				pPKP	pPKPdf	17 55 37.6	-2.2
	0.3nm,0.7s,baz=42,slow=1.4,SNR=1.3						
DBIC	Dimbokro	143.74	300	PKP	PKPbc	17 55 25.9	+0.9
DBIC	Dimbokro	143.74	300	PKP	PKPbc	17 55 25.9	+0.9
	4.1nm,0.7s,baz=46,slow=3.4,SNR=5.9						
LPAZ	La Paz	148.66	101	PKP	PKPdf	17 55 35.8	-0.4
LPAZ				ePKPdf	PKPbc	17 55 36.5	-3.5
LPAZ				ePKPbc	PKiKP	17 55 42.4	+0.9
LPAZ				PKPbc	PKiKP	17 55 42.6	+1.2
LPAZ	La Paz	148.66	101	PKP	PKPdf	17 55 35.8	-0.4
	0.5nm,0.6s,baz=282,slow=5.0,SNR=2.9						
LPAZ				PKPbc	PKiKP	17 55 42.6	+1.2
	3.7nm,0.8s,baz=264,slow=3.5,SNR=16						

MEX 03 17:42:23.3±0.5, 16°.37N×96°.53W, h42km±16km, MD3.5, Oaxaca

| Code

SPX			⇓e			17 57 13.2	
	comp=N,13µm,1.3s						
SPIG	San Pedro Mart	2.95	315	eP	Pn	17 56 07.9	-2.1
SPIG				i S	Sn	17 56 42.5	-3.0
214A	Organ Pipe Nat	2.97	4	⇓P	Pn	17 56 05.6	-4.5
	baz=3.1						
ZAX	El Zacaton	3.78	313	eP	Pn	17 56 15.2	-5.9
113A	Mohawk Valley,	3.83	351	⇓P	Pn	17 56 17.5	-4.3
	baz=3.9						
RDX	Rancho Dawling	3.87	320	eP	Pn	17 56 15.5	-7.0
MBIG	Mexicali	3.89	332	i P	Pn	17 56 19.9	-2.7
MBIG				i S	Sn	17 57 05.0	-3.2
319A	Douglas	4.03	53	⇓P	Pn	17 56 22.0	-2.6
	baz=4.1						
ECNX	Esteban Cantu	4.08	312	eP	Pn	17 56 21.1	-4.2
PBX	Punta Banda	4.22	312	eP	Pn	17 56 23.1	-4.1
GLA	Glamis	4.34	340	⇓P	Pn	17 56 24.5	-4.3
	baz=4.4						
Z14A	Wintersburg	4.37	1	⇑P	Pn	17 56 25.7	-3.5
	baz=4.5						
RMX	La Rumorosa	4.46	325	eP	Pn	17 56 27.5	-3.2
DVTC	Desert V Tower	4.52	325	⇓P	Pn	17 56 28.7	-2.7
	baz=4.6						
320A	Kipp Ranch, An	4.55	58	⇓P	Pn	17 56 29.2	-2.6
	baz=4.6						
CBX	Cerro Bola	4.57	318	eP	Pn	17 56 25.4	-6.6
CBX				eS	Sn	17 57 25.1	0.0
CGIG		4.60	71	i P	Pn	17 56 30.2	-2.4
CGIG				i S	Sn	17 57 22.5	-3.6
SWSC	Sam W. Stewart	4.61	330	⇓P	Pn	17 56 29.1	-3.4
	baz=4.7						
220A	Playas Peak, P	4.86	52	⇑P	Pn	17 56 32.7	-3.3
	baz=4.9						
MONP	Monument Peak	4.87	324	⇑P	Pn	17 56 33.6	-2.6
	baz=5.0						
Y12C	Blythe	4.92	345	⇓P	Pn	17 56 33.0	-3.9
	baz=5.0						
Y14A	Wickenburg	4.94	0	⇑P	Pn	17 56 33.0	-4.1
	baz=5.0						
BC3	Big Chuckawall	5.10	337	⇑P	Pn	17 56 35.7	-3.6
	baz=5.2						
120A	U Bar Ranch, L	5.19	46	⇑P	Pn	17 56 38.4	-2.2
	baz=5.2						
109C	Camp Elliot, M	5.24	319	⇓P	Pn	17 56 38.6	-2.5
	baz=5.3						
PDMCI	Parker Dam,Lak	5.39	350	⇓P	Pn	17 56 38.9	-4.3
	baz=5.5						
LPIG	La Paz	5.43	153	eP	Pn	17 56 41.5	-2.3
LPIG				i S	Sn	17 57 42.3	-4.0
LPIG	La Paz	5.43	153	Pn	Pn	17 56 44.9	+1.1
LPIG				Pg	Pb	17 57 01.4	+3.5
LPIG				Lg	Lg	17 58 23.9	
LPIG	La Paz	5.43	153	Pn	Pn	17 56 44.9	+1.1
	comp=N,4.1nm,0.3s,baz=331,slow=4.0,SNR=38						
LPIG				Pg	Pb	17 57 01.4	+3.5
	comp=N,1.3nm,0.3s,baz=342,slow=3.8,SNR=11						
LPIG				Lg	Lg	17 58 23.9	
	comp=N,1.7nm,0.3s,baz=212,slow=21,SNR=3.6						
221A	Mesquite Ranch	5.44	55	⇓P	Pn	17 56 41.9	-2.1
	baz=5.5						
PFO	Pinyon Flat Ob	5.47	328	Pn	Pn	17 56 41.8	-2.6
	comp=N,0.9nm,0.3s,baz=141,slow=13,SNR=16						
PFO				Pg	Pb	17 57 00.9	+2.4
	comp=N,5.5nm,0.3s,baz=172,slow=14,SNR=19						
PFO				Lg	Lg	17 58 15.8	
	comp=N,3.1nm,0.3s,baz=111,slow=12,SNR=6.9						
PFO	Pinyon Flat Ob	5.47	328	⇓P	Pn	17 56 42.1	-2.4
	baz=5.6						
IRM	Iron Mountain	5.47	341	⇓P	Pn	17 56 40.1	-4.3
	baz=5.6						
X16A	Lo Mia Camp, P	5.58	14	⇓P	Pn	17 56 43.4	-2.7
	baz=5.7						
Z20A	Nine Sixteen R	5.61	42	⇓P	Pn	17 56 43.9	-2.4
	baz=5.7						
BELC	Belle Mtn. Jos	5.61	334	⇑P	Pn	17 56 43.2	-3.2
	baz=5.7						
BELC				⇑S	Sn	17 57 54.5	+3.7
	baz=5.7						
121A	Cookes Peak, D	5.73	51	⇓P	Pn	17 56 46.2	-1.9
	baz=5.8						
MURC	Murrieta	5.83	323	⇓P	Pn	17 56 47.7	-1.6
	baz=5.9						
NEE2	Needles Airpor	5.92	347	⇑P	Pn	17 56 47.0	-3.6
	baz=6.0						
X18A	Snowflake	6.12	25	⇑P	Pn	17 56 52.2	-1.3
	baz=6.2						
W13A	Hualapai Mount	6.14	353	⇑P	Pn	17 56 50.8	-3.0
	baz=6.2						
SCI	San Clemente I	6.19	311	⇓P	Pn	17 56 53.3	-1.0
	baz=6.3						
GMRC	Granite Mounta	6.20	339	⇑P	Pn	17 56 50.8	-3.7
	baz=6.3						
BBRC	Big Bear Solar	6.22	329	⇑P	Pn	17 56 54.4	-0.5
	baz=6.3						
Y20A	Horse Springs,	6.32	38	⇓P	Pn	17 56 53.9	-2.3
	baz=6.4						
122A	Conniff Cattle	6.37	53	⇑P	Pn	17 56 55.5	-1.3
	baz=6.4						
CIS	Catalina Islan	6.38	315	⇓P	Pn	17 56 55.0	-1.9
	baz=6.5						
223A	Chaparral, Ant	6.44	60	⇓P	Pn	17 56 55.8	-2.0
	baz=6.5						
HEC	Hector,Ludlow	6.47	335	⇑P	Pn	17 56 55.7	-2.5
	baz=6.6						
FMP	Fort Macarthur	6.52	318	⇓P	Pn	17 56 57.0	-1.7
	baz=6.6						
BFSC	Mount Baldy Ra	6.56	324	⇑P	Pn	17 56 57.6	-1.8
	baz=6.6						
WUAZ	Wupatki	6.66	12	eP	Pn	17 56 59.3	-1.6
	comp=N,2µm,1.3s						
WUAZ	Wupatki	6.66	12	⇓P	Pn	17 56 59.3	-1.6
	baz=6.8						
Z22A	Elephant Butte	6.72	49	⇓P	Pn	17 57 00.4	-1.2
	baz=6.8						
W18A	Petrified Fore	6.72	24	⇓P	Pn	17 56 60.0	-1.8
	baz=6.8						
X20A	Quemado	6.75	34	⇑P	Pn	17 57 01.5	-0.7
	baz=6.8						
RRX	Edison Barstow	6.78	331	⇓P	Pn	17 57 00.8	-1.5
	baz=6.9						
Y21A	Point of Rocks	6.78	41	⇓P	Pn	17 57 01.1	-1.5
	baz=6.8						
HPIG		6.82	106	eP	Pn	17 57 01.6	-1.5
HPIG				i S	Sn	17 58 18.5	-2.2
123A	Bell Site, Whi	6.86	56	⇓P	Pn	17 57 02.5	-1.1
	baz=6.9						
TUQ	Turquoise Moun	6.89	340	⇓P	Pn	17 57 01.3	-2.6
	baz=7.0						
DECC	Green Verdugo	6.93	321	⇑P	Pn	17 57 03.7	-0.8
	baz=7.0						
324A	Moseley Ranch,	6.97	68	⇑P	Pn	17 57 04.4	-0.7
	baz=7.0						
X21A	Alamocita Cree	7.04	38	⇑P	Pn	17 57 04.5	-1.6
	baz=7.1						
GSC	Goldstone	7.07	334	⇓P	Pn	17 57 03.6	-2.8
	baz=7.2						
MNTX	Cornudas Mount	7.14	66	eP	Pn	17 57 05.8	-1.5
	comp=N,1µm,1.3s						
Y22A	Socorro	7.15	45	⇑P	Pn	17 57 05.2	-2.4
	baz=7.2						
425A	Indio Mountain	7.21	74	⇑P	Pn	17 57 08.0	-0.3
	baz=7.2						
Z23A	Rita Site, Whi	7.22	52	⇑P	Pn	17 57 07.1	-1.3
	baz=7.2						
W20A	Ramah	7.23	31	⇑P	Pn	17 57 05.9	-2.8
	baz=7.3						
BLG	Laguna Peak	7.26	316	⇓P	Pn	17 57 07.6	-1.3
	baz=7.3						
325A	Bean Ranch, Si	7.37	69	⇓P	Pn	17 57 09.8	-0.8
	baz=7.4						
LAZ	Ladron	7.37	41	eP	Pn	17 57 09.6	-1.1
	comp=N,331nm,1.4s						
OSI	Osito Adit	7.42	321	eP	Pn	17 57 11.9	+0.8
	comp=N,533nm,1.3s						
OSI	Osito Adit	7.42	321	⇑P	Pn	17 57 10.4	-0.7
	baz=7.5						
SHOC	Shoshone	7.43	339	⇑P	Pn	17 57 09.4	-1.8
	baz=7.5						
U15A	North Rim	7.45	5	⇑P	Pn	17 57 10.6	-1.2
	baz=7.5						
124A	Stringfield Ra	7.49	58	⇑P	Pn	17 57 12.1	-0.2
	baz=7.5						
BNM	Barren Site	7.50	45	eP	Pn	17 57 10.2	-2.3
	comp=N,658nm,1.3s						
X22A	Bernardo	7.52	41	⇓P	Pn	17 57 12.3	-0.3
	baz=7.6						
BSC	Santa Cruz Isl	7.54	313	⇓P	Pn	17 57 14.0	+1.2
	baz=7.6						
LRMC	Laurel Mountai	7.58	330	⇑P	Pn	17 57 13.0	-0.5
	baz=7.7						
W21A	San Fidel	7.63	35	⇓P	Pn	17 57 13.7	-0.6
	baz=7.7						
225A	Deer Hill, Car	7.73	64	⇑P	Pn	17 57 15.4	-0.1
	baz=7.7						
Y23A	Lovelace Mesa,	7.73	49	⇑P	Pn	17 57 15.3	-0.3
	baz=7.8						
626A	Big Bend Ranch	7.79	84	⇑P	Pn	17 57 16.3	0.0
	baz=7.8						
V20A	Brimhall	7.81	28	⇑P	Pn	17 57 16.0	-0.7
	baz=7.9						
526A	Mary Lane Ranc	7.86	80	⇓P	Pn	17 57 17.4	+0.1
	baz=7.8						
ARVC	Arvin	7.86	323	⇓P	Pn	17 57 17.4	+0.2
	baz=7.9						
Z24A	Sheeppen Canyo	7.87	55	⇓P	Pn	17 57 16.6	-0.8
	baz=7.9						
SBC	Santa Barbara	7.88	315	⇓P	Pn	17 57 16.7	-0.7
	baz=8.0						
426A	McDonald Obser	7.99	76	⇓P	Pn	17 57 19.1	-0.1
	baz=8.0						
MPMC	Manual Prospec	8.00	333	⇑P	Pn	17 57 18.7	-0.6
	baz=8.1						
W22A	Albuquerque	8.01	39	⇓P	Pn	17 57 18.4	-1.1
	baz=8.1						
X23A	Hourglass Bar	8.06	44	⇓P	Pn	17 57 18.9	-1.2
	baz=8.1						
125A	Gardner Draw,	8.07	61	⇓P	Pn	17 57 20.4	+0.1
	baz=8.1						
ISA	Isabella	8.10	327	⇑P	Pn	17 57 18.9	-1.6
	baz=8.2						
FURC	Furnace Creek,	8.13	338	⇑P	Pn	17 57 19.9	-0.9
	baz=8.2						
Y24A	Capitan	8.14	51	⇑P	Pn	17 57 20.9	-0.3
	baz=8.2						
ANMO	Albuquerque	8.15	42	Sn	Sn	17 58 51.1	-2.4
ANMO				Lg	Lg	17 59 45.2	
ANMO	Albuquerque	8.15	42	Pn	Pn	17 57 20.3	-1.0
	comp=N,3.7nm,0.3s,baz=226,slow=14,SNR=51						
ANMO				Sn	Sn	17 58 51.1	-2.4
	comp=N,1.6nm,0.3s,baz=194,slow=13,SNR=4.3						
ANMO				Lg	Lg	17 59 45.2	
	comp=N,8.2nm,0.3s,baz=342,slow=16,SNR=4.6						
326A	Caldwell Ranch	8.17	71	⇓P	Pn	17 57 21.6	+0.1
	baz=8.2						
V21A	Milan	8.19	32	⇑P	Pn	17 57 20.2	-1.6
	baz=8.2						
TXAR	Lajitas Array	8.19	85	Pn	Pn	17 57 21.7	-0.1
TXAR				Lg	Lg	17 59 39.6	
TXAR	Lajitas Array	8.19	85	Pn	Pn	17 57 21.7	-0.1
	comp=N,17nm,0.3s,baz=306,slow=13,SNR=364						
TXAR				Lg	Lg	17 59 39.6	
	comp=N,2.6nm,0.3s,baz=306,slow=48,SNR=1.4						
226B	Tecolote Peak,	8.24	66	⇓P	Pn	17 57 22.6	+0.2
	baz=8.2						
527A	Woodward Ranch	8.28	80	⇓P	Pn	17 57 23.6	+0.5
	baz=8.3						
U20A	Newcomb	8.29	26	⇑P	Pn	17 57 22.7	-0.5
	baz=8.4						
Z25A	Roswell	8.31	57	⇓P	Pn	17 57 22.9	-0.5
	baz=8.3						
627A	Terlingua Ranc	8.44	84	⇓P	Pn	17 57 25.3	+0.2
	baz=8.4						
W23A	Werner Place,	8.48	42	⇑P	Pn	17 57 25.4	-0.5
	baz=8.5						
X24A	Lazy VL Ranch,	8.53	47	⇓P	Pn	17 57 26.5	0.0
	baz=8.6						
VES	Vestal, Richgr	8.54	325	⇑P	Pn	17 57 27.2	+0.7
	baz=8.6						
427A	Hayter Ranch,	8.56	75	⇓P	Pn	17 57 27.5	+0.7
	baz=8.5						
126A	Clayton Basin,	8.56	63	⇓P	Pn	17 57 27.5	+0.7
	baz=8.6						
CWC	Cottonwood Cre	8.57	332	⇓P	Pn	17 57 27.1	+0.1
	baz=8.7						
V22A	San Miguel Ran	8.63	35	⇓P	Pn	17 57 28.0	+0.1
	baz=8.7						
SMMC	Simmler	8.64	319	⇑P	Pn	17 57 27.1	-0.8
	baz=8.7						
Y25A	Mesa, Roswell	8.65	53	⇓P	Pn	17 57 28.0	-0.2
	baz=8.7						
U21A	Nageezi	8.69	30	⇑P	Pn	17 57 28.0	-0.8
	baz=8.8						
GRAC	Grapevine Rang	8.79	337	⇑P	Pn	17 57 28.6	-1.3
	baz=8.9						
ARUT	Antelope Range	8.79	358	eP	Pn	17 57 29.8	-0.3
ARUT				pmax	pmax		
	comp=Z,721nm,0.9s						
ARUT	Antelope Range	8.79	358	eP	Pn	17 57 29.8	-0.3
	comp=Z,721nm,0.9s						
Z26A	Caprock	8.85	59	⇑P	Pn	17 57 31.4	+0.5
	baz=8.9						
628A	Black Gap, Mar	8.87	84	⇑P	Pn	17 57 31.4	+0.3
	baz=8.8						
V23A	Ortiz Mt. (NFS	8.88	39	⇑P	Pn	17 57 30.6	-0.8
	baz=8.9						
227A	Bennet, Jal	8.92	68	⇓P	Pn	17 57 32.7	+0.9
	baz=8.9						
W24A	Lazy 6 Ranch,	8.96	44	⇓P	Pn	17 57 32.0	-0.5
	baz=9.0						
RCTC	Rector, Farmer	8.99	326	⇓P	Pn	17 57 33.3	+0.7
	baz=9.1						
528A	Cox Ranch, San	8.99	80	⇑P	Pn	17 57 33.1	+0.3
	baz=9.0						
X25A	Clemmons Ranch	9.01	50	⇓P	Pn	17 57 33.1	0.0
	baz=9.0						
U22A	Llaves	9.02	34	⇓P	Pn	17 57 33.6	+0.3
	baz=9.1						
MVCO	Mesa Verde	9.04	24	⇑P	Pn	17 57 32.9	-0.7
	baz=9.1						
127A	Arkansas Junct	9.09	64	⇑P	Pn	17 57 34.0	-0.2
	baz=9.1						
428A	Kincaid Ranch,	9.15	77	⇑P	Pn	17 57 35.0	+0.1
	baz=9.1						
TIN	Tinemaha	9.16	333	⇓P	Pn	17 57 34.7	-0.3
	baz=9.3						
328A	Wristen Ranch,	9.16	72	⇑P	Pn	17 57 34.6	-0.4
	baz=9.1						
T21A	Navajo Lake	9.22	29	⇓P	Pn	17 57 34.9	-1.1
	baz=9.3						
Y26A	Elida	9.27	56	⇓P	Pn	17 57 36.8	+0.1
	baz=9.3						
U23A	El Rito	9.32	36	⇑P	Pn	17 57 36.3	-1.1
	baz=9.4						
V24A	Rampart Ranch,	9.39	42	⇑P	Pn	17 57 38.8	+0.4
	baz=9.4						
Z27A	Tatum	9.45	60	⇑P	Pn	17 57 38.9	-0.2
	baz=9.5						
529A	Stev Forest Ra	9.48	80	⇓P	Pn	17 57 40.0	+0.5
	baz=9.5						
T22A	Edith	9.51	31	⇓P	Pn	17 57 40.2	+0.1
	baz=9.6						
228A	UT Block 9, Go	9.52	68	⇓P	Pn	17 57 39.6	-0.5
	baz=9.5						
W25A	X Bar L Ranch,	9.56	47	⇓P	Pn	17 57 40.6	0.0
	baz=9.6						
R11A	Troy Canyon, C	9.58	348	⇑P	Pn	17 57 40.3	-0.7
	baz=9.7						
X26A	CR and CF Fran	9.61	52	⇑P	Pn	17 57 42.1	+0.9
	baz=9.6						
S20A	Disappointment	9.64	23	⇑P	Pn	17 57 41.1	-0.8
	baz=9.7						
S21A	Coal Bank Pass	9.70	25	⇑P	Pn	17 57 41.7	-1.0
	baz=9.8						
Y27A	Causey	9.74	57	⇓P	Pn	17 57 43.6	+0.5
	baz=9.8						
128A	Castleberry Fa	9.76	66	⇓P	Pn	17 57 43.7	+0.4
	baz=9.8						
429A	Davenport Ranc	9.81	78	⇓P	Pn	17 57 43.7	-0.3
	baz=9.8						
PV01	Paradox Valley	9.85	21	eP	Pn	17 57 43.9	-0.9
	comp=Z,721nm,0.9s						
V25A	Rancho No Teng	9.86	44	⇑P	Pn	17 57 44.9	+0.2
	baz=9.9						
U24A	Moreno Valley	9.87	39	⇓P	Pn	17 57 46.1	+1.2
	baz=9.9						
329A	Wagon Wheel Ra	9.87	73	⇓P	Pn	17 57 46.0	+1.2
	baz=9.9						
MLAC	Mammoth Lakes	9.90	332	⇑P	Pn	17 57 46.6	+1.3
	baz=10.0						
W26A	Owens Ranch, T	9.94	50	⇑P	Pn	17 57 45.3	-0.4
	baz=10.0						
T23A	Casias Ranch,	9.94	34	⇑P	Pn	17 57 46.4	+0.4
	baz=10.0						
R20A	Redvale	9.96	22	⇓P	Pn	17 57 46.5	+0.2
	baz=10.0						
Q16A	Castle Valley	10.03	8	⇓P	Pn	17 57 46.7	-0.4
	baz=10						
MSTX	Muleshoe	10.06	58	⇓P	Pn	17 57 48.5	+1.0
	baz=10						
Z28A	Tucker Farm, M	10.07	62	⇑P	Pn	17 57 48.4	+0.8
	baz=10						
229A	Bryant Ranch,	10.12	70	⇑P	Pn	17 57 47.8	-0.5
	baz=10						
S22A	4UR Ranch, Cre	10.16	29	⇑P	Pn	17 57 48.3	-0.6
	baz=10						
X27A	F and S Farms,	10.16	54	⇓P	Pn	17 57 49.4	+0.6
	baz=10						
530A	J-C Ranch, Com	10.24	81	⇓P	Pn	17 57 50.6	+0.7
	baz=10						
129A	Stewart Farms,	10.26	66	⇓P	Pn	17 57 49.7	-0.5
	baz=10						
V26A	Tequesquite Ra	10.35	47	⇓P	Pn	17 57 51.4	0.0
	baz=10						
U25A	Circle Dot Ran	10.36	42	⇓P	Pn	17 57 51.4	-0.2
	baz=10						
430A	Baggett Ranch,	10.39	77	⇓P	Pn	17 57 52.2	+0.3
	baz=10						
NVAR	Mina Array Bea	10.39	336	Pn	Pn	17 57 53.4	+1.3
NVAR				Lg	Lg	18 00 49.8	
NVAR	Mina Array Bea	10.39	336	Pn	Pn	17 57 53.4	+1.3
	comp=Z,0.3nm,0.3s,baz=159,slow=15,SNR=43						
NVAR				Lg	Lg	18 00 49.8	
	baz=112,slow=15,SNR=2.5						
W27A	Bowe Ranch, En	10.40	52	⇑P	Pn	17 57 52.4	+0.3
	baz=10						
R21A	Cimarron	10.41	25	⇑P	Pn	17 57 52.6	+0.3
	baz=10						
Y28A	McKinney Farm,	10.43	59	⇓P	Pn	17 57 53.4	+0.9
	baz=10						
T24A	Torres, Weston	10.48	38	⇑P	Pn	17 57 55.4	+2.0
	baz=10						
S23A	Nye Farm, Mont	10.49	32	⇑P	Pn	17 57 54.8	+1.3
	baz=11						
330A	Mertzon	10.53	74	⇑P	Pn	17 57 54.6	+0.7
	baz=10						
Z29A	Hungry Hill Ra	10.60	63	⇑P	Pn	17 57 55.6	+0.9
	baz=11						
R22A	Saguache, Gunn	10.60	28	⇓P	Pn	17 57 55.4	+0.5
	baz=11						
230A	Sterling City	10.68	71	⇑P	Pn	17 57 58.2	+2.3
	baz=11						
Q20A	Ridgley Place,	10.69	20	⇑P	Pn	17 57 57.0	+0.9
	baz=11						
X28A	Dimmitt	10.74	56	⇓P	Pn	17 57 58.8	+2.0
	baz=11						
U26A	Atchley Ranch,	10.76	44	⇓P	Pn	17 57 58.7	+1.7
	baz=11						
SDCO	Great Sand Dun	10.76	34	eP	Pn	17 57 59.8	+2.5
	comp=Z,1µm,2.3s						
Q21A	Lamborn Mesa,	10.82	23	⇓P	Pn	17 57 58.5	+0.6
	baz=11						
S24A	Houchin Ranch,	10.82	35	⇑P	Pn	17 58 00.3	+2.3
	baz=11						
Y29A	Porterfield Fa	10.85	61	⇓P	Pn	17 58 00.4	+2.2
	baz=11						
T25A	Trinidad	10.88	39	⇓P	Pn	17 57 59.9	+1.2
	baz=11						
631A	Perdido Creek	10.89	85	⇑P	Pn	17 57 59.9	+1.2
	baz=11						
431A	Sonora	10.92	78	⇓P	Pn	17 58 00.2	+1.1
	baz=11						
531A	Rocksprings	10.93	81	⇓P	Pn	17 58 00.7	+1.4
	baz=11						
V27A	Dan Oppiter Fa	10.94	49	⇑P	Pn	17 58 01.3	+1.8
	baz=11						
R23A	Moffat	10.97	31	⇓P	Pn	17 58 01.1	+1.0
	baz=11						
130A	Snyder	10.98	68	⇑P	Pn	17 58 00.2	+0.3
	baz=11						
Z30A	Sanderson Ranc	11.06	64	⇓P	Pn	17 58 01.4	+0.3
	baz=11						
X29A	Tulia	11.07	58	⇑P	Pn	17 58 02.4	+1.2
	baz=11						
Q22A	Crested Butte,	11.08	26	⇑P	Pn	17 58 03.4	+1.8
	baz=11						
W28A	Vega	11.10	53	⇓P	Pn	17 58 01.7	0.0
	baz=11						
P19A	Cripple Cowboy	11.14	16	⇓P	Pn	17 58 02.1	-0.1
	baz=11						
331A	San Angelo	11.15	75	⇑P	Pn	17 58 03.4	+1.1
	baz=11						
P20A	De Beque	11.17	19	⇑P	Pn	17 58 02.5	-0.2
	baz=11						
DUG	Dugway	11.19	1	⇓P	Pn	17 58 03.6	+0.7
	baz=11						
ZAIG	Zacatecas	11.26	121	i P	Pn	17 58 03.3	-0.8
AMTX	Amarillo	11.29	56	eP	Pn	17 58 05.4	+1.2
	comp=Z,16µm,1.7s						
R24A	Sanders Place,	11.34	33	⇓P	Pn	17 58 04.4	-0.6
	baz=11						
U27A	Thompson Grove	11.35	47	⇓P	Pn	17 58 06.6	+1.5
	baz=11						
V28A	Channing	11.35	51	⇑P	Pn	17 58 06.3	+1.2
	baz=11						
231A	Bronte	11.35	72	⇓P	Pn	17 58 07.1	+2.0
	baz=11						
T26A	Comanche Natio	11.37	42	⇓P	Pn	17 58 06.6	+1.2
	baz=11						
W29A	Amraillo	11.43	55	⇑P	Pn	17 58 07.1	+1.0
	baz=11						
Y30A	Stafford Cattl	11.45	62	⇑P	Pn	17 58 07.8	+1.4
	baz=12						
732A	Laxson Ranch,	11.45	88	⇓P	Pn	17 58 06.9	+0.5
	baz=11						
131A	Roby	11.47	68	⇑P	Pn	17 58 06.0	-0.7
	baz=12						
P21A	Newcastle	11.48	22	⇑P	Pn	17 58 08.2	+1.2
	baz=12						
532A	Rocksprings	11.48	81	⇑P	Pn	17 58 07.1	+0.2
	baz=12						
Q23A	Hartsel	11.55	29	⇑P	Pn	17 58 09.0	+0.9
	baz=12						
632A	Uvalde	11.58	84	⇓P	Pn	17 58 09.5	+1.3
	baz=12						
JCT	Junction City	11.59	79	⇓P	Pn	17 58 10.6	+2.2
	baz=12						
SAC	San Andreas	11.63	320	eP	Pn	17 58 10.8	+2.1
SAC				pmax	pmax		
	comp=Z,120nm,1.7s						
SAC	San Andreas	11.63	320	eP	Pn	17 58 10.8	+2.1
	comp=Z,120nm,1.7s						
432A	Menard	11.63	77	⇑P	Pn	17 58 10.7	+1.8
	baz=12						
R25A	Fountain Ranch	11.69	36	⇓P	Pn	17 58 10.3	+0.6
	baz=12						
X30A	Coker Ranch, T	11.69	59	⇑P

baz=12
R26A Arlington 12.24 38 ⇑P Pn 17 58 17.6 +0.3
baz=12
MCCM Marconi Confer 12.28 321 eP Pn 17 58 16.8 -0.9
comp=Z,524nm,2.1s
Q25A Bedland, Calha 12.29 34 ⇑P Pn 17 58 20.2 +2.2
baz=12
SPUT South Promonto 12.31 2 eP Pn 17 58 21.0 +2.7
comp=Z,8µm,3.7s
O22A Kremmling 12.36 24 ⇑P Pn 17 58 19.6 +0.5
baz=12
Z32A Haskell 12.38 66 ⇑P Pn 17 58 20.7 +1.7
baz=12
U29A Oasis Ranch, S 12.38 50 ⇓P Pn 17 58 20.3 +1.1
baz=12
ISCO Idaho Springs 12.40 28 ⇓P Pn 17 58 21.4 +1.8
baz=12
V30A Spur Ranch, Mi 12.42 54 ⇑P Pn 17 58 21.1 +1.4
baz=12
BEKR Beckworth 12.43 333 eP Pn 17 58 21.8 +1.9
comp=Z,28µm,3.3s
X31A McDonald Ranch 12.44 60 ⇑P Pn 17 58 21.8 +1.9
baz=12
N20A Spence Gulch, 12.45 17 ⇑P Pn 17 58 21.5 +1.3
baz=12
P24A Kohler Place, 12.46 30 ⇓P Pn 17 58 22.1 +1.8
baz=12
N21A Black Mountain 12.59 20 ⇓P Pn 17 58 23.3 +1.2
baz=13
R27A Eads 12.59 40 ⇑P Pn 17 58 23.4 +1.3
baz=13
M17A Scullys Gap (B 12.61 8 ⇑P Pn 17 58 23.6 +1.2
baz=13
Y32A R-V Farms, Ver 12.62 63 ⇑P Pn 17 58 23.6 +1.2
baz=13
HWUT Hardware Ranch 12.65 5 eP Pn 17 58 25.0 +2.0
comp=Z,30µm,3.4s
S28A Manter 12.65 44 ⇓P Pn 17 58 23.5 +0.6
baz=13
Q26A Hugo 12.66 36 ⇑P Pn 17 58 24.5 +1.4
baz=13
W31A Holland Ranch, 12.70 58 ⇓P Pn 17 58 24.3 +0.9
baz=13
LNIG Linares 12.76 105 i P Pn 17 58 24.0 -0.3
T29A Hugoton 12.77 47 ⇓P Pn 17 58 25.5 +1.0
baz=13
P25A Willow Gulch B 12.80 33 ⇑P Pn 17 58 25.6 +0.6
baz=13
U30A WK&E Inc. Balk 12.84 51 ⇑P Pn 17 58 27.1 +1.6
baz=13
M19A Rock Springs 12.89 13 ⇓P Pn 17 58 27.4 +1.2
baz=13
O24A Longmont 12.89 28 ⇓P Pn 17 58 27.9 +1.7
baz=13
N22A Wattenberg Ran 12.96 23 ⇑P Pn 17 58 29.7 +2.4
baz=13
HOPS Hopland 13.00 323 eP Pn 17 58 26.7 -0.8
comp=Z,203nm,1.6s
V31A Spring Creek L 13.03 55 ⇓P Pn 17 58 29.7 +1.7
baz=13
M20A Sweetwater, Wa 13.09 16 ⇓P Pn 17 58 30.4 +1.5
baz=13
L18A Fontenelle, Gr 13.14 10 ⇑P Pn 17 58 29.6 0.0
baz=13
S29A Ulysses 13.16 46 ⇓P Pn 17 58 30.4 +0.6
baz=13
R28A Tribune 13.20 42 ⇑P Pn 17 58 31.1 +0.8
baz=13
KSCO Kaye Shedlock' 13.20 38 ⇑P Pn 17 58 30.8 +0.4
baz=13
T30A Plains 13.21 49 ⇑P Pn 17 58 32.5 +2.0
baz=13
N23A Red Feather La 13.22 24 ⇓P Pn 17 58 31.2 +0.4
baz=13
P26A Davis Ranch, A 13.23 35 ⇑P Pn 17 58 31.3 +0.4
baz=13
O25A Wiggins 13.30 31 ⇓P Pn 17 58 33.0 +1.3
baz=13
WMOK Wichita Mounta 13.39 61 eP Pn 17 58 32.4 -0.5
WMOK pmax pmax
comp=Z,309nm,0.6s
WMOK Wichita Mounta 13.39 61 eP Pn 17 58 32.4 -0.5
comp=Z,309nm,0.6s
M21A Separation Pea 13.41 19 ⇓P Pn 17 58 34.5 +1.1
baz=14
L19A Farson 13.43 12 ⇓P Pn 17 58 35.0 +1.5
baz=14
M22A Cedar Creek Ra 13.46 21 ⇑P Pn 17 58 35.5 +1.5
baz=14
L20A Wamsutter 13.54 15 ⇓P Pn 17 58 37.2 +2.1
baz=14
N24A Carr 13.57 27 ⇑P Pn 17 58 37.0 +1.6
baz=14
S30A Montezuma 13.59 47 ⇑P Pn 17 58 36.2 +0.6
baz=14
P27A Ficken Ranch, 13.62 37 ⇑P Pn 17 58 36.8 +0.6
baz=14
R29A Marienthal 13.65 43 ⇓P Pn 17 58 36.7 +0.3
baz=14
Q28A Sharon Springs 13.67 40 ⇓P Pn 17 58 37.5 +0.7
baz=14
L21A Rawlins 13.74 18 ⇑P Pn 17 58 39.1 +1.2
baz=14
WHTX Lake Whitney 13.76 74 ⇑P Pn 17 58 38.2 +0.3
baz=14
KCPM Cahto Peak 13.78 324 eP Pn 17 58 38.4 +0.2
comp=Z,213nm,1.5s
O26A Horse Wrangler 13.78 33 ⇓P Pn 17 58 39.7 +1.5
baz=14
T31A Randall Ranch, 13.80 51 ⇑P Pn 17 58 39.4 +0.9
baz=14
KIPM Iron Peak 13.81 324 eP Pn 17 58 39.1 +0.3
comp=Z,139nm,1.6s
AHID Auburn Hatcher 13.84 6 eP Pn 17 58 42.0 +2.8
comp=Z,136nm,1.4s
N25A Grover 13.88 29 ⇑P Pn 17 58 41.4 +1.7
baz=14
WDC Whiskeytown Da 13.95 329 eP Pn 17 58 42.8 +2.3
WDC pmax pmax
comp=Z,160nm,1.5s
WDC Whiskeytown Da 13.95 329 eP Pn 17 58 42.8 +2.3
comp=Z,160nm,1.5s
LTIM Timbered Crate 13.99 333 P P 17 58 45.3 -3.8
BW06 Boulder Array 14.04 11 eP Pn 17 58 42.0 +0.1
comp=Z,71nm,0.9s
PDAR Pinedale Array 14.04 11 Pn Pn 17 58 41.9 0.0
PDAR Lg Lg 18 02 46.8
PDAR Pinedale Array 14.04 11 Pn Pn 17 58 41.9 0.0
comp=Z,0.1nm,0.3s,baz=187,slow=10,SNR=26
PDAR Lg Lg 18 02 46.8
comp=Z,0.4nm,0.3s,baz=150,slow=15,SNR=2.1
Q29A Oakley 14.05 42 ⇑P Pn 17 58 41.5 -0.4
baz=14
P28A Saint Francis 14.07 38 ⇓P Pn 17 58 42.4 +0.2
baz=14
L22A Ellis Ranch, M 14.08 21 ⇓P Pn 17 58 42.7 +0.3
baz=14
R30A Dighton 14.09 46 ⇑P Pn 17 58 42.5 0.0
baz=14
M24A Cheyenne 14.13 26 ⇑P Pn 17 58 43.9 +0.7
baz=14
O27A Beecher Island 14.14 35 ⇓P Pn 17 58 43.6 +0.3
baz=14
K20A Yellowstone Ra 14.16 14 ⇓P Pn 17 58 43.0 -0.6
baz=14
WVOR Wild Horse Val 14.17 343 eP Pn 17 58 45.2 +1.6
WVOR pmax pmax
comp=Z,817nm,2.1s
WVOR Wild Horse Val 14.17 343 eP Pn 17 58 45.2 +1.6
comp=Z,817nm,2.1s
S31A Mullinville 14.21 49 ⇓P Pn 17 58 44.3 +0.1
baz=14
K19A Absolon Red Bu 14.22 13 ⇑P Pn 17 58 44.4 0.0
baz=14
N26A Koester Ranch, 14.28 32 ⇑P Pn 17 58 45.9 +0.7
baz=14
L23A Garrett 14.39 22 ⇑P Pn 17 58 46.4 -0.2
baz=14
K21A Alcova 14.40 17 ⇓P Pn 17 58 48.0 +1.2
baz=14
M25A Palm-Egli Farm 14.41 28 ⇑P Pn 17 58 47.5 +0.4
baz=14
O28A Krutsinger Ran 14.46 37 ⇑P Pn 17 58 47.7 +0.1
baz=14
P29A Atwood 14.55 40 ⇑P Pn 17 58 48.9 +0.1
baz=15
Q30A Quinter 14.55 43 ⇑P Pn 17 58 48.6 -0.3
baz=15
R31A Burdett 14.57 47 ⇓P Pn 17 58 48.4 -0.6
baz=15
MFID Camas Ranch 14.58 352 ⇓P Pn 17 58 50.4 +1.2
baz=15
N27A Anderson Farm, 14.59 33 ⇓P Pn 17 58 50.2 +0.8
baz=15
L24A Wheatland 14.59 25 ⇓P Pn 17 58 50.9 +1.5
baz=15
HLID Hailey 14.59 356 ⇓P Pn 17 58 50.5 +1.1
baz=15
J19A Crowheart 14.61 12 ⇑P Pn 17 58 49.4 -0.2
baz=15
K22A Casper 14.62 19 ⇓P Pn 17 58 50.4 +0.6
baz=15
M26A McRoberts Ranc 14.83 30 ⇓P Pn 17 58 53.7 +1.1
baz=15
J20A Shoshoni 14.88 14 ⇓P Pn 17 58 54.0 +0.7
baz=15
P30A Selden 14.90 42 ⇓P Pn 17 58 52.6 -1.0
baz=15
I18A Diamond G Ranc 14.91 9 ⇑P Pn 17 58 54.4 +0.6
baz=15
I14A Mackay 14.92 359 ⇑P Pn 17 58 54.9 +1.0
baz=15
OGNE Ogallala 14.94 34 P Pn 17 58 55.6 +1.5
comp=Z,234nm,1.0s
OGNE Ogallala 14.94 34 ⇓P Pn 17 58 53.9 -0.2
baz=15
YBH Yreka Blue Hor 14.96 331 Pn Pn 17 58 55.5 +1.1
YBH Yreka Blue Hor 14.96 331 Pn Pn 17 58 55.5 +1.1
comp=Z,0.2nm,0.3s,baz=150,slow=11,SNR=22
O29A 4D Ranch, Culb 14.98 39 ⇑P Pn 17 58 55.7 +1.0
baz=15
K23A Bowen Ranch, D 14.98 22 ⇓P Pn 17 58 55.2 +0.5
baz=15
N28A Pribbeno Ranch 14.99 36 ⇑P Pn 17 58 55.1 +0.3
baz=15
J21A Lysite 15.02 16 ⇓P Pn 17 58 55.8 +0.5
baz=15
I17A Pilgrim Ck. 15.04 7 ⇓P Pn 17 58 56.4 +0.9
baz=15
L25A Engebretsen Ra 15.06 27 ⇓P Pn 17 58 57.2 +1.5
baz=15
Q31A Ellis 15.07 45 ⇓P Pn 17 58 56.1 +0.2
baz=15
K05A Summer Lake 15.11 337 P Pn 17 58 57.8 +1.3
M27A Reverse DX Ran 15.22 32 ⇓P Pn 17 58 58.8 +0.9
baz=15
BUOR Burton Butte 15.22 333 P P 17 59 00.5 -2.5
K24A Anderson Ranch 15.23 24 ⇑P Pn 17 58 58.3 +0.3
baz=15
L26A Underwood Farm 15.32 29 ⇓P Pn 17 58 57.8 -1.4
baz=15
J22A Midwest 15.33 18 ⇑P Pn 17 58 59.7 +0.3
baz=15
DEIG Demacu 15.37 121 eP Pn 17 59 02.0 +2.0
I19A Meetetse 15.37 11 ⇑P Pn 17 58 59.7 -0.2
baz=16
P31A Stockton 15.40 43 ⇑P Pn 17 59 00.3 +0.1
baz=15
O30A MW Ranch, Wils 15.44 40 ⇑P Pn 17 59 01.2 +0.6
baz=16
I20A Worland 15.44 13 ⇑P Pn 17 59 00.8 0.0
baz=16
K25A Mack Ranch, Ha 15.48 26 ⇓P Pn 17 59 01.7 +0.4
baz=16
I21A Big Trails, Te 15.50 16 ⇓P Pn 17 59 02.0 +0.5
baz=16
ZIIG Zihuatanejo 15.51 134 eP Pn 17 58 59.0 -2.6
YFT Old Faithful 15.54 6 eP P 17 59 06.0 -0.4
comp=Z,973nm,2.0s
N29A Votaw Ranch, W 15.57 37 ⇓P Pn 17 59 03.5 +1.1
baz=16
J23A Dilts Ranch, B 15.59 21 ⇑P Pn 17 59 03.3 +0.6
baz=16
M28A Bar X Bar Ranc 15.61 34 ⇓P Pn 17 59 03.6 +0.7
baz=16
LKWY Lake 15.69 7 eP P 17 59 09.0 +0.8
LKWY pmax pmax
comp=Z,673nm,1.9s
LKWY Lake 15.69 7 eP P 17 59 09.0 +0.8
comp=Z,673nm,1.9s
PTVM Pico Tres Padr 15.74 123 eP P 17 59 10.5 +1.6
YMR Madison River 15.74 5 eP P 17 59 07.6 -1.1
comp=Z,2µm,2.1s
ARIG Puente Sto Nin 15.75 130 i P P 17 59 09.5 +0.8
H16A Russell Place, 15.76 5 ⇓P Pn 17 59 06.1 +1.1
baz=16
I22A 9 Mile Ranch, 15.78 18 ⇑P Pn 17 59 05.6 +0.5
baz=16
YNR Norris Junctio 15.81 6 eP P 17 59 08.9 -0.6
comp=Z,663nm,2.0s
MCMT McKenzie Canyo 15.82 0 eP P 17 59 08.5 -1.0
comp=Z,2µm,1.6s
J24A Dixon Ranch, L 15.82 23 ⇓P Pn 17 59 06.0 +0.4
baz=16
K26A Motz Farm, Whi 15.83 28 ⇓P Pn 17 59 07.1 +1.3
baz=16
N30A Hueftle Ranch, 15.83 38 ⇑P Pn 17 59 04.5 -1.2
baz=16
VTVM Tizayuca 15.88 122 i P P 17 59 08.6 -1.9
H18A Shoshone NF, C 15.89 9 ⇓P Pn 17 59 07.2 +0.5
baz=16
H19A Powell 15.98 11 ⇑P Pn 17 59 08.6 +0.8
baz=16
H20A Greybull 15.98 13 ⇓P Pn 17 59 08.1 +0.3
baz=16
M29A Burnside Ranch 15.98 36 ⇓P Pn 17 59 07.7 -0.1
baz=16
L28A Connealy Angus 16.00 33 ⇓P Pn 17 59 08.6 +0.6
baz=16
KBO Bosley Butte 16.02 328 eP P 17 59 11.0 -0.6
comp=Z,564nm,1.6s
NCOR Newberry Crate 16.07 338 P P 17 59 12.5 +0.2
TUL1 Tulsa 16.09 60 ⇑P Pn 17 59 09.3 +0.2
baz=16
I23A Meade Ranch, G 16.13 20 ⇓P Pn 17 59 10.2 +0.6
baz=16
J25A Sunshine Ranch 16.18 25 ⇓P Pn 17 59 10.4 +0.1
baz=16
BMO Blue Mountains 16.20 349 P Pn 17 59 10.8 +0.3
K27A Flueckinger Fa 16.23 30 ⇑P Pn 17 59 11.4 +0.5
baz=16
YAIG Yautepec 16.24 125 i P P 17 59 17.9 +3.6
PLIG Platanillo 16.25 127 eP P 17 59 12.9 -1.4
I24A Kuemmerle Ranc 16.30 22 ⇑P Pn 17 59 12.1 +0.3
baz=16
H21A Big Horn, Sher 16.33 15 ⇑P Pn 17 59 12.5 +0.4
baz=16
RLMT Red Lodge 16.38 9 eP Pn 17 59 13.1 +0.1
comp=Z,5µm,2.2s
J26A Sides Ranch, S 16.39 27 ⇓P Pn 17 59 13.9 +1.1
baz=16
G17A Pierce Place, 16.41 6 ⇑P Pn 17 59 14.2 +0.9
baz=16
PPM Popocatepetl 16.43 124 eP P 17 59 17.6 +0.8
H22A Clearmont 16.46 17 ⇑P Pn 17 59 14.9 +1.0
baz=17
M30A Dale-Ortello V 16.48 37 ⇓P Pn 17 59 13.7 -0.3
baz=16
G18A Lazy EL Ranch, 16.53 9 ⇓P Pn 17 59 15.5 +0.6
baz=17
L29A Maesberg Ranch 16.55 35 ⇓P Pn 17 59 15.8 +0.9
baz=17
K28A Ten Mile Ranch 16.62 31 ⇓P Pn 17 59 16.7 +0.8
baz=17
G20A Bridger 16.65 12 ⇓P Pn 17 59 16.6 +0.3
baz=17
BOZ Bozeman (W) 16.67 3 eP P 17 59 18.9 -0.1
BOZ pmax pmax
comp=Z,288nm,1.5s
BOZ Bozeman (W) 16.67 3 eP P 17 59 18.9 -0.1
comp=Z,288nm,1.5s
CAIG El Cayaco 16.69 133 eP Pn 17 59 15.4 -1.4
H23A Clabaugh Cattl 16.69 19 ⇓P Pn 17 59 17.8 +1.0
baz=17
IRO Indian Ridge 16.71 336 P P 17 59 18.6 -0.8
I25A Rochford 16.75 24 ⇑P Pn 17 59 18.8 +1.2
baz=17
BKCOR Black Crater 16.78 338 P P 17 59 20.0 -0.1
G21A Lodge Grass 16.86 14 ⇓P Pn 17 59 19.2 +0.3
baz=17
GCMT Greycliff 16.99 8 eP P 17 59 22.9 +0.4
comp=Z,100nm,1.5s
F17A Fitzpatrick Pl 17.00 6 ⇓P Pn 17 59 21.4 +0.7
baz=17
TCBU Trout Butte 17.06 336 P Pn 17 59 20.5 -1.0
G22A Birney 17.06 16 ⇓P P 17 59 22.8 -0.4
baz=17
I26A New Underwood 17.08 26 ⇑P Pn 17 59 22.2 +0.6
baz=17
F18A Big Timber 17.09 8 ⇑P Pn 17 59 22.6 +0.8
baz=17
H24A Dirks Ranch, A 17.12 21 ⇑P Pn 17 59 23.2 +1.0
baz=17
F19A Roth Farm, Mol 17.15 10 ⇑P Pn 17 59 23.6 +1.0
baz=17
CROR Criterion Ridg 17.18 341 P P 17 59 25.0 +0.5
F20A Billings 17.22 12 ⇓P Pn 17 59 24.2 +0.7
baz=17
VTHM Trough 17.24 342 P P 17 59 25.1 0.0
J28A Allard Ranch, 17.24 30 ⇓P Pn 17 59 23.7 0.0
baz=17
G23A Biddle 17.28 18 ⇑P Pn 17 59 24.9 +0.7
baz=17
G06A Carlson Farm, 17.31 342 P P 17 59 26.1 +0.2
H25A Fruitdale 17.32 23 ⇓P Pn 17 59 25.5 +0.8
baz=17
BGNE Belgrade 17.33 40 ⇑P P 17 59 26.2 0.0
baz=17
I27A Quinn 17.42 27 ⇓P Pn 17 59 26.1 +0.2
baz=18
F21A Absaloka Mine, 17.44 14 ⇑P Pn 17 59 26.5 +0.3
baz=18
E17A Martinsdale 17.53 5 ⇓P P 17 59 28.4 -0.1
baz=18
F22A Rosebud 17.60 16 ⇓P Pn 17 59 28.1 0.0
baz=18
H26A Fairpoint 17.61 25 ⇓P Pn 17 59 27.9 -0.3
baz=18
VFP Flag Point 17.62 340 P P 17 59 29.7 +0.2
G24A Alzada 17.68 20 ⇓P Pn 17 59 29.6 +0.4
baz=18
LVIG Laguna Verde 17.70 118 i P P 17 59 30.2 -0.1
E18A Harlowton 17.72 7 ⇑P P 17 59 31.2 +0.6
baz=18
I28A Midland 17.73 29 ⇑P Pn 17 59 29.8 +0.1
baz=18
F23A Volborg 17.76 18 ⇓P Pn 17 59 30.6 +0.6
baz=18
E19A Rath Farm, Rou 17.76 10 ⇓P Pn 17 59 30.7 +0.5
baz=18
BLTW Bickleton 17.82 343 P P 17 59 32.4 +0.9
MSO Missoula 17.83 358 ⇓P P 17 59 31.7 0.0
baz=18
G25A Newell 17.88 23 ⇑P Pn 17 59 32.1 +0.4
baz=18
E20A Meyer Farm, Mu 17.91 11 ⇓P Pn 17 59 32.3 +0.4
baz=18
E21A Keefer Ranch, 18.14 13 ⇑P Pn 17 59 34.9 +0.1
baz=18
F24A Ekalaka 18.14 20 ⇓P Pn 17 59 35.2 +0.4
baz=18
D17A Six Diamond Ra 18.23 5 ⇑P P 17 59 36.8 +0.7
baz=18
G26A Maurine 18.25 24 ⇓P P 17 59 37.1 +0.8
baz=18
E22A Miles City 18.29 16 ⇓P P 17 59 37.1 +0.4
baz=18
H28A Mission Ridge 18.34 28 ⇓P Pn 17 59 37.6 +0.4
baz=18
D18A Linhart Farms, 18.36 7 ⇑P Pn 17 59 38.2 +0.7
baz=18
D19A Cripps Ranch, 18.44 9 ⇓P P 17 59 38.6 +0.2
baz=18
D20A Manuel Ranch, 18.48 11 ⇑P Pn 17 59 39.2 +0.3
baz=19
E23A Ismay 18.50 17 ⇑P Pn 17 59 39.7 +0.5
baz=19
F25A Bowman 18.52 21 ⇓P Pn 17 59 39.9 +0.6
baz=19
G27A Dupree 18.57 25 ⇓P Pn 17 59 40.9 +0.9
baz=19
PNIG Pinotepa 18.57 129 eP Pn 17 59 42.9 +2.7
D21A La Casta Ranch 18.66 13 ⇑P Pn 17 59 41.6 +0.5
baz=19
C17A Wharram Farm, 18.70 5 ⇑P Pn 17 59 41.9 +0.2
baz=19
C13A Hot Springs 18.71 357 ⇓P Pn 17 59 41.8 +0.1
baz=19
F26A Lodgepole 18.71 23 ⇓P Pn 17 59 42.0 +0.2
baz=19
G28A Parade 18.71 28 ⇓P Pn 17 59 41.9 +0.2
baz=19
C15A Salmond Ranch, 18.77 1 ⇑P Pn 17 59 42.7 +0.2
baz=19
C16A Fuhringer Ranc 18.82 3 ⇑P Pn 17 59 43.3 +0.3
baz=19
E24A Baker 18.83 19 ⇓P Pn 17 59 44.0 +0.8
baz=19
YBMT Yellow Bay 18.87 358 eP Pn 17 59 44.2 +0.5
comp=Z,111nm,1.6s
WPW White Pass 18.90 342 P Pn 17 59 45.7 +1.6
D22A Cohagen 18.91 15 ⇓P Pn 17 59 45.0 +0.9
baz=19
C19A Slack Wire Ran 18.98 8 ⇓P Pn 17 59 45.8 +0.9
baz=19
E25A Miller Ranch, 19.05 21 ⇑P Pn 17 59 46.6 +0.8
baz=19
BRSD Miller 19.07 32 ⇓P P 17 59 45.8 +0.6
baz=19
VHO Vista Hermosa 19.09 125 i P P 17 59 45.9 +0.1
C20A Veseth Ranch, 19.10 10 ⇑P Pn 17 59 46.9 +0.4
baz=19
D23A Lindsay 19.16 16 ⇓P Pn 17 59 47.9 +0.7
baz=19
EGMT Eagleton 19.18 7 ⇑P Pn 17 59 48.4 +0.9
baz=19
B15A Bradely Ranch, 19.31 1 ⇓P Pn 17 59 49.1 +0.2
baz=19
D24A Glendive 19.33 18 ⇑P Pn 17 59 50.1 +0.8
baz=19
B14A Marquette Ranc 19.35 360 ⇑P Pn 17 59 49.5 0.0
baz=20
B17A L&G Farms, Che 19.36 4 ⇑P P 17 59 49.2 +0.7
baz=20
C21A Desert Coulee 19.37 12 ⇑P Pn 17 59 49.7 0.0
baz=20
B13A Whitefish 19.40 357 ⇓P Pn 17 59 49.9 -0.1
baz=20
B16A M & M Farms, S 19.43 3 ⇑P Pn 17 59 50.7 +0.3
baz=20
NEW Newport 19.51 352 P P 17 59 50.1 0.0
NEW Newport 19.51 352 P P 17 59 50.1 0.0
comp=Z,0.9nm,0.3s,baz=170,slow=11,SNR=48
NEW Newport 19.51 352 ⇑P P 17 59 50.6 +0.5
baz=20
C22A Vida 19.54 15 ⇑P P 17 59 51.3 +0.9
baz=20
B18A Beardsley Farm 19.55 6 ⇓P P 17 59 51.3 +0.8
baz=20
B12A Libby 19.56 355 ⇓P P 17 59 51.2 +0.6
baz=20
VBMS Vicksburg 19.64 75 eP Pn 17 59 53.3 +0.4
comp=Z,781nm,1.4s
C24A Savage 19.69 18 ⇓P Pn 17 59 53.6 +0.1
baz=20
B19A Brinkman Farms 19.70 8 ⇓P Pn 17 59 53.4 -0.1
baz=20
C23A Lambert 19.75 16 ⇑P Pn 17 59 53.9 -0.3
baz=20
B20A Solberg Farm, 19.81 10 ⇑P Pn 17 59 54.8 0.0
baz=20
B21A Ellsworth Farm 19.96 12 ⇑P Pn 17 59 56.6 -0.1
baz=20
A14A Double T Ranch 19.96 359 ⇓P Pn 17 59 56.4 -0.4
baz=20
A16A West Butte Ran 19.97 3 ⇓P P 17 59 55.6 +0.5
baz=20
HBAR Harrisburg 20.00 65 eP Pn 17 59 57.0 -0.2
A17A Triple J Farms 20.02 4 ⇑P P 17 59 56.2 +0.6
baz=20
A12A Yaak River Ran 20.03 355 ⇑P P 17 59 56.2 +0.5
baz=20
B22A Reddig Ranch S 20.04 14 ⇑P P 17 59 56.5 +0.6
baz=20
A18A Metzger Ranch, 20.06 6 ⇓P P 17 59 56.8 +0.8
baz=20
WALA Waterton Lakes 20.06 358 eP P 17 59 57.0 +0.9
comp=Z,16nm,1.9s
C25A Freed Ranch, W 20.18 19 ⇓P P 17 59 58.4 +1.0
baz=20
A19A Klindworth Far 20.19 8 ⇓P Pn 17 59 58.9 -0.5
baz=20
A20A Cobblestone Ra 20.25 10 ⇑P P 17 59 58.9 +0.7

baz=20
HUIG Huatulco 20.40 127 *i* P **P 18 00 00.2 +0.2**
B23A Brockton 20.42 15 ⇓P **P 18 00 01.0 +1.1**
baz=20
A21A Bergtoll Ranch 20.52 12 ⇑P Pn 18 00 02.7 -0.7
baz=21
DGMT Dagmar 20.62 17 ⇑P **P 18 00 03.3 +1.3**
baz=21
C26A Wahner Farm, P 20.63 21 ⇑P Pn 18 00 04.1 -0.5
baz=21
B25A Knox Farm, Ray 20.71 19 ⇑P **P 18 00 04.5 +1.4**
baz=21
A22A Carney Farms, 20.71 13 ⇑P Pn 18 00 04.8 -0.8
baz=21
C27A Sayler Ranch, 20.73 22 ⇑P Pn 18 00 05.1 -0.6
baz=21
OXF Oxford 20.81 69 *e*P **P 18 00 03.9 -0.3**
OXF pmax pmax
comp=Z,407nm,1.2s
OXF Oxford 20.81 69 *e*P **P 18 00 03.9 -0.3**
comp=Z,407nm,1.2s
A23A Redstone 20.91 15 ⇓P **P 18 00 06.6 +1.3**
baz=21
B26A Jensen Ranch, 21.08 20 ⇑P **P 18 00 08.0 +0.9**
baz=21
A24A Westby 21.08 17 ⇑P **P 18 00 08.3 +1.1**
baz=21
HALT Halls 21.12 65 *e*P **P 18 00 09.0 +1.4**
GLAT Glass 21.24 64 *e*P **P 18 00 10.7 +1.8**
A25A Svangstu Ranch 21.33 18 ⇑P **P 18 00 10.1 +0.3**
baz=21
MDND Maddock 21.52 25 ⇓P **P 18 00 11.9 +0.1**
baz=22
A26A Wade Farm, Ken 21.60 20 ⇑P **P 18 00 12.6 -0.1**
baz=22
TGIG 21.95 119 *e*P **P 18 00 19.8 +3.0**
WVT Waverly 22.36 65 *e*P **P 18 00 20.7 -0.3**
WVT pmax pmax
comp=Z,267nm,1.3s
WVT Waverly 22.36 65 *e*P **P 18 00 20.7 -0.3**
comp=Z,266nm,1.3s
BRAL Brewton 22.57 78 *e*P **P 18 00 24.1 +0.9**
comp=Z,547nm,1.4s
LRAL Lakeview Retre 22.65 73 *e*P **P 18 00 24.0 -0.1**
comp=Z,312nm,1.7s
SPMN St. Paul 22.77 39 ⇓P **P 18 00 24.9 -0.4**
baz=23
WCI Wyandotte Cave 24.03 60 *e*P **P 18 00 38.5 +0.6**
WCI pmax pmax
comp=Z,91nm,0.9s
WCI Wyandotte Cave 24.03 60 *e*P **P 18 00 38.5 +0.6**
comp=Z,91nm,0.9s
SFIN Scholer Farm 24.08 55 ⇑P **P 18 00 38.0 -0.3**
baz=24
TEIG Tepich 24.09 106 P **P 18 00 38.0 -0.6**
TEIG Tepich 24.09 106 P **P 18 00 38.0 -0.6**
comp=Z,12nm,0.7s,baz=283,slow=14,SNR=6.2
ULM Lac du Bonnet 24.90 27 P **P 18 00 44.5 -1.1**
ULM Lac du Bonnet 24.90 27 P **P 18 00 44.5 -1.1**
comp=Z,66nm,1.0s,baz=219,slow=10,SNR=30
COWI Conover 25.36 41 *e*P **P 18 00 50.1 +0.2**
comp=Z,44nm,0.9s
TIGA Tifton 25.52 77 ⇑P **P 18 00 51.6 +0.2**
baz=26
TKL Tuckaleechee C 25.54 67 P **P 18 00 51.5 -0.1**
comp=Z,116nm,0.9s,baz=244,slow=5.0,SNR=44
BBB Bella Bella 25.75 338 P **P 18 00 53.9 +0.6**
BBB Bella Bella 25.75 338 P **P 18 00 53.9 +0.6**
comp=Z,10nm,0.9s,baz=144,slow=11,SNR=2.2
FFC Flin Flon 26.94 14 *i* P **P 18 01 06.0 +1.9**
KMSC Kings Mountain 27.48 69 ⇓P **P 18 01 09.6 +0.4**
baz=27
SOR Soroa 27.65 96 *e*P **P 18 01 10.5 -0.3**
BLA Blacksburg 28.41 65 *e*P **P 18 01 17.8 +0.3**
BLA pmax pmax
comp=Z,131nm,1.4s
BLA Blacksburg 28.41 65 *e*P **P 18 01 17.8 +0.3**
comp=Z,131nm,1.4s
SADO Sadowa 31.08 50 P **P 18 01 40.0 -1.0**
SADO Sadowa 31.08 50 P **P 18 01 40.0 -1.0**
comp=Z,24nm,0.8s,baz=269,slow=9.9,SNR=11
DLBC Dease Lake 31.71 343 P **P 18 01 47.1 +0.6**
DLBC PcP PcP 18 04 43.5 +5.7
DLBC Dease Lake 31.71 343 P **P 18 01 47.1 +0.6**
comp=Z,5.5nm,0.9s,baz=150,slow=9.5,SNR=11
DLBC PcP PcP 18 04 43.5 +5.7
comp=Z,7.5nm,1.0s,baz=330,slow=1.4,SNR=3.7
JTS JuntasAbangare 32.18 120 P P 18 01 54.9 +3.9
JTS JuntasAbangare 32.18 120 P P 18 01 54.9 +3.9
comp=Z,3.4nm,0.4s,baz=294,slow=8.7,SNR=4.6
BINY Binghamton 32.62 56 *e*P **P 18 01 54.0 -0.6**
comp=Z,80nm,1.1s
YKA Yellowknife Ar 33.53 359 P **P 18 02 00.9 -1.3**
YKA PcP **PcP 18 04 46.6 +3.9**
YKA Yellowknife Ar 33.53 359 P **P 18 02 00.9 -1.3**
comp=Z,1.3nm,0.6s,baz=183,slow=8.0,SNR=16
YKA PcP **PcP 18 04 46.6 +3.9**
comp=Z,4.7nm,1.0s,baz=175,slow=2.5,SNR=7.1
MSNY Massena 34.06 52 *e*P **P 18 02 07.1 +0.1**
comp=Z,522nm,1.1s
QUA2 Belchertown 35.29 57 *e*P **P 18 02 16.2 -1.5**
comp=Z,69nm,1.0s
BRYW Bryant College 35.84 58 *e*P **P 18 02 22.0 -0.5**
comp=Z,45nm,1.0s
HRV Adam Dziewonsk 35.91 57 *e*P **P 18 02 23.4 +0.4**
HRV pmax pmax
comp=Z,58nm,1.1s
HRV Adam Dziewonsk 35.91 57 *e*P **P 18 02 23.4 +0.4**
comp=Z,58nm,1.1s
LBNH Lisbon 35.93 54 *e*P **P 18 02 23.8 +0.5**
LBNH pmax pmax
comp=Z,91nm,1.4s
LBNH Lisbon 35.93 54 *e*P **P 18 02 23.8 +0.5**
comp=Z,91nm,1.4s
FFD Franklin Falls 35.99 55 *e*P **P 18 02 24.4 +0.6**
comp=Z,14nm,0.3s
WES Weston 36.06 57 *e*P **P 18 02 24.8 +0.4**
WES pmax pmax
comp=Z,211nm,1.4s
WES Weston 36.06 57 *e*P **P 18 02 24.8 +0.4**
comp=Z,211nm,1.4s
WVL Waterville 37.59 54 *e*P **P 18 02 38.6 +1.3**
comp=Z,137nm,1.1s
DIV Divide 38.82 335 *e*P P 18 02 50.9 +3.3
PQI Presque Isle 39.09 51 *e*P **P 18 02 50.1 +0.1**
comp=Z,150nm,1.3s
EMMW East Machias 39.16 54 *e*P **P 18 02 51.6 +1.1**
comp=Z,159nm,1.1s
MENT Mentasta 39.35 338 *e*P **P 18 02 52.0 +0.1**
ILAR Eielson Array 41.64 339 P **P 18 03 10.3 -0.5**
ILAR PcP PcP 18 05 13.2 +5.6
ILAR Eielson Array 41.64 339 P **P 18 03 10.3 -0.5**
comp=Z,4.9nm,1.1s,baz=152,slow=7.2,SNR=20
ILAR PcP PcP 18 05 13.2 +5.6
comp=Z,4.8nm,1.1s,baz=154,slow=4.5,SNR=3.5
SCHQ Schefferville 41.92 39 P **P 18 03 12.9 -0.4**
SCHQ Schefferville 41.92 39 P **P 18 03 12.9 -0.4**
comp=Z,36nm,1.0s,baz=255,slow=8.2,SNR=15
COLA College 42.02 339 *e*P **P 18 03 16.7 +2.8**
COLA pmax pmax
comp=Z,94nm,1.1s
COLA College 42.02 339 *e*P **P 18 03 16.7 +2.8**
comp=Z,94nm,1.1s
OBIP Obispado Ponce 43.69 94 *e*P **P 18 03 29.2 +1.1**
ROSC El Rosal 43.79 116 P **P 18 03 32.2 +2.9**
ROSC El Rosal 43.79 116 P **P 18 03 32.2 +2.9**
comp=Z,10.0nm,0.8s,baz=99,slow=21,SNR=4.6
CDVI St. Croix 45.42 93 *e*P **P 18 03 43.5 +1.7**
SFJD Kangerlussuaq 52.93 26 *i* P **P 18 04 40.2 +1.5**
comp=Z,28nm,1.1s
SFJD Kangerlussuaq 52.93 26 *e*P P 18 04 42.4 +3.7
comp=Z,114nm,1.3s
SUMG Summit 58.00 20 *i* P **P 18 05 15.0 -0.6**
comp=Z,16nm,1.1s
SAML Samuel 61.07 120 *e*P **P 18 05 36.7 -0.3**
comp=Z,13nm,1.3s
LPAZ La Paz 62.50 130 P **P 18 05 48.5 +1.1**
LPAZ La Paz 62.50 130 P **P 18 05 48.5 +1.1**
comp=Z,2.1nm,0.8s,baz=347,slow=8.4,SNR=9.5
DAG Danmarks Havn 63.02 15 *i* P **P 18 05 48.9 -0.4**
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 63.02 15 *i* P **P 18 05 48.9 -0.4**
comp=Z,12nm,1.0s
PET Petropavlovsk 66.44 319 *d* iP **P 18 06 14.7 +2.7**
PET *e*S **S 18 15 00.6 -1.3**
PET pmax pmax
comp=Z,400nm,3.2s
PET pmax pmax
comp=Z,9.0nm,0.9s
PET pmax pmax
comp=Z,200nm,14.4s
PEA0B Petropavlovsk- 66.97 319 *e*P **P 18 06 13.6 -1.8**
PETK Petropavlovsk- 66.97 319 P **P 18 06 13.2 -2.2**
PETK Petropavlovsk- 66.97 319 P **P 18 06 13.2 -2.2**
PETK Petropavlovsk- 66.97 319 P **P 18 06 13.2 -2.2**
comp=Z,9.5nm,0.8s,baz=96,slow=9.4,SNR=17
SIV San Ignacio 67.21 125 P **P 18 06 16.4 -1.0**
SIV San Ignacio 67.21 125 P **P 18 06 16.4 -1.0**
comp=Z,12nm,1.0s,baz=323,slow=8.9,SNR=30
JMIC Jan Mayen 67.45 20 *e*P P 18 06 22.6 +4.5
KBS Kingsbay 67.92 10 *e*P P 18 06 24.3 +3.3
KBS AMB AMB 18 06 33.9
comp=Z,49nm,1.0s
KBS Kingsbay 67.92 10 *ce*P **P 18 06 23.9 +2.9**
KBS pmax pmax
comp=Z,67nm,2.5s
SKR Severo-Kuril's 68.68 317 *e*P **P 18 06 24.0 -2.2**
SPA0 Spitsbergen Ar 69.08 10 *e*P **P 18 06 29.9 +1.6**
TIXI Tiksi 70.94 343 *e*P **P 18 06 40.6 +0.8**
TIXI pmax pmax
comp=Z,67nm,3.2s
CFAA Coronel Fontan 73.79 141 P **P 18 06 56.9 -0.5**
CFAA Coronel Fontan 73.79 141 P **P 18 06 56.9 -0.5**
comp=Z,1.6nm,1.0s,baz=288,slow=3.2,SNR=5.0
TRO Tromso 75.73 16 *e*P P 18 07 12.0 +4.0
TRO AMB AMB 18 07 19.7
comp=Z,30nm,1.6s
YAK Yakutsk 76.37 334 *d* iP **P 18 07 14.1 +2.3**
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
CPUP Villa Florida 76.67 130 *e*P **P 18 07 13.2 -0.8**
comp=E,66nm,1.0s
CPUP Villa Florida 76.67 130 P **P 18 07 14.2 +0.3**
comp=E,16nm,0.9s,baz=312,slow=5.8,SNR=19
BDFB Brasilia 76.85 116 P **P 18 07 16.9 +1.6**
BDFB Brasilia 76.85 116 P **P 18 07 16.9 +1.6**
comp=E,1.9nm,0.3s,baz=286,slow=7.4,SNR=2.8
ESK Eskdalemuir 76.95 34 *i* P **P 18 07 15.9 +0.7**
ARCES ARCESS Array B 77.27 14 P **P 18 07 14.9 -1.9**
ARCES ARCESS Array B 77.27 14 P **P 18 07 14.9 -1.9**
comp=E,9.1nm,1.0s,baz=346,slow=4.0,SNR=9.4
ARE0 ARCESS Array S 77.27 14 *e*P **P 18 07 19.1 +2.3**
ARE0 ARCESS Array S 77.27 14 *e*P **P 18 07 15.0 -1.8**
HYA Hoyanger 77.62 26 *e*P **P 18 07 19.7 +0.8**
HYA AMB AMB 18 07 30.8
comp=Z,53nm,1.5s
YUK Yuzh-Kuril'sk 77.75 314 *d* iP **P 18 07 18.5 -1.4**
YUK *i* 18 07 25.4
YUK *i* 18 10 13.6
YUK *i* S **S 18 17 09.6 -2.4**
YUK *i* 18 17 36.4
RUND Rundenannen 77.78 27 *e*P **P 18 07 22.5 +2.7**
RUND AMB AMB 18 07 29.4
comp=Z,97nm,1.8s
YSS Yuzh-Sakhalins 78.24 317 ⇑ *e*P **P 18 07 21.3 -1.3**
YSS *e* 18 07 26.0
YSS pmax pmax
comp=Z,10.0nm,0.8s
ODD1 Odda 78.58 27 *e*P **P 18 07 24.9 +0.7**
ODD1 AMB AMB 18 07 31.1
comp=Z,57nm,1.2s
BLS5 Blasjo 78.82 27 *e*P P 18 07 29.0 +3.4
BLS5 AMB AMB 18 07 38.2
comp=Z,61nm,1.2s
NB2 NORSAR Subarra 79.56 24 P **P 18 07 29.3 -0.4**
comp=Z,37nm,1.4s,baz=311,slow=5.3
NB2 NORSAR Subarra 79.56 24 P **P 18 07 29.3 -0.4**
baz=311,slow=5.3
NOA NORSAR Array B 79.56 24 P **P 18 07 29.2 -0.4**
NOA NORSAR Array B 79.56 24 P **P 18 07 29.2 -0.4**
comp=Z,6.5nm,1.0s,baz=312,slow=5.3,SNR=16
NAO01 NORSAR Array S 79.58 24 *e*P **P 18 07 30.2 +0.5**
comp=Z,16nm,1.0s
PLCA Paso Flores 79.76 149 P **P 18 07 31.6 +0.8**
PLCA Paso Flores 79.76 149 P **P 18 07 31.6 +0.8**
comp=Z,7.2nm,0.9s,baz=350,slow=9.3,SNR=6.3
ASAJ Asahikawa 79.76 315 P **P 18 07 29.8 -1.2**
ASAJ Asahikawa 79.76 315 P **P 18 07 29.8 -1.2**
comp=Z,6.4nm,0.8s,baz=314,slow=6.0,SNR=7.8
NC602 NORSAR Array S 79.89 24 *e*P **P 18 07 33.9 +2.6**
KONO Kongsberg 79.90 26 *e*P **P 18 07 32.1 +0.7**
KONO Kongsberg 79.90 26 *e*P **P 18 07 31.6 +0.2**
KONO pmax pmax
comp=Z,51nm,1.2s
KONO Kongsberg 79.90 26 *e*P **P 18 07 31.6 +0.2**
comp=Z,51nm,1.2s
LVZ Lovozero 80.44 12 *ce*P **P 18 07 34.4 +0.1**
LVZ pmax pmax
comp=Z,72nm,1.2s
ERM Erimo 80.47 313 *ce*P **P 18 07 33.7 -1.1**
ERM pmax pmax
comp=Z,36nm,1.2s
APA Apatity 80.50 12 ⇓ *i*P **P 18 07 36.0 +1.5**
APA *i* 18 07 40.0
APA *i* 18 10 39.0
APA *i* S **S 18 17 40.0 -0.5**
ROSF Rostrenen 80.71 40 *e*P **P 18 07 37.1 +1.1**
comp=Z,176nm,1.5s
QUIF Quistinic 81.00 40 *e*P **P 18 07 37.5 0.0**
comp=Z,106nm,1.5s
SGMF Saint Gilles 81.15 39 *e*P **P 18 07 39.5 +1.1**
comp=Z,133nm,1.5s
POLO Lamas de Olo 81.71 47 *e*P **P 18 07 41.0 -0.6**
comp=Z,19nm,1.2s
HABR Khabarovsk 81.83 321 *de*P **P 18 07 40.7 -1.2**
HABR *e**SP **sP 18 07 45.2 -2.4**
HABR *e* 18 07 46.1
HABR *e* 18 10 47.0
HABR PPP PPP 18 12 37.7
HABR *e*S **S 18 17 53.7 -1.2**
HABR *e**SS **SKSac 18 17 59.5 -2.3**
MUD Monsted U'grnd 81.85 28 *i* P **P 18 07 43.9 +2.0**
MUD pmax pmax
comp=Z,36nm,1.1s
MUD Monsted U'grnd 81.85 28 *i* P **P 18 07 43.9 +2.0**
comp=Z,36nm,1.1s
FLN La Foliniere 82.00 38 *e*P **P 18 07 42.9 +0.1**
comp=Z,56nm,1.2s
GRR Gorron 82.01 39 *e*P **P 18 07 44.1 +1.2**
comp=Z,56nm,1.2s
LDF La Druitiere 82.29 38 *e*P **P 18 07 45.0 +0.6**
comp=Z,36nm,1.2s
MVO Moncorvo 82.31 47 *e*P **P 18 07 45.0 +0.3**
comp=Z,42nm,1.5s
MTE Manteigas 82.38 48 *e*P **P 18 07 45.2 +0.1**
comp=Z,39nm,1.4s
MTE Manteigas 82.38 48 *e*P **P 18 07 44.3 -0.8**
comp=Z,28nm,1.1s
PMTG Montargil 82.62 49 *e*P P 18 07 50.8 +4.5
comp=Z,52nm,1.3s
PCBR Castelo Branco 82.72 48 *e*P **P 18 07 49.7 +2.9**
comp=Z,43nm,1.5s
PMRV Marv??o 82.99 49 *e*P **P 18 07 50.9 +2.7**
comp=Z,46nm,1.4s
EVO Evora 83.05 50 *e*P **P 18 07 49.9 +1.4**
comp=Z,89nm,1.4s
EVO Evora 83.05 50 *e*P **P 18 07 48.7 +0.2**
comp=Z,39nm,1.5s
KLR Kul'dur 83.15 323 *e*P **P 18 07 46.2 -2.6**
KLR pmax pmax
comp=E,60nm,2.2s
KLR pmax pmax
comp=Z,120nm,2.2s
PESTR Estremoz 83.15 49 *e*P **P 18 07 49.4 +0.3**
comp=Z,36nm,1.8s
MFF Saint Martin d 83.44 40 *e*P **P 18 07 50.6 +0.2**
comp=Z,126nm,1.5s
KAF Kangasniemi 83.51 18 *e*P **P 18 07 49.6 -0.8**
BAIF Baives 83.68 35 *e*P **P 18 07 51.6 +0.1**
comp=Z,86nm,1.2s
COP Copenhagen 83.72 28 *i* P P 18 07 57.7 +6.1
COP pmax pmax
comp=Z,10.0nm,0.9s
COP Copenhagen 83.72 28 *i* P P 18 07 57.7 +6.1
comp=Z,10nm,0.9s
DOU Dourbes 83.85 35 P **P 18 07 52.9 +0.5**
comp=Z,22nm,1.5s
GIVF Givet 83.96 35 *e*P **P 18 07 53.0 0.0**
comp=Z,119nm,1.2s
IBBN Ibbenburen 83.96 32 *e*P **P 18 07 53.8 +0.9**
comp=Z,44nm,1.2s
FIA1 FINESS Array S 84.00 18 *e*P **P 18 07 52.5 -0.5**
FINES FINESS Array B 84.00 18 P **P 18 07 52.6 -0.3**
FINES FINESS Array B 84.00 18 P **P 18 07 52.6 -0.3**
comp=Z,20nm,0.9s,baz=356,slow=2.5,SNR=18
BSEG Bad Segeberg 84.03 30 *e*P **P 18 07 54.3 +1.1**
comp=Z,71nm,1.1s
BSEG *es*P **sP 18 07 59.4 +0.5**
BSEG Bad Segeberg 84.03 30 *e*P **P 18 07 54.3 +1.1**
BSEG *e**SP **sP 18 07 59.4 +0.5**
MEM Membach 84.22 34 P P 18 07 59.7 +5.4
comp=Z,20nm,2.1s
BUG Bochum--Univer 84.30 33 *e*P **P 18 07 55.0 +0.4**
comp=Z,30nm,1.1s
TMCR Tamitsa 84.41 12 *e*P P 18 07 59.2 +4.2
TMCR *e* 18 11 18.7
TMCR pmax pmax
comp=Z,61nm,1.5s
SJPF Ste Jean 84.84 43 *e*P **P 18 07 57.8 +0.2**
comp=Z,30nm,1.3s
WLF Walferdange 84.90 35 P P 18 08 02.4 +4.6
comp=Z,22nm,2.4s
WLF Walferdange 84.90 35 *e*P **P 18 07 58.2 +0.4**
comp=Z,23nm,1.2s
WLF *es*P **sP 18 08 03.2 -0.3**
WLF Walferdange 84.90 35 *e*P **P 18 07 57.6 -0.2**
WLF pmax pmax
comp=Z,22nm,1.3s
WLF Walferdange 84.90 35 *e*P **P 18 07 57.6 -0.2**
comp=Z,22nm,1.3s
NRDL Niedersach Rie 84.91 31 *e*P **P 18 07 57.9 +0.2**
comp=Z,36nm,1.2s
NRDL *es*P **sP 18 08 03.0 -0.4**
LFF La Frestale 84.92 41 *e*P **P 18 07 58.2 +0.3**
comp=Z,80nm,1.4s
TCF Toulx Ste Croi 84.94 39 *e*P **P 18 07 57.9 -0.2**
comp=Z,50nm,1.1s
ESDC Sonseca Array 85.08 47 P **P 18 07 58.4 -0.6**
ESDC Sonseca Array 85.08 47 P **P 18 07 58.4 -0.6**
comp=Z,1.5nm,0.6s,baz=307,slow=5.1,SNR=9.8
BGF Bois d'Agland 85.12 39 *e*P **P 18 07 58.9 0.0**
comp=Z,70nm,1.1s
RJF Les Rejaudoux 85.14 40 *e*P **P 18 07 59.2 +0.1**
comp=Z,67nm,1.1s
SSF Saint Saulge 85.17 38 *e*P **P 18 07 59.2 0.0**
comp=Z,63nm,1.1s
LOR Lormes 85.23 38 *e*P **P 18 07 59.6 +0.1**
comp=Z,75nm,1.2s
AVF Avril sur Loir 85.25 38 *e*P **P 18 07 59.3 -0.3**
comp=Z,49nm,1.1s
SFTF Sexfontaines 85.26 36 *e*P **P 18 07 58.7 -0.9**
ETSF Etsaut 85.36 43 *e*P **P 18 08 00.8 +0.5**
comp=Z,37nm,1.4s
PAGF Fort de Pagny 85.39 36 *e*P **P 18 07 59.6 -0.7**
comp=Z,14nm,1.1s
SMF Signal de Mont 85.61 38 *e*P **P 18 08 01.0 -0.4**
comp=Z,53nm,1.0s
TNS Taunus Mts 85.66 33 *es*P sP 18 08 06.5 -0.9
TNS Taunus Mts 85.66 33 *e*P sP 18 08 06.5 -0.9
CAF Calviac 85.68 40 *e*P **P 18 08 01.7 -0.1**
comp=Z,44nm,1.1s
THEF They Montfort 85.74 36 *e*P **P 18 08 01.3 -0.7**
EPF Esparros 85.81 42 *e*P **P 18 08 02.6 +0.1**
comp=Z,23nm,1.1s
UBBA Unterbreizbach 86.00 32 *e*P **P 18 08 03.0 -0.1**
comp=Z,18nm,1.4s
UBBA *es*P **sP 18 08 07.8 -1.0**
USRK Ussuriysk Arra 86.06 319 P P **18 08 02.5 -1.1**
comp=Z,3.4nm,0.9s,baz=66,slow=2.7,SNR=8.2
HAU Haudompre 86.07 36 *e*P **P 18 08 02.6 -1.1**
comp=Z,59nm,1.0s
LANF Langenberg 86.17 35 *e*P **P 18 08 04.2 +0.1**
CDF Champ du Feu 86.28 35 *e*P **P 18 08 03.6 -1.2**
comp=Z,23nm,1.1s
HINF Hinteralfeld 86.45 36 *e*P **P 18 08 04.3 -1.3**
comp=Z,30nm,1.1s
NEUB Neuenburg 86.55 31 *e*P **P 18 08 05.6 -0.3**
comp=Z,36nm,1.1s
NEUB *es*P **sP 18 08 10.6 -1.0**
MOF Molkenrain 86.57 36 *e*P **P 18 08 06.2 0.0**
MJAR Matsushiro Arr 86.63 310 P P **18 08 04.8 -1.9**
MJAR Matsushiro Arr 86.63 310 P P **18 08 04.7 -1.9**
comp=Z,1.6nm,0.7s,baz=45,slow=3.0,SNR=6.6
MAJO Matsushiro 86.63 310 *e*P **P 18 08 03.8 -2.8**
MAT Matsushiro 86.63 310 P **P 18 08 04.1 -2.5**
MTLF Montolieu 86.73 41 *e*P **P 18 08 07.2 +0.2**
comp=Z,42nm,1.4s
LOMF Lomont 86.74 36 *e*P **P 18 08 07.1 +0.1**
VLA Vladivostok 86.77 318 ⇑ *e*P **P 18 08 06.4 -0.8**
VLA *e* 18 08 07.9
VLA *e*S **SKSac 18 18 32.2 -1.7**
VLA pmax pmax
comp=Z,11nm,1.4s
CABF La Chapelle 86.83 37 *e*P **P 18 08 06.3 -1.2**
comp=Z,64nm,1.6s
BFO Black Forest 86.86 35 *e*P **P 18 08 07.0 -0.5**
comp=Z,14nm,1.1s
BFO Black Forest 86.86 35 *e*P **P 18 08 07.0 -0.5**
MOX Moxa 86.87 32 *e*P **P 18 08 06.9 -0.6**
comp=Z,15nm,1.2s
MOX *es*P **sP 18 08 12.0 -1.2**
MOX Moxa 86.87 32 *e*P **P 18 08 06.9 -0.6**
MOX *e**SP **sP 18 08 12.0 -1.2**
CLL Collm 87.03 31 *e*P **P 18 08 07.6 -0.7**
comp=Z,18nm,1.5s
CLL *es*P **sP 18 08 12.6 -1.4**
CLL Collm 87.03 31 *e*P **P 18 08 07.0 -1.3**
CLL *i* 18 08 11.7
MDJ Mudanjiang 87.16 321 P **P 18 08 09.0 0.0**
MDJ pmax pmax
comp=Z,94nm,4.8s
LASF Ste Croix 87.21 40 *e*P **P 18 08 08.3 -1.0**
comp=Z,53nm,1.5s
PLN Plauen 87.23 32 *e*P **P 18 08 08.6 -0.7**
PLN *es*P **sP 18 08 13.6 -1.4**
WERD Werda 87.32 31 *e*P **P 18 08 09.2 -0.5**
comp=Z,10.0nm,1.2s
WERD *es*P **sP 18 08 14.1 -1.4**
GRF Grafenberg Arr 87.34 33 *e*P **P 18 08 09.7 -0.1**
comp=Z,36nm,1.4s
GRF *es*P **sP 18 08 14.7 -0.9**
GRF Grafenberg Arr 87.34 33 *e*P **P 18 08 09.7 -0.1**
GRF *e**SP **sP 18 08 14.7 -0.9**
GUNZ Gunzen 87.39 32 *es*P sP 18 08 14.5 -1.3
TANN Tannenbergstha 87.42 31 *e*P **P 18 08 09.5 -0.7**
comp=Z,29nm,1.6s
TANN *es*P **sP 18 08 14.5 -1.5**
FBE Freiberg 87.46 31 *e*P **P 18 08 09.9 -0.5**
comp=Z,17nm,1.6s
FBE *es*P **sP 18 08 15.0 -1.1**
NKC Novy Kostel 87.54 32 *e*P **P 18 08 12.4 +1.6**
NKC *e* 18 08 16.9
NKC *e* 18 08 20.1
NKC Novy Kostel 87.54 32 *e*P **P 18 08 12.4 +1.6**
NKC *ep*P **pP 18 08 16.9 +1.9**
NKC *ex* x 18 08 20.1
MANZ Manzenberg 87.55 32 *e*P **P 18 08 10.2 -0.7**
comp=Z,10.0nm,1.3s
MANZ *es*P **sP 18 08 15.1 -1.5**
ROTZ Rotzenmuhle 87.75 32 *e*P **P 18 08 11.4 -0.4**
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 87.76 30 *e*P **P 18 08 10.6 -1.2**
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 87.76 30 *e*P **P 18 08 10.6 -1.2**
BRG pmax pmax
comp=Z,3.0nm,0.9s
ORIF Oris-en-Rattie 87.80 38 *e*P **P 18 08 10.7 -1.6**
LPL La Plagne 87.88 38 *e*P **P 18 08 11.9 -0.9**
LPG La Plagne 87.90 38 *e*P **P 18 08 12.3 -0.7**
comp=Z,31nm,1.3s
PVCC Panska Ves 88.28 30 *e*P **P 18 08 14.9 +0.6**
PVCC *e* 18 08 18.5
PVCC *e* 18 08 22.7
PVCC Panska Ves 88.28 30 *e*P **P 18 08 14.9 +0.6**
PVCC *ep*P **pP 18 08 18.5 0.0**
PVCC *ex* x 18 08 22.7
DAVA Damuels 88.33 35 ⇑ *i*sP sP 18 08 18.9 -1.7
comp=Z,9.9nm,1.1s
PRA Prague 88.55 31 P **P 18 08 16.0 +0.4**
PRU Pruhonice 88.66 31 *e*P **P 18 08 15.4 -0.7**
PRU *e* 18 08 20.1
PRU *e* 18 08 24.3
PRU Pruhonice 88.66 31 *e*P **P 18 08 15.4 -0.7**

PRU				*e*pP	**pP**	**18 08 20.1**	**-0.2**
PRU				*e*x	x	18 08 24.3	
KSP	**Ksiaz**	**88.81**	**29**	*e*P	**P**	**18 08 16.0**	**-0.8**
KSP				*e**PP	**pP**	**18 08 20.5**	**-0.5**
KSP	**Ksiaz**	**88.81**	**29**	*e*P	**P**	**18 08 16.2**	**-0.6**
ISAL	**Salakas**	**88.83**	**22**	*e*P	**P**	**18 08 17.2**	**+0.4**
ISAL				AMB	AMB	18 08 22.5	
comp=Z,10.0nm,1.3s							
KHC	**Kasperske Hory**	**88.83**	**32**	*e*P	P	18 08 13.5	-3.5
KHC				*e*		18 08 20.9	
KHC	**Kasperske Hory**	**88.83**	**32**	*e*P	P	18 08 13.5	-3.5
KHC				*e*pP	pP	18 08 20.9	-0.3
KHC				*e*x	x	18 08 25.1	
FETA	**Feichten**	**88.94**	**35⇑**	*i*sP	sP	18 08 21.0	-2.4
comp=Z,13nm,1.1s							
IIGN	**Ignalina**	**89.05**	**22**	*e*P	**P**	**18 08 18.1**	**+0.4**
IIGN				AMB	AMB	18 08 28.4	
comp=Z,9.4nm,1.5s							
GEC2	**GERESS Array S**	**89.10**	**32**	*e*P	**P**	**18 08 17.2**	**-1.1**
comp=Z,9.0nm,1.2s							
GEC2				*e*sP	**sP**	**18 08 22.1**	**-1.9**
GEC2	**GERESS Array S**	**89.10**	**32**	*e*P	**P**	**18 08 17.2**	**-1.1**
GEC2				*e**SP	**sP**	**18 08 22.1**	**-1.9**
GERES	**GERESS Array B**	**89.10**	**32**	P	**P**	**18 08 16.9**	**-1.3**
GERES	**GERESS Array B**	**89.10**	**32**	P	**P**	**18 08 16.9**	**-1.3**
comp=Z,2.0nm,0.8s,baz=328,slow=4.7,SNR=6.6							
DPC	**Dobruska-Polom**	**89.18**	**30**	*e*P	**P**	**18 08 17.4**	**-1.2**
DPC				*e*		18 08 22.5	
DPC				*e*		18 08 26.9	
DPC	**Dobruska-Polom**	**89.18**	**30**	*e*P	**P**	**18 08 17.4**	**-1.2**
DPC				*e*pP	**pP**	**18 08 22.5**	**-0.3**
DPC				*e*x	x	18 08 26.9	
IDID	**Didziasalis**	**89.25**	**22**	*e*P	**P**	**18 08 19.0**	**+0.3**
IDID				AMB	AMB	18 08 25.3	
comp=Z,5.7nm,1.4s							
TREC	**Trest**	**89.59**	**31**	*e*P	**P**	**18 08 19.6**	**-0.9**
TREC				*e*		18 08 23.7	
TREC	**Trest**	**89.59**	**31**	*e*P	**P**	**18 08 19.6**	**-0.9**
TREC				*e*pP	**pP**	**18 08 23.7**	**-1.0**
CN2	**Changchun**	**89.96**	**322**	*e*P	**P**	**18 08 23.4**	**+1.1**
CN2				*e*S	**S**	**18 19 13.6**	**-1.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.3s							
CN2				pmax	pmax		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,27μm,22.0s							
CN2				LR	LR		
comp=E,14μm,22.0s							
CN2				LR	LR		
comp=Z,9μm,27.0s							
MOA	**Molln**	**90.07**	**32⇑**	*i*sP	sP	18 08 26.2	-2.3
comp=Z,16nm,1.4s							
OKC	**Ostrava-Krasne**	**90.35**	**29**	*e*P	**P**	**18 08 23.3**	**-0.7**
OKC				*e*		18 08 28.0	
OKC				*e*		18 08 32.2	
OKC	**Ostrava-Krasne**	**90.35**	**29**	*e*P	**P**	**18 08 23.3**	**-0.7**
OKC				*e*pP	**pP**	**18 08 28.0**	**-0.2**
OKC				*e*x	x	18 08 32.2	
CONA	**Conrad Observa**	**90.75**	**32⇑**	*i*P	**P**	**18 08 24.8**	**-1.2**
comp=Z,6.2nm,1.0s							
SOKA	**Soboth**	**91.28**	**33⇑**	*i*P	**P**	**18 08 26.4**	**-2.1**
comp=Z,13nm,1.2s							
SOKR	**Solikamsk**	**91.35**	**5**	*e*P	P	18 08 34.2	+5.8
SOKR				pmax	pmax		
comp=Z,10.0nm,0.9s							
VYHS	**Vyhne**	**91.66**	**30**	*e*P	P	18 08 33.9	+3.8
VYHS				pmax	pmax		
comp=Z,6.0nm,1.1s							
VYHS	**Vyhne**	**91.66**	**30**	*e*P	P	18 08 33.9	+3.8
STHS	**Stebnicka Huta**	**91.97**	**28**	*e*P	P	18 08 36.0	+4.4
STHS				pmax	pmax		
comp=Z,11nm,1.0s							
STHS	**Stebnicka Huta**	**91.97**	**28**	*e*P	P	18 08 36.0	+4.4
OBN	**Obninsk**	**92.27**	**17⇑**	*e*P	**P**	**18 08 31.4**	**-1.3**
OBN				*e*		18 12 15.1	
OBN				*e*S	**SKSac**	**18 19 02.2**	**-3.5**
OBN				pmax	pmax		
comp=Z,7.0nm,1.0s							
SNY	**Shenyang**	**92.30**	**321**	⇑P	P	18 08 37.1	+3.9
SNY				pmax	pmax		
comp=Z,25nm,3.1s							
KECS	**Kecovo**	**92.38**	**29**	*e*P	P	18 08 37.3	+3.9
KECS				pmax	pmax		
comp=Z,5.0nm,1.0s							
KECS	**Kecovo**	**92.38**	**29**	*e*P	P	18 08 37.3	+3.9
KECS				*e*PP	**PP**	**18 12 17.1**	**+3.7**
KWP	**Kalwaria Pacla**	**92.39**	**27**	*e*P	**P**	**18 08 33.2**	**-0.3**
CRVS	**Cervenica-Dubn**	**92.46**	**28**	*e*P	P	18 08 37.8	+4.0
CRVS				pmax	pmax		
comp=Z,7.0nm,1.2s							
CRVS	**Cervenica-Dubn**	**92.46**	**28**	*e*P	P	18 08 37.8	+4.0
PSZ	**Piszkesteto**	**92.56**	**30⇓**	*i*P	P	18 08 30.8	-3.6
KSRS	**Korea Array**	**92.68**	**316**	P	**P**	**18 08 34.7**	**-0.3**
comp=Z,4.6nm,1.0s,baz=57,slow=4.2,SNR=7.8							
KSAR	**Wonju Array Be**	**92.71**	**316**	P	**P**	**18 08 34.7**	**-0.5**
KOLS	**Kolonicke sedl**	**92.77**	**28**	*e*P	P	18 08 39.1	+3.9
KOLS				pmax	pmax		
comp=Z,7.0nm,1.1s							
KOLS	**Kolonicke sedl**	**92.77**	**28**	*e*P	P	18 08 39.1	+3.9
IRK	**Irkutsk**	**92.78**	**338**	*e*P	**P**	**18 08 36.8**	**+1.6**
IRK				pmax	pmax		
comp=Z,50nm,2.0s							
UZH	**Uzhgorod**	**93.01**	**28**	*e*P	P	18 08 40.4	+4.1
UZH				*e*		18 08 48.8	
MOY	**Mondy**	**94.31**	**340**	*e*P	**P**	**18 08 41.9**	**-0.5**
SVE	**Sverdlovsk**	**94.36**	**3**	*e*P	P	18 08 48.2	+5.8
ARU	**Arti**	**94.63**	**5**	*d*P	**P**	**18 08 43.1**	**-0.5**
ARU						18 12 31.5	
ARU				S	**SKSac**	**18 19 18.4**	**-0.3**
ARU				SP	**SP**	**18 21 09.1**	**-1.5**
ARU				pmax	pmax		
comp=Z,17nm,2.5s							
ARU	**Arti**	**94.63**	**5**	P	**P**	**18 08 43.1**	**-0.5**
comp=Z,64nm,1.4s,SNR=5.3							
ZAK	**Zakamensk**	**94.69**	**338**	*e*P	**P**	**18 08 47.1**	**+2.9**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.4s							
BUR08	**Bucovina Ar. S**	**94.97**	**27**	*e*P	**P**	**18 08 45.2**	**-0.4**
BURAR	**Bucovina Array**	**95.00**	**27⇑**	*i*P	**P**	**18 08 45.2**	**-0.5**
BZS	**Buzias**	**95.09**	**30⇑**	*i*P	**P**	**18 08 44.4**	**-1.6**
NVS	**Novosibirsk**	**95.35**	**351**	*e*P	**P**	**18 08 48.9**	**+2.0**
NVS				pmax	pmax		
comp=N,11nm,2.2s							
NVS				pmax	pmax		
comp=E,10.0nm,2.2s							
NVS				pmax	pmax		
comp=Z,26nm,2.2s							
DL2	**Dalian**	**95.39**	**320**	P	**P**	**18 08 50.1**	**+2.6**
DL2				pmax	pmax		
comp=Z,11nm,1.0s							
SONM	**Songino Array**	**95.73**	**335**	P	**P**	**18 08 49.2**	**+0.2**
SONM	**Songino Array**	**95.73**	**335**	P	**P**	**18 08 49.2**	**+0.2**
comp=Z,2.9nm,0.8s,baz=41,slow=4.7,SNR=6.1							
ZAA0	**Zalesovo Array**	**95.98**	**350**	*e*P	**P**	**18 08 47.3**	**-2.5**
ZALV	**Zalesovo Beam**	**95.98**	**350**	*i*P	P	18 08 54.2	+4.4
ZALV				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**95.98**	**350**	P	**P**	**18 08 50.3**	**+0.5**
ZALV	**Zalesovo Beam**	**95.98**	**350**	P	**P**	**18 08 50.3**	**+0.5**
comp=Z,0.4nm,0.3s,baz=349,slow=4.5,SNR=7.5							
VSR	**Storozhevoye**	**96.47**	**17**	*e*P	**P**	**18 08 50.2**	**-1.9**
VSR				pmax	pmax		
comp=Z,10.0nm,1.2s							
VSR				pmax	pmax		
comp=N,9.0nm,1.0s							
VSR				pmax	pmax		
comp=E,8.0nm,0.7s							
VORD	**Divnogorie**	**96.73**	**17**	*e*P	**P**	**18 08 52.0**	**-1.3**
VORD				pmax	pmax		
comp=Z,3.0nm,0.9s							
VORD				pmax	pmax		
comp=N,9.0nm,0.6s							
VORD				pmax	pmax		
comp=E,10.0nm,0.8s							
MLR	**Muntele Rosu**	**97.02**	**28⇓**	*i*P	Pdif	18 08 56.4	+1.4
VRHR	**Novokhopersk**	**97.19**	**16**	*e*P	**P**	**18 08 53.8**	**-1.6**
VRHR				pmax	pmax		
comp=Z,9.0nm,1.3s							
VRHR				pmax	pmax		
comp=N,10.0nm,1.7s							
VRHR				pmax	pmax		
comp=E,20nm,1.6s							
BJI	**Beijing**	**97.50**	**324**	P	**P**	**18 08 56.6**	**-0.4**
BJI				pmax	pmax		
comp=Z,9.0nm,0.4s							
CFR	**Carcaliu**	**98.16**	**27⇑**	*i*P	**P**	**18 08 58.8**	**-1.0**
BRVK	**Borovoye**	**98.26**	**358**	*c*eP	Pdif	18 09 00.4	+0.2
BRVK				pmax	pmax		
comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**98.26**	**358**	*e*P	Pdif	18 09 08.7	+8.5
comp=Z,7.7nm,1.4s							
HHC	**Hu-ho-hao-te**	**99.16**	**327**	*e*P	**Pdif**	**18 09 03.1**	**-1.5**
HHC				pP	**pP**	**18 09 08.0**	**-0.9**
HHC				sP	**sP**	**18 09 10.8**	**+0.4**
HHC				PP	**PP**	**18 13 06.2**	**0.0**
HHC				S	S	18 20 29.4	-6.6
HHC				pmax	pmax		
comp=Z,210nm,6.8s							
NJ2	**Nanjing**	**101.81**	**317**	*e*P	**Pdif**	**18 09 16.2**	**-0.2**
NJ2				PP	**PP**	**18 13 26.3**	**-0.2**
NJ2				S	**Sdif**	**18 20 57.2**	**-1.0**
NJ2				SS	**SS**	**18 28 01.2**	**+1.3**
NJ2				LR	LR		
comp=N,3μm,25.2s							
NJ2				LR	LR		
comp=E,2μm,24.3s							
NJ2				LR	LR		
comp=Z,6μm,25.2s							
MKAR	**Makanchi Array**	**103.32**	**349**	P	**Pdif**	**18 09 26.4**	**+3.5**
MKAR	**Makanchi Array**	**103.32**	**349**	Pdif	**Pdif**	**18 09 26.4**	**+3.5**
MKAR	**Makanchi Array**	**103.32**	**349**	Pdiff	**Pdif**	**18 09 26.4**	**+3.5**
comp=Z,0.5nm,0.9s,baz=240,slow=1.0,SNR=3.5							
CD2	**Chengdu**	**110.90**	**327**	*e*PKP	**PKiKP**	**18 13 53.1**	**-3.4**
CD2				PP	**PP**	**18 14 34.8**	**+1.6**
CD2				PKS	**PKSdf**	**18 17 28.8**	**-4.6**
CD2				SKS	**SKSdf**	**18 21 03.9**	**-4.8**
CD2				SKKS	SKKSac	18 21 27.8	-9.5
CD2				SS	**SS**	**18 30 00.9**	**-2.4**
GYA	**Guiyang**	**113.00**	**322**	Pdif	**Pdif**	**18 10 06.9**	**+0.4**
GYA				PKP	**PKiKP**	**18 14 01.8**	**+1.1**
GYA				PP	**PP**	**18 14 52.3**	**+3.7**
GYA				PKS	**PKSdf**	**18 17 35.7**	**-2.0**
GYA	**Guiyang**	**113.00**	**322**	SS	SS	18 30 32.3	+0.5
GYA				AMB	AMB		
comp=Z,520nm,8.0s							
GYA				LR	LR		
comp=N,790nm,23.0s							
GYA				LR	LR		
comp=E,520nm,24.0s							
GYA				LR	LR		
comp=Z,860nm,22.8s							
GYA	**Guiyang**	**113.00**	**322**	PKP	**PKiKP**	**18 14 01.8**	**+1.1**
GYA				PP	**PP**	**18 14 52.3**	**+3.7**
GYA				PKS	**PKSdf**	**18 17 35.7**	**-2.0**
GYA				SKKS		18 21 45.0	
GYA				SS	**SS**	**18 30 32.3**	**+0.6**
GYA				LR	LR		
comp=N,790nm,23.0s							
GYA				LR	LR		
comp=E,520nm,24.0s							
GYA				LR	LR		
comp=Z,860nm,22.8s							
KMI	**Kunming**	**116.16**	**324**	PKP	**PKPdf**	**18 14 05.5**	**-1.5**
STKA	**Stephens Creek**	**116.81**	**247**	PKP	**PKPdf**	**18 14 09.8**	**+2.1**
STKA	**Stephens Creek**	**116.81**	**247**	PKP	**PKPdf**	**18 14 09.8**	**+2.1**
comp=Z,4.5nm,1.0s,baz=54,slow=4.6,SNR=3.0							
VNDA	**Vanda**	**117.02**	**194**	PKP	**PKPdf**	**18 14 08.7**	**+2.0**
VNDA	**Vanda**	**117.02**	**194**	PKP	**PKPdf**	**18 14 08.7**	**+2.0**
comp=Z,0.5nm,0.8s,baz=326,slow=1.5,SNR=6.6							
WRA	**Warramunga Arr**	**118.73**	**262**	PKP	**PKPdf**	**18 14 10.5**	**-1.1**
WRA	**Warramunga Arr**	**118.73**	**262**	PKP	**PKPdf**	**18 14 10.5**	**-1.1**
comp=Z,2.5nm,0.9s,baz=76,slow=1.8,SNR=9.8							
ASAR	**Alice Springs**	**120.48**	**258**	PKP	**PKPdf**	**18 14 13.8**	**-1.2**
ASAR	**Alice Springs**	**120.48**	**258**	PKP	**PKPdf**	**18 14 13.8**	**-1.2**
comp=Z,3.6nm,1.0s,baz=63,slow=2.2,SNR=13							
SNAA	**Sanae**	**123.57**	**159**	*e*PKP	**PKPdf**	**18 14 18.1**	**-1.4**
SNAA	**Sanae**	**123.57**	**159**	PKP	**PKPdf**	**18 14 18.1**	**-1.4**
SNAA	**Sanae**	**123.57**	**159**	PKP	**PKPdf**	**18 14 18.1**	**-1.4**
comp=Z,1.2nm,1.0s,baz=133,slow=2.8,SNR=4.9							
CMAR	**Chiang Mai Arr**	**123.63**	**323**	PKP	**PKPdf**	**18 14 21.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**123.63**	**323**	PKP	**PKPdf**	**18 14 21.7**	**+0.5**
comp=Z,3.3nm,0.9s,baz=337,slow=2.4,SNR=13							
KMBO	**Kilima Mbogo**	**140.37**	**51**	PKP	**PKPdf**	**18 14 54.5**	**+1.4**
KMBO	**Kilima Mbogo**	**140.37**	**51**	PKP	**PKPdf**	**18 14 54.5**	**+1.4**
comp=Z,0.5nm,0.3s,baz=232,slow=23,SNR=3.2							
MAW	**Mawson**	**141.27**	**177**	PKPpre	PKPpre	18 14 50.7	
MAW				PKP	**PKiKP**	**18 14 53.9**	**-1.6**
MAW	**Mawson**	**141.27**	**177**	PKhKP	PKPpre	18 14 50.7	
comp=Z,2.6nm,0.8s,baz=165,slow=4.0,SNR=3.3							
MAW				PKP	**PKiKP**	**18 14 53.9**	**-1.6**
comp=Z,4.4nm,0.9s,baz=260,slow=3.9,SNR=6.9							
LSZ	**Lusaka**	**141.75**	**78**	*e*PKPdf	**PKPdf**	**18 14 50.9**	**-4.4**
BOSA	**Boshof**	**143.58**	**100**	PKP	**PKPdf**	**18 14 57.6**	**-0.6**
BOSA	**Boshof**	**143.58**	**100**	PKP	**PKPdf**	**18 14 57.6**	**-0.6**
comp=Z,6.0nm,0.9s,baz=106,slow=2.9,SNR=8.9							

IDC ***03*** *17:59:54.6±0.3,29°.09N×112°.88W,h0km,mb4.9/39, mb1 5.0/46,mb1mx5.0/47,mbtmp4.9/46,ML4.6/8,MS6.6/19, Ms1 6.6/19,ms1mx6.5/44,Error ellipse: s-maj=11.2km s-min=7.1km az=53.0*

MOS ***03*** *17:59:55.7±1.6,29°.17N×112°.82W,h16km,mb6.2/61, MS7.2/42,Error ellipse: s-maj=7.2km s-min=5.4km az=97.5*

ISCJB ***03*** *17:59:55.4±0.2,29°.08N±0°.02×112°.85W±0°.02,h10km, mb5.9/313,MS7.1/114,Error ellipse: s-maj=3.9km s-min=2.4km az=37.1*

BJI ***03*** *17:59:55.3,29°.00N×112°.90W,h6km,mB6.4/22,mb5.9/9, Ms7.3/28,Ms7 7.0/32*

MEX ***03*** *17:59:56.7±3.3,28°.85N×112°.74W,h10km±22km,MD6.5*

NEIC ***03*** *17:59:56.2±0.2,29°.04N×112°.90W,h10km,mb6.2/144, ME7.3,MW6.8,MW6.8,MW6.9(USGS),Error ellipse: s-maj=4.8km s-min=3.3km az=214.0,Moment Tensor Solution. s41 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.07; $M_{\theta\theta}$-1.74; $M_{\phi\phi}$ 1.80; $M_{r\theta}$0.10; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.38; Best double couple: $M_0$1.80000×10^{19} NP1:ϕ_s42.00000°, δ85.00000°,λ11.00000°. NP2:ϕ_s311.00000°,δ79.00000°, λ175.00000°. Principal axes: T 1.8800, Plg10.0000°, Azm267.0000°; N -0.1300, Plg78.0000°, Azm65.0000°; P -1.7600, Plg4.0000°, Azm176.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s220.00000°,δ85.00000°, λ5.00000°. NP2:ϕ_s130.00000°,δ85.00000°,λ175.00000°. Principal axes: T Plg7.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm355.0000°; Energy computed from BB mechanism.*

NEIC Felt [IV] at Bahia de Kino and Caborca, [III] at Puerto Penasco and [II] at Hermosillo, Sonora. Felt [III] at San Felipe and [II] at Tijuana, Baja California. Felt widely in Baja California, Baja California Sur and Sonora. Felt [III] at Mesa, Phoenix and Tucson; [II] in much of southern Arizona. Felt [III] at Carlsbad, Los Angeles and San Diego; [II] in large parts of southern California. Felt at El Paso, Texas and Las Vegas, Nevada and as far as San Jose, California.

NEIC ***03*** *17:59:59.0±0.0,29°.37N×112°.81W,h15km*

SZGRF ***03*** *18:00:04.9,29°.34N×113°.29W,h33km,mb6.1,MS7.3,Gulf of California, Mexico*

BKK ***03*** *18:00:06.9±0.3,30°.1±18°×11°.4W±1°.6,h10km,M6.0/2, mb6.0/2,mB6.6/2,Mw(mB)6.4/2,Mwp6.1/1*

GCMT ***03*** *18:00:06.5±0.1,29°.22N×113°.53W,h12km,MW6.9, Moment Tensor Solution. s116,c289; s99,c248; Moment tensor: Scale 10^{19}Nm; M_{rr}-0.04±.01; $M_{\theta\theta}$-2.50±.01; $M_{\phi\phi}$2.54±.01; $M_{r\theta}$-0.04±.03; $M_{\theta\phi}$-0.33±.01; $M_{\phi r}$-0.16±.03; Best double couple: $M_0$2.60000×10^{19} NP1:ϕ_s221.00000°,δ88.00000°,λ3.00000°. NP2: ϕ_s131.00000°,δ87.00000°,λ178.00000°. Principal axes: T 2.5700, Plg3.0000°, Azm86.0000°; N -0.0400, Plg86.0000°, Azm248.0000°; P -2.5200, Plg1.0000°, Azm356.0000°; Data Used: II IU IC G CN. LP body wave period 50 sec. Mantle waves from 113 sta. Surface waves: sta=117, comp=264, per= 50.*

NEIC ***03*** *18:00:21.3±0.0,29°.14N×113°.31W,h10km,Moment Tensor Solution. s153 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.23; $M_{\theta\theta}$-2.01; $M_{\phi\phi}$2.25; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.19; $M_{\phi r}$-1.05; Best double couple: $M_0$2.30000×10^{19} NP1:ϕ_s131.00000°, δ79.00000°,λ162.00000°. NP2:ϕ_s225.00000°,δ73.00000°, λ12.00000°. Principal axes: T 2.6500, Plg20.0000°, Azm87.0000°; N -0.6100, Plg69.0000°, Azm280.0000°; P -2.0300, Plg4.0000°, Azm178.0000°;*

ISC 03 17:59:56.4±0.4,29°.07N±0°.03×112°.91W±0°.03,h8km±2km, h7km;pP-P,n1093,σ2§13/1041,mb6.0/317,MS7.2/114, 133C-130D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HSIG		**1.72**	**91**	*e*P		Pn	18 00 21.6	-5.1
HSIG				*i*S		Sn	18 00 40.2	-8.6
HSIG		**1.72**	**91⇑**	*e*P		Pn	18 00 21.2	-5.4
HSIG				*e*S		Sn	18 00 41.3	-7.6
SRIG	**Santa Rosalia**	**1.84**	**161**	*i*P		Pn	18 00 20.9	-7.4
SRIG				*i*S		Sn	18 00 40.0	-12
214A	**Organ Pipe Nat**	**2.88**	**2**	⇑P		Pn	18 00 35.5	-7.1
baz=2.9								
SPX	**San Pedro Mart**	**2.96**	**312**	*e*P		Pn	18 00 38.5	-5.6
SPX				*e*S		Sn	18 01 12.9	-7.0
SPIG	**San Pedro Mart**	**2.96**	**312**	*i*P		**Pn**	**18 00 43.9**	**-0.1**
SPIG				*i*S		**Sn**	**18 01 23.3**	**+3.3**
TUC	**Tucson**	**3.71**	**29**	*e*P		Pn	18 00 50.3	-3.9
TUC	**Tucson**	**3.71**	**29**	*e*Pn		Pn	18 00 50.3	-3.9
113A	**Mohawk Valley,**	**3.76**	**349**	⇓P		Pn	18 00 51.5	-3.2
baz=3.8								
ZAX	**El Zacaton**	**3.79**	**311**	*e*P		Pn	18 00 51.4	-3.9
MBIG	**Mexicali**	**3.86**	**330**	*i*P		**Pn**	**18 00 58.5**	**+2.3**
MBIG				*i*S		**Sn**	**18 01 44.1**	**+2.4**
RDX	**Rancho Dawling**	**3.87**	**318⇓**	*e*P		Pn	18 00 52.0	-4.4
319A	**Douglas**	**3.89**	**53**	⇓P		**Pn**	**18 00 54.8**	**-1.9**
baz=3.9								
ECNX	**Esteban Cantu**	**4.10**	**310**	*e*P		Pn	18 00 53.2	-6.3
PBX	**Punta Banda**	**4.23**	**310⇓**	*e*P		**Pn**	**18 00 58.3**	**-3.0**
Z14A	**Wintersburg**	**4.28**	**360**	⇑P		Pn	18 00 58.1	-3.8
baz=4.3								
GLA	**Glamis**	**4.29**	**338**	*e*P		Pn	18 00 58.8	-3.4
GLA	**Glamis**	**4.29**	**338**	*e*Pn		Pn	18 00 58.8	-3.4
GLA	**Glamis**	**4.29**	**338**	⇓P		**Pn**	**18 00 59.5**	**-2.6**
baz=4.3								
320A	**Kipp Ranch, An**	**4.42**	**58**	⇓P		Pn	18 01 00.6	-3.4
baz=4.4								
CGIG		**4.48**	**72**	*i*P		**Pn**	**18 01 02.1**	**-2.7**
CGIG				*i*S		**Sn**	**18 01 51.8**	**-5.5**
CGIG		**4.48**	**72**	*i*P		**Pn**	**18 01 03.6**	**-1.2**
DVTC	**Desert V Tower**	**4.51**	**323**	⇑P		**Pn**	**18 01 03.0**	**-2.1**
baz=4.5								
DVTC				⇑S		**Sn**	**18 01 58.1**	**+0.4**
baz=4.5								
DVTC				⇑S		**Sn**	**18 01 58.1**	**+0.4**
baz=4.5								
CBX	**Cerro Bola**	**4.57**	**316**	*e*P		Pn	18 01 00.3	-5.7
CBX				*e*S		**Sn**	**18 01 57.4**	**-1.9**
CBX				*e*S		**Sn**	**18 01 58.2**	**-1.1**
SWSC	**Sam W. Stewart**	**4.58**	**328**	⇑P		**Pn**	**18 01 03.3**	**-2.7**
baz=4.6								
220A	**Playas Peak, P**	**4.72**	**52**	⇓P		**Pn**	**18 01 05.4**	**-2.7**
baz=4.7								
MONP	**Monument Peak**	**4.85**	**323**	⇓P		**Pn**	**18 01 10.2**	**+0.2**
baz=4.9								
Y14A	**Wickenburg**	**4.85**	**359**	⇓P		**Pn**	**18 01 07.2**	**-2.6**
baz=4.9								
Y12C	**Blythe**	**4.86**	**344**	⇑P		**Pn**	**18 01 08.3**	**-1.6**
baz=4.9								
120A	**U Bar Ranch, L**	**5.06**	**46**	⇓P		Pn	18 01 09.1	-3.6
baz=5.1								
BC3	**Big Chuckawall**	**5.06**	**335**	⇓P		**Pn**	**18 01 11.9**	**-0.8**
baz=5.1								
109C	**Camp Elliot, M**	**5.24**	**318**	⇑P		**Pn**	**18 01 14.1**	**-1.0**
baz=5.3								
221A	**Mesquite Ranch**	**5.31**	**55**	⇓P		**Pn**	**18 01 16.0**	**-0.2**
baz=5.3								
PDMCI	**Parker Dam,Lak**	**5.32**	**349**	⇓P		**Pn**	**18 01 14.9**	**-1.2**
baz=5.4								
IRM	**Iron Mountain**	**5.42**	**340**	⇓P		**Pn**	**18 01 16.8**	**-0.8**
baz=5.5								
PFO	**Pinyon Flat Ob**	**5.45**	**327**	Pn		**Pn**	**18 01 17.3**	**-0.7**
PFO				Pg		Pb	18 01 35.8	+3.9
PFO				Lg		Lg	18 02 50.0	
PFO	**Pinyon Flat Ob**	**5.45**	**327**	Pn		**Pn**	**18 01 17.3**	**-0.7**
4.9nm,0.3s,baz=147,slow=11,SNR=5.8								
PFO				Pg		Pb	18 01 35.8	+3.9
50nm,0.3s,baz=172,slow=15,SNR=20								
PFO				Lg		Lg	18 02 50.0	
143nm,0.3s,baz=236,slow=17,SNR=1.9								
PFO				LR		LR	18 03 24.3	
comp=Z,4252μm,18.4s,baz=156,slow=38								
PFO	**Pinyon Flat Ob**	**5.45**	**327**	⇓P		**Pn**	**18 01 17.6**	**-0.4**
baz=5.5								
LPIG	**La Paz**	**5.47**	**154**	*i*P		Pn	18 01 12.2	-6.0
LPIG				*i*S		Sn	18 02 12.2	-9.2
LPIG	**La Paz**	**5.47**	**154**	Pn		**Pn**	**18 01 18.0**	**-0.3**
LPIG				Pg		**Pb**	**18 01 33.3**	**+1.1**
LPIG	**La Paz**	**5.47**	**154**	Pn		**Pn**	**18 01 18.0**	**-0.3**
6.5nm,0.3s,baz=2.2,slow=3.0,SNR=5.3								
LPIG				Pg		**Pb**	**18 01 33.3**	**+1.1**
8.4nm,0.3s,baz=36,slow=1.7,SNR=5.6								
Z20A	**Nine Sixteen R**	**5.47**	**42**	⇑P		**Pn**	**18 01 17.3**	**-1.2**
baz=5.5								
X16A	**Lo Mia Camp, P**	**5.48**	**13**	⇓P		**Pn**	**18 01 16.0**	**-2.5**
baz=5.5								
BELC	**Belle Mtn. Jos**	**5.58**	**333**	⇓P		**Pn**	**18 01 20.3**	**+0.4**
baz=5.6								
121A	**Cookes Peak, D**	**5.60**	**51**	⇑P		**Pn**	**18 01 19.3**	**-0.9**
baz=5.6								
MURC	**Murrieta**	**5.82**	**322**	⇓P		**Pn**	**18

ANMO Sn Sn 18 03 26.6 +2.1
7.1nm,0.3s,baz=237,slow=19,SNR=1.4
ANMO Lg Lg 18 04 20.4
17nm,0.3s,baz=24,slow=21,SNR=1.3
ANMO LR LR 18 05 20.8
comp=Z,747μm,19.7s,baz=50,slow=41
TXAR Lajitas Array 8.09 86 Pn Pn 18 01 52.5 -1.8
TXAR Lg Lg 18 04 20.5
TXAR Lajitas Array 8.09 86 Pn Pn 18 01 52.5 -1.8
11nm,0.3s,baz=262,slow=12,SNR=16
TXAR Lg Lg 18 04 20.5
22nm,0.3s,baz=247,slow=13,SNR=4.1
PTRM Twissleman Ran 9.01 319 *e*Pn Pn 18 02 08.2 +1.3
NVAR Mina Array Bea 10.35 336 Pn Pn 18 02 25.9 +0.5
NVAR Mina Array Bea 10.35 336 Pn Pn 18 02 25.9 +0.5
0.7nm,0.3s,baz=154,slow=13,SNR=5.3
NVAR LR LR 18 06 07.2
comp=Z,1323μm,18.9s,baz=21,slow=36
SAO San Andreas Ge 10.50 319 *e*P Pn 18 02 31.4 +4.2
SAO San Andreas Ge 10.50 319 *e*Pn Pn 18 02 31.4 +4.2
ANIG Ahuacatlan 11.02 135 *i* P Pn 18 02 30.8 -3.7
ANIG *i* S Sn 18 04 29.2 -9.0
ZAIG Zacatecas 11.22 122 *i* P Pn 18 02 29.8 -7.7
JCT Junction City 11.48 80 P Pn 18 02 40.5 -0.2
JCT Junction City 11.48 80 P Pn 18 02 40.5 -0.2
SAC San Andreas 11.62 319 *e*P Pn 18 02 42.1 -0.5
SAC pmax pmax
comp=Z,1μm,1.7s
SAC San Andreas 11.62 319 *e*Pn Pn 18 02 42.1 -0.5
comp=Z,1μm,1.7s
CTU Camp Tracy 11.63 4 *e*Pn Pn 18 02 44.1 +1.1
MCCM Marconi Confer 12.28 320 Pn Pn 18 02 51.4 -0.2
OHCM Honcut 12.45 328 *e*Pn Pn 18 02 54.6 +0.7
LNIG Linares 12.69 106 *i* P Pn 18 02 52.7 -4.6
HOPS Hopland 12.99 322 *e*Pn Pn 18 02 57.9 -3.3
comp=Z,1μm,2.0s
KVTX Kingsville 13.32 93 *e*P Pn 18 03 00.6 -5.2
IGIG Irapuato, Guan 13.37 126 *i* P Pn 18 03 04.6 -2.2
AHID Auburn Hatcher 13.74 6 *e*P Pn 18 03 13.2 +1.4
comp=Z,995nm,2.1s
N25A Grover 13.76 29 ⇑P Pn 18 03 09.7 -2.3
baz=14
KCPM Cahto Peak 13.76 323 *e*P Pn 18 03 11.0 -0.9
comp=Z,1μm,1.3s
KIPM Iron Peak 13.80 324 *e*P Pn 18 03 11.0 -1.5
comp=Z,3μm,1.7s
MMIG Aquila 13.85 139 *i* P Pn 18 03 09.7 -3.4
WDC Whiskeytown Da 13.93 328 *e*P Pn 18 03 15.1 +1.0
WDC Whiskeytown Da 13.93 328 *e*P Pn 18 03 15.1 +1.0
PDAR Pinedale Array 13.93 10 Pn P 18 03 18.7 -3.9
comp=Z,0.6nm,0.3s,baz=168,slow=15,SNR=6.7
PDAR Lg Lg 18 07 26.5
comp=Z,0.8nm,0.3s,baz=166,slow=24,SNR=3.9
PDAR LR LR 18 08 26.6
comp=Z,946μm,19.3s,baz=202,slow=37
WVOR Wild Horse Val 14.12 342 *e*P Pn 18 03 16.9 +0.1
WVOR Wild Horse Val 14.12 342 *e*Pn Pn 18 03 16.9 +0.1
N26A Koester Ranch, 14.16 31 ⇑P Pn 18 03 14.4 -2.9
baz=14
MOIG Morelia 14.19 129 *i* P Pn 18 03 13.0 -5.0
K21A Alcova 14.29 17 ⇑P Pn 18 03 15.4 -3.7
baz=14
O28A Krutsinger Ran 14.33 37 ⇓P Pn 18 03 16.6 -3.1
baz=14
P29A Atwood 14.42 40 ⇑P Pn 18 03 17.1 -3.8
baz=14
Q30A Quinter 14.42 43 ⇓P Pn 18 03 18.0 -3.0
baz=14
RFTA Plano 14.45 70 *e*Pn Pn 18 03 19.5 -1.8
SNOW Snow King Moun 14.47 6 *e*Pn Pn 18 03 17.4 -4.3
K22A Casper 14.50 19 ⇑P Pn 18 03 18.8 -3.2
baz=14
MFID Camas Ranch 14.51 351 ⇓P Pn 18 03 22.0 -0.1
baz=15
HLID Hailey 14.51 356 ⇓P Pn 18 03 20.8 -1.5
baz=15
M26A McRoberts Ranc 14.70 30 ⇑P Pn 18 03 23.5 -1.3
baz=15
KHMM Horse Mountain 14.73 326 *e*Pn Pn 18 03 25.2 +0.1
J20A Shoshoni 14.77 14 ⇓P Pn 18 03 24.7 -1.0
baz=15
I18A Diamond G Ranc 14.81 9 ⇓P Pn 18 03 25.3 -1.1
baz=15
OGNE Ogallala 14.81 34 *e*P Pn 18 03 27.1 +0.9
comp=Z,2μm,1.3s
OGNE Ogallala 14.81 34 ⇑P Pn 18 03 24.8 -1.5
baz=15
I16A Newdale 14.82 4 ⇓P Pn 18 03 25.5 -0.9
baz=15
I14A Mackay 14.84 358 ⇑P Pn 18 03 25.4 -1.3
baz=15
O29A 4D Ranch, Culb 14.85 39 ⇑P Pn 18 03 25.7 -1.2
baz=15
N28A Pribbeno Ranch 14.86 36 ⇑P Pn 18 03 24.6 -2.4
baz=15
J21A Lysite 14.91 16 ⇓P Pn 18 03 25.6 -2.0
baz=15
YBH Yreka Blue Hor 14.93 330 *e*Pn Pn 18 03 27.6 -0.3
YBH Pn P 18 03 30.8 -2.8
YBH Yreka Blue Hor 14.93 330 Pn P 18 03 30.8 -2.8
comp=Z,0.7nm,0.3s,baz=159,slow=7.8,SNR=22
Q31A Ellis 14.94 45 ⇓P Pn 18 03 26.0 -2.0
baz=15
FLWY Flagg Ranch 15.09 6 *e*P Pn 18 03 32.1 +2.0
K24A Anderson Ranch 15.11 23 ⇓P Pn 18 03 29.3 -1.1
baz=15
J22A Midwest 15.22 18 ⇓P Pn 18 03 29.6 -2.2
baz=15
I19A Meeteetse 15.26 11 ⇓P Pn 18 03 31.2 -1.2
baz=15
P31A Stockton 15.27 43 ⇓P Pn 18 03 30.5 -1.9
baz=15
KRMB Red Mountain 15.31 327 *e*Pn Pn 18 03 32.8 -0.2
comp=Z,3μm,2.3s
K25A Mack Ranch, Ha 15.36 26 ⇑P Pn 18 03 32.4 -1.2
baz=15
KTRM Thompson Ridge 15.37 329 P Pn 18 03 34.9 +1.2
H17A Grant Village 15.41 6 ⇓P Pn 18 03 32.5 -1.8
baz=16
N29A Votaw Ranch, W 15.44 37 ⇑P Pn 18 03 33.1 -1.5
baz=16
YFT Old Faithful 15.44 6 *e*P P 18 03 40.3 +0.9
comp=Z,1μm,1.6s
J23A Dilts Ranch, B 15.48 20 ⇓P Pn 18 03 34.9 -0.2
baz=16
M28A Bar X Bar Ranc 15.48 34 ⇑P Pn 18 03 33.1 -2.0
baz=16
ZIIG Zihuatanejo 15.50 135 *i* P Pn 18 03 35.9 +0.4
LKWY Lake 15.59 7 *e*P P 18 03 39.8 -1.3
LKWY pmax pmax
comp=Z,2μm,1.8s
LKWY Lake 15.59 7 *e*P P 18 03 39.8 -1.3
comp=Z,2μm,1.8s
YMR Madison River 15.65 5 *e*P Pn 18 03 37.7 +0.2
comp=Z,2μm,1.2s
H16A Russell Place, 15.66 4 ⇓P Pn 18 03 36.6 -1.0
baz=16
J24A Dixon Ranch, L 15.70 23 ⇓P Pn 18 03 36.4 -1.6
baz=16
N30A Hueftle Ranch, 15.70 38 ⇑P Pn 18 03 36.8 -1.2
baz=16
K26A Motz Farm, Whi 15.71 27 ⇓P Pn 18 03 35.8 -2.3
baz=16
YNR Norris Junctio 15.72 6 P Pn 18 03 38.9 +0.5
comp=Z,2μm,1.8s
ARIG Puente Sto Nin 15.73 130 *i* P Pn 18 03 30.6 -7.8
HUMO Hull Mountain 15.75 332 *e*Pn Pn 18 03 38.5 -0.2
comp=Z,1μm,1.5s
QLMT Earthquake Lak 15.78 4 *e*P P 18 03 41.7 -1.4
H18A Shoshone NF, C 15.79 9 ⇑P Pn 18 03 37.3 -2.1
baz=16
M29A Burnside Ranch 15.86 36 ⇑P Pn 18 03 38.5 -1.5
baz=16
L28A Connealy Angus 15.87 33 ⇑P Pn 18 03 38.5 -1.8
baz=16
H20A Greybull 15.88 13 ⇑P Pn 18 03 37.9 -2.4
baz=16
H19A Powell 15.88 10 ⇓P Pn 18 03 38.7 -1.7
baz=16
TUL1 Tulsa 15.96 60 ⇓P Pn 18 03 40.3 -1.1
baz=16
KBO Bosley Butte 15.99 328 *e*P Pn 18 03 41.4 -0.4
comp=Z,700nm,1.2s
I23A Meade Ranch, G 16.01 20 ⇓P Pn 18 03 40.5 -1.6
baz=16
NCOR Newberry Crate 16.02 338 P P 18 03 46.9 +1.2

J25A Sunshine Ranch 16.05 25 ⇓P Pn 18 03 40.3 -2.3
baz=16
K27A Flueckinger Fa 16.10 30 ⇓P Pn 18 03 41.2 -2.0
baz=16
I24A Kuemmerle Ranc 16.18 22 ⇓P Pn 18 03 41.7 -2.5
baz=16
H21A Big Horn, Sher 16.21 15 ⇑P Pn 18 03 43.2 -1.5
baz=16
YAIG Yautepec 16.21 126 *i* P Pn 18 03 40.3 -4.6
PLIG Platanillo 16.23 128 *i* P Pn 18 03 36.8 -8.1
J26A Sides Ranch, S 16.26 26 ⇓P Pn 18 03 43.5 -1.7
baz=16
DLMT Dillon 16.27 1 *e*P P 18 03 47.7 -0.7
comp=Z,2μm,1.3s
G17A Pierce Place, 16.31 5 ⇓P Pn 18 03 46.2 +0.3
baz=16
M30A Dale-Ortello V 16.35 37 ⇓P Pn 18 03 46.8 +0.5
baz=16
H22A Clearmont 16.35 17 ⇓P Pn 18 03 45.9 -0.5
baz=16
PPM Popocatepetl 16.40 124 *i* P Pn 18 03 45.7 -1.9
L29A Maesberg Ranch 16.42 35 ⇑P Pn 18 03 46.8 -0.5
baz=16
G18A Lazy EL Ranch, 16.43 8 ⇑P Pn 18 03 47.0 -0.5
baz=16
K28A Ten Mile Ranch 16.50 31 ⇓P Pn 18 03 47.5 -0.8
baz=16
MOON Moon Mountain 16.51 337 P P 18 03 52.3 +1.3
G20A Bridger 16.54 12 ⇓P Pn 18 03 47.0 -1.9
baz=17
KEBM Edson Butte 16.56 329 *e*Pn P 18 03 50.5 -1.2
comp=Z,3μm,1.2s
H23A Clabaugh Cattl 16.58 19 ⇑P Pn 18 03 47.6 -1.7
baz=17
RSSD Black Hills 16.61 23 *e*P Pn 18 03 47.2 -2.6
RSSD pmax pmax
comp=Z,774nm,1.3s
RSSD Black Hills 16.61 23 *e*P Pn 18 03 47.2 -2.6
comp=Z,774nm,1.3s
GMO Grizzlie Mount 16.62 339 P P 18 03 53.7 +1.3
I25A Rochford 16.63 24 ⇓P Pn 18 03 48.9 -1.1
baz=17
IRO Indian Ridge 16.67 336 P P 18 03 53.1 +0.2
CAIG El Cayaco 16.67 133 *i* P Pn 18 03 48.8 -1.8
LRM Limekiln Ridge 16.73 1 *e*P P 18 03 52.8 -0.8
G21A Lodge Grass 16.75 14 ⇓P Pn 18 03 50.7 -0.7
baz=17
KSU1 Kansas State U 16.78 49 *e*P P 18 03 54.1 0.0
comp=Z,5μm,1.7s
GCMT Greycliff 16.89 8 *e*P P 18 03 54.5 -0.8
comp=Z,4μm,2.5s
F17A Fitzpatrick Pl 16.90 5 ⇓P Pn 18 03 52.8 -0.6
baz=17
G22A Birney 16.95 16 ⇑P Pn 18 03 51.9 -2.1
baz=17
I26A New Underwood 16.95 26 ⇓P Pn 18 03 52.8 -1.2
baz=17
F18A Big Timber 16.99 8 ⇑P Pn 18 03 53.9 -0.6
baz=17
H24A Dirks Ranch, A 17.00 21 ⇓P Pn 18 03 53.2 -1.5
baz=17
K29A Lazy Trails An 17.02 33 ⇑P Pn 18 03 53.0 -1.9
baz=17
F19A Roth Farm, Mol 17.04 10 ⇑P Pn 18 03 54.3 -0.9
baz=17
J28A Allard Ranch, 17.12 30 ⇑P Pn 18 03 54.9 -1.2
baz=17
F20A Billings 17.12 11 ⇓P Pn 18 03 55.0 -1.1
baz=17
G23A Biddle 17.17 18 ⇓P Pn 18 03 55.5 -1.2
baz=17
H25A Fruitdale 17.20 23 ⇓P Pn 18 03 56.4 -0.7
baz=17
BGNE Belgrade 17.20 40 ⇓P P 18 03 58.2 -0.5
baz=17
I27A Quinn 17.30 27 ⇑P Pn 18 03 57.9 -0.5
baz=17
F21A Absaloka Mine, 17.34 14 ⇑P Pn 18 03 58.4 -0.4
baz=17
E17A Martinsdale 17.44 5 ⇓P Pn 18 03 59.5 -0.6
baz=18
F22A Rosebud 17.48 16 ⇑P Pn 18 03 59.8 -0.9
baz=18
H26A Fairpoint 17.49 25 ⇓P Pn 18 03 58.6 -2.1
baz=18
VGB Gordon Butte 17.55 341 P P 18 04 04.5 +2.0
VGB Gordon Butte 17.55 341 P P 18 04 04.5 +2.0
COR Corvallis 17.55 335 *e*P P 18 04 02.5 0.0
COR pmax pmax
comp=Z,2μm,1.5s
COR Corvallis 17.55 335 *e*Pn P 18 04 02.5 0.0
comp=Z,2μm,1.5s
G24A Alzada 17.57 20 ⇓P Pn 18 04 01.4 -0.2
baz=18
MPOR Mary's Peak 17.58 334 P P 18 04 04.8 +1.9
I28A Midland 17.61 29 ⇓P P 18 04 02.4 -0.7
baz=18
E18A Harlowton 17.62 7 ⇓P Pn 18 04 01.6 -0.8
baz=18
HRY Holter Researc 17.63 2 *e*Pn Pn 18 04 02.1 -0.4
F23A Volborg 17.64 18 ⇑P Pn 18 04 01.5 -1.1
baz=18
LVIG Laguna Verde 17.66 118 *i* P Pn 18 04 01.2 -1.6
E19A Rath Farm, Rou 17.66 9 ⇓P Pn 18 04 02.0 -0.8
baz=18
MSO Missoula 17.75 358 *e*Pn Pn 18 04 03.4 -0.6
comp=Z,2μm,1.5s
MSO Missoula 17.75 358 ⇑P Pn 18 04 04.0 +0.1
baz=18
H27A Howes 17.76 26 ⇓P Pn 18 04 03.7 -0.4
baz=18
G25A Newell 17.76 22 ⇓P Pn 18 04 03.0 -1.1
baz=18
E20A Meyer Farm, Mu 17.80 11 ⇓P Pn 18 04 04.5 -0.1
baz=18
F24A Ekalaka 18.02 19 ⇓P Pn 18 04 06.9 -0.4
baz=18
E21A Keefer Ranch, 18.03 13 ⇓P Pn 18 04 06.8 -0.6
baz=18
RSW Rattlesnake Hi 18.07 345 P P 18 04 09.7 +1.4
G26A Maurine 18.13 24 ⇑P P 18 04 09.0 0.0
baz=18
D17A Six Diamond Ra 18.14 5 ⇓P Pn 18 04 07.5 -1.2
baz=18
SLMT Seeley Lake 18.15 359 *e*P Pn 18 04 07.7 -1.2
E22A Miles City 18.18 16 ⇑P Pn 18 04 07.7 -1.5
baz=18
H28A Mission Ridge 18.22 28 ⇑P Pn 18 04 08.4 -1.3
baz=18
D18A Linhart Farms, 18.26 7 ⇑P Pn 18 04 09.0 -1.2
baz=18
E07A Sunnyside 18.29 345 P P 18 04 14.5 +3.9
D19A Cripps Ranch, 18.34 9 ⇓P Pn 18 04 09.0 -2.2
baz=18
UALR University of 18.35 67 *e*P P 18 04 13.4 +2.0
comp=Z,2μm,1.6s
D20A Manuel Ranch, 18.37 10 ⇓P P 18 04 09.4 -2.2
baz=18
E23A Ismay 18.39 17 ⇓P P 18 04 10.3 -1.5
baz=18
F25A Bowman 18.40 21 ⇑P P 18 04 10.6 -1.3
baz=18
SWMT Swartz Lake 18.43 358 *e*Pn Pn 18 04 12.2 -0.2
G27A Dupree 18.45 25 ⇑P P 18 04 11.9 -0.6
baz=18
D21A La Casta Ranch 18.55 13 ⇑P P 18 04 12.5 -1.1
baz=19
PNIG Pinotepa 18.55 130 *i* P P 18 04 09.2 -4.5
G28A Parade 18.59 28 ⇓P P 18 04 12.9 -1.1
baz=19
F26A Lodgepole 18.59 23 ⇓P P 18 04 12.9 -1.1
baz=19
C17A Wharram Farm, 18.61 5 ⇑P P 18 04 13.1 -1.2
baz=19
C13A Hot Springs 18.62 356 ⇑P P 18 04 12.7 -1.7
baz=19
C15A Salmond Ranch, 18.68 1 ⇓P P 18 04 13.7 -1.3
baz=19
JTMT Jette 18.68 357 *e*P P 18 04 12.9 -2.2
C14A Swan Lake 18.68 358 ⇓P P 18 04 14.3 -0.8
baz=19
E24A Baker 18.72 19 ⇓P P 18 04 14.0 -1.4
baz=19
C16A Fuhringer Ranc 18.72 2 ⇓P P 18 04 14.2 -1.3
baz=19
YBMT Yellow Bay 18.78 358 *e*P P 18 04 14.9 -1.3
comp=Z,51μm,1.8s

D22A Cohagen 18.80 14 ⇑P P 18 04 15.4 -0.9
baz=19
BSMT Bassoo Peak 18.81 356 *e*P P 18 04 13.4 -3.2
C19A Slack Wire Ran 18.88 8 ⇑P P 18 04 15.8 -1.3
baz=19
E25A Miller Ranch, 18.93 21 ⇑P P 18 04 15.6 -2.2
baz=19
BRSD Miller 18.94 32 ⇓P P 18 04 16.9 -0.9
baz=19
BLMT Blacktail Moun 18.95 357 *e*P P 18 04 17.4 -0.6
LON Longmire 18.97 341 *e*P P 18 04 16.0 -2.2
LON pmax pmax
comp=Z,2μm,1.6s
LON Longmire 18.97 341 *e*P P 18 04 16.0 -2.2
comp=Z,2μm,1.6s
C20A Veseth Ranch, 19.00 10 ⇓P P 18 04 17.9 -0.6
baz=19
D23A Lindsay 19.05 16 ⇑P P 18 04 18.3 -0.7
baz=19
VHO Vista Hermosa 19.06 125 *i* P P 18 04 16.4 -3.1
EGMT Eagleton 19.08 6 *e*Pn Pn 18 04 19.5 -0.7
comp=Z,1μm,1.2s
EGMT Eagleton 19.08 6 ⇓P P 18 04 18.8 -0.6
baz=19
E26A Carlson Angus 19.20 22 ⇓P P 18 04 20.0 -0.7
baz=19
B15A Bradely Ranch, 19.22 1 ⇓P P 18 04 20.6 -0.3
baz=19
D24A Glendive 19.22 18 ⇑P P 18 04 20.2 -0.7
baz=19
C21A Desert Coulee 19.26 12 ⇑P P 18 04 20.5 -0.9
baz=19
B17A L&G Farms, Che 19.26 4 ⇓P P 18 04 21.1 -0.3
baz=19
B14A Marquette Ranc 19.26 359 ⇑P P 18 04 20.9 -0.6
baz=19
B13A Whitefish 19.31 357 ⇓P P 18 04 21.0 -0.9
baz=19
B16A M & M Farms, S 19.34 2 ⇑P P 18 04 21.2 -1.0
baz=19
C22A Vida 19.43 14 ⇓P P 18 04 22.3 -0.9
baz=20
NEW Newport 19.44 352 *e*P P 18 04 21.6 -1.7
comp=Z,10μm,2.5s
NEW Newport 19.44 352 P P 18 04 22.8 -0.5
comp=Z,1.8nm,0.3s,baz=170,slow=11,SNR=16
NEW Newport 19.44 352 ⇓P P 18 04 22.5 -0.8
baz=20
B18A Beardsley Farm 19.45 6 ⇓P P 18 04 22.6 -0.8
baz=20
B12A Libby 19.48 355 ⇓P P 18 04 22.9 -0.8
baz=20
VBMS Vicksburg 19.52 75 *e*P Pn 18 04 25.0 -0.4
comp=Z,3μm,1.4s
C24A Savage 19.57 17 ⇑P P 18 04 24.1 -0.7
baz=20
B19A Brinkman Farms 19.60 8 ⇑P P 18 04 24.2 -0.8
baz=20
C23A Lambert 19.64 16 ⇓P P 18 04 24.8 -0.7
baz=20
B20A Solberg Farm, 19.70 10 ⇑P P 18 04 26.3 +0.1
baz=20
B21A Ellsworth Farm 19.86 12 ⇓P P 18 04 25.3 -2.5
baz=20
A13A Flathead Natio 19.87 357 ⇓P P 18 04 26.6 -1.4
baz=20
HBAR Harrisburg 19.87 65 *e*P Pn 18 04 30.8 +1.1
A16A West Butte Ran 19.88 3 ⇓P P 18 04 26.6 -1.5
baz=20
A14A Double T Ranch 19.88 359 ⇓P P 18 04 26.9 -1.2
baz=20
A15A Johnson Ranch, 19.88 0 ⇓P P 18 04 26.9 -1.2
baz=20
A17A Triple J Farms 19.92 4 ⇓P P 18 04 27.1 -1.5
baz=20
B22A Reddig Ranch S 19.93 14 ⇑P P 18 04 27.1 -1.6
baz=20
A12A Yaak River Ran 19.95 355 ⇑P P 18 04 27.3 -1.6
baz=20
A18A Metzger Ranch, 19.96 6 ⇑P P 18 04 27.3 -1.7
baz=20
WALA Waterton Lakes 19.98 358 *e*P P 18 04 26.5 -2.7
comp=Z,2.0nm,0.8s
C25A Freed Ranch, W 20.06 19 ⇑P P 18 04 29.9 -0.2
baz=20
A19A Klindworth Far 20.09 8 ⇓P P 18 04 29.1 -1.3
baz=20
A20A Cobblestone Ra 20.15 10 ⇓P P 18 04 30.2 -0.8
baz=20
B23A Brockton 20.30 15 ⇑P P 18 04 31.1 -1.6
baz=20
MET Memphis--Engin 20.36 67 P Pn 18 04 35.4 -0.1
comp=Z,2μm,1.4s
HUIG Huatulco 20.38 127 *i* P P 18 04 30.4 -3.3
A21A Bergtoll Ranch 20.42 11 ⇑P P 18 04 32.1 -1.8
baz=20
SCIA State Center 20.47 46 *e*P P 18 04 34.5 0.0
comp=Z,3μm,1.6s
GNAR Gosnell 20.47 64 *e*P Pn 18 04 35.8 -0.9
comp=Z,16μm,1.3s
DGMT Dagmar 20.50 17 *e*Pn Pn 18 04 36.5 -0.6
comp=Z,24μm,3.0s
DGMT Dagmar 20.50 17 ⇑P P 18 04 34.2 -0.6
baz=21
C26A Wahner Farm, P 20.52 21 ⇑P P 18 04 34.1 -0.9
baz=21
B25A Knox Farm, Ray 20.60 19 ⇓P P 18 04 34.3 -1.6
baz=21
A22A Carney Farms, 20.61 13 ⇑P P 18 04 35.4 -0.6
baz=21
C27A Sayler Ranch, 20.61 22 ⇓P P 18 04 35.6 -0.4
baz=21
OXF Oxford 20.68 69 *e*P P 18 04 36.0 -0.9
OXF Oxford 20.68 69 *e*P P 18 04 36.0 -0.9
A23A Redstone 20.80 15 ⇑P P 18 04 37.4 -0.6
baz=21
PVMO Portageville 20.82 63 *e*P P 18 04 36.2 -2.2
comp=Z,3μm,1.4s
PARMO Parma 20.84 63 *e*P Pn 18 04 41.4 +0.3
B26A Jensen Ranch, 20.96 20 ⇑P P 18 04 39.2 -0.7
baz=21
A24A Westby 20.97 17 ⇑P P 18 04 39.1 -0.9
baz=21
HALT Halls 21.00 65 *e*P Pn 18 04 41.1 -1.7
SLM Saint Louis 21.07 57 *e*P P 18 04 43.2 +2.2
SLM pmax pmax
comp=Z,3μm,1.2s
SLM Saint Louis 21.07 57 *e*Pn P 18 04 43.2 +2.2
comp=Z,3μm,1.2s
PGC Sidney 21.16 340 *e*P P 18 04 40.6 -1.3
comp=Z,215nm,1.8s
A25A Svangstu Ranch 21.22 18 ⇑P P 18 04 41.2 -1.3
baz=21
MDND Maddock 21.39 25 ⇓P P 18 04 43.1 -1.4
baz=21
A26A Wade Farm, Ken 21.49 20 ⇓P P 18 04 43.4 -2.0
baz=22
SIUC Southern Illin 21.54 60 *e*P P 18 04 46.8 +0.7
comp=Z,2μm,1.8s
PLAL Pickwick Lake 21.84 68 *e*P P 18 04 49.0 -0.4
comp=Z,1μm,1.2s
TGIG 21.91 120 *i* P P 18 04 49.0 -1.3
WVT Waverly 22.24 65 *e*P P 18 04 51.4 -2.2
WVT Waverly 22.24 65 *e*P P 18 04 51.4 -2.2
HDIL Hopedale 22.45 53 *e*P P 18 04 55.7 -0.2
comp=Z,4μm,1.6s
PCIG 22.50 122 *i* P P 18 04 58.3 +1.7
LRAL Lakeview Retre 22.53 73 *e*P P 18 04 56.2 -0.6
comp=Z,844nm,2.2s
SPMN St. Paul 22.64 39 ⇑P P 18 04 54.6 -3.2
baz=23
CCIG Comitan 22.96 119 *i* P P 18 05 00.8 -0.8
AGMN Agassiz Nation 23.27 30 *e*P P 18 05 03.1 -1.2
comp=Z,1μm,1.5s
THIG 23.72 122 *i* P P 18 05 09.3 +0.3
WCI Wyandotte Cave 23.90 61 *e*P P 18 05 10.9 +0.2
WCI Wyandotte Cave 23.90 61 *e*P P 18 05 10.9 +0.2
comp=Z,386nm,1.3s
SFIN Scholer Farm 23.95 55 ⇑P P 18 05 07.5 -3.5
baz=24
BLO Bloomington 23.98 58 *e*P P 18 05 11.1 -0.3
BLO pmax pmax
comp=Z,759nm,1.1s
BLO Bloomington 23.98 58 *e*P P 18 05 11.1 -0.3
comp=Z,759nm,1.1s
TEIG Tepich 24.02 106 *e*P P 18 05 10.5 -1.4
comp=Z,3μm,2.5s

TEIG Tepich 24.02 106 P P 18 05 10.3 -1.6
comp=Z,8.5nm,0.9s,baz=310,slow=12,SNR=3.1
TEIG LR LR 18 17 22.3
comp=Z,57µm,18.8s,baz=112,slow=44
EDM Edmonton 24.13 359 *eP* **P 18 05 09.4 -3.3**
EDM Edmonton 24.13 359 *eP* **P 18 05 09.4 -3.3**
ULM Lac du Bonnet 24.78 27 P **P 18 05 16.6 -1.9**
ULM Lac du Bonnet 24.78 27 P **P 18 05 16.6 -1.9**
comp=Z,73nm,1.0s,baz=217,slow=11,SNR=15
ULM LR LR 18 15 23.9
comp=Z,195µm,18.9s,baz=219,slow=38
CPCT Cooper Cave 24.79 68 *eP* **P 18 05 18.8 0.0**
EYMN Ely 25.08 35 *eP* **P 18 05 18.2 -3.1**
comp=Z,507nm,1.3s
COWI Conover 25.23 41 *eP* **P 18 05 21.7 -1.1**
comp=Z,260nm,1.2s
TIGA Tifton 25.41 77 ⇓P **P 18 05 22.1 -2.4**
baz=25
TKL Tuckaleechee C 25.42 68 *eP* **P 18 05 21.5 -3.0**
TKL Tuckaleechee C 25.42 68 P **P 18 05 23.6 -0.9**
comp=Z,205nm,1.2s,baz=241,slow=7.0,SNR=13
TKL LR LR 18 16 02.0
comp=Z,87µm,21.5s,baz=263,slow=38
GOGA Godfrey 25.50 73 *eP* **P 18 05 24.3 -1.0**
GOGA pmax pmax
comp=Z,1µm,1.8s
GOGA Godfrey 25.50 73 *eP* **P 18 05 24.3 -1.0**
comp=Z,1µm,1.8s
BBB Bella Bella 25.71 338 P **P 18 05 27.8 +0.9**
BBB Bella Bella 25.71 338 P **P 18 05 27.8 +0.9**
comp=Z,134nm,1.1s,baz=163,slow=9.7,SNR=14
TZTN Tazewell 25.71 66 *eP* **P 18 05 27.2 0.0**
comp=Z,1µm,1.4s
FFC Flin Flon 26.83 14 P **P 18 05 41.1 +4.0**
comp=Z,709nm,1.5s,SNR=15
FFC Flin Flon 26.83 14*ceP* **P 18 05 37.9 +0.8**
FFC Flin Flon 26.83 14 *eP* **P 18 05 36.2 -0.9**
comp=Z,486nm,1.6s
GLMI Grayling 27.36 47 *eP* **P 18 05 43.5 +1.5**
comp=Z,663nm,1.3s
DWPF Disney 27.62 84 *eP* **P 18 05 44.5 +0.1**
comp=Z,438nm,1.5s
BLA Blacksburg 28.29 65 *eP* **P 18 05 50.2 -0.2**
BLA pmax pmax
comp=Z,672nm,1.2s
BLA Blacksburg 28.29 65 *eP* **P 18 05 50.2 -0.2**
comp=Z,672nm,1.2s
VWCC Virginia Weste 28.64 65 *eP* **P 18 05 54.5 +0.9**
CRAG Craig 30.10 337 *eP* **P 18 06 08.0 +1.8**
comp=Z,214nm,1.3s
CNNC Cliffs of the 30.18 69 *eP* **P 18 06 04.2 -3.0**
comp=Z,964nm,1.8s
JSRW J. Sargeant Re 30.35 64 *eP* **P 18 06 08.1 -0.5**
WRAK Wrangell Islan 30.61 339 *eP* **P 18 06 10.2 -0.6**
comp=Z,622nm,1.8s
CBN Corbin 30.81 63 P **P 18 06 13.7 +1.1**
comp=Z,321nm,1.2s
SADO Sadowa 30.95 50 P **P 18 06 12.6 -1.3**
SADO Sadowa 30.95 50 P **P 18 06 12.6 -1.3**
comp=Z,40nm,0.7s,baz=278,slow=9.3,SNR=9.9
SDMD Soldier's Deli 31.37 61 *eP* **P 18 06 16.6 -1.1**
comp=Z,268nm,1.3s
DLBC Dease Lake 31.66 343 *eP* **P 18 06 17.7 -2.3**
DLBC Dease Lake 31.66 343 P **P 18 06 20.5 +0.4**
comp=Z,155nm,1.1s,baz=155,slow=7.3,SNR=24
MVL Millersville 31.83 60 *eP* P 18 06 24.3 +2.6
comp=Z,682nm,2.0s
SIT Sitka 32.11 337 *eP* **P 18 06 23.9 0.0**
SIT pmax pmax
comp=Z,2µm,2.9s
SIT Sitka 32.11 337 *eP* **P 18 06 23.9 0.0**
comp=Z,2µm,2.9s
JTS JuntasAbangare 32.14 120 P **P 18 06 25.1 +0.4**
JTS JuntasAbangare 32.14 120 P **P 18 06 25.1 +0.4**
comp=Z,8.6nm,0.8s,baz=333,slow=9.0,SNR=2.4
JTS LR LR 18 19 39.3
comp=Z,66µm,21.7s,baz=302,slow=37
FCC Fort Churchill 32.40 18 *eP* **P 18 06 25.8 -0.6**
FCC Fort Churchill 32.40 18 *eP* **P 18 06 25.8 -0.6**
comp=Z,7.3nm,1.2s
BINY Binghamton 32.49 56 *eP* **P 18 06 26.6 -0.9**
comp=Z,1µm,1.7s
CCCC Cccc 32.68 96 *eP* P 18 06 38.4 +9.1
BRNJ Basking Ridge 33.28 59 P **P 18 06 35.2 +0.8**
comp=Z,72µm,1.3s
YKA Yellowknife Ar 33.45 359 P **P 18 06 33.0 -2.6**
YKA PcP **PcP 18 09 18.2 +1.6**
YKA *e* 18 37 49.5
YKA Yellowknife Ar 33.45 359 P **P 18 06 33.0 -2.6**
comp=Z,2.4nm,0.7s,baz=178,slow=8.5,SNR=14
YKA PcP **PcP 18 09 18.2 +1.6**
comp=Z,8.8nm,1.0s,baz=165,slow=2.5,SNR=3.8
YKA P3KPbc 18 37 49.5
comp=Z,1.0nm,0.9s,baz=352,slow=4.2,SNR=4.5
CPNY Central Park 33.75 59 *eP* **P 18 06 37.3 -1.2**
comp=Z,2µm,2.1s
LMGC Las Mercedes 33.76 97 *eP* P 18 06 43.6 +4.9
LMGC *eS* S 18 12 11.3 +8.6
PAL Palisades 33.82 59 *eP* **P 18 06 38.4 -0.7**
PAL pmax pmax
comp=Z,2µm,1.4s
PAL Palisades 33.82 59 *eP* **P 18 06 38.4 -0.7**
comp=Z,2µm,1.4s
MSNY Massena 33.93 52 *eP* **P 18 06 39.7 -0.2**
comp=Z,839nm,1.0s
SKAG Skagway 34.02 340 *eP* **P 18 06 42.5 +1.9**
comp=Z,299nm,1.4s
LONY Lake Ozonia 34.03 52 *eP* **P 18 06 40.7 -0.2**
comp=Z,236nm,1.1s
CVJ Coleyville 34.04 101 *i* P P 18 06 51.5 +10
HLGC Holguin 34.27 95 *eP* **P 18 06 45.4 +2.1**
ACCN Adirondack Com 34.40 55 *eP* **P 18 06 43.2 -0.9**
comp=Z,352nm,1.4s
YLE Yale 34.59 58 *eP* **P 18 06 47.4 +1.6**
comp=Z,4µm,1.7s
STH Stony Hill 34.73 100 *i* P P 18 06 53.5 +6.3
GWJ Greenwich 34.80 100 *i* P P 18 06 57.4 +9.4
HOJ Hope 34.81 100 *i* P P 18 06 54.0 +6.1
MDV Middlebury 34.87 54 *eP* **P 18 06 46.8 -1.4**
RCC Rio Carpintero 34.92 96 *eP* P 18 06 51.5 +2.6
RCC *eS* **S 18 12 20.4 -0.3**
comp=N,64nm,1.4s
RCC *e*
comp=E,381nm,1.5s
YHJ Yallahs 35.08 100 *i* P **P 18 06 52.2 +1.9**
QUA2 Belchertown 35.16 57 *eP* **P 18 06 48.8 -1.8**
comp=E,263nm,1.0s
MOAC Moa 35.32 95 *eP* **P 18 06 53.6 +1.4**
HNH Hanover 35.45 55 *eP* **P 18 06 54.9 +1.8**
GTBY Guantanamo Bay 35.46 96 P P 18 06 56.5 +3.1
comp=E,567nm,1.4s
PNL Peninsula 35.49 337 *eP* **P 18 06 54.2 +0.8**
comp=E,156nm,1.3s
BRYW Bryant College 35.71 58 *eP* **P 18 06 54.5 -0.9**
comp=E,427nm,1.3s
HYT Haines Junctio 35.77 340 *eP* **P 18 06 58.5 +2.6**
HRV Adam Dziewonsk 35.77 57 *eP* **P 18 06 55.2 -0.8**
HRV pmax pmax
comp=Z,354nm,1.3s
HRV Adam Dziewonsk 35.77 57 *eP* **P 18 06 55.2 -0.8**
comp=Z,354nm,1.3s
LBNH Lisbon 35.80 54 *eP* **P 18 06 55.8 -0.4**
LBNH pmax pmax
comp=Z,850nm,1.8s
LBNH Lisbon 35.80 54 *eP* **P 18 06 55.8 -0.4**
comp=Z,850nm,1.8s
FFD Franklin Falls 35.86 55 *eP* **P 18 06 56.9 +0.2**
comp=Z,3µm,1.9s
WES Weston 35.93 57 *eP* **P 18 06 55.5 -1.8**
WES pmax pmax
comp=Z,259nm,1.1s
WES Weston 35.93 57 *eP* **P 18 06 55.5 -1.8**
comp=Z,259nm,1.1s
MASC Masc 36.13 95 *eP* P 18 07 01.8 +2.6
BCIP Isla Barro Col 36.79 116 P **P 18 07 04.2 -0.7**
WVL Waterville 37.46 54 *eP* **P 18 07 09.9 -0.4**
comp=Z,481nm,1.1s
RAGM Ragged Mountai 37.89 335 *eP* P 18 07 16.8 +3.0
comp=Z,399nm,1.3s
MID Middleton Isla 37.91 333 P **P 18 07 16.0 +2.1**
MID pmax pmax
comp=Z,530nm,1.5s
MID Middleton Isla 37.91 333 P **P 18 07 16.0 +2.1**
comp=Z,530nm,1.5s
BMRM Bremner River 38.25 336 *eP* **P 18 07 17.4 +0.5**
comp=Z,327nm,1.4s

DIV Divide 38.78 335 *eP* **P 18 07 22.3 +1.0**
comp=Z,2µm,2.9s
PQI Presque Isle 38.96 51 *eP* **P 18 07 22.7 -0.2**
comp=Z,356nm,1.2s
EMMW East Machias 39.03 54 *eP* **P 18 07 22.8 -0.7**
comp=Z,456nm,1.0s
MENT Mentasta 39.31 338 P **P 18 07 27.6 +1.9**
PUH Pauahi 39.59 266 *eP* **P 18 07 29.1 +0.5**
KDAK Kodiak Island 39.72 328 *eP* **P 18 07 28.1 -1.0**
comp=Z,766nm,1.8s
OHAK Old Harbor 39.79 327 *eP* **P 18 07 29.6 -0.1**
comp=Z,1µm,1.8s
EGAK Eagle 39.90 342 *eP* **P 18 07 30.7 +0.2**
comp=Z,1µm,2.5s
PAX Paxson 39.91 337 *eP* **P 18 07 30.8 +0.1**
PAX pmax pmax
comp=Z,381nm,1.7s
PAX Paxson 39.91 337 *eP* **P 18 07 30.8 +0.1**
comp=Z,381nm,1.7s
SML Sawmill 40.16 335 *eP* **P 18 07 34.3 +1.5**
SML pmax pmax
comp=Z,180nm,1.6s
SML Sawmill 40.16 335 *eP* **P 18 07 34.3 +1.5**
comp=Z,180nm,1.6s
PMR Palmer 40.33 334 *eP* **P 18 07 35.5 +1.4**
PMR pmax pmax
comp=Z,1µm,1.5s
PMR Palmer 40.33 334 *eP* **P 18 07 35.5 +1.4**
comp=Z,1µm,1.5s
INK Inuvik 41.12 349 P **P 18 07 39.2 -1.2**
INK Inuvik 41.12 349 P **P 18 07 39.2 -1.2**
comp=Z,15nm,1.1s,baz=155,slow=7.9
RSO Redoubt South 41.15 331 *eP* **P 18 07 41.9 +0.7**
SPU Mount Spurr 41.25 332 *eP* **P 18 07 41.5 -0.3**
KIP Kipapa 41.30 270 P **P 18 07 39.9 -2.7**
KIP Kipapa 41.30 270 P **P 18 07 39.9 -2.7**
comp=Z,3µm,2.5s
BBSR BB Station 41.31 73 *eP* P 18 07 45.2 +2.6
comp=Z,262nm,1.4s
HON Honolulu 41.32 270 *eP* **P 18 07 41.9 -0.9**
HON Honolulu 41.32 270 *eP* **P 18 07 41.9 -0.9**
MCK McKinley 41.59 337 *eP* **P 18 07 45.7 +1.2**
MCK pmax pmax
comp=Z,442nm,1.4s
MCK McKinley 41.59 337 *eP* **P 18 07 45.7 +1.2**
comp=Z,442nm,1.4s
ILAR Eielson Array 41.59 339 P **P 18 07 42.6 -1.9**
ILAR Eielson Array 41.59 339 P **P 18 07 42.6 -1.9**
comp=Z,9.6nm,0.9s,baz=151,slow=7.4,SNR=22
SCHQ Schefferville 41.79 39 *eP* **P 18 07 44.2 -2.1**
comp=Z,1µm,2.1s
SCHQ Schefferville 41.79 39 P **P 18 07 45.2 -1.1**
comp=Z,57nm,1.1s,baz=256,slow=5.8,SNR=12
TRF Thorofare Moun 41.89 336 *eP* **P 18 07 47.0 -0.2**
comp=Z,1µm,1.7s
COLA College 41.97 339 *eP* **P 18 07 49.8 +2.3**
COLA pmax pmax
comp=Z,2µm,1.5s
COLA College 41.97 339 *eP* **P 18 07 49.8 +2.3**
comp=Z,2µm,1.5s
CHGN Chignik 41.98 324 *eP* **P 18 07 45.6 -2.1**
PPLA Purkeypile 42.26 334 *eP* **P 18 07 50.5 +0.3**
comp=Z,1µm,1.3s
SVW2 Sparrevohn 42.67 331 *eP* **P 18 07 52.6 -0.8**
comp=Z,513nm,1.3s
SDPT Sand Point 42.76 322 *eP* **P 18 07 56.2 +2.1**
comp=Z,691nm,1.2s
CRPR Cabo Rojo, PR 43.18 94 P **P 18 07 56.2 -1.7**
comp=Z,690nm,1.7s
LRS Lares 43.30 94 *eP* **P 18 07 59.7 +0.7**
OBIP Obispado Ponce 43.60 94 *eP* **P 18 08 00.4 -1.0**
comp=Z,947nm,1.8s
CELP Cerrillos 43.61 94 *eP* **P 18 08 02.1 +0.6**
OTAV Otavalo 43.63 125 *eP* **P 18 08 02.5 +0.2**
comp=Z,445nm,1.4s
ROSC El Rosal 43.74 116 P **P 18 08 03.2 +0.2**
ROSC El Rosal 43.74 116 P **P 18 08 03.2 +0.2**
comp=Z,4.5nm,0.4s,baz=298,slow=18,SNR=2.2
ROSC LR LR 18 29 15.6
comp=Z,32µm,18.4s,baz=120,slow=40
SJG San Juan 43.97 94 *eP* **P 18 08 03.6 -0.8**
comp=Z,1µm,1.9s
CBYP Canovanas 44.17 93 P **P 18 08 07.3 +1.2**
comp=Z,732nm,2.1s
COLD Coldfoot 44.24 340 *eP* **P 18 08 05.9 0.0**
comp=Z,336nm,1.4s
FALS False Pass 44.25 320 P **P 18 08 08.6 +2.5**
comp=Z,557nm,1.3s
SDV Santo Domingo 44.42 108 *eP* **P 18 08 07.5 -0.8**
comp=Z,411nm,1.5s
FRB Frobisher Bay 44.66 26 P P 18 08 13.2 +3.9
comp=Z,17nm,0.8s,baz=269,slow=9.2,SNR=4.4
CDVI St. Croix 45.32 93 P **P 18 08 15.6 +0.4**
comp=Z,587nm,1.2s
AKUT Akutan 45.42 319 *eP* **P 18 08 14.8 -0.6**
comp=Z,720nm,1.4s
UNV Unalaska Valle 45.79 318 *eP* **P 18 08 18.9 +0.5**
comp=Z,891nm,1.3s
TAOE Nuku Hiva Isla 45.95 219 *eP* P 18 08 23.2 +3.0
comp=Z,438nm,1.4s
TAOE *eS* **S 18 15 08.7 +3.3**
comp=Z,53µm,27.8s
TAOE *eLQ* LQ 18 19 20.5
comp=Z,420µm,27.3s
TAOE *eLR* LR 18 21 16.6
comp=Z,108µm,23.8s,baz=39
SKI Saint Kitts 47.26 93 *e* P 18 08 37.2 +6.7
ANWB Willy Bob 47.96 92 *eP* **P 18 08 37.1 +1.2**
comp=Z,690nm,1.5s
LZG Guadaloupe-1 48.59 94 *eP* P 18 08 44.7 +4.0
SSG Sans Toucher 48.70 94 *eP* P 18 08 44.6 +2.9
LKG Breislack 48.73 94 *eP* P 18 08 50.3 +8.3
ECG Echelle 48.74 94 *eP* **P 18 08 43.1 +1.0**
PHG Guadaloupe-2 48.76 94 *eP* P 18 08 45.4 +3.2
DOG Dongo Capester 48.77 94 *eP* P 18 08 50.6 +8.4
TBG Guadaloupe-3 48.82 94 *eP* P 18 08 50.5 +8.0
ATAH Atahualpa 49.00 132 P **P 18 08 44.7 +0.4**
ATAH Atahualpa 49.00 132 P **P 18 08 44.7 +0.4**
comp=Z,16nm,1.0s,baz=316,slow=5.3,SNR=8.4
ATAH LR LR 18 27 57.7
comp=Z,19µm,20.7s,baz=134,slow=34
TNA Tin City 49.58 333 *eP* P 18 08 51.1 +3.5
comp=Z,284nm,1.3s
FDF Fort de France 49.73 95 *eP* **P 18 08 46.9 -2.7**
FDF pmax pmax
comp=Z,135nm,1.3s
FDF Fort de France 49.73 95 *eP* **P 18 08 46.9 -2.7**
comp=Z,135nm,1.3s
XMAS Kiritimati 50.15 246 *eP* **P 18 08 53.0 +0.4**
comp=Z,561nm,1.3s
ATKA Atka Island 50.22 315 *eP* **P 18 08 54.8 +2.1**
comp=Z,588nm,1.3s
SVB Belmont 50.28 97 *e* P 18 08 57.1 +3.3
GRGR Grenville 50.45 98 *eP* **P 18 08 52.3 -2.7**
comp=Z,2µm,1.6s
ADK Adak 51.75 315 *eP* **P 18 09 01.6 -2.6**
ADK Adak 51.75 315 *eP* **P 18 09 01.6 -2.6**
comp=Z,2µm,1.2s
TOSP Speyside 51.81 99 *e* **P 18 09 06.2 +1.0**
SFJD Kangerlussuaq 52.81 26 *i* P **P 18 09 13.4 +1.5**
comp=Z,104nm,1.0s
SFJD *i* 18 21 04.1
SFJD Kangerlussuaq 52.81 26 *eP* **P 18 09 13.0 +1.2**
comp=Z,535nm,1.4s
SFJD ScP **ScP 18 14 16.6 -2.3**
SFJD Kangerlussuaq 52.81 26 P **P 18 09 12.6 +0.7**
comp=Z,70nm,1.0s,baz=235,slow=9.9,SNR=11
SFJD ScP **ScP 18 14 16.6 -2.3**
comp=Z,10.0nm,0.5s,baz=220,slow=7.9,SNR=6.3
NNA Nana 53.66 134 *eP* **P 18 09 17.3 -1.6**
comp=Z,344nm,1.5s
NNA Nana 53.66 134 P **P 18 09 19.9 +1.0**
comp=Z,21nm,0.9s,baz=284,slow=8.4,SNR=4.1
AMKA Amchitka 54.26 314 *eP* **P 18 09 22.9 +0.2**
comp=Z,130nm,1.0s
PMOR Pomariorio Ree 55.34 222 *eP* P 18 09 35.3 +4.4
comp=Z,433nm,1.4s
MIDW Midway 55.91 286 *eP* **P 18 09 33.2 -1.8**
comp=Z,85nm,0.9s
RKT Rikitea 56.07 205 *eP* P 18 09 38.9 +2.8
comp=Z,221nm,1.2s
RKT *eS* **S 18 17 28.5 +3.4**
comp=Z,56µm,32.8s
RKT *eLQ* LQ 18 23 35.8
comp=Z,138µm,35.0s
RKT *eLR* LR 18 25 55.2
comp=Z,111µm,32.0s,baz=20

ALE Alert 56.48 7 P **P 18 09 37.8 -0.6**
comp=Z,344nm,1.3s,SNR=9.6
MEH Mehetia 57.71 220 *eP* P 18 09 51.7 +3.8
comp=Z,262nm,1.1s
SUMG Summit 57.89 20 *eP* **P 18 09 47.3 -1.6**
SUMG pmax pmax
comp=Z,347nm,1.2s
SUMG Summit 57.89 20 *i* P P 18 09 54.1 +5.2
comp=Z,113nm,1.0s
SUMG *i* 18 21 55.3
SUMG
comp=Z,186µm,15.0s
SUMG Summit 57.89 20 *eP* **P 18 09 47.3 -1.6**
comp=Z,347nm,1.2s
FX1 Attu Island--F 57.90 317 P **P 18 09 49.4 +0.6**
FX1 Attu Island--F 57.90 317 P **P 18 09 49.4 +0.6**
comp=Z,27nm,0.9s,baz=61,slow=10,SNR=3.3
TIAR Tiarei 58.20 222 *eP* P 18 09 55.6 +4.3
comp=Z,254nm,1.1s
TVO Taravao 58.32 222 *eP* P 18 09 56.4 +4.2
comp=Z,307nm,1.3s
PPT Papeete 58.34 222 LR LR 18 29 12.1
comp=Z,54µm,18.9s,baz=36,slow=30
PPT2 Papeete2 58.36 222 *eP* P 18 09 56.8 +4.3
comp=Z,153nm,1.5s
PPT2 *eS* S 18 18 00.4 +4.8
comp=Z,84µm,27.8s
PPT2 *eLQ* LQ 18 24 36.7
comp=Z,192µm,24.8s
PPT2 *eLR* LR 18 27 10.8
comp=Z,110µm,23.5s,baz=25
PAE Paea 58.42 222 *eP* P 18 09 57.1 +4.3
comp=Z,20nm,1.1s
SAML Samuel 61.03 120 *eP* **P 18 10 08.6 -2.3**
comp=Z,162nm,1.7s
LPAZ La Paz 62.48 130 *eP* **P 18 10 20.6 -0.8**
comp=Z,70nm,1.3s
LPAZ La Paz 62.48 130 P **P 18 10 20.3 -1.1**
comp=Z,11nm,1.1s,baz=327,slow=5.8,SNR=15
LPAZ LR LR 18 36 44.1
comp=Z,22µm,18.9s,baz=162,slow=35
TBI Tubuai 62.88 218 *eS* **S 18 18 57.9 +4.8**
comp=Z,44µm,32.0s
TBI *eLQ* LQ 18 26 26.1
comp=Z,235µm,35.0s
TBI *eLR* LR 18 29 01.0
comp=Z,62µm,26.0s,baz=26
DAG Danmarks Havn 62.91 15 *i* P P 18 10 25.7 +3.0
DAG pmax pmax
comp=Z,43nm,1.0s
DAG MLR MLR
comp=Z,370µm,17.0s
DAG Danmarks Havn 62.91 15 *i* P P 18 10 25.7 +3.0
comp=Z,43nm,1.0s
DAG
comp=Z,365µm,17.0s
SCO Scoresbysund 63.23 22 *i* P P 18 10 33.7 +8.8
SCO pmax pmax
comp=Z,46nm,1.0s
SCO Scoresbysund 63.23 22 *i* P P 18 10 33.7 +8.8
comp=Z,46nm,1.0s
PET Petropavlovsk 66.44 319 *i* P **P 18 10 44.5 -1.6**
PET *e* 18 13 14.3
PET *i* S **S 18 19 30.9 -5.6**
PET *e* 18 20 33.1
PET *e*SS **SS 18 23 49.8 -2.8**
PET pmax pmax
comp=Z,49nm,1.0s
PET pmax pmax
comp=Z,3µm,10.8s
PET pmax pmax
comp=Z,4µm,15.4s
PET pmax pmax
comp=Z,1µm,14.2s
PET smax smax
comp=N,21µm,15.3s
PET smax smax
comp=N,30µm,19.3s
PET MLR MLR
comp=Z,58µm,16.0s
LVC Limon Verde 66.61 136 *eP* **P 18 10 47.8 0.0**
comp=Z,829nm,2.1s
PETK Petropavlovsk- 66.96 319 P **P 18 10 47.5 -2.0**
PETK Petropavlovsk- 66.96 319 P **P 18 10 47.5 -2.0**
PETK Petropavlovsk- 66.96 319 P **P 18 10 47.5 -2.0**
comp=Z,20nm,0.9s,baz=78,slow=11,SNR=17
PETK LR LR 18 39 26.7
comp=Z,22µm,18.5s,baz=284,slow=35
SIV San Ignacio 67.18 125 P **P 18 10 50.4 -0.9**
SIV San Ignacio 67.18 125 P **P 18 10 50.4 -0.9**
comp=Z,19nm,0.9s,baz=315,slow=5.1,SNR=24
JMIC Jan Mayen 67.34 20 *eP* P 18 10 55.2 +3.7
JMIC *eS* **S 18 19 47.7 +0.9**
JMIC AMS AMS 18 40 03.7
comp=Z,144µm,17.3s
RAR Rarotonga 67.38 228 P **P 18 10 50.5 -1.9**
RAR Rarotonga 67.38 228 P **P 18 10 50.5 -1.9**
comp=Z,11nm,0.3s,baz=100,slow=6.4,SNR=3.0
RAR LR LR 18 33 43.3
comp=Z,64µm,18.5s,baz=180,slow=30
KBS Kingsbay 67.82 10 *eP* **P 18 10 56.1 +1.7**
KBS AMB AMB 18 11 07.6
comp=Z,198nm,1.3s
KBS *e*SS SS 18 24 16.2 +3.2
KBS AMS AMS 18 41 03.2
comp=Z,416µm,16.3s
KBS Kingsbay 67.82 10*ceP* **P 18 10 56.3 +1.9**
KBS pmax pmax
comp=Z,198nm,2.5s
KBS MLR MLR
comp=Z,447µm,18.0s
KBS Kingsbay 67.82 10 *eP* **P 18 10 56.4 +1.9**
comp=Z,132nm,1.3s
PCAN Candelaria 68.52 57 *eP* P 18 10 53.8 -5.8
comp=Z,58nm,1.2s
ROSA Rosais 68.61 57 *eP* P 18 10 53.8 -6.3
comp=Z,90nm,1.5s
SKR Severo-Kuril's 68.68 317 *eP* P 18 10 55.0 -5.3
SKR *e* 18 11 18.0
SKR *i* S S 18 19 56.0 -7.5
SKR *e* 18 20 40.0
SKR pmax pmax
comp=Z,90nm,1.0s
SKR pmax pmax
comp=N,1µm,4.0s
SKR pmax pmax
comp=E,2µm,4.0s
SKR pmax pmax
comp=Z,1µm,4.0s
SKR smax smax
comp=N,24µm,22.0s
SKR smax smax
comp=E,6µm,16.0s
SKR MLR MLR
comp=N,19µm,16.0s
SKR MLR MLR
comp=E,48µm,16.0s
SKR MLR MLR
comp=Z,41µm,16.0s
PGRA Graciosa 68.69 56 *eP* P 18 10 52.7 -7.9
comp=Z,111nm,1.3s
PMAN Manadas 68.75 57 *eP* **P 18 10 59.0 -2.0**
comp=Z,56nm,1.2s
SPA0 Spitsbergen Ar 68.98 10 *eP* **P 18 11 02.5 +0.8**
LCO Las Campanas 70.45 141 *eP* **P 18 11 11.6 -0.2**
comp=Z,415nm,1.5s
LCO Las Campanas 70.45 141 ⇓*iP* P 18 11 19.0 +7.2
PSET Sete Cidades 70.78 57 *eP* **P 18 11 13.2 -0.4**
comp=Z,46nm,1.0s
TIXI Tiksi 70.89 343 *eP* **P 18 11 15.7 +2.2**
TIXI pmax pmax
comp=Z,44nm,1.2s
TIXI MLR MLR
comp=Z,124µm,19.0s
CMLA Cha da Macela 70.95 57 *eP* P 18 11 08.4 -6.2
comp=Z,47nm,1.0s
BART Pico Bartolome 71.20 57 *eP* **P 18 11 18.0 +1.8**
comp=Z,43nm,0.9s
TLL Tololo Astrono 71.29 142 ⇑*iP* P 18 11 26.1 +9.2
PSMA Santa Maria 71.53 58 *eP* P 18 11 13.2 -4.9
comp=Z,24nm,1.1s
SOFL Sornfelli, Far 71.75 28 *eP* **P 18 11 19.2 +0.2**
SOFL AMS AMS 18 48 48.9
comp=Z,239µm,16.4s
BJO Bjornoya 72.07 12 *eP* **P 18 11 21.3 +0.7**
BJO AMB AMB 18 11 33.2
comp=Z,158nm,1.6s

BJO				*e*S	**S**	**18 20 42.7 +0.4**
BJO				*e*SS	SS	18 25 25.4 +7.0
BJO				AMS	AMS	18 42 49.7
comp=Z,171μm,20.2s						
CFAA	**Coronel Fontan**	**73.80**	**141**	P	**P**	**18 11 31.1 -0.3**
CFAA	**Coronel Fontan**	**73.80**	**141**	P	**P**	**18 11 31.1 -0.3**
comp=Z,3.6nm,0.9s,baz=318,slow=4.8,SNR=22						
CLCH	**Cerro Calan**	**73.97**	**144**	*e*P	P	18 11 39.1 +6.6
LMEL	**Las Melosas**	**74.49**	**144**	*e*P	P	18 11 39.5 +3.9
KPL	**Plockton**	**74.61**	**32**	AMS	AMS	18 43 06.7
comp=Z,98μm,16.9s						
LRW	**Lerwick**	**75.15**	**29**	AMS	AMS	18 47 58.7
comp=Z,196μm,15.4s						
MDO	**Dochfour**	**75.17**	**32**	*e*P	**P**	**18 11 38.0 -1.1**
MCD	**Coleburn Disti**	**75.60**	**32**	*e*P	**P**	**18 11 40.3 -1.3**
TRO	**Tromso**	**75.62**	**16**	*e*P	**P**	**18 11 42.8 +1.3**
TRO				AMB	AMB	18 11 55.4
comp=Z,214nm,1.6s						
TRO				*e*S	**S**	**18 21 27.4 +5.0**
TRO				*e*SS	SS	18 26 22.3 +10
TRO				AMS	AMS	18 46 57.6
comp=Z,136μm,17.8s						
STEI	**Steigen**	**75.93**	**18**	*e*P	P	18 11 48.8 +5.5
STEI				AMB	AMB	18 11 56.7
comp=Z,169nm,0.5s						
KUR	**Kuril'sk**	**75.94**	**314**	*d i*P	**P**	**18 11 44.3 +0.5**
KUR				*i* S	**S**	**18 21 27.5 +0.7**
KUR				*e*SS	SS	18 26 25.8 +7.3
KUR				pmax	pmax	
comp=N,171nm,2.0s						
KUR				pmax	pmax	
comp=Z,348nm,2.0s						
KUR				pmax	pmax	
comp=E,282nm,2.0s						
KUR				pmax	pmax	
comp=Z,3μm,6.2s						
KUR				MLR	MLR	
comp=N,22μm,21.0s						
KUR				MLR	MLR	
comp=E,8μm,21.0s						
KUR				MLR	MLR	
comp=Z,24μm,21.0s						
PGBU	**Glenifferbraes**	**75.95**	**34**	AMS	AMS	18 44 06.7
comp=Z,100μm,17.8s						
DRUM	**Mains of Drumt**	**76.31**	**32**	AMS	AMS	18 52 29.6
comp=Z,71μm,18.7s						
GAL1	**Galloway**	**76.33**	**34**	AMS	AMS	18 50 11.0
comp=Z,86μm,15.7s						
YAK	**Yakutsk**	**76.33**	**334**	*e*P	**P**	**18 11 48.1 +2.4**
YAK				*e**PP	**PcP**	**18 11 57.6 +0.1**
YAK				*e*		18 14 40.3
YAK				*e*S	**S**	**18 21 25.0 -5.5**
YAK				*e*		18 21 58.5
YAK				*e*SS	**SS**	**18 26 30.1 +6.6**
YAK				pmax	pmax	
comp=Z,155nm,1.4s						
YAK				pmax	pmax	
comp=E,91nm,1.4s						
YAK				pmax	pmax	
comp=N,36nm,1.4s						
YAK				pmax	pmax	
comp=Z,1μm,5.1s						
YAK				pmax	pmax	
comp=E,213nm,2.3s						
YAK				pmax	pmax	
comp=N,115nm,1.9s						
YAK				smax	smax	
comp=E,3μm,6.7s						
YAK				smax	smax	
comp=N,8μm,11.4s						
YAK				MLR	MLR	
comp=E,96μm,16.0s						
YAK				MLR	MLR	
comp=Z,136μm,16.0s						
YAK				MLR	MLR	
comp=N,61μm,21.0s						
STOK	**Stokkvaagen**	**76.42**	**20**	*e*P	**P**	**18 11 46.8 +0.7**
STOK				AMS	AMS	18 44 43.7
comp=Z,179μm,22.3s						
EDI	**Edinburgh**	**76.51**	**33**	AMS	AMS	18 44 20.2
comp=Z,100μm,18.2s						
CPUP	**Villa Florida**	**76.66**	**130**	*e*P	**P**	**18 11 45.6 -2.4**
comp=Z,378nm,1.1s						
CPUP	**Villa Florida**	**76.66**	**130**	P	**P**	**18 11 46.9 -1.1**
comp=Z,8.8nm,1.0s,baz=307,slow=5.7,SNR=9.8						
BDFB	**Brasilia**	**76.81**	**116**	P	P	18 11 53.5 +4.3
comp=Z,17nm,1.0s,baz=308,slow=7.8,SNR=3.8						
BDFB				LR	LR	18 49 38.7
comp=Z,22μm,21.9s,baz=301,slow=39						
ESK	**Eskdalemuir**	**76.83**	**34**	AMS	AMS	18 50 09.6
comp=Z,78μm,16.9s						
ESK	**Eskdalemuir**	**76.83**	**34**	*i* P	**P**	**18 11 49.4 +0.8**
ESK	**Eskdalemuir**	**76.83**	**34**	*e*P	**P**	**18 11 48.0 -0.6**
comp=Z,873nm,2.7s						
KTK1	**Kautokeino**	**77.09**	**15**	*e*P	**P**	**18 11 50.0 +0.1**
KTK1				AMB	AMB	18 12 03.4
comp=Z,850nm,1.2s						
KTK1				*e*S	**S**	**18 21 40.8 +2.1**
KTK1				AMS	AMS	18 45 00.7
comp=Z,449μm,23.0s						
MOL	**Molde**	**77.12**	**24**	*e*P	**P**	**18 11 50.6 +0.4**
MOL				AMB	AMB	18 12 08.9
comp=Z,174nm,1.5s						
MOL				*e*		18 21 51.4
MOL				AMS	AMS	18 43 40.3
comp=Z,97μm,22.0s						
ARCES	**ARCESS Array B**	**77.16**	**14**	P	**P**	**18 11 50.9 +0.6**
ARCES	**ARCESS Array B**	**77.16**	**14**	P	**P**	**18 11 50.9 +0.6**
comp=Z,8.1nm,1.0s,baz=31,slow=29,SNR=8.2						
ARE0	**ARCESS Array S**	**77.16**	**14**	*e*P	**P**	**18 11 52.3 +2.0**
ARE0	**ARCESS Array S**	**77.16**	**14**	*e*P	**P**	**18 11 50.0 -0.2**
KESW	**Keswick, Cumbr**	**77.27**	**34**	AMS	AMS	18 42 30.3
comp=Z,69μm,18.0s						
KEV	**Kevo**	**77.29**	**13**	*e*P	P	18 11 56.1 +5.2
KEV	**Kevo**	**77.29**	**13**	*e*P	**P**	**18 11 50.0 -1.0**
comp=Z,97nm,1.3s						
WLF1	**Llynfaes**	**77.31**	**36**	AMS	AMS	18 54 12.0
comp=Z,79μm,15.3s						
NSS	**Namsos**	**77.33**	**21**	*e*P	**P**	**18 11 52.4 +1.1**
NSS				AMB	AMB	18 12 05.5
comp=Z,49nm,1.9s						
NSS				AMS	AMS	18 45 16.6
comp=Z,53μm,18.8s						
HYA	**Hoyanger**	**77.50**	**26**	*e*P	**P**	**18 11 53.1 +0.8**
HYA				AMB	AMB	18 12 06.7
comp=Z,204nm,1.9s						
HYA				*e*SKS	**SKSac**	**18 22 03.7 -1.9**
HYA				AMS	AMS	18 42 33.0
comp=Z,118μm,20.8s						
WPM1	**Penmaenmawr**	**77.58**	**36**	*e*P	**P**	**18 11 52.4 -0.5**
TBLU	**Trondheim**	**77.62**	**23**	*e*P	P	18 11 55.8 +2.8
TBLU				AMB	AMB	18 12 11.5
comp=Z,213nm,1.3s						
TBLU				*e*S	**S**	**18 21 49.6 +5.0**
TBLU				AMS	AMS	18 52 22.2
comp=Z,131μm,17.7s						
BER	**Bergen**	**77.66**	**27**	*e*P	P	18 11 59.7 +6.5
BER				AMB	AMB	18 12 11.0
comp=Z,186nm,0.7s						
BER				*e*S	**S**	**18 21 47.9 +2.8**
BER				*e*SS	**SS**	**18 26 46.1 +2.5**
BER				AMS	AMS	18 47 28.5
comp=Z,97μm,13.7s						
FOEL	**Foel Wylfa**	**78.13**	**36**	*e*P	**P**	**18 11 54.4 -1.6**
FOEL				AMS	AMS	18 51 33.4
comp=Z,70μm,15.2s						
YSS	**Yuzh-Sakhalins**	**78.25**	**317**	*αe*P	**P**	**18 11 55.5 -1.2**
YSS				*i **SP	**sP**	**18 12 01.0 +0.8**
YSS				*e*		18 12 08.1
YSS				*e*		18 14 48.0
YSS				*e*PPP	PPP	18 16 46.0
YSS				*e*S	**S**	**18 21 48.0 -3.9**
YSS				*e*PS	**SKSac**	**18 22 17.0 +5.5**
YSS				*e*PPS	PPS	18 22 30.0
YSS				*e*SS	**SS**	**18 26 58.0 +4.8**
YSS				pmax	pmax	
comp=Z,70nm,1.0s						
YSS				pmax	pmax	
comp=Z,2μm,8.0s						
YSS				pmax	pmax	
comp=N,2μm,8.0s						
YSS				pmax	pmax	
comp=Z,2μm,8.0s						
YSS				smax	smax	
comp=N,12μm,13.0s						
YSS				smax	smax	
comp=E,14μm,13.0s						
YSS				MLR	MLR	
comp=Z,46μm,16.0s						
YSS				MLR	MLR	
comp=N,34μm,14.0s						
YSS				MLR	MLR	
comp=E,37μm,17.0s						
HPK	**Haverah Park**	**78.34**	**34**	AMS	AMS	18 53 50.6
comp=Z,84μm,17.2s						
ODD1	**Odda**	**78.46**	**27**	*e*P	**P**	**18 11 58.4 +0.7**
ODD1				AMB	AMB	18 12 16.8
comp=Z,246nm,1.8s						
ODD1				*e*SKS	**SKSac**	**18 22 11.0 -1.8**
ODD1				AMS	AMS	18 48 10.2
comp=Z,118μm,18.7s						
HTL	**Hartland**	**78.48**	**38**	*e*P	**P**	**18 11 58.2 +0.3**
HTL				AMS	AMS	18 46 04.6
comp=Z,99μm,16.5s						
STNC	**Stoke**	**78.53**	**35**	*e*P	**P**	**18 11 56.8 -1.4**
STNC				AMS	AMS	18 50 47.7
comp=Z,80μm,15.2s						
MCH1	**Michaelchurch**	**78.72**	**36**	*e*P	**P**	**18 11 58.2 -1.0**
MCH1				AMS	AMS	18 55 05.2
comp=Z,75μm,16.0s						
KBI1	**Birley Grange**	**78.78**	**35**	*e*P	**P**	**18 12 00.5 +1.0**
DYA	**Yadsworthy**	**79.07**	**38**	AMS	AMS	18 45 27.5
comp=Z,124μm,16.4s						
NB2	**NORSAR Subarra**	**79.44**	**24**	P	**P**	**18 12 01.9 -1.2**
comp=Z,233nm,1.4s,baz=311,slow=5.3						
NB2	**NORSAR Subarra**	**79.44**	**24**	P	**P**	**18 12 01.9 -1.2**
baz=311,slow=5.3						
NOA	**NORSAR Array B**	**79.44**	**24**	P	**P**	**18 12 02.9 -0.2**
NOA	**NORSAR Array B**	**79.44**	**24**	P	**P**	**18 12 02.9 -0.2**
comp=Z,12nm,1.1s,baz=316,slow=5.7,SNR=14						
SWN1	**Swindon**	**79.61**	**36**	AMS	AMS	18 53 17.9
comp=Z,73μm,16.6s						
NC602	**NORSAR Array S**	**79.77**	**24**	*e*P	**P**	**18 12 05.7 +0.9**
NC602				*e*S	**S**	**18 22 08.1 +0.5**
ASAJ	**Asahikawa**	**79.77**	**315**	*e*P	P	18 12 01.8 -3.3
comp=Z,234nm,1.7s						
ASAJ	**Asahikawa**	**79.77**	**315**	P	**P**	**18 12 03.9 -1.2**
comp=Z,16nm,1.0s,baz=256,slow=2.4,SNR=8.7						
KONO	**Kongsberg**	**79.78**	**26**	*e*P	**P**	**18 12 03.4 -1.4**
KONO				AMB	AMB	18 12 25.9
comp=Z,375nm,1.9s						
KONO				*e*SKS	**SKSac**	**18 22 20.3 -1.6**
KONO				AMS	AMS	18 44 01.2
comp=Z,131μm,18.4s						
KONO	**Kongsberg**	**79.78**	**26**	*e*P	**P**	**18 12 04.5 -0.4**
KONO				pmax	pmax	
comp=Z,369nm,1.5s						
KONO	**Kongsberg**	**79.78**	**26**	*e*P	**P**	**18 12 04.5 -0.4**
comp=Z,369nm,1.5s						
PLCA	**Paso Flores**	**79.79**	**149**	*e*P	**P**	**18 12 05.2 +0.1**
comp=Z,600nm,1.6s						
PLCA	**Paso Flores**	**79.79**	**149**	P	**P**	**18 12 05.5 +0.3**
comp=Z,18nm,0.9s,baz=335,slow=5.9,SNR=12						
PLCA				LR	LR	18 41 23.2
comp=Z,15μm,19.6s,baz=141,slow=31						
WOL	**Wolverton**	**80.02**	**36**	AMS	AMS	18 54 42.5
comp=Z,79μm,15.2s						
HOMB	**Homborsund**	**80.26**	**27**	*e*P	**P**	**18 12 09.6 +2.2**
HOMB				AMS	AMS	18 44 46.3
comp=Z,82μm,22.0s						
LVZ	**Lovozero**	**80.34**	**12**	*d i*P	**P**	**18 12 08.2 +0.4**
LVZ				pmax	pmax	
comp=Z,47nm,1.0s						
LVZ				MLR	MLR	
comp=Z,135μm,20.0s						
LVZ	**Lovozero**	**80.34**	**12**	P	**P**	**18 12 08.5 +0.7**
comp=Z,569nm,1.3s,SNR=6.3						
APA	**Apatity**	**80.40**	**12**	||*i*P	P	18 12 13.0 +4.9
APA				*i*		18 12 18.6
APA				*i*		18 15 19.0
APA				*i* S	**S**	**18 22 18.0 +4.0**
APA				*i* PS	**PnS**	**18 22 50.0 -8.3**
APA				*i* SS	**SS**	**18 27 25.0 +0.7**
APA				pmax	pmax	
comp=Z,61nm,1.2s						
APA				MLR	MLR	
comp=Z,158μm,17.0s						
ERM	**Erimo**	**80.48**	**313**	*e*P	**P**	**18 12 08.5 -0.6**
ERM				pmax	pmax	
comp=Z,11nm,1.0s						
ERM				MLR	MLR	
comp=Z,49μm,22.0s						
ERM	**Erimo**	**80.48**	**313**	*e*P	**P**	**18 12 08.4 -0.6**
comp=Z,198nm,1.0s						
ROSF	**Rostrenen**	**80.58**	**40**	*e*P	**P**	**18 12 09.0 -0.4**
comp=Z,602nm,1.7s						
JSA	**Saint Aubin**	**80.71**	**38**	*e*P	**P**	**18 12 09.4 -0.6**
JSA				AMS	AMS	18 46 50.4
comp=Z,122μm,16.6s						
QUIF	**Quistinic**	**80.87**	**40**	*e*P	**P**	**18 12 10.7 -0.3**
comp=Z,553nm,1.5s						
PGAV	**Gavieira, Arco**	**80.97**	**47**	*e*P	P	18 12 17.5 +5.7
comp=Z,114nm,1.3s						
PGAV	**Gavieira, Arco**	**80.97**	**47**	*e*S	**S**	**18 22 23.0 +1.8**
PGAV	**Gavieira, Arco**	**80.97**	**47**	*i* P	x	18 33 38.1
PGAV				*e*LQ	LQ	18 38 14.5
PGAV				*e*LR	LR	18 40 35.8
comp=Z,92μm,22.0s						
SGMF	**Saint Gilles**	**81.02**	**39**	*e*P	**P**	**18 12 11.2 -0.6**
comp=Z,558nm,1.6s						
HMNX	**Herstmonceux**	**81.08**	**36**	*e*P	**P**	**18 12 10.6 -1.4**
HMNX				AMS	AMS	18 48 10.8
comp=Z,103μm,17.4s						
MSVF	**Nonsavu**	**81.25**	**244**	P	**P**	**18 12 10.4 -3.1**
MSVF				pmax	pmax	
comp=Z,1μm,2.9s						
MSVF	**Nonsavu**	**81.25**	**244**	P	**P**	**18 12 10.4 -3.1**
comp=Z,1μm,2.9s						
ELSH	**Elham, Standar**	**81.33**	**36**	AMS	AMS	18 49 21.2
comp=Z,108μm,16.3s						
POLO	**Lamas de Olo**	**81.58**	**47**	*e*P	P	18 12 18.3 +3.3
comp=Z,124nm,1.7s						
PVRL	**Vila Real**	**81.68**	**47**	*e*P	P	18 12 18.6 +3.1
comp=Z,284nm,1.8s						
MUD	**Monsted U'grnd**	**81.73**	**28**	*i* P	P	18 12 25.6 +10
MUD				pmax	pmax	
comp=Z,63nm,1.1s						
MUD				MLR	MLR	
comp=Z,92μm,17.0s						
MUD	**Monsted U'grnd**	**81.73**	**28**	*i* P	P	18 12 25.6 +10
comp=Z,63nm,1.1s						
MUD						
comp=Z,92μm,16.0s						
PCAS	**Casmilo, Conde**	**81.80**	**49**	*e*P	P	18 12 20.6 +4.5
comp=Z,322nm,1.8s						
HABR	**Khabarovsk**	**81.82**	**321**	*de*P	**P**	**18 12 15.1 -0.9**
HABR				*e**SP	**sP**	**18 12 19.8 +0.3**
HABR				*e*		18 12 20.8
HABR						18 15 22.0
HABR				*e*PPP	PPP	18 17 11.7
HABR				*e*S	**S**	**18 22 28.2 -1.3**
HABR				*e**SS	**sS**	**18 22 33.7 -0.1**
HABR				*e*SS	**SS**	**18 27 46.1 -0.4**
HABR				*e*SSS	SSS	18 31 13.6
HABR				pmax	pmax	
comp=Z,1μm,3.0s						
HABR				MLR	MLR	
comp=E,88μm,19.0s						
HABR				MLR	MLR	
comp=N,69μm,17.0s						
HABR				MLR	MLR	
comp=Z,53μm,17.0s						
PMAFR	**Mafra**	**81.85**	**50**	*e*P	P	18 12 19.6 +3.2
comp=Z,363nm,1.7s						
PVIS	**Viseu**	**81.86**	**48**	*e*P	**P**	**18 12 17.8 +1.4**
comp=Z,270nm,1.3s						
FLN	**La Foliniere**	**81.87**	**38**	*e*P	**P**	**18 12 16.2 -0.1**
comp=Z,243nm,1.2s						
FLN				*e*R		
comp=Z,136μm,22.0s						
GRR	**Gorron**	**81.88**	**39**	*e*P	**P**	**18 12 16.3 0.0**
comp=Z,292nm,1.2s						
TRQA	**Tornquist**	**82.02**	**142**	P	**P**	**18 12 15.8 -1.3**
comp=Z,2μm,1.8s						
PMST	**Lisbon--Monsan**	**82.03**	**50**	*e*P	**P**	**18 12 18.6 +1.3**
comp=Z,312nm,1.8s						
PBRG	**Braganca**	**82.03**	**46**	*e*P	P	18 12 20.9 +3.6
comp=Z,272nm,1.7s						
LIS	**Lisbon**	**82.06**	**50**	*e*P	**P**	**18 12 17.5 +0.1**
LIS				*e*S	**S**	**18 22 32.6 +0.3**
LIS				AMS	AMS	18 45 55.9
comp=Z,96μm,21.5s						
LIS	**Lisbon**	**82.06**	**50**	*e*P	**P**	**18 12 17.5 +0.1**
LIS				*e*S	**S**	**18 22 32.6 +0.3**
PTOM	**Tomar**	**82.09**	**49**	*e*P	**P**	**18 12 19.6 +2.0**
comp=Z,646nm,1.4s						
LDF	**La Druitiere**	**82.16**	**38**	*e*P	**P**	**18 12 17.7 -0.1**
comp=Z,638nm,1.6s						
MVO	**Moncorvo**	**82.18**	**47**	*e*P	P	18 12 21.7 +3.5
comp=Z,477nm,1.8s						
MVO	**Moncorvo**	**82.18**	**47**	*e*S	S	18 22 42.5 +8.8
MVO	**Moncorvo**	**82.18**	**47**	*i* P	x	18 33 43.5
MVO				*e*LQ	LQ	18 37 57.5
MVO				*e*LR	LR	18 40 17.0
comp=Z,70μm,20.0s						
PACT	**Alcochete**	**82.24**	**50**	*e*P	P	18 12 22.8 +4.4
comp=Z,863nm,1.8s						
MTE	**Manteigas**	**82.25**	**48**	*e*P	**P**	**18 12 20.4 +1.9**
comp=Z,538nm,1.4s						
MTE	**Manteigas**	**82.25**	**48**	*e*S	**S**	**18 22 39.0 +4.6**
MTE	**Manteigas**	**82.25**	**48**	*i* P	x	18 33 47.7
MTE				*e*LQ	LQ	18 37 55.0
MTE				*e*LR	LR	18 39 15.0
comp=Z,49μm,18.0s						
MTE	**Manteigas**	**82.25**	**48**	*e*P	**P**	**18 12 17.6 -1.0**
comp=Z,14μm,6.6s						
PMTG	**Montargil**	**82.49**	**49**	*e*P	**P**	**18 12 20.7 +1.0**
comp=Z,586nm,1.5s						
PCBR	**Castelo Branco**	**82.58**	**48**	*e*P	**P**	**18 12 22.7 +2.5**
comp=Z,519nm,1.4s						
PNCL	**Nicolau / Gran**	**82.79**	**50**	*e*P	P	18 12 25.1 +3.8
comp=Z,504nm,1.5s						
PMRV	**Marv??o**	**82.86**	**49**	*e*P	**P**	**18 12 23.2 +1.5**
comp=Z,720nm,1.5s						
PMRV	**Marv??o**	**82.86**	**49**	*e*S	**S**	**18 22 41.7 +1.1**
PMRV	**Marv??o**	**82.86**	**49**	*i* P	x	18 34 08.8
PMRV				*e*LQ	LQ	18 38 02.5
PMRV				*e*LR	LR	18 39 35.4
comp=Z,66μm,22.0s						
EVO	**Evora**	**82.92**	**50**	*e*P	**P**	**18 12 20.3 -1.7**
comp=Z,996nm,1.6s						
EVO				*e*R		
comp=Z,163μm,22.8s						
EVO	**Evora**	**82.92**	**50**	*e*P	P	18 12 25.7 +3.7
comp=Z,462nm,1.5s						
PTEO	**Sao Teotonio**	**82.95**	**51**	*e*P	P	18 12 27.1 +5.0
comp=Z,788nm,1.5s						
PESTR	**Estremoz**	**83.02**	**49**	*e*P	**P**	**18 12 23.6 +1.1**
comp=Z,547nm,1.5s						
MORF	**Marmelete**	**83.12**	**51**	*e*P	P	18 12 27.1 +4.0
comp=Z,413nm,1.6s						
MORF	**Marmelete**	**83.12**	**51**	*e*P	**P**	**18 12 23.2 +0.1**
MORF				*e*S	**S**	**18 22 43.4 0.0**
KLR	**Kul'dur**	**83.14**	**323**	*e*P	**P**	**18 12 20.2 -2.7**
KLR				*e*S	**S**	**18 22 46.5 +3.5**
KLR				pmax	pmax	
comp=E,110nm,1.8s						
KLR				pmax	pmax	
comp=Z,300nm,1.8s						
KLR				pmax	pmax	
comp=Z,3μm,12.0s						
UCC	**Uccle**	**83.16**	**35**	P	**P**	**18 12 24.5 +1.5**
PBEJ	**Beja**	**83.28**	**50**	*e*P	P	18 12 28.9 +5.1
comp=Z,199nm,1.6s						
MFF	**Saint Martin d**	**83.31**	**40**	*e*P	**P**	**18 12 23.9 +0.1**
comp=Z,2μm,1.8s						
PCVE	**Castro Verde**	**83.37**	**51**	*e*P	**P**	**18 12 26.3 +2.0**
comp=Z,500nm,1.6s						
KAF	**Kangasniemi**	**83.40**	**18**	*e*P	**P**	**18 12 23.2 -0.8**
BAIF	**Baives**	**83.55**	**35**	*e*P	**P**	**18 12 24.8 -0.2**
comp=Z,702nm,1.4s						
COP	**Copenhagen**	**83.59**	**28**	*i* P	P	18 12 32.5 +7.4
COP				MLR	MLR	
comp=Z,41μm,18.0s						
COP	**Copenhagen**	**83.59**	**28**	*i* P	P	18 12 32.5 +7.4
COP						
comp=Z,41μm,18.0s						
PBDV	**Barranco-do-Ve**	**83.64**	**51**	*e*P	P	18 12 30.4 +4.6
comp=Z,383nm,1.5s						
PVAQ	**Vaqueiros**	**83.70**	**51**	*e*P	P	18 12 30.1 +4.1
comp=Z,251nm,1.8s						
PVAQ	**Vaqueiros**	**83.70**	**51**	*e*S	**S**	**18 22 52.5 +3.3**
PVAQ	**Vaqueiros**	**83.70**	**51**	*i* P	x	18 34 33.1
PVAQ				*e*LQ	LQ	18 38 14.9
PVAQ				*e*LR	LR	18 40 27.6
comp=Z,58μm,22.0s						
DOU	**Dourbes**	**83.72**	**35**	P	**P**	**18 12 25.0 -0.9**
comp=Z,136nm,1.5s						
LLD	**Lille Linde**	**83.75**	**28**	*i* P	P	18 12 35.8 +10
LLD				*i*		18 12 44.1
LLD				pmax	pmax	
comp=Z,56nm,1.2s						
LLD	**Lille Linde**	**83.75**	**28**	*i* P	P	18 12 35.8 +10
comp=Z,56nm,1.2s						
LLD				*i*		18 12 44.1
PBAR	**Barrancos**	**83.75**	**50**	*e*P	P	18 12 30.2 +3.9
comp=Z,361nm,1.7s						
GIVF	**Givet**	**83.83**	**35**	*e*P	**P**	**18 12 26.2 -0.2**
comp=Z,984nm,1.4s						
IBBN	**Ibbenburen**	**83.84**	**32**	*e*P	P	18 12 30.0 +3.6
comp=Z,937nm,1.9s						
IBBN				*e*S	S	18 22 55.5 +5.6
IBBN				*e*SS	SS	18 28 30.3 +14
FIA1	**FINESS Array S**	**83.89**	**18**	*e*P	P	18 12 22.7 -3.8
FINES	**FINESS Array B**	**83.89**	**18**	P	**P**	**18 12 25.2 -1.3**
FINES	**FINESS Array B**	**83.89**	**18**	P	**P**	**18 12 25.2 -1.3**
comp=Z,15nm,1.1s,baz=347,slow=7.8,SNR=14						
BSEG	**Bad Segeberg**	**83.91**	**30**	*e*P	P	18 12 30.6 +3.9
comp=Z,768nm,1.6s						
BSEG				*e*S	**S**	**18 22 55.4 +4.9**
BSEG				*e*SS	SS	18 28 30.3 +13
BSEG	**Bad Segeberg**	**83.91**	**30**	*e*P	**P**	**18 12 28.3 +1.6**
BSEG				*e**SP	sP	18 12 38.0 +7.8
HGN	**Heimansgroeve**	**83.96**	**34**	*e*S	S	18 22 58.3 +7.1
HGN				*e*SS	SS	18 28 09.4 -8.7
MEM	**Membach**	**84.10**	**34**	P	**P**	**18 12 27.8 +0.1**
comp=Z,106nm,1.4s						
MEM				E		18 12 36.4
BUG	**Bochum--Univer**	**84.17**	**33**	*e*P	P	18 12 31.5 +3.4
comp=Z,425nm,1.7s						
BUG				*e*S	**S**	**18 22 58.2 +4.9**
BUG				*e*SS	SS	18 28 34.5 +13
TMCR	**Tamitsa**	**84.31**	**12**	*e*P	P	18 12 33.9 +5.4
TMCR				*e*		18 12 36.8
TMCR				*e*		18 15 46.8
TMCR				*e*S	**S**	**18 22 51.8 -2.4**
TMCR				pmax	pmax	
comp=Z,68nm,1.2s						
HYF	**Humbligny**	**84.44**	**38**	*e*P	**P**	**18 12 29.5 -0.1**
OSSF	**Osses**	**84.60**	**43**	*e*P	**P**	**18 12 29.5 -1.0**
SJPF	**Ste Jean**	**84.70**	**43**	*e*P	**P**	**18 12 31.0 -0.1**
comp=Z,477nm,1.9s						
RGN	**Rugen**	**84.75**	**28**	*e*P	P	18 12 34.6 +3.6
comp=Z,2μm,2.4s						
RGN				*e*S	S	18 23 04.8 +5.8
RGN				*e*SS	SS	18 28 44.8 +15
WLF	**Walferdange**	**84.77**	**35**	P	**P**	**18 12 29.8 -1.4**
WLF				AP	**pP**	**18 12 33.8 0.0**
comp=Z,141nm,2.0s						
WLF	**Walferdange**	**84.77**	**35**	*e*P	P	18 12 35.0 +3.8
comp=Z,323nm,1.5s						
WLF				*e*S	S	18 23 05.7 +6.3
WLF				*e*SS	SS	18 28 44.0 +14
PAB	**San Pablo**	**84.78**	**47**	*e*P	**P**	**18 12 30.8 -0.8**
PAB				pmax	pmax	
comp=Z,231nm,1.7s						
PAB	**San Pablo**	**84.78**	**47**	*e*P	**P**	**18 12 30.8 -0.8**
comp=Z,231nm,1.7s						
LFF	**La Frestale**	**84.79**	**41**	*e*P	**P**	**18 12 31.5 +0.1**
comp=Z,849nm,1.6s						
NRDL	**Niedersach Rie**	**84.79**	**31**	*e*P	P	18 12 34.7 +3.6
comp=Z,443nm,1.5s						
NRDL				*e*S	**S**	**18 23 03.7 +4.4**
NRDL				*e*SS	SS	18 28 41.7 +12
TCF	**Toulx Ste Croi**	**84.81**	**39**	*e*P	**P

comp=Z,406nm,1.3s
BSD Bornholm Skovb 85.00 27⇑ *i*P P 18 12 41.9 +10
BSD MLR MLR
comp=Z,51μm,16.0s
BSD Bornholm Skovb 85.00 27⇑ *i*P P 18 12 41.9 +10
BSD
comp=Z,51μm,15.0s
RJF Les Rejaudoux 85.01 40 *e*P P 18 12 32.4 -0.1
comp=Z,643nm,1.4s
RJF *e*R
comp=Z,166μm,20.5s
SSF Saint Saulge 85.04 38 *e*P P 18 12 32.3 -0.3
comp=Z,428nm,1.4s
LOR Lormes 85.10 38 *e*P P 18 12 32.9 -0.1
comp=Z,392nm,1.3s
LOR *e*R
comp=Z,131μm,21.0s
AVF Avril sur Loir 85.12 38 *e*P P 18 12 32.5 -0.5
comp=Z,369nm,1.3s
SFTF Sexfontaines 85.13 36 *e*P P 18 12 31.9 -1.2
comp=Z,254nm,1.3s
ETSF Etsaut 85.23 43 *e*P P 18 12 34.0 +0.2
comp=Z,203nm,1.3s
PAGF Fort de Pagny 85.27 36 *e*P P 18 12 33.0 -0.7
comp=Z,74nm,1.2s
SMF Signal de Mont 85.48 38 *e*P P 18 12 34.2 -0.7
comp=Z,224nm,1.2s
TNS Taunus Mts 85.54 33 *e*P P 18 12 38.4 +3.3
comp=Z,348nm,2.0s
TNS *e*S S 18 23 13.2 +6.1
TNS *e*SS SS 18 28 54.8 +13
TNS Taunus Mts 85.54 33 *e*P P 18 12 35.4 +0.3
CAF Calviac 85.55 40 *e*P P 18 12 35.0 -0.3
comp=Z,217nm,1.2s
THEF They Montfort 85.61 36 *e*P P 18 12 34.0 -1.5
EPF Esparros 85.68 43 *e*P P 18 12 36.0 0.0
comp=Z,199nm,1.3s
UBBA Unterbreizbach 85.87 32 *e*P P 18 12 40.0 +3.4
comp=Z,418nm,2.2s
UBBA *e*S S 18 23 15.7 +5.7
UBBA *e*SS SS 18 28 59.8 +14
HAU Haudompre 85.94 36 *e*P P 18 12 35.8 -1.3
comp=Z,293nm,1.1s
HAU *e*R
comp=Z,151μm,19.2s
LANF Langenberg 86.04 35 *e*P P 18 12 36.8 -0.8
USRK Ussuriysk Arra 86.06 319 P **P 18 12 35.8 -1.9**
comp=Z,111nm,1.0s,baz=54,slow=4.8,SNR=15
CDF Champ du Feu 86.15 35 *e*P P 18 12 36.8 -1.4
comp=Z,163nm,1.1s
MLS Moulis 86.17 42 *e*P P 18 12 36.6 -1.8
WLS Welschbruch 86.19 35 *e*P P 18 12 35.5 -2.9
ECH Echery 86.22 35 *e*P P 18 12 36.4 -2.1
ECH pmax pmax
comp=Z,70nm,1.1s
ECH Echery 86.22 35 *e*P P 18 12 36.4 -2.1
comp=Z,70nm,1.1s
ECH Echery 86.22 35 *e*P P 18 12 37.5 -1.0
HINF Hinteralfeld 86.32 36 *e*P P 18 12 37.5 -1.5
comp=Z,216nm,1.2s
NEUB Neuenburg 86.42 31 *e*P P 18 12 42.6 +3.2
comp=Z,151nm,1.2s
NEUB *e*S **S 18 23 19.7 +4.1**
NEUB *e*SS SS 18 29 08.3 +14
MOF Molkenrain 86.44 36 *e*P P 18 12 37.0 -2.7
VSU Vasula 86.53 20 *e*P P 18 12 40.2 +0.5
VSU pmax pmax
comp=Z,43nm,1.2s
MTLF Montolieu 86.60 41 *e*P P 18 12 40.5 0.0
comp=Z,260nm,1.4s
LOMF Lomont 86.61 36 *e*P P 18 12 39.5 -1.0
MJAR Matsushiro Arr 86.65 310 P **P 18 12 39.1 -1.8**
MJAR PP **PP 18 16 02.2 -0.1**
MJAR PKKPbc PKKPbc 18 30 46.4 +11
MJAR Matsushiro Arr 86.65 310 P **P 18 12 39.1 -1.8**
comp=Z,6.6nm,1.1s,baz=38,slow=3.7,SNR=11
MJAR PP **PP 18 16 02.2 -0.1**
comp=Z,3.5nm,1.1s,baz=64,slow=3.6,SNR=3.9
MJAR PKKPbc PKKPbc 18 30 46.4 +11
comp=Z,1.9nm,1.1s,baz=216,slow=6.9,SNR=4.9
MAJO Matsushiro 86.65 310 *e*P P 18 12 43.3 +2.4
MAJO pmax pmax
comp=Z,67nm,1.0s
MAJO MLR MLR
comp=Z,35μm,18.0s
MAJO Matsushiro 86.65 310 *e*P P 18 12 39.3 -1.5
comp=Z,1μm,2.1s
CABF La Chapelle 86.70 37 *e*P P 18 12 39.7 -1.3
comp=Z,203nm,1.4s
SSB Saint Sauveur 86.71 39 *e*P P 18 12 41.0 0.0
SSB pmax pmax
comp=Z,45nm,1.2s
SSB Saint Sauveur 86.71 39 *e*P P 18 12 41.0 0.0
comp=Z,45nm,1.2s
BFO Black Forest 86.73 35 *e*P P 18 12 44.1 +3.1
comp=Z,88nm,1.2s
BFO *e*S **S 18 23 23.1 +4.3**
BFO *e*SS SS 18 29 12.2 +13
BFO Black Forest 86.73 35 *e*P P 18 12 40.7 -0.3
BFO *e**SP sP 18 12 50.8 +6.2
BFO Black Forest 86.73 35 *e*P P 18 12 40.0 -1.0
comp=Z,78nm,1.1s
BFO *e*PP PP 18 16 09.5 +6.9
MOX Moxa 86.74 32 *e*P P 18 12 44.2 +3.2
comp=Z,83nm,1.3s
MOX *e*S **S 18 23 23.7 +4.9**
MOX *e*SS SS 18 29 13.2 +14
MOX *e*L L 18 49 47.3
comp=Z,89μm,20.9s
MOX Moxa 86.74 32 *e*P P 18 12 40.7 -0.3
MOX *e**SP sP 18 12 50.6 +6.0
VLA Vladivostok 86.77 318 *b i*P **P 18 12 43.5 +2.2**
VLA *e* 18 16 02.3
VLA pmax pmax
comp=Z,75nm,1.6s
STU Stuttgart 86.87 34 *e*P P 18 12 45.0 +3.4
comp=Z,114nm,1.1s
STU *e*S **S 18 23 24.6 +4.6**
STU *e*SS SS 18 29 14.1 +13
STU Stuttgart 86.87 34 *e*P P 18 12 42.2 +0.6
STU pmax pmax
comp=Z,137nm,1.2s
STU Stuttgart 86.87 34 *e*P P 18 12 42.2 +0.6
comp=Z,137nm,1.2s
CLL Collm 86.91 31 *e*P P 18 12 44.8 +3.0
comp=Z,63nm,1.3s
CLL *e*S **S 18 23 24.1 +3.8**
CLL *e*SS SS 18 29 14.3 +13
CLL Collm 86.91 31 *e*P P 18 12 40.0 -1.8
CLL *i* 18 12 50.5
CLL *e*S **S 18 23 25.0 +4.7**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 86.91 31 *e*P P 18 12 40.0 -1.8
comp=Z,13nm,1.1s
CLL *i* Pmax 18 12 50.5
comp=Z,63nm,1.3s
CLL *i* 18 13 05.8
CLL *e* 18 15 48.0
CLL *e*PP **PP 18 16 06.0 +2.1**
CLL *e*PPP PPP 18 18 04.0
CLL *e*S **S 18 23 25.0 +4.7**
comp=N,18μm,26.6s
CLL *e*S **S 18 23 25.0 +4.7**
comp=E,13μm,28.1s
CLL *e*PS **PnS 18 24 22.0 +3.4**
CLL *e*SS **SS 18 28 57.0 -4.2**
CLL *e*SSS SSS 18 32 30.0
CLL *e*SSSS 18 35 30.0
CLL *e*PKPPKPd **P'P'df 18 38 47.0 -0.7**
CLL LmV 18 51 00.0
comp=N,74μm,19.8s
CLL LmV 18 51 00.0
comp=E,114μm,18.4s
CLL LmV 18 51 00.0
comp=Z,81μm,18.1s
VIVF Saint-Julien-l 87.05 39 *e*P P 18 12 41.5 -1.2
comp=Z,192nm,1.4s
LASF Ste Croix 87.08 40 *e*P P 18 12 41.7 -1.1
comp=Z,224nm,1.4s
MDJ Mudanjiang 87.15 321 P **P 18 12 42.0 -1.1**
MDJ pP **pP 18 12 45.3 -0.4**
MDJ S **S 18 23 20.4 -2.5**
MDJ pmax pmax
comp=Z,600nm,6.5s
MDJ LR LR
comp=N,45μm,14.7s
MDJ LR LR
comp=E,32μm,15.9s
MDJ LR LR
comp=Z,59μm,17.1s
MDJ Mudanjiang 87.15 321 *e*P P 18 12 41.6 -1.5
comp=Z,44nm,1.2s
GRF Grafenberg Arr 87.22 33 *e*P P 18 12 46.8 +3.4
comp=Z,232nm,1.4s
GRF *e*S S 18 23 29.0 +5.6
GRF *e*SS SS 18 29 20.9 +15
GRF *e*L L 18 52 15.5
comp=Z,171μm,19.3s
GRF Grafenberg Arr 87.22 33 *e*P P 18 12 43.6 +0.2
GRF *e**SP sP 18 12 53.1 +6.2
GRF MLR MLR
comp=Z,171μm,19.3s
GRFO Grafenberg 87.22 33 *e*P P 18 12 43.2 -0.1
GRFO pmax pmax
comp=Z,178nm,1.3s
GRFO Grafenberg 87.22 33 *e*P P 18 12 43.2 -0.1
comp=Z,178nm,1.3s
GKP Gorka Klasztor 87.28 27 *e*P P 18 12 50.1 +6.6
GKP *e*S S 18 23 31.8 +8.0
GKP *e*sS ScS 18 23 43.2 +12
GKP LMZ LR 18 47 19.0
TANN Tannenbergstha 87.29 31 *e*P P 18 12 46.9 +3.2
comp=Z,80nm,1.5s
TANN *e*S **S 18 23 29.0 +4.8**
TANN *e*SS SS 18 29 20.3 +13
NKC Novy Kostel 87.41 32 *e*P P 18 12 43.9 -0.4
NKC *e* 18 12 49.5
NKC *e* 18 12 53.6
NKC *e*S **S 18 23 30.3 +5.0**
NKC *e*SS **SS 18 29 12.5 +3.8**
NKC MLR MLR
comp=Z,54μm,16.1s
NKC Novy Kostel 87.41 32 *e*P P 18 12 43.9 -0.4
NKC *e*pP **pP 18 12 49.5 +2.6**
NKC *e*x x 18 12 53.6
NKC *e*x x 18 14 00.2
NKC *e*S **S 18 23 30.3 +5.0**
NKC *e*SS **SS 18 29 12.5 +3.8**
NKC AMS AMS 18 56 30.0
comp=Z,54μm,16.1s
MANZ Manzenberg 87.43 32 *e*P P 18 12 47.6 +3.2
comp=Z,53nm,1.3s
MANZ *e*S S 18 23 31.0 +5.6
MANZ *e*SS SS 18 29 23.1 +14
RSL Roselend 87.58 38 *e*P P 18 12 43.6 -1.8
ROTZ Rotzenmuhle 87.62 32 *e*P P 18 12 48.9 +3.6
comp=Z,67nm,1.5s
ROTZ *e*S S 18 23 33.2 +5.9
ROTZ *e*SS SS 18 29 26.4 +15
BRG Berggiesshubel 87.63 30 *e*P P 18 12 44.6 -0.7
comp=Z,17nm,1.3s
BRG *i* 18 12 54.5
comp=Z,173nm,1.8s
BRG Berggiesshubel 87.63 30 S S 18 23 35.0 +7.7
BRG SS **SS 18 29 17.0 +5.1**
BRG *e* 18 30 44.7
comp=Z,5.4nm,1.2s
BRG *e*PKPPKP **P'P'df 18 38 47.0 +0.6**
comp=Z,30nm,2.0s
BRG
comp=N,117μm,22.4s
BRG
comp=E,191μm,22.5s
BRG
comp=Z,114μm,22.0s
BRG Berggiesshubel 87.63 30 *e*P P 18 12 44.6 -0.7
BRG *i* 18 12 54.5
BRG SS SS 18 29 17.0 +5.1
BRG MLR MLR
comp=N,30μm,22.4s
BRG MLR MLR
comp=E,117μm,22.5s
BRG MLR MLR
comp=Z,191μm,22.0s
ORIF Oris-en-Rattie 87.67 39 *e*P P 18 12 44.3 -1.5
comp=Z,196nm,1.5s
ORIF *e*R
comp=Z,180μm,22.5s
LPL La Plagne 87.75 38 *e*P P 18 12 45.2 -1.1
comp=Z,255nm,1.5s
LPG La Plagne 87.77 38 *e*P P 18 12 45.5 -1.0
comp=Z,490nm,1.7s
BNI Bardonecchia 88.02 38 P **P 18 12 46.8 -0.7**
BNI pmax pmax
comp=Z,95nm,1.4s
BNI Bardonecchia 88.02 38 P **P 18 12 46.8 -0.7**
comp=Z,95nm,1.4s
SMRF Simiane la Rot 88.11 39 *e*P P 18 12 46.9 -0.9
comp=Z,327nm,1.7s
PVCC Panska Ves 88.16 30 *e*P P 18 12 47.5 -0.3
PVCC *e* 18 12 56.7
PVCC *e* 18 16 21.4
PVCC *e*S **S 18 23 33.0 +0.7**
PVCC *e*SS **SS 18 29 17.4 -2.1**
PVCC MLR MLR
comp=Z,86μm,15.6s
PVCC Panska Ves 88.16 30 *e*P P 18 12 47.5 -0.3
PVCC *e*x x 18 12 56.7
PVCC *e*x x 18 13 03.6
PVCC *e*x x 18 14 04.2
PVCC *e*PP PP 18 16 21.4 +7.4
PVCC *e*S **S 18 23 33.0 +0.7**
PVCC *e*SS **SS 18 29 17.4 -2.1**
PVCC AMS AMS 18 56 40.0
comp=Z,86μm,15.6s
DAVA Damuels 88.21 35⇑ *i*PcP P 18 12 47.5 -0.8
comp=Z,390nm,2.7s
MBDF Montbardon 88.28 38 *e*P P 18 12 47.4 -1.3
comp=Z,86nm,1.2s
FUR Furstenfeldbru 88.30 34 *e*P P 18 12 51.9 +3.3
comp=Z,253nm,1.4s
FUR *e*S **S 18 23 38.7 +4.9**
FUR *e*SS SS 18 29 35.0 +13
FUR Furstenfeldbru 88.30 34 *e*P P 18 12 58.3 +10
WET Wettzell 88.38 32 *e*P P 18 12 52.1 +3.2
comp=Z,59nm,1.4s
WET *e*S S 18 23 40.2 +5.7
WET *e*SS SS 18 29 37.9 +15
WET Wettzell 88.38 32 *e*P P 18 12 48.6 -0.3
WET *e**SP sP 18 12 58.3 +5.8
PRA Prague 88.43 31 P **P 18 12 48.0 -1.1**
PRA PP PP 18 16 24.0 +7.9
PRA AMS AMS 19 01 30.0
TUE Stuetta 88.49 36 P **P 18 12 50.5 +0.8**
comp=Z,174nm,1.4s
PRU Pruhonice 88.53 31 *e*P P 18 12 47.9 -1.7
PRU *e* 18 12 58.2
PRU *e* 18 16 24.1
PRU *e*S **S 18 23 34.5 -1.4**
PRU *e*SS **SS 18 29 21.0 -4.0**
PRU MLR MLR
comp=Z,86μm,16.7s
PRU Pruhonice 88.53 31 *e*P P 18 12 47.9 -1.7
PRU *e*x x 18 12 58.2
PRU *e*x x 18 13 05.5
PRU *e*x x 18 14 05.2
PRU *e*PP PP 18 16 24.1 +7.1
PRU *e*S **S 18 23 34.5 -1.4**
PRU *e*SS **SS 18 29 21.0 -4.0**
PRU AMS AMS 19 01 20.0
comp=Z,86μm,16.7s
KSP Ksiaz 88.68 29 *e*P P 18 12 48.0 -2.3
KSP *e* 18 12 59.1
KSP *e*S **S 18 23 37.1 -0.2**
KSP MLR MLR
comp=Z,146μm,21.9s
KSP Ksiaz 88.68 29 *e*P P 18 12 49.0 -1.3
KSP *e* 18 12 59.1
KSP *e*S **S 18 23 41.3 +4.0**
KSP *e*sS ScS 18 23 59.1 +16
KSP LMZ LR 18 49 01.3
KHC Kasperske Hory 88.71 32 *e*P P 18 12 48.5 -2.0
KHC *e* 18 12 52.0
KHC *e* 18 12 59.0
KHC *e* 18 16 20.0
KHC *e*S **S 18 23 36.5 -1.2**
KHC *e*SS **SS 18 29 24.3 -3.4**
KHC MLR MLR
comp=Z,94μm,20.4s
KHC Kasperske Hory 88.71 32 *e*P P 18 12 48.5 -2.0
KHC *e*pP **PcP 18 12 52.0 -0.1**
KHC *e*x x 18 12 59.0
KHC *e*x x 18 13 05.6
KHC *e*x x 18 14 06.3
KHC *e*PP **PP 18 16 20.0 +1.5**
KHC *e*S **S 18 23 36.5 -1.2**
KHC *e*SS **SS 18 29 24.3 -3.4**
KHC AMS AMS 18 50 40.0
comp=Z,94μm,20.4s
KHC Kasperske Hory 88.71 32 *e*P P 18 12 51.0 +0.4
comp=Z,62nm,1.5s
KHC *e*PP PP 18 16 28.5 +10
ISAL Salakas 88.72 22 *e*P P 18 12 49.9 -0.4
ISAL AMB AMB 18 13 09.4
comp=Z,32nm,1.1s
MOTA Moosalm 88.78 34⇑ *i*pP P 18 12 51.5 +0.5
comp=Z,403nm,1.9s,SNR=7.3
FETA Feichten 88.81 35⇑ *i*pP P 18 12 52.0 +0.8
comp=Z,463nm,2.4s,SNR=12
IIGN Ignalina 88.93 22 *e*P P 18 12 50.9 -0.5
IIGN AMB AMB 18 13 01.3
comp=Z,37nm,1.1s
FRF La Foret Royal 88.97 39 *e*P P 18 12 51.4 -0.4
comp=Z,299nm,1.6s
GEC2 GERESS Array S 88.97 32 *e*P P 18 12 54.7 +2.9
comp=Z,58nm,1.5s
GEC2 *e*S **S 18 23 45.1 +4.8**
GEC2 *e*SS SS 18 29 46.6 +15
GEC2 GERESS Array S 88.97 32 *e*P P 18 12 51.6 -0.2
GEC2 GERESS Array S 88.97 32 *e*P P 18 12 51.6 -0.2
GERES GERESS Array B 88.97 32 P **P 18 12 49.7 -2.2**
GERES PP **PP 18 18 22.7 +2.1**
GERES PKKPbc PKKPbc 18 30 35.6 +5.0
GERES P'P' 18 38 47.7
GERES GERESS Array B 88.97 32 P **P 18 12 49.7 -2.2**
comp=Z,3.4nm,1.0s,baz=1.3,slow=5.9,SNR=9.2
GERES PP **PP 18 16 22.7 +2.1**
comp=Z,1.2nm,0.9s,baz=332,slow=6.0,SNR=3.1
GERES PKKPbc PKKPbc 18 30 35.6 +5.0
comp=Z,1.1nm,0.8s,baz=180,slow=3.9,SNR=5.2
GERES PKPPKP **P'P'df 18 38 47.7 +3.7**
comp=Z,0.4nm,0.5s,baz=114,slow=9.2,SNR=5.7
SUW Suwalki 88.97 24 *e*P P 18 12 57.9 +6.4
SUW *e*pP pP 18 13 00.3 +6.1
SUW *e*SKSac S 18 23 32.4 -7.4
SUW *e*S **ScS 18 23 49.1 +4.1**
SUW *e*sS sS 18 23 59.0 +15
SUW LMZ LR 18 48 36.1
HIA Hailar 89.00 329 P **P 18 12 50.6 -1.3**
comp=Z,204nm,1.6s
WATA Walderalm 89.02 34⇑ *i*PcP P 18 12 51.4 -0.7
comp=Z,116nm,1.6s
LMR La Mourre 89.04 39 *e*P P 18 12 50.6 -1.5
comp=Z,284nm,1.6s
DPC Dobruska-Polom 89.06 30 *e*P P 18 12 50.9 -1.2
DPC *e* 18 13 01.5
DPC *e* 18 16 21.9
DPC *e*S **S 18 23 38.9 -2.1**
DPC *e*SS **SS 18 29 29.5 -3.2**
DPC Dobruska-Polom 89.06 30 *e*P P 18 12 50.9 -1.2
DPC *e*x x 18 13 01.5
DPC *e*x x 18 13 07.9
DPC *e*x x 18 14 08.3
DPC *e*PP **PP 18 16 21.9 +0.7**
DPC *e*S **S 18 23 38.9 -2.1**
DPC *e*SS **SS 18 29 29.5 -3.2**
DPC AMS AMS 19 00 30.0
DPC Dobruska-Polom 89.06 30 *e*P P 18 12 49.8 -2.4
comp=Z,439nm,1.3s
WTTA Wattenberg 89.09 34⇑ *i*P P 18 12 47.2 -5.4
comp=Z,370nm,2.1s,SNR=11
IDID Didziasalis 89.13 22 *e*P P 18 12 51.8 -0.4
IDID AMB AMB 18 13 02.2
comp=Z,22nm,1.1s
TREC Trest 89.46 31 *e*P P 18 12 52.6 -1.4
TREC *e* 18 13 02.4
TREC *e* 18 16 22.8
TREC *e*S **S 18 23 44.0 -0.7**
TREC *e*SS **SS 18 29 38.0 -0.6**
TREC MLR MLR
comp=Z,106μm,17.7s
TREC Trest 89.46 31 *e*P P 18 12 52.6 -1.4
TREC *e*x x 18 13 02.4
TREC *e*x x 18 13 09.2
TREC *e*x x 18 14 10.3
TREC *e*PP **PP 18 16 22.8 -1.6**
TREC *e*S **S 18 23 44.0 -0.7**
TREC *e*SS **SS 18 29 38.0 -0.6**
TREC AMS AMS 18 53 00.0
comp=Z,106μm,17.7s
NACGM Naroch 89.48 22 *e*P P 18 12 50.0 -3.9
CIT Chita 89.57 333 *e*P P 18 12 56.8 +2.3
CIT *e* 18 16 29.8
CIT *e* 18 25 26.1
CIT pmax pmax
comp=Z,272nm,2.4s
BEL Belsk 89.78 27 *e*P P 18 12 55.3 -0.1
BEL *e* 18 13 04.9
BEL *e*S S 18 23 58.0 +10
BEL *e*sS sS 18 24 06.3 +14
BEL LMZ LR 18 48 58.8
MOA Molln 89.94 32⇑ *i*P P 18 12 53.7 -2.6
comp=Z,243nm,2.7s
CN2 Changchun 89.95 322 *e*P P 18 12 57.6 +1.2
CN2 *e*pP **pP 18 13 02.4 +3.4**
CN2 *e*sP **sP 18 13 04.7 +4.8**
CN2 *e*S **ScS 18 23 53.1 -0.5**
CN2 SS SS 18 29 52.8 +6.9
CN2 LR LR
comp=N,34μm,24.0s
CN2 LR LR
comp=E,34μm,24.0s
CN2 LR LR
comp=Z,23μm,22.0s
MORC Moravsky Berou 90.01 30 *e*P P 18 12 54.5 -2.1
MORC pmax pmax
comp=Z,108nm,1.5s
MORC Moravsky Berou 90.01 30 *e*P P 18 12 54.5 -2.1
comp=Z,108nm,1.5s
RAC Raciborz 90.06 29 *e*P P 18 13 00.5 +3.8
RAC *e* 18 23 40.6
RAC MLR MLR
comp=E,130μm,22.6s
RAC MLR MLR
comp=N,160μm,24.0s
RAC MLR MLR
comp=Z,73μm,20.9s
MNK Minsk 90.16 22⇑ *e*P P 18 13 05.0 +7.9
MNK *e* 18 16 32.0
MNK *e* 18 23 42.0
MNK *e*SS SS 18 29 50.0 +1.8
MNK pmax pmax
comp=Z,220nm,1.5s
MNK pmax pmax
comp=N,210nm,1.5s
MNK pmax pmax
comp=E,190nm,1.5s
MNK smax smax
comp=N,27μm,14.0s
MICGM Minsk 90.17 22⇑ *e*P P 18 13 05.0 +7.8
OKC Ostrava-Krasne 90.22 29 *e*P P 18 12 55.7 -1.8
OKC *e* 18 13 06.6
OKC *e* 18 16 31.7
OKC *e*S **S 18 23 47.1 -4.6**
OKC MLR MLR
comp=Z,60μm,16.2s
OKC Ostrava-Krasne 90.22 29 *e*P P 18 12 55.7 -1.8
OKC *e*x x 18 13 06.6
OKC *e*x x 18 14 13.3
OKC *e*PP **PP 18 16 31.7 +1.3**
OKC *e*S **S 18 23 47.1 -4.6**
OKC *e*x x 18 29 28.3
OKC AMS AMS 18 59 50.0
comp=Z,60μm,16.2s
CONA Conrad Observa 90.63 32⇑ *i*P P 18 12 57.6 -2.0
comp=Z,446nm,3.0s,SNR=8.1
OJC Ojcow 90.63 28⇓ *i*P P 18 12 58.9 -0.5
OJC *e**PP **pP 18 13 01.8 -0.2**
OJC *e*S **S 18 23 53.3 -2.2**
OJC *e*SS **SS 18 29 52.7 -2.6**
OJC Ojcow 90.63 28 *e*P P 18 12 58.2 -1.2

	comp=Z,56nm,1.3s						
ARSA	**Arzberg**	**90.97**	**32**	⇓*i*PcP	**P**	**18 13 00.7**	**-0.4**
	comp=Z,305nm,3.9s						
ZST	**Bratislava**	**90.99**	**31**	*e*P	P	18 13 09.7	+8.6
ZST	**Bratislava**	**90.99**	**31**	*e*	P	18 13 09.7	+8.6
SOKA	**Soboth**	**91.15**	**33**	⇑*i*P	**P**	**18 12 59.6**	**-2.5**
	comp=Z,213nm,2.2s,SNR=6.5						
PERS	**Pernice**	**91.22**	**33**	*i* P	P	18 13 09.9	+7.6
JAVS	**Javornik**	**91.25**	**34**	*i* P	**P**	**18 13 03.3**	**+0.8**
JAVS				*i*		18 13 12.2	
SOKR	**Solikamsk**	**91.25**	**5**	⇑*i*P	P	18 13 07.9	+5.9
SOKR				S	SKSac	18 23 47.9	+13
SOKR				pmax	pmax		
	comp=Z,20nm,1.3s						
SOKR				MLR	MLR		
	comp=Z,137μm,18.0s						
LJU	**Ljubljana**	**91.37**	**34**	*i* P	P	18 13 11.2	+8.3
LJU				*e*SKSac	SKSac	18 23 49.7	+14
LJU				*e*S	S	18 24 19.1	+17
LJU				*e*SS	SS	18 30 18.3	+12
NIE	**Niedzica**	**91.46**	**28**	⇓*e*P	**P**	**18 13 04.0**	**+0.7**
NIE				*e*		18 23 36.5	
NIE				*e*S	**S**	**18 24 06.5**	**+3.4**
NIE				*e*PS	**PnS**	**18 25 14.0**	**+1.5**
NIE				*e*SS	**SS**	**18 30 10.8**	**+3.4**
VYHS	**Vyhne**	**91.54**	**30**	*e*P	**P**	**18 13 02.4**	**-1.3**
VYHS				*e*		18 13 12.8	
VYHS				*e*SS	SS	18 30 20.3	+12
VYHS				pmax	pmax		
	comp=Z,65nm,1.7s						
VYHS	**Vyhne**	**91.54**	**30**	*e*P	**P**	**18 13 02.4**	**-1.3**
VYHS				*e*pP	pP	18 13 12.8	+6.5
VYHS	**Vyhne**	**91.54**	**30**	*e*S	S	18 24 09.5	+5.7
VYHS				*e*SS	SS	18 30 20.3	+12
STHS	**Stebnicka Huta**	**91.84**	**28**	*e*P	**P**	**18 13 04.8**	**-0.3**
STHS				*e*		18 13 12.0	
STHS				pmax	pmax		
	comp=Z,29nm,1.1s						
STHS	**Stebnicka Huta**	**91.84**	**28**	*e*P	**P**	**18 13 04.8**	**-0.3**
STHS				*e*pP	**pP**	**18 13 12.0**	**+4.3**
MOS	**Moscow**	**91.86**	**16**	*e*P	**P**	**18 13 05.1**	**+0.1**
MOS				*e*S	**SKSac**	**18 23 35.8**	**-2.3**
MOS				*e*PS	**PnS**	**18 25 19.0**	**+2.3**
MOS				*e*SS	**SS**	**18 30 09.3**	**-3.2**
MOS				pmax	pmax		
	comp=Z,400nm,2.3s						
MOS				pmax	pmax		
	comp=Z,176nm,2.3s						
MOS				MLR	MLR		
	comp=Z,223μm,23.0s						
MOS				MLR	MLR		
	comp=N,142μm,22.0s						
USHA	**Ushuaia**	**91.89**	**156**	P	**P**	**18 13 03.5**	**-1.3**
USHA	**Ushuaia**	**91.89**	**156**	P	**P**	**18 13 03.5**	**-1.3**
	comp=N,10nm,1.0s,baz=220,slow=7.9,SNR=3.9						
HNR	**Honiara**	**92.04**	**260**	P	**P**	**18 13 05.9**	**-0.6**
HNR	**Honiara**	**92.04**	**260**	P	**P**	**18 13 05.9**	**-0.6**
	comp=N,25nm,0.8s,baz=122,slow=15,SNR=4.7						
BOJS	**Bojanci**	**92.11**	**34**	*e*P	P	18 13 10.0	+3.7
BOJS				*e*SKSac	SKSac	18 23 46.6	+6.6
BOJS				*e*S	ScS	18 24 26.9	+15
OBN	**Obninsk**	**92.16**	**17**	*c*P	**P**	**18 13 05.4**	**-0.9**
OBN				*i* SS	SS	18 30 22.8	+6.0
OBN				pmax	pmax		
	comp=Z,72nm,1.5s						
OBN				MLR	MLR		
	comp=Z,138μm,17.0s						
OBN	**Obninsk**	**92.16**	**17**	P	P	18 13 09.2	+2.9
	comp=Z,308nm,1.6s,SNR=9.1						
PKSG		**92.17**	**31**	*e*P	P	18 13 15.0	+8.4
KECS	**Kecovo**	**92.25**	**29**	*e*P	**P**	**18 13 05.9**	**-1.1**
KECS				*e*		18 13 16.3	
KECS				pmax	pmax		
	comp=Z,25nm,1.4s						
KECS	**Kecovo**	**92.25**	**29**	*e*P	**P**	**18 13 05.8**	**-1.2**
KECS				*e*pP	pP	18 13 16.3	+6.7
KWP	**Kalwaria Pacla**	**92.27**	**27**	*e*P	P	18 13 13.1	+6.1
KWP				*e*pP	pP	18 13 16.2	+6.5
KWP				*e*S	S	18 24 20.3	+10
KWP				*e*sS	sS	18 24 28.6	+14
KWP				LMZ	LR	18 51 42.3	
SNY	**Shenyang**	**92.29**	**321**	⇑P	P	18 13 12.7	+5.4
SNY				pP	pP	18 13 17.4	+7.5
SNY				sP	sP	18 13 21.3	+10
SNY				PP	PP	18 16 55.0	+8.0
SNY	**Shenyang**	**92.29**	**321**	SKS	S	18 23 58.3	-12
SNY	**Shenyang**	**92.29**	**321**	S	**S**	**18 24 14.5**	**+3.7**
SNY	**Shenyang**	**92.29**	**321**	sS	S	18 24 22.6	+12
SNY				pmax	pmax		
	comp=Z,60nm,2.4s						
SNY				pmax	pmax		
	comp=Z,2μm,12.0s						
SNY				LR	LR		
	comp=N,38μm,23.8s						
SNY				LR	LR		
	comp=E,21μm,22.0s						
SNY				LR	LR		
	comp=Z,43μm,22.6s						
CRVS	**Cervenica-Dubn**	**92.33**	**28**	*e*P	**P**	**18 13 06.7**	**-0.7**
CRVS				*e*		18 13 16.8	
CRVS				*e*SS	SS	18 30 33.0	+13
CRVS				pmax	pmax		
	comp=Z,67nm,1.8s						
CRVS				MLR	MLR		
	comp=Z,54μm,19.8s						
CRVS	**Cervenica-Dubn**	**92.33**	**28**	*e*P	**P**	**18 13 06.7**	**-0.7**
CRVS				*e*pP	pP	18 13 16.8	+6.8
CRVS	**Cervenica-Dubn**	**92.33**	**28**	*e*S	S	18 24 20.4	+9.4
CRVS				*e*SS	SS	18 30 33.0	+13
BUD	**Budapest**	**92.39**	**30**	*e*P	P	18 13 13.7	+6.1
PSZ	**Piszkesteto**	**92.43**	**30**	⇑P	**P**	**18 13 07.6**	**-0.4**
PSZ	**Piszkesteto**	**92.43**	**30**	⇑*i*P	**P**	**18 13 07.6**	**-0.4**
PSZ	**Piszkesteto**	**92.43**	**30**	*e*P	**P**	**18 13 07.5**	**-0.4**
	comp=Z,578nm,2.3s						
PSZ	**Piszkesteto**	**92.43**	**30**	*e*P	P	18 13 16.9	+9.0
KRAR	**Krasnoyarsk**	**92.45**	**346**	*e*P	**P**	**18 13 07.3**	**-0.4**
KRAR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KRAR				MLR	MLR		
	comp=Z,64μm,21.0s						
LVV	**L'vov**	**92.64**	**26**	*e*P	P	18 13 13.8	+5.1
LVV				*e*		18 16 53.0	
LVV				*e*S	**S**	**18 24 16.0**	**+2.4**
LVV				MLR	MLR		
	comp=Z,54μm,17.0s						
KOLS	**Kolonicke sedl**	**92.64**	**28**	*e*P	**P**	**18 13 08.0**	**-0.8**
KOLS				*e*		18 13 18.2	
KOLS				*e*SS	SS	18 30 26.9	+2.5
KOLS				pmax	pmax		
	comp=Z,33nm,1.3s						
KOLS	**Kolonicke sedl**	**92.64**	**28**	*e*P	**P**	**18 13 08.0**	**-0.8**
KOLS				*e*pP	pP	18 13 18.2	+6.8
KOLS	**Kolonicke sedl**	**92.64**	**28**	*e*S	S	18 24 23.9	+10
KOLS				*e*SS	**SS**	**18 30 26.9**	**+2.5**
KSRS	**Korea Array**	**92.68**	**316**	P	**P**	**18 13 07.2**	**-1.9**
	comp=Z,5.7nm,1.1s,baz=52,slow=4.8,SNR=12						
KSRS				PP	**PP**	**18 16 45.4**	**-4.8**
	comp=Z,2.8nm,1.1s,baz=39,slow=7.9,SNR=3.9						
KSRS				LR	LR	18 52 04.4	
	comp=Z,33μm,20.9s,baz=49,slow=34						
KSAR	**Wonju Array Be**	**92.71**	**316**	P	**P**	**18 13 07.2**	**-2.1**
KSAR				PP	**PP**	**18 16 45.4**	**-5.1**
PKS9	**Tamasi**	**92.73**	**31**	*e*P	P	18 13 17.9	+8.7
IRK	**Irkutsk**	**92.73**	**338**	*e*P	P	18 13 12.2	+3.1
IRK				*e*		18 16 53.2	
IRK				pmax	pmax		
	comp=Z,277nm,1.7s						
PKS7	**Kunszentmiklos**	**92.78**	**31**	*e*P	P	18 13 17.2	+7.8
DZM	**Mont Dzumac**	**92.78**	**246**	*e*PP	PP	18 16 50.3	-2.0
	comp=Z,2μm,25.9s						
DZM				*e*S	**S**	**18 24 17.8**	**+2.0**
	comp=Z,23μm,29.1s						
DZM	**Mont Dzumac**	**92.78**	**246**	*e*PS	PS	18 25 31.4	+3.1
	comp=Z,27μm,30.7s						
DZM				*e*SS	SS	18 30 35.7	+6.3
	comp=Z,31μm,27.6s						
DZM	**Mont Dzumac**	**92.78**	**246**	*e*LR	LR	18 43 07.6	
	comp=Z,145μm,23.6s						
UZH	**Uzhgorod**	**92.89**	**28**	*e*P	**P**	**18 13 08.8**	**-1.1**
UZH				*e*		18 13 15.0	
UZH				*i*		18 13 18.4	
UZH				*e*		18 16 55.8	
UZH				*e*PPP	PPP	18 19 02.4	
UZH				*e*S	S	18 24 08.0	-7.9
UZH				*e*PS	PnS	18 25 29.8	+0.8
UZH				MLR	MLR		
	comp=N,48μm,17.5s						
UZH				MLR	MLR		
	comp=E,28μm,17.5s						
UZH				MLR	MLR		
	comp=Z,15μm,17.5s						
PKSM	**Moragy**	**93.18**	**31**	⇑P	P	18 13 19.4	+8.1
PKSM	**Moragy**	**93.18**	**31**	⇑*i*P	P	18 13 19.4	+8.1
PKSM	**Moragy**	**93.18**	**31**	*e*P	P	18 13 17.1	+5.8
VSL	**Villasalto**	**93.19**	**41**	P	**P**	**18 13 13.2**	**+1.7**
	comp=Z,174nm,1.8s						
PKSN	**Nyarlorinc**	**93.20**	**30**	*e*	P	18 13 21.1	+10
INCN	**Inchon**	**93.44**	**317**	P	P	18 13 16.5	+3.7
	SNR=15						
INCN	**Inchon**	**93.44**	**317**	*e*P	**P**	**18 13 12.2**	**-0.6**
	comp=Z,390nm,1.9s						
JNU	**Nakatsue**	**93.53**	**311**	*e*P	**P**	**18 13 14.8**	**+1.6**
	comp=Z,26nm,1.1s						
JNU	**Nakatsue**	**93.53**	**311**	P	**P**	**18 13 14.5**	**+1.3**
	comp=Z,25nm,1.1s,baz=270,slow=3.0,SNR=5.1						
URZ	**Urewera**	**93.56**	**228**	P	**P**	**18 13 13.1**	**+0.1**
URZ	**Urewera**	**93.56**	**228**	P	**P**	**18 13 13.1**	**+0.1**
	comp=Z,7.9nm,1.1s,baz=79,slow=10,SNR=2.1						
MOY	**Mondy**	**94.26**	**340**	*e*P	P	18 13 20.5	+4.2
MOY				*e*		18 17 08.4	
MOY				pmax	pmax		
	comp=Z,238nm,2.0s						
SVE	**Sverdlovsk**	**94.27**	**4**	*e*P	P	18 13 22.0	+5.9
SVE				*e*		18 17 11.7	
SVE				*e*SSS	SSS	18 34 31.6	
SVE				pmax	pmax		
	comp=Z,49nm,1.6s						
SVE				pmax	pmax		
	comp=Z,2μm,20.5s						
ARU	**Arti**	**94.53**	**5**	*d i*P	**P**	**18 13 16.9**	**-0.4**
ARU						18 17 03.7	
ARU				PPP	PPP	18 19 05.1	
ARU				S	**SKSac**	**18 23 51.7**	**-1.1**
ARU				SP	SP	18 25 54.8	+11
ARU				SS	**SS**	**18 30 56.6**	**+6.0**
ARU				SSS	SSS	18 34 29.2	
ARU				pmax	pmax		
	comp=Z,20nm,2.5s						
ARU				MLR	MLR		
	comp=Z,158μm,20.0s						
ZAK	**Zakamensk**	**94.64**	**338**	*e*P	**P**	**18 13 18.5**	**+0.4**
ZAK				*e*		18 13 21.8	
BUR08	**Bucovina Ar. S**	**94.85**	**27**	*e*P	**P**	**18 13 17.9**	**-1.2**
BURAR	**Bucovina Array**	**94.88**	**27**	⇑P	**P**	**18 13 18.7**	**-0.5**
BURAR	**Bucovina Array**	**94.88**	**27**	⇑*i*P	**P**	**18 13 18.6**	**-0.6**
BZS	**Buzias**	**94.97**	**30**	⇑P	**P**	**18 13 19.0**	**-0.5**
BZS	**Buzias**	**94.97**	**30**	⇑*i*P	**P**	**18 13 19.0**	**-0.5**
NVS	**Novosibirsk**	**95.28**	**351**	⇑*i*P	P	18 13 23.9	+3.2
NVS				*e*		18 23 55.2	
NVS				pmax	pmax		
	comp=N,19nm,1.9s						
NVS				pmax	pmax		
	comp=E,36nm,1.9s						
NVS				pmax	pmax		
	comp=Z,114nm,1.9s						
DL2	**Dalian**	**95.39**	**320**	⇑*i*P	P	18 13 25.8	+4.3
DL2				S	**S**	**18 24 43.0**	**+4.9**
DL2				SS	SS	18 31 12.2	+8.2
DL2				pmax	pmax		
	comp=Z,72nm,1.0s						
DL2				pmax	pmax		
	comp=Z,720nm,7.7s						
DL2				LR	LR		
	comp=N,19μm,19.1s						
DL2				LR	LR		
	comp=E,18μm,18.0s						
DL2				LR	LR		
	comp=Z,36μm,16.0s						
ULN	**Ulaanbaatar**	**95.42**	**334**	P	P	18 13 26.5	+4.7
	SNR=31						
ULN	**Ulaanbaatar**	**95.42**	**334**	*e*P	**P**	**18 13 22.2**	**+0.5**
	comp=Z,302nm,1.9s						
KEST	**Kesra**	**95.69**	**44**	*e*P	**P**	**18 13 22.1**	**-1.0**
KEST				PP	**PP**	**18 17 14.0**	**+0.1**
KEST	**Kesra**	**95.69**	**44**	P	**P**	**18 13 23.3**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=34,slow=5.3,SNR=2.3						
KEST				PP	**PP**	**18 17 14.0**	**+0.1**
	comp=Z,4.3nm,1.3s,baz=317,slow=9.5,SNR=2.9						
KEST				LR	LR	18 56 00.4	
	comp=Z,21μm,19.0s,baz=176,slow=35						
SONM	**Songino Array**	**95.69**	**335**	P	**P**	**18 13 22.1**	**-0.9**
SONM				PP	**PP**	**18 17 09.4**	**-4.0**
SONM				PKKPbc	**PKKPbc**	**18 30 15.8**	**+2.4**
SONM				P'P'		18 38 23.1	
SONM	**Songino Array**	**95.69**	**335**	P	**P**	**18 13 22.1**	**-0.9**
	comp=Z,4.4nm,1.0s,baz=21,slow=3.1,SNR=9.8						
SONM				PP	**PP**	**18 17 09.4**	**-4.0**
	comp=Z,3.7nm,1.1s,baz=25,slow=3.8,SNR=3.4						
SONM				PKKPbc	**PKKPbc**	**18 30 15.8**	**+2.4**
	comp=Z,2.0nm,1.1s,baz=196,slow=1.6,SNR=5.6						
SONM				PKPPKP	P'P'df	18 38 23.1	-8.2
	comp=Z,0.4nm,0.9s,baz=176,slow=2.3,SNR=3.1						
VOR	**Voronezh**	**95.89**	**17**	P	**P**	**18 13 23.0**	**-0.6**
VOR				pmax	pmax		
	comp=Z,200nm,1.4s						
ZAA0	**Zalesovo Array**	**95.91**	**350**	P	**P**	**18 13 23.2**	**-0.4**
ZALV	**Zalesovo Beam**	**95.91**	**350**	*i* P	P	18 13 29.3	+5.7
ZALV				pmax	pmax		
	comp=Z,16nm,1.2s						
ZALV	**Zalesovo Beam**	**95.91**	**350**	P	**P**	**18 13 23.9**	**+0.3**
ZALV				PP	PP	18 17 19.6	+4.9
ZALV				PKKP	PKKPbc	18 30 18.6	+5.7
ZALV	**Zalesovo Beam**	**95.91**	**350**	P	**P**	**18 13 24.0**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=35,slow=5.3,SNR=4.0						
ZALV				PP	PP	18 17 19.6	+4.9
	comp=Z,3.1nm,0.8s,baz=352,slow=8.2,SNR=3.5						
ZALV				PKKP	PKKPbc	18 30 18.6	+5.7
	comp=Z,0.3nm,0.4s,baz=186,slow=2.7,SNR=3.9						
VSR	**Storozhevoye**	**96.35**	**17**	*e*P	P	18 13 32.6	+6.9
VSR				*e*		18 17 23.8	
VSR				*e*SS	SS	18 31 17.6	+0.8
VSR				pmax	pmax		
	comp=Z,50nm,1.7s						
VSR				pmax	pmax		
	comp=N,20nm,1.1s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,830nm,5.8s						
VSR				pmax	pmax		
	comp=N,480nm,6.5s						
VSR				pmax	pmax		
	comp=E,90nm,2.6s						
VSR				MLR	MLR		
	comp=Z,150μm,25.0s						
VSR				MLR	MLR		
	comp=N,63μm,19.0s						
VSR				MLR	MLR		
	comp=E,28μm,19.0s						
VOIR		**96.58**	**28**	⇓P	**P**	**18 13 25.4**	**-1.6**
VOIR		**96.58**	**28**	⇓*i*P	**P**	**18 13 25.4**	**-1.6**
VORD	**Divnogorie**	**96.61**	**17**	*e*P	P	18 13 33.4	+6.5
VORD				*e*		18 17 27.6	
VORD				*e*SS	SS	18 31 12.8	-7.6
VORD				pmax	pmax		
	comp=Z,20nm,1.4s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=Z,670nm,7.2s						
VORD				pmax	pmax		
	comp=N,610nm,7.7s						
VORD				pmax	pmax		
	comp=E,380nm,8.4s						
VORD				MLR	MLR		
	comp=Z,113μm,20.0s						
VORD				MLR	MLR		
	comp=N,77μm,21.0s						
VORD				MLR	MLR		
	comp=E,38μm,17.0s						
HVS	**Khovu-Aksy**	**96.76**	**343**	*e*P	**P**	**18 13 27.5**	**-0.2**
HVS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HVS				MLR	MLR		
	comp=Z,254μm,17.0s						
KIS	**Kishinev**	**96.78**	**25**	*e*P	P	18 13 35.0	+7.3
KIS	**Kishinev**	**96.78**	**25**	*e*PP	PP	18 17 34.0	+12
KIS	**Kishinev**	**96.78**	**25**	*e*PS	PS	18 26 24.0	+14
KIS	**Kishinev**	**96.78**	**25**	*e*P	P	18 13 35.0	+7.3
KIS				*e*S	**S**	**18 24 44.0**	**-5.8**
MLR	**Muntele Rosu**	**96.90**	**28**	⇓*i*P	**P**	**18 13 28.4**	**-0.1**
VRI	**Vrincioaia**	**96.91**	**27**	⇑P	**P**	**18 13 30.2**	**+1.8**
VRI	**Vrincioaia**	**96.91**	**27**	⇑*i*P	**P**	**18 13 30.2**	**+1.8**
VRHR	**Novokhopersk**	**97.08**	**16**	*e*P	Pdif	18 13 35.1	+6.0
VRHR				*e*		18 17 33.4	
VRHR				*e*SS	SS	18 31 22.4	-4.5
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s						
VRHR				pmax	pmax		
	comp=N,50nm,1.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,2μm,9.3s						
VRHR				pmax	pmax		
	comp=N,280nm,4.7s						
VRHR				pmax	pmax		
	comp=E,630nm,7.9s						
VRHR				MLR	MLR		
	comp=Z,117μm,23.0s						
VRHR				MLR	MLR		
	comp=N,7μm,19.0s						
VRHR				MLR	MLR		
	comp=E,89μm,24.0s						
BJI	**Beijing**	**97.49**	**324**	P	Pdif	18 13 34.5	+3.4
BJI				PP	**PP**	**18 17 29.8**	**+2.4**
BJI				SKS	**SKSac**	**18 24 08.5**	**-0.5**
BJI				S	**ScS**	**18 24 59.9**	**+3.5**
BJI				SS	**SS**	**18 31 33.7**	**+0.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,380nm,4.8s						
BJI				LR	LR		
	comp=N,46μm,17.6s						
BJI				LR	LR		
	comp=E,63μm,17.6s						
BJI				LR	LR		
	comp=Z,57μm,22.5s						
MPEP	**Malo Peshtene**	**97.68**	**30**	*i* P	Pdif	18 13 38.2	+6.2
CFR	**Carcaliu**	**98.04**	**27**	⇑P	**P**	**18 13 32.7**	**-0.7**
CFR	**Carcaliu**	**98.04**	**27**	⇑*i*P	**P**	**18 13 32.7**	**-0.7**
VTS	**Vitosha**	**98.05**	**31**	⇑P	Pdif	18 13 43.0	+9.2
VTS	**Vitosha**	**98.05**	**31**	*i* P	Pdif	18 13 42.7	+8.9
VTS	**Vitosha**	**98.05**	**31**	⇑*i*P	Pdif	18 13 43.0	+9.2
BRVK	**Borovoye**	**98.17**	**358**	*e*P	Pdif	18 13 34.3	+0.4
BRVK				pmax	pmax		
	comp=Z,18nm,1.8s						
BRVK				MLR	MLR		
	comp=Z,139μm,25.0s						
BRVK	**Borovoye**	**98.17**	**358**	P	Pdif	18 13 40.4	+6.4
	SNR=11						
BVAR	**Borovoye Array**	**98.20**	**358**	P	**P**	**18 13 32.8**	**-1.3**
BVAR						18 17 32.7	
BVAR	**Borovoye Array**	**98.20**	**358**	P	**P**	**18 13 32.8**	**-1.3**
BVAR				PP	**PP**	**18 17 32.7**	**+0.4**
BVAR				PKKP	**PKKPdf**	**18 30 08.1**	**+0.2**
BVAR				P'P'		18 38 24.3	
BVAR	**Borovoye Array**	**98.20**	**358**	P	**P**	**18 13 32.8**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=318,slow=1.9,SNR=2.4						
BVAR				PP	**PP**	**18 17 32.7**	**+0.4**
	comp=Z,4.6nm,1.2s,baz=60,slow=5.7,SNR=3.2						
BVAR				PKKP	**PKKPdf**	**18 30 08.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=158,slow=1.6,SNR=3.0						
BVAR				PKPPKP	**P'P'df**	**18 38 24.3**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=236,slow=1.0,SNR=3.7						
KKB	**Krupnik**	**98.56**	**32**	*e*P	Pdif	18 13 43.9	+8.0
SZH	**Strazhica**	**98.70**	**29**	*i* P	Pdif	18 13 44.2	+7.7
TIRR	**Tirgusor**	**98.74**	**27**	⇑P	Pdif	18 13 36.8	+0.2
TIRR	**Tirgusor**	**98.74**	**27**	⇑*i*P	Pdif	18 13 36.8	+0.2
TIRR	**Tirgusor**	**98.74**	**27**	*e*P	Pdif	18 13 36.5	-0.1
	comp=Z,43nm,1.2s						
MMB	**Musomiste**	**99.08**	**31**	P	**Pdif**	**18 13 46.3**	**+8.0**
HHC	**Hu-ho-hao-te**	**99.14**	**327**	*e*P	**Pdif**	**18 13 36.4**	**-2.3**
HHC				PP	**PP**	**18 17 40.1**	**0.0**
HHC				SKS	**SKSac**	**18 24 13.2**	**-4.4**
HHC				S	S	18 25 02.6	-7.9
HHC				pmax	pmax		
	comp=Z,30nm,0.8s						
HHC				pmax	pmax		
	comp=Z,680nm,6.8s						
HHC				LR	LR		
	comp=N,29μm,18.5s						
HHC				LR	LR		
	comp=E,38μm,18.5s						
HHC				LR	LR		
	comp=Z,23μm,17.6s						
PSN	**Preselentsi**	**99.30**	**27**	P	**Pdif**	**18 13 47.9**	**+8.8**
PRD	**Provadia**	**99.38**	**28**	*i* P	**Pdif**	**18 13 48.4**	**+8.9**
RZN	**Rozhen**	**99.45**	**31**	P	**Pdif**	**18 13 48.4**	**+8.3**
JMB	**Yambol**	**99.63**	**29**	*e*P	**Pdif**	**18 13 49.6**	**+9.0**
KDZ	**Kurdzhali**	**99.79**	**30**	*e*P	**Pdif**	**18 13 49.6**	**+8.2**
TIA	**Tai'an**	**99.81**	**321**	⇑P	**Pdif**	**18 13 44.5**	**+2.9**
TIA				LR	LR		
	comp=N,76μm,41.6s						
TIA				LR	LR		
	comp=E,49μm,45.8s						
TIA				LR	LR		
	comp=Z,8μm,14.3s						
KURBB	**Kurchatov Arra**	**100.01**	**353**	PKKP	PKKPdf	18 30 11.8	+7.2
	comp=Z,0.8nm,0.9s,baz=194,slow=2.7,SNR=4.2						
KURBB				PKPPKP	**P'P'df**	**18 38 21.4**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=204,slow=1.1,SNR=8.0						
AKTO	**Aktyubinsk**	**100.44**	**6**	Pdiff	**Pdif**	**18 13 47.6**	**+3.5**
	comp=Z,1.5nm,0.9s,baz=166,slow=4.2,SNR=3.6						
AKTO				PP	**PP**	**18 17 46.0**	**-3.4**
	comp=Z,0.9nm,0.4s,baz=41,slow=11,SNR=2.6						
SSE	**Sheshan**	**101.06**	**315**	P	**Pdif**	**18 13 48.3**	**+1.1**
SSE				S	**Sdif**	**18 25 22.2**	**-4.4**
SSE				pmax	pmax		
	comp=Z,29nm,0.6s						
SSE				pmax	pmax		
	comp=Z,140nm,3.8s						
SSE				LR	LR		
	comp=N,29μm,19.4s						
SSE				LR	LR		
	comp=E,42μm,19.4s						
SSE				LR	LR		
	comp=Z,36μm,17.0s						
TIY	**Taiyuan**	**101.16**	**325**	*e*P	**Pdif**	**18 13 47.6**	**0.0**
TIY				S	**Sdif**	**18 25 26.9**	**-0.4**
TIY				LR	LR		
	comp=N,42μm,14.3s						
TIY				LR	LR		
	comp=E,40μm,16.4s						
TIY				LR	LR		
	comp=Z,54μm,16.4s						
ANN	**Anapa**	**101.66**	**21**	*i* P	**Pdif**	**18 13 46.7**	**-2.9**
ANN				*i*		18 17 57.3	
ANN				*i* PPP	PPP	18 20 06.1	
ANN				*e*		18 24 29.6	
ANN				*i* PS	**PS**	**18 26 58.2**	**-4.8**
ANN				*e*SS	SS	18 32 33.3	+2.1
ANN				pmax	pmax		
	comp=Z,54nm,1.4s						
ANN				MLR	MLR		
	comp=Z,97μm,19.0s						
ABKAR	**Akbulak array**	**101.77**	**5**	*e*Pdif	**Pdif**	**18 13 49.6**	**-0.4**
NJ2	**Nanjing**	**101.81**	**317**	*e*P	**Pdif**	**18 13 49.8**	**-0.7**
NJ2	

MKAR				PP	**PKiKP**	**18 18 17.7**	**+1.7**
	comp=Z,2.9nm,1.2s,baz=25,slow=3.8,SNR=2.8						
MKAR				PKKP	**PKKPdf**	**18 29 59.4**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=146,slow=2.8,SNR=4.0						
SOC	**Sochi**	**103.47**	**20**	*i* P	**Pdif**	**18 14 04.5**	**+6.8**
SOC				*i*		18 18 19.1	
SOC				*e*PPP	PPP	18 20 21.0	
SOC				*e*SS	SS	18 33 07.1	+11
SOC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,12nm,0.6s						
KIV	**Kislovodsk**	**103.97**	**18**	*i* P	**Pdif**	**18 13 58.5**	**-1.5**
KIV				*i*		18 18 16.1	
KIV				*e*		18 24 37.7	
KIV				*e*PS	**PS**	**18 27 24.2**	**-3.4**
KIV				*e*SS	SS	18 33 04.8	+1.5
KIV				*e*SSS	SSS	18 37 01.2	
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
TORD	**Torodi Ar. Bea**	**104.23**	**66**	Pdiff	**Pdif**	**18 14 09.9**	**+8.3**
	comp=Z,1.3nm,1.1s,baz=286,slow=4.5,SNR=2.6						
TORD				PP	**PP**	**18 18 22.1**	**+2.6**
	comp=Z,2.8nm,1.1s,baz=308,slow=7.1,SNR=3.5						
TORD				PKKP	**PKKPdf**	**18 29 53.7**	**-3.5**
	comp=Z,2.1nm,1.0s,baz=124,slow=2.5,SNR=5.1						
TORD				PKPPKP	**P'P'df**	**18 38 12.6**	**-1.1**
	comp=Z,1.9nm,1.2s,baz=44,slow=2.0,SNR=2.1						
KBZ	**Khabaz**	**104.24**	**18**	Pdiff	**Pdif**	**18 13 55.8**	**-5.3**
	comp=Z,1.2nm,0.8s,baz=101,slow=9.0,SNR=3.9						
KBZ				PP	**PP**	**18 18 22.2**	**+4.2**
	comp=Z,4.2nm,1.1s,baz=328,slow=14,SNR=2.7						
KBZ				PKKP	**PKKPdf**	**18 29 54.7**	**-2.2**
	comp=Z,1.0nm,0.5s,baz=194,slow=3.4,SNR=4.9						
BRTR	**Keskin Array B**	**104.81**	**26**	Pdiff	**Pdif**	**18 13 55.5**	**-8.4**
	comp=Z,2.5nm,1.2s,baz=328,slow=7.1,SNR=3.3						
BRTR				PP	PP	18 18 31.2	+8.6
	comp=Z,1.5nm,0.7s,baz=318,slow=5.5,SNR=5.2						
BRTR				PKKP	**PKKPdf**	**18 29 52.7**	**-3.4**
	comp=Z,3.1nm,1.0s,baz=166,slow=5.0,SNR=12						
CHVG	**Ch'k'valeri**	**104.95**	**19**	P	PP	18 18 41.9	+19
WMQ	**Urumqi**	**105.04 345**		P	**Pdif**	**18 14 05.4**	**+0.6**
WMQ				PP	**PKiKP**	**18 18 19.1**	**-0.3**
WMQ	**Urumqi**	**105.04 345**		SKS	**SKSac**	**18 24 45.4**	**-0.1**
WMQ	**Urumqi**	**105.04 345**		S	**Sdif**	**18 25 57.0**	**-2.6**
WMQ	**Urumqi**	**105.04 345**		SS	SS	18 33 20.6	+2.7
WMQ				AMB	AMB		
	comp=Z,2μm,21.0s						
WMQ				LR	LR		
	comp=N,67μm,17.0s						
WMQ				LR	LR		
	comp=E,55μm,21.0s						
WMQ				LR	LR		
	comp=Z,139μm,23.0s						
GTA	**Gaotai**	**105.36 334**		S	SKSdf	18 25 40.6	+8.0
GTA	**Gaotai**	**105.36 334**		SS	SS	18 32 58.1	-25
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,160nm,4.7s						
GTA				LR	LR		
	comp=N,74μm,18.0s						
GTA				LR	LR		
	comp=E,81μm,17.1s						
GTA				LR	LR		
	comp=Z,138μm,18.5s						
WHN	**Wuhan**	**105.55 319**	‖	*i*P	**Pdif**	**18 14 14.2**	**+7.0**
WHN	**Wuhan**	**105.55 319**		S	**Sdif**	**18 25 59.4**	**-4.7**
WHN				LR	LR		
	comp=N,17μm,13.5s						
WHN				LR	LR		
	comp=E,115μm,18.9s						
WHN				LR	LR		
	comp=Z,162μm,16.2s						
XAN	**Xi'an**	**105.80 325**		Pdif	Pdif	18 13 55.4	-13
XAN				PP	**PP**	**18 18 33.5**	**+3.3**
XAN	**Xi'an**	**105.80 325**		SKS	SKSac	18 25 06.2	+17
XAN	**Xi'an**	**105.80 325**		S	**Sdif**	**18 25 55.5**	**-11**
XAN	**Xi'an**	**105.80 325**		SS	SS	18 33 26.4	-2.6
XAN				AMB	AMB		
	comp=Z,520nm,19.4s						
XAN				LR	LR		
	comp=N,36μm,21.7s						
XAN				LR	LR		
	comp=E,20μm,18.3s						
XAN				LR	LR		
	comp=Z,16μm,18.6s						
GUDG	**Gudauri**	**105.83**	**17**	P	PP	18 18 41.1	+11
MAK	**Makhachkala**	**106.09**	**15**	*i* P	**Pdif**	**18 14 07.5**	**-1.8**
MAK				*e*		18 18 28.3	
MAK				*e*PPP	PPP	18 20 44.1	
MAK				*e*		18 24 48.5	
MAK				*e*S	**SKSdf**	**18 25 34.2**	**+0.7**
MAK				*e*		18 28 50.7	
MAK				*e*SS	**SS**	**18 33 27.1**	**-4.9**
MAK				pmax	pmax		
	comp=Z,26nm,0.5s						
MAK				MLR	MLR		
	comp=Z,148μm,21.0s						
DUS	**Dusheti**	**106.24**	**17**	P	PKiKP	18 18 10.4	-11
LZH	**Lanzhou**	**106.54 330**		SKKS	SKKSac	18 25 16.3	-25
LZH	**Lanzhou**	**106.54 330**		SS	SS	18 33 27.3	-12
LZH				AMB	AMB		
	comp=Z,1μm,5.4s						
LZH				LR	LR		
	comp=E,44μm,19.4s						
LZH				LR	LR		
	comp=Z,69μm,21.7s						
KZR	**Kazreti**	**106.83**	**18**	P	**PP**	**18 18 41.4**	**+4.1**
QZH	**Quanzhou**	**106.97 312**		SKS	SKSac	18 25 01.0	+6.5
QZH	**Quanzhou**	**106.97 312**		S	Sdif	18 26 00.2	-16
QZH	**Quanzhou**	**106.97 312**		SS	SS	18 33 27.0	-19
QZH				LR	LR		
	comp=N,26μm,20.2s						
QZH				LR	LR		
	comp=E,15μm,17.0s						
QZH				LR	LR		
	comp=Z,138μm,39.5s						
FRU	**Bishkek**	**108.12 354**		*e*P	**Pdif**	**18 14 25.0**	**+6.5**
AAK	**Ala-Archa**	**108.33 354**		PP	PP	18 18 48.9	+0.6
	comp=Z,1.6nm,0.3s,baz=15,slow=1.6,SNR=2.2						
AAK				PKKP	**PKKPab**	**18 29 51.8**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=232,slow=7.3,SNR=2.9						
AAK				PKPPKP	**P'P'df**	**18 38 08.9**	**+1.8**
	comp=Z,1.2nm,0.4s,baz=237,slow=3.8,SNR=3.9						
CD2	**Chengdu**	**110.88 327**		PKP	**PKiKP**	**18 18 26.5**	**-4.1**
CD2				PP	**PP**	**18 19 07.8**	**+0.6**
CD2				PKS	**PKSdf**	**18 22 02.8**	**-4.7**
CD2				SKS	**SKSdf**	**18 25 36.9**	**-6.5**
CD2				SKKS	SKKSac	18 26 00.9	-11
CD2				AMB	AMB		
	comp=Z,3μm,10.2s						
CD2				LR	LR		
	comp=E,20μm,21.4s						
CD2				LR	LR		
	comp=Z,23μm,23.8s						
KSH	**Kashi**	**111.26 353**		SS	SS	18 34 26.9	-15
KSH				AMB	AMB		
	comp=Z,140nm,4.7s						
KSH				LR	LR		
	comp=N,14μm,14.4s						
KSH				LR	LR		
	comp=E,63nm,9.3s						
KSH				LR	LR		
	comp=Z,10μm,16.5s						
MMAI	**Mount Meron Ar**	**111.33**	**28**	PKKP	**PKKPab**	**18 29 37.9**	**-1.3**
	comp=Z,6.9nm,1.0s,baz=115,slow=6.8,SNR=3.5						
GZH	**Guangzhou**	**111.65 314**		SS	SS	18 34 40.2	-8.2
GZH				LR	LR		
	comp=N,16μm,15.9s						
GZH				LR	LR		
	comp=E,69μm,17.5s						
GZH				LR	LR		
	comp=Z,65μm,19.4s						
GYA	**Guiyang**	**112.99 322**		Pdif	**Pdif**	**18 14 39.7**	**-0.9**
GYA				PKP	**PKiKP**	**18 18 37.4**	**+2.5**
GYA				PP	**PP**	**18 19 26.8**	**+4.2**
GYA				PKS	**PKSdf**	**18 22 08.9**	**-2.9**
GYA	**Guiyang**	**112.99 322**		PKP	**PKiKP**	**18 18 37.4**	**+2.5**
GYA				PP	**PP**	**18 19 26.8**	**+4.2**
GYA				PKS	**PKSdf**	**18 22 08.9**	**-2.9**
GYA				SKKS		18 26 18.2	
GYA				SS	**SS**	**18 35 06.5**	**+0.3**
GYA				AMB	AMB		
	comp=Z,3μm,4.8s						
GYA				LR	LR		
	comp=N,20μm,23.2s						
GYA				LR	LR		
	comp=E,19μm,24.1s						
GYA				LR	LR		
	comp=Z,18μm,22.0s						
BHD	**Baghdad**	**114.37**	**21**	*i* PKP	**PP**	**18 19 29.0**	**-2.7**
BHD				*i* SKKS	**Sdif**	**18 27 24.0**	**+6.4**
IBDR	**Badra**	**114.99**	**20**	*i* PKP	**PP**	**18 19 38.0**	**+2.0**
IBDR				*i* SKKS	Sdif	18 27 36.0	+13
KMI	**Kunming**	**116.15 324**		Pdif	**Pdif**	**18 14 56.1**	**+1.4**
KMI				PKP	**PKPdf**	**18 18 42.1**	**+1.0**
KMI				PP	**PP**	**18 19 48.3**	**+3.3**
KMI				SKS	**SKSdf**	**18 25 49.0**	**-5.1**
KMI				SS	**SS**	**18 35 50.5**	**+2.7**
KMI				LR	LR		
	comp=N,26μm,19.0s						
KMI				LR	LR		
	comp=E,51μm,19.0s						
KMI				LR	LR		
	comp=Z,49μm,21.0s						
QIZ	**Qiongzhong**	**116.83 314**		PKP	**PKPdf**	**18 18 40.6**	**-1.6**
QIZ				SS	SS	18 35 55.2	-1.8
QIZ				LR	LR		
	comp=N,23μm,23.5s						
QIZ				LR	LR		
	comp=E,10μm,19.0s						
QIZ				LR	LR		
	comp=Z,46μm,20.4s						
STKA	**Stephens Creek**	**116.93 247**		PKP	**PKPdf**	**18 18 41.8**	**-0.2**
STKA				*e*PKPdf	PKiKP	18 18 49.2	+7.2
STKA				PP	**PP**	**18 19 54.0**	**+2.5**
STKA	**Stephens Creek**	**116.93 247**		PKP	**PKPdf**	**18 18 41.8**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=320,slow=7.8,SNR=5.9						
STKA				PP	**PP**	**18 19 53.9**	**+2.5**
	comp=Z,2.5nm,0.9s,baz=92,slow=7.3,SNR=2.4						
VNDA	**Vanda**	**117.13 194**		*e*PKPdf	**PKPdf**	**18 18 40.3**	**-0.7**
VNDA				PKP	**PKPdf**	**18 18 40.4**	**-0.7**
VNDA				PKKPbc	**PKKPbc**	**18 29 09.8**	**+2.1**
VNDA	**Vanda**	**117.13 194**		PKP	**PKPdf**	**18 18 40.4**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=74,slow=5.0,SNR=4.1						
VNDA				PKKPbc	**PKKPbc**	**18 29 09.8**	**+2.1**
	comp=Z,2.0nm,1.0s,baz=275,slow=3.5,SNR=5.4						
DHRM	**DHARAMSHALA**	**118.39 351**		*e*P	**PKPdf**	**18 18 43.5**	**-1.7**
DHRM				AMB	AMB	18 18 56.6	
	comp=Z,17nm,1.1s						
MIB	**Mutribah**	**118.50**	**20**	*e*P	PKPdf	18 18 53.6	+8.4
MIB				AMb	AMB	18 18 54.5	
	comp=Z,22nm,1.2s						
WRA	**Warramunga Arr**	**118.84 262**		PKP	**PKPdf**	**18 18 45.4**	**-0.6**
WRA				PP	**PP**	**18 20 03.1**	**-1.8**
WRA	**Warramunga Arr**	**118.84 262**		PKP	**PKPdf**	**18 18 45.4**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=64,slow=1.8,SNR=10.0						
WRA				PP	**PP**	**18 20 03.1**	**-1.8**
	comp=Z,2.9nm,1.1s,baz=55,slow=5.4,SNR=4.5						
NAY	**Al-Naaiem**	**118.99**	**20**	*e*P	PKPdf	18 18 54.2	+8.0
NAY				AMb	AMB	18 18 56.0	
	comp=Z,16nm,1.1s						
KBD	**Kabd**	**119.19**	**19**	*e*P	PKPdf	18 18 54.6	+8.1
KBD				AMb	AMB	18 18 56.6	
	comp=Z,25nm,1.7s						
SMLA	**Simla**	**119.37 350**		*e*P	**PKPdf**	**18 18 45.4**	**-1.4**
SMLA				AMB	AMB	18 18 56.1	
	comp=Z,34nm,1.5s						
RDF	**Al-Radifah**	**119.38**	**20**	*e*P	PKPdf	18 18 55.1	+8.2
RDF				AMb	AMB	18 18 57.1	
	comp=Z,34nm,1.2s						
DDI	**Dehra Dun**	**120.02 349**		*ex*	**PKPdf**	**18 18 43.4**	**-4.8**
AS31	**Alice Springs**	**120.59 258**		*e*PKPdf	**PKPdf**	**18 18 47.0**	**-2.3**
ASAR	**Alice Springs**	**120.59 258**		PKP	**PKPdf**	**18 18 49.3**	**0.0**
ASAR				PP	**PP**	**18 20 20.1**	**+3.1**
ASAR				PKKPbc	PKKPab	18 29 00.5	+5.3
ASAR	**Alice Springs**	**120.59 258**		PKhKP	PKPpre	18 18 44.4	
	comp=Z,1.0nm,0.8s,baz=65,slow=2.2,SNR=9.0						
ASAR				PKP	**PKPdf**	**18 18 49.3**	**0.0**
	comp=Z,3.0nm,0.9s,baz=74,slow=2.2,SNR=8.5						
ASAR				PP	**PP**	**18 20 20.1**	**+3.1**
	comp=Z,2.1nm,1.1s,baz=71,slow=3.3,SNR=3.4						
ASAR				PKKPbc	PKKPab	18 29 00.5	+5.3
	comp=Z,2.3nm,1.1s,baz=258,slow=4.1,SNR=5.2						
SHL	**Shillong**	**120.68 334**		*e*P	PKPdf	18 18 55.0	+5.2
SHL				*e*S	PS	18 30 20.0	+12
SHL	**Shillong**	**120.68 334**		*e*P	**PKPdf**	**18 18 49.4**	**-0.4**
NDI	**New Delhi**	**121.76 350**		*ex*	**PKiKP**	**18 18 52.0**	**+0.3**
VNA1	**Neumayer--Stat**	**121.97 158**		*e*PKP	**PKPdf**	**18 18 53.8**	**+3.3**
DRV	**Dumont d'Urvil**	**123.08 207**		PP	PP	18 20 17.0	-16
DRV				SKKS		18 29 50.0	
DRV				SS	SKKSdf	18 36 52.0	+15
CHTO	**Chiang Mai**	**123.32 323**		*e*PKiKP	**PKPdf**	**18 18 53.0**	**-1.8**
CHTO	**Chiang Mai**	**123.32 323**		*e*PKPdf	**PKPdf**	**18 18 53.0**	**-1.8**
CM31	**Chiang Mai Arr**	**123.62 323**		*e*PKPdf	**PKPdf**	**18 18 55.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**123.62 323**		PKP	**PKPdf**	**18 18 54.0**	**-1.3**
CMAR				PP	PP	18 20 43.5	+7.4
CMAR				PKKPbc	**PKKPab**	**18 28 49.2**	**+4.2**
CMAR	**Chiang Mai Arr**	**123.62 323**		PKP	**PKPdf**	**18 18 54.0**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=341,slow=2.3,SNR=10						
CMAR				PP	PP	18 20 43.5	+7.4
	comp=Z,2.9nm,1.1s,baz=22,slow=7.8,SNR=2.9						
CMAR				PKKPbc	**PKKPab**	**18 28 49.2**	**+4.2**
	comp=Z,1.5nm,0.9s,baz=238,slow=5.2,SNR=4.0						
SNAA	**Sanae**	**123.62 159**		*e*PKP	**PKPdf**	**18 18 57.3**	**+3.6**
SNAA	**Sanae**	**123.62 159**		*e*PKPdf	**PKPdf**	**18 18 52.2**	**-1.5**
SNAA				PKP	**PKPdf**	**18 18 52.3**	**-1.5**
SNAA				PP	**PP**	**18 20 40.0**	**+3.9**
SNAA	**Sanae**	**123.62 159**		PKP	**PKPdf**	**18 18 52.3**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=6.8,slow=4.0,SNR=13						
SNAA				PP	**PP**	**18 20 40.0**	**+3.9**
	comp=Z,2.3nm,1.1s,baz=272,slow=9.0,SNR=2.7						
BOK	**Bokaro**	**124.41 339**		*e*P	**PKPdf**	**18 18 56.1**	**-0.7**
BOK				AMB	AMB	18 19 06.0	
	comp=Z,41nm,1.5s						
ASHO	**Ashiyiah**	**125.51**	**12**	P	PKPdf	18 19 07.3	+8.4
	SNR=6.5						
FITZ	**Fitzroy Crossi**	**125.71 268**		PKP	**PKPdf**	**18 19 00.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**125.71 268**		PKP	**PKPdf**	**18 19 00.1**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=225,slow=7.1,SNR=3.9						
JBP	**Jabalpur**	**126.60 345**		*ex*	PKPdf	18 19 06.4	+5.6
BHPL	**Bhopal**	**127.05 348**		*e*P	**PKPdf**	**18 19 01.1**	**-0.8**
BHPL				AMB	AMB	18 19 10.2	
	comp=Z,50nm,3.3s						
FORT	**Forrest**	**127.71 252**		*e*PKPdf	**PKPdf**	**18 19 00.8**	**-1.9**
MAIT	**Maitri**	**128.39 160**		*e*P	PKPdf	18 18 57.2	-5.6
MAIT				*e*		18 19 09.6	
KSM	**Kuching**	**128.71 299**		*e*PKPdf	**PKPdf**	**18 19 06.1**	**+1.0**
KSM				*e*PP	PP	18 21 21.9	+11
NGP	**Nagpur**	**128.76 346**		*e*P	**PKPdf**	**18 19 02.8**	**-2.3**
NGP				AMB	AMB	18 19 11.2	
	comp=Z,71nm,2.9s						
NGP				*ex*	x	18 32 35.8	
VIS	**Vishakhapatnam**	**130.91 339**		*e*P	**PKPdf**	**18 19 07.6**	**-1.6**
VIS				AMB	AMB	18 21 33.1	
	comp=Z,59nm,2.9s						
DGPR	**DIGLIPUR**	**131.14 326**		*e*P	**PKPdf**	**18 19 04.9**	**-4.8**
LATR	**Latur**	**131.91 348**		*e*P	**PKPdf**	**18 19 10.0**	**-1.1**
LATR				AMB	AMB	18 19 23.4	
	comp=Z,53nm,2.2s						
POO	**Poona**	**132.23 351**		*e*P	**PKPdf**	**18 19 10.7**	**-1.0**
HYB	**Hyderabad**	**132.48 345**		*i* Pdiff	Pdif	18 16 20.0	+13
HYB				*e*		18 18 08.0	
HYB				*e*PKP	PKiKP	18 19 20.0	+6.7
HYB				*e*PP	PP	18 21 48.0	+14
HYB				*e*SKP		18 22 44.0	
HYB				*e*SKKS		18 28 34.0	
HYB				*e*SS	SS	18 39 24.0	+11
HYB				LR	LR	19 24 20.0	
	comp=Z,49nm,16.0s						
HYB	**Hyderabad**	**132.48 345**		*ex*	**PKiKP**	**18 19 17.8**	**+4.5**
HYB				*ex*	x	18 20 43.3	
HYB				AMB	AMB	18 23 04.2	
	comp=Z,80nm,6.7s						
PBA	**Port Blair**	**132.53 325**		*e*P	PKPdf	18 19 11.5	-0.9
PBA				AMB	AMB	18 21 49.5	
	comp=Z,219nm,4.9s						
TSUM	**Tsumeb**	**134.05**	**89**	*e*PKPdf	**PKPdf**	**18 19 15.7**	**+0.5**
CASY	**Casey**	**134.36 203**		*e*PKPdf	**PKPdf**	**18 19 13.8**	**-0.3**
GOA	**Goa**	**135.22 351**		*e*P	**PKPdf**	**18 19 15.2**	**-2.2**
GOA				AMB	AMB	18 19 59.0	
	comp=Z,42nm,0.9s						
PSI	**Prapat**	**136.00 311**		PKP	**PKPdf**	**18 19 19.4**	**+0.3**
PSI	**Prapat**	**136.00 311**		PKP	**PKPdf**	**18 19 19.4**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=252,slow=3.2,SNR=3.4						
SYO	**Syowa Base**	**136.95 166**⇑		*e*P	**PKPdf**	**18 19 17.0**	**-1.9**
NWAO	**Narrogin (SRO)**	**137.16 252**		PKP	**PKPdf**	**18 19 19.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**137.16 252**		PKP	**PKPdf**	**18 19 19.2**	**-1.2**
	comp=Z,5.1nm,0.9s,baz=184,slow=2.7,SNR=2.7						
MIR	**Mirnyy**	**139.29 196**		*e*PKIKP	**PKPdf**	**18 19 27.5**	**+4.2**
MIR				pmax	pmax		
	comp=Z,33nm,1.5s						
MIR				MLR	MLR		
	comp=N,10μm,22.0s						
MIR				MLR	MLR		
	comp=E,11μm,22.0s						
MIR				MLR	MLR		
	comp=Z,25μm,22.0s						
KMBO	**Kilima Mbogo**	**140.24**	**51**	P	PKPdf	18 19 38.6	+12
	SNR=17						
KMBO	**Kilima Mbogo**	**140.24**	**51**	PKP	**PKPdf**	**18 19 27.6**	**+0.6**
KMBO	**Kilima Mbogo**	**140.24**	**51**	PKP	**PKPdf**	**18 19 27.6**	**+0.6**
	comp=Z,0.6nm,0.2s,baz=64,slow=4.2,SNR=2.9						
SUR	**Sutherland**	**140.32 107**		PKP	**PKPdf**	**18 19 24.4**	**-2.1**
SUR				PKPdf	**PKPdf**	**18 19 24.5**	**-2.1**
SUR	**Sutherland**	**140.32 107**		PKP	**PKPdf**	**18 19 24.4**	**-2.1**
	comp=Z,6.0nm,1.0s,baz=270,slow=3.0,SNR=2.8						
MAW	**Mawson**	**141.36 177**		*e*PKPdf	**PKPdf**	**18 19 24.2**	**-2.8**
MAW				PKP	**PKPdf**	**18 19 24.8**	**-2.1**
MAW	**Mawson**	**141.36 177**		PKP	**PKPdf**	**18 19 24.8**	**-2.1**
	comp=Z,10nm,1.1s,baz=158,slow=1.8,SNR=12						
LSZ	**Lusaka**	**141.64**	**78**	P	PKPdf	18 19 42.5	+13
	SNR=9.2						
LSZ	**Lusaka**	**141.64**	**78**	*e*PKPpre	PKPpre	18 19 23.4	
LBTB	**Lobatse**	**142.96**	**94**	*e*PKPpre	PKPpre	18 19 25.0	
BOSA	**Boshof**	**143.49 100**		*e*PKPpre	PKPpre	18 19 27.0	
BOSA				PKPpre	PKPpre	18 19 27.9	
BOSA				PKP	**PKPdf**	**18 19 32.9**	**+0.6**
BOSA	**Boshof**	**143.49 100**		PKhKP	PKPpre	18 19 27.9	
	comp=Z,4.0nm,1.0s,baz=262,slow=4.3,SNR=7.1						
BOSA				PKP	**PKPdf**	**18 19 32.9**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=270,slow=1.0,SNR=11						
OPO	**Ambohidratompo**	**159.04**	**64**	PKP	**PKPdf**	**18 19 56.5**	**+0.6**
OPO	**Ambohidratompo**	**159.04**	**64**	PKP	**PKPdf**	**18 19 56.5**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=62,slow=1.5,SNR=1.7						

IDC ***03*** *18:07:37.7±0.7,29°.05N×113°.03W,h0km,mb4.4/17, mb1 4.5/22,mb1mx4.4/30,mbtmp4.3/22,ML4.3/4,Error ellipse: s-maj=17.6km s-min=13.4km az=38.0*
ISCJB ***03*** *18:07:39.9±0.4,29°.26N±0°.04×113°.00W±0°.05,h17km, mb4.3/17,Error ellipse: s-maj=6.9km s-min=4.8km az=140.7*
MEX ***03*** *18:07:39.5±0.7,29°.45N×113°.18W,h10km,MD4.7*
NEIC ***03*** *18:07:39.2±0.5,29°.05N×113°.12W,h10km,mb4.9/3,Error ellipse: s-maj=12.2km s-min=8.9km az=48.0*

ISC 03 18:07:41.1±0.5,29°23N±0°.05×113°06W±0°.07,h17km,n59,
σ1§26/61,mb4.6/17,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG		**1.86**	**96**	*e*P	**Pn**	**18 08 09.4**	**-2.8**
HSIG				*i* S	**Sn**	**18 08 34.2**	**-1.1**
SRIG	**Santa Rosalia**	**2.04**	**159**	*i* P	**Pn**	**18 08 14.5**	**-0.1**
SRIG				*i* S	**Sn**	**18 08 39.9**	**+0.2**
CGIG		**4.56**	**74**	*i* P	**Pn**	**18 08 48.8**	**-0.7**
CGIG				*i* S	**Sn**	**18 09 41.1**	**-1.1**
PFO	**Pinyon Flat Ob**	**5.24**	**327**	Pg	**Pg**	**18 09 18.9**	**-2.5**
PFO	**Pinyon Flat Ob**	**5.24**	**327**	Pg	**Pg**	**18 09 18.9**	**-2.5**
	1.2nm,0.3s,baz=174,slow=12,SNR=1.9						
LPIG	**La Paz**	**5.67**	**154**	*e*P	**Pn**	**18 09 06.5**	**+1.9**
LPIG				*i* S	**Sn**	**18 10 12.2**	**+2.8**
LPIG	**La Paz**	**5.67**	**154**	Lg	Lg	18 10 40.8	
	baz=314,slow=12,SNR=4.3						
HPIG		**6.92**	**108**	*i* P	**Pn**	**18 09 22.3**	**+0.3**
HPIG				*i* S	**Sn**	**18 10 42.5**	**+2.0**
ANMO	**Albuquerque**	**7.99**	**43**	Pn	**Pn**	**18 09 36.9**	**+0.3**
ANMO	**Albuquerque**	**7.99**	**43**	Pn	**Pn**	**18 09 36.9**	**+0.3**
	0.5nm,0.3s,baz=218,slow=19,SNR=6.0						
TXAR	**Lajitas Array**	**8.21**	**87**	Pn	**Pn**	**18 09 38.1**	**-1.4**
TXAR				Lg	Lg	18 12 01.1	
TXAR	**Lajitas Array**	**8.21**	**87**	Pn	**Pn**	**18 09 38.1**	**-1.4**
	2.6nm,0.3s,baz=259,slow=13,SNR=7.8						
TXAR				Lg	Lg	18 12 01.1	
	0.4nm,0.3s,baz=255,slow=29,SNR=3.1						
NVAR	**Mina Array Bea**	**10.15 336**		Pn	**Pn**	**18 10 08.8**	**+2.5**
NVAR	**Mina Array Bea**	**10.15 336**		Pn	**Pn**	**18 10 08.8**	**+2.5**
	0.2nm,0.3s,baz=161,slow=14,SNR=3.0						
PDAR	**Pinedale Array**	**13.80**	**11**	Pn	Pn	18 10 59.7	+3.6
PDAR	**Pinedale Array**	**13.80**	**11**	Pn	Pn	18 10 59.7	+3.6
	0.2nm,0.3s,baz=200,slow=7.7,SNR=2.3						
NEW	**Newport**	**19.26 352**		P	**Pn**	**18 12 06.9**	**+1.1**
NEW	**Newport**	**19.26 352**		P	**Pn**	**18 12 06.9**	**+1.1**
	0.3nm,0.3s,baz=263,slow=16,SNR=2.4						
ULM	**Lac du Bonnet**	**24.69**	**27**	P	**P**	**18 13 02.9**	**+1.8**
ULM	**Lac du Bonnet**	**24.69**	**27**	P	**P**	**18 13 02.9**	**+1.8**
	30nm,1.1s,baz=176,slow=13,SNR=3.3						
TKL	**Tuckaleechee C**	**25.48**	**68**	P	**P**	**18 13 08.2**	**-0.2**
TKL	**Tuckaleechee C**	**25.48**	**68**	P	**P**	**18 13 08.2**	**-0.2**
	28nm,1.1s,baz=259,slow=10,SNR=3.1						
SADO	**Sadowa**	**30.95**	**51**	P	**P**	**18 13 57.4**	**+0.2**
SADO	**Sadowa**	**30.95**

CBYP eS Sn 18 14 18.4 -0.5
CBYP Canovanas 0.95 193⇑ eP Pn 18 14 03.4 -1.6
CBYP eS Sn 18 14 18.4 -0.5
HUMP Col San Antoni 1.08 191 eS Sn 18 14 21.1 -0.2
HUMP Col San Antoni 1.08 191⇑ eP Pn 18 14 05.2 -1.2
HUMP Col San Antoni 1.08 191⇑ eP Pn 18 14 05.2 -1.2
HUMP eS Sn 18 14 21.1 -0.2
HUMP Col San Antoni 1.08 191⇑ eP Pn 18 14 05.2 -1.2
HUMP eS Sn 18 14 21.1 -0.2
CPD Cerro la Pandu 1.19 193 eS Sn 18 14 22.7 -1.3
CPD Cerro la Pandu 1.19 193⇑ eP Pn 18 14 07.2 -0.6
CPD Cerro la Pandu 1.19 193⇑ eP Pn 18 14 07.2 -0.6
CPD eS Sn 18 14 22.7 -1.3
CPD Cerro la Pandu 1.19 193⇑ eP Pn 18 14 07.2 -0.6
CPD eS Sn 18 14 22.7 -1.3
SJG San Juan 1.20 205⇓ eP Pn 18 14 07.0 -0.7
SJG San Juan 1.20 205⇓ eP Pn 18 14 07.0 -0.7
SJG San Juan 1.20 205⇓ eP Pn 18 14 07.0 -0.7
SJG San Juan 1.20 205⇓ eP Pn 18 14 07.3 -0.5
TBVI Tortola 1.24 129⇓ eP Pn 18 14 08.5 +0.2
TBVI Tortola 1.24 129⇓ eP Pn 18 14 08.5 +0.2
TBVI Tortola 1.24 129⇓ eP Pn 18 14 08.5 +0.2
ABVI Anegada Island 1.31 111⇓ eP Pn 18 14 09.3 0.0
ABV Anegada 1.31 111⇓ eP Pn 18 14 09.3 0.0
ABV Anegada 1.31 111⇓ eP Pn 18 14 09.3 0.0
AOPR Arecibo Observ 1.37 232 eS Sn 18 14 27.6 -0.3
AOPR Arecibo Observ 1.37 232⇑ eP Pn 18 14 08.4 -1.6
AOPR Arecibo Observ 1.37 232⇑ eP Pn 18 14 08.4 -1.6
AOPR eS Sn 18 14 27.6 -0.3
AOPR Arecibo Observ 1.37 232⇑ eP Pn 18 14 08.4 -1.6
AOPR eS Sn 18 14 27.6 -0.3
CELP Cerrillos 1.44 219⇓ iP Pn 18 14 10.4 -0.5
CELP eS Sn 18 14 29.1 -0.3
CELP Cerrillos 1.44 219⇓ iP Pn 18 14 10.4 -0.5
CELP eS Sn 18 14 29.1 -0.3
CELP Cerrillos 1.44 219⇓ iP Pn 18 14 10.4 -0.5
CELP eS Sn 18 14 29.1 -0.3
LRS Lares 1.47 232⇓ eP Pn 18 14 09.8 -1.5
LRS Lares 1.47 232⇓ eP Pn 18 14 09.8 -1.5
LRS Lares 1.47 232⇓ eP Pn 18 14 09.8 -1.5
OBIP Obispado Ponce 1.48 219⇓ eP Pn 18 14 11.0 -0.4
OBIP Obispado Ponce 1.48 219 eS Sn 18 14 30.9 +0.5
OBIP Obispado Ponce 1.48 219⇓ eP Pn 18 14 11.0 -0.4
OBIP eS Sn 18 14 30.9 +0.5
OBIP Obispado Ponce 1.48 219⇓ eP Pn 18 14 11.1 -0.3
OBIP eS Sn 18 14 30.9 +0.5
GBPR Guanica, Bosqu 1.70 224⇓ eP Pn 18 14 14.3 0.0
GBPR Guanica, Bosqu 1.70 224⇓ eP Pn 18 14 14.3 0.0
GBPR Guanica, Bosqu 1.70 224⇓ eP Pn 18 14 14.3 0.0
LSP Las Mesas 1.72 234⇓ eP Pn 18 14 13.7 -0.9
LSP Las Mesas 1.72 234 eS Sn 18 14 36.4 +0.3
LSP Las Mesas 1.72 234⇓ eP Pn 18 14 13.7 -0.9
LSP eS Sn 18 14 36.4 +0.3
LSP Las Mesas 1.72 234⇓ eP Pn 18 14 13.7 -0.9
LSP eS Sn 18 14 36.4 +0.3
CRPR Cabo Rojo, PR 1.84 230⇓ eP Pn 18 14 16.3 +0.2
CRPR Cabo Rojo, PR 1.84 230⇓ eP Pn 18 14 16.3 +0.2
CRPR Cabo Rojo, PR 1.84 230⇓ eP Pn 18 14 16.3 +0.2
SDDR Presa de Saban 5.36 269 eP Pn 18 15 03.1 -0.7

*ISCJB **03** 18:18:52.3±0.3, 7°.13S±0°.05×117°.07E±0°.05, h611km, mb4.1/20, Error ellipse: s-maj=7.8km s-min=4.5km az=141.1*
*AUST **03** 18:18:53.8±0.0, 7°.19S×117°.15E, h614km, Error ellipse: s-maj=1.6km s-min=1.4km az=238.0*
*IDC **03** 18:18:53.5±0.8, 7°.07S×117°.19E, h611km±8km, mb3.6/20, mb1 3.7/23, mb1mx3.6/29, mbtmp3.6/23, Error ellipse: s-maj=15.5km s-min=6.8km az=67.0*
*DJA **03** 18:18:55.4±0.9, 7°S±10°×11°7E±°, h599km±14km, M4.4/6, mb4.3/4, mB5.0/2, MLv4.4/6, Mw(mB)4.3/2, Mwp5.1/1*
ISC 03 18:18:53.4±0.4, 7°.10S±0°.06×117°.21E±0°.07, h611km, n69, σ0°98/79, mb4.1/19, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**2.99**	**118**	P	**P**	**18 20 12.9**	**-0.6**
KAPI	**Kappang**	**3.27**	**51**	P	**P**	**18 20 15.1**	**0.0**
KAPI	**Kappang**	**3.27**	**51**	P	**P**	**18 20 14.9**	**-0.2**
	baz=208,slow=4.6						
KAPI				S	**S**	**18 21 21.6**	**+0.1**
	0.5nm,0.3s,baz=96,slow=23,SNR=1.2						
BKSI	**Bulukumba**	**3.39**	**59**	P	**P**	**18 20 17.3**	**+1.5**
WSI	**Waingapu**	**3.98**	**130**	P	**P**	**18 20 19.4**	**-0.2**
WSI	**Waingapu**	**3.98**	**130**	P	**P**	**18 20 19.6**	**0.0**
	baz=4.0,SNR=9.2						
WSI				S	**S**	**18 21 27.9**	**-1.9**
	baz=4.0,SNR=21						
BBKI	**Banjar Baru**	**4.31**	**327**	P	**P**	**18 20 23.2**	**+1.3**
MMSI	**Mamuju**	**4.69**	**21**	P	**P**	**18 20 26.4**	**+1.6**
TTSI	**Tana Toraja**	**4.79**	**33**	P	**P**	**18 20 27.5**	**+2.0**
KKSI	**Kolaka, Sulawe**	**5.29**	**57**	P	P	18 20 35.3	+6.0
	58nm,0.9s,1μm15μm0.2nm						
PWJI	**Pagerwojo**	**5.44**	**260**	P	**P**	**18 20 29.8**	**-0.7**
	109nm,1.1s,8μm0.5nm						
UGM	**Wanagama**	**6.68**	**263**	S	**S**	**18 22 09.6**	**+0.4**
	baz=6.6,SNR=5.3						
BATI	**Baumata**	**7.09**	**116**	P	**P**	**18 20 45.0**	**+0.2**
	11nm,0.3s,baz=304,slow=1.5,SNR=14						
BATI				S	**S**	**18 22 13.7**	**-2.2**
	10.0nm,0.3s,baz=349,slow=18,SNR=9.9						
SOEI	**Soe**	**7.46**	**111**	P	**P**	**18 20 48.1**	**-0.2**
	baz=7.5,SNR=4.6						
SOEI				S	**S**	**18 22 18.9**	**-3.4**
	baz=7.5,SNR=15						
LUWI	**Luwuk**	**8.18**	**43**	P	**P**	**18 20 56.5**	**+1.6**
LUWI	**Luwuk**	**8.18**	**43**	P	**P**	**18 20 56.6**	**+1.7**
	baz=8.3,SNR=6.4						
MRSI	**Marisa**	**8.88**	**32**	P	**P**	**18 21 02.4**	**+0.8**
GTOI	**Gorontalo**	**9.62**	**37**	P	**P**	**18 21 09.9**	**+1.2**
	169nm,0.8s						
KSM	**Kuching**	**10.95**	**321**	P	P	18 21 26.1	+4.2
KSM	**Kuching**	**10.95**	**321**	P	**P**	**18 21 19.7**	**-2.2**
	baz=11,SNR=3.7						
FITZ	**Fitzroy Crossi**	**13.68**	**144**	P	**P**	**18 21 49.2**	**+0.3**
	1.5nm,0.3s,baz=334,slow=7.7,SNR=52						
FITZ				S	**S**	**18 24 12.3**	**-0.1**
	0.1nm,0.3s,baz=181,slow=21,SNR=2.4						
FITZ				ScP	**ScP**	**18 29 00.6**	**+0.1**
	0.1nm,0.3s,baz=353,slow=8.1,SNR=3.8						
KNRA	**Kununurra**	**14.17**	**128**	P	**P**	**18 21 53.7**	**+0.1**
	baz=14,SNR=12						
MTN	**Manton Dam**	**14.85**	**114**	P	**P**	**18 22 00.4**	**+0.5**
	baz=15,SNR=16						
KDU	**Kakadu**	**16.02**	**111**	P	**P**	**18 22 11.6**	**+1.0**
	baz=16,SNR=8.5						
MEEK	**Meekatharra**	**19.48**	**176**	P	**P**	**18 22 41.9**	**0.0**
	baz=20,SNR=10.0						
WRA	**Warramunga Arr**	**20.96**	**129**	P	**P**	**18 22 56.4**	**+1.0**
	5.6nm,0.4s,baz=310,slow=9.3,SNR=83						
WRA				S	**S**	**18 26 09.3**	**-1.0**
	0.6nm,0.7s,baz=316,slow=18,SNR=2.7						
WRA				ScP	**ScP**	**18 29 15.1**	**-0.9**
	2.9nm,1.2s,baz=322,slow=2.4,SNR=4.9						
MORW	**Morawa**	**21.88**	**183**	P	**P**	**18 23 03.8**	**+0.4**
	baz=22,SNR=24						
ASAR	**Alice Springs**	**22.99**	**138**	P	**P**	**18 23 14.2**	**+0.7**
	5.7nm,0.4s,baz=313,slow=7.9,SNR=166						
ASAR				ScP	**ScP**	**18 29 20.5**	**-0.6**
	1.9nm,0.6s,baz=314,slow=2.5,SNR=21						
BLDU	**Ballidu**	**23.40**	**181**	P	**P**	**18 23 16.7**	**-0.2**
	baz=23,SNR=12						
FORT	**Forrest**	**25.66**	**158**	P	**P**	**18 23 37.9**	**+1.1**
	baz=26,SNR=15						
NWAO	**Narrogin (SRO)**	**25.70**	**180**	P	**P**	**18 23 37.4**	**+0.2**
	6.1nm,0.5s,baz=344,slow=12,SNR=6.8						
BBOO	**Buckleboo**	**31.00**	**148**	P	**P**	**18 24 23.7**	**+0.6**
	baz=31,SNR=14						
CMAR	**Chiang Mai Arr**	**31.14**	**325**	P	**P**	**18 24 25.2**	**+0.8**
	2.2nm,0.6s,baz=152,slow=6.8,SNR=12						
STKA	**Stephens Creek**	**33.54**	**141**	P	**P**	**18 24 45.7**	**+1.2**
	9.1nm,0.4s,baz=315,slow=8.4,SNR=60						
STKA				ScP	**ScP**	**18 29 53.8**	**-0.4**
	1.7nm,0.9s,baz=333,slow=4.5,SNR=2.7						
STKA	**Stephens Creek**	**33.54**	**141**	P	**P**	**18 24 45.8**	**+1.3**
	baz=34,SNR=44						
RABL	**Rabaul**	**34.90**	**87**	S	S	18 29 57.9	+12
	baz=35,SNR=4.0						
CMSA	**Cobar Meteorol**	**36.03**	**136**	P	**P**	**18 25 07.0**	**+1.9**
	baz=36,SNR=9.1						
ODAN	**Odare**	**44.44**	**321**	eP	**P**	**18 26 11.9**	**-0.3**
	13nm,0.7s						
TAPN	**Taplejung**	**44.58**	**321**	eP	**P**	**18 26 13.5**	**+0.1**
	17nm,0.5s						
RAMN	**Ramite**	**45.00**	**320**	eP	**P**	**18 26 16.7**	**+0.2**
	21nm,0.6s						
KSRS	**Korea Array**	**45.44**	**12**	P	**P**	**18 26 19.7**	**+0.5**
	5.2nm,0.8s,baz=192,slow=8.2,SNR=29						
JIRN	**Jiri**	**45.76**	**320**	eP	**P**	**18 26 22.3**	**-0.1**
	25nm,0.5s						
GUN	**Gumba**	**46.13**	**320**	eP	**P**	**18 26 25.1**	**0.0**
	39nm,0.8s						
PKI	**Pulchoki**	**46.19**	**320**	eP	**P**	**18 26 25.0**	**-0.6**
	16nm,0.6s						
PKIN	**Phulchoki**	**46.20**	**320**	eP	**P**	**18 26 25.2**	**-0.4**
	4.8nm,0.4s						
DMN	**Daman**	**46.41**	**319**	eP	**P**	**18 26 26.7**	**-0.5**
KKN	**Kakani**	**46.42**	**320**	eP	**P**	**18 26 26.7**	**-0.5**
MAT	**Matsushiro**	**47.67**	**23**	P	**P**	**18 26 35.2**	**-0.9**
MJAR	**Matsushiro Arr**	**47.67**	**23**	P	**P**	**18 26 35.4**	**-0.8**
	3.8nm,0.5s,baz=201,slow=8.2,SNR=17						
DANN	**Dangsing**	**47.79**	**319**	eP	**P**	**18 26 37.0**	**-0.5**
	33nm,0.6s						
USRK	**Ussuriysk Arra**	**52.78**	**13**	P	**P**	**18 27 13.3**	**+0.3**
	7.5nm,0.6s,baz=195,slow=6.7,SNR=28						
SONM	**Songino Array**	**55.52**	**351**	P	**P**	**18 27 32.4**	**+0.1**
	5.2nm,0.5s,baz=169,slow=8.4,SNR=41						
SONM				PcP	**PcP**	**18 28 23.2**	**+0.3**
	0.8nm,0.8s,baz=174,slow=5.1,SNR=2.4						
ASAJ	**Asahikawa**	**55.90**	**22**	P	**P**	**18 27 35.3**	**+0.4**
	baz=227,slow=6.6						
MKAR	**Makanchi Array**	**61.97**	**334**	P	**P**	**18 28 15.2**	**-0.2**
	6.7nm,0.5s,baz=149,slow=6.1,SNR=134						
MKAR				PcP	**PcP**	**18 28 48.4**	**-0.3**
	0.5nm,0.5s,baz=139,slow=6.1,SNR=2.0						
AAK	**Ala-Archa**	**62.92**	**326**	P	**P**	**18 28 21.6**	**-0.1**
	2.7nm,0.4s,baz=190,slow=4.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**66.49**	**334**	P	**P**	**18 28 43.3**	**-0.5**
	2.6nm,0.5s,baz=141,slow=5.6,SNR=14						
ZALV	**Zalesovo Beam**	**66.65**	**340**	P	**P**	**18 28 43.5**	**-1.1**
	5.6nm,0.3s,baz=146,slow=5.4,SNR=24						
MAW	**Mawson**	**70.42**	**199**	P	**P**	**18 29 06.6**	**-0.5**
	2.0nm,0.5s,baz=45,slow=5.7,SNR=3.1						
BVAR	**Borovoye Array**	**71.80**	**332**	P	**P**	**18 29 14.9**	**-0.4**
	1.9nm,0.8s,baz=134,slow=6.4,SNR=9.9						
VNDA	**Vanda**	**74.13**	**171**	P	**P**	**18 29 28.9**	**+0.6**
	1.3nm,0.5s,baz=316,slow=6.3,SNR=21						
KBZ	**Khabaz**	**83.68**	**315**	P	**P**	**18 30 19.8**	**+0.5**
	1.5nm,0.7s,baz=62,slow=2.4,SNR=6.9						
MMAI	**Mount Meron Ar**	**87.00**	**304**	P	**P**	**18 30 35.8**	**+0.2**
	1.1nm,0.5s,baz=77,slow=7.7,SNR=2.1						
BRTR	**Keskin Array B**	**89.56**	**310**	P	**P**	**18 30 46.0**	**-1.4**
	0.4nm,0.6s,baz=38,slow=49,SNR=2.0						
FINES	**FINESS Array B**	**96.72**	**331**	P	**P**	**18 31 18.6**	**-0.7**
	2.4nm,0.9s,baz=156,slow=3.8,SNR=3.9						
YKA	**Yellowknife Ar**	**113.18**	**23**	PKiKP	**PKiKP**	**18 36 22.3**	**0.0**
	0.2nm,0.4s,baz=305,slow=1.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**116.37**	**281**	PKP	**PKPdf**	**18 36 28.9**	**-0.8**
	0.3nm,0.5s,baz=49,slow=1.8,SNR=3.5						
TKL	**Tuckaleechee C**	**145.67**	**31**	PKP	**PKPdf**	**18 37 22.4**	**-1.5**
	2.5nm,0.4s,baz=166,slow=4.2,SNR=3.6						
TKL				PKPbc	**PKPbc**	**18 37 24.8**	**-0.8**
	2.5nm,0.4s,baz=149,slow=5.0,SNR=4.1						
CPUP	**Villa Florida**	**146.35**	**189**	PKPbc	**PKPbc**	**18 37 27.6**	**-0.1**
	1.0nm,0.5s,baz=90,slow=6.1,SNR=4.4						
LPAZ	**La Paz**	**156.17**	**167**	PKPab	**PKPab**	**18 38 13.9**	**+1.4**
	0.4nm,0.5s,baz=230,slow=9.1,SNR=2.6						

FUNV 03 18:31:44.9, 10°.79N×65°.78W, h5km, MW3.5, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIRV	**Birongo**	**0.57**	**237⇑**	iP	Pg	18 31 55.2	-0.8
BIRV				eS	Sg	18 32 03.5	-0.1
FUNV	**FUNVISIS**	**1.06**	**252**	eP	Pg	18 32 04.4	-1.1
FUNV				eS	Sg	18 32 19.2	-0.2
ORCV	**Isla La Orchil**	**1.09**	**338**	eP	Pg	18 32 05.1	-0.7
ORCV				eS	Sg	18 32 19.8	-0.2
PCRV	**Puerto La Cruz**	**1.28**	**118**	eP	Pn	18 32 09.1	-0.4
MERV	**Las Mercedes**	**1.61**	**198**	eP	Pn	18 32 13.3	-0.8
MERV				eS	Sn	18 32 35.1	-0.2
TURV	**Turiamo**	**2.05**	**261**	eP	Pn	18 32 19.4	-0.7
TURV				eS	Sn	18 32 45.6	-0.5
CRUV	**Carupano**	**2.50**	**92**	eP	Pn	18 32 26.6	+0.3
MAPV	**Macapo**	**2.80**	**250**	eP	Pn	18 32 30.1	-0.4
MAPV				eS	Sn	18 33 02.7	-2.1
BAUV	**El Baul**	**2.89**	**231**	eP	Pn	18 32 30.6	-1.0
BAUV				eS	Sn	18 33 05.2	-1.6
TEPV	**Terepaima**	**3.46**	**257**	eP	Pn	18 32 38.8	-0.7
GUIV	**Guiria**	**3.50**	**92**	eP	Pn	18 32 39.0	-1.0
SANV	**Sanarito**	**3.91**	**251**	eP	Pn	18 32 44.7	-1.2
SANV				eS	Sn	18 33 28.7	-3.7
SIQV	**Siquisique**	**3.96**	**268**	eP	Pn	18 32 44.8	-1.6
CURV	**Curarigua**	**4.19**	**260**	eP	Pn	18 32 48.0	-1.6
CURV				eS	Sn	18 33 35.3	-3.7
MONV	**Montecano**	**4.27**	**286**	eP	Pn	18 32 49.3	-1.3
MONV				eS	Sn	18 33 37.3	-3.5
ELOV	**Elorza**	**5.25**	**224**	eP	Pn	18 33 02.4	-1.8
SOCV	**Socops**	**5.59**	**244**	eP	Pn	18 33 06.9	-1.9
SOCV				eS	Sn	18 34 08.0	-5.6
VIGV	**El Vigia**	**5.83**	**251**	eP	Pn	18 33 09.8	-2.4
LUEV	**Luepa**	**6.51**	**139**	eP	Pn	18 33 19.8	-1.9
VIRV	**Villa del Rosa**	**6.52**	**268**	eP	Pn	18 33 19.6	-2.0

*BJI **03** 18:33:28.9, 28°.04N×113°.77W, h12km, mB5.3/2, mb4.9/6, Ms5.2/2, Ms7 4.8/2*
*ISCJB **03** 18:33:33.6±0.3, 29°.01N±0°.03×113°.00W±0°.03, h17km, mb4.6/43, MS4.6/1, Error ellipse: s-maj=4.8km s-min=2.9km az=42.3*
*IDC **03** 18:33:33.1±0.6, 29°.20N×113°.00W, h0km, mb4.4/20, mb1 4.5/28, mb1mx4.4/35, mbtmp4.3/28, ML4.2/5, Error ellipse: s-maj=13.6km s-min=8.4km az=40.0*
*MEX **03** 18:33:34.8±0.3, 29°.05N×113°.18W, h10km, MD4.9*
*NEIC **03** 18:33:34.5±0.4, 28°.98N×113°.02W, h10km, mb4.9/36, Error ellipse: s-maj=6.7km s-min=4.6km az=37.0*
ISC 03 18:33:35.2±0.4, 29°.10N±0°.04×113°.05W±0°.04, h17km, n201, σ1°60/200, mb4.8/43, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG		**1.84**	**92**	*i* P	**Pn**	**18 34 04.1**	**-2.0**
HSIG				eS	**Sn**	**18 34 27.0**	**-2.0**
HSIG		**1.84**	**92**	*i* P	**Pn**	**18 34 04.1**	**-2.0**
HSIG				eS	**Sn**	**18 34 27.0**	**-2.0**
SRIG	**Santa Rosalia**	**1.91**	**158**	*i* P	Pn	18 34 03.8	-3.1
SRIG				eS	**Sn**	**18 34 27.2**	**-3.4**
SPX	**San Pedro Mart**	**2.85**	**313**	eP	Pn	18 34 16.9	-3.3
SPIG	**San Pedro Mart**	**2.85**	**313**	eP	**Pn**	**18 34 17.3**	**-3.0**
SPIG				*i* S	**Sn**	**18 34 49.9**	**-4.6**
ZAX	**El Zacaton**	**3.68**	**312**	eP	Pn	18 34 27.9	-3.5
TUC	**Tucson**	**3.75**	**31**	ePn	**Pn**	**18 34 30.7**	**-1.7**
RDX	**Rancho Dawling**	**3.77**	**319**	eP	Pn	18 34 28.3	-4.4
CBX	**Cerro Bola**	**4.47**	**317**	eP	**Pn**	**18 34 39.3**	**-3.0**
CGIG		**4.59**	**73**	*i* P	**Pn**	**18 34 44.5**	**+0.5**
CGIG				eS	**Sn**	**18 35 37.4**	**+0.4**
BAR	**Barrett**	**4.74**	**320**	ePn	**Pn**	**18 34 44.6**	**-1.3**
PFO	**Pinyon Flat Ob**	**5.36**	**328**	ePn	**Pn**	**18 34 51.4**	**-3.1**
PFO				Pg	Pb	18 35 12.4	+4.0
PFO				Lg	Lg	18 36 25.2	
PFO	**Pinyon Flat Ob**	**5.36**	**328**	Pn	**Pn**	**18 34 51.5**	**-3.0**
	0.2nm,0.3s,baz=136,slow=11,SNR=5.7						
PFO				Pg	Pb	18 35 12.4	+4.0
	2.0nm,0.3s,baz=177,slow=12,SNR=16						
PFO				Lg	Lg	18 36 25.2	
	3.5nm,0.3s,baz=147,slow=9.4,SNR=6.3						
LPIG	**La Paz**	**5.55**	**153**	*i* P	**Pn**	**18 34 55.3**	**-1.7**
LPIG				eS	**Sn**	**18 35 57.9**	**-2.5**
LPIG	**La Paz**	**5.55**	**153**	Pn	**Pn**	**18 34 56.6**	**-0.4**
LPIG				Pg	**Pb**	**18 35 14.0**	**+2.4**
LPIG				Lg	Lg	18 36 29.7	
LPIG	**La Paz**	**5.55**	**153**	Pn	**Pn**	**18 34 56.6**	**-0.4**
	1.3nm,0.3s,baz=163,slow=3.0,SNR=7.7						
LPIG				Pg	**Pb**	**18 35 14.0**	**+2.4**
	1.6nm,0.3s,baz=182,slow=16,SNR=14						
LPIG				Lg	Lg	18 36 29.7	
	1.3nm,0.3s,baz=224,slow=21,SNR=5.8						
LDFC	**Landfair**	**6.21**	**344**	ePb	**Pn**	**18 35 06.3**	**0.0**
WUAZ	**Wupatki**	**6.56**	**12**	eP	**Pn**	**18 35 10.4**	**-0.6**
	28nm,0.8s						
MWC	**Mount Wilson**	**6.66**	**321**	ePn	**Pn**	**18 35 13.7**	**+1.2**
HPIG		**6.87**	**106**	*i* P	**Pn**	**18 35 16.2**	**+0.7**
HPIG				*i* S	**Sn**	**18 36 33.3**	**-0.1**
GSC	**Goldstone**	**6.96**	**334**	ePn	**Pn**	**18 35 16.9**	**+0.5**
MNTX	**Cornudas Mount**	**7.11**	**67**	eP	**Pn**	**18 35 16.9**	**-1.6**
	48nm,1.0s						
LENM	**Lemitar**	**7.24**	**44**	ePn	**Pn**	**18 35 19.9**	**-0.5**
LAZ	**Ladron**	**7.30**	**42**	eP	**Pn**	**18 35 19.2**	**-2.1**
	32nm,0.9s						
OSI	**Osito Adit**	**7.32**	**320**	eP	**Pn**	**18 35 19.8**	**-1.5**
	121nm,1.3s						
BNM	**Barren Site**	**7.44**	**46**	eP	**Pn**	**18 35 21.1**	**-2.1**
	65nm,1.2s						
LPM	**Los Pinos Moun**	**7.54**	**45**	ePg	**Pn**	**18 35 23.5**	**-1.1**
ISA	**Isabella**	**7.99**	**326**	ePn	**Pn**	**18 35 31.9**	**+1.3**
ANMO	**Albuquerque**	**8.08**	**42**	ePn	**Pn**	**18 35 31.0**	**-1.0**
ANMO				Sn	**Sn**	**18 37 00.9**	**-2.2**
ANMO				Lg	Lg	18 37 53.1	
ANMO	**Albuquerque**	**8.08**	**42**	Pn	**Pn**	**18 35 31.3**	**-0.7**
	1.6nm,0.3s,baz=228,slow=14,SNR=20						
ANMO				Sn	**Sn**	**18 37 00.9**	**-2.2**
	0.5nm,0.3s,baz=343,slow=24,SNR=1.3						
ANMO				Lg	Lg	18 37 53.1	
	1.2nm,0.3s,baz=187,slow=21,SNR=4.0						
GDL2	**Guadalupe Moun**	**8.10**	**65**	ePn	**Pn**	**18 35 32.6**	**+0.5**
GDL2				eSb	Sb	18 37 55.2	+24
TXAR	**Lajitas Array**	**8.21**	**86**	Pn	**Pn**	**18 35 33.1**	**-0.5**
TXAR				Sn	**Sn**	**18 37 05.9**	**-0.1**
TXAR				Lg	Lg	18 37 57.8	
TXAR	**Lajitas Array**	**8.21**	**86**	Pn	**Pn**	**18 35 33.1**	**-0.5**
	5.6nm,0.3s,baz=261,slow=13,SNR=128						
TXAR				Sn	**Sn**	**18 37 05.9**	**-0.1**
	1.1nm,0.3s,baz=254,slow=30,SNR=1.3						
TXAR				Lg	Lg	18 37 57.8	
	2.1nm,0.3s,baz=262,slow=26,SNR=5.3						
CCUT	**Cedar City**	**8.44**	**358**	ePn	**Pn**	**18 35 36.9**	**0.0**
ARUT	**Antelope Range**	**8.68**	**358**	eP	**Pn**	**18 35 41.1**	**+1.0**
	60nm,0.6s						
PTRM	**Twissleman Ran**	**8.91**	**319**	ePn	Pn	18 35 46.4	+3.2
MVCO	**Mesa Verde**	**8.95**	**24**	ePn	**Pn**	**18 35 44.6**	**+0.7**
MVU	**Marysvale**	**9.41**	**4**	ePn	**Pn**	**18 35 52.4**	**+2.1**
MSU	**Marysvale**	**9.42**	**4**	ePn	**Pn**	**18 35 50.8**	**+0.5**
PV01	**Paradox Valley**	**9.76**	**21**	eP	**Pn**	**18 35 55.9**	**+0.9**
	52nm,0.7s						
PV04	**Paradox Valley**	**9.89**	**19**	ePn	**Pn**	**18 35 57.3**	**+0.5**
SRU	**San Rafael**	**10.21**	**11**	ePn	**Pn**	**18 36 02.7**	**+1.6**
NVAR	**Mina Array Bea**	**10.28**	**336**	Pn	**Pn**	**18 36 04.0**	**+1.8**
NVAR	**Mina Array Bea**	**10.28**	**336**	Pn	**Pn**	**18 36 04.0**	**+1.8**
	0.1nm,0.3s,baz=163,slow=16,SNR=20						
TMUT	**Trail Mountain**	**10.29**	**8**	ePn	**Pn**	**18 36 03.2**	**+0.9**
SAO	**San Andreas Ge**	**10.40**	**319**	eP	**Pn**	**18 36 02.8**	**-0.8**
	542nm,3.0s						
SDCO	**Great Sand Dun**	**10.68**	**34**	eP	Pn	18 36 11.2	+3.5
	182nm,1.8s						
CMB	**Columbia Colle**	**10.81**	**327**	ePn	**Pn**	**18 36 10.6**	**+1.4**
NLU	**North Lily Min**	**10.86**	**4**	ePn	**Pn**	**18 36 11.0**	**+0.9**
MPU	**Maple Canyon**	**10.96**	**6**	ePn	Pn	18 36 14.8	+3.5
DUG	**Dugway**	**11.07**	**1**	ePn	Pn	18 36 16.4	+3.5
AMTX	**Amarillo**	**11.24**	**56**	eP	**Pn**	**18 36 14.7**	**-0.5**
	33nm,0.9s						
DAU	**Daniels Canyon**	**11.38**	**7**	eP	**Pn**	**18 36 20.3**	**+2.9**
	44nm,1.3s						
JLU	**Jordanelle**	**11.55**	**6**	ePn	Pn	18 36 22.8	+3.3
JCT	**Junction City**	**11.59**	**80**	ePn	**Pn**	**18 36 21.6**	**+1.6**
PAHR	**Pah Rah Range**	**11.80**	**335**	ePn	**Pn**	**18 36 24.7**	**+1.9**
BGU	**Big Grassy Mou**	**11.80**	**0**	ePn	Pn	18 36 26.0	+3.1
BMN	**Battle Mountai**	**11.81**	**344**	ePn	**Pn**	**18 36 24.9**	**+1.9**
ISCO	**Idaho Springs**	**12.31**	**28**	ePn	**Pn**	**18 36 32.5**	**+2.6**
BEKR	**Beckworth**	**12.31**	**333**	eP	**Pn**	**18 36 31.6**	**+1.7**
	66nm,1.7s						
HWUT	**Hardware Ranch**	**12.54**	**5**	eP	**Pn**	**18 36 35.7**	**+2.7**
	99nm,1.3s						
HVU	**Hansel Valley**	**12.66**	**1**	ePn	Pn	18 36 37.5	+2.9
HOPS	**Hopland**	**12.89**	**323**	eP	**Pn**	**18 36 38.0**	**+0.4**
	92nm,1.6s						
WMOK	**Wichita Mounta**	**13.36**	**61**	eP	**Pn**	**18 36 43.9**	**-0.2**
	30nm,1.2s						
PHWY	**Pilot Hill**	**13.66**	**25**	ePn	Pn	18 36 52.5	+4.1
KIPM	**Iron Peak**	**13.71**	**324**	eP	P

75nm,1.3s
WVT Waverly 22.34 65 *eP* **P 18 38 32.1 -0.1**
40nm,1.0s
HDIL Hopedale 22.53 53 *eP* **P 18 38 35.2 +0.9**
67nm,0.9s
LRAL Lakeview Retre 22.64 73 *eP* **P 18 38 37.2 +1.8**
25nm,1.0s
AGMN Agassiz Nation 23.30 30 *eP* **P 18 38 42.5 +0.4**
57nm,1.2s
WCI Wyandotte Cave 24.00 61 *eP* **P 18 38 49.5 +0.5**
29nm,1.0s
EDM Edmonton 24.11 360 *eP* P 18 38 44.6 -5.3
TEIG Tepich 24.15 106 P **P 18 38 52.4 +1.9**
TEIG Tepich 24.15 106 P **P 18 38 52.4 +1.9**
5.6nm,0.8s,baz=297,slow=2.3,SNR=2.8
ULM Lac du Bonnet 24.81 27 *eP* **P 18 38 56.8 +0.6**
26nm,1.0s
ULM Lac du Bonnet 24.81 27 P **P 18 38 55.8 -0.5**
15nm,0.9s,baz=206,slow=8.5,SNR=8.3
CPCT Cooper Cave 24.89 68 *eP* **P 18 38 57.3 +0.1**
EYMN Ely 25.13 36 *eP* **P 18 39 02.4 +3.2**
279nm,2.8s
COWI Conover 25.29 41 *eP* **P 18 39 04.4 +3.7**
28nm,1.1s
TKL Tuckaleechee C 25.52 68 *eP* **P 18 39 04.5 +1.7**
TKL Tuckaleechee C 25.52 68 P **P 18 39 03.2 +0.3**
29nm,0.8s,baz=235,slow=6.0,SNR=15
SADO Sadowa 31.03 50 P **P 18 39 52.6 +0.6**
SADO Sadowa 31.03 50 P **P 18 39 52.6 +0.6**
8.3nm,0.7s,baz=265,slow=10.0,SNR=4.9
DLBC Dease Lake 31.60 343 P **P 18 39 56.3 -0.6**
DLBC Dease Lake 31.60 343 P **P 18 39 56.3 -0.6**
4.9nm,1.0s,baz=331,slow=24,SNR=3.0
BINY Binghamton 32.58 56 *eP* **P 18 40 05.2 -0.4**
31nm,1.1s
YKA Yellowknife Ar 33.42 359 P **P 18 40 11.6 -1.1**
YKA PcP **PcP 18 42 55.2 +1.5**
YKA Yellowknife Ar 33.42 359 P **P 18 40 11.6 -1.1**
0.7nm,0.8s,baz=178,slow=30,SNR=3.5
YKA PcP **PcP 18 42 55.2 +1.5**
0.6nm,0.9s,baz=183,slow=2.4,SNR=3.8
LONY Lake Ozonia 34.11 52 *eP* P 18 40 23.6 +4.7
16nm,1.0s
WVL Waterville 37.54 54 *eP* **P 18 40 46.7 -1.6**
32nm,1.0s
MENT Mentasta 39.24 338 *eP* **P 18 41 03.1 +0.6**
ILAR Eielson Array 41.52 339 P **P 18 41 20.7 -0.6**
ILAR Eielson Array 41.52 339 P **P 18 41 20.7 -0.6**
5.1nm,1.1s,baz=350,slow=17,SNR=8.8
SCHQ Schefferville 41.84 39 P **P 18 41 24.9 +0.8**
SCHQ Schefferville 41.84 39 P **P 18 41 24.9 +0.8**
17nm,1.0s,baz=242,slow=7.3,SNR=5.8
SVW2 Sparrevohn 42.59 331 *eP* **P 18 41 32.0 +1.9**
37nm,1.4s
ATAH Atahualpa 49.10 132 P P 18 42 26.1 +3.6
ATAH Atahualpa 49.10 132 P P 18 42 26.1 +3.6
8.1nm,0.9s,baz=99,slow=5.2,SNR=4.0
LPAZ La Paz 62.59 130 P **P 18 44 01.4 +2.0**
LPAZ La Paz 62.59 130 P **P 18 44 01.4 +2.0**
1.0nm,0.8s,baz=322,slow=6.9,SNR=4.2
PETK Petropavlovsk- 66.86 319 P **P 18 44 27.6 +1.5**
PETK Petropavlovsk- 66.86 319 P **P 18 44 27.6 +1.5**
7.8nm,1.0s,baz=77,slow=14,SNR=8.0
CPUP Villa Florida 76.77 130 P **P 18 45 27.1 +1.2**
CPUP Villa Florida 76.77 130 P **P 18 45 27.1 +1.2**
3.8nm,0.8s,baz=325,slow=8.8,SNR=4.4
NB2 NORSAR Subarra 79.47 24 P **P 18 45 41.1 +0.5**
comp=Z,5.4nm,1.1s,baz=310,slow=5.1
NOA NORSAR Array B 79.47 24 P **P 18 45 41.0 +0.5**
NOA NORSAR Array B 79.47 24 P **P 18 45 41.0 +0.5**
comp=Z,3.1nm,1.0s,baz=312,slow=5.3,SNR=6.1
ASAJ Asahikawa 79.67 315 P **P 18 45 42.8 +1.0**
ASAJ Asahikawa 79.67 315 P **P 18 45 42.8 +1.0**
comp=Z,5.0nm,1.0s,baz=77,slow=14,SNR=3.0
PLCA Paso Flores 79.87 149 P **P 18 45 45.4 +2.5**
PLCA Paso Flores 79.87 149 P **P 18 45 45.4 +2.5**
comp=Z,4.7nm,1.0s,baz=318,slow=6.3,SNR=3.7
EVO Evora 82.99 50 *eP* **P 18 45 59.7 +0.1**
comp=Z,60nm,1.5s
BAIF Baives 83.60 35 *eP* **P 18 46 01.8 -0.7**
comp=Z,30nm,1.3s
DOU Dourbes 83.77 35 P **P 18 46 06.1 +2.7**
comp=Z,7.9nm,1.6s
GIVF Givet 83.88 35 *eP* **P 18 46 03.4 -0.6**
comp=Z,49nm,1.3s
FINES FINESS Array B 83.90 18 P **P 18 46 02.7 -1.1**
FINES FINESS Array B 83.90 18 P **P 18 46 02.7 -1.1**
comp=Z,4.1nm,0.8s,baz=58,slow=4.7,SNR=11
ESDC Sonseca Array 85.02 47 P **P 18 46 09.8 -0.3**
ESDC Sonseca Array 85.02 47 P **P 18 46 09.8 -0.3**
comp=Z,0.2nm,0.3s,baz=308,slow=6.0,SNR=3.8
BGF Bois d'Agland 85.05 39 *eP* **P 18 46 09.2 -0.8**
SSF Saint Saulge 85.09 38 *eP* **P 18 46 09.4 -0.8**
comp=Z,18nm,1.0s
LOR Lormes 85.15 38 *eP* **P 18 46 09.9 -0.6**
comp=Z,15nm,1.0s
AVF Avril sur Loir 85.18 38 *eP* **P 18 46 09.6 -1.0**
SMF Signal de Mont 85.53 38 *eP* **P 18 46 11.4 -1.0**
USRK Ussuriysk Arra 85.95 319 P **P 18 46 14.7 +0.2**
comp=Z,2.5nm,0.9s,baz=148,slow=1.8,SNR=7.0
HAU Haudompre 85.99 36 *eP* **P 18 46 13.0 -1.7**
comp=Z,30nm,1.2s
CDF Champ du Feu 86.20 35 *eP* **P 18 46 13.8 -2.0**
comp=Z,11nm,1.0s
GERES GERESS Array B 89.01 32 P **P 18 46 28.3 -1.0**
GERES GERESS Array B 89.01 32 P **P 18 46 28.3 -1.0**
comp=Z,0.3nm,0.6s,baz=328,slow=7.0,SNR=4.1
CN2 Changchun 89.85 322 *eP* **P 18 46 33.4 +0.2**
KSRS Korea Array 92.58 316 P **P 18 46 47.0 +1.0**
comp=Z,1.4nm,1.0s,baz=56,slow=3.4,SNR=6.4
KSAR Wonju Array Be 92.61 316 P **P 18 46 47.0 +0.9**
SONM Songino Array 95.61 335 P **P 18 47 00.1 +0.3**
SONM Songino Array 95.61 335 P **P 18 47 00.1 +0.3**
comp=Z,1.0nm,1.0s,baz=20,slow=4.7,SNR=5.7
BJI Beijing 97.40 324 P P 18 47 03.6 -4.3
BJI pmax pmax
comp=Z,11nm,1.2s
HHC Hu-ho-hao-te 99.06 327 *eP* **Pdif 18 47 13.7 -1.8**
HHC sP **sP 18 47 19.0 -4.2**
HHC SKS **SKSac 18 57 50.2 -3.2**
HHC S S 18 58 39.8 -6.2
NJ2 Nanjing 101.71 317 *eP* **Pdif 18 47 26.2 -1.1**
CD2 Chengdu 110.79 327 *e*PKP **PKiKP 18 52 05.5 -2.2**
CD2 PP **PP 18 52 46.8 +2.9**
CD2 SKS **SKSdf 18 59 15.3 -4.0**
CD2 SKKS SKKSac 18 59 40.1 -7.3
CD2 SS **SS 19 08 14.0 +1.2**
GYA Guiyang 112.90 322 *e*Pdif **Pdif 18 48 16.8 -0.6**
GYA PKP **PKiKP 18 52 11.0 -0.9**
GYA PP **PP 18 53 02.3 +3.0**
GYA PKS **PKSdf 18 55 45.2 -3.7**
GYA SKKS 18 59 54.7
GYA SS **SS 19 08 41.0 -0.3**
GYA AMB AMB
comp=Z,120nm,7.6s
GYA LR LR
comp=N,130nm,22.0s
GYA LR LR
comp=E,120nm,23.0s
GYA LR LR
comp=Z,140nm,21.8s
WRA Warramunga Arr 118.72 262 PKP **PKPdf 18 52 23.5 +0.5**
WRA Warramunga Arr 118.72 262 PKP **PKPdf 18 52 23.5 +0.5**
comp=Z,1.2nm,1.0s,baz=64,slow=2.0,SNR=4.0
QSPA South Pole Qui 118.95 180 PKP **PKPdf 18 52 21.8 -0.3**
QSPA South Pole Qui 118.95 180 PKP **PKPdf 18 52 21.7 -0.3**
comp=Z,0.6nm,0.7s,baz=121,slow=2.9,SNR=3.8
ASAR Alice Springs 120.48 258 PKP **PKPdf 18 52 26.0 -0.3**
ASAR Alice Springs 120.48 258 PKP **PKPdf 18 52 26.0 -0.3**
comp=Z,1.7nm,1.1s,baz=70,slow=3.5,SNR=6.3
CMAR Chiang Mai Arr 123.52 323 PKP **PKPdf 18 52 31.9 -0.4**
CMAR Chiang Mai Arr 123.52 323 PKP **PKPdf 18 52 31.9 -0.4**
comp=Z,0.4nm,0.4s,baz=198,slow=1.7,SNR=4.2
BOSA Boshof 143.62 100 PKP **PKPdf 18 53 09.6 -0.1**
BOSA Boshof 143.62 100 PKP **PKPdf 18 53 09.6 -0.1**
comp=Z,2.8nm,1.0s,baz=311,slow=5.1,SNR=3.2

IDC ***03*** *18:40:47.9±0.4,29°.42N×113°.70W,h0km,mb4.9/32, mb1 4.9/40,mb1mx4.9/41,mbtmp4.8/40,ML4.4/8,MS6.2/30, Ms1 6.2/30,ms1mx6.1/47,Error ellipse: s-maj=11.2km s-min=7.1km az=45.0*
BJI ***03*** *18:40:48.2,29°.30N×113°.70W,h6km,mB5.3/3,mb5.4/8, Ms6.1/4,Ms7 6.0/6*

ISCJB ***03*** *18:40:48.5±0.2,29°.37N±0°.02×113°.75W±0°.03,h10km, mb5.6/201,MS6.3/38,Error ellipse: s-maj=3.9km s-min=2.1km az=141.9*
MOS ***03*** *18:40:49.2±1.1,29°.41N×113°.66W,h16km,mb5.8/37, MS6.4/11,Error ellipse: s-maj=6.2km s-min=3.8km az=89.8*
NEIC ***03*** *18:40:50.1±0.3,29°.31N×113°.73W,h10km,mb5.9/102, Error ellipse: s-maj=4.9km s-min=3.2km az=46.0*
MEX ***03*** *18:40:54.8±1.1,29°.42N×113°.50W,h10km,MD5.8*
GCMT ***03*** *18:40:55.2±0.1,29°.43N×113°.75W,h19km,MW6.2, Moment Tensor Solution. s64,c106; s72,c92; Moment tensor: Scale 1018Nm; Mrr-0.40±.05; Mθθ-2.66±.04; Mφφ3.06±.05; Mrθ-0.26±.10; Mθφ-0.34±.04; Mφr-0.45±.10; Best double couple: M0 2.90000×1018 NP1:φs42.00000°, δ90.00000°,λ-10.00000°. NP2:φs132.00000°,δ80.00000°, λ-180.00000°. Principal axes: T 3.1300, Plg7.0000°, Azm87.0000°; N -0.4200, Plg80.0000°, Azm221.0000°; P -2.7200, Plg7.0000°, Azm356.0000°; Data Used: IU II IC G CN. Surface waves: sta=106, comp=226, per= 50.*

ISC 03 18:40:49.9±0.2,29°.43N±0°.03×113°.76W±0°.03,h10km, n605,σ1§54/594,mb5.7/201,MS6.3/38,13C-13D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**2.18**	**318⇓**	*e*P	**Pn**	**18 41 23.7**	**-2.9**
SPX				*e*P	**Pn**	**18 41 23.7**	**-2.9**
SPX				*e*S	**Sn**	**18 41 50.9**	**-3.0**
SPX				⇓*e*		18 42 17.0	
	comp=E,37μm,1.1s						
SPX				⇓*e*		18 42 30.1	
	comp=N,36μm,1.0s						
HSIG		**2.49**	**99**	*e*P	**Pn**	**18 41 28.2**	**-2.3**
HSIG				*i* S	**Sn**	**18 41 56.3**	**-4.7**
HSIG		**2.49**	**99**	*e*P	**Pn**	**18 41 28.2**	**-2.3**
HSIG				*i* S	**Sn**	**18 41 56.3**	**-4.7**
SRIG	**Santa Rosalia**	**2.49**	**147**	*i* P	**Pn**	**18 41 30.8**	**+0.2**
SRIG				*i* S	**Sn**	**18 41 58.6**	**-2.4**
ZAX	**El Zacaton**	**3.00**	**314⇑**	*e*P	**Pn**	**18 41 35.8**	**-1.9**
RDX	**Rancho Dawling**	**3.12**	**323⇑**	*e*P	**Pn**	**18 41 36.3**	**-3.0**
ECNX	**Esteban Cantu**	**3.30**	**313⇑**	*e*P	**Pn**	**18 41 40.5**	**-1.3**
PBX	**Punta Banda**	**3.44**	**313**	*e*P	**Pn**	**18 41 42.3**	**-1.3**
CBX	**Cerro Bola**	**3.81**	**320⇑**	*e*P	**Pn**	**18 41 45.9**	**-2.8**
TUC	**Tucson**	**3.84**	**41**	*e*P	**Pn**	**18 41 47.0**	**-2.2**
TUC	**Tucson**	**3.84**	**41**	*e*Pn	**Pn**	**18 41 47.0**	**-2.2**
BAR	**Barrett**	**4.09**	**323**	*e*Pn	**Pn**	**18 41 50.9**	**-1.7**
PFO	**Pinyon Flat Ob**	**4.76**	**332**	Pn	**Pn**	**18 42 02.9**	**+1.0**
PFO				Pg	**Pg**	**18 42 19.5**	**-1.6**
PFO				Lg	Lg	18 43 21.9	
PFO	**Pinyon Flat Ob**	**4.76**	**332**	Pn	**Pn**	**18 42 02.9**	**+1.0**
	comp=N,1.8nm,0.3s,baz=144,slow=11,SNR=9.2						
PFO				Pg	**Pg**	**18 42 19.5**	**-1.6**
	comp=N,18nm,0.3s,baz=172,slow=14,SNR=30						
PFO				Lg	Lg	18 43 21.9	
	comp=N,27nm,0.3s,baz=210,slow=8.1,SNR=3.9						
PFO				LR	LR	18 44 03.8	
	comp=N,223μm,19.4s,baz=153,slow=41						
CGIG		**5.10**	**78**	*i* P	**Pn**	**18 42 07.0**	**+0.4**
CGIG				*i* S	**Sn**	**18 43 02.6**	**-3.0**
LDFC	**Landfair**	**5.74**	**349**	*e*Pn	**Pn**	**18 42 16.9**	**+1.6**
MWC	**Mount Wilson**	**6.02**	**324**	*e*P	Pn	18 42 22.3	+3.1
MWC	**Mount Wilson**	**6.02**	**324**	*e*Pn	Pn	18 42 22.3	+3.1
LPIG	**La Paz**	**6.14**	**149**	*i* P	**Pn**	**18 42 22.1**	**+1.4**
LPIG				*i* S	**Sn**	**18 43 28.6**	**-2.4**
LPIG	**La Paz**	**6.14**	**149**	Pn	**Pn**	**18 42 20.1**	**-0.6**
LPIG				Pg	**Pb**	**18 42 39.0**	**+2.0**
LPIG				Sn	**Sn**	**18 43 31.0**	**0.0**
LPIG				Lg	Lg	18 44 05.2	
LPIG	**La Paz**	**6.14**	**149**	Pn	**Pn**	**18 42 20.1**	**-0.6**
	comp=N,3.5nm,0.3s,baz=258,slow=0.5,SNR=87						
LPIG				Pg	**Pb**	**18 42 39.0**	**+2.0**
	comp=N,2.8nm,0.3s,baz=10.0,slow=4.8,SNR=8.8						
LPIG				Sn	**Sn**	**18 43 31.0**	**0.0**
	baz=336,slow=8.2,SNR=1.0						
LPIG				Lg	Lg	18 44 05.2	
	baz=308,slow=17,SNR=3.5						
LPIG				LR	LR	18 44 32.1	
	comp=N,15μm,18.3s,baz=337,slow=37						
GSC	**Goldstone**	**6.39**	**337**	*e*P	**Pn**	**18 42 26.6**	**+2.3**
GSC	**Goldstone**	**6.39**	**337**	*e*Pn	**Pn**	**18 42 26.6**	**+2.3**
ISA	**Isabella**	**7.38**	**329**	*e*P	**Pn**	**18 42 40.0**	**+2.3**
ISA	**Isabella**	**7.38**	**329**	*e*Pn	**Pn**	**18 42 40.0**	**+2.3**
LENM	**Lemitar**	**7.45**	**49**	*e*Pn	**Pn**	**18 42 37.8**	**-1.1**
HPIG		**7.56**	**107**	*i* P	**Pn**	**18 42 41.2**	**+0.8**
LPM	**Los Pinos Moun**	**7.77**	**49**	*e*Pn	**Pn**	**18 42 42.0**	**-1.2**
CCUT	**Cedar City**	**8.10**	**2**	*e*P	**Pn**	**18 42 48.1**	**+0.2**
	comp=N,632nm,0.9s						
ANMO	**Albuquerque**	**8.27**	**47**	*e*Pn	**Pn**	**18 42 48.6**	**-1.5**
ANMO				Sn	**Sn**	**18 44 20.1**	**-3.7**
ANMO				Lg	Lg	18 45 09.1	
ANMO	**Albuquerque**	**8.27**	**47**	Pn	**Pn**	**18 42 49.1**	**-1.0**
	comp=N,3.5nm,0.3s,baz=228,slow=12,SNR=37						
ANMO				Sn	**Sn**	**18 44 20.1**	**-3.7**
	comp=N,1.2nm,0.3s,baz=233,slow=17,SNR=1.6						
ANMO				Lg	Lg	18 45 09.1	
	comp=N,7.7nm,0.3s,baz=179,slow=20,SNR=1.8						
ARUT	**Antelope Range**	**8.34**	**2**	*e*P	**Pn**	**18 42 52.4**	**+1.4**
ARUT	**Antelope Range**	**8.34**	**2**	*e*P	**Pn**	**18 42 52.4**	**+1.4**
GDL2	**Guadalupe Moun**	**8.53**	**69**	*e*Pn	**Pn**	**18 42 55.1**	**+1.4**
TXAR	**Lajitas Array**	**8.80**	**88**	Pn	**Pn**	**18 42 56.3**	**-1.1**
TXAR				Sn	**Sn**	**18 44 34.7**	**-2.0**
TXAR				Lg	Lg	18 45 27.1	
TXAR	**Lajitas Array**	**8.80**	**88**	Pn	**Pn**	**18 42 56.3**	**-1.1**
	comp=N,8.6nm,0.3s,baz=272,slow=14,SNR=88						
TXAR				Sn	**Sn**	**18 44 34.7**	**-2.0**
	comp=N,3.4nm,0.3s,baz=260,slow=15,SNR=1.4						
TXAR				Lg	Lg	18 45 27.1	
	comp=N,8.9nm,0.3s,baz=244,slow=26,SNR=2.8						
TXAR				LR	LR	18 46 32.3	
	comp=N,206μm,21.9s,baz=25,slow=39						
MVCO	**Mesa Verde**	**8.91**	**28**	*e*Pn	**Pn**	**18 42 59.2**	**+0.2**
CLNB	**Carlsbad**	**8.95**	**69**	*e*P	Pn	18 43 02.3	+2.9
	comp=N,24nm,0.8s						
MSU	**Marysvale**	**9.15**	**8**	*e*P	**Pn**	**18 43 02.9**	**+0.7**
MSU	**Marysvale**	**9.15**	**8**	*e*Pn	**Pn**	**18 43 02.9**	**+0.7**
NVAR	**Mina Array Bea**	**9.73**	**338**	Pn	Pn	18 43 12.9	+2.7
NVAR	**Mina Array Bea**	**9.73**	**338**	Pn	Pn	18 43 12.9	+2.7
	comp=N,0.4nm,0.3s,baz=162,slow=12,SNR=51						
NVAR				LR	LR	18 46 47.7	
	comp=N,84μm,19.9s,baz=317,slow=37						
SAO	**San Andreas Ge**	**9.74**	**321**	*e*P	Pn	18 43 13.2	+3.0
SAO	**San Andreas Ge**	**9.74**	**321**	*e*Pn	Pn	18 43 13.2	+3.0
PV04	**Paradox Valley**	**9.80**	**23**	*e*Pn	**Pn**	**18 43 12.4**	**+1.3**
SRU	**San Rafael**	**10.02**	**15**	*e*P	**Pn**	**18 43 15.4**	**+1.4**
SRU	**San Rafael**	**10.02**	**15**	*e*Pn	**Pn**	**18 43 15.4**	**+1.4**
TMUT	**Trail Mountain**	**10.06**	**11**	*e*Pn	**Pn**	**18 43 16.7**	**+1.9**
CMB	**Columbia Colle**	**10.20**	**329**	*e*P	**Pn**	**18 43 19.0**	**+2.6**
CMB	**Columbia Colle**	**10.20**	**329**	*e*Pn	**Pn**	**18 43 19.0**	**+2.6**
NLU	**North Lily Min**	**10.59**	**7**	*e*Pn	**Pn**	**18 43 24.3**	**+2.4**
MPU	**Maple Canyon**	**10.70**	**9**	*e*Pn	**Pn**	**18 43 25.9**	**+2.5**
DUG	**Dugway**	**10.76**	**4**	*e*P	**Pn**	**18 43 26.7**	**+2.4**
DUG	**Dugway**	**10.76**	**4**	*e*Pn	**Pn**	**18 43 26.6**	**+2.4**
SDCO	**Great Sand Dun**	**10.77**	**38**	*e*P	**Pn**	**18 43 25.4**	**+1.0**
	comp=N,1μm,1.6s						
H06S		**10.96**	**166**	*i* P	**Pn**	**18 43 29.4**	**+2.6**
DAU	**Daniels Canyon**	**11.14**	**10**	*e*P	**Pn**	**18 43 31.7**	**+2.1**
DAU	**Daniels Canyon**	**11.14**	**10**	*e*Pn	**Pn**	**18 43 31.7**	**+2.1**
SMCO	**Snowmass**	**11.22**	**28**	*e*Pn	**Pn**	**18 43 31.1**	**+0.4**
PAHR	**Pah Rah Range**	**11.24**	**337**	*e*Pn	Pn	18 43 34.2	+3.4
JLU	**Jordanelle**	**11.30**	**9**	*e*Pn	**Pn**	**18 43 34.2**	**+2.5**
BMN	**Battle Mountai**	**11.33**	**346**	*e*P	**Pn**	**18 43 34.3**	**+2.2**
BMN	**Battle Mountai**	**11.33**	**346**	*e*Pn	**Pn**	**18 43 34.2**	**+2.2**
CTU	**Camp Tracy**	**11.35**	**8**	*e*Pn	**Pn**	**18 43 34.8**	**+2.5**
BGU	**Big Grassy Mou**	**11.48**	**3**	*e*Pn	Pn	18 43 37.4	+3.3
AMTX	**Amarillo**	**11.58**	**59**	*e*P	**Pn**	**18 43 36.2**	**+0.7**
	comp=N,215nm,1.4s						
BEKR	**Beckworth**	**11.74**	**334**	*e*P	Pn	18 43 40.7	+3.1
	comp=N,201nm,1.4s						
ANIG	**Ahuacatlan**	**11.80**	**133**	*i* P	**Pn**	**18 43 41.1**	**+2.6**
ZAIG	**Zacatecas**	**12.04**	**121**	*i* P	**Pn**	**18 43 43.9**	**+1.9**
JCT	**Junction City**	**12.15**	**82**	*e*P	**Pn**	**18 43 44.0**	**+0.9**
JCT	**Junction City**	**12.15**	**82**	*e*Pn	**Pn**	**18 43 44.0**	**+0.9**
HWUT	**Hardware Ranch**	**12.28**	**8**	*e*P	Pn	18 43 48.8	+3.8
	comp=N,3μm,2.1s						
ISCO	**Idaho Springs**	**12.32**	**31**	*e*P	**Pn**	**18 43 47.4**	**+1.7**
ISCO	**Idaho Springs**	**12.32**	**31**	*e*Pn	**Pn**	**18 43 47.4**	**+1.7**
HVU	**Hansel Valley**	**12.34**	**3**	*e*P	Pn	18 43 49.2	+3.3
HVU	**Hansel Valley**	**12.34**	**3**	*e*Pn	Pn	18 43 49.2	+3.3
SFJM	**Santa Fe**	**13.18**	**130**	*i* P	P	18 44 03.6	-3.9
WDC	**Whiskeytown Da**	**13.24**	**329**	*e*P	Pn	18 44 01.0	+3.1
WDC				pmax	pmax		
	comp=Z,15μm,1.8s						
WDC	**Whiskeytown Da**	**13.24**	**329**	*e*P	Pn	18 44 01.0	+3.1
	comp=Z,15μm,1.8s						
RWWY	**Rawlins**	**13.33**	**22**	*e*Pn	**Pn**	**18 44 01.0**	**+1.6**
AHID	**Auburn Hatcher**	**13.47**	**8**	*e*P	**Pn**	**18 44 03.5**	**+2.2**
	comp=Z,361nm,1.3s						
LNIG	**Linares**	**13.50**	**106**	*e*P	**Pn**	**18 44 02.3**	**+0.8**
WVOR	**Wild Horse Val**	**13.56**	**344**	*e*P	Pn	18 44 05.4	+3.0
WVOR				pmax	pmax		
	comp=Z,1μm,1.8s						
WVOR	**Wild Horse Val**	**13.56**	**344**	*e*P	Pn	18 44 05.4	+3.0
	comp=Z,1μm,1.8s						
PHWY	**Pilot Hill**	**13.63**	**27**	*e*Pn	Pn	18 44 06.3	+2.8
BW06	**Boulder Array**	**13.73**	**13**	*e*P	**Pn**	**18 44 06.0**	**+1.2**
	comp=Z,4μm,1.8s						
PDAR	**Pinedale Array**	**13.73**	**13**	Pn	**Pn**	**18 44 06.3**	**+1.5**
PDAR				Lg	Lg	18 48 12.8	
PDAR	**Pinedale Array**	**13.73**	**13**	Pn	**Pn**	**18 44 06.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=187,slow=10,SNR=22						
PDAR				Lg	Lg	18 48 12.9	
	comp=Z,0.2nm,0.3s,baz=192,slow=24,SNR=3.7						
WMOK	**Wichita Mounta**	**13.75**	**64**	*e*P	**Pn**	**18 44 05.3**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,423nm,1.0s						
WMOK	**Wichita Mounta**	**13.75**	**64**	*e*P	**Pn**	**18 44 05.3**	**+0.3**
	comp=Z,423nm,1.0s						
KHMM	**Horse Mountain**	**14.02**	**327**	*e*Pn	Pn	18 44 11.9	+3.2
RRI2	**Red Ridge**	**14.02**	**7**	*e*Pn	**Pn**	**18 44 11.1**	**+2.2**
MFID	**Camas Ranch**	**14.05**	**354**	*e*Pn	Pn	18 44 12.0	+2.9
KVTX	**Kingsville**	**14.08**	**94**	*e*Pn	**Pn**	**18 44 10.5**	**+1.1**
REDW	**Red Top Meadow**	**14.09**	**9**	*e*Pn	**Pn**	**18 44 12.1**	**+2.2**
HLID	**Hailey**	**14.11**	**358**	*e*Pn	Pn	18 44 13.4	+3.4
SNOW	**Snow King Moun**	**14.21**	**9**	*e*Pn	**Pn**	**18 44 13.3**	**+1.9**
TPAW	**Teton Pass**	**14.21**	**8**	*e*Pn	**Pn**	**18 44 13.5**	**+2.0**
YBH	**Yreka Blue Hor**	**14.26**	**332**	Pn	Pn	**18 44 13.2**	**+1.2**
YBH	**Yreka Blue Hor**	**14.26**	**332**	Pn	**Pn**	**18 44 13.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=145,slow=9.6,SNR=17						
YBH				LR	LR	18 49 52.0	
	comp=Z,101μm,21.3s,baz=160,slow=38						
MOOW	**Moose Ponds**	**14.49**	**9**	*e*Pn	**Pn**	**18 44 17.1**	**+1.9**
IMW	**Indian Meadow**	**14.61**	**8**	*e*Pn	**Pn**	**18 44 19.0**	**+2.1**
KRMB	**Red Mountain**	**14.61**	**328**	*e*Pn	**Pn**	**18 44 18.8**	**+2.0**
MMIG	**Aquila**	**14.61**	**137**	*i* P	**P**	**18 44 21.4**	**-1.9**
OGNE	**Ogallala**	**14.94**	**37**	*e*P	**Pn**	**18 44 22.0**	**+0.8**
	comp=Z,3μm,2.0s						
MOIG	**Morelia**	**14.99**	**128**	*e*P	**P**	**18 44 26.6**	**-1.1**
RFTA	**Plano**	**15.03**	**72**	*e*P	**P**	**18 44 28.7**	**+0.9**
HUMO	**Hull Mountain**	**15.09**	**333**	*e*Pn	**P**	**18 44 26.9**	**-1.6**
	comp=Z,144nm,1.3s						
YFT	**Old Faithful**	**15.17**	**8**	*e*P	**P**	**18 44 28.4**	**-1.1**
	comp=Z,759nm,1.4s						
KBO	**Bosley Butte**	**15.30**	**329**	*e*P	**P**	**18 44 29.0**	**-1.9**
	comp=Z,221nm,1.1s						
LKWY	**Lake**	**15.34**	**9**	*e*P	**P**	**18 44 30.5**	**-1.0**
LKWY				pmax	pmax		
	comp=Z,1μm,1.6s						
LKWY	**Lake**	**15.34**	**9**	*e*P	**P**	**18 44 30.4**	**-1.0**
	comp=Z,1μm,1.6s						
YMR	**Madison River**	**15.37**	**8**	*e*P	**P**	**18 44 30.1**	**-1.7**
	comp=Z,962nm,1.5s						
MCMT	**McKenzie Canyo**	**15.38**	**2**	*e*P	**P**	**18 44 30.2**	**-1.7**
	comp=Z,422nm,1.7s						
YNR	**Norris Junctio**	**15.45**	**8**	*e*P	**P**	**18 44 31.2**	**-1.4**
	comp=Z,650nm,1.4s						
QLMT	**Earthquake Lak**	**15.48**	**6**	*e*Pn	**P**	**18 44 31.4**	**-1.6**
BMO	**Blue Mountains**	**15.64**	**351**	*e*P	**Pn**	**18 44 32.4**	**+1.9**
	comp=Z,4μm,1.8s						
KEBM	**Edson Butte**	**15.88**	**330**	*e*Pn	**P**	**18 44 36.2**	**-1.1**
	comp=Z,884nm,1.2s						
DLMT	**Dillon**	**15.93**	**3**	*e*Pn	**P**	**18 44 37.4**	**-0.5**
	comp=Z,497nm,1.4s						
RLMT	**Red Lodge**	**16.06**	**12**	*e*P	**Pn**	**18 44 37.3**	**+1.3**
	comp=Z,3μm,2.1s						
BKCOR	**Black Crater**	**16.13**	**339**	P	**P**	**18 44 39.8**	**-0.3**
BOZ	**Bozeman (W)**	**16.27**	**5**	*e*P	**P**	**18 44 40.5**	**-1.2**
BOZ				pmax	pmax		
	comp=Z,9μm,1.6s						
BOZ	**Bozeman (W)**	**16.27**	**5**	*e*P	**P**	**18 44 40.5**	**-1.2**
	comp=Z,9μm,1.6s						
ZIIG	**Zihuatanejo**	**16.28**	**134**	*i* P	**Pn**	**18 44 38.9**	**+0.1**
LRM	**Limekiln Ridge**	**16.39**	**3**	*e*Pn	**P**	**18 44 43.0**	**-0.1**
LCCM	**Lewis and Clar**	**16.44**	**5**	P	**P**	**18 44 43.7**	**+0.1**
ARIG	**Puente Sto Nin**	**16.53**	**129**	*i* P	**P**	**18 44 43.4**	**-1.2**
RSSD	**Black Hills**	**16.58**	**25**	*e*P	**Pn**	**18 44 42.6**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,645nm,1.4s						
RSSD	**Black Hills**	**16.58**	**25**	*e*Pn	**Pn**	**18 44 42.6**	**-0.1**
	comp=Z,645nm,1.4s						
GCMT	**Greycliff**	**16.64**	**10**	*e*P	**P**	**18 44 45.9**	**0.0**
	comp=Z,451nm,1.9s						
COR	**

SLM Saint Louis 21.50 59 eP P 18 45 41.6 +2.7
comp=Z,2µm,1.3s
HALT Halls 21.52 66 eP P 18 45 40.1 +1.1
GLAT Glass 21.62 65 eP P 18 45 42.9 +2.7
PLAL Pickwick Lake 22.39 69 eP P 18 45 47.5 -1.0
comp=Z,1µm,1.5s
TGIG 22.73 119 eP P 18 45 51.5 -0.8
WVT Waverly 22.76 66 eP P 18 45 52.2 -0.2
WVT pmax pmax
comp=Z,874nm,1.4s
WVT Waverly 22.76 66 eP P 18 45 52.2 -0.2
comp=Z,874nm,1.4s
HDIL Hopedale 22.83 54 eP P 18 45 53.9 +0.7
comp=Z,1µm,1.6s
BRAL Brewton 23.11 79 eP P 18 45 58.0 +2.0
comp=Z,4µm,1.7s
LRAL Lakeview Retre 23.14 74 eP P 18 45 56.0 -0.3
comp=Z,11µm,1.8s
USIN University of 23.26 62 eP P 18 46 01.3 +3.8
comp=Z,1µm,1.3s
AGMN Agassiz Nation 23.33 31 eP P 18 45 57.0 -1.1
comp=Z,1µm,1.8s
CCIG Comitan 23.78 119 *i* P **P 18 46 05.5 +2.4**
WCI Wyandotte Cave 24.37 62 eP P 18 46 07.7 -0.6
WCI pmax pmax
comp=Z,883nm,1.8s
WCI Wyandotte Cave 24.37 62 eP P 18 46 07.7 -0.6
comp=Z,883nm,1.8s
BLO Bloomington 24.43 59 eP P 18 46 08.8 +0.1
BLO pmax pmax
comp=Z,858nm,1.4s
BLO Bloomington 24.43 59 eP P 18 46 08.8 +0.1
comp=Z,858nm,1.4s
ULM Lac du Bonnet 24.79 28 P P 18 46 10.8 -1.1
ULM Lac du Bonnet 24.79 28 P P 18 46 10.8 -1.1
comp=Z,92nm,0.9s,baz=221,slow=10.0,SNR=40
ULM LR LR 18 57 06.0
comp=Z,16µm,21.0s,baz=221,slow=40
TEIG Tepich 24.83 106 eP P 18 46 14.1 +1.5
comp=Z,258nm,1.3s
TEIG Tepich 24.83 106 P P 18 46 12.2 -0.4
comp=Z,106nm,1.0s,baz=280,slow=7.3,SNR=30
TEIG LR LR 18 58 01.8
comp=Z,57µm,20.7s,baz=295,slow=42
BBB Bella Bella 25.10 339 P P 18 46 16.0 +1.4
BBB Bella Bella 25.10 339 P P 18 46 16.0 +1.4
comp=Z,19nm,1.1s,baz=141,slow=13,SNR=3.1
BBB LR LR 18 55 42.2
comp=Z,59µm,21.2s,baz=167,slow=36
EYMN Ely 25.22 37 eP P 18 46 14.7 -1.1
comp=Z,210nm,1.1s
CPCT Cooper Cave 25.34 69 eP P 18 46 16.4 -0.6
COWI Conover 25.45 42 eP P 18 46 17.1 -0.9
comp=Z,235nm,0.9s
TKL Tuckaleechee C 25.96 68 eP P 18 46 21.9 -0.8
TKL Tuckaleechee C 25.96 68 P P 18 46 22.6 -0.1
comp=Z,113nm,1.1s,baz=251,slow=6.7,SNR=18
TKL LR LR 18 56 27.4
comp=Z,79µm,18.8s,baz=265,slow=36
GOGA Godfrey 26.10 73 eP P 18 46 22.8 -1.1
GOGA pmax pmax
comp=Z,269nm,1.2s
GOGA Godfrey 26.10 73 eP P 18 46 22.8 -1.1
comp=Z,269nm,1.2s
TZTN Tazewell 26.24 66 eP P 18 46 25.9 +0.7
comp=Z,2µm,2.3s
FFC Flin Flon 26.67 15 P P 18 46 27.6 -1.2
comp=Z,257nm,0.9s,SNR=7.8
FFC Flin Flon 26.67 15 *i* P **P 18 46 28.2 -0.6**
FFC Flin Flon 26.67 15 eP P 18 46 27.8 -1.0
comp=Z,493nm,2.3s
GLMI Grayling 27.66 48 eP P 18 46 37.5 -0.4
comp=Z,234nm,1.1s
DWPF Disney 28.32 85 eP P 18 46 46.2 +2.3
comp=Z,365nm,1.6s
BLA Blacksburg 28.80 66 eP P 18 46 47.8 -0.4
BLA pmax pmax
comp=Z,364nm,1.6s
BLA Blacksburg 28.80 66 eP P 18 46 47.8 -0.4
comp=Z,364nm,1.6s
VWCC Virginia Weste 29.16 66 eP P 18 46 53.7 +2.3
WRAK Wrangell Islan 30.01 339 eP P 18 46 59.6 +1.0
comp=Z,249nm,1.8s
JSRW J. Sargeant Re 30.86 65 eP P 18 47 05.9 -0.4
DLBC Dease Lake 31.10 343 P P 18 47 09.4 +1.1
DLBC Dease Lake 31.10 343 P P 18 47 09.4 +1.1
comp=Z,16nm,1.0s,baz=164,slow=7.2,SNR=19
DLBC LR LR 18 59 44.6
comp=Z,85µm,20.8s,baz=159,slow=36
SADO Sadowa 31.29 51 P P 18 47 09.4 -0.7
SADO Sadowa 31.29 51 P P 18 47 09.4 -0.7
comp=Z,28nm,0.9s,baz=275,slow=11,SNR=10
CBN Corbin 31.31 64 eP P 18 47 10.4 +0.2
comp=Z,76nm,0.9s
SDMD Soldier's Deli 31.85 62 eP P 18 47 15.3 +0.3
comp=Z,294nm,1.8s
FCC Fort Churchill 32.29 19 eP P 18 47 16.8 -1.8
FCC Fort Churchill 32.29 19 eP P 18 47 16.8 -1.8
comp=Z,2.2nm,0.9s
MVL Millersville 32.29 61 eP P 18 47 19.3 +0.4
comp=Z,406nm,2.3s
BINY Binghamton 32.90 57 eP P 18 47 23.8 -0.5
comp=Z,419nm,1.5s
JTS JuntasAbangare 32.96 119 P P 18 47 25.6 +0.6
JTS JuntasAbangare 32.96 119 P P 18 47 25.6 +0.6
comp=Z,41nm,1.0s,baz=311,slow=7.0,SNR=6.6
YKA Yellowknife Ar 33.07 359 P P 18 47 24.5 -0.9
YKA PcP **PcP 18 50 07.8 -0.9**
YKA Yellowknife Ar 33.07 359 P P 18 47 24.5 -0.9
comp=Z,1.8nm,0.7s,baz=174,slow=8.5,SNR=16
YKA PcP **PcP 18 50 07.8 -0.9**
comp=Z,2.9nm,0.8s,baz=166,slow=2.9,SNR=6.8
YKW3 Yellowknife Ar 33.14 359 eP P 18 47 25.1 -0.9
comp=Z,13nm,2.6s
SKAG Skagway 33.42 340 eP P 18 47 29.0 +0.4
comp=Z,533nm,2.4s
PAL Palisades 34.27 59 eP P 18 47 36.7 +0.5
PAL pmax pmax
comp=Z,1µm,1.5s
PAL Palisades 34.27 59 eP P 18 47 36.7 +0.5
comp=Z,1µm,1.5s
LONY Lake Ozonia 34.39 53 eP P 18 47 37.5 +0.2
comp=Z,403nm,1.7s
ACCN Adirondack Com 34.80 55 eP P 18 47 40.6 -0.1
comp=Z,89nm,1.1s
HYT Haines Junctio 35.17 340 eP P 18 47 45.9 +2.0
MDV Middlebury 35.25 54 eP P 18 47 45.1 +0.5
LBNH Lisbon 36.19 54 eP P 18 47 53.0 +0.4
LBNH pmax pmax
comp=Z,619nm,1.9s
LBNH Lisbon 36.19 54 eP P 18 47 53.0 +0.4
comp=Z,619nm,1.9s
HRV Adam Dziewonsk 36.19 57 eP P 18 47 52.4 -0.3
HRV pmax pmax
comp=Z,171nm,1.4s
HRV Adam Dziewonsk 36.19 57 eP P 18 47 52.4 -0.3
comp=Z,171nm,1.4s
GTBY Guantanamo Bay 36.23 96 eP P 18 47 53.7 +0.5
comp=Z,165nm,1.1s
RAGM Ragged Mountai 37.25 335 eP P 18 48 03.3 +1.8
comp=Z,742nm,2.5s
BMRM Bremner River 37.62 336 eP P 18 48 06.4 +1.7
comp=Z,384nm,2.0s
DIV Divide 38.15 335 eP P 18 48 12.2 +3.1
comp=Z,346nm,2.2s
MENT Mentasta 38.70 339 eP P 18 48 15.0 +1.2
PAX Paxson 39.29 338 eP P 18 48 19.7 +0.9
PAX pmax pmax
comp=Z,216nm,2.0s
PAX Paxson 39.29 338 eP P 18 48 19.7 +0.9
comp=Z,216nm,2.0s
SML Sawmill 39.52 335 eP P 18 48 21.7 +1.0
SML pmax pmax
comp=Z,179nm,2.5s
SML Sawmill 39.52 335 eP P 18 48 21.7 +1.0
comp=Z,179nm,2.5s
PMR Palmer 39.69 334 eP P 18 48 22.8 +0.9
PMR pmax pmax
comp=Z,968nm,2.4s
PMR Palmer 39.69 334 eP P 18 48 22.8 +0.9
comp=Z,968nm,2.4s
SDDR Presa de Saban 39.91 95 eP P 18 48 25.6 +1.1
comp=Z,198nm,1.4s
RSO Redoubt South 40.48 331 eP P 18 48 29.8 +1.0
SPU Mount Spurr 40.59 333 eP P 18 48 30.2 +0.6
INK Inuvik 40.62 349 P P 18 48 29.2 -0.3

INK Inuvik 40.62 349 P P 18 48 29.2 -0.3
comp=Z,28nm,1.2s,baz=0.0,slow=20
MCK McKinley 40.97 337 eP P 18 48 33.7 +1.1
MCK pmax pmax
comp=Z,496nm,2.2s
MCK McKinley 40.97 337 eP P 18 48 33.7 +1.1
comp=Z,496nm,2.2s
ILAR Eielson Array 40.99 339 P P 18 48 33.0 +0.3
ILAR Eielson Array 40.99 339 P P 18 48 33.0 +0.3
comp=Z,9.4nm,0.9s,baz=149,slow=7.0,SNR=55
ILAR LR LR 19 06 24.2
comp=Z,18µm,19.0s,baz=149,slow=38
TRF Thorofare Moun 41.26 336 eP P 18 48 35.0 -0.1
comp=Z,1µm,2.2s
COLA College 41.36 339 eP P 18 48 38.7 +3.0
COLA pmax pmax
comp=Z,464nm,0.6s
COLA College 41.36 339 eP P 18 48 38.7 +3.0
comp=Z,464nm,0.6s
PPLA Purkeypile 41.62 335 eP P 18 48 39.2 +1.1
comp=Z,666nm,1.6s
BBSR BB Station 41.91 73 eP P 18 48 42.2 +1.5
comp=Z,479nm,2.0s
SCHQ Schefferville 41.97 39 eP P 18 48 40.3 -0.6
comp=Z,164nm,1.0s
SCHQ PP **PnPn 18 50 23.8 +0.8**
SCHQ Schefferville 41.97 39 P P 18 48 40.1 -0.8
comp=Z,47nm,0.9s,baz=253,slow=7.1,SNR=20
SCHQ PP **PnPn 18 50 23.8 +0.8**
comp=Z,14nm,1.0s,baz=251,slow=15,SNR=3.1
SCHQ LR LR 19 06 46.1
comp=Z,44µm,19.3s,baz=253,slow=37
SVW2 Sparrevohn 42.00 331 eP P 18 48 40.8 -0.3
comp=Z,740nm,2.3s
COLD Coldfoot 43.65 340 eP P 18 48 55.4 +1.0
comp=Z,1µm,2.9s
LRS Lares 44.05 94 eP P 18 49 01.2 +2.9
AOPR Arecibo Observ 44.11 94 eP P 18 49 03.4 +4.6
comp=Z,559nm,2.1s
OBIP Obispado Ponce 44.36 94 eP P 18 49 04.1 +3.4
comp=Z,309nm,1.6s
CELP Cerrillos 44.37 94 eP P 18 49 03.3 +2.5
OTAV Otavalo 44.45 124 eP P 18 49 02.5 +0.6
comp=Z,278nm,1.7s
ROSC El Rosal 44.56 116 P P 18 49 03.2 +0.4
ROSC El Rosal 44.56 116 P P 18 49 03.2 +0.4
comp=Z,10nm,0.5s,baz=105,slow=13,SNR=9.9
ROSC LR LR 19 10 02.4
comp=Z,21µm,18.7s,baz=347,slow=39
SJG San Juan 44.73 94 eP P 18 49 02.2 -1.4
HUMP Col San Antoni 44.98 93 eP P 18 49 08.4 +2.7
comp=Z,74nm,1.0s
SDV Santo Domingo 45.24 108 eP P 18 49 10.0 +2.1
comp=Z,133nm,1.2s
CDVI St. Croix 46.08 93 eP P 18 49 15.3 +1.0
comp=Z,200nm,0.8s
ATKA Atka Island 49.44 315 eP P 18 49 40.6 +0.7
comp=Z,323nm,1.9s
SSG Sans Toucher 49.45 94 eP P 18 49 42.0 +1.2
TAG Tarade 49.49 94 eP P 18 49 45.2 +4.3
LKG Breislack 49.49 94 eP P 18 49 41.5 +0.5
ECG Echelle 49.50 94 eP P 18 49 41.9 +0.8
DOG Dongo Capester 49.53 94 eP P 18 49 43.7 +2.5
TBG Guadaloupe-3 49.58 94 eP P 18 49 43.9 +2.4
ATAH Atahualpa 49.79 131 P P 18 49 43.8 +0.3
ATAH Atahualpa 49.79 131 P P 18 49 43.8 +0.3
comp=Z,42nm,0.9s,baz=332,slow=6.3,SNR=15
FDF Fort de France 50.50 95 eP P 18 49 49.3 +0.7
FDF pmax pmax
comp=Z,77nm,0.8s
FDF Fort de France 50.50 95 eP P 18 49 49.3 +0.7
comp=Z,77nm,0.8s
ADK Adak 50.97 315 eP P 18 49 50.6 -1.0
ADK pmax pmax
comp=Z,932nm,1.6s
ADK Adak 50.97 315 eP P 18 49 50.5 -1.0
comp=Z,932nm,1.6s
GRGR Grenville 51.24 98 eP P 18 49 55.9 +1.8
comp=Z,731nm,1.3s
SFJD Kangerlussuaq 52.81 26 *i* P **P 18 50 02.9 -2.1**
comp=Z,47nm,0.9s
SFJD Kangerlussuaq 52.81 26 P P 18 50 04.8 -0.2
SFJD Kangerlussuaq 52.81 26 P P 18 50 04.8 -0.2
comp=Z,92nm,1.2s,baz=274,slow=6.2,SNR=17
NNA Nana 54.44 134 eP P 18 50 17.6 -0.2
comp=Z,352nm,2.2s
NNA Nana 54.44 134 P P 18 50 17.5 -0.2
comp=Z,175nm,1.9s,SNR=5.2
RPN Rapa Nui 56.40 175 P P 18 50 31.4 -0.1
RPN Rapa Nui 56.40 175 P P 18 50 31.4 -0.1
comp=Z,1.0nm,0.4s,baz=290,slow=7.3,SNR=6.5
SUMG Summit 57.80 20 eP P 18 50 40.1 -1.4
SUMG pmax pmax
comp=Z,223nm,1.4s
SUMG Summit 57.80 20 *i* P **P 18 50 39.5 -2.0**
comp=Z,39nm,1.0s
SUMG Summit 57.80 20 eP P 18 50 40.1 -1.4
comp=Z,223nm,1.4s
PPT Papeete 58.12 221 LR LR 19 09 34.3
comp=Z,12µm,20.1s,baz=147,slow=30
DAG Danmarks Havn 62.75 15 *i* P **P 18 51 13.3 -1.5**
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 62.75 15 *i* P **P 18 51 13.3 -1.5**
comp=Z,12nm,1.0s
LPAZ La Paz 63.28 130 eP P 18 51 17.8 -2.1
comp=Z,55nm,1.7s
LPAZ La Paz 63.28 130 P P 18 51 17.8 -2.1
comp=Z,5.4nm,0.8s,baz=345,slow=10,SNR=11
LPAZ LR LR 19 18 24.1
comp=Z,11µm,18.4s,baz=341,slow=36
PET Petropavlovsk 65.68 319 eP P 18 51 37.0 +2.6
PET pmax pmax
comp=Z,14nm,0.9s
PET MLR MLR
comp=Z,17µm,17.0s
PETK Petropavlovsk- 66.21 319 P P 18 51 37.5 -0.3
PETK Petropavlovsk- 66.21 319 P P 18 51 37.5 -0.3
PETK Petropavlovsk- 66.21 319 P P 18 51 37.5 -0.3
comp=Z,15nm,0.8s,baz=98,slow=11,SNR=14
PETK LR LR 19 18 55.2
comp=Z,11µm,19.5s,baz=22,slow=34
RAR Rarotonga 67.09 227 LR LR 19 14 04.1
comp=Z,15µm,18.4s,baz=183,slow=30
LVC Limon Verde 67.38 135 eP P 18 51 46.2 +0.3
comp=Z,112nm,1.5s
KBS Kingsbay 67.59 10 eP P 18 51 47.0 +0.8
KBS pmax pmax
comp=Z,35nm,1.7s
KBS Kingsbay 67.59 10 eP P 18 51 46.4 +0.3
comp=Z,264nm,2.1s
TIXI Tiksi 70.33 343 eP P 18 52 01.3 -1.9
TIXI pmax pmax
comp=Z,34nm,1.7s
AFI Afiamalu 70.62 241 LR LR 19 14 14.9
comp=Z,15µm,20.6s,baz=209,slow=28
LCO Las Campanas 71.19 141 eP P 18 52 09.3 -0.1
comp=Z,87nm,1.2s
TLL Tololo Astrono 72.03 142 eP P 18 52 17.8 +3.3
LMEL Las Melosas 75.22 144 eP P 18 52 33.4 +0.4
YAK Yakutsk 75.68 334 eP P 18 52 32.9 -2.2
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,11nm,1.5s
ESK Eskdalemuir 76.93 33 *i* P P 18 52 46.9 +4.5
ESK Eskdalemuir 76.93 33 eP P 18 52 40.9 -1.5
comp=E,81nm,1.3s
EKA Eskdalemuir Ar 76.94 33 LR LR 19 25 55.3
comp=E,23µm,18.0s,baz=90,slow=35
ARCES ARCESS Array B 76.98 14 P P 18 52 41.1 -1.4
ARCES ARCESS Array B 76.98 14 P P 18 52 41.1 -1.4
comp=E,5.0nm,0.8s,baz=336,slow=5.6,SNR=11
ARCES LR LR 19 27 00.5
comp=E,23µm,20.1s,baz=353,slow=36
KEV Kevo 77.11 13 eP P 18 52 46.9 +3.8
KEV Kevo 77.11 13 eP P 18 52 46.9 +3.8
CPUP Villa Florida 77.45 130 P P 18 52 45.3 -0.3
CPUP Villa Florida 77.45 130 P P 18 52 45.3 -0.3
comp=E,42nm,1.0s,baz=302,slow=5.9,SNR=12
YSS Yuzh-Sakhalins 77.48 317 eP P 18 52 45.5 -0.1
YSS *e* 18 52 51.0
YSS pmax pmax
comp=Z,20nm,0.8s

BDFB Brasilia 77.63 116 P P 18 52 47.4 +0.4
BDFB Brasilia 77.63 116 P P 18 52 47.4 +0.4
comp=Z,5.1nm,0.7s,baz=284,slow=9.7,SNR=5.8
BDFB LR LR 19 30 16.3
comp=Z,16µm,19.8s,baz=310,slow=38
ASAJ Asahikawa 78.99 315 eP P 18 52 53.6 -0.5
comp=Z,48nm,1.7s
ASAJ Asahikawa 78.99 315 P P 18 52 53.6 -0.5
comp=Z,8.9nm,0.8s,baz=299,slow=9.3,SNR=9.6
NB2 NORSAR Subarra 79.41 24 P P 18 52 55.2 -0.9
comp=Z,115nm,1.4s,baz=311,slow=5.9
NB2 NORSAR Subarra 79.41 24 P P 18 52 55.2 -0.9
baz=311,slow=5.9
NOA NORSAR Array B 79.41 24 P P 18 52 55.4 -0.7
NOA NORSAR Array B 79.41 24 P P 18 52 55.4 -0.7
comp=Z,6.1nm,0.9s,baz=312,slow=5.3,SNR=20
ERM Erimo 79.70 312 eP P 18 52 58.0 +0.1
ERM pmax pmax
comp=Z,37nm,1.0s
PMAR Madeira 79.89 58 eP P 18 53 02.9 +3.5
comp=Z,457nm,1.7s
LVZ Lovozero 80.13 12 ⇓ *i* P **P 18 52 59.9 0.0**
LVZ pmax pmax
comp=Z,136nm,2.5s
APA Apatity 80.20 12 ⇓ *i* P P 18 53 04.8 +4.6
APA *i* 18 53 11.0
APA *i* S **S 19 03 10.0 +5.1**
APA *i* PS **PnS 19 03 50.0 +0.9**
APA *i* SS **SS 19 08 15.0 +0.7**
APA pmax pmax
comp=Z,138nm,1.6s
APA MLR MLR
comp=Z,17µm,18.0s
PLCA Paso Flores 80.48 148 eP P 18 53 02.6 +0.5
comp=Z,133nm,1.4s
PLCA Paso Flores 80.48 148 P P 18 53 02.5 +0.5
comp=Z,29nm,0.9s,baz=327,slow=6.3,SNR=23
PLCA LR LR 19 21 02.3
comp=Z,8µm,20.9s,baz=194,slow=30
ROSF Rostrenen 80.76 39 eP P 18 53 02.7 -0.9
comp=Z,293nm,1.7s
QUIF Quistinic 81.06 40 eP P 18 53 04.3 -0.8
comp=Z,173nm,1.2s
HABR Khabarovsk 81.08 321 eP P 18 53 04.8 -0.4
HABR *e**SP **sP 18 53 09.3 -0.4**
HABR *e* 18 53 10.6
HABR *e* 18 56 09.6
HABR *e*PPP PPP 18 57 59.5
HABR MLR MLR
comp=Z,10µm,17.0s
SGMF Saint Gilles 81.21 39 eP P 18 53 04.9 -1.0
comp=Z,200nm,1.5s
PGAV Gavieira, Arco 81.26 47 *e*LQ LQ 19 14 27.1
PCAB Cabril 81.55 47 eP P 18 53 10.2 +2.3
comp=Z,90nm,1.6s
MUD Monsted U'grnd 81.76 28 *i* P **P 18 53 09.4 +0.8**
MUD pmax pmax
comp=Z,34nm,0.9s
MUD Monsted U'grnd 81.76 28 *i* P **P 18 53 09.4 +0.8**
comp=Z,34nm,0.9s
POLO Lamas de Olo 81.87 47 eP P 18 53 13.2 +3.5
comp=Z,65nm,1.7s
PVRL Vila Real 81.97 47 eP P 18 53 12.7 +2.5
comp=Z,146nm,1.7s
FLN La Foliniere 82.04 38 eP P 18 53 09.9 -0.4
comp=Z,168nm,1.2s
FLN *e*R
comp=Z,30µm,22.0s
GRR Gorron 82.06 38 eP P 18 53 10.1 -0.3
comp=Z,74nm,1.0s
PCAS Casmilo, Conde 82.12 48 eP P 18 53 14.0 +3.1
comp=Z,183nm,1.5s
PMAFR Mafra 82.17 50 eP P 18 53 15.1 +3.8
comp=Z,201nm,1.7s
PBRG Braganca 82.31 46 eP P 18 53 14.8 +2.8
comp=Z,119nm,1.7s
LDF La Druitiere 82.33 38 eP P 18 53 11.4 -0.5
comp=Z,96nm,1.2s
LIS Lisbon 82.39 50 eP P 18 53 16.7 +4.4
PTOM Tomar 82.40 49 eP P 18 53 13.2 +0.8
comp=Z,341nm,1.4s
KLR Kul'dur 82.41 323 eP P 18 53 10.3 -1.9
MVO Moncorvo 82.47 47 eP P 18 53 14.8 +2.0
comp=Z,244nm,1.6s
MVO Moncorvo 82.47 47 *e*LR LR 19 18 45.1
comp=Z,17µm,21.2s
MTE Manteigas 82.55 48 eP P 18 53 15.6 +2.3
comp=Z,203nm,1.8s
MTE Manteigas 82.55 48 *e*LR LR 19 19 16.8
comp=Z,20µm,16.8s
PACT Alcochete 82.57 50 eP P 18 53 17.3 +4.0
comp=Z,503nm,1.7s
TRQA Tornquist 82.77 141 eP P 18 53 13.8 -0.3
comp=Z,778nm,1.9s
PMTG Montargil 82.81 49 eP P 18 53 15.4 +0.8
comp=Z,279nm,1.8s
PCBR Castelo Branco 82.89 48 eP P 18 53 14.4 -0.6
comp=Z,210nm,1.5s
PNCL Nicolau / Gran 83.12 50 eP P 18 53 19.4 +3.2
comp=Z,250nm,1.7s
PMRV Marv??o 83.17 48 eP P 18 53 19.6 +3.2
comp=Z,312nm,1.7s
PMRV Marv??o 83.17 48 *e*LQ LQ 19 14 45.7
PMRV *e*LR LR 19 18 49.2
comp=Z,22µm,16.3s
EVO Evora 83.24 49 eP P 18 53 13.9 -2.9
comp=Z,371nm,1.4s
EVO *e*R
comp=Z,52µm,21.8s
EVO Evora 83.24 49 eP P 18 53 19.4 +2.6
comp=Z,229nm,1.6s
KAF Kangasniemi 83.28 18 eP P 18 53 15.4 -1.1
UCC Uccle 83.28 34 P P 18 53 20.0 +3.3
PTEO Sao Teotonio 83.29 51 eP P 18 53 20.1 +3.1
comp=Z,368nm,1.8s
PESTR Estremoz 83.34 49 eP P 18 53 19.2 +1.9
comp=Z,246nm,1.7s
MORF Marmelete 83.47 51 eP P 18 53 20.9 +2.9
comp=Z,224nm,1.6s
MORF Marmelete 83.47 51 eP P 18 53 22.2 +4.2
MFF Saint Martin d 83.50 39 eP P 18 53 17.6 -0.4
comp=Z,241nm,1.5s
PBEJ Beja 83.61 50 eP P 18 53 21.4 +2.7
comp=Z,101nm,1.9s
BAIF Baives 83.67 35 ⇑ *i* P **P 18 53 18.3 -0.5**
comp=Z,327nm,1.6s
WTSB Winterswijk 83.70 32 eP P 18 53 18.3 -0.5
PCVE Castro Verde 83.70 50 eP P 18 53 21.9 +2.7
comp=Z,225nm,1.7s
FINES FINESS Array B 83.77 18 P P 18 53 18.3 -0.8
FINES FINESS Array B 83.77 18 P P 18 53 18.3 -0.8
comp=Z,6.3nm,0.8s,baz=321,slow=5.4,SNR=18
DOU Dourbes 83.84 35 P P 18 53 17.8 -1.8
comp=Z,58nm,1.9s
IBBN Ibbenburen 83.92 32 eP P 18 53 20.1 +0.1
GIVF Givet 83.95 35 ⇑ *i* P **P 18 53 19.8 -0.4**
comp=Z,303nm,1.3s
BSEG Bad Segeberg 83.95 30 eP P 18 53 20.5 +0.4
BSEG Bad Segeberg 83.95 30 eP P 18 53 20.5 +0.4
PBDV Barranco-do-Ve 83.98 51 eP P 18 53 23.5 +2.8
comp=Z,194nm,1.9s
PVAQ Vaqueiros 84.04 50 eP P 18 53 24.1 +3.2
comp=Z,511nm,1.3s
PVAQ Vaqueiros 84.04 50 *e*LQ LQ 19 15 54.6
PVAQ *e*LR LR 19 20 31.0
comp=Z,28µm,16.9s
HGN Heimansgroeve 84.07 34 eP P 18 53 20.7 0.0
HGN *e*L L 18 58 01.3
comp=Z,114µm,18.6s
PBAR Barrancos 84.08 49 eP P 18 53 23.3 +2.2
comp=Z,176nm,1.8s
TMCR Tamitsa 84.11 12 eP P 18 53 22.8 +2.1
TMCR *e* 18 56 38.7
TMCR pmax pmax
comp=Z,44nm,1.4s
MEM Membach 84.21 34 P P 18 53 20.9 -0.5
comp=Z,55nm,1.8s
BUG Bochum--Univer 84.27 33 eP P 18 53 21.3 -0.4
RAO Raoul Island 84.58 232 LR LR 19 20 49.4
comp=Z,7µm,19.6s,baz=26,slow=28
HYF Humbligny 84.61 38 eP P 18 53 23.2 -0.4
NRDL Niedersach Rie 84.85 31 eP P 18 53 26.1 +1.5
WLF Walferdange 84.89 34 P P 18 53 25.3 +0.3
comp=Z,88nm,2.3s
WLF Walferdange 84.89 34 eP P 18 53 24.8 -0.2
SJPF Ste Jean 84.94 43 eP P 18 53 25.1 -0.3

comp=Z,212nm,1.9s
TCF Toulx Ste Croi 84.98 39 *e*P **P 18 53 24.8 -0.8**
comp=Z,127nm,1.2s
LFF La Frestale 84.99 40 *e*P **P 18 53 25.2 -0.4**
comp=Z,455nm,1.7s
PAB San Pablo 85.07 47 *e*P **P 18 53 26.7 +0.5**
PAB pmax pmax
comp=Z,318nm,2.4s
PAB San Pablo 85.07 47 *e*P **P 18 53 26.7 +0.5**
comp=Z,318nm,2.4s
MEZF Maizieres J'vi 85.09 36 *e*P **P 18 53 25.4 -0.6**
comp=Z,104nm,1.1s
LARF Larrau 85.13 43 *e*P **P 18 53 27.2 +0.8**
BGF Bois d'Agland 85.16 38 *e*P **P 18 53 25.7 -0.7**
comp=Z,169nm,1.2s
SSF Saint Saulge 85.20 38 *e*P **P 18 53 26.0 -0.6**
comp=Z,144nm,1.2s
RJF Les Rejaudoux 85.21 40 *e*P **P 18 53 26.1 -0.6**
comp=Z,206nm,1.2s
RJF *e*R
comp=Z,37µm,19.8s
ESDC Sonseca Array 85.24 47 P **P 18 53 26.1 -1.0**
ESDC PP PP 18 56 30.6 -14
ESDC Sonseca Array 85.24 47 P **P 18 53 26.1 -1.0**
comp=Z,3.8nm,0.8s,baz=308,slow=5.3,SNR=19
ESDC PP PP 18 56 30.6 -14
comp=Z,0.2nm,0.3s,baz=330,slow=12,SNR=2.3
ESDC LR LR 19 27 14.8
comp=Z,14µm,18.2s,baz=345,slow=33
LOR Lormes 85.26 37 *e*P **P 18 53 26.4 -0.5**
comp=Z,129nm,1.1s
LOR *e*R
comp=Z,25µm,19.0s
SFTF Sexfontaines 85.28 36 *e*P **P 18 53 26.2 -0.8**
comp=Z,218nm,1.4s
AVF Avril sur Loir 85.29 38 *e*P **P 18 53 26.1 -0.9**
comp=Z,294nm,1.8s
USRK Ussuriysk Arra 85.29 319 P **P 18 53 26.2 -0.9**
comp=Z,4.6nm,0.8s,baz=74,slow=5.4,SNR=11
PAGF Fort de Pagny 85.40 35 *e*P **P 18 53 26.8 -0.8**
comp=Z,59nm,1.4s
ETSF Etsaut 85.46 43 *e*P **P 18 53 28.1 0.0**
comp=Z,118nm,1.5s
SMF Signal de Mont 85.64 38 *e*P **P 18 53 27.9 -0.9**
comp=Z,93nm,1.1s
CAF Calviac 85.75 40 *e*P **P 18 53 28.7 -0.7**
comp=Z,82nm,1.1s
THEF They Montfort 85.75 36 *e*P **P 18 53 29.6 +0.3**
MJAR Matsushiro Arr 85.85 310 P **P 18 53 28.6 -1.5**
MJAR Matsushiro Arr 85.85 310 P **P 18 53 28.6 -1.5**
comp=Z,6.1nm,0.8s,baz=44,slow=3.8,SNR=14
MJAR LR LR 19 23 44.4
comp=Z,14µm,20.0s,baz=290,slow=30
MAJO Matsushiro 85.85 310 *e*P **P 18 53 29.6 -0.5**
MAJO pmax pmax
comp=Z,36nm,1.1s
MAJO Matsushiro 85.85 310 *e*P **P 18 53 29.6 -0.5**
comp=Z,36nm,1.1s
MAT Matsushiro 85.85 310 P **P 18 53 28.6 -1.5**
EPF Esparros 85.91 42 *e*P **P 18 53 29.6 -0.7**
comp=Z,115nm,1.5s
VLA Vladivostok 86.01 318 *be*P **P 18 53 29.4 -1.3**
VLA *e* 18 53 32.5
VLA *e* 18 56 51.3
VLA *e*S **SKSac 19 03 54.7 -2.1**
VLA pmax pmax
comp=Z,17nm,1.4s
HAU Haudompre 86.08 36 *e*P **P 18 53 29.6 -1.4**
comp=Z,74nm,1.0s
HAU *e*R
comp=Z,30µm,18.8s
LANF Langenberg 86.16 34 *e*P **P 18 53 31.1 -0.2**
CDF Champ du Feu 86.27 35 *e*P **P 18 53 30.3 -1.7**
comp=Z,29nm,0.9s
ECH Echery 86.34 35 *e*P **P 18 53 32.3 0.0**
MDJ Mudanjiang 86.40 320 P **P 18 53 32.5 -0.1**
VSU Vasula 86.44 20 *e*P **P 18 53 32.5 +0.1**
VSU pmax pmax
comp=Z,58nm,1.2s
HINF Hinteralfeld 86.45 36 *e*P **P 18 53 30.9 -2.0**
comp=Z,51nm,1.2s
MOF Molkenrain 86.57 35 *e*P **P 18 53 32.0 -1.5**
LOMF Lomont 86.75 36 *e*P **P 18 53 32.8 -1.6**
MTLF Montolieu 86.81 41 *e*P **P 18 53 34.4 -0.2**
comp=Z,145nm,1.7s
MOX Moxa 86.82 31 *e*P **P 18 53 34.1 -0.4**
MOX Moxa 86.82 31 *e*P **P 18 53 34.1 -0.4**
BFO Black Forest 86.85 34 *e*P P 18 53 38.8 +4.0
BFO pmax pmax
comp=Z,41nm,1.5s
BFO Black Forest 86.85 34 *e*P P 18 53 38.8 +4.0
comp=Z,41nm,1.5s
CABF La Chapelle 86.85 37 *e*P **P 18 53 33.3 -1.6**
comp=Z,49nm,1.1s
CLL Collm 86.97 30 *e*P **P 18 53 34.0 -1.2**
CLL *e* 18 53 39.0
CLL MLR MLR
comp=Z,17µm,19.8s
CLL Collm 86.97 30 *e*P **P 18 53 34.0 -1.2**
CLL *ep*P **pP 18 53 39.0 +0.5**
comp=Z,23nm,1.5s
CLL *e* 18 53 45.0
CLL *e*PP **PP 18 56 57.0 -0.5**
CLL LmV 19 32 00.0
comp=Z,17µm,19.8s
CLL LmH 19 39 00.0
comp=N,6µm,21.5s
CLL LmH 19 39 00.0
comp=E,11µm,18.3s
CLL LmH 19 39 00.0
comp=Z,12µm,19.2s
VIVF Saint-Julien-l 87.23 39 *e*P **P 18 53 36.6 -0.1**
comp=Z,49nm,1.2s
LASF Ste Croix 87.28 40 *e*P **P 18 53 35.4 -1.5**
comp=Z,115nm,1.5s
GKP Gorka Klasztor 87.29 27 *e*P **P 18 53 36.8 +0.1**
GRF Grafenberg Arr 87.30 32 *e*P **P 18 53 36.8 -0.1**
GRF Grafenberg Arr 87.30 32 *e*P **P 18 53 36.8 -0.1**
GRFO Grafenberg 87.30 32 *e*P **P 18 53 37.3 +0.4**
GRFO pmax pmax
comp=Z,41nm,1.1s
GRFO Grafenberg 87.30 32 *e*P **P 18 53 37.3 +0.4**
comp=Z,41nm,1.1s
GUNZ Gunzen 87.34 31 *e*P **P 18 53 36.5 -0.6**
WERN Wernitzgruen 87.41 31 *e*P **P 18 53 37.1 -0.4**
NKC Novy Kostel 87.48 31 *e*P **P 18 53 35.0 -2.8**
NKC *e* 18 53 39.2
NKC MLR MLR
comp=Z,14µm,15.6s
NKC Novy Kostel 87.48 31 *e*P **P 18 53 35.0 -2.8**
NKC *ep*P **PcP 18 53 39.2 -0.6**
NKC AMS AMS 19 34 40.0
comp=Z,14µm,15.6s
SENIN Lac Senin/Sane 87.64 36 *e*P P 18 53 42.1 +3.2
comp=Z,35nm,1.5s
ROTZ Rotzenmuhle 87.71 32 *e*P **P 18 53 38.4 -0.5**
ORIF Oris-en-Rattie 87.85 38 *e*P **P 18 53 37.7 -2.0**
comp=Z,80nm,1.4s
ORIF *e*R
comp=Z,26µm,22.5s
LPL La Plagne 87.91 37 *e*P **P 18 53 39.0 -1.2**
comp=Z,130nm,1.7s
LPG La Plagne 87.93 37 *e*P **P 18 53 39.3 -1.1**
comp=Z,107nm,1.4s
PVCC Panska Ves 88.22 30 *e*P **P 18 53 42.5 +1.3**
PVCC *e* 18 53 46.3
PVCC *e* 18 53 51.5
PVCC MLR MLR
comp=Z,20µm,17.4s
PVCC Panska Ves 88.22 30 *e*P **P 18 53 42.5 +1.3**
PVCC *ep*P **pP 18 53 46.3 +1.7**
PVCC *ex* x 18 53 51.5
PVCC *ex* x 18 53 59.5
PVCC AMS AMS 19 34 10.0
comp=Z,20µm,17.4s
SMRF Simiane la Rot 88.29 39 *e*P **P 18 53 40.5 -1.3**
comp=Z,93nm,1.5s
MBDF Montbardon 88.45 38 *e*P **P 18 53 41.2 -1.5**
comp=Z,129nm,1.8s
PRA Prague 88.49 30 P **P 18 53 43.0 +0.5**
PRA AMS AMS 19 30 30.0
PRU Pruhonice 88.60 30 *e*P P 18 53 37.5 -5.6
PRU *e* 18 53 42.8
PRU MLR MLR
comp=Z,16µm,17.5s
PRU Pruhonice 88.60 30 *e*P **P 18 53 42.8 -0.3**
PRU *ex* x 18 54 00.8
PRU AMS AMS 19 29 50.0
comp=Z,16µm,17.5s
KSP Ksiaz 88.73 29 *e*P **P 18 53 43.5 -0.2**
KSP Ksiaz 88.73 29 *e*P **P 18 53 44.7 +1.0**
KHC Kasperske Hory 88.79 31 *e*P **P 18 53 45.0 +1.0**
KHC *e* 18 53 55.0
KHC *e* 18 57 11.8
KHC MLR MLR
comp=Z,19µm,16.8s
KHC Kasperske Hory 88.79 31 *e*P **P 18 53 45.0 +1.0**
KHC *ex* x 18 53 55.0
KHC *ex* x 18 54 01.3
KHC *e*PP **PP 18 57 11.8 -0.5**
KHC AMS AMS 19 37 10.0
comp=Z,19µm,16.8s
KHC Kasperske Hory 88.79 31 *e*P **P 18 53 44.6 +0.6**
comp=Z,68nm,1.9s
FETA Feichten 88.93 34 ⇓*i*P **P 18 53 44.6 -0.4**
comp=Z,34nm,1.6s
SUW Suwalki 88.94 24 *e*P **P 18 53 43.8 -0.7**
FUORN Ofenpass-Fuorn 88.98 35 *e*P **P 18 53 47.0 +1.8**
comp=Z,94nm,1.7s
GERES GERESS Array B 89.05 32 P **P 18 53 43.2 -2.2**
GERES GERESS Array B 89.05 32 P **P 18 53 43.2 -2.2**
comp=Z,2.4nm,0.9s,baz=337,slow=3.0,SNR=8.5
DPC Dobruska-Polom 89.11 29 *e*P **P 18 53 44.7 -0.8**
DPC *e* 18 53 56.0
DPC *e* 18 57 11.1
DPC Dobruska-Polom 89.11 29 *e*P **P 18 53 44.7 -0.8**
DPC *ex* x 18 53 56.0
DPC *ex* x 18 54 00.8
DPC *e*PP **PP 18 57 11.1 -3.7**
DPC AMS AMS 19 36 40.0
FRF La Foret Royal 89.15 39 *e*P **P 18 53 43.9 -1.9**
comp=Z,211nm,1.8s
WTTA Wattenberg 89.20 34 ⇑*i*PcP **P 18 53 46.4 +0.2**
comp=Z,43nm,1.9s
CN2 Changchun 89.21 322 *e*P **P 18 53 46.6 +0.6**
CN2 *e*S **S 19 04 32.8 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.3s
CN2 pmax pmax
comp=Z,200nm,10.0s
LMR La Mourre 89.22 39 *e*P **P 18 53 44.1 -2.0**
comp=Z,97nm,1.4s
NACGM Naroch 89.42 22 *e* P 18 53 40.0 -6.8
TREC Trest 89.53 30 *e*P **P 18 53 46.2 -1.3**
TREC *e* 18 53 51.4
TREC MLR MLR
comp=Z,18µm,15.7s
TREC Trest 89.53 30 *e*P **P 18 53 46.2 -1.3**
TREC *ep*P **pP 18 53 51.4 +0.6**
TREC AMS AMS 19 36 50.0
comp=Z,18µm,15.7s
VRAC Vranov 90.00 30 LR LR 19 34 47.1
comp=Z,18µm,18.8s,baz=311,slow=36
MNK Minsk 90.09 21 *e*P **P 18 53 51.0 +1.1**
MICGM Minsk 90.10 21 *e* **P 18 53 51.0 +1.0**
OKC Ostrava-Krasne 90.27 29 *e*P **P 18 53 50.0 -0.9**
OKC *e* 18 54 01.6
OKC MLR MLR
comp=Z,17µm,16.7s
OKC Ostrava-Krasne 90.27 29 *e*P **P 18 53 50.0 -0.9**
OKC *ex* x 18 54 01.6
OKC AMS AMS 19 37 10.0
comp=Z,17µm,16.7s
ZST Bratislava 91.06 30 *e*P **P 18 53 56.4 +1.8**
ZST Bratislava 91.06 30 *e*P **P 18 53 56.4 +1.8**
SOKA Soboth 91.24 32 ⇓*i*P **P 18 53 53.7 -1.9**
comp=Z,19nm,1.1s
HNR Honiara 91.38 260 LR LR 19 27 52.7
comp=Z,14µm,18.4s,baz=353,slow=31
VYHS Vyhne 91.58 29 *e*P **P 18 53 55.5 -1.6**
VYHS pmax pmax
comp=Z,62nm,2.4s
VYHS Vyhne 91.58 29 *e*P **P 18 53 55.5 -1.6**
VYHS *e*PP **PP 18 57 33.9 -0.5**
MOS Moscow 91.71 16 *e*P **P 18 53 54.3 -3.1**
STHS Stebnicka Huta 91.87 28 *e*P **P 18 53 57.7 -0.7**
STHS pmax pmax
comp=Z,54nm,2.4s
STHS Stebnicka Huta 91.87 28 *e*P **P 18 53 57.7 -0.7**
KSRS Korea Array 91.91 315 P **P 18 53 58.4 -0.3**
comp=Z,1.8nm,0.8s,baz=44,slow=4.4,SNR=7.8
KSAR Wonju Array Be 91.94 316 P **P 18 53 58.4 -0.5**
OBN Obninsk 92.02 17 ⇓*e*P **P 18 53 57.0 -1.9**
OBN *e* 18 57 34.4
OBN *e*S **SKSac 19 04 30.5 -1.4**
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,15µm,21.0s
OBN Obninsk 92.02 17 P **P 18 53 57.0 -1.9**
comp=Z,230nm,1.5s,SNR=6.8
IRK Irkutsk 92.12 338 *e*P **P 18 53 57.5 -1.9**
IRK pmax pmax
comp=Z,78nm,2.1s
DZM Mont Dzumac 92.26 246 LR LR 19 26 00.1
comp=Z,16µm,21.2s,baz=260,slow=29
KWP Kalwaria Pacla 92.28 27 ⇓*i*P **P 18 54 01.4 +1.2**
KWP Kalwaria Pacla 92.28 27 *e*P **P 18 54 02.0 +1.8**
KECS Kecovo 92.29 28 *e*P **P 18 53 59.2 -1.1**
KECS pmax pmax
comp=Z,13nm,1.8s
KECS Kecovo 92.29 28 *e*P **P 18 53 59.2 -1.1**
PSZ Piszkesteto 92.48 29 *e*P **P 18 54 00.2 -1.1**
PSZ pmax pmax
comp=Z,51nm,1.3s
PSZ Piszkesteto 92.48 29 ⇓*i*P **P 18 54 01.1 -0.2**
PSZ Piszkesteto 92.48 29 *e*P **P 18 54 00.1 -1.1**
comp=Z,51nm,1.3s
PSZ Piszkesteto 92.48 29 *e*P **P 18 54 01.4 +0.1**
KOLS Kolonicke sedl 92.66 27 *e*P **P 18 54 01.8 -0.2**
KOLS pmax pmax
comp=Z,26nm,1.7s
KOLS Kolonicke sedl 92.66 27 *e*P **P 18 54 01.8 -0.2**
KOLS *e*PP **PP 18 57 42.9 0.0**
UZH Uzhgorod 92.91 27 *e*P P 18 53 59.4 -3.7
PKSM Moragy 93.25 31 *e*P **P 18 54 06.8 +2.1**
URZ Urewera 93.26 227 P **P 18 54 02.7 -2.1**
URZ Urewera 93.26 227 P **P 18 54 02.7 -2.1**
comp=Z,47nm,0.9s,baz=53,slow=10,SNR=4.1
URZ LR LR 19 26 38.3
comp=Z,17µm,18.5s,baz=151,slow=30
MOY Mondy 93.66 339 *e*P **P 18 54 07.5 +0.8**
MOY *e* 18 57 56.2
MOY pmax pmax
comp=Z,80nm,2.7s
SVE Sverdlovsk 93.95 3 *e*P **P 18 54 07.5 -0.3**
ZAK Zakamensk 94.03 337 *e*P **P 18 54 08.0 -0.4**
ZAK *e* 18 58 00.4
ZAK pmax pmax
comp=Z,11nm,1.5s
ARU Arti 94.23 4 P **P 18 54 08.1 -1.0**
ARU 18 57 55.3
ARU S **SKSac 19 04 42.9 -1.2**
ARU SS **SS 19 11 40.0 +0.7**
ARU Arti 94.23 4 P **P 18 54 08.0 -1.0**
comp=Z,80nm,1.1s,SNR=6.2
DL2 Dalian 94.64 320 P P 18 54 15.6 +4.3
DL2 pmax pmax
comp=Z,16nm,1.8s
ULN Ulaanbaatar 94.77 334 *e*P **P 18 54 12.1 +0.2**
comp=Z,67nm,1.9s
NVS Novosibirsk 94.80 350 *e*P **P 18 54 09.9 -1.8**
NVS pmax pmax
comp=Z,33nm,1.9s
NVS pmax pmax
comp=N,8.0nm,1.9s
NVS pmax pmax
comp=E,11nm,1.9s
BURAR Bucovina Array 94.89 26 ⇑*i*P **P 18 54 11.3 -1.1**
BZS Buzias 95.02 30 ⇑*i*P **P 18 54 12.5 -0.4**
SONM Songino Array 95.05 334 P **P 18 54 13.6 +0.5**
SONM PP **PP 18 57 58.2 -3.4**
SONM PKKPbc **PKKPdf 19 11 07.0 +0.2**
SONM Songino Array 95.05 334 P **P 18 54 13.6 +0.5**
comp=E,2.6nm,1.1s,baz=42,slow=2.4,SNR=11
SONM PP **PP 18 57 58.2 -3.4**
comp=E,0.9nm,0.9s,baz=29,slow=3.3,SNR=4.4
SONM PKKPbc **PKKPdf 19 11 07.0 +0.2**
comp=E,0.6nm,0.7s,baz=219,slow=1.8,SNR=4.1
ZALV Zalesovo Beam 95.42 349 P **P 18 54 13.4 -1.1**
ZALV 18 58 09.8
ZALV Zalesovo Beam 95.42 349 P **P 18 54 13.4 -1.1**
ZALV PP PP 18 58 09.8 +5.7
ZALV Zalesovo Beam 95.42 349 P **P 18 54 13.4 -1.1**
comp=E,1.4nm,0.7s,baz=15,slow=6.2,SNR=8.0
ZALV PP PP 18 58 09.7 +5.7
comp=E,0.3nm,0.3s,baz=13,slow=9.2,SNR=2.4
KEST Kesra 95.93 43 P **P 18 54 17.2 -0.2**
KEST PP **PP 18 58 06.2 -2.7**
KEST Kesra 95.93 43 P **P 18 54 17.2 -0.2**
comp=E,1.1nm,0.8s,baz=197,slow=3.3,SNR=4.9
KEST PP **PP 18 58 06.2 -2.7**
comp=E,2.4nm,1.1s,baz=272,slow=6.4,SNR=2.5
VOIR 96.60 28 ⇑*i*P **P 18 54 19.7 -0.5**
KIS Kishinev 96.76 25 *e*P P 18 54 24.0 +3.2
KIS Kishinev 96.76 25 *e*P P 18 54 24.0 +3.2
BJI Beijing 96.77 324 P **P 18 54 23.2 +2.3**
BJI pmax pmax
comp=Z,14nm,0.6s
VRI Vrincioaia 96.92 27 ⇑*i*P **P 18 54 19.1 -2.5**
MLR Muntele Rosu 96.92 27 ⇑*i*P **P 18 54 21.8 +0.1**
MLR Muntele Rosu 96.92 27 LR LR 19 37 45.9
comp=Z,4µm,19.0s,baz=180,slow=35
BRVK Borovoye 97.78 358 *e*P **P 18 54 24.9 -0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 97.78 358 *e*P Pdif 18 54 26.2 +0.9
comp=Z,39nm,1.8s
BVAR Borovoye Array 97.81 357 P **P 18 54 25.0 -0.4**
BVAR 18 58 22.0
BVAR Borovoye Array 97.81 357 P **P 18 54 25.0 -0.4**
BVAR PP **PP 18 58 22.0 -0.5**
BVAR PKiKP **PKiKP 18 59 03.2 +4.1**
BVAR Borovoye Array 97.81 357 P **P 18 54 25.0 -0.4**
comp=Z,1.0nm,0.7s,baz=29,slow=3.4,SNR=7.4
BVAR PP **PP 18 58 22.0 -0.5**
comp=Z,0.4nm,0.8s,baz=46,slow=4.2,SNR=2.4
BVAR PKiKP **PKiKP 18 59 03.3 +4.1**
comp=Z,1.2nm,0.8s,baz=48,slow=2.1,SNR=3.7
CFR Carcaliu 98.04 26 ⇓*i*P **P 18 54 25.0 -1.6**
HHC Hu-ho-hao-te 98.44 327 *e*P **P 18 54 27.9 -0.8**
HHC sP **sP 18 54 33.8 +0.6**
HHC PP **PP 18 58 29.9 +1.9**
HHC SKS **SKSac 19 05 03.9 -3.1**
HHC S **S 19 05 51.8 -5.6**
HHC SS **SS 19 12 39.0 -1.0**
TIRR Tirgusor 98.75 26 ⇑*i*P **P 18 54 28.4 -1.4**
AKTO Aktyubinsk 100.15 5 P **Pdif 18 54 34.8 -1.2**
AKTO 18 58 38.3
AKTO Aktyubinsk 100.15 5 Pdif **Pdif 18 54 34.8 -1.2**
AKTO PP **PP 18 58 38.2 -2.1**
AKTO Aktyubinsk 100.15 5 Pdiff **Pdif 18 54 34.8 -1.2**
comp=Z,0.4nm,0.6s,baz=24,slow=3.5,SNR=2.5
AKTO PP **PP 18 58 38.2 -2.1**
comp=Z,0.5nm,0.3s,baz=53,slow=4.6,SNR=2.9
NJ2 Nanjing 101.05 317 *e*P **Pdif 18 54 40.8 +0.5**
NJ2 PP **PP 18 58 48.2 +0.2**
NJ2 S **Sdif 19 06 18.0 -1.3**
NJ2 SS **SS 19 13 18.2 +1.4**
NJ2 LR LR
comp=N,2µm,25.2s
NJ2 LR LR
comp=E,2µm,27.5s
NJ2 LR LR
comp=Z,6µm,24.3s
ABKAR Akbulak array 101.46 4 Pdif **Pdif 18 54 40.7 -1.1**
MKAR Makanchi Array 102.75 349 PP PP 18 59 00.8 +0.7
MKAR PKKPbc PKKPbc 19 10 41.1 -5.6
MKAR Makanchi Array 102.75 349 Pdiff **Pdif 18 54 45.2 -2.4**
comp=Z,0.6nm,1.0s,baz=26,slow=3.7,SNR=3.2
MKAR PP **PP 18 59 00.8 +0.7**
comp=Z,0.5nm,0.8s,baz=327,slow=7.1,SNR=2.4
MKAR PKKPbc PKKPbc 19 10 41.1 -5.6
comp=Z,0.7nm,1.0s,baz=197,slow=4.4,SNR=2.6
KBZ Khabaz 104.11 17 PP PP 18 59 16.6 +6.3
comp=Z,1.1nm,0.6s,baz=26,slow=1.6,SNR=3.6
TORD Torodi Ar. Bea 104.75 65 Pdif **Pdif 18 54 58.9 +1.9**
TORD PP **PP 18 59 14.5 -2.0**
TORD Torodi Ar. Bea 104.75 65 Pdiff **Pdif 18 54 58.9 +1.9**
comp=Z,0.9nm,1.0s,baz=289,slow=5.7,SNR=4.0
TORD PP **PP 18 59 14.5 -2.0**
comp=Z,3.3nm,1.3s,baz=303,slow=3.5,SNR=2.8
BRTR Keskin Array B 104.80 25 PP PP 18 59 13.0 -2.8
comp=Z,0.4nm,0.7s,baz=1.9,slow=4.3,SNR=2.7
AAK Ala-Archa 107.89 354 PP PP 18 59 35.8 -2.5
AAK Ala-Archa 107.89 354 PP PP 18 59 35.8 -2.5
comp=Z,1.4nm,0.3s,baz=13,slow=5.7,SNR=3.7
CD2 Chengdu 110.17 326 Pdif **Pdif 18 55 20.8 -0.2**
CD2 PP **PP 18 59 59.3 +4.0**
CD2 Chengdu 110.17 326 SKS **SKSdf 19 06 28.2 -6.7**
CD2 Chengdu 110.17 326 SS SS 19 15 18.2 -2.9
CD2 AMB AMB
comp=Z,14µm,10.6s
CD2 LR LR
comp=E,8µm,17.8s
CD2 LR LR
comp=Z,10µm,15.5s
GYA Guiyang 112.25 321 Pdif **Pdif 18 55 31.0 +0.6**
GYA PKP **PKiKP 18 59 25.6 -1.0**
GYA PP **PP 19 00 14.5 +4.0**
GYA PKS **PKSdf 19 03 02.4 -1.2**
GYA SKKS 19 07 07.9
GYA SS **SS 19 15 50.0 +0.7**
KMI Kunming 115.42 323 PKP **PKPdf 18 59 34.8 +2.0**
VNDA Vanda 117.30 194 PKP **PKPdf 18 59 34.8 +0.3**
VNDA PP **PP 19 00 49.8 +3.9**
VNDA Vanda 117.30 194 PKP **PKPdf 18 59 34.8 +0.3**
comp=Z,0.9nm,0.9s,baz=68,slow=0.9,SNR=2.9
VNDA PP **PP 19 00 49.8 +3.9**
comp=Z,0.9nm,1.0s,baz=44,slow=2.6,SNR=3.5
WRA Warramunga Arr 118.16 262 PKP **PKPdf 18 59 37.4 -0.4**
WRA Warramunga Arr 118.16 262 PKP **PKPdf 18 59 37.4 -0.4**
comp=Z,3.9nm,0.9s,baz=71,slow=1.6,SNR=5.9
QSPA South Pole Qui 119.28 180 PP PP 19 01 02.0 +2.1
QSPA South Pole Qui 119.28 180 PP PP 19 01 02.0 +2.1
comp=Z,3.2nm,1.1s,baz=273,slow=3.0,SNR=3.9
ASAR Alice Springs 119.94 258 PKP **PKPdf 18 59 40.3 -0.9**
ASAR PKKPbc **PKKPbc 19 09 49.1 -0.4**
ASAR PKKPab **PKKPab 19 09 54.0 +2.9**
ASAR PKKP PKKPdf 19 10 10.5 -11
ASAR Alice Springs 119.94 258 PKP **PKPdf 18 59 40.3 -0.9**
comp=Z,2.4nm,0.8s,baz=75,slow=1.6,SNR=6.4
ASAR PKKPbc **PKKPbc 19 09 49.1 -0.4**
comp=Z,0.7nm,0.8s,baz=222,slow=1.2,SNR=4.5
ASAR PKKPab **PKKPab 19 09 54.0 +2.9**
comp=Z,2.0nm,1.1s,baz=247,slow=2.9,SNR=5.9
ASAR PKKP PKKPdf 19 10 10.5 -11
comp=Z,0.8nm,1.0s,baz=200,slow=2.8,SNR=5.0
CMAR Chiang Mai Arr 122.88 322 PKP **PKPdf 18 59 46.5 -0.5**
CMAR Chiang Mai Arr 122.88 322 PKP **PKPdf 18 59 46.5 -0.5**
comp=Z,4.7nm,0.8s,baz=332,slow=1.7,SNR=24
SNAA Sanae 124.22 159 *e*PKP **PKPdf 18 59 47.2 -0.8**
PSI Prapat 135.21 310 PKP **PKPdf 19 00 08.1 -2.6**
PSI Prapat 135.21 310 PKP **PKPdf 19 00 08.1 -2.6**
comp=Z,2.1nm,0.3s,baz=304,slow=11,SNR=2.8
KMBO Kilima Mbogo 140.57 50 PKP **PKPdf 19 00 21.3 +0.5**
KMBO Kilima Mbogo 140.57 50 PKP **PKPdf 19 00 21.3 +0.5**
comp=Z,1.9nm,0.8s,baz=232,slow=23,SNR=5.7
MAW Mawson 141.75 178 PKPpre PKPpre 19 00 16.1
MAW Mawson 141.75 178 PKhKP PKPpre 19 00 16.1
comp=Z,7.5nm,0.8s,baz=201,slow=4.7,SNR=6.8
BOSA Boshof 144.28 99 PKP **PKPab 19 00 23.8 -0.9**
BOSA Boshof 144.28 99 PKP **PKPab 19 00 23.8 -0.9**
comp=Z,9.3nm,0.7s,baz=286,slow=3.9,SNR=25

IDC 03 18:43:26.2±3.5, 5°21'S×153°57'E, h87km±27km, mb3.7/7, mb1 3.9/9, mb1mx3.6/22, mbtmp3.8/9, Error ellipse: s-maj=32.7km s-min=21.7km az=177.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.59**	**124**	P		P Pn 18 45 14.3	+0.1
	3.6nm,0.3s,baz=236,slow=4.9,SNR=4.7						
HNR				S		Sn 18 46 31.3	-7.3
	2.6nm,0.3s,baz=263,slow=4.9,SNR=2.0						
PMG	**Port Moresby**	**7.60**	**236**	P		Pn 18 45 14.2	-0.2
	2.9nm,0.3s,baz=32,slow=11,SNR=11						
PMG				S		Sn 18 46 40.4	+1.4
	3.4nm,0.3s,baz=140,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**23.76**	**230**	P		P 18 48 31.1	+0.2
	3.2nm,0.6s,baz=54,slow=9.8,SNR=28						
WRA				PcP		PcP 18 52 12.7	+0.1
	0.3nm,0.7s,baz=67,slow=1.6,SNR=3.4						

ASAR Alice Springs 26.38 224 P P 18 48 54.4 -0.2
0.8nm,0.5s,baz=56,slow=9.2,SNR=32
ASAR PcP PcP 18 52 18.5 +0.1
0.4nm,0.7s,baz=61,slow=2.3,SNR=4.4
FITZ Fitzroy Crossi 30.14 243 P P 18 49 28.0 -0.2
3.5nm,0.6s,baz=80,slow=7.8,SNR=16
VNDA Vanda 72.39 178 P P 18 54 42.5 0.0
0.5nm,0.6s,baz=345,slow=5.7,SNR=7.8
MKAR Makanchi Array 81.14 319 P P 18 55 32.4 +0.1
0.5nm,0.8s,baz=92,slow=5.8,SNR=4.1
QSPA South Pole Qui 84.75 180 P P 18 55 50.6 0.0
2.0nm,0.6s,baz=335,slow=0.7,SNR=29
MAW Mawson 85.49 203 P P 18 55 54.0 -0.1
1.1nm,0.6s,baz=80,slow=6.1,SNR=5.0
TORD Torodi Ar. Bea 151.16 288 PKPbc PKPbc 19 03 09.8 -0.7
0.4nm,0.6s,baz=88,slow=1.5,SNR=4.4

*NEIC **03** 18:49:28.7, 45°.18S×166°.33E, h12km, ML5.1(WEL), After WEL.*
*ISCJB **03** 18:49:30.5±0.3, 45°.04S±0°.04×166°.62E±0°.04, h12km, mb4.2/8, Error ellipse: s-maj=5.6km s-min=4.0km az=8.2*
*WEL **03** 18:49:30.2±0.4, 45°.13S×166°.46E, h12km, ML5.0/30, Error ellipse: s-maj=4.0km s-min=1.6km az=90.0*
WEL Felt in the Fiordland region, maximum reported intensity MM 4.
*IDC **03** 18:49:30.5±0.6, 44°.96S×166°.63E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/18, mbtmp4.3/10, ML4.2/2, MS5.4/1, Ms1 5.4/1, ms1mx4.6/27, Error ellipse: s-maj=23.1km s-min=20.1km az=35.0*
*AUST **03** 18:49:31.4±0.8, 45°.28S×166°.53E, h0km, Error ellipse: s-maj=1.1km s-min=0.8km az=8.0*
ISC 03 18:49:32.2±0.4, 45°.14S±0°.04×166°.68E±0°.04, h12km, n108, σ1§17/120, mb4.2/8, 4C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**136**	P*	**Pg**	**18 49 41.0**	**-0.6**
DCZ				S*	**Sb**	**18 49 50.2**	**+0.6**
DCZ				AML	AML	18 49 54.1	
DCZ				AML	AML	18 49 59.1	
DCZ				AML	AML	18 49 59.1	
DCZ	**Deep Cove**	**0.48**	**136**	P*	**Pg**	**18 49 40.8**	**-0.9**
DCZ				S*	**Sb**	**18 49 49.9**	**+0.3**
DCZ				S*	**Sb**	**18 49 50.2**	**+0.6**
MSZ	**Milford Sound**	**1.00**	**63**	P*	**Pb**	**18 49 51.2**	**-0.3**
MSZ				S*	**Sn**	**18 50 06.6**	**+0.6**
MSZ				AML	AML	18 50 08.1	
MSZ				AML	AML	18 50 25.4	
MSZ				AML	AML	18 50 25.5	
MSZ	**Milford Sound**	**1.00**	**63**	P*	**Pb**	**18 49 51.3**	**-0.2**
MSZ				S*	**Sn**	**18 50 06.6**	**+0.6**
MLZ	**Mavora Lakes**	**1.07**	**102**	P*	**Pb**	**18 49 51.3**	**-1.5**
MLZ				S*	**Sn**	**18 50 09.4**	**+1.4**
MLZ				AML	AML	18 50 16.9	
MLZ	**Mavora Lakes**	**1.07**	**102**	Pn	**Pb**	**18 49 51.2**	**-1.5**
MLZ				S*	**Sn**	**18 50 09.4**	**+1.4**
WHZ	**Wether Hill Ro**	**1.17**	**131**	PN	**Pn**	**18 49 52.6**	**-1.8**
WHZ				AML	AML	18 50 16.8	
WHZ				AML	AML	18 50 17.3	
WHZ	**Wether Hill Ro**	**1.17**	**131**	Pn	**Pn**	**18 49 52.3**	**-2.1**
WKZ	**Wanaka**	**1.69**	**80**	PN	**Pb**	**18 50 02.7**	**-0.5**
WKZ				AML	AML	18 50 38.9	
WKZ				AML	AML	18 50 38.9	
WKZ				AML	AML	18 50 59.3	
WKZ				AML	AML	18 50 59.3	
WKZ	**Wanaka**	**1.69**	**80**	Pn	**Pb**	**18 50 02.7**	**-0.5**
JCZ	**Jackson Bay**	**1.82**	**55**	PN	**Pn**	**18 50 02.3**	**-1.2**
JCZ				AML	AML	18 50 42.9	
JCZ				AML	AML	18 50 51.9	
EAZ	**Earnscleugh**	**1.86**	**94**	PN	**Pb**	**18 50 04.9**	**-1.2**
EAZ				AML	AML	18 50 38.9	
EAZ				AML	AML	18 50 38.9	
EAZ				AML	AML	18 50 46.4	
EAZ				AML	AML	18 50 46.4	
EAZ	**Earnscleugh**	**1.86**	**94**	Pn	**Pb**	**18 50 04.9**	**-1.2**
APZ	**The Paps**	**1.93**	**152**	PN	**Pn**	**18 50 04.5**	**-0.4**
APZ	**The Paps**	**1.93**	**152**	Pn	**Pn**	**18 50 04.5**	**-0.4**
SYZ	**Scrubby Hill**	**2.22**	**130**	PN	**Pn**	**18 50 08.3**	**-0.5**
SYZ	**Scrubby Hill**	**2.22**	**130**	Pn	**Pn**	**18 50 08.4**	**-0.5**
TUZ	**Tuapeka**	**2.23**	**113**	PN	**Pn**	**18 50 09.0**	**-0.1**
TUZ				AML	AML	18 50 47.2	
TUZ				AML	AML	18 50 53.5	
TUZ	**Tuapeka**	**2.23**	**113**	Pn	**Pn**	**18 50 08.9**	**-0.1**
LBZ	**Lake Benmore**	**2.60**	**75**	⇓PN	**Pn**	**18 50 14.5**	**+0.3**
LBZ				AML	AML	18 51 03.9	
LBZ				AML	AML	18 51 03.9	
LBZ				AML	AML	18 51 22.9	
LBZ				AML	AML	18 51 23.0	
LBZ	**Lake Benmore**	**2.60**	**75**	Pn	**Pn**	**18 50 14.5**	**+0.3**
FOZ	**Fox Glacier**	**2.67**	**55**	PN	**Pn**	**18 50 14.8**	**-0.2**
FOZ				AML	AML	18 51 11.6	
FOZ				AML	AML	18 51 11.6	
FOZ				AML	AML	18 51 25.1	
FOZ				AML	AML	18 51 25.2	
ODZ	**Otahua Downs**	**2.81**	**90**	⇓PN	**Pn**	**18 50 17.0**	**+0.1**
ODZ	**Otahua Downs**	**2.81**	**90**	Pn	**Pn**	**18 50 17.1**	**+0.2**
RPZ	**Rata Peaks**	**3.44**	**67**	PN	**Pn**	**18 50 25.1**	**-0.6**
RPZ				AML	AML	18 51 34.3	
RPZ				AML	AML	18 51 36.5	
RPZ	**Rata Peaks**	**3.44**	**67**	Pn	**Pn**	**18 50 25.0**	**-0.6**
RPZ				Sn	**Sb**	**18 51 13.9**	**-0.9**
RPZ	**Rata Peaks**	**3.44**	**67**	Pn	**Pn**	**18 50 25.0**	**-0.6**
	115nm,0.3s,baz=228,slow=6.4,SNR=170						
RPZ				Sn	**Sb**	**18 51 13.9**	**-0.9**
	43nm,0.3s,baz=75,slow=16,SNR=3.2						
RPZ				LR	LR	18 51 48.3	
	comp=Z,48μm,19.0s,baz=284,slow=40						
WVZ	**Waitaha Valley**	**3.57**	**56**	PN	**Pn**	**18 50 25.6**	**-1.9**
WVZ				AML	AML	18 51 33.8	
WVZ				AML	AML	18 51 56.6	
WVZ	**Waitaha Valley**	**3.57**	**56**	Pn	**Pn**	**18 50 25.7**	**-1.8**
LTZ	**Lake Taylor**	**4.67**	**62**	PN	**Pn**	**18 50 43.4**	**+0.8**
LTZ				AML	AML	18 52 33.3	
LTZ				AML	AML	18 52 45.2	
DSZ	**Denniston Nort**	**5.04**	**50**	PN	**Pn**	**18 50 46.0**	**-1.6**
DSZ				AML	AML	18 52 00.1	
DSZ				AML	AML	18 52 00.2	
DSZ				AML	AML	18 52 08.4	
DSZ				AML	AML	18 52 08.4	
THZ	**Tophouse**	**5.64**	**56**	PN	**Pn**	**18 50 55.1**	**-0.9**
THZ				AML	AML	18 52 25.5	
THZ				AML	AML	18 52 45.0	
KHZ	**Kahutara**	**5.66**	**64**	PN	**Pn**	**18 50 56.6**	**+0.5**
KHZ				AML	AML	18 53 01.6	
KHZ				AML	AML	18 53 12.3	
NNZ	**Nelson**	**6.27**	**54**	PN	**Pn**	**18 51 02.8**	**-1.7**
NNZ				AML	AML	18 53 13.6	
NNZ				AML	AML	18 53 22.1	
TUWZ	**Tuamarina**	**6.46**	**58**	PN	**Pn**	**18 51 07.6**	**+0.4**
TUWZ				AML	AML	18 52 39.7	
TUWZ				AML	AML	18 52 41.3	
TUWZ	**Tuamarina**	**6.46**	**58**	Pn	**Pn**	**18 51 07.6**	**+0.4**
TCW	**Tory Channel**	**6.79**	**57**	PN	**Pn**	**18 51 12.5**	**+0.8**
TCW				AML	AML	18 52 44.3	
TCW				AML	AML	18 52 47.3	
TCW	**Tory Channel**	**6.79**	**57**	Pn	**Pn**	**18 51 12.6**	**+0.8**
DUWZ	**D'Urville Isla**	**6.85**	**53**	PN	**Pn**	**18 51 12.4**	**-0.1**
DUWZ				AML	AML	18 52 49.0	
DUWZ				AML	AML	18 52 49.0	
DUWZ	**D'Urville Isla**	**6.85**	**53**	Pn	**Pn**	**18 51 12.4**	**-0.1**
PKE	**Pukeiti**	**8.04**	**45**	AML	AML	18 53 14.1	
PKE				AML	AML	18 53 14.2	
WAZ	**Wanganui**	**8.16**	**52**	PN	**Pn**	**18 51 32.2**	**+1.8**
WAZ				AML	AML	18 54 15.2	
WAZ				AML	AML	18 54 39.1	
VRZ	**Vera Road**	**8.49**	**48**	PN	**Pn**	**18 51 35.0**	**0.0**
VRZ				AML	AML	18 51 56.9	
VRZ				AML	AML	18 53 27.3	
HIZ	**Hauiti**	**9.00**	**46**	PN	**Pn**	**18 51 41.8**	**-0.2**
HIZ				AML	AML	18 54 55.2	
HIZ				AML	AML	18 55 17.3	
HIZ	**Hauiti**	**9.00**	**46**	Pn	**Pn**	**18 51 41.8**	**-0.2**
URZ	**Urewera**	**10.39**	**52**	Pn	**Pn**	**18 51 59.2**	**-1.8**
URZ	**Urewera**	**10.39**	**52**	Pn	**Pn**	**18 51 59.2**	**-1.8**
	0.4nm,0.3s,baz=247,slow=13,SNR=2.8						
MOO	**Moorlands**	**14.33**	**274**	P	**Pn**	**18 52 52.7**	**-2.2**
	baz=14,SNR=5.9						
MILA	**Mila**	**15.46**	**295**	P	**Pn**	**18 53 08.8**	**-1.4**
	baz=15,SNR=7.3						
CNB	**Canberra Magne**	**16.44**	**301**	P	**P**	**18 53 28.5**	**+3.1**
	baz=16,SNR=7.8						
TOO	**Toolangi**	**17.58**	**288**	P	**Pn**	**18 53 36.5**	**-0.6**
	baz=18,SNR=15						
TOO				S	Sn	18 56 40.9	-12
	baz=18,SNR=4.6						
RMQ	**Roma**	**23.52**	**316**	P	**P**	**18 54 43.2**	**+1.1**
	baz=24,SNR=9.9						
STKA	**Stephens Creek**	**23.56**	**296**	P	**P**	**18 54 42.5**	**0.0**
STKA	**Stephens Creek**	**23.56**	**296**	P	**P**	**18 54 42.5**	**0.0**
	3.8nm,0.8s,baz=108,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**23.56**	**296**	P	**P**	**18 54 43.0**	**+0.5**
	baz=24,SNR=4.0						
ASAR	**Alice Springs**	**34.15**	**298**	P	**P**	**18 56 15.3**	**-1.8**
ASAR				PcP	**PcP**	**18 58 53.6**	**-0.6**
ASAR	**Alice Springs**	**34.15**	**298**	P	**P**	**18 56 15.3**	**-1.8**
	2.7nm,0.8s,baz=125,slow=7.6,SNR=31						
ASAR				PcP	**PcP**	**18 58 53.6**	**-0.6**
	1.2nm,0.8s,baz=132,slow=3.9,SNR=4.1						
WRA	**Warramunga Arr**	**36.67**	**303**	P	**P**	**18 56 36.8**	**-2.1**
WRA				PcP	**PcP**	**18 59 01.4**	**-0.2**
WRA	**Warramunga Arr**	**36.67**	**303**	P	**P**	**18 56 36.8**	**-2.1**
	5.9nm,0.7s,baz=137,slow=7.9,SNR=36						
WRA				PcP	**PcP**	**18 59 01.4**	**-0.2**
	2.3nm,1.0s,baz=144,slow=2.7,SNR=4.1						
KLBR	**Kellerberrin**	**40.08**	**272**	P	**P**	**18 57 07.8**	**+0.3**
	baz=40,SNR=5.6						
MEEK	**Meekatharra**	**42.41**	**279**	P	**P**	**18 57 26.9**	**+0.2**
	baz=42,SNR=5.3						
MORW	**Morawa**	**42.74**	**274**	P	**P**	**18 57 30.0**	**+0.6**
	baz=43,SNR=3.3						
KNRA	**Kununurra**	**43.32**	**300**	P	**P**	**18 57 34.1**	**0.0**
	baz=43,SNR=4.5						
FITZ	**Fitzroy Crossi**	**43.46**	**295**	P	**P**	**18 57 33.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**43.46**	**295**	P	**P**	**18 57 33.6**	**-1.6**
	4.4nm,0.6s,baz=91,slow=8.3						
QSPA	**South Pole Qui**	**44.99**	**180**	P	**P**	**18 57 47.5**	**+0.3**
QSPA	**South Pole Qui**	**44.99**	**180**	P	**P**	**18 57 47.4**	**+0.3**
	3.6nm,0.9s,baz=313,slow=1.5,SNR=8.0						
MAW	**Mawson**	**54.00**	**207**	P	**P**	**18 58 57.2**	**+1.6**
MAW	**Mawson**	**54.00**	**207**	P	**P**	**18 58 57.2**	**+1.6**
	2.0nm,0.8s,baz=130,slow=11,SNR=4.3						
MAIT	**Maitri**	**62.99**	**189**	*e*P	P	18 59 54.8	-3.4
VNA1	**Neumayer--Stat**	**64.47**	**182**	*e*PKP	P	**19 00 09.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**88.15**	**298**	P	**P**	**19 02 24.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.15**	**298**	P	**P**	**19 02 24.1**	**+1.0**
	1.9nm,0.8s,baz=145,slow=2.4,SNR=4.7						
KSRS	**Korea Array**	**89.34**	**330**	P	**P**	**19 02 26.6**	**-1.5**
	0.4nm,0.6s,baz=133,slow=5.2,SNR=3.1						
KSAR	**Wonju Array Be**	**89.35**	**330**	P	**P**	**19 02 26.6**	**-1.5**
ILAR	**Eielson Array**	**115.42**	**20**	PKP	**PKPdf**	**19 08 12.6**	**0.0**
ILAR				PKKPab	PKKPab	19 18 57.4	+8.5
ILAR	**Eielson Array**	**115.42**	**20**	PKP	**PKPdf**	**19 08 12.6**	**0.0**
	0.4nm,0.8s,baz=309,slow=4.3,SNR=2.9						
ILAR				PKKPab	PKKPab	19 18 57.4	+8.5
	0.9nm,0.9s,baz=3.8,slow=2.0,SNR=5.5						
MKAR	**Makanchi Array**	**117.76**	**309**	PKP	**PKPdf**	**19 08 18.3**	**+0.5**
MKAR	**Makanchi Array**	**117.76**	**309**	PKP	**PKPdf**	**19 08 18.3**	**+0.5**
	1.0nm,0.8s,baz=29,slow=3.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**122.01**	**311**	PKP	**PKPdf**	**19 08 25.7**	**0.0**
	0.6nm,0.2s,baz=117,slow=2.0,SNR=4.1						
KURK	**Kurchatov**	**122.01**	**311**	PKP	**PKPdf**	**19 08 25.7**	**0.0**
BVAR	**Borovoye Array**	**127.58**	**311**	PKP	**PKPdf**	**19 08 37.4**	**+1.0**
BVAR	**Borovoye Array**	**127.58**	**311**	PKP	**PKPdf**	**19 08 37.4**	**+1.0**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=4.4						
KBZ	**Khabaz**	**140.53**	**289**	PKP	**PKPdf**	**19 09 01.6**	**+0.8**
KBZ	**Khabaz**	**140.53**	**289**	PKP	**PKPdf**	**19 09 01.6**	**+0.8**
	0.8nm,0.5s,baz=214,slow=7.3,SNR=2.7						
DBIC	**Dimbokro**	**140.98**	**193**	PKP	**PKPdf**	**19 09 00.8**	**-1.8**
DBIC	**Dimbokro**	**140.98**	**193**	PKP	**PKPdf**	**19 09 00.8**	**-1.8**
	1.9nm,0.7s,baz=128,slow=12,SNR=3.2						
BRTR	**Keskin Array B**	**145.31**	**278**	PKPbc	**PKPbc**	**19 09 08.6**	**-0.9**
BRTR	**Keskin Array B**	**145.31**	**278**	PKPbc	**PKPbc**	**19 09 08.6**	**-0.9**
	9.3nm,0.9s,baz=144,slow=3.5,SNR=46						
TORD	**Torodi Ar. Bea**	**145.65**	**207**	PKPbc	**PKPdf**	**19 09 09.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**145.65**	**207**	PKPbc	**PKPdf**	**19 09 09.4**	**-1.4**
	11nm,0.9s,baz=149,slow=1.8,SNR=29						
ANTO	**Ankara**	**145.96**	**278** ⇑	*i*P	**PKPab**	**19 09 16.2**	**+4.2**
ARCES	**ARCESS Array B**	**148.78**	**335**	PKPbc	**PKPbc**	**19 09 17.6**	**-0.6**
ARCES	**ARCESS Array B**	**148.78**	**335**	PKPbc	**PKPbc**	**19 09 17.7**	**-0.6**
	2.3nm,0.5s,baz=81,slow=3.8,SNR=16						
CFR	**Carcaliu**	**151.00**	**285** ⇑	*i*P	**PKPbc**	**19 09 25.7**	**+1.4**
FINES	**FINESS Array B**	**151.93**	**320**	PKPbc	**PKPbc**	**19 09 25.5**	**-0.5**
FINES	**FINESS Array B**	**151.93**	**320**	PKPbc	**PKPbc**	**19 09 25.5**	**-0.5**
	5.6nm,0.9s,baz=45,slow=3.5,SNR=12						
VRI	**Vrincioaia**	**152.12**	**286** ⇑	*i*P	**PKPbc**	**19 09 28.3**	**+1.4**
MLR	**Muntele Rosu**	**152.57**	**285** ⇑	*i*P	**PKPbc**	**19 09 28.5**	**+0.4**
NB2	**NORSAR Subarra**	**158.51**	**327**	P	PKPab	19 10 08.7	+5.2
	comp=Z,2.6nm,1.0s,baz=59,slow=5.1						
NOA	**NORSAR Array B**	**158.51**	**327**	PKPab	**PKPab**	**19 10 02.5**	**-1.0**
NOA	**NORSAR Array B**	**158.51**	**327**	PKPab	**PKPab**	**19 10 02.5**	**-1.0**
	comp=Z,0.9nm,1.0s,baz=61,slow=4.5,SNR=2.4						
KEST	**Kesra**	**160.41**	**249**	PKPab	**PKPab**	**19 10 14.4**	**+1.9**
KEST	**Kesra**	**160.41**	**249**	PKPab	**PKPab**	**19 10 14.4**	**+1.9**
	comp=Z,2.3nm,0.9s,baz=57,slow=6.9,SNR=3.9						
GERES	**GERESS Array B**	**161.24**	**291**	PKPab	**PKPab**	**19 10 16.6**	**+0.7**
GERES	**GERESS Array B**	**161.24**	**291**	PKPab	**PKPab**	**19 10 16.6**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=160,slow=3.1,SNR=2.8						
ESDC	**Sonseca Array**	**171.19**	**235**	PKP	**PKPdf**	**19 09 40.9**	**+0.8**
ESDC				PKPab	**PKPab**	**19 11 01.1**	**+1.2**
ESDC	**Sonseca Array**	**171.19**	**235**	PKP	**PKPdf**	**19 09 40.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=309,slow=8.1,SNR=2.9						
ESDC				PKPab	**PKPab**	**19 11 01.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=101,slow=3.0,SNR=4.4						

MAN 03 18:50:26, 17°.07N×121°.46E, h34km, mb4.5, ML3.4, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.37**	**109**	*e*P	Pn	18 50 35.6	+0.6
APYP	**Conner**	**0.82**	**345**	*e*P	Pb	18 50 42.1	+0.2
APYP				*e*S	Sb	18 50 52.6	-0.1
ABRA	**Dolores**	**0.92**	**309**	*e*P	Pb	18 50 43.2	-0.4
PALP	**Palanan**	**0.92**	**90**	*e*P	Pb	18 50 43.3	-0.3
BALP	**Baler**	**1.32**	**175**	*e*P	Pn	18 50 48.2	+0.2
BALP				*e*S	Sn	18 50 58.7	-5.8

*IDC **03** 18:51:48.6±1.9, 22°.63N×92°.41E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/26, mbtmp3.7/6, ML3.8/1, MS4.5/1, Ms1 4.7/1, ms1mx4.2/50, Error ellipse: s-maj=77.9km s-min=19.2km az=65.0*
*ISCJB **03** 18:51:50.5±1.6, 22°.7N±0°.2×92°.5E±0°.3, h25km, mb3.7/5, Error ellipse: s-maj=48.8km s-min=9.0km az=155.2*
ISC 03 18:51:52.5±2.1, 22.7N±0°.2×92.5E±0.4, h25km, n7, σ0§62/8, mb3.9/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.89**	**350**	*e*Pn	**Pn**	**18 52 36.5**	**-0.6**
SHL				*i x*	x	18 52 47.5	
SHL				*e*SN	**Sn**	**18 53 11.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.41**	**124**	Pn	**Pn**	**18 53 39.3**	**+0.2**
	0.4nm,0.3s,baz=302,slow=13,SNR=5.9						
CMAR				LR	LR	18 56 45.1	
	comp=Z,4μm,21.2s,baz=100,slow=40						
MKAR	**Makanchi Array**	**25.39**	**344**	P	**P**	**18 57 18.5**	**+0.6**
	1.5nm,0.7s,baz=172,slow=8.6,SNR=11						
SONM	**Songino Array**	**27.44**	**21**	P	**P**	**18 57 36.7**	**+0.2**
	0.3nm,0.5s,baz=193,slow=5.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**31.72**	**351**	P	**P**	**18 58 15.0**	**+0.8**
	1.1nm,0.7s,baz=152,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**58.90**	**133**	P	**P**	**19 01 49.1**	**-0.6**
	0.7nm,0.7s,baz=323,slow=7.3,SNR=7.8						
ASAR	**Alice Springs**	**61.23**	**136**	P	**P**	**19 02 05.5**	**-0.2**
	1.2nm,0.7s,baz=315,slow=6.8,SNR=20						

*ISCJB **03** 19:09:36.8±0.7, 22°.15S±0°.08×179°.5W±0°.1, h592km, mb4.0/14, Error ellipse: s-maj=13.9km s-min=10.0km az=172.0*
*AUST **03** 19:09:37.1±0.0, 22°.09S×179°.27W, h585km, Error ellipse: s-maj=2.6km s-min=1.8km az=295.0*
*IDC **03** 19:09:41.1±2.3, 22°.08S×179°.69W, h619km±26km, mb3.5/14, mb1 3.6/14, mb1mx3.4/23, mbtmp3.5/14, Error ellipse: s-maj=15.1km s-min=13.5km az=52.0*
ISC 03 19:09:38.4±0.8, 22°.2S±0°.1×179°.6W±0°.1, h592km, n40, σ0§96/39, mb4.1/14, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.20**	**168**	P	P	19 11 25.8	-3.9
	49nm,0.3s,baz=308,slow=20,SNR=2.9						
AFI	**Afiamalu**	**11.06**	**43**	P	**P**	19 12 02.8	-5.0
	4.0nm,0.3s,baz=338,slow=8.0,SNR=5.1						
URZ	**Urewera**	**16.29**	**189**	P	**P**	**19 12 56.1**	**-2.3**
	1.8nm,0.3s,baz=352,slow=2.5,SNR=7.2						
URZ				S	**S**	**19 15 39.6**	**-2.0**
	0.6nm,0.3s,baz=354,slow=19,SNR=5.2						
CTA	**Charters Tower**	**31.92**	**267**	P	**P**	**19 15 17.3**	**+0.3**
	7.6nm,0.4s,baz=94,slow=9.9,SNR=17						
CMSA	**Cobar Meteorol**	**32.26**	**246**	P	**P**	**19 15 20.7**	**+0.9**
	baz=32,SNR=6.9						
RABL	**Rabaul**	**32.71**	**299**	P	P	19 15 14.3	-10
	baz=33,SNR=3.3						
MTSU	**Mount Surprise**	**34.10**	**270**	P	**P**	**19 15 36.2**	**+0.8**
	baz=34,SNR=5.5						
PMG	**Port Moresby**	**34.36**	**286**	P	**P**	**19 15 37.4**	**-0.2**
	18nm,1.0s,baz=70,slow=7.2,SNR=5.6						
STKA	**Stephens Creek**	**35.77**	**246**	P	**P**	**19 15 49.9**	**+0.8**
	2.3nm,0.5s,baz=101,slow=7.6,SNR=12						
STKA	**Stephens Creek**	**35.77**	**246**	P	**P**	**19 15 50.1**	**+1.1**
	baz=36,SNR=10						
COEN	**Coen**	**36.28**	**277**	P	**P**	**19 15 54.1**	**+0.6**
	baz=36,SNR=4.1						
ASAR	**Alice Springs**	**42.74**	**259**	P	**P**	**19 16 45.2**	**+0.1**
	9.5nm,0.8s,baz=97,slow=8.0,SNR=122						
ASAR				S	**S**	**19 22 25.4**	**-1.9**
	0.4nm,0.6s,baz=96,slow=16,SNR=6.1						
WRA	**Warramunga Arr**	**42.95**	**264**	P	**P**	**19 16 46.1**	**-0.7**
	3.2nm,0.3s,baz=94,slow=7.9,SNR=132						
WRA				S	**S**	**19 22 29.3**	**-1.0**
	0.5nm,1.0s,baz=103,slow=15,SNR=2.7						
KDU	**Kakadu**	**46.56**	**273**	P	**P**	**19 17 14.1**	**-0.3**
	baz=47,SNR=4.3						
FORT	**Forrest**	**47.31**	**248**	P	**P**	**19 17 19.9**	**+0.1**
	baz=48,SNR=8.8						
MTN	**Manton Dam**	**47.75**	**273**	P	**P**	**19 17 22.8**	**-0.5**
	baz=48,SNR=4.1						
KNRA	**Kununurra**	**49.12**	**268**	P	**P**	**19 17 33.5**	**+0.1**
	baz=49,SNR=8.1						
FITZ	**Fitzroy Crossi**	**51.38**	**264**	P	**P**	**19 17 50.0**	**+0.1**
	2.4nm,0.5s,baz=83,slow=10,SNR=26						
FITZ	**Fitzroy Crossi**	**51.38**	**264**	P	**P**	**19 17 50.3**	**+0.4**
	baz=52,SNR=14						
SWI	**Sorong**	**52.30**	**287**	P	**P**	**19 17 56.6**	**+0.1**
	baz=53,SNR=3.6						
SOEI	**Soe**	**55.12**	**273**	P	P	19 18 22.3	+5.8
	baz=55,SNR=3.6						
BATI	**Baumata**	**55.53**	**273**	P	**P**	**19 18 20.0**	**+0.8**
	17nm,0.7s,baz=102,slow=17,SNR=5.7						
MEEK	**Meekatharra**	**56.01**	**252**	P	**P**	**19 18 22.2**	**-0.2**
	baz=56,SNR=4.1						
VNDA	**Vanda**	**56.12**	**185**	P	**P**	**19 18 23.9**	**+1.7**
	1.2nm,0.7s,baz=358,slow=6.8,SNR=14						
QSPA	**South Pole Qui**	**67.90**	**180**	P	**P**	**19 19 39.9**	**+1.1**
	5.5nm,0.8s,baz=49,slow=0.8,SNR=50						
MJAR	**Matsushiro Arr**	**70.72**	**325**	P	**P**	**19 19 55.4**	**-0.4**
	2.3nm,0.6s,baz=160,slow=5.8,SNR=8.1						
KSRS	**Korea Array**	**77.19**	**320**	P	**P**	**19 20 33.5**	**+1.3**
	0.6nm,0.7s,baz=126,slow=6.3,SNR=4.2						
PETK	**Petropavlovsk-**	**77.53**	**346**	P	**P**	**19 20 33.1**	**-0.6**
	3.5nm,0.6s,baz=145,slow=7.5,SNR=6.9						
USRK	**Ussuriysk Arra**	**79.54**	**327**	P	**P**	**19 20 45.1**	**+0.5**
	1.4nm,0.7s,baz=90,slow=4.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	**P**	**19 21 34.4**	**+1.3**
	2.4nm,0.8s,baz=129,slow=3.4,SNR=12						
MKAR	**Makanchi Array**	**111.28**	**313**	PKiKP	**PKiKP**	**19 27 05.2**	**-0.6**
	0.2nm,0.5s,baz=54,slow=0.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**114.28**	**317**	PKP	PKPdf	19 27 10.2	-1.1
	0.2nm,0.4s,baz=97,slow=1.6,SNR=5.6						
BVAR	**Borovoye Array**	**119.41**	**319**	PKP	**PKPdf**	**19 27 19.9**	**-1.2**
	0.5nm,0.4s,baz=90,slow=1.8,SNR=4.1						
ARCES	**ARCESS Array B**	**130.28**	**349**	PKP	**PKPdf**	**19 27 40.8**	**-0.6**
	0.9nm,0.8s,baz=35,slow=3.3,SNR=4.8						
HFS	**Hagfors**	**140.94**	**350**	PKhKP	PKPpre	19 27 55.1	

CHMS	**Chumysh**	**5.08**	**9**	P		**Pn**	**19 29 46.1**	**+2.0**
	SNR=26							
TKM2	**Tokmak 2**	**5.16**	**16**	⇓P		**Pn**	**19 29 46.9**	**+1.7**
	86nm,0.5s							
TKM2				⇓S		**Sn**	**19 30 41.2**	**-2.8**
	16nm,0.9s							
TKM2	**Tokmak 2**	**5.16**	**16**	P		**Pn**	**19 29 47.4**	**+2.1**
	SNR=188							
USP	**Ospenovka**	**5.32**	**7**	P		**Pn**	**19 29 49.0**	**+1.7**
	SNR=13							
KK31	**Karatay Array**	**5.63**	**336**	⇓P		**Pn**	**19 29 52.5**	**+1.1**
	14nm,0.6s,baz=138,slow=12,SNR=185							
KK31				⇓S		**Sn**	**19 30 51.2**	**-4.0**
	126nm,0.6s,baz=169,slow=24,SNR=9.4							
DLH	**Dalhousie**	**5.76**	**160**	*eP*		Pn	19 29 58.0	+4.6
THN	**Thein Dam**	**5.80**	**162**	*eP*		**Pn**	**19 29 55.7**	**+2.0**
THN				*eS*		**Sn**	**19 30 58.0**	**-1.2**
KNDC	**Almaty**	**5.81**	**25**	⇑P		**Pn**	**19 29 56.3**	**+2.4**
	63nm,0.6s							
DHRM	**DHARAMSHALA**	**6.13**	**158**	*eP*		Pn	19 30 02.3	+4.0
DHRM				*eS*		**Sn**	**19 31 08.8**	**+1.2**
DHRM				AML		AML	19 31 15.1	
	comp=N,602nm,0.4s							
DHRM				AML		AML	19 31 15.8	
	comp=E,594nm,0.6s							
BHK	**Bhakra**	**6.95**	**160**	*e4*		**Sn**	**19 31 28.9**	**+2.0**
SDNR	**Sundarnagar**	**7.03**	**156**	*eP*		Pn	19 30 14.0	+3.7
SDNR				*eS*		**Sn**	**19 31 29.0**	**0.0**
SMLA	**Simla**	**7.44**	**156**	*i P*		Pn	19 30 18.7	+3.0
SMLA				*i S*		**Sn**	**19 31 37.0**	**-1.7**
SMLA				*i S*		**Sn**	**19 31 37.5**	**-1.2**
SMLA				AML		AML	19 31 42.8	
	comp=E,322nm,0.7s							
SMLA				AML		AML	19 31 43.6	
	comp=N,231nm,0.2s							
DDI	**Dehra Dun**	**8.48**	**153**	*eP*		Pn	19 30 33.5	+3.8
DDI				*ex*		**Sn**	**19 32 03.4**	**-0.6**
DDI				AML		AML	19 32 06.9	
	comp=N,493nm,0.2s							
DDI				AML		AML	19 32 06.9	
	comp=E,539nm,0.4s							
NDI	**New Delhi**	**9.75**	**161**	*ex*		**Sn**	**19 32 30.0**	**-4.6**
MK31	**Makanchi Array**	**10.88**	**33**	⇑P		**Pn**	**19 31 02.2**	**+0.6**
	comp=E,1.4nm,0.5s							
MKAR	**Makanchi Array**	**10.88**	**33**	P		**Pn**	**19 31 00.3**	**-1.3**
	comp=E,0.4nm,0.3s,baz=211,slow=15,SNR=25							
DANN	**Dangsing**	**12.82**	**136**	*eP*		**Pn**	**19 31 27.8**	**+0.5**
	comp=E,20nm,0.3s							
KURBB	**Kurchatov Arra**	**13.11**	**14**	⇑P		**Pn**	**19 31 28.1**	**-2.5**
	comp=E,5.3nm,0.7s,baz=202,slow=12							
KURBB	**Kurchatov Arra**	**13.11**	**14**	P		**Pn**	**19 31 28.9**	**-1.7**
	comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=15							
KOLN	**Koldanda**	**13.19**	**138**	*eP*		**Pn**	**19 31 33.5**	**+1.6**
	comp=E,14nm,0.3s							
KKN	**Kakani**	**14.11**	**133**	*eP*		**Pn**	**19 31 44.5**	**+0.8**
	comp=E,100nm,0.6s							
DMN	**Daman**	**14.14**	**134**	*eP*		**Pn**	**19 31 44.6**	**+0.4**
	comp=E,15nm,0.3s							
PKIN	**Phulchoki**	**14.34**	**133**	*eP*		**Pn**	**19 31 47.7**	**+1.1**
	comp=E,28nm,0.3s							
PKI	**Pulchoki**	**14.35**	**133**	*eP*		**Pn**	**19 31 47.2**	**+0.4**
	comp=E,132nm,0.7s							
GUN	**Gumba**	**14.37**	**131**	*eP*		**Pn**	**19 31 47.1**	**0.0**
	comp=E,40nm,0.4s							
JIRN	**Jiri**	**14.74**	**131**	*eP*		**Pn**	**19 31 51.5**	**-0.3**
	comp=E,36nm,0.3s							
VOSK	**Vostochnaya**	**14.85**	**354**	⇓P		**Pn**	**19 31 53.5**	**+0.9**
	comp=E,2.7nm,0.6s							
AB31	**Akbulak array**	**14.97**	**323**	P		**Pn**	**19 31 52.5**	**-1.6**
	comp=E,1.0nm,0.4s,baz=127,slow=13,SNR=41							
BHPL	**Bhopal**	**15.05**	**166**	*eS*		Sn	19 34 29.8	-13
BHPL				AML		AML	19 34 38.7	
	comp=E,10nm,0.3s							
BHPL				AML		AML	19 34 38.7	
	comp=N,7.8nm,0.1s							
BVA0	**Borovoye Array**	**15.21**	**353**	⇓P		**Pn**	**19 31 55.5**	**-1.5**
	comp=N,7.4nm,1.1s							
BVAR	**Borovoye Array**	**15.21**	**353**	P		**Pn**	**19 31 56.2**	**-0.8**
	comp=N,1.0nm,0.3s,baz=156,slow=9.6,SNR=18							
BRVK	**Borovoye**	**15.25**	**352**	⇑P		**Pn**	**19 31 56.5**	**-1.0**
	comp=N,6.1nm,0.7s							
RAMN	**Ramite**	**15.51**	**131**	*eP*		**Pn**	**19 32 00.8**	**-0.4**
	comp=N,30nm,0.3s							
JBP	**Jabalpur**	**15.75**	**158**	⇑*ix*		x	19 32 39.1	
JBP				*ex*		Sn	19 34 50.9	-8.1
TAPN	**Taplejung**	**15.90**	**128**	*eP*		**Pn**	**19 32 06.1**	**+0.1**
	comp=N,15nm,0.3s							
ODAN	**Odare**	**16.05**	**130**	*eP*		**P**	**19 32 08.4**	**-0.2**
	comp=N,38nm,0.7s							
AKTO	**Aktyubinsk**	**16.69**	**323**	⇓P		**P**	**19 32 14.7**	**-0.4**
	comp=N,1.9nm,0.5s							
AKTO				⇓S		Sn	19 35 10.5	-11
	comp=N,5.0nm,0.8s							
AKTO	**Aktyubinsk**	**16.69**	**323**	P		**P**	**19 32 14.8**	**-0.4**
	comp=N,0.8nm,0.3s,baz=117,slow=12,SNR=16							
AKTO				S		Sn	19 35 10.2	-11
	comp=N,0.3nm,0.3s,baz=11,slow=20,SNR=12							
ZALV	**Zalesovo Beam**	**17.73**	**22**	P		**P**	**19 32 26.2**	**-0.2**
	comp=N,1.2nm,0.3s,baz=213,slow=12,SNR=18							
ZALV				pP		pP	19 32 58.1	+7.2
	baz=222,slow=11,SNR=3.6							
ZALV				S		S	19 35 36.9	-6.4
	baz=200,slow=20,SNR=3.5							
GTA	**Gaotai**	**20.48**	**78**	*eP*		**P**	**19 32 58.5**	**+1.9**
GTA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
SONM	**Songino Array**	**25.78**	**57**	P		**P**	**19 33 48.5**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=258,slow=9.9,SNR=16							
SONM				pP		pP	19 34 25.2	+8.2
	comp=Z,0.9nm,0.7s,baz=255,slow=10.0,SNR=5.0							
BRTR	**Keskin Array B**	**31.00**	**286**	P		**P**	**19 34 35.3**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=110,slow=7.7,SNR=6.6							
MLR	**Muntele Rosu**	**35.91**	**298**	P		**P**	**19 35 18.4**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=169,slow=7.7,SNR=4.1							
FINES	**FINESS Array B**	**37.46**	**324**	P		**P**	**19 35 29.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=118,slow=12,SNR=12							
ARCES	**ARCESS Array B**	**40.60**	**336**	P		**P**	**19 35 55.3**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=106,slow=8.9,SNR=5.8							
KSRS	**Korea Array**	**42.44**	**73**	P		**P**	**19 36 10.9**	**+0.3**
	comp=Z,1.4nm,1.0s,baz=294,slow=5.2,SNR=5.3							
HFS	**Hagfors**	**43.21**	**321**	P		**P**	**19 36 16.3**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=102,slow=11,SNR=16							
NB2	**NORSAR Subarra**	**44.47**	**322**	P		**P**	**19 36 26.2**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.47**	**322**	P		**P**	**19 36 26.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=94,slow=7.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**67.83**	**270**	P		**P**	**19 39 12.2**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=47,slow=5.7,SNR=40							
ILAR	**Eielson Array**	**72.77**	**17**	P		**P**	**19 39 41.4**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=318,slow=5.2,SNR=3.8							
YKA	**Yellowknife Ar**	**79.65**	**4**	P		**P**	**19 40 20.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=348,slow=5.4,SNR=5.9							
WRA	**Warramunga Arr**	**81.04**	**124**	P		**P**	**19 40 28.3**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=325,slow=5.1,SNR=22							
ASAR	**Alice Springs**	**83.43**	**127**	P		**P**	**19 40 40.7**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=313,slow=5.1,SNR=13							

IDC 03 19:35:00.9±19.0, 20°.36S×179°.27W, h598km±171km, mb2.6/2, mb1 3.0/2, mb1mx2.6/18, mbtmp2.6/2, Error ellipse: s-maj=285.4km s-min=64.6km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.44**	**262**	P	P	19 42 12.5	-0.2
	0.3nm,0.9s,baz=97,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**88.44**	**13**	P	P	19 46 50.0	+0.1
	0.3nm,0.4s,baz=218,slow=4.5,SNR=4.5						
ARCES	**ARCESS Array B**	**128.56**	**349**	PKP	PKPdf	19 52 59.0	-1.1
	1.3nm,0.8s,baz=48,slow=1.3,SNR=4.9						
BRTR	**Keskin Array B**	**145.86**	**312**	PKPbc	PKPbc	19 53 34.2	-0.4
	0.7nm,0.7s,baz=125,slow=3.6,SNR=4.4						
GERES	**GERESS Array B**	**149.73**	**343**	PKPbc	PKPbc	19 53 44.0	-0.2
	0.4nm,0.6s,baz=358,slow=2.3,SNR=3.6						

IDC 03 19:39:52.9±2.6, 29°.60N×113°.60W, h0km, mb4.0/4, mb1 4.0/10, mb1mx3.8/29, mbtmp3.7/10, ML3.6/6, Error ellipse: s-maj=45.4km s-min=13.0km az=27.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**4.68**	**329**	Pn	Pn	19 41 06.5	+1.5
	0.4nm,0.3s,baz=156,slow=18,SNR=2.5						
PFO				Pg	Pb	19 41 15.6	-0.4
	0.5nm,0.3s,baz=164,slow=15,SNR=4.3						
PFO				Lg	Lg	19 42 29.0	
	0.6nm,0.3s,baz=229,slow=19,SNR=2.6						
ANMO	**Albuquerque**	**8.06**	**47**	Pn	Pn	19 41 51.9	+0.4
	0.3nm,0.3s,baz=224,slow=9.0,SNR=6.5						
ANMO				Lg	Lg	19 44 12.4	
	0.2nm,0.3s,baz=82,slow=23,SNR=4.2						
TXAR	**Lajitas Array**	**8.66**	**89**	Pn	Pn	19 42 01.0	+1.2
	0.1nm,0.3s,baz=260,slow=15,SNR=6.1						
TXAR				Lg	Lg	19 44 29.6	
	baz=272,slow=24,SNR=3.7						
NVAR	**Mina Array Bea**	**9.63**	**337**	Pn	Pn	19 42 14.8	+1.7
	0.2nm,0.3s,baz=162,slow=15,SNR=9.3						
PDAR	**Pinedale Array**	**13.54**	**13**	Pn	Pn	19 43 09.1	+2.6
	0.1nm,0.3s,baz=215,slow=7.7,SNR=6.4						
PDAR				Lg	Lg	19 47 08.2	
	0.1nm,0.3s,baz=189,slow=32,SNR=1.7						
YBH	**Yreka Blue Hor**	**14.18**	**331**	Pn	Pn	19 43 17.9	+2.8
	0.1nm,0.3s,baz=139,slow=9.3,SNR=3.1						
ULM	**Lac du Bonnet**	**24.58**	**28**	P	P	19 45 13.5	-1.0
	6.4nm,0.9s,baz=226,slow=8.8,SNR=4.9						
DLBC	**Dease Lake**	**30.98**	**343**	P	P	19 46 11.5	-0.3
	2.7nm,0.9s,baz=132,slow=11,SNR=4.2						
ILAR	**Eielson Array**	**40.88**	**339**	P	P	19 47 35.4	-1.0
	1.0nm,0.9s,baz=157,slow=8.0,SNR=9.4						
NOA	**NORSAR Array B**	**79.20**	**24**	P	P	19 51 58.9	-0.6
	0.8nm,0.9s,baz=316,slow=5.7,SNR=3.2						

*ISCJB **03** 20:10:15.2±0.9, 14°.36S±0°.04×75°.64W±0°.04, h37km±8km, mb5.2/138, MS5.4/5, Error ellipse: s-maj=8.7km s-min=4.6km az=138.4*
*MOS **03** 20:10:17.4±1.2, 14°.26S×75°.61W, h52km, mb5.4/23, Error ellipse: s-maj=13.0km s-min=6.7km az=114.6*
*IDC **03** 20:10:17.9±0.5, 14°.33S×75°.61W, h48km±4km, mb4.8/23, mb1 4.9/27, mb1mx4.8/29, mbtmp4.7/27, MS4.5/2, Ms1 4.5/2, ms1mx4.1/37, Error ellipse: s-maj=16.5km s-min=7.7km az=61.0*
*NEIC **03** 20:10:17.7±0.2, 14°.30S×75°.49W, mb5.3/72, Error ellipse: s-maj=8.0km s-min=4.0km az=57.0*
NEIC Felt [III] at Ica and [II] at Pisco and San Vicente de Canete. Also felt at Callao and Lima.

ISC 03 20:10:17.7±0.4, 14°.40S±0°.05×75°.63W±0°.07, h45km±3km, h45km: pP-P, n714, σ0°.90/765, mb5.2/140, MS5.4/5, 194C-176D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.67**	**334**	P	**Pn**	**20 10 57.5**	**-0.7**
NNA				*e*Pn		20 10 58.4	
NNA				S	**Sn**	**20 11 30.2**	**+0.8**
NNA	**Nana**	**2.67**	**334**	Pn	**Pn**	**20 10 59.0**	**+0.7**
	6μm,0.4s,SNR=75						
NNA	**Nana**	**2.67**	**334**	P	**Pn**	**20 10 57.5**	**-0.7**
	220nm,0.3s,baz=143,slow=11,SNR=117						
NNA				S	**Sn**	**20 11 30.2**	**+0.8**
	689nm,0.3s,baz=160,slow=16,SNR=6.3						
NNA				LR	LR	20 12 09.6	
	comp=Z,5μm,20.9s,baz=318,slow=43						
LPAZ	**La Paz**	**7.47**	**106**	*e*Pn	**Pn**	**20 12 06.0**	**+1.2**
LPAZ				P	**Pn**	**20 12 06.3**	**+1.5**
LPAZ	**La Paz**	**7.47**	**106**	P	**Pn**	**20 12 06.3**	**+1.5**
	6.8nm,0.3s,baz=304,slow=6.5,SNR=160						
ATAH	**Atahualpa**	**7.71**	**339**	P	**Pn**	**20 12 08.2**	**+0.4**
ATAH				S	**Sn**	**20 13 37.9**	**+3.8**
ATAH	**Atahualpa**	**7.71**	**339**	P	**Pn**	**20 12 08.2**	**+0.4**
	1.9nm,0.3s,baz=162,slow=14,SNR=15						
ATAH				S	**Sn**	**20 13 37.9**	**+3.8**
	8.2nm,0.3s,baz=163,slow=11,SNR=2.2						
LVC	**Limon Verde**	**10.36**	**143**	*e*Pn	**Pn**	**20 12 44.4**	**+0.4**
SAML	**Samuel**	**13.33**	**67**	*e*P	Pn	20 13 20.3	-4.1
	116nm,0.9s						
SIV	**San Ignacio**	**14.14**	**98**	P	**Pn**	**20 13 32.5**	**-2.9**
SIV				S	**Sn**	**20 16 13.3**	**+2.2**
SIV	**San Ignacio**	**14.14**	**98**	P	**Pn**	**20 13 32.5**	**-2.9**
	0.4nm,0.3s,baz=282,slow=14,SNR=25						
SIV				S	**Sn**	**20 16 13.3**	**+2.2**
	0.5nm,0.3s,baz=255,slow=20,SNR=2.5						
SIV				LR	LR	20 20 01.4	
	comp=Z,5μm,19.1s,slow=41						
OTAV	**Otavalo**	**14.80**	**349**	*e*Pn	**Pn**	**20 13 43.0**	**-1.7**
LCO	**Las Campanas**	**15.24**	**163**	*e*Pn	**Pn**	**20 13 48.1**	**-2.0**
	50nm,0.9s						
TLL	**Tololo Astrono**	**16.32**	**165**	*e*P	**P**	**20 14 07.2**	**+0.9**
CFAA	**Coronel Fontan**	**18.42**	**160**	P	**Pn**	**20 14 30.0**	**+0.3**
CFAA	**Coronel Fontan**	**18.42**	**160**	P	**Pn**	**20 14 30.0**	**+0.3**
	0.2nm,0.3s,baz=336,slow=11,SNR=56						
LMEL	**Las Melosas**	**19.98**	**167**	*e*P	**Pn**	**20 14 48.0**	**-0.5**
CPUP	**Villa Florida**	**20.83**	**128**	*e*P	**P**	**20 14 55.9**	**+0.3**
	150nm,0.9s						
CPUP				P	Pn	20 14 56.1	-2.3
CPUP				PcP	**PcP**	**20 19 03.2**	**+0.1**
CPUP	**Villa Florida**	**20.83**	**128**	P	**P**	**20 14 56.1**	**+0.6**
	50nm,1.0s,baz=291,slow=11,SNR=26						
CPUP				PcP	**PcP**	**20 19 03.2**	**+0.1**
	7.3nm,1.0s,baz=164,slow=7.4,SNR=4.0						
SDV	**Santo Domingo**	**23.66**	**12**	*e*P	**P**	**20 15 23.5**	**-1.9**
	116nm,1.0s						
BCIP	**Isla Barro Col**	**23.78**	**350**	*e*P	**P**	**20 15 24.6**	**-1.6**
	90nm,1.0s						
JTS	**JuntasAbangare**	**26.21**	**339**	P	**P**	**20 15 48.0**	**-0.4**
JTS	**JuntasAbangare**	**26.21**	**339**	P	**P**	**20 15 48.0**	**-0.4**
	13nm,0.9s,baz=147,slow=11,SNR=3.0						
TRQA	**Tornquist**	**26.49**	**155**	*e*P	**P**	**20 15 50.2**	**-0.6**
	275nm,1.6s						
PLCA	**Paso Flores**	**26.61**	**171**	*e*P	**P**	**20 15 51.8**	**-0.1**
	51nm,1.2s						
PLCA				PcP	**PcP**	**20 19 15.9**	**+0.7**
PLCA	**Paso Flores**	**26.61**	**171**	P	**P**	**20 15 51.8**	**-0.1**
	24nm,1.0s,baz=347,slow=11,SNR=26						
PLCA				PcP	**PcP**	**20 19 15.9**	**+0.7**
	8.2nm,0.9s,baz=345,slow=3.2,SNR=6.5						
BDFB	**Brasilia**	**26.69**	**96**	P	**P**	**20 15 52.1**	**-0.9**
BDFB	**Brasilia**	**26.69**	**96**	P	**P**	**20 15 52.1**	**-0.9**
	6.0nm,0.6s,baz=246,slow=9.1,SNR=7.9						
OBIP	**Obispado Ponce**	**33.44**	**16**	*e*P	**P**	**20 16 51.1**	**-1.3**
	40nm,0.8s						
CELP	**Cerrillos**	**33.48**	**16**	*e*P	**P**	**20 16 52.6**	**-0.1**
SJG	**San Juan**	**33.63**	**16**	*e*P	**P**	**20 16 53.1**	**-0.9**
	29nm,1.0s						
TEIG	**Tepich**	**36.58**	**340**	*e*P	**P**	**20 17 19.1**	**-0.4**
	91nm,1.5s						
USHA	**Ushuaia**	**40.74**	**174**	P	**P**	**20 17 54.8**	**+0.8**
USHA	**Ushuaia**	**40.74**	**174**	P	**P**	**20 17 54.8**	**+0.8**
	41nm,0.9s,baz=328,slow=7.7,SNR=18						
GOGA	**Godfrey**	**48.12**	**351**	*e*P	**P**	**20 18 51.7**	**-1.4**
GOGA				pmax	pmax		
	comp=Z,24nm,1.0s						
GOGA	**Godfrey**	**48.12**	**351**	*e*P	**P**	**20 18 51.7**	**-1.4**
	comp=Z,24nm,1.0s						
732A	**Laxson Ranch,**	**48.91**	**331**	⇓P	**P**	**20 18 59.7**	**+0.4**
	baz=49,SNR=14						
632A	**Uvalde**	**49.48**	**332**	⇑P	**P**	**20 19 04.1**	**+0.4**
	baz=50,SNR=7.6						
KMSC	**Kings Mountain**	**49.56**	**354**	⇑P	**P**	**20 19 04.1**	**0.0**
	baz=50,SNR=5.8						
631A	**Perdido Creek**	**49.77**	**331**	⇓P	**P**	**20 19 06.1**	**+0.2**
	baz=50,SNR=11						
532A	**Rocksprings**	**50.07**	**332**	⇓P	**P**	**20 19 08.6**	**+0.4**
	baz=50,SNR=7.8						
CPCT	**Cooper Cave**	**50.28**	**351**	*e*P	**P**	**20 19 09.1**	**-0.5**
CPCT				*e*pP	**pP**	**20 19 21.7**	**-0.6**
JCT	**Junction City**	**50.32**	**333**	*e*P	**P**	**20 19 10.0**	**-0.1**
JCT				pmax	pmax		
	comp=Z,11nm,1.0s						
JCT	**Junction City**	**50.32**	**333**	*e*P	**P**	**20 19 10.0**	**-0.1**
	comp=Z,11nm,1.0s						
JCT	**Junction City**	**50.32**	**333**	⇓P	**P**	**20 19 10.3**	**+0.2**
	baz=50						
OXF	**Oxford**	**50.37**	**345**	*e*P	**P**	**20 19 09.5**	**-0.8**
OXF				pmax	pmax		
	comp=Z,53nm,1.2s						
OXF	**Oxford**	**50.37**	**345**	*e*P	**P**	**20 19 09.4**	**-0.8**
	comp=Z,53nm,1.2s						
TKL	**Tuckaleechee C**	**50.37**	**351**	*e*P	**P**	**20 19 08.5**	**-1.8**
531A	**Rocksprings**	**50.39**	**332**	⇓P	**P**	**20 19 11.0**	**+0.4**
	baz=51,SNR=12						
PLAL	**Pickwick Lake**	**50.51**	**347**	*e*P	**P**	**20 19 08.8**	**-2.5**
	comp=Z,24nm,1.0s						
WHTX	**Lake Whitney**	**50.65**	**336**	⇑P	**P**	**20 19 12.8**	**+0.4**
	baz=51,SNR=6.0						
432A	**Menard**	**50.66**	**333**	⇓P	**P**	**20 19 12.8**	**+0.2**
	baz=51,SNR=6.0						
530A	**J-C Ranch, Com**	**50.74**	**331**	⇓P	**P**	**20 19 13.6**	**+0.3**
	baz=51,SNR=9.6						
431A	**Sonora**	**50.85**	**332**	⇓P	**P**	**20 19 14.4**	**+0.3**
	baz=51,SNR=11						
628A	**Black Gap, Mar**	**50.95**	**329**	⇓P	**P**	**20 19 15.3**	**+0.5**
	baz=51						
332A	**Millersview**	**51.07**	**333**	⇓P	**P**	**20 19 15.9**	**+0.3**
	baz=51,SNR=17						
529A	**Stev Forest Ra**	**51.14**	**330**	⇓P	**P**	**20 19 16.7**	**+0.4**
	baz=51,SNR=6.8						
627A	**Terlingua Ranc**	**51.17**	**329**	⇑P	**P**	**20 19 16.9**	**+0.3**
	baz=51						
TXAR	**Lajitas Array**	**51.22**	**328**	P	**P**	**20 19 16.7**	**-0.2**
TXAR				PcP	**PcP**	**20 20 31.9**	**+0.1**
TXAR	**Lajitas Array**	**51.22**	**328**	P	**P**	**20 19 16.7**	**-0.2**
	comp=Z,12nm,0.9s,baz=146,slow=9.0,SNR=30						
TXAR				PcP	**PcP**	**20 20 31.9**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=146,slow=4.4,SNR=2.4						
430A	**Baggett Ranch,**	**51.23**	**332**	⇓P	**P**	**20 19 16.9**	**0.0**
	baz=51,SNR=13						
331A	**San Angelo**	**51.30**	**333**	⇓P	**P**	**20 19 17.4**	**0.0**
	baz=52,SNR=6.3						
429A	**Davenport Ranc**	**51.40**	**331**	⇑P	**P**	**20 19 18.3**	**+0.1**
	baz=52,SNR=5.5						
UALR	**University of**	**51.41**	**342**	*e*P	P	20 19 14.0	-4.1
	comp=Z,78nm,1.4s						
528A	**Cox Ranch, San**	**51.45**	**330**	⇓P	**P**	**20 19 19.0**	**+0.3**
	baz=52						
232A	**Coleman**	**51.46**	**334**	⇑P	**P**	**20 19 18.8**	**+0.2**
	baz=52,SNR=30						
MIAR	**Mount Ida**	**51.57**	**341**	*e*P	P	20 19 12.6	-6.7
MIAR				pmax	pmax		
	comp=Z,25nm,0.9s						
MIAR	**Mount Ida**	**51.57**	**341**	*e*P	P	20 19 12.6	-6.7
	comp=Z,25nm,0.9s						
626A	**Big Bend Ranch**	**51.63**	**328**	⇑P	**P**	**20 19 20.8**	**+0.8**
	baz=52,SNR=22						
330A	**Mertzon**	**51.73**	**332**	⇓P	**P**	**20 19 20.6**	**-0.1**
	baz=52						
231A	**Bronte**	**51.79**	**333**	⇓P	**P**	**20 19 21.0**	**0.0**
	baz=52						
527A	**Woodward Ranch**	**51.85**	**329**	⇑P	**P**	**20 19 21.9**	**+0.3**
	baz=52,SNR=9.9						
JSRW	**J. Sargeant Re**	**51.85**	**358**	*e*P	P	20 19 13.0	-8.3
428A	**Kincaid Ranch,**	**51.87**	**330**	⇑P	**P**	**20 19 22.0**	**+0.2**
	baz=52,SNR=5.4						
526A	**Mary Lane Ranc**	**52.02**	**328**	⇓P	**P**	**20 19 23.5**	**+0.5**
	baz=52,SNR=7.0						
ABTX	**Abilene, Hawle**	**52.09**	**334**	⇓P	**P**	**20 19 23.7**	**+0.3**
	baz=52,SNR=6.9						
329A	**Wagon Wheel Ra**	**52.16**	**331**	⇓P	**P**	**20 19 24.2**	**+0.3**
	baz=52,SNR=8.8						
427A	**Hayter Ranch,**	**52.32**	**330**	⇓P	**P**	**20 19 25.4**	**+0.3**
	baz=52,SNR=6.4						
131A	**Roby**	**52.45**	**334**	⇓P	**P**	**20 19 26.1**	**+0.1**
	baz=53,SNR=6.2						
328A	**Wristen Ranch,**	**52.47**	**330**	⇑P	**P**	**20 19 26.5**	**+0.4**
	baz=53,SNR=15						
426A	**McDonald Obser**	**52.48**	**329**	⇑P	**P**	**20 19 26.6**	**+0.2**
	baz=53,SNR=8.6						
229A	**Bryant Ranch,**	**52.49**	**332**	⇑P	**P**	**20 19 26.3**	**0.0**
	baz=53						
Z32A	**Haskell**	**52.62**	**335**	⇓P	**P**	**20 19 27.3**	**+0.1**
	baz=53						
130A	**Snyder**	**52.64**	**333**	⇑P	**P**	**20 19 27.3**	**-0.1**
	baz=53,SNR=7.9						
Z31A	**Sharp Cattle R**	**52.90**	**334**	⇓P	**P**	**20 19 29.7**	**+0.4**
	baz=53,SNR=20						
228A	**UT Block 9, Go**	**52.98**	**331**	⇑P	**P**	**20 19 29.9**	**-0.1**
	baz=53,SNR=6.9						
326A	**Caldwell Ranch**	**52.98**	**329**	⇑P	**P**	**20 19 30.1**	**+0.1**
	baz=53,SNR=8.0						
425A	**Indio Mountain**	**53.06**	**328**	⇑P	**P**	**20 19 30.9**	**+0.2**
	baz=53,SNR=15						
129A	**Stewart Farms,**	**53.07**	**332**	⇑P	**P**	**20 19 30.8**	**+0.2**
	baz=53						
Y32A	**R-V Farms, Ver**	**53.21**	**335**	⇑P	**P**	**20 19 31.9**	**+0.4**
	baz=53						
227A	**Bennet, Jal**	**53.22**	**330**	⇓P	**P**	**20 19 32.0**	**+0.3**

Z23A	Rita Site, Whi baz=56,SNR=5.1	55.67 329	⇓P	P	20 19 49.9 +0.3
220A	Playas Peak, P baz=56	55.80 326	⇑P	P	20 19 50.9 +0.4
319A	Douglas baz=56	55.81 325	⇑P	P	20 19 51.0 +0.4
V28A	Channing baz=56	55.87 334	⇑P	P	20 19 51.3 +0.4
121A	Cookes Peak, D baz=56,SNR=6.1	55.89 327	⇑P	P	20 19 51.7 +0.5
X25A	Clemmons Ranch baz=56	55.94 331	⇑P	P	20 19 51.4 -0.1
W26A	Owens Ranch, T baz=56	55.99 332	⇑P	P	20 19 51.7 -0.1
T31A	Randall Ranch, baz=56,SNR=9.0	56.00 337	⇑P	P	20 19 51.6 -0.1
Z22A	Elephant Butte baz=56,SNR=9.3	56.04 328	⇑P	P	20 19 52.5 +0.2
Y23A	Lovelace Mesa, baz=56	56.12 330	⇑P	P	20 19 53.5 +0.6
HDIL	Hopedale comp=Z,49nm,1.2s	56.12 347	eP	P	20 19 50.4 -2.1
X24A	Lazy VL Ranch, baz=56	56.33 330	⇓P	P	20 19 54.4 +0.1
120A	U Bar Ranch, L baz=57	56.35 326	⇑P	P	20 19 54.6 +0.1
S31A	Mullinville baz=57	56.39 337	⇑P	P	20 19 54.8 +0.3
U28A	Mallet baz=57,SNR=8.7	56.40 334	⇑P	P	20 19 54.4 -0.4
W25A	X Bar L Ranch, baz=57,SNR=11	56.41 332	⇑P	P	20 19 54.6 -0.3
Z21A	St. Cloud Mine baz=57	56.44 328	⇑P	P	20 19 55.5 +0.3
Y22A	Socorro baz=57	56.58 329	⇓P	P	20 19 56.6 +0.5
V26A	Tequesquite Ra baz=57,SNR=7.0	56.59 333	⇓P	P	20 19 55.9 -0.2
T29A	Hugoton baz=57	56.69 336	⇑P	P	20 19 57.1 +0.4
U27A	Thompson Grove baz=57	56.69 334	⇑P	P	20 19 57.4 +0.6
LPM	Los Pinos Moun	56.71 329	eP	P	20 19 57.9 +0.8
Z20A	Nine Sixteen R baz=57	56.77 327	⇓P	P	20 19 58.2 +0.7
S30A	Montezuma baz=57	56.78 337	⇓P	P	20 19 57.8 +0.5
W24A	Lazy 6 Ranch, baz=57	56.85 331	⇑P	P	20 19 58.2 +0.2
T28A	Walsh baz=57	56.99 335	⇑P	P	20 19 58.9 0.0
Y21A	Point of Rocks baz=57	56.99 328	⇓P	P	20 19 58.9 -0.2
R31A	Burdett baz=57	56.99 338	⇓P	P	20 19 59.0 +0.1
V25A	Rancho No Teng baz=57,SNR=9.8	57.00 332	⇑P	P	20 19 59.0 -0.1
S29A	Ulysses baz=57	57.02 336	⇑P	P	20 19 59.3 +0.3
X22A	Bernardo baz=57	57.05 329	⇓P	P	20 19 59.6 +0.2
U26A	Atchley Ranch, baz=57,SNR=6.9	57.07 333	⇓P	P	20 19 59.3 -0.3
ANMO	Albuquerque comp=Z,42nm,1.7s	57.13 330	eP	P	20 19 59.6 -0.4
W23A	Werner Place, baz=57	57.16 330	⇓P	P	20 20 00.4 +0.1
T27A	Campo baz=57,SNR=10	57.19 334	⇑P	P	20 20 00.1 -0.2
V24A	Rampart Ranch, baz=57,SNR=5.1	57.20 331	⇑P	P	20 20 00.2 -0.4
R30A	Dighton baz=58	57.27 337	⇓P	P	20 20 00.8 0.0
Y20A	Horse Springs, baz=58	57.27 328	⇑P	P	20 20 00.9 -0.2
S28A	Manter baz=58,SNR=6.7	57.30 335	⇑P	P	20 20 00.7 -0.3
U25A	Circle Dot Ran baz=58,SNR=6.3	57.37 333	⇑P	P	20 20 01.5 -0.1
X21A	Alamocita Cree baz=58,SNR=9.8	57.39 329	⇑P	P	20 20 02.4 +0.5
W22A	Albuquerque baz=58	57.44 330	⇑P	P	20 20 02.2 +0.1
ACCN	Adirondack Com comp=Z,61nm,1.1s	57.52 2	eP	P	20 20 03.1 +0.7
Q31A	Ellis baz=58	57.58 338	⇓P	P	20 20 03.3 +0.3
T26A	Comanche Natio baz=58,SNR=11	57.66 334	⇓P	P	20 20 03.8 +0.1
S27A	Las Animas baz=58	57.79 335	⇓P	P	20 20 04.9 +0.3
X20A	Quemado baz=58	57.83 328	⇑P	P	20 20 05.3 +0.3
Q30A	Quinter baz=58,SNR=6.0	57.86 337	⇓P	P	20 20 05.1 +0.2
R28A	Tribune baz=58	57.92 336	⇑P	P	20 20 05.2 -0.1
S26A	Kim baz=58,SNR=24	57.98 334	⇓P	P	20 20 06.3 +0.4
T25A	Trinidad baz=58,SNR=10	57.98 333	⇓P	P	20 20 06.4 +0.4
P31A	Stockton baz=58,SNR=6.0	58.03 338	⇓P	P	20 20 06.3 +0.2
Q29A	Oakley baz=58	58.07 337	⇓P	P	20 20 07.1 +0.7
U23A	El Rito baz=58	58.12 331	⇓P	P	20 20 07.9 +0.8
V22A	San Miguel Ran baz=58,SNR=14	58.13 330	⇑P	P	20 20 07.8 +0.7
MDV	Middlebury	58.15 2	eP	P	20 20 07.2 +0.5
T24A	Torres, Weston baz=58	58.21 332	⇓P	P	20 20 08.4 +0.7
214A	Organ Pipe Nat baz=58	58.26 323	⇓P	P	20 20 07.9 +0.1
R27A	Eads baz=58	58.27 335	⇓P	P	20 20 08.1 +0.2
W20A	Ramah baz=58,SNR=6.4	58.29 328	⇓P	P	20 20 09.0 +0.8
P30A	Selden baz=59	58.37 338	⇑P	P	20 20 09.1 +0.6
V21A	Milan baz=59	58.40 330	⇑P	P	20 20 09.5 +0.5
S25A	Robets Cordova baz=59	58.43 333	⇓P	P	20 20 09.7 +0.6
U22A	Llaves baz=59,SNR=7.0	58.48 331	⇑P	P	20 20 10.2 +0.7
Q28A	Sharon Springs baz=59	58.55 336	⇓P	P	20 20 10.5 +0.8
R26A	Arlington baz=59,SNR=12	58.55 335	⇑P	P	20 20 09.9 +0.1
X18A	Snowflake baz=59	58.58 327	⇑P	P	20 20 10.8 +0.6
P29A	Atwood baz=59	58.67 337	⇑P	P	20 20 11.6 +1.0
LONY	Lake Ozonia comp=Z,76nm,1.5s	58.74 1	eP	P	20 20 11.1 +0.3
S24A	Houchin Ranch, baz=59,SNR=11	58.75 333	⇓P	P	20 20 11.9 +0.5
R25A	Fountain Ranch baz=59	58.77 334	⇑P	P	20 20 11.8 +0.4
V20A	Brimhall baz=59	58.80 329	⇓P	P	20 20 12.0 +0.3
KSCO	Kaye Shedlock' baz=59	58.82 336	⇓P	P	20 20 12.4 +0.7
O30A	MW Ranch, Wils baz=59	58.86 338	⇓P	P	20 20 12.8 +0.9
U21A	Nageezi baz=59,SNR=8.6	58.90 330	⇑P	P	20 20 13.0 +0.6
W18A	Petrified Fore baz=59,SNR=6.9	58.92 328	⇓P	P	20 20 13.2 +0.7
T22A	Edith baz=59,SNR=5.8	59.01 331	⇓P	P	20 20 14.2 +0.9
O29A	4D Ranch, Culb baz=59	59.08 338	⇓P	P	20 20 13.9 +0.5
Q26A	Hugo baz=59	59.10 335	⇑P	P	20 20 14.3 +0.6
R24A	Sanders Place, baz=59	59.20 333	⇑P	P	20 20 15.2 +0.8
U20A	Newcomb baz=60	59.28 329	⇑P	P	20 20 15.8 +0.8
T21A	Navajo Lake baz=60	59.30 331	⇓P	P	20 20 16.0 +0.8
X16A	Lo Mia Camp, P baz=60	59.30 326	⇓P	P	20 20 15.9 +0.7
BGNE	Belgrade baz=60	59.30 340	⇓P	P	20 20 15.3 +0.5
113A	Mohawk Valley, baz=60	59.40 323	⇓P	P	20 20 16.5 +0.8
Q25A	Bedland, Calha baz=60	59.40 334	⇓P	P	20 20 16.4 +0.6
N30A	Hueftle Ranch, baz=60	59.42 339	⇓P	P	20 20 16.8 +1.1
O28A	Krutsinger Ran baz=60	59.44 337	⇑P	P	20 20 16.7 +0.8
R23A	Moffat baz=60,SNR=13	59.48 333	⇑P	P	20 20 17.1 +0.6
S22A	4UR Ranch, Cre baz=60,SNR=17	59.57 332	⇓P	P	20 20 17.6 +0.5
P26A	Davis Ranch, A baz=60	59.58 335	⇑P	P	20 20 17.7 +0.8
N29A	Votaw Ranch, W baz=60	59.62 338	⇓P	P	20 20 17.7 +0.5
O27A	Beecher Island baz=60,SNR=10	59.77 336	⇑P	P	20 20 18.6 +0.4
Y14A	Wickenburg baz=60	59.81 324	⇓P	P	20 20 19.2 +0.7
Q24A	Divide baz=60	59.83 334	⇓P	P	20 20 19.4 +0.5
N28A	Pribbeno Ranch baz=60	59.84 337	⇓P	P	20 20 19.6 +0.9
P25A	Willow Gulch B baz=60	59.87 335	⇑P	P	20 20 19.7 +0.6
R22A	Saguache, Gunn baz=60	59.93 332	⇑P	P	20 20 19.9 +0.3
MVCO	Mesa Verde comp=Z,18nm,1.0s	59.93 330	eP	P	20 20 19.4 -0.2
MVCO	Mesa Verde baz=60	59.93 330	⇑P	P	20 20 19.7 +0.1
S21A	Coal Bank Pass baz=60,SNR=9.2	59.95 331	⇓P	P	20 20 20.2 +0.4
WUAZ	Wupatki baz=60,SNR=5.9	60.09 327	⇑P	P	20 20 21.4 +0.8
OGNE	Ogallala baz=60,SNR=5.0	60.25 337	⇑P	P	20 20 22.1 +0.6
O25A	Wiggins baz=61	60.36 335	⇑P	P	20 20 23.0 +0.7
S20A	Disappointment baz=61,SNR=16	60.36 330	⇑P	P	20 20 23.1 +0.6
R21A	Cimarron baz=61,SNR=7.4	60.41 331	⇑P	P	20 20 23.3 +0.5
P23A	Jefferson baz=61,SNR=9.9	60.46 333	⇑P	P	20 20 24.1 +0.8
Q22A	Crested Butte, baz=61	60.52 332	⇑P	P	20 20 24.3 +0.7
Y12C	Blythe baz=61	60.54 323	⇓P	P	20 20 24.4 +0.9
N26A	Koester Ranch, baz=61	60.61 336	⇓P	P	20 20 24.9 +0.9
R20A	Redvale baz=61,SNR=5.5	60.65 331	⇑P	P	20 20 25.4 +0.9
L29A	Maesberg Ranch baz=61	60.67 339	⇑P	P	20 20 25.0 +0.7
DVTC	Desert V Tower baz=61	60.72 321	⇓P	P	20 20 25.4 +0.6
PDMCI	Parker Dam,Lak baz=61	60.72 324	⇓P	P	20 20 25.5 +0.9
ISCO	Idaho Springs ISCO	60.72 334	eP pmax	P pmax	20 20 24.4 -0.6
ISCO	Idaho Springs comp=Z,28nm,1.4s	60.72 334	eP	P	20 20 24.4 -0.6
ISCO	Idaho Springs baz=61,SNR=8.0	60.72 334	⇑P	P	20 20 25.4 +0.5
Q21A	Lamborn Mesa, baz=61	60.80 332	⇓P	P	20 20 25.9 +0.5
SMCO	Snowmass comp=Z,59nm,1.8s	60.80 332	eP	P	20 20 25.1 -0.6
ECSD	EROS Data Cent comp=Z,46nm,1.0s	60.95 343	eP	P	20 20 25.0 -1.0
BC3	Big Chuckawall baz=61,SNR=7.4	61.02 322	⇑P	P	20 20 27.8 +0.8
P22A	Eagle baz=61	61.05 333	⇓P	P	20 20 27.9 +0.8
W13A	Hualapai Mount baz=61,SNR=5.6	61.15 325	⇑P	P	20 20 28.7 +0.8
O23A	Lake Granby, G baz=61	61.19 334	⇑P	P	20 20 28.9 +0.8
IRM	Iron Mountain baz=61,SNR=9.3	61.20 323	⇑P	P	20 20 28.9 +0.9
Q20A	Ridgley Place, baz=61	61.23 331	⇑P	P	20 20 28.9 +0.6
K29A	Lazy Trails An baz=61	61.23 339	⇓P	P	20 20 28.9 +0.9
U15A	North Rim baz=62,SNR=11	61.26 327	⇓P	P	20 20 29.5 +0.8
P21A	Newcastle baz=62,SNR=5.4	61.30 332	⇑P	P	20 20 29.0 +0.2
SPMN	St. Paul baz=62,SNR=8.6	61.35 346	⇑P	P	20 20 28.1 -0.6
O22A	Kremmling baz=62,SNR=9.0	61.42 333	⇑P	P	20 20 29.9 +0.2
K28A	Ten Mile Ranch baz=62	61.55 339	⇓P	P	20 20 31.2 +0.9
BELC	Belle Mtn. Jos baz=62,SNR=6.3	61.59 322	⇓P	P	20 20 31.7 +1.0
PFO	Pinyon Flat Ob comp=Z,28nm,1.4s	61.59 322	eP	P	20 20 30.5 -0.3
PFO	Pinyon Flat Ob baz=62	61.59 322	⇓P	P	20 20 31.8 +1.1
P20A	De Beque baz=62	61.71 332	⇑P	P	20 20 32.5 +1.0
N23A	Red Feather La baz=62	61.77 334	⇑P	P	20 20 32.8 +0.7
M24A	Cheyenne baz=62	61.79 335	⇑P	P	20 20 32.9 +0.9
K27A	Flueckinger Fa baz=62	61.85 338	⇓P	P	20 20 33.4 +1.1
O21A	Pagoda baz=62	61.87 333	⇓P	P	20 20 33.5 +0.8
GMRC	Granite Mounta baz=62,SNR=5.3	61.94 323	⇓P	P	20 20 33.7 +0.6
L25A	Engebretsen Ra baz=62	62.03 336	⇓P	P	20 20 34.2 +0.7
MURC	Murrieta baz=62	62.03 321	⇑P	P	20 20 34.5 +0.8
P19A	Cripple Cowboy baz=62,SNR=6.0	62.09 331	⇓P	P	20 20 34.7 +0.6
J28A	Allard Ranch, baz=62	62.13 339	⇑P	P	20 20 34.9 +0.8
O20A	White River Ci baz=62,SNR=5.8	62.15 332	⇓P	P	20 20 35.0 +0.5
L24A	Wheatland baz=62	62.32 336	⇓P	P	20 20 36.4 +0.9
N21A	Black Mountain baz=62,SNR=11	62.34 333	⇑P	P	20 20 36.8 +1.0
HEC	Hector,Ludlow baz=63,SNR=6.2	62.36 323	⇓P	P	20 20 37.2 +1.3
SRU	San Rafael SRU	62.41 330	eP pmax	P pmax	20 20 35.7 -0.6
SRU	San Rafael comp=Z,47nm,1.4s	62.41 330	eP	P	20 20 35.7 -0.6
M22A	Cedar Creek Ra baz=63	62.47 334	⇓P	P	20 20 37.5 +0.9
TUQ	Turquoise Moun baz=63	62.55 323	⇑P	P	20 20 38.1 +0.9
Q16A	Castle Valley baz=63,SNR=6.1	62.58 329	⇓P	P	20 20 38.5 +1.1
CCUT	Cedar City comp=Z,20nm,0.9s	62.67 327	eP	P	20 20 36.7 -1.4
O19A	Miners Draw (B baz=63	62.69 332	⇑P	P	20 20 38.7 +0.7
L23A	Garrett baz=63,SNR=9.3	62.69 335	⇑P	P	20 20 38.2 +0.1
J26A	Sides Ranch, S baz=63,SNR=8.5	62.69 338	⇑P	P	20 20 38.5 +0.6
N20A	Spence Gulch, baz=63,SNR=17	62.72 333	⇓P	P	20 20 38.7 +0.4
BFSC	Mount Baldy Ra baz=63	62.75 321	⇑P	P	20 20 39.1 +0.5
MSU	Marysvale	62.77 328	eP	P	20 20 38.7 0.0
MSU	Marysvale	62.77 328	eP	P	20 20 38.7 0.0
MVU	Marysvale comp=Z,20nm,0.9s	62.78 328	eP	P	20 20 39.6 +0.8
TMUT	Trail Mountain comp=Z,33nm,1.5s	62.89 330	eP	P	20 20 39.6 +0.1
L22A	Ellis Ranch, M baz=63,SNR=7.2	62.92 335	⇑P	P	20 20 39.9 +0.3
M21A	Separation Pea baz=63,SNR=14	62.96 334	⇓P	P	20 20 40.4 +0.5
RWWY	Rawlins comp=Z,89nm,1.5s	62.96 334	eP	P	20 20 38.9 -1.1
GSC	Goldstone GSC	62.97 323	eP pmax	P pmax	20 20 41.3 +1.4
GSC	Goldstone comp=Z,40nm,1.8s	62.97 323	eP	P	20 20 41.3 +1.4
GSC	Goldstone baz=63,SNR=5.4	62.97 323	⇓P	P	20 20 40.6 +0.6
MWC	Mount Wilson MWC	62.98 321	eP pmax	P pmax	20 20 39.1 -1.0
MWC	Mount Wilson comp=Z,94nm,1.7s	62.98 321	eP	P	20 20 39.1 -1.0
I27A	Quinn baz=63,SNR=8.7	62.98 339	⇑P	P	20 20 40.2 +0.4
J25A	Sunshine Ranch baz=63	63.03 337	⇑P	P	20 20 40.7 +0.6
H28A	Mission Ridge baz=63,SNR=10.0	63.16 340	⇓P	P	20 20 40.9 0.0
K23A	Bowen Ranch, D baz=63	63.19 336	⇑P	P	20 20 41.8 +0.4
M20A	Sweetwater, Wa baz=63,SNR=9.0	63.22 333	⇑P	P	20 20 41.7 0.0
I26A	New Underwood baz=63	63.23 338	⇓P	P	20 20 41.9 +0.5
L21A	Rawlins baz=64,SNR=26	63.26 334	⇑P	P	20 20 41.9 +0.1
J24A	Dixon Ranch, L baz=64	63.30 337	⇑P	P	20 20 42.5 +0.5
K22A	Casper baz=64,SNR=9.2	63.47 335	⇓P	P	20 20 43.1 -0.1
G28A	Parade baz=64	63.48 340	⇓P	P	20 20 43.1 0.0
H27A	Howes baz=64	63.48 339	⇓P	P	20 20 43.3 +0.2
I25A	Rochford baz=64,SNR=38	63.54 338	⇓P	P	20 20 44.3 +0.7
MPU	Maple Canyon comp=Z,18nm,1.0s	63.65 330	eP	P	20 20 45.5 +1.0
EYMN	Ely comp=Z,24nm,1.0s	63.66 348	eP	P	20 20 42.6 -1.5
M19A	Rock Springs baz=64	63.66 332	⇓P	P	20 20 45.1 +0.5
L20A	Wamsutter baz=64,SNR=6.2	63.71 333	⇓P	P	20 20 45.0 +0.1
I24A	Kuemmerle Ranc baz=64,SNR=6.4	63.74 337	⇓P	P	20 20 45.0 +0.1
RSSD	Black Hills RSSD	63.74 338	eP pmax	P pmax	20 20 45.0 0.0
RSSD	Black Hills comp=Z,34nm,1.3s	63.74 338	eP	P	20 20 45.0 0.0
K21A	Alcova baz=64,SNR=22	63.76 334	⇓P	P	20 20 45.5 +0.4
DAU	Daniels Canyon	63.78 330	eP	P	20 20 46.2 +0.8
DAU	Daniels Canyon	63.78 330	eP	P	20 20 46.2 +0.8
MPMC	Manual Prospec baz=64,SNR=9.9	63.90 323	⇑P	P	20 20 46.5 +0.3
H25A	Fruitdale baz=64	64.01 338	⇑P	P	20 20 47.0 +0.5
JLU	Jordanelle comp=Z,48nm,1.2s	64.02 330	eP	P	20 20 48.0 +1.0
J22A	Midwest baz=64,SNR=14	64.08 335	⇑P	P	20 20 46.9 -0.3
G27A	Dupree baz=64	64.09 340	⇑P	P	20 20 47.2 +0.1
ISA	Isabella ISA	64.20 322	eP pmax	P pmax	20 20 49.5 +1.4
ISA	Isabella comp=Z,16nm,1.3s	64.20 322	eP	P	20 20 49.5 +1.4
ISA	Isabella comp=Z,16nm,1.3s	64.20 322	eP	P	20 20 49.5 +1.4
ISA	Isabella baz=64,SNR=5.8	64.20 322	⇓P	P	20 20 48.6 +0.6
L19A	Farson baz=64,SNR=9.5	64.23 333	⇓P	P	20 20 48.6 +0.3
K20A	Yellowstone Ra baz=64,SNR=7.6	64.24 334	⇑P	P	20 20 47.9 -0.3
G26A	Maurine baz=64,SNR=9.9	64.24 339	⇑P	P	20 20 47.5 -0.6
M17A	Scullys Gap (B baz=64,SNR=9.9	64.33 331	⇓P	P	20 20 48.7 -0.2
DUG	Dugway DUG	64.37 329	eP pmax	P pmax	20 20 50.0 +0.8
DUG	Dugway comp=Z,64nm,1.2s	64.37 329	eP	P	20 20 50.0 +0.8
DUG	Dugway comp=Z,64nm,1.2s	64.37 329	⇑P	P	20 20 49.9 +0.8
L18A	Fontenelle, Gr baz=65,SNR=40	64.40 332	⇑P	P	20 20 49.8 +0.5
J21A	Lysite baz=65,SNR=9.8	64.42 335	⇑P	P	20 20 50.0 +0.5
G25A	Newell baz=65,SNR=15	64.44 339	⇓P	P	20 20 49.5 +0.1
R11A	Troy Canyon, C baz=65	64.44 326	⇑P	P	20 20 50.6 +0.9
H24A	Dirks Ranch, A baz=65,SNR=24	64.47 338	⇓P	P	20 20 49.4 -0.2
I22A	9 Mile Ranch, baz=65,SNR=11	64.49 336	⇓P	P	20 20 49.8 0.0
K19A	Absolon Red Bu baz=65,SNR=13	64.59 333	⇑P	P	20 20 50.7 +0.1
H23A	Clabaugh Cattl baz=65,SNR=12	64.63 337	⇓P	P	20 20 50.5 -0.2
VES	Vestal, Richgr baz=65	64.69 322	⇑P	P	20 20 51.6 +0.5
J20A	Shoshoni baz=65,SNR=8.8	64.69 334	⇑P	P	20 20 51.0 -0.2
I21A	Big Trails, Te baz=65,SNR=18	64.75 335	⇓P	P	20 20 51.3 -0.2
F26A	Lodgepole baz=65	64.75 339	⇓P	P	20 20 51.2 -0.2
PDAR	Pinedale Array	64.85 333 P		P	20 20 51.6 -0.7
PDAR		pP		pP	20 21 04.2 -1.2
PDAR		PcP		PcP	20 21 24.0 -1.4
PDAR	Pinedale Array comp=Z,8.0nm,1.1s,baz=147,slow=6.3,SNR=35	64.85 333 P		P	20 20 51.6 -0.7
PDAR		pP		pP	20 21 04.2 -1.2
PDAR	comp=Z,4.4nm,1.0s,baz=108,slow=9.5,SNR=5.9	PcP		PcP	20 21 24.0 -1.4
SMMC	Simmler comp=Z,5.3nm,0.8s,baz=151,slow=4.1,SNR=8.1 baz=65	64.89 321	⇑P	P	20 20 53.3 +0.8
G24A	Alzada baz=65	64.91 338	⇑P	P	20 20 52.6 0.0
AGMN	Agassiz Nation comp=Z,53nm,0.8s	64.96 345	eP	P	20 20 52.0 -0.6
H22A	Clearmont baz=65,SNR=5.6	65.02 336	⇑P	P	20 20 53.1 -0.1
BGU	Big Grassy Mou comp=Z,21nm,1.2s	65.03 329	eP	P	20 20 54.1 +0.6
J19A	Crowheart baz=65,SNR=23	65.03 334	⇓P	P	20 20 53.6 +0.2
F25A	Bowman baz=65,SNR=8.2	65.09 339	⇓P	P	20 20 53.8 +0.2
G23A	Biddle baz=65,SNR=10	65.17 337	⇓P	P	20 20 54.2 +0.1
I20A	Worland baz=65	65.20 335	⇑P	P	20 20 54.4 0.0
E26A	Carlson Angus baz=65	65.22 340	⇑P	P	20 20 54.3 -0.2
H21A	Big Horn, Sher baz=66	65.32 336	⇓P	P	20 20 55.1 -0.1
F24A	Ekalaka baz=66,SNR=13	65.37 338	⇓P	P	20 20 55.3 -0.2
G22A	Birney baz=66,SNR=6.6	65.52 337	⇑P	P	20 20 56.2 -0.3
MDND	Maddock baz=66,SNR=6.7	65.56 343	⇓P	P	20 20 56.9 +0.4
HVU	Hansel Valley HVU	65.56 330	eP pmax	P pmax	20 20 57.3 +0.4
HVU	Hansel Valley comp=Z,24nm,0.9s	65.56 330	eP	P	20 20 57.3 +0.4
E25A	Miller Ranch, baz=66,SNR=6.6	65.57 339	⇓P	P	20 20 56.9 +0.2
H20A	Greybull baz=66,SNR=8.8	65.59 335	⇑P	P	20 20 56.6 -0.3
F23A	Volborg baz=66	65.61 338	⇓P	P	20 20 57.1 +0.1
I19A	Meeteetse baz=66,SNR=12	65.64 334	⇓P	P	20 20 57.2 -0.1
I18A	Diamond G Ranc baz=66	65.72 333	⇑P	P	20 20 58.3 +0.4
G21A	Lodge Grass baz=66,SNR=9.8	65.88 336	⇑P	P	20 20 58.7 -0.1
REDW	Red Top Meadow comp=Z,33nm,1.3s	65.90 333	eP	P	20 20 59.5 +0.4
E24A	Baker baz=66,SNR=7.5	65.93 339	⇓P	P	20 20 58.9 -0.1
F22A	Rosebud baz=66,SNR=6.5	65.98 337	⇓P	P	20 20 59.1 -0.3
LOHW	Long Hollow	65.99 333	eP	P	20 21 00.1 +0.4

comp=Z,15nm,1.3s
NVAR **Mina Array Bea** 66.01 324 P **P** 20 21 00.2 +0.3
NVAR pP **pP** 20 21 13.0 0.0
NVAR **Mina Array Bea** 66.01 324 P **P** 20 21 00.2 +0.3
comp=Z,7.4nm,1.0s,baz=146,slow=6.4,SNR=34
NVAR pP **pP** 20 21 13.0 0.0
comp=Z,4.3nm,0.9s,baz=140,slow=5.5,SNR=8.2
TPAW Teton Pass 66.05 333 *e*P **P** 20 21 00.6 +0.5
comp=Z,17nm,1.1s
RRI2 Red Ridge 66.10 332 *e*P **P** 20 21 00.5 0.0
comp=Z,49nm,1.0s
MOOW Moose Ponds 66.16 333 *e*P **P** 20 21 01.1 +0.3
comp=Z,15nm,1.1s
I17A Pilgrim Ck. 66.22 333 ⇓P **P** 20 21 01.6 +0.4
baz=66
E23A Ismay 66.24 338 ⇑P **P** 20 21 00.7 -0.2
baz=66,SNR=12
G20A Bridger 66.28 335 ⇓P **P** 20 21 00.8 -0.6
baz=66,SNR=6.0
C26A Wahner Farm, P 66.30 341 ⇓P **P** 20 21 01.3 0.0
baz=66
FLWY Flagg Ranch 66.41 333 *e*P **P** 20 21 03.3 +1.0
comp=Z,47nm,0.9s
D24A Glendive 66.42 339 ⇑P **P** 20 21 02.4 +0.3
baz=67,SNR=12
E22A Miles City 66.42 338 ⇑P **P** 20 21 02.3 +0.1
baz=67
H18A Shoshone NF, C 66.44 334 ⇑P **P** 20 21 02.5 0.0
baz=67,SNR=16
C25A Freed Ranch, W 66.57 340 ⇑P **P** 20 21 03.8 +0.7
baz=67
I16A Newdale 66.59 333 ⇑P **P** 20 21 04.1 +0.7
baz=67
F20A Billings 66.73 336 ⇑P **P** 20 21 04.6 +0.4
baz=67
D23A Lindsay 66.78 339 ⇓P **P** 20 21 04.9 +0.4
baz=67,SNR=14
ULM Lac du Bonnet 66.78 346 P **P** 20 21 02.7 -1.6
ULM *e*P **P** 20 21 03.4 -0.9
ULM Lac du Bonnet 66.78 346 P **P** 20 21 02.7 -1.6
comp=Z,43nm,0.8s,baz=157,slow=6.2,SNR=35
C24A Savage 66.81 339 ⇓P **P** 20 21 04.9 +0.3
baz=67
B26A Jensen Ranch, 66.83 341 ⇓P **P** 20 21 05.0 +0.3
baz=67
G18A Lazy EL Ranch, 66.91 335 ⇑P **P** 20 21 05.7 +0.3
baz=67,SNR=28
E21A Keefer Ranch, 66.93 337 ⇑P **P** 20 21 05.8 +0.4
baz=67,SNR=5.5
CMB Columbia Colle 66.94 323 *e*P **P** 20 21 06.5 +0.9
CMB pmax pmax
comp=Z,14nm,1.2s
CMB Columbia Colle 66.94 323 *e*P **P** 20 21 06.5 +0.9
comp=Z,14nm,1.2s
B25A Knox Farm, Ray 67.03 340 ⇑P **P** 20 21 06.6 +0.6
baz=67
F19A Roth Farm, Mol 67.09 335 ⇑P **P** 20 21 06.9 +0.4
baz=67,SNR=33
D22A Cohagen 67.11 338 ⇓P **P** 20 21 07.4 +0.9
baz=67,SNR=41
H16A Russell Place, 67.14 333 ⇑P **P** 20 21 07.6 +0.7
baz=67,SNR=11
A26A Wade Farm, Ken 67.22 341 ⇑P **P** 20 21 07.7 +0.6
baz=67
E20A Meyer Farm, Mu 67.30 336 ⇑P **P** 20 21 08.3 +0.5
baz=68,SNR=17
C23A Lambert 67.31 339 ⇑P **P** 20 21 08.1 +0.4
baz=68,SNR=5.1
QLMT Earthquake Lak 67.32 333 *e*P **P** 20 21 09.5 +1.4
D21A La Casta Ranch 67.34 337 ⇑P **P** 20 21 08.5 +0.6
baz=68,SNR=27
G17A Pierce Place, 67.41 334 ⇑P **P** 20 21 09.2 +0.6
baz=68
F18A Big Timber 67.45 335 ⇓P **P** 20 21 09.3 +0.5
baz=68,SNR=21
PAHR Pah Rah Range 67.50 325 *e*P **P** 20 21 10.6 +1.3
comp=Z,58nm,1.2s
C22A Vida 67.50 338 ⇓P **P** 20 21 09.6 +0.6
baz=68,SNR=16
E19A Rath Farm, Rou 67.53 336 ⇓P **P** 20 21 09.7 +0.5
baz=68,SNR=23
I14A Mackay 67.53 331 ⇑P **P** 20 21 10.3 +0.9
baz=68,SNR=25
DGMT Dagmar 67.54 340 *e*P **P** 20 21 10.1 +0.9
comp=Z,68nm,1.0s
DGMT Dagmar 67.54 340 ⇑P **P** 20 21 10.1 +0.9
baz=68,SNR=11
A25A Svangstu Ranch 67.60 341 ⇓P **P** 20 21 10.3 +0.7
baz=68,SNR=6.7
HLID Hailey 67.70 331 *e*P **P** 20 21 11.2 +0.7
comp=Z,93nm,2.1s
HLID Hailey 67.70 331 ⇓P **P** 20 21 11.1 +0.6
baz=68,SNR=20
D20A Manuel Ranch, 67.79 337 ⇓P **P** 20 21 11.3 +0.5
baz=68,SNR=32
B23A Brockton 67.81 339 ⇑P **P** 20 21 11.5 +0.6
baz=68,SNR=21
F17A Fitzpatrick Pl 67.84 334 ⇑P **P** 20 21 11.8 +0.5
baz=68,SNR=8.3
A24A Westby 67.87 340 ⇓P **P** 20 21 11.9 +0.6
baz=68,SNR=9.2
C21A Desert Coulee 68.01 338 ⇑P **P** 20 21 12.6 +0.4
baz=68
B22A Reddig Ranch S 68.02 339 ⇑P **P** 20 21 12.6 +0.4
baz=68
E18A Harlowton 68.06 335 ⇓P **P** 20 21 13.1 +0.4
baz=68,SNR=15
D19A Cripps Ranch, 68.14 336 ⇑P **P** 20 21 13.5 +0.4
baz=68,SNR=14
A23A Redstone 68.19 340 ⇑P **P** 20 21 13.5 +0.2
baz=68
DLMT Dillon 68.25 333 *e*P **P** 20 21 14.3 +0.4
comp=Z,24nm,1.1s
C20A Veseth Ranch, 68.26 337 ⇑P **P** 20 21 13.9 +0.2
baz=68,SNR=6.3
MFID Camas Ranch 68.28 330 *e*P **P** 20 21 14.8 +0.8
comp=Z,50nm,1.0s
MFID Camas Ranch 68.28 330 ⇑P **P** 20 21 14.8 +0.8
baz=68,SNR=49
E17A Martinsdale 68.37 335 ⇓P **P** 20 21 15.0 +0.4
baz=69,SNR=15
OHCM Honcut 68.44 323 *e*P **P** 20 21 16.3 +1.3
B21A Ellsworth Farm 68.49 338 ⇑P **P** 20 21 15.6 +0.4
baz=69,SNR=5.9
D18A Linhart Farms, 68.53 336 ⇑P **P** 20 21 16.0 +0.5
baz=69
LRM Limekiln Ridge 68.54 333 *e*P **P** 20 21 16.0 +0.2
A22A Carney Farms, 68.58 339 ⇓P **P** 20 21 16.2 +0.5
baz=69,SNR=17
C19A Slack Wire Ran 68.67 336 ⇑P **P** 20 21 16.8 +0.4
baz=69,SNR=14
D17A Six Diamond Ra 68.85 335 ⇑P **P** 20 21 18.0 +0.4
baz=69,SNR=22
B20A Solberg Farm, 68.86 338 ⇑P **P** 20 21 17.9 +0.4
baz=69
A21A Bergtoll Ranch 68.93 338 ⇓P **P** 20 21 17.9 0.0
baz=69
HRY Holter Researc 68.97 334 *e*P **P** 20 21 19.1 +0.8
VNA1 Neumayer--Stat 69.07 161 *e*P **P** 20 21 19.7 +1.3
EGMT Eagleton 69.18 336 *e*P P 20 21 15.3 -4.2
comp=Z,39nm,1.2s
EGMT Eagleton 69.18 336 ⇓P **P** 20 21 19.8 +0.3
baz=69,SNR=6.5
A20A Cobblestone Ra 69.20 338 ⇓P **P** 20 21 19.6 0.0
baz=69,SNR=7.1
B19A Brinkman Farms 69.22 337 ⇑P **P** 20 21 19.9 +0.2
baz=69,SNR=9.4
C17A Wharram Farm, 69.27 335 ⇑P **P** 20 21 20.0 0.0
baz=70,SNR=9.7
SCHQ Schefferville 69.36 5 P **P** 20 21 19.3 -1.1
SCHQ *e*P **P** 20 21 19.6 -0.8
SCHQ Schefferville 69.36 5 P **P** 20 21 19.3 -1.1
comp=Z,43nm,0.8s,baz=190,slow=5.0,SNR=29
B18A Beardsley Farm 69.49 336 ⇓P **P** 20 21 21.9 +0.4
baz=70,SNR=11
A19A Klindworth Far 69.54 337 ⇑P **P** 20 21 21.9 +0.2
baz=70,SNR=21
CHMT Chamberlain Mo 69.74 334 *e*P **P** 20 21 23.9 +0.7
C16A Fuhringer Ranc 69.80 335 ⇑P **P** 20 21 23.7 +0.3
baz=70,SNR=13
B17A L&G Farms, Che 69.81 336 ⇑P **P** 20 21 23.6 +0.2
baz=70
A18A Metzger Ranch, 69.95 337 ⇓P **P** 20 21 24.5 +0.3
baz=70,SNR=18
MSO Missoula 69.97 333 *e*P **P** 20 21 25.3 +0.8
comp=Z,37nm,1.2s
MSO Missoula 69.97 333 ⇑P **P** 20 21 24.9 +0.5
baz=70,SNR=13

SLMT Seeley Lake 70.10 334 *e*P **P** 20 21 26.1 +0.8
SLMT *e*pP **pP** 20 21 39.9 +1.4
C15A Salmond Ranch, 70.14 334 ⇓P **P** 20 21 26.4 +0.9
baz=70,SNR=26
B16A M & M Farms, S 70.27 335 ⇑P **P** 20 21 26.3 0.0
baz=70
A17A Triple J Farms 70.30 336 ⇓P **P** 20 21 26.9 +0.5
baz=70,SNR=26
SWMT Swartz Lake 70.52 333 *e*P **P** 20 21 28.9 +1.0
SWMT *e*pP **pP** 20 21 40.8 -0.2
B15A Bradely Ranch, 70.54 335 ⇓P **P** 20 21 28.3 +0.4
baz=71,SNR=16
C14A Swan Lake 70.61 334 ⇓P **P** 20 21 29.0 +0.7
baz=71
A16A West Butte Ran 70.66 336 ⇓P **P** 20 21 29.1 +0.5
baz=71
KHMM Horse Mountain 70.75 323 *e*P **P** 20 21 31.0 +1.6
comp=Z,32nm,1.3s
JTMT Jette 70.83 333 *e*P **P** 20 21 30.5 +0.8
JTMT *e*pP **pP** 20 21 44.4 +1.5
B14A Marquette Ranc 70.88 334 ⇑P **P** 20 21 30.4 +0.4
baz=71
C13A Hot Springs 70.90 333 ⇑P **P** 20 21 30.7 +0.6
baz=71,SNR=27
SNAA Sanae 71.03 161 *e*P **P** 20 21 30.9 +0.3
SNAA Sanae 71.03 161 *e*pP pP 20 21 41.1 -2.7
SNAA Sanae 71.03 161 P **P** 20 21 30.8 +0.2
SNAA *e*P **P** 20 21 31.0 +0.5
SNAA Sanae 71.03 161 P **P** 20 21 30.8 +0.2
comp=Z,16nm,0.9s,baz=281,slow=5.5,SNR=106
BLMT Blacktail Moun 71.07 334 *e*P **P** 20 21 32.0 +0.8
BLMT *e*pP **pP** 20 21 46.1 +1.7
BSMT Bassoo Peak 71.13 333 *e*P **P** 20 21 32.3 +0.7
A15A Johnson Ranch, 71.14 335 ⇑P **P** 20 21 31.5 0.0
baz=71
KRMB Red Mountain 71.27 324 *e*P **P** 20 21 33.9 +1.3
comp=Z,25nm,2.2s
B13A Whitefish 71.39 334 ⇓P **P** 20 21 33.6 +0.6
baz=72
A14A Double T Ranch 71.41 335 ⇓P **P** 20 21 33.5 +0.2
baz=72,SNR=10
A13A Flathead Natio 71.80 334 ⇑P **P** 20 21 36.4 +0.9
baz=72
B12A Libby 71.95 333 ⇓P **P** 20 21 37.5 +1.2
baz=72
A12A Yaak River Ran 72.33 334 ⇓P **P** 20 21 39.6 +1.0
baz=72,SNR=24
KEBM Edson Butte 72.38 325 *e*P **P** 20 21 41.1 +2.0
comp=Z,91nm,1.3s
FFC Flin Flon 72.39 344 *c*e**P** **P** 20 21 38.4 -0.4
FFC Flin Flon 72.39 344 *e*P **P** 20 21 38.5 -0.3
NEW Newport 72.47 332 *e*P **P** 20 21 39.7 +0.3
comp=Z,22nm,1.1s
NEW Newport 72.47 332 ⇓P **P** 20 21 39.8 +0.3
baz=73,SNR=11
LIC Lamto 72.94 79 *e*P **P** 20 21 41.9 -1.0
comp=Z,16nm,1.0s,baz=255
LIC Lamto 72.94 79 *e*P **P** 20 21 41.9 -1.0
comp=Z,30nm,1.1s
TIC Toumodi 73.07 78 *e*P **P** 20 21 42.8 -0.9
comp=Z,127nm,1.7s
DBIC Dimbokro 73.23 78 P **P** 20 21 43.7 -1.0
DBIC pP **pP** 20 21 58.0 +0.1
DBIC Dimbokro 73.23 78 P **P** 20 21 43.7 -1.0
comp=Z,16nm,1.0s,baz=237,slow=6.0,SNR=7.7
DBIC pP **pP** 20 21 58.0 +0.1
comp=Z,8.8nm,1.0s,baz=150,slow=5.0,SNR=2.6
KIC Kosan Boka 73.25 79 *e*P **P** 20 21 43.9 -0.9
comp=Z,45nm,1.1s
LON Longmire 73.62 329 *e*P **P** 20 21 45.5 -0.8
LON pmax pmax
comp=Z,6.0nm,1.0s
LON Longmire 73.62 329 *e*P **P** 20 21 45.5 -0.8
comp=Z,6.1nm,1.0s
MORF Marmelete 81.19 48 *e*P **P** 20 22 30.4 +1.5
comp=Z,60nm,1.2s
PTEO Sao Teotonio 81.25 48 *e*P **P** 20 22 30.7 +1.6
comp=Z,67nm,1.5s
TORD Torodi Ar. Bea 81.30 74 P **P** 20 22 29.6 -0.2
TORD Torodi Ar. Bea 81.30 74 P **P** 20 22 29.6 -0.2
comp=Z,66nm,0.9s,baz=259,slow=5.1,SNR=138
SBA Scott Base 81.59 191 *e*P **P** 20 22 32.3 +2.1
SBA pmax pmax
comp=Z,30nm,1.4s
SBA Scott Base 81.59 191 *e*P **P** 20 22 32.3 +2.1
comp=Z,30nm,1.4s
PCVE Castro Verde 81.77 48 *e*P **P** 20 22 33.4 +1.5
comp=Z,45nm,1.8s
PVAQ Vaqueiros 81.91 48 *e*LQ LQ 20 42 41.3
PVAQ *e*LR LR 20 47 47.5
comp=Z,2μm,15.1s
PBEJ Beja 82.06 48 *e*P **P** 20 22 34.7 +1.3
comp=Z,38nm,1.5s
EVO Evora 82.17 47 *e*P **P** 20 22 33.9 -0.1
comp=Z,57nm,1.2s
PMTG Montargil 82.25 46 *e*P **P** 20 22 35.4 +1.0
comp=Z,65nm,1.4s
PTOM Tomar 82.36 46 *e*P **P** 20 22 36.2 +1.3
comp=Z,68nm,1.4s
MDT Midelt 82.40 53 P **P** 20 22 35.9 +0.5
MDT Midelt 82.40 53 P **P** 20 22 35.9 +0.5
comp=Z,2.7nm,0.7s,baz=232,slow=6.8,SNR=7.1
YKA Yellowknife Ar 82.47 343 P **P** 20 22 34.4 -0.6
YKA Yellowknife Ar 82.47 343 P **P** 20 22 34.4 -0.6
comp=Z,16nm,0.8s,baz=138,slow=5.4,SNR=84
PCAS Casmilo, Conde 82.49 46 *e*P **P** 20 22 36.8 +1.2
comp=Z,53nm,1.5s
PESTR Estremoz 82.62 47 *e*P **P** 20 22 37.4 +1.1
comp=Z,42nm,1.6s
VNDA Vanda 82.66 191 P **P** 20 22 36.6 +0.7
VNDA *e*P **P** 20 22 37.2 +1.4
VNDA Vanda 82.66 191 P **P** 20 22 36.6 +0.7
comp=Z,11nm,1.1s,baz=137,slow=3.9,SNR=30
PBAR Barrancos 82.72 48 *e*P **P** 20 22 38.0 +1.2
comp=Z,24nm,1.8s
PMRV Marv??o 82.99 46 *e*P **P** 20 22 38.6 +0.4
comp=Z,26nm,1.3s
PMRV Marv??o 82.99 46 *e*LQ LQ 20 43 57.2
PCBR Castelo Branco 83.11 46 *e*P **P** 20 22 39.6 +0.8
comp=Z,32nm,1.4s
PVIS Viseu 83.19 45 *e*P **P** 20 22 40.0 +0.7
comp=Z,55nm,1.3s
MTE Manteigas 83.30 46 *e*P **P** 20 22 40.5 +0.7
comp=Z,44nm,1.3s
MTE Manteigas 83.30 46 *e*LQ LQ 20 44 23.1
MTE *e*LR LR 20 48 20.4
comp=Z,3μm,15.7s
PGAV Gavieira, Arco 83.48 44 *e*P **P** 20 22 41.3 +0.5
comp=Z,49nm,1.7s
PGAV Gavieira, Arco 83.48 44 *e*LQ LQ 20 44 02.1
PGAV *e*LR LR 20 47 30.5
comp=Z,2μm,16.8s
PCAB Cabril 83.53 44 *e*P **P** 20 22 41.5 +0.5
comp=Z,56nm,1.4s
POLO Lamas de Olo 83.54 45 *e*P **P** 20 22 41.8 +0.7
comp=Z,18nm,1.3s
PVRL Vila Real 83.55 45 *e*P **P** 20 22 41.7 +0.6
comp=Z,45nm,1.9s
MVO Moncorvo 83.97 45 *e*P **P** 20 22 43.2 -0.1
comp=Z,43nm,1.2s
PBRG Braganca 84.44 44 *e*P **P** 20 22 46.0 +0.4
comp=Z,40nm,1.7s
PAB San Pablo 85.19 47 *e*P **P** 20 22 50.3 +0.8
PAB *e**PP **pP** 20 23 02.0 -1.0
PAB pmax pmax
comp=Z,17nm,1.1s
PAB San Pablo 85.19 47 *e*P **P** 20 22 50.3 +0.8
comp=Z,17nm,1.1s
PAB *e*pP **pP** 20 23 02.0 -1.0
SYO Syowa Base 85.31 161 ⇓*e*P **P** 20 22 48.2 -1.3
ESDC Sonseca Array 85.52 47 P **P** 20 22 51.1 0.0
ESDC Sonseca Array 85.52 47 P **P** 20 22 51.1 0.0
comp=Z,3.6nm,0.8s,baz=250,slow=4.6,SNR=17
SKAG Skagway 87.86 334 *e*P **P** 20 23 02.7 +0.7
comp=Z,30nm,1.0s
TSUM Tsumeb 88.31 109 P **P** 20 23 05.2 -0.1
TSUM *e*P **P** 20 23 05.7 +0.4
TSUM Tsumeb 88.31 109 P **P** 20 23 05.2 -0.1
comp=Z,10.0nm,1.0s,baz=232,slow=6.8,SNR=12
SJPF Ste Jean 88.71 45 *e*P **P** 20 23 06.6 +0.2
MSKU Masuku 88.86 91 P **P** 20 23 09.4 +1.5
MSKU Masuku 88.86 91 P **P** 20 23 09.4 +1.5
comp=Z,65nm,1.2s,baz=135,slow=17,SNR=31
ETSF Etsaut 89.09 45 *e*P **P** 20 23 08.2 -0.1
QUIF Quistinic 89.22 40 *e*P **P** 20 23 08.1 -0.5
comp=Z,80nm,1.4s

HYT Haines Junctio 89.52 334 *e*P **P** 20 23 09.6 -0.3
EPF Esparros 89.75 45 *e*P **P** 20 23 10.3 -1.1
SUMG Summit 90.17 10 *e*P **P** 20 23 13.2 +0.2
SUMG pmax pmax
comp=Z,42nm,1.0s
SUMG Summit 90.17 10 *i* P **P** 20 23 13.3 +0.2
comp=Z,20nm,1.0s
SUMG *i* 20 23 31.2
SUMG Summit 90.17 10 *e*P **P** 20 23 13.2 +0.2
comp=Z,42nm,1.0s
MFF Saint Martin d 90.66 42 *e*P **P** 20 23 14.9 -0.5
comp=Z,27nm,1.0s
LFF La Frestale 90.67 44 *e*P **P** 20 23 15.1 -0.4
comp=Z,34nm,1.1s
GRR Gorron 90.83 40 *e*P **P** 20 23 15.3 -0.9
comp=Z,31nm,1.0s
MTLF Montolieu 91.15 46 *e*P **P** 20 23 17.2 -0.6
comp=Z,8.2nm,1.0s
FLN La Foiniere 91.20 40 *e*P **P** 20 23 17.4 -0.5
comp=Z,30nm,1.0s
RJF Les Rejaudoux 91.31 43 *e*P **P** 20 23 17.8 -0.7
comp=Z,27nm,1.1s
LDF La Druitiere 91.36 40 *e*P **P** 20 23 17.9 -0.7
comp=Z,33nm,1.0s
CAF Calviac 91.56 44 *e*P **P** 20 23 19.2 -0.5
comp=Z,23nm,1.1s
TCF Toulx Ste Croi 92.09 43 *e*P **P** 20 23 21.4 -0.7
comp=Z,32nm,1.3s
BOSA Boshof 92.47 120 P **P** 20 23 23.7 -0.8
BOSA Boshof 92.47 120 P **P** 20 23 23.7 -0.8
comp=Z,5.8nm,0.8s,baz=240,slow=2.0,SNR=10
LASF Ste Croix 92.51 45 *e*P **P** 20 23 24.0 -1.1
comp=Z,18nm,1.1s
BGF Bois d'Agland 92.59 43 *e*P **P** 20 23 23.8 -0.6
comp=Z,26nm,0.9s
BMRM Bremner River 92.64 333 *e*P **P** 20 23 24.4 0.0
comp=Z,21nm,1.4s
HYF Humbligny 92.68 42 *e*P **P** 20 23 24.3 -0.5
MAW Mawson 92.86 165 P **P** 20 23 25.0 -0.3
MAW Mawson 92.86 165 P **P** 20 23 25.0 -0.3
comp=Z,9.7nm,1.0s,baz=220,slow=7.4,SNR=7.8
AVF Avril sur Loir 92.99 42 *e*P **P** 20 23 25.4 -0.8
comp=Z,12nm,1.0s
SSF Saint Saulge 93.18 42 *e*P **P** 20 23 26.1 -1.0
SMF Signal de Mont 93.27 43 *e*P **P** 20 23 26.9 -0.6
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 93.30 45 *e*P **P** 20 23 27.6 -0.1
LOR Lormes 93.47 42 *e*P **P** 20 23 27.5 -0.9
comp=Z,16nm,1.2s
PAX Paxson 93.85 335 *e*P **P** 20 23 29.2 -0.7
PAX pmax pmax
comp=Z,21nm,0.8s
PAX Paxson 93.85 335 *e*P **P** 20 23 29.2 -0.7
comp=Z,21nm,0.8s
ORIF Oris-en-Rattie 94.14 45 *e*P **P** 20 23 31.9 +0.2
FRF La Foret Royal 94.30 46 *e*P **P** 20 23 32.2 -0.1
SFTF Sexfontaines 94.50 41 *e*P **P** 20 23 32.5 -0.7
comp=Z,34nm,1.1s
BAIF Baives 94.51 40 *e*P **P** 20 23 32.3 -0.8
MEZF Maizieres J'vi 94.59 41 *e*P **P** 20 23 33.2 -0.3
SML Sawmill 94.62 333 *e*P **P** 20 23 33.2 -0.3
SML Sawmill 94.62 333 *e*P **P** 20 23 33.2 -0.3
MBDF Montbardon 94.70 45 *e*P **P** 20 23 34.5 +0.2
comp=Z,21nm,1.2s
CABF La Chapelle 94.74 43 *e*P **P** 20 23 33.9 -0.5
comp=Z,15nm,1.1s
LPL La Plagne 94.88 44 *e*P **P** 20 23 35.5 +0.3
comp=Z,15nm,1.1s
LPG La Plagne 94.89 44 *e*P **P** 20 23 35.6 +0.2
GIVF Givet 94.91 40 *e*P **P** 20 23 34.5 -0.4
PAGF Fort de Pagny 95.04 41 *e*P **P** 20 23 35.3 -0.3
ILAR Eielson Array 95.15 336 P **P** 20 23 35.1 -0.6
ILAR PP **PP** 20 27 24.6 -1.4
ILAR Eielson Array 95.15 336 P **P** 20 23 35.1 -0.6
comp=Z,6.3nm,0.8s,baz=118,slow=3.3,SNR=42
ILAR PP **PP** 20 27 24.6 -1.4
comp=Z,0.6nm,0.9s,baz=105,slow=7.2,SNR=4.8
HAU Haudompre 95.29 42 *e*P **P** 20 23 36.2 -0.6
HINF Hinteralfeld 95.57 42 *e*P **P** 20 23 37.3 -0.8
COLA College 95.57 336 *e*P **P** 20 23 35.4 -2.2
COLA pmax pmax
comp=Z,167nm,1.2s
COLA College 95.57 336 *e*P **P** 20 23 35.4 -2.2
comp=Z,167nm,1.2s
MCK McKinley 95.59 335 *e*P **P** 20 23 37.7 -0.1
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 95.59 335 *e*P **P** 20 23 37.7 -0.1
comp=Z,8.5nm,0.8s
PGF Pioggiola 95.70 48 *e*P **P** 20 23 38.5 -0.4
comp=Z,34nm,0.9s
CDF Champ du Feu 96.00 42 *e*P **P** 20 23 39.4 -0.7
comp=Z,20nm,1.0s
TRF Thorofare Moun 96.06 334 *e*P **P** 20 23 39.0 -1.1
comp=Z,11nm,1.1s
RSO Redoubt South 96.18 331 *e*P **P** 20 23 40.2 -0.5
PPLA Purkeypile 96.69 333 *e*P **P** 20 23 42.5 -0.5
DAVOX Davos/Dischmat 97.31 44 P **P** 20 23 45.5 -0.7
DAVOX Davos/Dischmat 97.31 44 P **P** 20 23 45.5 -0.7
comp=Z,5.8nm,0.8s,baz=289,slow=8.0,SNR=6.7
DAVA Damuels 97.43 43 ⇓*i*P **P** 20 23 45.8 -0.9
comp=Z,15nm,1.0s
FETA Feichten 97.94 44 ⇓*i*PcP **P** 20 23 48.6 -0.4
comp=Z,16nm,1.4s
MOTA Moosalm 98.25 43 ⇓*i*PcP **P** 20 23 49.8 -0.6
comp=Z,14nm,1.0s
WTTA Wattenberg 98.59 43 ⇑*i*Pdiff **P** 20 23 51.5 -0.5
comp=Z,22nm,1.1s
KHC Kasperske Hory 100.22 42 *i* P **Pdif** 20 23 58.2 -0.8
KHC Kasperske Hory 100.22 42 *i* PDIFF **Pdif** 20 23 58.2 -0.8
KHC *e*pP pP 20 24 12.1 -0.6
CLL Collm 100.24 40 *e*P **Pdif** 20 23 58.0 -0.9
GERES GERESS Array B 100.25 42 P **Pdif** 20 23 59.2 0.0
GERES GERESS Array B 100.25 42 P **Pdif** 20 23 59.2 0.0
comp=Z,2.7nm,0.8s,baz=255,slow=3.6,SNR=20
PRA Prague 100.93 41 PDIFF **Pdif** 20 24 03.0 +1.0
NOA NORSAR Array B 100.94 30 P **Pdif** 20 24 02.3 +0.4
NOA NORSAR Array B 100.94 30 P **Pdif** 20 24 02.3 +0.4
comp=Z,1.0nm,1.0s,baz=258,slow=4.3,SNR=2.3
PRU Pruhonice 100.98 41 *e*P **Pdif** 20 24 01.5 -0.8
PRU Pruhonice 100.98 41 *e*PDIFF **Pdif** 20 24 01.5 -0.8
PRU *es*P sP 20 24 20.6 -0.5
DPC Dobruska-Polom 102.17 41 *i* P **Pdif** 20 24 08.6 +1.0
DPC Dobruska-Polom 102.17 41 *i* PDIFF **Pdif** 20 24 08.6 +1.0
DPC *es*P 20 24 24.1
OKC Ostrava-Krasne 103.27 42 *i* P **Pdif** 20 24 13.6 +1.1
OKC Ostrava-Krasne 103.27 42 *i* PDIFF **Pdif** 20 24 13.6 +1.1
VYHS Vyhne 103.57 43 *i* P **Pdif** 20 24 15.4 +1.5
VYHS Vyhne 103.57 43 PDIF **Pdif** 20 24 15.4 +1.5
KECS Kecovo 104.66 43 *i* P **Pdif** 20 24 20.5 +1.8
KECS Kecovo 104.66 43 PDIF **Pdif** 20 24 20.5 +1.8
CRVS Cervenica-Dubn 105.34 43 *i* P **Pdif** 20 24 24.0 +2.3
CRVS Cervenica-Dubn 105.34 43 PDIF **Pdif** 20 24 24.0 +2.3
BRTR Keskin Array B 113.82 53 PKiKP **PKiKP** 20 28 51.4 -0.5
BRTR Keskin Array B 113.82 53 PKiKP **PKiKP** 20 28 51.4 -0.5
comp=Z,1.8nm,1.0s,baz=231,slow=4.3,SNR=7.8
OBN Obninsk 114.36 36 ⇓*e*PKIKP PKPdf 20 28 50.8 -1.4
OBN *e* 20 29 45.5
OBN *e*S **SKSac** 20 35 38.9 +3.5
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,700nm,17.0s
MMAI Mount Meron Ar 115.22 60 PKP **PKPdf** 20 28 54.5 -0.2
MMAI Mount Meron Ar 115.22 60 PKP **PKPdf** 20 28 54.5 -0.2
comp=Z,1.3nm,0.5s,baz=270,slow=2.9,SNR=4.5
ATD Arta Tunnel 120.12 85 PKP **PKPdf** 20 29 06.0 +1.4
ATD Arta Tunnel 120.12 85 PKP **PKPdf** 20 29 06.0 +1.4
comp=Z,5.8nm,0.7s,baz=252,slow=22,SNR=4.8
KIV Kislovodsk 120.19 47 *e*PKIKP **PKPdf** 20 29 03.7 -0.2
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 120.37 48 PKIKP **PKPdf** 20 29 04.4 +0.3
KBZ Khabaz 120.37 48 PKP **PKPdf** 20 29 04.4 +0.3
KBZ Khabaz 120.37 48 PKP **PKPdf** 20 29 04.4 +0.3
comp=Z,6.4nm,0.8s,baz=180,slow=2.0,SNR=9.1
STKA Stephens Creek 121.78 217 PKP **PKPdf** 20 29 07.1 -0.2
STKA Stephens Creek 121.78 217 PKP **PKPdf** 20 29 07.1 -0.2
comp=Z,4.4nm,0.7s,baz=6.3,slow=3.3,SNR=11
SOKR Solikamsk 123.04 27 *e*PKIKP **PKPdf** 20 29 09.2 +0.5
SOKR pmax pmax
comp=Z,10.0nm,0.6s
PETK Petropavlovsk- 123.09 325 PKIKP **PKPdf** 20 29 09.5 +0.4
PETK Petropavlovsk- 123.09 325 PKP **PKPdf** 20 29 09.5 +0.4
PETK Petropavlovsk- 123.09 325 PKP **PKPdf** 20 29 09.5 +0.4

comp=Z,1.7nm,0.7s,baz=164,slow=2.7,SNR=3.4
ARU Arti 125.50 29 *i* PKIKP **PKPdf 20 29 13.3 -0.3**
ARU 20 31 05.9
ARU 20 36 14.3
ARU SS SS 20 47 57.3 -2.8
AKTO Aktyubinsk 128.14 36 PKIKP **PKPdf 20 29 19.7 +0.8**
AKTO Aktyubinsk 128.14 36 PKP **PKPdf 20 29 19.6 +0.8**
AKTO Aktyubinsk 128.14 36 PKP **PKPdf 20 29 19.6 +0.8**
comp=Z,6.1nm,0.8s,baz=316,slow=7.6,SNR=4.6
ASAR Alice Springs 132.41 218 PKP **PKPdf 20 29 27.6 -0.3**
ASAR pPKP **pPKPdf 20 29 42.2 +0.3**
ASAR Alice Springs 132.41 218 PKP **PKPdf 20 29 27.6 -0.3**
comp=Z,9.0nm,0.8s,baz=126,slow=2.2,SNR=56
ASAR pPKP **pPKPdf 20 29 42.2 +0.3**
comp=Z,4.4nm,0.9s,baz=154,slow=2.8,SNR=6.2
BVAR Borovoye Array 133.02 28 PKIKP **PKPdf 20 29 28.3 +0.3**
BVAR 20 29 41.7
BVAR Borovoye Array 133.02 28 PKP **PKPdf 20 29 28.3 +0.3**
BVAR pPKP **pPKPdf 20 29 41.7 -0.4**
BVAR Borovoye Array 133.02 28 PKP **PKPdf 20 29 28.3 +0.3**
comp=Z,7.9nm,1.0s,baz=258,slow=4.3,SNR=11
BVAR pPKP **pPKPdf 20 29 41.7 -0.4**
comp=Z,3.4nm,0.9s,baz=195,slow=15,SNR=2.9
WRA Warramunga Arr 134.91 222 PKP **PKPdf 20 29 32.5 -0.1**
WRA pPKP **pPKPdf 20 29 48.6 +2.0**
WRA Warramunga Arr 134.91 222 PKP **PKPdf 20 29 32.5 -0.1**
comp=Z,12nm,0.8s,baz=139,slow=1.8,SNR=69
WRA pPKP **pPKPdf 20 29 48.6 +2.0**
comp=Z,4.0nm,0.9s,baz=135,slow=2.0,SNR=3.6
NVS Novosibirsk 136.41 18 *e*PKIKP **PKPdf 20 29 33.4 -0.9**
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 137.65 17 PKIKP PKPpre 20 29 32.3
ZALV Zalesovo Beam 137.65 17 PKPpre PKPpre 20 29 32.3
ZALV PKP **PKPdf 20 29 37.1 +0.5**
ZALV Zalesovo Beam 137.65 17 PKhKP PKPpre 20 29 32.3
comp=Z,8.1nm,0.8s,baz=255,slow=2.9,SNR=4.1
ZALV PKP **PKPdf 20 29 37.1 +0.5**
comp=Z,31nm,0.9s,baz=304,slow=2.7,SNR=62
KURK Kurchatov 138.21 24 PKIKP **PKPdf 20 29 38.4 +0.6**
KURK Kurchatov 138.21 24 PKP **PKPdf 20 29 38.4 +0.6**
KURBB Kurchatov Arra 138.24 25 PKP **PKPdf 20 29 38.4 +0.5**
comp=Z,12nm,0.8s,baz=314,slow=2.7,SNR=17
KLR Kul'dur 138.65 333 *e*PKIKP **PKPdf 20 29 34.2 -4.4**
FITZ Fitzroy Crossi 141.50 214 PKP **PKPdf 20 29 44.9 +0.2**
FITZ Fitzroy Crossi 141.50 214 PKP **PKPdf 20 29 44.9 +0.2**
comp=Z,8.8nm,0.8s,baz=190,slow=2.0
AAK Ala-Archa 141.88 37 *i* PKIKP **PKPdf 20 29 46.2 +1.3**
AAK pmax pmax
comp=Z,21nm,1.0s
AAK Ala-Archa 141.88 37 PKP **PKPdf 20 29 46.0 +1.1**
AAK Ala-Archa 141.88 37 PKP **PKPdf 20 29 46.0 +1.1**
comp=Z,7.6nm,0.9s,baz=307,slow=5.1,SNR=4.0
USRK Ussuriysk Arra 142.11 327 PKhKP PKPpre 20 29 39.6
comp=Z,4.2nm,0.7s,baz=35,slow=2.8,SNR=12
USRK PKP **PKPdf 20 29 45.3 +0.2**
comp=Z,7.3nm,0.9s,baz=49,slow=1.8,SNR=11
MJAR Matsushiro Arr 142.62 312 PKPpre PKPpre 20 29 41.0
MJAR Matsushiro Arr 142.62 312 PKhKP PKPpre 20 29 41.0
comp=Z,3.2nm,0.8s,baz=81,slow=4.8,SNR=8.6
MAT Matsushiro 142.62 312 PKP PKPpre 20 29 40.9
MKAR Makanchi Array 142.79 25 PKIKP **PKPdf 20 29 44.6 -1.6**
MKAR Makanchi Array 142.79 25 PKP **PKPdf 20 29 44.6 -1.6**
MKAR Makanchi Array 142.79 25 PKP **PKPdf 20 29 44.6 -1.6**
comp=Z,7.5nm,0.8s,baz=343,slow=1.3,SNR=22
MDJ Mudanjiang 143.03 330 PKP **PKPdf 20 29 47.3 +0.6**
ZAK Zakamensk 144.10 1⇑ *i* PKIKP PKIPbc 20 29 46.6 0.0
ZAK pmax pmax
comp=Z,12nm,1.5s
KSH Kashi 144.68 40 PKP **PKPdf 20 29 49.4 -0.5**
KSH sPKP 20 30 03.8
KSH SKS **SKSdf 20 36 54.5 -1.3**
KSH AMB AMB
comp=Z,2μm,14.5s
KSH LR LR
comp=E,65nm,6.2s
KSH LR LR
comp=Z,350nm,12.4s
CN2 Changchun 145.60 333 *e*PKPbc **PKPdf 20 29 49.8 -1.4**
CN2 PP **PP 20 33 12.1 +0.7**
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=E,900nm,17.0s
CN2 LR LR
comp=Z,500nm,19.0s
SONM Songino Array 146.62 358 PKPbc **PKPdf 20 29 53.0 0.0**
SONM pPKPbc pPKPbc 20 30 08.5 0.0
SONM PP **PP 20 33 16.0 -1.1**
SONM Songino Array 146.62 358 PKPbc **PKPdf 20 29 53.0 0.0**
comp=Z,25nm,0.7s,baz=328,slow=1.9,SNR=148
SONM pPKPbc pPKPbc 20 30 08.5 0.0
comp=Z,21nm,0.9s,baz=338,slow=2.8,SNR=12
SONM PP **PP 20 33 16.0 -1.1**
comp=Z,2.5nm,0.8s,baz=356,slow=4.9,SNR=4.2
WMQ Urumqi 147.39 23 *e*PKPbc **PKPdf 20 29 54.6 +0.3**
KSRS Korea Array 148.93 322 PKP **PKPdf 20 29 54.3 -2.5**
comp=Z,6.3nm,0.9s,baz=24,slow=1.4,SNR=8.6
KSRS PKPbc **PKPbc 20 29 58.1 -2.8**
comp=Z,19nm,0.9s,baz=35,slow=1.8,SNR=24
KSRS pPKPbc **pPKPbc 20 30 14.8 -0.1**
comp=Z,13nm,0.9s,baz=15,slow=2.3,SNR=7.3
KSAR Wonju Array Be 148.96 322 PKP **PKPdf 20 29 54.3 -2.6**
KSAR PKPbc **PKPbc 20 29 58.1 -2.9**
KSAR pPKPbc **pPKPbc 20 30 14.8 -0.2**
BATI Baumata 148.96 219 PKPbc **PKPbc 20 30 02.2 +0.5**
BATI Baumata 148.96 219 PKPbc **PKPbc 20 30 02.2 +0.5**
comp=Z,40nm,0.8s,baz=162,slow=6.4,SNR=6.4
JNU Nakatsue 149.55 312 PKPbc **PKPbc 20 30 00.8 -1.9**
JNU Nakatsue 149.55 312 PKPbc **PKPbc 20 30 00.8 -1.9**
comp=Z,10nm,0.9s,baz=54,slow=9.3,SNR=4.4
NDI New Delhi 151.11 56 *e*P **PKPbc 20 30 05.0 -1.5**
DL2 Dalian 151.23 331 PKPbc **PKPbc 20 30 05.5 -0.9**
BJI Beijing 152.44 340 PKPbc **PKPbc 20 30 08.4 -0.7**
HHC Hu-ho-hao-te 152.91 348 *e*PKPbc **PKPdf 20 30 03.7 +0.6**
HHC pPKP **pPKPdf 20 30 14.9 -2.3**
HHC sPKP 20 30 18.8
HHC PKS **PKSdf 20 33 36.7 -0.9**
HHC PP **PP 20 33 57.3 +3.8**
HHC SKS **SKSdf 20 37 05.1 -1.7**
HHC SKKS **SKKSac 20 40 42.4 +1.1**
HHC SS **SS 20 53 22.7 +1.0**
HHC AMB AMB
comp=Z,2μm,9.7s
HHC LR LR
comp=N,540nm,20.6s
HHC LR LR
comp=E,640nm,20.4s
HHC LR LR
comp=Z,500nm,21.0s
GTA Gaotai 154.76 8 PKPbc **PKPdf 20 30 06.5 +0.7**
GTA pPKP **pPKPdf 20 30 21.2 +1.3**
GTA sPKP 20 30 25.4
HYB Hyderabad 155.00 80 *i* PKP **PKPbc 20 30 15.0 -0.4**
LZH Lanzhou 158.39 1 *e*PKP **PKPdf 20 30 12.0 +1.3**
LZH pPKP **pPKPdf 20 30 24.5 -0.3**
LZH sPKP 20 30 31.2
LZH PP **PP 20 34 29.0 +5.0**
LZH *e*SKKS 20 41 11.3
LZH AMB AMB
comp=Z,970nm,9.8s
LZH LR LR
comp=E,850nm,19.2s
LZH LR LR
comp=Z,670nm,17.6s
LSA Lhasa 160.48 37 PKP **PKPdf 20 30 14.2 +0.6**
WHN Wuhan 161.49 332 PKP **PKPdf 20 30 14.1 0.0**
CD2 Chengdu 163.55 2 *e*PKP **PKPdf 20 30 17.4 +1.2**
CD2 pPKP **pPKPdf 20 30 27.4 -2.9**
CD2 sPKP 20 30 31.9
CD2 PKPab **PKPab 20 31 10.3 +2.8**
CD2 PP **PP 20 34 56.2 +4.7**
CD2 SS SS 20 55 20.2 +5.6
CD2 AMB AMB
comp=Z,850nm,10.2s
CD2 LR LR
comp=E,710nm,21.4s
CD2 LR LR
comp=Z,880nm,22.6s
PSI Prapat 167.29 154 PKP **PKPdf 20 30 19.4 -0.5**
PSI Prapat 167.29 154 PKP **PKPdf 20 30 19.4 -0.5**
comp=Z,3.6nm,0.4s,baz=139,slow=11,SNR=4.1
GYA Guiyang 167.81 350 PKP **PKPdf 20 30 19.2 -0.7**
GYA pPKP **pPKPdf 20 30 33.6 -0.4**
GYA sPKP 20 30 39.0
GYA PKPab **PKPab 20 31 27.2 +0.7**
GYA PKS **PKSdf 20 33 50.0 -2.7**
GYA PP **PP 20 35 16.4 +2.7**
GYA SKKS 20 41 57.4
GYA SS **SS 20 55 58.7 +0.5**
GYA AMB AMB
comp=Z,120nm,8.2s
GYA LR LR
comp=N,150nm,25.0s
GYA LR LR
comp=E,140nm,25.8s
GYA LR LR
comp=Z,160nm,24.8s
KMI Kunming 169.22 8 PKP **PKPdf 20 30 21.4 +0.4**
KMI sPKP 20 30 39.8
CMAR Chiang Mai Arr 173.41 51 PKP **PKPdf 20 30 23.0 0.0**
CMAR PKPab **PKPab 20 31 51.5 -0.1**
CMAR Chiang Mai Arr 173.41 51 PKP **PKPdf 20 30 23.0 0.0**
comp=Z,2.9nm,0.9s,baz=284,slow=2.0,SNR=14
CMAR PKPab **PKPab 20 31 51.5 -0.1**
comp=Z,0.5nm,0.4s,baz=301,slow=5.0,SNR=4.4

BJI ***03*** *20:20:13.4, 37.°20N×68.°20E, h12km, mb4.1/8*
IDC ***03*** *20:20:20.2±0.7, 36.°96N×69.°15E, h0km, mb3.9/16, mb1 4.1/20, mb1mx4.0/30, mbtmp3.9/20, ML3.6/4, Error ellipse: s-maj=14.0km s-min=10.9km az=137.0*
MOS ***03*** *20:20:23.6±1.1, 37.°03N×69.°14E, h33km, mb4.1/19, Error ellipse: s-maj=10.9km s-min=5.5km az=69.3*
ISCJB ***03*** *20:20:23.6±0.3, 37.°03N±0.°03×69.°14E±0.°05, h37km, mb4.0/23, MS4.8/2, Error ellipse: s-maj=5.4km s-min=4.4km az=152.0*
NNC ***03*** *20:20:27.8±3.4, 37.°33N×68.°90E, h120km±43km, mb3.8, mpv4.3, Error ellipse: s-maj=26.8km s-min=20.6km az=40.0*
NDI ***03*** *20:22:47.5±2.2, 32.°54N×73.°73E, h15km, ML3.4*
ISC 03 20:20:25.3±0.5, 37.°09N±0.°05×69.°01E±0.°06, h37km, n97, σ2°38/97, mb4.0/22, 14C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.03**	**143**	P	Pn	20 21 28.4	+3.9
CEP				S	Sn	20 22 25.0	+14
THW	**Thamme Wali**	**4.83**	**152**	P	Pn	20 21 39.6	+4.1
KK31	**Karatay Array**	**6.12**	**10**	⇓Pn	**Pn**	**20 21 53.9**	**+0.8**
	4.5nm,0.5s,baz=201,slow=15,SNR=145						
KK31				⇑Sn	**Sn**	**20 23 01.5**	**-0.4**
	10nm,0.5s,baz=201,slow=24,SNR=5.0						
KK31	**Karatay Array**	**6.12**	**10**	*i* PN	**Pn**	**20 21 54.2**	**+1.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.2s						
AML	**Almayashu**	**6.20**	**34**	*i* PN	**Pn**	**20 21 55.5**	**+0.9**
AML	**Almayashu**	**6.20**	**34**	P	**Pn**	**20 21 55.5**	**+0.9**
	SNR=46						
UCH	**Uchtor**	**6.66**	**38**	*i* PN	**Pn**	**20 22 02.4**	**+1.4**
UCH	**Uchtor**	**6.66**	**38**	P	**Pn**	**20 22 02.4**	**+1.4**
	SNR=17						
EKS2	**Erkin-Say**	**6.67**	**32**	P	**Pn**	**20 22 02.7**	**+2.0**
	SNR=21						
KZA	**Kyzart**	**6.94**	**42**	*i* PN	**Pn**	**20 22 05.5**	**+0.8**
KZA	**Kyzart**	**6.94**	**42**	P	**Pn**	**20 22 05.5**	**+0.8**
	SNR=14						
AAK	**Ala-Archa**	**6.96**	**36**	*c* *i* PN	**Pn**	**20 22 06.1**	**+1.3**
AAK	**Ala-Archa**	**6.96**	**36**	P	**Pn**	**20 22 06.2**	**+1.3**
	SNR=79						
AAK	**Ala-Archa**	**6.96**	**36**	Pn	**Pn**	**20 22 05.2**	**+0.3**
	comp=Z,32nm,0.3s,baz=188,slow=4.9,SNR=121						
AAK				Sn	**Sn**	**20 23 26.4**	**+3.5**
	baz=189,slow=19,SNR=2.0						
AAK				Lg	Lg	20 24 01.7	
	baz=191,slow=10,SNR=2.6						
FRU	**Bishkek**	**7.18**	**35**	*i* PN	**Pn**	**20 22 09.5**	**+1.9**
FRU				pmax	pmax		
	comp=Z,46nm,1.2s						
FRU				pmax	pmax		
	comp=E,230nm,1.8s						
KBK	**Karagaybulak**	**7.20**	**38**	*i* PN	**Pn**	**20 22 09.6**	**+1.5**
KBK	**Karagaybulak**	**7.20**	**38**	P	**Pn**	**20 22 09.6**	**+1.5**
	SNR=74						
DLH	**Dalhousie**	**7.30**	**126**	*e*4	x	20 22 40.0	
DLH				*e*S	Sn	20 23 43.0	+12
CHMS	**Chumysh**	**7.37**	**35**	*i* P	**Pn**	**20 22 11.2**	**+0.9**
CHMS	**Chumysh**	**7.37**	**35**	P	**Pn**	**20 22 11.2**	**+0.9**
	SNR=116						
USP	**Ospenovka**	**7.47**	**33**	*i* P	**Pn**	**20 22 12.1**	**+0.4**
USP	**Ospenovka**	**7.47**	**33**	P	**Pn**	**20 22 12.1**	**+0.4**
	SNR=17						
ULHL	**Ulahol**	**7.59**	**45**	*i* P	**Pn**	**20 22 13.9**	**+0.4**
ULHL	**Ulahol**	**7.59**	**45**	P	**Pn**	**20 22 13.9**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**7.71**	**39**	⇑Pn	**Pn**	**20 22 15.6**	**+0.4**
	comp=E,29nm,0.5s						
TKM2				⇑Sn	**Sn**	**20 23 44.0**	**+2.7**
	comp=E,17nm,0.9s						
TKM2	**Tokmak 2**	**7.71**	**39**	*i* P	**Pn**	**20 22 15.6**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,29nm,0.4s						
TKM2	**Tokmak 2**	**7.71**	**39**	P	**Pn**	**20 22 15.9**	**+0.7**
	SNR=90						
KNDC	**Almaty**	**8.64**	**42**	⇑Pn	**Pn**	**20 22 28.0**	**+0.3**
SMLA	**Simla**	**9.00**	**129**	*i* 4	**Pn**	**20 22 33.1**	**+0.5**
SMLA				*i* S	**Sn**	**20 24 13.7**	**+1.0**
SMLA				*i* S	**Sn**	**20 24 15.2**	**+2.5**
KHET	**Khetri**	**10.65**	**146**	*e*S	**Sn**	**20 24 50.3**	**-3.1**
KHET				AML	AML	20 25 01.7	
	comp=E,203nm,0.1s						
KHET				AML	AML	20 25 03.0	
	comp=N,163nm,0.0s						
AYAN	**Aya Nagar**	**10.96**	**139**	*e*S	**Sn**	**20 24 57.5**	**-3.3**
SONA	**Sohna**	**11.13**	**140**	*e*S	**Sn**	**20 24 59.6**	**-5.3**
SONA				AML	AML	20 25 33.9	
	comp=E,15nm,0.1s						
SONA				AML	AML	20 25 33.9	
	comp=N,16nm,0.2s						
AGRA	**Agra**	**12.40**	**140**	*e*S	**Sn**	**20 25 30.4**	**-5.5**
AGRA				AML	AML	20 26 05.6	
	comp=E,64nm,0.3s						
AGRA				AML	AML	20 26 05.6	
	comp=N,53nm,0.4s						
AB31	**Akbulak array**	**13.83**	**334**	⇑Pn	**Pn**	**20 23 36.1**	**-2.6**
	comp=N,12nm,0.7s,baz=155,slow=13,SNR=150						
AB31				⇓Sn	Sn	20 26 02.7	-8.1
	comp=N,1.5nm,0.4s,baz=157,slow=24,SNR=4.2						
AB31	**Akbulak array**	**13.83**	**334**	*i* P	**Pn**	**20 23 36.0**	**-2.6**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
MK31	**Makanchi Array**	**13.83**	**41**	Pn	**Pn**	**20 23 36.6**	**-2.1**
	comp=Z,2.4nm,0.6s,baz=229,slow=12,SNR=14						
MK31	**Makanchi Array**	**13.83**	**41**	*c* *e* P	**Pn**	**20 23 36.6**	**-2.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**13.83**	**41**	*i* P	**Pn**	**20 23 37.2**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**13.83**	**41**	Pn	**Pn**	**20 23 35.6**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=229,slow=14,SNR=15						
KURBB	**Kurchatov Arra**	**15.16**	**24**	⇑Pn	**Pn**	**20 23 52.6**	**-3.8**
	comp=Z,3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**15.16**	**24**	Pn	**Pn**	**20 23 52.5**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=15						
KURBB				Lg	Lg	20 28 22.2	
	comp=Z,0.0nm,0.3s,baz=226,slow=28,SNR=4.5						
KURK	**Kurchatov**	**15.27**	**24**	P	Pn	20 23 52.5	-5.4
AKTO	**Aktyubinsk**	**15.50**	**333**	⇑Pn	**Pn**	**20 24 01.2**	**+0.2**
	comp=Z,14nm,1.0s						
AKTO				⇑Sn	**Sn**	**20 26 44.6**	**-6.9**
	comp=Z,8.2nm,1.2s						
AKTO	**Aktyubinsk**	**15.50**	**333**	*i* P	**Pn**	**20 24 01.1**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,11nm,0.8s						
AKTO	**Aktyubinsk**	**15.50**	**333**	Pn	**Pn**	**20 23 58.8**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=134,slow=14,SNR=29						
AKTO				Sn	Sn	20 26 43.4	-8.1
	comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=3.1						
VOSK	**Vostochnaya**	**15.70**	**4**	⇑Pn	**Pn**	**20 24 02.2**	**-1.3**
	comp=Z,6.7nm,1.8s						
BVA0	**Borovoye Array**	**15.97**	**3**	Pn	**Pn**	**20 24 05.0**	**-2.0**
	comp=Z,4.6nm,0.9s,baz=142,slow=14,SNR=18						
BVA0				⇓Sn	**Sn**	**20 26 57.5**	**-5.2**
	comp=Z,6.4nm,1.1s,baz=184,slow=26,SNR=4.0						
BVAR	**Borovoye Array**	**15.97**	**3**	P	**Pn**	**20 24 04.1**	**-2.9**
BVAR						20 26 56.5	
BVAR	**Borovoye Array**	**15.97**	**3**	Pn	**Pn**	**20 24 04.1**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=5.5						
BVAR				Sn	**Sn**	**20 26 56.5**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=175,slow=17,SNR=3.3						
BRVK	**Borovoye**	**16.00**	**3**	⇑Pn	**Pn**	**20 24 03.7**	**-3.6**
	comp=Z,5.8nm,0.7s						
BRVK				⇑Sn	**Sn**	**20 26 57.7**	**-5.8**
	comp=Z,14nm,1.1s						
BRVK	**Borovoye**	**16.00**	**3**	*e* P	**Pn**	**20 24 07.9**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DMN	**Daman**	**16.54**	**120**	*e* P	**Pn**	**20 24 11.6**	**-3.1**
	comp=Z,60nm,0.7s						
KKN	**Kakani**	**16.55**	**119**	*e* P	**Pn**	**20 24 11.1**	**-3.7**
	comp=Z,94nm,0.6s						
PKIN	**Phulchoki**	**16.77**	**120**	*e* P	**Pn**	**20 24 15.0**	**-2.5**
	comp=Z,42nm,0.6s						
PKI	**Pulchoki**	**16.78**	**120**	*e* P	**Pn**	**20 24 14.9**	**-2.8**
	comp=Z,80nm,0.7s						
GUN	**Gumba**	**16.90**	**118**	*e* P	**Pn**	**20 24 16.7**	**-2.6**
	comp=Z,100nm,0.9s						
JIRN	**Jiri**	**17.27**	**118**	*e* P	**Pn**	**20 24 21.0**	**-2.9**
	comp=Z,30nm,0.4s						
RAMN	**Ramite**	**17.99**	**119**	*e* P	**Pn**	**20 24 29.5**	**-3.2**
	comp=Z,35nm,0.6s						
TAPN	**Taplejung**	**18.54**	**116**	*e* P	**P**	**20 24 36.1**	**-2.9**
	comp=Z,78nm,0.8s						
ODAN	**Odare**	**18.60**	**118**	*e* P	**P**	**20 24 36.4**	**-3.2**
	comp=Z,32nm,0.8s						
LSA	**Lhasa**	**19.88**	**105**	P	**Pn**	**20 24 55.0**	**-0.6**
ZALV	**Zalesovo Beam**	**20.10**	**28**	*i* P	**P**	**20 24 54.5**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**20.10**	**28**	P	**P**	**20 24 54.6**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=215,slow=12,SNR=9.6						
NVS	**Novosibirsk**	**20.26**	**24**	*e* P	**P**	**20 24 57.2**	**0.0**
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SVE	**Sverdlovsk**	**20.53**	**347**	*e* P	Pn	20 25 03.8	+1.3
ARU	**Arti**	**20.59**	**343**	*d* *i* P	Pn	20 25 06.0	+2.8
ARU						20 25 24.4	
ARU				SS	SS	20 29 19.8	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**20.91**	**297**	P	**P**	**20 25 04.9**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KBZ	**Khabaz**	**20.91**	**297**	P	**P**	**20 25 04.9**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=126,slow=9.6,SNR=13						
KIV	**Kislovodsk**	**21.10**	**297**	*e* P	**P**	**20 25 07.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,11nm,0.7s						
HVS	**Khovu-Aksy**	**22.48**	**44**	⇓ *i* P	**P**	**20 25 21.9**	**+0.6**
HVS				pmax	pmax		
	comp=Z,35nm,0.9s						
SHL	**Shillong**	**22.61**	**114**	*e* P	**P**	**20 25 23.0**	**+0.1**
VRHR	**Novokhopersk**	**23.97**	**314**	*e* P	P	20 25 44.0	+8.0
VRHR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
VRHR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
GTA	**Gaotai**	**24.25**	**75**	*e* P	**P**	**20 25 40.2**	**+1.3**
GTA				pP	pP	20 25 43.7	-5.6
GTA				sP	sP	20 25 46.3	-7.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
VSR	**Storozhevoye**	**25.44**	**313**	*e* P	P	20 25 55.3	+6.0
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
BRTR	**Keskin Array B**	**27.73**	**286**	P	**P**	**20 26 12.6**	**+2.2**
	comp=E,1.4nm,0.6s,baz=106,slow=9.0,SNR=12						
ZAK	**Zakamensk**	**27.83**	**51**	*e* P	**P**	**20 26 15.1**	**+4.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OBN	**Obninsk**	**28.45**	**320**	⇑ *e* P	P	20 26 19.8	+3.4
OBN				*e*		20 27 09.1	
OBN				*e*S	**S**	**20 30 59.7**	**-1.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,2μm,18.0s						
SONM	**Songino Array**	**29.34**	**57**	P	**P**	**20 26 24.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=267,slow=9.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**32.14**	**117**	P	**P**	**20 26 49.6**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=299,slow=8.0,SNR=10						
KOLS	**Kolonicke sedl**	**35.63**	**304**	*e* P	**P**	**20 27 22.0**	**+2.6**
KOLS	**Kolonicke sedl**	**35.63**	**304**	*e* P	**P**	**20 27 22.0**	**+2.6**
FINES	**FINESS Array B**	**36.11**	**326**	P	**P**	**20 27 25.4**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=112,slow=9.2,SNR=6.4						
VYHS	**Vyhne**	**37.91**	**304**	*e* P	**P**	**20 27 40.2**	**+1.4**
VYHS	**Vyhne**	**37.91**	**304**	*e* P	**P**	**20 27 40.2**	**+1.4**
NB2	**NORSAR Subarra**	**42.95**	**323**	P	**P**	**20 28 21.3**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**42.95**	**323**	P	**P**	**20 28 21.8**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=97,slow=8.1,SNR=13						
TIXI	**Tiksi**	**45.84**	**22**	*e* P	**P**	**20 28 44.2**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,1μm,20.0s						
KSRS	**Korea Array**	**46.20**	**71**	P	**P**	**20 28 47.1**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=287,slow=7.2,SNR=5.6						
USRK	**Ussuriysk Arra**	**47.28**	**61**	P	**P**	**20 28 56.1**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=300,slow=8.4,SNR=4.9						
KEST	**Kesra**	**47.33**	**287**	P	**P**	**20 28 57.3**	**+1.8**
	comp=Z,2.0nm,1.0s,baz=190,slow=13,SNR=4.2						
ESK	**Eskdalemuir**	**50.78**	**315**	*i* P	P	20 29 25.7	+4.2
TORD	**Torodi Ar. Bea**	**64.14**	**267**	P	**P**	**20 30 57.0**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=49,slow=5.8,SNR=18						
ILAR	**Eielson Array**	**74.64**	**15**	P	**P**	**20 32 01.4**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=314,slow=5.4,SNR=5.9						
BOSA	**Boshof**	**77.18**	**219**	P	**P**	**20 32 15.6**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=45,slow=7.1,SNR=2.6						
YKA	**Yellowknife Ar**	**80.72**	**2**	P	**P**	**20 32 35.3**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=350,slow=5.7,SNR=7.5						
WRA	**Warramunga Arr**	**83.66**	**121**	P	**P**	**20 32 48.9**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=320,slow=4.6,SNR=4.8						
ASAR	**Alice Springs**	**85.91**	**124**	P	**P**	**20 33 00.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=312,slow=5.1,SNR=4.6						

IDC 03 20:30:46.8±1.7, 2.°83N×128.°59E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, MS3.9/1, Ms1 3.9/1, ms1mx3.1/33, Error ellipse: s-maj=148.2km s-min=18.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.17**	**325**	LR	LR	20 33 38.3	
	comp=Z,1μm,18.4s,baz=213,slow=33						
WRA	**Warramunga

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ				AML	AML	20 42 35.0	
DCZ				AML	AML	20 42 35.2	
DCZ				AML	AML	20 42 35.2	
PYZ	**Puysegur Point**	**0.69**	**176**	P*	Pb	20 42 34.3	-0.7
PYZ				S*	Sb	20 42 43.1	-1.1
WHZ	**Wether Hill Ro**	**1.02**	**115**	PN	Pb	20 42 40.3	-0.3
WHZ				AML	AML	20 43 01.1	
WHZ				AML	AML	20 43 01.6	
MLZ	**Mavora Lakes**	**1.10**	**84**	⇓PN	Pn	20 42 40.9	-1.0
MLZ				AML	AML	20 42 55.5	
MLZ				AML	AML	20 43 03.8	
MSZ	**Milford Sound**	**1.23**	**49**	PN	Pn	20 42 43.8	+0.2
MSZ				AML	AML	20 43 08.4	
MSZ				AML	AML	20 43 08.4	
MSZ				AML	AML	20 43 11.6	
MSZ				AML	AML	20 43 11.6	
APZ	**The Paps**	**1.66**	**145**	PN	Pb	20 42 50.6	-0.9
WKZ	**Wanaka**	**1.82**	**70**	PN	Pb	20 42 53.2	-1.0
WKZ				AML	AML	20 43 21.7	
WKZ				AML	AML	20 43 21.7	
WKZ				AML	AML	20 43 22.4	
WKZ				AML	AML	20 43 22.4	
EAZ	**Earnscleugh**	**1.91**	**84**	PN	Pb	20 42 54.7	-1.1
EAZ				AML	AML	20 43 23.4	
EAZ				AML	AML	20 43 23.5	
EAZ				AML	AML	20 43 23.9	
EAZ				AML	AML	20 43 23.9	
SYZ	**Scrubby Hill**	**2.05**	**122**	PN	Pb	20 42 56.5	-1.6
JCZ	**Jackson Bay**	**2.07**	**48**	PN	Pb	20 42 59.9	+1.2
JCZ				AML	AML	20 43 31.0	
JCZ				AML	AML	20 43 35.3	
TUZ	**Tuapeka**	**2.16**	**104**	PN	Pb	20 42 58.6	-1.5
TUZ				AML	AML	20 43 31.5	
TUZ				AML	AML	20 43 33.9	
LBZ	**Lake Benmore**	**2.76**	**68**	PN	Pn	20 43 05.0	+0.4
LBZ				AML	AML	20 43 58.0	
LBZ				AML	AML	20 43 59.4	
ODZ	**Otahua Downs**	**2.88**	**83**	PN	Pn	20 43 06.8	+0.5
FOZ	**Fox Glacier**	**2.91**	**50**	PN	Pb	20 43 13.3	+0.5
FOZ				AML	AML	20 43 59.0	
FOZ				AML	AML	20 44 03.6	

WEL 03 20:45:27.5±0.2, 45°.80S×165°.97E, h32km±2km, ML3.6/13, 1C, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.62**	**127**	⇑PN	Pb	20 45 39.7	-0.4
PYZ				SN	Sb	20 45 48.4	-0.2
DCZ	**Deep Cove**	**0.89**	**69**	PN	Pn	20 45 43.5	-0.4
DCZ				SN	Sn	20 45 54.7	-0.9
DCZ				AML	AML	20 45 55.7	
DCZ				AML	AML	20 45 55.8	
DCZ				AML	AML	20 45 57.0	
WHZ	**Wether Hill Ro**	**1.39**	**95**	PN	Pb	20 45 52.0	-1.0
WHZ				AML	AML	20 46 12.8	
WHZ				AML	AML	20 46 14.9	
MLZ	**Mavora Lakes**	**1.61**	**75**	PN	Pn	20 45 54.9	+1.1
MLZ				AML	AML	20 46 17.9	
MLZ				AML	AML	20 46 18.1	
APZ	**The Paps**	**1.74**	**127**	PN	Pn	20 45 56.4	+0.7
SYZ	**Scrubby Hill**	**2.33**	**110**	PN	Pn	20 46 05.4	+1.9
WKZ	**Wanaka**	**2.36**	**67**	PN	Pb	20 46 08.4	-1.1
WKZ				AML	AML	20 46 43.6	
WKZ				AML	AML	20 46 46.4	
EAZ	**Earnscleugh**	**2.42**	**78**	PN	Pn	20 46 07.2	+2.4
EAZ				AML	AML	20 46 41.7	
EAZ				AML	AML	20 46 41.7	
EAZ				AML	AML	20 46 42.5	
EAZ				AML	AML	20 46 42.5	
TUZ	**Tuapeka**	**2.57**	**95**	PN	Pn	20 46 08.6	+1.8
TUZ				AML	AML	20 46 50.6	
TUZ				AML	AML	20 46 50.9	
LBZ	**Lake Benmore**	**3.30**	**66**	PN	Pn	20 46 18.2	+1.2
LBZ				AML	AML	20 46 19.9	
ODZ	**Otahua Downs**	**3.38**	**79**	PN	Pn	20 46 18.6	+0.6

WEL 03 20:51:12.2±0.2, 45°.47S×166°.61E, h20km, ML4.4/20, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**91**	P*	Pb	20 51 20.1	-0.1
DCZ				S*	Sb	20 51 25.4	-0.2
DCZ				AML	AML	20 51 25.8	
DCZ				AML	AML	20 51 26.1	
DCZ				AML	AML	20 51 26.2	
PYZ	**Puysegur Point**	**0.70**	**176**	P*	Pb	20 51 25.0	-0.8
WHZ	**Wether Hill Ro**	**1.03**	**115**	PN	Pb	20 51 31.0	-0.4
WHZ				S*	Sn	20 51 45.4	+0.1
WHZ				AML	AML	20 51 52.3	
MLZ	**Mavora Lakes**	**1.11**	**84**	PN	Pn	20 51 31.6	-1.1
MLZ				SN	Sb	20 51 45.9	-0.9
MLZ				AML	AML	20 51 54.5	
MSZ	**Milford Sound**	**1.23**	**50**	PN	Pn	20 51 34.4	+0.1
MSZ				AML	AML	20 52 02.3	
MSZ				AML	AML	20 52 02.3	
MSZ				AML	AML	20 52 04.6	
MSZ				AML	AML	20 52 04.6	
APZ	**The Paps**	**1.66**	**145**	PN	Pn	20 51 41.1	+0.8
WKZ	**Wanaka**	**1.82**	**70**	PN	Pb	20 51 43.8	-1.1
WKZ				AML	AML	20 52 13.1	
WKZ				AML	AML	20 52 13.1	
WKZ				AML	AML	20 52 13.3	
WKZ				AML	AML	20 52 13.3	
EAZ	**Earnscleugh**	**1.92**	**84**	PN	Pb	20 51 45.3	-1.2
EAZ				AML	AML	20 52 14.1	
EAZ				AML	AML	20 52 14.2	
EAZ				AML	AML	20 52 14.6	
EAZ				AML	AML	20 52 14.6	
SYZ	**Scrubby Hill**	**2.06**	**122**	PN	Pb	20 51 47.4	-1.5
JCZ	**Jackson Bay**	**2.07**	**48**	PN	Pb	20 51 49.2	-0.1
JCZ				AML	AML	20 52 22.5	
JCZ				AML	AML	20 52 26.1	
TUZ	**Tuapeka**	**2.17**	**104**	PN	Pn	20 51 48.9	+1.7
TUZ				AML	AML	20 52 23.6	
TUZ				AML	AML	20 52 24.3	
LBZ	**Lake Benmore**	**2.76**	**68**	PN	Pn	20 51 56.0	+0.7
LBZ				AML	AML	20 52 33.2	
LBZ				AML	AML	20 52 56.2	
ODZ	**Otahua Downs**	**2.88**	**83**	PN	Pn	20 51 57.3	+0.4
FOZ	**Fox Glacier**	**2.91**	**50**	PN	Pn	20 51 59.2	+1.9
FOZ				AML	AML	20 52 49.7	
FOZ				AML	AML	20 52 50.3	
RPZ	**Rata Peaks**	**3.63**	**63**	PN	Pn	20 52 08.9	+1.6
RPZ				AML	AML	20 52 56.5	
RPZ				AML	AML	20 53 15.0	
WVZ	**Waitaha Valley**	**3.81**	**52**	PN	Pn	20 52 11.2	+1.5
WVZ				AML	AML	20 53 14.8	
WVZ				AML	AML	20 53 16.0	
LTZ	**Lake Taylor**	**4.88**	**59**	PN	Pn	20 52 27.5	+2.9
LTZ				AML	AML	20 53 31.5	
LTZ				AML	AML	20 53 34.1	
THZ	**Tophouse**	**5.88**	**53**	PN	Pn	20 52 38.1	-0.2
THZ				AML	AML	20 53 56.0	
THZ				AML	AML	20 53 57.9	

*KISR **03** 21:01:43.4±3.5, 40°.47N×21°.47E, h0km±999km, mb4.6*
*IDC **03** 21:01:58.1±1.0, 36°.10N×21°.92E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.7/33, mbtmp3.6/15, ML3.3/4, Error ellipse: s-maj=20.1km s-min=17.9km az=4.0*
*ISCJB **03** 21:01:58.5±0.8, 35°.94N±0°.02×21°.75E±0°.03, h2km±5km, mb3.9/14, Error ellipse: s-maj=4.7km s-min=3.1km az=139.0*
*ATH **03** 21:01:59.5, 35°.94N×21°.78E, h9km±2km, MD3.8/25, ML3.8*
*CSEM **03** 21:02:00.5±0.3, 35°.96N×21°.82E, h2km, ML3.3/4, Error ellipse: s-maj=7.9km s-min=3.4km az=44.0*
*THE **03** 21:02:01.5, 36°.04N×21°.87E, h0km, ML3.8/13, Error ellipse: s-maj=1.1km s-min=0.4km az=224.0*
*BEO **03** 21:02:21.8, 37°.07N×21°.19E, h177km*
ISC 03 21:01:59.8±1.2, 36°.02N±0°.03×21°.85E±0°.03, h9km±8km, n277, σ1$69/289, mb4.1/14, 5C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.84**	**28**	P	Pb	21 02 16.4	-0.1
DYR				S	Sb	21 02 28.9	+1.0
DYR	**Agios Nikonas**	**0.84**	**28**	*e*PG	Pb	21 02 16.7	+0.2
DYR				*e*SG	Sn	21 02 30.2	0.0
DYR	**Agios Nikonas**	**0.84**	**28**	*e*Pg	Pb	21 02 16.7	+0.2
DYR				S	Sb	21 02 28.9	+1.0
DYR				*e*Sg	Sn	21 02 30.2	0.0
PYL	**PYLOS**	**0.88**	**354**	P	Pb	21 02 17.4	+0.2
PYL				S	Sb	21 02 30.3	+1.3
PYL	**PYLOS**	**0.88**	**354**	*e*PG	Pb	21 02 17.2	0.0
PYL	**PYLOS**	**0.88**	**354**	P	Pb	21 02 17.4	+0.2
PYL				S	Sb	21 02 30.3	+1.3
KYTH	**Kithira**	**1.00**	**74**	P	Pb	21 02 19.9	+0.7
KYTH	**Kithira**	**1.00**	**74**	*e*PN	Pn	21 02 20.3	+0.3
KYTH	**Kithira**	**1.00**	**74**	P	Pb	21 02 19.9	+0.7
KYTH	**Kithira**	**1.00**	**74**	*e*Pn	Pn	21 02 20.3	+0.3
VLI	**Veliai**	**1.12**	**51**	P	Pn	21 02 22.1	+0.4
VLI				S	Sn	21 02 39.0	+1.8
VLI	**Veliai**	**1.12**	**51**	*e*PN	Pb	21 02 21.9	+0.6
VLI				*e*SN	Sn	21 02 39.1	+1.8
VLI	**Veliai**	**1.12**	**51**	P	Pn	21 02 22.1	+0.4
VLI				S	Sn	21 02 39.0	+1.8
ITM	**Ithomi**	**1.16**	**3**	P	Pn	21 02 22.5	+0.3
ITM				S	Sn	21 02 40.0	+1.8
ITM	**Ithomi**	**1.16**	**3**	*e*PB	Pn	21 02 22.8	+0.6
ITM				*e*SG	Sn	21 02 40.4	+2.2
ITM	**Ithomi**	**1.16**	**3**	P	Pn	21 02 22.5	+0.3
ITM	**Ithomi**	**1.16**	**3**	*e*Pb	Pn	21 02 22.8	+0.6
ITM				S	Sn	21 02 40.0	+1.8
ANKY	**Antikythira Is**	**1.19**	**97**	P	Pn	21 02 23.4	+0.8
ANKY				S	Sn	21 02 40.6	+1.8
ANKY	**Antikythira Is**	**1.19**	**97**	*e*PB	Pn	21 02 23.3	+0.7
ANKY	**Antikythira Is**	**1.19**	**97**	P	Pn	21 02 23.4	+0.8
ANKY				S	Sn	21 02 40.6	+1.8
SFD	**Strofades**	**1.40**	**332**	P	Pg	21 02 26.9	+0.2
SFD				S	Sn	21 02 47.2	+3.2
SFD	**Strofades**	**1.40**	**332**	P	Pg	21 02 26.9	+0.2
SFD				S	Sn	21 02 47.2	+3.2
VLX	**Vlachokerasia**	**1.41**	**17**	P	Pb	21 02 26.8	+0.4
VLX				S	Sn	21 02 47.3	+2.7
VLX	**Vlachokerasia**	**1.41**	**17**	*e*PG	Pg	21 02 27.1	+0.1
VLX	**Vlachokerasia**	**1.41**	**17**	P	Pb	21 02 26.8	+0.4
VLX	**Vlachokerasia**	**1.41**	**17**	*e*Pg	Pg	21 02 27.1	+0.1
VLX				S	Sn	21 02 47.3	+2.7
AMT	**Artemida-Makis**	**1.51**	**356**	P	Pg	21 02 29.0	+0.1
AMT				S	Sg	21 02 49.7	+1.2
AMT	**Artemida-Makis**	**1.51**	**356**	*e*PB	Pg	21 02 29.2	+0.3
AMT	**Artemida-Makis**	**1.51**	**356**	P	Pg	21 02 29.0	+0.1
AMT				S	Sg	21 02 49.7	+1.2
KARN	**Karanos**	**1.79**	**109**	P	Pb	21 02 33.4	+0.6
KARN				S	Sb	21 02 56.9	+1.5
KARN	**Karanos**	**1.79**	**109**	P	Pb	21 02 33.4	+0.6
KARN				S	Sb	21 02 56.9	+1.5
DIDY	**Didyma**	**1.82**	**37**	P	Pb	21 02 33.3	0.0
DIDY				S	Sb	21 02 57.2	+0.9
DIDY	**Didyma**	**1.82**	**37**	P	Pb	21 02 33.3	0.0
DIDY				S	Sb	21 02 57.2	+0.9
DID	**Didima**	**1.86**	**37**	P	Pb	21 02 34.0	+0.1
DID	**Didima**	**1.86**	**37**	*e*PN	Pb	21 02 34.6	+0.7
DID	**Didima**	**1.86**	**37**	P	Pb	21 02 34.0	+0.1
DID	**Didima**	**1.86**	**37**	*e*Pn	Pb	21 02 34.6	+0.7
GUR	**Goura**	**1.95**	**12**	P	Pb	21 02 36.2	+0.6
GUR	**Goura**	**1.95**	**12**	*e*PN	Pg	21 02 36.7	-0.6
GUR	**Goura**	**1.95**	**12**	P	Pb	21 02 36.2	+0.6
GUR	**Goura**	**1.95**	**12**	*e*Pn	Pg	21 02 36.7	-0.6
VAM	**Vamos**	**2.01**	**107**	P	Pb	21 02 36.2	-0.3
VAM				S	Sb	21 03 02.6	+1.0
VAM	**Vamos**	**2.01**	**107**	*e*PN	Pb	21 02 36.2	-0.3
VAM	**Vamos**	**2.01**	**107**	P	Pb	21 02 36.2	-0.3
VAM				S	Sb	21 03 02.6	+1.0
KLV	**Kalavryta, Ach**	**2.04**	**7**	P	Pb	21 02 37.2	+0.2
KLV	**Kalavryta, Ach**	**2.04**	**7**	*e*PN	Pb	21 02 37.7	+0.7
KLV	**Kalavryta, Ach**	**2.04**	**7**	P	Pb	21 02 37.2	+0.2
KLV	**Kalavryta, Ach**	**2.04**	**7**	*e*Pn	Pb	21 02 37.7	+0.7
RLS	**Riolos of Patr**	**2.06**	**352**	P	Pb	21 02 37.4	+0.1
RLS	**Riolos of Patr**	**2.06**	**352**	*e*PN	Pb	21 02 38.0	+0.7
RLS	**Riolos of Patr**	**2.06**	**352**	P	Pb	21 02 37.4	+0.1
RLS	**Riolos of Patr**	**2.06**	**352**	*e*Pn	Pb	21 02 38.0	+0.7
THAL	**Thalero**	**2.12**	**18**	P	Pb	21 02 37.2	-1.1
THAL	**Thalero**	**2.12**	**18**	P	Pb	21 02 37.2	-1.1
NAIG	**Nisos Aigina**	**2.18**	**37**	*e*PN	Pb	21 02 40.0	+0.7
NAIG	**Nisos Aigina**	**2.18**	**37**	*e*Pn	Pb	21 02 40.0	+0.7
LTK	**Loutraki**	**2.19**	**24**	P	Pb	21 02 39.4	-0.2
LTK	**Loutraki**	**2.19**	**24**	*e*PN	Pb	21 02 40.2	+0.6
LTK	**Loutraki**	**2.19**	**24**	P	Pb	21 02 39.4	-0.2
LTK	**Loutraki**	**2.19**	**24**	*e*Pn	Pb	21 02 40.2	+0.6
AXS	**Araxos**	**2.21**	**350**	P	Pb	21 02 39.6	-0.2
AXS	**Araxos**	**2.21**	**350**	P	Pb	21 02 39.6	-0.2
LAKA	**Lakka**	**2.22**	**3**	P	Pb	21 02 41.0	+0.9
LAKA	**Lakka**	**2.22**	**3**	P	Pb	21 02 41.0	+0.9
KFL	**Anninata**	**2.25**	**338**	P	Pb	21 02 39.3	-1.3
KFL				S	Sb	21 03 08.2	-0.4
KFL	**Anninata**	**2.25**	**338**	P	Pb	21 02 39.3	-1.3
KFL				S	Sb	21 03 08.2	-0.4
PSA1	**Psathopyrgos**	**2.30**	**1**	*e*PN	Pb	21 02 41.5	+0.1
TRIZ	**Trizonia**	**2.35**	**4**	P	Pb	21 02 42.8	+0.6
TRIZ	**Trizonia**	**2.35**	**4**	P	Pb	21 02 42.8	+0.6
VLS	**Valsamata**	**2.38**	**335**	P	Pn	21 02 41.0	+2.1
VLS	**Valsamata**	**2.38**	**335**	*e*PB	Pn	21 02 41.1	+2.1
VLS	**Valsamata**	**2.38**	**335**	P	Pn	21 02 41.0	+2.1
KALE	**Kalithea**	**2.38**	**6**	P	Pb	21 02 41.7	-1.1
KALE	**Kalithea**	**2.38**	**6**	P	Pb	21 02 41.7	-1.1
EFP	**Efpalio**	**2.40**	**1**	P	Pb	21 02 43.4	+0.2
EFP	**Efpalio**	**2.40**	**1**	*e*PN	Pb	21 02 42.8	-0.4
EFP	**Efpalio**	**2.40**	**1**	*e*Pn	Pb	21 02 42.8	-0.4
EFP	**Efpalio**	**2.40**	**1**	P	Pb	21 02 43.4	+0.2
DSF	**Desfina**	**2.45**	**13**	P	Pn	21 02 41.5	+1.6
DSF	**Desfina**	**2.45**	**13**	P	Pn	21 02 41.5	+1.6
ATH	**Athens Observa**	**2.46**	**37**	P	Pb	21 02 43.9	-0.2
ATH	**Athens Observa**	**2.46**	**37**	*e*PN	Pb	21 02 43.7	-0.4
ATH	**Athens Observa**	**2.46**	**37**	*e*Pn	Pb	21 02 43.7	-0.4
VIL2	**Platees**	**2.46**	**27**	P	Pn	21 02 42.5	+2.4
ATHU	**Athens Univers**	**2.49**	**38**	P	Pb	21 02 44.4	-0.2
ATHU	**Athens Univers**	**2.49**	**38**	P	Pb	21 02 44.4	-0.2
IDI	**Anoyia**	**2.58**	**106**	P	Pn	21 02 44.0	+2.2
IDI	**Anoyia**	**2.58**	**106**	*e*PN	Pn	21 02 44.2	+2.4
IDI	**Anoyia**	**2.58**	**106**	P	Pn	21 02 44.0	+2.2
PTL	**Penteli**	**2.59**	**38**	P	Pn	21 02 44.0	+2.1
PTL	**Penteli**	**2.59**	**38**	*e*PB	Pn	21 02 44.6	+1.8
PTL	**Penteli**	**2.59**	**38**	P	Pn	21 02 44.0	+2.1
PTL	**Penteli**	**2.59**	**38**	*e*Pb	Pb	21 02 44.6	-1.8
SIVA	**Sivas**	**2.62**	**112**	P	Pn	21 02 44.5	+2.3
SIVA	**Sivas**	**2.62**	**112**	P	Pn	21 02 44.5	+2.3
LKR	**Lokris**	**2.78**	**19**	*e*PB	Pn	21 02 47.4	+2.9
LKR	**Lokris**	**2.78**	**19**	*e*Pb	Pn	21 02 47.4	+2.9
AXAR	**Agios Charalam**	**2.82**	**13**	P	Pb	21 02 50.1	-0.2
AXAR	**Agios Charalam**	**2.82**	**13**	P	Pb	21 02 50.1	-0.2
MRMA	**Marmari**	**2.87**	**44**	P	Pn	21 02 48.3	+2.6
MRMA	**Marmari**	**2.87**	**44**	P	Pn	21 02 48.3	+2.6
THR6	**Thira Island,**	**2.89**	**82**	P	Pn	21 02 47.5	+1.5
THR6	**Thira Island,**	**2.89**	**82**	P	Pn	21 02 47.5	+1.5
EVR	**Evrytania**	**2.89**	**359**	P	Pb	21 02 50.3	-1.3
EVR	**Evrytania**	**2.89**	**359**	*e*PB	Pb	21 02 49.6	-2.0
EVR	**Evrytania**	**2.89**	**359**	*e*Pb	Pb	21 02 49.6	-2.0
EVR	**Evrytania**	**2.89**	**359**	P	Pb	21 02 50.3	-1.3
THR3	**Thira Island,**	**2.90**	**81**	P	Pn	21 02 47.8	+1.7
THR3	**Thira Island,**	**2.90**	**81**	P	Pn	21 02 47.8	+1.7
LKD2	**Lefkada island**	**2.92**	**341**	P	Pn	21 02 49.4	+3.0
LKD2	**Lefkada island**	**2.92**	**341**	P	Pn	21 02 49.4	+3.0
THR2	**Thira island,**	**2.93**	**81**	P	Pn	21 02 48.5	+2.0
THR2	**Thira island,**	**2.93**	**81**	P	Pn	21 02 48.5	+2.0
SANT	**Santorini**	**2.94**	**82**	P	Pn	21 02 48.2	+1.5
SANT	**Santorini**	**2.94**	**82**	*e*PN	Pn	21 02 49.0	+2.3
SANT	**Santorini**	**2.94**	**82**	P	Pn	21 02 48.2	+1.5
SANT	**Santorini**	**2.94**	**82**	*e*Pn	Pn	21 02 49.0	+2.3
THR1	**Thera Island**	**2.94**	**82**	P	Pn	21 02 48.3	+1.6
THR1	**Thera Island**	**2.94**	**82**	P	Pn	21 02 48.3	+1.6
MAKR	**Makrakomi, Fth**	**3.00**	**4**	P	Pb	21 02 52.4	-0.9
MAKR	**Makrakomi, Fth**	**3.00**	**4**	P	Pb	21 02 52.4	-0.9
MRKA	**Markates**	**3.02**	**27**	P	Pn	21 02 49.9	+2.1
MRKA	**Markates**	**3.02**	**27**	P	Pn	21 02 49.9	+2.1
AGG	**Agios Georgios**	**3.02**	**7**	P	Pb	21 02 51.5	-2.3
AGG	**Agios Georgios**	**3.02**	**7**	P	Pb	21 02 51.5	-2.3
SMIA	**Simia**	**3.05**	**20**	P	Pn	21 02 50.2	+2.0
SMIA	**Simia**	**3.05**	**20**	P	Pn	21 02 50.2	+2.0
LAST	**Lasithi**	**3.08**	**105**	P	Pn	21 02 51.4	+2.7
LAST	**Lasithi**	**3.08**	**105**	P	Pn	21 02 51.4	+2.7

APE	**Apeiranthos**	**3.15**	**69**	P	**Pn**	**21 02 51.4**	**+1.9**
APE	**Apeiranthos**	**3.15**	**69**	*e*PB	**Pb**	**21 02 53.6**	**-2.3**
APE	**Apeiranthos**	**3.15**	**69**	P	**Pn**	**21 02 51.4**	**+1.9**
APE	**Apeiranthos**	**3.15**	**69**	*e*Pb	**Pb**	**21 02 53.6**	**-2.3**
NPS	**Neapolis**	**3.16**	**103**	P	**Pn**	**21 02 52.0**	**+2.3**
NPS	**Neapolis**	**3.16**	**103**	P	**Pn**	**21 02 52.0**	**+2.3**
SKIA	**Skiathos**	**3.39**	**22**	P	**Pn**	**21 02 54.7**	**+1.8**
SKIA	**Skiathos**	**3.39**	**22**	P	**Pn**	**21 02 54.7**	**+1.8**
NEO	**Neokhori**	**3.46**	**18**	P	**Pn**	**21 02 55.6**	**+1.8**
NEO	**Neokhori**	**3.46**	**18**	P	**Pn**	**21 02 55.6**	**+1.8**
XOR	**Xorichti**	**3.51**	**17**	P	**Pn**	**21 02 56.5**	**+2.0**
XOR	**Xorichti**	**3.51**	**17**	P	**Pn**	**21 02 56.5**	**+2.0**
AOS	**Alonnisos**	**3.54**	**27**	P	**Pn**	**21 02 56.5**	**+1.7**
AOS	**Alonnisos**	**3.54**	**27**	P	**Pn**	**21 02 56.5**	**+1.7**
THL	**Klokotos Trika**	**3.54**	**2**	P	**Pn**	**21 02 58.1**	**+3.2**
THL	**Klokotos Trika**	**3.54**	**2**	*e*PN	**Pn**	**21 02 57.8**	**+2.9**
THL	**Klokotos Trika**	**3.54**	**2**	*e*Pn	**Pn**	**21 02 57.8**	**+2.9**
THL	**Klokotos Trika**	**3.54**	**2**	P	**Pn**	**21 02 58.1**	**+3.2**
ZKR	**Zakros**	**3.67**	**103**	P	**Pn**	**21 02 59.5**	**+2.7**
ZKR	**Zakros**	**3.67**	**103**	P	**Pn**	**21 02 59.5**	**+2.7**
IGT	**Igoumenitsa**	**3.71**	**342**	P	**Pn**	**21 02 59.0**	**+1.8**
IGT	**Igoumenitsa**	**3.71**	**342**	P	**Pn**	**21 02 59.0**	**+1.8**
JAN	**Janina**	**3.72**	**348**	P	**Pn**	**21 03 00.2**	**+2.9**
JAN	**Janina**	**3.72**	**348**	P	**Pn**	**21 03 00.2**	**+2.9**
KEK	**Kerkira**	**4.03**	**337**	P	**Pn**	**21 03 02.7**	**+1.1**
KEK	**Kerkira**	**4.03**	**337**	*e*PN	**Pn**	**21 03 04.1**	**+2.5**
KEK	**Kerkira**	**4.03**	**337**	P	**Pn**	**21 03 02.7**	**+1.1**
KEK	**Kerkira**	**4.03**	**337**	*e*Pn	**Pn**	**21 03 04.1**	**+2.5**
CHOS	**Chios island**	**4.11**	**54**	P	**Pn**	**21 03 04.2**	**+1.4**
CHOS	**Chios island**	**4.11**	**54**	P	**Pn**	**21 03 04.2**	**+1.4**
SRN	**Sarande**	**4.12**	**340**	P	**Pn**	**21 03 04.3**	**+1.4**
SRN	**Sarande**	**4.12**	**340**	P	**Pn**	**21 03 04.3**	**+1.4**
PAIG	**Paliouri**	**4.16**	**20**	P	**Pn**	**21 03 05.6**	**+2.2**
PAIG	**Paliouri**	**4.16**	**20**	P	**Pn**	**21 03 05.6**	**+2.2**
KZN	**Kozani**	**4.28**	**359**	P	**Pn**	**21 03 07.9**	**+2.7**
KZN	**Kozani**	**4.28**	**359**	P	**Pn**	**21 03 07.9**	**+2.7**
LTBQ	**Tobruq**	**4.31**	**156**	*i* P	**Pn**	**21 03 08.4**	**+2.9**
	SNR=24						
SMG	**Samos**	**4.34**	**66**	P	**Pn**	**21 03 08.3**	**+2.4**
SMG	**Samos**	**4.34**	**66**	P	**Pn**	**21 03 08.3**	**+2.4**
KARP	**Karpathos**	**4.34**	**95**	P	**Pn**	**21 03 06.9**	**+0.9**
KARP	**Karpathos**	**4.34**	**95**	*e*PN	**Pn**	**21 03 08.7**	**+2.7**
KARP	**Karpathos**	**4.34**	**95**	P	**Pn**	**21 03 06.9**	**+0.9**
KARP	**Karpathos**	**4.34**	**95**	*e*Pn	**Pn**	**21 03 08.7**	**+2.7**
NEST	**Nestorio**	**4.43**	**352**	P	**Pn**	**21 03 10.4**	**+3.1**
NEST	**Nestorio**	**4.43**	**352**	P	**Pn**	**21 03 10.4**	**+3.1**
SIGR	**SIGRI**	**4.50**	**44**	P	**Pn**	**21 03 08.8**	**+0.7**
SIGR	**SIGRI**	**4.50**	**44**	P	**Pn**	**21 03 08.8**	**+0.7**
PLG	**Polygyros**	**4.53**	**16**	P	**Pn**	**21 03 11.4**	**+2.9**
PLG	**Polygyros**	**4.53**	**16**	P	**Pn**	**21 03 11.4**	**+2.9**
OUR	**Ouranopolis**	**4.62**	**21**	P	**Pn**	**21 03 12.2**	**+2.4**
OUR	**Ouranopolis**	**4.62**	**21**	P	**Pn**	**21 03 12.2**	**+2.4**
KBN	**Korca**	**4.67**	**350**	*e*PN	Pn	21 03 15.1	+4.6
KBN	**Korca**	**4.67**	**350**	P	**Pn**	**21 03 13.3**	**+2.8**
KBN	**Korca**	**4.67**	**350**	P	**Pn**	**21 03 13.3**	**+2.8**
KBN	**Korca**	**4.67**	**350**	*e*Pn	Pn	21 03 15.1	+4.6
HORT	**Hortiatis**	**4.68**	**12**	P	**Pn**	**21 03 12.7**	**+2.1**
HORT	**Hortiatis**	**4.68**	**12**	P	**Pn**	**21 03 12.7**	**+2.1**
LIA	**Limnos Island**	**4.68**	**33**	P	**Pn**	**21 03 11.2**	**+0.6**
LIA	**Limnos Island**	**4.68**	**33**	P	**Pn**	**21 03 11.2**	**+0.6**
THE	**Thessaloniki**	**4.69**	**10**	P	**Pn**	**21 03 13.1**	**+2.4**
THE	**Thessaloniki**	**4.69**	**10**	P	**Pn**	**21 03

comp=Z,1.2nm,0.4s,baz=165,slow=12,SNR=13
FINES FINESS Array B 25.59 5 P P 21 07 28.2 -0.6
comp=Z,0.8nm,0.4s,baz=174,slow=9.4,SNR=7.8
EKA Eskdalemuir Ar 25.80 326 P P 21 07 31.9 +1.0
comp=Z,0.3nm,0.4s,baz=128,slow=10.0,SNR=3.2
NB2 NORSAR Subarra 25.94 348 P P 21 07 33.1 +0.9
comp=Z,1.8nm,0.9s,baz=159,slow=9.3
NB2 NORSAR Subarra 25.94 348 P P 21 07 33.1 +0.9
comp=Z,1.8nm,0.9s,baz=16,slow=9.1,SNR=6.2
NOA NORSAR Array B 25.94 348 P P 21 07 30.3 -1.9
comp=Z,0.6nm,0.7s,baz=157,slow=8.9,SNR=6.3
TORD Torodi Ar. Bea 29.11 224 P P 21 08 02.0 +1.1
comp=Z,2.3nm,0.7s,baz=34,slow=9.2,SNR=18
ARCES ARCESS Array B 33.63 2 P P 21 08 39.2 -1.0
comp=Z,1.2nm,0.5s,baz=189,slow=9.6,SNR=13
MKAR Makanchi Array 45.56 57 P P 21 10 19.2 -0.7
comp=Z,1.0nm,0.3s,baz=270,slow=7.3,SNR=35
ZALV Zalesovo Beam 46.37 47 P P 21 10 24.3 -1.8
comp=Z,0.7nm,0.3s,baz=270,slow=8.5,SNR=4.6
SONM Songino Array 61.02 50 P P 21 12 12.4 -1.3
comp=Z,0.3nm,0.7s,baz=261,slow=5.4,SNR=3.5
CMAR Chiang Mai Arr 69.14 82 P P 21 13 05.3 -1.4
comp=Z,0.6nm,1.0s,baz=304,slow=6.4,SNR=3.3

KRSC 03 21:18:30.0±0.4, 55.72N×162.26E, h25km±24km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.59**	**25**	*e*P	Pn	21 18 42.9	+0.1
KBG				*e*S	Sn	21 18 51.7	+0.1
ZLN	**Zelenaya**	**0.87**	**291**	*e*P	Pn	21 18 47.0	+0.2
ZLN				*e*S	Sn	21 18 59.3	+0.5
BZGR	**Bezymyannyi-Gr**	**0.91**	**285**	*e*P	Pb	21 18 47.2	-0.1
BZGR				*e*S	Sb	21 18 59.4	+0.3
CIRR	**Tsirk**	**0.94**	**296**	*e*P	Pn	21 18 47.4	-0.4
CIRR				*e*S	Sb	21 18 59.6	-0.4
LGNR	**Loginova**	**0.96**	**293**	*e*P	Pb	21 18 48.4	+0.1
LGNR				*e*S	Sn	21 19 01.6	+0.3
SMKR	**Semkarok**	**0.97**	**333**	*i* P	Pb	21 18 48.3	0.0
SMKR				*i* S	Sn	21 19 01.8	+0.6
BZMR	**Bezymyannaya**	**1.02**	**283**	*e*P	Pn	21 18 48.6	-0.3
BZMR				*e*S	Sb	21 19 01.7	-0.7
BDR	**Baidarnaya**	**1.03**	**326**	*e*P	Pb	21 18 49.5	+0.1
KRSR	**Krestovskiy**	**1.07**	**298**	*e*P	Pn	21 18 49.3	-0.3
KRSR				*e*S	Sb	21 19 03.6	-0.2
KLY	**Klyuchi**	**1.08**	**304**	*e*P	Pn	21 18 48.3	-1.2
KLY				*e*S	Sn	21 19 01.2	-2.5
KIRR	**Kirishev**	**1.11**	**283**	*e*P	Pb	21 18 50.6	-0.1
KIRR				*e*S	Sb	21 19 05.5	+0.7
SRKR	**Sorokina**	**1.12**	**327**	*e*P	Pb	21 18 50.6	-0.2
SRKR				*e*S	Sb	21 19 05.4	+0.4
KMNR	**Kamenistaya**	**1.15**	**273**	*i* P	Pb	21 18 51.8	+0.5
KMNR				*e*S	Sb	21 19 06.7	+0.9
KPT	**Kopyto**	**1.18**	**283**	*i* P	Pb	21 18 51.7	-0.1
KPT				*e*S	Sb	21 19 06.8	+0.1
MKZ	**Mys Kozlova**	**1.21**	**195**	*i* P	Pb	21 18 51.7	-0.4
MKZ				*e*S	Sb	21 19 07.5	+0.3
TUMR	**Tumrok**	**1.28**	**251**	*e*S	Sb	21 19 10.1	+0.4
KOZ	**Kozyrevsk**	**1.39**	**285**	*i* P	Pb	21 18 55.3	0.0
KOZ				*e*S	Sb	21 19 13.6	+1.0
SRDR	**Sredinnyy**	**1.55**	**294**	*e*P	Pb	21 18 57.3	-0.8
SRDR				*e*S	Sb	21 19 17.1	-0.2
ESO	**Esso**	**2.02**	**277**	*e*P	Pb	21 19 04.8	-1.2
ESO				*e*S	Sb	21 19 30.5	-0.2
BKI	**Bering**	**2.18**	**102**	*e*P	Pn	21 19 05.2	+0.7
BKI				*e*S	Sn	21 19 31.6	+0.9
NLC	**Nalytchevo**	**3.07**	**215**	*e*P	Pn	21 19 18.1	+1.3
NLC				*e*S	Sn	21 19 53.2	+0.5
SDLR	**Sedlovina**	**3.14**	**220**	*e*P	Pn	21 19 19.8	+1.8
SMAR	**Somma**	**3.18**	**221**	*e*P	Pn	21 19 20.4	+1.7
SMAR				*e*S	Sn	21 19 57.6	+1.6
AVH	**Avacha**	**3.21**	**221**	*e*P	Pn	21 19 21.4	+2.6
GNL	**Ganaly**	**3.22**	**233**	*e*P	Pn	21 19 21.2	+2.1
RUS	**Russkaya**	**3.96**	**215**	*e*P	Pn	21 19 30.2	+1.1
MTVR	**Mutnovka**	**4.03**	**218**	*e*P	Pn	21 19 33.8	+3.5
ASAK	**Asacha**	**4.22**	**219**	*e*P	Pn	21 19 35.6	+2.9

*IDC **03** 21:24:14.3±1.4, 14.05N×92.99W, h0km, mb3.8/4, mb1 4.2/6, mb1mx3.8/24, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=41.7km s-min=23.9km az=59.0*
*ISCJB **03** 21:24:16.9±1.0, 13.92N±0.07×93.19W±0.05, h37km, mb3.8/4, Error ellipse: s-maj=10.0km s-min=7.0km az=173.1*
*MEX **03** 21:24:17.4±0.6, 13.81N×93.16W, h17km±44km, MD4.2*
ISC 03 21:24:18.7±1.2, 13.9N±0.1×93.12W±0.05, h37km, n13, σ1§17/18, mb3.7/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.28**	**40**	*i* P	**Pn**	**21 24 38.4**	**-1.6**
THIG				*i* S	**Sn**	**21 24 55.3**	**-0.5**
CCIG	**Comitan**	**2.52**	**22**	*e*P	**Pn**	**21 24 57.7**	**+0.4**
CCIG				*i* S	**Sn**	**21 25 27.3**	**+0.3**
TGIG		**2.83**	**360**	*e*P	**Pn**	**21 25 01.1**	**-0.4**
TGIG				*i* S	**Sn**	**21 25 35.2**	**+0.9**
HUIG	**Huatulco**	**3.42**	**303**	*i* P	**Pn**	**21 25 07.5**	**-1.9**
HUIG				*i* S	**Sn**	**21 25 47.1**	**-1.6**
VHO	**Vista Hermosa**	**4.68**	**312**	*i* P	**Pn**	**21 25 26.6**	**-0.3**
VHO				*i* S	**Sn**	**21 26 19.9**	**-0.3**
TEIG	**Tepich**	**7.79**	**36**	Pn	**Pn**	**21 26 07.0**	**-2.5**
9.2nm,0.3s,baz=231,slow=3.8,SNR=28							
TEIG				Sn	**Sn**	**21 27 35.4**	**-1.0**
4.0nm,0.3s,baz=42,slow=21,SNR=5.6							
JTS	**JuntasAbangare**	**8.77**	**113**	Pn	Pn	21 26 29.4	+6.4
0.9nm,0.3s,baz=295,slow=19,SNR=2.1							
JTS				Lg	Lg	21 28 52.5	
0.3nm,0.3s,baz=221,slow=19,SNR=3.8							
TXAR	**Lajitas Array**	**18.18**	**329**	P	**Pn**	**21 28 29.0**	**+0.7**
0.0nm,0.3s,baz=148,slow=10.0,SNR=16							
PDAR	**Pinedale Array**	**32.05**	**337**	P	**P**	**21 30 42.8**	**+0.6**
0.5nm,0.6s,baz=133,slow=10.0,SNR=4.5							
SIV	**San Ignacio**	**43.44**	**132**	P	**P**	**21 32 19.3**	**+0.9**
0.6nm,0.7s,baz=278,slow=7.1,SNR=2.5							
YKA	**Yellowknife Ar**	**50.85**	**347**	P	**P**	**21 33 15.1**	**-0.4**
3.1nm,0.7s,baz=150,slow=7.7,SNR=17							
ILAR	**Eielson Array**	**62.48**	**337**	P	**P**	**21 34 38.9**	**+0.8**
0.8nm,0.8s,baz=125,slow=5.4,SNR=6.7							
CMAR	**Chiang Mai Arr**	**145.69**	**339**	PKPbc	**PKPab**	**21 43 55.0**	**+0.2**
1.6nm,0.7s,baz=340,slow=3.1,SNR=10							

*IDC **03** 21:26:36.2±8.7, 13.72N×92.30W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/21, mbtmp3.6/4, ML3.4/1, MS4.0/1, Ms1 4.0/1, ms1mx3.5/30, Error ellipse: s-maj=199.7km s-min=103.1km az=18.0*
*MEX **03** 21:26:45.5±0.4, 14.02N×93.28W, h21km±42km, MD3.9*
ISC 03 21:26:47.0±1.9, 14.1N±0.2×93.1W±0.1, h37km, n8, σ1§80/10, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.14**	**45**	*e*P	**Pn**	**21 27 05.5**	**-0.9**
THIG				*i* S	**Sn**	**21 27 21.3**	**+0.5**
CCIG	**Comitan**	**2.36**	**23**	*e*P	**Pn**	**21 27 23.4**	**0.0**
CCIG				*e*S	**Sn**	**21 27 52.4**	**+1.3**
TGIG		**2.66**	**360**	*e*P	**Pn**	**21 27 26.4**	**-1.0**
TGIG				*e*S	**Sn**	**21 27 57.0**	**-1.4**
TEIG	**Tepich**	**7.64**	**36**	LR	LR	21 31 42.0	
comp=Z,1μm,19.3s,baz=196,slow=41							
TXAR	**Lajitas Array**	**18.04**	**329**	P	**P**	**21 30 58.8**	**+3.7**
0.0nm,0.3s,baz=142,slow=14,SNR=3.5							
NVAR	**Mina Array Bea**	**32.92**	**322**	P	**P**	**21 33 18.4**	**+0.2**
0.6nm,0.7s,baz=143,slow=9.1,SNR=4.7							
YKA	**Yellowknife Ar**	**50.68**	**347**	P	**P**	**21 35 40.7**	**-1.9**
1.3nm,0.8s,baz=147,slow=7.4,SNR=6.5							
ILAR	**Eielson Array**	**62.32**	**337**	P	**P**	**21 37 05.3**	**-0.1**
0.3nm,0.7s,baz=116,slow=6.1,SNR=3.1							

*IDC **03** 21:41:54.1±2.0, 20.87S×174.60W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.1/7, ML2.8/1, MS4.3/2, Ms1 4.3/2, ms1mx3.5/31, Error ellipse: s-maj=95.3km s-min=20.9km az=143.0*
*NEIC **03** 21:41:55.6±0.7, 21.03S×174.49W, h10km, mb4.5/3, Error ellipse: s-maj=16.0km s-min=14.8km az=153.0*
ISC 03 21:41:57.3±0.8, 20.7S±0.1×174.6W±0.2, h27km, n26, σ1§44/21, mb4.2/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.24**	**22**	Pn	**Pn**	**21 43 42.0**	**+0.6**
AFI				Sn	**Sn**	**21 45 00.3**	**-2.5**
AFI	**Afiamalu**	**7.24**	**22**	Pn	**Pn**	**21 43 42.0**	**+0.6**
8.2nm,0.3s,baz=28,slow=1.1,SNR=10.0							
AFI				Sn	**Sn**	**21 45 00.3**	**-2.5**
7.7nm,0.3s,baz=208,slow=23,SNR=5.3							
MSVF	**Nonsavu**	**7.56**	**292**	*e*Pn	Pn	21 43 50.5	+4.6
60nm,1.1s							
DZM	**Mont Dzumac**	**17.74**	**262**	*e*Pn	**Pn**	**21 46 02.7**	**+0.1**
URZ	**Urewera**	**18.95**	**201**	*e*P	**P**	**21 46 14.4**	**-1.9**
13nm,1.0s							
URZ	**Urewera**	**18.95**	**201**	LR	LR	21 52 49.7	
comp=Z,557nm,20.1s,baz=149,slow=35							
RPZ	**Rata Peaks**	**25.92**	**204**	LR	LR	21 55 28.2	
comp=Z,889nm,19.9s,baz=315,slow=32							
STKA	**Stephens Creek**	**40.62**	**245**	*e*P	**P**	**21 49 34.4**	**-0.7**
STKA	**Stephens Creek**	**40.62**	**245**	P	**P**	**21 49 34.4**	**-0.7**
1.6nm,0.7s,baz=63,slow=4.5,SNR=2.2							
ASAR	**Alice Springs**	**47.60**	**256**	P	**P**	**21 50 31.9**	**+0.7**
ASAR	**Alice Springs**	**47.60**	**256**	P	**P**	**21 50 31.9**	**+0.7**
4.1nm,1.0s,baz=90,slow=8.4,SNR=25							
WRAB	**Tennant Creek**	**47.75**	**261**	*e*P	**P**	**21 50 32.8**	**+0.5**
7.6nm,1.3s							
WRA	**Warramunga Arr**	**47.76**	**261**	P	**P**	**21 50 31.6**	**-0.8**
WRA	**Warramunga Arr**	**47.76**	**261**	P	**P**	**21 50 31.6**	**-0.8**
1.2nm,0.6s,baz=96,slow=8.6,SNR=19							
SBA	**Scott Base**	**57.93**	**185**	*e*P	**P**	**21 51 45.9**	**-0.8**
CASY	**Casey**	**65.18**	**205**	*e*P	**P**	**21 52 35.1**	**-0.6**
4.5nm,1.0s							
NVAR	**Mina Array Bea**	**78.98**	**42**	P	**P**	**21 54 00.3**	**+1.3**
NVAR	**Mina Array Bea**	**78.98**	**42**	P	**P**	**21 54 00.3**	**+1.3**
1.5nm,0.8s,baz=229,slow=8.2,SNR=8.2							
ILAR	**Eielson Array**	**87.81**	**11**	P	P	21 54 46.5	+3.0
ILAR	**Eielson Array**	**87.81**	**11**	P	P	21 54 46.5	+3.0
0.3nm,0.7s,baz=190,slow=4.6,SNR=3.3							
CMAR	**Chiang Mai Arr**	**93.21**	**288**	P	P	21 55 12.9	+3.1
CMAR	**Chiang Mai Arr**	**93.21**	**288**	P	P	21 55 12.9	+3.1
1.5nm,1.1s,baz=70,slow=4.0,SNR=4.1							
BRTR	**Keskin Array B**	**149.30**	**314**	PKPbc	**PKPbc**	**22 01 45.0**	**+1.0**
BRTR	**Keskin Array B**	**149.30**	**314**	PKPbc	**PKPbc**	**22 01 45.0**	**+1.0**
0.9nm,1.0s,baz=90,slow=1.4,SNR=4.6							
GERES	**GERESS Array B**	**151.12**	**349**	PKPbc	**PKPbc**	**22 01 50.4**	**+2.4**
GERES	**GERESS Array B**	**151.12**	**349**	PKPbc	**PKPbc**	**22 01 50.4**	**+2.4**
0.2nm,0.5s,baz=28,slow=4.8,SNR=2.9							

IDC 03 21:50:36.9±3.0, 3.80N×93.58E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=111.8km s-min=29.4km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.48**	**19**	Pn	Pn	21 54 16.2	-0.5
0.2nm,0.3s,baz=208,slow=13,SNR=3.0							
MKAR	**Makanchi Array**	**43.93**	**349**	P	P	21 58 45.9	+0.3
0.3nm,0.6s,baz=168,slow=8.5,SNR=4.5							
WRA	**Warramunga Arr**	**46.47**	**122**	P	P	21 59 06.1	-0.1
0.7nm,0.8s,baz=297,slow=9.2,SNR=4.5							
KURBB	**Kurchatov Arra**	**48.35**	**347**	P	P	21 59 19.9	-0.4
0.4nm,0.6s,baz=173,slow=6.8,SNR=4.3							
ZALV	**Zalesovo Beam**	**50.50**	**353**	P	P	21 59 36.4	-0.2
0.4nm,0.3s,baz=172,slow=5.2,SNR=2.9							

*IDC **03** 22:18:13.8±0.6, 31.12N×103.75E, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.0/28, mbtmp3.9/18, ML3.2/1, MS3.8/1, Ms1 4.0/1, ms1mx3.0/40, Error ellipse: s-maj=21.7km s-min=13.6km az=53.0*
*ISCJB **03** 22:18:14.3±0.3, 31.17N±0.03×103.80E±0.04, h14km, mb4.0/22, Error ellipse: s-maj=4.9km s-min=4.2km az=18.0*
*NEIC **03** 22:18:15.6±0.3, 31.18N×103.77E, h10km, mb4.3/5, Error ellipse: s-maj=6.2km s-min=5.4km az=73.0*
*BJI **03** 22:18:15.8, 31.23N×103.59E, h18km, mB4.8/2, mb4.3/4, ML4.1/17, Ms4.0/2, Ms7 3.9/1*
*MOS **03** 22:18:16.3±0.8, 31.14N×103.75E, h33km, mb4.2/15, Error ellipse: s-maj=12.3km s-min=8.0km az=93.2*
ISC 03 22:18:16.4±0.4, 31.09N±0.04×103.85E±0.05, h14km, n69, σ1§49/82, mb4.0/22, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.20**	**203**	⇑*i*Pg	**Pg**	**22 18 20.7**	**-0.2**
CD2				Sg	**Sb**	**22 18 26.1**	**+0.7**
CD2				smax	smax		
comp=E,76μm,0.6s							
ENH	**Enshi**	**4.93**	**98**	*e*Pn	**Pn**	**22 19 31.3**	**+1.3**
comp=E,53nm,0.4s							
ENH				*e*Sn	**Sn**	**22 20 28.6**	**+1.7**
LZH	**Lanzhou**	**4.98**	**360**	Pg	**Pb**	**22 19 44.7**	**+1.2**
LZH				Sn	**Sn**	**22 20 30.5**	**+2.1**
LZH				Sg	**Sb**	**22 20 47.1**	**+3.8**
LZH				smax	smax		
comp=N,360nm,1.4s							
LZH				smax	smax		
comp=E,180nm,1.2s							
XAN	**Xi'an**	**5.19**	**54**	Pn	**Pn**	**22 19 32.2**	**-1.5**
XAN				Pg	**Pb**	**22 19 48.0**	**+1.0**
XAN				Sn	**Sn**	**22 20 34.9**	**+1.4**
XAN				Sg	**Sg**	**22 20 57.7**	**-5.5**
XAN				smax	smax		
comp=N,300nm,0.8s							
XAN				smax	smax		
comp=E,190nm,1.0s							
KMI	**Kunming**	**6.03**	**190**	Pn	**Pn**	**22 19 46.1**	**+0.8**
KMI				Sn	**Sn**	**22 20 56.4**	**+2.1**
KMI				smax	smax		
comp=N,71nm,1.1s							
KMI				smax	smax		
comp=E,61nm,1.0s							
GTA	**Gaotai**	**8.93**	**339**	*e*P	**Pn**	**22 20 26.6**	**+1.5**
GTA				pP	pP	22 20 29.9	
GTA				sP		22 20 32.3	
GTA				S	**Sn**	**22 22 10.2**	**+4.7**
GTA				LR	LR		
GTA	comp=N,390nm,12.4s			LR	LR		
comp=E,900nm,11.4s							
WHN	**Wuhan**	**9.05**	**91**	P	**Pn**	**22 20 29.3**	**+2.7**
WHN				S	**Sn**	**22 22 09.0**	**+0.7**
LSA	**Lhasa**	**11.05**	**266**	*e*P	**Pn**	**22 20 53.3**	**-1.2**
LSA				pmax	pmax		
comp=Z,3.0nm,0.5s							
LSA	**Lhasa**	**11.05**	**266**	*e*Pn	**Pn**	**22 20 53.3**	**-1.2**
comp=Z,2.7nm,0.5s							
CHTO	**Chiang Mai**	**13.01**	**201**	*e*P	**Pn**	**22 21 21.8**	**+1.0**
CHTO				pmax	pmax		
comp=Z,8.0nm,1.2s							
CHTO	**Chiang Mai**	**13.01**	**201**	*e*Pn	**Pn**	**22 21 21.8**	**+1.0**
comp=Z,8.4nm,1.2s							
CMAR	**Chiang Mai Arr**	**13.34**	**201**	Pn	**Pn**	**22 21 26.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**13.34**	**201**	Pn	**Pn**	**22 21 26.4**	**+1.0**
baz=15,slow=12,SNR=4.2							
CMAR				LR	LR	22 27 05.4	
comp=Z,343nm,18.3s,baz=5.0,slow=40							
BJT	**Baijiatuan**	**13.40**	**45**	*e*Pn	**Pn**	**22 21 25.9**	**-0.3**
SONM	**Songino Array**	**16.84**	**6**	Pn	**Pn**	**22 22 09.7**	**-2.0**
SONM	**Songino Array**	**16.84**	**6**	Pn	**Pn**	**22 22 09.7**	**-2.0**
comp=Z,0.1nm,0.3s,baz=187,slow=12,SNR=7.8							
ULN	**Ulaanbaatar**	**16.93**	**7**	*e*Pn	**Pn**	**22 22 11.3**	**-1.7**
comp=Z,4.3nm,1.0s							
ZAK	**Zakamensk**	**19.28**	**359**	*e*P	**Pn**	**22 22 41.2**	**-0.5**
ZAK				pmax	pmax		
comp=Z,3.0nm,0.9s							
KSAR	**Wonju Array Be**	**20.82**	**66**	P	**P**	**22 22 57.9**	**+0.4**
KSRS	**Korea Array**	**20.86**	**66**	P	**P**	**22 22 57.9**	**+0.1**
comp=Z,9.7nm,0.7s,baz=261,slow=10,SNR=48							
CN2	**Changchun**	**21.26**	**47**	*e*P	**P**	**22 23 02.3**	**+0.2**
MK31	**Makanchi Array**	**22.84**	**319**	*e*P	**P**	**22 23 18.0**	**-1.1**
MK31	**Makanchi Array**	**22.84**	**319**	*e*P	**P**	**22 23 18.0**	**-1.1**
MKAR	**Makanchi Array**	**22.84**	**319**	P	**P**	**22 23 17.3**	**-1.9**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**22.84**	**319**	P	**P**	**22 23 17.2**	**-1.9**
MKAR	**Makanchi Array**	**22.84**	**319**	P	**P**	**22 23 17.2**	**-1.9**
comp=Z,3.3nm,0.8s,baz=124,slow=11,SNR=18							
USRK	**Ussuriysk Arra**	**25.70**	**51**	P	**P**	**22 23 46.0**	**-0.1**
comp=Z,1.5nm,0.5s,baz=259,slow=9.3,SNR=6.0							
ZAA0	**Zalesovo Array**	**26.64**	**335**	*e*P	**P**	**22 23 52.8**	**-1.6**
ZALV	**Zalesovo Beam**	**26.64**	**335**	P	**P**	**22 23 52.7**	**-1.7**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.6s							
ZALV	**Zalesovo Beam**	**26.64**	**335**	P	**P**	**22 23 52.7**	**-1.7**
ZALV	**Zalesovo Beam**	**26.64**	**335**	P	**P**	**22 23 52.7**	**-1.7**
comp=Z,1.5nm,0.6s,baz=139,slow=9.2,SNR=8.8							
KURBB	**Kurchatov Arra**	**27.12**	**323**	P	**P**	**22 23 58.1**	**-0.7**
comp=Z,1.3nm,0.7s,baz=128,slow=9.5,SNR=16							
KURK	**Kurchatov**	**27.12**	**324**	P	**P**	**22 23 58.1**	**-0.7**
KURK				pmax	pmax		
comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**27.12**	**324**	P	**P**	**22 23 58.1**	**-0.7**
MJAR	**Matsushiro Arr**	**28.96**	**70**	P	**P**	**22 24 16.2**	**+0.7**
MJAR	**Matsushiro Arr**	**28.96**	**70**	P	**P**	**22 24 16.2**	**+0.7**
comp=Z,1.7nm,1.0s,baz=274,slow=10.0,SNR=4.5							
BVAR	**Borovoye Array**	**32.66**	**322**	P	**P**	**22 24 47.2**	**-0.7**
BVAR						22 27 33.1	
BVAR	**Borovoye Array**	**32.66**	**322**	P	**P**	**22 24 47.2**	**-0.7**
BVAR				PcP	**PcP**	**22 27 33.1**	**-0.5**
BVAR	**Borovoye Array**	**32.66**	**322**	P	**P**	**22 24 47.2**	**-0.7**
comp=Z,0.4nm,0.6s,baz=99,slow=8.9,SNR=3.4							
BVAR				PcP	**PcP**	**22 27 33.1**	**-0.5**
comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=3.4							
BRVK	**Borovoye**	**32.74**	**322**	*e*P	**P**	**22 24 46.7**	**-1.8**
BRVK				pmax	pmax		
comp=Z,2.0nm,1.1s							
BRVK	**Borovoye**	**32.74**	**322**	*e*P	**P**	**22 24 46.7**	**-1.8**
comp=Z,1.8nm,1.1s							
KIV	**Kislovodsk**	**49.14**	**303**	*e*P	P	22 27 07.3	+3.6
KIV				pmax	pmax		
comp=Z,4.0nm,1.1s							
KEV	**Kevo**	**56.65**	**336**	*e*P	**P**	**22 27 58.3**	**-0.4**
KEV	**Kevo**	**56.65**	**336**	*e*P	**P**	**22 27 58.3**	**-0.4**
ARCES	**ARCESS Array B**	**57.18**	**336**	P	**P**	**22 28 01.7**	**-0.7**
ARCES				PcP	**PcP**	**22 28 55.6**	**-1.3**
ARCES	**ARCESS Array B**	**57.18**	**336**	P	**P**	**22 28 01.7**	**-0.7**
comp=Z,3.0nm,1.1s,baz=57,slow=8.8,SNR=3.5							
ARCES				PcP	**PcP**	**22 28 55.6**	**-1.3**
comp=Z,2.3nm,1.0s,baz=86,slow=5.0,SNR=4.5							
FINES	**FINESS Array B**	**57.45**	**326**	P	**P**	**22 28 03.3**	**-1.2**
FINES	**FINESS Array B**	**57.45**	**326**	P	**P**	**22 28 03.3**	**-1.2**
comp=Z,1.7nm,0.8s,baz=76,slow=8.0,SNR=4.9							
WRAB	**Tennant Creek**	**58.58**	**146**	*e*P	**P**	**22 28 12.8**	**-0.1**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.5s							
WRAB	**Tennant Creek**	**58.58**	**146**	*e*P	**P**	**22 28 12.8**	**-0.1**
comp=Z,3.5nm,0.5s							
WRA	**Warramunga Arr**	**58.59**	**146**	P	**P**	**22 28 12.8**	**-0.1**
WRA	**Warramunga Arr**	**58.59**	**146**	P	**P**	**22 28 12.8**	**-0.1**
comp=Z,2.7nm,0.6s,baz=339,slow=7.8,SNR=56							
KWP	**Kalwaria Pacla**	**61.55**	**313**	*e*P	**P**	**22 28 32.6**	**-0.5**
KWP				pmax	pmax		
comp=Z,2.0nm,0.5s							
KWP	**Kalwaria Pacla**	**61.55**	**313**	*e*P	**P**	**22 28 32.6**	**-0.5**
comp=Z,1.8nm,0.5s							
ASAR	**Alice Springs**	**61.60**	**149**	P	**P**	**22 28 33.6**	**+0.1**
ASAR	**Alice Springs**	**61.60**	**149**	P	**P**	**22 28 33.6**	**+0.1**
comp=Z,0.7nm,0.6s,baz=344,slow=6.5,SNR=12							
NOA	**NORSAR Array B**	**64.55**	**327**	P	**P**	**22 28 51.1**	**-1.7**
NOA	**NORSAR Array B**	**64.55**	**327**	P	**P**	**22 28 51.1**	**-1.7**
comp=Z,0.5nm,0.8s,baz=74,slow=9.3,SNR=2.9							
COLD	**Coldfoot**	**67.57**	**24**	*e*P	**P**	**22 29 11.2**	**-0.9**
comp=Z,2.7nm,0.9s							
ILAR	**Eielson Array**	**69.94**	**26**	P	**P**	**22 29 27.2**	**+0.4**
ILAR	**Eielson Array**	**69.94**	**26**	P	**P**	**22 29 27.2**	**+0.4**
comp=Z,2.0nm,1.1s,baz=288,slow=5.1,SNR=8.1							
STKA	**Stephens Creek**	**72.12**	**147**	P	**P**	**22 29 39.5**	**-0.9**
STKA	**Stephens Creek**	**72.12**	**147**	P	**P**	**22 29 39.5**	**-0.9**
comp=Z,1.6nm,0.7s,baz=340,slow=6.7,SNR=5.5							
LPG	**La Plagne**	**73.10**	**313**	*e*P	**P**	**22 29 45.4**	**-1.2**
comp=Z,60nm,1.8s							
LPL	**La Plagne**	**73.10**	**313**	*e*P	**P**	**22 29 45.0**	**-1.5**
YKA	**Yellowknife Ar**	**81.77**	**17**	P	**P**	**22 30 35.5**	**+1.1**
YKA	**Yellowknife Ar**	**81.77**	**17**	P	**P**	**22 30 35.5**	**+1.1**
comp=Z,0.7nm,0.7s,baz=321,slow=4.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**93.43**	**287**	P	**P**	**22 31 32.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**93.43**	**287**	P	**P**	**22 31 32.8**	**+0.9**
comp=Z,0.7nm,1.0s,baz=47,slow=2.8,SNR=3.1							

PRE 03 22:40:38.9±1.3, 26.44S×27.52E, h2km, ML3.1, 2C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**196**	*e*P	Pg	22 40 49.5	+0.6
PRYS				*e*S	Sg	22 40 55.

```
HVD                                  eS        Sn     22 42 39.8  -2.1
HVD                                  AML       AML    22 43 08.3
      comp=Z,17nm,0.4s
BUFB  Buffelsbos        8.05 197  eP        Pn     22 42 37.5 +0.6
BUFB                                 eS        Sn     22 44 04.5 -4.0
BUFB                                 AML       AML    22 44 11.5
      comp=Z,3.3nm,0.6s
SUR   Sutherland        8.32 223  eP        Pn     22 42 42.0 +1.1
SUR                                  eS        Sn     22 44 11.5 -4.1
SUR                                  AML       AML    22 44 59.1
      comp=Z,5.6nm,0.5s
SUR   Sutherland        8.32 223  eP        Pn     22 42 42.1 +1.2
SUR                                  eS        Sn     22 44 12.7 -3.0
SUR                                  AML       AML    22 45 06.0
      comp=Z,8.3nm,0.5s
CVNA  Calvinia          8.45 232  eP        Pn     22 42 43.0 +0.5
CVNA                                 eS        Sn     22 44 14.1 -4.5
CVNA                                 AML       AML    22 44 20.7
      comp=Z,3.9nm,0.9s
CVNA  Calvinia          8.45 232  eS        Sn     22 44 14.6 -4.0
CVNA                                 AML       AML    22 45 05.5
      comp=Z,38nm,0.5s
KOMG  Komaggas          9.47 247  eP        Pn     22 42 57.2 +0.8
KOMG                                 eS        Sn     22 44 38.2 -5.3
KOMG                                 AML       AML    22 45 19.2
      comp=Z,2.2nm,0.4s
```

ISCJB ***03*** *22:44:23.3±1.1, 22°.44S±0°.08×171°.17E±0°.05, h52km±10km, mb4.6/17, MS4.2/19, Error ellipse: s-maj=13.9km s-min=7.0km az=7.3*
NOU ***03*** *22:44:23.9±0.8, 25°.07S×170°.17E, h10km, MD3.6, ML3.4*
IDC ***03*** *22:44:23.6±0.8, 22°.28S×171°.23E, h41km±5km, mb4.1/8, mb1 4.4/10, mb1mx4.0/20, mbtmp4.2/10, ML4.4/2, MS4.1/23, Ms1 4.1/23, ms1mx4.0/38, Error ellipse: s-maj=32.6km s-min=13.7km az=173.0*
NEIC ***03*** *22:44:24.9±1.0, 22°.35S×171°.26E, h58km±9km, mb4.8/12, Error ellipse: s-maj=10.5km s-min=6.4km az=190.0*
AUST ***03*** *22:44:55.2±80.0, 22°.08S×170°.49E, h308km±7km, Error ellipse: s-maj=16.8km s-min=3.5km az=266.0*

ISC 03 22:44:23.8±0.5, 22°.34S±0°.10×171°.25E±0°.06, h45km±4km, h45km:pP-P, n89, σ1§25/86, mb4.7/17, MS4.2/19, 1C-1D, Southeast of Loyalty Islands

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC          h m s     ISC
BAYA  Yate Dam          4.04 272  eS        Sn     22 46 09.1  -0.2
BAYA                                AMP               22 46 14.3
      comp=Z,83nm,2.1s
DZM   Mont Dzumac       4.46 273  ePn       Pn     22 45 30.4 +1.5
      comp=Z,309nm,0.2s
DZM                                 eSn       Sn     22 46 18.1  -1.5
      comp=Z,503nm,0.3s
DZM   Mont Dzumac       4.46 273  eP        Pn     22 45 29.9 +1.0
DZM                                 eS        Sn     22 46 18.6  -1.0
DZM                                 AMP               22 46 26.7
      comp=Z,6μm,5.1s
DZM   Mont Dzumac       4.46 273  P         Pn     22 45 30.2 +1.3
DZM                                 S         Sn     22 46 18.8  -0.8
DZM   Mont Dzumac       4.46 273  P         Pn     22 45 30.2 +1.3
      comp=Z,91nm,0.3s,baz=94,slow=23,SNR=749
DZM                                 S         Sn     22 46 18.8  -0.8
      comp=Z,102nm,0.3s,baz=106,slow=18,SNR=9.9
NOUC  Port Laguerre     4.59 272  eP        Pn     22 45 31.6 +1.0
NOUC                                eS        Sn     22 46 22.1  -0.5
NOUC                                AMP               22 46 31.6
      comp=Z,235nm,2.0s
MSVF  Nonsavu           7.87  56  ePn       Pn     22 46 21.8 +6.0
      comp=Z,994nm,1.4s
RAO   Raoul Island     11.94 127  P         Pn     22 47 11.9 +0.5
RAO   Raoul Island     11.94 127  LR        LR     22 50 38.1
      comp=Z,1μm,20.9s,baz=252,slow=31
URZ   Urewera          16.64 164  ePn       Pn     22 48 14.8 +1.0
      comp=Z,134nm,1.9s
URZ   Urewera          16.64 164  P         P      22 48 15.5  -0.2
      comp=Z,0.3nm,0.3s,baz=320,slow=10.0,SNR=3.5
URZ                                 LR        LR     22 53 07.8
      comp=Z,875nm,20.2s,baz=351,slow=31
HNR   Honiara          16.80 318  LR        LR     22 52 51.7
      comp=Z,213nm,19.4s,baz=151,slow=30
AFI   Afiamalu         18.17  65  eP        P      22 48 32.8  0.0
      comp=Z,35nm,1.0s
AFI   Afiamalu         18.17  65  LR        LR     22 53 18.7
      comp=Z,291nm,19.2s,baz=79,slow=30
ARMA  Armidale         19.31 241  P         Pn     22 48 54.8 +8.3
      baz=19,SNR=8.0
RMQ   Roma             20.88 254  P         Pn     22 49 06.7 +1.5
      baz=20,SNR=7.0
CTA   Charters Tower   23.40 271  P         P      22 49 29.5 +0.6
CTA   Charters Tower   23.40 271  P         P      22 49 29.5 +0.6
      comp=Z,5.6nm,0.7s,baz=96,slow=9.3,SNR=4.0
CTAO  Charters Tower   23.40 271  eP        P      22 49 29.0 +0.2
      comp=Z,37nm,1.4s
MTSU  Mount Surprise   25.59 275  P         P      22 49 51.0 +2.0
      baz=25,SNR=9.3
PMG   Port Moresby     26.45 295  LR        LR     22 58 41.2
      comp=Z,497nm,20.7s,baz=110,slow=32
RAR   Rarotonga        26.92  93  LR        LR     22 58 53.0
      comp=Z,205nm,21.8s,baz=272,slow=32
COEN  Coen             27.91 283  eP        P      22 50 09.5  -0.3
      comp=Z,154nm,1.1s
STKA  Stephens Creek   27.97 244  eP        P      22 50 10.3  0.0
      comp=Z,1.5nm,0.9s
STKA  Stephens Creek   27.97 244  P         P      22 50 11.6 +1.3
      comp=Z,2.2nm,0.8s,baz=45,slow=10.0,SNR=4.6
STKA                                LR        LR     23 00 17.9
      comp=Z,338nm,20.4s,baz=170,slow=34
AS31  Alice Springs    34.33 260  eP        P      22 51 05.9  -0.5
ASAR  Alice Springs    34.34 260  P         P      22 51 06.4  0.0
ASAR                                sP        sP     22 51 22.8  -1.1
ASAR  Alice Springs    34.34 260  P         P      22 51 06.4  0.0
      comp=Z,7.9nm,0.8s,baz=84,slow=8.8,SNR=69
ASAR                                sP        sP     22 51 22.8  -1.1
      comp=Z,8.2nm,0.8s,baz=88,slow=9.1,SNR=9.4
ASAR                                LR        LR     23 04 51.1
      comp=Z,583nm,18.7s,baz=98,slow=36
WRAB  Tennant Creek    34.44 267  eP        P      22 51 06.7  -0.7
      comp=Z,16nm,1.2s
WRA   Warramunga Arr   34.45 267  P         P      22 51 06.8  -0.7
WRA   Warramunga Arr   34.45 267  P         P      22 51 06.8  -0.7
      comp=Z,1.8nm,0.4s,baz=97,slow=8.6,SNR=38
WRA                                LR        LR     23 05 42.0
      comp=Z,516nm,18.3s,baz=90,slow=37
JAY   Jayapura         35.60 299  P         P      22 51 18.4 +1.0
      baz=35,SNR=5.4
JAY                                S         S      22 56 26.0  -25
      baz=35,SNR=3.7
TBI   Tubuai           36.15  99  eLQ       LQ     22 59 25.8
      comp=Z,645nm,29.5s
TBI                                eLR       LR     23 01 05.9
      comp=Z,416nm,26.5s
PPT2  Papeete2         37.05  90  eLQ       LQ     23 00 01.1
      comp=Z,1μm,30.5s
PPT2                               eLR       LR     23 01 39.9
      comp=Z,574nm,25.0s,baz=254
PPT   Papeete          37.06  90  LR        LR     23 03 11.5
      comp=Z,292nm,19.3s,baz=218,slow=30
KDU   Kakadu           38.10 278  P         P      22 51 39.1 +0.5
      baz=37,SNR=5.6
MTN   Manton Dam       39.28 277  P         P      22 51 49.1 +0.6
      baz=38,SNR=4.2
MBWA  Marble Bar       47.67 261  eP        P      22 52 56.6 +0.6
      comp=Z,13nm,0.8s
MEEK  Meekatharra      47.82 254  P         P      22 52 57.1  0.0
      baz=47,SNR=5.9
NWAO  Narrogin (SRO)   48.55 245  eP        P      22 53 02.4  -0.3
      comp=Z,30nm,1.4s
DAV   Davao City (W)   53.42 298  LR        LR     23 17 26.6
      comp=Z,118nm,18.2s,baz=261,slow=37
VNDA  Vanda            55.41 182  eP        P      22 53 53.2 +0.1
SBA   Scott Base       55.60 181  eP        P      22 53 54.9 +0.4
      comp=Z,23nm,1.5s
KSM   Kuching          63.90 283  eP        P      22 54 52.8 +0.4
      comp=Z,10.0nm,0.7s
JNU   Nakatsue         67.27 324  LR        LR     23 19 05.6
      comp=Z,263nm,20.8s,baz=300,slow=31
QSPA  South Pole Qui   67.73 180  eP        P      22 55 16.2  -0.2
      comp=Z,8.8nm,1.0s
ASAJ  Asahikawa        71.16 339  LR        LR     23 26 43.7
      comp=Z,125nm,18.8s,baz=282,slow=36
KSRS  Korea Array      72.11 325  LR        LR     23 22 01.6
      comp=Z,97nm,21.2s,baz=232,slow=31
FX1   Attu Island--F   74.92   1  LR        LR     23 21 50.7
      comp=Z,122nm,19.9s,baz=71,slow=30
USRK  Ussuriysk Arra   75.34 332  LR        LR     23 26 03.4
      comp=Z,76nm,18.9s,baz=286,slow=33
PETK  Petropavlovsk-   76.05 352  LR        LR     23 23 58.1
      comp=Z,112nm,20.4s,baz=64,slow=31
CMAR  Chiang Mai Arr   81.48 294  P         P      22 56 38.0 +1.3
CMAR                               pP        pP     22 56 49.8  -0.3
CMAR  Chiang Mai Arr   81.48 294  P         P      22 56 38.0 +1.3
      comp=Z,2.1nm,0.5s,baz=136,slow=3.8,SNR=11
CMAR                               pP        pP     22 56 49.8  -0.3
      comp=Z,0.9nm,0.3s,baz=126,slow=4.6,SNR=1.6
CHTO  Chiang Mai       81.64 294  eP        P      22 56 39.0 +1.5
      comp=Z,1.4nm,0.8s
SYO   Syowa Base       82.48 196  ‖ epP     pP     22 56 54.8 +0.3
SNAA  Sanae            86.15 182  eP        P      22 56 59.2  -0.6
SNAA  Sanae            86.15 182  eP        P      22 56 58.3  -1.4
VNA1  Neumayer--Stat   87.26 180  eP        P      22 57 04.9  -0.2
ISA   Isabella         88.00  50  eP        P      22 57 08.4  -0.9
      comp=Z,12nm,1.6s
YBH   Yreka Blue Hor   88.24  43  LR        LR     23 28 49.7
      comp=Z,96nm,20.1s,baz=198,slow=30
NVAR  Mina Array Bea   89.47  48  P         P      22 57 16.6 +0.3
NVAR  Mina Array Bea   89.47  48  P         P      22 57 16.6 +0.3
      comp=Z,2.2nm,0.8s,baz=224,slow=8.2,SNR=12
NVAR                               LR        LR     23 29 52.0
      comp=Z,156nm,18.3s,baz=309,slow=30
SONM  Songino Array    90.81 322  P         P      22 57 21.9  -0.3
SONM                               pP        pP     22 57 35.3  -0.5
SONM  Songino Array    90.81 322  P         P      22 57 21.9  -0.3
      comp=Z,0.2nm,0.3s,baz=144,slow=5.4,SNR=5.2
SONM                               pP        pP     22 57 35.3  -0.5
      comp=Z,1.6nm,1.0s,baz=132,slow=4.5,SNR=5.4
BBB   Bella Bella      91.05  32  LR        LR     23 27 46.4
      comp=Z,98nm,21.9s,baz=124,slow=29
DLBC  Dease Lake       93.94  27  LR        LR     23 38 02.8
      comp=Z,103nm,19.0s,baz=52,slow=34
TXAR  Lajitas Array    96.60  61  P         P      22 57 50.0 +0.6
TXAR  Lajitas Array    96.60  61  P         P      22 57 50.0 +0.6
      comp=Z,0.2nm,0.8s,baz=207,slow=5.2,SNR=3.7
TXAR                               LR        LR     23 33 05.6
      comp=Z,91nm,18.7s,baz=200,slow=30
PDAR  Pinedale Array   97.35  47  LR        LR     23 37 24.0
      comp=Z,75nm,19.3s,baz=264,slow=33
BRTR  Keskin Array B  140.17 306  PKP       PKPdf  23 03 46.6  -1.3
BRTR  Keskin Array B  140.17 306  PKP       PKPdf  23 03 46.6  -1.3
      comp=Z,0.2nm,0.6s,baz=68,slow=5.1,SNR=2.5
KOLS  Kolonicke sedl  143.84 325  ePKP      PKPbc  23 03 52.0 +0.3
CRVS  Cervenica-Dubn  144.28 325  ePKP      PKPab  23 03 47.8  -4.9
KECS  Kecovo          145.05 325  ePKP      PKPab  23 03 55.7 +0.2
OKC   Ostrava-Krasne  145.35 329  epPKP     pPKPdf 23 04 10.8 +0.3
OKC                                ex        x      23 04 13.8
OKC                                ex        x      23 04 23.8
DPC   Dobruska-Polom  145.84 331  ePKP      PKPab  23 03 58.8 +0.3
DPC                                epPKP     pPKPdf 23 04 13.3 +1.9
VYHS  Vyhne           145.90 327  ePKP      PKPbc  23 03 58.3 +0.1
BRG   Berggiesshubel  146.47 334  eP        PKPab  23 04 01.9 +1.1
      comp=Z,8.3nm,1.2s
BRG                                e                23 04 17.0
      comp=Z,7.1nm,1.1s
PVCC  Panska Ves      146.47 333  epPKP     pPKPdf 23 04 15.4 +3.0
PVCC                               ex        x      23 04 17.3
PVCC                               ex        x      23 04 27.3
CLL   Collm           146.51 335  i PKPbc   PKPab  23 04 00.6  -0.3
      comp=Z,14nm,1.5s
CLL                                i pPKPbc  pPKPbc 23 04 15.6 +1.9
CLL                                i pPKiKP  pPKiKP 23 04 20.3 +3.6
CLL                                i sPKPbc  sPKPbc 23 04 22.6 +3.9
PRU   Pruhonice       146.88 332  epPKP     pPKPdf 23 04 16.7 +3.6
PRU                                esPKP             23 04 21.3
PRU                                ex        x      23 04 28.3
TREC  Trest           146.97 330  ePKP      PKPbc  23 04 01.1  -0.2
TREC                               epPKP     pPKPdf 23 04 13.9 +0.6
NKC   Novy Kostel     147.57 334  epPKP     pPKPdf 23 04 13.8  -0.5
NKC                                ex        x      23 04 15.7
CONA  Conrad Observa  147.76 328  ‖ iPKPbc  PKPbc  23 04 03.7 +0.1
      comp=Z,1.1nm,0.5s
KHC   Kasperske Hory  147.94 332  ePKP      PKPbc  23 04 03.8  -0.2
KHC                                epPKP     pPKPdf 23 04 16.1 +1.1
KHC                                ex        x      23 04 20.2
GERES GERESS Array B  148.10 331  PKPbc      PKPbc  23 04 03.0  -1.5
GERES                              pPKPbc    pPKPbc 23 04 16.4  -2.0
GERES GERESS Array B  148.10 331  PKPbc      PKPbc  23 04 03.0  -1.5
      comp=Z,0.8nm,0.6s,baz=45,slow=2.1,SNR=7.2
GERES                              pPKPbc    pPKPbc 23 04 16.4  -2.0
      comp=Z,1.2nm,0.6s,baz=37,slow=3.0,SNR=6.2
TORD  Torodi Ar. Bea  166.49 229  PKP       PKPdf  23 04 24.0  -1.0
TORD                               pPKP      pPKPdf 23 04 37.5  -1.5
TORD                               PKPab     PKPab  23 05 26.0  -1.0
TORD  Torodi Ar. Bea  166.49 229  PKP       PKPdf  23 04 24.0  -1.0
      comp=Z,1.2nm,0.9s,baz=91,slow=0.7,SNR=8.6
TORD                               pPKP      pPKPdf 23 04 37.5  -1.5
      comp=Z,1.0nm,0.9s,baz=66,slow=0.3,SNR=4.9
TORD                               PKPab     PKPab  23 05 26.0  -1.0
      comp=Z,1.2nm,1.0s,baz=122,slow=3.4,SNR=3.7
```

IDC ***03*** *23:00:30.6±0.5, 56°.45S×25°.48W, h0km, mb4.5/9, mb1 4.5/10, mb1mx4.2/20, mbtmp4.4/10, ML3.9/1, MS3.8/3, Ms1 3.8/3, ms1mx3.5/20, Error ellipse: s-maj=20.3km s-min=17.1km az=92.0*
ISCJB ***03*** *23:00:33.1±0.5, 56°.46S±0°.08×25°.6W±0°.2, h29km, mb4.7/11, MS3.8/3, Error ellipse: s-maj=12.9km s-min=11.6km az=148.5*
NEIC ***03*** *23:00:34.2±3.9, 56°.48S×25°.55W, h24km±27km, mb4.8/10, Error ellipse: s-maj=11.7km s-min=8.3km az=221.0*

ISC 03 23:00:34.9±0.5, 56°.5S±0°.1×25°.6W±0°.1, h29km, n46, σ0§66/46, mb4.7/11, MS3.8/3, South Sandwich Islands region

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC          h m s     ISC
SNAA  Sanae            18.00 157  ePn       Pn     23 04 42.2  -0.4
      4.4nm,0.5s
SNAA                               ePcP      PcP    23 09 16.8 +0.6
SNAA  Sanae            18.00 157  P         Pn     23 04 42.2  -0.4
      0.4nm,0.3s,baz=323,slow=12,SNR=14
EFI   East Falkland    19.52 271  eP        Pn     23 05 00.4  -0.6
      15nm,0.5s
PMSA  Palmer Station   20.29 230  P         Pn     23 05 08.9  -1.1
      28nm,0.8s,baz=95,slow=11,SNR=3.1
USHA  Ushuaia          23.93 256  P         P      23 05 46.0  -0.1
USHA  Ushuaia          23.93 256  P         P      23 05 46.0  -0.1
      4.6nm,0.9s,baz=153,slow=17,SNR=3.8
QSPA  South Pole Qui   33.77 180  eP        P      23 07 13.9 +0.1
      16nm,0.6s
QSPA  South Pole Qui   33.77 180  P         P      23 07 14.4 +0.5
      22nm,0.7s,baz=207,slow=3.4,SNR=208
CPUP  Villa Florida    37.76 310  eP        P      23 07 48.1  0.0
      18nm,0.6s
CPUP  Villa Florida    37.76 310  P         P      23 07 48.4 +0.3
      4.2nm,0.5s,baz=137,slow=6.8,SNR=15
CPUP                               LR        LR     23 20 44.9
      comp=Z,137nm,20.6s,baz=114,slow=32
BOSA  Boshof           45.24  74  LR        LR     23 23 49.0
      comp=Z,166nm,18.8s,baz=213,slow=31
VNDA  Vanda            46.19 182  eP        P      23 08 56.7 +0.4
      6.7nm,0.8s
VNDA  Vanda            46.19 182  P         P      23 08 56.7 +0.4
      8.9nm,0.8s,baz=185,slow=6.6,SNR=70
LVC   Limon Verde      46.27 299  eP        P      23 08 57.7  -0.2
      36nm,0.8s
LBTB  Lobatse          48.30  71  eP        P      23 09 12.6  -0.9
      4.2nm,1.0s
LBTB  Lobatse          48.30  71  P         P      23 09 13.2  -0.4
      1.3nm,0.8s,baz=50,slow=13,SNR=4.1
LPAZ  La Paz           51.34 304  eP        P      23 09 38.4 +1.1
      23nm,0.5s
LPAZ                               ePcP      PcP    23 10 52.2 +0.3
LPAZ  La Paz           51.34 304  P         P      23 09 38.4 +1.1
      23nm,0.4s,baz=119,slow=5.1,SNR=232
LPAZ                               LR        LR     23 30 44.4
      comp=Z,80nm,19.6s,baz=78,slow=35
SAML  Samuel           55.73 313  eP        P      23 10 08.5  -0.3
      10nm,1.1s
DBIC  Dimbokro         65.20  23  eP        P      23 11 13.7 +0.3
      2.7nm,0.7s
DBIC  Dimbokro         65.20  23  P         P      23 11 13.4  0.0
      1.3nm,0.5s,baz=148,slow=9.5,SNR=6.5
TOA0  Torodi Ar. Sit   73.01  28  eP        P      23 12 02.0 +0.3
TORD  Torodi Ar. Bea   73.01  28  P         P      23 12 01.8 +0.1
TORD  Torodi Ar. Bea   73.01  28  P         P      23 12 01.8 +0.1
      2.1nm,0.7s,baz=197,slow=5.6,SNR=36
ASAR  Alice Springs    98.31 161  P         P      23 14 09.3  -0.4
ASAR  Alice Springs    98.31 161  P         P      23 14 09.3  -0.4
      0.8nm,0.8s,baz=183,slow=4.2,SNR=5.9
NVAR  Mina Array Bea  122.37 292  PKP       PKPdf  23 19 26.1  -0.6
NVAR  Mina Array Bea  122.37 292  PKP       PKPdf  23 19 26.1  -0.6
      0.4nm,0.7s,baz=107,slow=3.0,SNR=3.3
CMAR  Chiang Mai Arr  124.10 109  PKP       PKPdf  23 19 30.9 +0.6
CMAR  Chiang Mai Arr  124.10 109  PKP       PKPdf  23 19 30.9 +0.6
      0.7nm,0.3s,baz=228,slow=3.0,SNR=5.5
FINES FINESS Array B  124.36  27  PKP       PKPdf  23 19 30.4 +1.0
FINES FINESS Array B  124.36  27  PKP       PKPdf  23 19 30.4 +1.0
      1.5nm,0.9s,baz=134,slow=5.5,SNR=8.2
ARCES ARCESS Array B  131.02  21  PKP       PKPdf  23 19 41.3  -0.7
ARCES ARCESS Array B  131.02  21  PKP       PKPdf  23 19 41.3  -0.7
      0.9nm,0.7s,baz=174,slow=1.2,SNR=8.6
YKA   Yellowknife Ar  137.08 317  PKP       PKPdf  23 19 53.7 +0.2
YKA   Yellowknife Ar  137.08 317  PKP       PKPdf  23 19 53.7 +0.2
      1.3nm,0.6s,baz=128,slow=2.2,SNR=9.3
ZALV  Zalesovo Beam   141.77  64  PKP       PKPdf  23 20 03.9 +1.6
ZALV  Zalesovo Beam   141.77  64  PKP       PKPdf  23 20 03.9 +1.6
      0.7nm,0.4s,baz=237,slow=2.2,SNR=1.9
INK   Inuvik          146.69 320  PKPbc     PKPbc  23 20 11.9  -0.3
INK   Inuvik          146.69 320  PKPbc     PKPbc  23 20 11.9  -0.3
      baz=109,slow=5.2
SONM  Songino Array   149.88  86  PKPbc     PKPbc  23 20 20.2  -1.1
SONM  Songino Array   149.88  86  PKPbc     PKPbc  23 20 20.2  -1.1
      2.6nm,0.8s,baz=224,slow=3.8,SNR=14
ILAR  Eielson Array   151.06 311  PKPbc     PKPbc  23 20 23.8 +0.3
ILAR  Eielson Array   151.06 311  PKPbc     PKPbc  23 20 23.8 +0.3
      7.9nm,0.9s,baz=129,slow=1.6,SNR=47
KDAK  Kodiak Island   151.79 295  PKPbc     PKPbc  23 20 25.2  -0.1
KDAK  Kodiak Island   151.79 295  PKPbc     PKPbc  23 20 25.2  -0.1
      5.0nm,0.4s,baz=138,slow=8.0,SNR=7.2
```

NIED ***03*** *23:09:00, 40°.40N×142°.10E, h53km, Mw3.7 Best double couple: M0 3.37000×10^14 NP1: φ0 13.00000°, δ70.00000°, λ79.00000°. NP2: φ0 223.00000°, δ23.00000°, λ117.00000°.*
ISCJB ***03*** *23:09:22.5±0.8, 40°.38N±0°.04×142°.03E±0°.09, h59km±5km, mb3.7/6, Error ellipse: s-maj=12.0km s-min=6.3km az=2.8*
JMA ***03*** *23:09:23.1±0.1, 40°.35N×142°.08E, h50km±1km, M3.8*
JMA Felt I J1.
IDC ***03*** *23:09:25.5±3.3, 40°.41N×142°.08E, h78km±17km, mb3.5/6, mb1 3.5/10, mb1mx3.3/28, mbtmp3.5/10, Error ellipse: s-maj=49.5km s-min=15.4km az=117.0*

ISC 03 23:09:23.4±1.1, 40°.36N±0°.04×141°.99E±0°.08, h52km±9km, n19, σ1§10/26, mb3.8/6, 1C-7D, Near east coast of eastern Honshu

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC          h m s     ISC
JANG  Nango            0.36 272  ‖P        Pn     23 09 33.4 +0.1
JANG                                S         Sn     23 09 40.7 +0.3
JTH   Tanohata         0.43 193  ⇑P        Pn     23 09 33.7  -0.3
JTH                                 S         Sn     23 09 41.0  -0.6
JKZ   Kuzumaki         0.63 234  ‖P        Pn     23 09 36.8 +0.4
JKZ                                 S         Sn     23 09 46.4 +0.6
JTM   Tenmabayashi     0.82 301  ‖P        Pn     23 09 38.8  0.0
JTM                                 S         Sn     23 09 49.9  -0.2
JOM   Ohasama          1.04 211  ‖P        Pn     23 09 42.0 +0.3
JOM                                 S         Sn     23 09 55.3 +0.1
JAH   Hinai            1.05 261  ‖P        Pn     23 09 42.4 +0.5
JAH                                 S         Sn     23 09 56.7 +1.2
JOT   Ohata            1.25 325  ‖P        Pn     23 09 44.1  -0.4
JOT                                 eS        Sn     23 09 59.7  -0.5
JRG   Rokugo           1.42 228  ‖P        Pn     23 09 47.5 +0.6
ASAJ  Asahikawa        3.78   7  P         Pn     23 10 19.7 +0.6
      6.6nm,0.3s,baz=217,slow=9.1,SNR=28
ASAJ                                S         Sn     23 11 04.4 +2.1
      3.1nm,0.3s,baz=19,slow=27,SNR=6.9
MJAR  Matsushiro Arr   4.83 219  P         Pn     23 10 36.8 +3.2
      0.7nm,0.3s,baz=28,slow=12,SNR=14
MAT   Matsushiro       4.83 219  P         Pn     23 10 35.3 +1.7
USRK  Ussuriysk Arra   8.34 301  P         Pn     23 11 23.4 +1.8
      0.4nm,0.3s,baz=118,slow=13,SNR=8.6
KSRS  Korea Array     11.34 260  P         Pn     23 12 07.3 +4.7
      0.2nm,0.3s,baz=70,slow=15,SNR=2.3
SONM  Songino Array   26.45 298  P         P      23 14 55.5  0.0
      0.3nm,0.3s,baz=95,slow=8.4,SNR=3.0
ZALV  Zalesovo Beam   40.08 310  P         P      23 16 53.0  -0.5
      1.5nm,0.4s,baz=92,slow=9.4,SNR=9.1
MKAR  Makanchi Array  42.81 299  P         P      23 17 15.6  -0.4
      0.5nm,0.5s,baz=84,slow=12,SNR=15
KURBB Kurchatov Arra  44.38 305  P         P      23 17 27.7  -0.8
      2.3nm,0.7s,baz=81,slow=8.6,SNR=20
FINES FINESS Array B  66.09 332  P         P      23 20 04.0  -0.6
      1.0nm,0.7s,baz=66,slow=11,SNR=3.7
NOA   NORSAR Array B  71.30 337  P         P      23 20 36.2  -0.9
      0.5nm,0.7s,baz=39,slow=6.2,SNR=3.7
```

AUST ***03*** *23:34:52.2±0.2, 0°.63S×133°.43E, h0km±4km, Error ellipse: s-maj=5.1km s-min=1.5km az=36.0*
ISCJB ***03*** *23:34:55.9±1.6, 0°.8S±0°.1×133°.5E±0°.1, h33km, mb3.7/2, Error ellipse: s-maj=20.3km s-min=10.9km az=36.1*
IDC ***03*** *23:34:55.4±4.0, 0°.88S×132°.68E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/23, Error ellipse: s-maj=242.5km s-min=25.3km az=74.0*

ISC 03 23:34:58.6±1.8, 0°.8S±0°.1×133°.4E±0°.1, h35km, n9, σ1§28/9, Irian Jaya region

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC          h m s     ISC
SWI   Sorong           2.10 268  P         Pn     23 35 31.0  -0.3
      baz=2.2,SNR=7.5
SWI                                 S         Sn     23 35 57.1 +0.9
      baz=2.2,SNR=5.5
FAKI  Fak Fak          2.40 207  P         Pn     23 35 35.7 +0.2
      baz=2.6,SNR=74
DAV   Davao City (W)  11.00 315  LR        LR     23 41 58.1
      comp=Z,46nm,19.6s,baz=330,slow=40
KDU   Kakadu          11.87 184  P         Pn     23 37 45.6 +0.2
      baz=12,SNR=10
MTN   Manton Dam      12.19 190  P         Pn     23 37 49.0  -0.9
      baz=12,SNR=25
KNRA  Kununurra       15.48 197  P         Pn     23 38 32.0  -2.5
      baz=16,SNR=5.6
WRA   Warramunga Arr  19.07 177  P         P      23 39 18.1  -0.1
      0.1nm,0.3s,baz=354,slow=12,SNR=3.1
ASAR  Alice Springs   22.76 179  P         P      23 39 59.5 +1.4
      0.9nm,0.5s,baz=357,slow=12,SNR=13
MKAR  Makanchi Array  65.04 324  P         P      23 45 35.5 +0.1
      0.8nm,0.6s,baz=109,slow=8.0,SNR=10
```

NSSC ***03*** *23:50:08.4±1.4, 37°.88N×35°.59E, h36km±429km, MD1.6, ML3.2*
DDA ***03*** *23:50:10.4, 37°.57N×35°.71E, h13km, MD3.5*
ISCJB ***03*** *23:50:11.4±0.6, 37°.54N±0°.02×35°.73E±0°.03, h6km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=140.8*
ISK ***03*** *23:50:11.4, 37°.56N×35°.72E, h7km, MD3.7*
CSEM ***03*** *23:50:11.8±0.1, 37°.52N×35°.73E, h5km, MD3.7, Error ellipse: s-maj=4.3km s-min=3.3km az=52.0*

ISC 03 23:50:11.5±1.3, 37°.54N±0°.02×35°.73E±0°.02, h4km±11km, n66, σ0§99/90, Turkey

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op        ISC          h m s     ISC
CEYT  Ceyhan           0.53 179  ePG       Pg     23 50 22.3 +0.7
CEYT                                eSG       Sb     23 50 31.1  -0.2
CEYT  Ceyhan           0.53 179  ePg       Pg     23 50 22.3 +0.7
CEYT                                eSg       Sb     23 50 31.1  -0.2
AYKD  Aykdinkavak      0.86  98  i P       Pg     23 50 27.0  -1.1
AYKD                                i S       Sg     23 50 40.2 +1.0
KMRS  Kahramanmaras    0.93  92  ePG       Pg     23 50 29.6 +0.3
KMRS                                eSG       Sb     23 50 43.1 +0.2
KMRS  Kahramanmaras    0.93  92  ePg       Pg     23 50 29.6 +0.3
KMRS                                eSg       Sb     23 50 43.1 +0.2
NIG   Nigde            1.06 303  ePG       Pg     23 50 31.3  -0.5
NIG                                 eSG       Sb     23 50 46.3  -0.6
NIG   Nigde            1.06 303  ePg       Pg     23 50 31.3  -0.5
NIG                                 eSg       Sb     23 50 46.3  -0.6
DRWC  Darouich         1.18 140  i P       Pb     23 50 34.1  -0.5
DRWC                                eS        Sb     23 50 51.2 +1.0
DRWC  Darouich         1.18 140  i P       Pb     23 50 34.1  -0.5
      SNR=57
DRWC                                eS        Sb     23 50 51.2 +1.0
      SNR=58
BNN   Bunyan           1.31   4  ePN       Pn     23 50 36.0  -0.9
BNN                                eSN       Sn     23 50 54.4  -0.6
BNN   Bunyan           1.31   4  ePn       Pn     23 50 36.0  -0.9
BNN                                eSn       Sn     23 50 54.4  -0.6
KUZU  Kuzuini          1.32 125  i P       Pn     23 50 35.6  -1.2
KUZU                                i S       Sb     23 50 52.2  -1.9
```

KUZU	Kuzuini	1.32	125	*i* P	Pn	23 50 35.6	-1.2
KUZU				*i* S	Sb	23 50 52.2	-1.9
AVNT	Avonos	1.42	331	*i* P	Pn	23 50 37.3	-1.0
AVNT				*i* S	Sb	23 50 55.5	-1.8
AVNT	Avonos	1.42	331	*i* P	Pn	23 50 37.3	-1.0
AVNT				*i* S	Sb	23 50 55.5	-1.8
BTCH	Batrach	1.61	159	*i* P	Pn	23 50 38.7	-2.1
BTCH				*e*S	Sn	23 51 01.8	-0.2
BTCH				AML	AML	23 51 07.9	
	comp=E,413nm,0.4s						
BTCH				AML	AML	23 51 14.2	
	comp=N,268nm,0.7s						
BTCH	Batrach	1.61	159	*i* P	Pn	23 50 38.7	-2.1
	SNR=57						
BTCH				*e*S	Sn	23 51 01.8	-0.2
	comp=N,268nm,0.7s,SNR=58						
ARNB	Al Arnab	1.68	173	*i* P	Pn	23 50 40.1	-1.8
ARNB				*e*S	Sn	23 51 03.6	-0.4
ARNB				AML	AML	23 51 06.6	
	comp=E,353nm,0.3s						
ARNB				AML	AML	23 51 08.1	
	comp=N,382nm,0.4s						
ARNB	Al Arnab	1.68	173	*i* P	Pn	23 50 40.1	-1.8
	SNR=57						
ARNB				*e*S	Sn	23 51 03.6	-0.4
	comp=N,382nm,0.4s,SNR=58						
DARE	Darende-Malaty	1.72	53	*e*PN	Pn	23 50 42.5	+0.1
IKL	Isikli	2.09	232	*e*PN	Pn	23 50 47.8	+0.4
IKL	Isikli	2.09	232	*e*Pn	Pn	23 50 47.8	+0.4
WRDH	Warideh	2.10	165	*i* P	Pn	23 50 47.0	-0.5
WRDH				*e*S	Sn	23 51 14.4	+0.3
WRDH	Warideh	2.10	165	*i* P	Pn	23 50 47.0	-0.5
	SNR=57						
WRDH				*e*S	Sn	23 51 14.4	+0.3
	SNR=58						
YOZ	Yozgat	2.12	351	*e*PN	Pn	23 50 48.1	+0.1
YOZ	Yozgat	2.12	351	*e*Pn	Pn	23 50 48.1	+0.1
MYA	Malataya	2.27	69	*e*PN	Pn	23 50 50.4	+0.5
MYA	Malataya	2.27	69	*e*Pn	Pn	23 50 50.4	+0.5
URFA	Urfa	2.46	91	*e*PN	Pn	23 50 53.1	+0.6
URFA	Urfa	2.46	91	*e*Pn	Pn	23 50 53.1	+0.6
SVSK	Karacayir	2.57	22	*e*PN	Pn	23 50 54.6	+0.6
SVSK	Karacayir	2.57	22	*e*Pn	Pn	23 50 54.6	+0.6
KONT	Konya--Tatoy	2.70	280	*e*PN	Pn	23 50 56.2	+0.3
KONT	Konya--Tatoy	2.70	280	*e*Pn	Pn	23 50 56.2	+0.3
LADK	Ladik-KONYA	2.75	285	*e*PN	Pn	23 50 56.6	+0.1
LADK	Ladik-KONYA	2.75	285	*e*Pn	Pn	23 50 56.6	+0.1
CORM	Corum	2.77	342	*e*PN	Pn	23 50 57.9	+1.0
CORM	Corum	2.77	342	*e*Pn	Pn	23 50 57.9	+1.0
AFSR	Af¨ar-Bala (A	2.83	313	*e*PN	Pn	23 50 57.0	-0.6
AFSR	Af¨ar-Bala (A	2.83	313	*e*Pn	Pn	23 50 57.0	-0.6
TOKT	Tokat	2.85	13	*e*PN	Pn	23 50 58.7	+0.8
TOKT	Tokat	2.85	13	*e*Pn	Pn	23 50 58.7	+0.8
BBAL	Bala	2.86	315	*i* P	Pn	23 50 58.6	+0.5
BBAL				*i* S	Sg	23 51 43.1	-0.4
BBAL	Bala	2.86	315	*i* P	Pn	23 50 58.6	+0.5
ILIC	ilic-Erzincan	2.93	48	*e*PN	Pn	23 50 59.0	-0.1
ILIC	ilic-Erzincan	2.93	48	*e*Pn	Pn	23 50 59.0	-0.1
GAZI	Gazipasa	3.03	246	*i* P	Pn	23 51 00.4	0.0
GAZI				*i* S	Sn	23 51 39.0	+1.9
GAZI	Gazipasa	3.03	246	*i* P	Pn	23 51 00.4	0.0
GAZI				*i* S	Sn	23 51 39.0	+1.9
RSDY	Resadiye-TOKAT	3.11	23	*e*PN	Pn	23 51 02.6	+1.1
RSDY	Resadiye-TOKAT	3.11	23	*e*Pn	Pn	23 51 02.6	+1.1
PTK	Pertek	3.18	64	*e*PN	Pn	23 51 02.6	0.0
PTK	Pertek	3.18	64	*e*Pn	Pn	23 51 02.6	0.0
CSS	Prodhromos	3.22	218	*e*PN	Pn	23 51 04.0	+1.1
CSS	Prodhromos	3.22	218	*e*Pn	Pn	23 51 04.0	+1.1
ANTO	Ankara	3.27	316	*e*PN	Pn	23 51 05.1	+1.4
ANTO	Ankara	3.27	316	*e*Pn	Pn	23 51 05.1	+1.4
LOD	Lodumlu	3.30	316	*e*PN	Pn	23 51 04.9	+0.8
LOD	Lodumlu	3.30	316	*e*Pn	Pn	23 51 04.9	+0.8
MAZI	Mazidag	3.75	90	*e*PN	Pn	23 51 11.5	+1.2
MAZI	Mazidag	3.75	90	*e*Pn	Pn	23 51 11.5	+1.2
SUTC	Sutluce-Ispart	3.76	271	*e*PN	Pn	23 51 10.8	+0.4
SUTC	Sutluce-Ispart	3.76	271	*e*Pn	Pn	23 51 10.9	+0.4
DIKM	Dikmen	4.12	355	*e*PN	Pn	23 51 17.0	+1.7
DIKM	Dikmen	4.12	355	*e*Pn	Pn	23 51 17.0	+1.7
BAYT	Ayd¨–ntepe-Bay	4.46	49	*e*PN	Pn	23 51 22.2	+2.1
BAYT	Ayd¨–ntepe-Bay	4.46	49	*e*Pn	Pn	23 51 22.3	+2.1

IDC 04 00:09:47.0±3.3, 29°.84N×113°.37W, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.5/26, mbtmp3.4/5, ML3.4/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/20, Error ellipse: s-maj=55.1km s-min=15.9km az=34.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flat Ob	4.58	326	Pn	Pn	00 11 00.7	+2.9
	0.2nm,0.3s,baz=148,slow=4.6,SNR=3.3						
PFO				Pg	Pb	00 11 11.8	+3.3
	0.5nm,0.3s,baz=167,slow=14,SNR=8.9						
PFO				Sn	Sn	00 11 51.2	-0.7
	0.3nm,0.3s,baz=107,slow=16,SNR=2.8						
PFO				Lg	Lg	00 12 06.5	
	0.5nm,0.3s,baz=260,slow=20,SNR=3.6						
PFO				LR	LR	00 12 36.6	
	comp=Z,179nm,20.5s,baz=154,slow=37						
ANMO	Albuquerque	7.75	47	Pn	Pn	00 11 41.6	+0.2
	0.2nm,0.3s,baz=228,slow=14,SNR=11						
ANMO				Sn	Sn	00 13 17.2	+7.1
	0.1nm,0.3s,baz=237,slow=16,SNR=1.9						
ANMO				Lg	Lg	00 14 01.9	
	0.2nm,0.3s,baz=353,slow=21,SNR=3.2						
TXAR	Lajitas Array	8.46	91	Pn	Pn	00 11 52.2	+1.1
	0.7nm,0.3s,baz=266,slow=14,SNR=25						
TXAR				Lg	Lg	00 14 24.3	
	0.3nm,0.3s,baz=270,slow=30,SNR=5.1						
TXAR				LR	LR	00 15 05.0	
	comp=Z,73nm,21.8s,baz=10.0,slow=38						
NVAR	Mina Array Bea	9.49	336	Pn	Pn	00 12 07.8	+2.5
	0.1nm,0.3s,baz=149,slow=14,SNR=2.8						
PDAR	Pinedale Array	13.26	12	Pn	Pn	00 12 60.0	+3.1
	baz=178,slow=7.4,SNR=4.8						
ILAR	Eielson Array	40.73	339	P	P	00 17 27.9	-1.4
	0.4nm,0.8s,baz=140,slow=6.1,SNR=5.1						

IDC 04 00:21:03.7±1.4, 2°.69N×128°.72E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, Error ellipse: s-maj=113.3km s-min=17.6km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.88	188	P	P	00 25 48.3	+0.6
	4.1nm,1.1s,baz=3.7,slow=19,SNR=2.9						
WRA	Warramunga Arr	23.16	166	P	P	00 26 11.6	-0.4
	0.9nm,0.5s,baz=342,slow=10,SNR=5.1						
ASAR	Alice Springs	26.68	169	P	P	00 26 44.1	-0.7
	0.5nm,0.8s,baz=350,slow=9.1,SNR=2.9						
STKA	Stephens Creek	36.49	161	P	P	00 28 11.2	+0.4
	2.2nm,0.6s,baz=340,slow=12,SNR=5.8						
SONM	Songino Array	48.92	340	P	P	00 29 52.2	+0.4
	0.5nm,0.6s,baz=133,slow=6.1,SNR=4.8						
MKAR	Makanchi Array	59.54	325	P	P	00 31 08.9	-0.2
	0.8nm,0.4s,baz=115,slow=8.4,SNR=15						
ZALV	Zalesovo Beam	62.41	332	P	P	00 31 28.0	-0.4
	0.3nm,0.4s,baz=114,slow=3.6,SNR=2.4						

DDA ***04*** *00:32:19.9, 37°.02N×29°.49E, h22km, MD3.4*
IDC ***04*** *00:32:19.4±1.6, 37°.05N×29°.36E, h0km, mb3.3/2, mb1 3.1/3, mb1mx3.0/25, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=163.9km s-min=22.8km az=143.0*
ISCJB ***04*** *00:32:20.3±0.5, 37°.01N±0°.02×29°.47E±0°.02, h3km±4km, mb3.3/2, Error ellipse: s-maj=4.4km s-min=2.8km az=152.9*
CSEM ***04*** *00:32:20.7±0.1, 37°.01N×29°.47E, h2km, MD3.4, Error ellipse: s-maj=3.7km s-min=2.7km az=155.0*
ISK ***04*** *00:32:20.0, 36°.98N×29°.46E, h6km, MD3.2*
ISC 04 00:32:20.7±1.1, 37°.01N±0°.02×29°.47E±0°.02, h4km±8km, n80, σ0°87/109, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	Golhisar	0.24	18	*i* P	Pg	00 32 25.5	+0.1
GOLH				*i* S	Sg	00 32 30.1	+1.6
GOLH	Golhisar	0.24	18	*i* P	Pg	00 32 25.5	+0.1
GOLH				*i* S	Sg	00 32 30.1	+1.6
ELL	Elmali	0.44	126	*e*PG	Pg	00 32 28.8	-0.4
ELL				*e*SG	Sg	00 32 35.3	+0.3
ELL	Elmali	0.44	126	*e*Pg	Pg	00 32 28.8	-0.4
ELL				*e*Sg	Sg	00 32 35.3	+0.3
FETY	Fethiye	0.48	220	*e*PG	Pg	00 32 29.3	-0.8
FETY				*e*SG	Sg	00 32 36.2	-0.2
FETY	Fethiye	0.48	220	*e*Pg	Pg	00 32 29.3	-0.8
FETY				*e*Sg	Sg	00 32 36.2	-0.2
DALY	Dalyan (Mu¨la	0.68	254	*e*PG	Pg	00 32 33.2	-0.6
DALY				*e*SG	Sg	00 32 42.9	+0.3
DALY	Dalyan (Mu¨la	0.68	254	*e*Pg	Pg	00 32 33.2	-0.6
DALY				*e*Sg	Sg	00 32 42.9	+0.3
TURN	Turunc	0.71	259	*i* P	Pn	00 32 39.2	+1.7
TURN				*i* S	Sn	00 32 56.5	+7.6
KORT	Korkueli	0.71	91	*i* P	Pg	00 32 33.7	-0.6
KORT				*i* S	Sn	00 32 49.0	-0.1
KORT	Korkueli	0.71	91	*i* P	Pg	00 32 33.7	-0.6
AKAS	Kas	0.78	172	*i* P	Pg	00 32 35.4	-0.4
AKAS				*i* S	Sn	00 32 53.6	+2.6
AKAS	Kas	0.78	172	*i* P	Pg	00 32 35.4	-0.4
YER	Yerkesik	0.96	278	*e*PG	Pg	00 32 38.6	-0.5
YER				*e*SG	Sg	00 32 52.2	+0.7
YER	Yerkesik	0.96	278	*e*Pg	Pg	00 32 38.6	-0.5
YER				*e*Sg	Sg	00 32 52.2	+0.7
BCK	Bucak	1.00	63	*e*PG	Pg	00 32 40.0	0.0
BCK				*e*SG	Sb	00 32 54.7	+0.4
BCK	Bucak	1.00	63	*e*Pg	Pg	00 32 40.0	0.0
BCK				*e*Sg	Sb	00 32 54.7	+0.4
ISP	Isparta	1.17	46	*e*PN	Pg	00 32 43.1	0.0
ISP	Isparta	1.17	46	*e*Pn	Pg	00 32 43.1	0.0
SUTC	Sutluce-Ispart	1.31	69	*e*PN	Pg	00 32 45.6	-0.2
SUTC	Sutluce-Ispart	1.31	69	*e*Pn	Pg	00 32 45.6	-0.2
KHL	Karahalli	1.31	2	*e*PN	Pn	00 32 45.0	-0.9
KHL	Karahalli	1.31	2	*e*Pn	Pn	00 32 45.0	-0.9
ARG	Arkhangelos	1.34	234	*e*Pb	Pb	00 32 46.3	-0.1
ARG				*e*Sn	Sn	00 33 05.7	+1.2
KHAL	Karahalli	1.36	1	*i* P	Pn	00 32 44.8	-1.8
KHAL				*i* S	Sn	00 33 07.6	+2.5
KHAL	Karahalli	1.36	1	*i* P	Pn	00 32 44.8	-1.8
MLSB	Milas	1.38	282	*e*PN	Pn	00 32 46.6	-0.2
MLSB	Milas	1.38	282	*e*Pn	Pn	00 32 46.6	-0.2
AYDN	Tasoluk	1.42	298	*i* P	Pn	00 32 46.8	-0.7
AYDN				*i* S	Sn	00 33 07.2	+0.6
AYDN	Tasoluk	1.42	298	*i* P	Pn	00 32 46.8	-0.7
AYDN				*i* S	Sn	00 33 07.2	+0.6
DAT	Datca	1.54	260	*e*PN	Pn	00 32 48.5	-0.6
DAT	Datca	1.54	260	*e*Pn	Pn	00 32 48.5	-0.6
KULA	Kula-Manisa	1.63	337	*e*PN	Pn	00 32 49.7	-0.7
KULA	Kula-Manisa	1.63	337	*e*Pn	Pn	00 32 49.7	-0.7
MANT	Manisa	1.64	334	*i* P	Pn	00 32 50.5	-0.2
MANT	Manisa	1.64	334	*i* P	Pn	00 32 50.5	-0.2
BODT	Bodrum	1.73	272	*e*PN	Pn	00 32 51.3	-0.3
BODT	Bodrum	1.73	272	*e*Pn	Pn	00 32 51.3	-0.3
SHUT	Suhut-Afyon	1.76	29	*e*PN	Pn	00 32 52.1	-0.1
SHUT	Suhut-Afyon	1.76	29	*e*Pn	Pn	00 32 52.1	-0.1
NIS1	Nisyros Isl.	1.88	258	*e*Pn	Pn	00 32 54.1	+0.4
GCAM	G?zelcaml?	1.91	292	*i* P	Pn	00 32 54.2	+0.2
GCAM	G?zelcaml?	1.91	292	*i* P	Pn	00 32 54.2	+0.2
BOLV	Bolvadin	2.07	34	*i* P	Pb	00 32 58.2	-0.7
BOLV	Bolvadin	2.07	34	*i* P	Pb	00 32 58.2	-0.7
GDZ	Gediz	2.07	0	*i* P	Pn	00 32 56.8	+0.3
GDZ	Gediz	2.07	0	*i* P	Pn	00 32 56.8	+0.3
ALT	Altintas	2.10	14	*e*PN	Pn	00 32 57.3	+0.5
ALT	Altintas	2.10	14	*e*Pn	Pn	00 32 57.3	+0.5
DEMI	Demirci	2.11	344	*i* P	Pn	00 32 56.5	-0.5
DEMI				*i* S	Sn	00 33 23.6	-0.1
DEMI	Demirci	2.11	344	*i* P	Pn	00 32 56.5	-0.5
DEMI				*i* S	Sn	00 33 23.6	-0.1
SMG	Samos	2.21	289	*e*Pn	Pn	00 32 59.1	+0.9
SMG				*e*Sn	Sn	00 33 26.5	+0.5
AKHS	Akhisar	2.28	325	*i* P	Pn	00 32 58.9	-0.2
AKHS				*i* S	Sn	00 33 27.9	+0.2
AKHS	Akhisar	2.28	325	*i* P	Pn	00 32 58.9	-0.2
AKHS				*i* S	Sn	00 33 27.9	+0.2
GAZI	Gazipasa	2.42	108	*i* P	Pb	00 33 02.9	-1.9
GAZI				*i* S	Sb	00 33 36.5	+1.5
GAZI	Gazipasa	2.42	108	*i* P	Pb	00 33 02.9	-1.9
KONT	Konya--Tatoy	2.48	67	*e*PN	Pn	00 33 02.5	+0.5
KONT	Konya--Tatoy	2.48	67	*e*Pn	Pn	00 33 02.5	+0.5
KDHN	Kadinhani	2.58	54	*i* P	Pn	00 33 04.9	+1.4
KDHN	Kadinhani	2.58	54	*i* P	Pn	00 33 04.9	+1.4
LADK	Ladik-KONYA	2.59	62	*e*PN	Pn	00 33 04.1	+0.5
LADK	Ladik-KONYA	2.59	62	*e*Pn	Pn	00 33 04.1	+0.5
KIZT	Kizilcal	2.67	45	*e*PN	Pn	00 33 05.3	+0.7
KIZT	Kizilcal	2.67	45	*e*Pn	Pn	00 33 05.3	+0.7
DURS	Dursunbey	2.70	343	*i* P	Pn	00 33 05.0	-0.1
DURS				*i* S	Sn	00 33 39.4	+1.1
DURS	Dursunbey	2.70	343	*i* P	Pn	00 33 05.0	-0.1
DURS				*i* S	Sn	00 33 39.4	+1.1
ERMK	Ermenek	2.79	97	*i* P	Pb	00 33 11.6	+0.3
ERMK				*i* S	Sg	00 33 49.9	-0.4
BORA	Eskisehir	2.97	15	*i* P	Pn	00 33 08.8	+0.1
BORA	Eskisehir	2.97	15	*i* P	Pn	00 33 08.8	+0.1
APE	Apeiranthos	3.15	272	*e*Pn	Pn	00 33 12.1	+0.9
APE				*e*Sn	Sn	00 33 50.5	+1.2
ZKR	Zakros	3.24	235	*e*Pn	Pn	00 33 13.5	+1.1
SANT	Santorini	3.28	260	*e*Pn	Pn	00 33 14.0	+1.0
NPS	Neapolis	3.58	242	*e*Pn	Pn	00 33 17.3	+0.3
LAST	Lasithi	3.72	241	*e*Pn	Pn	00 33 19.7	+0.6
IDI	Anoyia	4.08	246	*e*Pn	Pn	00 33 24.6	+0.6
BRTR	Keskin Array B	4.25	49	Pn	Pn	00 33 27.4	+1.0
	0.3nm,0.3s,baz=233,slow=17,SNR=13						
BRTR				Sn	Sn	00 34 15.5	-1.1
	0.2nm,0.3s,baz=227,slow=25,SNR=4.4						
VAM	Vamos	4.55	251	*e*Pn	Pn	00 33 32.4	+2.0
KARN	Karanos	4.77	252	*e*Pn	Pn	00 33 35.2	+1.8
TORD	Torodi Ar. Bea	34.37	234	P	P	00 39 07.7	-1.3
	0.2nm,0.4s,baz=32,slow=8.7,SNR=7.6						
MKAR	Makanchi Array	39.84	59	P	P	00 39 54.8	-0.4
	0.3nm,0.7s,baz=287,slow=5.4,SNR=3.0						

IDC 04 01:01:37.8±17.0, 18°.01S×175°.08W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, MS3.9/1, Ms1 3.9/1, ms1mx3.0/29, Error ellipse: s-maj=322.4km s-min=140.4km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.56	260	P	P	01 08 45.5	-0.2
	5.1nm,1.0s,baz=63,slow=6.8,SNR=3.2						
PMG	Port Moresby	37.61	278	LR	LR	01 21 58.8	
	comp=Z,189nm,21.4s,baz=18,slow=32						
STKA	Stephens Creek	41.37	242	P	P	01 09 26.1	+0.2
	3.5nm,1.1s,baz=78,slow=9.3,SNR=2.6						
WRA	Warramunga Arr	47.73	259	P	P	01 10 16.9	0.0
	0.6nm,0.4s,baz=98,slow=8.2,SNR=3.1						
ASAR	Alice Springs	47.82	254	P	P	01 10 17.1	-0.4
	0.7nm,0.5s,baz=86,slow=8.0,SNR=16						
FITZ	Fitzroy Crossi	56.14	260	P	P	01 11 19.4	-0.2
	1.9nm,1.0s,baz=135,slow=4.3,SNR=3.9						

NEIC ***04*** *01:06:59.4±0.9, 24°.86S×178°.48E, h554km±10km, mb4.5/10, Error ellipse: s-maj=14.1km s-min=10.9km az=170.0*
IDC ***04*** *01:07:00.6±1.3, 24°.92S×178°.39E, h562km±12km, mb3.9/12, mb1 4.0/14, mb1mx3.8/22, mbtmp3.9/14, Error ellipse: s-maj=18.5km s-min=11.9km az=22.0*
ISCJB ***04*** *01:07:01.1±0.4, 25°.06S±0°.07×178°.30E±0°.06, h579km, mb4.3/21, Error ellipse: s-maj=8.9km s-min=7.2km az=18.2*
AUST ***04*** *01:07:03.5, 24°.76S×178°.26E, h600km*
ISC 04 01:07:01.9±0.5, 25°.17S±0°.07×178°.35E±0°.07, h579km, n83, σ1°03/87, mb4.2/21, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.25	142	P	P	01 08 33.8	-1.7
RAO				S	S	01 09 52.7	+0.7
RAO	Raoul Island	5.25	142	P	P	01 08 33.8	-1.7
	40nm,0.3s,baz=90,slow=19,SNR=2.6						
RAO				S	S	01 09 52.7	+0.7
	39nm,0.3s,baz=217,slow=20,SNR=3.2						
DZM	Mont Dzumac	11.34	283	P	P	01 09 33.7	-0.3
DZM	Mont Dzumac	11.34	283	P	P	01 09 33.7	-0.3
	4.6nm,0.3s,baz=82,slow=14,SNR=38						
NIUE	Niue	12.44	63	P	P	01 09 45.2	0.0
	baz=12,SNR=3.1						
URZ	Urewera	13.09	184	P	P	01 09 50.7	-0.9
URZ				S	S	01 12 08.6	-2.5
URZ	Urewera	13.09	184	P	P	01 09 50.7	-0.9
	2.3nm,0.3s,baz=264,slow=5.9,SNR=6.8						
URZ				S	S	01 12 08.6	-2.5
	1.1nm,0.3s,baz=253,slow=22,SNR=7.2						
AFI	Afiamalu	14.55	42	P	P	01 09 58.4	-8.3
AFI	Afiamalu	14.55	42	P	P	01 09 58.4	-8.3
	2.9nm,0.3s,baz=64,slow=18,SNR=4.6						
LHI	Lord Howe Isla	18.11	245	P	P	01 10 38.0	-1.3
	baz=18,SNR=4.0						
ARMA	Armidale	24.18	251	*e*P	P	01 11 35.9	+1.8
	24nm,0.7s						
ARMA	Armidale	24.18	251	P	P	01 11 36.0	+1.9
	baz=24,SNR=18						
MGCD	Mangrove Creek	25.04	245	P	P	01 11 44.0	+2.5
	baz=25,SNR=23						
RMQ	Roma	26.64	261	P	P	01 11 57.5	+1.7
	baz=27,SNR=25						
CNB	Canberra Magne	26.92	241	P	P	01 12 00.2	+2.1
	baz=27,SNR=7.2						
YNG	Young	27.47	244	P	P	01 12 04.8	+1.9
	baz=28,SNR=9.5						
CMSA	Cobar Meteorol	29.36	250	P	P	01 12 20.2	+0.9
	baz=29,SNR=23						
CTA	Charters Tower	30.01	273	P	P	01 12 25.4	+0.3
CTA	Charters Tower	30.01	273	P	P	01 12 25.4	+0.3
	39nm,0.5s,baz=97,slow=11,SNR=59						
CTAO	Charters Tower	30.01	273	*e*P	P	01 12 25.3	+0.3
	42nm,0.6s						
TOO	Toolangi	30.50	238	P	P	01 12 30.6	+1.6
	baz=31,SNR=5.1						
MTSU	Mount Surprise	32.33	276	P	P	01 12 45.2	+0.3
	baz=32,SNR=25						
STKA	Stephens Creek	32.87	250	*e*P	P	01 12 50.0	+0.8
	1.2nm,0.5s						
STKA	Stephens Creek	32.87	250	P	P	01 12 50.2	+1.0
	8.5nm,0.4s,baz=89,slow=8.6,SNR=33						
STKA	Stephens Creek	32.87	250	P	P	01 12 50.2	+1.0
	baz=33,SNR=27						
COEN	Coen	34.87	282	P	P	01 13 06.2	0.0
	baz=35,SNR=6.2						
BBOO	Buckleboo	37.57	248	P	P	01 13 28.3	+0.1
	baz=38,SNR=50						
MANU	Manus Island	37.69	303	S	S	01 18 29.1	-10
	baz=38,SNR=9.7						
AS31	Alice Springs	40.36	262	*e*P	P	01 13 50.8	+0.1
ASAR	Alice Springs	40.36	262	P	P	01 13 50.9	+0.1
ASAR	Alice Springs	40.36	262	P	P	01 13 50.9	+0.1
	14nm,0.4s,baz=87,slow=7.5,SNR=250						
WRAB	Tennant Creek	40.84	268	*e*P	P	01 13 54.0	-0.6
	47nm,0.7s						
WRA	Warramunga Arr	40.84	268	P	P	01 13 53.9	-0.7
WRA	Warramunga Arr	40.84	268	P	P	01 13 53.9	-0.7
	37nm,0.5s,baz=104,slow=8.1,SNR=178						
JAY	Jayapura	42.67	296	P	P	01 14 08.0	-1.1
	baz=42,SNR=3.7						
FORT	Forrest	44.47	251	*e*P	P	01 14 22.3	-0.4
	104nm,0.6s						
FORT	Forrest	44.47	251	P	P	01 14 22.4	-0.4
	baz=44,SNR=107						
FITZ	Fitzroy Crossi	49.25	267	P	P	01 14 58.7	-0.1
FITZ	Fitzroy Crossi	49.25	267	P	P	01 14 58.7	-0.1
	30nm,0.8s,baz=137,slow=6.3,SNR=59						
VNDA	Vanda	53.00	184	*e*P	P	01 15 26.7	+1.8
	0.4nm,0.4s						
VNDA	Vanda	53.00	184	P	P	01 15 26.8	+1.8
	0.6nm,0.6s,baz=337,slow=5.8,SNR=7.1						
SBA	Scott Base	53.03	183	*e*P	P	01 15 28.5	+3.4
	4.6nm,0.9s						
KLBR	Kellerberrin	53.12	248	P	P	01 15 26.3	-0.3
	baz=53,SNR=15						
MEEK	Meekatharra	53.32	255	P	P	01 15 27.2	-0.9
	baz=53,SNR=4.9						
NWAO	Narrogin (SRO)	53.35	247	P	P	01 15 27.9	-0.3
NWAO	Narrogin (SRO)	53.35	247	P	P	01 15 27.9	-0.3
	10nm,0.9s,baz=96,slow=10.0,SNR=3.6						
BLDU	Ballidu	54.17	249	P	P	01 15 33.7	-0.3
	baz=54,SNR=6.7						
MORW	Morawa	55.03	251	P	P	01 15 39.7	-0.4
	baz=55,SNR=6.3						
QSPA	South Pole Qui	64.92	180	*e*P	P	01 16 46.9	+1.9
	11nm,0.8s						
QSPA	South Pole Qui	64.92	180	P	P	01 16 46.8	+1.9
	12nm,0.8s,baz=13,slow=1.5,SNR=88						
MAW	Mawson	76.04	201	*e*P	P	01 17 51.2	+1.1
	0.3nm,0.5s						
MAW	Mawson	76.04	201	P	P	01 17 51.3	+1.1
	1.6nm,0.9s,baz=129,slow=6.9,SNR=7

mb5.5/10,mB5.6/9,MLv5.2/12,Mw(mB)5.0/9

ISC 04 01:10:50.8±0.4,0.66S±0.04×133.71E±0.05,h28km,n100,
σ1955/100,mb4.4/24,MS3.6/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MWPI	**Manokwari, Pap**	**0.43**	**129**	P	**Pn**	**01 11 03.4**	**+2.2**
RKPI	**Ransiki, Papua**	**0.97**	**151**	P	**Pb**	**01 11 10.0**	**+1.0**
SWI	**Sorong**	**2.45**	**265**	P	**Pn**	**01 11 27.6**	**-1.4**
SWI	**Sorong**	**2.45**	**265**	P	**Pn**	**01 11 27.3**	**-1.7**
	baz=2.4,SNR=95						
SWI				S	**Sn**	**01 11 57.1**	**-0.9**
	baz=2.4,SNR=7.1						
BAKI	**Biak**	**2.46**	**102**	P	**Pb**	**01 11 32.4**	**-2.0**
FAKI	**Fak Fak**	**2.67**	**213**	P	**Pn**	**01 11 32.2**	**+0.1**
FAKI	**Fak Fak**	**2.67**	**213**	P	**Pn**	**01 11 31.2**	**-0.9**
	baz=2.7,SNR=199						
BNDI	**Bandanaira**	**5.40**	**225**	P	**Pn**	**01 12 09.2**	**-0.3**
	739nm,0.8s,10μm4.4nm						
BNDI	**Bandanaira**	**5.40**	**225**	P	**Pn**	**01 12 12.1**	**+2.6**
	baz=5.4,SNR=3.6						
BNDI				S	**Sn**	**01 13 13.1**	**+2.3**
	baz=5.4,SNR=3.3						
MSAI	**Masohi**	**5.47**	**241**	P	**Pn**	**01 12 11.1**	**+0.6**
	87nm,0.8s,2μm0.3nm						
LBMI	**Labuha**	**6.20**	**270**	P	**Pn**	**01 12 20.6**	**0.0**
	297nm,0.8s,5μm0.9nm						
AAI	**Ambon**	**6.27**	**241**	P	**Pn**	**01 12 21.2**	**-0.4**
	243nm,0.7s,1.3nm						
NLAI	**Namlea**	**7.08**	**249**	P	**Pn**	**01 12 34.6**	**+1.9**
	133nm,0.6s,2μm0.6nm						
JAY	**Jayapura**	**7.24**	**105**	P	Pn	01 12 41.0	+6.2
	299nm,0.3s,21μm3.0nm						
PALU	**Palau**	**7.99**	**5**	P	**Pn**	**01 12 45.2**	**0.0**
	baz=8.0,SNR=11						
GTOI	**Gorontalo**	**10.77**	**277**	P	**Pn**	**01 13 25.4**	**+2.1**
	86nm,1.3s,1μm						
LUWI	**Luwuk**	**10.94**	**268**	P	**Pn**	**01 13 28.3**	**+2.7**
	174nm,0.5s,3μm						
LUWI	**Luwuk**	**10.94**	**268**	P	**Pn**	**01 13 26.8**	**+1.2**
	baz=11,SNR=5.1						
DAV	**Davao City (W)**	**11.17**	**314**	LR	LR	01 18 03.6	
	comp=Z,396nm,18.4s,baz=212,slow=39						
KDU	**Kakadu**	**12.01**	**186**	P	**Pn**	**01 13 39.5**	**-0.8**
	baz=12,SNR=27						
MTN	**Manton Dam**	**12.37**	**192**	P	**Pn**	**01 13 43.8**	**-1.4**
	baz=12,SNR=36						
MTN				S	Sn	01 15 56.1	-6.0
	baz=12,SNR=8.0						
KAPI	**Kappang**	**14.59**	**253**	Pn	**Pn**	**01 14 17.6**	**+2.1**
KAPI	**Kappang**	**14.59**	**253**	Pn	**Pn**	**01 14 17.6**	**+2.1**
	0.9nm,0.3s,baz=191,slow=7.0,SNR=5.3						
KNRA	**Kununurra**	**15.70**	**198**	S	Sn	01 17 08.2	-15
	baz=16,SNR=4.4						
PMG	**Port Moresby**	**15.96**	**123**	Pn	**P**	**01 14 37.7**	**+0.7**
PMG	**Port Moresby**	**15.96**	**123**	Pn	**P**	**01 14 37.7**	**+0.7**
	0.1nm,0.3s,baz=312,slow=17,SNR=2.6						
COEN	**Coen**	**16.20**	**145**	Pn	**Pn**	**01 14 35.6**	**-1.0**
	83nm,0.8s						
COEN	**Coen**	**16.20**	**145**	P	**P**	**01 14 41.4**	**+1.8**
	baz=16,SNR=4.1						
FITZ	**Fitzroy Crossi**	**19.06**	**204**	P	**P**	**01 15 11.0**	**-0.1**
FITZ				S	Sn	01 18 29.7	-15
FITZ	**Fitzroy Crossi**	**19.06**	**204**	P	**P**	**01 15 11.0**	**-0.1**
	1.0nm,0.3s,baz=40,slow=14,SNR=10						
FITZ				S	Sn	01 18 29.7	-15
	0.5nm,0.3s,baz=285,slow=20,SNR=4.1						
FITZ				LR	LR	01 22 53.3	
	comp=Z,112nm,21.7s,baz=36,slow=38						
WRAB	**Tennant Creek**	**19.16**	**178**	*eP*	**P**	**01 15 12.1**	**-0.2**
WRA	**Warramunga Arr**	**19.17**	**178**	P	**P**	**01 15 12.2**	**-0.1**
WRA				S	**Sn**	**01 18 41.5**	**-6.1**
WRA	**Warramunga Arr**	**19.17**	**178**	P	**P**	**01 15 12.2**	**-0.1**
	1.2nm,0.3s,baz=356,slow=11,SNR=17						
WRA				S	**Sn**	**01 18 41.5**	**-6.1**
	0.5nm,0.3s,baz=359,slow=22,SNR=4.8						
AS31	**Alice Springs**	**22.87**	**180**	*eP*	**P**	**01 15 51.9**	**-0.4**
ASAR	**Alice Springs**	**22.87**	**180**	P	**P**	**01 15 51.6**	**-0.6**
ASAR				S	**S**	**01 20 04.6**	**+4.3**
ASAR	**Alice Springs**	**22.87**	**180**	P	**P**	**01 15 51.6**	**-0.6**
	16nm,1.0s,baz=5.2,slow=11,SNR=32						
ASAR				S	**S**	**01 20 04.6**	**+4.3**
	6.3nm,1.0s,baz=0.1,slow=24,SNR=5.2						
ASAR				LR	LR	01 25 33.2	
	comp=Z,262nm,19.4s,baz=353,slow=39						
CTA	**Charters Tower**	**22.88**	**148**	P	**P**	**01 15 54.4**	**+2.0**
CTA	**Charters Tower**	**22.88**	**148**	P	**P**	**01 15 54.4**	**+2.0**
	4.3nm,0.7s,baz=338,slow=11,SNR=3.0						
CTAO	**Charters Tower**	**22.88**	**148**	*eP*	**P**	**01 15 50.8**	**-1.7**
	26nm,1.6s						
CISI	**Cisompet, Garu**	**26.70**	**254**	P	P	01 16 42.6	+14
	baz=27,SNR=4.0						
STKA	**Stephens Creek**	**31.93**	**167**	*eP*	**P**	**01 17 13.3**	**-1.0**
	0.7nm,0.9s						
STKA	**Stephens Creek**	**31.93**	**167**	P	**P**	**01 17 13.5**	**-0.8**
	1.6nm,0.4s,baz=330,slow=8.2,SNR=4.1						
STKA				LR	LR	01 31 38.1	
	comp=Z,640nm,19.9s,baz=249,slow=39						
JNU	**Nakatsue**	**33.71**	**356**	P	**P**	**01 17 29.6**	**-0.3**
JNU	**Nakatsue**	**33.71**	**356**	P	**P**	**01 17 29.6**	**-0.3**
	14nm,1.0s,baz=175,slow=9.5,SNR=5.2						
JNU				LR	LR	01 28 39.0	
	comp=Z,110nm,20.6s,baz=330,slow=32						
ARMA	**Armidale**	**34.14**	**152**	P	P	01 17 50.7	+17
	baz=34,SNR=15						
MJAR	**Matsushiro Arr**	**37.25**	**6**	P	**P**	**01 17 58.8**	**-1.5**
MJAR	**Matsushiro Arr**	**37.25**	**6**	P	**P**	**01 17 58.8**	**-1.5**
	1.2nm,0.4s,baz=184,slow=7.2,SNR=7.8						
MJAR				LR	LR	01 30 21.7	
	comp=Z,93nm,19.2s,baz=195,slow=32						
KSAR	**Wonju Array Be**	**38.30**	**353**	P	**P**	**01 18 08.3**	**-0.7**
KSRS	**Korea Array**	**38.30**	**353**	P	**P**	**01 18 08.3**	**-0.7**
	0.6nm,0.4s,baz=160,slow=7.6,SNR=4.8						
KSRS				LR	LR	01 33 19.6	
	comp=Z,72nm,20.6s,baz=56,slow=35						
CMAR	**Chiang Mai Arr**	**39.09**	**301**	P	**P**	**01 18 16.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.09**	**301**	P	**P**	**01 18 16.4**	**+0.4**
	0.6nm,0.3s,baz=127,slow=7.3,SNR=5.1						
USRK	**Ussuriysk Arra**	**44.69**	**358**	P	**P**	**01 19 01.6**	**+0.4**
	4.3nm,0.8s,baz=181,slow=7.0,SNR=16						
HHC	**Hu-ho-hao-te**	**45.96**	**337**	*eP*	**P**	**01 19 12.2**	**+0.6**
HHC				S	**S**	**01 25 55.9**	**+1.0**
HHC				pmax	pmax		
	comp=Z,45nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,5.8s						
GTA	**Gaotai**	**50.52**	**326**	*eP*	**P**	**01 19 47.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.6s						
LSA	**Lhasa**	**50.56**	**310**	*eP*	**P**	**01 19 47.9**	**+0.1**
	comp=Z,7.3nm,0.5s						
TAPN	**Taplejung**	**52.22**	**306**	*eP*	**P**	**01 19 58.9**	**-1.1**
ODAN	**Odare**	**52.28**	**305**	*eP*	**P**	**01 19 59.8**	**-0.6**
	comp=Z,18nm,0.7s						
RAMN	**Ramite**	**52.96**	**305**	*eP*	**P**	**01 20 04.4**	**-1.1**
	comp=Z,27nm,0.7s						
JIRN	**Jiri**	**53.58**	**306**	*eP*	**P**	**01 20 09.3**	**-0.9**
	comp=Z,11nm,0.6s						
ULN	**Ulaanbaatar**	**53.61**	**338**	*eP*	**P**	**01 20 10.9**	**+1.2**
	comp=Z,9.2nm,0.9s						
SONM	**Songino Array**	**53.83**	**337**	P	**P**	**01 20 11.7**	**+0.3**
SONM	**Songino Array**	**53.83**	**337**	P	**P**	**01 20 11.7**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=145,slow=8.1,SNR=18						
SONM				LR	LR	01 40 53.3	
	comp=Z,48nm,19.3s,baz=344,slow=34						
GUN	**Gumba**	**53.93**	**306**	*eP*	**P**	**01 20 11.0**	**-1.7**
PKI	**Pulchoki**	**54.18**	**305**	*eP*	**P**	**01 20 13.4**	**-1.1**
PKIN	**Phulchoki**	**54.19**	**305**	*eP*	**P**	**01 20 13.0**	**-1.5**
	comp=Z,5.4nm,0.6s						
RPZ	**Rata Peaks**	**54.25**	**147**	LR	LR	01 43 40.8	
	comp=Z,188nm,19.0s,baz=204,slow=36						
KKN	**Kakani**	**54.37**	**305**	*eP*	**P**	**01 20 14.1**	**-1.7**
KOLN	**Koldanda**	**55.74**	**305**	*eP*	**P**	**01 20 25.0**	**-0.6**
	comp=Z,23nm,0.8s						
DANN	**Dangsing**	**55.82**	**305**	*eP*	**P**	**01 20 23.5**	**-2.9**
	comp=Z,43nm,0.9s						
PYUN	**Piuthan**	**56.36**	**305**	*eP*	**P**	**01 20 28.8**	**-1.3**
	comp=Z,50nm,0.9s						
PETK	**Petropavlovsk-**	**57.21**	**17**	P	**P**	**01 20 36.7**	**+1.3**
PETK	**Petropavlovsk-**	**57.21**	**17**	P	**P**	**01 20 36.7**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=188,slow=6.0,SNR=4.4						
PETK				LR	LR	01 39 47.7	
	comp=Z,37nm,20.9s,baz=329,slow=30						
MK31	**Makanchi Array**	**65.16**	**324**	*eP*	**P**	**01 21 29.4**	**0.0**
MKAR	**Makanchi Array**	**65.16**	**324**	P	**P**	**01 21 29.4**	**0.0**
MKAR	**Makanchi Array**	**65.16**	**324**	P	**P**	**01 21 29.4**	**0.0**
	comp=Z,5.1nm,0.8s,baz=115,slow=8.2,SNR=42						
ZALV	**Zalesovo Beam**	**67.70**	**331**	P	**P**	**01 21 45.0**	**-0.5**
ZALV	**Zalesovo Beam**	**67.70**	**331**	P	**P**	**01 21 45.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=112,slow=6.2,SNR=8.3						
EKS2	**Erkin-Say**	**68.79**	**317**	*eP*	**P**	**01 21 53.2**	**+0.4**
	comp=Z,3.6nm,0.9s						
BVAR	**Borovoye Array**	**74.81**	**326**	P	**P**	**01 22 28.3**	**-0.2**
BVAR	**Borovoye Array**	**74.81**	**326**	P	**P**	**01 22 28.3**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=105,slow=8.5,SNR=14						
BRVK	**Borovoye**	**74.88**	**326**	*eP*	**P**	**01 22 28.7**	**-0.3**
	comp=Z,8.2nm,0.8s						
VNDA	**Vanda**	**78.29**	**174**	*eP*	**P**	**01 22 47.8**	**0.0**
	comp=Z,23nm,1.8s						
VNDA	**Vanda**	**78.29**	**174**	P	**P**	**01 22 48.2**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=324,slow=6.8,SNR=8.3						
VNDA				LR	LR	01 54 51.7	
	comp=Z,174nm,20.7s,baz=350,slow=34						
MAW	**Mawson**	**82.16**	**201**	P	**P**	**01 23 10.0**	**+1.2**
MAW	**Mawson**	**82.16**	**201**	P	**P**	**01 23 10.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=21,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**86.08**	**25**	P	**P**	**01 23 28.7**	**-0.1**
ILAR	**Eielson Array**	**86.08**	**25**	P	**P**	**01 23 28.7**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=257,slow=4.7,SNR=16						
QSPA	**South Pole Qui**	**89.27**	**180**	*eP*	**P**	**01 23 44.6**	**+0.4**
	comp=Z,4.2nm,1.2s						
QSPA	**South Pole Qui**	**89.27**	**180**	P	**P**	**01 23 44.4**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=320,slow=3.1,SNR=6.2						
KMBO	**Kilima Mbogo**	**96.44**	**269**	LR	LR	02 03 56.3	
	comp=Z,33nm,19.6s,baz=96,slow=33						
ARCES	**ARCESS Array B**	**96.92**	**340**	P	**P**	**01 24 18.5**	**-0.8**
ARCES	**ARCESS Array B**	**96.92**	**340**	P	**P**	**01 24 18.5**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=79,slow=4.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**130.88**	**287**	PKP	**PKPdf**	**01 29 59.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**130.88**	**287**	PKP	**PKPdf**	**01 29 59.7**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=75,slow=2.3,SNR=3.4						
CPUP	**Villa Florida**	**151.13**	**159**	PKPbc	**PKPbc**	**01 30 42.7**	**+0.5**
CPUP	**Villa Florida**	**151.13**	**159**	PKPbc	**PKPbc**	**01 30 42.7**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=214,slow=3.6,SNR=4.8						
LPAZ	**La Paz**	**152.65**	**129**	PKPbc	**PKPbc**	**01 30 46.8**	**0.0**
LPAZ	**La Paz**	**152.65**	**129**	PKPbc	**PKPbc**	**01 30 46.8**	**0.0**
	comp=Z,1.7nm,1.0s,baz=321,slow=4.5,SNR=5.9						
SIV	**San Ignacio**	**157.94**	**139**	PKPab	**PKPab**	**01 31 18.9**	**-0.2**
SIV	**San Ignacio**	**157.94**	**139**	PKPab	**PKPab**	**01 31 18.9**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=310,slow=7.3,SNR=7.2						

*CASC **04** 01:23:45.3±1.9, 12°.41N×89°.57W, h1km±117km, MD3.9, ML3.8*
*ISCJB **04** 01:23:48.0±0.7, 12°.41N±0°.07×89°.57W±0°.06, h47km, mb4.5/28, MS3.6/14, Error ellipse: s-maj=11.4km s-min=5.4km az=38.9*
*NEIC **04** 01:23:55.2±1.8, 12°.69N×89°.36W, h85km±15km, mb4.4/22, Error ellipse: s-maj=21.7km s-min=8.3km az=56.0*
*IDC **04** 01:23:55.3±2.6, 12°.70N×89°.12W, h86km±23km, mb3.8/9, mb1 4.0/11, mb1mx3.7/25, mbtmp3.8/11, MS3.7/16, Ms1 3.7/16, ms1mx3.5/33, Error ellipse: s-maj=37.8km s-min=15.5km az=45.0*

ISC 04 01:23:50.5±0.7,12°.53N±0°.08×89°.51W±0°.06,h47km,n213,
σ1906/204,mb4.5/28,MS3.7/14,61C-75D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.17**	**22**	*eP*	**Pn**	**01 24 09.6**	**-1.1**
SNET	**Serv Nac Est T**	**1.18**	**13**	*eP*	**Pn**	**01 24 09.9**	**-0.8**
SNET				AML	AML	01 24 40.4	
	comp=Z,2μm,0.5s						
BOQS	**Boqueron**	**1.22**	**11**	*eP*	**Pn**	**01 24 10.7**	**-0.7**
LFU	**La Fuente**	**1.27**	**18**	*eP*	**Pn**	**01 24 11.5**	**-0.5**
LBRS	**Las Brisas**	**1.29**	**21**	*eP*	**Pn**	**01 24 12.2**	**+0.1**
SBLS	**San Blas**	**1.31**	**355**	*eP*	**Pn**	**01 24 11.5**	**-1.1**
RTR	**El Retiro**	**1.37**	**355**	*eP*	**Pn**	**01 24 12.3**	**-1.1**
RBDL	**Robledal**	**1.58**	**354**	*eP*	**Pn**	**01 24 15.7**	**-0.7**
CAHU	**Cacacuatique**	**1.77**	**46**	*eP*	**Pn**	**01 24 19.0**	**+0.2**
CNCH	**Conchagua**	**1.80**	**65**	*eP*	**Pn**	**01 24 19.3**	**+0.1**
IXG	**Ixpaco**	**1.88**	**331**	*eP*	**Pn**	**01 24 19.0**	**-1.3**
NBG	**Las Nubes**	**2.20**	**338**	*eP*	**Pn**	**01 24 25.8**	**+0.9**
FUG	**Fuego 3**	**2.31**	**326**	*eP*	**Pn**	**01 24 25.4**	**-0.8**
MRL	**Marmol**	**2.53**	**356**	*eP*	**Pn**	**01 24 32.0**	**+2.8**
JAT	**Jato**	**2.73**	**311**	*eP*	**Pn**	**01 24 30.9**	**-0.9**
COPN	**Copaltepe**	**2.87**	**97**	*eP*	**Pn**	**01 24 32.5**	**-1.4**
JTS	**JuntasAbangare**	**4.99**	**116**	P	**Pn**	**01 25 03.9**	**+1.0**
JTS				S	**Sn**	**01 25 58.5**	**-0.9**
JTS	**JuntasAbangare**	**4.99**	**116**	P	**Pn**	**01 25 03.9**	**+1.0**
	comp=Z,5.4nm,0.3s,baz=152,slow=21,SNR=17						
JTS				S	**Sn**	**01 25 58.5**	**-0.9**
	comp=Z,2.1nm,0.3s,baz=232,slow=3.2,SNR=2.2						
JTS				LR	LR	01 27 26.3	
	comp=Z,500nm,19.2s,baz=314,slow=45						
TEIG	**Tepich**	**7.75**	**9**	*eP*n	**Pn**	**01 25 43.4**	**+2.7**
TEIG	**Tepich**	**7.75**	**9**	P	**Pn**	**01 25 43.1**	**+2.4**
	comp=Z,2.0nm,0.3s,baz=144,slow=7.9,SNR=11						
TEIG				LR	LR	01 28 59.4	
	comp=Z,995nm,19.2s,baz=117,slow=40						
ROSC	**El Rosal**	**16.82**	**116**	P	**P**	**01 27 47.5**	**+2.7**
ROSC	**El Rosal**	**16.82**	**116**	P	**P**	**01 27 47.5**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=276,slow=19,SNR=5.9						
732A	**Laxson Ranch,**	**18.84**	**330**	⇓P	**P**	**01 28 07.1**	**+0.5**
	baz=19						
SDV	**Santo Domingo**	**18.90**	**99**	P	**Pn**	**01 28 09.8**	**+1.3**
	comp=Z,2.0nm,0.6s						
632A	**Uvalde**	**19.41**	**332**	⇓P	**Pn**	**01 28 14.4**	**+0.1**
	baz=19						
TIGA	**Tifton**	**19.60**	**15**	⇑P	**Pn**	**01 28 16.0**	**-0.5**
	baz=20						
631A	**Perdido Creek**	**19.70**	**330**	⇑P	**Pn**	**01 28 17.3**	**-0.4**
	baz=20						
532A	**Rocksprings**	**19.99**	**333**	⇓P	**P**	**01 28 19.6**	**+0.5**
	baz=20,SNR=8.4						
JCT	**Junction City**	**20.25**	**334**	*eP*	**P**	**01 28 22.3**	**+0.4**
	comp=Z,7.7nm,0.8s						
JCT	**Junction City**	**20.25**	**334**	⇓P	**P**	**01 28 22.4**	**+0.4**
	baz=20						
531A	**Rocksprings**	**20.31**	**331**	⇓P	**P**	**01 28 22.0**	**-0.7**
	baz=20						
LRAL	**Lakeview Retre**	**20.54**	**6**	*eP*	**P**	**01 28 26.4**	**+1.3**
	comp=Z,4.2nm,0.6s						
432A	**Menard**	**20.58**	**334**	⇑P	**P**	**01 28 25.2**	**-0.4**
	baz=21,SNR=11						
530A	**J-C Ranch, Com**	**20.68**	**330**	⇑P	**P**	**01 28 27.0**	**+0.4**
	baz=21,SNR=8.2						
WHTX	**Lake Whitney**	**20.70**	**341**	⇓P	**P**	**01 28 26.8**	**0.0**
	baz=21,SNR=29						
431A	**Sonora**	**20.78**	**332**	⇑P	**P**	**01 28 28.2**	**+0.5**
	baz=21,SNR=8.0						
628A	**Black Gap, Mar**	**20.96**	**326**	⇑P	**P**	**01 28 31.1**	**+1.5**
	baz=21,SNR=7.5						
332A	**Millersview**	**21.00**	**335**	⇑P	**P**	**01 28 29.7**	**-0.4**
	baz=21,SNR=13						
529A	**Stev Forest Ra**	**21.10**	**328**	⇑P	**P**	**01 28 31.6**	**+0.4**
	baz=21						
430A	**Baggett Ranch,**	**21.16**	**331**	⇑P	**P**	**01 28 32.2**	**+0.4**
	baz=21						
627A	**Terlingua Ranc**	**21.21**	**325**	⇑P	**P**	**01 28 33.4**	**+0.9**
	baz=21						
331A	**San Angelo**	**21.23**	**333**	⇑P	**P**	**01 28 32.3**	**-0.3**
	baz=21,SNR=10						
TXAR	**Lajitas Array**	**21.28**	**324**	P	**P**	**01 28 35.4**	**+2.2**
TXAR	**Lajitas Array**	**21.28**	**324**	P	**P**	**01 28 35.4**	**+2.2**
	comp=Z,5.7nm,0.7s,baz=145,slow=11,SNR=99						
429A	**Davenport Ranc**	**21.34**	**329**	⇓P	**P**	**01 28 33.3**	**-0.5**
	baz=21,SNR=7.4						
232A	**Coleman**	**21.41**	**336**	⇓P	**P**	**01 28 34.1**	**-0.3**
	baz=21,SNR=10						
528A	**Cox Ranch, San**	**21.43**	**327**	⇓P	**P**	**01 28 34.9**	**+0.1**
	baz=21,SNR=5.8						
GOGA	**Godfrey**	**21.51**	**14**	*eP*	**P**	**01 28 36.2**	**+0.7**
	comp=Z,5.3nm,0.6s						
330A	**Mertzon**	**21.65**	**332**	⇓P	**P**	**01 28 37.4**	**+0.4**
	baz=22						
626A	**Big Bend Ranch**	**21.71**	**324**	⇓P	**P**	**01 28 39.4**	**+1.6**
	baz=22,SNR=6.5						
231A	**Bronte**	**21.72**	**334**	⇑P	**P**	**01 28 37.9**	**+0.1**
	baz=22						
527A	**Woodward Ranch**	**21.86**	**325**	⇓P	**P**	**01 28 40.6**	**+1.1**
	baz=22						
OXF	**Oxford**	**21.89**	**0**	*eP*	**P**	**01 28 40.0**	**+0.5**
	comp=Z,58nm,1.0s						
ABTX	**Abilene, Hawle**	**22.05**	**337**	⇓P	**P**	**01 28 41.2**	**-0.2**
	baz=22						
526A	**Mary Lane Ranc**	**22.07**	**324**	⇓P	**P**	**01 28 41.9**	**+0.2**
	baz=22,SNR=9.3						
329A	**Wagon Wheel Ra**	**22.09**	**331**	⇓P	**P**	**01 28 41.9**	**0.0**
	baz=22						
MIAR	**Mount Ida**	**22.23**	**351**	*eP*	**P**	**01 28 43.4**	**+0.2**
	comp=Z,15nm,0.8s						
UALR	**University of**	**22.30**	**354**	*eP*	**P**	**01 28 44.5**	**+0.6**
	comp=Z,30nm,1.0s						
PLAL	**Pickwick Lake**	**22.39**	**3**	*eP*	**P**	**01 28 46.5**	**+1.6**
	comp=Z,80nm,2.7s						
131A	**Roby**	**22.39**	**335**	⇓P	**P**	**01 28 44.8**	**-0.3**
	baz=22						
328A	**Wristen Ranch,**	**22.41**	**329**	⇓P	**P**	**01 28 45.3**	**0.0**
	baz=22						
ATAH	**Atahualpa**	**22.44**	**150**	LR	LR	01 36 21.7	
	comp=Z,117nm,20.3s,baz=170,slow=33						
426A	**McDonald Obser**	**22.50**	**326**	⇓P	**P**	**01 28 46.2**	**-0.2**
	baz=22						
130A	**Snyder**	**22.57**	**334**	⇓P	**P**	**01 28 46.9**	**0.0**
	baz=23						
Z32A	**Haskell**	**22.60**	**338**	⇑P	**P**	**01 28 46.3**	**-1.0**
	baz=23,SNR=18						
LPIG	**La Paz**	**22.82**	**303**	LR	LR	01 39 12.2	
	comp=Z,27nm,19.6s,baz=333,slow=40						
Z31A	**Sharp Cattle R**	**22.86**	**337**	⇑P	**P**	**01 28 48.5**	**-1.4**
	baz=23						
HBAR	**Harrisburg**	**22.95**	**358**	*eP*	**P**	**01 28 50.7**	**-0.1**
326A	**Caldwell Ranch**	**22.97**	**327**	⇓P	**P**	**01 28 50.7**	**-0.5**
	baz=23						
129A	**Stewart Farms,**	**22.99**	**332**	⇓P	**P**	**01 28 50.3**	**-1.1**
	baz=23						
425A	**Indio Mountain**	**23.12**	**324**	⇓P	**P**	**01 28 52.9**	**+0.1**
	baz=23						
Y32A	**R-V Farms, Ver**	**23.21**	**339**	⇑P	**P**	**01 28 53.4**	**-0.1**
	baz=23						
Z30A	**Sanderson Ranc**	**23.23**	**335**	⇑P	**P**	**01 28 53.0**	**-0.7**
	baz=23						
CPCT	**Cooper Cave**	**23.26**	**10**	*eP*	**P**	**01 28 53.6**	**-0.3**
128A	**Castleberry Fa**	**23.27**	**331**	⇓P	**P**	**01 28 53.9**	**-0.2**
	baz=23						
GNAR	**Gosnell**	**23.34**	**359**	*eP*	**P**	**01 28 55.3**	**+0.7**
	comp=Z,1μm,1.1s						
Z29A	**Hungry Hill Ra**	**23.45**	**334**	⇓P	**P**	**01 28 55.6**	**-0.3**
	baz=24						
Y31A	**Rekieta Farm,**	**23.48**	**337**	⇑P	**P**	**01 28 55.8**	**-0.2**
	baz=24						
325A	**Bean Ranch, Si**	**23.55**	**325**	⇑P	**P**	**01 28 56.3**	**-0.7**
	baz=24						
TKL	**Tuckaleechee C**	**23.61**	**12**	*eP*	**P**	**01 28 56.4**	**-0.8**
TKL	**Tuckaleechee C**	**23.61**	**12**	P	**P**	**01 28 56.9**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=183,slow=13,SNR=7.4						
TKL				LR	LR	01 38 26.2	
	comp=Z,252nm,21.4s,baz=271,slow=37						
Y30A	**Stafford Cattl**	**23.65**	**336**	⇑P	**P**	**01 28 57.7**	**-0.1**
	baz=24						
WMOK	**Wichita Mounta**	**23.66**	**341**	*eP*	**P**	**01 28 56.1**	**-1.6**
	comp=Z,20nm,1.3s						
226B	**Tecolote Peak,**	**23.66**	**328**	⇓P	**P**	**01 28 57.6**	**-0.3**
	baz=24						
KMSC	**Kings Mountain**	**23.70**	**17**	⇓P	**P**	**01 28 57.8**	**-0.3**
	baz=24						
127A	**Arkansas Junct**	**23.73**	**330**	⇑P	**P**	**01 28 58.2**	**-0.4**
	baz=24						
324A	**Moseley Ranch,**	**23.89**	**325**	⇓P	**P**	**01 29 00.1**	**0.0**
	baz=24,SNR=9.6						
Y29A	**Porterfield Fa**	**23.95**	**334**	⇓P	**P**	**01 29 00.5**	**-0.1**
	baz=24						
TUL1	**Tulsa**	**23.96**	**347**	⇑P	**P**	**01 28 59.6**	**-0.9**
	baz=24						
X31A	**McDonald Ranch**	**23.97**	**338**	⇑P	**P**	**01 28 59.9**	**-0.8**
	baz=24,SNR=5.9						
MNTX	**Cornudas Mount**	**24.03**	**325**	*eP*	**P**	**01 29 01.2**	**0.0**
	comp=Z,12nm,1.4s						
PARMO	**Parma**	**24.03**	**360**	*

R25A	Fountain Ranch	28.71	335	⇓P		P	01 29 43.6	+0.1
	baz=29							
U21A	Nageezi	28.86	329	⇓P		P	01 29 45.7	+0.8
	baz=29							
S22A	4UR Ranch, Cre	29.50	331	⇓P		P	01 29 51.9	+1.2
	baz=30							
P23A	Jefferson	30.40	334	⇑P		P	01 29 59.3	+0.6
	baz=30							
LUPA	Lehigh Univers	30.60	21	*e*P		P	01 29 56.9	-3.1
	comp=Z,15nm,1.5s							
PV01	Paradox Valley	30.64	330	*e*P		P	01 29 56.9	-3.8
O22A	Kremmling	31.35	334	⇑P		P	01 30 07.7	+0.7
	baz=31							
ECSD	EROS Data Cent	31.69	350	*e*P		P	01 30 08.1	-1.5
	comp=Z,18nm,1.6s							
N22A	Wattenberg Ran	31.85	335	⇓P		P	01 30 11.8	+0.4
	baz=32							
GMRC	Granite Mounta	32.44	317	⇓P		P	01 30 17.3	+0.8
	baz=32							
N20A	Spence Gulch,	32.65	333	⇓P		P	01 30 18.7	+0.4
	baz=33							
HEC	Hector,Ludlow	32.92	317	⇓P		P	01 30 21.4	+0.9
	baz=33							
I28A	Midland	32.93	344	⇓P		P	01 30 21.1	+0.7
	baz=33							
SADO	Sadowa	33.34	13	P		P	01 30 23.2	-0.7
SADO	Sadowa	33.34	13	P		P	01 30 23.2	-0.7
	comp=Z,6.5nm,0.7s,baz=230,slow=9.3,SNR=6.4							
COWI	Conover	33.46	0	*e*P		P	01 30 23.9	-1.2
	comp=Z,11nm,0.5s							
SAML	Samuel	33.76	128	*e*P		P	01 30 28.2	+0.2
	comp=Z,24nm,1.9s							
J22A	Midwest	34.08	338	⇓P		P	01 30 31.4	+0.7
	baz=34							
J21A	Lysite	34.39	337	⇓P		P	01 30 34.4	+1.0
	baz=34							
G27A	Dupree	34.41	344	⇑P		P	01 30 33.9	+0.6
	baz=34							
H24A	Dirks Ranch, A	34.59	341	⇑P		P	01 30 35.5	+0.5
	baz=35							
G23A	Biddle	35.27	340	⇑P		P	01 30 41.3	+0.5
	baz=35							
H21A	Big Horn, Sher	35.34	338	⇓P		P	01 30 41.9	+0.5
	baz=35							
F24A	Ekalaka	35.55	342	⇓P		P	01 30 43.7	+0.5
	baz=36							
E26A	Carlson Angus	35.56	345	⇓P		P	01 30 43.5	+0.3
	baz=36							
I19A	Meeteetse	35.59	336	⇑P		P	01 30 44.3	+0.6
	baz=36							
LPAZ	La Paz	35.59	143	LR		LR	01 45 26.8	
	comp=Z,87nm,20.5s,baz=103,slow=36							
E25A	Miller Ranch,	35.84	344	⇑P		P	01 30 46.5	+0.8
	baz=36							
AGMN	Agassiz Nation	36.05	353	*e*P		P	01 30 46.0	-1.4
	comp=Z,4.7nm,0.5s							
E24A	Baker	36.15	343	⇑P		P	01 30 49.1	+0.8
	baz=36							
G20A	Bridger	36.27	337	⇓P		P	01 30 50.2	+0.7
	baz=36							
NVAR	Mina Array Bea	36.34	320	P		P	01 30 53.2	+3.0
NVAR	Mina Array Bea	36.34	320	P		P	01 30 53.2	+3.0
	comp=Z,2.2nm,0.9s,baz=132,slow=8.7,SNR=13							
NVAR				LR		LR	01 47 19.3	
	comp=Z,114nm,20.0s,baz=257,slow=39							
E23A	Ismay	36.40	342	⇓P		P	01 30 50.4	0.0
	baz=36							
G18A	Lazy EL Ranch,	36.88	336	⇑P		P	01 30 54.5	-0.2
	baz=37							
F19A	Roth Farm, Mol	37.09	337	⇓P		P	01 30 56.8	+0.4
	baz=37							
D22A	Cohagen	37.25	341	⇓P		P	01 30 58.4	+0.8
	baz=37							
E20A	Meyer Farm, Mu	37.34	339	⇑P		P	01 30 59.5	+1.0
	baz=37							
F18A	Big Timber	37.42	337	⇓P		P	01 30 59.4	+0.1
	baz=37							
E19A	Rath Farm, Rou	37.54	338	⇓P		P	01 31 00.9	+0.7
	baz=38							
A26A	Wade Farm, Ken	37.72	346	⇑P		P	01 31 02.4	+0.8
	baz=38							
D20A	Manuel Ranch,	37.85	339	⇓P		P	01 31 02.9	+0.2
	baz=38							
MCMT	McKenzie Canyo	37.87	333	*e*P		P	01 31 04.7	+1.5
	comp=Z,1.4nm,0.7s							
ULM	Lac du Bonnet	37.98	353	P		P	01 31 02.1	-1.6
ULM	Lac du Bonnet	37.98	353	P		P	01 31 02.1	-1.6
	comp=Z,3.9nm,0.6s,baz=183,slow=8.6,SNR=3.0							
ULM				LR		LR	01 49 02.5	
	comp=Z,136nm,19.3s,baz=219,slow=40							
B23A	Brockton	38.07	343	⇓P		P	01 31 04.5	-0.1
	baz=38							
MFID	Camas Ranch	38.24	329	⇓P		P	01 31 07.6	+1.4
	baz=38							
C20A	Veseth Ranch,	38.34	340	⇓P		P	01 31 07.9	+1.0
	baz=38							
C19A	Slack Wire Ran	38.72	339	⇑P		P	01 31 11.0	+1.0
	baz=39							
A22A	Carney Farms,	38.81	343	⇓P		P	01 31 11.8	+1.0
	baz=39							
D17A	Six Diamond Ra	38.83	337	⇓P		P	01 31 11.7	+0.6
	baz=39							
A20A	Cobblestone Ra	39.33	341	⇓P		P	01 31 15.8	+0.7
	baz=39							
SIV	San Ignacio	39.93	134	LR		LR	01 47 53.6	
	comp=Z,64nm,19.4s,slow=36							
C15A	Salmond Ranch,	40.09	336	⇑P		P	01 31 22.7	+1.1
	baz=40							
A15A	Johnson Ranch,	41.12	337	⇓P		P	01 31 29.7	-0.2
	baz=41							
A14A	Double T Ranch	41.38	336	⇑P		P	01 31 32.7	+0.5
	baz=41							
SCHQ	Schefferville	45.81	18	P		P	01 32 06.1	-1.5
SCHQ	Schefferville	45.81	18	P		P	01 32 06.1	-1.5
	comp=Z,2.9nm,0.5s,baz=216,slow=10,SNR=11							
SCHQ				LR		LR	01 53 09.4	
	comp=Z,127nm,18.1s,baz=348,slow=38							
CPUP	Villa Florida	49.71	141	LR		LR	01 56 18.8	
	comp=Z,81nm,18.4s,baz=212,slow=39							
YKA	Yellowknife Ar	53.02	346	P		P	01 33 02.0	-0.4
YKA	Yellowknife Ar	53.02	346	P		P	01 33 02.0	-0.4
	comp=Z,1.3nm,0.8s,baz=143,slow=7.5,SNR=10							
PLCA	Paso Flores	55.83	163	LR		LR	01 54 47.4	
	comp=Z,172nm,18.8s,baz=190,slow=33							
ILAR	Eielson Array	65.14	337	P		P	01 34 25.4	-0.9
ILAR	Eielson Array	65.14	337	P		P	01 34 25.4	-0.9
	comp=Z,0.8nm,1.0s,baz=122,slow=5.1,SNR=6.8							
DBIC	Dimbokro	83.38	85	LR		LR	02 10 36.1	
	comp=Z,36nm,18.6s,baz=20,slow=34							
NOA	NORSAR Array B	84.27	29	LR		LR	02 10 11.0	
	comp=Z,31nm,20.5s,baz=275,slow=33							
TORD	Torodi Ar. Bea	88.36	77	P		P	01 36 36.0	-2.1
TORD	Torodi Ar. Bea	88.36	77	P		P	01 36 36.0	-2.1
	comp=Z,0.3nm,0.5s,baz=293,slow=5.5,SNR=8.4							
TORD				LR		LR	02 15 07.7	
	comp=Z,38nm,20.0s,baz=195,slow=35							
GERES	GERESS Array B	89.18	40	LR		LR	02 19 28.7	
	comp=Z,44nm,18.0s,baz=299,slow=38							
CMAR	Chiang Mai Arr	148.10	345	PKPbc		PKPbc	01 43 32.5	+0.6
CMAR	Chiang Mai Arr	148.10	345	PKPbc		PKPbc	01 43 32.5	+0.6
	comp=Z,1.4nm,0.3s,baz=321,slow=2.8,SNR=6.5							

IDC ***04*** *01:40:53.9±1.5, 41°.53S×174°.13E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=42.2km s-min=25.2km az=138.0*

ISCJB ***04*** *01:40:56.4±0.3, 41°.90S±0°.04×174°.37E±0°.05, h45km±6km, mb3.6/2, Error ellipse: s-maj=8.1km s-min=3.5km az=139.4*

WEL ***04*** *01:40:57.8±0.1, 41°.81S×174°.35E, h29km, ML4.2/43, Error ellipse: s-maj=1.1km s-min=0.8km az=0.0*

WEL Felt from Wellington to Marlborough, maximum reported intensity MM 5.

NEIC ***04*** *01:40:58.0, 41°.81S×174°.35E, h29km, ML4.2(WEL), After WEL.*

NEIC Felt in the Wellington area.

ISC 04 01:40:57.5±1.0, 41°.85S±0°.03×174°.37E±0°.03, h34km±2km, n119,σ1°.03/122, 2C-17D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.15	309	⇓P*	Pb	01 41 03.6	-0.2
CMWZ				S*	Sb	01 41 07.9	-0.2
CMWZ				AML	AML	01 41 08.9	
CMWZ	Cape Campbell	0.15	309	P*	Pb	01 41 03.6	-0.2
CMWZ				S*	Sb	01 41 07.9	-0.2
BSWZ	Blackbirch Sta	0.40	289	⇓P*	Pb	01 41 06.3	-0.3
BSWZ				S*	Sb	01 41 12.1	-0.7
BSWZ				AML	AML	01 41 13.0	
BSWZ	Blackbirch Sta	0.40	289	P*	Pb	01 41 06.3	-0.3
BSWZ				S*	Sb	01 41 12.1	-0.7
TUWZ	Tuamarina	0.53	322	⇑P*	Pb	01 41 07.6	-0.9
TUWZ				AML	AML	01 41 15.5	
TUWZ				AML	AML	01 41 16.0	
TUWZ	Tuamarina	0.53	322	P*	Pb	01 41 07.6	-0.9
BHW	Baring Head	0.57	41	⇓P*	Pn	01 41 09.5	+0.4
BHW				S*	Sn	01 41 18.1	+0.8
BHW				AML	AML	01 41 24.0	
BHW	Baring Head	0.57	41	P*	Pn	01 41 09.5	+0.4
BHW				S*	Sn	01 41 18.1	+0.8
SNZO	South Karori	0.59	25	P*	Pb	01 41 08.9	-0.6
SNZO				AML	AML	01 41 18.8	
SNZO				AML	AML	01 41 18.8	
SNZO				AML	AML	01 41 19.4	
SNZO				AML	AML	01 41 19.4	
SNZO	South Karori	0.59	25	P*	Pb	01 41 08.9	-0.6
SNZO				*e*Pg	Pn	01 41 09.3	+0.1
SNZO				*e*S	Sn	01 41 17.9	+0.3
WEL	Wellington	0.63	28	⇓P*	Pb	01 41 10.1	-0.1
WEL	Wellington	0.63	28	P*	Pb	01 41 10.1	-0.1
TCW	Tory Channel	0.64	353	P*	Pn	01 41 09.3	-0.7
TCW				AML	AML	01 41 18.3	
TCW				AML	AML	01 41 18.3	
PLWZ	Palliser	0.71	68	⇓P*	Pb	01 41 11.9	+0.3
PLWZ	Palliser	0.71	68	P*	Pb	01 41 11.9	+0.3
MSWZ	Moikau Station	0.78	57	⇓P*	Pb	01 41 12.9	+0.1
MSWZ				S*	Sb	01 41 24.1	+0.9
MSWZ				AML	AML	01 41 26.2	
MSWZ	Moikau Station	0.78	57	P*	Pb	01 41 12.9	+0.1
MSWZ				S*	Sb	01 41 24.1	+0.9
KHZ	Kahutara	0.84	227	P*	Pb	01 41 13.9	+0.2
KHZ				AML	AML	01 41 26.0	
KHZ				AML	AML	01 41 27.1	
KHZ	Kahutara	0.84	227	*e*Pg	Pb	01 41 14.3	+0.6
KHZ				*e*S	Sb	01 41 25.9	+1.1
CAW	Cannon Point	0.90	36	⇓P*	Pb	01 41 14.3	-0.4
CAW				AML	AML	01 41 27.8	
CAW				AML	AML	01 41 29.0	
CAW	Cannon Point	0.90	36	P*	Pb	01 41 14.3	-0.4
PAWZ	Paruwai Farm	0.92	60	⇓P*	Pb	01 41 14.4	-0.5
PAWZ				AML	AML	01 41 33.2	
PAWZ				AML	AML	01 41 45.3	
PAWZ	Paruwai Farm	0.92	60	P*	Pb	01 41 14.4	-0.5
NNZ	Nelson	0.97	310	⇓PN	Pn	01 41 14.4	-0.3
NNZ				AML	AML	01 41 30.5	
NNZ				AML	AML	01 41 31.9	
NNZ	Nelson	0.97	310	Pn	Pn	01 41 14.4	-0.3
KIW	Kapiti Island	1.06	23	⇓P*	Pn	01 41 16.4	+0.5
KIW				AML	AML	01 41 30.9	
KIW				AML	AML	01 41 30.9	
KIW	Kapiti Island	1.06	23	P*	Pn	01 41 16.4	+0.5
TRWZ	Traveller	1.08	66	⇓P*	Pn	01 41 16.5	+0.3
TRWZ				AML	AML	01 41 42.7	
TRWZ				AML	AML	01 41 47.2	
TRWZ	Traveller	1.08	66	P*	Pn	01 41 16.5	+0.3
MTW	Mount Morrison	1.09	51	⇓P*	Pn	01 41 16.5	+0.2
MTW				AML	AML	01 41 36.4	
MTW				AML	AML	01 41 39.7	
MTW	Mount Morrison	1.09	51	P*	Pn	01 41 16.5	+0.2
DUWZ	D'Urville Isla	1.09	342	⇑P*	Pn	01 41 16.5	+0.2
DUWZ				AML	AML	01 41 32.3	
DUWZ				AML	AML	01 41 32.9	
DUWZ	D'Urville Isla	1.09	342	P*	Pn	01 41 16.5	+0.2
THZ	Tophouse	1.10	274	AML	AML	01 41 35.6	
THZ				AML	AML	01 41 37.6	
OGWZ	Otaki Gorge	1.19	31	⇓P*	Pn	01 41 18.1	+0.5
OGWZ	Otaki Gorge	1.19	31	P*	Pn	01 41 18.1	+0.5
HOWZ	Holdsworth Sta	1.28	43	P*	Pn	01 41 19.0	+0.1
HOWZ	Holdsworth Sta	1.28	43	P*	Pn	01 41 19.0	+0.1
TMWZ	Te Maipa	1.36	58	PN	Pn	01 41 20.0	0.0
TMWZ	Te Maipa	1.36	58	Pn	Pn	01 41 20.0	0.0
MRZ	Mangatainoka R	1.49	38	PN	Pn	01 41 21.8	0.0
MRZ				AML	AML	01 41 48.9	
MRZ				AML	AML	01 41 57.3	
MRZ	Mangatainoka R	1.49	38	Pn	Pn	01 41 21.8	0.0
TIWZ	Tintock	1.56	47	PN	Pn	01 41 22.6	-0.2
TIWZ	Tintock	1.56	47	Pn	Pn	01 41 22.6	-0.2
POWZ	Post Office Ro	1.79	36	PN	Pn	01 41 26.0	+0.1
POWZ	Post Office Ro	1.79	36	Pn	Pn	01 41 26.1	+0.1
LTZ	Lake Taylor	1.82	238	⇓PN	Pn	01 41 27.4	+1.0
LTZ				AML	AML	01 41 55.2	
LTZ				AML	AML	01 42 07.0	
LTZ	Lake Taylor	1.82	238	Pn	Pn	01 41 27.4	+1.0
BFZ	Birch Farm	1.83	51	PN	Pn	01 41 25.8	-0.7
BFZ	Birch Farm	1.83	51	Pn	Pn	01 41 25.8	-0.7
DVHZ	Dannevirke	2.05	42	⇓PN	Pn	01 41 28.9	-0.7
DVHZ	Dannevirke	2.05	42	Pn	Pn	01 41 28.9	-0.7
WAZ	Wanganui	2.14	13	PN	Pn	01 41 32.8	+2.1
WAZ				AML	AML	01 42 08.4	
WAZ				AML	AML	01 42 11.1	
WAZ	Wanganui	2.14	13	Pn	Pn	01 41 32.8	+2.1
TSZ	Takapari Road	2.15	35	AML	AML	01 42 08.4	
TSZ				AML	AML	01 42 11.1	
CRLZ	Canterbury Las	2.16	216	PN	Pn	01 41 31.2	+0.2
CRLZ				AML	AML	01 41 57.3	
CRLZ	Canterbury Las	2.16	216	Pn	Pn	01 41 31.2	+0.2
PRHZ	Porangahau	2.33	48	PN	Pn	01 41 32.2	-1.1
PRHZ	Porangahau	2.33	48	Pn	Pn	01 41 32.2	-1.1
WPHZ	Waipukurau	2.37	42	PN	Pn	01 41 33.3	-0.6
WPHZ	Waipukurau	2.37	42	Pn	Pn	01 41 33.3	-0.6
PNHZ	Pukenui	2.37	36	⇓PN	Pn	01 41 33.5	-0.5
PNHZ	Pukenui	2.37	36	Pn	Pn	01 41 33.5	-0.5
PXZ	Pawanui	2.61	47	PN	Pn	01 41 35.9	-1.3
PXZ				AML	AML	01 42 33.1	
PXZ				AML	AML	01 42 33.1	
PXZ				AML	AML	01 42 34.3	
PXZ				AML	AML	01 42 34.3	
PXZ	Pawanui	2.61	47	Pn	Pn	01 41 35.9	-1.3
MOVZ	Moawhango	2.65	24	PN	Pn	01 41 38.2	+0.4
MOVZ				AML	AML	01 42 23.9	
MOVZ				AML	AML	01 42 27.4	
MOVZ	Moawhango	2.65	24	Pn	Pn	01 41 38.2	+0.4
PKE	Pukeiti	2.66	354	PN	Pn	01 41 40.5	+2.6
PKE				AML	AML	01 42 22.2	
PKE				AML	AML	01 42 31.4	
PKE	Pukeiti	2.66	354	Pn	Pn	01 41 40.5	+2.6
TRVZ	Turoa	2.69	20	AML	AML	01 42 26.8	
TRVZ				AML	AML	01 42 36.6	
TRVZ	Turoa	2.69	20	Pn	Pn	01 41 40.3	+1.8
VRZ	Vera Road	2.73	6	PN	Pn	01 41 40.9	+2.0
VRZ				AML	AML	01 42 25.1	
VRZ				AML	AML	01 42 28.2	
VRZ	Vera Road	2.73	6	Pn	Pn	01 41 40.9	+2.0
FWVZ	Far West T-bar	2.74	20	AML	AML	01 42 27.9	
FWVZ				AML	AML	01 42 30.7	
WPVZ	Whakapapa	2.78	19	AML	AML	01 42 34.7	
WPVZ				AML	AML	01 42 35.3	
KAHZ	Kahuranaki	2.79	44	PN	Pn	01 41 38.5	-1.3
KAHZ	Kahuranaki	2.79	44	Pn	Pn	01 41 38.5	-1.3
WTVZ	West Tongariro	2.88	19	PN	Pn	01 41 42.4	+1.4
WTVZ				AML	AML	01 42 30.0	
WTVZ				AML	AML	01 42 31.4	
WTVZ	West Tongariro	2.88	19	Pn	Pn	01 41 42.4	+1.4
KRVZ	Karewarewa	2.91	20	PN	Pn	01 41 42.5	+1.0
KRVZ				AML	AML	01 42 36.8	
KRVZ				AML	AML	01 42 39.7	
KRVZ	Karewarewa	2.91	20	Pn	Pn	01 41 42.5	+1.0
WVZ	Waitaha Valley	2.96	244	PN	Pn	01 41 42.7	+0.8
WVZ				AML	AML	01 42 39.2	
WVZ				AML	AML	01 42 39.2	
WVZ	Waitaha Valley	2.96	244	Pn	Pn	01 41 42.8	+0.8
KATZ	Kakaramea	3.04	20	AML	AML	01 42 42.9	
KATZ				AML	AML	01 42 46.4	
KATZ	Kakaramea	3.04	20	Pn	Pb	01 41 51.4	+0.5
RPZ	Rata Peaks	3.08	231	PN	Pn	01 41 43.6	+0.1
RPZ				AML	AML	01 42 23.4	
RPZ				AML	AML	01 42 37.2	
RPZ	Rata Peaks	3.08	231	*e*Pn	Pn	01 41 43.7	+0.1
RPZ	Rata Peaks	3.08	231	Pn	Pn	01 41 43.8	+0.2
	7.0nm,0.3s,baz=49,slow=20,SNR=12						
RPZ				Sn	Sn	01 42 17.7	-1.5
	10.0nm,0.3s,baz=36,slow=3.9,SNR=22						
BKZ	Black Stump Fm	3.12	32	PN	Pn	01 41 43.4	-1.0
BKZ				AML	AML	01 42 42.5	
BKZ				AML	AML	01 42 45.4	
BKZ	Black Stump Fm	3.12	32	Pn	Pn	01 41 43.4	-1.0
WATZ	Wairara	3.30	19	AML	AML	01 42 49.2	
WATZ				AML	AML	01 42 57.5	
WATZ	Wairara	3.30	19	Pn	Pb	01 41 56.3	+1.0
HIZ	Hauiti	3.35	6	AML	AML	01 42 42.2	
HIZ				AML	AML	01 42 51.2	
HIZ	Hauiti	3.35	6	Pn	Pn	01 41 49.5	+2.1
MHGZ	Mahia Peninsul	3.81	46	Pn	Pn	01 41 52.7	-0.9
FOZ	Fox Glacier	3.86	242	AML	AML	01 43 00.3	
FOZ				AML	AML	01 43 09.5	
PRGZ	Paritu Road	3.96	44	Pn	Pn	01 41 54.1	-1.7
LBZ	Lake Benmore	3.98	229	PN	Pn	01 41 56.2	+0.1
LBZ				AML	AML	01 42 39.6	
LBZ				AML	AML	01 44 20.4	
LBZ	Lake Benmore	3.98	229	Pn	Pn	01 41 56.2	+0.1
URZ	Urewera	4.15	31	AML	AML	01 43 17.3	
URZ				AML	AML	01 43 32.0	
URZ	Urewera	4.15	31	*e*Pn	Pn	01 41 57.0	-1.3
URZ				*e*Pg	Pb	01 42 10.8	+1.1
URZ	Urewera	4.15	31	Pn	Pn	01 41 56.7	-1.6
	1.3nm,0.3s,baz=225,slow=2.3,SNR=5.9						
URZ				Sn	Sn	01 42 43.4	-2.3
	6.1nm,0.3s,baz=92,slow=11,SNR=4.0						
ODZ	Otahua Downs	4.20	219	⇓PN	Pn	01 41 58.6	-0.3
ODZ	Otahua Downs	4.20	219	*e*Pn	Pn	01 41 58.7	-0.3
ODZ				*e*S	Sn	01 42 44.3	-2.5
MWZ	Matawai	4.26	36	PN	Pn	01 41 57.0	-2.8
MWZ				AML	AML	01 43 13.4	
MWZ				AML	AML	01 43 29.8	
MWZ	Matawai	4.26	36	Pn	Pn	01 41 57.0	-2.8
JCZ	Jackson Bay	4.69	240	AML	AML	01 43 10.7	
JCZ				AML	AML	01 43 27.6	
MKAZ	Moumakai	4.77	8	AML	AML	01 43 21.6	
MKAZ	Moumakai	4.77	8	Pn	Pn	01 42 07.9	+1.0
EAZ	Earnscleugh	5.00	226	PN	Pn	01 42 09.7	-0.3
EAZ	Earnscleugh	5.00	226	Pn	Pn	01 42 09.7	-0.3
TUZ	Tuapeka	5.35	218	PN	Pn	01 42 14.7	-0.1
TUZ				AML	AML	01 43 13.3	
TUZ	Tuapeka	5.35	218	Pn	Pn	01 42 14.7	-0.1
CTZ	Chatham Island	6.89	109	PN	Pn	01 42 36.6	+0.6
CTZ	Chatham Island	6.89	109	Pn	Pn	01 42 36.6	+0.6
ASAR	Alice Springs	38.15	286	P	P	01 48 12.5	-1.0
	0.5nm,0.6s,baz=122,slow=6.2,SNR=5.9						
WRA	Warramunga Arr	40.22	290	P	P	01 48 30.1	-0.7
	1.1nm,0.5s,baz=127,slow=8.5,SNR=9.7						
ARCES	ARCESS Array B	147.90	340	PKPbc	PKPbc	02 00 37.4	-0.3
	2.0nm,0.9s,baz=46,slow=3.5,SNR=5.0						
TORD	Torodi Ar. Bea	150.71	195	PKPbc	PKPbc	02 00 49.0	+2.7
	0.3nm,0.4s,baz=163,slow=2.3,SNR=13						

MAN 04 02:03:46.6°.99N×123°.17E, h3km, mb4.2, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.88	14	*e*P	Pb	02 04 04.2	+0.3
PAGZ				*e*S	Sn	02 04 18.9	+0.3
IPIL	Ipil	0.99	323	*e*P	Pn	02 04 06.7	-0.2
BUKP	Musuan	2.07	65	*e*P	Pn	02 04 22.6	+0.8
CGP	Cagayan de Oro	2.10	46	*e*P	Pn	02 04 12.7	-9.4
CGP				*e*S	Sn	02 04 34.0	-15
BUTP	Butuan	3.12	51	*e*P	Pn	02 04 39.2	+3.0

ISCJB ***04*** *03:04:21.7±1.0, 38°.19N±0°.05×26°.57E±0°.08, h9km±7km, Error ellipse: s-maj=12.2km s-min=5.7km az=143.6*

CSEM ***04*** *03:04:22.2±0.3, 38°.25N×26°.58E, h13km±2km, MD2.9, Error ellipse: s-maj=11.3km s-min=5.5km az=53.0*

ATH ***04*** *03:04:22.4, 38°.18N×26°.50E, h32km, MD2.9/4*

DDA ***04*** *03:04:22.5, 38°.24N×26°.60E, h7km, MD2.7*

ISC 04 03:04:21.9±1.1, 38°.21N±0°.05×26°.55E±0°.05, h9km±8km, n12,σ0°.39/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.15	14	*i* P	Pg	03 04 25.4	0.0
URLA				*i* S	Sg	03 04 27.7	0.0
URLA	Izmir	0.15	14	*i* P	Pg	03 04 25.4	0.0
URLA				*i* S	Sg	03 04 27.7	0.0
CHOS	Chios island	0.43	295	*e*PB	Pb	03 04 31.6	-0.1
CHOS				*e*SB	Sb	03 04 38.8	+0.6
CHOS	Chios island	0.43	295	*e*Pb	Pb	03 04 31.6	-0.1
CHOS				*e*Sb	Sb	03 04 38.8	+0.6
SMG	Samos	0.55	155	*e*PN	Pb	03 04 33.7	0.0
SMG				*e*SN	Sb	03 04 42.5	+0.8
SMG	Samos	0.55	155	*e*Pn	Pb	03 04 33.7	0.0
SMG				*e*Sn	Sb	03 04 42.5	+0.8
GCAM	G?zelcaml?	0.74	133	*i* P	Pb	03 04 37.1	+0.1
GCAM				*i* S	Sb	03 04 47.1	-0.1
GCAM	G?zelcaml?	0.74	133	*i* P	Pb	03 04 37.1	+0.1
GCAM				*i* S	Sb	03 04 47.1	-0.1
PRK	Paraskevi	1.06	348	*e*PN	Pn	03 04 42.6	-0.3
PRK				*e*SN	Sn	03 04 57.7	0.0
PRK	Paraskevi	1.06	348	*e*Pn	Pn	03 04 42.6	-0.3
PRK				*e*Sn	Sn	03 04 57.7	0.0
APE	Apeiranthos	1.40	216	*e*PN	Pn	03 04 47.1	-0.5
APE	Apeiranthos	1.40	216	*e*Pn	Pn	03 04 47.1	-0.5

NIED ***04*** *03:09:00, 28°.10N×130°.40E, h14km, Mw3.6 Best double couple: M0:3.12000×10^14 NP1:φ=214.00000°, δ=83.00000°

WHZ					AML	AML	03 23 40.5	
WHZ	**Wether Hill Ro**	**0.99**	**120**	P*		**Pb**	**03 23 25.1**	**-0.8**
WHZ				S*		**Sn**	**03 23 39.4**	**-0.4**
MLZ	**Mavora Lakes**	**1.03**	**87**	PN		**Pb**	**03 23 24.9**	**-1.8**
MLZ				SN		**Sb**	**03 23 38.0**	**-1.7**
MLZ				AML		AML	03 23 40.5	
MLZ	**Mavora Lakes**	**1.03**	**87**	P*		**Pb**	**03 23 24.9**	**-1.8**
MSZ	**Milford Sound**	**1.13**	**50**	PN		**Pn**	**03 23 26.6**	**-1.7**
MSZ				AML		AML	03 23 45.1	
MSZ				AML		AML	03 23 45.1	
MSZ				AML		AML	03 23 45.1	
MSZ				AML		AML	03 23 45.1	
MSZ	**Milford Sound**	**1.13**	**50**	Pn		**Pn**	**03 23 26.6**	**-1.7**
APZ	**The Paps**	**1.68**	**149**	PN		**Pb**	**03 23 36.8**	**-0.9**
APZ	**The Paps**	**1.68**	**149**	Pn		**Pb**	**03 23 36.8**	**-0.9**
WKZ	**Wanaka**	**1.73**	**71**	PN		**Pb**	**03 23 37.2**	**-1.3**
WKZ				AML		AML	03 24 08.5	
WKZ				AML		AML	03 24 08.5	
WKZ				AML		AML	03 24 09.7	
WKZ				AML		AML	03 24 09.7	
WKZ	**Wanaka**	**1.73**	**71**	Pn		**Pb**	**03 23 37.2**	**-1.3**
EAZ	**Earnscleugh**	**1.83**	**85**	PN		**Pn**	**03 23 38.2**	**+0.3**
EAZ				AML		AML	03 24 07.2	
EAZ				AML		AML	03 24 07.3	
EAZ				AML		AML	03 24 08.1	
EAZ				AML		AML	03 24 08.1	
EAZ	**Earnscleugh**	**1.83**	**85**	Pn		**Pn**	**03 23 38.7**	**+0.8**
JCZ	**Jackson Bay**	**1.97**	**48**	PN		**Pn**	**03 23 39.9**	**0.0**
JCZ				AML		AML	03 24 14.0	
JCZ				AML		AML	03 24 14.5	
JCZ	**Jackson Bay**	**1.97**	**48**	Pn		**Pn**	**03 23 39.9**	**0.0**
SYZ	**Scrubby Hill**	**2.03**	**125**	Pn		**Pn**	**03 23 41.3**	**+0.7**
TUZ	**Tuapeka**	**2.11**	**106**	PN		**Pn**	**03 23 42.3**	**+0.5**
TUZ				AML		AML	03 24 14.3	
TUZ				AML		AML	03 24 16.2	
TUZ	**Tuapeka**	**2.11**	**106**	Pn		**Pn**	**03 23 42.3**	**+0.5**
LBZ	**Lake Benmore**	**2.67**	**69**	PN		**Pn**	**03 23 49.2**	**-0.2**
LBZ				AML		AML	03 24 36.2	
LBZ				AML		AML	03 24 36.2	
LBZ				AML		AML	03 24 41.9	
LBZ				AML		AML	03 24 42.0	
LBZ	**Lake Benmore**	**2.67**	**69**	Pn		**Pn**	**03 23 49.2**	**-0.2**
ODZ	**Otahua Downs**	**2.80**	**84**	⇑PN		**Pn**	**03 23 50.9**	**-0.2**
ODZ	**Otahua Downs**	**2.80**	**84**	*e*Pn		**Pn**	**03 23 51.0**	**-0.2**
ODZ				*e*S		**Sn**	**03 24 25.5**	**+1.1**
FOZ	**Fox Glacier**	**2.81**	**50**	AML		AML	03 24 39.8	
FOZ				AML		AML	03 24 41.9	
RPZ	**Rata Peaks**	**3.53**	**63**	AML		AML	03 24 47.9	
RPZ				AML		AML	03 24 48.1	
RPZ	**Rata Peaks**	**3.53**	**63**	*e*Pn		**Pn**	**03 24 01.9**	**+0.5**
RPZ				*e*S		**Sn**	**03 24 45.3**	**+2.8**
RPZ	**Rata Peaks**	**3.53**	**63**	Pn		**Pn**	**03 24 01.8**	**+0.5**
28nm,0.3s,baz=216,slow=4.1,SNR=43								
RPZ				Sn		**Sn**	**03 24 44.8**	**+2.3**
30nm,0.3s,baz=331,slow=22,SNR=16								
WVZ	**Waitaha Valley**	**3.71**	**52**	AML		AML	03 24 55.9	
WVZ				AML		AML	03 25 05.4	
LTZ	**Lake Taylor**	**4.78**	**59**	AML		AML	03 25 24.4	
LTZ				AML		AML	03 25 24.7	
THZ	**Tophouse**	**5.78**	**53**	AML		AML	03 25 45.5	
THZ				AML		AML	03 25 47.3	
SNZO	**South Karori**	**7.12**	**58**	*e*Pn		**Pn**	**03 24 49.4**	**-1.0**
SNZO				*e*S		**Sn**	**03 26 14.4**	**+3.7**
ASAR	**Alice Springs**	**34.30**	**298**	P		P	03 30 01.3	+8.7
ASAR	**Alice Springs**	**34.30**	**298**	P		P	03 30 01.3	+8.7
0.3nm,0.8s,baz=138,slow=7.0,SNR=2.9								
WRA	**Warramunga Arr**	**36.84**	**303**	P		P	03 30 21.8	+7.3
WRA	**Warramunga Arr**	**36.84**	**303**	P		P	03 30 21.8	+7.3
0.3nm,0.7s,baz=131,slow=8.6,SNR=2.4								
BRTR	**Keskin Array B**	**145.38**	**278**	PKPbc		**PKPab**	**03 42 44.9**	**+1.0**
BRTR	**Keskin Array B**	**145.38**	**278**	PKPbc		**PKPab**	**03 42 44.9**	**+1.0**
1.3nm,0.8s,baz=112,slow=3.3,SNR=8.1								
TORD	**Torodi Ar. Bea**	**145.42**	**206**	PKPbc		**PKPab**	**03 42 44.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**145.42**	**206**	PKPbc		**PKPab**	**03 42 44.5**	**+0.1**
3.0nm,0.7s,baz=149,slow=2.5,SNR=34								
ARCES	**ARCESS Array B**	**149.04**	**335**	PKPbc		**PKPbc**	**03 42 53.4**	**+0.4**
ARCES	**ARCESS Array B**	**149.04**	**335**	PKPbc		**PKPbc**	**03 42 53.4**	**+0.4**
1.2nm,0.8s,baz=52,slow=4.9,SNR=4.6								
FINES	**FINESS Array B**	**152.15**	**319**	PKP		**PKPdf**	**03 42 53.7**	**-0.1**
FINES				PKPbc		**PKiKP**	**03 43 00.8**	**+0.1**
FINES	**FINESS Array B**	**152.15**	**319**	PKP		**PKPdf**	**03 42 53.7**	**-0.1**
0.6nm,0.7s,baz=84,slow=1.7,SNR=2.3								
FINES				PKPbc		**PKiKP**	**03 43 00.8**	**+0.1**
1.7nm,1.1s,baz=80,slow=2.1,SNR=3.5								

IDC 04 04:11:38.5±2.6, 30°.16N×113°.14W, h0km, mb3.6/2, mb1 3.8/7, mb1mx3.6/27, mbtmp3.4/7, ML3.5/5, MS3.5/15, Ms1 3.5/15, ms1mx3.5/26, Error ellipse: s-maj=48.8km s-min=11.1km az=30.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**4.45**	**321**	Pn	Pn	04 12 47.6	+0.3
0.2nm,0.3s,baz=169,slow=11,SNR=3.4							
PFO				Pg	Pb	04 12 56.4	-1.2
0.9nm,0.3s,baz=170,slow=9.4,SNR=11							
PFO				Lg	Lg	04 13 55.1	
1.2nm,0.3s,baz=69,slow=13,SNR=5.2							
LPIG	**La Paz**	**6.54**	**157**	LR	LR	04 15 22.2	
comp=Z,46nm,19.4s,baz=152,slow=34							
ANMO	**Albuquerque**	**7.39**	**48**	Pn	Pn	04 13 30.6	+2.8
0.4nm,0.3s,baz=227,slow=14,SNR=18							
ANMO				Lg	Lg	04 15 51.8	
0.6nm,0.3s,baz=50,slow=9.6,SNR=3.8							
TXAR	**Lajitas Array**	**8.28**	**93**	Pn	Pn	04 13 40.8	+0.8
0.4nm,0.3s,baz=259,slow=14,SNR=30							
TXAR				Lg	Lg	04 16 17.7	
0.6nm,0.3s,baz=281,slow=33,SNR=5.1							
NVAR	**Mina Array Bea**	**9.29**	**334**	Pn	Pn	04 13 53.5	-0.4
0.1nm,0.3s,baz=160,slow=13,SNR=9.5							
NVAR				Lg	Lg	04 16 36.5	
baz=165,slow=32,SNR=2.2							
PDAR	**Pinedale Array**	**12.90**	**12**	Pn	Pn	04 14 47.2	+3.8
0.1nm,0.3s,baz=189,slow=15,SNR=5.2							
PDAR				LR	LR	04 20 08.2	
comp=Z,268nm,19.2s,baz=160,slow=40							
YBH	**Yreka Blue Hor**	**13.89**	**329**	LR	LR	04 20 11.1	
comp=Z,294nm,19.7s,baz=152,slow=37							
NEW	**Newport**	**18.33**	**352**	P	P	04 15 55.6	+1.2
0.1nm,0.3s,baz=166,slow=12,SNR=3.7							
NEW				LR	LR	04 22 55.1	
comp=Z,79nm,20.1s,baz=90,slow=37							
ULM	**Lac du Bonnet**	**23.90**	**28**	P	P	04 16 54.6	+0.9
2.4nm,0.6s,baz=201,slow=14,SNR=3.7							
ULM				LR	LR	04 26 36.6	
comp=Z,148nm,18.2s,baz=270,slow=38							
BBB	**Bella Bella**	**24.62**	**338**	LR	LR	04 26 13.8	
comp=Z,131nm,21.2s,baz=170,slow=36							
TKL	**Tuckaleechee C**	**25.20**	**70**	LR	LR	04 28 11.2	
comp=Z,128nm,18.7s,baz=278,slow=39							
SADO	**Sadowa**	**30.42**	**52**	LR	LR	04 30 44.9	
comp=Z,114nm,18.5s,baz=106,slow=38							
DLBC	**Dease Lake**	**30.56**	**343**	LR	LR	04 30 04.9	
comp=Z,209nm,18.9s,baz=339,slow=36							
ILAR	**Eielson Array**	**40.51**	**338**	P	P	04 19 17.8	-1.1
0.7nm,1.1s,baz=150,slow=7.9,SNR=5.8							
ROSC	**El Rosal**	**44.40**	**117**	LR	LR	04 38 52.3	
comp=Z,64nm,20.6s,baz=330,slow=37							
LPAZ	**La Paz**	**63.34**	**131**	LR	LR	04 48 47.1	
comp=Z,49nm,20.4s,baz=216,slow=35							
PETK	**Petropavlovsk-**	**66.02**	**319**	LR	LR	04 49 15.6	
comp=Z,20nm,18.4s,baz=232,slow=34							
ARCES	**ARCESS Array B**	**76.15**	**14**	LR	LR	04 58 05.2	
comp=Z,47nm,20.4s,baz=190,slow=37							
NOA	**NORSAR Array B**	**78.53**	**24**	LR	LR	04 56 59.3	
comp=Z,28nm,18.9s,baz=315,slow=35							
GERES	**GERESS Array B**	**88.15**	**32**	LR	LR	05 01 29.7	
comp=Z,33nm,18.0s,baz=24,slow=34							

WEL 04 04:14:23.3±0.3, 38°.59S×175°.89E, h116km±2km, ML3.6/14, 11C-9D, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.17**	**226**	PN	Pn	04 14 39.4	0.0
RATZ	**Rangitukua**	**0.29**	**198**	⇓PN	Pn	04 14 39.6	-0.2
HATZ	**Hinemaiaia**	**0.34**	**152**	PN	Pn	04 14 39.8	-0.2
ALRZ	**Allen Road**	**0.36**	**85**	PN	Pn	04 14 39.9	-0.1
RITZ	**Rihia Road**	**0.39**	**183**	PN	Pn	04 14 40.4	+0.2
KATZ	**Kakaramea**	**0.41**	**201**	⇑PN	Pn	04 14 40.5	0.0
KRVZ	**Karewarewa**	**0.54**	**201**	PN	Pn	04 14 41.0	-0.2
RRRZ	**Republican Roa**	**0.56**	**63**	PN	Pn	04 14 41.1	-0.1
WTVZ	**West Tongariro**	**0.57**	**204**	⇓PN	Pn	04 14 41.3	-0.1
WTVZ				SN	Sn	04 14 56.2	+1.1
TWVZ	**Taurewa**	**0.59**	**216**	⇓PN	Pn	04 14 41.4	-0.1
OTVZ	**Oturere**	**0.59**	**197**	PN	Pn	04 14 41.8	+0.1
WPVZ	**Whakapapa**	**0.67**	**203**	PN	Pn	04 14 42.2	0.0
FWVZ	**Far West T-bar**	**0.71**	**201**	⇓PN	Pn	04 14 42.6	-0.1
BKZ	**Black Stump Fm**	**0.74**	**141**	⇓PN	Pn	04 14 42.5	-0.2
BKZ				SN	Sn	04 14 57.1	-0.2
BKZ				AML	AML	04 15 00.3	
HIZ	**Hauiti**	**0.81**	**275**	⇑PN	Pn	04 14 42.8	-0.4
HIZ				SN	Sn	04 14 58.2	+0.1
MOVZ	**Moawhango**	**0.82**	**187**	⇓PN	Pn	04 14 43.1	-0.3
NMHZ	**Naumai**	**0.88**	**125**	PN	Pn	04 14 44.8	+0.9
BHHZ	**Black Hill Sta**	**0.91**	**171**	PN	Pn	04 14 43.9	-0.2
TOZ	**Tahuroa Road**	**0.91**	**341**	⇑PN	Pn	04 14 43.9	-0.2
TOZ				SN	Sn	04 14 60.0	+0.2
URZ	**Urewera**	**1.02**	**71**	PN	Pn	04 14 44.5	-0.7
URZ				SN	Sn	04 15 01.3	-0.3
URZ				AML	AML	04 15 04.6	
VRZ	**Vera Road**	**1.03**	**239**	PN	Pn	04 14 45.1	-0.1
MCHZ	**McNeill Hill**	**1.06**	**144**	PN	Pn	04 14 46.6	+1.0
MWZ	**Matawai**	**1.31**	**79**	PN	Pn	04 14 48.2	-0.1
MWZ				SN	Sn	04 15 07.1	-0.3
MWZ				AML	AML	04 15 12.6	
MWZ				AML	AML	04 15 13.3	
MWZ				AML	AML	04 15 14.8	
PNHZ	**Pukenui**	**1.34**	**170**	PN	Pn	04 14 48.6	-0.1
WAZ	**Wanganui**	**1.35**	**211**	⇓PN	Pn	04 14 48.9	+0.1
CKHZ	**Cape Kidnapper**	**1.41**	**139**	PN	Pn	04 14 49.9	+0.4
KAHZ	**Kahuranaki**	**1.43**	**148**	PN	Pn	04 14 49.9	+0.2
KNZ	**Kokohu**	**1.46**	**108**	⇓PN	Pn	04 14 50.1	+0.1
TSZ	**Takapari Road**	**1.47**	**178**	⇑PN	Pn	04 14 49.6	-0.6
TSZ				SN	Sn	04 15 08.6	-1.9
TSZ				AML	AML	04 15 17.8	
WPHZ	**Waipukurau**	**1.53**	**164**	PN	Pn	04 14 50.5	-0.4
PRGZ	**Paritu Road**	**1.60**	**103**	PN	Pn	04 14 51.6	-0.1
PXZ	**Pawanui**	**1.62**	**152**	⇑PN	Pn	04 14 51.6	-0.3
PXZ				AML	AML	04 15 15.5	
PXZ				AML	AML	04 15 15.6	
PXZ				AML	AML	04 15 16.2	
PXZ				AML	AML	04 15 16.2	
MHGZ	**Mahia Peninsul**	**1.67**	**110**	PN	Pn	04 14 52.7	+0.2
DVHZ	**Dannevirke**	**1.72**	**173**	PN	Pn	04 14 52.2	-0.9
PRHZ	**Porangahau**	**1.77**	**161**	⇑PN	Pn	04 14 53.1	-0.6
POWZ	**Post Office Ro**	**1.80**	**183**	PN	Pn	04 14 53.1	-1.0
CNGZ	**Carnagh Statio**	**1.82**	**87**	PN	Pn	04 14 55.1	+0.7
PUZ	**Puketiti**	**1.94**	**75**	PN	Pn	04 14 55.2	-0.5
PUZ				SN	Sn	04 15 19.1	-1.5
PUZ				AML	AML	04 15 21.2	
MRZ	**Mangatainoka R**	**2.08**	**186**	⇑PN	Pn	04 14 55.9	-1.6
MRZ				SN	Sn	04 15 20.6	-3.2
MRZ				AML	AML	04 15 23.3	
BFZ	**Birch Farm**	**2.10**	**172**	PN	Pn	04 14 56.5	-1.4
OGWZ	**Otaki Gorge**	**2.29**	**194**	⇑PN	Pn	04 14 58.5	-1.7
HOWZ	**Holdsworth Sta**	**2.32**	**187**	PN	Pn	04 14 58.6	-2.1
KIW	**Kapiti Island**	**2.39**	**198**	PN	Pn	04 14 58.3	-3.2
KIW				AML	AML	04 15 00.8	
KIW				AML	AML	04 15 29.7	
TMWZ	**Te Maipa**	**2.51**	**180**	PN	Pn	04 15 00.9	-2.2
MTW	**Mount Morrison**	**2.58**	**186**	⇑PN	Pn	04 15 01.4	-2.5
MTW				AML	AML	04 15 33.0	
MTW				AML	AML	04 15 33.2	
CAW	**Cannon Point**	**2.59**	**194**	PN	Pn	04 15 01.7	-2.4
CAW				AML	AML	04 15 35.0	
CAW				AML	AML	04 15 35.7	
DUWZ	**D'Urville Isla**	**2.68**	**214**	PN	Pn	04 15 02.9	-2.4
TRWZ	**Traveller**	**2.81**	**183**	PN	Pn	04 15 04.3	-2.7
TRWZ				AML	AML	04 15 39.4	
MSWZ	**Moikau Station**	**2.86**	**190**	⇑PN	Pn	04 15 04.7	-2.9
MSWZ				AML	AML	04 15 37.8	
MSWZ				AML	AML	04 15 39.0	
SNZO	**South Karori**	**2.86**	**198**	PN	Pn	04 15 04.6	-2.9
SNZO				AML	AML	04 15 40.3	
TCW	**Tory Channel**	**2.89**	**205**	PN	Pn	04 15 05.2	-2.9
TCW				AML	AML	04 15 41.6	
TCW				AML	AML	04 15 42.5	
BHW	**Baring Head**	**2.92**	**195**	⇑PN	Pn	04 15 05.3	-3.0
PLWZ	**Palliser**	**3.01**	**189**	PN	Pn	04 15 06.4	-3.2
TUWZ	**Tuamarina**	**3.20**	**207**	⇓PN	Pn	04 15 09.0	-3.1

IDC 04 06:02:27.2±12.0, 12°.69N×87°.20W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=249.7km s-min=49.5km az=178.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.55**	**320**	P	P	06 07 28.1	-1.1
4.7nm,0.7s,baz=137,slow=11,SNR=77							
PDAR	**Pinedale Array**	**35.68**	**331**	P	P	06 09 28.5	+0.9
0.5nm,0.5s,baz=131,slow=8.9,SNR=6.2							
NVAR	**Mina Array Bea**	**37.68**	**318**	P	P	06 09 44.7	-0.1
0.5nm,0.8s,baz=126,slow=10,SNR=3.5							
SCHQ	**Schefferville**	**44.98**	**17**	P	P	06 10 43.8	-0.4
2.9nm,0.8s,baz=226,slow=9.6,SNR=4.6							

IDC 04 06:02:40.7±6.4, 2°.90S×133°.05E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=389.9km s-min=29.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.99**	**176**	Pn	Pn	06 06 40.8	+0.9
0.1nm,0.3s,baz=352,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**20.66**	**178**	P	P	06 07 21.9	-0.4
2.0nm,0.7s,baz=6.0,slow=12,SNR=21							
MKAR	**Makanchi Array**	**66.57**	**325**	P	P	06 13 32.9	0.0
0.3nm,0.4s,baz=111,slow=7.7,SNR=5.1							

*IDC **04** 06:26:40.5±2.5, 29°.45N×113°.69W, h0km, mb3.7/2, mb1 3.8/7, mb1mx3.6/27, mbtmp3.5/7, ML3.3/5, MS3.5/10, Ms1 3.5/10, ms1mx3.3/32, Error ellipse: s-maj=39.2km s-min=15.1km az=30.0*

*NEIC **04** 06:26:43.6±2.2, 29°.45N×114°.12W, h10km, mb4.1/3, Error ellipse: s-maj=28.7km s-min=9.0km az=217.0*

ISC 04 06:26:45.2±1.5, 29°.7N±0°.1×113°.64W±0°.08, h10km, n45, σ1§82/34, mb4.1/4, MS3.6/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**3.56**	**43**	*e*Pn	**Pn**	**06 27 39.2**	**-1.4**
PFO	**Pinyon Flat Ob**	**4.55**	**329**	Pn	**Pn**	**06 27 55.8**	**+1.5**
PFO				Pg	**Pb**	**06 28 05.3**	**+0.1**
PFO				Lg	Lg	06 29 11.9	
PFO	**Pinyon Flat Ob**	**4.55**	**329**	Pn	**Pn**	**06 27 55.8**	**+1.5**
0.1nm,0.3s,baz=140,slow=10,SNR=2.8							
PFO				Pg	**Pb**	**06 28 05.3**	**+0.1**
0.3nm,0.3s,baz=167,slow=14,SNR=4.6							
PFO				Lg	Lg	06 29 11.9	
0.4nm,0.3s,baz=248,slow=19,SNR=3.9							
PFO				LR	LR	06 29 45.7	
comp=Z,589nm,19.6s,baz=156,slow=39							
ISA	**Isabella**	**7.18**	**327**	*e*Sg	**Sg**	**06 30 34.7**	**-1.1**
CCUT	**Cedar City**	**7.81**	**2**	*e*Pn	**Pn**	**06 28 38.5**	**-0.6**
ANMO	**Albuquerque**	**8.00**	**48**	*e*Pn	**Pn**	**06 28 41.1**	**-0.5**
ANMO				Lg	Lg	06 31 00.7	
ANMO	**Albuquerque**	**8.00**	**48**	Pn	**Pn**	**06 28 40.9**	**-0.8**
0.3nm,0.3s,baz=228,slow=14,SNR=16							
ANMO				Lg	Lg	06 31 00.7	
0.2nm,0.3s,baz=131,slow=22,SNR=3.0							
MVCO	**Mesa Verde**	**8.61**	**29**	*e*Pn	Pn	06 28 56.1	+6.0
MVCO				*e*Pg	**Pg**	**06 29 30.5**	**+0.5**
TXAR	**Lajitas Array**	**8.70**	**90**	Pn	**Pn**	**06 28 49.7**	**-1.5**
TXAR				Lg	Lg	06 31 29.5	
TXAR	**Lajitas Array**	**8.70**	**90**	Pn	**Pn**	**06 28 49.7**	**-1.5**
0.1nm,0.3s,baz=274,slow=14,SNR=10							
TXAR				Lg	Lg	06 31 29.5	
0.2nm,0.3s,baz=277,slow=31,SNR=5.0							
MVU	**Marysvale**	**8.83**	**7**	*e*Pn	**Pn**	**06 28 55.4**	**+2.3**
MSU	**Marysvale**	**8.85**	**7**	*e*Pn	**Pn**	**06 28 55.6**	**+2.3**
NVAR	**Mina Array Bea**	**9.50**	**337**	Pn	**Pn**	**06 29 03.6**	**+1.4**
NVAR	**Mina Array Bea**	**9.50**	**337**	Pn	**Pn**	**06 29 03.6**	**+1.4**
0.0nm,0.3s,baz=157,slow=12,SNR=8.8							
SRU	**San Rafael**	**9.71**	**15**	*e*Pn	**Pn**	**06 29 06.0**	**+0.9**
BGU	**Big Grassy Mou**	**11.19**	**2**	*e*Pn	**Pn**	**06 29 28.1**	**+2.9**
JCT	**Junction City**	**12.01**	**83**	*e*Pn	Pn	06 29 41.3	+4.8
ISCO	**Idaho Springs**	**12.02**	**31**	*e*Pn	Pn	06 29 43.1	+6.3
PDAR	**Pinedale Array**	**13.42**	**13**	Pn	Pn	06 30 01.0	+5.1
PDAR	**Pinedale Array**	**13.42**	**13**	Pn	Pn	06 30 01.0	+5.1
0.0nm,0.3s,baz=184,slow=10,SNR=5.8							
RRI2	**Red Ridge**	**13.72**	**7**	*e*Pn	**Pn**	**06 30 02.4**	**+2.4**
MFID	**Camas Ranch**	**13.77**	**353**	*e*Pn	**Pn**	**06 30 02.3**	**+1.7**
REDW	**Red Top Meadow**	**13.79**	**9**	*e*Pn	Pn	06 30 04.2	+3.3
HLID	**Hailey**	**13.82**	**358**	*e*Pn	**Pn**	**06 30 03.2**	**+1.9**
YBH	**Yreka Blue Hor**	**14.05**	**331**	LR	LR	06 35 20.9	
comp=Z,86nm,19.0s,baz=260,slow=36							
MOOW	**Moose Ponds**	**14.18**	**9**	*e*Pn	**P**	**06 30 14.3**	**+0.4**
IMW	**Indian Meadow**	**14.31**	**8**	*e*Pn	**Pn**	**06 30 10.1**	**+2.0**
DLMT	**Dillon**	**15.63**	**3**	*e*Pn	**P**	**06 30 29.7**	**-0.2**
MIAR	**Mount Ida**	**17.66**	**69**	*e*Pn	**P**	**06 30 55.5**	**+3.3**
11nm,1.4s							
BSMT	**Bassoo Peak**	**18.12**	**358**	*e*Pn	**Pn**	**06 30 56.9**	**-0.2**
NEW	**Newport**	**18.70**	**353**	P	**P**	**06 31 03.2**	**-0.5**
NEW	**Newport**	**18.70**	**353**	P	**P**	**06 31 03.2**	**-0.5**
0.0nm,0.3s,baz=161,slow=13,SNR=3.6							
NEW				LR	LR	06 38 45.9	
comp=Z,107nm,18.3s,baz=182,slow=38							
PLAL	**Pickwick Lake**	**22.20**	**70**	*e*P	**P**	**06 31 45.5**	**+3.8**
11nm,1.4s							
AGMN	**Agassiz Nation**	**23.02**	**31**	*e*P	**P**	**06 31 49.0**	**-1.4**
10nm,1.3s							
ULM	**Lac du Bonnet**	**24.49**	**28**	P	**P**	**06 32 01.6**	**-2.8**
ULM	**Lac du Bonnet**	**24.49**	**28**	P	**P**	**06 32 01.6**	**-2.8**
3.7nm,1.0s,baz=238,slow=10,SNR=3.9							
BBB	**Bella Bella**	**24.86**	**339**	LR	LR	06 41 07.3	
comp=Z,121nm,20.2s,baz=194,slow=34							
TKL	**Tuckaleechee C**	**25.76**	**69**	LR	LR	06 43 12.7	
comp=Z,106nm,18.3s,baz=84,slow=38							
ILAR	**Eielson Array**	**40.75**	**339**	P	**P**	**06 34 24.2**	**-1.8**
ILAR	**Eielson Array**	**40.75**	**339**	P	**P**	**06 34 24.2**	**-1.8**
0.7nm,1.0s,baz=151,slow=7.2,SNR=6.6							
PETK	**Petropavlovsk-**	**66.05**	**319**	LR	LR	07 02 49.7	
comp=Z,69nm,20.7s,baz=59,slow=33							
KSRS	**Korea Array**	**91.77**	**316**	LR	LR	07 20 40.4	
comp=Z,19nm,18.7s,baz=206,slow=35							
JNU	**Nakatsue**	**92.62**	**311**	LR	LR	07 20 39.0	
comp=Z,38nm,18.2s,baz=110,slow=35							
SONM	**Songino Array**	**94.83**	**334**	LR	LR	07 24 31.0	
comp=Z,34nm,18.8s,baz=34,slow=36							
ZALV	**Zalesovo Beam**	**95.15**	**349**	LR	LR	07 26 54.3	
comp=Z,20nm,18.6s,baz=70,slow=38							

*IDC **04** 06:40:25.6±2.1, 0°.63S×131°.85E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=101.8km s-min=25.1km az=74.0*

*ISCJB **04** 06:40:27.6±1.3, 0°.6S±0°.1×132°.01E±0°.08, h31km, mb3.9/3, Error ellipse: s-maj=17.4km s-min=10.7km az=8.5*

*AUST **04** 06:40:29.8±0.0, 0°.95S×131°.96E, h0km±4km, Error ellipse: s-maj=6.2km s-min=2.7km az=21.0*

ISC 04 06:40:30.0±1.6, 0°.7S±0°.1×131°.9E±0°.1, h31km, n11, σ1§44/12, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.68**	**255**	P	**Pb**	**06 40 42.3**	**-1.1**
baz=0.7,SNR=101							
SWI				S	**Sn**	**06 40 53.8**	**+0.8**
baz=0.7,SNR=16							
FAKI	**Fak Fak**	**2.24**	**171**	P	**Pn**	**06 41 06.1**	**+1.1**
baz=2.0,SNR=32							
KDU	**Kakadu**	**11.94**	**177**	P	**Pn**	**06 43 16.7**	**-1.4**
baz=12,SNR=12							
MTN	**Manton Dam**	**12.10**	**184**	P	**Pn**	**06 43 19.3**	**-1.1**
baz=12,SNR=7.0							
KNRA	**Kununurra**	**15.22**	**192**	P	**P**	**06 44 05.6**	**-1.8**
baz=15,SNR=3.4							
FITZ	**Fitzroy Crossi**	**18.37**	**199**	P	**P**	**06 44 42.1**	**-0.2

AVH	**Avacha**	**1.15**	**269**	*i* P		**Pn**	**07 01 49.9**	**+0.8**
AVH				*e*S		**Sn**	**07 02 03.6**	**-0.1**
KOK	**Koryaka**	**1.21**	**271**	*i* P		**Pn**	**07 01 50.5**	**+0.5**
KOK				*e*S		**Sn**	**07 02 04.5**	**-0.7**
PET	**Petropavlovsk**	**1.23**	**258**	‖ *i*PN		**Pn**	**07 01 50.9**	**+0.7**
PET				pmax	pmax			
comp=Z,266nm,0.4s								
PET	**Petropavlovsk**	**1.23**	**258**	*i* P		**Pn**	**07 01 50.9**	**+0.7**
PET				*e*S		**Sn**	**07 02 05.0**	**-0.6**
MKZ	**Mys Kozlova**	**1.42**	**26**	*e*P		**Pn**	**07 01 52.2**	**-0.5**
MKZ				*e*S		**Sn**	**07 02 07.5**	**-2.7**
RUS	**Russkaya**	**1.56**	**237**	*i* P		**Pn**	**07 01 55.5**	**+0.9**
RUS				*e*S		**Sn**	**07 02 13.3**	**-0.2**
GNL	**Ganaly**	**1.67**	**285**	*e*P		**Pn**	**07 01 57.0**	**+0.7**
GNL				*e*S		**Sn**	**07 02 15.6**	**-0.9**
MTVR	**Mutnovka**	**1.70**	**243**	*e*P		**Pn**	**07 01 58.0**	**+1.2**
MTVR				*e*S		**Sn**	**07 02 17.6**	**+0.2**
GRL	**Gorelyy**	**1.73**	**246**	*e*P		**Pn**	**07 01 58.8**	**+1.7**
GRL				*e*S		**Sn**	**07 02 18.7**	**+0.7**
PETK	**Petropavlovsk-**	**1.78**	**265**	PN		**Pn**	**07 01 59.0**	**+1.2**
PETK				pmax	pmax			
comp=Z,41nm,0.3s								
PETK	**Petropavlovsk-**	**1.78**	**265**	P		**Pn**	**07 01 59.0**	**+1.2**
comp=Z,40nm,0.3s,baz=91,slow=20,SNR=320								
PETK				S		**Sn**	**07 02 21.1**	**+1.8**
comp=Z,26nm,0.3s,baz=94,slow=38,SNR=9.3								
ASAK	**Asacha**	**1.90**	**242**	*e*P		**Pn**	**07 02 01.3**	**+1.9**
ASAK				*e*S		**Sn**	**07 02 23.2**	**+1.0**
APC	**Apacha**	**2.14**	**261**	*i* P		**Pn**	**07 02 04.4**	**+1.8**
APC				*e*S		**Sn**	**07 02 28.7**	**+0.8**
KMNR	**Kamenistaya**	**2.48**	**355**	P		**Pn**	**07 02 10.0**	**+2.6**
MIPR	**Malaya Ipel'ka**	**2.57**	**248**	*e*P		**Pn**	**07 02 11.3**	**+2.7**
BZMR	**Bezymyannaya**	**2.65**	**358**	P		**Pn**	**07 02 11.7**	**+1.9**
BZMR				S		**Sn**	**07 02 41.4**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.65**	**1**	*e*P		Pn	07 02 13.3	+3.5
BZGR				*e*S		**Sn**	**07 02 43.5**	**+2.7**
KIRR	**Kirishev**	**2.67**	**356**	*e*P		**Pn**	**07 02 11.9**	**+1.8**
KIRR				*e*S		**Sn**	**07 02 41.6**	**+0.3**
KPT	**Kopyto**	**2.69**	**355**	P		**Pn**	**07 02 12.6**	**+2.3**
KPT				S		**Sn**	**07 02 42.6**	**+0.9**
ZLN	**Zelenaya**	**2.73**	**2**	P		**Pn**	**07 02 13.8**	**+2.9**
ZLN				S		**Sn**	**07 02 44.4**	**+1.7**
LGNR	**Loginova**	**2.80**	**0**	*e*S		**Sn**	**07 02 45.5**	**+1.0**
KOZ	**Kozyrevsk**	**2.81**	**351**	P		**Pn**	**07 02 13.4**	**+1.6**
KOZ				S		**Sn**	**07 02 44.0**	**-0.4**
CIRR	**Tsirk**	**2.83**	**1**	*e*S		**Sn**	**07 02 47.5**	**+2.4**
ESO	**Esso**	**2.87**	**338**	*e*P		**Pn**	**07 02 13.5**	**+0.8**
PAU	**Pauzhetka**	**2.98**	**234**	*e*P		**Pn**	**07 02 17.0**	**+2.8**
PAU				S		**Sn**	**07 02 49.9**	**+1.3**
SRDR	**Sredinnyy**	**3.08**	**350**	P		**Pn**	**07 02 16.4**	**+0.8**
SRDR				S		**Sn**	**07 02 48.8**	**-2.4**
KBG	**Krutoberegovo**	**3.20**	**21**	*e*S		**Sn**	**07 02 54.4**	**+0.4**
BDR	**Baidarnaya**	**3.30**	**5**	P		**Pn**	**07 02 20.9**	**+2.3**
BDR				S		**Sn**	**07 02 56.6**	**0.0**
SMKR	**Semkarok**	**3.33**	**8**	P		**Pn**	**07 02 20.9**	**+1.8**
SMKR				S		**Sn**	**07 02 56.8**	**-0.6**
SRKR	**Sorokina**	**3.38**	**5**	P		Pn	07 02 23.1	+3.3
SRKR				S		**Sn**	**07 03 00.8**	**+2.2**
BKI	**Bering**	**3.66**	**56**	*e*P		**Pn**	**07 02 24.4**	**+0.9**
BKI				*e*S		**Sn**	**07 03 02.9**	**-2.5**
SKR	**Severo-Kuril's**	**3.83**	**229**	*e*PN		**Pn**	**07 02 23.5**	**-2.3**
SKR				pmax	pmax			
comp=Z,30nm,0.5s								
MKAR	**Makanchi Array**	**48.37**	**296**	P		**P**	**07 10 04.5**	**-2.1**
MKAR	**Makanchi Array**	**48.37**	**296**	P		**P**	**07 10 04.5**	**-2.1**
comp=Z,0.2nm,0.5s,baz=63,slow=7.1,SNR=4.3								
FINES	**FINESS Array B**	**60.07**	**337**	P		**P**	**07 11 30.0**	**-1.4**
comp=Z,0.4nm,0.3s,baz=53,slow=7.1,SNR=5.4								
NOA	**NORSAR Array B**	**63.44**	**344**	P		**P**	**07 11 53.4**	**-0.8**
comp=Z,0.4nm,0.6s,baz=43,slow=7.3,SNR=2.8								
TXAR	**Lajitas Array**	**70.25**	**67**	P		**P**	**07 12 40.0**	**+2.0**
comp=Z,0.1nm,0.5s,baz=287,slow=4.6,SNR=4.3								

KRSC 04 07:05:45.3±0.4, 53°.38N×160°.53E, h39km±29km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.42**	**227**	*e*S	Sn	07 06 02.4	+0.9
NLC	**Nalytchevo**	**0.74**	**254**	*i* P	Pn	07 05 59.9	+0.7
NLC				*e*S	Sn	07 06 10.1	+0.8
KII	**Karymskiy**	**0.92**	**316**	*e*P	Pn	07 06 02.0	+0.2
KII				*e*S	Sn	07 06 13.8	-0.1
SDLR	**Sedlovina**	**0.99**	**265**	*i* P	Pn	07 06 03.6	+0.7
SDLR				*e*S	Sn	07 06 16.3	+0.5
UGLR	**Uglovaya**	**1.04**	**261**	*i* P	Pn	07 06 04.4	+0.9
UGLR				S	Sn	07 06 18.1	+1.2
SMAR	**Somma**	**1.04**	**264**	*e*P	Pn	07 06 04.3	+0.6
SMAR				S	Sn	07 06 17.6	+0.4
KRER	**Koryakskii**	**1.07**	**267**	*i* P	Pn	07 06 04.9	+0.9
KRER				*e*S	Sn	07 06 18.7	+0.8
AVH	**Avacha**	**1.08**	**265**	*i* P	Pn	07 06 05.0	+1.0
AVH				*e*S	Sn	07 06 18.9	+1.0
KOK	**Koryaka**	**1.14**	**266**	*i* P	Pn	07 06 05.6	+0.8
KOK				*e*S	Sn	07 06 19.9	+0.6
PET	**Petropavlovsk**	**1.18**	**253**	*e*P	Pn	07 06 06.0	+0.7
PET				*e*S	Sn	07 06 20.5	+0.3
MKZ	**Mys Kozlova**	**1.38**	**31**	*e*P	Pn	07 06 07.4	-0.5
MKZ				*e*S	Sn	07 06 23.2	-1.7
RUS	**Russkaya**	**1.55**	**233**	*i* P	Pn	07 06 10.7	+0.4
RUS				*e*S	Sn	07 06 28.5	-0.6
GNL	**Ganaly**	**1.58**	**283**	*e*P	Pn	07 06 12.2	+1.3
GNL				*e*S	Sn	07 06 32.4	+2.2
MTVR	**Mutnovka**	**1.68**	**239**	*e*P	Pn	07 06 13.2	+0.9
MTVR				*e*S	Sn	07 06 33.3	+0.5
GRL	**Gorelyy**	**1.70**	**242**	*e*P	Pn	07 06 13.8	+1.2
GRL				*e*S	Sn	07 06 35.0	+1.8
ASAK	**Asacha**	**1.88**	**239**	*e*P	Pn	07 06 16.7	+1.7
ASAK				*e*S	Sn	07 06 39.6	+2.0
APC	**Apacha**	**2.08**	**259**	*e*P	Pn	07 06 19.9	+2.3
APC				*e*S	Sn	07 06 45.1	+2.8
KMNR	**Kamenistaya**	**2.39**	**356**	P	Pn	07 06 24.9	+2.9
MIPR	**Malaya Ipel'ka**	**2.54**	**246**	*e*P	Pn	07 06 26.4	+2.4
BZGR	**Bezymyannyi-Gr**	**2.57**	**2**	S	Sn	07 06 56.9	+2.4
ESO	**Esso**	**2.76**	**338**	P	Pn	07 06 28.0	+0.9
BKI	**Bering**	**3.67**	**58**	S	Sn	07 07 17.9	-3.6

IDC 04 07:09:17.9±1.8, 5°.67S×141°.53E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=117.4km s-min=29.4km az=121.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.82**	**206**	Pn	Pn	07 13 02.9	+0.8
0.1nm,0.3s,baz=23,slow=13,SNR=3.9							
WRA				Lg	Lg	07 17 40.4	
0.0nm,0.3s,baz=25,slow=32,SNR=3.0							
ASAR	**Alice Springs**	**19.34**	**202**	P	P	07 13 44.2	-0.8
0.0nm,0.3s,baz=29,slow=11,SNR=5.5							
FITZ	**Fitzroy Crossi**	**19.84**	**230**	P	P	07 13 50.9	+0.4
0.0nm,0.3s,baz=39,slow=13,SNR=2.3							
FITZ				S	S	07 17 24.7	-10
0.1nm,0.3s,baz=338,slow=23,SNR=7.8							
ILAR	**Eielson Array**	**87.36**	**24**	P	P	07 22 06.6	0.0
0.4nm,0.9s,baz=268,slow=4.5,SNR=3.6							

*IDC **04** 07:13:26.0±0.7, 5°.53S×77°.62W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.9/23, mbtmp3.8/8, ML3.9/3, MS3.3/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=29.0km s-min=14.2km az=74.0*

*ISCJB **04** 07:13:29.2±0.4, 5°.65S±0°.04×77°.66W±0°.07, h33km, mb3.9/16, Error ellipse: s-maj=10.1km s-min=5.4km az=175.5*

*NEIC **04** 07:13:31.9±0.8, 5°.64S×77°.60W, h41km±8km, mb4.2/10, Error ellipse: s-maj=10.7km s-min=6.9km az=77.0*

NEIC Felt [II] at Jumbilla.

ISC 04 07:13:31.1±0.5, 5°.65S±0°.06×77°.75W±0°.09, h35km, n46, σ1§11/50, mb4.1/16, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.61**	**204**	Pn	**Pn**	**07 13 57.2**	**-0.1**
ATAH				Sn	**Sn**	**07 14 15.3**	**-1.8**
ATAH	**Atahualpa**	**1.61**	**204**	Pn	**Pn**	**07 13 57.2**	**-0.1**
baz=20,slow=17							
ATAH				Sn	**Sn**	**07 14 15.3**	**-1.8**
80nm,0.3s,baz=246,slow=20,SNR=13							

NNA	**Nana**	**6.36**	**172**	*e*Pn		**Pn**	**07 15 02.9**	**+0.5**
55nm,0.8s								
NNA				*e*Sn		**Sn**	**07 16 15.1**	**+1.3**
NNA				Lg	Lg		07 16 50.0	
NNA	**Nana**	**6.36**	**172**	Pn		**Pn**	**07 15 03.1**	**+0.7**
8.9nm,0.3s,baz=337,slow=12,SNR=22								
NNA				Sn		**Sn**	**07 16 15.5**	**+1.6**
14nm,0.3s,baz=120,slow=20,SNR=5.8								
NNA				Lg	Lg		07 16 50.0	
2.7nm,0.3s,baz=52,slow=22,SNR=3.8								
ROSC	**El Rosal**	**10.98**	**18**	Pn		**Pn**	**07 16 07.3**	**+1.1**
ROSC				Lg	Lg		07 19 17.2	
ROSC	**El Rosal**	**10.98**	**18**	Pn		**Pn**	**07 16 07.3**	**+1.1**
0.2nm,0.3s,baz=273,slow=13,SNR=2.9								
ROSC				Lg	Lg		07 19 17.2	
2.0nm,0.3s,baz=256,slow=19,SNR=3.2								
LPAZ	**La Paz**	**14.16**	**139**	*e*Pn		**Pn**	**07 16 48.6**	**-1.3**
3.8nm,0.8s								
LPAZ	**La Paz**	**14.16**	**139**	Pn		**Pn**	**07 16 49.6**	**-0.2**
0.1nm,0.3s,baz=322,slow=11,SNR=6.7								
LPAZ				LR	LR		07 23 24.1	
comp=Z,189nm,18.7s,baz=180,slow=42								
SAML	**Samuel**	**14.81**	**104**	*e*Pn		**Pn**	**07 16 55.9**	**-2.2**
5.1nm,0.7s								
SAML				*e*Sn	Sn		07 19 30.0	-11
SDV	**Santo Domingo**	**16.09**	**26**	*e*P		**Pn**	**07 17 14.2**	**-0.8**
8.4nm,0.8s								
SIV	**San Ignacio**	**19.32**	**123**	P		**Pn**	**07 17 54.0**	**-0.7**
SIV	**San Ignacio**	**19.32**	**123**	P		**Pn**	**07 17 54.0**	**-0.7**
0.2nm,0.3s,baz=308,slow=15,SNR=4.5								
SIV				LR	LR		07 26 16.7	
comp=Z,52nm,21.1s,slow=40								
CFAA	**Coronel Fontan**	**27.31**	**162**	P		**P**	**07 19 15.2**	**+2.6**
CFAA	**Coronel Fontan**	**27.31**	**162**	P		**P**	**07 19 15.2**	**+2.6**
0.1nm,0.3s,baz=353,slow=15,SNR=6.9								
TXAR	**Lajitas Array**	**42.79**	**326**	P		**P**	**07 21 26.4**	**+0.8**
TXAR	**Lajitas Array**	**42.79**	**326**	P		**P**	**07 21 26.4**	**+0.8**
0.6nm,0.7s,baz=144,slow=7.8,SNR=8.5								
WMOK	**Wichita Mounta**	**44.81**	**335**	*e*P		**P**	**07 21 41.6**	**-0.1**
1.8nm,0.6s								
ANMO	**Albuquerque**	**48.60**	**328**	*e*P		**P**	**07 22 12.5**	**+0.8**
1.8nm,0.6s								
SDCO	**Great Sand Dun**	**50.32**	**331**	*e*P		**P**	**07 22 25.7**	**+0.9**
1.3nm,0.7s								
PV01	**Paradox Valley**	**52.14**	**329**	*e*P		**P**	**07 22 40.0**	**+1.6**
RSSD	**Black Hills**	**54.92**	**337**	*e*P		**P**	**07 22 60.0**	**+1.3**
1.7nm,0.6s								
ISA	**Isabella**	**56.13**	**320**	*e*P		**P**	**07 23 08.4**	**+1.1**
3.3nm,1.1s								
NVAR	**Mina Array Bea**	**57.77**	**323**	P		**P**	**07 23 20.2**	**+1.1**
NVAR	**Mina Array Bea**	**57.77**	**323**	P		**P**	**07 23 20.2**	**+1.1**
1.3nm,0.7s,baz=134,slow=7.7,SNR=13								
GCMT	**Greycliff**	**58.59**	**334**	*e*P		**P**	**07 23 25.7**	**+1.1**
2.0nm,1.0s								
HLID	**Hailey**	**59.13**	**330**	*e*P		**P**	**07 23 29.2**	**+0.8**
1.9nm,0.9s								
WALA	**Waterton Lakes**	**62.95**	**334**	*e*P		**P**	**07 23 54.3**	**+0.1**
0.1nm,0.8s								
NEW	**Newport**	**63.82**	**332**	*e*P		**P**	**07 23 59.5**	**-0.3**
2.2nm,0.7s								
YKA	**Yellowknife Ar**	**73.56**	**343**	P		**P**	**07 24 59.8**	**-0.5**
YKA	**Yellowknife Ar**	**73.56**	**343**	P		**P**	**07 24 59.7**	**-0.5**
1.0nm,0.6s,baz=140,slow=6.3,SNR=12								
TORD	**Torodi Ar. Bea**	**81.05**	**76**	P		**P**	**07 25 42.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**81.05**	**76**	P		**P**	**07 25 42.1**	**-1.1**
0.7nm,0.5s,baz=269,slow=4.6,SNR=15								
QSPA	**South Pole Qui**	**84.44**	**180**	*e*P		**P**	**07 25 59.7**	**-0.2**
3.1nm,0.9s								
ILAR	**Eielson Array**	**86.36**	**336**	P		**P**	**07 26 08.4**	**-1.0**
ILAR	**Eielson Array**	**86.36**	**336**	P		**P**	**07 26 08.4**	**-1.0**
0.6nm,0.9s,baz=118,slow=3.9,SNR=5.6								
KURK	**Kurchatov**	**130.93**	**20**	PKP		**PKPdf**	**07 32 38.5**	**-0.5**
KURBB	**Kurchatov Arra**	**130.98**	**20**	PKP		**PKPdf**	**07 32 38.5**	**-0.6**
0.1nm,0.2s,baz=316,slow=2.5,SNR=6.4								
MKAR	**Makanchi Array**	**135.54**	**20**	PKP		**PKPdf**	**07 32 47.0**	**-0.8**
MKAR	**Makanchi Array**	**135.54**	**20**	PKP		**PKPdf**	**07 32 47.0**	**-0.8**
0.3nm,0.7s,baz=284,slow=1.1,SNR=3.7								
ASAR	**Alice Springs**	**137.54**	**225**	PKP		**PKPdf**	**07 32 51.3**	**-1.0**
ASAR	**Alice Springs**	**137.54**	**225**	PKP		**PKPdf**	**07 32 51.3**	**-1.0**
0.4nm,0.6s,baz=118,slow=1.9,SNR=7.3								
WRAB	**Tennant Creek**	**139.47**	**230**	*e*PKPdf		**PKPdf**	**07 32 57.0**	**+1.2**
WRA	**Warramunga Arr**	**139.47**	**230**	PKPpre		PKPpre	07 32 48.5	
WRA				PKP		**PKPdf**	**07 32 55.6**	**-0.3**
WRA	**Warramunga Arr**	**139.47**	**230**	PKhKP		PKPpre	07 32 48.5	
0.3nm,0.6s,baz=119,slow=2.1,SNR=4.8								
WRA				PKP		**PKPdf**	**07 32 55.6**	**-0.3**
0.5nm,0.5s,baz=115,slow=2.2,SNR=15								
FITZ	**Fitzroy Crossi**	**146.99**	**224**	*e*PKPdf		**PKPdf**	**07 33 09.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**146.99**	**224**	PKPbc		**PKPbc**	**07 33 10.8**	**-0.2**
3.2nm,0.9s,baz=109,slow=1.3,SNR=6.3								

IDC 04 07:39:17.2±2.8, 2°.56S×134°.30E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=103.1km s-min=28.3km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.27**	**180**	P	Pn	07 43 20.7	+0.6
0.1nm,0.3s,baz=358,slow=12,SNR=4.8							
FITZ	**Fitzroy Crossi**	**17.63**	**208**	P	Pn	07 43 24.7	+0.2
0.1nm,0.3s,baz=34,slow=15,SNR=2.6							
ASAR	**Alice Springs**	**20.98**	**181**	P	P	07 44 01.9	-0.4
1.7nm,0.7s,baz=5.5,slow=12,SNR=17							
MKAR	**Makanchi Array**	**67.03**	**324**	P	P	07 50 12.3	0.0
0.1nm,0.4s,baz=112,slow=6.4,SNR=4.3							

WEL 04 08:15:29.9±0.3, 45°.74S×165°.87E, h12km, ML3.5/14, 2C, Error ellipse: s-maj=2.9km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.71**	**127**	⇑P*	Pg	08 15 43.0	-0.7
PYZ				S*	Sg	08 15 52.2	-0.8
DCZ	**Deep Cove**	**0.94**	**74**	P*	Pg	08 15 46.5	-1.5
DCZ				S*	Sg	08 15 55.7	-4.5
DCZ				AML	AML	08 15 58.6	
DCZ				AML	AML	08 15 59.9	
DCZ				AML	AML	08 15 59.9	
WHZ	**Wether Hill Ro**	**1.46**	**97**	PN	Pn	08 15 55.0	-1.1
WHZ				SN	Sn	08 16 14.5	-0.7
WHZ				AML	AML	08 16 15.4	
MLZ	**Mavora Lakes**	**1.66**	**77**	PN	Pn	08 15 57.9	-1.1
MLZ				AML	AML	08 16 20.8	
MLZ				AML	AML	08 16 25.6	
MSZ	**Milford Sound**	**1.80**	**54**	AML	AML	08 16 32.0	
MSZ				AML	AML	08 16 37.8	
MSZ				AML	AML	08 16 37.8	
MSZ				AML	AML	08 16 38.7	
APZ	**The Paps**	**1.83**	**127**	⇑PN	Pn	08 15 59.7	-1.5
APZ				SN	Sn	08 16 22.4	-2.0
WKZ	**Wanaka**	**2.40**	**69**	PN	Pn	08 16 08.1	-1.0
SYZ	**Scrubby Hill**	**2.41**	**110**	PN	Pn	08 16 08.3	-0.8
EAZ	**Earnscleugh**	**2.47**	**79**	PN	Pn	08 16 09.1	-0.9
EAZ				AML	AML	08 16 43.1	
EAZ				AML	AML	08 16 43.8	
EAZ				AML	AML	08 16 50.8	
EAZ				AML	AML	08 16 58.0	
TUZ	**Tuapeka**	**2.64**	**96**	PN	Pn	08 16 11.8	-0.4
TUZ				AML	AML	08 16 49.7	
JCZ	**Jackson Bay**	**2.64**	**52**	PN	Pn	08 16 12.3	-0.2
JCZ				AML	AML	08 16 52.2	
JCZ				AML	AML	08 17 04.9	
LBZ	**Lake Benmore**	**3.34**	**68**	PN	Pn	08 16 21.3	-0.7
LBZ				AML	AML	08 18 06.1	
ODZ	**Otahua Downs**	**3.43**	**80**	PN	Pn	08 16 22.0	-1.2

IDC 04 08:38:07.2±61.0, 22°.93S×179°.12W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=1108.0km s-min=167.1km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.84**	**247**	P	P	08 45 07.8	-0.9
0.4nm,0.3s,baz=114,slow=10.0,SNR=3.2							
ASAR	**Alice Springs**	**43.00**	**259**	P	P	08 46 08.6	-0.1
0.2nm,0.3s,baz=92,slow=8.6,SNR=6.0							
WRA	**Warramunga Arr**	**43.29**	**265**	P	P	08 46 11.3	+0.3
0.6nm,0.4s,baz=100,slow=8.3,SNR=11							

*ISCJB **04** 08:42:06.5±0.5, 37°.7N±0°.1×134°.66E±0°.09, h378km, mb2.8/7, Error ellipse: s-maj=15.3km s-min=8.2km az=19.7*

*IDC **04** 08:42:06.6±0.8, 37°.56N×134°.94E, h398km±10km, mb2.6/7, mb1 2.9/12, mb1mx2.8/32, mbtmp2.8/12, Error ellipse: s-maj=18.2km s-min=14.3km az=55.0*

*JMA **04** 08:42:07.8±0.3, 37°.45N×135°.02E, h390km±3km, M3.3*

ISC 04 08:42:06.4±0.8, 37°.57N±0°.10×134°.78E±0°.08, h378km, n17, σ1§71/19, mb2.9/7, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.72**	**80**	P	**Pn**	**08 43 00.2**	**+1.7**
JKG	**Kaga**	**1.80**	**136**	P	**Pn**	**08 43 00.6**	**+1.6**
JSZ	**Suzu**	**2.06**	**93**	P	**Pn**	**08 43 02.3**	**+1.7**
JSD	**Sado**	**2.80**	**79**	P	**Pn**	**08 43 07.5**	**+1.4**
MAT	**Matsushiro**	**2.93**	**110**	P	**Pn**	**08 43 08.4**	**+1.1**
MAT				S	**S**	**08 43 58.0**	**+1.5**
MJAR	**Matsushiro Arr**	**2.93**	**110**	P	**Pn**	**08 43 08.9**	**+1.6**
2.7nm,0.3s,baz=290,slow=9.6,SNR=44							
MJAR				S	**S**	**08 43 58.6**	**+2.1**
0.3nm,0.3s,baz=298,slow=15,SNR=3.3							
KSRS	**Korea Array**	**5.45**	**271**	P	**Pn**	**08 43 34.5**	**+2.5**
1.7nm,0.3s,baz=94,slow=12,SNR=45							
JNU	**Nakatsue**	**5.46**	**217**	P	**Pn**	**08 43 33.5**	**+1.1**
0.8nm,0.3s,baz=31,slow=4.6,SNR=5.7							
USRK	**Ussurisk Arra**	**6.95**	**343**	P	**P**	**08 43 51.4**	**+1.8**
0.5nm,0.3s,baz=154,slow=9.4,SNR=12							
ASAJ	**Asahikawa**	**8.82**	**40**	P	**Pn**	**08 44 10.1**	**-0.2**
12nm,0.3s,baz=235,slow=9.9,SNR=62							
SONM	**Songino Array**	**23.12**	**305**	P	**P**	**08 46 41.8**	**+1.1**
0.2nm,0.4s,baz=108,slow=9.3,SNR=2.5							
MKAR	**Makanchi Array**	**39.32**	**301**	P	**P**	**08 48 59.5**	**-0.9**
0.3nm,0.7s,baz=90,slow=7.2,SNR=2.3							
KURBB	**Kurchatov Arra**	**41.47**	**307**	P	**P**	**08 49 16.7**	**-1.0**
0.4nm,0.6s,baz=86,slow=7.2,SNR=3.3							
BVAR	**Borovoye Array**	**46.26**	**311**	P	**P**	**08 49 53.7**	**-1.5**
0.3nm,0.3s,baz=91,slow=8.0,SNR=2.7							
ILAR	**Eielson Array**	**51.87**	**32**	P	**P**	**08 50 34.6**	**-2.4**
0.2nm,0.6s,baz=278,slow=9.0,SNR=3.4							
WRA	**Warramunga Arr**	**57.21**	**180**	P	**P**	**08 51 14.0**	**-1.5**
0.2nm,0.3s,baz=360,slow=7.8,SNR=6.4							
ASAR	**Alice Springs**	**60.92**	**181**	P	**P**	**08 51 39.7**	**-1.0**
0.2nm,0.3s,baz=355,slow=6.5,SNR=2.9							

*ISCJB **04** 08:45:03.8±1.4, 5°.4N±0°.3×126°.1E±0°.6, h116km, mb3.7/6, Error ellipse: s-maj=88.3km s-min=14.4km az=156.1*

*IDC **04** 08:45:11.4±10.0, 5°.21N×125°.85E, h173km±101km, mb3.4/6, mb1 3.6/6, mb1mx3.2/23, mbtmp3.4/6, Error ellipse: s-maj=103.5km s-min=22.3km az=64.0*

*AUST **04** 08:45:53.3, 2°.50N×125°.50E, h450km*

ISC 04 08:45:05.1±1.4, 5°.4N±0°.3×126°.0E±0°.6, h116km, n16, σ1§00/14, mb3.8/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**18.83**	**164**	P	**Pn**	**08 49 17.9**	**0.0**
baz=16,SNR=16							
KDU	**Kakadu**	**19.09**	**160**	P	**Pn**	**08 49 20.9**	**+0.1**
baz=17,SNR=42							
MMPI	**Merauke**	**19.90**	**134**	S	S	08 52 42.7	-23
baz=18,SNR=5.0							
KNRA	**Kununurra**	**21.11**	**173**	P	**P**	**08 49 41.8**	**+1.1**
baz=18,SNR=5.3							
FITZ	**Fitzroy Crossi**	**23.35**	**181**	P	**P**	**08 50 02.3**	**-1.0**
2.7nm,0.8s,baz=358,slow=6.7,SNR=15							
FITZ	**Fitzroy Crossi**	**23.35**	**181**	P	**P**	**08 50 02.7**	**-0.6**
baz=21,SNR=4.8							
MNAI	**Manna**	**24.95**	**248**	P	P	08 50 29.9	+12
baz=24,SNR=6.5							
WRA	**Warramunga Arr**	**26.49**	**162**	P	**P**	**08 50 31.1**	**-0.6**
0.5nm,0.5s,baz=333,slow=11,SNR=13							
GSI	**Gunungsitoli**	**28.64**	**263**	S	S	08 55 01.4	-30
baz=28,SNR=3.8							
ASAR	**Alice Springs**	**29.90**	**165**	P	**P**	**08 51 01.8**	**-0.3**
0.5nm,0.4s,baz=347,slow=7.0,SNR

FITZ S Sn 09 18 24.5 -7.4
0.1nm,0.3s,baz=146,slow=8.8,SNR=3.6
FITZ LR LR 09 23 12.5
comp=Z,38nm,20.8s,baz=38,slow=40
FITZ Fitzroy Crossi 18.75 200 P **Pn 09 15 03.3 +0.3**
baz=18,SNR=4.4
WRA Warramunga Arr 19.48 174 P **P 09 15 10.8 +0.4**
0.6nm,0.3s,baz=352,slow=11,SNR=16
WRA S **Sn 09 18 43.7 -5.1**
0.2nm,0.3s,baz=355,slow=23,SNR=6.9
SBUM Sibu 20.34 278 P **P 09 15 20.8 +1.0**
ASAR Alice Springs 23.13 176 P **P 09 15 50.2 +0.7**
11nm,0.9s,baz=352,slow=7.2,SNR=44
ASAR S Sn 09 20 08.8 -8.5
1.8nm,1.1s,baz=0.6,slow=24,SNR=4.3
FORT Forrest 30.45 187 P **P 09 16 57.6 +2.0**
baz=30,SNR=8.2
PPI Padang Panjang 31.96 270 P P 09 17 05.7 -3.6
baz=32,SNR=3.6
STKA Stephens Creek 32.46 165 P **P 09 17 15.4 +1.9**
2.5nm,0.9s,baz=341,slow=14,SNR=4.0
GSI Gunungsitoli 34.83 273 P **P 09 17 36.9 +2.5**
baz=34,SNR=6.1
MJAR Matsushiro Arr 37.20 8 LR LR 09 29 56.4
comp=Z,89nm,18.8s,baz=150,slow=31
CMAR Chiang Mai Arr 37.83 302 P **P 09 17 59.5 -0.5**
1.0nm,0.8s,baz=114,slow=8.0,SNR=4.5
KSRS Korea Array 37.93 354 LR LR 09 31 04.9
comp=Z,30nm,20.7s,baz=188,slow=32
USRK Ussuriysk Arra 44.45 360 P **P 09 18 53.3 -0.6**
0.5nm,0.5s,baz=174,slow=4.3,SNR=2.2
SONM Songino Array 53.13 338 P **P 09 19 59.9 -0.8**
0.9nm,0.9s,baz=166,slow=7.2,SNR=4.8
PETK Petropavlovsk- 57.40 18 LR LR 09 40 39.8
comp=Z,34nm,22.0s,baz=68,slow=32
MKAR Makanchi Array 64.19 324 P **P 09 21 17.0 -0.7**
2.1nm,0.7s,baz=117,slow=8.0,SNR=19
ZALV Zalesovo Beam 66.87 332 P **P 09 21 33.3 -1.4**
0.6nm,0.3s,baz=114,slow=6.6,SNR=4.2
VNDA Vanda 78.65 174 P **P 09 22 45.1 +0.9**
1.6nm,0.8s,baz=318,slow=7.6,SNR=8.3
ILAR Eielson Array 86.45 25 P **P 09 23 23.9 -1.2**
0.4nm,0.7s,baz=256,slow=4.6,SNR=6.3
QSPA South Pole Qui 89.49 180 P **P 09 23 40.6 +0.9**
2.8nm,0.8s,baz=315,slow=3.1,SNR=12
ARCES ARCESS Array B 96.27 340 LR LR 10 12 42.6
comp=Z,22nm,19.8s,baz=325,slow=39

IDC 04 09:58:04.2±4.1, 11°.51S×166°.48E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=207.2km s-min=30.3km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.00**	**251**	P	P	10 04 33.0	+0.3
0.1nm,0.3s,baz=81,slow=8.9,SNR=7.2							
ASAR	**Alice Springs**	**33.23**	**244**	P	P	10 04 43.0	-0.4
0.4nm,0.6s,baz=72,slow=9.7,SNR=10							
ILAR	**Eielson Array**	**83.73**	**18**	P	P	10 10 34.8	0.0
0.6nm,0.6s,baz=236,slow=4.8,SNR=16							

*ISCJB **04** 10:10:31.4±0.9, 6°.47S±0°.05×132°.0E±0°.1, h46km, mb3.6/1, Error ellipse: s-maj=18.3km s-min=6.9km az=173.7*
*DJA **04** 10:10:35.5±0.6, 6°.5S±6°×13°.2E±°, h57km±60km, M4.4/3, mB5.2/2, mb4.5/3, MLv4.4/2, Mw(mB)4.6/2*
*IDC **04** 10:10:41.5±2.0, 7°.85S×130°.01E, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=120.9km s-min=27.6km az=68.0*
*AUST **04** 10:10:50.3, 7°.46S×132°.06E, h200km*
ISC 04 10:10:31.8±1.0, 6°.41S±0°.05×132°.0E±0°.1, h46km, n15, σ2°57/16, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.79**	**312**	P	**Pn**	**10 11 16.1**	**+2.1**
BNDI				S	**Sn**	**10 11 44.4**	**-2.1**
BNDI	**Bandanaira**	**2.79**	**312**	P	**Sn**	**10 11 46.0**	**-0.5**
baz=3.6,SNR=5.4							
FAKI	**Fak Fak**	**3.48**	**4**	P	**Pn**	**10 11 25.8**	**+2.4**
FAKI	**Fak Fak**	**3.48**	**4**	P	**Sn**	**10 12 00.2**	**-3.3**
baz=4.5,SNR=3.3							
SWI	**Sorong**	**5.56**	**353**	P	**Pn**	**10 11 52.1**	**+0.1**
37nm,0.9s,2μm0.4nm							
KDU	**Kakadu**	**6.25**	**176**	P	Pn	10 12 06.7	+5.1
baz=5.2,SNR=58							
MTN	**Manton Dam**	**6.45**	**187**	P	Pn	10 12 09.0	+4.9
baz=5.5,SNR=75							
MTN				S	**Sn**	**10 13 18.1**	**+1.7**
baz=5.5,SNR=5.3							
SOEI	**Soe**	**8.33**	**246**	P	**Pn**	**10 12 31.7**	**+1.6**
SOEI	**Soe**	**8.33**	**246**	P	**Pn**	**10 12 32.1**	**+1.9**
baz=8.0,SNR=3.2							
KNRA	**Kununurra**	**9.73**	**199**	P	**Pn**	**10 12 52.2**	**+3.0**
baz=8.8,SNR=78							
KNRA				S	**Sn**	**10 14 33.9**	**-3.4**
baz=8.8,SNR=6.8							
WSI	**Waingapu**	**12.01**	**254**	P	Pn	10 13 36.2	+16
baz=12,SNR=3.1							
FITZ	**Fitzroy Crossi**	**13.16**	**207**	P	**Pn**	**10 13 37.3**	**+1.2**
baz=12,SNR=13							
WRA	**Warramunga Arr**	**13.64**	**171**	Pn	**Pn**	**10 13 43.3**	**+0.5**
0.9nm,0.3s,baz=345,slow=13,SNR=46							
WRA				Sn	**Sn**	**10 16 09.4**	**-3.6**
0.7nm,0.3s,baz=348,slow=24,SNR=7.1							
ASAR	**Alice Springs**	**17.26**	**174**	Pn	**Pn**	**10 14 30.6**	**+1.0**
0.5nm,0.3s,baz=353,slow=15,SNR=34							
ASAR				Sn	**Sn**	**10 17 36.8**	**-4.0**
0.2nm,0.3s,baz=360,slow=28,SNR=4.1							
MKAR	**Makanchi Array**	**68.83**	**326**	P	P	10 21 48.6	+17
0.6nm,0.8s,baz=126,slow=7.3,SNR=2.6							

*IDC **04** 10:21:54.3±1.4, 9°.01S×127°.34E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.6/21, mbtmp3.7/7, ML3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/27, Error ellipse: s-maj=43.7km s-min=24.4km az=79.0*
*AUST **04** 10:22:05.5, 9°.49S×127°.04E, h0km*
ISC 04 10:21:55.0±1.0, 9°.05S±0°.09×127°.38E±0°.08, h10km, n14, σ2°40/15, mb4.0/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.15**	**257**	P	**Pn**	**10 22 46.5**	**+1.8**
baz=2.7,SNR=7.5							
BATI	**Baumata**	**3.84**	**252**	Pn	**Pn**	**10 22 55.8**	**+1.7**
17nm,0.3s,baz=312,slow=8.4,SNR=8.3							
BATI				Sn	**Sn**	**10 23 34.4**	**-5.0**
14nm,0.3s,baz=107,slow=19,SNR=3.5							
BATI				LR	LR	10 24 35.6	
comp=Z,110nm,19.8s,baz=74,slow=42							
MTN	**Manton Dam**	**5.28**	**136**	P	**Pb**	**10 23 24.7**	**-2.7**
baz=5.2,SNR=38							
MTN				S	**Sb**	**10 24 30.5**	**-0.4**
baz=5.2,SNR=6.9							
KDU	**Kakadu**	**6.18**	**126**	P	Pb	10 23 37.8	-4.9
baz=6.2,SNR=4.6							
KDU				S	**Sb**	**10 24 57.1**	**+0.4**
baz=6.2,SNR=3.5							
KNRA	**Kununurra**	**6.73**	**169**	P	Pn	10 23 39.8	+5.9
baz=6.4,SNR=29							
KNRA				S	Sn	10 24 59.8	+9.2
baz=6.4,SNR=3.3							
FAKI	**Fak Fak**	**7.78**	**39**	P	Pb	10 24 04.6	-5.4
baz=8.4,SNR=3.3							
FITZ	**Fitzroy Crossi**	**9.16**	**190**	Pn	**Pn**	**10 24 07.0**	**-0.2**
0.3nm,0.3s,baz=2.5,slow=12,SNR=19							
FITZ				Sn	Sn	10 25 42.7	-7.8
0.3nm,0.3s,baz=6.3,slow=18,SNR=1.7							
FITZ	**Fitzroy Crossi**	**9.16**	**190**	P	Pn	10 24 12.0	+4.8
baz=8.7,SNR=17							
FITZ				S	**Sn**	**10 25 55.0**	**+4.6**
baz=8.7,SNR=4.1							
WRA	**Warramunga Arr**	**12.75**	**149**	Pn	**Pn**	**10 24 57.4**	**+0.9**
0.5nm,0.3s,baz=318,slow=13,SNR=22							
WRA				Sn	**Sn**	**10 27 21.0**	**+2.3**
0.3nm,0.3s,baz=319,slow=27,SNR=3.5							
ASAR	**Alice Springs**	**15.82**	**158**	Pn	**P**	**10 25 40.7**	**-1.2**
0.1nm,0.3s,baz=324,slow=12,SNR=3.6							
ASAR				Sn	**Sn**	**10 28 32.7**	**-0.9**
0.0nm,0.3s,baz=322,slow=19,SNR=2.8							
GSI	**Gunungsitoli**	**31.42**	**288**	S	S	10 33 44.4	+20
baz=31,SNR=7.6							
SONM	**Songino Array**	**59.61**	**344**	P	**P**	**10 32 00.1**	**+0.9**
0.3nm,0.6s,baz=158,slow=4.2,SNR=2.1							
MKAR	**Makanchi Array**	**68.55**	**328**	P	**P**	**10 32 58.5**	**+0.6**
0.6nm,0.6s,baz=128,slow=8.2,SNR=5.5							
ZALV	**Zalesovo Beam**	**72.30**	**335**	P	**P**	**10 33 20.7**	**+0.1**
0.8nm,0.3s,baz=111,slow=6.3,SNR=2.9							

MEX 04 10:27:32.3±0.3, 16°.87N×100°.40W, h7km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**37**	*i* P	Pg	10 27 36.4	-0.3
CAIG				*i* S	Sg	10 27 39.6	0.0
ZIIG	**Zihuatanejo**	**1.25**	**306**	*e*P	Pn	10 27 52.4	-3.8
ZIIG				*i* S	Sg	10 28 08.2	-4.4
ARIG	**Puente Sto Nin**	**1.40**	**2**	*e*P	Pn	10 27 54.8	-3.6
ARIG				*i* S	Sb	10 28 11.9	-5.1
PLIG	**Platanillo**	**1.74**	**29**	*e*P	Pn	10 27 60.0	-3.1
PLIG				*i* S	Sn	10 28 21.1	-4.6
PNIG	**Pinotepa**	**2.23**	**102**	*e*P	Pn	10 28 06.5	-3.3
PNIG				*i* S	Sn	10 28 33.2	-4.5
YAIG	**Yautepec**	**2.35**	**33**	*i* P	Pn	10 28 09.0	-2.6
YAIG				*i* S	Sn	10 28 37.0	-3.9

*ISCJB **04** 10:39:16.0±0.7, 8°.88S±0°.06×127°.20E±0°.05, h33km, mb4.0/4, Error ellipse: s-maj=9.4km s-min=6.4km az=34.2*
*AUST **04** 10:39:20.4±7.9, 9°.17S×126°.95E, h0km±1km, Error ellipse: s-maj=2.9km s-min=1.1km az=8.0*
*IDC **04** 10:39:20.4±3.6, 9°.04S×127°.08E, h63km±39km, mb3.7/4, mb1 3.9/9, mb1mx3.6/22, mbtmp3.7/9, ML3.9/5, Error ellipse: s-maj=32.2km s-min=15.4km az=34.0*
ISC 04 10:39:18.5±0.9, 8°.94S±0°.07×127°.18E±0°.09, h35km, n15, σ2°02/18, mb4.0/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.99**	**254**	P	**Pn**	**10 40 03.6**	**+0.1**
baz=2.7,SNR=8.6							
SOEI				S	**Sn**	**10 40 38.2**	**0.0**
baz=2.7,SNR=6.6							
BATI	**Baumata**	**3.69**	**250**	P	**Pn**	**10 40 13.2**	**+0.2**
11nm,0.3s,baz=58,slow=18,SNR=10							
BATI				S	**Sn**	**10 40 55.1**	**-0.4**
43nm,0.3s,baz=108,slow=20,SNR=12							
MTN	**Manton Dam**	**5.49**	**135**	P	Pn	10 40 45.2	+7.4
baz=5.5,SNR=45							
MTN				S	Sn	10 41 49.2	+9.4
baz=5.5,SNR=6.3							
KDU	**Kakadu**	**6.40**	**126**	P	Pn	10 40 56.9	+6.7
baz=6.5,SNR=9.9							
KNRA	**Kununurra**	**6.88**	**167**	P	Pn	10 41 00.8	+3.9
baz=6.7,SNR=45							
KAPI	**Kappang**	**8.34**	**297**	P	**Pn**	**10 41 16.8**	**-0.2**
0.9nm,0.3s,baz=120,slow=16,SNR=2.3							
FITZ	**Fitzroy Crossi**	**9.23**	**189**	P	**Pn**	**10 41 30.0**	**+0.7**
0.8nm,0.3s,baz=5.8,slow=12,SNR=44							
FITZ				S	**Sn**	**10 43 09.3**	**-2.7**
2.2nm,0.3s,baz=303,slow=16,SNR=9.8							
FITZ	**Fitzroy Crossi**	**9.23**	**189**	P	**Pn**	**10 41 30.4**	**+1.2**
baz=9.0,SNR=20							
FITZ				S	**Sn**	**10 43 07.2**	**-4.8**
baz=9.0,SNR=5.5							
WRA	**Warramunga Arr**	**12.95**	**148**	P	**Pn**	**10 42 21.5**	**+1.4**
0.8nm,0.3s,baz=322,slow=14,SNR=78							
WRA				S	**Sn**	**10 44 43.2**	**+0.1**
0.9nm,0.3s,baz=320,slow=26,SNR=9.6							
ASAR	**Alice Springs**	**16.00**	**157**	P	**Pn**	**10 43 02.5**	**+1.5**
0.3nm,0.3s,baz=328,slow=11,SNR=16							
ASAR				S	**Sn**	**10 45 55.9**	**-1.6**
0.3nm,0.3s,baz=320,slow=18,SNR=5.7							
MEEK	**Meekatharra**	**19.39**	**204**	P	**Pn**	**10 43 47.2**	**+4.4**
baz=19,SNR=5.2							
CMAR	**Chiang Mai Arr**	**38.95**	**314**	P	**P**	**10 46 40.3**	**-1.2**
1.0nm,0.3s,baz=133,slow=7.2,SNR=4.9							
SONM	**Songino Array**	**59.45**	**344**	P	**P**	**10 49 17.5**	**-0.4**
0.5nm,0.5s,baz=118,slow=42,SNR=2.9							
MKAR	**Makanchi Array**	**68.36**	**329**	P	**P**	**10 50 15.3**	**-1.1**
0.7nm,0.5s,baz=121,slow=7.3,SNR=13							
ZALV	**Zalesovo Beam**	**72.12**	**335**	P	**P**	**10 50 38.5**	**-0.7**
1.1nm,0.4s,baz=100,slow=4.8,SNR=3.3							

IDC 04 10:44:11.4±3.3, 9°.03S×127°.05E, h60km±35km, mb3.8/4, mb1 4.1/9, mb1mx3.7/21, mbtmp3.9/9, ML4.1/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=29.5km s-min=14.3km az=38.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.54**	**250**	P	Pn	10 45 04.2	+0.2
17nm,0.3s,baz=113,slow=2.1,SNR=12							
BATI				S	Sn	10 45 45.4	+0.7
76nm,0.3s,baz=72,slow=20,SNR=15							
BATI				LR	LR	10 46 41.5	
comp=Z,214nm,19.3s,baz=133,slow=42							
KAPI	**Kappang**	**8.27**	**298**	P	Pn	10 46 08.0	-0.7
0.9nm,0.3s,baz=125,slow=8.5,SNR=4.9							
KAPI				S	Sn	10 47 41.0	+0.2
baz=207,slow=23,SNR=1.5							
KAPI				LR	LR	10 49 12.7	
comp=Z,94nm,18.9s,baz=324,slow=36							
FITZ	**Fitzroy Crossi**	**9.13**	**189**	P	Pn	10 46 21.3	+0.8
1.0nm,0.3s,baz=4.1,slow=14,SNR=12							
FITZ				S	Sn	10 48 01.2	-0.6
4.2nm,0.3s,baz=314,slow=15,SNR=7.0							
WRA	**Warramunga Arr**	**12.94**	**148**	P	Pn	10 47 12.6	-0.1
1.5nm,0.3s,baz=321,slow=14,SNR=16							
WRA				S	Sn	10 49 34.1	-1.0
1.8nm,0.3s,baz=320,slow=27,SNR=7.1							
ASAR	**Alice Springs**	**15.97**	**157**	P	P	10 47 53.7	-1.2
0.8nm,0.3s,baz=318,slow=10.0,SNR=13							
ASAR				S	Sn	10 50 48.2	-0.5
0.6nm,0.3s,baz=315,slow=18,SNR=7.3							
STKA	**Stephens Creek**	**26.45**	**151**	P	P	10 49 46.7	+3.8
0.7nm,0.4s,baz=342,slow=16,SNR=1.9							
CMAR	**Chiang Mai Arr**	**38.92**	**315**	P	P	10 51 31.3	-0.4
2.2nm,0.7s,baz=146,slow=6.8,SNR=11							
SONM	**Songino Array**	**59.50**	**344**	P	P	10 54 09.0	+0.6
0.5nm,0.6s,baz=182,slow=6.8,SNR=3.1							
MKAR	**Makanchi Array**	**68.37**	**329**	P	P	10 55 06.9	+0.3
1.4nm,0.5s,baz=123,slow=7.3,SNR=16							
ZALV	**Zalesovo Beam**	**72.14**	**335**	P	P	10 55 29.0	-0.5
1.6nm,0.4s,baz=120,slow=5.5,SNR=6.2							

IDC 04 10:44:34.3±3.8, 12°.04S×166°.46E, h109km±33km, mb3.8/4, mb1 4.0/6, mb1mx3.6/22, mbtmp4.0/6, Error ellipse: s-maj=38.3km s-min=19.7km az=56.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.91**	**291**	P	Pn	10 46 14.0	+1.1
10nm,0.3s,baz=172,slow=13,SNR=3.6							
HNR				S	Sn	10 47 29.5	-0.6
25nm,0.3s,baz=176,slow=19,SNR=5.1							
DZM	**Mont Dzumac**	**9.98**	**180**	*e*P	Pn	10 46 52.9	-1.8
DZM	**Mont Dzumac**	**9.98**	**180**	P	Pn	10 46 54.1	-0.6
6.1nm,0.3s,baz=235,slow=10,SNR=45							
DZM				S	Sn	10 48 44.8	-0.1
0.6nm,0.3s,baz=121,slow=22,SNR=2.0							
CTA	**Charters Tower**	**20.99**	**245**	P	P	10 49 10.0	+0.9
11nm,0.7s,baz=65,slow=11,SNR=9.2							
CMAR	**Chiang Mai Arr**	**73.15**	**294**	P	P	10 55 53.8	+0.1
2.0nm,0.7s,baz=133,slow=4.6,SNR=5.7							
ILAR	**Eielson Array**	**84.23**	**18**	P	P	10 56 53.7	+0.4
0.2nm,0.5s,baz=239,slow=4.8,SNR=5.4							
MKAR	**Makanchi Array**	**94.72**	**317**	P	P	10 57 42.2	-1.3
0.7nm,0.6s,baz=87,slow=6.1,SNR=4.6							

IDC 04 11:38:59.0±2.1, 8°.99S×127°.21E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML3.0/2, Error ellipse: s-maj=102.1km s-min=29.9km az=60.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.89**	**148**	Pn	Pn	11 42 05.0	+1.4
0.1nm,0.3s,baz=326,slow=12,SNR=7.5							
WRA				Sn	Sn	11 44 29.7	+1.8
0.2nm,0.3s,baz=326,slow=22,SNR=7.9							
ASAR	**Alice Springs**	**15.94**	**157**	Pn	Pn	11 42 42.8	-2.0
0.1nm,0.3s,baz=333,slow=12,SNR=2.7							
MKAR	**Makanchi Array**	**68.42**	**329**	P	P	11 50 02.8	0.0
0.2nm,0.6s,baz=134,slow=4.2,SNR=2.6							

*ISCJB **04** 11:48:01.3±0.4, 12°.39N±0°.05×88°.78W±0°.05, h40km, mb4.3/46, MS3.7/16, Error ellipse: s-maj=9.8km s-min=3.5km az=135.7*
*CASC **04** 11:48:02.3±2.5, 12°.39N×88°.87W, h35km±15km, MD4.2, ML3.9*
*IDC **04** 11:48:05.0±2.5, 12°.73N×88°.46W, h48km±23km, mb3.9/13, mb1 4.2/14, mb1mx3.9/26, mbtmp3.9/14, ML3.8/1, MS3.7/18, Ms1 3.7/18, ms1mx3.6/27, Error ellipse: s-maj=32.3km s-min=13.2km az=53.0*
*NEIC **04** 11:48:06.0±1.3, 12°.59N×88°.57W, h64km±11km, mb4.3/37, Error ellipse: s-maj=14.7km s-min=6.1km az=52.0*
ISC 04 11:48:02.9±0.5, 12°.45N±0°.07×88°.80W±0°.06, h40km, n392, σ0°91/393, mb4.3/46, MS3.7/16, 146C-141D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.10**	**27**	*i* P	**Pn**	**11 48 22.9**	**+0.9**
BLLM	**Bellamira**	**1.13**	**29**	*e*P	**Pn**	**11 48 22.9**	**+0.6**
SNVI	**San Vicente**	**1.16**	**358**	*e*P	**Pn**	**11 48 22.4**	**-0.4**
LFRS	**El Faro**	**1.20**	**347**	*i* P	**Pn**	**11 48 22.5**	**-0.8**
CNCH	**Conchagua**	**1.25**	**49**	*e*P	**Pn**	**11 48 25.6**	**+1.7**
SNET	**Serv Nac Est T**	**1.30**	**341**	*e*P	**Pn**	**11 48 24.4**	**-0.3**
SNET				*e*S	**Sn**	**11 48 42.0**	**+1.0**
SNET				AML	AML	11 48 51.1	
comp=Z,2μm,0.3s							
BOQS	**Boqueron**	**1.36**	**340**	*e*P	**Pn**	**11 48 25.1**	**-0.6**
CAHU	**Cacacuatique**	**1.43**	**23**	*e*P	**Pn**	**11 48 28.0**	**+1.4**
SBLS	**San Blas**	**1.60**	**330**	*i* P	**Pn**	**11 48 28.3**	**-0.6**
SNJE	**San Jose**	**1.62**	**331**	*e*P	**Pn**	**11 48 28.5**	**-0.7**
RTR	**El Retiro**	**1.66**	**330**	*e*P	**Pn**	**11 48 28.6**	**-1.2**
NBG	**Las Nubes**	**2.61**	**325**	*e*P	**Pn**	**11 48 44.4**	**+1.6**
MRL	**Marmol**	**2.74**	**342**	*e*P	**Pn**	**11 48 46.4**	**+1.8**
FUG	**Fuego 3**	**2.81**	**315**	*e*P	**Pn**	**11 48 46.2**	**+0.7**
JTS	**JuntasAbangare**	**4.33**	**119**	P	**Pn**	**11 49 07.8**	**+1.4**
JTS				S	**Sn**	**11 49 54.7**	**-1.0**
JTS	**JuntasAbangare**	**4.33**	**119**	P	**Pn**	**11 49 07.8**	**+1.4**
comp=Z,6.2nm,0.3s,baz=318,slow=18,SNR=21							
JTS				S	**Sn**	**11 49 54.7**	**-1.0**
comp=Z,7.5nm,0.3s,baz=230,slow=14,SNR=4.0							
JTS				LR	LR	11 51 09.6	
comp=Z,554nm,20.6s,baz=297,slow=44							
JCR	**Jicaral**	**4.44**	**125**	*e*P	**Pn**	**11 49 08.3**	**+0.5**
JCR				*e*S	**Sn**	**11 49 56.9**	**-1.5**
CGA2	**Cerro Gallo 2**	**4.89**	**119**	*e*P	**Pn**	**11 49 16.5**	**+2.4**
URSC	**Urasca**	**5.57**	**117**	*e*P	Pn	11 49 27.0	+3.6
BUS	**Buena Vista**	**5.72**	**120**	*e*P	**Pn**	**11 49 28.2**	**+2.5**
BUS				*e*S	**Sn**	**11 50 28.3**	**-2.2**
ACR	**Cerro Adams**	**6.70**	**124**	*e*P	**Pn**	**11 49 38.4**	**-0.5**
TEIG	**Tepich**	**7.75**	**4**	*e*Pn	**Pn**	**11 49 53.6**	**+0.4**
TEIG				*e*Sn	**Sn**	**11 51 20.0**	**+0.3**
TEIG	**Tepich**	**7.75**	**4**	P	**Pn**	**11 49 55.5**	**+2.3**
comp=Z,1.6nm,0.3s,baz=336,slow=9.2,SNR=12							
TEIG				LR	LR	11 53 13.1	
comp=Z,736nm,18.7s,baz=173,slow=41							
SDV	**Santo Domingo**	**18.19**	**99**	*e*Pn	**P**	**11 52 12.4**	**-0.3**
comp=Z,5.5nm,0.7s							
732A	**Laxson Ranch,**	**19.26**	**329**	⇑P	**P**	**11 52 24.1**	**0.0**
baz=19,SNR=9.3							
632A	**Uvalde**	**19.81**	**331**	⇑P	**P**	**11 52 30.0**	**-0.1**
baz=20,SNR=23							
631A	**Perdido Creek**	**20.12**	**329**	⇓P	**P**	**11 52 33.8**	**+0.3**
baz=20							
532A	**Rocksprings**	**20.39**	**331**	⇓P	**P**	**11 52 36.5**	**+0.1**
baz=20,SNR=42							
LRAL	**Lakeview Retre**	**20.56**	**4**	*e*P	Pn	11 52 39.5	-1.1
comp=Z,6.6nm,0.8s							
JCT	**Junction City**	**20.63**	**332**	*e*P	**P**	**11 52 39.1**	**0.0**
comp=Z,36nm,0.8s							
JCT	**Junction City**	**20.63**	**332**	⇓P	**P**	**11 52 38.8**	**-0.4**
baz=21,SNR=23							
531A	**Rocksprings**	**20.72**	**330**	⇓P	**P**	**11 52 39.9**	**-0.2**
baz=21,SNR=8.6							
432A	**Menard**	**20.97**	**333**	⇑P	**P**	**11 52 42.3**	**-0.4**
baz=21,SNR=28							
WHTX	**Lake Whitney**	**21.02**	**339**	⇓P	**P**	**11 52 42.5**	**-0.7**
baz=21,SNR=6.1							
530A	**J-C Ranch, Com**	**21.11**	**329**	⇑P	**P**	**11 52 44.1**	**-0.1**
baz=21,SNR=8.6							
431A	**Sonora**	**21.18**	**331**	⇓P	**P**	**11 52 44.8**	**-0.2**
baz=21,SNR=31							
332A	**Millersview**	**21.38**	**334**	⇑P	**P**	**11 52 46.6**	**-0.5**
baz=21,SNR=19							
628A	**Black Gap, Mar**	**21.42**	**324**	⇑P	**P**	**11 52 48.1**	**+0.5**
baz=22,SNR=25							
GOGA	**Godfrey**	**21.43**	**12**	*e*Pn	**P**	**11 52 48.7**	**+1.2**
comp=Z,9.4nm,1.0s							
529A	**Stev Forest Ra**	**21.55**	**327**	⇑P	**P**	**11 52 48.9**	**0.0**
baz=22,SNR=9.0							
430A	**Baggett Ranch,**	**21.57**	**330**	⇑P	**P**	**11 52 49.3**	**+0.1**
baz=22,SNR=14							
331A	**San Angelo**	**21.62**	**332**	⇑P	**P**	**11 52 49.2**	**-0.5**
baz=22,SNR=13							
627A	**Terlingua Ranc**	**21.69**	**324**	⇓P	**P**	**11 52 51.2**	**+0.7**
baz=22,SNR=58							
TXAR	**Lajitas Array**	**21.76**	**323**	P	**P**	**11 52 52.2**	**+0.9**
TXAR				PcP	**PcP**	**11 56 53.3**	**+2.4**
TXAR	**Lajitas Array**	**21.76**	**323**	P	**P**	**11 52 52.2**	**+0.9**
comp=Z,14nm,0.7s,baz=148,slow=11,SNR=150							
TXAR				PcP	**PcP**	**11 56 53.3**	**+2.4**
comp=Z,0.2nm,0.3s,baz=112,slow=5.6,SNR=3.9							
TXAR				LR	LR	12 03 17.6	
comp=Z,69nm,21.9s,baz=180,slow=42							
429A	**Davenport Ranc**	**21.77**	**328**	⇓P	**P**	**11 52 50.8**	**-0.6**
baz=22,SNR=33							
232A	**Coleman**	**21.77**	**334**	⇓P	**P**	**11 52 50.3**	**-1.1**
baz=22							
528A	**Cox Ranch,

comp=Z,123nm,19.0s,baz=355,slow=39
Y32A R-V Farms, Ver 23.55 337 ⇓P P 11 53 08.4 -1.3
baz=24,SNR=7.0
Z30A Sanderson Ranc 23.61 333 ⇑P P 11 53 09.3 -1.0
baz=24,SNR=12
128A Castleberry Fa 23.68 330 ⇑P P 11 53 09.7 -1.3
baz=24,SNR=9.4
Y31A Rekieta Farm, 23.83 336 ⇑P P 11 53 11.3 -1.1
baz=24,SNR=23
Z29A Hungry Hill Ra 23.84 332 ⇑P P 11 53 11.5 -1.1
baz=24,SNR=15
WMOK Wichita Mounta 23.97 339 eP P 11 53 12.5 -1.2
comp=Z,11nm,0.9s
Y30A Stafford Cattl 24.02 335 ⇓P P 11 53 13.8 -0.4
baz=24,SNR=9.3
325A Bean Ranch, Si 24.02 324 ⇑P P 11 53 13.9 -0.4
baz=24,SNR=8.6
226B Tecolote Peak, 24.11 327 ⇓P P 11 53 14.7 -0.3
baz=24
127A Arkansas Junct 24.16 329 ⇑P P 11 53 14.9 -0.7
baz=24
Z28A Tucker Farm, M 24.18 331 ⇓P P 11 53 14.7 -1.1
baz=24
TUL1 Tulsa 24.20 346 ⇓P P 11 53 14.5 -1.2
baz=24,SNR=5.8
X31A McDonald Ranch 24.31 337 ⇑P P 11 53 15.9 -0.8
baz=24,SNR=9.2
Y29A Porterfield Fa 24.33 333 ⇓P P 11 53 16.2 -0.9
baz=24
324A Moseley Ranch, 24.37 323 ⇓P P 11 53 17.2 -0.3
baz=24,SNR=13
126A Clayton Basin, 24.47 328 ⇑P P 11 53 18.3 -0.1
baz=24
225A Deer Hill, Car 24.49 326 ⇓P P 11 53 18.6 0.0
baz=25
X30A Coker Ranch, T 24.50 335 ⇑P P 11 53 18.0 -0.6
baz=24,SNR=16
MNTX Cornudas Mount 24.50 324 eP P 11 53 17.9 -0.6
comp=Z,2.7nm,0.9s
Z27A Tatum 24.60 330 ⇓P P 11 53 18.8 -0.8
baz=25,SNR=9.1
Y28A McKinney Farm, 24.63 332 ⇓P P 11 53 19.1 -0.7
baz=25,SNR=10
W31A Holland Ranch, 24.79 338 ⇓P P 11 53 20.6 -0.6
baz=25
125A Gardner Draw, 24.82 327 ⇑P P 11 53 21.9 +0.3
baz=25,SNR=5.3
X29A Tulia 24.84 334 ⇑P P 11 53 21.3 -0.4
baz=25,SNR=5.6
224A Cornudas Mount 24.86 324 ⇓P P 11 53 21.9 0.0
baz=25
MSTX Muleshoe 24.92 332 ⇑P P 11 53 22.0 -0.5
baz=25,SNR=13
Z26A Caprock 24.95 329 ⇑P P 11 53 22.2 -0.5
baz=25
Y27A Causey 25.04 331 ⇓P P 11 53 22.7 -0.8
baz=25,SNR=11
X28A Dimmitt 25.12 333 ⇓P P 11 53 23.9 -0.4
baz=25
SIUC Southern Illin 25.16 359 eP P 11 53 24.5 +0.1
comp=Z,14nm,0.9s
AMTX Amarillo 25.21 335 eP P 11 53 25.4 +0.4
comp=Z,26nm,0.8s
V31A Spring Creek L 25.28 339 ⇓P P 11 53 25.5 -0.1
baz=25,SNR=6.4
124A Stringfield Ra 25.29 326 ⇓P P 11 53 26.4 +0.4
baz=25,SNR=5.7
Z25A Roswell 25.33 328 ⇑P P 11 53 26.3 +0.1
baz=25,SNR=7.0
Y26A Elida 25.39 330 ⇑P P 11 53 27.1 +0.3
baz=26
W29A Amraillo 25.40 335 ⇓P P 11 53 26.2 -0.6
baz=26
V30A Spur Ranch, Mi 25.58 337 ⇑P P 11 53 28.6 +0.2
baz=26
X27A F and S Farms, 25.63 332 ⇓P P 11 53 29.2 +0.3
baz=26
Z24A Sheeppen Canyo 25.72 327 ⇓P P 11 53 30.4 +0.7
baz=26
W28A Vega 25.75 334 ⇓P P 11 53 30.1 +0.2
baz=26
Y25A Mesa, Roswell 25.82 328 ⇓P P 11 53 30.9 +0.3
baz=26,SNR=8.1
X26A CR and CF Fran 25.89 331 ⇓P P 11 53 31.3 0.0
baz=26,SNR=6.1
W27A Bowe Ranch, En 25.96 332 ⇑P P 11 53 31.7 -0.2
baz=26,SNR=11
320A Kipp Ranch, An 26.16 319 ⇑P P 11 53 35.7 +1.9
baz=26
V28A Channing 26.18 335 ⇓P P 11 53 33.9 0.0
baz=26,SNR=11
Y24A Capitan 26.21 327 ⇓P P 11 53 35.1 +0.8
baz=26,SNR=7.4
U30A WK&E Inc. Balk 26.24 338 ⇓P P 11 53 34.6 +0.2
baz=26
X25A Clemmons Ranch 26.29 329 ⇓P P 11 53 35.4 +0.6
baz=26,SNR=7.9
U29A Oasis Ranch, S 26.41 337 ⇓P P 11 53 36.1 +0.3
baz=26
T31A Randall Ranch, 26.41 340 ⇑P P 11 53 35.7 -0.1
baz=26
121A Cookes Peak, D 26.51 322 ⇑P P 11 53 38.4 +1.4
baz=27
220A Playas Peak, P 26.54 320 ⇑P P 11 53 39.0 +1.9
baz=27
Y23A Lovelace Mesa, 26.55 326 ⇓P P 11 53 38.1 +0.8
baz=27
Z22A Elephant Butte 26.55 324 ⇑P P 11 53 38.5 +1.2
baz=27
T30A Plains 26.67 339 ⇓P P 11 53 38.3 +0.1
baz=27
319A Douglas 26.67 318 ⇑P P 11 53 40.0 +1.7
baz=27
X24A Lazy VL Ranch, 26.71 328 ⇑P P 11 53 39.1 +0.3
baz=27
U28A Mallet 26.72 335 ⇑P P 11 53 38.6 -0.2
baz=27
W25A X Bar L Ranch, 26.74 331 ⇓P P 11 53 39.3 +0.3
baz=27,SNR=11
V26A Tequesquite Ra 26.90 332 ⇓P P 11 53 40.9 +0.5
baz=27,SNR=16
Z21A St. Cloud Mine 26.99 323 ⇓P P 11 53 42.9 +1.5
baz=27
U27A Thompson Grove 27.00 334 ⇓P P 11 53 41.3 0.0
baz=27,SNR=11
BNM Barren Site 27.02 326 eP P 11 53 43.1 +1.5
comp=Z,5.4nm,1.2s
T29A Hugoton 27.04 338 ⇑P P 11 53 41.9 +0.4
baz=27
Y22A Socorro 27.05 325 ⇓P P 11 53 43.0 +1.2
baz=27
S30A Montezuma 27.17 339 ⇓P P 11 53 42.6 -0.1
baz=27
W24A Lazy 6 Ranch, 27.20 329 ⇓P P 11 53 43.4 +0.3
baz=27
T28A Walsh 27.32 336 ⇑P P 11 53 44.0 -0.1
baz=27
V25A Rancho No Teng 27.32 331 ⇓P P 11 53 44.4 +0.2
baz=27,SNR=16
U26A Atchley Ranch, 27.38 333 ⇑P P 11 53 44.8 +0.1
baz=27,SNR=8.9
S29A Ulysses 27.38 338 ⇑P P 11 53 44.8 +0.2
baz=27
Z20A Nine Sixteen R 27.40 322 ⇓P P 11 53 46.2 +1.2
baz=28
KSU1 Kansas State U 27.43 347 eP P 11 53 44.7 -0.2
comp=Z,19nm,0.9s
R31A Burdett 27.45 341 ⇑P P 11 53 45.2 0.0
baz=28
Y21A Point of Rocks 27.50 324 ⇓P P 11 53 46.8 +0.9
baz=28
T27A Campo 27.51 335 ⇑P P 11 53 46.1 +0.2
baz=28
ANMO Albuquerque 27.53 327 LR LR 12 06 25.6
comp=Z,43nm,18.1s,baz=253,slow=40
V24A Rampart Ranch, 27.54 330 ⇑P P 11 53 46.9 +0.6
baz=28
U25A Circle Dot Ran 27.68 332 ⇑P P 11 53 47.9 +0.5
baz=28
R30A Dighton 27.69 340 ⇑P P 11 53 47.3 0.0
baz=28,SNR=7.7
Y20A Horse Springs, 27.83 323 ⇓P P 11 53 50.2 +1.3
baz=28
T26A Comanche Natio 27.97 334 ⇓P P 11 53 50.5 +0.4
baz=28
Q31A Ellis 28.07 342 ⇓P P 11 53 50.8 +0.1
baz=28
R29A Marienthal 28.11 339 ⇑P P 11 53 51.3 +0.2
baz=28

TUC Tucson 28.25 318 eP P 11 53 57.3 +4.9
comp=Z,13nm,0.9s
R28A Tribune 28.27 338 ⇓P P 11 53 52.4 -0.3
baz=28,SNR=6.2
T25A Trinidad 28.29 333 ⇑P P 11 53 53.9 +1.0
baz=28
S26A Kim 28.30 335 ⇑P P 11 53 53.5 +0.6
baz=28
U23A El Rito 28.47 330 ⇑P P 11 53 55.1 +0.6
baz=28,SNR=11
V22A San Miguel Ran 28.51 328 ⇓P P 11 53 55.4 +0.5
baz=29
P31A Stockton 28.55 343 ⇑P P 11 53 55.4 +0.4
baz=29
R27A Eads 28.60 337 ⇑P P 11 53 55.6 +0.1
baz=29
S25A Robets Cordova 28.74 334 ⇓P P 11 53 57.2 +0.3
baz=29
P30A Selden 28.83 341 ⇑P P 11 53 57.6 +0.1
baz=29
R26A Arlington 28.87 336 ⇑P P 11 53 58.2 +0.3
baz=29
S24A Houchin Ranch, 29.07 332 ⇓P P 11 54 00.5 +0.6
baz=29
R25A Fountain Ranch 29.08 334 ⇓P P 11 54 00.2 +0.4
baz=29
P29A Atwood 29.10 340 ⇓P P 11 54 00.4 +0.5
baz=29
KSCO Kaye Shedlock' 29.16 338 ⇑P P 11 54 00.8 +0.2
baz=29
SDCO Great Sand Dun 29.28 332 eP P 11 54 03.7 +1.9
comp=Z,2.9nm,1.0s
U21A Nageezi 29.29 328 ⇑P P 11 54 02.8 +0.9
baz=29
P28A Saint Francis 29.35 339 ⇓P P 11 54 02.4 +0.2
baz=29
O30A MW Ranch, Wils 29.35 342 ⇑P P 11 54 02.4 +0.3
baz=29
Q26A Hugo 29.43 336 ⇓P P 11 54 03.3 +0.4
baz=30
R24A Sanders Place, 29.51 333 ⇑P P 11 54 04.3 +0.5
baz=30
P27A Ficken Ranch, 29.63 338 ⇓P P 11 54 05.3 +0.6
baz=30
U20A Newcomb 29.71 327 ⇓P P 11 54 06.6 +1.1
baz=30
Q25A Bedland, Calha 29.72 335 ⇑P P 11 54 06.1 +0.5
baz=30
R23A Moffat 29.80 332 ⇑P P 11 54 07.4 +1.1
baz=30,SNR=7.3
S22A 4UR Ranch, Cre 29.91 331 ⇑P P 11 54 08.1 +0.7
baz=30,SNR=9.2
P26A Davis Ranch, A 29.92 337 ⇓P P 11 54 07.2 0.0
baz=30
X16A Lo Mia Camp, P 30.03 321 ⇑P P 11 54 09.8 +1.5
baz=30
Q24A Divide 30.14 334 ⇓P P 11 54 09.8 +0.4
baz=30
O27A Beecher Island 30.15 339 ⇓P P 11 54 09.7 +0.5
baz=30,SNR=5.8
R22A Saguache, Gunn 30.26 331 ⇓P P 11 54 10.3 -0.2
baz=30
N28A Pribbeno Ranch 30.28 341 ⇓P P 11 54 10.1 -0.2
baz=30
S21A Coal Bank Pass 30.31 329 ⇑P P 11 54 11.3 +0.4
baz=30
O26A Horse Wrangler 30.50 338 ⇑P P 11 54 12.6 +0.3
baz=30
M30A Dale-Ortello V 30.55 344 ⇓P P 11 54 12.8 0.0
baz=31
O25A Wiggins 30.69 337 ⇓P P 11 54 14.4 +0.3
baz=31
M29A Burside Ranch 30.70 342 ⇓P P 11 54 14.4 +0.3
baz=31
N27A Anderson Farm, 30.72 339 ⇑P P 11 54 14.5 +0.3
baz=31
Y14A Wickenburg 30.72 318 ⇑P P 11 54 16.1 +1.8
baz=31
WUAZ Wupatki 30.72 322 ⇑P P 11 54 15.7 +1.3
baz=31
P23A Jefferson 30.77 334 ⇓P P 11 54 15.3 +0.2
baz=31,SNR=6.9
Q22A Crested Butte, 30.84 332 ⇓P P 11 54 16.1 +0.6
baz=31
N26A Koester Ranch, 30.98 338 ⇓P P 11 54 16.7 +0.1
baz=31
ISCO Idaho Springs 31.03 334 eP P 11 54 19.3 +2.0
comp=Z,2.5nm,0.9s
ISCO Idaho Springs 31.03 334 ⇑P P 11 54 17.0 -0.2
baz=31
SMCO Snowmass 31.12 332 eP P 11 54 20.1 +2.0
comp=Z,3.0nm,0.8s
N25A Grover 31.28 337 ⇑P P 11 54 20.0 +0.7
baz=31
P22A Eagle 31.36 333 ⇑P P 11 54 20.8 +0.7
baz=31
L28A Connealy Angus 31.47 342 ⇓P P 11 54 21.0 +0.2
baz=32
O23A Lake Granby, G 31.50 334 ⇑P P 11 54 22.0 +0.6
baz=32
P21A Newcastle 31.62 332 ⇑P P 11 54 22.7 +0.4
baz=32
PDMCI Parker Dam,Lak 31.68 318 ⇑P P 11 54 24.9 +2.2
baz=32
O22A Kremmling 31.73 334 ⇑P P 11 54 23.4 0.0
baz=32
U15A North Rim 31.89 323 ⇑P P 11 54 26.2 +1.4
baz=32
ECSD EROS Data Cent 31.89 349 eP P 11 54 23.3 -1.1
comp=Z,5.9nm,0.9s
N23A Red Feather La 32.09 335 ⇑P P 11 54 26.1 -0.4
baz=32
M24A Cheyenne 32.13 337 ⇑P P 11 54 26.9 +0.2
baz=32
N22A Wattenberg Ran 32.22 334 ⇑P P 11 54 27.9 +0.2
baz=32
PHWY Pilot Hill 32.23 336 eP P 11 54 28.5 +0.7
comp=Z,3.4nm,0.9s
L25A Engebretsen Ra 32.41 339 ⇑P P 11 54 29.1 -0.1
baz=32
O20A White River Ci 32.47 332 ⇑P P 11 54 30.5 +0.7
baz=32,SNR=8.3
J28A Allard Ranch, 32.68 343 ⇑P P 11 54 31.4 0.0
baz=33
BELC Belle Mtn. Jos 32.76 315 ⇓P P 11 54 34.2 +1.8
baz=33
GMRC Granite Mounta 32.98 317 ⇓P P 11 54 36.4 +2.1
baz=33
O19A Miners Draw (B 33.01 331 ⇑P P 11 54 34.8 +0.3
baz=33
L23A Garrett 33.02 337 ⇑P P 11 54 35.0 +0.4
baz=33,SNR=6.4
N20A Spence Gulch, 33.04 332 ⇓P P 11 54 35.7 +0.9
baz=33,SNR=9.1
BRSD Miller 33.05 347 ⇓P P 11 54 34.7 +0.1
baz=33
SAML Samuel 33.16 129 eP P 11 54 35.8 0.0
comp=Z,3.3nm,0.9s
I28A Midland 33.19 344 ⇑P P 11 54 36.2 +0.3
baz=33,SNR=5.4
L22A Ellis Ranch, M 33.24 336 ⇓P P 11 54 37.5 +1.0
baz=33
SADO Sadowa 33.25 13 P P 11 54 35.3 -1.0
SADO Sadowa 33.25 13 P P 11 54 35.3 -1.0
comp=Z,3.7nm,0.6s,baz=213,slow=9.3,SNR=3.6
M21A Separation Pea 33.27 334 ⇑P P 11 54 37.8 +1.0
baz=33
J25A Sunshine Ranch 33.45 340 ⇑P P 11 54 38.4 +0.2
baz=34
I27A Quinn 33.51 343 ⇓P P 11 54 38.9 +0.3
baz=34
M20A Sweetwater, Wa 33.53 333 ⇑P P 11 54 40.2 +1.1
baz=34
K23A Bowen Ranch, D 33.54 337 ⇑P P 11 54 39.0 0.0
baz=34
BBRC Big Bear Solar 33.54 315 ⇑P P 11 54 41.8 +2.5
baz=34
L21A Rawlins 33.57 335 ⇓P P 11 54 39.7 +0.3
baz=34,SNR=7.8
H28A Mission Ridge 33.78 344 ⇑P P 11 54 40.5 -0.4
baz=34
K22A Casper 33.80 336 ⇓P P 11 54 42.1 +0.7
baz=34
I25A Rochford 33.98 341 ⇑P P 11 54 43.5 +0.6
baz=34
L20A Wamsutter 34.02 334 ⇓P P 11 54 44.1 +0.8
baz=34
H27A Howes 34.03 343 ⇓P P 11 54 43.2 0.0
baz=34

K21A Alcova 34.07 335 ⇑P P 11 54 44.3 +0.5
baz=34
CIS Catalina Islan 34.13 313 ⇓P P 11 54 47.2 +3.0
baz=34
I24A Kuemmerle Ranc 34.14 339 ⇑P P 11 54 44.7 +0.5
baz=34
RSSD Black Hills 34.17 340 eP P 11 54 44.6 0.0
comp=Z,3.8nm,0.7s
J22A Midwest 34.43 337 ⇑P P 11 54 47.0 +0.3
baz=34,SNR=6.2
L19A Farson 34.55 333 ⇓P P 11 54 49.2 +1.4
baz=35
K20A Yellowstone Ra 34.55 334 ⇑P P 11 54 47.7 -0.1
baz=35
M17A Scullys Gap (B 34.66 331 ⇓P P 11 54 49.2 +0.3
baz=35
G27A Dupree 34.68 344 ⇓P P 11 54 48.8 +0.1
baz=35,SNR=5.5
L18A Fontenelle, Gr 34.72 332 ⇓P P 11 54 49.8 +0.5
baz=35
J21A Lysite 34.75 336 ⇓P P 11 54 50.1 +0.6
baz=35,SNR=9.6
G26A Maurine 34.79 343 ⇑P P 11 54 50.7 +1.0
baz=35
DUG Dugway 34.80 327 ⇑P P 11 54 51.4 +1.4
baz=35
I22A 9 Mile Ranch, 34.84 337 ⇓P P 11 54 51.0 +0.8
baz=35
H24A Dirks Ranch, A 34.90 340 ⇓P P 11 54 51.0 +0.3
baz=35,SNR=9.6
K19A Absolon Red Bu 34.90 334 ⇓P P 11 54 51.4 +0.5
baz=35,SNR=5.6
MPMC Manual Prospec 34.94 317 ⇓P P 11 54 53.3 +2.0
baz=35
J20A Shoshoni 35.01 335 ⇑P P 11 54 52.6 +0.9
baz=35
I21A Big Trails, Te 35.08 336 ⇑P P 11 54 52.7 +0.3
baz=35
LPAZ La Paz 35.11 144 LR LR 12 08 39.9
comp=Z,98nm,18.3s,baz=84,slow=35
R11A Troy Canyon, C 35.12 322 ⇓P P 11 54 54.5 +1.6
baz=35
BW06 Boulder Array 35.16 333 eP P 11 54 54.5 +1.2
comp=Z,1.4nm,0.8s
PDAR Pinedale Array 35.16 333 P P 11 54 54.2 +1.0
PDAR PcP PcP 11 57 24.6 +0.7
PDAR Pinedale Array 35.16 333 P P 11 54 54.2 +1.0
comp=Z,1.1nm,0.8s,baz=137,slow=11,SNR=10.0
PDAR PcP PcP 11 57 24.6 +0.7
comp=Z,0.6nm,0.7s,baz=154,slow=5.0,SNR=4.2
HWUT Hardware Ranch 35.20 330 eP P 11 54 53.4 -0.1
comp=Z,1.8nm,0.7s
F26A Lodgepole 35.32 343 ⇑P P 11 54 54.6 +0.3
baz=35
J19A Crowheart 35.35 334 ⇓P P 11 54 55.6 +0.9
baz=35
G24A Alzada 35.37 341 ⇓P P 11 54 55.1 +0.3
baz=35
H22A Clearmont 35.39 338 ⇑P P 11 54 55.8 +0.8
baz=35
GRAC Grapevine Rang 35.40 319 ⇑P P 11 54 57.1 +2.0
baz=36
EYMN Ely 35.46 357 eP P 11 54 53.9 -1.5
comp=Z,12nm,0.8s
I20A Worland 35.52 336 ⇓P P 11 54 56.6 +0.4
baz=36,SNR=6.3
G23A Biddle 35.58 340 ⇑P P 11 54 57.4 +0.8
baz=36
F25A Bowman 35.61 342 ⇓P P 11 54 57.1 +0.3
baz=36
H21A Big Horn, Sher 35.67 337 ⇑P P 11 54 57.7 +0.3
baz=36,SNR=5.6
E26A Carlson Angus 35.83 344 ⇓P P 11 54 59.0 +0.4
baz=36
F24A Ekalaka 35.84 341 ⇓P P 11 54 59.4 +0.6
baz=36
G22A Birney 35.91 339 ⇑P P 11 54 60.0 +0.6
baz=36
I19A Meeteetse 35.95 335 ⇓P P 11 54 59.7 -0.2
baz=36
I18A Diamond G Ranc 36.03 334 ⇓P P 11 55 01.0 +0.3
baz=36
F23A Volborg 36.04 340 ⇓P P 11 55 00.6 +0.1
baz=36
E25A Miller Ranch, 36.12 343 ⇓P P 11 55 02.2 +1.1
baz=36
AGMN Agassiz Nation 36.22 352 eP P 11 55 00.7 -1.2
comp=Z,13nm,0.8s
SNOW Snow King Moun 36.25 333 eP P 11 55 03.5 +0.9
comp=Z,5.8nm,0.4s
LOHW Long Hollow 36.30 333 eP P 11 55 04.5 +1.5
comp=Z,2.2nm,0.8s
F22A Rosebud 36.38 339 ⇓P P 11 55 04.5 +1.1
baz=36
RRI2 Red Ridge 36.42 332 eP P 11 55 04.5 +0.5
comp=Z,4.9nm,1.0s
MDND Maddock 36.43 348 ⇓P P 11 55 03.7 0.0
baz=36
E24A Baker 36.44 342 ⇓P P 11 55 04.0 +0.1
baz=36
H19A Powell 36.47 336 ⇓P P 11 55 04.9 +0.7
baz=36
MOOW Moose Ponds 36.47 333 eP P 11 55 05.1 +0.7
comp=Z,1.7nm,1.0s
G20A Bridger 36.62 337 ⇑P P 11 55 06.4 +0.9
baz=37
E23A Ismay 36.70 341 ⇑P P 11 55 06.0 0.0
baz=37,SNR=7.0
C27A Sayler Ranch, 36.73 346 ⇓P P 11 55 06.3 0.0
baz=37
H18A Shoshone NF, C 36.75 335 ⇑P P 11 55 06.7 -0.1
baz=37,SNR=11
NVAR Mina Array Bea 36.85 320 P P 11 55 09.6 +1.9
NVAR PcP PcP 11 57 30.6 +1.6
NVAR Mina Array Bea 36.85 320 P P 11 55 09.6 +1.9
comp=Z,1.7nm,0.8s,baz=135,slow=7.0,SNR=18
NVAR PcP PcP 11 57 30.6 +1.6
comp=Z,1.1nm,0.7s,baz=136,slow=3.3,SNR=9.2
I16A Newdale 36.90 332 ⇑P P 11 55 09.1 +1.0
baz=37
D24A Glendive 36.94 342 ⇑P P 11 55 08.8 +0.7
baz=37
RLMT Red Lodge 36.95 336 eP P 11 55 09.5 +1.0
comp=Z,6.6nm,1.1s
C26A Wahner Farm, P 36.98 345 ⇑P P 11 55 09.1 +0.7
baz=37
F20A Billings 37.08 337 ⇑P P 11 55 10.1 +0.7
baz=37
G18A Lazy EL Ranch, 37.23 336 ⇑P P 11 55 11.4 +0.7
baz=37
D23A Lindsay 37.26 341 ⇓P P 11 55 11.3 +0.4
baz=37
E21A Keefer Ranch, 37.33 339 ⇓P P 11 55 11.9 +0.5
baz=37
F19A Roth Farm, Mol 37.43 337 ⇓P P 11 55 13.3 +0.9
baz=38
H16A Russell Place, 37.45 333 ⇓P P 11 55 13.4 +0.7
baz=38
D22A Cohagen 37.55 340 ⇓P P 11 55 14.0 +0.7
baz=38
E20A Meyer Farm, Mu 37.67 338 ⇓P P 11 55 14.8 +0.5
baz=38
D21A La Casta Ranch 37.75 340 ⇑P P 11 55 15.2 +0.2
baz=38
F18A Big Timber 37.77 336 ⇑P P 11 55 16.0 +0.7
baz=38
C23A Lambert 37.82 342 ⇓P P 11 55 15.8 +0.2
baz=38
I14A Mackay 37.86 331 ⇑P P 11 55 17.3 +1.2
baz=38
E19A Rath Farm, Rou 37.88 337 ⇑P P 11 55 17.1 +1.0
baz=38
C22A Vida 37.98 341 ⇑P P 11 55 17.4 +0.5
baz=38
HLID Hailey 38.06 329 eP P 11 55 20.2 +2.4
comp=Z,2.0nm,1.0s
HLID Hailey 38.06 329 ⇑P P 11 55 19.1 +1.3
baz=38
DGMT Dagmar 38.13 343 eP P 11 55 18.7 +0.5
comp=Z,15nm,0.6s
DGMT Dagmar 38.13 343 ⇑P P 11 55 18.7 +0.5
baz=38
ULM Lac du Bonnet 38.14 353 eP P 11 55 16.3 -1.8
comp=Z,6.2nm,0.8s
ULM Lac du Bonnet 38.14 353 P P 11 55 16.6 -1.6
comp=Z,7.6nm,0.8s,baz=170,slow=10,SNR=7.8
ULM LR LR 12 12 13.3

comp=Z,99nm,21.5s,baz=286,slow=38
F17A Fitzpatrick Pl 38.16 335 ⇑P **P 11 55 19.3 +0.7**
baz=38
D20A Manuel Ranch, 38.17 339 ⇑P **P 11 55 19.0 +0.4**
baz=38,SNR=5.7
MCMT McKenzie Canyo 38.26 332 *eP* **P 11 55 20.9 +1.3**
comp=Z,2.3nm,0.9s
B23A Brockton 38.35 343 ⇓P **P 11 55 20.8 +0.7**
baz=38
BOZ Bozeman (W) 38.36 334 *eP* **P 11 55 20.5 +0.2**
comp=Z,1.1nm,0.6s
E18A Harlowton 38.40 336 ⇓P **P 11 55 21.8 +1.2**
baz=38
A24A Westby 38.49 344 ⇑P **P 11 55 21.7 +0.5**
baz=38
D19A Cripps Ranch, 38.51 338 ⇓P **P 11 55 21.9 +0.5**
baz=38
DLMT Dillon 38.56 333 *eP* **P 11 55 22.2 +0.3**
comp=Z,4.6nm,1.1s
C20A Veseth Ranch, 38.66 339 ⇓P **P 11 55 23.4 +0.8**
baz=39
E17A Martinsdale 38.69 335 ⇑P **P 11 55 23.3 +0.2**
baz=39
A23A Redstone 38.77 343 ⇓P **P 11 55 24.0 +0.5**
baz=39
C19A Slack Wire Ran 39.05 338 ⇑P **P 11 55 26.7 +0.8**
baz=39
A22A Carney Farms, 39.10 342 ⇓P **P 11 55 26.6 +0.3**
baz=39
D17A Six Diamond Ra 39.18 336 ⇓P **P 11 55 26.9 -0.2**
baz=39
B20A Solberg Farm, 39.29 340 ⇑P **P 11 55 28.2 +0.3**
baz=39
SIV San Ignacio 39.38 135 P **P 11 55 29.7 +0.8**
SIV San Ignacio 39.38 135 P **P 11 55 29.7 +0.8**
comp=Z,5.6nm,0.6s,baz=136,slow=8.3,SNR=7.6
A21A Bergtoll Ranch 39.41 341 ⇑P **P 11 55 29.4 +0.5**
baz=39
EGMT Eagleton 39.55 338 *eP* **P 11 55 30.5 +0.4**
comp=Z,17nm,1.4s
EGMT Eagleton 39.55 338 ⇑P **P 11 55 30.4 +0.4**
baz=40
C17A Wharram Farm, 39.60 337 ⇑P **P 11 55 30.9 +0.3**
baz=40
B19A Brinkman Farms 39.62 339 ⇑P **P 11 55 31.0 +0.3**
baz=40
A20A Cobblestone Ra 39.64 340 ⇑P **P 11 55 30.8 +0.1**
baz=40
B18A Beardsley Farm 39.87 338 ⇓P **P 11 55 33.3 +0.6**
baz=40
A19A Klindworth Far 39.95 339 ⇓P **P 11 55 34.0 +0.6**
baz=40
C16A Fuhringer Ranc 40.13 336 ⇑P **P 11 55 35.3 +0.4**
baz=40
MSO Missoula 40.28 333 ⇑P **P 11 55 36.8 +0.5**
baz=40
A18A Metzger Ranch, 40.33 339 ⇑P **P 11 55 36.9 +0.4**
baz=40
C15A Salmond Ranch, 40.46 335 ⇓P **P 11 55 38.3 +0.6**
baz=40
A17A Triple J Farms 40.66 338 ⇓P **P 11 55 39.7 +0.4**
baz=41
B15A Bradely Ranch, 40.87 336 ⇑P **P 11 55 42.2 +1.2**
baz=41
A16A West Butte Ran 41.00 337 ⇓P **P 11 55 42.5 +0.4**
baz=41
A15A Johnson Ranch, 41.47 336 ⇓P **P 11 55 46.6 +0.7**
baz=42
YBH Yreka Blue Hor 41.52 321 P **P 11 55 45.7 -0.8**
YBH PcP **PcP 11 57 44.6 +1.1**
YBH Yreka Blue Hor 41.52 321 P **P 11 55 45.7 -0.8**
comp=Z,0.3nm,0.5s,baz=97,slow=8.3,SNR=2.7
YBH PcP **PcP 11 57 44.6 +1.1**
comp=Z,0.6nm,0.8s,baz=134,slow=3.7,SNR=3.4
B13A Whitefish 41.70 334 ⇑P **P 11 55 49.2 +1.3**
baz=42
A14A Double T Ranch 41.74 336 ⇑P **P 11 55 48.7 +0.5**
baz=42,SNR=5.4
SCHQ Schefferville 45.67 18 P **P 11 56 17.5 -2.1**
SCHQ Schefferville 45.67 18 P **P 11 56 17.5 -2.1**
comp=Z,8.3nm,0.8s,baz=207,slow=6.5,SNR=6.9
SCHQ LR LR 12 16 10.6
comp=Z,184nm,18.1s,baz=348,slow=37
BDFB Brasilia 49.06 124 LR LR 12 18 54.4
comp=Z,136nm,19.3s,baz=113,slow=38
CPUP Villa Florida 49.22 142 LR LR 12 18 44.0
comp=Z,104nm,19.7s,baz=52,slow=37
YKA Yellowknife Ar 53.27 345 P **P 11 57 16.5 -0.9**
YKA Yellowknife Ar 53.27 345 P **P 11 57 16.5 -0.9**
comp=Z,3.7nm,0.8s,baz=141,slow=7.4,SNR=15
DLBC Dease Lake 55.35 335 *eP* **P 11 57 33.9 +1.2**
RKT Rikitea 57.38 232 *eT* T 12 59 23.0
comp=Z,1.9nm,0.3s
PMOR Pomariorio Ree 64.56 247 *eT* T 13 08 17.6
comp=Z,2.6nm,0.2s
ILAR Eielson Array 65.49 336 P **P 11 58 41.2 -0.6**
ILAR PP **PP 12 01 04.3 -1.7**
ILAR Eielson Array 65.49 336 P **P 11 58 41.2 -0.6**
comp=Z,0.7nm,0.7s,baz=175,slow=4.8,SNR=11
ILAR PP **PP 12 01 04.3 -1.7**
comp=Z,0.4nm,0.9s,baz=108,slow=5.1,SNR=4.5
ILAR LR LR 12 31 42.9
comp=Z,80nm,18.4s,baz=113,slow=40
PPT2 Papeete2 67.02 245 *eLR* LR 12 19 01.7
comp=Z,96nm,24.2s
ESDC Sonseca Array 78.22 52 LR LR 12 31 51.1
comp=Z,46nm,18.4s,baz=235,slow=34
NOA NORSAR Array B 84.00 29 P **P 12 00 28.0 -1.0**
NOA NORSAR Array B 84.00 29 P **P 12 00 28.0 -1.0**
comp=Z,0.5nm,0.8s,baz=314,slow=7.3,SNR=2.1
NOA LR LR 12 33 56.9
comp=Z,29nm,20.7s,baz=280,slow=33
ARCES ARCESS Array B 86.61 19 LR LR 12 38 46.3
comp=Z,21nm,18.9s,baz=282,slow=35
TORD Torodi Ar. Bea 87.69 77 P **P 12 00 46.3 -1.8**
TORD Torodi Ar. Bea 87.69 77 P **P 12 00 46.3 -1.8**
comp=Z,0.4nm,1.0s,baz=286,slow=8.2,SNR=2.5
TORD LR LR 12 34 55.1
comp=Z,73nm,19.8s,baz=235,slow=32
GERES GERESS Array B 88.79 40 LR LR 12 42 29.4
comp=Z,55nm,18.6s,baz=270,slow=37
FINES FINESS Array B 90.55 26 LR LR 12 39 48.4
comp=Z,36nm,18.8s,baz=171,slow=34
SONM Songino Array 118.48 348 PKP **PKPdf 12 06 46.6 0.0**
SONM Songino Array 118.48 348 PKP **PKPdf 12 06 46.6 0.0**
comp=Z,0.5nm,0.5s,baz=336,slow=3.1,SNR=3.6
KSRS Korea Array 119.56 327 PKP **PKPdf 12 06 50.0 +1.2**
comp=Z,0.4nm,0.5s,baz=42,slow=1.4,SNR=4.8
KSAR Wonju Array Be 119.59 327 PKP **PKPdf 12 06 50.0 +1.2**
WRA Warramunga Arr 138.01 254 PKP **PKPdf 12 07 25.5 +1.2**
WRA Warramunga Arr 138.01 254 PKP **PKPdf 12 07 25.5 +1.2**
comp=Z,0.6nm,0.8s,baz=88,slow=2.5,SNR=4.8
ASAR Alice Springs 138.05 248 PKP **PKPdf 12 07 24.6 +0.3**
ASAR Alice Springs 138.05 248 PKP **PKPdf 12 07 24.5 +0.3**
comp=Z,0.4nm,0.8s,baz=103,slow=2.3,SNR=3.9
CMAR Chiang Mai Arr 148.35 346 PKPbc **PKPbc 12 07 46.8 +0.8**
CMAR Chiang Mai Arr 148.35 346 PKPbc **PKPbc 12 07 46.8 +0.8**
comp=Z,4.7nm,0.8s,baz=340,slow=3.1,SNR=18

*IDC **04** 11:51:18.4±0.9,24°.17S×69°.22W,h0km,mb4.1/6,*
mb1 4.1/8,mb1mx3.9/21,mbtmp4.1/8,ML4.2/2, Error
ellipse: s-maj=28.8km s-min=21.1km az=148.0
*ISCJB **04** 11:51:32.5±0.7,23°.47S±0°.05×68°.90W±0°.09,h102km±7km,*
mb3.9/6, Error ellipse: s-maj=14.3km s-min=6.2km
az=20.3
*GUC **04** 11:51:34.3±0.9,23°.27S×69°.00W,h102km±7km,ML4.0*
*NEIC **04** 11:51:34.3,23°.27S×69°.00W,h102km,mb4.0/1,After*
GUC.

ISC 04 11:51:32.6±0.9,23°.51S±0°.05×68°.81W±0°.07,h97km±8km,
n32,σ1§81/43,mb4.0/6,3C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.90**	**354**	*eP*n	**Pn**	**11 51 52.0**	**0.0**
LVC				*e*Sn	**Sn**	**11 52 05.9**	**-0.6**
LVC	**Limon Verde**	**0.90**	**354**	*eP*	**Pn**	**11 51 52.0**	**0.0**
LVC				*i* S	**Sn**	**11 52 05.9**	**-0.6**
PB06	**Plate Boundary**	**1.06**	**319**	⇓*i*P	**Pn**	**11 51 53.5**	**-0.2**
PB06				*i* S	**Sn**	**11 52 07.5**	**-2.0**
PB06	**Plate Boundary**	**1.06**	**319**	⇓*i*P	**Pn**	**11 51 53.5**	**-0.2**
PB06				*i* S	**Sn**	**11 52 07.5**	**-2.0**
PB06				AML	AML	11 52 08.1	
	comp=N,7μm,0.3s						
PB04	**Plate Boundary**	**1.39**	**333**	*eP*	**Pn**	**11 52 00.5**	**+3.2**
PB04				*e*S	**Sn**	**11 52 19.8**	**+3.9**
PB04				AML	AML	11 52 23.1	
	comp=N,2μm,0.2s						
ANCH	**Antofagasta**	**1.48**	**263**	⇑*eP*	**Pn**	**11 51 59.4**	**+1.0**
ANCH				*e*S	**Sn**	**11 52 18.2**	**+0.2**
ANCH	**Antofagasta**	**1.48**	**263**	⇑*eP*	**Pn**	**11 51 59.4**	**+1.0**
ANCH				*e*S	**Sn**	**11 52 18.2**	**+0.2**
ANCH				AML	AML	11 52 19.6	
	comp=E,2μm,0.4s						
PB10	**Plate Boundary**	**1.60**	**270**	⇑*i*P	**Pn**	**11 52 00.3**	**+0.3**
PB10				*i* S	**Sn**	**11 52 19.0**	**-1.8**
PB10				AML	AML	11 52 21.9	
	comp=E,4μm,0.6s						
PB09	**Plate Boundary**	**1.75**	**347**	⇓*i*P	**Pn**	**11 52 02.6**	**+0.5**
PB09				*i* S	**Sn**	**11 52 23.6**	**-0.9**
PB09	**Plate Boundary**	**1.75**	**347**	⇓*i*P	**Pn**	**11 52 02.6**	**+0.5**
PB09				*i* S	**Sn**	**11 52 23.6**	**-0.9**
PB07	**Plate Boundary**	**2.04**	**331**	⇓*i*P	**Pn**	**11 52 04.9**	**-0.8**
PB07				*i* S	**Sn**	**11 52 27.4**	**-3.5**
PB07	**Plate Boundary**	**2.04**	**331**	⇓*i*P	**Pn**	**11 52 04.9**	**-0.8**
PB07				*i* S	**Sn**	**11 52 27.4**	**-3.5**
PB07				AML	AML	11 52 30.0	
	comp=N,1μm,0.4s						
LCO	**Las Campanas**	**5.74**	**197**	*ePn*	**Pn**	**11 52 56.0**	**+0.5**
LCO				*e*Sn	**Sn**	**11 54 01.9**	**+1.8**
LPAZ	**La Paz**	**7.21**	**5**	*ePn*	**Pn**	**11 53 16.3**	**+0.3**
	comp=N,2.9nm,0.6s						
LPAZ				*e*Sn	**Sn**	**11 54 38.7**	**+1.9**
LPAZ	**La Paz**	**7.21**	**5**	Pn	**Pn**	**11 53 16.4**	**+0.4**
	comp=N,0.7nm,0.3s,baz=193,slow=10,SNR=32						
SIV	**San Ignacio**	**10.44**	**46**	Pn	**Pn**	**11 53 57.4**	**-2.1**
SIV				Sn	Sn	11 55 45.2	-9.3
SIV	**San Ignacio**	**10.44**	**46**	Pn	**Pn**	**11 53 57.4**	**-2.1**
	comp=N,1.9nm,0.3s,baz=252,slow=10.0,SNR=25						
SIV				Sn	Sn	11 55 45.2	-9.3
	comp=N,0.3nm,0.3s,baz=315,slow=23,SNR=3.8						
BDFB	**Brasilia**	**21.08**	**72**	P	**P**	**11 56 10.8**	**+1.3**
BDFB	**Brasilia**	**21.08**	**72**	P	**P**	**11 56 10.8**	**+1.3**
	comp=N,4.3nm,0.4s,baz=252,slow=12,SNR=8.3						
RPN	**Rapa Nui**	**36.70**	**256**	P	P	11 58 22.9	-7.6
RPN	**Rapa Nui**	**36.70**	**256**	P	P	11 58 22.9	-7.6
	comp=N,0.8nm,0.3s,baz=326,slow=18,SNR=11						
TEIG	**Tepich**	**47.43**	**335**	P	**P**	**11 59 57.4**	**-0.3**
TEIG	**Tepich**	**47.43**	**335**	P	**P**	**11 59 57.4**	**-0.3**
	comp=N,2.4nm,0.6s,baz=153,slow=6.8,SNR=2.0						
ANMO	**Albuquerque**	**68.23**	**327**	P	**P**	**12 02 23.6**	**+0.4**
ANMO	**Albuquerque**	**68.23**	**327**	P	**P**	**12 02 23.6**	**+0.4**
	comp=N,1.1nm,0.6s,baz=157,slow=4.3,SNR=6.1						
VNDA	**Vanda**	**74.90**	**190**	P	P	12 02 55.9	-6.5
VNDA	**Vanda**	**74.90**	**190**	P	P	12 02 55.9	-6.5
	comp=N,0.5nm,0.6s,baz=158,slow=5.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.95**	**70**	P	**P**	**12 03 22.5**	**+1.9**
TORD	**Torodi Ar. Bea**	**77.95**	**70**	P	**P**	**12 03 22.5**	**+1.9**
	comp=N,1.1nm,0.5s,baz=252,slow=5.3,SNR=17						
WRA	**Warramunga Arr**	**131.27**	**209**	PKP	**PKPdf**	**12 10 32.3**	**-2.0**
WRA	**Warramunga Arr**	**131.27**	**209**	PKP	**PKPdf**	**12 10 32.3**	**-2.0**
	comp=N,0.4nm,0.9s,baz=151,slow=1.8,SNR=2.4						

IDC 04 12:48:05.5±1.6,2°.04N×123°.47E,h0km,mb3.4/4,
mb1 3.7/4,mb1mx3.4/23,mbtmp3.5/4,MS3.5/1,Ms1 3.5/1,
ms1mx2.4/19,Error ellipse: s-maj=128.8km
s-min=23.6km az=66.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.13**	**174**	P	P	12 52 41.3	+0.1
	1.8nm,0.9s,baz=329,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**24.31**	**154**	P	P	12 53 24.4	-0.6
	0.7nm,0.6s,baz=332,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**27.50**	**159**	P	P	12 53 54.7	+0.9
	0.1nm,0.2s,baz=347,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**57.15**	**327**	P	P	12 57 53.6	-0.5
	0.4nm,0.7s,baz=116,slow=6.6,SNR=4.0						
PETK	**Petropavlovsk-**	**58.24**	**24**	LR	LR	13 20 54.8	
	comp=Z,42nm,18.9s,baz=214,slow=34						

*IDC **04** 12:51:58.5±1.2,2°.76S×122°.27E,h0km,mb3.6/5,*
mb1 3.8/7,mb1mx3.6/23,mbtmp3.7/7,ML3.1/2, Error
ellipse: s-maj=45.2km s-min=18.4km az=58.0
*ISCJB **04** 12:52:02.0±0.6,2°.83S±0°.05×122°.21E±0°.06,h33km,*
mb3.7/4, Error ellipse: s-maj=8.8km s-min=6.2km az=32.2
*DJA **04** 12:52:01.0±1.2,3°S±4°×12°2E±°,h10km,M4.1/10,*
MLv4.1/10

ISC 04 12:52:03.9±0.8,2°.81S±0°.05×122°.13E±0°.07,h35km,n17,
σ1§42/20,mb3.8/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKSI	**Soroako, Sulaw**	**0.84**	**289**	P	**Pn**	**12 52 17.2**	**-2.2**
LUWI	**Luwuk**	**1.87**	**20**	P	**Pn**	**12 52 34.0**	**+0.5**
LUWI				S	**Sn**	**12 52 58.7**	**+2.8**
TTSI	**Tana Toraja**	**2.32**	**264**	P	**Pn**	**12 52 39.0**	**-0.7**
SPSI	**Sidrap Palu**	**2.62**	**244**	P	**Pn**	**12 52 44.5**	**+0.7**
SPSI				S	**Sn**	**12 53 17.8**	**+3.4**
BKSI	**Bulukumba**	**3.20**	**219**	P	**Pn**	**12 52 53.0**	**+1.2**
MMSI	**Mamuju**	**3.22**	**272**	P	**Pn**	**12 52 52.6**	**+0.5**
KAPI	**Kappang**	**3.23**	**227**	P	**Pn**	**12 52 52.1**	**-0.1**
KAPI	**Kappang**	**3.23**	**227**	Pn	**Pn**	**12 52 52.1**	**-0.1**
	6.0nm,0.3s,baz=50,slow=7.9,SNR=11						
KAPI				Sn	**Sn**	**12 53 30.0**	**+0.5**
	8.8nm,0.3s,baz=37,slow=20,SNR=5.8						
MRSI	**Marisa**	**3.27**	**357**	P	**Pn**	**12 52 51.5**	**-1.3**
GTOI	**Gorontalo**	**3.54**	**14**	P	**Pn**	**12 52 56.8**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.69**	**206**	P	**Pn**	**12 52 58.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.58**	**167**	Pn	**Pn**	**12 55 40.2**	**-0.9**
	0.0nm,0.3s,baz=350,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**20.79**	**146**	P	**P**	**12 56 40.9**	**-1.4**
	1.0nm,0.8s,baz=319,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**23.66**	**152**	P	**P**	**12 57 12.6**	**+0.2**
	0.8nm,0.7s,baz=328,slow=8.8,SNR=11						
CMAR	**Chiang Mai Arr**	**31.11**	**314**	P	**P**	**12 58 19.9**	**+0.5**
	1.0nm,0.6s,baz=125,slow=6.6,SNR=7.0						
STKA	**Stephens Creek**	**34.23**	**150**	P	**P**	**12 58 45.1**	**-1.4**
	1.3nm,0.8s,baz=326,slow=3.6,SNR=2.9						
MKAR	**Makanchi Array**	**60.56**	**330**	P	**P**	**13 02 10.8**	**-0.1**
	0.5nm,0.7s,baz=117,slow=7.2,SNR=3.8						

WEL 04 13:01:28.9±0.2,45°.50S×166°.66E,h22km±1km,ML3.8/19,
3C-2D,Error ellipse: s-maj=2.2km s-min=1.0km az=90.0,
Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**87**	P*	Pb	13 01 36.3	-0.2
DCZ				S*	Sb	13 01 40.9	-0.7
DCZ				AML	AML	13 01 41.4	
PYZ	**Puysegur Point**	**0.67**	**179**	⇑P*	Pb	13 01 41.3	-0.6
PYZ				S*	Sb	13 01 49.7	-1.2
WHZ	**Wether Hill Ro**	**0.99**	**114**	⇓PN	Pb	13 01 47.1	-0.2
WHZ				SN	Sb	13 02 00.3	+0.4
WHZ				AML	AML	13 02 03.0	
MLZ	**Mavora Lakes**	**1.08**	**83**	PN	Pn	13 01 47.8	-0.9
MLZ				SN	Sb	13 02 01.1	-1.4
MLZ				AML	AML	13 02 02.9	
MSZ	**Milford Sound**	**1.22**	**48**	PN	Pn	13 01 49.8	-0.7
MSZ				SN	Sb	13 02 08.9	+2.3
MSZ				AML	AML	13 02 13.5	
MSZ				AML	AML	13 02 13.7	
MSZ				AML	AML	13 02 13.7	
APZ	**The Paps**	**1.62**	**146**	⇓PN	Pb	13 01 57.6	-0.6
WKZ	**Wanaka**	**1.80**	**69**	PN	Pn	13 01 59.7	+1.2
WKZ				AML	AML	13 02 28.6	
WKZ				AML	AML	13 02 28.6	
WKZ				AML	AML	13 02 35.4	
EAZ	**Earnscleugh**	**1.89**	**83**	PN	Pb	13 02 01.3	-1.3
EAZ				AML	AML	13 02 33.6	
EAZ				AML	AML	13 02 36.1	
EAZ				AML	AML	13 02 36.1	
SYZ	**Scrubby Hill**	**2.02**	**122**	PN	Pb	13 02 03.8	-1.0
JCZ	**Jackson Bay**	**2.06**	**47**	PN	Pb	13 02 05.1	-0.7
JCZ				AML	AML	13 02 39.7	
JCZ				AML	AML	13 02 40.1	
TUZ	**Tuapeka**	**2.13**	**103**	PN	Pb	13 02 05.1	-1.7
TUZ				AML	AML	13 02 37.5	
TUZ				AML	AML	13 02 38.0	
LBZ	**Lake Benmore**	**2.74**	**67**	⇑PN	Pn	13 02 11.9	+0.4
LBZ				AML	AML	13 03 04.6	
LBZ				AML	AML	13 03 07.4	
ODZ	**Otahua Downs**	**2.85**	**82**	⇑PN	Pn	13 02 13.4	+0.4
FOZ	**Fox Glacier**	**2.90**	**49**	PN	Pb	13 02 17.0	-2.9
FOZ				AML	AML	13 03 07.7	
FOZ				AML	AML	13 03 11.5	
RPZ	**Rata Peaks**	**3.61**	**62**	PN	Pn	13 02 24.2	+0.7
RPZ				AML	AML	13 03 10.2	
RPZ				AML	AML	13 03 40.2	
WVZ	**Waitaha Valley**	**3.80**	**52**	PN	Pn	13 02 27.2	+1.2
WVZ				AML	AML	13 03 36.1	
WVZ				AML	AML	13 04 07.4	
THZ	**Tophouse**	**5.87**	**53**	AML	AML	13 03 49.9	
THZ				AML	AML	13 04 09.5	

IDC 04 13:05:20.2±2.2,6°.09N×126°.17E,h0km,mb3.4/4,
mb1 3.6/4,mb1mx3.3/24,mbtmp3.4/4,Error ellipse:
s-maj=137.6km s-min=24.2km az=68.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.04**	**181**	P	P	13 10 37.5	+0.3
	1.3nm,0.8s,baz=354,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**27.09**	**163**	P	P	13 11 05.3	+0.5
	0.4nm,0.7s,baz=343,slow=9.7,SNR=4.4						
ASAR	**Alice Springs**	**30.52**	**166**	P	P	13 11 34.6	-0.8
	0.2nm,0.5s,baz=338,slow=7.3,SNR=9.3						
MKAR	**Makanchi Array**	**55.32**	**325**	P	P	13 14 55.7	-0.1
	0.2nm,0.5s,baz=106,slow=7.1,SNR=3.6						

*ISCJB **04** 13:11:12.9±0.4,50°.87N±0°.05×179°.32W±0°.04,h43km,*
mb3.9/35,MS3.1/5,Error ellipse: s-maj=7.4km
s-min=3.6km az=178.7
*NEIC **04** 13:11:15.6±0.8,51°.08N×179°.34W,h42km±5km,mb4.0/9,*
ML3.7(AEIC),Error ellipse: s-maj=14.1km s-min=3.4km
az=182.0
*IDC **04** 13:11:18.1±2.6,51°.03N×179°.25W,h74km±22km,mb3.6/27,*
mb1 3.8/29,mb1mx3.7/40,mbtmp3.6/29,MS3.1/6,
Ms1 3.1/6,ms1mx2.8/36,Error ellipse: s-maj=18.3km
s-min=10.5km az=173.0

ISC 04 13:11:14.8±0.6,50°.97N±0°.09×179°.34W±0°.03,h43km,n71,
σ1§20/77,mb4.0/35,MS3.2/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**0.67**	**29**	P	**Pn**	**13 11 26.2**	**-1.6**
GALAA	**Gareloi Lava P**	**0.87**	**24**	P	**Pn**	**13 11 29.8**	**-0.7**
GAEA	**Gareloi East**	**0.89**	**24**	P	**Pn**	**13 11 30.1**	**-0.8**
GANE	**Gareloi Northe**	**0.92**	**22**	P	**Pn**	**13 11 30.3**	**-1.0**
AMKA	**Amchitka**	**0.95**	**296**	P	**Pn**	**13 11 30.0**	**-1.6**
AMKA				S	**Sn**	**13 11 44.6**	**+0.7**
CERAA	**Semis' Rag'd T**	**1.12**	**327**	P	**Pn**	**13 11 33.5**	**-0.5**
CESW	**Semis' Southwe**	**1.16**	**324**	P	**Pn**	**13 11 34.1**	**-0.4**
TASE	**Tanaga Southea**	**1.19**	**43**	P	**Pn**	**13 11 34.5**	**-0.5**
TANO	**Tanaga North**	**1.21**	**38**	P	**Pn**	**13 11 34.9**	**-0.4**
CEAP	**Semis' Anvil P**	**1.23**	**327**	P	**Pn**	**13 11 35.6**	**+0.1**
CETU	**Semis' Tuman**	**1.23**	**324**	P	**Pn**	**13 11 35.9**	**+0.3**
TAFP	**Tanaga Falls P**	**1.26**	**42**	P	**Pn**	**13 11 35.8**	**-0.2**
TAFP				S	**Sn**	**13 11 53.0**	**+1.3**
TAPA	**Tanaga Point A**	**1.27**	**48**	P	**Pn**	**13 11 35.4**	**-0.8**
LSSE	**Little Sitkin**	**1.62**	**307**	P	**Pn**	**13 11 41.2**	**+0.3**
KIKV	**Kanaga Island**	**1.63**	**55**	P	**Pn**	**13 11 41.1**	**0.0**
LSPA	**Little Sitkin**	**1.64**	**308**	P	**Pn**	**13 11 41.1**	**0.0**
LSPA				S	**Sn**	**13 12 03.0**	**+2.1**
KICM	**Kanaga Island**	**1.64**	**54**	P	**Pn**	**13 11 41.5**	**+0.3**
LSSA	**Little Sitkin**	**1.66**	**307**	P	**Pn**	**13 11 41.1**	**-0.4**
LSNW	**Little Sitkin**	**1.67**	**308**	P	**Pn**	**13 11 41.6**	**0.0**
KINC	**Kanaga Island**	**1.68**	**54**	P	**Pn**	**13 11 42.4**	**+0.7**
KIRH	**Kanaga Island**	**1.68**	**56**	P	**Pn**	**13 11 42.0**	**+0.3**
ADK	**Adak**	**1.90**	**60**	P	**Pn**	**13 11 44.2**	**-0.4**
ADK				S	**Sn**	**13 12 11.4**	**+4.1**
ADAG	**Mount Adagdak**	**1.99**	**58**	P	**Pn**	**13 11 46.7**	**+0.8**
ETKA	**Kagalaska Isla**	**2.04**	**63**	P	**Pn**	**13 11 46.8**	**+0.1**
GSCK	**Great Sitkin C**	**2.24**	**61**	P	**Pn**	**13 11 49.8**	**+0.4**
GSTD	**Great Sitkin T**	**2.27**	**60**	P	**Pn**	**13 11 49.9**	**0.0**
GSMY	**Great Sitkin M**	**2.31**	**61**	P	**Pn**	**13 11 50.7**	**+0.3**
ATKA	**Atka Island**	**3.44**	**67**	P	**Pn**	**13 12 05.9**	**+0.2**
FX1	**Attu Island--F**	**5.02**	**295**	*e*Pn	**Pn**	**13 12 29.7**	**+2.2**
FX1	**Attu Island--F**	**5.02**	**295**	P	**Pn**	**13 12 29.6**	**+2.2**
	5.5nm,0.3s,baz=199,slow=6.0,SNR=9.6						
FX1				S	**Sn**	**13 13 29.8**	**+5.7**
	4.1nm,0.3s,baz=199,slow=4.4,SNR=2.1						
FX1				LR	LR	13 14 32.6	
	comp=Z,144nm,19.3s,baz=295,slow=39						
UNV	**Unalaska Valle**	**8.36**	**65**	*eP*	**Pn**	**13 13 14.2**	**+1.0**
PETK	**Petropavlovsk-**	**14.28**	**288**	P	**P**	**13 14 37.4**	**-3.1**
	0.1nm,0.3s,baz=106,slow=15,SNR=2.8						
PPLA	**Purkeypile**	**18.84**	**40**	*eP*	**Pn**	**13 15 32.5**	**+0.7**
	11nm,1.0s						
COLA	**College**	**21.44**	**38**	*eP*	**P**	**13 15 59.9**	**+1.0**
	21nm,0.9s						
PAX	**Paxson**	**21.72**	**43**	*eP*	**P**	**13 16 02.3**	**+0.3**
	2.6nm,0.5s						
ILAR	**Eielson Array**	**21.77**	**38**	P	**P**	**13 16 01.2**	**-1.2**
	0.5nm,0.4s,baz=237,slow=8.0,SNR=14						
COLD	**Coldfoot**	**21.78**	**31**	*eP*	**P**	**13 16 02.5**	**0.0**
	5.1nm,1.1s						
EGAK	**Eagle**	**24.08**	**40**	*eP*	**P**	**13 16 24.7**	**-1.0**
	5.7nm,0.9s						
ASAJ	**Asahikawa**	**26.36**	**270**	P	**P**	**13 16 47.7**	**+1.0**
	1.4nm,0.7s,baz=76,slow=19,SNR=2.7						
ASAJ				LR	LR	13 26 25.0	
	comp=Z,22nm,18.8s,baz=166,slow=34						
INK	**Inuvik**	**27.99**	**35**	P	**P**	**13 17 00.4**	**-0.6**
	0.6nm,0.8s,baz=236,slow=10,SNR=2.4						
YKA	**Yellowknife Ar**	**35.76**	**46**	P	**P**	**13 18 08.7**	**-0.4**
	1.5nm,0.7s,baz=282,slow=7.8,SNR=6.0						
KSRS	**Korea Array**	**39.30**	**271**	P	**P**	**13 18 40.9**	**+1.6**
	1.1nm,0.8s,baz=61,slow=9.0,SNR=4.7						
KSRS				LR	LR	13 34 25.1	
	comp=Z,16nm,18.3s,baz=141,slow=35						
NEW	**Newport**	**39.34**	**69**	P	**P**	**13 18 39.5**	**-0.2**
	1.4nm,0.6s,baz=285,slow=5.8,SNR=2.9						
BSMT	**Bassoo Peak**	**40.92**	**68**	*eP*	**P**	**13 18 53.3**	**+0.4**
	1.9nm,0.8s						
BOZ	**Bozeman (W)**	**43.91**	**69**	*eP*	**P**	**13 19 17.6**	**+0.4**

MLR	**Muntele Rosu**	**81.46 342**	P	**P**	**13 23 26.3**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=336,slow=20,SNR=4.3					
WRA	**Warramunga Arr**	**81.48 223**	P	**P**	**13 23 26.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=32,slow=6.0,SNR=5.4					
FITZ	**Fitzroy Crossi**	**83.95 232**	P	**P**	**13 23 39.9**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=56,slow=7.4,SNR=5.8					
ASAR	**Alice Springs**	**84.96 222**	P	**P**	**13 23 45.2**	**0.0**
	comp=Z,0.5nm,0.8s,baz=10,slow=6.4,SNR=5.7					
BRTR	**Keskin Array B**	**85.17 335**	P	**P**	**13 23 47.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=48,slow=1.8,SNR=5.6					

IDC 04 13:15:59.8±2.9, 8°20N×92°46E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/31, Error ellipse: s-maj=122.0km s-min=18.6km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.38**	**129**	LR	LR	13 21 57.3	
	comp=Z,88nm,18.4s,baz=136,slow=42						
MKAR	**Makanchi Array**	**39.43**	**349**	P	P	13 23 30.8	-0.8
	0.6nm,0.7s,baz=172,slow=9.6,SNR=4.0						
SONM	**Songino Array**	**41.23**	**14**	P	P	13 23 46.5	-0.2
	0.8nm,0.7s,baz=195,slow=9.3,SNR=6.7						
FITZ	**Fitzroy Crossi**	**41.91**	**129**	P	P	13 23 51.2	-1.3
	1.0nm,0.7s,baz=270,slow=3.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**43.84**	**347**	P	P	13 24 07.6	0.0
	0.7nm,0.7s,baz=168,slow=7.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**46.03**	**354**	P	P	13 24 25.4	+0.3
	0.2nm,0.3s,baz=167,slow=7.2,SNR=2.7						
WRA	**Warramunga Arr**	**49.81**	**125**	P	P	13 24 55.0	0.0
	0.4nm,0.6s,baz=304,slow=8.5,SNR=9.3						
ASAR	**Alice Springs**	**51.41**	**129**	P	P	13 25 07.5	+0.6
	0.4nm,0.8s,baz=304,slow=8.4,SNR=8.5						

*ISCJB **04** 13:18:18.4±0.4, 30°87S±0°04×69°19W±0°06, h112km±6km, mb4.0/6, Error ellipse: s-maj=8.4km s-min=6.4km az=170.2*
*GUC **04** 13:18:18.6±2.3, 31°04S×69°10W, h22km±53km, ML4.1*
*NEIC **04** 13:18:19.2±0.6, 30°84S×69°11W, h105km±7km, mb4.8/3, Error ellipse: s-maj=12.2km s-min=9.5km az=80.0*
*IDC **04** 13:18:19.4±1.7, 30°78S×69°21W, h105km±12km, mb3.9/6, mb1 3.8/9, mb1mx3.6/22, mbtmp3.8/9, Error ellipse: s-maj=28.9km s-min=17.3km az=91.0*
ISC 04 13:18:19.7±0.7, 30°90S±0°04×69°20W±0°05, h107km±7km, n44, σ1°41/55, mb4.2/6, 1C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.09**	**131**	P	**Pn**	**13 18 42.6**	**+0.9**
CFAA				S	**Sn**	**13 18 59.4**	**+1.1**
CFAA	**Coronel Fontan**	**1.09**	**131**	P	**Pn**	**13 18 42.6**	**+0.9**
	9.2nm,0.3s,baz=313,slow=11,SNR=352						
CFAA				S	**Sn**	**13 18 59.4**	**+1.1**
	63nm,0.3s,baz=53,slow=23,SNR=56						
TLL	**Tololo Astrono**	**1.56**	**297**	⇓*i*P	**Pn**	**13 18 49.7**	**+2.3**
TLL				*i* S	**Sn**	**13 19 10.4**	**+2.1**
TLL	**Tololo Astrono**	**1.56**	**297**	⇓*i*P	**Pn**	**13 18 49.7**	**+2.3**
TLL				*i* S	**Sn**	**13 19 10.4**	**+2.1**
TLL				AML	AML	13 19 12.6	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**1.57**	**259**	⇓*i*P	**Pn**	**13 18 46.7**	**-0.5**
CMCH				*e*S	**Sn**	**13 19 07.7**	**-0.6**
CMCH	**Combarbala**	**1.57**	**259**	⇓*i*P	**Pn**	**13 18 46.7**	**-0.5**
CMCH				*e*S	**Sn**	**13 19 07.7**	**-0.6**
CMCH				AML	AML	13 19 08.6	
	comp=E,8μm,0.6s						
LCO	**Las Campanas**	**2.29**	**325**	P	**Pn**	**13 18 55.7**	**-0.8**
LCO				S	**Sn**	**13 19 23.0**	**-1.6**
LCO	**Las Campanas**	**2.29**	**325**	*e*P	**Pn**	**13 18 55.7**	**-0.8**
LCO				*e*S	**Sn**	**13 19 23.0**	**-1.6**
LCO				AML	AML	13 19 27.1	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**2.57**	**209**	*e*P	**Pn**	**13 18 58.8**	**-1.2**
PEL				*e*S	**Sn**	**13 19 30.1**	**-0.9**
ROCH	**El Roble**	**2.58**	**216**	⇑*i*P	**Pn**	**13 19 00.1**	**-0.2**
ROCH				*e*S	**Sn**	**13 19 31.6**	**+0.2**
CLCH	**Cerro Calan**	**2.74**	**204**	*e*P	**Pn**	**13 19 02.2**	**0.0**
CLCH				AML	AML	13 19 50.0	
	comp=E,864nm,0.8s						
RCDM	**Rinconada Maip**	**2.92**	**207**	*e*P	**Pn**	**13 19 03.8**	**-0.9**
RCDM	**Rinconada Maip**	**2.92**	**207**	*e*P	**Pn**	**13 19 03.8**	**-0.9**
RCDM				AML	AML	13 19 46.0	
	comp=E,722nm,0.7s						
LVC	**Limon Verde**	**8.25**	**2**	*e*Pn	Pn	13 20 13.5	-3.4
	comp=E,6.2nm,0.4s						
TRQA	**Tornquist**	**9.30**	**142**	*e*P	**Pn**	**13 20 29.4**	**-1.4**
	comp=E,16nm,1.3s						
CPUP	**Villa Florida**	**11.38**	**69**	*e*P	**Pn**	**13 20 55.8**	**-3.1**
	comp=E,29nm,0.4s						
CPUP	**Villa Florida**	**11.38**	**69**	P	**Pn**	**13 20 56.2**	**-2.8**
	comp=E,1.9nm,0.3s,baz=218,slow=12,SNR=9.3						
LPAZ	**La Paz**	**14.57**	**4**	P	**Pn**	**13 21 41.9**	**+0.5**
LPAZ	**La Paz**	**14.57**	**4**	P	**Pn**	**13 21 38.4**	**-3.0**
	comp=E,0.3nm,0.3s,baz=168,slow=5.3,SNR=7.6						
SIV	**San Ignacio**	**16.59**	**28**	P	**Pn**	**13 22 04.1**	**-2.0**
SIV	**San Ignacio**	**16.59**	**28**	P	**Pn**	**13 22 04.1**	**-2.0**
	comp=E,0.2nm,0.3s,baz=230,slow=9.4,SNR=14						
SAML	**Samuel**	**22.55**	**16**	*e*P	**P**	**13 23 14.5**	**+3.6**
USHA	**Ushuaia**	**23.93**	**179**	P	**P**	**13 23 24.0**	**+0.5**
USHA	**Ushuaia**	**23.93**	**179**	P	**P**	**13 23 24.0**	**+0.5**
	comp=E,8.6nm,0.9s,baz=306,slow=6.1,SNR=3.9						
SNAA	**Sanae**	**53.58**	**159**	P	**P**	**13 27 29.9**	**+0.7**
SNAA	**Sanae**	**53.58**	**159**	P	**P**	**13 27 29.9**	**+0.7**
	comp=E,0.6nm,0.5s,baz=286,slow=6.2,SNR=23						
TXAR	**Lajitas Array**	**68.30**	**328**	P	**P**	**13 29 09.9**	**+0.6**
TXAR	**Lajitas Array**	**68.30**	**328**	P	**P**	**13 29 09.9**	**+0.6**
	comp=E,0.2nm,0.6s,baz=139,slow=8.2,SNR=3.7						
DBIC	**Dimbokro**	**71.90**	**70**	*e*P	**P**	**13 29 31.8**	**+0.2**
DBIC	**Dimbokro**	**71.90**	**70**	P	**P**	**13 29 31.4**	**-0.2**
	comp=E,3.2nm,0.7s,baz=208,slow=7.5,SNR=4.6						
SUR	**Sutherland**	**74.21**	**118**	P	**P**	**13 29 46.3**	**+1.1**
SUR	**Sutherland**	**74.21**	**118**	P	**P**	**13 29 46.3**	**+1.1**
	comp=E,9.3nm,1.0s,baz=198,slow=20,SNR=2.4						
TORD	**Torodi Ar. Bea**	**80.88**	**69**	P	**P**	**13 30 22.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**80.88**	**69**	P	**P**	**13 30 22.5**	**+0.2**
	comp=E,2.1nm,0.6s,baz=282,slow=6.3,SNR=36						
ASAR	**Alice Springs**	**121.40**	**205**	PKP	**PKPdf**	**13 36 59.9**	**-1.1**
ASAR	**Alice Springs**	**121.40**	**205**	PKP	**PKPdf**	**13 36 59.9**	**-1.1**
	comp=E,0.1nm,0.5s,baz=133,slow=1.6,SNR=5.1						
WRA	**Warramunga Arr**	**124.62**	**207**	PKP	**PKPdf**	**13 37 06.6**	**-0.6**
WRA	**Warramunga Arr**	**124.62**	**207**	PKP	**PKPdf**	**13 37 06.6**	**-0.6**
	comp=E,0.4nm,0.4s,baz=162,slow=1.7,SNR=15						
KURBB	**Kurchatov Arra**	**148.97**	**41**	PKPbc	**PKPdf**	**13 37 52.5**	**+2.0**
	comp=E,1.1nm,0.6s,baz=294,slow=3.1,SNR=12						
KURK	**Kurchatov**	**148.97**	**41**	PKPbc	**PKPdf**	**13 37 52.5**	**+2.0**
ZALV	**Zalesovo Beam**	**150.33**	**32**	PKPbc	**PKPbc**	**13 37 57.3**	**-0.6**
ZALV	**Zalesovo Beam**	**150.33**	**32**	PKPbc	**PKPbc**	**13 37 57.3**	**-0.6**
	comp=E,2.7nm,0.3s,baz=302,slow=3.8,SNR=18						
MKAR	**Makanchi Array**	**152.90**	**46**	PKPbc	**PKPbc**	**13 38 03.3**	**-0.8**
MKAR				PKPab	**PKPab**	**13 38 15.6**	**-0.1**
MKAR	**Makanchi Array**	**152.90**	**46**	PKPbc	**PKPbc**	**13 38 03.3**	**-0.8**
	comp=E,1.3nm,0.7s,baz=321,slow=1.8,SNR=10						
MKAR				PKPab	**PKPab**	**13 38 15.6**	**-0.1**
	comp=E,0.9nm,0.4s,baz=330,slow=3.6,SNR=9.2						

IDC 04 13:32:24.5±7.7, 11°39N×127°03E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/23, mbtmp3.5/3, MS4.0/1, Ms1 3.9/1, ms1mx2.7/22, Error ellipse: s-maj=604.9km s-min=25.5km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.95**	**167**	P	P	13 38 52.7	+0.4
	0.5nm,1.0s,baz=349,slow=7.7,SNR=3.2						
ASAR	**Alice Springs**	**35.48**	**169**	P	P	13 39 22.5	-0.5
	0.2nm,0.4s,baz=346,slow=9.9,SNR=7.2						
STKA	**Stephens Creek**	**45.22**	**162**	LR	LR	14 01 34.3	
	comp=Z,161nm,19.0s,baz=207,slow=39						
MKAR	**Makanchi Array**	**51.60**	**322**	P	P	13 41 32.7	-0.1
	0.4nm,0.3s,baz=118,slow=7.9,SNR=11						

*IDC **04** 13:49:15.2±4.7, 5°38S×131°79E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=329.6km s-min=30.7km az=74.0*
*ISCJB **04** 13:49:21.5±0.6, 5°78S±0°03×131°29E±0°08, h54km, mb3.4/1, Error ellipse: s-maj=11.7km s-min=4.7km az=176.0*
*AUST **04** 13:49:22.5±0.0, 5°60S×131°22E, h120km, Error ellipse: s-maj=1.4km s-min=0.8km az=268.0*
ISC 04 13:49:23.1±0.9, 5°69S±0°05×131°32E±0°10, h54km, n13, σ2°21/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.82**	**309**	P	**Pn**	**13 49 52.3**	**+0.2**
	baz=1.7,SNR=14						
BNDI				S	**Sn**	**13 50 14.0**	**-0.1**
	baz=1.7,SNR=5.3						
FAKI	**Fak Fak**	**2.90**	**19**	P	**Pn**	**13 50 08.6**	**+1.7**
	baz=2.9,SNR=5.0						
FAKI				S	**Sn**	**13 50 41.3**	**+0.7**
	baz=2.9,SNR=10						
SWI	**Sorong**	**4.79**	**359**	P	**Pn**	**13 50 35.4**	**+2.6**
	baz=4.7,SNR=3.5						
SWI				S	**Sn**	**13 51 22.8**	**-4.3**
	baz=4.7,SNR=5.2						
KDU	**Kakadu**	**7.05**	**171**	P	**Pn**	**13 51 06.5**	**+2.8**
	baz=7.2,SNR=26						
KDU				S	**Sn**	**13 52 22.1**	**-0.4**
	baz=7.2,SNR=6.3						
MTN	**Manton Dam**	**7.11**	**181**	P	**Pn**	**13 51 07.2**	**+2.6**
	baz=7.2,SNR=26						
MTN				S	**Sn**	**13 52 25.0**	**+0.9**
	baz=7.2,SNR=4.5						
KNRA	**Kununurra**	**10.24**	**194**	P	**Pn**	**13 51 47.7**	**+0.3**
	baz=10,SNR=19						
KNRA				S	**Sn**	**13 53 37.6**	**-3.2**
	baz=10,SNR=5.8						
FITZ	**Fitzroy Crossi**	**13.53**	**204**	Sn	Sn	13 54 53.1	-8.1
	0.4nm,0.3s,baz=136,slow=8.3,SNR=6.2						
FITZ	**Fitzroy Crossi**	**13.53**	**204**	P	**Pn**	**13 52 30.4**	**-1.9**
	baz=14,SNR=6.1						
FITZ				S	Sn	13 54 51.6	-10
	baz=14,SNR=4.4						
WRA	**Warramunga Arr**	**14.47**	**169**	Pn	**Pn**	**13 52 43.0**	**-2.0**
	0.1nm,0.3s,baz=350,slow=14,SNR=15						
WRA				Sn	Sn	13 55 15.5	-8.6
	0.3nm,0.3s,baz=349,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**18.05**	**172**	P	**P**	**13 53 31.1**	**+1.1**
	0.1nm,0.3s,baz=346,slow=10,SNR=13						
ASAR				S	Sn	13 56 40.9	-10
	0.1nm,0.3s,baz=358,slow=27,SNR=4.0						
ARMA	**Armidale**	**31.15**	**145**	P	P	13 55 30.4	-6.7
	baz=31,SNR=5.6						
GSI	**Gunungsitoli**	**34.41**	**281**	P	P	13 55 58.8	-6.9
	baz=34,SNR=14						
MKAR	**Makanchi Array**	**67.87**	**326**	P	**P**	**14 00 15.6**	**-0.3**
	0.2nm,0.5s,baz=117,slow=8.4,SNR=3.8						

IDC 04 13:56:16.7±1.0, 7°36S×126°10E, h0km, mb3.8/5, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML3.9/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=32.2km s-min=16.9km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.72**	**220**	Pn	Pn	13 57 16.9	+1.5
	17nm,0.3s,baz=65,slow=1.4,SNR=16						
BATI				Sn	Sn	13 58 00.7	+0.6
	3.3nm,0.3s,baz=328,slow=17,SNR=4.7						
KAPI	**Kappang**	**6.73**	**290**	Pn	Pn	13 57 54.7	-2.1
	1.0nm,0.3s,baz=64,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**10.69**	**182**	Pn	Pn	13 58 50.1	-1.1
	1.0nm,0.3s,baz=22,slow=11,SNR=18						
FITZ				Sn	Sn	14 00 42.1	-10
	0.6nm,0.3s,baz=41,slow=13,SNR=4.3						
FITZ				LR	LR	14 03 08.0	
	comp=Z,64nm,21.2s,baz=69,slow=38						
WRA	**Warramunga Arr**	**14.84**	**148**	Pn	Pn	13 59 46.4	-1.7
	0.4nm,0.3s,baz=316,slow=15,SNR=13						
WRA				Sn	Sn	14 02 24.5	-8.9
	0.2nm,0.3s,baz=321,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**17.86**	**156**	P	Pn	14 00 27.0	+0.1
	0.5nm,0.3s,baz=333,slow=12,SNR=28						
ASAR				S	Sn	14 03 37.7	-9.1
	0.1nm,0.3s,baz=317,slow=22,SNR=3.4						
STKA	**Stephens Creek**	**26.35**	**151**	P	P	14 02 12.8	+0.3
	1.1nm,0.7s,baz=318,slow=10,SNR=4.7						
CMAR	**Chiang Mai Arr**	**37.09**	**314**	P	P	14 03 29.8	+0.7
	0.8nm,0.5s,baz=141,slow=6.3,SNR=6.2						
SONM	**Songino Array**	**57.65**	**344**	P	P	14 06 09.1	+0.2
	0.7nm,0.9s,baz=150,slow=9.8,SNR=3.0						
MKAR	**Makanchi Array**	**66.46**	**329**	P	P	14 07 07.9	-0.1
	0.3nm,0.5s,baz=123,slow=8.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**70.25**	**336**	P	P	14 07 30.9	-0.6
	0.7nm,0.7s,baz=162,slow=6.2,SNR=4.2						

IDC 04 14:04:18.5±1.3, 11°55S×166°54E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/21, mbtmp4.1/8, ML3.9/2, MS3.5/10, Ms1 3.5/10, ms1mx3.3/31, Error ellipse: s-maj=38.6km s-min=24.1km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.82**	**287**	Pn	Pn	14 06 00.5	+0.7
	12nm,0.3s,baz=156,slow=10,0,SNR=13						
DZM	**Mont Dumac**	**10.47**	**181**	Pn	Pn	14 06 49.7	-0.3
	0.2nm,0.3s,baz=12,slow=19,SNR=3.1						
PMG	**Port Moresby**	**19.18**	**275**	LR	LR	14 15 43.1	
	comp=Z,117nm,18.2s,baz=79,slow=36						
AFI	**Afiamalu**	**21.27**	**99**	LR	LR	14 15 53.4	
	comp=Z,69nm,19.6s,baz=124,slow=33						
URZ	**Urewera**	**28.23**	**162**	LR	LR	14 19 19.2	
	comp=Z,113nm,21.8s,baz=356,slow=32						
STKA	**Stephens Creek**	**30.63**	**225**	P	P	14 10 35.7	+1.1
	1.0nm,0.6s,baz=47,slow=9.7,SNR=6.1						
STKA				LR	LR	14 22 22.8	
	comp=Z,101nm,18.3s,baz=26,slow=35						
WRA	**Warramunga Arr**	**32.05**	**251**	P	P	14 10 47.1	-0.2
	1.8nm,0.9s,baz=85,slow=9.6,SNR=8.9						
WRA				PcP	PcP	14 13 35.9	-1.3
	0.4nm,0.6s,baz=78,slow=3.4,SNR=4.3						
ASAR	**Alice Springs**	**33.27**	**244**	P	P	14 10 57.6	-0.4
	2.0nm,0.8s,baz=72,slow=9.5,SNR=28						
ASAR				PcP	PcP	14 13 40.1	-0.4
	0.3nm,0.6s,baz=78,slow=2.7,SNR=4.9						
ASAR				LR	LR	14 22 33.1	
	comp=Z,80nm,20.4s,baz=77,slow=33						
FITZ	**Fitzroy Crossi**	**40.01**	**256**	LR	LR	14 27 40.1	
	comp=Z,88nm,19.1s,baz=14,slow=35						
CMAR	**Chiang Mai Arr**	**73.03**	**293**	LR	LR	14 45 12.9	
	comp=Z,14nm,18.6s,baz=190,slow=34						
SONM	**Songino Array**	**79.53**	**324**	P	P	14 16 27.3	-0.1
	0.4nm,0.5s,baz=123,slow=5.3,SNR=2.9						
ILAR	**Eielson Array**	**83.74**	**18**	P	P	14 16 49.6	+0.6
	0.2nm,0.5s,baz=226,slow=6.0,SNR=4.1						
PFO	**Pinyon Flat Ob**	**85.73**	**55**	LR	LR	14 46 33.8	
	comp=Z,40nm,20.2s,baz=144,slow=30						
PDAR	**Pinedale Array**	**93.32**	**47**	LR	LR	14 51 46.9	
	comp=Z,28nm,20.2s,baz=82,slow=30						
MKAR	**Makanchi Array**	**94.42**	**317**	P	P	14 17 40.3	-0.2
	1.1nm,0.5s,baz=89,slow=5.8,SNR=14						
TXAR	**Lajitas Array**	**95.38**	**61**	LR	LR	14 53 21.5	
	comp=Z,36nm,20.6s,baz=185,slow=31						

KRSC 04 14:05:16.2±0.8, 53°39N×160°51E, h40km±30km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.41**	**225**	*i* P	Pn	14 05 25.7	-0.1
SPN				*i* S	Sn	14 05 32.6	+0.1
KII	**Karymskiy**	**0.90**	**316**	*e*P	Pn	14 05 32.4	-0.1
KII				*e*S	Sn	14 05 43.8	-0.7
SDLR	**Sedlovina**	**0.98**	**264**	*i* P	Pn	14 05 33.8	+0.1
SDLR				*e*S	Sn	14 05 46.8	+0.3
UGLR	**Uglovaya**	**1.03**	**261**	*i* P	Pn	14 05 34.7	+0.4
UGLR				*e*S	Sn	14 05 48.1	+0.5
SMAR	**Somma**	**1.03**	**264**	*e*P	Pn	14 05 34.6	+0.1
SMAR				*e*S	Sn	14 05 48.0	+0.1
KRER	**Koryakskii**	**1.06**	**266**	*i* P	Pn	14 05 35.2	+0.4
KRER				*e*S	Sn	14 05 48.5	-0.1
AVH	**Avacha**	**1.07**	**264**	*i* P	Pn	14 05 35.3	+0.5
AVH				*e*S	Sn	14 05 49.0	+0.5
KOK	**Koryaka**	**1.13**	**266**	*i* P	Pn	14 05 35.9	+0.3
KOK				*e*S	Sn	14 05 49.9	-0.1
PET	**Petropavlovsk**	**1.18**	**253**	*i* P	Pn	14 05 36.3	+0.2
PET				*e*S	Sn	14 05 50.6	-0.3
MKZ	**Mys Kozlova**	**1.37**	**31**	*e*P	Pn	14 05 37.5	-1.3
MKZ				*e*S	Sn	14 05 53.1	-2.6
RUS	**Russkaya**	**1.54**	**232**	*i* P	Pn	14 05 41.0	-0.2
RUS				*e*S	Sn	14 05 59.3	-0.6
GNL	**Ganaly**	**1.56**	**282**	*e*P	Pn	14 05 42.4	+0.8
GNL				*e*S	Sn	14 06 01.7	+0.9
MTVR	**Mutnovka**	**1.68**	**238**	*i* P	Pn	14 05 43.4	+0.2
MTVR				*e*S	Sn	14 06 03.4	-0.2
GRL	**Gorelyy**	**1.70**	**241**	*e*P	Pn	14 05 44.2	+0.7
GRL				*e*S	Sn	14 06 04.4	+0.3
ASAK	**Asacha**	**1.88**	**239**	*i* P	Pn	14 05 46.8	+0.9
ASAK				*e*S	Sn	14 06 09.2	+0.8
APC	**Apacha**	**2.07**	**258**	*i* P	Pn	14 05 49.9	+1.5
APC				*e*S	Sn	14 06 14.0	+1.0
KMNR	**Kamenistaya**	**2.38**	**356**	*e*P	Pn	14 05 54.9	+2.1
KMNR				S	Sn	14 06 22.8	+2.0
MIPR	**Malaya Ipel'ka**	**2.54**	**245**	*e*P	Pn	14 05 56.6	+1.8
MIPR				S	Sn	14 06 25.5	+1.0
BZGR	**Bezymyannyi-Gr**	**2.56**	**2**	*e*S	Sn	14 06 25.6	+0.3
ESO	**Esso**	**2.75**	**338**	P	Pn	14 05 59.7	+1.9
KLY	**Klyuchi**	**2.93**	**2**	P	Pn	14 06 02.6	+2.4
KLY				*e*S	Sn	14 06 36.7	+2.6
PAU	**Pauzhetka**	**2.97**	**231**	P	Pn	14 06 03.4	+2.6
PAU				S	Sn	14 06 37.7	+2.5
BKI	**Bering**	**3.68**	**58**	*e*P	Pn	14 06 09.4	-1.1
BKI				*e*S	Sn	14 06 47.6	-5.0

*IDC **04** 14:24:13.4±7.0, 37°14N×143°37E, h0km, mb3.5/2, mb1 3.5/2, mb1mx3.2/23, mbtmp3.5/2, ML2.9/2, Error ellipse: s-maj=120.3km s-min=38.4km az=136.0*
*ISCJB **04** 14:24:27.3±1.4, 38°00N±0°06×142°3E±0°1, h42km±12km, mb3.5/3, Error ellipse: s-maj=15.2km s-min=7.8km az=27.8*
*JMA **04** 14:24:27.6±0.2, 38°01N×142°21E, h38km±2km, M3.2*
ISC 04 14:24:28.3±4.4, 38°00N±0°07×142°3E±0°2, h35km±19km, n17, σ1°52/25, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.85**	**302**	P	**Pn**	**14 24 42.9**	**-0.9**
JIO				S	**Sn**	**14 24 53.5**	**-1.5**
JMM	**Marumori**	**1.17**	**264**	P	**Pn**	**14 24 47.2**	**-1.0**
JMM				S	**Sn**	**14 25 01.5**	**-1.4**
JMK	**Ichinoseki**	**1.25**	**319**	P	**Pn**	**14 24 48.8**	**-0.5**
JMK				*e*S	**Sn**	**14 25 04.1**	**-0.9**
JFK	**Kawauchi**	**1.27**	**240**	P	**Pn**	**14 24 48.4**	**-1.2**
JFK				S	**Sn**	**14 25 03.6**	**-1.9**
JOU	**Okura**	**1.31**	**286**	P	**Pn**	**14 24 49.9**	**-0.3**
JOU				*e*S	**Sn**	**14 25 06.3**	**-0.2**
JFT	**Otama**	**1.60**	**253**	P	**Pn**	**14 24 54.3**	**+0.2**
JFT				S	**Sn**	**14 25 13.8**	**+0.2**
JOM	**Ohasama**	**1.65**	**333**	P	**Pn**	**14 24 54.5**	**-0.3**
JYS	**Shiratake**	**1.75**	**278**	P	**Pn**	**14 24 56.6**	**+0.5**
JYK	**Kaneyama**	**1.75**	**302**	P	**Pn**	**14 24 56.5**	**+0.3**
JRG	**Rokugo**	**1.89**	**318**	P	**Pn**	**14 24 58.8**	**+0.8**
JYA	**Atsumi**	**2.09**	**287**	P	**Pn**	**14 25 01.8**	**+1.0**
JFY	**Yanaizu**	**2.12**	**254**	P	**Pn**	**14 25 02.2**	**+1.0**
JFY				*e*S	**Sn**	**14 25 28.0**	**+1.7**
MJAR	**Matsushiro Arr**	**3.55**	**247**	Pn	**Pn**	**14 25 19.0**	**-1.9**
	0.2nm,0.3s,baz=85,slow=14,SNR=2.8						
MJAR				Sn	**Sn**	**14 26 06.8**	**+5.1**
	0.5nm,0.3s,baz=84,slow=12,SNR=4.2						
ASAJ	**Asahikawa**	**6.11**	**2**	Pn	**Pn**	**14 25 56.7**	**+0.6**
	0.4nm,0.3s,baz=191,slow=11,SNR=9.7						
ZALV	**Zalesovo Beam**	**41.77**	**312**	P	**P**	**14 32 13.9**	**-0.1**
	0.3nm,0.3s,baz=99,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**44.19**	**301**	P	**P**	**14 32 33.2**	**-0.5**
	0.2nm,0.6s,baz=72,slow=9.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**45.95**	**307**	P	**P**	**14 32 47.7**	**+0.1**
	0.7nm,0.4s,baz=79,slow=8.2,SNR=6.3						

*IDC **04** 14:29:32.9±0.7, 52°94N×168°42W, h0km, mb4.0/25, mb1 4.2/26, mb1mx4.1/34, mbtmp4.0/26, ML4.2/1, MS3.4/5, Ms1 3.4/5, ms1mx2.8/44, Error ellipse: s-maj=20.5km s-min=12.0km az=170.0*
*ISCJB **04** 14:29:38.6±0.6, 52°85N±0°08×168°44W±0°07, h56km±3km, mb4.0/25, MS3.4/5, Error ellipse: s-maj=14.1km s-min=4.3km az=157.8*
*NEIC **04** 14:29:40.1±0.5, 52°90N×168°40W, h52km±3km, mb4.0/6, ML4.0(AEIC), Error ellipse: s-maj=11.0km s-min=3.6km az=160.0*
ISC 04 14:29:39.1±1.0, 52°85N±0°10×168°40W±0°05, h45km±7km, n97, σ1°23/113, mb4.0/25, MS3.5/5, Fox Islands

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

YKA				PcP	PcP	14 38 42.9	+0.2
YKA	**Yellowknife Ar**	**29.48**	**50**	P	P	14 35 38.5	0.0
	1.4nm,0.6s,baz=274,slow=7.7,SNR=16						
YKA				PcP	PcP	14 38 42.9	+0.2
	0.9nm,0.7s,baz=288,slow=2.1,SNR=4.2						
NVAR	**Mina Array Bea**	**37.08**	**92**	P	P	14 36 45.9	+0.8
NVAR				PcP	PcP	14 39 05.3	+0.5
NVAR	**Mina Array Bea**	**37.08**	**92**	P	P	14 36 45.9	+0.8
	0.3nm,0.6s,baz=298,slow=8.4,SNR=4.1						
NVAR				PcP	PcP	14 39 05.3	+0.5
	0.6nm,0.6s,baz=293,slow=2.5,SNR=4.8						
PDAR	**Pinedale Array**	**39.73**	**80**	P	P	14 37 07.3	0.0
PDAR	**Pinedale Array**	**39.73**	**80**	P	P	14 37 07.3	0.0
	1.1nm,0.6s,baz=310,slow=2.5,SNR=15						
MJAR	**Matsushiro Arr**	**40.31**	**268**	P	P	14 37 11.2	-0.7
MJAR	**Matsushiro Arr**	**40.31**	**268**	P	P	14 37 11.2	-0.7
	0.8nm,0.6s,baz=35,slow=6.1,SNR=3.6						
KSRS	**Korea Array**	**45.94**	**277**	P	P	14 37 58.0	+0.7
	0.8nm,0.4s,baz=56,slow=7.3,SNR=7.7						
KSRS				LR	LR	14 57 56.3	
	comp=Z,6.4nm,19.5s,baz=67,slow=37						
KSAR	**Wonju Array Be**	**45.97**	**277**	P	P	14 37 58.0	+0.4
JNU	**Nakatsue**	**47.06**	**270**	P	P	14 38 06.7	+0.5
JNU	**Nakatsue**	**47.06**	**270**	P	P	14 38 06.7	+0.5
	7.8nm,1.0s,baz=84,slow=10,SNR=4.3						
SONM	**Songino Array**	**51.56**	**301**	P	P	14 38 40.1	-0.4
SONM				PcP	PcP	14 39 54.3	+0.4
SONM	**Songino Array**	**51.56**	**301**	P	P	14 38 40.1	-0.4
	0.7nm,0.5s,baz=66,slow=7.2,SNR=4.6						
SONM				PcP	PcP	14 39 54.3	+0.4
	0.4nm,0.4s,baz=46,slow=3.1,SNR=3.0						
TXAR	**Lajitas Array**	**52.15**	**90**	P	P	14 38 45.2	+0.1
TXAR	**Lajitas Array**	**52.15**	**90**	P	P	14 38 45.2	+0.1
	1.3nm,0.5s,baz=305,slow=5.6,SNR=23						
ZALV	**Zalesovo Beam**	**57.47**	**318**	PcP	PcP	14 40 16.4	+0.1
ZALV	**Zalesovo Beam**	**57.47**	**318**	PcP	PcP	14 40 16.4	+0.1
	1.7nm,0.5s,baz=31,slow=5.4,SNR=7.8						
ZALV				LR	LR	15 04 54.3	
	comp=Z,37nm,18.2s,baz=70,slow=37						
ARCES	**ARCESS Array B**	**57.50**	**354**	P	P	14 39 21.6	-1.5
ARCES				PcP	PcP	14 40 14.6	-1.6
ARCES	**ARCESS Array B**	**57.50**	**354**	P	P	14 39 21.6	-1.5
	1.7nm,0.8s,baz=23,slow=12,SNR=3.4						
ARCES				PcP	PcP	14 40 14.6	-1.6
	1.2nm,0.6s,baz=28,slow=5.5,SNR=7.7						
KURK	**Kurchatov**	**62.41**	**319**	P	P	14 39 57.3	+0.4
KURBB	**Kurchatov Arra**	**62.51**	**319**	P	P	14 39 57.3	-0.3
	0.6nm,0.2s,baz=44,slow=7.9,SNR=5.2						
BVAR	**Borovoye Array**	**63.65**	**325**	P	P	14 40 05.2	-0.1
BVAR	**Borovoye Array**	**63.65**	**325**	P	P	14 40 05.2	-0.1
	2.3nm,0.4s,baz=63,slow=5.5,SNR=14						
MKAR	**Makanchi Array**	**63.90**	**314**	P	P	14 40 05.8	-1.2
MKAR				PcP	PcP	14 40 41.7	-0.6
MKAR	**Makanchi Array**	**63.90**	**314**	P	P	14 40 05.8	-1.2
	0.4nm,0.6s,baz=48,slow=5.4,SNR=4.7						
MKAR				PcP	PcP	14 40 41.7	-0.6
	0.4nm,0.5s,baz=41,slow=4.4,SNR=3.7						
FINES	**FINESS Array B**	**65.47**	**352**	P	P	14 40 16.2	-0.7
FINES	**FINESS Array B**	**65.47**	**352**	P	P	14 40 16.2	-0.7
	0.8nm,0.6s,baz=9.5,slow=4.6,SNR=5.4						
NOA	**NORSAR Array B**	**66.46**	**0**	P	P	14 40 22.9	-0.4
NOA	**NORSAR Array B**	**66.46**	**0**	P	P	14 40 23.0	-0.4
	0.4nm,0.5s,baz=360,slow=3.1,SNR=2.7						
HFS	**Hagfors**	**67.36**	**359**	P	P	14 40 28.3	-0.7
HFS	**Hagfors**	**67.36**	**359**	P	P	14 40 28.3	-0.7
	1.8nm,0.3s,baz=357,slow=3.0,SNR=27						
AKTO	**Aktyubinsk**	**69.89**	**330**	P	P	14 40 44.7	-0.2
AKTO	**Aktyubinsk**	**69.89**	**330**	P	P	14 40 44.7	-0.2
	1.0nm,0.5s,baz=69,slow=3.5,SNR=5.5						
PPT	**Papeete**	**72.00**	**161**	LR	LR	15 08 06.5	
	comp=Z,100nm,19.9s,baz=358,slow=32						
CMAR	**Chiang Mai Arr**	**77.09**	**283**	P	P	14 41 28.4	+0.7
CMAR	**Chiang Mai Arr**	**77.09**	**283**	P	P	14 41 28.4	+0.7
	4.1nm,0.7s,baz=28,slow=6.7,SNR=21						
GERES	**GERESS Array B**	**78.67**	**359**	P	P	14 41 35.8	-0.4
GERES	**GERESS Array B**	**78.67**	**359**	P	P	14 41 35.8	-0.4
	0.2nm,0.3s,baz=350,slow=5.3,SNR=4.1						
DAVOX	**Davos/Dischmat**	**80.74**	**1**	P	P	14 41 48.1	+0.5
DAVOX	**Davos/Dischmat**	**80.74**	**1**	P	P	14 41 48.1	+0.5
	1.8nm,0.4s,baz=354,slow=19,SNR=2.4						
BRTR	**Keskin Array B**	**85.84**	**343**	P	P	14 42 14.8	+0.9
BRTR	**Keskin Array B**	**85.84**	**343**	P	P	14 42 14.8	+0.9
	1.3nm,0.6s,baz=3.8,slow=1.9,SNR=7.1						
ESDC	**Sonseca Array**	**86.86**	**12**	P	P	14 42 19.1	+0.3
ESDC	**Sonseca Array**	**86.86**	**12**	P	P	14 42 19.1	+0.3
	0.5nm,0.4s,baz=356,slow=4.4,SNR=3.4						
WRA	**Warramunga Arr**	**87.77**	**232**	P	P	14 42 22.2	-0.9
WRA	**Warramunga Arr**	**87.77**	**232**	P	P	14 42 22.2	-0.9
	0.5nm,0.7s,baz=32,slow=6.2,SNR=6.3						
ASAR	**Alice Springs**	**91.16**	**231**	P	P	14 42 38.8	-0.3
ASAR	**Alice Springs**	**91.16**	**231**	P	P	14 42 38.8	-0.3
	0.8nm,0.6s,baz=25,slow=4.2,SNR=17						
URZ	**Urewera**	**91.61**	**191**	LR	LR	15 22 04.9	
	comp=Z,82nm,18.3s,baz=202,slow=34						

*IDC **04** 14:45:27.0±1.4, 18°.17S×168°.47E, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/20, mbtmp4.1/9, ML4.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/23, Error ellipse: s-maj=39.3km s-min=24.5km az=135.0*

*NOU **04** 14:45:34.1±0.8, 17°.86S×167°.03E, h30km, MD3.4*

ISC 04 14:45:38.2±1.9, 18°.32S±0°.07×167°.8E±0°.3, h69km, n15, σ1§63/16, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.92**	**193**	*e*S	**Sn**	**14 47 21.8**	**+1.0**
DZM	**Mont Dzumac**	**3.96**	**199**	*e*P	**Pn**	**14 46 34.9**	**-1.7**
DZM				*e*S	**Sn**	**14 47 20.7**	**-1.2**
DZM				AMP		14 47 25.4	
	comp=Z,406nm,7.8s						
DZM	**Mont Dzumac**	**3.96**	**199**	Pn	**Pn**	**14 46 36.2**	**-0.4**
	comp=Z,8.4nm,0.3s,baz=56,slow=18,SNR=46						
DZM				Sn	**Sn**	**14 47 21.2**	**-0.6**
	comp=Z,4.3nm,0.3s,baz=327,slow=23,SNR=11						
NOUC	**Port Laguerre**	**4.03**	**201**	*e*S	**Sn**	**14 47 21.5**	**-2.0**
NOUC				AMP		14 47 28.3	
	comp=Z,26nm,6.4s						
LASL	**Noumea**	**4.08**	**197**	*e*S	**Sn**	**14 47 24.4**	**-0.3**
NORM	**Noumea**	**4.09**	**198**	*e*P	**Pn**	**14 46 38.0**	**-0.3**
NORM				*e*S	**Sn**	**14 47 24.0**	**-1.0**
HNR	**Honiara**	**11.69**	**318**	Pn	**Pn**	**14 48 20.0**	**-2.2**
	comp=Z,8.1nm,0.3s,baz=126,slow=7.0,SNR=6.0						
CTA	**Charters Tower**	**20.46**	**262**	P	Pn	14 50 12.9	-0.2
	comp=Z,5.4nm,1.0s,baz=78,slow=9.7,SNR=2.6						
STKA	**Stephens Creek**	**27.25**	**235**	P	**P**	**14 51 18.5**	**+2.5**
	comp=Z,3.6nm,0.8s,baz=60,slow=7.9,SNR=6.9						
WRA	**Warramunga Arr**	**31.67**	**262**	P	**P**	**14 51 55.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=89,slow=8.3,SNR=5.6						
ASAR	**Alice Springs**	**32.08**	**255**	P	**P**	**14 52 00.4**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=79,slow=9.3,SNR=15						
ASAR				LR	LR	15 04 23.9	
	comp=Z,86nm,19.9s,baz=255,slow=35						
CMAR	**Chiang Mai Arr**	**76.92**	**295**	P	**P**	**14 57 26.1**	**+2.4**
	comp=Z,1.0nm,0.8s,baz=111,slow=4.9,SNR=3.8						
SONM	**Songino Array**	**85.69**	**324**	P	**P**	**14 58 09.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=150,slow=6.0,SNR=4.7						
PDAR	**Pinedale Array**	**96.96**	**47**	P	P	14 58 57.4	-5.2
	comp=Z,0.2nm,0.5s,baz=259,slow=2.4,SNR=2.7						
ARCES	**ARCESS Array B**	**123.84**	**345**	PKP	**PKPdf**	**15 04 25.9**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=40,slow=2.1,SNR=4.0						

*MOS **04** 14:49:04.6±1.5, 52°.27N×160°.83E, h11km, mb4.4/1, Error ellipse: s-maj=12.7km s-min=7.8km az=94.9*

*IDC **04** 14:49:05.7±0.8, 52°.52N×160°.59E, h0km, mb3.4/9, mb1 3.7/11, mb1mx3.5/29, mbtmp3.5/11, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/24, Error ellipse: s-maj=24.0km s-min=12.6km az=174.0*

*ISCJB **04** 14:49:08.1±0.9, 52°.38N±0°.03×160°.77E±0°.04, h22km±6km, mb3.4/9, Error ellipse: s-maj=5.2km s-min=3.4km az=139.7*

*KRSC **04** 14:49:08.8±0.5, 52°.45N×160°.63E, h12km±11km, ML4.2*

ISC 04 14:49:08.6±0.7, 52°.40N±0°.04×160°.70E±0°.05, h21km±4km, n62, σ1§61/97, mb3.4/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.82**	**330**	PN	**Pn**	**14 49 22.7**	**-2.2**
SPN				S	**Sb**	**14 49 33.4**	**-1.3**
SPN	**Mys Shipunski**	**0.82**	**330**	*i* P	**Pn**	**14 49 22.7**	**-2.2**
SPN				*i* S	**Sb**	**14 49 33.4**	**-1.3**
NLC	**Nalytchevo**	**1.13**	**314**	PN	**Pn**	**14 49 28.2**	**-1.0**
NLC				S	**Sn**	**14 49 42.4**	**-1.7**
NLC	**Nalytchevo**	**1.13**	**314**	*e*P	**Pn**	**14 49 28.2**	**-1.0**
NLC				*i* S	**Sn**	**14 49 42.4**	**-1.7**
RUS	**Russkaya**	**1.34**	**273**	PN	**Pn**	**14 49 32.5**	**+0.4**
RUS				S	**Sn**	**14 49 49.9**	**+0.7**
RUS	**Russkaya**	**1.34**	**273**	*i* P	**Pn**	**14 49 32.5**	**+0.4**
RUS				*i* S	**Sn**	**14 49 49.9**	**+0.7**
PET	**Petropavlovsk**	**1.40**	**298**	*e*PN	**Pn**	**14 49 32.7**	**-0.1**
PET				*e*S	**Sb**	**14 49 52.4**	**+1.1**
PET				pmax	pmax		
	comp=Z,134nm,0.6s						
PET				smax	smax		
	comp=E,864nm,0.6s						
PET				smax	smax		
	comp=N,812nm,0.5s						
PET	**Petropavlovsk**	**1.40**	**298**	*i* P	**Pn**	**14 49 32.9**	**+0.1**
PET				*i* S	**Sn**	**14 49 50.6**	**0.0**
UGLR	**Uglovaya**	**1.40**	**306**	*e*P	**Pn**	**14 49 33.4**	**+0.4**
UGLR				*i* S	**Sn**	**14 49 51.4**	**+0.5**
SDLR	**Sedlovina**	**1.42**	**309**	*e*P	**Pn**	**14 49 32.9**	**-0.3**
SDLR				*i* S	**Sn**	**14 49 50.2**	**-1.0**
SMAR	**Somma**	**1.45**	**308**	P	**Pn**	**14 49 33.6**	**-0.1**
SMAR				*i* S	**Sn**	**14 49 52.0**	**-0.1**
AVH	**Avacha**	**1.48**	**307**	*e*P	**Pn**	**14 49 34.6**	**+0.6**
AVH				*i* S	**Sn**	**14 49 53.7**	**+1.0**
KRER	**Koryakskii**	**1.50**	**308**	*e*P	**Pn**	**14 49 34.9**	**+0.5**
KRER				*i* S	**Sn**	**14 49 54.0**	**+0.7**
KOK	**Koryaka**	**1.54**	**306**	*e*P	**Pn**	**14 49 35.3**	**+0.4**
KOK				*i* S	**Sn**	**14 49 54.6**	**+0.3**
MTVR	**Mutnovka**	**1.55**	**274**	*e*P	**Pn**	**14 49 35.8**	**+0.8**
MTVR				*i* S	**Sn**	**14 49 55.6**	**+1.1**
GRL	**Gorelyy**	**1.62**	**277**	*e*P	**Pb**	**14 49 37.7**	**-0.1**
GRL				*i* S	**Sb**	**14 49 59.1**	**+1.3**
ASAK	**Asacha**	**1.72**	**271**	*i* P	**Pn**	**14 49 38.5**	**+1.2**
ASAK				*i* S	**Sn**	**14 49 59.7**	**+1.1**
KII	**Karymskiy**	**1.81**	**336**	*e*P	**Pn**	**14 49 38.8**	**+0.2**
KII				*i* S	**Sn**	**14 50 01.2**	**+0.3**
PETK	**Petropavlovsk-**	**1.96**	**293**	PN	**Pn**	**14 49 40.8**	**+0.2**
PETK						14 50 08.2	
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				smax	smax		
	comp=N,20nm,0.3s						
PETK	**Petropavlovsk-**	**1.96**	**293**	Pn	**Pn**	**14 49 40.8**	**+0.2**
	comp=N,8.7nm,0.3s,baz=98,slow=20,SNR=184						
PETK				Sn	**Sb**	**14 50 08.2**	**+0.6**
	comp=N,20nm,0.3s,baz=101,slow=18,SNR=8.6						
GNL	**Ganaly**	**2.12**	**309**	*e*P	**Pn**	**14 49 44.2**	**+1.4**
GNL				*i* S	**Sn**	**14 50 09.8**	**+1.3**
APC	**Apacha**	**2.22**	**285**	*e*P	**Pn**	**14 49 46.2**	**+2.0**
APC				*i* S	**Sb**	**14 50 13.8**	**-1.3**
MKZ	**Mys Kozlova**	**2.25**	**15**	PN	**Pn**	**14 49 43.0**	**-1.5**
MKZ	**Mys Kozlova**	**2.25**	**15**	*e*P	**Pn**	**14 49 43.0**	**-1.5**
MKZ				*i* S	**Sn**	**14 50 08.1**	**-3.5**
MIPR	**Malaya Ipel'ka**	**2.42**	**269**	*e*P	**Pn**	**14 49 49.0**	**+2.1**
MIPR				*e*S	**Sn**	**14 50 18.3**	**+2.4**
PAU	**Pauzhetka**	**2.58**	**250**	PN	**Pn**	**14 49 50.4**	**+1.3**
PAU				S	**Sn**	**14 50 21.0**	**+1.2**
PAU	**Pauzhetka**	**2.58**	**250**	*e*P	**Pn**	**14 49 50.4**	**+1.3**
PAU				*e*S	**Sn**	**14 50 21.0**	**+1.2**
SKR	**Severo-Kuril's**	**3.34**	**241**	*e*PN	Pn	14 49 55.0	-4.5
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR	**Severo-Kuril's**	**3.34**	**241**	*e*P	**Pn**	**14 49 59.6**	**+0.1**
SKR				*i* S	**Sn**	**14 50 37.2**	**-1.2**
KMNR	**Kamenistaya**	**3.38**	**356**	*e*P	**Pn**	**14 50 02.0**	**+1.8**
KMNR				*e*S	**Sn**	**14 50 40.7**	**+1.1**
BZMR	**Bezymyannaya**	**3.55**	**358**	P	**Pn**	**14 50 04.7**	**+2.2**
BZGR	**Bezymyannyi-Gr**	**3.55**	**360**	P	**Pn**	**14 50 05.3**	**+2.8**
BZGR				*i* S	**Sn**	**14 50 46.6**	**+2.7**
KPT	**Kopyto**	**3.59**	**356**	P	**Pn**	**14 50 05.6**	**+2.6**
KPT				*i* S	**Sn**	**14 50 47.1**	**+2.3**
ZLN	**Zelenaya**	**3.63**	**1**	P	**Pn**	**14 50 06.2**	**+2.6**
ZLN				*i* S	**Sn**	**14 50 47.9**	**+2.1**
LGNR	**Loginova**	**3.70**	**360**	P	Pn	14 50 07.9	+3.2
LGNR				*i* S	**Sn**	**14 50 50.8**	**+3.1**
KOZ	**Kozyrevsk**	**3.70**	**353**	P	**Pn**	**14 50 07.5**	**+3.0**
KOZ				*i* S	**Sn**	**14 50 50.3**	**+2.8**
KOZR	**Kozyr**	**3.71**	**353**	PN	**Pn**	**14 50 07.5**	**+2.9**
CIRR	**Tsirk**	**3.73**	**0**	P	**Pn**	**14 50 07.7**	**+2.7**
ESO	**Esso**	**3.73**	**342**	PN	**Pn**	**14 50 06.6**	**+1.7**
ESO	**Esso**	**3.73**	**342**	*e*P	**Pn**	**14 50 06.6**	**+1.7**
KRSR	**Krestovskiy**	**3.83**	**359**	P	**Pn**	**14 50 09.3**	**+2.9**
KRSR				*i* S	**Sn**	**14 50 53.3**	**+2.5**
KLY	**Klyuchi**	**3.93**	**360**	PN	**Pn**	**14 50 08.7**	**+1.1**
KLY	**Klyuchi**	**3.93**	**360**	P	**Pn**	**14 50 08.7**	**+1.1**
KLY				*i* S	**Sn**	**14 50 52.3**	**-0.6**
SRDR	**Sredinnyy**	**3.97**	**352**	P	**Pn**	**14 50 09.3**	**+1.0**
KBG	**Krutoberegovo**	**4.04**	**16**	PN	**Pn**	**14 50 10.9**	**+1.8**
KBG	**Krutoberegovo**	**4.04**	**16**	P	**Pn**	**14 50 10.9**	**+1.8**
KBG				*i* S	**Sn**	**14 50 56.1**	**+0.4**
BDR	**Baidarnaya**	**4.19**	**4**	P	**Pn**	**14 50 14.0**	**+2.7**
BDR				*i* S	**Sn**	**14 51 01.7**	**+2.1**
SMKR	**Semkarok**	**4.22**	**6**	P	**Pn**	**14 50 13.2**	**+1.5**
SMKR				*i* S	**Sn**	**14 50 59.7**	**-0.6**
SRKR	**Sorokina**	**4.28**	**3**	P	**Pn**	**14 50 15.0**	**+2.5**
SRKR				*i* S	**Sn**	**14 51 03.1**	**+1.4**
FX1	**Attu Island--F**	**7.60**	**81**	Pn	**Pn**	**14 50 56.9**	**-1.1**
	comp=Z,6.2nm,0.3s,baz=292,slow=4.6,SNR=55						
FX1				Sn	Sn	14 52 15.1	-8.3
	comp=Z,7.8nm,0.3s,baz=256,slow=24,SNR=11						
ASAJ	**Asahikawa**	**14.60**	**243**	Pn	**Pn**	**14 52 33.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=60,slow=16,SNR=9.8						
ASAJ				LR	LR	14 59 15.7	
	comp=Z,31nm,18.4s,baz=309,slow=42						
MJAR	**Matsushiro Arr**	**22.42**	**234**	P	**P**	**14 54 07.0**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=12,slow=14,SNR=4.0						
ILAR	**Eielson Array**	**29.05**	**44**	P	**P**	**14 55 08.0**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=223,slow=7.4,SNR=3.1						
YKA	**Yellowknife Ar**	**43.43**	**42**	P	**P**	**14 57 08.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=294,slow=9.5,SNR=2.6						
MKAR	**Makanchi Array**	**48.80**	**297**	*e*P	P	14 57 59.2	+7.4
MKAR	**Makanchi Array**	**48.80**	**297**	P	**P**	**14 57 49.2**	**-2.6**
	comp=Z,0.1nm,0.8s,baz=53,slow=6.8,SNR=2.7						
BVAR	**Borovoye Array**	**51.12**	**309**	P	**P**	**14 58 07.9**	**-1.4**
BVAR	**Borovoye Array**	**51.12**	**309**	P	**P**	**14 58 07.9**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=79,slow=9.0,SNR=2.8						
FINES	**FINESS Array B**	**60.91**	**337**	P	**P**	**14 59 18.7**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=28,slow=8.6,SNR=5.9						
NOA	**NORSAR Array B**	**64.32**	**344**	P	**P**	**14 59 41.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=358,slow=5.8,SNR=2.9						
TXAR	**Lajitas Array**	**70.57**	**67**	P	**P**	**15 00 23.8**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=357,slow=1.8,SNR=3.1						
ASAR	**Alice Springs**	**79.28**	**205**	P	**P**	**15 01 12.8**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=22,slow=5.6,SNR=4.0						

IDC 04 15:19:48.3±1.6, 14°.17S×170°.60E, h612km±19km, mb3.2/17, mb1 3.3/18, mb1mx3.3/23, mbtmp3.2/18, Error ellipse: s-maj=18.9km s-min=13.9km az=121.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.79**	**206**	P	P	15 21 57.1	+1.4
	0.9nm,0.3s,baz=160,slow=22,SNR=7.5						
RPZ	**Rata Peaks**	**29.44**	**179**	P	P	15 25 03.8	-0.7
	8.8nm,1.0s,baz=60,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**31.84**	**231**	P	P	15 25 25.5	+0.5
	2.2nm,0.5s,baz=60,slow=7.2,SNR=16						
WRA	**Warramunga Arr**	**35.09**	**255**	P	P	15 25 51.8	-0.7
	1.3nm,0.3s,baz=80,slow=5.9,SNR=52						
WRA				S	S	15 30 36.8	-6.7
	0.5nm,1.0s,baz=83,slow=14,SNR=3.1						
WRA				ScP	ScP	15 30 54.8	0.0
	0.6nm,0.7s,baz=86,slow=4.2,SNR=5.9						
ASAR	**Alice Springs**	**35.89**	**249**	P	P	15 25 58.6	-0.4
	3.2nm,0.3s,baz=75,slow=9.8,SNR=92						
ASAR				PcP	PcP	15 28 07.3	-1.4
	0.9nm,0.8s,baz=86,slow=3.5,SNR=5.6						
ASAR				S	S	15 30 49.5	-5.7
	0.5nm,0.9s,baz=73,slow=16,SNR=3.5						
ASAR				ScP	ScP	15 30 58.0	+0.2
	0.9nm,0.7s,baz=88,slow=3.8,SNR=10						
FITZ	**Fitzroy Crossi**	**43.29**	**259**	P	P	15 26 58.3	+0.2
	1.6nm,0.5s,baz=94,slow=5.2,SNR=18						
MJAR	**Matsushiro Arr**	**58.98**	**330**	P	P	15 28 50.9	+0.2
	0.4nm,0.5s,baz=134,slow=8.9,SNR=4.0						
ASAJ	**Asahikawa**	**63.38**	**338**	P	P	15 29 20.4	+1.3
	2.2nm,0.8s,baz=193,slow=4.1,SNR=5.0						
KSRS	**Korea Array**	**65.16**	**324**	P	P	15 29 28.6	-1.8
	0.8nm,0.8s,baz=140,slow=9.9,SNR=4.7						
USRK	**Ussuriysk Arra**	**67.91**	**331**	P	P	15 29 47.3	+0.1
	1.3nm,0.9s,baz=178,slow=7.1,SNR=4.6						
PETK	**Petropavlovsk-**	**67.92**	**352**	P	P	15 29 46.9	-0.2
	1.0nm,0.6s,baz=162,slow=6.4,SNR=7.3						
CMAR	**Chiang Mai Arr**	**77.69**	**293**	P	P	15 30 45.1	+1.3
	3.2nm,0.9s,baz=123,slow=3.6,SNR=13						
SONM	**Songino Array**	**84.00**	**322**	P	P	15 31 15.7	0.0
	0.5nm,0.8s,baz=113,slow=3.3,SNR=3.4						
NVAR	**Mina Array Bea**	**84.48**	**48**	P	P	15 31 19.8	+1.4
	0.8nm,0.7s,baz=226,slow=8.3,SNR=7.7						
ILAR	**Eielson Array**	**85.03**	**17**	P	P	15 31 19.2	-0.9
	1.0nm,0.6s,baz=235,slow=4.9,SNR=12						
TXAR	**Lajitas Array**	**93.18**	**61**	P	P	15 31 59.0	0.0
	0.1nm,0.4s,baz=221,slow=3.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**98.87**	**323**	P	Pdif	15 32 23.2	-0.6
	0.2nm,0.3s,baz=108,slow=1.8,SNR=2.9						
MKAR	**Makanchi Array**	**99.04**	**316**	P	Pdif	15 32 23.5	-1.4
	0.4nm,0.8s,baz=95,slow=3.9,SNR=3.7						
ARCES	**ARCESS Array B**	**120.50**	**346**	PKP	PKPdf	15 37 30.4	-0.4
	1.6nm,0.6s,baz=48,slow=1.8,SNR=11						

*NIED **04** 15:29:00, 32°.00N×142°.40E, h5km, Mw4.3 Best double couple: M0:2.94000×1015 NP1:φs:148.00000°, δ64.00000°, λ-99.00000°. NP2:φs:348.00000°, δ27.00000°, λ-72.00000°.*

*IDC **04** 15:29:45.6±0.5, 31°.64N×142°.53E, h0km, mb4.5/20, mb1 4.6/23, mb1mx4.6/27, mbtmp4.4/23, ML2.9/2, MS3.4/7, Ms1 3.5/7, ms1mx3.0/52, Error ellipse: s-maj=15.3km s-min=12.5km az=88.0*

*ISCJB **04** 15:29:47.0±1.2, 31°.76N±0°.04×142°.42E±0°.04, h15km±7km, mb4.6/87, MS3.6/14, Error ellipse: s-maj=7.2km s-min=4.4km az=30.1*

*JMA **04** 15:29:48.4±0.3, 32°.01N×142°.37E, h0km, M4.9*

*BJI **04** 15:29:49.0, 31°.70N×142°.50E, h35km, mB4.7/20, mb4.5/35, Ms4.2/15, MS7 3.9/17*

*NEIC **04** 15:29:51.1±0.2, 31°.65N×142°.45E, h35km, mb4.5/27, MW4.2(NIED), Error ellipse: s-maj=4.9km s-min=4.1km az=189.0*

*MOS **04** 15:29:51.8±0.9, 32°.21N×142°.52E, h33km, mb4.8/46, Error ellipse: s-maj=12.2km s-min=5.4km az=115.7*

ISC 04 15:29:50.8±0.5, 31°.71N±0°.05×142°.51E±0°.05, h32km±2km, h32km:pP-P, n365, σ1§02/407, mb4.7/89, MS3.5/14, 84C-94D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.67**	**301**	S	**Sn**	**15 31 00.3**	**-2.5**
JHJ2	**Mitsune**	**2.67**	**302**	P	**Pn**	**15 30 30.2**	**-1.4**
JHJ2				S	**Sn**	**15 31 01.0**	**-1.9**
BSO1	**Boso 1**	**3.20**	**337**	P	**Pn**	**15 30 37.3**	**-1.1**
BSO3	**Boso 3**	**3.51**	**332**	P	**Pn**	**15 30 41.6**	**-1.2**
BSO4	**Boso 4**	**3.74**	**331**	P	**Pn**	**15 30 45.3**	**-0.9**
JKO	**Kozu shima**	**3.76**	**312**	*e*S	**Sn**	**15 31 27.2**	**-2.5**
JOD2	**Odawara 2**	**4.55**	**322**	P	**Pn**	**15 30 56.1**	**-1.4**
JOD2				*e*S	**Sn**	**15 31 48.1**	**-1.2**
JRY	**Ryogami san**	**5.24**	**326**	P	**Pn**	**15 31 05.6**	**-1.3

comp=E,470nm,12.0s
HHC LR LR
BTO Baotou 27.57 298 *e*P **P** **15 35 34.4 -0.6**
CLNS Chul'man 27.94 339 *e*P **P** **15 35 37.0 -1.0**
CLNS pmax pmax
comp=Z,11nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
XAN Xi'an 28.24 284 P **P** **15 35 40.3 -0.7**
XAN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 31.33 311 *e*P **P** **15 36 08.8 +0.4**
comp=Z,3.3nm,0.7s
YAK Yakutsk 31.45 348 *e*P **P** **15 36 07.8 -1.2**
YAK *e*'PP **pP** **15 36 15.8 -2.5**
YAK *e* 15 37 13.4
YAK *e*S **S** **15 41 15.7 +1.2**
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,6.0nm,1.3s
YAK pmax pmax
comp=E,38nm,2.2s
YAK smax smax
comp=N,149nm,4.7s
YAK smax smax
comp=E,120nm,3.5s
YAK MLR MLR
comp=Z,40nm,17.0s
GYA Guiyang 31.67 270 *e*P **P** **15 36 11.2 -0.3**
GYA pP **pP** **15 36 21.6 +0.8**
GYA PP **PnPn** **15 37 17.0 +1.2**
GYA PcP **PcP** **15 39 03.1 +0.1**
GYA S **S** **15 41 17.5 -1.5**
GYA sS **sS** **15 41 32.8 -1.5**
GYA ScP **ScP** **15 42 43.3 -0.6**
GYA ScS **ScS** **15 46 40.0 -2.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,4.5s
SONM Songino Array 31.74 311 P **P** **15 36 13.0 +1.0**
SONM Songino Array 31.74 311 P **P** **15 36 13.0 +1.0**
comp=Z,2.9nm,0.8s,baz=114,slow=8.3,SNR=24
SONM LR LR 15 47 36.7
comp=Z,31nm,20.7s,baz=14,slow=34
QIZ Qiongzhong 31.98 255 P **P** **15 36 14.8 +0.7**
QIZ S **S** **15 41 21.9 -1.8**
QIZ LR LR
comp=Z,63nm,29.3s
LZH Lanzhou 32.25 288 *e*P **P** **15 36 15.6 -0.9**
LZH pmax pmax
comp=Z,8.0nm,0.9s
CD2 Chengdu 33.00 279 *e*P **P** **15 36 23.8 +0.7**
CD2 pP **pP** **15 36 33.7 +1.3**
CD2 sP **sP** **15 36 37.8 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,40nm,4.8s
ZAK Zakamensk 34.46 314 *e*P **P** **15 36 36.2 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 34.66 317 *e*P **P** **15 36 38.4 +1.1**
TLY pmax pmax
comp=Z,15nm,1.6s
TLY MLR MLR
comp=Z,94nm,16.0s
GTA Gaotai 35.31 295 *e*P **P** **15 36 44.7 +1.6**
GTA PcP **PcP** **15 39 14.2 +1.1**
GTA S **S** **15 42 16.9 +1.6**
GTA SS **SnSn** **15 44 32.8 -1.9**
GTA pmax pmax
comp=Z,3.0nm,1.4s
GTA pmax pmax
comp=Z,32nm,4.8s
GTA LR LR
comp=N,140nm,15.9s
GTA LR LR
comp=E,100nm,15.9s
GTA LR LR
comp=Z,110nm,15.9s
TIXI Tiksi 40.67 353 *ce*P **P** **15 37 27.5 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 41.34 262 P **P** **15 37 33.2 -0.7**
CMAR Chiang Mai Arr 41.34 262 P **P** **15 37 33.2 -0.7**
comp=Z,1.4nm,0.7s,baz=58,slow=6.7,SNR=7.6
CMAR LR LR 15 56 23.0
comp=Z,77nm,19.1s,baz=328,slow=39
WMQ Urumqi 44.24 302 *e*P **P** **15 37 57.6 +0.4**
WMQ pmax pmax
comp=Z,13nm,1.0s
WMQ LR LR
comp=N,27nm,15.0s
WMQ LR LR
comp=E,29nm,16.0s
WMQ LR LR
comp=Z,47nm,16.0s
BATI Baumata 45.42 207 P **P** **15 38 05.8 -0.9**
BATI Baumata 45.42 207 P **P** **15 38 05.8 -0.9**
comp=Z,32nm,0.5s,baz=244,slow=3.8,SNR=8.2
ZAA0 Zalesovo Array 46.28 316 *e*P **P** **15 38 12.5 -0.6**
ZALV Zalesovo Beam 46.28 316 P **P** **15 38 12.7 -0.4**
ZALV 15 39 47.9
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV MLR MLR
comp=Z,25nm,18.2s
ZALV Zalesovo Beam 46.28 316 *i* P **P** **15 38 13.1 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 46.28 316 P **P** **15 38 12.7 -0.4**
ZALV PcP **PcP** **15 39 47.9 -0.2**
ZALV Zalesovo Beam 46.28 316 P **P** **15 38 12.7 -0.4**
comp=Z,3.8nm,0.7s,baz=103,slow=6.3,SNR=20
ZALV PcP **PcP** **15 39 47.9 -0.2**
comp=Z,2.5nm,0.4s,baz=94,slow=3.3,SNR=6.8
ZALV LR LR 15 58 59.5
comp=Z,25nm,18.2s,baz=66,slow=38
NVS Novosibirsk 47.27 317 *e*P **P** **15 38 20.6 -0.2**
NVS pmax pmax
comp=Z,10.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.2s
MK31 Makanchi Array 47.86 306 *i* P **P** **15 38 25.6 0.0**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 47.86 306 *e*P **P** **15 38 25.4 -0.2**
MKAR Makanchi Array 47.86 306 *i* P **P** **15 38 26.1 +0.5**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 47.86 306 P **P** **15 38 26.1 +0.5**
MKAR PcP **PcP** **15 39 53.9 -0.1**
MKAR Makanchi Array 47.86 306 P **P** **15 38 26.1 +0.5**
comp=Z,5.7nm,0.7s,baz=89,slow=9.5,SNR=55
MKAR PcP **PcP** **15 39 53.9 -0.1**
comp=Z,1.6nm,0.7s,baz=83,slow=3.3,SNR=3.1
MKAR LR LR 16 00 41.2
comp=Z,24nm,18.2s,baz=350,slow=39
WRA Warramunga Arr 51.96 190 P **P** **15 38 55.8 -1.1**
WRA Warramunga Arr 51.96 190 P **P** **15 38 55.8 -1.1**
comp=Z,5.4nm,0.7s,baz=7.3,slow=8.0,SNR=14
FITZ Fitzroy Crossi 52.11 200 P **P** **15 38 56.7 -1.3**
FITZ Fitzroy Crossi 52.11 200 P **P** **15 38 56.7 -1.3**
comp=Z,8.3nm,0.7s,baz=12,slow=8.3,SNR=8.2
KSH Kashi 53.56 298 *e*P P 15 39 12.8 +4.0
KSH sP sP 15 39 26.7 +4.4
KSH PP PP 15 41 14.7 +5.3
KSH S **S** **15 46 43.0 +3.0**
KSH sS sS 15 47 00.2 +4.2
KSH SS **SKiKP** **15 50 22.8 +1.0**
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH LR LR
comp=N,36nm,4.7s
KSH LR LR
comp=E,70nm,4.4s
KSH LR LR
comp=Z,40nm,5.5s
ILAR Eielson Array 53.56 30 P **P** **15 39 07.5 -0.7**
ILAR Eielson Array 53.56 30 P **P** **15 39 07.5 -0.7**
comp=Z,3.6nm,0.6s,baz=259,slow=6.2,SNR=56
AAK Ala-Archa 53.95 302 *ce*P **P** **15 39 12.4 +0.7**
AAK pmax pmax
comp=Z,22nm,2.5s
PAX Paxson 54.16 32 *e*P **P** **15 39 12.6 -0.2**
PAX pmax pmax
comp=Z,3.0nm,0.8s
PAX Paxson 54.16 32 *e*P **P** **15 39 12.6 -0.2**
comp=Z,2.8nm,0.8s
VOSK Vostochnaya 54.59 315 P **P** **15 39 15.2 -0.8**
VOSK pmax pmax
comp=Z,13nm,0.7s
BMRM Bremner River 54.62 35 *e*P **P** **15 39 16.9 +0.8**
comp=Z,7.8nm,0.8s
BVA0 Borovoye Array 54.91 315 P **P** **15 39 17.3 -0.9**
BVA0 pmax pmax
comp=Z,13nm,1.0s
MENT Mentasta 54.96 32 *e*P **P** **15 39 19.4 +0.9**
BRVK Borovoye 54.97 315 *de*P **P** **15 39 18.8 +0.1**
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 54.97 315 *e*P **P** **15 39 19.0 +0.3**
comp=Z,14nm,1.0s
ASAR Alice Springs 55.68 190 P **P** **15 39 23.5 -0.5**
ASAR ⇑*e* 16 09 39.8
ASAR Alice Springs 55.68 190 P **P** **15 39 23.5 -0.5**
comp=Z,0.9nm,0.5s,baz=352,slow=5.6,SNR=14
ASAR PKP2bc 16 09 39.8
comp=Z,0.2nm,0.7s,baz=220,slow=0.4,SNR=5.1
EGAK Eagle 56.02 30 *e*P **P** **15 39 25.8 -0.2**
comp=Z,2.6nm,0.7s
MBWA Marble Bar 56.93 206 *e*P **P** **15 39 32.9 -0.1**
MBWA *ep*P **pP** **15 39 44.4 +1.7**
HYT Haines Junctio 58.09 35 *e*P **P** **15 39 42.3 +1.4**
INK Inuvik 58.74 26 *e*P **P** **15 39 44.9 -0.2**
comp=Z,7.3nm,1.0s
SVE Sverdlovsk 59.79 321 ⇓*e*P **P** **15 39 53.1 +0.5**
SVE pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 61.00 321 *d i*P **P** **15 40 00.6 -0.3**
ARU 15 42 12.7
ARU S **S** **15 48 21.3 +4.3**
ARU SS **SS** **15 52 14.4 -1.8**
ARU pmax pmax
comp=Z,22nm,1.7s
AB31 Akbulak array 62.13 313 *i* P **P** **15 40 08.3 -0.3**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
DLBC Dease Lake 62.30 36 *e*P **P** **15 40 10.8 +1.1**
AKTO Aktyubinsk 62.97 314 P **P** **15 40 12.6 -1.6**
AKTO pmax pmax
comp=Z,10.0nm,0.9s
AFI Afiamalu 63.07 129 LR LR 16 03 05.7
comp=Z,65nm,20.5s,baz=138,slow=32
STKA Stephens Creek 63.25 181 P **P** **15 40 14.8 -1.4**
STKA Stephens Creek 63.25 181 P **P** **15 40 14.8 -1.4**
comp=Z,2.9nm,0.8s,baz=359,slow=6.6,SNR=5.8
YKA Yellowknife Ar 67.97 29 P **P** **15 40 45.9 -0.4**
YKA Yellowknife Ar 67.97 29 P **P** **15 40 45.9 -0.4**
comp=Z,1.1nm,0.7s,baz=292,slow=6.4,SNR=4.0
ARCES ARCESS Array B 69.29 340 P **P** **15 40 54.8 +0.3**
ARCES ARCESS Array B 69.29 340 P **P** **15 40 54.8 +0.3**
comp=Z,3.2nm,0.7s,baz=63,slow=8.3,SNR=13
VRHR Novokhopersk 72.27 319 *e*P **P** **15 41 10.8 -2.1**
MAK Makhachkala 72.51 310 *e*P P 15 41 18.9 +4.5
MAK MLR MLR
comp=Z,120nm,14.0s
YBH Yreka Blue Hor 72.92 51 *e*P **P** **15 41 18.1 +1.0**
comp=Z,7.3nm,1.1s
OBN Obninsk 72.92 325 ⇓*i*P **P** **15 41 15.6 -1.0**
OBN *i* 15 41 26.8
OBN *i* 15 41 36.7
OBN pmax pmax
comp=Z,9.0nm,1.0s
KCPM Cahto Peak 73.27 54 *e*P **P** **15 41 20.0 +0.9**
comp=Z,10nm,1.2s
NEW Newport 73.34 43 ⇓P **P** **15 41 19.8 +0.5**
baz=73
KAF Kangasniemi 73.46 334 *e*P **P** **15 41 19.1 -0.6**
KAF pmax pmax
comp=Z,16nm,0.5s
KAF Kangasniemi 73.46 334 *ep* **P** **15 41 19.1 -0.6**
comp=Z,16nm,0.5s,baz=50,slow=5.5
WDC Whiskeytown Da 73.56 52 *e*P **P** **15 41 20.7 0.0**
WDC pmax pmax
comp=Z,6.0nm,1.1s
WDC Whiskeytown Da 73.56 52 *e*P **P** **15 41 20.7 0.0**
comp=Z,5.9nm,1.1s
VSR Storozhevoye 73.56 320 *e*P **P** **15 41 20.2 -0.3**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 73.62 320 *e*P **P** **15 41 19.5 -1.3**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,4.0nm,0.4s
FIA1 FINESS Array S 73.95 333 *e*P **P** **15 41 22.7 +0.1**
FINES FINESS Array B 73.95 333 P **P** **15 41 22.6 0.0**
FINES FINESS Array B 73.95 333 P **P** **15 41 22.6 0.0**
comp=E,12nm,0.8s,baz=73,slow=6.6,SNR=46
A13A Flathead Natio 74.57 42 ⇓P **P** **15 41 27.8 +1.2**
baz=74
B13A Whitefish 74.82 42 ⇑P **P** **15 41 28.6 +0.6**
baz=75
BMO Blue Mountains 74.90 46 *e*P **P** **15 41 28.8 +0.2**
comp=E,1.2nm,0.4s
KBZ Khabaz 75.10 312 P **P** **15 41 29.7 +0.1**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 75.10 312 P **P** **15 41 29.7 +0.1**
KBZ Khabaz 75.10 312 P **P** **15 41 29.7 +0.1**
comp=Z,6.1nm,0.8s,baz=82,slow=5.0,SNR=15
A14A Double T Ranch 75.11 41 ⇓P **P** **15 41 30.3 +0.5**
baz=75
KIV Kislovodsk 75.12 313 *e*P **P** **15 41 31.3 +1.4**
KIV pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 75.25 49 *e*P **P** **15 41 30.9 +0.2**
WVOR pmax pmax
comp=Z,2.0nm,0.8s
WVOR Wild Horse Val 75.25 49 *e*P **P** **15 41 30.9 +0.2**
comp=Z,2.2nm,0.8s
A15A Johnson Ranch, 75.49 41 ⇓P **P** **15 41 32.3 +0.3**
baz=75
B14A Marquette Ranc 75.51 42 ⇑P **P** **15 41 32.9 +0.8**
baz=75
VSU Vasula 75.51 331 *d i*P **P** **15 41 31.7 0.0**
SWMT Swartz Lake 75.53 43 *e*P **P** **15 41 32.8 +0.5**
comp=Z,4.5nm,0.9s
B15A Bradely Ranch, 75.94 42 ⇑P **P** **15 41 34.9 +0.4**
baz=76,SNR=6.9
A16A West Butte Ran 76.14 41 ⇑P **P** **15 41 35.9 +0.2**
baz=76
C15A Salmond Ranch, 76.20 42 ⇓P **P** **15 41 36.7 +0.6**
baz=76,SNR=8.3
CMB Columbia Colle 76.25 54 *e*P **P** **15 41 36.9 +0.5**
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 76.25 54 *e*P **P** **15 41 36.9 +0.5**
comp=Z,6.4nm,0.8s
B16A M & M Farms, S 76.37 41 ⇓P **P** **15 41 37.5 +0.5**
baz=76,SNR=6.2
MFID Camas Ranch 76.54 47 ⇓P **P** **15 41 38.6 +0.5**
baz=76
A17A Triple J Farms 76.64 40 ⇑P **P** **15 41 38.7 +0.2**
baz=76,SNR=5.5
WAKR Walker 76.66 53 *e*P **P** **15 41 39.1 +0.1**
comp=Z,4.6nm,1.0s
C16A Fuhringer Ranc 76.67 42 ⇑P **P** **15 41 39.0 +0.3**
baz=76,SNR=5.8
B17A L&G Farms, Che 76.94 41 ⇑P **P** **15 41 40.5 +0.4**
baz=77,SNR=9.9
A18A Metzger Ranch, 77.13 40 ⇑P **P** **15 41 41.5 +0.3**
baz=77
C17A Wharram Farm, 77.32 42 ⇓P **P** **15 41 42.6 +0.3**
baz=77
HLID Hailey 77.34 47 ⇑P **P** **15 41 43.1 +0.4**
baz=77
B18A Beardsley Farm 77.46 41 ⇑P **P** **15 41 43.7 +0.6**
baz=77,SNR=6.4
NVAR Mina Array Bea 77.47 53 P **P** **15 41 44.1 +0.6**
NVAR Mina Array Bea 77.47 53 P **P** **15 41 44.1 +0.6**
comp=Z,5.4nm,0.7s,baz=287,slow=5.9,SNR=52
NVAR LR LR 16 10 34.7
comp=Z,50nm,21.2s,baz=280,slow=32
D17A Six Diamond Ra 77.63 42 ⇓P **P** **15 41 44.6 +0.4**
baz=78
EGMT Eagleton 77.67 41 ⇑P **P** **15 41 44.4 +0.1**
baz=78
A19A Klindworth Far 77.72 40 ⇓P **P** **15 41 45.1 +0.5**
baz=78,SNR=6.4
I14A Mackay 77.74 46 ⇓P **P** **15 41 46.1 +1.2**
baz=78
B19A Brinkman Farms 77.88 40 ⇓P **P** **15 41 45.9 +0.6**
baz=78,SNR=13
BOZ Bozeman (W) 77.91 44 *e*P **P** **15 41 46.1 +0.4**
BOZ pmax pmax
comp=Z,1.0nm,0.8s
BOZ Bozeman (W) 77.91 44 *e*P **P** **15 41 46.1 +0.4**
comp=Z,1.4nm,0.8s
E17A Martinsdale 77.91 43 ⇓P **P** **15 41 46.5 +0.7**
baz=78
D18A Linhart Farms, 78.11 42 ⇑P **P** **15 41 47.4 +0.7**
baz=78
A20A Cobblestone Ra 78.20 39 ⇑P **P** **15 41 47.6 +0.5**
baz=78
C19A Slack Wire Ran 78.23 41 ⇓P **P** **15 41 48.1 +0.7**
baz=78,SNR=12
F17A Fitzpatrick Pl 78.33 43 ⇓P **P** **15 41 48.7 +0.6**
baz=78
B20A Solberg Farm, 78.40 40 ⇑P **P** **15 41 48.5 +0.3**
baz=78
E18A Harlowton 78.40 42 ⇑P **P** **15 41 49.1 +0.7**
baz=78,SNR=7.1
D19A Cripps Ranch, 78.65 41 ⇑P **P** **15 41 50.2 +0.5**
baz=78,SNR=6.6
H16A Russell Place, 78.65 44 ⇓P **P** **15 41 50.3 +0.3**
baz=78
A21A Bergtoll Ranch 78.67 39 ⇓P **P** **15 41 50.5 +0.7**
baz=78
C20A Veseth Ranch, 78.82 40 ⇓P **P** **15 41 51.1 +0.5**
baz=79,SNR=7.9
GRAC Grapevine Rang 78.84 53 ⇑P **P** **15 41 51.5 +0.6**
baz=79
F18A Big Timber 78.88 43 ⇑P **P** **15 41 51.6 +0.6**
baz=79,SNR=6.0
B21A Ellsworth Farm 78.95 39 ⇑P **P** **15 41 51.5 +0.2**
baz=79,SNR=8.4
E19A Rath Farm, Rou 79.10 42 ⇑P **P** **15 41 52.7 +0.5**
baz=79,SNR=10
D20A Manuel Ranch, 79.11 41 ⇓P **P** **15 41 52.6 +0.4**
baz=79,SNR=8.0
A22A Carney Farms, 79.21 39 ⇑P **P** **15 41 53.0 +0.3**
baz=79
MPMC Manual Prospec 79.24 54 ⇓P **P** **15 41 53.5 +0.2**
baz=79
C21A Desert Coulee 79.26 40 ⇓P **P** **15 41 53.3 +0.4**
baz=79,SNR=6.1
IMW Indian Meadow 79.28 45 *e*P **P** **15 41 54.7 +1.2**
comp=Z,3.2nm,0.8s
R11A Troy Canyon, C 79.34 52 ⇓P **P** **15 41 54.1 +0.3**
baz=79
F19A Roth Farm, Mol 79.36 42 ⇓P **P** **15 41 54.0 +0.4**
baz=79
LRMC Laurel Mountai 79.40 55 ⇑P **P** **15 41 54.1 0.0**
baz=79
NB2 NORSAR Subarra 79.44 338 P **P** **15 41 53.3 -0.4**
comp=Z,10nm,0.7s,baz=40,slow=5.6
NOA NORSAR Array B 79.44 338 P **P** **15 41 53.6 -0.1**
NOA NORSAR Array B 79.44 338 P **P** **15 41 53.6 -0.1**
comp=Z,7.8nm,0.7s,baz=41,slow=5.4,SNR=51
E20A Meyer Farm, Mu 79.45 42 ⇑P **P** **15 41 54.4 +0.3**
baz=79
B22A Reddig Ranch S 79.58 39 ⇑P **P** **15 41 55.1 +0.3**
baz=79
H18A Shoshone NF, C 79.60 44 ⇑P **P** **15 41 56.0 +0.8**
baz=80
LOHW Long Hollow 79.64 45 *e*P **P** **15 41 56.2 +0.9**
comp=Z,1.4nm,0.7s
NAO01 NORSAR Array S 79.69 338 *e*P **P** **15 41 54.5 -0.5**
comp=Z,4.7nm,0.7s
D21A La Casta Ranch 79.76 41 ⇓P **P** **15 41 56.1 +0.4**
baz=80
A23A Redstone 79.78 38 ⇑P **P** **15 41 56.0 +0.3**
baz=80
C22A Vida 79.97 40 ⇑P **P** **15 41 57.0 +0.2**
baz=80
B23A Brockton 80.02 39 ⇑P **P** **15 41 57.4 +0.4**
baz=80
G20A Bridger 80.14 43 ⇓P **P** **15 41 58.2 +0.3**
baz=80
D22A Cohagen 80.16 40 ⇓P **P** **15 41 58.4 +0.5**
baz=80,SNR=7.1
DUG Dugway 80.16 49 ⇓P **P** **15 41 58.7 +0.6**
baz=80
HWUT Hardware Ranch 80.17 47 *e*P **P** **15 41 59.1 +0.9**
comp=Z,5.6nm,1.1s
A24A Westby 80.26 38 ⇓P **P** **15 41 58.7 +0.4**
baz=80
C23A Lambert 80.31 39 ⇓P **P** **15 41 59.3 +0.6**
baz=80
I19A Meeteetse 80.36 44 ⇓P **P** **15 41 59.7 +0.4**
baz=80
TUQ Turquoise Moun 80.65 54 ⇑P **P** **15 42 01.2 +0.4**
baz=80
D23A Lindsay 80.68 40 ⇑P **P** **15 42 01.1 +0.4**
baz=80
H20A Greybull 80.69 43 ⇑P **P** **15 42 01.2 +0.4**
baz=80
E22A Miles City 80.71 41 ⇓P **P** **15 42 01.4 +0.6**
baz=80
MURC Murrieta 80.73 56 ⇓P **P** **15 42 01.5 +0.4**
baz=81
BW06 Boulder Array 80.75 45 *e*P **P** **15 42 01.2 -0.2**
comp=Z,1.5nm,0.8s
PDAR Pinedale Array 80.75 45 P **P** **15 42 01.4 0.0**
PDAR Pinedale Array 80.75 45 P **P** **15 42 01.4 0.0**
comp=Z,2.0nm,0.6s,baz=277,slow=1.8,SNR=19
J19A Crowheart 80.77 45 ⇓P **P** **15 42 01.9 +0.4**
baz=81,SNR=7.0
I20A Worland 80.92 44 ⇑P **P** **15 42 02.8 +0.7**
baz=81,SNR=7.4
DAU Daniels Canyon 81.03 48 *e*P **P** **15 42 03.7 +0.7**
DAU pmax pmax
comp=Z,6.0nm,0.9s
DAU Daniels Canyon 81.03 48 *e*P **P** **15 42 03.6 +0.7**
comp=Z,5.8nm,0.9s
B25A Knox Farm, Ray 81.10 38 ⇑P **P** **15 42 02.9 0.0**
baz=81
K19A Absolon Red Bu 81.15 45 ⇓P **P** **15 42 03.4 0.0**
baz=81
H21A Big Horn, Sher 81.16 43 ⇓P **P** **15 42 03.5 +0.1**
baz=81
GMRC Granite Mounta 81.18 55 ⇑P **P** **15 42 03.6 -0.1**
baz=81
PFO Pinyon Flat Ob 81.25 56 ⇑P **P** **15 42 04.0 -0.1**
baz=81
J20A Shoshoni 81.30 44 ⇓P **P** **15 42 04.3 +0.2**
baz=81
BELC Belle Mtn. Jos 81.36 55 ⇑P **P** **15 42 04.9 +0.2**
baz=81
F23A Volborg 81.44 41 ⇑P **P** **15 42 04.7 -0.1**
baz=81
MVU Marysvale 81.48 50 *e*P **P** **15 42 05.5 +0.1**
comp=Z,3.8nm,1.1s
I21A Big Trails, Te 81.50 43 ⇑P **P** **15 42 04.7 -0.6**
baz=81
E24A Baker 81.54 40 ⇓P **P** **15 42 05.9 +0.6**
baz=81
K20A Yellowstone Ra 81.55 45 ⇑P **P** **15 42 05.7 +0.1**
baz=81
J21A Lysite 81.68 44 ⇑P **P** **15 42 05.6 -0.6**
baz=82
G23A Biddle 81.76 41 ⇓P **P** **15 42 06.4 -0.1**
baz=82
IRM Iron Mountain 81.87 55 ⇑P **P** **15 42 06.9 -0.3**
baz=82
I22A 9 Mile Ranch, 81.92 43 ⇓P **P** **15 42 07.8 +0.4**
baz=82,SNR=5.6
Q16A Castle Valley 81.92 49 ⇑P **P** **15 42 08.1 +0.5**
baz=82
BC3 Big Chuckawall 81.93 55 ⇓P **P** **15 42 07.6 -0.1**
baz=82
J22A Midwest 82.21 43 ⇓P **P** **15 42 09.2 +0.2**

baz=82,SNR=11
K21A Alcova 82.21 44 ⇑P **P** 15 42 09.2 +0.1
baz=82
LVV L'vov 82.22 325 *e*P **P** 15 42 09.1 +0.4
SRU San Rafael 82.23 49 *e*P **P** 15 42 09.3 +0.1
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael 82.23 49 *e*P **P** 15 42 09.2 +0.1
comp=Z,8.4nm,0.8s
M20A Sweetwater, Wa 82.32 46 ⇑P **P** 15 42 10.1 +0.4
baz=82
F25A Bowman 82.39 40 ⇑P **P** 15 42 09.7 -0.1
baz=82
O19A Miners Draw (B 82.44 47 ⇓P **P** 15 42 10.4 +0.1
baz=82
H24A Dirks Ranch, A 82.51 41 ⇑P **P** 15 42 10.3 -0.1
baz=82
Y12C Blythe 82.53 55 ⇑P **P** 15 42 11.4 +0.8
baz=82
U15A North Rim 82.58 52 ⇑P **P** 15 42 11.2 0.0
baz=82
N20A Spence Gulch, 82.66 46 ⇓P **P** 15 42 12.0 +0.5
baz=82,SNR=17
GLA Glamis 82.70 56 ⇑P **P** 15 42 12.3 +0.7
baz=83
M21A Separation Pea 82.75 45 ⇑P **P** 15 42 11.6 -0.3
baz=83
P19A Cripple Cowboy 82.91 48 ⇑P **P** 15 42 13.1 +0.3
baz=83,SNR=15
KWP Kalwaria Pacla 82.99 325 *e*P **P** 15 42 13.3 +0.5
KWP Kalwaria Pacla 82.99 325 *e*P **P** 15 42 13.3 +0.5
comp=Z,19nm,0.4s
KWP Kalwaria Pacla 82.99 325 *e*P **P** 15 42 13.7 +1.0
BUR08 Bucovina Ar. S 83.05 323 *e*P **P** 15 42 13.8 +0.6
O20A White River Ci 83.08 47 ⇑P **P** 15 42 13.4 -0.3
baz=83
BR131 Keskin Array S 83.09 313 *e*P **P** 15 42 13.8 +0.2
comp=Z,6.6nm,1.0s
BRTR Keskin Array B 83.09 313 P **P** 15 42 14.2 +0.6
BRTR Keskin Array B 83.09 313 P **P** 15 42 14.2 +0.6
comp=Z,5.3nm,0.9s,baz=101,slow=3.9,SNR=26
K23A Bowen Ranch, D 83.10 44 ⇑P **P** 15 42 13.8 +0.1
baz=83
N21A Black Mountain 83.16 46 ⇓P **P** 15 42 14.1 0.0
baz=83
J24A Dixon Ranch, L 83.31 43 ⇓P **P** 15 42 14.5 -0.2
baz=83
I25A Rochford 83.42 42 ⇓P **P** 15 42 15.7 +0.4
baz=83
L23A Garrett 83.44 44 ⇑P **P** 15 42 15.2 -0.4
baz=83,SNR=7.5
Y14A Wickenburg 83.48 54 ⇑P **P** 15 42 15.6 0.0
baz=83
O21A Pagoda 83.51 46 ⇓P **P** 15 42 16.3 +0.4
baz=83
K24A Anderson Ranch 83.60 43 ⇓P **P** 15 42 16.0 -0.2
baz=83
KOLS Kolonicke sedl 83.67 325 *e*P **P** 15 42 17.2 +0.9
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 83.67 325 *e*P **P** 15 42 17.2 +0.9
WUAZ Wupatki 83.71 52 ⇑P **P** 15 42 16.4 -0.6
baz=84
Q20A Ridgley Place, 83.74 48 ⇓P **P** 15 42 16.8 -0.2
baz=84
J25A Sunshine Ranch 83.77 42 ⇓P **P** 15 42 17.5 +0.5
baz=84
N22A Wattenberg Ran 83.78 45 ⇓P **P** 15 42 18.4 +1.0
baz=84
STHS Stebnicka Huta 83.84 326 *e*P **P** 15 42 18.6 +1.5
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 83.84 326 *e*P **P** 15 42 18.6 +1.5
N23A Red Feather La 84.04 45 ⇑P **P** 15 42 19.7 +1.0
baz=84
PV01 Paradox Valley 84.04 49 *e*P **P** 15 42 18.8 +0.1
comp=Z,130nm,0.5s
CRVS Cervenica-Dubn 84.09 325 *e*P **P** 15 42 18.9 +0.5
CRVS pmax pmax
comp=Z,16nm,1.8s
CRVS Cervenica-Dubn 84.09 325 *e*P **P** 15 42 18.9 +0.5
O22A Kremmling 84.11 46 ⇓P **P** 15 42 19.5 +0.5
baz=84,SNR=5.4
R20A Redvale 84.13 48 ⇑P **P** 15 42 19.9 +0.8
baz=84
K25A Mack Ranch, Ha 84.21 43 ⇑P **P** 15 42 19.1 -0.2
baz=84
J26A Sides Ranch, S 84.23 42 ⇑P **P** 15 42 18.8 -0.5
baz=84
Q21A Lamborn Mesa, 84.26 48 ⇑P **P** 15 42 20.5 +0.8
baz=84
P22A Eagle 84.32 47 ⇓P **P** 15 42 20.6 +0.6
baz=84,SNR=7.3
S20A Disappointment 84.36 49 ⇓P **P** 15 42 20.3 0.0
baz=84
M24A Cheyenne 84.36 44 ⇓P **P** 15 42 20.2 +0.1
baz=84
SMCO Snowmass 84.43 47 *e*P **P** 15 42 21.2 +0.4
comp=Z,3.1nm,0.6s
L25A Engebretsen Ra 84.44 43 ⇓P **P** 15 42 21.0 +0.5
baz=84
O23A Lake Granby, G 84.47 46 ⇓P **P** 15 42 21.7 +0.8
baz=84,SNR=10
H28A Mission Ridge 84.52 40 ⇓P **P** 15 42 20.9 +0.3
baz=84
R21A Cimarron 84.55 48 ⇓P **P** 15 42 21.6 +0.4
baz=84
K26A Motz Farm, Whi 84.56 42 ⇓P **P** 15 42 21.2 +0.2
baz=84
Q22A Crested Butte, 84.66 47 ⇑P **P** 15 42 22.4 +0.5
baz=84,SNR=13
S21A Coal Bank Pass 84.82 49 ⇑P **P** 15 42 23.0 +0.3
baz=85,SNR=6.1
I28A Midland 84.87 41 ⇓P **P** 15 42 22.7 +0.2
baz=85
ISCO Idaho Springs 84.90 46 ⇑P **P** 15 42 24.0 +1.0
baz=85
OKC Ostrava-Krasne 85.00 328 *i* P **P** 15 42 23.7 +0.8
OKC *e* 15 42 34.6
OKC Ostrava-Krasne 85.00 328 ⇓*i*P **P** 15 42 23.7 +0.8
OKC *e*pP **pP** 15 42 34.6 +1.5
P23A Jefferson 85.02 46 ⇓P **P** 15 42 24.7 +0.9
baz=85
KSP Ksiaz 85.11 329 *e*P **P** 15 42 23.9 +0.4
KSP *e**PP **pP** 15 42 35.4 +1.8
KSP Ksiaz 85.11 329 *e*P **P** 15 42 23.9 +0.4
R22A Saguache, Gunn 85.14 48 ⇓P **P** 15 42 25.1 +0.8
baz=85,SNR=5.8
N25A Grover 85.20 44 ⇓P **P** 15 42 24.8 +0.4
baz=85
J28A Allard Ranch, 85.20 41 ⇑P **P** 15 42 24.8 +0.6
baz=85
S22A 4UR Ranch, Cre 85.38 48 ⇓P **P** 15 42 26.1 +0.7
baz=85
DPC Dobruska-Polom 85.45 329 ⇓*i*P **P** 15 42 25.9 +0.6
DPC *e* 15 42 37.6
DPC Dobruska-Polom 85.45 329 ⇓*i*P **P** 15 42 25.9 +0.6
DPC *e*PCP **PcP** 15 42 27.8 -0.5
DPC *e*pP **pP** 15 42 37.6 +2.2
VYHS Vyhne 85.63 326 *e*P **P** 15 42 26.5 +0.4
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 85.63 326 *e*P **P** 15 42 26.5 +0.4
R23A Moffat 85.74 47 ⇓P **P** 15 42 28.3 +1.0
baz=86
T22A Edith 85.77 49 ⇓P **P** 15 42 27.4 0.0
baz=86
PVCC Panska Ves 86.09 330 *i* P **P** 15 42 29.1 +0.8
PVCC Panska Ves 86.09 330 ⇓*i*P **P** 15 42 29.1 +0.8
PVCC *e*PCP **PcP** 15 42 31.7 +0.7
BRG Berggiesshubel 86.10 330 *e*P **P** 15 42 29.1 +0.7
comp=Z,4.8nm,1.1s
BRG Berggiesshubel 86.10 330 *e*P **P** 15 42 29.1 +0.7
BRG pmax pmax
comp=Z,5.0nm,1.1s
N27A Anderson Farm, 86.12 44 ⇑P **P** 15 42 29.4 +0.5
baz=86
CLL Collm 86.17 331 ⇑*i*P **P** 15 42 28.8 +0.1
CLL *i* 15 42 40.9
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 86.17 331 ⇑*i*P **P** 15 42 28.8 +0.1
comp=Z,10.0nm,0.9s
CLL *i* PcP **PcP** 15 42 31.5 +0.2
CLL *i* pP **pP** 15 42 40.9 +2.0
R24A Sanders Place, 86.17 47 ⇓P **P** 15 42 30.0 +0.7
baz=86

X20A Quemado 86.20 51 ⇓P **P** 15 42 29.6 0.0
baz=86
SDCO Great Sand Dun 86.22 47 *e*P **P** 15 42 30.2 +0.6
comp=Z,3.1nm,1.0s
V22A San Miguel Ran 86.43 50 ⇑P **P** 15 42 29.9 -0.7
baz=86
S24A Houchin Ranch, 86.46 47 ⇓P **P** 15 42 31.1 +0.3
baz=86
PRU Pruhonice 86.50 329 *i* P **P** 15 42 31.0 +0.6
PRU Pruhonice 86.50 329 ⇓*i*P **P** 15 42 31.0 +0.6
Y20A Horse Springs, 86.65 52 ⇓P **P** 15 42 32.1 +0.4
baz=86
Q26A Hugo 86.72 46 ⇑P **P** 15 42 32.3 +0.4
baz=87
R25A Fountain Ranch 86.73 47 ⇓P **P** 15 42 32.4 +0.5
baz=87
NKC Novy Kostel 87.21 331 *e*P P 15 42 27.7 -6.2
T25A Trinidad 87.28 47 ⇓P **P** 15 42 35.4 +0.7
baz=87
CONA Conrad Observa 87.42 327 ⇑*i*PcP **P** 15 42 35.6 +0.6
comp=Z,5.5nm,1.5s
KHC Kasperske Hory 87.56 329 *e*P **P** 15 42 35.4 -0.2
KHC Kasperske Hory 87.56 329 ⇓*e*P **P** 15 42 35.4 -0.2
GERES GERESS Array B 87.72 329 P **P** 15 42 36.2 -0.2
GERES GERESS Array B 87.72 329 P **P** 15 42 36.2 -0.2
comp=Z,0.3nm,0.4s,baz=40,slow=5.2,SNR=3.8
FETA Feichten 90.40 329 ⇓*i*PcP **P** 15 42 49.0 -0.2
comp=Z,4.6nm,0.9s
SCIA State Center 90.58 38 P **P** 15 42 49.3 -0.7
CDF Champ du Feu 90.75 332 *e*P **P** 15 42 49.6 -1.1
427A Hayter Ranch, 91.85 52 ⇑P **P** 15 42 57.0 +0.8
baz=92
526A Mary Lane Ranc 91.87 53 ⇓P **P** 15 42 57.1 +0.8
baz=92
329A Wagon Wheel Ra 92.39 51 ⇓P **P** 15 42 59.4 +0.8
baz=92
TXAR Lajitas Array 92.61 53 P **P** 15 43 00.3 +0.6
TXAR Lajitas Array 92.61 53 P **P** 15 43 00.3 +0.6
comp=Z,3.4nm,0.8s,baz=302,slow=2.8,SNR=19
627A Terlingua Ranc 92.73 53 ⇑P **P** 15 43 00.7 +0.4
baz=93
Z32A Haskell 92.82 48 ⇑P **P** 15 43 01.0 +0.5
baz=93
330A Mertzon 92.97 50 ⇑P **P** 15 43 01.7 +0.5
baz=93
429A Davenport Ranc 92.99 51 ⇑P **P** 15 43 01.5 +0.1
baz=93
LOR Lormes 93.02 333 *e*P **P** 15 43 01.2 +0.1
529A Stev Forest Ra 93.09 52 ⇓P **P** 15 43 01.6 -0.2
baz=93
LPL La Plagne 93.29 331 *e*P **P** 15 43 02.0 -0.7
LPG La Plagne 93.30 331 *e*P **P** 15 43 02.2 -0.6
comp=Z,14nm,0.8s
SSF Saint Saulge 93.33 333 *e*P **P** 15 43 02.6 +0.1
comp=Z,11nm,0.9s
SMF Signal de Mont 93.54 333 *e*P **P** 15 43 02.7 -0.8
AVF Avril sur Loir 93.61 333 *e*P **P** 15 43 03.9 +0.1
comp=Z,13nm,0.9s
530A J-C Ranch, Com 93.67 51 ⇑P **P** 15 43 04.6 +0.1
baz=94
MBDF Montbardon 93.91 330 *e*P **P** 15 43 04.8 -0.7
comp=Z,4.1nm,0.5s
332A Millersview 93.91 49 ⇓P **P** 15 43 05.7 +0.1
baz=94
ORIF Oris-en-Rattie 94.13 331 *e*P **P** 15 43 05.6 -0.8
comp=Z,8.7nm,0.8s
531A Rocksprings 94.18 51 ⇓P **P** 15 43 07.0 +0.1
baz=94
432A Menard 94.21 50 ⇓P **P** 15 43 06.7 -0.2
baz=94
JCT Junction City 94.46 50 ⇑P **P** 15 43 07.5 -0.6
baz=94
TCF Toulx Ste Croi 94.46 334 *e*P **P** 15 43 08.0 +0.2
532A Rocksprings 94.62 50 ⇓P **P** 15 43 09.0 +0.1
baz=94
631A Perdido Creek 94.64 51 ⇓P **P** 15 43 08.8 -0.2
baz=94
632A Uvalde 95.11 51 ⇓P **P** 15 43 10.8 -0.2
baz=95
TORD Torodi Ar. Bea 121.69 314 PKP **PKPdf** 15 48 41.3 -0.8
TORD Torodi Ar. Bea 121.69 314 PKP **PKPdf** 15 48 41.3 -0.8
comp=Z,0.9nm,0.5s,baz=24,slow=1.5,SNR=16
SNAA Sanae 135.90 195 *e*P **PKPdf** 15 49 08.5 +1.1
SAML Samuel 147.10 52 *e*PKPdf **PKPdf** 15 49 29.4 +0.3
SAML *e*PKPbc **PKPbc** 15 49 31.0 -0.2
LPAZ La Paz 148.21 68 *e*PKPbc **PKPbc** 15 49 35.0 +0.1
LPAZ La Paz 148.21 68 PKPbc **PKPbc** 15 49 35.5 +0.6
comp=Z,6.2nm,0.7s,baz=321,slow=2.8,SNR=26
PLCA Paso Flores 151.98 118 PKPbc **PKPbc** 15 49 43.4 +0.7
PLCA Paso Flores 151.98 118 PKPbc **PKPbc** 15 49 43.4 +0.7
comp=Z,3.2nm,0.8s,baz=218,slow=3.4,SNR=5.6

*IDC **04** 15:33:02.7±2.3,5°.75N×127°.26E,h94km±21km,mb3.7/14, mb1 3.9/16,mb1mx3.7/27,mbtmp3.8/16,MS3.1/2, Ms1 3.1/2,ms1mx2.4/44,Error ellipse: s-maj=34.8km s-min=10.5km az=71.0*
*ISCJB **04** 15:33:03.8±0.5,5°.67N±0°.04×126°.81E±0°.06,h120km±6km, mb3.9/14,Error ellipse: s-maj=9.9km s-min=6.7km az=157.9*
*AUST **04** 15:33:04.0±0.0,5°.67N×126°.70E,h120km,Error ellipse: s-maj=2.1km s-min=1.3km az=228.0*
*MAN **04** 15:33:04,5°.53N×126°.67E,h91km,mb4.9,ML3.9,MS3.9*
ISC 04 15:33:04.6±0.9,5°.58N±0°.06×126°.75E±0°.07,h112km±9km, n39,σ1°.71/42,mb3.9/14,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.44**	**340**	*e*P	**Pn**	**15 33 30.4**	**-0.5**
MATI				*e*S	Sn	15 33 43.8	-7.0
GSPH	**General Santos**	**1.86**	**286**	⇑*i*P	Pn	15 33 32.2	-3.9
GSPH				*i* S	**Sn**	**15 33 54.9**	**-5.3**
DAV	**Davao City (W)**	**1.88**	**322**	P	**Pn**	**15 33 36.5**	**+0.3**
194nm,0.3s,baz=211,slow=2.4,SNR=19							
DAV				S	**Sn**	**15 34 03.3**	**+2.9**
171nm,0.3s,baz=106,slow=20,SNR=4.6							
DMPH	**Davao City--Mi**	**1.94**	**320**	⇑*e*P	**Pn**	**15 33 36.4**	**-0.5**
DMPH				*e*S	**Sn**	**15 34 01.1**	**-0.5**
KCP	**Kidapawan**	**2.18**	**311**	⇓*i*P	**Pn**	**15 33 38.8**	**-1.2**
KCP				*i* S	**Sn**	**15 34 05.4**	**-1.8**
BUKP	**Musuan**	**2.83**	**324**	*e*P	**Pn**	**15 33 49.0**	**+0.5**
CGP	**Cagayan de Oro**	**3.51**	**324**	*e*P	**Pn**	**15 33 57.7**	**+0.2**
CGP				*e*S	**Sn**	**15 34 42.8**	**+4.5**
BUTP	**Butuan**	**3.55**	**342**	*e*P	**Pn**	**15 33 59.5**	**+1.5**
PAGZ	**Pagadian**	**4.04**	**304**	*e*P	**Pn**	**15 34 04.6**	**+0.1**
LUWI	**Luwuk**	**7.69**	**211**	P	**Pn**	**15 34 56.4**	**+2.4**
baz=7.8,SNR=6.6							
SWI	**Sorong**	**7.83**	**145**	P	**Pn**	**15 34 56.8**	**+1.0**
baz=8.0,SNR=3.4							
PALU	**Palau**	**7.87**	**77**	S	**Sn**	**15 36 22.8**	**-1.0**
baz=7.9,SNR=6.5							
BATI	**Baumata**	**15.99**	**191**	P	**P**	**15 36 45.4**	**+0.9**
2.8nm,0.3s,baz=32,slow=2.5,SNR=4.2							
MTN	**Manton Dam**	**18.82**	**167**	S	**S**	**15 40 42.8**	**-1.1**
baz=19,SNR=6.1							
KDU	**Kakadu**	**19.02**	**163**	P	**P**	**15 37 18.7**	**+0.9**
baz=19,SNR=5.1							
KNRA	**Kununurra**	**21.22**	**175**	P	**P**	**15 37 42.0**	**+0.4**
baz=21,SNR=16							
FITZ	**Fitzroy Crossi**	**23.56**	**183**	P	**P**	**15 38 05.7**	**+0.6**
1.7nm,0.5s,baz=326,slow=11,SNR=18							
FITZ	**Fitzroy Crossi**	**23.56**	**183**	P	**P**	**15 38 06.0**	**+0.9**
baz=24,SNR=9.0							
WRA	**Warramunga Arr**	**26.44**	**164**	P	**P**	**15 38 31.4**	**+0.2**
2.3nm,0.6s,baz=344,slow=10,SNR=31							
ASAR	**Alice Springs**	**29.90**	**167**	P	**P**	**15 39 02.4**	**+0.4**
0.7nm,0.4s,baz=341,slow=6.9,SNR=50							
ASAR				PcP	**PcP**	**15 42 04.0**	**+1.7**
0.5nm,0.5s,baz=352,slow=2.3,SNR=5.8							
KSRS	**Korea Array**	**31.74**	**2**	LR	LR	15 52 19.7	
comp=Z,21nm,21.7s,baz=100,slow=37							
MEEK	**Meekatharra**	**32.99**	**193**	P	**P**	**15 39 28.8**	**-0.2**
baz=33,SNR=6.9							
MORW	**Morawa**	**35.96**	**196**	P	**P**	**15 39 54.4**	**-0.2**
baz=36,SNR=4.4							
BLDU	**Ballidu**	**37.26**	**194**	P	**P**	**15 40 05.4**	**-0.2**
baz=38,SNR=7.5							
BBOO	**Buckleboo**	**39.19**	**168**	P	**P**	**15 40 22.8**	**+1.0**
baz=40,SNR=7.8							
STKA	**Stephens Creek**	**39.85**	**160**	P	**P**	**15 40 27.1**	**-0.2**
2.5nm,0.7s,baz=352,slow=10,SNR=8.4							
STKA	**Stephens Creek**	**39.85**	**160**	P	**P**	**15 40 28.5**	**+1.2**
baz=40,SNR=4.0							
SONM	**Songino Array**	**45.56**	**341**	P	**P**	**15 41 12.4**	**-1.0**
0.7nm,0.5s,baz=156,slow=7.1,SNR=4.3							

PETK Petropavlovsk- 53.72 23 P **P** 15 42 13.8 -1.1
1.9nm,0.8s,baz=203,slow=4.4,SNR=5.9
MKAR Makanchi Array 56.06 325 P **P** 15 42 32.0 0.0
0.3nm,0.3s,baz=114,slow=7.3,SNR=9.1
ZALV Zalesovo Beam 58.96 333 P **P** 15 42 53.3 +1.2
0.6nm,0.4s,baz=131,slow=6.7,SNR=4.6
KURBB Kurchatov Arra 60.21 327 P **P** 15 43 01.4 +0.6
0.9nm,0.8s,baz=125,slow=6.1,SNR=5.6
BVAR Borovoye Array 65.79 327 P **P** 15 43 40.0 +2.3
0.8nm,0.5s,baz=137,slow=7.7,SNR=4.8
ILAR Eielson Array 83.43 26 P **P** 15 45 16.8 -2.6
0.5nm,0.5s,baz=267,slow=6.3,SNR=3.6
ARCES ARCESS Array B 88.73 340 P **P** 15 45 46.1 +0.9
0.7nm,0.4s,baz=81,slow=6.6,SNR=11
FINES FINESS Array B 90.22 332 P **P** 15 45 52.8 +0.5
0.8nm,0.7s,baz=82,slow=10.0,SNR=3.2
MLR Muntele Rosu 93.59 316 LR LR 16 31 20.4
comp=Z,17nm,21.4s,baz=38,slow=37
YKA Yellowknife Ar 97.81 24 P **P** 15 46 24.2 -2.9
1.2nm,0.9s,baz=312,slow=6.5,SNR=3.9
TORD Torodi Ar. Bea 122.35 289 PKP **PKPdf** 15 51 49.3 +1.7
0.4nm,0.7s,baz=53,slow=1.5,SNR=4.7

ROM 04 15:40:11.1±0.1,42°.34N×13°.40E,h10km±1km,Md1.4/5, Ml1.0/2,Error ellipse: s-maj=1.3km s-min=0.6km az=56.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.01**	**353**	Pg	Pg	15 40 13.3	+0.3
AQU				Sg	Sg	15 40 14.8	+0.5
121nm,0.2s							
FAGN	**Fagnano**	**0.15**	**119**	Pg	Pg	15 40 15.1	+0.5
FAGN				Sg	Sg	15 40 17.9	+0.9
85nm,0.3s							
CAMP	**Campotosto**	**0.20**	**1**	Pg	Pg	15 40 15.9	+0.5
CAMP				Sg	Sg	15 40 19.3	+0.9
16nm,0.8s							

*IDC **04** 15:50:58.0±1.6,34°.46N×25°.00E,h0km,mb3.7/2, mb1 3.7/3,mb1mx3.3/26,mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=50.3km s-min=29.2km az=140.0*
*ATH **04** 15:50:58.7,34°.53N×24°.82E,h7km,MD3.6/14*
*CSEM **04** 15:50:59.9±0.6,34°.60N×24°.84E,h0km±1km,MD3.6,Error ellipse: s-maj=11.5km s-min=4.6km az=6.0*
*THE **04** 15:51:01.2,34°.67N×24°.83E,h19km±2km,Error ellipse: s-maj=2.5km s-min=1.0km az=7.0*
ISC 04 15:50:58.4±1.7,34°.53N±0°.06×24°.84E±0°.02,h1km±11km, n41,σ0°.85/73,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.48**	**357**	P	**Pg**	**15 51 08.4**	**+0.7**
SIVA				S	**Sg**	**15 51 14.7**	**+0.7**
SIVA	**Sivas**	**0.48**	**357**	*e*PB	**Pg**	**15 51 08.5**	**+0.7**
SIVA				*e*SB	**Sg**	**15 51 14.8**	**+0.7**
SIVA	**Sivas**	**0.48**	**357**	P	**Pg**	**15 51 08.4**	**+0.7**
SIVA				S	**Sg**	**15 51 14.7**	**+0.7**
IDI	**Anoyia**	**0.75**	**3**	P	**Pg**	**15 51 12.5**	**-0.3**
IDI				S	**Sg**	**15 51 22.1**	**-0.6**
IDI	**Anoyia**	**0.75**	**3**	*e*PG	**Pg**	**15 51 12.6**	**-0.3**
IDI				*e*SB	**Sg**	**15 51 23.3**	**+0.6**
IDI	**Anoyia**	**0.75**	**3**	*e*Pg	**Pg**	**15 51 12.6**	**-0.3**
IDI				S	**Sg**	**15 51 22.1**	**-0.6**
IDI				*e*Sb	**Sg**	**15 51 23.3**	**+0.6**
LAST	**Lasithi**	**0.82**	**40**	P	**Pg**	**15 51 14.2**	**+0.1**
LAST				S	**Sg**	**15 51 25.6**	**+0.9**
LAST	**Lasithi**	**0.82**	**40**	*e*PB	**Pg**	**15 51 14.4**	**+0.3**
LAST				*e*SB	**Sb**	**15 51 26.2**	**-0.8**
LAST	**Lasithi**	**0.82**	**40**	P	**Pg**	**15 51 14.2**	**+0.1**
LAST				S	**Sg**	**15 51 25.6**	**+0.9**
LAST				*e*Sb	**Sb**	**15 51 26.2**	**-0.8**
NPS	**Neapolis**	**0.96**	**41**	P	**Pg**	**15 51 16.7**	**-0.2**
NPS				S	**Sg**	**15 51 29.8**	**+0.4**
NPS	**Neapolis**	**0.96**	**41**	*e*PG	**Pg**	**15 51 17.1**	**+0.2**
NPS				*e*SB	**Sg**	**15 51 29.9**	**+0.5**
NPS	**Neapolis**	**0.96**	**41**	P	**Pg**	**15 51 16.7**	**-0.2**
NPS	**Neapolis**	**0.96**	**41**	*e*Pg	**Pg**	**15 51 17.1**	**+0.2**
NPS				*e*Sb	**Sg**	**15 51 29.9**	**+0.5**
VAM	**Vamos**	**1.02**	**329**	P	**Pg**	**15 51 17.7**	**-0.2**
VAM				S	**Sg**	**15 51 30.3**	**-0.9**
VAM	**Vamos**	**1.02**	**329**	*e*PB	**Pg**	**15 51 17.8**	**-0.2**
VAM				*e*SB	**Sb**	**15 51 32.2**	**-0.5**
VAM	**Vamos**	**1.02**	**329**	P	**Pg**	**15 51 17.7**	**-0.2**
VAM				S	**Sg**	**15 51 30.3**	**-0.9**
VAM				*e*Sb	**Sb**	**15 51 32.2**	**-0.5**
KARN	**Karanos**	**1.15**	**319**	P	**Pg**	**15 51 20.1**	**-0.4**
KARN				S	**Sg**	**15 51 33.8**	**-1.7**
KARN	**Karanos**	**1.15**	**319**	*e*PB	**Pg**	**15 51 20.2**	**-0.3**
KARN				*e*SB	**Sg**	**15 51 36.1**	**+0.6**
KARN	**Karanos**	**1.15**	**319**	P	**Pg**	**15 51 20.1**	**-0.4**
KARN				S	**Sg**	**15 51 33.8**	**-1.7**
KARN				*e*Sb	**Sg**	**15 51 36.1**	**+0.6**
ZKR	**Zakros**	**1.27**	**62**	P	**Pg**	**15 51 22.7**	**-0.1**
ZKR				S	**Sg**	**15 51 38.1**	**-1.2**
ZKR	**Zakros**	**1.27**	**62**	*e*PG	**Pg**	**15 51 22.7**	**-0.1**
ZKR				*e*SB	**Sn**	**15 51 40.9**	**-0.1**
ZKR	**Zakros**	**1.27**	**62**	P	**Pg**	**15 51 22.7**	**-0.1**
ZKR				S	**Sg**	**15 51 38.1**	**-1.2**
ZKR				*e*Sb	**Sn**	**15 51 40.9**	**-0.1**
ANKY	**Antikythira Is**	**1.83**	**317**	*e*PG	**Pb**	**15 51 32.8**	**+0.1**
ANKY				*e*SN	**Sg**	**15 51 57.5**	**+0.1**
ANKY	**Antikythira Is**	**1.83**	**317**	*e*Pg	**Pb**	**15 51 32.8**	**+0.1**
ANKY				*e*Sn	**Sg**	**15 51 57.5**	**+0.1**
SANT	**Santorini**	**1.90**	**15**	*e*PN	**Pb**	**15 51 33.3**	**-0.6**
SANT				*e*SN	**Sg**	**15 51 59.3**	**-0.2**
SANT	**Santorini**	**1.90**	**15**	*e*Pn	**Pb**	**15 51 33.3**	**-0.6**
SANT				*e*Sn	**Sg**	**15 51 59.3**	**-0.2**
KARP	**Karpathos**	**2.15**	**61**	*e*PN	**Pb**	**15 51 37.8**	**-0.4**
KARP				*e*SN	**Sb**	**15 52 05.8**	**+0.3**
KARP	**Karpathos**	**2.15**	**61**	*e*Pn	**Pb**	**15 51 37.8**	**-0.4**
KARP				*e*Sn	**Sb**	**15 52 05.8**	**+0.3**
KYTH	**Kithira**	**2.28**	**320**	*e*PN	**Pn**	**15 51 38.7**	**+1.5**
KYTH	**Kithira**	**2.28**	**320**	*e*Pn	**Pn**	**15 51 38.7**	**+1.5**
APE	**Apeiranthos**	**2.59**	**12**	*e*PN	**Pb**	**15 51 44.0**	**-1.7**
APE	**Apeiranthos**	**2.59**	**12**	*e*Pn	**Pb**	**15 51 44.0**	**-1.7**
VLI	**Veliai**	**2.68**	**325**	*e*PB	**Pn**	**15 51 43.9**	**+1.3**
VLI	**Veliai**	**2.68**	**325**	*e*Pb	**Pn**	**15 51 43.9**	**+1.3**
DID	**Didima**	**3.24**	**337**	*e*PN	**Pn**	**15 51 52.0**	**+1.6**
DID	**Didima**	**3.24**	**337**	*e*Pn	**Pn**	**15 51 52.0**	**+1.6**
ITM	**Ithomi**	**3.55**	**319**	*e*PN	**Pn**	**15 51 56.6**	**+2.0**
ITM	**Ithomi**	**3.55**	**319**	*e*Pn	**Pn**	**15 51 56.6**	**+2.0**
GERES	**GERESS Array B**	**16.52**	**333**	Pn	**P**	**15 54 53.6**	**-0.4**
0.1nm,0.3s,baz=146,slow=13,SNR=3.0							
TORD	**Torodi Ar. Bea**	**29.89**	**230**	P	**P**	**15 57 08.0**	**+0.3**
0.2nm,0.3s,baz=30,slow=8.8,SNR=6.2							
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**15 59 09.2**	**-0.9**
0.9nm,0.6s,baz=269,slow=7.3,SNR=9.9							

IDC 04 16:04:36.6±4.0,32°.54N×140°.68E,h0km,mb3.3/4, mb1 3.4/5,mb1mx3.2/24,mbtmp3.2/5,ML2.6/1,Error ellipse: s-maj=154.0km s-min=23.5km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.48**	**334**	Pn	Pn	16 05 45.2	-0.7
0.3nm,0.3s,baz=155,slow=11,SNR=4.9							
SONM	**Songino Array**	**30.03**	**311**	P	P	16 10 48.0	+0.8
0.1nm,0.3s,baz=97,slow=7.4,SNR=2.6							
MKAR	**Makanchi Array**	**46.12**	**306**	P	P	16 13 02.0	-0.7
0.3nm,0.7s,baz=84,slow=8.5,SNR=2.9							
WRA	**Warramunga Arr**	**52.54**	**188**	P	P	16 13 51.8	-0.1
0.3nm,0.4s,baz=6.1,slow=7.5,SNR=12							
ASAR	**Alice Springs**	**56.27**	**187**	P	P	16 14 18.9	-0.1
0.3nm,1.0s,baz=0.6,slow=7.1,SNR=4.3							

*CSEM **04** 16:17:16.3±0.1,37°.13N×15°.76E,h20km,ML3.7,Error ellipse: s-maj=3.2km s-min=1.8km az=5.0*
*ROM **04** 16:17:16.3±0.1,37°.12N×15°.71E,h22km±1km,Ml3.7/38, Error ellipse: s-maj=2.4km s-min=1.0km az=138.0*
*PDG **04** 16:17:19.7±0.3,37°.45N×16°.11E,h23km±3km,ML4.4/10, Error ellipse: s-maj=3.8km s-min=3.3km az=90.0*
*THE **04** 16:17:20.0,37°.31N×16°.31E,h

n280,σ1§34/350,14C-5D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGST	Augusta-Monte	0.45	289	Pg	Pb	16 17 25.4	+0.1
AGST				Sg	Sb	16 17 31.0	-0.8
	7μm,0.3s						
AGST	Augusta-Monte	0.45	289	Pg	Pb	16 17 25.4	+0.1
AGST				Sg	Sb	16 17 31.0	-0.8
	7μm,0.3s						
HAVL	Avola	0.53	253	Pg	Pb	16 17 26.8	+0.1
HAVL				Sg	Sb	16 17 34.1	0.0
	7μm,0.3s						
HAVL	Avola	0.53	253	Pg	Pb	16 17 26.8	+0.1
HAVL				Sg	Sb	16 17 34.1	0.0
	7μm,0.3s						
SSY	Sortino	0.55	275	Pg	Pb	16 17 26.9	-0.1
SSY				Sg	Sb	16 17 34.0	-0.7
	15μm,0.2s						
SSY	Sortino	0.55	275	Pg	Pb	16 17 26.9	-0.1
SSY				Sg	Sb	16 17 34.0	-0.7
	15μm,0.2s						
HCRL	Carlentini	0.60	287	Pg	Pb	16 17 27.9	0.0
HCRL				Sg	Sb	16 17 35.7	-0.4
	11μm,0.3s						
HCRL	Carlentini	0.60	287	Pg	Pb	16 17 27.9	0.0
HCRL				Sg	Sb	16 17 35.7	-0.4
	11μm,0.3s						
HMDC	Modica	0.80	259	Pg	Pb	16 17 30.7	-0.4
HMDC				Sg	Sb	16 17 40.8	-0.8
	3μm,0.3s						
HMDC	Modica	0.80	259	Pg	Pb	16 17 30.7	-0.4
HMDC				Sg	Sb	16 17 40.8	-0.8
	3μm,0.3s						
HVZN	Vizzini	0.84	275	Pg	Pb	16 17 31.3	-0.5
HVZN				Sg	Sb	16 17 42.0	-0.7
	15μm,0.4s						
HVZN	Vizzini	0.84	275	Pg	Pb	16 17 31.3	-0.5
HVZN				Sg	Sb	16 17 42.0	-0.7
	15μm,0.4s						
ESLN	Serra La Nave	0.85	313	Pg	Pn	16 17 32.2	+0.1
	3μm,0.4s						
ESLN	Serra La Nave	0.85	313	Pg	Pn	16 17 32.2	+0.1
	3μm,0.4s						
MPAZ	Palizzi	0.86	13	Pg	Pn	16 17 33.3	+1.2
MPAZ				Sg	Sn	16 17 45.1	+1.3
	3μm,0.2s						
MPAZ	Palizzi	0.86	13	Pg	Pn	16 17 33.3	+1.2
MPAZ				Sg	Sn	16 17 45.1	+1.3
	3μm,0.2s						
MTTG	Motta San Giov	0.89	357	Pg	Pn	16 17 33.4	+0.9
MTTG				Sg	Sn	16 17 45.6	+1.2
	855nm,0.7s						
MTTG	Motta San Giov	0.89	357	Pg	Pn	16 17 33.4	+0.9
MTTG				Sg	Sn	16 17 45.6	+1.2
	855nm,0.7s						
MMME	Mongiuffi-Meli	0.91	334	Pg	Pn	16 17 33.3	+0.5
	861nm,0.4s						
MMME	Mongiuffi-Meli	0.91	334	Pg	Pn	16 17 33.3	+0.5
	861nm,0.4s						
ECNV	Catenanuova	0.96	300	Pg	Pn	16 17 34.3	+0.8
	3μm,0.8s						
ECNV	Catenanuova	0.96	300	Pg	Pn	16 17 34.3	+0.8
	3μm,0.8s						
SOI	Samo	0.99	14	Pg	Pn	16 17 35.1	+1.3
SOI				Sg	Sn	16 17 48.0	+1.2
	2μm,0.6s						
SOI	Samo	0.99	14	Pg	Pn	16 17 35.1	+1.3
SOI				Sg	Sn	16 17 48.0	+1.2
	2μm,0.6s						
MSCL	Scilla	1.12	1	Pg	Pb	16 17 36.7	+0.1
MSCL	Scilla	1.12	1	Pg	Pb	16 17 36.7	+0.1
RAFF	Raffo Rosso	1.12	276	Pg	Pb	16 17 36.3	-0.3
RAFF				Sg	Sn	16 17 50.8	+0.7
	2μm,0.5s						
RAFF	Raffo Rosso	1.12	276	Pg	Pb	16 17 36.3	-0.3
RAFF				Sg	Sn	16 17 50.8	+0.7
	2μm,0.5s						
GALF	Gagliano Caste	1.12	303	Pg	Pb	16 17 36.8	+0.2
	1μm,0.7s						
GALF	Gagliano Caste	1.12	303	Pg	Pb	16 17 36.8	+0.2
	1μm,0.7s						
CEL	Celeste	1.15	5	Pg	Pb	16 17 37.2	+0.1
CEL				Sg	Sn	16 17 53.2	+2.3
	1μm,0.8s						
CEL	Celeste	1.15	5	Pg	Pb	16 17 37.2	+0.1
CEL				Sg	Sn	16 17 53.2	+2.3
	1μm,0.8s						
MSRU	Castanea	1.17	350	Pg	Pb	16 17 37.3	0.0
	1μm,0.4s						
MSRU	Castanea	1.17	350	Pg	Pb	16 17 37.3	0.0
	1μm,0.4s						
MNO	Monte Soro	1.18	314	Pg	Pb	16 17 38.1	+0.4
	934nm,0.5s						
MNO	Monte Soro	1.18	314	Pg	Pb	16 17 38.1	+0.4
	934nm,0.5s						
VPL	Vulcano Piano	1.41	334	Pn	Pb	16 17 41.0	-0.4
VPL				Sn	Sb	16 17 59.7	+0.7
VPL	Vulcano Piano	1.41	334	Pn	Pb	16 17 41.0	-0.4
VPL				Sn	Sb	16 17 59.7	+0.7
PLAC	Placanica	1.44	22	Pn	Pb	16 17 42.2	+0.2
	736nm,0.5s						
PLAC	Placanica	1.44	22	Pn	Pb	16 17 42.2	+0.2
	736nm,0.5s						
LLI	Lipari	1.48	334	Pn	Pb	16 17 42.6	0.0
	3μm,0.7s						
LLI	Lipari	1.48	334	Pn	Pb	16 17 42.6	0.0
	3μm,0.7s						
JOPP	Joppolo	1.50	4	Pn	Pb	16 17 42.4	-0.5
	495nm,0.4s						
JOPP	Joppolo	1.50	4	Pn	Pb	16 17 42.4	-0.5
	495nm,0.4s						
PLLN	Pollina	1.56	305	Pn	Pb	16 17 43.3	-0.7
	1μm,0.7s						
PLLN	Pollina	1.56	305	Pn	Pb	16 17 43.3	-0.7
	1μm,0.7s						
CSLB	Castelbuono	1.58	302	Pg	Pb	16 17 43.9	-0.5
CSLB	Castelbuono	1.58	302	Pg	Pb	16 17 43.9	-0.5
WDD	Wield Dalam	1.59	219	Pn	Pn	16 17 43.2	+1.1
	810nm,0.2s						
WDD	Wield Dalam	1.59	219	Pn	Pn	16 17 43.2	+1.1
	810nm,0.2s						
GIB	Gibilmanna	1.63	303	Pn	Pb	16 17 44.7	-0.6
	2μm,1.0s						
GIB	Gibilmanna	1.63	303	Pn	Pb	16 17 44.7	-0.6
	2μm,1.0s						
STR4	STROMBOLI 4	1.71	346	Pg	Pn	16 17 44.5	+0.8
ALJA	Alia	1.72	292	Pg	Pb	16 17 46.5	-0.2
	539nm,0.7s						
ALJA	Alia	1.72	292	Pg	Pb	16 17 46.5	-0.2
	539nm,0.7s						
IACL	Alicudi	1.80	322	Pn	Pn	16 17 45.8	+0.8
	451nm,0.6s						
IACL	Alicudi	1.80	322	Pn	Pn	16 17 45.8	+0.8
	451nm,0.6s						
SERS	Sersale	2.06	21	Pg	Pn	16 17 51.1	+2.5
	217nm,0.7s						
SERS	Sersale	2.06	21	Pg	Pn	16 17 51.1	+2.5
	217nm,0.7s						
CORL	Corleone	2.10	293	Pg	Pb	16 17 51.5	-1.8
CORL	Corleone	2.10	293	Pg	Pb	16 17 51.5	-1.8
CARO	Carolei	2.17	9	Pg	Pn	16 17 51.7	+1.6
	684nm,0.7s						
CARO	Carolei	2.17	9	Pg	Pn	16 17 51.7	+1.6
	684nm,0.7s						
TIP	Timpagrande	2.21	21	P	Pn	16 17 52.8	+2.2
TIP				S	Sn	16 18 19.3	+2.3
TIP	Timpagrande	2.21	21	Pn	Pn	16 17 52.9	+2.3
	169nm,0.5s						
TIP	Timpagrande	2.21	21	P	Pn	16 17 52.8	+2.2
TIP				S	Sn	16 18 19.3	+2.3
MMGO	Monte Magaggia	2.28	285	Pg	Pn	16 17 52.5	+0.9
	29nm,0.2s						
MMGO	Monte Magaggia	2.28	285	Pg	Pn	16 17 52.5	+0.9
	29nm,0.2s						
USI	Ustica	2.59	309	Pg	Pn	16 17 56.1	+0.3
	519nm,1.0s						
USI	Ustica	2.59	309	Pg	Pn	16 17 56.1	+0.3
	519nm,1.0s						
CUC	Castrocucco	2.88	1	Pg	Pn	16 18 01.4	+1.6
	100nm,0.4s						
CUC	Castrocucco	2.88	1	Pg	Pn	16 18 01.4	+1.6
	100nm,0.4s						
BULG	Bulgheria - Ca	2.98	354	Pg	Pn	16 18 02.2	+1.0
	132nm,0.3s						
BULG	Bulgheria - Ca	2.98	354	Pg	Pn	16 18 02.2	+1.0
	132nm,0.3s						
MGR	Morigerati	3.02	357	Pg	Pn	16 18 03.0	+1.2
	75nm,0.4s						
MGR	Morigerati	3.02	357	Pg	Pn	16 18 03.0	+1.2
	75nm,0.4s						
SIRI	Monte Sirino -	3.07	2	Pg	Pn	16 18 03.7	+1.3
	85nm,0.6s						
SIRI	Monte Sirino -	3.07	2	Pg	Pn	16 18 03.7	+1.3
	85nm,0.6s						
MTSN	Montesano sull	3.15	360	Pg	Pn	16 18 05.1	+1.5
	114nm,0.8s						
MTSN	Montesano sull	3.15	360	Pg	Pn	16 18 05.1	+1.5
	114nm,0.8s						
CMPR	Campora	3.22	354	Pg	Pn	16 18 05.9	+1.4
	73nm,0.4s						
CMPR	Campora	3.22	354	Pg	Pn	16 18 05.9	+1.4
	73nm,0.4s						
CDRU	Civita di Ruta	3.39	354	Pg	Pn	16 18 08.4	+1.5
	41nm,0.5s						
CDRU	Civita di Ruta	3.39	354	Pg	Pn	16 18 08.4	+1.5
	41nm,0.5s						
MIGL	Miglionico	3.53	8	Pg	Pn	16 18 11.0	+2.3
MIGL	Miglionico	3.53	8	Pg	Pn	16 18 11.0	+2.3
MATE	Matera	3.61	12	Pg	Pn	16 18 10.6	+0.8
	101nm,0.2s						
MATE	Matera	3.61	12	Pg	Pn	16 18 10.6	+0.8
	101nm,0.2s						
SCTE	Santa Cesarea	3.64	35	Pg	Pn	16 18 10.7	+0.5
SCTE	Santa Cesarea	3.64	35	Pg	Pn	16 18 10.7	+0.5
ACER	Acerenza	3.67	2	Pg	Pn	16 18 13.4	+2.7
ACER	Acerenza	3.67	2	Pg	Pn	16 18 13.4	+2.7
NOCI	Noci	3.81	15	Pg	Pn	16 18 12.8	+0.2
	399nm,0.2s						
NOCI	Noci	3.81	15	Pg	Pn	16 18 12.8	+0.2
	399nm,0.2s						
MESG	Mesagne	3.84	25	Pg	Pn	16 18 12.8	-0.1
MESG	Mesagne	3.84	25	Pg	Pn	16 18 12.8	-0.1
AMUR	Altamura	3.85	10	Pg	Pn	16 18 13.9	+0.8
	149nm,0.3s						
AMUR	Altamura	3.85	10	Pg	Pn	16 18 13.9	+0.8
	149nm,0.3s						
MRVN	Minervino Murg	3.96	5	Pg	Pn	16 18 15.9	+1.3
MRVN	Minervino Murg	3.96	5	Pg	Pn	16 18 15.9	+1.3
VLS	Valsamata	3.98	73	P	Pn	16 18 15.5	+0.6
VLS				S	Sn	16 18 59.2	-1.4
VLS	Valsamata	3.98	73	eP	Pn	16 18 15.5	+0.6
VLS	Valsamata	3.98	73	P	Pn	16 18 15.5	+0.6
VLS				S	Sn	16 18 59.2	-1.4
BAI	Bari	4.08	12	ePn	Pn	16 18 17.3	+1.0
KEK	Kerkira	4.10	49	P	Pn	16 18 16.1	-0.5
KEK				S	Sn	16 19 01.9	-1.7
KEK	Kerkira	4.10	49	Pg	Pn	16 18 16.3	-0.3
	183nm,0.2s						
KEK	Kerkira	4.10	49	eP	Pn	16 18 16.3	-0.3
KEK	Kerkira	4.10	49	Pg	Pn	16 18 16.3	-0.3
	183nm,0.2s						
KEK				S	Sn	16 19 01.9	-1.7
KFL	Anninata	4.12	74	P	Pn	16 18 17.6	+0.8
KFL				S	Sn	16 19 02.1	-1.9
KFL	Anninata	4.12	74	P	Pn	16 18 17.6	+0.8
KFL				S	Sn	16 19 02.1	-1.9
LKD2	Lefkada island	4.22	65	P	Pn	16 18 18.9	+0.7
LKD2				S	Sn	16 19 04.8	-1.7
LKD2	Lefkada island	4.22	65	eP	Pn	16 18 19.0	+0.7
LKD2	Lefkada island	4.22	65	P	Pn	16 18 18.9	+0.7
LKD2				S	Sn	16 19 04.8	-1.7
SRN	Sarande	4.33	49	P	Pn	16 18 20.2	+0.6
SRN				S	Sn	16 19 07.7	-1.4
SRN	Sarande	4.33	49	P	Pn	16 18 20.2	+0.6
SRN				S	Sn	16 19 07.7	-1.4
IGT	Igoumenitsa	4.33	55	P	Pn	16 18 20.1	+0.3
IGT				S	Sn	16 19 07.6	-1.7
IGT	Igoumenitsa	4.33	55	P	Pn	16 18 20.1	+0.3
IGT				S	Sn	16 19 07.6	-1.7
AXS	Araxos	4.59	75	P	Pn	16 18 23.8	+0.6
AXS				S	Sn	16 19 13.9	-1.7
AXS	Araxos	4.59	75	P	Pn	16 18 23.8	+0.6
AXS				S	Sn	16 19 13.9	-1.7
RLS	Riolos of Patr	4.63	77	P	Pn	16 18 25.1	+1.3
RLS	Riolos of Patr	4.63	77	eP	Pn	16 18 25.9	+2.1
RLS	Riolos of Patr	4.63	77	P	Pn	16 18 25.1	+1.3
JAN	Janina	4.74	56	P	Pn	16 18 25.9	+0.5
JAN				S	Sn	16 19 17.9	-1.5
JAN	Janina	4.74	56	eP	Pn	16 18 25.6	+0.2
JAN	Janina	4.74	56	P	Pn	16 18 25.9	+0.5
JAN				S	Sn	16 19 17.9	-1.5
AMT	Artemida-Makis	4.76	83	P	Pn	16 18 27.3	+1.6
AMT				S	Sn	16 19 19.0	-0.9
AMT	Artemida-Makis	4.76	83	eP	Pn	16 18 27.3	+1.8
AMT	Artemida-Makis	4.76	83	P	Pn	16 18 27.3	+1.6
AMT				S	Sn	16 19 19.0	-0.9
PYL	PYLOS	4.79	91	P	Pn	16 18 27.4	+1.3
PYL				S	Sn	16 19 21.1	+0.4
PYL	PYLOS	4.79	91	eP	Pn	16 18 27.5	+1.3
PYL	PYLOS	4.79	91	P	Pn	16 18 27.4	+1.3
PYL				S	Sn	16 19 21.1	+0.4
ITM	Ithomi	4.93	87	P	Pn	16 18 29.8	+1.8
ITM				S	Sn	16 19 23.5	-0.5
ITM	Ithomi	4.93	87	eP	Pn	16 18 30.0	+2.0
ITM	Ithomi	4.93	87	P	Pn	16 18 29.8	+1.8
ITM				S	Sn	16 19 23.5	-0.5
EFP	Efpalio	5.04	73	P	Pn	16 18 31.2	+1.7
EFP	Efpalio	5.04	73	eP	Pn	16 18 30.7	+1.2
EFP	Efpalio	5.04	73	P	Pn	16 18 31.2	+1.7
LAKA	Lakka	5.06	75	P	Pn	16 18 31.6	+1.8
LAKA				S	Sn	16 19 25.4	-1.9
LAKA	Lakka	5.06	75	eP	Pn	16 18 31.7	+1.9
LAKA	Lakka	5.06	75	P	Pn	16 18 31.6	+1.8
LAKA				S	Sn	16 19 25.4	-1.9
EVR	Evrytania	5.11	68	eP	Pn	16 18 32.8	+2.3
TRIZ	Trizonia	5.16	74	eP	Pn	16 18 32.6	+1.5
KLV	Kalavryta, Ach	5.16	78	P	Pn	16 18 32.9	+1.7
KLV				S	Sn	16 19 29.3	-0.5
KLV	Kalavryta, Ach	5.16	78	eP	Pn	16 18 33.1	+1.9
KLV	Kalavryta, Ach	5.16	78	P	Pn	16 18 32.9	+1.7
KLV				S	Sn	16 19 29.3	-0.5
KALE	Kalithea	5.21	74	P	Pn	16 18 33.6	+1.7
KALE				S	Sn	16 19 29.3	-1.9
KALE	Kalithea	5.21	74	eP	Pn	16 18 34.5	+2.6
KALE	Kalithea	5.21	74	P	Pn	16 18 33.6	+1.7
KALE				S	Sn	16 19 29.3	-1.9
DYR	Agios Nikonas	5.28	92	P	Pn	16 18 34.1	+1.3
DYR	Agios Nikonas	5.28	92	eP	Pn	16 18 34.3	+1.5
DYR	Agios Nikonas	5.28	92	P	Pn	16 18 34.1	+1.3
VLX	Vlachokerasia	5.29	85	P	Pn	16 18 34.7	+1.7
VLX	Vlachokerasia	5.29	85	eP	Pn	16 18 35.2	+2.2
VLX	Vlachokerasia	5.29	85	P	Pn	16 18 34.7	+1.7
GUR	Goura	5.30	79	P	Pn	16 18 35.3	+2.2
GUR	Goura	5.30	79	eP	Pn	16 18 35.3	+2.2
GUR	Goura	5.30	79	P	Pn	16 18 35.3	+2.2
MAKR	Makrakomi, Fth	5.38	67	P	Pn	16 18 37.1	+3.0
MAKR	Makrakomi, Fth	5.38	67	P	Pn	16 18 37.1	+3.0
THL	Klokotos Trika	5.49	62	P	Pn	16 18 37.6	+1.9
THL				S	Sn	16 19 37.2	-0.7
THL	Klokotos Trika	5.49	62	eP	Pn	16 18 37.7	+2.0
THL	Klokotos Trika	5.49	62	P	Pn	16 18 37.6	+1.9
THL				S	Sn	16 19 37.2	-0.7
DSF	Desfina	5.52	74	P	Pn	16 18 37.3	+1.2
DSF				S	Sn	16 19 38.0	-0.6
DSF	Desfina	5.52	74	P	Pn	16 18 37.3	+1.2
DSF				S	Sn	16 19 38.0	-0.6
AGG	Agios Georgios	5.52	68	P	Pn	16 18 38.4	+2.2
AGG				S	Sn	16 19 37.6	-1.1
AGG	Agios Georgios	5.52	68	eP	Pn	16 18 38.6	+2.4
AGG	Agios Georgios	5.52	68	P	Pn	16 18 38.4	+2.2
ULC	Ulcinj	5.54	28	⇑iPn	Pn	16 18 36.8	+0.4
ULC				eSn	Sn	16 19 34.3	-4.9
ULC	Ulcinj	5.54	28	⇑iPn	Pn	16 18 36.8	+0.4
VSL	Villasalto	5.55	297	Pg	Pn	16 18 37.5	+1.0
	23nm,0.9s						
VSL	Villasalto	5.55	297	Pg	Pn	16 18 37.5	+1.0
	23nm,0.9s						
THAL	Thalero	5.56	78	P	Pn	16 18 38.5	+1.9
THAL				S	Sn	16 19 39.4	-0.2
THAL	Thalero	5.56	78	P	Pn	16 18 38.5	+1.9
THAL				S	Sn	16 19 39.4	-0.2
FNA	Florina	5.71	48	P	Pn	16 18 40.0	+1.3
FNA				S	Sn	16 19 42.3	-1.0
FNA	Florina	5.71	48	eP	Pn	16 18 40.1	+1.3
FNA	Florina	5.71	48	P	Pn	16 18 40.0	+1.3
DRME	Dracevica, Mon	5.71	26	ePn	Pn	16 18 38.4	-0.3
DRME				eSn	Sn	16 19 37.5	-5.9
DRME	Dracevica, Mon	5.71	26	ePn	Pn	16 18 38.4	-0.3
BUM	Brajici-Budva	5.72	24	⇓iPn	Pn	16 18 39.0	+0.2
BUM				eSn	Sn	16 19 38.6	-4.9
BUM	Brajici-Budva	5.72	24	⇓iPn	Pn	16 18 39.0	+0.2
HCY	Herceg Novi	5.73	21	⇓iPn	Pn	16 18 38.5	-0.4
HCY				eSn	Sn	16 19 39.0	-4.7
HCY	Herceg Novi	5.73	21	⇓iPn	Pn	16 18 38.5	-0.4
VLI	Veliai	5.76	92	P	Pn	16 18 41.4	+2.0
VLI				S	Sn	16 19 45.2	+0.6
VLI	Veliai	5.76	92	eP	Pn	16 18 41.8	+2.4
VLI	Veliai	5.76	92	P	Pn	16 18 41.4	+2.0
VLI				S	Sn	16 19 45.2	+0.6
LTK	Loutraki	5.80	79	P	Pn	16 18 41.2	+1.3
LTK				S	Sn	16 19 45.4	-0.1
LTK	Loutraki	5.80	79	eP	Pn	16 18 41.2	+1.3
LTK	Loutraki	5.80	79	P	Pn	16 18 41.2	+1.3
LTK				S	Sn	16 19 45.4	-0.1
KYTH	Kithira	5.91	96	P	Pn	16 18 43.4	+2.0
KYTH	Kithira	5.91	96	eP	Pn	16 18 43.3	+1.9
KYTH	Kithira	5.91	96	P	Pn	16 18 43.4	+2.0
LKR	Lokris	5.93	73	eP	Pn	16 18 43.4	+1.7
STON	Ston	5.94	14	ePn	Pn	16 18 41.4	-0.4
STON				Sn	Sn	16 19 42.2	-6.7
DIDY	Didyma	5.95	84	P	Pn	16 18 43.7	+1.6
DIDY				S	Sn	16 19 49.4	0.0
DIDY	Didyma	5.95	84	P	Pn	16 18 43.7	+1.6
DIDY				S	Sn	16 19 49.4	0.0
PDG	Podgorica	5.95	26	⇑iPn	Pn	16 18 42.6	+0.6
TTG	Podgorica	5.95	26	⇑iPn	Pn	16 18 42.6	+0.6
TTG				eSn	Sn	16 19 44.6	-0.6
DID	Didima	5.97	84	P	Pn	16 18 43.5	+1.2
DID				S	Sn	16 19 49.2	-0.6
DID	Didima	5.97	84	eP	Pn	16 18 43.7	+1.4
DID	Didima	5.97	84	P	Pn	16 18 43.5	+1.2
DID				S	Sn	16 19 49.2	-0.6
LIT	Litokhoron	6.06	58	eP	Pn	16 18 43.0	-0.5
SMIA	Simia	6.14	71	P	Pn	16 18 46.5	+1.9
SMIA	Simia	6.14	71	P	Pn	16 18 46.5	+1.9
NKME	Niksic	6.16	22	⇑iPn	Pn	16 18 44.4	-0.5
NKME				eSn	Sn	16 19 49.9	-4.4
NKME	Niksic	6.16	22	⇑iPn	Pn	16 18 44.4	-0.5
BRY	Bratogost	6.16	19	ePn	Pn	16 18 44.6	-0.4
BRY				eSn	Sn	16 19 49.1	-5.5
BRY	Bratogost	6.16	19	ePn	Pn	16 18 44.6	-0.4
ANKY	Antikythira Is	6.20	99	P	Pn	16 18 47.6	+2.2
ANKY	Antikythira Is	6.20	99	eP	Pn	16 18 47.9	+2.5
ANKY	Antikythira Is	6.20	99	P	Pn	16 18 47.6	+2.2
NKY	Niksic	6.21	23	⇑iPn	Pn	16 18 45.9	+0.2
NKY				eSn	Sn	16 19 50.8	-4.9
NKY	Niksic	6.21	23	⇑iPn	Pn	16 18 45.9	+0.2
XOR	Xorichti	6.27	67	P	Pn	16 18 47.2	+0.8
XOR	Xorichti	6.27	67	P	Pn	16 18 47.2	+0.8
NEO	Neokhori	6.27	67	eP	Pn	16 18 47.5	+1.1
PVY	Plav	6.36	29	⇑iPn	Pn	16 18 48.0	+0.3
PVY				eSn	Sn	16 19 53.6	-5.7
PVY	Plav	6.36	29	⇑iPn	Pn	16 18 48.0	+0.3
MRKA	Markates	6.39	73	P	Pn	16 18 49.0	+0.9
MRKA				S	Sn	16 19 58.6	-1.5
MRKA	Markates	6.39	73	P	Pn	16 18 49.0	+0.9
SKIA	Skiathos	6.41	69	P	Pn	16 18 49.4	+1.1
SKIA	Skiathos	6.41	69	P	Pn	16 18 49.4	+1.1
ATHU	Athens Univers	6.43	80	P	Pn	16 18 49.6	+1.0
ATHU	Athens Univers	6.43	80	P	Pn	16 18 49.6	+1.0
GRG	Griva	6.44	51	P	Pn	16 18 49.1	+0.4
GRG	Griva	6.44	51	eP	Pn	16 18 48.8	+0.1
GRG	Griva	6.44	51	P	Pn	16 18 49.1	+0.4
PTL	Penteli	6.50	79	eP	Pn	16 18 47.9	-1.7
ERET	Eretria	6.51	76	P	Pn	16 18 51.1	+1.3
ERET				S	Sn	16 20 02.1	-1.0
ERET	Eretria	6.51	76	P	Pn	16 18 51.1	+1.3
UPM	Unac-Piva	6.54	21	⇑iPn	Pn	16 18 51.2	+0.9
UPM				eSn	Sn	16 19 58.5	-5.5
UPM	Unac-Piva	6.54	21	⇑iPn	Pn	16 18 51.2	+0.9
BEY	Berane	6.57	28	ePn	Pn	16 18 50.8	+0.3
IVA	Berane	6.57	28	ePn	Pn	16 18 50.8	+0.3
IVA				eSn	Sn	16 19 58.9	-5.6
HORT	Hortiatis	6.70	56	P	Pn	16 18 52.5	+0.1
HORT	Hortiatis	6.70	56	P	Pn	16 18 52.5	+0.1
AOS	Alonnisos	6.72	70	P	Pn	16 18 53.3	+0.7
AOS	Alonnisos	6.72	70	eP	Pn	16 18 53.5	+0.9
AOS	Alonnisos	6.72	70	P	Pn	16 18 53.3	+0.7
PLE	Pljevlja	6.80	23	⇑iPn	Pn	16 18 54.9	+1.1
PLE				eSn	Sn	16 20 05.3	-5.0
PLE	Pljevlja	6.80	23	⇑iPn	Pn	16 18 54.9	+1.1
KARN	Karanos	6.81	102	P	Pn	16 18 55.5	+1.7
KARN	Karanos	6.81	102	P	Pn	16 18 55.5	+1.7
PAIG	Paliouri	6.82	63	P	Pn	16 18 54.2	+0.3
PAIG	Paliouri	6.82	63	eP	Pn	16 18 54.1	+0.2
PAIG	Paliouri	6.82	63	P	Pn	16 18 54.2	+0.3
PLG	Polygyros	6.83	59	eP	Pn	16 18 53.2	-0.9
KNT	Kendrikon	6.87	52	P	Pn	16 18 55.2	+0.7
KNT	Kendrikon	6.87	52	P	Pn	16 18 55.2	+0.7
SJES	Sjenica	6.94	26	ePn	Pn	16 18 57.1	+1.5
SJES	Sjenica	6.94	26	ePn	Pn	16 18 57.1	+1.5
OUR	Ouranopolis	7

Tensor Solution. s67,c117; s99,c192; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s169.00000°,δ87.00000°,λ-150.00000°. NP2: ϕ_s77.00000°,δ60.00000°,λ-4.00000°. Principal axes: T 1.0600, Plg19.0000°, Azm299.0000°; N -0.0200, Plg60.0000°, Azm174.0000°; P -1.0400, Plg23.0000°, Azm37.0000°; Data Used: IU II IC G CN. Surface waves from 103 sta.

ISC 04 16:20:39.7±0.3,50°.76N±0°.03×96°.80E±0°.02,h13km±1km, h12km:pP-P,n918,σ1§43/951,mb5.1/277,MS5.0/107, 170C-137D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**1.75**	**303**	*e*PN	**Pb**	**16 21 11.6**	**-0.1**
KZLR	**Kyzyl**	**1.75**	**303**	*e*Pg	**Pb**	**16 21 11.6**	**-0.1**
HVS	**Khovu-Aksy**	**2.00**	**282**	*c i*PN	**Pb**	**16 21 14.6**	**-1.3**
MOY	**Mondy**	**2.79**	**69**	*e*PN	**Pn**	**16 21 24.6**	**+0.5**
MOY				*e*S	**Sb**	**16 22 05.5**	**+2.1**
MOY				smax	smax		
	comp=N,8μm,1.5s						
ARS	**Arshan**	**3.71**	**70**	*e*PN	**Pn**	**16 21 37.1**	**+0.4**
ARS				*e*		16 21 44.7	
ARS				*e*		16 22 33.3	
ARS				pmax	pmax		
	comp=Z,4μm,0.3s						
ARS				smax	smax		
	comp=N,8μm,0.9s						
CERR	**Cheremushki**	**3.94**	**304**	*e*PN	**Pn**	**16 21 41.9**	**+2.0**
CERR				*e*		16 21 52.6	
CERR				*i*		16 22 43.1	
CERR	**Cheremushki**	**3.94**	**304**	*e*Pn	**Pn**	**16 21 41.9**	**+2.0**
CERR				*e*Pg	**Pg**	**16 21 52.6**	**-2.6**
CERR				*i* Sg	**Sg**	**16 22 43.1**	**-3.1**
ZAK	**Zakamensk**	**4.15**	**93**	*e*PN	**Pn**	**16 21 41.1**	**-1.7**
ZAK				*e*		16 21 51.8	
ZAK				pmax	pmax		
	comp=Z,4μm,1.2s						
TLY	**Talaya**	**4.40**	**75**	*e*PN	**Pn**	**16 21 45.2**	**-0.9**
TLY				*e*		16 21 56.5	
TLY				*e*		16 22 55.4	
TLY				pmax	pmax		
	comp=Z,658nm,0.4s						
TLY				smax	smax		
	comp=N,2μm,0.3s						
TLY	**Talaya**	**4.40**	**75**	Pn	**Pn**	**16 21 47.1**	**+1.0**
	comp=N,3μm,0.6s,SNR=11						
ABNR	**Abakan**	**4.44**	**314**	⇓*e*PN	**Pn**	**16 21 48.0**	**+1.4**
IRK	**Irkutsk**	**4.90**	**69**	*e*PN	**Pb**	**16 22 07.4**	**+2.2**
IRK				pmax	pmax		
	comp=Z,4μm,1.7s						
KRAR	**Krasnoyarsk**	**5.76**	**337**	*d i*PN	**Pn**	**16 22 07.6**	**+2.8**
TASR	**Tashtagol**	**5.89**	**293**	*e*PN	**Pn**	**16 22 08.5**	**+1.9**
TASR				*e*		16 23 41.9	
TASR	**Tashtagol**	**5.89**	**293**	*e*Pn	**Pn**	**16 22 08.5**	**+1.9**
TASR				*e*Sg	Sg	16 23 41.9	-6.7
ARTR	**Artybash**	**6.06**	**284**	*e*PN	**Pn**	**16 22 10.2**	**+1.2**
ARTR				*e*		16 22 30.4	
ARTR	**Artybash**	**6.06**	**284**	*e*Pn	**Pn**	**16 22 10.2**	**+1.2**
ARTR				*e*Pg	Pg	16 22 30.4	-5.3
ARTR				*e*Sg	**Sg**	**16 23 49.4**	**-4.8**
TRG	**Tyrgan**	**6.25**	**68**	*eP**	Pg	16 22 33.8	-5.5
TRG				pmax	pmax		
	comp=Z,1μm,0.9s						
SONM	**Songino Array**	**6.92**	**111**	Pn	Pn	16 22 17.3	-3.6
SONM				Pg	**Pb**	**16 22 40.3**	**+0.4**
SONM				Lg	Lg	16 24 12.1	
SONM	**Songino Array**	**6.92**	**111**	Pn	Pn	16 22 17.3	-3.6
	comp=Z,4.7nm,0.3s,baz=298,slow=14,SNR=54						
SONM				Pg	**Pb**	**16 22 40.3**	**+0.4**
	comp=Z,87nm,0.3s,baz=296,slow=17,SNR=77						
SONM				Lg	Lg	16 24 12.1	
	comp=Z,275nm,0.3s,baz=292,slow=31,SNR=11						
SONM				LR	LR	16 25 08.4	
	comp=Z,16μm,19.4s,baz=295,slow=40						
ULN	**Ulaanbaatar**	**7.30**	**109**	P	**Pn**	**16 22 29.1**	**+3.0**
	SNR=20						
ULN	**Ulaanbaatar**	**7.30**	**109**	*e*Pn	Pn	16 22 22.7	-3.4
	comp=Z,662nm,0.9s						
UKR	**Ust'-Kan**	**7.62**	**276**	*e*P	**Pn**	**16 22 32.6**	**+2.2**
UKR	**Ust'-Kan**	**7.62**	**276**	*e*Pn	**Pn**	**16 22 32.6**	**+2.2**
UKR				*e*Pg	Pb	16 22 58.4	+6.8
UKR				*e*Sg	Sg	16 24 37.2	-6.8
KEM	**Kemerovo**	**7.92**	**310**	*e*Pn	**Pn**	**16 22 36.8**	**+2.5**
KEM				*e*Pg	Pg	16 23 03.8	-7.2
KEM				*e*Sg	Sg	16 24 47.0	-6.4
ZAA0	**Zalesovo Array**	**8.00**	**298**	*e*Pn	**Pn**	**16 22 35.8**	**+0.3**
ZALV	**Zalesovo Beam**	**8.00**	**298**	*i* P	**Pn**	**16 22 35.5**	**0.0**
ZALV				pmax	pmax		
	comp=Z,36nm,0.6s						
ZALV	**Zalesovo Beam**	**8.00**	**298**	Pn	**Pn**	**16 22 35.6**	**+0.1**
ZALV				Sn	**Sn**	**16 24 11.3**	**+5.5**
ZALV				Lg	Lg	16 24 49.0	
ZALV	**Zalesovo Beam**	**8.00**	**298**	Pn	**Pn**	**16 22 35.6**	**+0.1**
	comp=Z,4.9nm,0.3s,baz=132,slow=10,SNR=92						
ZALV				Sn	**Sn**	**16 24 11.3**	**+5.5**
	comp=Z,34nm,0.3s,baz=106,slow=26,SNR=5.1						
ZALV				Lg	Lg	16 24 49.0	
	comp=Z,56nm,0.3s,baz=106,slow=26,SNR=4.6						
ZALV				LR	LR	16 25 48.5	
	comp=Z,8μm,18.8s,baz=95,slow=38						
NVS	**Novosibirsk**	**9.17**	**302**	*e*P	**Pn**	**16 22 52.4**	**+0.8**
NVS	**Novosibirsk**	**9.17**	**302**	*e*Pn	**Pn**	**16 22 52.4**	**+0.8**
NVS				*e*Pg		16 23 25.3	
NVS				*e*Sg	Sn	16 25 24.0	+49
WMQ	**Urumqi**	**9.30**	**225**	Pn	Pn	16 22 58.7	+5.3
WMQ				Sg	Sn	16 25 26.9	+49
WMQ				smax	smax		
	comp=N,5μm,0.9s						
WMQ				smax	smax		
	comp=E,5μm,1.2s						
WMQ				LR	LR		
	comp=N,7μm,19.0s						
WMQ				LR	LR		
	comp=E,7μm,24.0s						
WMQ				LR	LR		
	comp=Z,6μm,17.0s						
MK31	**Makanchi Array**	**10.37**	**253**	Pn	**Pn**	**16 23 05.2**	**-2.8**
	comp=Z,63nm,0.8s,baz=77,slow=13,SNR=193						
MK31				⇑Pg		16 23 42.6	
	comp=Z,130nm,0.6s,baz=75,slow=13,SNR=3.6						
MK31				⇑Sn	**Sn**	**16 25 01.2**	**-2.8**
	comp=Z,572nm,1.1s						
MK31				⇑Lg	Lg	16 26 02.0	
	comp=Z,748nm,0.7s,baz=68,slow=30,SNR=4.9						
MK31	**Makanchi Array**	**10.37**	**253**	*e*P	**Pn**	**16 23 07.1**	**-0.9**
MK31	**Makanchi Array**	**10.37**	**253**	*e*Pn	**Pn**	**16 23 07.1**	**-0.9**
MKAR	**Makanchi Array**	**10.37**	**253**	P	**Pn**	**16 23 06.3**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,12μm,20.0s						
MKAR	**Makanchi Array**	**10.37**	**253**	Pn	**Pn**	**16 23 06.3**	**-1.7**
MKAR				Sn	**Sn**	**16 24 59.1**	**-4.9**
MKAR				Lg	Lg	16 26 04.4	
MKAR	**Makanchi Array**	**10.37**	**253**	Pn	**Pn**	**16 23 06.3**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=81,slow=12,SNR=50						
MKAR				Sn	**Sn**	**16 24 59.1**	**-4.9**
	comp=Z,20nm,0.3s,baz=64,slow=26,SNR=3.8						
MKAR				Lg	Lg	16 26 04.4	
	comp=Z,26nm,0.3s,baz=70,slow=31,SNR=8.3						
MKAR				LR	LR	16 27 17.5	
	comp=Z,12μm,20.0s,baz=61,slow=39						
CIT	**Chita**	**10.55**	**77**	*e*P	**Pn**	**16 23 12.2**	**+1.8**
CIT				pmax	pmax		
	comp=Z,509nm,1.7s						
KURK	**Kurchatov**	**11.52**	**277**	P	**Pn**	**16 23 23.7**	**0.0**
KURK						16 25 34.6	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK				smax	smax		
	comp=N,2.0nm,0.3s						
KURK	**Kurchatov**	**11.52**	**277**	Pn	**Pn**	**16 23 23.7**	**0.0**
KURK				Sn	**Sn**	**16 25 34.6**	**+2.4**
KURK				Lg	Lg	16 26 45.9	
GTA	**Gaotai**	**11.55**	**168**	⇑P	**Pn**	**16 23 26.9**	**+2.6**
GTA				pP		16 23 31.6	
GTA				sP		16 23 33.9	
GTA				S	**Sn**	**16 25 36.8**	**+3.7**
GTA				SS	**SnSn**	**16 25 49.3**	**+4.5**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,57nm,5.7s						
GTA				LR	LR		
	comp=N,8μm,12.8s						
GTA				LR	LR		
	comp=E,36μm,14.0s						
GTA				LR	LR		
	comp=Z,7μm,13.1s						
KURBB	**Kurchatov Arra**	**11.59**	**276**	⇑Pn	**Pn**	**16 23 24.3**	**-0.4**
	comp=Z,101nm,1.1s						
KURBB				⇑Pg		16 24 08.4	
	comp=Z,155nm,0.7s						
KURBB				⇓Sn	**Sn**	**16 25 34.4**	**+0.5**
	comp=Z,478nm,0.7s						
KURBB				⇓Lg	Lg	16 26 47.4	
	comp=Z,2μm,0.9s						
KURBB	**Kurchatov Arra**	**11.59**	**276**	Pn	**Pn**	**16 23 23.7**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=88,slow=14,SNR=106						
KURBB				Sn	**Sn**	**16 25 34.6**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=85,slow=34,SNR=3.1						
KURBB				Lg	Lg	16 26 45.9	
	comp=Z,4.4nm,0.3s,baz=79,slow=33,SNR=10						
BTO	**Baotou**	**13.71**	**133**	*e*P	**Pn**	**16 23 53.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**14.27**	**128**	*e*P	**Pn**	**16 23 58.5**	**-2.9**
HHC				pP	P	16 24 02.3	-6.4
HHC				PP	**PnPn**	**16 24 10.2**	**+1.1**
HHC				S	**Sn**	**16 26 36.9**	**-2.6**
HHC				SS	**SnSn**	**16 26 53.8**	**+2.2**
HHC				ScS	**ScS**	**16 36 24.6**	**-4.6**
HHC				pmax	pmax		
	comp=Z,70nm,0.6s						
HHC				pmax	pmax		
	comp=Z,750nm,5.2s						
HHC				LR	LR		
	comp=N,13μm,10.9s						
HHC				LR	LR		
	comp=E,11μm,10.9s						
HHC				LR	LR		
	comp=Z,16μm,11.9s						
HIA	**Hailar**	**14.81**	**87**	*e*Pn	**Pn**	**16 24 07.4**	**-1.3**
	comp=Z,97nm,0.8s						
AAA	**Alma-Ata**	**15.45**	**249**	*i* P	**Pn**	**16 24 12.9**	**-4.3**
AAA				*i* S	**Sn**	**16 27 04.4**	**-3.7**
AAA				pmax	pmax		
	comp=Z,2μm,2.4s						
AAA				smax	smax		
	comp=E,300nm,0.9s						
KNDC	**Almaty**	**15.47**	**248**	⇓Pn	**Pn**	**16 24 15.3**	**-2.2**
	comp=E,384nm,1.1s						
KNDC				⇓Lg	Lg	16 28 43.8	
	comp=E,2μm,1.3s						
LZH	**Lanzhou**	**15.52**	**158**	*e*P	**Pn**	**16 24 17.4**	**-0.9**
LZH				pP	**P**	**16 24 21.5**	**-1.2**
LZH				sP	**sP**	**16 24 23.7**	**-4.3**
LZH				PP	**PnPn**	**16 24 29.5**	**+3.0**
LZH				*e*S	**Sn**	**16 27 09.0**	**-1.2**
LZH				SS	**S**	**16 27 28.0**	**+2.1**
LZH				pmax	pmax		
	comp=Z,140nm,1.0s						
LZH				pmax	pmax		
	comp=Z,350nm,4.0s						
LZH				LR	LR		
	comp=N,12μm,7.4s						
LZH				LR	LR		
	comp=E,28μm,12.1s						
LZH				LR	LR		
	comp=Z,7μm,11.9s						
VOSK	**Vostochnaya**	**16.09**	**287**	⇑Pn	**Pn**	**16 24 23.3**	**-2.1**
	comp=Z,316nm,1.1s						
VOSK				⇑Lg	Lg	16 29 10.4	
	comp=Z,275nm,1.2s						
VOSK	**Vostochnaya**	**16.09**	**287**	P	**Pn**	**16 24 23.3**	**-2.1**
VOSK				pmax	pmax		
	comp=Z,453nm,1.2s						
BVA0	**Borovoye Array**	**16.43**	**288**	Pn	**Pn**	**16 24 28.1**	**-1.6**
	comp=Z,188nm,1.1s,baz=87,slow=12,SNR=106						
BVA0				⇓Sn	**Sn**	**16 27 36.1**	**+4.3**
	comp=Z,225nm,1.1s,baz=87,slow=22,SNR=5.2						
BVAR	**Borovoye Array**	**16.43**	**288**	P	**Pn**	**16 24 27.4**	**-2.4**
BVAR						16 27 31.1	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,5μm,19.5s						
BVAR	**Borovoye Array**	**16.43**	**288**	Pn	**Pn**	**16 24 27.4**	**-2.4**
BVAR				Sn	**Sn**	**16 27 31.1**	**-0.6**
BVAR	**Borovoye Array**	**16.43**	**288**	Pn	**Pn**	**16 24 27.4**	**-2.4**
	comp=Z,2.8nm,0.3s,baz=84,slow=14,SNR=133						
BVAR				Sn	**Sn**	**16 27 31.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=71,slow=26,SNR=2.6						
BVAR				LR	LR	16 31 08.4	
	comp=Z,5μm,19.5s,baz=86,slow=38						
TKM2	**Tokmak 2**	**16.45**	**250**	⇑Pn	**Pn**	**16 24 27.8**	**-2.5**
	comp=Z,506nm,1.0s						
TKM2				⇓Lg	Lg	16 29 16.0	
	comp=Z,531nm,1.4s						
TKM2	**Tokmak 2**	**16.45**	**250**	*i* P	**Pn**	**16 24 29.2**	**-1.1**
TKM2	**Tokmak 2**	**16.45**	**250**	P	**Pn**	**16 24 29.2**	**-1.1**
	SNR=271						
BRVK	**Borovoye**	**16.49**	**288**	Pn	**Pn**	**16 24 28.0**	**-2.5**
	comp=Z,1μm,1.0s,SNR=88						
BRVK	**Borovoye**	**16.49**	**288**	⇑Pn	**Pn**	**16 24 28.6**	**-1.9**
	comp=Z,372nm,1.0s						
BRVK				⇑Sn	**Sn**	**16 27 37.2**	**+3.9**
	comp=Z,228nm,1.0s						
BRVK	**Borovoye**	**16.49**	**288**	*c i*P	**Pn**	**16 24 28.5**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,328nm,1.3s						
BRVK	**Borovoye**	**16.49**	**288**	P	**Pn**	**16 24 29.0**	**-1.5**
	SNR=110						
BRVK	**Borovoye**	**16.49**	**288**	*e*Pn	**Pn**	**16 24 28.6**	**-1.9**
	comp=Z,208nm,0.9s						
CHMS	**Chumysh**	**16.91**	**251**	*i* P	**Pn**	**16 24 35.2**	**-0.8**
CHMS	**Chumysh**	**16.91**	**251**	P	**Pn**	**16 24 35.2**	**-0.8**
	SNR=30						
USP	**Ospenovka**	**16.91**	**252**	*i* P	**Pn**	**16 24 34.8**	**-1.2**
USP	**Ospenovka**	**16.91**	**252**	P	**Pn**	**16 24 34.8**	**-1.2**
	SNR=33						
KBK	**Karagaybulak**	**17.00**	**250**	*i* P	**Pn**	**16 24 36.3**	**-0.9**
KBK	**Karagaybulak**	**17.00**	**250**	P	**Pn**	**16 24 36.2**	**-0.9**
	SNR=91						
FRU	**Bishkek**	**17.09**	**251**	⇓*i*P	**Pn**	**16 24 37.5**	**-0.7**
FRU				*e*S	**Sn**	**16 27 52.0**	**+4.0**
FRU				MLR	MLR		
	comp=Z,10μm,15.0s						
KZA	**Kyzart**	**17.16**	**248**	*i* P	**Pn**	**16 24 39.9**	**+0.4**
KZA	**Kyzart**	**17.16**	**248**	P	**Pn**	**16 24 39.9**	**+0.4**
	SNR=52						
BJI	**Beijing**	**17.27**	**121**	P	**P**	**16 24 46.5**	**+4.7**
BJI				S	**Sn**	**16 27 54.7**	**+2.5**
BJI				pmax	pmax		
	comp=Z,220nm,1.3s						
BJI				LR	LR		
	comp=N,9μm,9.5s						
BJI				LR	LR		
	comp=E,7μm,8.1s						
BJI				LR	LR		
	comp=Z,4μm,19.0s						
AAK	**Ala-Archa**	**17.28**	**251**	P	**Pn**	**16 24 40.0**	**-0.7**
	comp=Z,1μm,0.8s,SNR=22						
AAK	**Ala-Archa**	**17.28**	**251**	*c i*P	**Pn**	**16 24 39.2**	**-1.5**
AAK				pmax	pmax		
	comp=Z,280nm,1.5s						
AAK	**Ala-Archa**	**17.28**	**251**	P	**Pn**	**16 24 39.6**	**-1.1**
	SNR=106						
AAK	**Ala-Archa**	**17.28**	**251**	P	**Pn**	**16 24 39.4**	**-1.3**
	SNR=19						
AAK	**Ala-Archa**	**17.28**	**251**	*e*Pn	**Pn**	**16 24 39.3**	**-1.3**
	comp=Z,195nm,0.8s						
AAK				S	**Sn**	**16 27 51.5**	**-1.3**
AAK				Lg	Lg	16 29 41.4	
AAK	**Ala-Archa**	**17.28**	**251**	P	**Pn**	**16 24 39.1**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=57,slow=13,SNR=52						
AAK				S	**Sn**	**16 27 51.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=71,slow=17,SNR=1.8						
AAK				Lg	Lg	16 29 41.4	
	comp=Z,0.4nm,0.3s,baz=234,slow=18,SNR=8.5						
AAK				LR	LR	16 31 32.3	
	comp=Z,6μm,20.8s,baz=34,slow=38						
BJT	**Baijiatuau**	**17.28**	**121**	*e*Pn	**Pn**	**16 24 39.6**	**-0.9**
	comp=Z,248nm,1.0s						
UCH	**Uchtor**	**17.51**	**249**	*i* P	**Pn**	**16 24 44.1**	**+0.3**
UCH	**Uchtor**	**17.51**	**249**	P	**Pn**	**16 24 44.1**	**+0.3**
	SNR=33						
CLNS	**Chul'man**	**17.59**	**59**	*e*P	**Pn**	**16 24 43.7**	**-0.6**
CLNS				*e*S	**Sn**	**16 27 53.7**	**-6.2**
CLNS				pmax	pmax		
	comp=N,29nm,1.2s						
CLNS				pmax	pmax		
	comp=E,72nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,80nm,1.3s						
CLNS				smax	smax		
	comp=E,99nm,9.5s						
CLNS				smax	smax		
	comp=N,225nm,10.4s						
CLNS				MLR	MLR		
	comp=N,2μm,13.0s						
CLNS				MLR	MLR		
	comp=Z,5μm,15.0s						
CLNS				MLR	MLR		
	comp=E,4μm,15.0s						
EKS2	**Erkin-Say**	**17.69**	**252**	P	**Pn**	**16 24 44.6**	**-1.2**
	SNR=48						
AML	**Almayashu**	**18.05**	**250**	*i* P	**Pn**	**16 24 50.1**	**-0.4**
AML	**Almayashu**	**18.05**	**250**	P	**Pn**	**16 24 50.1**	**-0.4**
	SNR=73						
KSH	**Kashi**	**18.43**	**240**	P	Pn	16 25 00.4	+5.5
KSH				sP	sP	16 25 08.2	+8.1
KSH				PP	PnPn	16 25 16.4	+10
KSH				S	**S**	**16 28 27.1**	**+2.0**
KSH				sS	sS	16 28 33.1	+2.3
KSH				SS	SnSn	16 28 52.0	+18
KSH				pmax	pmax		
	comp=Z,36nm,1.1s						
KSH				pmax	pmax		
	comp=Z,320nm,4.4s						
KSH				LR	LR		
	comp=N,2μm,5.8s						
KSH				LR	LR		
	comp=E,5μm,4.7s						
KSH				LR	LR		
	comp=Z,1μm,6.9s						
XAN	**Xi'an**	**18.91**	**147**	P	**Pn**	**16 25 01.3**	**+0.6**
XAN				LR	LR		
	comp=N,5μm,11.2s						
XAN				LR	LR		
	comp=E,6μm,12.5s						
XAN				LR	LR		
	comp=Z,2μm,13.5s						
KK31	**Karatay Array**	**19.45**	**257**	⇓Pn	**P**	**16 25 03.5**	**-2.3**
	comp=Z,95nm,0.9s,baz=49,slow=12						
KK31				⇑Lg	Lg	16 30 51.8	
	comp=Z,358nm,1.2s,baz=43,slow=26						
KK31	**Karatay Array**	**19.45**	**257**	P	**P**	**16 25 03.5**	**-2.3**
KK31				pmax	pmax		
	comp=Z,330nm,1.5s						
SNY	**Shenyang**	**20.45**	**106**	⇑P	**P**	**16 25 14.3**	**-2.4**
SNY				S	**S**	**16 29 04.2**	**-1.0**
SNY				pmax	pmax		
	comp=Z,36nm,1.5s						
SNY				pmax	pmax		
	comp=Z,130nm,3.6s						
SNY				LR	LR		
	comp=E,4μm,15.0s						
SNY				LR	LR		
	comp=Z,6μm,17.7s						
CD2	**Chengdu**	**20.50**	**163**	*e*P	**P**	**16 25 17.0**	**-0.4**
CD2				pP	**pP**	**16 25 21.1**	**+0.1**
CD2				sP	**sP**	**16 25 24.2**	**+1.5**
CD2				PP	**PnPn**	**16 25 37.8**	**+3.1**
CD2				S	**S**	**16 29 04.7**	**-1.8**
CD2				SS	**SnSn**	**16 29 30.4**	**+5.4**
CD2				pmax	pmax		
	comp=Z,170nm,1.1s						
CD2				pmax	pmax		
	comp=Z,260nm,5.2s						
CD2				LR	LR		
	comp=E,28μm,14.2s						
CD2				LR	LR		
	comp=Z,3μm,13.2s						
CN2	**Changchun**	**20.55**	**99**	*e*P	**P**	**16 25 16.2**	**-1.6**
CN2				*e*pP	Pn	16 25 20.1	0.0
CN2				*e*sP	**sP**	**16 25 23.1**	**0.0**
CN2				PP	**PnPn**	**16 25 36.8**	**+1.6**
CN2				*e*S	S	16 28 59.0	-8.3
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,5μm,10.0s						
CN2				LR	LR		
	comp=E,5μm,10.0s						
CN2				LR	LR		
	comp=Z,8μm,10.0s						
TIA	**Tai'an**	**20.61**	**127**	⇑P	Pn	16 25 26.4	+5.6
TIA				S	Sn	16 29 11.4	-1.7
TIA				SS	**SnSn**	**16 29 35.6**	**+8.0**
TIA				LR	LR		
	comp=N,5μm,14.3s						
TIA				LR	LR		
	comp=E,7μm,15.1s						
TIA				LR	LR		
	comp=Z,8μm,14.3s						
DL2	**Dalian**	**21.11**	**115**	P	**P**	**16 25 26.6**	**+2.7**
DL2				S	Sn	16 29 23.6	-1.4
DL2				pmax	pmax		
	comp=Z,63nm,1.4s						
DL2				pmax	pmax		
	comp=Z,400nm,3.4s						
DL2				LR	LR		
	comp=N,4μm,10.4s						
DL2				LR	LR		
	comp=E,3μm,10.8s						
DL2				LR	LR		
	comp=Z,5μm,10.8s						
YAK	**Yakutsk**	**21.15**	**45**	*e*P	**P**	**16 25 23.6**	**-0.4**
YAK				*e**PP	**pP**	**16 25 32.0**	**+4.3**
YAK				*e*		16 25 43.7	
YAK				*e*S	**S**	**16 29 19.6**	**+0.9**
YAK				*e*SS	SnSn	16 29 51.7	+12
YAK				pmax	pmax		
	comp=Z,116nm,1.5s						
YAK				pmax	pmax		
	comp=N,25nm,1.5s						
YAK				pmax	pmax		
	comp=E,136nm,1.4s						
YAK				pmax	pmax		
	comp=Z,69nm,1.0s						
YAK				pmax	pmax		
	comp=N,32nm,1.1s						
YAK				pmax	pmax		
	comp=E,182nm,1.9s						
YAK				smax	smax		
	comp=N,97nm,1.9s						
YAK				smax	smax		
	comp=E,226nm,2.5s						
YAK				MLR	MLR		
	comp=Z,3μm,11.0s						
YAK				MLR	MLR		
	comp=E,3μm,17.0s						
YAK				MLR	MLR		
	comp=N,2μm,12.0s						
LSA	**Lhasa**	**21.46**	**194**	P	**P**	**16 25 28.3**	**+0.1**
LSA	**Lhasa**	**21.46**	**194**	*e*P	**P**	**16 25 28.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,136nm,1.0s						
LSA	**Lhasa**	**21.46**	**194**	*e*P	**P**	**16 25 28.1**	**-0.1**
	comp=Z,136nm,1.0s						
SVE	**Sverdlovsk**	**22.01**	**300**	*de*P	**P**	**16 25 32.8**	**-0.6**
SVE				*e*S	**S**	**16 29 34.1**	**-1.6**
SVE				pmax	pmax		
	comp=Z,302nm,1.0s						
SVE				MLR	MLR		
	comp=Z,9μm,13.0s						
SVE				MLR	MLR		
	comp=E,7μm,14.0s						
KLR	**Kul'dur**	**22.40**	**80**	*e*P	P	16 25 28.0	-10
KLR				*e*		16 29 37.5	
KLR				MLR	MLR		
	comp=Z,9μm,9.0s						
ENH	**Enshi**	**22.56**	**150**	*e*P	**P**	**16 25 38.9**	**-0.6**
	comp=Z,70nm,0.7s						
MDJ	**Mudanjiang**	**22.78**	**93**	P	**P**	**16 25 39.9**	**-1.8**
MDJ				pP	**pP**	**16 25 42.7**	**-2.7**
MDJ				sP	**sP**	**16 25 44.2**	**-2.9**
MDJ				PcP	**PcP**	**16 29 31.4**	**-1.5**
MDJ				S

MDJ				ScS	**ScS**	**16 36 55.4**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,310nm,5.7s						
MDJ				LR	LR		
	comp=N,6μm,10.4s						
MDJ				LR	LR		
	comp=E,8μm,12.8s						
MDJ				LR	LR		
	comp=Z,10μm,14.4s						
MDJ	**Mudanjiang**	**22.78**	**93**	P	**P**	**16 25 38.6**	**-3.2**
	comp=Z,104nm,1.5s						
ARU	**Arti**	**23.16**	**299***d*	*i*P	**P**	**16 25 45.0**	**-0.6**
ARU				PPP	PPP	16 26 19.9	
ARU				S	**S**	**16 29 57.5**	**+0.9**
ARU				SSS	SSS	16 30 46.6	
ARU				pmax	pmax		
	comp=Z,215nm,1.2s						
ARU				MLR	MLR		
	comp=Z,7μm,16.0s						
ARU	**Arti**	**23.16**	**299**	P	**P**	**16 25 45.9**	**+0.3**
	comp=Z,863nm,1.0s,SNR=38						
AB31	**Akbulak array**	**23.58**	**281**	⇑Pn	**P**	**16 25 49.1**	**-0.7**
	comp=Z,34nm,0.9s,baz=76,slow=9.1,SNR=313						
AB31				⇓Lg	Lg	16 33 08.8	
	comp=Z,244nm,1.4s,baz=78,slow=28						
AB31	**Akbulak array**	**23.58**	**281**	*i* P	**P**	**16 25 47.7**	**-2.1**
AB31				pmax	pmax		
	comp=Z,49nm,1.0s						
WHN	**Wuhan**	**24.08**	**140**	⇑P	**P**	**16 25 58.7**	**+4.1**
WHN				S	S	16 30 21.6	+10
WHN				LR	LR		
	comp=N,4μm,8.4s						
WHN				LR	LR		
	comp=E,11μm,11.0s						
WHN				LR	LR		
	comp=Z,13μm,13.2s						
SOKR	**Solikamsk**	**24.15**	**307***c*	*i*P	**P**	**16 25 55.4**	**+0.3**
SOKR				S	**S**	**16 30 14.3**	**+1.9**
SOKR				SS	**SnSn**	**16 31 02.7**	**+9.0**
SOKR				pmax	pmax		
	comp=Z,240nm,1.5s						
SOKR				MLR	MLR		
	comp=Z,2μm,15.0s						
GUN	**Gumba**	**24.28**	**204**	*e*P	**P**	**16 25 57.0**	**0.0**
	comp=Z,435nm,0.8s						
TAPN	**Taplejung**	**24.39**	**200**	*e*P	**P**	**16 25 58.9**	**+1.0**
	comp=Z,230nm,0.7s						
AKTO	**Aktyubinsk**	**24.43**	**284**	⇑Pn	**P**	**16 25 57.0**	**-0.8**
	comp=Z,106nm,0.9s						
AKTO				⇓Lg	Lg	16 33 35.1	
	comp=Z,61nm,1.4s						
AKTO	**Aktyubinsk**	**24.43**	**284**	P	**P**	**16 25 56.7**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,88nm,1.0s						
AKTO				MLR	MLR		
	comp=Z,4μm,19.0s						
AKTO	**Aktyubinsk**	**24.43**	**284**	P	**P**	**16 25 56.7**	**-1.2**
AKTO				S	S	16 30 24.8	+7.6
AKTO				Lg	Lg	16 33 35.8	
AKTO	**Aktyubinsk**	**24.43**	**284**	P	**P**	**16 25 56.7**	**-1.2**
	comp=Z,88nm,1.0s,baz=86,slow=8.7,SNR=130						
AKTO				S	S	16 30 24.8	+7.6
	comp=Z,6.0nm,0.8s,baz=72,slow=20,SNR=1.6						
AKTO				Lg	Lg	16 33 35.8	
	comp=Z,20nm,1.1s,baz=218,slow=15,SNR=5.0						
AKTO				LR	LR	16 35 54.6	
	comp=Z,4μm,19.0s,baz=269,slow=37						
JIRN	**Jiri**	**24.44**	**203**	*e*P	**P**	**16 25 58.8**	**+0.3**
	comp=Z,674nm,0.7s						
SMLA	**Simla**	**24.45**	**224**	*e*P	**P**	**16 25 58.0**	**-0.1**
DANN	**Dangsing**	**24.47**	**209**	*e*P	**P**	**16 25 58.5**	**-0.1**
	comp=Z,261nm,0.9s						
USRK	**Ussuriysk Arra**	**24.50**	**92**	P	**P**	**16 25 56.7**	**-1.7**
	comp=Z,12nm,0.7s,baz=297,slow=8.3,SNR=44						
USRK				S	S	16 30 25.8	+7.5
	comp=Z,2.1nm,0.8s,baz=313,slow=11,SNR=3.8						
USRK				Lg	Lg	16 33 24.9	
	comp=Z,5.3nm,1.2s,baz=304,slow=27,SNR=6.7						
USRK				LR	LR	16 36 39.2	
	comp=Z,3μm,19.1s,baz=291,slow=39						
KKN	**Kakani**	**24.56**	**205**	*e*P	**P**	**16 25 59.3**	**0.0**
	comp=Z,417nm,0.7s						
PKI	**Pulchoki**	**24.73**	**205**	*e*P	**P**	**16 26 01.0**	**0.0**
	comp=Z,464nm,0.9s						
DDI	**Dehra Dun**	**24.77**	**222**	*ex*	P	16 25 52.5	-8.5
DMN	**Daman**	**24.77**	**205**	*e*P	**P**	**16 26 01.8**	**+0.4**
	comp=Z,356nm,0.9s						
NJ2	**Nanjing**	**24.80**	**131**	*e*P	P	16 26 06.5	+5.3
NJ2				pP	pP	16 26 10.0	+4.9
NJ2				sP	sP	16 26 12.0	+5.3
NJ2				S	**S**	**16 30 26.0**	**+2.7**
NJ2				sS	sS	16 30 31.0	+1.3
NJ2				pmax	pmax		
	comp=Z,90nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,970nm,3.8s						
NJ2				LR	LR		
	comp=N,4μm,14.1s						
NJ2				LR	LR		
	comp=E,2μm,16.2s						
NJ2				LR	LR		
	comp=Z,6μm,13.0s						
ODAN	**Odare**	**24.93**	**200**	*e*P	**P**	**16 26 02.3**	**-0.4**
	comp=Z,362nm,0.7s						
PYUN	**Piuthan**	**24.94**	**210**	*e*P	**P**	**16 26 00.6**	**-2.2**
	comp=Z,169nm,0.7s						
VLA	**Vladivostok**	**24.96**	**94**⇑	*e*P	**P**	**16 26 01.7**	**-0.9**
VLA				pmax	pmax		
	comp=Z,52nm,1.7s						
INCN	**Inchon**	**25.00**	**111**	P	P	16 26 12.5	+9.4
	SNR=6.9						
INCN	**Inchon**	**25.00**	**111**	P	**P**	**16 26 01.3**	**-1.8**
	comp=Z,72nm,0.8s						
RAMN	**Ramite**	**25.02**	**202**	*e*P	**P**	**16 26 02.6**	**-1.0**
	comp=Z,630nm,0.8s						
KOLN	**Koldanda**	**25.06**	**209**	*e*P	**P**	**16 26 03.1**	**-0.7**
	comp=Z,272nm,0.8s						
GYA	**Guiyang**	**25.42**	**159**⇑	*i*P	**P**	**16 26 05.6**	**-1.4**
GYA				PP	**PnPn**	**16 26 44.8**	**+2.7**
GYA				PcP	**PcP**	**16 29 40.0**	**+1.0**
GYA				S	**S**	**16 30 35.2**	**+1.7**
GYA				ScP	**ScP**	**16 33 18.0**	**+0.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,30nm,4.8s						
GYA				LR	LR		
	comp=N,750nm,15.0s						
GYA				LR	LR		
	comp=E,640nm,16.4s						
GYA				LR	LR		
	comp=Z,760nm,14.8s						
TIXI	**Tiksi**	**25.43**	**23***de*	P	**P**	**16 26 06.4**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,186nm,1.1s						
KSAR	**Wonju Array Be**	**25.77**	**109**	P	**P**	**16 26 08.0**	**-2.0**
KSAR				S	**S**	**16 30 41.6**	**+2.9**
KSAR				Lg	Lg	16 34 12.9	
KSRS	**Korea Array**	**25.79**	**109**	P	**P**	**16 26 08.0**	**-2.1**
	comp=Z,11nm,0.8s,baz=313,slow=7.1,SNR=38						
KSRS				S	**S**	**16 30 41.6**	**+2.6**
	comp=Z,1.6nm,0.9s,baz=316,slow=8.5,SNR=2.9						
KSRS				Lg	Lg	16 34 12.9	
	comp=Z,5.8nm,1.2s,baz=307,slow=30,SNR=4.2						
KSRS				LR	LR	16 37 03.0	
	comp=Z,3μm,18.8s,baz=312,slow=38						
KBL	**Kabul**	**25.86**	**242**	*e*P	**P**	**16 26 10.4**	**-0.7**
KBL	**Kabul**	**25.86**	**242**	*e*P	**P**	**16 26 10.4**	**-0.7**
	comp=Z,308nm,1.6s						
KMI	**Kunming**	**26.00**	**168**	P	**P**	**16 26 16.2**	**+3.7**
KMI				sP	**sP**	**16 26 21.0**	**+3.0**
KMI				S	**S**	**16 30 44.9**	**+1.9**
KMI				pmax	pmax		
	comp=Z,27nm,1.0s						
KMI				LR	LR		
	comp=N,1μm,11.2s						
KMI				LR	LR		
	comp=E,4μm,10.3s						
KMI				LR	LR		
	comp=Z,2μm,13.5s						
SSE	**Sheshan**	**26.73**	**128**	*e*P	**P**	**16 26 16.7**	**-2.0**
SSE				pP	**pP**	**16 26 19.8**	**-2.8**
SSE				S	**S**	**16 30 51.8**	**-2.0**
SSE				pmax	pmax		
	comp=Z,41nm,0.7s						
SSE				pmax	pmax		
	comp=Z,76nm,4.6s						
SSE				LR	LR		
	comp=N,2μm,15.9s						
SSE				LR	LR		
	comp=E,2μm,15.9s						
SSE				LR	LR		
	comp=Z,3μm,16.9s						
YSS	**Yuzh-Sakhalins**	**30.09**	**79**	*e*P	P	16 26 44.0	-4.6
YSS				*e**SP	sP	16 26 52.2	-1.9
YSS				*e*S	S	16 31 36.0	-11
YSS				*e*SSS	SSS	16 33 36.0	
YSS				MLR	MLR		
	comp=Z,5μm,16.0s						
YSS				MLR	MLR		
	comp=E,5μm,18.0s						
QZH	**Quanzhou**	**30.76**	**139**⇑	*i*P	**P**	**16 26 54.1**	**-0.5**
QZH				S	**S**	**16 31 56.0**	**-1.4**
QZH				pmax	pmax		
	comp=Z,1μm,3.5s						
QZH				LR	LR		
	comp=N,3μm,11.0s						
QZH				LR	LR		
	comp=E,6μm,9.3s						
QZH				LR	LR		
	comp=Z,5μm,11.2s						
ASAJ	**Asahikawa**	**31.27**	**84**	P	**P**	**16 26 57.6**	**-1.3**
ASAJ	**Asahikawa**	**31.27**	**84**	P	**P**	**16 26 57.6**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=279,slow=10,SNR=8.0						
CHTO	**Chiang Mai**	**31.92**	**176**	*e*P	**P**	**16 27 07.4**	**+2.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**31.92**	**176**	*e*P	**P**	**16 27 07.4**	**+2.5**
	comp=Z,5.8nm,0.9s						
CHTO	**Chiang Mai**	**31.92**	**176**	P	P	16 27 10.5	+5.6
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**31.92**	**176**	P	P	16 27 17.3	+12
	comp=Z,16nm,2.7s						
CMMT	**Chiang Mai**	**31.92**	**176**	P	P	16 27 09.7	+4.8
	comp=Z,9.6nm,0.9s						
CMMT	**Chiang Mai**	**31.92**	**176**	P	P	16 27 17.0	+12
	comp=Z,9.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.28**	**176**	P	**P**	**16 27 06.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**32.28**	**176**	P	**P**	**16 27 06.7**	**-1.3**
	comp=Z,4.0nm,0.8s,baz=350,slow=8.4,SNR=8.2						
ERM	**Erimo**	**32.68**	**87***de*	P	**P**	**16 27 10.5**	**-0.8**
ERM				pmax	pmax		
	comp=Z,59nm,1.7s						
ERM	**Erimo**	**32.68**	**87**	*e*P	**P**	**16 27 10.7**	**-0.7**
	comp=Z,91nm,1.1s						
MAJO	**Matsushiro**	**32.70**	**100**⇑	*e*P	**P**	**16 27 11.0**	**-0.6**
MAJO				MLR	MLR		
	comp=Z,1μm,15.0s						
MAT	**Matsushiro**	**32.70**	**100**	P	P	16 27 15.6	+4.0
MAT				*e*S	**S**	**16 32 30.2**	**+2.7**
MJAR	**Matsushiro Arr**	**32.70**	**100**	P	**P**	**16 27 09.2**	**-2.5**
MJAR	**Matsushiro Arr**	**32.70**	**100**	P	**P**	**16 27 09.2**	**-2.5**
	comp=Z,0.9nm,0.5s,baz=316,slow=8.5,SNR=6.0						
MJAR				LR	LR	16 40 49.3	
	comp=Z,1μm,19.6s,baz=315,slow=37						
TMCR	**Tamitsa**	**33.00**	**317**	*e*P	**P**	**16 27 14.1**	**+0.1**
TMCR				*e*		16 28 27.1	
TMCR				pmax	pmax		
	comp=Z,168nm,1.4s						
QIZ	**Qiongzhong**	**33.32**	**157**	P	**P**	**16 27 14.9**	**-2.2**
QIZ				pP	**pP**	**16 27 18.8**	**-2.2**
QIZ				S	**S**	**16 32 36.7**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,16nm,1.7s						
QIZ				LR	LR		
	comp=N,2μm,11.7s						
QIZ				LR	LR		
	comp=Z,2μm,14.6s						
YUK	**Yuzh-Kuril'sk**	**33.36**	**82**	P	**P**	**16 27 15.3**	**-2.0**
YUK				*e*S	S	16 32 31.0	-6.7
YUK				MLR	MLR		
	comp=N,73nm,15.0s						
YUK				MLR	MLR		
	comp=E,2μm,15.0s						
YUK				MLR	MLR		
	comp=Z,2μm,15.0s						
MAK	**Makhachkala**	**34.05**	**276**	*e*P	**P**	**16 27 23.9**	**+0.6**
MAK				*e*		16 29 58.3	
MAK				*e*S	**S**	**16 32 50.5**	**+2.2**
MAK				*e*SS	**SnSn**	**16 34 54.5**	**-0.7**
MAK				*e*		16 37 47.6	
MAK				pmax	pmax		
	comp=Z,107nm,1.0s						
MAK				MLR	MLR		
	comp=Z,6μm,13.0s						
VRHR	**Novokhopersk**	**34.09**	**293**	*e*P	**P**	**16 27 22.2**	**-1.3**
VRHR				pmax	pmax		
	comp=E,70nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,130nm,0.9s						
VRHR				pmax	pmax		
	comp=N,70nm,1.0s						
VRHR				MLR	MLR		
	comp=Z,2μm,12.0s						
VRHR				MLR	MLR		
	comp=N,390nm,14.0s						
VRHR				MLR	MLR		
	comp=E,710nm,10.0s						
PBKT	**Sadao Pong**	**34.27**	**173**	P	P	16 27 33.5	+8.1
PBKT	**Sadao Pong**	**34.27**	**173**	P	P	16 27 33.5	+8.1
	comp=E,14nm,1.0s						
APA	**Apatity**	**34.67**	**323**⇑	*i*P	**P**	**16 27 28.6**	**+0.2**
APA				*i*		16 28 49.0	
APA				*i* PPP	PPP	16 29 03.0	
APA				*i* S	**S**	**16 32 57.0**	**-0.4**
APA				*i* SS	SS	16 35 46.0	+19
APA				pmax	pmax		
	comp=Z,23nm,1.0s						
APA				MLR	MLR		
	comp=Z,2μm,17.0s						
MOS	**Moscow**	**34.81**	**302**	*e*P	**P**	**16 27 29.1**	**-0.6**
MOS				*e*		16 28 49.9	
MOS				*e*S	S	16 33 07.3	+7.5
MOS				pmax	pmax		
	comp=Z,200nm,1.3s						
MOS				pmax	pmax		
	comp=Z,147nm,1.2s						
MOS				MLR	MLR		
	comp=Z,5μm,14.0s						
MOS				MLR	MLR		
	comp=E,4μm,14.0s						
VSR	**Storozhevoye**	**35.48**	**294**	*e*P	**P**	**16 27 34.2**	**-1.3**
VSR				pmax	pmax		
	comp=E,110nm,1.1s						
VSR				pmax	pmax		
	comp=Z,90nm,1.1s						
VSR				pmax	pmax		
	comp=N,60nm,1.2s						
VSR				MLR	MLR		
	comp=Z,2μm,12.0s						
VSR				MLR	MLR		
	comp=N,670nm,14.0s						
VSR				MLR	MLR		
	comp=E,550nm,10.0s						
VORD	**Divnogorie**	**35.50**	**293**	*e*P	**P**	**16 27 35.7**	**0.0**
VORD				pmax	pmax		
	comp=Z,90nm,1.1s						
VORD				pmax	pmax		
	comp=N,40nm,0.6s						
VORD				pmax	pmax		
	comp=E,130nm,0.7s						
VORD				MLR	MLR		
	comp=Z,1μm,11.0s						
VORD				MLR	MLR		
	comp=N,1μm,21.0s						
VORD				MLR	MLR		
	comp=E,2μm,20.0s						
OBN	**Obninsk**	**35.57**	**301**⇑	*i*P	**P**	**16 27 35.1**	**-1.2**
OBN				*i*		16 28 54.9	
OBN				*i*		16 30 05.3	
OBN				*i* S	**S**	**16 33 08.0**	**-3.5**
OBN				pmax	pmax		
	comp=Z,118nm,1.2s						
OBN				MLR	MLR		
	comp=Z,4μm,17.0s						
OBN	**Obninsk**	**35.57**	**301**	P	**P**	**16 27 36.2**	**-0.1**
	comp=Z,416nm,1.1s,SNR=5.1						
DGRG	**David-gareji**	**36.19**	**276**	P	**P**	**16 27 43.5**	**+1.7**
GUDG	**Gudauri**	**36.22**	**278**	P	**P**	**16 27 43.7**	**+1.5**
DUS	**Dusheti**	**36.27**	**277**	P	P	16 27 56.3	+14
HYB	**Hyderabad**	**36.33**	**210**	*i* P	**P**	**16 27 45.5**	**+2.3**
ZEI	**Tsey**	**36.41**	**278**	*e*P	**P**	**16 27 41.0**	**-2.9**
ZEI				pmax	pmax		
	comp=Z,36nm,1.3s						
TBLG	**Delisi**	**36.44**	**276**	*e*P	**P**	**16 27 45.5**	**+1.6**
TBLG	**Delisi**	**36.44**	**276**	P	**P**	**16 27 45.5**	**+1.6**
KBZ	**Khabaz**	**36.55**	**280**	P	**P**	**16 27 44.8**	**0.0**
KBZ				pmax	pmax		
	comp=Z,14nm,1.0s						
KBZ				MLR	MLR		
	comp=Z,2μm,19.5s						
KBZ	**Khabaz**	**36.55**	**280**	P	**P**	**16 27 44.8**	**0.0**
KBZ	**Khabaz**	**36.55**	**280**	P	**P**	**16 27 44.8**	**0.0**
	comp=Z,14nm,1.0s,baz=69,slow=6.2,SNR=13						
KBZ				LR	LR	16 44 29.2	
	comp=Z,2μm,19.5s,baz=73,slow=39						
KIV	**Kislovodsk**	**36.57**	**281**	*e*P	**P**	**16 27 46.1**	**+1.0**
KIV				*e*		16 29 08.7	
KIV				*e*		16 30 07.9	
KIV				*e*S	**S**	**16 33 29.4**	**+2.1**
KIV				pmax	pmax		
	comp=Z,72nm,1.1s						
KIV				pmax	pmax		
	comp=Z,23nm,2.7s						
KIV				MLR	MLR		
	comp=Z,2μm,15.0s						
KIV	**Kislovodsk**	**36.57**	**281**	P	**P**	**16 27 45.2**	**+0.1**
	comp=Z,340nm,1.0s,SNR=9.8						
PEA0B	**Petropavlovsk-**	**36.63**	**62**	P	**P**	**16 27 45.8**	**+0.3**
PETK	**Petropavlovsk-**	**36.63**	**62**	P	**P**	**16 27 44.5**	**-0.9**
PETK				pmax	pmax		
	comp=Z,22nm,0.9s						
PETK				MLR	MLR		
	comp=Z,2μm,19.0s						
PETK	**Petropavlovsk-**	**36.63**	**62**	P	**P**	**16 27 44.5**	**-0.9**
PETK	**Petropavlovsk-**	**36.63**	**62**	P	**P**	**16 27 44.5**	**-0.9**
	comp=Z,22nm,0.9s,baz=280,slow=6.6,SNR=30						
PETK				LR	LR	16 43 38.7	
	comp=Z,2μm,19.0s,baz=290,slow=38						
ONI	**Oni**	**36.79**	**278**	P	**P**	**16 27 48.3**	**+1.3**
KEV	**Kevo**	**36.82**	**327**	*e*P	**P**	**16 27 46.9**	**0.0**
KEV				pmax	pmax		
	comp=Z,24nm,1.1s						
KEV	**Kevo**	**36.82**	**327**	*e*p	**P**	**16 27 46.4**	**-0.4**
KEV	**Kevo**	**36.82**	**327**	*e*P	**P**	**16 27 46.9**	**0.0**
	comp=Z,24nm,1.1s						
PET	**Petropavlovsk**	**37.20**	**62**	*e*P	**P**	**16 27 50.0**	**-0.2**
GNI	**Garni**	**37.31**	**274**	P	**P**	**16 27 53.2**	**+1.7**
	SNR=19						
GNI	**Garni**	**37.31**	**274**	*e*P	**P**	**16 27 53.2**	**+1.7**
	comp=Z,195nm,1.4s						
ARCES	**ARCESS Array B**	**37.37**	**327**	P	**P**	**16 27 51.8**	**+0.3**
ARCES	**ARCESS Array B**	**37.37**	**327**	P	**P**	**16 27 51.8**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=80,slow=9.3,SNR=24						
ARCES				LR	LR	16 45 25.0	
	comp=Z,1μm,18.6s,baz=276,slow=40						
ARE0	**ARCESS Array S**	**37.37**	**327**	*e*P	**P**	**16 27 51.0**	**-0.5**
ARE0	**ARCESS Array S**	**37.37**	**327**	*e*P	**P**	**16 27 51.5**	**-0.1**
PUL	**Pulkovo**	**37.40**	**310***de*	P	**P**	**16 27 53.1**	**+1.3**
PUL				pmax	pmax		
	comp=Z,188nm,1.1s						
PUL				MLR	MLR		
	comp=Z,3μm,17.0s						
AKH	**Akhalkalaki**	**37.40**	**277**	P	**P**	**16 27 54.4**	**+2.1**
CHVG	**Ch'k'valeri**	**37.58**	**279**	P	**P**	**16 27 56.2**	**+2.5**
KTK1	**Kautokeino**	**38.25**	**326**	*e*P	**P**	**16 27 59.3**	**+0.3**
KAF	**Kangasniemi**	**38.61**	**315**	*e*P	**P**	**16 28 01.5**	**-0.5**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KAF	**Kangasniemi**	**38.61**	**315**	*e*p	**P**	**16 28 01.5**	**-0.5**
	comp=Z,8.7nm,0.5s,baz=76,slow=8.3						
SOC	**Sochi**	**38.61**	**282***c*	*i*P	**P**	**16 28 02.5**	**+0.2**
SOC				*e*		16 29 29.6	
SOC				*e*S	**S**	**16 33 56.7**	**-1.3**
SOC				pmax	pmax		
	comp=Z,55nm,1.0s						
SOC				MLR	MLR		
	comp=Z,3μm,16.0s						
BJO	**Bjornoya**	**38.68**	**335**	*e*P	**P**	**16 28 03.3**	**+0.8**
BJO				AMS	AMS	16 46 24.3	
	comp=Z,1μm,15.6s						
FIA1	**FINESS Array S**	**38.91**	**314**	*e*P	**P**	**16 28 04.2**	**-0.3**
FINES	**FINESS Array B**	**38.91**	**314**	P	**P**	**16 28 04.7**	**+0.2**
FINES	**FINESS Array B**	**38.91**	**314**	P	**P**	**16 28 04.7**	**+0.2**
	comp=Z,17nm,0.6s,baz=70,slow=8.0,SNR=89						
FINES				LR	LR	16 45 39.5	
	comp=Z,3μm,18.4s,baz=81,slow=38						
SPITS	**Spitsbergen Ar**	**38.96**	**341**	P	**P**	**16 28 05.3**	**+0.5**
SPITS	**Spitsbergen Ar**	**38.96**	**341**	P	**P**	**16 28 05.3**	**+0.5**
	comp=Z,8.4nm,0.9s,baz=74,slow=11,SNR=6.0						
ANN	**Anapa**	**39.39**	**285**	*e*P	**P**	**16 28 08.8**	**0.0**
ANN				*e*		16 29 38.5	
ANN				*e*S	**S**	**16 34 12.6**	**+2.9**
ANN				*e*SS	**SS**	**16 37 02.6**	**-0.8**
ANN				pmax	pmax		
	comp=Z,121nm,1.2s						
ANN				MLR	MLR		
	comp=N,1μm,19.0s						
ANN				MLR	MLR		
	comp=E,881nm,19.0s						
ANN				MLR	MLR		
	comp=Z,2μm,19.0s						
VSU	**Vasula**	**39.56**	**309***c*	*i*P	**P**	**16 28 10.8**	**+0.8**
VSU				MLR	MLR		
	comp=Z,6μm,17.0s						
BANOM	**Banah**	**39.58**	**247**	P	**P**	**16 28 12.0**	**+1.4**
	SNR=20						
TRO	**Tromso**	**39.62**	**328**	*e*P	**P**	**16 28 11.0**	**+0.6**
TRO				*e*S	**S**	**16 34 15.7**	**+3.1**
TRO				*e*SS	**SnSn**	**16 37 09.3**	**+0.3**
TRO				AMS	AMS	16 46 38.7	
	comp=Z,792nm,16.5s						
KBS	**Kingsbay**	**39.75**	**342**	*e*		16 36 18.9	
KBS				AMS	AMS	16 45 00.0	
	comp=Z,1μm,17.0s						
KBS	**Kingsbay**	**39.75**	**342**⇓	*e*P	**P**	**16 28 11.5**	**+0.1**
UOSS	**Wadi Hilu**	**40.38**	**246**	P	P	16 28 22.0	+4.8
	comp=Z,183nm,0.8s,SNR=6.7						
MICGM	**Minsk**	**40.48**	**303**	*e*P	**P**	**16 28 17.0**	**-0.7**
MNK	**Minsk**	**40.50**	**303**	*e*P	**P**	**16 28 17.0**	**-0.9**
MNK				pmax	pmax		
	comp=Z,190nm,1.2s						
MNK				MLR	MLR		
	comp=Z,11μm,14.0s						
WBK	**Wadi Bani Khal**	**40.64**	**240**	P	P	16 28 27.1	+7.7
	SNR=6.2						
ASHO	**Ashiyiah**	**40.67**	**246**	P	**P**	**16 28 20.2**	**+0.6**
	SNR=30						
IDID	**Didziasalis**	**40.75**	**305**	*e*P	**P**	**16 28 19.8**	**-0.1**
IDID				AMB	AMB	16 28 30.9	
	comp=Z,26nm,0.9s						
SMDO	**Samad**	**40.80**	**242**	P	P	16 28 28.4	+7.6
	SNR=11						
HOQ	**Hoqain**	**40.80**	**243**	P	P	16 28 27.9	+7.1
	SNR=12						
IBDR	**Badra**	**40.86**	**264**	*e*P	P	16 28 12.0	-9.1
IBDR				*e*S	S	16 34 18.0	-14
NACGM	**Naroch**	**40.90**	**304**	*e*P	**P**	**16 28 19.0**	**-2.1**
ISAL	**Salakas**	**40.96**	**305**	*e*P	**P**	**16 28 21.6**	**-0.1**
ISAL				AMB	AMB	16 28 24.7	
	comp=Z,24nm,1.5s						
IIGN	**Ignalina**	**41.00**	**305**	*e*P	**P**	**16 28 22.0**	**-0.1**
IIGN				AMB	AMB	16 28 33.0	
	comp=Z,23nm,1.1s						
SIM	**Simferopol'**	**41.34**	**287***c*	*i*P	**P**	**16 28 24.7**	**-0.2**
SIM				*e*		16 30 05.0	
SIM				*e*S	**S**	**16 34 38.9**	**+0.1**
SIM				pmax	pmax		
	comp=Z,67nm,0.3s						
SIM				pmax	pmax		
	comp=Z,40nm,5.5s						
SIM				MLR	MLR		
	comp=Z,460nm,12.3s						
STEI	**Steigen**	**41.38**	**326**	*e*P	**P**	**16 28 24.2**	**-0.7**
ARQ	**Araqi**	**41.45**	**244**	P	**P**	**16 28 27.6**	**+1.6**
	SNR=30						
BSY	**Bisya**	**41.52**	**243**	P	P	16 28 37.3	+11
	SNR=8.9						
BHD	**Baghdad**	**41.73**	**266**	*e*P	P	16 28 17.0	-11
BHD				*e*S	S	16 34 28.0	-17
UMR	**Umm Al-Rimmam**	**42.14**	**259**	*e*P	**P**

comp=Z,281nm,1.1s
MOR8 Moi Rana 42.26 323 *e*P P 16 28 30.9 -1.3
MOR8 AMB AMB 16 28 41.9
comp=Z,60nm,0.7s
MALT Malatya 42.37 276⇑*i*P P 16 28 57.0 +23
KBD Kabd 42.42 259 *e*P P 16 28 33.5 -0.5
KBD AMb AMB 16 28 44.3
comp=Z,131nm,1.1s
NAY Al-Naaiem 42.65 259 *e*P P 16 28 35.0 -0.8
RDF Al-Radifah 42.69 258 *e*P P 16 28 36.1 0.0
RDF AMb AMB 16 28 47.8
comp=Z,249nm,1.4s
STOK Stokkvaagen 42.74 324 *e*P P 16 28 37.9 +1.9
SUW Suwalki 43.18 304 *e*P P 16 28 39.9 +0.2
SUW LMZ LR 16 47 38.3
KIS Kishinev 43.44 293⇑*i*P P 16 28 41.0 -1.0
comp=Z,300nm,1.0s
KIS *e*S S 16 35 09.0 -0.7
KIS *e*LQ LQ 16 44 00.0
KIS LRM MLR 16 47 20.0
comp=Z,3μm,20.0s
KIS Kishinev 43.44 293*o* *i*P P 16 28 41.0 -1.0
KIS *e* 16 30 22.0
KIS *e*S S 16 35 09.0 -0.7
KIS pmax pmax
comp=Z,300nm,1.0s
KIS MLR MLR
comp=N,1μm,12.0s
KIS MLR MLR
comp=E,1μm,12.0s
KIS MLR MLR
comp=Z,3μm,12.0s
KIS MLR MLR
comp=Z,3μm,20.0s
NSS Namsos 43.84 322 *e*P P 16 28 44.5 -0.5
NSS AMS AMS 16 48 58.3
comp=Z,1μm,15.2s
BR131 Keskin Array S 44.53 281 *e*P P 16 28 49.8 -1.2
comp=Z,18nm,0.8s
BRTR Keskin Array B 44.53 281 P **P 16 28 50.4 -0.7**
BRTR Keskin Array B 44.53 281 P **P 16 28 50.4 -0.7**
comp=Z,11nm,0.8s,baz=77,slow=5.7,SNR=60
BRTR LR LR 16 49 59.2
comp=Z,596nm,18.4s,baz=250,slow=40
LVV L'vov 44.74 298 *e*P P 16 28 51.9 -0.5
LVV *e* 16 30 32.7
LVV *e*S S 16 35 28.9 +0.3
LVV *e*SS SS 16 38 38.5 -10
LVV MLR MLR
comp=N,1μm,14.0s
LVV MLR MLR
comp=E,1μm,14.0s
LVV MLR MLR
comp=Z,2μm,14.0s
CFR Carcaliu 44.81 291⇓*i*P P 16 28 53.0 +0.1
TESR Tescani 44.96 293⇓*i*P P 16 28 54.3 +0.1
ANTO Ankara 44.98 282 *e*P P 16 28 53.4 -1.1
ANTO pmax pmax
comp=Z,19nm,0.8s
ANTO Ankara 44.98 282 P **P 16 28 55.1 +0.6**
SNR=8.0
ANTO Ankara 44.98 282 *e*P P 16 28 53.4 -1.1
comp=Z,19nm,0.8s
HFS Hagfors 45.02 315 P **P 16 28 54.3 -0.2**
HFS Hagfors 45.02 315 P **P 16 28 54.3 -0.2**
comp=Z,31nm,0.6s,baz=69,slow=8.1,SNR=81
TIRR Tirgusor 45.04 290 *e*P P 16 28 53.8 -1.0
TIRR pmax pmax
comp=Z,20nm,1.0s
TIRR Tirgusor 45.04 290⇓*i*P P 16 28 54.3 -0.5
TIRR Tirgusor 45.04 290 *e*P P 16 28 53.8 -1.0
comp=Z,20nm,1.0s
TBLU Trondheim 45.08 320 *e*P P 16 28 54.1 -0.8
TBLU AMS AMS 16 49 43.3
comp=Z,2μm,15.6s
FX1 Attu Island--F 45.16 56 *e*P P 16 28 53.6 -2.0
FX1 Attu Island--F 45.16 56 P **P 16 28 53.9 -1.7**
comp=Z,61nm,0.8s,baz=360,slow=8.2,SNR=18
BUR08 Bucovina Ar. S 45.20 295 *e*P P 16 28 54.7 -1.5
BURAR Bucovina Array 45.21 295⇓*i*P P 16 28 55.5 -0.8
VRI Vrincioaia 45.27 292⇑*i*P P 16 28 57.7 +1.1
PLOR Plostina 45.32 292⇓*i*P P 16 28 58.6 +1.5
PALK Pallekele 45.37 203 P P 16 29 02.7 +4.9
comp=Z,55nm,1.6s
KWP Kalwaria Pacla 45.57 299⇑P P 16 29 00.6 +1.6
KWP Kalwaria Pacla 45.57 299⇑*i*P P 16 29 00.6 +1.6
KWP Kalwaria Pacla 45.57 299 *e*P P 16 28 58.7 -0.3
comp=Z,54nm,0.9s
KWP Kalwaria Pacla 45.57 299 *e*P P 16 28 59.7 +0.7
KWP LMZ LR 16 48 59.5
NB2 NORSAR Subarra 45.69 317 P **P 16 28 59.3 -0.5**
comp=Z,45nm,0.8s,baz=62,slow=7.9
NB2 NORSAR Subarra 45.69 317 P **P 16 28 59.3 -0.5**
baz=62,slow=7.9
NOA NORSAR Array B 45.69 317 P **P 16 28 59.5 -0.3**
NOA NORSAR Array B 45.69 317 P **P 16 28 59.5 -0.3**
comp=Z,27nm,0.7s,baz=63,slow=8.0,SNR=125
NOA LR LR 16 50 28.2
comp=Z,838nm,20.7s,baz=65,slow=39
NAO01 NORSAR Array S 45.92 317 *e*P P 16 29 01.0 -0.6
comp=Z,30nm,0.8s
MLR Muntele Rosu 45.93 292 P **P 16 29 02.0 0.0**
MLR Muntele Rosu 45.93 292 P **P 16 29 02.0 0.0**
comp=Z,0.9nm,0.6s,baz=20,slow=7.7,SNR=9.2
KOLS Kolonicke sedl 46.18 298 *e*P P 16 29 03.2 -0.6
KOLS pmax pmax
comp=Z,18nm,1.6s
KOLS Kolonicke sedl 46.18 298 *e*P P 16 29 03.2 -0.6
UZH Uzhgorod 46.33 298 *e*P P 16 29 01.2 -3.7
UZH *e* 16 29 03.6
UZH *e* 16 29 07.0
UZH *e* 16 30 43.8
UZH *e*S S 16 35 44.6 -6.9
UZH *e*PS 16 36 00.6
UZH *e*SS ScS 16 39 07.4 +7.8
UZH MLR MLR
comp=N,700nm,13.0s
UZH MLR MLR
comp=E,1μm,13.0s
UZH MLR MLR
comp=Z,650nm,13.0s
DAG Danmarks Havn 46.46 343 *i* P **P 16 29 05.8 +0.2**
DAG *i* 16 29 13.8
DAG MLR MLR
comp=Z,810nm,16.0s
DAG Danmarks Havn 46.46 343 *i* P **P 16 29 05.8 +0.2**
DAG *i* 16 29 13.8
DAG
comp=Z,800nm,15.0s
VOIR 46.48 293⇑P P 16 29 07.9 +1.6
VOIR 46.48 293⇑*i*P P 16 29 07.9 +1.6
MOL Molde 46.49 320 AMS AMS 16 50 26.4
comp=Z,3μm,14.6s
STHS Stebnicka Huta 46.50 299 *e*P P 16 29 07.6 +1.3
STHS pmax pmax
comp=Z,9.0nm,1.7s
STHS Stebnicka Huta 46.50 299 *e*P P 16 29 07.6 +1.3
GKP Gorka Klasztor 46.63 306 *e*P P 16 29 09.2 +1.9
GKP LMZ LR 16 50 09.1
ARR Arges 46.77 293⇓*i*P P 16 29 10.6 +2.1
OJC Ojcow 46.86 301 *e*P P 16 29 09.7 +0.5
BSD Bornholm Skovb 46.87 309 *e*P P 16 29 09.3 +0.3
BSD *i*S S 16 35 54.5 -4.5
BSD pmax pmax
comp=Z,26nm,1.0s
BSD MLR MLR
comp=Z,3μm,13.0s
BSD Bornholm Skovb 46.87 309 *i* P **P 16 29 09.3 +0.3**
comp=Z,26nm,0.9s
BSD *i*S S 16 35 54.5 -4.5
BSD
comp=Z,3μm,12.0s
NIE Niedzica 47.01 300 *e*P P 16 29 13.4 +3.1
KONO Kongsberg 47.06 316 *e*S S 16 36 03.9 +2.1
KONO *e*SS SS 16 39 31.9 +3.7
KONO AMS AMS 16 50 34.2
comp=Z,4μm,15.6s
KONO Kongsberg 47.06 316 *e*P P 16 29 10.4 -0.2
KONO pmax pmax
comp=Z,25nm,1.2s
KONO Kongsberg 47.06 316 *e*P P 16 29 10.4 -0.2
comp=Z,25nm,1.2s
DRGR 47.09 296⇓P P 16 29 14.1 +3.0
DRGR 47.09 296⇓*i*P P 16 29 14.1 +3.0
SZH Strazhica 47.19 290 *i* P **P 16 29 10.8 -1.0**

KECS Kecovo 47.42 299 *e*P P 16 29 13.9 +0.4
KECS pmax pmax
comp=Z,12nm,1.6s
KECS Kecovo 47.42 299 *e*P P 16 29 13.9 +0.4
JMIC Jan Mayen 47.56 335 *e* 16 36 23.4
MMAI Mount Meron Ar 47.60 273 P **P 16 29 15.0 -0.2**
MMAI Mount Meron Ar 47.60 273 P **P 16 29 15.0 -0.2**
comp=Z,15nm,0.8s,baz=38,slow=7.3,SNR=18
CSS Prodhromos 47.65 276 *e*P P 16 29 15.2 -0.3
comp=Z,42nm,1.0s
HYA Hoyanger 47.75 319 *e*P P 16 29 15.6 -0.3
HYA AMB AMB 16 29 19.0
comp=Z,61nm,1.8s
GZR Gura Zlata 47.84 294⇓P P 16 29 18.0 +1.1
GZR Gura Zlata 47.84 294⇓*i*P P 16 29 18.0 +1.1
RAYN Ar Rayn 47.85 255 P **P 16 29 16.5 -0.7**
comp=Z,802nm,0.7s,SNR=25
RGN Rugen 47.95 309 *e*pP pP 16 29 26.0 +4.5
OKC Ostrava-Krasne 47.97 301 *e*P P 16 29 18.6 +0.9
OKC *e* 16 29 27.9
OKC *e*S S 16 36 15.6 +0.7
OKC MLR MLR
comp=Z,3μm,15.3s
OKC Ostrava-Krasne 47.97 301 *e*P P 16 29 18.6 +0.9
OKC *e*x x 16 29 27.9
OKC *e*S S 16 36 15.6 +0.7
OKC AMS AMS 16 50 30.0
comp=Z,3μm,15.3s
ABTO Aybut 48.02 242 P P 16 29 23.4 +4.9
SNR=5.9
PSZ Piszkesteto 48.06 298⇓P P 16 29 20.7 +2.1
PSZ Piszkesteto 48.06 298⇓*i*P P 16 29 20.7 +2.1
PSZ Piszkesteto 48.06 298 P **P 16 29 17.5 -1.1**
comp=Z,28nm,1.3s
PSZ Piszkesteto 48.06 298⇑*e*P P 16 29 20.9 +2.3
ODD1 Odda 48.22 317 *e*P P 16 29 19.7 +0.1
MORC Moravsky Berou 48.33 301 *e*P P 16 29 20.1 -0.5
MORC pmax pmax
comp=Z,21nm,1.0s
MORC Moravsky Berou 48.33 301 *e*P P 16 29 20.1 -0.5
comp=Z,21nm,1.0s
VYHS Vyhne 48.33 299 *e*P P 16 29 20.8 +0.2
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 48.33 299 *e*P P 16 29 20.8 +0.2
KSP Ksiaz 48.41 303 *e*P P 16 29 21.7 +0.5
KSP *e* 16 31 14.1
KSP *e*S S 16 36 23.0 +1.8
KSP MLR MLR
comp=Z,8μm,16.2s
KSP Ksiaz 48.41 303 *e*P P 16 29 22.0 +0.8
KSP LMZ LR 16 51 06.6
MPEP Malo Peshtene 48.44 291 P **P 16 29 21.0 -0.5**
KDZ Kurdzhali 48.44 288 *i* P **P 16 29 22.3 +0.8**
RUND Rundenannen 48.49 319 *e*P P 16 29 20.7 -0.9
BLS5 Blasjo 48.55 317 *e*P P 16 29 22.1 0.0
DPC Dobruska-Polom 48.67 303 *e*P P 16 29 24.1 +0.9
DPC *e* 16 29 27.5
DPC *e* 16 29 31.0
DPC Dobruska-Polom 48.67 303 *e*P P 16 29 24.1 +0.9
DPC *e*pP **pP 16 29 27.5 +0.3**
DPC *e*x x 16 29 31.0
DPC *e*SS SS 16 40 02.3 +7.7
DPC AMS AMS 16 51 00.0
SNART Snartemo 48.80 315 *e*P P 16 29 24.1 +0.1
RZN Rozhen 48.84 289 *i* P **P 16 29 25.7 +0.9**
MUD Monsted U'grnd 48.92 313 *i* P **P 16 29 25.6 +0.6**
MUD pmax pmax
comp=Z,33nm,0.8s
MUD MLR MLR
comp=Z,2μm,16.0s
MUD Monsted U'grnd 48.92 313 *i* P **P 16 29 25.6 +0.6**
comp=Z,33nm,0.8s
MUD
comp=Z,2μm,15.0s
VRAC Vranov 49.10 301 P **P 16 29 27.4 +0.9**
VRAC Vranov 49.10 301 P **P 16 29 27.4 +0.9**
comp=Z,3.3nm,0.5s,baz=45,slow=8.8,SNR=9.8
AMKA Amchitka 49.17 55 *e*P P 16 29 26.3 -0.6
comp=Z,254nm,1.6s
VTS Vitosha 49.21 291⇑P P 16 29 27.5 -0.1
VTS Vitosha 49.21 291 *i* P **P 16 29 27.4 -0.1**
VTS Vitosha 49.21 291⇑*i*P P 16 29 27.5 -0.1
MMB Musomiste 49.50 289 *i* P **P 16 29 28.3 -1.3**
PVCC Panska Ves 49.50 304 *e*P P 16 29 30.8 +1.3
PVCC *e* 16 29 35.4
PVCC *e* 16 29 37.4
PVCC *e*SS SS 16 40 07.6 -0.2
PVCC MLR MLR
comp=Z,4μm,13.6s
PVCC Panska Ves 49.50 304 *e*P P 16 29 30.8 +1.3
PVCC *e*pP **pP 16 29 35.4 +1.9**
PVCC *e*x x 16 29 37.4
PVCC *e*SS SS 16 40 07.6 -0.2
PVCC AMS AMS 16 51 30.0
comp=Z,4μm,13.6s
NVR Nevrokopi 49.56 289 *e*P P 16 29 29.9 -0.2
BRG Berggiesshubel 49.64 304 *e*P P 16 29 31.2 +0.7
comp=Z,32nm,1.5s
BRG *i* 16 29 40.9
comp=Z,27nm,1.2s
BRG *i* PP **PP 16 31 24.7 +0.1**
comp=Z,30nm,1.4s
BRG *e* 16 34 38.1
comp=Z,5.2nm,0.6s
BRG S S 16 36 41.0 +2.6
BRG SS **SS 16 40 17.0 +7.0**
BRG
comp=N,1μm,13.1s
BRG
comp=E,2μm,14.8s
BRG
comp=Z,2μm,15.6s
BRG Berggiesshubel 49.64 304 *e*P P 16 29 31.2 +0.7
BRG *i* 16 29 40.9
BRG *i* 16 31 24.7
BRG S S 16 36 41.0 +2.6
BRG pmax pmax
comp=Z,32nm,1.5s
BRG pmax pmax
comp=Z,30nm,1.4s
BRG MLR MLR
comp=N,1μm,13.1s
BRG MLR MLR
comp=E,2μm,14.8s
BRG MLR MLR
comp=Z,2μm,15.6s
DAV Davao City (W) 49.69 141 LR LR 16 52 12.9
comp=Z,1μm,19.2s,baz=334,slow=38
TREC Trest 49.71 302 *e*P P 16 29 30.9 -0.2
TREC *e* 16 29 38.8
TREC MLR MLR
comp=Z,3μm,15.5s
TREC Trest 49.71 302 *e*P P 16 29 30.9 -0.2
TREC *e*x x 16 29 38.8
TREC *e*SS SS 16 40 22.5 +11
TREC AMS AMS 16 51 40.0
comp=Z,3μm,15.5s
PKSM Moragy 49.74 297⇑P P 16 29 32.0 +0.6
PKSM Moragy 49.74 297⇑*i*P P 16 29 32.0 +0.6
PKSM Moragy 49.74 297⇑*e*P P 16 29 31.9 +0.6
BSEG Bad Segeberg 49.76 309 *e*P P 16 29 32.5 +1.1
comp=Z,51nm,1.2s
BSEG *e*pP pP 16 29 41.1 +5.7
BSEG Bad Segeberg 49.76 309 *e*P P 16 29 32.5 +1.1
BSEG *e**PP pP 16 29 41.1 +5.7
BSEG pmax pmax
comp=Z,51nm,1.2s
PRU Pruhonice 49.82 303 *e*P P 16 29 32.8 +0.9
PRU *e* 16 29 37.2
PRU *e* 16 29 40.6
PRU *e*S S 16 36 39.4 -1.5
PRU MLR MLR
comp=Z,3μm,13.9s
PRU Pruhonice 49.82 303 *e*P P 16 29 32.8 +0.9
PRU *e*pP **pP 16 29 37.2 +1.2**
PRU *e*x x 16 29 40.6
PRU *e*S S 16 36 39.4 -1.5
PRU *e*SS SS 16 40 18.4 +5.4
PRU AMS AMS 16 51 50.0
comp=Z,3μm,13.9s
PRA Prague 49.83 303 P **P 16 29 34.0 +2.0**
CLL Collm 49.88 305 *e*P P 16 29 32.6 +0.2
comp=Z,25nm,1.2s

CLL *e*pP pP 16 29 41.2 +4.8
CLL Collm 49.88 305 *e*P P 16 29 33.0 +0.6
CLL *i* 16 29 41.7
CLL *i* 16 31 26.5
CLL *e*S S 16 36 45.0 +3.3
CLL pmax pmax
comp=Z,25nm,1.2s
CLL Collm 49.88 305 *e*P P 16 29 33.0 +0.6
comp=Z,25nm,1.2s
CLL *e* 16 29 38.0
CLL *i* (sP) **sP 16 29 41.7 +3.7**
comp=Z,47nm,1.0s
CLL *i* PP **PP 16 31 26.5 -0.3**
CLL *e* 16 32 05.0
CLL *e*S S 16 36 45.0 +3.3
CLL *e*SS SS 16 40 24.0 +10
CLL *e* 16 42 30.0
FBE Freiberg 49.92 305 *e*P P 16 29 33.4 +0.8
comp=Z,28nm,1.1s
FBE *e*pP pP 16 29 42.0 +5.3
FBE *e*PP **PP 16 31 26.1 -1.1**
EIL Elat 50.12 270 P **P 16 29 34.1 -0.4**
EIL Elat 50.12 270 P **P 16 29 34.1 -0.4**
comp=Z,20nm,1.0s,baz=40,slow=3.1,SNR=18
CONA Conrad Observa 50.29 300 *i* pP **P 16 29 37.4 +1.7**
comp=Z,19nm,1.0s,SNR=7.5
PLG Polygyros 50.40 288 *e*P P 16 29 35.9 -0.6
NEUB Neuenburg 50.57 306 *e*P P 16 29 38.0 +0.4
comp=Z,56nm,1.4s
NEUB *e*pP pP 16 29 46.6 +4.9
TANN Tannenbergstha 50.67 305 *e*P P 16 29 39.0 +0.5
comp=Z,26nm,1.4s
TANN *e*pP pP 16 29 47.7 +5.2
TANN *e*PP **PP 16 31 33.5 -0.6**
NRDL Niedersach Rie 50.68 308 *e*P P 16 29 39.4 +1.1
comp=Z,28nm,1.2s
NRDL *e*pP pP 16 29 48.0 +5.6
NRDL *e*PP **PP 16 31 34.1 +0.1**
WERD Werda 50.73 305 *e*P P 16 29 39.4 +0.5
comp=Z,22nm,1.4s
WERD *e*pP pP 16 29 48.1 +5.1
WERD *e*PP **PP 16 31 33.9 -0.7**
GUNZ Gunzen 50.77 305 *e*P P 16 29 39.8 +0.6
comp=Z,22nm,1.2s
GUNZ *e*pP pP 16 29 48.4 +5.2
GUNZ *e*PP **PP 16 31 34.5 -0.5**
NKC Novy Kostel 50.78 304 *e*P P 16 29 39.7 +0.4
NKC *e* 16 29 45.0
NKC MLR MLR
comp=Z,2μm,13.4s
NKC Novy Kostel 50.78 304 *e*P P 16 29 39.7 +0.4
NKC *e*pP **pP 16 29 45.0 +1.7**
NKC AMS AMS 16 52 30.0
comp=Z,2μm,13.4s
PLN Plauen 50.79 305 *e*P P 16 29 39.9 +0.6
comp=Z,116nm,1.3s
PLN *e*pP pP 16 29 48.5 +5.1
WERN Wernitzgruen 50.79 305 *e*P P 16 29 40.0 +0.7
comp=Z,26nm,1.2s
WERN *e*pP pP 16 29 48.7 +5.3
WERN *e*PP **PP 16 31 34.6 -0.6**
KHC Kasperske Hory 50.83 303 *e*P P 16 29 39.9 +0.3
KHC *e* 16 29 47.1
KHC *e*S S 16 36 54.5 -0.6
KHC *e*SS **SS 16 40 29.5 +0.4**
KHC MLR MLR
comp=Z,4μm,13.4s
KHC Kasperske Hory 50.83 303 *e*P P 16 29 39.9 +0.3
KHC *e*x x 16 29 47.1
KHC *e*S S 16 36 54.5 -0.6
KHC *e*SS **SS 16 40 29.5 +0.4**
KHC AMS AMS 16 52 20.0
comp=Z,4μm,13.4s
KHC Kasperske Hory 50.83 303 *e*P P 16 29 39.5 -0.2
comp=Z,22nm,1.3s
AOS Alonnisos 50.88 287 *e*P P 16 29 36.1 -4.0
GEC2 GERESS Array S 50.93 302 *e*P P 16 29 40.9 +0.4
comp=Z,14nm,1.4s
GEC2 *e*pP pP 16 29 49.5 +5.0
GEC2 *e*PP **PP 16 31 35.0 -1.5**
GEC2 GERESS Array S 50.93 302 *e*P P 16 29 40.9 +0.4
GEC2 *e**PP pP 16 29 49.5 +5.0
GEC2 *e* 16 31 35.0
GEC2 pmax pmax
comp=Z,14nm,1.4s
GERES GERESS Array B 50.93 302 P **P 16 29 40.5 0.0**
GERES GERESS Array B 50.93 302 P **P 16 29 40.5 0.0**
comp=Z,1.8nm,0.7s,baz=57,slow=7.2,SNR=19
GERES LR LR 16 53 09.0
comp=Z,1μm,21.3s,baz=70,slow=38
MOX Moxa 50.98 305 *e*P P 16 29 41.4 +0.7
comp=Z,30nm,1.4s
MOX *e*pP pP 16 29 50.0 +5.2
MOX *e*L L 16 53 17.9
comp=Z,2μm,19.7s
MOX Moxa 50.98 305 *e*P P 16 29 41.4 +0.7
MOX *e**PP pP 16 29 50.0 +5.2
MOX pmax pmax
comp=Z,30nm,1.4s
MOX MLR MLR
comp=Z,2μm,19.7s
MANZ Manzenberg 51.11 304 *e*P P 16 29 42.5 +0.8
comp=Z,17nm,1.6s
MANZ *e*pP pP 16 29 51.1 +5.3
LIT Litokhoron 51.15 289 *e*P P 16 29 39.0 -3.1
ROTZ Rotzenmuhle 51.18 304 *e*P P 16 29 43.2 +0.9
comp=Z,14nm,1.1s
ROTZ *e*pP pP 16 29 51.8 +5.5
APE Apeiranthos 51.19 284 *e*P P 16 29 40.4 -2.1
WET Wettzell 51.19 303 *e*P P 16 29 43.1 +0.7
comp=Z,17nm,1.2s
WET *e*pP pP 16 29 51.7 +5.3
WET Wettzell 51.19 303 *e*P P 16 29 43.1 +0.7
WET *e**PP pP 16 29 51.7 +5.3
WET pmax pmax
comp=Z,17nm,1.2s
MOA Molln 51.21 301⇑*i*pP P 16 29 43.6 +1.2
comp=Z,15nm,0.9s
LRW Lerwick 51.34 321 AMS AMS 16 54 12.7
comp=Z,2μm,13.3s
FNA Florina 51.39 290 *e*P P 16 29 43.9 -0.1
PERS Pernice 51.46 299 *i* P **P 16 29 43.7 -0.7**
SOKA Soboth 51.48 299⇑*i*pP P 16 29 45.5 +0.8
comp=Z,8.6nm,0.8s
UBBA Unterbreizbach 51.71 306 *e*P P 16 29 46.7 +0.7
comp=Z,31nm,1.6s
UBBA *e*pP pP 16 29 55.3 +5.2
GRF Grafenberg Arr 51.74 304 *e*P P 16 29 47.5 +1.0
comp=Z,69nm,1.5s
GRF *e*pP pP 16 29 56.2 +5.7
GRF *e*L L 16 54 25.3
comp=Z,553nm,21.9s
GRF Grafenberg Arr 51.74 304 *e*P P 16 29 47.5 +1.0
GRF *e**PP pP 16 29 56.2 +5.7
GRF pmax pmax
comp=Z,69nm,1.5s
GRF MLR MLR
comp=Z,600nm,21.9s
GRFO Grafenberg 51.75 304 *e*P P 16 29 46.8 +0.4
GRFO pmax pmax
comp=Z,58nm,1.1s
GRFO Grafenberg 51.75 304 *e*P P 16 29 46.8 +0.4
comp=Z,58nm,1.1s
THL Klokotos Trika 51.77 288 *e*P P 16 29 45.2 -1.5
OBKA Obir 51.85 300⇑*i*pP P 16 29 48.3 +0.9
comp=Z,16nm,0.7s
AGG Agios Georgios 51.92 288 *e*P P 16 29 45.5 -2.4
COLD Coldfoot 52.05 27 *e*P P 16 29 47.5 -1.0
comp=Z,20nm,0.9s
BOJS Bojanci 52.06 298 *i* P **P 16 29 49.1 +0.2**
VISS Visnje 52.11 299 *i* P **P 16 29 52.3 +3.1**
LTK Loutraki 52.16 286 *e*P P 16 29 43.6 -6.1
KBA Koelnbreinsper 52.17 301⇑*i*pP P 16 29 51.5 +1.7
comp=Z,53nm,0.8s
MYKA Terra Mystica 52.28 300⇓*i*pP P 16 29 51.5 +1.0
comp=Z,30nm,0.8s,SNR=7.7
NPS Neapolis 52.30 282 *e*P P 16 29 54.7 +3.9
DID Didima 52.32 285 *e*P P 16 29 42.3 -8.7
KALE Kalithea 52.43 287 *e*P P 16 29 49.5 -2.3
JAVS Javornik 52.49 299 *i* P P 16 29 57.8 +5.7
EFP Efpalio 52.55 287 *e*P P 16 29 51.1 -1.5
GUR Goura 52.59 286 *e*P P 16 29 51.0 -2.1
LAKA Lakka 52.62 287 *e*P P 16 29 50.5 -2.7
BUG Bochum--Univer 52.72 308 *e*P P 16 29 54.3 +0.7

comp=Z,42nm,1.2s
BUG *e*pP pP 16 30 03.0 +5.3
IDI Anoyia 52.73 282 *e*P **P 16 29 51.4 -2.6**
comp=Z,31nm,1.1s
TNS Taunus Mts 52.86 306 *e*P **P 16 29 55.6 +0.8**
comp=Z,30nm,1.4s
TNS *e*pP pP 16 30 04.2 +5.3
TNS Taunus Mts 52.86 306 *e*P **P 16 29 55.6 +0.8**
TNS *e**PP pP 16 30 04.2 +5.3
TNS pmax pmax
comp=Z,30nm,1.4s
WTTA Wattenberg 52.98 302⇑ *i*pP **P 16 29 57.1 +1.2**
comp=Z,18nm,1.1s
RLS Riolos of Patr 53.05 287 *e*P **P 16 29 53.1 -3.2**
LKD2 Lefkada island 53.07 288 *e*P P 16 29 47.2 -9.3
SUMG Summit 53.08 345 *e*P **P 16 29 57.2 +0.7**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 53.08 345 *i* P **P 16 29 57.6 +1.1**
SUMG *i* 16 30 06.1
SUMG Summit 53.08 345 *e*P **P 16 29 57.2 +0.7**
comp=Z,12nm,0.9s
MOTA Moosalm 53.22 302⇑ *i*pP **P 16 29 58.3 +0.7**
comp=Z,15nm,0.7s
AMT Artemida-Makis 53.24 286 *e*P P 16 29 52.9 -4.8
RETA Reutte 53.32 302 *i* pP **P 16 29 59.5 +1.3**
comp=Z,13nm,1.0s,SNR=5.1
ITM Ithomi 53.33 286 *e*P P 16 29 53.1 -5.3
DYR Agios Nikonas 53.35 285 *e*P P 16 29 55.3 -3.3
STU Stuttgart 53.36 305 *e*P **P 16 29 58.8 +0.4**
comp=Z,39nm,1.0s
STU *e*pP pP 16 30 07.4 +4.9
STU Stuttgart 53.36 305 *e*P **P 16 29 58.8 +0.4**
STU pmax pmax
comp=Z,36nm,0.9s
STU Stuttgart 53.36 305 *e*P **P 16 29 58.8 +0.4**
comp=Z,36nm,0.9s
VLS Valsamata 53.51 288 *e*P P 16 29 56.2 -3.5
FETA Feichten 53.62 302⇑ *i*pP **P 16 30 01.6 +1.0**
comp=Z,22nm,0.9s,SNR=8.0
PYL PYLOS 53.63 286 *e*P P 16 29 53.7 -6.9
MCD Coleburn Disti 53.77 319 *e*P **P 16 30 01.9 +0.6**
MME1 Meikle Cairn 53.81 319 *e*P **P 16 30 02.0 +0.3**
MEM Membach 53.86 308 P **P 16 30 02.8 +0.7**
comp=Z,22nm,1.0s
DRUM Mains of Drumt 53.87 318 AMS AMS 16 55 24.0
comp=Z,2µm,16.8s
DAVA Damuels 53.91 303 *i* pP **P 16 30 03.7 +1.0**
comp=Z,42nm,1.0s,SNR=7.8
MVH1 Achvaich 53.93 320 *e*P **P 16 30 02.4 -0.1**
BFO Black Forest 54.09 305 *e*P **P 16 30 03.8 0.0**
comp=Z,15nm,1.2s
BFO *e*pP **pP 16 30 12.5 +4.6**
BFO Black Forest 54.09 305 *e*P **P 16 30 03.8 0.0**
BFO *e**PP **pP 16 30 12.5 +4.6**
BFO pmax pmax
comp=Z,15nm,1.2s
BFO Black Forest 54.09 305 *e*P **P 16 30 03.4 -0.4**
comp=Z,16nm,1.1s
DAVOX Davos/Dischmat 54.23 302 P **P 16 30 05.3 +0.3**
DAVOX Davos/Dischmat 54.23 302 P **P 16 30 05.3 +0.3**
comp=Z,6.6nm,0.7s,baz=24,slow=8.1,SNR=8.4
WLF Walferdange 54.38 307 *e*P **P 16 30 06.8 +1.0**
comp=Z,14nm,1.3s
WLF *e*pP pP 16 30 15.5 +5.6
COLA College 54.38 28 *e*P **P 16 30 05.1 -0.5**
COLA pmax pmax
comp=Z,44nm,0.8s
COLA College 54.38 28 *e*P **P 16 30 05.1 -0.5**
comp=Z,44nm,0.8s
CDF Champ du Feu 54.58 305 *e*P **P 16 30 07.1 -0.4**
comp=Z,42nm,1.0s
KAC Achnashellach 54.67 320 *e*P **P 16 30 08.2 +0.4**
ILAR Eielson Array 54.74 28 P **P 16 30 08.0 -0.3**
ILAR Eielson Array 54.74 28 P **P 16 30 08.0 -0.3**
comp=Z,8.9nm,1.1s,baz=310,slow=4.9,SNR=46
ILAR LR LR 16 56 09.1
comp=Z,1µm,18.8s,baz=331,slow=39
ECH Echery 54.77 305 *e*P **P 16 30 07.5 -1.3**
ECH pmax pmax
comp=Z,19nm,0.9s
ECH Echery 54.77 305 *e*P **P 16 30 07.5 -1.3**
comp=Z,19nm,0.9s
GIVF Givet 54.77 308 *e*P **P 16 30 08.8 +0.1**
comp=Z,50nm,1.1s
EDI Edinburgh 54.80 317 AMS AMS 16 55 39.2
comp=Z,2µm,19.9s
DOU Dourbes 54.89 308 P **P 16 30 09.1 -0.4**
comp=Z,78nm,1.3s
KPL Plockton 54.92 320 AMS AMS 16 56 25.1
comp=Z,2µm,14.9s
BAIF Baives 55.10 308 *e*P **P 16 30 11.1 0.0**
comp=Z,43nm,1.0s
EAB Aberfoyle 55.12 318 *e*P **P 16 30 11.5 +0.4**
EKA Eskdalemuir Ar 55.17 317 P **P 16 30 11.7 +0.2**
EKA Eskdalemuir Ar 55.17 317 P **P 16 30 11.7 +0.2**
comp=Z,7.9nm,0.7s,baz=47,slow=6.9,SNR=16
HINF Hinteralfeld 55.18 305 *e*P **P 16 30 11.1 -0.6**
comp=Z,33nm,1.1s
ESK Eskdalemuir 55.20 317 *e*P **P 16 30 11.8 +0.1**
ESK AMS AMS 16 57 23.1
comp=Z,1µm,13.0s
ESK Eskdalemuir 55.20 317 *e*P **P 16 30 11.2 -0.5**
ESK pmax pmax
comp=Z,25nm,0.7s
ESK Eskdalemuir 55.20 317 *e*P **P 16 30 11.2 -0.5**
comp=Z,25nm,0.7s
ECK Cauldkaine Hil 55.25 317 *e*P **P 16 30 12.0 -0.1**
PAGF Fort de Pagny 55.29 306 *e*P **P 16 30 12.8 +0.3**
comp=Z,31nm,1.0s
HAU Haudompre 55.32 305 *e*P **P 16 30 12.5 -0.2**
comp=Z,77nm,1.1s
HAU *e*R
comp=Z,2µm,18.5s
THEF They Montfort 55.37 306 *e*P **P 16 30 13.9 +0.8**
HPK Haverah Park 55.38 315 *e*P **P 16 30 12.9 -0.1**
HPK AMB AMB 16 30 14.8
comp=Z,52nm,1.3s
HPK AMS AMS 16 56 49.0
comp=Z,1µm,17.1s
PGBU Glenifferbraes 55.43 318 *e*P **P 16 30 13.1 -0.3**
PGBU AMB AMB 16 30 15.6
comp=Z,56nm,0.9s
PGBU AMS AMS 16 56 30.1
comp=Z,2µm,15.2s
INK Inuvik 55.51 20 *e*P **P 16 30 12.7 -1.0**
comp=Z,23nm,1.1s
INK Inuvik 55.51 20 P **P 16 30 13.5 -0.2**
comp=Z,14nm,0.9s,baz=341,slow=6.7,SNR=30
MEZF Maizieres J'vi 55.67 306 *e*P **P 16 30 15.5 +0.3**
comp=Z,53nm,0.9s
GCD Castle Douglas 55.82 317 *e*P **P 16 30 15.8 -0.4**
SFTF Sexfontaines 55.87 306 *e*P **P 16 30 16.3 -0.3**
comp=Z,58nm,0.8s
ELSH Elham, Standar 55.91 311 *e*P **P 16 30 16.9 0.0**
ELSH AMB AMB 16 30 18.1
comp=Z,84nm,1.0s
ELSH AMS AMS 16 57 16.8
comp=Z,2µm,13.9s
GAL1 Galloway 56.15 317 *e*P **P 16 30 18.6 0.0**
GAL1 AMS AMS 16 56 24.5
comp=Z,1µm,19.0s
STNC Stoke 56.21 314 AMS AMS 16 57 16.7
comp=Z,2µm,16.5s
CEL Celeste 56.27 291 *e*P **P 16 30 19.2 -0.5**
comp=Z,21nm,0.6s
CABF La Chapelle 56.35 304 *e*P **P 16 30 19.5 -0.7**
comp=Z,50nm,1.1s
EGAK Eagle 56.39 26 *e*P **P 16 30 18.8 -1.3**
comp=Z,12nm,0.9s
SML Sawmill 56.43 31 *e*P **P 16 30 20.4 -0.1**
SML pmax pmax
comp=Z,5.0nm,0.9s
SML Sawmill 56.43 31 *e*P **P 16 30 20.4 -0.1**
comp=Z,5.4nm,0.9s
HMNX Herstmonceux 56.48 311 AMS AMS 16 57 43.7
comp=Z,2µm,12.4s
PAX Paxson 56.49 29 *e*P **P 16 30 19.5 -1.5**
PAX pmax pmax
comp=Z,10.0nm,0.9s
PAX Paxson 56.49 29 *e*P **P 16 30 19.5 -1.5**
comp=Z,9.5nm,0.9s
RSL Roselend 56.66 303 *e*P **P 16 30 22.9 +0.3**
LPL La Plagne 56.72 303 *e*P **P 16 30 22.9 -0.1**
comp=Z,35nm,0.7s
LPG La Plagne 56.72 303 *e*P **P 16 30 23.0 -0.1**
comp=Z,38nm,0.8s
FOEL Foel Wylfa 56.79 315 AMS AMS 16 57 52.4
comp=Z,1µm,15.7s
WPM1 Penmaenmawr 56.87 315 *e*P **P 16 30 23.6 0.0**
HLM1 Long Mynd 56.90 314 *e*P **P 16 30 23.8 -0.1**
HLM1 AMB AMB 16 30 26.2
comp=Z,51nm,1.1s
OG35 Corcelles 56.99 304 *e*P **P 16 30 24.2 -0.6**
MENT Mentasta 57.05 28 *e*P **P 16 30 24.4 -0.4**
BNI Bardonecchia 57.05 302 *e*P **P 16 30 24.7 -0.6**
BNI pmax pmax
comp=Z,60nm,0.9s
BNI Bardonecchia 57.05 302 *e*P **P 16 30 24.7 -0.6**
comp=Z,60nm,0.9s
WLF1 Llynfaes 57.06 315 AMS AMS 16 58 05.7
comp=Z,1µm,17.4s
LOR Lormes 57.08 306 *e*P **P 16 30 24.4 -0.9**
comp=Z,43nm,1.1s
LOR *e*R
comp=Z,2µm,18.0s
GMM Mts of Mourne 57.11 317 *e*P **P 16 30 25.5 +0.2**
YRC Rhoscolyn 57.17 315 *e*P **P 16 30 25.6 -0.1**
MBDF Montbardon 57.21 302 *e*P **P 16 30 26.5 0.0**
comp=Z,116nm,0.8s
SAOF Saorge 57.27 301 *e*P **P 16 30 26.5 -0.2**
MCH1 Michaelchurch 57.30 314 *e*P **P 16 30 26.1 -0.7**
MCH1 AMB AMB 16 30 31.8
comp=Z,56nm,2.1s
MCH1 AMS AMS 16 57 50.8
comp=Z,2µm,15.0s
AUTN L'Aution 57.34 301 *e*P **P 16 30 27.2 -0.2**
SSF Saint Saulge 57.40 306 *e*P **P 16 30 26.7 -0.8**
comp=Z,46nm,1.0s
SBF Sospel 57.42 301 *e*P **P 16 30 27.0 -0.8**
comp=Z,86nm,0.9s
PGF Pioggiola 57.42 299 *e*P **P 16 30 27.5 -0.4**
comp=Z,94nm,1.3s
TOUF Mont Tournerai 57.42 301 *e*P **P 16 30 25.6 -2.4**
DAWY Dawson 57.43 26 *e*P **P 16 30 26.3 -1.3**
LUCF Luceram 57.45 301 *e*P **P 16 30 29.5 +1.4**
SMF Signal de Mont 57.50 305 *e*P **P 16 30 27.4 -0.9**
comp=Z,32nm,0.9s
ORIF Oris-en-Rattie 57.57 303 *e*P **P 16 30 28.3 -0.6**
comp=Z,44nm,0.7s
ORIF *e*R
comp=Z,3µm,17.8s
AVF Avril sur Loir 57.66 306 *e*P **P 16 30 28.6 -0.7**
comp=Z,33nm,0.8s
HYF Humbligny 57.71 307 *e*P **P 16 30 29.4 -0.3**
FRF La Foret Royal 58.05 301 *e*P **P 16 30 31.1 -1.1**
comp=Z,41nm,0.9s
BGF Bois d'Agland 58.07 306 *e*P **P 16 30 31.8 -0.5**
comp=Z,20nm,0.7s
LDF La Druitiere 58.21 309 *e*P **P 16 30 32.2 -1.0**
comp=Z,102nm,1.0s
VIVF Saint-Julien-l 58.25 303 *e*P **P 16 30 32.8 -0.8**
comp=Z,32nm,0.9s
FLN La Foliniere 58.27 309 *e*P **P 16 30 32.7 -0.9**
comp=Z,110nm,0.9s
FLN *e*R
comp=Z,2µm,17.2s
SMRF Simiane la Rot 58.35 302 *e*P **P 16 30 33.9 -0.4**
comp=Z,51nm,1.2s
TCF Toulx Ste Croi 58.58 306 *e*P **P 16 30 35.4 -0.5**
comp=Z,40nm,0.8s
HTL Hartland 58.66 313 AMS AMS 16 58 42.7
comp=Z,2µm,18.9s
ATD Arta Tunnel 58.69 248 LR LR 16 57 22.1
comp=Z,538nm,19.9s,baz=40,slow=38
GRR Gorron 58.71 309 *e*P **P 16 30 35.8 -0.9**
comp=Z,45nm,0.7s
DYA Yadsworthy 58.79 313 AMS AMS 16 59 32.1
comp=Z,2µm,12.3s
JSA Saint Aubin 58.80 311 AMS AMS 16 58 49.5
comp=Z,1µm,17.6s
LASF Ste Croix 59.21 303 *e*P **P 16 30 39.9 -0.3**
comp=Z,39nm,1.0s
MFF Saint Martin d 59.57 307 *e*P **P 16 30 42.5 -0.2**
comp=Z,67nm,0.9s
CAF Calviac 59.58 305 *e*P **P 16 30 43.1 +0.3**
comp=Z,39nm,1.2s
RJF Les Rejaudoux 59.60 305 *e*P **P 16 30 42.6 -0.3**
comp=Z,25nm,1.0s
RJF *e*R
comp=Z,2µm,18.5s
SGMF Saint Gilles 59.63 310 *e*P **P 16 30 42.6 -0.5**
comp=Z,87nm,0.9s
ROSF Rostrenen 59.92 311 *e*P **P 16 30 44.6 -0.4**
comp=Z,44nm,0.8s
SFJD Kangerlussuaq 60.00 346 *i* P **P 16 30 46.5 +1.2**
comp=Z,6.5nm,1.0s
QUIF Quistinic 60.16 310 *e*P **P 16 30 46.1 -0.6**
comp=Z,134nm,1.0s
LFF La Frestale 60.25 306 *e*P **P 16 30 47.5 +0.1**
comp=Z,44nm,0.9s
HYT Haines Junctio 60.54 27 *e*P **P 16 30 48.7 -0.6**
MTLF Montolieu 60.58 303 *e*P **P 16 30 49.4 -0.3**
comp=Z,18nm,1.0s
MLS Moulis 61.44 304 *e*P **P 16 30 54.8 -0.7**
EPF Esparros 61.78 304 *e*P **P 16 30 56.7 -1.2**
comp=Z,35nm,1.1s
KEST Kesra 61.83 293 *e*P **P 16 30 57.9 -0.4**
KEST Kesra 61.83 293 P **P 16 30 58.2 -0.1**
comp=Z,2.9nm,0.8s,baz=149,slow=5.9,SNR=6.4
KEST LR LR 17 02 17.5
comp=Z,244nm,18.0s,baz=340,slow=40
SKAG Skagway 62.29 27 *e*P **P 16 31 01.6 +0.6**
comp=Z,12nm,0.9s
ETSF Etsaut 62.35 305 *e*P **P 16 31 01.7 0.0**
comp=Z,21nm,0.9s
SJPF Ste Jean 62.54 305 *e*P **P 16 31 03.6 +0.7**
comp=Z,34nm,0.9s
YKA Yellowknife Ar 64.38 16 P **P 16 31 13.2 -1.5**
YKA Yellowknife Ar 64.38 16 P **P 16 31 13.2 -1.5**
comp=Z,5.2nm,0.9s,baz=335,slow=7.1,SNR=14
DLBC Dease Lake 64.63 25 *e*P **P 16 31 17.1 +0.6**
DLBC Dease Lake 64.63 25 P **P 16 31 17.0 +0.4**
comp=Z,1.2nm,0.2s,baz=325,slow=7.1,SNR=5.3
BATI Bamata 65.06 151 LR LR 17 03 51.8
comp=Z,450nm,19.8s,baz=140,slow=40
PBRG Braganca 66.31 307 *e*P **P 16 31 29.0 +1.4**
comp=Z,20nm,1.1s
ESDC Sonseca Array 66.44 304 P **P 16 31 28.6 0.0**
ESDC Sonseca Array 66.44 304 P **P 16 31 28.6 0.0**
comp=Z,3.9nm,0.7s,baz=43,slow=6.9,SNR=21
ESDC LR LR 17 02 30.7
comp=Z,435nm,18.1s,baz=355,slow=38
ESLA Sonseca Array 66.44 304 *e*P **P 16 31 27.9 -0.6**
comp=Z,3.6nm,0.9s
PAB San Pablo 66.74 304 *e*P **P 16 31 31.0 +0.5**
PAB pmax pmax
comp=Z,7.0nm,0.9s
PAB San Pablo 66.74 304 *e*P **P 16 31 31.0 +0.5**
comp=Z,7.1nm,0.9s
MVO Moncorvo 66.93 307 *e*P **P 16 31 33.0 +1.4**
comp=Z,20nm,1.3s
MVO Moncorvo 66.93 307 *e*LR LR 16 57 39.4
comp=Z,1µm,18.0s
PGAV Gavieira, Arco 66.96 309 *e*P **P 16 31 31.5 -0.3**
comp=Z,37nm,1.3s
PGAV Gavieira, Arco 66.96 309 *e*LR LR 16 58 45.8
comp=Z,650nm,20.0s
PCAB Cabril 67.03 308 *e*P **P 16 31 33.4 +1.2**
comp=Z,56nm,0.8s
POLO Lamas de Olo 67.16 308 *e*P **P 16 31 35.6 +2.5**
comp=Z,11nm,1.5s
PVIS Viseu 67.70 307 *e*P **P 16 31 37.2 +0.7**
comp=Z,17nm,1.6s
MTE Manteigas 67.76 307 *e*P P 16 31 41.4 +4.5
comp=Z,32nm,1.5s
MTE Manteigas 67.76 307 *e*LR LR 16 58 41.2
comp=Z,1µm,18.0s
MTE Manteigas 67.76 307 *e*P **P 16 31 38.4 +1.5**
comp=Z,20nm,1.1s
PMRV Marv??o 68.41 306 *e*P P 16 31 44.1 +3.2
comp=Z,18nm,1.6s
PMRV Marv??o 68.41 306 *e*LR LR 16 59 15.4
comp=Z,528nm,16.0s
PCAS Casmilo, Conde 68.50 307 *e*P **P 16 31 43.4 +1.9**
comp=Z,34nm,0.9s
PESTR Estremoz 68.93 306 *e*P **P 16 31 45.2 +1.0**
comp=Z,18nm,0.9s
PMTG Montargil 69.10 306 *e*P **P 16 31 48.2 +3.0**
comp=Z,22nm,1.6s
PBAR Barrancos 69.16 305 *e*P **P 16 31 46.9 +1.3**
comp=Z,28nm,1.5s
EVO Evora 69.40 306⇑ *i*P **P 16 31 48.3 +1.2**
comp=Z,30nm,1.0s
EVO *e*R
comp=Z,1µm,21.5s
EVO Evora 69.40 306 *e*P **P 16 31 48.6 +1.5**
comp=Z,22nm,2.1s
PBEJ Beja 69.70 305 *e*P **P 16 31 50.4 +1.4**
comp=Z,32nm,1.6s
LIS Lisbon 69.84 307 *e*P **P 16 31 48.9 -0.9**
LIS AMS AMS 17 06 37.0
comp=Z,1µm,21.8s
LIS Lisbon 69.84 307 *e*P **P 16 31 48.9 -0.9**
PNCL Nicolau / Gran 69.98 306 *e*P **P 16 31 53.6 +2.9**
comp=Z,29nm,2.3s
PCVE Castro Verde 70.09 305 *e*P **P 16 31 52.9 +1.5**
comp=Z,26nm,1.4s
PVAQ Vaqueiros 70.10 305 *e*P **P 16 31 53.3 +1.9**
comp=Z,27nm,1.6s
PVAQ Vaqueiros 70.10 305 *e*LR LR 17 00 08.4
comp=Z,723nm,16.0s
PBDV Barranco-do-Ve 70.33 305 *e*P **P 16 31 53.5 +0.6**
comp=Z,50nm,1.6s
MORF Marmelete 70.66 305 *e*P **P 16 31 54.0 -0.9**
MORF *e*SS SS 16 45 42.3 +2.9
MDT Midelt 71.89 300 P **P 16 32 02.9 +0.4**
MDT Midelt 71.89 300 P **P 16 32 02.9 +0.4**
comp=Z,2.8nm,0.5s,baz=54,slow=7.2,SNR=7.9
KMBO Kilima Mbogo 72.14 245 P P 16 32 10.8 +6.5
SNR=5.6
KMBO Kilima Mbogo 72.14 245 *e*P **P 16 32 03.7 -0.6**
comp=Z,14nm,0.8s
KMBO Kilima Mbogo 72.14 245 P **P 16 32 03.7 -0.6**
comp=Z,3.5nm,0.8s,baz=33,slow=12,SNR=6.2
KMBO LR LR 17 07 07.5
comp=Z,734nm,18.7s,baz=84,slow=39
FITZ Fitzroy Crossi 73.11 151 LR LR 17 04 17.2
comp=Z,194nm,20.2s,baz=331,slow=36
EDM Edmonton 73.32 18 *e*P **P 16 32 10.5 -0.1**
EDM Edmonton 73.32 18 *e*P **P 16 32 10.5 -0.1**
TAM Tamanrasset 73.47 286 *e*P **P 16 32 12.9 +0.8**
TAM pmax pmax
comp=Z,5.0nm,0.7s
TAM Tamanrasset 73.47 286 *e*P **P 16 32 12.9 +0.8**
comp=Z,5.4nm,0.7s
FFC Flin Flon 73.72 11 *e*P **P 16 32 12.1 -0.7**
FFC pmax pmax
comp=Z,15nm,1.3s
FFC Flin Flon 73.72 11 *e*P **P 16 32 12.1 -0.7**
comp=Z,15nm,1.3s
SCHQ Schefferville 73.89 350 P **P 16 32 14.0 +0.1**
SCHQ Schefferville 73.89 350 P **P 16 32 14.0 +0.1**
comp=Z,4.0nm,0.9s,baz=23,slow=7.7,SNR=2.7
SCHQ LR LR 17 05 33.0
comp=Z,430nm,20.0s,baz=223,slow=36
PMG Port Moresby 74.08 128 LR LR 17 03 50.8
comp=Z,412nm,19.5s,baz=306,slow=35
MBWA Marble Bar 74.41 158 *e*P **P 16 32 17.2 0.0**
comp=Z,12nm,0.8s
MBAR Mbarara 75.55 251 P **P 16 32 23.4 -0.8**
MBAR Mbarara 75.55 251 P **P 16 32 23.4 -0.8**
comp=Z,2.0nm,0.2s,baz=79,slow=6.7,SNR=5.3
MBAR LR LR 17 08 45.0
comp=Z,612nm,18.2s,baz=300,slow=38
NLWA Neilton Lookou 76.14 27 *e*P **P 16 32 27.7 +0.7**
comp=Z,15nm,1.0s
WALA Waterton Lakes 77.14 20 *e*P **P 16 32 31.6 -1.2**
comp=Z,0.2nm,1.0s
NEW Newport 77.14 22 LR LR 17 09 01.8
comp=Z,422nm,19.2s,baz=345,slow=38
LON Longmire 77.31 26 *e*P **P 16 32 33.6 -0.1**
LON pmax pmax
comp=Z,2.0nm,0.8s
LON Longmire 77.31 26 *e*P **P 16 32 33.6 -0.1**
comp=Z,2.2nm,0.8s
A14A Double T Ranch 77.32 20⇓ P **P 16 32 32.9 -0.9**
baz=77,SNR=8.0
A15A Johnson Ranch, 77.47 19⇑ P **P 16 32 33.5 -1.1**
baz=77,SNR=15
B13A Whitefish 77.66 21⇓ P **P 16 32 34.4 -1.2**
baz=77
WRAB Tennant Creek 77.76 144 P **P 16 32 34.1 -2.2**
comp=Z,191nm,0.8s,SNR=6.2
WRAB Tennant Creek 77.76 144 *e*P P 16 32 33.1 -3.2
WRAB pmax pmax
comp=Z,26nm,0.8s
WRAB Tennant Creek 77.76 144 *e*P P 16 32 33.1 -3.2
comp=Z,26nm,0.8s
WRA Warramunga Arr 77.77 144 P P 16 32 33.2 -3.1
WRA Warramunga Arr 77.77 144 P P 16 32 33.2 -3.1
comp=Z,5.5nm,0.9s,baz=342,slow=6.1,SNR=46
A17A Triple J Farms 77.91 18⇑ P **P 16 32 36.0 -1.0**
baz=78,SNR=11
B14A Marquette Ranc 77.93 20⇑ P **P 16 32 36.3 -0.9**
baz=78
BSMT Bassoo Peak 78.08 21 *e*P **P 16 32 38.0 -0.1**
comp=Z,5.9nm,0.8s
A18A Metzger Ranch, 78.10 18⇓ P **P 16 32 36.8 -1.2**
baz=78,SNR=8.3
B15A Bradely Ranch, 78.13 20⇓ P **P 16 32 37.3 -0.9**
baz=78
B16A M & M Farms, S 78.22 19⇑ P **P 16 32 37.8 -0.9**
baz=78
JTMT Jette 78.29 21 *e*P **P 16 32 39.6 +0.4**
comp=Z,13nm,1.1s
A19A Klindworth Far 78.30 17⇑ P **P 16 32 38.6 -0.6**
baz=78,SNR=9.0
A20A Cobblestone Ra 78.50 16⇑ P **P 16 32 39.6 -0.7**
baz=78
A21A Bergtoll Ranch 78.57 16⇓ P **P 16 32 39.5 -1.0**
baz=78,SNR=5.3
SWMT Swartz Lake 78.58 21 *e*P **P 16 32 40.7 -0.1**
comp=Z,12nm,0.9s
B18A Beardsley Farm 78.62 18⇑ P **P 16 32 40.0 -0.9**
baz=78
C15A Salmond Ranch, 78.63 20⇓ P **P 16 32 40.2 -0.9**
baz=78
B19A Brinkman Farms 78.72 17⇑ P **P 16 32 40.7 -0.7**
baz=78,SNR=5.3
ULM Lac du Bonnet 78.79 8 P **P 16 32 40.8 -0.9**
ULM Lac du Bonnet 78.79 8 P **P 16 32 40.8 -0.9**
comp=Z,11nm,0.9s,baz=1.4,slow=6.2,SNR=5.3
ULM LR LR 17 08 07.3
comp=Z,496nm,18.4s,baz=34,slow=36
C16A Fuhringer Ranc 78.79 19⇓ P **P 16 32 40.9 -1.0**
baz=78,SNR=7.3
B20A Solberg Farm, 78.91 17⇑ P **P 16 32 41.6 -0.9**
baz=79
A23A Redstone 78.93 14⇓ P **P 16 32 42.0 -0.6**
baz=79
EGMT Eagleton 78.98 18⇓ P **P 16 32 42.0 -0.9**
baz=79
A24A Westby 79.10 14⇑ P **P 16 32 43.0 -0.5**
baz=79
C17A Wharram Farm, 79.15 19⇑ P **P 16 32 42.9 -1.0**
baz=79
A25A Svangstu Ranch 79.22 13⇑ P **P 16 32 43.5 -0.7**
baz=79
MSO Missoula 79.23 21⇓ P **P 16 32 43.5 -0.8**
baz=79,SNR=5.2
B22A Reddig Ranch S 79.39 15⇑ P **P 16 32 44.7 -0.5**
baz=79
C19A Slack Wire Ran 79.39 17⇑ P **P 16 32 44.3 -0.9**
baz=79,SNR=10
B23A Brockton 79.40 15⇑ P **P 16 32 44.6 -0.6**
baz=79
DGMT Dagmar 79.52 14 *e*P **P 16 32 44.8 -1.0**
comp=Z,50nm,1.5s
DGMT Dagmar 79.52 14⇑ P **P 16 32 45.2 -0.6**
baz=79
C20A Veseth Ranch, 79.61 17⇑ P **P 16 32 45.3 -1.1**
baz=79,SNR=6.9
D17A Six Diamond Ra 79.63 19⇓ P **P 16 32 45.6 -1.0**
baz=79,SNR=5.7
C21A Desert Coulee 79.66 16⇑ P **P 16 32 45.8 -0.8**
baz=79,SNR=11
C22A Vida 79.95 15⇓ P **P 16 32 47.6 -0.6**
baz=80,SNR=8.7
D19A Cripps Ranch, 79.97 17⇑ P **P 16 32 47.8 -0.6**
baz=80,SNR=10.0
C23A Lambert 80.01 15⇓ P **P 16 32 48.2 -0.3**
baz=80,SNR=11
D20A Manuel Ranch, 80.18 17⇑ P **P 16 32 48.8 -0.6**
baz=80
E17A Martinsdale 80.25 19⇑ P **P 16 32 49.3 -0.7**
baz=80
BMO Blue Mountains 80.27 24 *e*P **P 16 32 49.7 -0.4**
comp=Z,8.4nm,1.1s
E18A Harlowton 80.34 18⇓ P **P 16 32 49.7 -0.7**
baz=80

D21A	La Casta Ranch	80.41	16	⇑P	P	16 32 50.0	-0.8
	baz=80						
C26A	Wahner Farm, P	80.45	13	⇓P	P	16 32 50.2	-0.6
	baz=80						
D22A	Cohagen	80.47	16	⇓P	P	16 32 50.7	-0.3
	baz=80,SNR=10						
D23A	Lindsay	80.62	15	⇑P	P	16 32 51.8	0.0
	baz=80,SNR=7.5						
C27A	Sayler Ranch,	80.65	12	⇑P	P	16 32 51.3	-0.6
	baz=80						
E19A	Rath Farm, Rou	80.67	18	⇓P	P	16 32 51.4	-0.7
	baz=80,SNR=10						
AGMN	Agassiz Nation	80.72	9	eP	P	16 32 51.0	-1.2
	comp=Z,10nm,1.0s						
AGMN				e		16 33 00.5	
HUMO	Hull Mountain	80.76	29	eP	P	16 32 52.6	0.0
	comp=Z,11nm,1.1s						
F17A	Fitzpatrick Pl	80.82	19	⇑P	P	16 32 52.7	-0.4
	baz=81,SNR=5.7						
DLMT	Dillon	80.92	21	eP	P	16 32 53.5	0.0
	comp=Z,9.8nm,0.9s						
F18A	Big Timber	81.02	18	⇑P	P	16 32 53.7	-0.3
	baz=81,SNR=11						
AS31	Alice Springs	81.02	146	eP	P	16 32 50.5	-3.5
ASAR	Alice Springs	81.02	146	P	P	16 32 51.1	-2.9
ASAR	Alice Springs	81.02	146	P	P	16 32 51.1	-2.9
	comp=Z,5.4nm,1.0s,baz=340,slow=4.6,SNR=42						
F19A	Roth Farm, Mol	81.22	18	⇓P	P	16 32 54.5	-0.6
	baz=81,SNR=7.4						
E23A	Ismay	81.25	15	⇑P	P	16 32 54.5	-0.7
	baz=81						
E24A	Baker	81.36	15	⇑P	P	16 32 55.2	-0.6
	baz=81						
F20A	Billings	81.42	17	⇑P	P	16 32 55.6	-0.6
	baz=81						
YBH	Yreka Blue Hor	81.63	29	P	P	16 32 57.4	0.0
YBH	Yreka Blue Hor	81.63	29	P	P	16 32 57.4	0.0
	comp=Z,1.6nm,0.8s,baz=88,slow=5.4,SNR=4.5						
E26A	Carlson Angus	81.73	13	⇑P	P	16 32 57.2	-0.5
	baz=82						
RLMT	Red Lodge	81.86	18	eP	P	16 32 57.5	-1.1
	comp=Z,20nm,1.3s						
G20A	Bridger	81.97	18	⇑P	P	16 32 58.2	-0.9
	baz=82,SNR=7.4						
F23A	Volborg	81.99	16	⇑P	P	16 32 58.3	-0.8
	baz=82						
MFID	Camas Ranch	82.00	23	⇓P	P	16 32 58.5	-0.7
	baz=82						
F24A	Ekalaka	82.03	15	⇑P	P	16 32 58.8	-0.6
	baz=82						
I14A	Mackay	82.09	22	⇓P	P	16 32 58.9	-0.9
	baz=82						
F25A	Bowman	82.11	14	⇑P	P	16 32 58.9	-0.8
	baz=82						
G21A	Lodge Grass	82.15	17	⇓P	P	16 32 59.3	-0.8
	baz=82						
WVOR	Wild Horse Val	82.17	26	eP	P	16 33 00.4	+0.2
WVOR	Wild Horse Val	82.17	26	eP	P	16 33 00.4	+0.2
H18A	Shoshone NF, C	82.20	19	⇑P	P	16 32 59.6	-0.9
	baz=82						
HLID	Hailey	82.20	22	eP	P	16 33 00.0	-0.4
	comp=Z,3.5nm,1.0s						
HLID	Hailey	82.20	22	⇓P	P	16 32 59.7	-0.8
	baz=82						
H17A	Grant Village	82.28	19	⇓P	P	16 33 00.4	-0.6
	baz=82						
I16A	Newdale	82.58	20	⇓P	P	16 33 01.9	-0.5
	baz=82						
IMW	Indian Meadow	82.68	20	eP	P	16 33 03.4	+0.3
	comp=Z,15nm,1.1s						
H20A	Greybull	82.72	18	⇑P	P	16 33 02.4	-0.6
	baz=82						
WDC	Whiskeytown Da	82.74	29	eP	P	16 33 03.2	+0.2
WDC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WDC	Whiskeytown Da	82.74	29	eP	P	16 33 03.2	+0.2
	comp=Z,5.9nm,1.1s						
H21A	Big Horn, Sher	82.76	17	⇓P	P	16 33 02.9	-0.4
	baz=82						
G26A	Maurine	82.86	14	⇓P	P	16 33 03.1	-0.5
	baz=83,SNR=5.7						
MOOW	Moose Ponds	82.86	20	eP	P	16 33 03.2	-0.8
	comp=Z,6.9nm,1.1s						
G27A	Dupree	82.87	13	⇓P	P	16 33 03.2	-0.5
	baz=83,SNR=5.6						
H22A	Clearmont	82.92	16	⇑P	P	16 33 03.5	-0.6
	baz=83						
LOHW	Long Hollow	83.03	20	eP	P	16 33 03.4	-1.3
	comp=Z,5.4nm,1.1s						
TPAW	Teton Pass	83.07	20	eP	P	16 33 04.4	-0.6
	comp=Z,13nm,1.4s						
H24A	Dirks Ranch, A	83.08	15	⇑P	P	16 33 04.2	-0.6
	baz=83						
I18A	Diamond G Ranc	83.11	19	⇓P	P	16 33 04.6	-0.6
	baz=83						
TOA0	Torodi Ar. Sit	83.14	282	eP	P	16 33 04.1	-1.4
TORD	Torodi Ar. Bea	83.14	282	P	P	16 33 04.6	-0.8
TORD	Torodi Ar. Bea	83.14	282	P	P	16 33 04.6	-0.8
	comp=Z,8.3nm,0.9s,baz=30,slow=5.2,SNR=30						
KIPM	Iron Peak	83.14	30	eP	P	16 33 06.0	+0.7
	comp=Z,23nm,1.2s						
I20A	Worland	83.21	18	⇓P	P	16 33 05.0	-0.6
	baz=83						
G28A	Parade	83.31	13	⇑P	P	16 33 05.5	-0.4
	baz=83						
H26A	Fairpoint	83.49	14	⇑P	P	16 33 06.4	-0.6
	baz=83						
I21A	Big Trails, Te	83.50	17	⇓P	P	16 33 06.1	-1.1
	baz=83,SNR=9.3						
I22A	9 Mile Ranch,	83.57	17	⇓P	P	16 33 06.7	-0.8
	baz=83						
I23A	Meade Ranch, G	83.69	16	⇑P	P	16 33 07.3	-0.8
	baz=83						
H28A	Mission Ridge	83.69	13	⇓P	P	16 33 07.3	-0.6
	baz=83						
RSSD	Black Hills	83.78	15	eP	P	16 33 07.8	-0.8
RSSD				pmax	pmax		
	comp=Z,21nm,1.2s						
RSSD	Black Hills	83.78	15	eP	P	16 33 07.8	-0.8
	comp=Z,21nm,1.2s						
J20A	Shoshoni	83.79	18	⇑P	P	16 33 07.7	-0.9
	baz=84						
J21A	Lysite	83.92	18	⇑P	P	16 33 08.7	-0.7
	baz=84						
I25A	Rochford	83.92	15	⇓P	P	16 33 08.4	-0.9
	baz=84,SNR=7.4						
I24A	Kuemmerle Ranc	83.93	15	⇓P	P	16 33 08.6	-0.7
	baz=84						
J22A	Midwest	84.04	17	⇑P	P	16 33 08.4	-1.4
	baz=84,SNR=6.2						
PDAR	Pinedale Array	84.06	19	P	P	16 33 08.9	-1.2
PDAR	Pinedale Array	84.06	19	P	P	16 33 08.9	-1.2
	comp=Z,0.6nm,0.6s,baz=7.6,slow=4.5,SNR=6.1						
PDAR				LR	LR	17 15 23.2	
	comp=Z,484nm,18.1s,baz=359,slow=39						
K19A	Absolon Red Bu	84.15	19	⇑P	P	16 33 09.7	-0.8
	baz=84						
BRSD	Miller	84.19	11	⇑P	P	16 33 10.3	-0.2
	baz=84						
I28A	Midland	84.33	13	⇑P	P	16 33 10.3	-0.9
	baz=84						
K20A	Yellowstone Ra	84.41	18	⇑P	P	16 33 10.7	-1.1
	baz=84						
J24A	Dixon Ranch, L	84.44	16	⇓P	P	16 33 11.3	-0.6
	baz=84						
K21A	Alcova	84.65	18	⇓P	P	16 33 12.4	-0.7
	baz=84						
LONY	Lake Ozonia	84.70	354	eP	P	16 33 12.8	-0.2
	comp=Z,20nm,1.4s						
J26A	Sides Ranch, S	84.72	14	⇓P	P	16 33 13.0	-0.3
	baz=84						
HWUT	Hardware Ranch	84.73	21	eP	P	16 33 13.2	-0.3
	comp=Z,16nm,1.1s						
SADO	Sadowa	84.78	357	LR	LR	17 13 29.2	
	comp=Z,409nm,18.4s,baz=57,slow=37						
K23A	Bowen Ranch, D	84.83	16	⇓P	P	16 33 12.8	-1.1
	baz=85						
J28A	Allard Ranch,	84.89	13	⇑P	P	16 33 14.1	0.0
	baz=85						
L20A	Wamsutter	85.03	19	⇓P	P	16 33 14.6	-0.5
	baz=85						
M17A	Scullys Gap (B	85.06	20	⇑P	P	16 33 14.7	-0.5
	baz=85						
ECSD	EROS Data Cent	85.16	10	eP	P	16 33 13.1	-2.3
	comp=Z,14nm,1.0s						
NWAO	Narrogin (SRO)	85.26	163	LR	LR	17 09 57.1	
	comp=Z,598nm,21.9s,baz=334,slow=35						
K25A	Mack Ranch, Ha	85.27	15	⇓P	P	16 33 16.0	-0.1
	baz=85						
K26A	Motz Farm, Whi	85.30	15	⇑P	P	16 33 14.7	-1.5
	baz=85						
L22A	Ellis Ranch, M	85.38	17	⇓P	P	16 33 15.3	-1.4
	baz=85						
L23A	Garrett	85.44	17	⇑P	P	16 33 15.9	-1.2
	baz=85						
M20A	Sweetwater, Wa	85.56	19	⇑P	P	16 33 16.5	-1.2
	baz=85						
WAKR	Walker	85.58	28	eP	P	16 33 17.6	-0.1
	comp=Z,8.0nm,1.2s						
CMB	Columbia Colle	85.73	29	eP	P	16 33 17.6	-0.8
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMB	Columbia Colle	85.73	29	eP	P	16 33 17.6	-0.8
	comp=Z,3.4nm,0.8s						
DUG	Dugway	85.78	22	eP	P	16 33 18.3	-0.4
DUG				pmax	pmax		
	comp=Z,15nm,1.2s						
DUG	Dugway	85.78	22	eP	P	16 33 18.3	-0.4
	comp=Z,16nm,1.2s						
DUG	Dugway	85.78	22	⇓P	P	16 33 18.3	-0.4
	baz=86						
ACCN	Adirondack Com	85.87	353	eP	P	16 33 19.3	+0.4
	comp=Z,23nm,1.4s						
NVAR	Mina Array Bea	85.98	27	P	P	16 33 19.6	-0.3
NVAR	Mina Array Bea	85.98	27	P	P	16 33 19.6	-0.3
	comp=Z,7.9nm,1.1s,baz=307,slow=3.6,SNR=27						
NVAR				LR	LR	17 13 46.5	
	comp=Z,445nm,18.2s,baz=134,slow=37						
NV11	Mina Array Sit	86.02	27	eP	P	16 33 19.9	0.0
N20A	Spence Gulch,	86.18	19	⇑P	P	16 33 20.7	-0.1
	baz=86,SNR=5.9						
M24A	Cheyenne	86.22	16	⇑P	P	16 33 19.8	-1.1
	baz=86						
PHWY	Pilot Hill	86.27	17	eP	P	16 33 21.1	-0.1
	comp=Z,12nm,1.1s						
N21A	Black Mountain	86.40	18	⇓P	P	16 33 21.6	-0.3
	baz=86						
O19A	Miners Draw (B	86.52	20	⇑P	P	16 33 21.9	-0.4
	baz=86						
N22A	Wattenberg Ran	86.57	17	⇑P	P	16 33 22.2	-0.5
	baz=86						
N23A	Red Feather La	86.57	17	⇓P	P	16 33 22.3	-0.4
	baz=86,SNR=5.4						
R11A	Troy Canyon, C	86.81	25	⇓P	P	16 33 23.2	-0.7
	baz=87						
N24A	Carr	86.83	16	⇓P	P	16 33 23.7	-0.2
	baz=87						
O20A	White River Ci	86.86	19	⇓P	P	16 33 23.4	-0.7
	baz=87						
O21A	Pagoda	86.94	18	⇑P	P	16 33 23.8	-0.8
	baz=87						
O22A	Kremmling	87.17	18	⇑P	P	16 33 25.1	-0.6
	baz=87,SNR=6.5						
P19A	Cripple Cowboy	87.18	20	⇑P	P	16 33 25.5	-0.2
	baz=87,SNR=11						
OGNE	Ogallala	87.19	14	⇓P	P	16 33 25.0	-0.5
	baz=87						
O23A	Lake Granby, G	87.24	17	⇑P	P	16 33 26.2	+0.2
	baz=87						
N27A	Anderson Farm,	87.25	15	⇑P	P	16 33 25.8	-0.1
	baz=87						
Q16A	Castle Valley	87.38	21	⇑P	P	16 33 26.2	-0.5
	baz=87						
P20A	De Beque	87.44	19	⇑P	P	16 33 26.5	-0.4
	baz=87,SNR=6.2						
MSU	Marysvale	87.53	22	P	P	16 33 26.9	-0.5
MSU				pmax	pmax		
	comp=Z,11nm,0.8s						
MSU	Marysvale	87.53	22	P	P	16 33 26.9	-0.5
	comp=Z,11nm,0.8s						
MVU	Marysvale	87.53	22	eP	P	16 33 27.8	+0.4
	comp=Z,11nm,1.3s						
GRAC	Grapevine Rang	87.58	27	⇑P	P	16 33 28.4	+1.0
	baz=87						
O26A	Horse Wrangler	87.67	15	⇓P	P	16 33 28.1	+0.1
	baz=87						
P22A	Eagle	87.67	18	⇓P	P	16 33 28.3	+0.2
	baz=87						
ISCO	Idaho Springs	87.70	17	eP	P	16 33 27.9	-0.4
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ISCO	Idaho Springs	87.70	17	eP	P	16 33 27.9	-0.4
	comp=Z,7.4nm,1.0s						
ISCO	Idaho Springs	87.70	17	⇑P	P	16 33 28.4	+0.2
	baz=87						
Q20A	Ridgley Place,	87.98	19	⇓P	P	16 33 29.3	-0.2
	baz=88						
SMCO	Snowmass	88.04	18	eP	P	16 33 29.6	-0.4
	comp=Z,22nm,1.2s						
P23A	Jefferson	88.07	17	⇓P	P	16 33 29.9	-0.1
	baz=88						
FURC	Furnace Creek,	88.22	27	⇓P	P	16 33 30.9	+0.6
	baz=88						
Q21A	Lamborn Mesa,	88.25	19	⇑P	P	16 33 30.8	0.0
	baz=88						
P26A	Davis Ranch, A	88.33	15	⇑P	P	16 33 31.0	-0.1
	baz=88						
Q22A	Crested Butte,	88.35	18	⇓P	P	16 33 31.3	-0.1
	baz=88						
SMMC	Simmler	88.36	29	⇓P	P	16 33 31.4	+0.2
	baz=88						
MPMC	Manual Prospec	88.42	27	⇓P	P	16 33 31.4	-0.2
	baz=88						
P27A	Ficken Ranch,	88.47	15	⇑P	P	16 33 31.3	-0.3
	baz=88						
ISA	Isabella	88.50	28	⇑P	P	16 33 32.0	+0.2
	baz=88						
Q24A	Divide	88.59	17	⇑P	P	16 33 32.4	-0.1
	baz=88						
R20A	Redvale	88.70	20	⇓P	P	16 33 32.7	-0.2
	baz=88						
R21A	Cimarron	88.70	19	⇓P	P	16 33 33.0	0.0
	baz=88,SNR=7.1						
PV01	Paradox Valley	88.71	20	eP	P	16 33 32.4	-0.6
	comp=Z,960nm,1.0s						
Q25A	Bedland, Calha	88.81	16	⇓P	P	16 33 33.7	+0.3
	baz=88						
LRMC	Laurel Mountai	88.91	28	⇑P	P	16 33 34.2	+0.3
	baz=89						
SHOC	Shoshone	88.92	26	⇑P	P	16 33 34.0	+0.2
	baz=89						
R22A	Saguache, Gunn	89.00	18	⇑P	P	16 33 33.8	-0.6
	baz=89						
S20A	Disappointment	89.05	20	⇓P	P	16 33 34.6	0.0
	baz=89,SNR=14						
Q28A	Sharon Springs	89.07	14	⇓P	P	16 33 34.2	-0.3
	baz=89						
SFIN	Scholer Farm	89.17	3	⇑P	P	16 33 34.2	-0.6
	baz=89						
R23A	Moffat	89.22	18	⇑P	P	16 33 34.1	-1.3
	baz=89						
GSC	Goldstone	89.33	27	⇑P	P	16 33 35.7	-0.1
	baz=89						
S21A	Coal Bank Pass	89.33	19	⇑P	P	16 33 35.9	-0.1
	baz=89						
Q30A	Quinter	89.39	13	⇑P	P	16 33 36.0	0.0
	baz=89						
S22A	4UR Ranch, Cre	89.45	19	⇑P	P	16 33 36.7	+0.1
	baz=89						
TUQ	Turquoise Moun	89.45	26	⇓P	P	16 33 35.8	-0.6
	baz=89						
U15A	North Rim	89.48	23	⇑P	P	16 33 35.6	-1.1
	baz=89						
R26A	Arlington	89.54	16	⇓P	P	16 33 35.9	-0.8
	baz=89						
R25A	Fountain Ranch	89.54	16	⇑P	P	16 33 35.9	-0.9
	baz=89						
MVCO	Mesa Verde	89.61	20	eP	P	16 33 37.6	+0.3
	comp=Z,5.7nm,1.0s						
MVCO	Mesa Verde	89.61	20	⇑P	P	16 33 36.3	-1.0
	baz=89						
R27A	Eads	89.67	15	⇓P	P	16 33 37.5	+0.1
	baz=89						
BSC	Santa Cruz Isl	89.69	30	⇑P	P	16 33 37.6	+0.2
	baz=89						
SDCO	Great Sand Dun	89.71	18	eP	P	16 33 36.7	-1.1
	comp=Z,5.7nm,1.0s						
R28A	Tribune	89.77	15	⇓P	P	16 33 37.5	-0.3
	baz=90						
S24A	Houchin Ranch,	89.86	17	⇑P	P	16 33 37.9	-0.6
	baz=90						
HEC	Hector,Ludlow	89.90	27	⇓P	P	16 33 38.1	-0.3
	baz=90						
LDFC	Landfair	90.01	26	eP	P	16 33 39.8	+0.8
	comp=Z,7.0nm,0.9s						
T21A	Navajo Lake	90.03	19	⇓P	P	16 33 38.9	-0.3
	baz=90						
BFSC	Mount Baldy Ra	90.07	28	⇓P	P	16 33 39.4	+0.1
	baz=90						
T22A	Edith	90.14	19	⇓P	P	16 33 39.7	0.0
	baz=90						
S26A	Kim	90.20	16	⇓P	P	16 33 39.2	-0.6
	baz=90						
S27A	Las Animas	90.24	16	⇑P	P	16 33 39.7	-0.4
	baz=90						
T25A	Trinidad	90.50	17	⇓P	P	16 33 40.6	-0.7
	baz=90						
U21A	Nageezi	90.55	20	⇑P	P	16 33 41.6	0.0
	baz=90						
WUAZ	Wupatki	90.57	23	eP	P	16 33 42.4	+0.8
	comp=Z,8.2nm,0.8s						
WUAZ	Wupatki	90.57	23	⇓P	P	16 33 40.7	-0.9
	baz=90						
T26A	Comanche Natio	90.61	16	⇓P	P	16 33 41.4	-0.5
	baz=90						
U22A	Llaves	90.76	19	⇓P	P	16 33 43.1	+0.5
	baz=90						
BELC	Belle Mtn. Jos	90.78	27	⇓P	P	16 33 42.9	+0.3
	baz=90						
S31A	Mullinville	90.83	13	⇑P	P	16 33 42.2	-0.5
	baz=91						
IRM	Iron Mountain	90.86	26	⇑P	P	16 33 42.9	0.0
	baz=91						
T27A	Campo	90.88	16	⇓P	P	16 33 42.9	-0.1
	baz=91						
T28A	Walsh	90.92	15	⇑P	P	16 33 43.1	-0.1
	baz=91						
PFO	Pinyon Flat Ob	91.01	27	⇓P	P	16 33 43.5	-0.2
	baz=91						
V22A	San Miguel Ran	91.20	19	⇑P	P	16 33 44.6	0.0
	baz=91						
U25A	Circle Dot Ran	91.22	17	⇑P	P	16 33 45.0	+0.3
	baz=91						
BC3	Big Chuckawall	91.25	26	⇓P	P	16 33 45.1	+0.4
	baz=91						
STKA	Stephens Creek	91.29	143	P	P	16 33 41.1	-3.4
STKA	Stephens Creek	91.29	143	P	P	16 33 41.1	-3.4
	comp=Z,2.1nm,0.9s,baz=336,slow=11,SNR=3.9						
STKA				LR	LR	17 16 27.0	
	comp=Z,370nm,21.6s,baz=115,slow=37						
W18A	Petrified Fore	91.34	21	⇑P	P	16 33 45.8	+0.5
	baz=91						
U26A	Atchley Ranch,	91.35	16	⇑P	P	16 33 45.1	-0.2
	baz=91						
U27A	Thompson Grove	91.48	16	⇑P	P	16 33 45.9	+0.1
	baz=91						
X16A	Lo Mia Camp, P	91.60	23	⇓P	P	16 33 47.5	+1.0
	baz=91						
W20A	Ramah	91.61	21	⇑P	P	16 33 46.6	0.0
	baz=91						
U28A	Mallet	91.62	15	⇓P	P	16 33 46.8	+0.4
	baz=91						
Y14A	Wickenburg	91.66	24	⇑P	P	16 33 47.0	+0.4
	baz=91						
MONP	Monument Peak	91.69	27	⇓P	P	16 33 46.9	0.0
	baz=91						
V24A	Rampart Ranch,	91.71	18	⇓P	P	16 33 46.7	-0.3
	baz=92						
V25A	Rancho No Teng	91.73	17	⇓P	P	16 33 46.8	-0.2
	baz=92						
U30A	WK&E Inc. Balk	91.73	14	⇓P	P	16 33 46.6	-0.3
	baz=92						
W21A	San Fidel	91.81	20	⇓P	P	16 33 47.7	+0.2
	baz=92						
SWSC	Sam W. Stewart	91.83	27	⇑P	P	16 33 47.6	+0.3
	baz=92						
X18A	Snowflake	91.85	22	⇓P	P	16 33 47.9	+0.3
	baz=92						
V26A	Tequesquite Ra	91.92	17	⇑P	P	16 33 47.7	-0.2
	baz=92						
GLA	Glamis	92.00	26	⇑P	P	16 33 48.8	+0.7
	baz=92						
DVTC	Desert V Tower	92.00	27	⇓P	P	16 33 48.9	+0.6
	baz=92						
W23A	Werner Place,	92.08	19	⇑P	P	16 33 49.2	+0.5
	baz=92						
X20A	Quemado	92.18	21	⇑P	P	16 33 49.2	0.0
	baz=92						
DBIC	Dimbokro	92.20	283	LR	LR	17 23 04.9	
	comp=Z,391nm,18.6s,baz=118,slow=41						
ANMO	Albuquerque	92.23	19	eP	P	16 33 49.2	-0.1
	comp=Z,7.6nm,1.0s						
W25A	X Bar L Ranch,	92.36	17	⇑P	P	16 33 49.7	-0.2
	baz=92						
113A	Mohawk Valley,	92.56	25	⇓P	P	16 33 50.4	-0.2
	baz=92						
LAZ	Ladron	92.61	20	eP	P	16 33 51.6	+0.4
	comp=Z,1.7nm,1.1s						
X23A	Hourglass Bar	92.64	19	⇓P	P	16 33 51.3	0.0
	baz=92						
W27A	Bowe Ranch, En	92.76	16	⇓P	P	16 33 51.4	-0.4
	baz=92						
Y20A	Horse Springs,	92.81	21	⇓P	P	16 33 52.3	+0.2
	baz=93						
Y21A	Point of Rocks	92.87	20	⇓P	P	16 33 52.6	+0.2
	baz=93						
W29A	Amraillo	92.95	15	⇑P	P	16 33 53.0	+0.4
	baz=93						
Y22A	Socorro	93.09	20	⇑P	P	16 33 53.4	0.0
	baz=93						
X26A	CR and CF Fran	93.13	17	⇓P	P	16 33 53.3	-0.2
	baz=93						
Y23A	Lovelace Mesa,	93.29	19	⇑P	P	16 33 53.6	-0.7
	baz=93						
Y24A	Capitan	93.42	18	⇓P	P	16 33 54.4	-0.5
	baz=93						
Z20A	Nine Sixteen R	93.53	21	⇓P	P	16 33 55.6	+0.3
	baz=93						
Y25A	Mesa, Roswell	93.57	18	⇑P	P	16 33 55.1	-0.4
	baz=93						
214A	Organ Pipe Nat	93.58	25	⇓P	P	16 33 54.7	-0.8
	baz=93						
Z22A	Elephant Butte	93.75	20	⇓P	P	16 33 55.7	-0.7
	baz=94						
TKL	Tuckaleechee C	93.95	0	LR	LR	17 15 45.1	
	comp=Z,472nm,21.9s,baz=0.5,slow=35						
Z24A	Sheeppen Canyo	94.01	18	⇓P	P	16 33 57.9	+0.2
	baz=94						
Z25A	Roswell	94.19	18	⇑P	P	16 33 58.7	+0.3
	baz=94						
121A	Cookes Peak, D	94.27	21	⇓P	P	16 33 59.3	+0.5
	baz=94						
Z26A	Caprock	94.34	17	⇓P	P	16 33 58.6	-0.4
	baz=94						
Z27A	Tatum	94.44	17	⇓P	P	16 33 59.3	-0.2
	baz=94						
220A	Playas Peak, P	94.70	21	⇑P	P	16 34 01.0	+0.3
	baz=94						
Z29A	Hungry Hill Ra	94.76	15	⇑P	P	16 34 00.5	-0.4
	baz=94						
DZM	Mont Dzumac	94.80	119	eSS	SS	16 51 33.6	-5.6
	comp=Z,415nm,29.1s						
DZM	Mont Dzumac	94.80	119	eLR	LR	17 04 32.7	
	comp=Z,360nm,21.6s						
125A	Gardner Draw,	94.80	18	⇓P	P	16 34 01.0	-0.2
	baz=95						
Z30A	Sanderson Ranc	94.83	15	⇑P	P	16 34 01.4	+0.1
	baz=95						
319A	Douglas	95.03	22	⇑P	P	16 34 02.0	-0.2
	baz=95						
224A	Cornudas Mount	95.19	19	⇑P	P	16 34 02.8	-0.2
	baz=95						
324A	Moseley Ranch,	95.81	19	⇑P	P

comp=Z,321nm,23.8s

TBI	Tubuai	122.64	88	eLR	LR	17 17 29.3
	comp=Z,376nm,25.8s,baz=320					
RKT	Rikitea	131.56	75	eLR	LR	17 21 26.7
	comp=Z,526nm,25.8s,baz=313					
LPAZ	La Paz	143.54	335	PKP	PKPdf	16 40 14.0 -0.9
LPAZ	La Paz	143.54	335	PKP	PKPdf	16 40 14.0 -0.9
	comp=Z,0.9nm,0.9s,baz=14,slow=4.2,SNR=3.8					
CPUP	Villa Florida	148.61	311	ePKPbc	PKPbc	16 40 24.7 -1.4
CPUP	Villa Florida	148.61	311	PKPbc	PKPbc	16 40 24.9 -1.2
	comp=Z,2.8nm,0.8s,baz=4.0,slow=4.8,SNR=6.4					
LVC	Limon Verde	149.77	333	PKPbc	PKPbc	16 40 29.8 +0.3

*ISCJB **04** 16:22:18.9±0.2, 41°.76N±0°.02×14°.22E±0°.03, h21km±3km, Error ellipse: s-maj=4.0km s-min=2.7km az=41.8*
*ROM **04** 16:22:18.7±0.1, 41°.75N×14°.23E, h19km±1km, Ml3.2/39, Error ellipse: s-maj=1.6km s-min=1.2km az=39.0*
*CSEM **04** 16:22:19.0±0.1, 41°.74N×14°.20E, h20km, ML3.5/9, Error ellipse: s-maj=3.1km s-min=2.2km az=41.0*

ISC 04 16:22:19.1±0.8, 41°.74N±0°.02×14°.22E±0°.02, h18km±4km, n106, σ0.91/138, 1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNI2	Rionero Sannit	0.06	229	Pg	Pg	16 22 22.7	+0.1
RNI2				Sg	Sg	16 22 25.6	+0.7
	12μm,0.5s						
RNI2	Rionero Sannit	0.06	229	Pg	Pg	16 22 22.7	+0.1
RNI2				Sg	Sg	16 22 25.6	+0.7
	12μm,0.5s						
MIDA	Miranda	0.11	165	Pg	Pg	16 22 22.5	-0.5
MIDA				Sg	Sg	16 22 25.1	-0.4
	8μm,0.4s						
MIDA	Miranda	0.11	165	Pg	Pg	16 22 22.5	-0.5
MIDA				Sg	Sg	16 22 25.1	-0.4
	8μm,0.4s						
CERA	Filignano	0.21	225	Pg	Pg	16 22 24.1	-0.1
CERA				Sg	Sg	16 22 28.0	+0.3
	2μm,0.3s						
CERA	Filignano	0.21	225	Pg	Pg	16 22 24.1	-0.1
CERA				Sg	Sg	16 22 28.0	+0.3
	2μm,0.3s						
TRIV	Trivento	0.25	85	Pg	Pg	16 22 24.4	-0.5
TRIV				Sg	Sg	16 22 28.8	0.0
	1μm,0.5s						
TRIV	Trivento	0.25	85	Pg	Pg	16 22 24.4	-0.5
TRIV				Sg	Sg	16 22 28.8	0.0
	1μm,0.5s						
LPEL	Lama dei Pelig	0.30	355	Pg	Pg	16 22 25.6	-0.2
LPEL				Sg	Sb	16 22 31.5	+0.7
	2μm,0.3s						
LPEL	Lama dei Pelig	0.30	355	Pg	Pg	16 22 25.6	-0.2
LPEL				Sg	Sb	16 22 31.5	+0.7
	2μm,0.3s						
SDI	San Donato	0.31	264	Pg	Pg	16 22 25.9	+0.1
SDI				Sg	Sb	16 22 31.4	+0.6
SDI	San Donato	0.31	264	Pg	Pg	16 22 25.9	+0.1
SDI				Sg	Sb	16 22 31.4	+0.6
VAGA	Valle Agricola	0.33	178	Pg	Pg	16 22 25.7	-0.5
VAGA				Sg	Sb	16 22 31.4	-0.1
	4μm,0.4s						
VAGA	Valle Agricola	0.33	178	Pg	Pg	16 22 25.7	-0.5
VAGA				Sg	Sb	16 22 31.4	-0.1
	4μm,0.4s						
BSSO	Busso	0.34	125	Pg	Pg	16 22 26.3	-0.2
	5μm,1.5s						
BSSO	Busso	0.34	125	Pg	Pg	16 22 26.3	-0.2
	5μm,1.5s						
INTR	Introdacqua	0.35	319	Pg	Pg	16 22 26.7	0.0
INTR				Sg	Sb	16 22 32.8	+0.5
	5μm,0.2s						
INTR	Introdacqua	0.35	319	Pg	Pg	16 22 26.7	0.0
INTR				Sg	Sb	16 22 32.8	+0.5
	5μm,0.2s						
SGG	Gregorio Mates	0.38	161	Pg	Pg	16 22 26.3	-0.7
	7μm,1.3s						
SGG	Gregorio Mates	0.38	161	Pg	Pg	16 22 26.3	-0.7
	7μm,1.3s						
POFI	Posta Fibreno	0.38	266	Pg	Pg	16 22 27.0	-0.1
POFI				Sg	Sb	16 22 33.5	+0.5
	2μm,0.5s						
POFI	Posta Fibreno	0.38	266	Pg	Pg	16 22 27.0	-0.1
POFI				Sg	Sb	16 22 33.5	+0.5
	2μm,0.5s						
FRES	Fresagrandinar	0.41	56	Pg	Pg	16 22 26.9	-0.7
	1μm,0.6s						
FRES	Fresagrandinar	0.41	56	Pg	Pg	16 22 26.9	-0.7
	1μm,0.6s						
PTRJ	Pietraroja	0.45	148	Pg	Pg	16 22 27.2	-1.1
	3μm,0.7s						
PTRJ	Pietraroja	0.45	148	Pg	Pg	16 22 27.2	-1.1
	3μm,0.7s						
VVLD	Villa Vallelon	0.46	286	Pg	Pg	16 22 28.2	-0.4
VVLD				Sg	Sb	16 22 35.7	+0.3
	3μm,0.2s						
VVLD	Villa Vallelon	0.46	286	Pg	Pg	16 22 28.2	-0.4
VVLD				Sg	Sb	16 22 35.7	+0.3
	3μm,0.2s						
CAFR	Castel Frentan	0.49	11	Pg	Pg	16 22 29.0	-0.1
	3μm,0.6s						
CAFR	Castel Frentan	0.49	11	Pg	Pg	16 22 29.0	-0.1
	3μm,0.6s						
SACR	S. Croce Del S	0.51	133	Pg	Pg	16 22 28.6	-0.7
	671nm,0.8s						
SACR	S. Croce Del S	0.51	133	Pg	Pg	16 22 28.6	-0.7
	671nm,0.8s						
CIGN	Sant'Elia a Pi	0.52	100	Pg	Pg	16 22 28.9	-0.7
	407nm,0.7s						
CIGN	Sant'Elia a Pi	0.52	100	Pg	Pg	16 22 28.9	-0.7
	407nm,0.7s						
MSC	Monte Massico	0.58	199	Pg	Pb	16 22 31.5	+0.7
MSC	Monte Massico	0.58	199	Pg	Pb	16 22 31.5	+0.7
PTQR	Pietraquaria	0.67	295	Pg	Pb	16 22 31.7	-0.7
	121nm,0.4s						
PTQR	Pietraquaria	0.67	295	Pg	Pb	16 22 31.7	-0.7
	121nm,0.4s						
GUAR	Guarcino	0.68	275	Pg	Pb	16 22 31.8	-0.7
	993nm,0.3s						
GUAR	Guarcino	0.68	275	Pg	Pb	16 22 31.8	-0.7
	993nm,0.3s						
MELA	Melanico ??? S	0.68	93	Pg	Pb	16 22 31.0	-1.5
	689nm,0.4s						
MELA	Melanico ??? S	0.68	93	Pg	Pb	16 22 31.0	-1.5
	689nm,0.4s						
PSB1	Pescosannita	0.69	139	Pg	Pb	16 22 32.2	-0.4
	576nm,0.5s						
PSB1	Pescosannita	0.69	139	Pg	Pb	16 22 32.2	-0.4
	576nm,0.5s						
FAGN	Fagnano	0.70	318	Pg	Pb	16 22 32.0	-0.9
	2μm,0.4s						
FAGN	Fagnano	0.70	318	Pg	Pb	16 22 32.0	-0.9
	2μm,0.4s						
VCEL	Villa Celiera	0.71	337	Pg	Pb	16 22 32.3	-0.7
	744nm,0.4s						
VCEL	Villa Celiera	0.71	337	Pg	Pb	16 22 32.3	-0.7
	744nm,0.4s						
FG2	Serracapriola	0.71	85	Pg	Pb	16 22 31.4	-1.6
	326nm,0.4s						
FG2	Serracapriola	0.71	85	Pg	Pb	16 22 31.4	-1.6
	326nm,0.4s						
GIUL	Giuliano Di Ro	0.74	256	Pg	Pb	16 22 32.8	-0.8
	843nm,0.6s						
GIUL	Giuliano Di Ro	0.74	256	Pg	Pb	16 22 32.8	-0.8
	843nm,0.6s						
MOCO	Biccari - m.te	0.80	118	Pg	Pg	16 22 35.3	+0.5
MRB1	Monte Rocchett	0.84	137	Pg	Pn	16 22 35.9	-0.2
	954nm,0.5s						
MRB1	Monte Rocchett	0.84	137	Pg	Pn	16 22 35.9	-0.2
	954nm,0.5s						
AQU	L'Aquila	0.86	315	Pg	Pb	16 22 34.7	-0.9
	535nm,0.5s						
AQU	L'Aquila	0.86	315	Pg	Pb	16 22 34.7	-0.9
	535nm,0.5s						
CERT	Cerreto	0.94	283	Pg	Pb	16 22 35.8	-1.2
	1μm,0.4s						
CERT	Cerreto	0.94	283	Pg	Pb	16 22 35.8	-1.2
	1μm,0.4s						
FIAM	Fiamignano	0.97	303	Pg	Pb	16 22 36.8	-0.7
	363nm,0.7s						
FIAM	Fiamignano	0.97	303	Pg	Pb	16 22 36.8	-0.7
	363nm,0.7s						
TERO	Teramo	0.99	333	Pg	Pb	16 22 36.6	-1.2
	856nm,0.9s						
TERO	Teramo	0.99	333	Pg	Pb	16 22 36.6	-1.2
	856nm,0.9s						
CAMP	Campotosto	0.99	323	Pg	Pb	16 22 36.6	-1.3
	579nm,1.2s						
CAMP	Campotosto	0.99	323	Pg	Pb	16 22 36.6	-1.3
	579nm,1.2s						
CAFE	Carife	1.05	133	Pg	Pn	16 22 39.3	+0.2
	435nm,0.6s						
CAFE	Carife	1.05	133	Pg	Pn	16 22 39.3	+0.2
	435nm,0.6s						
SGTA	Sant Agata di	1.06	125	Pg	Pn	16 22 39.4	+0.2
	492nm,0.6s						
SGTA	Sant Agata di	1.06	125	Pg	Pn	16 22 39.4	+0.2
	492nm,0.6s						
SNAL	S. Angelo Dei	1.11	137	Pg	Pb	16 22 39.8	0.0
	1μm,0.9s						
SNAL	S. Angelo Dei	1.11	137	Pg	Pb	16 22 39.8	0.0
	1μm,0.9s						
SGRT	San Giovanni R	1.14	89	Pg	Pn	16 22 39.6	-0.8
	350nm,0.5s						
SGRT	San Giovanni R	1.14	89	Pg	Pn	16 22 39.6	-0.8
	350nm,0.5s						
MCRV	Calabrutti - M	1.20	143	Pg	Pn	16 22 40.8	-0.4
	342nm,0.5s						
MCRV	Calabrutti - M	1.20	143	Pg	Pn	16 22 40.8	-0.4
	342nm,0.5s						
LNSS	Leonessa	1.23	315	Pg	Pn	16 22 40.7	-0.8
	424nm,0.7s						
LNSS	Leonessa	1.23	315	Pg	Pn	16 22 40.7	-0.8
	424nm,0.7s						
MSAG	Monte S. Angel	1.27	91	Pg	Pn	16 22 41.9	-0.2
	571nm,0.6s						
MSAG	Monte S. Angel	1.27	91	Pg	Pn	16 22 41.9	-0.2
	571nm,0.6s						
MS1	Monte Sant'Ang	1.29	91	ePg	Pb	16 22 43.2	+0.2
MS1				eSg	Sg	16 23 01.5	+0.5
VULT	Monte Vulture	1.32	126	Pg	Pb	16 22 43.8	+0.4
	381nm,0.4s						
VULT	Monte Vulture	1.32	126	Pg	Pb	16 22 43.8	+0.4
	381nm,0.4s						
MRLC	Muro Lucano	1.38	135	Pg	Pn	16 22 43.5	0.0
	272nm,0.8s						
MRLC	Muro Lucano	1.38	135	Pg	Pn	16 22 43.5	0.0
	272nm,0.8s						
CDRU	Civita di Ruta	1.50	146	Pg	Pn	16 22 44.8	-0.5
	120nm,0.7s						
CDRU	Civita di Ruta	1.50	146	Pg	Pn	16 22 44.8	-0.5
	120nm,0.7s						
BAI	Bari	2.10	107	ePn	Pn	16 22 54.1	+0.7
PE1	Pezze di Greco	2.59	110	ePn	Pn	16 23 01.2	+1.0
STON	Ston	2.82	65	ePn	Pn	16 23 05.3	+2.0
STON	Ston	2.82	65	ePn	Pn	16 23 05.3	+2.0
NVLJ	Novalja	2.86	9	ePn	Pn	16 23 03.2	-0.6
NVLJ				Sn	Sn	16 23 36.8	-1.0
UDBI	Udbina	3.00	22	ePn	Pn	16 23 08.2	+2.2
UDBI				Sn	Sn	16 23 43.5	+2.0
UDBI	Udbina	3.00	22	ePn	Pn	16 23 08.1	+2.2
UDBI				Sn	Sn	16 23 43.5	+2.0
SKDS	Skadanscina	3.80	358	i Pn	Pn	16 23 16.7	-0.2
SKDS				i Sn	Sn	16 24 02.1	+0.9
BOJS	Bojanci	3.83	11	i Pn	Pn	16 23 18.6	+1.4
BOJS				i Sn	Sn	16 24 02.2	+0.4
BOJS	Bojanci	3.83	11	i Pn	Pn	16 23 18.6	+1.4
BOJS				i Sn	Sn	16 24 02.2	+0.4
VISS	Visnje	4.08	6	i Pn	Pn	16 23 22.1	+1.4
VISS				i Sn	Sn	16 24 09.4	+1.4
VISS	Visnje	4.08	6	i Pn	Pn	16 23 22.1	+1.4
VISS				i Sn	Sn	16 24 09.4	+1.4
VOY	Vojsko	4.29	357	ePn	Pn	16 23 23.1	-0.6
VOY				e		16 23 41.3	
VOY				eSn	Sn	16 24 12.7	-0.6
VOY				e		16 24 52.0	
VOY	Vojsko	4.29	357	ePn	Pn	16 23 23.1	-0.6
OBKA	Obir	4.77	3	‖ i Pn	Pn	16 23 32.0	+1.8
OBKA	Obir	4.77	3	Pn	Pn	16 23 32.0	+1.8
SELS	Selova	5.31	72	ePn	Pn	16 23 38.7	+1.1
BARS	Barje	5.74	77	ePn	Pn	16 23 42.9	-0.5
KHC	Kasperske Hory	7.40	357	ePN	Pn	16 24 06.4	+0.1
KHC				eSN	Sn	16 25 27.1	-2.7
KHC	Kasperske Hory	7.40	357	Pn	Pn	16 24 06.4	+0.1
KHC				Sn	Sn	16 25 27.1	-2.7

PRE 04 16:43:07.5±1.0, 26°.41S×27°.42E, h2km, ML2.3, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.52	186	eP	Pg	16 43 17.6	-0.1
PRYS				eS	Sg	16 43 24.7	0.0
PRYS				AML	AML	16 43 32.5	
	comp=Z,152nm,0.6s						
PRYS	Parys	0.52	186	eP	Pb	16 43 19.5	-0.1
PRYS				eS	Sb	16 43 27.9	+0.1
PRYS				AML	AML	16 43 32.5	
	comp=Z,148nm,0.7s						
KSR	Koster	0.72	320	eP	Pg	16 43 21.3	-0.3
KSR				eS	Sg	16 43 30.7	-0.5
KSR				AML	AML	16 43 36.0	
	comp=Z,57nm,0.2s						
KSR	Koster	0.72	320	eP	Pb	16 43 22.7	-0.4
KSR				eS	Sg	16 43 31.4	+0.2
KSR				AML	AML	16 43 38.4	
	comp=Z,56nm,1.1s						
ERPM	east rand prop	0.74	85	eP	Pg	16 43 22.0	0.0
ERPM				eS	Sg	16 43 32.4	+0.6
ERPM				AML	AML	16 43 39.7	
	comp=Z,61nm,0.8s						
ERPM	east rand prop	0.74	85	eP	Pg	16 43 22.4	+0.4
ERPM				eS	Sn	16 43 36.8	-0.5
ERPM				AML	AML	16 43 39.7	
	comp=Z,60nm,0.9s						
SLR	Silverton	1.02	50	eP	Pg	16 43 27.4	0.0
SLR				eS	Sg	16 43 41.2	+0.4
SLR				AML	AML	16 43 50.0	
	comp=Z,48nm,0.6s						
SLR	Silverton	1.02	50	eP	Pg	16 43 27.4	0.0
SLR				eS	Sg	16 43 40.5	-0.3
SLR				AML	AML	16 43 50.0	
	comp=Z,44nm,0.7s						
SEK	Senekal	1.92	175	eP	Pn	16 43 42.1	+0.7
SEK				eS	Sn	16 44 06.7	+0.3
SEK				AML	AML	16 44 10.3	
	comp=Z,40nm,0.7s						
SEK	Senekal	1.92	175	eP	Pg	16 43 44.5	0.0
SEK				i S	Sb	16 44 08.1	0.0
SEK				AML	AML	16 44 10.2	
	comp=Z,34nm,0.6s						
SWZ	Schweizer	2.02	247	eP	Pn	16 43 43.4	+0.6
SWZ				eS	Sn	16 44 08.5	-0.3
SWZ				AML	AML	16 44 13.6	
	comp=Z,26nm,0.4s						
SWZ	Schweizer	2.02	247	eP	Pg	16 43 46.3	-0.2
SWZ				eS	Sg	16 44 12.4	-0.4
SWZ				AML	AML	16 44 14.5	
	comp=Z,24nm,0.7s						
LBTB	Lobatse	2.15	310	eP	Pn	16 43 45.0	+0.5
LBTB				eS	Sn	16 44 13.2	+1.3
LBTB				AML	AML	16 44 17.4	
	comp=Z,37nm,0.5s						
LBTB	Lobatse	2.15	310	eP	Pb	16 43 47.2	-0.1
LBTB				eS	Sb	16 44 14.8	+0.3
LBTB				AML	AML	16 44 16.9	
	comp=Z,38nm,0.2s						
BOSA	Boshof	2.92	221	eP	Pn	16 43 56.2	+1.0
BOSA				eS	Sn	16 44 30.6	-0.4
BOSA				AML	AML	16 44 39.8	
	comp=Z,14nm,0.3s						
BOSA	Boshof	2.92	221	‖ i P	Pn	16 43 56.8	+1.6
BOSA				eS	Sn	16 44 31.5	+0.5
BOSA				AML	AML	16 44 39.7	
	comp=Z,14nm,0.3s						

IDC 04 16:44:37.5±7.6, 5°.93S×146°.12E, h152km±110km, mb2.6/2, mb1 2.8/4, mb1mx2.7/18, mbtmp2.7/4, Error ellipse: s-maj=126.3km s-min=38.7km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.60	163	P	Pn	16 45 32.8	+0.2
	8.8nm,0.3s,baz=304,slow=11,SNR=45						
PMG				S	Sn	16 46 15.9	+0.4
	6.9nm,0.3s,baz=140,slow=20,SNR=12						
WRA	Warramunga Arr	18.03	218	P	P	16 48 36.9	-0.1
	0.0nm,0.3s,baz=39,slow=11,SNR=4.5						
ASAR	Alice Springs	21.19	212	P	P	16 49 11.3	+0.1
	0.2nm,0.7s,baz=46,slow=8.7,SNR=5.3						
MKAR	Makanchi Array	76.89	321	P	P	16 56 13.0	0.0
	0.2nm,0.4s,baz=112,slow=6.0,SNR=4.2						

IDC 04 16:47:12.5±2.5, 7°.59S×123°.36E, h248km±33km, mb3.4/2, mb1 3.2/6, mb1mx3.0/22, mbtmp3.0/6, Error ellipse: s-maj=134.5km s-min=31.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	2.62	173	P	Pn	16 48 00.9	-0.1
	15nm,0.3s,baz=90,slow=3.0,SNR=4.3						
BATI				S	S	16 48 39.5	+0.2
	15nm,0.3s,baz=269,slow=23,SNR=8.5						
FITZ	Fitzroy Crossi	10.68	168	P	Pn	16 49 41.4	+1.6
	0.2nm,0.3s,baz=6.5,slow=9.7,SNR=13						
FITZ				S	S	16 51 35.2	-4.4
	0.1nm,0.3s,baz=118,slow=18,SNR=3.9						
WRA	Warramunga Arr	16.25	140	P	P	16 50 46.7	+0.3
	0.2nm,0.3s,baz=317,slow=11,SNR=10						
ASAR	Alice Springs	18.92	149	P	P	16 51 15.8	+0.4
	0.2nm,0.3s,baz=325,slow=11,SNR=22						
STKA	Stephens Creek	29.54	147	P	P	16 52 53.6	-0.8
	0.7nm,0.6s,baz=314,slow=13,SNR=3.1						
ILAR	Eielson Array	96.70	26	P	P	17 00 14.2	-0.2
	0.3nm,0.7s,baz=248,slow=4.8,SNR=3.7						

IDC 04 16:55:42.8±3.0, 12°.28N×125°.71E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/27, 1C, Error ellipse: s-maj=245.8km s-min=27.0km az=64.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	1.32	213	‖ eP	Pg	16 56 07.9	-0.3
PLP				i S	Sg	16 56 21.9	-3.4
WRA	Warramunga Arr	33.13	165	P	P	17 02 19.8	-1.1
	0.4nm,0.6s,baz=346,slow=9.5,SNR=6.4						
ASAR	Alice Springs	36.62	167	P	P	17 02 51.0	0.0
	0.3nm,0.5s,baz=355,slow=7.8,SNR=22						
ASAR				LR	LR	17 16 52.0	
	comp=Z,155nm,21.0s,baz=302,slow=35						
STKA	Stephens Creek	46.47	161	P	P	17 04 12.4	+0.7
	0.7nm,0.7s,baz=318,slow=12,SNR=2.6						
MKAR	Makanchi Array	50.11	322	P	P	17 04 39.5	-0.2
	0.3nm,0.6s,baz=104,slow=8.3,SNR=4.1						

MEX 04 17:18:08.3±0.3, 17°.98N×99°.90W, h63km±4km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.52	306	eP	Pn	17 18 19.4	-1.4
ARIG				i S	Sn	17 18 28.1	-1.8
PLIG	Platanillo	0.56	42	i P	Pn	17 18 19.9	-1.4
PLIG				i S	Sn	17 18 28.8	-1.9
CAIG	El Cayaco	0.99	201	eP	Pn	17 18 24.7	-1.6
CAIG				i S	Sn	17 18 37.9	-1.7
YAIG	Yautepec	1.18	42	eP	Pn	17 18 27.7	-1.4
YAIG				i S	Sn	17 18 42.5	-2.1
ZIIG	Zihuatanejo	1.54	256	eP	Pn	17 18 31.8	-1.7
ZIIG				eS	Sn	17 18 50.1	-2.5
PNIG	Pinotepa	2.31	133	i P	Pn	17 18 43.3	-0.8
PNIG				i S	Sn	17 19 09.8	-1.7

*NSSC **04** 17:21:40.9±0.9, 33°.79N×35°.58E, h12km±5km, ML1.4*
*GRAL **04** 17:21:42.6±0.3, 33°.79N×35°.76E, h0km±27km, MD2.9*

CSEM 04 17:21:41.2±0.3, 33°.79N×35°.64E, h10km, ML1.4, Error ellipse: s-maj=8.9km s-min=3.1km az=84.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.12	6	eP	Pg	17 21 45.3	+1.1
BHL				eS	Sg	17 21 47.2	+1.0
BHL	Bhannes	0.12	6	eP	Pg	17 21 45.3	+1.1
BHL				eS	Sg	17 21 47.2	+0.9
RCY	Rachaya	0.34	151	eP	Pg	17 21 47.9	-0.2
RCY				eS	Sg	17 21 51.8	-0.9
RCY	Rachaya	0.34	151	eP	Pg	17 21 47.9	-0.2
RCY				eS	Sg	17 21 51.8	-0.9
BRBR	Barbar	0.46	145	eP	Pg	17 21 50.0	-0.4
BRBR				eS	Sg	17 21 57.6	+0.9
BRBR				AML	AML	17 22 00.1	
	comp=E,77nm,0.4s						
BRBR				AML	AML	17 22 00.6	
	comp=Z,72nm,0.5s						
BRBR				AML	AML	17 22 00.8	
	comp=N,36nm,0.3s						
BRBR	Barbar	0.46	145	eP	Pg	17 21 50.0	-0.5
	SNR=92						
BRBR				eS	Sg	17 21 57.6	+0.9
	comp=N,36nm,0.3s,SNR=59						
HWQ	Hawqa	0.55	27	eP	Pg	17 21 51.9	-0.2
HWQ	Hawqa	0.55	27	eP	Pg	17 21 51.8	-0.3
HAWK	Haweek	0.97	41	eP	Pg	17 21 59.5	-0.5
HAWK				eS	Sg	17 22 12.9	+0.2
HAWK				AML	AML	17 22 18.2	
	comp=Z,16nm,0.3s						
HAWK				AML	AML	17 22 18.7	
	comp=E,12nm,0.4s						
HAWK				AML	AML	17 22 23.0	
	comp=N,15nm,0.6s						
HAWK	Haweek	0.97	41	eP	Pg	17 21 59.5	-0.5
	SNR=75						
HAWK				eS	Sg	17 22 12.9	+0.2
	comp=N,15nm,0.6s,SNR=59						
SALA	Sala	1.41	139	eP	Pn	17 22 07.4	+0.1
SALA				eS	Sb	17 22 26.1	0.0
SALA				AML	AML	17 22 31.7	
	comp=E,1.3nm,0.3s						
SALA				AML	AML	17 22 33.6	
	comp=Z,7.1nm,0.3s						
SALA				AML	AML	17 22 36.1	
	comp=N,15nm,0.6s						
SALA	Sala	1.41	139	eP	Pn	17 22 07.4	+0.2
	SNR=57						
SALA				eS	Sn	17 22 26.1	0.0
	comp=N,15nm,0.6s,SNR=49						
ZALF	Zalf	1.66	121	eP	Pn	17 22 10.6	+0.1
ZALF				eS	Sn	17 22 31.4	-0.5
ZALF				AML	AML	17 22 35.8	
	comp=Z,8.4nm,0.5s						
ZALF				AML	AML	17 22 35.8	
	comp=N,8.0nm,0.3s						
ZALF				AML	AML	17 22 39.2	
	comp=E,3.9nm,0.5s						
ZALF	Zalf	1.66	121	eP	Pn	17 22 10.6	+0.1
	SNR=57						
ZALF				eS	Sn	17 22 31.4	-0.5
	comp=E,3.9nm,0.5s,SNR=49						

*MEX **04** 17:33:16.2±0.7, 14°.85N×95°.00W, h20km±18km, MD4.1*
*IDC **04** 17:33:17.8±4.5, 15°.61N×94°.66W, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.7/23, mbtmp3.7/5, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=93.5km s-min=33.5km az=176.0*

ISC 04 17:33:17.7±1.9, 15°.2N±0°.2×94°.90W±0°.05, h22km, n9, σ2.62/14, mb3.8/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.28	295	eP	Pn	17 33 37.7	-2.6
HUIG

0.3nm,0.6s,baz=141,slow=10,SNR=3.3
ILAR Eielson Array 60.62 337 P **P 17 43 27.6 +1.0**
0.8nm,1.0s,baz=176,slow=5.0,SNR=5.6
NOA NORSAR Array B 84.40 28 P **P 17 45 49.8 +1.5**
0.7nm,0.8s,baz=291,slow=5.1,SNR=3.4

CASC 04 17:51:25.6±3.0, 8°.35N×82°.86W, h6km±15km, MD4.1, 4C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.43**	**315⇑**	*eP*	Pg	17 51 33.9	-0.2
ACR				*eS*	Sb	17 51 41.3	-1.2
BRU2	**Volcan**	**0.47**	**20⇓**	*i P*	Pg	17 51 35.5	+0.6
BRU2				*eS*	Sb	17 51 44.3	+0.4
BRU	**Baru**	**0.54**	**33**	*i P*	Pg	17 51 36.8	+0.2
CNI	**Changuinola**	**1.11**	**18⇓**	*i P*	Pg	17 51 45.8	-1.2
CNI				*eS*	Sg	17 52 01.5	+0.1
BUS	**Buena Vista**	**1.49**	**323⇑**	*i P*	Pn	17 51 51.4	-2.2
BUS				*eS*	Sn	17 52 13.0	-0.8
QCR	**Quepos**	**1.68**	**310**	*eP*	Pn	17 51 53.8	-1.7
QCR				*eS*	Sn	17 52 16.9	-0.5
URSC	**Urasca**	**1.73**	**328⇑**	*eP*	Pn	17 51 55.1	-1.5
URSC				*eS*	Sn	17 52 18.2	-1.0
SJS	**Escuela Geolog**	**1.97**	**323⇑**	*eP*	Pn	17 52 00.4	+0.6
SJS				*eS*	Sb	17 52 26.9	-0.3
CGA2	**Cerro Gallo 2**	**2.29**	**316**	*eP*	Pn	17 52 04.5	+0.2
CGA2				*eS*	Sb	17 52 35.2	-1.2
BCIP	**Isla Barro Col**	**3.09**	**75**	*eP*	Pn	17 52 13.5	-1.5
BCIP				*eS*	Sb	17 52 59.1	-0.1
PTEN	**Parque Tenorio**	**3.15**	**318**	*i P*	Pn	17 52 18.0	+2.1
PTEN				*i S*	Sb	17 52 58.4	-2.6
CUI	**Cuipilapa**	**3.23**	**315**	*i P*	Pn	17 52 17.6	+0.6
VCR	**Vista de Mar**	**3.26**	**303**	*eP*	Pn	17 52 16.0	-1.5
COLC	**Colonia**	**3.26**	**315**	*i P*	Pn	17 52 18.6	+1.1
HORNC	**Hornillas**	**3.28**	**316**	*i P*	Pn	17 52 18.5	+0.8
MESS	**Mesas**	**3.31**	**316**	*i P*	Pn	17 52 19.6	+1.4
GPS2	**Hotel Rinc^‡n**	**3.43**	**314**	*i P*	Pn	17 52 20.2	+0.4

WEL 04 17:55:13.1±0.3, 44°.44S×168°.01E, h5km, ML3.5/12, 2C, Error ellipse: s-maj=2.7km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.24**	**194**	PG	Pg	17 55 18.5	+0.6
MSZ				SG	Sg	17 55 21.7	+0.7
MSZ				AML	AML	17 55 22.3	
MSZ				AML	AML	17 55 24.2	
MSZ				AML	AML	17 55 24.3	
JCZ	**Jackson Bay**	**0.65**	**56**	P*	Pg	17 55 25.5	-0.2
JCZ				AML	AML	17 55 37.2	
JCZ				AML	AML	17 55 46.3	
WKZ	**Wanaka**	**0.82**	**119**	⇑P*	Pg	17 55 28.6	-0.4
WKZ				S*	Sg	17 55 39.9	+0.2
WKZ				AML	AML	17 55 40.8	
WKZ				AML	AML	17 55 42.5	
WKZ				AML	AML	17 55 42.6	
MLZ	**Mavora Lakes**	**0.92**	**173**	P*	Pg	17 55 30.5	-0.4
MLZ				S*	Sb	17 55 45.1	+0.9
MLZ				AML	AML	17 55 48.9	
DCZ	**Deep Cove**	**1.20**	**210**	P*	Pg	17 55 34.8	-1.4
DCZ				S*	Sb	17 55 52.0	-0.2
DCZ				AML	AML	17 55 56.7	
DCZ				AML	AML	17 55 56.7	
DCZ				AML	AML	17 55 57.7	
EAZ	**Earnscleugh**	**1.22**	**131**	⇑P*	Pg	17 55 35.5	-1.0
EAZ				AML	AML	17 55 53.1	
EAZ				AML	AML	17 55 53.1	
EAZ				AML	AML	17 55 54.8	
EAZ				AML	AML	17 55 54.8	
WHZ	**Wether Hill Ro**	**1.46**	**182**	PN	Pn	17 55 39.4	-0.7
WHZ				AML	AML	17 56 04.4	
WHZ				AML	AML	17 56 04.6	
FOZ	**Fox Glacier**	**1.49**	**55**	PN	Pb	17 55 41.3	0.0
FOZ				AML	AML	17 56 06.2	
FOZ				AML	AML	17 56 09.6	
FOZ				AML	AML	17 56 09.7	
FOZ				AML	AML	17 56 10.0	
LBZ	**Lake Benmore**	**1.56**	**89**	PN	Pb	17 55 42.1	-0.4
LBZ				AML	AML	17 56 06.1	
LBZ				AML	AML	17 56 06.6	
TUZ	**Tuapeka**	**1.90**	**143**	PN	Pn	17 55 46.8	+0.6
TUZ				AML	AML	17 56 14.3	
TUZ				AML	AML	17 56 14.8	
ODZ	**Otahua Downs**	**1.98**	**109**	PN	Pn	17 55 47.6	+0.4
SYZ	**Scrubby Hill**	**2.25**	**160**	PN	Pn	17 55 51.1	+0.2
RPZ	**Rata Peaks**	**2.31**	**73**	PN	Pn	17 55 52.8	+0.9
RPZ				AML	AML	17 56 29.3	
RPZ				AML	AML	17 56 30.3	
WVZ	**Waitaha Valley**	**2.40**	**56**	AML	AML	17 57 11.7	
WVZ				AML	AML	17 58 24.5	

IDC ***04*** *17:57:33.7±0.6, 17°.66S×167°.71E, h0km, mb4.6/18, mb1 4.7/20, mb1mx4.7/25, mbtmp4.7/20, ML4.4/2, MS4.6/23, Ms1 4.6/23, ms1mx4.5/29, Error ellipse: s-maj=20.0km s-min=14.3km az=99.0*

ISCJB ***04*** *17:57:35.8±2.1, 17°.67S±0°.03×167°.64E±0°.06, h25km±14km, mb4.9/63, MS4.6/42, Error ellipse: s-maj=9.9km s-min=5.7km az=177.0*

NOU ***04*** *17:57:36.2±1.7, 17°.36S×167°.09E, h30km, MD4.0, MS2.6*

NEIC ***04*** *17:57:36.7±3.3, 17°.66S×167°.62E, h20km±22km, mb5.0/25, Error ellipse: s-maj=10.6km s-min=7.9km az=68.0*

NEIC Felt at Port-Vila.

BKK ***04*** *17:57:37.1±0.6, 18°S±10°×16°8E±1°0, h10km, M5.4/18, mB5.9/5, mb5.2/18, Mw(mB)5.5/5*

AUST ***04*** *17:57:37.3±4.0, 17°.63S×167°.44E, h0km, Error ellipse: s-maj=1.4km s-min=1.0km az=41.0*

MOS ***04*** *17:57:37.5±1.3, 17°.67S×167°.46E, h33km, mb5.1/19, MS4.6/8, Error ellipse: s-maj=10.6km s-min=8.8km az=32.7*

BJI ***04*** *17:57:41.3, 17°.09S×167°.64E, h49km, mB5.2/30, mb4.8/43, Ms5.0/32, Ms7 4.7/34*

GCMT ***04*** *17:57:41.1±0.1, 17°.58S×167°.50E, h12km, MW5.3, Moment Tensor Solution. s78,c129; s97,c179; Moment tensor: Scale 10^17^Nm; Mrr1.05±.01; Mθθ0.00±.02; Mφφ-1.05±.01; Mrθ0.23±.04; Mθφ0.05±.01; Mφr-0.44±.04; Best double couple: Mo1.20000×10^17^ NP1:φs167.00000°, δ57.00000°, λ79.00000°. NP2:φs7.00000°, δ34.00000°, λ107.00000°. Principal axes: T 1.1800, Plg75.0000°, Azm46.0000°; N -0.0300, Plg9.0000°, Azm173.0000°; P -1.1500, Plg12.0000°, Azm265.0000°; Data Used: II IU IC G CN.*

DJA ***04*** *17:58:12.3±6.4, 18°S±21°×16°6E±4°1, h206km±40km, M4.6/12, mb4.6/12*

ISC 04 17:57:39.6±0.4, 17°.67S±0°.04×167°.73E±0°.06, h46km±2km, h46km:pP-P,n269,σ1$69/306, mb5.0/61, MS4.6/44, 10C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.53**	**190**	*eS*	**Sn**	**17 59 35.4**	**-1.6**
DZM	**Mont Dzumac**	**4.54**	**195**	*e*Pn	**Pn**	**17 58 45.2**	**-0.7**
DZM	50nm,0.3s						
DZM	98nm,0.2s			*e*Sn	**Sn**	**17 59 35.5**	**-2.0**
DZM	**Mont Dzumac**	**4.54**	**195**	*eP*	**Pn**	**17 58 44.0**	**-1.9**
DZM				*eS*	**Sn**	**17 59 34.0**	**-3.5**
DZM	comp=Z,759nm,17.8s			AMP		17 59 52.9	
DZM	**Mont Dzumac**	**4.54**	**195**	*e*Pn	**Pn**	**17 58 43.5**	**-2.4**
DZM				Sn	**Sn**	**17 59 37.9**	**+0.4**
DZM	**Mont Dzumac**	**4.54**	**195**	Pn	**Pn**	**17 58 43.9**	**-1.9**
DZM	comp=Z,9.3nm,0.3s,baz=42,slow=18,SNR=51			Sn	**Sn**	**17 59 37.9**	**+0.4**
DZM	comp=Z,8.9nm,0.3s,baz=335,slow=20,SNR=4.8			LR	LR	18 00 21.4	
DZM	comp=Z,9μm,18.6s,baz=27,slow=37						
NOUC	**Port Laguerre**	**4.60**	**197**	*eP*	**Pn**	**17 58 44.8**	**-1.9**
NOUC				*eS*	**Sn**	**17 59 35.0**	**-3.9**
NOUC	comp=Z,41nm,5.6s			AMP		18 00 02.8	
NORM	**Noumea**	**4.68**	**194**	*eP*	**Pn**	**17 58 46.6**	**-1.1**
NORM				*eS*	**Sn**	**17 59 39.9**	**-0.9**
NORM				AMP		17 59 45.3	
	comp=Z,112nm,25.7s						
MSVF	**Nonsavu**	**9.84**	**92**	Pn	Pn	18 00 04.9	+6.3
	comp=Z,752nm,1.4s,SNR=11						
MSVF	**Nonsavu**	**9.84**	**92**	*e*P	Pn	18 00 03.8	+5.2
MSVF				pmax	pmax		
	comp=Z,357nm,1.5s						
MSVF	**Nonsavu**	**9.84**	**92**	*e*P	Pn	18 00 03.8	+5.2
	comp=Z,357nm,1.5s						
HNR	**Honiara**	**11.15**	**316**	*e*P	**Pn**	**18 00 13.7**	**-2.8**
	comp=Z,274nm,0.9s						
HNR				Sn	**Sn**	**18 02 17.3**	**-2.5**
HNR	**Honiara**	**11.15**	**316**	Pn	**Pn**	**18 00 14.0**	**-2.5**
	comp=Z,5.1nm,0.3s,baz=180,slow=13,SNR=8.2						
HNR				Sn	**Sn**	**18 02 17.3**	**-2.5**
	comp=Z,5.4nm,0.3s,baz=170,slow=19,SNR=3.0						
HNR				LR	LR	18 03 51.3	
	comp=Z,3μm,18.7s,baz=144,slow=34						
NFK	**Norfolk Island**	**11.32**	**179**	P	Pn	18 00 07.9	-11
	baz=11,SNR=4.0						
RAO	**Raoul Island**	**17.48**	**134**	LR	LR	18 06 57.3	
	comp=Z,4μm,22.0s,baz=130,slow=32						
OUZ	**Omahuta**	**18.24**	**164**	*e*P	**Pn**	**18 01 50.2**	**+0.9**
	comp=Z,35nm,1.0s						
ARMA	**Armidale**	**19.39**	**226**	*e*P	**Pn**	**18 02 03.2**	**-0.1**
	comp=Z,43nm,1.3s						
ARMA	**Armidale**	**19.39**	**226**	P	**Pn**	**18 02 07.8**	**+4.4**
	baz=19,SNR=5.2						
RMQ	**Roma**	**19.63**	**240**	P	**Pn**	**18 02 06.8**	**+0.7**
	baz=19,SNR=34						
AFI	**Afiamalu**	**20.07**	**82**	LR	LR	18 07 31.8	
	comp=Z,671nm,18.4s,baz=259,slow=30						
CTA	**Charters Tower**	**20.46**	**260**	P	**P**	**18 02 14.0**	**+0.5**
CTA	**Charters Tower**	**20.46**	**260**	P	**P**	**18 02 14.0**	**+0.5**
	comp=Z,16nm,0.8s,baz=89,slow=12,SNR=13						
CTA				LR	LR	18 09 12.2	
	comp=Z,5μm,19.5s,baz=67,slow=34						
CTAO	**Charters Tower**	**20.46**	**260**	*e*P	**P**	**18 02 14.1**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,46nm,1.1s						
CTAO	**Charters Tower**	**20.46**	**260**	*e*P	**P**	**18 02 14.1**	**+0.5**
	comp=Z,46nm,1.1s						
PMG	**Port Moresby**	**21.61**	**290**	P	**P**	**18 02 22.9**	**-2.9**
PMG	**Port Moresby**	**21.61**	**290**	P	**P**	**18 02 26.4**	**+0.5**
	comp=Z,32nm,1.0s,baz=103,slow=14,SNR=2.5						
PMG				LR	LR	18 10 12.2	
	comp=Z,4μm,18.1s,baz=97,slow=35						
URZ	**Urewera**	**22.09**	**160**	*e*P	**P**	**18 02 31.8**	**+0.9**
	comp=Z,248nm,1.6s						
URZ	**Urewera**	**22.09**	**160**	P	**P**	**18 02 31.7**	**+0.9**
	comp=Z,34nm,1.0s,baz=329,slow=12,SNR=5.3						
URZ				LR	LR	18 08 51.5	
	comp=Z,2μm,19.4s,baz=134,slow=31						
MTSU	**Mount Surprise**	**22.28**	**265**	P	**P**	**18 02 34.0**	**+0.9**
	baz=22,SNR=11						
COEN	**Coen**	**23.91**	**275**	*e*P	**P**	**18 02 49.2**	**-0.2**
	comp=Z,346nm,1.0s						
COEN	**Coen**	**23.91**	**275**	P	**P**	**18 02 51.9**	**+2.5**
	baz=24,SNR=4.2						
YNG	**Young**	**23.93**	**223**	P	**P**	**18 02 51.5**	**+2.0**
	baz=24,SNR=8.0						
CNB	**Canberra Magne**	**23.99**	**219**	P	**P**	**18 02 52.3**	**+2.3**
	baz=24,SNR=6.9						
CMSA	**Cobar Meteorol**	**24.27**	**231**	P	**P**	**18 02 53.2**	**+0.7**
	baz=24,SNR=26						
MANU	**Manus Island**	**25.32**	**306**	S	S	18 07 33.9	+8.5
	baz=25,SNR=4.2						
STKA	**Stephens Creek**	**27.53**	**234**	*e*P	**P**	**18 03 20.6**	**-1.4**
	comp=Z,7.7nm,1.0s						
STKA	**Stephens Creek**	**27.53**	**234**	P	**P**	**18 03 22.6**	**+0.5**
	comp=Z,17nm,0.9s,baz=59,slow=9.4,SNR=23						
STKA				LR	LR	18 13 44.0	
	comp=Z,2μm,18.9s,baz=57,slow=35						
STKA	**Stephens Creek**	**27.53**	**234**	P	**P**	**18 03 22.9**	**+0.8**
	baz=27,SNR=23						
JAY	**Jayapura**	**30.50**	**297**	P	**P**	**18 03 47.8**	**-0.9**
	baz=30,SNR=4.6						
TAU	**Tasmania Unive**	**30.55**	**210**	P	**P**	**18 03 46.6**	**-2.1**
TAU	**Tasmania Unive**	**30.55**	**210**	P	**P**	**18 03 46.5**	**-2.1**
RAR	**Rarotonga**	**30.82**	**102**	LR	LR	18 13 41.3	
	comp=Z,1μm,20.6s,baz=287,slow=31						
WRAB	**Tennant Creek**	**31.65**	**261**	P	**P**	**18 03 57.2**	**-1.5**
	comp=Z,139nm,1.0s,SNR=10						
WRAB	**Tennant Creek**	**31.65**	**261**	*e*P	**P**	**18 03 56.0**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,33nm,1.1s						
WRAB	**Tennant Creek**	**31.65**	**261**	*e*P	**P**	**18 03 56.0**	**-2.7**
	comp=Z,33nm,1.1s						
WRA	**Warramunga Arr**	**31.66**	**261**	P	**P**	**18 03 57.0**	**-1.8**
WRA	**Warramunga Arr**	**31.66**	**261**	P	**P**	**18 03 57.0**	**-1.8**
	comp=Z,7.2nm,0.8s,baz=90,slow=8.7,SNR=45						
WRA				LR	LR	18 15 51.5	
	comp=Z,2μm,19.9s,baz=90,slow=35						
AS31	**Alice Springs**	**32.15**	**254**	*e*P	**P**	**18 04 01.6**	**-1.5**
ASAR	**Alice Springs**	**32.15**	**254**	P	**P**	**18 04 02.3**	**-0.8**
ASAR	**Alice Springs**	**32.15**	**254**	P	**P**	**18 04 02.3**	**-0.8**
	comp=Z,21nm,0.7s,baz=80,slow=8.0,SNR=243						
ASAR				LR	LR	18 16 33.3	
	comp=Z,4μm,18.9s,baz=86,slow=36						
BBOO	**Buckleboo**	**32.22**	**236**	*e*P	**P**	**18 04 03.0**	**-0.5**
	comp=Z,719nm,1.2s						
BBOO	**Buckleboo**	**32.22**	**236**	P	**P**	**18 04 03.9**	**+0.4**
	baz=32,SNR=5.8						
KDU	**Kakadu**	**34.35**	**273**	P	P	18 04 27.9	+5.5
	baz=34,SNR=4.0						
KNRA	**Kununurra**	**37.34**	**267**	P	**P**	**18 04 47.1**	**-0.8**
	baz=37,SNR=21						
FORT	**Forrest**	**38.26**	**243**	*e*P	**P**	**18 04 55.7**	**+0.2**
	comp=Z,51nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.00**	**263**	*e*P	**P**	**18 05 09.3**	**-0.9**
	comp=Z,74nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.00**	**263**	P	**P**	**18 05 10.0**	**-0.2**
	baz=40,SNR=27						
TBI	**Tubuai**	**40.38**	**105**	*e*S	**S**	**18 11 15.3**	**-3.2**
TBI	comp=Z,718nm,27.5s			*e*LQ	LQ	18 14 23.4	
	comp=Z,2μm,26.8s						
TBI				*e*LR	LR	18 16 04.5	
	comp=Z,3μm,28.8s,baz=268						
PPT2	**Papeete2**	**40.62**	**97**	*e*S	**S**	**18 11 20.6**	**-1.8**
	comp=Z,736nm,25.5s						
PPT2				*e*LQ	LQ	18 14 30.1	
	comp=Z,768nm,23.8s						
PPT2				*e*LR	LR	18 16 15.5	
	comp=Z,4μm,27.2s,baz=260						
PPT	**Papeete**	**40.63**	**97**	LR	LR	18 18 24.6	
	comp=Z,1μm,19.3s,baz=284,slow=31						
SOEI	**Soe**	**42.87**	**275**	P	P	18 05 40.9	+6.9
	baz=43,SNR=5.4						
MBWA	**Marble Bar**	**45.27**	**258**	*e*P	**P**	**18 05 53.0**	**0.0**
	comp=Z,46nm,1.0s						
MEEK	**Meekatharra**	**46.12**	**250**	P	**P**	**18 05 59.5**	**-0.3**
	baz=46,SNR=16						
NWAO	**Narrogin (SRO)**	**47.68**	**241**	*e*P	**P**	**18 06 10.8**	**-1.0**
MORW	**Morawa**	**48.45**	**247**	P	**P**	**18 06 17.4**	**-0.4**
	baz=48,SNR=5.3						
KAPI	**Kappang**	**48.55**	**279**	*e*P	**P**	**18 06 16.8**	**-1.9**
	comp=Z,74nm,1.0s						
RKT	**Rikitea**	**53.70**	**106**	*e*S	**S**	**18 14 24.8**	**-3.5**
	comp=Z,716nm,28.8s						
RKT				*e*LR	LR	18 22 15.5	
	comp=Z,2μm,31.2s,baz=268						
LEM	**Lembang**	**59.51**	**272**	P	P	18 07 46.5	+7.6
	baz=59,SNR=4.7						
KSM	**Kuching**	**59.64**	**283**	P	**P**	**18 07 40.1**	**+0.5**
	baz=59,SNR=7.3						
VNDA	**Vanda**	**59.95**	**181**	P	**P**	**18 07 41.0**	**+0.3**
VNDA	**Vanda**	**59.95**	**181**	P	**P**	**18 07 41.0**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=4.5,slow=7.9,SNR=7.2						
VNDA				LR	LR	18 32 18.6	
	comp=Z,329nm,18.8s,baz=17,slow=35						
SBA	**Scott Base**	**60.21**	**180**	*e*P	**P**	**18 07 44.3**	**+1.8**
SBA				pmax	pmax		
	comp=Z,16nm,1.1s						
SBA	**Scott Base**	**60.21**	**180**	*e*P	**P**	**18 07 44.3**	**+1.8**
	comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	**60.71**	**333**	P	**P**	**18 07 46.1**	**-0.3**
MJAR	**Matsushiro Arr**	**60.71**	**333**	P	**P**	**18 07 46.1**	**-0.3**
	comp=Z,8.3nm,1.1s,baz=171,slow=7.4,SNR=15						
MJAR				LR	LR	18 32 38.1	
	comp=Z,285nm,19.1s,baz=150,slow=35						
MAJO	**Matsushiro**	**60.71**	**333**	*d i*P	**P**	**18 07 46.5**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,20nm,1.3s						
MAJO	**Matsushiro**	**60.71**	**333**	*e*P	**P**	**18 07 46.6**	**+0.1**
	comp=Z,22nm,1.4s						
MAT	**Matsushiro**	**60.71**	**333**	P	**P**	**18 07 45.8**	**-0.7**
MAT				S	**S**	**18 16 00.2**	**+0.2**
CASY	**Casey**	**60.99**	**203**	*e*P	**P**	**18 07 48.6**	**+0.6**
	comp=Z,13nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**64.59**	**343**	*c i*P	**P**	**18 08 12.0**	**-0.1**
YUK				*i*		18 10 35.8	
YUK				*i* PPP	PPP	18 12 12.9	
YUK				*e*S	**S**	**18 16 47.6**	**-0.7**
YUK				*i* SS	**SS**	**18 21 03.5**	**+3.5**
ASAJ	**Asahikawa**	**65.65**	**340**	P	**P**	**18 08 19.6**	**+0.7**
ASAJ	**Asahikawa**	**65.65**	**340**	P	**P**	**18 08 19.6**	**+0.7**
	comp=Z,15nm,0.9s,baz=270,slow=4.0,SNR=18						
KSRS	**Korea Array**	**66.42**	**326**	P	**P**	**18 08 24.9**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=148,slow=7.3,SNR=5.9						
KSAR	**Wonju Array Be**	**66.43**	**326**	P	**P**	**18 08 24.9**	**+0.7**
QIZ	**Qiongzhong**	**67.56**	**300**	P	**P**	**18 08 33.1**	**+1.4**
QIZ				sP	**sP**	**18 08 50.5**	**+0.3**
QIZ				S	**S**	**18 17 26.5**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,30nm,2.4s						
QIZ				pmax	pmax		
	comp=Z,230nm,3.9s						
QIZ				LR	LR		
	comp=Z,560nm,30.8s						
NJ2	**Nanjing**	**68.09**	**316**	*e*P	P	18 08 38.2	+3.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**68.15**	**342**	*e*P	**P**	**18 08 36.6**	**+1.8**
YSS				*e*		18 08 43.6	
YSS				*e*S	**S**	**18 17 34.0**	**+2.6**
YSS				pmax	pmax		
	comp=Z,60nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
SKR	**Severo-Kuril's**	**68.82**	**352**	*e*P	P	18 08 30.5	-8.4
VLA	**Vladivostok**	**68.88**	**333**	*d i*P	**P**	**18 08 40.5**	**+1.1**
VLA				pmax	pmax		
	comp=Z,22nm,1.7s						
USRK	**Ussuriysk Arra**	**69.70**	**333**	P	**P**	**18 08 44.8**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=141,slow=4.8,SNR=21						
PSI	**Prapat**	**70.75**	**279**	P	**P**	**18 08 53.6**	**+1.8**
	baz=70,SNR=3.5						
DL2	**Dalian**	**70.91**	**323**	P	**P**	**18 08 52.4**	**+0.4**
DL2				S	**S**	**18 18 01.6**	**-2.6**
DL2				pmax	pmax		
	comp=Z,26nm,0.5s						
DL2				pmax	pmax		
	comp=Z,220nm,5.7s						
DL2				LR	LR		
	comp=N,310nm,5.9s						
DL2				LR	LR		
	comp=E,190nm,5.1s						
DL2				LR	LR		
	comp=Z,280nm,25.0s						
PEA0B	**Petropavlovsk-**	**71.02**	**354**	*e*P	**P**	**18 08 53.9**	**+1.5**
PETK	**Petropavlovsk-**	**71.02**	**354**	P	**P**	**18 08 53.3**	**+0.9**
PETK	**Petropavlovsk-**	**71.02**	**354**	P	**P**	**18 08 53.3**	**+0.9**
PETK	**Petropavlovsk-**	**71.02**	**354**	P	**P**	**18 08 53.3**	**+0.9**
	comp=Z,27nm,1.1s,baz=133,slow=6.3,SNR=13						
PETK				LR	LR	18 36 37.4	
	comp=Z,157nm,21.3s,baz=178,slow=33						
MDJ	**Mudanjiang**	**71.08**	**332**	P	**P**	**18 08 53.6**	**+0.7**
MDJ				pP	**pP**	**18 09 05.3**	**-1.0**
MDJ				sP	**sP**	**18 09 10.2**	**-1.3**
MDJ				PP	**PP**	**18 11 27.4**	**-3.8**
MDJ				sS	**sS**	**18 18 24.7**	**-3.5**
MDJ				ScS	**SKSac**	**18 18 51.1**	**-0.6**
MDJ				SS	**SS**	**18 22 38.4**	**-2.1**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,6.2s						
MDJ				LR	LR		
	comp=N,200nm,15.9s						
MDJ				LR	LR		
	comp=E,120nm,21.1s						
MDJ				LR	LR		
	comp=Z,220nm,21.8s						
MDJ	**Mudanjiang**	**71.08**	**332**	*e*P	**P**	**18 08 53.9**	**+1.0**
	comp=Z,10nm,1.0s						
PANO	**Nakornpanom**	**71.11**	**296**	P	P	18 09 05.4	+12
SNY	**Shenyang**	**71.90**	**327**	⇑P	**P**	**18 08 58.0**	**+0.1**
SNY				S	**S**	**18 18 17.1**	**+1.6**
SNY				pmax	pmax		
	comp=Z,290nm,5.5s						
SNY				LR	LR		
	comp=E,270nm,19.6s						
SNY				LR	LR		
	comp=Z,370nm,17.4s						
HABR	**Khabarovsk**	**72.02**	**338**	*c e*P	**P**	**18 08 58.1**	**-0.4**
HABR				*e**PP	**pP**	**18 09 07.8**	**-4.0**
HABR				*e**SP	sP	18 09 11.5	-5.5
HABR				*e*		18 09 15.7	
HABR				PPP	PPP	18 13 21.4	
HABR				*e*S	**S**	**18 18 16.9**	**+0.4**
HABR				*e*		18 18 59.8	
HABR				*e*SS	**SS**	**18 22 53.3**	**-1.4**
HABR				pmax	pmax		
	comp=Z,101nm,2.5s						
HABR				pmax	pmax		
	comp=E,13nm,1.1s						
HABR				pmax	pmax		
	comp=N,18nm,1.9s						
HABR				MLR	MLR		
	comp=Z,211nm,18.0s						
QSPA	**South Pole Qui**	**72.37**	**180**	*e*P	**P**	**18 09 01.5**	**+0.8**
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**72.39**	**329**	*e*P	**P**	**18 09 01.6**	**+0.8**
CN2				*e*pP	**pP**	**18 09 11.8**	**-2.4**
CN2				PP	**PP**	**18 11 44.8**	**+2.3**
CN2				*e*S	**S**	**18 18 22.5**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
NAYO	**Nakonayok**	**72.80**	**292**	P	P	18 09 10.8	+6.9
	comp=Z,63nm,0.8s,comp=Z,10μm						
ENH	**Enshi**	**73.58**	**310**	*e*P	**P**	**18 09 07.0**	**-1.3**
	comp=Z,14nm,1.1s						
GYA	**Guiyang**	**73.75**	**305**	P	**P**	**18 09 11.0**	**+1.5**
GYA				pP	**PcP**	**18 09 25.2**	**+0.2**
GYA				sP	**sP**	**18 09 31.8**	**+3.7**
GYA				PP	**PP**	**18 11 58.4**	**+3.7**
GYA				S	**S**	**18 18 37.0**	**-0.6**
GYA				sS	**sS**	**18 19 01.3**	**+1.3**
GYA				SKS

comp=N,120nm,23.4s
XAN LR LR
comp=E,250nm,22.7s
XAN LR LR
comp=Z,140nm,22.0s
KMI Kunming 76.23 302 P **P** **18 09 25.9 +2.0**
KMI pP **pP** **18 09 41.7 +4.3**
KMI PP **PP** **18 12 20.5 +4.7**
KMI S **S** **18 19 04.2 -1.2**
KMI SS **SS** **18 24 00.3 0.0**
KMI pmax pmax
comp=Z,24nm,1.0s
KMI LR LR
comp=N,280nm,22.1s
KMI LR LR
comp=E,300nm,24.4s
KMI LR LR
comp=Z,390nm,30.8s
CMAR Chiang Mai Arr 76.56 295 P **P** **18 09 27.4 +1.8**
CMAR Chiang Mai Arr 76.56 295 P **P** **18 09 27.4 +1.8**
comp=Z,8.8nm,0.8s,baz=127,slow=4.3,SNR=29
CMAR LR LR 18 44 59.6
comp=Z,120nm,18.7s,baz=289,slow=37
CMMT Chiang Mai 76.70 295 P **P** **18 09 28.0 +1.6**
comp=Z,22nm,1.1s
CHTO Chiang Mai 76.70 295 *e*P **P** **18 09 27.6 +1.2**
CHTO pmax pmax
comp=Z,22nm,1.1s
CHTO Chiang Mai 76.70 295 *e*P **P** **18 09 27.6 +1.2**
comp=Z,22nm,1.1s
CHTO Chiang Mai 76.70 295 P **P** **18 09 28.3 +1.9**
comp=Z,24nm,1.1s
HHC Hu-ho-hao-te 78.11 320 *e*P **P** **18 09 34.4 +0.4**
HHC pP **pP** **18 09 48.5 +1.0**
HHC sP **sP** **18 09 53.1 +0.5**
HHC PP **PP** **18 12 33.0 +1.9**
HHC S **S** **18 19 23.6 -1.3**
HHC SKS **SKSac** **18 19 39.5 -5.1**
HHC sS **sS** **18 19 47.7 +0.2**
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,300nm,6.6s
HHC LR LR
comp=N,550nm,17.8s
HHC LR LR
comp=E,520nm,19.0s
HHC LR LR
comp=Z,720nm,19.0s
CD2 Chengdu 78.15 308 *e*P **P** **18 09 35.2 +0.8**
CD2 pP **pP** **18 09 49.3 +1.4**
CD2 sP **sP** **18 09 55.0 +2.0**
CD2 PP **PP** **18 12 34.4 +2.8**
CD2 S **S** **18 19 24.4 -1.3**
CD2 sS **sS** **18 19 48.4 +0.1**
CD2 SS **SS** **18 24 29.7 +1.0**
CD2 pmax pmax
comp=Z,20nm,1.4s
CD2 pmax pmax
comp=Z,120nm,6.2s
CD2 LR LR
comp=E,620nm,22.6s
CD2 LR LR
comp=Z,690nm,21.4s
HIA Hailar 79.05 330 *e*P **P** **18 09 39.0 +0.1**
MAW Mawson 79.34 202 LR LR 18 39 25.6
comp=Z,474nm,20.5s,baz=95,slow=32
MAW Mawson 79.34 202 P P 18 09 45.8 +5.7
baz=79,SNR=15
LZH Lanzhou 80.62 313 *e*P **P** **18 09 49.4 +1.6**
LZH pP **pP** **18 10 02.4 +1.0**
LZH sP **sP** **18 10 06.9 +0.3**
LZH PP **PP** **18 12 56.0 +3.8**
LZH *e*S **S** **18 19 51.3 -0.6**
LZH SKS **SKSac** **18 19 58.1 -4.6**
LZH sS **sS** **18 20 17.0 +2.4**
LZH pmax pmax
comp=Z,46nm,1.4s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=E,210nm,16.0s
LZH LR LR
comp=Z,430nm,17.1s
ULN Ulaanbaatar 84.76 324 *e*P **P** **18 10 09.8 +0.7**
comp=Z,27nm,1.4s
YAK Yakutsk 84.96 343 *e*P **P** **18 10 08.7 -0.8**
YAK *e**PP **pP** **18 10 18.6 -4.5**
YAK *e*S S 18 20 27.8 -6.8
YAK pmax pmax
comp=Z,68nm,1.4s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,23nm,1.5s
YAK smax smax
comp=N,99nm,3.4s
YAK smax smax
comp=E,57nm,2.9s
YAK MLR MLR
comp=Z,323nm,21.0s
YAK MLR MLR
comp=N,228nm,21.0s
YAK MLR MLR
comp=E,161nm,23.0s
GTA Gaotai 85.02 314 ⇑P **P** **18 10 11.3 +0.8**
GTA pP **pP** **18 10 24.9 +0.7**
GTA sP **sP** **18 10 29.8 +0.5**
GTA SKS **SKSac** **18 20 29.7 -1.9**
GTA S **SKKSac** **18 20 38.5 +0.7**
GTA sS **sS** **18 21 00.8 +1.5**
GTA pmax pmax
comp=Z,9.0nm,1.6s
GTA pmax pmax
comp=Z,77nm,6.9s
GTA LR LR
comp=N,280nm,18.8s
GTA LR LR
comp=E,220nm,18.8s
GTA LR LR
comp=Z,210nm,18.3s
SONM Songino Array 85.12 324 P **P** **18 10 11.8 +1.0**
SONM Songino Array 85.12 324 P **P** **18 10 11.8 +1.0**
comp=Z,6.3nm,1.1s,baz=135,slow=4.7,SNR=13
SONM LR LR 18 44 43.2
comp=Z,218nm,21.6s,baz=336,slow=33
SHL Shillong 85.35 299 *e*P **P** **18 10 14.0 +1.4**
SYO Syowa Base 86.02 197 ⇓*e*P **P** **18 10 14.4 -0.5**
SML Sawmill 86.53 19 *e*P P 18 10 10.1 -7.3
SML pmax pmax
comp=Z,2.0nm,0.6s
SML Sawmill 86.53 19 *e*P P 18 10 10.1 -7.3
comp=Z,2.1nm,0.6s
CMB Columbia Colle 87.19 49 *e*P **P** **18 10 21.7 +0.5**
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 87.19 49 *e*P **P** **18 10 21.7 +0.5**
comp=Z,4.9nm,0.9s
LSA Lhasa 87.49 302 *e*P **P** **18 10 20.3 -3.1**
LSA Lhasa 87.49 302 *e*P **P** **18 10 20.2 -3.1**
ISA Isabella 87.62 52 P **P** **18 10 22.8 -0.6**
ISA pmax pmax
comp=Z,5.0nm,1.3s
ISA Isabella 87.62 52 P **P** **18 10 22.8 -0.6**
comp=Z,4.9nm,1.3s
WAKR Walker 88.07 49 *e*P **P** **18 10 24.7 -0.9**
comp=Z,6.3nm,1.2s
ZAK Zakamensk 88.20 325 *e*P **P** **18 10 25.0 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
TLY Talaya 88.67 326 *e*P **P** **18 10 29.2 +1.4**
TLY *e* 18 21 14.2
TLY *e* 18 22 14.4
TLY *e* 18 22 49.4
TLY pmax pmax
comp=Z,5.0nm,0.7s
TLY MLR MLR
comp=Z,176nm,22.0s
NVAR Mina Array Bea 88.85 49 P **P** **18 10 30.4 +1.1**
NVAR Mina Array Bea 88.85 49 P **P** **18 10 30.4 +1.1**
comp=Z,1.7nm,1.0s,baz=232,slow=6.7,SNR=8.2
NVAR LR LR 18 43 15.2
comp=Z,365nm,18.7s,baz=290,slow=31
ILAR Eielson Array 89.18 18 P **P** **18 10 28.9 -1.0**
ILAR Eielson Array 89.18 18 P **P** **18 10 28.9 -1.0**
comp=Z,0.7nm,0.8s,baz=226,slow=6.5,SNR=5.4
WVOR Wild Horse Val 90.23 45 *e*P **P** **18 10 36.4 +0.9**
WVOR pmax pmax
comp=Z,10.0nm,1.2s
WVOR Wild Horse Val 90.23 45 *e*P **P** **18 10 36.4 +0.9**
comp=Z,10.0nm,1.2s
SNAA Sanae 90.65 183 *e*P **P** **18 10 37.7 +0.7**
SNAA Sanae 90.65 183 *e*PcP **PcP** **18 10 39.1 +1.1**
SNAA Sanae 90.65 183 *e*pP pP 18 10 58.8 +8.1
SNAA Sanae 90.65 183 *e*P **P** **18 10 36.8 -0.2**
comp=Z,21nm,1.4s
VNA1 Neumayer--Stat 91.86 181 *e*P **P** **18 10 44.1 +1.6**
VNA1 Neumayer--Stat 91.86 181 *e*PcP **PcP** **18 10 45.0 +1.7**
TIXI Tiksi 92.93 349 ⇑*e*P **P** **18 10 47.6 +0.4**
TIXI pmax pmax
comp=Z,13nm,1.6s
HVS Khovu-Aksy 93.96 323 *c e*P **P** **18 10 53.1 +0.6**
WMQ Urumqi 95.09 314 P **P** **18 10 57.9 0.0**
WMQ pP **pP** **18 11 11.8 +0.2**
WMQ SKS **SKSac** **18 21 28.5 -1.5**
WMQ S **S** **18 22 04.5 -4.9**
WMQ sS **sS** **18 22 31.9 -0.7**
WMQ SS **SS** **18 28 36.9 +0.4**
WMQ pmax pmax
comp=Z,16nm,1.2s
WMQ pmax pmax
comp=Z,87nm,5.4s
WMQ LR LR
comp=N,200nm,27.0s
WMQ LR LR
comp=E,310nm,26.0s
WMQ LR LR
comp=Z,370nm,26.0s
PDAR Pinedale Array 96.61 47 LR LR 18 47 19.2
comp=Z,128nm,19.9s,baz=246,slow=31
TXAR Lajitas Array 97.28 62 LR LR 18 49 50.3
comp=Z,253nm,18.1s,baz=155,slow=32
MKAR Makanchi Array 99.62 316 P **Pdif** **18 11 17.7 -0.5**
MKAR Makanchi Array 99.62 316 P **Pdif** **18 11 17.7 -0.5**
MKAR PKKPbc **PKKPbc** **18 27 38.5 -2.8**
MKAR Makanchi Array 99.62 316 P **Pdif** **18 11 17.7 -0.5**
comp=Z,0.5nm,0.8s,baz=86,slow=7.5,SNR=3.1
MKAR PKKPbc **PKKPbc** **18 27 38.5 -2.8**
comp=Z,0.5nm,0.8s,baz=299,slow=1.5,SNR=3.6
MKAR LR LR 18 54 05.1
comp=Z,91nm,20.0s,baz=259,slow=34
ZALV Zalesovo Beam 100.01 323 P **Pdif** **18 11 21.4 +1.7**
ZALV Zalesovo Beam 100.01 323 P **Pdif** **18 11 21.4 +1.7**
ZALV Zalesovo Beam 100.01 323 P **Pdif** **18 11 21.4 +1.7**
comp=Z,0.7nm,0.6s,baz=104,slow=6.1,SNR=3.5
ZALV LR LR 18 54 19.7
comp=Z,171nm,21.2s,baz=249,slow=34
ARU Arti 115.14 325 *i* PKIKP **PKPdf** **18 16 15.2 -0.3**
ARU 18 22 59.1
ARCES ARCESS Array B 123.20 345 PKP **PKPdf** **18 16 30.4 -0.2**
ARCES ARCESS Array B 123.20 345 PKP **PKPdf** **18 16 30.4 -0.2**
comp=Z,3.2nm,0.7s,baz=42,slow=2.0,SNR=15
MOS Moscow 126.60 327 *e*PKHKP PKPpre 18 16 25.2
KIV Kislovodsk 127.16 312 *i* PKIKP **PKPdf** **18 16 40.2 +1.1**
KIV *e* 18 18 38.6
KIV *e*PS **PS** **18 28 41.5 -2.7**
KIV *e*SS SS 18 35 43.3 -0.9
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,101nm,21.0s
OBN Obninsk 127.41 327 *i* PKIKP **PKPdf** **18 16 39.0 -0.1**
OBN SS SS 18 35 50.2 +4.2
OBN pmax pmax
comp=Z,7.0nm,1.9s
KAF Kangasniemi 128.08 338 *e*PKIKP **PKPdf** **18 16 39.3 -0.9**
KAF Kangasniemi 128.08 338 *e*p **PKPdf** **18 16 39.3 -0.9**
FINES FINESS Array B 128.60 338 PKP **PKPdf** **18 16 42.3 +1.1**
FINES FINESS Array B 128.60 338 PKP **PKPdf** **18 16 42.3 +1.1**
comp=Z,2.2nm,0.8s,baz=132,slow=2.1,SNR=8.7
NB2 NORSAR Subarra 133.56 344 PKPdf **PKPdf** **18 16 52.0 +1.3**
comp=Z,0.4nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 133.56 344 PKP **PKPdf** **18 16 51.6 +0.9**
NOA NORSAR Array B 133.56 344 PKP **PKPdf** **18 16 51.6 +0.9**
comp=Z,1.6nm,0.8s,baz=34,slow=1.9,SNR=7.8
BRTR Keskin Array B 134.72 309 PKP **PKPdf** **18 16 54.9 +1.2**
BRTR Keskin Array B 134.72 309 PKP **PKPdf** **18 16 54.9 +1.2**
comp=Z,0.2nm,0.3s,baz=64,slow=3.4,SNR=2.7
UZH Uzhgorod 138.30 326 *e*PKHKP PKPpre 18 16 36.2
UZH *e* 18 16 57.0
UZH *i* 18 17 02.0
OKC Ostrava-Krasne 139.67 330 AMS AMS 19 17 00.0
comp=Z,100nm,21.0s
DPC Dobruska-Polom 140.17 331 *e*PKIKP **PKPdf** **18 17 02.3 -1.0**
DPC Dobruska-Polom 140.17 331 *e*PKP **PKPdf** **18 17 02.3 -1.0**
DPC AMS AMS 19 19 10.0
PVCC Panska Ves 140.83 333 AMS AMS 19 18 20.0
CLL Collm 140.90 335 *e*PKIKP **PKPdf** **18 17 09.0 +4.5**
CLL *e* 18 20 07.0
CLL MLR MLR
comp=Z,200nm,21.9s
CLL Collm 140.90 335 *e*PKiKP **PKPdf** **18 17 09.0 +4.5**
CLL *e*PP **PP** **18 20 07.0 +2.1**
CLL *e*PSKS 18 30 18.0
CLL *e*PPS PPS 18 32 30.0
CLL *e*SS SS 18 38 36.0 +7.9
CLL *e*SKSSKSac *e*SSac 18 40 15.0 +10
CLL *e*SSS SSS 18 43 49.0
CLL *e*SSSS 18 47 30.0
CLL Lm MLR 19 21 00.0
comp=Z,200nm,21.9s
PRU Pruhonice 141.23 332 *e*PKIKP **PKPdf** **18 17 04.4 -0.7**
PRU MLR MLR
comp=Z,200nm,18.4s
PRU Pruhonice 141.23 332 *e*PKP **PKPdf** **18 17 04.4 -0.7**
PRU AMS AMS 19 13 50.0
comp=Z,200nm,18.4s
TREC Trest 141.30 331 AMS AMS 19 19 30.0
comp=Z,300nm,26.2s
TANN Tannenbergstha 141.81 334 *e*PKP **PKPdf** **18 17 07.6 +1.4**
NKC Novy Kostel 141.95 334 *e*PKIKP **PKPdf** **18 17 03.3 -3.1**
NKC Novy Kostel 141.95 334 *e*PKP **PKPdf** **18 17 03.3 -3.1**
MOX Moxa 141.97 335 *e*L L 19 28 12.7
comp=Z,110nm,21.0s
KHC Kasperske Hory 142.29 332 *e*PKIKP **PKPdf** **18 17 07.9 +0.8**
KHC *e* 18 17 17.9
KHC MLR MLR
comp=Z,300nm,25.3s
KHC Kasperske Hory 142.29 332 *e*PKP **PKPdf** **18 17 07.9 +0.8**
KHC *e*pPKP **pPKPdf** **18 17 17.9 -3.4**
KHC AMS AMS 19 20 50.0
comp=Z,300nm,25.3s
GERES GERESS Array B 142.44 332 PKP **PKPdf** **18 17 09.6 +2.1**
GERES GERESS Array B 142.44 332 PKP **PKPdf** **18 17 09.6 +2.1**
comp=Z,2.4nm,0.9s,baz=57,slow=3.6,SNR=7.2
WET Wettzell 142.59 333 *e*PKP **PKPdf** **18 17 08.8 +1.2**
WET Wettzell 142.59 333 *e*PKIKP **PKPdf** **18 17 08.8 +1.2**
GRF Grafenberg Arr 142.87 335 *e*L L 19 22 09.7
comp=Z,202nm,21.6s
PERS Pernice 143.32 328 *i* PKPdf **PKPdf** **18 17 07.7 -1.3**
TNS Taunus Mts 143.52 338 *e*PKP **PKPdf** **18 17 09.4 +0.1**
TNS Taunus Mts 143.52 338 *e*PKIKP **PKPdf** **18 17 09.4 +0.1**
BOJS Bojanci 144.01 326 *i* PKPdf **PKPdf** **18 17 10.3 +0.2**
VISS Visnje 144.03 327 *i* PKPdf **PKPdf** **18 17 11.8 +1.5**
MEM Membach 144.04 340 PKP **PKPdf** **18 17 09.4 -0.7**
MYKA Terra Mystica 144.06 329 ⇑*i* PKPdf PKPbc 18 17 08.1 -0.2
comp=Z,15nm,1.5s
VOY Vojsko 144.35 328 *e*PKPdf PKPbc 18 17 09.9 +0.6
VOY *e* 18 17 16.9
JAVS Javornik 144.36 328 *i* PKPdf **PKPdf** **18 17 10.4 -0.5**
STU Stuttgart 144.42 335 *e*PKP **PKPdf** **18 17 11.0 +0.2**
ABTA Abfaltersbach 144.52 330 ⇑*i* PKPdf PKPbc 18 17 09.9 +0.1
comp=Z,24nm,1.1s,SNR=13
WTTA Wattenberg 144.54 332 ⇓*i* PKPdf PKPbc 18 17 10.5 +0.5
comp=Z,19nm,1.4s
MOTA Moosalm 144.72 332 ⇑*i* PKPdf **PKPdf** **18 17 11.1 -0.5**
comp=Z,24nm,0.9s,SNR=16
RETA Reutte 144.77 333 ⇓*i* PKPdf **PKPdf** **18 17 11.4 -0.1**
comp=Z,16nm,1.3s,SNR=5.6
LANF Langenberg 144.78 337 PKP **PKPdf** **18 17 11.8 +0.4**
WLF Walferdange 144.80 339 PKP **PKPdf** **18 17 12.6 +1.2**
WLF Walferdange 144.80 339 *e*PKP **PKPdf** **18 17 12.7 +1.3**
WLF Walferdange 144.80 339 *e*PKIKP **PKPdf** **18 17 12.4 +1.0**
WLF Walferdange 144.80 339 *e*PKPdf **PKPdf** **18 17 12.4 +1.0**
DOU Dourbes 144.93 341 PKP **PKPdf** **18 17 12.2 +0.6**
BFO Black Forest 145.11 336 *e*PKP **PKPdf** **18 17 13.2 +1.1**
BFO Black Forest 145.11 336 *e*PKIKP **PKPdf** **18 17 12.6 +0.5**
BFO Black Forest 145.11 336 *e*PKPdf **PKPdf** **18 17 12.6 +0.5**
FETA Feichten 145.14 332 ⇑*i* PKPdf **PKPdf** **18 17 12.7 +0.4**
comp=Z,43nm,1.0s,SNR=24
DAVA Damuels 145.30 333 ⇓*i* PKPdf **PKPdf** **18 17 13.4 +0.8**
comp=Z,46nm,1.1s,SNR=18
ECH Echery 145.66 337 *e*PKP2 **PKPab** **18 17 13.7 0.0**
ECH Echery 145.66 337 *e*PKPdf **PKPab** **18 17 13.7 0.0**
ECH Echery 145.66 337 PKP **PKPab** **18 17 14.3 +0.6**
MOF Molkenrain 145.97 336 PKP **PKPab** **18 17 15.3 +0.4**
THEF They Montfort 146.08 338 PKP **PKPab** **18 17 15.9 +0.7**
TUE Stuetta 146.17 333 *e*PKPdf **PKPab** **18 17 15.9 +0.1**
LOMF Lomont 146.50 336 PKP **PKPab** **18 17 17.2 +0.3**
TIP Timpagrande 146.91 316 *e*PKPbc **PKPab** **18 17 18.5 -0.3**
RSL Roselend 147.94 335 PKP **PKPbc** **18 17 21.1 +1.0**
OG35 Corcelles 148.06 336 PKP **PKPbc** **18 17 21.4 +1.1**
BNI Bardonecchia 148.43 334 *e*PKP2 **PKPbc** **18 17 22.7 +1.3**
BNI Bardonecchia 148.43 334 *e*PKPbc **PKPbc** **18 17 22.7 +1.3**
AGO Saint Agoulin 148.94 339 PKP **PKPab** **18 17 24.8 -1.8**
SSB Saint Sauveur 149.10 337 *e*PKP2 **PKPbc** **18 17 24.0 +1.0**
SSB Saint Sauveur 149.10 337 *e*PKPbc **PKPbc** **18 17 24.0 +1.0**
SSB Saint Sauveur 149.10 337 PKP **PKPbc** **18 17 23.9 +1.0**
PYM Petit Puy Mans 149.25 339 PKP **PKPbc** **18 17 25.6 +2.2**
LBL Lubilhac 149.62 338 PKP **PKPbc** **18 17 26.1 +1.8**
PBRG Braganca 155.49 350 *e*PKPab **PKPab** **18 17 55.5 +1.4**
PGAV Gavieira, Arco 155.55 353 *e*LR LR 19 24 03.1
comp=Z,184nm,20.0s
POLO Lamas de Olo 156.07 352 *e*PKPab **PKPab** **18 17 58.0 +1.3**
PVRL Vila Real 156.16 351 *e*PKPab **PKPab** **18 17 58.8 +1.8**
MVO Moncorvo 156.16 350 *e*PKPab **PKPab** **18 17 58.8 +1.8**
MVO Moncorvo 156.16 350 *e*LR LR 19 24 46.9
comp=Z,132nm,20.0s
PVIS Viseu 156.73 352 *e*PKPab **PKPab** **18 18 01.0 +1.5**
ESDC Sonseca Array 156.92 343 PKPab **PKPab** **18 18 01.9 +1.5**
ESDC Sonseca Array 156.92 343 PKPab **PKPab** **18 18 01.9 +1.5**
comp=Z,0.3nm,0.3s,baz=11,slow=3.8,SNR=12
MTE Manteigas 156.99 351 *e*PKPab **PKPab** **18 18 02.5 +1.9**
MTE Manteigas 156.99 351 *e*LR LR 19 24 13.5
comp=Z,183nm,18.0s
MTE Manteigas 156.99 351 *e*PKPab **PKPab** **18 17 57.9 -2.7**
PCAS Casmilo, Conde 157.46 352 *e*PKPab **PKPab** **18 18 04.2 +1.6**
PCBR Castelo Branco 157.52 350 *e*PKPab **PKPab** **18 18 04.8 +2.0**
PMRV Marv??o 157.91 350 *e*PKPab **PKPab** **18 18 06.3 +1.8**
PMRV Marv??o 157.91 350 *e*LR LR 19 24 10.5
comp=Z,165nm,18.0s
PMTG Montargil 158.39 351 *e*PKPab **PKPab** **18 18 07.8 +1.2**
PESTR Estremoz 158.49 350 *e*PKPab **PKPab** **18 18 08.5 +1.4**
PBAR Barrancos 159.07 348 *e*PKPab **PKPab** **18 18 11.0 +1.5**
PBEJ Beja 159.36 350 *e*PKPab **PKPab** **18 18 12.5 +1.7**
PCVE Castro Verde 159.77 350 *e*PKPab **PKPab** **18 18 14.3 +1.7**
PVAQ Vaqueiros 159.94 349 *e*LR LR 19 23 21.1
comp=Z,184nm,18.0s
MORF Marmelete 160.18 351 *e*PKPab **PKPab** **18 18 16.3 +1.8**
TOA0 Torodi Ar. Sit 165.81 253 *e*PKPdf **PKPdf** **18 17 40.3 0.0**
TORD Torodi Ar. Bea 165.81 253 PKP **PKPdf** **18 17 41.1 +0.8**
TORD PKPab **PKPab** **18 18 41.1 +1.2**
TORD Torodi Ar. Bea 165.81 253 PKP **PKPdf** **18 17 41.1 +0.8**
comp=Z,1.8nm,0.9s,baz=244,slow=1.0,SNR=9.0
TORD PKPab **PKPab** **18 18 41.1 +1.2**
comp=Z,1.3nm,0.9s,baz=108,slow=3.4,SNR=2.7

ROM 04 18:13:51.1±0.1, 42°.59N×13°.21E, h11km, Md1.5/4, Ml1.3/2, Error ellipse: s-maj=1.2km s-min=0.5km az=180.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**277**		Pg	Pg	18 13 54.7	+0.4
LNSS					Sg	Sg	18 13 57.2	+0.6
132nm,0.3s								
NRCA	**Norcia**	**0.26**	**345**		Pg	Pg	18 13 57.1	+0.6
NRCA					Sg	Sg	18 14 01.2	+1.0
14nm,0.2s								
TERO	**Teramo**	**0.30**	**83**		Pg	Pg	18 13 57.6	+0.4
20nm,0.6s								

*CSEM **04** 18:15:01.9±0.5, 50°.38N×18°.73E, h1km, Error ellipse: s-maj=10.6km s-min=3.9km az=1.0*
*WAR **04** 18:15:02.8, 50°.28N×18°.83E*
PRU 04 18:15:04.1, 50°.21N×18°.78E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.55**	**228**	*e*PG		Pg	18 15 14.9	+0.2
OKC				*e*SG		Sg	18 15 23.1	+1.2
comp=Z,9.4nm,0.3s								
OKC	**Ostrava-Krasne**	**0.55**	**228**		Pg	Pg	18 15 14.9	+0.2
OKC					Sg	Sg	18 15 23.1	+1.2
9.4nm,0.3s								
OJC	**Ojcow**	**0.65**	**89**	*e*Pg		Pg	18 15 15.3	-1.4
OJC				*e*Sg		Sg	18 15 25.6	+0.4
MORC	**Moravsky Berou**	**0.91**	**242**	*e*Pg		Pg	18 15 21.2	-0.4
MORC				*e*Sg		Sg	18 15 34.1	+0.6
NIE	**Niedzica**	**1.27**	**128**	*e*Pg		Pn	18 15 29.7	+0.5
NIE				*e*Sg		Sn	18 15 47.7	+0.7
DPC	**Dobruska-Polom**	**1.58**	**276**	*e*PG		Pn	18 15 31.5	-2.0
DPC				*e*SG		Sn	18 15 52.8	-1.9
DPC	**Dobruska-Polom**	**1.58**	**276**	Pg		Pn	18 15 31.5	-2.0
DPC				Sg		Sn	18 15 52.8	-1.9
VRAC	**Vranov**	**1.68**	**238**	*e*Sg		Sb	18 15 57.8	+0.1
VYHS	**Vyhne**	**1.72**	**179**	*e*PN		Pn	18 15 33.9	-1.4
VYHS				*e*SN		Sn	18 15 55.8	-2.2
VYHS	**Vyhne**	**1.72**	**179**	*e*Pn		Pn	18 15 33.9	-1.4
VYHS				*e*Sn		Sn	18 15 55.8	-2.2
STHS	**Stebnicka Huta**	**1.78**	**116**	*e*PN		Pn	18 15 36.9	+0.7
STHS				*e*SN		Sn	18 15 58.1	-1.5
STHS	**Stebnicka Huta**	**1.78**	**116**	*e*Pn		Pn	18 15 36.9	+0.7
STHS				*e*Sn		Sn	18 15 58.1	-1.5
KECS	**Kecovo**	**2.06**	**147**	*e*SG		Sn	18 16 04.5	-1.8
PRU	**Pruhonice**	**2.74**	**267**	*e*SG		Sb	18 16 28.6	+0.6
comp=Z,2.9nm,0.5s								
PRU	**Pruhonice**	**2.74**	**267**	Sg		Sb	18 16 28.6	+0.6
2.9nm,0.5s								
BRG	**Berggiesshubel**	**3.16**	**284**	SG		Sg	18 16 45.9	+0.4
2.1nm,0.7s								
KHC	**Kasperske Hory**	**3.55**	**254**	*e*SG		Sg	18 16 55.0	-3.2
comp=Z,1.6nm,0.5s								
KHC	**Kasperske Hory**	**3.55**	**254**	Sg		Sg	18 16 55.0	-3.2
1.6nm,0.5s								

IDC 04 18:35:46.5±4.5, 4°.95S×102°.48E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, Error ellipse: s-maj=237.1km s-min=21.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.40**	**118**		P	P	18 42 36.0	+0.1
0.2nm,0.4s,baz=297,slow=11,SNR=7.2								
ASAR	**Alice Springs**	**35.54**	**125**		P	P	18 42 45.1	-0.5
0.1nm,0.4s,baz=294,slow=7.3,SNR=9.8								
STKA	**Stephens Creek**	**45.36**	**131**		P	P	18 44 07.1	+0.2
0.8nm,0.5s,baz=318,slow=7.6,SNR=4.6								
MKAR	**Makanchi Array**	**54.53**	**343**		P	P	18 45 16.5	+0.2
0.6nm,0.4s,baz=148,slow=9.1,SNR=16								
ZALV	**Zalesovo Beam**	**60.52**	**348**		P	P	18 45 58.0	-0.3
0.9nm,0.4s,baz=160,slow=5.0,SNR=6.7								

IDC 04 18:38:53.3±1.7, 3°.59N×126°.94E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=105.4km s-min=22.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.59**	**183**		P	P	18 43 44.9	0.0
2.1nm,1.0s,baz=349,slow=10,SNR=3.7								
WRA	**Warramunga Arr**	**24.49**	**163**		P	P	18 44 14.1	-0.3
1.0nm,0.4s,baz=344,slow=10.0,SNR=14								
ASAR	**Alice Springs**	**27.93**	**166**		P	P	18 44 45.3	-0.2
0.2nm,0.5s,baz=341,slow=9.0,SNR=8.3								
STKA	**Stephens Creek**	**37.93**	**160**		P	P	18 46 13.3	+0.8
0.7nm,0.4s,baz=330,slow=7.7,SNR=3.6								
MKAR	**Makanchi Array**	**57.79**	**325**		P	P	18 48 46.1	-0.3
0.2nm,0.3s,baz=122,slow=7.7,SNR=2.8								

*MOS **04** 18:40:31.5±1.2, 52°.40N×160°.93E, h13km, mb4.3/1, Error ellipse: s-maj=16.5km s-min=11.3km az=102.9*
*IDC **04** 18:40:31.8±1.0, 52°.48N×160°.70E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.3/28, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=29.6km s-min=14.7km az=177.0*
*ISCJB **04** 18:40:33.9±0.9, 52°.37N±0°.03×160°.77E±0°.05, h23km±8km,*

mb3.4/3, Error ellipse: s-maj=6.1km s-min=4.1km az=140.6
KRSC 04 18:40:33.9±0.4, 52°.45N×160°.67E, h11km±11km, ML4.2
ISC 04 18:40:31.8±1.7, 52°.37N±0°.04×160°.71E±0°.05, h4km±10km, n48, σ1°48/72, mb3.6/3, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**330**	PN	**Pb**	**18 40 48.9**	**-0.1**
SPN				S	**Sb**	**18 41 00.1**	**-0.6**
SPN	**Mys Shipunski**	**0.84**	**330**	*eP*	**Pb**	**18 40 48.9**	**-0.1**
SPN				*eS*	**Sb**	**18 41 00.1**	**-0.6**
RUS	**Russkaya**	**1.35**	**274**	PN	**Pg**	**18 40 58.1**	**+0.5**
RUS				S	**Sn**	**18 41 16.0**	**+0.2**
RUS	**Russkaya**	**1.35**	**274**	*eP*	**Pg**	**18 40 58.1**	**+0.5**
RUS				*eS*	**Sn**	**18 41 16.0**	**+0.2**
PET	**Petropavlovsk**	**1.42**	**299**	⇑*i*PN	**Pn**	**18 40 58.5**	**+0.2**
PET				*eS*	**Sg**	**18 41 17.2**	**0.0**
PET				pmax	pmax		
	comp=Z,146nm,0.5s						
PET				smax	smax		
	comp=N,956nm,0.6s						
PET				smax	smax		
	comp=E,865nm,0.5s						
PET	**Petropavlovsk**	**1.42**	**299**	*eP*	**Pb**	**18 40 58.8**	**0.0**
PET				*eS*	**Sg**	**18 41 17.1**	**-0.1**
UGLR	**Uglovaya**	**1.42**	**307**	*eP*	**Pb**	**18 40 58.9**	**-0.1**
UGLR				*eS*	**Sg**	**18 41 17.4**	**-0.1**
SDLR	**Sedlovina**	**1.44**	**310**	*eP*	**Pn**	**18 40 58.7**	**-0.1**
SDLR				*eS*	**Sb**	**18 41 17.2**	**-0.7**
SMAR	**Somma**	**1.47**	**308**	*eP*	**Pn**	**18 40 59.3**	**0.0**
SMAR				S	**Sn**	**18 41 17.8**	**-1.2**
AVH	**Avacha**	**1.50**	**308**	*eP*	**Pb**	**18 41 00.3**	**+0.1**
AVH				*eS*	**Sg**	**18 41 19.6**	**-0.3**
KRER	**Koryakskii**	**1.52**	**309**	*eP*	**Pb**	**18 41 00.4**	**-0.2**
KRER				*eS*	**Sn**	**18 41 19.8**	**-0.4**
MTVR	**Mutnovka**	**1.55**	**275**	*eP*	**Pb**	**18 41 01.3**	**+0.1**
MTVR				*eS*	**Sg**	**18 41 21.5**	**-0.2**
KOK	**Koryaka**	**1.56**	**307**	*eP*	**Pb**	**18 41 01.0**	**-0.4**
KOK				*eS*	**Sn**	**18 41 20.6**	**-0.7**
GRL	**Gorelyy**	**1.63**	**278**	P	**Pb**	**18 41 02.6**	**+0.2**
GRL				S	**Sb**	**18 41 23.0**	**-0.3**
ASAK	**Asacha**	**1.72**	**272**	*eP*	**Pb**	**18 41 04.2**	**+0.1**
ASAK				*eS*	**Sb**	**18 41 25.9**	**-0.2**
KII	**Karymskiy**	**1.84**	**336**	*eP*	**Pn**	**18 41 04.3**	**+0.1**
KII				*eS*	**Sn**	**18 41 27.0**	**-1.0**
PETK	**Petropavlovsk-**	**1.98**	**293**	PN	**Pn**	**18 41 07.0**	**+0.9**
PETK						18 41 32.8	
PETK				pmax	pmax		
	comp=Z,11nm,0.3s						
PETK				smax	smax		
	comp=N,13nm,0.3s						
PETK	**Petropavlovsk-**	**1.98**	**293**	Pn	**Pn**	**18 41 07.0**	**+0.9**
	comp=N,11nm,0.3s,baz=109,slow=18,SNR=91						
PETK				Sn	**Sb**	**18 41 32.8**	**-0.5**
	comp=N,13nm,0.3s,baz=92,slow=19,SNR=9.5						
GNL	**Ganaly**	**2.14**	**310**	*eP*	**Pb**	**18 41 10.3**	**-0.8**
GNL				*eS*	**Sb**	**18 41 36.8**	**-1.3**
APC	**Apacha**	**2.24**	**286**	*eP*	**Pb**	**18 41 11.6**	**-1.1**
APC				*eS*	**Sb**	**18 41 39.1**	**-1.7**
MKZ	**Mys Kozlova**	**2.28**	**15**	PN	**Pn**	**18 41 08.8**	**-1.3**
MKZ				S	**Sn**	**18 41 33.8**	**-4.8**
MKZ	**Mys Kozlova**	**2.28**	**15**	*eP*	**Pn**	**18 41 08.8**	**-1.3**
MKZ				S	**Sn**	**18 41 33.8**	**-4.8**
MIPR	**Malaya Ipel'ka**	**2.43**	**269**	P	**Pb**	**18 41 15.1**	**-0.9**
PAU	**Pauzhetka**	**2.58**	**251**	PN	**Pb**	**18 41 18.0**	**-0.6**
PAU	**Pauzhetka**	**2.58**	**251**	P	**Pb**	**18 41 18.0**	**-0.6**
SKR	**Severo-Kuril's**	**3.33**	**241**	P	**Pn**	**18 41 25.2**	**+0.6**
SKR				S	**Sn**	**18 42 03.1**	**-1.5**
KMNR	**Kamenistaya**	**3.41**	**355**	P	**Pn**	**18 41 28.9**	**+3.1**
BZMR	**Bezymyannaya**	**3.58**	**358**	P	**Pn**	**18 41 30.6**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**3.58**	**360**	P	**Pn**	**18 41 31.0**	**+2.8**
BZGR				*eS*	**Sn**	**18 42 12.4**	**+1.4**
KIRR	**Kirishev**	**3.60**	**357**	P	**Pn**	**18 41 31.4**	**+2.9**
KPT	**Kopyto**	**3.62**	**356**	P	**Pn**	**18 41 30.0**	**+1.3**
ZLN	**Zelenaya**	**3.66**	**1**	P	**Pn**	**18 41 32.1**	**+2.8**
ZLN				S	**Sn**	**18 42 14.7**	**+1.8**
KOZ	**Kozyrevsk**	**3.73**	**353**	P	**Pn**	**18 41 31.5**	**+1.3**
KOZR	**Kozyr**	**3.74**	**353**	PN	**Pn**	**18 41 31.5**	**+1.2**
ESO	**Esso**	**3.76**	**342**	PN	**Pn**	**18 41 31.7**	**+1.2**
ESO	**Esso**	**3.76**	**342**	*eP*	**Pn**	**18 41 31.7**	**+1.2**
KRSR	**Krestovskiy**	**3.86**	**359**	P	**Pn**	**18 41 35.0**	**+3.0**
SRDR	**Sredinnyy**	**4.00**	**352**	P	Pn	18 41 37.1	+3.2
KBG	**Krutoberegovo**	**4.07**	**16**	S	**Sn**	**18 42 23.1**	**+0.3**
BDR	**Baidarnaya**	**4.22**	**4**	P	Pn	18 41 40.1	+3.2
BDR				*eS*	**Sn**	**18 42 28.0**	**+1.3**
BKI	**Bering**	**4.22**	**46**	*eS*	Sn	18 42 18.8	-7.7
SMKR	**Semkarok**	**4.25**	**6**	P	**Pn**	**18 41 39.0**	**+1.7**
SMKR				S	**Sn**	**18 42 26.5**	**-0.9**
SRKR	**Sorokina**	**4.30**	**3**	P	**Pn**	**18 41 39.6**	**+1.5**
SRKR				S	**Sn**	**18 42 27.1**	**-1.7**
FX1	**Attu Island--F**	**7.60**	**81**	Pn	**Pn**	**18 42 22.6**	**-0.6**
	comp=N,3.1nm,0.3s,baz=264,slow=10,SNR=20						
FX1				Sn	Sn	18 43 41.8	-8.0
	comp=N,3.1nm,0.3s,baz=273,slow=17,SNR=7.3						
ASAJ	**Asahikawa**	**14.59**	**243**	Pn	**Pn**	**18 43 59.4**	**+0.4**
	comp=N,0.2nm,0.3s,baz=63,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**60.94**	**337**	P	**P**	**18 50 44.2**	**-1.2**
	comp=N,0.4nm,0.4s,baz=21,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**75.58**	**206**	P	**P**	**18 52 20.0**	**+2.4**
	comp=N,0.6nm,1.0s,baz=23,slow=6.4,SNR=3.0						
ASAR	**Alice Springs**	**79.25**	**205**	P	**P**	**18 52 38.2**	**+0.2**
	comp=N,0.1nm,0.7s,baz=13,slow=6.2,SNR=5.1						

IDC 04 18:46:59.9±2.7, 17°.90S×167°.21E, h0km, mb4.2/6, mb1 4.3/8, mb1mx4.1/21, mbtmp4.3/8, ML4.1/2, MS3.9/9, Ms1 3.9/9, ms1mx3.5/27, Error ellipse: s-maj=56.4km s-min=25.1km az=92.0
ISCJB 04 18:47:01.9±2.0, 17°.88S±0°.08×167°.0E±0°.3, h20km, mb4.1/6, MS3.9/7, Error ellipse: s-maj=42.1km s-min=9.4km az=171.5
ISC 04 18:47:03.0±2.4, 17°.88S±0°.09×167°.2E±0°.4, h20km, n16, σ0°63/11, mb4.0/6, MS3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.22**	**189**	*e*Pn	**Pn**	**18 48 05.9**	**-0.5**
	8.3nm,0.2s						
DZM				*e*Sn	**Sn**	**18 48 55.0**	**-0.2**
	26nm,0.2s						
DZM	**Mont Dzumac**	**4.22**	**189**	Pn	**Pn**	**18 48 05.5**	**-0.9**
	2.0nm,0.3s,baz=18,slow=13,SNR=19						
DZM				Sn	**Sn**	**18 48 56.1**	**+0.8**
	5.8nm,0.3s,baz=120,slow=23,SNR=6.7						
HNR	**Honiara**	**10.95**	**319**	Pn	**Pn**	**18 49 38.1**	**-0.6**
	6.1nm,0.3s,baz=184,slow=14,SNR=3.4						
HNR				LR	LR	18 52 52.5	
	comp=Z,226nm,21.3s,baz=134,slow=32						
RAO	**Raoul Island**	**17.72**	**132**	LR	LR	18 56 04.9	
	comp=Z,306nm,18.0s,baz=343,slow=31						
AFI	**Afiamalu**	**20.62**	**82**	LR	LR	18 57 19.9	
	comp=Z,206nm,21.6s,baz=266,slow=30						
PMG	**Port Moresby**	**21.18**	**291**	LR	LR	18 58 56.3	
	comp=Z,251nm,19.7s,baz=343,slow=34						
STKA	**Stephens Creek**	**26.98**	**234**	P	**P**	**18 52 44.2**	**+0.6**
	2.8nm,0.7s,baz=74,slow=9.4,SNR=8.4						
STKA				LR	LR	19 03 03.5	
	comp=Z,327nm,20.0s,baz=28,slow=36						
WRA	**Warramunga Arr**	**31.11**	**261**	P	**P**	**18 53 20.1**	**-0.4**
	1.6nm,0.8s,baz=94,slow=9.3,SNR=13						
ASAR	**Alice Springs**	**31.59**	**254**	P	**P**	**18 53 24.4**	**-0.3**
	5.2nm,0.7s,baz=80,slow=8.4,SNR=104						
ASAR				LR	LR	19 05 22.0	
	comp=Z,354nm,18.1s,baz=68,slow=35						
FITZ	**Fitzroy Crossi**	**39.45**	**263**	P	**P**	**18 54 32.7**	**+0.5**
	6.5nm,0.8s,baz=101,slow=8.6,SNR=14						
FITZ				LR	LR	19 10 19.2	
	comp=Z,266nm,18.5s,baz=96,slow=35						
TBI	**Tubuai**	**40.83**	**105**	*e*LR	LR	19 05 58.3	
	142nm,27.5s						
PPT2	**Papeete2**	**41.12**	**96**	*e*LR	LR	19 06 11.7	
	188nm,24.5s						
PPT	**Papeete**	**41.12**	**96**	LR	LR	19 07 42.5	
	comp=Z,179nm,18.8s,baz=339,slow=30						
BATI	**Baumata**	**42.82**	**274**	LR	LR	19 09 56.3	
	comp=Z,153nm,19.6s,baz=120,slow=32						
CMAR	**Chiang Mai Arr**	**76.17**	**295**	P	**P**	**18 58 50.3**	**+0.1**
	0.8nm,0.6s,baz=121,slow=4.1,SNR=3.6						
SONM	**Songino Array**	**84.97**	**324**	P	**P**	**18 59 37.5**	**+0.5**
	0.5nm,0.5s,baz=142,slow=4.9,SNR=2.7						

MEX 04 18:51:11.7±0.5, 15°.67N×96°.40W, h16km±93km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.30**	**71**	*i P*	Pg	18 51 17.2	-0.8
HUIG				*i S*	Sg	18 51 21.4	-1.0
VHO	**Vista Hermosa**	**1.43**	**347**	*eP*	Pn	18 51 33.7	-3.5
VHO				*i S*	Sn	18 51 50.8	-5.1
PNIG	**Pinotepa**	**1.81**	**294**	*eP*	Pn	18 51 39.7	-2.6
PNIG				*i S*	Sn	18 51 59.7	-5.2

GUC 04 19:14:35.9±1.0, 32°.74S×70°.99W, h4km±3km, MD3.6, ML2.4, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.23**	**185**	*eP*	Pg	19 14 40.9	+0.1
ROCH				*eS*	Sg	19 14 45.8	+1.7
ROCH				AML	AML	19 14 50.5	
	comp=N,296nm,0.7s						
JACH	**Jahuel**	**0.34**	**81**	*eP*	Pg	19 14 42.7	+0.2
JACH				*i S*	Sg	19 14 48.6	+1.5
PEL	**Peldehue**	**0.48**	**148**	⇓*eP*	Pg	19 14 45.8	+0.6
PEL				*eS*	Sb	19 14 54.1	-0.5
PEL				AML	AML	19 14 55.5	
	comp=E,420nm,0.6s						
PCH	**Pirque**	**0.97**	**156**	*eP*	Pg	19 14 54.1	-0.5
PCH				*eS*	Sb	19 15 08.4	-0.3
LMEL	**Las Melosas**	**1.29**	**150**	*eP*	Pg	19 14 59.8	-1.1
LMEL				*eS*	Sb	19 15 18.3	+0.2
LMEL				AML	AML	19 15 23.1	
	comp=N,122nm,0.4s						
CACH	**El Canelo**	**1.41**	**167**	*eP*	Pn	19 15 01.3	-1.4
CACH				*eS*	Sn	19 15 22.8	+0.9
TLL	**Tololo Astrono**	**2.57**	**4**	*eP*	Pn	19 15 20.2	+1.5
TLL				*eS*	Sb	19 15 53.6	-1.5
TLL				AML	AML	19 16 03.3	
	comp=N,71nm,0.6s						
LCO	**Las Campanas**	**3.72**	**4**	*eP*	Pn	19 15 33.6	-1.0

IDC 04 19:15:55.0±34.0, 17°.54S×167°.87E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=586.5km s-min=49.6km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.70**	**196**	Pn	Pn	19 17 06.9	-0.5
	1.8nm,0.3s,baz=200,slow=21,SNR=12						
DZM				Sn	Sn	19 17 57.6	-5.2
	1.0nm,0.3s,baz=270,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**27.71**	**234**	P	P	19 21 45.9	+0.7
	2.3nm,0.8s,baz=68,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**31.81**	**260**	P	P	19 22 20.8	-0.9
	0.5nm,0.8s,baz=91,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**32.32**	**253**	P	P	19 22 25.5	-0.6
	1.3nm,0.6s,baz=80,slow=8.3,SNR=46						
FITZ	**Fitzroy Crossi**	**40.14**	**263**	P	P	19 23 33.8	+0.8
	1.1nm,0.6s,baz=120,slow=8.1,SNR=5.5						

IDC 04 19:18:46.1±2.6, 29°.75S×71°.65W, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, ML4.4/2, Error ellipse: s-maj=73.4km s-min=36.6km az=11.0
ISCJB 04 19:18:47.3±1.3, 29°.44S±0°.04×72°.1W±0°.1, h34km±15km, mb4.0/3, Error ellipse: s-maj=16.3km s-min=6.4km az=7.5
GUC 04 19:18:49.2±1.2, 29°.36S×71°.93W, h25km±13km, ML4.5
ISC 04 19:18:48.7±2.7, 29°.46S±0°.05×72°.0W±0°.1, h31km±16km, n13, σ0°94/16, mb4.2/3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.21**	**69**	⇓*iP*	**Pn**	**19 19 09.1**	**-0.6**
LCO				*eS*	**Sn**	**19 19 25.2**	**0.0**
LCO				AML	AML	19 19 30.9	
	comp=E,10μm,0.4s						
TLL	**Tololo Astrono**	**1.25**	**125**	*eP*	**Pb**	**19 19 11.9**	**0.0**
TLL				*eS*	**Sb**	**19 19 28.4**	**+0.7**
TLL				AML	AML	19 19 35.3	
	comp=N,9μm,0.6s						
CMCH	**Combarbala**	**1.91**	**154**	⇓*eP*	**Pn**	**19 19 18.7**	**-0.6**
CMCH				*eS*	**Sn**	**19 19 41.5**	**-0.9**
CMCH				AML	AML	19 19 47.3	
	comp=E,17μm,0.7s						
CPCH	**Copiapo**	**2.54**	**35**	*eP*	**Pn**	**19 19 28.8**	**+0.9**
CPCH				*eS*	**Sn**	**19 19 58.5**	**+0.8**
CDCH	**Caldera**	**2.59**	**24**	*eP*	**Pn**	**19 19 27.6**	**-0.9**
CDCH				*eS*	**Sn**	**19 19 57.4**	**-1.6**
ROCH	**El Roble**	**3.60**	**167**	*eP*	**Pn**	**19 19 42.2**	**-0.5**
PEL	**Peldehue**	**3.84**	**163**	*eP*	**Pn**	**19 19 45.3**	**-0.5**
CLCH	**Cerro Calan**	**4.12**	**163**	*eP*	**Pn**	**19 19 50.7**	**+1.0**
CPUP	**Villa Florida**	**13.33**	**80**	Pn	**Pn**	**19 21 55.0**	**-0.9**
	comp=E,0.5nm,0.3s,baz=246,slow=12,SNR=2.7						
LPAZ	**La Paz**	**13.58**	**16**	Pn	Pn	19 22 03.3	+3.5
	comp=E,0.7nm,0.3s,baz=195,slow=6.6,SNR=20						
BDFB	**Brasilia**	**25.99**	**63**	P	**P**	**19 24 19.2**	**+0.1**
	comp=E,3.2nm,0.5s,baz=241,slow=10,SNR=4.5						
PDAR	**Pinedale Array**	**79.74**	**333**	P	P	19 30 58.4	+4.6
	comp=E,0.2nm,0.4s,baz=148,slow=7.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**82.64**	**71**	P	**P**	**19 31 10.7**	**+1.2**
	comp=E,4.0nm,0.9s,baz=238,slow=3.8,SNR=22						

ISCJB 04 19:26:49.1±0.3, 7°.02S±0°.03×129°.64E±0°.04, h104km, mb4.4/20, Error ellipse: s-maj=5.2km s-min=4.0km az=176.2
AUST 04 19:26:50.8, 6°.98S×129°.54E, h100km
IDC 04 19:26:53.1±2.6, 6°.94S×129°.58E, h123km±24km, mb4.0/16, mb1 4.1/18, mb1mx4.0/24, mbtmp4.0/18, MS3.4/4, Ms1 3.4/4, ms1mx2.9/35, Error ellipse: s-maj=17.1km s-min=10.5km az=75.0
DJA 04 19:26:53.2±0.6, 7°.S±4°.×13°.0E±°., h124km±25km, M4.5/5, mB5.2/5, mb4.8/5, MLv4.3/1, Mw(mB)4.6/5
BKK 04 19:26:55.0±0.6, 7°.S±4°.×13°.0E±1°.0, h157km±7km, M4.5/12, mb4.7/12, MLv4.4/1
ISC 04 19:26:50.8±0.4, 7°.01S±0°.05×129°.68E±0°.05, h104km, n81, σ1°59/79, mb4.4/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.48**	**5**	P	Pn	19 27 34.4	+4.6
BNDI	**Bandanaira**	**2.48**	**5**	P	Pn	19 27 34.4	+4.6
	baz=2.5,SNR=6.4						
MSAI	**Masohi**	**3.72**	**348**	P	Pn	19 27 50.5	+4.2
FAKI	**Fak Fak**	**4.80**	**32**	P	**Pn**	**19 28 03.3**	**+2.4**
FAKI	**Fak Fak**	**4.80**	**32**	P	**Pn**	**19 28 02.8**	**+1.9**
	baz=4.9,SNR=66						
FAKI				S	**Sn**	**19 28 56.8**	**+1.4**
	baz=4.9,SNR=16						
MTN	**Manton Dam**	**5.97**	**166**	P	**Pn**	**19 28 17.3**	**+0.6**
	baz=6.1,SNR=109						
MTN				S	**Sn**	**19 29 21.4**	**-2.3**
	baz=6.1,SNR=5.1						
SOEI	**Soe**	**6.01**	**243**	P	**Pn**	**19 28 20.0**	**+2.6**
	125nm,0.8s,4μm						
SOEI	**Soe**	**6.01**	**243**	P	**Pn**	**19 28 19.0**	**+1.6**
	baz=5.9,SNR=23						
SOEI				S	**Sn**	**19 29 25.0**	**0.0**
	baz=5.9,SNR=15						
KDU	**Kakadu**	**6.27**	**154**	P	**Pn**	**19 28 21.0**	**+0.2**
	baz=6.4,SNR=267						
KDU				S	**Sn**	**19 29 31.4**	**+0.3**
	baz=6.4,SNR=5.9						
SWI	**Sorong**	**6.31**	**14**	P	**Pn**	**19 28 23.7**	**+2.4**
	69nm,1.0s,3μm						
SWI	**Sorong**	**6.31**	**14**	P	**Pn**	**19 28 23.3**	**+2.0**
	baz=6.4,SNR=14						
SWI				S	**Sn**	**19 29 29.4**	**-2.6**
	baz=6.4,SNR=7.9						
LBMI	**Labuha**	**6.70**	**341**	P	Pn	19 28 31.4	+4.8
BATI	**Baumata**	**6.75**	**242**	P	**Pn**	**19 28 28.6**	**+1.3**
	61nm,0.5s,2μm						
BATI	**Baumata**	**6.75**	**242**	P	**Pn**	**19 28 28.7**	**+1.4**
	34nm,0.3s,baz=97,slow=2.7,SNR=53						
BATI				S	**Sn**	**19 29 40.6**	**-2.1**
	36nm,0.3s,baz=298,slow=2.2,SNR=19						
BATI				LR	LR	19 31 16.8	
	comp=Z,195nm,18.8s,baz=134,slow=39						
KNRA	**Kununurra**	**8.66**	**186**	P	**Pn**	**19 28 51.8**	**-1.5**
	baz=8.7,SNR=402						
KNRA				S	Sn	19 30 22.3	-6.9
	baz=8.7,SNR=15						
WSI	**Waingapu**	**9.66**	**253**	P	**Pn**	**19 29 06.7**	**-0.1**
	baz=9.5,SNR=6.4						
KAPI	**Kappang**	**10.07**	**281**	P	Pn	19 29 19.1	+6.6
	1.6nm,0.3s,baz=137,slow=1.4,SNR=6.2						
MMPI	**Merauke**	**10.70**	**98**	S	**Sn**	**19 31 15.5**	**-3.4**
	baz=11,SNR=4.8						
FITZ	**Fitzroy Crossi**	**11.71**	**199**	P	Pn	19 29 31.4	-3.2
	7.4nm,0.3s,baz=34,slow=10,SNR=210						
FITZ				S	Sn	19 31 31.3	-12
	7.9nm,0.3s,baz=69,slow=18,SNR=7.1						
FITZ				LR	LR	19 34 28.3	
	comp=Z,153nm,19.3s,baz=6.2,slow=39						
FITZ	**Fitzroy Crossi**	**11.71**	**199**	P	Pn	19 29 31.3	-3.2
	baz=12,SNR=231						
JAY	**Jayapura**	**11.85**	**68**	P	P	19 29 42.6	-2.6
	baz=12,SNR=3.4						
WRA	**Warramunga Arr**	**13.62**	**161**	P	Pn	19 29 56.3	-3.5
	6.8nm,0.3s,baz=344,slow=12,SNR=124						
WRA				S	Sn	19 32 18.6	-11
	7.1nm,0.3s,baz=333,slow=24,SNR=12						
COEN	**Coen**	**14.95**	**119**	P	**P**	**19 30 18.8**	**-0.9**
	baz=15,SNR=10						
COEN				S	Sn	19 32 54.9	-7.0
	baz=15,SNR=4.1						
TSM	**Tawau**	**16.28**	**313**	P	P	19 30 39.5	+4.9
MYLDM	**Lahad Datu**	**16.47**	**317**	P	P	19 30 42.3	+5.7
ASAR	**Alice Springs**	**17.05**	**167**	P	**Pn**	**19 30 41.4**	**-1.5**
	2.9nm,0.3s,baz=337,slow=9.6,SNR=155						
ASAR				S	Sn	19 33 41.7	-11
	1.7nm,0.3s,baz=358,slow=25,SNR=6.1						
ASAR				LR	LR	19 38 02.0	
	comp=Z,221nm,18.3s,baz=206,slow=39						
ASAR				ScP	**ScP**	**19 38 45.2**	**-2.8**
	baz=328,slow=2.3,SNR=4.9						
PMG	**Port Moresby**	**17.46**	**99**	P	**Pn**	**19 30 51.4**	**+3.5**
	1.1nm,0.3s,baz=258,slow=10,SNR=4.8						
SDKM	**Sandakan**	**17.70**	**315**	P	**Pn**	**19 30 55.3**	**+4.5**
MTSU	**Mount Surprise**	**18.04**	**129**	P	**Pn**	**19 30 56.7**	**+1.8**
	baz=18,SNR=17						
KKM	**Kota Kinabalu**	**18.68**	**314**	P	**Pn**	**19 31 05.7**	**+3.1**
KKM	**Kota Kinabalu**	**18.68**	**314**	P	**Pn**	**19 31 03.8**	**+1.2**
	baz=19,SNR=4.5						
BTM	**Bintulu**	**19.43**	**301**	P	**Pn**	**19 31 11.4**	**+0.1**
SBUM	**Sibu**	**19.80**	**298**	P	**P**	**19 31 14.6**	**+1.4**
CTA	**Charters Tower**	**20.67**	**131**	P	Pn	19 31 26.0	+0.2
	8.5nm,0.9s,baz=302,slow=17,SNR=2.7						
KSM	**Kuching**	**21.09**	**293**	P	**P**	**19 31 27.2**	**+0.1**
KSM	**Kuching**	**21.09**	**293**	P	**P**	**19 31 29.3**	**+2.2**
	baz=21,SNR=5.2						
CISI	**Cisompet, Garu**	**21.70**	**267**	P	**P**	**19 31 32.3**	**-1.4**
	baz=22,SNR=4.0						
MEEK	**Meekatharra**	**22.18**	**207**	P	**P**	**19 31 38.3**	**-0.3**
	baz=22,SNR=13						
TGY	**Tagaytay City**	**22.70**	**338**	P	**P**	**19 31 44.7**	**+0.7**
	220nm,0.7s,baz=151,slow=3.3,SNR=7.7						
FORT	**Forrest**	**23.69**	**183**	P	**P**	**19 31 53.8**	**+0.7**
	baz=24,SNR=21						
MORW	**Morawa**	**25.44**	**209**	P	**P**	**19 32 11.1**	**+2.1**
	baz=26,SNR=13						
BBOO	**Buckleboo**	**26.34**	**168**	P	**P**	**19 32 20.7**	**+3.6**
	baz=26,SNR=6.8						
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**19 32 24.9**	**+0.8**
	3.9nm,0.4s,baz=327,slow=8.4,SNR=19						
STKA				pP	**pP**	**19 32 48.5**	**+1.4**
	3.9nm,0.5s,baz=316,slow=13,SNR=6.1						
STKA				LR	LR	19 44 25.1	
	comp=Z,108nm,20.7s,baz=206,slow=39						
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**19 32 25.2**	**+1.1**
	baz=27,SNR=9.2						
NWAO	**Narrogin (SRO)**	**28.26**	**203**	P	**P**	**19 32 34.2**	**-0.1**
	13nm,0.9s,baz=40,slow=4.7,SNR=4.9						
ARPS	**Mount Arapiles**	**31.63**	**161**	P	**P**	**19 33 05.7**	**+1.8**
	baz=32,SNR=6.7						
PSI	**Prapat**	**32.21**	**287**	P	**P**	**19 33 08.6**	**-1.0**
	23nm,0.8s,baz=112,slow=4.7,SNR=16						
PSI	**Prapat**	**32.21**	**287**	P	**P**	**19 33 09.9**	**+0.4**
	baz=32,SNR=10.0						
GSI	**Gunungsitoli**	**33.09**	**283**	P	P	19 33 10.8	-6.2
	baz=33,SNR=13						
GSI				S	S	19 38 44.7	+16
	baz=33,SNR=7.8						
CMAR	**Chiang Mai Arr**	**39.50**	**310**	P	**P**	**19 34 11.3**	**-0.2**
	4.7nm,0.7s,baz=139,slow=7.5,SNR=35						
CMAR				PcP	**PcP**	**19 36 16.9**	**-0.6**
	1.1nm,0.6s,baz=160,slow=2.3,SNR=5.6						
CMMT	**Chiang Mai**	**39.71**	**311**	P	**P**	**19 34 13.0**	**-0.3**
	12nm,0.8s						
CHTO	**Chiang Mai**	**39.71**	**311**	P	**P**	**19 34 13.3**	**0.0**
	13nm,0.8s						
JNU	**Nakatsue**	**39.93**	**2**	P	**P**	**19 34 13.8**	**-1.1**
	6.0nm,0.9s,baz=255,slow=6.4,SNR=3.8						
MJAR	**Matsushiro Arr**	**44.06**	**10**	P	**P**	**19 34 46.7**	**-1.6**
	3.1nm,0.8s,baz=190,slow=10,S

0.6nm,0.7s,baz=94,slow=9.8,SNR=3.2
ASAR Alice Springs 31.92 254 P P 19 39 32.1 -0.1
2.8nm,0.7s,baz=79,slow=8.5,SNR=9.6
FITZ Fitzroy Crossi 39.76 263 P P 19 40 40.5 +1.0
3.8nm,0.8s,baz=133,slow=17,SNR=3.6
FITZ LR LR 19 56 47.2
comp=Z,117nm,18.6s,baz=110,slow=36
SONM Songino Array 85.02 324 P P 19 45 42.1 -0.1
0.1nm,0.3s,baz=140,slow=7.0,SNR=2.8

---

*IDC **04** 19:37:25.0±5.2,5°.66S×147°.63E,h57km±43km,mb4.1/6, mb1 4.2/9,mb1mx3.7/21,mbtmp4.1/9,ML3.9/3,MS3.0/1, Ms1 3.0/1,ms1mx2.5/30,Error ellipse: s-maj=41.5km s-min=31.4km az=132.0*
*ISCJB **04** 19:37:27.6±0.8,5°.89S±0°.08×147°.41E±0°.08,h77km, mb4.1/6,Error ellipse: s-maj=12.2km s-min=10.2km az=34.1*
*AUST **04** 19:37:30.9±0.0,6°.07S×147°.48E,h91km,Error ellipse: s-maj=1.3km s-min=1.0km az=295.0*
ISC 04 19:37:28.9±1.0,5°.9S±0°.1×147°.4E±0°.1,h77km,n23, σ1§33/23,mb4.3/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.49**	**184**	P	**Pn**	**19 38 21.3**	**+0.4**
	11nm,0.3s,baz=8.4,slow=13,SNR=50						
PMG				S	**Sn**	**19 39 01.7**	**+0.7**
	31nm,0.3s,baz=215,slow=22,SNR=12						
MANU	**Manus Island**	**3.84**	**360**	P	Pn	19 38 31.5	+5.8
	baz=4.0,SNR=3.3						
RABL	**Rabaul**	**5.05**	**71**	P	**Pn**	**19 38 42.5**	**+0.3**
	baz=5.0,SNR=14						
COEN	**Coen**	**9.01**	**207**	P	**Pn**	**19 39 37.4**	**+1.1**
	baz=9.0,SNR=20						
COEN				S	**Sn**	**19 41 14.8**	**-1.5**
	baz=9.0,SNR=11						
HNR	**Honiara**	**12.93**	**106**	LR	LR	19 44 51.3	
	comp=Z,65nm,18.2s,baz=304,slow=35						
CTA	**Charters Tower**	**14.14**	**184**	P	**Pn**	**19 40 45.9**	**+0.2**
	0.2nm,0.3s,baz=344,slow=14,SNR=3.2						
KDU	**Kakadu**	**16.18**	**244**	P	**Pn**	**19 41 12.5**	**+0.8**
	baz=16,SNR=11						
MTN	**Manton Dam**	**17.45**	**246**	P	**P**	**19 41 29.2**	**+1.6**
	baz=18,SNR=3.8						
WRA	**Warramunga Arr**	**18.86**	**221**	P	**P**	**19 41 43.1**	**0.0**
	1.7nm,0.3s,baz=48,slow=11,SNR=83						
RMQ	**Roma**	**20.51**	**176**	P	Pn	19 42 02.6	-1.2
	baz=20,SNR=13						
KNRA	**Kununurra**	**20.69**	**241**	P	**P**	**19 42 03.1**	**+0.1**
	baz=21,SNR=26						
ASAR	**Alice Springs**	**21.92**	**215**	P	**P**	**19 42 16.8**	**+0.7**
	23nm,0.8s,baz=51,slow=8.9,SNR=105						
ASAR				sP	**sP**	**19 42 37.5**	**-4.1**
	3.4nm,0.7s,baz=62,slow=11,SNR=2.6						
ASAR				S	**S**	**19 46 13.1**	**-0.9**
	1.2nm,0.8s,baz=34,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**24.45**	**238**	P	**P**	**19 42 41.5**	**+0.8**
	24nm,0.5s,baz=70,slow=9.8,SNR=105						
FITZ	**Fitzroy Crossi**	**24.45**	**238**	P	**P**	**19 42 41.5**	**+0.8**
	baz=24,SNR=38						
ARMA	**Armidale**	**24.71**	**171**	P	**P**	**19 42 43.3**	**+0.2**
	baz=25,SNR=7.7						
STKA	**Stephens Creek**	**26.40**	**191**	P	**P**	**19 42 58.5**	**+0.2**
	1.8nm,0.4s,baz=338,slow=4.4,SNR=15						
STKA	**Stephens Creek**	**26.40**	**191**	P	**P**	**19 42 58.9**	**+0.6**
	baz=26,SNR=10						
MEEK	**Meekatharra**	**34.31**	**230**	P	**P**	**19 44 08.6**	**+0.3**
	baz=34,SNR=14						
KLBR	**Kellerberrin**	**37.71**	**224**	P	**P**	**19 44 37.0**	**-0.1**
	baz=38,SNR=14						
NWAO	**Narrogin (SRO)**	**38.86**	**222**	P	**P**	**19 44 49.0**	**+2.2**
	7.4nm,0.8s,baz=86,slow=9.4,SNR=3.0						
VNDA	**Vanda**	**71.98**	**177**	P	**P**	**19 48 43.5**	**-0.3**
	0.6nm,0.7s,baz=320,slow=8.8,SNR=5.5						
ILAR	**Eielson Array**	**85.24**	**23**	P	P	19 49 53.4	-3.3
	0.3nm,0.6s,baz=258,slow=4.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.44**	**285**	PKPbc	**PKPdf**	**19 56 57.4**	**-1.8**
	0.3nm,0.6s,baz=74,slow=3.9,SNR=7.1						
TORD				pPKPbc	pPKPdf	19 57 14.4	-6.5
	0.3nm,0.5s,baz=81,slow=4.0,SNR=2.5						

IDC 04 19:40:03.1±1.9,24°.07S×175°.48W,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.8/21,mbtmp3.9/7,MS3.7/4,Ms1 3.7/4, ms1mx3.1/36,Error ellipse: s-maj=70.1km s-min=27.4km az=153.0,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.61**	**269**	P	P	19 47 02.7	-0.1
	1.1nm,0.3s,baz=104,slow=9.8,SNR=4.1						
STKA	**Stephens Creek**	**38.50**	**249**	LR	LR	20 01 35.5	
	comp=Z,147nm,20.8s,baz=174,slow=34						
ASAR	**Alice Springs**	**46.08**	**260**	P	P	19 48 29.6	+0.4
	0.3nm,0.7s,baz=91,slow=8.7,SNR=3.3						
ASAR				LR	LR	20 07 46.5	
	comp=Z,84nm,18.4s,baz=265,slow=36						
WRA	**Warramunga Arr**	**46.52**	**265**	P	P	19 48 31.9	-0.7
	0.6nm,0.6s,baz=104,slow=8.5,SNR=5.3						
FITZ	**Fitzroy Crossi**	**54.93**	**264**	LR	LR	20 12 55.9	
	comp=Z,77nm,18.7s,baz=6.6,slow=36						
ASAJ	**Asahikawa**	**77.97**	**331**	P	P	19 52 03.2	+0.2
	1.8nm,0.7s,baz=153,slow=2.3,SNR=4.0						
PETK	**Petropavlovsk-**	**80.32**	**344**	P	P	19 52 15.2	-0.5
	1.8nm,0.9s,baz=113,slow=3.3,SNR=3.5						
PETK				LR	LR	20 23 39.2	
	comp=Z,24nm,19.1s,baz=246,slow=33						
USRK	**Ussuriysk Arra**	**83.21**	**325**	P	P	19 52 31.9	+0.7
	0.7nm,0.6s,baz=178,slow=7.2,SNR=3.9						
TXAR	**Lajitas Array**	**87.05**	**56**	P	P	19 52 51.1	+0.2
	0.8nm,0.8s,baz=212,slow=6.1,SNR=6.6						
BRTR	**Keskin Array B**	**150.93**	**309**	PKPbc	PKPbc	19 59 57.5	-0.7
	0.4nm,0.6s,baz=354,slow=2.9,SNR=3.8						

---

*CSEM **04** 19:54:16.5±0.2,42°.48N×13°.35E,h17km±1km,ML2.0/9, Error ellipse: s-maj=2.8km s-min=2.1km az=60.0*
ROM 04 19:54:16.7±0.1,42°.48N×13°.34E,h11km±1km,Md2.0/16, Ml1.9/8,Error ellipse: s-maj=1.0km s-min=0.7km az=64.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.08**	**42**	Pg	Pg	19 54 19.6	+0.2
CAMP				Sg	Sg	19 54 21.6	+0.3
	287nm,0.4s						
CAMP	**Campotosto**	**0.08**	**42**	Pg	Pg	19 54 19.6	+0.2
CAMP				Sg	Sg	19 54 21.6	+0.3
	287nm,0.4s						
AQU	**L'Aquila**	**0.13**	**160**	Pg	Pg	19 54 20.4	+0.4
AQU				Sg	Sg	19 54 23.1	+0.7
	185nm,0.3s						
AQU	**L'Aquila**	**0.13**	**160**	Pg	Pg	19 54 20.4	+0.4
AQU				Sg	Sg	19 54 23.1	+0.7
	185nm,0.3s						
TERO	**Teramo**	**0.24**	**54**	Pg	Pg	19 54 21.9	0.0
TERO				Sg	Sg	19 54 25.7	+0.4
	132nm,0.4s						
TERO	**Teramo**	**0.24**	**54**	Pg	Pg	19 54 21.9	0.0
TERO				Sg	Sg	19 54 25.7	+0.4
	132nm,0.4s						
LNSS	**Leonessa**	**0.25**	**299**	Pg	Pg	19 54 22.5	+0.4
LNSS				Sg	Sb	19 54 26.9	-1.1
	172nm,0.2s						
LNSS	**Leonessa**	**0.25**	**299**	Pg	Pg	19 54 22.5	+0.4
LNSS				Sg	Sb	19 54 26.9	-1.1
	172nm,0.2s						
FIAM	**Fiamignano**	**0.27**	**218**	Pg	Pg	19 54 22.6	+0.2
FIAM				Sg	Sg	19 54 26.3	+0.2
	41nm,0.6s						
FIAM	**Fiamignano**	**0.27**	**218**	Pg	Pg	19 54 22.6	+0.2
FIAM				Sg	Sg	19 54 26.3	+0.2
	41nm,0.6s						
FAGN	**Fagnano**	**0.28**	**139**	Pg	Pg	19 54 22.9	+0.4
FAGN				Sg	Sb	19 54 28.3	-0.3
	214nm,0.4s						
FAGN	**Fagnano**	**0.28**	**139**	Pg	Pg	19 54 22.9	+0.4
FAGN				Sg	Sb	19 54 28.3	-0.3
	214nm,0.4s						
VCEL	**Villa Celiera**	**0.38**	**103**	Pg	Pg	19 54 24.5	0.0
VCEL				Sg	Sb	19 54 30.9	-0.7
	89nm,0.3s						
VCEL	**Villa Celiera**	**0.38**	**103**	Pg	Pg	19 54 24.5	0.0
VCEL				Sg	Sb	19 54 30.9	-0.7
	89nm,0.3s						
NRCA	**Norcia**	**0.39**	**335**	Pg	Pg	19 54 24.7	+0.1
NRCA				Sg	Sg	19 54 30.7	+0.7
	14nm,0.2s						
NRCA	**Norcia**	**0.39**	**335**	Pg	Pg	19 54 24.7	+0.1
NRCA				Sg	Sg	19 54 30.7	+0.7
	14nm,0.2s						
PTQR	**Pietraquaria**	**0.46**	**174**	Pg	Pg	19 54 26.1	+0.2
PTQR				Sg	Sb	19 54 33.0	-0.8
	3.0nm,0.2s						
PTQR	**Pietraquaria**	**0.46**	**174**	Pg	Pg	19 54 26.1	+0.2
PTQR				Sg	Sb	19 54 33.0	-0.8
	3.0nm,0.2s						
FDMO	**Fiordimonte**	**0.59**	**342**	Pg	Pb	19 54 28.8	-0.3
FDMO	**Fiordimonte**	**0.59**	**342**	Pg	Pb	19 54 28.8	-0.3
CERT	**Cerreto**	**0.59**	**207**	Pg	Pg	19 54 28.1	-0.2
CERT	**Cerreto**	**0.59**	**207**	Pg	Pg	19 54 28.1	-0.2
CESI	**CESI - Serrava**	**0.61**	**329**	Pg	Pg	19 54 29.0	+0.2
CESI	**CESI - Serrava**	**0.61**	**329**	Pg	Pg	19 54 29.0	+0.2
INTR	**Introdacqua**	**0.63**	**138**	Pg	Pg	19 54 28.3	-0.7
INTR				Sg	Sg	19 54 37.8	+0.4
INTR	**Introdacqua**	**0.63**	**138**	Pg	Pg	19 54 28.3	-0.7
INTR				Sg	Sg	19 54 37.8	+0.4
LPEL	**Lama dei Pelig**	**0.76**	**124**	Pg	Pg	19 54 30.8	-0.7
LPEL	**Lama dei Pelig**	**0.76**	**124**	Pg	Pg	19 54 30.8	-0.7

---

*CSEM **04** 19:55:28.5±0.3,43°.41N×17°.86E,h2km,ML2.5/10,Error ellipse: s-maj=7.9km s-min=4.6km az=46.0*
*BEO **04** 19:55:28.1±0.6,43°.42N×17°.69E,h6km±3km,ML2.4/6*
PDG 04 19:55:28.5±0.3,43°.41N×17°.84E,h4km,ML2.5/10,11C-6D, Error ellipse: s-maj=0.7km s-min=1.6km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.72**	**134**	⇓iPg	Pg	19 55 41.3	-1.2
BRY				eSg	Sb	19 55 53.2	-1.0
BRY	**Bratogost**	**0.72**	**134**	⇓iPg	Pg	19 55 41.3	-1.2
BRY				eSg	Sb	19 55 53.2	-1.0
UPM	**Unac-Piva**	**0.80**	**104**	ePg	Pg	19 55 43.0	-1.2
UPM				eSg	Sb	19 55 56.3	-0.5
UPM	**Unac-Piva**	**0.80**	**104**	ePg	Pg	19 55 43.0	-1.2
UPM				eSg	Sb	19 55 56.3	-0.5
NKY	**Niksic**	**1.03**	**125**	⇓iPg	Pg	19 55 47.4	-1.1
NKY				eSg	Sb	19 56 03.9	+0.7
NKY	**Niksic**	**1.03**	**125**	⇓iPg	Pg	19 55 47.4	-1.1
NKY				eSg	Sb	19 56 03.9	+0.7
NKME	**Niksic**	**1.03**	**128**	⇓iPg	Pg	19 55 47.2	-1.3
NKME				eSg	Sn	19 56 04.4	-0.6
NKME	**Niksic**	**1.03**	**128**	⇓iPg	Pg	19 55 47.2	-1.3
HCY	**Herceg Novi**	**1.07**	**153**	⇑iPg	Pg	19 55 48.6	-0.5
HCY				eSg	Sn	19 56 05.4	-0.4
HCY	**Herceg Novi**	**1.07**	**153**	⇑iPg	Pg	19 55 48.6	-0.5
PLE	**Pljevlja**	**1.13**	**93**	⇑iPg	Pg	19 55 49.3	-1.1
PLE				eSg	Sn	19 56 07.8	+0.3
PLE	**Pljevlja**	**1.13**	**93**	⇑iPg	Pg	19 55 49.3	-1.1
BBLS	**Lazići**	**1.23**	**67**	ePg	Pg	19 55 50.7	-1.5
BBLS				eSg	Sn	19 56 10.8	+1.0
BBLS	**Lazići**	**1.23**	**67**	ePg	Pg	19 55 50.7	-1.5
BBLS				eSg	Sn	19 56 10.8	+1.0
BUM	**Brajici-Budva**	**1.35**	**145**	ePg	Pn	19 55 54.3	0.0
BUM				eSg	Sn	19 56 15.1	+2.4
BUM	**Brajici-Budva**	**1.35**	**145**	ePg	Pn	19 55 54.3	0.0
BLY	**Banja Luka**	**1.42**	**341**	ePg	Pn	19 55 54.3	-1.0
BLY				eSg	Sb	19 56 12.6	-1.7
BLY	**Banja Luka**	**1.42**	**341**	eSg	Sb	19 56 12.6	-1.7
BLY	**Banja Luka**	**1.42**	**341**	ePg	Pn	19 55 54.3	-1.0
PDG	**Podgorica**	**1.43**	**133**	ePg	Pg	19 55 55.9	+0.1
PDG				eSg	Sn	19 56 16.0	+1.6
PDG	**Podgorica**	**1.43**	**133**	ePg	Pg	19 55 55.9	+0.1
PDG				eSg	Sn	19 56 16.0	+1.6
TTG	**Podgorica**	**1.43**	**133**	⇑iPg	Pn	19 55 55.0	-0.2
TTG				eSg	Sn	19 56 17.4	+3.0
SJES	**Sjenica**	**1.56**	**95**	ePn	Pb	19 55 58.0	-0.2
SJES				eSn	Sg	19 56 20.2	+1.1
DRME	**Dracevica, Mon**	**1.57**	**140**	ePg	Pn	19 55 57.7	+0.5
DRME				eSg	Sg	19 56 21.9	+2.9
DRME	**Dracevica, Mon**	**1.57**	**140**	ePg	Pn	19 55 57.7	+0.5
BEY	**Berane**	**1.59**	**109**	eSn	Sg	19 56 22.8	+2.8
BEY	**Berane**	**1.59**	**109**	⇑iPn	Pn	19 55 58.0	+0.3
IVA	**Berane**	**1.59**	**109**	⇑iPn	Pn	19 55 58.0	+0.3
IVA				eSn	Sg	19 56 22.8	+2.8
TEKS	**Tekeris**	**1.67**	**46**	ePn	Pb	19 55 59.5	-0.5
TEKS	**Tekeris**	**1.67**	**46**	ePn	Pb	19 55 59.5	-0.5
DIVS	**Divibare**	**1.71**	**65**	eSn	Sb	19 56 22.4	-0.2
DIVS	**Divibare**	**1.71**	**65**	eSn	Sb	19 56 22.4	-0.2
PVY	**Plav**	**1.75**	**117**	⇑iPn	Pb	19 56 01.2	-0.3
PVY				eSn	Sg	19 56 27.8	+2.6
PVY	**Plav**	**1.75**	**117**	⇑iPn	Pb	19 56 01.2	-0.3
ULC	**Ulcinj**	**1.77**	**144**	⇑iPn	Pb	19 56 01.0	-0.7
ULC				eSn	Sg	19 56 26.9	+1.3
ULC	**Ulcinj**	**1.77**	**144**	⇑iPn	Pb	19 56 01.0	-0.7
UDBI	**Udbina**	**1.87**	**308**	ePn	Pn	19 56 01.8	+0.3
UDBI				eSn	Sg	19 56 29.2	+0.3
GRUS	**Gruza**	**2.14**	**76**	ePn	Pn	19 56 05.0	-0.1
GRUS				eSn	Sb	19 56 34.1	-0.8
GRUS	**Gruza**	**2.14**	**76**	ePn	Pn	19 56 05.0	-0.1
GRUS				eSn	Sb	19 56 34.1	-0.8
NVLJ	**Novalja**	**2.44**	**299**	ePn	Pn	19 56 10.5	+1.4
NVLJ				Sn	Sb	19 56 41.5	-1.8
NVLJ	**Novalja**	**2.44**	**299**	ePn	Pn	19 56 10.5	+1.4
NVLJ				Sn	Sb	19 56 41.4	-1.9
BARS	**Barje**	**2.97**	**100**	ePn	Pn	19 56 17.6	+1.1
BARS				eSn	Sn	19 56 53.1	+0.5
BARS	**Barje**	**2.97**	**100**	ePn	Pn	19 56 17.6	+1.1
BARS				eSn	Sn	19 56 53.1	+0.5

PRE 04 20:23:03.8±1.3,26°.31S×27°.69E,h2km,ML2.3,1C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.49**	**94**	eP	Pg	20 23 13.9	+0.4
ERPM				eS	Sg	20 23 19.9	-0.2
ERPM				AML	AML	20 23 24.8	
	comp=Z,313nm,0.6s						
ERPM	**east rand prop**	**0.49**	**94**	⇑iP	Pb	20 23 14.9	-0.5
ERPM				eS	Sg	20 23 20.3	+0.1
ERPM				AML	AML	20 23 24.8	
	comp=Z,308nm,0.6s						
PRYS	**Parys**	**0.69**	**206**	eP	Pg	20 23 17.4	+0.2
PRYS				eS	Sg	20 23 26.9	+0.7
PRYS				AML	AML	20 23 36.1	
	comp=Z,109nm,0.8s						
PRYS	**Parys**	**0.69**	**206**	iP	Pn	20 23 20.0	-0.8
PRYS				eS	Sb	20 23 29.3	+0.5
PRYS				AML	AML	20 23 36.4	
	comp=Z,109nm,0.7s						
SLR	**Silverton**	**0.78**	**43**	eP	Pg	20 23 19.0	+0.1
SLR				eS	Sg	20 23 29.0	-0.1
SLR				AML	AML	20 23 47.0	
	comp=Z,20nm,0.3s						
SLR	**Silverton**	**0.78**	**43**	eP	Pg	20 23 19.6	+0.7
SLR				eS	Sg	20 23 29.1	-0.1
SLR				AML	AML	20 23 35.5	
	comp=Z,75nm,0.7s						
KSR	**Koster**	**0.85**	**302**	eP	Pg	20 23 20.8	+0.5
KSR				eS	Sg	20 23 31.1	-0.4
KSR				AML	AML	20 23 40.4	
	comp=Z,94nm,0.1s						
KSR	**Koster**	**0.85**	**302**	eP	Pn	20 23 23.2	+0.2
KSR				eS	Sb	20 23 32.8	-0.7
KSR				AML	AML	20 23 40.3	
	comp=Z,67nm,0.2s						
SEK	**Senekal**	**2.01**	**182**	eP	Pn	20 23 39.3	+0.3
SEK				eS	Sn	20 24 05.0	+0.1
SEK				AML	AML	20 24 09.6	
	comp=Z,27nm,0.2s						
SEK	**Senekal**	**2.01**	**182**	eP	Pg	20 23 43.0	+0.3
SEK				eS	Sg	20 24 08.7	-0.1
SEK				AML	AML	20 24 09.7	
	comp=Z,23nm,1.5s						
SWZ	**Schweizer**	**2.29**	**247**	eP	Pn	20 23 43.8	+1.0
SWZ				eS	Sn	20 24 11.1	-0.5
SWZ				AML	AML	20 24 18.2	
	comp=Z,58nm,0.5s						
SWZ	**Schweizer**	**2.29**	**247**	eP	Pg	20 23 47.7	-0.1
SWZ				eS	Sg	20 24 16.8	-0.8
SWZ				AML	AML	20 24 18.2	
	comp=Z,60nm,0.5s						
LBTB	**Lobatse**	**2.29**	**304**	eP	Pn	20 23 44.1	+1.4
LBTB				eS	Sn	20 24 12.0	+0.4
LBTB				AML	AML	20 24 17.7	
	comp=Z,39nm,0.6s						
LBTB	**Lobatse**	**2.29**	**304**	eP	Pb	20 23 46.0	0.0
LBTB				eS	Sb	20 24 15.7	+0.9
LBTB				AML	AML	20 24 17.6	
	comp=Z,39nm,0.6s						
BOSA	**Boshof**	**3.16**	**223**	eP	Pn	20 23 54.7	-0.1
BOSA				eS	Sn	20 24 32.5	-0.7
BOSA				AML	AML	20 24 54.5	
	comp=Z,7.5nm,0.5s						
BOSA	**Boshof**	**3.16**	**223**	eP	Pn	20 23 56.8	+2.0
BOSA				eS	Sn	20 24 34.6	+1.5
BOSA				AML	AML	20 24 54.2	
	comp=Z,7.5nm,0.5s						
KSD	**Kokstad**	**4.48**	**161**	eS	Sn	20 25 05.5	-0.4
KSD				AML	AML	20 25 28.3	
	comp=Z,17nm,0.4s						

IDC 04 20:23:27.1±2.5,18°.62S×177°.83W,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.8/20,mbtmp3.9/4,Error ellipse: s-maj=252.8km s-min=31.0km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.05**	**260**	P	P	20 31 45.4	+0.3
	1.1nm,0.5s,baz=97,slow=7.6,SNR=46						
ASAR	**Alice Springs**	**45.13**	**255**	P	P	20 31 45.6	-0.1
	2.2nm,0.8s,baz=87,slow=8.1,SNR=30						
FITZ	**Fitzroy Crossi**	**53.46**	**261**	P	P	20 32 48.9	-0.6
	1.7nm,0.9s,baz=68,slow=16,SNR=3.1						
TXAR	**Lajitas Array**	**85.91**	**57**	P	P	20 36 09.5	0.0
	0.3nm,0.7s,baz=212,slow=5.0,SNR=5.6						

---

*ISCJB **04** 21:08:30.2±0.5,56°.04S±0°.08×27°.6W±0°.2,h112km, mb4.0/9,Error ellipse: s-maj=14.5km s-min=10.9km az=28.3*
*NEIC **04** 21:08:33.9±2.4,56°.06S×27°.60W,h134km±22km,mb4.1/5, Error ellipse: s-maj=9.9km s-min=8.3km az=145.0*
*IDC **04** 21:08:34.8±3.3,56°.04S×27°.63W,h140km±28km,mb3.8/8, mb1 3.8/9,mb1mx3.7/19,mbtmp3.8/9,Error ellipse: s-maj=22.5km s-min=15.7km az=99.0*
ISC 04 21:08:31.5±0.5,56°.05S±0°.10×27°.6W±0°.1,h112km,n39, σ1§12/41,mb4.0/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.84**	**156**	eP	**P**	**21 12 42.5**	**+0.2**
	6.8nm,0.5s						
SNAA	**Sanae**	**18.84**	**156**	P	**P**	**21 12 42.8**	**+0.5**
	0.8nm,0.3s,baz=302,slow=10,SNR=88						
PMSA	**Palmer Station**	**19.72**	**229**	eP	**P**	**21 12 52.5**	**+0.7**
	16nm,0.7s						
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**21 15 06.4**	**+0.4**
QSPA				PcP	**PcP**	**21 17 39.8**	**-0.1**
QSPA				ScP	**ScP**	**21 21 10.2**	**-4.0**
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**21 15 06.4**	**+0.4**
	0.8nm,0.4s,baz=28,slow=1.2,SNR=22						
QSPA				PcP	**PcP**	**21 17 39.8**	**-0.1**
	0.3nm,0.5s,baz=192,slow=9.2,SNR=3.9						
QSPA				ScP	**ScP**	**21 21 10.2**	**-4.0**
	0.6nm,0.6s,baz=254,slow=2.9,SNR=7.2						
CPUP	**Villa Florida**	**36.63**	**312**	eP	**P**	**21 15 27.6**	**+0.7**
SUR	**Sutherland**	**40.87**	**75**	eP	**P**	**21 16 02.0**	**-0.4**
SBA	**Scott Base**	**46.06**	**184**	eP	**P**	**21 16 43.2**	**-0.1**
	1.0nm,0.8s						
BOSA	**Boshof**	**46.20**	**76**	eP	**P**	**21 16 45.5**	**+0.3**
BOSA	**Boshof**	**46.20**	**76**	P	**P**	**21 16 45.5**	**+0.3**
	2.5nm,0.9s,baz=186,slow=9.2,SNR=4.0						
VNDA	**Vanda**	**46.56**	**183**	eP	**P**	**21 16 47.8**	**+0.6**
VNDA	**Vanda**	**46.56**	**183**	P	**P**	**21 16 48.2**	**+1.0**
	0.3nm,0.4s,baz=174,slow=6.0,SNR=5.0						
LBTB	**Lobatse**	**49.23**	**74**	eP	**P**	**21 17 08.9**	**+0.3**
	2.1nm,0.6s						
LBTB	**Lobatse**	**49.23**	**74**	P	**P**	**21 17 09.1**	**+0.5**
	2.8nm,0.7s,baz=162,slow=7.5,SNR=5.6						
TSUM	**Tsumeb**	**49.89**	**61**	P	**P**	**21 17 13.7**	**+0.1**
LPAZ	**La Paz**	**50.18**	**306**	eP	**P**	**21 17 16.3**	**-0.1**
	0.9nm,0.6s						
LPAZ	**La Paz**	**50.18**	**306**	P	**P**	**21 17 16.1**	**-0.3**
	0.8nm,0.4s,baz=167,slow=7.1,SNR=5.4						
LSZ	**Lusaka**	**58.59**	**69**	eP	**P**	**21 18 17.3**	**+0.6**
MSKU	**Masuku**	**63.54**	**47**	eP	**P**	**21 18 50.0**	**+0.1**
DBIC	**Dimbokro**	**65.27**	**25**	P	**P**	**21 19 01.2**	**+0.1**
	1.1nm,0.4s,baz=180,slow=7.6,SNR=4.4						
TOA0	**Torodi Ar. Sit**	**73.17**	**30**	eP	**P**	**21 19 50.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**73.17**	**30**	P	**P**	**21 19 50.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.17**	**30**	P	**P**	**21 19 50.4**	**+0.5**
	5.6nm,0.5s,baz=199,slow=6.4,SNR=125						
ASAR	**Alice Springs**	**99.06**	**163**	P	**Pdif**	**21 22 00.3**	**+0.5**
ASAR	**Alice Springs**	**99.06**	**163**	P	**Pdif**	**21 22 00.3**	**+0.5**
	0.4nm,0.9s,baz=184,slow=4.3,SNR=3.6						
FINES	**FINESS Array B**	**124.49**	**28**	PKP	**PKPdf**	**21 27 14.8**	**-1.1**
FINES	**FINESS Array B**	**124.49**	**28**	PKP	**PKPdf**	**21 27 14.8**	**-1.1**
	0.7nm,0.5s,baz=132,slow=2.8,SNR=5.9						
ARCES	**ARCESS Array B**	**131.03**	**22**	PKP	**PKPdf**	**21 27 27.1**	**-1.1**
ARCES	**ARCESS Array B**	**131.03**	**22**	PKP	**PKPdf**	**21 27 27.1**	**-1.1**
	0.4nm,0.7s,baz=177,slow=2.4,SNR=5.9						
YKA	**Yellowknife Ar**	**

VADZ ⇓*i*S **Sn** **21 20 52.0 -0.3**
VADZ Vardenis 1.90 252 ⇓P **Pn** **21 20 27.0 -0.6**
VADZ S **Sn** **21 20 52.0 -0.3**
MNSR Manas 1.94 352 *e*PN **Pb** **21 20 30.0 0.0**
MNSR *i* S **Sg** **21 20 57.0 +0.9**
MNSR Manas 1.94 352 *e*Pn **Pb** **21 20 30.0 0.0**
MNSR *i* Sg **Sg** **21 20 57.0 +0.9**
XNZR Khunzakh 2.05 330 *e*PN **Pb** **21 20 32.0 +0.1**
XNZR pmax pmax
comp=Z,110nm,0.2s
XNZR Khunzakh 2.05 330 *e*Pn **Pb** **21 20 32.0 +0.1**
comp=Z,110nm,0.2s
UNCR Uncukul 2.16 334 *e*PN **Pb** **21 20 33.3 -0.5**
UNCR *e*S **Sg** **21 21 02.5 -0.8**
UNCR pmax pmax
comp=Z,67nm,0.2s
UNCR Uncukul 2.16 334 *e*Pn **Pb** **21 20 33.3 -0.5**
comp=Z,67nm,0.2s
UNCR *e*Sb **Sg** **21 21 02.5 -0.8**
DGRG David-gareji 2.17 289 P **Pn** **21 20 31.0 -0.1**
DGRG S **Sn** **21 20 59.0 +0.3**
DGRG David-gareji 2.17 289 P **Pn** **21 20 31.0 -0.1**
DGRG S **Sn** **21 20 59.0 +0.3**
BUJR Buynaksk 2.17 340 *e*PN **Pb** **21 20 34.0 +0.1**
BUJR *e*S **Sg** **21 21 03.0 -0.6**
BUJR Buynaksk 2.17 340 *e*Pn **Pb** **21 20 34.0 +0.1**
BUJR *e*Sb **Sg** **21 21 03.0 -0.6**
KRNR Karanay 2.23 337 *e*PN **Pb** **21 20 34.0 -1.0**
KRNR *i* S **Sb** **21 21 03.3 +0.1**
KRNR Karanay 2.23 337 *e*Pn **Pb** **21 20 34.0 -1.0**
DBC Dubki 2.43 337 ⇓*e*PN **Pb** **21 20 36.7 -1.7**
DBC *i* S **Sb** **21 21 07.7 -1.2**
DBC Dubki 2.43 337 *e*Pn **Pb** **21 20 36.7 -1.7**
DBC *i* Sn **Sb** **21 21 07.7 -1.2**
DLMR Dylym 2.54 335 *e*PN **Pb** **21 20 39.0 -1.1**
DLMR *e*S **Sb** **21 21 11.0 -0.9**
DLMR pmax pmax
comp=Z,92nm,0.7s
DLMR Dylym 2.54 335 *e*Pn **Pb** **21 20 39.0 -1.1**
comp=Z,92nm,0.7s
CKLZ Chkalov 2.62 274 ⇑*i*P **Pg** **21 20 46.8 +2.8**
LMTZ Lermontov 2.62 271 ⇑*i*P Pg 21 20 49.1 +5.0
GNI Garni 2.64 257 ⇑*i*P **Pb** **21 20 40.5 -1.5**
GNI ⇓*i*S **Sb** **21 21 14.8 -0.2**
GNI Garni 2.64 257 ⇑P **Pb** **21 20 40.5 -1.5**
GNI S **Sb** **21 21 14.8 -0.2**
TBLG Delisi 2.71 292 PN **Pn** **21 20 38.7 +0.2**
TBLG S **Sn** **21 21 10.5 -1.5**
TBLG Delisi 2.71 292 P **Pn** **21 20 38.7 +0.2**
TBLG S **Sn** **21 21 10.5 -1.5**
TBLG Delisi 2.71 292 P **Pn** **21 20 38.7 +0.2**
TBLG S **Sn** **21 21 10.5 -1.5**
STEZ Stepenevan 2.81 276 ⇓*i*P **Pn** **21 20 38.0 -2.1**
STEZ ⇓S **Sn** **21 21 10.5 -4.3**
STEZ Stepenevan 2.81 276 ⇓*i*P Pg 21 20 52.2 +4.5
STE Stepanavan 2.84 276 ⇓P **Pn** **21 20 38.0 -2.4**
KZR Kazreti 2.85 283 P **Pb** **21 20 44.2 -1.3**
KZR S **Sn** **21 21 14.0 -1.5**
KZR Kazreti 2.85 283 P **Pb** **21 20 44.2 -1.3**
KZR S **Sn** **21 21 14.0 -1.5**
DUS Dusheti 2.87 298 P **Pn** **21 20 43.1 +2.3**
DUS S **Sn** **21 21 18.2 +2.1**
DUS Dusheti 2.87 298 P **Pn** **21 20 43.1 +2.3**
DUS S **Sn** **21 21 18.2 +2.1**
SPIZ Spitak 2.91 272 ⇓*i*P Pg 21 20 53.2 +3.7
GUDG Gudauri 3.19 303 P **Pn** **21 20 47.3 +1.9**
GUDG S **Sn** **21 21 23.2 -1.1**
GUDG Gudauri 3.19 303 P **Pn** **21 20 47.3 +1.9**
GUDG S **Sn** **21 21 23.2 -1.1**
AKH Akhalkalaki 3.54 282 P **Sn** **21 21 35.8 +3.1**
ONI Oni 3.92 299 P **Pn** **21 20 57.4 +2.1**
ONI S **Sb** **21 21 53.9 +2.1**
ONI Oni 3.92 299 P **Pn** **21 20 57.4 +2.1**
KBZ Khabaz 4.86 309 PN Pb 21 21 14.9 -4.7
KBZ 21 22 09.0
KBZ Khabaz 4.86 309 Pn Pb 21 21 14.8 -4.7
comp=Z,0.3nm,0.3s,baz=135,slow=8.6,SNR=3.2
KBZ Sn **Sn** **21 22 09.0 +4.2**
comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=2.3
KIV Kislovodsk 5.11 310 *e*PN Pg 21 21 35.9 +4.2
KIV pmax pmax
comp=Z,4.0nm,1.1s
AKTO Aktyubinsk 11.88 32 ⇓Pn **Pn** **21 22 42.6 -1.7**
comp=Z,0.6nm,0.4s
AKTO ⇓Sn Sn 21 24 45.7 -12
comp=Z,1.4nm,0.9s
AKTO Aktyubinsk 11.88 32 P **Pn** **21 22 43.0 -1.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 11.88 32 Pn **Pn** **21 22 43.0 -1.3**
comp=Z,0.5nm,0.3s,baz=212,slow=16,SNR=7.8
AB31 Akbulak array 11.90 41 ⇑Pn **Pn** **21 22 45.6 +1.0**
comp=Z,0.1nm,0.3s,baz=242,slow=14,SNR=10
AB31 ⇑Sn **Sn** **21 24 52.9 -5.1**
comp=Z,0.4nm,0.5s,baz=240,slow=25,SNR=4.1
AB31 Akbulak array 11.90 41 Pn **Pn** **21 22 45.6 +1.0**
comp=Z,0.1nm,0.3s,baz=242,SNR=10
BVAR Borovoye Array 19.44 43 P **Pn** **21 24 23.4 +0.7**
BVAR Borovoye Array 19.44 43 P **Pn** **21 24 23.4 +0.7**
comp=Z,0.2nm,0.3s,baz=224,slow=10,SNR=4.4
BVAR Borovoye Array 19.44 43 P **Pn** **21 24 23.4 +0.7**
KURBB Kurchatov Arra 23.27 55 P **P** **21 25 04.9 +2.2**
comp=Z,0.1nm,0.4s,baz=260,slow=11,SNR=3.7
KURK Kurchatov 23.35 55 P **P** **21 25 04.9 +1.4**
KURK Kurchatov 23.35 55 P **P** **21 25 04.9 +1.4**
FINES FINESS Array B 24.65 334 P **P** **21 25 16.9 +1.2**
comp=Z,1.1nm,0.7s,baz=134,slow=9.9,SNR=5.0
FINES FINESS Array B 24.65 334 P **P** **21 25 16.9 +1.2**
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 25.27 65 P **P** **21 25 23.3 +1.8**
MKAR Makanchi Array 25.27 65 P **P** **21 25 23.3 +1.8**
comp=Z,0.4nm,0.7s,baz=263,slow=7.9,SNR=4.0
MKAR Makanchi Array 25.27 65 P **P** **21 25 23.3 +1.8**

*ISCJB **04** 21:21:03.9±0.4, 52°.2N±0°.2×174°.54W±0°.06, h78km±6km, mb3.7/7, Error ellipse: s-maj=27.0km s-min=5.1km az=171.2*
*NEIC **04** 21:21:03.1, 51°.71N×174°.50W, h10km, ML3.6(AEIC), After AEIC.*
*IDC **04** 21:21:05.0±3.6, 52°.03N×174°.57W, h82km±32km, mb3.4/7, mb1 3.7/9, mb1mx3.3/30, mbtmp3.4/9, Error ellipse: s-maj=41.1km s-min=15.7km az=5.0*

ISC 04 21:21:04.0±0.8, **52°.2N**±0°.2×**174°.43W**±0°.06, **h68**km±7km, **n34**, σ0°.71/37, **mb3.9/7, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.15**	**70**	P	**Pn**	**21 21 14.0**	**-0.2**
ATKA				S	**Sn**	**21 21 22.5**	**+0.9**
GSTR	**Great Sitkin T**	**1.01**	**267**	P	**Pn**	**21 21 23.0**	**+0.4**
GSMY	**Great Sitkin M**	**1.01**	**264**	P	**Pn**	**21 21 22.1**	**-0.4**
GSTD	**Great Sitkin T**	**1.06**	**265**	P	**Pn**	**21 21 23.0**	**-0.3**
GSCK	**Great Sitkin C**	**1.08**	**263**	P	**Pn**	**21 21 22.9**	**-0.5**
ETKA	**Kagalaska Isla**	**1.26**	**257**	P	**Pn**	**21 21 24.8**	**-0.9**
ADAG	**Mount Adagdak**	**1.35**	**264**	P	**Pn**	**21 21 27.4**	**+0.5**
ADK	**Adak**	**1.42**	**260**	P	**Pn**	**21 21 27.2**	**-0.6**
ADK				S	**Sn**	**21 21 45.7**	**0.0**
KIRH	**Kanaga Island**	**1.67**	**262**	P	**Pn**	**21 21 31.8**	**+0.6**
KINC	**Kanaga Island**	**1.68**	**264**	P	**Pn**	**21 21 31.5**	**+0.2**
KIKV	**Kanaga Island**	**1.72**	**262**	P	**Pn**	**21 21 31.9**	**+0.1**
KIKV				S	**Sn**	**21 21 54.1**	**+1.2**
KICM	**Kanaga Island**	**1.73**	**263**	P	**Pn**	**21 21 32.2**	**+0.3**
TAPA	**Tanaga Point A**	**2.12**	**262**	P	**Pn**	**21 21 37.3**	**0.0**
TAFP	**Tanaga Falls P**	**2.21**	**265**	P	**Pn**	**21 21 38.7**	**+0.2**
TAFP				S	**Sn**	**21 22 05.5**	**+0.7**
TASE	**Tanaga Southea**	**2.25**	**263**	P	**Pn**	**21 21 39.1**	**0.0**
GANE	**Gareloi Northe**	**2.71**	**265**	P	**Pn**	**21 21 45.2**	**0.0**
NIKH	**Nikolski High**	**3.50**	**74**	P	Pn	21 21 59.6	+3.6
CERAA	**Semis' Rag'd T**	**3.65**	**268**	P	**Pn**	**21 21 57.9**	**-0.1**
AMKA	**Amchitka**	**3.97**	**261**	P	**Pn**	**21 22 01.9**	**-0.5**
AMKA				S	**Sn**	**21 22 50.2**	**+2.5**
OKCE	**Okmok Cone E**	**4.01**	**69**	P	Pn	21 22 07.5	+4.5
LSNW	**Little Sitkin**	**4.36**	**270**	P	**Pn**	**21 22 08.1**	**+0.4**
MREP	**Makushin Rep't**	**4.93**	**67**	P	Pn	21 22 19.6	+4.1
FX1	**Attu Island--F**	**7.61**	**280**	P	**Pn**	**21 22 51.9**	**-0.2**
1.5nm,0.3s,baz=330,slow=23,SNR=11
FX1 S **Sn** **21 24 15.8 -1.0**
0.3nm,0.3s,baz=240,slow=20,SNR=1.9
KDAK Kodiak Island 13.72 57 P **P** **21 24 22.1 +0.6**
1.7nm,0.3s,baz=310,slow=14,SNR=7.7

ILAR	**Eielson Array**	**18.95**	**38**	P	**Pn**	**21 25 21.4**	**+0.7**
0.3nm,0.3s,baz=223,slow=8.9,SNR=18
NVAR Mina Array Bea 40.77 87 P **P** **21 28 38.9 +0.3**
1.4nm,0.8s,baz=287,slow=6.3,SNR=5.7
KSRS Korea Array 42.33 273 P **P** **21 28 50.2 -0.8**
0.2nm,0.3s,baz=54,slow=7.4,SNR=4.6
PDAR Pinedale Array 43.48 76 P **P** **21 29 01.2 +0.6**
2.1nm,0.7s,baz=299,slow=3.6,SNR=16
PDAR pP **pP** **21 29 16.5 -1.0**
0.7nm,0.6s,baz=310,slow=3.3,SNR=4.1
TXAR Lajitas Array 55.86 85 P **P** **21 30 34.5 -0.1**
1.4nm,0.8s,baz=297,slow=5.1,SNR=16
KURBB Kurchatov Arra 60.52 316 P **P** **21 31 06.5 -0.2**
0.3nm,0.5s,baz=46,slow=6.5,SNR=5.4
MKAR Makanchi Array 61.64 311 P **P** **21 31 13.9 -0.4**
0.2nm,0.5s,baz=43,slow=6.9,SNR=4.1
HFS Hagfors 67.88 356 P **P** **21 31 54.4 -0.2**
0.7nm,0.5s,baz=12,slow=3.6,SNR=7.4
TORD Torodi Ar. Bea 114.89 4 PKP PKPdf 21 39 36.1 -0.9
0.3nm,0.8s,baz=313,slow=1.3,SNR=4.4
BOSA Boshof 152.29 320 PKPbc **PKPbc** **21 40 51.5 -0.3**
1.3nm,0.4s,baz=16,slow=4.0,SNR=8.4

*IDC **04** 21:35:31.8±1.4, 17°.69S×167°.55E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.0/10, ML3.1/1, MS3.6/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=43.0km s-min=20.6km az=127.0*
*ISCJB **04** 21:35:33.5±1.0, 17°.70S±0°.07×167°.5E±0°.2, h19km, mb4.0/8, MS3.4/3, Error ellipse: s-maj=26.1km s-min=9.4km az=7.3*

ISC 04 21:35:34.9±1.0, **17°.70S**±0°.10×**167°.5E**±0°.2, **h19**km, **n15**, σ1**$**05/14, **mb4.0/8, MS3.6/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.46**	**193**	Pn	**Pn**	**21 36 41.2**	**-0.4**
1.0nm,0.3s,baz=90,slow=23,SNR=7.4
DZM Sn **Sn** **21 37 33.7 +0.6**
2.4nm,0.3s,baz=2.5,slow=22,SNR=3.6
CTA Charters Tower 20.23 260 P Pn 21 40 11.2 0.0
3.2nm,0.5s,baz=98,slow=7.1,SNR=3.9
AFI Afiamalu 20.30 82 LR LR 21 46 18.8
comp=Z,82nm,19.0s,baz=101,slow=32
STKA Stephens Creek 27.33 234 P **P** **21 41 19.8 +1.0**
1.6nm,0.7s,baz=92,slow=10,SNR=5.6
STKA LR LR 21 51 37.6
comp=Z,148nm,19.6s,baz=186,slow=35
WRA Warramunga Arr 31.43 261 P **P** **21 41 54.4 -1.0**
1.5nm,0.8s,baz=93,slow=9.0,SNR=12
ASAR Alice Springs 31.93 254 P **P** **21 41 59.5 -0.2**
4.6nm,0.8s,baz=79,slow=8.8,SNR=55
ASAR LR LR 21 54 21.0
comp=Z,150nm,21.2s,baz=165,slow=35
ASAJ Asahikawa 65.60 341 P **P** **21 46 17.6 +0.1**
2.0nm,0.8s,baz=93,slow=17,SNR=3.9
PETK Petropavlovsk- 71.02 354 P **P** **21 46 50.7 -0.6**
4.8nm,0.9s,baz=138,slow=6.9,SNR=7.1
CMAR Chiang Mai Arr 76.36 295 P **P** **21 47 24.9 +1.4**
1.5nm,0.7s,baz=134,slow=4.4,SNR=9.9
SONM Songino Array 85.00 324 P **P** **21 48 08.7 -0.5**
0.4nm,0.7s,baz=132,slow=6.0,SNR=3.4
ILAR Eielson Array 89.27 18 P **P** **21 48 31.1 +1.7**
0.2nm,0.6s,baz=236,slow=6.4,SNR=3.1
ARCES ARCESS Array B 123.16 345 PKP **PKPdf** **21 54 28.8 -1.0**
0.8nm,0.7s,baz=0.0,slow=0.1,SNR=4.2
FETA Feichten 145.05 332 P **PKPbc** **21 55 10.6 -0.1**
6.6nm,0.9s,SNR=6.9
DAVA Damuels 145.22 333 P **PKPbc** **21 55 11.1 -0.1**
8.0nm,1.0s,SNR=5.7
TORD Torodi Ar. Bea 165.58 254 PKP **PKPdf** **21 55 37.6 -1.7**
0.6nm,0.9s,baz=67,slow=1.9,SNR=3.2

KRSC 04 21:37:09.0±0.8, **50°.28N**×**156°.68E, h141**km±50km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.54**	**319**	P	Pn	21 37 30.2	+0.7
PAU	**Pauzhetka**	**1.19**	**4**	*e*P	Pn	21 37 35.6	+1.0
PAU *e*S Sn 21 37 54.7 +0.4
MIPR Malaya Ipel'ka 2.00 1 *e*P Pn 21 37 43.3 -0.2
ASAK Asacha 2.24 19 *e*P Pn 21 37 48.7 +2.2
ASAK S Sn 21 38 18.1 +2.7
MTVR Mutnovka 2.40 23 *e*P Pn 21 37 50.5 +2.0
MTVR *e*S Sn 21 38 20.2 +1.2
RUS Russkaya 2.44 27 *e*P Pn 21 37 50.8 +1.9
RUS *e*S Sn 21 38 20.8 +1.2
APC Apacha 2.67 6 P Pn 21 37 51.6 -0.1
UGLR Uglovaya 3.22 24 *e*P Pn 21 38 01.9 +3.0
AVH Avacha 3.25 22 *e*P Pn 21 38 01.3 +2.0
AVH S Sn 21 38 40.5 +2.3
KOK Koryaka 3.25 21 *e*P Pn 21 38 02.1 +2.8
SMAR Somma 3.27 23 P Pn 21 38 01.6 +2.0
KRER Koryakskii 3.29 22 *e*P Pn 21 38 02.3 +2.4
KRER S Sn 21 38 41.1 +1.7
SDLR Sedlovina 3.30 24 *e*P Pn 21 38 01.7 +1.8
SDLR S Sn 21 38 40.4 +1.0
NLC Nalytchevo 3.34 29 S Sn 21 38 39.4 -0.5
GNL Ganaly 3.51 12 *e*P Pn 21 38 03.4 +0.8
MKZ Mys Kozlova 5.28 34 *e*P Pn 21 38 26.7 +0.9
MKZ S Sn 21 39 24.5 -1.3

*ISCJB **04** 21:42:54.7±0.2, 41°.74N±0°.02×14°.21E±0°.02, h25km±2km, Error ellipse: s-maj=3.5km s-min=2.4km az=28.0*
*CSEM **04** 21:42:54.9±0.1, 41°.73N×14°.20E, h20km, ML3.7/16, Error ellipse: s-maj=2.9km s-min=2.1km az=30.0*
*LDG **04** 21:42:54.3±0.1, 41°.75N×14°.26E, h2km, Ml2.8/5, Error ellipse: s-maj=4.6km s-min=2.4km az=41.0*
*ROM **04** 21:42:54.6±0.1, 41°.74N×14°.24E, h20km±1km, Md3.2/36, Ml3.2/35, Error ellipse: s-maj=1.2km s-min=0.8km az=33.0*
*BEO **04** 21:42:57.6, 41°.70N×14°.52E, h0km, ML3.1/4*

ISC 04 21:42:55.0±0.8, **41°.73N**±0°.02×**14°.22E**±0°.02, **h21**km±1km, **n124**, σ1**$28**/181, **2C-1D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNI2	**Rionero Sannit**	**0.06**	**237**	Pg	**Pb**	**21 42 58.7**	**-0.3**
RNI2 Sg **Sb** **21 43 01.6 -0.1**
19μm,0.1s
RNI2 Rionero Sannit 0.06 237 Pg **Pb** **21 42 58.7 -0.3**
RNI2 Sg **Sb** **21 43 01.6 -0.1**
19μm,0.1s
MIDA Miranda 0.10 163 Pg **Pb** **21 42 58.4 -0.8**
MIDA Sg **Sb** **21 43 01.1 -1.0**
15μm,0.4s
MIDA Miranda 0.10 163 Pg **Pb** **21 42 58.4 -0.8**
MIDA Sg **Sb** **21 43 01.1 -1.0**
15μm,0.4s
CERA Filignano 0.20 228 Pg **Pb** **21 43 00.2 -0.8**
CERA Sg **Sb** **21 43 04.2 -1.0**
3μm,0.6s
CERA Filignano 0.20 228 Pg **Pb** **21 43 00.2 -0.8**
CERA Sg **Sb** **21 43 04.2 -1.0**
3μm,0.6s
TRIV Trivento 0.25 82 Pg **Pb** **21 43 00.6 -0.7**
TRIV Sg **Sb** **21 43 04.9 -0.7**
2μm,0.6s
TRIV Trivento 0.25 82 Pg **Pb** **21 43 00.6 -0.7**
TRIV Sg **Sb** **21 43 04.9 -0.7**
2μm,0.6s
SDI San Donato 0.31 265 Pg **Pb** **21 43 01.9 0.0**
SDI Sg **Sb** **21 43 07.8 +1.2**
SDI San Donato 0.31 265 Pg **Pb** **21 43 01.9 0.0**
SDI Sg **Sb** **21 43 07.8 +1.2**
LPEL Lama dei Pelig 0.31 355 Pg **Pb** **21 43 01.8 -0.2**
LPEL Sg **Sb** **21 43 07.5 +0.7**
2μm,0.2s
LPEL Lama dei Pelig 0.31 355 Pg **Pb** **21 43 01.8 -0.2**
LPEL Sg **Sb** **21 43 07.5 +0.7**
2μm,0.2s
VAGA Valle Agricola 0.32 178 Pg **Pb** **21 43 01.7 -0.3**
VAGA Sg **Sb** **21 43 07.3 +0.5**
5μm,0.3s
VAGA Valle Agricola 0.32 178 Pg **Pb** **21 43 01.7 -0.3**
VAGA Sg **Sb** **21 43 07.3 +0.5**
5μm,0.3s
BSSO Busso 0.34 123 Pg **Pb** **21 43 02.1 -0.3**
BSSO Sg **Sb** **21 43 08.2 +0.8**
3μm,1.0s
BSSO Busso 0.34 123 Pg **Pb** **21 43 02.1 -0.3**
BSSO Sg **Sb** **21 43 08.2 +0.8**
3μm,1.0s
INTR Introdacqua 0.36 320 Pg **Pb** **21 43 02.7 0.0**
INTR Sg **Sb** **21 43 08.8 +0.8**
5μm,0.2s
INTR Introdacqua 0.36 320 Pg **Pb** **21 43 02.7 0.0**
INTR Sg **Sb** **21 43 08.8 +0.8**
5μm,0.2s
SGG Gregorio Mates 0.37 161 Pg **Pb** **21 43 02.4 -0.4**
SGG Sg **Sb** **21 43 08.1 0.0**
1μm,0.5s
SGG Gregorio Mates 0.37 161 Pg **Pb** **21 43 02.4 -0.4**
SGG Sg **Sb** **21 43 08.1 0.0**
1μm,0.5s
POFI Posta Fibreno 0.38 268 Pg **Pb** **21 43 03.0 0.0**
POFI Sg **Sb** **21 43 09.3 +0.9**
1μm,0.4s
POFI Posta Fibreno 0.38 268 Pg **Pb** **21 43 03.0 0.0**
POFI Sg **Sb** **21 43 09.3 +0.9**
1μm,0.4s
FRES Fresagrandinar 0.41 55 Pg **Pb** **21 43 03.0 -0.6**
FRES Sg **Sb** **21 43 08.9 -0.5**
1μm,0.5s
FRES Fresagrandinar 0.41 55 Pg **Pb** **21 43 03.0 -0.6**
FRES Sg **Sb** **21 43 08.9 -0.5**
1μm,0.5s
PTRJ Pietraroja 0.44 148 Pg **Pb** **21 43 03.2 -0.8**
3μm,0.8s
PTRJ Pietraroja 0.44 148 Pg **Pb** **21 43 03.2 -0.8**
3μm,0.8s
VVLD Villa Vallelon 0.47 287 Pg **Pb** **21 43 04.2 -0.3**
VVLD Sg **Sb** **21 43 11.6 +0.6**
3μm,0.4s
VVLD Villa Vallelon 0.47 287 Pg **Pb** **21 43 04.2 -0.3**
VVLD Sg **Sb** **21 43 11.6 +0.6**
3μm,0.4s
SACR S. Croce Del S 0.50 132 Pg **Pb** **21 43 05.3 +0.2**
SACR S. Croce Del S 0.50 132 Pg **Pb** **21 43 05.3 +0.2**
CAFR Castel Frentan 0.50 11 Pg **Pb** **21 43 05.1 -0.1**
3μm,0.6s
CAFR Castel Frentan 0.50 11 Pg **Pb** **21 43 05.1 -0.1**
3μm,0.6s
CIGN Sant'Elia a Pi 0.52 99 Pg **Pb** **21 43 05.0 -0.5**
485nm,0.7s
CIGN Sant'Elia a Pi 0.52 99 Pg **Pb** **21 43 05.0 -0.5**
485nm,0.7s
MSC Monte Massico 0.57 199 Pg **Pb** **21 43 07.0 +0.6**
MSC Monte Massico 0.57 199 Pg **Pb** **21 43 07.0 +0.6**
PTQR Pietraquaria 0.67 296 Pg **Pb** **21 43 07.7 -0.5**
90nm,0.3s
PTQR Pietraquaria 0.67 296 Pg **Pb** **21 43 07.7 -0.5**
90nm,0.3s
PSB1 Pescosannita 0.68 139 Pg **Pb** **21 43 07.6 -0.6**
541nm,0.4s
PSB1 Pescosannita 0.68 139 Pg **Pb** **21 43 07.6 -0.6**
541nm,0.4s
GUAR Guarcino 0.68 275 Pg **Pb** **21 43 07.6 -0.7**
759nm,0.3s
GUAR Guarcino 0.68 275 Pg **Pb** **21 43 07.6 -0.7**
759nm,0.3s
IPES Pescosannita 0.68 137 Pg **Pb** **21 43 08.8 +0.5**
MELA Melanico ??? S 0.68 92 Pg **Pb** **21 43 07.0 -1.2**
MELA Sg **Sb** **21 43 17.1 -0.1**
1μm,0.3s
MELA Melanico ??? S 0.68 92 Pg **Pb** **21 43 07.0 -1.2**
MELA Sg **Sb** **21 43 17.1 -0.1**
1μm,0.3s
FG2 Serracapriola 0.71 84 Pg **Pb** **21 43 07.7 -1.0**
FG2 Sg **Sb** **21 43 17.2 -0.8**
622nm,0.3s
FG2 Serracapriola 0.71 84 Pg **Pb** **21 43 07.7 -1.0**
FG2 Sg **Sb** **21 43 17.2 -0.8**
622nm,0.3s
FAGN Fagnano 0.71 319 Pg **Pb** **21 43 08.0 -0.8**
FAGN Sg **Sb** **21 43 19.2 +1.0**
2μm,0.3s
FAGN Fagnano 0.71 319 Pg **Pb** **21 43 08.0 -0.8**
FAGN Sg **Sb** **21 43 19.2 +1.0**
2μm,0.3s
VCEL Villa Celiera 0.72 337 Pg **Pb** **21 43 08.4 -0.5**
711nm,0.5s
VCEL Villa Celiera 0.72 337 Pg **Pb** **21 43 08.4 -0.5**
711nm,0.5s
GIUL Giuliano Di Ro 0.74 257 Pg **Pb** **21 43 09.0 -0.3**
839nm,0.7s
GIUL Giuliano Di Ro 0.74 257 Pg **Pb** **21 43 09.0 -0.3**
839nm,0.7s
MOCO Biccari - m.te 0.79 117 Pg **Pb** **21 43 10.1 -0.1**
316nm,0.4s
MRB1 Monte Rocchett 0.83 137 Pg **Pb** **21 43 10.4 -0.4**
1μm,0.5s
MRB1 Monte Rocchett 0.83 137 Pg **Pb** **21 43 10.4 -0.4**
1μm,0.5s
AQU L'Aquila 0.87 316 Pg **Pb** **21 43 10.8 -0.6**
588nm,0.7s
AQU L'Aquila 0.87 316 Pg **Pb** **21 43 10.8 -0.6**
588nm,0.7s
CERT Cerreto 0.95 284 Pg **Pb** **21 43 11.8 -1.0**
1μm,0.5s
CERT Cerreto 0.95 284 Pg **Pb** **21 43 11.8 -1.0**
1μm,0.5s
FIAM Fiamignano 0.98 303 Pg **Pb** **21 43 12.4 -0.9**
345nm,0.7s
FIAM Fiamignano 0.98 303 Pg **Pb** **21 43 12.4 -0.9**
345nm,0.7s
TERO Teramo 1.00 333 Pg **Pb** **21 43 12.7 -0.9**
TERO Sg **Sn** **21 43 27.5 +0.2**
682nm,0.8s
TERO Teramo 1.00 333 Pg **Pb** **21 43 12.7 -0.9**
TERO Sg **Sn** **21 43 27.5 +0.2**
682nm,0.8s
CAFE Carife 1.04 132 Pg **Pb** **21 43 14.1 -0.3**
524nm,0.6s
CAFE Carife 1.04 132 Pg **Pb** **21 43 14.1 -0.3**
524nm,0.6s
SGTA Sant Agata di 1.05 124 Pg **Pb** **21 43 13.9 -0.6**
539nm,0.5s
SGTA Sant Agata di 1.05 124 Pg **Pb** **21 43 13.9 -0.6**
539nm,0.5s
SNAL S. Angelo Dei 1.10 137 Pg **Pb** **21 43 16.1 +0.7**
1μm,0.9s
SNAL S. Angelo Dei 1.10 137 Pg **Pb** **21 43 16.1 +0.7**
1μm,0.9s
SGRT San Giovanni R 1.14 88 Pg **Pn** **21 43 14.9 -0.9**
480nm,0.3s
SGRT San Giovanni R 1.14 88 Pg **Pn** **21 43 14.9 -0.9**
480nm,0.3s
MCRV Calabrutti - M 1.19 143 Pg **Pn** **21 43 16.7 +0.2**
376nm,0.4s
MCRV Calabrutti - M 1.19 143 Pg **Pn** **21 43 16.7 +0.2**
376nm,0.4s
LNSS Leonessa 1.23 315 Pg **Pn** **21 43 16.7 -0.4**
350nm,0.7s
LNSS Leonessa 1.23 315 Pg **Pn** **21 43 16.7 -0.4**
350nm,0.7s
MSAG Monte S. Angel 1.27 90 Pg **Pn** **21 43 17.8 +0.3**
920nm,0.4s
MSAG Monte S. Angel 1.27 90 Pg **Pn** **21 43 17.8 +0.3**
920nm,0.4s
MS1 Monte Sant'Ang 1.29 91 *e*Pg **Pn** **21 43 18.3 +0.4**
MS1 *e*Sg **Sb** **21 43 36.8 +2.0**
BAI Bari 2.10 106 *e*Pn **Pn** **21 43 29.5 +0.6**
STON Ston 2.82 65 *e*Pn **Pn** **21 43 40.8 +1.9**
STON Sn **Sn** **21 44 13.7 +1.5**
STON Ston 2.82 65 *e*Pn **Pn** **21 43 40.7 +1.9**
STON Sn **Sn** **21 44 13.6 +1.5**
NVLJ Novalja 2.87 9 *e*Pn **Pn** **21 43 39.2 -0.2**
NVLJ Sn **Sn** **21 44 12.1 -1.2**
NVLJ Novalja 2.87 9 *e*Pn **Pn** **21 43 39.2 -0.2**
NVLJ Sn **Sn** **21 44 12.1 -1.2**
UDBI Udbina 3.01 22 *e*Pn **Pn** **21 43 41.5 0.0**
UDBI Sn **Sn** **21 44 17.9 +0.9**
BLY Banja Luka 3.71 35 *e*Pn Pn 21 43 55.3 +4.2
PDG Podgorica 3.81 78 *e*Pn **Pn** **21 43 54.5 +2.0**
PDG Podgorica 3.81 78 *e*Pn **Pn** **21 43 54.5 +2.0**
SKDS Skadanscina 3.81 358 *i* Pn **Pn** **21 43 52.2 -0.3**
SKDS *i* Sn **Sn** **21 44 37.4 +0.7**
SKDS Skadanscina 3.81 358 *i* Pn **Pn** **21 43 52.2 -0.3**
SKDS *i* Sn **Sn** **21 44 37.4 +0.7**
BOJS Bojanci 3.84 11 *i* Pn **Pn** **21 43 53.9 +1.0**
BOJS *i* Sn **Sn** **21 44 38.6 +1.3**
BOJS Bojanci 3.84 11 *i* Pn **Pn** **21 43 53.9 +1.0**
BOJS *i* Sn **Sn** **21 44 38.7 +1.3**
PGF Pioggiola 3.96 284 *e*Pn **Pn** **21 43 56.7 +2.1**
PGF *e*Sn **Sn** **21 44 38.9 -1.6**
2.9nm,0.4s
PGF Pioggiola 3.96 284 *e*Pn **Pn** **21 43 56.7 +2.1**

PGF *e*Sn **Sn** **21 44 38.9 -1.6**
1.5nm,0.4s
VISS Visnje 4.09 6 *i* Pn **Pn** **21 43 58.3 +2.0**
VISS *i* Sn **Sn** **21 44 46.1 +2.6**
VISS Visnje 4.09 6 *i* Pn **Pn** **21 43 58.3 +2.0**
VISS *i* Sn **Sn** **21 44 46.1 +2.6**
BBLS Lazići 4.37 59 *e*Pn **Pn** **21 44 02.6 +2.4**
BBLS Lazići 4.37 59 *e*Pn **Pn** **21 44 02.6 +2.4**
OBKA Obir 4.78 3 ⇑*i*Pn **Pn** **21 44 07.2 +1.3**
OBKA ⇑*i*Sn **Sn** **21 45 04.0 +3.4**
OBKA Obir 4.78 3 Pn **Pn** **21 44 07.2 +1.3**
OBKA Sn **Sn** **21 45 04.0 +3.4**
DIVS Divibare 4.85 59 *e*Pn **Pn** **21 44 08.5 +1.6**
DIVS *e*Sn **Sn** **21 45 02.7 +0.3**
DIVS Divibare 4.85 59 *e*Pn **Pn** **21 44 08.5 +1.6**
DIVS *e*Sn **Sn** **21 45 02.7 +0.3**
ABTA Abfaltersbach 5.16 347 ‖*i*Pn **Pn** **21 44 12.5 +1.5**
ABTA Abfaltersbach 5.16 347 Pn **Pn** **21 44 12.5 +1.5**
SBF Sospel 5.42 295 *e*Pn **Pn** **21 44 14.9 +0.2**
SBF Sospel 5.42 295 *e*Pn **Pn** **21 44 14.9 +0.2**
BARS Barje 5.74 77 *e*Pn **Pn** **21 44 20.7 +1.8**
BARS Barje 5.74 77 *e*Pn **Pn** **21 44 20.7 +1.8**
FRF La Foret Royal 5.87 291 *e*Pn **Pn** **21 44 21.4 +0.6**
FRF *e*Sn **Sn** **21 45 24.2 -3.2**
0.5nm,0.4s
FRF La Foret Royal 5.87 291 *e*Pn **Pn** **21 44 21.4 +0.6**
LMR La Mourre 5.92 288 *e*Pn **Pn** **21 44 22.8 +1.5**
LMR La Mourre 5.92 288 *e*Pn **Pn** **21 44 22.8 +1.5**
MBDF Montbardon 6.21 301 *e*Pn **Pn** **21 44 25.3 -0.2**
MBDF Montbardon 6.21 301 *e*Pn **Pn** **21 44 25.3 -0.2**
KHC Kasperske Hory 7.41 357 *e*PN **Pn** **21 44 42.0 +0.1**
KHC *e*SN **Sn** **21 46 03.2 -2.1**
KHC Kasperske Hory 7.41 357 Pn **Pn** **21 44 42.0 +0.1**
KHC Sn **Sn** **21 46 03.2 -2.1**
VIVF Saint-Julien-l 7.63 297 *e*Pn **Pn** **21 44 44.2 -0.7**
VIVF Saint-Julien-l 7.63 297 *e*Pn **Pn** **21 44 44.2 -0.7**
HINF Hinteralfeld 8.02 322 *e*Pn **Pn** **21 44 48.7 -1.6**
HINF *e*Sn **Sn** **21 46 15.3 -5.1**
1.2nm,0.3s
HINF Hinteralfeld 8.02 322 *e*Pn **Pn** **21 44 48.7 -1.6**
CDF Champ du Feu 8.29 326 *e*Pn **Pn** **21 44 53.7 -0.3**
CDF *e*Sn **Sn** **21 46 21.4 -5.5**
0.5nm,0.3s
CDF Champ du Feu 8.29 326 *e*Pn **Pn** **21 44 53.7 -0.3**
HAU Haudompre 8.40 321 *e*Pn **Pn** **21 44 54.1 -1.3**
HAU *e*Sn **Sn** **21 46 24.0 -5.5**
2.1nm,0.3s
HAU Haudompre 8.40 321 *e*Pn **Pn** **21 44 54.1 -1.3**

---

*ISCJB **04** 21:47:23.1±0.7,55.°2S±0.°1×129.°1W±0.°2,h10km,mb4.2/9, MS4.1/15,Error ellipse: s-maj=19.4km s-min=16.0km az=178.7*
*IDC **04** 21:47:23.8±0.6,55.°17S×129.°08W,h0km,mb4.0/9, mb1 4.2/9,mb1mx4.1/17,mbtmp4.0/9,MS4.1/15, Ms1 4.1/15,ms1mx4.0/20,Error ellipse: s-maj=23.7km s-min=19.6km az=149.0*
*NEIC **04** 21:47:25.4±0.4,55.°19S×129.°14W,h10km,mb4.6/5,Error ellipse: s-maj=14.9km s-min=12.8km az=152.0*
*GCMT **04** 21:47:29.1±0.3,55.°32S×129.°09W,h19km±1km,MW4.9, Moment Tensor Solution. s21,c25; s69,c92; Moment tensor: Scale 10^16^Nm; M_{rr}-0.52±.14; $M_{\theta\theta}$2.00±.15; $M_{\phi\phi}$-1.48±.12; $M_{r\theta}$0.35±.27; $M_{\theta\phi}$2.72±.11; $M_{r\phi}$0.07±.25; Best double couple: $M_0$3.30000×10^16^ NP1:φs106.00000°, δ88.00000°,λ5.00000°. NP2:φs16.00000°,δ85.00000°, λ178.00000°. Principal axes: T 3.5200, Plg5.0000°, Azm331.0000°; N -0.5500, Plg85.0000°, Azm124.0000°; P -2.9700, Plg2.0000°, Azm241.0000°; Data Used: IU II CN IC G.*

ISC 04 21:47:25.1±0.6,55.°1S±0.°1×129.°1W±0.°1,h10km,n46, σ0s78/32,mb4.2/9,MS4.2/15,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.27**	**350**	*e*LR	LR	22 02 18.5	
752nm,29.5s							
VNDA	**Vanda**	**32.45**	**202**	*e*P	**P**	**21 53 54.5**	**-0.3**
1.7nm,0.9s							
VNDA	**Vanda**	**32.45**	**202**	P	**P**	**21 53 56.2**	**+1.3**
1.2nm,1.1s,baz=76,slow=6.7,SNR=3.3							
PMSA	**Palmer Station**	**32.49**	**134**	LR	LR	22 02 50.1	
comp=Z,560nm,20.7s,baz=292,slow=28							
USHA	**Ushuaia**	**33.86**	**115**	LR	LR	22 03 35.2	
comp=Z,282nm,20.7s,baz=312,slow=29							
QSPA	**South Pole Qui**	**35.04**	**180**	*e*P	**P**	**21 54 18.5**	**+0.9**
10nm,1.1s							
QSPA	**South Pole Qui**	**35.04**	**180**	P	**P**	**21 54 18.9**	**+1.2**
6.4nm,0.9s,baz=96,slow=6.9,SNR=13							
TBI	**Tubuai**	**35.17**	**326**	*e*LR	LR	22 03 29.9	
732nm,30.2s,baz=164							
PLCA	**Paso Flores**	**40.56**	**94**	LR	LR	22 08 24.6	
comp=Z,174nm,19.5s,baz=191,slow=31							
PPT2	**Papeete2**	**40.62**	**329**	*e*S	**S**	**22 01 13.5**	**-1.2**
118nm,28.0s							
PPT2				*e*LR	LR	22 06 15.8	
800nm,26.5s,baz=163							
PPT	**Papeete**	**40.64**	**329**	LR	LR	22 07 19.7	
comp=Z,213nm,21.1s,baz=189,slow=29							
SNAA	**Sanae**	**48.00**	**160**	P	**P**	**21 56 03.1**	**-0.5**
3.8nm,0.9s							
SNAA	**Sanae**	**48.00**	**160**	P	**P**	**21 56 02.6**	**-1.0**
1.2nm,1.0s,baz=249,slow=9.0,SNR=3.0							
MAW	**Mawson**	**57.25**	**185**	P	**P**	**21 57 10.5**	**-1.5**
0.9nm,0.3s,baz=117,slow=4.5,SNR=4.0							
CPUP	**Villa Florida**	**58.52**	**92**	*e*P	**P**	**21 57 20.5**	**-1.0**
6.0nm,0.6s							
CPUP	**Villa Florida**	**58.52**	**92**	P	**P**	**21 57 20.3**	**-1.2**
0.5nm,0.3s,baz=162,slow=6.4,SNR=4.0							
CPUP				LR	LR	22 19 24.3	
comp=Z,183nm,18.2s,baz=29,slow=33							
LPAZ	**La Paz**	**60.29**	**75**	*e*P	**P**	**21 57 35.1**	**+0.5**
12nm,1.4s							
LPAZ	**La Paz**	**60.29**	**75**	P	**P**	**21 57 34.2**	**-0.4**
3.8nm,0.9s,baz=189,slow=3.7,SNR=13							
LPAZ				LR	LR	22 16 17.5	
comp=Z,68nm,21.8s,baz=226,slow=29							
STKA	**Stephens Creek**	**64.12**	**251**	LR	LR	22 20 31.3	
comp=Z,220nm,21.1s,baz=204,slow=31							
BDFB	**Brasilia**	**72.25**	**92**	LR	LR	22 26 36.5	
comp=Z,135nm,19.4s,baz=308,slow=33							
ASAR	**Alice Springs**	**74.76**	**251**	P	**P**	**21 59 04.8**	**-0.4**
ASAR	**Alice Springs**	**74.76**	**251**	P	**P**	**21 59 04.8**	**-0.4**
1.6nm,0.8s,baz=138,slow=5.4,SNR=13							
ASAR				LR	LR	22 27 36.2	
comp=Z,163nm,21.2s,baz=133,slow=32							
ROSC	**El Rosal**	**74.87**	**58**	LR	LR	22 25 32.8	
comp=Z,60nm,20.8s,baz=-2.8,slow=31							
WRA	**Warramunga Arr**	**77.52**	**253**	P	**P**	**21 59 20.5**	**-0.5**
WRA	**Warramunga Arr**	**77.52**	**253**	P	**P**	**21 59 20.5**	**-0.5**
1.5nm,0.8s,baz=144,slow=5.2,SNR=8.4							
PMG	**Port Moresby**	**78.76**	**270**	LR	LR	22 29 46.6	
comp=Z,83nm,18.2s,baz=150,slow=32							
TXAR	**Lajitas Array**	**86.93**	**22**	P	**P**	**22 00 10.8**	**+0.9**
TXAR	**Lajitas Array**	**86.93**	**22**	P	**P**	**22 00 10.8**	**+0.9**
0.6nm,0.9s,baz=195,slow=9.0,SNR=3.9							
NVAR	**Mina Array Bea**	**93.66**	**8**	LR	LR	22 33 47.1	
comp=Z,107nm,19.5s,baz=139,slow=30							
BOSA	**Boshof**	**93.73**	**158**	LR	LR	22 40 05.7	
comp=Z,140nm,19.4s,baz=152,slow=34							
YBH	**Yreka Blue Hor**	**96.66**	**5**	LR	LR	22 33 52.9	
comp=Z,118nm,20.8s,baz=183,slow=29							
PDAR	**Pinedale Array**	**98.95**	**14**	LR	LR	22 37 41.6	
comp=Z,67nm,19.5s,baz=90,slow=30							
ILAR	**Eielson Array**	**120.36**	**351**	PKP	**PKPdf**	**22 06 16.0**	**+1.0**
ILAR	**Eielson Array**	**120.36**	**351**	PKP	**PKPdf**	**22 06 16.0**	**+1.0**
0.5nm,0.7s,baz=196,slow=1.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**123.41**	**118**	PKP	**PKPdf**	**22 06 22.4**	**0.0**
TORD	**Torodi Ar. Bea**	**123.41**	**118**	PKP	**PKPdf**	**22 06 22.4**	**0.0**
0.3nm,0.9s,baz=203,slow=1.4,SNR=3.4							
SONM	**Songino Array**	**145.49**	**281**	PKPbc	**PKPab**	**22 07 02.9**	**0.0**
SONM	**Songino Array**	**145.49**	**281**	PKPbc	**PKPab**	**22 07 02.9**	**0.0**
1.3nm,0.8s,baz=145,slow=3.9,SNR=11							
KEST	**Kesra**	**145.66**	**107**	PKPbc	**PKPab**	**22 07 04.6**	**+0.8**
KEST	**Kesra**	**145.66**	**107**	PKPbc	**PKPab**	**22 07 04.6**	**+0.8**
1.5nm,0.8s,baz=139,slow=9.3,SNR=3.5							
MKAR	**Makanchi Array**	**158.68**	**260**	PKPab	**PKPab**	**22 07 57.9**	**+0.3**
MKAR	**Makanchi Array**	**158.68**	**260**	PKPab	**PKPab**	**22 07 57.9**	**+0.3**
0.3nm,0.7s,baz=140,slow=4.7,SNR=2.9							
ZALV	**Zalesovo Beam**	**160.38**	**281**	PKPab	**PKPab**	**22 08 05.0**	**+0.2**
ZALV	**Zalesovo Beam**	**160.38**	**281**	PKPab	**PKPab**	**22 08 05.0**	**+0.2**
0.3nm,0.5s,baz=118,slow=5.2,SNR=2.5							
BRTR	**Keskin Array B**	**160.75**	**136**	PKPab	**PKPab**	**22 08 07.0**	**+0.1**
BRTR	**Keskin Array B**	**160.75**	**136**	PKPab	**PKPab**	**22 08 07.0**	**+0.1**
0.4nm,0.6s,baz=208,slow=2.8,SNR=2.6							

IDC 04 22:07:15.8±3.9,30.°38N×141.°26E,h0km,mb3.5/6, mb1 3.6/7,mb1mx3.5/23,mbtmp3.5/7,ML3.5/1,Error ellipse: s-maj=163.8km s-min=20.7km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.65**	**338**	Pn	Pn	22 08 54.6	-0.2
1.0nm,0.3s,baz=153,slow=10,SNR=7.0							
MJAR				Sn	Sn	22 10 04.5	-6.8
0.2nm,0.3s,baz=145,slow=22,SNR=3.0							
SONM	**Songino Array**	**31.83**	**313**	P	P	22 13 42.2	-0.2
0.3nm,0.7s,baz=109,slow=7.0,SNR=3.2							
ZALV	**Zalesovo Beam**	**46.50**	**317**	P	P	22 15 46.4	+1.8
0.4nm,0.4s,baz=99,slow=9.5,SNR=2.7							
MKAR	**Makanchi Array**	**47.80**	**307**	P	P	22 15 54.1	-0.8
0.4nm,0.6s,baz=83,slow=9.0,SNR=7.7							
WRA	**Warramunga Arr**	**50.47**	**188**	P	P	22 16 15.6	+0.1
0.4nm,0.3s,baz=7.2,slow=7.7,SNR=5.3							
ASAR	**Alice Springs**	**54.20**	**188**	P	P	22 16 43.3	0.0
0.2nm,0.5s,baz=5.3,slow=5.4,SNR=2.7							
BRTR	**Keskin Array B**	**83.19**	**312**	P	P	22 19 43.0	-1.2
0.2nm,0.5s,baz=14,slow=7.4,SNR=2.6							

GUC 04 22:07:45.4±0.8,32.°65S×71.°48W,h41km±6km,MD3.5, ML2.9,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.51**	**129**	‖*i*P	Pn	22 07 57.3	+0.7
ROCH				*i*S	Sn	22 08 05.3	+0.8
ROCH				AML	AML	22 08 06.3	
comp=E,485nm,0.2s							
JACH	**Jahuel**	**0.75**	**93**	*e*P	Pn	22 08 00.0	+0.3
JACH				*e*S	Sn	22 08 11.3	+1.3
PEL	**Peldehue**	**0.83**	**126**	*e*P	Pn	22 08 00.9	+0.1
PEL				*e*S	Sn	22 08 13.3	+1.4
PEL				AML	AML	22 08 16.2	
comp=N,569nm,0.6s							
PCH	**Pirque**	**1.26**	**140**	*e*P	Pn	22 08 07.8	+1.1
CMCH	**Combarbala**	**1.53**	**16**	*e*P	Pn	22 08 11.5	+1.1
CMCH				*e*S	Sn	22 08 31.3	+2.2
CMCH				AML	AML	22 08 34.8	
comp=N,786nm,0.4s							
CACH	**El Canelo**	**1.64**	**153**	*e*P	Pn	22 08 12.7	+0.8
TLL	**Tololo Astrono**	**2.54**	**13**	*e*P	Pn	22 08 29.8	+5.3
TLL				*e*S	Sn	22 09 00.1	+5.6
TLL				AML	AML	22 09 13.2	
comp=E,63nm,0.6s							
LCO	**Las Campanas**	**3.69**	**11**	*e*P	Pn	22 08 41.5	+1.1
LCO				AML	AML	22 09 41.8	
comp=E,18nm,0.1s							

IDC 04 22:10:56.0±2.2,6.°75S×129.°87E,h0km,mb3.4/1, mb1 3.5/4,mb1mx3.3/20,mbtmp3.3/4,ML3.3/3,Error ellipse: s-maj=97.1km s-min=27.8km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.01**	**200**	Pn	Pn	22 13 48.7	0.0
0.1nm,0.3s,baz=17,slow=13,SNR=8.0							
FITZ				Sn	Sn	22 15 48.4	-15
0.1nm,0.3s,baz=356,slow=19,SNR=3.3							
WRA	**Warramunga Arr**	**13.81**	**162**	Pn	Pn	22 14 13.6	+0.3
0.2nm,0.3s,baz=345,slow=13,SNR=17							
WRA				Sn	Sn	22 16 36.9	-11
0.2nm,0.3s,baz=336,slow=22,SNR=5.1							
ASAR	**Alice Springs**	**17.26**	**167**	P	Pn	22 14 58.4	-0.3
0.1nm,0.3s,baz=342,slow=9.2,SNR=5.2							
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	22 21 56.8	0.0
0.2nm,0.4s,baz=111,slow=6.9,SNR=3.3							

IDC 04 22:29:25.9±7.7,30.°36S×178.°26W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/17,mbtmp3.4/2,Error ellipse: s-maj=320.0km s-min=60.5km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.89**	**267**	P	P	22 37 26.1	-0.3
0.1nm,0.3s,baz=104,slow=7.7,SNR=4.2							
WRA	**Warramunga Arr**	**43.87**	**272**	P	P	22 37 34.3	-0.1
0.4nm,0.3s,baz=110,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	PKPbc	22 49 03.2	-0.6
0.5nm,0.5s,baz=52,slow=2.3,SNR=4.0							

---

*BKK **04** 22:32:39.9±1.6,2.°N±10.°×9.°5E±1.°6,h10km,M4.6/11, mB5.0/1,mb4.5/11,MLv4.6/2,Mw(mB)4.3/1*
*IDC **04** 22:32:42.0±0.7,2.°31N×96.°15E,h0km,mb4.4/17, mb1 4.5/19,mb1mx4.3/28,mbtmp4.4/19,ML4.2/2,MS3.9/13, Ms1 3.9/13,ms1mx3.6/38,Error ellipse: s-maj=25.3km s-min=13.7km az=43.0*
*AUST **04** 22:32:43.8,2.°48N×95.°99E,h5km*
*MOS **04** 22:32:45.7±0.9,2.°39N×96.°24E,h33km,mb4.9/17,Error ellipse: s-maj=11.2km s-min=5.9km az=110.0*
*BJI **04** 22:32:47.0,2.°40N×96.°30E,h40km,mB5.0/24,mb4.7/40, Ms4.5/29,Ms7 4.2/28*
*ISCJB **04** 22:32:47.0±0.6,2.°39N±0.°03×96.°24E±0.°03,h44km±5km, mb4.6/62,MS4.1/27,Error ellipse: s-maj=6.3km s-min=4.7km az=43.0*
*NEIC **04** 22:32:49.4±0.9,2.°43N×96.°31E,h49km±8km,mb4.6/14, Error ellipse: s-maj=8.8km s-min=4.6km az=58.0*
*DJA **04** 22:32:57.1±1.0,2.°N±4.°×9.°7E±1.°1,h15km,M4.6/6,mb4.9/2, MLv4.5/6*

ISC 04 22:32:48.4±0.4,2.°43N±0.°04×96.°19E±0.°05,h40km±2km, h40km:pP-P,n205,σ1s32/246,mb4.6/63,MS4.1/27,8C-12D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.78**	**129**	S	Sn	22 33 46.0	+7.9
baz=2.0,SNR=6.6							
KCSI	**Kotacane, Aceh**	**1.91**	**55**	P	**Pn**	**22 33 19.1**	**+0.6**
TSI	**Tuntungan**	**2.60**	**66**	P	**Pn**	**22 33 29.1**	**+1.2**
PSI	**Prapat**	**2.75**	**82**	Pn	**Pn**	**22 33 29.6**	**-0.5**
PSI	**Prapat**	**2.75**	**82**	Pn	**Pn**	**22 33 29.6**	**-0.5**
8.7nm,0.3s,baz=277,slow=6.4,SNR=33							
PSI				LR	LR	22 34 49.0	
comp=Z,1μm,18.1s,baz=295,slow=46							
PSI	**Prapat**	**2.75**	**82**	P	**Pn**	**22 33 29.7**	**-0.5**
baz=2.9,SNR=9.6							
LHMI	**Lhok Sumawe**	**2.88**	**15**	P	Pn	22 33 43.4	+12
LHMI	**Lhok Sumawe**	**2.88**	**15**	P	**Pn**	**22 33 32.7**	**+0.9**
baz=2.9,SNR=18							
CMBY	**CAMPBELL BAY**	**5.08**	**334**	*e*P	**Pn**	**22 34 00.8**	**-1.2**
CMBY				AMB	AMB	22 34 12.0	
comp=Z,128nm,1.5s							
PPI	**Padang Panjang**	**5.09**	**124**	P	**Pn**	**22 34 02.2**	**0.0**
PPI	**Padang Panjang**	**5.09**	**124**	P	**Pn**	**22 34 02.5**	**+0.3**
baz=5.3,SNR=8.1							
IPM	**Ipoh**	**5.24**	**67**	*e*Pn	**Pn**	**22 34 04.2**	**0.0**
IPM				*e*Sn	**Sn**	**22 35 04.1**	**+0.7**
IPM	**Ipoh**	**5.24**	**67**	P	**Pn**	**22 34 04.3**	**0.0**
IPM	**Ipoh**	**5.24**	**67**	P	**Pn**	**22 34 03.4**	**-0.8**
KULM	**Kulim**	**5.28**	**57**	*e*Pn	**Pn**	**22 34 04.5**	**-0.3**
KULM				*e*Sn	**Sn**	**22 35 03.8**	**-0.6**
KULM	**Kulim**	**5.28**	**57**	P	**Pn**	**22 34 04.9**	**+0.1**
KULM	**Kulim**	**5.28**	**57**	P	**Pn**	**22 34 04.5**	**-0.3**
FRIM	**Kepong**	**5.49**	**81**	P	**Pn**	**22 34 07.2**	**-0.4**
KGM	**Kluang**	**7.13**	**93**	P	**Pn**	**22 34 30.6**	**+0.4**
KTGM	**Kuala Trenggan**	**7.50**	**67**	P	**Pn**	**22 34 35.0**	**-0.3**
MYKOM	**Kota Tinggi**	**7.68**	**95**	P	**Pn**	**22 34 37.6**	**-0.1**
KSI	**Kapahiang**	**8.80**	**133**	P	**Pn**	**22 34 53.2**	**0.0**
comp=Z,195nm,0.9s							
PBA	**Port Blair**	**9.78**	**340**	*e*P	Pn	22 35 02.7	-3.9
PBA				AMB	AMB	22 35 16.2	
comp=Z,105nm,2.8s							
KLSI		**11.08**	**130**	P	**Pn**	**22 35 21.7**	**-2.7**
DGPR	**DIGLIPUR**	**11.15**	**343**	*e*P	**Pn**	**22 35 25.6**	**+0.2**
DGPR				AMB	AMB	22 35 42.4	
comp=Z,115nm,2.9s							
KSM	**Kuching**	**14.14**	**94**	*e*Pn	**Pn**	**22 36 06.1**	**-0.2**
KSM	**Kuching**	**14.14**	**94**	P	**Pn**	**22 36 06.3**	**+0.1**
KSM	**Kuching**	**14.14**	**94**	P	**Pn**	**22 36 06.8**	**+0.6**
baz=14,SNR=3.4							
COCO	**West Island**	**14.54**	**177**	*e*P	**Pn**	**22 36 11.4**	**-0.2**
COCO	**West Island**	**14.54**	**177**	*e*Pn	**Pn**	**22 36 11.4**	**-0.2**
PBKT	**Sadao Pong**	**14.82**	**18**	P	**P**	**22 36 20.1**	**-0.4**
comp=Z,20nm,1.3s							
UBPT	**Khong Chiam**	**15.71**	**35**	P	**P**	**22 36 30.9**	**+0.5**
comp=Z,40nm,1.4s							
LOEI	**Loei**	**15.79**	**18**	P	**P**	**22 36 32.6**	**+1.2**
comp=Z,126nm,1.3s							
SBUM	**Sibu**	**16.01**	**90**	P	**Pn**	**22 36 31.4**	**+0.5**
CM31	**Chiang Mai Arr**	**16.16**	**9**	*e*Pn	**Pn**	**22 36 33.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.16**	**9**	Pn	**Pn**	**22 36 33.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.16**	**9**	Pn	**Pn**	**22 36 33.6**	**+1.0**
comp=Z,0.9nm,0.3s,baz=197,slow=11,SNR=32							
CMAR				LR	LR	22 43 32.2	
comp=Z,617nm,18.4s,baz=194,slow=40							
LAMP	**Lampang**	**16.34**	**12**	P	**P**	**22 36 37.9**	**+0.4**
comp=Z,4.1nm,1.0s							
CHTO	**Chiang Mai**	**16.50**	**9**	*e*P	**Pn**	**22 36 35.8**	**-1.3**
CHTO				pmax	pmax		
comp=Z,38nm,1.8s							
CHTO	**Chiang Mai**	**16.50**	**9**	*e*Pn	**Pn**	**22 36 35.8**	**-1.3**
comp=Z,38nm,1.8s							
PANO	**Nakornpanom**	**16.80**	**29**	P	**P**	**22 36 43.1**	**+0.5**
comp=Z,66nm,1.8s							
BTM	**Bintulu**	**16.89**	**87**	P	**Pn**	**22 36 42.2**	**+0.2**
VIS	**Vishakhapatnam**	**19.76**	**321**	*e*P	**Pn**	**22 37 16.3**	**-0.5**
VIS				AMB	AMB	22 37 45.5	
comp=Z,26nm,0.0s							
KKM	**Kota Kinabalu**	**20.29**	**79**	*e*Pn	**P**	**22 37 20.0**	**-1.1**
comp=Z,41nm,1.0s							
KKM	**Kota Kinabalu**	**20.29**	**79**	P	**P**	**22 37 21.5**	**+0.5**
KDM	**Kudat**	**21.04**	**77**	P	**P**	**22 37 33.3**	**+4.2**
SDKM	**Sandakan**	**21.19**	**81**	P	**P**	**22 37 31.2**	**+0.4**
QIZ	**Qiongzhong**	**21.23**	**38**	P	**P**	**22 37 31.4**	**+0.3**
QIZ				pP	**pP**	**22 37 41.4**	**+0.3**
QIZ				sP	**sP**	**22 37 47.9**	**+1.7**
QIZ				S	**S**	**22 41 24.8**	**-0.3**
QIZ				pmax	pmax		
comp=Z,13nm,1.4s							
QIZ				pmax	pmax		
comp=Z,240nm,4.8s							
QIZ				LR	LR		
comp=N,930nm,15.9s							
QIZ				LR	LR		
comp=Z,830nm,14.2s							
TSM	**Tawau**	**21.72**	**85**	P	**P**	**22 37 37.5**	**+1.1**
MYLDM	**Lahad Datu**	**22.42**	**82**	P	**P**	**22 37 45.3**	**+1.3**
HYB	**Hyderabad**	**22.84**	**312**	*i* P	**P**	**22 37 48.0**	**-0.4**
SHL	**Shillong**	**23.37**	**350**	*e*P	**P**	**22 37 52.0**	**-1.8**
SHL	**Shillong**	**23.37**	**350**	*e*P	**P**	**22 37 53.0**	**-0.8**
KMI	**Kunming**	**23.43**	**15**	P	**P**	**22 37 55.5**	**+1.1**
KMI				pP	**pP**	**22 38 04.9**	**+0.1**
KMI				sP	**sP**	**22 38 09.1**	**-0.7**
KMI				S	**S**	**22 42 06.9**	**+1.7**
KMI				pmax	pmax		
comp=Z,15nm,1.2s							
KMI				LR	LR		
comp=N,510nm,12.5s							
KMI				LR	LR		
comp=E,310nm,14.4s							
KMI				LR	LR		
comp=Z,530nm,11.6s							
BOK	**Bokaro**	**23.46**	**336**	*e*P	**P**	**22 37 55.2**	**+0.7**
BOK				AMB	AMB	22 37 58.0	
comp=Z,111nm,2.0s							
KAPI	**Kappang**	**24.67**	**107**	*e*P	**P**	**22 38 04.7**	**-1.1**
comp=Z,35nm,1.1s							
KAPI	**Kappang**	**24.67**	**107**	P	**P**	**22 38 04.6**	**-1.1**
comp=Z,19nm,1.0s,baz=297,slow=13,SNR=6.1							
NGP	**Nagpur**	**25.00**	**319**	*e*x	P	22 38 03.7	-5.0
NGP				AMB	AMB	22 38 32.7	
comp=Z,18nm,1.3s							
GOA	**Goa**	**25.58**	**302**	*e*P	**P**	**22 38 15.4**	**+1.4**
GOA				AMB	AMB	22 38 15.8	
comp=Z,33nm,2.8s							
ODAN	**Odare**	**25.72**	**342**	*e*P	**P**	**22 38 16.3**	**+0.9**
comp=Z,85nm,1.0s							
GYA	**Guiyang**	**25.92**	**22**	*e*P	**P**	**22 38 19.0**	**+1.9**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
RAMN	**Ramite**	**26.06**	**340**	*e*P	**P**	**22 38 19.8**	**+1.3**
TAPN	**Taplejung**	**26.08**	**343**	*e*P	**P**	**22 38 20.1**	**+1.4**
comp=Z,118nm,1.1s							
LUWI	**Luwuk**	**26.80**	**97**	P	**P**	**22 38 28.9**	**+3.9**
baz=27,SNR=4.0							
JIRN	**Jiri**	**26.85**	**340**	*e*P	**P**	**22 38 26.9**	**+1.1**
comp=Z,92nm,0.9s							
PKI	**Pulchoki**	**27.05**	**339**	*e*P	**P**	**22 38 28.3**	**+0.8**
comp=Z,40nm,0.9s							
PKIN	**Phulchoki**	**27.05**	**339**	*e*P	**P**	**22 38 27.9**	**+0.4**
POO	**Poona**	**27.11**	**308**	*e*P	**P**	**22 38 28.4**	**+0.5**
POO				AMB	AMB	22 38 32.2	
comp=Z,42nm,2.9s							
GUN	**Gumba**	**27.19**	**340**	*e*P	**P**	**22 38 29.5**	**+0.7**
comp=Z,79nm,0.8s							
DMN	**Daman**	**27.19**	**338**	*e*P	**P**	**22 38 29.7**	**+1.0**
comp=Z,47nm,1.0s							
KKN	**Kakani**	**27.29**	**339**	*e*P	**P**	**22 38 30.1**	**+0.5**
comp=Z,46nm,0.9s							
LSA	**Lhasa**	**27.54**	**350**	P	**P**	**22 38 32.0**	**-0.1**
BHPL	**Bhopal**	**27.54**	**320

comp=Z,160nm,12.4s
GTA Gaotai 36.95 5 ⇑P P 22 39 53.7 -0.2
GTA pP **pP 22 40 03.4 -1.7**
GTA sP **sP 22 40 07.3 -2.5**
GTA S **S 22 45 36.2 -0.4**
GTA sS **sS 22 45 52.6 -2.5**
GTA SS **SnSn 22 48 05.9 -6.0**
GTA pmax pmax
comp=Z,24nm,1.3s
GTA pmax pmax
comp=Z,46nm,4.7s
GTA LR LR
comp=N,220nm,15.4s
GTA LR LR
comp=E,130nm,17.3s
GTA LR LR
comp=Z,270nm,15.2s
KDU Kakadu 39.03 114 S S 22 46 00.2 -8.1
baz=39,SNR=5.0
NWAO Narrogin (SRO) 40.41 152 *e*P **P 22 40 22.7 -0.1**
comp=Z,108nm,2.1s
HHC Hu-ho-hao-te 40.69 18 ⇑P P 22 40 26.4 +1.2
HHC pP **pP 22 40 37.4 +1.0**
HHC sP **sP 22 40 43.4 +2.2**
HHC PP **PnPn 22 42 03.1 -0.6**
HHC PcP **PcP 22 42 28.0 +1.7**
HHC ScP **ScP 22 46 11.6 -1.3**
HHC S **S 22 46 34.2 +1.4**
HHC sS **sS 22 46 53.2 +1.8**
HHC SS **SS 22 49 31.4 -3.0**
HHC ScS **ScS 22 50 26.1 -1.5**
HHC pmax pmax
comp=Z,270nm,7.1s
HHC LR LR
comp=N,840nm,15.5s
HHC LR LR
comp=E,980nm,14.3s
HHC LR LR
comp=Z,570nm,15.5s
KBL Kabul 40.74 325 *e*P **P 22 40 26.3 +0.5**
KBL Kabul 40.74 325 *e*P **P 22 40 26.3 +0.5**
KSH Kashi 41.24 336 *e*P **P 22 40 28.9 -0.9**
KSH sP **sP 22 40 43.6 -2.2**
KSH PP **PnPn 22 42 08.1 -2.2**
KSH S **S 22 46 36.2 -4.9**
KSH SS SS 22 49 35.3 -10
KSH pmax pmax
comp=Z,2.0nm,1.1s
KSH pmax pmax
comp=Z,33nm,4.7s
KSH LR LR
comp=N,52nm,4.7s
KSH LR LR
comp=E,90nm,4.7s
KSH LR LR
comp=Z,35nm,5.0s
BJI Beijing 41.60 23 P **P 22 40 33.0 +0.5**
BJI pmax pmax
comp=Z,46nm,0.7s
BJI LR LR
comp=N,260nm,16.6s
BJI LR LR
comp=E,260nm,16.6s
BJI LR LR
comp=Z,77nm,21.9s
WMQ Urumqi 41.90 351 *e*P **P 22 40 35.5 +0.5**
WMQ PcP **PcP 22 42 31.1 +0.9**
WMQ S **S 22 46 50.2 -0.4**
WMQ sS **sS 22 47 10.6 +1.3**
WMQ ScS **ScS 22 50 30.5 -4.2**
WMQ pmax pmax
comp=Z,9.0nm,1.0s
WMQ pmax pmax
comp=Z,26nm,3.0s
WMQ LR LR
comp=N,130nm,22.0s
WMQ LR LR
comp=E,68nm,28.0s
WMQ LR LR
comp=Z,150nm,21.0s
WRA Warramunga Arr 43.54 122 P **P 22 40 47.4 -1.2**
WRA Warramunga Arr 43.54 122 P **P 22 40 47.4 -1.2**
comp=Z,5.1nm,0.9s,baz=301,slow=9.0,SNR=16
WRAB Tennant Creek 43.54 122 *e*P **P 22 40 47.7 -1.0**
WRAB pmax pmax
comp=Z,13nm,1.2s
WRAB Tennant Creek 43.54 122 *e*P **P 22 40 47.7 -1.0**
comp=Z,13nm,1.2s
TKM2 Tokmak 2 44.31 338 *e*P **P 22 40 55.7 +1.0**
TKM2 pmax pmax
comp=Z,11nm,1.1s
TKM2 Tokmak 2 44.31 338 P **P 22 40 55.8 +1.0**
SNR=11
TKM2 Tokmak 2 44.31 338 *e*P **P 22 40 55.7 +1.0**
comp=Z,11nm,1.1s
KBK Karagaybulak 44.33 338 *i*P **P 22 40 56.5 +1.7**
KBK Karagaybulak 44.33 338 P **P 22 40 56.5 +1.7**
SNR=10
AML Almayashu 44.38 336 *i*P **P 22 40 57.1 +1.6**
AML Almayashu 44.38 336 P **P 22 40 57.1 +1.6**
SNR=8.9
AAK Ala-Archa 44.48 337 *de*P **P 22 40 57.8 +1.8**
AAK pmax pmax
comp=Z,22nm,1.4s
AAK Ala-Archa 44.48 337 *e*P **P 22 40 56.7 +0.7**
comp=Z,8.9nm,1.1s
EKS2 Erkin-Say 44.79 336 *e*P **P 22 41 00.4 +2.0**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 44.79 336 P **P 22 41 00.5 +2.0**
SNR=5.6
EKS2 Erkin-Say 44.79 336 *e*P **P 22 41 00.3 +2.0**
comp=Z,5.4nm,0.9s
FORT Forrest 44.86 140 *e*P **P 22 40 59.9 +0.9**
comp=Z,301nm,2.9s
ASAR Alice Springs 44.94 127 P **P 22 40 58.9 -0.9**
ASAR PcP **PcP 22 42 40.6 -0.2**
ASAR Alice Springs 44.94 127 P **P 22 40 58.9 -0.9**
comp=Z,0.2nm,0.4s,baz=300,slow=7.9,SNR=4.7
ASAR PcP **PcP 22 42 40.6 -0.2**
comp=Z,0.5nm,0.7s,baz=299,slow=4.1,SNR=3.1
ASAR LR LR 23 01 12.9
comp=Z,157nm,20.4s,baz=165,slow=38
USP Ospenovka 45.02 338 *i*P **P 22 41 01.3 +1.2**
USP Ospenovka 45.02 338 P **P 22 41 01.3 +1.2**
SNR=14
KSAR Wonju Array Be 45.40 36 P **P 22 41 02.8 -0.4**
KSRS Korea Array 45.43 36 P **P 22 41 02.8 -0.6**
comp=Z,2.4nm,1.0s,baz=223,slow=8.8,SNR=9.3
KSRS LR LR 23 01 11.9
comp=Z,174nm,19.6s,baz=22,slow=38
MK31 Makanchi Array 45.82 347 *i*P **P 22 41 05.4 -1.0**
MK31 pmax pmax
comp=Z,9.0nm,0.4s
MK31 Makanchi Array 45.82 347 *e*P **P 22 41 06.5 +0.1**
MKAR Makanchi Array 45.82 347 *e*P **P 22 41 06.9 +0.5**
MKAR Makanchi Array 45.82 347 *e*P **P 22 41 06.9 +0.5**
MKAR Makanchi Array 45.82 347 P **P 22 41 06.8 +0.4**
comp=Z,15nm,0.7s,baz=160,slow=8.0,SNR=122
MKAR LR LR 23 05 06.4
comp=Z,64nm,20.1s,baz=166,slow=42
SONM Songino Array 46.08 10 P **P 22 41 08.7 +0.1**
SONM PcP **PcP 22 42 44.7 +0.3**
SONM Songino Array 46.08 10 P **P 22 41 08.7 +0.1**
comp=Z,5.2nm,0.5s,baz=190,slow=9.6,SNR=35
SONM PcP **PcP 22 42 44.7 +0.3**
comp=Z,1.6nm,0.8s,baz=186,slow=4.5,SNR=4.2
SONM LR LR 23 02 44.1
comp=Z,368nm,19.2s,baz=189,slow=39
KK31 Karatay Array 46.52 334 *ce*P **P 22 41 12.5 +0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 46.52 334 *e*P **P 22 41 12.9 +0.9**
KKAR Karatay Array 46.52 334 *e*P **P 22 41 12.9 +0.9**
ZAK Zakamensk 48.16 6 *e*P **P 22 41 23.8 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
HVS Khovu-Aksy 48.58 358⇓ *i*P **P 22 41 28.0 +0.1**
HVS pmax pmax
comp=Z,40nm,1.7s
CN2 Changchun 48.69 28 *e*P **P 22 41 27.7 -1.0**
CN2 *ep*P **pP 22 41 37.6 -2.6**
CN2 *es*P **sP 22 41 41.6 -3.3**
CN2 *e*S **S 22 48 27.9 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,300nm,12.0s
CN2 LR LR
comp=Z,300nm,14.0s
COEN Coen 49.33 111 *e*P **P 22 41 33.5 -0.7**
TLY Talaya 49.48 6 *e*P **P 22 41 37.1 +2.4**
TLY pmax pmax
comp=Z,3.0nm,0.4s
TLY MLR MLR
comp=Z,2μm,21.0s
MDJ Mudanjiang 51.30 30 P **P 22 41 49.1 +0.5**
MDJ pP **pP 22 42 00.6 +0.5**
MDJ sP **sP 22 42 05.6 +0.8**
MDJ S **S 22 49 01.3 -3.6**
MDJ sS **sS 22 49 25.7 +1.7**
MDJ SS **SS 22 52 40.7 -0.3**
MDJ pmax pmax
comp=Z,7.0nm,1.3s
MDJ pmax pmax
comp=Z,110nm,4.8s
MDJ LR LR
comp=N,170nm,12.2s
MDJ LR LR
comp=E,130nm,14.9s
MDJ LR LR
comp=Z,210nm,12.7s
PMG Port Moresby 52.12 104 *e*P **P 22 41 55.0 -0.1**
ZALV Zalesovo Beam 52.20 352 P **P 22 41 55.2 +0.1**
ZALV Zalesovo Beam 52.20 352 P **P 22 41 55.2 +0.1**
ZALV Zalesovo Beam 52.20 352 P **P 22 41 55.2 +0.1**
comp=Z,12nm,0.4s,baz=174,slow=6.0,SNR=79
USRK Ussuriysk Arra 52.26 32 P **P 22 41 55.0 -0.7**
comp=Z,4.3nm,0.9s,baz=231,slow=5.7,SNR=13
RAYN Ar Rayn 53.29 298 *e*P **P 22 42 05.3 +1.5**
comp=Z,4.9nm,1.0s
NVS Novosibirsk 53.30 351 *e*P **P 22 42 02.8 -0.4**
NVS pmax pmax
comp=E,9.0nm,1.1s
NVS pmax pmax
comp=Z,18nm,1.1s
NVS pmax pmax
comp=N,10.0nm,1.0s
KRAR Krasnoyarsk 53.49 358 *d i*P **P 22 42 06.0 +1.5**
KRAR pmax pmax
comp=Z,58nm,1.3s
CTAO Charters Tower 53.95 117 *e*P **P 22 42 08.2 -0.5**
CTAO Charters Tower 53.95 117 *e*P **P 22 42 08.2 -0.5**
BVAR Borovoye Array 54.77 341 P **P 22 42 13.9 -0.1**
BVAR Borovoye Array 54.77 341 P **P 22 42 13.9 -0.1**
BVAR Borovoye Array 54.77 341 P **P 22 42 13.9 -0.1**
comp=Z,6.1nm,0.8s,baz=142,slow=7.5,SNR=27
BRVK Borovoye 54.83 341 *ce*P **P 22 42 14.4 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 54.83 341 *e*P **P 22 42 14.8 +0.4**
comp=Z,7.6nm,1.1s
STKA Stephens Creek 54.92 132 *e*P **P 22 42 15.2 -0.3**
STKA Stephens Creek 54.92 132 P **P 22 42 14.3 -1.1**
comp=Z,3.1nm,1.0s,baz=303,slow=8.3,SNR=4.6
STKA LR LR 23 07 43.2
comp=Z,195nm,18.1s,baz=286,slow=38
STKA Stephens Creek 54.92 132 P P 22 42 22.0 +6.5
baz=55,SNR=4.3
AB31 Akbulak array 55.96 332 *i*P **P 22 42 22.4 -0.2**
AB31 pmax pmax
comp=Z,13nm,1.1s
ABKAR Akbulak array 55.96 332 *e*P **P 22 42 22.9 +0.2**
CMSA Cobar Meteorol 57.85 130 P **P 22 42 36.6 +0.3**
baz=58,SNR=7.5
KMBO Kilima Mbogo 59.03 267 *e*P **P 22 42 46.3 +1.1**
YSS Yuzh-Sakhalins 59.92 35 *i*P **P 22 42 51.1 +0.7**
SVE Sverdlovsk 61.18 339⇑ *i*P **P 22 42 59.4 +0.6**
SVE pmax pmax
comp=Z,15nm,1.0s
ARU Arti 61.67 337 *c i*P **P 22 43 01.8 -0.3**
ARU 22 43 41.9
ARU PPP PPP 22 46 46.9
ARU S **S 22 51 25.1 +3.4**
ARU pmax pmax
comp=Z,15nm,1.7s
KBZ Khabaz 62.49 319 P **P 22 43 08.4 +0.5**
KBZ Khabaz 62.49 319 P **P 22 43 08.3 +0.5**
KBZ Khabaz 62.49 319 P **P 22 43 08.3 +0.5**
comp=Z,1.5nm,0.7s,baz=144,slow=5.4,SNR=5.0
KIV Kislovodsk 62.72 319 *e*P **P 22 43 10.1 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,43nm,17.0s
MALT Malatya 63.56 312 *e*P **P 22 43 16.0 +0.7**
MALT Malatya 63.56 312 *e*P **P 22 43 16.0 +0.7**
TAU Tasmania Unive 64.40 141 *e*P **P 22 43 20.0 -0.5**
TAU Tasmania Unive 64.40 141 *e*P **P 22 43 20.0 -0.5**
YAK Yakutsk 64.53 17 *e*P **P 22 43 20.5 -0.5**
YAK *e**PP **pP 22 43 29.8 -3.0**
YAK *e* 22 43 55.2
YAK *e*S **S 22 51 55.7 -1.6**
YAK *e* 22 53 16.5
YAK *e*SS **SS 22 56 08.3 0.0**
YAK *e*SSS SSS 22 59 02.4
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,13nm,1.2s
YAK smax smax
comp=E,60nm,2.3s
YAK smax smax
comp=N,76nm,2.4s
YAK MLR MLR
comp=Z,134nm,17.0s
YAK MLR MLR
comp=N,82nm,16.0s
YAK MLR MLR
comp=E,67nm,16.0s
SOKR Solikamsk 64.58 339 *e*P **P 22 43 21.9 +0.6**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
BR131 Keskin Array S 67.54 312 *e*P **P 22 43 41.6 +0.6**
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 67.54 312 P **P 22 43 40.4 -0.6**
BRTR Keskin Array B 67.54 312 P **P 22 43 40.4 -0.6**
comp=Z,1.0nm,0.7s,baz=134,slow=8.7,SNR=7.4
OBN Obninsk 71.05 328 *d i*P **P 22 44 01.0 -1.2**
OBN *e* 22 44 20.1
OBN *e* 22 46 41.7
OBN *i*S **S 22 53 16.6 +1.1**
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,19.0s
PETK Petropavlovsk- 71.28 34 LR LR 23 16 43.0
comp=Z,47nm,18.4s,baz=23,slow=37
PET Petropavlovsk 71.78 34⇓ *e*P **P 22 44 06.6 -0.1**
TIXI Tiksi 72.16 10⇓ *e*P **P 22 44 08.1 -0.5**
TIXI pmax pmax
comp=Z,16nm,1.7s
MAW Mawson 73.68 193 LR LR 23 08 47.8
comp=Z,48nm,19.4s,baz=104,slow=29
VRI Vrincioaia 74.04 317 ⇑P P 22 44 12.4 -7.8
VRI Vrincioaia 74.04 317 ⇑*i*P P 22 44 12.4 -7.8
TESR Tescani 74.24 318 ⇓*i*P P 22 44 17.2 -4.2
MLR Muntele Rosu 74.49 317 ⇓*i*P **P 22 44 23.7 +0.7**
BOSA Boshof 74.52 240 LR LR 23 16 20.7
comp=Z,107nm,18.1s,baz=353,slow=35
BURAR Bucovina Array 75.44 319 ⇓P **P 22 44 29.1 +0.7**
BURAR Bucovina Array 75.44 319 ⇓*i*P **P 22 44 29.1 +0.7**
BUR08 Bucovina Ar. S 75.46 319 *e*P **P 22 44 29.4 +0.8**
VSU Vasula 77.28 330⇓ *e*P **P 22 44 38.5 0.0**
VSU pmax pmax
comp=Z,19nm,1.0s
KWP Kalwaria Pacla 77.49 320 *e*P **P 22 44 40.7 +0.8**
KWP pmax pmax
comp=Z,9.0nm,1.1s
KWP Kalwaria Pacla 77.49 320 ⇓*i*P **P 22 44 40.9 +1.0**
KWP Kalwaria Pacla 77.49 320 *e*P **P 22 44 40.7 +0.8**
comp=Z,9.3nm,1.1s
KWP Kalwaria Pacla 77.49 320 *e*P **P 22 44 40.5 +0.6**
FINES FINESS Array B 78.45 333 P **P 22 44 45.0 0.0**
FINES FINESS Array B 78.45 333 P **P 22 44 45.0 0.0**
comp=Z,2.4nm,0.7s,baz=116,slow=8.7,SNR=13
ARCES ARCESS Array B 81.05 340 P **P 22 44 59.5 +0.6**
ARCES ARCESS Array B 81.05 340 P **P 22 44 59.5 +0.6**
comp=Z,1.5nm,0.5s,baz=95,slow=5.8,SNR=24
GERES GERESS Array B 83.23 319 P **P 22 45 11.8 +0.9**
GERES GERESS Array B 83.23 319 P **P 22 45 11.8 +0.9**
comp=Z,2.2nm,0.9s,baz=96,slow=6.0,SNR=16
NB2 NORSAR Subarra 85.45 331 P **P 22 45 21.7 -0.1**
comp=Z,3.2nm,1.0s,baz=90,slow=5.3
NOA NORSAR Array B 85.45 331 P **P 22 45 21.4 -0.4**
NOA NORSAR Array B 85.45 331 P **P 22 45 21.4 -0.4**
comp=Z,2.0nm,1.0s,baz=92,slow=5.6,SNR=5.7
NOA LR LR 23 27 50.5
comp=Z,56nm,20.0s,baz=325,slow=39
DAVOX Davos/Dischmat 85.71 317 LR LR 23 24 30.1
comp=Z,55nm,18.6s,baz=81,slow=36
VNDA Vanda 87.22 169 LR LR 23 22 53.7
comp=Z,81nm,18.6s,baz=190,slow=35
QSPA South Pole Qui 92.37 180 *e*P **P 22 45 55.4 +0.8**
TORD Torodi Ar. Bea 93.83 283 P **P 22 46 01.5 -0.8**
TORD Torodi Ar. Bea 93.83 283 P **P 22 46 01.5 -0.8**
comp=Z,0.5nm,0.9s,baz=72,slow=4.3,SNR=2.6
TXAR Lajitas Array 143.13 30 PKP PKPbc 22 52 16.1 +0.2
TXAR Lajitas Array 143.13 30 PKP PKPbc 22 52 16.1 +0.2
comp=Z,0.5nm,0.7s,baz=222,slow=1.7,SNR=6.1

JMA ***04*** *22:40:35.4, 36°.94N×139°.76E, h7km±1km, M3.3*
Broadband fault plane solution: P waves. NP1: φs29.00000°, δ58.00000°, λ98.00000°. NP2: φs193.00000°, δ32.00000°, λ77.00000°. Principal axes: T Plg75.0000°, Azm322.0000°; N Plg7.0000°, Azm205.0000°; P Plg13.0000°, Azm113.0000°;
JMA Felt II J1.
IDC ***04*** *22:40:39.0±2.7, 36°.35N×139°.61E, h0km, mb3.6/1, mb1 3.9/2, mb1mx3.2/25, mbtmp3.6/2, ML2.1/1 Error ellipse: s-maj=51.1km s-min=16.3km az=25.0*
ISC 04 22:40:35.6±1.0, 36°.95N±0°.04×139°.76E±0°.06, h8km±11km, n10, σ0s33/12, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.13**	**83**	⇓P	**Pg**	**22 40 38.5**	**0.0**
JSB				*e*S	**Sg**	**22 40 40.7**	**+0.2**
JFY	**Yanaizu**	**0.46**	**355**	⇓P	**Pg**	**22 40 44.6**	**+0.1**
JFY				*e*S	**Sg**	**22 40 50.5**	**0.0**
JAG	**Ashikaga**	**0.58**	**205**	⇑P	**Pg**	**22 40 46.4**	**-0.3**
JHK	**Hiroka**	**0.66**	**297**	⇓P	**Pg**	**22 40 48.4**	**+0.1**
JNS	**Sasagawa**	**0.93**	**338**	P	**Pb**	**22 40 53.3**	**-0.7**
JIZZ	**Izumozaki**	**1.01**	**305**	P	**Pn**	**22 40 56.3**	**+0.2**
MJAR	**Matsushiro Arr**	**1.31**	**252**	Pg	**Pn**	**22 41 00.1**	**-0.1**
	19nm,0.3s,baz=62,slow=11,SNR=148						
MJAR				Lg	Lg	22 41 16.0	
	5.5nm,0.3s,baz=77,slow=30,SNR=6.9						
MAT	**Matsushiro**	**1.31**	**252**	P	**Pb**	**22 41 00.6**	**+0.2**
MAT				S	**Sn**	**22 41 17.8**	**-0.1**
USRK	**Ussuriysk Arra**	**9.34**	**323**	Pn	Pn	22 43 00.7	+10
	0.2nm,0.3s,baz=134,slow=12,SNR=6.7						
WRA	**Warramunga Arr**	**56.82**	**186**	P	**P**	**22 50 20.8**	**+0.3**
	0.5nm,0.6s,baz=2.9,slow=7.5,SNR=3.2						

ISCJB ***04*** *22:53:14.9±0.8, 51°.5N±0°.2×177°.11W±0°.06, h62km±6km, mb3.7/7, Error ellipse: s-maj=25.4km s-min=4.3km az=170.7*
NEIC ***04*** *22:53:16.3, 51°.48N×177°.07W, h43km, ML3.9(AEIC), After AEIC.*
IDC ***04*** *22:53:17.0±3.5, 51°.71N×177°.31W, h69km±31km, mb3.4/7, mb1 3.8/9, mb1mx3.4/29, mbtmp3.4/9, ML3.2/2, MS3.1/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=33.7km s-min=15.1km az=170.0*
ISC 04 22:53:15.2±0.9, 51°.6N±0°.1×177°.12W±0°.04, h53km±7km, n41, σ0s89/48, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKV	**Kanaga Island**	**0.32**	**354**	P	**Pn**	**22 53 25.5**	**+0.6**
KIRH	**Kanaga Island**	**0.34**	**2**	P	**Pn**	**22 53 25.7**	**+0.7**
KICM	**Kanaga Island**	**0.36**	**352**	P	**Pn**	**22 53 25.9**	**+0.7**
KINC	**Kanaga Island**	**0.37**	**359**	P	**Pn**	**22 53 25.9**	**+0.6**
ADK	**Adak**	**0.42**	**40**	P	**Pn**	**22 53 25.8**	**0.0**
ADK				S	**Sn**	**22 53 33.9**	**+0.6**
TAPA	**Tanaga Point A**	**0.50**	**301**	P	**Pn**	**22 53 27.4**	**+0.7**
ADAG	**Mount Adagdak**	**0.53**	**37**	P	**Pn**	**22 53 27.8**	**+0.8**
ETKA	**Kagalaska Isla**	**0.54**	**55**	P	**Pn**	**22 53 27.2**	**+0.2**
TASE	**Tanaga Southea**	**0.64**	**296**	P	**Pn**	**22 53 29.2**	**+0.9**
TAFP	**Tanaga Falls P**	**0.64**	**303**	P	**Pn**	**22 53 28.9**	**+0.6**
TANO	**Tanaga North**	**0.72**	**300**	P	**Pn**	**22 53 30.3**	**+1.0**
GSCK	**Great Sitkin C**	**0.75**	**52**	P	**Pn**	**22 53 30.1**	**+0.5**
GSTD	**Great Sitkin T**	**0.78**	**50**	P	**Pn**	**22 53 30.5**	**+0.3**
GSTD				S	**Sn**	**22 53 41.8**	**+0.6**
GSMY	**Great Sitkin M**	**0.82**	**53**	P	**Pn**	**22 53 30.9**	**+0.3**
GSTR	**Great Sitkin T**	**0.85**	**50**	P	**Pn**	**22 53 31.8**	**+0.8**
GAEA	**Gareloi East**	**1.04**	**283**	P	**Pn**	**22 53 34.5**	**+1.0**
GALAA	**Gareloi Lava P**	**1.05**	**282**	P	**Pn**	**22 53 34.6**	**+1.0**
GANE	**Gareloi Northe**	**1.06**	**285**	P	**Pn**	**22 53 34.6**	**+0.8**
ATKA	**Atka Island**	**1.92**	**69**	P	**Pn**	**22 53 46.1**	**+0.7**
ATKA				S	**Sn**	**22 54 09.5**	**+1.1**
CEPE	**Semis' Perret**	**2.05**	**283**	P	**Pn**	**22 53 47.9**	**+0.7**
CETU	**Semis' Tuman**	**2.15**	**282**	P	**Pn**	**22 53 48.9**	**+0.4**
AMKA	**Amchitka**	**2.25**	**267**	P	**Pn**	**22 53 50.3**	**+0.4**
AMKA				S	**Sn**	**22 54 16.7**	**+0.3**
LSPA	**Little Sitkin**	**2.71**	**280**	P	**Pn**	**22 53 57.3**	**+1.1**
LSPA				S	**Sn**	**22 54 30.2**	**+2.4**
LSSE	**Little Sitkin**	**2.71**	**280**	P	**Pn**	**22 53 57.5**	**+1.3**
LSNW	**Little Sitkin**	**2.74**	**280**	P	**Pn**	**22 53 57.5**	**+0.8**
NIKH	**Nikolski High**	**5.27**	**71**	P	**Pn**	**22 54 31.5**	**+0.3**
FX1	**Attu Island--F**	**6.12**	**286**	P	**Pn**	**22 54 43.2**	**+0.2**
FX1	**Attu Island--F**	**6.12**	**286**	P	**Pn**	**22 54 42.5**	**-0.4**
	1.8nm,0.3s,baz=114,slow=10.0,SNR=33						
FX1				S	**Sn**	**22 55 49.9**	**-1.6**
	1.9nm,0.3s,baz=66,slow=20,SNR=3.8						
KDAK	**Kodiak Island**	**15.44**	**57**	P	**P**	**22 56 53.4**	**+0.5**
	2.2nm,0.3s,baz=267,slow=5.0,SNR=9.9						
PETK	**Petropavlovsk-**	**15.45**	**286**	P	**Pn**	**22 56 48.5**	**-1.0**
	0.1nm,0.3s,baz=74,slow=18,SNR=3.8						
ILAR	**Eielson Array**	**20.45**	**38**	P	Pn	22 57 51.8	+1.4
	0.2nm,0.3s,baz=221,slow=11,SNR=3.1						
ILAR				LR	LR	23 06 34.0	
	comp=Z,45nm,18.3s,baz=244,slow=39						
INK	**Inuvik**	**26.71**	**35**	P	**P**	**22 58 49.5**	**+0.5**
	0.5nm,0.3s,baz=252,slow=9.6,SNR=3.4						
NVAR	**Mina Array Bea**	**42.48**	**84**	P	**P**	**23 01 06.3**	**+1.1**
	0.5nm,0.5s,baz=283,slow=9.2,SNR=3.6						
PDAR	**Pinedale Array**	**45.25**	**73**	P	**P**	**23 01 27.9**	**+0.5**
	1.5nm,0.6s,baz=316,slow=3.5,SNR=15						
PDAR				pP	**pP**	**23 01 40.3**	**-1.1**
	2.0nm,0.8s,baz=312,slow=2.9,SNR=9.2						
TXAR	**Lajitas Array**	**57.59**	**83**	P	**P**	**23 03 00.0**	**+0.5**
	0.8nm,0.5s,baz=304,slow=5.0,SNR=13						
TXAR				pP	**pP**	**23 03 13.3**	**-0.7**
	0.6nm,0.8s,baz=298,slow=5.5,SNR=4.9						
MKAR	**Makanchi Array**	**60.74**	**309**	P	**P**	**23 03 19.6**	**-1.4**
	0.1nm,0.6s,baz=43,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**82.88**	**225**	P	**P**	**23 05 33.5**	**-0.4**
	0.5nm,0.6s,baz=35,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**86.34**	**224**	P	**P**	**23 05 51.7**	**+0.4**
	0.9nm,0.7s,baz=29,slow=5.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**115.56**	**1**	PKP	**PKPdf**	**23 11 49.9**	**-1.5**
	0.2nm,0.5s,baz=332,slow=2.0,SNR=3.2						
MAW	**Mawson**	**147.27**	**218**	PKPbc	**PKPbc**	**23 12 51.8**	**+0.7**
	1.9nm,0.7s,baz=97,slow=8.1,SNR=3.9						
BOSA	**Boshof**	**151.61**	**315**	PKPbc	**PKPbc**	**23 13 02.8**	**-0.5**
	3.2nm,1.1s,baz=201,slow=17,SNR=5.1						

TIF ***04*** *23:09:23.4, 42°.97N×45°.43E, h15km±2km*
CSEM ***04*** *23:09:24.3±0.2, 42°.87N×45°.52E, h2km, mb3.9, Error ellipse: s-maj=4.5km s-min=2.6km az=6.0*
MOS ***04*** *23:09:24.9±1.0, 42°.93N×45°.51E, h15km, mb3.9/1, Error ellipse: s-maj=10.6km s-min=5.7km az=24.5*
ISC 04 23:09:25.2±1.0, 42°.88N±0°.02×45°.52E±0°.01, h13km±8km, n63, σ1s50/110, 6C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.47**	**21**	⇑*i*PG	**Pg**	**23 09 33.0**	**-1.5**
GRO				*i*S	**Sb**	**23 09 41.4**	**-0.7**
GRO	**Groznyy**	**0.47**	**21**	*i*Pg	**Pg**	**23 09 33.0**	**-1.5**
GRO				*i*Sg	**Sb**	**23 09 41.4**	**-0.7**
SNJR	**Sundja**	**0.55**	**290**	⇑*i*PG	**Pg**	**23 09 35.3**	**-0.7**

SNJR			eS	Sn	23 09 46.4	-1.4
SNJR	**Sundja**	**0.55 290**	i Pg	**Pg**	23 09 35.3	-0.7
VLKR	**Vladikavkaz**	**0.64 285**	ePG	**Pg**	23 09 36.8	-0.8
VLKR			eS	Sn	23 09 49.1	-0.8
VLKR	**Vladikavkaz**	**0.64 285**	ePg	**Pg**	23 09 36.8	-0.8
DLMR	**Dylym**	**0.84 77**	ePG	**Pb**	23 09 40.0	-1.6
DLMR			eS	Sn	23 09 54.5	-0.4
DLMR			pmax	pmax		
	comp=Z,98nm,0.3s					
DLMR	**Dylym**	**0.84 77**	ePg	**Pb**	23 09 40.0	-1.6
	comp=Z,98nm,0.3s					
BTKR	**Batakoyurt**	**0.86 305**	ePG	**Pn**	23 09 42.2	-0.9
BTKR			eS	Sn	23 09 57.9	+2.4
BTKR	**Batakoyurt**	**0.86 305**	ePg	**Pn**	23 09 42.2	-0.9
GUDG	**Gudauri**	**0.87 242**	P	**Pb**	23 09 39.7	-2.6
GUDG			S	Sb	23 09 51.5	-2.4
GUDG	**Gudauri**	**0.87 242**	P	**Pb**	23 09 39.7	-2.6
GUDG			S	Sb	23 09 51.5	-2.4
LACR	**Lac**	**0.90 267**	⇑iPG	**Pb**	23 09 40.3	-2.4
LACR			i S	Sg	23 09 55.3	+0.9
LACR	**Lac**	**0.90 267**	i Pg	**Pb**	23 09 40.3	-2.4
LACR			i Sg	Sg	23 09 55.3	+0.9
XNZR	**Khunzakh**	**0.94 111**	i PG	**Pb**	23 09 41.5	-2.0
XNZR			eS	Sg	23 09 56.0	+0.2
XNZR			pmax	pmax		
	comp=Z,146nm,0.1s					
XNZR	**Khunzakh**	**0.94 111**	i Pg	**Pb**	23 09 41.5	-2.0
	comp=Z,146nm,0.1s					
XNZR			eSg	Sg	23 09 56.0	+0.2
ARNR	**Ardon**	**0.96 289**	ePG	**Pg**	23 09 43.3	-0.4
ARNR			eS	Sn	23 09 59.0	+1.2
ARNR	**Ardon**	**0.96 289**	ePg	**Pg**	23 09 43.3	-0.4
UNCR	**Uncukul**	**0.96 100**	ePG	**Pb**	23 09 42.0	-1.6
UNCR			eS	Sn	23 09 57.0	-0.8
UNCR			pmax	pmax		
	comp=Z,169nm,0.6s					
UNCR	**Uncukul**	**0.96 100**	ePg	**Pb**	23 09 42.0	-1.6
	comp=Z,169nm,0.6s					
UNCR			eSg	Sn	23 09 57.0	-0.8
DBC	**Dubki**	**0.97 81**	ePG	**Pb**	23 09 43.0	-1.0
DBC			i S	Sn	23 10 03.1	+4.8
DBC	**Dubki**	**0.97 81**	ePg	**Pb**	23 09 43.0	-1.0
DUS	**Dusheti**	**0.99 217**	P	**Pb**	23 09 43.8	-0.5
DUS			S	Sn	23 09 59.0	+0.2
DUS	**Dusheti**	**0.99 217**	P	**Pb**	23 09 43.8	-0.5
DUS			S	Sn	23 09 59.0	+0.2
TRKR	**Terskaya**	**1.02 326**	⇑iPG	**Pn**	23 09 45.4	+0.3
TRKR			i S	Sn	23 10 03.4	+4.2
TRKR	**Terskaya**	**1.02 326**	i Pg	**Pn**	23 09 45.4	+0.3
KRNR	**Karanay**	**1.02 93**	ePG	**Pb**	23 09 44.0	-0.9
KRNR			eS	Sn	23 10 00.0	+0.4
KRNR	**Karanay**	**1.02 93**	ePg	**Pb**	23 09 44.0	-0.9
KORR	**Kora**	**1.08 281**	ePG	**Pb**	23 09 45.3	-0.5
KORR			eS	Sg	23 10 03.4	+3.2
KORR	**Kora**	**1.08 281**	ePg	**Pb**	23 09 45.3	-0.5
ARKR	**Arakani**	**1.12 104**	ePG	**Pn**	23 09 45.0	-1.7
ARKR			eS	Sg	23 10 02.0	+0.4
ARKR			pmax	pmax		
	comp=Z,76nm,0.2s					
ARKR	**Arakani**	**1.12 104**	ePg	**Pn**	23 09 45.0	-1.7
	comp=Z,76nm,0.2s					
ARKR			eSg	Sg	23 10 02.0	+0.4
STDR	**Stavd-Durt**	**1.17 295**	i PG	**Pg**	23 09 47.2	-0.5
STDR			i S	Sg	23 10 06.5	+3.6
STDR	**Stavd-Durt**	**1.17 295**	i Pg	**Pg**	23 09 47.2	-0.5
BUJR	**Buynaksk**	**1.17 92**	ePG	**Pg**	23 09 47.5	-0.3
BUJR			eS	Sg	23 10 06.0	+2.9
BUJR	**Buynaksk**	**1.17 92**	ePg	**Pg**	23 09 47.5	-0.3
ZEI	**Tsey**	**1.19 265**	ePG	**Pn**	23 09 46.0	-1.8
ZEI			eS	Sg	23 10 03.9	+0.1
ZEI	**Tsey**	**1.19 265**	ePg	**Pn**	23 09 46.0	-1.8
ZEI			eSg	Sg	23 10 03.9	+0.1
PRTR	**Priterechnaya**	**1.25 314**	⇓iPG	**Pg**	23 09 49.2	-0.1
PRTR			i S	Sg	23 10 10.2	+4.7
PRTR	**Priterechnaya**	**1.25 314**	i Pg	**Pg**	23 09 49.2	-0.1
TBLG	**Delisi**	**1.29 207**	PG	**Pn**	23 09 48.3	-0.6
TBLG			S	Sg	23 10 08.3	+1.6
TBLG	**Delisi**	**1.29 207**	P	**Pn**	23 09 48.3	-0.6
TBLG			S	Sg	23 10 08.3	+1.6
TBLG	**Delisi**	**1.29 207**	P	**Pn**	23 09 48.3	-0.6
TBLG			Sg	Sg	23 10 08.3	+1.6
LSNR	**Lesken**	**1.30 288**	⇑iPG	**Pb**	23 09 49.0	-0.6
LSNR			eS	Sg	23 10 10.1	+2.8
LSNR	**Lesken**	**1.30 288**	i Pg	**Pb**	23 09 49.0	-0.6
KMKR	**Kumukh**	**1.39 122**	ePG	**Pn**	23 09 50.0	-0.5
KMKR			eS	Sb	23 10 09.0	+0.1
KMKR			pmax	pmax		
	comp=Z,45nm,0.3s					
KMKR	**Kumukh**	**1.39 122**	ePg	**Pn**	23 09 50.0	-0.5
	comp=Z,45nm,0.3s					
KMKR			eSg	Sb	23 10 09.0	+0.1
DIGR	**Digorskoe uzhe**	**1.42 271**	⇑iPG	**Pn**	23 09 50.2	-0.7
DIGR			i S	Sg	23 10 11.0	0.0
DIGR	**Digorskoe uzhe**	**1.42 271**	i Pg	**Pn**	23 09 50.2	-0.7
DIGR			i Sg	Sg	23 10 11.0	0.0
DGRG	**David-gareji**	**1.44 184**	P	**Pn**	23 09 51.6	+0.7
DGRG			S	Sg	23 10 14.4	+3.0
DGRG	**David-gareji**	**1.44 184**	P	**Pn**	23 09 51.7	+0.7
DGRG			S	Sg	23 10 14.4	+3.0
MAK	**Makhachkala**	**1.46 86**	ePG	Pn	23 09 42.7	-8.5
ONI	**Oni**	**1.55 260**	P	**Pn**	23 09 52.4	-0.1
ONI			S	Sg	23 10 15.8	+0.8
ONI	**Oni**	**1.55 260**	P	**Pn**	23 09 52.4	-0.1
ONI			S	Sg	23 10 15.8	+0.8
KZR	**Kazreti**	**1.71 209**	P	**Pn**	23 09 54.6	-0.1
KZR			S	Sb	23 10 18.5	+0.6
KZR	**Kazreti**	**1.71 209**	P	**Pn**	23 09 54.6	-0.1
KZR			S	Sb	23 10 18.5	+0.6
URKR	**Urkarakh**	**1.72 114**	i PN	**Pb**	23 09 56.5	-0.2
URKR			S	Sb	23 10 18.5	+0.2
URKR			pmax	pmax		
	comp=Z,62nm,0.5s					
URKR	**Urkarakh**	**1.72 114**	i Pn	**Pb**	23 09 56.5	-0.2
	comp=Z,62nm,0.5s					
URKR			Sg	Sb	23 10 18.5	+0.2
AKH	**Akhalkalaki**	**2.10 226**	P	**Pn**	23 10 01.3	+1.0
AKH			S	Sb	23 10 29.8	+0.4
AKH	**Akhalkalaki**	**2.10 226**	P	**Pn**	23 10 01.3	+1.0
AKH			S	Sb	23 10 29.8	+0.4
AKT	**Akhty**	**2.16 130**	ePN	**Pb**	23 10 05.0	+0.8
AKT			eS	Sg	23 10 36.5	+1.8
KSMR	**Kasumkent**	**2.32 123**	i PN	**Pb**	23 10 07.0	0.0
KSMR			i S	Sg	23 10 41.0	+1.1
KSMR	**Kasumkent**	**2.32 123**	i Sb	**Sg**	23 10 41.0	+1.1

MEX 04 23:21:41.2±0.5, 16°.24N×97°.61W, h6km±12km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**287**	ePG	Pg	23 21 50.6	-0.6
PNIG				i S	Sg	23 21 58.4	+0.4
VHO	**Vista Hermosa**	**1.18**	**45**	ePG	Pg	23 22 00.6	-3.6
VHO				i S	Sg	23 22 15.7	-4.0
HUIG	**Huatulco**	**1.52**	**108**	ePG	Pn	23 22 05.8	-3.2
HUIG				i S	Sn	23 22 23.8	-5.3

IDC 04 23:37:26.9±5.0, 23°.12N×94°.56E, h69km±39km, mb3.3/3, mb1 3.5/4, mb1mx3.1/26, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=142.8km s-min=19.8km az=58.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.45**	**316**	ePN	Pn	23 38 20.0	+1.5
SHL				eSN	Sn	23 38 53.0	-5.3
CMAR	**Chiang Mai Arr**	**6.19**	**138**	P	Pn	23 38 55.4	-0.3
	0.4nm,0.3s,baz=312,slow=13,SNR=3.8						
CMAR				S	Sn	23 40 06.0	+0.9
	0.5nm,0.3s,baz=302,slow=29,SNR=3.5						
MKAR	**Makanchi Array**	**25.61**	**340**	P	P	23 42 49.8	0.0
	1.1nm,0.6s,baz=150,slow=9.7,SNR=13						
WRA	**Warramunga Arr**	**57.77**	**135**	P	P	23 47 11.1	0.0
	0.3nm,0.5s,baz=321,slow=7.5,SNR=2.5						
ASAR	**Alice Springs**	**60.20**	**138**	P	P	23 47 27.8	-0.1
	0.3nm,0.5s,baz=322,slow=7.0,SNR=5.3						

*CSEM **04** 23:58:33.5, 38°.42N×21°.99E, h13km, MD2.9, After ATH*

ATH 04 23:58:33.5, 38°.42N×21°.99E, h13km±1km, MD2.9/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.07**	**276**	ePG	Pg	23 58 36.1	0.0
EFP				eSG	Sg	23 58 38.2	+0.2
EFP	**Efpalio**	**0.07**	**276**	ePg	Pg	23 58 36.1	0.0
EFP				eSg	Sg	23 58 38.2	+0.2
TRIZ	**Trizonia**	**0.09**	**130**	ePG	Pg	23 58 36.1	-0.2
TRIZ				eSG	Sg	23 58 38.0	-0.3
TRIZ	**Trizonia**	**0.09**	**130**	ePg	Pg	23 58 36.1	-0.2
TRIZ				eSg	Sg	23 58 38.0	-0.3
KALE	**Kalithea**	**0.12**	**104**	ePG	Pg	23 58 36.9	0.0
KALE				eSG	Sg	23 58 39.2	0.0
KALE	**Kalithea**	**0.12**	**104**	ePg	Pg	23 58 36.9	0.0
KALE				eSg	Sg	23 58 39.2	0.0
PSA1	**Psathopyrgos**	**0.13**	**221**	ePG	Pg	23 58 36.8	0.0
PSA1				eSG	Sg	23 58 39.5	+0.4
LAKA	**Lakka**	**0.18**	**183**	ePG	Pg	23 58 37.6	-0.1
LAKA				eSG	Sg	23 58 40.7	+0.1
LAKA	**Lakka**	**0.18**	**183**	ePg	Pg	23 58 37.6	-0.1
LAKA				eSg	Sg	23 58 40.7	+0.1
KLV	**Kalavryta, Ach**	**0.40**	**161**	ePB	Pg	23 58 41.5	0.0
KLV	**Kalavryta, Ach**	**0.40**	**161**	ePb	Pg	23 58 41.5	0.0

*BJI **05** 00:17:50.7, 24°.04N×125°.63E, h15km, mB6.3/53, mb5.6/56, Ms6.4/76, Ms7 6.3/66*
*IDC **05** 00:17:54.9±0.3, 24°.26N×125°.10E, h0km, mb5.4/41, mb1 5.5/43, mb1mx5.5/44, mbtmp5.4/43, ML4.6/2, MS5.9/34, Ms1 5.9/34, ms1mx5.8/41, Error ellipse: s-maj=10.8km s-min=8.1km az=86.0*
*SZGRF **05** 00:17:57.5, 24°.38N×125°.95E, h29km, mb6.4, MS6.7, Southwestern Ryukyu Islands, Japan*
*ISCJB **05** 00:17:58.6±0.3, 24°.27N±0°.01×125°.11E±0°.02, h34km±2km, mb5.9/373, MS6.1/238, Error ellipse: s-maj=2.7km s-min=2.2km az=28.2*
*NEIC **05** 00:17:58.8±0.1, 24°.23N×125°.10E, h25km, mb5.9/141, ME6.0, MS5.9/120, MW6.1, MW6.1, MW6.1(NIED), Error ellipse: s-maj=3.8km s-min=3.4km az=123.0, Moment Tensor Solution. s74 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s251.00000°, δ23.00000°, λ122.00000°. NP2:ϕ_s37.00000°, δ71.00000°, λ77.00000°. Principal axes: T 1.5100, Plg62.0000°, Azm288.0000°; N -0.0200, Plg11.0000°, Azm41.0000°; P -1.4900, Plg24.0000°, Azm137.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s220.00000°, δ10.00000°, λ90.00000°. NP2:ϕ_s40.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm310.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm130.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Ishigaki. Also felt at Taipei, Taiwan. Recorded [4 JMA] on Miyako-jima; [3 JMA] on Iriomote-jima, Ishigaki-jima and Tarama-shima; [2 JMA] on Hateruma-jima; [1 JMA] on Kume-jima and Okinawa.
*BKK **05** 00:17:58.7±0.3, 25°.N±5°.×12°.5E±°, h10km, M6.1/41, mb5.7/41, mB6.4/36, MLv6.1/1, Mw(mB)6.1/36, Mwp6.2/10*
*JMA **05** 00:17:58.0±0.3, 24°.18N×125°.26E, h22km, M6.5 JMA Felt IV J1.*
*MOS **05** 00:17:58.6±1.1, 24°.32N×125°.08E, h33km, mb6.3/99, MS6.1/59, Error ellipse: s-maj=6.2km s-min=3.8km az=110.3*
*NIED **05** 00:18:00, 24°.20N×125°.30E, h35km, Mw6.1 Best double couple: $M_0$1.67000×10^{18} NP1:ϕ_s31.00000°, δ82.00000°, λ76.00000°. NP2:ϕ_s272.00000°, δ16.00000°, λ151.00000°.*
*DJA **05** 00:18:00.8±2.1, 24°.N±5°.×12°.5E±°, h32km±16km, M6.0/53, mb5.7/53, mB6.3/48, Mw(mB)6.0/48, Mwp6.2/13*
*GCMT **05** 00:18:01.4±0.1, 24°.16N×125°.26E, h31km, MW6.1, Moment Tensor Solution. s110, c248; s78, c122; Moment tensor: Scale 10^{18}Nm; M_{rr}0.98±.01; $M_{\theta\theta}$-0.61±.01; $M_{\phi\phi}$-0.37±.01; $M_{r\theta}$0.86±.02; $M_{\theta\phi}$-0.68±.01; $M_{\phi r}$1.33±.02; Best double couple: $M_0$1.90000×10^{18} NP1:ϕ_s35.00000°, δ73.00000°, λ80.00000°. NP2: ϕ_s248.00000°, δ19.00000°, λ121.00000°. Principal axes: T 1.8600, Plg60.0000°, Azm290.0000°; N 0.1200, Plg10.0000°, Azm38.0000°; P -1.9800, Plg28.0000°, Azm133.0000°; Data Used: II IU CN IC G. Surface waves: sta=109, comp=247, per= 50.*
*BGS **05** 00:18:05.5±2.4, 25°.15N×124°.03E, h33km, mb5.8, MS6.5*
*NEIC **05** 00:18:12.0±0.0, 23°.95N×125°.41E, h34km, Moment Tensor Solution. s137 Moment tensor: Scale 10^{18}Nm; M_{rr}1.15; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-0.41; $M_{r\theta}$1.11; $M_{\theta\phi}$-0.51; $M_{\phi r}$1.25; Best double couple: $M_0$2.00000×10^{18} NP1:ϕ_s242.00000°, δ18.00000°, λ108.00000°. NP2:ϕ_s44.00000°, δ73.00000°, λ84.00000°. Principal axes: T 2.0500, Plg61.0000°, Azm305.0000°; N -0.0700, Plg5.0000°, Azm45.0000°; P -1.9800, Plg27.0000°, Azm138.0000°;*

ISC 05 00:17:59.6±0.2, 24°.30N±0°.02×125°.17E±0°.02, h31km±1km, h31km:pP-P, n1978, c1943/2226, mb6.0/378, MS6.1/239, 515C-323D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.51**	**26**	⇓P	**Pb**	**00 18 09.8**	**-0.4**
JOGS				eS	**Sn**	**00 18 18.6**	**+0.3**
JMJ	**Miyako jima 2**	**0.52**	**13**	⇓P	**Pb**	**00 18 10.1**	**-0.4**
JMJ				eS	**Sn**	**00 18 19.0**	**+0.2**
JTJ	**Tarama**	**0.54**	**309**	⇓P	**Pn**	**00 18 11.0**	**-0.2**
JTJ				eS	**Sn**	**00 18 20.3**	**+1.1**
JIJ	**Ishigaki jima**	**0.94**	**274**	⇓P	**Pb**	**00 18 17.1**	**-0.2**
JIJ				eS	**Sb**	**00 18 31.2**	**+1.8**
JKRS	**Kuro-shima**	**1.06**	**267**	⇑P	**Pb**	**00 18 19.3**	**0.0**
JKRS				eS	**Sb**	**00 18 34.2**	**+1.3**
HATJ	**Hateruma jima**	**1.27**	**259**	⇑P	**Pn**	**00 18 21.6**	**+0.5**
HATJ				eS	**Sb**	**00 18 40.7**	**+1.9**
IRIF	**Iriomote-Funau**	**1.31**	**272**	⇑P	**Pn**	**00 18 22.6**	**+0.9**
IRIF				eS	**Sb**	**00 18 43.2**	**+3.1**
YOJ	**Yonaguni jima**	**1.97**	**275**	P	**Pn**	**00 18 31.6**	**+0.8**
JKE	**Kume jima 2**	**2.49**	**36**	P	**Pn**	**00 18 37.3**	**-0.7**
JKE				eS	**Sn**	**00 19 08.9**	**+1.5**
JAGN	**Aguni-jima**	**2.95**	**39**	P	**Pn**	**00 18 43.6**	**-0.7**
JJT2	**Tamagusuku 2**	**2.97**	**51**	P	**Pn**	**00 18 44.1**	**-0.5**
TATO	**Taipei**	**3.41**	**282**	P	**Pn**	**00 18 53.1**	**+2.4**
	SNR=73						
TATO	**Taipei**	**3.41**	**282**	⇑iPn	**Pn**	**00 18 52.2**	**+1.6**
TATO				eSn	**Sn**	**00 19 28.5**	**-1.6**
JIH	**Iheya**	**3.71**	**42**	P	**Pn**	**00 18 54.2**	**-0.6**
JOW	**Kunigami**	**3.77**	**47**	P	**Pn**	**00 18 53.8**	**-1.8**
TWG	**Pinlang**	**4.04**	**249**	⇑iPn	**Pn**	**00 18 57.2**	**-2.0**
JTK	**Tokunoshima**	**4.86**	**44**	P	**Pn**	**00 19 08.7**	**-1.9**
JAMN	**Amaminishikomi**	**5.32**	**42**	P	**Pn**	**00 19 14.2**	**-2.8**
JMZ	**Minamidaito 2**	**5.70**	**73**	P	Pn	00 19 17.4	-4.7
JAM	**Amami Oshima**	**5.71**	**43**	P	**Pn**	**00 19 19.8**	**-2.4**
JZK	**Kikaishima**	**5.88**	**46**	P	**Pn**	**00 19 23.5**	**-1.1**
QZH	**Quanzhou**	**6.02**	**277**	⇑iPn	**Pn**	**00 19 25.8**	**-0.7**
QZH				Sn	**Sn**	**00 20 32.2**	**-2.1**
QZH				LR	LR		
	comp=E,221μm,12.0s						
QZH				LR	LR		
	comp=Z,336μm,11.9s						
JNN	**Nakanoshima**	**6.93**	**36**	P	**Pn**	**00 19 39.8**	**+0.8**
CVP	**Callao Caves**	**7.27**	**206**	⇑eP	**Pn**	**00 19 43.1**	**-0.6**
PIP	**Pasuquin**	**7.30**	**216**	⇑eP	Sn	00 20 56.7	-9.3
APYP	**Conner**	**7.38**	**210**	eP	**Pn**	**00 19 44.5**	**-0.8**
APYP				eS	**Pb**	**00 20 07.7**	**+0.8**
SSE	**Sheshan**	**7.63**	**333**	⇑P	**Pn**	**00 19 50.8**	**+2.2**
SSE				S	**Sn**	**00 21 17.4**	**+3.4**
SSE				pmax	pmax		
	comp=Z,74nm,0.8s						
SSE				pmax	pmax		
	comp=Z,4μm,8.7s						
SSE				smax	smax		
	comp=N,1μm,2.5s						
SSE				smax	smax		
	comp=E,1μm,1.5s						
SSE				LR	LR		
	comp=N,118μm,15.0s						
SSE				LR	LR		
	comp=E,93μm,15.0s						
SSE				LR	LR		
	comp=Z,176μm,15.4s						
PALP	**Palanan**	**7.65**	**200**	eP	**Pn**	**00 19 48.1**	**-0.8**
SIPP	**Brgy, Tapao**	**7.72**	**216**	⇓eP	**Pn**	**00 19 51.2**	**+1.3**
ABRA	**Dolores**	**7.82**	**213**	eP	**Pn**	**00 19 51.3**	**0.0**
CAUP	**Cauayan**	**7.96**	**204**	eP	**Pn**	**00 19 55.7**	**+2.4**
BALP	**Baler**	**9.16**	**202**	eP	**Pn**	**00 20 09.6**	**-0.1**
NJ2	**Nanjing**	**9.52**	**326**	eP	**Pn**	**00 20 16.2**	**+1.7**
NJ2				pP		00 20 22.1	
NJ2				sP		00 20 25.4	
NJ2				S	Sn	00 22 08.0	+7.6
NJ2				sS		00 22 15.0	
NJ2				pmax	pmax		
	comp=Z,150nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,8μm,3.5s						
NJ2				LR	LR		
	comp=N,200μm,17.3s						
NJ2				LR	LR		
	comp=E,115μm,18.7s						
NJ2				LR	LR		
	comp=Z,256μm,17.8s						
JNU	**Nakatsue**	**10.11**	**28**	Pn	**Pn**	**00 20 22.1**	**-0.6**
JNU	**Nakatsue**	**10.11**	**28**	Pn	**Pn**	**00 20 22.1**	**-0.6**
	comp=Z,5.9nm,0.3s,baz=187,slow=6.3,SNR=25						
GQP	**Guinayangan**	**10.66**	**194**	⇓eP	**Pn**	**00 20 28.1**	**-2.1**
LQP	**Lukban**	**10.70**	**199**	eP	**Pn**	**00 20 32.0**	**+1.0**
GZH	**Guangzhou**	**10.90**	**266**	P	Pn	00 20 29.7	-3.8
GZH				S	**Sn**	**00 22 30.2**	**-4.2**
GZH				LR	LR		
	comp=N,35μm,15.7s						
GZH				LR	LR		
	comp=E,156μm,16.3s						
TGY	**Tagaytay City**	**10.90**	**202**	Pn	**Pn**	**00 20 34.6**	**+0.9**
TGY				Sn	**Sn**	**00 22 34.6**	**0.0**
TGY	**Tagaytay City**	**10.90**	**202**	Pn	**Pn**	**00 20 34.6**	**+0.9**
	comp=E,114nm,0.3s,baz=147,slow=2.5,SNR=13						
TGY				Sn	**Sn**	**00 22 34.6**	**0.0**
	comp=E,32nm,0.3s,baz=294,slow=19,SNR=3.0						
TGY				LR	LR	00 24 49.5	
	comp=E,196nm,18.3s,baz=244,slow=38						
WHN	**Wuhan**	**11.44**	**305**	⇑iP	**Pn**	**00 20 43.0**	**+2.2**
WHN				sP		00 20 57.3	
WHN				LR	LR		
	comp=N,340μm,18.4s						
WHN				LR	LR		
	comp=E,245μm,13.6s						
WHN				LR	LR		
	comp=Z,396μm,15.7s						
INCN	**Inchon**	**13.20**	**5**	Pn	**Pn**	**00 21 07.6**	**+2.7**
	SNR=72						
INCN	**Inchon**	**13.20**	**5**	⇑iPn	**Pn**	**00 21 06.1**	**+1.2**
	comp=Z,3μm,2.0s						
INCN				eSn	**Sn**	**00 23 32.1**	**+1.5**
KSAR	**Wonju Array Be**	**13.30**	**9**	Pn	**Pn**	**00 21 07.8**	**+1.6**
KSRS	**Korea Array**	**13.32**	**10**	Pn	**Pn**	**00 21 07.8**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=186,slow=13,SNR=85						
KSRS				LR	LR	00 26 34.3	
	comp=Z,55μm,19.2s,baz=189,slow=39						
TIA	**Tai'an**	**13.74**	**332**	⇑P	**Pn**	**00 21 15.2**	**+2.9**
TIA				S	Sn	00 23 54.7	+11
TIA				sS	sS	00 24 07.2	
TIA				pmax	pmax		
	comp=Z,200nm,1.9s						
TIA				pmax	pmax		
	comp=Z,27μm,7.3s						
TIA				LR	LR		
	comp=N,122μm,15.4s						
TIA				LR	LR		
	comp=E,70μm,14.0s						
TIA				LR	LR		
	comp=Z,173μm,14.3s						
DL2	**Dalian**	**14.87**	**349**	P	**Pn**	**00 21 28.2**	**+0.7**
DL2				S	**Sn**	**00 24 15.9**	**+4.8**
DL2				pmax	pmax		
	comp=Z,2μm,1.1s						
DL2				pmax	pmax		
	comp=Z,13μm,8.8s						
DL2				LR	LR		
	comp=N,35μm,10.9s						
DL2				LR	LR		
	comp=E,36μm,10.8s						
DL2				LR	LR		
	comp=Z,54μm,11.6s						
JAO	**Obara**	**15.14**	**41**	P	**P**	**00 21 37.1**	**+1.0**
HMMJ	**Hamamatsu 2**	**15.15**	**43**	P	**P**	**00 21 38.2**	**+2.1**
ENH	**Enshi**	**15.15**	**297**	⇑ePn	**Pn**	**00 21 32.7**	**+1.3**
	comp=Z,342nm,1.0s						
QIZ	**Qiongzhong**	**15.18**	**253**	P	**Pn**	**00 21 29.4**	**-2.4**
QIZ				pP	**P**	**00 21 36.7**	**+0.2**
QIZ				S	**Sn**	**00 24 17.3**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,4μm,8.9s						
QIZ				LR	LR		
	comp=N,51μm,21.0s						
QIZ				LR	LR		
	comp=E,19μm,21.9s						
QIZ				LR	LR		
	comp=Z,79μm,17.0s						
QIZ	**Qiongzhong**	**15.18**	**253**	ePn	**Pn**	**00 21 31.7**	**-0.1**
	comp=Z,477nm,1.6s						
QIZ				eSn	**Sn**	**00 24 15.1**	**-3.9**
JYZW	**Yoshizawa**	**15.25**	**43**	P	**P**	**00 21 38.5**	**+1.3**
JNY	**Yasuok**	**15.56**	**42**	P	**P**	**00 21 42.7**	**+1.9**
CGP	**Cagayan de Oro**	**15.77**	**182**	eP	**Pn**	**00 21 37.5**	**-2.0**
JIZS	**Izushimoda**	**15.80**	**46**	P	P	00 21 48.9	+5.5
JNT	**Takato**	**16.08**	**41**	P	**P**	**00 21 47.6**	**+1.0**
JYN	**Shimob**	**16.08**	**43**	P	**P**	**00 21 48.7**	**+2.2**
JOD2	**Odawara 2**	**16.27**	**45**	P	**P**	**00 21 52.0**	**+3.4**
JNG	**Nsakai**	**16.41**	**40**	P	**P**	**00 21 50.1**	**-0.2**
MAJO	**Matsushiro**	**16.57**	**40**	c iP	**P**	**00 21 51.3**	**-0.6**
MAJO	**Matsushiro**	**16.57**	**40**	⇑ePn	**P**	**00 21 51.7**	**-0.2**
MAJO				eSn	**Sn**	**00 24 57.7**	**+5.0**
MAT	**Matsushiro**	**16.57**	**40**	P	**P**	**00 21 52.0**	**+0.1**
MAT				S	**Sn**	**00 24 53.4**	**+0.7**
MAT	**Matsushiro**	**16.57**	**40**	P	**P**	**00 21 52.4**	**+0.5**
MJAR	**Matsushiro Arr**	**16.57**	**40**	Pn	**P**	**00 21 52.9**	**+0.9**
MJAR				Sn	**S**	**00 25 05.7**	**+2.1**
MJAR	**Matsushiro Arr**	**16.57**	**40**	Pn	**P**	**00 21 52.9**	**+0.9**
	comp=Z,4.9nm,0.3s,baz=

JAG	**Ashikaga**	**17.24**	**42**	P	**P**	**00 21 59.5 +0.2**
BJT	**Baijiatuau**	**17.41**	**336⇑**	*e*Pn	**P**	**00 22 01.5 +0.4**
	comp=Z,408nm,0.9s					
BJT				*e*Sn	**S**	**00 25 17.1 -3.4**
BJI	**Beijing**	**17.42**	**336**	P	**P**	**00 22 01.5 +0.2**
BJI				S	**S**	**00 25 18.1 -2.7**
BJI				pmax	pmax	
	comp=Z,15μm,4.3s					
BJI				LR	LR	
	comp=N,111μm,14.7s					
BJI				LR	LR	
	comp=E,59μm,15.1s					
BJI				LR	LR	
	comp=Z,67μm,21.2s					
SNY	**Shenyang**	**17.53**	**356**	⇑P	**P**	**00 22 02.5 +0.1**
SNY				S	**Sn**	**00 25 14.0 -1.7**
SNY				pmax	pmax	
	comp=Z,700nm,1.2s					
SNY				LR	LR	
	comp=N,70μm,15.9s					
SNY				LR	LR	
	comp=E,21μm,14.1s					
SNY				LR	LR	
	comp=Z,81μm,15.7s					
JHO	**Hitachi**	**18.05**	**44**	S	**Sn**	**00 25 28.0 -0.5**
KDM	**Kudat**	**19.05**	**206**	P	**P**	**00 22 19.1 -0.2**
CN2	**Changchun**	**19.45**	**1**	*e*P	**P**	**00 22 22.5 -1.1**
CN2				*e*S	**Sn**	**00 26 05.1 +2.9**
CN2				LR	LR	
	comp=N,47μm,14.0s					
CN2				LR	LR	
	comp=E,41μm,14.0s					
CN2				LR	LR	
	comp=Z,53μm,15.0s					
VLA	**Vladivostok**	**19.57**	**15⇓**	*e*P	**Pn**	**00 22 26.5 +0.2**
VLA				pmax	pmax	
	comp=Z,126nm,1.5s					
VLA				MLR	MLR	
	comp=Z,29μm,16.0s					
HHC	**Hu-ho-hao-te**	**20.05**	**329**	*i* P	**P**	**00 22 31.0 +0.8**
HHC				PP	**PnPn**	**00 22 51.5 +4.6**
HHC				S	**S**	**00 26 10.9 -3.1**
HHC				SS	**SnSn**	**00 26 40.1 +8.6**
HHC				PcP	**PcP**	**00 26 45.5 +0.3**
HHC				ScP	**ScP**	**00 30 19.1 -0.2**
HHC				PcS	**PcS**	**00 30 21.8 -1.0**
HHC				pmax	pmax	
	comp=Z,1μm,1.1s					
HHC				pmax	pmax	
	comp=Z,28μm,5.7s					
HHC				LR	LR	
	comp=N,73μm,12.3s					
HHC				LR	LR	
	comp=E,39μm,12.5s					
HHC				LR	LR	
	comp=Z,78μm,11.4s					
CD2	**Chengdu**	**20.06**	**294**	P	**P**	**00 22 31.3 +0.8**
CD2				pP	**pP**	**00 22 37.1 -1.7**
CD2				sP	**sP**	**00 22 40.8 -1.9**
CD2				PP	**PnPn**	**00 22 50.5 +3.4**
CD2				S	**S**	**00 26 10.2 -4.2**
CD2				pmax	pmax	
	comp=Z,380nm,1.2s					
CD2				pmax	pmax	
	comp=Z,14μm,5.9s					
CD2				LR	LR	
	comp=E,87μm,17.2s					
CD2				LR	LR	
	comp=Z,108μm,15.5s					
MYLDM	**Lahad Datu**	**20.07**	**200**	P	Pn	00 22 34.4 +2.0
MYLDM	**Lahad Datu**	**20.07**	**200**	P	Pn	00 22 32.4 0.0
	comp=Z,416nm,2.5s,comp=Z,23μmcomp=Z,72μm					
SDKM	**Sandakan**	**20.07**	**204**	P	Pn	00 22 35.0 +2.4
KKM	**Kota Kinabalu**	**20.09**	**207**	P	Pn	00 22 35.0 +2.2
KKM	**Kota Kinabalu**	**20.09**	**207**	P	Pn	00 22 33.4 +0.6
	comp=Z,206nm,2.1s,comp=Z,11μmcomp=Z,51μm					
KMI	**Kunming**	**20.39**	**277**	P	Pn	00 22 36.7 +0.2
KMI				pP	pP	00 22 42.2 -0.3
KMI				PP	**PnPn**	**00 22 57.6 +5.9**
KMI				S	**S**	**00 26 19.7 -1.6**
KMI				pmax	pmax	
	comp=Z,180nm,0.8s					
KMI				pmax	pmax	
	comp=Z,19μm,12.0s					
KMI				LR	LR	
	comp=N,37μm,11.9s					
KMI				LR	LR	
	comp=E,83μm,14.6s					
KMI				LR	LR	
	comp=Z,96μm,14.9s					
PANO	**Nakornpanom**	**20.48**	**254**	P	Pn	00 22 37.9 +0.6
	comp=Z,516nm,1.5s,comp=Z,30μm					
UBPT	**Khong Chiam**	**20.57**	**248**	P	Pn	00 22 38.1 -0.2
	comp=Z,400nm,2.1s,comp=Z,14μmcomp=Z,852μm					
UBPT	**Khong Chiam**	**20.57**	**248**	P	Pn	00 22 38.2 -0.1
	comp=Z,515nm,2.2s,comp=Z,14μm					
MDJ	**Mudanjiang**	**20.58**	**9**	P	**P**	**00 22 33.7 -2.2**
MDJ				pP	Pn	00 22 39.5 +1.2
MDJ				PcP	PcP	00 26 37.9 -8.1
MDJ				PcS	PcS	00 30 16.1 -7.5
MDJ				pmax	pmax	
	comp=Z,130nm,2.0s					
MDJ				pmax	pmax	
	comp=Z,5μm,9.9s					
MDJ				LR	LR	
	comp=N,7μm,24.4s					
MDJ				LR	LR	
	comp=E,46μm,22.1s					
MDJ				LR	LR	
	comp=Z,36μm,20.5s					
MDJ	**Mudanjiang**	**20.58**	**9⇑**	*e*P	**P**	**00 22 33.0 -2.9**
	comp=Z,642nm,1.8s					
MDJ				*e*S	**S**	**00 26 21.5 -2.9**
MDJ				LR	LR	
	comp=Z,37μm,19.0s					
USRK	**Ussuriysk Arra**	**20.62**	**14**	P	**P**	**00 22 35.0 -1.3**
	comp=Z,14nm,0.6s,baz=198,slow=12,SNR=24					
USRK				LR	LR	00 30 33.7
	comp=Z,33μm,19.6s,baz=185,slow=37					
BTO	**Baotou**	**20.63**	**326**	*e*P	**P**	**00 22 36.8 +0.3**
BTO				pmax	pmax	
	comp=Z,150nm,2.2s					
TSM	**Tawau**	**21.10**	**201**	P	**P**	**00 22 43.7 +2.1**
GUMO	**Guam**	**21.44**	**116**	*e*P	**P**	**00 22 45.5 +0.2**
	comp=Z,2μm,1.3s					
GUMO				LR	LR	
	comp=Z,40μm,21.0s					
LZH	**Lanzhou**	**21.80**	**308**	⇑P	**P**	**00 22 49.7 +0.4**
LZH				pP	**pP**	**00 22 55.6 -2.1**
LZH				sP	**sP**	**00 22 58.5 -3.1**
LZH				PP	**PnPn**	**00 23 15.0 +4.1**
LZH				S	**S**	**00 26 45.1 -3.8**
LZH				pmax	pmax	
	comp=Z,1μm,1.5s					
LZH				pmax	pmax	
	comp=Z,8μm,4.9s					
LZH				LR	LR	
	comp=N,55μm,13.8s					
LZH				LR	LR	
	comp=E,86μm,14.0s					
LZH				LR	LR	
	comp=Z,143μm,16.0s					
MNI	**Manado**	**22.73**	**181**	P	**P**	**00 22 59.4 +0.3**
	comp=Z,423nm,1.4s,comp=Z,10μm					
ERM	**Erimo**	**23.13**	**36**	P	**P**	**00 23 01.0 -2.1**
	comp=Z,3μm,0.8s,SNR=22					
ERM	**Erimo**	**23.13**	**36**	*ce*P	**P**	**00 23 01.2 -1.9**
ERM				pmax	pmax	
	comp=Z,186nm,1.0s					
ERM	**Erimo**	**23.13**	**36⇓**	*e*P	**P**	**00 22 58.9 -4.2**
ERM				*e*S	**S**	**00 27 07.9 -4.5**
ERM				LR	LR	
	comp=Z,33μm,22.0s					
CHAI	**Chaiyaphum**	**23.29**	**253**	P	**P**	**00 23 05.6 +0.7**
	comp=Z,79nm,0.9s,comp=Z,1μm					
LOEI	**Loei**	**23.31**	**258**	P	**P**	**00 23 03.3 -1.8**
	comp=Z,337nm,2.3s,comp=Z,15μm					
TOLI	**Toli-Toli**	**23.43**	**191**	P	**P**	**00 23 07.3 +1.0**
TNTI	**Ternate**	**23.49**	**174**	P	**P**	**00 23 06.9 +0.1**
KMSI	**Cibinong**	**23.62**	**183**	P	P	00 23 13.1 +5.1
GTOI	**Gorontalo**	**23.62**	**185**	P	**P**	**00 23 05.9 -2.2**
	comp=Z,440nm,1.3s,comp=Z,9μmcomp=Z,50μm					
MRSI	**Marisa**	**23.89**	**188**	P	**P**	**00 23 10.6 0.0**
	comp=Z,690nm,1.5s,comp=Z,14μmcomp=Z,22μm					
PBKT	**Sadao Pong**	**23.92**	**256**	P	**P**	**00 23 11.6 +0.7**
PBKT	**Sadao Pong**	**23.92**	**256**	P	**P**	**00 23 12.1 +1.2**
	comp=Z,682nm,2.3s					
BTM	**Bintulu**	**24.00**	**211**	P	**P**	**00 23 11.3 -0.4**
ASAJ	**Asahikawa**	**24.37**	**32**	P	**P**	**00 23 13.8 -1.0**
ASAJ				S	**S**	**00 27 30.6 -1.7**
ASAJ	**Asahikawa**	**24.37**	**32**	P	**P**	**00 23 13.8 -1.0**
	comp=Z,132nm,1.0s,baz=243,slow=16,SNR=71					
ASAJ				S	**S**	**00 27 30.6 -1.7**
	comp=Z,8.4nm,0.8s,baz=341,slow=31,SNR=3.3					
ASAJ				LR	LR	00 33 33.0
	comp=Z,44μm,20.1s,baz=239,slow=38					
LAMP	**Lampang**	**24.44**	**261**	P	**P**	**00 23 16.9 +1.2**
	comp=Z,132nm,1.1s,comp=Z,1μm					
CHBT	**CHBT**	**24.47**	**246**	P	**P**	**00 23 18.0 +2.0**
	comp=Z,66nm,2.0s,comp=Z,4μm					
NAYO	**Nakonayok**	**24.56**	**251**	P	**P**	**00 23 18.0 +1.1**
	comp=Z,159nm,1.0s,comp=Z,18μm					
CMAI	**Chiengmai2**	**24.57**	**265**	P	**P**	**00 23 18.8 +1.7**
	comp=Z,364nm,1.5s,comp=Z,19μm					
LBMI	**Labuha**	**24.90**	**174**	P	**P**	**00 23 20.5 +0.6**
	comp=Z,723nm,2.4s,comp=Z,18μmcomp=Z,26μm					
CMMT	**Chiang Mai**	**24.97**	**262**	P	**P**	**00 23 21.0 +0.4**
	comp=Z,301nm,1.2s,comp=Z,6μm					
CMMT	**Chiang Mai**	**24.97**	**262**	P	**P**	**00 23 20.8 +0.2**
	comp=Z,301nm,1.2s,comp=Z,6μm					
CHTO	**Chiang Mai**	**24.97**	**262⇑**	*i*P	**P**	**00 23 20.9 +0.3**
CHTO				*e*S	**S**	**00 27 38.6 -3.9**
CHTO				pmax	pmax	
	comp=Z,174nm,0.7s					
CHTO				MLR	MLR	
	comp=Z,41μm,19.0s					
CHTO	**Chiang Mai**	**24.97**	**262**	P	**P**	**00 23 21.7 +1.1**
	SNR=65					
CHTO	**Chiang Mai**	**24.97**	**262⇑**	*i*P	**P**	**00 23 20.9 +0.3**
	comp=Z,174nm,0.7s					
CHTO				*e*S	**S**	**00 27 38.6 -3.9**
CHTO				LR	LR	
	comp=Z,41μm,19.0s					
CHTO	**Chiang Mai**	**24.97**	**262**	P	**P**	**00 23 21.4 +0.8**
	comp=Z,328nm,1.2s,comp=Z,7μmcomp=Z,39μm					
CHTO	**Chiang Mai**	**24.97**	**262**	P	**P**	**00 23 21.1 +0.5**
	comp=Z,378nm,2.0s,comp=Z,7μm					
SBUM	**Sibu**	**25.07**	**212**	P	**P**	**00 23 22.7 +1.3**
SBUM	**Sibu**	**25.07**	**212**	P	**P**	**00 23 21.9 +0.5**
	comp=Z,164nm,1.4s,comp=Z,4μm					
CMAR	**Chiang Mai Arr**	**25.08**	**262**	P	**P**	**00 23 22.6 +1.0**
CMAR				ScP	**ScP**	**00 30 35.5 +2.9**
CMAR	**Chiang Mai Arr**	**25.08**	**262**	P	**P**	**00 23 22.6 +1.0**
	comp=Z,16nm,0.7s,baz=62,slow=8.2,SNR=52					
CMAR				ScP	**ScP**	**00 30 35.5 +2.9**
	comp=Z,1.6nm,0.3s,baz=73,slow=2.4,SNR=6.8					
CMAR				LR	LR	00 34 29.8
	comp=Z,37μm,19.7s,baz=72,slow=40					
HIA	**Hailar**	**25.28**	**352⇑**	*i*P	**P**	**00 23 21.0 -2.1**
	comp=Z,1μm,1.4s					
HIA				*e*S	**S**	**00 27 49.0 +2.1**
HIA				LR	LR	
	comp=Z,59μm,20.0s					
LUWI	**Luwuk**	**25.30**	**186**	P	**P**	**00 23 23.2 -0.3**
	comp=Z,412nm,2.2s,comp=Z,10μmcomp=Z,23μm					
HABR	**Khabarovsk**	**25.36**	**15**	*c i*P	**P**	**00 23 19.8 -3.9**
HABR				*e**PP	**pP**	**00 23 30.1 -2.6**
HABR				*e**SP	**sP**	**00 23 34.6 -1.9**
HABR						00 26 53.4
HABR				*e*S	**S**	**00 27 41.5 -6.5**
HABR				*e**SS	**sS**	**00 27 58.4 -4.5**
HABR				*e*SSS	SSS	00 28 48.0
HABR				*e*		00 34 19.7
HABR				pmax	pmax	
	comp=Z,2μm,6.4s					
HABR				pmax	pmax	
	comp=Z,336nm,1.9s					
HABR				pmax	pmax	
	comp=E,125nm,2.4s					
HABR				pmax	pmax	
	comp=N,162nm,1.9s					
HABR				MLR	MLR	
	comp=N,15μm,21.0s					
HABR				MLR	MLR	
	comp=Z,18μm,16.0s					
HABR				MLR	MLR	
	comp=E,19μm,16.0s					
KLR	**Kul'dur**	**25.41**	**10⇓**	*i*P	P	00 23 17.3 -7.0
KLR				*e*S	**S**	**00 27 46.0 -2.9**
KLR				pmax	pmax	
	comp=N,150nm,2.0s					
KLR				pmax	pmax	
	comp=E,90nm,2.0s					
KLR				pmax	pmax	
	comp=Z,400nm,2.0s					
KLR				pmax	pmax	
	comp=N,2μm,8.0s					
KLR				pmax	pmax	
	comp=Z,3μm,8.0s					
KLR				smax	smax	
	comp=N,11μm,11.5s					
KLR				smax	smax	
	comp=E,7μm,11.5s					
KLR				MLR	MLR	
	comp=N,23μm,12.0s					
KLR				MLR	MLR	
	comp=Z,37μm,12.0s					
SWI	**Sorong**	**25.71**	**166**	P	**P**	**00 23 27.1 -0.1**
	comp=Z,245nm,1.2s,comp=Z,4μm					
YUK	**Yuzh-Kuril'sk**	**25.96**	**36**	*c i*P	**P**	**00 23 28.7 -0.6**
YUK				*i* PPP	PPP	00 24 11.3
YUK				pmax	pmax	
	comp=Z,4μm,1.6s					
YUK				pmax	pmax	
	comp=N,827nm,1.6s					
YUK				pmax	pmax	
	comp=E,2μm,1.5s					
YUK				MLR	MLR	
	comp=N,785nm,19.0s					
YUK				MLR	MLR	
	comp=E,9μm,19.0s					
YUK				MLR	MLR	
	comp=Z,13μm,19.0s					
GTA	**Gaotai**	**26.16**	**311**	⇑P	**P**	**00 23 30.5 -0.8**
GTA				pP	**pP**	**00 23 36.1 -4.2**
GTA				S	**S**	**00 28 01.3 0.0**
GTA				SS	**SnSn**	**00 29 10.9 +10**
GTA				pmax	pmax	
	comp=Z,170nm,2.1s					
GTA				pmax	pmax	
	comp=Z,3μm,6.2s					
GTA				LR	LR	
	comp=N,43μm,15.4s					
GTA				LR	LR	
	comp=E,30μm,16.6s					
GTA				LR	LR	
	comp=Z,78μm,16.9s					
YSS	**Yuzh-Sakhalins**	**26.62**	**28**	*j i*P	**P**	**00 23 35.2 0.0**
YSS				*e**SP	**sP**	**00 23 47.0 -1.0**
YSS				*e*		00 24 17.0
YSS				*e*PPP	PPP	00 24 33.0
YSS				*e*S	**S**	**00 28 06.0 -2.1**
YSS				*e*SS	**SnSn**	**00 29 18.0 +5.8**
YSS				pmax	pmax	
	comp=Z,490nm,1.6s					
YSS				MLR	MLR	
	comp=Z,30μm,16.0s					
YSS				MLR	MLR	
	comp=N,30μm,15.0s					
YSS				MLR	MLR	
	comp=E,17μm,15.0s					
PHET	**Kaeng Krachan**	**26.67**	**249**	P	**P**	**00 23 38.4 +2.4**
	comp=E,353nm,1.0s,comp=E,3μm					
PHET	**Kaeng Krachan**	**26.67**	**249**	P	**P**	**00 23 38.8 +2.8**
	comp=E,252nm,1.0s,comp=E,3μm					
KSM	**Kuching**	**26.86**	**215**	PFAKE		00 23 50.0 +12
KSM				LR	LR	
	comp=Z,13μm,20.0s					
KSM	**Kuching**	**26.86**	**215**	P	**P**	**00 23 37.1 -0.6**
KSM	**Kuching**	**26.86**	**215**	P	**P**	**00 23 37.9 +0.2**
	comp=Z,126nm,1.2s,comp=Z,3μmcomp=Z,14μm					
SKSI	**Soroako, Sulaw**	**26.93**	**188**	P	**P**	**00 23 41.5 +3.2**
MTKI	**Muara Teweh, K**	**27.00**	**203**	P	**P**	**00 23 42.0 +3.1**
RKPI	**Ransiki, Papua**	**27.11**	**160**	P	**P**	**00 23 37.3 -2.6**
NLAI	**Namlea**	**27.44**	**176**	P	**P**	**00 23 42.9 +0.1**
	comp=Z,146nm,1.1s,comp=Z,4μm					
BAKI	**Biak**	**27.48**	**156**	P	P	00 23 55.4 +12
STKI	**Sintang**	**27.51**	**211**	P	P	00 24 00.5 +17
MMSI	**Mamuju**	**27.51**	**194**	P	**P**	**00 23 44.6 +1.1**
	comp=Z,388nm,1.5s,comp=Z,7μm					
ULN	**Ulaanbaatar**	**27.56**	**333**	PFAKE		00 24 00.0 +16
ULN				LR	LR	
	comp=Z,72μm,20.0s					
TTSI	**Tana Toraja**	**27.68**	**192**	P	**P**	**00 23 48.0 +3.0**
MSAI	**Masohi**	**27.73**	**172**	P	**P**	**00 23 47.1 +1.7**
	comp=Z,54nm,1.2s,comp=Z,3μm					
SONM	**Songino Array**	**27.81**	**332**	P	**P**	**00 23 45.9 -0.2**
SONM	**Songino Array**	**27.81**	**332**	P	**P**	**00 23 45.9 -0.2**
	comp=Z,31nm,0.8s,baz=132,slow=8.7,SNR=87					
SONM				LR	LR	00 36 21.3
	comp=Z,85μm,19.8s,baz=145,slow=40					
KUR	**Kuril'sk**	**27.83**	**36⇑**	*i*P	P	00 23 37.5 -8.5
KUR				pmax	pmax	
	comp=Z,857nm,1.0s					
KUR				pmax	pmax	
	comp=E,391nm,1.0s					
KUR				pmax	pmax	
	comp=N,37nm,0.5s					
KUR				MLR	MLR	
	comp=N,9μm,18.0s					
KUR				MLR	MLR	
	comp=E,10μm,18.0s					
KUR				MLR	MLR	
	comp=Z,10μm,18.0s					
FAKI	**Fak Fak**	**27.92**	**165**	P	**P**	**00 23 45.9 -1.3**
SPSI	**Sidrap Palu**	**28.58**	**191**	P	**P**	**00 23 51.4 -1.6**
CIT	**Chita**	**29.07**	**345**	*e*P	**P**	**00 23 55.6 -1.5**
CIT				*e*		00 24 46.3
CIT				*e*		00 25 01.6
CIT				pmax	pmax	
	comp=Z,2μm,2.5s					
BBKI	**Banjar Baru**	**29.37**	**201**	P	**P**	**00 24 00.5 +0.5**
	comp=Z,308nm,1.1s,comp=Z,8μm					
KAPI	**Kappang**	**29.61**	**191**	P	P	00 24 08.2 +6.0
	SNR=7.0					
KAPI	**Kappang**	**29.61**	**191**	*e*P	**P**	**00 23 59.3 -2.9**
	comp=Z,46nm,1.1s					
KAPI				*e*S	**S**	**00 28 53.1 -2.6**
KAPI	**Kappang**	**29.61**	**191**	P	**P**	**00 23 59.8 -2.4**
KAPI	**Kappang**	**29.61**	**191**	P	**P**	**00 24 00.6 -1.5**
	comp=Z,4.2nm,0.4s,baz=22,slow=14,SNR=3.1					
KAPI				LR	LR	00 35 26.3
	comp=Z,18μm,21.6s,baz=229,slow=36					
BBSI	**Bau Bau**	**29.72**	**185**	P	**P**	**00 24 03.7 +0.6**
	comp=Z,244nm,1.2s,comp=Z,4μmcomp=Z,43μm					
BKSI	**Bulukumba**	**29.85**	**190**	P	**P**	**00 24 06.0 +1.7**
	comp=Z,24nm,1.9s,comp=Z,987nm					
SHL	**Shillong**	**30.16**	**279**	*i* PCW		00 24 08.0
SHL				AMB	AMB	00 24 19.9
	comp=Z,406nm,2.5s					
KULM	**Kulim**	**30.21**	**235**	PFAKE		00 24 20.0 +12
KULM				LR	LR	
	comp=Z,9μm,22.0s					
KULM	**Kulim**	**30.21**	**235**	P	**P**	**00 24 06.5 -1.1**
KULM	**Kulim**	**30.21**	**235**	P	**P**	**00 24 08.8 +1.2**
	comp=Z,59nm,1.3s,comp=Z,2μm					
MYKOM	**Kota Tinggi**	**30.43**	**226**	P	**P**	**00 24 08.9 -0.5**
MYKOM	**Kota Tinggi**	**30.43**	**226**	P	**P**	**00 24 10.9 +1.5**
	comp=Z,82nm,1.3s,comp=Z,3μm					
IPM	**Ipoh**	**30.47**	**234**	P	**P**	**00 24 09.0 -0.9**
IPM	**Ipoh**	**30.47**	**234**	P	**P**	**00 24 09.3 -0.6**
	comp=Z,95nm,1.1s,comp=Z,3μm					
KGM	**Kluang**	**30.61**	**227**	P	**P**	**00 24 10.4 -0.7**
LSA	**Lhasa**	**30.71**	**288**	P	**P**	**00 24 12.8 +0.4**
LSA				LR	LR	
	comp=N,12μm,18.6s					
LSA				LR	LR	
	comp=E,31μm,15.4s					
LSA				LR	LR	
	comp=Z,46μm,15.8s					
LSA	**Lhasa**	**30.71**	**288⇑**	*i*P	**P**	**00 24 13.6 +1.2**
LSA				pmax	pmax	
	comp=Z,432nm,1.7s					
LSA				MLR	MLR	
	comp=Z,22μm,22.0s					
LSA	**Lhasa**	**30.71**	**288⇑**	*i*P	**P**	**00 24 13.6 +1.2**
	comp=Z,432nm,1.7s					
LSA				LR	LR	
	comp=Z,22μm,22.0s					
ZAK	**Zakamensk**	**31.08**	**332⇑**	*i*P	**P**	**00 24 13.5 -1.5**
ZAK				pmax	pmax	
	comp=Z,71nm,2.0s					
TPI	**Tanjungpandan**	**31.83**	**215**	P	**P**	**00 24 24.0 +2.2**
	comp=Z,48nm,1.0s,comp=Z,1μm					
TLY	**Talaya**	**31.93**	**334**	*c i*P	**P**	**00 24 20.9 -1.4**
TLY				*e*		00 25 33.2
TLY				pmax	pmax	
	comp=Z,211nm,1.8s					
TLY				MLR	MLR	
	comp=Z,51μm,14.0s					
TLY	**Talaya**	**31.93**	**334**	P	**P**	**00 24 21.8 -0.5**
	comp=Z,431nm,1.6s,SNR=36					
IRK	**Irkutsk**	**32.12**	**336**	*e*P	**P**	**00 24 22.2 -1.8**
IRK				*e*		00 34 52.1
IRK				pmax	pmax	
	comp=Z,313nm,2.1s					
PPBI	**Pangkal Pinang**	**32.16**	**218**	P	**P**	**00 24 25.6 +1.0**
	comp=Z,66nm,2.5s,comp=Z,3μm					
DGPR	**DIGLIPUR**	**32.39**	**256**	*e*P	**P**	**00 24 25.8 -0.9**
DGPR				AMB	AMB	00 24 31.3
	comp=Z,168nm,5.4s					
CLNS	**Chul'man**	**32.50**	**360**	*e*P	**P**	**00 24 25.6 -1.7**
CLNS				*e**PP	**pP**	**00 24 38.7 +2.3**
CLNS				*e*PPP	PPP	00 25 42.0
CLNS				*e*		00 27 09.0
CLNS				*e*S	S	00 29 30.1 -10
CLNS				*e*SSS	SSS	00 31 36.8
CLNS				pmax	pmax	
	comp=Z,89nm,2.0s					
CLNS				pmax	pmax	
	comp=E,27nm,1.2s					
CLNS				pmax	pmax	
	comp=N,72nm,1.7s					
CLNS				smax	smax	
	comp=E,452nm,10.9s					
CLNS				smax	smax	
	comp=N,2μm,12.9s					
CLNS				MLR	MLR	
	comp=Z,31μm,14.0s					
CLNS				MLR	MLR	
	comp=N,25μm,14.0s					
CLNS				MLR	MLR	
	comp=E,6μm,11.0s					
MMRI	**Maumere**	**32.86**	**185**	P	**P**	**00 24 30.3 -0.5**
LBFI	**Labuhan Bajo,**	**32.99**	**190**	P	**P**	**00 24 31.2 -0.7**
	comp=E,931nm,1.3s,comp=E,10μm					
MOY	**Mondy**	**33.00**	**332**	*e*P	**P**	**00 24 30.2 -1.7**
MOY				pmax	pmax	
	comp=Z,786nm,1.8s					
KMMI	**Kalianget**	**33.02**	**201**	P	P	00 24 47.2 +15
PSI	**Prapat**	**33.15**	**234**	P	**P**	**00 24 32.1 -1.4**
PSI	**Prapat**	**33.15**	**234**	P	**P**	**00 24 32.1 -1.4**
	comp=Z,58nm,0.9s,baz=28,slow=5.5,SNR=20					
PBA	**Port Blair**	**33.21**	**254**	*e*P	P	00 24 32.9 -1.0
BKNI	**Bangkinang**	**33.38**	**228**	P	**P**	**00 24 36.3 +0.9**
	comp=Z,268nm,1.5s,comp=Z,5μmcomp=Z,19μm					
KCSI	**Kotacane, Aceh**	**33.53**	**236**	P	**P**	**00 24 37.8 +1.0**
	comp=Z,52nm,2.2s,comp=Z,2μm					
TAPN	**Taplejung**	**33.77**	**283**	*e*P	**P**	**00 24 39.0 -0.1**
BLJI	**Banyuglugur**	**33.80**	**201**	P	P	00 24 45.9 +7.0
SOEI	**Soe**	**33.86**	**182**	P	**P**	**00 24 37.5 -2.2**
ODAN	**Odare**	**34.09**	**282**	*e*P	**P**	**00 24 41.3 -0.5**
	comp=Z,855nm,1.1s					
BATI	**Baumata**	**34.33**	**183**	P	**P**	**00 24 41.4 -2.3**
BATI	**Baumata**	**34.33**	**183**	P	**P**	**00 24 41.0 -2.6**
BATI	**Baumata**	**34.33**	**183**	P	**P**	**00 24 41.4 -2.3**
	comp=Z,116nm,0.6s,baz=300,slow=1.0,SNR=25					
BATI				LR	LR	00 38 58.8
	comp=Z,7μm,19.1s,baz=10.0,slow=37					
PPI	**Padang Panjang**	**34.39**	**228**	P	**P**	**00 24 45.0 +0.8**
	comp=Z,224nm,2.2s,comp=Z,5μm					
SJI	**Sawahan**	**34.42**	**204**	P	P	00 24 55.9 +11
CMBY	**CAMPBELL BAY**	**34.51**	**245**	*e*P	**P**	**00 24 44.0 -1.3**
PWJI	**Pagerwojo**	**34.67**	**204**	P	P	00 24 57.5 +11
RAMN	**Ramite**	**34.78**	**283**	*e*P	**P**	**00 24 46.7 -1.1**
	comp=Z,1μm,1.6s					
KLSI		**35.02**	**217**	P	**P**	**00 24 50.7 +1.1**
	comp=Z,113nm,1.1s,comp=Z,3μm					
JIRN	**Jiri**	**35.10**	**284**	*e*P	**P**	**00 24 50.2 -0.5**
	comp=Z,312nm,0.8s					
KPJI	**Karang Pucung**	**35.21**	**209**	P	P	00 25 01.3 +10
GUN	**Gumba**	**35.36**	**284**	*e*P	**P**	**00 24 52.5 -0.4**
LEM	**Lembang**	**35.36**	**211**	P	P	00 24 58.9 +6.2
KSI	**Kapahiang**	**35.42**	**221**	P	**P**	**00 24 55.2 +2.1**
	comp=Z,234nm,0.9s,comp=Z,7μm					
SBJI	**Serang**	**35.48**	**214**	P	P	00 25 08.6 +15
DBJI	**Dramaga**	**35.54**	**213**	P	**P**	**00 24 57.0 +2.9**
	comp=Z,255nm,1.8s,comp=Z,7μm					

SKR	**Severo-Kuril's**	**35.55**	**34**	*e*P	P	00 24 48.0	-5.8
SKR				*e*		00 26 12.0	
SKR				*e*PPP	PPP	00 26 29.0	
SKR				*e*S	**S**	**00 30 22.0**	**-5.4**
SKR				*e*SS	**SnSn**	**00 32 44.0**	**-5.1**
SKR				pmax	pmax		
	comp=N,980nm,2.0s						
SKR				pmax	pmax		
	comp=E,980nm,2.0s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,2μm,12.0s						
SKR				pmax	pmax		
	comp=E,2μm,12.0s						
SKR				pmax	pmax		
	comp=Z,4μm,12.0s						
SKR				smax	smax		
	comp=E,5μm,8.0s						
SKR				smax	smax		
	comp=N,10μm,16.0s						
SKR				MLR	MLR		
	comp=N,6μm,18.0s						
SKR				MLR	MLR		
	comp=E,11μm,18.0s						
SKR				MLR	MLR		
	comp=Z,12μm,18.0s						
LWLI	**Liwa**	**35.67**	**218**	P	P	00 25 08.4	+13
BOK	**Bokaro**	**35.79**	**277**	*e*P	**P**	**00 24 57.1**	**+0.9**
BOK				AMB	AMB	00 25 01.7	
	comp=Z,530nm,1.3s						
PKI	**Pulchoki**	**35.80**	**284**	*e*P	**P**	**00 24 55.4**	**-1.2**
PKIN	**Phulchoki**	**35.81**	**284**	*e*P	**P**	**00 24 55.6**	**-1.0**
KASI	**Kota Agung**	**35.84**	**217**	P	P	00 25 06.2	+10
KKN	**Kakani**	**35.90**	**284**	*e*P	**P**	**00 24 56.5**	**-0.8**
	comp=Z,287nm,0.8s						
CISI	**Cisompet, Garu**	**35.91**	**210**	P	P	00 25 06.6	+9.3
DMN	**Daman**	**36.06**	**284**	*e*P	**P**	**00 24 57.7**	**-1.1**
HVS	**Khovu-Aksy**	**36.08**	**326***ce*P		**P**	**00 24 57.1**	**-1.4**
WMQ	**Urumqi**	**36.24**	**312**⇑*i*P		**P**	**00 24 59.5**	**-0.4**
WMQ				sP	**sP**	**00 25 09.4**	**-3.4**
WMQ				PP	**PP**	**00 26 22.8**	**+0.2**
WMQ				S	**S**	**00 30 36.4**	**-1.9**
WMQ				pmax	pmax		
	comp=Z,240nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,2μm,5.0s						
WMQ				LR	LR		
	comp=N,28μm,15.0s						
WMQ				LR	LR		
	comp=E,29μm,15.0s						
WMQ				LR	LR		
	comp=Z,28μm,20.0s						
DANN	**Dangsing**	**37.20**	**285**	*e*P	**P**	**00 25 07.3**	**-1.3**
KOLN	**Koldanda**	**37.38**	**284**	*e*P	**P**	**00 25 09.2**	**-0.8**
	comp=Z,375nm,0.9s						
PEA0B	**Petropavlovsk-**	**37.79**	**32**⇑*i*P		**P**	**00 25 11.6**	**-1.2**
PETK	**Petropavlovsk-**	**37.79**	**32**	P	**P**	**00 25 12.2**	**-0.7**
PETK	**Petropavlovsk-**	**37.79**	**32**	P	**P**	**00 25 12.2**	**-0.7**
PETK	**Petropavlovsk-**	**37.79**	**32**	P	**P**	**00 25 12.2**	**-0.7**
	comp=Z,49nm,0.8s,baz=212,slow=5.3,SNR=67						
PETK				LR	LR	00 41 29.4	
	comp=Z,17μm,20.0s,baz=232,slow=37						
YAK	**Yakutsk**	**37.84**	**3***c i*P		**P**	**00 25 10.3**	**-2.8**
YAK				*e**PP	**pP**	**00 25 19.9**	**-2.3**
YAK				*e*		00 26 39.7	
YAK				*e*		00 27 28.3	
YAK				*e*S	S	00 30 55.3	-6.7
YAK				*e**SS	**ScP**	**00 31 11.1**	**-3.3**
YAK				*e*SS	**SnSn**	**00 33 34.5**	**-10**
YAK				*e*		00 35 20.3	
YAK				pmax	pmax		
	comp=Z,49nm,1.0s						
YAK				pmax	pmax		
	comp=N,29nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,628nm,4.5s						
YAK				pmax	pmax		
	comp=N,541nm,4.2s						
YAK				pmax	pmax		
	comp=E,189nm,4.0s						
YAK				smax	smax		
	comp=E,553nm,3.8s						
YAK				smax	smax		
	comp=N,335nm,2.2s						
YAK				MLR	MLR		
	comp=Z,29μm,16.0s						
YAK				MLR	MLR		
	comp=E,7μm,13.0s						
YAK				MLR	MLR		
	comp=N,17μm,14.0s						
PYUN	**Piuthan**	**37.90**	**285**	*e*P	**P**	**00 25 13.4**	**-0.9**
	comp=N,611nm,0.8s						
PET	**Petropavlovsk**	**38.20**	**33***α i*P		**P**	**00 25 15.5**	**-0.8**
PET				*e**PP	**pP**	**00 25 27.5**	**+2.0**
PET				*i* S	**S**	**00 31 04.8**	**-2.9**
PET				pmax	pmax		
	comp=Z,278nm,1.4s						
PET				pmax	pmax		
	comp=Z,4μm,2.8s						
PET				pmax	pmax		
	comp=Z,2μm,7.8s						
PET				MLR	MLR		
	comp=Z,15μm,19.0s						
PET				MLR	MLR		
	comp=Z,12μm,19.0s						
WAKE	**Wake Island**	**38.74**	**89**	*e*P	**P**	**00 25 20.4**	**-0.9**
	comp=Z,317nm,1.3s						
WAKE				LR	LR		
	comp=Z,10μm,21.0s						
KRAR	**Krasnoyarsk**	**39.48**	**332**⇓*e*P		**P**	**00 25 27.3**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,290nm,1.7s						
KRAR				MLR	MLR		
	comp=Z,64μm,16.0s						
VIS	**Vishakhapatnam**	**39.49**	**269**	*e*P	**P**	**00 25 27.1**	**-0.5**
PMG	**Port Moresby**	**39.80**	**145**⇓*e*P		**P**	**00 25 29.4**	**-0.6**
	comp=Z,176nm,1.3s						
PMG				*e*PP	**PP**	**00 27 02.1**	**+0.2**
PMG				*e*S	**S**	**00 31 33.0**	**+0.5**
PMG	**Port Moresby**	**39.80**	**145**	P	**P**	**00 25 29.4**	**-0.6**
	comp=Z,155nm,1.3s,comp=Z,4μm						
PMG	**Port Moresby**	**39.80**	**145**	P	**P**	**00 25 29.7**	**-0.3**
	comp=Z,42nm,0.8s,baz=356,slow=7.1,SNR=7.0						
PMG				LR	LR	00 39 32.4	
	comp=Z,17μm,21.1s,baz=312,slow=33						
MK31	**Makanchi Array**	**40.82**	**314**⇑*i*P		**P**	**00 25 37.8**	**-0.5**
MK31				*e*		00 25 48.3	
MK31				*e*		00 27 12.4	
MK31				*e*S	**S**	**00 31 45.5**	**-1.8**
MK31	**Makanchi Array**	**40.82**	**314**⇑*i*P		**P**	**00 25 37.8**	**-0.5**
MK31				*e*	**pP**	**00 25 48.3**	**+0.8**
MK31				*e*PP	**PP**	**00 27 12.4**	**-0.2**
MK31				*e*S	**S**	**00 31 45.5**	**-1.8**
MKAR	**Makanchi Array**	**40.82**	**314***ce*P		**P**	**00 25 37.5**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,48nm,0.4s						
MKAR	**Makanchi Array**	**40.82**	**314**	P	**P**	**00 25 38.0**	**-0.3**
MKAR	**Makanchi Array**	**40.82**	**314**	P	**P**	**00 25 38.0**	**-0.3**
	comp=Z,48nm,0.5s,baz=100,slow=9.1,SNR=542						
MKAR				LR	LR	00 43 59.4	
	comp=Z,37μm,19.8s,baz=103,slow=38						
JBP	**Jabalpur**	**41.24**	**278**⇑*i*P		**P**	**00 25 41.8**	**-0.2**
JBP				*e*x	x	00 31 51.3	
COEN	**Coen**	**41.90**	**153**⇓*e*P		**P**	**00 25 46.5**	**-0.8**
	comp=Z,748nm,0.9s						
COEN				*e*PP	**PP**	**00 27 24.7**	**-0.1**
COEN				*e*S	**S**	**00 32 04.4**	**+0.6**
DDI	**Dehra Dun**	**42.05**	**289**	*e*P	**P**	**00 25 48.4**	**-0.2**
DDI				AMB	AMB	00 26 01.2	
	comp=Z,2μm,4.2s						
FITZ	**Fitzroy Crossi**	**42.15**	**179**	P	**P**	**00 25 47.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**42.15**	**179**	P	**P**	**00 25 47.9**	**-1.4**
	comp=Z,26nm,0.7s,baz=4.3,slow=9.6,SNR=62						
FITZ				LR	LR	00 44 01.1	
	comp=Z,3μm,19.5s,baz=251,slow=37						
ZALV	**Zalesovo Beam**	**42.17**	**325**	P	**P**	**00 25 47.8**	**-1.4**
ZALV						00 27 43.2	
ZALV	**Zalesovo Beam**	**42.17**	**325**	P	**P**	**00 25 47.8**	**-1.4**
ZALV				PcP	**PcP**	**00 27 43.2**	**+0.2**
ZALV	**Zalesovo Beam**	**42.17**	**325**	P	**P**	**00 25 47.8**	**-1.4**
	comp=Z,42nm,0.5s,baz=108,slow=8.3,SNR=112						
ZALV				PcP	**PcP**	**00 27 43.2**	**+0.2**
	comp=Z,18nm,0.9s,baz=106,slow=4.1,SNR=3.9						
ZALV				LR	LR	00 44 49.5	
	comp=Z,37μm,19.0s,baz=300,slow=38						
NGP	**Nagpur**	**42.51**	**275**	*e*P	**P**	**00 25 51.1**	**-1.3**
NGP				AMP		00 26 01.8	
	comp=Z,356nm,1.4s						
NGP				*e*S	**S**	**00 32 14.2**	**+1.4**
SEY	**Seymchan**	**42.68**	**18***c i*P		**P**	**00 25 53.5**	**+0.3**
SMLA	**Simla**	**42.77**	**290**	*i* P	**P**	**00 25 55.3**	**+0.9**
SMLA				AMB	AMB	00 25 58.1	
	comp=Z,886nm,1.1s						
SMLA				*i* x	x	00 40 35.9	
SDNR	**Sundarnagar**	**42.92**	**291**	*e*P	**P**	**00 25 57.0**	**+1.3**
SDNR				*e*S	**S**	**00 32 21.0**	**+2.3**
BHK	**Bhakra**	**43.39**	**291**	*ex*	**P**	**00 26 02.0**	**+2.5**
NVS	**Novosibirsk**	**43.41**	**326**⇑*i*P		**P**	**00 25 57.4**	**-1.8**
NVS				*e*		00 27 41.9	
NVS				pmax	pmax		
	comp=Z,761nm,2.1s						
NVS				pmax	pmax		
	comp=N,314nm,2.0s						
NVS				pmax	pmax		
	comp=E,401nm,2.0s						
NVS				pmax	pmax		
	comp=Z,297nm,2.4s						
NVS				pmax	pmax		
	comp=E,134nm,2.0s						
DHRM	**DHARAMSHALA**	**43.45**	**292**	*e*P	**P**	**00 26 00.5**	**+0.3**
DHRM				AMB	AMB	00 26 03.3	
	comp=Z,510nm,0.7s						
BHPL	**Bhopal**	**43.53**	**279**	*e*P	**P**	**00 26 02.0**	**+1.3**
BHPL				AMB	AMB	00 26 13.2	
	comp=Z,298nm,2.6s						
AAA	**Alma-Ata**	**43.65**	**308**	*i* P	**P**	**00 26 02.6**	**+1.2**
AAA				*e*S	**S**	**00 32 28.4**	**-0.8**
AAA				pmax	pmax		
	comp=Z,5μm,4.7s						
AAA				smax	smax		
	comp=E,4μm,11.3s						
AAA				MLR	MLR		
	comp=Z,62μm,17.0s						
DLH	**Dalhousie**	**43.72**	**292**	*e*P	**P**	**00 26 03.0**	**+0.6**
DLH				*ex*	x	00 26 10.0	
PONG	**Pong**	**43.76**	**291**	*e*P	**P**	**00 26 00.0**	**-2.4**
KSH	**Kashi**	**43.89**	**302**⇑*i*P		P	00 26 06.9	+3.4
KSH				sP	sP	00 26 16.0	-0.6
KSH				PP	**PcP**	**00 27 51.9**	**+2.5**
KSH				S	**S**	**00 32 37.9**	**+4.9**
KSH				ScS	**ScS**	**00 36 00.8**	**+0.3**
KSH				pmax	pmax		
	comp=Z,360nm,1.6s						
KSH				LR	LR		
	comp=N,24μm,14.1s						
KSH				LR	LR		
	comp=E,33μm,16.4s						
KSH				LR	LR		
	comp=Z,21μm,16.2s						
HYB	**Hyderabad**	**43.93**	**270**⇑*i*P		**P**	**00 26 04.0**	**0.0**
	comp=Z,1μm,2.0s						
HYB				*e*sP	**sP**	**00 26 16.0**	**-1.0**
HYB				*e*PP	**PcP**	**00 27 52.0**	**+2.3**
HYB				*e*S	**S**	**00 32 36.0**	**+2.1**
HYB				*e*SS	**SS**	**00 35 48.0**	**-3.1**
HYB				LR	LR	00 45 44.0	
	comp=Z,9.2nm,20.0s						
HYB	**Hyderabad**	**43.93**	**270**	*e*P	**P**	**00 26 04.7**	**+0.7**
THN	**Thein Dam**	**43.94**	**292**	*e*P	**P**	**00 26 02.0**	**-1.8**
THN				*ex*	x	00 32 31.0	
KURK	**Kurchatov**	**44.37**	**319**	P	**P**	**00 26 05.8**	**-1.2**
KURK						00 27 50.3	
KURK	**Kurchatov**	**44.37**	**319**	P	**P**	**00 26 05.8**	**-1.2**
KURK				PP	**PcP**	**00 27 50.3**	**-0.3**
KURBB	**Kurchatov Arra**	**44.39**	**319**	P	**P**	**00 26 05.8**	**-1.4**
	comp=Z,72nm,0.8s,baz=108,slow=8.0,SNR=188						
KURBB				PP	**PcP**	**00 27 50.3**	**-0.4**
	comp=Z,7.8nm,0.9s,baz=108,slow=8.9,SNR=3.2						
TKM2	**Tokmak 2**	**44.57**	**307**	P	**P**	**00 26 09.8**	**+0.8**
	SNR=248						
TKM2	**Tokmak 2**	**44.57**	**307**	PFAKE		00 26 20.0	+11
TKM2				LR	LR		
	comp=Z,22μm,19.0s						
KZA	**Kyzart**	**44.71**	**306**	P	**P**	**00 26 12.5**	**+2.1**
	SNR=20						
WRAB	**Tennant Creek**	**44.87**	**168**	P	**P**	**00 26 10.0**	**-1.3**
	comp=Z,1μm,1.1s,SNR=61						
WRAB	**Tennant Creek**	**44.87**	**168**⇓*e*P		**P**	**00 26 10.3**	**-1.0**
WRAB				*e*		00 27 52.7	
WRAB				*e*S	**S**	**00 32 44.3**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,334nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,9μm,20.0s						
WRAB	**Tennant Creek**	**44.87**	**168**⇓*e*P		**P**	**00 26 10.3**	**-1.0**
	comp=Z,334nm,1.3s						
WRAB				*e*PcP	**PcP**	**00 27 52.7**	**+0.1**
WRAB				*e*ScP	**ScP**	**00 31 42.5**	**-0.3**
WRAB				*e*S	**S**	**00 32 44.2**	**-2.9**
WRAB				LR	LR		
	comp=Z,9μm,20.0s						
WRA	**Warramunga Arr**	**44.88**	**168**	P	**P**	**00 26 10.6**	**-0.8**
WRA				S	**S**	**00 32 44.2**	**-3.0**
WRA	**Warramunga Arr**	**44.88**	**168**	P	**P**	**00 26 10.6**	**-0.8**
	comp=Z,70nm,0.6s,baz=349,slow=8.7,SNR=164						
WRA				S	**S**	**00 32 44.2**	**-3.0**
	comp=Z,0.9nm,1.0s,baz=357,slow=15,SNR=6.1						
WRA				LR	LR	00 44 18.6	
	comp=Z,9μm,20.1s,baz=0.0,slow=35						
KBK	**Karagaybulak**	**45.01**	**307**	P	**P**	**00 26 13.5**	**+1.0**
	SNR=53						
CHMS	**Chumysh**	**45.20**	**307**	P	**P**	**00 26 14.4**	**+0.6**
	SNR=63						
FRU	**Bishkek**	**45.27**	**307**⇑*i*P		**P**	**00 26 15.0**	**+0.6**
FRU				*e*S	**S**	**00 32 58.0**	**+5.2**
FRU				*e*		00 36 00.0	
FRU				pmax	pmax		
	comp=Z,1μm,2.0s						
FRU				pmax	pmax		
	comp=Z,4μm,4.5s						
FRU				MLR	MLR		
	comp=Z,55μm,18.0s						
UCH	**Uchtor**	**45.27**	**306**	P	**P**	**00 26 16.4**	**+1.4**
	SNR=54						
AAK	**Ala-Archa**	**45.34**	**307**	P	**P**	**00 26 15.0**	**-0.1**
	comp=Z,654nm,0.9s,SNR=42						
AAK	**Ala-Archa**	**45.34**	**307***c i*P		**P**	**00 26 15.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,675nm,2.5s						
AAK				MLR	MLR		
	comp=Z,40μm,18.0s						
AAK	**Ala-Archa**	**45.34**	**307**	P	**P**	**00 26 16.0**	**+0.9**
	SNR=99						
AAK	**Ala-Archa**	**45.34**	**307**	P	**P**	**00 26 15.7**	**+0.7**
	SNR=27						
AAK	**Ala-Archa**	**45.34**	**307**⇑*i*P		**P**	**00 26 15.6**	**+0.5**
	comp=Z,126nm,1.0s						
AAK				*e*PcP	**PcP**	**00 27 54.3**	**0.0**
AAK				*e*ScP	**ScP**	**00 31 40.2**	**-4.7**
AAK				*e*S	**S**	**00 32 52.4**	**-1.6**
AAK	**Ala-Archa**	**45.34**	**307**	P	**P**	**00 26 16.1**	**+1.1**
	comp=Z,20nm,0.5s,baz=99,slow=6.8,SNR=75						
AAK				LR	LR	00 47 45.0	
	comp=Z,15μm,18.9s,baz=83,slow=40						
USP	**Ospenovka**	**45.41**	**308**	P	**P**	**00 26 15.4**	**-0.1**
	SNR=90						
LATR	**Latur**	**45.47**	**272**	*e*P	**P**	**00 26 16.6**	**+0.5**
LATR				*ex*	x	00 26 18.1	
LATR				AMB	AMB	00 26 29.1	
	comp=Z,310nm,1.5s						
MBWA	**Marble Bar**	**45.50**	**187**	*e*P	**P**	**00 26 15.0**	**-1.2**
	comp=Z,40nm,1.0s						
MBWA				*e*PcP	**PcP**	**00 27 54.9**	**+0.1**
MBWA				*e*PP	**PP**	**00 28 01.7**	**-1.5**
MBWA				LR	LR		
	comp=Z,4μm,22.0s						
COCO	**West Island**	**45.62**	**220**	*e*P	**P**	**00 26 16.0**	**-1.3**
COCO	**West Island**	**45.62**	**220**	*e*P	**P**	**00 26 16.0**	**-1.3**
COCO				LR	LR		
	comp=Z,3μm,20.0s						
PALK	**Pallekele**	**45.77**	**256**	P	**P**	**00 26 19.4**	**+0.7**
	comp=Z,303nm,0.8s,SNR=5.2						
PALK	**Pallekele**	**45.77**	**256**	P	**P**	**00 26 20.4**	**+1.7**
	comp=Z,96nm,2.4s,comp=Z,3μm						
EKS2	**Erkin-Say**	**45.87**	**307**	P	**P**	**00 26 19.8**	**+0.6**
	SNR=62						
EKS2	**Erkin-Say**	**45.87**	**307**	PFAKE		00 26 30.0	+11
EKS2				LR	LR		
	comp=Z,32μm,19.0s						
AML	**Almayashu**	**45.87**	**306**	P	**P**	**00 26 20.6**	**+1.1**
	SNR=126						
FX1	**Attu Island--F**	**45.93**	**39**	*e*P	**P**	**00 26 19.5**	**+0.2**
FX1				*e*PcP	**PcP**	**00 27 55.5**	**-0.4**
FX1				*e*PP	**PP**	**00 28 08.4**	**+1.3**
FX1	**Attu Island--F**	**45.93**	**39**	P	**P**	**00 26 20.0**	**+0.6**
	comp=Z,127nm,0.7s,baz=286,slow=2.8,SNR=24						
FX1				LR	LR	00 44 50.0	
	comp=Z,3μm,18.8s,baz=270,slow=35						
SMY	**Shemya**	**46.42**	**39**	*e*P	**P**	**00 26 24.1**	**+0.9**
SMY				*e*		00 26 33.7	
SMY				*e*		00 27 57.8	
SMY				pmax	pmax		
	comp=Z,603nm,1.2s						
SMY	**Shemya**	**46.42**	**39**	*e*P	**P**	**00 26 24.1**	**+0.9**
	comp=Z,603nm,1.2s						
SMY				*e*	**pP**	**00 26 33.7**	**+1.2**
SMY				*e*PcP	**PcP**	**00 27 57.8**	**+0.2**
TIXI	**Tiksi**	**47.42**	**2***ce*P		**P**	**00 26 28.0**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,188nm,2.5s						
TIXI				MLR	MLR		
	comp=Z,23μm,16.0s						
HNR	**Honiara**	**47.72**	**130**	LR	LR	00 43 38.1	
	comp=Z,11μm,21.9s,baz=291,slow=32						
POO	**Poona**	**47.91**	**274**	*e*P	**P**	**00 26 36.0**	**+0.6**
POO				AMB	AMB	00 26 36.6	
	comp=Z,229nm,2.7s						
KK31	**Karatay Array**	**48.30**	**307**	*i* P	**P**	**00 26 38.0**	**0.0**
KK31				pmax	pmax		
	comp=Z,958nm,1.6s						
AS31	**Alice Springs**	**48.43**	**169**⇓*e*P		**P**	**00 26 38.3**	**-0.9**
AS31				*e*PcP	**PcP**	**00 28 04.7**	**-0.6**
ASAR	**Alice Springs**	**48.43**	**169**	P	**P**	**00 26 39.0**	**-0.2**
ASAR				S	**S**	**00 33 41.2**	**+3.2**
ASAR				P'P'		00 57 30.9	
ASAR	**Alice Springs**	**48.43**	**169**	P	**P**	**00 26 39.0**	**-0.2**
	comp=Z,27nm,0.6s,baz=356,slow=8.8,SNR=174						
ASAR				S	**S**	**00 33 41.2**	**+3.2**
	comp=Z,1.8nm,1.1s,baz=350,slow=20,SNR=4.5						
ASAR				LR	LR	00 47 46.6	
	comp=Z,8μm,18.6s,baz=346,slow=37						
ASAR				PKPPKP	P'P'df	00 57 30.9	-8.9
	comp=Z,1.3nm,1.0s,baz=120,slow=5.1,SNR=6.0						
TRD	**Trivandrum**	**48.58**	**260**	*ex*	P	00 26 35.2	-5.3
CTA	**Charters Tower**	**48.67**	**153**	LR	LR	00 47 10.6	
	comp=Z,20μm,19.9s,baz=338,slow=36						
CTAO	**Charters Tower**	**48.67**	**153**	*e*P	**P**	**00 26 41.3**	**+0.3**
CTAO				*e*		00 26 50.5	
CTAO				*e*		00 28 34.5	
CTAO				pmax	pmax		
	comp=Z,217nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,22μm,20.0s						
CTAO	**Charters Tower**	**48.67**	**153**	*e*P	**P**	**00 26 41.3**	**+0.3**
	comp=Z,217nm,1.6s						
CTAO				*e*	**pP**	**00 26 50.5**	**+0.1**
CTAO				*e*PP	**PP**	**00 28 34.5**	**+0.1**
CTAO				LR	LR		
	comp=Z,22μm,20.0s						
GOA	**Goa**	**48.84**	**270**	*e*P	**P**	**00 26 41.7**	**-0.8**
GOA				AMB	AMB	00 26 44.2	
	comp=Z,256nm,2.7s						
AMKA	**Amchitka**	**49.16**	**42**	*e*P	**P**	**00 26 45.4**	**+0.9**
	comp=Z,209nm,0.8s						
KBL	**Kabul**	**49.40**	**295**⇑*i*P		**P**	**00 26 47.3**	**+0.5**
KBL				*e*		00 26 57.0	
KBL				*e*		00 28 42.0	
KBL				*e*S	**S**	**00 33 52.4**	**+0.4**
KBL	**Kabul**	**49.40**	**295**⇑*i*P		**P**	**00 26 47.3**	**+0.5**
	comp=Z,5μm,2.3s						
KBL				*e*	**pP**	**00 26 57.0**	**+0.8**
KBL				*e*PP	**PP**	**00 28 42.0**	**+1.0**
KBL				*e*ScP	**ScP**	**00 32 02.6**	**+0.4**
KBL				*e*S	**S**	**00 33 52.4**	**+0.4**
VOSK	**Vostochnaya**	**49.49**	**320**	P	**P**	**00 26 46.1**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,1μm,2.3s						
BVA0	**Borovoye Array**	**49.91**	**320**	*i* P	**P**	**00 26 49.5**	**-0.7**
BVAR	**Borovoye Array**	**49.91**	**320**	P	**P**	**00 26 50.3**	**+0.1**
BVAR						00 28 11.0	
BVAR	**Borovoye Array**	**49.91**	**320**	P	**P**	**00 26 50.3**	**+0.1**
BVAR				PcP	**PcP**	**00 28 11.0**	**+0.8**
BVAR	**Borovoye Array**	**49.91**	**320**	P	**P**	**00 26 50.3**	**+0.1**
	comp=Z,17nm,0.4s,baz=108,slow=8.2,SNR=134						
BVAR				PcP	**PcP**	**00 28 11.0**	**+0.8**
	comp=Z,12nm,0.6s,baz=128,slow=5.5,SNR=4.4						
BVAR				LR	LR	00 49 25.4	
	comp=Z,13μm,19.6s,baz=345,slow=38						
BRVK	**Borovoye**	**49.98**	**320**	P	**P**	**00 26 50.5**	**-0.2**
	comp=Z,760nm,1.4s,SNR=74						
BRVK	**Borovoye**	**49.98**	**320***c i*P		**P**	**00 26 50.1**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,614nm,2.5s						
BRVK				MLR	MLR		
	comp=Z,15μm,16.0s						
BRVK	**Borovoye**	**49.98**	**320**	P	**P**	**00 26 50.5**	**-0.2**
	SNR=174						
BRVK	**Borovoye**	**49.98**	**320**⇑*i*P		**P**	**00 26 50.0**	**-0.7**
	comp=Z,246nm,1.3s						
BRVK				*e*PcP	**PcP**	**00 28 08.3**	**-2.2**
BRVK				*e*PP	**PP**	**00 28 44.0**	**-1.6**
BRVK				*e*ScP	**ScP**	**00 32 04.3**	**+0.3**
BRVK				*e*S	**S**	**00 33 54.9**	**-4.3**
BRVK				LR	LR		
	comp=Z,18μm,21.0s						
BHJ	**Bhuj**	**50.52**	**281**	*e*P	**P**	**00 26 55.6**	**+0.4**
BHJ				AMB	AMB	00 27 07.8	
	comp=Z,278nm,1.9s						
MIDW	**Midway**	**51.28**	**72**	PFAKE		00 27 10.0	+9.2
MIDW				LR	LR		
	comp=Z,4μm,19.0s						
TARA	**Tarawa**	**51.48**	**109**	PFAKE		00 27 10.0	+7.5
TARA				LR	LR		
	comp=Z,7μm,20.0s						
ADK	**Adak**	**51.71**	**42**	*e*P	**P**	**00 27 03.4**	**-0.3**
ADK				pmax	pmax		
	comp=Z,1μm,1.1s						
ADK				MLR	MLR		
	comp=Z,6μm,20.0s						
ADK	**Adak**	**51.71**	**42**	*e*P	**P**	**00 27 03.4**	**-0.3**
	comp=Z,1μm,1.1s						
ADK				LR	LR		
	comp=Z,6μm,20.0s						
FORT	**Forrest**	**54.84**	**177**	*e*P	**P**	**00 27 26.5**	**-0.4**
	comp=Z,245nm,1.3s						
AB31	**Akbulak array**	**55.96**	**314**	*i* P	**P**	**00 27 34.9**	**0.0**
AB31				pmax	pmax		
	comp=Z,216nm,0.7s						
SVE	**Sverdlovsk**	**56.11**	**323***d i*P		**P**	**00 27 35.4**	**-0.4**
SVE				*e*		00 29 46.2	
SVE				*e*PPP	PPP	00 31 03.6	
SVE				*e*S	S	00 35 15.3	-7.3
SVE				*e*		00 37 22.4	
SVE				pmax	pmax		
	comp=Z,713nm,1.9s						
SVE				smax	smax		
	comp=N,929nm,21.8s						
SVE				smax	smax		
	comp=E,3μm,27.9s						
SVE				MLR	MLR		
	comp=E,48μm,19.0s						
SVE				MLR	MLR		
	comp=Z,66μm,18.0s						
SVE				MLR	MLR		
	comp=N,19μm,16.0s						
ARU	**Arti**	**57.21**	**323***d i*P		P	00 27 37.7	-5.9
ARU						00 28 36.0	
ARU				S	S	00 35 25.3

NWAO				LR	LR		
	comp=Z,3μm,19.0s						
BBOO	**Buckleboo**	**57.74**	**169**	*e*P	**P**	**00 27 47.1**	**-0.4**
	comp=Z,3μm,1.2s						
BBOO				*e*	**pP**	**00 27 56.4**	**-0.7**
BBOO				*e*PcP	**PcP**	**00 28 39.6**	**-0.5**
BBOO				*e*PP	**PP**	**00 29 55.1**	**-0.9**
STKA	**Stephens Creek**	**58.03**	**164**	*e*P	**P**	**00 27 48.9**	**-0.7**
STKA				*e*	**pP**	**00 27 57.5**	**-1.7**
STKA				*e*PcP	**PcP**	**00 28 41.5**	**+0.2**
STKA	**Stephens Creek**	**58.03**	**164**	P	**P**	**00 27 48.6**	**-1.0**
	comp=Z,36nm,0.7s,baz=343,slow=6.8,SNR=92						
STKA				LR	LR	00 55 35.9	
	comp=Z,7μm,18.3s,baz=333,slow=39						
UNV	**Unalaska Valle**	**58.04**	**40**	*e*P	**P**	**00 27 50.9**	**+1.4**
	comp=Z,64nm,1.0s						
SOKR	**Solikamsk**	**58.44**	**326***c*	*i*P	**P**	**00 27 51.7**	**-0.4**
SOKR				S	**S**	**00 35 51.8**	**-1.2**
SOKR						00 37 35.6	
SOKR				pmax	pmax		
	comp=Z,350nm,1.4s						
SOKR				MLR	MLR		
	comp=Z,68μm,24.0s						
TNA	**Tin City**	**58.60**	**27⇑**	*e*P	**P**	**00 27 53.3**	**+0.1**
	comp=Z,748nm,1.5s						
ARMA	**Armidale**	**60.04**	**154**	*e*P	**P**	**00 28 03.6**	**-0.1**
	comp=Z,69nm,1.2s						
ARMA				*e*	**pP**	**00 28 12.8**	**-0.5**
ARMA				*e*PcP	**PcP**	**00 28 49.8**	**+0.3**
SMDO	**Samad**	**60.91**	**284**	P	**P**	**00 28 11.2**	**+1.2**
	SNR=8.3						
DZM	**Mont Dzumac**	**61.11**	**136**	*e*P	**P**	**00 28 12.5**	**+1.3**
	comp=Z,168nm,1.2s						
DZM				*e*S	**S**	**00 36 28.8**	**+0.2**
	comp=Z,25μm,28.2s						
DZM				*e*LR	LR	00 46 23.0	
	comp=Z,39μm,25.1s						
DZM	**Mont Dzumac**	**61.11**	**136**	*e*P	**P**	**00 28 10.9**	**-0.2**
HOQ	**Hoqain**	**61.42**	**285**	P	**P**	**00 28 13.9**	**+0.6**
	SNR=18						
BANOM	**Banah**	**61.69**	**287**	P	**P**	**00 28 16.6**	**+1.5**
	SNR=7.0						
BSY	**Bisya**	**61.75**	**284**	P	**P**	**00 28 16.2**	**+0.6**
	SNR=11						
FUNA	**Funafuti**	**61.98**	**115**	PFAKE		00 28 30.0	+13
FUNA				LR	LR		
	comp=Z,14μm,21.0s						
UOSS	**Wadi Hilu**	**62.03**	**286**	P	**P**	**00 28 17.9**	**+0.5**
	comp=Z,117nm,0.6s,SNR=20						
ARQ	**Araqi**	**62.19**	**285**	P	**P**	**00 28 19.7**	**+1.2**
	SNR=8.2						
ASHO	**Ashiyiah**	**62.23**	**286**	P	**P**	**00 28 19.7**	**+0.9**
	SNR=14						
CHGN	**Chignik**	**62.66**	**38**	*e*P	**P**	**00 28 22.4**	**+1.4**
MAK	**Makhachkala**	**65.10**	**308**	*e*P	**P**	**00 28 37.6**	**+0.3**
MAK				*e*		00 29 09.6	
MAK				*e*		00 30 58.0	
MAK				*e*PPP	PPP	00 32 39.6	
MAK				*e*S	**S**	**00 37 19.0**	**+1.1**
MAK				*e*		00 38 28.0	
MAK				*e*SS	**SS**	**00 41 28.5**	**-1.6**
MAK				pmax	pmax		
	comp=Z,111nm,1.5s						
MAK				MLR	MLR		
	comp=Z,17μm,19.0s						
RSO	**Redoubt South**	**65.31**	**33**	*e*P	**P**	**00 28 39.8**	**+1.2**
	comp=Z,451nm,0.9s						
PPLA	**Purkeypile**	**65.34**	**30**	*e*P	**P**	**00 28 38.8**	**+0.1**
	comp=Z,573nm,1.7s						
PPLA				*e*S	**S**	**00 37 23.4**	**+2.9**
OHAK	**Old Harbor**	**65.39**	**36**	*e*P	**P**	**00 28 39.2**	**+0.2**
	comp=Z,215nm,1.2s						
OHAK				*e*PP	**PP**	**00 31 02.5**	**-0.2**
KDAK	**Kodiak Island**	**65.70**	**36**	P	**P**	**00 28 41.8**	**+0.8**
KDAK	**Kodiak Island**	**65.70**	**36**	P	**P**	**00 28 41.8**	**+0.8**
	comp=Z,39nm,1.0s,baz=0.2,slow=2.6,SNR=7.1						
COLD	**Coldfoot**	**65.78**	**25⇑**	*i*P	**P**	**00 28 41.6**	**+0.3**
	comp=Z,813nm,1.8s						
COLD				*e*S	**S**	**00 37 28.9**	**+3.4**
RBK	**Rabkut**	**66.02**	**279**	P	**P**	**00 28 44.5**	**+0.7**
	SNR=6.7						
TRF	**Thorofare Moun**	**66.14**	**29**	*e*P	**P**	**00 28 44.0**	**+0.1**
	comp=Z,249nm,1.5s						
MSVF	**Nonsavu**	**66.37**	**124**	P	**P**	**00 28 47.0**	**+1.1**
	comp=Z,443nm,1.2s,SNR=6.6						
MSVF	**Nonsavu**	**66.37**	**124**	*e*P	**P**	**00 28 45.6**	**-0.3**
MSVF				pmax	pmax		
	comp=Z,112nm,1.2s						
MSVF	**Nonsavu**	**66.37**	**124**	*e*P	**P**	**00 28 45.6**	**-0.3**
	comp=Z,112nm,1.2s						
MCK	**McKinley**	**66.70**	**29⇑**	*e*P	**P**	**00 28 46.9**	**-0.4**
MCK				*e*		00 31 15.3	
MCK				pmax	pmax		
	comp=Z,232nm,1.2s						
MCK	**McKinley**	**66.70**	**29⇑**	*e*P	**P**	**00 28 46.9**	**-0.4**
	comp=Z,232nm,1.2s						
MCK				*e*PP	**PP**	**00 31 15.3**	**+1.3**
ABTO	**Aybut**	**66.89**	**279**	P	**P**	**00 28 50.8**	**+1.4**
	SNR=6.2						
PMR	**Palmer**	**66.91**	**31⇑**	*e*P	**P**	**00 28 47.9**	**-0.7**
PMR				pmax	pmax		
	comp=Z,56nm,0.8s						
PMR	**Palmer**	**66.91**	**31⇑**	*e*P	**P**	**00 28 47.9**	**-0.7**
	comp=Z,56nm,0.8s						
DGRG	**David-gareji**	**66.95**	**306**	P	**P**	**00 28 50.5**	**+1.1**
COLA	**College**	**67.01**	**28⇑**	*i*P	**P**	**00 28 49.1**	**-0.1**
COLA				*e*		00 29 02.2	
COLA				*e*S	**S**	**00 37 40.6**	**+0.2**
COLA				pmax	pmax		
	comp=Z,460nm,0.9s						
COLA				MLR	MLR		
	comp=Z,6μm,19.0s						
COLA	**College**	**67.01**	**28⇑**	*i*P	**P**	**00 28 49.1**	**-0.1**
	comp=Z,460nm,0.9s						
COLA				*e*	**pP**	**00 29 02.2**	**+3.3**
COLA				*e*S	**S**	**00 37 40.6**	**+0.2**
COLA				LR	LR		
	comp=Z,6μm,19.0s						
TMCR	**Tamitsa**	**67.17**	**332**	*e*P	**P**	**00 28 50.2**	**0.0**
TMCR				*e*		00 29 18.9	
TMCR				*e*S	**S**	**00 37 41.9**	**-0.5**
TMCR				pmax	pmax		
	comp=Z,640nm,1.5s						
SML	**Sawmill**	**67.26**	**31**	*e*P	**P**	**00 28 50.2**	**-0.7**
SML				pmax	pmax		
	comp=Z,30nm,0.9s						
SML	**Sawmill**	**67.26**	**31**	*e*P	**P**	**00 28 50.2**	**-0.7**
	comp=Z,30nm,0.9s						
DUS	**Dusheti**	**67.30**	**307**	P	**P**	**00 28 53.8**	**+2.2**
TBLG	**Delisi**	**67.36**	**307**	*e*P	**P**	**00 28 52.7**	**+0.8**
TBLG	**Delisi**	**67.36**	**307**	P	**P**	**00 28 52.7**	**+0.8**
GUDG	**Gudauri**	**67.38**	**308**	P	**P**	**00 28 54.5**	**+2.2**
ILAR	**Eielson Array**	**67.43**	**28**	P	**P**	**00 28 52.8**	**+0.8**
ILAR				PP	**PP**	**00 31 21.7**	**+1.3**
ILAR				S	S	00 37 51.6	+6.0
ILAR				⇑*e*		00 57 18.6	
ILAR	**Eielson Array**	**67.43**	**28**	P	**P**	**00 28 52.8**	**+0.8**
	comp=Z,15nm,0.6s,baz=264,slow=3.9,SNR=44						
ILAR				PP	**PP**	**00 31 21.7**	**+1.3**
	comp=Z,5.7nm,0.9s,baz=271,slow=7.2,SNR=4.1						
ILAR				S	S	00 37 51.6	+6.0
	comp=Z,5.0nm,1.3s,baz=300,slow=11,SNR=8.5						
ILAR				PKP2bc		00 57 18.6	
	comp=Z,0.4nm,0.8s,baz=50,slow=2.6,SNR=6.2						
ILAR				LR	LR	00 59 33.3	
	comp=Z,6μm,20.7s,baz=189,slow=37						
VRHR	**Novokhopersk**	**67.52**	**317**	*e*P	**P**	**00 28 51.6**	**-1.1**
VRHR				*e*S	**S**	**00 37 43.1**	**-3.9**
VRHR				pmax	pmax		
	comp=Z,290nm,0.9s						
VRHR				pmax	pmax		
	comp=N,230nm,1.2s						
VRHR				pmax	pmax		
	comp=E,500nm,1.3s						
VRHR				smax	smax		
	comp=N,170nm,2.1s						
VRHR				smax	smax		
	comp=Z,40nm,2.3s						
VRHR				smax	smax		
	comp=E,100nm,1.6s						
VRHR				MLR	MLR		
	comp=Z,14μm,16.0s						
VRHR				MLR	MLR		
	comp=N,3μm,17.0s						
VRHR				MLR	MLR		
	comp=E,7μm,17.0s						
GNI	**Garni**	**67.72**	**305**	*e*P	**P**	**00 28 55.1**	**+0.8**
GNI	**Garni**	**67.72**	**305**	P	**P**	**00 28 55.6**	**+1.2**
	SNR=61						
GNI	**Garni**	**67.72**	**305⇑**	*i*P	**P**	**00 28 55.3**	**+1.0**
	comp=E,220nm,1.1s						
GNI				*e*	**pP**	**00 29 05.5**	**+1.5**
GNI				*e*PP	**PP**	**00 31 23.4**	**-0.3**
GNI				*e*S	**S**	**00 37 53.8**	**+3.7**
GNI				LR	LR		
	comp=Z,7μm,20.0s						
ZEI	**Tsey**	**67.73**	**308**	*e*P	**P**	**00 28 54.6**	**+0.2**
ZEI				*e*S	**S**	**00 37 54.2**	**+3.9**
ZEI				pmax	pmax		
	comp=Z,239nm,1.7s						
ZEI				pmax	pmax		
	comp=N,206nm,1.8s						
ZEI				pmax	pmax		
	comp=E,207nm,1.6s						
ZEI				pmax	pmax		
	comp=Z,1μm,8.1s						
ZEI				MLR	MLR		
	comp=Z,44μm,20.0s						
ZEI				MLR	MLR		
	comp=E,33μm,19.0s						
ZEI				MLR	MLR		
	comp=N,5μm,12.0s						
UMR	**Umm Al-Rimmam**	**68.06**	**294**	*e*P	**P**	**00 28 55.4**	**-1.1**
UMR				AMb	AMB	00 28 59.2	
	comp=Z,184nm,1.5s						
ONI	**Oni**	**68.09**	**308**	P	**P**	**00 28 58.0**	**+1.4**
KBD	**Kabd**	**68.19**	**293**	*e*P	**P**	**00 28 57.1**	**-0.2**
KBD				AMb	AMB	00 28 59.9	
	comp=Z,124nm,1.6s						
KBZ	**Khabaz**	**68.23**	**309**	P	**P**	**00 28 58.5**	**+1.2**
KBZ	**Khabaz**	**68.23**	**309**	P	**P**	**00 28 58.5**	**+1.2**
KBZ	**Khabaz**	**68.23**	**309**	P	**P**	**00 28 58.5**	**+1.2**
	comp=Z,96nm,1.2s,baz=78,slow=7.4,SNR=156						
KBZ				LR	LR	01 03 54.4	
	comp=Z,24μm,18.0s,baz=255,slow=40						
MIB	**Mutribah**	**68.31**	**294**	*e*P	**P**	**00 28 57.5**	**-0.5**
MIB				AMb	AMB	00 28 59.7	
	comp=Z,162nm,0.6s						
KIV	**Kislovodsk**	**68.33**	**310***c*	*i*P	**P**	**00 28 58.5**	**+0.5**
KIV				*e*		00 29 23.4	
KIV				*e*		00 31 29.6	
KIV				*e*S	**S**	**00 37 55.3**	**-1.8**
KIV				*e*SS	**SS**	**00 42 21.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,965nm,3.2s						
KIV				pmax	pmax		
	comp=Z,357nm,1.0s						
KIV				MLR	MLR		
	comp=Z,11μm,18.0s						
KIV	**Kislovodsk**	**68.33**	**310**	P	**P**	**00 28 58.8**	**+0.8**
	comp=Z,2μm,1.4s						
AKH	**Akhalkalaki**	**68.34**	**307**	P	**P**	**00 28 59.7**	**+1.4**
RDF	**Al-Radifah**	**68.38**	**293**	*e*P	**P**	**00 28 58.7**	**+0.2**
RDF				AMb	AMB	00 29 01.2	
	comp=Z,192nm,0.6s						
APA	**Apatity**	**68.46**	**336⇓**	*i*P	**P**	**00 28 57.8**	**-0.5**
APA				*i*		00 29 10.2	
APA				*i*		00 31 34.0	
APA				*i*S	**S**	**00 37 54.0**	**-3.7**
APA				*i*		00 38 40.0	
APA				pmax	pmax		
	comp=Z,27nm,1.4s						
APA				MLR	MLR		
	comp=Z,25μm,20.0s						
NAY	**Al-Naaiem**	**68.55**	**293**	*e*P	**P**	**00 28 58.7**	**-0.8**
NAY				AMb	AMB	00 29 01.9	
	comp=Z,85nm,0.6s						
IBDR	**Badra**	**68.56**	**298**	*i*P	**P**	**00 28 58.0**	**-1.6**
IBDR				*i*PP	**PP**	**00 31 26.0**	**-4.9**
IBDR				*i*S	**S**	**00 38 02.0**	**+2.0**
CLDR	**Caldiran**	**68.58**	**304**	*e*P	**P**	**00 29 01.0**	**+1.1**
DIV	**Divide**	**68.59**	**31**	*e*P	**P**	**00 29 00.1**	**+0.8**
	comp=Z,119nm,0.8s						
DIGO	**Kars**	**68.67**	**306**	*i*P	**P**	**00 29 01.1**	**+0.7**
KARS	**Kars**	**68.83**	**306**	*e*P	**P**	**00 29 02.9**	**+1.6**
VOR	**Voronezh**	**68.87**	**318**	*e*P	**P**	**00 29 00.0**	**-1.2**
VOR				pmax	pmax		
	comp=Z,1μm,2.0s						
MOS	**Moscow**	**68.92**	**323***c*	*i*P	**P**	**00 29 00.7**	**-0.7**
MOS				*i*		00 29 11.0	
MOS				*e*		00 31 32.6	
MOS				*e*PPP	PPP	00 33 11.1	
MOS				*i*S	**S**	**00 38 00.2**	**-3.3**
MOS				*e*		00 38 55.4	
MOS				*i*SS	**SS**	**00 42 22.0**	**-6.7**
MOS				*i*SSS	SSS	00 45 31.1	
MOS				pmax	pmax		
	comp=Z,827nm,1.7s						
MOS				pmax	pmax		
	comp=N,169nm,1.5s						
MOS				pmax	pmax		
	comp=E,160nm,1.5s						
MOS				smax	smax		
	comp=E,1μm,3.4s						
MOS				smax	smax		
	comp=N,900nm,3.2s						
MOS				MLR	MLR		
	comp=Z,31μm,21.0s						
MOS				MLR	MLR		
	comp=E,27μm,19.0s						
MOS				MLR	MLR		
	comp=N,7μm,15.0s						
VORD	**Divnogorie**	**68.99**	**317**	*e*P	**P**	**00 29 01.7**	**-0.2**
VORD				pmax	pmax		
	comp=Z,120nm,0.8s						
VORD				pmax	pmax		
	comp=N,40nm,0.4s						
VORD				pmax	pmax		
	comp=E,250nm,1.3s						
VORD				MLR	MLR		
	comp=E,10μm,17.0s						
VORD				MLR	MLR		
	comp=Z,15μm,17.0s						
VORD				MLR	MLR		
	comp=N,11μm,18.0s						
VSR	**Storozhevoye**	**69.01**	**318**	*e*P	**P**	**00 29 01.3**	**-0.7**
VSR				*e*S	**S**	**00 37 59.6**	**-5.2**
VSR				pmax	pmax		
	comp=Z,280nm,1.1s						
VSR				pmax	pmax		
	comp=N,70nm,1.0s						
VSR				pmax	pmax		
	comp=E,250nm,1.0s						
VSR				smax	smax		
	comp=N,80nm,1.4s						
VSR				smax	smax		
	comp=Z,20nm,1.5s						
VSR				smax	smax		
	comp=E,80nm,2.2s						
VSR				MLR	MLR		
	comp=Z,15μm,18.0s						
VSR				MLR	MLR		
	comp=N,7μm,17.0s						
VSR				MLR	MLR		
	comp=E,2μm,14.0s						
CHVG	**Ch'k'valeri**	**69.04**	**308**	P	**P**	**00 29 04.8**	**+2.4**
HAKT	**HAKKARI**	**69.14**	**303**	*i*P	**P**	**00 29 03.6**	**+0.2**
MENT	**Mentasta**	**69.16**	**29**	*e*P	**P**	**00 29 03.8**	**+1.0**
MENT				*e*S	**S**	**00 38 06.3**	**0.0**
AGRB	**Hanur-Agry**	**69.16**	**305**	*e*P	**P**	**00 29 04.3**	**+0.9**
BMRM	**Bremner River**	**69.18**	**31⇑**	*e*P	**P**	**00 29 02.5**	**-0.5**
	comp=E,211nm,1.2s						
TUTA	**Tutak**	**69.34**	**305**	*i*P	**P**	**00 29 05.3**	**+0.6**
GEVA	**Gevas**	**69.44**	**304**	*i*P	**P**	**00 29 05.6**	**+0.5**
ARTV	**Artvin**	**69.54**	**307**	*i*P	**P**	**00 29 06.2**	**+0.4**
DAGI	**Agillar**	**69.58**	**307**	*i*P	**P**	**00 29 06.4**	**+0.5**
OBN	**Obninsk**	**69.65**	**322***c*	*i*P	**P**	**00 29 03.8**	**-2.0**
OBN				*i* *PP	**pP**	**00 29 14.8**	**-0.8**
OBN				*i*		00 31 41.0	
OBN				*i*S	**S**	**00 38 09.0**	**-3.1**
OBN				pmax	pmax		
	comp=Z,644nm,1.6s						
OBN				MLR	MLR		
	comp=Z,21μm,19.0s						
OBN	**Obninsk**	**69.65**	**322**	P	**P**	**00 29 05.6**	**-0.2**
	comp=Z,2μm,1.3s,SNR=52						
DBOC	**Borcka**	**69.69**	**307**	*i*P	**P**	**00 29 06.8**	**+0.3**
BCA	**Borcka**	**69.69**	**307**	*e*P	**P**	**00 29 06.6**	**+0.1**
DBAD	**Bademkaya**	**69.75**	**307**	*i*P	**P**	**00 29 07.8**	**+0.8**
BHD	**Baghdad**	**69.77**	**298**	*i*P	**P**	**00 29 05.5**	**-1.5**
BHD				*i*PcP	PcP	00 29 43.0	+13
BHD				*i*PP	**PP**	**00 31 39.5**	**-1.8**
BHD				*i*S	**S**	**00 38 09.0**	**-5.3**
EGAK	**Eagle**	**69.83**	**27⇑**	*e*P	**P**	**00 29 06.9**	**0.0**
	comp=Z,184nm,1.1s						
EGAK				LR	LR		
	comp=Z,5μm,20.0s						
HOMI	**Horasan**	**69.85**	**306**	*i*P	**P**	**00 29 08.4**	**+0.7**
TAU	**Tasmania Unive**	**69.93**	**163**	*e*P	**P**	**00 29 07.5**	**-0.1**
TAU	**Tasmania Unive**	**69.93**	**163**	*e*P	**P**	**00 29 07.5**	**-0.1**
KIP	**Kipapa**	**69.97**	**75**	PFAKE		00 29 20.0	+12
KIP				LR	LR		
	comp=Z,9μm,20.0s						
TATV	**Tatvan**	**69.98**	**304**	*i*P	**P**	**00 29 09.3**	**+0.8**
SIRT	**Sirnak**	**70.12**	**303**	*e*P	**P**	**00 29 09.6**	**+0.2**
SIRN	**S¨–rnak**	**70.15**	**303**	*i*P	**P**	**00 29 09.7**	**+0.3**
KEV	**Kevo**	**70.21**	**339**	*e*P	**P**	**00 29 09.6**	**+0.5**
KEV	**Kevo**	**70.21**	**339**	*e*p	**P**	**00 29 09.6**	**+0.5**
	comp=Z,42nm,0.9s						
KEV	**Kevo**	**70.21**	**339**	*e*P	**P**	**00 29 08.8**	**-0.2**
	comp=Z,881nm,2.0s						
KEV				*e*PP	**PP**	**00 31 44.2**	**0.0**
KEV				LR	LR		
	comp=Z,14μm,19.0s						
ERZM	**Erzurum**	**70.29**	**306**	*i*P	**P**	**00 29 11.1**	**+0.6**
EZM	**Erzurum**	**70.29**	**306**	*e*P	**P**	**00 29 12.2**	**+1.7**
PZAR	**Pazar-Rize**	**70.29**	**307**	*e*P	**P**	**00 29 10.7**	**+0.6**
SOC	**Sochi**	**70.50**	**310***c*	*i*P	**P**	**00 29 11.0**	**-0.4**
SOC				*i* *PP	**pP**	**00 29 20.8**	**-0.3**
SOC				*e*		00 29 31.2	
SOC				*e*		00 31 45.6	
SOC				*e*PPP	PPP	00 33 27.2	
SOC				*i*S	**S**	**00 38 17.5**	**-5.1**
SOC				*i*		00 39 09.1	
SOC				*e*SS	**SS**	**00 42 51.8**	**-1.8**
SOC				pmax	pmax		
	comp=Z,516nm,1.8s						
SOC				MLR	MLR		
	comp=Z,14μm,20.0s						
KBS	**Kingsbay**	**70.61**	**349⇑**	*i*P	**P**	**00 29 10.9**	**-0.5**
KBS				AMB	AMB	00 29 13.8	
	comp=Z,183nm,1.6s						
KBS				*e*S	**S**	**00 38 23.3**	**+0.5**
KBS				AMS	AMS	01 02 07.7	
	comp=Z,13μm,18.4s						
KBS	**Kingsbay**	**70.61**	**349***c*	*i*P	**P**	**00 29 11.0**	**-0.5**
KBS				pmax	pmax		
	comp=Z,210nm,2.5s						
KBS				MLR	MLR		
	comp=Z,16μm,21.0s						
KBS	**Kingsbay**	**70.61**	**349⇑**	*i*P	**P**	**00 29 10.9**	**-0.5**
	comp=Z,174nm,1.4s						
KBS				*e*PP	**PP**	**00 31 49.1**	**+1.5**
KBS				LR	LR		
	comp=Z,15μm,19.0s						
BNGL	**BINGOL**	**70.70**	**305**	*i*P	**P**	**00 29 13.9**	**+0.9**
HSP	**Hornsund**	**70.77**	**347**	*e*P	**P**	**00 29 12.1**	**-0.3**
ARCES	**ARCESS Array B**	**70.78**	**338**	P	**P**	**00 29 12.2**	**-0.4**
ARCES				PP	**PP**	**00 31 50.5**	**+1.3**
ARCES	**ARCESS Array B**	**70.78**	**338**	P	**P**	**00 29 12.2**	**-0.4**
	comp=Z,48nm,1.0s,baz=69,slow=6.6,SNR=94						
ARCES				PP	**PP**	**00 31 50.5**	**+1.3**
	comp=Z,5.9nm,1.0s,baz=78,slow=9.3,SNR=2.6						
ARCES				LR	LR	01 05 06.7	
	comp=Z,23μm,19.2s,baz=72,slow=40						
ARE0	**ARCESS Array S**	**70.78**	**338**	*e*P	**P**	**00 29 12.1**	**-0.5**
ARE0				*e*	**pP**	**00 29 22.9**	**+0.6**
KOPT	**Kop Dagi**	**70.90**	**306**	*i*P	**P**	**00 29 15.2**	**+0.9**
BJO	**Bjornoya**	**70.93**	**344⇑**	*i*P	**P**	**00 29 11.8**	**-1.6**
BJO				AMB	AMB	00 29 17.0	
	comp=Z,145nm,1.7s						
BJO				*e*S	**S**	**00 38 28.4**	**+1.9**
BJO				AMS	AMS	01 05 37.0	
	comp=Z,21μm,18.4s						
BNGB	**Bing¶ll**	**71.05**	**305**	*e*P	**P**	**00 29 15.2**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**71.06**	**306**	*e*P	**P**	**00 29 15.6**	**+0.6**
MACK	**Trabzon**	**71.18**	**307**	*i*P	**P**	**00 29 15.6**	**+0.1**
MARD	**Mardin**	**71.45**	**303**	*i*P	**P**	**00 29 17.9**	**+0.5**
GUMT	**Gumushane**	**71.52**	**307**	*e*P	**P**	**00 29 19.8**	**+2.0**
EUZM	**Uzumlu**	**71.58**	**306**	*i*P	**P**	**00 29 19.1**	**+0.9**
MAZI	**Mazidag**	**71.66**	**303**	*e*P	**P**	**00 29 18.8**	**+0.2**
DIY	**Diyarbakir**	**71.70**	**304**	*e*P	**P**	**00 29 20.0**	**+1.2**
PUL	**Pulkovo**	**71.70**	**328***c*	*i*P	**P**	**00 29 18.1**	**-0.2**
PUL				pmax	pmax		
	comp=Z,507nm,1.7s						
PUL				MLR	MLR		
	comp=Z,21μm,15.0s						
KTK1	**Kautokeino**	**71.71**	**338**	*e*P	**P**	**00 29 17.7**	**-0.5**
KTK1				AMB	AMB	00 29 20.7	
	comp=Z,1μm,1.5s						
KTK1				*e*S	**S**	**00 38 36.0**	**+0.2**
KTK1				AMS	AMS	01 06 07.4	
	comp=Z,51μm,16.6s						
INK	**Inuvik**	**71.74**	**23⇑**	*i*P	**P**	**00 29 17.9**	**-0.4**
	comp=Z,823nm,1.6s						
INK				*e*PP	**PP**	**00 31 58.1**	**+0.7**
INK				S	**S**	**00 38 39.7**	**+3.7**
INK	**Inuvik**	**71.74**	**23**	P	**P**	**00 29 19.4**	**+1.1**
	comp=Z,56nm,0.9s,baz=290,slow=7.0,SNR=64						
INK				S	**S**	**00 38 39.7**	**+3.7**
	comp=Z,15nm,1.2s,baz=110,slow=29,SNR=16						
ANN	**Anapa**	**71.75**	**311⇑**	*i*P	**P**	**00 29 18.5**	**-0.4**
ANN				*e*PP	**pP**	**00 29 28.7**	**+0.1**
ANN				*e*S	**S**	**00 38 35.1**	**-1.9**
ANN				pmax	pmax		
	comp=N,148nm,1.6s						
ANN				pmax	pmax		
	comp=E,179nm,1.6s						
ANN				pmax	pmax		
	comp=Z,678nm,1.6s						
DIYA	**Diyarbakir**	**71.77**	**304**	*i*P	**P**	**00 29 19.9**	**+0.6**
KELT	**Kelkit**	**71.78**	**306**	*i*P	**P**	**00 29 19.9**	**+0.5**
RAYN	**Ar Rayn**	**71.78**	**288**	P	**P**	**00 29 19.5**	**0.0**
	comp=Z,354nm,1.6s,SNR=31						
EZC	**Erzincan**	**71.82**	**306**	*e*P	**P**	**00 29 20.8**	**+1.2**
ESPY	**Espiye-Giresun**	**71.94**	**307**	*e*P	**P**	**00 29 19.9**	**-0.2**
PTK	**Pertek**	**72.04**	**305**	*e*P	**P**	**00 29 21.6**	**+0.6**
GRSN	**GIRESUNGRSN**	**72.27**	**307**	*i*P	**P**	**00 29 20.6**	**-1.5**
AFI	**Afiamalu**	**72.32**	**115**	LR	LR	01 00 16.4	
	comp=Z,4μm,18.4s,baz=311,slow=35						
ILIC	**ilic-Erzincan**	**72.48**	**306**	*e*P	**P**	**00 29 23.3**	**-0.2**
SUSE	**Susehri**	**72.53**	**307**	*i*P	**P**	**00 29 24.0**	**+0.1**
HYT	**Haines Junctio**	**72.56**	**31**	*e*P	**P**	**00 29 24.6**	**+1.0**
HYT				*e*	**pP**	**00 29 36.6**	**+3.3**
HYT				*e*PP	**PP**	**00 32 04.5**	**-0.2**
KEMA	**Kemaliye**	**72.59**	**306**	*i*P	**P**	**00 29 24.6**	**+0.4**
KAF	**Kangasniemi**	**72.83**	**331**	*e*P	**P**	**00 29 25.2**	**+0.2**
KAF				pmax	pmax		
	comp=Z,38nm,0.7s						
KAF	**Kangasniemi**	**72.83**	**331**	*e*p	**P**	**00 29 25.2**	**+0.2**
	comp=Z,38nm,0.7s						
URFA	**Urfa**	**72.90**	**304**	*e*P	**P**	**00 29 26.9**	**+0.9**
TRO	**Tromso**	**72.90**	**339⇑**	*i*P	**P**	**00 29 23.4**	**-1.9**
TRO				AMB	AMB	00 29 37.9	
	comp=Z,209nm,1.7s						
TRO				*e*S	**S**	**00 38

SIM *e*PPP PPP 00 34 10.0
SIM *i* S **SKiKP** **00 38 59.8 +1.4**
SIM pmax pmax
comp=Z,711nm,2.1s
SIM MLR MLR
comp=Z,4μm,14.6s
SLMH Al Salmeh 73.96 303 *e*P **P** **00 29 32.3 +0.1**
SKAG Skagway 74.04 32 *e*P **P** **00 29 32.9 +0.8**
comp=Z,206nm,1.0s
SKAG *e*PP **PP** **00 32 18.5 +1.2**
HAVZ Havza 74.07 308 *i* P **P** **00 29 33.1 +0.4**
DIKM Dikmen 74.21 309 *e*P **P** **00 29 33.6 +0.1**
PINB Pinarbasi 74.33 306 *i* P **P** **00 29 35.0 +0.4**
KMRS Kahramanmaras 74.33 304 *e*P **P** **00 29 34.0 -0.4**
KUZU Kuzuini 74.43 304 *i* P **P** **00 29 35.4 +0.4**
BYBT Boyabat 74.62 309 *e*P **P** **00 29 35.7 -0.2**
MICGM Minsk 74.64 323⇑*i*P **P** **00 29 33.0 -2.7**
MNK Minsk 74.66 323*c i*P **P** **00 29 33.0 -2.9**
MNK *e* 00 29 39.0
MNK *e* 00 32 20.0
MNK *e*PPP PPP 00 34 08.0
MNK *e*S **SKiKP** **00 39 04.0 +4.9**
MNK *e*SSS SSS 00 47 17.0
MNK pmax pmax
comp=Z,1μm,1.6s
MNK pmax pmax
comp=Z,7μm,3.0s
MNK pmax pmax
comp=N,420nm,1.5s
MNK pmax pmax
comp=E,870nm,1.5s
MNK MLR MLR
comp=E,30μm,14.0s
MNK MLR MLR
comp=Z,44μm,16.0s
MNK MLR MLR
comp=N,11μm,12.0s
BNN Bunyan 74.68 306 *e*P **P** **00 29 36.3 -0.2**
DRWC Darouich 74.79 304 *e*P **P** **00 29 37.9 +0.7**
STEI Steigen 74.84 338 *e*P **P** **00 29 36.0 -0.7**
STEI AMB AMB 00 29 39.9
comp=Z,308nm,1.8s
CTKT Corum 74.88 308 *i* P **P** **00 29 37.8 +0.1**
SIT Sitka 74.90 34 *e*P **P** **00 29 38.7 +1.5**
SIT *e* 00 32 24.0
SIT pmax pmax
comp=Z,896nm,2.0s
SIT Sitka 74.90 34 *e*P **P** **00 29 38.7 +1.5**
comp=Z,896nm,2.0s
SIT *e*PP **PP** **00 32 23.9 -0.6**
IDID Didziasalis 74.97 324 *e*P **P** **00 29 37.9 +0.3**
IDID AMB AMB 00 29 39.2
comp=Z,107nm,2.0s
BZK Bozkurt 75.00 309 *e*P **P** **00 29 37.9 -0.2**
NACGM Naroch 75.09 324 *e*P **P** **00 29 36.0 -2.4**
COBT Iskenderun 75.14 304 *i* P **P** **00 29 39.5 +0.2**
CORM Corum 75.14 308 *e*P **P** **00 29 39.9 +0.8**
KOZT Kozan 75.14 305 *e*P **P** **00 29 39.8 +0.7**
AKASG Malin Array Be 75.18 319 P **P** **00 29 38.6 -0.4**
AKASG S **S** **00 39 15.4 -0.1**
AKASG Malin Array Be 75.18 319 P **P** **00 29 38.5 -0.4**
AKASG S **S** **00 39 15.4 -0.1**
AKASG Malin Array Be 75.18 319 P **P** **00 29 38.5 -0.4**
comp=Z,15nm,0.5s,baz=59,slow=4.0,SNR=105
AKASG S **S** **00 39 15.4 -0.1**
comp=Z,0.2nm,0.3s,baz=72,slow=10,SNR=9.1
ISAL Salakas 75.20 325 *e*P **P** **00 29 39.2 +0.3**
ISAL AMB AMB 00 29 40.4
comp=Z,100nm,2.2s
KAST KASTAMONU 75.21 309 *i* P **P** **00 29 40.0 +0.6**
IIGN Ignalina 75.23 324 *e*P **P** **00 29 39.4 +0.3**
IIGN AMB AMB 00 29 40.7
comp=Z,96nm,2.0s
TOS Tosya 75.29 309 *e*P **P** **00 29 40.8 +0.8**
WRDH Warideh 75.35 303 *e*P **P** **00 29 39.2 -1.2**
CEYT Ceyhan 75.36 304 *e*P **P** **00 29 41.2 +0.9**
YAYL Yayladag 75.41 303 *i* P **P** **00 29 40.5 -0.2**
AVNT Avonos 75.44 306 *i* P **P** **00 29 40.7 -0.2**
ZALF Zalf 75.50 300 *e*P **P** **00 29 42.4 +1.2**
ILGA Ilgaz 75.50 309 *i* P **P** **00 29 41.6 +0.2**
YURE YUREGIR 75.51 304 *i* P **P** **00 29 42.0 +0.8**
CDAG Cicekdag 75.51 307 *i* P **P** **00 29 41.0 -0.2**
ARNB Al Arnab 75.57 303 *e*P **P** **00 29 42.6 +0.9**
BIDA Albida 75.59 302 *e*P **P** **00 29 39.8 -1.9**
HAWK Haweek 75.69 302 *e*P **P** **00 29 43.2 +0.9**
CANT Cankiri 75.72 308 *e*P **P** **00 29 42.1 -0.3**
MARH Ras Al Marh 75.80 301 *e*P **P** **00 29 44.3 +1.1**
KARA Karaisali 75.80 305 *e*P **P** **00 29 43.4 +0.6**
NIG Nigde 75.84 306 *e*P **P** **00 29 44.5 +1.1**
ELDT Eldivan 75.90 308 *i* P **P** **00 29 43.3 -0.2**
MOR8 Moi Rana 75.95 337⇑*i*P **P** **00 29 41.3 -1.8**
MOR8 AMB AMB 00 29 44.4
comp=Z,311nm,1.7s
MOR8 *e*pP **pP** **00 29 47.8 -5.1**
MOR8 *e*sP **sP** **00 29 53.1 -3.5**
GULE Gulek 76.00 305 *i* P **P** **00 29 44.2 0.0**
BR131 Keskin Array S 76.01 307⇑*e*P **P** **00 29 43.8 -0.4**
comp=Z,174nm,1.1s
BR131 *e*PP **PP** **00 32 31.1 -3.5**
BRTR Keskin Array B 76.01 307 P **P** **00 29 45.5 +1.4**
BRTR S S 00 39 33.0 +7.5
BRTR Keskin Array B 76.01 307 P **P** **00 29 45.5 +1.4**
comp=Z,54nm,1.1s,baz=102,slow=3.0,SNR=107
BRTR S S 00 39 33.0 +7.5
comp=Z,1.1nm,1.1s,baz=40,slow=8.1,SNR=5.3
BRTR LR LR 01 08 19.8
comp=Z,6μm,21.4s,baz=81,slow=40
SALA Sala 76.05 300 *e*P **P** **00 29 44.1 -0.4**
TOTH TOTAH 76.06 300 *e*P **P** **00 29 44.3 -0.2**
QASN Qassioun 76.12 301 *e*P **P** **00 29 45.6 +0.7**
SAFT Safranbolu 76.17 309 *e*P **P** **00 29 44.7 -0.1**
FLOS Flostrand 76.25 337 *e*P **P** **00 29 44.4 -0.3**
RAO Raoul Island 76.33 131 PFAKE 00 30 00.0 +14
RAO LR LR
comp=Z,7μm,21.0s
STOK Stokkvaagen 76.37 337 *e*P **P** **00 29 45.9 +0.5**
BBAL Bala 76.44 307 *i* P **P** **00 29 46.4 -0.2**
AFSR Af¯ar-Bala (A 76.52 307 *e*P **P** **00 29 47.2 +0.2**
ANTO Ankara 76.57 308 *e*P **P** **00 29 46.6 -0.6**
ANTO Ankara 76.57 308⇑*i*P **P** **00 29 47.2 0.0**
ANTO *e*S **S** **00 39 30.8 -0.7**
ANTO pmax pmax
comp=Z,187nm,1.2s
ANTO MLR MLR
comp=Z,4μm,20.0s
ANTO Ankara 76.57 308 P **P** **00 29 47.6 +0.4**
SNR=61
ANTO Ankara 76.57 308⇑*i*P **P** **00 29 47.2 0.0**
comp=Z,187nm,1.2s
ANTO *e*PP PP 00 32 33.0 -6.3
ANTO *e*S **S** **00 39 30.8 -0.7**
ANTO LR LR
comp=Z,4μm,20.0s
LOD Lodumlu 76.58 308 *e*P **P** **00 29 46.9 -0.4**
CRAG Craig 76.65 35 *e*P **P** **00 29 47.0 -0.2**
comp=Z,126nm,1.2s
WRAK Wrangell Islan 76.67 34⇑*i*P **P** **00 29 47.7 +0.4**
comp=Z,236nm,1.5s
WRAK LR LR
comp=Z,3μm,19.0s
KIS Kishinev 76.74 316⇑*i*P **P** **00 29 46.0 -1.9**
comp=Z,3μm,16.0s
KIS Kishinev 76.74 316 *i* PcP **PcP** **00 29 58.0 -1.2**
KIS *i* S **S** **00 39 32.0 -0.9**
comp=Z,1μm,4.0s
KIS Kishinev 76.74 316α*i*P **P** **00 29 46.0 -1.9**
KIS *i* 00 29 58.0
KIS *e* 00 32 38.0
KIS *i* S **S** **00 39 32.0 -0.9**
KIS pmax pmax
comp=N,300nm,2.0s
KIS pmax pmax
comp=E,600nm,2.0s
KIS pmax pmax
comp=Z,800nm,2.0s
KIS pmax pmax
comp=Z,3μm,7.0s
KIS pmax pmax
comp=N,600nm,2.0s
KIS pmax pmax
comp=E,1μm,2.0s
KIS pmax pmax
comp=Z,3μm,16.0s
KIS smax smax
comp=N,1μm,4.0s
KIS MLR MLR
comp=N,15μm,16.0s
KIS MLR MLR
comp=Z,14μm,16.0s
KIS MLR MLR
comp=E,11μm,20.0s
KIS MLR MLR
comp=Z,20μm,19.0s
KIS Kishinev 76.74 316⇑*i*P **P** **00 29 46.9 -1.0**
DAG Danmarks Havn 76.78 352⇑*i*P **P** **00 29 46.8 -0.8**
DAG *i* *PP **pP** **00 29 57.6 +0.1**
DAG *e* 00 32 40.4
DAG pmax pmax
comp=Z,82nm,1.1s
DAG MLR MLR
comp=Z,5μm,20.0s
DAG Danmarks Havn 76.78 352⇑*i*P **P** **00 29 46.8 -0.8**
comp=Z,65nm,1.1s
DAG *i* pP **pP** **00 29 57.6 +0.1**
DAG *e*PP **PP** **00 32 40.4 +0.4**
DAG
comp=Z,5μm,19.0s
DLBC Dease Lake 76.97 31⇑*i*P **P** **00 29 50.3 +1.2**
DLBC *e*PP **PP** **00 32 43.5 +1.4**
DLBC Dease Lake 76.97 31 P **P** **00 29 50.3 +1.2**
comp=Z,21nm,0.9s,baz=301,slow=5.8,SNR=60
KDZE Karadeniz Ereo 77.02 310 *e*P **P** **00 29 47.9 -1.8**
IKL Isikli 77.18 304 *e*P **P** **00 29 49.4 -1.3**
LEOM Leova 77.30 315 ⇓P **P** **00 29 50.6 -0.5**
LEOM Leova 77.30 315⇓*i*P **P** **00 29 50.6 -0.5**
SUW Suwalki 77.38 324⇑*i*P **P** **00 29 50.5 -0.8**
SUW *e*S **S** **00 39 36.0 -3.6**
SUW pmax pmax
comp=Z,611nm,0.9s
SUW Suwalki 77.38 324⇑*i*P **P** **00 29 50.5 -0.8**
comp=Z,611nm,0.9s
SUW PP PP 00 32 36.5 -9.0
SUW *e*S **S** **00 39 36.0 -3.6**
SUW Suwalki 77.38 324 *e*P **P** **00 29 50.9 -0.5**
SUW *e*PcP **PcP** **00 30 02.7 +0.9**
SUW *e*S **S** **00 39 35.8 -3.7**
SUW LMZ LR 01 06 52.9
TLCR 77.41 314 ⇑P **P** **00 29 51.8 +0.1**
TLCR 77.41 314⇑*i*P **P** **00 29 51.8 +0.1**
IAS Iasi 77.47 316 ⇑P **P** **00 29 51.0 -1.0**
IAS Iasi 77.47 316⇑*i*P **P** **00 29 51.0 -1.0**
LADK Ladik-KONYA 77.47 306 *e*P **P** **00 29 51.4 -1.0**
MDUB Mudurnu 77.50 309 *e*P **P** **00 29 52.0 -0.5**
KDHN Kadinhani 77.54 307 *i* P **P** **00 29 52.1 -0.7**
KONT Konya--Tatoy 77.57 306 *e*P **P** **00 29 51.5 -1.3**
KIZT Kizilcal 77.58 307 *e*P **P** **00 29 52.8 -0.2**
ERMK Ermenek 77.62 305 *i* P **P** **00 29 52.8 -0.5**
SVRH Sivrihisar-ESK 77.64 308 *e*P **P** **00 29 53.1 -0.1**
LFK Lefkose 77.64 303 *e*P **P** **00 29 53.6 +0.3**
NSS Namsos 77.67 336⇑*i*P **P** **00 29 52.0 -0.8**
NSS AMB AMB 00 29 55.2
comp=Z,70nm,1.8s
NSS AMS AMS 01 08 40.9
comp=Z,10μm,16.1s
XMAS Kiritimati 77.67 93 PFAKE 00 30 10.0 +16
XMAS LR LR
comp=Z,9μm,20.0s
CFR Carcaliu 77.86 314 ⇑P **P** **00 29 53.6 -0.6**
CFR Carcaliu 77.86 314⇑*i*P **P** **00 29 53.6 -0.6**
CSS Prodhromos 77.91 303 P **P** **00 29 54.4 -0.3**
comp=Z,3.8nm,1.3s
CSS Prodhromos 77.91 303 *e*P **P** **00 29 54.1 -0.6**
CSS Prodhromos 77.91 303 P **P** **00 29 54.5 -0.3**
CSS Prodhromos 77.91 303⇑*i*P **P** **00 29 54.2 -0.6**
comp=Z,81nm,0.9s
CSS *e*PP **PP** **00 32 51.4 +0.8**
CSS LR LR
comp=Z,11μm,22.0s
MAMC Mammari 77.92 303 P **P** **00 29 54.7 -0.1**
TIRR Tirgusor 77.94 313⇑*i*P **P** **00 29 54.5 -0.2**
TIRR *e* 00 32 53.5
TIRR pmax pmax
comp=Z,85nm,0.9s
TIRR Tirgusor 77.94 313⇑*i*P **P** **00 29 54.4 -0.2**
TIRR Tirgusor 77.94 313⇑*i*P **P** **00 29 54.5 -0.2**
comp=Z,85nm,0.9s
TIRR *e*PP **PP** **00 32 53.5 +2.9**
GULT Gulveren 78.00 309 *e*P **P** **00 29 55.3 +0.1**
SPNC Sapanca-Adapaz 78.05 309 *e*P **P** **00 29 54.2 -1.2**
MANR Mangalia 78.07 313⇑*i*P **P** **00 29 57.1 +1.7**
ESKT Eskisehir 78.09 308 *e*P **P** **00 29 55.8 0.0**
SEYT Eskypehyr 78.09 308 *i* P **P** **00 29 54.9 -0.9**
LEF Lefka 78.19 303 *e*P **P** **00 29 55.4 -0.9**
GAZI Gazipasa 78.22 304 *i* P **P** **00 29 55.2 -1.3**
PETR Petresti 78.24 315⇓*i*P **P** **00 29 57.1 +0.8**
PRAR RASCA 78.24 317⇓*i*P **P** **00 29 56.4 0.0**
BORA Eskisehir 78.25 308 *i* P **P** **00 29 55.8 -0.8**
TESR Tescani 78.31 316⇑*i*P **P** **00 29 56.3 -0.4**
BOLV Bolvadin 78.32 307 *i* P **P** **00 29 57.1 0.0**
SILT Sile 78.35 310 *e*P **P** **00 29 56.9 -0.2**
PSN Preselentsi 78.39 313 *i* P **P** **00 29 58.3 +1.1**
ALFC Alevga 78.40 303 P **P** **00 29 56.5 -1.0**
comp=Z,1.8nm,0.8s
HRT Hereke 78.45 310 *e*P **P** **00 29 57.5 -0.2**
VRI Vrincioaia 78.51 315 ⇑P **P** **00 29 58.2 +0.3**
VRI Vrincioaia 78.51 315⇑*i*P **P** **00 29 58.2 +0.3**
GRER 78.54 315⇑*i*P **P** **00 29 59.4 +1.4**
CAVI Cavuskoy 78.56 309 *e*P **P** **00 29 57.2 -1.1**
PLOR Plostina 78.56 315 ⇓P **P** **00 29 58.3 +0.1**
PLOR Plostina 78.56 315⇓*i*P **P** **00 29 58.3 +0.1**
LVV L'vov 78.60 320 *i* P **P** **00 29 58.0 -0.3**
LVV *i* 00 32 56.2
LVV *i* S **S** **00 39 49.4 -3.5**
LVV *i* SS **SS** **00 44 56.4 +0.1**
LVV pmax pmax
comp=Z,900nm,2.0s
AMRR Amara 78.60 314 ⇓P **P** **00 29 59.2 +0.9**
AMRR Amara 78.60 314⇓*i*P **P** **00 29 59.2 +0.9**
AKMC Akamas 78.65 303 P **P** **00 29 58.0 -0.9**
SHUT Suhut-Afyon 78.67 307 *e*P **P** **00 29 58.9 -0.2**
PPCY Paphos 78.69 303 P **P** **00 29 57.7 -1.3**
PGOR Pogoanele 78.71 314⇑*i*P **P** **00 29 59.9 +0.9**
KLYT Kilyos 78.73 310 *e*P **P** **00 29 58.6 -0.5**
SUTC Sutluce-Ispart 78.74 306 *e*P **P** **00 29 58.8 -0.7**
YLV Yalova 78.76 309 *e*P **P** **00 29 58.2 -1.2**
BUR08 Bucovina Ar. S 78.77 317⇑*i*P **P** **00 29 58.9 -0.5**
BUR08 *e* **pP** **00 30 09.6 +0.4**
BURAR Bucovina Array 78.77 317 ⇑P **P** **00 29 59.2 -0.2**
BURAR Bucovina Array 78.77 317⇑*i*P **P** **00 29 59.2 -0.2**
ISK Istanbul-Kandi 78.79 310 *e*P **P** **00 29 58.6 -0.8**
ISK Istanbul-Kandi 78.79 310 P **P** **00 29 58.9 -0.6**
ALT Altintas 78.80 308 *e*P **P** **00 29 58.9 -0.8**
ALT Altintas 78.80 308 P **P** **00 29 59.4 -0.3**
BUY Buyukada 78.83 310 *e*P **P** **00 29 58.9 -0.7**
ISR Istrita 78.92 314⇑*i*P **P** **00 30 00.8 +0.6**
GEMT Gemlik 78.94 309 *e*P **P** **00 29 59.2 -1.1**
BGKT Bogazkoy 78.94 310 *e*P **P** **00 29 59.3 -1.0**
ISP Isparta 78.96 306 *e*P **P** **00 29 59.1 -1.5**
ISP Isparta 78.96 306 P **P** **00 29 59.7 -1.0**
ISP Isparta 78.96 306 ⇑P **P** **00 30 00.0 -0.7**
ISP Isparta 78.96 306⇑*i*P **P** **00 30 00.0 -0.7**
ISP Isparta 78.96 306⇑*i*P **P** **00 29 59.1 -1.5**
comp=Z,235nm,1.1s
ISP *e*PP **PP** **00 32 59.5 +0.1**
ISP LR LR
comp=Z,12μm,22.0s
TBLU Trondheim 78.98 335⇑*i*P **P** **00 29 58.4 -1.7**
TBLU AMB AMB 00 30 03.0
comp=Z,492nm,2.0s
TBLU *e*S **S** **00 39 57.0 +0.5**
TBLU AMS AMS 01 09 22.1
comp=Z,38μm,16.3s
BCK Bucak 79.05 306 *e*P **P** **00 29 59.3 -1.8**
CTKS Kestanelik-??a 79.11 310 *e*P **P** **00 30 00.0 -1.2**
ARMT Armutlu 79.12 310 *e*P **P** **00 30 00.0 -1.3**
MLR Muntele Rosu 79.16 315⇓*i*P **P** **00 30 01.5 -0.1**
CTYL Yal??k??y-??at 79.17 311 *e*P **P** **00 30 00.8 -0.7**
MDNY Mudanya-Bursa 79.18 309 *e*P **P** **00 30 00.4 -1.2**
SULR 79.28 314⇓*i*P **P** **00 30 02.6 +0.5**
SLVT Silivri 79.32 310 *e*P **P** **00 30 01.7 -0.7**
KWP Kalwaria Pacla 79.46 320 ⇑P **P** **00 30 03.2 +0.2**
KWP Kalwaria Pacla 79.46 320⇑*i*P **P** **00 30 03.2 +0.2**
KWP Kalwaria Pacla 79.46 320⇑*i*P **P** **00 30 03.2 +0.2**
comp=Z,520nm,1.0s
KWP *e*PP **PP** **00 33 04.0 +1.0**
KWP *e*S **S** **00 39 60.0 -2.2**
KWP LR LR
comp=Z,16μm,19.0s
KWP Kalwaria Pacla 79.46 320 *e*P **P** **00 30 03.2 +0.2**
KWP *e*PcP **pP** **00 30 15.4 +2.6**
KWP *e*PP **PP** **00 33 06.2 +3.2**
KWP *e*S **S** **00 40 00.5 -1.6**
KWP LMZ LR 01 09 38.4
BVCR Bucharest-Old 79.48 314⇓*i*P **P** **00 30 03.8 +0.6**
KCTX Karacabey (Bur 79.59 309 *e*P **P** **00 30 03.0 -0.9**
BEL Belsk 79.61 322 *e*P **P** **00 30 03.9 +0.2**
BEL *e*PcP **pP** **00 30 16.0 +2.4**
BEL *e*S **S** **00 40 02.7 -0.8**
BEL LMZ LR 01 08 08.7
JMIC Jan Mayen 79.62 346⇑*i*P **P** **00 30 03.5 +0.1**
JMIC AMB AMB 00 30 17.7
comp=Z,712nm,1.6s
JMIC *i* 00 32 55.7
JMIC *e* 00 36 30.8
JMIC AMS AMS 01 09 18.8
comp=Z,8μm,17.8s
JMIC Jan Mayen 79.62 346 P **P** **00 30 03.5 +0.1**
JMIC Jan Mayen 79.62 346 P **P** **00 30 03.5 +0.1**
comp=Z,115nm,1.1s,baz=65,slow=4.8
PHSR Pinarhisar 79.64 311 *e*P **P** **00 30 03.5 -0.6**
DST Dursunbey 79.66 309 *e*P **P** **00 30 03.4 -0.9**
RPZ Rata Peaks 79.71 148 *e*P **P** **00 30 04.5 +0.3**
comp=Z,96nm,1.3s
VOIR 79.76 315 ⇑P **P** **00 30 04.5 -0.3**
VOIR 79.76 315⇑*i*P **P** **00 30 04.5 -0.3**
NB2 NORSAR Subarra 79.79 333 P **P** **00 30 04.0 -0.6**
comp=Z,776nm,1.7s,baz=55,slow=5.6
NB2 NORSAR Subarra 79.79 333 P **P** **00 30 04.0 -0.6**
baz=55,slow=5.6
NOA NORSAR Array B 79.79 333 P **P** **00 30 04.7 +0.1**
NOA NORSAR Array B 79.79 333 P **P** **00 30 04.7 +0.1**
comp=Z,77nm,1.0s,baz=58,slow=5.6,SNR=77
NOA LR LR 01 09 41.2
comp=Z,15μm,18.6s,baz=65,slow=39
SNZO South Karori 79.81 144 PFAKE 00 30 20.0 +15
SNZO LR LR
comp=Z,6μm,21.0s
ELL Elmali 79.82 306 *e*P **P** **00 30 04.2 -1.2**
BNT Bandirma 79.86 310 *e*P **P** **00 30 04.9 -0.5**
TKR Tekirdag 79.88 310 *e*P **P** **00 30 05.2 -0.2**
JMB Yambol 79.95 312 P **P** **00 30 06.3 +0.5**
JMB Yambol 79.95 312 *i* P **P** **00 30 06.8 +1.0**
KOLS Kolonicke sedl 80.01 319 *e*P **P** **00 30 05.5 -0.5**
KOLS pmax pmax
comp=Z,187nm,2.4s
KOLS Kolonicke sedl 80.01 319 *e*P **P** **00 30 05.5 -0.5**
KOLS Kolonicke sedl 80.01 319 *e*S **S** **00 40 10.1 +2.1**
NAO01 NORSAR Array S 80.03 333⇑*i*P **P** **00 30 05.0 -0.9**
comp=Z,170nm,1.1s
NAO01 *e* **pP** **00 30 16.7 +0.9**
ARR Arges 80.05 315⇓*i*P **P** **00 30 06.6 +0.2**
KULA Kula-Manisa 80.05 308 *e*P **P** **00 30 06.4 -0.1**
KULA Kula-Manisa 80.05 308 P **P** **00 30 06.1 -0.4**
GOLR 80.06 315⇓*i*P **P** **00 30 06.0 -0.3**
SZH Strazhica 80.06 313 *i* P P 00 30 14.0 +7.6
EDRB Edirne 80.08 311 *e*P **P** **00 30 06.3 -0.2**
EDRB Edirne 80.08 311 P **P** **00 30 06.5 0.0**
DOMB Dombas 80.11 335 *e*P **P** **00 30 07.1 +0.8**
UZH Uzhgorod 80.13 319⇑*i*P **P** **00 30 05.8 -0.8**
UZH *e* 00 30 16.4
UZH *e* 00 33 07.0
UZH *e*PPP PPP 00 34 59.0
UZH *e*S **S** **00 40 05.2 -4.0**
UZH *e* 00 40 23.0
UZH *e*PS PnS 00 41 07.2 +11
UZH *e*SSS SSS 00 48 43.0
UZH MLR MLR
comp=N,5μm,15.0s
UZH MLR MLR
comp=E,7μm,15.0s
UZH MLR MLR
comp=Z,5μm,15.0s
MFT Murefte 80.14 310 *e*P **P** **00 30 06.0 -0.9**
GONE Gonen-Balikesi 80.15 309 *e*P **P** **00 30 06.2 -0.7**
BALB Balikesir 80.17 309 *e*P **P** **00 30 06.9 -0.1**
HUMR Humele 80.18 314⇑*i*P **P** **00 30 06.3 -0.7**
RKY Sarkoy-Tekirda 80.25 310 *e*P **P** **00 30 06.5 -1.1**
ZIMR 80.28 313 ⇑P **P** **00 30 07.9 +0.4**
ZIMR 80.28 313⇑*i*P **P** **00 30 07.9 +0.4**
KRBG Karabiga-Canak 80.28 310 *e*P **P** **00 30 07.2 -0.4**
MOL Molde 80.39 335⇑*i*P **P** **00 30 07.2 -0.5**
MOL AMB AMB 00 30 11.9
comp=Z,422nm,2.0s
MOL *e*S **S** **00 40 12.6 +1.2**
STHS Stebnicka Huta 80.41 320 *e*P **P** **00 30 08.5 +0.3**
STHS pmax pmax
comp=Z,190nm,2.8s
STHS Stebnicka Huta 80.41 320 *e*P **P** **00 30 08.5 +0.3**
STHS *e*pP **pP** **00 30 20.6 +2.6**
FETY Fethiye 80.48 306 *e*P **P** **00 30 07.0 -1.8**
PVL Pavlikeni 80.48 313 *i* P **P** **00 30 09.8 +1.2**
CRVS Cervenica-Dubn 80.51 319 *e*P **P** **00 30 08.5 -0.2**
CRVS pmax pmax
comp=Z,531nm,2.2s
CRVS Cervenica-Dubn 80.51 319 *e*P **P** **00 30 08.4 -0.2**
CRVS *e*pP **pP** **00 30 20.1 +1.5**
CRVS *e*S **S** **00 40 13.1 -0.1**
LOT Lotru 80.57 316⇓*i*P **P** **00 30 09.4 +0.2**
LPK Lapseki 80.67 310 *e*P **P** **00 30 09.1 -0.6**
DRGR 80.67 317 ⇓P **P** **00 30 09.8 +0.1**
DRGR 80.67 317⇓*i*P **P** **00 30 09.8 +0.1**
DALY Dalyan (Mu¯la 80.72 306 *e*P **P** **00 30 09.0 -1.1**
BBB Bella Bella 80.74 37 P **P** **00 30 10.9 +1.1**
BBB Bella Bella 80.74 37 P **P** **00 30 10.9 +1.1**
comp=Z,12nm,0.9s,baz=230,slow=4.1,SNR=4.5
DIM Dimitrovgrad 80.83 312 *i* P **P** **00 30 11.5 +1.0**
YER Yerkesik 80.87 307 *e*P **P** **00 30 11.2 +0.3**
GKP Gorka Klasztor 80.88 325 *e*P **P** **00 30 10.5 0.0**
GKP *e*PcP **pP** **00 30 22.0 +1.6**
GKP *e*S **S** **00 40 16.0 -0.8**
GKP LMZ LR 01 10 30.8
OJC Ojcow 80.89 321⇑*i*P **P** **00 30 10.9 +0.2**
OJC *e*S **S** **00 40 15.1 -2.0**
DEV Deva 80.94 316 ⇑P **P** **00 30 11.4 +0.4**
DEV Deva 80.94 316⇑*i*P **P** **00 30 11.4 +0.4**
ENEZ Enez 80.94 311 *e*P **P** **00 30 10.5 -0.6**
NIE Niedzica 80.95 320⇑*i*P **P** **00 30 13.6 +2.5**
NIE *e*S **S** **00 40 23.1 +5.2**
KDZ Kurdzhali 81.07 312 *i* P **P** **00 30 12.3 +0.4**
IZM Izmir 81.11 308 *e*P **P** **00 30 11.2 -0.9**
BSD Bornholm Skovb 81.17 327⇓*i*P **P** **00 30 11.8 -0.2**
BSD *e*S **S** **00 40 18.6 -1.2**
BSD pmax pmax
comp=Z,19nm,1.1s
BSD MLR MLR
comp=Z,4μm,15.0s
BSD Bornholm Skovb 81.17 327⇓*i*P **P** **00 30 11.8 -0.2**
comp=Z,19nm,1.1s
BSD Bornholm Skovb 81.17 327 *e*S **S** **00 40 18.6 -1.2**
BSD
comp=Z,44μm,15.0s
MLSB Milas 81.18 307 *e*P **P** **00 30 11.8 -0.7**
EZN Ezine 81.19 310 *e*P **P** **00 30 12.0 -0.5**
KONO Kongsberg 81.22 332⇑*i*P **P** **00 30 11.4 -0.9**
KONO AMB AMB 00 30 16.0
comp=Z,275nm,2.1s
KONO *e*S **S** **00 40 19.2 -0.9**
KONO AMS AMS 01 09 45.5
comp=Z,30μm,16.4s
KONO Kongsberg 81.22 332⇑*i*P **P** **00 30 12.0 -0.2**
KONO *e* 00 33 17.7
KONO pmax pmax
comp=Z,119nm,1.1s
KONO MLR MLR
comp=Z,22μm,21.0s
KONO Kongsberg 81.22 332⇑*i*P **P** **00 30 12.0 -0.2**
comp=Z,119nm,1.1s
KONO *e*PP **PP** **00 33 17.7 +0.4**
KONO LR LR
comp=Z,22μm,21.0s
GZR Gura Zlata 81.23 316 ⇑P **P** **00 30 12.5 -0.2**
GZR Gura Zlata 81.23 316⇑*i*P **P** **00 30 12.5 -0.2**
KECS Kecovo 81.27 319 *e*P **P** **00 30 13.0 +0.2**
KECS pmax pmax
comp=Z,60nm,1.6s
KECS Kecovo 81.27 319 *e*P **P** **00 30 13.0 +0.2**
KECS *e*pP **pP** **00 30 24.6 +1.9**
ARG Arkhangelos 81.35 306 P **P** **00 30 12.9 -0.5**

PLD	**Plovdiv**	**81.37 312**	P	**P**	**00 30 13.4**	**0.0**
PLD	**Plovdiv**	**81.37 312**	*i* P	**P**	**00 30 13.6**	**+0.2**
YKW3	**Yellowknife Ar**	**81.37 24⇑**	*i* P	**P**	**00 30 12.5**	**-0.5**
	comp=Z,13nm,1.8s					
YKW3			*e*	**pP**	**00 30 25.0**	**+2.1**
YKW3			*e*PP	**PP**	**00 33 18.1**	**-0.4**
YKA	**Yellowknife Ar**	**81.42 24**	P	**P**	**00 30 13.8**	**+0.6**
YKA			PKKPbc	**PKKPbc**	**00 48 51.0**	**+2.7**
YKA	**Yellowknife Ar**	**81.42 24**	P	**P**	**00 30 13.8**	**+0.6**
	comp=Z,41nm,1.0s,baz=307,slow=5.2,SNR=105					
YKA			PKKPbc	**PKKPbc**	**00 48 51.0**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=131,slow=2.7,SNR=4.0					
PRK	**Paraskevi**	**81.47 309**	P	**P**	**00 30 13.4**	**-0.6**
MPEP	**Malo Peshtene**	**81.48 314**	*i* P	**P**	**00 30 11.5**	**-2.5**
SMTH	**Samothraki Isl**	**81.48 310**	P	**P**	**00 30 13.1**	**-1.0**
RZN	**Rozhen**	**81.53 312**	*i* P	**P**	**00 30 14.0**	**-0.5**
PGB	**Panagyurishte**	**81.54 313**	*i* P	**P**	**00 30 14.9**	**+0.5**
DAT	**Datca**	**81.55 306**	*e*P	**P**	**00 30 13.3**	**-1.3**
BODT	**Bodrum**	**81.61 307**	*e*P	**P**	**00 30 14.2**	**-0.7**
SMG	**Samos**	**81.69 308**	P	**P**	**00 30 14.8**	**-0.4**
HYA	**Hoyanger**	**81.74 335**	*e*P	**P**	**00 30 14.6**	**-0.3**
HYA			*e*S	**S**	**00 40 23.7**	**-1.7**
HYA			AMS	AMS	01 10 30.3	
	comp=Z,35μm,15.4s					
SIGRI	**SIGRI**	**81.78 309**	P	**P**	**00 30 14.8**	**-0.8**
BZS	**Buzias**	**81.86 316**	⇑P	**P**	**00 30 15.1**	**-0.8**
BZS	**Buzias**	**81.86 316**	⇑*i*P	**P**	**00 30 15.1**	**-0.8**
RAC	**Raciborz**	**81.87 322**	*e*P	**P**	**00 30 16.4**	**+0.6**
RAC			*e*S	**S**	**00 40 28.6**	**+1.4**
RAC			MLR	MLR		
	comp=Z,23μm,22.8s					
PSZ	**Piszkesteto**	**81.88 319**	*e*P	**P**	**00 30 16.6**	**+0.5**
PSZ			*e*		00 33 20.0	
PSZ			pmax	pmax		
	comp=Z,317nm,1.8s					
PSZ			MLR	MLR		
	comp=Z,11μm,20.0s					
PSZ	**Piszkesteto**	**81.88 319**	⇑*i*P	**P**	**00 30 16.0**	**-0.1**
PSZ	**Piszkesteto**	**81.88 319**	*e*P	**P**	**00 30 16.6**	**+0.5**
	comp=Z,317nm,1.8s					
PSZ			*e*PP	**PP**	**00 33 20.0**	**-3.3**
PSZ			LR	LR		
	comp=Z,11μm,20.0s					
PSZ	**Piszkesteto**	**81.88 319**	⇑*e*P	**P**	**00 30 16.6**	**+0.5**
KAVA	**Kavala**	**81.96 311**	P	**P**	**00 30 16.0**	**-0.5**
LIA	**Limnos Island**	**81.96 310**	P	**P**	**00 30 15.4**	**-1.1**
CHOS	**Chios island**	**81.98 308**	P	**P**	**00 30 15.9**	**-0.9**
OKC	**Ostrava-Krasne**	**82.01 321**	⇑*i*P	**P**	**00 30 16.6**	**0.0**
OKC			*e*		00 30 27.5	
OKC			*e*		00 33 25.7	
OKC			*e*		00 40 27.1	
OKC			MLR	MLR		
	comp=Z,13μm,16.1s					
OKC	**Ostrava-Krasne**	**82.01 321**	⇑*i*P	**P**	**00 30 16.6**	**0.0**
OKC			*e*pP	**pP**	**00 30 27.5**	**+1.0**
OKC			*e*PP	**PP**	**00 33 25.7**	**+1.6**
OKC			*e*S	**S**	**00 40 27.1**	**-1.6**
OKC			*e*XS	**ScS**	**00 40 45.6**	**+0.6**
OKC			*e*x	x	00 46 24.3	
OKC			*e*x	x	00 50 15.9	
OKC			AMS	AMS	01 10 20.0	
	comp=Z,13μm,16.1s					
COP	**Copenhagen**	**82.09 328**	⇑*i*P	**P**	**00 30 17.2**	**+0.3**
COP			*e*		00 33 24.7	
COP			*e*S	**S**	**00 40 25.4**	**-3.8**
COP			pmax	pmax		
	comp=Z,22nm,1.0s					
COP			MLR	MLR		
	comp=Z,610nm,15.0s					
COP	**Copenhagen**	**82.09 328**	⇑*i*P	**P**	**00 30 17.2**	**+0.3**
	comp=Z,22nm,0.9s					
COP			*e*PP	**PP**	**00 33 24.7**	**+0.2**
COP			*e*S	**S**	**00 40 25.4**	**-3.8**
COP						
	comp=Z,11μm,14.0s					
VTS	**Vitosha**	**82.16 313**	P	**P**	**00 30 18.0**	**+0.2**
VTS	**Vitosha**	**82.16 313**	⇑P	**P**	**00 30 18.3**	**+0.5**
VTS	**Vitosha**	**82.16 313**	*i* P	**P**	**00 30 18.3**	**+0.5**
VTS	**Vitosha**	**82.16 313**	⇑*i*P	**P**	**00 30 18.3**	**+0.5**
VYHS	**Vyhne**	**82.24 320**	*e*P	**P**	**00 30 18.5**	**+0.6**
VYHS			pmax	pmax		
	comp=Z,528nm,2.4s					
VYHS	**Vyhne**	**82.24 320**	*e*P	**P**	**00 30 18.5**	**+0.6**
VYHS			*e*pP	**pP**	**00 30 29.9**	**+2.1**
VYHS	**Vyhne**	**82.24 320**	*e*S	**S**	**00 40 33.9**	**+2.7**
MMB	**Musomiste**	**82.25 312**	*i* P	**P**	**00 30 17.4**	**-0.7**
RGN	**Rugen**	**82.25 327**	*e*P	**P**	**00 30 18.0**	**+0.3**
	comp=Z,2μm,2.5s					
RGN	**Rugen**	**82.25 327**	⇑*i*P	**P**	**00 30 18.1**	**+0.4**
	comp=Z,201nm,1.1s					
RGN			*e*PP	**PP**	**00 33 26.7**	**+0.9**
NVR	**Nevrokopi**	**82.26 312**	P	**P**	**00 30 17.4**	**-0.8**
ODD1	**Odda**	**82.31 333**	*e*P	**P**	**00 30 17.5**	**-0.5**
ODD1			AMB	AMB	00 30 31.2	
	comp=Z,298nm,1.5s					
ODD1			AMS	AMS	01 10 24.6	
	comp=Z,17μm,14.4s					
KARP	**Karpathos**	**82.34 305**	P	**P**	**00 30 17.8**	**-0.9**
SUE	**Sulen**	**82.36 335**	⇑*i*P	**P**	**00 30 16.6**	**-1.5**
SUE			AMB	AMB	00 30 22.2	
	comp=Z,335nm,1.7s					
PKSN	**Nyarlorinc**	**82.37 318**	⇓*e*P	**P**	**00 30 19.8**	**+1.3**
LLD	**Lille Linde**	**82.38 328**	*i* P	**P**	**00 30 18.5**	**+0.1**
LLD			*i* *PP	**pP**	**00 30 30.6**	**+2.3**
LLD			pmax	pmax		
	comp=Z,17nm,0.7s					
LLD	**Lille Linde**	**82.38 328**	*i* P	**P**	**00 30 18.5**	**+0.1**
	comp=Z,17nm,0.7s					
LLD			*i* pP	**pP**	**00 30 30.6**	**+2.3**
MORC	**Moravsky Berou**	**82.38 321**	⇑*i*P	**P**	**00 30 18.5**	**-0.2**
MORC			*e*		00 33 28.1	
MORC			*e*S	**S**	**00 40 34.0**	**+1.3**
MORC			pmax	pmax		
	comp=Z,89nm,1.0s					
MORC	**Moravsky Berou**	**82.38 321**	⇑*i*P	**P**	**00 30 18.5**	**-0.2**
	comp=Z,89nm,1.0s					
MORC			*e*PP	**PP**	**00 33 28.1**	**+0.9**
MORC			*e*S	**S**	**00 40 34.0**	**+1.3**
HOMB	**Homborsund**	**82.47 332**	*e*P	**P**	**00 30 17.4**	**-1.4**
HOMB			AMB	AMB	00 30 31.5	
	comp=Z,194nm,1.5s					
HOMB			AMS	AMS	01 10 59.3	
	comp=Z,23μm,15.7s					
RUND	**Rundenannen**	**82.51 334**	*e*P	**P**	**00 30 19.0**	**-0.1**
ASK	**Askoy**	**82.54 334**	*e*P	**P**	**00 30 18.9**	**-0.2**
SRS	**Serrai**	**82.54 312**	P	**P**	**00 30 18.7**	**-0.9**
BER	**Bergen**	**82.54 334**	⇑*i*P	**P**	**00 30 16.6**	**-2.5**
BER			*i* P	PcP	00 30 17.0	-7.2
BER			AMB	AMB	00 30 33.3	
	comp=Z,215nm,1.6s					
BER			*e*S	**S**	**00 40 35.3**	**+1.6**
BER			AMS	AMS	01 10 51.4	
	comp=Z,43μm,16.4s					
KKB	**Krupnik**	**82.56 313**	*i* P	**P**	**00 30 19.6**	**-0.1**
KSP	**Ksiaz**	**82.56 323**	⇑*e*P	**P**	**00 30 19.7**	**+0.2**
KSP			*e*		00 30 31.4	
KSP			*e*S	**S**	**00 40 33.2**	**-1.2**
KSP			MLR	MLR		
	comp=Z,46μm,19.6s					
KSP	**Ksiaz**	**82.56 323**	*e*P	**P**	**00 30 19.8**	**+0.2**
KSP			*e*PcP	**pP**	**00 30 31.7**	**+2.3**
KSP			*e*S	**S**	**00 40 34.7**	**+0.3**
KSP			LMZ	LR	01 10 14.8	
BUD	**Budapest**	**82.61 319**	⇑*e*P	**P**	**00 30 19.9**	**+0.1**
OUR	**Ouranopolis**	**82.61 311**	P	**P**	**00 30 19.2**	**-0.7**
SCO	**Scoresbysund**	**82.65 349**	⇑*i*P	**P**	**00 30 19.5**	**0.0**
SCO			*i* *PP	**pP**	**00 30 31.2**	**+1.8**
SCO			*e*		00 33 26.6	
SCO			pmax	pmax		
	comp=Z,40nm,1.0s					
SCO			MLR	MLR		
	comp=Z,8μm,17.0s					
SCO	**Scoresbysund**	**82.65 349**	⇑*i*P	**P**	**00 30 19.5**	**0.0**
	comp=Z,40nm,1.0s					
SCO			*i* pP	**pP**	**00 30 31.2**	**+1.8**
SCO			*e*PP	**PP**	**00 33 26.6**	**-2.1**
SCO						
	comp=Z,8μm,17.0s					
BLS5	**Blasjo**	**82.66 333**	*e*P	**P**	**00 30 19.8**	**-0.1**
PKS7	**Kunszentmiklos**	**82.73 318**	⇓*e*P	**P**	**00 30 21.2**	**+0.8**
SUMG	**Summit**	**82.73 355**	⇑*i*P	**P**	**00 30 20.4**	**-0.1**
SUMG			*e*		00 33 31.4	
SUMG			pmax	pmax		
	comp=Z,237nm,1.0s					
SUMG	**Summit**	**82.73 355**	⇑*i*P	**P**	**00 30 20.3**	**-0.1**
	comp=Z,61nm,0.8s					
SUMG			*e*PP	**PP**	**00 33 30.7**	**+0.9**
SUMG			*e*S	**S**	**00 40 34.4**	**-1.8**
SUMG						
	comp=Z,6μm,19.0s					
SUMG	**Summit**	**82.73 355**	⇑*i*P	**P**	**00 30 20.4**	**-0.1**
	comp=Z,237nm,1.0s					
SUMG			*e*PP	**PP**	**00 33 31.4**	**+1.6**
DPC	**Dobruska-Polom**	**82.79 322**	⇑*i*P	**P**	**00 30 20.8**	**0.0**
DPC			*e*		00 30 30.4	
DPC			*e*		00 33 32.5	
DPC			*e*		00 40 36.0	
DPC	**Dobruska-Polom**	**82.79 322**	⇑*i*P	**P**	**00 30 20.8**	**0.0**
DPC			*e*pP	**pP**	**00 30 30.4**	**-0.3**
DPC			*e*PP	**PP**	**00 33 32.5**	**+1.9**
DPC			*e*x	x	00 37 04.2	
DPC			*e*S	**S**	**00 40 36.0**	**-0.8**
DPC			*e*x	x	00 40 45.3	
DPC			*e*XS	**sS**	**00 40 54.6**	**+1.4**
DPC			*e*x	x	00 46 34.7	
DPC			*e*x	x	00 50 16.3	
DPC			AMS	AMS	01 10 10.0	
SOH	**Sokhos**	**82.83 312**	P	**P**	**00 30 20.1**	**-1.1**
APE	**Apeiranthos**	**82.91 307**	P	**P**	**00 30 19.1**	**-2.5**
PKS2	**Kecel**	**82.95 318**	⇓*e*P	**P**	**00 30 22.7**	**+1.1**
PLG	**Polygyros**	**82.96 311**	P	**P**	**00 30 20.9**	**-0.9**
SNART	**Snartemo**	**82.99 332**	*e*P	**P**	**00 30 21.2**	**-0.3**
KNT	**Kendrikon**	**82.99 312**	P	**P**	**00 30 21.2**	**-0.8**
PAIG	**Paliouri**	**83.00 311**	P	**P**	**00 30 21.1**	**-0.9**
PKSG		**83.03 319**	⇓*e*P	**P**	**00 30 22.9**	**+0.9**
SMOL	**Smolenice**	**83.06 320**	*e*P	**P**	**00 30 23.3**	**+1.2**
SMOL			*e*		00 30 35.0	
SMOL	**Smolenice**	**83.06 320**	*e*P	**P**	**00 30 23.3**	**+1.2**
SMOL			*e*pP	**pP**	**00 30 35.0**	**+3.0**
HORT	**Hortiatis**	**83.10 311**	P	**P**	**00 30 21.4**	**-1.2**
CSKK	**Cs¨‡kako**	**83.12 319**	⇓*e*P	**P**	**00 30 23.3**	**+0.8**
VAY	**Valandovo**	**83.14 312**	P	**P**	**00 30 21.4**	**-1.3**
VAY	**Valandovo**	**83.14 312**	⇑*i*P	**P**	**00 30 21.8**	**-0.9**
THE	**Thessaloniki**	**83.18 311**	P	**P**	**00 30 21.7**	**-1.2**
AOS	**Alonnisos**	**83.19 310**	P	**P**	**00 30 22.1**	**-0.9**
MUD	**Monsted U'grnd**	**83.20 330**	⇑*i*P	**P**	**00 30 22.8**	**+0.2**
MUD			*e*S	**S**	**00 40 38.4**	**-2.1**
MUD			pmax	pmax		
	comp=Z,71nm,0.9s					
MUD			MLR	MLR		
	comp=Z,920nm,18.0s					
MUD	**Monsted U'grnd**	**83.20 330**	⇑*i*P	**P**	**00 30 22.8**	**+0.2**
	comp=Z,71nm,0.9s					
MUD	**Monsted U'grnd**	**83.20 330**	*e*S	**S**	**00 40 38.4**	**-2.1**
MUD						
	comp=Z,31μm,18.0s					
ZKR	**Zakros**	**83.22 305**	P	**P**	**00 30 22.4**	**-0.8**
SANT	**Santorini**	**83.25 307**	P	**P**	**00 30 21.3**	**-2.1**
SANT	**Santorini**	**83.25 307**	⇑*i*P	**P**	**00 30 21.4**	**-2.0**
	comp=Z,348nm,1.2s					
SANT			*e*	**pP**	**00 30 33.8**	**+0.4**
SANT			*e*PP	**PP**	**00 33 36.2**	**+1.5**
SANT			LR	LR		
	comp=Z,4μm,20.0s					
PKST	**T¨'s**	**83.31 319**	⇓*e*P	**P**	**00 30 24.0**	**+0.6**
MRMA	**Marmari**	**83.31 309**	P	**P**	**00 30 23.2**	**-0.5**
GRG	**Griva**	**83.42 312**	P	**P**	**00 30 23.2**	**-1.0**
PKSM	**Moragy**	**83.44 318**	⇑P	**P**	**00 30 24.0**	**-0.1**
PKSM	**Moragy**	**83.44 318**	⇑*i*P	**P**	**00 30 24.0**	**-0.1**
PKSM	**Moragy**	**83.44 318**	⇑*e*P	**P**	**00 30 24.2**	**+0.1**
SKIA	**Skiathos**	**83.48 310**	P	**P**	**00 30 23.4**	**-1.1**
PKS9	**Tamasi**	**83.48 318**	⇓*e*P	**P**	**00 30 24.6**	**+0.3**
ERET	**Eretria**	**83.55 309**	P	**P**	**00 30 23.1**	**-1.9**
XOR	**Xorichti**	**83.58 310**	P	**P**	**00 30 23.3**	**-1.7**
DIVS	**Divibare**	**83.58 316**	P	**P**	**00 30 24.7**	**-0.3**
NEO	**Neokhori**	**83.58 310**	P	**P**	**00 30 23.4**	**-1.7**
MRKA	**Markates**	**83.59 310**	P	**P**	**00 30 23.4**	**-1.7**
NPS	**Neapolis**	**83.61 306**	P	**P**	**00 30 24.3**	**-0.9**
SKO	**Skopje**	**83.61 313**	P	**P**	**00 30 25.7**	**+0.6**
SKO	**Skopje**	**83.61 313**	*i* P	**P**	**00 30 26.2**	**+1.1**
PVCC	**Panska Ves**	**83.67 323**	⇑*i*P	**P**	**00 30 25.3**	**+0.1**
PVCC			*e*		00 30 37.4	
PVCC			*e*		00 33 38.4	
PVCC			*e*		00 40 46.3	
PVCC			MLR	MLR		
	comp=Z,26μm,16.9s					
PVCC	**Panska Ves**	**83.67 323**	⇑*i*P	**P**	**00 30 25.3**	**+0.1**
PVCC			*e*pP	**pP**	**00 30 37.4**	**+2.3**
PVCC			*e*PP	**PP**	**00 33 38.4**	**+0.7**
PVCC			*e*SKP		00 40 46.3	
PVCC			*e*x	x	00 46 50.2	
PVCC			AMS	AMS	01 11 40.0	
	comp=Z,26μm,16.9s					
PTL	**Penteli**	**83.68 309**	P	**P**	**00 30 23.7**	**-1.9**
LIT	**Litokhoron**	**83.74 311**	P	**P**	**00 30 24.5**	**-1.3**
LAST	**Lasithi**	**83.75 306**	P	**P**	**00 30 25.7**	**-0.4**
ATHU	**Athens Univers**	**83.78 309**	P	**P**	**00 30 23.4**	**-2.6**
SMIA	**Simia**	**83.78 310**	P	**P**	**00 30 24.6**	**-1.5**
TREC	**Trest**	**83.79 322**	⇑*i*P	**P**	**00 30 26.0**	**+0.1**
TREC			*e*		00 30 37.5	
TREC			*e*		00 33 39.6	
TREC			*e*		00 40 47.6	
TREC			MLR	MLR		
	comp=Z,23μm,20.8s					
TREC	**Trest**	**83.79 322**	⇑*i*P	**P**	**00 30 26.0**	**+0.1**
TREC			*e*pP	**pP**	**00 30 37.5**	**+1.7**
TREC			*e*PP	**PP**	**00 33 39.6**	**+0.9**
TREC			*e*SKS	**S**	**00 40 47.6**	**+0.7**
TREC			*e*x	x	00 46 52.2	
TREC			*e*x	x	00 50 47.1	
TREC			AMS	AMS	01 09 40.0	
	comp=Z,23μm,20.8s					
ATH	**Athens Observa**	**83.82 309**	P	**P**	**00 30 24.2**	**-2.0**
PRU	**Pruhonice**	**83.96 323**	⇑*i*P	**P**	**00 30 26.8**	**+0.1**
PRU			*e*		00 30 38.3	
PRU			*e*		00 33 40.7	
PRU			*e*		00 40 45.2	
PRU			MLR	MLR		
	comp=Z,21μm,18.0s					
PRU	**Pruhonice**	**83.96 323**	⇑*i*P	**P**	**00 30 26.8**	**+0.1**
PRU			*e*pP	**pP**	**00 30 38.3**	**+1.7**
PRU			*e*PP	**PP**	**00 33 40.7**	**+0.6**
PRU			*e*x	x	00 37 12.4	
PRU			*e*SKS	**S**	**00 40 45.2**	**-3.4**
PRU			*e*S	**SKKSac**	**00 40 52.3**	**-0.4**
PRU			*e*x	x	00 46 53.6	
PRU			AMS	AMS	01 10 50.0	
	comp=Z,21μm,18.0s					
PRA	**Prague**	**83.98 323**	⇑P	**P**	**00 30 27.0**	**+0.2**
PRA			PP	**PP**	**00 33 41.0**	**+0.8**
PRA			SKS	**S**	**00 40 46.0**	**-2.7**
PRA			AMS	AMS	01 11 30.0	
BSEG	**Bad Segeberg**	**84.07 327**	*e*P	**P**	**00 30 27.5**	**+0.4**
	comp=Z,963nm,1.7s					
BSEG	**Bad Segeberg**	**84.07 327**	*e*P	**P**	**00 30 27.5**	**+0.4**
BSEG			pmax	pmax		
	comp=Z,963nm,1.7s					
CLL	**Collm**	**84.11 324**	*e*P	**P**	**00 30 27.4**	**-0.1**
	comp=Z,597nm,2.0s					
CLL	**Collm**	**84.11 324**	⇑*i*P	**P**	**00 30 27.3**	**-0.2**
CLL			*i*		00 30 38.3	
CLL			*e*S	**S**	**00 40 50.0**	**0.0**
CLL			pmax	pmax		
	comp=Z,592nm,2.0s					
CLL			MLR	MLR		
	comp=Z,39μm,18.3s					
CLL	**Collm**	**84.11 324**	⇑*i*P	**P**	**00 30 27.3**	**-0.2**
	comp=Z,592nm,2.0s					
CLL			*i* sP	**sP**	**00 30 38.3**	**-2.7**
CLL			*i* sPcP		00 30 41.9	
CLL			*e*		00 32 38.0	
CLL			*e*PP	**PP**	**00 33 45.0**	**+3.8**
CLL			*e*PPP	PPP	00 35 48.0	
CLL			*e*PPPP		00 37 12.0	
CLL			*e*S	**S**	**00 40 50.0**	**0.0**
CLL			*e*(sS)		00 41 04.0	
CLL			*e*PS	**PnS**	**00 41 50.0**	**+4.6**
CLL			*e*SS	SS	00 46 42.0	+24
CLL			*e*		00 51 00.0	
CLL			Lm	MLR	01 12 00.0	
	comp=Z,39μm,18.3s					
FBE	**Freiberg**	**84.13 324**	*e*P	**P**	**00 30 28.0**	**+0.5**
	comp=Z,994nm,2.0s					
IDI	**Anoyia**	**84.13 306**	P	**P**	**00 30 26.5**	**-1.5**
IDI	**Anoyia**	**84.13 306**	⇑*i*P	**P**	**00 30 26.4**	**-1.5**
	comp=Z,91nm,0.9s					
IDI			*e*	**pP**	**00 30 38.9**	**+1.0**
IDI			*e*PP	**PP**	**00 33 40.6**	**-1.5**
KZN	**Kozani**	**84.14 312**	P	**P**	**00 30 26.6**	**-1.3**
FNA	**Florina**	**84.19 312**	P	**P**	**00 30 26.9**	**-1.3**
AXAR	**Agios Charalam**	**84.22 310**	P	**P**	**00 30 26.5**	**-1.8**
IVA	**Berane**	**84.22 315**	⇑*i*P	**P**	**00 30 28.3**	**0.0**
CONA	**Conrad Observa**	**84.26 320**	*i* P	**P**	**00 30 29.0**	**+0.6**
	comp=Z,2μm,3.5s,SNR=41					
PVY	**Plav**	**84.30 314**	⇑*i*P	**P**	**00 30 28.7**	**-0.1**
SIVA	**Sivas**	**84.31 306**	P	**P**	**00 30 28.2**	**-0.6**
THL	**Klokotos Trika**	**84.31 311**	P	**P**	**00 30 27.0**	**-1.7**
PLE	**Pljevlja**	**84.33 315**	⇑*i*P	**P**	**00 30 29.5**	**+0.6**
LTK	**Loutraki**	**84.33 309**	P	**P**	**00 30 25.9**	**-3.0**
AGG	**Agios Georgios**	**84.33 310**	P	**P**	**00 30 26.5**	**-2.4**
DID	**Didima**	**84.37 309**	P	P	00 30 25.6	-3.5
DIDY	**Didyma**	**84.40 309**	P	**P**	**00 30 26.2**	**-3.1**
PHP	**Peshkopia**	**84.41 313**	P	**P**	**00 30 28.4**	**-0.8**
BEHE	**Becsehely**	**84.44 319**	⇑*e*P	**P**	**00 30 29.3**	**+0.1**
DSF	**Desfina**	**84.47 310**	P	**P**	**00 30 27.0**	**-2.6**
MAKR	**Makrakomi, Fth**	**84.47 310**	P	**P**	**00 30 27.7**	**-1.9**
THAL	**Thalero**	**84.54 309**	P	**P**	**00 30 27.5**	**-2.4**
NEST	**Nestorio**	**84.58 312**	P	**P**	**00 30 28.9**	**-1.3**
VAM	**Vamos**	**84.59 306**	P	**P**	**00 30 29.4**	**-0.8**
KBN	**Korca**	**84.66 312**	P	**P**	**00 30 29.3**	**-1.3**
UPM	**Unac-Piva**	**84.70 315**	⇑*i*P	**P**	**00 30 31.1**	**+0.2**
EVR	**Evrytania**	**84.74 310**	P	**P**	**00 30 29.6**	**-1.4**
KALE	**Kalithea**	**84.75 310**	P	**P**	**00 30 28.8**	**-2.2**
ARSA	**Arzberg**	**84.80 320**	⇑*i*P	**P**	**00 30 31.1**	**0.0**
	comp=Z,1μm,3.3s,SNR=27					
KARN	**Karanos**	**84.80 306**	P	**P**	**00 30 30.7**	**-0.6**
TRIZ	**Trizonia**	**84.81 310**	P	**P**	**00 30 29.6**	**-1.6**
GUR	**Goura**	**84.81 309**	P	**P**	**00 30 29.1**	**-2.3**
NEUB	**Neuenburg**	**84.82 325**	*e*P	**P**	**00 30 31.1**	**+0.1**
	comp=Z,704nm,1.8s					
NKY	**Niksic**	**84.83 315**	⇑*i*P	**P**	**00 30 31.1**	**-0.3**
PDG	**Podgorica**	**84.84 314**	P	**P**	**00 30 31.1**	**-0.2**
TTG	**Podgorica**	**84.84 314**	⇑*i*P	**P**	**00 30 30.9**	**-0.4**
NKME	**Niksic**	**84.88 315**	⇑*i*P	**P**	**00 30 30.9**	**-0.7**
TANN	**Tannenbergstha**	**84.88 324**	*e*P	**P**	**00 30 31.6**	**+0.2**
	comp=Z,487nm,2.0s					
EFP	**Efpalio**	**84.90 310**	P	**P**	**00 30 29.7**	**-2.0**
KLV	**Kalavryta, Ach**	**84.90 309**	P	**P**	**00 30 29.9**	**-1.9**
LAKA	**Lakka**	**84.93 310**	P	**P**	**00 30 30.4**	**-1.5**
VLI	**Veliai**	**84.93 308**	P	**P**	**00 30 29.2**	**-2.7**
KHC	**Kasperske Hory**	**84.94 322**	⇑*i*P	**P**	**00 30 31.7**	**-0.1**
KHC			*e*		00 33 49.5	
KHC			*e*S	**S**	**00 40 55.2**	**-3.3**
KHC			pmax	pmax		
	comp=Z,126nm,1.5s					
KHC	**Kasperske Hory**	**84.94 322**	⇑*i*P	**P**	**00 30 31.6**	**-0.1**
KHC			*e*pP	**pP**	**00 30 43.1**	**+1.4**
KHC			*e*PP	**PP**	**00 33 49.9**	**+1.7**
KHC			*e*x	x	00 37 35.8	
KHC			*e*SKS	**S**	**00 40 54.4**	**-4.1**
KHC			*e*x	x	00 47 07.6	
KHC			AMS	AMS	01 10 40.0	
	comp=Z,21μm,21.1s					
KHC	**Kasperske Hory**	**84.94 322**	⇑*i*P	**P**	**00 30 31.7**	**-0.1**
	comp=Z,126nm,1.5s					
KHC			*e*PP	**PP**	**00 33 49.5**	**+1.3**
KHC			*e*S	**S**	**00 40 55.1**	**-3.3**
WERD	**Werda**	**84.94 324**	*e*P	**P**	**00 30 31.8**	**+0.1**
	comp=Z,441nm,1.9s					
TIR	**Tirane**	**84.95 313**	P	**P**	**00 30 31.7**	**-0.2**
TIR	**Tirane**	**84.95 313**	⇑*e*P	**P**	**00 30 31.9**	**0.0**
TIR			*e*		00 30 43.9	
TIR			pmax	pmax		
	comp=Z,672nm,1.5s					
TIR			MLR	MLR		
	comp=Z,20μm,21.0s					
TIR	**Tirane**	**84.95 313**	⇑*e*P	**P**	**00 30 31.9**	**0.0**
	comp=Z,672nm,1.5s					
TIR			*e*	**pP**	**00 30 43.9**	**+2.1**
TIR			LR	LR		
	comp=Z,20μm,21.0s					
NRDL	**Niedersach Rie**	**84.97 326**	*e*P	**P**	**00 30 32.2**	**+0.5**
	comp=Z,720nm,1.9s					
NRDL			*e*sP	**sP**	**00 30 44.0**	**-1.2**
GUNZ	**Gunzen**	**84.98 324**	*e*P	**P**	**00 30 32.1**	**+0.2**
	comp=Z,476nm,1.8s					
GUNZ			*e*sP	**sP**	**00 30 44.0**	**-1.4**
NKC	**Novy Kostel**	**84.98 324**	⇑*i*P	**P**	**00 30 32.0**	**+0.1**
NKC			*e*		00 30 43.0	
NKC			*e*		00 33 49.9	
NKC			*e*		00 40 52.7	
NKC			*e*		00 41 03.7	
NKC			MLR	MLR		
	comp=Z,14μm,20.0s					
NKC	**Novy Kostel**	**84.98 324**	⇑*i*P	**P**	**00 30 32.0**	**+0.1**
NKC			*e*pP	**pP**	**00 30 43.0**	**+1.1**
NKC			*e*PP	**PP**	**00 33 49.9**	**+1.5**
NKC			*e*SKS	S	00 40 52.7	-6.1
NKC			*e*S	**SKKSac**	**00 41 03.7**	**+3.2**
NKC			*e*x	x	00 41 04.5	
NKC			*e*x	x	00 47 07.6	
NKC			*e*x	x	00 51 07.2	
NKC			AMS	AMS	01 12 50.0	
	comp=Z,14μm,20.0s					
WERN	**Wernitzgruen**	**84.99 324**	*e*P	**P**	**00 30 32.2**	**+0.2**
	comp=Z,364nm,1.7s					
DRME	**Dracevica, Mon**	**85.00 314**	⇑*i*P	**P**	**00 30 31.8**	**-0.4**
PLN	**Plauen**	**85.00 324**	*e*P	**P**	**00 30 32.3**	**+0.3**
	comp=Z,4μm,2.5s					
GEC2	**GERESS Array S**	**85.03 322**	*e*P	**P**	**00 30 32.4**	**+0.1**
	comp=Z,852nm,2.7s					
GEC2	**GERESS Array S**	**85.03 322**	*e*P	**P**	**00 30 32.4**	**+0.1**
GEC2	

NLWA			*e*PP		**PP**	**00 33 53.1 +0.4**
NLWA			LR		LR	
	comp=Z,2μm,20.0s					
SRN	**Sarande**	**85.54 312**	P		**P**	**00 30 33.5 -1.4**
LKD2	**Lefkada island**	**85.60 311**	P		**P**	**00 30 33.9 -1.3**
STON	**Ston**	**85.63 315**	P		**P**	**00 30 34.2 -1.0**
PYL	**PYLOS**	**85.71 309**	P		**P**	**00 30 33.9 -1.9**
OBKA	**Obir**	**85.75 320**	⇓*i*P		**P**	**00 30 35.6 -0.3**
	comp=Z,1μm,3.5s,SNR=9.2					
KEK	**Kerkira**	**85.76 312**	P		**P**	**00 30 34.7 -1.3**
SOFL	**Sornfelli, Far**	**85.82 340**	AMS		AMS	01 14 02.6
	comp=Z,11μm,17.9s					
BOJS	**Bojanci**	**85.85 318**	*i* P		**P**	**00 30 36.2 -0.1**
BOJS			*e*			00 30 48.7
BOJS			*e*PP		**PP**	**00 33 55.4 -0.1**
BOJS			*e*SKSac		**SKSac**	**00 40 58.0 -1.9**
BOJS			*e*SS		SS	00 47 31.0 +47
RAR	**Rarotonga**	**85.86 115**	PFAKE			00 30 50.0 +13
RAR			LR		LR	
	comp=Z,4μm,21.0s					
VLS	**Valsamata**	**85.93 310**	P		**P**	**00 30 35.6 -1.3**
GRF	**Grafenberg Arr**	**85.94 323**	*e*P		**P**	**00 30 37.0 +0.3**
	comp=Z,646nm,1.8s					
GRF			*e*L		L	01 13 25.2
	comp=Z,26μm,18.2s					
GRF	**Grafenberg Arr**	**85.94 323**	*e*P		**P**	**00 30 37.0 +0.3**
GRF			pmax		pmax	
	comp=Z,646nm,1.8s					
GRFO	**Grafenberg**	**85.94 323**	⇑*i*P		**P**	**00 30 36.9 +0.2**
GRFO			*e*			00 30 48.2
GRFO			*e*			00 33 57.5
GRFO			pmax		pmax	
	comp=Z,624nm,1.8s					
GRFO	**Grafenberg**	**85.94 323**	⇑*i*P		**P**	**00 30 36.9 +0.2**
	comp=Z,624nm,1.8s					
GRFO			*e*		**pP**	**00 30 48.2 +1.6**
GRFO			*e*PP		**PP**	**00 33 57.5 +1.3**
CMW	**Cultus Mountai**	**85.95 38**	P		**P**	**00 30 39.0 +2.1**
UBBA	**Unterbreizbach**	**85.97 325**	*e*P		**P**	**00 30 36.8 +0.2**
	comp=Z,426nm,1.9s					
UBBA			*e*sP		**sP**	**00 30 48.7 -1.5**
LJU	**Ljubljana**	**86.00 319**	*i* P		**P**	**00 30 36.9 -0.2**
LJU			*e*			00 30 46.8
LJU			*e*PP		**PP**	**00 33 56.2 -0.6**
LJU			*e*SKSac		**SKSac**	**00 40 58.7 -2.2**
LJU			*e*SS		SS	00 47 22.1 +36
UDBI	**Udbina**	**86.03 317**	P		**P**	**00 30 37.0 -0.4**
SFD	**Strofades**	**86.06 309**	P		**P**	**00 30 36.1 -1.4**
KBA	**Koelnbreinsper**	**86.16 321**	⇑*i*P		**P**	**00 30 37.5 -0.6**
	comp=Z,1μm,3.6s,SNR=17					
JCW	**Jim Creek**	**86.18 38**	P		**P**	**00 30 39.9 +2.0**
MYKA	**Terra Mystica**	**86.22 320**	*i* P		**P**	**00 30 37.6 -0.6**
	comp=Z,1μm,4.0s,SNR=8.2					
IBBN	**Ibbenburen**	**86.26 327**	*e*P		**P**	**00 30 38.2 0.0**
	comp=Z,438nm,1.6s					
IBBN			*e*sP		**sP**	**00 30 50.5 -1.2**
JAVS	**Javornik**	**86.36 319**	*i* P		**P**	**00 30 38.1 -0.9**
VOY	**Vojsko**	**86.39 319**	*e*P		**P**	**00 30 38.2 -0.9**
VOY			*e*			00 30 49.4
VOY			*e*			00 31 22.1
WIT	**Witteveen**	**86.50 328**	*e*P		**P**	**00 30 40.1 +0.8**
	comp=Z,9μm,3.0s					
WIT			*e*pP		**pP**	**00 30 52.7 +3.4**
NVLJ	**Novalja**	**86.56 318**	P		**P**	**00 30 39.2 -0.5**
SKDS	**Skadanscina**	**86.57 319**	*e*P		**P**	**00 30 39.1 -0.8**
TRI	**Trieste**	**86.63 319**	*e*P		**P**	**00 30 38.8 -1.4**
TRI			*e*			00 34 02.1
TRI			pmax		pmax	
	comp=Z,40nm,1.0s					
TRI	**Trieste**	**86.63 319**	*e*P		**P**	**00 30 38.8 -1.4**
	comp=Z,40nm,1.0s					
TRI			*e*PP		**PP**	**00 34 02.1 +0.3**
FUR	**Furstenfeldbru**	**86.75 322**	*e*P		**P**	**00 30 41.0 +0.3**
	comp=Z,694nm,1.7s					
FUR			*e*sP		**sP**	**00 30 53.2 -1.1**
FUR	**Furstenfeldbru**	**86.75 322**	*e*P		**P**	**00 30 41.0 +0.3**
FUR			*e**SP		**sP**	**00 30 53.2 -1.1**
FUR			pmax		pmax	
	comp=Z,694nm,1.7s					
ABTA	**Abfaltersbach**	**86.82 321**	⇑*i*P		**P**	**00 30 39.7 -1.5**
	comp=Z,409nm,2.5s,SNR=22					
WTSB	**Winterswijk**	**86.94 327**	*e*P		**P**	**00 30 41.1 -0.4**
	comp=Z,898nm,2.4s					
WTSB			*e*pP		**pP**	**00 30 54.0 +2.5**
WTSB			*e*PP		PP	00 34 12.7 +8.6
WRW	**Wenatchee Ridg**	**86.96 38**	P		**P**	**00 30 43.5 +1.6**
BUG	**Bochum--Univer**	**87.02 326**	*e*P		**P**	**00 30 41.8 -0.1**
	comp=Z,307nm,1.8s					
BUG			*e*sP		**sP**	**00 30 53.8 -1.6**
LON	**Longmire**	**87.03 39**	*e*P		**P**	**00 30 42.4 +0.2**
LON			*e*			00 34 06.3
LON			pmax		pmax	
	comp=Z,58nm,1.1s					
LON	**Longmire**	**87.03 39**	*e*P		**P**	**00 30 42.4 +0.2**
	comp=Z,58nm,1.1s					
LON			*e*PP		**PP**	**00 34 06.3 +1.2**
WATA	**Walderalm**	**87.04 321**	⇓*i*P		**P**	**00 30 41.6 -0.7**
	comp=Z,127nm,1.7s,SNR=12					
WTTA	**Wattenberg**	**87.04 321**	*i* P		**P**	**00 30 42.0 -0.4**
	comp=Z,1μm,3.9s,SNR=32					
TNS	**Taunus Mts**	**87.12 325**	*e*P		**P**	**00 30 42.8 +0.3**
	comp=Z,396nm,2.4s					
TNS			*e*sP		**sP**	**00 30 54.6 -1.5**
TNS	**Taunus Mts**	**87.12 325**	*e*P		**P**	**00 30 42.8 +0.3**
TNS			*e**SP		**sP**	**00 30 54.6 -1.5**
TNS			pmax		pmax	
	comp=Z,396nm,2.4s					
WPW	**White Pass**	**87.21 39**	P		**P**	**00 30 44.9 +1.7**
ABPO	**Ambohimpanom**	**87.26 248**	*e*P		**P**	**00 30 44.1 +0.3**
ABPO			*e*			00 30 56.2
ABPO			pmax		pmax	
	comp=Z,62nm,0.9s					
ABPO	**Ambohimpanom**	**87.26 248**	*e*P		**P**	**00 30 44.1 +0.3**
	comp=Z,62nm,0.9s					
ABPO			*e*		**pP**	**00 30 56.2 +2.5**
MOTA	**Moosalm**	**87.30 322**	⇑*i*P		**P**	**00 30 42.9 -0.7**
	comp=Z,85nm,1.6s,SNR=15					
COR	**Corvallis**	**87.30 42**	*e*P		**P**	**00 30 44.9 +1.5**
COR			*e*			00 30 58.7
COR	**Corvallis**	**87.30 42**	*e*P		**P**	**00 30 44.9 +1.5**
COR			*e*		pP	00 30 58.7 +5.3
RNO	**Roman Nose**	**87.39 42**	P		**P**	**00 30 46.7 +2.7**
RETA	**Reutte**	**87.42 322**	⇑*i*P		**P**	**00 30 43.6 -0.4**
	comp=Z,2μm,3.8s,SNR=11					
BORG	**Borgarnes**	**87.51 346**	*e*P		**P**	**00 30 45.7 +1.7**
	comp=Z,445nm,1.8s					
STU	**Stuttgart**	**87.56 323**	*e*P		**P**	**00 30 44.3 -0.3**
	comp=Z,162nm,1.6s					
STU			*e*sP		**sP**	**00 30 56.5 -1.7**
STU	**Stuttgart**	**87.56 323**	*e*P		**P**	**00 30 44.5 -0.1**
STU			pmax		pmax	
	comp=Z,120nm,1.1s					
STU	**Stuttgart**	**87.56 323**	*e*P		**P**	**00 30 44.5 -0.1**
	comp=Z,120nm,1.1s					
KEBM	**Edson Butte**	**87.56 44**	*e*P		**P**	**00 30 46.1 +1.3**
	comp=Z,294nm,1.2s					
NAC	**Naches**	**87.61 39**	P		**P**	**00 30 47.0 +2.0**
EDM	**Edmonton**	**87.68 31**	⇑*i*P		**P**	**00 30 45.5 +0.3**
EDM			*e*			00 34 11.4
EDM	**Edmonton**	**87.68 31**	⇑*i*P		**P**	**00 30 45.5 +0.3**
EDM			*e*PP		**PP**	**00 34 11.4 +1.3**
FETA	**Feichten**	**87.69 321**	⇑*i*P		**P**	**00 30 45.0 -0.5**
	comp=Z,1μm,3.8s,SNR=25					
MCD	**Coleburn Disti**	**87.74 335**	*e*P		**P**	**00 30 44.7 -0.6**
DRUM	**Mains of Drumt**	**87.91 334**	AMS		AMS	01 13 02.7
	comp=Z,12μm,22.7s					
KBO	**Bosley Butte**	**87.97 44**	*e*P		**P**	**00 30 47.6 +0.8**
	comp=Z,155nm,1.2s					
TRW	**Toppenish Ridg**	**88.02 39**	P		**P**	**00 30 48.9 +2.0**
DAVA	**Damuels**	**88.02 322**	*i* PcP		**P**	**00 30 46.8 -0.3**
	comp=Z,2μm,4.1s,SNR=21					
TIP	**Timpagrande**	**88.08 312**	P		**P**	**00 30 47.2 -0.2**
TIP	**Timpagrande**	**88.08 312**	*e*P		**P**	**00 30 48.2 +0.9**
	comp=Z,62nm,1.2s					
TIP			LR		LR	
	comp=Z,13μm,21.0s					
HGN	**Heimansgroeve**	**88.10 326**	*e*P		**P**	**00 30 46.7 -0.4**
	comp=Z,872nm,3.1s					
HGN			*e*pP		**pP**	**00 30 59.4 +2.3**
HGN			*e*PP		**PP**	**00 34 12.7 -0.8**
MEM	**Membach**	**88.16 326**	P		**P**	**00 30 46.6 -0.7**
LANF	**Langenberg**	**88.19 324**	*e*P		**P**	**00 30 47.8 +0.2**
BFO	**Black Forest**	**88.28 323**	P		**P**	**00 30 47.5 -0.6**
	comp=Z,340nm,1.5s,SNR=9.8					
BFO	**Black Forest**	**88.28 323**	*e*P		**P**	**00 30 47.7 -0.4**
	comp=Z,170nm,1.8s					
BFO			*e*sP		**sP**	**00 30 59.6 -2.1**
BFO	**Black Forest**	**88.28 323**	*e*P		**P**	**00 30 48.0 -0.1**
BFO			*e*			00 30 59.3
BFO			*e*			00 34 13.5
BFO			pmax		pmax	
	comp=Z,120nm,1.4s					
BFO	**Black Forest**	**88.28 323**	*e*P		**P**	**00 30 48.0 -0.1**
	comp=Z,120nm,1.4s					
BFO			*e*		**pP**	**00 30 59.3 +1.2**
BFO			*e*PP		**PP**	**00 34 13.5 -1.6**
CUC	**Castrocucco**	**88.30 314**	*e*P		**P**	**00 30 48.1 -0.2**
	comp=Z,28nm,1.1s					
CUC			*e*PP		**PP**	**00 34 15.8 +0.3**
CUC			LR		LR	
	comp=Z,7μm,20.0s					
KRMB	**Red Mountain**	**88.53 45**	*e*P		**P**	**00 30 50.9 +1.4**
	comp=Z,84nm,1.6s					
KMBO	**Kilima Mbogo**	**88.55 268**	P		**P**	**00 30 51.3 +1.0**
	SNR=10					
KMBO	**Kilima Mbogo**	**88.55 268**	*e*P		**P**	**00 30 49.9 -0.3**
	comp=Z,59nm,1.5s					
KMBO			*e*PP		**PP**	**00 34 18.8 0.0**
KMBO			PP		PP	00 34 20.9 +2.1
KMBO	**Kilima Mbogo**	**88.55 268**	P		**P**	**00 30 51.2 +1.0**
	comp=Z,5.2nm,0.8s,baz=51,slow=7.2,SNR=17					
KMBO			PP		**PP**	**00 34 20.9 +2.1**
	comp=Z,0.7nm,0.3s,baz=75,slow=19,SNR=4.6					
KMBO			LR		LR	01 10 52.7
	comp=Z,2μm,20.4s,baz=44,slow=36					
HUMO	**Hull Mountain**	**88.56 43**	*e*P		**P**	**00 30 50.8 +1.3**
	comp=Z,186nm,1.9s					
HUMO			*e*		**pP**	**00 31 00.5 +0.9**
KAC	**Achnashellach**	**88.58 336**	*e*P		**P**	**00 30 49.9 +0.7**
AQU	**L'Aquila**	**88.63 316**	*e*P		**P**	**00 30 50.7 +0.8**
	comp=Z,93nm,0.9s					
AQU			LR		LR	
	comp=Z,16μm,22.0s					
ESY	**Stoneypath**	**88.65 334**	*e*P		**P**	**00 30 49.9 +0.3**
WLF	**Walferdange**	**88.65 325**	P		**P**	**00 30 50.9 +1.2**
	comp=Z,142nm,2.2s					
WLF	**Walferdange**	**88.65 325**	*e*P		**P**	**00 30 50.1 +0.3**
	comp=Z,155nm,1.8s					
WLF			*e*sP		**sP**	**00 31 02.0 -1.3**
WLF	**Walferdange**	**88.65 325**	*e*P		**P**	**00 30 50.7 +0.9**
WLF			*e*			00 31 00.3
WLF			pmax		pmax	
	comp=Z,105nm,1.3s					
WLF			MLR		MLR	
	comp=Z,48μm,19.0s					
WLF	**Walferdange**	**88.65 325**	*e*P		**P**	**00 30 50.7 +0.9**
	comp=Z,105nm,1.3s					
WLF			*e*		**pP**	**00 31 00.3 +0.5**
WLF			LR		LR	
	comp=Z,48μm,19.0s					
TUE	**Stuetta**	**88.79 322**	*e*P		**P**	**00 30 50.1 -0.7**
	comp=Z,535nm,1.9s					
TUE			*e*		**pP**	**00 31 01.7 +1.0**
TUE			*e*PP		**PP**	**00 34 18.1 -1.2**
TUE			LR		LR	
	comp=Z,24μm,21.0s					
NEW	**Newport**	**88.80 36**	*e*P		**P**	**00 30 51.3 +0.7**
	comp=Z,118nm,1.3s					
NEW			*e*PP		**PP**	**00 34 19.9 +0.7**
NEW			PP		PP	00 34 36.3 +17
NEW			LR		LR	
	comp=Z,3μm,20.0s					
NEW	**Newport**	**88.80 36**	P		**P**	**00 30 51.6 +1.1**
	comp=Z,43nm,1.1s,baz=302,slow=4.0,SNR=48					
NEW			PP		PP	00 34 36.3 +17
	comp=Z,11nm,1.1s,baz=309,slow=5.1,SNR=5.6					
NEW	**Newport**	**88.80 36**	⇓P		**P**	**00 30 51.3 +0.7**
	baz=89					
CDF	**Champ du Feu**	**88.81 324**	*e*P		**P**	**00 30 50.4 -0.2**
	comp=Z,632nm,1.7s					
KPL	**Plockton**	**88.83 336**	AMS		AMS	01 15 45.3
	comp=Z,18μm,15.6s					
EDI	**Edinburgh**	**88.88 334**	AMS		AMS	01 13 51.9
	comp=Z,14μm,20.8s					
SFJD	**Kangerlussuaq**	**88.93 358**	*i* P		**P**	**00 30 48.1 -2.6**
	comp=Z,16nm,1.0s					
SFJD	**Kangerlussuaq**	**88.93 358**	*e*S		**SKSac**	**00 41 15.4 -2.4**
SFJD						
	comp=Z,4μm,20.0s					
SFJD	**Kangerlussuaq**	**88.93 358**	*e*P		**P**	**00 30 50.6 -0.1**
	comp=Z,347nm,1.8s					
SFJD			LR		LR	
	comp=Z,6μm,21.0s					
ECH	**Echery**	**88.98 324**	*e*P		**P**	**00 30 50.7 -0.7**
GIVF	**Givet**	**89.06 326**	*e*P		**P**	**00 30 51.3 -0.4**
	comp=Z,260nm,1.6s					
CEL	**Celeste**	**89.12 312**	*e*P		**P**	**00 30 52.7 +0.4**
	comp=Z,94nm,0.8s					
CEL			*e*PP		**PP**	**00 34 22.4 +0.3**
CEL			LR		LR	
	comp=Z,13μm,22.0s					
A12A	**Yaak River Ran**	**89.18 35**	⇑P		**P**	**00 30 53.4 +1.1**
	baz=89					
DOU	**Dourbes**	**89.19 326**	P		**P**	**00 30 51.8 -0.5**
	comp=Z,42nm,3.0s					
YBH	**Yreka Blue Hor**	**89.19 44**	*e*P		**P**	**00 30 54.0 +1.5**
	comp=Z,108nm,1.6s					
YBH			*e*		**pP**	**00 31 07.1 +4.6**
YBH			*e*PP		**PP**	**00 34 22.8 +0.2**
YBH			PP		PP	00 34 46.3 +24
YBH	**Yreka Blue Hor**	**89.19 44**	P		**P**	**00 30 54.5 +1.9**
	comp=Z,24nm,1.2s,baz=343,slow=1.2,SNR=35					
YBH			PP		PP	00 34 46.3 +24
	comp=Z,4.4nm,0.9s,baz=284,slow=3.9,SNR=3.8					
MOF	**Molkenrain**	**89.21 324**	*e*P		**P**	**00 30 52.0 -0.6**
ESK	**Eskdalemuir**	**89.31 333**	*e*P		**P**	**00 30 53.3 +0.6**
ESK			AMB		AMB	00 31 05.6
	comp=Z,118nm,3.1s					
ESK			AMS		AMS	01 15 41.9
	comp=Z,19μm,17.8s					
ESK	**Eskdalemuir**	**89.31 333**	*e*P		**P**	**00 30 53.5 +0.8**
ESK			*e*			00 31 03.2
ESK			*e*			00 34 23.1
ESK			pmax		pmax	
	comp=Z,89nm,1.4s					
ESK	**Eskdalemuir**	**89.31 333**	*e*P		**P**	**00 30 53.5 +0.8**
	comp=Z,89nm,1.4s					
ESK			*e*		**pP**	**00 31 03.2 +0.5**
ESK			*e*PP		**PP**	**00 34 23.1 +0.2**
ECK	**Cauldkaine Hil**	**89.37 333**	*e*P		**P**	**00 30 52.0 -1.0**
HINF	**Hinteralfeld**	**89.39 324**	*e*P		**P**	**00 30 52.5 -0.8**
	comp=Z,169nm,1.5s					
BAIF	**Baives**	**89.40 326**	*e*P		**P**	**00 30 53.1 -0.2**
	comp=Z,83nm,1.3s					
PGBU	**Glenifferbraes**	**89.47 334**	AMS		AMS	01 16 36.7
	comp=Z,12μm,15.2s					
VLC	**Villacollemand**	**89.49 319**	*e*P		**P**	**00 30 53.5 -0.3**
	comp=Z,25nm,0.9s					
VLC			*e*PP		**PP**	**00 34 24.8 0.0**
VLC			LR		LR	
	comp=Z,15μm,22.0s					
B12A	**Libby**	**89.50 36**	⇓P		**P**	**00 30 55.0 +1.2**
	baz=89					
HAU	**Haudompre**	**89.55 324**	*e*P		**P**	**00 30 53.5 -0.5**
	comp=Z,130nm,1.3s					
HAU			*e*R			
	comp=Z,26μm,19.0s					
PAGF	**Fort de Pagny**	**89.55 325**	*e*P		**P**	**00 30 53.9 -0.1**
	comp=Z,76nm,1.5s					
HPK	**Haverah Park**	**89.58 332**	*e*P		**P**	**00 30 54.6 +0.5**
HPK			AMB		AMB	00 31 07.1
	comp=Z,148nm,2.5s					
HPK			AMS		AMS	01 17 25.6
	comp=Z,16μm,16.2s					
THEF	**They Montfort**	**89.61 324**	*e*P		**P**	**00 30 53.6 -0.7**
LOMF	**Lomont**	**89.68 323**	*e*P		**P**	**00 30 53.9 -0.8**
KCPM	**Cahto Peak**	**89.71 46**	*e*P		**P**	**00 30 56.0 +0.9**
	comp=Z,86nm,1.6s					
KCPM			*e*		**pP**	**00 31 04.8 -0.3**
KIPM	**Iron Peak**	**89.71 46**	*e*P		**P**	**00 30 56.2 +1.0**
	comp=Z,495nm,2.2s					
KIPM			*e*		**pP**	**00 31 05.8 +0.7**
KIPM			*e*PP		**PP**	**00 34 27.1 +0.2**
KESW	**Keswick, Cumbr**	**89.78 333**	AMS		AMS	01 16 08.0
	comp=Z,29μm,16.8s					
A13A	**Flathead Natio**	**89.83 35**	⇑P		**P**	**00 30 56.6 +1.2**
	baz=90					
WDC	**Whiskeytown Da**	**89.91 45**	*e*P		**P**	**00 30 56.1 +0.2**
WDC			pmax		pmax	
	comp=Z,243nm,2.1s					
WDC	**Whiskeytown Da**	**89.91 45**	*e*P		**P**	**00 30 56.1 +0.2**
	comp=Z,243nm,2.1s					
MEZF	**Maizieres J'vi**	**89.93 325**	*e*P		**P**	**00 30 55.7 -0.1**
	comp=Z,344nm,1.7s					
WALA	**Waterton Lakes**	**90.01 34**	*e*P		**P**	**00 30 57.5 +1.2**
	comp=Z,9.3nm,1.5s					
WALA			*e*		**pP**	**00 31 06.2 -0.1**
KBI1	**Birley Grange**	**90.02 331**	*e*P		**P**	**00 30 54.9 -1.2**
SFTF	**Sexfontaines**	**90.12 325**	*e*P		**P**	**00 30 56.2 -0.5**
	comp=Z,118nm,1.1s					
B13A	**Whitefish**	**90.14 35**	⇑P		**P**	**00 30 58.4 +1.5**
	baz=90					
ELSH	**Elham, Standar**	**90.21 329**	*e*P		**P**	**00 30 55.7 -1.3**
ELSH			AMB		AMB	00 30 59.9
	comp=Z,119nm,1.5s					
ELSH			AMS		AMS	01 16 53.6
	comp=Z,14μm,15.3s					
GAL1	**Galloway**	**90.24 334**	AMS		AMS	01 14 48.5
	comp=Z,13μm,19.8s					
BSMT	**Bassoo Peak**	**90.30 36**	*e*P		**P**	**00 30 58.7 +0.9**
	comp=Z,129nm,1.3s					
A14A	**Double T Ranch**	**90.31 34**	⇓P		**P**	**00 30 58.8 +1.1**
	baz=90					
OG01	**Vacheresse**	**90.37 322**	*e*P		**P**	**00 30 57.8 -0.2**
HOPS	**Hopland**	**90.41 46**	*e*P		**P**	**00 30 58.8 +0.5**
	comp=Z,85nm,1.6s					
HOPS			*e*		**pP**	**00 31 09.6 +1.4**
BLMT	**Blacktail Moun**	**90.42 35**	*e*P		**P**	**00 30 59.7 +1.3**
	comp=Z,329nm,1.9s					
BLMT			*e*			00 31 07.5
STNC	**Stoke**	**90.43 331**	*e*P		**P**	**00 30 58.9 +0.8**
STNC			AMS		AMS	01 15 55.6
	comp=Z,20μm,18.9s					
CABF	**La Chapelle**	**90.53 323**	*e*P		**P**	**00 30 58.3 -0.4**
	comp=Z,354nm,1.9s					
A15A	**Johnson Ranch,**	**90.66 34**	⇑P		**P**	**00 31 00.1 +0.7**
	baz=90					
YBMT	**Yellow Bay**	**90.70 35**	*e*P		**P**	**00 31 00.9 +1.3**
	comp=Z,63nm,1.3s					
BMO	**Blue Mountains**	**90.70 39**	*e*P		**P**	**00 31 00.6 +0.9**
	comp=Z,192nm,1.6s					
BMO			*e*			00 31 08.2
BMO			*e*PP		**PP**	**00 34 36.1 +1.6**
BMO			LR		LR	
	comp=Z,2μm,19.0s					
B14A	**Marquette Ranc**	**90.78 35**	⇑P		**P**	**00 31 01.1 +1.2**
	baz=91					
HMNX	**Herstmonceux**	**90.78 329**	*e*P		**P**	**00 31 00.5 +0.8**
HMNX			AMB		AMB	00 31 12.0
	comp=Z,199nm,1.7s					
HMNX			AMS		AMS	01 16 19.6
	comp=Z,15μm,16.5s					
LPG	**La Plagne**	**90.83 322**	*e*P		**P**	**00 31 00.5 +0.1**
	comp=Z,149nm,0.8s					
LPL	**La Plagne**	**90.83 322**	*e*P		**P**	**00 31 00.4 +0.1**
	comp=Z,207nm,1.0s					
C14A	**Swan Lake**	**90.90 35**	⇑P		**P**	**00 31 01.5 +1.0**
	baz=91					
SWMT	**Swartz Lake**	**90.93 36**	*e*P		**P**	**00 31 01.8 +1.2**
	comp=Z,57nm,1.1s					
SWMT			*e*PP		PP	00 34 27.1 -9.2
CASY	**Casey**	**90.98 186**	*e*P		**P**	**00 30 59.6 -0.4**
	comp=Z,119nm,1.8s					
CASY			LR		LR	
	comp=Z,2μm,22.0s					
MCCM	**Marconi Confer**	**90.99 47**	*e*P		**P**	**00 31 02.0 +1.1**
	comp=Z,44nm,1.0s					
FOEL	**Foel Wylfa**	**91.01 332**	*e*P		**P**	**00 31 00.0 -0.7**
FOEL			AMB		AMB	00 31 01.4
	comp=Z,105nm,2.3s					
FOEL			AMS		AMS	01 16 33.2
	comp=Z,13μm,18.7s					
WPM1	**Penmaenmawr**	**91.05 332**	*e*P		**P**	**00 30 59.4 -1.5**
FCC	**Fort Churchill**	**91.08 19**	*e*P		**P**	**00 31 01.6 +0.7**
FCC	**Fort Churchill**	**91.08 19**	*e*P		**P**	**00 31 01.6 +0.7**
	comp=Z,2.5nm,1.0s					
HLM1	**Long Mynd**	**91.13 331**	*e*P		**P**	**00 31 01.5 +0.2**
HLM1			AMB		AMB	00 31 13.4
	comp=Z,133nm,1.6s					
BNI	**Bardonecchia**	**91.13 321**	*e*P		**P**	**00 31 01.2 -0.4**
BNI			*e*			00 31 13.3
BNI			pmax		pmax	
	comp=Z,126nm,1.1s					
BNI			MLR		MLR	
	comp=Z,29μm,21.0s					
BNI	**Bardonecchia**	**91.13 321**	*e*P		**P**	**00 31 01.2 -0.4**
	comp=Z,126nm,1.1s					
BNI			*e*		**pP**	**00 31 13.3 +1.6**
BNI			LR		LR	
	comp=Z,29μm,21.0s					
B15A	**Bradely Ranch,**	**91.17 34**	⇑P		**P**	**00 31 02.3 +0.6**
	baz=91,SNR=59					
WOL	**Wolverton**	**91.21 330**	AMS		AMS	01 17 35.2
	comp=Z,20μm,16.1s					
PGF	**Pioggiola**	**91.24 318**	*e*P		**P**	**00 31 02.0 -0.1**
	comp=Z,202nm,1.4s					
WLF1	**Llynfaes**	**91.24 332**	*e*P		**P**	**00 31 01.2 -0.6**
WLF1			AMB		AMB	00 31 13.9
	comp=Z,180nm,1.6s					
WLF1			AMS		AMS	01 17 01.5
	comp=Z,24μm,16.7s					
YLL	**Llanberis**	**91.25 332**	*e*P		**P**	**00 31 02.9 +1.1**
A16A	**West Butte Ran**	**91.26 33**	⇑P		**P**	**00 31 02.5 +0.3**
	baz=91					
SAOF	**Saorge**	**91.26 320**	*e*P		**P**	**00 31 01.7 -0.4**
MBDF	**Montbardon**	**91.27 321**	*e*P		**P**	**00 31 01.6 -0.7**
	comp=Z,240nm,1.4s					
WDD	**Wield Dalam**	**91.29 311**	PFAKE			00 31 10.0 +7.7
WDD			LR		LR	
	comp=Z,6μm,22.0s					
WVOR	**Wild Horse Val**	**91.32 42**	*e*P		**P**	**00 31 03.5 +0.9**
WVOR			*e*			00 31 16.0
WVOR			*e*			00 34 41.2
WVOR			pmax		pmax	
	comp=Z,156nm,1.8s					
WVOR			MLR		MLR	
	comp=Z,2μm,20.0s					
WVOR	**Wild Horse Val**	**91.32 42**	*e*P		**P**	**00 31 03.5 +0.9**
	comp=Z,156nm,1.8s					
WVOR			*e*		**pP**	**00 31 16.0 +3.5**
WVOR			*e*PP		**PP**	**00 34 41.2 +1.7**
WVOR			LR		LR	
	comp=Z,2μm,20.0s					
LOR	**Lormes**	**91.33 324**	*e*P		**P**	**00 31 01.6 -0.8**
	comp=Z,106nm,1.6s					
LOR			*e*R			
	comp=Z,21μm,17.2s					
AUTN	**L'Aution**	**91.33 320**	*e*P		**P**	**00 31 02.2 -0.5**
SWN1	**Swindon**	**91.34 330**	*e*P		**P**	**00 31 02.8 +0.5**
SWN1			AMB		AMB	00 31 14.4
	comp=Z,236nm,1.6s					
SWN1			AMS		AMS	01 17 46.3
	comp=Z,

comp=Z,50nm,1.4s
ORIF Oris-en-Rattie 91.67 322 eP P 00 31 04.1 0.0
comp=Z,261nm,1.3s
ORIF eR
comp=Z,24µm,22.8s
A17A Triple J Farms 91.71 33 ⇓P P 00 31 04.5 +0.4
baz=92,SNR=47
SMF Signal de Mont 91.73 324 eP P 00 31 03.6 -0.6
comp=Z,242nm,1.4s
CALN Calern 91.79 320 eP P 00 31 04.2 -0.5
AVF Avril sur Loir 91.90 324 eP P 00 31 04.3 -0.7
comp=Z,230nm,1.8s
C16A Fuhringer Ranc 91.92 34 ⇑P P 00 31 05.7 +0.5
baz=92,SNR=34
FRF La Foret Royal 92.04 320 eP P 00 31 05.3 -0.4
comp=Z,358nm,1.7s
B17A L&G Farms, Che 92.09 34 ⇑P P 00 31 06.4 +0.5
baz=92,SNR=21
A18A Metzger Ranch, 92.15 33 ⇓P P 00 31 06.7 +0.5
baz=92,SNR=44
LMR La Mourre 92.26 320 eP P 00 31 06.4 -0.3
comp=Z,466nm,1.6s
BGF Bois d'Agland 92.31 324 eP P 00 31 06.4 -0.5
VIVF Saint-Julien-l 92.38 322 eP P 00 31 07.0 -0.3
comp=Z,391nm,1.6s
PAHR Pah Rah Range 92.41 44 eP P 00 31 08.2 +0.5
comp=Z,81nm,1.5s
PAHR e pP 00 31 16.6 -1.1
PAHR ePP PP 00 34 49.1 +0.9
SMRF Simiane la Rot 92.41 321 eP P 00 31 07.4 -0.1
comp=Z,361nm,1.6s
MFID Camas Ranch 92.41 40 ⇓P P 00 31 08.5 +0.9
baz=92
AGO Saint Agoulin 92.48 324 eP P 00 31 07.3 -0.4
LDF La Druitiere 92.51 327 eP P 00 31 07.0 -0.8
comp=Z,147nm,1.6s
B18A Beardsley Farm 92.53 33 ⇑P P 00 31 08.3 +0.4
baz=92,SNR=34
C17A Wharram Farmer, 92.54 34 ⇑P P 00 31 08.1 +0.1
baz=92,SNR=9.4
FLN La Foliniere 92.58 327 eP P 00 31 07.0 -1.1
comp=Z,83nm,1.3s
FLN eR
comp=Z,30µm,17.8s
HRY Holter Researc 92.58 35 eP P 00 31 09.7 +1.4
comp=Z,113nm,1.2s
HRY ePP PP 00 34 50.4 +1.1
A19A Klindworth Far 92.68 32 ⇑P P 00 31 09.1 +0.5
baz=92,SNR=13
SAO San Andreas Ge 92.69 48 eP P 00 31 09.6 +0.7
SAO e 00 34 51.4
SAO pmax pmax
comp=Z,34nm,1.2s
SAO San Andreas Ge 92.69 48 eP P 00 31 09.6 +0.7
comp=Z,34nm,1.2s
SAO ePP PP 00 34 51.4 +1.0
CMB Columbia Colle 92.70 46 eP P 00 31 08.9 0.0
CMB e 00 31 19.9
CMB e 00 34 51.0
CMB pmax pmax
comp=Z,64nm,1.4s
CMB Columbia Colle 92.70 46 eP P 00 31 08.9 0.0
comp=Z,64nm,1.4s
CMB e pP 00 31 19.9 +0.9
CMB ePP PP 00 34 51.0 +0.6
PYM Petit Puy Mans 92.74 324 eP P 00 31 09.1 +0.1
VSL Villasalto 92.74 316 PFAKE 00 31 20.0 +11
VSL LR LR
comp=Z,7µm,19.0s
EGMT Eagleton 92.79 33 PFAKE 00 31 20.0 +11
EGMT LR LR
comp=Z,4µm,20.0s
EGMT Eagleton 92.79 33 ⇓P P 00 31 09.6 +0.5
baz=93
LRM Limekiln Ridge 92.82 36 eP P 00 31 10.4 +0.8
comp=Z,986nm,1.4s
TCF Toulx Ste Croi 92.83 324 eP P 00 31 08.9 -0.4
comp=Z,110nm,1.6s
D17A Six Diamond Ra 92.89 34 ⇓P P 00 31 10.1 +0.4
baz=93,SNR=71
B19A Brinkman Farms 92.90 33 ⇑P P 00 31 10.2 +0.5
baz=93,SNR=13
HTL Hartland 92.91 331 AMS AMS 01 17 30.4
comp=Z,22µm,17.9s
PPT Papeete 92.91 108 LR LR 01 06 32.2
comp=Z,3µm,20.2s,baz=108,slow=31
PPT2 Papeete2 92.92 108 eS S 00 42 06.0 -8.4
comp=Z,7µm,25.8s
PPT2 eSS SS 00 48 29.0 -0.1
comp=Z,2µm,25.5s
PPT2 Papeete2 92.92 108 eLR LR 01 01 08.9
comp=Z,17µm,31.5s,baz=290
LBL Lubilhac 92.94 323 eP P 00 31 07.5 -2.4
GRR Gorron 93.02 327 eP P 00 31 09.2 -0.9
comp=Z,279nm,1.8s
WAKR Walker 93.05 45 eP P 00 31 11.9 +1.1
comp=Z,46nm,1.3s
WAKR ePP PP 00 34 54.5 +1.2
DYA Yadsworthy 93.06 330 AMS AMS 01 19 03.7
comp=Z,21µm,13.7s
JSA Saint Aubin 93.11 329 AMS AMS 01 18 41.1
comp=Z,19µm,17.5s
A20A Cobblestone Ra 93.11 32 ⇑P P 00 31 10.9 +0.2
baz=93,SNR=14
HLID Hailey 93.14 39 eP P 00 31 12.6 +1.6
comp=Z,129nm,1.2s
HLID e 00 31 20.3
HLID ePP PP 00 34 57.2 +3.3
HLID LR LR
comp=Z,3µm,19.0s
HLID Hailey 93.14 39 ⇓P P 00 31 12.2 +1.2
baz=93
E17A Martinsdale 93.25 35 ⇓P P 00 31 12.5 +1.0
baz=93,SNR=58
D18A Linhart Farms, 93.31 34 ⇑P P 00 31 12.3 +0.7
baz=93,SNR=19
LASF Ste Croix 93.33 322 eP P 00 31 11.6 -0.1
comp=Z,429nm,1.7s
C19A Slack Wire Ran 93.34 33 ⇓P P 00 31 12.4 +0.7
baz=93,SNR=28
BMN Battle Mountai 93.35 43 eP P 00 31 13.0 +1.0
BMN pmax pmax
comp=Z,72nm,1.5s
BMN MLR MLR
comp=Z,3µm,19.0s
BMN Battle Mountai 93.35 43 eP P 00 31 13.0 +1.0
comp=Z,72nm,1.5s
BMN LR LR
comp=Z,3µm,19.0s
B20A Solberg Farm, 93.37 32 ⇑P P 00 31 11.8 0.0
baz=93,SNR=11
BOZ Bozeman (W) 93.37 36 eP P 00 31 12.8 +0.8
BOZ pmax pmax
comp=Z,68nm,1.3s
BOZ MLR MLR
comp=Z,3µm,22.0s
BOZ Bozeman (W) 93.37 36 eP P 00 31 12.8 +0.8
comp=Z,68nm,1.3s
BOZ LR LR
comp=Z,3µm,22.0s
I14A Mackay 93.46 38 ⇑P P 00 31 13.5 +1.0
baz=93,SNR=50
A21A Bergtoll Ranch 93.52 31 ⇑P P 00 31 12.7 +0.2
baz=93,SNR=28
E18A Harlowton 93.68 35 ⇑P P 00 31 14.2 +0.8
baz=94,SNR=45
F17A Fitzpatrick Pl 93.72 35 ⇑P P 00 31 14.2 +0.6
baz=94,SNR=22
CAF Calviac 93.78 323 eP P 00 31 14.0 +0.3
comp=Z,190nm,1.6s
MIR Mirnyy 93.78 192 eP P 00 31 15.0 +2.1
MIR pmax pmax
comp=Z,30nm,1.2s
MIR MLR MLR
comp=N,2µm,20.0s
MIR MLR MLR
comp=E,2µm,20.0s
MIR MLR MLR
comp=Z,2µm,20.0s
D19A Cripps Ranch, 93.81 34 ⇓P P 00 31 14.7 +0.8
baz=94,SNR=28
NVAR Mina Array Bea 93.83 45 P P 00 31 15.5 +1.1
NVAR PP PP 00 35 03.7 +4.2
NVAR Mina Array Bea 93.83 45 P P 00 31 15.5 +1.1
comp=Z,15nm,1.0s,baz=280,slow=4.0,SNR=53
NVAR PP PP 00 35 03.7 +4.2
comp=Z,3.4nm,1.0s,baz=317,slow=6.4,SNR=3.8
NVAR LR LR 01 09 48.6
comp=Z,3µm,21.7s,baz=52,slow=33
RJF Les Rejaudoux 93.83 324 eP P 00 31 13.9 0.0
comp=Z,291nm,1.6s
RJF eR
comp=Z,23µm,18.2s
MFF Saint Martin d 93.85 326 eP P 00 31 13.4 -0.6
comp=Z,145nm,1.6s
B21A Ellsworth Farm 93.86 32 ⇑P P 00 31 14.3 +0.2
baz=94,SNR=10
C20A Veseth Ranch, 93.87 33 ⇑P P 00 31 14.6 +0.5
baz=94,SNR=30
NV11 Mina Array Sit 93.92 45 eP P 00 31 15.0 +0.3
NV11 ePP PP 00 35 00.7 +0.6
SGMF Saint Gilles 93.94 328 eP P 00 31 13.5 -0.8
comp=Z,318nm,1.7s
MLAC Mammoth Lakes 93.94 46 ⇑P P 00 31 15.6 +0.7
baz=94
A22A Carney Farms, 93.99 31 ⇑P P 00 31 14.5 -0.1
baz=94,SNR=18
QLMT Earthquake Lak 94.01 37 eP P 00 31 15.7 +0.7
comp=Z,8.9nm,1.1s
G17A Pierce Place, 94.06 36 ⇑P P 00 31 16.0 +0.8
baz=94,SNR=8.2
H16A Russell Place, 94.19 37 ⇓P P 00 31 17.1 +1.2
baz=94,SNR=21
F18A Big Timber 94.22 35 ⇓P P 00 31 16.4 +0.6
baz=94,SNR=26
ROSF Rostrenen 94.22 328 eP P 00 31 15.0 -0.6
comp=Z,381nm,1.7s
D20A Manuel Ranch, 94.23 33 ⇑P P 00 31 16.4 +0.6
baz=94,SNR=20
C21A Desert Coulee 94.24 32 ⇓P P 00 31 15.9 +0.1
baz=94
E19A Rath Farm, Rou 94.33 34 ⇑P P 00 31 16.8 +0.5
baz=94,SNR=20
YMR Madison River 94.36 36 eP P 00 31 17.5 +0.8
comp=Z,144nm,1.2s
RCTC Rector, Farmer 94.42 47 ⇓P P 00 31 16.9 +0.1
baz=94
B22A Reddig Ranch S 94.44 31 ⇑P P 00 31 16.8 +0.1
baz=94
QUIF Quistinic 94.46 328 eP P 00 31 15.7 -1.0
comp=Z,154nm,1.4s
SMMC Simmler 94.47 48 ⇑P P 00 31 17.7 +0.6
baz=94
LFF La Frestale 94.49 324 eP P 00 31 16.9 0.0
comp=Z,60nm,1.2s
YNR Norris Junctio 94.49 36 eP P 00 31 18.8 +1.5
comp=Z,67nm,1.5s
A23A Redstone 94.50 30 ⇑P P 00 31 17.1 +0.1
baz=94
YFT Old Faithful 94.58 37 eP P 00 31 19.1 +1.4
comp=Z,88nm,1.1s
I16A Newdale 94.59 37 ⇑P P 00 31 19.1 +1.5
baz=94,SNR=10.0
E20A Meyer Farm, Mu 94.63 34 ⇓P P 00 31 18.1 +0.4
baz=94,SNR=8.9
F19A Roth Farm, Mol 94.65 35 ⇑P P 00 31 18.2 +0.4
baz=94
TIN Tinemaha 94.67 46 ⇑P P 00 31 18.8 +0.7
baz=95
G18A Lazy EL Ranch, 94.69 35 ⇑P P 00 31 18.2 +0.2
baz=94
MTLF Montolieu 94.71 322 eP P 00 31 18.0 0.0
comp=Z,288nm,1.8s
TPH Tonopah 94.73 45 PFAKE 00 31 30.0 +12
TPH LR LR
comp=Z,3µm,20.0s
LKWY Lake 94.74 36 PFAKE 00 31 30.0 +12
LKWY LR LR
comp=Z,8µm,19.0s
H17A Grant Village 94.75 36 ⇑P P 00 31 21.2 +2.7
baz=95,SNR=5.3
LRDF Laroque-de-Fa 94.79 322 eP P 00 31 17.7 -0.7
VES Vestal, Richgr 94.79 47 ⇓P P 00 31 18.1 -0.4
baz=95,SNR=5.6
B23A Brockton 94.80 31 ⇓P P 00 31 18.7 +0.3
baz=95,SNR=5.6
D21A La Casta Ranch 94.81 33 ⇓P P 00 31 18.8 +0.3
baz=95,SNR=12
PKM Peak Mountain 94.82 48 ⇑P P 00 31 20.2 +1.3
baz=95,SNR=7.6
IMW Indian Meadow 94.88 37 eP P 00 31 20.8 +1.7
comp=Z,62nm,1.2s
SJAF Saint Jean de 94.88 321 eP P 00 31 18.1 -0.7
C22A Vida 94.88 32 ⇓P P 00 31 18.7 0.0
baz=95,SNR=6.1
FLWY Flagg Ranch 94.89 37 eP P 00 31 21.0 +1.9
comp=Z,196nm,1.5s
FLWY ePP PP 00 35 09.5 +2.0
KEST Kesra 94.90 313 eP P 00 31 18.9 -0.3
KEST ePP PP 00 35 07.4 -0.3
KEST PP PP 00 35 08.3 +0.6
KEST Kesra 94.90 313 P P 00 31 18.1 -1.0
comp=Z,14nm,1.3s,baz=317,slow=1.4,SNR=7.9
KEST PP PP 00 35 08.3 +0.6
comp=Z,2.1nm,1.0s,baz=118,slow=3.9,SNR=3.6
KEST LR LR 01 22 39.6
comp=Z,3µm,18.4s,baz=158,slow=41
A24A Westby 94.92 30 ⇓P P 00 31 19.4 +0.4
baz=95,SNR=8.2
RLMT Red Lodge 94.97 35 PFAKE 00 31 30.0 +11
RLMT LR LR
comp=Z,2µm,19.0s
FILF Fillols 95.02 321 eP P 00 31 19.9 +0.4
RRI2 Red Ridge 95.02 38 eP P 00 31 20.9 +1.1
comp=Z,119nm,1.8s
H18A Shoshone NF, C 95.06 36 ⇓P P 00 31 21.0 +1.1
baz=95,SNR=13
I17A Pilgrim Ck. 95.06 37 ⇓P P 00 31 21.1 +1.1
baz=95
MOOW Moose Ponds 95.08 37 eP P 00 31 22.1 +2.1
comp=Z,53nm,1.5s
MOOW ePP PP 00 35 10.6 +1.6
F20A Billings 95.10 34 ⇓P P 00 31 20.0 +0.1
baz=95
CWC Cottonwood Cre 95.12 46 ⇑P P 00 31 19.7 -0.5
baz=95
E21A Keefer Ranch, 95.14 33 ⇓P P 00 31 20.0 0.0
baz=95
TPAW Teton Pass 95.14 37 eP P 00 31 21.3 +0.9
comp=Z,35nm,1.2s
TPAW ePP PP 00 35 10.7 +1.2
SBC Santa Barbara 95.15 49 ⇓P P 00 31 20.6 +0.5
baz=95
D22A Cohagen 95.16 32 ⇓P P 00 31 20.2 +0.2
baz=95,SNR=6.8
DGMT Dagmar 95.16 30 PFAKE 00 31 30.0 +10
DGMT LR LR
comp=Z,3µm,19.0s
DGMT Dagmar 95.16 30 ⇑P P 00 31 20.2 +0.2
baz=95
CARF Carcanieres 95.17 322 eP P 00 31 19.7 -0.6
C23A Lambert 95.18 31 ⇓P P 00 31 19.9 -0.2
baz=95
HVU Hansel Valley 95.20 40 eP P 00 31 22.0 +1.5
HVU pmax pmax
comp=Z,64nm,1.2s
HVU Hansel Valley 95.20 40 eP P 00 31 22.0 +1.5
comp=Z,64nm,1.2s
LOHW Long Hollow 95.25 37 eP P 00 31 21.8 +1.1
comp=Z,42nm,1.4s
GRAC Grapevine Rang 95.26 46 ⇑P P 00 31 21.1 +0.4
baz=95
REDW Red Top Meadow 95.28 37 eP P 00 31 21.9 +1.0
comp=Z,93nm,1.7s
ISA Isabella 95.30 47 eP P 00 31 20.6 -0.4
ISA e 00 35 11.7
ISA pmax pmax
comp=Z,18nm,1.2s
ISA Isabella 95.30 47 eP P 00 31 20.6 -0.4
comp=Z,18nm,1.2s
ISA ePP PP 00 35 11.7 +0.9
ISA Isabella 95.30 47 ⇑P P 00 31 20.4 -0.5
baz=95,SNR=7.1
A25A Svangstu Ranch 95.32 30 ⇑P P 00 31 21.1 +0.4
baz=95
ARVC Arvin 95.36 48 ⇑P P 00 31 21.7 +0.5
baz=95,SNR=5.1
TBI Tubuai 95.37 113 eSKSac SKSac 00 41 53.3 -2.0
comp=Z,3µm,25.2s
TBI eSP SP 00 43 54.2 +1.2
comp=Z,3µm,28.8s
TBI eSS SS 00 49 01.8 -2.0
comp=Z,2µm,27.5s
TBI Tubuai 95.37 113 eLR LR 01 02 17.9
comp=Z,7µm,27.8s,baz=294
H19A Powell 95.42 36 ⇑P P 00 31 22.5 +1.1
baz=95,SNR=7.9
VALF Valcebollere 95.43 321 eP P 00 31 21.3 -0.2
G20A Bridger 95.46 35 ⇑P P 00 31 21.6 +0.1
baz=95,SNR=8.1
AHID Auburn Hatcher 95.52 38 PFAKE 00 31 30.0 +8.0
AHID LR LR
comp=Z,3µm,20.0s
BGU Big Grassy Mou 95.58 40 eP P 00 31 23.6 +1.4
comp=Z,112nm,1.9s
BGU ePP PP 00 35 14.3 +1.4
MLS Moulis 95.59 322 eP P 00 31 21.0 -1.0
R11A Troy Canyon, C 95.60 44 ⇑P P 00 31 23.2 +0.7
baz=96,SNR=13
F21A Absaloka Mine, 95.61 34 ⇑P P 00 31 22.1 0.0
baz=95
D23A Lindsay 95.61 32 ⇑P P 00 31 22.9 +0.8
baz=95
I18A Diamond G Ranc 95.62 37 ⇓P P 00 31 23.1 +0.6
baz=96
MPMC Manual Prospec 95.72 46 ⇑P P 00 31 23.7 +0.6
baz=96,SNR=26
OSI Osito Adit 95.73 48 ⇓P P 00 31 23.1 +0.2
baz=96
C24A Savage 95.73 31 ⇓P P 00 31 22.7 0.0
baz=96
E22A Miles City 95.77 33 ⇑P P 00 31 22.7 -0.1
baz=96
BLG Laguna Peak 95.78 49 ⇑P P 00 31 23.0 -0.1
baz=96
B25A Knox Farm, Ray 95.78 30 ⇓P P 00 31 23.8 +1.0
baz=96,SNR=5.9
A26A Wade Farm, Ken 95.83 29 ⇑P P 00 31 23.1 +0.1
baz=96
I19A Meeteetse 95.84 36 ⇓P P 00 31 24.2 +0.8
baz=96,SNR=5.3
FURC Furnace Creek, 95.90 46 ⇑P P 00 31 24.2 +0.7
baz=96,SNR=7.4
LRMC Laurel Mountai 95.93 47 ⇑P P 00 31 24.1 +0.2
baz=96
EPF Esparros 95.96 323 eP P 00 31 23.2 -0.6
comp=Z,66nm,1.8s
G21A Lodge Grass 95.98 34 ⇑P P 00 31 24.1 +0.2
baz=96
HWUT Hardware Ranch 96.00 39 PFAKE 00 31 40.0 +16
HWUT LR LR
comp=Z,3µm,20.0s
E23A Ismay 96.04 32 ⇓P P 00 31 24.7 +0.6
baz=96
H20A Greybull 96.07 35 ⇑P P 00 31 24.7 +0.4
baz=96,SNR=7.2
EDW2 Edwards Air Fo 96.07 48 ⇓P P 00 31 24.9 +0.4
baz=96,SNR=5.7
D24A Glendive 96.07 31 ⇓P P 00 31 24.7 +0.5
baz=96
F22A Rosebud 96.07 33 ⇓P P 00 31 24.4 +0.1
baz=96
RESF Ens 96.11 323 eP P 00 31 24.4 -0.1
B26A Jensen Ranch, 96.13 30 ⇓P P 00 31 24.3 -0.1
baz=96
C25A Freed Ranch, W 96.15 31 ⇓P P 00 31 24.7 +0.1
baz=96
DUG Dugway 96.17 41 eP P 00 31 25.5 +0.6
DUG pmax pmax
comp=Z,36nm,1.4s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway 96.17 41 eP P 00 31 25.5 +0.6
comp=Z,36nm,1.4s
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway 96.17 41 ⇑P P 00 31 25.7 +0.8
baz=96
DECC Green Verdugo 96.20 48 ⇓P P 00 31 25.4 +0.3
baz=96
VIEF Viey 96.23 323 eP P 00 31 25.2 +0.2
J19A Crowheart 96.33 37 ⇑P P 00 31 26.2 +0.6
baz=96
I20A Worland 96.36 36 ⇑P P 00 31 26.1 +0.4
baz=96
BW06 Boulder Array 96.38 37 eP P 00 31 25.7 -0.2
comp=Z,17nm,1.3s
BW06 LR LR
comp=Z,4µm,21.0s
PDAR Pinedale Array 96.38 37 P P 00 31 25.4 -0.5
PDAR PP PP 00 35 23.1 +4.1
PDAR PKKPbc PKKPbc 00 48 11.1 -0.4
PDAR Pinedale Array 96.38 37 P P 00 31 25.4 -0.5
comp=Z,8.1nm,1.2s,baz=270,slow=1.5,SNR=24
PDAR PP PP 00 35 23.1 +4.1
comp=Z,1.5nm,0.9s,baz=320,slow=4.0,SNR=4.0
PDAR PKKPbc PKKPbc 00 48 11.1 -0.4
comp=Z,0.3nm,0.8s,baz=132,slow=2.2,SNR=3.6
MWC Mount Wilson 96.40 48 eP P 00 31 26.8 +0.6
MWC pmax pmax
comp=Z,27nm,1.5s
MWC Mount Wilson 96.40 48 eP P 00 31 26.8 +0.6
comp=Z,27nm,1.5s
G22A Birney 96.45 34 ⇑P P 00 31 25.9 -0.1
baz=96
H21A Big Horn, Sher 96.47 35 ⇑P P 00 31 26.1 -0.1
baz=96
E24A Baker 96.48 32 ⇓P P 00 31 25.9 -0.1
baz=96
FMP Fort Macarthur 96.53 49 ⇑P P 00 31 26.6 +0.2
baz=96
ETSF Etsaut 96.54 323 eP P 00 31 26.8 +0.4
F23A Volborg 96.54 33 ⇑P P 00 31 26.8 +0.4
baz=96,SNR=5.7
C26A Wahner Farm, P 96.60 30 ⇓P P 00 31 26.8 +0.2
baz=96
M17A Scullys Gap (B 96.61 39 ⇑P P 00 31 27.7 +0.7
baz=96,SNR=5.8
SHOC Shoshone 96.61 46 ⇓P P 00 31 27.6 +0.7
baz=96
GSC Goldstone 96.62 47 eP P 00 31 27.4 +0.4
GSC e 00 35 20.7
GSC pmax pmax
comp=Z,38nm,1.2s
GSC Goldstone 96.62 47 eP P 00 31 27.4 +0.4
comp=Z,38nm,1.2s
GSC ePP PP 00 35 20.7 -0.4
GSC Goldstone 96.62 47 ⇑P P 00 31 27.1 +0.1
baz=96,SNR=17
CIS Catalina Islan 96.63 49 ⇑P P 00 31 26.6 -0.4
baz=96
BFSC Mount Baldy Ra 96.66 48 ⇓P P 00 31 26.7 -0.5
baz=97
L18A Fontenelle, Gr 96.67 38 ⇑P P 00 31 27.7 +0.5
baz=96
JLU Jordanelle 96.72 40 eP P 00 31 28.9 +1.4
comp=Z,47nm,1.6s
K19A Absolon Red Bu 96.73 37 ⇑P P 00 31 26.8 -0.7
baz=97
RRX Edison Barstow 96.73 47 ⇑P P 00 31 27.8 +0.3
baz=97
SJPF Ste Jean 96.76 324 eP P 00 31 27.3 -0.1
comp=Z,35nm,1.2s
NLU North Lily Min 96.76 41 eP P 00 31 28.4 +0.7
comp=Z,46nm,1.6s
SCI San Clemente I 96.77 49 ⇑P P 00 31 27.1 -0.5
baz=97
J20A Shoshoni 96.79 36 ⇑P P 00 31 27.5 -0.1
baz=97
H22A Clearmont 96.85 34 ⇓P P 00 31 27.8 -0.1
baz=97
I21A Big Trails, Te 96.90 35 ⇑P P 00 31 28.4 +0.2
baz=97
G23A Biddle 96.91 33 ⇓P P 00 31 27.9 -0.2
baz=97
F24A Ekalaka 96.93 32 ⇓P P 00 31 28.3 +0.2
baz=97
L19A Farson 96.93 38 ⇑P P 00 31 28.7 +0.3
baz=97,SNR=7.9
C27A Sayler Ranch, 96.95 30 ⇓P P 00 31 28.1 0.0
baz=97
DAU Daniels Canyon 96.95 40 eP P 00 31 29.5 +0.8
DAU e 00 35 24.5
DAU pmax pmax
comp=Z,50nm,1.7s
DAU Daniels Canyon 96.95 40 eP P 00 31 29.5 +0.8
comp=Z,50nm,1.7s
DAU ePP PP 00 35 24.5 +0.9
E25A Miller Ranch, 96.96 31 ⇓P P 00 31 28.6 +0.3
baz=97
MPU Maple Canyon 96.98 40 eP P 00 31 29.7 +1.0

comp=Z,7.8nm,1.0s
MPU *e*PP **PP** **00 35 25.1 +1.4**
K20A Yellowstone Ra 97.12 37 ⇓P **P** **00 31 29.1 -0.1**
baz=97
TUQ Turquoise Moun 97.12 46 ⇑P Pdif 00 31 29.6 +0.2
baz=97,SNR=7.8
J21A Lysite 97.14 36 ⇑P Pdif 00 31 29.4 0.0
baz=97,SNR=6.9
BBRC Big Bear Solar 97.15 48 ⇑P Pdif 00 31 30.0 +0.3
baz=97
HEC Hector,Ludlow 97.21 47 ⇓P Pdif 00 31 30.1 +0.4
baz=97
I22A 9 Mile Ranch, 97.27 35 ⇓P Pdif 00 31 30.0 +0.1
baz=97
ARUT Antelope Range 97.29 43 *e*P Pdif 00 31 31.1 +1.0
ARUT pmax pmax
comp=Z,15nm,1.1s
ARUT Antelope Range 97.29 43 *e*P Pdif 00 31 31.1 +1.0
comp=Z,15nm,1.1s
G24A Alzada 97.31 33 ⇓P **P** **00 31 29.9 0.0**
baz=97
MURC Murrieta 97.34 48 ⇓P Pdif 00 31 30.3 0.0
baz=97
F25A Bowman 97.35 32 ⇑P Pdif 00 31 30.4 +0.3
baz=97
ULM Lac du Bonnet 97.35 25 P **P** **00 31 29.5 -0.3**
ULM PP **PP** **00 35 29.8 +3.9**
ULM Lac du Bonnet 97.35 25 P **P** **00 31 29.5 -0.3**
comp=Z,9.4nm,0.9s,baz=312,slow=4.4,SNR=9.8
ULM PP **PP** **00 35 29.8 +3.9**
comp=Z,7.9nm,1.1s,baz=335,slow=9.8,SNR=3.9
ULM LR LR 01 22 30.6
comp=Z,4μm,19.6s,baz=333,slow=40
H23A Clabaugh Cattl 97.36 34 ⇑P **P** **00 31 30.0 -0.1**
baz=97
E26A Carlson Angus 97.42 31 ⇓P Pdif 00 31 30.5 +0.1
baz=97
M19A Rock Springs 97.44 38 ⇓P **P** **00 31 30.7 0.0**
baz=97
L20A Wamsutter 97.56 37 ⇑P **P** **00 31 31.2 0.0**
baz=97
MVU Marysvale 97.59 42 PFAKE 00 31 40.0 +8.4
MVU LR LR
comp=Z,2μm,20.0s
J22A Midwest 97.60 35 ⇓P **P** **00 31 31.2 -0.2**
baz=97
MSU Marysvale 97.61 42 *e*PP PP 00 35 28.9 +0.2
comp=Z,114nm,2.1s
H24A Dirks Ranch, A 97.66 33 ⇑P **P** **00 31 31.2 -0.2**
baz=98
GMRC Granite Mounta 97.68 46 ⇓P Pdif 00 31 32.3 +0.4
baz=98,SNR=8.3
MDND Maddock 97.69 29 ⇓P Pdif 00 31 31.6 0.0
baz=98
K21A Alcova 97.73 36 ⇓P **P** **00 31 31.9 -0.1**
baz=98,SNR=6.1
I23A Meade Ranch, G 97.75 34 ⇑P **P** **00 31 31.6 -0.4**
baz=98
F26A Lodgepole 97.78 32 ⇑P Pdif 00 31 32.1 +0.1
baz=98
109C Camp Elliot, M 97.82 49 ⇓P Pdif 00 31 32.4 +0.1
baz=98
PFO Pinyon Flat Ob 97.84 48 P Pdif 00 31 33.9 +1.3
comp=Z,104nm,1.1s,SNR=8.2
PFO Pinyon Flat Ob 97.84 48 *e*P Pdif 00 31 32.9 +0.3
comp=Z,57nm,1.1s
PFO Pinyon Flat Ob 97.84 48 P Pdif 00 31 33.9 +1.3
comp=Z,17nm,1.1s,baz=292,slow=4.4,SNR=13
PFO Pinyon Flat Ob 97.84 48 ⇓P Pdif 00 31 32.8 +0.2
baz=98,SNR=11
G25A Newell 97.90 32 ⇓P **P** **00 31 32.4 -0.1**
baz=98
BELC Belle Mtn. Jos 97.92 47 ⇓P **P** **00 31 32.9 0.0**
baz=98,SNR=5.7
Q16A Castle Valley 97.96 41 ⇓P Pdif 00 31 33.6 +0.4
baz=98
M20A Sweetwater, Wa 97.99 37 ⇓P Pdif 00 31 33.3 0.0
baz=98
J23A Dills Ranch, B 98.09 35 ⇑P **P** **00 31 33.0 -0.6**
baz=98
K22A Casper 98.11 36 ⇓P **P** **00 31 33.1 -0.6**
baz=98
L21A Rawlins 98.12 37 ⇓P Pdif 00 31 33.9 0.0
baz=98
G26A Maurine 98.22 32 ⇑P **P** **00 31 33.6 -0.3**
baz=98
H25A Fruitdale 98.22 33 ⇑P **P** **00 31 33.9 -0.1**
baz=98
BAR Barrett 98.23 49 *e*P Pdif 00 31 34.5 +0.2
comp=Z,23nm,1.1s
I24A Kuemmerle Ranc 98.25 34 ⇑P **P** **00 31 33.5 -0.7**
baz=98
O19A Miners Draw (B 98.26 39 ⇓P **P** **00 31 33.7 -0.7**
baz=98
MONP Monument Peak 98.28 48 ⇓P **P** **00 31 34.7 0.0**
baz=98
M21A Separation Pea 98.37 37 ⇑P Pdif 00 31 35.2 +0.2
baz=98,SNR=6.7
NEE2 Needles Airpor 98.38 46 ⇑P Pdif 00 31 34.8 0.0
baz=98
IRM Iron Mountain 98.39 47 ⇓P Pdif 00 31 35.4 +0.5
baz=98,SNR=1.5
N20A Spence Gulch, 98.39 38 ⇓P Pdif 00 31 35.6 +0.5
baz=98,SNR=7.0
G27A Dupree 98.48 31 ⇓P **P** **00 31 35.1 0.0**
baz=98
BC3 Big Chuckawall 98.49 47 ⇑P Pdif 00 31 35.8 +0.3
baz=98,SNR=5.8
K23A Bowen Ranch, D 98.51 35 ⇓P **P** **00 31 35.0 -0.5**
baz=98
L22A Ellis Ranch, M 98.58 36 ⇑P Pdif 00 31 36.1 +0.3
baz=98
I25A Rochford 98.59 33 ⇑P Pdif 00 31 36.0 +0.2
baz=98,SNR=6.4
J24A Dixon Ranch, L 98.61 34 ⇓P **P** **00 31 35.0 -0.8**
baz=98
H26A Fairpoint 98.63 32 ⇑P **P** **00 31 35.6 -0.3**
baz=98
DVTC Desert V Tower 98.64 48 ⇑Pdiff **P** **00 31 35.8 -0.3**
baz=98
DVTC Desert V Tower 98.64 48 ⇑Pdiff **P** **00 31 35.8 -0.3**
baz=98
W13A Hualapai Mount 98.66 45 ⇓Pdiff **P** **00 31 35.8 -0.5**
baz=98
W13A Hualapai Mount 98.66 45 ⇓Pdiff **P** **00 31 35.8 -0.5**
baz=98
SWSC Sam W. Stewart 98.68 48 ⇑Pdiff **P** **00 31 36.0 -0.2**
baz=99
SWSC Sam W. Stewart 98.68 48 ⇑Pdiff **P** **00 31 36.0 -0.2**
baz=99
P19A Cripple Cowboy 98.78 39 ⇑Pdiff Pdif 00 31 36.8 0.0
baz=99
P19A Cripple Cowboy 98.78 39 ⇑Pdiff Pdif 00 31 36.8 0.0
baz=99
EMHD Djebel Mahouad 98.78 316 P **PP** **00 35 38.0 +0.4**
U15A North Rim 98.85 43 ⇑Pdiff Pdif 00 31 37.7 +0.4
baz=99
U15A North Rim 98.85 43 ⇑Pdiff Pdif 00 31 37.7 +0.4
baz=99
N21A Black Mountain 98.86 38 ⇓Pdiff **P** **00 31 37.0 -0.1**
baz=99
N21A Black Mountain 98.86 38 ⇓Pdiff **P** **00 31 37.0 -0.1**
baz=99
O20A White River Ci 98.87 39 ⇓Pdiff **P** **00 31 36.9 -0.3**
baz=99
O20A White River Ci 98.87 39 ⇓Pdiff **P** **00 31 36.9 -0.3**
baz=99
L23A Garrett 98.92 36 ⇑Pdiff **P** **00 31 36.9 -0.5**
baz=99
L23A Garrett 98.92 36 ⇑Pdiff **P** **00 31 36.9 -0.5**
baz=99
M22A Cedar Creek Ra 98.93 37 ⇓Pdiff **P** **00 31 37.4 0.0**
baz=99
M22A Cedar Creek Ra 98.93 37 ⇓Pdiff **P** **00 31 37.4 0.0**
baz=99
H27A Howes 98.96 32 ⇑Pdiff **P** **00 31 37.1 -0.1**
baz=99
H27A Howes 98.96 32 ⇑Pdiff **P** **00 31 37.1 -0.1**
baz=99
K24A Anderson Ranch 98.96 35 ⇑Pdiff **P** **00 31 36.8 -0.6**
baz=99
K24A Anderson Ranch 98.96 35 ⇑Pdiff **P** **00 31 36.8 -0.6**
baz=99
PDMCI Parker Dam,Lak 98.97 46 ⇓Pdiff Pdif 00 31 37.6 +0.1
baz=99
PDMCI Parker Dam,Lak 98.97 46 ⇓Pdiff Pdif 00 31 37.6 +0.1
baz=99
J25A Sunshine Ranch 99.00 34 ⇑Pdiff **Pdif** **00 31 37.2 -0.3**
baz=99
J25A Sunshine Ranch 99.00 34 ⇑Pdiff **Pdif** **00 31 37.2 -0.3**
baz=99
I26A New Underwood 99.01 33 ⇑Pdiff **Pdif** **00 31 37.3 -0.3**
baz=99
I26A New Underwood 99.01 33 ⇑Pdiff **Pdif** **00 31 37.3 -0.3**
baz=99
Y12C Blythe 99.05 47 ⇑Pdiff **Pdif** **00 31 38.0 +0.1**
baz=99
Y12C Blythe 99.05 47 ⇑Pdiff **Pdif** **00 31 38.0 +0.1**
baz=99
G28A Parade 99.19 31 ⇓Pdiff **Pdif** **00 31 38.4 +0.1**
baz=99
G28A Parade 99.19 31 ⇓Pdiff **Pdif** **00 31 38.4 +0.1**
baz=99
P20A De Beque 99.21 39 ⇑Pdiff **Pdif** **00 31 38.5 -0.2**
baz=99
P20A De Beque 99.21 39 ⇑Pdiff **Pdif** **00 31 38.5 -0.2**
baz=99
O21A Pagoda 99.25 38 ⇑Pdiff **Pdif** **00 31 38.7 -0.3**
baz=99
O21A Pagoda 99.25 38 ⇑Pdiff **Pdif** **00 31 38.7 -0.3**
baz=99
GLA Glamis 99.27 47 *e*P **Pdif** **00 31 40.5 +1.6**
GLA pmax pmax
comp=Z,29nm,1.3s
GLA Glamis 99.27 47 *e*P **Pdif** **00 31 40.5 +1.6**
comp=Z,29nm,1.3s
GLA Glamis 99.27 47 ⇑Pdiff **Pdif** **00 31 38.8 -0.1**
baz=99
GLA Glamis 99.27 47 ⇑Pdiff **Pdif** **00 31 38.8 -0.1**
baz=99
L24A Wheatland 99.38 35 ⇑Pdiff **Pdif** **00 31 39.2 -0.1**
baz=99
L24A Wheatland 99.38 35 ⇑Pdiff **Pdif** **00 31 39.2 -0.1**
baz=99
I27A Quinn 99.38 32 ⇑Pdiff **Pdif** **00 31 39.1 -0.1**
baz=99
I27A Quinn 99.38 32 ⇑Pdiff **Pdif** **00 31 39.1 -0.1**
baz=99
N22A Wattenberg Ran 99.42 37 ⇑Pdiff **Pdif** **00 31 39.5 -0.2**
baz=99
N22A Wattenberg Ran 99.42 37 ⇑Pdiff **Pdif** **00 31 39.5 -0.2**
baz=99
J26A Sides Ranch, S 99.43 34 ⇑Pdiff **Pdif** **00 31 39.5 0.0**
baz=99
J26A Sides Ranch, S 99.43 34 ⇑Pdiff **Pdif** **00 31 39.5 0.0**
baz=99
H28A Mission Ridge 99.43 31 ⇓Pdiff **Pdif** **00 31 39.3 0.0**
baz=99
H28A Mission Ridge 99.43 31 ⇓Pdiff **Pdif** **00 31 39.3 0.0**
baz=99
K25A Mack Ranch, Ha 99.53 34 ⇑Pdiff **Pdif** **00 31 40.0 +0.1**
baz=99
K25A Mack Ranch, Ha 99.53 34 ⇑Pdiff **Pdif** **00 31 40.0 +0.1**
baz=99
EBNR Beni Rached 99.62 317 P **PP** **00 35 45.0 +1.1**
Q20A Ridgley Place, 99.63 39 ⇓Pdiff **Pdif** **00 31 40.7 +0.2**
baz=100
Q20A Ridgley Place, 99.63 39 ⇓Pdiff **Pdif** **00 31 40.7 +0.2**
baz=100
N23A Red Feather La 99.63 37 ⇓Pdiff **Pdif** **00 31 40.8 +0.2**
baz=100
N23A Red Feather La 99.63 37 ⇓Pdiff **Pdif** **00 31 40.8 +0.2**
baz=100
PV04 Paradox Valley 99.65 40 *e*Pdif **Pdif** **00 31 41.8 +1.1**
P21A Newcastle 99.73 39 ⇓Pdiff **Pdif** **00 31 41.4 +0.3**
baz=100
P21A Newcastle 99.73 39 ⇓Pdiff **Pdif** **00 31 41.4 +0.3**
baz=100
L25A Engebretsen Ra 99.80 35 ⇓Pdiff **Pdif** **00 31 41.0 -0.1**
baz=100
L25A Engebretsen Ra 99.80 35 ⇓Pdiff **Pdif** **00 31 41.0 -0.1**
baz=100
O22A Kremmling 99.81 38 ⇑Pdiff **Pdif** **00 31 41.0 -0.5**
baz=100
O22A Kremmling 99.81 38 ⇑Pdiff **Pdif** **00 31 41.0 -0.5**
baz=100
K26A Motz Farm, Whi 99.82 34 ⇓Pdiff **Pdif** **00 31 41.0 -0.2**
baz=100
K26A Motz Farm, Whi 99.82 34 ⇓Pdiff **Pdif** **00 31 41.0 -0.2**
baz=100
M24A Cheyenne 99.84 36 ⇑Pdiff **Pdif** **00 31 41.2 -0.2**
baz=100
M24A Cheyenne 99.84 36 ⇑Pdiff **Pdif** **00 31 41.2 -0.2**
baz=100
I28A Midland 99.86 32 ⇑Pdiff **Pdif** **00 31 41.3 0.0**
baz=100
I28A Midland 99.86 32 ⇑Pdiff **Pdif** **00 31 41.3 0.0**
baz=100
Y14A Wickenburg 99.94 46 ⇑Pdiff **Pdif** **00 31 42.4 +0.5**
baz=100
Y14A Wickenburg 99.94 46 ⇑Pdiff **Pdif** **00 31 42.4 +0.5**
baz=100
WUAZ Wupatki 100.00 44 PFAKE 00 31 50.0 +7.7
WUAZ LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 100.00 44 ⇑Pdiff **Pdif** **00 31 42.6 +0.3**
baz=100
WUAZ Wupatki 100.00 44 ⇑Pdiff **Pdif** **00 31 42.6 +0.3**
baz=100
PV01 Paradox Valley 100.02 40 *e*Pdif **Pdif** **00 31 43.6 +1.2**
comp=Z,2μm,1.4s
P22A Eagle 100.08 38 ⇓Pdiff **Pdif** **00 31 42.7 +0.1**
baz=100
P22A Eagle 100.08 38 ⇓Pdiff **Pdif** **00 31 42.7 +0.1**
baz=100
R20A Redvale 100.09 40 ⇓Pdiff **Pdif** **00 31 42.8 +0.1**
baz=100
R20A Redvale 100.09 40 ⇓Pdiff **Pdif** **00 31 42.8 +0.1**
baz=100
O23A Lake Granby, G 100.12 37 ⇑Pdiff **Pdif** **00 31 42.7 -0.1**
baz=100
O23A Lake Granby, G 100.12 37 ⇑Pdiff **Pdif** **00 31 42.7 -0.1**
baz=100
Q21A Lamborn Mesa, 100.13 39 ⇓Pdiff **Pdif** **00 31 42.7 -0.1**
baz=100
Q21A Lamborn Mesa, 100.13 39 ⇓Pdiff **Pdif** **00 31 42.7 -0.1**
baz=100
113A Mohawk Valley, 100.15 47 ⇑Pdiff **Pdif** **00 31 42.7 0.0**
baz=100
113A Mohawk Valley, 100.15 47 ⇑Pdiff **Pdif** **00 31 42.7 0.0**
baz=100
SMCO Snowmass 100.24 39 *e*Pdif **Pdif** **00 31 44.1 +0.6**
comp=Z,68nm,2.0s
N24A Carr 100.26 36 ⇑Pdiff **Pdif** **00 31 42.1 -1.2**
baz=100
N24A Carr 100.26 36 ⇑Pdiff **Pdif** **00 31 42.1 -1.2**
baz=100
J28A Allard Ranch, 100.26 32 ⇑Pdiff **Pdif** **00 31 42.9 -0.2**
baz=100
J28A Allard Ranch, 100.26 32 ⇑Pdiff **Pdif** **00 31 42.9 -0.2**
baz=100
M25A Palm-Egli Farm 100.27 35 ⇓Pdiff **Pdif** **00 31 41.2 -2.1**
baz=100
M25A Palm-Egli Farm 100.27 35 ⇓Pdiff **Pdif** **00 31 41.2 -2.1**
baz=100
K27A Flueckinger Fa 100.29 33 ⇑Pdiff **Pdif** **00 31 42.1 -1.2**
baz=100
K27A Flueckinger Fa 100.29 33 ⇑Pdiff **Pdif** **00 31 42.1 -1.2**
baz=100
Z14A Wintersburg 100.33 46 ⇑Pdiff **Pdif** **00 31 43.0 -0.5**
baz=100
Z14A Wintersburg 100.33 46 ⇑Pdiff **Pdif** **00 31 43.0 -0.5**
baz=100
S20A Disappointment 100.34 40 ⇓Pdiff **Pdif** **00 31 42.9 -0.9**
baz=100
S20A Disappointment 100.34 40 ⇓Pdiff **Pdif** **00 31 42.9 -0.9**
baz=100
L26A Underwood Farm 100.35 34 ⇓Pdiff **Pdif** **00 31 42.5 -1.1**
baz=100
L26A Underwood Farm 100.35 34 ⇓Pdiff **Pdif** **00 31 42.5 -1.1**
baz=100
R21A Cimarron 100.46 39 ⇓Pdiff **Pdif** **00 31 43.8 -0.5**
baz=100
R21A Cimarron 100.46 39 ⇓Pdiff **Pdif** **00 31 43.8 -0.5**
baz=100
Q22A Crested Butte, 100.49 39 ⇑Pdiff **Pdif** **00 31 44.0 -0.5**
baz=100
Q22A Crested Butte, 100.49 39 ⇑Pdiff **Pdif** **00 31 44.0 -0.5**
baz=100
SCHQ Schefferville 100.52 7 P **Pdif** **00 31 44.2 +0.2**
SCHQ Schefferville 100.52 7 P **Pdif** **00 31 44.2 +0.2**
comp=Z,4.0nm,1.0s,baz=336,slow=6.2,SNR=2.8
ISCO Idaho Springs 100.58 37 *e*P **Pdif** **00 31 44.8 -0.1**
ISCO pmax pmax
comp=Z,17nm,1.7s
ISCO MLR MLR
comp=Z,3μm,21.0s
ISCO Idaho Springs 100.58 37 *e*Pdif **Pdif** **00 31 44.8 -0.1**
comp=Z,17nm,1.7s
ISCO LR LR
comp=Z,3μm,21.0s
ISCO Idaho Springs 100.58 37 ⇑Pdiff **Pdif** **00 31 44.9 -0.1**
baz=100
ISCO Idaho Springs 100.58 37 ⇑Pdiff **Pdif** **00 31 44.9 -0.1**
baz=100
BRSD Miller 100.58 30 ⇑Pdiff **Pdif** **00 31 43.8 -0.6**
baz=100
BRSD Miller 100.58 30 ⇑Pdiff **Pdif** **00 31 43.8 -0.6**
baz=100
PBRG Braganca 100.59 326 *e*Pdif **Pdif** **00 31 45.3 +0.7**
PBRG Braganca 100.59 326 *e*PP PP 00 35 51.8 +0.8
PBRG *e*S **SKSac** **00 42 28.2 +6.6**
ESDC Sonseca Array 100.61 322 P **Pdif** **00 31 44.8 +0.1**
ESDC PP **PP** **00 35 50.9 -0.4**
ESDC Sonseca Array 100.61 322 P **Pdif** **00 31 44.8 +0.1**
comp=Z,0.3nm,0.4s,baz=34,slow=6.2,SNR=7.6
ESDC PP **PP** **00 35 50.9 -0.4**
comp=Z,3.6nm,0.8s,baz=45,slow=7.6,SNR=6.6
O24A Longmont 100.65 37 ⇑Pdiff **Pdif** **00 31 44.5 -0.6**
baz=100
O24A Longmont 100.65 37 ⇑Pdiff **Pdif** **00 31 44.5 -0.6**
baz=100
X16A Lo Mia Camp, P 100.65 45 ⇓Pdiff **Pdif** **00 31 44.2 -1.0**
baz=100
X16A Lo Mia Camp, P 100.65 45 ⇓Pdiff **Pdif** **00 31 44.2 -1.0**
baz=100
MVCO Mesa Verde 100.67 41 PFAKE 00 32 00.0 +15
MVCO LR LR
comp=Z,3μm,21.0s
MVCO Mesa Verde 100.67 41 ⇓Pdiff **Pdif** **00 31 45.4 +0.1**
baz=100
MVCO Mesa Verde 100.67 41 ⇓Pdiff **Pdif** **00 31 45.4 +0.1**
baz=100
N25A Grover 100.69 36 ⇓Pdiff **Pdif** **00 31 44.8 -0.4**
baz=100
N25A Grover 100.69 36 ⇓Pdiff **Pdif** **00 31 44.8 -0.4**
baz=100
K28A Ten Mile Ranch 100.72 33 ⇑Pdiff **Pdif** **00 31 45.2 0.0**
baz=101
K28A Ten Mile Ranch 100.72 33 ⇑Pdiff **Pdif** **00 31 45.2 0.0**
baz=101
M26A McRoberts Ranc 100.72 35 ⇑Pdiff **Pdif** **00 31 44.3 -1.0**
baz=101
M26A McRoberts Ranc 100.72 35 ⇑Pdiff **Pdif** **00 31 44.3 -1.0**
baz=101
P23A Jefferson 100.75 38 ⇓Pdiff **Pdif** **00 31 43.8 -1.9**
baz=101
P23A Jefferson 100.75 38 ⇓Pdiff **Pdif** **00 31 43.8 -1.9**
baz=101
S21A Coal Bank Pass 100.79 40 ⇓Pdiff **Pdif** **00 31 45.0 -0.9**
baz=101
S21A Coal Bank Pass 100.79 40 ⇓Pdiff **Pdif** **00 31 45.0 -0.9**
baz=101
EYMN Ely 100.90 24 PFAKE 00 32 00.0 +14
EYMN LR LR
comp=Z,5μm,21.0s
PAB San Pablo 100.91 323 PFAKE 00 32 00.0 +14
PAB LR LR
comp=Z,10μm,22.0s
R22A Saguache, Gunn 101.01 39 ⇑Pdiff **Pdif** **00 31 46.5 -0.4**
baz=101
R22A Saguache, Gunn 101.01 39 ⇑Pdiff **Pdif** **00 31 46.5 -0.4**
baz=101
M27A Reverse DX Ran 101.07 34 ⇓Pdiff **Pdif** **00 31 46.1 -0.7**
baz=101
M27A Reverse DX Ran 101.07 34 ⇓Pdiff **Pdif** **00 31 46.1 -0.7**
baz=101
Q23A Hartsel 101.07 38 ⇑Pdiff **Pdif** **00 31 45.9 -1.2**
baz=101
Q23A Hartsel 101.07 38 ⇑Pdiff **Pdif** **00 31 45.9 -1.2**
baz=101
N26A Koester Ranch, 101.14 35 ⇑Pdiff **Pdif** **00 31 46.3 -0.9**
baz=101
N26A Koester Ranch, 101.14 35 ⇑Pdiff **Pdif** **00 31 46.3 -0.9**
baz=101
L28A Connealy Angus 101.16 34 ⇓Pdiff **Pdif** **00 31 46.3 -0.9**
baz=101
L28A Connealy Angus 101.16 34 ⇓Pdiff **Pdif** **00 31 46.3 -0.9**
baz=101
P24A Kohler Place, 101.16 37 ⇓Pdiff **Pdif** **00 31 46.2 -1.2**
baz=101
P24A Kohler Place, 101.16 37 ⇓Pdiff **Pdif** **00 31 46.2 -1.2**
baz=101
O25A Wiggins 101.17 36 ⇓Pdiff **Pdif** **00 31 46.2 -1.1**
baz=101
O25A Wiggins 101.17 36 ⇓Pdiff **Pdif** **00 31 46.2 -1.1**
baz=101
K29A Lazy Trails An 101.20 32 ⇑Pdiff **Pdif** **00 31 46.4 -0.9**
baz=101
K29A Lazy Trails An 101.20 32 ⇑Pdiff **Pdif** **00 31 46.4 -0.9**
baz=101
MVO Moncorvo 101.20 325 *e*Pdif **Pdif** **00 31 46.6 -0.8**
MVO Moncorvo 101.20 325 *e*PP PP 00 35 56.6 +0.9
MVO *e*S SKSac 00 41 30.6 -54
MVO Moncorvo 101.20 325 *e*LQ LQ 01 10 04.9
MVO *e*LR LR 01 14 51.1
comp=Z,22μm,20.0s
U20A Newcomb 101.21 42 ⇓Pdiff **Pdif** **00 31 46.5 -1.2**
baz=101
U20A Newcomb 101.21 42 ⇓Pdiff **Pdif** **00 31 46.5 -1.2**
baz=101
PGAV Gavieira, Arco 101.25 326 *e*Pdif **Pdif** **00 31 49.0 +1.4**
PGAV Gavieira, Arco 101.25 326 *e*PP PP 00 35 57.7 +1.7
PGAV *e*S **SKSac** **00 42 28.0 +3.1**
PGAV Gavieira, Arco 101.25 326 *e*LQ LQ 01 10 58.7
PGAV *e*LR LR 01 18 22.1
comp=Z,30μm,20.0s
W18A Petrified Fore 101.28 43 ⇓Pdiff **Pdif** **00 31 46.7 -1.3**
baz=101
W18A Petrified Fore 101.28 43 ⇓Pdiff **Pdif** **00 31 46.7 -1.3**
baz=101
214A Organ Pipe Nat 101.29 47 ⇑Pdiff **Pdif** **00 31 46.8 -1.0**
baz=101
214A Organ Pipe Nat 101.29 47 ⇑Pdiff **Pdif** **00 31 46.8 -1.0**
baz=101
S22A 4UR Ranch, Cre 101.30 40 ⇑Pdiff **Pdif** **00 31 46.8 -1.3**
baz=101
S22A 4UR Ranch, Cre 101.30 40 ⇑Pdiff **Pdif** **00 31 46.8 -1.3**
baz=101
PCAB Cabril 101.32 326 *e*PP PP 00 35 57.6 +1.1
T21A Navajo Lake 101.39 41 ⇓Pdiff **Pdif** **00 31 47.1 -1.3**
baz=101
T21A Navajo Lake 101.39 41 ⇓Pdiff **Pdif** **00 31 47.1 -1.3**
baz=101
Q24A Divide 101.42 38 ⇑Pdiff **Pdif** **00 31 47.5 -1.2**
baz=101
Q24A Divide 101.42 38 ⇑Pdiff **Pdif** **00 31 47.5 -1.2**
baz=101
POLO Lamas de Olo 101.45 326 *e*Pdif **Pdif** **00 31 49.8 +1.3**
POLO Lamas de Olo 101.45 326 *e*PP PP 00 35 59.0 +1.5
POLO *e*S **SKSac** **00 42 26.8 +0.9**
PVRL Vila Real 101.48 326 *e*PP PP 00 35 58.6 +0.9
O26A Horse Wrangler 101.52 36 ⇑Pdiff **Pdif** **00 31 47.8 -1.0**
baz=101
O26A Horse Wrangler 101.52 36 ⇑Pdiff **Pdif** **00 31 47.8 -1.0**
baz=101
N27A Anderson Farm, 101.52 35 ⇑Pdiff **Pdif** **00 31 47.6 -1.2**
baz=101
N27A Anderson Farm, 101.52 35 ⇑Pdiff **Pdif** **00 31 47.6 -1.2**
baz=101
X18A Snowflake 101.53 44 ⇑Pdiff **Pdif** **00 31 48.4 -0.7**
baz=101
X18A Snowflake 101.53 44 ⇑Pdiff **Pdif** **00 31 48.4 -0.7**
baz=101
R23A Moffat 101.57 39 ⇑Pdiff **Pdif** **00 31 48.4 -1.0**
baz=101
R23A Moffat 101.57 39 ⇑Pdiff **Pdif** **00 31 48.4 -1.0**
baz=101
P25A Willow Gulch B 101.57 37 ⇑Pdiff **Pdif** **00 31 48.2 -1.0**
baz=101
P25A Willow Gulch B 101.57 37 ⇑Pdiff **Pdif** **00 31 48.2 -1.0**
baz=101
V20A Brimhall 101.62 42 ⇓Pdiff **Pdif** **00 31 48.1 -1.4**
baz=102
V20A Brimhall 101.62 42 ⇓Pdiff **Pdif** **00 31 48.1 -1.4**
baz=102
L29A Maesberg Ranch 101.64 33 ⇑Pdiff **Pdif** **00 31 47.9 -1.4**
baz=102
L29A Maesberg Ranch 101.64 33 ⇑Pdiff **Pdif** **00 31 47.9 -1.4**
baz=102
OGNE Ogallala 101.68 35 PFAKE 00 32 00.0 +10
OGNE LR LR
comp=Z,3μm,19.0s

OGNE	Ogallala	101.68	35	⇓Pdiff	Pdif	00 31 48.4	-1.1
	baz=102						
OGNE	Ogallala	101.68	35	⇓Pdiff	Pdif	00 31 48.4	-1.1
	baz=102						
U21A	Nageezi	101.69	41	⇓Pdiff	Pdif	00 31 48.1	-1.7
	baz=102						
U21A	Nageezi	101.69	41	⇓Pdiff	Pdif	00 31 48.1	-1.7
	baz=102						
T22A	Edith	101.75	40	⇓Pdiff	Pdif	00 31 48.3	-1.8
	baz=102						
T22A	Edith	101.75	40	⇓Pdiff	Pdif	00 31 48.3	-1.8
	baz=102						
S23A	Nye Farm, Mont	101.80	39	⇑Pdiff	Pdif	00 31 48.4	-1.9
	baz=102						
S23A	Nye Farm, Mont	101.80	39	⇑Pdiff	Pdif	00 31 48.4	-1.9
	baz=102						
R24A	Sanders Place,	101.95	38	⇓Pdiff	Pdif	00 31 49.5	-1.4
	baz=102						
R24A	Sanders Place,	101.95	38	⇓Pdiff	Pdif	00 31 49.5	-1.4
	baz=102						
Q25A	Bedland, Calha	101.95	37	⇓Pdiff	Pdif	00 31 49.5	-1.4
	baz=102						
Q25A	Bedland, Calha	101.95	37	⇓Pdiff	Pdif	00 31 49.5	-1.4
	baz=102						
P26A	Davis Ranch, A	101.98	36	⇑Pdiff	Pdif	00 31 49.3	-1.7
	baz=102						
P26A	Davis Ranch, A	101.98	36	⇑Pdiff	Pdif	00 31 49.3	-1.7
	baz=102						
M29A	Burnside Ranch	102.00	33	⇓Pdiff	Pdif	00 31 49.8	-1.1
	baz=102						
M29A	Burnside Ranch	102.00	33	⇓Pdiff	Pdif	00 31 49.8	-1.1
	baz=102						
MTE	Manteigas	102.03	325	*e*Pdif	Pdif	00 31 52.8	+1.8
MTE	Manteigas	102.03	325	*e*PP	PP	00 35 59.8	-2.1
MTE				*e*S	SKSac	00 42 36.3	+7.7
MTE	Manteigas	102.03	325	*e*LQ	LQ	01 08 33.8	
MTE				*e*LR	LR	01 15 05.7	
	comp=Z,21μm,18.0s						
MTE	Manteigas	102.03	325	PFAKE		00 32 00.0	+9.0
MTE				LR	LR		
	comp=Z,20μm,19.0s						
SDCO	Great Sand Dun	102.06	39	*e*PP	PP	00 36 03.9	+1.4
	comp=Z,156nm,1.1s						
SDCO				LR	LR		
	comp=Z,3μm,19.0s						
ECSD	EROS Data Cent	102.20	30	*e*Pdif	Pdif	00 31 52.3	+0.6
	comp=Z,3.0nm,1.0s						
ECSD				LR	LR		
	comp=Z,4μm,19.0s						
LSZ	Lusaka	102.36	259	*e*Pdif	Pdif	00 31 52.5	-0.5
	comp=Z,10nm,1.2s						
LSZ				LR	LR		
	comp=Z,5μm,21.0s						
PCBR	Castelo Branco	102.40	325	*e*PP	PP	00 36 06.8	+2.2
TUC	Tucson	102.41	46	*e*P	Pdif	00 31 54.1	+1.2
TUC				pmax	pmax		
	comp=Z,13nm,1.8s						
TUC				MLR	MLR		
	comp=Z,4μm,21.0s						
TUC	Tucson	102.41	46	*e*Pdif	Pdif	00 31 54.1	+1.2
	comp=Z,13nm,1.8s						
TUC				LR	LR		
	comp=Z,4μm,21.0s						
W21A	San Fidel	102.58	42	⇓Pdiff	Pdif	00 31 53.4	-0.4
	baz=102						
W21A	San Fidel	102.58	42	⇓Pdiff	Pdif	00 31 53.4	-0.4
	baz=102						
U23A	El Rito	102.63	40	⇑Pdiff	Pdif	00 31 52.8	-1.3
	baz=102						
U23A	El Rito	102.63	40	⇑Pdiff	Pdif	00 31 52.8	-1.3
	baz=102						
SPMN	St. Paul	102.64	26	⇑Pdiff	Pdif	00 31 53.0	-0.6
	baz=102						
SPMN	St. Paul	102.64	26	⇑Pdiff	Pdif	00 31 53.0	-0.6
	baz=102						
PMRV	Marv??o	102.65	324	*e*Pdif	Pdif	00 31 55.0	+1.2
PMRV	Marv??o	102.65	324	*e*PP	PP	00 36 03.3	-3.2
PMRV				*e*S	SKSac	00 42 33.7	+2.2
PMRV	Marv??o	102.65	324	*e*LQ	LQ	01 08 43.9	
PMRV				*e*LR	LR	01 15 52.0	
	comp=Z,14μm,18.0s						
KSCO	Kaye Shedlock'	102.77	36	⇓Pdiff	Pdif	00 31 54.7	+0.2
	baz=103						
KSCO	Kaye Shedlock'	102.77	36	⇓Pdiff	Pdif	00 31 54.7	+0.2
	baz=103						
PCAS	Casmilo, Conde	102.78	325	*e*Pdif	Pdif	00 31 55.8	+1.5
PCAS	Casmilo, Conde	102.78	325	*e*PP	PP	00 36 04.7	-2.7
PCAS				*e*S	SKSac	00 42 30.8	-1.3
R26A	Arlington	102.83	37	⇑Pdiff	Pdif	00 31 55.0	+0.3
	baz=103						
R26A	Arlington	102.83	37	⇑Pdiff	Pdif	00 31 55.0	+0.3
	baz=103						
O29A	4D Ranch, Culb	102.92	34	⇑Pdiff	Pdif	00 31 55.0	0.0
	baz=103						
O29A	4D Ranch, Culb	102.92	34	⇑Pdiff	Pdif	00 31 55.0	0.0
	baz=103						
Y20A	Horse Springs,	102.92	43	⇑Pdiff	Pdif	00 31 54.7	-0.7
	baz=103						
Y20A	Horse Springs,	102.92	43	⇑Pdiff	Pdif	00 31 54.7	-0.7
	baz=103						
X21A	Alamocita Cree	102.94	43	⇑Pdiff	Pdif	00 31 55.5	+0.1
	baz=103						
X21A	Alamocita Cree	102.94	43	⇑Pdiff	Pdif	00 31 55.5	+0.1
	baz=103						
V23A	Ortiz Mt. (NFS	103.03	41	⇓Pdiff	Pdif	00 31 54.8	-1.0
	baz=103						
V23A	Ortiz Mt. (NFS	103.03	41	⇓Pdiff	Pdif	00 31 54.8	-1.0
	baz=103						
PTOM	Tomar	103.05	325	*e*PP	PP	00 36 05.3	-4.2
T25A	Trinidad	103.11	39	⇓Pdiff	Pdif	00 31 56.1	0.0
	baz=103						
T25A	Trinidad	103.11	39	⇓Pdiff	Pdif	00 31 56.1	0.0
	baz=103						
U24A	Moreno Valley	103.11	40	⇑Pdiff	Pdif	00 31 54.9	-1.3
	baz=103						
U24A	Moreno Valley	103.11	40	⇑Pdiff	Pdif	00 31 54.9	-1.3
	baz=103						
Q28A	Sharon Springs	103.16	36	⇑Pdiff	Pdif	00 31 56.3	+0.2
	baz=103						
Q28A	Sharon Springs	103.16	36	⇑Pdiff	Pdif	00 31 56.3	+0.2
	baz=103						
PESTR	Estremoz	103.17	324	*e*Pdif	Pdif	00 31 56.4	+0.3
PESTR	Estremoz	103.17	324	*e*PP	PP	00 36 08.1	-2.3
PESTR				*e*S	SKSac	00 42 34.4	+0.5
BGNE	Belgrade	103.28	32	⇑Pdiff	Pdif	00 31 56.2	-0.4
	baz=103						
BGNE	Belgrade	103.28	32	⇑Pdiff	Pdif	00 31 56.2	-0.4
	baz=103						
Y21A	Point of Rocks	103.30	43	⇓Pdiff	Pdif	00 31 56.9	-0.2
	baz=103						
Y21A	Point of Rocks	103.30	43	⇓Pdiff	Pdif	00 31 56.9	-0.2
	baz=103						
S26A	Kim	103.30	38	⇑Pdiff	Pdif	00 31 56.2	-0.6
	baz=103						
S26A	Kim	103.30	38	⇑Pdiff	Pdif	00 31 56.2	-0.6
	baz=103						
Z20A	Nine Sixteen R	103.31	44	⇓Pdiff	Pdif	00 31 56.7	-0.3
	baz=103						
Z20A	Nine Sixteen R	103.31	44	⇓Pdiff	Pdif	00 31 56.7	-0.3
	baz=103						
COWI	Conover	103.33	24	PFAKE		00 32 10.0	+13
COWI				LR	LR		
	comp=Z,6μm,21.0s						
PMTG	Montargil	103.36	324	*e*Pdif	Pdif	00 31 56.0	-0.9
PMTG	Montargil	103.36	324	*e*PP	PP	00 36 09.7	-2.0
PMTG				*e*S	SKSac	00 42 35.9	+1.1
PBAR	Barrancos	103.37	323	*e*Pdif	Pdif	00 31 55.0	-1.9
PBAR	Barrancos	103.37	323	*e*PP	PP	00 36 14.6	+2.7
PBAR				*e*S	SKSac	00 42 26.8	-8.0
ANMO	Albuquerque	103.41	41	PFAKE		00 32 10.0	+13
ANMO				LR	LR		
	comp=Z,3μm,19.0s						
W23A	Werner Place,	103.45	41	⇑Pdiff	Pdif	00 31 57.2	-0.4
	baz=103						
W23A	Werner Place,	103.45	41	⇑Pdiff	Pdif	00 31 57.2	-0.4
	baz=103						
S27A	Las Animas	103.57	37	⇓Pdiff	Pdif	00 31 57.2	-0.9
	baz=103						
S27A	Las Animas	103.57	37	⇓Pdiff	Pdif	00 31 57.2	-0.9
	baz=103						
V24A	Rampart Ranch,	103.59	40	⇓Pdiff	Pdif	00 31 58.1	-0.2
	baz=103						
V24A	Rampart Ranch,	103.59	40	⇓Pdiff	Pdif	00 31 58.1	-0.2
	baz=103						
U25A	Circle Dot Ran	103.62	39	⇓Pdiff	Pdif	00 31 57.7	-0.7
	baz=104						
U25A	Circle Dot Ran	103.62	39	⇓Pdiff	Pdif	00 31 57.7	-0.7
	baz=104						
P30A	Selden	103.64	35	⇓Pdiff	Pdif	00 31 57.9	-0.3
	baz=104						
P30A	Selden	103.64	35	⇓Pdiff	Pdif	00 31 57.9	-0.3
	baz=104						
EVO	Evora	103.64	324	*e*P	Pdif	00 31 57.8	-0.3
	comp=Z,16nm,1.0s						
EVO				*e*R			
	comp=Z,23μm,18.2s						
Z21A	St. Cloud Mine	103.76	43	⇓Pdiff	Pdif	00 31 56.8	-2.3
	baz=104						
Z21A	St. Cloud Mine	103.76	43	⇓Pdiff	Pdif	00 31 56.8	-2.3
	baz=104						
X23A	Hourglass Bar	103.82	42	⇓Pdiff	Pdif	00 31 58.9	-0.4
	baz=104						
X23A	Hourglass Bar	103.82	42	⇓Pdiff	Pdif	00 31 58.9	-0.4
	baz=104						
PACT	Alcochete	103.90	325	*e*Pdif	Pdif	00 32 03.8	+4.5
PACT	Alcochete	103.90	325	*e*PP	PP	00 36 17.4	+1.6
VNDA	Vanda	103.91	172	Pdif	Pdif	00 32 01.4	+3.1
VNDA				PP	PKiKP	00 36 15.2	-0.4
VNDA				PKKPbc	PKKPbc	00 47 50.4	-0.7
VNDA				PKKP	PKKPdf	00 48 01.7	+1.2
VNDA	Vanda	103.91	172	Pdif	Pdif	00 32 01.4	+3.1
	comp=Z,0.4nm,0.7s,baz=310,slow=4.4,SNR=2.7						
VNDA				PP	PKiKP	00 36 15.2	-0.4
	comp=Z,1.8nm,0.8s,baz=322,slow=7.5,SNR=6.3						
VNDA				PKKPbc	PKKPbc	00 47 50.4	-0.7
	comp=Z,2.5nm,1.0s,baz=252,slow=2.9,SNR=7.4						
VNDA				PKKP	PKKPdf	00 48 01.7	+1.2
	comp=Z,3.1nm,1.0s,baz=167,slow=3.2,SNR=5.6						
PBEJ	Beja	103.92	324	*e*PP	PP	00 36 11.0	-5.0
319A	Douglas	103.99	46	⇑Pdiff	Pdif	00 32 00.0	0.0
	baz=104						
319A	Douglas	103.99	46	⇑Pdiff	Pdif	00 32 00.0	0.0
	baz=104						
PMAFR	Mafra	104.00	325	*e*Pdif	Pdif	00 32 00.1	+0.4
PMAFR	Mafra	104.00	325	*e*PP	PP	00 36 24.2	+7.7
PMAFR				*e*S	SKSac	00 42 37.7	-0.1
U26A	Atchley Ranch,	104.01	39	⇓Pdiff	Pdif	00 32 00.2	+0.1
	baz=104						
U26A	Atchley Ranch,	104.01	39	⇓Pdiff	Pdif	00 32 00.2	+0.1
	baz=104						
Q30A	Quinter	104.07	35	⇓Pdiff	Pdif	00 31 59.6	-0.6
	baz=104						
Q30A	Quinter	104.07	35	⇓Pdiff	Pdif	00 31 59.6	-0.6
	baz=104						
P31A	Stockton	104.10	34	⇑Pdiff	Pdif	00 32 00.2	0.0
	baz=104						
P31A	Stockton	104.10	34	⇑Pdiff	Pdif	00 32 00.2	0.0
	baz=104						
LIS	Lisbon	104.11	325	*e*P	Pdif	00 32 00.9	+0.8
LIS				*e*PP	PKiKP	00 36 17.1	-0.1
LIS				*e*S	SKSac	00 42 38.4	+0.2
LIS				AMS	AMS	01 24 27.4	
	comp=E,20μm,19.8s						
PMST	Lisbon--Monsan	104.11	325	*e*Pdif	Pdif	00 32 01.8	+1.6
PMST	Lisbon--Monsan	104.11	325	*e*PP	PP	00 36 19.9	+2.6
220A	Playas Peak, P	104.14	45	⇑Pdiff	Pdif	00 32 00.1	-0.6
	baz=104						
220A	Playas Peak, P	104.14	45	⇑Pdiff	Pdif	00 32 00.1	-0.6
	baz=104						
S28A	Manter	104.19	37	⇓Pdiff	Pdif	00 32 00.7	-0.1
	baz=104						
S28A	Manter	104.19	37	⇓Pdiff	Pdif	00 32 00.7	-0.1
	baz=104						
PNCL	Nicolau / Gran	104.22	324	*e*Pdif	Pdif	00 31 58.8	-1.9
PNCL	Nicolau / Gran	104.22	324	*e*PP	PP	00 36 15.9	-2.3
PNCL				*e*S	SKSac	00 42 39.5	+0.8
Z22A	Elephant Butte	104.24	43	⇑Pdiff	Pdif	00 32 00.8	-0.4
	baz=104						
Z22A	Elephant Butte	104.24	43	⇑Pdiff	Pdif	00 32 00.8	-0.4
	baz=104						
PVAQ	Vaqueiros	104.29	323	*e*Pdif	Pdif	00 32 02.0	+0.9
PVAQ	Vaqueiros	104.29	323	*e*PP	PP	00 36 18.0	-0.8
PVAQ				*e*S	SKSac	00 42 41.5	+2.4
PVAQ	Vaqueiros	104.29	323	*e*LQ	LQ	01 11 24.3	
PVAQ				*e*LR	LR	01 17 21.9	
	comp=E,17μm,18.0s						
PCVE	Castro Verde	104.30	323	*e*Pdif	Pdif	00 32 01.5	+0.4
PCVE	Castro Verde	104.30	323	*e*PP	PP	00 36 19.5	+0.6
PCVE				*e*S	SKSac	00 42 43.3	+4.1
Y23A	Lovelace Mesa,	104.34	42	⇓Pdiff	Pdif	00 32 01.2	-0.4
	baz=104						
Y23A	Lovelace Mesa,	104.34	42	⇓Pdiff	Pdif	00 32 01.2	-0.4
	baz=104						
V26A	Tequesquite Ra	104.41	39	⇓Pdiff	Pdif	00 32 02.2	+0.4
	baz=104						
V26A	Tequesquite Ra	104.41	39	⇓Pdiff	Pdif	00 32 02.2	+0.4
	baz=104						
T28A	Walsh	104.41	37	⇓Pdiff	Pdif	00 32 01.4	-0.3
	baz=104						
T28A	Walsh	104.41	37	⇓Pdiff	Pdif	00 32 01.4	-0.3
	baz=104						
W25A	X Bar L Ranch,	104.42	40	⇓Pdiff	Pdif	00 32 02.0	+0.2
	baz=104						
W25A	X Bar L Ranch,	104.42	40	⇓Pdiff	Pdif	00 32 02.0	+0.2
	baz=104						
PBDV	Barranco-do-Ve	104.53	323	*e*Pdif	Pdif	00 32 03.4	+1.2
PBDV	Barranco-do-Ve	104.53	323	*e*PP	PP	00 36 15.8	-4.8
PBDV				*e*S	SKSac	00 42 42.6	+2.3
Z23A	Rita Site, Whi	104.69	43	⇓Pdiff	Pdif	00 32 02.8	-0.3
	baz=105						
Z23A	Rita Site, Whi	104.69	43	⇓Pdiff	Pdif	00 32 02.8	-0.3
	baz=105						
PTEO	Sao Teotonio	104.74	324	*e*PP	PP	00 36 23.0	+0.9
SBA	Scott Base	104.80	172	PFAKE		00 32 10.0	+7.8
SBA				LR	LR		
	comp=Z,2μm,20.0s						
T29A	Hugoton	104.83	37	⇑Pdiff	Pdif	00 32 03.3	-0.3
	baz=105						
T29A	Hugoton	104.83	37	⇑Pdiff	Pdif	00 32 03.3	-0.3
	baz=105						
MORF	Marmelete	104.87	323	*e*Pdif	Pdif	00 32 05.5	+1.8
MORF	Marmelete	104.87	323	*e*PP	PP	00 36 25.1	+1.9
MORF				*e*S	SKSac	00 42 54.6	+13
U28A	Mallet	104.88	38	⇓Pdiff	Pdif	00 32 03.8	-0.1
	baz=105						
U28A	Mallet	104.88	38	⇓Pdiff	Pdif	00 32 03.8	-0.1
	baz=105						
W26A	Owens Ranch, T	104.91	40	⇑Pdiff	Pdif	00 32 04.2	+0.2
	baz=105						
W26A	Owens Ranch, T	104.91	40	⇑Pdiff	Pdif	00 32 04.2	+0.2
	baz=105						
R31A	Burdett	104.94	35	⇑Pdiff	Pdif	00 32 03.5	-0.6
	baz=105						
R31A	Burdett	104.94	35	⇑Pdiff	Pdif	00 32 03.5	-0.6
	baz=105						
V27A	Dan Oppiter Fa	104.98	39	⇓Pdiff	Pdif	00 32 04.0	-0.4
	baz=105						
V27A	Dan Oppiter Fa	104.98	39	⇓Pdiff	Pdif	00 32 04.0	-0.4
	baz=105						
SCIA	State Center	105.16	29	PFAKE		00 36 30.0	
SCIA				LR	LR		
	comp=Z,3μm,20.0s						
Z24A	Sheeppen Canyo	105.17	42	⇑Pdiff	Pdif	00 32 03.8	-1.5
	baz=105						
Z24A	Sheeppen Canyo	105.17	42	⇑Pdiff	Pdif	00 32 03.8	-1.5
	baz=105						
Y25A	Mesa, Roswell	105.17	41	⇓Pdiff	Pdif	00 32 05.2	-0.1
	baz=105						
Y25A	Mesa, Roswell	105.17	41	⇓Pdiff	Pdif	00 32 05.2	-0.1
	baz=105						
X26A	CR and CF Fran	105.26	40	⇓Pdiff	Pdif	00 32 03.9	-1.7
	baz=105						
X26A	CR and CF Fran	105.26	40	⇓Pdiff	Pdif	00 32 03.9	-1.7
	baz=105						
W27A	Bowe Ranch, En	105.34	39	⇑PKiKP	PKiKP	00 36 20.1	+0.3
	baz=105						
W27A	Bowe Ranch, En	105.34	39	⇑PKiKP	PKiKP	00 36 20.1	+0.3
	baz=105						
U29A	Oasis Ranch, S	105.36	37	⇓PKiKP	PKiKP	00 36 18.5	-1.3
	baz=105						
U29A	Oasis Ranch, S	105.36	37	⇓PKiKP	PKiKP	00 36 18.5	-1.3
	baz=105						
223A	Chaparral, Ant	105.41	44	⇓PKiKP	PKiKP	00 36 16.2	-3.8
	baz=105						
223A	Chaparral, Ant	105.41	44	⇓PKiKP	PKiKP	00 36 16.2	-3.8
	baz=105						
124A	Stringfield Ra	105.55	43	⇓PKiKP	PKiKP	00 36 18.9	-1.5
	baz=105						
124A	Stringfield Ra	105.55	43	⇓PKiKP	PKiKP	00 36 18.9	-1.5
	baz=105						
Z25A	Roswell	105.60	42	⇓PKiKP	PKiKP	00 36 18.2	-2.2
	baz=106						
Z25A	Roswell	105.60	42	⇓PKiKP	PKiKP	00 36 18.2	-2.2
	baz=106						
X27A	F and S Farms,	105.61	40	⇓PKiKP	PKiKP	00 36 19.0	-1.4
	baz=106						
X27A	F and S Farms,	105.61	40	⇓PKiKP	PKiKP	00 36 19.0	-1.4
	baz=106						
V29A	Stinnett	105.64	38	⇑PKiKP	PKiKP	00 36 19.8	-0.5
	baz=106						
V29A	Stinnett	105.64	38	⇑PKiKP	PKiKP	00 36 19.8	-0.5
	baz=106						
U30A	WK&E Inc. Balk	105.64	37	⇓PKiKP	PKiKP	00 36 19.8	-0.5
	baz=106						
U30A	WK&E Inc. Balk	105.64	37	⇓PKiKP	PKiKP	00 36 19.8	-0.5
	baz=106						
Y26A	Elida	105.69	41	⇑PKiKP	PKiKP	00 36 19.1	-1.4
	baz=106						
Y26A	Elida	105.69	41	⇑PKiKP	PKiKP	00 36 19.1	-1.4
	baz=106						
W28A	Vega	105.69	39	⇓PKiKP	PKiKP	00 36 19.9	-0.5
	baz=106						
W28A	Vega	105.69	39	⇓PKiKP	PKiKP	00 36 19.9	-0.5
	baz=106						
T31A	Randall Ranch,	105.75	36	⇑PKiKP	PKiKP	00 36 19.2	-1.2
	baz=106						
T31A	Randall Ranch,	105.75	36	⇑PKiKP	PKiKP	00 36 19.2	-1.2
	baz=106						
KSU1	Kansas State U	105.81	33	PFAKE		00 36 30.0	
KSU1				LR	LR		
	comp=Z,4μm,19.0s						
224A	Cornudas Mount	105.93	43	⇑PKiKP	PKiKP	00 36 20.4	-0.6
	baz=106						
224A	Cornudas Mount	105.93	43	⇑PKiKP	PKiKP	00 36 20.4	-0.6
	baz=106						
GLMI	Grayling	106.02	22	PFAKE		00 36 30.0	
GLMI				LR	LR		
	comp=Z,3μm,20.0s						
125A	Gardner Draw,	106.07	42	⇓PKiKP	PKiKP	00 36 20.6	-0.6
	baz=106						
125A	Gardner Draw,	106.07	42	⇓PKiKP	PKiKP	00 36 20.6	-0.6
	baz=106						
W29A	Amraillo	106.11	38	⇓PKiKP	PKiKP	00 36 20.7	-0.5
	baz=106						
W29A	Amraillo	106.11	38	⇓PKiKP	PKiKP	00 36 20.7	-0.5
	baz=106						
Y27A	Causey	106.11	40	⇓PKiKP	PKiKP	00 36 19.9	-1.4
	baz=106						
Y27A	Causey	106.11	40	⇓PKiKP	PKiKP	00 36 19.9	-1.4
	baz=106						
V30A	Spur Ranch, Mi	106.18	37	⇑PKiKP	PKiKP	00 36 19.2	-2.1
	baz=106						
V30A	Spur Ranch, Mi	106.18	37	⇑PKiKP	PKiKP	00 36 19.2	-2.1
	baz=106						
RTC	Rabat Centre	106.25	320	PFAKE		00 36 30.0	
RTC				LR	LR		
	comp=Z,5μm,20.0s						
AMTX	Amarillo	106.26	39	PFAKE		00 36 30.0	
AMTX				LR	LR		
	comp=Z,2μm,19.0s						
MNTX	Cornudas Mount	106.27	43	PFAKE		00 36 30.0	
MNTX				LR	LR		
	comp=Z,2μm,20.0s						
MSTX	Muleshoe	106.28	40	⇓PKiKP	PKiKP	00 36 20.2	-1.4
	baz=106						
MSTX	Muleshoe	106.28	40	⇓PKiKP	PKiKP	00 36 20.2	-1.4
	baz=106						
324A	Moseley Ranch,	106.38	44	⇓PKiKP	PKiKP	00 36 19.6	-2.3
	baz=106						
324A	Moseley Ranch,	106.38	44	⇓PKiKP	PKiKP	00 36 19.6	-2.3
	baz=106						
126A	Clayton Basin,	106.46	42	⇓PKiKP	PKiKP	00 36 21.4	-0.6
	baz=106						
126A	Clayton Basin,	106.46	42	⇓PKiKP	PKiKP	00 36 21.4	-0.6
	baz=106						
Z27A	Tatum	106.48	41	⇓PKiKP	PKiKP	00 36 22.2	+0.2
	baz=106						
Z27A	Tatum	106.48	41	⇓PKiKP	PKiKP	00 36 22.2	+0.2
	baz=106						
X29A	Tulia	106.56	39	⇓PKiKP	PKiKP	00 36 21.5	-0.5
	baz=106						
X29A	Tulia	106.56	39	⇓PKiKP	PKiKP	00 36 21.5	-0.5
	baz=106						
V31A	Spring Creek L	106.64	37	⇑PKiKP	PKiKP	00 36 20.8	-1.3
	baz=106						
V31A	Spring Creek L	106.64	37	⇑PKiKP	PKiKP	00 36 20.8	-1.3
	baz=106						
325A	Bean Ranch, Si	106.75	43	⇑PKiKP	PKiKP	00 36 19.5	-3.1
	baz=107						
325A	Bean Ranch, Si	106.75	43	⇑PKiKP	PKiKP	00 36 19.5	-3.1
	baz=107						
226B	Tecolote Peak,	106.77	42	⇓PKiKP	PKiKP	00 36 21.1	-1.4
	baz=107						
226B	Tecolote Peak,	106.77	42	⇓PKiKP	PKiKP	00 36 21.1	-1.4
	baz=107						
Y29A	Porterfield Fa	107.00	39	⇑PKiKP	PKiKP	00 36 19.9	-3.0
	baz=107						
Y29A	Porterfield Fa	107.00	39	⇑PKiKP	PKiKP	00 36 19.9	-3.0
	baz=107						
W31A	Holland Ranch,	107.02	37	⇑PKiKP	PKiKP	00 36 20.7	-2.1
	baz=107						
W31A	Holland Ranch,	107.02	37	⇑PKiKP	PKiKP	00 36 20.7	-2.1
	baz=107						
X30A	Coker Ranch, T	107.04	38	⇑PKiKP	PKiKP	00 36 20.8	-2.1
	baz=107						
X30A	Coker Ranch, T	107.04	38	⇑PKiKP	PKiKP	00 36 20.8	-2.1
	baz=107						
425A	Indio Mountain	107.14	44	⇓PKiKP	PKiKP	00 36 21.8	-1.5
	baz=107						
425A	Indio Mountain	107.14	44	⇓PKiKP	PKiKP	00 36 21.8	-1.5
	baz=107						
128A	Castleberry Fa	107.40	41	⇑PKiKP	PKiKP	00 36 22.3	-1.4
	baz=107						
128A	Castleberry Fa	107.40	41	⇑PKiKP	PKiKP	00 36 22.3	-1.4
	baz=107						
326A	Caldwell Ran

baz=108
Z31A Sharp Cattle R 108.27 39 ⇑PKiKP PKiKP 00 36 23.1 -2.1
baz=108
527A Woodward Ranch 108.44 43 ⇑PKiKP PKiKP 00 36 24.3 -1.5
baz=108
527A Woodward Ranch 108.44 43 ⇑PKiKP PKiKP 00 36 24.3 -1.5
baz=108
329A Wagon Wheel Ra 108.51 41 ⇑PKiKP PKiKP 00 36 25.2 -0.6
baz=108
329A Wagon Wheel Ra 108.51 41 ⇑PKiKP PKiKP 00 36 25.2 -0.6
baz=108
626A Big Bend Ranch 108.52 44 ⇓PKiKP PKiKP 00 36 25.2 -0.6
baz=108
626A Big Bend Ranch 108.52 44 ⇓PKiKP PKiKP 00 36 25.2 -0.6
baz=108
131A Roby 108.60 39 ⇓PKiKP PKiKP 00 36 23.7 -2.1
baz=108
131A Roby 108.60 39 ⇓PKiKP PKiKP 00 36 23.7 -2.1
baz=108
428A Kincaid Ranch, 108.61 42 ⇓PKiKP PKiKP 00 36 26.2 +0.2
baz=108
428A Kincaid Ranch, 108.61 42 ⇓PKiKP PKiKP 00 36 26.2 +0.2
baz=108
Z32A Haskell 108.66 38 ⇓PKiKP PKiKP 00 36 23.8 -2.1
baz=108
Z32A Haskell 108.66 38 ⇓PKiKP PKiKP 00 36 23.8 -2.1
baz=108
TUL1 Tulsa 108.69 34 ⇑PKiKP PKiKP 00 36 24.6 -1.2
baz=108
TUL1 Tulsa 108.69 34 ⇑PKiKP PKiKP 00 36 24.6 -1.2
baz=108
230A Sterling City 108.74 40 ⇓PKiKP PKiKP 00 36 24.0 -2.2
baz=109
230A Sterling City 108.74 40 ⇓PKiKP PKiKP 00 36 24.0 -2.2
baz=109
528A Cox Ranch, San 108.94 43 ⇑PKiKP PKiKP 00 36 27.6 +1.0
baz=109
528A Cox Ranch, San 108.94 43 ⇑PKiKP PKiKP 00 36 27.6 +1.0
baz=109
TXAR Lajitas Array 108.96 44 Pdif **Pdif 00 32 21.6 -0.6**
TXAR PKiKP **PKiKP 00 36 27.8 +1.1**
TXAR PP **PP 00 36 53.4 -0.1**
TXAR PKKPab **PKKPab 00 47 51.1 +2.4**
TXAR Lajitas Array 108.96 44 Pdiff **Pdif 00 32 21.6 -0.6**
comp=Z,0.4nm,0.7s,baz=318,slow=4.9,SNR=3.2
TXAR PKiKP **PKiKP 00 36 27.8 +1.1**
comp=Z,0.9nm,0.8s,baz=298,slow=1.9,SNR=4.0
TXAR PP **PP 00 36 53.4 -0.1**
comp=Z,5.1nm,1.2s,baz=309,slow=4.5,SNR=5.4
TXAR PKKPab **PKKPab 00 47 51.1 +2.4**
comp=Z,0.4nm,0.8s,baz=129,slow=5.1,SNR=3.9
SFIN Scholer Farm 108.98 26 ⇑PKiKP PKiKP 00 36 25.9 -0.3
baz=109
SFIN Scholer Farm 108.98 26 ⇑PKiKP PKiKP 00 36 25.9 -0.3
baz=109
330A Mertzon 109.05 41 ⇑PKiKP PKiKP 00 36 25.4 -1.4
baz=109
330A Mertzon 109.05 41 ⇑PKiKP PKiKP 00 36 25.4 -1.4
baz=109
627A Terlingua Ranc 109.06 44 ⇓PKiKP PKiKP 00 36 26.2 -0.7
baz=109
627A Terlingua Ranc 109.06 44 ⇓PKiKP PKiKP 00 36 26.2 -0.7
baz=109
ABTX Abilene, Hawle 109.07 39 ⇑PKiKP PKiKP 00 36 26.2 -0.5
baz=109
ABTX Abilene, Hawle 109.07 39 ⇑PKiKP PKiKP 00 36 26.2 -0.5
baz=109
LONY Lake Ozonia 109.07 15 PFAKE 00 36 40.0
LONY LR LR
comp=Z,6μm,22.0s
429A Davenport Ranc 109.17 42 ⇑PKiKP PKiKP 00 36 24.8 -2.2
baz=109
429A Davenport Ranc 109.17 42 ⇑PKiKP PKiKP 00 36 24.8 -2.2
baz=109
231A Bronte 109.18 40 ⇓PKiKP PKiKP 00 36 27.2 +0.3
baz=109
231A Bronte 109.18 40 ⇓PKiKP PKiKP 00 36 27.2 +0.3
baz=109
529A Stev Forest Ra 109.32 43 ⇓PKiKP PKiKP 00 36 25.9 -1.4
baz=109
529A Stev Forest Ra 109.32 43 ⇓PKiKP PKiKP 00 36 25.9 -1.4
baz=109
628A Black Gap, Mar 109.35 43 ⇑PKiKP PKiKP 00 36 27.6 +0.2
baz=109
628A Black Gap, Mar 109.35 43 ⇑PKiKP PKiKP 00 36 27.6 +0.2
baz=109
430A Baggett Ranch, 109.45 41 ⇓PKiKP PKiKP 00 36 27.7 +0.2
baz=109
430A Baggett Ranch, 109.45 41 ⇓PKiKP PKiKP 00 36 27.7 +0.2
baz=109
331A San Angelo 109.56 40 ⇑PKiKP PKiKP 00 36 26.3 -1.4
baz=109
331A San Angelo 109.56 40 ⇑PKiKP PKiKP 00 36 26.3 -1.4
baz=109
232A Coleman 109.60 40 ⇑PKiKP PKiKP 00 36 23.2 -4.6
baz=110
232A Coleman 109.60 40 ⇑PKiKP PKiKP 00 36 23.2 -4.6
baz=110
NCB Newcomb 109.77 15 PFAKE 00 36 40.0
NCB LR LR
comp=Z,5μm,19.0s
530A J-C Ranch, Com 109.84 42 ⇑PKiKP PKiKP 00 36 22.0 -6.2
baz=110
530A J-C Ranch, Com 109.84 42 ⇑PKiKP PKiKP 00 36 22.0 -6.2
baz=110
431A Sonora 109.91 41 ⇑PKiKP PKiKP 00 36 24.6 -3.8
baz=110
431A Sonora 109.91 41 ⇑PKiKP PKiKP 00 36 24.6 -3.8
baz=110
332A Millersview 109.91 40 ⇓PKiKP PKiKP 00 36 28.6 +0.3
baz=110
332A Millersview 109.91 40 ⇓PKiKP PKiKP 00 36 28.6 +0.3
baz=110
LBNH Lisbon 110.02 13 PFAKE 00 36 40.0
LBNH LR LR
comp=Z,7μm,20.0s
MSKU Masuku 110.29 278 PFAKE 00 36 40.0
MSKU LR LR
comp=Z,2.0nm,21.0s
531A Rocksprings 110.31 41 ⇓PKiKP PKiKP 00 36 29.4 +0.2
baz=110
531A Rocksprings 110.31 41 ⇓PKiKP PKiKP 00 36 29.4 +0.2
baz=110
JCT Junction City 110.53 41 PFAKE 00 36 40.0
JCT LR LR
comp=Z,4μm,19.0s
532A Rocksprings 110.72 41 ⇓PKiKP PKiKP 00 36 30.1 +0.2
baz=111
532A Rocksprings 110.72 41 ⇓PKiKP PKiKP 00 36 30.1 +0.2
baz=111
WHTX Lake Whitney 110.78 38 ⇓PKiKP PKiKP 00 36 30.2 +0.3
baz=111
WHTX Lake Whitney 110.78 38 ⇓PKiKP PKiKP 00 36 30.2 +0.3
baz=111
631A Perdido Creek 110.83 42 ⇓PKiKP PKiKP 00 36 30.4 +0.3
baz=111
631A Perdido Creek 110.83 42 ⇓PKiKP PKiKP 00 36 30.4 +0.3
baz=111
MIAR Mount Ida 110.88 34 PFAKE 00 36 40.0
MIAR LR LR
comp=Z,3μm,20.0s
BINY Binghamton 111.00 17 PFAKE 00 36 40.0
BINY LR LR
comp=Z,5μm,20.0s
632A Uvalde 111.24 41 ⇓PKiKP PKiKP 00 36 30.3 -0.5
baz=111
632A Uvalde 111.24 41 ⇓PKiKP PKiKP 00 36 30.3 -0.5
baz=111
732A Laxson Ranch, 111.69 42 ⇑PKiKP PKiKP 00 36 31.2 -0.5
baz=112
732A Laxson Ranch, 111.69 42 ⇑PKiKP PKiKP 00 36 31.2 -0.5
baz=112
PMPST Porto Santo, M 112.16 326 *e*PP PP 00 37 13.8 -2.3
PGRA Graciosa 112.17 338 *e*PP PP 00 37 16.7 +0.9
PMPS Porto Santo 112.18 326 *e*PP PP 00 37 14.1 -2.1
PSET Sete Cidades 112.42 335 *e*PP PP 00 37 18.6 +0.9
ROSA Rosais 112.54 338 *e*PP PP 00 37 18.5 0.0
PMAR Madeira 112.74 326 *e*PP PP 00 37 19.4 -1.1
FUL Funchal 112.79 326 *e*PP PP 00 37 17.8 -2.8
PSMN Pico do Norte, 112.88 334 *e*PP PP 00 37 21.0 0.0
OXF Oxford 112.93 31 PFAKE 00 36 50.0
OXF LR LR
comp=Z,5μm,19.0s
TSUM Tsumeb 113.22 259 PFAKE 00 36 50.0
TSUM LR LR
comp=Z,5μm,20.0s
TORD Torodi Ar. Bea 113.43 298 Pdif **Pdif 00 32 43.7 +1.6**
TORD PKiKP **PKiKP 00 36 33.9 -1.4**
TORD PP **PP 00 37 27.3 +1.1**
TORD PKKPbc **PKKPbc 00 47 19.3 +0.3**
TORD PKKP **PKKPdf 00 47 41.1 +1.0**
TORD Torodi Ar. Bea 113.43 298 Pdiff **Pdif 00 32 43.7 +1.6**
comp=Z,0.4nm,1.0s,baz=72,slow=4.4,SNR=2.9
TORD PKiKP **PKiKP 00 36 33.9 -1.4**
comp=Z,0.9nm,0.7s,baz=52,slow=1.7,SNR=8.8
TORD PP **PP 00 37 27.3 +1.1**
comp=Z,11nm,1.1s,baz=49,slow=5.0,SNR=10.0
TORD PKKPbc **PKKPbc 00 47 19.3 +0.3**
comp=Z,1.4nm,1.2s,baz=235,slow=5.1,SNR=2.9
TORD PKKP **PKKPdf 00 47 41.1 +1.0**
comp=Z,1.6nm,0.9s,baz=253,slow=4.2,SNR=4.1
KVTX Kingsville 113.81 41 PFAKE 00 36 50.0
KVTX LR LR
comp=Z,2μm,19.0s
QSPA South Pole Qui 114.09 180 *e*PKiKP PKPdf 00 36 33.9 -1.2
QSPA PKKPbc **PKKPbc 00 47 16.9 -1.9**
QSPA SKKPbc SKKPbc 00 51 01.8 -2.9
QSPA LR LR
comp=Z,5μm,21.0s
QSPA South Pole Qui 114.09 180 PKKPbc PKKPbc 00 47 16.8 -1.9
comp=Z,3.8nm,1.1s,baz=46,slow=1.2,SNR=5.9
QSPA SKKPbc SKKPbc 00 51 01.8 -2.9
comp=Z,2.2nm,1.0s,baz=120,slow=5.2,SNR=3.2
BLA Blacksburg 114.24 22 PFAKE 00 36 50.0 +14
BLA LR LR
comp=Z,9μm,20.0s
VBMS Vicksburg 114.27 33 PFAKE 00 36 50.0 +13
VBMS LR LR
comp=Z,4μm,20.0s
CBN Corbin 114.32 19 PFAKE 00 36 50.0 +14
CBN LR LR
comp=Z,8μm,20.0s
LRAL Lakeview Retre 115.26 30 PFAKE 00 36 50.0 +12
LRAL LR LR
comp=Z,4μm,20.0s
CNNC Cliffs of the 116.88 21 PFAKE 00 36 50.0 +8.6
CNNC LR LR
comp=Z,6μm,21.0s
MAIT Maitri 120.42 201 *e*P **PKPdf 00 36 46.6 -0.5**
DBIC Dimbokro 122.39 296 PKP **PKPdf 00 36 52.8 +0.2**
DBIC PP **PP 00 38 29.6 +1.1**
DBIC Dimbokro 122.39 296 PKP **PKPdf 00 36 52.8 +0.2**
comp=Z,10.0nm,1.1s,baz=77,slow=3.9,SNR=3.1
DBIC PP **PP 00 38 29.6 +1.1**
comp=Z,3.2nm,0.7s,baz=16,slow=15,SNR=5.1
KIC Kosan Boka 122.46 295 *e*PKP1 **PKPdf 00 36 51.6 -1.1**
comp=Z,43nm,1.0s
TIC Toumodi 122.53 296 *e*PKP1 **PKPdf 00 36 52.4 -0.5**
comp=Z,121nm,1.8s
LIC Lamto 122.77 295 *e*PKIKP **PKPdf 00 36 51.0 -2.4**
comp=Z,25nm,0.8s
LIC *e*R
comp=Z,7μm,22.8s
LIC Lamto 122.77 295 *e*PKP1 **PKPdf 00 36 50.9 -2.4**
BBSR BB Station 122.86 10 PFAKE 00 37 00.0 +7.0
BBSR LR LR
comp=Z,3μm,20.0s
SNAA Sanae 124.47 198 *e*P **PKPdf 00 36 54.3 -0.6**
SNAA Sanae 124.47 198 *e* 00 37 09.2
SNAA Sanae 124.47 198 *e*PKPdf **PKPdf 00 36 53.9 -1.0**
SNAA PKKPbc **PKKPbc 00 46 38.5 -1.4**
SNAA SKKPbc SKKPbc 00 50 27.2 -3.3
SNAA Sanae 124.47 198 PKKPbc PKKPbc 00 46 38.5 -1.4
comp=Z,0.9nm,1.0s,baz=316,slow=6.0,SNR=12
SNAA SKKPbc SKKPbc 00 50 27.2 -3.3
comp=Z,2.2nm,1.2s,baz=302,slow=3.2,SNR=3.9
TEIG Tepich 125.05 39 PFAKE 00 37 10.0 +12
TEIG LR LR
comp=Z,3μm,19.0s
VNA1 Neumayer--Stat 126.51 198 *e*P **PKPdf 00 37 00.0 +1.3**
VNA1 Neumayer--Stat 126.51 198 *e* 00 37 14.0
GRTK Grand Turk 131.78 21 PFAKE 00 37 20.0 +10
GRTK LR LR
comp=Z,4μm,20.0s
GTBY Guantanamo Bay 131.81 26 PFAKE 00 37 20.0 +10
GTBY LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 134.09 22 PFAKE 00 37 30.0 +15
SDDR LR LR
comp=Z,4μm,19.0s
ANWB Willy Bob 137.74 10 PFAKE 00 37 30.0 +8.5
ANWB LR LR
comp=Z,3μm,22.0s
PAYG Puerto Ayora 138.42 61 PFAKE 00 37 40.0 +17
PAYG LR LR
comp=Z,2μm,21.0s
BCIP Isla Barro Col 138.74 39 PFAKE 00 37 40.0 +17
BCIP LR LR
comp=Z,3μm,21.0s
PMSA Palmer Station 139.09 174 PFAKE 00 37 30.0 +7.5
PMSA LR LR
comp=Z,2μm,22.0s
BBGH Gun Hill 142.50 8 PFAKE 00 37 40.0 +10
BBGH LR LR
comp=Z,5μm,21.0s
GRGR Grenville 143.18 11 PFAKE 00 37 40.0 +8.5
GRGR LR LR
comp=Z,3μm,21.0s
SDV Santo Domingo 143.59 27 *e*PKPdf PKPbc 00 37 29.4 -0.4
SDV LR LR
comp=Z,600nm,20.0s
ROSC El Rosal 145.35 36 *e*PKPdf **PKPdf 00 37 36.2 +0.5**
ROSC PKPbc **PKPdf 00 37 36.6 +0.8**
ROSC El Rosal 145.35 36 PKPbc **PKPdf 00 37 36.6 +0.8**
comp=Z,8.8nm,0.5s,baz=256,slow=16,SNR=21
USHA Ushuaia 147.88 165 PKPbc **PKPbc 00 37 42.2 +1.0**
USHA Ushuaia 147.88 165 PKPbc **PKPbc 00 37 42.2 +1.0**
comp=Z,24nm,1.0s,baz=267,slow=2.8,SNR=12
ATAH Atahualpa 151.70 57 PKP **PKPdf 00 37 46.8 +0.7**
ATAH PKPbc **PKiKP 00 37 54.3 +1.5**
ATAH Atahualpa 151.70 57 PKP **PKPdf 00 37 46.8 +0.7**
comp=Z,11nm,1.1s,baz=26,slow=1.6,SNR=8.3
ATAH PKPbc **PKiKP 00 37 54.3 +1.5**
comp=Z,43nm,1.0s,baz=328,slow=2.2,SNR=21
RCBR Riachuelo 154.15 312 PFAKE 00 38 00.0 +2.7
RCBR LR LR
comp=Z,2μm,20.0s
NNA Nana 155.81 63 PKP **PKPdf 00 37 52.6 +1.2**
NNA PKPab **PKPab 00 38 17.4 -0.7**
NNA Nana 155.81 63 PKP **PKPdf 00 37 52.6 +1.2**
comp=Z,3.5nm,0.3s,baz=98,slow=7.1,SNR=2.1
NNA PKPab **PKPab 00 38 17.4 -0.7**
comp=Z,15nm,1.0s,baz=278,slow=5.9,SNR=3.5
PLCA Paso Flores 158.98 145 PKP **PKPdf 00 37 55.4 +0.6**
PLCA Paso Flores 158.98 145 PKP **PKPdf 00 37 55.4 +0.6**
comp=Z,4.9nm,1.1s,baz=291,slow=11,SNR=3.1
SAML Samuel 162.77 29 *e*PKPdf **PKPdf 00 38 00.1 +0.6**
SAML LR LR
comp=Z,4μm,20.0s
TRQA Tornquist 165.00 158 PFAKE 00 38 10.0 +9.2
TRQA LR LR
comp=Z,5μm,22.0s
LCO Las Campanas 165.06 112 PFAKE 00 38 10.0 +8.5
LCO LR LR
comp=Z,4μm,21.0s
LPAZ La Paz 165.20 60 PKP **PKPdf 00 38 02.7 +0.3**
LPAZ *e*PKPdf **PKPdf 00 38 03.2 +0.9**
LPAZ La Paz 165.20 60 PKP **PKPdf 00 38 02.7 +0.3**
comp=Z,12nm,1.2s,baz=18,slow=2.8,SNR=20
CFAA Coronel Fontan 166.11 125 PKP **PKPdf 00 38 01.1 -0.9**
CFAA PKPab **PKPab 00 39 04.2 +1.6**
CFAA SKKPbc 00 47 44.4
CFAA Coronel Fontan 166.11 125 PKP **PKPdf 00 38 01.1 -0.9**
comp=Z,0.1nm,0.5s,baz=229,slow=4.2,SNR=5.0
CFAA PKPab **PKPab 00 39 04.2 +1.6**
comp=Z,0.4nm,0.7s,baz=215,slow=4.7,SNR=2.5
CFAA SKKPbc 00 47 44.4
comp=Z,0.2nm,0.4s,baz=187,slow=9.7,SNR=3.5
LVC Limon Verde 166.97 85 *e*PKPdf **PKPdf 00 38 03.2 0.0**
LVC LR LR
comp=Z,5μm,20.0s
BDFB Brasilia 169.26 322 PKP **PKPdf 00 38 04.7 0.0**
BDFB PKPab **PKPab 00 39 17.1 +0.3**
BDFB Brasilia 169.26 322 PKP **PKPdf 00 38 04.7 0.0**
comp=Z,4.8nm,0.9s,baz=215,slow=2.1,SNR=5.0
BDFB PKPab **PKPab 00 39 17.1 +0.3**
comp=Z,10nm,0.7s,baz=27,slow=5.8,SNR=7.9
SIV San Ignacio 169.87 36 PKP **PKPdf 00 38 06.2 +1.2**
SIV PKPab **PKPab 00 39 19.1 -0.3**
SIV PP **PP 00 43 09.1 +0.6**
SIV San Ignacio 169.87 36 PKP **PKPdf 00 38 06.2 +1.2**
comp=Z,13nm,1.2s,baz=151,slow=0.1,SNR=21
SIV PKPab **PKPab 00 39 19.1 -0.3**
comp=Z,9.7nm,1.1s,baz=19,slow=3.1,SNR=6.6
SIV PP **PP 00 43 09.1 +0.6**
comp=Z,7.7nm,1.0s,baz=53,slow=4.5,SNR=5.3
CPUP Villa Florida 176.97 132 PKP **PKPdf 00 38 06.8 -0.6**
CPUP *e*PKPdf PKPdf 00 38 07.4 +0.1
CPUP PKPab PKPab 00 39 59.4 +8.6
CPUP PP PP 00 44 00.5 +17
CPUP Villa Florida 176.97 132 PKP **PKPdf 00 38 06.8 -0.6**
comp=Z,0.4nm,0.4s,baz=345,slow=0.3,SNR=6.0
CPUP PKPab PKPab 00 39 59.4 +8.6
comp=Z,2.0nm,0.7s,baz=224,slow=2.7,SNR=3.8
CPUP PP PP 00 44 00.5 +17
comp=Z,1.9nm,1.0s,baz=323,slow=2.5,SNR=4.5

ISCJB ***05*** *00:18:12.7±0.5, 37°.06N±0°.06×140°.08E±0°.06, h109km±2km, mb4.2/10, Error ellipse: s-maj=11.3km s-min=5.8km az=145.5*
JMA ***05*** *00:18:13.6±0.1, 37°.00N×140°.10E, h101km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs=43.00000°, δ74.00000°, λ-61.00000°. NP2:ϕs159.00000°, δ32.00000°, λ-150.00000°. Principal axes: T Plg24.0000°, Azm111.0000°; N Plg27.0000°, Azm214.0000°; P Plg52.0000°, Azm346.0000°;*
JMA Felt II J1.
IDC ***05*** *00:18:14.7±0.8, 37°.30N×139°.91E, h103km±6km, mb3.7/8, mb1 3.9/10, mb1mx3.8/25, mbtmp3.7/10 Error ellipse: s-maj=23.0km s-min=8.1km az=145.0*
ISC 05 00:18:13.8±0.7, 37°.09N±0°.07×140°.09E±0°.06, h105km±4km, n31, σ1s06/45, mb4.1/10, 4C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.18**	**229**	⇓P		**Pn**	**00 18 28.1**	**-0.5**
JSB				S		**Sn**	**00 18 38.9**	**-0.7**
JFY	**Yanaizu**	**0.44**	**316**	⇑P		**Pn**	**00 18 29.5**	**-0.2**
JFY				S		**Sn**	**00 18 41.3**	**-0.4**
JFT	**Otama**	**0.47**	**25**	S		**Sn**	**00 18 42.5**	**+0.5**
JFK	**Kawauchi**	**0.69**	**66**	⇓P		**Pn**	**00 18 31.2**	**-0.4**
JFK				S		**Sn**	**00 18 44.4**	**-0.5**
JKT	**Katashina**	**0.74**	**245**	⇑P		**Pn**	**00 18 31.5**	**-0.7**
JKT				*e*S		**Sn**	**00 18 44.6**	**-1.3**
JAG	**Ashikaga**	**0.83**	**218**	⇓P		**Pn**	**00 18 31.9**	**-1.0**
JAG				S		**Sn**	**00 18 45.8**	**-1.4**
JHK	**Hiroka**	**0.87**	**281**	⇑P		**Pn**	**00 18 32.9**	**-0.3**
JHK				S		**Sn**	**00 18 47.2**	**-0.7**
JNS	**Sasagawa**	**0.95**	**320**	⇑P		**Pn**	**00 18 34.0**	**-0.1**
JNS				S		**Sn**	**00 18 49.3**	**-0.1**
JMM	**Marumori**	**0.96**	**36**	⇓P		**Pn**	**00 18 34.5**	**+0.4**
JMM				S		**Sn**	**00 18 50.1**	**+0.7**
MJAR	**Matsushiro Arr**	**1.60**	**251**	P		**Pn**	**00 18 41.0**	**-0.6**
	51nm,0.3s,baz=68,slow=10,SNR=458							
MJAR				S		**Sn**	**00 19 02.4**	**-0.3**
	25nm,0.3s,baz=56,slow=13,SNR=11							
MAT	**Matsushiro**	**1.60**	**251**	P		**Pn**	**00 18 41.2**	**-0.4**
MAT				S		**Sn**	**00 19 03.1**	**+0.4**
ASAJ	**Asahikawa**	**7.28**	**14**	P		**Pn**	**00 19 57.8**	**+0.4**
	1.2nm,0.3s,baz=217,slow=15,SNR=3.0							
ASAJ				S		**Sn**	**00 21 14.4**	**-4.0**
	1.0nm,0.3s,baz=135,slow=20,SNR=3.0							
JNU	**Nakatsue**	**8.52**	**245**	P		**Pn**	**00 20 15.4**	**+1.1**
	0.5nm,0.3s,baz=151,slow=8.6,SNR=5.7							
USRK	**Ussuriysk Arra**	**9.39**	**322**	P		**Pn**	**00 20 27.9**	**+1.9**
	3.1nm,0.3s,baz=128,slow=11,SNR=32							
KSRS	**Korea Array**	**9.71**	**276**	P		**Pn**	**00 20 32.9**	**+2.5**
	0.6nm,0.3s,baz=89,slow=13,SNR=41							
PETK	**Petropavlovsk-**	**20.19**	**32**	P		**P**	**00 22 40.2**	**+0.3**
	1.1nm,0.7s,baz=210,slow=4.6,SNR=3.9							
SONM	**Songino Array**	**26.88**	**304**	P		**P**	**00 23 43.3**	**-1.5**
	60nm,1.1s,baz=108,slow=8.7,SNR=97							
ZALV	**Zalesovo Beam**	**41.09**	**312**	P		**P**	**00 25 46.0**	**-1.1**
	40nm,0.5s,baz=98,slow=7.7,SNR=124							
ILAR	**Eielson Array**	**50.02**	**32**	P		**P**	**00 26 57.8**	**+0.6**
	0.5nm,0.6s,baz=280,slow=6.1,SNR=6.1							
ILAR				pP		**pP**	**00 27 22.4**	**+0.5**
	0.8nm,0.8s,baz=269,slow=6.3,SNR=4.3							
INK	**Inuvik**	**54.82**	**27**	P		**P**	**00 27 33.5**	**+1.0**
	1.3nm,0.7s,baz=225,slow=2.8,SNR=4.6							
ARCES	**ARCESS Array B**	**63.57**	**339**	P		**P**	**00 28 32.5**	**-0.3**
	4.2nm,1.0s,baz=55,slow=8.2,SNR=13							
FINES	**FINESS Array B**	**68.27**	**332**	P		**P**	**00 29 02.4**	**-0.6**
	1.6nm,0.3s,baz=40,slow=8.1,SNR=32							
NB2	**NORSAR Subarra**	**73.72**	**337**	P		**P**	**00 29 35.4**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**73.72**	**337**	P		**P**	**00 29 35.5**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=40,slow=5.8,SNR=18							
NVAR	**Mina Array Bea**	**75.80**	**53**	P		**P**	**00 29 50.4**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=287,slow=6.1,SNR=4.6							
NVAR				pP		**pP**	**00 30 15.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=290,slow=4.9,SNR=3.1							
CLL	**Collm**	**80.52**	**329**	*e*P		**P**	**00 30 14.0**	**-0.1**
GERES	**GERESS Array B**	**82.10**	**328**	P		**P**	**00 30 22.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=39,slow=6.1,SNR=18							
TXAR	**Lajitas Array**	**90.92**	**52**	P		**P**	**00 31 06.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=346,slow=1.9,SNR=4.7							
TXAR				pP		**pP**	**00 31 33.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=290,slow=3.7,SNR=3.2							
TORD	**Torodi Ar. Bea**	**116.53**	**314**	PKP		**PKPdf**	**00 36 46.6**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=18,slow=3.2,SNR=14							
LPAZ	**La Paz**	**147.57**	**58**	PKPbc		**PKPbc**	**00 37 47.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=243,slow=2.3,SNR=3.6							
SIV	**San Ignacio**	**151.84**	**47**	PKPbc		**PKPbc**	**00 37 57.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=231,slow=6.5,SNR=2.6							

IDC ***05*** *00:34:09.2±2.4, 24°.83N×126°.21E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, Error ellipse: s-maj=171.5km s-min=25.3km az=66.0*
JMA ***05*** *00:34:15.6±0.4, 24°.24N×125°.26E, h0km, M3.6*
ISC 05 00:34:13.5±4.4, 24°.20N±0°.08×125°.3E±0°.1, h5km±27km, n12, σ1s07/16, mb3.8/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.56**	**7**	*e*S		**Sb**	**00 34 35.0**	**+0.7**
JMJ	**Miyako jima 2**	**0.61**	**357**	P		**Pb**	**00 34 27.1**	**+0.3**
JMJ				*e*S		**Sb**	**00 34 35.4**	**-0.4**
JTJ	**Tarama**	**0.72**	**308**	P		**Pb**	**00 34 28.8**	**+0.2**
JTJ				*e*S		**Sg**	**00 34 36.8**	**0.0**
JIJ	**Ishigaki jima**	**1.10**	**279**	P		**Pb**	**00 34 36.0**	**+1.0**
JIJ				*e*S		**Sg**	**00 34 48.8**	**0.0**
JKRS	**Kuro-shima**	**1.21**	**272**	P		**Pb**	**00 34 37.5**	**+0.6**
JKRS				*e*S		**Sg**	**00 34 52.2**	**-0.2**
HATJ	**Hateruma jima**	**1.40**	**265**	P		**Pn**	**00 34 41.0**	**+1.2**
HATJ				*e*S		**Sg**	**00 34 56.2**	**-2.4**
IRIF	**Iriomote-Funau**	**1.47**	**276**	P		**Pn**	**00 34 41.8**	**+1.1**
YOJ	**Yonaguni jima**	**2.13**	**278**	P		**Pn**	**00 34 50.4**	**+0.6**
MKAR	**Makanchi Array**	**41.00**	**314**	P		**P**	**00 41 56.0**	**-1.6**
	0.1nm,0.4s,baz=106,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**44.74**	**168**	P		**P**	**00 42 27.7**	**-0.3**
	0.9nm,0.4s,baz=348,slow=8.7,SNR=6.2							
ASAR	**Alice Springs**	**48.30**	**169**	P		**P**	**00 42 56.4**	**+0.4**
	0.7nm,0.8s,baz=356,slow=7.6,SNR=4.9							
FINES	**FINESS Array B**	**73.33**	**330**	P		P	00 45 40.9	-5.1
	0.8nm,0.9s,baz=71,slow=6.1,SNR=4.4							

IDC 05 00:57:08.7±1.7, 33°.93N×25°.38E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, ML3.7/2, Error ellipse: s-maj=50.5km s-min=28.5km az=132.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**16.99**	**8**	Pn		Pn	01 01 07.3	-0.3
	0.2nm,0.3s,baz=201,slow=10,SNR=4.2							
GERES	**GERESS Array B**	**17.25**	**333**	P		Pn	01 01 11.3	+0.2
	0.1nm,0.3s,baz=152,slow=12,SNR=10.0							
TORD	**Torodi Ar. Bea**	**29.86**	**232**	P		P	01 03 17.9	0.0
	0.3nm,0.7s,baz=40,slow=7.2,SNR=4.3							
MKAR	**Makanchi Array**	**44.31**	**55**	P		P	01 05 20.2	-0.1
	0.2nm,0.6s,baz=294,slow=7.5,SNR=3.2							

IDC 05 01:16:27.6±3.4, 18°.99S×175°.23W, h222km±27km, mb3.8/4, mb1 3.9/6, mb1mx3.5/21, mbtmp3.7/6, Error ellipse: s-maj=81.2km s-min=20.6km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.04**	**34**	P		Pn	01 17 55.3	-0.6

5.8nm,0.3s,baz=241,slow=10,SNR=3.4
AFI S S 01 18 57.0 -9.1
16nm,0.3s,baz=15,slow=20,SNR=7.0
DZM Mont Dzumac 17.43 257 P Pn 01 20 17.7 -0.4
0.3nm,0.3s,baz=104,slow=10,SNR=11
STKA Stephens Creek 40.79 243 P P 01 23 47.3 -0.1
2.0nm,0.6s,baz=69,slow=8.6,SNR=5.0
WRA Warramunga Arr 47.41 260 P P 01 24 39.2 -0.9
2.7nm,0.3s,baz=96,slow=7.8,SNR=46
ASAR Alice Springs 47.41 255 P P 01 24 39.6 -0.5
6.3nm,0.6s,baz=90,slow=8.5,SNR=90
MJAR Matsushiro Arr 70.60 322 P P 01 27 18.8 0.0
0.8nm,0.4s,baz=110,slow=5.9,SNR=4.0
BRTR Keskin Array B 147.67 316 PKPbc PKPbc 01 35 45.8 -0.5
0.8nm,0.6s,baz=101,slow=1.5,SNR=5.6
BRTR PKPab PKPab 01 35 49.5 +0.4
0.8nm,0.8s,baz=77,slow=2.7,SNR=5.3

---

*IDC **05** 01:20:15.5±4.8, 23.°85S×68.°95W, h0km, mb4.1/1, mb1 4.2/2, mb1mx3.7/17, mbtmp4.1/2, ML4.2/1, Error ellipse: s-maj=142.4km s-min=56.2km az=74.0*
*ISCJB **05** 01:20:30.1±0.8, 22.°77S±0.°05×68.°88W±0.°07, h107km±7km, mb3.8/1, Error ellipse: s-maj=10.4km s-min=8.9km az=166.9*
*GUC **05** 01:20:30.9±0.7, 22.°78S×68.°87W, h94km±4km, ML4.2*
ISC 05 01:20:31.0±1.0, 22.°78S±0.°06×68.°88W±0.°06, h98km±7km, n14, σ0.96/20, 6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.17**	**351**	⇓*i*P	**Pn**	**01 20 45.0**	**-0.2**
PB06	**Plate Boundary**	**0.64**	**277**	⇓*e*P	**Pn**	**01 20 48.1**	**+0.3**
PB06				*e*S	**Sn**	**01 21 00.7**	**+0.1**
PB06				AML	AML	01 21 01.9	
	comp=E,7μm,0.3s						
SPCH	**San Pedro de A**	**0.64**	**101**	*e*P	**Pn**	**01 20 48.1**	**+0.1**
SPCH				*e*S	**Sn**	**01 21 01.0**	**+0.2**
SPCH				AML	AML	01 21 01.8	
	comp=E,15μm,0.5s						
PB04	**Plate Boundary**	**0.76**	**312**	⇓*e*P	Pn	01 20 54.6	+5.8
PB04				*e*S	Sn	01 21 12.9	+11
PB04				AML	AML	01 21 20.0	
	comp=E,4μm,0.6s						
PB09	**Plate Boundary**	**1.04**	**341**	⇓*i*P	**Pn**	**01 20 52.3**	**+0.5**
PB09				*e*S	**Sn**	**01 21 08.2**	**+0.7**
PB09				AML	AML	01 21 09.4	
	comp=N,14μm,0.7s						
PB07	**Plate Boundary**	**1.40**	**318**	⇓*i*P	**Pn**	**01 20 56.4**	**+0.3**
PB07				*e*S	**Sn**	**01 21 15.4**	**+0.3**
PB07				AML	AML	01 21 20.6	
	comp=E,4μm,0.3s						
ANCH	**Antofagasta**	**1.67**	**237**	*e*P	**Pn**	**01 20 59.8**	**+0.6**
ANCH				*e*S	**Sn**	**01 21 21.3**	**+0.6**
ANCH				AML	AML	01 21 27.8	
	comp=N,3μm,0.3s						
PB01	**Plate Boundary**	**1.82**	**342**	⇓*i*P	**Pn**	**01 21 01.6**	**+0.3**
PB01				*e*S	**Sn**	**01 21 24.4**	**+0.1**
PB01				AML	AML	01 21 27.1	
	comp=E,4μm,0.3s						
HMBC	**Humberstone**	**2.66**	**339**	*e*P	**Pn**	**01 21 11.3**	**-1.0**
HMBC				AML	AML	01 21 53.9	
	comp=E,1μm,0.8s						
PSGC	**Pisagua**	**3.37**	**340**	*e*P	**Pn**	**01 21 20.8**	**-1.0**
PSGC				AML	AML	01 22 11.3	
	comp=N,648nm,0.8s						
MNMC	**Minimini**	**3.69**	**349**	*e*P	**Pn**	**01 21 25.1**	**-1.2**
LPAZ	**La Paz**	**6.50**	**6**	Pn	**Pn**	**01 22 07.6**	**+3.0**
	comp=N,1.9nm,0.3s,baz=194,slow=4.1,SNR=54						
TORD	**Torodi Ar. Bea**	**77.76**	**70**	P	**P**	**01 32 17.4**	**-0.4**
	comp=N,0.9nm,0.5s,baz=258,slow=5.3,SNR=27						
TORD				pP	**pP**	**01 32 42.4**	**-0.7**
	comp=N,0.5nm,0.5s,baz=255,slow=4.8,SNR=2.8						
MKAR	**Makanchi Array**	**146.64**	**37**	PKPbc	**PKPbc**	**01 40 00.9**	**-0.4**
	comp=N,0.4nm,0.6s,baz=316,slow=2.5,SNR=4.2						
MKAR				pPKPbc	pPKPbc	01 40 28.9	+1.0
	comp=N,0.8nm,0.8s,baz=336,slow=3.2,SNR=4.3						

IDC 05 01:35:23.6±2.6, 29.°22N×113.°59W, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.5/27, mbtmp3.3/5, ML3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx3.2/18, Error ellipse: s-maj=38.6km s-min=15.2km az=26.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**5.02**	**332**	Lg	Lg	01 38 00.3	
	0.6nm,0.3s,baz=230,slow=9.8,SNR=4.3						
PFO				LR	LR	01 38 38.5	
	comp=Z,632nm,20.2s,baz=134,slow=39						
ANMO	**Albuquerque**	**8.32**	**45**	Pn	Pn	01 37 25.2	-0.6
	0.3nm,0.3s,baz=234,slow=14,SNR=9.1						
ANMO				Lg	Lg	01 39 46.6	
	0.2nm,0.3s,baz=324,slow=19,SNR=3.2						
TXAR	**Lajitas Array**	**8.67**	**87**	Pn	Pn	01 37 31.4	+1.0
	0.4nm,0.3s,baz=268,slow=14,SNR=8.9						
TXAR				Lg	Lg	01 39 55.7	
	0.2nm,0.3s,baz=238,slow=14,SNR=3.3						
NVAR	**Mina Array Bea**	**9.99**	**338**	Pn	Pn	01 37 49.4	+0.7
	0.1nm,0.3s,baz=161,slow=11,SNR=5.0						
PDAR	**Pinedale Array**	**13.91**	**12**	Pn	P	01 38 47.5	-3.2
	0.1nm,0.3s,baz=187,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**41.25**	**339**	P	P	01 43 09.6	-0.5
	0.4nm,0.8s,baz=153,slow=6.1,SNR=4.7						

---

*AUST **05** 01:52:43.3, 12.°97S×166.°95E, h0km*
*IDC **05** 01:52:46.0±0.9, 13.°57S×166.°59E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, MS4.0/4, Ms1 4.0/4, ms1mx3.4/31, Error ellipse: s-maj=31.5km s-min=17.1km az=122.0*
*ISCJB **05** 01:52:51.2±0.6, 13.°37S±0.°06×166.°35E±0.°08, h39km, mb4.3/18, MS4.0/3, Error ellipse: s-maj=11.8km s-min=8.5km az=164.7*
*NEIC **05** 01:52:53.6±1.5, 13.°42S×166.°38E, h49km±12km, mb4.5/6, Error ellipse: s-maj=10.9km s-min=6.8km az=63.0*
ISC 05 01:52:52.6±0.5, 13.°43S±0.°06×166.°44E±0.°09, h39km, n77, σ1.34/83, mb4.3/18, MS4.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.50**	**301**	Sn	**Sn**	**01 56 02.2**	**-1.2**
HNR	**Honiara**	**7.50**	**301**	Sn	**Sn**	**01 56 02.2**	**-1.2**
	25nm,0.3s,baz=137,slow=19,SNR=3.3						
HNR				LR	LR	01 57 00.1	
	comp=Z,411nm,21.1s,baz=320,slow=33						
DZM	**Mont Dzumac**	**8.60**	**180**	Pn	**Pn**	**01 54 55.6**	**+1.0**
DZM				Sn	**Sn**	**01 56 27.7**	**-2.7**
DZM	**Mont Dzumac**	**8.60**	**180**	Pn	**Pn**	**01 54 55.6**	**+1.0**
	2.6nm,0.3s,baz=28,slow=16,SNR=15						
DZM				Sn	**Sn**	**01 56 27.7**	**-2.7**
	baz=288,slow=19,SNR=3.5						
CTA	**Charters Tower**	**20.42**	**248**	P	Pn	01 57 27.9	-1.0
CTA	**Charters Tower**	**20.42**	**248**	P	Pn	01 57 27.9	-1.0
	3.3nm,0.6s,baz=75,slow=12,SNR=3.6						
CTAO	**Charters Tower**	**20.42**	**248**	*e*P	**P**	**01 57 26.5**	**-0.2**
	12nm,1.0s						
RMQ	**Roma**	**21.06**	**229**	P	**P**	**01 57 36.0**	**+2.5**
	baz=22,SNR=10.0						
AFI	**Afiamalu**	**21.18**	**94**	LR	LR	02 04 27.8	
	comp=Z,219nm,18.4s,baz=325,slow=33						
ARMA	**Armidale**	**21.74**	**217**	P	**P**	**01 57 43.1**	**+2.2**
	baz=22,SNR=4.8						
MTSU	**Mount Surprise**	**21.79**	**255**	P	**P**	**01 57 45.6**	**+4.2**
	baz=22,SNR=10.0						
MANU	**Manus Island**	**22.00**	**299**	P	**P**	**01 57 40.4**	**-3.2**
	baz=22,SNR=10						
MANU				S	**S**	**02 01 45.1**	**+0.6**
	baz=22,SNR=7.1						
COEN	**Coen**	**22.61**	**266**	*e*P	**P**	**01 57 50.5**	**+0.3**
CMSA	**Cobar Meteorol**	**26.23**	**223**	P	**P**	**01 58 25.1**	**+1.1**
	baz=27,SNR=9.6						
JAY	**Jayapura**	**27.66**	**291**	S	S	02 03 24.0	+7.3
	baz=28,SNR=4.3						
STKA	**Stephens Creek**	**29.25**	**227**	P	**P**	**01 58 50.9**	**-0.2**
STKA	**Stephens Creek**	**29.25**	**227**	P	**P**	**01 58 50.9**	**-0.2**
	4.9nm,0.6s,baz=32,slow=7.4,SNR=14						
STKA	**Stephens Creek**	**29.25**	**227**	P	**P**	**01 58 52.3**	**+1.2**
	baz=30,SNR=9.0						
TOO	**Toolangi**	**30.44**	**214**	P	**P**	**01 59 03.3**	**+1.7**
	baz=31,SNR=5.0						
WRA	**Warramunga Arr**	**31.38**	**254**	P	**P**	**01 59 08.7**	**-1.4**
WRA	**Warramunga Arr**	**31.38**	**254**	P	**P**	**01 59 08.7**	**-1.4**
	5.5nm,0.9s,baz=84,slow=8.8,SNR=20						
WRA				LR	LR	02 11 03.8	
	comp=Z,437nm,21.1s,baz=65,slow=35						
AS31	**Alice Springs**	**32.41**	**247**	*e*P	**P**	**01 59 18.2**	**-0.8**
ASAR	**Alice Springs**	**32.41**	**247**	P	**P**	**01 59 18.1**	**-1.0**
ASAR				ScP	**ScP**	**02 05 49.7**	**+2.7**
ASAR	**Alice Springs**	**32.41**	**247**	P	**P**	**01 59 18.1**	**-1.0**
	4.2nm,0.7s,baz=74,slow=9.5,SNR=47						
ASAR				ScP	**ScP**	**02 05 49.7**	**+2.7**
	0.3nm,0.3s,baz=88,slow=5.0,SNR=5.0						
ASAR				LR	LR	02 12 02.8	
	comp=Z,534nm,20.2s,baz=1.0,slow=36						
MTN	**Manton Dam**	**34.37**	**267**	S	S	02 04 47.2	-14
	baz=35,SNR=4.0						
FITZ	**Fitzroy Crossi**	**39.48**	**258**	P	**P**	**02 00 19.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.48**	**258**	P	**P**	**02 00 19.3**	**-0.3**
	5.5nm,1.1s,baz=89,slow=10,SNR=4.9						
SOEI	**Soe**	**41.44**	**270**	P	P	02 00 41.4	+5.4
	baz=42,SNR=3.2						
MBWA	**Marble Bar**	**45.12**	**253**	*e*P	**P**	**02 01 05.7**	**+0.1**
	15nm,1.0s						
MEEK	**Meekatharra**	**46.56**	**246**	P	**P**	**02 01 17.2**	**+0.4**
	baz=47,SNR=11						
MORW	**Morawa**	**49.12**	**243**	P	**P**	**02 01 36.9**	**+0.2**
	baz=50,SNR=5.1						
MJAR	**Matsushiro Arr**	**56.38**	**333**	P	**P**	**02 02 29.6**	**-0.6**
MJAR	**Matsushiro Arr**	**56.38**	**333**	P	**P**	**02 02 29.6**	**-0.6**
	0.7nm,0.5s,baz=169,slow=8.8,SNR=2.8						
ASAJ	**Asahikawa**	**61.25**	**341**	P	**P**	**02 03 05.0**	**+1.3**
ASAJ	**Asahikawa**	**61.25**	**341**	P	**P**	**02 03 05.0**	**+1.3**
	5.4nm,0.5s,baz=147,slow=16,SNR=5.9						
VNDA	**Vanda**	**64.14**	**181**	*e*P	**P**	**02 03 22.0**	**-0.5**
	1.7nm,0.9s						
VNDA	**Vanda**	**64.14**	**181**	P	**P**	**02 03 21.2**	**-1.4**
	0.8nm,0.7s,baz=358,slow=7.4,SNR=3.8						
USRK	**Ussuriysk Arra**	**65.36**	**333**	P	**P**	**02 03 33.0**	**+2.1**
	1.9nm,0.8s,baz=103,slow=6.4,SNR=6.6						
PETK	**Petropavlovsk-**	**66.69**	**354**	P	**P**	**02 03 39.5**	**+0.2**
PETK	**Petropavlovsk-**	**66.69**	**354**	P	**P**	**02 03 39.5**	**+0.2**
	2.2nm,0.7s,baz=156,slow=8.1,SNR=5.1						
CMAR	**Chiang Mai Arr**	**73.69**	**294**	P	**P**	**02 04 22.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**73.69**	**294**	P	**P**	**02 04 22.1**	**-0.9**
	1.1nm,0.3s,baz=206,slow=28,SNR=4.3						
QSPA	**South Pole Qui**	**76.59**	**180**	*e*P	**P**	**02 04 39.7**	**+0.7**
	8.0nm,1.1s						
ULN	**Ulaanbaatar**	**80.61**	**324**	*e*P	**P**	**02 05 01.6**	**+0.2**
	3.1nm,0.6s						
SONM	**Songino Array**	**80.98**	**324**	P	**P**	**02 05 04.3**	**+1.0**
SONM	**Songino Array**	**80.98**	**324**	P	**P**	**02 05 04.3**	**+1.0**
	1.0nm,0.7s,baz=136,slow=7.6,SNR=6.4						
ILAR	**Eielson Array**	**85.55**	**18**	P	**P**	**02 05 25.0**	**-1.3**
ILAR	**Eielson Array**	**85.55**	**18**	P	**P**	**02 05 25.0**	**-1.3**
	1.0nm,0.8s,baz=242,slow=5.9,SNR=9.6						
SNAA	**Sanae**	**94.79**	**183**	*e*P	**P**	**02 06 09.0**	**-0.9**
	9.3nm,1.4s						
MKAR	**Makanchi Array**	**95.71**	**317**	P	**P**	**02 06 14.8**	**+0.4**
MKAR	**Makanchi Array**	**95.71**	**317**	P	**P**	**02 06 14.8**	**+0.4**
	0.7nm,0.6s,baz=102,slow=6.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**95.87**	**324**	P	**P**	**02 06 14.0**	**-1.0**
ZALV	**Zalesovo Beam**	**95.87**	**324**	P	**P**	**02 06 14.0**	**-1.0**
	0.5nm,0.4s,baz=86,slow=6.1,SNR=3.5						
LVC	**Limon Verde**	**115.02**	**123**	*e*PKP	**PKPdf**	**02 11 31.0**	**+0.4**
LPAZ	**La Paz**	**118.52**	**117**	*e*PKPdf	**PKPdf**	**02 11 39.0**	**+1.0**
ARCES	**ARCESS Array B**	**118.80**	**345**	PKP	**PKPdf**	**02 11 35.7**	**-0.5**
ARCES	**ARCESS Array B**	**118.80**	**345**	PKP	**PKPdf**	**02 11 35.7**	**-0.5**
	1.1nm,0.6s,baz=80,slow=1.4,SNR=8.3						
FINES	**FINESS Array B**	**124.22**	**338**	PKP	**PKPdf**	**02 11 46.2**	**-0.5**
FINES	**FINESS Array B**	**124.22**	**338**	PKP	**PKPdf**	**02 11 46.2**	**-0.5**
	1.0nm,0.8s,baz=140,slow=3.1,SNR=4.0						
NB2	**NORSAR Subarra**	**129.16**	**345**	PKPdf	**PKPdf**	**02 11 55.8**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.16**	**345**	PKP	**PKPdf**	**02 11 56.5**	**+0.2**
NOA	**NORSAR Array B**	**129.16**	**345**	PKP	**PKPdf**	**02 11 56.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=35,slow=2.0,SNR=4.1						
NAO01	**NORSAR Array S**	**129.41**	**345**	*e*PKPdf	**PKPdf**	**02 11 56.3**	**-0.5**
BRTR	**Keskin Array B**	**131.05**	**311**	PKP	**PKPdf**	**02 12 00.1**	**-0.6**
BRTR				SKPbc	**SKPab**	**02 15 25.7**	**+3.2**
BRTR	**Keskin Array B**	**131.05**	**311**	PKP	**PKPdf**	**02 12 00.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=66,slow=2.4,SNR=3.4						
BRTR				SKPbc	**SKPab**	**02 15 25.7**	**+3.2**
	comp=Z,0.4nm,0.7s,baz=48,slow=4.5,SNR=4.2						
BUR08	**Bucovina Ar. S**	**133.08**	**325**	*e*PKPdf	**PKPdf**	**02 12 03.7**	**-0.5**
MORC	**Moravsky Berou**	**135.71**	**331**	*e*PKPdf	**PKPdf**	**02 12 07.7**	**-1.3**
GERES	**GERESS Array B**	**138.12**	**333**	PKP	**PKPdf**	**02 12 13.8**	**+0.2**
GERES				SKPbc	**SKiKP**	**02 15 47.5**	**-1.4**
GERES	**GERESS Array B**	**138.12**	**333**	PKP	**PKPdf**	**02 12 13.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=132,slow=4.0,SNR=3.9						
GERES				SKPbc	**SKiKP**	**02 15 47.5**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=35,slow=3.3,SNR=6.4						
AQU	**L'Aquila**	**142.91**	**326**	*e*PKPdf	**PKPdf**	**02 12 21.3**	**-1.0**
BNI	**Bardonecchia**	**144.08**	**335**	*e*PKPdf	PKPbc	02 12 23.1	+0.7
KEST	**Kesra**	**149.70**	**321**	*e*PKPbc	**PKPbc**	**02 12 37.9**	**-0.8**
KEST	**Kesra**	**149.70**	**321**	PKPbc	**PKPbc**	**02 12 38.1**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=298,slow=2.5,SNR=5.4						
ESDC	**Sonseca Array**	**152.52**	**344**	PKPbc	**PKPbc**	**02 12 45.5**	**+0.3**
ESDC				PKPab	**PKPab**	**02 12 56.6**	**+1.2**
ESDC	**Sonseca Array**	**152.52**	**344**	PKPbc	**PKPbc**	**02 12 45.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=4.6,slow=1.9,SNR=5.7						
ESDC				PKPab	**PKPab**	**02 12 56.6**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=14,slow=3.8,SNR=8.2						
TORD	**Torodi Ar. Bea**	**165.15**	**271**	PKP	**PKPdf**	**02 12 53.0**	**-0.7**
TORD				PKPab	**PKPab**	**02 13 52.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**165.15**	**271**	PKP	**PKPdf**	**02 12 53.0**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=214,slow=5.0,SNR=3.9						
TORD				PKPab	**PKPab**	**02 13 52.0**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=146,slow=1.8,SNR=3.1						

IDC 05 02:01:24.4±6.0, 0.°39S×122.°06E, h284km±62km, mb3.1/4, mb1 3.2/6, mb1mx3.0/24, mbtmp3.0/6, Error ellipse: s-maj=105.2km s-min=17.0km az=56.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.14**	**207**	P	Pn	02 02 42.6	-0.4
	baz=16,slow=12,SNR=4.2						
FITZ	**Fitzroy Crossi**	**17.95**	**169**	P	P	02 05 15.0	+0.5
	0.1nm,0.3s,baz=4.1,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**22.86**	**149**	P	P	02 06 03.0	-0.6
	2.5nm,0.5s,baz=325,slow=11,SNR=23						
ASAR	**Alice Springs**	**25.84**	**154**	P	P	02 06 30.9	+0.4
	0.6nm,0.4s,baz=343,slow=14,SNR=23						
ASAR				PcP	PcP	02 09 50.9	-0.8
	0.5nm,0.3s,baz=337,slow=1.6,SNR=6.0						
STKA	**Stephens Creek**	**36.36**	**151**	P	P	02 08 02.0	+0.1
	1.9nm,0.6s,baz=323,slow=10,SNR=6.4						
MKAR	**Makanchi Array**	**58.45**	**329**	P	P	02 10 51.0	+0.1
	0.1nm,0.3s,baz=125,slow=9.5,SNR=3.1						

---

*MDD **05** 02:07:14.1±0.6, 37.°05N×4.°12E, h0km, mb3.6/10, Error ellipse: s-maj=7.9km s-min=5.2km az=56.0, PRXIMO*
*CSEM **05** 02:07:15.7±0.2, 36.°90N×4.°26E, h10km, ML3.6, Error ellipse: s-maj=5.1km s-min=4.7km az=71.0*
*CRAAG **05** 02:07:16.1, 36.°78N×4.°30E, Ml3.6*
*LDG **05** 02:07:19.9±0.4, 36.°91N×4.°33E, h25km, Ml2.8/6, Error ellipse: s-maj=7.5km s-min=4.0km az=161.0*
ISC 05 02:07:15.3±1.4, 36.°92N±0.°05×4.°23E±0.°03, h16km±12km, n88, σ1.64/106, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKF	**Akfadou**	**0.39**	**137**	P	**Pg**	**02 07 22.5**	**-0.9**
AKF	**Akfadou**	**0.39**	**137**	P	**Pg**	**02 07 22.5**	**-0.9**
AKF	**Akfadou**	**0.39**	**137**	P	**Pg**	**02 07 22.5**	**-0.9**
AKET	**Djebel Ketaf**	**0.91**	**198**	P	**Pb**	**02 07 32.5**	**-0.4**
AKET	**Djebel Ketaf**	**0.91**	**198**	P	**Pb**	**02 07 32.5**	**-0.4**
AKET	**Djebel Ketaf**	**0.91**	**198**	P	**Pb**	**02 07 32.5**	**-0.4**
ABA	**Alger-Bouzarea**	**0.97**	**263**	P	**Pn**	**02 07 35.6**	**+1.4**
ABA	**Alger-Bouzarea**	**0.97**	**263**	P	**Pn**	**02 07 35.6**	**+1.4**
ABA	**Alger-Bouzarea**	**0.97**	**263**	P	**Pn**	**02 07 35.6**	**+1.4**
ADJB	**Djebel Djouab**	**0.99**	**220**	P	**Pg**	**02 07 34.5**	**-0.1**
ADJB	**Djebel Djouab**	**0.99**	**220**	P	**Pg**	**02 07 34.5**	**-0.1**
ADJB	**Djebel Djouab**	**0.99**	**220**	P	**Pg**	**02 07 34.5**	**-0.1**
SET	**Setif**	**1.18**	**127**	P	**Pg**	**02 07 40.0**	**+1.8**
SET	**Setif**	**1.18**	**127**	P	**Pg**	**02 07 40.0**	**+1.8**
SET	**Setif**	**1.18**	**127**	P	**Pg**	**02 07 40.0**	**+1.8**
EMHD	**Djebel Mahouad**	**1.25**	**236**	P	**Pn**	**02 07 38.5**	**+0.2**
EMHD	**Djebel Mahouad**	**1.25**	**236**	P	**Pn**	**02 07 38.5**	**+0.2**
EMHD	**Djebel Mahouad**	**1.25**	**236**	P	**Pn**	**02 07 38.5**	**+0.2**
DFRA	**Djebel Bou Aff**	**1.37**	**105**	P	**Pb**	**02 07 40.5**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.37**	**105**	P	**Pb**	**02 07 40.5**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.37**	**105**	P	**Pb**	**02 07 40.5**	**-0.2**
CASM	**Ain Smara**	**1.93**	**109**	P	**Pn**	**02 07 48.3**	**+0.8**
CASM	**Ain Smara**	**1.93**	**109**	P	**Pn**	**02 07 48.3**	**+0.8**
CASM	**Ain Smara**	**1.93**	**109**	P	**Pn**	**02 07 48.3**	**+0.8**
EBNR	**Beni Rached**	**2.26**	**255**	P	**Pg**	**02 07 58.0**	**-0.7**
ECHA	**Ech Chlef**	**2.43**	**252**	P	Pg	02 08 09.0	+7.0
ECHF	**Ech Chlef**	**2.45**	**253**	P	Pg	02 08 09.0	+6.7
CMAH	**Djebel Manchou**	**2.58**	**96**	P	**Pn**	**02 07 56.8**	**+0.4**
CMAH	**Djebel Manchou**	**2.58**	**96**	P	**Pn**	**02 07 56.8**	**+0.4**
CMAH	**Djebel Manchou**	**2.58**	**96**	P	**Pn**	**02 07 56.8**	**+0.4**
EANR	**'Ain N'Sour**	**2.70**	**250**	P	**Pg**	**02 08 08.1**	**+0.9**
EANR	**'Ain N'Sour**	**2.70**	**250**	P	**Pg**	**02 08 08.1**	**+0.9**
ETRT	**Tiaret**	**2.82**	**238**	P	**Pn**	**02 08 01.0**	**+1.2**
ETRT	**Tiaret**	**2.82**	**238**	P	**Pn**	**02 08 01.0**	**+1.2**
ETRT	**Tiaret**	**2.82**	**238**	P	**Pn**	**02 08 01.0**	**+1.2**
ETOS	**Mallorca**	**3.06**	**339**	P	**Pn**	**02 08 05.0**	**+2.0**
	1.1nm,0.1s,SNR=5.7						
ETOS				S	**Sn**	**02 08 38.0**	**-1.2**
	2.6nm,0.2s						
ETOS	**Mallorca**	**3.06**	**339**	P	**Pn**	**02 08 05.0**	**+2.0**
	1.1nm,0.1s,SNR=5.7						
ETOS				S	**Sn**	**02 08 38.0**	**-1.2**
	2.6nm,0.2s						
EBEN	**Beniarda**	**3.95**	**298**	P	**Pn**	**02 08 15.5**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**02 08 59.9**	**-1.5**
	4.0nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**3.95**	**298**	P	**Pn**	**02 08 15.5**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**02 08 59.9**	**-1.5**
	4.0nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.46**	**284**	P	**Pn**	**02 08 23.2**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**02 09 13.6**	**-0.1**
	1.7nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**4.46**	**284**	P	**Pn**	**02 08 23.2**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**02 09 13.6**	**-0.1**
	1.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.89**	**292**	P	**Pn**	**02 08 31.0**	**+2.8**
	1.2nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**02 09 22.5**	**-2.1**
	1.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.89**	**292**	P	**Pn**	**02 08 31.0**	**+2.8**
	1.2nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**02 09 22.5**	**-2.1**
	1.6nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.04**	**314**	P	**Pn**	**02 08 32.4**	**+2.0**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**02 09 26.2**	**-2.1**
	1.4nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**5.04**	**314**	P	**Pn**	**02 08 32.4**	**+2.0**
	0.2nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**02 09 26.2**	**-2.1**
	1.4nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.05**	**324**	P	**Pn**	**02 08 32.6**	**+2.3**
	1.2nm,0.5s,SNR=7.9						
ERTA				S	**Sn**	**02 09 26.5**	**-1.8**
	1.3nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.05**	**324**	P	**Pn**	**02 08 32.6**	**+2.3**
	1.2nm,0.5s,SNR=7.9						
ERTA				S	**Sn**	**02 09 26.5**	**-1.8**
	1.3nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.06**	**332**	P	**Pn**	**02 08 31.4**	**+0.8**
	0.8nm,0.4s,SNR=7.9						
EPOB				S	**Sn**	**02 09 26.7**	**-2.0**
	0.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.06**	**332**	P	**Pn**	**02 08 31.4**	**+0.8**
	0.8nm,0.4s,SNR=7.9						
EPOB				S	**Sn**	**02 09 26.7**	**-2.0**
	0.8nm,0.2s,SNR=7.9

RCDM	**Rinconada Maip**	**1.17 186**	*e*P	Pn	02 08 51.0	+1.0
RCDM			*e*S	Sn	02 09 08.0	+1.3
RCDM			AML	AML	02 09 09.9	
	comp=E,2μm,0.1s					
CMCH	**Combarbala**	**1.18 346**	*e*P	Pn	02 08 50.7	+0.4
CMCH			*e*S	Sn	02 09 07.8	+0.6
CMCH			AML	AML	02 09 09.5	
	comp=N,1μm,0.4s					
PCH	**Pirque**	**1.30 175**	*e*P	Pn	02 08 52.1	+0.5
SJCH	**San Jose de Ma**	**1.34 169**	*e*P	Pn	02 08 52.5	+0.4
SJCH			*e*S	Sn	02 09 11.2	+0.7
SJCH			AML	AML	02 09 11.9	
	comp=N,251nm,0.6s					
TACH	**Talagante**	**1.35 190**	*e*P	Pn	02 08 52.6	+0.5
CHCH	**Chadas Angostu**	**1.60 180**	*e*P	Pn	02 08 55.6	+0.2
CACH	**El Canelo**	**1.79 178**	*e*P	Pn	02 08 58.7	+0.9
TLL	**Tololo Astrono**	**2.15 357**	*e*P	Pn	02 09 06.2	+3.6
TLL			*e*S	Sn	02 09 30.1	+0.8

JMA 05 02:27:02.3±0.2, 43°.65N×147°.78E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.51**	**260**	P	Pn	02 27 30.6	0.0
NEM2				*e*S	Sn	02 27 51.0	+0.1
JRA	**Rausu**	**1.95**	**279**	P	Pn	02 27 37.5	+0.9
JNK	**Nakash**	**2.22**	**269**	*e*S	Sn	02 28 09.9	+1.3
JAR	**Ashorobuto**	**2.94**	**264**	P	Pn	02 27 51.9	+1.6
JAR				*e*S	Sn	02 28 28.3	+2.0
JCH	**Churui**	**3.40**	**254**	*e*S	Sn	02 28 39.8	+2.3

THE ***05*** *02:29:45.4, 36°.16N×21°.84E, h8km±1km, ML2.2/2, Error ellipse: s-maj=2.6km s-min=1.7km az=48.0*
CSEM ***05*** *02:29:45.4±0.6, 36°.21N×21°.81E, h15km, MD3.6, Error ellipse: s-maj=15.4km s-min=6.7km az=51.0*
ATH ***05*** *02:29:47.0, 36°.31N×21°.91E, h35km±1km, MD3.6/10*
ISC 05 02:29:45.1±1.7, 36°.18N±0°.06×21°.82E±0°.07, h11km, n35, σ0s57/39, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.71**	**35**	P	**Pg**	**02 29 58.9**	**0.0**
DYR	**Agios Nikonas**	**0.71**	**35**	*e*PN	**Pg**	**02 29 59.0**	**0.0**
DYR	**Agios Nikonas**	**0.71**	**35**	P	**Pg**	**02 29 58.9**	**0.0**
PYL	**PYLOS**	**0.72**	**355**	P	**Pb**	**02 29 59.7**	**0.0**
PYL	**PYLOS**	**0.72**	**355**	*e*PN	**Pb**	**02 29 59.7**	**0.0**
PYL	**PYLOS**	**0.72**	**355**	P	**Pb**	**02 29 59.7**	**0.0**
KYTH	**Kithira**	**0.99**	**84**	P	**Pn**	**02 30 04.6**	**-0.4**
KYTH	**Kithira**	**0.99**	**84**	*e*PN	**Pn**	**02 30 04.6**	**-0.4**
KYTH	**Kithira**	**0.99**	**84**	P	**Pn**	**02 30 04.6**	**-0.4**
ITM	**Ithomi**	**1.00**	**5**	P	**Pg**	**02 30 04.2**	**-0.2**
ITM	**Ithomi**	**1.00**	**5**	*e*PN	**Pg**	**02 30 03.8**	**-0.6**
ITM	**Ithomi**	**1.00**	**5**	*e*Pn	**Pg**	**02 30 03.8**	**-0.6**
ITM	**Ithomi**	**1.00**	**5**	P	**Pg**	**02 30 04.2**	**-0.2**
VLI	**Veliai**	**1.05**	**59**	P	**Pb**	**02 30 04.7**	**-0.6**
VLI				S	**Sn**	**02 30 20.4**	**0.0**
VLI	**Veliai**	**1.05**	**59**	*e*PN	**Pb**	**02 30 04.9**	**-0.4**
VLI	**Veliai**	**1.05**	**59**	*e*Pn	**Pb**	**02 30 04.9**	**-0.4**
VLI				S	**Sn**	**02 30 20.4**	**0.0**
ANKY	**Antikythira Is**	**1.24**	**104**	*e*PN	**Pg**	**02 30 09.3**	**+0.3**
ANKY	**Antikythira Is**	**1.24**	**104**	*e*Pn	**Pg**	**02 30 09.3**	**+0.3**
VLX	**Vlachokerasia**	**1.27**	**21**	P	**Pn**	**02 30 08.1**	**-0.8**
VLX				S	**Sg**	**02 30 27.5**	**+1.4**
VLX	**Vlachokerasia**	**1.27**	**21**	*e*PN	**Pn**	**02 30 08.4**	**-0.5**
VLX	**Vlachokerasia**	**1.27**	**21**	P	**Pn**	**02 30 08.1**	**-0.8**
VLX	**Vlachokerasia**	**1.27**	**21**	*e*Pn	**Pn**	**02 30 08.4**	**-0.5**
VLX				S	**Sg**	**02 30 27.5**	**+1.4**
AMT	**Artemida-Makis**	**1.35**	**356**	P	**Pn**	**02 30 10.0**	**0.0**
AMT	**Artemida-Makis**	**1.35**	**356**	*e*PN	**Pn**	**02 30 09.4**	**-0.6**
AMT	**Artemida-Makis**	**1.35**	**356**	*e*Pn	**Pn**	**02 30 09.4**	**-0.6**
AMT	**Artemida-Makis**	**1.35**	**356**	P	**Pn**	**02 30 10.0**	**0.0**
DID	**Didima**	**1.74**	**40**	P	**Pn**	**02 30 14.5**	**-0.9**
DID	**Didima**	**1.74**	**40**	*e*PN	**Pn**	**02 30 14.5**	**-0.9**
DID	**Didima**	**1.74**	**40**	P	**Pn**	**02 30 14.5**	**-0.9**
GUR	**Goura**	**1.80**	**13**	P	**Pn**	**02 30 16.6**	**+0.3**
GUR	**Goura**	**1.80**	**13**	*e*PB	**Pn**	**02 30 16.3**	**0.0**
GUR	**Goura**	**1.80**	**13**	*e*Pb	**Pn**	**02 30 16.3**	**0.0**
GUR	**Goura**	**1.80**	**13**	P	**Pn**	**02 30 16.6**	**+0.3**
KARN	**Karanos**	**1.87**	**114**	P	**Pn**	**02 30 16.8**	**-0.3**
KARN	**Karanos**	**1.87**	**114**	P	**Pn**	**02 30 16.8**	**-0.3**

MEX 05 02:42:54.2±0.9, 17°.12N×95°.43W, h148km±15km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.25**	**268**	*e*P	Pn	02 43 19.2	-2.1
VHO				*i* S	Sn	02 43 40.3	-1.7
HUIG	**Huatulco**	**1.49**	**206**	*e*P	Pn	02 43 22.8	-0.7
HUIG				*i* S	Sn	02 43 43.4	-2.5
TGIG		**2.23**	**98**	*e*P	Pn	02 43 37.1	+5.1
TGIG				*i* S	Sn	02 43 59.2	-1.9
PNIG	**Pinotepa**	**2.69**	**255**	*e*P	Pn	02 43 36.1	-1.4
PNIG				*i* S	Sn	02 44 09.4	-1.6

LDG ***05*** *02:58:40.3±0.2, 22°.56N×93°.21E, h33km, Mb4.8/33, Error ellipse: s-maj=14.0km s-min=8.2km az=22.0*
ISCJB ***05*** *02:58:42.1±0.4, 22°.48N±0°.03×93°.35E±0°.02, h55km±4km, mb4.7/133, MS3.8/6, Error ellipse: s-maj=5.1km s-min=3.5km az=17.7*
MOS ***05*** *02:58:42.2±1.0, 22°.51N×93°.49E, h56km, mb5.0/44, Error ellipse: s-maj=9.4km s-min=4.3km az=120.6*
DJA ***05*** *02:58:42.4±0.4, 23°.N±9°.×9°.4E±1°.0, h10km, M4.9/8, mB5.2/5, mb5.1/8, MLv5.0/3, Mw(mB)4.5/5*
BKK ***05*** *02:58:42.6±0.5, 23°.N±9°.×9°.3E±°., h10km, M4.7/12, mB5.1/9, mb4.9/12, MLv5.0/5, Mw(mB)4.5/9*
BJI ***05*** *02:58:42.2, 22°.50N×93°.30E, h64km, mB5.0/21, mb4.8/42, ML4.6/1, Ms4.2/24, Ms7 3.9/23*
IDC ***05*** *02:58:45.5±1.8, 22°.51N×93°.52E, h74km±16km, mb4.2/28, mb1 4.3/29, mb1mx4.3/32, mbtmp4.2/29, MS3.8/3, Ms1 3.9/3, ms1mx3.4/35, Error ellipse: s-maj=14.4km s-min=10.1km az=44.0*
SZGRF ***05*** *02:58:45.5, 23°.19N×93°.26E, h33km, mb5.0, Myanmar-India border region*
NEIC ***05*** *02:58:45.5±0.6, 22°.51N×93°.48E, h72km±6km, mb4.7/29, Error ellipse: s-maj=6.3km s-min=4.0km az=48.0*
ISC 05 02:58:45.0±0.4, 22°.48N±0°.04×93°.37E±0°.03, h69km±3km, h68km:pP-P, n356, σ1s52/408, mb4.7/133, 14C-34D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.36**	**336**	*e*P	**Pn**	**02 59 33.7**	**-1.6**
SHL				AMB	AMB	02 59 36.0	
	comp=Z,169nm,1.8s						
CHTO	**Chiang Mai**	**6.37**	**124**	*e*P	**Pn**	**03 00 15.8**	**-0.4**
CHTO				*e*		03 01 25.1	
CHTO	**Chiang Mai**	**6.37**	**124**	*e*Pn	**Pn**	**03 00 15.8**	**-0.4**
CHTO				*e*Sn	**Sn**	**03 01 25.1**	**-2.5**
CHTO	**Chiang Mai**	**6.37**	**124**	P	**Pn**	**03 00 16.4**	**+0.2**
	comp=Z,58nm,0.9s,comp=Z,748nmcomp=Z,0.4nm						
CHTO	**Chiang Mai**	**6.37**	**124**	P	**Pn**	**03 00 16.4**	**+0.2**
	comp=Z,58nm,0.9s,comp=Z,748nmcomp=Z,0.4nm						
CMMT	**Chiang Mai**	**6.37**	**124**	P	**Pn**	**03 00 16.1**	**-0.2**
	comp=Z,60nm,0.9s,comp=Z,902nmcomp=Z,0.4nm						
CMMT	**Chiang Mai**	**6.37**	**124**	P	**Pn**	**03 00 16.1**	**-0.2**
	comp=Z,60nm,0.9s,comp=Z,902nmcomp=Z,0.4nm						
CM31	**Chiang Mai Arr**	**6.58**	**126**	*e*Pn	**Pn**	**03 00 18.7**	**-0.5**
	comp=Z,38nm,0.7s						
CMAR	**Chiang Mai Arr**	**6.58**	**126**	P	**Pn**	**03 00 19.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**6.58**	**126**	P	**Pn**	**03 00 19.0**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=303,slow=14,SNR=35						
CMAR				LR	LR	03 03 09.8	
	comp=Z,559nm,19.5s,baz=117,slow=41						
ODAN	**Odare**	**6.97**	**310**	*e*Pn	**Pn**	**03 00 23.7**	**-1.0**
ODAN				*e*Sn	**Sn**	**03 01 38.3**	**-4.4**
	comp=Z,1μm,0.7s						
BOK	**Bokaro**	**7.01**	**282**	*e*P	**Pn**	**03 00 24.9**	**-0.2**
BOK				AMB	AMB	03 00 25.3	
	comp=Z,84nm,0.5s						
TAPN	**Taplejung**	**7.06**	**314**	*e*Pn	**Pn**	**03 00 25.2**	**-0.8**
TAPN				*e*Sn	**Sn**	**03 01 41.3**	**-3.7**
	comp=Z,671nm,0.6s						
LAMP	**Lampang**	**7.07**	**123**	P	**Pn**	**03 00 27.0**	**+1.2**
	comp=Z,9.9nm,1.0s,comp=Z,178nmcomp=Z,0.1nm						
LSA	**Lhasa**	**7.46**	**345**	P	**Pn**	**03 00 32.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,80nm,0.7s						
LSA	**Lhasa**	**7.46**	**345**	*e*P	**Pn**	**03 00 31.2**	**-0.4**
LSA				pmax	pmax		
	comp=Z,77nm,0.4s						
LSA	**Lhasa**	**7.46**	**345**	*e*Pn	**Pn**	**03 00 31.2**	**-0.4**
	comp=Z,77nm,0.4s						
RAMN	**Ramite**	**7.59**	**307**	*e*Pn	**Pn**	**03 00 32.5**	**-0.7**
RAMN				*e*Sn	**Sn**	**03 01 52.8**	**-5.2**
	comp=Z,514nm,0.6s						
NANT	**Nan**	**7.78**	**117**	P	**Pn**	**03 00 35.2**	**-0.3**
	comp=Z,174nm,0.8s,comp=Z,11μmcomp=Z,0.6nm						
JIRN	**Jiri**	**8.30**	**310**	*e*Pn	**Pn**	**03 00 41.8**	**-1.2**
JIRN				*e*Sn	**Sn**	**03 02 10.2**	**-5.3**
	comp=Z,457nm,0.4s						
GUN	**Gumba**	**8.67**	**310**	*e*Pn	**Pn**	**03 00 46.6**	**-1.5**
GUN				*e*Sn	**Sn**	**03 02 19.0**	**-5.5**
	comp=Z,556nm,0.6s						
PKI	**Pulchoki**	**8.82**	**307**	*e*Pn	**Pn**	**03 00 48.3**	**-1.8**
PKI				*e*Sn	Sn	03 02 21.6	-6.5
	comp=Z,283nm,0.6s						
PKIN	**Phulchoki**	**8.83**	**307**	*e*Pn	**Pn**	**03 00 48.4**	**-1.8**
LOEI	**Loei**	**8.92**	**122**	P	Pn	03 00 56.8	+5.7
	comp=Z,77nm,0.8s,comp=Z,2μm						
KMI	**Kunming**	**8.97**	**71**	P	Pn	03 00 57.7	+5.7
KMI				S	**Sn**	**03 02 37.2**	**+5.5**
KMI				pmax	pmax		
	comp=Z,55nm,1.1s						
KMI				LR	LR		
	comp=N,410nm,5.6s						
KMI				LR	LR		
	comp=E,280nm,7.0s						
KMI				LR	LR		
	comp=Z,340nm,9.3s						
KKN	**Kakani**	**9.04**	**307**	*e*Pn	**Pn**	**03 00 51.8**	**-1.1**
KKN				*e*Sn	Sn	03 02 27.2	-6.0
	comp=Z,382nm,0.8s						
DMN	**Daman**	**9.07**	**306**	*e*Pn	**Pn**	**03 00 52.3**	**-1.1**
DMN				*e*Sn	**Sn**	**03 02 28.2**	**-5.8**
	comp=Z,372nm,0.6s						
DGPR	**DIGLIPUR**	**9.26**	**183**	*e*P	**Pn**	**03 00 55.7**	**-0.2**
DGPR				AMB	AMB	03 01 09.0	
	comp=Z,94nm,1.6s						
PBKT	**Sadao Pong**	**9.27**	**128**	P	**Pn**	**03 00 56.9**	**+1.0**
	comp=Z,57nm,0.7s,comp=Z,2μm						
PBKT	**Sadao Pong**	**9.27**	**128**	P	**Pn**	**03 00 56.9**	**+1.0**
	comp=Z,57nm,0.7s,comp=Z,2μm						
KOLN	**Koldanda**	**10.30**	**303**	*e*Pn	**Pn**	**03 01 07.4**	**-2.8**
KOLN				*e*Sn	Sn	03 02 55.9	-8.2
	comp=Z,394nm,0.5s						
CHAI	**Chaiyaphum**	**10.44**	**127**	P	Pn	03 01 16.5	+4.6
	comp=Z,9.1nm,0.8s,comp=Z,157nm						
DANN	**Dangsing**	**10.47**	**306**	*e*Pn	**Pn**	**03 01 09.9**	**-2.6**
DANN				*e*Sn	Sn	03 03 00.3	-8.0
	comp=Z,192nm,0.5s						
VIS	**Vishakhapatnam**	**10.56**	**245**	*e*P	**Pn**	**03 01 11.1**	**-2.4**
VIS				AMB	AMB	03 01 15.3	
	comp=Z,37nm,1.6s						
PYUN	**Piuthan**	**10.93**	**303**	*e*Pn	**Pn**	**03 01 15.9**	**-2.9**
PYUN				*e*Sn	Sn	03 03 10.3	-9.2
	comp=Z,337nm,0.8s						
PANO	**Nakornpanom**	**11.83**	**115**	P	**Pn**	**03 01 33.1**	**+2.2**
	comp=Z,45nm,2.0s						
JBP	**Jabalpur**	**12.37**	**276**	⇑*i*P	**Pn**	**03 01 37.2**	**-1.0**
JBP				*ex*	**Sn**	**03 03 48.8**	**-5.5**
CD2	**Chengdu**	**12.51**	**46**	*e*P	**Pn**	**03 01 42.6**	**+2.5**
CD2				pP	P	03 01 53.2	+3.9
CD2				sP		03 01 54.8	
CD2				S	**Sn**	**03 04 01.6**	**+3.9**
CD2				SS	**S**	**03 04 18.5**	**-2.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,640nm,15.4s						
CD2				LR	LR		
	comp=E,620nm,15.5s						
CD2				LR	LR		
	comp=Z,550nm,13.2s						
GYA	**Guiyang**	**12.73**	**69**	*e*P	**Pn**	**03 01 42.8**	**-0.5**
GYA				pP	**P**	**03 01 52.4**	**+0.4**
GYA				S	**Sn**	**03 04 02.6**	**-0.8**
GYA				sS	S	03 04 19.0	-6.9
GYA				SS	**SnSn**	**03 04 20.5**	**+4.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,480nm,14.0s						
GYA				LR	LR		
	comp=E,380nm,16.4s						
GYA				LR	LR		
	comp=Z,460nm,14.8s						
NGP	**Nagpur**	**13.37**	**267**	*e*P	**Pn**	**03 01 50.5**	**-1.3**
NGP				*ex*	x	03 04 03.4	
BHPL	**Bhopal**	**14.72**	**276**	*e*P	**Pn**	**03 02 07.7**	**-1.9**
BHPL				AMB	AMB	03 02 08.5	
	comp=Z,50nm,1.8s						
HYB	**Hyderabad**	**14.81**	**253**	*i* P	**P**	**03 02 15.0**	**0.0**
HYB				*e*S	**Sn**	**03 04 57.0**	**+3.1**
HYB	**Hyderabad**	**14.81**	**253**	*e*P	**Pn**	**03 02 10.8**	**0.0**
HYB				AMB	AMB	03 02 17.9	
	comp=Z,23nm,1.5s						
DDI	**Dehra Dun**	**15.78**	**303**	*ex*	**Pn**	**03 02 19.5**	**-3.6**
NDI	**New Delhi**	**15.82**	**296**	*e*P	**Pn**	**03 02 22.0**	**-1.6**
NDI				*e*4	x	03 05 02.0	
LATR	**Latur**	**16.27**	**259**	AMB	AMB	03 02 28.8	
	comp=Z,22nm,0.6s						
LATR				*e*P	**P**	**03 02 30.6**	**-0.5**
LZH	**Lanzhou**	**16.33**	**32**	*e*P	**Pn**	**03 02 31.0**	**+0.9**
LZH				pP	**pP**	**03 02 43.5**	**-2.5**
LZH				PP	PP	03 02 46.1	
LZH				sP	**sP**	**03 02 54.3**	**-0.4**
LZH				*e*S	**Sn**	**03 05 31.0**	**+0.4**
LZH				sS	S	03 05 50.0	+11
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,5.2s						
LZH				LR	LR		
	comp=N,440nm,12.0s						
LZH				LR	LR		
	comp=E,400nm,11.3s						
LZH				LR	LR		
	comp=Z,550nm,13.6s						
ENH	**Enshi**	**16.38**	**58**	*e*Pn	**Pn**	**03 02 29.6**	**-1.0**
	comp=Z,20nm,0.7s						
SMLA	**Simla**	**16.82**	**304**	*e*P	**Pn**	**03 02 35.1**	**-0.9**
SMLA				AMB	AMB	03 02 38.9	
	comp=Z,39nm,1.7s						
SMLA				*i* x	x	03 05 27.2	
GTA	**Gaotai**	**17.75**	**17**	P	**P**	**03 02 47.0**	**-0.5**
GTA				pP	**pP**	**03 02 58.2**	**-3.4**
GTA				sP	**sP**	**03 03 06.6**	**-3.7**
GTA				S	**Sn**	**03 06 01.4**	**-3.3**
GTA				sS	sS	03 06 19.4	-12
GTA				SS	**SnSn**	**03 06 26.8**	**+7.1**
GTA				ScP	**ScP**	**03 10 53.1**	**+1.9**
GTA				pmax	pmax		
	comp=Z,16nm,1.4s						
GTA				pmax	pmax		
	comp=Z,88nm,5.0s						
GTA				LR	LR		
	comp=N,170nm,18.5s						
GTA				LR	LR		
	comp=E,260nm,21.4s						
GTA				LR	LR		
	comp=Z,310nm,18.8s						
XAN	**Xi'an**	**17.87**	**47**	P	**P**	**03 02 48.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DHRM	**DHARAMSHALA**	**18.00**	**306**	*e*P	**Pn**	**03 02 51.3**	**+0.6**
THN	**Thein Dam**	**18.52**	**306**	*e*P	**P**	**03 02 55.4**	**-0.4**
THN				*ex*	x	03 05 55.7	
PSI	**Prapat**	**20.29**	**164**	P	Pn	03 03 17.2	-0.8
PSI	**Prapat**	**20.29**	**164**	P	Pn	03 03 17.2	-0.8
	comp=Z,8.1nm,0.7s,baz=354,slow=18,SNR=2.9						
PSI				LR	LR	03 11 53.4	
	comp=Z,438nm,20.6s,baz=4.4,slow=39						
CHCP	**Chirah Chowk**	**20.91**	**307**	P	**P**	**03 03 22.2**	**+0.3**
WMQ	**Urumqi**	**21.80**	**349**	P	**P**	**03 03 31.9**	**+0.6**
WMQ				PP	**PnPn**	**03 03 58.9**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,51nm,1.0s						
CEP	**Cherat**	**22.00**	**306**	P	**P**	**03 03 35.7**	**+2.1**
KSH	**Kashi**	**22.53**	**323**	P	**P**	**03 03 39.1**	**-0.3**
KSH				sP	**sP**	**03 04 05.1**	**+2.6**
KSH				PP	**PnPn**	**03 04 10.0**	**+4.4**
KSH				S	S	03 07 34.4	-7.4
KSH				sS	Sn	03 08 02.2	+2.6
KSH				SS	**SnSn**	**03 08 21.4**	**+4.8**
KSH				pmax	pmax		
	comp=Z,17nm,1.0s						
KSH				LR	LR		
	comp=N,120nm,4.5s						
KSH				LR	LR		
	comp=E,310nm,14.4s						
KSH				LR	LR		
	comp=Z,140nm,18.9s						
HHC	**Hu-ho-hao-te**	**23.89**	**36**	*e*P	**P**	**03 03 51.7**	**-0.7**
HHC				sP	**sP**	**03 04 19.5**	**+2.8**
HHC				PP	**PnPn**	**03 04 28.7**	**+4.5**
HHC				PcP	**PcP**	**03 07 35.5**	**+1.9**
HHC				S	**S**	**03 07 58.9**	**-5.0**
HHC				ScP	**ScP**	**03 11 05.4**	**-0.6**
HHC				PcS	**PcS**	**03 11 13.5**	**+0.3**
HHC				ScS	**ScS**	**03 14 51.1**	**-2.0**
HHC				pmax	pmax		
	comp=Z,45nm,0.6s						
HHC				pmax	pmax		
	comp=Z,380nm,5.9s						
HHC				LR	LR		
	comp=N,540nm,12.7s						
HHC				LR	LR		
	comp=E,390nm,12.9s						
HHC				LR	LR		
	comp=Z,520nm,12.1s						
KBL	**Kabul**	**24.45**	**305**	*e*P	**P**	**03 03 58.8**	**+1.1**
KBL				pmax	pmax		
	comp=Z,33nm,0.7s						
KBL	**Kabul**	**24.45**	**305**	*e*P	**P**	**03 03 58.8**	**+1.1**
	comp=Z,32nm,0.7s						
NJ2	**Nanjing**	**24.52**	**62**	*e*P	**P**	**03 03 57.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KZA	**Kyzart**	**24.74**	**326**	*i* P	**P**	**03 04 02.5**	**+2.1**
KZA	**Kyzart**	**24.74**	**326**	P	**P**	**03 04 02.5**	**+2.1**
	SNR=6.1						
TKM2	**Tokmak 2**	**25.18**	**328**	*i* P	**P**	**03 04 05.8**	**+1.6**
TKM2	**Tokmak 2**	**25.18**	**328**	P	**P**	**03 04 05.9**	**+1.6**
	SNR=26						
TKM2	**Tokmak 2**	**25.18**	**328**	*e*P	**P**	**03 04 05.9**	**+1.6**
	comp=Z,21nm,0.9s						
KBK	**Karagaybulak**	**25.31**	**327**	*i* P	**P**	**03 04 07.4**	**+2.0**
KBK	**Karagaybulak**	**25.31**	**327**	P	**P**	**03 04 07.4**	**+2.0**
	SNR=10.0						
AAK	**Ala-Archa**	**25.52**	**326**	*i* P	**P**	**03 04 09.3**	**+2.0**
AAK	**Ala-Archa**	**25.52**	**326**	P	**P**	**03 04 09.4**	**+2.0**
	SNR=14						
AAK	**Ala-Archa**	**25.52**	**326**	P	**P**	**03 04 08.9**	**+1.6**
AAK	**Ala-Archa**	**25.52**	**326**	P	**P**	**03 04 08.9**	**+1.6**
	comp=Z,21nm,0.9s,baz=129,slow=11,SNR=35						
AML	**Almayashu**	**25.59**	**325**	*i* P	**P**	**03 04 09.8**	**+1.7**
AML	**Almayashu**	**25.59**	**325**	P	**P**	**03 04 09.8**	**+1.7**
	SNR=14						
FRU	**Bishkek**	**25.61**	**327**	*e*P	**P**	**03 04 10.0**	**+2.1**
FRU				pmax	pmax		
	comp=Z,53nm,1.8s						
MK31	**Makanchi Array**	**25.86**	**342**	*e*P	**P**	**03 04 10.8**	**+0.7**
MK31	**Makanchi Array**	**25.86**	**342**	*e*P	**P**	**03 04 10.8**	**+0.7**
MKAR	**Makanchi Array**	**25.86**	**342**	*e*P	**P**	**03 04 11.0**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,69nm,0.9s						
MKAR	**Makanchi Array**	**25.86**	**342**	*e*P	**P**	**03 04 11.1**	**+1.0**
MKAR	**Makanchi Array**	**25.86**	**342**	P	**P**	**03 04 11.0**	**+0.9**
	comp=Z,68nm,0.9s,baz=151,slow=9.3,SNR=201						
EKS2	**Erkin-Say**	**25.92**	**326**	*e*P	**P**	**03 04 13.1**	**+2.3**
EKS2				pmax	pmax		
	comp=Z,17nm,0.9s						
EKS2	**Erkin-Say**	**25.92**	**326**	P	**P**	**03 04 12.5**	**+1.7**
	SNR=18						
EKS2	**Erkin-Say**	**25.92**	**326**	*e*P	**P**	**03 04 13.1**	**+2.3**
	comp=Z,17nm,0.9s						
USP	**Ospenovka**	**25.98**	**327**	*i* P	**P**	**03 04 12.7**	**+1.4**
USP	**Ospenovka**	**25.98**	**327**	P	**P**	**03 04 12.7**	**+1.4**
	SNR=7.3						
BJI	**Beijing**	**26.08**	**43**	P	**P**	**03 04 11.8**	**-0.3**
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**27.37**	**19**	P	**P**	**03 04 24.1**	**+0.3**
SONM				ScP	**ScP**	**03 11 15.7**	**-0.2**
SONM	**Songino Array**	**27.37**	**19**	P	**P**	**03 04 24.1**	**+0.3**
	comp=Z,18nm,0.7s,baz=198,slow=9.2,SNR=112						
SONM				ScP	**ScP**	**03 11 15.7**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=207,slow=1.6,SNR=5.3						
ULN	**Ulaanbaatar**	**27.60**	**20**	*e*P	**P**	**03 04 25.2**	**-0.7**
	comp=Z,22nm,1.1s						
ULN	**Ulaanbaatar**	**27.60**	**20**	P	**P**	**03 04 25.9**	**0.0**
	comp=Z,20nm,1.0s						
KKAR	**Karatay Array**	**27.99**	**323**	*e*P	**P**	**03 04 30.6**	**+1.3**
KKAR	**Karatay Array**	**27.99**	**323**	*e*P	**P**	**03 04 30.6**	**+1.3**
HVS	**Khovu-Aksy**	**28.60**	**0**	*d*P	**P**	**03 04 35.2**	**+0.5**
ZAK	**Zakamensk**	**28.91**	**13**	⇓*i*P	**P**	**03 04 38.2**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOY	**Mondy**	**29.73**	**10**	*e*P	**P**	**03 04 45.8**	**+1.1**
TLY	**Talaya**	**30.21**	**13**	*e*P	**P**	**03 04 51.0**	**+2.1**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,316nm,23.0s						
ZAA0	**Zalesovo Array**	**32.08**	**350**	*e*P	**P**	**03 05 05.4**	**+0.2**
ZALV	**Zalesovo Beam**	**32.08**	**350**	P	**P**	**03 05 05.6**	**+0.4**
ZALV	**Zalesovo Beam**	**32.08**	**350**	P	**P**	**03 05 05.6**	**+0.4**
ZALV	**Zalesovo Beam**	**32.08**	**350**	P	**P**	**03 05 05.6**	**+0.4**
	comp=Z,6.1nm,0.4s,baz=172,slow=8.3,SNR=47						
**N

MDJ LR LR
comp=Z,160nm,25.7s
AB31 Akbulak array 37.54 324 *i* P **P 03 05 53.1 +0.8**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 37.54 324 *e*P **P 03 05 53.6 +1.3**
USRK Ussuriysk Arra 38.39 46 P **P 03 05 58.1 -1.4**
comp=Z,2.2nm,0.6s,baz=245,slow=7.8,SNR=9.6
AKTO Aktyubinsk 39.22 324 P **P 03 06 06.3 -0.2**
AKTO pmax pmax
comp=Z,15nm,0.9s
KLR Kul'dur 40.32 39 *e*P P 03 06 10.2 -5.4
MAJO Matsushiro 41.10 60 *e*P **P 03 06 21.0 -1.2**
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 41.10 60 *e*P **P 03 06 21.0 -1.2**
comp=Z,5.4nm,0.6s
MJAR Matsushiro Arr 41.10 60 P **P 03 06 21.4 -0.8**
MJAR ScP **ScP 03 12 01.9 -2.6**
MJAR Matsushiro Arr 41.10 60 P **P 03 06 21.4 -0.8**
comp=Z,1.6nm,0.7s,baz=274,slow=8.6,SNR=6.5
MJAR ScP **ScP 03 12 01.9 -2.6**
comp=Z,0.6nm,0.6s,baz=238,slow=3.2,SNR=4.9
RDF Al-Radifah 41.59 289 *e*P **P 03 06 27.5 +1.2**
RDF AMb AMB 03 06 28.9
comp=Z,24nm,0.6s
MIB Mutribah 41.75 290 *e*P **P 03 06 28.3 +0.7**
MIB AMb AMB 03 06 29.5
comp=Z,38nm,1.0s
SVE Sverdlovsk 41.81 334⇑ *e*P **P 03 06 28.8 +1.1**
SVE pmax pmax
comp=Z,30nm,1.4s
NAY Al-Naaiem 41.84 289 *e*P **P 03 06 28.9 +0.5**
NAY AMb AMB 03 06 30.7
comp=Z,22nm,1.2s
ARU Arti 42.44 332 *d i*P **P 03 06 33.5 +0.7**
ARU 03 08 13.1
ARU S **S 03 12 52.5 +3.1**
ARU SS **SS 03 15 57.7 -3.0**
ARU pmax pmax
comp=Z,23nm,1.7s
ZEI Tsey 45.59 308 *e*P **P 03 06 59.4 +0.9**
ZEI pmax pmax
comp=Z,22nm,0.8s
ASAJ Asahikawa 45.67 50 P **P 03 06 57.8 -1.1**
ASAJ Asahikawa 45.67 50 P **P 03 06 57.8 -1.1**
comp=Z,4.7nm,0.6s,baz=255,slow=4.4,SNR=7.9
KBZ Khabaz 46.48 310 P **P 03 07 05.3 +0.1**
KBZ Khabaz 46.48 310 P **P 03 07 05.3 +0.1**
KBZ Khabaz 46.48 310 P **P 03 07 05.3 +0.1**
comp=Z,2.7nm,0.9s,baz=154,slow=6.2,SNR=6.1
KIV Kislovodsk 46.67 310 *e*P **P 03 07 08.2 +1.3**
KIV pmax pmax
comp=Z,11nm,1.0s
DBAD Bademkaya 46.96 306 *i*P **P 03 07 11.0 +1.8**
KELT Kelkit 48.72 304 *i*P P 03 07 19.1 -3.9
KEMA Kemaliye 49.25 303 *i*P **P 03 07 28.6 +1.7**
MALT Malatya 49.26 302⇓ *i*P P 03 07 49.4 +22
MBWA Marble Bar 50.42 147 *e*P **P 03 07 35.8 +0.1**
comp=Z,10.0nm,0.8s
GULE Gulek 52.14 300 *i*P **P 03 07 50.5 +1.8**
SIM Simferopol' 52.88 310 *e*P **P 03 07 54.4 +0.5**
SIM pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 52.98 323⇑ *i*P **P 03 07 53.5 -0.9**
OBN *i* 03 08 09.2
OBN pmax pmax
comp=Z,18nm,0.9s
BR131 Keskin Array S 53.02 304 *e*P **P 03 07 55.1 -0.1**
comp=Z,1.1nm,0.8s
BRTR Keskin Array B 53.02 304 P **P 03 07 55.4 +0.3**
BRTR ScP **ScP 03 12 54.9 +0.3**
BRTR Keskin Array B 53.02 304 P **P 03 07 55.4 +0.3**
comp=Z,2.6nm,1.0s,baz=100,slow=7.0,SNR=12
BRTR ScP **ScP 03 12 54.9 +0.3**
comp=Z,0.3nm,0.8s,baz=82,slow=3.2,SNR=3.7
TIXI Tiksi 53.19 13 *de*P **P 03 07 55.2 -0.5**
TIXI pmax pmax
comp=Z,28nm,1.0s
BBAL Bala 53.42 303 *i*P **P 03 07 58.7 +0.7**
TMCR Tamitsa 55.09 334 *e*P **P 03 08 09.2 -0.4**
TMCR *e* 03 09 08.4
TMCR pmax pmax
comp=Z,31nm,1.4s
BORA Eskisehir 55.47 304 *i*P **P 03 08 13.3 +0.4**
AKASG Malin Array Be 56.64 317 P **P 03 08 20.3 -0.7**
AKASG Malin Array Be 56.64 317 P **P 03 08 20.3 -0.7**
AKASG Malin Array Be 56.64 317 P **P 03 08 20.3 -0.7**
comp=Z,3.0nm,0.5s,baz=79,slow=6.9,SNR=15
AKBB Malin Array Si 56.64 317 *e*P **P 03 08 20.4 -0.5**
AKBB Malin Array Si 56.64 317 *e*P **P 03 08 20.4 -0.5**
AK01 Malin Array Si 56.65 317 *e*P **P 03 08 20.3 -0.7**
AK02 Malin Array Si 56.65 317 *e*P **P 03 08 20.4 -0.6**
TIRR Tirgusor 56.93 309⇓ *i*P **P 03 08 23.5 +0.4**
PETK Petropavlovsk- 56.98 40 P **P 03 08 22.1 -1.2**
PETK Petropavlovsk- 56.98 40 P **P 03 08 22.1 -1.2**
PETK Petropavlovsk- 56.98 40 P **P 03 08 22.1 -1.2**
comp=Z,2.3nm,0.6s,baz=237,slow=3.4,SNR=7.1
DURS Dursunbey 57.01 303 *i*P **P 03 08 23.9 0.0**
CFR Carcaliu 57.13 310⇓ *i*P **P 03 08 24.8 +0.3**
PET Petropavlovsk 57.55 41⇑ *i*P **P 03 08 25.7 -1.6**
BALY Balya 57.66 304 *i*P **P 03 08 29.1 +0.7**
GCAM G?zelcaml? 58.11 301 *i*P **P 03 08 32.7 +1.2**
VRI Vrincioaia 58.12 311⇓ P **P 03 08 33.2 +1.7**
VRI Vrincioaia 58.12 311⇓ *i*P **P 03 08 33.2 +1.7**
WRA Warramunga Arr 58.12 133 P **P 03 08 31.5 -0.3**
WRA Warramunga Arr 58.12 133 P **P 03 08 31.5 -0.3**
comp=Z,2.7nm,0.4s,baz=320,slow=7.5,SNR=105
TESR Tescani 58.17 312⇓ *i*P **P 03 08 32.3 +0.5**
PLOR Plostina 58.17 311⇓ P **P 03 08 33.6 +1.7**
PLOR Plostina 58.17 311⇓ *i*P **P 03 08 33.6 +1.7**
MLR Muntele Rosu 58.67 310⇓ *i*P **P 03 08 37.0 +1.5**
BURAR Bucovina Array 59.15 313⇑ P **P 03 08 39.5 +0.8**
BURAR Bucovina Array 59.15 313⇑ *i*P **P 03 08 39.5 +0.8**
BUR08 Bucovina Ar. S 59.16 313 *e*P **P 03 08 39.6 +0.8**
KAF Kangasniemi 59.67 330 *e*P **P 03 08 43.8 +1.9**
KAF pmax pmax
comp=Z,5.0nm,0.9s
KAF Kangasniemi 59.67 330 *ep* **P 03 08 43.8 +1.9**
comp=Z,4.8nm,0.9s
FIA1 FINESS Array S 59.67 329 *e*P **P 03 08 41.8 -0.1**
FIA1 *ep*P **pP 03 09 01.4 +1.6**
FINES FINESS Array B 59.67 329 P **P 03 08 42.0 +0.1**
FINES FINESS Array B 59.67 329 P **P 03 08 42.0 +0.1**
comp=Z,5.3nm,0.7s,baz=95,slow=7.0,SNR=24
LVV L'vov 59.93 316 *e*P **P 03 08 43.6 -0.3**
AS31 Alice Springs 60.48 137 *e*P **P 03 08 47.9 -0.1**
ASAR Alice Springs 60.48 137 P **P 03 08 48.0 0.0**
ASAR Alice Springs 60.48 137 P **P 03 08 48.0 0.0**
comp=Z,4.3nm,0.5s,baz=318,slow=6.7,SNR=110
SUW Suwalki 60.53 320 *e*P **P 03 08 47.8 -0.1**
SUW pmax pmax
comp=Z,43nm,1.1s
SUW Suwalki 60.53 320 *e*P **P 03 08 47.8 -0.1**
comp=Z,43nm,1.1s
SUW Suwalki 60.53 320 *e*P **P 03 08 47.8 -0.1**
COEN Coen 60.76 122 *e*P **P 03 08 52.3 +2.3**
VTS Vitosha 60.78 307⇓ *i*P **P 03 08 50.7 +0.6**
VTS Vitosha 60.78 307⇓ *i*P **P 03 08 50.7 +0.6**
KWP Kalwaria Pacla 60.79 315⇓ P **P 03 08 50.5 +0.7**
KWP Kalwaria Pacla 60.79 315⇓ *i*P **P 03 08 50.5 +0.7**
KWP Kalwaria Pacla 60.79 315 *e*P **P 03 08 50.3 +0.5**
comp=Z,28nm,0.9s
KWP Kalwaria Pacla 60.79 315 *e*P **P 03 08 50.5 +0.7**
DRGR 60.88 312⇑ *i*P **P 03 08 51.7 +1.2**
DRGR 60.88 312⇑ *i*P **P 03 08 51.7 +1.2**
GZR Gura Zlata 60.90 310⇓ *i*P **P 03 08 51.2 +0.5**
KEV Kevo 60.96 339 *e*P **P 03 08 51.2 +0.7**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 60.96 339 *ep* **P 03 08 51.2 +0.7**
comp=Z,5.1nm,0.8s
UZH Uzhgorod 61.09 314⇓ *i*P **P 03 08 52.8 +1.0**
UZH *e* 03 09 12.4
ARCES ARCESS Array B 61.41 338 P **P 03 08 54.1 +0.4**
ARCES ARCESS Array B 61.41 338 P **P 03 08 54.1 +0.4**
comp=Z,3.5nm,0.6s,baz=93,slow=7.6,SNR=29
ARE0 ARCESS Array S 61.41 338 *e*P **P 03 08 54.0 +0.3**
BZS Buzias 61.70 311⇑ P **P 03 08 56.5 +0.5**
BZS Buzias 61.70 311⇑ *i*P **P 03 08 56.5 +0.5**
PSZ Piszkesteto 62.73 313 *e*P **P 03 09 03.6 +0.7**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 62.73 313 *e*P **P 03 09 03.6 +0.7**
comp=Z,6.7nm,1.0s
PKSM Moragy 63.72 312⇓ P **P 03 09 09.8 +0.4**
PKSM Moragy 63.72 312⇓ *i*P **P 03 09 09.8 +0.4**
OKC Ostrava-Krasne 63.74 316 *e*P **P 03 09 10.1 +0.6**
OKC *e* 03 09 30.0
OKC Ostrava-Krasne 63.74 316⇓ *e*P **P 03 09 10.1 +0.6**
OKC *ep*P **pP 03 09 30.0 +2.4**
MORC Moravsky Berou 64.13 316 *e*P **P 03 09 12.5 +0.3**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 64.13 316 *e*P **P 03 09 12.5 +0.3**
comp=Z,7.4nm,1.0s
KSP Ksiaz 64.84 317 *e*P **P 03 09 17.5 +0.8**
DPC Dobruska-Polom 64.87 316 *i*P **P 03 09 18.2 +1.3**
DPC *e* 03 09 38.7
DPC Dobruska-Polom 64.87 316 *i*P **P 03 09 18.2 +1.3**
DPC *ep*P **pP 03 09 38.7 +3.6**
CONA Conrad Observa 65.42 314⇑ *i*P **P 03 09 20.9 +0.3**
comp=Z,8.2nm,1.1s,SNR=6.2
TREC Trest 65.51 315 *e*P **P 03 09 21.1 0.0**
TREC Trest 65.51 315⇓ *e*P **P 03 09 21.1 0.0**
PVCC Panska Ves 65.96 317 *e*P **P 03 09 25.0 +1.1**
PVCC Panska Ves 65.96 317⇓ *e*P **P 03 09 25.0 +1.1**
PRU Pruhonice 66.04 316 *e*P **P 03 09 24.9 +0.4**
PRU Pruhonice 66.04 316⇓ *e*P **P 03 09 24.9 +0.4**
MOA Molln 66.50 314⇓ *i*P **P 03 09 27.8 +0.3**
comp=Z,10nm,1.1s
FBE Freiberg 66.68 317 *e*P **P 03 09 29.6 +1.1**
comp=Z,17nm,1.0s
GEC2 GERESS Array S 66.73 315 *e*P **P 03 09 29.8 +0.8**
comp=Z,11nm,1.0s
GEC2 GERESS Array S 66.73 315 *e*P **P 03 09 29.8 +0.8**
GEC2 pmax pmax
comp=Z,11nm,1.0s
GERES GERESS Array B 66.73 315 P **P 03 09 29.5 +0.4**
GERES GERESS Array B 66.73 315 P **P 03 09 29.5 +0.4**
comp=Z,7.5nm,0.8s,baz=81,slow=6.1,SNR=64
CTAO Charters Tower 66.75 125 *e*P P
CTAO pmax pmax 03 09 24.2 -5.1
comp=Z,13nm,0.9s
CTAO Charters Tower 66.75 125 *e*P P 03 09 24.2 -5.1
comp=Z,13nm,0.9s
KHC Kasperske Hory 66.78 315 *e*P **P 03 09 29.8 +0.5**
KHC pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 66.78 315⇓ *i*P **P 03 09 29.7 +0.5**
KHC Kasperske Hory 66.78 315 *e*P **P 03 09 29.8 +0.5**
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 66.82 328 P **P 03 09 28.9 -0.4**
comp=Z,11nm,0.9s,baz=85,slow=6.5
NOA NORSAR Array B 66.82 328 P **P 03 09 28.9 -0.4**
NOA NORSAR Array B 66.82 328 P **P 03 09 28.9 -0.4**
comp=Z,6.7nm,0.8s,baz=86,slow=6.3,SNR=30
CLL Collm 66.85 318 *e*P **P 03 09 30.0 +0.3**
comp=Z,6.0nm,1.2s
CLL Collm 66.85 318⇓ *i*P **P 03 09 29.9 +0.3**
CLL *e**PP **pP 03 09 45.0 -2.8**
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 66.85 318⇓ *i*P **P 03 09 29.9 +0.3**
comp=Z,6.0nm,1.2s
CLL *e* 03 09 45.0
CLL *e*(pP) **pP 03 09 50.0 +2.2**
NAO01 NORSAR Array S 67.00 328 *e*P **P 03 09 30.0 -0.4**
comp=Z,6.8nm,0.8s
WET Wettzell 67.23 315 *e*P **P 03 09 32.9 +0.8**
comp=Z,4.0nm,0.9s
WET Wettzell 67.23 315 *e*P **P 03 09 32.9 +0.8**
WET pmax pmax
comp=Z,4.0nm,0.9s
TANN Tannenbergstha 67.31 317 *e*P **P 03 09 33.4 +0.8**
comp=Z,7.0nm,1.1s
NKC Novy Kostel 67.35 317 *i*P **P 03 09 33.4 +0.6**
NKC *e* 03 09 55.7
NKC Novy Kostel 67.35 317⇓ *i*P **P 03 09 33.4 +0.6**
NKC *ep*P **PcP 03 09 55.7 -4.3**
GÜNZ Gunzen 67.40 317 *e*P **P 03 09 33.9 +0.7**
comp=Z,11nm,1.1s
WERD Werda 67.41 317 *e*P **P 03 09 33.8 +0.6**
comp=Z,9.0nm,1.1s
PLN Plauen 67.50 317 *e*P **P 03 09 34.3 +0.6**
comp=Z,41nm,1.1s
ROTZ Rotzenmuhle 67.57 316 *e*P **P 03 09 35.6 +1.4**
comp=Z,10.0nm,0.9s
MANZ Manzenberg 67.60 316 *e*P **P 03 09 35.4 +1.0**
comp=Z,8.0nm,1.1s
NEUB Neuenburg 67.63 318 *e*P **P 03 09 34.9 +0.4**
comp=Z,19nm,1.2s
MOX Moxa 67.81 317 *e*P **P 03 09 36.3 +0.6**
comp=Z,5.0nm,0.9s
MOX Moxa 67.81 317 *e*P **P 03 09 36.3 +0.6**
MOX pmax pmax
comp=Z,5.0nm,0.9s
AQU L'Aquila 68.00 308 *e*P **P 03 09 37.2 +0.1**
comp=Z,22nm,1.0s
BSEG Bad Segeberg 68.11 321 *e*P **P 03 09 38.6 +1.1**
comp=Z,16nm,0.8s
BSEG Bad Segeberg 68.11 321 *e*P **P 03 09 38.6 +1.1**
BSEG pmax pmax
comp=Z,16nm,0.8s
WTTA Wattenberg 68.35 314⇑ *i*P **P 03 09 39.1 -0.2**
comp=Z,9.0nm,1.2s
NRDL Niedersach Rie 68.46 319 *e*P **P 03 09 40.8 +1.2**
comp=Z,13nm,1.2s
MOTA Moosalm 68.69 314⇑ *i*P **P 03 09 41.2 -0.3**
comp=Z,6.2nm,0.8s
RETA Reutte 68.89 314⇓ *i*P **P 03 09 42.4 -0.3**
comp=Z,8.9nm,1.0s
FETA Feichten 69.00 313⇓ *i*P **P 03 09 43.0 -0.4**
comp=Z,6.6nm,1.0s
DAVA Damuels 69.52 314⇓ *i*P **P 03 09 46.8 +0.2**
comp=Z,13nm,1.3s,SNR=5.2
STU Stuttgart 69.69 315 *e*P **P 03 09 48.0 +0.7**
STU pmax pmax
comp=Z,11nm,0.7s
STU Stuttgart 69.69 315 *e*P **P 03 09 48.0 +0.7**
comp=Z,11nm,0.7s
TNS Taunus Mts 69.88 317 *e*P **P 03 09 49.3 +0.7**
comp=Z,9.0nm,1.0s
TNS Taunus Mts 69.88 317 *e*P **P 03 09 49.3 +0.7**
TNS pmax pmax
comp=Z,9.0nm,1.0s
BUG Bochum--Univer 70.38 318 *e*P **P 03 09 52.2 +0.7**
comp=Z,14nm,1.1s
CDF Champ du Feu 71.01 315 *e*P **P 03 09 55.4 -0.1**
comp=Z,36nm,1.4s
STKA Stephens Creek 71.07 138 P **P 03 09 54.2 -1.7**
STKA Stephens Creek 71.07 138 P **P 03 09 54.2 -1.7**
comp=Z,1.0nm,0.6s,baz=304,slow=12,SNR=2.6
PGF Pioggiola 71.14 309 *e*P **P 03 09 56.6 +0.1**
comp=Z,20nm,0.8s
HINF Hinteralfeld 71.42 315 *e*P **P 03 09 57.6 -0.4**
SENIN Lac Senin/Sane 71.45 313 *e*P **P 03 09 59.1 +0.7**
comp=Z,34nm,1.9s
WLF Walferdange 71.45 317 *e*P **P 03 09 59.3 +1.2**
comp=Z,32nm,1.2s
WLF Walferdange 71.45 317 *e*P **P 03 09 59.6 +1.5**
WLF pmax pmax
comp=Z,17nm,1.1s
WLF Walferdange 71.45 317 *e*P **P 03 09 59.5 +1.5**
comp=Z,17nm,1.1s
HAU Haudompre 71.70 315 *e*P **P 03 09 59.5 -0.2**
comp=Z,14nm,0.9s
SBF Sospel 71.94 311 *e*P **P 03 10 01.2 -0.1**
comp=Z,23nm,0.9s
PAGF Fort de Pagny 71.98 316 *e*P **P 03 10 01.6 +0.3**
comp=Z,3.0nm,0.7s
LPG La Plagne 72.03 312 *e*P **P 03 10 02.3 +0.3**
comp=Z,17nm,0.9s
LPL La Plagne 72.03 312 *e*P **P 03 10 02.3 +0.3**
comp=Z,13nm,0.8s
BNI Bardonecchia 72.18 312 *e*P **P 03 10 02.6 -0.2**
BNI pmax pmax
comp=Z,7.0nm,1.1s
BNI Bardonecchia 72.18 312 *e*P **P 03 10 02.6 -0.2**
comp=Z,6.8nm,1.1s
MBDF Montbardon 72.20 312 *e*P **P 03 10 02.2 -0.7**
comp=Z,16nm,1.2s
CABF La Chapelle 72.20 314 *e*P **P 03 10 03.0 +0.2**
comp=Z,17nm,1.2s
MEZF Maizieres J'vi 72.42 316 *e*P **P 03 10 04.2 +0.3**
comp=Z,18nm,0.8s
FRF La Foret Royal 72.57 310 *e*P **P 03 10 05.1 +0.2**
comp=Z,25nm,1.0s
BAIF Baives 72.58 318 *e*P **P 03 10 05.2 +0.4**
comp=Z,18nm,1.1s
KEST Kesra 72.58 302 *e*P **P 03 10 06.1 +0.9**
KEST Kesra 72.58 302 P **P 03 10 06.2 +0.9**
comp=Z,3.3nm,0.9s,baz=53,slow=5.1,SNR=5.6
LMR La Mourre 72.73 310 *e*P **P 03 10 06.0 +0.2**
comp=Z,36nm,1.2s
DAG Danmarks Havn 73.14 347 *i*P **P 03 10 07.3 -0.3**
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 73.14 347 *i*P **P 03 10 07.3 -0.3**
comp=Z,5.3nm,1.0s
SMRF Simiane la Rot 73.22 311 *e*P **P 03 10 09.1 +0.3**
LOR Lormes 73.52 315 *e*P **P 03 10 10.1 -0.3**
comp=Z,9.4nm,0.9s
VIVF Saint-Julien-l 73.61 312 *e*P **P 03 10 11.1 0.0**
comp=Z,16nm,1.0s
SMF Signal de Mont 73.69 314 *e*P **P 03 10 11.4 -0.1**
comp=Z,11nm,0.7s
SSF Saint Saulge 73.80 315 *e*P **P 03 10 12.2 +0.1**
comp=Z,22nm,1.0s
AVF Avril sur Loir 73.98 314 *e*P **P 03 10 13.0 -0.1**
comp=Z,9.0nm,0.8s
LSZ Lusaka 74.03 246 *e*P **P 03 10 14.9 +0.9**
comp=Z,4.0nm,0.8s
HYF Humbligny 74.31 315 *e*P **P 03 10 15.8 +0.7**
BGF Bois d'Agland 74.38 314 *e*P **P 03 10 15.5 0.0**
LASF Ste Croix 74.38 312 *e*P **P 03 10 16.0 +0.4**
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 74.88 314 *e*P **P 03 10 18.8 +0.4**
comp=Z,27nm,1.0s
CAF Calviac 75.37 313 *e*P **P 03 10 21.7 +0.4**
comp=Z,6.3nm,0.9s
RJF Les Rejaudoux 75.63 313 *e*P **P 03 10 23.4 +0.7**
comp=Z,14nm,0.8s
LDF La Druitiere 75.71 317 *e*P **P 03 10 23.0 -0.1**
comp=Z,18nm,0.9s
MTLF Montolieu 75.73 311 *e*P **P 03 10 23.6 +0.2**
comp=Z,5.6nm,0.9s
FLN La Foliniere 75.88 317 *e*P **P 03 10 24.2 +0.1**
GRR Gorron 76.23 317 *e*P **P 03 10 26.1 0.0**
LFF La Frestale 76.26 313 *e*P **P 03 10 26.9 +0.6**
comp=Z,14nm,0.8s
MFF Saint Martin d 76.33 315 *e*P **P 03 10 26.7 0.0**
comp=Z,22nm,1.1s
EPF Esparros 77.14 311 *e*P **P 03 10 30.6 -0.7**
SGMF Saint Gilles 77.35 317 *e*P **P 03 10 32.7 +0.3**
comp=Z,7.6nm,0.8s
ROSF Rostrenen 77.77 317 *e*P **P 03 10 34.8 +0.1**
comp=Z,24nm,0.8s
ETSF Etsaut 77.80 311 *e*P **P 03 10 35.6 +0.5**
comp=Z,4.1nm,0.7s
COLD Coldfoot 79.05 21 *e*P **P 03 10 41.6 +0.2**
comp=Z,2.6nm,0.9s
TAM Tamanrasset 79.72 290 *e*P **P 03 10 47.5 +1.4**
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM Tamanrasset 79.72 290 *e*P **P 03 10 47.5 +1.4**
comp=Z,1.8nm,0.8s
SUMG Summit 79.82 347 *i*P **P 03 10 46.0 0.0**
comp=Z,6.0nm,1.1s
LBTB Lobatse 80.94 238 *e*P **P 03 10 52.2 -0.2**
comp=Z,4.8nm,0.8s
COLA College 81.16 22 *e*P **P 03 10 53.1 +0.4**
COLA pmax pmax
comp=Z,10.0nm,0.7s
COLA College 81.16 22 *e*P **P 03 10 53.1 +0.4**
comp=Z,9.9nm,0.7s
ESDC Sonseca Array 81.34 309 P **P 03 10 54.7 +0.4**
ESDC Sonseca Array 81.34 309 P **P 03 10 54.7 +0.4**
comp=Z,0.6nm,0.5s,baz=58,slow=5.2,SNR=9.2
MCK McKinley 81.42 23 *e*P **P 03 10 54.0 -0.2**
MCK pmax pmax
comp=Z,12nm,1.3s
MCK McKinley 81.42 23 *e*P **P 03 10 54.0 -0.2**
comp=Z,12nm,1.3s
ILAR Eielson Array 81.55 22 P **P 03 10 54.0 -0.9**
ILAR PP **PP 03 14 02.8 +1.3**
ILAR Eielson Array 81.55 22 P **P 03 10 54.0 -0.9**
comp=Z,3.0nm,0.7s,baz=298,slow=5.1,SNR=32
ILAR PP **PP 03 14 02.8 +1.3**
comp=Z,0.8nm,0.8s,baz=298,slow=7.4,SNR=6.4
BOSA Boshof 83.00 235 *e*P **P 03 11 03.9 +0.7**
comp=Z,36nm,1.6s
BOSA Boshof 83.00 235 P **P 03 11 03.9 +0.7**
comp=Z,4.9nm,0.8s,baz=48,slow=3.0,SNR=6.7
KDAK Kodiak Island 83.16 30 P **P 03 11 03.6 +0.3**
KDAK Kodiak Island 83.16 30 P **P 03 11 03.6 +0.3**
comp=Z,11nm,0.6s,baz=306,slow=4.5,SNR=8.2
INK Inuvik 83.22 16 *e*P **P 03 11 03.5 0.0**
comp=Z,19nm,1.3s
BMRM Bremner River 84.68 25 *e*P **P 03 11 11.8 +0.6**
comp=Z,25nm,0.9s
TOA0 Torodi Ar. Sit 86.59 283 *e*P **P 03 11 22.1 +0.7**
TORD Torodi Ar. Bea 86.59 283 P **P 03 11 22.3 +0.9**
TORD Torodi Ar. Bea 86.59 283 P **P 03 11 22.3 +0.9**
comp=Z,3.2nm,1.0s,baz=66,slow=4.3,SNR=16
HYT Haines Junctio 87.39 22 *e*P **P 03 11 25.3 +0.7**
DLBC Dease Lake 91.73 21 *e*P **P 03 11 45.6 +0.7**
DLBC *ep*P **pP 03 12 02.3 -1.6**
YKW3 Yellowknife Ar 92.37 13 *e*P **P 03 11 45.6 -2.0**
YKA Yellowknife Ar 92.44 13 P **P 03 11 47.5 -0.5**
YKA Yellowknife Ar 92.44 13 P **P 03 11 47.5 -0.5**
comp=Z,2.5nm,0.9s,baz=326,slow=4.9,SNR=12
ANMO Albuquerque 119.86 19 *e*PKPdf **PKPdf 03 17 28.8 +0.6**
TUC Tucson 120.82 24 *e*PKIKP **PKPdf 03 17 30.5 +0.6**
TUC Tucson 120.82 24 *e*PKPdf **PKPdf 03 17 30.5 +0.6**
MNTX Cornudas Mount 123.21 19 *e*PKPdf **PKPdf 03 17 34.5 0.0**
JCT Junction City 125.84 14 *e*PKIKP **PKPdf 03 17 39.5 -0.1**
JCT Junction City 125.84 14 *e*PKPdf **PKPdf 03 17 39.5 -0.1**
TXAR Lajitas Array 125.93 18 PKP **PKPdf 03 17 40.0 +0.1**
TXAR Lajitas Array 125.93 18 PKP **PKPdf 03 17 40.0 +0.1**
comp=Z,1.0nm,0.7s,baz=282,slow=0.8,SNR=15
SDV Santo Domingo 145.11 332 *e*PKPbc **PKPbc 03 18 15.1 -0.1**
CPUP Villa Florida 153.07 256 *e*PKPbc **PKPbc 03 18 34.9 -0.4**
CPUP Villa Florida 153.07 256 PKPbc **PKPbc 03 18 35.1 -0.2**
comp=Z,2.4nm,0.6s,baz=64,slow=4.2,SNR=9.6
SAML Samuel 153.78 297 *e*PKPbc **PKPbc 03 18 37.6 +0.5**
SAML *e*PKPab **PKPab 03 18 49.2 -1.0**
LVC Limon Verde 163.63 266 *e*PKPdf **PKPdf 03 18 40.2 -0.8**
LVC *e*PKPab **PKPab 03 19 33.4 +0.2**

IGQ 05 03:13:53.5, 1°.97S×77°.63W, h8km±136km, Mb4.1, Ms3.9, 1C-11D, Error ellipse: s-maj=2.2km s-min=1.5km az=2.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PAT1	Patacocha	0.93	300	⇓P		Pg	03 14 11.8	-0.3
ULBA	Ulba	0.93	304	⇓P		Pg	03 14 11.9	-0.1
ARRY	Arrayan	0.94	299	⇓P		Pg	03 14 11.6	-0.5
RETU	Refugio	0.96	302	⇓P		Pg	03 14 12.4	-0.4
RUN5	Runtun	0.97	305	⇓P		Pg	03 14 12.3	-0.2
JUI6	Juive	1.00	303	⇓P		Pg	03 14 12.6	-0.5
BIL2	Estacion Bilba	1.01	300	⇓P		Pg	03 14 13.2	-0.1
IGUA	Igualata	1.12	295	⇓P		Pg	03 14 15.4	-0.3
PISA	Pisayambo	1.18	320	⇑P		Pb	03 14 16.6	-0.2
TAMB	Tambo	1.47	330	⇓P		Pb	03 14 21.7	-0.1
COV1	Cotopaxi Volc	1.48	331	P		Pg	03 14 23.1	+0.3
COV1	Cotopaxi Volc	1.48	331	S		Sg	03 14 43.7	+1.1
MOV1	Cotopaxi Vol s	1.49	327	P		Pb	03 14 21.8	-0.4
VC1	Cotopaxi 1	1.53	330	⇓P		Pb	03 14 22.9	+0.1
CAMI	Rancho Maria	1.55	326	P		Pb	03 14 23.2	+0.1
NAS2	Nasa	1.56	327	S		Sg	03 14 45.1	+0.3
NAS2	Nasa	1.56	327	P		Pb	03 14 23.6	+0.3
ANTI	Antisana	1.60	341	P		Pb	03 14 23.7	-0.4
PITA	Cotopaxi Volc	1.62	330	⇓P		Pb	03 14 24.4	+0.2
LAV4	Lava4-Reventad	1.86	0	P		Pb	03 14 28.5	+0.3
CHAR	Charly	1.87	359	P		Pb	03 14 29.1	+0.6
CHAR	Charly	1.87	359	S		Sg	03 14 56.1	+1.5
CONE	Cono NE Rev Vo	1.89	360	P		Pb	03 14 28.2	-0.4
JUA2	San Juan 2	2.00	331	P		Pb	03 14 31.2	+0.4
GGP	Refugio Guagua	2.03	332	P		Pb	03 14 31.2	-0.2
PINO	Pino	2.05	331	P		Pb	03 14 32.3	+0.5
CAYA	Cayambe	2.06	350	P		Pb	03 14 31.3	-0.6
COTA	Cotacachi	2.40	343	P		Pb	03 14 38.0	+0.4
ARNL	Arenillas	2.90	237	P		Pn	03 14 41.5	+1.5

KRSC 05 03:22:10.8±0.7, 56°.20N×162°.25E, h71km±70km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KBG	Krutoberegovo	0.26	78	P		Pn	03 22 22.5	+0.7

KBG				S	Sn	03 22 31.2	+1.4
SMKR	**Semkarok**	**0.58 312**		P	Pn	03 22 25.2	+0.6
SMKR				S	Sn	03 22 35.2	+0.5
BDR	**Baidarnaya**	**0.69 303**		P	Pn	03 22 26.6	+0.9
BDR				S	Sn	03 22 38.0	+1.2
SRKR	**Sorokina**	**0.75 308**		P	Pn	03 22 27.1	+0.6
SRKR				S	Sn	03 22 39.1	+1.0
ZLN	**Zelenaya**	**0.83 258**		P	Pn	03 22 28.6	+1.2
ZLN				S	Sn	03 22 41.8	+2.1
CIRR	**Tsirk**	**0.84 265**		P	Pn	03 22 29.0	+1.4
CIRR				S	Sn	03 22 41.8	+1.7
LGNR	**Loginova**	**0.88 263**		P	Pn	03 22 29.4	+1.1
LGNR				S	Sn	03 22 42.7	+1.5
KLY	**Klyuchi**	**0.90 278**		P	Pn	03 22 27.4	-0.6
KLY				S	Sn	03 22 39.8	-1.1
BZGR	**Bezymyannyi-Gr**	**0.91 254**		P	Pn	03 22 30.2	+1.8
BZGR				S	Sn	03 22 43.8	+2.4
KRSR	**Krestovskiy**	**0.94 272**		P	Pn	03 22 29.4	+0.7
KRSR				S	Sn	03 22 42.6	+0.5
BZMR	**Bezymyannaya**	**1.02 256**		P	Pn	03 22 31.1	+1.3
BZMR				S	Sn	03 22 45.7	+1.8
KIRR	**Kirishev**	**1.10 258**		P	Pn	03 22 32.0	+1.2
KIRR				S	Sn	03 22 47.1	+1.5
KPT	**Kopyto**	**1.16 259**		P	Pn	03 22 32.9	+1.4
KPT				S	Sn	03 22 49.0	+2.1
KMNR	**Kamenistaya**	**1.22 249**		P	Pn	03 22 34.0	+1.8
KMNR				S	Sn	03 22 51.2	+3.0
KOZ	**Kozyrevsk**	**1.34 265**		P	Pn	03 22 35.5	+1.8
KOZ				S	Sn	03 22 53.9	+3.0
SRDR	**Sredinnyy**	**1.42 276**		P	Pn	03 22 35.9	+1.1
SRDR				S	Sn	03 22 54.7	+1.9
MKZ	**Mys Kozlova**	**1.67 190**		P	Pn	03 22 39.3	+1.3
MKZ				S	Sn	03 22 59.7	+1.0
ESO	**Esso**	**2.01 264**		P	Pn	03 22 43.8	+1.2
ESO				S	Sn	03 23 08.3	+1.5
BKI	**Bering**	**2.33 114**		P	Pn	03 22 48.0	+1.2
BKI				S	Sn	03 23 15.2	+0.8
SDLR	**Sedlovina**	**3.52 215**		P	Pn	03 23 06.2	+3.0
SDLR				S	Sn	03 23 46.5	+2.8
GNL	**Ganaly**	**3.53 226**		P	Pn	03 23 05.4	+2.0
KRER	**Koryakskii**	**3.54 216**		P	Pn	03 23 06.8	+3.2
KRER				S	Sn	03 23 47.4	+3.0
SMAR	**Somma**	**3.56 216**		P	Pn	03 23 06.4	+2.5
AVH	**Avacha**	**3.58 216**		P	Pn	03 23 07.3	+3.4
AVH				S	Sn	03 23 48.6	+3.6
KOK	**Koryaka**	**3.59 217**		P	Pn	03 23 06.2	+2.1
UGLR	**Uglovaya**	**3.60 215**		P	Pn	03 23 07.0	+2.8
RUS	**Russkaya**	**4.36 212**		P	Pn	03 23 16.2	+1.7
RUS				S	Sn	03 24 04.9	+0.9
MTVR	**Mutnovka**	**4.42 214**		P	Pn	03 23 18.8	+3.3
MTVR				S	Sn	03 24 08.3	+2.5
ASAK	**Asacha**	**4.59 215**		P	Pn	03 23 21.0	+3.2

BJI 05 03:23:43.9, 26°.38N×118°.65E, h7km, ML3.7/4, 1D, Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**1.43**	**182**	⇓*i*Pn	Pn	03 24 08.6	-1.7
QZH				Pg	Pb	03 24 09.4	-1.5
QZH				Sg	Sb	03 24 28.1	-1.3
QZH				smax	smax		
	comp=N,950nm,0.3s						
QZH				smax	smax		
	comp=E,2μm,0.3s						
NJ2	**Nanjing**	**5.66**	**2**	*e*Pg	Pg	03 25 33.4	+1.2
NJ2				Sg	Sg	03 26 42.1	-3.4
NJ2				smax	smax		
	comp=N,200nm,0.8s						
NJ2				smax	smax		
	comp=E,110nm,1.0s						
NJ2				SMZ			
	comp=E,70nm,1.0s						

WEL 05 03:30:20.5±0.3, 37°.21S×176°.48E, h200km±3km, ML3.9/13, 5C-2D, Error ellipse: s-maj=4.5km s-min=4.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.16**	**155**	⇑PN	Pn	03 30 51.5	+0.1
URZ				SN	S	03 31 15.6	+0.3
URZ				AML	AML	03 31 16.4	
MWZ	**Matawai**	**1.40**	**144**	⇓PN	Pn	03 30 53.2	-0.1
MWZ				SN	S	03 31 18.3	-0.2
MWZ				AML	AML	03 31 20.9	
MWZ				AML	AML	03 31 21.1	
MWZ				AML	AML	03 31 21.6	
MXZ	**Matakaoa Point**	**1.50**	**104**	AML	AML	03 31 23.1	
PUZ	**Puketiti**	**1.65**	**122**	⇑PN	Pn	03 30 55.6	0.0
PUZ				SN	S	03 31 22.6	+0.1
PUZ				AML	AML	03 31 24.6	
RAHZ	**Arahi**	**1.77**	**165**	PN	Pn	03 30 56.9	+0.2
CNGZ	**Carnagh Statio**	**1.87**	**133**	PN	Pn	03 30 58.1	+0.5
NMHZ	**Naumai**	**1.90**	**172**	PN	Pn	03 30 58.6	+0.6
BKZ	**Black Stump Fm**	**1.95**	**180**	PN	Pn	03 30 58.0	-0.6
BKZ				SN	S	03 31 27.1	-0.8
BKZ				AML	AML	03 31 29.0	
TWVZ	**Taurewa**	**2.03**	**204**	PN	Pn	03 30 59.8	+0.4
KNZ	**Kokohu**	**2.04**	**153**	PN	Pn	03 30 58.8	-0.5
PRGZ	**Paritu Road**	**2.04**	**148**	PN	Pn	03 30 59.2	-0.2
NGZ	**Ngauruhoe**	**2.08**	**199**	PN	Pn	03 31 00.4	+0.4
TUVZ	**Tukino**	**2.16**	**197**	PN	Pn	03 31 00.7	0.0
FWVZ	**Far West T-bar**	**2.17**	**199**	PN	Pn	03 31 00.8	-0.3
WNVZ	**Wahianoa**	**2.23**	**198**	PN	Pn	03 31 01.4	-0.2
MCHZ	**McNeill Hill**	**2.24**	**176**	⇑PN	Pn	03 31 01.4	-0.1
MHGZ	**Mahia Peninsul**	**2.24**	**150**	PN	Pn	03 31 01.0	-0.5
PKVZ	**Pokaka**	**2.26**	**203**	PN	Pn	03 31 01.8	0.0
MOVZ	**Moawhango**	**2.27**	**194**	PN	Pn	03 31 01.0	-0.9
BHHZ	**Black Hill Sta**	**2.30**	**188**	PN	Pn	03 31 01.3	-0.9
MTVZ	**Mangateitei**	**2.31**	**200**	PN	Pn	03 31 02.2	-0.2
VRZ	**Vera Road**	**2.34**	**215**	PN	Pn	03 31 03.7	+1.1
CKHZ	**Cape Kidnapper**	**2.49**	**169**	PN	Pn	03 31 03.5	-0.7
KAHZ	**Kahuranaki**	**2.60**	**173**	PN	Pn	03 31 04.6	-0.9
PNHZ	**Pukenui**	**2.71**	**185**	PN	Pn	03 31 05.4	-1.4
WAZ	**Wanganui**	**2.80**	**204**	PN	Pn	03 31 07.1	-0.7
PXZ	**Pawanui**	**2.83**	**174**	PN	Pn	03 31 06.7	-1.4
PXZ				AML	AML	03 31 43.3	
PXZ				AML	AML	03 31 43.3	
PXZ				AML	AML	03 31 45.6	
PXZ				AML	AML	03 31 45.6	
WPHZ	**Waipukurau**	**2.85**	**181**	PN	Pn	03 31 06.8	-1.5
TSZ	**Takapari Road**	**2.87**	**188**	PN	Pn	03 31 07.0	-1.7
PRHZ	**Porangahau**	**3.06**	**178**	PN	Pn	03 31 08.9	-1.8
DVHZ	**Dannevirke**	**3.10**	**184**	⇓PN	Pn	03 31 09.1	-2.1
POWZ	**Post Office Ro**	**3.23**	**190**	PN	Pn	03 31 10.6	-2.2
MRZ	**Mangatainoka R**	**3.52**	**191**	⇑PN	Pn	03 31 13.4	-2.8
MRZ				AML	AML	03 31 57.0	
MRZ				AML	AML	03 31 59.4	
OGWZ	**Otaki Gorge**	**3.74**	**195**	PN	Pn	03 31 16.2	-2.8
HOWZ	**Holdsworth Sta**	**3.76**	**191**	PN	Pn	03 31 16.2	-3.0
KIW	**Kapiti Island**	**3.85**	**198**	AML	AML	03 31 14.6	
KIW				PN	Pn	03 31 17.2	-3.1
TMWZ	**Te Maipa**	**3.92**	**187**	PN	Pn	03 31 18.0	-3.2
MTW	**Mount Morrison**	**4.02**	**191**	PN	Pn	03 31 18.9	-3.4
MTW				AML	AML	03 32 08.6	
CAW	**Cannon Point**	**4.04**	**195**	PN	Pn	03 31 19.4	-3.4
CAW				AML	AML	03 32 10.0	
CAW				AML	AML	03 32 10.3	
DUWZ	**D'Urville Isla**	**4.10**	**208**	PN	Pn	03 31 20.4	-3.1
TRWZ	**Traveller**	**4.23**	**188**	PN	Pn	03 31 21.5	-3.6
MSWZ	**Moikau Station**	**4.31**	**192**	PN	Pn	03 31 22.1	-4.0
MSWZ				AML	AML	03 32 12.8	
MSWZ				AML	AML	03 32 14.2	
SNZO	**South Karori**	**4.32**	**198**	PN	Pn	03 31 22.4	-3.8
TCW	**Tory Channel**	**4.35**	**203**	PN	Pn	03 31 23.1	-3.5
TCW				AML	AML	03 32 16.7	
TCW				AML	AML	03 32 17.0	
BHW	**Baring Head**	**4.37**	**196**	PN	Pn	03 31 23.0	-3.8
PLWZ	**Palliser**	**4.46**	**192**	PN	Pn	03 31 23.9	-4.1
TUWZ	**Tuamarina**	**4.65**	**204**	PN	Pn	03 31 27.1	-3.3
TUWZ				AML	AML	03 32 24.4	
NNZ	**Nelson**	**4.67**	**210**	PN	Pn	03 31 26.9	-3.7
BSWZ	**Blackbirch Sta**	**4.93**	**203**	PN	Pn	03 31 30.3	-3.6
THZ	**Tophouse**	**5.32**	**210**	PN	Pn	03 31 35.5	-3.5
KHZ	**Kahutara**	**5.67**	**203**	⇑PN	Pn	03 31 39.4	-4.0
LTZ	**Lake Taylor**	**6.43**	**209**	PN	Pn	03 31 49.0	-4.4
LBZ	**Lake Benmore**	**8.61**	**212**	PN	Pn	03 32 16.1	-5.5
ODZ	**Otahua Downs**	**8.98**	**208**	PN	Pn	03 32 21.4	-4.9

IDC 05 03:33:37.1±2.7, 29°.08N×113°.15W, h0km, mb4.1/1, mb1 3.8/5, mb1mx3.5/28, mbtmp3.4/5, ML2.6/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/39, Error ellipse: s-maj=36.4km s-min=16.3km az=33.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**5.33**	**329**	Lg	Lg	03 36 30.3	
	0.6nm,0.3s,baz=248,slow=16,SNR=5.2						
PFO				LR	LR	03 36 40.4	
	comp=Z,65nm,19.1s,baz=164,slow=34						
ANMO	**Albuquerque**	**8.16**	**42**	Pn	Pn	03 35 36.8	-0.2
	0.1nm,0.3s,baz=235,slow=16,SNR=2.7						
ANMO				Lg	Lg	03 37 58.7	
	0.5nm,0.3s,baz=344,slow=19,SNR=3.7						
TXAR	**Lajitas Array**	**8.30**	**86**	Pn	Pn	03 35 39.4	+0.5
	2.0nm,0.3s,baz=263,slow=13,SNR=104						
TXAR				Lg	Lg	03 37 59.8	
	0.4nm,0.3s,baz=269,slow=28,SNR=3.9						
TXAR				LR	LR	03 39 30.6	
	comp=Z,42nm,18.3s,baz=115,slow=43						
NVAR	**Mina Array Bea**	**10.26**	**337**	Pn	Pn	03 36 07.8	+1.9
	0.1nm,0.3s,baz=140,slow=14,SNR=2.1						
NVAR				LR	LR	03 40 15.3	
	comp=Z,42nm,18.8s,baz=236,slow=39						
PDAR	**Pinedale Array**	**13.97**	**11**	Pn	Pn	03 36 59.0	+2.4
	0.0nm,0.3s,baz=188,slow=13,SNR=2.7						
PDAR				Lg	Lg	03 40 58.7	
	baz=177,slow=32,SNR=2.3						
TKL	**Tuckaleechee C**	**25.61**	**68**	P	P	03 39 09.5	+1.3
	2.1nm,0.7s,baz=246,slow=9.3,SNR=4.2						

NIED ***05*** *03:51:00, 32°.50N×132°.10E, h35km, Mw4.9 Best double couple: M₀2.89000×10¹⁶ NP1:φs178.00000°, δ66.00000°, λ-91.00000°. NP2:φs1.00000°, δ24.00000°, λ-87.00000°.*

MOS ***05*** *03:51:12.6±1.1, 32°.58N×131°.81E, h36km, mb5.2/60, MS4.5/14, Error ellipse: s-maj=7.6km s-min=5.2km az=92.2*

JMA ***05*** *03:51:14.0, 32°.52N×132°.12E, h33km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs164.00000°, δ60.00000°, λ-87.00000°. NP2: φs338.00000°, δ30.00000°, λ-95.00000°. Principal axes: T Plg15.0000°, Azm252.0000°; N Plg3.0000°, Azm343.0000°; P Plg75.0000°, Azm83.0000°;*

JMA Felt IV J1.

IDC ***05*** *03:51:14.2±0.4, 32°.62N×131°.78E, h37km±2km, mb4.6/22, mb1 4.7/24, mb1mx4.7/29, mbtmp4.6/24, ML4.0/2, MS4.2/21, Ms1 4.3/21, ms1mx4.1/35 Error ellipse: s-maj=11.7km s-min=9.6km az=65.0*

ISCJB ***05*** *03:51:14.0±0.3, 32°.58N±0°.02×132°.02E±0°.02, h42km±2km, mb5.0/141, MS4.5/39, Error ellipse: s-maj=3.8km s-min=2.6km az=165.0*

NEIC ***05*** *03:51:15.6±0.5, 32°.54N×131°.86E, h46km±3km, mb5.1/85, MW4.9(NIED), Error ellipse: s-maj=4.9km s-min=4.0km az=154.0*

NEIC Felt at Kiyotake and Minamata. Recorded [4 JMA] in Oita; [3 JMA] in Kumamoto and Miyazaki; [1 JMA] in Fukuoka, Kagoshima and Nagasaki. Also recorded [3 JMA] in Ehime and [2 JMA] in Kochi, Shikoku and [1 JMA] in Hiroshima, Okayama and Yamaguchi, Honshu.

GCMT ***05*** *03:51:15.9±0.4, 32°.56N×131°.97E, h33km±1km, MW5.0, Moment Tensor Solution. s23,c25; s55,c78; Moment tensor: Scale 10¹⁶Nm; Mrr=2.76±.21; Mθθ0.2±.13; Mφφ2.55±.13; Mrθ-0.01±.16; Mθφ-0.01±.10; Mφr2.16±.13; Best double couple: M₀3.40000×10¹⁶ NP1:φs180.00000°, δ65.00000°, λ-90.00000°. NP2:φs360.00000°, δ25.00000°, λ-90.00000°. Principal axes: T 3.3200, Plg20.0000°, Azm270.0000°; N 0.2100, Plg0.0000°, Azm180.0000°; P -3.5300, Plg70.0000°, Azm90.0000°; Data Used: II IU IC G CN.*

ISC 05 03:51:14.6±0.3, 32°.55N±0°.03×132°.07E±0°.03, h40km±2km, h40km:pP-P, n807, σ1°34/873, mb5.0/142, MS4.4/40, 244C-210D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKIT	**Kitakata**	**0.53**	**278**	P	**Pn**	**03 51 25.4**	**-0.4**
JKIT				S	**Sn**	**03 51 33.5**	**-0.1**
JTSN	**Tsuno**	**0.57**	**238**	⇑P	**Pn**	**03 51 25.5**	**-0.8**
JTSN				S	**Sn**	**03 51 34.4**	**-0.2**
JUS	**Usuki**	**0.58**	**332**	⇑P	**Pn**	**03 51 26.4**	**-0.1**
JUS				S	**Sn**	**03 51 35.3**	**+0.4**
JTO	**Tosashimizu**	**0.69**	**63**	⇑P	**Pn**	**03 51 26.8**	**-1.1**
JTO				S	**Sn**	**03 51 36.6**	**-0.9**
UWA2	**Uwa jima 2**	**0.81**	**35**	⇑P	**Pn**	**03 51 28.8**	**-0.8**
UWA2				*e*S	**Sn**	**03 51 39.3**	**-1.1**
JTZ	**Takazaki**	**1.06**	**232**	⇑P	**Pn**	**03 51 32.9**	**-0.1**
JNA	**Nagahama**	**1.06**	**19**	⇓P	**Pn**	**03 51 32.7**	**-0.3**
JNA				*e*S	**Sn**	**03 51 47.8**	**+1.2**
JIU2	**Izumi 2**	**1.06**	**270**	⇑P	**Pn**	**03 51 33.7**	**+0.6**
JKU	**Kubokawa**	**1.12**	**48**	⇑P	**Pn**	**03 51 33.2**	**-0.7**
JNU	**Nakatsue**	**1.15**	**300**	Pg	**Pn**	**03 51 35.3**	**+1.0**
JNU				Lg	Lg	03 51 50.0	
JNU	**Nakatsue**	**1.15**	**300**	⇑P	**Pn**	**03 51 35.4**	**+1.0**
JNU	**Nakatsue**	**1.15**	**300**	Pg	**Pn**	**03 51 35.3**	**+1.0**
	4μm,0.3s,baz=110,slow=6.3						
JNU				Lg	Lg	03 51 50.0	
	3μm,0.3s,baz=198,slow=20,SNR=28						
JKI	**Kunimi**	**1.16**	**339**	⇓P	**Pn**	**03 51 35.4**	**+1.0**
JZO	**Okuchi**	**1.31**	**252**	⇑P	**Pn**	**03 51 37.2**	**+0.7**
JTA	**Tamana**	**1.36**	**288**	⇑P	**Pn**	**03 51 38.1**	**+1.0**
JKD	**Kudamatsu**	**1.51**	**354**	⇓P	**Pn**	**03 51 39.8**	**+0.6**
JFA	**Akaike**	**1.58**	**318**	⇑P	**Pn**	**03 51 40.8**	**+0.7**
JHD	**Hondo**	**1.64**	**267**	⇑P	**Pn**	**03 51 41.5**	**+0.6**
JFI	**Itaya**	**1.66**	**302**	⇑P	**Pn**	**03 51 42.2**	**+0.9**
JUR	**Ureshino**	**1.87**	**287**	⇑P	**Pn**	**03 51 44.6**	**+0.5**
JHIK	**Hikimi**	**1.98**	**357**	⇓P	**Pn**	**03 51 46.3**	**+0.7**
JHT	**Toyohira**	**2.12**	**8**	P	**Pn**	**03 51 48.4**	**+0.7**
JSJ	**Shimokoshiki**	**2.18**	**247**	⇑P	**Pn**	**03 51 48.2**	**-0.2**
JJG	**Jouge**	**2.27**	**23**	P	**Pn**	**03 51 49.5**	**-0.2**
JKN2	**Miekihoku**	**3.90**	**63**	P	**Pn**	**03 52 11.4**	**-0.6**
TSUJ	**Tsu 2**	**4.22**	**58**	P	**Pn**	**03 52 15.9**	**-0.5**
JIE	**Ise**	**4.29**	**63**	P	**Pn**	**03 52 17.6**	**+0.3**
JFM	**Mihama**	**4.40**	**46**	P	**Pn**	**03 52 20.0**	**+1.1**
JAA	**Atsumi**	**4.71**	**63**	P	**Pn**	**03 52 24.2**	**+1.0**
JGM	**Miyama**	**4.97**	**50**	P	**Pn**	**03 52 27.9**	**+1.1**
JKG	**Kaga**	**5.12**	**42**	P	Pn	03 52 31.7	+3.0
HMMJ	**Hamamatsu 2**	**5.24**	**62**	P	**Pn**	**03 52 30.9**	**+0.5**
JYZW	**Yoshizawa**	**5.31**	**61**	P	**Pn**	**03 52 30.9**	**-0.5**
JGF	**Kuroka**	**5.34**	**54**	P	**Pn**	**03 52 32.0**	**+0.2**
JNY	**Yasuok**	**5.56**	**58**	P	**Pn**	**03 52 34.9**	**-0.1**
JGN	**Niukaw**	**5.67**	**48**	P	**Pn**	**03 52 37.0**	**+0.5**
JJH	**Hakui**	**5.83**	**40**	P	**Pn**	**03 52 40.9**	**+2.3**
KSRS	**Korea Array**	**5.96**	**326**	Pn	**Pn**	**03 52 41.2**	**+1.0**
	7.0nm,0.3s,baz=144,slow=14,SNR=51						
KSRS				Sn	**Sn**	**03 53 47.8**	**+0.5**
	8.3nm,0.3s,baz=144,slow=24,SNR=6.6						
KSRS				LR	LR	03 55 13.4	
	comp=Z,2μm,19.6s,baz=148,slow=41						
KSAR	**Wonju Array Be**	**5.97**	**326**	Pn	**Pn**	**03 52 41.2**	**+0.8**
KSAR				Sn	**Sn**	**03 53 47.8**	**+0.3**
JNT	**Takato**	**6.02**	**55**	P	**Pn**	**03 52 42.8**	**+1.5**
JNG	**Nsakai**	**6.29**	**51**	P	**Pn**	**03 52 45.9**	**+1.0**
AJI	**Ajiro2**	**6.35**	**65**	P	**Pn**	**03 52 45.9**	**+0.2**
JOD2	**Odawara 2**	**6.43**	**63**	P	**Pn**	**03 52 47.4**	**+0.6**
MAJO	**Matsushiro**	**6.44**	**50**	*c i*P	**Pn**	**03 52 47.8**	**+0.9**
MAJO	**Matsushiro**	**6.44**	**50**	*e*Pn	**Pn**	**03 52 47.8**	**+0.9**
MAJO				*e*S	Sn	03 54 38.7	+40
MAT	**Matsushiro**	**6.44**	**50**	P	**Pn**	**03 52 47.6**	**+0.7**
MAT				S	**Sn**	**03 53 57.2**	**-1.9**
MAT	**Matsushiro**	**6.44**	**50**	P	**Pn**	**03 52 47.8**	**+0.9**
MJAR	**Matsushiro Arr**	**6.44**	**50**	Pn	**Pn**	**03 52 47.9**	**+0.9**
MJAR	**Matsushiro Arr**	**6.44**	**50**	Pn	**Pn**	**03 52 47.9**	**+0.9**
	11nm,0.3s,baz=241,slow=14,SNR=74						
JIM2	**Oshima 3**	**6.51**	**69**	P	**Pn**	**03 52 48.5**	**+0.6**
JSZ	**Suzu**	**6.53**	**40**	P	**Pn**	**03 52 49.8**	**+1.6**
JOW	**Kunigami**	**6.59**	**211**	*e*Pn	**Pn**	**03 52 51.2**	**+2.2**
JHG	**Hegura jima**	**6.61**	**36**	P	Pn	03 52 53.0	+3.8
JRY	**Ryogami san**	**6.62**	**57**	P	**Pn**	**03 52 50.9**	**+1.4**
INCN	**Inchon**	**6.64**	**319**	*e*Pn	**Pn**	**03 52 50.9**	**+1.2**
INCN				*e*S	**Sn**	**03 54 05.8**	**+1.7**
JHK	**Hiroka**	**7.38**	**49**	P	**Pn**	**03 53 01.0**	**+1.2**
DL2	**Dalian**	**10.59**	**310**	P	Pn	03 53 46.3	+2.5
DL2				*e*S	**Sn**	**03 55 44.7**	**+3.7**
DL2				pmax	pmax		
	comp=Z,27nm,0.8s						
DL2				pmax	pmax		
	comp=Z,130nm,7.1s						
DL2				LR	LR		
	comp=E,2μm,4.4s						
DL2				LR	LR		
	comp=Z,1μm,12.9s						
NJ2	**Nanjing**	**11.20**	**271**	*e*P	Pn	03 53 54.9	+2.8
NJ2				sP		03 54 09.6	
NJ2				S	**Sn**	**03 55 58.0**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,30nm,0.7s						
NJ2				LR	LR		
	comp=N,1μm,10.3s						
NJ2				LR	LR		
	comp=E,2μm,18.5s						
NJ2				LR	LR		
	comp=Z,2μm,13.4s						
SNY	**Shenyang**	**11.46**	**326**	⇑P	Pn	03 54 00.9	+5.2
SNY				S	**Sn**	**03 56 04.8**	**+2.4**
SNY				pmax	pmax		
	comp=Z,33nm,1.1s						
SNY				LR	LR		
	comp=N,2μm,16.2s						
SNY				LR	LR		
	comp=E,2μm,15.0s						
SNY				LR	LR		
	comp=Z,2μm,15.3s						
USRK	**Ussuriysk Arra**	**11.63**	**360**	Pn	Pn	03 54 00.9	+3.0
	comp=Z,0.3nm,0.3s,baz=192,slow=13,SNR=4.9						
USRK				LR	LR	03 58 20.8	
	comp=Z,897nm,18.3s,baz=343,slow=37						
MDJ	**Mudanjiang**	**12.20**	**352**	P	P	03 54 13.2	-4.3
MDJ				S	**Sn**	**03 56 24.7**	**+4.3**
MDJ				PcP	**PcP**	**03 59 47.5**	**+0.6**
MDJ				ScP	**ScP**	**04 03 19.1**	**+2.5**
MDJ				PcS	**PcS**	**04 03 23.9**	**+3.0**
MDJ				ScS	**ScS**	**04 06 56.9**	**+4.4**
MDJ				pmax	pmax		
	comp=Z,14nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.8s						
MDJ				LR	LR		
	comp=N,540nm,18.9s						
MDJ				LR	LR		
	comp=E,440nm,17.0s						
MDJ				LR	LR		
	comp=Z,670nm,21.7s						
MDJ	**Mudanjiang**	**12.20**	**352**	*e*Pn	**Pn**	**03 54 07.9**	**+2.1**
	comp=Z,24nm,1.1s						
CN2	**Changchun**	**12.37**	**337**	*e*P	Pn	03 54 12.2	+4.1
CN2				*e*pP	**P**	**03 54 20.5**	**+1.1**
CN2				*e*sP		03 54 27.1	
CN2				*e*S	**Sn**	**03 56 25.9**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=E,1μm,13.0s						
CN2				LR	LR		
	comp=Z,700nm,16.0s						
ERM	**Erimo**	**12.91**	**40**	*e*P	**Pn**	**03 54 16.4**	**+0.9**
SSLB	**Suanglung**	**13.12**	**231**	*e*Pn	**Pn**	**03 54 21.3**	**+2.8**
QZH	**Quanzhou**	**14.04**	**241**	*e*P	**Pn**	**03 54 32.0**	**+1.1**
QZH				S	**Sn**	**03 57 07.0**	**+1.6**
QZH				LR	LR		
	comp=N,3μm,18.0s						
QZH				LR	LR		
	comp=E,2μm,15.6s						
QZH				LR	LR		
	comp=Z,3μm,23.6s						
ASAJ	**Asahikawa**	**14.18**	**32**	Pn	**Pn**	**03 54 33.1**	**+0.4**
ASAJ	**Asahikawa**	**14.18**	**32**	Pn	**Pn**	**03 54 33.1**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=220,slow=12,SNR=8.2						
ASAJ				LR	LR	03 59 48.2	
	comp=Z,732nm,20.1s,baz=141,slow=36						
BJT	**Baijiatuau**	**14.82**	**305**	*e*Pn	**Pn**	**03 54 42.6**	**+1.3**
	comp=Z,70nm,0.8s						
BJI	**Beijing**	**14.82**	**305**	P	**Pn**	**03 54 42.6**	**+1.2**
BJI				S	S	03 57 33.3	-8.1
BJI				pmax	pmax		
	comp=Z,21nm,2.0s						
BJI				pmax	pmax		
	comp=Z,290nm,4.5s						
BJI				LR	LR		
	comp=N,1μm,17.3s						
BJI				LR	LR		
	comp=E,2μm,19.8s						
BJI				LR	LR		
	comp=Z,1μm,21.0s						
WHN	**Wuhan**	**15.24**	**267**	⇑P	**P**	**03 54 52.1**	**+0.7**
WHN				LR	LR		
	comp=N,1μm,4.8s						
WHN				LR	LR		
	comp=E,5μm,13.2s						
WHN				LR	LR		
	comp=Z,6μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**15.74**	**39**	*c i*P	**P**	**03 54 59.4**	**+2.6**
YUK				pmax	pmax		
	comp=N,5μm,1.4s						
YUK				pmax	pmax		
	comp=E,33nm,1.1s						
YUK				pmax	pmax		
	comp=Z,41nm,1.1s						
HABR	**Khabarovsk**	**16.06**	**7**	P	**P**	**03 55 00.0**	**-0.3**
HABR				*e*S	**Sn**	**03 57 52.3**	**-2.0**
HABR				pmax	pmax		
	comp=Z,177nm,2.2s						
HABR				MLR	MLR		
	comp=Z,655nm,16.0s						
YSS	**Yuzh-Sakhalins**	**16.54**	**26**	*e*P	**Pn**	**03 55 04.0**	**+0.5**
YSS				MLR	MLR	

comp=E,1μm,11.5s
LZH LR LR
comp=Z,2μm,14.2s
QIZ Qiongzhong 24.06 241 P **P** **03 56 26.0 -0.2**
QIZ S **S** **04 00 41.1 +0.1**
QIZ LR LR
comp=N,610nm,19.1s
QIZ LR LR
comp=Z,600nm,13.8s
ULN Ulaanbaatar 24.33 316 *e*P **P** **03 56 28.0 -0.6**
comp=Z,47nm,1.1s
SONM Songino Array 24.70 316 P **P** **03 56 30.8 -1.2**
SONM PcP **PcP** **04 00 08.0 -0.2**
SONM Songino Array 24.70 316 P **P** **03 56 30.8 -1.2**
comp=Z,19nm,1.0s,baz=132,slow=9.3,SNR=70
SONM PcP **PcP** **04 00 08.0 -0.2**
comp=Z,1.0nm,0.6s,baz=128,slow=3.1,SNR=3.8
SONM LR LR 04 07 22.3
comp=Z,1μm,18.2s,baz=124,slow=40
CLNS Chul'man 24.78 351 *e*P **P** **03 56 34.9 +2.4**
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=Z,11nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.7s
KMI Kunming 26.68 261 P **P** **03 56 51.3 +1.1**
KMI S **S** **04 01 19.7 -3.4**
KMI pmax pmax
comp=Z,18nm,0.8s
KMI LR LR
comp=N,420nm,10.8s
KMI LR LR
comp=E,1μm,13.8s
KMI LR LR
comp=Z,1μm,15.6s
GTA Gaotai 26.89 294 *e*P **P** **03 56 53.6 +1.7**
GTA pP **pP** **03 57 04.9 +2.0**
GTA sP **sP** **03 57 10.8 +3.1**
GTA S **S** **04 01 27.6 +1.6**
GTA sS **sS** **04 01 46.9 +2.5**
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=N,610nm,18.8s
GTA LR LR
comp=E,1μm,17.8s
GTA LR LR
comp=Z,1μm,18.1s
PEA0B Petropavlovsk- 27.59 34 *e*P **P** **03 56 59.0 +1.2**
PETK Petropavlovsk- 27.59 34 P **P** **03 56 58.4 +0.6**
PETK *PP **pP** **03 57 08.1 -0.7**
PETK pmax pmax
comp=Z,12nm,0.9s
PETK pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 27.59 34 P **P** **03 56 58.4 +0.6**
PETK pP **pP** **03 57 08.1 -0.7**
PETK Petropavlovsk- 27.59 34 P **P** **03 56 58.4 +0.6**
comp=Z,12nm,0.8s,baz=223,slow=7.3,SNR=14
PETK pP **pP** **03 57 08.1 -0.7**
comp=Z,10nm,0.8s,baz=213,slow=6.9,SNR=7.2
ZAK Zakamensk 27.72 318 *e*P **P** **03 56 57.3 -1.9**
ZAK *e* 03 57 08.2
PET Petropavlovsk 27.99 35 *e*P **P** **03 57 02.0 +0.6**
PET *e**PP **pP** **03 57 13.3 +0.8**
PET *e**SP **sP** **03 57 19.5 +2.2**
PET pmax pmax
comp=Z,200nm,2.0s
PET pmax pmax
comp=Z,40nm,1.7s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,300nm,15.0s
TLY Talaya 28.18 321 *e*P P 03 57 12.3 +9.1
TLY pmax pmax
comp=Z,21nm,1.5s
TLY MLR MLR
comp=Z,609nm,16.0s
YAK Yakutsk 29.53 358 *e*P P 03 57 24.7 +10
YAK *e**PP pP 03 57 38.3 +12
YAK *e*PPP PPP 03 58 28.6
YAK *e*SS SS 04 03 46.9 -26
YAK *e*SSS SSS 04 04 05.8
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK MLR MLR
comp=Z,207nm,14.0s
YAK MLR MLR
comp=N,180nm,16.0s
YAK MLR MLR
comp=E,95nm,16.0s
CHTO Chiang Mai 32.69 253 *e*P **P** **03 57 42.1 -1.2**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 32.69 253 *e*P **P** **03 57 42.1 -1.2**
comp=Z,5.6nm,0.8s
CMAR Chiang Mai Arr 32.88 253 P **P** **03 57 44.2 -0.8**
CMAR Chiang Mai Arr 32.88 253 P **P** **03 57 44.2 -0.8**
comp=Z,1.4nm,0.4s,baz=41,slow=9.9,SNR=5.1
CMAR LR LR 04 12 35.2
comp=Z,530nm,19.2s,baz=230,slow=39
HVS Khovu-Aksy 33.59 315 ⇑*i*P **P** **03 57 49.9 -1.0**
HVS pmax pmax
comp=Z,58nm,2.5s
FX1 Attu Island--F 35.74 43 *e*P **P** **03 58 11.3 +2.0**
KRAR Krasnoyarsk 35.84 323 *e*P **P** **03 58 09.4 -0.8**
KRAR pmax pmax
comp=Z,49nm,0.5s
WMQ Urumqi 36.25 301 *e*P **P** **03 58 15.1 +1.1**
WMQ pmax pmax
comp=Z,33nm,1.3s
WMQ LR LR
comp=N,250nm,22.0s
WMQ LR LR
comp=E,490nm,21.0s
WMQ LR LR
comp=Z,650nm,21.0s
AMKA Amchitka 39.04 47 *e*P **P** **03 58 39.1 +1.8**
comp=Z,33nm,0.6s
TIXI Tiksi 39.19 358 *e*P **P** **03 58 37.6 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
ZALV Zalesovo Beam 39.58 317 P **P** **03 58 39.9 -1.9**
ZALV 04 00 47.2
ZALV MLR MLR
comp=Z,616nm,20.5s
ZALV Zalesovo Beam 39.58 317 P **P** **03 58 39.9 -1.9**
ZALV PcP **PcP** **04 00 47.2 -1.1**
ZALV pPcP 04 00 58.4
ZALV Zalesovo Beam 39.58 317 P **P** **03 58 39.9 -1.9**
comp=Z,0.7nm,0.5s,baz=99,slow=7.4,SNR=3.0
ZALV PcP **PcP** **04 00 47.2 -1.1**
comp=Z,1.6nm,0.5s,baz=87,slow=3.2,SNR=3.1
ZALV pPcP 04 00 58.4
comp=Z,3.9nm,0.7s,baz=89,slow=4.0,SNR=5.2
ZALV LR LR 04 16 17.5
comp=Z,616nm,20.5s,baz=69,slow=38
MK31 Makanchi Array 40.20 306 *e*P **P** **03 58 45.6 -1.5**
MK31 *e* 03 58 56.9
MK31 Makanchi Array 40.20 306 *e*P **P** **03 58 45.6 -1.5**
MK31 *e* **pP** **03 58 56.9 -1.5**
MK31 *e*ScP **ScP** **04 04 35.5 -1.1**
MKAR Makanchi Array 40.20 306 *e*P **P** **03 58 45.8 -1.3**
MKAR *PP **pP** **03 58 56.7 -1.7**
MKAR 04 00 49.4
MKAR Makanchi Array 40.20 306 *e*P **P** **03 58 45.8 -1.3**
MKAR pP **pP** **03 58 56.7 -1.7**
MKAR PcP **PcP** **04 00 49.4 -1.2**
MKAR pPcP 04 01 01.8
MKAR ScP **ScP** **04 04 35.1 -1.4**
MKAR Makanchi Array 40.20 306 P **P** **03 58 45.3 -1.8**
comp=Z,2.8nm,0.7s,baz=93,slow=9.1,SNR=21
MKAR pP **pP** **03 58 56.7 -1.7**
comp=Z,8.9nm,0.7s,baz=89,slow=11,SNR=29
MKAR PcP **PcP** **04 00 49.4 -1.2**
comp=Z,0.8nm,0.5s,baz=72,slow=2.9,SNR=4.5
MKAR pPcP 04 01 01.8
comp=Z,1.1nm,0.6s,baz=78,slow=4.1,SNR=4.1
MKAR ScP **ScP** **04 04 35.1 -1.4**
comp=Z,2.5nm,0.8s,baz=100,slow=4.9,SNR=11
MKAR LR LR 04 16 40.3
comp=Z,440nm,19.5s,baz=92,slow=38
NVS Novosibirsk 40.68 318 *e*P P 03 59 00.4 +10
NVS *e* 04 00 45.9
NVS pmax pmax
comp=Z,15nm,1.6s
NVS pmax pmax
comp=E,7.0nm,1.0s
PMG Port Moresby 44.14 158 LR LR 04 15 00.6
comp=E,186nm,18.9s,baz=212,slow=32
TKM2 Tokmak 2 45.09 300 *e*P **P** **03 59 26.8 -0.3**
TKM2 pmax pmax
comp=Z,41nm,0.7s
TKM2 Tokmak 2 45.09 300 *e*P **P** **03 59 26.8 -0.3**
comp=Z,40nm,0.7s
AAK Ala-Archa 45.93 300 *e*P **P** **03 59 32.7 -1.0**
AAK *e* 03 59 44.4
AAK pmax pmax
comp=Z,14nm,0.6s
AAK Ala-Archa 45.93 300 *e*P **P** **03 59 32.7 -1.0**
comp=Z,14nm,0.6s
AAK *e* **pP** **03 59 44.4 -0.8**
EKS2 Erkin-Say 46.45 300 *e*P **P** **03 59 37.2 -0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.6s
EKS2 Erkin-Say 46.45 300 *e*P **P** **03 59 37.1 -0.5**
comp=Z,6.9nm,0.6s
VOSK Vostochnaya 47.67 314 P **P** **03 59 44.4 -2.5**
VOSK pmax pmax
comp=Z,10.0nm,0.9s
BVAR Borovoye Array 48.03 314 P **P** **03 59 48.0 -1.7**
BVAR Borovoye Array 48.03 314 P **P** **03 59 48.0 -1.7**
BVAR Borovoye Array 48.03 314 P **P** **03 59 48.0 -1.7**
baz=104,slow=9.0
BRVK Borovoye 48.09 314 P P 03 59 46.7 -3.4
BRVK pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 48.76 301 *e*P **P** **03 59 54.7 -0.8**
KKAR Karatay Array 48.76 301 *e*P **P** **03 59 54.7 -0.8**
WRAB Tennant Creek 52.23 177 P **P** **04 00 21.6 -0.2**
comp=Z,206nm,0.7s,SNR=33
WRA Warramunga Arr 52.24 177 P **P** **04 00 21.3 -0.5**
WRA Warramunga Arr 52.24 177 P **P** **04 00 21.3 -0.5**
comp=Z,26nm,0.8s,baz=353,slow=8.3,SNR=126
SVW2 Sparrevohn 53.67 35 *e*P **P** **04 00 34.0 +2.1**
comp=Z,20nm,1.1s
CTA Charters Tower 54.07 163 P **P** **04 00 35.8 +0.5**
CTA Charters Tower 54.07 163 P **P** **04 00 35.8 +0.5**
comp=Z,15nm,0.7s,baz=356,slow=8.0,SNR=14
CTAO Charters Tower 54.07 163 *e*P **P** **04 00 36.2 +0.9**
CTAO pmax pmax
comp=Z,11nm,0.6s
CTAO Charters Tower 54.07 163 *e*P **P** **04 00 36.2 +0.9**
comp=Z,11nm,0.6s
ARU Arti 54.66 319 *d i*P **P** **04 00 37.8 -1.4**
ARU 04 02 39.4
ARU S **S** **04 08 14.2 -2.0**
ARU SS **SS** **04 11 52.8 -6.1**
ARU pmax pmax
comp=Z,4.0nm,0.7s
AB31 Akbulak array 54.95 310 *i* P **P** **04 00 39.9 -1.5**
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 54.95 310 *e*P **P** **04 00 40.0 -1.4**
SOKR Solikamsk 55.24 323 *e*P **sP** **04 00 58.1 -1.6**
SOKR pmax pmax
comp=Z,10.0nm,0.7s
SOKR MLR MLR
comp=Z,550nm,18.0s
COLD Coldfoot 55.73 27 *e*P **P** **04 00 47.8 +1.0**
comp=Z,4.1nm,0.3s
AS31 Alice Springs 55.93 178 *e*P **P** **04 00 48.9 +0.2**
ASAR Alice Springs 55.93 178 P **P** **04 00 48.6 -0.1**
ASAR pP **pP** **04 01 00.3 -0.1**
ASAR P'P' 04 31 03.8
ASAR Alice Springs 55.93 178 P **P** **04 00 48.6 -0.1**
comp=Z,14nm,0.7s,baz=8.4,slow=8.2,SNR=129
ASAR pP **pP** **04 01 00.3 -0.1**
comp=Z,12nm,0.9s,baz=5.3,slow=5.6,SNR=12
ASAR PKPPKP P'P'df 04 31 03.8 +21
comp=Z,0.3nm,0.7s,baz=182,slow=2.6,SNR=4.4
AKTO Aktyubinsk 55.94 312 P **P** **04 00 46.9 -1.7**
AKTO pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 56.72 34 *e*P **P** **04 00 54.7 +0.8**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 56.72 34 *e*P **P** **04 00 54.7 +0.8**
comp=Z,17nm,1.0s
COLA College 56.88 30 *e*P **P** **04 00 56.8 +1.8**
COLA pmax pmax
comp=Z,57nm,1.4s
COLA College 56.88 30 *e*P **P** **04 00 56.8 +1.8**
comp=Z,57nm,1.4s
ILAR Eielson Array 57.30 30 P **P** **04 00 58.4 +0.3**
ILAR pP **pP** **04 01 09.2 -0.6**
ILAR Eielson Array 57.30 30 P **P** **04 00 58.4 +0.3**
comp=Z,5.3nm,0.8s,baz=262,slow=6.3,SNR=52
ILAR pP **pP** **04 01 09.2 -0.6**
comp=Z,4.1nm,0.7s,baz=271,slow=6.9,SNR=10
ILAR LR LR 04 26 43.3
comp=Z,107nm,18.1s,baz=305,slow=37
BMRM Bremner River 58.98 34 *e*P **P** **04 01 11.1 +1.2**
comp=Z,25nm,1.1s
EGAK Eagle 59.72 30 *e*P **P** **04 01 15.6 +0.7**
comp=Z,55nm,1.9s
DAWY Dawson 60.63 30 *e*P **P** **04 01 22.4 +1.2**
INK Inuvik 61.77 25 *e*P **P** **04 01 29.8 +1.1**
comp=Z,26nm,0.9s
HYT Haines Junctio 62.37 34 *e*P **P** **04 01 35.2 +2.1**
DZM Mont Dzumac 63.48 144 *e*LR LR 04 20 46.1
comp=Z,315nm,22.0s
DZM Mont Dzumac 63.48 144 *e*P **P** **04 01 41.8 +1.0**
comp=Z,28nm,0.8s
DZM Mont Dzumac 63.48 144 P **P** **04 01 42.1 +1.3**
comp=Z,32nm,0.7s,baz=339,slow=6.8,SNR=25
DZM LR LR 04 26 17.3
comp=Z,263nm,18.9s,baz=182,slow=33
KBS Kingsbay 63.68 349 *c i*P **P** **04 01 41.2 -0.1**
KBS pmax pmax
comp=Z,3.0nm,0.7s
SKAG Skagway 63.84 35 *e*P **P** **04 01 44.7 +2.1**
comp=Z,25nm,1.0s
SIT Sitka 64.69 37 *e*P **P** **04 01 49.8 +1.6**
SIT pmax pmax
comp=Z,21nm,1.0s
SIT Sitka 64.69 37 *e*P **P** **04 01 49.8 +1.6**
comp=Z,21nm,1.0s
STKA Stephens Creek 64.71 171 *e*P **P** **04 01 49.0 +0.5**
comp=Z,6.9nm,0.8s
STKA Stephens Creek 64.71 171 P **P** **04 01 49.3 +0.7**
comp=Z,34nm,0.7s,baz=344,slow=6.7,SNR=75
KEV Kevo 64.81 338 *e*P **P** **04 01 47.4 -1.4**
KEV pmax pmax
comp=Z,2.0nm,0.6s
KEV Kevo 64.81 338 *e*p **P** **04 01 47.4 -1.4**
comp=Z,1.9nm,0.6s
ALE Alert 64.95 2 P **P** **04 01 50.0 +0.5**
comp=Z,107nm,0.8s,SNR=7.5
ARMA Armidale 65.31 161 *e*P **P** **04 01 53.5 +0.9**
comp=Z,37nm,1.2s
ARCES ARCESS Array B 65.38 338 P **P** **04 01 50.8 -1.7**
ARCES pP **pP** **04 02 00.1 -4.4**
ARCES ARCESS Array B 65.38 338 P **P** **04 01 50.8 -1.7**
comp=Z,1.5nm,0.6s,baz=58,slow=8.6,SNR=14
ARCES pP **pP** **04 02 00.1 -4.4**
comp=Z,2.0nm,0.6s,baz=64,slow=6.3,SNR=4.9
ARCES LR LR 04 35 29.8
comp=Z,222nm,18.1s,baz=65,slow=41
VRHR Novokhopersk 65.70 316 *e*P P 04 02 03.7 +8.8
VRHR MLR MLR
comp=Z,490nm,17.0s
VRHR MLR MLR
comp=N,130nm,15.0s
VRHR MLR MLR
comp=E,450nm,22.0s
NWAO Narrogin (SRO) 66.62 194 P **P** **04 02 00.2 -0.6**
NWAO Narrogin (SRO) 66.62 194 P **P** **04 02 00.2 -0.6**
comp=E,20nm,1.1s,baz=9.5,slow=6.1,SNR=3.1
DLBC Dease Lake 66.77 35 *e*P **P** **04 02 03.5 +1.7**
OBN Obninsk 66.94 322 ⇑*i*P **P** **04 02 00.8 -1.9**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,400nm,17.0s
VSR Storozhevoye 67.08 317 *e*P P 04 02 13.2 +9.5
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR MLR MLR
comp=N,170nm,16.0s
VSR MLR MLR
comp=Z,440nm,16.0s
VSR MLR MLR
comp=E,240nm,21.0s
ZEI Tsey 67.52 307 *e*P **P** **04 02 04.2 -2.8**
ZEI pmax pmax
comp=Z,7.0nm,0.5s
KBZ Khabaz 67.81 308 P **P** **04 02 07.6 -0.8**
KBZ *PP **pP** **04 02 17.7 -2.7**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ MLR MLR
comp=Z,389nm,20.3s
KBZ Khabaz 67.81 308 P **P** **04 02 07.6 -0.8**
KBZ pP **pP** **04 02 17.6 -2.7**
KBZ Khabaz 67.81 308 P **P** **04 02 07.6 -0.8**
comp=Z,9.1nm,0.8s,baz=62,slow=2.2,SNR=25
KBZ pP **pP** **04 02 17.6 -2.7**
comp=Z,17nm,0.7s,baz=94,slow=4.1,SNR=18
KBZ LR LR 04 35 03.2
comp=Z,389nm,20.2s,baz=71,slow=39
KIV Kislovodsk 67.86 309 *e*P **P** **04 02 08.0 -0.9**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,375nm,18.0s
FINES FINESS Array B 69.03 330 P **P** **04 02 13.8 -2.0**
FINES pP **pP** **04 02 25.4 -2.3**
FINES FINESS Array B 69.03 330 P **P** **04 02 13.8 -2.0**
comp=Z,1.9nm,0.5s,baz=70,slow=6.1,SNR=24
FINES pP **pP** **04 02 25.4 -2.3**
comp=Z,2.6nm,0.6s,baz=77,slow=6.1,SNR=6.1
FINES LR LR 04 34 45.4
comp=Z,199nm,20.5s,baz=58,slow=38
DAG Danmarks Havn 69.42 353 ⇓*i*P **P** **04 02 16.7 -1.2**
DAG *i* 04 02 28.4
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 69.42 353 ⇓*i*P **P** **04 02 16.7 -1.2**
comp=Z,12nm,1.0s
DAG *i* 04 02 28.4
VSU Vasula 70.24 327 ⇑*i*P **P** **04 02 20.5 -2.7**
VSU pmax pmax
comp=Z,18nm,1.1s
MIB Mutribah 70.60 293 *e*P P 04 02 22.8 -3.1
MIB AMb AMB 04 02 25.1
comp=Z,14nm,0.7s
AFI Afiamalu 70.80 121 LR LR 04 30 27.9
comp=Z,82nm,19.2s,baz=303,slow=33
RDF Al-Radifah 70.83 293 *e*P **P** **04 02 25.0 -2.4**
RDF AMb AMB 04 02 31.9
comp=Z,26nm,1.1s
ANN Anapa 70.89 311 *e*P P 04 02 24.0 -3.4
ANN *e**PP pP 04 02 40.9 +1.4
ANN pmax pmax
comp=Z,51nm,1.2s
ANN MLR MLR
comp=N,157nm,22.0s
ANN MLR MLR
comp=E,80nm,22.0s
ANN MLR MLR
comp=Z,302nm,22.0s
NAY Al-Naaiem 70.92 293 *e*P **P** **04 02 25.2 -2.8**
NAY AMb AMB 04 02 27.1
comp=Z,9.3nm,0.7s
YKA Yellowknife Ar 71.39 27 P **P** **04 02 30.8 +0.6**
YKA pP **pP** **04 02 42.5 +0.2**
YKA Yellowknife Ar 71.39 27 P **P** **04 02 30.8 +0.6**
comp=Z,14nm,0.8s,baz=303,slow=5.8,SNR=75
YKA pP **pP** **04 02 42.4 +0.2**
comp=Z,7.8nm,0.8s,baz=304,slow=5.8,SNR=13
SIM Simferopol' 72.90 313 *e*P **P** **04 02 37.5 -2.0**
SIM *e* 04 02 48.0
SIM pmax pmax
comp=Z,10.0nm,0.7s
SIM MLR MLR
comp=Z,70nm,17.9s
AKASG Malin Array Be 72.91 320 P **P** **04 02 37.4 -2.1**
AKASG *PP **pP** **04 02 49.0 -2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 72.91 320 P **P** **04 02 37.4 -2.1**
AKASG pP **pP** **04 02 49.0 -2.5**
AKASG Malin Array Be 72.91 320 P **P** **04 02 37.4 -2.1**
comp=Z,1.2nm,0.3s,baz=54,slow=6.7,SNR=8.4
AKASG pP **pP** **04 02 49.0 -2.5**
comp=Z,9.9nm,0.6s,baz=54,slow=6.8,SNR=13
MALT Malatya 73.24 305 ⇑*i*P P 04 03 04.2 +22
PGC Sidney 74.88 42 *e*P **P** **04 02 52.9 +1.9**
comp=Z,1.9nm,0.8s
OOW Octopus West 74.95 43 P **P** **04 02 54.1 +2.6**
SUMG Summit 74.95 357 *e*P **P** **04 02 51.8 +0.3**
SUMG pmax pmax
comp=Z,13nm,0.5s
SUMG Summit 74.95 357 ⇓*i*P **P** **04 02 51.9 +0.3**
comp=Z,14nm,0.8s
SUMG *i* 04 03 02.3
SUMG Summit 74.95 357 *e*P **P** **04 02 51.8 +0.3**
comp=Z,13nm,0.5s
NB2 NORSAR Subarra 75.11 334 P **P** **04 02 49.9 -2.3**
comp=Z,1.2nm,0.7s,baz=46,slow=5.9
NOA NORSAR Array B 75.11 334 P **P** **04 02 50.3 -1.9**
NOA NORSAR Array B 75.11 334 P **P** **04 02 50.3 -1.9**
comp=Z,1.7nm,0.7s,baz=48,slow=5.7,SNR=10
NOA LR LR 04 38 46.0
comp=Z,168nm,20.3s,baz=65,slow=38
OSD Olympics--Snow 75.18 43 P **P** **04 02 55.3 +2.2**
NLWA Neilton Lookou 75.31 43 *e*P pP 04 03 06.8 +1.1
BR131 Keskin Array S 75.80 308 *e*P **P** **04 02 55.3 -1.3**
comp=Z,10nm,0.7s
BR131 *e* **pP** **04 03 05.9 -2.9**
BRTR Keskin Array B 75.80 308 P **P** **04 02 55.6 -1.1**
BRTR pP **pP** **04 03 06.0 -2.9**
BRTR Keskin Array B 75.80 308 P **P** **04 02 55.6 -1.1**
comp=Z,5.1nm,0.8s,baz=98,slow=5.0,SNR=26
BRTR pP **pP** **04 03 06.0 -2.9**
comp=Z,13nm,0.8s,baz=102,slow=4.6,SNR=24
BRTR LR LR 04 39 38.9
comp=Z,109nm,21.5s,baz=243,slow=38
RPW Rockport 76.07 41 P **P** **04 02 59.3 +1.3**
CFR Carcaliu 76.43 315 ⇓*i*P **P** **04 02 58.0 -1.9**
TESR Tescani 76.58 317 ⇓*i*P P 04 02 57.6 -3.2
TIRR Tirgusor 76.65 314 ⇓*i*P **P** **04 03 00.1 -1.1**
BUR08 Bucovina Ar. S 76.78 318 *e*P **P** **04 03 01.0 -1.1**
BURAR Bucovina Array 76.78 318 ⇓*i*P **P** **04 03 01.0 -1.1**
LON Longmire 76.84 43 *e*P **P** **04 03 03.6 +1.2**
LON pmax pmax
comp=Z,9.0nm,1.1s
LON Longmire 76.84 43 *e*P **P** **04 03 03.5 +1.2**
comp=Z,9.2nm,1.1s
VRI Vrincioaia 76.88 316 ⇑*i*P **P** **04 03 02.5 -0.1**
PLOR Plostina 76.94 316 ⇑*i*P **P** **04 03 02.9 0.0**
KWP Kalwaria Pacla 77.01 321 ⇓*i*P **P** **04 03 02.1 -1.1**
MPOR Mary's Peak 77.05 45 P **P** **04 03 06.0 +2.3**
COR Corvallis 77.16 45 *e*P **P** **04 03 06.2 +2.1**
COR pmax pmax
comp=Z,58nm,0.9s
COR Corvallis 77.16 45 *e*P **P** **04 03 06.2 +2.1**
comp=Z,58nm,0.9s
B08A Colville Reser 77.33 40 P **P** **04 03 06.2 +1.1**
WTV Waterville 77.36 41 P **P** **04 03 06.4 +1.2**
KEBM Edson Butte 77.46 47 *e*P **P** **04 03 08.0 +2.0**
comp=Z,64nm,1.0s
EDM Edmonton 77.49 34 *e*P **P** **04 03 06.4 +0.6**
EDM *e* 04 03 18.5
EDM Edmonton 77.49 34 *e*P **P** **04 03 06.4 +0.6**
EDM *e* **pP** **04 03 18.5 +0.5**
MLR Muntele Rosu 77.55 316 ⇑*i*P **P** **04 03 06.4 0.0**
VLL Laurance Lake 77.64 44 P **P** **04 03 08.7 +1.8**
UZH Uzhgorod 77.81 320 *e*P **P** **04 03 07.0 -0.7**
UZH *e* 04 03 12.6
UZH *e*S **S** **04 12 53.0 -4.3**
UZH *i* PS PnS 04 13 19.7 -22
TRW Toppenish Ridg 77.83 43 P **P** **04 03 09.6 +1.7**

FRIS	Frissel Point	78.08	45	P	P	04 03 11.0	+1.5
OJC	Ojcow	78.18	323	eP	P	04 03 08.8	-0.9
OJC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OJC	Ojcow	78.18	323	eP	P	04 03 08.8	-0.9
	comp=Z,7.5nm,0.8s						
HUMO	Hull Mountain	78.45	47	eP	P	04 03 13.1	+1.7
	comp=Z,32nm,1.8s						
KRMB	Red Mountain	78.46	48	eP	P	04 03 13.2	+1.6
	comp=Z,86nm,3.0s						
NEW	Newport	78.58	40	eP	P	04 03 13.1	+1.1
	comp=Z,21nm,0.8s						
NEW	Newport	78.58	40	⇓P	P	04 03 13.0	+1.1
	baz=78						
KHMM	Horse Mountain	78.93	49	eP	P	04 03 15.7	+1.5
	comp=Z,12nm,0.9s						
A12A	Yaak River Ran	78.96	38	⇑P	P	04 03 15.8	+1.7
	baz=79						
YBH	Yreka Blue Hor	79.09	47	eP	P	04 03 16.5	+1.5
	comp=Z,11nm,1.0s						
OKC	Ostrava-Krasne	79.26	323	AMS	AMS	04 42 30.0	
	comp=Z,300nm,15.9s						
B12A	Libby	79.28	39	⇑P	P	04 03 17.2	+1.4
	baz=79						
GZR	Gura Zlata	79.44	317	⇓P	P	04 03 15.7	-1.1
GZR	Gura Zlata	79.44	317	⇓/P	P	04 03 15.7	-1.1
A13A	Flathead Natio	79.61	38	⇑P	P	04 03 19.0	+1.3
	baz=80						
KCPM	Cahto Peak	79.68	49	eP	P	04 03 19.9	+1.6
	comp=Z,16nm,1.3s						
WALA	Waterton Lakes	79.79	38	eP	P	04 03 19.7	+1.0
	comp=Z,0.6nm,1.0s						
WDC	Whiskeytown Da	79.84	48	eP	P	04 03 19.5	+0.5
WDC				pmax	pmax		
	comp=Z,16nm,1.1s						
WDC	Whiskeytown Da	79.84	48	eP	P	04 03 19.5	+0.5
	comp=Z,16nm,1.1s						
DPC	Dobruska-Polom	79.86	324	eP	pP	04 03 29.9	-1.2
DPC	Dobruska-Polom	79.86	324	epP	pP	04 03 29.9	-1.2
DPC				AMS	AMS	04 42 40.0	
B13A	Whitefish	79.93	38	⇑P	P	04 03 21.1	+1.7
	baz=80						
BZS	Buzias	79.96	318	⇓P	P	04 03 18.1	-1.4
BZS	Buzias	79.96	318	⇓/P	P	04 03 18.1	-1.4
BSMT	Bassoo Peak	80.08	39	eP	P	04 03 21.8	+1.4
A14A	Double T Ranch	80.10	37	⇓P	P	04 03 21.7	+1.3
	baz=80,SNR=30						
BLMT	Blacktail Moun	80.20	39	eP	P	04 03 22.8	+1.7
	comp=Z,4.4nm,0.2s						
JTMT	Jette	80.41	39	eP	P	04 03 23.3	+1.2
A15A	Johnson Ranch,	80.45	37	⇓P	P	04 03 23.1	+0.9
	baz=80,SNR=32						
B14A	Marquette Ranc	80.56	38	⇑P	P	04 03 24.6	+1.7
	baz=80,SNR=30						
PVCC	Panska Ves	80.60	325	AMS	AMS	04 43 10.0	
	comp=Z,400nm,17.6s						
C14A	Swan Lake	80.68	39	⇓P	P	04 03 24.8	+1.3
	baz=80						
SWMT	Swartz Lake	80.71	39	eP	P	04 03 24.8	+1.2
CLL	Collm	80.83	326	eP	P	04 03 23.0	-1.1
CLL				i		04 03 34.2	
CLL				eS	S	04 13 34.0	+4.7
CLL				MLR	MLR		
	comp=Z,300nm,19.5s						
CLL	Collm	80.83	326	eP	P	04 03 23.0	-1.1
CLL				i pP	pP	04 03 34.2	-2.1
	comp=Z,6.0nm,0.8s						
CLL				i sP	sP	04 03 39.5	-1.4
CLL				e		04 04 14.0	
CLL				eS	S	04 13 34.0	+4.7
CLL				eSP	SPn	04 14 11.0	-2.5
CLL				eSSS	SSS	04 22 36.0	
CLL				LmV		04 42 00.0	
	comp=Z,300nm,19.5s						
TREC	Trest	80.95	324	AMS	AMS	04 43 20.0	
	comp=Z,700nm,16.5s						
B15A	Bradely Ranch,	80.95	38	⇓P	P	04 03 26.2	+1.2
	baz=81,SNR=34						
PRU	Pruhonice	80.97	325	eP	pP	04 03 37.2	+0.1
PRU				MLR	MLR		
	comp=Z,400nm,19.0s						
PRU	Pruhonice	80.97	325	epP	pP	04 03 37.2	+0.1
PRU				AMS	AMS	04 43 10.0	
	comp=Z,400nm,19.0s						
A16A	West Butte Ran	81.04	37	⇓P	P	04 03 26.3	+0.9
	baz=81						
SLMT	Seeley Lake	81.14	39	eP	P	04 03 27.0	+1.0
MSO	Missoula	81.17	39	eP	P	04 03 27.1	+1.0
	comp=Z,8.8nm,1.1s						
MSO	Missoula	81.17	39	⇑P	P	04 03 26.6	+0.5
	baz=81						
WVOR	Wild Horse Val	81.17	45	eP	P	04 03 27.6	+1.3
WVOR				pmax	pmax		
	comp=Z,12nm,0.9s						
WVOR	Wild Horse Val	81.17	45	eP	P	04 03 27.6	+1.3
	comp=Z,12nm,0.9s						
OHCM	Honcut	81.22	49	eP	P	04 03 27.2	+0.9
C15A	Salmond Ranch,	81.27	38	⇓P	P	04 03 28.0	+1.3
	baz=81						
B16A	M & M Farms, S	81.33	37	⇑P	P	04 03 27.8	+0.8
	baz=81						
FFC	Flin Flon	81.45	28	P	P	04 03 27.9	+0.6
	comp=Z,91nm,1.0s,SNR=6.1						
FFC	Flin Flon	81.45	28	eP	P	04 03 27.7	+0.4
FFC				e		04 03 38.9	
FFC				pmax	pmax		
	comp=Z,15nm,1.0s						
FFC	Flin Flon	81.45	28	eP	P	04 03 27.7	+0.4
	comp=Z,15nm,1.0s						
FFC				e	pP	04 03 38.9	-0.6
CHMT	Chamberlain Mo	81.48	39	eP	P	04 03 28.4	+0.5
A17A	Triple J Farms	81.50	36	⇓P	P	04 03 28.6	+0.8
	baz=81,SNR=22						
C16A	Fuhringer Ranc	81.70	38	⇑P	P	04 03 29.8	+0.9
	baz=82						
NKC	Novy Kostel	81.81	326	AMS	AMS	04 44 20.0	
	comp=Z,300nm,16.1s						
B17A	L&G Farms, Che	81.87	37	⇓P	P	04 03 30.9	+1.1
	baz=82,SNR=6.1						
A18A	Metzger Ranch,	81.94	36	⇑P	P	04 03 30.8	+0.7
	baz=82						
KHC	Kasperske Hory	82.00	324	eP	P	04 03 29.6	-0.8
KHC				MLR	MLR		
	comp=Z,600nm,17.5s						
KHC	Kasperske Hory	82.00	324	eP	P	04 03 29.6	-0.8
KHC				AMS	AMS	04 44 00.0	
	comp=Z,600nm,17.5s						
GERES	GERESS Array B	82.13	324	P	P	04 03 29.4	-1.7
GERES				pP	pP	04 03 41.1	-2.2
GERES				PKKPbc	PKKPbc	04 21 58.5	-0.8
GERES	GERESS Array B	82.13	324	P	P	04 03 29.5	-1.7
	comp=Z,0.5nm,0.6s,baz=38,slow=5.0,SNR=4.5						
GERES				pP	pP	04 03 41.1	-2.2
	comp=Z,1.6nm,0.8s,baz=52,slow=5.2,SNR=5.3						
GERES				PKKPbc	PKKPbc	04 21 58.5	-0.8
	comp=Z,0.7nm,0.7s,baz=243,slow=4.3,SNR=4.3						
GERES				LR	LR	04 44 07.0	
	comp=Z,381nm,19.2s,baz=59,slow=39						
MFID	Camas Ranch	82.23	43	eP	P	04 03 33.0	+1.2
	comp=Z,25nm,1.0s						
MFID	Camas Ranch	82.23	43	⇑P	P	04 03 33.2	+1.4
	baz=82						
B18A	Beardsley Farm	82.32	36	⇓P	P	04 03 33.2	+1.1
	baz=82						
C17A	Wharram Farm,	82.32	37	⇓P	P	04 03 32.6	+0.5
	baz=82,SNR=5.7						
PAHR	Pah Rah Range	82.33	48	eP	P	04 03 34.0	+1.6
	comp=Z,26nm,0.9s						
HRY	Holter Researc	82.36	39	eP	P	04 03 33.6	+1.1
A19A	Klindworth Far	82.48	36	⇓P	P	04 03 33.8	+0.9
	baz=82,SNR=15						
EGMT	Eagleton	82.57	37	eP	P	04 03 34.3	+0.8
	comp=Z,29nm,0.9s						
EGMT	Eagleton	82.57	37	⇑P	P	04 03 34.4	+0.9
	baz=82,SNR=14						
LRM	Limekiln Ridge	82.60	40	eP	P	04 03 34.9	+1.1
CMB	Columbia Colle	82.67	49	eP	P	04 03 35.1	+1.0
CMB				pmax	pmax		
	comp=Z,16nm,0.9s						
CMB	Columbia Colle	82.67	49	eP	P	04 03 35.1	+1.0
	comp=Z,16nm,0.9s						
D17A	Six Diamond Ra	82.67	38	⇓P	P	04 03 34.9	+0.8
	baz=82						
B19A	Brinkman Farms	82.69	36	⇓P	P	04 03 34.9	+0.9
	baz=82,SNR=8.7						
DLMT	Dillon	82.82	40	eP	P	04 03 35.7	+0.8
	comp=Z,36nm,1.1s						
DLMT				e	pP	04 03 47.9	+0.8
PERS	Pernice	82.86	322	i P	pP	04 03 45.2	-2.0
SOKA	Soboth	82.88	322	⇑/pP	pP	04 03 45.3	-2.0
	comp=Z,7.6nm,0.8s						
A20A	Cobblestone Ra	82.91	35	⇓P	P	04 03 35.8	+0.7
	baz=83						
HLID	Hailey	82.95	42	⇑P	P	04 03 37.1	+1.5
	baz=83						
WAKR	Walker	83.00	49	eP	P	04 03 37.4	+1.4
MCMT	McKenzie Canyo	83.02	40	eP	P	04 03 36.8	+0.8
	comp=Z,1.1nm,0.7s						
E17A	Martinsdale	83.03	38	⇓P	P	04 03 37.4	+1.4
	baz=83						
D18A	Linhart Farms,	83.10	37	⇑P	P	04 03 37.4	+1.2
	baz=83						
C19A	Slack Wire Ran	83.12	37	⇓P	P	04 03 37.5	+1.2
	baz=83,SNR=5.3						
BOZ	Bozeman (W)	83.16	39	eP	P	04 03 37.4	+0.8
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOZ	Bozeman (W)	83.16	39	eP	P	04 03 37.4	+0.8
	comp=Z,5.1nm,0.8s						
B20A	Solberg Farm,	83.16	36	⇑P	P	04 03 37.2	+0.7
	baz=83,SNR=5.5						
BMN	Battle Mountai	83.22	46	eP	P	04 03 38.9	+1.8
BMN				pmax	pmax		
	comp=Z,39nm,1.3s						
BMN	Battle Mountai	83.22	46	eP	P	04 03 38.9	+1.8
	comp=Z,39nm,1.3s						
I14A	Mackay	83.26	41	⇑P	P	04 03 38.6	+1.3
	baz=83						
A21A	Bergtoll Ranch	83.31	35	⇑P	P	04 03 38.1	+0.9
	baz=83,SNR=16						
E18A	Harlowton	83.46	38	⇑P	P	04 03 39.6	+1.4
	baz=83,SNR=14						
F17A	Fitzpatrick Pl	83.50	39	⇓P	P	04 03 39.5	+1.1
	baz=83,SNR=11						
VISS	Visnje	83.55	321	i P	pP	04 03 47.8	-2.9
D19A	Cripps Ranch,	83.59	37	⇑P	P	04 03 39.8	+1.1
	baz=83,SNR=15						
B21A	Ellsworth Farm	83.66	35	⇑P	P	04 03 39.5	+0.5
	baz=84						
C20A	Veseth Ranch,	83.66	36	⇓P	P	04 03 40.2	+1.1
	baz=84,SNR=13						
NVAR	Mina Array Bea	83.76	48	P	P	04 03 41.0	+1.1
NVAR				pP	pP	04 03 53.0	+0.8
NVAR	Mina Array Bea	83.76	48	P	P	04 03 41.0	+1.1
	comp=Z,18nm,0.7s,baz=295,slow=5.0,SNR=108						
NVAR				pP	pP	04 03 53.0	+0.8
	comp=Z,8.1nm,0.8s,baz=293,slow=4.7,SNR=8.9						
NVAR				LR	LR	04 39 28.5	
	comp=Z,60nm,19.9s,baz=128,slow=34						
QLMT	Earthquake Lak	83.79	40	eP	P	04 03 41.1	+1.1
	comp=Z,0.7nm,0.7s						
A22A	Carney Farms,	83.80	34	⇓P	P	04 03 40.3	+0.6
	baz=84,SNR=19						
G17A	Pierce Place,	83.84	39	⇓P	P	04 03 41.6	+1.4
	baz=84,SNR=7.7						
NV11	Mina Array Sit	83.85	48	eP	P	04 03 41.1	+0.8
JAVS	Javornik	83.90	322	i P	P	04 03 50.0	+10
MLAC	Mammoth Lakes	83.90	49	⇑P	P	04 03 42.4	+1.7
	baz=84						
H16A	Russell Place,	83.97	40	⇑P	P	04 03 42.3	+1.4
	baz=84						
F18A	Big Timber	84.00	38	⇑P	P	04 03 42.0	+1.1
	baz=84						
D20A	Manuel Ranch,	84.01	37	⇑P	P	04 03 42.1	+1.2
	baz=84,SNR=17						
C21A	Desert Coulee	84.03	36	⇓P	P	04 03 41.7	+0.8
	baz=84,SNR=5.0						
GCMT	Greycliff	84.10	38	eP	P	04 03 41.9	+0.4
	comp=Z,7.0nm,0.8s						
E19A	Rath Farm, Rou	84.11	37	⇓P	P	04 03 42.6	+1.2
	baz=84,SNR=25						
PTRM	Twissleman Ran	84.18	51	eP	P	04 03 43.6	+1.7
RAR	Rarotonga	84.23	119	LR	LR	04 32 21.7	
	comp=Z,211nm,21.3s,baz=102,slow=29						
B22A	Reddig Ranch S	84.24	35	⇑P	P	04 03 42.6	+0.6
	baz=84						
MTUM	Tungsten Hills	84.24	49	eP	P	04 03 43.6	+1.2
YFT	Old Faithful	84.36	40	eP	P	04 03 45.7	+2.8
	comp=Z,25nm,1.3s						
I16A	Newdale	84.38	41	⇑P	P	04 03 44.8	+1.9
	baz=84						
E20A	Meyer Farm, Mu	84.41	37	⇓P	P	04 03 44.0	+1.1
	baz=84						
RCTC	Rector, Farmer	84.42	50	⇓P	P	04 03 43.8	+0.8
	baz=84						
F19A	Roth Farm, Mol	84.43	38	⇓P	P	04 03 43.8	+0.8
	baz=84						
SMMC	Simmler	84.52	51	⇑P	P	04 03 45.1	+1.4
	baz=84						
H17A	Grant Village	84.54	40	⇑P	P	04 03 46.8	+3.0
	baz=84						
D21A	La Casta Ranch	84.60	36	⇓P	P	04 03 44.8	+0.9
	baz=84,SNR=16						
B23A	Brockton	84.60	34	⇑P	P	04 03 44.8	+1.0
	baz=84						
TIN	Tinemaha	84.63	49	⇓P	P	04 03 45.7	+1.4
	baz=85						
IMW	Indian Meadow	84.67	40	eP	P	04 03 46.2	+1.7
	comp=Z,20nm,1.4s						
C22A	Vida	84.68	35	⇑P	P	04 03 44.6	+0.4
	baz=84						
A24A	Westby	84.74	33	⇓P	P	04 03 45.4	+0.9
	baz=85,SNR=5.8						
RLMT	Red Lodge	84.75	39	eP	P	04 03 45.8	+0.9
	comp=Z,8.9nm,1.0s						
VES	Vestal, Richgr	84.81	51	⇓P	P	04 03 45.2	+0.2
	baz=85,SNR=8.2						
RRI2	Red Ridge	84.82	41	eP	P	04 03 46.0	+0.7
	comp=Z,4.9nm,0.7s						
H18A	Shoshone NF, C	84.84	39	⇓P	P	04 03 46.6	+1.2
	baz=85						
I17A	Pilgrim Ck.	84.85	40	⇓P	P	04 03 47.6	+2.2
	baz=85						
F20A	Billings	84.88	38	⇑P	P	04 03 45.9	+0.5
	baz=85						
PKM	Peak Mountain	84.88	52	⇑P	P	04 03 47.0	+1.4
	baz=85,SNR=9.1						
E21A	Keefer Ranch,	84.92	37	⇓P	P	04 03 46.4	+0.9
	baz=85						
TPAW	Teton Pass	84.93	41	eP	P	04 03 47.4	+1.6
	comp=Z,12nm,1.1s						
D22A	Cohagen	84.95	36	⇓P	P	04 03 46.5	+0.9
	baz=85,SNR=14						
DGMT	Dagmar	84.97	34	eP	P	04 03 46.5	+0.8
	comp=Z,20nm,0.9s						
DGMT	Dagmar	84.97	34	⇓P	P	04 03 46.3	+0.7
	baz=85						
C23A	Lambert	84.98	35	⇑P	P	04 03 46.6	+0.9
	baz=85,SNR=6.5						
HVU	Hansel Valley	85.01	43	eP	P	04 03 47.0	+0.9
HVU				pmax	pmax		
	comp=Z,16nm,1.0s						
HVU	Hansel Valley	85.01	43	eP	P	04 03 47.0	+0.9
	comp=Z,16nm,1.0s						
SNOW	Snow King Moun	85.05	41	eP	P	04 03 48.6	+2.1
	comp=Z,5.7nm,0.8s						
REDW	Red Top Meadow	85.06	41	eP	P	04 03 48.1	+1.7
	comp=Z,18nm,1.4s						
CWC	Cottonwood Cre	85.10	50	⇓P	P	04 03 47.7	+1.0
	baz=85						
A25A	Svangstu Ranch	85.14	33	⇓P	P	04 03 47.5	+1.0
	baz=85						
H19A	Powell	85.20	39	⇓P	P	04 03 48.5	+1.4
	baz=85,SNR=5.0						
GRAC	Grapevine Rang	85.21	49	⇓P	P	04 03 48.6	+1.5
	baz=85,SNR=8.1						
SBC	Santa Barbara	85.22	52	⇑P	P	04 03 48.6	+1.5
	baz=85						
G20A	Bridger	85.24	38	⇓P	P	04 03 47.6	+0.4
	baz=85,SNR=5.1						
ISA	Isabella	85.31	50	eP	P	04 03 47.8	+0.2
ISA				pmax	pmax		
	comp=Z,11nm,0.8s						
ISA	Isabella	85.31	50	eP	P	04 03 47.8	+0.2
	comp=Z,11nm,0.8s						
ISA	Isabella	85.31	50	⇑P	P	04 03 47.8	+0.2
	baz=85,SNR=7.3						
FUORN	Ofenpass-Fuorn	85.34	324	epP	pP	04 03 59.0	-1.1
F21A	Absaloka Mine,	85.39	37	⇓P	P	04 03 48.5	+0.7
	baz=85						
ARVC	Arvin	85.40	51	⇓P	P	04 03 48.8	+0.8
	baz=85						
D23A	Lindsay	85.41	35	⇓P	P	04 03 49.1	+1.2
	baz=85						
I18A	Diamond G Ranc	85.41	40	⇑P	P	04 03 49.7	+1.5
	baz=85						
BGU	Big Grassy Mou	85.41	44	eP	P	04 03 49.6	+1.4
	comp=Z,11nm,1.0s						
R11A	Troy Canyon, C	85.50	47	⇑P	P	04 03 50.0	+1.3
	baz=85						
SPUT	South Promonto	85.50	43	eP	P	04 03 50.0	+1.4
	comp=Z,18nm,1.4s						
C24A	Savage	85.53	35	⇑P	P	04 03 49.3	+0.9
	baz=85						
E22A	Miles City	85.56	36	⇑P	P	04 03 49.5	+0.9
	baz=85						
B25A	Knox Farm, Ray	85.60	33	⇑P	P	04 03 50.2	+1.4
	baz=85						
I19A	Meeteetse	85.63	39	⇓P	P	04 03 50.4	+1.2
	baz=86						
A26A	Wade Farm, Ken	85.66	32	⇑P	P	04 03 49.8	+0.7
	baz=86						
MPMC	Manual Prospec	85.71	50	⇓P	P	04 03 50.8	+1.0
	baz=86,SNR=25						
G21A	Lodge Grass	85.76	38	⇓P	P	04 03 50.5	+0.7
	baz=86						
OSI	Osito Adit	85.77	51	⇓P	P	04 03 50.9	+1.0
	baz=86						
HWUT	Hardware Ranch	85.81	42	eP	P	04 03 51.4	+1.2
	comp=Z,36nm,1.1s						
E23A	Ismay	85.83	36	⇑P	P	04 03 51.1	+1.1
	baz=86,SNR=9.7						
H20A	Greybull	85.85	38	⇑P	P	04 03 51.1	+0.9
	baz=86,SNR=5.6						
BLG	Laguna Peak	85.85	52	⇓P	P	04 03 50.9	+0.6
	baz=86						
F22A	Rosebud	85.86	37	⇓P	P	04 03 50.9	+0.7
	baz=86						
FURC	Furnace Creek,	85.86	49	⇑P	P	04 03 51.5	+1.3
	baz=86,SNR=17						
D24A	Glendive	85.87	35	⇓P	P	04 03 51.3	+1.1
	baz=86						
LRMC	Laurel Mountai	85.93	50	⇓P	P	04 03 51.7	+0.9
	baz=86						
B26A	Jensen Ranch,	85.95	33	⇑P	P	04 03 51.7	+1.1
	baz=86						
C25A	Freed Ranch, W	85.96	34	⇓P	P	04 03 51.8	+1.2
	baz=86,SNR=5.2						
DUG	Dugway	86.00	44	eP	P	04 03 52.2	+1.1
DUG				pmax	pmax		
	comp=Z,30nm,1.1s						
DUG	Dugway	86.00	44	eP	P	04 03 52.2	+1.1
	comp=Z,30nm,1.1s						
DUG	Dugway	86.00	44	⇓P	P	04 03 52.7	+1.6
	baz=86,SNR=31						
EDW2	Edwards Air Fo	86.10	51	⇓P	P	04 03 52.6	+1.0
	baz=86,SNR=7.6						
J19A	Crowheart	86.11	40	⇑P	P	04 03 52.8	+1.1
	baz=86,SNR=8.0						
I20A	Worland	86.15	39	⇓P	P	04 03 53.0	+1.3
	baz=86						
BW06	Boulder Array	86.17	40	eP	P	04 03 52.4	+0.4
	comp=Z,5.6nm,0.9s						
PDAR	Pinedale Array	86.17	40	P	P	04 03 52.2	+0.2
PDAR				pP	pP	04 04 03.4	-0.9
PDAR	Pinedale Array	86.17	40	P	P	04 03 52.2	+0.2
	comp=Z,4.9nm,0.8s,baz=298,slow=1.9,SNR=39						
PDAR				pP	pP	04 04 03.4	-0.9
	comp=Z,3.9nm,0.8s,baz=318,slow=1.2,SNR=11						
G22A	Birney	86.23	37	⇑P	P	04 03 52.7	+0.6
	baz=86						
DECC	Green Verdugo	86.25	51	⇓P	P	04 03 53.0	+0.7
	baz=86						
H21A	Big Horn, Sher	86.25	38	⇓P	P	04 03 53.1	+0.9
	baz=86,SNR=6.4						
E24A	Baker	86.28	35	⇑P	P	04 03 53.1	+0.8
	baz=86						
F23A	Volborg	86.33	36	⇑P	P	04 03 53.3	+0.8
	baz=86,SNR=7.9						
M17A	Scullys Gap (B	86.41	42	⇑P	P	04 03 54.3	+1.1
	baz=86						
C26A	Wahner Farm, P	86.42	33	⇓P	P	04 03 53.7	+0.8
	baz=86						
L18A	Fontenelle, Gr	86.47	41	⇑P	P	04 03 54.6	+1.2
	baz=86						
K19A	Absolon Red Bu	86.52	40	⇑P	P	04 03 53.8	+0.1
	baz=86						
JLU	Jordanelle	86.53	43	eP	P	04 03 55.3	+1.4
	comp=Z,9.9nm,1.0s						
J20A	Shoshoni	86.57	39	⇑P	P	04 03 54.9	+1.0
	baz=86,SNR=7.5						
SHOC	Shoshone	86.58	49	⇑P	P	04 03 54.9	+1.1
	baz=86						
NLU	North Lily Min	86.59	44	eP	P	04 03 55.5	+1.4
	comp=Z,19nm,0.9s						
FMP	Fort Macarthur	86.60	52	⇑P	P	04 03 55.3	+1.4
	baz=86						
GSC	Goldstone	86.61	50	eP	P	04 03 55.2	+1.1
GSC				pmax	pmax		
	comp=Z,17nm,1.0s						
GSC	Goldstone	86.61	50	eP	P	04 03 55.2	+1.1
	comp=Z,17nm,1.0s						
GSC	Goldstone	86.61	50	⇓P	P	04 03 55.0	+0.9
	baz=86,SNR=11						
H22A	Clearmont	86.63	38	⇑P	P	04 03 54.7	+0.7
	baz=86						
I21A	Big Trails, Te	86.68	39	⇓P	P	04 03 55.2	+0.8
	baz=86,SNR=6.2						
G23A	Biddle	86.70	37	⇓P	P	04 03 55.1	+0.7
	baz=86,SNR=6.4						
BFSC	Mount Baldy Ra	86.70	51	⇑P	P	04 03 55.9	+1.2
	baz=87						
CIS	Catalina Islan	86.71	52	⇓P	P	04 03 55.7	+1.1
	baz=87						
F24A	Ekalaka	86.72	36	⇑P	P	04 03 55.3	+0.9
	baz=87						
L19A	Farson	86.72	41	⇑P	P	04 03 55.7	+1.0
	baz=87,SNR=14						
E25A	Miller Ranch,	86.76	35	⇓P	P	04 03 55.6	+1.1
	baz=87						
DAU	Daniels Canyon	86.77	43	eP	P	04 03 56.8	+1.7
DAU	Daniels Canyon	86.77	43	eP	P	04 03 56.8	+1.7
C27A	Sayler Ranch,	86.77	33	⇑P	P	04 03 55.7	+1.1
	baz=87						
MPU	Maple Canyon	86.81	44	eP	P	04 03 56.6	+1.5
	comp=Z,23nm,0.9s						
J21A	Lysite	86.92	39	⇑P	P	04 03 56.6	+1.0
	baz=87,SNR=11						
I22A	9 Mile Ranch,	87.05	38	⇑P	P	04 03 56.9	+0.8
	baz=87,SNR=5.4						
TUQ	Turquoise Moun	87.09	49	⇓P	P	04 03 57.6	+1.1
	baz=87,SNR=7.8						
G24A	Alzada	87.10	36	⇑P	P	04 03 56.7	+0.4
	baz=87						
H23A	Clabaugh Cattl	87.14	37	⇓P	P	04 03 56.9	+0.3
	baz=87						
F25A	Bowman	87.14	35	⇑P	P	04 03 57.6	+1.1
	baz=87						
ARUT	Antelope Range	87.17	46	eP	P	04 03 57.9	+1.0
ARUT				pmax	pmax		
	comp=Z,7.0nm,

comp=Z,9.2nm,0.9s
MDND Maddock 87.53 32 ⇓P P 04 03 59.3 +1.0
baz=87
F26A Lodgepole 87.58 35 ⇑P P 04 03 59.5 +1.0
baz=87
GMRC Granite Mounta 87.67 50 ⇑P P 04 04 00.3 +1.0
baz=88,SNR=7.0
G25A Newell 87.69 36 ⇑P P 04 03 59.9 +0.7
baz=88,SNR=6.1
M20A Sweetwater, Wa 87.78 41 ⇑P P 04 04 01.2 +1.4
baz=88,SNR=9.0
Q16A Castle Valley 87.80 44 ⇑P P 04 04 01.5 +1.6
baz=88
LDFC Landfair 87.84 49 eP P 04 04 01.5 +1.4
comp=Z,11nm,0.8s
LPL La Plagne 87.86 325 eP P 04 03 59.0 -1.1
comp=Z,3.2nm,0.6s
LPG La Plagne 87.86 325 eP P 04 03 59.2 -1.0
comp=Z,6.9nm,0.8s
J23A Dilts Ranch, B 87.88 38 ⇓P P 04 04 00.8 +0.6
baz=88
PFO Pinyon Flat Ob 87.88 51 ⇑P P 04 04 01.2 +0.9
baz=88,SNR=5.8
K22A Casper 87.89 39 ⇑P P 04 04 01.0 +0.7
baz=88,SNR=6.5
109C Camp Elliot, M 87.89 52 ⇓P P 04 04 00.9 +0.8
baz=88
L21A Rawlins 87.91 40 ⇓P P 04 04 01.3 +0.9
baz=88
BELC Belle Mtn. Jos 87.93 50 ⇓P P 04 04 01.0 +0.4
baz=88
H25A Fruitdale 88.01 36 ⇓P P 04 04 01.6 +0.9
baz=88
G26A Maurine 88.02 35 ⇑P P 04 04 01.8 +1.1
baz=88
I24A Kuemmerle Ranc 88.03 37 ⇑P P 04 04 01.1 +0.3
baz=88
SRU San Rafael 88.05 44 eP P 04 04 02.0 +0.9
SRU pmax pmax
comp=Z,22nm,0.8s
SRU San Rafael 88.05 44 eP P 04 04 02.0 +0.9
comp=Z,22nm,0.8s
O19A Miners Draw (B 88.06 42 ⇑P P 04 04 01.8 +0.7
baz=88,SNR=12
RSSD Black Hills 88.15 37 eP P 04 04 02.0 +0.5
RSSD pmax pmax
comp=Z,12nm,0.8s
RSSD Black Hills 88.15 37 eP P 04 04 02.0 +0.5
comp=Z,12nm,0.8s
M21A Separation Pea 88.16 40 ⇓P P 04 04 02.6 +0.9
baz=88,SNR=14
RWWY Rawlins 88.18 40 eP P 04 04 02.6 +0.9
comp=Z,23nm,1.0s
N20A Spence Gulch, 88.19 41 ⇓P P 04 04 03.2 +1.4
baz=88,SNR=14
G27A Dupree 88.28 35 ⇑P P 04 04 03.0 +1.1
baz=88
K23A Bowen Ranch, D 88.29 39 ⇓P P 04 04 02.6 +0.5
baz=88
MONP Monument Peak 88.34 52 ⇓P P 04 04 03.4 +0.8
baz=88
L22A Ellis Ranch, M 88.37 39 ⇑P P 04 04 03.7 +1.1
baz=88
I25A Rochford 88.37 37 ⇑P P 04 04 03.4 +0.9
baz=88,SNR=14
IRM Iron Mountain 88.39 50 ⇓P P 04 04 03.8 +1.3
baz=88,SNR=6.9
J24A Dixon Ranch, L 88.39 38 ⇓P P 04 04 03.2 +0.6
baz=88
H26A Fairpoint 88.42 36 ⇓P P 04 04 03.6 +1.0
baz=88
BC3 Big Chuckawall 88.50 50 ⇓P P 04 04 04.3 +1.0
baz=88
P19A Cripple Cowboy 88.59 43 ⇑P P 04 04 04.8 +1.1
baz=88
W13A Hualapai Mount 88.60 49 ⇑P P 04 04 04.9 +1.0
baz=88
N21A Black Mountain 88.65 41 ⇓P P 04 04 05.2 +1.2
baz=88,SNR=7.1
O20A White River Ci 88.67 42 ⇓P P 04 04 05.1 +1.0
baz=88,SNR=5.7
L23A Garrett 88.70 39 ⇑P P 04 04 04.7 +0.6
baz=89,SNR=20
M22A Cedar Creek Ra 88.71 40 ⇓P P 04 04 05.3 +1.0
baz=89,SNR=7.2
SWSC Sam W. Stewart 88.72 51 ⇓P P 04 04 06.0 +1.9
baz=89
K24A Anderson Ranch 88.74 38 ⇑P P 04 04 04.6 +0.4
baz=89,SNR=5.1
U15A North Rim 88.74 47 ⇑P P 04 04 06.1 +1.5
baz=89,SNR=16
H27A Howes 88.75 35 ⇓P P 04 04 05.2 +1.1
baz=89
J25A Sunshine Ranch 88.79 37 ⇓P P 04 04 05.0 +0.6
baz=89
I26A New Underwood 88.80 36 ⇓P P 04 04 05.6 +1.1
baz=89
PDMCI Parker Dam,Lak 88.95 49 ⇑P P 04 04 06.5 +1.3
baz=89
G28A Parade 88.99 34 ⇑P P 04 04 06.6 +1.3
baz=89
P20A De Beque 89.02 42 ⇑P P 04 04 06.7 +1.1
baz=89,SNR=5.5
Y12C Blythe 89.05 50 ⇓P P 04 04 07.0 +1.4
baz=89
L24A Wheatland 89.16 39 ⇑P P 04 04 07.2 +1.0
baz=89
I27A Quinn 89.17 36 ⇑P P 04 04 07.4 +1.3
baz=89
N22A Wattenberg Ran 89.21 40 ⇓P P 04 04 08.3 +1.7
baz=89,SNR=10
J26A Sides Ranch, S 89.21 37 ⇑P P 04 04 07.7 +1.3
baz=89,SNR=24
H28A Mission Ridge 89.23 35 ⇑P P 04 04 07.4 +1.1
baz=89
GLA Glamis 89.29 51 ⇓P P 04 04 08.1 +1.2
baz=89
K25A Mack Ranch, Ha 89.31 38 ⇓P P 04 04 07.9 +1.0
baz=89
PHWY Pilot Hill 89.40 39 eP P 04 04 09.0 +1.4
comp=Z,15nm,1.0s
N23A Red Feather La 89.42 40 ⇑P P 04 04 09.2 +1.6
baz=89,SNR=17
Q20A Ridgley Place, 89.44 43 ⇑P P 04 04 09.0 +1.3
baz=89,SNR=22
PV04 Paradox Valley 89.47 43 eP P 04 04 09.3 +1.5
P21A Newcastle 89.53 42 ⇓P P 04 04 09.4 +1.3
baz=89
L25A Engebretsen Ra 89.58 38 ⇑P P 04 04 09.7 +1.5
baz=89
K26A Motz Farm, Whi 89.60 37 ⇑P P 04 04 09.4 +1.2
baz=89
O22A Kremmling 89.60 41 ⇑P P 04 04 09.6 +1.1
baz=90,SNR=11
M24A Cheyenne 89.62 39 ⇓P P 04 04 10.1 +1.7
baz=90
I28A Midland 89.66 35 ⇑P P 04 04 09.5 +1.1
baz=90
PV01 Paradox Valley 89.84 43 eP P 04 04 11.1 +1.5
comp=Z,3μm,1.1s
P22A Eagle 89.87 41 ⇓P P 04 04 11.4 +1.7
baz=90,SNR=7.4
PPT2 Papeete2 89.90 111 eLR LR 04 32 45.9
comp=Z,160nm,23.0s
WUAZ Wupatki 89.90 47 eP P 04 04 11.5 +1.6
comp=Z,21nm,1.0s
WUAZ Wupatki 89.90 47 ⇑P P 04 04 11.2 +1.4
baz=90
Y14A Wickenburg 89.90 49 ⇓P P 04 04 10.8 +1.1
baz=90
O23A Lake Granby, G 89.91 40 ⇓P P 04 04 11.4 +1.5
baz=90
R20A Redvale 89.91 43 ⇑P P 04 04 11.6 +1.7
baz=90,SNR=36
Q21A Lamborn Mesa, 89.94 42 ⇓P P 04 04 11.6 +1.6
baz=90,SNR=5.4
SMCO Snowmass 90.04 42 eP P 04 04 11.9 +1.2
comp=Z,15nm,0.9s
N24A Carr 90.04 40 ⇓P P 04 04 11.9 +1.4
baz=90
J28A Allard Ranch, 90.05 36 ⇑P P 04 04 11.5 +1.2
baz=90
M25A Palm-Egli Farm 90.05 39 ⇑P P 04 04 11.9 +1.4
baz=90
K27A Flueckinger Fa 90.08 37 ⇓P P 04 04 11.4 +0.9
baz=90
L26A Underwood Farm 90.13 38 ⇓P P 04 04 11.9 +1.2
baz=90

113A Mohawk Valley, 90.16 50 ⇑P P 04 04 12.1 +1.2
baz=90
S20A Disappointment 90.17 44 ⇑P P 04 04 12.7 +1.5
baz=90,SNR=20
R21A Cimarron 90.27 43 ⇓P P 04 04 13.5 +1.9
baz=90,SNR=28
Q22A Crested Butte, 90.29 42 ⇑P P 04 04 13.5 +1.7
baz=90
ISCO Idaho Springs 90.36 41 ⇓P P 04 04 13.6 +1.4
baz=90
BRSD Miller 90.39 34 ⇓P P 04 04 12.6 +0.9
baz=90
O24A Longmont 90.43 40 ⇑P P 04 04 13.7 +1.5
baz=90
K28A Ten Mile Ranch 90.51 36 ⇑P P 04 04 13.3 +0.9
baz=90
M26A McRoberts Ranc 90.51 38 ⇓P P 04 04 13.8 +1.3
baz=90
MVCO Mesa Verde 90.51 44 eP P 04 04 13.9 +1.2
comp=Z,22nm,1.0s
MVCO Mesa Verde 90.51 44 ⇑P P 04 04 14.1 +1.4
baz=90
P23A Jefferson 90.54 41 ⇓P P 04 04 14.9 +1.9
baz=90,SNR=8.8
X16A Lo Mia Camp, P 90.58 48 ⇓P P 04 04 14.7 +1.6
baz=90
S21A Coal Bank Pass 90.61 43 ⇑P P 04 04 15.2 +1.9
baz=90,SNR=25
R22A Saguache, Gunn 90.82 42 ⇑P P 04 04 16.5 +2.2
baz=91
M27A Reverse DX Ran 90.85 38 ⇓P P 04 04 15.6 +1.5
baz=91
EYMN Ely 90.86 28 eP pP 04 04 26.1 -0.2
P24A Kohler Place, 90.95 40 ⇑P P 04 04 16.3 +1.6
baz=91
O25A Wiggins 90.96 40 ⇑P P 04 04 15.8 +1.2
baz=91
K29A Lazy Trails An 90.99 36 ⇓P P 04 04 16.1 +1.4
baz=91
U20A Newcomb 91.06 45 ⇑P P 04 04 16.7 +1.5
baz=91,SNR=11
S22A 4UR Ranch, Cre 91.11 43 ⇑P P 04 04 17.2 +1.6
baz=91,SNR=19
W18A Petrified Fore 91.17 46 ⇑P P 04 04 17.3 +1.5
baz=91
Q24A Divide 91.21 41 ⇑P P 04 04 17.0 +1.0
baz=91
O26A Horse Wrangler 91.30 39 ⇑P P 04 04 16.9 +0.7
baz=91
214A Organ Pipe Nat 91.30 50 ⇓P P 04 04 17.5 +1.2
baz=91,SNR=5.8
N27A Anderson Farm, 91.30 38 ⇑P P 04 04 17.1 +0.9
baz=91
P25A Willow Gulch B 91.36 40 ⇑P P 04 04 17.4 +0.8
baz=91
X18A Snowflake 91.43 47 ⇓P P 04 04 18.4 +1.4
baz=91
L29A Maesberg Ranch 91.43 36 ⇑P P 04 04 17.6 +0.9
baz=91
SCHQ Schefferville 91.46 11 LR LR 04 47 49.8
comp=Z,107nm,18.8s,baz=326,slow=37
OGNE Ogallala 91.46 38 eP P 04 04 17.9 +1.0
comp=Z,42nm,1.5s
OGNE Ogallala 91.46 38 ⇓P P 04 04 17.7 +0.8
baz=91
V20A Brimhall 91.48 45 ⇑P P 04 04 18.6 +1.4
baz=91,SNR=12
U21A Nageezi 91.53 44 ⇓P P 04 04 19.2 +1.7
baz=91,SNR=20
T22A Edith 91.57 43 ⇓P P 04 04 19.6 +1.9
baz=92,SNR=22
S23A Nye Farm, Mont 91.61 42 ⇑P P 04 04 19.5 +1.6
baz=92
Q25A Bedland, Calha 91.74 41 ⇑P P 04 04 19.3 +0.9
baz=92,SNR=7.8
R24A Sanders Place, 91.75 41 ⇓P P 04 04 20.0 +1.5
baz=92,SNR=16
P26A Davis Ranch, A 91.77 40 ⇑P P 04 04 19.4 +0.9
baz=92
O27A Beecher Island 91.78 39 ⇑P P 04 04 19.1 +0.7
baz=92
M29A Burnside Ranch 91.78 37 ⇓P P 04 04 19.1 +0.7
baz=92
SDCO Great Sand Dun 91.86 42 eP P 04 04 20.4 +1.3
comp=Z,21nm,1.7s
W20A Ramah 91.91 46 ⇑P P 04 04 20.5 +1.2
baz=92,SNR=16
V21A Milan 91.97 45 ⇑P P 04 04 21.0 +1.5
baz=92,SNR=7.2
ECSD EROS Data Cent 92.02 33 eP pP 04 04 31.3 -0.4
U22A Llaves 92.04 44 ⇑P P 04 04 21.7 +1.9
baz=92,SNR=16
T23A Casias Ranch, 92.06 43 ⇓P P 04 04 21.9 +1.9
baz=92,SNR=9.3
S24A Houchin Ranch, 92.10 42 ⇓P P 04 04 21.7 +1.5
baz=92,SNR=8.5
Q26A Hugo 92.13 40 ⇑P P 04 04 21.2 +1.0
baz=92
P27A Ficken Ranch, 92.18 39 ⇑P P 04 04 21.0 +0.7
baz=92
O28A Krusinger Ran 92.19 38 ⇓P P 04 04 21.0 +0.7
baz=92
R25A Fountain Ranch 92.26 41 ⇓P P 04 04 21.6 +0.8
baz=92
N29A Votaw Ranch, W 92.28 37 ⇓P P 04 04 21.4 +0.7
baz=92
X20A Quemado 92.31 46 ⇓P P 04 04 23.2 +2.0
baz=92
V22A San Miguel Ran 92.32 44 ⇑P P 04 04 22.7 +1.5
baz=92,SNR=9.5
TUC Tucson 92.37 49 eP P 04 04 22.9 +1.6
TUC pmax pmax
comp=Z,61nm,0.9s
TUC Tucson 92.37 49 eP P 04 04 22.9 +1.6
comp=Z,61nm,0.9s
W21A San Fidel 92.43 45 ⇓P P 04 04 23.3 +1.7
baz=92,SNR=7.7
U23A El Rito 92.46 43 ⇓P P 04 04 23.8 +2.1
baz=92,SNR=58
S25A Robts Cordova 92.53 41 ⇑P P 04 04 22.7 +0.7
baz=92
SPMN St. Paul 92.53 30 ⇓P P 04 04 22.1 +0.5
baz=92
KSCO Kaye Shedlock' 92.55 40 ⇓P P 04 04 22.9 +0.8
baz=92
N30A Hueftle Ranch, 92.56 37 ⇑P P 04 04 22.7 +0.7
baz=92
P28A Saint Francis 92.61 39 ⇑P P 04 04 22.9 +0.7
baz=92
R26A Arlington 92.62 40 ⇑P P 04 04 23.2 +0.8
baz=92
O29A 4D Ranch, Culb 92.70 38 ⇑P P 04 04 23.1 +0.5
baz=92
X21A Alamocita Cree 92.81 46 ⇓P P 04 04 25.2 +1.7
baz=93,SNR=30
Y20A Horse Springs, 92.81 46 ⇓P P 04 04 25.4 +1.9
baz=93,SNR=36
V23A Ortiz Mt. (NFS 92.87 44 ⇑P P 04 04 26.1 +2.4
baz=93,SNR=18
T25A Trinidad 92.91 42 ⇓P P 04 04 24.9 +1.1
baz=93
U24A Moreno Valley 92.93 43 ⇓P P 04 04 26.0 +2.0
baz=93
W22A Albuquerque 92.93 45 ⇑P P 04 04 25.7 +1.8
baz=93
Q28A Sharon Springs 92.94 39 ⇓P P 04 04 24.4 +0.6
baz=93
R27A Eads 92.98 40 ⇑P P 04 04 24.7 +0.7
baz=93
P29A Atwood 93.02 38 ⇑P P 04 04 24.5 +0.4
baz=93
BGNE Belgrade 93.07 35 ⇑P P 04 04 24.7 +0.5
baz=93
S26A Kim 93.09 41 ⇑P P 04 04 25.1 +0.6
baz=93
Y21A Point of Rocks 93.17 46 ⇓P P 04 04 27.1 +1.9
baz=93,SNR=21
TBI Tubuai 93.20 116 eLR LR 04 34 28.8
comp=Z,315nm,29.0s
Z20A Nine Sixteen R 93.22 47 ⇑P P 04 04 27.1 +1.8
baz=93,SNR=59
LAZ Ladron 93.23 45 eP P 04 04 27.2 +1.9
LAZ e pP 04 04 38.4 +0.7
X22A Bernardo 93.23 45 ⇑P P 04 04 27.3 +2.0
baz=93
ANMO Albuquerque 93.26 45 eP P 04 04 27.2 +1.7
comp=Z,9.0nm,1.0s

ANMO e pP 04 04 38.3 +0.5
W23A Werner Place, 93.29 44 ⇓P P 04 04 27.4 +1.7
baz=93,SNR=6.8
T26A Comanche Natio 93.34 41 ⇓P P 04 04 26.4 +0.6
baz=93
V24A Rampart Ranch, 93.41 43 ⇓P P 04 04 28.3 +2.1
baz=93,SNR=17
P30A Selden 93.42 38 ⇑P P 04 04 26.3 +0.4
baz=93
U25A Circle Dot Ran 93.43 42 ⇑P P 04 04 27.4 +1.2
baz=93
R28A Tribune 93.47 40 ⇓P P 04 04 26.7 +0.4
baz=93
Q29A Oakley 93.52 39 ⇑P P 04 04 26.9 +0.5
baz=93
Y22A Socorro 93.65 46 ⇓P P 04 04 28.5 +1.2
baz=94
Z21A St. Cloud Mine 93.65 46 ⇑P P 04 04 29.0 +1.7
baz=94,SNR=18
W24A Lazy 6 Ranch, 93.69 44 ⇑P P 04 04 29.5 +2.0
baz=94,SNR=26
BNM Barren Site 93.70 45 eP P 04 04 29.1 +1.5
comp=Z,16nm,1.3s
V25A Rancho No Teng 93.71 43 ⇑P P 04 04 29.2 +1.7
baz=94,SNR=21
R29A Marienthal 93.77 39 ⇓P P 04 04 28.2 +0.6
baz=94
U26A Atchley Ranch, 93.81 42 ⇑P P 04 04 29.0 +1.0
baz=94
Q30A Quinter 93.85 38 ⇓P P 04 04 28.3 +0.4
baz=94
P31A Stockton 93.88 37 ⇑P P 04 04 28.3 +0.3
baz=94
T27A Campo 93.91 41 ⇑P P 04 04 29.1 +0.8
baz=94
319A Douglas 93.95 49 ⇑P P 04 04 30.0 +1.4
baz=94,SNR=11
S28A Manter 93.97 40 ⇑P P 04 04 29.4 +0.9
baz=94
220A Playas Peak, P 94.07 48 ⇑P P 04 04 30.5 +1.4
baz=94,SNR=13
121A Cookes Peak, D 94.11 47 ⇑P P 04 04 30.9 +1.6
baz=94,SNR=9.2
Z22A Elephant Butte 94.12 46 ⇑P P 04 04 30.6 +1.2
baz=94,SNR=6.8
X24A Lazy VL Ranch, 94.13 44 ⇓P P 04 04 30.9 +1.4
baz=94
T28A Walsh 94.20 41 ⇑P P 04 04 30.3 +0.7
baz=94
Y23A Lovelace Mesa, 94.20 45 ⇑P P 04 04 31.0 +1.2
baz=94
V26A Tequesquite Ra 94.22 42 ⇓P P 04 04 30.6 +0.9
baz=94
W25A X Bar L Ranch, 94.24 43 ⇑P P 04 04 31.4 +1.5
baz=94
Q31A Ellis 94.26 38 ⇑P P 04 04 30.6 +0.8
baz=94
U27A Thompson Grove 94.31 41 ⇑P P 04 04 31.1 +0.9
baz=94
R30A Dighton 94.33 39 ⇑P P 04 04 30.5 +0.3
baz=94
S29A Ulysses 94.38 40 ⇓P P 04 04 31.1 +0.7
baz=94
320A Kipp Ranch, An 94.45 48 ⇑P P 04 04 32.4 +1.5
baz=94,SNR=5.3
Z23A Rita Site, Whi 94.56 46 ⇓P P 04 04 32.4 +1.1
baz=94
Y24A Capitan 94.57 45 ⇑P P 04 04 32.2 +0.6
baz=94
X25A Clemmons Ranch 94.61 44 ⇓P P 04 04 32.9 +1.2
baz=94
T29A Hugoton 94.62 40 ⇓P P 04 04 32.1 +0.6
baz=94
S30A Montezuma 94.71 39 ⇑P P 04 04 32.7 +0.8
baz=95
R31A Burdett 94.72 38 ⇑P P 04 04 32.5 +0.6
baz=95
W26A Owens Ranch, T 94.73 43 ⇑P P 04 04 33.1 +1.0
baz=95
222A Williams Famil 94.82 47 ⇑P P 04 04 33.8 +1.2
baz=95,SNR=15
Y25A Mesa, Roswell 95.02 44 ⇑P P 04 04 34.3 +0.9
baz=95
Z24A Sheeppen Canyo 95.03 45 ⇓P P 04 04 34.8 +1.2
baz=95
X26A CR and CF Fran 95.09 43 ⇑P P 04 04 34.9 +1.2
baz=95
T30A Plains 95.11 40 ⇑P P 04 04 34.6 +0.9
baz=95
W27A Bowe Ranch, En 95.15 43 ⇑P P 04 04 35.3 +1.3
baz=95
S31A Mullinville 95.25 39 ⇓P P 04 04 34.8 +0.5
baz=95
124A Stringfield Ra 95.42 46 ⇑P P 04 04 36.5 +1.1
baz=95,SNR=19
U30A WK&E Inc. Balk 95.43 40 ⇓P P 04 04 35.6 +0.4
baz=95
X27A F and S Farms, 95.43 43 ⇓P P 04 04 36.6 +1.2
baz=95
Z25A Roswell 95.45 45 ⇓P P 04 04 36.8 +1.3
baz=95
W28A Vega 95.50 42 ⇑P P 04 04 36.7 +1.1
baz=95
Y26A Elida 95.52 44 ⇓P P 04 04 36.8 +1.0
baz=95
T31A Randall Ranch, 95.53 39 ⇓P P 04 04 36.5 +0.9
baz=95
224A Cornudas Mount 95.81 46 ⇑P P 04 04 38.2 +1.1
baz=96
Z26A Caprock 95.89 44 ⇓P P 04 04 38.4 +0.9
baz=96
125A Gardner Draw, 95.92 45 ⇓P P 04 04 38.8 +1.2
baz=96
Y27A Causey 95.94 43 ⇑P P 04 04 38.4 +0.7
baz=96
X28A Dimmitt 96.04 42 ⇓P P 04 04 38.9 +0.8
baz=96
MSTX Muleshoe 96.10 43 ⇑P P 04 04 39.2 +0.8
baz=96
MNTX Cornudas Mount 96.16 46 eP P 04 04 39.8 +1.3
comp=Z,1.8nm,0.8s
225A Deer Hill, Car 96.21 46 ⇓P P 04 04 39.8 +0.8
baz=96
324A Moseley Ranch, 96.27 47 ⇓P P 04 04 39.6 +0.4
baz=96
126A Clayton Basin, 96.31 45 ⇑P P 04 04 39.9 +0.6
baz=96
Z27A Tatum 96.31 44 ⇓P P 04 04 40.1 +0.7
baz=96
X29A Tulia 96.37 42 ⇓P P 04 04 40.4 +0.8
baz=96
GDL2 Guadalupe Moun 96.42 45 eP P 04 04 41.5 +1.6
V31A Spring Creek L 96.43 40 ⇑P P 04 04 40.7 +1.0
baz=96
Y28A McKinney Farm, 96.45 43 ⇑P P 04 04 40.6 +0.6
baz=96
226B Tecolote Peak, 96.63 45 ⇓P P 04 04 41.5 +0.7
baz=96
325A Bean Ranch, Si 96.64 46 ⇑P P 04 04 41.7 +0.8
baz=96
W31A Holland Ranch, 96.81 41 ⇑P P 04 04 42.1 +0.7
baz=97
Y29A Porterfield Fa 96.81 43 ⇑P P 04 04 42.4 +0.8
baz=97
Z28A Tucker Farm, M 96.81 43 ⇓P P 04 04 42.1 +0.5
baz=97
X30A Coker Ranch, T 96.84 42 ⇑P P 04 04 41.8 +0.2
baz=97
425A Indio Mountain 97.04 47 ⇑P P 04 04 43.2 +0.5
baz=97
X31A McDonald Ranch 97.20 41 ⇑P P 04 04 44.2 +1.0
baz=97
Z29A Hungry Hill Ra 97.23 43 ⇓P P 04 04 44.3 +0.8
baz=97
128A Castleberry Fa 97.24 44 ⇓P P 04 04 44.4 +0.8
baz=97
326A Caldwell Ranch 97.28 46 ⇑P P 04 04 44.6 +0.9
baz=97
228A UT Block 9, Go 97.53 44 ⇓P P 04 04 45.5 +0.7
baz=97
Y31A Rekieta Farm, 97.54 42 ⇑P P 04 04 45.4 +0.7
baz=97
Z30A Sanderson Ranc 97.54 43 ⇓P P 04 04 45.2 +0.3
baz=97
426A McDonald Obser 97.70 46 ⇓P P 04 04 46.5 +0.7
baz=98
WMOK Wichita Mounta 97.78 40 eP P 04 04 46.6 +0.8
WMOK pmax pmax

comp=Z,14nm,1.7s
WMOK Wichita Mounta 97.78 40 *e*P **P 04 04 46.6 +0.8**
comp=Z,14nm,1.7s
328A Wristen Ranch, 97.93 45 ⇓P Pdif 04 04 47.8 +1.1
baz=98
427A Hayter Ranch, 97.96 46 ⇑P **P 04 04 47.5 +0.7**
baz=98
Y32A R-V Farms, Ver 97.96 41 ⇓P **P 04 04 47.3 +0.7**
baz=98
Z31A Sharp Cattle R 98.08 42 ⇑P **P 04 04 48.0 +0.8**
baz=98
526A Mary Lane Ranc 98.09 47 ⇑P **P 04 04 48.1 +0.6**
baz=98
329A Wagon Wheel Ra 98.35 44 ⇑Pdiff Pdif 04 04 49.7 +1.1
baz=98
329A Wagon Wheel Ra 98.35 44 ⇑Pdiff Pdif 04 04 49.7 +1.1
baz=98
131A Roby 98.41 43 ⇑Pdiff **P 04 04 49.4 +0.6**
baz=98
131A Roby 98.41 43 ⇑Pdiff **P 04 04 49.4 +0.6**
baz=98
626A Big Bend Ranch 98.42 47 ⇑Pdiff **P 04 04 49.9 +1.0**
baz=98
626A Big Bend Ranch 98.42 47 ⇑Pdiff **P 04 04 49.9 +1.0**
baz=98
Z32A Haskell 98.46 42 ⇑Pdiff **P 04 04 49.9 +1.0**
baz=98
Z32A Haskell 98.46 42 ⇑Pdiff **P 04 04 49.9 +1.0**
baz=98
TUL1 Tulsa 98.47 37 ⇓Pdiff **P 04 04 49.6 +0.7**
baz=98
TUL1 Tulsa 98.47 37 ⇓Pdiff **P 04 04 49.6 +0.7**
baz=98
428A Kincaid Ranch, 98.48 45 ⇓Pdiff **P 04 04 49.9 +0.8**
baz=98
428A Kincaid Ranch, 98.48 45 ⇓Pdiff **P 04 04 49.9 +0.8**
baz=98
528A Cox Ranch, San 98.82 46 ⇑Pdiff **P 04 04 51.5 +0.8**
baz=99
528A Cox Ranch, San 98.82 46 ⇑Pdiff **P 04 04 51.5 +0.8**
baz=99
TXAR Lajitas Array 98.87 47 P **P 04 04 51.8 +0.8**
TXAR pP **pP 04 05 03.5 +0.2**
TXAR Lajitas Array 98.87 47 P **P 04 04 51.8 +0.8**
comp=Z,2.1nm,0.5s,baz=290,slow=2.5,SNR=32
TXAR pP **pP 04 05 03.5 +0.2**
comp=Z,1.1nm,0.6s,baz=294,slow=2.5,SNR=6.5
ABTX Abilene, Hawle 98.87 42 ⇑Pdiff **P 04 04 51.1 +0.3**
baz=99
ABTX Abilene, Hawle 98.87 42 ⇑Pdiff **P 04 04 51.1 +0.3**
baz=99
330A Mertzon 98.88 44 ⇓Pdiff **P 04 04 50.4 -0.5**
baz=99
330A Mertzon 98.88 44 ⇓Pdiff **P 04 04 50.4 -0.5**
baz=99
627A Terlingua Ranc 98.95 47 ⇓Pdiff **Pdif 04 04 51.6 +0.3**
baz=99
627A Terlingua Ranc 98.95 47 ⇓Pdiff **Pdif 04 04 51.6 +0.3**
baz=99
429A Davenport Ranc 99.02 45 ⇓Pdiff **Pdif 04 04 51.7 +0.1**
baz=99
429A Davenport Ranc 99.02 45 ⇓Pdiff **Pdif 04 04 51.7 +0.1**
baz=99
529A Stev Forest Ra 99.19 45 ⇓Pdiff **Pdif 04 04 52.3 0.0**
baz=99
529A Stev Forest Ra 99.19 45 ⇓Pdiff **Pdif 04 04 52.3 0.0**
baz=99
628A Black Gap, Mar 99.24 46 ⇓Pdiff **Pdif 04 04 52.9 +0.4**
baz=99
628A Black Gap, Mar 99.24 46 ⇓Pdiff **Pdif 04 04 52.9 +0.4**
baz=99
430A Baggett Ranch, 99.30 44 ⇑Pdiff **Pdif 04 04 53.0 +0.3**
baz=99
430A Baggett Ranch, 99.30 44 ⇑Pdiff **Pdif 04 04 53.0 +0.3**
baz=99
331A San Angelo 99.39 43 ⇑Pdiff **Pdif 04 04 53.4 +0.3**
baz=99
331A San Angelo 99.39 43 ⇑Pdiff **Pdif 04 04 53.4 +0.3**
baz=99
232A Coleman 99.41 43 ⇑Pdiff **Pdif 04 04 53.2 -0.1**
baz=99
232A Coleman 99.41 43 ⇑Pdiff **Pdif 04 04 53.2 -0.1**
baz=99
530A J-C Ranch, Com 99.70 45 ⇓Pdiff **Pdif 04 04 54.5 0.0**
baz=100
530A J-C Ranch, Com 99.70 45 ⇓Pdiff **Pdif 04 04 54.5 0.0**
baz=100
332A Millersview 99.73 43 ⇓Pdiff **Pdif 04 04 54.9 +0.3**
baz=100
332A Millersview 99.73 43 ⇓Pdiff **Pdif 04 04 54.9 +0.3**
baz=100
431A Sonora 99.74 44 ⇓Pdiff **Pdif 04 04 55.0 +0.3**
baz=100
431A Sonora 99.74 44 ⇓Pdiff **Pdif 04 04 55.0 +0.3**
baz=100
531A Rocksprings 100.16 44 ⇑Pdiff **Pdif 04 04 56.7 +0.1**
baz=100
531A Rocksprings 100.16 44 ⇑Pdiff **Pdif 04 04 56.7 +0.1**
baz=100
532A Rocksprings 100.56 44 ⇑Pdiff **Pdif 04 04 58.3 -0.1**
baz=100
532A Rocksprings 100.56 44 ⇑Pdiff **Pdif 04 04 58.3 -0.1**
baz=100
631A Perdido Creek 100.69 45 ⇑Pdiff **Pdif 04 04 59.1 +0.2**
baz=101
631A Perdido Creek 100.69 45 ⇑Pdiff **Pdif 04 04 59.1 +0.2**
baz=101
632A Uvalde 101.08 44 ⇓Pdiff **Pdif 04 05 00.0 -0.7**
baz=101
632A Uvalde 101.08 44 ⇓Pdiff **Pdif 04 05 00.0 -0.7**
baz=101
RKT Rikitea 104.43 108 *e*LR LR 04 39 30.0
comp=Z,249nm,28.2s
VNDA Vanda 111.30 173 PKiKP **PKiKP 04 09 43.2 +0.3**
VNDA Vanda 111.30 173 PKiKP **PKiKP 04 09 43.2 +0.3**
comp=Z,0.6nm,0.9s,baz=300,slow=5.4,SNR=3.0
TORD Torodi Ar. Bea 114.33 305 PKP PKPdf 04 09 48.9 -1.7
TORD pPKP pPKiKP 04 10 00.5 -2.9
TORD PKKPbc **PKKPbc 04 20 30.1 +0.9**
TORD Torodi Ar. Bea 114.33 305 PKP PKPdf 04 09 48.9 -1.7
comp=Z,0.2nm,0.4s,baz=44,slow=1.3,SNR=8.7
TORD pPKP pPKiKP 04 10 00.5 -2.9
comp=Z,0.3nm,0.4s,baz=55,slow=1.1,SNR=3.0
TORD PKKPbc **PKKPbc 04 20 30.1 +0.9**
comp=Z,0.9nm,0.7s,baz=262,slow=2.4,SNR=4.8
QSPA South Pole Qui 122.31 180 *e*PKPdf **PKPdf 04 10 04.0 -0.5**
SNAA Sanae 134.16 198 *e*P **PKPdf 04 10 26.6 -0.3**
ATAH Atahualpa 142.04 55 PKP **PKPdf 04 10 44.8 +1.2**
ATAH Atahualpa 142.04 55 PKP **PKPdf 04 10 44.8 +1.2**
comp=Z,6.9nm,0.8s,baz=332,slow=7.0,SNR=4.0
NNA Nana 146.50 59 PKPbc **PKPdf 04 10 50.9 +0.1**
NNA pPKPbc pPKPbc 04 11 05.2 +0.4
NNA Nana 146.50 59 PKPbc **PKPdf 04 10 50.9 +0.1**
comp=Z,19nm,0.7s,baz=329,slow=5.5,SNR=8.2
NNA pPKPbc pPKPbc 04 11 05.2 +0.4
comp=Z,24nm,0.9s,baz=313,slow=2.7,SNR=5.1
SAML Samuel 152.59 34 *e*PKPdf **PKPdf 04 11 00.4 0.0**
SAML *e*PKPbc **PKPbc 04 11 07.2 -0.3**
LPAZ La Paz 155.56 53 *e*PKPdf **PKPdf 04 11 05.8 +0.6**
LPAZ PKPab **PKPab 04 11 30.9 -0.3**
LPAZ La Paz 155.56 53 PKP **PKPdf 04 11 05.8 +0.6**
comp=Z,1.2nm,0.9s,baz=141,slow=2.9,SNR=4.4
LPAZ PKPab **PKPab 04 11 30.9 -0.3**
comp=Z,9.8nm,0.8s,baz=330,slow=2.8,SNR=8.5
SIV San Ignacio 159.65 39 PKP **PKPdf 04 11 10.2 +0.5**
SIV PKPab **PKPab 04 11 48.2 0.0**
SIV San Ignacio 159.65 39 PKP **PKPdf 04 11 10.2 +0.5**
comp=Z,2.5nm,0.8s,baz=249,slow=2.8,SNR=10
SIV PKPab **PKPab 04 11 48.2 0.0**
comp=Z,4.6nm,0.8s,baz=312,slow=4.9,SNR=8.6
PLCA Paso Flores 160.13 121 PKPab **PKPab 04 11 50.8 +0.9**
PLCA Paso Flores 160.13 121 PKPab **PKPab 04 11 50.8 +0.9**
comp=Z,5.4nm,1.0s,baz=197,slow=5.9,SNR=4.9
CFAA Coronel Fontan 162.76 92 PKP **PKPdf 04 11 11.7 -0.9**
CFAA PKPab **PKPab 04 12 01.9 +0.3**
CFAA Coronel Fontan 162.76 92 PKP **PKPdf 04 11 11.7 -0.9**
comp=Z,0.3nm,0.9s,baz=269,slow=3.6,SNR=4.5
CFAA PKPab **PKPab 04 12 01.9 +0.3**
comp=Z,0.4nm,0.7s,baz=289,slow=3.3,SNR=6.9
BDFB Brasilia 163.16 0 PKP **PKPdf 04 11 12.7 -0.7**
BDFB PKPab **PKPab 04 12 02.3 -1.1**
BDFB Brasilia 163.16 0 PKP **PKPdf 04 11 12.7 -0.7**
comp=Z,2.1nm,0.7s,baz=18,slow=6.8,SNR=3.3
BDFB PKPab **PKPab 04 12 02.3 -1.1**
comp=Z,2.2nm,0.8s,baz=322,slow=3.7,SNR=5.3
CPUP Villa Florida 169.73 55 PKPab **PKPab 04 12 31.7 -0.5**
CPUP Villa Florida 169.73 55 PKPab **PKPab 04 12 31.7 -0.5**

comp=Z,0.4nm,0.4s,baz=320,slow=9.2,SNR=4.0

PRE ***05*** *03:54:50.9±3.5, 16°.32S×35°.44E, h10km, ML5.5*
ISC 05 03:54:56.7±2.3, 16°.45S±0°.07×34°.9E±0°.2, h10km, n9, σ2°.06/13, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**5.06**	**350**	*i*P	Pb	03 56 21.0	-4.5
MZM				*i*S	**Sg**	**03 57 37.6**	**-1.8**
LSZ	**Lusaka**	**6.59**	**279**	⇓*i*P	Pn	03 56 38.2	+4.4
LSZ				*e*S	**Sn**	**03 57 50.9**	**+1.7**
SLR	**Silverton**	**11.12**	**213**	*e*P	**Pn**	**03 57 37.2**	**+1.2**
SLR				*e*S	**Sn**	**03 59 38.7**	**-1.9**
SLR				AML	AML	04 01 04.2	
comp=Z,41nm,0.7s							
KSR	**Koster**	**11.98**	**217**	*e*P	**Pn**	**03 57 47.8**	**0.0**
KSR				*e*S	**Sn**	**04 00 00.2**	**-1.4**
KSR				AML	AML	04 01 17.0	
comp=Z,40nm,0.6s							
LBTB	**Lobatse**	**12.19**	**224**	*e*P	**Pn**	**03 57 52.5**	**+1.9**
LBTB				*e*S	**Sn**	**04 00 02.2**	**-4.6**
LBTB				AML	AML	04 01 18.1	
comp=Z,43nm,0.7s							
PRYS	**Parys**	**12.57**	**213**	*e*P	**Pn**	**03 57 57.1**	**+1.3**
PRYS				*e*S	**Sn**	**04 00 15.3**	**-0.7**
PRYS				AML	AML	04 01 37.0	
comp=Z,23nm,0.6s							
SEK	**Senekal**	**13.61**	**208**	*e*P	**Pn**	**03 58 10.5**	**+0.6**
BOSA	**Boshof**	**15.04**	**215**	*e*P	**Pn**	**03 58 29.6**	**+0.2**
TSUM	**Tsumeb**	**16.74**	**258**	*e*P	**P**	**03 58 55.3**	**+1.4**

SKHL 05 03:59:02.7±0.1, 51°.22N×136°.79E, h5km±3km, mb3.7/2, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRNR	**Gornyy**	**0.51**	**207**	⇓*i*Pg	Pg	03 59 11.7	-0.8
GRNR				AMB	AMB	03 59 12.0	
69nm,0.2s							
GRNR				*e*Sg	Sg	03 59 18.2	-1.0
GRNR				A	A	03 59 18.6	
280nm,0.3s							
GRNR				A	A	03 59 18.6	
240nm,0.3s							
KHBR	**Khabarovsk**	**2.97**	**203**	*e*Pg	Pb	03 59 56.7	+0.7
KHBR				*e*Sg	Sb	04 00 34.4	+1.8
EKMR	**Ekimchan**	**3.00**	**310**	*e*Pg	Pb	03 59 56.6	-0.1
EKMR				AMB	AMB	04 00 05.0	
5.0nm,0.4s							
EKMR				*e*Sg	Sb	04 00 36.0	+2.3
EKMR				A	A	04 00 42.5	
24nm,0.5s							
EKMR				A	A	04 00 42.5	
20nm,0.5s							
NKL	**Nikolayevsk**	**3.08**	**50**	*e*Pg	Pg	04 00 17.0	+15
NKL				AMB	AMB	04 00 19.2	
18nm,0.5s							
NKL				*e*Sg	Sg	04 00 58.0	+17
NKL				A	A	04 00 59.5	
100nm,0.7s							
NKL				A	A	04 00 59.5	
38nm,0.7s							
KLR	**Kul'dur**	**3.80**	**240**	*e*Pg	Pb	04 00 12.0	+1.8
KLR				*e*Sg	Sg	04 01 01.3	-3.4
KROS	**Kirovskiy**	**6.76**	**302**	*e*Sg	Sg	04 02 34.3	-5.5
KROS				A	A	04 02 43.0	
3.0nm,0.6s							

IDC ***05*** *04:03:12.7±1.5, 23°.94S×66°.68W, h180km±17km, mb3.3/2, mb1 3.2/6, mb1mx3.1/20, mbtmp3.1/6, Error ellipse: s-maj=26.6km s-min=13.6km az=97.0*
ISCJB ***05*** *04:03:13.4±0.6, 23°.95S±0°.06×66°.71W±0°.09, h206km±13km, mb3.3/2, Error ellipse: s-maj=12.9km s-min=9.0km az=4.9*
GUC ***05*** *04:03:16.5±0.5, 23°.74S×67°.23W, h240km±17km, ML4.5*
NEIC ***05*** *04:03:16.5, 23°.74S×67°.23W, h240km, MG4.5(GUC), After GUC.*
ISC 05 04:03:14.9±1.3, 23°.86S±0°.09×66°.9W±0°.1, h223km±19km, n23, σ1°.15/30, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.26**	**303**	*e*Pn	**Pn**	**04 03 59.1**	**+1.0**
LVC				*e*S	**S**	**04 04 32.8**	**+1.2**
LVC	**Limon Verde**	**2.26**	**303**	⇑*i*P	**Pn**	**04 03 59.2**	**+1.1**
PB04	**Plate Boundary**	**2.89**	**303**	⇑*e*P	Pn	04 04 11.3	+6.7
PB04				*e*S	S	04 04 53.0	+10
PB04	**Plate Boundary**	**2.89**	**303**	⇑*e*P	Pn	04 04 11.3	+6.7
PB04				*e*S	S	04 04 53.0	+10
PB04				AML	AML	04 04 57.2	
comp=N,389nm,0.3s							
PB09	**Plate Boundary**	**3.01**	**313**	*e*P	**Pn**	**04 04 07.4**	**+1.2**
PB09				*e*S	**S**	**04 04 46.1**	**0.0**
PB09	**Plate Boundary**	**3.01**	**313**	*e*P	**Pn**	**04 04 07.4**	**+1.2**
PB09				*e*S	**S**	**04 04 46.1**	**0.0**
PB09				AML	AML	04 04 51.0	
comp=N,599nm,0.6s							
ANCH	**Antofagasta**	**3.26**	**272**	*e*P	**Pn**	**04 04 09.6**	**+0.9**
ANCH				*i*S	**S**	**04 04 49.8**	**-1.0**
ANCH	**Antofagasta**	**3.26**	**272**	*e*P	**Pn**	**04 04 09.6**	**+0.9**
ANCH				*i*S	**S**	**04 04 49.8**	**-1.0**
ANCH				AML	AML	04 04 53.0	
comp=N,541nm,0.1s							
PB10	**Plate Boundary**	**3.40**	**275**	⇑*e*P	**Pn**	**04 04 11.3**	**+0.9**
PB10				*e*S	**S**	**04 04 52.5**	**-1.5**
PB10				AML	AML	04 04 55.2	
comp=E,795nm,0.3s							
PB07	**Plate Boundary**	**3.51**	**307**	⇑*e*P	**Pn**	**04 04 12.6**	**+0.7**
PB07				*e*S	**S**	**04 04 55.4**	**-1.1**
PB07	**Plate Boundary**	**3.51**	**307**	⇑*e*P	**Pn**	**04 04 12.6**	**+0.7**
PB07				*e*S	**S**	**04 04 55.4**	**-1.1**
PB07				AML	AML	04 04 57.2	
comp=E,422nm,0.3s							
PB01	**Plate Boundary**	**3.71**	**319**	*e*P	**Pn**	**04 04 14.8**	**+0.6**
PB01				*e*S	**S**	**04 04 59.4**	**-1.4**
PB01	**Plate Boundary**	**3.71**	**319**	*e*P	**Pn**	**04 04 14.8**	**+0.6**
PB01				*e*S	**S**	**04 04 59.4**	**-1.4**
PB01				AML	AML	04 05 03.2	
comp=E,202nm,0.4s							
LCO	**Las Campanas**	**6.18**	**213**	Pn	Pn	04 04 48.8	+3.8
LCO				*e*S	S	04 05 47.7	-8.9
LPAZ	**La Paz**	**7.63**	**351**	*e*Pn	**Pn**	**04 05 05.2**	**+1.2**
LPAZ				*e*S	**S**	**04 06 31.9**	**+0.7**
LPAZ	**La Paz**	**7.63**	**351**	P	**Pn**	**04 05 04.1**	**+0.1**
comp=E,0.3nm,0.3s,baz=176,slow=8.3,SNR=12							
LPAZ				S	**S**	**04 06 28.9**	**-2.3**
comp=E,0.1nm,0.3s,baz=270,slow=16,SNR=2.3							
CFAA	**Coronel Fontan**	**7.81**	**189**	P	**Pn**	**04 05 04.4**	**-1.3**
comp=E,0.0nm,0.3s,baz=18,slow=16,SNR=4.3							
CFAA				S	S	04 06 27.0	-7.4
comp=E,0.2nm,0.3s,baz=292,slow=21,SNR=16							
CPUP	**Villa Florida**	**8.98**	**108**	P	Pn	04 05 17.1	-3.7
comp=E,0.2nm,0.3s,baz=268,slow=12,SNR=6.1							
SIV	**San Ignacio**	**9.53**	**36**	P	**Pn**	**04 05 26.4**	**-1.6**
comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=4.5							
BDFB	**Brasilia**	**19.52**	**69**	P	**P**	**04 07 25.4**	**-0.4**
comp=E,0.3nm,0.3s,baz=241,slow=10,SNR=6.4							
QSPA	**South Pole Qui**	**66.34**	**180**	P	P	04 13 42.3	+2.9
comp=E,1.1nm,1.0s,baz=188,slow=4.9,SNR=3.1							
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**04 14 40.7**	**+0.5**
comp=E,0.3nm,0.5s,baz=257,slow=5.8,SNR=5.9							
MKAR	**Makanchi Array**	**146.34**	**39**	PKPbc	**PKPab**	**04 22 31.8**	**+1.2**
comp=E,0.5nm,0.6s,baz=300,slow=2.9,SNR=6.4							

IDC 05 04:07:03.7±7.3, 30°.73S×179°.08W, h166km±56km, mb3.6/4, mb1 3.7/5, mb1mx3.4/19, mbtmp3.6/5, Error ellipse: s-maj=56.3km s-min=21.7km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.78**	**35**	S	Sn	04 08 22.0	+19
99nm,0.3s,baz=60,slow=20,SNR=5.7							
URZ	**Urewera**	**8.15**	**202**	P	Pn	04 09 00.1	+1.3
1.5nm,0.3s,baz=270,slow=4.0,SNR=5.4							
URZ				S	Sn	04 10 27.2	-2.6
5.6nm,0.3s,baz=97,slow=23,SNR=10							
STKA	**Stephens Creek**	**33.49**	**258**	P	P	04 13 28.2	+0.9
2.9nm,0.6s,baz=99,slow=13,SNR=7.4							

ASAR Alice Springs 42.16 268 P P 04 14 39.6 -0.4
0.3nm,0.3s,baz=104,slow=7.3,SNR=4.6
WRA Warramunga Arr 43.18 273 P P 04 14 47.9 -0.4
0.8nm,0.3s,baz=112,slow=8.1,SNR=31
QSPA South Pole Qui 59.38 180 P P 04 16 48.9 +0.6
1.6nm,0.6s,baz=285,slow=6.3,SNR=16
FINES FINESS Array B 145.12 339 PKPbc PKPbc 04 26 19.1 -1.3
0.6nm,0.4s,baz=54,slow=2.4,SNR=7.7
TORD Torodi Ar. Bea 162.49 183 PKPab PKPab 04 27 32.9 -1.8
0.5nm,0.7s,baz=187,slow=3.1,SNR=5.0

ISCJB ***05*** *04:25:18.7±1.0, 45°.50S±0°.04×166°.28E±0°.04, h7km±6km, mb4.3/8, MS4.1/3, Error ellipse: s-maj=7.3km s-min=4.5km az=0.1*
IDC ***05*** *04:25:19.3±0.7, 45°.36S×166°.43E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.2/18, mbtmp4.2/9, ML4.2/2, MS3.9/4, Ms1 3.9/4, ms1mx3.5/18, Error ellipse: s-maj=21.7km s-min=18.6km az=175.0*
AUST ***05*** *04:25:20.2±1.2, 45°.64S×166°.27E, h6km, Error ellipse: s-maj=1.8km s-min=0.8km az=15.0*
WEL ***05*** *04:25:20.9±0.3, 45°.51S×166°.33E, h12km, ML5.2/21, Error ellipse: s-maj=2.6km s-min=1.1km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
NEIC ***05*** *04:25:20.9, 45°.61S×166°.42E, h5km, mb4.7/3, ML5.2(WEL), After WEL.*
ISC 05 04:25:20.5±1.5, 45°.54S±0°.05×166°.35E±0°.05, h9km±9km, n82, σ1°.24/90, mb4.4/8, MS4.2/3, 3C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.56**	**85**	P*	**Pg**	**04 25 31.6**	**+0.2**
DCZ				S*	**Sg**	**04 25 39.4**	**+0.5**
DCZ				AML	AML	04 25 40.1	
DCZ				AML	AML	04 25 40.9	
DCZ				AML	AML	04 25 40.9	
DCZ	**Deep Cove**	**0.56**	**85**	Pg	**Pg**	**04 25 31.6**	**+0.2**
DCZ				Sg	**Sg**	**04 25 39.4**	**+0.5**
WHZ	**Wether Hill Ro**	**1.17**	**108**	⇓P*	**Pb**	**04 25 41.8**	**-1.1**
WHZ				S*	**Sb**	**04 25 58.5**	**+0.3**
WHZ				AML	AML	04 26 08.9	
WHZ	**Wether Hill Ro**	**1.17**	**108**	P*	**Pb**	**04 25 41.7**	**-1.2**
MLZ	**Mavora Lakes**	**1.29**	**82**	⇓PN	**Pn**	**04 25 43.2**	**-1.5**
MLZ				S*	**Sb**	**04 26 00.5**	**-1.2**
MLZ				AML	AML	04 26 02.0	
MLZ	**Mavora Lakes**	**1.29**	**82**	P*	**Pn**	**04 25 42.9**	**-1.8**
MLZ				S*	**Sb**	**04 26 00.5**	**-1.2**
MSZ	**Milford Sound**	**1.41**	**53**	SN	**Sg**	**04 26 06.6**	**+0.8**
MSZ				AML	AML	04 26 11.5	
MSZ				AML	AML	04 26 15.6	
MSZ				AML	AML	04 26 15.7	
MSZ	**Milford Sound**	**1.41**	**53**	Pn	**Pn**	**04 25 44.6**	**-1.6**
MSZ				Sn	**Sg**	**04 26 06.6**	**+0.8**
APZ	**The Paps**	**1.73**	**139**	⇑PN	**Pn**	**04 25 50.0**	**-0.6**
APZ				SN	**Sn**	**04 26 12.4**	**-0.4**
APZ	**The Paps**	**1.73**	**139**	Pn	**Pn**	**04 25 50.1**	**-0.6**
WKZ	**Wanaka**	**2.01**	**70**	PN	**Pn**	**04 25 55.3**	**+0.7**
WKZ				AML	AML	04 26 29.1	
WKZ				AML	AML	04 26 29.1	
WKZ				AML	AML	04 26 29.8	
WKZ				AML	AML	04 26 29.8	
WKZ	**Wanaka**	**2.01**	**70**	Pn	**Pn**	**04 25 55.1**	**+0.5**
EAZ	**Earnscleugh**	**2.10**	**83**	PN	**Pn**	**04 25 56.6**	**+0.8**
EAZ				AML	AML	04 26 29.3	
EAZ				AML	AML	04 26 29.3	
EAZ				AML	AML	04 26 33.0	
EAZ				AML	AML	04 26 33.0	
EAZ	**Earnscleugh**	**2.10**	**83**	Pn	**Pn**	**04 25 56.7**	**+0.8**
SYZ	**Scrubby Hill**	**2.18**	**118**	PN	**Pn**	**04 25 58.0**	**+1.1**
SYZ	**Scrubby Hill**	**2.18**	**118**	Pn	**Pn**	**04 25 58.0**	**+1.1**
JCZ	**Jackson Bay**	**2.25**	**50**	PN	**Pn**	**04 25 58.1**	**+0.2**
JCZ				AML	AML	04 26 38.6	
JCZ				AML	AML	04 26 42.3	
JCZ	**Jackson Bay**	**2.25**	**50**	Pn	**Pn**	**04 25 58.1**	**+0.2**
TUZ	**Tuapeka**	**2.33**	**102**	PN	**Pn**	**04 26 00.1**	**+1.1**
TUZ				AML	AML	04 26 35.7	
TUZ				AML	AML	04 26 37.7	
TUZ	**Tuapeka**	**2.33**	**102**	Pn	**Pn**	**04 26 00.1**	**+1.1**
LBZ	**Lake Benmore**	**2.95**	**68**	PN	**Pn**	**04 26 07.4**	**-0.1**
LBZ				AML	AML	04 26 58.7	
LBZ				AML	AML	04 26 58.7	
LBZ				AML	AML	04 27 01.7	
LBZ				AML	AML	04 27 01.8	
LBZ	**Lake Benmore**	**2.95**	**68**	Pn	**Pn**	**04 26 07.4**	**-0.1**
ODZ	**Otahua Downs**	**3.07**	**82**	PN	**Pn**	**04 26 08.8**	**-0.3**
ODZ	**Otahua Downs**	**3.07**	**82**	*e*Pn	**Pn**	**04 26 08.9**	**-0.1**
ODZ				*e*S	**Sn**	**04 26 43.6**	**-2.3**
FOZ	**Fox Glacier**	**3.09**	**52**	PN	**Pn**	**04 26 10.2**	**+0.8**
FOZ				AML	AML	04 27 07.6	
FOZ				AML	AML	04 27 08.7	
FOZ	**Fox Glacier**	**3.09**	**52**	Pn	**Pn**	**04 26 10.6**	**+1.2**
RPZ	**Rata Peaks**	**3.82**	**63**	AML	AML	04 27 12.3	
RPZ				AML	AML	04 27 17.4	
RPZ	**Rata Peaks**	**3.82**	**63**	*e*Pn	**Pn**	**04 26 19.0**	**-0.4**
RPZ				*e*S	**Sn**	**04 27 06.2**	**+1.8**
RPZ	**Rata Peaks**	**3.82**	**63**	Pn	**Pn**	**04 26 18.4**	**-1.0**
64nm,0.3s,baz=224,slow=5.8,SNR=52							
RPZ				Sn	**Sn**	**04 27 03.0**	**-1.4**
44nm,0.3s,baz=246,slow=20,SNR=8.3							
RPZ				LR	LR	04 27 05.7	
comp=Z,605nm,21.9s,baz=236,slow=29							
WVZ	**Waitaha Valley**	**3.99**	**54**	PN	**Pn**	**04 26 21.2**	**-0.5**
WVZ				AML	AML	04 27 32.4	
WVZ				AML	AML	04 27 32.9	
WVZ	**Waitaha Valley**	**3.99**	**54**	Pn	**Pn**	**04 26 21.5**	**-0.2**
LTZ	**Lake Taylor**	**5.07**	**59**	PN	**Pn**	**04 26 37.5**	**+0.9**
LTZ				AML	AML	04 26 18.2	
KHZ	**Kahutara**	**6.05**	**62**	*e*Pn	**Pn**	**04 26 49.8**	**-0.3**
253nm,1.2s							
KHZ				*e*S	**Sn**	**04 28 02.3**	**+3.0**
THZ	**Tophouse**	**6.06**	**54**	AML	AML	04 28 14.7	
THZ				AML	AML	04 28 15.6	
NNZ	**Nelson**	**6.69**	**52**	PN	**Pn**	**04 26 59.0**	**+0.1**
NNZ				AML	AML	04 28 27.9	
NNZ				AML	AML	04 28 33.4	
NNZ	**Nelson**	**6.69**	**52**	Pn	**Pn**	**04 26 59.8**	**+0.9**
SNZO	**South Karori**	**7.40**	**58**	*e*Pn	**Pn**	**04 27 08.2**	**-0.4**
SNZO				*e*S	**Sn**	**04 28 31.1**	**-1.5**
URZ	**Urewera**	**10.81**	**52**	*e*Pn	**Pn**	**04 27 56.7**	**+1.4**
29nm,1.0s							
URZ				*e*S	**Sn**	**04 30 01.8**	**+5.3**
URZ	**Urewera**	**10.81**	**52**	Pn	**Pn**	**04 27 54.4**	**-1.0**
0.4nm,0.3s,baz=231,slow=6.5,SNR=3.1							
URZ				Sn	**Sn**	**04 29 56.0**	**-0.4**
1.7nm,0.3s,baz=108,slow=20,SNR=3.6							
OUZ	**Omahuta**	**11.68**	**31**	*e*Pn	**Pn**	**04 28 09.3**	**+2.1**
22nm,0.6s							
MOO	**Moorlands**	**14.14**	**276**	P	**Pn**	**04 28 40.8**	**0.0**
baz=14,SNR=6.2							
MILA	**Mila**	**15.43**	**297**	P	**Pn**	**04 28 55.7**	**-2.7**
baz=15,SNR=5.0							
TOO	**Toolangi**	**17.49**	**290**	P	**Pn**	**04 29 23.9**	**-0.7**
baz=17,SNR=5.6							
STKA	**Stephens Creek**	**23.53**	**297**	*e*P	**P**	**04 30 32.3**	**+1.4**
9.8nm,1.6s							
STKA	**Stephens Creek**	**23.53**	**297**	P	**P**	**04 30 32.5**	**+1.6**
2.8nm,0.8s,baz=138,slow=9.6,SNR=4.6							
STKA				LR	LR	04 39 19.3	
comp=Z,307nm,19.2s,baz=103,slow=36							
ASAR	**Alice Springs**	**34.13**	**299**	P	**P**	**04 32 05.1**

PPT2	Papeete2	45.95	67	eLR	LR	04 46 37.2	
	361nm,26.2s						
MAW	Mawson	53.54	208	P	P	04 34 44.3	+3.4
MAW	Mawson	53.54	208	P	P	04 34 44.3	+3.4
	3.3nm,0.9s,baz=136,slow=3.1,SNR=4.5						
SYO	Syowa Base	59.20	200‖	eX	P	04 35 16.7	-4.6
SYO	Syowa Base	59.20	200‖	esP	sP	04 35 24.0	-1.3
SNAA	Sanae	62.85	184	eP	P	04 35 45.6	-0.5
	20nm,1.6s						
CMAR	Chiang Mai Arr	88.14	299	P	P	04 38 13.0	+1.3
CMAR	Chiang Mai Arr	88.14	299	P	P	04 38 13.0	+1.3
	0.9nm,0.3s,baz=164,slow=4.4,SNR=5.0						
CPUP	Villa Florida	98.18	141	LR	LR	05 20 37.3	
	comp=Z,95nm,18.8s,baz=349,slow=34						
ILAR	Eielson Array	115.87	20	PKP	PKPdf	04 44 00.8	-1.3
ILAR	Eielson Array	115.87	20	PKP	PKPdf	04 44 00.8	-1.3
	0.4nm,0.6s,baz=283,slow=3.2,SNR=8.6						
BR131	Keskin Array S	145.14	278	PKPbc	PKPdf	04 45 00.9	+2.9
BRTR	Keskin Array B	145.14	278	PKPbc	PKPbc	04 44 57.4	-0.2
BRTR	Keskin Array B	145.14	278	PKPbc	PKPbc	04 44 57.4	-0.2
	1.8nm,0.9s,baz=98,slow=3.7,SNR=9.4						
TORD	Torodi Ar. Bea	145.19	207	PKPbc	PKPbc	04 44 57.7	-0.5
TORD	Torodi Ar. Bea	145.19	207	PKPbc	PKPbc	04 44 57.7	-0.5
	7.5nm,0.8s,baz=152,slow=2.0,SNR=66						
SCHQ	Schefferville	145.47	55	PKPbc	PKPdf	04 44 56.0	-1.9
SCHQ	Schefferville	145.47	55	PKPbc	PKPdf	04 44 56.0	-1.9
	1.8nm,0.6s,baz=320,slow=2.8,SNR=5.0						
ARCES	ARCESS Array B	149.05	334	PKPbc	PKPbc	04 45 07.9	+0.3
ARCES	ARCESS Array B	149.05	334	PKPbc	PKPbc	04 45 07.9	+0.3
	2.7nm,0.6s,baz=71,slow=4.5,SNR=29						
ARE0	ARCESS Array S	149.05	334	ePKPbc	PKPbc	04 45 06.8	-0.8
AKASG	Malin Array Be	151.23	296	PKPbc	PKPbc	04 45 13.3	-0.1
AKASG	Malin Array Be	151.23	296	PKPbc	PKPbc	04 45 13.3	-0.1
	1.4nm,0.6s,baz=69,slow=3.3,SNR=7.8						
AK02	Malin Array Si	151.24	296	ePKPbc	PKPbc	04 45 13.5	+0.1
KIEV	Kiev	151.24	296	ePKPbc	PKPbc	04 45 13.5	+0.1
FINES	FINESS Array B	152.08	319	PKPbc	PKPbc	04 45 15.1	+0.1
FINES	FINESS Array B	152.08	319	PKPbc	PKPbc	04 45 15.1	+0.1
	1.1nm,0.5s,baz=99,slow=4.5,SNR=8.9						
TAM	Tamanrasset	152.46	221	ePKPdf	PKPdf	04 45 12.1	+1.6
TAM				ePKPbc	PKiKP	04 45 17.9	+0.3

IDC 05 04:26:31.0±1.0, 45°.36S×166°.32E, h0km, mb4.2/2, mb1 4.5/3, mb1mx4.0/15, mbtmp4.4/3, ML4.9/1, Error ellipse: s-maj=38.9km s-min=27.5km az=156.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	Rata Peaks	3.76	66	Pn	Pn	04 27 30.7	+0.4
	83nm,0.3s,baz=62,slow=20,SNR=5.7						
RPZ				Sn	Sn	04 28 16.1	+0.8
	13nm,0.3s,baz=352,slow=19,SNR=2.9						
WRA	Warramunga Arr	36.58	303	P	P	04 33 38.1	-0.6
	2.8nm,0.9s,baz=141,slow=7.8,SNR=3.2						
MAW	Mawson	53.69	208	P	P	04 35 53.6	-0.3
	3.0nm,0.8s,baz=74,slow=7.4,SNR=4.0						
ILAR	Eielson Array	115.71	20	PKP	PKPdf	04 45 11.6	-2.4
	0.4nm,0.6s,baz=295,slow=2.3,SNR=4.9						
TORD	Torodi Ar. Bea	145.34	207	PKPbc	PKPbc	04 46 10.0	-0.7
	3.6nm,0.7s,baz=138,slow=1.9,SNR=5.1						
ARCES	ARCESS Array B	148.88	335	PKPbc	PKPbc	04 46 19.5	+0.3
	4.6nm,0.7s,baz=50,slow=1.9,SNR=7.9						
AKASG	Malin Array Be	151.13	296	PKPbc	PKPbc	04 46 25.6	+0.4
	1.7nm,0.6s,baz=72,slow=3.1,SNR=3.5						
FINES	FINESS Array B	151.93	319	PKPbc	PKPbc	04 46 27.0	+0.3
	1.4nm,0.6s,baz=83,slow=4.3,SNR=2.9						

*ISCJB **05** 04:40:59.4±0.5, 37°.48N±0°.07×138°.9E±0°.1, h200km, mb3.3/2, Error ellipse: s-maj=14.0km s-min=9.4km az=17.7*
*JMA **05** 04:41:01.9±0.2, 37°.49N×138°.90E, h179km±2km, M2.5*
*IDC **05** 04:41:03.4±1.8, 37°.35N×138°.47E, h185km±7km, mb3.0/2, mb1 3.3/2, mb1mx2.7/26, mbtmp3.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/11, Error ellipse: s-maj=44.2km s-min=23.5km az=47.0*

ISC 05 04:41:00.6±1.1, 37°.50N±0°.07×138°.9E±0°.1, h200km, n19, σ1§93/22, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIZZ	Izumozaki	0.16	280	eS	Sn	04 41 44.4	-2.7
JHK	Hiroka	0.27	161	P	Pn	04 41 25.7	-1.4
JNS	Sasagawa	0.45	46	P	Pn	04 41 26.4	-1.1
JFY	Yanaizu	0.64	98	P	Pn	04 41 27.7	-0.7
JSD	Sado	0.74	316	P	Pn	04 41 27.8	-1.0
JSD				eS	Sn	04 41 46.8	-3.9
JAW	Awa shima	0.99	16	P	Pn	04 41 29.9	-0.3
MAT	Matsushiro	1.11	210	P	Pn	04 41 30.4	-0.8
MAT				S	Sn	04 41 52.6	-2.3
MAT	Matsushiro	1.11	210	P	Pn	04 41 30.4	-0.8
MAT				eS	Sn	04 41 52.3	-2.6
MJAR	Matsushiro Arr	1.11	210	P	Pn	04 41 30.4	-0.8
	5.1nm,0.3s,baz=17,slow=6.5,SNR=42						
MJAR				S	Sn	04 41 52.3	-2.5
	0.8nm,0.3s,baz=8.5,slow=15,SNR=13						
JFT	Otama	1.14	89	P	Pn	04 41 31.1	-0.3
JAG	Ashikaga	1.16	158	P	Pn	04 41 30.6	-1.0
JNG	Nsakai	1.27	211	P	Pn	04 41 31.9	-0.6
JRY	Ryogami san	1.48	180	P	Pn	04 41 34.1	-0.2
JHO	Hitachi	1.60	123	P	Pn	04 41 34.0	-1.3
JYT	Yasato	1.64	141	P	Pn	04 41 34.5	-1.1
JYN	Shimob	2.02	188	eS	Sn	04 42 07.9	-1.8
JNU	Nakatsue	7.88	239	LR	LR	04 45 28.0	
	comp=Z,38nm,18.5s,baz=254,slow=35						
SONM	Songino Array	25.86	304	P	P	04 46 16.6	+2.8
	0.5nm,0.6s,baz=103,slow=9.2,SNR=4.1						
WRA	Warramunga Arr	57.30	185	P	P	04 50 30.4	+2.9
	0.5nm,0.7s,baz=0.6,slow=7.4,SNR=7.2						

IDC 05 04:48:10.1±2.5, 11°.49N×84°.88W, h0km, mb3.7/4, mb1 4.2/4, mb1mx3.7/22, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=97.0km s-min=11.2km az=84.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	JuntasAbangare	1.19	183	Pg	Pg	04 48 32.9	-0.2
	50nm,0.3s,baz=287,slow=8.4,SNR=117						
JTS				Lg	Lg	04 48 49.0	
	206nm,0.3s,baz=308,slow=19,SNR=21						
TEIG	Tepich	9.28	340	LR	LR	04 54 43.7	
	comp=Z,150nm,18.7s,baz=351,slow=42						
TXAR	Lajitas Array	24.94	318	P	P	04 53 34.7	-0.7
	1.4nm,0.7s,baz=135,slow=10,SNR=17						
TXAR				PcP	PcP	04 57 11.6	+0.5
	0.4nm,0.7s,baz=160,slow=6.7,SNR=4.1						
PDAR	Pinedale Array	37.83	330	P	P	04 55 29.1	+0.2
	0.5nm,0.7s,baz=123,slow=9.8,SNR=5.8						
NVAR	Mina Array Bea	40.09	318	P	P	04 55 48.4	+0.6
	1.5nm,0.7s,baz=129,slow=8.3,SNR=5.6						
ILAR	Eielson Array	67.92	336	P	P	04 59 09.7	-0.8
	0.5nm,1.0s,baz=101,slow=4.7,SNR=4.6						

MEX 05 04:49:13.2±0.5, 15°.17N×93°.22W, h80km±8km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.95	106	eP	Pn	04 49 30.5	-1.2
THIG				eS	Sn	04 49 43.5	-2.1
CCIG	Comitan	1.52	43	eP	Pn	04 49 38.0	-1.0
CCIG				i S	Sn	04 49 56.7	-1.8
TGIG		1.60	3	eP	Pn	04 49 38.8	-1.1
TGIG				i S	Sn	04 49 58.0	-2.2
HUIG	Huatulco	2.85	282	eP	Pn	04 49 56.0	-0.6
HUIG				i S	Sn	04 50 27.7	-2.3

IDC 05 04:54:22.3±5.4, 18°.89N×147°.04E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, Error ellipse: s-maj=190.8km s-min=19.8km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	24.93	322	P	P	04 59 48.5	+1.2
	1.1nm,0.6s,baz=151,slow=9.1,SNR=5.0						
WRA	Warramunga Arr	40.55	199	P	P	05 02 03.3	-0.4
	0.2nm,0.5s,baz=18,slow=8.3,SNR=3.5						
FITZ	Fitzroy Crossi	42.35	211	P	P	05 02 18.1	-0.4
	1.2nm,0.7s,baz=32,slow=13,SNR=3.3						
SONM	Songino Array	43.80	321	P	P	05 02 30.3	+0.2
	0.8nm,0.5s,baz=130,slow=7.8,SNR=9.3						
ASAR	Alice Springs	44.20	197	P	P	05 02 33.8	+0.5
	0.1nm,0.3s,baz=17,slow=6.8,SNR=3.2						
MKAR	Makanchi Array	59.25	314	P	P	05 04 26.1	+0.5
	0.7nm,0.7s,baz=89,slow=7.3,SNR=7.5						
KURBB	Kurchatov Arra	62.03	318	P	P	05 04 43.8	-0.7
	1.7nm,0.8s,baz=95,slow=7.2,SNR=10.0						
BVAR	Borovoye Array	67.14	320	P	P	05 05 17.0	-0.9
	0.5nm,0.4s,baz=74,slow=7.7,SNR=4.0						

*IDC **05** 05:05:28.1±0.7, 7°.94S×130°.29E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=42.3km s-min=18.0km az=82.0*
*ISCJB **05** 05:05:29.8±0.5, 8°.12S±0°.04×130°.3E±0°.1, h33km, mb4.1/9, Error ellipse: s-maj=16.0km s-min=5.6km az=2.9*
*AUST **05** 05:05:31.8±0.0, 8°.03S×130°.27E, h38km, Error ellipse: s-maj=2.6km s-min=1.1km az=282.0*

ISC 05 05:05:32.4±0.6, 8°.11S±0°.05×130°.5E±0°.1, h35km, n22, σ1§77/26, mb4.2/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	Manton Dam	4.75	172	P	Pn	05 06 44.1	+2.5
	baz=4.9,SNR=37						
KDU	Kakadu	4.96	157	P	Pn	05 06 46.5	+2.2
	baz=5.1,SNR=68						
FAKI	Fak Fak	5.44	19	P	Pn	05 06 50.6	-0.5
	baz=5.5,SNR=15						
KNRA	Kununurra	7.71	192	P	Pn	05 07 23.4	+1.2
	baz=7.8,SNR=28						
KNRA				S	Sn	05 08 47.8	-0.6
	baz=7.8,SNR=6.0						
FITZ	Fitzroy Crossi	11.00	205	Pn	Pn	05 08 05.8	-1.5
	0.8nm,0.3s,baz=34,slow=14,SNR=40						
FITZ				Sn	Sn	05 10 02.1	-7.1
	1.2nm,0.3s,baz=205,slow=19,SNR=9.0						
FITZ	Fitzroy Crossi	11.00	205	P	Pn	05 08 06.5	-0.8
	baz=11,SNR=30						
FITZ				S	Sn	05 10 10.1	+0.9
	baz=11,SNR=5.1						
WRA	Warramunga Arr	12.35	163	Pn	Pn	05 08 24.0	-1.8
	0.7nm,0.3s,baz=342,slow=13,SNR=45						
WRA				Sn	Sn	05 10 38.0	-4.2
	1.8nm,0.3s,baz=344,slow=22,SNR=9.2						
WRA				Lg	Lg	05 12 04.3	
	baz=343,slow=28,SNR=3.0						
ASAR	Alice Springs	15.82	168	Pn	Pn	05 09 11.6	-1.0
	0.5nm,0.3s,baz=346,slow=8.9,SNR=14						
ASAR				Sn	Sn	05 12 04.0	-2.9
	0.5nm,0.3s,baz=359,slow=25,SNR=6.0						
ASAR				LR	LR	05 15 32.3	
	comp=Z,168nm,18.8s,baz=238,slow=38						
MTSU	Mount Surprise	16.75	128	P	P	05 09 27.1	+0.8
	baz=17,SNR=5.1						
STKA	Stephens Creek	25.82	158	P	P	05 11 03.1	+2.7
	1.7nm,0.8s,baz=323,slow=18,SNR=2.6						
MJAR	Matsushiro Arr	45.00	9	P	P	05 13 43.2	-1.3
	1.4nm,0.4s,baz=186,slow=8.9,SNR=8.3						
KSRS	Korea Array	45.38	357	P	P	05 13 46.8	-0.6
	0.7nm,0.5s,baz=185,slow=6.9,SNR=3.1						
USRK	Ussuriysk Arra	52.08	1	P	P	05 14 38.5	-0.3
	1.2nm,0.6s,baz=184,slow=5.7,SNR=4.2						
SONM	Songino Array	59.63	341	P	P	05 15 32.9	-0.1
	0.6nm,0.5s,baz=155,slow=7.8,SNR=6.0						
PETK	Petropavlovsk-	65.22	18	P	P	05 16 11.5	+1.4
	1.8nm,0.6s,baz=192,slow=11,SNR=4.9						
MKAR	Makanchi Array	69.41	327	P	P	05 16 37.1	+0.3
	4.7nm,0.6s,baz=121,slow=7.8,SNR=53						
ZALV	Zalesovo Beam	72.78	334	P	P	05 16 56.4	-0.7
	1.8nm,0.6s,baz=122,slow=5.0,SNR=8.7						
ILAR	Eielson Array	94.14	25	P	P	05 18 46.4	-0.7
	0.7nm,0.8s,baz=270,slow=4.5,SNR=8.9						
TXAR	Lajitas Array	125.07	60	PKP	PKPdf	05 24 31.8	+1.9
	0.1nm,0.6s,baz=208,slow=1.7,SNR=3.7						
TORD	Torodi Ar. Bea	129.49	280	PKP	PKPdf	05 24 39.2	+0.7
	0.4nm,0.8s,baz=8.8,slow=0.9,SNR=2.5						
CPUP	Villa Florida	144.94	168	PKPbc	PKPdf	05 25 07.3	+0.7
	1.4nm,0.7s,baz=189,slow=9.1,SNR=4.7						
LPAZ	La Paz	149.56	143	PKPbc	PKPab	05 25 22.2	-2.6
	1.8nm,0.9s,baz=242,slow=2.7,SNR=7.2						

CASC 05 05:10:51.2±1.4, 8°.72N×83°.55W, h2km±8km, MD3.6, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	0.38	100‖	eP	Pg	05 10 59.3	+0.7
ACR				eS	Sb	05 11 06.3	-0.9
BRU2	Volcan	0.85	85	eP	Pg	05 11 08.0	+0.2
BRU2				eS	Sb	05 11 20.9	0.0
BUS	Buena Vista	0.86	346‖	eP	Pg	05 11 08.2	-0.1
BUS				eS	Sb	05 11 21.9	+0.1
QCR	Quepos	0.93	319	eP	Pg	05 11 08.3	-0.7
QCR				eS	Sb	05 11 23.6	+0.8
URSC	Urasca	1.13	348‖	eP	Pg	05 11 12.7	-0.5
URSC				eS	Sg	05 11 28.4	+0.3
CNI	Changuinola	1.23	56	eP	Pg	05 11 14.6	-0.3
CNI				eS	Sn	05 11 32.7	0.0
CGA2	Cerro Gallo 2	1.58	325	eP	Pn	05 11 20.3	-0.1
CGA2				eS	Sg	05 11 42.6	+0.4

*BJI **05** 06:28:22.9, 9°.29S×66°.59E, h10km, mB5.2/26, mb5.1/44, Ms4.9/24, Ms7 4.6/26*
*DJA **05** 06:28:27.1±1.4, 10°.5±31°.×6°.8E±°, h10km, M5.2/8, mB5.8/1, mb5.2/8, Mw(mB)5.4/1*
*IDC **05** 06:28:29.8±0.4, 8°.81S×67°.53E, h0km, mb4.5/34, mb1 4.6/34, mb1mx4.6/37, mbtmp4.5/34, MS4.2/28, Ms1 4.2/28, ms1mx4.2/34, Error ellipse: s-maj=14.1km s-min=11.2km az=161.0*
*ISCJB **05** 06:28:30.4±0.3, 8°.76S±0°.05×67°.48E±0°.04, h13km, mb4.8/96, MS4.3/41, Error ellipse: s-maj=7.6km s-min=5.2km az=150.4*
*MOS **05** 06:28:30.0±1.2, 8°.73S×67°.52E, h10km, mb5.2/33, Error ellipse: s-maj=9.2km s-min=6.1km az=84.0*
*NEIC **05** 06:28:31.9±0.2, 8°.76S×67°.50E, h10km, mb5.0/24, Error ellipse: s-maj=7.3km s-min=5.5km az=148.0*
*GCMT **05** 06:28:32.6±0.2, 8°.88S×67°.47E, h20km±1km, MW5.2, Moment Tensor Solution. s46,c58; s97,c150; Moment tensor: Scale 10^16Nm; Mrr=0.15±.20; Mθθ=7.21±.19; Mφφ7.36±.19; Mrθ=1.06±.38; Mrφ0.30±.17; Mθφ3.41±.43; Best double couple: M0=8.10000×10^16 NP1:φs=315.00000°, δ82.00000°, λ158.00000°. NP2:φs=48.00000°, δ68.00000°, λ8.00000°. Principal axes: T 8.6800, Plg21.0000°, Azm270.0000°; N -1.2700, Plg66.0000°, Azm117.0000°; P -7.4100, Plg10.0000°, Azm3.0000°; Data Used: II IU IC G CN.*
*TEH **05** 06:28:34.0, 8°.59S×67°.46E, h10km, ML5.0*

ISC 05 06:28:32.1±0.3, 8°.83S±0°.06×67°.48E±0°.06, h13km, n628, σ0§89/638, mb5.0/106, MS4.4/41, 178C-160D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGAR	Diego Garcia	5.12	74‖	iP	Pn	06 29 43.3	-5.3
DGAR	Diego Garcia	5.12	74	ePn	Pn	06 29 43.1	-5.4
	373nm,0.6s						
DGAR				eSn	Sn	06 30 36.7	-11
MSEY	Mahe Island	12.61	288	Pn	Pn	06 31 33.2	+1.8
	4μm,0.6s,SNR=32						
MSEY	Mahe Island	12.61	288	ePn	Pn	06 31 33.2	+1.8
PALK	Pallekele	20.73	40	eP	P	06 33 12.1	-0.5
	59nm,1.2s						
PALK	Pallekele	20.73	40	P	Pn	06 33 26.9	+12
OPO	Ambohidratompo	21.94	242	P	P	06 33 26.8	+1.1
OPO	Ambohidratompo	21.94	242	P	P	06 33 26.8	+1.1
	29nm,0.9s,baz=50,slow=12,SNR=9.3						
OPO				LR	LR	06 39 51.1	
	comp=Z,1μm,19.8s,baz=66,slow=31						
ABPO	Ambohimpanom	22.09	241	P	P	06 33 28.9	+1.6
	260nm,1.5s,SNR=8.0						
ABPO	Ambohimpanom	22.09	241	eP	P	06 33 28.5	+1.2
ABPO				pmax	pmax		
	comp=Z,183nm,1.3s						
ABPO	Ambohimpanom	22.09	241	eP	P	06 33 28.5	+1.2
	comp=Z,183nm,1.3s						
HYB	Hyderabad	28.29	23	iP	P	06 34 24.0	-1.5
KMBO	Kilima Mbogo	31.05	283	eP	P	06 34 51.3	+0.9
	comp=Z,133nm,2.6s						
KMBO	Kilima Mbogo	31.05	283	P	P	06 34 51.5	+1.1
	comp=Z,1.7nm,0.3s,baz=95,slow=9.6,SNR=8.8						
KMBO				LR	LR	06 45 05.5	
	comp=Z,424nm,19.2s,baz=92,slow=32						
JBP	Jabalpur	34.08	21‖	iP	P	06 35 16.2	-0.2
MBAR	Mbarara	37.48	281	P	P	06 35 46.7	+0.6
MBAR	Mbarara	37.48	281	P	P	06 35 46.7	+0.6
	comp=Z,2.4nm,0.2s,baz=314,slow=22,SNR=5.9						
MBAR				LR	LR	06 49 16.5	
	comp=Z,575nm,18.9s,baz=100,slow=33						
NDI	New Delhi	38.47	14	eP	P	06 35 42.0	-12
RAYN	Ar Rayn	38.68	327	eP	P	06 35 57.2	+1.3
	comp=Z,6.0nm,1.0s						
LSZ	Lusaka	38.91	257	eP	P	06 35 58.2	+0.2
	comp=Z,70nm,1.2s						
LSZ	Lusaka	38.91	257	P	P	06 35 58.2	+0.2
	comp=Z,34nm,1.0s,baz=71,slow=10.0,SNR=36						
KOLN	Koldanda	39.59	23	eP	P	06 36 03.7	+0.1
	comp=Z,61nm,0.8s						
PYUN	Piuthan	39.66	22	eP	P	06 36 04.0	-0.2
	comp=Z,202nm,1.2s						
DMN	Daman	40.05	25	eP	P	06 36 07.8	+0.3
	comp=Z,100nm,0.9s						
RAMN	Ramite	40.12	27	eP	P	06 36 08.6	+0.6
	comp=Z,92nm,0.8s						
PKI	Pulchoki	40.14	25	eP	P	06 36 08.1	-0.2
PKIN	Phulchoki	40.14	25	eP	P	06 36 08.1	-0.2
	comp=Z,40nm,0.9s						
DANN	Dangsing	40.18	23	eP	P	06 36 08.6	0.0
	comp=Z,98nm,1.0s						
KKN	Kakani	40.28	25	eP	P	06 36 09.5	+0.2
	comp=Z,70nm,0.9s						
ODAN	Odare	40.40	28	eP	P	06 36 10.7	+0.3
	comp=Z,54nm,0.7s						
ISRV	Sarvestan	40.44	340	eP	P	06 36 09.4	-1.4
JIRN	Jiri	40.55	26	eP	P	06 36 11.8	0.0
	comp=Z,48nm,0.8s						
GUN	Gumba	40.64	25	eP	P	06 36 12.6	+0.1
IPAR	Pars	40.88	341	eP	P	06 36 12.7	-1.7
TAPN	Taplejung	40.97	28	eP	P	06 36 15.2	+0.1
	comp=Z,69nm,1.2s						
CM31	Chiang Mai Arr	41.22	49	eP	P	06 36 17.3	+0.3
	comp=Z,15nm,0.8s						
CMAR	Chiang Mai Arr	41.22	49	P	P	06 36 17.9	+0.8
CMAR	Chiang Mai Arr	41.22	49	P	P	06 36 17.9	+0.8
	comp=Z,13nm,0.7s,baz=242,slow=9.2,SNR=50						
CMAR				LR	LR	06 51 26.7	
	comp=Z,211nm,18.6s,baz=54,slow=33						
CHTO	Chiang Mai	41.45	48	eP	P	06 36 19.2	+0.4
CHTO				pmax	pmax		
	comp=Z,21nm,0.8s						
CHTO	Chiang Mai	41.45	48	eP	P	06 36 19.1	+0.4
	comp=Z,20nm,0.8s						
CHTO	Chiang Mai	41.45	48	P	P	06 36 19.3	+0.4
	comp=Z,38nm,1.1s						
CMMT	Chiang Mai	41.45	48	P	P	06 36 18.7	-0.2
	comp=Z,34nm,1.1s						
PBKT	Sadao Pong	41.65	53	P	P	06 36 21.0	+0.4
	comp=Z,22nm,1.6s						
PBKT	Sadao Pong	41.65	53	P	P	06 36 21.6	+1.0
	comp=Z,22nm,1.6s						
LAMP	Lampang	41.78	49	P	P	06 36 24.7	+3.1
	comp=Z,5.9nm,0.8s						
IBAF	Bafgh	41.78	345	eP	P	06 36 20.0	-1.6
LBTB	Lobatse	42.97	243	eP	P	06 36 31.2	-0.2
	comp=Z,35nm,1.0s						
LBTB	Lobatse	42.97	243	P	P	06 36 31.4	0.0
	comp=Z,28nm,0.9s,baz=85,slow=8.2,SNR=24						
KBL	Kabul	43.16	2	eP	P	06 36 32.8	-0.1
KBL				pmax	pmax		
	comp=Z,16nm,1.1s						
KBL	Kabul	43.16	2	eP	P	06 36 32.8	-0.1
	comp=Z,16nm,1.1s						
IZEF	Zefreh	43.94	342	eP	P	06 36 37.0	-2.2
IPIR	Pirpir	44.21	340	eP	P	06 36 43.7	+2.2
BOSA	Boshof	44.26	238	eP	P	06 36 41.4	-0.4
BOSA	Boshof	44.26	238	P	P	06 36 40.1	-1.7
	comp=Z,9.5nm,0.7s,baz=84,slow=9.7,SNR=19						
BOSA				LR	LR	06 55 18.5	
	comp=Z,533nm,18.4s,baz=74,slow=36						
IKLH	Kolahrood	44.57	341	eP	P	06 36 43.3	-0.9
LSA	Lhasa	44.58	30	P	P	06 36 44.8	+0.2
LSA	Lhasa	44.58	30	eP	P	06 36 45.0	+0.4
LSA				pmax	pmax		
	comp=Z,22nm,0.9s						
LSA	Lhasa	44.58	30	eP	P	06 36 45.0	+0.4
	comp=Z,22nm,0.9s						
UBPT	Khong Chiam	44.62	58	P	P	06 36 39.2	-5.4
UBPT	Khong Chiam	44.62	58	P	P	06 36 39.2	-5.4
	comp=Z,35nm,1.6s						
IMOG	Moghan	45.35	351	eP	P	06 36 51.2	+0.7
IMYA	Miami	45.47	352	eP	P	06 36 51.5	+0.3
ISRO	Mashad	45.53	351	eP	P	06 36 52.1	+0.4
IAKL	Akhelmad	45.93	350	eP	P	06 36 53.1	-2.0
IVRN	Varamin	46.07	342	eP	P	06 36 54.9	-1.0
IFIR	Firoozkooh	46.37	343	eP	P	06 36 58.8	+0.3
IRAZ	Razeghan	47.02	340	eP	P	06 37 00.5	-3.0
KSH	Kashi	48.75	9	P	P	06 37 13.1	-3.6
KSH				sP	sP	06 37 20.1	-2.3
KSH				PP	PP	06 39 06.2	-3.9
KSH				S	S	06 44 08.4	-11
KSH				pmax	pmax		
	comp=Z,16nm,0.8s						
KSH				LR	LR		
	comp=N,300nm,12.3s						
KSH				LR	LR		
	comp=E,610nm,12.7s						
KSH				LR	LR		
	comp=Z,330nm,

comp=Z,17nm,1.0s
TKM2 Tokmak 2 52.03 8 P **P 06 37 40.8 -0.9**
SNR=15
TKM2 Tokmak 2 52.03 8 *e*P **P 06 37 40.9 -0.8**
comp=Z,17nm,1.0s
USP Ospenovka 52.24 6 *i* P **P 06 37 42.2 -0.8**
USP Ospenovka 52.24 6 P **P 06 37 42.2 -0.8**
SNR=10.0
CD2 Chengdu 52.64 40 *e*P **P 06 37 45.2 -1.0**
CD2 pP **pP 06 37 50.2 -0.2**
CD2 sP **sP 06 37 52.8 +0.8**
CD2 PP **PP 06 39 45.6 0.0**
CD2 S **S 06 45 11.8 -1.8**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,140nm,5.2s
CD2 LR LR
comp=N,510nm,15.4s
CD2 LR LR
comp=Z,420nm,16.6s
WMQ Urumqi 55.53 18 *e*P **P 06 38 06.7 -0.4**
WMQ PcP **PcP 06 39 07.7 +0.8**
WMQ S **S 06 45 48.8 -3.4**
WMQ ScS **ScS 06 47 52.2 -4.0**
WMQ SS **SS 06 49 34.6 -2.9**
WMQ pmax pmax
comp=Z,18nm,1.0s
WMQ pmax pmax
comp=Z,130nm,3.0s
WMQ LR LR
comp=N,310nm,23.0s
WMQ LR LR
comp=E,690nm,25.0s
WMQ LR LR
comp=Z,550nm,20.0s
ZEI Tsey 55.70 339 *e*P **P 06 38 07.6 -0.9**
ZEI pmax pmax
comp=Z,25nm,1.4s
LZH Lanzhou 56.28 35 *e*P P 06 38 17.4 +4.7
LZH pP pP 06 38 20.7 +3.8
LZH sP sP 06 38 22.2 +3.7
LZH PP PP 06 40 24.5 +6.2
LZH *e*S **S 06 46 05.2 +2.5**
LZH sS sS 06 46 12.3 +2.8
LZH *e*SS **SS 06 49 52.6 +2.8**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,180nm,7.5s
LZH LR LR
comp=N,360nm,14.2s
LZH LR LR
comp=E,420nm,15.0s
LZH LR LR
comp=Z,510nm,18.5s
GTA Gaotai 56.60 30 ⇓P **P 06 38 14.4 -0.5**
GTA pP **pP 06 38 19.0 -0.1**
GTA sP **sP 06 38 21.5 +0.8**
GTA S **S 06 46 04.3 -2.5**
GTA pmax pmax
comp=Z,33nm,1.0s
GTA pmax pmax
comp=Z,82nm,6.2s
GTA LR LR
comp=N,310nm,18.5s
GTA LR LR
comp=E,340nm,18.5s
GTA LR LR
comp=Z,440nm,20.7s
KBZ Khabaz 56.88 339 P **P 06 38 15.5 -1.1**
KBZ Khabaz 56.88 339 P **P 06 38 15.5 -1.1**
KBZ Khabaz 56.88 339 P **P 06 38 15.5 -1.1**
comp=Z,7.0nm,1.1s,baz=166,slow=4.2,SNR=5.9
KBZ LR LR 07 02 06.8
comp=Z,133nm,20.0s,baz=340,slow=36
MK31 Makanchi Array 56.93 12 *e*P **P 06 38 15.3 -1.7**
MK31 Makanchi Array 56.93 12 *e*P **P 06 38 15.3 -1.7**
MKAR Makanchi Array 56.93 12 *ce*P **P 06 38 15.3 -1.7**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 56.93 12 *e*P **P 06 38 15.4 -1.6**
MKAR Makanchi Array 56.93 12 P **P 06 38 15.2 -1.7**
comp=Z,6.9nm,0.6s,baz=200,slow=7.8,SNR=13
MKAR LR LR 07 03 01.6
comp=Z,186nm,18.1s,baz=337,slow=36
KIV Kislovodsk 57.15 339 *e*P **P 06 38 19.0 +0.3**
KIV *e*S **S 06 46 15.5 +1.7**
KIV *e*SS **SS 06 50 05.8 +2.7**
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,91nm,16.0s
BR131 Keskin Array S 57.59 329 *e*P **P 06 38 21.8 -0.1**
comp=Z,3.2nm,0.8s
BRTR Keskin Array B 57.59 329 P **P 06 38 22.3 +0.3**
BRTR Keskin Array B 57.59 329 P **P 06 38 22.3 +0.3**
comp=Z,3.4nm,0.9s,baz=138,slow=10.0,SNR=13
BRTR LR LR 07 02 25.5
comp=Z,191nm,18.5s,baz=324,slow=35
XAN Xi'an 57.98 40 P **P 06 38 23.1 -1.6**
XAN pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 58.22 354 *i* P **P 06 38 24.3 -1.7**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 58.22 354 *e*P **P 06 38 24.9 -1.0**
MAW Mawson 58.77 182 P **P 06 38 29.2 -0.4**
MAW Mawson 58.77 182 P **P 06 38 29.2 -0.4**
comp=Z,6.0nm,0.9s,baz=355,slow=8.7,SNR=11
MAW LR LR 06 57 14.1
comp=Z,355nm,21.7s,baz=5.2,slow=29
AKTO Aktyubinsk 59.59 353 P **P 06 38 34.5 -1.0**
AKTO Aktyubinsk 59.59 353 P **P 06 38 34.5 -1.0**
AKTO Aktyubinsk 59.59 353 P **P 06 38 34.5 -1.0**
comp=Z,15nm,0.7s,baz=159,slow=6.0,SNR=39
AKTO LR LR 07 00 00.3
comp=Z,100nm,21.8s,baz=182,slow=32
ANN Anapa 59.87 336 *e*P **P 06 38 38.0 +0.5**
TPUB Ta-pu 60.99 57 *e*P **P 06 38 47.4 +1.7**
comp=Z,64nm,0.8s
TWG Pinlang 61.16 58 *e*P P 06 38 40.2 -6.6
comp=Z,447nm,0.3s
VOSK Vostochnaya 61.39 2 P **P 06 38 46.2 -1.5**
VOSK pmax pmax
comp=Z,6.0nm,0.8s
SSLB Suanglung 61.47 57 *e*P P 06 38 43.8 -5.1
comp=Z,36nm,0.7s
BVA0 Borovoye Array 61.67 2 *i* P **P 06 38 48.2 -1.4**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 61.70 2 P **P 06 38 48.5 -1.3**
BRVK pmax pmax
comp=Z,23nm,1.1s
BRVK Borovoye 61.70 2 *e*P **P 06 38 48.5 -1.3**
comp=Z,9.2nm,0.7s
SYO Syowa Base 62.80 191⇓*e*pP pP 06 39 06.6 +5.4
SYO Syowa Base 62.80 191⇑*e*PcP **PcP 06 39 37.0 +1.7**
NJ2 Nanjing 63.69 48 *e*P **P 06 39 05.6 +2.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
HVS Khovu-Aksy 63.89 18 *d i*P **P 06 39 03.6 -1.0**
HVS pmax pmax
comp=Z,63nm,0.7s
HHC Hu-ho-hao-te 63.95 36 *e*P **P 06 39 05.2 0.0**
HHC PcP **PcP 06 39 41.0 +0.3**
HHC PP **PP 06 41 27.6 +1.5**
HHC ScP 06 43 41.9
HHC PcS 06 43 43.2
HHC S **S 06 47 38.8 -2.3**
HHC ScS **SKSac 06 48 54.4 -4.6**
HHC pmax pmax
comp=Z,62nm,0.7s
HHC pmax pmax
comp=Z,280nm,6.4s
HHC LR LR
comp=N,480nm,16.3s
HHC LR LR
comp=E,520nm,16.3s
HHC LR LR
comp=Z,230nm,16.3s
ZAA0 Zalesovo Array 64.24 11 *e*P **P 06 39 04.7 -2.0**
ZALV Zalesovo Beam 64.24 11 *i* P **P 06 39 04.8 -1.9**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 64.24 11 P **P 06 39 04.8 -1.9**
ZALV Zalesovo Beam 64.24 11 P **P 06 39 04.8 -1.9**
comp=Z,6.0nm,0.7s,baz=207,slow=6.2,SNR=21
ZALV LR LR 07 05 57.1
comp=Z,214nm,19.4s,baz=69,slow=35
NVS Novosibirsk 64.80 10 *i* P **P 06 39 08.7 -1.6**
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=N,14nm,1.5s
ASAR Alice Springs 64.96 112 P **P 06 39 11.4 -0.7**
ASAR Alice Springs 64.96 112 P **P 06 39 11.4 -0.7**
comp=N,2.3nm,0.7s,baz=276,slow=5.8,SNR=18
ASAR LR LR 07 01 49.9
comp=N,342nm,20.9s,baz=260,slow=31
AS31 Alice Springs 64.96 112 *e*P **P 06 39 13.8 +1.6**
WRA Warramunga Arr 65.35 108 P **P 06 39 14.1 -0.6**
WRA Warramunga Arr 65.35 108 P **P 06 39 14.1 -0.6**
comp=N,2.2nm,0.7s,baz=280,slow=5.5,SNR=12
WRA LR LR 07 03 17.8
comp=N,520nm,20.6s,baz=265,slow=32
ARU Arti 65.45 355 *d i*P **P 06 39 13.3 -1.2**
ARU 06 39 45.0
ARU 06 41 33.5
ARU S **S 06 47 59.3 +0.7**
ARU SS SS 06 52 04.7 -7.7
ARU pmax pmax
comp=Z,15nm,1.2s
MLR Muntele Rosu 65.67 329 P **P 06 39 16.7 +0.3**
MLR Muntele Rosu 65.67 329 P **P 06 39 16.7 +0.3**
comp=Z,0.4nm,0.5s,baz=142,slow=12,SNR=3.5
SONM Songino Array 66.09 28 P **P 06 39 18.8 -0.2**
SONM Songino Array 66.09 28 P **P 06 39 18.8 -0.2**
comp=Z,15nm,0.8s,baz=216,slow=7.0,SNR=87
SONM LR LR 07 07 43.3
comp=Z,379nm,20.7s,baz=112,slow=36
BJT Baijiatuau 66.22 39 *e*P **P 06 39 19.6 -0.2**
comp=Z,14nm,0.6s
BJI Beijing 66.23 39 P **P 06 39 19.6 -0.3**
BJI S **S 06 48 13.0 +4.2**
BJI pmax pmax
comp=Z,26nm,0.6s
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=Z,85nm,36.0s
ULN Ulaanbaatar 66.41 28 *e*P **P 06 39 20.7 -0.4**
comp=Z,43nm,1.9s
ZAK Zakamensk 66.67 24 *e*P **P 06 39 21.3 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
TLY Talaya 67.83 23 *e*P **P 06 39 30.5 +0.6**
TLY *e*S **S 06 48 30.9 +3.1**
TLY pmax pmax
comp=Z,9.0nm,0.7s
TLY MLR MLR
comp=Z,296nm,18.0s
AK01 Malin Array Si 67.93 335 *e*P **P 06 39 28.6 -1.9**
AKASG Malin Array Be 67.93 335 P **P 06 39 28.8 -1.7**
AKASG Malin Array Be 67.93 335 P **P 06 39 28.8 -1.7**
AKASG Malin Array Be 67.93 335 P **P 06 39 28.8 -1.7**
comp=Z,3.3nm,0.7s,baz=137,slow=5.0,SNR=6.8
AKASG LR LR 07 11 28.9
comp=Z,89nm,18.8s,baz=110,slow=38
SOKR Solikamsk 68.74 354 *e*P **P 06 39 34.5 -0.8**
SOKR pmax pmax
comp=Z,20nm,0.9s
TORD Torodi Ar. Bea 68.88 288 P **P 06 39 36.4 -0.7**
TORD Torodi Ar. Bea 68.88 288 P **P 06 39 36.4 -0.7**
comp=Z,4.0nm,1.2s,baz=98,slow=5.3,SNR=12
TORD LR LR 07 08 50.6
comp=Z,224nm,18.2s,baz=170,slow=35
KEST Kesra 70.38 313 LR LR 07 09 23.5
comp=Z,71nm,20.4s,baz=28,slow=35
MAIT Maitri 70.84 197 *e*P **PcP 06 40 04.6 -4.2**
STKA Stephens Creek 71.92 121 P **P 06 39 56.0 +0.4**
STKA Stephens Creek 71.92 121 P **P 06 39 56.0 +0.4**
comp=Z,1.3nm,0.7s,baz=289,slow=10,SNR=3.0
STKA LR LR 07 06 33.1
comp=Z,297nm,21.2s,baz=65,slow=32
KSAR Wonju Array Be 72.78 46 P **P 06 39 59.8 -0.7**
KSRS Korea Array 72.81 46 P **P 06 39 59.8 -0.8**
comp=Z,3.1nm,0.7s,baz=230,slow=6.6,SNR=11
KSRS LR LR 07 13 16.1
comp=Z,166nm,18.1s,baz=54,slow=37
JNU Nakatsue 73.24 52 P **P 06 40 03.8 +0.4**
JNU Nakatsue 73.24 52 P **P 06 40 03.8 +0.4**
comp=Z,9.0nm,0.8s,baz=241,slow=4.9,SNR=3.7
KIC Kosan Boka 73.55 279 *e*P **P 06 40 03.6 -1.9**
comp=Z,67nm,1.2s
DBIC Dimbokro 73.72 280 P **P 06 40 06.3 -0.2**
DBIC Dimbokro 73.72 280 P **P 06 40 06.3 -0.2**
comp=Z,9.9nm,1.0s,baz=121,slow=5.8,SNR=4.2
DBIC LR LR 07 10 54.5
comp=Z,210nm,20.7s,baz=95,slow=34
DPC Dobruska-Polom 73.74 329 *e*P P 06 40 13.9 +8.0
DPC Dobruska-Polom 73.74 329 *e*P P 06 40 13.9 +8.0
LIC Lamto 73.81 279⇑*i*P **P 06 40 06.3 -0.8**
comp=Z,20nm,0.8s
LIC Lamto 73.81 279 *e*P **P 06 40 06.2 -0.8**
comp=Z,59nm,1.5s
TIC Toumodi 73.88 280 *e*P **P 06 40 06.7 -0.8**
comp=Z,75nm,1.5s
CN2 Changchun 74.08 40 *e*P **P 06 40 06.2 -1.8**
CN2 *e*S **S 06 49 41.6 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,18.0s
GERES GERESS Array B 74.26 326 P **P 06 40 10.2 +1.1**
GERES GERESS Array B 74.26 326 P **P 06 40 10.2 +1.1**
comp=Z,0.3nm,0.3s,baz=155,slow=7.6,SNR=3.2
GERES LR LR 07 13 03.7
comp=Z,79nm,21.1s,baz=283,slow=36
KHC Kasperske Hory 74.49 327 *e*P **P 06 40 09.4 -0.9**
KHC Kasperske Hory 74.49 327 *e*P **P 06 40 09.4 -0.9**
VSU Vasula 74.71 339 *e*P **P 06 40 12.6 +1.3**
VSU pmax pmax
comp=Z,40nm,1.3s
TUE Stuetta 75.50 323 P **P 06 40 16.8 +0.4**
SNAA Sanae 75.52 198 *e*P **P 06 40 16.5 +0.5**
SNAA Sanae 75.52 198 *e*pP pP 06 40 19.1 -1.2
SNAA Sanae 75.52 198 *e*PcP **PcP 06 40 27.1 -1.8**
SNAA Sanae 75.52 198 *e*P **P 06 40 15.7 -0.3**
comp=Z,14nm,1.5s
NKC Novy Kostel 75.71 327 *e*P **P 06 40 18.8 +1.5**
NKC Novy Kostel 75.71 327 *e*P **P 06 40 18.8 +1.5**
CLL Collm 76.02 328 *e*(P) **P 06 40 22.0 +3.0**
CLL *e* 06 40 38.0
CLL *e*S **S 06 50 02.0 +0.1**
CLL *e*SS SS 06 54 42.0 -13
CLL *e*(SSS) 06 58 54.0
CLL *e*SSSS 07 00 12.0
GRFO Grafenberg 76.08 326 *e*P P 06 40 15.1 -4.3
GRFO pmax pmax
comp=Z,18nm,0.5s
GRFO Grafenberg 76.08 326 *e*P P 06 40 15.1 -4.3
comp=Z,18nm,0.5s
TMCR Tamitsa 76.12 347 *e*P **P 06 40 19.3 +0.1**
TMCR pmax pmax
comp=Z,10.0nm,0.5s
MBDF Montbardon 76.25 320 *e*P **P 06 40 20.8 +0.1**
comp=Z,6.3nm,0.7s
ORIF Oris-en-Rattie 76.90 320 *e*P **P 06 40 24.2 -0.1**
MDJ Mudanjiang 77.09 40 P **P 06 40 25.0 -0.3**
MDJ pP **pP 06 40 28.5 -1.0**
MDJ sP **sP 06 40 30.3 -0.8**
MDJ PcP **PcP 06 40 36.1 0.0**
MDJ S **S 06 50 15.5 +1.5**
MDJ ScS **SKSac 06 50 35.3 -2.4**
MDJ pmax pmax
comp=Z,14nm,0.7s
MDJ pmax pmax
comp=Z,120nm,4.0s
MDJ LR LR
comp=N,82nm,29.4s
MDJ LR LR
comp=E,49nm,19.6s
MDJ LR LR
comp=Z,99nm,26.1s
MDJ Mudanjiang 77.09 40 *e*P **P 06 40 25.0 -0.3**
comp=Z,16nm,0.8s
FINES FINESS Array B 77.15 341 P **P 06 40 24.1 -1.1**
FINES FINESS Array B 77.15 341 P **P 06 40 24.1 -1.1**
comp=Z,1.4nm,0.7s,baz=124,slow=7.4,SNR=4.9
FINES LR LR 07 15 16.5
comp=Z,84nm,19.6s,baz=336,slow=36
LASF Ste Croix 77.84 319 *e*P **P 06 40 29.6 +0.1**
USRK Ussuriysk Arra 78.47 41 P **P 06 40 31.4 -1.5**
comp=Z,3.7nm,0.6s,baz=253,slow=5.7,SNR=15
USRK LR LR 07 18 48.1
comp=Z,134nm,18.6s,baz=215,slow=38
MTLF Montolieu 78.62 317 *e*P **P 06 40 34.0 +0.2**
comp=Z,6.6nm,0.8s
SSF Saint Saulge 79.33 321 *e*P **P 06 40 37.4 -0.2**
comp=Z,7.3nm,0.7s
RJF Les Rejaudoux 79.86 319 *e*P **P 06 40 41.0 +0.4**
comp=Z,13nm,0.8s
MDT Midelt 80.00 306 P **P 06 40 42.4 +0.7**
MDT Midelt 80.00 306 P **P 06 40 42.4 +0.7**
comp=Z,1.7nm,0.7s,baz=91,slow=4.9,SNR=5.5
MAJO Matsushiro 80.08 51 *e*P **P 06 40 40.7 -1.3**
MAJO pmax pmax
comp=Z,6.0nm,1.3s
MJAR Matsushiro Arr 80.08 51 P **P 06 40 41.6 -0.4**
MJAR Matsushiro Arr 80.08 51 P **P 06 40 41.6 -0.4**
comp=Z,4.0nm,0.8s,baz=252,slow=7.5,SNR=8.5
BAIF Baiwes 80.22 324 *e*P **P 06 40 42.7 +0.4**
LFF La Frestale 80.22 319 *e*P **P 06 40 43.0 +0.5**
comp=Z,11nm,0.6s
ETSF Etsaut 80.32 316 *e*P **P 06 40 43.7 +0.5**
comp=Z,23nm,1.2s
KLR Kul'dur 80.44 37 *e*P P 06 40 37.0 -6.6
HFS Hagfors 80.78 336 P **P 06 40 44.9 -0.3**
HFS Hagfors 80.78 336 P **P 06 40 44.9 -0.3**
comp=Z,4.4nm,0.7s,baz=126,slow=7.7,SNR=12
SJPF Ste Jean 80.86 316 *e*P **P 06 40 46.6 +0.6**
comp=Z,24nm,1.1s
QSPA South Pole Qui 81.21 180 *e*P **P 06 40 47.8 +0.2**
comp=Z,7.9nm,1.1s
QSPA South Pole Qui 81.21 180 LR LR 07 14 08.9
comp=Z,154nm,18.6s,baz=296,slow=34
MFF Saint Martin d 81.44 320 *e*P **P 06 40 49.0 +0.1**
ESDC Sonseca Array 81.62 312 P **P 06 40 50.0 -0.2**
ESDC Sonseca Array 81.62 312 P **P 06 40 50.0 -0.2**
comp=Z,1.4nm,0.6s,baz=95,slow=4.2,SNR=9.9
NB2 NORSAR Subarra 82.31 336 P **P 06 40 55.9 +2.6**
comp=Z,3.5nm,1.1s,baz=124,slow=5.3
NOA NORSAR Array B 82.31 336 P **P 06 40 54.7 +1.4**
NOA NORSAR Array B 82.31 336 P **P 06 40 54.7 +1.4**
comp=Z,1.8nm,1.0s,baz=116,slow=5.1,SNR=4.6
VNDA Vanda 82.38 167 LR LR 07 11 25.6
comp=Z,141nm,21.5s,baz=270,slow=31
KEV Kevo 83.19 347 *e*P **P 06 40 57.3 -0.2**
KEV pmax pmax
comp=Z,13nm,1.1s
KEV Kevo 83.19 347 *e*P **P 06 40 57.3 -0.2**
comp=Z,13nm,1.1s
ARCES ARCESS Array B 83.36 346 P **P 06 40 58.3 -0.2**
ARCES ARCESS Array B 83.36 346 P **P 06 40 58.3 -0.2**
comp=Z,8.2nm,0.8s,baz=141,slow=4.7,SNR=13
ARCES LR LR 07 18 23.1
comp=Z,70nm,18.5s,baz=282,slow=36
YAK Yakutsk 85.25 25 *e*P **P 06 41 09.0 +0.8**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.1s
ASAJ Asahikawa 85.58 44 P **P 06 41 09.7 -0.6**
ASAJ Asahikawa 85.58 44 P **P 06 41 09.7 -0.6**
comp=N,2.3nm,0.3s,baz=201,slow=3.3,SNR=2.6
EKA Eskdalemuir Ar 86.44 327 P **P 06 41 14.8 +0.5**
EKA Eskdalemuir Ar 86.44 327 P **P 06 41 14.8 +0.5**
comp=N,3.7nm,1.0s,baz=116,slow=5.8,SNR=3.9
YSS Yuzh-Sakhalins 86.51 42 *e*P **P 06 41 14.0 -0.8**
TIXI Tiksi 89.70 16 *e*P **P 06 41 30.1 +0.6**
TIXI pmax pmax
comp=Z,14nm,0.8s
PETK Petropavlovsk- 97.12 37 LR LR 07 28 10.5
comp=Z,133nm,20.1s,baz=138,slow=37
ILAR Eielson Array 119.17 16 PKP **PKPdf 06 47 21.4 +0.9**
ILAR Eielson Array 119.17 16 PKP **PKPdf 06 47 21.4 +0.9**
comp=Z,0.4nm,0.8s,baz=314,slow=3.1,SNR=4.9
YKA Yellowknife Ar 126.42 1 PKP **PKPdf 06 47 34.9 +0.4**
YKA Yellowknife Ar 126.42 1 PKP **PKPdf 06 47 34.9 +0.4**
comp=Z,0.8nm,0.7s,baz=352,slow=2.3,SNR=4.6
LPAZ La Paz 129.47 240 PKP **PKPdf 06 47 41.5 -1.0**
LPAZ La Paz 129.47 240 PKP **PKPdf 06 47 41.5 -1.0**
comp=Z,2.2nm,0.9s,baz=100,slow=4.4,SNR=11
G18A Lazy EL Ranch, 143.56 356 ⇑PKiKP **PKPdf 06 48 07.0 -0.2**
baz=143
G18A Lazy EL Ranch, 143.56 356 ⇑PKiKP **PKPdf 06 48 07.0 -0.2**
baz=143
I28A Midland 143.60 346 ⇑PKiKP **PKPdf 06 48 06.9 -0.2**
baz=143
I28A Midland 143.60 346 ⇑PKiKP **PKPdf 06 48 06.9 -0.2**
baz=143
I27A Quinn 143.74 347 ⇓PKiKP **PKPdf 06 48 07.9 +0.5**
baz=144
I27A Quinn 143.74 347 ⇓PKiKP **PKPdf 06 48 07.9 +0.5**
baz=144
H21A Big Horn, Sher 144.03 353 ⇑PKiKP **PKPdf 06 48 08.5 +0.6**
baz=144
H21A Big Horn, Sher 144.03 353 ⇑PKiKP **PKPdf 06 48 08.5 +0.6**
baz=144
RSSD Black Hills 144.08 350 *e*PKIKP PKPbc 06 48 07.0 +0.9
RSSD Black Hills 144.08 350 *e*PKPdf PKPbc 06 48 07.0 +1.0
I25A Rochford 144.12 349 ⇑PKiKP **PKPdf 06 48 08.8 +0.6**
baz=144
I25A Rochford 144.12 349 ⇑PKiKP **PKPdf 06 48 08.8 +0.6**
baz=144
J28A Allard Ranch, 144.16 346 ⇓PKiKP **PKPdf 06 48 08.5 +0.4**
baz=144
J28A Allard Ranch, 144.16 346 ⇓PKiKP **PKPdf 06 48 08.5 +0.4**
baz=144
H18A Shoshone NF, C 144.21 357 ⇑PKiKP **PKPdf 06 48 08.7 +0.3**
baz=144
H18A Shoshone NF, C 144.21 357 ⇑PKiKP **PKPdf 06 48 08.7 +0.3**
baz=144
I24A Kuemmerle Ranc 144.44 350 ⇓PKiKP **PKPdf 06 48 09.2 +0.6**
baz=144
I24A Kuemmerle Ranc 144.44 350 ⇓PKiKP **PKPdf 06 48 09.2 +0.6**
baz=144
I19A Meeteetse 144.80 356 ⇓PKiKP **PKPdf 06 48 09.4 0.0**
baz=145
I19A Meeteetse 144.80 356 ⇓PKiKP **PKPdf 06 48 09.4 0.0**
baz=145
I21A Big Trails, Te 144.86 353 ⇑PKiKP **PKPdf 06 48 09.2 -0.2**
baz=145
I21A Big Trails, Te 144.86 353 ⇑PKiKP **PKPdf 06 48 09.2 -0.2**
baz=145
J24A Dixon Ranch, L 144.96 350 ⇓PKiKP **PKPab 06 48 07.6 -1.1**
baz=145
J24A Dixon Ranch, L 144.96 350 ⇓PKiKP **PKPab 06 48 07.6 -1.1**
baz=145
J23A Dilts Ranch, B 145.03 351 ⇓PKiKP **PKPbc 06 48 07.9 -1.1**
baz=145
J23A Dilts Ranch, B 145.03 351 ⇓PKiKP **PKPbc 06 48 07.9 -1.1**
baz=145
IMW Indian Meadow 145.04 358 *e*PKPdf **PKPdf 06 48 10.5 +0.5**
I16A Newdale 145.08 359 ⇓PKiKP **PKPbc 06 48 08.2 -1.0**
baz=145
I16A Newdale 145.08 359 ⇓PKiKP **PKPbc 06 48 08.2 -1.0**
baz=145
HUMO Hull Mountain 145.13 14 *e*PKPdf **PKPbc 06 48 09.1 -0.2**
J22A Midwest 145.15 352 ⇓PKiKP **PKPbc 06 48 08.8 -0.6**
baz=145
J22A Midwest 145.15 352 ⇓PKiKP **PKPbc 06 48 08.8 -0.6**
baz=145
MOOW Moose Ponds 145.19 358 *e*PKPdf **PKPdf 06 48 09.9 -0.2**
I18A Diamond G Ranc 145.19 357 ⇑PKiKP **PKPbc 06 48 09.1 -0.5**
baz=145
I18A Diamond G Ranc 145.19 357 ⇑PKiKP **PKPbc 06 48 09.1 -0.5**
baz=145
L29A Maesberg Ranch 145.24 344 ⇓PKiKP **PKPbc 06 48 09.2 -0.4**
baz=145
L29A Maesberg Ranch 145.24 344 ⇓PKiKP **PKPbc 06 48 09.2 -0.4**
baz=145
K26A Motz Farm, Whi 145.28 348 ⇓PKiKP **PKPbc 06 48 09.6 -0.2**
baz=145
K26A Motz Farm, Whi 145.28 348 ⇓PKiKP **PKPbc 06 48 09.6 -0.2**
baz=145
LOHW Long Hollow 145.31 358 *e*PKPdf **PKPbc 06 48 10.0 -0.1**
J21A Lysite 145.34 353 ⇑PKiKP **PKPbc 06 48 09.3 -0.8**

baz=145
J21A Lysite 145.34 353 ⇑PKiKP PKPbc 06 48 09.3 -0.8
baz=145
HLID Hailey 145.37 2 ePKPdf PKPdf 06 48 10.5 +0.2
HLID Hailey 145.37 2 ⇑PKiKP PKPbc 06 48 09.7 -0.4
baz=145
HLID Hailey 145.37 2 ⇑PKiKP PKPbc 06 48 09.7 -0.4
baz=145
J20A Shoshoni 145.40 354 ⇑PKiKP PKPbc 06 48 09.8 -0.4
baz=145
J20A Shoshoni 145.40 354 ⇑PKiKP PKPbc 06 48 09.8 -0.4
baz=145
MFID Camas Ranch 145.43 4 ⇑PKiKP PKPbc 06 48 09.8 -0.5
baz=145
MFID Camas Ranch 145.43 4 ⇑PKiKP PKPbc 06 48 09.8 -0.5
baz=145
TPAW Teton Pass 145.45 358 ePKPbc PKPab 06 48 11.0 +0.3
SNOW Snow King Moun 145.47 358 ePKPdf PKPab 06 48 11.2 +0.4
J19A Crowheart 145.57 356 ⇑PKiKP PKPdf 06 48 10.4 -0.3
baz=145
J19A Crowheart 145.57 356 ⇑PKiKP PKPdf 06 48 10.4 -0.3
baz=145
REDW Red Top Meadow 145.57 358 ePKPdf PKPbc 06 48 10.8 0.0
BUOR Burton Butte 145.60 13 P PKPab 06 48 13.7 +2.5
RRI2 Red Ridge 145.60 358 ePKPbc PKPab 06 48 11.9 +0.6
K23A Bowen Ranch, D 145.68 351 ⇑PKiKP PKPdf 06 48 10.8 0.0
baz=146
K23A Bowen Ranch, D 145.68 351 ⇑PKiKP PKPdf 06 48 10.8 0.0
baz=146
K22A Casper 145.91 352 ⇓PKiKP PKPdf 06 48 11.3 0.0
baz=146
K22A Casper 145.91 352 ⇓PKiKP PKPdf 06 48 11.3 0.0
baz=146
KRMB Red Mountain 145.92 15 ePKPdf PKPbc 06 48 11.9 +0.1
L25A Engebretsen Ra 145.97 349 ⇑PKiKP PKPdf 06 48 11.4 0.0
baz=146
L25A Engebretsen Ra 145.97 349 ⇑PKiKP PKPdf 06 48 11.4 0.0
baz=146
K19A Absolon Red Bu 145.99 355 ⇑PKiKP PKPdf 06 48 11.3 -0.2
baz=146
K19A Absolon Red Bu 145.99 355 ⇑PKiKP PKPdf 06 48 11.3 -0.2
baz=146
K21A Alcova 146.02 353 ⇓PKiKP PKPdf 06 48 11.5 0.0
baz=146
K21A Alcova 146.02 353 ⇓PKiKP PKPdf 06 48 11.5 0.0
baz=146
YBH Yreka Blue Hor 146.02 14 ePKPdf PKPdf 06 48 11.6 +0.2
BW06 Boulder Array 146.10 356 ePKPdf PKPdf 06 48 11.8 +0.1
PDAR Pinedale Array 146.10 356 PKPbc PKPdf 06 48 11.7 0.0
PDAR Pinedale Array 146.10 356 PKPbc PKPdf 06 48 11.7 0.0
comp=Z,2.0nm,0.6s,baz=90,slow=1.7,SNR=16
WVOR Wild Horse Val 146.10 8 ePKP2 PKPbc 06 48 12.1 -0.3
WVOR Wild Horse Val 146.10 8 ePKPdf PKPbc 06 48 12.1 -0.3
K20A Yellowstone Ra 146.11 354 ⇓PKiKP PKPdf 06 48 11.5 -0.2
baz=146
K20A Yellowstone Ra 146.11 354 ⇓PKiKP PKPdf 06 48 11.5 -0.2
baz=146
LRAL Lakeview Retre 146.30 319 ePKPdf PKPdf 06 48 12.2 +0.2
L23A Garrett 146.31 351 ⇓PKiKP PKPdf 06 48 11.4 -0.7
baz=146
L23A Garrett 146.31 351 ⇓PKiKP PKPdf 06 48 11.4 -0.7
baz=146
LASM Arnica Sink 146.40 12 P PKPbc 06 48 13.4 0.0
KHMM Horse Mountain 146.57 16 ePKPdf PKPbc 06 48 13.4 -0.5
KSU1 Kansas State U 146.65 337 ePKPdf PKPbc 06 48 14.2 +0.2
L20A Wamsutter 146.75 354 ⇓PKiKP PKPdf 06 48 12.9 +0.1
baz=147
L20A Wamsutter 146.75 354 ⇓PKiKP PKPdf 06 48 12.9 +0.1
baz=147
LTIM Timbered Crate 146.82 12 P PKPbc 06 48 14.8 +0.2
RWWY Rawlins 146.94 353 ePKPdf PKPdf 06 48 13.4 +0.2
PHWY Pilot Hill 147.06 350 ePKPdf PKPdf 06 48 13.2 -0.3
WDC Whiskeytown Da 147.15 14 ePKP2 PKPbc 06 48 14.6 -0.7
WDC Whiskeytown Da 147.15 14 ePKPdf PKPbc 06 48 14.6 -0.7
LBCM Butte Creek Ri 147.18 12 P PKPbc 06 48 15.6 -0.1
M20A Sweetwater, Wa 147.25 354 ⇓PKiKP PKPbc 06 48 15.8 -0.1
baz=147
M20A Sweetwater, Wa 147.25 354 ⇓PKiKP PKPbc 06 48 15.8 -0.1
baz=147
P31A Stockton 147.26 341 ⇓PKiKP PKPbc 06 48 15.4 -0.3
baz=147
P31A Stockton 147.26 341 ⇓PKiKP PKPbc 06 48 15.4 -0.3
baz=147
HWUT Hardware Ranch 147.35 359 ePKPbc PKPbc 06 48 15.9 -0.2
M17A Scullys Gap (B 147.45 357 ⇑PKiKP PKPbc 06 48 16.4 0.0
baz=147
M17A Scullys Gap (B 147.45 357 ⇑PKiKP PKPbc 06 48 16.4 0.0
baz=147
P30A Selden 147.51 342 ⇑PKiKP PKPbc 06 48 16.6 +0.1
baz=147
P30A Selden 147.51 342 ⇑PKiKP PKPbc 06 48 16.6 +0.1
baz=147
O27A Beecher Island 147.52 346 ⇓PKiKP PKPbc 06 48 16.6 0.0
baz=147
O27A Beecher Island 147.52 346 ⇓PKiKP PKPbc 06 48 16.6 0.0
baz=147
N23A Red Feather La 147.54 351 ⇑PKiKP PKPbc 06 48 16.9 +0.1
baz=147
N23A Red Feather La 147.54 351 ⇑PKiKP PKPbc 06 48 16.9 +0.1
baz=147
KIPM Iron Peak 147.64 16 ePKPbc PKPbc 06 48 16.9 0.0
SPUT South Promonto 147.66 360 ePKPbc PKPbc 06 48 16.8 -0.1
KCPM Cahto Peak 147.72 16 ePKPbc PKPbc 06 48 17.3 +0.2
N21A Black Mountain 147.90 353 ⇓PKiKP PKPbc 06 48 17.6 -0.1
baz=148
N21A Black Mountain 147.90 353 ⇓PKiKP PKPbc 06 48 17.6 -0.1
baz=148
P28A Saint Francis 147.91 344 ⇓PKiKP PKPbc 06 48 17.5 -0.1
baz=148
P28A Saint Francis 147.91 344 ⇓PKiKP PKPbc 06 48 17.5 -0.1
baz=148
Q30A Quinter 148.02 342 ⇓PKiKP PKPbc 06 48 17.4 -0.5
baz=148
Q30A Quinter 148.02 342 ⇓PKiKP PKPbc 06 48 17.4 -0.5
baz=148
BGU Big Grassy Mou 148.04 1 ePKPbc PKPbc 06 48 18.4 +0.4
P27A Ficken Ranch, 148.14 345 ⇓PKiKP PKPbc 06 48 18.2 -0.1
baz=148
P27A Ficken Ranch, 148.14 345 ⇓PKiKP PKPbc 06 48 18.2 -0.1
baz=148
O24A Longmont 148.14 349 ⇑PKiKP PKPbc 06 48 17.9 -0.4
baz=148
O24A Longmont 148.14 349 ⇑PKiKP PKPbc 06 48 17.9 -0.4
baz=148
Q29A Oakley 148.33 343 ⇑PKiKP PKPbc 06 48 18.5 -0.2
baz=148
Q29A Oakley 148.33 343 ⇑PKiKP PKPbc 06 48 18.5 -0.2
baz=148
JLU Jordanelle 148.35 358 ePKPdf PKPdf 06 48 16.7 +1.1
O22A Kremmling 148.35 351 ⇓PKiKP PKPbc 06 48 18.9 -0.1
baz=148
O22A Kremmling 148.35 351 ⇓PKiKP PKPbc 06 48 18.9 -0.1
baz=148
O21A Pagoda 148.43 353 ⇓PKiKP PKPbc 06 48 19.3 +0.2
baz=148
O21A Pagoda 148.43 353 ⇓PKiKP PKPbc 06 48 19.3 +0.2
baz=148
HOPS Hopland 148.51 16 ePKPbc PKPbc 06 48 19.4 +0.3
DAU Daniels Canyon 148.53 358 ePKP2 PKPbc 06 48 19.6 +0.1
DAU Daniels Canyon 148.53 358 ePKPbc PKPbc 06 48 19.6 +0.1
P25A Willow Gulch B 148.55 348 ⇑PKiKP PKPbc 06 48 19.4 0.0
baz=148
P25A Willow Gulch B 148.55 348 ⇑PKiKP PKPbc 06 48 19.4 0.0
baz=148
O20A White River Ci 148.60 354 ⇓PKiKP PKPbc 06 48 19.5 -0.1
baz=148
O20A White River Ci 148.60 354 ⇓PKiKP PKPbc 06 48 19.5 -0.1
baz=148
P24A Kohler Place, 148.70 349 ⇓PKiKP PKPbc 06 48 19.8 0.0
baz=148
P24A Kohler Place, 148.70 349 ⇓PKiKP PKPbc 06 48 19.8 0.0
baz=148
DUG Dugway 148.77 0 ePKP2 PKPbc 06 48 20.0 +0.1
DUG Dugway 148.77 0 ePKPbc PKPbc 06 48 20.0 +0.1
DUG ePKPab PKPab 06 48 22.7 -0.8
DUG Dugway 148.77 0 ⇑PKiKP PKPbc 06 48 20.0 +0.1
baz=149
DUG Dugway 148.77 0 ⇑PKiKP PKPbc 06 48 20.0 +0.1
baz=149
P22A Eagle 148.94 351 ⇑PKiKP PKPbc 06 48 20.6 +0.1
baz=149
P22A Eagle 148.94 351 ⇑PKiKP PKPbc 06 48 20.6 +0.1
baz=149
Q26A Hugo 148.97 346 ⇓PKiKP PKPbc 06 48 20.6 +0.2
baz=149
Q26A Hugo 148.97 346 ⇓PKiKP PKPbc 06 48 20.6 +0.2
baz=149
P23A Jefferson 149.01 350 ⇓PKiKP PKPbc 06 48 20.7 -0.1
baz=149
P23A Jefferson 149.01 350 ⇓PKiKP PKPbc 06 48 20.7 -0.1
baz=149
S31A Mullinville 149.01 340 ⇓PKiKP PKPbc 06 48 20.6 +0.1
baz=149
S31A Mullinville 149.01 340 ⇓PKiKP PKPbc 06 48 20.6 +0.1
baz=149
TUL1 Tulsa 149.03 333 ⇑PKiKP PKPbc 06 48 20.7 +0.2
baz=149
TUL1 Tulsa 149.03 333 ⇑PKiKP PKPbc 06 48 20.7 +0.2
baz=149
R28A Tribune 149.08 343 ⇑PKiKP PKPbc 06 48 20.5 -0.1
baz=149
R28A Tribune 149.08 343 ⇑PKiKP PKPbc 06 48 20.5 -0.1
baz=149
P21A Newcastle 149.10 352 ⇓PKiKP PKPbc 06 48 20.7 -0.2
baz=149
P21A Newcastle 149.10 352 ⇓PKiKP PKPbc 06 48 20.7 -0.2
baz=149
Q25A Bedland, Calha 149.14 347 ⇓PKiKP PKPbc 06 48 21.1 +0.1
baz=149
Q25A Bedland, Calha 149.14 347 ⇓PKiKP PKPbc 06 48 21.1 +0.1
baz=149
P19A Cripple Cowboy 149.17 355 ⇓PKiKP PKPbc 06 48 20.9 -0.1
baz=149
P19A Cripple Cowboy 149.17 355 ⇓PKiKP PKPbc 06 48 20.9 -0.1
baz=149
P20A De Beque 149.24 354 ⇑PKiKP PKPbc 06 48 21.1 -0.1
baz=149
P20A De Beque 149.24 354 ⇑PKiKP PKPbc 06 48 21.1 -0.1
baz=149
Q24A Divide 149.28 349 ⇑PKiKP PKPbc 06 48 21.6 +0.1
baz=149
Q24A Divide 149.28 349 ⇑PKiKP PKPbc 06 48 21.6 +0.1
baz=149
SMCO Snowmass 149.38 352 ePKPbc PKPbc 06 48 22.0 +0.2
R27A Eads 149.40 345 ⇓PKiKP PKPbc 06 48 21.8 +0.3
baz=149
R27A Eads 149.40 345 ⇓PKiKP PKPbc 06 48 21.8 +0.3
baz=149
R26A Arlington 149.54 346 ⇑PKiKP PKPbc 06 48 22.0 +0.1
baz=149
R26A Arlington 149.54 346 ⇑PKiKP PKPbc 06 48 22.0 +0.1
baz=149
Q22A Crested Butte, 149.68 351 ⇓PKiKP PKPbc 06 48 22.6 +0.2
baz=150
Q22A Crested Butte, 149.68 351 ⇓PKiKP PKPbc 06 48 22.6 +0.2
baz=150
Q20A Ridgley Place, 149.77 353 ⇑PKiKP PKPbc 06 48 22.2 -0.3
baz=150
Q20A Ridgley Place, 149.77 353 ⇑PKiKP PKPbc 06 48 22.2 -0.3
baz=150
Q21A Lamborn Mesa, 149.80 352 ⇓PKiKP PKPbc 06 48 22.5 -0.1
baz=150
Q21A Lamborn Mesa, 149.80 352 ⇓PKiKP PKPbc 06 48 22.5 -0.1
baz=150
SRU San Rafael 149.80 357 ePKP2 PKPbc 06 48 24.4 +1.8
SRU San Rafael 149.80 357 ePKPbc PKPbc 06 48 24.4 +1.8
S28A Manter 149.80 343 ⇑PKiKP PKPbc 06 48 22.4 -0.1
baz=150
S28A Manter 149.80 343 ⇑PKiKP PKPbc 06 48 22.4 -0.1
baz=150
WAKR Walker 149.81 11 ePKPbc PKPbc 06 48 23.0 +0.4
R24A Sanders Place, 149.98 348 ⇓PKiKP PKPbc 06 48 22.7 -0.4
baz=150
R24A Sanders Place, 149.98 348 ⇓PKiKP PKPbc 06 48 22.7 -0.4
baz=150
Q16A Castle Valley 150.02 358 ⇑PKiKP PKPbc 06 48 23.6 +0.4
baz=150
Q16A Castle Valley 150.02 358 ⇑PKiKP PKPbc 06 48 23.6 +0.4
baz=150
CMB Columbia Colle 150.07 13 ePKP2 PKPbc 06 48 22.9 -0.2
CMB Columbia Colle 150.07 13 ePKPbc PKPbc 06 48 22.9 -0.2
NVAR Mina Array Bea 150.08 9 PKPbc PKPbc 06 48 24.2 +0.9
NVAR Mina Array Bea 150.08 9 PKPbc PKPbc 06 48 24.2 +0.9
comp=Z,4.4nm,0.7s,baz=329,slow=1.1,SNR=21
S26A Kim 150.19 345 ⇑PKiKP PKPbc 06 48 23.7 +0.2
baz=150
S26A Kim 150.19 345 ⇑PKiKP PKPbc 06 48 23.7 +0.2
baz=150
R21A Cimarron 150.26 352 ⇓PKiKP PKiKP 06 48 24.2 -0.4
baz=150
R21A Cimarron 150.26 352 ⇓PKiKP PKiKP 06 48 24.2 -0.4
baz=150
R22A Saguache, Gunn 150.28 351 ⇑PKiKP PKiKP 06 48 24.4 -0.3
baz=150
R22A Saguache, Gunn 150.28 351 ⇑PKiKP PKiKP 06 48 24.4 -0.3
baz=150
T28A Walsh 150.30 343 ⇑PKiKP PKPbc 06 48 24.1 +0.3
baz=150
T28A Walsh 150.30 343 ⇑PKiKP PKPbc 06 48 24.1 +0.3
baz=150
S25A Robets Cordova 150.38 347 ⇑PKiKP PKPbc 06 48 23.9 -0.1
baz=150
S25A Robets Cordova 150.38 347 ⇑PKiKP PKPbc 06 48 23.9 -0.1
baz=150
PV04 Paradox Valley 150.39 354 ePKPbc PKPbc 06 48 22.9 -1.1
U30A WK&E Inc. Balk 150.39 340 ⇑PKiKP PKPbc 06 48 24.1 +0.1
baz=150
U30A WK&E Inc. Balk 150.39 340 ⇑PKiKP PKPbc 06 48 24.1 +0.1
baz=150
MSU Marysvale 150.45 359 ePKIKP PKPbc 06 48 25.0 +0.8
MSU Marysvale 150.45 359 ePKPbc PKPbc 06 48 25.0 +0.8
MVU Marysvale 150.46 360 ePKPbc PKPbc 06 48 24.9 +0.7
R11A Troy Canyon, C 150.49 5 ⇑PKiKP PKPbc 06 48 24.5 +0.2
baz=150
R11A Troy Canyon, C 150.49 5 ⇑PKiKP PKPbc 06 48 24.5 +0.2
baz=150
R20A Redvale 150.54 353 ⇓PKiKP PKiKP 06 48 25.0 -0.2
baz=150
R20A Redvale 150.54 353 ⇓PKiKP PKiKP 06 48 25.0 -0.2
baz=150
S24A Houchin Ranch, 150.57 348 ⇓PKiKP PKiKP 06 48 25.3 0.0
baz=150
S24A Houchin Ranch, 150.57 348 ⇓PKiKP PKiKP 06 48 25.3 0.0
baz=150
PV01 Paradox Valley 150.61 354 ePKPbc PKPbc 06 48 24.5 -0.1
T26A Comanche Natio 150.65 345 ⇑PKiKP PKPbc 06 48 25.0 +0.3
baz=150
T26A Comanche Natio 150.65 345 ⇑PKiKP PKPbc 06 48 25.0 +0.3
baz=150
S22A 4UR Ranch, Cre 150.76 351 ⇓PKiKP PKPbc 06 48 24.5 -0.6
baz=151
S22A 4UR Ranch, Cre 150.76 351 ⇓PKiKP PKPbc 06 48 24.5 -0.6
baz=151
V31A Spring Creek L 150.79 339 ⇓PKiKP PKPbc 06 48 25.1 +0.3
baz=151
V31A Spring Creek L 150.79 339 ⇓PKiKP PKPbc 06 48 25.1 +0.3
baz=151
T25A Trinidad 150.88 347 ⇑PKiKP PKPbc 06 48 25.2 0.0
baz=151
T25A Trinidad 150.88 347 ⇑PKiKP PKPbc 06 48 25.2 0.0
baz=151
S20A Disappointment 150.89 353 ⇓PKiKP PKPbc 06 48 25.4 +0.1
baz=151
S20A Disappointment 150.89 353 ⇓PKiKP PKPbc 06 48 25.4 +0.1
baz=151
S21A Coal Bank Pass 150.98 352 ⇓PKiKP PKPbc 06 48 25.5 -0.1
baz=151
S21A Coal Bank Pass 150.98 352 ⇓PKiKP PKPbc 06 48 25.5 -0.1
baz=151
U27A Thompson Grove 151.16 344 ⇓PKiKP PKPbc 06 48 26.1 +0.3
baz=151
U27A Thompson Grove 151.16 344 ⇓PKiKP PKPbc 06 48 26.1 +0.3
baz=151
WMOK Wichita Mounta 151.30 336 ePKIKP PKPbc 06 48 25.4 -0.7
WMOK Wichita Mounta 151.30 336 ePKPbc PKPbc 06 48 25.4 -0.7
T23A Casias Ranch, 151.31 349 ⇑PKiKP PKPbc 06 48 26.5 +0.1
baz=151
T23A Casias Ranch, 151.31 349 ⇑PKiKP PKPbc 06 48 26.5 +0.1
baz=151
CCUT Cedar City 151.40 1 ePKPbc PKPbc 06 48 27.2 +0.7
U26A Atchley Ranch, 151.43 345 ⇑PKiKP PKPbc 06 48 26.8 +0.3
baz=151
U26A Atchley Ranch, 151.43 345 ⇑PKiKP PKPbc 06 48 26.8 +0.3
baz=151
T22A Edith 151.49 351 ⇓PKiKP PKPbc 06 48 26.9 +0.2
baz=151
T22A Edith 151.49 351 ⇓PKiKP PKPbc 06 48 26.9 +0.2
baz=151
MVCO Mesa Verde 151.52 353 ⇓PKiKP PKiKP 06 48 27.1 -0.2
baz=151
MVCO Mesa Verde 151.52 353 ⇓PKiKP PKiKP 06 48 27.1 -0.2
baz=151
U25A Circle Dot Ran 151.58 346 ⇓PKiKP PKiKP 06 48 27.2 -0.2
baz=151
U25A Circle Dot Ran 151.58 346 ⇓PKiKP PKiKP 06 48 27.2 -0.2
baz=151
GRAC Grapevine Rang 151.62 8 ⇓PKiKP PKiKP 06 48 27.2 0.0
baz=151
GRAC Grapevine Rang 151.62 8 ⇓PKiKP PKiKP 06 48 27.2 0.0
baz=151
V27A Dan Oppiter Fa 151.78 343 ⇓PKiKP PKPbc 06 48 27.3 +0.1
baz=152
V27A Dan Oppiter Fa 151.78 343 ⇓PKiKP PKPbc 06 48 27.3 +0.1
baz=152
V26A Tequesquite Ra 152.00 345 ⇑PKiKP PKPbc 06 48 27.8 0.0
baz=152
V26A Tequesquite Ra 152.00 345 ⇑PKiKP PKPbc 06 48 27.8 0.0
baz=152
U23A El Rito 152.03 349 ⇑PKiKP PKPbc 06 48 28.0 0.0
baz=152
U23A El Rito 152.03 349 ⇑PKiKP PKPbc 06 48 28.0 0.0
baz=152
CWC Cottonwood Cre 152.06 10 ⇑PKiKP PKiKP 06 48 28.7 +0.5
baz=152
CWC Cottonwood Cre 152.06 10 ⇑PKiKP PKiKP 06 48 28.7 +0.5
baz=152
V25A Rancho No Teng 152.17 346 ⇑PKiKP PKiKP 06 48 28.5 -0.1
baz=152
V25A Rancho No Teng 152.17 346 ⇑PKiKP PKiKP 06 48 28.5 -0.1
baz=152
U21A Nageezi 152.18 352 ⇓PKiKP PKiKP 06 48 28.5 -0.1
baz=152
U21A Nageezi 152.18 352 ⇓PKiKP PKiKP 06 48 28.5 -0.1
baz=152
FURC Furnace Creek, 152.21 8 ⇑PKiKP PKiKP 06 48 28.5 +0.2
baz=152
FURC Furnace Creek, 152.21 8 ⇑PKiKP PKiKP 06 48 28.5 +0.2
baz=152
Y32A R-V Farms, Ver 152.21 336 ⇑PKiKP PKiKP 06 48 28.6 +0.1
baz=152
Y32A R-V Farms, Ver 152.21 336 ⇑PKiKP PKiKP 06 48 28.6 +0.1
baz=152
X30A Coker Ranch, T 152.35 339 ⇓PKiKP PKiKP 06 48 29.4 +0.6
baz=152
X30A Coker Ranch, T 152.35 339 ⇓PKiKP PKiKP 06 48 29.4 +0.6
baz=152
V24A Rampart Ranch, 152.43 347 ⇑PKiKP PKiKP 06 48 29.3 +0.1
baz=152
V24A Rampart Ranch, 152.43 347 ⇑PKiKP PKiKP 06 48 29.3 +0.1
baz=152
VES Vestal, Richgr 152.46 12 ⇑PKPab PKPab 06 48 39.0 +0.3
baz=152
VES Vestal, Richgr 152.46 12 ⇑PKPab PKPab 06 48 39.0 +0.3
baz=152
W27A Bowe Ranch, En 152.49 343 ⇓PKPab PKPab 06 48 38.8 -0.2
baz=152
W27A Bowe Ranch, En 152.49 343 ⇓PKPab PKPab 06 48 38.8 -0.2
baz=152
V22A San Miguel Ran 152.56 350 ⇑PKPab PKPab 06 48 38.4 -1.0
baz=152
V22A San Miguel Ran 152.56 350 ⇑PKPab PKPab 06 48 38.4 -1.0
baz=152
X29A Tulia 152.64 340 ⇑PKPab PKPab 06 48 38.4 -1.3
baz=152
X29A Tulia 152.64 340 ⇑PKPab PKPab 06 48 38.4 -1.3
baz=152
Z32A Haskell 152.83 336 ⇑PKPab PKPab 06 48 39.6 -0.8
baz=153
Z32A Haskell 152.83 336 ⇑PKPab PKPab 06 48 39.6 -0.8
baz=153
V20A Brimhall 152.91 353 ⇓PKPab PKPab 06 48 40.1 -0.7
baz=153
V20A Brimhall 152.91 353 ⇓PKPab PKPab 06 48 40.1 -0.7
baz=153
LRMC Laurel Mountai 153.06 9 ⇑PKPab PKPab 06 48 41.0 -0.3
baz=153
LRMC Laurel Mountai 153.06 9 ⇑PKPab PKPab 06 48 41.0 -0.3
baz=153
W23A Werner Place, 153.16 348 ⇑PKPab PKPab 06 48 41.4 -0.5
baz=153
W23A Werner Place, 153.16 348 ⇑PKPab PKPab 06 48 41.4 -0.5
baz=153
Y29A Porterfield Fa 153.16 340 ⇓PKPab PKPab 06 48 41.7 -0.2
baz=153
Y29A Porterfield Fa 153.16 340 ⇓PKPab PKPab 06 48 41.7 -0.2
baz=153
X26A CR and CF Fran 153.18 344 ⇑PKPab PKPab 06 48 41.5 -0.5
baz=153
X26A CR and CF Fran 153.18 344 ⇑PKPab PKPab 06 48 41.5 -0.5
baz=153
TUQ Turquoise Moun 153.34 6 ⇑PKPab PKPab 06 48 41.9 -0.7
baz=153
TUQ Turquoise Moun 153.34 6 ⇑PKPab PKPab 06 48 41.9 -0.7
baz=153
GSC Goldstone 153.37 8 ⇑PKPab PKPab 06 48 41.5 -1.1
baz=153
GSC Goldstone 153.37 8 ⇑PKPab PKPab 06 48 41.5 -1.1
baz=153
WUAZ Wupatki 153.42 358 ePKPbc PKPbc 06 48 32.0 +1.0
WUAZ Wupatki 153.42 358 ⇓PKPab PKPab 06 48 42.9 0.0
baz=153
WUAZ Wupatki 153.42 358 ⇓PKPab PKPab 06 48 42.9 0.0
baz=153
ANMO Albuquerque 153.42 349 ePKPbc PKPbc 06 48 31.7 +0.7
MSTX Muleshoe 153.42 342 ⇑PKPab PKPab 06 48 42.7 -0.2
baz=153
MSTX Muleshoe 153.42 342 ⇑PKPab PKPab 06 48 42.7 -0.2
baz=153
X25A Clemmons Ranch 153.43 345 ⇑PKPab PKPab 06 48 43.0 0.0
baz=153
X25A Clemmons Ranch 153.43 345 ⇑PKPab PKPab 06 48 43.0 0.0
baz=153
W20A Ramah 153.57 353 ⇑PKPab PKPab 06 48 42.5 -1.2
baz=153
W20A Ramah 153.57 353 ⇑PKPab PKPab 06 48 42.5 -1.2
baz=153
EDW2 Edwards Air Fo 153.60 10 ⇑PKPab PKPab 06 48 43.7 +0.1
baz=153
EDW2 Edwards Air Fo 153.60 10 ⇑PKPab PKPab 06 48 43.7 +0.1
baz=153
Y27A Causey 153.62 342 ⇓PKPab PKPab 06 48 43.7 -0.1
baz=153
Y27A Causey 153.62 342 ⇓PKPab PKPab 06 48 43.7 -0.1
baz=153
Z29A Hungry Hill Ra 153.72 339 ⇓PKPab PKPab 06 48 44.1 -0.1
baz=154
Z29A Hungry Hill Ra 153.72 339 ⇓PKPab PKPab 06 48 44.1 -0.1
baz=154
Z28A Tucker Farm, M 153.93 340 ⇓PKPab PKPab 06 48 45.1 0.0
baz=154
Z28A Tucker Farm, M 153.93 340 ⇓PKPab PKPab 06 48 45.1 0.0
baz=154
X22A Bernardo 153.95 350 ⇑PKPab PKPab 06 48 45.3 +0.1
baz=154
X22A Bernardo 153.95 350 ⇑PKPab PKPab 06 48 45.3 +0.1
baz=154
Y25A Mesa, Roswell 154.01 345 ⇑PKPab PKPab 06 48 45.2 -0.2
baz=154
Y25A Mesa, Roswell 154.01 345 ⇑PKPab PKPab 06 48 45.2 -0.2
baz=154
GMRC Granite Mounta 154.02 6 ⇑PKPab PKPab 06 48 45.4 0.0
baz=154
GMRC Granite Mounta 154.02 6 ⇑PKPab PKPab 06 48 45.4 0.0
baz=154
232A Coleman 154.13 334 ⇓PKPab PKPab 06 48 45.4 -0.5
baz=154
232A Coleman 154.13 334 ⇓PKPab PKPab 06 48 45.4 -0.5
baz=154
BLG Laguna Peak 154.13 13 ⇑PKPab PKPab 06 48 46.1 +0.3
baz=154
BLG Laguna Peak 154.13 13 ⇑PKPab PKPab 06 48 46.1 +0.3
baz=154
X21A Alamocita Cree 154.14 351 ⇓PKPab PKPab 06 48 46.3 +0.2
baz=154
X21A Alamocita Cree 154.14 351 ⇓PKPab PKPab 06 48 46.3 +0.2
baz=154
X20A Quemado 154.15 352 ⇑PKPab PKPab 06 48 45.6 -0.5
baz=154
X20A Quemado 154.15 352 ⇑PKPab PKPab 06 48 45.6 -0.5
baz=154
Z27A Tatum 154.17 342 ⇓PKPab PKPab 06 48 45.2 -0.9
baz=154
Z27A Tatum 154.17 342 ⇓PKPab PKPab 06 48 45.2 -0.9
baz=154
Y24A Capitan 154.19 346 ⇑PKPab PKPab 06 48 45.7 -0.6
baz=154
Y24A Capitan 154.19 346 ⇑PKPab PKPab 06 48 45.7 -0.6
baz=154
Y23A Lovelace Mesa, 154.32 348 ⇑PKPab PKPab 06 48 47.0 +0.2
baz=154
Y23A Lovelace Mesa, 154.32 348 ⇑PKPab PKPab 06 48 47.0 +0.2
baz=154
231A Bronte 154.37 335 ⇓PKPab PKPab 06 48 46.9 0.0

baz=154
231A **Bronte** 154.37 335 ⇓PKPab **PKPab** 06 48 46.9 0.0
baz=154
Z26A **Caprock** 154.43 343 ⇓PKPab **PKPab** 06 48 47.0 -0.3
baz=154
Z26A **Caprock** 154.43 343 ⇓PKPab **PKPab** 06 48 47.0 -0.3
baz=154
Y22A **Socorro** 154.50 349 ⇑PKPab **PKPab** 06 48 48.4 +0.9
baz=154
Y22A **Socorro** 154.50 349 ⇑PKPab **PKPab** 06 48 48.4 +0.9
baz=154
Y21A **Point of Rocks** 154.55 351 ⇓PKPab **PKPab** 06 48 48.3 +0.4
baz=154
Y21A **Point of Rocks** 154.55 351 ⇓PKPab **PKPab** 06 48 48.3 +0.4
baz=154
332A **Millersview** 154.60 334 ⇑PKPab **PKPab** 06 48 47.7 -0.2
baz=154
332A **Millersview** 154.60 334 ⇑PKPab **PKPab** 06 48 47.7 -0.2
baz=154
IRM **Iron Mountain** 154.68 5 ⇓PKPab **PKPab** 06 48 48.0 -0.1
baz=154
IRM **Iron Mountain** 154.68 5 ⇓PKPab **PKPab** 06 48 48.0 -0.1
baz=154
Y20A **Horse Springs,** 154.75 352 ⇑PKPab **PKPab** 06 48 48.3 -0.4
baz=155
Y20A **Horse Springs,** 154.75 352 ⇑PKPab **PKPab** 06 48 48.3 -0.4
baz=155
Y14A **Wickenburg** 155.01 1 ⇑PKPab **PKPab** 06 48 49.2 -0.4
baz=155
Y14A **Wickenburg** 155.01 1 ⇑PKPab **PKPab** 06 48 49.2 -0.4
baz=155
PFO **Pinyon Flat Ob** 155.08 8 ⇑PKPab **PKPab** 06 48 50.0 0.0
baz=155
PFO **Pinyon Flat Ob** 155.08 8 ⇑PKPab **PKPab** 06 48 50.0 0.0
baz=155
BC3 **Big Chuckawall** 155.15 6 ⇓PKPab **PKPab** 06 48 49.6 -0.7
baz=155
BC3 **Big Chuckawall** 155.15 6 ⇓PKPab **PKPab** 06 48 49.6 -0.7
baz=155
Z22A **Elephant Butte** 155.16 349 ⇑PKPab **PKPab** 06 48 49.8 -0.5
baz=155
Z22A **Elephant Butte** 155.16 349 ⇑PKPab **PKPab** 06 48 49.8 -0.5
baz=155
330A **Mertzon** 155.18 336 ⇑PKPab **PKPab** 06 48 50.8 +0.4
baz=155
330A **Mertzon** 155.18 336 ⇑PKPab **PKPab** 06 48 50.8 +0.4
baz=155
125A **Gardner Draw,** 155.20 344 ⇓PKPab **PKPab** 06 48 50.4 -0.2
baz=155
125A **Gardner Draw,** 155.20 344 ⇓PKPab **PKPab** 06 48 50.4 -0.2
baz=155
Z21A **St. Cloud Mine** 155.24 350 ⇑PKPab **PKPab** 06 48 50.9 +0.1
baz=155
Z21A **St. Cloud Mine** 155.24 350 ⇑PKPab **PKPab** 06 48 50.9 +0.1
baz=155
JCT **Junction City** 155.40 333 ⇑PKPab **PKPab** 06 48 51.2 -0.2
baz=155
JCT **Junction City** 155.40 333 ⇑PKPab **PKPab** 06 48 51.2 -0.2
baz=155
329A **Wagon Wheel Ra** 155.42 338 ⇓PKPab **PKPab** 06 48 50.9 -0.5
baz=155
329A **Wagon Wheel Ra** 155.42 338 ⇓PKPab **PKPab** 06 48 50.9 -0.5
baz=155
431A **Sonora** 155.58 335 ⇓PKPab **PKPab** 06 48 51.4 -0.8
baz=155
431A **Sonora** 155.58 335 ⇓PKPab **PKPab** 06 48 51.4 -0.8
baz=155
226B **Tecolote Peak,** 155.60 343 ⇓PKPab **PKPab** 06 48 51.2 -1.1
baz=155
226B **Tecolote Peak,** 155.60 343 ⇓PKPab **PKPab** 06 48 51.2 -1.1
baz=155
532A **Rocksprings** 155.75 333 ⇑PKPab **PKPab** 06 48 53.3 +0.4
baz=156
532A **Rocksprings** 155.75 333 ⇑PKPab **PKPab** 06 48 53.3 +0.4
baz=156
430A **Baggett Ranch,** 155.75 336 ⇓PKPab **PKPab** 06 48 51.6 -1.3
baz=156
430A **Baggett Ranch,** 155.75 336 ⇓PKPab **PKPab** 06 48 51.6 -1.3
baz=156
225A **Deer Hill, Car** 155.76 344 ⇓PKPab **PKPab** 06 48 53.2 +0.2
baz=156
225A **Deer Hill, Car** 155.76 344 ⇓PKPab **PKPab** 06 48 53.2 +0.2
baz=156
531A **Rocksprings** 156.00 334 ⇑PKPab **PKPab** 06 48 54.1 +0.1
baz=156
531A **Rocksprings** 156.00 334 ⇑PKPab **PKPab** 06 48 54.1 +0.1
baz=156
632A **Uvalde** 156.22 332 ⇓PKPab **PKPab** 06 48 54.6 -0.3
baz=156
632A **Uvalde** 156.22 332 ⇓PKPab **PKPab** 06 48 54.6 -0.3
baz=156
324A **Moseley Ranch,** 156.57 345 ⇑PKPab **PKPab** 06 48 56.6 +0.2
baz=156
324A **Moseley Ranch,** 156.57 345 ⇑PKPab **PKPab** 06 48 56.6 +0.2
baz=156
529A **Stev Forest Ra** 156.73 337 ⇑PKPab **PKPab** 06 48 57.1 0.0
baz=157
529A **Stev Forest Ra** 156.73 337 ⇑PKPab **PKPab** 06 48 57.1 0.0
baz=157
220A **Playas Peak, P** 156.75 351 ⇓PKPab **PKPab** 06 48 56.8 -0.3
baz=157
220A **Playas Peak, P** 156.75 351 ⇓PKPab **PKPab** 06 48 56.8 -0.3
baz=157
426A **McDonald Obser** 156.87 341 ⇓PKPab **PKPab** 06 48 57.7 -0.1
baz=157
426A **McDonald Obser** 156.87 341 ⇓PKPab **PKPab** 06 48 57.7 -0.1
baz=157
528A **Cox Ranch, San** 156.91 338 ⇑PKPab **PKPab** 06 48 58.3 +0.3
baz=157
528A **Cox Ranch, San** 156.91 338 ⇑PKPab **PKPab** 06 48 58.3 +0.3
baz=157
214A **Organ Pipe Nat** 156.99 1 ⇑PKPab **PKPab** 06 48 57.4 -0.7
baz=157
214A **Organ Pipe Nat** 156.99 1 ⇑PKPab **PKPab** 06 48 57.4 -0.7
baz=157
425A **Indio Mountain** 157.05 343 ⇓PKPab **PKPab** 06 48 57.3 -1.3
baz=157
425A **Indio Mountain** 157.05 343 ⇓PKPab **PKPab** 06 48 57.3 -1.3
baz=157
527A **Woodward Ranch** 157.22 340 ⇑PKPab **PKPab** 06 48 58.9 -0.4
baz=157
527A **Woodward Ranch** 157.22 340 ⇑PKPab **PKPab** 06 48 58.9 -0.4
baz=157
320A **Kipp Ranch, An** 157.30 351 ⇑PKPab **PKPab** 06 48 59.7 +0.1
baz=157
320A **Kipp Ranch, An** 157.30 351 ⇑PKPab **PKPab** 06 48 59.7 +0.1
baz=157
319A **Douglas** 157.37 353 ⇑PKPab **PKPab** 06 48 59.5 -0.3
baz=157
319A **Douglas** 157.37 353 ⇑PKPab **PKPab** 06 48 59.5 -0.3
baz=157
628A **Black Gap, Mar** 157.56 338 ⇓PKPab **PKPab** 06 49 01.6 +1.0
baz=157
628A **Black Gap, Mar** 157.56 338 ⇓PKPab **PKPab** 06 49 01.6 +1.0
baz=157
627A **Terlingua Ranc** 157.77 339 ⇑PKPab **PKPab** 06 49 04.2 +2.6
baz=158
627A **Terlingua Ranc** 157.77 339 ⇑PKPab **PKPab** 06 49 04.2 +2.6
baz=158
TXAR **Lajitas Array** 157.98 339 PKP **PKPdf** 06 48 30.1 +0.5
TXAR PKPab **PKPab** 06 49 03.0 +0.4
TXAR **Lajitas Array** 157.98 339 PKP **PKPdf** 06 48 30.1 +0.5
comp=Z,0.3nm,0.8s,baz=96,slow=1.3,SNR=4.0
TXAR PKPab **PKPab** 06 49 03.0 +0.4
comp=Z,2.8nm,0.8s,baz=61,slow=3.3,SNR=16

ATH ***05*** *05:32:30.8, 41°.20N×19°.46E, h17km±3km, MD3.5/17*
CSEM ***05*** *06:32:32.6±0.1, 41°.14N×19°.45E, h10km, ML3.8/23, Error ellipse: s-maj=2.9km s-min=1.6km az=52.0*
TIR ***05*** *06:32:32.9±1.1, 41°.12N×19°.60E, h18km±5km, ML3.8*
BEO ***05*** *06:32:33.5±0.9, 41°.08N×19°.59E, h10km±2km, ML3.6/9*
ISCJB ***05*** *06:32:33.1±0.5, 41°.13N±0°.01×19°.44E±0°.02, h25km±4km, mb3.8/3, Error ellipse: s-maj=3.2km s-min=1.8km az=140.5*
SKO ***05*** *06:32:33.7, 41°.06N×19°.57E, h8km, M3.4, ML3.9*
LDG ***05*** *06:32:33.2±0.1, 41°.09N×19°.45E, h10km, Ml3.8/7, Error ellipse: s-maj=2.9km s-min=2.2km az=6.0*
THE ***05*** *06:32:34.1, 41°.16N×19°.60E, h11km, ML3.8/23, Error ellipse: s-maj=1.0km s-min=0.5km az=289.0*
PDG ***05*** *06:32:34.3±0.6, 41°.20N×19°.59E, h16km, MD3.8/8, ML3.9/11, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*
IDC ***05*** *06:32:38.5±2.4, 41°.28N×19°.45E, h65km±25km, mb3.2/5, mb1 3.5/12, mb1mx3.3/33, mbtmp3.4/12, ML3.5/6, MS2.5/2, Ms1 2.5/2, ms1mx2.2/18, Error ellipse: s-maj=19.1km*

s-min=14.9km az=8.0
ISC 05 06:32:32.8±0.9, 41°.13N±0°.01×19°.49E±0°.02, h14km±7km, n267, σ1§10/399, mb3.9/3, 18C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**52**	*e*PG	**Pg**	**06 32 39.8**	**-0.3**
TIR				*i* SG	**Sg**	**06 32 45.0**	**0.0**
TIR	**Tirane**	**0.36**	**52**	P	**Pg**	**06 32 39.8**	**-0.3**
TIR				S	**Sg**	**06 32 44.0**	**-1.0**
TIR	**Tirane**	**0.36**	**52**	⇑*i*Pg	**Pg**	**06 32 40.1**	**0.0**
TIR				*i* Sg	**Sg**	**06 32 45.6**	**+0.6**
TIR	**Tirane**	**0.36**	**52**	P	**Pg**	**06 32 39.8**	**-0.3**
TIR	**Tirane**	**0.36**	**52**	⇑*i*Pg	**Pg**	**06 32 40.1**	**0.0**
TIR				S	**Sg**	**06 32 44.0**	**-1.0**
TIR				*i* Sg	**Sg**	**06 32 45.6**	**+0.6**
ULC	**Ulcinj**	**0.86**	**348**	⇑*i*Pg	**Pb**	**06 32 49.9**	**+0.4**
ULC				*e*Sg	**Sn**	**06 33 02.8**	**0.0**
ULC	**Ulcinj**	**0.86**	**348**	⇑*i*Pg	**Pb**	**06 32 49.9**	**+0.4**
ULC				*e*Sg	**Sn**	**06 33 02.8**	**0.0**
PUK	**Puka**	**0.96**	**18**	*e*PG	**Pb**	**06 32 51.3**	**0.0**
PUK				*i* SG	**Sn**	**06 33 06.0**	**+0.5**
DRME	**Dracevica, Mon**	**1.08**	**348**	⇑*i*Pg	**Pg**	**06 32 53.9**	**+0.2**
DRME				*e*Sg	**Sn**	**06 33 10.0**	**+1.6**
DRME	**Dracevica, Mon**	**1.08**	**348**	⇑*i*Pg	**Pg**	**06 32 53.9**	**+0.2**
DRME				*e*Sg	**Sn**	**06 33 10.0**	**+1.6**
KBN	**Korca**	**1.10**	**117**	*e*PG	**Pb**	**06 32 53.6**	**-0.2**
KBN	**Korca**	**1.10**	**117**	P	**Pb**	**06 32 53.5**	**-0.2**
KBN				S	**Sg**	**06 33 08.8**	**+0.3**
KBN	**Korca**	**1.10**	**117**	P	**Pb**	**06 32 53.5**	**-0.2**
KBN				S	**Sg**	**06 33 08.8**	**+0.3**
BUM	**Brajici-Budva**	**1.25**	**339**	⇓*i*Pg	**Pb**	**06 32 56.4**	**+0.1**
BUM				*e*Sg	**Sg**	**06 33 15.4**	**+2.1**
BUM	**Brajici-Budva**	**1.25**	**339**	⇓*i*Pg	**Pb**	**06 32 56.4**	**+0.1**
BUM				*e*Sg	**Sg**	**06 33 15.4**	**+2.1**
SRN	**Sarande**	**1.30**	**163**	*e*PG	**Pg**	**06 32 57.9**	**0.0**
SRN	**Sarande**	**1.30**	**163**	P	**Pg**	**06 32 57.6**	**-0.3**
SRN				S	**Sg**	**06 33 16.2**	**+1.3**
SRN	**Sarande**	**1.30**	**163**	P	**Pg**	**06 32 57.6**	**-0.3**
SRN				S	**Sg**	**06 33 16.2**	**+1.3**
BCI	**Bajram Curri**	**1.31**	**19**	*e*PG	**Pg**	**06 32 57.9**	**-0.1**
BCI				*i* SN	**Sg**	**06 33 17.9**	**+2.8**
PDG	**Podgorica**	**1.31**	**352**	P	**Pb**	**06 32 57.2**	**0.0**
PDG				S	**Sg**	**06 33 15.7**	**+0.5**
PDG	**Podgorica**	**1.31**	**352**	*i* Pg	**Pg**	**06 32 58.2**	**+0.1**
PDG				*i* Sg	**Sg**	**06 33 17.3**	**+2.1**
PDG	**Podgorica**	**1.31**	**352**	⇑*i*Pg	**Pb**	**06 32 57.4**	**+0.2**
PDG				S	**Sg**	**06 33 15.7**	**+0.5**
PDG				*e*Sg	**Sg**	**06 33 17.1**	**+1.9**
TTG	**Podgorica**	**1.31**	**352**	⇑*i*Pg	**Pb**	**06 32 57.4**	**+0.2**
TTG				*e*Sg	**Sg**	**06 33 17.1**	**+1.9**
NEST	**Nestorio**	**1.38**	**121**	P	**Pn**	**06 32 57.7**	**0.0**
NEST				S	**Sb**	**06 33 16.2**	**+0.2**
NEST	**Nestorio**	**1.38**	**121**	P	**Pn**	**06 32 57.7**	**0.0**
NEST				S	**Sb**	**06 33 16.2**	**+0.2**
KEK	**Kerkira**	**1.43**	**170**	P	**Pb**	**06 32 59.3**	**0.0**
KEK				S	**Sg**	**06 33 19.6**	**+0.7**
KEK	**Kerkira**	**1.43**	**170**	*e*PN	**Pb**	**06 32 59.5**	**+0.2**
KEK				*e*SN	**Sg**	**06 33 19.8**	**+0.9**
KEK	**Kerkira**	**1.43**	**170**	P	**Pb**	**06 32 59.3**	**0.0**
KEK				S	**Sg**	**06 33 19.6**	**+0.7**
FNA	**Florina**	**1.47**	**103**	P	**Pn**	**06 32 58.2**	**-0.7**
FNA				S	**Sn**	**06 33 18.1**	**+0.1**
FNA	**Florina**	**1.47**	**103**	*e*PN	**Pn**	**06 32 59.1**	**+0.2**
FNA	**Florina**	**1.47**	**103**	P	**Pn**	**06 32 58.2**	**-0.7**
FNA				S	**Sn**	**06 33 18.1**	**+0.1**
PVY	**Plav**	**1.51**	**13**	⇓*i*Pg	**Pb**	**06 33 00.8**	**+0.2**
PVY				*e*Sg	**Sg**	**06 33 21.4**	**0.0**
PVY	**Plav**	**1.51**	**13**	⇓*i*Pg	**Pb**	**06 33 00.8**	**+0.2**
PVY				*e*Sg	**Sg**	**06 33 21.4**	**0.0**
HCY	**Herceg Novi**	**1.52**	**331**	⇓*i*Pg	**Pn**	**06 32 59.9**	**+0.4**
HCY				*e*Sg	**Sg**	**06 33 22.7**	**+1.1**
HCY	**Herceg Novi**	**1.52**	**331**	⇓*i*Pg	**Pn**	**06 32 59.9**	**+0.4**
HCY				*e*Sg	**Sg**	**06 33 22.7**	**+1.1**
NKME	**Niksic**	**1.69**	**346**	⇑*i*Pn	**Pb**	**06 33 03.9**	**+0.3**
NKME				*e*Sn	**Sg**	**06 33 26.8**	**-0.3**
NKME	**Niksic**	**1.69**	**346**	⇑*i*Pn	**Pb**	**06 33 03.9**	**+0.3**
NKME				*e*Sn	**Sg**	**06 33 26.8**	**-0.3**
SKO	**Skopje**	**1.69**	**59**	P	**Pn**	**06 33 02.8**	**+0.9**
SKO				S	**Sb**	**06 33 24.8**	**0.0**
SKO	**Skopje**	**1.69**	**59**	*i* Pn	**Pn**	**06 33 01.9**	**0.0**
SKO				*i* Sg	**Sb**	**06 33 25.8**	**+1.1**
SKO				*e*Lg	Lg	06 33 27.5	
	comp=N,3μm,0.9s						
SKO				*e*Lg	Lg	06 33 29.2	
	comp=E,765nm,0.5s						
SKO	**Skopje**	**1.69**	**59**	⇑*i*Pn	**Pb**	**06 33 03.6**	**0.0**
SKO				*i* Sg	**Sb**	**06 33 25.9**	**+1.1**
SKO	**Skopje**	**1.69**	**59**	*i* Pn	**Pn**	**06 33 01.6**	**0.0**
SKO	**Skopje**	**1.69**	**59**	P	**Pn**	**06 33 02.8**	**+0.9**
SKO				S	**Sb**	**06 33 24.8**	**0.0**
SKO				*i* Sg	**Sb**	**06 33 25.9**	**+1.1**
SKO				*e*Lg	Lg	06 33 29.2	
	comp=E,765nm,0.5s						
IGT	**Igoumenitsa**	**1.72**	**158**	P	**Pb**	**06 33 03.2**	**-0.9**
IGT				S	**Sb**	**06 33 26.3**	**+0.7**
IGT	**Igoumenitsa**	**1.72**	**158**	P	**Pb**	**06 33 03.2**	**-0.9**
IGT				S	**Sb**	**06 33 26.3**	**+0.7**
NKY	**Niksic**	**1.73**	**348**	*e*Pn	**Pb**	**06 33 04.3**	**0.0**
NKY				*e*Sn	**Sg**	**06 33 27.8**	**-0.5**
NKY	**Niksic**	**1.73**	**348**	*e*Pn	**Pb**	**06 33 04.3**	**0.0**
NKY				*e*Sn	**Sg**	**06 33 27.8**	**-0.5**
BEY	**Berane**	**1.77**	**10**	⇓*i*Pn	**Pb**	**06 33 04.9**	**-0.2**
BEY				*e*Sn	**Sb**	**06 33 27.9**	**+0.7**
IVA	**Berane**	**1.77**	**10**	⇓*i*Pn	**Pb**	**06 33 04.9**	**-0.2**
IVA				*e*Sn	**Sb**	**06 33 27.9**	**+0.7**
JAN	**Janina**	**1.80**	**144**	P	**Pb**	**06 33 04.9**	**-0.6**
JAN				S	**Sb**	**06 33 28.2**	**+0.3**
JAN	**Janina**	**1.80**	**144**	*e*PN	**Pb**	**06 33 04.6**	**-0.9**
JAN				*e*SN	**Sb**	**06 33 28.5**	**+0.6**
JAN	**Janina**	**1.80**	**144**	P	**Pb**	**06 33 04.9**	**-0.6**
JAN				S	**Sb**	**06 33 28.2**	**+0.3**
BRY	**Bratogost**	**1.91**	**339**	⇓*i*Pn	**Pn**	**06 33 06.0**	**+0.9**
BRY				*e*Sn	**Sb**	**06 33 32.4**	**+1.1**
BRY	**Bratogost**	**1.91**	**339**	⇓*i*Pn	**Pn**	**06 33 06.0**	**+0.9**
BRY				*e*Sn	**Sb**	**06 33 32.4**	**+1.1**
KZN	**Kozani**	**1.92**	**115**	P	**Pn**	**06 33 05.8**	**+0.7**
KZN				S	**Sb**	**06 33 30.5**	**-0.9**
KZN	**Kozani**	**1.92**	**115**	*e*PB	**Pn**	**06 33 05.1**	**0.0**
KZN				*e*SN	**Sb**	**06 33 31.4**	**0.0**
KZN	**Kozani**	**1.92**	**115**	P	**Pn**	**06 33 05.8**	**+0.7**
KZN				S	**Sb**	**06 33 30.5**	**-0.9**
BAI	**Bari**	**1.97**	**270**	*e*Pn	**Pn**	**06 33 06.4**	**+0.6**
UPM	**Unac-Piva**	**2.12**	**348**	⇑*i*Pn	**Pb**	**06 33 09.8**	**-1.3**
UPM				*e*Sn	**Sb**	**06 33 36.8**	**-0.5**
UPM	**Unac-Piva**	**2.12**	**348**	⇑*i*Pn	**Pb**	**06 33 09.8**	**-1.3**
UPM				*e*Sn	**Sb**	**06 33 36.8**	**-0.5**
SJES	**Sjenica**	**2.16**	**9**	*e*Pn	**Pn**	**06 33 10.1**	**+1.6**
SJES				*e*Sn	**Sb**	**06 33 37.8**	**-0.7**
SJES	**Sjenica**	**2.16**	**9**	*e*Pn	**Pn**	**06 33 10.1**	**+1.6**
SJES				*e*Sn	**Sb**	**06 33 37.8**	**-0.7**
STON	**Ston**	**2.19**	**323**	*i* Pn	**Pn**	**06 33 09.1**	**+0.2**
STON				Sn	**Sn**	**06 33 35.6**	**-0.2**
STON	**Ston**	**2.19**	**323**	*i* Pn	**Pn**	**06 33 09.0**	**+0.2**
STON				Sn	**Sn**	**06 33 35.6**	**-0.2**
PLE	**Pljevlja**	**2.20**	**358**	⇑*i*Pn	**Pb**	**06 33 11.2**	**-1.3**
PLE				*e*Sn	**Sb**	**06 33 38.4**	**-1.3**
PLE	**Pljevlja**	**2.20**	**358**	⇑*i*Pn	**Pb**	**06 33 11.2**	**-1.3**
PLE				*e*Sn	**Sb**	**06 33 38.4**	**-1.3**
GRG	**Griva**	**2.21**	**93**	P	**Pn**	**06 33 09.6**	**+0.5**
GRG				S	**Sn**	**06 33 36.5**	**+0.3**
GRG	**Griva**	**2.21**	**93**	*e*PN	**Pn**	**06 33 09.9**	**+0.8**
GRG	**Griva**	**2.21**	**93**	P	**Pn**	**06 33 09.6**	**+0.5**
GRG				S	**Sn**	**06 33 36.5**	**+0.3**
VAY	**Valandovo**	**2.33**	**84**	P	**Pn**	**06 33 10.0**	**-0.7**
VAY				S	**Sn**	**06 33 38.6**	**-0.5**
VAY	**Valandovo**	**2.33**	**84**	⇓*i*Pn	**Pn**	**06 33 10.4**	**-0.3**
VAY				*e*Sn	**Sn**	**06 33 38.6**	**-0.5**
VAY				*e*Lg	Lg	06 33 50.1	
	comp=E,384nm,0.8s						
VAY				*e*Lg	Lg	06 33 51.0	
	comp=N,798nm,1.2s						
VAY	**Valandovo**	**2.33**	**84**	⇑*i*Pn	**Pn**	**06 33 10.2**	**-0.5**
VAY	**Valandovo**	**2.33**	**84**	P	**Pn**	**06 33 10.0**	**-0.7**
VAY	**Valandovo**	**2.33**	**84**	⇓*i*Pn	**Pn**	**06 33 10.4**	**-0.3**
VAY				S	**Sn**	**06 33 38.6**	**-0.5**
VAY				*e*Lg	Lg	06 33 50.9	
	comp=N,798nm,1.2s						
THL	**Klokotos Trika**	**2.48**	**128**	P	**Pn**	**06 33 13.4**	**+0.6**
THL				S	**Sn**	**06 33 43.8**	**+1.0**
THL	**Klokotos Trika**	**2.48**	**128**	*e*PB	**Pn**	**06 33 14.6**	**+1.8**
THL				*e*SN	**Sn**	**06 33 45.1**	**+2.3**
THL	**Klokotos Trika**	**2.48**	**128**	P	**Pn**	**06 33 13.4**	**+0.6**
THL				S	**Sn**	**06 33 43.8**	**+1.0**
LKD2	**Lefkada island**	**2.50**	**159**	P	**Pn**	**06 33 13.9**	**+0.8**
LKD2	**Lefkada island**	**2.50**	**159**	*e*PN	**Pn**	**06 33 13.9**	**+0.8**
LKD2	**Lefkada island**	**2.50**	**159**	P	**Pn**	**06 33 13.9**	**+0.8**
KNT	**Kendrikon**	**2.57**	**88**	P	**Pn**	**06 33 14.2**	**+0.1**
KNT				S	**Sn**	**06 33 45.1**	**-0.1**
KNT	**Kendrikon**	**2.57**	**88**	P	**Pn**	**06 33 14.2**	**+0.1**
KNT				S	**Sn**	**06 33 45.1**	**-0.1**
THE	**Thessaloniki**	**2.68**	**99**	P	**Pn**	**06 33 15.3**	**-0.2**
THE				S	**Sn**	**06 33 47.2**	**-0.5**
THE	**Thessaloniki**	**2.68**	**99**	P	**Pn**	**06 33 15.3**	**-0.2**
THE				S	**Sn**	**06 33 47.2**	**-0.5**
MS1	**Monte Sant'Ang**	**2.73**	**283**	*e*Pn	**Pn**	**06 33 16.7**	**+0.4**
BBLS	**Lazići**	**2.74**	**359**	*e*Pn	**Pn**	**06 33 18.2**	**+1.8**
BBLS				*e*Sn	**Sn**	**06 33 51.5**	**+2.2**
BBLS	**Lazići**	**2.74**	**359**	*e*Pn	**Pn**	**06 33 18.2**	**+1.8**
BBLS				*e*Sn	**Sn**	**06 33 51.5**	**+2.2**
HORT	**Hortiatis**	**2.79**	**100**	P	**Pn**	**06 33 17.0**	**-0.1**
HORT				S	**Sn**	**06 33 51.1**	**+0.6**
HORT	**Hortiatis**	**2.79**	**100**	P	**Pn**	**06 33 17.0**	**-0.1**
HORT				S	**Sn**	**06 33 51.1**	**+0.6**
EVR	**Evrytania**	**2.84**	**140**	P	**Pn**	**06 33 19.9**	**+2.1**
EVR	**Evrytania**	**2.84**	**140**	*e*PN	**Pn**	**06 33 19.3**	**+1.6**
EVR				*e*SN	**Sn**	**06 33 54.4**	**+2.6**
EVR	**Evrytania**	**2.84**	**140**	P	**Pn**	**06 33 19.9**	**+2.1**
TIP	**Timpagrande**	**2.86**	**228**	P	**Pn**	**06 33 18.5**	**+0.5**
TIP	**Timpagrande**	**2.86**	**228**	P	**Pn**	**06 33 18.5**	**+0.5**
GRUS	**Gruza**	**2.90**	**18**	*e*Pn	**Pn**	**06 33 19.9**	**+1.3**
GRUS				*e*Sn	**Sn**	**06 33 54.7**	**+1.4**
GRUS	**Gruza**	**2.90**	**18**	*e*Pn	**Pn**	**06 33 19.9**	**+1.3**
GRUS				*e*Sn	**Sn**	**06 33 54.7**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.93**	**135**	P	**Pn**	**06 33 20.5**	**+1.6**
MAKR				S	**Sn**	**06 33 55.5**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.93**	**135**	P	**Pn**	**06 33 20.5**	**+1.6**
MAKR				S	**Sn**	**06 33 55.5**	**+1.6**
SOH	**Sokhos**	**2.94**	**95**	P	**Pn**	**06 33 19.6**	**+0.5**
SOH				S	**Sn**	**06 33 55.2**	**+0.9**
SOH	**Sokhos**	**2.94**	**95**	*e*PN	**Pn**	**06 33 20.1**	**+1.0**
SOH	**Sokhos**	**2.94**	**95**	P	**Pn**	**06 33 19.6**	**+0.5**
SOH				S	**Sn**	**06 33 55.2**	**+0.9**
DIVS	**Divibare**	**2.99**	**7**	P	**Pn**	**06 33 20.6**	**+0.7**
DIVS				S	**Sn**	**06 33 56.6**	**+1.0**
DIVS	**Divibare**	**2.99**	**7**	*e*Pn	**Pn**	**06 33 20.8**	**+0.9**
DIVS				*e*Sn	**Sn**	**06 33 56.9**	**+1.3**
DIVS	**Divibare**	**2.99**	**7**	P	**Pn**	**06 33 20.6**	**+0.7**
DIVS				S	**Sn**	**06 33 56.6**	**+1.0**
AGG	**Agios Georgios**	**3.03**	**133**	P	**Pn**	**06 33 21.9**	**+1.6**
AGG				S	**Sn**	**06 33 58.0**	**+1.6**
AGG	**Agios Georgios**	**3.03**	**133**	*e*PB	**Pn**	**06 33 22.2**	**+1.9**
AGG	**Agios Georgios**	**3.03**	**133**	P	**Pn**	**06 33 21.9**	**+1.6**
AGG				S	**Sn**	**06 33 58.0**	**+1.6**
VLS	**Valsamata**	**3.07**	**164**	P	**Pn**	**06 33 20.6**	**-0.2**
VLS	**Valsamata**	**3.07**	**164**	*e*PN	**Pn**	**06 33 21.5**	**+0.7**
VLS	**Valsamata**	**3.07**	**164**	P	**Pn**	**06 33 20.6**	**-0.2**
PLG	**Polygyros**	**3.10**	**103**	P	**Pn**	**06 33 22.3**	**+1.0**
PLG				S	**Sn**	**06 33 58.5**	**+0.4**
PLG	**Polygyros**	**3.10**	**103**	*e*PN	**Pn**	**06 33 22.5**	**+1.2**
PLG				*e*SN	**Sn**	**06 33 58.2**	**+0.1**
PLG	**Polygyros**	**3.10**	**103**	P	**Pn**	**06 33 22.3**	**+1.0**
PLG				S	**Sn**	**06 33 58.5**	**+0.4**
SRS	**Serrai**	**3.10**	**89**	P	**Pn**	**06 33 21.5**	**+0.2**
SRS				S	**Sn**	**06 33 59.1**	**+1.0**
SRS	**Serrai**	**3.10**	**89**	P	**Pn**	**06 33 21.5**	**+0.2**
SRS				S	**Sn**	**06 33 59.1**	**+1.0**
VTS	**Vitosha**	**3.14**	**61**	P	**Pn**	**06 33 22.5**	**+0.5**
VTS				S	**Sn**	**06 33 59.3**	**0.0**
VTS	**Vitosha**	**3.14**	**61**	P	**Pn**	**06 33 22.5**	**+0.5**
VTS				S	**Sn**	**06 33 59.3**	**0.0**
ZAPS	**Zavoj**	**3.17**	**46**	*e*Pn	**Pn**	**06 33 24.2**	**+1.9**
ZAPS				*e*Sn	**Sn**	**06 34 01.2**	**+1.3**
ZAPS	**Zavoj**	**3.17**	**46**	*e*Pn	**Pn**	**06 33 24.2**	**+1.9**
ZAPS				*e*Sn	**Sn**	**06 34 01.2**	**+1.3**
KFL	**Anninata**	**3.18**	**161**	P	**Pn**	**06 33 22.5**	**+0.2**
KFL	**Anninata**	**3.18**	**161**	P	**Pn**	**06 33 22.5**	**+0.2**
AXS	**Araxos**	**3.27**	**153**	P	**Pn**	**06 33 24.6**	**+1.0**
AXS	**Araxos**	**3.27**	**153**	P	**Pn**	**06 33 24.6**	**+1.0**
EFP	**Efpalio**	**3.28**	**145**	P	**Pn**	**06 33 25.1**	**+1.4**
EFP	**Efpalio**	**3.28**	**145**	*e*PN	**Pn**	**06 33 25.7**	**+2.0**
EFP	**Efpalio**	**3.28**	**145**	P	**Pn**	**06 33 25.1**	**+1.4**
NVR	**Nevrokopi**	**3.30**	**85**	P	**Pn**	**06 33 24.7**	**+0.6**
NVR	**Nevrokopi**	**3.30**	**85**	*e*PN	**Pn**	**06 33 25.1**	**+1.0**
NVR	**Nevrokopi**	**3.30**	**85**	P	**Pn**	**06 33 24.7**	**+0.6**
XOR	**Xorichti**	**3.33**	**121**	P	**Pn**	**06 33 25.4**	**+0.9**
XOR	**Xorichti**	**3.33**	**121**	P	**Pn**	**06 33 25.4**	**+0.9**
NEO	**Neokhori**	**3.39**	**121**	P	**Pn**	**06 33 26.0**	**+0.7**
NEO				S	**Sn**	**06 34 07.1**	**+1.8**
NEO	**Neokhori**	**3.39**	**121**	*e*PN	**Pn**	**06 33 25.1**	**-0.2**
NEO	**Neokhori**	**3.39**	**121**	P	**Pn**	**06 33 26.0**	**+0.7**
NEO				S	**Sn**	**06 34 07.1**	**+1.8**
AXAR	**Agios Charalam**	**3.39**	**133**	P	**P

PYL	PYLOS	4.58	157	P	Pn	06 33 41.5	-0.1
SMTH	Samothraki Isl	4.63	96	P	Pn	06 33 42.8	+0.5
SMTH	Samothraki Isl	4.63	96	P	Pn	06 33 42.8	+0.5
DID	Didima	4.64	140	P	Pn	06 33 43.2	+0.7
DID	Didima	4.64	140	ePN	Pn	06 33 43.3	+0.8
DID	Didima	4.64	140	P	Pn	06 33 43.2	+0.7
DIDY	Didyma	4.65	140	P	Pn	06 33 42.7	0.0
DIDY	Didyma	4.65	140	P	Pn	06 33 42.7	0.0
NVLJ	Novalja	4.83	317	ePn	Pn	06 33 45.1	+0.1
NVLJ				Sn	Sn	06 34 39.0	-1.8
NVLJ	Novalja	4.83	317	ePn	Pn	06 33 45.1	+0.1
NVLJ				Sn	Sn	06 34 38.9	-1.8
DYR	Agios Nikonas	4.89	152	P	Pn	06 33 46.7	+0.8
DYR	Agios Nikonas	4.89	152	ePN	Pn	06 33 45.4	-0.5
DYR	Agios Nikonas	4.89	152	P	Pn	06 33 46.7	+0.8
ALN	Alexandroupoli	4.96	91	P	Pn	06 33 47.6	+0.7
ALN	Alexandroupoli	4.96	91	ePN	Pn	06 33 47.8	+0.9
ALN	Alexandroupoli	4.96	91	P	Pn	06 33 47.6	+0.7
PKSM	Moragy	5.12	353	e	Pn	06 33 50.0	+1.0
PKSM	Moragy	5.12	353	eP	Pn	06 33 50.0	+1.0
SIGR	SIGRI	5.24	109	P	Pn	06 33 51.5	+0.9
SIGR	SIGRI	5.24	109	P	Pn	06 33 51.5	+0.9
BOJS	Bojanci	5.36	326	i Pn	Pn	06 33 52.8	+0.5
BOJS				i Sn	Sn	06 34 51.9	-1.8
BOJS	Bojanci	5.36	326	i Pn	Pn	06 33 52.8	+0.5
BOJS				i Sn	Sn	06 34 51.9	-1.8
JMB	Yambol	5.47	73	P	Pn	06 33 54.7	+0.9
JMB	Yambol	5.47	73	P	Pn	06 33 54.7	+0.9
KYTH	Kithira	5.58	149	P	Pn	06 33 56.5	+1.1
KYTH	Kithira	5.58	149	ePN	Pn	06 33 57.1	+1.7
KYTH	Kithira	5.58	149	P	Pn	06 33 56.5	+1.1
CHOS	Chios island	5.75	116	P	Pn	06 33 59.0	+1.2
CHOS	Chios island	5.75	116	P	Pn	06 33 59.0	+1.2
SKDS	Skadanscina	5.95	320	i Pn	Pn	06 34 00.1	-0.4
SKDS				i Sn	Sn	06 35 06.2	-2.3
SKDS	Skadanscina	5.95	320	i Pn	Pn	06 34 00.1	-0.4
SKDS				i Sn	Sn	06 35 06.2	-2.3
ANKY	Antikythira Is	6.04	149	P	Pn	06 34 03.0	+1.3
ANKY	Antikythira Is	6.04	149	P	Pn	06 34 03.0	+1.3
JAVS	Javornik	6.18	322	i Pn	Pn	06 34 04.3	+0.6
JAVS				i Sn	Sn	06 35 12.1	-2.2
JAVS	Javornik	6.18	322	i Pn	Pn	06 34 04.3	+0.6
JAVS				i Sn	Sn	06 35 12.1	-2.2
PERS	Pernice	6.35	332	i Pn	Pn	06 34 05.9	-0.1
PERS				i Sn	Sn	06 35 15.9	-2.3
PERS	Pernice	6.35	332	i Pn	Pn	06 34 05.9	-0.1
PERS				i Sn	Sn	06 35 15.9	-2.3
VOY	Vojsko	6.37	322	ePn	Pn	06 34 06.2	0.0
VOY				e		06 34 14.7	
VOY				eSn	Sn	06 35 16.7	-2.1
VOY	Vojsko	6.37	322	ePn	Pn	06 34 06.2	0.0
VOY				eSn	Sn	06 35 16.7	-2.1
SOKA	Soboth	6.41	331	⇓iPn	Pn	06 34 07.8	+0.9
SOKA	Soboth	6.41	331	Pn	Pn	06 34 06.5	-0.4
MLR	Muntele Rosu	6.42	45	P	Pn	06 34 08.5	+1.5
	comp=N,0.7nm,0.3s,baz=188,slow=8.2,SNR=19						
MLR				S	Sn	06 35 21.2	+1.2
	comp=N,0.2nm,0.3s,baz=253,slow=19,SNR=2.6						
OBKA	Obir	6.46	328	⇓iPn	Pn	06 34 09.0	+1.5
OBKA				⇓iSn	Sn	06 35 22.3	+1.3
OBKA	Obir	6.46	328	Pn	Pn	06 34 07.7	+0.2
OBKA				Sn	Sn	06 35 20.3	-0.7
KARN	Karanos	6.69	147	P	Pn	06 34 10.2	-0.5
KARN	Karanos	6.69	147	P	Pn	06 34 10.2	-0.5
PSZ	Piszkesteto	6.80	2	eP	Pn	06 34 13.2	+1.1
PSZ	Piszkesteto	6.80	2	eP	Pn	06 34 13.2	+1.1
MOA	Molln	7.69	333	⇓iPn	Pn	06 34 26.3	+2.0
MOA				⇓iSn	Sn	06 35 53.4	+2.2
MOA	Molln	7.69	333	Pn	Pn	06 34 23.8	-0.5
MOA				Sn	Sn	06 35 50.8	-0.3
PGF	Pioggiola	7.96	284	ePn	Pn	06 34 26.2	-2.0
PGF				eSn	Sn	06 36 02.7	+4.7
	comp=N,3.5nm,0.6s						
PGF	Pioggiola	7.96	284	ePn	Pn	06 34 26.2	-2.0
WTTA	Wattenberg	8.33	320	⇓iPn	Pn	06 34 34.8	+1.5
WTTA	Wattenberg	8.33	320	Pn	Pn	06 34 32.6	-0.7
GERES	GERESS Array B	8.74	334	P	Pn	06 34 40.4	+1.7
	comp=N,0.3nm,0.3s,baz=166,slow=17,SNR=3.5						
GERES				S	Sn	06 36 16.3	-0.7
	comp=N,0.8nm,0.3s,baz=158,slow=24,SNR=6.2						
DAVOX	Davos/Dischmat	8.94	312	P	Pn	06 34 44.9	+3.3
	comp=N,0.9nm,0.3s,baz=132,slow=12,SNR=3.7						
DAVOX				S	Sn	06 36 20.9	-1.3
	comp=N,0.6nm,0.3s,baz=311,slow=20,SNR=3.7						
DAVOX				LR	LR	06 38 17.1	
	comp=N,49nm,21.6s,baz=284,slow=38						
KHC	Kasperske Hory	9.03	334	ePn	Pn	06 34 42.1	-0.6
KHC				ex	x	06 36 17.9	
KHC	Kasperske Hory	9.03	334	Pn	Pn	06 34 42.1	-0.6
FRF	La Foret Royal	9.82	289	ePn	Pn	06 34 51.9	-1.6
FRF	La Foret Royal	9.82	289	ePn	Pn	06 34 51.9	-1.6
MBDF	Montbardon	10.00	295	eSn	Sn	06 36 38.8	-9.3
	comp=N,4.9nm,0.5s						
LPG	La Plagne	10.26	299	eSn	Sn	06 36 46.5	-8.2
	comp=N,16nm,0.7s						
BRTR	Keskin Array B	10.88	93	P	Pn	06 35 10.3	+2.1
	comp=N,0.3nm,0.3s,baz=273,slow=11,SNR=12						
CABF	La Chapelle	11.12	304	ePn	Pn	06 35 10.1	-1.2
CABF	La Chapelle	11.12	304	ePn	Pn	06 35 10.1	-1.2
HINF	Hinteralfeld	11.23	311	ePn	Pn	06 35 10.9	-1.9
HINF				eSn	Sn	06 37 08.7	-9.4
	comp=N,3.6nm,0.3s						
HINF	Hinteralfeld	11.23	311	ePn	Pn	06 35 10.9	-1.9
CDF	Champ du Feu	11.32	314	ePn	Pn	06 35 12.5	-1.7
CDF				eSn	Sn	06 37 11.8	-8.7
	comp=N,1.0nm,0.3s						
CDF	Champ du Feu	11.32	314	ePn	Pn	06 35 12.5	-1.7
HAU	Haudompre	11.62	311	ePn	Pn	06 35 16.8	-1.3
HAU				eSn	Sn	06 37 19.0	-8.6
	comp=N,5.2nm,0.4s						
HAU	Haudompre	11.62	311	ePn	Pn	06 35 16.8	-1.3
LOR	Lormes	12.78	304	ePn	Pn	06 35 32.3	-1.7
LOR				eSn	Sn	06 37 46.2	-10
	comp=N,5.1nm,0.5s						
LOR	Lormes	12.78	304	ePn	Pn	06 35 32.3	-1.7
MMAI	Mount Meron Ar	15.05	117	P	P	06 36 10.4	0.0
	comp=N,3.7nm,0.3s,baz=338,slow=9.5,SNR=2.9						
KBZ	Khabaz	17.46	74	P	P	06 36 38.8	+1.8
	comp=N,0.1nm,0.3s,baz=289,slow=2.5,SNR=3.6						
HFS	Hagfors	19.37	351	P	P	06 36 56.4	-1.4
	comp=N,0.1nm,0.3s,baz=158,slow=12,SNR=4.5						
HFS				LR	LR	06 45 00.0	
	comp=N,7.2nm,18.1s,baz=168,slow=39						
NOA	NORSAR Array B	20.57	349	P	P	06 37 10.6	-0.4
	comp=N,0.1nm,0.4s,baz=160,slow=10,SNR=2.8						
FINES	FINESS Array B	20.74	9	P	P	06 37 11.3	-1.4
	comp=N,0.7nm,0.4s,baz=184,slow=12,SNR=7.7						
TORD	Torodi Ar. Bea	31.92	214	P	P	06 38 58.6	+0.6
	comp=N,0.4nm,0.6s,baz=21,slow=9.4,SNR=3.7						
ZALV	Zalesovo Beam	44.37	50	P	P	06 40 41.4	-1.0
	comp=N,1.6nm,0.4s,baz=274,slow=8.6,SNR=4.9						
MKAR	Makanchi Array	44.49	61	P	P	06 40 42.8	-0.8
	comp=N,0.6nm,0.3s,baz=283,slow=7.6,SNR=17						

NIED ***05*** *06:37:00,24.°30N×125.°20E,h38km,Mw4.2 Best double couple: M0 2.25000×10^15 NP1:φs=51.00000°,δ74.00000°, λ80.00000°. NP2:φs=263.00000°,δ18.00000°,λ121.00000°.*

IDC ***05*** *06:37:38.9±0.8,24.°28N×125.°04E,h0km,mb4.0/15, mb1 4.1/15,mb1mx4.0/27,mbtmp4.0/15,MS3.1/1, Ms1 3.1/1,ms1mx2.3/34,Error ellipse: s-maj=35.1km s-min=17.2km az=65.0*

ISCJB ***05*** *06:37:43.4±0.8,24.°34N±0.°07×125.°17E±0.°06,h45km±5km, mb3.9/15,Error ellipse: s-maj=14.1km s-min=6.2km az=149.8*

JMA ***05*** *06:37:43.1±0.2,24.°29N×125.°18E,h34km,M3.7*

ISC 05 06:37:43.6±1.5,24.°34N±0.°09×125.°14E±0.°06,h30km±9km, n26,σ0°88/30,mb4.0/15,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.48	31	P	Pb	06 37 53.6	-0.2
JOGS				S	Sn	06 38 02.0	+0.1
JMJ	Miyako jima 2	0.49	17	P	Pn	06 37 53.8	-0.8
JMJ				S	Sb	06 38 01.8	+0.8
JTJ	Tarama	0.49	307	P	Pn	06 37 54.1	-0.5
JTJ				S	Sb	06 38 01.9	+0.8
JIJ	Ishigaki jima	0.91	271	P	Pn	06 38 00.4	+0.1
JIJ				eS	Sb	06 38 12.9	+0.3
JKRS	Kuro-shima	1.03	264	P	Pb	06 38 02.7	-0.3
HATJ	Hateruma jima	1.25	257	P	Pn	06 38 05.1	+0.1
HATJ				eS	Sn	06 38 21.4	+0.6
IRIF	Iriomote-Funau	1.28	270	P	Pn	06 38 06.1	+0.6
YOJ	Yonaguni jima	1.94	274	P	Pb	06 38 16.5	-1.8
JKE	Kume jima 2	2.47	37	P	Pn	06 38 21.5	-0.4
KSRS	Korea Array	13.28	10	LR	LR	06 46 26.4	
	comp=Z,70nm,19.0s,baz=163,slow=40						
SONM	Songino Array	27.76	332	P	P	06 43 28.7	-1.1
	0.4nm,0.3s,baz=126,slow=9.4,SNR=5.0						
MKAR	Makanchi Array	40.77	314	P	P	06 45 21.6	-0.4
	1.9nm,0.4s,baz=103,slow=8.8,SNR=14						
ZALV	Zalesovo Beam	42.12	325	P	P	06 45 31.5	-1.4
	2.1nm,0.6s,baz=107,slow=9.1,SNR=6.8						
KURBB	Kurchatov Arra	44.34	319	P	P	06 45 49.7	-1.2
	1.4nm,0.5s,baz=108,slow=8.3,SNR=9.1						
WRA	Warramunga Arr	44.92	168	P	P	06 45 54.6	-1.2
	1.2nm,0.5s,baz=348,slow=8.9,SNR=17						
ASAR	Alice Springs	48.48	169	P	P	06 46 23.0	-0.6
	0.6nm,0.7s,baz=352,slow=11,SNR=7.8						
AKTO	Aktyubinsk	57.18	315	P	P	06 47 28.1	+0.4
	0.5nm,0.3s,baz=90,slow=15,SNR=5.9						
ILAR	Eielson Array	67.41	28	P	P	06 48 36.7	+0.8
	0.5nm,0.7s,baz=263,slow=4.7,SNR=6.3						
KBZ	Khabaz	68.18	309	P	P	06 48 42.3	+1.2
	0.7nm,0.5s,baz=79,slow=5.2,SNR=3.1						
ARCES	ARCESS Array B	70.73	338	P	P	06 48 56.3	-0.1
	0.5nm,0.7s,baz=61,slow=8.5,SNR=3.5						
FINES	FINESS Array B	73.11	330	P	P	06 49 10.8	0.0
	3.4nm,0.6s,baz=72,slow=6.2,SNR=15						
BRTR	Keskin Array B	75.96	307	P	P	06 49 29.1	+1.1
	0.5nm,0.6s,baz=119,slow=8.9,SNR=3.3						
HFS	Hagfors	79.16	332	P	P	06 49 45.5	+0.2
	2.7nm,0.8s,baz=101,slow=8.0,SNR=6.4						
NB2	NORSAR Subarra	79.74	333	P	P	06 49 47.8	-0.6
	comp=Z,2.5nm,0.9s,baz=54,slow=5.9						
NOA	NORSAR Array B	79.74	333	P	P	06 49 47.9	-0.6
	comp=Z,1.6nm,0.8s,baz=57,slow=5.5,SNR=6.8						
YKA	Yellowknife Ar	81.39	24	P	P	06 49 58.8	+1.6
	comp=Z,0.6nm,0.7s,baz=303,slow=4.5,SNR=3.9						

IDC ***05*** *07:07:54.5±0.8,46.°06S×166.°22E,h0km,mb4.2/5, mb1 4.4/7,mb1mx4.2/17,mbtmp4.2/7,ML4.0/2,MS3.7/4, Ms1 3.7/4,ms1mx3.3/18,Error ellipse: s-maj=25.6km s-min=20.3km az=171.0*

ISCJB ***05*** *07:07:55.7±1.1,46.°18S±0.°05×166.°16E±0.°06,h19km±8km, mb4.2/5,MS3.9/5,Error ellipse: s-maj=7.8km s-min=6.3km az=164.0*

WEL ***05*** *07:07:56.7±0.5,46.°15S×166.°12E,h28km±2km,ML4.8/20, Error ellipse: s-maj=4.1km s-min=2.2km az=90.0*

WEL Felt from Southland to Otago, maximum reported intensity MM 4.

NEIC ***05*** *07:07:56.5,46.°20S×166.°29E,h5km,ML4.8(WEL),After WEL.*

ISC 05 07:07:55.1±1.8,46.°21S±0.°05×166.°23E±0.°06,h6km±11km, n74,σ1°16/82,mb4.3/5,MS3.6/5,2C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.97	42	PN	Pg	07 08 14.0	+0.2
DCZ				SN	Sg	07 08 27.2	+0.8
DCZ				AML	AML	07 08 29.1	
DCZ				AML	AML	07 08 32.1	
DCZ				AML	AML	07 08 32.9	
DCZ	Deep Cove	0.97	42	P*	Pg	07 08 13.7	0.0
DCZ				S*	Sg	07 08 26.4	0.0
WHZ	Wether Hill Ro	1.23	76	PN	Pg	07 08 19.3	+0.6
WHZ				SN	Sg	07 08 35.1	+0.3
WHZ				AML	AML	07 08 39.4	
WHZ	Wether Hill Ro	1.23	76	P*	Pn	07 08 19.0	+0.1
WHZ				S*	Sg	07 08 35.1	+0.3
APZ	The Paps	1.36	118	PN	Pn	07 08 20.6	-0.1
APZ				SN	Sb	07 08 38.0	-0.7
APZ	The Paps	1.36	118	P*	Pn	07 08 20.6	-0.1
MLZ	Mavora Lakes	1.61	58	PN	Pn	07 08 24.6	+0.6
MLZ				AML	AML	07 08 52.8	
MLZ				AML	AML	07 08 54.0	
MLZ	Mavora Lakes	1.61	58	Pn	Pn	07 08 24.6	+0.6
MLZ				Sn	Sg	07 08 48.4	+1.7
MSZ	Milford Sound	1.95	38	PN	Pn	07 08 28.9	+0.3
MSZ				AML	AML	07 09 09.3	
MSZ				AML	AML	07 09 09.3	
MSZ				AML	AML	07 09 14.4	
MSZ				AML	AML	07 09 14.4	
MSZ	Milford Sound	1.95	38	Pn	Pn	07 08 28.9	+0.3
SYZ	Scrubby Hill	2.04	100	PN	Pn	07 08 30.6	+0.7
SYZ	Scrubby Hill	2.04	100	Pn	Pn	07 08 30.5	+0.6
EAZ	Earnscleugh	2.37	67	AML	AML	07 09 09.7	
EAZ				AML	AML	07 09 09.7	
EAZ				AML	AML	07 09 11.0	
EAZ				AML	AML	07 09 11.0	
EAZ	Earnscleugh	2.37	67	Pn	Pb	07 08 36.7	-1.4
TUZ	Tuapeka	2.38	85	PN	Pn	07 08 36.0	+1.4
TUZ				AML	AML	07 09 09.4	
TUZ				AML	AML	07 09 10.9	
TUZ	Tuapeka	2.38	85	Pn	Pn	07 08 35.9	+1.3
WKZ	Wanaka	2.40	56	AML	AML	07 09 15.8	
WKZ				AML	AML	07 09 15.8	
WKZ				AML	AML	07 09 16.6	
WKZ				AML	AML	07 09 16.6	
WKZ	Wanaka	2.40	56	Pn	Pb	07 08 37.6	-1.0
JCZ	Jackson Bay	2.78	41	AML	AML	07 09 31.3	
JCZ				AML	AML	07 09 33.1	
JCZ	Jackson Bay	2.78	41	Pn	Pb	07 08 42.9	-2.3
ODZ	Otahua Downs	3.31	71	⇑PN	Pn	07 08 47.6	+0.2
ODZ	Otahua Downs	3.31	71	ePn	Pn	07 08 47.7	+0.4
ODZ				eSn	Sn	07 09 27.7	+0.8
LBZ	Lake Benmore	3.33	58	⇑PN	Pn	07 08 48.6	+0.9
LBZ				AML	AML	07 09 32.5	
LBZ				AML	AML	07 09 32.5	
LBZ				AML	AML	07 09 34.1	
LBZ				AML	AML	07 09 34.2	
LBZ	Lake Benmore	3.33	58	Pn	Pn	07 08 48.6	+0.9
FOZ	Fox Glacier	3.61	44	PN	Pn	07 08 53.9	+2.5
FOZ				AML	AML	07 09 57.5	
FOZ				AML	AML	07 09 57.6	
FOZ				AML	AML	07 10 06.7	
FOZ				AML	AML	07 10 06.8	
FOZ	Fox Glacier	3.61	44	Pn	Pn	07 08 54.4	+2.9
RPZ	Rata Peaks	4.23	56	AML	AML	07 10 25.4	
RPZ				AML	AML	07 10 29.9	
RPZ	Rata Peaks	4.23	56	ePn	Pn	07 09 00.4	+0.3
RPZ				Sn	Sn	07 09 51.6	+1.8
RPZ	Rata Peaks	4.23	56	Pn	Pn	07 08 59.5	-0.7
	12nm,0.3s,baz=213,slow=5.7,SNR=32						
RPZ				Sn	Sn	07 09 51.6	+1.8
	26nm,0.3s,baz=52,slow=22,SNR=7.2						
WVZ	Waitaha Valley	4.49	47	PN	Pn	07 09 04.4	+0.9
WVZ				AML	AML	07 10 04.6	
WVZ				AML	AML	07 10 07.6	
WVZ	Waitaha Valley	4.49	47	Pn	Pn	07 09 04.7	+1.1
LTZ	Lake Taylor	5.51	54	PN	Pn	07 09 17.6	0.0
LTZ				AML	AML	07 10 25.1	
LTZ	Lake Taylor	5.51	54	Pn	Pn	07 09 17.7	0.0
KHZ	Kahutara	6.47	57	ePn	Pn	07 09 32.3	+1.5
THZ	Tophouse	6.55	50	PN	Pn	07 09 31.2	-0.8
THZ				AML	AML	07 11 00.1	
THZ				AML	AML	07 11 09.6	
THZ	Tophouse	6.55	50	Pn	Pn	07 09 31.9	-0.1
NNZ	Nelson	7.19	49	Pn	Pn	07 09 43.5	+2.8
TUWZ	Tuamarina	7.34	52	Pn	Pn	07 09 45.0	+2.3
TCW	Tory Channel	7.67	52	Pn	Pn	07 09 50.4	+3.1
SNZO	South Karori	7.84	54	Pn	Pn	07 09 49.6	-0.1
CAW	Cannon Point	8.18	55	Pn	Pn	07 09 55.4	+1.1
URZ	Urewera	11.31	49	Pn	Pn	07 10 36.1	-1.0
URZ				Sn	Sn	07 12 41.9	-1.9
URZ	Urewera	11.31	49	Pn	Pn	07 10 36.1	-1.0
	0.7nm,0.3s,baz=254,slow=12,SNR=6.5						
URZ				Sn	Sn	07 12 41.9	-1.9
	1.0nm,0.3s,baz=110,slow=19,SNR=5.6						
STKA	Stephens Creek	23.77	298	P	P	07 13 07.8	-0.5
STKA	Stephens Creek	23.77	298	P	P	07 13 07.8	-0.5
	3.0nm,0.9s,baz=140,slow=12,SNR=5.3						
STKA				LR	LR	07 21 09.0	
	comp=Z,178nm,21.0s,baz=205,slow=34						
VNDA	Vanda	31.47	182	eP	P	07 14 18.2	+1.3
VNDA	Vanda	31.47	182	LR	LR	07 25 32.6	
	comp=Z,98nm,19.7s,baz=12,slow=34						
AS31	Alice Springs	34.39	300	eP	P	07 14 42.5	-0.5
ASAR	Alice Springs	34.39	300	P	P	07 14 42.7	-0.3
ASAR	Alice Springs	34.39	300	P	P	07 14 42.7	-0.3
	2.7nm,0.7s,baz=133,slow=8.2,SNR=35						
ASAR				LR	LR	07 28 32.2	
	comp=Z,129nm,20.9s,baz=159,slow=36						
WRA	Warramunga Arr	37.00	304	P	P	07 15 04.6	-0.9
WRA	Warramunga Arr	37.00	304	P	P	07 15 04.6	-0.9
	5.5nm,0.9s,baz=139,slow=8.0,SNR=30						
WRAB	Tennant Creek	37.00	304	eP	P	07 15 04.0	-1.5
RAR	Rarotonga	37.24	60	LR	LR	07 26 23.9	
	comp=Z,2μm,19.8s,baz=283,slow=30						
QSPA	South Pole Qui	43.91	180	P	P	07 16 04.2	+1.8
QSPA	South Pole Qui	43.91	180	P	P	07 16 04.2	+1.8
	2.3nm,0.7s,baz=42,slow=3.0,SNR=8.6						
MAW	Mawson	52.91	208	LR	LR	07 38 31.9	
	comp=Z,108nm,18.1s,baz=264,slow=35						
CMAR	Chiang Mai Arr	88.39	299	P	P	07 20 49.0	+1.1
CMAR	Chiang Mai Arr	88.39	299	P	P	07 20 49.0	+1.1
	0.9nm,0.4s,baz=160,slow=3.9,SNR=6.8						
TOA0	Torodi Ar. Sit	144.55	207	ePKPdf	PKPab	07 27 30.6	-0.5
TORD	Torodi Ar. Bea	144.55	207	PKP	PKPab	07 27 30.7	-0.4
TORD	Torodi Ar. Bea	144.55	207	PKP	PKPab	07 27 30.7	-0.4
	1.8nm,0.6s,baz=152,slow=1.4,SNR=20						
BR131	Keskin Array S	145.14	277	ePKPdf	PKPbc	07 27 32.1	-0.7
BRTR	Keskin Array B	145.14	277	PKPbc	PKPdf	07 27 32.7	-0.5
BRTR	Keskin Array B	145.14	277	PKPbc	PKPdf	07 27 32.7	-0.5
	3.7nm,0.9s,baz=145,slow=4.5,SNR=15						
SCHQ	Schefferville	145.93	56	PKPbc	PKPdf	07 27 33.6	-0.2
SCHQ	Schefferville	145.93	56	PKPbc	PKPdf	07 27 33.6	-0.2
	5.1nm,0.9s,baz=267,slow=4.6,SNR=8.4						
ARCES	ARCESS Array B	149.62	334	PKPbc	PKPbc	07 27 44.7	+0.5
ARCES				PKPab	PKPab	07 27 48.7	-0.7
ARCES	ARCESS Array B	149.62	334	PKPbc	PKPbc	07 27 44.7	+0.5
	1.7nm,0.6s,baz=78,slow=3.0,SNR=25						
ARCES				PKPab	PKPab	07 27 48.7	-0.7
	3.9nm,0.9s,baz=67,slow=3.2,SNR=8.4						
ARE0	ARCESS Array S	149.62	334	ePKPdf	PKPdf	07 27 41.3	+1.8
AKASG	Malin Array Be	151.44	295	PKPbc	PKPbc	07 27 49.1	+0.1
AKASG	Malin Array Be	151.44	295	PKPbc	PKPbc	07 27 49.1	+0.1
	1.5nm,0.6s,baz=68,slow=3.6,SNR=7.1						
FINES	FINESS Array B	152.53	318	PKPbc	PKPbc	07 27 50.2	-0.9
FINES				PKPab	PKPab	07 28 00.5	-1.1
FINES	FINESS Array B	152.53	318	PKPbc	PKPbc	07 27 50.2	-0.9
	1.0nm,0.6s,baz=90,slow=3.8,SNR=4.5						
FINES				PKPab	PKPab	07 28 00.5	-1.1
	1.1nm,0.7s,baz=74,slow=4.8,SNR=2.7						

DDA 05 07:17:35.3,40.°84N×29.°70E,h6km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	Eskisehir	1.11	149	i P	Pg	07 17 56.3	-0.5
BORA				i S	Sg	07 18 02.9	-8.5
DURS	Dursunbey	1.55	218	i P	Pg	07 18 06.1	+0.8
DURS				i S	Sn	07 18 20.2	-4.0

IDC ***05*** *07:27:49.0±0.9,17.°01N×91.°91W,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.8/25,mbtmp3.7/8,ML4.4/2,MS3.3/3, Ms1 3.3/3,ms1mx2.8/34,Error ellipse: s-maj=22.1km s-min=17.1km az=62.0*

MEX ***05*** *07:27:49.8±0.4,17.°50N×91.°94W,h30km±15km,MD4.1*

ISCJB ***05*** *07:27:50.3±1.2,17.°07N±0.°05×91.°94W±0.°05,h17km±10km, mb4.0/22,MS3.8/1,Error ellipse: s-maj=8.8km s-min=6.8km az=152.3*

NEIC ***05*** *07:27:50.2±0.5,16.°95N×91.°91W,h10km,mb4.1/22, MD4.1(MEX),Error ellipse: s-maj=11.6km s-min=7.5km az=48.0*

ISC 05 07:27:49.9±1.9,17.°09N±0.°04×92.°04W±0.°04,h4km±13km, n62,σ1°54/66,mb4.1/22,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.81	187	eP	Pn	07 28 08.7	+0.4
CCIG				i S	Sn	07 28 23.8	+3.0
TGIG		1.09	253	eP	Pg	07 28 10.6	-0.2
TGIG				i S	Sb	07 28 26.2	+0.4
SCIG	Sabancuy	2.03	23	eP	Pn	07 28 25.2	+0.4
SCIG				eS	Sn	07 28 43.6	-7.0
THIG		2.19	186	eP	Pb	07 28 29.7	-0.2
THIG				i S	Sb	07 28 57.6	+0.2
HUIG	Huatulco	4.12	252	eP	Pn	07 28 52.7	-1.0
HUIG				eS	Sn	07 29 41.7	-0.7
VHO	Vista Hermosa	4.49	270	eP	Pn	07 28 57.0	-1.9
VHO				eS	Sn	07 29 48.1	-3.6
TEIG	Tepich	4.73	48	ePn	Pn	07 29 00.7	-1.3
TEIG				Sn	Sn	07 29 55.9	-1.4
TEIG	

LPAZ	La Paz	40.69 143	P	P	07 35 31.1	-1.3
LPAZ	La Paz	40.69 143	P	P	07 35 31.1	-1.3
	1.1nm,0.8s,baz=340,slow=8.5,SNR=6.7					
SIV	San Ignacio	44.87 135	P	P	07 36 04.5	-1.1
SIV	San Ignacio	44.87 135	P	P	07 36 04.5	-1.1
	1.8nm,0.5s,baz=319,slow=7.6,SNR=9.8					
YKA	Yellowknife Ar	48.03 346	P	P	07 36 30.4	+0.5
YKA	Yellowknife Ar	48.03 346	P	P	07 36 30.4	+0.5
	2.2nm,0.7s,baz=148,slow=7.5,SNR=9.4					
DLBC	Dease Lake	49.84 335	eP	P	07 36 46.1	+2.2
ILAR	Eielson Array	60.01 336	P	P	07 37 57.6	+0.2
ILAR	Eielson Array	60.01 336	P	P	07 37 57.6	+0.2
	0.3nm,0.6s,baz=144,slow=5.8,SNR=5.7					
BORG	Borgarnes	66.46 26	LR	LR	08 05 12.9	
	comp=Z,64nm,21.1s,baz=253,slow=34					
WRA	Warramunga Arr	136.04 259	PKP	PKPdf	07 47 10.7	-2.4
WRA	Warramunga Arr	136.04 259	PKP	PKPdf	07 47 10.7	-2.4
	1.1nm,1.0s,baz=83,slow=2.2,SNR=4.9					
ASAR	Alice Springs	136.59 253	PKP	PKPdf	07 47 13.0	-1.1
ASAR	Alice Springs	136.59 253	PKhKP	PKPpre	07 47 03.3	
	0.3nm,0.8s,baz=105,slow=2.1,SNR=3.5					
ASAR			PKP	PKPdf	07 47 13.0	-1.1
	0.3nm,0.7s,baz=90,slow=2.9,SNR=2.8					

IDC ***05*** *07:34:27.0±0.5, 9°.33S×158°.88E, h0km, mb4.4/19, mb1 4.6/20, mb1mx4.6/22, mbtmp4.4/20, ML4.2/1, MS4.3/7, Ms1 4.3/7, ms1mx3.9/23, Error ellipse: s-maj=15.0km s-min=13.1km az=95.0*

ISCJB ***05*** *07:34:29.8±0.3, 9°.38S±0°.05×158°.85E±0°.04, h27km, mb4.7/40, MS4.3/13, Error ellipse: s-maj=6.9km s-min=6.1km az=161.9*

BJI ***05*** *07:34:31.1, 9°.40S×158°.90E, h35km, mB5.0/13, mb4.8/19, Ms4.9/11, Ms7 4.4/11*

NEIC ***05*** *07:34:32.6±0.2, 9°.31S×158°.78E, h35km, mb4.9/15, Error ellipse: s-maj=8.3km s-min=5.0km az=120.0*

NEIC Felt at Honiara.

ISC 05 07:34:31.6±0.3, 9°.53S±0°.06×158°.99E±0°.05, h27km, n92, σ1ϑ76/113, mb4.7/39, MS4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.95	84	Pn	Pn	07 34 48.3	-0.8
HNR				Sn	Sn	07 35 02.1	+0.3
HNR				eSn	Sb	07 35 04.0	+2.4
HNR	Honiara	0.95	84	Pn	Pn	07 34 48.3	-0.8
	3μm,0.3s,baz=254,slow=7.8,SNR=167						
HNR				Sn	Sn	07 35 02.1	+0.3
	9μm,0.3s,baz=266,slow=19,SNR=29						
PMG	Port Moresby	11.68 270	LR	LR	07 41 25.4		
	comp=Z,3μm,19.6s,baz=96,slow=36						
DZM	Mont Dzumac	14.38 151	eLR	LR	07 41 12.2		
	882nm,21.4s						
DZM	Mont Dzumac	14.38 151	Pn	P	07 37 57.7	-2.5
DZM	Mont Dzumac	14.38 151	Pn	P	07 37 57.7	-2.5
	0.7nm,0.3s,baz=58,slow=18,SNR=6.6						
CTA	Charters Tower	16.17 228	Pn	Pn	07 38 17.7	+0.6
CTA	Charters Tower	16.17 228	Pn	Pn	07 38 17.7	+0.6
	0.6nm,0.3s,baz=46,slow=17,SNR=3.1						
CTAO	Charters Tower	16.17 228	ePn	P	07 38 19.4	-0.7
	176nm,2.0s						
KWAJ	Kwajalein Atol	20.13 25	eP	P	07 39 03.5	-0.2
ARMA	Armidale	21.89 197	eP	P	07 39 25.7	+3.0
	12nm,0.9s						
WRAB	Tennant Creek	25.94 244	eP	P	07 40 00.6	-1.4
	9.8nm,0.6s						
WRA	Warramunga Arr	25.95 244	P	P	07 40 01.1	-1.0
WRA	Warramunga Arr	25.95 244	P	P	07 40 01.1	-1.0
	12nm,0.9s,baz=69,slow=10,SNR=49						
WRA			LR	LR	07 49 58.4	
	comp=Z,894nm,18.5s,baz=75,slow=36						
STKA	Stephens Creek	27.47 213	eP	P	07 40 15.7	+0.1
	3.0nm,0.7s						
STKA	Stephens Creek	27.47 213	P	P	07 40 16.2	+0.5
	15nm,0.7s,baz=43,slow=14,SNR=38						
STKA			LR	LR	07 51 32.7	
	comp=Z,1μm,18.6s,baz=30,slow=37						
AS31	Alice Springs	27.78 237	eP	P	07 40 17.1	-1.5
ASAR	Alice Springs	27.78 237	P	P	07 40 17.1	-1.5
ASAR	Alice Springs	27.78 237	P	P	07 40 17.1	-1.5
	4.6nm,0.8s,baz=64,slow=9.3,SNR=34						
ASAR			LR	LR	07 50 57.6	
	comp=Z,618nm,18.9s,baz=52,slow=36						
AFI	Afiamalu	28.94 101	LR	LR	07 50 20.3	
	comp=Z,592nm,18.4s,baz=244,slow=33						
BBOO	Buckleboo	31.38 219	eP	P	07 40 50.5	+0.2
	494nm,0.8s						
URZ	Urewera	32.92 153	eP	P	07 41 05.7	+1.9
URZ	Urewera	32.92 153	P	P	07 41 04.3	+0.5
	5.9nm,0.9s,baz=313,slow=19,SNR=2.4						
URZ			LR	LR	07 51 17.3	
	comp=Z,91nm,18.4s,baz=13,slow=30						
FITZ	Fitzroy Crossi	33.44 252	P	P	07 41 06.4	-2.1
FITZ	Fitzroy Crossi	33.44 252	P	P	07 41 06.4	-2.1
	3.7nm,0.7s,baz=100,slow=5.9,SNR=8.2						
RPZ	Rata Peaks	35.64 165	P	P	07 41 28.1	+0.8
RPZ	Rata Peaks	35.64 165	P	P	07 41 28.1	+0.8
	15nm,0.8s,baz=348,slow=19,SNR=2.8						
MBWA	Marble Bar	39.48 248	eP	P	07 41 58.7	-1.4
	130nm,2.3s						
MJAR	Matsushiro Arr	49.82 338	P	P	07 43 20.7	-1.6
MJAR	Matsushiro Arr	49.82 338	P	P	07 43 20.7	-1.6
	0.7nm,0.4s,baz=169,slow=9.3,SNR=3.4						
PPT2	Papeete2	50.51 105	eLR	LR	07 57 55.5	
	398nm,23.0s						
TBI	Tubuai	51.05 112	eLQ	LQ	07 56 07.0	
	483nm,30.0s						
TBI			eLR	LR	07 58 15.6	
	214nm,25.5s						
KSRS	Korea Array	55.06 330	P	P	07 43 59.5	-1.6
	2.4nm,1.0s,baz=153,slow=8.0,SNR=8.1						
KSAR	Wonju Array Be	55.07 330	P	P	07 43 59.5	-1.7
QIZ	Qiongzhong	56.15 300	P	P	07 44 09.0	-0.3
QIZ			S	S	07 51 54.2	-3.0
QIZ			LR	LR		
	comp=Z,330nm,23.4s					
NJ2	Nanjing	56.40 319	eP	P	07 44 10.8	0.0
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
USRK	Ussuriysk Arra	58.81 338	P	P	07 44 24.9	-2.7
	comp=Z,2.5nm,0.8s,baz=140,slow=7.1,SNR=9.8					
MDJ	Mudanjiang	60.09 336	P	P	07 44 37.7	+1.2
MDJ			PcP	PcP	07 45 22.4	+0.3
MDJ			S	S	07 52 49.5	+1.6
MDJ			sS	sS	07 53 05.8	+4.0
MDJ			pmax	pmax		
	comp=Z,6.0nm,0.5s					
MDJ			pmax	pmax		
	comp=Z,65nm,6.5s					
MDJ			LR	LR		
	comp=N,110nm,21.3s					
MDJ			LR	LR		
	comp=E,100nm,21.3s					
MDJ			LR	LR		
	comp=Z,47nm,25.1s					
CN2	Changchun	61.20 333	eP	P	07 44 42.3	-1.7
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
GYA	Guiyang	62.13 307	eP	P	07 44 51.2	+0.4
GYA			pP	pP	07 45 02.3	+3.0
GYA			PP	PP	07 47 11.0	+3.2
GYA			ScP	ScP	07 49 29.6	-1.6
GYA			S	S	07 53 13.2	-1.6
GYA			SKS	SKSac	07 54 37.0	-4.5
GYA			SS	SS	07 57 17.5	-0.7
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,110nm,5.2s					
GYA			LR	LR		
	comp=N,450nm,19.2s					
GYA			LR	LR		
	comp=E,410nm,20.7s					
GYA			LR	LR		
	comp=Z,500nm,18.9s					
PETK	Petropavlovsk-	62.40 359	P	P	07 44 49.5	-2.4
PETK	Petropavlovsk-	62.40 359	P	P	07 44 49.5	-2.4
	comp=Z,2.6nm,0.5s,baz=166,slow=7.9,SNR=11					
BJI	Beijing	63.25 324	P	P	07 44 56.8	-1.0
BJI			pmax	pmax		
	comp=Z,8.0nm,0.6s					
FX1	Attu Island--F	63.34 10	eP	P	07 44 56.8	-1.4
CMAR	Chiang Mai Arr	65.44 295	P	P	07 45 11.6	-1.1
CMAR	Chiang Mai Arr	65.44 295	P	P	07 45 11.6	-1.1
	comp=Z,0.8nm,0.3s,baz=126,slow=4.3,SNR=5.5					
CASY	Casey	65.48 199	eP	P	07 45 12.0	0.0
	comp=Z,5.7nm,0.8s					
CD2	Chengdu	66.46 310	eP	P	07 45 20.2	+1.2
CD2			pP	pP	07 45 31.1	+3.5
CD2			sP	sP	07 45 35.2	+4.5
CD2			PP	PP	07 47 48.6	+2.8
CD2			sS	sS	07 54 24.2	+2.1
CD2			SS	SS	07 58 24.8	-0.8
CD2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
CD2			pmax	pmax		
	comp=Z,50nm,6.2s					
CD2			LR	LR		
	comp=N,150nm,14.2s					
CD2			LR	LR		
	comp=Z,180nm,16.2s					
HHC	Hu-ho-hao-te	66.48 322	eP	P	07 45 21.1	+2.1
HHC			PcP	PcP	07 45 50.9	+2.4
HHC			PP	PP	07 47 49.4	+3.6
HHC			ScP		07 49 49.8	
HHC			PcS		07 49 53.7	
HHC			S	S	07 54 07.8	-0.3
HHC			sS	sS	07 54 24.7	+2.6
HHC			ScS	SKSac	07 55 11.8	-2.2
HHC			SS	SS	07 58 26.9	+1.3
HHC			pmax	pmax		
	comp=Z,44nm,0.7s					
HHC			pmax	pmax		
	comp=Z,170nm,6.6s					
HHC			LR	LR		
	comp=N,440nm,16.6s					
HHC			LR	LR		
	comp=E,440nm,16.9s					
HHC			LR	LR		
	comp=Z,200nm,16.8s					
VNDA	Vanda	67.98 179	P	P	07 45 29.8	+1.9
VNDA	Vanda	67.98 179	P	P	07 45 29.8	+1.9
	comp=Z,10nm,0.8s,baz=341,slow=6.8,SNR=64					
VNDA			LR	LR	08 09 40.2	
	comp=Z,171nm,20.3s,baz=355,slow=31					
SBA	Scott Base	68.42 178	eP	P	07 45 33.6	+3.0
	comp=Z,8.2nm,1.0s					
GTA	Gaotai	73.29 316	eP	P	07 46 00.5	-0.5
GTA			pP	pP	07 46 10.8	+1.2
GTA			sP	sP	07 46 15.1	+2.3
GTA			S	S	07 55 24.7	-3.4
GTA			sS	sS	07 55 42.3	0.0
GTA			SS	SS	08 00 09.1	-1.5
GTA			pmax	pmax		
	comp=Z,4.0nm,1.5s					
GTA			pmax	pmax		
	comp=Z,73nm,5.2s					
GTA			LR	LR		
	comp=N,170nm,14.5s					
GTA			LR	LR		
	comp=E,250nm,16.2s					
GTA			LR	LR		
	comp=Z,230nm,16.4s					
SONM	Songino Array	73.61 326	P	P	07 46 01.4	-1.3
SONM	Songino Array	73.61 326	P	P	07 46 01.4	-1.3
	comp=Z,3.7nm,0.8s,baz=138,slow=5.6,SNR=15					
CHGN	Chignik	74.44 23	P	P	07 46 06.7	-0.5
MCK	McKinley	82.97 21	eP	P	07 46 52.1	-1.8
WMQ	Urumqi	83.37 316	eP	P	07 46 58.8	+2.2
WMQ			LR	LR		
	comp=N,270nm,27.0s					
WMQ			LR	LR		
	comp=E,350nm,30.0s					
WMQ			LR	LR		
	comp=Z,230nm,18.0s					
MAW	Mawson	83.59 203	eP	P	07 46 57.6	+0.5
	comp=Z,2.3nm,1.4s					
MAW	Mawson	83.59 203	P	P	07 46 58.3	+1.2
	comp=Z,2.6nm,1.0s,baz=89,slow=10,SNR=4.4					
COLA	College	84.04 20	eP	P	07 46 58.0	-1.4
	comp=Z,39nm,0.8s					
ILAR	Eielson Array	84.31 20	P	P	07 46 58.4	-2.4
ILAR	Eielson Array	84.31 20	P	P	07 46 58.4	-2.4
	comp=Z,1.7nm,0.8s,baz=251,slow=4.7,SNR=16					
HYT	Haines Junctio	85.86 26	eP	P	07 47 08.1	-0.7
SKAG	Skagway	86.21 28	eP	P	07 47 09.9	-0.4
	comp=Z,8.9nm,1.1s					
EGAK	Eagle	86.35 22	eP	P	07 47 10.1	-0.8
	comp=Z,10nm,1.4s					
KHMM	Horse Mountain	86.70 48	eP	P	07 47 14.0	+0.6
	comp=Z,119nm,2.7s					
HUMO	Hull Mountain	87.72 46	eP	P	07 47 18.6	+0.5
MKAR	Makanchi Array	87.92 318	P	P	07 47 16.5	-2.5
MKAR	Makanchi Array	87.92 318	P	P	07 47 16.5	-2.5
	comp=Z,1.1nm,0.6s,baz=100,slow=6.1,SNR=11					
MWC	Mount Wilson	89.53 55	eP	P	07 47 27.5	+0.4
	comp=Z,20nm,1.2s					
NVAR	Mina Array Bea	90.20 51	P	P	07 47 31.1	+0.9
NVAR	Mina Array Bea	90.20 51	P	P	07 47 31.1	+0.9
	comp=Z,4.7nm,1.0s,baz=64,slow=6.4,SNR=19					
NV11	Mina Array Sit	90.31 51	eP	P	07 47 29.6	-1.0
BMO	Blue Mountains	92.22 45	eP	P	07 47 39.1	-0.2
	comp=Z,2.8nm,1.0s					
CCUT	Cedar City	93.88 53	eP	P	07 47 47.5	+0.2
HLID	Hailey	94.03 47	eP	P	07 47 48.3	+0.5
	comp=Z,30nm,2.7s					
MSU	Marysvale	94.94 52	eP	P	07 47 58.5	+6.3
YKA	Yellowknife Ar	96.72 28	P	P	07 47 58.2	-1.1
YKA	Yellowknife Ar	96.72 28	P	P	07 47 58.2	-1.1
	comp=Z,0.3nm,0.5s,baz=253,slow=4.2,SNR=3.2					
PDAR	Pinedale Array	97.45 48	P	Pdif	07 48 03.8	+0.2
PDAR	Pinedale Array	97.45 48	P	Pdif	07 48 03.8	+0.2
	comp=Z,0.8nm,0.9s,baz=242,slow=2.9,SNR=5.6					
LPAZ	La Paz	126.78 119	PKP	PKPdf	07 53 35.0	+0.4
LPAZ	La Paz	126.78 119	PKP	PKPdf	07 53 35.0	+0.4
	comp=Z,1.0nm,0.9s,baz=288,slow=3.2,SNR=4.2					
BDFB	Brasilia	143.38 133	PKP	PKPdf	07 54 04.1	-0.7
BDFB	Brasilia	143.38 133	PKP	PKPdf	07 54 04.1	-0.7
	comp=Z,3.2nm,0.9s,baz=178,slow=1.7,SNR=4.6					
ESDC	Sonseca Array	146.35 336	PKPbc	PKPdf	07 54 09.2	0.0
ESDC	Sonseca Array	146.35 336	PKPbc	PKPdf	07 54 09.2	0.0
	comp=Z,0.2nm,0.3s,baz=42,slow=1.9,SNR=5.3					
MDT	Midelt	152.32 329	PKPbc	PKPbc	07 54 25.4	-0.5
MDT	Midelt	152.32 329	PKPbc	PKPbc	07 54 25.4	-0.5
	comp=Z,4.4nm,0.9s,baz=358,slow=2.3,SNR=7.7					
TORD	Torodi Ar. Bea	157.46 281	PKP	PKPdf	07 54 25.4	-1.0
TORD	Torodi Ar. Bea	157.46 281	PKP	PKPdf	07 54 25.4	-1.0
	comp=Z,0.7nm,0.9s,baz=111,slow=1.0,SNR=2.8					

TRN 05 07:48:22.7, 14°.74N×60°.49W, h35km, MD3.3, M3.7(FDF), 4C-7D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	Fort de France	0.64 269		↑iP	Pn	07 48 37.4	+2.1
FDF				eS	Sn	07 48 48.5	+4.2
SLW	Petit Monier	0.84 211		↑iP	Pn	07 48 39.3	+1.2
DSHT	Scott's Head	0.97 299		||eP	Pn	07 48 41.9	+2.0
DSHT				eS	Sn	07 48 55.1	+2.6
DBCT	Belle View Cho	0.98 303		eP	Pn	07 48 41.6	+1.5
DBCT				eS	Sn	07 48 54.9	+2.1
DPMT	Pointe Michel	1.00 301		eS	Sn	07 48 54.9	+1.8
MDN	Morne-Daniel	1.04 304		eP	Pn	07 48 42.9	+2.1
MDN				eS	Sn	07 48 57.0	+2.8
MCLT	Moule a Chique	1.11 203		eP	Pn	07 48 42.4	+0.6
MCLT				eS	Sn	07 48 57.7	+1.8
DWS	Wesley	1.14 316		eP	Pn	07 48 43.5	+1.3
DWS				eS	Sn	07 48 59.5	+2.9
DVCT	Vielle Casse P	1.24 315		eP	Pn	07 48 45.4	+1.9
DVCT				eS	Sn	07 49 01.5	+2.5
MGG	Marie-Galante	1.42 326		||iP	Pn	07 48 46.9	+0.9
TBG	Guadaloupe-3	1.57 315		||eP	Pn	07 48 49.4	+1.4
SVB	Belmont	1.64 207		eP	Pn	07 48 50.5	+1.5
SVB	Belmont	1.64 207		eP	Pn	07 48 50.5	+1.5
SVB				eS	Sn	07 49 10.8	+1.9
SVB				eS		07 49 11.1	
DOG	Dongo Capester	1.68 320		eP	Pn	07 48 51.4	+1.7
PHG	Guadaloupe-2	1.69 319		eP	Pn	07 48 51.2	+1.4
HMG	Houelmont	1.70 317		↑iP	Pn	07 48 51.7	+1.8
ECG	Echelle	1.71 319		eP	Pn	07 48 51.6	+1.4
LKG	Breislack	1.72 319		eP	Pn	07 48 51.5	+1.2
TAG	Tarade	1.72 319		||iP	Pn	07 48 51.8	+1.5
TAG				eS	Sn	07 49 13.4	+2.2
SCG	Saint Claude	1.72 318		||iP	Pn	07 48 51.8	+1.5
BCG	Bois Riant Cap	1.72 321		↑iP	Pn	07 48 51.7	+1.4
CRG	Carmichael	1.73 319		eP	Pn	07 48 51.6	+1.2
FNG	Fond-Bernard	1.75 319		eP	Pn	07 48 52.0	+1.3
MLG	Mont-d'or	1.76 318		||iP	Pn	07 48 52.3	+1.5
SSG	Sans Toucher	1.76 320		||eP	Pn	07 48 52.1	+1.2
LZG	Guadaloupe-1	1.86 319		eP	Pn	07 48 53.9	+1.8
SEG	Port Louis	1.92 330		eP	Pn	07 48 54.5	+1.6
GRW	Mount Saint Ca	2.81 204		eP	Pn	07 49 07.9	+2.7
GRGR	Grenville	2.83 204		eP	Pn	07 49 07.2	+1.7
SKI	Saint Kitts	3.36 320		eP	Pn	07 49 15.3	+2.5
SKI				eS	Sn	07 49 53.3	+1.7
TOSP	Speyside	3.42 181		eP	Pn	07 49 16.2	+2.6
TOSP				eS	Sn	07 49 54.6	+1.7

PRU ***05*** *07:48:55.2, 42°.85N×28°.82E, h0km, M4.8*

BEO ***05*** *07:48:58.9, 44°.15N×29°.05E, h0km*

ISK ***05*** *07:48:59.9, 43°.39N×28°.75E, h5km, ML5.1*

PDG ***05*** *07:48:59.7±0.4, 43°.51N×28°.87E, h13km±5km, MD5.3/1, ML5.2/9, Error ellipse: s-maj=2.0km s-min=8.1km az=0.0*

BUC ***05*** *07:49:00.8±1.1, 43°.37N×28°.76E, h6km±6km, MD5.2/9, Error ellipse: s-maj=7.6km s-min=5.3km az=95.0*

SOF ***05*** *07:49:00.3, 43°.38N×28°.77E, h8km, MD4.7*

CSEM ***05*** *07:49:01.8±0.1, 43°.41N×28°.68E, h2km, mb4.7/66, Ms3.9, Mw5.0, Error ellipse: s-maj=1.8km s-min=1.5km az=46.0*

ISCJB ***05*** *07:49:01.3±0.3, 43°.386N±0°.009×28°.66E±0°.01, h10km±2km, mb4.5/112, MS4.2/27, Error ellipse: s-maj=1.6km s-min=1.3km az=44.3*

BJI ***05*** *07:49:02.6, 43°.40N×28°.70E, h10km, mB4.9/13, mb4.6/21, Ms4.8/12, Ms7 4.4/12*

THE ***05*** *07:49:02.1, 43°.34N×28°.66E, h0km±3km, ML5.3/19, Error ellipse: s-maj=6.9km s-min=1.6km az=32.0*

NEIC ***05*** *07:49:03.2±0.2, 43°.45N×28°.69E, h10km, mb4.7/38, Error ellipse: s-maj=4.4km s-min=3.7km az=23.0*

NEIC Felt [III] at Ruse and Varna, Bulgaria. Also felt at Balchik, Burgas, Dobrich, Dolni Chiflik, General-Toshevo, Kavarna, Kazanluk, Nesebur, Pleven, Primorsko, Razgrad, Shabla, Silistra, Sofia, Straldzha and Svishtov. Felt [IV] at Constanta and [III] at Bucharest, Romania. Also felt at Adjud, Alexandria, Balotesti, Brasov, Buzau, Cimpina, Clinceni, Eforie, Galati, Giurgiu, Mangalia, Mihail Kogalniceanu, Mizil, Moara Vlasiei, Ploiesti, Roata de Jos, Topraisar and Zimnicea. Felt at Karasu and Istanbul, Turkey and at Odesa, Ukraine.

MOS ***05*** *07:49:03.4±1.5, 43°.48N×28°.76E, h27km, mb4.6/24, MS4.0/29, Error ellipse: s-maj=4.6km s-min=2.9km az=118.3*

DDA ***05*** *07:49:04.5, 43°.07N×28°.59E, h9km, ML5.0*

GCMT ***05*** *07:49:04.7±0.3, 43°.42N×28°.60E, h20km±1km, MW5.0, Moment Tensor Solution. s29,c33: s71,c114; Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.13; $M_{\theta\theta}$2.85±.11; $M_{\phi\phi}$-3.02±.11; $M_{r\theta}$-1.65±.28; $M_{\theta\phi}$1.23±.09; $M_{\phi r}$0.35±.20; Best double couple: M_0=3.60000×10^{16} NP1:ϕ_s305.00000°, δ82.00000°, λ26.00000°. NP2:ϕ_s211.00000°, δ65.00000°, λ171.00000°. Principal axes: T 3.7700, Plg24.0000°, Azm171.0000°; N -0.3700, Plg63.0000°, Azm321.0000°; P -3.4100, Plg12.0000°, Azm76.0000°; Data Used: II IU CN IC G.*

IDC ***05*** *07:49:04.5±2.6, 43°.45N×28°.60E, h22km±17km, mb4.0/26, mb1 4.2/37, mb1mx4.1/42, mbtmp4.0/37, ML4.0/8, MS4.0/22, Ms1 4.0/22, ms1mx3.9/38 Error ellipse: s-maj=10.4km s-min=7.4km az=25.0*

TEH ***05*** *07:49:05.0, 43°.36N×28°.66E, h10km, ML4.7*

BGS ***05*** *07:49:11.6±1.9, 43°.86N×27°.85E, h10km, mb4.7*

ISC 05 07:49:03.7±0.4, 43°.42N±0°.02×28°.66E±0°.02, h14km±2km, h14km:pP-P, n1258, σ1ϑ43/1338, mb4.6/112, MS4.2/28, 94C-61D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANR	Mangalia	0.40 352		↑iP	Pg	07 49 11.0	-0.7
MANR	Mangalia	0.40 352		↑iP	Pg	07 49 11.0	-0.7
MANR	Mangalia	0.40 352		↑iP	Pg	07 49 11.0	-0.7
PSN	Preselentsi	0.43 307		i Pg	Pg	07 49 11.6	-0.8
PSN	Preselentsi	0.43 307		i Pg	Pg	07 49 11.6	-0.8
EFOR	EFORIE	0.66 358		↑iP	Pg	07 49 15.8	-0.8
EFOR	EFORIE	0.66 358		↑iP	Pg	07 49 15.8	-0.8
EFOR				i S	Sg	07 49 24.4	-0.9
EFOR	EFORIE	0.66 358		↑iP	Pg	07 49 15.8	-0.8
EFOR				i S	Sg	07 49 24.4	-0.9
PRD	Provadia	0.95 257		i Pg	Pb	07 49 20.7	-1.1
PRD	Provadia	0.95 257		i Pg	Pb	07 49 20.7	-1.1
ROIA	ROIAK	0.99 251		i Pg	Pb	07 49 21.8	-0.9
CVD	Cernavoda	1.00 333		↑P	Pb	07 49 22.2	-0.6
CVD				S	Sb	07 49 35.7	-0.1
CVD	Cernavoda	1.00 333		↑iP	Pb	07 49 22.2	-0.6
CVD	Cernavoda	1.00 333		↑iP	Pb	07 49 22.2	-0.6
CVD				i S	Sb	07 49 35.5	-0.3
CVD	Cernavoda	1.00 333		↑iP	Pb	07 49 22.2	-0.6
CVD				i S	Sb	07 49 35.5	-0.3
TIRR	Tirgusor	1.05 350		↑P	Pb	07 49 22.5	-1.1
TIRR				S	Sb	07 49 35.9	-1.3
TIRR	Tirgusor	1.05 350		↑iP	Pb	07 49 22.5	-1.1
TIRR	Tirgusor	1.05 350		↑iP	Pb	07 49 22.5	-1.1
TIRR	Tirgusor	1.05 350		ePg	Pb	07 49 22.4	-1.1
TIRR				eSg	Sb	07 49 35.6	-1.6
TIRR	Tirgusor	1.05 350		↑iP	Pb	07 49 22.5	-1.1
TIRR				eSg	Sb	07 49 35.7	-1.6
HARR	Harsova	1.37 338		↑P	Pn	07 49 27.8	-0.6
HARR	Harsova	1.37 338		↑P	Pn	07 49 27.8	-0.6
HARR	Harsova	1.37 338		↑iP	Pn	07 49 27.8	-0.6
HARR	Harsova	1.37 338		↑iP	Pn	07 49 27.8	-0.6
AMRR	Amara	1.53 322		↑P	Pn	07 49 30.3	-0.2
AMRR				S	Sb	07 49 50.9	0.0
AMRR	Amara	1.53 322		↑iP	Pn	07 49 30.3	-0.2
AMRR	Amara	1.53 322		↑iP	Pn	07 49 30.3	-0.2
AMRR				i S	Sb	07 49 50.9	0.0
AMRR	Amara	1.53 322		↑iP	Pn	07 49 30.3	-0.2
AMRR				i S	Sb	07 49 50.9	0.0
TLCR		1.77	3	↑P	Pn	07 49 33.8	0.0
TLCR				S	Sb	07 49 57.4	-0.4
TLCR		1.77	3	↑iP	Pn	07 49 33.8	0.0
TLCR		1.77	3	↑iP	Pn	07 49 33.8	0.0
TLCR				i S	Sb	07 49 57.4	-0.4
TLCR		1.77	3	↑iP	Pn	07 49 33.8	0.0
TLCR				i S	Sb	07 49 57.4	-0.4
CFR	Carcaliu	1.80 348		↑P	Pn	07 49 33.2	-1.0
CFR				S	Sn	07 49 57.8	+1.1
CFR	Carcaliu	1.80 348		↑iP	Pn	07 49 33.1	-1.1
CFR	Carcaliu	1.80 348		↑iP	Pn	07 49 33.1	-1.1
CFR				i S	Sn	07 49 57.8	+1.1
CFR	Carcaliu	1.80 348		P	Pn	07 49 33.2	-1.0
CFR				i S	Sn	07 49 57.8	+1.1
JMB	Yambol	1.80 239

BUC1	Bucharest	2.12 297	⇓iP	Pn	07 49 38.5	-0.1
BUC1			S	Sb	07 50 08.7	+0.8
SULR		2.14 307	⇓iP	Pn	07 49 39.3	+0.4
SULR		2.14 307	⇓iP	Pn	07 49 39.3	+0.4
SULR		2.14 307	⇓iP	Pn	07 49 39.3	+0.4
KLYT	Kilyos	2.19 172	ePN	Pn	07 49 38.0	-1.5
KLYT	Kilyos	2.19 172	ePn	Pn	07 49 38.0	-1.5
SLVT	Silivri	2.22 189	ePN	Pn	07 49 38.8	-1.2
SLVT	Silivri	2.22 189	ePn	Pn	07 49 38.8	-1.2
BGKT	Bogazkoy	2.24 178	ePN	Pn	07 49 39.1	-1.2
BGKT	Bogazkoy	2.24 178	ePn	Pn	07 49 39.1	-1.2
ELBA	Catalca	2.28 184	iP	Pn	07 49 39.9	-1.0
ELBA	Catalca	2.28 184	iP	Pn	07 49 39.9	-1.0
ISR	Istrita	2.28 319	⇓iP	Pn	07 49 41.7	+0.8
ISR			S	Sb	07 50 11.5	-1.2
ISR	Istrita	2.28 319	⇓iP	Pn	07 49 41.7	+0.8
ISR	Istrita	2.28 319	⇓iP	Pn	07 49 41.7	+0.8
ISR			iS	Sb	07 50 11.5	-1.2
ISR	Istrita	2.28 319	⇓iP	Pn	07 49 41.7	+0.8
ISR			iS	Sb	07 50 11.5	-1.2
GRER		2.30 329	⇑iP	Pn	07 49 42.2	+1.1
GRER		2.30 329	⇑iP	Pn	07 49 42.2	+1.1
GRER		2.30 329	⇑iP	Pn	07 49 42.2	+1.1
ISK	Istanbul-Kandi	2.37 173	ePN	Pn	07 49 40.7	-1.4
ISK	Istanbul-Kandi	2.37 173	P	Pn	07 49 41.0	-1.1
ISK			S	Sn	07 50 09.4	-1.5
ISK	Istanbul-Kandi	2.37 173	ePn	Pn	07 49 40.7	-1.4
ISK	Istanbul-Kandi	2.37 173	P	Pn	07 49 41.0	-1.1
ISK			S	Sn	07 50 09.4	-1.5
SILT	Sile	2.38 162	ePN	Pn	07 49 40.9	-1.3
SILT	Sile	2.38 162	ePn	Pn	07 49 40.9	-1.3
ZIMR		2.41 277	⇓iP	Pn	07 49 42.1	-0.5
ZIMR			S	Sb	07 50 15.7	-0.6
ZIMR		2.41 277	⇑iP	Pn	07 49 42.1	-0.5
ZIMR		2.41 277	⇑iP	Pn	07 49 42.1	-0.5
ZIMR			iS	Sn	07 50 13.6	+1.7
ZIMR		2.41 277	⇑iP	Pn	07 49 42.1	-0.5
ZIMR			iS	Sn	07 50 13.6	+1.7
PVL	Pavlikeni	2.44 266	iP	Pg	07 49 49.1	-1.3
PETR	Petresti	2.52 337	⇑iP	Pn	07 49 45.1	+1.0
PETR	Petresti	2.52 337	⇑iP	Pn	07 49 45.1	+1.0
PETR	Petresti	2.52 337	⇑iP	Pn	07 49 45.1	+1.0
TKR	Tekirdag	2.57 199	ePN	Pn	07 49 44.2	-0.6
TKR	Tekirdag	2.57 199	ePn	Pn	07 49 44.2	-0.6
BUY	Buyukada	2.59 172	iP	Pn	07 49 44.8	-0.3
BUY			iS	Sn	07 50 13.8	-2.5
BUY	Buyukada	2.59 172	iP	Pn	07 49 44.8	-0.3
DIM	Dimitrovgrad	2.68 240	iP	Pn	07 49 45.4	-1.0
DIM	Dimitrovgrad	2.68 240	iP	Pn	07 49 45.4	-1.0
HRT	Hereke	2.70 164	ePN	Pn	07 49 46.2	-0.5
HRT	Hereke	2.70 164	ePn	Pn	07 49 46.2	-0.5
VRI	Vrincioaia	2.81 331	⇑iP	Pn	07 49 48.2	+0.1
VRI			S	Sn	07 50 24.4	+2.7
VRI	Vrincioaia	2.81 331	⇑iP	Pn	07 49 48.2	+0.1
VRI	Vrincioaia	2.81 331	⇑iP	Pn	07 49 48.2	+0.1
VRI	Vrincioaia	2.81 331	⇑iP	Pn	07 49 48.2	+0.1
VRI			S	Sn	07 50 24.4	+2.7
PLOR	Plostina	2.82 330	⇑iP	Pn	07 49 48.5	+0.2
PLOR			S	Sn	07 50 24.8	+2.7
PLOR	Plostina	2.82 330	⇑iP	Pn	07 49 48.5	+0.2
PLOR	Plostina	2.82 330	⇑iP	Pn	07 49 48.5	+0.2
PLOR	Plostina	2.82 330	⇑iP	Pn	07 49 48.5	+0.2
PLOR			S	Sn	07 50 24.8	+2.7
MFT	Murefte	2.83 202	ePN	Pn	07 49 47.7	-0.8
MFT	Murefte	2.83 202	ePn	Pn	07 49 47.7	-0.8
MLR	Muntele Rosu	2.84 318	⇑iP	Pn	07 49 48.7	0.0
MLR	Muntele Rosu	2.84 318	⇑iP	Pn	07 49 48.7	0.0
MLR			iS	Sn	07 50 23.2	+0.5
MLR	Muntele Rosu	2.84 318	Pn	Pn	07 49 48.9	+0.2
MLR			Sn	Sn	07 50 20.9	-1.8
MLR			Lg	Lg	07 50 34.2	
MLR	Muntele Rosu	2.84 318	Pn	Pn	07 49 48.9	+0.2
	2.0nm,0.3s,baz=355,slow=1.2,SNR=100					
MLR			Sn	Sn	07 50 20.9	-1.8
	61nm,0.3s,baz=154,slow=16,SNR=6.6					
MLR			Lg	Lg	07 50 34.2	
	140nm,0.3s,baz=259,slow=21,SNR=15					
MLR			LR	LR	07 50 54.4	
	comp=Z,520nm,18.9s,baz=221,slow=39					
MLR	Muntele Rosu	2.84 318	⇑iP	Pn	07 49 48.7	0.0
MLR			Sn	Sn	07 50 20.9	-1.8
MLR			iS	Sn	07 50 23.2	+0.5
ARMT	Armutlu	2.86 177	ePN	Pn	07 49 47.9	-0.9
ARMT	Armutlu	2.86 177	ePn	Pn	07 49 47.9	-0.9
HUMR	Humele	2.88 294	⇓iP	Pn	07 49 48.3	-0.8
HUMR	Humele	2.88 294	⇓iP	Pn	07 49 48.3	-0.8
HUMR	Humele	2.88 294	⇓iP	Pn	07 49 48.3	-0.8
YLV	Yalova	2.90 169	ePN	Pn	07 49 49.0	-0.4
YLV	Yalova	2.90 169	ePn	Pn	07 49 49.1	-0.4
KDZE	Karadeniz Ereo	2.95 135	ePN	Pn	07 49 48.5	-1.5
KDZE	Karadeniz Ereo	2.95 135	ePn	Pn	07 49 48.5	-1.5
SART	Tekirdag	2.95 203	iP	Pn	07 49 49.2	-0.9
SART	Tekirdag	2.95 203	iP	Pn	07 49 49.2	-0.9
RKY	Sarkoy-Tekirda	2.95 203	ePN	Pn	07 49 49.7	-0.4
RKY	Sarkoy-Tekirda	2.95 203	ePn	Pn	07 49 49.7	-0.4
KDZ	Kurdzhali	2.98 235	iP	Pn	07 49 50.7	+0.2
KDZ	Kurdzhali	2.98 235	iP	Pn	07 49 50.7	+0.2
SPNC	Sapanca-Adapaz	3.00 155	ePN	Pn	07 49 49.7	-1.0
SPNC	Sapanca-Adapaz	3.00 155	ePn	Pn	07 49 49.7	-1.0
GEMT	Gemlik	3.01 172	ePN	Pn	07 49 49.9	-1.0
GEMT	Gemlik	3.01 172	ePn	Pn	07 49 49.9	-1.0
GOLR		3.02 299	⇑iP	Pn	07 49 51.1	+0.1
GOLR		3.02 299	⇑iP	Pn	07 49 51.1	+0.1
GOLR		3.02 299	⇑iP	Pn	07 49 51.1	+0.1
MDNY	Mudanya-Bursa	3.06 177	ePN	Pn	07 49 50.7	-0.8
MDNY	Mudanya-Bursa	3.06 177	ePn	Pn	07 49 50.7	-0.8
LEOM	Leova	3.07 355	⇑iP	Pn	07 49 51.9	+0.3
LEOM	Leova	3.07 355	⇑iP	Pn	07 49 51.9	+0.3
LEOM	Leova	3.07 355	⇑iP	Pn	07 49 51.9	+0.3
LEOM	Leova	3.07 355	⇑iP	Pn	07 49 51.9	+0.3
ADVT	Abdulvahap	3.09 165	ePN	Pn	07 49 51.1	-0.9
ADVT	Abdulvahap	3.09 165	ePn	Pn	07 49 51.1	-0.9
BNT	Bandirma	3.11 191	ePN	Pn	07 49 51.8	-0.5
BNT	Bandirma	3.11 191	ePn	Pn	07 49 51.8	-0.5
KCTX	Karacabey (Bur	3.16 184	ePN	Pn	07 49 52.5	-0.5
KCTX	Karacabey (Bur	3.16 184	ePn	Pn	07 49 52.5	-0.5
ALN	Alexandroupoli	3.19 219	P	Pn	07 49 52.3	-1.0
ALN	Alexandroupoli	3.19 219	eP	Pn	07 49 56.0	+2.7
ALN	Alexandroupoli	3.19 219	P	Pn	07 49 52.3	-1.0
KRBG	Karabiga-Canak	3.19 199	ePN	Pn	07 49 52.6	-0.8
KRBG	Karabiga-Canak	3.19 199	ePn	Pn	07 49 52.6	-0.8
PLD	Plovdiv	3.20 247	P	Pn	07 49 52.1	-1.4
PLD	Plovdiv	3.20 247	iP	Pn	07 49 52.3	-1.2
PLD	Plovdiv	3.20 247	iP	Pn	07 49 52.3	-1.2
RDO	Rodhopi	3.25 227	eP	Pb	07 50 00.5	-0.6
ENEZ	Enez	3.27 216	ePN	Pn	07 49 54.4	0.0
ENEZ	Enez	3.27 216	ePn	Pn	07 49 54.4	0.0
VOIR		3.28 309	⇓iP	Pn	07 49 55.8	+1.1
VOIR			S	Sn	07 50 36.5	+3.0
VOIR		3.28 309	⇓iP	Pn	07 49 55.8	+1.1
VOIR		3.28 309	⇓iP	Pn	07 49 55.8	+1.1
VOIR		3.28 309	⇓iP	Pn	07 49 55.8	+1.1
VOIR			S	Sn	07 50 36.5	+3.0
GULT	Gulveren	3.29 155	ePN	Pn	07 49 53.6	-1.2
GULT	Gulveren	3.29 155	ePn	Pn	07 49 53.6	-1.2
ULDT	Uludag	3.30 174	iP	Pn	07 49 54.4	-0.6
ULDT	Uludag	3.30 174	iP	Pn	07 49 54.4	-0.6
CAVI	Cavuskoy	3.33 164	ePN	Pn	07 49 54.4	-1.0
CAVI	Cavuskoy	3.33 164	ePn	Pn	07 49 54.4	-1.0
LPK	Lapseki	3.36 206	ePN	Pn	07 49 55.4	-0.3
LPK	Lapseki	3.36 206	ePn	Pn	07 49 55.4	-0.3
GPA	Golpazari	3.36 158	ePN	Pn	07 49 55.5	-0.3
GPA	Golpazari	3.36 158	ePn	Pn	07 49 55.5	-0.3
ORLT	Orhaneli	3.38 177	ePN	Pn	07 49 55.1	-0.9
ORLT	Orhaneli	3.38 177	ePn	Pn	07 49 55.1	-0.9
RZN	Rozhen	3.39 241	iP	Pn	07 49 55.5	-0.8
RZN	Rozhen	3.39 241	iP	Pn	07 49 55.5	-0.8
TESR	Tescani	3.41 336	⇑iP	Pn	07 49 55.7	-0.6
TESR	Tescani	3.41 336	⇑iP	Pn	07 49 55.7	-0.6
TESR	Tescani	3.41 336	⇑iP	Pn	07 49 55.7	-0.6
PGB	Panagyurishte	3.41 257	iP	Pn	07 49 56.3	-0.2
PGB	Panagyurishte	3.41 257	iP	Pn	07 49 56.3	-0.2
GONE	Gonen-Balikesi	3.45 193	ePN	Pn	07 49 56.3	-0.6
GONE	Gonen-Balikesi	3.45 193	ePn	Pn	07 49 56.3	-0.6
ARR	Arges	3.48 305	⇑iP	Pn	07 49 57.9	+0.5
ARR	Arges	3.48 305	⇑iP	Pn	07 49 57.9	+0.5
ARR	Arges	3.48 305	⇑iP	Pn	07 49 57.9	+0.5
MDUB	Mudurnu	3.50 146	ePN	Pn	07 49 56.6	-1.1
MDUB	Mudurnu	3.50 146	ePn	Pn	07 49 56.6	-1.1
KIS	Kishinev	3.58 2	⇑iP	Pn	07 49 58.0	-0.7
	500nm,1.2s					
KIS			iS	Sb	07 50 53.0	+3.1
	57µm,2.0s					
KIS	Kishinev	3.58 2	⇑iP	Pn	07 49 58.0	-0.7
KIS	Kishinev	3.58 2	iP	Pn	07 49 58.0	-0.7
MPEP	Malo Peshtene	3.59 271	iP	Pn	07 49 58.3	-0.5
SAFT	Safranbolu	3.69 125	ePN	Pn	07 49 59.3	-1.0
SAFT	Safranbolu	3.69 125	ePn	Pn	07 49 59.3	-1.0
BALY	Balya	3.76 192	iP	Pn	07 50 00.8	-0.5
BALY	Balya	3.76 192	iP	Pn	07 50 00.8	-0.5
SMTH	Samothraki Isl	3.76 219	P	Pn	07 50 00.7	-0.5
SMTH	Samothraki Isl	3.76 219	eP	Pn	07 50 00.5	-0.7
SMTH	Samothraki Isl	3.76 219	P	Pn	07 50 00.7	-0.5
SEV	Sevastopol'	3.78 71	⇓eP	Pn	07 49 59.9	-1.6
SEV			eS	Sn	07 50 45.7	0.0
SEV	Sevastopol'	3.78 71	eP	Pn	07 49 59.9	-1.6
SEV			eS	Sn	07 50 45.7	0.0
BORA	Eskisehir	3.78 159	iP	Pn	07 50 01.9	+0.3
BORA	Eskisehir	3.78 159	iP	Pn	07 50 01.9	+0.3
DST	Dursunbey	3.81 181	ePN	Pn	07 50 01.6	-0.3
DST	Dursunbey	3.81 181	ePn	Pn	07 50 01.7	-0.3
DURS	Dursunbey	3.82 182	iP	Pn	07 50 01.3	-0.8
DURS	Dursunbey	3.82 182	iP	Pn	07 50 01.3	-0.8
BALB	Balikesir	3.82 189	ePN	Pn	07 50 01.3	-0.8
BALB	Balikesir	3.82 189	ePn	Pn	07 50 01.3	-0.8
IAS	Iasi	3.85 349	⇓iP	Pn	07 50 01.2	-1.2
IAS	Iasi	3.85 349	⇓iP	Pn	07 50 01.2	-1.2
IAS	Iasi	3.85 349	⇓iP	Pn	07 50 01.2	-1.2
IAS	Iasi	3.85 349	⇓iP	Pn	07 50 01.2	-1.2
KAVA	Kavala	3.92 233	P	Pn	07 50 02.2	-1.2
KAVA	Kavala	3.92 233	P	Pn	07 50 02.2	-1.2
SOF	Sofiya	3.97 261	iP	Pn	07 50 08.8	+4.6
LOT	Lotru	4.05 302	⇑iP	Pn	07 50 05.7	+0.4
LOT	Lotru	4.05 302	⇑iP	Pn	07 50 05.7	+0.4
LOT	Lotru	4.05 302	⇑iP	Pn	07 50 05.7	+0.4
MMB	Musomiste	4.08 245	iP	Pn	07 50 04.9	-0.8
MMB	Musomiste	4.08 245	iP	Pn	07 50 04.9	-0.8
VTS	Vitosha	4.09 260	P	Pn	07 50 04.9	-0.8
VTS	Vitosha	4.09 260	⇓iP	Pn	07 50 05.0	-0.8
VTS			S	Sn	07 50 55.7	+2.2
VTS	Vitosha	4.09 260	iP	Pn	07 50 05.2	-0.6
VTS	Vitosha	4.09 260	⇓iP	Pn	07 50 05.0	-0.8
VTS	Vitosha	4.09 260	⇓iP	Pn	07 50 05.0	-0.8
VTS	Vitosha	4.09 260	iP	Pn	07 50 05.2	-0.6
VTS			S	Sn	07 50 55.7	+2.2
YAL	Yalta	4.11 73	⇑eP	Pn	07 50 04.6	-1.3
YAL			eS	Sn	07 50 53.0	-0.7
YAL	Yalta	4.11 73	eP	Pn	07 50 04.6	-1.3
YAL			eS	Sn	07 50 53.0	-0.7
NVR	Nevrokopi	4.12 241	P	Pn	07 50 05.0	-1.1
NVR	Nevrokopi	4.12 241	eP	Pn	07 50 05.5	-0.6
NVR	Nevrokopi	4.12 241	P	Pn	07 50 05.0	-1.1
BZK	Bozkurt	4.20 109	ePN	Pn	07 50 06.2	-1.0
BZK	Bozkurt	4.20 109	ePn	Pn	07 50 06.2	-1.0
SIM	Simferopol'	4.21 67	diP	Pn	07 50 05.3	-2.0
SIM			eS	Sn	07 50 55.4	-0.8
SIM			pmax	pmax		
	comp=Z,2.0nm,0.5s					
SIM			smax	smax		
	comp=N,2µm,0.5s					
SIM			smax	smax		
	comp=E,2µm,0.5s					
SIM			MLR	MLR		
	comp=Z,2µm,11.8s					
SIM	Simferopol'	4.21 67	iP	Pn	07 50 05.3	-2.0
	comp=Z,2.0nm,0.5s					
SIM			eS	Sn	07 50 55.4	-0.8
	comp=Z,2µm,11.8s					
ESKT	Eskisehir	4.23 156	ePN	Pn	07 50 06.9	-0.9
ESKT	Eskisehir	4.23 156	ePn	Pn	07 50 06.9	-0.9
SEYT	Eskypehyr	4.23 156	iP	Pn	07 50 07.8	+0.1
SEYT	Eskypehyr	4.23 156	iP	Pn	07 50 07.8	+0.1
ALU	Alushta	4.33 71	eP	Pn	07 50 08.5	-0.4
ALU			eS	Sn	07 50 58.2	-0.9
ALU	Alushta	4.33 71	eP	Pn	07 50 08.5	-0.4
ALU			eS	Sn	07 50 58.2	-0.9
AYVA	Ayvalik	4.37 201	iP	Pn	07 50 09.4	-0.1
AYVA	Ayvalik	4.37 201	iP	Pn	07 50 09.4	-0.1
DEMI	Demirci	4.38 179	iP	Pn	07 50 09.5	-0.2
DEMI	Demirci	4.38 179	iP	Pn	07 50 09.5	-0.2
LIA	Limnos Island	4.38 218	P	Pn	07 50 08.6	-1.1
LIA	Limnos Island	4.38 218	eP	Pn	07 50 09.0	-0.7
LIA	Limnos Island	4.38 218	P	Pn	07 50 08.6	-1.1
KKB	Krupnik	4.40 251	iP	Pn	07 50 09.1	-0.9
SRS	Serrai	4.41 240	P	Pn	07 50 09.1	-1.1
SRS	Serrai	4.41 240	P	Pn	07 50 09.1	-1.1
ILGA	Ilgaz	4.44 121	iP	Pn	07 50 11.1	+0.4
ILGA	Ilgaz	4.44 121	iP	Pn	07 50 11.1	+0.4
ALT	Altintas	4.50 165	ePN	Pn	07 50 10.8	-0.6
ALT	Altintas	4.50 165	P	Pn	07 50 11.0	-0.4
ALT	Altintas	4.50 165	P	Pn	07 50 11.0	-0.4
SVRH	Sivrihisar-ESK	4.51 151	ePN	Pn	07 50 11.2	-0.4
SVRH	Sivrihisar-ESK	4.51 151	ePn	Pn	07 50 11.2	-0.4
PRK	Paraskevi	4.54 204	P	Pn	07 50 11.2	-0.7
PRK			S	Sn	07 51 04.6	+0.1
PRK	Paraskevi	4.54 204	eP	Pn	07 50 12.0	+0.1
PRK	Paraskevi	4.54 204	P	Pn	07 50 11.2	-0.7
PRK			S	Sn	07 51 04.6	+0.1
AKHS	Akhisar	4.58 188	iP	Pn	07 50 12.1	-0.4
AKHS			iS	Sn	07 50 59.8	-5.8
AKHS	Akhisar	4.58 188	iP	Pn	07 50 12.1	-0.4
DJES	Djerdap	4.60 288	ePn	Pn	07 50 10.7	-2.0
DJES	Djerdap	4.60 288	ePn	Pn	07 50 10.7	-2.0
ELDT	Eldivan	4.60 128	iP	Pn	07 50 13.2	+0.3
ELDT	Eldivan	4.60 128	iP	Pn	07 50 13.2	+0.3
TOS	Tosya	4.64 119	ePN	Pn	07 50 12.7	-0.6
TOS	Tosya	4.64 119	ePn	Pn	07 50 12.7	-0.6
CANT	Cankiri	4.64 126	ePN	Pn	07 50 12.8	-0.6
OUR	Ouranopolis	4.66 230	P	Pn	07 50 11.8	-1.8
OUR	Ouranopolis	4.66 230	P	Pn	07 50 11.8	-1.8
LOD	Lodumlu	4.68 138	ePN	Pn	07 50 13.1	-0.8
LOD	Lodumlu	4.68 138	ePn	Pn	07 50 13.1	-0.8
ANTO	Ankara	4.71 138	eP	Pn	07 50 14.2	-0.1
ANTO			e		07 51 08.6	
ANTO	Ankara	4.71 138	ePn	Pn	07 50 14.2	-0.1
ANTO			eSn	Sn	07 51 08.6	-0.1
ANTO	Ankara	4.71 138	eP	Pn	07 50 14.2	-0.1
ANTO			eS	Sn	07 51 08.6	-0.1
SOH	Sokhos	4.73 238	P	Pn	07 50 13.4	-1.1
SOH	Sokhos	4.73 238	eP	Pn	07 50 13.5	-1.1
DEV	Deva	4.79 303	⇑P	Pn	07 50 16.0	+0.7
DEV	Deva	4.79 303	⇑iP	Pn	07 50 16.0	+0.7
DEV	Deva	4.79 303	⇑iP	Pn	07 50 16.0	+0.7
DEV	Deva	4.79 303	⇑iP	Pn	07 50 16.0	+0.7
SUDU	Sudak	4.79 70	⇑iP	Pn	07 50 14.3	-1.0
SUDU			eS	Sn	07 51 10.8	+0.3
SUDU	Sudak	4.79 70	iP	Pn	07 50 14.3	-1.0
SUDU			eS	Sn	07 51 10.8	+0.3
KNT	Kendrikon	4.84 244	P	Pn	07 50 15.6	-0.4
KNT	Kendrikon	4.84 244	P	Pn	07 50 15.6	-0.4
BURAR	Bucovina Array	4.84 331	⇑P	Pn	07 50 16.2	+0.1
BURAR	Bucovina Array	4.84 331	⇑iP	Pn	07 50 16.2	+0.1
BURAR	Bucovina Array	4.84 331	⇑iP	Pn	07 50 16.2	+0.1
BURAR	Bucovina Array	4.84 331	⇑iP	Pn	07 50 16.2	+0.1
BUR08	Bucovina Ar. S	4.87 331	ePn	Pn	07 50 16.7	+0.1
BUR08	Bucovina Ar. S	4.87 331	ePn	Pn	07 50 16.7	+0.1
KULA	Kula-Manisa	4.90 180	ePN	Pn	07 50 16.2	-0.7
KULA	Kula-Manisa	4.90 180	P	Pn	07 50 16.0	-1.0
KULA	Kula-Manisa	4.90 180	P	Pn	07 50 16.0	-1.0
KULA	Kula-Manisa	4.90 180	ePn	Pn	07 50 16.3	-0.7
BYBT	Boyabat	4.92 111	ePN	Pn	07 50 16.7	-0.4
BYBT	Boyabat	4.92 111	ePn	Pn	07 50 16.7	-0.4
PLG	Polygyros	4.94 234	P	Pn	07 50 16.0	-1.5
PLG	Polygyros	4.94 234	eP	Pn	07 50 16.5	-1.0
VAY	Valandovo	4.98 247	P	Pn	07 50 16.4	-1.5
VAY	Valandovo	4.98 247	iPn	Pn	07 50 17.3	-0.6
VAY	Valandovo	4.98 247	P	Pn	07 50 16.4	-1.5
VAY	Valandovo	4.98 247	iPn	Pn	07 50 17.3	-0.6
HORT	Hortiatis	5.01 238	P	Pn	07 50 17.3	-1.2
HORT	Hortiatis	5.01 238	P	Pn	07 50 17.3	-1.2
BOYT	Boyabat	5.03 111	iP	Pn	07 50 23.3	+4.6
BOYT	Boyabat	5.03 111	iP	Pn	07 50 23.3	+4.6
BARS	Barje	5.05 265	ePn	Pn	07 50 18.9	0.0
SHUT	Suhut-Afyon	5.07 163	ePN	Pn	07 50 18.9	-0.4
SHUT	Suhut-Afyon	5.07 163	ePn	Pn	07 50 18.9	-0.4
THE	Thessaloniki	5.08 239	P	Pn	07 50 18.2	-1.1
THE	Thessaloniki	5.08 239	P	Pn	07 50 18.2	-1.1
KHAL	Karahalli	5.08 173	iP	Pn	07 50 19.6	+0.1
KHAL	Karahalli	5.08 173	iP	Pn	07 50 19.6	+0.1
FEO	Feodosiya	5.09 69	⇑eP	Pn	07 50 19.7	+0.3
FEO			eS	Sn	07 51 18.8	+0.8
FEO	Feodosiya	5.09 69	eP	Pn	07 50 19.7	+0.3
FEO			eS	Sn	07 51 18.8	+0.8
PAIG	Paliouri	5.11 229	P	Pn	07 50 18.1	-1.7
PAIG	Paliouri	5.11 229	eP	Pn	07 50 18.0	-1.7
PAIG	Paliouri	5.11 229	P	Pn	07 50 18.1	-1.7
BBAL	Bala	5.12 138	iP	Pn	07 50 20.7	+0.7
BBAL	Bala	5.12 138	iP	Pn	07 50 20.7	+0.7
IZM	Izmir	5.13 192	ePN	Pn	07 50 20.4	+0.3
IZM	Izmir	5.13 192	ePn	Pn	07 50 20.4	+0.3
KHL	Karahalli	5.13 172	ePN	Pn	07 50 19.9	-0.3
KHL	Karahalli	5.13 172	ePn	Pn	07 50 19.9	-0.3
KIZT	Kizilcal	5.15 151	ePN	Pn	07 50 20.0	-0.4
KIZT	Kizilcal	5.15 151	ePn	Pn	07 50 20.0	-0.4
AFSR	Af´ar-Bala (A	5.17 139	ePN	Pn	07 50 20.5	-0.2
AFSR	Af´ar-Bala (A	5.17 139	ePn	Pn	07 50 20.5	-0.2
DIKM	Dikmen	5.18 108	ePN	Pn	07 50 20.5	-0.3
DIKM	Dikmen	5.18 108	ePn	Pn	07 50 20.5	-0.3
BR131	Keskin Array S	5.25 133	ePn	Pn	07 50 21.6	-0.2
	comp=Z,79nm,0.5s					
BR131	Keskin Array S	5.25 133	ePn	Pn	07 50 21.6	-0.2
	comp=Z,79nm,0.5s					
BRTR	Keskin Array B	5.25 133	Pn	Pn	07 50 22.3	+0.5
BRTR			Sn	Sn	07 51 18.3	-3.8
BRTR	Keskin Array B	5.25 133	Pn	Pn	07 50 22.3	+0.5
	comp=Z,12nm,0.3s,baz=316,slow=12,SNR=144					
BRTR			Sn	Sn	07 51 18.3	-3.8
	comp=Z,18nm,0.3s,baz=306,slow=13,SNR=7.1					
BRTR	Keskin Array B	5.25 133	eP	Pn	07 50 21.5	-0.3
	comp=Z,24nm,0.4s					
BRTR	Keskin Array B	5.25 133	Pn	Pn	07 50 22.3	+0.5
BRTR			Sn	Sn	07 51 18.3	-3.8
GRG	Griva	5.26 244	P	Pn	07 50 20.4	-1.5
GRG	Griva	5.26 244	eP	Pn	07 50 21.0	-0.9
GRG	Griva	5.26 244	P	Pn	07 50 20.4	-1.5
URLA	Izmir	5.29 198	iP	Pn	07 50 21.4	-0.9
URLA	Izmir	5.29 198	iP	Pn	07 50 21.4	-0.9
CTKT	Corum	5.35 119	iP	Pn	07 50 23.3	+0.1
CTKT	Corum	5.35 119	iP	Pn	07 50 23.3	+0.1
DRGR		5.39 311	⇑P	Pn	07 50 22.8	-0.9
DRGR		5.39 311	⇓iP	Pn	07 50 22.8	-0.9
DRGR		5.39 311	⇓iP	Pn	07 50 22.8	-0.9
DRGR		5.39 311	⇓iP	Pn	07 50 22.8	-0.9
CHOS	Chios island	5.40 202	P	Pn	07 50 22.8	-1.1
CHOS	Chios island	5.40 202	eP	Pn	07 50 23.0	-0.9
CHOS	Chios island	5.40 202	P	Pn	07 50 22.8	-1.1
SVIS	Svilajnac	5.45 281	ePn	Pn	07 50 22.8	-1.6
SVIS	Svilajnac	5.45 281	ePn	Pn	07 50 22.8	-1.6
BZS	Buzias	5.50 296	⇓P	Pn	07 50 24.0	-1.0
BZS	Buzias	5.50 296	P	Pn	07 50 24.0	-1.0
CORM	Corum	5.51 124	ePN	Pn	07 50 25.0	-0.4
CORM	Corum	5.51 124	ePn	Pn	07 50 25.0	-0.4
SKO	Skopje	5.52 257	P	Pn	07 50 25.3	0.0
SKO	Skopje	5.52 257	iPn	Pn	07 50 26.3	+1.0
SKO	Skopje	5.52 257	ePn	Pn	07 50 25.7	+0.4
SKO	Skopje	5.52 257	P	Pn	07 50 25.3	0.0
SKO	Skopje	5.52 257	ePn	Pn	07 50 25.7	+0.4
KAMT	Kaman	5.55 135	ePN	Pn	07 50 25.9	0.0
KAMT	Kaman	5.55 135	ePn	Pn	07 50 25

FRGS	**Fruska Gora**	**6.59 288**	*e*Pn	Pn	07 50 43.4	+3.4
DALY	**Dalyan (Mu˘la**	**6.60 180**	*e*PN	**Pn**	**07 50 41.2**	**+1.1**
DALY	**Dalyan (Mu˘la**	**6.60 180**	*e*Pn	**Pn**	**07 50 41.3**	**+1.1**
TOKA	**Tokat**	**6.60 115**	*i* P	**Pn**	**07 50 41.8**	**+1.5**
TOKA	**Tokat**	**6.60 115**	*i* P	**Pn**	**07 50 41.8**	**+1.5**
PUK	**Puka**	**6.60 261**	*e*PN	**Pn**	**07 50 42.2**	**+1.9**
PUK			*i* SN	**Sg**	**07 52 37.4**	**+1.8**
PUK	**Puka**	**6.60 261**	*e*Pn	**Pn**	**07 50 42.2**	**+1.9**
ERBA	**Erbaa**	**6.62 112**	*i* P	**Pn**	**07 50 39.9**	**-0.6**
ERBA	**Erbaa**	**6.62 112**	*i* P	**Pn**	**07 50 39.9**	**-0.6**
TOKT	**Tokat**	**6.65 115**	*e*PN	**Pn**	**07 50 40.9**	**0.0**
TOKT	**Tokat**	**6.65 115**	*e*Pn	**Pn**	**07 50 40.9**	**0.0**
TEKS	**Tekeris**	**6.69 283**	*e*Pn	**Pn**	**07 50 42.4**	**+1.0**
TEKS	**Tekeris**	**6.69 283**	*e*Pn	**Pn**	**07 50 42.4**	**+1.0**
BBLS	**Lazići**	**6.73 277**	*e*Pn	**Pn**	**07 50 41.1**	**-1.0**
BBLS	**Lazići**	**6.73 277**	*e*Pn	**Pn**	**07 50 41.1**	**-1.0**
DAT	**Datca**	**6.74 187**	*e*PN	**Pn**	**07 50 43.0**	**+0.8**
DAT	**Datca**	**6.74 187**	*e*Pn	**Pn**	**07 50 43.0**	**+0.8**
PLE	**Pljevlja**	**6.76 272**	‖*i*Pn	**Pn**	**07 50 42.0**	**-0.5**
PLE			*e*Sn	**Sn**	**07 51 59.7**	**+0.4**
APE	**Apeiranthos**	**6.78 202**	P	**Pn**	**07 50 41.1**	**-1.7**
APE	**Apeiranthos**	**6.78 202**	*e*P	**Pn**	**07 50 41.5**	**-1.3**
APE	**Apeiranthos**	**6.78 202**	P	**Pn**	**07 50 41.1**	**-1.7**
FETY	**Fethiye**	**6.79 177**	*e*PN	**Pn**	**07 50 43.5**	**+0.7**
FETY	**Fethiye**	**6.79 177**	*e*Pn	**Pn**	**07 50 43.5**	**+0.7**
DSF	**Desfina**	**6.83 225**	P	**Pn**	**07 50 41.4**	**-2.0**
DSF	**Desfina**	**6.83 225**	P	**Pn**	**07 50 41.4**	**-2.0**
TIR	**Tirane**	**6.84 255**	*e*PN	**Pn**	**07 50 45.8**	**+2.4**
TIR			*i* SN	**Sg**	**07 52 41.2**	**-1.8**
TIR	**Tirane**	**6.84 255**	*e*P	**Pn**	**07 50 44.6**	**+1.2**
TIR	**Tirane**	**6.84 255**	*e*Pn	**Pn**	**07 50 44.6**	**+1.2**
TIR	**Tirane**	**6.84 255**	*e*P	**Pn**	**07 50 44.6**	**+1.2**
UZH	**Uzhgorod**	**6.84 322**	*e*P	**Pn**	**07 50 43.2**	**-0.2**
UZH			*e*S	**Sn**	**07 52 00.6**	**-0.4**
UZH			MLR	MLR		
	comp=Z,2µm,11.0s					
UZH	**Uzhgorod**	**6.84 322**	*e*P	**Pn**	**07 50 43.2**	**-0.2**
UZH			*e*S	**Sn**	**07 52 00.6**	**-0.4**
	comp=Z,2µm,11.0s					
EVR	**Evrytania**	**6.85 231**	P	**Pn**	**07 50 42.8**	**-1.0**
EVR	**Evrytania**	**6.85 231**	*e*P	**Pn**	**07 50 43.0**	**-0.8**
EVR	**Evrytania**	**6.85 231**	P	**Pn**	**07 50 42.8**	**-1.0**
NAIG	**Nisos Aigina**	**6.89 217**	*e*P	**Pn**	**07 50 43.5**	**-0.7**
LTK	**Loutraki**	**6.91 221**	P	**Pn**	**07 50 43.4**	**-1.1**
LTK	**Loutraki**	**6.91 221**	*e*P	**Pn**	**07 50 43.5**	**-1.1**
LTK	**Loutraki**	**6.91 221**	P	**Pn**	**07 50 43.4**	**-1.1**
JAN	**Janina**	**6.96 240**	P	**Pn**	**07 50 45.6**	**+0.3**
JAN	**Janina**	**6.96 240**	*e*P	**Pn**	**07 50 45.5**	**+0.3**
JAN	**Janina**	**6.96 240**	P	**Pn**	**07 50 45.6**	**+0.3**
NIG	**Nigde**	**6.96 138**	*e*PN	**Pn**	**07 50 45.5**	**+0.1**
NIG	**Nigde**	**6.96 138**	*e*Pn	**Pn**	**07 50 45.5**	**+0.1**
PDG	**Podgorica**	**6.98 265**	P	**Pn**	**07 50 46.2**	**+0.8**
PDG	**Podgorica**	**6.98 265**	*e*Pn	**Pn**	**07 50 45.5**	**+0.1**
PDG	**Podgorica**	**6.98 265**	‖*i*Pn	**Pn**	**07 50 46.0**	**+0.6**
PDG			*e*Sn	**Sn**	**07 52 05.0**	**+0.6**
TTG	**Podgorica**	**6.98 265**	‖*i*Pn	**Pn**	**07 50 46.0**	**+0.6**
TTG			*e*Sn	**Sn**	**07 52 05.0**	**+0.6**
KALE	**Kalithea**	**7.05 227**	P	**Pn**	**07 50 45.1**	**-1.3**
KALE	**Kalithea**	**7.05 227**	*e*P	**Pn**	**07 50 45.5**	**-0.9**
KALE	**Kalithea**	**7.05 227**	P	**Pn**	**07 50 45.1**	**-1.3**
KOLS	**Kolonicke sedl**	**7.07 323**	*e*P	**Pn**	**07 50 46.5**	**-0.2**
KOLS			MLR	MLR		
	comp=Z,400nm,1.2s					
KOLS	**Kolonicke sedl**	**7.07 323**	*e*PN	**Pn**	**07 50 46.5**	**-0.2**
KOLS	**Kolonicke sedl**	**7.07 323**	*e*SG	Sg	07 52 59.9	+9.4
KOLS	**Kolonicke sedl**	**7.07 323**	*e*Pn	**Pn**	**07 50 46.5**	**-0.2**
DRME	**Dracevica, Mon**	**7.08 263**	‖*i*Pn	**Pn**	**07 50 46.7**	**-0.1**
DRME			*e*Sn	**Sn**	**07 52 07.7**	**+0.7**
DRME	**Dracevica, Mon**	**7.08 263**	‖*i*Pn	**Pn**	**07 50 46.7**	**-0.1**
DRME			*e*Sn	**Sn**	**07 52 07.7**	**+0.7**
BNN	**Bunyan**	**7.09 128**	*e*PN	**Pn**	**07 50 47.2**	**+0.2**
BNN	**Bunyan**	**7.09 128**	*e*Pn	**Pn**	**07 50 47.2**	**+0.2**
TRIZ	**Trizonia**	**7.10 227**	P	**Pn**	**07 50 45.3**	**-1.8**
TRIZ	**Trizonia**	**7.10 227**	*e*P	**Pn**	**07 50 46.0**	**-1.1**
TRIZ	**Trizonia**	**7.10 227**	P	**Pn**	**07 50 45.3**	**-1.8**
NKY	**Niksic**	**7.10 268**	‖*i*Pn	**Pn**	**07 50 47.4**	**+0.2**
NKY			*e*Sn	**Sn**	**07 52 08.3**	**+0.6**
UPM	**Unac-Piva**	**7.12 272**	⇑*i*Pn	**Pn**	**07 50 47.7**	**+0.2**
UPM			*e*Sn	**Sn**	**07 52 08.1**	**-0.2**
UPM	**Unac-Piva**	**7.12 272**	⇑*i*Pn	**Pn**	**07 50 47.7**	**+0.2**
UPM			*e*Sn	**Sn**	**07 52 08.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**7.13 112**	*e*PN	**Pn**	**07 50 47.8**	**+0.2**
RSDY	**Resadiye-TOKAT**	**7.13 112**	*e*Pn	**Pn**	**07 50 47.8**	**+0.2**
NKME	**Niksic**	**7.14 268**	⇑*i*Pn	**Pn**	**07 50 47.4**	**-0.2**
NKME			*e*Sn	**Sn**	**07 52 08.9**	**+0.4**
EFP	**Efpalio**	**7.14 228**	P	**Pn**	**07 50 46.5**	**-1.2**
EFP	**Efpalio**	**7.14 228**	*e*P	**Pn**	**07 50 47.0**	**-0.7**
EFP	**Efpalio**	**7.14 228**	P	**Pn**	**07 50 46.5**	**-1.2**
LVV	**L'vov**	**7.15 335**	*e*P	**Pn**	**07 50 45.0**	**-2.7**
LVV			*e*S	Sn	07 52 02.0	-6.6
LVV	**L'vov**	**7.15 335**	*e*P	**Pn**	**07 50 45.0**	**-2.7**
LVV			*e*S	Sn	07 52 02.0	-6.6
ARG	**Arkhangelos**	**7.21 183**	*e*P	**Pn**	**07 50 50.0**	**+1.4**
DID	**Didima**	**7.21 217**	P	**Pn**	**07 50 47.7**	**-0.9**
DID	**Didima**	**7.21 217**	*e*P	**Pn**	**07 50 48.0**	**-0.6**
DID	**Didima**	**7.21 217**	P	**Pn**	**07 50 47.7**	**-0.9**
AKAS	**Kas**	**7.22 174**	*i* P	**Pn**	**07 50 50.2**	**+1.4**
AKAS	**Kas**	**7.22 174**	*i* P	**Pn**	**07 50 50.2**	**+1.4**
LAKA	**Lakka**	**7.24 227**	P	**Pn**	**07 50 47.2**	**-1.9**
LAKA	**Lakka**	**7.24 227**	*e*P	**Pn**	**07 50 48.5**	**-0.6**
LAKA	**Lakka**	**7.24 227**	P	**Pn**	**07 50 47.2**	**-1.9**
DIDY	**Didyma**	**7.25 217**	P	**Pn**	**07 50 47.7**	**-1.5**
DIDY	**Didyma**	**7.25 217**	P	**Pn**	**07 50 47.7**	**-1.5**
AK02	**Malin Array Si**	**7.25 3**	*e*Pn	**Pn**	**07 50 48.0**	**-1.0**
AK02	**Malin Array Si**	**7.25 3**	*e*Pn	**Pn**	**07 50 48.0**	**-1.0**
BUM	**Brajici-Budva**	**7.27 264**	⇑*i*Pn	**Pn**	**07 50 49.5**	**+0.1**
BUM			*e*Sn	**Sn**	**07 52 11.9**	**+0.2**
AK01	**Malin Array Si**	**7.28 3**	*e*Pn	**Pn**	**07 50 47.9**	**-1.6**
AK01	**Malin Array Si**	**7.28 3**	*e*Pn	**Pn**	**07 50 47.9**	**-1.6**
GUR	**Goura**	**7.29 223**	*e*P	**Pn**	**07 50 48.5**	**-1.2**
KIEV	**Kiev**	**7.29 3**	*e*P	**Pn**	**07 50 49.1**	**-0.4**
KIEV	**Kiev**	**7.29 3**	*e*Pn	**Pn**	**07 50 49.1**	**-0.4**
KIEV	**Kiev**	**7.29 3**	*e*P	**Pn**	**07 50 49.1**	**-0.4**
AKASG	**Malin Array Be**	**7.29 3**	P	**Pn**	**07 50 47.6**	**-2.1**
AKASG					07 52 07.9	
AKASG			pmax	pmax		
	comp=Z,17nm,0.3s					
AKASG			smax	smax		
	comp=N,65nm,0.3s					
AKASG	**Malin Array Be**	**7.29 3**	**Pn**	**Pn**	**07 50 47.6**	**-2.1**
AKASG			Sn	**Sn**	**07 52 07.9**	**-4.2**
AKASG			Lg	Lg	07 52 51.1	
AKASG	**Malin Array Be**	**7.29 3**	Pn	**Pn**	**07 50 47.6**	**-2.1**
	comp=N,17nm,0.3s,baz=188,slow=12,SNR=34					
AKASG			Sn	**Sn**	**07 52 07.9**	**-4.2**
	comp=N,65nm,0.3s,baz=187,slow=22,SNR=4.4					
AKASG			Lg	Lg	07 52 51.1	
	comp=N,171nm,0.3s,baz=179,slow=30,SNR=7.0					
AKASG	**Malin Array Be**	**7.29 3**	P	**Pn**	**07 50 47.6**	**-2.1**
	comp=N,17nm,0.3s					
AKASG			S	**Sn**	**07 52 07.9**	**-4.2**
	comp=N,65nm,0.3s					
AKBB	**Malin Array Si**	**7.29 3**	*e*P	**Pn**	**07 50 49.2**	**-0.5**
AKBB			*e*		07 52 07.6	
AKBB	**Malin Array Si**	**7.29 3**	*e*Pn	**Pn**	**07 50 49.2**	**-0.5**
AKBB			*e*Sn	**Sn**	**07 52 07.6**	**-4.5**
AKBB	**Malin Array Si**	**7.29 3**	*e*P	**Pn**	**07 50 49.2**	**-0.5**
AKBB			*e*S	**Sn**	**07 52 07.6**	**-4.5**
KSL	**Kastellorizon**	**7.30 174**	*e*P	Pn	07 50 55.0	+5.2
KLV	**Kalavryta, Ach**	**7.30 225**	P	**Pn**	**07 50 48.5**	**-1.4**
KLV	**Kalavryta, Ach**	**7.30 225**	*e*P	**Pn**	**07 50 49.0**	**-0.9**
KLV	**Kalavryta, Ach**	**7.30 225**	P	**Pn**	**07 50 48.5**	**-1.4**
IGT	**Igoumenitsa**	**7.36 241**	P	**Pn**	**07 50 51.8**	**+1.1**
IGT	**Igoumenitsa**	**7.36 241**	P	**Pn**	**07 50 51.8**	**+1.1**
SRN	**Sarande**	**7.39 244**	*e*PN	**Pn**	**07 50 52.6**	**+1.6**
SRN			*i* SN	**Sg**	**07 53 02.5**	**+1.8**
SRN	**Sarande**	**7.39 244**	P	**Pn**	**07 50 52.3**	**+1.3**
SRN	**Sarande**	**7.39 244**	P	**Pn**	**07 50 52.3**	**+1.3**
SRN	**Sarande**	**7.39 244**	*e*Pn	**Pn**	**07 50 52.6**	**+1.6**
CRVS	**Cervenica-Dubn**	**7.42 320**	*e*P	**Pn**	**07 50 51.3**	**-0.1**
CRVS			MLR	MLR		
	comp=Z,500nm,1.7s					
CRVS	**Cervenica-Dubn**	**7.42 320**	*e*PN	**Pn**	**07 50 51.3**	**-0.1**
CRVS	**Cervenica-Dubn**	**7.42 320**	*e*SG	Sg	07 53 11.1	+10
CRVS	**Cervenica-Dubn**	**7.42 320**	*e*Pn	**Pn**	**07 50 51.3**	**-0.1**
BRY	**Bratogost**	**7.42 269**	‖*i*Pn	**Pn**	**07 50 52.2**	**+0.6**
BRY			*e*Sn	**Sn**	**07 52 15.8**	**+0.2**
BRY	**Bratogost**	**7.42 269**	‖*i*Pn	**Pn**	**07 50 52.2**	**+0.6**
BRY			*e*Sn	**Sn**	**07 52 15.8**	**+0.2**
KWP	**Kalwaria Pacla**	**7.44 329**	*e*P	**Pn**	**07 50 52.7**	**+1.0**
KWP			pmax	pmax		
	comp=Z,106nm,0.7s					
KWP	**Kalwaria Pacla**	**7.44 329**	‖*i*P	**Pn**	**07 50 51.7**	**-0.1**
KWP	**Kalwaria Pacla**	**7.44 329**	‖*i*P	**Pn**	**07 50 51.7**	**-0.1**
KWP	**Kalwaria Pacla**	**7.44 329**	*e*Pn	**Pn**	**07 50 52.7**	**+1.0**
	comp=Z,106nm,0.7s					
KWP	**Kalwaria Pacla**	**7.44 329**	*e*Pn	**Pn**	**07 50 52.8**	**+1.0**
KWP			*e*Sn	**Sn**	**07 52 18.3**	**+2.4**
KWP			*e*Sg	**Sg**	**07 53 04.5**	**+2.1**
KWP	**Kalwaria Pacla**	**7.44 329**	*e*P	**Pn**	**07 50 52.7**	**+1.0**
	comp=Z,106nm,0.7s					
KWP			*e*Sg	**Sg**	**07 53 04.6**	**+2.1**
SANT	**Santorini**	**7.46 200**	Pn	**Pn**	**07 50 50.5**	**-1.6**
	comp=Z,50nm,0.4s					
SANT	**Santorini**	**7.46 200**	Pn	**Pn**	**07 50 50.5**	**-1.6**
	comp=Z,50nm,0.4s					
THR1	**Thera Island**	**7.46 200**	P	**Pn**	**07 50 51.1**	**-1.0**
THR1	**Thera Island**	**7.46 200**	P	**Pn**	**07 50 51.1**	**-1.0**
ERMK	**Ermenek**	**7.51 153**	*i* P	**Pn**	**07 50 53.5**	**+0.5**
ERMK	**Ermenek**	**7.51 153**	*i* P	**Pn**	**07 50 53.5**	**+0.5**
GRSN	**GIRESUNGRSN**	**7.56 106**	*i* P	**Pn**	**07 50 52.4**	**-1.0**
GRSN	**GIRESUNGRSN**	**7.56 106**	*i* P	**Pn**	**07 50 52.4**	**-1.0**
AXS	**Araxos**	**7.60 229**	P	**Pn**	**07 50 55.5**	**+1.6**
AXS	**Araxos**	**7.60 229**	P	**Pn**	**07 50 55.5**	**+1.6**
KEK	**Kerkira**	**7.61 244**	P	**Pn**	**07 50 54.6**	**+0.6**
KEK	**Kerkira**	**7.61 244**	*e*P	**Pn**	**07 50 55.0**	**+1.0**
KEK	**Kerkira**	**7.61 244**	P	**Pn**	**07 50 54.6**	**+0.6**
PSZ	**Piszkesteto**	**7.61 309**	*e*P	**Pn**	**07 50 54.9**	**+0.8**
PSZ	**Piszkesteto**	**7.61 309**	*e*Pn	**Pn**	**07 50 54.9**	**+0.8**
PSZ	**Piszkesteto**	**7.61 309**	*e*P	**Pn**	**07 50 54.9**	**+0.8**
LKD2	**Lefkada island**	**7.61 235**	P	**Pn**	**07 50 53.9**	**-0.2**
LKD2	**Lefkada island**	**7.61 235**	*e*P	**Pn**	**07 50 55.0**	**+0.9**
LKD2	**Lefkada island**	**7.61 235**	P	**Pn**	**07 50 53.9**	**-0.2**
KECS	**Kecovo**	**7.62 314**	*e*P	**Pn**	**07 50 53.6**	**-0.6**
KECS	**Kecovo**	**7.62 314**	*e*PN	**Pn**	**07 50 53.6**	**-0.6**
KECS	**Kecovo**	**7.62 314**	*e*Pn	**Pn**	**07 50 53.6**	**-0.6**
RLS	**Riolos of Patr**	**7.65 228**	*e*P	**Pn**	**07 50 55.0**	**+0.4**
PKSM	**Moragy**	**7.65 295**	‖P	**Pn**	**07 50 53.5**	**-1.1**
PKSM	**Moragy**	**7.65 295**	‖*i*P	**Pn**	**07 50 53.5**	**-1.1**
PKSM	**Moragy**	**7.65 295**	‖*i*P	**Pn**	**07 50 53.5**	**-1.1**
PKSM	**Moragy**	**7.65 295**	⇑*e*Pdiff	**Pn**	**07 50 53.0**	**-1.6**
PKSM	**Moragy**	**7.65 295**	‖*i*P	**Pn**	**07 50 53.5**	**-1.1**
GULE	**Gulek**	**7.70 141**	*i* P	**Pn**	**07 50 56.3**	**+0.8**
GULE	**Gulek**	**7.70 141**	*i* P	**Pn**	**07 50 56.3**	**+0.8**
VLX	**Vlachokerasia**	**7.71 221**	P	**Pn**	**07 50 54.6**	**-1.0**
VLX	**Vlachokerasia**	**7.71 221**	*e*P	**Pn**	**07 50 55.5**	**-0.1**
VLX	**Vlachokerasia**	**7.71 221**	P	**Pn**	**07 50 54.6**	**-1.0**
KARA	**Karaisali**	**7.85 139**	*e*PN	**Pn**	**07 50 57.7**	**+0.3**
KARA	**Karaisali**	**7.85 139**	*e*Pn	**Pn**	**07 50 57.7**	**+0.3**
STHS	**Stebnicka Huta**	**7.89 322**	*e*P	**Pn**	**07 50 57.4**	**-0.4**
STHS	**Stebnicka Huta**	**7.89 322**	*e*PN	**Pn**	**07 50 57.4**	**-0.4**
STHS	**Stebnicka Huta**	**7.89 322**	*e*Pn	**Pn**	**07 50 57.4**	**-0.4**
BUD	**Budapest**	**7.90 304**	‖*e*Pdiff	Pn	07 51 02.4	+4.4
AMT	**Artemida-Makis**	**7.92 224**	P	**Pn**	**07 51 01.3**	**+3.0**
AMT	**Artemida-Makis**	**7.92 224**	*e*P	Pn	07 51 01.5	+3.2
KARP	**Karpathos**	**7.95 189**	*e*P	**Pn**	**07 50 59.0**	**+0.2**
KFL	**Anninata**	**7.99 231**	P	**Pn**	**07 51 00.6**	**+1.3**
KFL	**Anninata**	**7.99 231**	P	**Pn**	**07 51 00.6**	**+1.3**
STON	**Ston**	**8.04 270**	*e*Pn	**Pn**	**07 51 01.2**	**+1.3**
STON			Sn	**Sn**	**07 52 28.9**	**-1.6**
STON	**Ston**	**8.04 270**	*e*Pn	**Pn**	**07 51 01.1**	**+1.3**
STON			Sn	**Sn**	**07 52 28.9**	**-1.6**
SOC	**Sochi**	**8.04 85**	*d i*P	**Pn**	**07 50 57.1**	**-2.8**
SOC			*e*		07 52 24.8	
SOC			pmax	pmax		
	comp=Z,116nm,0.5s					
SOC			MLR	MLR		
	comp=Z,573nm,13.0s					
SOC	**Sochi**	**8.04 85**	*i* P	**Pn**	**07 50 57.1**	**-2.8**
	comp=Z,116nm,0.5s					
SOC			*e*S	**Sn**	**07 52 24.8**	**-5.7**
	comp=Z,573nm,13.0s					
VLS	**Valsamata**	**8.06 232**	P	**Pn**	**07 51 01.1**	**+0.9**
VLS	**Valsamata**	**8.06 232**	*e*P	Pn	07 50 55.5	-4.7
VLS	**Valsamata**	**8.06 232**	P	**Pn**	**07 51 01.1**	**+0.9**
KOZT	**Kozan**	**8.06 135**	*e*PN	**Pn**	**07 51 00.3**	**0.0**
KOZT	**Kozan**	**8.06 135**	*e*Pn	**Pn**	**07 51 00.3**	**0.0**
ITM	**Ithomi**	**8.08 222**	*e*P	Pn	07 50 55.0	-5.6
IKL	**Isikli**	**8.15 150**	*e*PN	**Pn**	**07 51 01.2**	**-0.1**
IKL	**Isikli**	**8.15 150**	*e*Pn	**Pn**	**07 51 01.3**	**-0.1**
DARE	**Darende-Malaty**	**8.24 123**	*e*PN	**Pn**	**07 51 02.7**	**-0.1**
CSKK	**Cs˘tkako**	**8.31 302**	*e*pPn	pPn	07 51 13.8	+6.6
NIE	**Niedzica**	**8.32 319**	*e*P	**Pn**	**07 51 05.5**	**+1.7**
NIE	**Niedzica**	**8.32 319**	*e*Pn	**Pn**	**07 51 05.5**	**+1.7**
ZKR	**Zakros**	**8.51 194**	P	**Pn**	**07 51 05.9**	**-0.5**
ZKR	**Zakros**	**8.51 194**	*e*P	**Pn**	**07 51 06.0**	**-0.5**
ZKR	**Zakros**	**8.51 194**	P	**Pn**	**07 51 05.9**	**-0.5**
VYHS	**Vyhne**	**8.52 310**	*e*SG	**Sg**	**07 53 35.6**	**-1.2**
VYHS	**Vyhne**	**8.52 310**	*e*Sg	**Sg**	**07 53 35.6**	**-1.2**
IDI	**Anoyia**	**8.63 201**	P	**Pn**	**07 51 06.8**	**-1.3**
IDI	**Anoyia**	**8.63 201**	*e*Pn	**Pn**	**07 51 07.1**	**-1.1**
IDI	**Anoyia**	**8.63 201**	*e*Pn	**Pn**	**07 51 07.1**	**-1.1**
VAM	**Vamos**	**8.72 205**	*e*P	**Pn**	**07 51 08.0**	**-1.2**
COBT	**Iskenderun**	**9.02 137**	*i* P	Pn	07 51 16.9	+3.3
OJC	**Ojcow**	**9.12 321**	*e*P	**Pn**	**07 51 14.1**	**-0.6**
OJC	**Ojcow**	**9.12 321**	*e*Pn	**Pn**	**07 51 14.1**	**-0.6**
OJC	**Ojcow**	**9.12 321**	*e*Pn	**Pn**	**07 51 12.6**	**-2.1**
OJC	**Ojcow**	**9.12 321**	*e*P	**Pn**	**07 51 14.1**	**-0.6**
CSS	**Prodhromos**	**9.19 155**	*e*Pn	**Pn**	**07 51 16.4**	**+0.7**
CSS	**Prodhromos**	**9.19 155**	*e*Pn	**Pn**	**07 51 16.4**	**+0.7**
YAYL	**Yayladag**	**9.34 140**	*i* P	**Pn**	**07 51 19.7**	**+1.8**
YAYL	**Yayladag**	**9.34 140**	*i* P	**Pn**	**07 51 19.7**	**+1.8**
UDBI	**Udbina**	**9.37 281**	*e*Pn	**Pn**	**07 51 20.4**	**+2.2**
UDBI			Sn	**Sn**	**07 53 02.0**	**-1.3**
MS1	**Monte Sant'Ang**	**9.54 264**	*e*P	**Pn**	**07 51 20.1**	**-0.5**
OKC	**Ostrava-Krasne**	**9.66 315**	*e*P	**Pn**	**07 51 24.9**	**+2.7**
OKC			*e*		07 53 15.1	
OKC			MLR	MLR		
	comp=Z,2µm,11.5s					
OKC	**Ostrava-Krasne**	**9.66 315**	*e*P	**Pn**	**07 51 24.9**	**+2.7**
OKC			*e*S	**Sn**	**07 53 15.1**	**+4.7**
OKC			AMS	AMS	07 56 40.0	
	comp=Z,2µm,11.5s					
OKC	**Ostrava-Krasne**	**9.66 315**	Pn	**Pn**	**07 51 24.9**	**+2.7**
OKC			*e*S	**Sn**	**07 53 15.1**	**+4.7**
CHVG	**Ch'k'valeri**	**9.85 89**	P	**Pn**	**07 51 22.8**	**-1.9**
CHVG			S	**Sn**	**07 53 10.6**	**-4.4**
CHVG	**Ch'k'valeri**	**9.85 89**	P	**Pn**	**07 51 22.8**	**-1.9**
TIP	**Timpagrande**	**9.91 249**	P	**Pn**	**07 51 25.6**	**0.0**
TIP	**Timpagrande**	**9.91 249**	*e*Pn	**Pn**	**07 51 26.9**	**+1.3**
TIP	**Timpagrande**	**9.91 249**	P	**Pn**	**07 51 25.6**	**0.0**
TIP	**Timpagrande**	**9.91 249**	*e*Pn	**Pn**	**07 51 26.9**	**+1.3**
MORC	**Moravsky Berou**	**9.94 314**	*e*P	**Pn**	**07 51 28.2**	**+2.2**
MORC	**Moravsky Berou**	**9.94 314**	*e*Pn	**Pn**	**07 51 28.2**	**+2.2**
MORC	**Moravsky Berou**	**9.94 314**	*e*Pn	**Pn**	**07 51 28.2**	**+2.2**
MORC			*e*Sn	**Sn**	**07 53 19.3**	**+1.9**
BEL	**Belsk**	**9.95 331**	*e*P	Pn	07 51 31.0	+4.9
BEL			*e*Sg	Sg	07 54 36.5	
NVLJ	**Novalja**	**10.01 281**	*e*Pn	**Pn**	**07 51 27.9**	**+0.9**
NVLJ			Sn	**Sn**	**07 53 15.6**	**-3.3**
NVLJ	**Novalja**	**10.01 281**	*e*Pn	**Pn**	**07 51 27.8**	**+0.9**
CONA	**Conrad Observa**	**10.03 301**	‖*i*Pn	Pn	07 51 31.4	+4.2
KIV	**Kislovodsk**	**10.17 82**	*e*P	Pn	07 51 26.0	-3.3
KIV			*e*S	Sn	07 53 15.3	-7.8
KIV			pmax	pmax		
	comp=Z,157nm,1.1s					
KIV			MLR	MLR		
	comp=Z,153nm,9.0s					
KIV	**Kislovodsk**	**10.17 82**	*e*P	Pn	07 51 26.0	-3.3
	comp=Z,157nm,1.1s					
KIV			*e*S	Sn	07 53 15.3	-7.8
	comp=Z,153nm,9.0s					
CUC	**Castrocucco**	**10.20 255**	*e*Pn	**Pn**	**07 51 30.2**	**+0.6**
CUC	**Castrocucco**	**10.20 255**	*e*Pn	**Pn**	**07 51 30.2**	**+0.6**
VRAC	**Vranov**	**10.21 309**	Pn	**Pn**	**07 51 30.1**	**+0.5**
VRAC	**Vranov**	**10.21 309**	Pn	**Pn**	**07 51 30.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=124,slow=13,SNR=11					
VRAC			LR	LR	07 55 46.1	
	comp=Z,2µm,20.6s,baz=122,slow=40					
VRAC	**Vranov**	**10.21 309**	*e*Pn	**Pn**	**07 51 29.7**	**+0.1**
VRAC	**Vranov**	**10.21 309**	P	**Pn**	**07 51 30.1**	**+0.5**
	comp=Z,2µm,20.6s					
VRAC			*e*Sn	**Sn**	**07 53 25.2**	**+1.5**
KBZ	**Khabaz**	**10.34 83**	P	**Pn**	**07 51 29.5**	**-1.9**
KBZ			pmax	pmax		
	comp=Z,3.0nm,0.3s					
KBZ	**Khabaz**	**10.34 83**	Pn	**Pn**	**07 51 29.5**	**-1.9**
KBZ	**Khabaz**	**10.34 83**	Pn	**Pn**	**07 51 29.5**	**-1.9**
	comp=Z,2.6nm,0.3s,baz=268,slow=12,SNR=23					
KBZ	**Khabaz**	**10.34 83**	P	**Pn**	**07 51 29.5**	**-1.9**
	comp=Z,3.0nm,0.3s					
OBKA	**Obir**	**10.47 292**	‖*i*Pn	**Pn**	**07 51 34.8**	**+1.5**
OBKA	**Obir**	**10.47 292**	Pn	**Pn**	**07 51 34.8**	**+1.5**
VSR	**Storozhevoye**	**10.56 39**	*e*P	**Pn**	**07 51 32.0**	**-2.4**
VSR			pmax	pmax		
	comp=Z,60nm,0.7s					
VSR			pmax	pmax		
	comp=N,20nm,0.8s					
VSR			pmax	pmax		
	comp=E,20nm,0.9s					
VSR			MLR	MLR		
	comp=Z,1µm,18.0s					
VSR			MLR	MLR		
	comp=N,2µm,23.0s					
VSR			MLR	MLR		
	comp=E,990nm,20.0s					
VSR	**Storozhevoye**	**10.56 39**	*e*P	**Pn**	**07 51 32.0**	**-2.4**
	comp=E,2µm,23.0s					
TREC	**Trest**	**10.83 307**	*e*P	Pn	07 51 42.2	+4.0
TREC			*e*		07 53 41.3	
TREC			MLR	MLR		
	comp=Z,2µm,15.2s					
TREC	**Trest**	**10.83 307**	*e*P	Pn	07 51 42.2	+4.0
TREC			*e*S	**Sn**	**07 53 41.3**	**+2.2**
TREC			AMS	AMS	07 56 30.0	
	comp=Z,2µm,15.2s					
TREC	**Trest**	**10.83 307**	*e*P	Pn	07 51 42.2	+4.0
	comp=Z,2µm,15.2s					
TREC			Sn	**Sn**	**07 53 41.3**	**+2.2**
VOY	**Vojsko**	**10.83 289**	*e*Pn	Pn	07 51 42.7	+4.5
VOY			*e*		07 51 52.9	
VOY			*e*(Sn)	**Sn**	**07 53 35.2**	**-4.0**
VOY			*e*		07 54 53.3	
ONI	**Oni**	**10.87 89**	P	**Pn**	**07 51 36.3**	**-2.4**
ONI			S	S

WET	**Wettzell**	**12.32 303**	*e*Pn	**Pn**	**07 51 57.9**	**-0.7**	
GKP	**Gorka Klasztor**	**12.43 326**	*e*P	Pn	07 51 55.7	-4.2	
GNI	**Garni**	**12.44 100**	*e*Pn	**Pn**	**07 52 02.5**	**+2.2**	
	comp=Z,165nm,1.3s						
GNI	**Garni**	**12.44 100**	Pn	**Pn**	**07 52 02.9**	**+2.6**	
	comp=Z,1.2nm,0.3s,baz=159,slow=13,SNR=13						
GNI	**Garni**	**12.44 100**	*i* P	**Pn**	**07 52 00.0**	**-0.3**	
	comp=Z,205nm,1.7s						
GNI	**Garni**	**12.44 100**	*e*Pn	**Pn**	**07 52 02.5**	**+2.2**	
	comp=Z,165nm,1.3s						
DGRG	**David-gareji**	**12.50 93**	P	**Pn**	**07 52 00.6**	**-0.5**	
DGRG			S	**Sn**	**07 54 21.1**	**+1.0**	
DGRG	**David-gareji**	**12.50 93**	P	**Pn**	**07 52 00.6**	**-0.5**	
DGRG			S	**Sn**	**07 54 21.1**	**+1.0**	
OBN	**Obninsk**	**12.78 21**	*i* P	**Pn**	**07 52 01.5**	**-3.2**	
OBN			*i* S	Sn	07 54 19.3	-7.3	
OBN			pmax	pmax			
	comp=Z,110nm,1.2s						
OBN			MLR	MLR			
	comp=Z,600nm,13.0s						
OBN	**Obninsk**	**12.78 21**	*i* P	**Pn**	**07 52 01.5**	**-3.2**	
	comp=Z,600nm,13.0s						
OBN			*i* S	Sn	07 54 19.3	-7.3	
FBE	**Freiberg**	**12.82 311**	*e*Pn	**Pn**	**07 52 07.7**	**+2.4**	
FBE	**Freiberg**	**12.82 311**	*e*Pn	**Pn**	**07 52 07.7**	**+2.4**	
ROTZ	**Rotzenmuhle**	**12.96 305**	*e*Pn	Pn	07 52 10.5	+3.2	
NKC	**Novy Kostel**	**13.01 307**	*e*P	Pn	07 52 11.7	+3.7	
NKC			MLR	MLR			
	comp=Z,1μm,13.4s						
NKC	**Novy Kostel**	**13.01 307**	*e*P	Pn	07 52 11.7	+3.7	
NKC			AMS	AMS	07 58 00.0		
	comp=Z,1μm,13.4s						
WERN	**Wernitzgruen**	**13.08 307**	*e*Pn	Pn	07 52 12.9	+4.0	
TANN	**Tannenbergstha**	**13.08 308**	*e*Pn	**Pn**	**07 52 09.3**	**+0.3**	
TANN	**Tannenbergstha**	**13.08 308**	*e*Pn	**Pn**	**07 52 09.3**	**+0.3**	
MANZ	**Manzenberg**	**13.11 306**	*e*Pn	**Pn**	**07 52 11.0**	**+1.7**	
MANZ	**Manzenberg**	**13.11 306**	*e*Pn	**Pn**	**07 52 11.0**	**+1.7**	
GUNZ	**Gunzen**	**13.14 308**	*e*Pn	**Pn**	**07 52 10.3**	**+0.6**	
GUNZ	**Gunzen**	**13.14 308**	*e*Pn	**Pn**	**07 52 10.3**	**+0.6**	
WERD	**Werda**	**13.19 308**	*e*Pn	**Pn**	**07 52 10.5**	**+0.1**	
WERD	**Werda**	**13.19 308**	*e*Pn	**Pn**	**07 52 10.5**	**+0.1**	
CLL	**Collm**	**13.21 312**	*e*Pn	**Pn**	**07 52 13.6**	**+3.0**	
CLL	**Collm**	**13.21 312**	*i* P	Pn	07 52 14.1	+3.5	
CLL			pmax	pmax			
	comp=Z,25nm,1.5s						
CLL	**Collm**	**13.21 312**	*i* (P)	Pn	07 52 14.1	+3.5	
	comp=Z,25nm,1.5s						
CLL			*i* (PP)		07 52 24.5		
	comp=Z,28nm,1.0s						
CLL			Lmax		07 57 00.0		
CLL	**Collm**	**13.21 312**	*i* P	Pn	07 52 14.1	+3.5	
	comp=Z,25nm,1.5s						
VLC	**Villacollemand**	**13.23 279**	*e*Pn	**Pn**	**07 52 10.3**	**-0.7**	
VLC	**Villacollemand**	**13.23 279**	*e*Pn	**Pn**	**07 52 10.3**	**-0.7**	
FUORN	**Ofenpass-Fuorn**	**13.40 290**	*e*Pn	P	07 52 18.8	-4.2	
FUORN	**Ofenpass-Fuorn**	**13.40 290**	*e*Pn	P	07 52 18.8	-4.2	
GRA1	**Grafenberg Arr**	**13.53 304**	*e*Pn	**Pn**	**07 52 17.1**	**+2.1**	
GRF	**Grafenberg Arr**	**13.53 304**	*e*Pn	**Pn**	**07 52 17.1**	**+2.1**	
GRF	**Grafenberg Arr**	**13.53 304**	*e*P	**Pn**	**07 52 17.1**	**+2.1**	
MOS	**Moscow**	**13.61 22**	*e*P	**Pn**	**07 52 13.7**	**-2.4**	
MOS			*e*S	Sn	07 54 38.4	-8.6	
MOS			pmax	pmax			
	comp=Z,151nm,1.1s						
MOS			pmax	pmax			
	comp=Z,300nm,1.5s						
MOS			smax	smax			
	comp=E,400nm,1.3s						
MOS			MLR	MLR			
	comp=Z,1μm,16.0s						
MOS	**Moscow**	**13.61 22**	*e*P	**Pn**	**07 52 13.7**	**-2.4**	
	comp=Z,300nm,1.5s						
MOX	**Moxa**	**13.67 308**	*e*Pn	**Pn**	**07 52 19.1**	**+2.2**	
MOX	**Moxa**	**13.67 308**	*e*P	**Pn**	**07 52 19.1**	**+2.2**	
MOX	**Moxa**	**13.67 308**	*e*Pn	**Pn**	**07 52 19.1**	**+2.2**	
DAVOX	**Davos/Dischmat**	**13.69 291**	Pn	**Pn**	**07 52 16.1**	**-1.2**	
DAVOX	**Davos/Dischmat**	**13.69 291**	Pn	**Pn**	**07 52 16.1**	**-1.2**	
	comp=Z,0.5nm,0.3s,baz=51,slow=9.4,SNR=4.8						
DAVOX	**Davos/Dischmat**	**13.69 291**	P	**Pn**	**07 52 16.1**	**-1.2**	
	comp=Z,1.0nm,0.3s						
MAK	**Makhachkala**	**13.76 85**	*e*P	**Pn**	**07 52 15.1**	**-3.0**	
MAK			*e*S	**Sn**	**07 54 47.6**	**-3.0**	
MAK			pmax	pmax			
	comp=Z,109nm,1.4s						
MAK	**Makhachkala**	**13.76 85**	*e*P	**Pn**	**07 52 15.1**	**-3.0**	
	comp=Z,109nm,1.4s						
MAK			*e*S	**Sn**	**07 54 47.6**	**-3.0**	
TUE	**Stuetta**	**14.01 289**	*e*Pn	Pn	07 52 25.4	+3.6	
PGF	**Pioggiola**	**14.42 273**	*e*P	**Pn**	**07 52 26.1**	**-1.3**	
	comp=Z,103nm,1.1s						
EIL	**Elat**	**14.62 158**	LR	LR	07 59 29.5		
	comp=Z,473nm,19.4s,baz=357,slow=43						
BSD	**Bornholm Skovb**	**14.71 327**	*i* P	Pn	07 52 26.2	-4.9	
BSD			pmax	pmax			
	comp=Z,33nm,0.7s						
BSD			MLR	MLR			
	comp=Z,2μm,14.0s						
BSD	**Bornholm Skovb**	**14.71 327**	*i* P	Pn	07 52 26.2	-4.9	
	comp=Z,33nm,0.7s						
BSD							
	comp=Z,2μm,14.0s						
RGN	**Rugen**	**14.97 323**	*e*Pn	**Pn**	**07 52 32.2**	**-2.4**	
RGN	**Rugen**	**14.97 323**	*e*Pn	**Pn**	**07 52 33.4**	**-1.3**	
	comp=Z,150nm,0.9s						
RGN	**Rugen**	**14.97 323**	*e*Pn	**Pn**	**07 52 33.4**	**-1.3**	
	comp=Z,150nm,0.9s						
BFO	**Black Forest**	**14.98 296**	*e*Pn	**Pn**	**07 52 37.1**	**+2.3**	
BFO	**Black Forest**	**14.98 296**	*e*P	**Pn**	**07 52 36.8**	**+2.0**	
BFO			pmax	pmax			
	comp=Z,34nm,0.7s						
BFO	**Black Forest**	**14.98 296**	*e*Pn	**Pn**	**07 52 36.8**	**+2.0**	
	comp=Z,34nm,0.7s						
BFO	**Black Forest**	**14.98 296**	*e*P	**Pn**	**07 52 36.8**	**+2.0**	
	comp=Z,34nm,0.7s						
BFO	**Black Forest**	**14.98 296**	*e*Pn	**Pn**	**07 52 37.1**	**+2.3**	
VSL	**Villasalto**	**14.98 261**	*e*Pn	**Pn**	**07 52 36.8**	**+1.9**	
	comp=Z,35nm,0.9s						
VSL	**Villasalto**	**14.98 261**	*e*Pn	**Pn**	**07 52 36.8**	**+1.9**	
	comp=Z,35nm,0.9s						
VSU	**Vasula**	**15.11 356**	*e*P	Pn	07 52 30.0	-6.4	
SBF	**Sospel**	**15.38 279**	*e*P	**Pn**	**07 52 38.7**	**-1.4**	
	comp=Z,62nm,0.8s						
SENIN	**Lac Senin/Sane**	**15.42 288**	*e*Pn	**Pn**	**07 52 41.6**	**+0.8**	
	comp=Z,41nm,0.8s						
SENIN	**Lac Senin/Sane**	**15.42 288**	*e*Pn	**Pn**	**07 52 41.6**	**+0.8**	
	comp=Z,41nm,0.8s						
LANF	**Langenberg**	**15.46 298**	*e*P	**P**	**07 52 44.9**	**-0.7**	
CDF	**Champ du Feu**	**15.68 296**	*e*P	**Pn**	**07 52 42.1**	**-2.0**	
	comp=Z,35nm,0.9s						
MOF	**Molkenrain**	**15.68 294**	*e*P	**P**	**07 52 47.4**	**-0.8**	
ECH	**Echery**	**15.72 295**	*e*P	**Pn**	**07 52 46.3**	**+1.7**	
ECH			pmax	pmax			
	comp=Z,31nm,1.1s						
ECH	**Echery**	**15.72 295**	*e*Pn	**Pn**	**07 52 46.3**	**+1.7**	
	comp=Z,32nm,1.1s						
ECH	**Echery**	**15.72 295**	*e*P	**P**	**07 52 47.7**	**-0.9**	
ECH	**Echery**	**15.72 295**	*e*P	**Pn**	**07 52 46.3**	**+1.7**	
	comp=Z,31nm,1.1s						
SURF	**Saint Ours**	**15.77 281**	*e*P	**P**	**07 52 50.9**	**+1.6**	
LPG	**La Plagne**	**15.78 285**	*e*P	**Pn**	**07 52 44.4**	**-1.2**	
	comp=Z,50nm,0.6s						
MBDF	**Montbardon**	**15.79 282**	*e*P	**Pn**	**07 52 44.4**	**-1.1**	
LPL	**La Plagne**	**15.79 285**	*e*P	**Pn**	**07 52 44.1**	**-1.6**	
LOMF	**Lomont**	**15.82 292**	*e*P	**Pn**	**07 52 47.7**	**+1.7**	
BNI	**Bardonecchia**	**15.84 284**	*e*P	**Pn**	**07 52 47.3**	**+1.1**	
BNI			pmax	pmax			
	comp=Z,60nm,1.0s						
BNI	**Bardonecchia**	**15.84 284**	*e*Pn	**Pn**	**07 52 47.3**	**+1.1**	
	comp=Z,60nm,1.0s						
BNI	**Bardonecchia**	**15.84 284**	*e*P	**Pn**	**07 52 47.3**	**+1.1**	
	comp=Z,60nm,1.0s						
HINF	**Hinteralfeld**	**15.87 294**	*e*P	**Pn**	**07 52 44.8**	**-1.6**	
	comp=Z,54nm,1.2s						
RSL	**Roselend**	**15.87 286**	*e*P	**P**	**07 52 49.8**	**-0.5**	
BHD	**Baghdad**	**15.94 124**	*e*P	**Pn**	**07 52 48.0**	**+0.6**	
BHD			*e*S	**Sn**	**07 55 42.0**	**-1.7**	
LLD	**Lille Linde**	**15.97 324**	*i* P	**Pn**	**07 52 46.0**	**-1.7**	
LLD			pmax	pmax			
	comp=Z,79nm,0.7s						
LLD	**Lille Linde**	**15.97 324**	*i* P	**Pn**	**07 52 46.0**	**-1.7**	
	comp=Z,79nm,0.7s						
FRF	**La Foret Royal**	**15.98 278**	*e*P	**Pn**	**07 52 45.4**	**-2.5**	
	comp=Z,181nm,1.3s						
BSEG	**Bad Segeberg**	**15.99 318**	*e*Pn	**P**	**07 52 50.4**	**-1.0**	
BSEG	**Bad Segeberg**	**15.99 318**	*e*P	**P**	**07 52 50.4**	**-1.0**	
BSEG	**Bad Segeberg**	**15.99 318**	*e*Pn	**P**	**07 52 50.4**	**-1.0**	
LMR	**La Mourre**	**16.11 277**	*e*P	**Pn**	**07 52 47.5**	**-2.0**	
	comp=Z,48nm,1.1s						
COP	**Copenhagen**	**16.12 325**	*i* P	**Pn**	**07 52 48.8**	**-0.8**	
COP			pmax	pmax			
	comp=Z,26nm,0.7s						
COP			MLR	MLR			
	comp=Z,830nm,14.0s						
COP	**Copenhagen**	**16.12 325**	*i* P	**Pn**	**07 52 48.8**	**-0.8**	
	comp=Z,26nm,0.7s						
COP							
	comp=Z,820nm,14.0s						
COP	**Copenhagen**	**16.12 325**	*i* P	**Pn**	**07 52 48.8**	**-0.8**	
	comp=Z,830nm,14.0s						
HAU	**Haudompre**	**16.23 294**	*e*P	**Pn**	**07 52 50.0**	**-1.1**	
	comp=Z,50nm,0.9s						
HAU			*e*R				
	comp=Z,614nm,19.5s						
GDM	**Grand'Maison**	**16.23 284**	*e*P	**P**	**07 52 55.8**	**+1.5**	
CABF	**La Chapelle**	**16.27 289**	*e*P	**Pn**	**07 52 50.6**	**-1.1**	
	comp=Z,30nm,0.6s						
ORIF	**Oris-en-Rattie**	**16.41 283**	*e*P	**Pn**	**07 52 52.0**	**-1.5**	
	comp=Z,85nm,0.8s						
ORIF			*e*R				
	comp=Z,975nm,19.0s						
GRN	**Grenoble**	**16.49 284**	*e*P	**P**	**07 52 56.8**	**-0.4**	
IBBN	**Ibbenburen**	**16.56 310**	*e*Pn	**P**	**07 53 00.9**	**+3.2**	
OG35	**Corcelles**	**16.61 287**	*e*P	**Pn**	**07 52 53.9**	**-2.1**	
SMRF	**Simiane la Rot**	**16.70 280**	*e*P	**Pn**	**07 52 56.2**	**-0.9**	
	comp=Z,91nm,1.2s						
KEST	**Kesra**	**16.73 249**	*e*Pn	**Pn**	**07 52 58.5**	**+0.9**	
KEST	**Kesra**	**16.73 249**	Pn	**Pn**	**07 52 58.3**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=17,slow=3.4,SNR=11						
KEST			LR	LR	08 00 44.6		
	comp=Z,148nm,18.5s,baz=268,slow=42						
KEST	**Kesra**	**16.73 249**	*e*Pn	**Pn**	**07 52 58.5**	**+0.9**	
IBDR	**Badra**	**16.99 122**	*i* P	**P**	**07 53 04.0**	**+1.3**	
IBDR			*i* S	**Sn**	**07 56 12.0**	**+2.6**	
MEM	**Membach**	**17.00 303**	P	**P**	**07 53 06.5**	**+3.9**	
VIVF	**Saint-Julien-l**	**17.27 283**	*e*P	**Pn**	**07 53 00.1**	**-4.2**	
	comp=Z,25nm,0.9s						
SSB	**Saint Sauveur**	**17.34 285**	*e*P	**Pn**	**07 53 03.5**	**-1.7**	
SSB			pmax	pmax			
	comp=Z,8.0nm,0.7s						
SSB	**Saint Sauveur**	**17.34 285**	*e*Pn	**Pn**	**07 53 03.5**	**-1.7**	
	comp=Z,7.5nm,0.7s						
SSB	**Saint Sauveur**	**17.34 285**	*e*P	**Pn**	**07 53 03.5**	**-1.7**	
	comp=Z,8.0nm,0.7s						
GIVF	**Givet**	**17.60 301**	*e*P	**Pn**	**07 53 06.8**	**-1.5**	
	comp=Z,28nm,0.8s						
SMF	**Signal de Mont**	**17.82 289**	*e*P	**Pn**	**07 53 09.1**	**-1.9**	
	comp=Z,51nm,0.9s						
LOR	**Lormes**	**17.83 291**	*e*P	**Pn**	**07 53 09.2**	**-2.0**	
	comp=Z,69nm,1.3s						
LOR			*e*R				
	comp=Z,605nm,17.5s						
LASF	**Ste Croix**	**17.92 281**	*e*P	**Pn**	**07 53 10.9**	**-1.4**	
	comp=Z,84nm,1.4s						
LASF	**Ste Croix**	**17.92 281**	*e*P	**Pn**	**07 53 10.9**	**-1.4**	
	comp=Z,42nm,1.4s						
BAIF	**Baives**	**17.98 300**	*e*P	**Pn**	**07 53 11.8**	**-1.2**	
	comp=Z,33nm,0.9s						
BAIF	**Baives**	**17.98 300**	*e*P	**Pn**	**07 53 11.8**	**-1.2**	
	comp=Z,17nm,0.9s						
MUD	**Monsted U'grnd**	**18.01 323**	*i* P	**P**	**07 53 18.1**	**+4.4**	
MUD			pmax	pmax			
	comp=Z,39nm,0.9s						
MUD	**Monsted U'grnd**	**18.01 323**	*i* P	**P**	**07 53 18.1**	**+4.4**	
	comp=Z,39nm,0.8s						
SSF	**Saint Saulge**	**18.06 290**	*e*P	**Pn**	**07 53 14.1**	**+0.1**	
	comp=Z,69nm,1.3s						
SSF	**Saint Saulge**	**18.06 290**	*e*P	**Pn**	**07 53 14.1**	**+0.1**	
	comp=Z,34nm,1.3s						
FINES	**FINESS Array B**	**18.12 356**	Pn	Pn	07 53 09.6	-5.0	
FINES			Sn	Sn	07 56 24.9	-11	
FINES	**FINESS Array B**	**18.12 356**	Pn	Pn	07 53 09.6	-5.0	
	comp=Z,0.8nm,0.3s,baz=160,slow=14,SNR=21						
FINES			Sn	Sn	07 56 24.9	-11	
	comp=Z,3.0nm,0.3s,baz=156,slow=20,SNR=3.9						
FINES			LR	LR	08 01 18.1		
	comp=Z,320nm,18.1s,baz=169,slow=41						
FIA1	**FINESS Array S**	**18.12 356**	*e*Pn	**Pn**	**07 53 10.3**	**-4.3**	
AVF	**Avril sur Loir**	**18.16 289**	*e*P	**Pn**	**07 53 13.6**	**-1.6**	
	comp=Z,44nm,0.9s						
AVF	**Avril sur Loir**	**18.16 289**	*e*P	**Pn**	**07 53 13.6**	**-1.6**	
	comp=Z,22nm,0.9s						
IRAZ	**Razeghan**	**18.25 109**	*e*P	**P**	**07 53 17.0**	**+0.3**	
IRAZ	**Razeghan**	**18.25 109**	*e*P	**P**	**07 53 17.0**	**+0.3**	
LBL	**Lubilhac**	**18.26 284**	*e*P	**Pn**	**07 53 15.9**	**-0.6**	
AGO	**Saint Agoulin**	**18.31 287**	*e*P	**Pn**	**07 53 16.0**	**-1.0**	
PYM	**Petit Puy Mans**	**18.40 286**	*e*P	**P**	**07 53 17.0**	**-1.2**	
BGF	**Bois d'Agland**	**18.50 289**	*e*P	**Pn**	**07 53 20.2**	**+0.8**	
	comp=Z,65nm,1.0s						
BGF	**Bois d'Agland**	**18.50 289**	*e*P	**Pn**	**07 53 20.2**	**+0.8**	
	comp=Z,33nm,1.0s						
TCF	**Toulx Ste Croi**	**18.94 288**	*e*P	**P**	**07 53 23.3**	**-0.8**	
	comp=Z,72nm,1.1s						
TCF	**Toulx Ste Croi**	**18.94 288**	*e*P	**P**	**07 53 23.3**	**-0.8**	
	comp=Z,36nm,1.1s						
HFS	**Hagfors**	**19.05 337**	Pn	**P**	**07 53 20.4**	**-4.7**	
HFS	**Hagfors**	**19.05 337**	Pn	**P**	**07 53 20.4**	**-4.7**	
	comp=Z,1.4nm,0.3s,baz=135,slow=14,SNR=28						
HFS			LR	LR	08 01 52.2		
	comp=Z,484nm,20.6s,baz=147,slow=40						
FILF	**Fillols**	**19.09 276**	*e*P	**P**	**07 53 26.0**	**+0.1**	
CAF	**Calviac**	**19.11 284**	*e*P	**P**	**07 53 25.5**	**-0.5**	
	comp=Z,29nm,1.0s						
CAF	**Calviac**	**19.11 284**	*e*P	**P**	**07 53 25.5**	**-0.5**	
	comp=Z,15nm,1.0s						
MTLF	**Montolieu**	**19.20 279**	*e*P	**P**	**07 53 25.6**	**-1.3**	
	comp=Z,27nm,0.9s						
MTLF	**Montolieu**	**19.20 279**	*e*P	**P**	**07 53 25.6**	**-1.3**	
	comp=Z,13nm,0.9s						
HOMB	**Homborsund**	**19.45 327**	*e*P	**P**	**07 53 28.8**	**-0.7**	
HOMB	**Homborsund**	**19.45 327**	*e*P	**P**	**07 53 28.8**	**-0.7**	
	SNR=35						
RJF	**Les Rejaudoux**	**19.47 285**	*e*P	**P**	**07 53 30.0**	**+0.1**	
	comp=Z,61nm,1.1s						
RJF			*e*R				
	comp=Z,692nm,19.2s						
RJF	**Les Rejaudoux**	**19.47 285**	*e*P	**P**	**07 53 30.0**	**+0.1**	
	comp=Z,30nm,1.1s						
IVRN	**Varamin**	**19.71 107**	*e*P	**P**	**07 53 28.8**	**-3.8**	
KONO	**Kongsberg**	**19.99 331**	*e*P	**P**	**07 53 33.7**	**-1.7**	
KONO			AMB	AMB	07 53 39.7		
	comp=Z,85nm,1.2s						
KONO	**Kongsberg**	**19.99 331**	*e*P	**P**	**07 53 34.4**	**-1.0**	
KONO			pmax	pmax			
	comp=Z,112nm,1.4s						
KONO	**Kongsberg**	**19.99 331**	*e*P	**P**	**07 53 34.4**	**-1.0**	
	comp=Z,112nm,1.4s						
KONO	**Kongsberg**	**19.99 331**	*e*P	**P**	**07 53 34.4**	**-1.0**	
	comp=Z,112nm,1.4s						
SNART	**Snartemo**	**20.02 326**	*e*P	**P**	**07 53 36.0**	**+0.3**	
LFF	**La Frestale**	**20.05 284**	*e*P	**P**	**07 53 35.2**	**-1.0**	
	comp=Z,88nm,1.2s						
LFF	**La Frestale**	**20.05 284**	*e*P	**P**	**07 53 35.2**	**-1.0**	
	comp=Z,44nm,1.2s						
MLS	**Moulis**	**20.08 278**	*e*P	**P**	**07 53 35.3**	**-1.2**	
NC602	**NORSAR Array S**	**20.17 335**	*e*P	**P**	**07 53 34.1**	**-3.3**	
ISHM	**Shahmirzad**	**20.39 104**	*e*P	Pn	07 53 41.9	-0.6	
ISHM	**Shahmirzad**	**20.39 104**	*e*P	Pn	07 53 41.9	-0.6	
ISFB	**Sefidab**	**20.41 108**	*e*P	Pn	07 53 41.8	-0.6	
ISFB	**Sefidab**	**20.41 108**	*e*P	Pn	07 53 41.8	-0.6	
NAO01	**NORSAR Array S**	**20.46 335**	*e*P	**P**	**07 53 37.9**	**-2.6**	
	comp=Z,0.9nm,0.8s						
NAO01	**NORSAR Array S**	**20.46 335**	*e*P	**P**	**07 53 37.9**	**-2.6**	
	comp=Z,0.9nm,0.8s						
IPIR	**Pirpir**	**20.46 114**	*e*P	Pn	07 53 44.6	+1.2	
IKIA	**Kiasar**	**20.48 102**	*e*P	**P**	**07 53 41.7**	**+0.5**	
IKIA	**Kiasar**	**20.48 102**	*e*P	**P**	**07 53 41.7**	**+0.5**	
NB2	**NORSAR Subarra**	**20.51 335**	P	**P**	**07 53 38.4**	**-2.7**	
	comp=Z,18nm,0.8s,baz=142,slow=11						
NB2	**NORSAR Subarra**	**20.51 335**	P	**P**	**07 53 38.4**	**-2.7**	
	baz=142,slow=11						
NOA	**NORSAR Array B**	**20.51 335**	P	**P**	**07 53 38.1**	**-3.0**	
NOA	**NORSAR Array B**	**20.51 335**	P	**P**	**07 53 38.1**	**-3.0**	
	comp=Z,5.2nm,0.6s,baz=142,slow=10,SNR=23						
NAY	**Al-Naaiem**	**20.53 127**	*e*P	**P**	**07 53 40.6**	**-0.9**	
NAY			AMb	AMB	07 53 50.3		
	comp=Z,35nm,0.7s						
NAY	**Al-Naaiem**	**20.53 127**	*e*P	**P**	**07 53 40.6**	**-0.9**	
	comp=Z,35nm,0.7s						
IKLH	**Kolahrood**	**20.55 112**	*e*P	Pn	07 53 43.1	-1.1	
IKLH	**Kolahrood**	**20.55 112**	*e*P	Pn	07 53 43.1	-1.1	
MFF	**Saint Martin d**	**20.56 289**	*e*P	**P**	**07 53 39.8**	**-2.0**	
	comp=Z,49nm,0.9s						
MFF	**Saint Martin d**	**20.56 289**	*e*P	**P**	**07 53 39.8**	**-2.0**	
	comp=Z,25nm,0.9s						
LDF	**La Druitiere**	**20.59 295**	*e*P	**P**	**07 53 39.2**	**-2.8**	
	comp=Z,95nm,0.8s						
EPF	**Esparros**	**20.61 279**	*e*P	**P**	**07 53 41.2**	**-1.1**	
	comp=Z,20nm,0.7s						
EPF	**Esparros**	**20.61 279**	*e*P	**P**	**07 53 41.2**	**-1.1**	
	comp=Z,9.8nm,0.7s						
FLN	**La Foliniere**	**20.83 295**	*e*P	**P**	**07 53 42.7**	**-2.0**	
	comp=Z,88nm,0.8s						
FLN			*e*R				
	comp=Z,856nm,19.0s						
FLN	**La Foliniere**	**20.83 295**	*e*P	**P**	**07 53 42.7**	**-2.0**	
	comp=Z,44nm,0.8s						
KBD	**Kabd**	**20.84 127**	*e*P	**P**	**07 53 42.8**	**-2.1**	
KBD			AMb	AMB	07 53 55.7		
	comp=Z,85nm,1.3s						
KBD	**Kabd**	**20.84 127**	*e*P	**P**	**07 53 42.8**	**-2.1**	
	comp=Z,85nm,1.3s						
RDF	**Al-Radifah**	**20.95 127**	*e*P	**P**	**07 53 45.3**	**-0.7**	
RDF			AMb	AMB	07 53 57.4		
	comp=Z,69nm,1.5s						
RDF	**Al-Radifah**	**20.95 127**	*e*P	**P**	**07 53 45.3**	**-0.7**	
	comp=Z,69nm,1.5s						
IANJ	**Anjilo**	**21.00 104**	*e*P		07 53 50.1		
BLS5	**Blasjo**	**21.01 327**	*e*P	**P**	**07 53 46.5**	**0.0**	
BLS5			AMB	AMB	07 53 53.2		
	comp=Z,61nm,1.1s						
GRR	**Gorron**	**21.06 294**	*e*P	**P**	**07 53 44.6**	**-2.5**	
	comp=Z,59nm,0.9s						
AKTK	**Aktyubinsk**	**21.14 60**	P	**P**	**07 53 47.2**	**-0.8**	
	comp=Z,689nm,18.5s						
AKTO	**Aktyubinsk**	**21.14 60**	P	**P**	**07 53 47.2**	**-0.8**	
AKTO			pmax	pmax			
	comp=Z,11nm,0.5s						
AKTO			MLR	MLR			
	comp=Z,689nm,18.5s						
AKTO	**Aktyubinsk**	**21.14 60**	P	**P**	**07 53 47.2**	**-0.8**	
AKTO	**Aktyubinsk**	**21.14 60**	P	**P**	**07 53 47.2**	**-0.8**	
	comp=Z,11nm,0.5s,baz=268,slow=10,SNR=30						
AKTO			LR	LR	08 05 44.5		
	comp=Z,688nm,18.5s,baz=56,slow=47						
AKTO	**Aktyubinsk**	**21.14 60**	P	**P**	**07 53 47.2**	**-0.8**	
ODD1	**Odda**	**21.26 329**	*e*P	**P**	**07 53 52.5**	**+3.3**	
ODD1			AMB	AMB	07 53 59.9		
	comp=Z,58nm,2.0s						
ETSF	**Etsaut**	**21.28 279**	*e*P	**P**	**07 53 46.6**	**-3.0**	
	comp=Z,60nm,1.0s						
IZEF	**Zefreh**	**21.30 112**	*e*P	**P**	**07 53 49.8**	**-0.3**	
IZEF	**Zefreh**	**21.30 112**	*e*P	**P**	**07 53 49.8**	**-0.3**	
TMCR	**Tamitsa**	**21.46 11**	*e*P	**P**	**07 53 52.9**	**+1.7**	
TMCR			*e*		07 54 14.4		
TMCR			pmax	pmax			
	comp=Z,167nm,1.2s						
TMCR	**Tamitsa**	**21.46 11**	*e*P	**P**	**07 53 52.9**	**+1.7**	
	comp=Z,167nm,1.2s						
LARF	**Larrau**	**21.56 279**	*e*P	**P**	**07 53 51.3**	**-1.3**	
SJPF	**Ste Jean**	**21.72 280**	*e*P	**P**	**07 53 53.3**	**-0.9**	
	comp=Z,49nm,1.0s						
SJPF	**Ste Jean**	**21.72 280**	*e*P	**P**	**07 53 53.3**	**-0.9**	
	comp=Z,24nm,1.0s						
SGMF	**Saint Gilles**	**22.19 293**	*e*P	**P**	**07 53 57.6**	**-1.7**	
	comp=Z,40nm,0.7s						
SGMF	**Saint Gilles**	**22.19 293**	*e*P	**P**	**07 53 57.6**	**-1.7**	
	comp=Z,20nm,0.7s						
KBI1	**Birley Grange**	**22.20 307**	*e*P	**P**	**07 54 00.4**	**+1.1**	
KBI1	**Birley Grange**	**22.20 307**	*e*P	**P**	**07 54 00.4**	**+1.1**	
HYA	**Hoyanger**	**22.27 331**	*e*P	**P**	**07 54 00.2**	**+0.3**	
AB31	**Akbulak array**	**22.27 64**	*i* P	**P**	**07 53 59.6**	**-0.5**	
AB31			pmax	pmax			
	comp=Z,121nm,1.2s						
AB31	**Akbulak array**	**22.27 64**	*i*

ELO	**Logie Almond**	**24.32**	**314**	*eP*	**P**	**07 54 23.1**	**+2.5**
ELO	**Logie Almond**	**24.32**	**314**	*eP*	**P**	**07 54 23.1**	**+2.5**
APA	**Apatity**	**24.34**	**4**	⇑*iP*	**P**	**07 54 23.6**	**+3.0**
APA				*i* S	**S**	**07 58 42.0**	**+3.0**
APA				*i* SS	SnSn	07 59 38.0	+16
APA				pmax	pmax		
	comp=Z,36nm,0.6s						
APA				MLR	MLR		
	comp=Z,2μm,11.0s						
APA	**Apatity**	**24.34**	**4**	*i* P	**P**	**07 54 23.6**	**+3.0**
	comp=Z,36nm,0.6s						
APA				*i* S	**S**	**07 58 42.0**	**+3.0**
	comp=Z,2μm,11.0s						
FLOS	**Flostrand**	**24.45**	**345**	*eP*	**P**	**07 54 25.1**	**+3.5**
MCD	**Coleburn Disti**	**24.47**	**317**	*eP*	**P**	**07 54 23.7**	**+1.8**
MCD	**Coleburn Disti**	**24.47**	**317**	*eP*	**P**	**07 54 23.7**	**+1.8**
STOK	**Stokkvaagen**	**24.51**	**345**	*eP*	**P**	**07 54 20.9**	**-1.3**
STOK				*eP*	**pP**	**07 54 22.0**	**-4.6**
PGBU	**Glenifferbraes**	**24.53**	**312**	*eP*	**P**	**07 54 24.9**	**+2.4**
PGBU	**Glenifferbraes**	**24.53**	**312**	*eP*	**P**	**07 54 24.9**	**+2.4**
EAB	**Aberfoyle**	**24.56**	**313**	*eP*	**P**	**07 54 23.9**	**+1.2**
EAB	**Aberfoyle**	**24.56**	**313**	*eP*	**P**	**07 54 23.9**	**+1.2**
ISRO	**Mashad**	**24.59**	**96**	*eP*	**P**	**07 54 23.1**	**-0.3**
ISRO	**Mashad**	**24.59**	**96**	*eP*	**P**	**07 54 23.1**	**-0.3**
ESDC	**Sonseca Array**	**24.61**	**272**	P	**P**	**07 54 21.6**	**-1.8**
ESDC	**Sonseca Array**	**24.61**	**272**	P	**P**	**07 54 21.6**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=67,slow=9.6,SNR=8.0						
ESDC				LR	LR	08 04 09.4	
	comp=Z,188nm,18.3s,baz=65,slow=37						
ESDC	**Sonseca Array**	**24.61**	**272**	P	**P**	**07 54 21.6**	**-1.8**
ESLA	**Sonseca Array**	**24.61**	**272**	*eP*	**P**	**07 54 24.2**	**+0.7**
	comp=Z,5.6nm,1.2s						
ESLA	**Sonseca Array**	**24.61**	**272**	*eP*	**P**	**07 54 24.2**	**+0.7**
	comp=Z,5.6nm,1.2s						
PAB	**San Pablo**	**24.94**	**272**	*eP*	**P**	**07 54 28.0**	**+1.6**
PAB				pmax	pmax		
	comp=Z,18nm,1.1s						
PAB	**San Pablo**	**24.94**	**272**	*eP*	**P**	**07 54 28.0**	**+1.6**
	comp=Z,18nm,1.1s						
PAB	**San Pablo**	**24.94**	**272**	*eP*	**P**	**07 54 28.0**	**+1.6**
	comp=Z,18nm,1.1s						
IMYA	**Miami**	**25.04**	**96**	*eP*	**P**	**07 54 26.5**	**-0.9**
IMYA	**Miami**	**25.04**	**96**	*eP*	**P**	**07 54 26.5**	**-0.9**
KAC	**Achnashellach**	**25.47**	**315**	*eP*	**P**	**07 54 32.3**	**+1.3**
KAC	**Achnashellach**	**25.47**	**315**	*eP*	**P**	**07 54 32.3**	**+1.3**
STEI	**Steigen**	**25.58**	**348**	*eP*	**P**	**07 54 32.1**	**+0.3**
STEI				AMB	AMB	07 54 46.4	
	comp=Z,76nm,1.7s						
KTK1	**Kautokeino**	**25.81**	**356**	*eP*	**P**	**07 54 32.2**	**-1.7**
ARCES	**ARCESS Array B**	**26.23**	**357**	P	**P**	**07 54 36.4**	**-1.3**
ARCES	**ARCESS Array B**	**26.23**	**357**	P	**P**	**07 54 36.4**	**-1.3**
	comp=Z,2.9nm,0.6s,baz=169,slow=8.7,SNR=46						
ARCES				LR	LR	08 04 55.0	
	comp=Z,484nm,18.6s,baz=169,slow=36						
ARCES	**ARCESS Array B**	**26.23**	**357**	P	**P**	**07 54 36.4**	**-1.3**
	comp=Z,484nm,18.6s						
ARE0	**ARCESS Array S**	**26.23**	**357**	*eP*	**P**	**07 54 36.4**	**-1.3**
ARE0	**ARCESS Array S**	**26.23**	**357**	*eP*	**P**	**07 54 36.4**	**-1.3**
ARE0	**ARCESS Array S**	**26.23**	**357**	*eP*	**P**	**07 54 36.4**	**-1.3**
	SNR=28						
MVO	**Moncorvo**	**26.38**	**277**	*eP*	**P**	**07 54 41.0**	**+1.6**
	comp=Z,26nm,1.3s						
MVO	**Moncorvo**	**26.38**	**277**	*eP*	**P**	**07 54 41.0**	**+1.6**
	comp=Z,26nm,1.3s						
KEV	**Kevo**	**26.41**	**359**	*eP*	**P**	**07 54 43.7**	**+4.3**
KEV				pmax	pmax		
	comp=Z,42nm,1.0s						
KEV	**Kevo**	**26.41**	**359**	*eP*	**P**	**07 54 43.6**	**+4.3**
	comp=Z,42nm,1.0s						
TRO	**Tromso**	**26.75**	**352**	*eP*	**P**	**07 54 45.0**	**+2.7**
TRO	**Tromso**	**26.75**	**352**	*eP*	**P**	**07 54 45.0**	**+2.7**
	SNR=28						
PCAB	**Cabril**	**26.94**	**279**	*eP*	**P**	**07 54 48.4**	**+3.9**
	comp=Z,32nm,1.5s						
MTE	**Manteigas**	**26.98**	**276**	*eP*	**P**	**07 54 48.1**	**+3.2**
	comp=Z,36nm,1.2s						
PMRV	**Marv??o**	**27.19**	**274**	*eP*	**P**	**07 54 50.3**	**+3.6**
	comp=Z,32nm,1.4s						
PBAR	**Barrancos**	**27.39**	**271**	*eP*	**P**	**07 54 50.5**	**+2.0**
	comp=Z,25nm,1.6s						
PBAR	**Barrancos**	**27.39**	**271**	*eP*	**P**	**07 54 50.5**	**+2.0**
	comp=Z,25nm,1.6s						
PESTR	**Estremoz**	**27.54**	**273**	*eP*	**P**	**07 54 52.7**	**+2.9**
	comp=Z,20nm,2.0s						
PMTG	**Montargil**	**27.92**	**274**	*eP*	**P**	**07 54 51.4**	**-1.9**
	comp=Z,22nm,1.7s						
PMTG	**Montargil**	**27.92**	**274**	*eP*	**P**	**07 54 51.4**	**-1.9**
	comp=Z,22nm,1.7s						
MDT	**Midelt**	**28.07**	**259**	P	**P**	**07 54 53.3**	**-1.5**
MDT	**Midelt**	**28.07**	**259**	P	**P**	**07 54 53.3**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=75,slow=9.0,SNR=2.6						
MDT				LR	LR	08 07 16.2	
	comp=Z,196nm,18.8s,baz=284,slow=39						
MDT	**Midelt**	**28.07**	**259**	P	**P**	**07 54 53.3**	**-1.5**
TAM	**Tamanrasset**	**28.10**	**230**	*eP*	P	07 54 58.2	+3.1
TAM				pmax	pmax		
	comp=Z,14nm,1.1s						
TAM	**Tamanrasset**	**28.10**	**230**	*eP*	P	07 54 58.2	+3.1
	comp=Z,14nm,1.1s						
TAM	**Tamanrasset**	**28.10**	**230**	*eP*	P	07 54 58.2	+3.1
	comp=Z,14nm,1.1s						
PNCL	**Nicolau / Gran**	**28.50**	**272**	*eP*	P	07 54 53.4	-5.0
	comp=Z,23nm,1.9s						
BRVK	**Borovoye**	**28.97**	**56**	P	**P**	**07 55 02.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s						
BRVK	**Borovoye**	**28.97**	**56**	*eP*	**P**	**07 55 03.6**	**+1.2**
BRVK	**Borovoye**	**28.97**	**56**	P	**P**	**07 55 02.4**	**0.0**
	comp=Z,14nm,0.6s						
BVA0	**Borovoye Array**	**29.03**	**56**	*i* P	P	07 55 07.2	+4.2
BVA0				pmax	pmax		
	comp=Z,15nm,0.9s						
BVAR	**Borovoye Array**	**29.03**	**56**	P	**P**	**07 55 03.5**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**29.03**	**56**	P	**P**	**07 55 03.5**	**+0.5**
BVAR	**Borovoye Array**	**29.03**	**56**	P	**P**	**07 55 03.5**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=256,slow=6.0,SNR=8.3						
BVAR	**Borovoye Array**	**29.03**	**56**	P	**P**	**07 55 03.5**	**+0.5**
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**30.25**	**76**	*eP*	**P**	**07 55 15.0**	**+1.1**
KKAR	**Karatay Array**	**30.25**	**76**	*eP*	**P**	**07 55 14.9**	**+1.1**
KKAR	**Karatay Array**	**30.25**	**76**	*eP*	**P**	**07 55 14.9**	**+1.1**
EKS2	**Erkin-Say**	**32.67**	**75**	*eP*	**P**	**07 55 37.5**	**+2.1**
EKS2	**Erkin-Say**	**32.67**	**75**	*eP*	**P**	**07 55 37.5**	**+2.1**
EKS2	**Erkin-Say**	**32.67**	**75**	*eP*	**P**	**07 55 37.5**	**+2.1**
AAK	**Ala-Archa**	**33.19**	**75**	*eP*	**P**	**07 55 40.9**	**+1.0**
AAK				pmax	pmax		
	comp=Z,52nm,1.7s						
AAK	**Ala-Archa**	**33.19**	**75**	*eP*	**P**	**07 55 41.2**	**+1.3**
	comp=Z,18nm,1.0s						
AAK	**Ala-Archa**	**33.19**	**75**	P	**P**	**07 55 41.5**	**+1.5**
	comp=Z,6.6nm,0.8s,baz=211,slow=4.7,SNR=14						
AAK	**Ala-Archa**	**33.19**	**75**	*eP*	**P**	**07 55 40.9**	**+1.0**
	comp=Z,52nm,1.7s						
FRU	**Bishkek**	**33.22**	**75**	*eP*	**P**	**07 55 40.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,70nm,2.3s						
FRU	**Bishkek**	**33.22**	**75**	*eP*	**P**	**07 55 40.0**	**0.0**
	comp=Z,70nm,2.3s						
TKM2	**Tokmak 2**	**33.88**	**74**	P	**P**	**07 55 46.0**	**0.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TKM2	**Tokmak 2**	**33.88**	**74**	*eP*	**P**	**07 55 47.0**	**+1.0**
TKM2	**Tokmak 2**	**33.88**	**74**	P	**P**	**07 55 46.0**	**0.0**
	comp=Z,6.0nm,1.3s						
KURBB	**Kurchatov Arra**	**34.19**	**60**	P	**P**	**07 55 48.7**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=282,slow=9.6,SNR=7.4						
KURK	**Kurchatov**	**34.24**	**60**	P	**P**	**07 55 48.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**34.24**	**60**	P	**P**	**07 55 48.7**	**0.0**
KURK	**Kurchatov**	**34.24**	**60**	P	**P**	**07 55 48.7**	**0.0**
	comp=Z,1.0nm,0.6s						
SPITS	**Spitsbergen Ar**	**35.22**	**356**	P	**P**	**07 55 56.6**	**-0.3**
SPITS	**Spitsbergen Ar**	**35.22**	**356**	P	**P**	**07 55 56.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=162,slow=15,SNR=3.5						
SPITS	**Spitsbergen Ar**	**35.22**	**356**	P	**P**	**07 55 56.6**	**-0.3**
	comp=Z,1.0nm,0.5s						
KSH	**Kashi**	**35.29**	**80**	*eP*	**P**	**07 55 56.7**	**-1.4**
KSH				PP	**PnPn**	**07 57 14.6**	**-1.6**
KSH				S	S	08 01 25.4	-6.2
KSH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,21nm,4.6s						
KSH				LR	LR		
	comp=N,91nm,5.3s						
KSH				LR	LR		
	comp=E,120nm,4.6s						
KSH				LR	LR		
	comp=Z,140nm,24.3s						
KBS	**Kingsbay**	**36.20**	**355**	*eP*	**P**	**07 56 05.2**	**-0.1**
KBS				AMB	AMB	07 56 12.1	
	comp=Z,29nm,2.2s						
KBS	**Kingsbay**	**36.20**	**355**	*c iP*	**P**	**07 56 07.3**	**+2.0**
KBS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBS	**Kingsbay**	**36.20**	**355**	*eP*	**P**	**07 56 05.2**	**-0.1**
	comp=Z,29nm,2.2s,SNR=26						
NVS	**Novosibirsk**	**36.58**	**52**	*eP*	**P**	**07 56 09.6**	**+0.8**
NVS				*e*		07 57 34.7	
NVS	**Novosibirsk**	**36.58**	**52**	*eP*	**P**	**07 56 09.6**	**+0.8**
MK31	**Makanchi Array**	**37.39**	**66**	P	**P**	**07 56 15.4**	**-0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MK31	**Makanchi Array**	**37.39**	**66**	*eP*	**P**	**07 56 15.6**	**-0.3**
MK31	**Makanchi Array**	**37.39**	**66**	*eP*	**P**	**07 56 15.6**	**-0.3**
MKAR	**Makanchi Array**	**37.39**	**66**	*c eP*	**P**	**07 56 15.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**37.39**	**66**	P	**P**	**07 56 15.6**	**-0.2**
MKAR	**Makanchi Array**	**37.39**	**66**	P	**P**	**07 56 15.6**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=282,slow=7.7,SNR=44						
MKAR				LR	LR	08 13 26.4	
	comp=Z,222nm,20.2s,baz=285,slow=39						
MKAR	**Makanchi Array**	**37.39**	**66**	*eP*	**P**	**07 56 15.6**	**-0.2**
	comp=Z,2.0nm,0.5s						
ZAA0	**Zalesovo Array**	**37.60**	**54**	*eP*	**P**	**07 56 17.0**	**-0.4**
ZAA0	**Zalesovo Array**	**37.60**	**54**	*eP*	**P**	**07 56 17.0**	**-0.4**
ZALV	**Zalesovo Beam**	**37.60**	**54**	P	**P**	**07 56 16.5**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,306nm,21.4s						
ZALV	**Zalesovo Beam**	**37.60**	**54**	P	**P**	**07 56 16.5**	**-1.0**
ZALV	**Zalesovo Beam**	**37.60**	**54**	P	**P**	**07 56 16.5**	**-1.0**
	comp=Z,7.2nm,0.7s,baz=274,slow=9.5,SNR=12						
ZALV				LR	LR	08 12 57.5	
	comp=Z,306nm,21.4s,baz=69,slow=38						
ZALV	**Zalesovo Beam**	**37.60**	**54**	P	**P**	**07 56 16.5**	**-1.0**
	comp=Z,306nm,21.4s						
TOA0	**Torodi Ar. Sit**	**38.06**	**226**	*eP*	**P**	**07 56 22.3**	**+0.6**
TOA0	**Torodi Ar. Sit**	**38.06**	**226**	*eP*	**P**	**07 56 22.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**38.06**	**226**	P	**P**	**07 56 20.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**38.06**	**226**	P	**P**	**07 56 20.8**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=35,slow=8.7,SNR=7.5						
TORD				LR	LR	08 15 11.6	
	comp=Z,259nm,18.6s,baz=25,slow=41						
TORD	**Torodi Ar. Bea**	**38.06**	**226**	P	**P**	**07 56 20.8**	**-0.9**
DAG	**Danmarks Havn**	**38.72**	**344**	*i* P	P	07 56 31.1	+4.5
DAG				pmax	pmax		
	comp=Z,11nm,0.9s						
DAG				MLR	MLR		
	comp=Z,230nm,22.0s						
DAG	**Danmarks Havn**	**38.72**	**344**	*i* P	P	07 56 31.1	+4.5
	comp=Z,13nm,0.9s						
DAG							
	comp=Z,200nm,22.0s						
WMQ	**Urumqi**	**41.93**	**68**	*eP*	P	07 56 58.2	+4.5
WMQ				LR	LR		
	comp=N,270nm,26.0s						
WMQ				LR	LR		
	comp=E,350nm,32.0s						
WMQ				LR	LR		
	comp=Z,160nm,35.0s						
SUMG	**Summit**	**42.40**	**336**	*eP*	P	07 57 00.8	+3.2
	comp=Z,4.2nm,0.9s,SNR=26						
KMBO	**Kilima Mbogo**	**45.01**	**168**	LR	LR	08 20 25.2	
	comp=Z,135nm,18.8s,baz=100,slow=42						
DBIC	**Dimbokro**	**46.97**	**229**	P	**P**	**07 57 32.5**	**-1.7**
DBIC	**Dimbokro**	**46.97**	**229**	P	**P**	**07 57 32.5**	**-1.7**
	comp=Z,3.2nm,0.7s,baz=16,slow=7.4,SNR=3.1						
DBIC				LR	LR	08 21 03.5	
	comp=Z,235nm,19.4s,baz=12,slow=41						
DBIC	**Dimbokro**	**46.97**	**229**	P	**P**	**07 57 32.5**	**-1.7**
	comp=Z,235nm,19.4s						
TIC	**Toumodi**	**47.08**	**229**	*eP*	P	07 57 38.7	+3.6
	comp=Z,7.2nm,0.3s						
KIC	**Kosan Boka**	**47.16**	**228**	*eP*	**P**	**07 57 38.6**	**+2.9**
	comp=Z,154nm,1.8s						
LIC	**Lamto**	**47.43**	**228**	*eP*	**P**	**07 57 36.4**	**-1.4**
	comp=Z,17nm,0.6s						
LIC				*eR*			
	comp=Z,304nm,21.5s						
LIC	**Lamto**	**47.43**	**228**	*eP*	P	07 57 41.8	+4.0
	comp=Z,28nm,0.6s						
LIC	**Lamto**	**47.43**	**228**	*eP*	**P**	**07 57 36.4**	**-1.4**
	comp=Z,8.4nm,0.6s						
GTA	**Gaotai**	**52.02**	**68**	*eP*	**P**	**07 58 13.5**	**+0.8**
GTA				pP	**pP**	**07 58 18.0**	**+0.7**
GTA				sP	**sP**	**07 58 20.5**	**+1.5**
GTA				S	**S**	**08 05 36.8**	**+1.1**
GTA				sS	**sS**	**08 05 45.0**	**+1.7**
GTA				SS	**SS**	**08 09 13.8**	**+1.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,82nm,5.7s						
GTA				LR	LR		
	comp=N,220nm,18.3s						
GTA				LR	LR		
	comp=E,350nm,17.8s						
GTA				LR	LR		
	comp=Z,300nm,19.5s						
SONM	**Songino Array**	**52.38**	**56**	P	**P**	**07 58 14.6**	**-0.7**
SONM	**Songino Array**	**52.38**	**56**	P	**P**	**07 58 14.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=286,slow=7.6,SNR=12						
SONM				LR	LR	08 25 10.7	
	comp=Z,223nm,18.0s,baz=54,slow=41						
SONM	**Songino Array**	**52.38**	**56**	P	**P**	**07 58 14.6**	**-0.7**
	comp=Z,223nm,18.0s						
ULN	**Ulaanbaatar**	**52.76**	**56**	*eP*	**P**	**07 58 18.4**	**+0.4**
	comp=Z,1.7nm,0.4s						
ULN	**Ulaanbaatar**	**52.76**	**56**	*eP*	**P**	**07 58 18.5**	**+0.4**
	comp=Z,2.0nm,0.4s						
LZH	**Lanzhou**	**56.45**	**70**	*eP*	**P**	**07 58 44.6**	**-0.5**
LZH				pP	**pP**	**07 58 48.0**	**-1.7**
LZH				sP	sP	07 58 59.4	+7.9
LZH				PP	**PP**	**08 00 53.7**	**+3.2**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,59nm,6.4s						
LZH				LR	LR		
	comp=N,320nm,14.3s						
LZH				LR	LR		
	comp=E,310nm,15.0s						
LZH				LR	LR		
	comp=Z,400nm,18.5s						
SCHQ	**Schefferville**	**58.78**	**318**	P	**P**	**07 59 00.2**	**-0.8**
SCHQ	**Schefferville**	**58.78**	**318**	P	**P**	**07 59 00.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=63,slow=6.8,SNR=2.2						
SCHQ				LR	LR	08 23 52.4	
	comp=Z,228nm,19.2s,baz=293,slow=36						
SCHQ	**Schefferville**	**58.78**	**318**	P	**P**	**07 59 00.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**59.03**	**61**	*eP*	**P**	**07 59 04.0**	**+0.9**
HHC				PcP	**PcP**	**07 59 52.8**	**+0.9**
HHC				PP	**PP**	**08 01 16.0**	**+2.8**
HHC				ScP	**ScP**	**08 03 51.4**	**-0.5**
HHC				PcS	**PcS**	**08 03 53.7**	**-0.1**
HHC				S	**S**	**08 07 07.7**	**-1.6**
HHC				ScS	**ScS**	**08 08 49.1**	**-3.6**
HHC				SS	**SS**	**08 11 02.4**	**-0.3**
HHC				pmax	pmax		
	comp=Z,46nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,6.9s						
HHC				LR	LR		
	comp=N,420nm,16.5s						
HHC				LR	LR		
	comp=E,540nm,16.1s						
HHC				LR	LR		
	comp=Z,350nm,16.5s						
CD2	**Chengdu**	**59.26**	**75**	*eP*	**P**	**07 59 07.0**	**+2.3**
CD2				pP	**pP**	**07 59 11.5**	**+2.1**
CD2				sP	**sP**	**07 59 14.0**	**+2.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,30nm,6.0s						
XAN	**Xi'an**	**61.05**	**69**	P	**P**	**07 59 17.4**	**+0.4**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BJI	**Beijing**	**62.41**	**60**	P	**P**	**07 59 26.6**	**+0.7**
BJI				pmax	pmax		
	comp=Z,13nm,0.8s						
BJI				LR	LR		
	comp=N,340nm,22.9s						
BJI				LR	LR		
	comp=E,310nm,23.4s						
BJI				LR	LR		
	comp=Z,320nm,26.4s						
CMAR	**Chiang Mai Arr**	**63.33**	**89**	P	**P**	**07 59 31.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**63.33**	**89**	P	**P**	**07 59 31.7**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=308,slow=8.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**63.33**	**89**	P	**P**	**07 59 31.7**	**-0.6**
	comp=Z,3.0nm,0.7s						
GYA	**Guiyang**	**63.94**	**77**	*eP*	**P**	**07 59 39.2**	**+2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**65.79**	**52**	*eS*	**S**	**08 08 34.1**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,300nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
KLR	**Kul'dur**	**65.85**	**44**	*eP*	P	07 59 44.3	-4.1
MDJ	**Mudanjiang**	**67.62**	**49**	P	**P**	**08 00 00.6**	**+0.9**
MDJ				S	**S**	**08 08 56.4**	**+0.3**
MDJ				ScS	**ScS**	**08 09 58.9**	**+1.3**
MDJ				SS	**SS**	**08 13 18.7**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,80nm,5.3s						
MDJ				LR	LR		
	comp=N,170nm,15.5s						
MDJ				LR	LR		
	comp=E,300nm,19.4s						
MDJ				LR	LR		
	comp=Z,250nm,14.5s						
NJ2	**Nanjing**	**68.92**	**66**	*eP*	**P**	**08 00 08.7**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Arra**	**69.21**	**48**	P	**P**	**08 00 09.2**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=311,slow=7.5,SNR=3.6						
USRK				LR	LR	08 34 48.0	
	comp=Z,258nm,18.3s,baz=59,slow=40						
COLD	**Coldfoot**	**69.68**	**360**	*eP*	**P**	**08 00 13.4**	**+1.2**
	comp=Z,11nm,1.0s						
COLD	**Coldfoot**	**69.68**	**360**	*eP*	**P**	**08 00 13.4**	**+1.2**
	comp=Z,11nm,1.0s						
YKW3	**Yellowknife Ar**	**70.34**	**343**	*eP*	**P**	**08 00 17.9**	**+1.6**
	comp=Z,0.1nm,0.7s						
YKW3	**Yellowknife Ar**	**70.34**	**343**	*eP*	**P**	**08 00 17.9**	**+1.6**
	comp=Z,0.1nm,0.7s						
YKA	**Yellowknife Ar**	**70.40**	**343**	P	**P**	**08 00 16.2**	**-0.5**
YKA	**Yellowknife Ar**	**70.40**	**343**	P	**P**	**08 00 16.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=25,slow=5.8,SNR=4.7						
YKA	**Yellowknife Ar**	**70.40**	**343**	P	**P**	**08 00 16.2**	**-0.5**
	comp=Z,1.0nm,0.7s						
KSAR	**Wonju Array Be**	**71.23**	**56**	P	**P**	**08 00 20.3**	**-1.9**
KSAR	**Wonju Array Be**	**71.23**	**56**	P	**P**	**08 00 20.3**	**-1.9**
KSRS	**Korea Array**	**71.25**	**56**	P	**P**	**08 00 20.3**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=312,slow=5.3,SNR=6.1						
KSRS				LR	LR	08 36 20.9	
	comp=Z,189nm,20.5s,baz=310,slow=40						
KSRS	**Korea Array**	**71.25**	**56**	P	**P**	**08 00 20.3**	**-2.0**
	comp=Z,189nm,20.5s						
EGAK	**Eagle**	**71.85**	**355**	*eP*	**P**	**08 00 27.2**	**+1.8**
	comp=Z,4.6nm,0.9s						
EGAK	**Eagle**	**71.85**	**355**	*eP*	**P**	**08 00 27.2**	**+1.8**
	comp=Z,4.6nm,0.9s						
COLA	**College**	**72.01**	**358**	*eP*	**P**	**08 00 27.4**	**+1.0**
COLA				pmax	pmax		
	comp=Z,34nm,1.0s						
COLA	**College**	**72.01**	**358**	*eP*	**P**	**08 00 27.4**	**+1.0**
	comp=Z,34nm,1.0s						
COLA	**College**	**72.01**	**358**	*eP*	**P**	**08 00 27.4**	**+1.0**
	comp=Z,34nm,1.0s						
ILAR	**Eielson Array**	**72.09**	**358**	P	**P**	**08 00 26.6**	**-0.3**
ILAR	**Eielson Array**	**72.09**	**358**	P	**P**	**08 00 26.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=348,slow=4.4,SNR=6.3						
ILAR	**Eielson Array**	**72.09**	**358**	P	**P**	**08 00 26.6**	**-0.3**
DAWY	**Dawson**	**72.44**	**355**	*eP*	**P**	**08 00 29.8**	**+0.7**
DAWY	**Dawson**	**72.44**	**355**	*eP*	**P**	**08 00 29.8**	**+0.7**
YSS	**Yuzh-Sakhalins**	**72.83**	**41**	*eP*	**P**	**08 00 33.4**	**+1.8**
YSS				*e*		08 00 37.8	
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS	**Yuzh-Sakhalins**	**72.83**	**41**	*eP*	**P**	**08 00 33.4**	**+1.8**
PETK	**Petropavlovsk-**	**74.35**	**29**	LR	LR	08 35 21.3	
	comp=Z,227nm,18.5s,baz=140,slow=37						
ULM	**Lac du Bonnet**	**74.93**	**327**	P	**P**	**08 00 44.0**	**+0.1**
ULM	**Lac du Bonnet**	**74.93**	**327**	P	**P**	**08 00 44.0**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=349,slow=10,SNR=3.0						
ULM	**Lac du Bonnet**	**74.93**	**327**	P	**P**	**08 00 44.0**	**+0.1**
	comp=

comp=Z,11nm,1.3s
YFT Old Faithful 85.34 332 *e*P **P 08 01 41.3 +0.9**
comp=Z,11nm,0.9s
YFT Old Faithful 85.34 332 *e*P **P 08 01 41.3 +0.9**
comp=Z,11nm,0.9s
MCMT McKenzie Canyo 85.68 334 *e*P **P 08 01 42.9 +0.8**
comp=Z,0.7nm,0.9s
MCMT McKenzie Canyo 85.68 334 *e*P **P 08 01 42.9 +0.8**
comp=Z,0.7nm,0.9s
IMW Indian Meadow 85.86 332 *e*P **P 08 01 45.0 +1.9**
comp=Z,5.7nm,0.8s
IMW Indian Meadow 85.86 332 *e*P **P 08 01 45.0 +1.9**
comp=Z,5.7nm,0.8s
MOOW Moose Ponds 85.93 332 *e*P **P 08 01 44.8 +1.4**
comp=Z,3.1nm,0.9s
MOOW Moose Ponds 85.93 332 *e*P **P 08 01 44.8 +1.4**
comp=Z,3.1nm,0.9s
LOHW Long Hollow 86.00 332 *e*P **P 08 01 43.6 0.0**
comp=Z,2.2nm,0.7s
LOHW Long Hollow 86.00 332 *e*P **P 08 01 43.7 0.0**
comp=Z,2.2nm,0.7s
PHWY Pilot Hill 86.09 327 *e*P **P 08 01 45.8 +1.5**
comp=Z,7.4nm,1.1s
PHWY Pilot Hill 86.09 327 *e*P **P 08 01 45.8 +1.5**
comp=Z,7.4nm,1.1s
SNOW Snow King Moun 86.18 332 *e*P **P 08 01 45.8 +1.1**
comp=Z,4.1nm,0.9s
SNOW Snow King Moun 86.18 332 *e*P **P 08 01 45.8 +1.1**
comp=Z,4.1nm,0.9s
TPAW Teton Pass 86.23 332 *e*P **P 08 01 45.1 +0.2**
comp=Z,5.4nm,1.0s
TPAW Teton Pass 86.23 332 *e*P **P 08 01 45.1 +0.2**
comp=Z,5.4nm,1.0s
REDW Red Top Meadow 86.31 332 *e*P **P 08 01 45.6 +0.4**
comp=Z,3.2nm,0.8s
REDW Red Top Meadow 86.31 332 *e*P **P 08 01 45.6 +0.4**
comp=Z,3.2nm,0.8s
BW06 Boulder Array 86.37 331 *e*P **P 08 01 46.9 +1.3**
comp=Z,1.9nm,0.8s
BW06 Boulder Array 86.37 331 *e*P **P 08 01 46.9 +1.3**
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 86.37 331 P **P 08 01 46.1 +0.6**
PDAR Pinedale Array 86.37 331 P **P 08 01 46.1 +0.6**
comp=Z,1.7nm,1.1s,baz=67,slow=3.9,SNR=8.5
PDAR Pinedale Array 86.37 331 P **P 08 01 46.2 +0.6**
RRI2 Red Ridge 86.48 332 *e*P **P 08 01 46.0 -0.2**
comp=Z,6.8nm,0.8s
RRI2 Red Ridge 86.48 332 *e*P **P 08 01 46.0 -0.2**
comp=Z,6.8nm,0.8s
BMO Blue Mountains 87.02 337 *e*P **P 08 01 48.9 +0.3**
comp=Z,1.6nm,0.7s
BMO Blue Mountains 87.02 337 *e*P **P 08 01 48.8 +0.3**
comp=Z,1.6nm,0.7s
HWUT Hardware Ranch 88.10 331 *e*P **P 08 01 54.3 +0.4**
comp=Z,4.5nm,1.2s
HWUT Hardware Ranch 88.10 331 *e*P **P 08 01 54.3 +0.4**
comp=Z,4.4nm,1.2s
DUG Dugway 89.79 332 *e*P **P 08 02 03.2 +1.4**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway 89.79 332 *e*P **P 08 02 03.2 +1.4**
comp=Z,3.8nm,1.0s
DUG Dugway 89.79 332 *e*P **P 08 02 03.2 +1.4**
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 93.20 335 P **P 08 02 17.9 +0.2**
NVAR Mina Array Bea 93.20 335 P **P 08 02 17.9 +0.2**
comp=Z,0.2nm,0.7s,baz=12,slow=4.9,SNR=2.2
NVAR Mina Array Bea 93.20 335 P **P 08 02 18.0 +0.2**
TXAR Lajitas Array 95.43 320 P **P 08 02 26.4 -1.6**
TXAR Lajitas Array 95.43 320 P **P 08 02 26.4 -1.6**
comp=Z,0.2nm,0.8s,baz=60,slow=5.3,SNR=2.5
TXAR Lajitas Array 95.43 320 P **P 08 02 26.4 -1.6**
ASAR Alice Springs 116.68 98 PKP **PKPdf 08 07 46.6 -0.8**
ASAR Alice Springs 116.68 98 PKP **PKPdf 08 07 46.6 -0.8**
comp=Z,0.3nm,0.8s,baz=298,slow=1.7,SNR=3.4
ASAR Alice Springs 116.68 98 PKIKP **PKPdf 08 07 46.7 -0.8**

ISCJB ***05*** *07:51:45.5±0.7, 6°.97N±0°.07×73°.03W±0°.08, h153km±9km, mb3.1/1, Error ellipse: s-maj=16.2km s-min=7.3km az=39.0*
IDC ***05*** *07:51:46.8±6.6, 6°.72N×73°.05W, h174km±42km, mb2.9/1, mb1 3.4/2, mb1mx2.9/23, mbtmp3.1/2, Error ellipse: s-maj=101.4km s-min=34.9km az=74.0*
FUNV ***05*** *07:51:48.5, 6°.96N×72°.99W, h147km, MW3.2*
ISC 05 07:51:46.4±1.1, 6°.97N±0°.07×73°.00W±0°.08, h151km±9km, n19, σ1°.25/24, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.12**	**37**	∥*i*P	**Pn**	**07 52 14.5**	**+1.9**
CAPV				*e*S	**Sn**	**07 52 31.8**	**-0.7**
VIGV	**El Vigia**	**2.46**	**41**	∥*e*P	**Pn**	**07 52 28.5**	**+1.3**
VIGV				*e*S	**Sn**	**07 52 58.2**	**-0.4**
ROSC	**El Rosal**	**2.48**	**212**	P	**Pn**	**07 52 26.7**	**-1.0**
	16nm,0.3s,baz=99,slow=16,SNR=27						
ROSC				S	**Sn**	**07 52 58.0**	**-1.6**
	19nm,0.3s,baz=107,slow=19,SNR=16						
SOCV	**Socops**	**2.49**	**58**	∥*e*P	**Pn**	**07 52 28.3**	**+0.8**
SOCV				*e*S	**Sn**	**07 52 58.2**	**-1.0**
ELOV	**Elorza**	**3.49**	**89**	∥*e*P	**Pn**	**07 52 40.4**	**+0.4**
VIRV	**Villa del Rosa**	**3.56**	**9**	*e*P	**Pn**	**07 52 41.6**	**+0.6**
VIRV				*e*S	**Sn**	**07 53 20.6**	**-2.8**
QARV	**Quebrada Arrib**	**4.04**	**37**	*e*P	**Pn**	**07 52 48.2**	**+0.9**
CURV	**Curarigua**	**4.26**	**45**	*e*P	**Pn**	**07 52 51.0**	**+0.8**
DABV	**Dabajuro**	**4.57**	**31**	*e*P	**Pn**	**07 52 55.3**	**+1.2**
TEPV	**Terepaima**	**4.80**	**51**	*e*P	**Pn**	**07 52 58.0**	**+0.7**
SIQV	**Siquisique**	**4.83**	**41**	*e*P	**Pn**	**07 52 57.9**	**+0.3**
BAUV	**El Baul**	**5.29**	**68**	*e*P	**Pn**	**07 53 03.2**	**-0.4**
MAPV	**Macapo**	**5.32**	**57**	*e*P	**Pn**	**07 53 04.3**	**+0.2**
MONV	**Montecano**	**5.78**	**31**	*e*P	**Pn**	**07 53 10.3**	**0.0**
TURV	**Turiamo**	**6.16**	**55**	*e*P	**Pn**	**07 53 15.6**	**+0.3**
BIRV	**Birongo**	**7.51**	**62**	*e*P	**Pn**	**07 53 32.3**	**-1.0**
TXAR	**Lajitas Array**	**36.46**	**311**	P	**P**	**07 58 36.2**	**-0.8**
	0.3nm,0.6s,baz=128,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**149.30**	**234**	PKPbc	**PKPdf**	**08 11 15.3**	**+1.5**
	0.2nm,0.5s,baz=114,slow=4.1,SNR=4.4						
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	**PKPdf**	**08 11 17.8**	**+2.0**
	0.5nm,0.6s,baz=108,slow=2.3,SNR=12						

WAR ***05*** *07:59:28.3, 50°.06N×18°.45E*
CSEM ***05*** *07:59:28.2±0.7, 50°.10N×18°.42E, h1km, Error ellipse: s-maj=11.9km s-min=5.6km az=69.0*
PRU 05 07:59:28.7, 50°.06N×18°.42E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**218**	*e*PG	Pg	07 59 34.3	+0.1
OKC				*e*SG	Sg	07 59 38.3	+0.4
	comp=Z,16nm,0.5s						
OKC	**Ostrava-Krasne**	**0.28**	**218**	Pg	Pg	07 59 34.3	+0.1
OKC				Sg	Sg	07 59 38.3	+0.4
	16nm,0.5s						
MORC	**Moravsky Berou**	**0.63**	**244**	*e*Pg	Pg	07 59 40.8	-0.2
MORC				*e*Sg	Sg	07 59 48.5	-0.7
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	Pg	07 59 54.4	-0.8
DPC				*e*SG	Sg	08 00 13.1	-0.1
DPC	**Dobruska-Polom**	**1.38**	**283**	Pg	Pg	07 59 54.4	-0.8
DPC				Sg	Sg	08 00 13.1	-0.1

GUC ***05*** *08:10:24.2±0.8, 23°.65S×67°.17W, h195km±41km, ML4.2*
IDC ***05*** *08:10:26.6±9.9, 23°.19S×66°.63W, h229km±69km, mb3.1/1, mb1 3.2/4, mb1mx3.0/18, mbtmp3.2/4, Error ellipse: s-maj=108.9km s-min=37.4km az=25.0*
ISC 05 08:10:21.5±1.4, 23°.6S±0°.1×66°.9W±0°.2, h210km±23km, n10, σ1°.37/16, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.06**	**297**	∥*e*P	**Pn**	**08 11 02.9**	**+1.2**
PB09	**Plate Boundary**	**2.77**	**309**	*e*P	**Pn**	**08 11 11.2**	**+1.8**
PB09				*e*S	**S**	**08 11 47.6**	**+1.4**
PB09				AML	AML	08 11 50.4	
	comp=N,330nm,0.4s						
ANCH	**Antofagasta**	**3.21**	**267**	*e*P	**Pn**	**08 11 15.1**	**+1.1**
ANCH				*e*S	**S**	**08 11 53.5**	**-1.3**
ANCH				AML	AML	08 11 55.4	
	comp=E,326nm,0.1s						
PB10	**Plate Boundary**	**3.34**	**270**	*e*P	**Pn**	**08 11 16.4**	**+0.7**
PB10				*e*S	**S**	**08 11 55.9**	**-1.8**
PB10				AML	AML	08 11 58.9	
	comp=E,523nm,0.3s						
PB01	**Plate Boundary**	**3.45**	**316**	*e*P	**Pn**	**08 11 18.3**	**+1.1**
PB01				*e*S	**S**	**08 12 00.2**	**-0.2**
HMBC	**Humberstone**	**4.27**	**319**	*e*P	**Pn**	**08 11 27.4**	**+0.1**
HMBC				*e*S	**S**	**08 12 17.2**	**-1.4**
LPAZ	**La Paz**	**7.32**	**351**	P	**Pn**	**08 12 07.9**	**+1.2**
	comp=E,0.8nm,0.3s,baz=162,slow=6.5,SNR=33						
LPAZ				S	**Sn**	**08 13 29.5**	**-0.7**
	comp=E,0.0nm,0.3s,baz=324,slow=17,SNR=2.3						
SIV	**San Ignacio**	**9.32**	**37**	P	**Pn**	**08 12 30.3**	**-1.8**
	comp=E,0.9nm,0.3s,baz=234,slow=14,SNR=22						
BDFB	**Brasilia**	**19.46**	**70**	P	**P**	**08 14 33.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=225,slow=10.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	**P**	**08 21 48.7**	**+0.7**
	comp=E,0.4nm,0.5s,baz=250,slow=5.0,SNR=4.8						

CSEM ***05*** *08:20:36.8±0.5, 37°.57N×13°.47W, h10km, ML3.1/11, Error ellipse: s-maj=11.0km s-min=9.6km az=1.0*
INMG ***05*** *08:20:36.2±0.9, 37°.53N×14°.13W, h10km, ML2.3, Error ellipse: s-maj=25.8km s-min=10.8km az=1.0*
MDD ***05*** *08:20:38.4±4.8, 37°.66N×13°.23W, h0km, mb4.1/3, Error ellipse: s-maj=46.9km s-min=40.2km az=32.0, PRXIMO*
MDD EMS: I-II INTENSIDAD MAXIMA.
ISC 05 08:20:36.5±4.1, 37°.6N±0°.1×13°.5W±0°.2, h10km, n33, σ0°.82/56, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.59**	**66**	*e*Pn	**Pn**	**08 21 32.7**	**+0.4**
PMAFR				A	A	08 22 29.8	
	12nm,0.2s						
PMAFR	**Mafra**	**3.59**	**66**	Pn	**Pn**	**08 21 32.7**	**+0.4**
	4.6nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**08 22 16.6**	**+1.9**
	4.2nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.59**	**66**	*e*Pn	**Pn**	**08 21 32.7**	**+0.4**
	12nm,0.2s						
PMAFR				Sn	**Sn**	**08 22 16.6**	**+1.9**
	4.2nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.97**	**81**	*e*Pn	**Pn**	**08 21 37.7**	**+0.2**
PNCL				*e*Sn	**Sn**	**08 22 24.6**	**+0.6**
PNCL				A	A	08 22 27.2	
	1.8nm,0.1s						
PNCL	**Nicolau / Gran**	**3.97**	**81**	*e*Pn	**Pn**	**08 21 37.7**	**+0.2**
PNCL				*e*Sn	**Sn**	**08 22 24.6**	**+0.6**
	1.8nm,0.1s						
PCVE	**Castro Verde**	**4.34**	**88**	*e*Pn	**Pn**	**08 21 42.1**	**-0.4**
PCVE				*e*Sn	**Sn**	**08 22 31.9**	**-1.2**
PCVE	**Castro Verde**	**4.34**	**88**	Pn	**Pn**	**08 21 42.1**	**-0.4**
PCVE				Sn	**Sn**	**08 22 31.9**	**-1.2**
PCVE	**Castro Verde**	**4.34**	**88**	Pn	**Pn**	**08 21 42.1**	**-0.4**
PCVE				Sn	**Sn**	**08 22 31.9**	**-1.2**
PMTG	**Montargil**	**4.40**	**69**	*e*Pn	**Pn**	**08 21 43.5**	**+0.1**
PMTG				*e*Sn	**Sn**	**08 22 35.0**	**+0.2**
PMTG				A	A	08 22 38.0	
	1.4nm,0.2s						
PMTG	**Montargil**	**4.40**	**69**	*e*Pn	**Pn**	**08 21 43.5**	**+0.1**
PMTG				*e*Sn	**Sn**	**08 22 35.0**	**+0.2**
	1.4nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.45**	**93**	*e*Sn	**Sn**	**08 22 37.3**	**+1.4**
PBDV				A	A	08 22 39.0	
	2.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.45**	**93**	Sn	**Sn**	**08 22 37.3**	**+1.4**
	2.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.45**	**93**	*e*Sn	**Sn**	**08 22 37.3**	**+1.4**
	2.3nm,0.2s						
PVAQ	**Vaqueiros**	**4.60**	**90**	*e*Pn	**Pn**	**08 21 46.7**	**+0.5**
PVAQ				*e*Sn	**Sn**	**08 22 39.1**	**-0.6**
PVAQ	**Vaqueiros**	**4.60**	**90**	Pn	**Pn**	**08 21 46.7**	**+0.5**
PVAQ				Sn	**Sn**	**08 22 39.1**	**-0.6**
PVAQ	**Vaqueiros**	**4.60**	**90**	Pn	**Pn**	**08 21 46.7**	**+0.5**
PVAQ				Sn	**Sn**	**08 22 39.1**	**-0.6**
EGRO	**El Granado**	**4.78**	**89**	Pn	Pn	08 21 47.3	-1.3
	3.0nm,0.7s,SNR=12						
EGRO				Sn	**Sn**	**08 22 43.6**	**-0.5**
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.78**	**89**	Pn	Pn	08 21 47.3	-1.3
	3.0nm,0.7s,SNR=12						
EGRO				Sn	**Sn**	**08 22 43.6**	**-0.5**
	0.7nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**5.14**	**81**	*e*Pn	**Pn**	**08 21 54.5**	**+0.9**
PBAR				*e*Sn	**Sn**	**08 22 52.3**	**-0.7**
PBAR				A	A	08 22 57.3	
	0.6nm,0.1s						
PBAR	**Barrancos**	**5.14**	**81**	Pn	**Pn**	**08 21 54.5**	**+0.9**
PBAR				Sn	**Sn**	**08 22 52.3**	**-0.7**
	0.6nm,0.1s						
PBAR	**Barrancos**	**5.14**	**81**	Pn	**Pn**	**08 21 54.5**	**+0.9**
PBAR				*e*Sn	**Sn**	**08 22 52.3**	**-0.7**
	0.6nm,0.1s						
EBAD	**Badajoz**	**5.24**	**75**	Pn	**Pn**	**08 21 55.0**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**08 22 55.3**	**-0.2**
	0.4nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**5.24**	**75**	Pn	**Pn**	**08 21 55.0**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**08 22 55.3**	**-0.2**
	0.4nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.42**	**86**	Pn	**Pn**	**08 21 56.8**	**-0.6**
	0.6nm,0.1s,SNR=8.4						
EMIN				Sn	**Sn**	**08 22 58.5**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.42**	**86**	Pn	**Pn**	**08 21 56.8**	**-0.6**
	0.6nm,0.1s,SNR=8.4						
EMIN				Sn	**Sn**	**08 22 58.5**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.99**	**43**	Sn	**Sn**	**08 23 12.5**	**-1.4**
	0.6nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.99**	**43**	Sn	**Sn**	**08 23 12.5**	**-1.4**
	0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.42**	**83**	Pn	**Pn**	**08 22 11.3**	**+0.2**
	1.0nm,0.1s,SNR=5.6						
ECAB				Sn	**Sn**	**08 23 24.2**	**-0.2**
	0.2nm,0.0s,SNR=4.0						
ECAB	**El Cabril**	**6.42**	**83**	Pn	**Pn**	**08 22 11.3**	**+0.2**
	1.0nm,0.1s,SNR=5.6						
ECAB				Sn	**Sn**	**08 23 24.2**	**-0.2**
	0.2nm,0.0s,SNR=4.0						
ECAL	**Calabor**	**6.79**	**48**	Pn	**Pn**	**08 22 16.8**	**+0.6**
	0.2nm,0.1s,SNR=4.0						
ECAL				Sn	**Sn**	**08 23 33.0**	**-0.6**
	0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.79**	**48**	Pn	**Pn**	**08 22 16.8**	**+0.6**
	0.2nm,0.1s,SNR=4.0						
ECAL				Sn	**Sn**	**08 23 33.0**	**-0.6**
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.08**	**83**	Pn	**Pn**	**08 22 20.2**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.08**	**83**	Pn	**Pn**	**08 22 20.2**	**-0.1**
	0.3nm,0.1s,SNR=7.9						

IDC 05 08:28:46.4±4.4, 12°.54S×75°.38W, h88km±40km, mb3.1/4, mb1 3.5/5, mb1mx3.3/21, mbtmp3.1/5, Error ellipse: s-maj=69.9km s-min=26.6km az=37.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.95**	**119**	P	Pn	08 30 39.8	-0.2
	0.6nm,0.3s,baz=293,slow=9.4,SNR=18						
LPAZ				Lg	Lg	08 32 55.4	
	0.2nm,0.3s,baz=194,slow=19,SNR=1.9						
TXAR	**Lajitas Array**	**49.79**	**327**	P	P	08 37 29.9	-0.5
	0.4nm,0.8s,baz=152,slow=7.9,SNR=4.6						
PDAR	**Pinedale Array**	**63.33**	**332**	P	P	08 39 06.4	0.0
	0.3nm,0.8s,baz=152,slow=10.0,SNR=3.0						
NVAR	**Mina Array Bea**	**64.66**	**324**	P	P	08 39 15.4	+0.2
	0.2nm,0.6s,baz=158,slow=7.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**80.56**	**74**	P	P	08 40 49.7	0.0
	0.4nm,0.8s,baz=233,slow=6.3,SNR=3.2						
ASAR	**Alice Springs**	**134.01**	**219**	PKP	PKPdf	08 47 54.0	-0.4
	0.2nm,0.6s,baz=134,slow=2.7,SNR=3.9						
WRA	**Warramunga Arr**	**136.44**	**223**	PKP	PKPdf	08 47 58.1	-0.8
	0.4nm,0.6s,baz=133,slow=2.2,SNR=5.4						
SONM	**Songino Array**	**144.78**	**358**	PKP	PKPdf	08 48 13.0	-0.3
	1.6nm,0.5s,baz=332,slow=1.9,SNR=8.8						

WEL ***05*** *08:31:37.4±0.4, 45°.44S×166°.12E, h12km, ML5.9/50, Error ellipse: s-maj=3.1km s-min=1.6km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 5.
BJI ***05*** *08:31:38.2, 46°.09S×167°.14E, h10km, mB6.2/35, mb5.5/36, Ms5.9/46, Ms7 5.8/44*

IDC ***05*** *08:31:39.2±0.3, 45°.47S×166°.37E, h0km, mb4.8/17, mb1 4.9/18, mb1mx4.9/21, mbtmp4.8/18, ML4.9/2, MS5.8/17, Ms1 5.8/17, ms1mx5.6/23, Error ellipse: s-maj=16.5km s-min=13.2km az=71.0*
ISCJB ***05*** *08:31:39.7±0.2, 45°.42S±0°.03×166°.36E±0°.02, h10km, mb5.5/73, MS6.0/193, Error ellipse: s-maj=4.2km s-min=2.3km az=0.7*
AUST ***05*** *08:31:39.9±0.5, 45°.46S×166°.34E, h0km, Error ellipse: s-maj=1.0km s-min=0.6km az=22.0*
NEIC ***05*** *08:31:40.5±0.2, 45°.55S×166°.36E, h10km, mb5.6/22, MS6.0/143, MW6.0, MW6.1, ML5.9(WEL), Error ellipse: s-maj=5.6km s-min=3.3km az=157.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^18^Nm; M_{rr}0.55; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-1.08; $M_{r\theta}$-0.06; $M_{r\phi}$-0.30; $M_{\theta r}$-0.57; Best double couple: $M_0$1.10000×10^18^ NP1:ϕ_s178.00000°, δ64.00000°, λ74.00000°. NP2:ϕ_s31.00000°, δ31.00000°, λ119.00000°. Principal axes: T 0.7400, Plg67.0000°, Azm57.0000°; N 0.5800, Plg14.0000°, Azm185.0000°; P -1.3100, Plg17.0000°, Azm279.0000°;*
NEIC Felt [III] at Invercargill and [II] at Gore and Queenstown. Also felt at Arrowtown, Dunedin, Ohai, Otautau, Riverton and Te Anau.
TEH ***05*** *08:31:41.0, 45°.47S×166°.34E, h10km, ML6.1*
MOS ***05*** *08:31:44.4±1.5, 45°.33S×166°.32E, h33km, mb5.6/21, MS6.0/34, Error ellipse: s-maj=14.4km s-min=9.1km az=102.0*
BKK ***05*** *08:31:45.4±0.4, 46°S±6°×16°6E±°, h10km, M5.7/15, mB6.1/11, mb5.5/15, Mw(mB)5.7/11*
GCMT ***05*** *08:31:46.3±0.1, 45°.48S×166°.13E, h12km, MW6.1, Moment Tensor Solution. s109, c238; s91, c141; Moment tensor: Scale 10^18^Nm; M_{rr}1.07±.01; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-1.05±.01; $M_{r\theta}$0.02±.02; $M_{\theta\phi}$-0.40±.01; $M_{\phi r}$-1.21±.02; Best double couple: $M_0$1.70000×10^18^ NP1:ϕ_s184.00000°, δ69.00000°, λ78.00000°. NP2: ϕ_s34.00000°, δ24.00000°, λ118.00000°. Principal axes: T 1.6400, Plg64.0000°, Azm75.0000°; N 0.0300, Plg11.0000°, Azm188.0000°; P -1.6700, Plg23.0000°, Azm283.0000°; Data Used: II IU CN IC G. Surface waves: sta=113, comp=247, per= 50.*
DJA ***05*** *08:31:48.8±1.7, 46°S±5°×16°6E±°, h39km±12km, M5.9/40, mb5.4/40, mB6.3/35, Mw(mB)6.0/35, Mwp5.8/5*
NEIC ***05*** *08:32:05.0±0.0, 45°.61S×166°.23E, h10km, Moment Tensor Solution. s135 Moment tensor: Scale 10^18^Nm; M_{rr}1.17; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.12; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.43; $M_{\phi r}$-0.84; Best double couple: $M_0$1.50000×10^18^ NP1: ϕ_s201.00000°, δ63.00000°, λ92.00000°. NP2:ϕ_s17.00000°, δ27.00000°, λ86.00000°. Principal axes: T 1.4700, Plg71.0000°, Azm115.0000°; N 0.1000, Plg1.0000°, Azm20.0000°; P -1.5700, Plg18.0000°, Azm290.0000°;*
ISC 05 08:31:41.9±0.5, 45°.52S±0°.04×166°.43E±0°.03, h14km±2km, n841, σ1°.67/753, mb5.5/72, MS6.0/192, 26C-16D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.51**	**85**	P*	**Pg**	**08 31 50.7**	**-1.3**
DCZ				S*	**Sb**	**08 31 59.8**	**0.0**
DCZ				AML	AML	08 32 01.4	
DCZ				AML	AML	08 32 07.4	
DCZ				AML	AML	08 32 07.5	
DCZ	**Deep Cove**	**0.51**	**85**	P*	**Pg**	**08 31 50.7**	**-1.3**
DCZ				Sg	**Sb**	**08 31 59.7**	**-0.1**
WHZ	**Wether Hill Ro**	**1.12**	**110**	PN	**Pb**	**08 32 01.1**	**-2.0**
WHZ				SN	**Sn**	**08 32 18.8**	**+0.4**
WHZ				AML	AML	08 32 29.2	
WHZ	**Wether Hill Ro**	**1.12**	**110**	P*	**Pb**	**08 32 01.3**	**-1.8**
WHZ				S*	**Sn**	**08 32 21.1**	**+2.7**
MLZ	**Mavora Lakes**	**1.24**	**83**	PN	**Pn**	**08 32 02.3**	**-2.5**
MLZ				*e*SN	**Sb**	**08 32 20.6**	**-0.2**
MLZ				AML	AML	08 32 36.1	
MLZ	**Mavora Lakes**	**1.24**	**83**	Pn	**Pn**	**08 32 02.3**	**-2.5**
MLZ				S*	**Sg**	**08 32 22.8**	**+0.9**
MSZ	**Milford Sound**	**1.36**	**52**	PN	**Pn**	**08 32 04.4**	**-1.9**
MSZ				AML	AML	08 32 34.1	
MSZ				AML	AML	08 32 34.2	
MSZ				AML	AML	08 32 36.6	
MSZ				AML	AML	08 32 36.6	
MSZ	**Milford Sound**	**1.36**	**52**	P	**Pn**	**08 32 05.0**	**-1.4**
MSZ						08 32 25.8	
MSZ	**Milford Sound**	**1.36**	**52**	Pn	**Pn**	**08 32 05.0**	**-1.4**
MSZ				Sn	**Sg**	**08 32 25.8**	**+0.2**
APZ	**The Paps**	**1.70**	**141**	PN	**Pn**	**08 32 09.6**	**-1.6**
APZ				SN	**Sn**	**08 32 33.2**	**+0.5**
APZ	**The Paps**	**1.70**	**141**	Pn	**Pn**	**08 32 09.6**	**-1.6**
APZ				Sn	**Sn**	**08 32 33.2**	**+0.5**
WKZ	**Wanaka**	**1.95**	**70**	PN	**Pn**	**08 32 14.5**	**-0.1**
WKZ				AML	AML	08 32 46.3	
WKZ				AML	AML	08 32 46.3	
WKZ				AML	AML	08 32 57.8	
WKZ				AML	AML	08 32 57.9	
WKZ	**Wanaka**	**1.95**	**70**	Pn	**Pn**	**08 32 14.9**	**+0.2**
EAZ	**Earnscleugh**	**2.05**	**83**	PN	**Pn**	**08 32 16.0**	**+0.1**
EAZ				AML	AML	08 32 53.2	
EAZ				AML	AML	08 32 53.2	
EAZ				AML	AML	08 32 53.9	
EAZ				AML	AML	08 32 53.9	
EAZ	**Earnscleugh**	**2.05**	**83**	Pn	**Pn**	**08 32 16.0**	**+0.1**
SYZ	**Scrubby Hill**	**2.14**	**119**	PN	**Pn**	**08 32 17.3**	**+0.1**
SYZ	**Scrubby Hill**	**2.14**	**119**	Pn	**Pn**	**08 32 17.4**	**+0.2**
JCZ	**Jackson Bay**	**2.20**	**50**	AML	AML	08 33 08.9	
JCZ				AML	AML	08 33 09.4	
TUZ	**Tuapeka**	**2.28**	**102**	AML	AML	08 32 58.2	
TUZ				AML	AML	08 32 58.6	
LBZ	**Lake Benmore**	**2.89**	**68**	PN	**Pn**	**08 32 26.8**	**-0.8**
LBZ				AML	AML	08 33 23.2	
LBZ				AML	AML	08 33 23.2	
LBZ				AML	AML	08 33 27.3	
LBZ				AML	AML	08 33 27.4	
LBZ	**Lake Benmore**	**2.89**	**68**	Pn	**Pn**	**08 32 26.8**	**-0.8**
ODZ	**Otahua Downs**	**3.01**	**82**	PN	**Pn**	**08 32 28.4**	**-0.7**
ODZ	**

TUWZ				AML	AML	08 35 00.1	
TUWZ	**Tuamarina**	**6.82**	**56**	Pn	**Pn**	**08 33 21.9**	**+0.4**
TCW	**Tory Channel**	**7.15**	**56**	PN	**Pn**	**08 33 26.2**	**+0.1**
TCW				AML	AML	08 35 08.9	
TCW				AML	AML	08 35 11.5	
TCW	**Tory Channel**	**7.15**	**56**	Pn	**Pn**	**08 33 26.9**	**+0.9**
DUWZ	**D'Urville Isla**	**7.22**	**52**	*e*PN	**Pn**	**08 33 25.0**	**-2.1**
DUWZ				AML	AML	08 35 02.2	
DUWZ				AML	AML	08 35 05.1	
DUWZ	**D'Urville Isla**	**7.22**	**52**	*e*Pn	**Pn**	**08 33 25.5**	**-1.5**
SNZO	**South Karori**	**7.34**	**58**	*e*PN	**Pn**	**08 33 29.0**	**+0.3**
SNZO				AML	AML	08 36 06.8	
SNZO				AML	AML	08 36 43.2	
SNZO	**South Karori**	**7.34**	**58**	*e*Pn	**Pn**	**08 33 30.3**	**+1.7**
SNZO				*e*Sn	Sn	08 34 38.4	-13
CAW	**Cannon Point**	**7.69**	**58**	PN	**Pn**	**08 33 33.9**	**+0.5**
CAW				AML	AML	08 35 37.5	
CAW				AML	AML	08 35 38.9	
CAW	**Cannon Point**	**7.69**	**58**	Pn	**Pn**	**08 33 33.9**	**+0.5**
KIW	**Kapiti Island**	**7.75**	**56**	PN	**Pn**	**08 33 34.4**	**+0.2**
KIW				AML	AML	08 35 16.9	
KIW				AML	AML	08 36 22.7	
KIW	**Kapiti Island**	**7.75**	**56**	Pn	**Pn**	**08 33 34.4**	**+0.2**
MTW	**Mount Morrison**	**7.92**	**60**	PN	**Pn**	**08 33 36.6**	**+0.1**
MTW				AML	AML	08 35 38.1	
MTW				AML	AML	08 35 40.5	
MTW	**Mount Morrison**	**7.92**	**60**	Pn	**Pn**	**08 33 37.4**	**+0.8**
OGWZ	**Otaki Gorge**	**7.93**	**57**	PN	**Pn**	**08 33 34.8**	**-1.8**
OGWZ	**Otaki Gorge**	**7.93**	**57**	Pn	**Pn**	**08 33 35.8**	**-0.9**
MRZ	**Mangatainoka R**	**8.27**	**57**	PN	**Pn**	**08 33 41.3**	**0.0**
MRZ				AML	AML	08 35 28.6	
MRZ				AML	AML	08 38 58.2	
MRZ	**Mangatainoka R**	**8.27**	**57**	Pn	**Pn**	**08 33 41.2**	**-0.2**
NWEZ	**Newall Road**	**8.32**	**44**	Pn	**Pn**	**08 33 40.9**	**-1.1**
DFE	**Dawson Falls**	**8.39**	**45**	Pn	**Pn**	**08 33 44.3**	**+1.2**
NEZ	**North Egmont**	**8.43**	**45**	Pn	**Pn**	**08 33 42.3**	**-1.4**
PKE	**Pukeiti**	**8.44**	**44**	AML	AML	08 35 37.6	
PKE				AML	AML	08 35 46.2	
PKE	**Pukeiti**	**8.44**	**44**	Pn	**Pn**	**08 33 43.0**	**-0.7**
WAZ	**Wanganui**	**8.54**	**51**	AML	AML	08 35 53.8	
WAZ				AML	AML	08 36 45.2	
WAZ	**Wanganui**	**8.54**	**51**	Pn	**Pn**	**08 33 46.9**	**+1.8**
DREZ	**Durham Road**	**8.54**	**45**	Pn	**Pn**	**08 33 44.1**	**-1.1**
MHEZ	**Mangahewa**	**8.69**	**45**	Pn	**Pn**	**08 33 49.3**	**+2.1**
TSZ	**Takapari Road**	**8.88**	**55**	AML	AML	08 35 41.4	
TSZ				AML	AML	08 36 02.2	
VRZ	**Vera Road**	**8.88**	**47**	PN	**Pn**	**08 33 49.1**	**-0.6**
VRZ				AML	AML	08 35 47.4	
VRZ				AML	AML	08 41 48.5	
VRZ	**Vera Road**	**8.88**	**47**	Pn	**Pn**	**08 33 49.3**	**-0.4**
PKVZ	**Pokaka**	**9.06**	**50**	AML	AML	08 36 18.4	
PKVZ				AML	AML	08 37 03.7	
PKVZ	**Pokaka**	**9.06**	**50**	Pn	**Pn**	**08 33 54.0**	**+1.7**
TRVZ	**Turoa**	**9.16**	**50**	AML	AML	08 34 23.1	
TRVZ				AML	AML	08 34 39.0	
TRVZ	**Turoa**	**9.16**	**50**	Pn	**Pn**	**08 33 56.0**	**+2.1**
FWVZ	**Far West T-bar**	**9.20**	**50**	AML	AML	08 34 11.7	
FWVZ				AML	AML	08 34 12.0	
FWVZ	**Far West T-bar**	**9.20**	**50**	Pn	**Pn**	**08 33 57.2**	**+2.9**
TUVZ	**Tukino**	**9.24**	**51**	AML	AML	08 36 13.0	
TUVZ				AML	AML	08 36 29.6	
TUVZ	**Tukino**	**9.24**	**51**	*e*Pn	**Pn**	**08 33 57.3**	**+2.4**
NGZ	**Ngauruhoe**	**9.28**	**50**	AML	AML	08 36 04.4	
NGZ				AML	AML	08 36 13.5	
NGZ	**Ngauruhoe**	**9.28**	**50**	*e*Pn	**Pn**	**08 33 56.1**	**+0.7**
HIZ	**Hauiti**	**9.39**	**45**	PN	**Pn**	**08 33 54.0**	**-2.8**
HIZ				AML	AML	08 36 44.5	
HIZ				AML	AML	08 37 30.8	
HIZ	**Hauiti**	**9.39**	**45**	Pn	**Pn**	**08 33 55.0**	**-1.8**
RITZ	**Rihia Road**	**9.56**	**50**	AML	AML	08 34 20.3	
RITZ				AML	AML	08 34 46.3	
RATZ	**Rangitukua**	**9.60**	**49**	AML	AML	08 36 33.1	
RATZ				AML	AML	08 37 42.1	
MCQ	**Macquarie Isla**	**10.19**	**205**	*e*P	Pn	08 34 13.1	+5.5
MCQ				pmax	pmax		
	comp=Z,10μm,1.3s						
MCQ	**Macquarie Isla**	**10.19**	**205**	*e*Pn	Pn	08 34 13.1	+5.5
	comp=Z,32μm,1.3s						
TOZ	**Tahuroa Road**	**10.32**	**44**	PN	**Pn**	**08 34 07.2**	**-2.3**
MKAZ	**Moumakai**	**10.66**	**41**	AML	AML	08 42 04.0	
MKAZ				AML	AML	08 42 04.0	
URZ	**Urewera**	**10.76**	**51**	*e*Pn	**Pn**	**08 34 15.3**	**-0.2**
URZ				Sn	Sn	08 36 06.7	-9.0
URZ				*e*Sn	Sn	08 36 23.1	+7.4
URZ	**Urewera**	**10.76**	**51**	Pn	**Pn**	**08 34 13.4**	**-2.1**
	comp=Z,3.6nm,0.3s,baz=209,slow=7.2,SNR=15						
URZ				Sn	Sn	08 36 06.7	-9.0
	comp=Z,2.0nm,0.3s,baz=39,slow=16,SNR=2.0						
MWZ	**Matawai**	**10.94**	**53**	PN	**Pn**	**08 34 16.8**	**-1.2**
MWZ				AML	AML	08 37 38.2	
MWZ				AML	AML	08 39 31.4	
KUZ	**Kuaotunu**	**11.21**	**42**	PN	**Pn**	**08 34 19.3**	**-2.3**
KUZ				AML	AML	08 39 40.6	
KUZ				AML	AML	08 39 40.6	
WCZ	**Waipu Caves**	**11.29**	**35**	PN	**Pn**	**08 34 20.4**	**-2.4**
WCZ				AML	AML	08 34 46.0	
WCZ				AML	AML	08 42 20.6	
PUZ	**Puketiti**	**11.53**	**54**	AML	AML	08 39 44.1	
PUZ				AML	AML	08 42 27.7	
OUZ	**Omahuta**	**11.64**	**30**	AML	AML	08 34 49.2	
OUZ				AML	AML	08 39 43.3	
OUZ	**Omahuta**	**11.64**	**30**	*e*Pn	**Pn**	**08 34 28.9**	**+1.3**
TAU	**Tasmania Unive**	**13.96**	**274**	*e*P	Pn	08 34 52.4	-6.7
TAU	**Tasmania Unive**	**13.96**	**274**	*e*Pn	Pn	08 34 52.4	-6.7
MOO	**Moorlands**	**14.19**	**276**	P	Pn	08 34 58.0	-4.3
	baz=14,SNR=30						
MILA	**Mila**	**15.48**	**297**	P	Pn	08 35 14.4	-5.3
	baz=15,SNR=105						
MILA				S	Sn	08 37 56.6	-14
	baz=15,SNR=5.7						
CNB	**Canberra Magne**	**16.49**	**302**	P	**Pn**	**08 35 29.5**	**-3.2**
	baz=16,SNR=17						
CAN	**Canberra**	**16.70**	**302**	*e*P	**Pn**	**08 35 33.2**	**-2.3**
CAN				pmax	pmax		
	comp=Z,679nm,1.4s						
CAN	**Canberra**	**16.70**	**302**	*e*Pn	**Pn**	**08 35 33.2**	**-2.3**
	comp=Z,679nm,1.4s						
MGCD	**Mangrove Creek**	**17.04**	**311**	P	**Pn**	**08 35 38.8**	**-0.9**
	baz=17,SNR=18						
TOO	**Toolangi**	**17.54**	**290**	P	**Pn**	**08 35 43.0**	**-3.0**
	baz=17,SNR=77						
TOO				S	Sn	08 38 52.3	-8.7
	baz=17,SNR=4.1						
YNG	**Young**	**17.77**	**303**	P	**Pn**	**08 35 45.8**	**-2.9**
	baz=18,SNR=20						
ARMA	**Armidale**	**19.02**	**317**	*e*P	**Pn**	**08 36 04.0**	**-0.2**
ARMA	**Armidale**	**19.02**	**317**	P	**Pn**	**08 36 03.9**	**-0.2**
	baz=19,SNR=14						
RAO	**Raoul Island**	**20.39**	**43**	PFAKE		08 36 30.0	+10
RAO				LR	LR		
	comp=Z,9μm,21.0s						
CMSA	**Cobar Meteorol**	**21.32**	**304**	P	**P**	**08 36 26.7**	**-1.6**
	baz=21,SNR=62						
DZM	**Mont Dzumac**	**23.39**	**0**	*e*P	**P**	**08 36 53.4**	**+3.1**
	comp=Z,335nm,1.5s						
DZM				*e*S	S	08 40 53.7	-9.3
	comp=Z,8μm,32.6s						
DZM				*e*LR	LR	08 42 29.1	
	comp=Z,14μm,26.0s						
DZM	**Mont Dzumac**	**23.39**	**0**	P	**P**	**08 36 50.2**	**-0.2**
DZM	**Mont Dzumac**	**23.39**	**0**	P	**P**	**08 36 50.2**	**-0.2**
	comp=Z,10nm,0.9s,baz=236,slow=13,SNR=4.0						
DZM				LR	LR	08 43 42.1	
	comp=Z,7μm,21.7s,baz=180,slow=31						
STKA	**Stephens Creek**	**23.58**	**297**	*e*P	**P**	**08 36 51.0**	**-1.0**
	comp=Z,351nm,2.1s						
STKA	**Stephens Creek**	**23.58**	**297**	P	**P**	**08 36 50.2**	**-1.8**
	comp=Z,59nm,1.2s,baz=124,slow=11,SNR=34						
STKA				LR	LR	08 44 12.9	
	comp=Z,54μm,21.3s,baz=135,slow=32						
STKA	**Stephens Creek**	**23.58**	**297**	P	**P**	**08 36 51.0**	**-1.0**
	baz=24,SNR=42						
RMQ	**Roma**	**23.68**	**317**	P	**P**	**08 36 53.2**	**+0.1**
	baz=24,SNR=41						
BBOO	**Buckleboo**	**26.58**	**288**	*e*P	**P**	**08 37 18.3**	**-1.3**
	comp=Z,7μm,1.6s						
BBOO	**Buckleboo**	**26.58**	**288**	P	**P**	**08 37 18.7**	**-0.8**
	baz=26,SNR=8.0						
MSVF	**Nonsavu**	**29.35**	**23**	PFAKE		08 38 00.0	+16
MSVF				LR	LR		
	comp=Z,6μm,19.0s						
CTAO	**Charters Tower**	**30.34**	**320**	*e*P	**P**	**08 37 52.9**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,123nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,35μm,20.0s						
CTAO	**Charters Tower**	**30.34**	**320**	*e*P	**P**	**08 37 52.9**	**-0.2**
	comp=Z,123nm,1.6s						
CTAO				LR	LR		
	comp=Z,35μm,20.0s						
VNDA	**Vanda**	**32.16**	**182**	P	**P**	**08 38 08.3**	**-0.3**
VNDA				PcP	**PcP**	**08 40 58.4**	**+1.4**
VNDA	**Vanda**	**32.16**	**182**	P	**P**	**08 38 08.3**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=339,slow=11,SNR=8.6						
VNDA				PcP	**PcP**	**08 40 58.4**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=335,slow=4.0,SNR=3.0						
VNDA				LR	LR	08 47 56.6	
	comp=Z,14μm,20.2s,baz=114,slow=30						
SBA	**Scott Base**	**32.44**	**180**	*e*P	**P**	**08 38 12.5**	**+1.4**
SBA				pmax	pmax		
	comp=Z,74nm,1.4s						
SBA				MLR	MLR		
	comp=Z,17μm,22.0s						
SBA	**Scott Base**	**32.44**	**180**	*e*P	**P**	**08 38 12.5**	**+1.4**
	comp=Z,74nm,1.4s						
SBA				LR	LR		
	comp=Z,17μm,22.0s						
MTSU	**Mount Surprise**	**32.93**	**319**	P	**P**	**08 38 16.4**	**+0.6**
	baz=33,SNR=6.0						
FORT	**Forrest**	**33.23**	**283**	*e*P	**P**	**08 38 16.5**	**-2.0**
	comp=Z,207nm,1.5s						
AS31	**Alice Springs**	**34.17**	**299**	*e*P	**P**	**08 38 24.7**	**-2.1**
ASAR	**Alice Springs**	**34.17**	**299**	P	**P**	**08 38 24.2**	**-2.6**
ASAR				PcP	**PcP**	**08 41 04.1**	**+0.5**
ASAR				ScP	**ScP**	**08 44 48.9**	**+1.0**
ASAR	**Alice Springs**	**34.17**	**299**	P	**P**	**08 38 24.2**	**-2.6**
	comp=Z,29nm,1.1s,baz=139,slow=7.9,SNR=47						
ASAR				PcP	**PcP**	**08 41 04.1**	**+0.5**
	comp=Z,9.2nm,1.0s,baz=130,slow=4.0,SNR=4.8						
ASAR				ScP	**ScP**	**08 44 48.9**	**+1.0**
	comp=Z,1.8nm,1.1s,baz=154,slow=4.9,SNR=3.3						
ASAR				LR	LR	08 51 27.0	
	comp=Z,33μm,18.2s,baz=132,slow=35						
CASY	**Casey**	**35.92**	**215**	*e*P	**P**	**08 38 41.7**	**+0.4**
	comp=Z,175nm,1.7s						
CASY				LR	LR		
	comp=Z,9μm,19.0s						
HNR	**Honiara**	**36.39**	**349**	*e*P	**P**	**08 38 46.1**	**+0.3**
HNR				LR	LR		
	comp=Z,22μm,19.0s						
AFI	**Afiamalu**	**36.51**	**37**	*e*P	**P**	**08 38 47.1**	**+0.2**
	comp=Z,84nm,0.8s						
AFI				LR	LR		
	comp=Z,4μm,19.0s						
AFI	**Afiamalu**	**36.51**	**37**	P	**P**	**08 38 46.6**	**-0.3**
	comp=Z,53nm,1.1s,baz=172,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**36.73**	**303**	P	**P**	**08 38 46.0**	**-2.8**
WRA				PcP	**PcP**	**08 41 11.4**	**+0.3**
WRA				ScP	**ScP**	**08 44 58.2**	**+1.0**
WRA	**Warramunga Arr**	**36.73**	**303**	P	**P**	**08 38 46.0**	**-2.8**
	comp=Z,29nm,0.9s,baz=138,slow=8.1,SNR=71						
WRA				PcP	**PcP**	**08 41 11.4**	**+0.3**
	comp=Z,10nm,0.9s,baz=138,slow=2.8,SNR=5.0						
WRA				ScP	**ScP**	**08 44 58.2**	**+1.0**
	comp=Z,3.2nm,1.1s,baz=137,slow=3.7,SNR=4.1						
WRA				LR	LR	08 51 34.0	
	comp=Z,26μm,20.0s,baz=140,slow=33						
WRAB	**Tennant Creek**	**36.73**	**303**	*e*P	**P**	**08 38 46.3**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,128nm,1.2s						
WRAB				MLR	MLR		
	comp=Z,27μm,21.0s						
WRAB	**Tennant Creek**	**36.73**	**303**	*e*P	**P**	**08 38 46.3**	**-2.4**
	comp=Z,128nm,1.2s						
WRAB				LR	LR		
	comp=Z,27μm,21.0s						
RAR	**Rarotonga**	**36.78**	**60**	PFAKE		08 39 00.0	+11
RAR				LR	LR		
	comp=Z,15μm,19.0s						
COEN	**Coen**	**37.11**	**321**	*e*P	**P**	**08 38 51.6**	**-0.3**
	comp=Z,490nm,1.1s						
COEN	**Coen**	**37.11**	**321**	P	**P**	**08 38 52.6**	**+0.7**
	baz=37,SNR=6.2						
FUNA	**Funafuti**	**38.47**	**21**	PFAKE		08 39 10.0	+6.6
FUNA				LR	LR		
	comp=Z,11μm,19.0s						
NWAO	**Narrogin (SRO)**	**39.55**	**271**	PFAKE		08 39 20.0	+7.6
NWAO				LR	LR		
	comp=Z,9μm,22.0s						
PMG	**Port Moresby**	**39.62**	**329**	*e*P	**P**	**08 39 13.9**	**+0.8**
	comp=Z,64nm,1.1s						
PMG				LR	LR		
	comp=Z,14μm,19.0s						
PMG	**Port Moresby**	**39.62**	**329**	P	P	08 39 18.2	+5.2
KLBR	**Kellerberrin**	**39.93**	**273**	P	**P**	**08 39 16.4**	**+0.8**
	baz=40,SNR=5.5						
TBI	**Tubuai**	**41.91**	**73**	*e*P	**P**	**08 39 32.8**	**+0.9**
	comp=Z,479nm,1.2s						
TBI				*e*S	**S**	**08 45 52.1**	**+2.5**
	comp=Z,7μm,30.5s						
TBI				*e*LR	LR	08 50 47.9	
	comp=Z,25μm,34.0s						
MEEK	**Meekatharra**	**42.30**	**280**	P	**P**	**08 39 33.5**	**-1.6**
	baz=42,SNR=11						
MORW	**Morawa**	**42.60**	**275**	P	**P**	**08 39 36.4**	**-1.1**
	baz=42,SNR=4.9						
MIR	**Mirnyy**	**42.94**	**214**	*e*P	**P**	**08 39 41.5**	**+1.7**
MIR				*e*		08 41 34.0	
MIR				*e*PPP	PPP	08 42 07.0	
MIR				*e*S	**S**	**08 46 08.0**	**+4.0**
MIR				pmax	pmax		
	comp=Z,220nm,2.0s						
MIR				pmax	pmax		
	comp=Z,3μm,5.0s						
MIR				MLR	MLR		
	comp=N,11μm,17.0s						
MIR				MLR	MLR		
	comp=E,17μm,17.0s						
MIR				MLR	MLR		
	comp=Z,28μm,17.0s						
KNRA	**Kununurra**	**43.36**	**301**	P	**P**	**08 39 41.7**	**-2.1**
	baz=43,SNR=18						
FITZ	**Fitzroy Crossi**	**43.46**	**295**	P	**P**	**08 39 41.9**	**-2.7**
	baz=43,SNR=19						
KDU	**Kakadu**	**43.59**	**308**	P	**P**	**08 39 45.1**	**-0.5**
	baz=44,SNR=4.8						
MTN	**Manton Dam**	**44.22**	**306**	P	**P**	**08 39 48.8**	**-1.8**
	baz=44,SNR=18						
QSPA	**South Pole Qui**	**44.60**	**180**	*e*P	**P**	**08 39 52.9**	**-0.5**
	comp=Z,57nm,1.0s						
QSPA	**South Pole Qui**	**44.60**	**180**	P	**P**	**08 39 52.8**	**-0.5**
	comp=Z,12nm,0.8s,baz=17,slow=2.5,SNR=33						
QSPA				LR	LR	08 55 47.5	
	comp=Z,11μm,18.6s,baz=211,slow=32						
MBWA	**Marble Bar**	**45.15**	**287**	*e*P	**P**	**08 39 55.7**	**-2.4**
	comp=Z,88nm,1.2s						
MBWA				LR	LR		
	comp=Z,20μm,20.0s						
PPT2	**Papeete2**	**45.89**	**67**	*e*P	**P**	**08 40 04.6**	**+0.6**
	comp=Z,105nm,1.4s						
PPT2				*e*S	**S**	**08 46 50.2**	**+2.2**
	comp=Z,6μm,30.0s						
PPT2				*e*LR	LR	08 52 56.1	
	comp=Z,21μm,23.2s						
PPT	**Papeete**	**45.90**	**67**	LR	LR	08 56 16.1	
	comp=Z,11μm,19.6s,baz=222,slow=32						
TIAR	**Tiarei**	**46.06**	**68**	*e*P	**P**	**08 40 05.9**	**+0.6**
	comp=Z,170nm,1.2s						
MEH	**Mehetia**	**46.67**	**69**	*e*P	**P**	**08 40 11.0**	**+0.9**
	comp=Z,263nm,1.3s						
TARA	**Tarawa**	**47.03**	**9**	*e*P	**P**	**08 40 13.0**	**+0.1**
	comp=Z,532nm,1.6s						
TARA				LR	LR		
	comp=Z,4μm,21.0s						
JAY	**Jayapura**	**48.41**	**325**	P	P	08 40 28.3	+4.6
JAY	**Jayapura**	**48.41**	**325**	P	**P**	**08 40 25.0**	**+1.3**
	baz=48,SNR=4.1						
PMOR	**Pomariorio Ree**	**48.88**	**67**	*e*P	**P**	**08 40 27.6**	**+0.4**
	comp=Z,241nm,1.4s						
SOEI	**Soe**	**50.70**	**301**	P	**P**	**08 40 41.3**	**0.0**
	comp=Z,225nm,1.4s,comp=Z,4μm						
BAKI	**Biak**	**51.58**	**320**	P	**P**	**08 40 48.4**	**+0.7**
	comp=Z,176nm,1.7s,comp=Z,4μm						
BNDI	**Bandanaira**	**51.77**	**311**	P	P	08 40 59.9	+11
BNDI	**Bandanaira**	**51.77**	**311**	P	P	08 40 59.8	+11
	baz=52,SNR=7.2						
RKT	**Rikitea**	**52.05**	**85**	*e*S	**S**	**08 48 15.5**	**+1.0**
	comp=Z,8μm,30.5s						
RKT				*e*SS	**SS**	**08 51 53.1**	**+1.7**
	comp=Z,4μm,25.5s						
RKT				*e*LR	LR	08 56 00.4	
	comp=Z,31μm,29.2s						
MAW	**Mawson**	**53.58**	**208**	*e*P	**P**	**08 41 01.9**	**+0.1**
	comp=Z,65nm,2.0s						
MAW	**Mawson**	**53.58**	**208**	P	**P**	**08 41 00.1**	**-1.7**
	comp=Z,12nm,0.9s,baz=117,slow=9.8,SNR=15						
MAW				LR	LR	09 02 15.0	
	comp=Z,11μm,18.1s,baz=112,slow=34						
MAW	**Mawson**	**53.58**	**208**	P	**P**	**08 41 01.7**	**-0.1**
	baz=53,SNR=22						
SWI	**Sorong**	**54.18**	**315**	P	**P**	**08 41 08.1**	**+1.2**
	comp=Z,65nm,1.6s,comp=Z,2μm						
NLAI	**Namlea**	**54.35**	**309**	P	**P**	**08 41 09.2**	**+1.1**
	comp=Z,106nm,1.6s,comp=Z,2μm						
LBFI	**Labuhan Bajo,**	**54.37**	**298**	P	**P**	**08 41 07.5**	**-0.8**
	comp=Z,144nm,1.9s,comp=Z,6μm						
MTNI	**Mataram**	**56.60**	**294**	P	P	08 41 29.1	+4.7
XMAS	**Kiritimati**	**57.16**	**45**	PFAKE		08 41 40.0	+12
XMAS				LR	LR		
	comp=Z,3μm,20.0s						
KAPI	**Kappang**	**57.16**	**300**	*e*P	**P**	**08 41 27.1**	**-1.3**
	comp=Z,170nm,1.4s						
KAPI	**Kappang**	**57.16**	**300**	P	**P**	**08 41 27.8**	**-0.5**
	comp=Z,92nm,2.2s,comp=Z,2μm						
KAPI	**Kappang**	**57.16**	**300**	LR	LR	09 04 53.1	
	comp=Z,12μm,21.2s,baz=170,slow=35						
BNSI	**Bone**	**57.44**	**301**	P	**P**	**08 41 30.8**	**+0.5**
	comp=Z,91nm,1.8s,comp=Z,3μm						
SRBI	**Singaraja**	**57.63**	**294**	P	**P**	**08 41 31.2**	**-0.4**
	comp=Z,120nm,1.3s,comp=Z,4μm						
SPSI	**Sidrap Palu**	**57.98**	**301**	P	**P**	**08 41 33.5**	**-0.6**
	comp=Z,66nm,1.8s,comp=Z,2μm						
SKSI	**Soroako, Sulaw**	**58.20**	**304**	P	**P**	**08 41 36.1**	**+0.4**
	comp=Z,85nm,1.7s,comp=Z,3μm						
GMJI	**Gumukmas**	**58.63**	**292**	P	**P**	**08 41 38.9**	**+0.2**
	comp=Z,88nm,1.8s,comp=Z,3μm						
TTSI	**Tana Toraja**	**58.68**	**302**	P	**P**	**08 41 37.2**	**-1.8**
	comp=Z,53nm,1.6s						
MMSI	**Mamuju**	**59.51**	**301**	P	**P**	**08 41 44.6**	**-0.2**
	comp=Z,90nm,1.8s,comp=Z,3μm						
PWJI	**Pagerwojo**	**59.89**	**291**	P	**P**	**08 41 48.1**	**+0.7**
	comp=Z,74nm,1.8s,comp=Z,17μm						
SJI	**Sawahan**	**60.13**	**291**	P	**P**	**08 41 49.6**	**+0.5**
	comp=Z,81nm,1.7s,comp=Z,5μm						
PAF	**Port-aux-Franc**	**60.78**	**228**	PFAKE		08 42 00.0	+7.0
PAF				LR	LR		
	comp=Z,15μm,19.0s						
BBKI	**Banjar Baru**	**61.40**	**297**	P	**P**	**08 41 59.1**	**+1.4**
	comp=Z,169nm,1.9s,comp=Z,5μm						
SNAA	**Sanae**	**62.87**	**184**	*e*P	**P**	**08 42 05.7**	**-1.2**
	comp=Z,94nm,1.2s						
CISI	**Cisompet, Garu**	**62.88**	**288**	P	**P**	**08 42 07.3**	**-0.4**
PMSA	**Palmer Station**	**63.20**	**158**	PFAKE		08 42 20.0	+11
PMSA				LR	LR		
	comp=Z,6μm,19.0s						
DAV	**Davao City (W)**	**63.84**	**314**	LR	LR	09 11 08.1	
	comp=Z,7μm,18.8s,baz=241,slow=37						
WAKE	**Wake Island**	**64.49**	**0**	PFAKE		08 42 30.0	+12
WAKE				LR	LR		
	comp=Z,4μm,22.0s						
TSM	**Tawau**	**65.73**	**305**	P	P	08 42 30.4	+4.1
MYLDM	**Lahad Datu**	**66.09**	**306**	P	P	08 42 32.1	+3.6
COCO	**West Island**	**67.12**	**276**	PFAKE		08 42 50.0	+15
COCO				LR	LR		
	comp=Z,4μm,19.0s						
SDKM	**Sandakan**	**67.21**	**305**	P	**P**	**08 42 36.3**	**+0.5**
RPN	**Rapa Nui**	**67.33**	**106**	PFAKE		08 42 50.0	+14
RPN				LR	LR		
	comp=Z,5μm,19.0s						
SBUM	**Sibu**	**67.63**	**299**	P	**P**	**08 42 36.7**	**-1.7**
BTM	**Bintulu**	**67.69**	**300**	P	P	08 42 42.5	+3.7
KSM	**Kuching**	**68.06**	**297**	PFAKE		08 42 50.0	+8.9
KSM				LR	LR		
	comp=Z,15μm,21.0s						
KSM	**Kuching**	**68.06**	**297**	P	**P**	**08 42 40.2**	**-0.9**
KSM	**Kuching**	**68.06**	**297**	P	**P**	**08 42 39.8**	**-1.3**
	baz=68,SNR=8.1						
KKM	**Kota Kinabalu**	**68.10**	**305**	PFAKE		08 42 50.0	+8.5
KKM				LR	LR		
	comp=Z,3μm,20.0s						
KKM	**Kota Kinabalu**	**68.10**	**305**	P	**P**	**08 42 44.5**	**+3.1**
USHA	**Ushuaia**	**69.76**	**150**	P	**P**	**08 42 53.0**	**+1.9**
USHA	**Ushuaia**	**69.76**	**150**	P	**P**	**08 42 53.0**	**+1.9**
	comp=Z,10nm,1.0s,baz=258,slow=5.0,SNR=4.7						
MYKOM	**Kota Tinggi**	**72.45**	**291**	P	**P**	**08 43 10.3**	**+2.3**
KGM	**Kluang**	**72.97**	**291**	P	**P**	**08 43 12.7**	**+1.6**
KIP	**Kipapa**	**74.06**	**34**	PFAKE		08 43 30.0	+13
KIP				LR	LR		
	comp=Z,3μm,19.0s						
MIDW	**Midway**	**74.85**	**15**	PFAKE		08 43 30.0	+8.3
MIDW				LR	LR		
	comp=Z,4μm,21.0s						
FRIM	**Kepong**	**75.00**	**291**	P	P	08 43 31.5	+8.5
KTGM	**Kuala Trenggan**	**75.58**	**293**	P	P	08 43 30.0	+3.7
EFI	**East Falkland**	**75.86**	**153**	PFAKE		08 43 40.0	+13
EFI				LR	LR		
	comp=Z,2μm,19.0s						
IPM	**Ipoh**	**76.32**	**291**	P	P	08 43 33.9	+3.3
PSI	**Prapat**	**76.46**	**288**	LR	LR	09 16 28.5	
	comp=Z,11μm,21.9s,baz=145,slow=35						
**

SSE				pmax	pmax	
	comp=Z,220nm,3.5s					
SSE				LR	LR	
	comp=N,1μm,18.6s					
SSE				LR	LR	
	comp=E,2μm,18.7s					
SSE				LR	LR	
	comp=Z,3μm,24.1s					
DGAR	**Diego Garcia**	**87.55 262**		PFAKE		08 44 40.0 +10
DGAR				LR	LR	
	comp=Z,5μm,20.0s					
CMAR	**Chiang Mai Arr**	**88.19 299**		P	**P**	**08 44 32.2 -0.3**
CMAR	**Chiang Mai Arr**	**88.19 299**		P	**P**	**08 44 32.2 -0.3**
	comp=Z,15nm,1.0s,baz=159,slow=3.6,SNR=18					
CMAR				LR	LR	09 24 41.4
	comp=Z,3μm,20.5s,baz=324,slow=36					
NJ2	**Nanjing**	**88.44 321**	*e*P		P	08 44 37.4 +4.1
NJ2				pP	pP	08 44 42.1 +4.0
NJ2				sP	sP	08 44 45.0 +5.2
NJ2				pmax	pmax	
	comp=Z,30nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,1μm,6.0s					
NJ2				LR	LR	
	comp=N,3μm,18.3s					
NJ2				LR	LR	
	comp=E,1μm,15.6s					
NJ2				LR	LR	
	comp=Z,4μm,17.3s					
CHTO	**Chiang Mai**	**88.45 299**	*e*P		**P**	**08 44 35.0 +1.2**
CHTO				pmax	pmax	
	comp=Z,74nm,1.5s					
CHTO				MLR	MLR	
	comp=Z,5μm,22.0s					
CHTO	**Chiang Mai**	**88.45 299**	*e*P		**P**	**08 44 35.0 +1.2**
	comp=Z,74nm,1.5s					
CHTO				LR	LR	
	comp=Z,5μm,22.0s					
RER	**Riviere de l'E**	**88.66 241**		PFAKE		08 44 50.0 +15
RER				LR	LR	
	comp=Z,4μm,20.0s					
WHN	**Wuhan**	**89.25 317**	⇑P		P	08 44 41.3 +4.2
WHN				SKS	**SKSac**	**08 55 07.3 +0.9**
WHN				S	**ScS**	**08 55 32.8 +2.0**
WHN				LR	LR	
	comp=N,3μm,18.0s					
WHN				LR	LR	
	comp=E,3μm,14.6s					
WHN				LR	LR	
	comp=Z,11μm,31.4s					
LCO	**Las Campanas**	**89.49 133**	*e*P		**P**	**08 44 39.4 +0.4**
	comp=Z,81nm,1.4s					
LCO				LR	LR	
	comp=Z,4μm,21.0s					
LCO	**Las Campanas**	**89.49 133**		P	**P**	**08 44 40.3 +1.3**
	baz=89,SNR=3.9					
KSRS	**Korea Array**	**89.59 330**		P	**P**	**08 44 39.8 +1.2**
	comp=Z,6.1nm,1.1s,baz=145,slow=5.7,SNR=13					
KSAR	**Wonju Array Be**	**89.59 330**		P	**P**	**08 44 39.8 +1.2**
ERM	**Erimo**	**89.60 343**	*e*P		**P**	**08 44 38.7 +0.2**
ERM				pmax	pmax	
	comp=Z,23nm,1.6s					
ERM	**Erimo**	**89.60 343**		PFAKE		08 44 50.0 +12
ERM				LR	LR	
	comp=Z,2μm,19.0s					
GYA	**Guiyang**	**89.88 309**		P	**P**	**08 44 42.0 +1.6**
GYA				PP	**PP**	**08 48 17.4 +3.9**
GYA				SKS	**SKSac**	**08 55 10.0 -0.6**
GYA				S	**S**	**08 55 33.2 +0.9**
GYA				pmax	pmax	
	comp=Z,50nm,1.0s					
GYA				pmax	pmax	
	comp=Z,190nm,7.2s					
GYA				LR	LR	
	comp=N,22μm,20.2s					
GYA				LR	LR	
	comp=E,18μm,21.5s					
GYA				LR	LR	
	comp=Z,20μm,20.6s					
INCN	**Inchon**	**90.07 329**		PFAKE		08 44 50.0 +9.1
INCN				LR	LR	
	comp=Z,3μm,21.0s					
KMI	**Kunming**	**91.02 306**		P	**P**	**08 44 45.2 -0.7**
KMI				PP	**PP**	**08 48 24.0 +1.3**
KMI				SKS	**SKSac**	**08 55 18.9 +1.4**
KMI				S	**S**	**08 55 42.7 -0.4**
KMI				pmax	pmax	
	comp=Z,17nm,1.1s					
KMI				pmax	pmax	
	comp=Z,1μm,8.9s					
KMI				LR	LR	
	comp=N,2μm,24.9s					
KMI				LR	LR	
	comp=E,2μm,24.9s					
KMI				LR	LR	
	comp=Z,5μm,27.1s					
YUK	**Yuzh-Kuril'sk**	**91.02 345**	*c i*P		P	08 44 57.7 +13
YUK			*i*			08 48 19.5
YUK			*i* S		S	08 55 33.4 -8.3
YUK			*i* SS		**SS**	**09 01 49.1 +2.6**
YUK			*e*SSS		SSS	09 05 17.2
YUK				pmax	pmax	
	comp=N,63nm,1.4s					
YUK				pmax	pmax	
	comp=E,70nm,1.5s					
YUK				pmax	pmax	
	comp=Z,151nm,1.5s					
ENH	**Enshi**	**91.43 314**		P	**P**	**08 44 45.7 -1.7**
	comp=Z,25nm,1.2s					
ASAJ	**Asahikawa**	**91.73 343**		P	**P**	**08 44 49.6 +1.2**
ASAJ	**Asahikawa**	**91.73 343**		P	**P**	**08 44 49.6 +1.2**
	comp=Z,2.8nm,0.7s,baz=212,slow=20,SNR=6.3					
ASAJ				LR	LR	09 22 39.0
	comp=Z,3μm,21.7s,baz=154,slow=33					
KUR	**Kuril'sk**	**91.85 347**	⇑*i*P		**P**	**08 44 47.1 -1.8**
KUR				pmax	pmax	
	comp=E,56nm,1.6s					
KUR				pmax	pmax	
	comp=Z,88nm,1.6s					
KUR				pmax	pmax	
	comp=N,15nm,0.8s					
KUR				MLR	MLR	
	comp=N,2μm,17.0s					
KUR				MLR	MLR	
	comp=E,1μm,17.0s					
KUR				MLR	MLR	
	comp=Z,2μm,17.0s					
DL2	**Dalian**	**93.19 327**		P	**P**	**08 44 58.1 +2.9**
DL2				SKS	**SKSac**	**08 55 29.2 +0.7**
DL2				S	**ScS**	**08 56 07.9 +4.8**
DL2				pmax	pmax	
	comp=Z,46nm,2.4s					
DL2				pmax	pmax	
	comp=Z,760nm,8.2s					
DL2				LR	LR	
	comp=N,1μm,19.8s					
DL2				LR	LR	
	comp=E,930nm,21.0s					
DL2				LR	LR	
	comp=Z,2μm,21.6s					
YSS	**Yuzh-Sakhalins**	**94.42 344**	*e*P		P	08 45 04.0 +3.3
YSS			*e**SP		sP	08 45 14.0 +6.8
YSS			*e*			08 48 52.0
YSS			*e*			08 55 36.0
YSS				MLR	MLR	
	comp=Z,4μm,21.0s					
YSS				MLR	MLR	
	comp=N,2μm,16.0s					
YSS				MLR	MLR	
	comp=E,1μm,19.0s					
USRK	**Ussuriysk Arra**	**94.42 336**		P	**P**	**08 45 01.9 +1.2**
	comp=E,6.4nm,1.1s,baz=196,slow=3.6,SNR=12					
XAN	**Xi'an**	**94.74 315**		P	P	08 45 06.4 +3.8
XAN				SKS	**SKSac**	**08 55 38.4 +1.0**
XAN				S	**ScS**	**08 56 18.8 +2.3**
XAN				pmax	pmax	
	comp=Z,5.0nm,1.6s					
XAN				pmax	pmax	
	comp=Z,220nm,8.8s					
XAN				LR	LR	
	comp=N,2μm,29.4s					
XAN				LR	LR	
	comp=E,800nm,31.1s					
XAN				LR	LR	
	comp=Z,1μm,29.9s					
CD2	**Chengdu**	**94.94 310**	*e*P		**P**	**08 45 04.8 +1.2**
CD2				pP	**pP**	**08 45 10.2 +1.8**
CD2				sP	**sP**	**08 45 12.4 +2.3**
CD2				PP	**PP**	**08 48 57.2 +4.0**
CD2				SKS	**SKSac**	**08 55 39.2 +0.6**
CD2				S	**S**	**08 56 17.2 -0.1**
CD2				pmax	pmax	
	comp=Z,30nm,1.2s					
CD2				pmax	pmax	
	comp=Z,940nm,9.6s					
CD2				LR	LR	
	comp=N,3μm,19.0s					
CD2				LR	LR	
	comp=E,2μm,17.8s					
CD2				LR	LR	
	comp=Z,3μm,20.2s					
ABPO	**Ambohimpanom**	**95.41 236**		PFAKE		08 45 20.0 +14
ABPO				LR	LR	
	comp=Z,4μm,19.0s					
MDJ	**Mudanjiang**	**95.51 335**		P	P	08 45 09.5 +3.8
MDJ				pP	pP	08 45 13.1 +2.6
MDJ				sP	sP	08 45 14.3 +2.1
MDJ				pmax	pmax	
	comp=Z,6.0nm,1.8s					
MDJ				pmax	pmax	
	comp=Z,670nm,10.6s					
MDJ				LR	LR	
	comp=N,1μm,19.9s					
MDJ				LR	LR	
	comp=E,640nm,21.3s					
MDJ				LR	LR	
	comp=Z,2μm,21.5s					
MDJ	**Mudanjiang**	**95.51 335**		PFAKE		08 45 20.0 +14
MDJ				LR	LR	
	comp=Z,2μm,22.0s					
LVC	**Limon Verde**	**95.60 130**		PFAKE		08 45 20.0 +13
LVC				LR	LR	
	comp=Z,3μm,21.0s					
CN2	**Changchun**	**96.10 331**	*e*P		**P**	**08 45 10.6 +2.1**
CN2				PP	**PP**	**08 49 06.0 +4.1**
CN2				*e*S	**S**	**08 56 27.2 +0.6**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.4s					
CN2				pmax	pmax	
	comp=Z,200nm,6.0s					
CN2				LR	LR	
	comp=N,1μm,25.0s					
CN2				LR	LR	
	comp=E,1μm,25.0s					
CN2				LR	LR	
	comp=Z,1μm,26.0s					
SKR	**Severo-Kuril's**	**96.24 353**		P	**P**	**08 45 10.0 +1.1**
SKR			*e*			08 49 12.0
SKR			*e*			08 55 46.0
SKR			*e*PS		**PS**	**08 57 56.0 +6.8**
SKR				pmax	pmax	
	comp=Z,1μm,12.0s					
SKR				MLR	MLR	
	comp=N,2μm,16.0s					
SKR				MLR	MLR	
	comp=E,2μm,16.0s					
SKR				MLR	MLR	
	comp=Z,2μm,16.0s					
BJT	**Baijiatuau**	**96.34 324**		PFAKE		08 45 20.0 +10
BJT				LR	LR	
	comp=Z,3μm,22.0s					
BJI	**Beijing**	**96.35 324**		P	P	08 45 13.4 +3.7
BJI				SKS	**SKSac**	**08 55 45.9 +0.5**
BJI				S	**ScS**	**08 56 33.1 +3.7**
BJI				SS	SS	09 03 11.3 +8.5
BJI				pmax	pmax	
	comp=Z,7.0nm,1.2s					
BJI				pmax	pmax	
	comp=Z,88nm,3.5s					
BJI				LR	LR	
	comp=N,2μm,24.0s					
BJI				LR	LR	
	comp=E,1μm,26.9s					
BJI				LR	LR	
	comp=Z,4μm,31.2s					
SUR	**Sutherland**	**96.43 209**		PFAKE		08 45 20.0 +9.2
SUR				LR	LR	
	comp=Z,4μm,21.0s					
HABR	**Khabarovsk**	**97.55 340**	*e*P		**P**	**08 45 14.0 -0.9**
HABR			*e*PPP		PPP	08 51 15.5
HABR			*e*S		**SKSac**	**08 55 51.4 +0.2**
HABR			*e*			08 56 39.0
HABR			*e*PS		**PS**	**08 58 03.5 -0.1**
HABR			*e*SS		**SS**	**09 03 19.9 +0.4**
HABR			*e*SSS		SSS	09 07 06.0
HABR				pmax	pmax	
	comp=E,19nm,1.2s					
HABR				pmax	pmax	
	comp=N,14nm,1.2s					
HABR				pmax	pmax	
	comp=Z,8.0nm,1.2s					
HABR				MLR	MLR	
	comp=Z,1μm,20.0s					
TRIS	**Tristan da Cun**	**97.78 181**		PFAKE		08 45 30.0 +13
TRIS				LR	LR	
	comp=Z,4μm,20.0s					
ADK	**Adak**	**98.11 10**		PFAKE		08 45 30.0 +13
ADK				LR	LR	
	comp=Z,5μm,21.0s					
CPUP	**Villa Florida**	**98.16 141**		P	Pdif	08 45 19.1 +0.7
CPUP	**Villa Florida**	**98.16 141**		P	Pdif	08 45 19.1 +0.7
	comp=Z,6.0nm,1.0s,baz=230,slow=4.3,SNR=7.3					
CPUP				LR	LR	09 25 15.6
	comp=Z,5μm,18.1s,baz=91,slow=33					
BOSA	**Boshof**	**98.21 214**		LR	LR	09 27 48.4
	comp=Z,2μm,18.2s,baz=155,slow=34					
PET	**Petropavlovsk**	**98.39 355**	*e*P		P	08 45 15.1 -3.5
PET			*e*PS		**PS**	**08 58 07.8 -4.8**
PET				pmax	pmax	
	comp=Z,200nm,17.0s					
PET				pmax	pmax	
	comp=Z,300nm,19.4s					
PET				MLR	MLR	
	comp=Z,1μm,16.0s					
PET				MLR	MLR	
	comp=Z,2μm,18.0s					
PAYG	**Puerto Ayora**	**98.81 100**		PFAKE		08 45 30.0 +8.4
PAYG				LR	LR	
	comp=Z,7μm,20.0s					
LZH	**Lanzhou**	**98.91 313**	*e*P		Pdif	08 45 23.1 +1.5
LZH				pP	pP	08 45 26.4 0.0
LZH				PP	**PP**	**08 49 27.2 +3.3**
LZH				SKS	**SKSac**	**08 56 00.3 +1.1**
LZH				S	**S**	**08 56 50.5 -0.9**
LZH				pmax	pmax	
	comp=Z,39nm,1.5s					
LZH				pmax	pmax	
	comp=Z,280nm,7.0s					
LZH				LR	LR	
	comp=N,2μm,17.3s					
LZH				LR	LR	
	comp=E,1μm,16.0s					
LZH				LR	LR	
	comp=Z,2μm,19.6s					
HHC	**Hu-ho-hao-te**	**99.00 321**	*e*P		**Pdif**	**08 45 23.0 +1.2**
HHC				PP	**PP**	**08 49 28.7 +4.2**
HHC				SKS	**SKSac**	**08 55 59.8 +0.5**
HHC				S	**S**	**08 56 50.4 -1.4**
HHC				pmax	pmax	
	comp=Z,44nm,0.7s					
HHC				pmax	pmax	
	comp=Z,280nm,6.8s					
HHC				LR	LR	
	comp=N,4μm,17.6s					
HHC				LR	LR	
	comp=E,2μm,17.6s					
HHC				LR	LR	
	comp=Z,5μm,17.9s					
KLR	**Kul'dur**	**99.09 338**	*e*P		**Pdif**	**08 45 20.0 -1.8**
KLR			*e*S		**SKSac**	**08 55 55.0 -4.0**
KLR				pmax	pmax	
	comp=Z,700nm,11.0s					
KLR				smax	smax	
	comp=N,1.0nm,8.5s					
KLR				smax	smax	
	comp=E,2μm,8.5s					
NNA	**Nana**	**99.36 118**		PFAKE		08 45 30.0 +5.9
NNA				LR	LR	
	comp=Z,5μm,20.0s					
HYB	**Hyderabad**	**100.76 284**	*i* P		**Pdif**	**08 45 30.0 -0.1**
HYB			*e*PP		**PP**	**08 49 36.0 -2.0**
HYB				*e*SKS		08 56 08.0
HYB				*e*PS	**PS**	**08 58 36.0 -3.2**
HYB				*e*		08 59 28.0
MSEY	**Mahe Island**	**101.13 252**		PFAKE		08 45 40.0 +8.0
MSEY				LR	LR	
	comp=Z,4μm,21.0s					
LPAZ	**La Paz**	**101.14 127**		P	**Pdif**	**08 45 33.8 +1.1**
LPAZ				PP	PKiKP	08 49 49.6 -8.0
LPAZ	**La Paz**	**101.14 127**		P	**Pdif**	**08 45 33.8 +1.1**
	comp=Z,0.9nm,0.9s,baz=213,slow=3.9,SNR=5.0					
LPAZ				PP	PKiKP	08 49 49.6 -8.0
	comp=Z,0.4nm,0.4s,baz=214,slow=7.3,SNR=3.7					
LSA	**Lhasa**	**101.25 301**		PFAKE		08 45 40.0 +7.4
LSA				LR	LR	
	comp=Z,3μm,21.0s					
HIA	**Hailar**	**102.79 331**		PFAKE		08 45 50.0 +12
HIA				LR	LR	
	comp=Z,2μm,20.0s					
PFO	**Pinyon Flat Ob**	**105.12 57**		PFAKE		08 50 10.0
PFO				LR	LR	
	comp=Z,2μm,19.0s					
ULN	**Ulaanbaatar**	**106.54 323**		PFAKE		08 50 20.0
ULN				LR	LR	
	comp=Z,3μm,20.0s					
SONM	**Songino Array**	**106.80 322**		Pdif	**Pdif**	**08 45 59.1 +2.8**
SONM				PP	**PP**	**08 50 24.1 +1.3**
SONM				PKKPbc	**PKKPbc**	**09 01 23.8 -1.0**
SONM	**Songino Array**	**106.80 322**		Pdiff	**Pdif**	**08 45 59.1 +2.8**
	comp=Z,0.4nm,0.9s,baz=135,slow=3.4,SNR=2.5					
SONM				PP	**PP**	**08 50 24.1 +1.3**
	comp=Z,2.0nm,1.0s,baz=134,slow=4.3,SNR=5.8					
SONM				PKKPbc	**PKKPbc**	**09 01 23.8 -1.0**
	comp=Z,2.0nm,1.0s,baz=303,slow=2.1,SNR=7.1					
NVAR	**Mina Array Bea**	**107.44 53**		PKKP	**PKKPdf**	**09 01 35.6 -0.7**
	comp=Z,0.7nm,0.9s,baz=67,slow=4.5,SNR=4.2					
OTAV	**Otavalo**	**107.54 108**		PFAKE		08 50 20.0
OTAV				LR	LR	
	comp=Z,4μm,20.0s					
TUC	**Tucson**	**107.67 62**		PFAKE		08 50 20.0
TUC				LR	LR	
	comp=Z,7μm,22.0s					
KDAK	**Kodiak Island**	**108.43 22**		PFAKE		08 50 20.0
KDAK				LR	LR	
	comp=Z,10μm,20.0s					
LSZ	**Lusaka**	**108.66 223**		PFAKE		08 50 20.0
LSZ				LR	LR	
	comp=Z,3μm,19.0s					
BMN	**Battle Mountai**	**109.43 52**		PFAKE		08 50 20.0
BMN				LR	LR	
	comp=Z,7μm,19.0s					
WUAZ	**Wupatki**	**109.47 59**		PFAKE		08 50 20.0
WUAZ				LR	LR	
	comp=Z,7μm,19.0s					
TSUM	**Tsumeb**	**109.64 211**		PFAKE		08 50 20.0
TSUM				LR	LR	
	comp=Z,5μm,19.0s					
SAML	**Samuel**	**109.88 127**		PFAKE		08 50 20.0
SAML				LR	LR	
	comp=Z,2μm,20.0s					
WVOR	**Wild Horse Val**	**110.05 50**		PFAKE		08 50 20.0
WVOR				LR	LR	
	comp=Z,36μm,19.0s					
TXAR	**Lajitas Array**	**110.21 69**		PKiKP	**PKiKP**	**08 50 13.1 -0.2**
TXAR				PKKPbc	**PKKPbc**	**09 01 15.1 +1.8**
TXAR	**Lajitas Array**	**110.21 69**		PKiKP	**PKiKP**	**08 50 13.1 -0.2**
	comp=Z,0.6nm,1.1s,baz=204,slow=2.7,SNR=3.8					
TXAR				PKKPbc	**PKKPbc**	**09 01 15.1 +1.8**
	comp=Z,0.8nm,1.0s,baz=101,slow=1.3,SNR=5.2					
MNTX	**Cornudas Mount**	**110.66 66**		*e*PKPdf	**PKiKP**	**08 50 13.8 -0.1**
MNTX				LR	LR	
	comp=Z,6μm,19.0s					
NLWA	**Neilton Lookou**	**110.86 43**		PFAKE		08 50 20.0
NLWA				LR	LR	
	comp=Z,41μm,20.0s					
TLY	**Talaya**	**110.88 324**	*i* PKIKP		**PKiKP**	**08 50 16.9 +3.2**
TLY			*e*			08 50 48.4
TLY			*e*PPP		PPP	08 53 22.3
TLY			*e*			08 56 54.9
TLY			*e*SS		SS	09 06 20.0 -2.5
TLY				pmax	pmax	
	comp=Z,8.0nm,1.0s					
YAK	**Yakutsk**	**111.20 342**	*e*P		**Pdif**	**08 46 08.8 -6.5**
YAK			*e*			08 50 10.6
YAK			*e*			09 00 26.1
YAK			*e*			09 06 37.2
DUG	**Dugway**	**111.75 54**		PFAKE		08 50 30.0
DUG				LR	LR	
	comp=Z,8μm,19.0s					
ANMO	**Albuquerque**	**112.11 62**		PFAKE		08 50 30.0
ANMO				LR	LR	
	comp=Z,8μm,19.0s					
MVCO	**Mesa Verde**	**112.33 59**		PFAKE		08 50 30.0
MVCO				LR	LR	
	comp=Z,5μm,20.0s					
BMO	**Blue Mountains**	**112.40 48**		PFAKE		08 50 30.0
BMO				LR	LR	
	comp=Z,18μm,20.0s					
KVTX	**Kingsville**	**112.88 74**		PFAKE		08 50 30.0
KVTX				LR	LR	
	comp=Z,25μm,20.0s					
WMQ	**Urumqi**	**113.04 310**		PKP	**PKiKP**	**08 50 18.0 -0.1**
WMQ				PP	**PP**	**08 51 11.4 +3.4**
WMQ				PKS	**PKSdf**	**08 53 52.6 -2.1**
WMQ				SKS	**SKSdf**	**08 57 27.4 -2.1**
WMQ				SKKS	**SKKSac**	**08 58 04.5 -4.2**
WMQ				AMB	AMB	
	comp=Z,430nm,9.0s					
WMQ				LR	LR	
	comp=N,950nm,23.0s					
WMQ				LR	LR	
	comp=E,2μm,24.0s					
WMQ				LR	LR	
	comp=Z,3μm,24.0s					
BCIP	**Isla Barro Col**	**113.07 101**		PFAKE		08 50 30.0
BCIP				LR	LR	
	comp=Z,10μm,21.0s					
HLID	**Hailey**	**113.09 51**		PFAKE		08 50 30.0
HLID				LR	LR	
	comp=Z,3μm,19.0s					
HWUT	**Hardware Ranch**	**113.39 54**		*e*PKPdf		08 50 18.5
HWUT				LR	LR	
	comp=Z,5μm,20.0s					
JCT	**Junction City**	**113.50 70**		PFAKE		08 50 30.0
JCT				LR	LR	
	comp=Z,4μm,19.0s					
WRAK	**Wrangell Islan**	**113.78 32**		PFAKE		08 50 30.0
WRAK				LR	LR	
	comp=Z,10μm,21.0s					
AHID	**Auburn Hatcher**	**114.41 53**		PFAKE		08 50 30.0 +9.1
AHID				LR	LR	
	comp=Z,5μm,19.0s					
MCK	**McKinley**	**114.47 20**		*e*PKIKP	PKPdf	08 50 18.2 -1.9
MCK	**McKinley**	**114.47 20**		*e*PKPdf	PKPdf	08 50 18.2 -1.9
SDCO	**Great Sand Dun**	**114.50 61**		PFAKE		08 50 30.0 +8.6
SDCO				LR	LR	
	comp=Z,6μm,19.0s					
TEIG	**Tepich**	**114.74 86**		PFAKE		08 50 30.0 +8.0
TEIG				LR	LR	
	comp=Z,12μm,19.0s					
NEW	**Newport**	**114.77 46**		PKP	PKPdf	08 50 20.9 -0.4
NEW				LR	LR	
	comp=Z,12μm,20.0s					
NEW	**Newport**	**114.77 46**		PKP	PKPdf	08 50 20.9 -0.4
	comp=Z,1.1nm,0.7s,baz=195,slow=12,SNR=4.4					
TPAW	**Teton Pass**	**114.96 53**		*e*PKPdf	PKPdf	08 50 22.1 +0.1
AMTX	**Amarillo**	**115.08 65**		PFAKE		08 50 30.0 +7.7
AMTX				LR	LR	
	comp=Z,7μm,19.0s					
IMW	**Indian Meadow**	**115.22 52**		*e*PKPdf	**PKPdf**	**08 50 23.1 +0.5**
MOOW	**Moose Ponds**	**115.24 53**		*e*PKPdf	**PKPdf**	**08 50 23.0 +0.4**
DLMT	**Dillon**	**115.25 50**		*e*PKPdf	**PKPdf**	**08 50 24.7 +2.3**
BW06	**Boulder Array**	**115.28 54**		PFAKE		08 50 30.0 +7.3
BW06				LR	LR	
	comp=Z,6μm,19.0s					
PDAR	**Pinedale Array**	**115.28 54**		PKP	**PKPdf**	**08 50 22.2 -0.4**
PDAR				PKKP	PKKPdf	09 01 14.8 -6.8
PDAR	**Pinedale Array**	**115.28 54**		PKP	**PKPdf**	**08 50 22.2 -0.4**
	comp=Z,1.1nm,1.1s,baz=242,slow=3.2,SNR=5.1					
PDAR				PKKP	PKKPdf	09 01 14.8 -6.8
	comp=Z,1.1nm,1.1s,baz=31,slow=3.5,SNR=3.7					
HYT	**Haines Junctio**	**115.32 27**		*e*PKPdf	**PKPdf**	**08 50 21.0 -1.0**
KMBO	**Kilima Mbogo**	**115.48 239**		PKP	**PKPdf**	**08 50 23.6 -0.4**
KMBO				LR	LR	
	comp=Z,3μm,20.0s					
KMBO	**Kilima Mbogo**	**115.48 239**		PKP	**PKPdf**	**08 50 23.6 -0.4**

comp=Z,2.0nm,0.2s,baz=258,slow=23,SNR=3.8
LRM Limekiln Ridge 115.62 50 *e*PKPdf **PKPdf 08 50 22.7 -0.5**
COLA College 115.69 20 *e*PKIKP **PKPdf 08 50 21.5 -0.9**
COLA MLR MLR
comp=Z,5µm,19.0s
COLA College 115.69 20 *e*PKPdf **PKPdf 08 50 21.5 -0.9**
COLA LR LR
comp=Z,5µm,19.0s
ISCO Idaho Springs 115.72 59 PFAKE 08 50 30.0 +6.3
ISCO LR LR
comp=Z,5µm,21.0s
ILAR Eielson Array 115.84 20 PKP **PKPdf 08 50 20.5 -2.2**
ILAR PKKPbc **PKKPbc 09 00 54.3 -0.8**
ILAR Eielson Array 115.84 20 PKP **PKPdf 08 50 20.5 -2.2**
comp=Z,3.6nm,1.0s,baz=289,slow=3.9,SNR=25
ILAR PKKPbc **PKKPbc 09 00 54.3 -0.8**
comp=Z,0.5nm,0.8s,baz=347,slow=2.2,SNR=4.7
SWMT Swartz Lake 115.88 48 *e*PKPdf **PKPdf 08 50 23.1 -0.4**
CHMT Chamberlain Mo 115.89 49 *e*PKPdf **PKPdf 08 50 23.2 -0.4**
LKWY Lake 115.95 52 PFAKE 08 50 40.0 +16
LKWY LR LR
comp=Z,27µm,20.0s
BOZ Bozeman (W) 115.95 51 *e*PKIKP **PKPdf 08 50 23.0 -0.8**
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 115.95 51 *e*PKPdf **PKPdf 08 50 23.0 -0.8**
BOZ LR LR
comp=Z,2µm,21.0s
SLMT Seeley Lake 115.97 48 *e*PKPdf **PKPdf 08 50 24.6 +0.9**
DLBC Dease Lake 116.11 32 *e*PKPdf **PKPdf 08 50 23.4 -0.1**
HRY Holter Researc 116.52 50 *e*PKPdf **PKPdf 08 50 24.5 -0.3**
WMOK Wichita Mounta 116.85 67 *e*PKIKP **PKPdf 08 50 24.9 -0.8**
WMOK MLR MLR
comp=Z,10µm,20.0s
WMOK Wichita Mounta 116.85 67 *e*PKPdf **PKPdf 08 50 24.9 -0.8**
WMOK LR LR
comp=Z,10µm,20.0s
RLMT Red Lodge 116.92 52 PFAKE 08 50 40.0 +14
RLMT LR LR
comp=Z,5µm,19.0s
COLD Coldfoot 117.14 17 *e*PKPdf **PKPdf 08 50 24.3 -0.9**
DAWY Dawson 117.24 24 *e*PKPdf **PKPdf 08 50 23.2 -2.3**
EGAK Eagle 117.31 22 *e*PKPdf **PKPdf 08 50 23.8 -1.7**
EGAK LR LR
comp=Z,7µm,21.0s
MK31 Makanchi Array 117.87 309 *e*PKIKP **PKPdf 08 50 26.9 -0.3**
MK31 Makanchi Array 117.87 309 *e*PKPdf **PKPdf 08 50 26.9 -0.3**
MKAR Makanchi Array 117.87 309 PKIKP **PKPdf 08 50 25.5 -1.7**
MKAR Makanchi Array 117.87 309 PKP **PKPdf 08 50 25.5 -1.7**
MKAR PKKPab **PKKPab 09 00 48.2 -0.4**
MKAR Makanchi Array 117.87 309 PKP **PKPdf 08 50 25.5 -1.7**
comp=Z,6.2nm,1.1s,baz=111,slow=2.1,SNR=16
MKAR PKKPab **PKKPab 09 00 48.2 -0.4**
comp=Z,2.4nm,1.0s,baz=320,slow=5.4,SNR=7.3
SHEL Horse Pasture 118.40 189 PFAKE 08 50 40.0 +11
SHEL LR LR
comp=Z,4µm,20.0s
EGMT Eagleton 118.44 49 PFAKE 08 50 40.0 +12
EGMT LR LR
comp=Z,4µm,19.0s
OGNE Ogallala 118.59 60 PFAKE 08 50 40.0 +11
OGNE LR LR
comp=Z,5µm,19.0s
SDV Santo Domingo 119.13 108 PFAKE 08 50 40.0 +9.1
SDV LR LR
comp=Z,974nm,19.0s
TKM2 Tokmak 2 119.35 303 PFAKE 08 50 40.0 +10
TKM2 LR LR
comp=Z,2µm,21.0s
MBAR Mbarara 119.72 234 PFAKE 08 50 40.0 +7.9
MBAR LR LR
comp=Z,542nm,21.0s
EDM Edmonton 119.76 43 *e*PKIKP **PKPdf 08 50 28.4 -2.3**
EDM Edmonton 119.76 43 *e*PKPdf **PKPdf 08 50 28.4 -2.3**
AAK Ala-Archa 119.83 302*c i*PKIKP **PKPdf 08 50 30.2 -1.1**
AAK Ala-Archa 119.83 302 PKP **PKPdf 08 50 31.0 -0.4**
AAK *e*PKPdf **PKiKP 08 50 32.1 +0.7**
AAK PKKPab **PKKPab 09 00 43.7 +3.0**
AAK LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 119.83 302 PKP **PKPdf 08 50 31.0 -0.4**
comp=Z,4.6nm,0.8s,baz=149,slow=5.6,SNR=5.4
AAK PKKPab **PKKPab 09 00 43.7 +3.0**
comp=Z,1.1nm,0.4s,baz=203,slow=6.1,SNR=3.8
FRU Bishkek 119.88 302 *e*PKIKP **PKPdf 08 50 31.0 -0.2**
FRU *i* 08 50 42.0
EKS2 Erkin-Say 120.28 301 PFAKE 08 50 40.0 +7.9
EKS2 LR LR
comp=Z,2µm,21.0s
VBMS Vicksburg 120.79 74 PFAKE 08 50 40.0 +6.8
VBMS LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 120.86 64 *e*PKPdf **PKPdf 08 50 32.2 -1.0**
KSU1 LR LR
comp=Z,6µm,21.0s
ZALV Zalesovo Beam 120.86 317 PKIKP **PKPdf 08 50 32.1 -0.6**
ZALV Zalesovo Beam 120.86 317 PKP **PKPdf 08 50 32.0 -0.6**
ZALV PKKPbc **PKKPbc 09 00 37.9 +1.3**
ZALV Zalesovo Beam 120.86 317 PKP **PKPdf 08 50 32.0 -0.6**
comp=Z,0.7nm,0.4s,baz=129,slow=2.1,SNR=6.6
ZALV PKKPbc **PKKPbc 09 00 37.9 +1.3**
comp=Z,0.6nm,0.4s,baz=276,slow=5.5,SNR=4.2
MTDJ Mount Denham 120.95 95 PFAKE 08 50 40.0 +5.9
MTDJ LR LR
comp=Z,5µm,19.0s
DGMT Dagmar 121.71 51 *e*PKPdf **PKPdf 08 50 32.7 -1.9**
DGMT LR LR
comp=Z,2µm,19.0s
INK Inuvik 121.98 22 PKP **PKPdf 08 50 32.4 -2.0**
INK *e*PKPdf **PKiKP 08 50 32.5 -2.0**
INK PKKPbc **PKKPbc 09 00 32.2 -0.3**
INK Inuvik 121.98 22 PKP **PKPdf 08 50 32.4 -2.0**
comp=Z,14nm,1.0s,baz=197,slow=4.3,SNR=15
INK PKKPbc **PKKPbc 09 00 32.2 -0.3**
comp=Z,1.7nm,0.8s,baz=76,slow=4.6,SNR=3.7
KURBB Kurchatov Arra 122.13 311 PKP **PKPdf 08 50 33.8 -1.5**
comp=Z,14nm,1.1s,baz=128,slow=1.7,SNR=23
KURK Kurchatov 122.13 311 PKIKP **PKPdf 08 50 33.8 -1.5**
KURK Kurchatov 122.13 311 PKP **PKPdf 08 50 33.8 -1.5**
NVS Novosibirsk 122.14 317 *e*PKIKP **PKPdf 08 50 35.1 0.0**
NVS *e* 08 57 33.1
BRAL Brewton 122.42 77 PFAKE 08 50 50.0 +14
BRAL LR LR
comp=Z,17µm,20.0s
OXF Oxford 122.89 72 PFAKE 08 50 50.0 +13
OXF LR LR
comp=Z,7µm,21.0s
ECSD EROS Data Cent 123.47 60 *e*PKPdf **PKPdf 08 50 35.8 -2.3**
ECSD LR LR
comp=Z,6µm,20.0s
LRAL Lakeview Retre 123.66 75 PFAKE 08 50 50.0 +11
LRAL LR LR
comp=Z,4µm,19.0s
GTBY Guantanamo Bay 123.79 96 PFAKE 08 50 50.0 +11
GTBY LR LR
comp=Z,5µm,21.0s
YKA Yellowknife Ar 124.56 34 PKP **PKPdf 08 50 37.6 -1.9**
YKA PKKPbc **PKKPbc 09 00 25.4 +3.1**
YKA Yellowknife Ar 124.56 34 PKP **PKPdf 08 50 37.6 -1.9**
comp=Z,4.6nm,0.9s,baz=222,slow=1.6,SNR=12
YKA PKKPbc **PKKPbc 09 00 25.4 +3.1**
comp=Z,0.7nm,0.8s,baz=57,slow=4.2,SNR=4.0
SCIA State Center 124.58 63 *e*PKPdf **PKPdf 08 50 39.9 -0.3**
SCIA LR LR
comp=Z,7µm,19.0s
YKW3 Yellowknife Ar 124.60 34 *e*PKPdf **PKPdf 08 50 38.6 -1.0**
WVT Waverly 124.88 72 *e*PKIKP **PKPdf 08 50 38.7 -2.3**
WVT Waverly 124.88 72 *e*PKPdf **PKPdf 08 50 38.7 -2.3**
RCBR Riachuelo 125.12 152 PFAKE 08 50 50.0 +7.7
RCBR LR LR
comp=Z,3µm,20.0s
IBAF Bafgh 125.76 281 *e*P **PKPdf 08 50 42.0 -1.1**
SDDR Presa de Saban 125.82 99 PFAKE 08 50 50.0 +6.6
SDDR LR LR
comp=Z,4µm,19.0s
ISRV Sarvestan 126.16 277 *e*P **PKPdf 08 50 42.7 -1.4**
FFC Flin Flon 126.20 46 *e*PKIKP **PKPdf 08 50 41.9 -1.0**
FFC MLR MLR
comp=Z,17µm,21.0s
FFC Flin Flon 126.20 46 *e*PKPdf **PKPdf 08 50 41.9 -1.0**
FFC LR LR
comp=Z,17µm,21.0s
AGMN Agassiz Nation 126.32 55 *e*PKPdf **PKPdf 08 50 42.1 -1.3**
AGMN LR LR
comp=Z,5µm,19.0s
IPAR Pars 126.48 277 *e*P **PKPdf 08 50 43.0 -1.7**
CPCT Cooper Cave 126.72 74 *e*PKPdf **PKPdf 08 50 43.7 -0.9**
ASCN Ascension 126.79 179 PFAKE 08 51 00.0 +15
ASCN LR LR
comp=Z,892nm,19.0s
WCI Wyandotte Cave 127.06 70 *e*PKIKP **PKPdf 08 50 42.9 -2.3**
WCI Wyandotte Cave 127.06 70 *e*PKPdf **PKPdf 08 50 42.9 -2.3**
MSKU Masuku 127.21 215 PFAKE 08 51 00.0 +14
MSKU LR LR
comp=Z,2.0nm,20.0s
ULM Lac du Bonnet 127.28 53 *e*PKPdf **PKPdf 08 50 43.1 -2.0**
ULM PKP **PKPdf 08 50 43.8 -1.3**
ULM Lac du Bonnet 127.28 53 PKP **PKPdf 08 50 43.8 -1.3**
comp=Z,11nm,1.0s,baz=188,slow=3.3,SNR=6.0
TKL Tuckaleechee C 127.34 75 *e*PKPdf **PKPdf 08 50 44.2 -1.6**
GRGR Grenville 127.43 114 PFAKE 08 51 00.0 +13
GRGR LR LR
comp=Z,3µm,20.0s
GRTK Grand Turk 127.61 97 PFAKE 08 51 00.0 +13
GRTK LR LR
comp=Z,7µm,19.0s
BVAR Borovoye Array 127.70 311 PKIKP **PKPdf 08 50 44.8 -1.0**
BVAR Borovoye Array 127.70 311 PKP **PKPdf 08 50 44.8 -1.0**
BVAR Borovoye Array 127.70 311 PKP **PKPdf 08 50 44.8 -1.0**
comp=Z,4.3nm,0.8s,baz=132,slow=2.2,SNR=18
BRVK Borovoye 127.77 311*c i*PKIKP **PKPdf 08 50 45.9 -0.1**
BRVK Borovoye 127.77 311 *e*PKPdf **PKPdf 08 50 46.4 +0.4**
BRVK LR LR
comp=Z,2µm,22.0s
TZTN Tazewell 127.98 74 *e*PKPdf **PKPdf 08 50 46.3 -0.6**
LRS Lares 128.41 104 *e*PKPdf **PKPdf 08 50 48.2 -0.1**
EYMN Ely 128.70 57 *e*PKPdf **PKPdf 08 50 46.7 -1.2**
EYMN LR LR
comp=Z,5µm,19.0s
BBGH Gun Hill 129.53 115 PFAKE 08 51 00.0 +9.5
BBGH LR LR
comp=Z,11µm,20.0s
IPIR Pirpir 129.63 279 *e*P PKPdf 08 51 06.5 +16
FDF Fort de France 129.68 112 PFAKE 08 51 00.0 +9.2
FDF LR LR
comp=Z,4µm,19.0s
BLA Blacksburg 130.46 75 *e*PKIKP **PKPdf 08 50 51.3 -0.4**
BLA MLR MLR
comp=Z,11µm,20.0s
BLA Blacksburg 130.46 75 *e*PKPdf **PKPdf 08 50 51.3 -0.4**
BLA LR LR
comp=Z,11µm,20.0s
CNNC Cliffs of the 131.13 78 PFAKE 08 51 00.0 +7.1
CNNC LR LR
comp=Z,12µm,19.0s
ANWB Willy Bob 131.39 109 PFAKE 08 51 00.0 +6.1
ANWB LR LR
comp=Z,3µm,21.0s
GLMI Grayling 131.46 64 PFAKE 08 51 00.0 +6.7
GLMI LR LR
comp=Z,5µm,20.0s
CBN Corbin 133.04 75 PFAKE 08 51 10.0 +14
CBN LR LR
comp=Z,6µm,20.0s
AKTO Aktyubinsk 133.53 303 PKIKP **PKPdf 08 50 57.0 0.0**
AKTO Aktyubinsk 133.53 303 PKP **PKPdf 08 50 57.0 0.0**
AKTO SKPbc **SKPbc 08 54 25.3 +0.5**
AKTO Aktyubinsk 133.53 303 PKP **PKPdf 08 50 57.0 0.0**
comp=Z,3.3nm,0.8s,baz=154,slow=2.4,SNR=12
AKTO SKPbc **SKPbc 08 54 25.3 +0.5**
comp=Z,4.0nm,1.0s,baz=96,slow=4.9,SNR=8.1
SDMD Soldier's Deli 134.00 74 *e*PKPdf **PKPdf 08 50 57.3 -0.9**
SVE Sverdlovsk 134.37 312 *i*PKIKP **PKPdf 08 50 58.9 +0.6**
SVE pmax pmax
comp=Z,57nm,2.4s
BHD Baghdad 134.50 275 *e*PKP **PKPdf 08 50 55.0 -4.3**
BHD *i*PKS PKSdf 08 54 45.0 +9.3
ARU Arti 135.33 311 *i*PKIKP **PKPdf 08 51 01.9 +1.8**
ARU 08 53 36.5
ARU MLR MLR
comp=Z,3µm,25.0s
BINY Binghamton 135.87 71 PFAKE 08 51 10.0 +8.3
BINY LR LR
comp=Z,7µm,20.0s
SOKR Solikamsk 137.10 315 *i*PKIKP **PKPdf 08 51 04.0 +0.7**
SOKR pmax pmax
comp=Z,30nm,1.4s
SOKR MLR MLR
comp=Z,3µm,20.0s
MAK Makhachkala 137.10 289 *i*PKIKP **PKPdf 08 51 04.4 +0.5**
MAK *e* 08 53 49.6
MAK pmax pmax
comp=Z,45nm,1.3s
GNI Garni 137.72 284 PFAKE 08 51 20.0 +15
GNI LR LR
comp=Z,2µm,21.0s
NCB Newcomb 137.80 70 PFAKE 08 51 20.0 +15
NCB LR LR
comp=Z,12µm,19.0s
CLDR Caldiran 137.82 282 *e*P PKPdf 08 51 15.3 +10
LONY Lake Ozonia 137.82 69 PFAKE 08 51 20.0 +15
LONY LR LR
comp=Z,8µm,20.0s
TBLG Delisi 138.42 286 *e*PKIKP **PKPdf 08 51 08.1 +1.7**
TUTA Tutak 138.69 282 *i*P **PKPdf 08 51 04.1 -3.2**
DIGO Kars 138.77 284 *i*P **PKPdf 08 51 09.4 +2.0**
BBSR BB Station 138.79 90 PFAKE 08 51 20.0 +13
BBSR LR LR
comp=Z,3µm,21.0s
LBNH Lisbon 139.42 70 PFAKE 08 51 20.0 +12
LBNH LR LR
comp=Z,9µm,20.0s
HOMI Horasan 139.61 283 *i*P **PKPdf 08 51 08.3 -0.6**
BNGL BINGOL 139.63 281 *i*P PKPdf 08 51 14.7 +5.8
BNGB Bing¶ll 139.98 280 *e*P PKPdf 08 51 17.1 +7.7
ARTV Artvin 140.09 284 *i*P **PKPdf 08 51 10.5 +0.7**
KBZ Khabaz 140.48 288 PKHKP PKPpre 08 51 03.9
KBZ 08 51 09.5
KBZ Khabaz 140.48 288 PKPpre PKPpre 08 51 03.9
KBZ PKP **PKPdf 08 51 09.5 -0.5**
KBZ Khabaz 140.48 288 PKhKP PKPpre 08 51 03.9
comp=Z,1.8nm,0.7s,baz=177,slow=1.6,SNR=4.3
KBZ PKP **PKPdf 08 51 09.5 -0.5**
comp=Z,6.7nm,0.9s,baz=103,slow=0.9,SNR=4.8
URFA Urfa 140.54 277 *e*P PKPdf 08 51 15.9 +5.4
DBIC Dimbokro 140.56 194 PKPpre PKPpre 08 51 04.2
DBIC Dimbokro 140.56 194 PKhKP PKPpre 08 51 04.2
comp=Z,9.4nm,0.8s,baz=160,slow=4.6,SNR=6.5
KOPT Kop Dagi 140.57 282 *i*P PKPdf 08 51 05.1 -5.6
KIV Kislovodsk 140.71 289 *i*PKIKP **PKPdf 08 51 11.1 +0.5**
KIV *e* 08 54 11.0
KIV *e* 08 58 18.5
KIV *e*SS SS 09 12 36.3 -0.8
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,1µm,21.0s
ATAB Bozova 140.92 277 *i*P **PKPdf 08 51 14.7 +3.6**
MALT Malatya 141.22 278 PFAKE 08 51 20.0 +8.3
MALT LR LR
comp=Z,2µm,19.0s
KELT Kelkit 141.48 281 *i*P **PKPdf 08 51 10.5 -1.8**
YAYL Yayladag 141.75 274 *i*P **PKPdf 08 51 08.3 -4.4**
DARE Darende-Malaty 142.00 278 *e*P **PKPdf 08 51 14.7 +1.6**
SUSE Susehri 142.23 281 *i*P **PKPdf 08 51 09.4 -4.2**
CEYT Ceyhan 142.48 275 *e*P **PKPdf 08 51 14.1 +0.2**
SOC Sochi 142.56 287*d*PKIKP **PKPdf 08 51 12.5 -1.3**
SOC *i* 08 51 20.9
SOC *e*SS SS 09 12 49.6 -8.8
SOC pmax pmax
comp=Z,7.0nm,0.4s
KOZT Kozan 142.65 275 *e*P **PKPdf 08 51 13.1 -1.1**
SCER sogukcermik 142.82 280 *i*P **PKPdf 08 51 10.5 -4.1**
PQI Presque Isle 142.86 68 *e*PKPdf **PKPdf 08 51 11.3 -2.9**
RSDY Resadiye-TOKAT 142.92 281 *e*P **PKPdf 08 51 15.5 +0.9**
KARA Karaisali 143.08 275 *e*P **PKPdf 08 51 13.7 -1.3**
CSS Prodhromos 143.15 270 *e*P PKPbc 08 51 12.7 +0.5
CSS Prodhromos 143.15 270 P PKPab 08 51 09.8 -0.9
CSS Prodhromos 143.15 270 PFAKE 08 51 30.0 +15
CSS LR LR
comp=Z,3µm,22.0s
LFK Lefkose 143.17 271 *e*P **PKPdf 08 51 15.4 +0.2**
BNN Bunyan 143.27 277 *e*P **PKPdf 08 51 14.5 -0.9**
GULE Gulek 143.29 275 *i*P PKPab 08 51 09.4 -2.0
ERBA Erbaa 143.43 281 *i*P **PKPdf 08 51 14.7 -0.8**
TOKA Tokat 143.47 280 *i*P **PKPdf 08 51 14.7 -0.9**
LEF Lefka 143.54 270 *e*P **PKPdf 08 51 15.5 -0.3**
IKL Isikli 143.55 272 *e*P **PKPdf 08 51 14.5 -1.3**
VRHR Novokhopersk 143.61 299 *e*PKIKP PKPab 08 51 12.4 +0.4
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,40nm,1.1s
NIG Nigde 143.79 276 *e*P **PKPdf 08 51 16.3 -0.2**
YOZ Yozgat 143.98 278 *e*P **PKPdf 08 51 18.2 +1.6**
ERMK Ermenek 144.29 272 *i*P **PKPab 08 51 14.7 -0.6**
HAVZ Havza 144.31 281 *i*P **PKPdf 08 51 17.9 +0.9**
ANN Anapa 144.53 288 *i*PKIKP **PKPab 08 51 15.1 -0.5**
ANN pmax pmax
comp=Z,24nm,0.9s
CDAG Cicekdag 144.64 278 *i*P **PKPab 08 51 13.7 -2.7**
CORM Corum 144.69 279 *e*P PKPbc 08 51 17.2 +0.4
CTKT Corum 144.77 280 *i*P **PKPab 08 51 14.7 -2.2**
DIKM Dikmen 144.86 281 *e*P **PKPdf 08 51 21.4 +3.5**
VORD Divnogorie 145.02 298 *e*PKIKP **PKPbc 08 51 16.8 -0.4**
VORD pmax pmax
comp=Z,70nm,1.3s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,60nm,0.9s
BYBT Boyabat 145.12 281 *e*P **PKPdf 08 51 21.5 +3.1**
KBS Kingsbay 145.12 352 *e*P **PKPbc 08 51 15.4 -1.4**
KBS AMB AMB 08 51 22.6
comp=Z,270nm,1.7s
KBS *e*SS SS 09 13 26.5 +0.6
KBS AMS AMS 09 54 56.6
comp=Z,6µm,15.6s
KBS Kingsbay 145.12 352 *e*PKIKP **PKPbc 08 51 15.7 -1.2**
KBS MLR MLR
comp=Z,6µm,21.0s
KBS Kingsbay 145.12 352 *e*PKPdf **PKPbc 08 51 15.7 -1.2**
KBS LR LR
comp=Z,6µm,21.0s
VSR Storozhevoye 145.15 299 *e*PKIKP **PKPbc 08 51 17.5 -0.2**
VSR pmax pmax
comp=E,80nm,1.3s
VSR pmax pmax
comp=Z,100nm,1.3s
VSR pmax pmax
comp=N,30nm,1.2s
BR131 Keskin Array S 145.19 278 *e*PKPbc **PKPbc 08 51 17.5 -0.9**
BRTR Keskin Array B 145.19 278 PKPbc **PKPbc 08 51 17.8 -0.6**
BRTR Keskin Array B 145.19 278 PKPbc **PKPbc 08 51 17.8 -0.6**
comp=N,75nm,1.2s,baz=146,slow=4.4,SNR=55
TOA0 Torodi Ar. Sit 145.23 207 *e*PKPbc **PKPbc 08 51 17.2 -1.7**
TORD Torodi Ar. Bea 145.23 207 PKPbc **PKPbc 08 51 17.1 -1.8**
TORD SKPbc **SKiKP 08 54 59.3 +0.4**
TORD Torodi Ar. Bea 145.23 207 PKPbc **PKPbc 08 51 17.1 -1.8**
comp=N,56nm,1.0s,baz=161,slow=2.2,SNR=56
TORD SKPbc **SKiKP 08 54 59.3 +0.4**
comp=N,5.3nm,1.1s,baz=132,slow=2.1,SNR=3.8
VOR Voronezh 145.23 300 *e*PKIKP **PKPab 08 51 18.0 0.0**
VOR pmax pmax
comp=Z,500nm,2.0s
SPA0 Spitsbergen Ar 145.24 350 *e*P **PKPbc 08 51 14.2 -3.0**
SPITS Spitsbergen Ar 145.24 350 PKPbc **PKPbc 08 51 15.6 -1.6**
SPITS Spitsbergen Ar 145.24 350 PKPbc **PKPbc 08 51 15.6 -1.6**
comp=Z,94nm,0.9s,baz=78,slow=8.0,SNR=40
KONT Konya--Tatoy 145.29 274 *e*P **PKPdf 08 51 19.0 +0.2**
LADK Ladik-KONYA 145.41 274 *e*P **PKPab 08 51 19.4 +0.1**
SCHQ Schefferville 145.42 55 PKPbc **PKPdf 08 51 15.6 -2.9**
SCHQ *e*PKPdf **PKPbc 08 51 15.7 -2.7**
SCHQ Schefferville 145.42 55 PKPbc **PKPdf 08 51 15.6 -2.9**
comp=Z,11nm,0.7s,baz=269,slow=5.1,SNR=10
AFSR Af´ar-Bala (A 145.47 277 *e*P **PKPdf 08 51 18.8 -0.3**
TOS Tosya 145.47 280 *e*P **PKPab 08 51 21.3 +1.9**
BBAL Bala 145.47 277 *i*P **PKPab 08 51 21.1 +1.6**
CANT Cankiri 145.57 279 *e*P **PKPab 08 51 19.8 +0.1**
ELDT Eldivan 145.66 279 *i*P **PKPab 08 51 21.1 +0.9**
ILGA Ilgaz 145.69 280 *i*P **PKPab 08 51 22.2 +1.8**
KDHN Kadinhani 145.73 275 *i*P **PKPab 08 51 21.1 +0.7**
ANTO Ankara 145.84 277 ⇓PKP2 **PKPbc 08 51 20.3 -0.1**
ANTO Ankara 145.84 277 ⇓*i*P **PKPbc 08 51 20.3 -0.1**
ANTO Ankara 145.84 277 *e*PKPdf **PKPab 08 51 20.7 -0.1**
ANTO LR LR
comp=Z,3µm,21.0s
BZK Bozkurt 145.84 281 *e*P **PKPab 08 51 22.1 +1.5**
SUTC Sutluce-Ispart 146.03 272 *e*P **PKPdf 08 51 19.2 -1.0**
KIZT Kizilcal 146.05 275 *e*P **PKPdf 08 51 19.2 -1.0**
TMCR Tamitsa 146.16 322 *e*PKP2 **PKPab 08 51 20.8 -0.3**
TMCR pmax pmax
comp=Z,26nm,0.6s
KORT Korkueli 146.26 271 *i*P **PKPab 08 51 23.3 +0.7**
BCK Bucak 146.31 272 *e*P **PKPbc 08 51 22.2 +0.4**
AKAS Kas 146.41 269 *i*P **PKPdf 08 51 19.0 -1.9**
SAFT Safranbolu 146.47 279 *e*P **PKPab 08 51 23.5 +0.4**
ISP Isparta 146.53 273 *e*P **PKPab 08 51 23.1 -0.4**
ISP Isparta 146.53 273 P **PKPbc 08 51 22.4 -0.1**
ISP Isparta 146.53 273 ⇓PKP2 **PKPab 08 51 24.4 +0.9**
ISP Isparta 146.53 273 ⇓*i*P **PKPab 08 51 24.4 +0.9**
ISP Isparta 146.53 273 PFAKE 08 51 30.0 +6.5
ISP LR LR
comp=Z,4µm,20.0s
SVRH Sivrihisar-ESK 146.55 276 *e*P **PKPdf 08 51 20.5 -0.5**
BOLV Bolvadin 146.63 274 *i*P **PKPab 08 51 27.5 +3.6**
MOS Moscow 146.69 307 *e*PKP2 **PKPbc 08 51 22.2 0.0**
MOS *e* 08 54 53.1
MOS pmax pmax
comp=Z,900nm,2.8s
MOS pmax pmax
comp=Z,221nm,1.8s
SIM Simferopol' 146.81 286 *i*PKP2 **PKPbc 08 51 23.1 +0.2**
SIM pmax pmax
comp=Z,39nm,0.9s
SHUT Suhut-Afyon 146.84 274 *e*P **PKPbc 08 51 22.9 -0.5**
GOLH Golhisar 146.93 271 *i*P **PKPab 08 51 25.4 +0.3**
FETY Fethiye 146.98 270 *e*P **PKPdf 08 51 20.9 -0.8**
SEYT Eskypehyr 147.05 276 *i*P **PKPbc 08 51 23.3 -0.7**
MDUB Mudurnu 147.20 277 *e*P **PKPab 08 51 26.4 +0.3**
APA Apatity 147.22 329 ⇑*i*PKP2 **PKPbc 08 51 23.6 +0.2**
APA *i* 08 58 12.0
APA *i*PPS PPS 09 13 52.0
OBN Obninsk 147.24 305 ⇓*i*PKP2 **PKPdf 08 51 22.4 +1.0**
OBN *i* 08 54 56.4
OBN *e* 08 58 25.7
OBN *i*SS SS 09 13 52.3 +1.0
OBN pmax pmax
comp=Z,53nm,0.9s
KDZE Karadeniz Ereo 147.37 279 *e*P **PKPdf 08 51 23.4 +1.2**
DALY Dalyan (Mu¨la 147.37 270 *e*P **PKPbc 08 51 23.8 -1.0**
ALT Altintas 147.37 274 *e*P **PKPbc 08 51 25.6 +0.8**
TURN Turunc 147.43 270 *i*P **PKPbc 08 51 25.4 +0.5**
BORA Eskisehir 147.48 276 *i*P **PKPab 08 51 27.5 +0.3**
KHAL Karahalli 147.50 273 *i*P **PKPbc 08 51 24.3 -0.9**
DNZL Cakiroluk 147.50 271 *i*P **PKPab 08 51 27.5 +0.1**
BJO Bjornoya 147.56 344 *e*P **PKPbc 08 51 22.9 -1.2**
GULT Gulveren 147.66 277 *e*P **PKPdf 08 51 24.0 +1.1**
YER Yerkesik 147.78 270 *e*P **PKPdf 08 51 24.5 +1.4**
KARP Karpathos 147.79 266 P **PKPdf 08 51 22.6 -0.5**
GDZ Gediz 147.82 274 *i*P **PKPab 08 51 29.7 +1.0**
CAVI Cavuskoy 148.04 276 *e*P **PKPdf 08 51 24.4 +1.0**
DAT Datca 148.08 269 *e*P **PKPdf 08 51 25.0 +1.3**
KULA Kula-Manisa 148.15 272 *e*P **PKPbc 08 51 26.6 -0.3**
KULA Kula-Manisa 148.15 272 P **PKPdf 08 51 23.0 -0.7**
ADVT Abdulvahap 148.21 276 *e*P **PKPbc 08 51 26.6 -0.3**
MLSB Milas 148.21 276 *e*P **PKPbc 08 51 27.9 +0.8**
ZKR Zakros 148.23 265 P **PKPdf 08 51 23.3 -0.5**
NIS1 Nisyros Isl. 148.30 268 P **PKPdf 08 51 24.4 +0.5**
AYDN Tasoluk 148.31 271 *i*P **PKPbc 08 51 26.5 -0.9**
DEMI Demirci 148.34 273 *i*P **PKPbc 08 51 26.5 -1.0**
HRT Hereke 148.41 277 *e*P **PKPdf 08 51 24.2 +0.2**
BODT Bodrum 148.43 269 *e*P **PKPdf 08 51 22.7 -1.4**
KEV Kevo 148.49 334 *e*PKIKP **PKPdf 08 51 24.9 +1.8**
KEV MLR MLR
comp=Z,7µm,22.0s
KEV Kevo 148.49 334 *e*PKPbc **PKPdf 08 51 24.9 +1.8**
KEV LR LR
comp=Z,7µm,22.0s
YLV Yalova 148.51 276 P **PKPdf 08 51 25.1 +0.9**
SILT Silе 148.56 278 *e*P **PKPdf 08 51 22.3 -1.8**
DAG Danmarks Havn 148.57 2 *e*PKIKP **PKPdf 08 51 23.5 +0.4**
DAG *e* 08 55 04.0
DAG pmax pmax
comp=Z,12nm,0.8s
DAG MLR MLR
comp=Z,5µm,20.0s
DAG Danmarks Havn 148.57 2 *i*P **PKPdf 08 51 23.5 +0.4**

comp=Z,16nm,0.8s
GEMT Gemlik 148.59 276 *e*P **PKPbc 08 51 26.4 -1.5**
NPS Neapolis 148.73 265 P **PKPdf 08 51 23.9 -0.7**
LAST Lasíthi 148.77 265 P **PKPdf 08 51 22.9 -1.9**
MDNY Mudanya-Bursa 148.78 276 *e*P **PKPbc 08 51 28.5 +0.1**
GCAM G?zelcaml? 148.78 270 *i* P **PKPdf 08 51 23.3 -1.3**
BUY Buyukada 148.81 277 *i* P **PKPbc 08 51 28.6 +0.2**
ARMT Armutlu 148.87 276 *e*P **PKPbc 08 51 27.2 -1.4**
AKHS Akhisar 148.90 273 *i* P **PKPdf 08 51 24.3 -0.5**
ISK Istanbul-Kandi 148.93 277 *e*P **PKPbc 08 51 27.7 -1.1**
ARCES ARCESS Array B 149.06 334 PKPbc **PKPbc 08 51 27.1 -1.2**
ARCES ARCESS Array B 149.06 334 PKPbc **PKPbc 08 51 27.1 -1.2**
comp=Z,46nm,0.9s,baz=64,slow=2.8,SNR=52
ARE0 ARCESS Array S 149.06 334 *e*P **PKPdf 08 51 22.7 -1.4**
ARE0 *e*SS SS 09 14 07.3 -3.4
ARE0 ARCESS Array S 149.06 334 *e*PKPbc **PKPbc 08 51 26.8 -1.5**
SMG Samos 149.06 270 P **PKPdf 08 51 22.7 -2.4**
KCTX Karacabey (Bur 149.10 275 *e*P **PKPbc 08 51 30.5 +1.3**
SIVA Sivas 149.16 264 P **PKPdf 08 51 21.8 -3.5**
BGKT Bogazkoy 149.17 277 *e*P **PKPbc 08 51 28.5 -0.9**
BALB Balikesir 149.18 274 *e*P **PKPbc 08 51 30.3 +0.9**
IDI Anoyia 149.25 264 P **PKPdf 08 51 25.0 -0.5**
IDI Anoyia 149.25 264 *e*PKPbc **PKPbc 08 51 29.4 -0.4**
SANT Santorini 149.40 267 P **PKPdf 08 51 24.1 -1.6**
SANT Santorini 149.40 267 *e*PKPbc **PKPbc 08 51 29.4 -0.7**
SANT LR LR
comp=Z,2μm,19.0s
ELBA Cataloa 149.40 277 *i* P **PKPdf 08 51 22.2 -3.3**
BALY Balya 149.41 274 *i* P **PKPbc 08 51 29.7 -0.4**
BNT Bandirma 149.45 275 *e*P **PKPdf 08 51 26.4 +0.8**
GONE Gonen-Balikesi 149.49 275 *e*P **PKPdf 08 51 27.2 +1.6**
URLA Izmir 149.53 271 *i* P **PKPbc 08 51 29.7 -0.7**
SLVT Silivri 149.59 277 *e*P **PKPbc 08 51 29.7 -0.7**
APE Apeiranthos 149.68 268 P **PKPdf 08 51 25.5 -0.7**
KRBG Karabiga-Canak 149.90 275 *e*P **PKPbc 08 51 28.9 -2.2**
CHOS Chios island 149.92 270 P **PKPdf 08 51 24.8 -1.7**
KARN Karanos 149.99 264 P **PKPdf 08 51 25.7 -1.0**
KTK1 Kautokeino 150.02 334 *e*P **PKPdf 08 51 28.1 +2.4**
KTK1 AMB AMB 08 51 35.4
comp=Z,794nm,1.9s
KTK1 *e*SS SS 09 14 23.8 +2.3
MFT Murefte 150.06 276 *e*P **PKPbc 08 51 32.1 +0.5**
SART Tekirdag 150.10 275 *i* P **PKPbc 08 51 30.7 -1.0**
RKY Sarkoy-Tekirda 150.10 275 *e*P **PKPbc 08 51 31.8 +0.1**
PHSR Pinarhisar 150.21 277 *e*P **PKPbc 08 51 32.6 +0.7**
LPK Lapseki 150.27 275 *e*P **PKPdf 08 51 28.9 +2.0**
PSN Preselentsi 150.46 282 *e*P **PKPbc 08 51 33.4 +1.0**
TLCR 150.47 285 ⇑PKIKP **PKPbc 08 51 32.2 -0.1**
TLCR 150.47 285 ⇑*i*P **PKPbc 08 51 32.2 -0.1**
SUMG Summit 150.49 15 *e*PKIKP **PKPdf 08 51 26.7 -0.1**
SUMG Summit 150.49 15 *i* P **PKPdf 08 51 26.0 -0.8**
comp=Z,31nm,1.1s
SUMG Summit 150.49 15 *e*PKPdf **PKPdf 08 51 26.7 -0.1**
TIRR Tirgusor 150.53 283 ⇓PKIKP **PKPbc 08 51 31.0 -1.5**
TIRR Tirgusor 150.53 283 ⇓*i*P **PKPbc 08 51 31.0 -1.5**
TIRR Tirgusor 150.53 283 *e*PKPbc **PKPbc 08 51 31.2 -1.3**
ENEZ Enez 150.83 275 *e*P **PKPbc 08 51 33.0 -0.4**
EDRB Edirne 150.84 277 *e*P **PKPbc 08 51 31.9 -1.5**
PRD Provadia 150.84 280 *e*P **PKPdf 08 51 29.6 +1.9**
TRO Tromso 150.90 337 *e*P **PKPdf 08 51 27.1 +0.2**
TRO AMB AMB 08 51 37.7
comp=Z,225nm,2.2s
TRO *e*SS SS 09 14 32.1 +1.0
TRO AMS AMS 09 58 57.4
comp=Z,4μm,20.3s
KIS Kishinev 150.91 288 *e*PKIKP **PKPbc 08 51 34.0 +0.6**
KIS Kishinev 150.91 288 *e*PPP PPP 08 58 04.0
KIS Kishinev 150.91 288 *i* PKIKP **PKPbc 08 51 34.0 +0.6**
KIS *i* 08 51 46.0
CFR Carcaliu 150.93 284 ⇑PKIKP **PKPbc 08 51 32.7 -0.7**
CFR Carcaliu 150.93 284 ⇑*i*P **PKPbc 08 51 32.7 -0.7**
SFJD Kangerlussuaq 150.98 29 PKP **PKPdf 08 51 26.3 -0.8**
SFJD *e*PKPbc **PKPbc 08 51 30.6 -2.3**
SFJD PKPbc **PKPbc 08 51 30.9 -2.0**
SFJD LR LR
comp=Z,14μm,19.0s
SFJD Kangerlussuaq 150.98 29 PKP **PKPdf 08 51 26.3 -0.8**
comp=Z,9.0nm,0.7s,baz=22,slow=5.4,SNR=3.5
SFJD PKPbc **PKPbc 08 51 30.9 -2.0**
comp=Z,23nm,1.0s,baz=219,slow=1.3,SNR=6.4
AKASG Malin Array Be 151.27 296 PKIKP **PKPdf 08 51 26.7 -1.4**
AKASG 08 51 33.0
AKASG Malin Array Be 151.27 296 PKP **PKPdf 08 51 26.7 -1.4**
AKASG PKPbc **PKPbc 08 51 33.0 -1.1**
AKASG Malin Array Be 151.27 296 PKP **PKPdf 08 51 26.7 -1.4**
comp=Z,0.2nm,0.2s,baz=52,slow=2.3,SNR=11
AKASG PKPbc **PKPbc 08 51 33.0 -1.1**
comp=Z,20nm,0.7s,baz=70,slow=2.9,SNR=40
AKBB Malin Array Si 151.27 296 *e*PKIKP **PKPbc 08 51 32.9 -1.2**
AKBB Malin Array Si 151.27 296 *e*PKPbc **PKPbc 08 51 32.9 -1.2**
AK01 Malin Array Si 151.28 296 *e*PKPbc **PKPbc 08 51 32.4 -1.7**
AK02 Malin Array Si 151.28 296 *e*PKPbc **PKPbc 08 51 32.8 -1.3**
KIEV Kiev 151.28 296 *e*PKIKP **PKPbc 08 51 33.1 -1.0**
KIEV MLR MLR
comp=Z,4μm,21.0s
KIEV Kiev 151.28 296 *e*PKPbc **PKPbc 08 51 33.1 -1.0**
KIEV LR LR
comp=Z,4μm,21.0s
VLI Velíai 151.33 265 P **PKPdf 08 51 24.4 -4.3**
DID Didima 151.50 267 P **PKPdf 08 51 26.0 -2.9**
DIDY Didyma 151.50 267 P **PKPdf 08 51 26.4 -2.6**
ERET Eretria 151.53 269 P **PKPdf 08 51 26.3 -2.7**
KDZ Kurdzhali 151.69 276 *e*P **PKPdf 08 51 30.6 +1.5**
AOS Alonnisos 151.79 270 P **PKPdf 08 51 25.5 -3.8**
MRKA Markates 151.80 269 P **PKPdf 08 51 29.8 +0.5**
KAF Kangasniemi 151.80 320 *e*PKIKP **PKPbc 08 51 36.0 +1.1**
KAF pmax pmax
comp=Z,25nm,0.8s
SZH Strazhica 151.88 280 *e*P **PKPdf 08 51 28.8 -0.5**
LTK Loutraki 151.93 268 P **PKPdf 08 51 27.6 -2.0**
ISR Istrita 152.00 284 ⇑PKIKP **PKPbc 08 51 35.7 -0.3**
ISR Istrita 152.00 284 ⇑*i*P **PKPbc 08 51 35.7 -0.3**
VLX Vlachokerasia 152.04 266 P **PKPdf 08 51 28.8 -1.1**
VRI Vrincioaia 152.06 285 ⇓PKIKP **PKPbc 08 51 35.4 -0.7**
VRI Vrincioaia 152.06 285 ⇓*i*P **PKPbc 08 51 35.4 -0.7**
FIA1 FINESS Array S 152.10 319 *e*PKPbc **PKPbc 08 51 35.2 -0.4**
FINES FINESS Array B 152.10 319 PKPbc **PKPbc 08 51 34.3 -1.3**
FINES PKPab **PKPab 08 51 44.1 -1.2**
FINES FINESS Array B 152.10 319 PKPbc **PKPbc 08 51 34.3 -1.3**
comp=Z,19nm,0.8s,baz=106,slow=4.2,SNR=35
FINES PKPab **PKPab 08 51 44.1 -1.2**
comp=Z,29nm,0.7s,baz=96,slow=5.6,SNR=16
PLOR Plostina 152.11 285 ⇑PKIKP **PKPbc 08 51 37.2 +1.0**
PLOR Plostina 152.11 285 ⇑*i*P **PKPbc 08 51 37.2 +1.0**
RZN Rozhen 152.19 276 *e*P **PKPbc 08 51 37.7 +0.9**
MICGM Minsk 152.25 304 *e*PKP **PKPdf 08 51 26.0 -3.4**
PYL PYLOS 152.26 264 P **PKPdf 08 51 28.7 -1.4**
TESR Tescani 152.26 287 ⇓*i*P **PKPbc 08 51 37.4 +0.9**
MNK Minsk 152.28 304 *e*PKIKP **PKPdf 08 51 26.0 -3.5**
MNK *e* 08 58 28.0
PLD Plovdiv 152.35 277 *e*P **PKPab 08 51 43.6 -3.4**
XOR Xorichti 152.36 270 P **PKPdf 08 51 28.1 -2.1**
MLR Muntele Rosu 152.50 284 ⇓*i*P **PKPbc 08 51 37.8 +0.6**
TAM Tamanrasset 152.50 221 PFAKE 08 51 40.0 +2.0
TAM LR LR
comp=Z,3μm,20.0s
MMB Musomiste 152.85 275 *e*P **PKPbc 08 51 36.7 -1.3**
PGB Panagyurishte 152.88 277 *e*P **PKPbc 08 51 42.3 +4.2**
VOIR 153.10 284 ⇑PKIKP **PKPbc 08 51 38.0 -0.5**
VOIR 153.10 284 ⇑*i*P **PKPbc 08 51 38.0 -0.5**
THL Klokotos Trika 153.27 270 P **PKPdf 08 51 30.5 -0.9**
ARR Arges 153.36 284 ⇑*i*P **PKPbc 08 51 35.4 -3.7**
MPEP Malo Peshtene 153.43 279 *e*P **PKPdf 08 51 30.8 -0.8**
BURAR Bucovina Array 153.44 289 ⇑PKIKP **PKPbc 08 51 38.0 -1.2**
BURAR Bucovina Array 153.44 289 ⇑*i*P **PKPbc 08 51 38.0 -1.2**
BUR08 Bucovina Ar. S 153.46 289 *e*PKPdf **PKPdf 08 51 31.6 0.0**
GRG Griva 153.55 273 P **PKPdf 08 51 29.8 -2.1**
VTS Vitosha 153.56 277 *e*P **PKPdf 08 51 29.3 -2.7**
LOT Lotru 153.97 283 ⇑*i*P **PKPbc 08 51 39.3 -1.2**
JMIC Jan Mayen 154.34 356 *e*P **PKPdf 08 51 32.7 +0.7**
JMIC *e*SS SS 09 15 11.1 +2.6
JMIC AMS AMS 09 53 21.9
comp=Z,6μm,17.2s
LVV L'vov 154.50 293 *i* PKIKP **PKPdf 08 51 33.0 +0.1**
LVV *e* 08 51 43.0
LVV *e* 08 55 38.0
LVV *e* 08 58 38.0
SCO Scoresbysund 154.63 7 *i* PKIKP **PKPdf 08 51 32.0 -0.4**
SCO *i* 08 55 34.7
SCO MLR MLR
comp=Z,7μm,16.0s
SCO Scoresbysund 154.63 7 *i* P **PKPdf 08 51 32.0 -0.4**
DRGR 154.97 286 ⇓PKIKP **PKPbc 08 51 42.3 -0.2**
DRGR 154.97 286 ⇓*i*P **PKPbc 08 51 42.3 -0.2**
KWP Kalwaria Pacla 155.34 293 ⇑PKIKP **PKPdf 08 51 30.3 -3.7**
KWP Kalwaria Pacla 155.34 293 ⇑*i*P **PKPdf 08 51 30.3 -3.7**
KWP Kalwaria Pacla 155.34 293 PFAKE 08 51 40.0 +6.0
KWP LR LR
comp=Z,5μm,22.0s
TIR Tirane 155.47 272 PFAKE 08 51 40.0 +5.5
TIR LR LR
comp=Z,6μm,21.0s
UZH Uzhgorod 155.52 290 *i* PKIKP **PKPdf 08 51 32.8 -1.5**
UZH *e* 08 55 34.4
NSS Namsos 156.28 332 *e*P **PKPdf 08 51 34.2 -0.6**
WDD Wield Dalam 156.72 255 PFAKE 08 51 50.0 +14
WDD LR LR
comp=Z,3μm,20.0s
TIP Timpagrande 156.80 265 PFAKE 08 51 50.0 +14
TIP LR LR
comp=Z,5μm,20.0s
NIE Niedzica 156.89 292 *e*PKIKP PKPdf 08 51 28.8 -7.3
CEL Celeste 156.99 262 PFAKE 08 51 50.0 +13
CEL LR LR
comp=Z,3μm,20.0s
PSZ Piszkesteto 157.04 288 ⇑PKP2 PKPab 08 52 00.2 -6.7
PSZ Piszkesteto 157.04 288 ⇑*i*P PKPab 08 52 00.2 -6.7
PSZ Piszkesteto 157.04 288 PFAKE 08 51 50.0 +14
PSZ LR LR
comp=Z,5μm,19.0s
PSZ Piszkesteto 157.04 288 *e*pg PKPab 08 51 59.7 -7.2
OJC Ojcow 157.25 294 *e*PKIKP **PKPdf 08 51 33.1 -3.4**
OJC *e* 08 52 01.7
OJC *e*SS SS 09 15 37.4 -4.5
TBLU Trondheim 157.70 331 *e*P **PKPdf 08 51 37.7 +1.1**
TBLU AMS AMS 10 01 18.6
comp=Z,6μm,20.5s
CUC Castrocucco 157.80 266 PFAKE 08 51 50.0 +12
CUC LR LR
comp=Z,4μm,19.0s
OKC Ostrava-Krasne 158.31 293 *e*PKIKP **PKPdf 08 51 39.2 +1.4**
OKC *e* 08 51 48.1
OKC *e* 08 52 13.9
OKC MLR MLR
comp=Z,5μm,17.0s
OKC Ostrava-Krasne 158.31 293 *e*PKPDF **PKPdf 08 51 39.2 +1.4**
OKC *ex* x 08 51 48.1
OKC *e*PKPAB **PKPab 08 52 13.9 +1.6**
OKC *ex* x 08 52 22.6
OKC *e*PP PP 08 55 47.5 -5.5
OKC *e*SKKS 09 02 44.2
OKC *ex* x 09 10 43.9
OKC *e*SS **SS 09 15 58.2 +5.0**
OKC AMS AMS 10 08 00.0
comp=Z,5μm,17.0s
NB2 NORSAR Subarra158.73 326 P **PKPab 08 52 13.2 -0.6**
comp=Z,48nm,1.4s,baz=58,slow=4.4
NB2 NORSAR Subarra158.73 326 P **PKPab 08 52 13.2 -0.6**
baz=58,slow=4.4
NOA NORSAR Array B158.73 326 PKP **PKPdf 08 51 37.0 -1.0**
NOA PKPab **PKPab 08 52 13.2 -0.6**
NOA NORSAR Array B158.73 326 PKP **PKPdf 08 51 37.0 -1.0**
comp=Z,0.9nm,0.8s,baz=63,slow=1.0,SNR=2.4
NOA PKPab **PKPab 08 52 13.2 -0.6**
comp=Z,3.5nm,0.9s,baz=58,slow=4.5,SNR=6.1
NC602 NORSAR Array S158.78 325 *e*P **PKPdf 08 51 38.5 +0.5**
MOL Molde 159.07 332 *e*P **PKPdf 08 51 36.3 -2.0**
MOL AMS AMS 09 57 02.5
comp=Z,5μm,23.2s
KSP Ksiaz 159.47 296 *e*PKIKP **PKPdf 08 51 40.4 +1.2**
KSP *e* 08 55 58.0
KSP *e*SS SS 09 16 02.7 -2.8
DPC Dobruska-Polom 159.48 294 *e*PKIKP **PKPdf 08 51 38.9 -0.4**
DPC *e* 08 51 47.4
DPC *e* 08 55 55.3
DPC *e*SS SS 09 16 05.0 -0.7
DPC Dobruska-Polom 159.48 294 *e*PKPDF **PKPdf 08 51 38.9 -0.4**
DPC *e*pPKP **pPKPdf 08 51 47.4 +3.2**
DPC *e*PKPAB **PKPab 08 52 20.7 +3.3**
DPC *ex* x 08 52 28.6
DPC *e*PP **PP 08 55 55.3 -4.2**
DPC *e*SKKS 09 02 51.2
DPC *ex* x 09 10 52.6
DPC *e*SS **SS 09 16 05.0 -0.7**
DPC AMS AMS 10 05 50.0
BSD Bornholm Skovb 159.57 308 ⇑*i*PKIKP **PKPdf 08 51 38.2 -0.9**
BSD *e* 08 55 53.9
BSD MLR MLR
comp=Z,4μm,20.0s
TREC Trest 160.04 291 *e*PKIKP **PKPdf 08 51 40.3 +0.4**
TREC *e* 08 51 50.0
TREC *e* 08 55 57.9
TREC MLR MLR
comp=Z,5μm,16.2s
TREC Trest 160.04 291 *e*PKPDF **PKPdf 08 51 40.3 +0.4**
TREC *ex* x 08 51 50.0
TREC *ex* x 08 52 27.3
TREC *e*PP **PP 08 55 57.9 -4.6**
TREC *e*SKKS 09 02 53.3
TREC AMS AMS 10 10 00.0
comp=Z,5μm,16.2s
KEST Kesra 160.11 249 PKPab **PKPab 08 52 21.3 +0.7**
KEST Kesra 160.11 249 PKPab **PKPab 08 52 21.3 +0.7**
comp=Z,11nm,1.2s,baz=109,slow=1.4,SNR=7.5
KONO Kongsberg 160.20 324 *e*P **PKPdf 08 51 38.5 -1.2**
KONO *e*SS SS 09 16 11.7 -0.3
KONO AMS AMS 09 59 51.9
comp=Z,5μm,20.5s
KONO Kongsberg 160.20 324 PFAKE 08 51 50.0 +10
KONO LR LR
comp=Z,6μm,20.0s
BORG Borgarnes 160.26 10 PFAKE 08 51 50.0 +10
BORG LR LR
comp=Z,5μm,21.0s
AQU L'Aquila 160.36 270 PFAKE 08 51 50.0 +9.5
AQU LR LR
comp=Z,7μm,20.0s
HYA Hoyanger 160.52 331 *e*P **PKPdf 08 51 40.8 +0.9**
PVCC Panska Ves 160.59 295 *e*PKIKP **PKPdf 08 51 40.3 -0.1**
PVCC *e* 08 55 59.7
PVCC MLR MLR
comp=Z,6μm,15.5s
PVCC Panska Ves 160.59 295 *e*PKPDF **PKPdf 08 51 40.3 -0.1**
PVCC *e*PKPAB **PKPab 08 52 26.1 +3.9**
PVCC *ex* x 08 52 33.9
PVCC *e*PP PP 08 55 59.7 -5.7
PVCC *e*SKKS 09 02 52.8
PVCC AMS AMS 10 07 50.0
comp=Z,6μm,15.5s
PRU Pruhonice 160.64 293 *e*PKIKP **PKPdf 08 51 40.5 0.0**
PRU *e* 08 51 47.8
PRU *e* 08 56 04.0
PRU *e*SS SS 09 16 17.6 -0.2
PRU MLR MLR
comp=Z,3μm,16.6s
PRU Pruhonice 160.64 293 *e*PKPDF **PKPdf 08 51 40.5 0.0**
PRU *e*pPKP **pPKPdf 08 51 47.8 +2.4**
PRU *e*PKPAB **PKPab 08 52 25.8 +3.4**
PRU *ex* x 08 52 34.1
PRU *e*PP **PP 08 56 04.0 -1.7**
PRU *e*SKKS 09 02 51.8
PRU *ex* x 09 11 00.1
PRU *e*SS **SS 09 16 17.6 -0.2**
PRU AMS AMS 10 05 30.0
comp=Z,3μm,16.6s
PRA Prague 160.70 294 PKPDF **PKPdf 08 51 41.0 +0.5**
PRA PKPAB **PKPab 08 52 26.0 +3.3**
PRA AMS AMS 10 06 00.0
COP Copenhagen 160.73 311 *i* PKIKP PKPdf 08 51 32.8 -7.5
COP MLR MLR
comp=Z,2μm,18.0s
BRG Berggiesshubel 160.96 296 *e*PKIKP **PKPdf 08 51 39.6 -1.2**
BRG *e* 08 52 24.1
BRG 08 56 05.0
BRG SS SS 09 16 20.0 -1.1
BRG pmax pmax
comp=Z,66nm,2.3s
BRG pmax pmax
comp=Z,23nm,1.4s
SUE Sulen 161.08 332 *e*P **PKPdf 08 51 38.3 -2.2**
SUE AMS AMS 09 57 24.7
comp=Z,5μm,19.3s
GEC2 GERESS Array S 161.21 290 *e*PKPdf **PKPdf 08 51 42.8 +1.5**
GEC2 GERESS Array S 161.21 290 *e*PKIKP **PKPdf 08 51 42.8 +1.5**
GERES GERESS Array B 161.21 290 PKP **PKPdf 08 51 41.3 0.0**
GERES PKPab **PKPab 08 52 24.4 -0.7**
GERES GERESS Array B 161.21 290 PKP **PKPdf 08 51 41.3 0.0**
comp=Z,0.5nm,0.2s,baz=48,slow=2.0,SNR=3.6
GERES PKPab **PKPab 08 52 24.4 -0.7**
comp=Z,3.1nm,0.9s,baz=92,slow=4.0,SNR=7.8
KHC Kasperske Hory 161.29 291 *e*PKIKP **PKPdf 08 51 40.4 -0.9**
KHC *e* 08 51 48.6
KHC *e* 08 52 24.9
KHC *e*SS SS 09 16 21.8 -3.0
KHC MLR MLR
comp=Z,4μm,17.2s
KHC Kasperske Hory 161.29 291 *e*PKPDF **PKPdf 08 51 40.4 -0.9**
KHC *e*pPKP **pPKPdf 08 51 48.6 +2.4**
KHC *e*PKPAB **PKPab 08 52 24.9 -0.4**
KHC *ex* x 08 52 36.0
KHC *e*PP PP 08 56 02.3 -7.0
KHC *e*SKKS 09 02 55.8
KHC *ex* x 09 05 30.3
KHC *ex* x 09 07 06.6
KHC *e*SS **SS 09 16 21.8 -3.0**
KHC AMS AMS 10 08 50.0
comp=Z,4μm,17.2s
FBE Freiberg 161.32 297 *e*PKPdf **PKPdf 08 51 43.5 +2.3**
BER Bergen 161.37 330 *e*P **PKPdf 08 51 40.0 -0.9**
BER *e*PP **PP 08 56 07.2 -1.5**
BER AMS AMS 09 57 42.0
comp=Z,5μm,20.3s
CLL Collm 161.50 298 *e*PKPdf **PKPdf 08 51 43.1 +1.8**
CLL Collm 161.50 298 *e*PKIKP **PKPdf 08 51 41.0 -0.3**
CLL *e* 08 51 52.0
CLL pmax pmax
comp=Z,83nm,2.3s
WET Wettzell 161.75 291 *e*PKPdf **PKPdf 08 51 43.5 +1.7**
WET Wettzell 161.75 291 *e*PKIKP **PKPdf 08 51 43.5 +1.7**
RJOB Jochberg 161.79 286 *e*PKPdf **PKPdf 08 51 43.2 +1.3**
TANN Tannenbergstha 161.94 295 *e*PKPdf **PKPdf 08 51 43.7 +1.8**
NKC Novy Kostel 161.97 295 *e*PKIKP **PKPdf 08 51 40.4 -1.5**
NKC MLR MLR
comp=Z,3μm,15.5s
NKC Novy Kostel 161.97 295 *e*PKPDF **PKPdf 08 51 40.4 -1.5**
NKC *ex* x 08 52 39.9
NKC *e*SKKS 09 03 02.8
NKC *ex* x 09 07 13.5
NKC *ex* x 09 11 06.0
NKC AMS AMS 10 08 40.0
comp=Z,3μm,15.5s
WERN Wernitzgruen 162.01 295 *e*PKPdf **PKPdf 08 51 44.0 +2.0**
GUNZ Gunzen 162.03 295 *e*PKPdf **PKPdf 08 51 43.9 +1.9**
WERD Werda 162.04 295 *e*PKPdf **PKPdf 08 51 43.3 +1.3**
VSL Villasalto 162.07 258 PFAKE 08 51 50.0 +7.6
VSL LR LR
comp=Z,3μm,20.0s
MUD Monsted U'grnd 162.07 316 *i* PKIKP **PKPdf 08 51 40.5 -1.2**
MUD MLR MLR
comp=Z,4μm,16.0s
PLN Plauen 162.13 295 *e*PKPdf **PKPdf 08 51 44.2 +2.1**
ROTZ Rotzenmuhle 162.16 293 *e*PKPdf **PKPdf 08 51 43.9 +1.8**
MANZ Manzenberg 162.21 294 *e*PKPdf **PKPdf 08 51 43.9 +1.7**
NEUB Neuenburg 162.27 298 *e*PKPdf **PKPdf 08 51 43.7 +1.6**
MOX Moxa 162.45 296 *e*PKPdf **PKPdf 08 51 44.0 +1.6**
MOX *e*L L 10 04 30.4
comp=Z,4μm,20.5s
MOX Moxa 162.45 296 *e*PKIKP **PKPdf 08 51 44.0 +1.6**
BSEG Bad Segeberg 162.48 307 *e*PKPdf **PKPdf 08 51 44.2 +2.0**
BSEG Bad Segeberg 162.48 307 *e*PKIKP **PKPdf 08 51 44.2 +2.0**
WTTA Wattenberg 162.55 285 ⇓*i*PKPdf **PKPdf 08 51 41.5 -1.4**
comp=Z,37nm,1.6s
GRF Grafenberg Arr 162.80 293 *e*L L 10 03 30.6
comp=Z,7μm,19.9s
VLC Villacollemand 162.97 274 PFAKE 08 51 50.0 +6.9
VLC LR LR
comp=Z,5μm,22.0s
NRDL Niedersach Rie 163.02 303 *e*PKPdf **PKPdf 08 51 44.6 +1.9**
UBBA Unterbreizbach 163.44 297 *e*PKPdf **PKPdf 08 51 44.6 +1.4**
TUE Stuetta 164.06 282 PFAKE 08 51 50.0 +5.7
TUE LR LR
comp=Z,9μm,19.0s
IBBN Ibbenburen 164.46 304 *e*PKPdf **PKPdf 08 51 45.7 +1.5**
BFO Black Forest 164.79 288 *e*PKPdf **PKPdf 08 51 45.5 +0.8**
BFO Black Forest 164.79 288 *e*PKIKP **PKPdf 08 51 45.5 +0.8**
BFO Black Forest 164.79 288 PFAKE 08 51 50.0 +5.3
BFO LR LR
comp=Z,3μm,20.0s
BUG Bochum--Univer 164.99 301 *e*PKPdf **PKPdf 08 51 46.6 +2.0**
ECH Echery 165.57 288 PFAKE 08 52 00.0 +15
ECH LR LR
comp=Z,6μm,20.0s
BNI Bardonecchia 165.74 275 *e*PKIKP **PKPdf 08 51 45.4 -0.3**
BNI MLR MLR
comp=Z,5μm,21.0s
BNI Bardonecchia 165.74 275 *e*PKPdf **PKPdf 08 51 45.4 -0.3**
BNI LR LR
comp=Z,5μm,21.0s
WLF Walferdange 166.07 294 PFAKE 08 52 00.0 +14
WLF LR LR
comp=Z,6μm,20.0s
SSB Saint Sauveur 167.27 275 PFAKE 08 52 00.0 +13
SSB LR LR
comp=Z,5μm,20.0s
RTC Rabat Centre 167.38 206 PFAKE 08 52 00.0 +13
RTC LR LR
comp=Z,4μm,19.0s
CMLA Cha da Macela 168.17 127 PFAKE 08 52 00.0 +12
CMLA LR LR
comp=Z,3μm,20.0s
ESK Eskdalemuir 168.19 330 PFAKE 08 52 00.0 +13
ESK LR LR
comp=Z,5μm,20.0s
PBDV Barranco-do-Ve 170.71 209 *e*PKPdf **PKPdf 08 51 51.6 +2.4**
PBDV Barranco-do-Ve 170.71 209 *e*PKPab **PKPab 08 53 06.5 -0.5**
PVAQ Vaqueiros 170.78 210 *e*P **PKPdf 08 51 48.9 -0.3**
PVAQ Vaqueiros 170.78 210 *e*S SS 09 18 10.9 +11
PVAQ Vaqueiros 170.78 210 *e*PKPdf **PKPdf 08 51 51.5 +2.3**
PVAQ Vaqueiros 170.78 210 *e*S SS 09 18 12.3 +13
PVAQ Vaqueiros 170.78 210 *e*LQ LQ 09 51 58.6
PVAQ *e*LR LR 09 53 59.3
comp=Z,4μm,20.0s
ESDC Sonseca Array 170.82 234 PKP **PKPdf 08 51 48.8 -0.5**
ESDC PKPab **PKPab 08 53 07.8 +0.2**
ESDC Sonseca Array 170.82 234 PKP **PKPdf 08 51 48.8 -0.5**
comp=Z,0.4nm,0.3s,baz=335,slow=4.9,SNR=7.6
ESDC PKPab **PKPab 08 53 07.8 +0.2**
comp=Z,1.1nm,0.3s,baz=132,slow=4.2,SNR=18
PAB San Pablo 170.95 232 PFAKE 08 52 00.0 +11
PAB LR LR
comp=Z,4μm,20.0s
MORF Marmelete 171.00 206 *e*PKPdf **PKPdf 08 51 47.9 -1.5**
MORF Marmelete 171.00 206 *e*PKPab **PKPab 08 53 08.2 -0.1**
MORF Marmelete 171.00 206 *e*PKIKP **PKPdf 08 51 49.0 -0.4**
MORF *e*SS SS 09 18 04.4 +2.6
PCVE Castro Verde 171.10 210 *e*PKPdf **PKPdf 08 51 49.9 +0.6**
PCVE Castro Verde 171.10 210 *e*PKPab **PKPab 08 53 10.2 +1.5**
PBAR Barrancos 171.19 216 *e*PKPdf **PKPdf 08 51 50.3 +0.9**
PNCL Nicolau / Gran 171.70 209 *e*PKPdf **PKPdf 08 51 51.5 +1.9**
PESTR Estremoz 172.01 216 *e*PKPdf **PKPdf 08 51 51.2 +1.4**
PMRV Marv??o 172.39 219 *e*P **PKPdf 08 51 51.8 +1.9**
PMRV Marv??o 172.39 219 *e*S **SS 09 18 22.6 +6.7**
PMRV Marv??o 172.39 219 *e*PKPdf **PKPdf 08 51 50.8 +0.9**
PMRV Marv??o 172.39 219 *e*S **SS 09 18 15.9 0.0**
PMTG Montargil 172.44 213 *e*PKPdf **PKPdf 08 51 51.4 +1.5**
LIS Lisbon 172.45 207 *e*P **PKPdf 08 51 49.6 -0.3**
LIS AMS AMS 10 09 52.8
comp=Z,5μm,20.2s
LIS Lisbon 172.45 207 *e*PKIKP **PKPdf 08 51 49.6 -0.3**
MTE Manteigas 173.24 223 *e*P **PKPdf 08 51 52.4 +2.1**
MTE Manteigas 173.24 223 *e*S SS 09 18 41.1 +17
MTE Manteigas 173.24 223 *e*LQ LQ 09 51 49.1
MTE *e*LR LR 09 53 21.3
comp=Z,5μm,18.0s
MTE Manteigas 173.24 223 PFAKE 08 52 00.0 +10
MTE LR LR
comp=Z,6μm,20.0s
PCAS Casmilo, Conde 173.39 216 *e*pPKPdf **PKPdf 08 51 52.2 +1.9**
PCAS Casmilo, Conde 173.39 216 *e*PKPab **PKPab 08 53 22.4 +3.6**
MVO Moncorvo 173.55 230 *e*P **PKPdf 08 51 48.4 -2.0**
MVO Moncorvo 173.55 230 *e*S SS 09 18 37.0 +9.3
MVO Moncorvo 173.55 230 *e*PKPdf **PKPdf 08 51 51.3 +0.9**
MVO Moncorvo 173.55 230 *e*LQ LQ 09 51 25.2
MVO *e*LR LR 09 54 27.5
comp=Z,4μm,20.0s
PBRG Braganca 173.81 236 *e*PKPdf **PKPdf 08 51 51.0 +0.5**
PBRG Braganca 173.81 236 *e*PKPab **PKPab 08 53 22.0 +1.2**

PGAV	**Gavieira, Arco**	**174.77**	**229**	*eP*	**PKPdf**	**08 51 54.8**	**+4.0**
PGAV	**Gavieira, Arco**	**174.77**	**229**	*eS*	SS	09 18 50.0	+10
PGAV	**Gavieira, Arco**	**174.77**	**229**	*eLQ*	LQ	09 50 45.1	
PGAV				*eLR*	LR	09 53 10.7	
	comp=Z,4μm,18.0s						

ISCJB ***05*** *08:39:07.6±0.5, 41°.10N±0°.02×19°.49E±0°.03, h1km±3km, Error ellipse: s-maj=4.2km s-min=2.3km az=155.0*
TIR ***05*** *08:39:07.5±1.0, 41°.11N×20°.15E, h6km±999km, ML3.3*
THE ***05*** *08:39:08.7, 41°.11N×19°.52E, h5km±1km, ML2.9/5, Error ellipse: s-maj=1.1km s-min=0.6km az=67.0*
ATH ***05*** *08:39:08.0, 41°.26N×19°.42E, h34km±18km, MD3.5/7*
CSEM ***05*** *08:39:08.3±0.1, 41°.10N×19°.52E, h2km, ML3.1, Error ellipse: s-maj=3.6km s-min=1.9km az=66.0*
PDG ***05*** *08:39:09.3±0.3, 41°.14N×19°.53E, h12km, MD3.2/1, ML3.1/9, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
BEO ***05*** *08:39:10.2±0.9, 41°.12N×19°.64E, h10km±2km, ML3.1/9*
ISC 05 08:39:08.7±1.0, 41°.11N±0°.02×19°.50E±0°.02, h11km±8km, n128, σ1°08/197, 15C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**49**	*ePG*	**Pg**	**08 39 15.5**	**-0.4**
TIR				*i* SG	**Sg**	**08 39 21.0**	**+0.3**
TIR	**Tirane**	**0.36**	**49**	P	**Pg**	**08 39 15.4**	**-0.4**
TIR				S	**Sg**	**08 39 20.3**	**-0.4**
TIR	**Tirane**	**0.36**	**49**	⇑*iPg*	**Pg**	**08 39 15.7**	**-0.2**
TIR				*i* Sg	**Sg**	**08 39 20.8**	**+0.1**
TIR	**Tirane**	**0.36**	**49**	⇑*iPg*	**Pg**	**08 39 15.7**	**-0.2**
TIR				*i* Sg	**Sg**	**08 39 20.8**	**+0.1**
ULC	**Ulcinj**	**0.87**	**347**	⇓*iPg*	**Pg**	**08 39 25.3**	**-0.3**
ULC				*eSg*	**Sn**	**08 39 38.8**	**-1.0**
ULC	**Ulcinj**	**0.87**	**347**	⇓*iPg*	**Pg**	**08 39 25.3**	**-0.3**
ULC				*eSg*	**Sn**	**08 39 38.8**	**-1.0**
PUK	**Puka**	**0.98**	**17**	*ePG*	**Pg**	**08 39 26.9**	**-0.6**
PUK				*i* SG	**Sn**	**08 39 41.9**	**-0.5**
PUK	**Puka**	**0.98**	**17**	*ePg*	**Pg**	**08 39 26.9**	**-0.6**
	SNR=9.0						
PUK				*i* Sg	**Sn**	**08 39 41.9**	**-0.5**
	SNR=9.0						
KBN	**Korca**	**1.09**	**116**	P	**Pg**	**08 39 28.9**	**-0.7**
KBN				S	**Sn**	**08 39 44.4**	**-0.7**
KBN	**Korca**	**1.09**	**116**	P	**Pg**	**08 39 28.9**	**-0.7**
KBN				S	**Sn**	**08 39 44.4**	**-0.7**
DRME	**Dracevica, Mon**	**1.10**	**348**	⇓*iPg*	**Pg**	**08 39 29.8**	**-0.1**
DRME				*eSg*	**Sn**	**08 39 46.7**	**+1.4**
DRME	**Dracevica, Mon**	**1.10**	**348**	⇓*iPg*	**Pg**	**08 39 29.8**	**-0.1**
DRME				*eSg*	**Sn**	**08 39 46.7**	**+1.4**
BUM	**Brajici-Budva**	**1.27**	**339**	⇓*iPg*	**Pn**	**08 39 32.6**	**+0.1**
BUM				*eSg*	**Sn**	**08 39 52.3**	**+2.6**
BUM	**Brajici-Budva**	**1.27**	**339**	⇓*iPg*	**Pn**	**08 39 32.6**	**+0.1**
BUM				*eSg*	**Sn**	**08 39 52.3**	**+2.6**
SRN	**Sarande**	**1.29**	**163**	P	**Pb**	**08 39 32.9**	**0.0**
SRN				S	**Sg**	**08 39 50.2**	**+0.1**
SRN	**Sarande**	**1.29**	**163**	P	**Pb**	**08 39 32.9**	**0.0**
SRN				S	**Sg**	**08 39 50.2**	**+0.1**
BCI	**Bajram Curri**	**1.32**	**18**	*ePG*	**Pg**	**08 39 33.8**	**-0.3**
BCI				*i* SG	**Sg**	**08 39 52.5**	**+1.2**
BCI	**Bajram Curri**	**1.32**	**18**	*ePg*	**Pg**	**08 39 33.8**	**-0.3**
	SNR=9.0						
BCI				*i* Sg	**Sg**	**08 39 52.5**	**+1.2**
	SNR=9.0						
PDG	**Podgorica**	**1.33**	**352**	P	**Pn**	**08 39 32.9**	**-0.3**
PDG				S	**Sg**	**08 39 51.9**	**+0.4**
PDG	**Podgorica**	**1.33**	**352**	*ePg*	**Pb**	**08 39 33.8**	**+0.1**
PDG				*i* Sg	**Sg**	**08 39 52.9**	**+1.4**
PDG	**Podgorica**	**1.33**	**352**	P	**Pn**	**08 39 32.9**	**-0.3**
PDG	**Podgorica**	**1.33**	**352**	*ePg*	**Pb**	**08 39 33.8**	**+0.1**
PDG				S	**Sg**	**08 39 51.9**	**+0.4**
PDG				*i* Sg	**Sg**	**08 39 52.9**	**+1.4**
TTG	**Podgorica**	**1.33**	**352**	⇑*iPg*	**Pb**	**08 39 33.4**	**-0.3**
TTG				*eSg*	**Sg**	**08 39 53.5**	**+2.0**
NEST	**Nestorio**	**1.36**	**120**	P	**Pg**	**08 39 34.8**	**-0.1**
NEST	**Nestorio**	**1.36**	**120**	P	**Pg**	**08 39 34.8**	**-0.1**
BIA	**Bitola**	**1.38**	**93**	P	**Pn**	**08 39 33.1**	**-0.9**
BIA				S	**Sg**	**08 39 53.0**	**-0.1**
BIA	**Bitola**	**1.38**	**93**	*ePn*	Pn	08 39 30.1	-3.9
BIA	**Bitola**	**1.38**	**93**	*ePn*	Pn	08 39 30.1	-3.9
BIA	**Bitola**	**1.38**	**93**	P	**Pn**	**08 39 33.1**	**-0.9**
BIA				S	**Sg**	**08 39 53.0**	**-0.1**
KEK	**Kerkira**	**1.42**	**171**	P	**Pn**	**08 39 34.3**	**-0.1**
KEK				S	**Sg**	**08 39 54.2**	**0.0**
KEK	**Kerkira**	**1.42**	**171**	*ePB*	**Pb**	**08 39 35.0**	**-0.1**
KEK				*eSN*	**Sg**	**08 39 56.0**	**+1.8**
KEK	**Kerkira**	**1.42**	**171**	P	**Pn**	**08 39 34.3**	**-0.1**
KEK	**Kerkira**	**1.42**	**171**	*ePb*	**Pb**	**08 39 35.0**	**-0.1**
KEK				S	**Sg**	**08 39 54.2**	**0.0**
KEK				*eSn*	**Sg**	**08 39 56.0**	**+1.8**
FNA	**Florina**	**1.46**	**102**	P	**Pn**	**08 39 34.3**	**-0.7**
FNA				S	**Sg**	**08 39 54.6**	**-0.9**
FNA	**Florina**	**1.46**	**102**	*ePB*	**Pb**	**08 39 35.2**	**-0.7**
FNA	**Florina**	**1.46**	**102**	P	**Pn**	**08 39 34.3**	**-0.7**
FNA	**Florina**	**1.46**	**102**	*ePn*	**Pb**	**08 39 35.2**	**-0.7**
FNA				S	**Sg**	**08 39 54.6**	**-0.9**
PVY	**Plav**	**1.52**	**13**	⇑*iPg*	**Pb**	**08 39 36.9**	**-0.1**
PVY				*eSg*	**Sg**	**08 39 58.9**	**+1.3**
PVY	**Plav**	**1.52**	**13**	⇑*iPg*	**Pb**	**08 39 36.9**	**-0.1**
PVY				*eSg*	**Sg**	**08 39 58.9**	**+1.3**
HCY	**Herceg Novi**	**1.53**	**331**	⇑*iPg*	**Pn**	**08 39 36.4**	**+0.3**
HCY				*eSg*	**Sg**	**08 39 59.4**	**+1.4**
HCY	**Herceg Novi**	**1.53**	**331**	⇑*iPg*	**Pn**	**08 39 36.4**	**+0.3**
HCY				*eSg*	**Sg**	**08 39 59.4**	**+1.4**
SKO	**Skopje**	**1.69**	**59**	P	**Pb**	**08 39 38.8**	**-1.0**
SKO				S	**Sg**	**08 40 02.4**	**-0.6**
SKO	**Skopje**	**1.69**	**59**	*i* Pn	**Pb**	**08 39 39.4**	**-0.5**
SKO	**Skopje**	**1.69**	**59**	*ePg*	**Pb**	**08 39 39.1**	**-0.7**
SKO				*i* Sg	**Sb**	**08 40 01.2**	**+0.1**
SKO	**Skopje**	**1.69**	**59**	P	**Pb**	**08 39 38.8**	**-1.0**
SKO	**Skopje**	**1.69**	**59**	*ePg*	**Pb**	**08 39 39.1**	**-0.7**
SKO	**Skopje**	**1.69**	**59**	*i Pn*	**Pb**	**08 39 39.3**	**-0.5**
SKO				*i* Sg	**Sb**	**08 40 01.2**	**+0.1**
SKO				S	**Sg**	**08 40 02.4**	**-0.6**
NKME	**Niksic**	**1.71**	**346**	⇑*iPn*	**Pn**	**08 39 39.2**	**+0.7**
NKME				*eSn*	**Sg**	**08 40 03.8**	**+0.3**
NKME	**Niksic**	**1.71**	**346**	⇑*iPn*	**Pn**	**08 39 39.2**	**+0.7**
NKME				*eSn*	**Sg**	**08 40 03.8**	**+0.3**
NKY	**Niksic**	**1.74**	**348**	⇑*iPn*	**Pb**	**08 39 40.3**	**-0.5**
NKY				*eSn*	**Sg**	**08 40 04.7**	**0.0**
NKY	**Niksic**	**1.74**	**348**	⇑*iPn*	**Pb**	**08 39 40.3**	**-0.5**
NKY				*eSn*	**Sg**	**08 40 04.7**	**0.0**
JAN	**Janina**	**1.78**	**144**	*ePB*	**Pb**	**08 39 41.2**	**-0.2**
JAN	**Janina**	**1.78**	**144**	*ePb*	**Pb**	**08 39 41.2**	**-0.2**
BEY	**Berane**	**1.78**	**9**	*ePn*	**Pb**	**08 39 40.9**	**-0.6**
BEY				*eSn*	**Sg**	**08 40 05.4**	**-0.6**
IVA	**Berane**	**1.78**	**9**	*ePn*	**Pb**	**08 39 40.9**	**-0.6**
IVA				*eSn*	**Sg**	**08 40 05.4**	**-0.6**
KZN	**Kozani**	**1.90**	**114**	*ePN*	**Pb**	**08 39 42.2**	**-1.3**
KZN	**Kozani**	**1.90**	**114**	*ePb*	**Pb**	**08 39 42.2**	**-1.3**
BRY	**Bratogost**	**1.93**	**338**	*ePn*	**Pb**	**08 39 43.2**	**-0.8**
BRY				*eSn*	**Sb**	**08 40 09.4**	**+1.3**
BRY	**Bratogost**	**1.93**	**338**	*ePn*	**Pb**	**08 39 43.2**	**-0.8**
BRY				*eSn*	**Sb**	**08 40 09.4**	**+1.3**
UPM	**Unac-Piva**	**2.14**	**348**	⇑*iPn*	**Pn**	**08 39 45.8**	**+1.3**
UPM				*eSn*	**Sb**	**08 40 14.4**	**+0.2**
UPM	**Unac-Piva**	**2.14**	**348**	⇑*iPn*	**Pn**	**08 39 45.8**	**+1.3**
UPM				*eSn*	**Sb**	**08 40 14.4**	**+0.2**
SJES	**Sjenica**	**2.18**	**9**	*ePn*	**Pn**	**08 39 45.6**	**+0.6**
SJES				*eSn*	**Sn**	**08 40 13.4**	**+1.4**
SJES	**Sjenica**	**2.18**	**9**	*ePn*	**Pn**	**08 39 45.6**	**+0.6**
SJES				*eSn*	**Sn**	**08 40 13.4**	**+1.4**
GRG	**Griva**	**2.20**	**93**	P	**Pn**	**08 39 45.2**	**0.0**
GRG				S	**Sn**	**08 40 13.6**	**+1.2**
GRG	**Griva**	**2.20**	**93**	*ePN*	**Pn**	**08 39 45.4**	**+0.2**
GRG	**Griva**	**2.20**	**93**	*ePn*	**Pn**	**08 39 45.4**	**+0.2**
GRG				S	**Sn**	**08 40 13.6**	**+1.2**
STON	**Ston**	**2.21**	**323**	*i Pn*	**Pn**	**08 39 44.9**	**-0.5**
STON				Sn	**Sn**	**08 40 11.7**	**-1.0**
STON	**Ston**	**2.21**	**323**	*i Pn*	**Pn**	**08 39 44.9**	**-0.5**
STON				Sn	**Sn**	**08 40 11.7**	**-1.0**
VAY	**Valandovo**	**2.32**	**84**	P	**Pn**	**08 39 46.3**	**-0.6**
VAY	**Valandovo**	**2.32**	**84**	*ePn*	**Pn**	**08 39 46.4**	**-0.5**
VAY	**Valandovo**	**2.32**	**84**	*ePn*	**Pn**	**08 39 46.4**	**-0.5**
THL	**Klokotos Trika**	**2.46**	**128**	*ePN*	**Pn**	**08 39 49.9**	**+1.1**
THL				*eSN*	**Sn**	**08 40 20.2**	**+1.3**
THL	**Klokotos Trika**	**2.46**	**128**	*ePn*	**Pn**	**08 39 49.9**	**+1.1**
THL				*eSn*	**Sn**	**08 40 20.2**	**+1.3**
LKD2	**Lefkada island**	**2.48**	**159**	P	**Pn**	**08 39 49.4**	**+0.3**
LKD2	**Lefkada island**	**2.48**	**159**	*ePN*	**Pn**	**08 39 50.4**	**+1.3**
LKD2	**Lefkada island**	**2.48**	**159**	P	**Pn**	**08 39 49.4**	**+0.3**
LKD2	**Lefkada island**	**2.48**	**159**	*ePn*	**Pn**	**08 39 50.4**	**+1.3**
KNT	**Kendrikon**	**2.56**	**88**	P	**Pn**	**08 39 50.2**	**0.0**
KNT	**Kendrikon**	**2.56**	**88**	P	**Pn**	**08 39 50.2**	**0.0**
BBLS	**Lazići**	**2.75**	**359**	*eSn*	**Sn**	**08 40 27.9**	**+1.7**
BBLS	**Lazići**	**2.75**	**359**	*eSn*	**Sn**	**08 40 27.9**	**+1.7**
HORT	**Hortiatis**	**2.78**	**99**	P	**Pn**	**08 39 53.5**	**+0.3**
HORT	**Hortiatis**	**2.78**	**99**	P	**Pn**	**08 39 53.5**	**+0.3**
EVR	**Evrytania**	**2.82**	**140**	*ePN*	**Pn**	**08 39 55.1**	**+1.3**
EVR	**Evrytania**	**2.82**	**140**	*ePn*	**Pn**	**08 39 55.1**	**+1.3**
TIP	**Timpagrande**	**2.85**	**228**	P	**Pn**	**08 39 54.5**	**+0.2**
TIP	**Timpagrande**	**2.85**	**228**	P	**Pn**	**08 39 54.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.91**	**135**	P	**Pn**	**08 39 55.4**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.91**	**135**	P	**Pn**	**08 39 55.4**	**+0.4**
GRUS	**Gruza**	**2.92**	**17**	*ePn*	**Pn**	**08 39 55.2**	**+0.1**
GRUS				*eSn*	**Sn**	**08 40 30.4**	**+0.3**
GRUS	**Gruza**	**2.92**	**17**	*ePn*	**Pn**	**08 39 55.2**	**+0.1**
GRUS				*eSn*	**Sn**	**08 40 30.4**	**+0.3**
DIVS	**Divibare**	**3.01**	**7**	*ePn*	**Pn**	**08 39 58.6**	**+2.2**
DIVS				*eSn*	**Sn**	**08 40 31.9**	**-0.6**
DIVS	**Divibare**	**3.01**	**7**	*ePn*	**Pn**	**08 39 58.6**	**+2.2**
DIVS				*eSn*	**Sn**	**08 40 31.9**	**-0.6**
AGG	**Agios Georgios**	**3.01**	**133**	*ePN*	**Pn**	**08 39 58.1**	**+1.7**
AGG	**Agios Georgios**	**3.01**	**133**	*ePn*	**Pn**	**08 39 58.1**	**+1.7**
VLS	**Valsamata**	**3.05**	**164**	P	**Pn**	**08 39 56.4**	**-0.5**
VLS	**Valsamata**	**3.05**	**164**	*ePN*	**Pn**	**08 39 58.2**	**+1.3**
VLS	**Valsamata**	**3.05**	**164**	P	**Pn**	**08 39 56.4**	**-0.5**
VLS	**Valsamata**	**3.05**	**164**	*ePn*	**Pn**	**08 39 58.2**	**+1.3**
PLG	**Polygyros**	**3.08**	**103**	*ePN*	**Pn**	**08 39 57.8**	**+0.4**
PLG	**Polygyros**	**3.08**	**103**	*ePn*	**Pn**	**08 39 57.8**	**+0.4**
ZAPS	**Zavoj**	**3.17**	**46**	*ePn*	**Pn**	**08 40 00.2**	**+1.6**
ZAPS	**Zavoj**	**3.17**	**46**	*ePn*	**Pn**	**08 40 00.2**	**+1.6**
XOR	**Xorichti**	**3.32**	**120**	P	**Pn**	**08 40 01.1**	**+0.5**
XOR	**Xorichti**	**3.32**	**120**	P	**Pn**	**08 40 01.1**	**+0.5**
LAKA	**Lakka**	**3.44**	**146**	*ePN*	**Pn**	**08 40 03.5**	**+1.2**
LAKA	**Lakka**	**3.44**	**146**	*ePn*	**Pn**	**08 40 03.5**	**+1.2**
OUR	**Ouranopolis**	**3.49**	**101**	P	**Pn**	**08 40 03.6**	**+0.7**
OUR	**Ouranopolis**	**3.49**	**101**	P	**Pn**	**08 40 03.6**	**+0.7**
UDBI	**Udbina**	**4.38**	**322**	*ePn*	**Pn**	**08 40 16.5**	**+1.2**
UDBI				Sn	**Sn**	**08 41 05.1**	**-1.3**
UDBI	**Udbina**	**4.38**	**322**	*ePn*	**Pn**	**08 40 16.5**	**+1.2**
UDBI				Sn	**Sn**	**08 41 05.1**	**-1.3**
BZS	**Buzias**	**4.76**	**18**	⇑*iP*	**Pn**	**08 40 20.0**	**-0.4**
NVLJ	**Novalja**	**4.85**	**317**	*ePn*	**Pn**	**08 40 20.9**	**-0.6**
NVLJ				Sn	**Sn**	**08 41 13.6**	**-4.1**
NVLJ	**Novalja**	**4.85**	**317**	*ePn*	**Pn**	**08 40 20.9**	**-0.6**
BOJS	**Bojanci**	**5.38**	**326**	*i Pn*	**Pn**	**08 40 28.7**	**-0.1**
BOJS				*i* Sn	**Sn**	**08 41 27.7**	**-3.0**
BOJS	**Bojanci**	**5.38**	**326**	*i Pn*	**Pn**	**08 40 28.7**	**-0.1**
VISS	**Visnje**	**5.79**	**326**	*i Pn*	**Pn**	**08 40 36.5**	**+2.0**
VISS				*i* Sn	**Sn**	**08 41 40.2**	**-0.7**
VISS	**Visnje**	**5.79**	**326**	*i Pn*	**Pn**	**08 40 36.5**	**+2.0**
DRGR		**6.13**	**21**	⇓*iP*	Pn	08 40 45.3	+6.0
JAVS	**Javornik**	**6.20**	**322**	*i Pn*	**Pn**	**08 40 40.1**	**-0.2**
JAVS				*i* Sn	**Sn**	**08 41 48.1**	**-3.2**
JAVS	**Javornik**	**6.20**	**322**	*i Pn*	**Pn**	**08 40 40.1**	**-0.2**
MLR	**Muntele Rosu**	**6.42**	**45**	⇑*iP*	Pn	08 40 48.9	+5.6

GUC 05 08:39:30.3±0.9, 34°.25S×70°.00W, h26km±13km, MD3.9, ML2.8, 3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.43**	**337**	*i P*	Pb	08 39 39.4	-0.2
LMEL				*i* S	Sb	08 39 46.5	+0.4
LMEL				AML	AML	08 39 48.5	
	comp=N,957nm,0.3s						
CACH	**El Canelo**	**0.51**	**284**	⇓*eP*	Pb	08 39 39.9	-1.1
CHCH	**Chadas Angostu**	**0.62**	**300**	⇓*eP*	Pb	08 39 42.4	-0.3
SJCH	**San Jose de Ma**	**0.67**	**334**	*eP*	Pb	08 39 42.8	-0.8
SJCH				*eS*	Sb	08 39 52.8	+0.1
SJCH				AML	AML	08 39 54.6	
	comp=E,418nm,0.4s						
PCH	**Pirque**	**0.76**	**325**	*eP*	Pb	08 39 44.7	-0.3
PCH				*i* S	Sb	08 39 55.4	+0.4
ANTU	**Antumapu**	**0.86**	**322**	*eP*	Pb	08 39 46.4	-0.2
ANTU				*eS*	Sn	08 39 59.1	+0.5
ANTU				AML	AML	08 40 00.1	
	comp=N,582nm,0.6s						
CLCH	**Cerro Calan**	**0.96**	**332**	*eP*	Pb	08 39 48.9	+0.5
CLCH				*eS*	Sb	08 40 00.9	+0.2
CLCH				AML	AML	08 40 08.0	
	comp=E,846nm,0.7s						
SAN	**Santiago**	**0.96**	**325**	*eP*	Pn	08 39 48.1	-0.2
STL	**Santa Lucia**	**0.97**	**326**	*eP*	Pb	08 39 48.5	0.0
STL				*eS*	Sn	08 40 02.3	+1.0
TACH	**Talagante**	**0.98**	**307**	*eP*	Pn	08 39 48.3	-0.1
TACH				*i* S	Sn	08 40 01.7	+0.3
RCDM	**Rinconada Maip**	**1.01**	**318**	*eP*	Pb	08 39 49.8	+0.6
RCDM				*eS*	Sn	08 40 03.2	+0.9
RCDM				AML	AML	08 40 04.7	
	comp=E,419nm,0.4s						
PEL	**Peldehue**	**1.24**	**332**	⇓*iP*	Pb	08 39 53.8	+0.7
PEL				*eS*	Sb	08 40 10.2	+1.4
PEL				AML	AML	08 40 16.6	
	comp=N,515nm,0.8s						
ROCH	**El Roble**	**1.52**	**326**	*eP*	Pb	08 39 58.1	-0.2
ROCH				*eS*	Sb	08 40 19.1	+1.7
IHA	**Instituto Hidr**	**1.83**	**311**	*eP*	Pb	08 40 02.9	-0.2

IDC ***05*** *08:56:29.7±5.2, 23°.65N×124°.07E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=323.8km s-min=28.3km az=61.0*
JMA ***05*** *08:56:30.7±0.2, 24°.20N×125°.25E, h18km, M3.3*
ISC 05 08:56:30.1±1.6, 24°.18N±0°.06×125°.26E±0°.06, h18km±5km, n11, σ0°61/17, mb3.5/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.59**	**13**	P	**Pb**	**08 56 41.9**	**0.0**
JOGS				*eS*	**Sb**	**08 56 50.3**	**+0.4**
JMJ	**Miyako jima 2**	**0.63**	**3**	P	**Pg**	**08 56 42.6**	**0.0**
JMJ				S	**Sb**	**08 56 50.7**	**-0.3**
JTJ	**Tarama**	**0.68**	**312**	P	**Pg**	**08 56 43.4**	**-0.1**
JTJ				*eS*	**Sg**	**08 56 52.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.03**	**280**	P	**Pg**	**08 56 49.7**	**-0.5**
JIJ				*eS*	**Sn**	**08 57 03.8**	**+0.2**
JKRS	**Kuro-shima**	**1.14**	**273**	P	**Pg**	**08 56 51.9**	**-0.3**
JKRS				*eS*	**Sg**	**08 57 08.3**	**+1.2**
HATJ	**Hateruma jima**	**1.33**	**265**	P	**Pb**	**08 56 54.1**	**-0.4**
HATJ				*eS*	**Sb**	**08 57 11.4**	**+0.2**
IRIF	**Iriomote-Funau**	**1.40**	**277**	P	**Pb**	**08 56 55.5**	**-0.2**
YOJ	**Yonaguni jima**	**2.07**	**278**	P	**Pn**	**08 57 05.0**	**+1.1**
MKAR	**Makanchi Array**	**40.96**	**314**	P	**P**	**09 04 10.7**	**-1.1**
	0.3nm,0.4s,baz=100,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**44.74**	**168**	P	**P**	**09 04 42.4**	**-0.2**
	0.8nm,0.9s,baz=348,slow=8.8,SNR=8.7						
ASAR	**Alice Springs**	**48.30**	**169**	P	**P**	**09 05 10.8**	**+0.3**
	0.2nm,0.4s,baz=356,slow=8.6,SNR=4.1						

ECX ***05*** *09:13:06.8±0.5, 29°.90N×113°.66W, h0km±11km, ML5.6, MW5.5*
IDC ***05*** *09:13:10.5±0.5, 29°.71N×113°.71W, h0km, mb4.6/31, mb1 4.7/38, mb1mx4.6/40, mbtmp4.5/38, ML4.1/7, MS5.5/36, Ms1 5.5/36, ms1mx5.5/43, Error ellipse: s-maj=13.9km s-min=8.3km az=48.0*
BJI ***05*** *09:13:10.0, 29°.60N×113°.80W, h10km, mB5.7/12, mb5.1/16, Ms5.7/16, Ms7 5.5/15*
ISCJB ***05*** *09:13:11.5±0.2, 29°.69N±0°.02×113°.73W±0°.03, h10km, mb5.3/182, MS5.6/163, Error ellipse: s-maj=3.9km s-min=2.2km az=140.8*
MOS ***05*** *09:13:11.4±1.2, 29°.75N×113°.70W, h10km, mb5.7/36, MS5.7/16, Error ellipse: s-maj=6.7km s-min=3.8km az=95.7*
NEIC ***05*** *09:13:12.3±0.3, 29°.62N×113°.79W, h10km, mb5.5/98, MS5.6/122, Error ellipse: s-maj=5.2km s-min=3.5km az=38.0*
NEIC Felt at Insurgentes, San Felipe and Santa Rosalia, Baja California. Felt at Cypress, Garden Grove, Huntington Beach, Joshua Tree, Los Angeles, Rancho Cucamonga and Santa Monica, California. Felt at Gilbert, Peoria, Queen Creek, Scottsdale, Tuscon and Yuma, Arizona.
GCMT ***05*** *09:13:15.7±0.2, 29.68N×113°.93W, h13km, MW5.8, Moment Tensor Solution. s83,c118; s46,c55; Moment tensor: Scale 10^17 Nm; Mrr0.90±.09; Mθθ-4.66±.09; Mφφ3.76±.09; Mrθ-0.22±.20; Mrφ3.64±.08; Mθφ0.15±.20; Best double couple: M0 5.60000×10^17 NP1:φφ155.00000°, δ89.00000°, λ-178.00000°. NP2:φφ65.00000°, δ88.00000°, λ-1.00000°. Principal axes: T 5.1200, Plg1.0000°, Azm290.0000°; N 0.9100, Plg88.0000°, Azm180.0000°; P -6.0300, Plg2.0000°, Azm20.0000°; Data Used: II IU IC G CN. Surface waves: sta=110, comp=220, per= 50.*
MEX ***05*** *09:13:32.9±2.6, 29°.16N×112°.17W, h23km±34km, MD5.5*
ISC 05 09:13:12.9±0.4, 29°.67N±0°.04×113°.81W±0°.04, h13km±2km, h12km: pP-P, n633, σ1°38/538, mb5.4/183, MS5.6/163, 13C-7D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.98**	**314**	⇑*eP*	Pn	09 13 39.9	-6.7
SPX				*eS*	**Sn**	**09 14 06.6**	**-4.8**
SPX				⇓*e*		09 14 22.3	
	comp=E,35μm,1.0s						
SPX				⇑*e*		09 14 30.0	
	comp=N,29μm,1.3s						
HSIG		**2.58**	**104**	*eP*	Pn	09 13 49.4	-5.0
HSIG				*i* S	Sn	09 14 02.6	-23
HSIG		**2.58**	**104**	⇑*eP*	Pn	09 13 49.5	-5.0
SRIG	**Santa Rosalia**	**2.72**	**149**	*eP*	**Pb**	**09 14 00.8**	**-0.6**
SRIG				*i* S	Sn	09 14 21.7	-7.4
ZAX	**El Zacaton**	**2.81**	**312**	⇓*eP*	Pn	09 13 52.4	-5.3
RDX	**Rancho Dawling**	**2.91**	**321**	⇓*eP*	Pn	09 13 53.0	-6.2
ECNX	**Esteban Cantu**	**3.11**	**310**	*eP*	Pn	09 13 57.0	-4.9
PBX	**Punta Banda**	**3.25**	**310**	⇑*eP*	Pn	09 13 58.3	-5.4
GLA	**Glamis**	**3.48**	**346**	*eP*	Pn	09 14 02.8	-4.1
GLA	**Glamis**	**3.48**	**346**	*ePn*	Pn	09 14 02.8	-4.1
RMX	**La Rumorosa**	**3.51**	**327**	⇑*eP*	**Pn**	**09 14 04.4**	**-3.0**
CBX	**Cerro Bola**	**3.60**	**318**	⇑*eP*	Pn	09 14 03.6	-5.0
TUC	**Tucson**	**3.70**	**44**	*eP*	Pn	09 14 06.0	-4.0
TUC	**Tucson**	**3.70**	**44**	*ePn*	Pn	09 14 06.0	-4.0
TUC				*eSn*	**Sb**	**09 15 05.7**	**+2.5**
BAR	**Barrett**	**3.88**	**322**	*ePn*	Pn	09 14 07.1	-5.3
PFO	**Pinyon Flat Ob**	**4.53**	**331**	Pn	Pn	09 14 25.6	+4.2
	comp=N,763nm,1.5s,SNR=9.6						
PFO	**Pinyon Flat Ob**	**4.53**	**331**	Pn	Pn	09 14 17.2	-4.2
PFO				Pg	Pb	09 14 23.8	-8.7
PFO				Lg	Lg	09 15 38.6	
PFO	**Pinyon Flat Ob**	**4.53**	**331**	Pn	Pn	09 14 16.0	-5.4
	comp=N,2.1nm,0.3s,baz=150,slow=12,SNR=15						
PFO				Pg	Pb	09 14 23.8	-8.7
	comp=N,2.6nm,0.3s,baz=151,slow=14,SNR=29						
PFO				Lg	Lg	09 15 38.6	
	comp=N,20nm,0.3s,baz=2.6,slow=3.0,SNR=5.1						
PFO				LR	LR	09 15 54.9	
	comp=N,19μm,21.2s,baz=146,slow=36						
CGIG		**5.11**	**81**	*eP*	**Pn**	**09 14 28.4**	**-1.0**
CGIG				*i* S	Sn	09 15 12.5	-16
LDFC	**Landfair**	**5.50**	**349**	*ePn*	**Pn**	**09 14 32.9**	**-2.0**
MWC	**Mount Wilson**	**5.80**	**323**	*eP*	**Pn**	**09 14 36.6**	**-2.3**
MWC	**Mount Wilson**	**5.80**	**323**	*ePn*	**Pn**	**09 14 36.6**	**-2.3**
PASC	**Pasadena Art C**	**5.83**	**322**	*ePn*	**Pn**

ANIG	Ahuacatlan	12.00	134	*i* P		Pn	09 16 04.5	+0.6
ANIG				*i* S		Sn	09 18 02.3	-16
HOPS	Hopland	12.04	323	*e*Pn		Pn	09 16 03.6	-0.7
	comp=Z,50nm,1.1s							
HWUT	Hardware Ranch	12.05	8	*e*Pn		Pn	09 16 05.3	+0.7
	comp=Z,538nm,1.5s							
HVU	Hansel Valley	12.12	4	*e*P		Pn	09 16 06.8	+1.3
HVU	Hansel Valley	12.12	4	*e*Pn		Pn	09 16 06.8	+1.3
ISCO	Idaho Springs	12.14	31	*e*P		Pn	09 16 05.9	-0.1
ISCO	Idaho Springs	12.14	31	*e*Pn		Pn	09 16 05.9	-0.1
JCT	Junction City	12.16	83	*e*P		Pn	09 16 06.5	+0.4
JCT	Junction City	12.16	83	*e*Pn		Pn	09 16 06.5	+0.4
ZAIG	Zacatecas	12.21	122	*i* P		Pn	09 16 05.2	-1.7
ZAIG				*i* S		Sn	09 18 04.0	-19
KCPM	Cahto Peak	12.82	324	*e*Pn		Pn	09 16 15.4	+0.4
	comp=Z,157nm,1.5s							
KIPM	Iron Peak	12.86	324	*e*Pn		Pn	09 16 14.8	-0.8
	comp=Z,368nm,1.7s							
WDC	Whiskeytown Da	13.01	329	*e*P		Pn	09 16 18.7	+1.1
WDC				pmax	pmax			
	comp=Z,162nm,1.6s							
WDC	Whiskeytown Da	13.01	329	*e*Pn		Pn	09 16 18.7	+1.1
	comp=Z,162nm,1.6s							
RWWY	Rawlins	13.13	22	*e*Pn		Pn	09 16 19.6	+0.1
AHID	Auburn Hatcher	13.25	9	*e*Pn		Pn	09 16 22.6	+1.6
	comp=Z,370nm,1.6s							
WVOR	Wild Horse Val	13.32	344	*e*P		Pn	09 16 23.4	+1.5
WVOR				pmax	pmax			
	comp=Z,631nm,1.6s							
WVOR	Wild Horse Val	13.32	344	*e*Pn		Pn	09 16 23.4	+1.5
	comp=Z,631nm,1.6s							
PHWY	Pilot Hill	13.45	28	*e*Pn		Pn	09 16 23.0	-0.8
BW06	Boulder Array	13.51	14	*e*Pn		Pn	09 16 23.9	-0.7
	comp=Z,506nm,1.5s							
PDAR	Pinedale Array	13.51	14	Pn		Pn	09 16 25.0	+0.4
PDAR				Lg		Lg	09 20 19.9	
PDAR	Pinedale Array	13.51	14	Pn		Pn	09 16 25.0	+0.4
	comp=Z,0.1nm,0.3s,baz=187,slow=11,SNR=23							
PDAR				Lg		Lg	09 20 19.9	
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=3.2							
PDAR				LR		LR	09 21 48.0	
	comp=Z,42μm,19.4s,baz=205,slow=38							
LNIG	Linares	13.61	107	*i* P		Pn	09 16 23.8	-2.1
LNIG				*i* S		Sn	09 18 35.6	-21
WMOK	Wichita Mounta	13.69	64	*e*P		Pn	09 16 26.4	-0.5
WMOK				pmax	pmax			
	comp=Z,42nm,0.6s							
WMOK	Wichita Mounta	13.69	64	*e*Pn		Pn	09 16 26.4	-0.5
	comp=Z,42nm,0.6s							
EZ5V		13.74	135	*e*P		Pn	09 16 27.9	0.0
R15V		13.75	137	*i* P		Pn	09 16 28.3	+0.5
KHMM	Horse Mountain	13.80	327	*e*Pn		Pn	09 16 29.6	+1.2
RRI2	Red Ridge	13.80	8	*e*Pn		Pn	09 16 28.9	+0.4
HLID	Hailey	13.88	358	*e*Pn		Pn	09 16 30.6	+1.1
SNOW	Snow King Moun	13.98	9	*e*Pn		Pn	09 16 31.6	+0.6
TPAW	Teton Pass	13.98	9	*e*Pn		Pn	09 16 30.7	-0.4
YBH	Yreka Blue Hor	14.03	331	Pn		Pn	09 16 32.8	+1.2
YBH	Yreka Blue Hor	14.03	331	Pn		Pn	09 16 32.8	+1.2
	comp=Z,0.1nm,0.3s,baz=156,slow=4.0,SNR=28							
YBH				LR		LR	09 21 50.4	
	comp=Z,29μm,19.1s,baz=150,slow=37							
KVTX	Kingsville	14.14	95	*e*Pn		Pn	09 16 33.2	+0.2
LOHW	Long Hollow	14.15	10	*e*Pn		Pn	09 16 33.4	+0.1
MOOW	Moose Ponds	14.27	9	*e*Pn		Pn	09 16 34.2	-0.7
IGIG	Irapuato, Guan	14.36	125	*i* P		Pn	09 16 33.8	-2.5
IGIG				*i* S		Sn	09 18 56.2	-19
IMW	Indian Meadow	14.39	8	*e*Pn		Pn	09 16 37.6	+1.0
	comp=Z,577nm,1.6s							
KRMB	Red Mountain	14.39	328	*e*Pn		Pn	09 16 36.1	-0.4
KTRM	Thompson Ridge	14.46	330	P		Pn	09 16 37.3	-0.2
FLWY	Flagg Ranch	14.60	9	*e*Pn		Pn	09 16 40.5	+1.1
	comp=Z,655nm,1.5s							
OGNE	Ogallala	14.78	37	*e*Pn		Pn	09 16 42.4	+0.5
	comp=Z,212nm,1.3s							
MMIG	Aquila	14.81	138	*i* P		Pn	09 16 41.8	-0.5
HUMO	Hull Mountain	14.86	333	*e*P		P	09 16 47.2	-1.4
	comp=Z,396nm,1.9s							
YFT	Old Faithful	14.95	8	*e*Pn		Pn	09 16 46.3	+2.1
	comp=Z,2μm,1.8s							
KBO	Bosley Butte	15.08	329	*e*Pn		Pn	09 16 45.9	+0.1
	comp=Z,540nm,1.5s							
LKWY	Lake	15.12	9	*e*P		Pn	09 16 48.6	+2.2
LKWY				pmax	pmax			
	comp=Z,757nm,1.9s							
LKWY	Lake	15.12	9	*e*P		Pn	09 16 48.6	+2.2
	comp=Z,758nm,1.9s							
YMR	Madison River	15.14	8	*e*P		Pn	09 16 48.7	+1.9
	comp=Z,781nm,1.6s							
MCMT	McKenzie Canyo	15.15	3	*e*P		P	09 16 50.0	-2.0
	comp=Z,133nm,1.4s							
MOIG	Morelia	15.17	128	*i* P		Pn	09 16 46.3	-1.0
YNR	Norris Junctio	15.22	9	*e*P		Pn	09 16 49.9	+2.0
	comp=Z,461nm,1.3s							
QLMT	Earthquake Lak	15.25	6	*e*P		Pn	09 16 50.1	+1.9
	comp=Z,55nm,1.6s							
BMO	Blue Mountains	15.41	351	*e*P		Pn	09 16 50.0	-0.2
	comp=Z,235nm,1.6s							
KEBM	Edson Butte	15.65	330	*e*P		P	09 16 56.1	-1.4
	comp=Z,536nm,1.2s							
DLMT	Dillon	15.70	3	*e*P		P	09 16 56.2	-1.8
	comp=Z,377nm,1.4s							
RLMT	Red Lodge	15.84	12	*e*P		Pn	09 16 56.7	+0.9
	comp=Z,544nm,1.6s							
BKCOR	Black Crater	15.89	339	P		P	09 16 58.6	-1.6
BOZ	Bozeman (W)	16.04	6	*e*P		Pn	09 17 00.1	+1.6
BOZ				pmax	pmax			
	comp=Z,208nm,1.6s							
BOZ	Bozeman (W)	16.04	6	*e*P		Pn	09 17 00.1	+1.6
	comp=Z,208nm,1.6s							
LRM	Limekiln Ridge	16.16	3	*e*P		P	09 17 02.0	-1.3
	comp=Z,2μm,1.4s							
CROR	Criterion Ridg	16.31	342	P		Pn	09 17 03.2	+1.4
DEIG	Demacu	16.31	122	*i* P		Pn	09 16 59.9	-2.2
RSSD	Black Hills	16.39	26	*e*P		Pn	09 17 01.6	-1.3
RSSD				pmax	pmax			
	comp=Z,178nm,1.4s							
RSSD	Black Hills	16.39	26	*e*P		Pn	09 17 01.6	-1.3
	comp=Z,178nm,1.4s							
GCMT	Greycliff	16.42	10	*e*P		Pn	09 17 04.6	+1.3
	comp=Z,169nm,1.6s							
ZIIG	Zihuatanejo	16.48	134	*i* P		P	09 17 05.7	-0.9
TOVM	TOLUCA	16.49	126	*e*P		Pn	09 17 03.7	-0.8
ZUVM	ZUMPANGO	16.57	123	*i* P		Pn	09 17 03.5	-2.0
AZVM	Cuida Lopez Ma	16.57	124	*i* P		Pn	09 17 03.7	-1.8
COR	Corvallis	16.68	336	*e*P		P	09 17 09.2	+0.4
COR				pmax	pmax			
	comp=Z,379nm,1.4s							
COR	Corvallis	16.68	336	*e*P		P	09 17 09.2	+0.4
	comp=Z,379nm,1.4s							
PTVM	Pico Tres Padr	16.69	124	*e*P		Pn	09 17 05.0	-2.0
ARIG	Puente Sto Nin	16.71	130	*i* P		P	09 17 08.1	-1.2
VTVM	Tizayuca	16.83	122	*i* P		Pn	09 17 08.2	-0.5
MAVM	Malinalco, Edo	16.83	126	*e*P		Pn	09 17 08.7	0.0
MZVM		16.87	125	*i* P		Pn	09 17 09.1	+0.2
VLL	Laurance Lake	16.94	341	P		P	09 17 11.2	-0.6
IIO	Organos	16.98	123	*i* P		Pn	09 17 09.9	-0.7
KSU1	Kansas State U	17.01	52	*e*P		P	09 17 11.9	-0.5
	comp=Z,272nm,1.4s							
HRY	Holter Researc	17.09	5	*e*P		P	09 17 13.3	0.0
	comp=Z,328nm,1.9s							
YAIG	Yautepec	17.20	125	*e*P		Pn	09 17 11.5	-1.7
AMVM	AMECAMECA	17.22	124	*i* P		Pn	09 17 11.6	-2.1
CHMT	Chamberlain Mo	17.23	1	*e*P		P	09 17 14.5	-0.5
	comp=Z,196nm,1.5s							
PPM	Popocatepetl	17.38	124	*i* P		Pn	09 17 15.1	-0.7
TRW	Toppenish Ridg	17.41	344	P		P	09 17 16.8	-0.1
SLMT	Seeley Lake	17.55	1	*e*P		P	09 17 18.5	-0.1
	comp=Z,174nm,1.4s							
SWMT	Swartz Lake	17.82	360	*e*P		P	09 17 22.3	+0.9
	comp=Z,55nm,1.4s							
JTMT	Jette	18.06	359	*e*P		P	09 17 24.7	+0.6
	comp=Z,66nm,1.2s							
LON	Longmire	18.16	342	*e*P		P	09 17 25.0	-0.2
LON				pmax	pmax			
	comp=Z,224nm,1.5s							
LON	Longmire	18.16	342	*e*P		P	09 17 24.9	-0.2
	comp=Z,224nm,1.5s							
BSMT	Bassoo Peak	18.17	358	*e*P		P	09 17 25.7	+0.3
	comp=Z,161nm,1.3s							
BLMT	Blacktail Moun	18.32	359	*e*P		P	09 17 27.9	+0.8
	comp=Z,930nm,2.7s							
EGMT	Eagleton	18.59	9	*e*P		P	09 17 29.2	-0.7
	comp=Z,500nm,1.8s							
LVIG	Laguna Verde	18.63	118	*i* P		P	09 17 29.4	-1.0
NEW	Newport	18.74	353	P		P	09 17 30.8	-0.8
	comp=Z,4.3nm,1.4s							
NEW	Newport	18.74	353	P		P	09 17 30.8	-0.8
	comp=Z,0.9nm,0.3s,baz=173,slow=11,SNR=23							
NEW				LR		LR	09 24 58.7	
	comp=Z,10μm,18.0s,baz=177,slow=38							
NLWA	Neilton Lookou	19.34	339	*e*P		P	09 17 37.5	-0.5
	comp=Z,341nm,1.6s							
WALA	Waterton Lakes	19.37	360	*e*P		P	09 17 38.1	-0.4
	comp=Z,17nm,1.6s							
ECSD	EROS Data Cent	19.62	40	*e*P		P	09 17 40.6	-0.6
	comp=Z,25nm,1.5s							
VHO	Vista Hermosa	20.04	125	*e*P		Pn	09 17 47.6	-0.3
VBMS	Vicksburg	20.14	77	*e*P		Pn	09 17 48.8	+0.1
	comp=Z,736nm,1.6s							
VBMS				LR		LR		
	comp=Z,11μm,19.0s							
DGMT	Dagmar	20.18	19	*e*P		P	09 17 46.6	-0.5
	comp=Z,806nm,1.6s							
DGMT				LR		LR		
	comp=Z,23μm,20.0s							
PGC	Sidney	20.34	341	*e*P		P	09 17 48.6	-0.4
	comp=Z,25nm,1.4s							
SCIA	State Center	20.64	48	*e*P		P	09 17 52.5	+0.3
	comp=Z,568nm,1.5s							
SCIA				LR		LR		
	comp=Z,12μm,20.0s							
GNAR	Gosnell	20.93	66	*e*P		Pn	09 17 58.8	+0.8
	comp=Z,7μm,1.6s							
OXF	Oxford	21.21	71	*e*P		P	09 17 58.5	0.0
OXF				pmax	pmax			
	comp=Z,38nm,0.3s							
OXF				MLR		MLR		
	comp=Z,2μm,19.0s							
OXF	Oxford	21.21	71	*e*P		P	09 17 58.5	0.0
	comp=Z,38nm,0.3s							
OXF				LR		LR		
	comp=Z,2μm,19.0s							
HUIG	Huatulco	21.36	126	*e*P		P	09 18 06.8	+6.7
WVT	Waverly	22.71	67	*e*P		P	09 18 14.7	+0.1
WVT				pmax	pmax			
	comp=Z,175nm,1.1s							
WVT	Waverly	22.71	67	*e*P		P	09 18 14.7	+0.1
	comp=Z,175nm,1.1s							
TGIG		22.89	120	*i* P		P	09 18 25.5	+8.9
LRAL	Lakeview Retre	23.12	75	*e*P		P	09 18 19.3	+0.5
	comp=Z,126nm,1.4s							
LRAL				LR		LR		
	comp=Z,12μm,20.0s							
PCIG		23.48	122	*i* P		P	09 18 32.8	+10
EDM	Edmonton	23.54	1	*e*P		P	09 18 21.2	-1.7
EDM	Edmonton	23.54	1	*e*P		P	09 18 21.2	-1.7
CCIG	Comitan	23.94	119	*i* P		P	09 18 32.4	+5.2
WCI	Wyandotte Cave	24.30	62	*e*P		P	09 18 29.8	-0.5
WCI				pmax	pmax			
	comp=Z,96nm,1.0s							
WCI	Wyandotte Cave	24.30	62	*e*P		P	09 18 29.8	-0.5
	comp=Z,96nm,1.0s							
ULM	Lac du Bonnet	24.61	28	P		P	09 18 30.9	-2.0
ULM	Lac du Bonnet	24.61	28	P		P	09 18 30.9	-2.0
	comp=Z,16nm,0.7s,baz=218,slow=9.6,SNR=26							
ULM				LR		LR	09 28 36.0	
	comp=Z,23μm,18.2s,baz=222,slow=38							
BBB	Bella Bella	24.86	339	P		P	09 18 34.8	-0.3
BBB	Bella Bella	24.86	339	P		P	09 18 34.8	-0.3
	comp=Z,19nm,1.1s,baz=204,slow=12,SNR=3.0							
BBB				LR		LR	09 27 54.2	
	comp=Z,18μm,20.4s,baz=164,slow=36							
TEIG	Tepich	24.94	106	*e*P		P	09 18 34.3	-1.8
	comp=Z,45nm,1.0s							
TEIG	Tepich	24.94	106	P		P	09 18 34.4	-1.8
	comp=Z,12nm,0.9s,baz=301,slow=5.9,SNR=3.9							
TEIG				LR		LR	09 31 32.5	
	comp=Z,11μm,18.4s,baz=284,slow=44							
EYMN	Ely	25.06	37	*e*P		P	09 18 35.5	-1.6
	comp=Z,96nm,1.3s							
EYMN				LR		LR		
	comp=Z,36μm,21.0s							
CPCT	Cooper Cave	25.30	69	*e*P		P	09 18 38.6	-0.7
TKL	Tuckaleechee C	25.92	69	P		P	09 18 44.6	-0.4
TKL	Tuckaleechee C	25.92	69	P		P	09 18 44.6	-0.4
	comp=Z,12nm,0.8s,baz=276,slow=4.7,SNR=23							
TZTN	Tazewell	26.19	67	*e*P		P	09 18 46.8	-0.6
	comp=Z,96nm,1.4s							
FFC	Flin Flon	26.46	15	P		P	09 18 49.2	-0.4
	comp=Z,203nm,1.7s,SNR=9.2							
FFC	Flin Flon	26.46	15	*i* P		P	09 18 50.3	+0.7
FFC	Flin Flon	26.46	15	*e*P		P	09 18 48.0	-1.6
	comp=Z,125nm,1.6s							
FFC				LR		LR		
	comp=Z,17μm,21.0s							
GLMI	Grayling	27.54	49	*e*P		P	09 19 01.2	+1.8
	comp=Z,306nm,1.5s							
GLMI				LR		LR		
	comp=Z,11μm,20.0s							
SOR	Soroa	28.41	97	*e*		P	09 19 08.6	+1.2
BLA	Blacksburg	28.75	66	*e*P		P	09 19 10.6	+0.2
BLA				pmax	pmax			
	comp=Z,203nm,1.7s							
BLA				MLR		MLR		
	comp=Z,11μm,20.0s							
BLA	Blacksburg	28.75	66	*e*P		P	09 19 10.6	+0.2
	comp=Z,203nm,1.7s							
BLA				LR		LR		
	comp=Z,11μm,20.0s							
CRAG	Craig	29.25	337	*e*P		P	09 19 13.5	-0.9
	comp=Z,141nm,1.6s							
ALLY	Alegheny Colle	29.67	57	*e*P		P	09 19 19.7	+1.2
	comp=Z,106nm,1.3s							
WRAK	Wrangell Islan	29.77	339	*e*P		P	09 19 19.4	+0.3
	comp=Z,157nm,1.7s							
WRAK				LR		LR		
	comp=Z,10μm,21.0s							
CNNC	Cliffs of the	30.70	70	*e*P		P	09 19 28.3	+0.7
	comp=Z,28nm,0.3s							
CNNC				LR		LR		
	comp=Z,12μm,19.0s							
JSRW	J. Sargeant Re	30.81	65	*e*P		P	09 19 27.4	-1.1
DLBC	Dease Lake	30.86	343	*e*P		P	09 19 28.7	-0.2
DLBC	Dease Lake	30.86	343	P		P	09 19 29.6	+0.7
	comp=Z,29nm,1.0s,baz=163,slow=8.3,SNR=22							
DLBC				LR		LR	09 31 35.8	
	comp=Z,13μm,18.8s,baz=159,slow=36							
SADO	Sadowa	31.18	51	P		P	09 19 31.8	0.0
SADO	Sadowa	31.18	51	P		P	09 19 31.8	0.0
	comp=Z,7.5nm,0.6s,baz=276,slow=8.9,SNR=6.6							
SADO				LR		LR	09 32 25.0	
	comp=Z,6μm,18.6s,baz=263,slow=37							
CBN	Corbin	31.25	64	PFAKE			09 19 40.0	+7.6
CBN				LR		LR		
	comp=Z,5μm,19.0s							
SIT	Sitka	31.26	337	*e*P		P	09 19 34.3	+2.1
SIT				pmax	pmax			
	comp=Z,239nm,2.1s							
SIT	Sitka	31.26	337	*e*P		P	09 19 34.3	+2.1
	comp=Z,239nm,2.1s							
SDMD	Soldier's Deli	31.78	62	*e*P		P	09 19 36.1	-1.0
	comp=Z,197nm,1.7s							
BINY	Binghamton	32.82	57	*e*P		P	09 19 45.8	-0.4
	comp=Z,303nm,1.7s							
BINY				LR		LR		
	comp=Z,7μm,19.0s							
YKA	Yellowknife Ar	32.84	359	P		P	09 19 44.8	-1.3
YKA	Yellowknife Ar	32.84	359	P		P	09 19 44.8	-1.3
	comp=Z,2.7nm,1.0s,baz=176,slow=8.7,SNR=10							
YKW3	Yellowknife Ar	32.91	359	*e*P		P	09 19 45.4	-1.2
	comp=Z,1.9nm,1.9s							
JTS	JuntasAbangare	33.12	120	P		P	09 19 47.3	-1.8
JTS	JuntasAbangare	33.12	120	P		P	09 19 47.3	-1.8
	comp=Z,6.0nm,1.0s,baz=282,slow=18,SNR=2.5							
SKAG	Skagway	33.19	340	*e*P		P	09 19 49.4	+0.3
	comp=Z,115nm,1.7s							
BRNJ	Basking Ridge	33.66	60	P		P	09 19 56.5	+3.0
	comp=Z,5μm,0.5s							
CPNY	Central Park	34.13	60	*e*P		P	09 19 58.7	+1.1
	comp=Z,205nm,1.5s							
LONY	Lake Ozonia	34.29	53	*e*P		P	09 19 57.3	-1.7
	comp=Z,288nm,1.9s							
NCB	Newcomb	34.41	55	*e*P		P	09 19 59.2	-0.8
	comp=Z,97nm,1.3s							
NCB				LR		LR		
	comp=Z,12μm,19.0s							
ACCN	Adirondack Com	34.70	56	*e*P		P	09 20 01.9	-0.6
	comp=Z,61nm,1.1s							
ACCN				*e*PP		PP	09 21 20.3	-0.9
MTDJ	Mount Denham	34.92	101	PFAKE			09 20 20.0	+15
MTDJ				LR		LR		
	comp=Z,5μm,19.0s							
HYT	Haines Junctio	34.94	340	*e*P		P	09 20 04.7	+0.2
YLE	Yale	34.95	59	P		P	09 20 05.8	+1.2
	comp=Z,3μm,1.9s							
MDV	Middlebury	35.16	55	*e*P		P	09 20 07.2	+0.8
QUA2	Belchertown	35.50	58	*e*P		P	09 20 10.5	+1.1
	comp=Z,102nm,1.2s							
LBNH	Lisbon	36.09	55	P		P	09 20 13.9	-0.6
LBNH				pmax	pmax			
	comp=Z,422nm,1.9s							
LBNH				MLR		MLR		
	comp=Z,2μm,20.0s							
LBNH	Lisbon	36.09	55	P		P	09 20 13.9	-0.6
	comp=Z,422nm,1.9s							
LBNH				LR		LR		
	comp=Z,2μm,20.0s							
HRV	Adam Dziewonsk	36.11	58	*e*P		P	09 20 14.3	-0.4
HRV				pmax	pmax			
	comp=Z,97nm,1.4s							
HRV	Adam Dziewonsk	36.11	58	*e*P		P	09 20 14.3	-0.4
	comp=Z,97nm,1.4s							
FFD	Franklin Falls	36.17	56	*e*P		P	09 20 15.6	+0.5
	comp=Z,380nm,1.5s							
WES	Weston	36.27	58	*e*P		P	09 20 14.9	-1.1
WES				pmax	pmax			
	comp=Z,60nm,1.1s							
WES	Weston	36.27	58	*e*P		P	09 20 14.9	-1.1
	comp=Z,60nm,1.1s							
GTBY	Guantanamo Bay	36.30	96	PFAKE			09 20 30.0	+13
GTBY				LR		LR		
	comp=Z,5μm,21.0s							
BMRM	Bremner River	37.38	336	*e*P		P	09 20 28.7	+3.4
	comp=Z,59nm,1.3s							
PAYG	Puerto Ayora	37.61	139	PFAKE			09 20 40.0	+12
PAYG				LR		LR		
	comp=Z,7μm,20.0s							
WVL	Waterville	37.74	54	*e*P		P	09 20 29.2	+0.7
	comp=Z,1μm,1.8s							
BCIP	Isla Barro Col	37.76	116	PFAKE			09 20 40.0	+11
BCIP				LR		LR		
	comp=Z,10μm,21.0s							
DIV	Divide	37.91	335	*e*P		P	09 20 32.2	+2.4
	comp=Z,212nm,2.1s							
MENT	Mentasta	38.47	338	P		P	09 20 36.0	+1.5
KDAK	Kodiak Island	38.80	328	P		P	09 20 36.9	-0.3
KDAK	Kodiak Island	38.80	328	P		P	09 20 36.9	-0.3
	comp=Z,5.7nm,0.8s,baz=111,slow=20,SNR=2.0							
KDAK				LR		LR	09 33 51.4	
	comp=Z,10μm,20.9s,baz=142,slow=32							
OHAK	Old Harbor	38.86	327	*e*P		P	09 20 41.7	+4.0
	comp=Z,142nm,1.6s							
PAX	Paxson	39.06	338	*e*P		P	09 20 40.1	+0.6
PAX				pmax	pmax			
	comp=Z,28nm,1.4s							
PAX	Paxson	39.06	338	*e*P		P	09 20 40.1	+0.6
	comp=Z,28nm,1.4s							
EGAK	Eagle	39.09	342	*e*P		P	09 20 39.0	-0.6
	comp=Z,269nm,2.0s							
EGAK				LR		LR		
	comp=Z,7μm,21.0s							
GRTK	Grand Turk	39.16	92	PFAKE			09 20 50.0	+9.3
GRTK				LR		LR		
	comp=Z,7μm,19.0s							
PQI	Presque Isle	39.20	51	*e*P		P	09 20 40.7	-0.1
	comp=Z,1μm,2.0s							
SML	Sawmill	39.29	335	*e*P		P	09 20 41.6	+0.2
SML				pmax	pmax			
	comp=Z,34nm,1.5s							
SML	Sawmill	39.29	335	*e*P		P	09 20 41.6	+0.2
	comp=Z,34nm,1.5s							
EMMW	East Machias	39.32	55	*e*P		P	09 20 43.8	+2.1
	comp=Z,2μm,1.9s							
PMR	Palmer	39.46	334	*e*P		P	09 20 43.2	+0.5
PMR				pmax	pmax			
	comp=Z,235nm,1.6s							
PMR	Palmer	39.46	334	*e*P		P	09 20 43.2	+0.5
	comp=Z,235nm,1.6s							
SDDR	Presa de Saban	39.99	96	PFAKE			09 21 00.0	+12
SDDR				LR		LR		
	comp=Z,4μm,19.0s							
RSO	Redoubt South	40.26	331	*e*P		P	09 20 50.2	+0.6
	comp=Z,80nm,1.1s							
INK	Inuvik	40.38	349	P		P	09 20 50.1	-0.1
	comp=Z,20nm,1.6s							
INK	Inuvik	40.38	349	P		P	09 20 50.1	-0.1
	comp=Z,23nm,1.2s,baz=140,slow=11,SNR=12							
KIP	Kipapa	40.52	269	PFAKE			09 21 00.0	+8.0
KIP				LR		LR		
	comp=Z,5μm,19.0s							
MCK	McKinley	40.73	337	*e*P		P	09 20 53.7	+0.4
MCK				pmax	pmax			
	comp=Z,103nm,1.5s							
MCK	McKinley	40.73	337	*e*P		P	09 20 53.7	+0.4
	comp=Z,103nm,1.5s							
ILAR	Eielson Array	40.76	339	P		P	09 20 52.1	-1.3
ILAR	Eielson Array	40.76	339	P		P	09 20 52.1	-1.3
	comp=Z,7.5nm,1.1s,baz=152,slow=6.5,SNR=33							
ILAR				LR		LR	09 37 09.3	
	comp=Z,6μm,18.4s,baz=138,slow=35							
TRF	Thorofare Moun	41.02	336	*e*P		P	09 20 55.6	-0.3
	comp=Z,344nm,1.7s							
COLA	College	41.13	339	*e*P		P	09 20 57.5	+1.1
COLA				pmax	pmax			
	comp=Z,427nm,1.6s							
COLA				MLR		MLR		
	comp=Z,5μm,19.0s							
COLA	College	41.13	339

ALE	**Alert**	**55.98**	**7**	P	**P**	**09 22 50.4**	**-0.2**
	comp=Z,121nm,1.6s,SNR=5.2						
RKT	**Rikitea**	**56.29**	**204**	*e*S	**S**	**09 30 42.3**	**-1.0**
	comp=Z,5μm,27.0s						
RPN	**Rapa Nui**	**56.64**	**175**	PFAKE		09 23 10.0	+14
RPN				LR	LR		
	comp=Z,4μm,20.0s						
FX1	**Attu Island--F**	**56.93**	**316**	LR	LR	09 42 21.9	
	comp=Z,2μm,19.3s,baz=267,slow=31						
SUMG	**Summit**	**57.60**	**20**	*e*P	**P**	**09 23 01.2**	**-1.5**
SUMG				pmax	pmax		
	comp=Z,160nm,1.8s						
SUMG	**Summit**	**57.60**	**20**	*i* P	**P**	**09 23 03.4**	**+0.7**
	comp=Z,13nm,0.9s						
SUMG	**Summit**	**57.60**	**20**	*e*P	**P**	**09 23 01.2**	**-1.5**
	comp=Z,160nm,1.8s						
PPT	**Papeete**	**58.27**	**221**	LR	LR	09 41 19.7	
	comp=Z,3μm,18.2s,baz=22,slow=29						
PPT2	**Papeete2**	**58.28**	**221**	*e*S	**S**	**09 31 11.4**	**+1.5**
	comp=Z,4μm,27.0s						
PPT2				*e*LQ	LQ	09 37 43.9	
	comp=Z,3μm,24.0s						
PPT2				*e*LR	LR	09 40 01.5	
	comp=Z,11μm,28.2s,baz=25						
SAML	**Samuel**	**62.01**	**120**	*e*P	P	09 23 30.1	-3.2
	comp=Z,13nm,1.4s						
SAML				LR	LR		
	comp=Z,2μm,20.0s						
DAG	**Danmarks Havn**	**62.53**	**15**	*i* P	**P**	**09 23 36.9**	**+0.9**
DAG	**Danmarks Havn**	**62.53**	**15**	*i* P	**P**	**09 23 36.9**	**+0.9**
	comp=Z,5.3nm,0.9s						
TBI	**Tubuai**	**62.88**	**217**	*e*S	**S**	**09 32 08.8**	**+0.5**
	comp=Z,4μm,29.8s						
TBI				*e*SS	**SS**	**09 36 13.2**	**-0.8**
	comp=Z,606nm,28.5s						
TBI				*e*LQ	LQ	09 39 38.2	
	comp=Z,2μm,31.9s						
TBI				*e*LR	LR	09 42 18.6	
	comp=Z,7μm,27.8s,baz=26						
LPAZ	**La Paz**	**63.47**	**130**	P	**P**	**09 23 42.3**	**-1.4**
	comp=Z,3.1nm,1.1s						
LPAZ	**La Paz**	**63.47**	**130**	P	**P**	**09 23 42.3**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=344,slow=11,SNR=8.7						
LPAZ				LR	LR	09 49 27.5	
	comp=Z,3μm,20.3s,baz=333,slow=34						
BORG	**Borgarnes**	**64.62**	**28**	PFAKE		09 24 00.0	+10
BORG				LR	LR		
	comp=Z,5μm,21.0s						
PET	**Petropavlovsk**	**65.48**	**318**	*e*P	**P**	**09 23 57.4**	**+1.8**
PET				*e*S	**S**	**09 32 38.4**	**-1.6**
PET				pmax	pmax		
	comp=Z,35nm,1.0s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PEA0B	**Petropavlovsk-**	**66.00**	**319**	*e*P	**P**	**09 23 58.1**	**-1.0**
PETK	**Petropavlovsk-**	**66.00**	**319**	P	**P**	**09 23 57.6**	**-1.5**
PETK	**Petropavlovsk-**	**66.00**	**319**	P	**P**	**09 23 57.5**	**-1.5**
PETK	**Petropavlovsk-**	**66.00**	**319**	P	**P**	**09 23 57.5**	**-1.5**
	comp=Z,16nm,1.0s,baz=92,slow=10,SNR=22						
PETK				LR	LR	09 47 21.6	
	comp=Z,1μm,21.2s,baz=263,slow=31						
RAR	**Rarotonga**	**67.21**	**227**	PFAKE		09 24 20.0	+13
RAR				LR	LR		
	comp=Z,3μm,19.0s						
KBS	**Kingsbay**	**67.36**	**10**	*e*P	**P**	**09 24 09.8**	**+2.4**
KBS				pmax	pmax		
	comp=Z,17nm,1.5s						
KBS	**Kingsbay**	**67.36**	**10**	*e*P	**P**	**09 24 07.0**	**-0.3**
	comp=Z,64nm,1.7s						
KBS				LR	LR		
	comp=Z,6μm,21.0s						
LVC	**Limon Verde**	**67.58**	**135**	PFAKE		09 24 20.0	+10
LVC				LR	LR		
	comp=Z,3μm,19.0s						
SPITS	**Spitsbergen Ar**	**68.53**	**10**	LR	LR	09 57 31.9	
	comp=Z,6μm,18.6s,baz=25,slow=39						
TIXI	**Tiksi**	**70.09**	**343**	*c i*P	**P**	**09 24 25.8**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,93nm,1.7s						
CMLA	**Cha da Macela**	**71.28**	**57**	PFAKE		09 24 40.0	+7.7
CMLA				LR	LR		
	comp=Z,3μm,20.0s						
LCO	**Las Campanas**	**71.40**	**141**	*e*P	**P**	**09 24 36.1**	**+2.8**
	comp=Z,76nm,1.4s						
LCO				LR	LR		
	comp=Z,2μm,20.0s						
WAKE	**Wake Island**	**71.88**	**282**	PFAKE		09 24 50.0	+14
WAKE				LR	LR		
	comp=Z,2μm,20.0s						
TARA	**Tarawa**	**74.81**	**263**	PFAKE		09 25 10.0	+16
TARA				LR	LR		
	comp=Z,3μm,20.0s						
YAK	**Yakutsk**	**75.45**	**334**	*e*P	**P**	**09 24 56.7**	**+0.3**
YAK				*e**PP	**pP**	**09 25 04.6**	**+4.1**
YAK				*e*		09 25 07.7	
YAK				*e*		09 27 44.8	
YAK				*e*PPP	PPP	09 29 27.1	
YAK				*e*S	**S**	**09 34 34.0**	**-2.1**
YAK				*e*		09 35 13.2	
YAK				pmax	pmax		
	comp=Z,39nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,18nm,1.3s						
YAK				pmax	pmax		
	comp=Z,33nm,1.6s						
YAK				pmax	pmax		
	comp=E,24nm,1.5s						
YAK				smax	smax		
	comp=E,483nm,8.3s						
YAK				smax	smax		
	comp=N,341nm,6.7s						
YAK				MLR	MLR		
	comp=Z,3μm,17.0s						
YAK				MLR	MLR		
	comp=E,2μm,16.0s						
YAK				MLR	MLR		
	comp=N,1μm,18.0s						
ESK	**Eskdalemuir**	**76.76**	**33**	PFAKE		09 25 20.0	+16
ESK				LR	LR		
	comp=Z,5μm,20.0s						
ARCES	**ARCESS Array B**	**76.77**	**14**	P	**P**	**09 25 03.2**	**-0.6**
ARCES	**ARCESS Array B**	**76.77**	**14**	P	**P**	**09 25 03.2**	**-0.6**
	comp=Z,4.8nm,1.0s,baz=297,slow=5.3,SNR=14						
ARCES				LR	LR	09 59 44.4	
	comp=Z,5μm,21.8s,baz=25,slow=36						
KEV	**Kevo**	**76.89**	**13**	*e*P	**P**	**09 25 06.0**	**+1.5**
KEV	**Kevo**	**76.89**	**13**	*e*p	**P**	**09 25 06.0**	**+1.5**
	comp=Z,3.7nm,0.9s						
KEV	**Kevo**	**76.89**	**13**	*e*P	**P**	**09 25 05.9**	**+1.4**
	comp=Z,26nm,1.4s						
KEV				LR	LR		
	comp=Z,7μm,22.0s						
YSS	**Yuzh-Sakhalins**	**77.28**	**317⇑**	*e*P	**P**	**09 25 10.0**	**+2.9**
YSS				*e*PPS	PPS	09 35 12.0	
YSS				pmax	pmax		
	comp=Z,270nm,2.5s						
YSS				pmax	pmax		
	comp=E,150nm,2.0s						
CPUP	**Villa Florida**	**77.64**	**130**	*e*P	**P**	**09 25 08.3**	**-1.0**
CPUP	**Villa Florida**	**77.64**	**130**	P	**P**	**09 25 08.2**	**-1.1**
	comp=E,9.2nm,0.8s,baz=301,slow=5.8,SNR=8.0						
CPUP				LR	LR	10 02 01.4	
	comp=E,1μm,18.3s,baz=310,slow=38						
BDFB	**Brasilia**	**77.77**	**116**	P	**P**	**09 25 09.3**	**-1.0**
BDFB	**Brasilia**	**77.77**	**116**	P	**P**	**09 25 09.3**	**-1.0**
	comp=E,2.4nm,0.7s,baz=276,slow=9.2,SNR=2.1						
BDFB				LR	LR	09 59 19.3	
	comp=E,3μm,20.8s,baz=304,slow=36						
ASAJ	**Asahikawa**	**78.80**	**314**	P	**P**	**09 25 15.1**	**-0.5**
ASAJ	**Asahikawa**	**78.80**	**314**	P	**P**	**09 25 15.1**	**-0.5**
	comp=E,8.4nm,0.9s,baz=336,slow=2.8,SNR=7.7						
ASAJ				LR	LR	09 56 23.4	
	comp=E,2μm,20.6s,baz=66,slow=33						
NB2	**NORSAR Subarra**	**79.22**	**24**	P	**P**	**09 25 19.4**	**+1.8**
	comp=Z,49nm,1.7s,baz=316,slow=5.9						
NB2	**NORSAR Subarra**	**79.22**	**24**	P	**P**	**09 25 19.4**	**+1.8**
	baz=316,slow=5.9						
NOA	**NORSAR Array B**	**79.22**	**24**	P	**P**	**09 25 17.2**	**-0.4**
NOA	**NORSAR Array B**	**79.22**	**24**	P	**P**	**09 25 17.3**	**-0.4**
	comp=Z,6.1nm,1.0s,baz=312,slow=5.4,SNR=10						
NOA				LR	LR	10 01 27.1	
	comp=Z,4μm,18.4s,baz=345,slow=37						
NAO01	**NORSAR Array S**	**79.24**	**24**	*e*P	**P**	**09 25 18.3**	**+0.6**
	comp=Z,98nm,1.8s						
ERM	**Erimo**	**79.50**	**312**	*e*P	**P**	**09 25 20.3**	**+0.8**
ERM				pmax	pmax		
	comp=Z,65nm,1.3s						
ERM				MLR	MLR		
	comp=Z,2μm,21.0s						
ERM	**Erimo**	**79.50**	**312**	*e*P	**P**	**09 25 20.3**	**+0.8**
	comp=Z,65nm,1.3s						
ERM				LR	LR		
	comp=Z,2μm,21.0s						
KONO	**Kongsberg**	**79.58**	**26**	*e*P	**P**	**09 25 22.5**	**+2.9**
KONO				pmax	pmax		
	comp=Z,76nm,1.6s						
KONO				MLR	MLR		
	comp=Z,6μm,20.0s						
KONO	**Kongsberg**	**79.58**	**26**	*e*P	**P**	**09 25 22.5**	**+2.9**
	comp=Z,76nm,1.6s						
KONO				LR	LR		
	comp=Z,6μm,20.0s						
APA	**Apatity**	**79.98**	**12⇑**	*e*P	P	09 25 25.0	+3.4
APA				MLR	MLR		
	comp=Z,6μm,22.0s						
ROSF	**Rostrenen**	**80.61**	**39**	*e*P	**P**	**09 25 25.5**	**+0.1**
	comp=Z,179nm,1.8s						
CLNS	**Chul'man**	**80.62**	**332**	*e*P	**P**	**09 25 26.3**	**+1.0**
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,1.3s						
PLCA	**Paso Flores**	**80.70**	**148**	*e*P	**P**	**09 25 25.5**	**-0.4**
	comp=E,50nm,1.5s						
PLCA	**Paso Flores**	**80.70**	**148**	P	**P**	**09 25 27.0**	**+1.1**
	comp=E,13nm,1.0s,baz=319,slow=4.9,SNR=8.7						
PLCA				LR	LR	09 54 51.0	
	comp=E,3μm,18.2s,baz=326,slow=31						
MSVF	**Nonsavu**	**80.81**	**244**	PFAKE		09 25 40.0	+13
MSVF				LR	LR		
	comp=Z,1μm,20.0s						
HABR	**Khabarovsk**	**80.87**	**321**	*e*P	**P**	**09 25 26.3**	**-0.4**
HABR				*e**PP	**pP**	**09 25 29.3**	**-1.5**
HABR				*e**SP	**sP**	**09 25 31.0**	**-1.3**
HABR						09 28 29.9	
HABR				*e*PPP	PPP	09 30 19.5	
HABR				*e*S	**S**	**09 35 34.4**	**-0.4**
HABR				*e**SS	**sS**	**09 35 40.1**	**-1.6**
HABR				SS	**SS**	**09 40 48.2**	**+0.6**
HABR				*e*SSS	SSS	09 44 14.5	
HABR				pmax	pmax		
	comp=Z,29nm,1.5s						
HABR				MLR	MLR		
	comp=Z,978nm,18.0s						
QUIF	**Quistinic**	**80.91**	**40**	*e*P	**P**	**09 25 27.2**	**+0.2**
	comp=Z,98nm,1.3s						
SGMF	**Saint Gilles**	**81.06**	**39**	*e*P	**P**	**09 25 27.8**	**+0.1**
	comp=Z,55nm,1.2s						
PGAV	**Gavieira, Arco**	**81.13**	**47**	*e*LR	LR	09 52 08.2	
	comp=Z,4μm,19.0s						
POLO	**Lamas de Olo**	**81.75**	**47**	*e*P	**P**	**09 25 31.3**	**-0.4**
	comp=Z,26nm,1.7s						
FLN	**La Foiniere**	**81.88**	**38**	*e*P	**P**	**09 25 32.7**	**+0.6**
	comp=Z,58nm,1.1s						
FLN				*e*R			
	comp=Z,8μm,20.5s						
GRR	**Gorron**	**81.90**	**38**	*e*P	**P**	**09 25 32.8**	**+0.6**
	comp=Z,42nm,1.2s						
PCAS	**Casmilo, Conde**	**82.00**	**48**	*e*P	P	09 25 36.4	+3.5
	comp=Z,105nm,1.7s						
PVIS	**Viseu**	**82.03**	**48**	*e*P	**P**	**09 25 35.7**	**+2.5**
	comp=Z,70nm,1.4s						
PMAFR	**Mafra**	**82.06**	**50**	*e*P	**P**	**09 25 34.1**	**+0.8**
	comp=Z,104nm,1.7s						
LDF	**La Druitiere**	**82.18**	**38**	*e*P	**P**	**09 25 34.1**	**+0.4**
	comp=Z,37nm,1.2s						
PBRG	**Braganca**	**82.18**	**46**	*e*P	**P**	**09 25 35.5**	**+1.6**
	comp=Z,53nm,1.9s						
KLR	**Kul'dur**	**82.19**	**323**	*e*P	P	09 25 30.0	-3.7
KLR				pmax	pmax		
	comp=E,54nm,2.0s						
KLR				pmax	pmax		
	comp=Z,180nm,2.0s						
MVO	**Moncorvo**	**82.35**	**47**	*e*P	**P**	**09 25 36.3**	**+1.5**
	comp=Z,118nm,2.2s						
MVO				*i* pP	**PcP**	**09 25 39.9**	**-0.1**
MVO	**Moncorvo**	**82.35**	**47**	*e*LR	LR	09 50 58.9	
	comp=Z,4μm,14.4s						
MTE	**Manteigas**	**82.43**	**48**	*e*P	**P**	**09 25 36.5**	**+1.3**
	comp=Z,114nm,1.9s						
MTE	**Manteigas**	**82.43**	**48**	*e*LR	LR	09 52 57.2	
	comp=Z,5μm,21.0s						
MTE	**Manteigas**	**82.43**	**48**	*e*P	**P**	**09 25 34.9**	**-0.4**
	comp=Z,69nm,1.4s						
MTE				LR	LR		
	comp=Z,6μm,20.0s						
RCBR	**Riachuelo**	**82.43**	**101**	PFAKE		09 25 50.0	+14
RCBR				LR	LR		
	comp=Z,2μm,19.0s						
PACT	**Alcochete**	**82.46**	**50**	*e*P	**P**	**09 25 36.8**	**+1.5**
	comp=Z,299nm,2.0s						
PMTG	**Montargil**	**82.70**	**49**	*e*P	**P**	**09 25 36.4**	**-0.2**
	comp=Z,179nm,1.4s						
PCBR	**Castelo Branco**	**82.77**	**48**	*e*P	**P**	**09 25 38.4**	**+1.5**
	comp=Z,124nm,1.8s						
TRQA	**Tornquist**	**82.98**	**141**	*e*P	**P**	**09 25 36.7**	**-1.1**
	comp=Z,31nm,1.4s						
TRQA				LR	LR		
	comp=Z,2μm,19.0s						
PNCL	**Nicolau / Gran**	**83.01**	**50**	*e*P	**P**	**09 25 40.8**	**+2.6**
	comp=Z,181nm,1.9s						
PMRV	**Marv??o**	**83.05**	**48**	*e*P	**P**	**09 25 40.8**	**+2.4**
	comp=Z,170nm,1.9s						
PMRV	**Marv??o**	**83.05**	**48**	*e*LR	LR	09 52 20.4	
	comp=Z,4μm,15.2s						
KAF	**Kangasniemi**	**83.07**	**18**	*e*P	**P**	**09 25 38.3**	**+0.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KAF	**Kangasniemi**	**83.07**	**18**	*e*p	**P**	**09 25 38.3**	**+0.3**
	comp=Z,5.6nm,0.7s						
EVO	**Evora**	**83.13**	**49**	*e*P	**P**	**09 25 38.6**	**-0.2**
	comp=Z,452nm,1.8s						
EVO				*e*R			
	comp=Z,8μm,22.2s						
EVO	**Evora**	**83.13**	**49**	*e*P	**P**	**09 25 40.5**	**+1.7**
	comp=Z,131nm,1.8s						
PTEO	**Sao Teotonio**	**83.18**	**51**	*e*P	P	09 25 42.3	+3.2
	comp=Z,260nm,1.5s						
PESTR	**Estremoz**	**83.22**	**49**	*e*P	**P**	**09 25 40.2**	**+0.9**
	comp=Z,148nm,1.6s						
MFF	**Saint Martin d**	**83.35**	**39**	*e*P	**P**	**09 25 40.5**	**+0.7**
	comp=Z,335nm,1.8s						
MORF	**Marmelete**	**83.36**	**51**	*e*P	**P**	**09 25 38.0**	**-2.1**
MORF				*i* pP	**pP**	**09 25 42.7**	**-1.6**
PBEJ	**Beja**	**83.50**	**50**	*e*P	**P**	**09 25 43.4**	**+2.7**
	comp=Z,77nm,2.2s						
BAIF	**Baives**	**83.51**	**35**	*e*P	**P**	**09 25 41.0**	**+0.5**
	comp=Z,218nm,1.8s						
FIA1	**FINESS Array S**	**83.57**	**18**	*e*P	**P**	**09 25 40.8**	**+0.2**
FINES	**FINESS Array B**	**83.57**	**18**	P	**P**	**09 25 40.2**	**-0.4**
FINES	**FINESS Array B**	**83.57**	**18**	P	**P**	**09 25 40.2**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=338,slow=4.5,SNR=10						
PCVE	**Castro Verde**	**83.59**	**50**	*e*P	**P**	**09 25 42.6**	**+1.4**
	comp=Z,139nm,1.5s						
DOU	**Dourbes**	**83.68**	**35**	P	**P**	**09 25 42.8**	**+1.4**
	comp=Z,38nm,2.1s						
GIVF	**Givet**	**83.79**	**35**	*e*P	**P**	**09 25 42.5**	**+0.5**
	comp=Z,338nm,1.7s						
PBDV	**Barranco-do-Ve**	**83.87**	**51**	*e*P	**P**	**09 25 45.7**	**+3.0**
	comp=Z,127nm,1.9s						
TMCR	**Tamitsa**	**83.89**	**12**	*e*P	**P**	**09 25 45.0**	**+2.8**
TMCR				*e*		09 25 48.7	
TMCR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
PVAQ	**Vaqueiros**	**83.93**	**50**	*e*P	**P**	**09 25 45.1**	**+2.1**
	comp=Z,104nm,1.6s						
PVAQ	**Vaqueiros**	**83.93**	**50**	*e*LR	LR	09 53 08.1	
	comp=Z,4μm,21.5s						
PBAR	**Barrancos**	**83.96**	**49**	*e*P	**P**	**09 25 45.5**	**+2.4**
	comp=Z,107nm,2.1s						
MEM	**Membach**	**84.04**	**34**	P	**P**	**09 25 42.6**	**-0.6**
	comp=Z,31nm,1.8s						
NRDL	**Niedersach Rie**	**84.68**	**31**	*e*P	**P**	**09 25 48.2**	**+1.9**
	comp=Z,76nm,1.5s						
WLF	**Walferdange**	**84.73**	**34**	P	**P**	**09 25 49.1**	**+2.3**
	comp=Z,46nm,2.1s						
WLF	**Walferdange**	**84.73**	**34**	*e*P	**P**	**09 25 48.7**	**+1.9**
	comp=Z,152nm,1.9s						
WLF	**Walferdange**	**84.73**	**34**	*e*P	**P**	**09 25 47.9**	**+1.1**
WLF				pmax	pmax		
	comp=Z,133nm,1.8s						
WLF				MLR	MLR		
	comp=Z,6μm,20.0s						
WLF	**Walferdange**	**84.73**	**34**	*e*P	**P**	**09 25 47.9**	**+1.1**
	comp=Z,133nm,1.8s						
WLF				LR	LR		
	comp=Z,6μm,20.0s						
SJPF	**Ste Jean**	**84.80**	**43**	*e*P	**P**	**09 25 47.8**	**+0.5**
	comp=Z,122nm,1.9s						
TCF	**Toulx Ste Croi**	**84.83**	**39**	*e*P	**P**	**09 25 47.4**	**0.0**
	comp=Z,138nm,1.7s						
LFF	**La Frestale**	**84.85**	**40**	*e*P	**P**	**09 25 48.1**	**+0.7**
	comp=Z,149nm,1.4s						
MEZF	**Maizieres J'vi**	**84.93**	**36**	*e*P	**P**	**09 25 48.1**	**+0.3**
PAB	**San Pablo**	**84.95**	**47**	*e*P	**P**	**09 25 48.3**	**+0.1**
PAB				pmax	pmax		
	comp=Z,90nm,1.9s						
PAB				MLR	MLR		
	comp=Z,4μm,20.0s						
PAB	**San Pablo**	**84.95**	**47**	*e*P	**P**	**09 25 48.2**	**+0.1**
	comp=Z,90nm,1.9s						
PAB				LR	LR		
	comp=Z,4μm,20.0s						
BGF	**Bois d'Agland**	**85.01**	**38**	*e*P	**P**	**09 25 48.4**	**+0.1**
SSF	**Saint Saulge**	**85.05**	**38**	*e*P	**P**	**09 25 48.4**	**0.0**
	comp=Z,102nm,1.6s						
RJF	**Les Rejaudoux**	**85.06**	**40**	*e*P	**P**	**09 25 48.7**	**+0.2**
	comp=Z,197nm,1.6s						
RJF				*e*R			
	comp=Z,10μm,21.2s						
USRK	**Ussuriysk Arra**	**85.09**	**319**	P	**P**	**09 25 48.6**	**0.0**
	comp=Z,2.2nm,0.8s,baz=46,slow=8.2,SNR=15						
USRK				LR	LR	10 04 02.6	
	comp=Z,1μm,19.4s,baz=30,slow=36						
LOR	**Lormes**	**85.10**	**37**	*e*P	**P**	**09 25 49.2**	**+0.5**
	comp=Z,29nm,0.9s						
LOR				*e*R			
	comp=Z,8μm,21.8s						
SFTF	**Sexfontaines**	**85.12**	**36**	*e*P	**P**	**09 25 48.9**	**+0.1**
	comp=Z,120nm,1.4s						
ESDC	**Sonseca Array**	**85.12**	**47**	P	**P**	**09 25 50.0**	**+1.0**
ESDC	**Sonseca Array**	**85.12**	**47**	P	**P**	**09 25 50.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=100,slow=17,SNR=4.9						
ESLA	**Sonseca Array**	**85.12**	**47**	*e*P	**P**	**09 25 50.9**	**+1.9**
	comp=Z,9.8nm,1.5s						
AVF	**Avril sur Loir**	**85.14**	**38**	*e*P	**P**	**09 25 48.9**	**0.0**
	comp=Z,65nm,1.3s						
PAGF	**Fort de Pagny**	**85.24**	**35**	*e*P	**P**	**09 25 49.6**	**+0.2**
	comp=Z,56nm,1.8s						
ETSF	**Etsaut**	**85.32**	**43**	*e*P	**P**	**09 25 50.2**	**+0.2**
	comp=Z,18nm,1.0s						
TNS	**Taunus Mts**	**85.47**	**33**	*e*P	**P**	**09 25 51.9**	**+1.4**
	comp=Z,43nm,1.6s						
TNS	**Taunus Mts**	**85.47**	**33**	*e*P	**P**	**09 25 51.9**	**+1.4**
TNS				pmax	pmax		
	comp=Z,43nm,1.6s						
SMF	**Signal de Mont**	**85.49**	**38**	*e*P	**P**	**09 25 50.2**	**-0.5**
	comp=Z,31nm,1.0s						
THEF	**They Montfort**	**85.59**	**36**	*e*P	**P**	**09 25 51.9**	**+0.8**
CAF	**Calviac**	**85.60**	**40**	*e*P	**P**	**09 25 51.6**	**+0.3**
	comp=Z,71nm,1.4s						
MAJO	**Matsushiro**	**85.67**	**310**	*e*P	**P**	**09 25 51.7**	**0.0**
MAJO				pmax	pmax		
	comp=Z,29nm,1.0s						
MAJO	**Matsushiro**	**85.67**	**310**	*e*P	**P**	**09 25 49.1**	**-2.6**
	comp=Z,56nm,1.2s						
MAJO				LR	LR		
	comp=Z,4μm,21.0s						
MAT	**Matsushiro**	**85.67**	**310**	P	**P**	**09 25 49.6**	**-2.1**
MAT				*e*S	**S**	**09 36 25.0**	**+1.0**
MJAR	**Matsushiro Arr**	**85.67**	**310**	P	**P**	**09 25 50.7**	**-1.1**
MJAR	**Matsushiro Arr**	**85.67**	**310**	P	**P**	**09 25 50.7**	**-1.1**
	comp=Z,4.7nm,0.7s,baz=57,slow=4.2,SNR=12						
MJAR				LR	LR	09 56 40.0	
	comp=Z,3μm,21.6s,baz=80,slow=30						
EPF	**Esparros**	**85.77**	**42**	*e*P	**P**	**09 25 52.5**	**+0.3**
UBBA	**Unterbreizbach**	**85.79**	**32**	*e*P	**P**	**09 25 53.7**	**+1.8**
	comp=Z,62nm,2.2s						
HAU	**Haudompre**	**85.91**	**36**	*e*P	**P**	**09 25 52.2**	**-0.6**
	comp=Z,26nm,0.8s						
HAU				*e*R			
	comp=Z,13μm,19.8s						
CDF	**Champ du Feu**	**86.11**	**35**	*e*P	**P**	**09 25 53.1**	**-0.7**
	comp=Z,17nm,0.9s						
ECH	**Echery**	**86.18**	**35**	*e*P	**P**	**09 25 54.5**	**+0.4**
ECH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ECH				MLR	MLR		
	comp=Z,6μm,20.0s						
ECH	**Echery**	**86.18**	**35**	*e*P	**P**	**09 25 54.5**	**+0.4**
	comp=Z,7.3nm,1.0s						
ECH				LR	LR		
	comp=Z,6μm,20.0s						
MDJ	**Mudanjiang**	**86.19**	**320**	P	**P**	**09 25 55.9**	**+1.7**
MDJ				pP	**pP**	**09 25 59.3**	**+1.0**
MDJ				sP	**sP**	**09 26 00.2**	**+0.4**
MDJ				PP	**PP**	**09 29 17.4**	**+3.3**
MDJ				S	**S**	**09 36 29.8**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,840nm,10.7s						
MDJ				LR	LR		
	comp=N,810nm,29.5s						
MDJ				LR	LR		
	comp=E,1μm,32.2s						
MDJ				LR	LR		
	comp=Z,1μm,18.8s						
MDJ	**Mudanjiang**	**86.19**	**320**	PFAKE		09 26 10.0	+16
MDJ				LR	LR		
	comp=Z,2μm,21.0s						
VSU	**Vasula**	**86.23**	**20**	*c i*P	**P**	**09 25 55.1**	**+1.1**
VSU				pmax	pmax		
	comp=Z,54nm,1.4s						
HINF	**Hinteralfeld**	**86.29**	**36**	*e*P	**P**	**09 25 53.9**	**-0.8**
	comp=Z,28nm,1.0s						
RTC	**Rabat Centre**	**86.38**	**53**	PFAKE		09 26 10.0	+15
RTC				LR	LR		
	comp=Z,4μm,19.0s						
MOF	**Molkenrain**	**86.41**	**35**	*e*P	**P**	**09 25 57.8**	**+2.5**
MTLF	**Montolieu**	**86.67**	**41**	*e*P	**P**	**09 25 57.3**	**+0.8**
	comp=Z,72nm,1.7s						
BFO	**Black Forest**	**86.69**	**34**	PFAKE		09 26 10.0	+13
BFO				LR	LR		
	comp=Z,3μm,20.0s						
CABF	**La Chapelle**	**86.69**	**37**	*e*P	**P**	**09 25 55.9**	**-0.8**
	comp=Z,35nm,1.1s						
SSB	**Saint Sauveur**	**86.74**	**38**	PFAKE		09 26 10.0	+13
SSB				LR	LR		
	comp=Z,5μm,20.0s						
CLL	**Collm**	**86.79**	**30⇓**	*i*P	**P**	**09 26 00.0**	**+3.

comp=Z,6.0nm,1.1s
ORIF Oris-en-Rattie 87.69 38 *e*P **P 09 26 00.6 -1.0**
ORIF *e*R
comp=Z,6μm,22.5s
LPL La Plagne 87.75 37 *e*P **P 09 26 01.7 -0.3**
LPG La Plagne 87.78 37 *e*P **P 09 26 02.1 -0.1**
comp=Z,104nm,1.7s
BNI Bardonecchia 88.03 38 PFAKE 09 26 10.0 +6.7
BNI LR LR
comp=Z,5μm,21.0s
PVCC Panska Ves 88.04 30 *e*P **P 09 26 03.0 0.0**
PVCC *e* 09 26 07.7
PVCC Panska Ves 88.04 30 *e*P **P 09 26 03.0 0.0**
PVCC *e*pP **pP 09 26 07.7 +0.5**
HIA Hailar 88.09 328 PFAKE 09 26 10.0 +6.7
HIA LR LR
comp=Z,3μm,19.0s
SMRF Simiane la Rot 88.14 39 *e*P **P 09 26 03.4 -0.3**
comp=Z,65nm,1.7s
MBDF Montbardon 88.30 38 *e*P **P 09 26 04.0 -0.6**
comp=Z,16nm,1.1s
PRA Prague 88.31 30 P **P 09 26 06.0 +1.7**
PRU Pruhonice 88.42 30 *e*P **P 09 26 05.7 +0.9**
PRU Pruhonice 88.42 30 *e*P **P 09 26 05.7 +0.9**
TUE Stuetta 88.46 35 *e*P **P 09 26 06.2 +0.9**
comp=Z,47nm,1.6s
TUE LR LR
comp=Z,9μm,19.0s
DAVOX Davos/Dischmat 88.51 35 LR LR 10 01 40.8
comp=Z,3μm,21.6s,baz=302,slow=33
KSP Ksiaz 88.55 29 *e*P **P 09 26 05.4 0.0**
KSP *e*PP **pP 09 26 09.1 -0.5**
KSP *e* 09 36 27.6
KHC Kasperske Hory 88.61 31 *e*P **P 09 26 08.6 +2.8**
KHC Kasperske Hory 88.61 31 *e*P **P 09 26 08.6 +2.8**
KHC Kasperske Hory 88.61 31 *e*P **P 09 26 05.0 -0.8**
comp=Z,27nm,1.8s
FETA Feichten 88.77 34⇑ *i*P **P 09 26 05.5 -1.2**
comp=Z,22nm,1.5s
GERES GERESS Array B 88.88 32 P **P 09 26 05.5 -1.6**
GERES GERESS Array B 88.88 32 P **P 09 26 05.5 -1.6**
comp=Z,1.8nm,0.9s,baz=331,slow=4.7,SNR=8.8
GERES LR LR 10 09 29.7
comp=Z,7μm,20.0s,baz=272,slow=38
DPC Dobruska-Polom 88.93 29 *e*P **P 09 26 08.5 +1.2**
DPC Dobruska-Polom 88.93 29 *e*P **P 09 26 08.5 +1.2**
CN2 Changchun 88.99 322 *e*P **P 09 26 07.7 +0.1**
CN2 *e*S **S 09 36 54.7 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.3s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,21.0s
CN2 LR LR
comp=E,1μm,21.0s
CN2 LR LR
comp=Z,1μm,22.0s
TREC Trest 89.35 30 *e*P **P 09 26 10.2 +1.0**
TREC Trest 89.35 30 *e*P **P 09 26 10.2 +1.0**
ABTA Abfaltersbach 89.83 34⇑ *i*pP **P 09 26 13.2 +1.6**
comp=Z,9.0nm,1.3s
MORC Moravsky Berou 89.88 29 *e*P **P 09 26 10.4 -1.3**
MORC pmax pmax
comp=Z,46nm,1.8s
MORC Moravsky Berou 89.88 29 *e*P **P 09 26 10.4 -1.3**
comp=Z,46nm,1.8s
OKC Ostrava-Krasne 90.08 29 *e*P **P 09 26 13.9 +1.3**
OKC Ostrava-Krasne 90.08 29 *e*P **P 09 26 13.9 +1.3**
VLC Villacollemand 90.58 37 PFAKE 09 26 30.0 +15
VLC LR LR
comp=Z,5μm,22.0s
SOKA Soboth 91.07 32⇑ *i*P **P 09 26 15.6 -1.8**
comp=Z,9.9nm,1.2s
HNR Honiara 91.37 260 PFAKE 09 26 30.0 +11
HNR LR LR
comp=Z,2μm,19.0s
VYHS Vyhne 91.41 29 *e*P **P 09 26 18.4 -0.4**
VYHS Vyhne 91.41 29 *e*P **P 09 26 18.4 -0.4**
KSRS Korea Array 91.71 315 P **P 09 26 19.5 -0.9**
comp=Z,0.2nm,0.3s,baz=54,slow=3.4,SNR=2.7
KSRS PP **PP 09 30 03.2 +4.8**
comp=Z,0.6nm,0.5s,baz=57,slow=8.9,SNR=4.3
KSRS LR LR 09 59 24.4
comp=Z,1μm,21.8s,baz=28,slow=30
KSAR Wonju Array Be 91.74 315 P **P 09 26 19.5 -1.1**
KSAR PP **PP 09 30 03.2 +4.6**
OBN Obninsk 91.81 17 *d i*P **P 09 26 22.5 +2.0**
OBN pmax pmax
comp=Z,47nm,1.7s
IRK Irkutsk 91.88 338 *e*P **P 09 26 21.8 +0.8**
IRK pmax pmax
comp=Z,92nm,2.0s
KWP Kalwaria Pacla 92.09 27 PFAKE 09 26 30.0 +8.0
KWP LR LR
comp=Z,5μm,22.0s
CRVS Cervenica-Dubn 92.18 28 *e*P P 09 26 18.0 -4.4
PSZ Piszkesteto 92.30 29 *e*P **P 09 26 22.5 -0.6**
PSZ pmax pmax
comp=Z,77nm,1.8s
PSZ MLR MLR
comp=Z,5μm,19.0s
PSZ Piszkesteto 92.30 29 *e*P **P 09 26 22.5 -0.6**
comp=Z,77nm,1.8s
PSZ LR LR
comp=Z,5μm,19.0s
INCN Inchon 92.47 316 PFAKE 09 26 40.0 +16
INCN LR LR
comp=Z,2μm,22.0s
KOLS Kolonicke sedl 92.48 27 *e*P P 09 26 27.4 +3.6
KOLS Kolonicke sedl 92.48 27 *e*P P 09 26 27.4 +3.6
JNU Nakatsue 92.55 311 LR LR 10 00 07.8
comp=Z,2μm,22.0s,baz=56,slow=30
TLY Talaya 92.57 338 *e*P **P 09 26 26.1 +1.9**
TLY pmax pmax
comp=Z,45nm,1.5s
TLY MLR MLR
comp=Z,2μm,18.0s
TLY Talaya 92.57 338 P **P 09 26 25.7 +1.5**
comp=Z,109nm,1.4s,SNR=5.8
GUMO Guam 92.93 287 PFAKE 09 26 40.0 +14
GUMO LR LR
comp=Z,4μm,19.0s
VSL Villasalto 93.25 40 PFAKE 09 26 40.0 +12
VSL LR LR
comp=Z,3μm,20.0s
AQU L'Aquila 93.42 36 PFAKE 09 26 40.0 +12
AQU LR LR
comp=Z,7μm,20.0s
MOY Mondy 93.43 339 *e*P **P 09 26 29.4 +1.2**
MOY pmax pmax
comp=Z,84nm,2.3s
AKASG Malin Array Be 93.56 23 P **P 09 26 27.8 -0.9**
AKASG 09 30 13.7
AKASG Malin Array Be 93.56 23 P **P 09 26 27.8 -0.9**
AKASG PP **PP 09 30 13.7 +1.3**
AKASG Malin Array Be 93.56 23 P **P 09 26 27.8 -0.9**
comp=Z,1.6nm,0.8s,baz=313,slow=3.9,SNR=11
AKASG PP **PP 09 30 13.7 +1.3**
comp=Z,0.2nm,0.3s,baz=329,slow=7.6,SNR=6.4
AKASG LR LR 10 08 59.8
comp=Z,5μm,21.6s,baz=45,slow=36
KIEV Kiev 93.56 23 *e*P **P 09 26 28.1 -0.6**
KIEV pmax pmax
comp=Z,66nm,1.8s
KIEV MLR MLR
comp=Z,4μm,21.0s
KIEV Kiev 93.56 23 *e*P **P 09 26 28.1 -0.6**
comp=Z,66nm,1.8s
KIEV LR LR
comp=Z,4μm,21.0s
ZAK Zakamensk 93.79 337 *e*P **P 09 26 29.4 -0.5**
ZAK pmax pmax
comp=Z,24nm,1.8s
ARU Arti 94.00 4 P **P 09 26 30.4 -0.2**
ARU 09 30 13.9
ARU S **SKSac 09 37 04.3 -0.9**
ULN Ulaanbaatar 94.54 334 *e*P **P 09 26 34.8 +1.3**
comp=Z,91nm,1.9s
ULN LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 94.57 350 *e*P **P 09 26 33.2 0.0**
NVS *e* 09 30 18.9
NVS pmax pmax
comp=N,10.0nm,1.9s
NVS pmax pmax
comp=Z,44nm,1.9s
NVS pmax pmax
comp=E,12nm,1.7s
EFI East Falkland 94.61 149 PFAKE 09 26 40.0 +6.9
EFI LR LR
comp=Z,1μm,19.0s
BUR08 Bucovina Ar. S 94.67 26 *e*P **P 09 26 36.9 +2.8**
SONM Songino Array 94.81 334 P **P 09 26 34.9 +0.2**
SONM PP **PP 09 30 23.7 +1.3**
SONM Songino Array 94.81 334 P **P 09 26 34.9 +0.2**
comp=Z,3.6nm,1.1s,baz=27,slow=3.5,SNR=14
SONM PP **PP 09 30 23.7 +1.3**
comp=Z,0.3nm,0.5s,baz=14,slow=7.6,SNR=5.0
SONM LR LR 10 10 55.1
comp=Z,3μm,20.9s,baz=21,slow=36
ZAA0 Zalesovo Array 95.18 349 *e*P **P 09 26 35.6 -0.4**
ZALV Zalesovo Beam 95.18 349 *i*P **P 09 26 37.0 +1.0**
ZALV Zalesovo Beam 95.18 349 P **P 09 26 35.3 -0.7**
ZALV Zalesovo Beam 95.18 349 P **P 09 26 35.3 -0.7**
comp=Z,1.2nm,0.8s,baz=5.2,slow=3.7,SNR=7.5
ZALV LR LR 10 13 23.8
comp=Z,2μm,19.9s,baz=155,slow=38
CUC Castrocucco 96.38 37 PFAKE 09 26 50.0 +8.1
CUC LR LR
comp=Z,4μm,19.0s
BJI Beijing 96.55 324 P P 09 26 36.9 -5.7
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJT Baijiatuau 96.57 324 PFAKE 09 26 50.0 +7.3
BJT LR LR
comp=Z,3μm,19.0s
KIS Kishinev 96.57 25 *e* **P 09 26 45.0 +2.5**
KIS LRM MLR 10 13 40.0
comp=Z,4μm,20.0s
SNZO South Karori 96.64 226 PFAKE 09 26 50.0 +7.3
SNZO LR LR
comp=Z,2μm,19.0s
MLR Muntele Rosu 96.73 27 LR LR 10 10 19.7
comp=Z,1μm,21.3s,baz=350,slow=36
TIR Tirane 97.38 33 PFAKE 09 27 00.0 +14
TIR LR LR
comp=Z,6μm,21.0s
TIP Timpagrande 97.48 37 PFAKE 09 27 00.0 +13
TIP LR LR
comp=Z,5μm,20.0s
BRVK Borovoye 97.55 358 *e*P Pdif 09 26 47.6 +0.7
BRVK pmax pmax
comp=Z,5.0nm,1.8s
BRVK Borovoye 97.55 358 PFAKE 09 27 00.0 +13
BRVK LR LR
comp=Z,3μm,20.0s
CEL Celeste 97.70 38 PFAKE 09 27 00.0 +12
CEL LR LR
comp=Z,3μm,20.0s
HHC Hu-ho-hao-te 98.22 327 *e*P **P 09 26 49.6 -0.7**
HHC sP **sP 09 26 55.6 -0.4**
HHC PP **PP 09 30 51.0 +2.1**
HHC SKS **SKSac 09 37 25.9 -2.3**
HHC S S 09 38 11.9 -6.0
HHC sS **ScS 09 38 20.5 +2.5**
HHC SS **SS 09 44 58.1 -1.2**
HHC LR LR
comp=N,1μm,17.6s
HHC LR LR
comp=E,1μm,17.8s
HHC LR LR
comp=Z,2μm,17.8s
WDD Wield Dalam 98.70 40 PFAKE 09 27 00.0 +7.7
WDD LR LR
comp=Z,3μm,20.0s
NJ2 Nanjing 100.84 317 *e*P **Pdif 09 27 00.8 -1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TAM Tamanrasset 101.76 55 PFAKE 09 27 20.0 +14
TAM LR LR
comp=Z,3μm,20.0s
PMSA Palmer Station 101.77 160 PFAKE 09 27 20.0 +15
PMSA LR LR
comp=Z,3μm,22.0s
ASCN Ascension 102.07 92 PFAKE 09 27 20.0 +12
ASCN LR LR
comp=Z,768nm,19.0s
PMG Port Moresby 102.40 266 PFAKE 09 27 20.0 +11
PMG LR LR
comp=Z,4μm,19.0s
MKAR Makanchi Array 102.52 349 P **Pdif 09 27 09.2 0.0**
MKAR *i* 09 31 29.2
MKAR Makanchi Array 102.52 349 P **Pdif 09 27 09.2 0.0**
MKAR PKiKP **PKiKP 09 31 29.1 -1.2**
MKAR Makanchi Array 102.52 349 P **Pdif 09 27 09.2 0.0**
comp=Z,0.1nm,0.4s,baz=356,slow=6.4,SNR=2.8
MKAR PKiKP **PKiKP 09 31 29.1 -1.2**
comp=Z,0.8nm,1.0s,baz=25,slow=3.2,SNR=5.2
SANT Santorini 103.98 33 PFAKE 09 27 30.0 +14
SANT LR LR
comp=Z,2μm,19.0s
TATO Taipei 104.06 310 PFAKE 09 27 30.0 +14
TATO LR LR
comp=Z,2μm,19.0s
ANTO Ankara 104.17 26 PFAKE 09 27 30.0 +13
ANTO LR LR
comp=Z,3μm,21.0s
YHNB Yeheng 104.34 310 PFAKE 09 27 30.0 +12
YHNB LR LR
comp=Z,2μm,22.0s
TORD Torodi Ar. Bea 104.70 65 PKiKP **PKiKP 09 31 34.4 -0.7**
TORD Torodi Ar. Bea 104.70 65 PKiKP **PKiKP 09 31 34.4 -0.7**
comp=Z,0.8nm,1.0s,baz=281,slow=2.2,SNR=2.7
ISP Isparta 105.02 29 PFAKE 09 31 50.0
ISP LR LR
comp=Z,4μm,20.0s
TKM2 Tokmak 2 107.25 353 PFAKE 09 31 50.0
TKM2 LR LR
comp=Z,2μm,20.0s
MALT Malatya 107.57 23 PFAKE 09 31 50.0
MALT LR LR
comp=Z,2μm,19.0s
AAK Ala-Archa 107.65 354 PFAKE 09 31 50.0
AAK LR LR
comp=Z,3μm,22.0s
EKS2 Erkin-Say 107.69 354 PFAKE 09 31 50.0
EKS2 LR LR
comp=Z,2μm,21.0s
GNI Garni 107.74 17 PFAKE 09 31 50.0
GNI LR LR
comp=Z,3μm,19.0s
CTAO Charters Tower 108.02 257 PFAKE 09 31 50.0
CTAO LR LR
comp=Z,2μm,19.0s
CSS Prodhromos 108.64 28 PFAKE 09 31 50.0
CSS LR LR
comp=Z,2μm,21.0s
CD2 Chengdu 109.95 326 Pdif **Pdif 09 27 42.3 -0.3**
CD2 PP **PP 09 32 20.0 +3.7**
CD2 SKS **SKSdf 09 38 53.6 -3.1**
CD2 SS **SS 09 47 40.1 -0.3**
CD2 AMB AMB
comp=Z,2μm,10.2s
CD2 LR LR
comp=N,2μm,17.8s
CD2 LR LR
comp=E,2μm,15.4s
CD2 LR LR
comp=Z,2μm,17.8s
CAN Canberra 111.87 241 PFAKE 09 32 00.0
CAN LR LR
comp=Z,1μm,19.0s
GYA Guiyang 112.04 321 Pdif **Pdif 09 27 51.2 -0.9**
GYA PKP **PKiKP 09 31 47.8 -1.0**
GYA PP **PP 09 32 35.5 +3.9**
GYA PKS **PKSdf 09 35 23.0 -2.7**
GYA SKKS 09 39 27.6
GYA SS **SS 09 48 07.4 -1.4**
GYA AMB AMB
comp=Z,150nm,7.9s
GYA LR LR
comp=N,250nm,23.2s
GYA LR LR
comp=E,210nm,24.5s
GYA LR LR
comp=Z,200nm,23.6s
DAV Davao City (W) 112.31 293 PFAKE 09 32 00.0
DAV LR LR
comp=Z,2μm,20.0s
SHEL Horse Pasture 113.22 96 PFAKE 09 32 00.0
SHEL LR LR
comp=Z,2μm,19.0s
KMI Kunming 115.20 323 PKP **PKPdf 09 31 54.8 -0.2**
QIZ Qiongzhong 115.86 313 PFAKE 09 32 10.0 +14
QIZ LR LR
comp=Z,1μm,20.0s
LSA Lhasa 116.34 336 PFAKE 09 32 10.0 +13
LSA LR LR
comp=Z,2μm,21.0s
STKA Stephens Creek 116.45 247 PKP **PKPdf 09 31 56.3 -0.4**
STKA Stephens Creek 116.45 247 PKP **PKPdf 09 31 56.3 -0.4**
comp=Z,2.5nm,0.9s,baz=4.8,slow=3.4,SNR=3.5
SBA Scott Base 116.58 193 PFAKE 09 32 10.0 +14
SBA LR LR
comp=Z,2μm,20.0s
VNDA Vanda 117.52 194 PKP **PKPdf 09 31 58.8 +1.3**
VNDA Vanda 117.52 194 PKP **PKPdf 09 31 58.8 +1.3**
comp=Z,1.1nm,1.0s,baz=90,slow=2.0,SNR=3.0
WRAB Tennant Creek 118.13 262 PFAKE 09 32 10.0 +10
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 118.14 262 PKP **PKPdf 09 31 58.7 -1.7**
WRA Warramunga Arr 118.14 262 PKP **PKPdf 09 31 58.7 -1.7**
comp=Z,2.9nm,0.9s,baz=66,slow=2.0,SNR=11
ASAR Alice Springs 119.94 258 PKP **PKPdf 09 32 03.1 -0.7**
ASAR Alice Springs 119.94 258 PKP **PKPdf 09 32 03.1 -0.7**
comp=Z,2.1nm,0.8s,baz=77,slow=2.0,SNR=13
KKM Kota Kinabalu 120.30 298 PFAKE 09 32 20.0 +15
KKM LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 122.38 323 PFAKE 09 32 20.0 +11
CHTO LR LR
comp=Z,1μm,19.0s
CMAR Chiang Mai Arr 122.67 322 PKP **PKPdf 09 32 10.2 +1.0**
CMAR Chiang Mai Arr 122.67 322 PKP **PKPdf 09 32 10.2 +1.0**
comp=Z,2.3nm,1.0s,baz=326,slow=2.8,SNR=7.5
VNA1 Neumayer--Stat 122.82 158 *e*P **PKPdf 09 32 10.5 +2.7**
DRV Dumont d'Urvil 123.25 207 SS SS 09 50 21.0 -13
KAPI Kappang 123.90 285 PFAKE 09 32 20.0 +8.4
KAPI LR LR
comp=Z,1μm,22.0s
SNAA Sanae 124.45 159 *e*P **PKPdf 09 32 11.2 +0.2**
SNAA Sanae 124.45 159 *e* 09 32 27.7
KSM Kuching 127.73 298 PFAKE 09 32 30.0 +11
KSM LR LR
comp=Z,562nm,19.0s
MBWA Marble Bar 131.26 267 PFAKE 09 32 40.0 +15
MBWA LR LR
comp=Z,2μm,20.0s
KULM Kulim 132.03 311 PFAKE 09 32 40.0 +13
KULM LR LR
comp=Z,1μm,22.0s
CASY Casey 134.60 203 *e*PKPdf **PKPdf 09 32 32.5 +2.2**
CASY LR LR
comp=Z,3μm,20.0s
TSUM Tsumeb 134.82 88 PFAKE 09 32 40.0 +7.6
TSUM LR LR
comp=Z,2μm,19.0s
MBAR Mbarara 135.57 56 PFAKE 09 32 50.0 +16
MBAR LR LR
comp=Z,713nm,22.0s
NWAO Narrogin (SRO) 136.60 252 PFAKE 09 32 50.0 +15
NWAO LR LR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 140.46 49 PFAKE 09 32 50.0 +6.9
KMBO LR LR
comp=Z,2μm,20.0s
SUR Sutherland 141.24 106 PFAKE 09 33 00.0 +16
SUR LR LR
comp=Z,1μm,19.0s
MAW Mawson 141.98 178 PKPpre PKPpre 09 32 39.3
MAW PKP **PKPdf 09 32 43.6 -0.3**
MAW Mawson 141.98 178 PKhKP PKPpre 09 32 39.3
comp=Z,2.4nm,0.8s,baz=286,slow=5.1,SNR=5.0
MAW PKP **PKPdf 09 32 43.6 -0.3**
comp=Z,2.4nm,0.8s,baz=190,slow=1.8,SNR=7.5
LSZ Lusaka 142.26 76 *e*PKPdf **PKPdf 09 32 44.2 -1.9**
LSZ LR LR
comp=Z,2μm,20.0s
BOSA Boshof 144.36 99 PKP **PKPab 09 32 46.5 -1.0**
BOSA Boshof 144.36 99 PKP **PKPab 09 32 46.5 -1.0**
comp=Z,8.9nm,0.8s,baz=251,slow=4.1,SNR=12
COCO West Island 146.66 295 PFAKE 09 33 00.0 +3.7
COCO LR LR
comp=Z,1μm,21.0s
MSEY Mahe Island 153.16 24 PFAKE 09 33 10.0 -1.4
MSEY LR LR
comp=Z,2μm,21.0s
DGAR Diego Garcia 157.09 344 PFAKE 09 33 20.0 +11
DGAR LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 159.76 63 PFAKE 09 33 20.0 +7.5
ABPO LR LR
comp=Z,2μm,22.0s
PAF Port-aux-Franc 160.10 188 PFAKE 09 33 20.0 +8.3
PAF LR LR
comp=Z,3μm,20.0s
RER Riviere de l'E 167.33 50 PFAKE 09 33 30.0 +11
RER LR LR
comp=Z,1μm,20.0s

IDC 05 09:31:40.5±1.1, 4°.76N×78°.07W, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.5/4, Error ellipse: s-maj=30.9km s-min=16.8km az=21.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.73**	**88**	Pg	Pb	09 32 49.8	+2.1
5.2nm,0.3s,baz=91,slow=10.0,SNR=7.4							
ROSC				Sn	Sn	09 33 23.9	-0.9
4.4nm,0.3s,baz=102,slow=20,SNR=4.7							
ROSC				Lg	Lg	09 33 38.8	
4.3nm,0.3s,baz=280,slow=22,SNR=6.2							
LPAZ	**La Paz**	**23.11**	**155**	P	P	09 36 49.6	+0.6
1.8nm,0.6s,baz=329,slow=12,SNR=12							
TXAR	**Lajitas Array**	**34.42**	**318**	P	P	09 38 29.9	-0.1
0.3nm,0.8s,baz=116,slow=6.1,SNR=3.1							
PDAR	**Pinedale Array**	**47.03**	**328**	P	P	09 40 14.1	-0.1
0.3nm,0.7s,baz=127,slow=10,SNR=3.1							
NVAR	**Mina Array Bea**	**49.57**	**318**	P	P	09 40 34.2	+0.4
0.3nm,0.6s,baz=143,slow=9.1,SNR=4.7							
ASAR	**Alice Springs**	**143.91**	**235**	PKP	PKPab	09 51 16.1	+0.1
0.3nm,0.7s,baz=112,slow=4.1,SNR=3.9							
WRA	**Warramunga Arr**	**145.03**	**242**	PKPbc	PKPbc	09 51 18.8	-1.4
0.7nm,0.7s,baz=104,slow=2.9,SNR=8.1							

---

*ISCJB **05** 09:37:28.9±0.2, 60°.19N±0°.02×153°.18W±0°.05, h151km±3km, mb3.7/7, Error ellipse: s-maj=4.8km s-min=2.9km az=42.4*
*IDC **05** 09:37:29.0±1.9, 60°.36N×153°.42W, h120km±19km, mb3.5/7, mb1 3.7/12, mb1mx3.4/33, mbtmp3.6/12, Error ellipse: s-maj=21.5km s-min=16.1km az=103.0*
*NEIC **05** 09:37:30.9, 60°.18N×153°.16W, h143km, MG3.6(AEIC), After AEIC.*

ISC 05 09:37:30.1±0.7, 60°.19N±0°.03×153°.17W±0°.04, h142km±6km, n130, σ0.95/143, mb3.7/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.14**	**174**	P	**Pn**	**09 37 49.7**	**+0.2**
ILIM	**Iliamna**	**0.15**	**138**	P	**Pn**	**09 37 49.6**	**+0.2**
ILS	**Iliamna Low So**	**0.24**	**168**	P	**Pn**	**09 37 49.7**	**+0.1**
RSO	**Redoubt South**	**0.34**	**37**	*e*Pn	**Pn**	**09 37 50.3**	**+0.3**
NCT	**North Crescent**	**0.39**	**18**	P	**Pn**	**09 37 50.4**	**+0.3**
NCT				S	**Sn**	**09 38 05.6**	**+0.2**
DFR	**Drift River**	**0.47**	**31**	P	**Pn**	**09 37 50.5**	**+0.1**
RDT	**Redoubt**	**0.54**	**44**	P	**Pn**	**09 37 51.1**	**+0.3**
OPT	**Oil Point**	**0.54**	**183**	P	**Pn**	**09 37 51.2**	**+0.4**
BGRM	**Barrier Glacie**	**0.68**	**33**	P	**Pn**	**09 37 51.9**	**+0.3**
AUW	**Augustine West**	**0.84**	**191**	P	**Pn**	**09 37 53.2**	**+0.5**
AUE	**Augustine Isla**	**0.84**	**187**	P	**Pn**	**09 37 53.0**	**+0.2**
HOM	**Homer**	**0.94**	**124**	P	**Pn**	**09 37 54.4**	**+0.9**
HOM				S	**Sn**	**09 38 12.4**	**+1.1**
NNL	**Ninilchik**	**0.95**	**98**	P	**Pn**	**09 37 55.0**	**+1.4**
CKL	**Chakachamna La**	**1.08**	**22**	P	**Pn**	**09 37 55.5**	**+0.6**
NKA	**Nikishka**	**1.10**	**59**	P	**Pn**	**09 37 56.9**	**+2.0**
SPU	**Mount Spurr**	**1.13**	**28**	P	**Pn**	**09 37 55.7**	**+0.4**
BGL	**Barrier Glacie**	**1.14**	**19**	P	**Pn**	**09 37 56.3**	**+0.9**
SPBG	**Spurr Blockage**	**1.14**	**20**	P	**Pn**	**09 37 56.3**	**+0.9**
SPBG				S	**Sn**	**09 38 15.8**	**+1.1**
MCNL	**McNeil River**	**1.17**	**211**	P	**Pn**	**09 37 55.7**	**0.0**

CNPM	**China Poot**	1.18	124	P		Pn	09 37 56.1	+0.3
CNPM				S		Sn	09 38 15.5	+0.2
BRLK	**Bradley Lake**	1.23	110	P		Pn	09 37 56.4	+0.2
BRLK				S		Sn	09 38 15.6	-0.5
STLK	**Strandline Lak**	1.46	26	P		Pn	09 37 59.1	+0.4
SVW2	**Sparrevohn**	1.50	308	P		Pn	09 37 58.5	-0.4
SLKM	**Skilak Lake**	1.50	77	P		Pn	09 37 59.2	+0.2
KAPH	**Katmai Pasha**	1.71	201	P		Pn	09 38 01.5	+0.1
KAPH				S		Sn	09 38 25.1	-0.3
SUA	**Susitna One**	1.74	42	P		Pn	09 38 02.1	+0.3
SKT	**Skwentna**	1.96	23	P		Pn	09 38 04.5	+0.3
KAKN	**Katmai Knife C**	2.14	208	P		Pn	09 38 06.3	-0.1
KAKN				S		Sn	09 38 33.1	-1.2
KELA	**Mount Kelaz**	2.20	218	P		Pn	09 38 06.9	-0.3
KABR	**Katmai Barrier**	2.27	205	P		Pn	09 38 07.5	-0.5
ANCK	**Angle Creek**	2.33	212	P		Pn	09 38 08.7	0.0
CAHL	**Cahill**	2.41	208	P		Pn	09 38 09.8	+0.1
PMR	**Palmer**	2.42	53	P		Pn	09 38 08.5	-1.2
KDAK	**Kodiak Island**	2.44	173	P		Pn	09 38 09.4	-0.5
KDAK	**Kodiak Island**	2.44	173	P		Pn	09 38 09.4	-0.5
	11nm,0.3s,baz=9.7,slow=7.2,SNR=72							
KDAK				S		Sn	09 38 39.5	-1.1
	97nm,0.3s,baz=146,slow=23,SNR=58							
KJL	**Kejulik**	2.48	211	P		Pn	09 38 10.9	+0.3
CUT	**Chulitna**	2.62	31	P		Pn	09 38 12.3	+0.1
PPLA	**Purkeypile**	2.75	9	P		Pn	09 38 15.0	+1.0
SML	**Sawmill**	2.86	53	P		Pn	09 38 14.2	-1.0
PLK2	**Peulik 2**	2.94	215	P		Pn	09 38 16.7	+0.4
OHAK	**Old Harbor**	2.98	181	P		Pn	09 38 16.9	-1.9
PLK1	**Peulik 1**	2.99	218	P		Pn	09 38 17.1	+0.3
TT01	**Tatalina**	3.05	335	P		Pn	09 38 17.2	-0.3
GLI	**Glacier Island**	3.08	74	P		Pn	09 38 16.4	-1.7
PLBL	**Peulik Blue Cr**	3.14	219	P		Pn	09 38 19.3	+0.5
CAST	**Castle Rocks**	3.28	9	P		Pn	09 38 20.9	+0.3
SCM	**Sheep Creek Mo**	3.28	57	P		Pn	09 38 19.9	-0.8
JPK	**Jack Peak**	3.35	72	P		Pn	09 38 20.6	-1.0
VLZ	**Valdez**	3.49	71	P		Pn	09 38 22.4	-0.9
KTH	**Kantishna Hill**	3.54	17	P		Pn	09 38 23.8	-0.1
TRF	**Thorofare Moun**	3.54	21	P		Pn	09 38 24.1	-0.1
EYAK	**Cordova Ski Ar**	3.70	81	P		Pn	09 38 26.2	+0.1
CHUM	**Lake Minchumin**	3.72	6	P		Pn	09 38 26.6	+0.3
DIV	**Divide**	3.76	72	P		Pn	09 38 27.2	+0.3
KLU	**Klutina**	3.78	67	P		Pn	09 38 26.2	-0.9
RND	**Reindeer**	3.82	31	P		Pn	09 38 27.6	-0.1
SGAM	**Sherman Glacie**	3.97	82	P		Pn	09 38 29.6	+0.1
DHY	**Denali Highway**	4.00	41	P		Pn	09 38 29.8	-0.4
MCK	**McKinley**	4.07	28	P		Pn	09 38 31.3	+0.3
ANNW	**Aniakchak Nort**	4.18	221	P		Pn	09 38 32.8	+0.3
GOAT	**Goat Mountain**	4.21	81	P		Pn	09 38 32.9	+0.2
RAGM	**Ragged Mountai**	4.23	84	P		Pn	09 38 33.1	+0.1
ANPK	**Aniakchak Peak**	4.25	220	P		Pn	09 38 33.3	-0.1
BMRM	**Bremner River**	4.29	76	P		Pn	09 38 33.9	-0.1
ANPB	**Aniakchak Plen**	4.33	220	P		Pn	09 38 34.6	+0.1
HARP	**HAARP**	4.46	57	P		Pn	09 38 36.0	0.0
NICHA	**Nichawak Mount**	4.59	85	P		Pn	09 38 37.9	+0.2
PAX	**Paxson**	4.61	50	P		Pn	09 38 38.1	-0.1
WASW	**Wrangell South**	4.70	64	P		Pn	09 38 40.2	+0.7
GLB	**Gilahina Butte**	4.75	71	P		Pn	09 38 40.5	+0.6
CHGN	**Chignik**	4.79	218	*e*Pn		Pn	09 38 39.3	-1.1
CHGN				*e*Sn		Sn	09 39 32.5	-2.6
NEA	**Nenana**	4.79	22	P		Pn	09 38 40.1	-0.3
VRDI	**Verde Repeater**	4.88	74	P		Pn	09 38 42.1	+0.3
WRH	**Wood River Hil**	4.90	27	P		Pn	09 38 41.4	-0.5
KHIT	**Khitrov Hills**	4.94	83	P		Pn	09 38 42.5	0.0
MLY	**Manley**	4.98	12	P		Pn	09 38 43.6	+0.6
VNHG	**Veniaminof 1**	5.09	221	P		Pn	09 38 44.7	+0.1
MCARA	**McCarthy VSAT**	5.11	72	P		Pn	09 38 45.1	+0.4
HDA	**Harding Lake**	5.12	32	P		Pn	09 38 44.5	-0.3
KULT	**Kultieth River**	5.21	85	P		Pn	09 38 46.3	+0.2
VNWF	**Veniaminof 8**	5.28	223	P		Pn	09 38 46.7	-0.3
MENT	**Mentasta**	5.29	55	*e*Pn		Pn	09 38 46.6	-0.5
MDM	**Murphy Dome**	5.30	23	P		Pn	09 38 46.9	-0.3
COLA	**College**	5.30	25	P		Pn	09 38 46.7	-0.5
BARK	**Barkley Ridge**	5.31	83	P		Pn	09 38 48.0	+0.5
PTPK	**Patty Peak**	5.35	75	P		Pn	09 38 48.3	+0.2
KIAG	**Kiagna River**	5.38	78	P		Pn	09 38 49.0	+0.5
ISLE	**Juniper Island**	5.38	81	P		Pn	09 38 49.0	+0.6
BALM	**Baldy**	5.40	76	P		Pn	09 38 49.2	+0.6
IL1	**Eielson Array**	5.44	30	P		Pn	09 38 48.3	-0.7
ILAR	**Eielson Array**	5.44	30	P		Pn	09 38 48.3	-0.7
ILAR				S		Sn	09 39 46.9	-3.7
ILAR	**Eielson Array**	5.44	30	P		Pn	09 38 48.3	-0.7
	21nm,0.3s,baz=214,slow=13,SNR=1546							
ILAR				S		Sn	09 39 46.9	-3.7
	7.7nm,0.3s,baz=212,slow=22,SNR=7.9							
BAGL	**Bagley Icefiel**	5.51	82	P		Pn	09 38 50.6	+0.6
MESA	**MESA**	5.60	85	P		Pn	09 38 52.1	+0.7
GRNC	**Granite Creek**	5.67	80	P		Pn	09 38 53.0	+0.7
BARN	**Barnard Glacie**	5.73	76	P		Pn	09 38 53.9	+0.8
SCRK	**Sand Creek**	5.74	45	P		Pn	09 38 52.5	-0.7
IM3	**Indian Mountai**	5.82	358	P		Pn	09 38 54.1	+0.1
RKAV	**Rock Avalanche**	5.89	84	P		Pn	09 38 55.4	+0.2
TABL	**Table Mountain**	5.98	82	P		Pn	09 38 57.0	+0.5
BCA3	**Beaver Creek A**	6.14	57	P		Pn	09 38 58.5	+0.1
SAMH	**Samovar Hills**	6.18	85	P		Pn	09 39 00.0	+0.9
DTNA	**Dutton South F**	7.02	228	P		Pn	09 39 10.3	+0.1
DT1	**Dutton Round H**	7.06	228	P		Pn	09 39 10.4	-0.3
DRIA	**Deer Island**	7.16	227	P		Pn	09 39 11.4	-0.8
COLD	**Coldfoot**	7.18	9	P		Pn	09 39 12.4	+0.1
EGAK	**Eagle**	7.21	45	*e*Pn		Pn	09 39 11.9	-0.8
	12nm,0.4s							
DAWY	**Dawson**	7.53	53	P		Pn	09 39 17.1	+0.1
HYT	**Haines Junctio**	7.76	79	P		Pn	09 39 19.9	-0.3
BM3	**Burnt Mountain**	8.17	24	P		Pn	09 39 23.9	-1.7
INK	**Inuvik**	11.74	38	P		Pn	09 40 12.2	-0.5
INK	**Inuvik**	11.74	38	P		Pn	09 40 12.2	-0.5
	0.6nm,0.3s,baz=243,slow=25,SNR=10							
DLBC	**Dease Lake**	11.93	88	P		Pn	09 40 16.8	+1.3
DLBC				S		Sn	09 42 24.1	-3.0
DLBC	**Dease Lake**	11.93	88	P		Pn	09 40 16.8	+1.3
	0.2nm,0.3s,baz=280,slow=11,SNR=4.3							
DLBC				S		Sn	09 42 24.1	-3.0
	0.2nm,0.3s,baz=307,slow=20,SNR=3.0							
YKA	**Yellowknife Ar**	18.45	66	P		P	09 41 35.3	+1.0
YKA	**Yellowknife Ar**	18.45	66	P		P	09 41 35.3	+1.0
	0.5nm,0.3s,baz=280,slow=9.8,SNR=15							
SPITS	**Spitsbergen Ar**	41.73	3	P		P	09 45 03.5	-0.7
SPITS	**Spitsbergen Ar**	41.73	3	P		P	09 45 03.5	-0.7
	0.4nm,0.3s,baz=30,slow=8.9							
TXAR	**Lajitas Array**	45.13	110	P		P	09 45 35.0	+2.9
TXAR	**Lajitas Array**	45.13	110	P		P	09 45 35.0	+2.9
	0.1nm,0.4s,baz=318,slow=2.6,SNR=3.7							
ARCES	**ARCESS Array B**	50.56	1	P		P	09 46 13.4	+0.1
ARCES	**ARCESS Array B**	50.56	1	P		P	09 46 13.4	+0.1
	0.6nm,0.8s,baz=329,slow=8.9,SNR=4.0							
SONM	**Songino Array**	54.61	306	P		P	09 46 44.6	+1.1
SONM	**Songino Array**	54.61	306	P		P	09 46 44.6	+1.1
	2.3nm,0.6s,baz=43,slow=8.5,SNR=10							
KURK	**Kurchatov**	61.82	325	P		P	09 47 33.6	+0.3
BVAR	**Borovoye Array**	61.86	332	P		P	09 47 32.9	-0.7
BVAR	**Borovoye Array**	61.86	332	P		P	09 47 32.9	-0.7
	4.8nm,0.6s,baz=32,slow=5.8,SNR=16							
KURBB	**Kurchatov Arra**	61.93	325	P		P	09 47 33.6	-0.5
	2.1nm,0.8s,baz=28,slow=6.6,SNR=8.7							
MKAR	**Makanchi Array**	64.23	321	P		P	09 47 48.5	-0.8
MKAR	**Makanchi Array**	64.23	321	P		P	09 47 48.5	-0.8
	0.5nm,0.6s,baz=43,slow=6.6,SNR=5.7							
	comp=E,100nm,0.5s							
DLH	**Dalhousie**	6.00	130	*e*P		Pn	09 44 00.0	-0.7
DLH				*e*S		S	09 45 07.0	-2.7
AML	**Almayashu**	6.07	23	*i* PN		Pn	09 44 00.8	-0.9
AML	**Almayashu**	6.07	23	P		Pn	09 44 00.8	-0.9
	SNR=83							
UCH	**Uchtor**	6.43	27	P		S	09 45 17.1	-3.1
	SNR=17							
KK31	**Karatay Array**	6.54	360	⇓P		Pn	09 44 06.1	-1.2
	comp=E,3.3nm,0.3s,baz=196,slow=17,SNR=63							
KK31				⇓S		S	09 45 16.4	-5.5
	comp=E,42nm,0.6s,baz=189,slow=23,SNR=22							
EKS2	**Erkin-Say**	6.58	21	P		Pn	09 44 07.8	-0.3
	SNR=12							
KZA	**Kyzart**	6.60	32	*i* PN		Pn	09 44 07.9	-0.7
KZA	**Kyzart**	6.60	32	P		Pn	09 44 07.9	-0.7
	SNR=8.9							
AAK	**Ala-Archa**	6.78	25	*i* PN		Pn	09 44 10.6	-0.1
AAK	**Ala-Archa**	6.78	25	P		Pn	09 44 10.7	-0.1
	SNR=10.0							
AAK	**Ala-Archa**	6.78	25	P		Pn	09 44 10.5	-0.2
	comp=E,3.6nm,0.3s,baz=188,slow=5.4,SNR=15							
AAK				S		S	09 45 24.9	-3.1
	comp=E,5.9nm,0.3s,baz=316,slow=24,SNR=31							
KBK	**Karagaybulak**	6.97	28	*i* PN		Pn	09 44 13.4	+0.3
KBK	**Karagaybulak**	6.97	28	P		Pn	09 44 13.4	+0.3
	SNR=5.7							
CHMS	**Chumysh**	7.20	25	*i* PN		Pn	09 44 15.6	-0.3
CHMS	**Chumysh**	7.20	25	P		Pn	09 44 15.6	-0.3
	SNR=8.1							
TKM2	**Tokmak 2**	7.44	30	⇑P		Pn	09 44 18.8	-0.5
	comp=E,11nm,0.5s							
TKM2				⇑S		S	09 45 40.9	-2.8
	comp=E,20nm,0.8s							
TKM2	**Tokmak 2**	7.44	30	*i* PN		Pn	09 44 19.2	-0.1
TKM2	**Tokmak 2**	7.44	30	P		Pn	09 44 19.2	-0.1
	SNR=13							
SMLA	**Simla**	7.72	133	*i* P		Pn	09 44 21.2	-1.5
SMLA				*i* S		S	09 45 44.0	-5.9
SMLA				*i* S		S	09 45 45.0	-5.0
KHET	**Khetri**	9.55	151	*e*P		Pn	09 44 43.8	-2.8
KHET				*e*S		S	09 46 22.8	-11
KHET				AML		AML	09 46 27.5	
	comp=E,38nm,0.5s							
KHET				AML		AML	09 46 27.8	
	comp=N,37nm,0.4s							
SONA	**Sohna**	9.95	145	*e*S		S	09 46 32.6	-11
SONA				AML		AML	09 46 37.5	
	comp=N,24nm,0.4s							
SONA				AML		AML	09 46 40.1	
	comp=E,40nm,0.2s							
AGRA	**Agra**	11.22	144	*e*S		S	09 47 02.3	-10
AGRA				AML		AML	09 47 06.7	
	comp=N,38nm,0.3s							
AGRA				AML		AML	09 47 08.9	
	comp=E,63nm,0.5s							
MKAR	**Makanchi Array**	13.45	37	P		P	09 45 39.5	+0.9
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	13.45	37	P		P	09 45 39.5	+0.9
	comp=Z,0.9nm,0.3s,baz=212,slow=11,SNR=45							
AB31	**Akbulak array**	14.86	332	P		Pn	09 45 51.8	-1.6
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=31							
KURBB	**Kurchatov Arra**	15.18	20	P		P	09 46 00.0	+2.4
	comp=Z,0.1nm,0.3s,baz=211,slow=10,SNR=4.2							
KURK	**Kurchatov**	15.29	20	P		P	09 46 00.0	+1.2
PKIN	**Phulchoki**	15.43	121	*e*P		P	09 46 03.8	+2.9
	comp=Z,34nm,0.7s							
PKI	**Pulchoki**	15.44	121	*e*P		P	09 46 04.7	+3.6
	comp=Z,33nm,0.6s							
JIRN	**Jiri**	15.93	119	*e*P		Pn	09 46 08.5	+1.6
	comp=Z,18nm,0.4s							
BVA0	**Borovoye Array**	16.46	360	⇓P		Pn	09 46 14.1	+1.5
	comp=Z,2.7nm,0.7s,baz=162,slow=9.5,SNR=10							
BVAR	**Borovoye Array**	16.46	360	P		Pn	09 46 13.9	+1.2
BVAR				S		S	09 49 17.3	+3.8
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	16.46	360	P		Pn	09 46 13.9	+1.2
	comp=Z,1.1nm,0.3s,baz=167,slow=8.8,SNR=10							
BVAR				sP		sP	09 46 57.0	-14
	comp=Z,0.4nm,0.3s,baz=174,slow=14,SNR=1.4							
BVAR				S		S	09 49 17.3	+3.8
	comp=Z,0.2nm,0.3s,baz=156,slow=25,SNR=2.6							
BRVK	**Borovoye**	16.50	359	*e*P		Pn	09 46 14.0	+0.9
AKTO	**Aktyubinsk**	16.55	331	⇓P		Pn	09 46 13.8	+0.1
	comp=Z,9.7nm,0.6s							
AKTO	**Aktyubinsk**	16.55	331	P		Pn	09 46 14.2	+0.4
AKTO				S		S	09 49 09.9	-5.5
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	16.55	331	P		Pn	09 46 14.2	+0.4
	comp=Z,1.3nm,0.3s,baz=148,slow=11,SNR=50							
AKTO				S		S	09 49 09.8	-5.5
	comp=Z,0.1nm,0.3s,baz=11,slow=14,SNR=3.3							
RAMN	**Ramite**	16.65	121	*e*P		Pn	09 46 15.8	+0.4
	comp=Z,7.0nm,0.4s							
ZALV	**Zalesovo Beam**	20.01	25	P		Pn	09 46 52.5	-2.2
ZALV				pmax		pmax		
	comp=Z,7.0nm,0.5s							
ZALV	**Zalesovo Beam**	20.01	25	P		Pn	09 46 52.5	-2.2
	comp=Z,7.2nm,0.5s,baz=220,slow=11,SNR=27							
NVS	**Novosibirsk**	20.25	22	*e*P		P	09 46 54.0	+1.3
ARU	**Arti**	21.46	342	*d* P		P	09 47 06.4	+1.0
ARU				S		S	09 51 04.9	+15
ARU				pmax		pmax		
	comp=Z,11nm,1.2s							
KIV	**Kislovodsk**	22.45	298	*e*P		P	09 47 10.2	-5.0
KIV				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ANN	**Anapa**	26.29	299	*e*P		P	09 47 46.1	-3.7
ANN				pmax		pmax		
	comp=Z,18nm,0.9s							
AKASG	**Malin Array Be**	32.63	309	P		P	09 48 46.6	+1.0
AKASG	**Malin Array Be**	32.63	309	P		P	09 48 46.6	+1.0
	comp=Z,0.5nm,0.4s,baz=85,slow=6.6,SNR=4.1							
FINES	**FINESS Array B**	37.23	326	P		P	09 49 27.0	+2.3
	comp=Z,1.0nm,0.3s,baz=124,slow=9.7,SNR=13							
ARCES	**ARCESS Array B**	40.95	338	P		P	09 49 57.8	+2.3
	comp=Z,1.3nm,0.5s,baz=112,slow=8.8,SNR=16							
NB2	**NORSAR Subarra**	44.12	323	P		P	09 50 22.6	+1.5
	comp=Z,1.9nm,0.7s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	44.12	323	P		P	09 50 22.8	+1.8
	comp=Z,1.7nm,0.6s,baz=97,slow=7.9,SNR=9.9							
SPITS	**Spitsbergen Ar**	47.35	347	P		P	09 50 49.6	+3.5
	comp=Z,0.5nm,0.4s,baz=81,slow=9.2,SNR=5.8							
TORD	**Torodi Ar. Bea**	65.36	268	P		P	09 52 54.5	+0.5
	comp=Z,0.2nm,0.5s,baz=52,slow=5.6,SNR=4.0							
ILAR	**Eielson Array**	74.82	16	P		P	09 53 53.2	+2.5
	comp=Z,0.2nm,0.5s,baz=306,slow=5.1,SNR=3.8							
WRA	**Warramunga Arr**	82.33	122	P		P	09 54 33.4	+1.1
	comp=Z,0.3nm,0.8s,baz=321,slow=4.9,SNR=2.9							
ASAR	**Alice Springs**	84.58	125	P		P	09 54 45.1	+1.4
	comp=Z,0.3nm,0.6s,baz=311,slow=5.6,SNR=3.8							
MSZ	**Milford Sound**	1.52	53	PN		Pn	10 08 38.8	-1.1
MSZ				SN		Sn	10 08 59.2	-1.0
MSZ				AML		AML	10 09 11.3	
MSZ				AML		AML	10 09 13.5	
MSZ				AML		AML	10 09 13.6	
APZ	**The Paps**	1.74	136	PN		Pn	10 08 42.2	-0.7
APZ				SN		Sn	10 09 05.4	-0.2
WKZ	**Wanaka**	2.12	70	PN		Pn	10 08 49.2	+1.0
WKZ				AML		AML	10 09 27.9	
WKZ				AML		AML	10 09 27.9	
WKZ				AML		AML	10 09 42.8	
WKZ				AML		AML	10 09 42.9	
EAZ	**Earnscleugh**	2.20	81	PN		Pn	10 08 50.3	+1.0
EAZ				AML		AML	10 09 23.4	
EAZ				AML		AML	10 09 23.4	
EAZ				AML		AML	10 09 27.6	
EAZ				AML		AML	10 09 27.6	
SYZ	**Scrubby Hill**	2.23	116	PN		Pn	10 08 50.5	+0.8
JCZ	**Jackson Bay**	2.36	51	AML		AML	10 09 35.0	
JCZ				AML		AML	10 09 38.9	
TUZ	**Tuapeka**	2.41	100	PN		Pn	10 08 53.4	+1.3
TUZ				AML		AML	10 09 27.5	
TUZ				AML		AML	10 09 29.6	
LBZ	**Lake Benmore**	3.06	68	AML		AML	10 09 55.6	
LBZ				AML		AML	10 09 55.6	
LBZ				AML		AML	10 09 59.4	
LBZ				AML		AML	10 09 59.5	
ODZ	**Otahua Downs**	3.17	81	PN		Pn	10 09 02.2	-0.4
FOZ	**Fox Glacier**	3.21	52	AML		AML	10 10 00.5	
FOZ				AML		AML	10 10 07.3	
RPZ	**Rata Peaks**	3.93	63	AML		AML	10 10 22.6	
RPZ				AML		AML	10 10 27.7	
RPZ	**Rata Peaks**	3.93	63	Pn		Pn	10 09 12.5	-0.5
	12nm,0.3s,baz=207,slow=5.8,SNR=42							
RPZ				Sn		Sn	10 09 59.7	+0.1
	27nm,0.3s,baz=40,slow=9.0,SNR=9.8							
RPZ				LR		LR	10 10 19.1	
	comp=Z,780nm,19.3s,baz=284,slow=33							
WVZ	**Waitaha Valley**	4.11	54	AML		AML	10 10 35.6	
WVZ				AML		AML	10 10 36.7	
LTZ	**Lake Taylor**	5.18	59	AML		AML	10 11 12.9	
THZ	**Tophouse**	6.18	54	AML		AML	10 11 06.7	
THZ				AML		AML	10 11 07.0	
NNZ	**Nelson**	6.81	52	AML		AML	10 11 16.7	
NNZ				AML		AML	10 11 32.4	
URZ	**Urewera**	10.93	52	Pn		Pn	10 10 47.8	-1.3
	0.3nm,0.3s,baz=236,slow=13,SNR=2.7							
URZ				Sn		Sn	10 12 41.9	-10
	0.3nm,0.3s,baz=16,slow=15,SNR=2.6							
MOO	**Moorlands**	14.05	276	P		Pn	10 11 30.4	-1.4
	baz=14,SNR=10							
MILA	**Mila**	15.38	298	P		Pn	10 11 47.9	-1.9
	baz=15,SNR=8.8							
CNB	**Canberra Magne**	16.41	303	P		Pn	10 12 02.2	-0.9
	baz=16,SNR=7.7							
MGCD	**Mangrove Creek**	16.98	312	P		P	10 12 11.4	-0.8
	baz=17,SNR=8.2							
TOO	**Toolangi**	17.43	290	P		P	10 12 16.4	-0.8
	baz=17,SNR=18							
YNG	**Young**	17.68	303	P		P	10 12 20.6	+0.5
	baz=18,SNR=11							
ARMA	**Armidale**	18.98	318	P		Pn	10 12 37.8	+2.8
	baz=19,SNR=4.6							
CMSA	**Cobar Meteorol**	21.25	304	P		P	10 13 00.5	+1.5
	baz=21,SNR=6.5							
STKA	**Stephens Creek**	23.48	297	P		P	10 13 23.8	+1.2
	2.3nm,0.8s,baz=124,slow=12,SNR=4.4							
STKA				LR		LR	10 20 57.9	
	comp=Z,1μm,19.5s,baz=42,slow=33							
STKA	**Stephens Creek**	23.48	297	P		P	10 13 26.1	+3.5
	baz=24,SNR=3.6							
RMQ	**Roma**	23.64	318	P		P	10 13 27.1	+2.8
	baz=24,SNR=5.5							
ASAR	**Alice Springs**	34.08	299	P		P	10 14 57.4	-0.2
	3.0nm,1.1s,baz=139,slow=8.0,SNR=11							
HNR	**Honiara**	36.44	350	LR		LR	10 29 07.2	
	comp=Z,686nm,18.1s,baz=183,slow=34							
WRA	**Warramunga Arr**	36.65	304	P		P	10 15 19.1	-0.6
	2.8nm,1.0s,baz=138,slow=7.6,SNR=19							
WRA				PcP		PcP	10 17 42.8	+0.1
	0.6nm,1.0s,baz=128,slow=5.4,SNR=2.7							
FITZ	**Fitzroy Crossi**	43.36	296	P		P	10 16 15.6	+0.2
	1.6nm,0.8s,baz=221,slow=8.3,SNR=5.4							
QSPA	**South Pole Qui**	44.52	180	P		P	10 16 25.5	+1.1
	2.8nm,0.8s,baz=351,slow=2.7,SNR=16							
SYO	**Syowa Base**	59.11	200	⇓*e*P		P	10 18 10.0	-2.9
GSI	**Gunungsitoli**	76.15	286	P		P	10 20 01.9	+0.6
	baz=76,SNR=3.1							
CMAR	**Chiang Mai Arr**	88.09	299	P		P	10 21 04.8	+1.0
	0.4nm,0.3s,baz=116,slow=3.1,SNR=2.5							
BOSA	**Boshof**	98.06	214	LR		LR	10 58 56.6	
	comp=Z,1μm,20.9s,baz=349,slow=31							
ILAR	**Eielson Array**	115.96	20	PKP		PKPdf	10 26 54.4	-0.4
	0.2nm,0.6s,baz=224,slow=2.5,SNR=3.7							
MKAR	**Makanchi Array**	117.81	309	PKP		PKPdf	10 27 00.5	+1.6
	0.3nm,0.6s,baz=235,slow=5.1,SNR=3.1							
BRTR	**Keskin Array B**	145.05	278	PKPbc		PKPdf	10 27 50.5	+0.2
	1.7nm,0.7s,baz=145,slow=4.5,SNR=7.7							
TORD	**Torodi Ar. Bea**	145.09	207	PKPbc		PKPdf	10 27 49.7	-1.2
	4.6nm,0.7s,baz=158,slow=2.1,SNR=24							
SPITS	**Spitsbergen Ar**	145.29	350	PKPbc		PKPdf	10 27 49.0	-0.4
	8.0nm,0.9s,baz=93,slow=7.2,SNR=6.6							
ARCES	**ARCESS Array B**	149.07	334	PKPbc		PKPbc	10 27 59.3	-0.7
	1.2nm,0.5s,baz=35,slow=3.3,SNR=8.6							
AKASG	**Malin Array Be**	151.18	296	PKPbc		PKPbc	10 28 05.8	+0.1
	1.4nm,0.6s,baz=79,slow=2.5,SNR=9.1							
FINES	**FINESS Array B**	152.07	319	PKPbc		PKPbc	10 28 08.0	+0.7
	1.3nm,0.5s,baz=98,slow=2.9,SNR=6.6							

MOS ***05*** *09:42:29.3±0.5, 36°.37N×70°.41E, h170km, mb4.1/6, Error ellipse: s-maj=20.0km s-min=7.3km az=81

*DDA **05** 10:29:59.6, 37°.11N×38°.92E, h7km, MD2.8*
*ISK **05** 10:30:01.5, 37°.43N×38°.96E, h10km, MD2.8*
CSEM 05 10:30:01.5, 37°.43N×38°.96E, h10km, MD2.8, After ISK, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.11**	**274**	*e*PG	Pg	10 30 04.6	+0.2
URFA	**Urfa**	**0.11**	**274**	*e*Pg	Pg	10 30 04.6	+0.2
SVRC	**Sivrice-ELAZID**	**0.98**	**16**	*e*PG	Pg	10 30 20.8	0.0
SVRC				*e*SG	Sb	10 30 34.8	+0.7
SVRC	**Sivrice-ELAZID**	**0.98**	**16**	*e*Pg	Pg	10 30 20.8	+0.1
SVRC				*e*Sg	Sb	10 30 34.8	+0.7
MYA	**Malataya**	**0.99**	**335**	*e*PG	Pb	10 30 20.8	0.0
MYA	**Malataya**	**0.99**	**335**	*e*Pg	Pb	10 30 20.8	-0.1
MAZI	**Mazidag**	**1.18**	**88**	*e*PN	Pg	10 30 24.6	+0.1
MAZI	**Mazidag**	**1.18**	**88**	*e*Pn	Pg	10 30 24.6	+0.1
MARD	**Mardin**	**1.46**	**94**	*i* P	Pb	10 30 28.6	-0.3
MARD				*i* S	Sg	10 30 48.9	+0.2
PTK	**Pertek**	**1.50**	**13**	*e*PN	Pn	10 30 29.1	+0.4
PTK	**Pertek**	**1.50**	**13**	*e*Pn	Pn	10 30 29.1	+0.4
KMRS	**Kahramanmaras**	**1.64**	**273**	*e*PN	Pn	10 30 30.9	+0.4
KMRS	**Kahramanmaras**	**1.64**	**273**	*e*Pn	Pn	10 30 30.9	+0.4
KUZU	**Kuzuini**	**1.64**	**247**	*i* P	Pn	10 30 27.7	-2.8
KUZU				*i* S	Sn	10 30 49.4	-2.4

WEL 05 10:47:11.0±0.3, 45°.43S×166°.11E, h12km, ML4.1/16, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.74**	**94**	P*	Pg	10 47 24.4	-0.8
DCZ				S*	Sb	10 47 35.8	0.0
DCZ				AML	AML	10 47 37.5	
DCZ				AML	AML	10 47 37.8	
DCZ				AML	AML	10 47 37.8	
WHZ	**Wether Hill Ro**	**1.37**	**111**	PN	Pn	10 47 35.0	-0.9
WHZ				AML	AML	10 48 02.1	
WHZ				AML	AML	10 48 02.7	
MLZ	**Mavora Lakes**	**1.46**	**88**	PN	Pn	10 47 35.8	-1.4
MLZ				SN	Sn	10 47 55.1	-1.2
MLZ				AML	AML	10 47 57.9	
MSZ	**Milford Sound**	**1.49**	**60**	PN	Pn	10 47 37.6	0.0
MSZ				AML	AML	10 48 02.9	
MSZ				AML	AML	10 48 02.9	
MSZ				AML	AML	10 48 14.8	
MSZ				AML	AML	10 48 14.8	
APZ	**The Paps**	**1.92**	**138**	PN	Pn	10 47 43.6	0.0
APZ				SN	Sn	10 48 07.4	-0.3
WKZ	**Wanaka**	**2.15**	**75**	AML	AML	10 48 20.5	
WKZ				AML	AML	10 48 22.2	
WKZ				AML	AML	10 48 22.8	
WKZ				AML	AML	10 48 26.7	
EAZ	**Earnscleugh**	**2.27**	**86**	AML	AML	10 48 21.9	
EAZ				AML	AML	10 48 23.7	
EAZ				AML	AML	10 48 27.8	
EAZ				AML	AML	10 48 27.9	
JCZ	**Jackson Bay**	**2.32**	**55**	AML	AML	10 48 41.1	
JCZ				AML	AML	10 48 44.2	
SYZ	**Scrubby Hill**	**2.39**	**119**	*e*PN	Pn	10 47 50.6	+0.7
TUZ	**Tuapeka**	**2.53**	**103**	AML	AML	10 48 31.1	
TUZ				AML	AML	10 48 32.9	
LBZ	**Lake Benmore**	**3.08**	**72**	AML	AML	10 48 53.7	
LBZ				AML	AML	10 48 59.7	
ODZ	**Otahua Downs**	**3.23**	**85**	PN	Pn	10 48 01.7	+0.3
WVZ	**Waitaha Valley**	**4.07**	**56**	AML	AML	10 49 32.8	
WVZ				AML	AML	10 49 38.9	

*BJI **05** 10:48:14.3, 5°.75S×147°.14E, h89km, mB5.3/16, mb4.7/28, Ms4.9/15, Ms7 4.5/15*
*ISCJB **05** 10:48:16.0±0.7, 5°.81S±0°.03×146°.93E±0°.04, h97km±6km, mb4.7/47, Error ellipse: s-maj=6.9km s-min=4.8km az=3.2*
*DJA **05** 10:48:16.4±1.2, 6°.5±9°.×14°.7E±1°.2, h70km±8km, M5.3/14, mB5.6/5, mb5.2/14, MLv5.4/2, Mw(mB)5.1/5*
*AUST **05** 10:48:16.9±0.0, 5°.92S×146°.99E, h81km, Error ellipse: s-maj=0.9km s-min=0.7km az=245.0*
*NEIC **05** 10:48:16.9±0.9, 5°.76S×146°.94E, h93km±8km, mb4.8/21, Error ellipse: s-maj=6.6km s-min=5.5km az=107.0*
NEIC Felt at Bulolo, Kainantu, Lae and Wau.
*IDC **05** 10:48:17.2±2.4, 5°.76S×146°.97E, h96km±21km, mb4.4/21, mb1 4.6/25, mb1mx4.6/26, mbtmp4.4/25, MS4.0/10, Ms1 4.0/10, ms1mx3.8/30, Error ellipse: s-maj=15.1km s-min=10.3km az=78.0*
ISC 05 10:48:16.8±0.4, 5°.85S±0°.04×146°.92E±0°.05, h88km±3km, h88km: pP-P, n142, σ1.9±30/173, mb4.7/45, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**176**	*e*Pn	**Pn**	**10 49 09.6**	**0.0**
PMG				S	**Sn**	**10 49 50.8**	**+0.3**
PMG				*e*Sn	Sn	10 49 51.2	+0.8
PMG	**Port Moresby**	**3.54**	**176**	P	**Pn**	**10 49 09.6**	**0.0**
PMG	**Port Moresby**	**3.54**	**176**	P	**Pn**	**10 49 09.6**	**0.0**
	399nm,0.3s,baz=7.2,slow=5.4,SNR=1092						
PMG				S	**Sn**	**10 49 50.8**	**+0.3**
	358nm,0.3s,baz=209,slow=20,SNR=7.2						
PMG				LR	LR	10 50 36.4	
	comp=Z,518nm,21.4s,baz=226,slow=38						
MANU	**Manus Island**	**3.81**	**7**	P	**Pn**	**10 49 14.0**	**+0.7**
	baz=3.9,SNR=9.6						
RABL	**Rabaul**	**5.48**	**73**	P	**Pn**	**10 49 38.1**	**+2.2**
	baz=5.4,SNR=7.7						
JAY	**Jayapura**	**7.03**	**298**	P	**Pn**	**10 49 58.5**	**+1.3**
	133nm,0.8s,5μm0.9nm						
JAY	**Jayapura**	**7.03**	**298**	P	**Pn**	**10 49 59.0**	**+1.9**
	baz=7.1,SNR=5.2						
COEN	**Coen**	**8.86**	**204**	*e*Pn	**Pn**	**10 50 22.7**	**+0.6**
COEN				*e*Sn	**Sn**	**10 51 57.0**	**-3.2**
COEN	**Coen**	**8.86**	**204**	P	**Pn**	**10 50 22.8**	**+0.6**
	baz=8.9,SNR=301						
COEN				S	**Sn**	**10 51 57.9**	**-2.4**
	baz=8.9,SNR=13						
SRPI	**Serui, Papua**	**11.37**	**290**	P	**Pn**	**10 50 55.2**	**-1.0**
	437nm,1.1s						
MTSU	**Mount Surprise**	**12.47**	**192**	P	**Pn**	**10 51 11.4**	**+0.3**
	baz=12,SNR=82						
HNR	**Honiara**	**13.39**	**106**	P	**Pn**	**10 51 24.1**	**+0.8**
HNR	**Honiara**	**13.39**	**106**	P	**Pn**	**10 51 24.1**	**+0.8**
	2.8nm,0.3s,baz=252,slow=3.2,SNR=3.1						
HNR				LR	LR	10 55 22.7	
	comp=Z,387nm,20.3s,baz=277,slow=32						
CTA	**Charters Tower**	**14.17**	**183**	P	**Pn**	**10 51 35.8**	**+2.4**
CTA				S	**Sn**	**10 54 08.1**	**-1.4**
CTA	**Charters Tower**	**14.17**	**183**	P	**Pn**	**10 51 35.8**	**+2.4**
	5.4nm,0.3s,baz=3.2,slow=14,SNR=17						
CTA				S	**Sn**	**10 54 08.1**	**-1.4**
	1.2nm,0.3s,baz=69,slow=14,SNR=3.1						
CTAO	**Charters Tower**	**14.17**	**183**	*e*Pn	**Pn**	**10 51 35.7**	**+2.2**
CTAO				*e*Sn	**Sn**	**10 54 07.8**	**-1.7**
KDU	**Kakadu**	**15.79**	**243**	P	**Pn**	**10 51 54.4**	**+0.2**
	baz=16,SNR=56						
SWI	**Sorong**	**16.40**	**287**	P	**P**	**10 52 02.9**	**-0.1**
	222nm,0.8s,2μm						
SWI	**Sorong**	**16.40**	**287**	P	**P**	**10 52 02.8**	**-0.3**
	baz=16,SNR=11						
MTN	**Manton Dam**	**17.05**	**245**	P	**P**	**10 52 10.4**	**+0.2**
	baz=17,SNR=14						
PALU	**Palau**	**18.06**	**316**	P	**Pn**	**10 52 25.6**	**+3.6**
	baz=18,SNR=4.2						
WRAB	**Tennant Creek**	**18.58**	**220**	*e*P	**P**	**10 52 27.3**	**+0.2**
	32nm,0.9s						
WRA	**Warramunga Arr**	**18.60**	**220**	P	**P**	**10 52 27.5**	**+0.3**
WRA				S	**S**	**10 55 51.8**	**-2.8**
WRA	**Warramunga Arr**	**18.60**	**220**	P	**P**	**10 52 27.5**	**+0.3**
	5.9nm,0.3s,baz=42,slow=12,SNR=123						
WRA				S	**S**	**10 55 51.8**	**-2.8**
	0.8nm,0.3s,baz=49,slow=24,SNR=6.4						
AAI	**Ambon**	**18.79**	**276**	P	**Pn**	**10 52 30.8**	**0.0**
	199nm,0.7s,3μm						
AAI	**Ambon**	**18.79**	**276**	P	**Pn**	**10 52 31.8**	**+1.0**
	baz=19,SNR=5.7						
KNRA	**Kununurra**	**20.32**	**240**	P	**P**	**10 52 45.5**	**-0.5**
	baz=20,SNR=107						
KNRA				S	Sn	10 56 35.2	-2.5
	baz=20,SNR=3.4						
RMQ	**Roma**	**20.60**	**175**	P	Pn	10 52 50.9	-1.1
	baz=21,SNR=7.5						
AS31	**Alice Springs**	**21.70**	**214**	*e*P	**P**	**10 53 01.4**	**+0.7**
AS31				*e*S	**S**	**10 56 58.0**	**+1.9**
ASAR	**Alice Springs**	**21.70**	**214**	P	**P**	**10 53 01.2**	**+0.5**
ASAR				S	**S**	**10 56 57.5**	**+1.3**
ASAR	**Alice Springs**	**21.70**	**214**	P	**P**	**10 53 01.2**	**+0.5**
	14nm,0.4s,baz=52,slow=8.3,SNR=137						
ASAR				S	**S**	**10 56 57.5**	**+1.3**
	3.4nm,0.6s,baz=32,slow=18,SNR=6.5						
ASAR				LR	LR	11 00 58.4	
	comp=Z,394nm,20.3s,baz=40,slow=35						
SOEI	**Soe**	**22.77**	**259**	P	P	10 53 17.7	+5.4
	baz=23,SNR=3.5						
SOEI				S	S	10 57 05.8	-9.1
	baz=23,SNR=4.3						
FITZ	**Fitzroy Crossi**	**24.08**	**238**	*e*P	**P**	**10 53 24.4**	**+0.2**
	145nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.08**	**238**	P	**P**	**10 53 24.4**	**+0.2**
	112nm,0.8s,baz=61,slow=7.4,SNR=178						
FITZ				LR	LR	11 03 44.4	
	comp=Z,438nm,19.6s,baz=31,slow=38						
FITZ	**Fitzroy Crossi**	**24.08**	**238**	P	**P**	**10 53 24.5**	**+0.2**
	baz=24,SNR=124						
DZM	**Mont Dzumac**	**24.82**	**132**	P	**P**	**10 53 30.5**	**-0.6**
DZM	**Mont Dzumac**	**24.82**	**132**	P	**P**	**10 53 30.5**	**-0.6**
	11nm,0.7s,baz=153,slow=21,SNR=12						
DZM				LR	LR	11 02 17.6	
	comp=Z,422nm,20.5s,baz=360,slow=34						
ARMA	**Armidale**	**24.84**	**170**	*e*P	**P**	**10 53 32.2**	**+1.1**
	52nm,1.3s						
ARMA	**Armidale**	**24.84**	**170**	P	**P**	**10 53 32.1**	**+1.1**
	baz=25,SNR=24						
DAV	**Davao City (W)**	**24.86**	**301**	*e*P	**P**	**10 53 31.5**	**0.0**
	310nm,0.9s						
CMSA	**Cobar Meteorol**	**25.58**	**182**	P	**P**	**10 53 38.4**	**+0.7**
	baz=26,SNR=25						
STKA	**Stephens Creek**	**26.37**	**190**	*e*P	**P**	**10 53 45.1**	**+0.3**
	3.3nm,0.8s						
STKA	**Stephens Creek**	**26.37**	**190**	P	**P**	**10 53 45.2**	**+0.3**
	8.8nm,0.4s,baz=6.4,slow=7.7,SNR=65						
STKA				LR	LR	11 04 54.1	
	comp=Z,406nm,20.1s,baz=260,slow=38						
STKA	**Stephens Creek**	**26.37**	**190**	P	**P**	**10 53 45.1**	**+0.3**
	baz=26,SNR=46						
KAPI	**Kappang**	**27.06**	**270**	*e*P	**P**	**10 53 51.4**	**+0.2**
	19nm,0.9s						
KAPI	**Kappang**	**27.06**	**270**	P	**P**	**10 53 51.6**	**+0.3**
	4.1nm,0.2s,baz=126,slow=19,SNR=2.9						
MGCD	**Mangrove Creek**	**27.50**	**172**	P	**P**	**10 53 59.0**	**+4.1**
	baz=28,SNR=4.3						
YNG	**Young**	**28.34**	**177**	P	**P**	**10 54 03.6**	**+1.1**
	baz=28,SNR=14						
BBOO	**Buckleboo**	**28.67**	**199**	*e*P	**P**	**10 54 06.6**	**+1.2**
	4μm,2.7s						
BBOO	**Buckleboo**	**28.67**	**199**	P	**P**	**10 54 05.8**	**+0.4**
	baz=29,SNR=15						
MBWA	**Marble Bar**	**30.42**	**237**	*e*P	**P**	**10 54 21.8**	**+0.7**
	11nm,0.6s						
FORT	**Forrest**	**30.48**	**213**	*e*P	**P**	**10 54 22.8**	**+1.3**
	30nm,1.1s						
FORT	**Forrest**	**30.48**	**213**	P	**P**	**10 54 22.4**	**+0.9**
	baz=31,SNR=18						
TOO	**Toolangi**	**31.60**	**182**	P	**P**	**10 54 32.5**	**+1.3**
	baz=32,SNR=5.1						
MEEK	**Meekatharra**	**33.99**	**229**	P	**P**	**10 54 53.2**	**+0.9**
	baz=34,SNR=40						
MORW	**Morawa**	**37.21**	**228**	P	**P**	**10 55 20.8**	**+1.0**
	baz=37,SNR=12						
KLBR	**Kellerberrin**	**37.43**	**223**	P	**P**	**10 55 21.9**	**+0.3**
	baz=38,SNR=40						
BLDU	**Ballidu**	**37.58**	**225**	P	**P**	**10 55 23.6**	**+0.7**
	baz=38,SNR=10.0						
NWAO	**Narrogin (SRO)**	**38.59**	**222**	LR	LR	11 13 04.5	
	comp=Z,450nm,18.6s,baz=271,slow=38						
TPUB	**Ta-pu**	**38.72**	**319**	*e*P	**P**	**10 55 31.4**	**-1.1**
	148nm,1.9s						
URZ	**Urewera**	**42.32**	**144**	*e*P	**P**	**10 56 02.3**	**+0.3**
	4.9nm,0.4s						
URZ	**Urewera**	**42.32**	**144**	P	**P**	**10 56 02.3**	**+0.3**
	2.7nm,0.4s,baz=288,slow=3.1,SNR=3.4						
MJAR	**Matsushiro Arr**	**42.95**	**350**	P	**P**	**10 56 05.8**	**-1.3**
MJAR	**Matsushiro Arr**	**42.95**	**350**	P	**P**	**10 56 05.8**	**-1.3**
	4.7nm,0.9s,baz=184,slow=12,SNR=15						
MJAR				LR	LR	11 11 44.8	
	comp=Z,243nm,18.3s,baz=90,slow=33						
MAJO	**Matsushiro**	**42.95**	**350**	*e*P	**P**	**10 56 06.5**	**-0.7**
	8.3nm,0.8s						
RPZ	**Rata Peaks**	**43.28**	**154**	P	**P**	**10 56 10.2**	**+0.5**
RPZ	**Rata Peaks**	**43.28**	**154**	P	**P**	**10 56 10.2**	**+0.5**
	8.6nm,0.8s,baz=315,slow=2.3,SNR=4.3						
NJ2	**Nanjing**	**46.21**	**326**	*e*P	**P**	**10 56 32.6**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	**Korea Array**	**46.59**	**339**	P	**P**	**10 56 35.2**	**-0.7**
	comp=Z,5.0nm,0.8s,baz=156,slow=9.0,SNR=22						
KSRS				pP	**pP**	**10 56 55.7**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=160,slow=8.6,SNR=3.5						
KSRS				LR	LR	11 14 31.7	
	comp=Z,124nm,18.7s,baz=195,slow=34						
KSAR	**Wonju Array Be**	**46.59**	**339**	P	**P**	**10 56 35.2**	**-0.8**
KSAR				pP	**pP**	**10 56 55.7**	**-1.5**
GYA	**Guiyang**	**50.53**	**311**	*e*P	**P**	**10 57 06.4**	**-0.2**
GYA				pP	**pP**	**10 57 28.8**	**+0.7**
GYA				sP	**sP**	**10 57 39.0**	**+1.0**
GYA				PP	**PP**	**10 59 04.3**	**+1.1**
GYA				ScP	**ScP**	**11 02 10.6**	**-1.1**
GYA				S	S	11 04 22.0	+7.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,5.3s						
USRK	**Ussuriysk Arra**	**51.60**	**346**	P	**P**	**10 57 13.8**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=178,slow=7.5,SNR=11						
USRK				LR	LR	11 15 57.0	
	comp=Z,252nm,18.4s,baz=200,slow=32						
MDJ	**Mudanjiang**	**52.60**	**344**	P	**P**	**10 57 21.6**	**+0.1**
MDJ				pP	**pP**	**10 57 42.5**	**-0.7**
MDJ				sP	**sP**	**10 57 51.8**	**-1.3**
MDJ				PcP	**PcP**	**10 58 30.5**	**-0.1**
MDJ				S	**S**	**11 04 43.3**	**+1.3**
MDJ				ScS	**ScS**	**11 07 03.2**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,240nm,11.4s						
MDJ				LR	LR		
	comp=N,350nm,16.1s						
MDJ				LR	LR		
	comp=E,260nm,20.1s						
MDJ				LR	LR		
	comp=Z,380nm,16.1s						
CN2	**Changchun**	**53.09**	**341**	*e*P	P	10 57 28.7	+3.5
CN2				*e*S	**S**	**11 04 52.2**	**+3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CMAR	**Chiang Mai Arr**	**53.11**	**298**	P	**P**	**10 57 26.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**53.11**	**298**	P	**P**	**10 57 26.2**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=120,slow=5.5,SNR=5.7						
XAN	**Xi'an**	**53.52**	**321**	P	**P**	**10 57 27.8**	**-0.8**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				LR	LR		
	comp=N,200nm,13.0s						
XAN				LR	LR		
	comp=E,230nm,15.9s						
XAN				LR	LR		
	comp=Z,200nm,11.4s						
BJI	**Beijing**	**53.73**	**331**	P	**P**	**10 57 28.9**	**-1.0**
BJI				pmax	pmax		
	comp=Z,12nm,1.3s						
BJI				pmax	pmax		
	comp=Z,110nm,3.8s						
HHC	**Hu-ho-hao-te**	**56.66**	**328**	*e*P	**P**	**10 57 53.3**	**+2.1**
HHC				PP	**PP**	**11 00 01.9**	**+3.7**
HHC				PcS	**PcS**	**11 02 48.0**	**+0.7**
HHC				S	**S**	**11 05 38.5**	**+1.5**
HHC				ScS	**ScS**	**11 07 31.5**	**-0.8**
HHC				pmax	pmax		
	comp=Z,69nm,0.7s						
HHC				pmax	pmax		
	comp=Z,430nm,6.4s						
HHC				LR	LR		
	comp=N,440nm,17.0s						
HHC				LR	LR		
	comp=E,500nm,16.6s						
HHC				LR	LR		
	comp=Z,420nm,16.6s						
LZH	**Lanzhou**	**58.05**	**319**	*e*P	**P**	**10 58 03.2**	**+2.1**
LZH				pP	**pP**	**10 58 25.0**	**+1.9**
LZH				sP	**sP**	**10 58 32.3**	**-0.6**
LZH				PP	**PP**	**11 00 13.5**	**+2.8**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,53nm,6.9s						
LZH				LR	LR		
	comp=N,330nm,15.6s						
LZH				LR	LR		
	comp=E,350nm,15.7s						
LZH				LR	LR		
	comp=Z,400nm,18.6s						
PEA0B	**Petropavlovsk-**	**59.44**	**8**	*e*P	**P**	**10 58 10.0**	**-0.1**
PETK	**Petropavlovsk-**	**59.44**	**8**	P	**P**	**10 58 10.3**	**+0.2**
PETK	**Petropavlovsk-**	**59.44**	**8**	P	**P**	**10 58 10.3**	**+0.2**
	comp=Z,9.1nm,0.6s,baz=177,slow=9.3,SNR=33						
GTA	**Gaotai**	**62.58**	**320**	*e*P	**P**	**10 58 31.6**	**-0.3**
GTA				pP	**pP**	**10 58 51.2**	**-2.9**
GTA				S	**S**	**11 06 52.1**	**-1.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,350nm,4.0s						
GTA				LR	LR		
	comp=N,160nm,16.2s						
GTA				LR	LR		
	comp=E,180nm,17.1s						
GTA				LR	LR		
	comp=Z,190nm,16.2s						
FX1	**Attu Island--F**	**62.60**	**18**	*e*P	**P**	**10 58 31.9**	**+0.4**
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**10 58 42.2**	**-0.4**
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**10 58 42.2**	**-0.4**
	comp=Z,6.2nm,0.7s,baz=150,slow=5.8,SNR=14						
CASY	**Casey**	**65.38**	**195**	*e*P	**P**	**10 58 49.9**	**+0.3**
	comp=Z,2.2nm,0.5s						
VNDA	**Vanda**	**72.06**	**177**	*e*P	**P**	**10 59 31.4**	**+0.4**
	comp=Z,6.8nm,0.9s						
VNDA				pP	**pP**	**10 59 54.2**	**+0.5**
VNDA	**Vanda**	**72.06**	**177**	P	**P**	**10 59 31.4**	**+0.4**
	comp=Z,6.8nm,0.9s,baz=331,slow=6.9,SNR=28						
VNDA				pP	**pP**	**10 59 54.2**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=340,slow=5.0,SNR=2.8						
WMQ	**Urumqi**	**72.63**	**319**	*e*P	**P**	**10 59 36.5**	**+1.5**
WMQ				LR	LR		
	comp=N,180nm,18.0s						
WMQ				LR	LR		
	comp=E,93nm,19.0s						
WMQ				LR	LR		
	comp=Z,150nm,20.0s						
MKAR	**Makanchi Array**	**77.33**	**320**	P	**P**	**11 00 00.5**	**-1.5**
MKAR	**Makanchi Array**	**77.33**	**320**	P	**P**	**11 00 00.5**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=96,slow=8.5,SNR=19						
ZALV	**Zalesovo Beam**	**78.84**	**328**	P	**P**	**11 00 07.5**	**-2.5**
ZALV	**Zalesovo Beam**	**78.84**	**328**	P	**P**	**11 00 07.5**	**-2.5**
	comp=Z,3.0nm,0.5s,baz=105,slow=5.8,SNR=14						
KSH	**Kashi**	**79.22**	**312**	sS	sS	11 10 58.1	+13
KSH	**Kashi**	**79.22**	**312**	SS	SS	11 15 34.2	+20
KSH				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,98nm,9.4s						
KSH				LR	LR		
	comp=N,120nm,8.8s						
KSH				LR	LR		
	comp=E,160nm,6.3s						
KSH				LR	LR		
	comp=Z,100nm,5.8s						
MAW	**Mawson**	**82.36**	**203**	P	**P**	**11 00 28.5**	**-0.1**
MAW				pP	**pP**	**11 00 51.3**	**-0.6**
MAW	**Mawson**	**82.36**	**203**	P	**P**	**11 00 28.5**	**-0.1**
	comp=Z,5.7nm,0.8s,baz=88,slow=6.6,SNR=19						
MAW				pP	**pP**	**11 00 51.3**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=69,slow=7.2,SNR=4.3						
MAW	**Mawson**	**82.36**	**203**	P	**P**	**11 00 29.1**	**+0.5**
	baz=82,SNR=16						
SML	**Sawmill**	**83.54**	**26**	*e*P	**P**	**11 00 34.3**	**-0.6**
	comp=Z,4.8nm,1.0s						
MCK	**McKinley**	**84.12**	**24**	*e*P	**P**	**11 00 36.3**	**-1.5**
	comp=Z,18nm,1.0s						
BMRM	**Bremner River**	**84.86**	**27**	*e*P	**P**	**11 00 40.9**	**-0.7**
	comp=Z,16nm,1.0s						
COLA	**College**	**85.04**	**23**	*e*P	**P**	**11 00 40.4**	**-1.9**
	comp=Z,44nm,0.9s						
COLD	**Coldfoot**	**85.22**	**20**	*e*P	**P**	**11 00 43.1**	**-0.1**
	comp=Z,8.5nm,0.9s						
ILAR	**Eielson Array**	**85.37**	**23**	P	**P**	**11 00 41.5**	**-2.5**
ILAR	**Eielson Array**	**85.37**	**23**	P	**P**	**11 00 41.5**	**-2.5**
	comp=Z,7.5nm,0.7s,baz=251,slow=5.0,SNR=108						
EGAK	**Eagle**	**87.66**	**24**	*e*P	**P**	**11 00 54.2**	**-0.9**
	comp=Z,12nm,1.0s						
EGAK				*e*PP	**PP**	**11 04 19.6**	**-2.1**
HYT	**Haines Junctio**	**88.10**	**28**	*e*P	**P**	**11 00 57.5**	**0.0**
DAWY	**Dawson**	**88.17**	**25**	*e*P	**P**	**11 00 57.3**	**-0.4**
SYO	**Syowa Base**	**90.71**	**200**	*e*P	**P**	**11 01 08.0**	**-1.4**
INK	**Inuvik**	**91.54**	**21**	*e*P	**P**	**11 01 11.2**	**-2.0**
	comp=Z,6.8nm,1.1s						
OPO	**Ambohidratompo**	**97.33**	**250**	P	Pdif	11 01 41.4	+0.2
OPO	**Ambohidratompo**	**97.33**	**250**	P	Pdif	11 01 41.4	+0.2
	comp=Z,6.0nm,0.9s,baz=70,slow=12,SNR=3.3						
NVAR	**Mina Array Bea**	**97.34**	**52**	P	**P**	**11 01 40.5**	**-0.2**
NVAR	**Mina Array Bea**	**97.34**	**52**	P	**P**	**11 01 40.5**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=254,slow=6.5,SNR=13						
NEW	**Newport**	**98.30**	**42**	*e*P	**P**	**11 01 43.0**	**-1.7**
	comp=Z,4.4nm,1.1s						
YKA	**Yellowknife Ar**	**99.08**	**28**	P	**Pdif**	**11 01 46.7**	**-1.0**
YKA	**Yellowknife Ar**	**99.08**	**28**	P	**Pdif**	**11 01 46.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=277,slow=5.1,SNR=5.1						
SNAA	**Sanae**	**100.13**	**189**	P	**Pdif**	**11 01 51.4**	**-1.0**
SNAA	**Sanae**	**100.13**	**189**	P	**Pdif**	**11 01 51.4**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=90,slow=4.0,SNR=4.7						
PDAR	**Pinedale Array**	**103.87**	**48**	Pdif	**Pdif**	**11 02 08.7**	**-1

WRA Warramunga Arr 24.12 162 P P 11 20 53.5 -0.9
3.3nm,0.6s,baz=337,slow=11,SNR=38
WRA S S 11 25 10.0 -3.2
1.1nm,1.0s,baz=334,slow=20,SNR=6.0
ASAR Alice Springs 27.54 166 P P 11 21 24.6 -0.9
0.7nm,0.6s,baz=345,slow=6.9,SNR=15
ASAR PcP PcP 11 24 43.5 -0.3
0.6nm,0.7s,baz=347,slow=2.4,SNR=4.8
CMAR Chiang Mai Arr 31.23 301 P P 11 21 59.2 +1.0
1.0nm,0.7s,baz=117,slow=7.1,SNR=5.0
KSRS Korea Array 34.15 2 P P 11 22 23.8 +0.3
1.6nm,0.8s,baz=180,slow=10,SNR=8.8
STKA Stephens Creek 37.57 159 P P 11 22 52.6 -0.4
2.6nm,0.6s,baz=326,slow=11,SNR=6.9
STKA PcP PcP 11 25 11.3 +0.2
1.5nm,0.8s,baz=322,slow=4.5,SNR=3.6
USRK Ussuriysk Arra 41.13 6 P P 11 23 22.4 0.0
2.9nm,0.8s,baz=183,slow=8.2,SNR=7.5
ASAJ Asahikawa 43.12 17 P P 11 23 38.9 +0.1
3.0nm,0.6s,baz=244,slow=20,SNR=7.8
SONM Songino Array 47.86 342 P P 11 24 16.4 -0.2
0.6nm,0.5s,baz=157,slow=8.4,SNR=5.3
PETK Petropavlovsk- 55.93 22 P P 11 25 16.9 +0.4
3.9nm,0.9s,baz=194,slow=5.4,SNR=5.2
MKAR Makanchi Array 58.07 325 P P 11 25 31.6 -0.2
2.1nm,0.5s,baz=120,slow=8.3,SNR=21
ZALV Zalesovo Beam 61.13 333 P P 11 25 52.0 -0.7
1.8nm,0.7s,baz=111,slow=8.1,SNR=7.6
RAO Raoul Island 61.94 126 LR LR 11 47 09.7
comp=Z,524nm,22.0s,baz=103,slow=31
BVAR Borovoye Array 67.84 327 LR LR 12 00 11.6
comp=Z,85nm,19.0s,baz=1.7,slow=39
VNDA Vanda 82.85 173 P P 11 28 02.9 +0.3
0.8nm,0.8s,baz=321,slow=8.4,SNR=4.1
MAW Mawson 83.25 200 P P 11 28 06.0 +1.3
0.9nm,0.7s,baz=70,slow=7.9,SNR=4.2
BRTR Keskin Array B 90.44 310 P P 11 28 40.2 -0.5
1.1nm,0.8s,baz=64,slow=2.9,SNR=4.6
ARCES ARCESS Array B 91.01 340 P P 11 28 41.6 -0.9
1.2nm,0.8s,baz=79,slow=6.5,SNR=4.2
AKASG Malin Array Be 92.38 321 P P 11 28 47.7 -1.6
0.5nm,0.4s,baz=65,slow=4.9,SNR=3.9
TXAR Lajitas Array 121.89 52 PKP PKPdf 11 34 34.3 +0.5
0.1nm,0.3s,baz=241,slow=1.3,SNR=4.2
TORD Torodi Ar. Bea 123.17 288 PKP PKPdf 11 34 36.3 -0.2
1.0nm,0.7s,baz=46,slow=1.9,SNR=5.8

NIED ***05*** *11:26:00,24.°10N×125.°20E,h35km,Mw4.6 Best double couple: M0 9.95000×10^15 NP1:φ=46.00000°,δ75.00000°, λ83.00000°. NP2:φ=252.00000°,δ17.00000°,λ115.00000°.*
IDC ***05*** *11:26:43.8±0.5,24.°28N×125.°11E,h0km,mb4.1/25, mb1 4.2/26,mb1mx4.2/31,mbtmp4.1/26,ML3.7/1,MS3.8/3, Ms1 3.9/3,ms1mx3.4/36,Error ellipse: s-maj=17.3km s-min=12.9km az=87.0*
BJI ***05*** *11:26:45.9,24.°05N×125.°23E,h32km,mB4.7/19,mb4.5/31, Ms4.3/27,Ms7 4.1/27*
MOS ***05*** *11:26:47.5±1.2,24.°24N×125.°09E,h36km,mb4.8/24,Error ellipse: s-maj=9.9km s-min=6.5km az=108.4*
ISCJB ***05*** *11:26:47.3±0.5,24.°20N±0.°03×125.°20E±0.°03,h37km±3km, mb4.4/54,MS3.9/11,Error ellipse: s-maj=5.9km s-min=3.8km az=152.5*
JMA ***05*** *11:26:47.0±0.3,24.°16N×125.°21E,h20km,M4.6*
JMA Felt I J1.
NEIC ***05*** *11:26:48.3±1.6,24.°23N×125.°11E,h28km±11km,mb4.5/16, MW4.6(NIED),Error ellipse: s-maj=7.1km s-min=5.1km az=147.0*
NEIC Recorded [1 JMA] on Miyako-jima.
ISC 05 11:26:48.2±0.6,24.°23N±0.°05×125.°24E±0.°03,h30km±2km, h30km:pP-P,n154,σ1s86/196,mb4.5/54,MS3.9/12,2C-2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.55**	**17**	P	**Pb**	**11 26 59.2**	**-0.3**
JOGS				S	**Sn**	**11 27 08.3**	**+0.1**
JMJ	**Miyako jima 2**	**0.58**	**5**	P	**Pb**	**11 26 59.5**	**-0.6**
JMJ				S	**Sb**	**11 27 08.2**	**+0.1**
JTJ	**Tarama**	**0.63**	**310**	P	**Pb**	**11 26 59.6**	**-1.3**
JTJ				*e*S	**Sb**	**11 27 09.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.00**	**278**	P	**Pn**	**11 27 05.6**	**-0.7**
JIJ				S	**Sb**	**11 27 20.1**	**+0.1**
JKRS	**Kuro-shima**	**1.12**	**271**	P	**Pn**	**11 27 07.6**	**-0.2**
JKRS				*e*S	**Sn**	**11 27 21.1**	**-1.1**
HATJ	**Hateruma jima**	**1.32**	**263**	P	**Pn**	**11 27 09.8**	**-0.8**
IRIF	**Iriomote-Funau**	**1.38**	**275**	P	**Pn**	**11 27 11.0**	**-0.4**
IRIF				*e*S	**Sb**	**11 27 30.6**	**0.0**
YOJ	**Yonaguni jima**	**2.04**	**277**	P	**Pn**	**11 27 20.8**	**+0.3**
JKE	**Kume jima 2**	**2.51**	**34**	P	**Pn**	**11 27 27.5**	**+0.4**
JAGN	**Aguni-jima**	**2.97**	**37**	P	**Pn**	**11 27 34.1**	**+0.8**
NACB	**Ninganchiao**	**3.32**	**270**	*e*Pn	**Pn**	**11 27 37.0**	**-1.2**
TATO	**Taipei**	**3.49**	**283**	Pn	**Pn**	**11 27 38.7**	**-1.8**
JIH	**Iheya**	**3.73**	**41**	P	**Pn**	**11 27 44.5**	**+0.8**
JOW	**Kunigami**	**3.77**	**46**	*e*Pn	**Pn**	**11 27 44.8**	**+0.4**
JOW	**Kunigami**	**3.77**	**46**	P	**Pn**	**11 27 45.4**	**+1.0**
SSLB	**Suanglung**	**3.94**	**264**	*e*Pn	**Pn**	**11 27 45.7**	**-1.1**
TWG	**Pinlang**	**4.07**	**251**	*e*Pn	**Pn**	**11 27 45.7**	**-2.8**
TPUB	**Ta-pu**	**4.32**	**259**	*e*Pn	**Pn**	**11 27 51.7**	**-0.3**
JTK	**Tokunoshima**	**4.87**	**43**	P	**Pn**	**11 27 58.4**	**-1.0**
JAMN	**Amaminishikomi**	**5.34**	**41**	P	**Pn**	**11 28 03.8**	**-2.1**
JMZ	**Minamidaito 2**	**5.66**	**73**	P	**Pn**	**11 28 07.3**	**-3.0**
JMZ				*e*S	Sn	11 29 07.7	-6.5
JAM	**Amami Oshima**	**5.72**	**42**	P	**Pn**	**11 28 10.7**	**-0.4**
JAM				*e*S	**Sn**	**11 29 13.3**	**-2.4**
NJ2	**Nanjing**	**9.61**	**326**	*e*P	**Pn**	**11 29 05.6**	**+1.1**
NJ2				S	**Sn**	**11 30 55.0**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,1μm,17.3s						
NJ2				LR	LR		
	comp=E,810nm,17.2s						
NJ2				LR	LR		
	comp=Z,1μm,14.3s						
JNU	**Nakatsue**	**10.15**	**28**	Pn	**Pn**	**11 29 11.1**	**-0.8**
JNU	**Nakatsue**	**10.15**	**28**	Pn	**Pn**	**11 29 11.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=254,slow=7.4,SNR=4.3						
KSAR	**Wonju Array Be**	**13.36**	**9**	Pn	**Pn**	**11 29 56.8**	**+0.9**
KSRS	**Korea Array**	**13.38**	**9**	Pn	**Pn**	**11 29 56.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=9.4						
QIZ	**Qiongzhong**	**15.21**	**253**	P	**Pn**	**11 30 19.4**	**-1.7**
QIZ				S	**Sn**	**11 33 07.2**	**-1.5**
QIZ				LR	LR		
	comp=N,500nm,18.7s						
QIZ				LR	LR		
	comp=Z,470nm,16.8s						
ENH	**Enshi**	**15.24**	**297**	Pn	**Pn**	**11 30 21.0**	**-0.3**
	comp=Z,5.0nm,0.5s						
MAJO	**Matsushiro**	**16.59**	**39**	*e*P	**P**	**11 30 41.9**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**16.59**	**39**	*e*P	**P**	**11 30 41.9**	**+1.0**
	comp=Z,13nm,0.8s						
MAT	**Matsushiro**	**16.59**	**39**	P	**P**	**11 30 42.0**	**+1.1**
MAT				S	**S**	**11 33 49.8**	**-2.9**
MJAR	**Matsushiro Arr**	**16.59**	**39**	Pn	**P**	**11 30 42.0**	**+1.1**
MJAR	**Matsushiro Arr**	**16.59**	**39**	Pn	**P**	**11 30 42.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=231,slow=10,SNR=22						
GYA	**Guiyang**	**16.93**	**281**	*e*P	**Pn**	**11 30 42.5**	**-0.7**
GYA				pP	**P**	**11 30 47.6**	**+2.7**
GYA				PP	**PnPn**	**11 30 57.4**	**+4.4**
GYA				S	**Sn**	**11 33 47.2**	**-3.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJI	**Beijing**	**17.51**	**336**	P	**P**	**11 30 52.9**	**+1.9**
BJI				pmax	pmax		
	comp=Z,11nm,1.0s						
BJI				pmax	pmax		
	comp=Z,140nm,4.8s						
BJI				LR	LR		
	comp=N,470nm,17.7s						
BJI				LR	LR		
	comp=E,400nm,18.4s						
BJI				LR	LR		
	comp=Z,370nm,22.0s						
SNY	**Shenyang**	**17.60**	**356**	⇓P	**P**	**11 30 52.5**	**+0.5**
SNY				S	**S**	**11 34 12.6**	**-0.7**
SNY				pmax	pmax		
	comp=Z,27nm,0.8s						
SNY				LR	LR		
	comp=N,380nm,20.7s						
SNY				LR	LR		
	comp=E,420nm,17.4s						
SNY				LR	LR		
	comp=Z,580nm,19.8s						
CN2	**Changchun**	**19.52**	**0**	*e*P	**P**	**11 31 12.9**	**-0.2**
CN2				*e*S	**S**	**11 34 50.3**	**-1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
HHC	**Hu-ho-hao-te**	**20.14**	**329**	*e*P	**P**	**11 31 20.7**	**+0.7**
HHC				PP	**PnPn**	**11 31 41.3**	**+4.4**
HHC				S	**S**	**11 35 00.2**	**-4.5**
HHC				SS	**SnSn**	**11 35 29.9**	**+7.3**
HHC				PcP	**PcP**	**11 35 34.2**	**0.0**
HHC				ScP	**ScP**	**11 39 06.8**	**-1.7**
HHC				PcS	**PcS**	**11 39 10.1**	**-1.7**
HHC				pmax	pmax		
	comp=Z,59nm,0.6s						
HHC				pmax	pmax		
	comp=Z,320nm,5.3s						
HHC				LR	LR		
	comp=N,1μm,11.9s						
HHC				LR	LR		
	comp=E,760nm,12.7s						
HHC				LR	LR		
	comp=Z,1μm,11.8s						
CD2	**Chengdu**	**20.15**	**294**	*e*P	Pn	11 31 21.5	-0.7
CD2				pP	pP	11 31 30.2	+2.0
CD2				sP	sP	11 31 34.9	+2.8
CD2				PP	**PnPn**	**11 31 41.8**	**+4.8**
CD2				S	**S**	**11 35 00.4**	**-4.6**
CD2				sS	sS	11 35 13.8	-4.0
CD2				SS	**SnSn**	**11 35 29.4**	**+6.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,100nm,4.2s						
CD2				LR	LR		
	comp=N,590nm,10.8s						
CD2				LR	LR		
	comp=E,600nm,17.8s						
CD2				LR	LR		
	comp=Z,720nm,19.0s						
MDJ	**Mudanjiang**	**20.64**	**9**	P	Pn	11 31 27.0	-0.7
MDJ				pP	pP	11 31 32.6	-0.8
MDJ				S	**S**	**11 35 12.9**	**-1.5**
MDJ				PcS	**PcS**	**11 39 16.7**	**+4.1**
MDJ				ScS	**ScS**	**11 42 48.5**	**-4.0**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.0s						
MDJ				LR	LR		
	comp=N,80nm,27.6s						
MDJ				LR	LR		
	comp=E,210nm,25.2s						
MDJ				LR	LR		
	comp=Z,190nm,21.9s						
MDJ	**Mudanjiang**	**20.64**	**9**	P	**P**	**11 31 23.1**	**-2.2**
	comp=Z,4.6nm,0.5s						
USRK	**Ussuriysk Arra**	**20.68**	**14**	P	**P**	**11 31 25.1**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=203,slow=14,SNR=3.5						
LZH	**Lanzhou**	**21.89**	**308**	*e*P	**P**	**11 31 38.7**	**-0.3**
LZH				pP	**pP**	**11 31 48.3**	**+1.1**
LZH				sP	**sP**	**11 31 52.6**	**+1.6**
LZH				PP	**PnPn**	**11 32 05.0**	**+4.1**
LZH				*e*S	**S**	**11 35 34.1**	**-5.4**
LZH				sS	Sn	11 35 48.8	-1.4
LZH				*e*SS	**SnSn**	**11 36 13.5**	**+7.8**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,5.4s						
LZH				LR	LR		
	comp=N,480nm,13.0s						
LZH				LR	LR		
	comp=E,490nm,12.6s						
LZH				LR	LR		
	comp=Z,780nm,14.7s						
ERM	**Erimo**	**23.15**	**36**	*e*P	**P**	**11 31 52.7**	**+0.6**
ERM				pmax	pmax		
	comp=Z,20nm,1.3s						
ASAJ	**Asahikawa**	**24.40**	**31**	*e*P	**P**	**11 32 03.9**	**0.0**
ASAJ	**Asahikawa**	**24.40**	**31**	P	**P**	**11 32 02.7**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=213,slow=13,SNR=8.1						
CHTO	**Chiang Mai**	**25.02**	**263**	*e*P	**P**	**11 32 10.6**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CHTO	**Chiang Mai**	**25.02**	**263**	*e*P	**P**	**11 32 10.6**	**+0.8**
	comp=Z,9.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.13**	**262**	P	**P**	**11 32 11.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**25.13**	**262**	P	**P**	**11 32 11.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=69,slow=6.1,SNR=5.9						
CMAR				LR	LR	11 42 23.8	
	comp=Z,257nm,19.0s,baz=237,slow=38						
HABR	**Khabarovsk**	**25.41**	**15**	*e*P	**P**	**11 32 11.4**	**-1.6**
HABR				*e**PP	**pP**	**11 32 20.8**	**-0.9**
HABR				*e**SP	**sP**	**11 32 25.0**	**-0.4**
HABR				*e*		11 35 45.0	
HABR				*e*S	**S**	**11 36 34.5**	**-3.2**
HABR				*e**SS	**sS**	**11 36 50.8**	**-1.3**
HABR				*e*		11 43 09.7	
HABR				pmax	pmax		
	comp=Z,23nm,3.2s						
HABR				pmax	pmax		
	comp=N,21nm,3.2s						
HABR				pmax	pmax		
	comp=E,8.0nm,1.8s						
HABR				MLR	MLR		
	comp=Z,138nm,18.0s						
GTA	**Gaotai**	**26.25**	**311**	P	**P**	**11 32 19.9**	**-1.1**
GTA				pP	**pP**	**11 32 29.0**	**-0.7**
GTA				sP	**sP**	**11 32 33.1**	**-0.3**
GTA				S	**S**	**11 36 47.3**	**-4.3**
GTA				sS	**sS**	**11 37 03.2**	**-2.9**
GTA				SS	**SnSn**	**11 37 56.0**	**+3.7**
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
GTA				pmax	pmax		
	comp=Z,130nm,5.7s						
GTA				LR	LR		
	comp=N,220nm,16.2s						
GTA				LR	LR		
	comp=E,310nm,15.0s						
GTA				LR	LR		
	comp=Z,430nm,15.7s						
YSS	**Yuzh-Sakhalins**	**26.66**	**27**	*e*P	**P**	**11 32 27.0**	**+2.7**
ULN	**Ulaanbaatar**	**27.65**	**333**	*e*P	**P**	**11 32 33.3**	**-0.2**
	comp=Z,2.2nm,0.4s						
SONM	**Songino Array**	**27.91**	**332**	P	**P**	**11 32 34.2**	**-1.5**
SONM	**Songino Array**	**27.91**	**332**	P	**P**	**11 32 34.2**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=146,slow=9.5,SNR=7.4						
WMQ	**Urumqi**	**36.33**	**312**	*e*P	**P**	**11 33 51.5**	**+2.0**
WMQ				LR	LR		
	comp=N,130nm,21.0s						
WMQ				LR	LR		
	comp=E,170nm,24.0s						
WMQ				LR	LR		
	comp=Z,180nm,21.0s						
PETK	**Petropavlovsk-**	**37.81**	**32**	P	**P**	**11 34 01.5**	**-0.3**
PETK	**Petropavlovsk-**	**37.81**	**32**	P	**P**	**11 34 01.5**	**-0.3**
PETK	**Petropavlovsk-**	**37.81**	**32**	P	**P**	**11 34 01.5**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=156,slow=1.5,SNR=10						
PETK				LR	LR	11 50 08.9	
	comp=Z,122nm,18.0s,baz=250,slow=37						
PET	**Petropavlovsk**	**38.23**	**33**	*e*P	**P**	**11 34 05.2**	**-0.1**
PET				pmax	pmax		
	comp=Z,14nm,0.6s						
MK31	**Makanchi Array**	**40.91**	**314**	*e*P	**P**	**11 34 27.2**	**-0.7**
MK31	**Makanchi Array**	**40.91**	**314**	*e*P	**P**	**11 34 27.2**	**-0.7**
MKAR	**Makanchi Array**	**40.91**	**314**	*e*P	**P**	**11 34 27.2**	**-0.6**
MKAR	**Makanchi Array**	**40.91**	**314**	*e*P	**P**	**11 34 27.2**	**-0.6**
MKAR	**Makanchi Array**	**40.91**	**314**	P	**P**	**11 34 27.0**	**-0.9**
	comp=Z,5.4nm,0.5s,baz=100,slow=10,SNR=83						
FITZ	**Fitzroy Crossi**	**42.08**	**179**	P	**P**	**11 34 37.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.08**	**179**	P	**P**	**11 34 37.2**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=17,slow=14,SNR=3.0						
ZAA0	**Zalesovo Array**	**42.26**	**325**	*e*P	**P**	**11 34 37.4**	**-1.4**
ZALV	**Zalesovo Beam**	**42.26**	**325**	*i* P	**P**	**11 34 37.2**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.26**	**325**	P	**P**	**11 34 36.9**	**-1.8**
ZALV	**Zalesovo Beam**	**42.26**	**325**	P	**P**	**11 34 36.9**	**-1.8**
	comp=Z,4.0nm,0.5s,baz=109,slow=7.6,SNR=14						
NVS	**Novosibirsk**	**43.50**	**326**	*e*P	**P**	**11 34 47.8**	**-0.9**
KSH	**Kashi**	**43.99**	**302**	*e*P	P	11 34 57.0	+3.9
KSH				sP	sP	11 35 10.0	+4.3
KSH				PP	**PcP**	**11 36 41.0**	**+2.5**
KSH				S	**S**	**11 41 26.8**	**+3.6**
KSH				sS	sS	11 41 44.0	+5.9
KSH				SS	**SS**	**11 44 36.7**	**-3.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,48nm,4.4s						
KSH				LR	LR		
	comp=N,74nm,3.9s						
KSH				LR	LR		
	comp=E,120nm,6.0s						
KSH				LR	LR		
	comp=Z,84nm,6.3s						
TKM2	**Tokmak 2**	**44.66**	**307**	*e*P	**P**	**11 34 59.4**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,13nm,0.8s						
TKM2	**Tokmak 2**	**44.66**	**307**	*e*P	**P**	**11 34 59.4**	**+0.9**
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**44.79**	**168**	*e*P	**P**	**11 34 59.6**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,22nm,1.3s						
WRAB	**Tennant Creek**	**44.79**	**168**	*e*P	**P**	**11 34 59.6**	**+0.2**
	comp=Z,22nm,1.3s						
WRA	**Warramunga Arr**	**44.79**	**168**	P	**P**	**11 34 59.0**	**-0.5**
WRA	**Warramunga Arr**	**44.79**	**168**	P	**P**	**11 34 59.0**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=348,slow=8.8,SNR=31						
AAK	**Ala-Archa**	**45.43**	**307**	*e*P	**P**	**11 35 04.4**	**-0.2**
AAK				pmax	pmax		
	comp=Z,14nm,2.5s						
AAK	**Ala-Archa**	**45.43**	**307**	LR	LR	11 55 53.2	
	comp=Z,97nm,18.2s,baz=312,slow=39						
FX1	**Attu Island--F**	**45.94**	**39**	P	**P**	**11 35 09.2**	**+0.9**
FX1	**Attu Island--F**	**45.94**	**39**	P	**P**	**11 35 09.2**	**+0.9**
	comp=Z,7.5nm,0.6s,baz=71,slow=2.3,SNR=7.8						
EKS2	**Erkin-Say**	**45.96**	**307**	*e*P	**P**	**11 35 09.4**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EKS2	**Erkin-Say**	**45.96**	**307**	*e*P	**P**	**11 35 09.4**	**+0.7**
	comp=Z,4.4nm,0.9s						
AS31	**Alice Springs**	**48.35**	**169**	*e*P	**P**	**11 35 27.8**	**+0.5**
ASAR	**Alice Springs**	**48.35**	**169**	P	**P**	**11 35 27.6**	**+0.3**
ASAR	**Alice Springs**	**48.35**	**169**	P	**P**	**11 35 27.6**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=356,slow=7.2,SNR=28						
KK31	**Karatay Array**	**48.39**	**307**	P	**P**	**11 35 28.1**	**+0.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**48.39**	**307**	*e*P	**P**	**11 35 27.6**	**+0.1**
KKAR	**Karatay Array**	**48.39**	**307**	*e*P	**P**	**11 35 27.6**	**+0.1**
KBL	**Kabul**	**49.48**	**296**	*e*P	**P**	**11 35 36.9**	**+0.6**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	**Kabul**	**49.48**	**296**	*e*P	**P**	**11 35 36.9**	**+0.6**
	comp=Z,6.9nm,0.6s						
VOSK	**Vostochnaya**	**49.58**	**320**	P	**P**	**11 35 35.1**	**-1.4**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**50.07**	**320**	*e*P	**P**	**11 35 40.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**50.07**	**320**	*e*P	**P**	**11 35 39.8**	**-0.3**
	comp=Z,4.9nm,1.0s						
AB31	**Akbulak array**	**56.06**	**314**	P	**P**	**11 36 23.9**	**-0.4**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ABKAR	**Akbulak array**	**56.06**	**314**	*e*P	**P**	**11 36 24.2**	**-0.1**
SVE	**Sverdlovsk**	**56.20**	**323⇑**	*e*P	**P**	**11 36 24.3**	**-1.0**
SVE				pmax	pmax		
	comp=Z,16nm,1.3s						
SVE				MLR	MLR		
	comp=Z,375nm,17.0s						
ARU	**Arti**	**57.30**	**323**	*d i* P	**P**	**11 36 32.7**	**-0.4**
ARU						11 38 36.2	
ARU				S	**S**	**11 44 26.5**	**-0.7**
ARU				SS	**SS**	**11 48 14.3**	**-2.1**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**57.94**	**164**	P	**P**	**11 36 38.9**	**+1.1**
STKA	**Stephens Creek**	**57.94**	**164**	P	**P**	**11 36 38.9**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=343,slow=11,SNR=3.4						
COLD	**Coldfoot**	**65.82**	**25**	*e*P	**P**	**11 37 31.8**	**+1.4**
	comp=Z,24nm,2.0s						
TMCR	**Tamitsa**	**67.27**	**332**	*e*P	**P**	**11 37 39.2**	**-0.4**
TMCR				pmax	pmax		
	comp=Z,13nm,0.3s						
ILAR	**Eielson Array**	**67.47**	**28**	P	**P**	**11 37 41.6**	**+0.7**
ILAR	**Eielson Array**	**67.47**	**28**	P	**P**	**11 37 41.6**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=298,slow=9.6,SNR=18						
VRHR	**Novokhopersk**	**67.61**	**317**	*e*P	**P**	**11 37 39.8**	**-2.3**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=N,20nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
ZEI	**Tsey**	**67.83**	**308**	*e*P	**P**	**11 37 44.3**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KBZ	**Khabaz**	**68.32**	**309**	P	**P**	**11 37 47.5**	**+0.8**
KBZ	**Khabaz**	**68.32**	**309**	P	**P**	**11 37 47.5**	**+0.8**
KBZ	**Khabaz**	**68.32**	**309**	P	**P**	**11 37 47.5**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=90,slow=5.8,SNR=7.3						
KIV	**Kislovodsk**	**68.42**	**310**	*e*P	**P**	**11 37 48.3**	**+0.9**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV				MLR	MLR		
	comp=Z,70nm,18.0s						
RDF	**Al-Radifah**	**68.46**	**293**	*e*P	**P**	**11 37 47.7**	**-0.2**
NAY	**Al-Naaiem**	**68.63**	**293**	*e*P	**P**	**11 37 47.7**	**-1.1**
VORD	**Divnogorie**	**69.08**	**318**	*e*P	**P**	**11 37 49.0**	**-2.2**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,20nm,0.6s						
VSR	**Storozhevoye**	**69.10**	**318**	*e*P	**P**	**11 37 48.6**	**-2.8**
VSR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=N,8.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
OBN	**Obninsk**	**69.74**	**322⇑**	*i* P	**P**	**11 37 54.2**	**-1.0**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
EGAK	**Eagle**	**69.87**	**27**	*e*P	**P**	**11 37 56.9**	**+1.0**
	comp=Z,3.2nm,0.8s						
SPITS	**Spitsbergen Ar**	**70.22**	**348**	P	**P**	**11 37 57.1**	**-0.7**
SPITS	**Spitsbergen Ar**	**70.22**	**348**	P	**P**	**11 37 57.1**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=99,slow=9.3,SNR=4.7						
DAWY	**Dawson**	**70.79**	**28**	*e*P	**P**	**11 38 02.2**	**+0.5**
ARCES	**ARCESS Array B**	**70.86**	**

DLBC	**Dease Lake**	**77.00**	**31**	P	**P**	**11 38 40.3**	**+2.2**
DLBC	**Dease Lake**	**77.00**	**31**	P	**P**	**11 38 40.3**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=264,slow=8.5,SNR=3.7						
BUR08	**Bucovina Ar. S**	**78.86**	**317**	P	**P**	**11 38 48.8**	**+0.1**
NB2	**NORSAR Subarra**	**79.88**	**333**	P	**P**	**11 38 53.7**	**-0.2**
	comp=Z,7.3nm,1.1s,baz=57,slow=5.3						
NOA	**NORSAR Array B**	**79.88**	**333**	P	**P**	**11 38 53.8**	**-0.2**
NOA	**NORSAR Array B**	**79.88**	**333**	P	**P**	**11 38 53.8**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=55,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**81.46**	**24**	P	**P**	**11 39 02.5**	**+0.3**
YKA	**Yellowknife Ar**	**81.46**	**24**	P	**P**	**11 39 02.5**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=312,slow=4.6,SNR=5.7						
GERES	**GERESS Array B**	**85.12**	**322**	P	**P**	**11 39 21.0**	**-0.6**
GERES	**GERESS Array B**	**85.12**	**322**	P	**P**	**11 39 21.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=67,slow=4.5,SNR=7.4						
SLMT	**Seeley Lake**	**91.38**	**36**	*e*P	**P**	**11 39 52.3**	**+0.7**
	comp=Z,6.6nm,1.4s						
FFC	**Flin Flon**	**91.56**	**25**	*i* P	**P**	**11 39 53.7**	**+1.7**
DLMT	**Dillon**	**93.05**	**37**	*e*P	**P**	**11 40 00.9**	**+1.6**
	comp=Z,1.9nm,0.8s						
NVAR	**Mina Array Bea**	**93.83**	**45**	P	**P**	**11 40 05.1**	**+2.0**
NVAR	**Mina Array Bea**	**93.83**	**45**	P	**P**	**11 40 05.1**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=263,slow=6.3,SNR=3.0						

IDC 05 11:33:51.9±0.8, 21°.05S×174°.47W, h0km, mb3.9/10, mb1 4.2/11, mb1mx4.0/22, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=33.2km s-min=18.1km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**20**	Pn	Pn	11 35 37.7	-5.7
	6.1nm,0.3s,baz=196,slow=8.5,SNR=8.1						
AFI				Sn	Sn	11 36 57.2	-13
	4.3nm,0.3s,baz=307,slow=20,SNR=2.9						
URZ	**Urewera**	**18.63**	**201**	P	P	11 38 10.5	-0.6
	0.5nm,0.3s,baz=0.0,slow=8.1,SNR=4.9						
STKA	**Stephens Creek**	**40.54**	**245**	P	P	11 41 32.4	-0.8
	1.1nm,0.7s,baz=98,slow=14,SNR=3.4						
ASAR	**Alice Springs**	**47.61**	**257**	P	P	11 42 29.8	-0.2
	2.5nm,0.8s,baz=94,slow=7.9,SNR=29						
WRA	**Warramunga Arr**	**47.79**	**262**	P	P	11 42 30.8	-0.7
	1.0nm,0.5s,baz=101,slow=8.6,SNR=23						
VNDA	**Vanda**	**57.69**	**186**	P	P	11 43 44.3	+0.5
	0.5nm,0.8s,baz=43,slow=8.5,SNR=3.2						
PETK	**Petropavlovsk-**	**77.69**	**343**	P	P	11 45 50.5	+0.3
	0.9nm,0.6s,baz=152,slow=9.5,SNR=3.5						
YBH	**Yreka Blue Hor**	**78.70**	**37**	P	P	11 45 56.2	0.0
	0.4nm,0.3s,baz=231,slow=6.5,SNR=4.2						
NVAR	**Mina Array Bea**	**79.20**	**42**	P	P	11 45 58.4	-0.8
	1.7nm,0.8s,baz=224,slow=7.9,SNR=15						
PDAR	**Pinedale Array**	**87.13**	**42**	P	P	11 46 40.0	-0.2
	0.3nm,0.7s,baz=197,slow=2.8,SNR=3.5						
ILAR	**Eielson Array**	**88.15**	**11**	P	P	11 46 44.5	+0.3
	0.4nm,0.9s,baz=199,slow=4.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**93.41**	**288**	P	P	11 47 10.8	+1.0
	0.7nm,0.3s,baz=96,slow=5.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**112.99**	**321**	PKiKP	PKiKP	11 52 32.0	+1.2
	0.3nm,0.4s,baz=113,slow=2.2,SNR=2.2						
AKASG	**Malin Array Be**	**145.03**	**334**	PKPbc	PKPbc	11 53 30.1	-0.3
	0.5nm,0.3s,baz=32,slow=2.7,SNR=4.6						
BRTR	**Keskin Array B**	**149.62**	**314**	PKPbc	PKPbc	11 53 43.1	-0.8
	0.5nm,0.6s,baz=153,slow=0.6,SNR=3.2						

*NSSC **05** 11:56:49.8±2.6, 33°.70N×35°.55E, h0km±9km, MD1.3, ML2.4*
*GRAL **05** 11:56:50.9±0.3, 33°.79N×35°.77E, h0km±19km, MD3.0*
CSEM 05 11:56:50.6±0.3, 33°.75N×35°.70E, h2km, ML3.0, Error ellipse: s-maj=9.4km s-min=3.5km az=77.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.16**	**348**	*e*P	Pg	11 56 53.7	-0.3
BHL				*e*S	Sg	11 56 55.7	-0.5
BHL	**Bhannes**	**0.16**	**348**	*e*P	Pg	11 56 53.7	-0.2
BHL				*e*S	Sg	11 56 55.7	-0.5
BEYL	**Beirut**	**0.21**	**307**	*e*P	Pg	11 56 55.3	+0.7
BEYL	**Beirut**	**0.21**	**307**	*e*P	Pg	11 56 55.3	+0.6
RCY	**Rachaya**	**0.27**	**155**	*e*P	Pg	11 56 56.2	+0.1
RCY				*e*S	Sg	11 57 00.1	+0.2
RCY	**Rachaya**	**0.27**	**155**	*e*P	Pg	11 56 56.2	+0.1
RCY				*e*S	Sg	11 57 00.1	+0.3
BRBR	**Barbar**	**0.40**	**147**	*e*P	Pg	11 56 58.0	-0.5
BRBR				*e*S	Sg	11 57 05.2	+1.3
BRBR				AML	AML	11 57 07.5	
	comp=N,315nm,0.3s						
BRBR				AML	AML	11 57 11.3	
	comp=E,328nm,0.5s						
BRBR	**Barbar**	**0.40**	**147**	*e*P	Pg	11 56 58.0	-0.5
	SNR=92						
BRBR				*e*S	Sg	11 57 05.2	+1.4
	comp=E,328nm,0.5s,SNR=59						
HWQ	**Hawqa**	**0.57**	**21**	*e*P	Pg	11 57 00.1	-1.7
HWQ	**Hawqa**	**0.57**	**21**	*e*P	Pg	11 57 00.1	-1.7
TOTH	**TOTAH**	**0.72**	**122**	*e*P	Pg	11 57 04.1	-0.5
TOTH				*e*S	Sn	11 57 18.9	-0.8
TOTH				AML	AML	11 57 22.5	
	comp=N,70nm,0.6s						
TOTH				AML	AML	11 57 23.9	
	comp=E,61nm,0.4s						
TOTH	**TOTAH**	**0.72**	**122**	*e*P	Pg	11 57 04.1	-0.4
	SNR=75						
TOTH				*e*S	Sn	11 57 18.9	-0.7
	comp=E,61nm,0.4s,SNR=59						
TCHB	**Talchebab**	**1.10**	**168**	*e*P	Pg	11 57 11.8	+0.1
TCHB				*e*S	Sb	11 57 26.8	-0.3
TCHB				AML	AML	11 57 32.0	
	comp=N,96nm,0.8s						
TCHB				AML	AML	11 57 37.5	
	comp=E,134nm,0.4s						
TCHB	**Talchebab**	**1.10**	**168**	*e*P	Pg	11 57 11.8	+0.1
	SNR=57						
TCHB				*e*S	Sb	11 57 26.8	-0.4
	comp=E,134nm,0.4s,SNR=59						
SALA	**Sala**	**1.35**	**140**	*e*P	Pn	11 57 15.9	-0.8
SALA				*e*S	Sn	11 57 35.4	+0.1
SALA				AML	AML	11 57 40.8	
	comp=N,95nm,0.4s						
SALA				AML	AML	11 57 41.1	
	comp=E,6.8nm,0.3s						
SALA	**Sala**	**1.35**	**140**	*e*P	Pn	11 57 15.9	-0.8
	SNR=57						
SALA				*e*S	Sn	11 57 35.4	0.0
	comp=E,6.8nm,0.3s,SNR=49						
BIDA	**Albida**	**1.37**	**22**	*e*P	Pn	11 57 16.3	-0.5
BIDA				*e*S	Sn	11 57 37.8	+2.1
BIDA				AML	AML	11 57 40.1	
	comp=N,379nm,0.3s						
BIDA	**Albida**	**1.37**	**22**	*e*P	Pn	11 57 16.3	-0.6
	SNR=57						
BIDA				*e*S	Sn	11 57 37.8	+2.2
	comp=N,379nm,0.3s,SNR=49						
ZALF	**Zalf**	**1.60**	**120**	*e*P	Pn	11 57 19.5	-0.5
ZALF				*e*S	Sg	11 57 42.2	+0.1
ZALF				AML	AML	11 57 45.1	
	comp=E,54nm,0.5s						
ZALF				AML	AML	11 57 49.5	
	comp=N,67nm,0.5s						
ZALF	**Zalf**	**1.60**	**120**	*e*P	Pn	11 57 19.5	-0.5
	SNR=45						
ZALF				*e*S	Sg	11 57 42.2	+0.1
	comp=N,67nm,0.5s,SNR=40						
KFRA	**Kufra**	**1.72**	**32**	*e*P	Pn	11 57 22.0	+0.3
KFRA				*e*S	Sg	11 57 45.9	-0.3
KFRA				AML	AML	11 57 48.4	
	comp=E,321nm,0.5s						
KFRA				AML	AML	11 57 57.7	
	comp=N,93nm,0.5s						
KFRA	**Kufra**	**1.72**	**32**	*e*P	Pn	11 57 22.0	+0.3
	SNR=45						
KFRA				*e*S	Sg	11 57 45.9	-0.3
	comp=N,171nm,0.5s,SNR=40						
SLNF	**Slenfeh**	**1.90**	**13**	AML	AML	11 57 32.6	
	comp=N,187nm,0.4s						
SLNF				AML	AML	11 57 39.1	
	comp=E,171nm,0.5s						
ARNB	**Al Arnab**	**2.12**	**6**	*e*P	Pn	11 57 26.7	-0.6
ARNB				*e*S	Sb	11 57 56.0	-0.8
ARNB				AML	AML	11 58 07.8	
	comp=E,37nm,0.5s						
ARNB				AML	AML	11 58 08.7	
	comp=N,23nm,0.5s						
ARNB	**Al Arnab**	**2.12**	**6**	*e*P	Pn	11 57 26.7	-0.5
	SNR=45						
ARNB				*e*S	Sb	11 57 56.0	-0.8
	comp=N,23nm,0.5s,SNR=40						
BTCH	**Batrach**	**2.37**	**15**	*e*P	Pn	11 57 31.8	+1.2
BTCH				*e*S	Sb	11 58 02.2	-1.8
BTCH				AML	AML	11 58 09.1	
	comp=E,30nm,0.4s						
BTCH				AML	AML	11 58 11.8	
	comp=N,74nm,0.4s						
BTCH	**Batrach**	**2.37**	**15**	*e*P	Pn	11 57 31.8	+1.2
	SNR=45						
BTCH				*e*S	Sb	11 58 02.2	-1.8
	comp=N,74nm,0.4s,SNR=40						

IDC 05 12:05:38.7±13.0, 16°.06S×165°.57E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=228.6km s-min=34.7km az=54.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.04**	**172**	Pn	Pn	12 07 09.5	0.0
	4.4nm,0.3s,baz=40,slow=20,SNR=94						
DZM				Sn	Sn	12 08 20.6	+1.1
	0.6nm,0.3s,baz=270,slow=20,SNR=8.9						
STKA	**Stephens Creek**	**26.89**	**230**	P	P	12 11 21.3	-0.2
	1.1nm,0.6s,baz=43,slow=9.7,SNR=4.4						
WRA	**Warramunga Arr**	**29.93**	**258**	P	P	12 11 48.8	0.0
	0.3nm,0.3s,baz=77,slow=6.9,SNR=13						
ASAR	**Alice Springs**	**30.68**	**251**	P	P	12 11 55.4	0.0
	0.8nm,0.3s,baz=79,slow=8.9,SNR=44						

*ISCJB **05** 12:08:04.6±0.2, 41°.17N±0°.02×14°.98E±0°.03, h18km±3km, Error ellipse: s-maj=3.9km s-min=2.5km az=143.4*
*CSEM **05** 12:08:04.3±0.1, 41°.15N×14°.97E, h20km, ML3.6/9, Error ellipse: s-maj=3.2km s-min=2.0km az=48.0*
*ROM **05** 12:08:04.4±0.1, 41°.17N×14°.98E, h15km±1km, Md3.0/42, Ml3.1/39, Error ellipse: s-maj=1.4km s-min=0.8km az=50.0*
*BEO **05** 12:08:15.9, 41°.51N×15°.61E, h31km*
ISC 05 12:08:04.5±0.8, 41°.16N±0°.02×14°.97E±0°.02, h17km±4km, n109, σ0°76/138, 1C, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRB1	**Monte Rocchett**	**0.03**	**173**	Pg	**Pg**	**12 08 07.2**	**-0.4**
MRB1				Sg	**Sg**	**12 08 09.4**	**-0.2**
	4μm,0.2s						
MRB1	**Monte Rocchett**	**0.03**	**173**	Pg	**Pg**	**12 08 07.2**	**-0.4**
MRB1				Sg	**Sg**	**12 08 09.4**	**-0.2**
	4μm,0.2s						
IPES	**Pescosannita**	**0.13**	**307**	Pg	**Pg**	**12 08 08.5**	**+0.1**
PSB1	**Pescosannita**	**0.14**	**299**	Pg	**Pg**	**12 08 08.4**	**-0.1**
PSB1				Sg	**Sb**	**12 08 11.5**	**0.0**
	7μm,0.4s						
PSB1	**Pescosannita**	**0.14**	**299**	Pg	**Pg**	**12 08 08.4**	**-0.1**
PSB1				Sg	**Sb**	**12 08 11.5**	**0.0**
	7μm,0.4s						
CAFE	**Carife**	**0.24**	**122**	Pg	**Pg**	**12 08 10.1**	**0.0**
CAFE				Sg	**Sb**	**12 08 14.8**	**+0.3**
	8μm,0.4s						
CAFE	**Carife**	**0.24**	**122**	Pg	**Pg**	**12 08 10.1**	**0.0**
CAFE				Sg	**Sb**	**12 08 14.8**	**+0.3**
	8μm,0.4s						
MOCO	**Biccari - m.te**	**0.26**	**34**	Pg	**Pb**	**12 08 10.8**	**0.0**
MOCO				Sg	**Sg**	**12 08 14.2**	**-0.1**
	6μm,0.9s						
FG5	**Orsara di Pugl**	**0.26**	**61**	Pg	**Pg**	**12 08 10.6**	**+0.3**
FG5	**Orsara di Pugl**	**0.26**	**61**	Pg	**Pg**	**12 08 10.6**	**+0.3**
SNAL	**S. Angelo Dei**	**0.29**	**142**	Pg	**Pg**	**12 08 10.9**	**0.0**
SNAL				Sg	**Sb**	**12 08 16.2**	**+0.1**
	4μm,0.2s						
SNAL	**S. Angelo Dei**	**0.29**	**142**	Pg	**Pg**	**12 08 10.9**	**0.0**
SNAL				Sg	**Sb**	**12 08 16.2**	**+0.1**
	4μm,0.2s						
CSSN	**Cassano Irpino**	**0.30**	**172**	Pg	**Pg**	**12 08 10.8**	**-0.2**
CSSN				Sg	**Sb**	**12 08 16.6**	**+0.5**
CSSN	**Cassano Irpino**	**0.30**	**172**	Pg	**Pg**	**12 08 10.8**	**-0.2**
CSSN				Sg	**Sb**	**12 08 16.6**	**+0.5**
SACR	**S. Croce Del S**	**0.31**	**321**	Pg	**Pg**	**12 08 11.1**	**-0.1**
SACR				Sg	**Sg**	**12 08 16.1**	**+0.3**
	2μm,0.5s						
SACR	**S. Croce Del S**	**0.31**	**321**	Pg	**Pg**	**12 08 11.1**	**-0.1**
SACR				Sg	**Sg**	**12 08 16.1**	**+0.3**
	2μm,0.5s						
PTRJ	**Pietraroja**	**0.39**	**302**	Pg	**Pg**	**12 08 12.2**	**-0.4**
PTRJ				Sg	**Sb**	**12 08 18.9**	**+0.1**
	3μm,0.5s						
PTRJ	**Pietraroja**	**0.39**	**302**	Pg	**Pg**	**12 08 12.2**	**-0.4**
PTRJ				Sg	**Sb**	**12 08 18.9**	**+0.1**
	3μm,0.5s						
MCRV	**Calabrutti - M**	**0.40**	**158**	Pg	**Pg**	**12 08 12.4**	**-0.4**
MCRV				Sg	**Sb**	**12 08 19.4**	**+0.2**
	2μm,0.3s						
MCRV	**Calabrutti - M**	**0.40**	**158**	Pg	**Pg**	**12 08 12.4**	**-0.4**
MCRV				Sg	**Sb**	**12 08 19.4**	**+0.2**
	2μm,0.3s						
BSSO	**Busso**	**0.48**	**324**	Pg	**Pg**	**12 08 14.0**	**-0.2**
	1μm,0.6s						
BSSO	**Busso**	**0.48**	**324**	Pg	**Pg**	**12 08 14.0**	**-0.2**
	1μm,0.6s						
CIGN	**Sant'Elia a Pi**	**0.50**	**355**	Pg	**Pg**	**12 08 14.6**	**+0.1**
	274nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.50**	**355**	Pg	**Pg**	**12 08 14.6**	**+0.1**
	274nm,0.4s						
SGG	**Gregorio Mates**	**0.50**	**297**	Pg	**Pg**	**12 08 14.2**	**-0.4**
	7μm,1.3s						
SGG	**Gregorio Mates**	**0.50**	**297**	Pg	**Pg**	**12 08 14.2**	**-0.4**
	7μm,1.3s						
VULT	**Monte Vulture**	**0.53**	**112**	Pg	**Pg**	**12 08 14.9**	**-0.2**
	3μm,0.3s						
VULT	**Monte Vulture**	**0.53**	**112**	Pg	**Pg**	**12 08 14.9**	**-0.2**
	3μm,0.3s						
OVO	**Vesuviano**	**0.54**	**233**	Pg	**Pb**	**12 08 15.9**	**+0.3**
OVO	**Vesuviano**	**0.54**	**233**	Pg	**Pb**	**12 08 15.9**	**+0.3**
MELA	**Melanico ??? S**	**0.56**	**12**	Pg	**Pg**	**12 08 14.9**	**-0.8**
MELA				Sg	**Sb**	**12 08 23.8**	**+0.1**
	3μm,0.3s						
MELA	**Melanico ??? S**	**0.56**	**12**	Pg	**Pg**	**12 08 14.9**	**-0.8**
MELA				Sg	**Sb**	**12 08 23.8**	**+0.1**
	3μm,0.3s						
MRLC	**Muro Lucano**	**0.56**	**135**	Pg	**Pg**	**12 08 15.1**	**-0.6**
MRLC				Sg	**Sb**	**12 08 23.9**	**+0.2**
	850nm,0.6s						
MRLC	**Muro Lucano**	**0.56**	**135**	Pg	**Pg**	**12 08 15.1**	**-0.6**
MRLC				Sg	**Sb**	**12 08 23.9**	**+0.2**
	850nm,0.6s						
VAGA	**Valle Agricola**	**0.61**	**295**	Pg	**Pg**	**12 08 16.4**	**-0.2**
	1μm,0.4s						
VAGA	**Valle Agricola**	**0.61**	**295**	Pg	**Pg**	**12 08 16.4**	**-0.2**
	1μm,0.4s						
FG2	**Serracapriola**	**0.66**	**13**	Pg	**Pg**	**12 08 16.5**	**-1.1**
FG2	**Serracapriola**	**0.66**	**13**	Pg	**Pg**	**12 08 16.5**	**-1.1**
TRIV	**Trivento**	**0.69**	**333**	Pg	**Pg**	**12 08 17.3**	**-0.7**
	762nm,0.6s						
TRIV	**Trivento**	**0.69**	**333**	Pg	**Pg**	**12 08 17.3**	**-0.7**
	762nm,0.6s						
CDRU	**Civita di Ruta**	**0.71**	**159**	Pg	**Pg**	**12 08 17.3**	**-1.2**
	548nm,0.4s						
CDRU	**Civita di Ruta**	**0.71**	**159**	Pg	**Pg**	**12 08 17.3**	**-1.2**
	548nm,0.4s						
MIDA	**Miranda**	**0.72**	**312**	Pg	**Pg**	**12 08 17.6**	**-1.1**
	653nm,0.4s						
MIDA	**Miranda**	**0.72**	**312**	Pg	**Pg**	**12 08 17.6**	**-1.1**
	653nm,0.4s						
MSC	**Monte Massico**	**0.75**	**273**	Pg	**Pg**	**12 08 19.6**	**+0.4**
MSC	**Monte Massico**	**0.75**	**273**	Pg	**Pg**	**12 08 19.6**	**+0.4**
RNI2	**Rionero Sannit**	**0.82**	**312**	Pg	**Pb**	**12 08 19.3**	**-1.1**
	664nm,0.5s						
RNI2	**Rionero Sannit**	**0.82**	**312**	Pg	**Pb**	**12 08 19.3**	**-1.1**
	664nm,0.5s						
MODR	**Mondragone**	**0.82**	**270**	Pg	**Pg**	**12 08 21.1**	**+0.5**
	614nm,0.4s						
MODR	**Mondragone**	**0.82**	**270**	Pg	**Pg**	**12 08 21.1**	**+0.5**
	614nm,0.4s						
ACER	**Acerenza**	**0.83**	**116**	Pg	**Pb**	**12 08 19.4**	**-1.1**
	686nm,0.5s						
ACER	**Acerenza**	**0.83**	**116**	Pg	**Pb**	**12 08 19.4**	**-1.1**
	686nm,0.5s						
SGRT	**San Giovanni R**	**0.83**	**44**	Pg	**Pb**	**12 08 19.7**	**-0.9**
SGRT				Sg	**Sb**	**12 08 31.9**	**+0.3**
	1μm,0.2s						
SGRT	**San Giovanni R**	**0.83**	**44**	Pg	**Pb**	**12 08 19.7**	**-0.9**
SGRT				Sg	**Sb**	**12 08 31.9**	**+0.3**
	1μm,0.2s						
CERA	**Filignano**	**0.84**	**302**	Pg	**Pg**	**12 08 21.2**	**+0.3**
	744nm,0.4s						
CERA	**Filignano**	**0.84**	**302**	Pg	**Pg**	**12 08 21.2**	**+0.3**
	744nm,0.4s						
FRES	**Fresagrandinar**	**0.85**	**345**	Pg	**Pb**	**12 08 19.7**	**-1.1**
	725nm,0.6s						
FRES	**Fresagrandinar**	**0.85**	**345**	Pg	**Pb**	**12 08 19.7**	**-1.1**
	725nm,0.6s						
CMPR	**Campora**	**0.88**	**163**	Pg	**Pb**	**12 08 20.8**	**-0.5**
	572nm,0.5s						
CMPR	**Campora**	**0.88**	**163**	Pg	**Pb**	**12 08 20.8**	**-0.5**
	572nm,0.5s						
MSAG	**Monte S. Angel**	**0.90**	**52**	Pg	**Pb**	**12 08 21.1**	**-0.6**
	2μm,0.5s						
MSAG	**Monte S. Angel**	**0.90**	**52**	Pg	**Pb**	**12 08 21.1**	**-0.6**
	2μm,0.5s						
MRVN	**Minervino Murg**	**0.93**	**96**	Pg	**Pb**	**12 08 21.6**	**-0.7**
	300nm,0.4s						
MRVN	**Minervino Murg**	**0.93**	**96**	Pg	**Pb**	**12 08 21.6**	**-0.7**
	300nm,0.4s						
SDI	**San Donato**	**1.03**	**303**	Pg	**Pg**	**12 08 24.8**	**+0.3**
	215nm,0.7s						
SDI	**San Donato**	**1.03**	**303**	Pg	**Pg**	**12 08 24.8**	**+0.3**
	215nm,0.7s						
LPEL	**Lama dei Pelig**	**1.07**	**327**	Pg	**Pb**	**12 08 23.2**	**-1.4**
	355nm,0.5s						
LPEL	**Lama dei Pelig**	**1.07**	**327**	Pg	**Pb**	**12 08 23.2**	**-1.4**
	355nm,0.5s						
MTSN	**Montesano sull**	**1.07**	**146**	Pg	**Pb**	**12 08 24.0**	**-0.7**
	389nm,0.4s						
MTSN	**Montesano sull**	**1.07**	**146**	Pg	**Pb**	**12 08 24.0**	**-0.7**
	389nm,0.4s						
POFI	**Posta Fibreno**	**1.10**	**301**	Pg	**Pb**	**12 08 25.4**	**+0.3**
	261nm,0.6s						
POFI	**Posta Fibreno**	**1.10**	**301**	Pg	**Pb**	**12 08 25.4**	**+0.3**
	261nm,0.6s						
MGR	**Morgerati**	**1.11**	**156**	Pg	**Pb**	**12 08 24.6**	**-0.7**
	266nm,0.6s						
MGR	**Morigerati**	**1.11**	**156**	Pg	**Pb**	**12 08 24.6**	**-0.7**
	266nm,0.6s						
BULG	**Bulgheria - Ca**	**1.12**	**164**	Pg	**Pn**	**12 08 25.3**	**-0.2**
	335nm,0.7s						
BULG	**Bulgheria - Ca**	**1.12**	**164**	Pg	**Pn**	**12 08 25.3**	**-0.2**
	335nm,0.7s						
INTR	**Introdacqua**	**1.17**	**317**	Pg	**Pn**	**12 08 25.3**	**-0.9**
	581nm,0.6s						
INTR	**Introdacqua**	**1.17**	**317**	Pg	**Pn**	**12 08 25.3**	**-0.9**
	581nm,0.6s						
SIRI	**Monte Sirino -**	**1.19**	**145**	Pg	**Pn**	**12 08 26.1**	**-0.4**
	308nm,0.6s						
SIRI	**Monte Sirino -**	**1.19**	**145**	Pg	**Pn**	**12 08 26.1**	**-0.4**
	308nm,0.6s						
VVLD	**Villa Vallelon**	**1.24**	**306**	Pg	**Pb**	**12 08 27.7**	**+0.2**
	245nm,0.7s						
VVLD	**Villa Vallelon**	**1.24**	**306**	Pg	**Pb**	**12 08 27.7**	**+0.2**
	245nm,0.7s						
MIGL	**Miglionico**	**1.25**	**116**	Pg	**Pb**	**12 08 28.3**	**+0.7**
	479nm,0.6s						
MIGL	**Miglionico**	**1.25**	**116**	Pg	**Pb**	**12 08 28.3**	**+0.7**
	479nm,0.6s						
AMUR	**Altamura**	**1.26**	**101**	Pg	**Pn**	**12 08 27.3**	**-0.1**
	223nm,0.3s						
AMUR	**Altamura**	**1.26**	**101**	Pg	**Pn**	**12 08 27.3**	**-0.1**
	223nm,0.3s						
SCHR	**S. Chirico Rap**	**1.27**	**138**	Pg	**Pn**	**12 08 27.7**	**0.0**
	124nm,0.4s						
SCHR	**S. Chirico Rap**	**1.27**	**138**	Pg	**Pn**	**12 08 27.7**	**0.0**
	124nm,0.4s						
CUC	**Castrocucco**	**1.33**	**151**	Pg	**Pg**	**12 08 30.0**	**-0.2**
	179nm,0.6s						
CUC	**Castrocucco**	**1.33**	**151**	Pg	**Pg**	**12 08 30.0**	**-0.2**
	179nm,0.6s						
GIUL	**Giuliano Di Ro**	**1.35**	**288**	Pg	**Pn**	**12 08 28.5**	**-0.2**
	103nm,0.6s						
GIUL	**Giuliano Di Ro**	**1.35**	**288**	Pg	**Pn**	**12 08 28.5**	**-0.2**
	103nm,0.6s						
STON	**Ston**	**2.66**	**49**	*e*Pn	**Pn**	**12 08 47.3**	**+0.6**
STON				Sn	**Sn**	**12 09 17.8**	**-0.7**
STON	**Ston**	**2.66**	**49**	*e*Pn	**Pn**	**12 08 47.2**	**+0.6**
STON				Sn	**Sn**	**12 09 17.7**	**-0.7**
NVLJ	**Novalja**	**3.41**	**359**	*i* Pn	**Pn**	**12 08 57.5**	**+0.6**
NVLJ				Sn	**Sn**	**12 09 36.1**	**-0.8**
NVLJ	**Novalja**	**3.41**	**359**	*i* Pn	**Pn**	**12 08 57.4**	**+0.6**
NVLJ				Sn	**Sn**	**12 09 36.0**	**-0.8**
UDBI	**Udbina**	**3.42**	**10**	*e*Pn	**Pn**	**12 08 58.4**	**+1.3**
UDBI				Sn	**Sn**	**12 09 39.4**	**+2.1**
UDBI	**Udbina**	**3.42**	**10**	*e*Pn	**Pn**	**12 08 58.4**	**+1.3**
UDBI				Sn	**Sn**	**12 09 39.4**	**+2.1**
BLY	**Banja Luka**	**3.94**	**24**	*e*Pn	Pn	12 09 07.9	+3.7
BLY	**Banja Luka**	**3.94**	**24**	*e*Pn	Pn	12 09 07.9	+3.7
BBLS	**Lazići**	**4.25**	**49**	*e*Pn	**Pn**	**12 09 10.6**	**+2.0**
DIVS	**Divibare**	**4.73**	**50**	*e*Pn	**Pn**	**12 09 17.3**	**+2.1**
SELS	**Selova**	**5.01**	**64**	*e*Pn	**Pn**	**12 09 20.1**	**+1.1**
SELS	**Selova**	**5.01**	**64**	*e*Pn	**Pn**	**12 09 20.1**	**+1.1**
GRUS	**Gruza**	**5.05**	**55**	*e*Pn	**Pn**	**12 09 20.8**	**

comp=Z,69nm,20.4s,baz=15,slow=33
ASAJ Asahikawa 11.36 76 Pn **Pn 12 10 54.8 0.0**
comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=6.2
ASAJ LR LR 12 14 56.7
comp=Z,92nm,19.4s,baz=181,slow=36
NJ2 Nanjing 12.25 216 *e*P **Pn 12 11 06.2 -0.8**
NJ2 sP 12 11 12.6
NJ2 S **Sn 12 13 25.0 +1.4**
NJ2 sS 12 13 30.0
NJ2 pmax pmax
comp=Z,30nm,0.7s
NJ2 LR LR
comp=N,350nm,14.3s
NJ2 LR LR
comp=E,890nm,11.5s
NJ2 LR LR
comp=Z,390nm,13.4s
SONM Songino Array 15.68 298 Pn **Pn 12 11 52.1 -1.6**
comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=3.2
SONM Lg Lg 12 16 26.4
comp=Z,0.5nm,0.3s,baz=107,slow=27,SNR=5.9
LZH Lanzhou 19.14 259 *e*P **P 12 12 34.4 -1.6**
LZH pP **Pn 12 12 37.0 +0.2**
LZH PP **PnPn 12 12 51.0 +1.6**
LZH *e*S Sn 12 16 03.0 -8.3
LZH *e*SS **SnSn 12 16 28.5 +3.4**
LZH pmax pmax
comp=Z,39nm,1.4s
LZH pmax pmax
comp=Z,110nm,4.1s
LZH LR LR
comp=N,310nm,8.0s
LZH LR LR
comp=E,360nm,9.2s
LZH LR LR
comp=Z,400nm,10.5s
KURBB Kurchatov Arra 33.99 301 P **P 12 14 57.0 +0.8**
comp=Z,1.5nm,0.9s,baz=87,slow=9.2,SNR=4.4
ILAR Eielson Array 51.01 33 P **P 12 17 14.3 +0.1**
comp=Z,0.6nm,0.8s,baz=284,slow=7.0,SNR=7.6
ARCES ARCESS Array B 54.88 335 P **P 12 17 43.1 +0.4**
comp=Z,0.4nm,0.5s,baz=68,slow=9.7,SNR=7.2
FINES FINESS Array B 58.68 327 P **P 12 18 08.1 -1.7**
comp=Z,0.4nm,0.4s,baz=84,slow=7.9,SNR=6.1
WRA Warramunga Arr 62.33 172 P **P 12 18 33.7 -1.4**
comp=Z,0.5nm,1.0s,baz=358,slow=7.2,SNR=3.2
ASAR Alice Springs 65.97 173 P **P 12 18 57.2 -1.8**
comp=Z,0.4nm,0.6s,baz=346,slow=7.5,SNR=6.2

IDC 05 12:14:09.7±0.7, 23°.85N×141°.70E, h0km, mb3.8/11, mb1 4.1/11, mb1mx3.8/27, mbtmp3.8/11, Error ellipse: s-maj=29.9km s-min=18.8km az=98.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**17.98**	**322**	P	P	12 18 26.2	+4.6
	0.3nm,0.3s,baz=136,slow=13,SNR=4.8						
ASAJ	**Asahikawa**	**20.23**	**2**	P	P	12 18 46.8	+0.6
	2.2nm,0.8s,baz=198,slow=9.6,SNR=3.4						
WRA	**Warramunga Arr**	**44.12**	**190**	P	P	12 22 19.8	-0.3
	2.6nm,0.7s,baz=11,slow=8.4,SNR=20						
ASAR	**Alice Springs**	**47.84**	**190**	P	P	12 22 49.5	+0.1
	0.6nm,0.6s,baz=14,slow=12,SNR=14						
MKAR	**Makanchi Array**	**52.24**	**312**	P	P	12 23 23.1	+0.4
	0.2nm,0.5s,baz=89,slow=10.0,SNR=4.5						
KURBB	**Kurchatov Arra**	**55.02**	**316**	P	P	12 23 42.0	-0.9
	0.2nm,0.4s,baz=91,slow=8.0,SNR=3.4						
BVAR	**Borovoye Array**	**60.15**	**319**	P	P	12 24 19.4	+0.4
	0.3nm,0.4s,baz=80,slow=7.9,SNR=2.9						
ILAR	**Eielson Array**	**60.76**	**28**	P	P	12 24 22.4	-0.6
	1.9nm,0.8s,baz=262,slow=5.7,SNR=19						
DIB	**Dawson Inlet,**	**68.82**	**40**	T	T	13 40 37.6	
YKA	**Yellowknife Ar**	**75.20**	**28**	P	P	12 25 53.6	-0.2
	0.8nm,0.6s,baz=288,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**82.87**	**51**	P	P	12 26 37.2	+0.5
	1.1nm,0.8s,baz=268,slow=6.0,SNR=9.2						
PDAR	**Pinedale Array**	**86.82**	**44**	P	P	12 26 56.5	0.0
	0.6nm,0.9s,baz=305,slow=3.2,SNR=3.6						
TXAR	**Lajitas Array**	**97.89**	**53**	P	Pdif	12 27 49.6	+1.6
	0.2nm,0.6s,baz=279,slow=2.4,SNR=3.6						
LPAZ	**La Paz**	**151.03**	**81**	PKPbc	PKPbc	12 34 04.9	-1.3
	0.6nm,0.5s,baz=233,slow=5.1,SNR=3.4						

IDC 05 12:14:41.5±48.0, 17°.25S×177°.41W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=896.1km s-min=152.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.78**	**241**	P	P	12 22 17.2	+0.8
	1.2nm,0.5s,baz=59,slow=8.3,SNR=6.8						
WRA	**Warramunga Arr**	**45.69**	**259**	P	P	12 23 03.9	-0.7
	0.4nm,0.3s,baz=97,slow=7.7,SNR=19						
ASAR	**Alice Springs**	**45.89**	**254**	P	P	12 23 05.8	-0.4
	4.2nm,0.6s,baz=90,slow=8.1,SNR=76						

IDC 05 12:18:46.1±1.6, 30°.21S×177°.64W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=38.7km s-min=19.0km az=91.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.99**	**346**	Pn	Pn	12 19 08.2	+1.0
	218nm,0.3s,baz=114,slow=20,SNR=26						
RAO				Sn	Sn	12 19 22.2	+0.3
	1μm,0.3s,baz=105,slow=20,SNR=31						
URZ	**Urewera**	**9.13**	**207**	Pn	Pn	12 20 53.4	-5.6
	0.3nm,0.3s,baz=108,slow=20,SNR=11						
URZ				Sn	Sn	12 22 35.7	-6.8
	0.9nm,0.3s,baz=107,slow=8.6,SNR=14						
STKA	**Stephens Creek**	**34.82**	**257**	P	P	12 25 39.1	+0.3
	3.4nm,0.8s,baz=96,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**43.43**	**267**	P	P	12 26 50.5	-0.4
	3.0nm,1.2s,baz=106,slow=7.0,SNR=9.7						
WRA	**Warramunga Arr**	**44.40**	**272**	P	P	12 26 58.5	-0.2
	0.5nm,0.3s,baz=110,slow=8.1,SNR=34						
QSPA	**South Pole Qui**	**59.90**	**180**	P	P	12 28 54.5	+0.9
	1.3nm,1.0s,baz=37,slow=1.9,SNR=2.2						
FINES	**FINESS Array B**	**145.07**	**340**	PKPbc	PKPbc	12 38 22.8	-1.4
	2.0nm,0.6s,baz=64,slow=3.2,SNR=10.0						
BRTR	**Keskin Array B**	**152.78**	**299**	PKPbc	PKPbc	12 38 44.1	-1.1
	0.3nm,0.4s,baz=112,slow=4.3,SNR=2.6						

IDC 05 12:30:13.8±2.0, 14°.59N×144°.25E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/24, mbtmp3.7/7, MS3.4/5, Ms1 3.4/5, ms1mx3.0/39, Error ellipse: s-maj=71.2km s-min=18.9km az=80.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**19.79**	**250**	LR	LR	12 41 11.5	
	comp=Z,126nm,21.0s,baz=206,slow=33						
MJAR	**Matsushiro Arr**	**22.52**	**347**	P	P	12 35 14.6	-0.6
	1.3nm,0.8s,baz=175,slow=9.1,SNR=4.7						
MJAR				LR	LR	12 42 23.5	
	comp=Z,87nm,21.7s,baz=160,slow=32						
KSRS	**Korea Array**	**27.00**	**330**	LR	LR	12 46 12.7	
	comp=Z,29nm,18.8s,baz=150,slow=36						
WRA	**Warramunga Arr**	**35.68**	**196**	P	P	12 37 13.9	-0.1
	3.2nm,0.8s,baz=14,slow=9.6,SNR=19						
ASAR	**Alice Springs**	**39.35**	**195**	P	P	12 37 45.1	0.0
	0.4nm,0.8s,baz=16,slow=13,SNR=6.0						
CMAR	**Chiang Mai Arr**	**43.52**	**282**	P	P	12 38 19.3	-0.3
	1.4nm,0.8s,baz=74,slow=7.1,SNR=6.7						
CMAR				LR	LR	12 54 39.0	
	comp=Z,58nm,20.1s,baz=343,slow=34						
SONM	**Songino Array**	**45.57**	**325**	P	P	12 38 36.3	+0.6
	0.6nm,0.7s,baz=134,slow=6.2,SNR=3.3						
STKA	**Stephens Creek**	**46.27**	**183**	P	P	12 38 40.9	-0.3
	1.7nm,0.8s,baz=8.1,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**60.35**	**316**	P	P	12 40 24.3	-0.5
	0.9nm,1.0s,baz=98,slow=8.7,SNR=4.8						
AKTO	**Aktyubinsk**	**76.52**	**319**	LR	LR	13 16 52.2	
	comp=Z,43nm,18.2s,baz=102,slow=37						

AUST ***05*** *12:43:44.1, 46°.46S×166°.44E, h0km*
WEL ***05*** *12:43:48.9±0.3, 45°.45S×166°.20E, h12km, ML4.8/21, Error ellipse: s-maj=2.3km s-min=1.0km az=90.0*
IDC ***05*** *12:43:49.0±0.8, 45°.40S×166°.33E, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.1/18, mbtmp4.2/8, ML4.1/2, MS3.8/5, Ms1 3.9/5, ms1mx3.6/16, Error ellipse: s-maj=27.3km s-min=20.5km az=9.0*
ISCJB ***05*** *12:43:49.7±0.4, 45°.45S±0°.05×166°.29E±0°.04, h15km, mb4.1/6, MS3.8/5, Error ellipse: s-maj=7.3km s-min=4.0km az=6.0*
ISC 05 12:43:50.7±0.6, **45°.50S**±0°.05×**166°.46E**±0°.05, **h15**km, **n48**, σ1**42/43**, **mb4.2/6**, **MS3.7/5**, **1C**, **Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.49**	**87**	P*	**Pb**	**12 44 01.3**	**+0.3**
DCZ				S*	**Sn**	**12 44 10.9**	**-0.5**
DCZ				AML	AML	12 44 14.3	
DCZ				AML	AML	12 44 14.5	
DCZ				AML	AML	12 44 15.8	
WHZ	**Wether Hill Ro**	**1.12**	**111**	PN	**Pb**	**12 44 11.6**	**-0.1**
WHZ				AML	AML	12 44 40.9	
WHZ				AML	AML	12 44 41.4	
MLZ	**Mavora Lakes**	**1.22**	**83**	PN	**Pn**	**12 44 12.8**	**-0.4**
MLZ				*e*SN	**Sg**	**12 44 32.3**	**+2.2**
MLZ				AML	AML	12 44 47.2	
MSZ	**Milford Sound**	**1.33**	**52**	PN	**Pn**	**12 44 14.3**	**-0.4**
MSZ				*e*SN	**Sg**	**12 44 34.1**	**+0.4**
MSZ				AML	AML	12 44 45.1	
MSZ				AML	AML	12 44 50.8	
MSZ				AML	AML	12 44 50.9	
APZ	**The Paps**	**1.70**	**142**	PN	**Pn**	**12 44 20.2**	**+0.4**
APZ				*e*SN	**Sg**	**12 44 44.4**	**-1.2**
WKZ	**Wanaka**	**1.94**	**70**	PN	**Pb**	**12 44 24.9**	**-0.7**
WKZ				AML	AML	12 44 58.1	
WKZ				AML	AML	12 45 00.9	
WKZ				AML	AML	12 45 01.0	
WKZ				AML	AML	12 45 02.5	
EAZ	**Earnscleugh**	**2.03**	**83**	PN	**Pb**	**12 44 26.3**	**-1.0**
EAZ				AML	AML	12 44 58.4	
EAZ				AML	AML	12 45 01.9	
EAZ				AML	AML	12 45 06.4	
EAZ				AML	AML	12 45 06.5	
SYZ	**Scrubby Hill**	**2.14**	**120**	PN	**Pb**	**12 44 27.8**	**-1.3**
JCZ	**Jackson Bay**	**2.18**	**50**	AML	AML	12 45 13.8	
JCZ				AML	AML	12 45 16.8	
TUZ	**Tuapeka**	**2.27**	**103**	AML	AML	12 45 08.8	
TUZ				AML	AML	12 45 16.1	
LBZ	**Lake Benmore**	**2.87**	**68**	PN	**Pn**	**12 44 36.9**	**+0.9**
LBZ				AML	AML	12 45 34.4	
LBZ				AML	AML	12 45 41.8	
ODZ	**Otahua Downs**	**2.99**	**83**	PN	**Pn**	**12 44 38.5**	**+0.9**
FOZ	**Fox Glacier**	**3.02**	**51**	PN	**Pn**	**12 44 39.4**	**+1.5**
FOZ				AML	AML	12 45 42.8	
FOZ				AML	AML	12 45 53.8	
RPZ	**Rata Peaks**	**3.74**	**63**	⇑PN	**Pn**	**12 44 48.2**	**+0.3**
RPZ				AML	AML	12 46 04.2	
RPZ				AML	AML	12 46 04.7	
RPZ	**Rata Peaks**	**3.74**	**63**	Pn	**Pn**	**12 44 48.1**	**+0.3**
	58nm,0.3s,baz=192,slow=4.6,SNR=108						
RPZ				Sn	**Sn**	**12 45 34.0**	**+2.4**
	41nm,0.3s,baz=143,slow=20,SNR=9.3						
WVZ	**Waitaha Valley**	**3.92**	**53**	PN	**Pn**	**12 44 49.6**	**-0.7**
WVZ				AML	AML	12 46 07.8	
WVZ				AML	AML	12 46 21.1	
LTZ	**Lake Taylor**	**4.99**	**59**	PN	**Pn**	**12 45 04.8**	**-0.3**
LTZ				AML	AML	12 46 42.2	
THZ	**Tophouse**	**5.99**	**54**	AML	AML	12 46 45.9	
THZ				AML	AML	12 47 26.8	
NNZ	**Nelson**	**6.62**	**52**	AML	AML	12 47 44.1	
NNZ				AML	AML	12 48 08.9	
URZ	**Urewera**	**10.74**	**51**	Pn	**Pn**	**12 46 23.3**	**-0.6**
	0.4nm,0.3s,baz=258,slow=9.3,SNR=3.1						
URZ				Sn	**Sn**	**12 48 18.6**	**-5.2**
	0.4nm,0.3s,baz=261,slow=18,SNR=2.5						
MOO	**Moorlands**	**14.21**	**276**	P	**Pn**	**12 47 09.1**	**-2.1**
	baz=14,SNR=4.1						
MILA	**Mila**	**15.48**	**297**	P	**Pn**	**12 47 26.6**	**-1.9**
	baz=16,SNR=6.8						
CNB	**Canberra Magne**	**16.49**	**302**	P	**P**	**12 47 46.1**	**+2.0**
	baz=17,SNR=5.6						
TOO	**Toolangi**	**17.55**	**289**	P	**Pn**	**12 47 54.4**	**-0.3**
	baz=18,SNR=7.5						
YNG	**Young**	**17.77**	**303**	P	**P**	**12 47 59.3**	**+1.1**
	baz=18,SNR=6.0						
ARMA	**Armidale**	**19.02**	**317**	P	**Pn**	**12 48 14.2**	**+1.4**
	baz=20,SNR=6.1						
CMSA	**Cobar Meteorol**	**21.33**	**304**	P	**P**	**12 48 37.4**	**+0.4**
	baz=22,SNR=4.7						
STKA	**Stephens Creek**	**23.58**	**297**	P	**P**	**12 48 59.7**	**-1.0**
	4.2nm,1.0s,baz=124,slow=12,SNR=5.2						
STKA	**Stephens Creek**	**23.58**	**297**	P	**P**	**12 49 03.1**	**+2.4**
	baz=24,SNR=4.9						
RMQ	**Roma**	**23.68**	**317**	P	**P**	**12 49 03.8**	**+2.1**
	baz=24,SNR=7.6						
VNDA	**Vanda**	**32.18**	**182**	LR	LR	13 00 43.2	
	comp=Z,127nm,20.7s,baz=110,slow=31						
ASAR	**Alice Springs**	**34.18**	**299**	P	**P**	**12 50 34.7**	**-0.7**
	5.2nm,1.1s,baz=140,slow=8.1,SNR=19						
ASAR				LR	LR	13 04 46.2	
	comp=Z,163nm,20.6s,baz=184,slow=37						
HNR	**Honiara**	**36.38**	**349**	LR	LR	13 04 03.8	
	comp=Z,217nm,19.4s,baz=169,slow=34						
WRA	**Warramunga Arr**	**36.74**	**303**	P	**P**	**12 50 56.1**	**-1.3**
	6.4nm,1.1s,baz=137,slow=7.6,SNR=15						
TBI	**Tubuai**	**41.89**	**73**	*e*LR	LR	13 03 16.3	
	158nm,31.2s						
FITZ	**Fitzroy Crossi**	**43.47**	**295**	P	**P**	**12 51 52.4**	**-0.8**
	2.0nm,0.8s,baz=170,slow=17,SNR=3.6						
QSPA	**South Pole Qui**	**44.62**	**180**	P	**P**	**12 52 03.1**	**+0.9**
	2.6nm,1.1s,baz=91,slow=2.6,SNR=5.9						
PPT2	**Papeete2**	**45.87**	**67**	*e*LR	LR	13 05 08.0	
	148nm,21.5s						
RKT	**Rikitea**	**52.04**	**85**	*e*LR	LR	13 07 55.1	
	430nm,34.8s						
GSI	**Gunungsitoli**	**76.27**	**286**	P	P	12 55 33.0	-5.9
	baz=77,SNR=3.9						
MJAR	**Matsushiro Arr**	**85.56**	**338**	LR	LR	13 30 18.0	
	comp=Z,77nm,19.0s,baz=50,slow=33						
CMAR	**Chiang Mai Arr**	**88.19**	**299**	P	**P**	**12 56 41.8**	**+0.7**
	0.7nm,0.3s,baz=196,slow=4.1,SNR=8.5						
CMAR				LR	LR	13 35 02.1	
	comp=Z,32nm,20.1s,baz=185,slow=35						
KURBB	**Kurchatov Arra**	**122.13**	**311**	PKP	**PKPdf**	**13 02 44.6**	**+0.7**
	0.3nm,0.3s,baz=126,slow=1.5,SNR=4.9						
BRTR	**Keskin Array B**	**145.20**	**278**	PKPbc	**PKPdf**	**13 03 27.8**	**+0.4**
	3.4nm,1.1s,baz=141,slow=4.1,SNR=10						
TORD	**Torodi Ar. Bea**	**145.25**	**207**	PKPbc	**PKPbc**	**13 03 27.4**	**-0.3**
	5.0nm,0.7s,baz=155,slow=2.4,SNR=19						
ARCES	**ARCESS Array B**	**149.05**	**334**	PKPbc	**PKPbc**	**13 03 37.2**	**+0.3**
	5.1nm,0.9s,baz=70,slow=5.3,SNR=17						
AKASG	**Malin Array Be**	**151.28**	**296**	PKPbc	**PKPbc**	**13 03 43.8**	**+1.0**
	0.3nm,0.3s,baz=75,slow=2.5,SNR=5.3						
FINES	**FINESS Array B**	**152.10**	**319**	PKPbc	**PKPbc**	**13 03 44.2**	**0.0**
	2.0nm,0.7s,baz=116,slow=4.4,SNR=7.7						

ISCJB ***05*** *13:00:25.9±0.2, 38°.12N±0°.02×74°.15E±0°.04, h152km, mb4.1/26, Error ellipse: s-maj=4.2km s-min=2.8km az=167.7*
MOS ***05*** *13:00:28.0±1.1, 38°.23N×74°.12E, h168km, mb4.1/20, Error ellipse: s-maj=11.4km s-min=5.0km az=88.8*
IDC ***05*** *13:00:29.2±0.8, 38°.17N×74°.16E, h168km±6km, mb3.7/18, mb1 3.9/22, mb1mx3.7/33, mbtmp3.8/22, Error ellipse: s-maj=12.8km s-min=10.5km az=24.0*
BJI ***05*** *13:00:31.9, 38°.26N×74°.48E, h168km, mB4.7/6, mb4.4/14*
TEH ***05*** *13:00:31.4, 38°.44N×74°.19E, h170km, ML4.2*
NNC ***05*** *13:00:33.3±3.0, 38°.68N×73°.93E, h205km±22km, mb3.6, mpv4.7, Error ellipse: s-maj=27.4km s-min=16.3km az=4.0*
ISC 05 13:00:27.3±0.4, **38°.13N**±0°.03×**74°.07E**±0°.05, **h152**km, **n125**, σ1**86/132**, **mb4.1/25**, **12C-10D**, **Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.03**	**46**	Pg	Pn	13 00 59.2	-3.7
KSH				Sg	Sn	13 01 19.6	-11
KSH				smax	smax		
	comp=N,4μm,0.5s						
KSH				smax	smax		
	comp=E,4μm,0.7s						
AML	**Almayashu**	**4.00**	**356**	*i* PN	**Pn**	**13 01 28.5**	**+0.6**
AML	**Almayashu**	**4.00**	**356**	P	**Pn**	**13 01 28.5**	**+0.6**
	SNR=519						
KZA	**Kyzart**	**4.04**	**13**	*i* PN	**Pn**	**13 01 28.9**	**+0.4**
KZA	**Kyzart**	**4.04**	**13**	P	**Pn**	**13 01 28.9**	**+0.4**
	SNR=174						
UCH	**Uchtor**	**4.10**	**5**	*i* PN	**Pn**	**13 01 30.1**	**+0.8**
UCH	**Uchtor**	**4.10**	**5**	P	**Pn**	**13 01 30.1**	**+0.8**
	SNR=34						
AAK	**Ala-Archa**	**4.51**	**4**	*d i* PN	**Pn**	**13 01 35.3**	**+1.0**
AAK	**Ala-Archa**	**4.51**	**4**	P	**Pn**	**13 01 34.5**	**+0.2**
	SNR=7.1						
AAK	**Ala-Archa**	**4.51**	**4**	P	**Pn**	**13 01 35.5**	**+1.2**
	comp=E,20nm,0.3s,baz=166,slow=7.0,SNR=68						
AAK				S	**Sn**	**13 02 26.7**	**+0.1**
	comp=E,19nm,0.3s,baz=88,slow=21,SNR=9.5						
CHCP	**Chirah Chowk**	**4.51**	**189**	P	Pn	13 01 38.0	+3.6
EKS2	**Erkin-Say**	**4.53**	**357**	P	**Pn**	**13 01 35.7**	**+1.2**
	SNR=82						
KBK	**Karagaybulak**	**4.57**	**8**	*i* PN	**Pn**	**13 01 36.2**	**+1.1**
KBK	**Karagaybulak**	**4.57**	**8**	P	**Pn**	**13 01 36.2**	**+1.1**
	SNR=119						
FRU	**Bishkek**	**4.71**	**5**	⇑*i* PN	**Pn**	**13 01 38.0**	**+1.1**
FRU				*e*S	**Sn**	**13 02 29.8**	**-1.4**
FRU				pmax	pmax		
	comp=Z,190nm,1.8s						
FRU				smax	smax		
	comp=N,470nm,1.8s						
CHMS	**Chumysh**	**4.89**	**6**	*i* PN	**Pn**	**13 01 40.2**	**+1.0**
CHMS	**Chumysh**	**4.89**	**6**	P	**Pn**	**13 01 40.2**	**+1.0**
	SNR=113						
TKM2	**Tokmak 2**	**4.92**	**13**	⇑P	**Pn**	**13 01 40.4**	**+0.5**
	comp=N,88nm,0.5s						
TKM2				⇓S	**Sn**	**13 02 34.5**	**-1.9**
	comp=N,239nm,0.7s						
TKM2	**Tokmak 2**	**4.92**	**13**	*i* PN	**Pn**	**13 01 40.6**	**+0.8**
TKM2	**Tokmak 2**	**4.92**	**13**	P	**Pn**	**13 01 40.7**	**+0.8**
	SNR=25						
USP	**Ospenovka**	**5.14**	**3**	*i* PN	**Pn**	**13 01 43.3**	**+0.8**
USP	**Ospenovka**	**5.14**	**3**	P	**Pn**	**13 01 43.3**	**+0.8**
	SNR=71						
JMU	**Jammu**	**5.45**	**173**	*ex*	**Sn**	**13 02 46.5**	**-2.1**
KK31	**Karatay Array**	**5.66**	**333**	P	**Pn**	**13 01 49.2**	**-0.1**
	comp=N,33nm,0.4s,baz=143,slow=12,SNR=668						
KK31				⇑S	**Sn**	**13 02 49.8**	**-3.7**
	comp=N,471nm,0.7s,baz=166,slow=23,SNR=4.8						
KK31	**Karatay Array**	**5.66**	**333**	*e*PN	**Pn**	**13 01 49.4**	**0.0**
KK31				pmax	pmax		
	comp=Z,29nm,0.2s						
THW	**Thamme Wali**	**5.66**	**200**	P	**Pn**	**13 01 51.6**	**+2.1**
DLH	**Dalhousie**	**5.79**	**164**	*e*P	**Pn**	**13 01 53.0**	**+1.6**
DLH				*ex*	**Sn**	**13 02 55.0**	**-2.2**
DHRM	**DHARAMSHALA**	**6.15**	**162**	*e*P	**Pn**	**13 01 57.3**	**+1.1**
DHRM				*e*S	**Sn**	**13 03 00.9**	**-4.8**
DHRM				AML	AML	13 03 06.7	
	comp=N,1μm,0.3s						
DHRM				AML	AML	13 03 07.8	
	comp=E,1μm,0.3s						
SARP	**Sargodha**	**6.30**	**191**	P	**Pn**	**13 01 58.9**	**+0.9**
BHK	**Bhakra**	**6.97**	**163**	*e*P	Pn	13 02 09.4	+2.4
BHK				*e*4	**Sn**	**13 03 25.0**	**-0.2**
SDNR	**Sundarnagar**	**7.03**	**159**	*e*P	**Pn**	**13 02 07.0**	**-0.8**
SDNR				*ex*	**Sn**	**13 03 21.0**	**-5.7**
SMLA	**Simla**	**7.44**	**159**	*i* P	**Pn**	**13 02 13.1**	**-0.1**
SMLA				*e*S	Sn	13 03 24.9	-11
SMLA				AML	AML	13 03 36.6	
	comp=E,504nm,0.4s						
SMLA				AML	AML	13 03 37.1	
	comp=N,550nm,0.9s						
DDI	**Dehra Dun**	**8.46**	**156**	*e*P	**Pn**	**13 02 25.3**	**-1.6**
DDI				*ex*	**Sn**	**13 03 55.7**	**-5.3**
KALG	**Kalgarh**	**9.44**	**154**	*ex*	Pn	13 02 28.1	-12
KALG				*ex*	x	13 04 06.8	
NDI	**New Delhi**	**9.78**	**164**	*e*4	**Pn**	**13 02 42.0**	**-2.4**
NDI				*e*S	Sn	13 04 24.0	-8.8
AYAN	**Aya Nagar**	**9.96**	**164**	*e*P	**Pn**	**13 02 46.1**	**-0.6**
AYAN				*e*S	Sn	13 04 26.2	-11
KHET	**Khetri**	**10.14**	**171**	*e*P	**Pn**	**13 02 47.4**	**-1.7**
KHET				*e*S	Sn	13 04 33.0	-8.3
KHET				AML	AML	13 04 36.0	
	comp=N,59nm,0.4s						
KHET				AML	AML	13 04 36.0	
	comp=E,50nm,0.3s						
SONA	**Sohna**	**10.17**	**165**	*e*P	**Pn**	**13 02 49.0**	**-0.6**
SONA				*e*S	Sn	13 04 33.1	-9.1
SONA				AML	AML	13 04 38.6	
	comp=N,69nm,0.6s						
SONA				AML	AML	13 04 40.6	
	comp=E,165nm,0.4s						
MK31	**Makanchi Array**	**10.56**	**32**	Pn	**Pn**	**13 02 54.0**	**-0.7**
	comp=E,7.5nm,0.6s,baz=212,slow=15,SNR=41						
MK31	**Makanchi Array**	**10.56**	**32**	*i* P	**Pn**	**13 02 53.9**	**-0.7**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	**Makanchi Array**	**10.56**	**32**	*i* P	**Pn**	**13 02 54.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**10.56**	**32**	P	**Pn**	**13 02 53.9**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=212,slow=14,SNR=46						
IMYA	**Miami**	**11.28**	**265**	*e*Pn	**Pn**	**13 03 02.3**	**-2.0**
AGRA	**Agra**	**11.35**	**162**	*ex*	**Pn**	**13 03 02.0**	**-2.9**
AGRA				*e*S	Sn	13 04 58.6	-12
AGRA				AML	AML	13 05 07.2	
	comp=E,131nm,0.3s						
AGRA				AML	AML	13 05 08.5	
	comp=N,84nm,0.2s						
WMQ	**Urumqi**	**11.75**	**57**	*e*P	**P**	**13 03 19.6**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
ISRO	**Mashad**	**11.79**	**266**	*e*Pn	Pn	13 03 05.8	-5.0
IMOG	**Moghan**	**11.94**	**265**	*e*Pn	**Pn**	**13 03 11.1**	**-1.8**
IPAY	**Payeh**	**12.13**	**267**	*e*Pn	**Pn**	**13 03 13.8**	**-1.5**
IAKL	**Akhelmad**	**12.28**	**268**	*e*Pn	**Pn**	**13 03 15.7**	**-1.7**
PYUN	**Piuthan**	**12.48**	**141**	*e*P	**Pn**	**13 03 17.6**	**-2.3**
	comp=Z,644nm,0.7s						
DANN	**Dangsing**	**12.68**	**137**	*e*P	**Pn**	**13 03 20.1**	**-2.4**
	comp=Z,127nm,0.6s						
ISFR	**Sfrayin**	**12.80**	**270**	*e*Pn	Pn	13 03 21.1	-2.9
KURBB	**Kurchatov Arra**	**12.88**	**13**	⇓P	**Pn**	**13 03 21.7**	**

RAMN	**Ramite**	**15.34**	**133**	*e*P		**Pn**	**13 03 54.2**	**-1.9**
	comp=Z,71nm,0.5s							
JBP	**Jabalpur**	**15.75**	**160**⇓	*ex*		**P**	**13 04 01.2**	**-0.4**
JBP				*ex*		x	13 06 42.4	
ODAN	**Odare**	**15.87**	**131**	*e*P		**Pn**	**13 04 01.7**	**-0.9**
	comp=Z,60nm,0.5s							
IANJ	**Anjilo**	**16.36**	**267**	*e*Pn		**P**	**13 04 09.3**	**+0.7**
IKIA	**Kiasar**	**16.37**	**270**	*e*Pn		**P**	**13 04 08.9**	**+0.2**
LSA	**Lhasa**	**16.46**	**116**	P		**Pn**	**13 04 12.7**	**+2.7**
ISHM	**Shahmirzad**	**16.77**	**268**	*e*Pn		**Pn**	**13 04 16.3**	**+2.8**
AKTO	**Aktyubinsk**	**16.79**	**322**	⇑P		**P**	**13 04 11.5**	**-1.4**
	comp=Z,14nm,0.9s							
AKTO				⇓S		S	13 07 09.5	-10
	comp=Z,12nm,0.8s							
AKTO	**Aktyubinsk**	**16.79**	**322**	P		**Pn**	**13 04 13.1**	**-0.2**
AKTO				S		S	13 07 11.0	-8.7
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.3s							
AKTO				smax		smax		
	comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.79**	**322**	P		**Pn**	**13 04 13.1**	**-0.2**
	comp=N,1.5nm,0.3s,baz=123,slow=13,SNR=29							
AKTO				S		S	13 07 11.0	-8.7
	comp=N,0.9nm,0.3s,baz=130,slow=18,SNR=4.9							
ZALV	**Zalesovo Beam**	**17.45**	**22**	*i* P		**Pn**	**13 04 20.5**	**-0.7**
ZALV				pmax		pmax		
	comp=Z,16nm,0.5s							
ZALV	**Zalesovo Beam**	**17.45**	**22**	P		**Pn**	**13 04 20.5**	**-0.7**
	comp=Z,3.4nm,0.3s,baz=217,slow=11,SNR=86							
BOK	**Bokaro**	**17.49**	**141**	*e*P		**Pn**	**13 04 20.4**	**-1.5**
BOK				*ex*		x	13 07 22.6	
NVS	**Novosibirsk**	**17.84**	**17**	*e*P		**P**	**13 04 23.9**	**-0.4**
NVS				*e*S		**S**	**13 07 35.4**	**-5.9**
NVS				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NVS				pmax		pmax		
	comp=N,9.0nm,0.7s							
NVS				smax		smax		
	comp=E,18nm,1.7s							
POO	**Poona**	**19.53**	**181**	*ex*		**Pn**	**13 04 49.0**	**+3.0**
SHL	**Shillong**	**19.60**	**125**	*ex*		**Pn**	**13 04 45.2**	**-1.7**
GTA	**Gaotai**	**20.09**	**78**	⇑P		Pn	13 04 51.1	-1.5
GTA				pmax		pmax		
	comp=Z,13nm,1.2s							
SVE	**Sverdlovsk**	**20.72**	**339**⇓	*i* P		**P**	**13 04 56.2**	**+0.8**
SVE				pmax		pmax		
	comp=Z,17nm,0.9s							
HYB	**Hyderabad**	**21.01**	**168**	*e*P		**P**	**13 04 59.0**	**+0.1**
ARU	**Arti**	**21.02**	**336***c*	*i* P		**P**	**13 04 59.6**	**+0.9**
ARU							13 05 32.6	
ARU				S		**S**	**13 08 42.7**	**-1.3**
ARU				pmax		pmax		
	comp=Z,17nm,1.2s							
KBD	**Kabd**	**23.64**	**256**	*e*P		**P**	**13 05 26.7**	**+2.0**
RDF	**Al-Radifah**	**23.88**	**255**	*e*P		**P**	**13 05 28.9**	**+2.1**
RDF				AMb		AMB	13 05 32.6	
	comp=Z,27nm,1.1s							
NAY	**Al-Naaiem**	**23.95**	**256**	*e*P		**P**	**13 05 28.4**	**+0.9**
NAY				AMb		AMB	13 05 30.1	
	comp=Z,11nm,0.3s							
RST	**Umm Al-Ruwaisa**	**24.02**	**257**	*e*P		**P**	**13 05 27.4**	**-0.8**
ZAK	**Zakamensk**	**24.07**	**50**	*e*P		**P**	**13 05 29.8**	**+1.3**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KIV	**Kislovodsk**	**24.29**	**294**	*e*P		**P**	**13 05 30.8**	**+0.3**
KIV				*e*S		**S**	**13 09 36.9**	**-1.4**
KIV				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TLY	**Talaya**	**24.74**	**47**	*e*P		**P**	**13 05 35.2**	**+0.8**
SONM	**Songino Array**	**25.39**	**57**	P		**P**	**13 05 41.7**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=256,slow=10,SNR=28							
SONM				pP		**pP**	**13 06 16.1**	**+3.9**
	comp=Z,4.2nm,1.0s,baz=258,slow=11,SNR=3.8							
CMAR	**Chiang Mai Arr**	**29.23**	**125**	P		**P**	**13 06 15.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=302,slow=7.3,SNR=3.8							
BRTR	**Keskin Array B**	**31.31**	**286**	P		**P**	**13 06 35.0**	**+1.9**
	comp=Z,1.2nm,0.9s,baz=70,slow=11,SNR=4.3							
FINES	**FINESS Array B**	**37.55**	**324**	P		**P**	**13 07 27.2**	**+0.9**
	comp=Z,2.0nm,0.4s,baz=114,slow=9.4,SNR=31							
FINES				pP		**pP**	**13 08 02.9**	**+3.7**
	comp=Z,1.5nm,0.6s,baz=111,slow=11,SNR=3.1							
KAF	**Kangasniemi**	**37.63**	**325**	*e*p		pP	13 07 49.5	-10
KEV	**Kevo**	**40.23**	**337**	*e*P		**P**	**13 07 49.5**	**+1.0**
KEV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KEV	**Kevo**	**40.23**	**337**	*e*p		**P**	**13 07 49.5**	**+1.0**
	comp=Z,2.4nm,0.5s							
ARCES	**ARCESS Array B**	**40.61**	**336**	P		**P**	**13 07 52.6**	**+0.9**
	comp=Z,3.7nm,0.4s,baz=106,slow=7.7,SNR=92							
ARCES				pP		**pP**	**13 08 29.6**	**+4.7**
	comp=Z,1.4nm,0.6s,baz=110,slow=9.7,SNR=2.9							
YAK	**Yakutsk**	**41.21**	**36**	*e*P		**P**	**13 07 55.8**	**-0.8**
YAK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KSRS	**Korea Array**	**42.05**	**74**	P		**P**	**13 08 03.8**	**0.0**
	comp=Z,1.2nm,0.6s,baz=285,slow=6.3,SNR=6.3							
TIXI	**Tiksi**	**43.34**	**22**⇓	*i* P		**P**	**13 08 14.3**	**+0.6**
TIXI				pmax		pmax		
	comp=Z,12nm,0.7s							
KHC	**Kasperske Hory**	**44.05**	**305**⇑	*e*P		P	13 08 22.6	+2.8
NB2	**NORSAR Subarra**	**44.58**	**322**	P		**P**	**13 08 23.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.58**	**322**	P		**P**	**13 08 24.1**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=92,slow=7.8,SNR=9.2							
NOA				pP		pP	13 09 02.5	+4.9
	comp=Z,1.7nm,0.7s,baz=91,slow=8.1,SNR=4.8							
JNU	**Nakatsue**	**45.83**	**78**	P		**P**	**13 08 33.1**	**-1.0**
	comp=Z,12nm,1.0s,baz=289,slow=8.4,SNR=3.7							
YSS	**Yuzh-Sakhalins**	**49.88**	**57**	*e*P		**P**	**13 09 05.3**	**+0.4**
MJAR	**Matsushiro Arr**	**50.09**	**71**	P		**P**	**13 09 06.4**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=287,slow=9.6,SNR=7.6							
ASAJ	**Asahikawa**	**50.62**	**60**	P		**P**	**13 09 10.1**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=351,slow=13,SNR=4.1							
PETK	**Petropavlovsk-**	**57.09**	**46**	P		**P**	**13 09 56.4**	**-1.0**
PETK				pmax		pmax		
	comp=Z,1.0nm,0.8s							
PETK	**Petropavlovsk-**	**57.09**	**46**	P		**P**	**13 09 56.4**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=246,slow=7.4,SNR=5.3							
TORD	**Torodi Ar. Bea**	**68.19**	**270**	P		**P**	**13 11 11.2**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=48,slow=5.6,SNR=37							
TORD				sP		**sP**	**13 12 08.9**	**+4.5**
	comp=Z,0.9nm,0.6s,baz=46,slow=5.2,SNR=4.1							
ILAR	**Eielson Array**	**72.52**	**17**	P		**P**	**13 11 36.6**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=317,slow=4.6,SNR=42							
ILAR				PP		**PP**	**13 14 19.4**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=301,slow=5.9,SNR=4.3							
YKA	**Yellowknife Ar**	**79.47**	**4**	P		**P**	**13 12 16.6**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=346,slow=5.7,SNR=27							
WRA	**Warramunga Arr**	**80.83**	**124**	P		**P**	**13 12 23.8**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=324,slow=4.7,SNR=26							
ASAR	**Alice Springs**	**83.23**	**127**	P		**P**	**13 12 36.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=328,slow=4.7,SNR=14							
ULM	**Lac du Bonnet**	**91.55**	**354**	P		**P**	**13 13 16.2**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=24,slow=3.6,SNR=3.3							
PDAR	**Pinedale Array**	**99.41**	**3**	P		**Pdif**	**13 13 52.5**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=51,slow=4.7,SNR=2.2							

DDA ***05*** *13:28:20.9, 35°.83N×36°.33E, h7km, MD2.9*
NSSC ***05*** *13:28:21.2±1.6, 35°.73N×36°.29E, h0km±13km, MD1.4, ML1.8*

CSEM 05 13:28:20.1±0.3, 35°.80N×36°.34E, h2km, MD2.9, 6C-3D, Error ellipse: s-maj=11.0km s-min=5.6km az=82.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.26**	**21**	AML	AML	13 28 33.7	
	comp=E,244nm,0.4s						
BTCH				AML	AML	13 28 37.9	
	comp=N,437nm,0.5s						
WRDH	**Warideh**	**0.29**	**169**⇓	*e*P	Pg	13 28 25.9	0.0
WRDH				AML	AML	13 28 34.0	
	comp=E,178nm,0.2s						
WRDH				AML	AML	13 28 36.1	
	comp=N,102nm,0.3s						
WRDH	**Warideh**	**0.29**	**169**⇓	*e*P	Pg	13 28 25.9	+0.1
	SNR=92						
YAYL	**Yayladag**	**0.30**	**321**	*i* P	Pg	13 28 26.3	+0.1
YAYL				*i* S	Sg	13 28 31.6	+1.3
YAYL	**Yayladag**	**0.30**	**321**	*i* P	Pg	13 28 26.3	+0.1
YAYL				*i* S	Sg	13 28 31.6	+1.3
ARNB	**Al Arnab**	**0.31**	**282**⇑	*e*P	Pg	13 28 26.8	+0.6
ARNB				AML	AML	13 28 33.5	
	comp=N,48nm,0.4s						
ARNB				AML	AML	13 28 37.5	
	comp=E,59nm,0.4s						
ARNB	**Al Arnab**	**0.31**	**282**⇑	*e*P	Pg	13 28 26.8	+0.6
	SNR=91						
KFRA	**Kufra**	**0.69**	**147**	*e*P	Pg	13 28 33.5	0.0
KFRA				AML	AML	13 28 48.2	
	comp=E,173nm,0.4s						
KFRA				AML	AML	13 28 53.7	
	comp=N,45nm,1.0s						
KFRA	**Kufra**	**0.69**	**147**	*e*P	Pg	13 28 33.5	0.0
	SNR=75						
COBT	**Iskenderun**	**0.73**	**354**	*e*P	Pg	13 28 33.0	-1.3
COBT				*e*S	Sg	13 28 43.4	-0.5
COBT	**Iskenderun**	**0.73**	**354**	*e*P	Pg	13 28 33.0	-1.3
COBT				*e*S	Sg	13 28 43.4	-0.5
BIDA	**Albida**	**0.78**	**181**⇑	*e*P	Pg	13 28 34.1	-1.1
BIDA	**Albida**	**0.78**	**181**⇑	*e*P	Pg	13 28 34.1	-1.1
	SNR=75						
DRWC	**Darouich**	**0.86**	**18**	AML	AML	13 28 59.8	
	comp=E,25nm,0.3s						
DRWC				AML	AML	13 29 01.8	
	comp=N,15nm,0.3s						
KUZU	**Kuzuini**	**1.14**	**31**	*i* P	Pg	13 28 42.3	+0.2
KUZU				*i* S	Sb	13 28 58.5	+0.5
KUZU	**Kuzuini**	**1.14**	**31**	*i* P	Pg	13 28 42.3	+0.2
KUZU				*i* S	Sb	13 28 58.5	+0.5
MARH	**Ras Al Marh**	**1.77**	**176**⇑	*e*P	Pb	13 28 53.4	-0.3
MARH				AML	AML	13 29 23.0	
	comp=E,15nm,0.3s						
MARH				AML	AML	13 29 27.9	
	comp=N,13nm,0.3s						
MARH	**Ras Al Marh**	**1.77**	**176**⇑	*e*P	Pb	13 28 53.4	-0.3
	SNR=45						
ROOS	**tl_alroos**	**1.80**	**154**⇓	*e*P	Pg	13 28 54.3	-0.4

IDC ***05*** *14:00:57.8±1.0, 14°.61N×144°.35E, h0km, mb3.9/14, mb1 4.1/14, mb1mx4.0/26, mbtmp4.0/14, MS3.8/19, Ms1 3.8/19, ms1mx3.6/38, Error ellipse: s-maj=38.9km s-min=14.8km az=86.0*
ISCJB ***05*** *14:01:00.1±0.6, 14°.58N±0°.07×144°.3E±0°.2, h27km, mb4.0/15, MS3.7/18, Error ellipse: s-maj=22.3km s-min=8.4km az=167.3*
NEIC ***05*** *14:01:00.2±3.1, 14°.58N×144°.36E, h16km±21km, mb4.6/1, Error ellipse: s-maj=18.7km s-min=6.5km az=83.0*
GCMT ***05*** *14:01:05.7±0.3, 14°.58N×144°.04E, h12km±1km, MW4.8, Moment Tensor Solution. s14,c15; s75,c109; Moment tensor: Scale 10^16 Nm; Mrr=2.24±.16; Mθθ=0.13±.08; Mφφ=2.11±.11; Mrθ=0.58±.29; Mrφ=0.23±.06; Mθφ=0.48±.21; Best double couple: M0=2.30000×10^16 NP1:φs=198.00000°, δ53.00000°, λ-76.00000°. NP2:φs=356.00000°, δ39.00000°, λ-108.00000°. Principal axes: T 2.2100, Plg7.0000°, Azm278.0000°; N 0.2100, Plg11.0000°, Azm10.0000°; P -2.4100, Plg77.0000°, Azm156.0000°; Data Used: IU G IC II CN.*

ISC 05 14:01:01.7±0.7, 14°.57N±0°.10×144°.4E±0°.2, h27km, n45, σ0§56/32, mb4.1/15, MS3.8/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.10**	**153**	*e*P	**Pn**	**14 01 20.6**	**-0.7**
DAV	**Davao City (W)**	**19.88**	**250**	LR	LR	14 12 06.7	
	comp=Z,337nm,18.7s,baz=87,slow=34						
JNU	**Nakatsue**	**22.16**	**329**	P	**P**	**14 05 55.5**	**-0.1**
JNU	**Nakatsue**	**22.16**	**329**	P	**P**	**14 05 55.5**	**-0.1**
	7.8nm,0.8s,baz=122,slow=9.5,SNR=2.0						
JNU				LR	LR	14 14 05.6	
	comp=Z,72nm,18.1s,baz=297,slow=36						
MJAR	**Matsushiro Arr**	**22.56**	**347**	P	**P**	**14 05 59.8**	**0.0**
MJAR	**Matsushiro Arr**	**22.56**	**347**	P	**P**	**14 05 59.8**	**0.0**
	1.8nm,0.9s,baz=171,slow=11,SNR=7.3						
MJAR				LR	LR	14 14 18.8	
	comp=Z,191nm,19.3s,baz=175,slow=36						
MAJO	**Matsushiro**	**22.56**	**347**	*e*P	**P**	**14 06 00.6**	**+0.8**
PMG	**Port Moresby**	**23.99**	**173**	LR	LR	14 14 53.1	
	comp=Z,55nm,20.2s,baz=144,slow=35						
KSRS	**Korea Array**	**27.07**	**330**	P	**P**	**14 06 41.2**	**-0.8**
	1.3nm,0.8s,baz=144,slow=9.6,SNR=6.1						
KSRS				LR	LR	14 17 15.8	
	comp=Z,123nm,19.9s,baz=160,slow=36						
KSAR	**Wonju Array Be**	**27.08**	**330**	P	**P**	**14 06 41.2**	**-0.9**
HNR	**Honiara**	**28.42**	**146**	LR	LR	14 16 22.1	
	comp=Z,276nm,21.4s,baz=352,slow=32						
ASAJ	**Asahikawa**	**29.48**	**357**	LR	LR	14 18 50.2	
	comp=Z,135nm,18.8s,baz=199,slow=36						
KAPI	**Kappang**	**31.21**	**233**	LR	LR	14 18 09.7	
	comp=Z,106nm,20.3s,baz=218,slow=33						
WRAB	**Tennant Creek**	**35.67**	**196**	*e*P	**P**	**14 07 58.2**	**+0.4**
	7.7nm,1.0s						
WRA	**Warramunga Arr**	**35.69**	**196**	P	**P**	**14 07 58.0**	**+0.1**
WRA	**Warramunga Arr**	**35.69**	**196**	P	**P**	**14 07 58.0**	**+0.1**
	4.9nm,0.9s,baz=15,slow=9.4,SNR=15						
FITZ	**Fitzroy Crossi**	**37.34**	**210**	P	**P**	**14 08 12.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**37.34**	**210**	P	**P**	**14 08 12.0**	**-0.1**
	4.2nm,1.1s,baz=29,slow=17,SNR=3.8						
FITZ				LR	LR	14 22 31.2	
	comp=Z,108nm,19.7s,baz=64,slow=35						
ASAR	**Alice Springs**	**39.35**	**195**	P	**P**	**14 08 29.9**	**+0.9**
ASAR	**Alice Springs**	**39.35**	**195**	P	**P**	**14 08 29.9**	**+0.9**
	0.5nm,0.7s,baz=17,slow=10,SNR=4.8						
ASAR				LR	LR	14 24 21.8	
	comp=Z,129nm,22.0s,baz=17,slow=36						
PETK	**Petropavlovsk-**	**39.87**	**13**	LR	LR	14 23 05.7	
	comp=Z,61nm,19.0s,baz=200,slow=33						
DZM	**Mont Dzumac**	**42.37**	**149**	*e*LR	LR	14 20 35.2	
	335nm,25.9s						
CMAR	**Chiang Mai Arr**	**43.62**	**282**	P	**P**	**14 09 04.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**43.62**	**282**	P	**P**	**14 09 04.0**	**-0.2**
	2.0nm,0.9s,baz=82,slow=6.5,SNR=4.1						
CMAR				LR	LR	14 24 07.6	
	comp=Z,188nm,21.5s,baz=274,slow=32						
SONM	**Songino Array**	**45.64**	**325**	P	**P**	**14 09 20.2**	**+0.2**
SONM	**Songino Array**	**45.64**	**325**	P	**P**	**14 09 20.2**	**+0.2**
	0.9nm,0.7s,baz=140,slow=8.6,SNR=5.4						
SONM				LR	LR	14 28 17.9	
	comp=Z,210nm,18.9s,baz=109,slow=36						
STKA	**Stephens Creek**	**46.26**	**183**	*e*P	**P**	**14 09 25.1**	**+0.3**
	0.3nm,0.7s						
STKA	**Stephens Creek**	**46.26**	**183**	P	**P**	**14 09 25.6**	**+0.8**
	1.9nm,0.7s,baz=324,slow=11,SNR=4.5						
PSI	**Prapat**	**46.30**	**260**	LR	LR	14 27 15.3	
	comp=Z,173nm,18.4s,baz=62,slow=34						
AFI	**Afiamalu**	**51.82**	**121**	LR	LR	14 28 21.6	
	comp=Z,120nm,19.4s,baz=5.7,slow=32						
NWAO	**Narrogin (SRO)**	**53.88**	**208**	LR	LR	14 34 12.3	
	comp=Z,100nm,19.7s,baz=52,slow=37						
MK31	**Makanchi Array**	**60.44**	**316**	P	**P**	**14 11 09.4**	**+0.4**
MKAR	**Makanchi Array**	**60.44**	**316**	P	**P**	**14 11 09.5**	**+0.5**
MKAR	**Makanchi Array**	**60.44**	**316**	P	**P**	**14 11 09.5**	**+0.5**
	1.1nm,0.7s,baz=92,slow=8.7,SNR=13						
MKAR				LR	LR	14 38 34.6	
	comp=Z,90nm,18.9s,baz=329,slow=37						
ZALV	**Zalesovo Beam**	**60.54**	**324**	P	**P**	**14 11 09.4**	**-0.1**
ZALV	**Zalesovo Beam**	**60.54**	**324**	P	**P**	**14 11 09.4**	**-0.1**
	0.8nm,0.5s,baz=90,slow=10,SNR=4.7						
ZALV				LR	LR	14 37 41.6	
	comp=Z,114nm,20.4s,baz=250,slow=36						
ILAR	**Eielson Array**	**67.90**	**26**	P	**P**	**14 11 58.0**	**+0.4**
ILAR	**Eielson Array**	**67.90**	**26**	P	**P**	**14 11 58.0**	**+0.4**
	0.2nm,0.5s,baz=253,slow=5.8,SNR=4.3						
PPT2	**Papeete2**	**72.57**	**114**	*e*LR	LR	14 34 33.0	
	406nm,30.2s,baz=291						
TBI	**Tubuai**	**74.88**	**119**	*e*LR	LR	14 35 27.5	
	175nm,31.5s						
ARCES	**ARCESS Array B**	**86.00**	**342**	P	**P**	**14 13 39.2**	**-0.2**
ARCES	**ARCESS Array B**	**86.00**	**342**	P	**P**	**14 13 39.2**	**-0.2**
	2.5nm,0.9s,baz=73,slow=9.0,SNR=9.1						
FINES	**FINESS Array B**	**90.06**	**335**	P	**P**	**14 13 57.8**	**-1.1**
FINES	**FINESS Array B**	**90.06**	**335**	P	**P**	**14 13 57.7**	**-1.1**
	0.9nm,0.6s,baz=73,slow=9.0,SNR=5.4						
NOA	**NORSAR Array B**	**95.96**	**339**	LR	LR	15 00 42.2	
	comp=Z,45nm,20.7s,baz=280,slow=37						

IDC ***05*** *14:16:42.4±1.8, 8°.20N×103°.24W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.8/19, mbtmp3.5/5, MS4.1/2, Ms1 4.1/2, ms1mx3.4/21, Error ellipse: s-maj=85.4km s-min=24.7km az=58.0*
NEIC ***05*** *14:16:43.7±1.4, 8°.12N×103°.31W, h10km, mb4.2/4, Error ellipse: s-maj=57.5km s-min=18.7km az=63.0*
GCMT ***05*** *14:16:47.3±0.5, 8°.41N×103°.24W, h14km±2km, MW4.9, Moment Tensor Solution. s14,c14; s63,c87; Moment tensor: Scale 10^16 Nm; Mrr=0.85±.17; Mθθ=1.09±.15; Mφφ=0.24±.16; Mrθ=0.87±.37; Mrφ=2.60±.14; Mθφ=1.33±.41; Best double couple: M0=3.10000×10^16 NP1:φs=170.00000°, δ87.00000°, λ-30.00000°. NP2:φs=261.00000°, δ60.00000°, λ-177.00000°. Principal axes: T 3.6200, Plg19.0000°, Azm220.0000°; N -1.1400, Plg60.0000°, Azm345.0000°; P -2.4800, Plg23.0000°, Azm121.0000°; Data Used: II IC IU G CN.*

ISC 05 14:16:46.7±1.8, 8°.4N±0°.3×102°.8W±0°.5, h19km, n20, σ1§48/14, mb3.7/8, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.87**	**358**	P	**P**	**14 21 28.8**	**+0.9**
TXAR	**Lajitas Array**	**20.87**	**358**	P	**P**	**14 21 28.8**	**+0.9**
	1.3nm,0.9s,baz=185,slow=10.0,SNR=9.4						
TXAR				LR	LR	14 28 59.0	
	comp=Z,846nm,18.2s,baz=110,slow=35						
MNTX	**Cornudas Mount**	**23.33**	**355**	P	**P**	**14 21 53.9**	**0.0**
	4.8nm,1.2s						
TUC	**Tucson**	**24.93**	**344**	P	**P**	**14 22 12.7**	**+3.7**
	13nm,1.5s						
LAZ	**Ladron**	**26.20**	**352**	P	**P**	**14 22 22.3**	**+1.7**
	2.4nm,1.3s						
TKL	**Tuckaleechee C**	**32.27**	**30**	LR	LR	14 36 58.6	
	comp=Z,146nm,19.8s,baz=214,slow=37						
NVAR	**Mina Array Bea**	**33.01**	**337**	P	**P**	**14 23 21.3**	**+0.3**
NVAR	**Mina Array Bea**	**33.01**	**337**	P	**P**	**14 23 21.3**	**+0.3**
	0.1nm,0.3s,baz=141,slow=10,SNR=2.0						
BW06	**Boulder Array**	**34.76**	**351**	P	**P**	**14 23 35.9**	**-0.3**
	8.8nm,1.4s						
PDAR	**Pinedale Array**	**34.76**	**351**	P	**P**	**14 23 35.3**	**-0.9**
PDAR	**Pinedale Array**	**34.76**	**351**	P	**P**	**14 23 35.3**	**-0.9**
	1.1nm,1.0s,baz=156,slow=7.5,SNR=6.0						
LPAZ	**La Paz**	**42.20**	**125**	P	**P**	**14 24 39.9**	**+0.4**
LPAZ	**La Paz**	**42.20**	**125**	P	**P**	**14 24 39.9**	**+0.4**
	0.6nm,0.5s,baz=297,slow=6.8,SNR=3.3						
RKT	**Rikitea**	**44.36**	**224**	*e*LR	LR	14 36 54.1	
	598nm,28.0s						
PPT2	**Papeete2**	**52.88**	**241**	*e*LR	LR	14 40 50.5	
	415nm,24.2s						
TBI	**Tubuai**	**55.41**	**234**	*e*LR	LR	14 42 00.2	
	407nm,28.8s,baz=50						
ILAR	**Eielson Array**	**64.18**	**341**	P	P	14 27 17.4	-2.6
ILAR	**Eielson Array**	**64.18**	**341**	P	P	14 27 17.4	-2.6
	0.2nm,0.5s,baz=148,slow=4.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**145.75**	**321**	PKPbc	**PKPdf**	**14 36 23.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**145.75**	**321**	PKPbc	**PKPdf**	**14 36 23.9**	**-1.3**
	1.0nm,0.7s,baz=15,slow=1.7,SNR=7.1						

ISCJB ***05*** *14:20:29.0±0.7, 8°.31N±0°.09×103°.2W±0°.1, h10km, mb4.4/66, MS4.2/19, Error ellipse: s-maj=18.6km s-min=7.7km az=138.4*
BJI ***05*** *14:20:28.4, 8°.30N×103°.20W, h10km, Ms7 4.7/2*
IDC ***05*** *14:20:28.3±0.7, 8°.26N×103°.36W, h0km, mb4.3/14, mb1 4.6/15, mb1mx4.4/25, mbtmp4.3/15, ML3.7/1, MS4.1/20, Ms1 4.2/20, ms1mx4.0/32, Error ellipse: s-maj=28.1km s-min=13.7km az=60.0*
NEIC ***05*** *14:20:30.1±0.4, 8°.21N×103°.27W, h10km, mb4.5/55, Error ellipse: s-maj=11.9km s-min=5.6km az=58.0*
GCMT ***05*** *14:20:34.3±0.4, 8°.45N×103°.30W, h14km±2km, MW5.0, Moment Tensor Solution. s16,c16; s73,c103; Moment tensor: Scale 10^16 Nm; Mrr=0.80±.16; Mθθ=0.32±.13; Mφφ=0.48±.15; Mrθ=2.10±.45; Mrφ=-2.97±.14; Mθφ=0.78±.30; Best double couple: M0=3.70000×10^16 NP1:φs=95.00000°, δ86.00000°, λ-142.00000°. NP2:φs=2.00000°, δ52.00000°, λ-5.00000°. Principal axes: T 4.2100, Plg23.0000°, Azm222.0000°; N -1.0900, Plg52.0000°, Azm101.0000°; P -3.1200, Plg29.0000°, Azm326.0000°; Data Used: IU II G IC CN.*

ISC 05 14:20:30.0±0.6, 8°.2N±0°.1×103°.4W±0°.1, h10km, n339, σ0§62/309, mb4.4/67, MS4.3/19, 102C-114D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**17.14**	**338**	LR	LR	14 29 26.4	
	comp=Z,121nm,18.6s,baz=343,slow=32						
JTS	**JuntasAbangare**	**18.29**	**82**	LR	LR	14 29 52.9	
	comp=Z,906nm,18.8s,baz=262,slow=31						
TEIG	**Tepich**	**18.86**	**49**	P	P	14 24 44.6	-5.9
	68nm,1.5s						
TEIG	**Tepich**	**18.86**	**49**	P	**P**	**14 24 50.0**	**-0.5**
	0.3nm,0.3s,baz=243,slow=12,SNR=5.5						
TEIG				LR	LR	14 31 02.9	
	comp=Z,1μm,20.8s,baz=229,slow=34						
732A	**Laxson Ranch,**	**20.66**	**8**	⇓P	**

220A	Playas Peak, P	24.06	349	⇓P	P	14 25 45.6	-0.1
	baz=24,SNR=13						
WHTX	Lake Whitney	24.29	12	⇑P	P	14 25 47.3	-0.5
	baz=24						
128A	Castleberry Fa	24.30	2	⇓P	P	14 25 47.6	-0.3
	baz=24						
126A	Clayton Basin,	24.32	359	⇓P	P	14 25 47.9	-0.3
	baz=24						
129A	Stewart Farms,	24.34	3	⇑P	P	14 25 47.9	-0.4
	baz=24						
125A	Gardner Draw,	24.36	357	⇑P	P	14 25 48.2	-0.3
	baz=24						
130A	Snyder	24.37	5	⇓P	P	14 25 48.2	-0.3
	baz=24						
124A	Stringfield Ra	24.45	356	⇑P	P	14 25 49.0	-0.5
	baz=25,SNR=10						
131A	Roby	24.50	6	⇓P	P	14 25 49.0	-0.6
	baz=25						
ABTX	Abilene, Hawle	24.54	8	⇓P	P	14 25 49.3	-0.8
	baz=25						
121A	Cookes Peak, D	24.55	351	⇑P	P	14 25 50.4	+0.2
	baz=25,SNR=9.9						
Z26A	Caprock	24.95	359	⇓P	P	14 25 53.1	-0.7
	baz=25,SNR=7.4						
TUC	Tucson	24.95	345	eP	P	14 25 52.9	-0.9
	25nm,1.4s						
Z28A	Tucker Farm, M	24.97	2	⇓P	P	14 25 53.6	-0.4
	baz=25						
Z25A	Roswell	24.98	357	⇑P	P	14 25 53.7	-0.4
	baz=25,SNR=6.0						
Z27A	Tatum	24.98	0	⇑P	P	14 25 53.8	-0.3
	baz=25,SNR=16						
Z30A	Sanderson Ranc	25.04	4	⇓P	P	14 25 53.9	-0.6
	baz=25						
Z24A	Sheeppen Canyo	25.07	356	⇓P	P	14 25 54.5	-0.5
	baz=25						
Z23A	Rita Site, Whi	25.07	354	⇑P	P	14 25 55.0	+0.1
	baz=25,SNR=6.9						
Z22A	Elephant Butte	25.15	353	⇓P	P	14 25 55.6	-0.1
	baz=25,SNR=7.8						
Z31A	Sharp Cattle R	25.16	6	⇓P	P	14 25 54.9	-0.7
	baz=25						
214A	Organ Pipe Nat	25.21	341	⇓P	P	14 25 56.0	-0.1
	baz=25						
Z32A	Haskell	25.23	8	⇓P	P	14 25 55.8	-0.5
	baz=25,SNR=5.5						
Z20A	Nine Sixteen R	25.25	350	⇑P	P	14 25 57.1	+0.5
	baz=25,SNR=17						
Z21A	St. Cloud Mine	25.29	352	⇑P	P	14 25 56.9	-0.1
	baz=25						
Y27A	Causey	25.55	0	⇓P	P	14 25 58.8	-0.5
	baz=26,SNR=14						
Y26A	Elida	25.59	359	⇓P	P	14 25 59.2	-0.5
	baz=26						
Y25A	Mesa, Roswell	25.62	357	⇓P	P	14 25 59.8	-0.1
	baz=26,SNR=10						
MSTX	Muleshoe	25.64	1	⇑P	P	14 25 59.7	-0.4
	baz=26						
Y24A	Capitan	25.66	356	⇑P	P	14 25 59.9	-0.5
	baz=26						
Y23A	Lovelace Mesa,	25.72	355	⇓P	P	14 26 00.9	0.0
	baz=26,SNR=7.0						
Y31A	Rekieta Farm,	25.79	6	⇓P	P	14 26 01.2	-0.1
	baz=26						
Y22A	Socorro	25.82	353	⇓P	P	14 26 02.1	+0.4
	baz=26,SNR=10						
Y21A	Point of Rocks	25.98	352	⇓P	P	14 26 04.1	+0.7
	baz=26,SNR=9.1						
Y20A	Horse Springs,	25.99	350	⇓P	P	14 26 04.2	+0.8
	baz=26,SNR=10						
BNM	Barren Site	25.99	354	eP	P	14 26 03.9	+0.4
	5.5nm,1.3s						
X28A	Dimmitt	26.21	2	⇓P	P	14 26 05.5	+0.3
	baz=26						
X30A	Coker Ranch, T	26.21	5	⇑P	P	14 26 05.6	+0.4
	baz=26						
113A	Mohawk Valley,	26.27	340	⇓P	P	14 26 06.4	+0.8
	baz=26						
LAZ	Ladron	26.30	353	eP	P	14 26 06.3	+0.2
	2.7nm,0.9s						
X24A	Lazy VL Ranch,	26.30	356	⇑P	P	14 26 06.6	+0.4
	baz=26						
X23A	Hourglass Bar	26.37	355	⇓P	P	14 26 07.4	+0.5
	baz=26						
X21A	Alamocita Cree	26.43	352	⇑P	P	14 26 07.9	+0.6
	baz=27,SNR=5.2						
AMTX	Amarillo	26.59	3	eP	P	14 26 09.1	+0.5
	8.7nm,0.9s						
W27A	Bowe Ranch, En	26.73	1	⇑P	P	14 26 10.0	+0.1
	baz=27						
W26A	Owens Ranch, T	26.76	359	⇓P	P	14 26 10.3	+0.1
	baz=27						
ANMO	Albuquerque	26.76	354	P	P	14 26 10.0	-0.3
ANMO	Albuquerque	26.76	354	P	P	14 26 10.0	-0.3
	0.7nm,0.4s,baz=217,slow=5.7,SNR=4.9						
W25A	X Bar L Ranch,	26.90	358	⇑P	P	14 26 11.7	+0.2
	baz=27						
GLA	Glamis	26.90	338	eP	P	14 26 11.2	-0.3
	13nm,0.8s						
GLA	Glamis	26.90	338	⇑P	P	14 26 12.2	+0.7
	baz=27,SNR=7.2						
W24A	Lazy 6 Ranch,	26.94	356	⇓P	P	14 26 12.0	+0.1
	baz=27						
W28A	Vega	26.94	2	⇓P	P	14 26 11.7	-0.1
	baz=27						
W23A	Werner Place,	26.95	355	⇑P	P	14 26 12.1	+0.1
	baz=27						
Y14A	Wickenburg	27.11	342	⇑P	P	14 26 13.7	+0.4
	baz=27						
W20A	Ramah	27.20	351	⇓P	P	14 26 14.6	+0.3
	baz=27						
BAR	Barrett	27.30	335	eP	P	14 26 16.1	+1.1
	9.2nm,1.1s						
MONP	Monument Peak	27.38	336	⇑P	P	14 26 16.5	+0.6
	baz=28						
V24A	Rampart Ranch,	27.44	357	⇑P	P	14 26 16.3	-0.2
	baz=28						
V26A	Tequesquite Ra	27.46	359	⇑P	P	14 26 16.4	-0.1
	baz=28						
V25A	Rancho No Teng	27.52	358	⇓P	P	14 26 17.0	-0.1
	baz=28						
BC3	Big Chuckawall	27.68	338	⇓P	P	14 26 18.8	+0.4
	baz=28						
PDMCI	Parker Dam,Lak	27.80	341	⇑P	P	14 26 19.8	+0.4
	baz=28						
V20A	Brimhall	27.86	351	⇓P	P	14 26 20.1	-0.1
	baz=28						
IRM	Iron Mountain	28.02	339	⇓P	P	14 26 22.3	+0.8
	baz=28,SNR=11						
PFO	Pinyon Flat Ob	28.02	336	eP	P	14 26 22.7	+1.2
PFO	Pinyon Flat Ob	28.02	336	P	P	14 26 22.3	+0.7
	5.5nm,0.9s,baz=118,slow=6.2,SNR=5.3						
PFO				LR	LR	14 35 51.7	
	comp=Z,306nm,18.2s,baz=145,slow=33						
PFO	Pinyon Flat Ob	28.02	336	⇑P	P	14 26 22.0	+0.4
	baz=28						
U25A	Circle Dot Ran	28.08	358	⇑P	P	14 26 22.0	-0.1
	baz=28						
WUAZ	Wupatki	28.15	346	eP	P	14 26 23.8	+1.1
	11nm,1.0s						
WUAZ	Wupatki	28.15	346	⇑P	P	14 26 23.6	+0.9
	baz=28						
BELC	Belle Mtn. Jos	28.19	337	⇑P	P	14 26 23.8	+0.8
	baz=28,SNR=5.4						
U22A	Llaves	28.22	354	⇓P	P	14 26 23.9	+0.5
	baz=28,SNR=7.3						
U21A	Nageezi	28.36	353	⇑P	P	14 26 25.0	+0.4
	baz=28						
W13A	Hualapai Mount	28.45	342	⇓P	P	14 26 26.0	+0.6
	baz=29						
GMRC	Granite Mounta	28.76	339	⇓P	P	14 26 28.7	+0.6
	baz=29						
T25A	Trinidad	28.81	358	⇓P	P	14 26 29.0	+0.3
	baz=29						
T22A	Edith	28.85	354	⇓P	P	14 26 29.2	+0.2
	baz=29						
T21A	Navajo Lake	28.90	353	⇓P	P	14 26 29.7	+0.2
	baz=29						
T31A	Randall Ranch,	28.95	6	⇓P	P	14 26 29.5	-0.2
	baz=29						
LRAL	Lakeview Retre	28.98	29	P	P	14 26 28.4	-1.5
	5.8nm,0.8s						
HEC	Hector,Ludlow	29.05	338	⇑P	P	14 26 30.9	+0.3
	baz=29						
BFSC	Mount Baldy Ra	29.06	335	⇓P	P	14 26 31.1	+0.2
	baz=29						
ATAH	Atahualpa	29.19	121	P	P	14 26 32.5	0.0
ATAH	Atahualpa	29.19	121	P	P	14 26 32.5	0.0
	5.1nm,0.7s,baz=270,slow=20,SNR=3.1						
ATAH				LR	LR	14 33 55.0	
	comp=Z,178nm,21.1s,baz=294,slow=28						
U15A	North Rim	29.25	345	⇓P	P	14 26 33.2	+0.6
	baz=29,SNR=5.7						
S26A	Kim	29.28	360	⇓P	P	14 26 32.4	-0.3
	baz=29						
S25A	Roberts Cordova	29.34	358	⇑P	P	14 26 33.3	0.0
	baz=30						
S24A	Houchin Ranch,	29.35	357	⇓P	P	14 26 33.6	0.0
	baz=30						
TUQ	Turquoise Moun	29.44	339	⇓P	P	14 26 34.8	+0.6
	baz=30						
S22A	4UR Ranch, Cre	29.57	354	⇓P	P	14 26 36.1	+0.6
	baz=30,SNR=11						
S21A	Coal Bank Pass	29.59	353	⇓P	P	14 26 36.2	+0.4
	baz=30						
GSC	Goldstone	29.65	337	eP	P	14 26 37.2	+1.3
	3.5nm,0.3s						
EDW2	Edwards Air Fo	29.75	335	⇓P	P	14 26 37.3	+0.4
	baz=30						
R25A	Fountain Ranch	29.82	359	⇓P	P	14 26 37.4	-0.1
	baz=30						
R23A	Moffat	29.93	356	⇑P	P	14 26 38.8	+0.2
	baz=30						
R24A	Sanders Place,	29.93	357	⇓P	P	14 26 39.1	+0.5
	baz=30,SNR=7.4						
R28A	Tribune	30.03	2	⇑P	P	14 26 39.4	+0.1
	baz=30						
R22A	Saguache, Gunn	30.04	355	⇑P	P	14 26 39.8	+0.1
	baz=30						
R30A	Dighton	30.07	5	⇓P	P	14 26 39.8	+0.2
	baz=30						
R21A	Cimarron	30.26	353	⇑P	P	14 26 41.8	+0.2
	baz=30						
MPMC	Manual Prospec	30.58	337	⇑P	P	14 26 45.3	+1.0
	baz=31,SNR=7.1						
Q26A	Hugo	30.58	360	⇑P	P	14 26 44.6	+0.4
	baz=31						
Q25A	Bedland, Calha	30.58	359	⇓P	P	14 26 44.8	+0.4
	baz=31						
CCUT	Cedar City	30.58	344	eP	P	14 26 45.4	+1.0
	3.5nm,0.9s						
ISA	Isabella	30.62	335	eP	P	14 26 45.9	+1.3
	6.0nm,1.2s						
ISA	Isabella	30.62	335	⇑P	P	14 26 45.6	+1.0
	baz=31						
Q22A	Crested Butte,	30.69	355	⇓P	P	14 26 45.8	+0.4
	baz=31,SNR=8.2						
FURC	Furnace Creek,	30.70	338	⇑P	P	14 26 46.1	+1.0
	baz=31						
Q30A	Quinter	30.76	5	⇑P	P	14 26 46.0	+0.3
	baz=31						
ARUT	Antelope Range	30.83	344	P	P	14 26 47.8	+1.4
	4.2nm,0.6s						
P23A	Jefferson	31.11	356	⇑P	P	14 26 49.6	+0.5
	baz=31,SNR=5.7						
MVU	Marysvale	31.20	347	eP	P	14 26 50.0	+0.2
	3.6nm,1.0s						
P21A	Newcastle	31.39	354	⇓P	P	14 26 52.1	+0.5
	baz=32,SNR=6.6						
SRU	San Rafael	31.43	349	eP	P	14 26 52.6	+0.8
	6.5nm,1.2s						
ISCO	Idaho Springs	31.52	357	eP	P	14 26 52.0	-0.7
	2.3nm,0.7s						
P19A	Cripple Cowboy	31.69	352	⇓P	P	14 26 54.4	+0.3
	baz=32,SNR=7.8						
TMUT	Trail Mountain	31.75	348	eP	P	14 26 54.0	-0.7
	7.0nm,0.9s						
O25A	Wiggins	31.77	359	⇑P	P	14 26 54.6	-0.1
	baz=32						
O22A	Kremmling	31.94	355	⇑P	P	14 26 56.6	+0.2
	baz=32,SNR=7.6						
O23A	Lake Granby, G	31.95	356	⇓P	P	14 26 56.9	+0.4
	baz=32						
R11A	Troy Canyon, C	31.97	342	⇑P	P	14 26 57.5	+0.9
	baz=32						
O20A	White River Ci	32.09	353	⇑P	P	14 26 58.0	+0.4
	baz=32						
CPCT	Cooper Cave	32.13	30	eP	P	14 26 56.6	-1.2
O19A	Miners Draw (B	32.37	352	⇑P	P	14 27 00.5	+0.5
	baz=32						
SDV	Santo Domingo	32.37	86	eP	P	14 27 00.4	+0.1
	22nm,0.9s						
N27A	Anderson Farm,	32.47	1	⇑P	P	14 27 01.2	+0.4
	baz=33						
MPU	Maple Canyon	32.52	348	eP	P	14 27 02.6	+1.2
	19nm,1.1s						
N22A	Wattenberg Ran	32.57	356	⇑P	P	14 27 01.9	-0.1
	baz=33						
N23A	Red Feather La	32.63	356	⇑P	P	14 27 02.0	-0.4
	baz=33						
DAU	Daniels Canyon	32.83	349	eP	P	14 27 05.5	+1.3
	9.7nm,1.0s						
NV11	Mina Array Sit	32.91	338	eP	P	14 27 06.1	+1.3
DUG	Dugway	32.95	347	eP	P	14 27 06.5	+1.4
	13nm,1.2s						
DUG	Dugway	32.95	347	⇓P	P	14 27 06.2	+1.1
	baz=33						
NVAR	Mina Array Bea	32.97	338	P	P	14 27 06.3	+1.0
NVAR	Mina Array Bea	32.97	338	P	P	14 27 06.3	+1.0
	4.2nm,0.8s,baz=168,slow=8.5,SNR=32						
NVAR				LR	LR	14 38 25.0	
	comp=Z,277nm,20.5s,baz=310,slow=33						
PHWY	Pilot Hill	33.01	357	eP	P	14 27 05.8	+0.1
	5.5nm,1.0s						
M19A	Rock Springs	33.55	352	⇓P	P	14 27 11.1	+0.7
	baz=34						
KMSC	Kings Mountain	33.56	34	⇓P	P	14 27 09.6	-0.7
	baz=34						
BGU	Big Grassy Mou	33.70	347	eP	P	14 27 12.5	+0.9
	7.5nm,1.0s						
M17A	Scullys Gap (B	33.75	350	⇓P	P	14 27 12.5	+0.3
	baz=34,SNR=12						
L23A	Garrett	33.83	357	⇑P	P	14 27 13.1	+0.3
	baz=34						
L20A	Wamsutter	33.95	353	⇑P	P	14 27 14.1	+0.3
	baz=34						
HWUT	Hardware Ranch	34.05	349	eP	P	14 27 15.3	+0.7
	9.7nm,1.1s						
L19A	Farson	34.17	352	⇓P	P	14 27 16.2	+0.5
	baz=34						
K23A	Bowen Ranch, D	34.47	357	⇑P	P	14 27 18.7	+0.4
	baz=35						
HDIL	Hopedale	34.57	19	eP	P	14 27 18.1	-0.9
K20A	Yellowstone Ra	34.59	354	⇓P	P	14 27 19.7	+0.3
	baz=35						
K19A	Absolon Red Bu	34.81	353	⇑P	P	14 27 21.6	+0.3
	baz=35						
BW06	Boulder Array	34.85	352	eP	P	14 27 21.6	-0.1
	5.7nm,0.9s						
PDAR	Pinedale Array	34.85	352	P	P	14 27 21.9	+0.2
PDAR	Pinedale Array	34.85	352	P	P	14 27 21.9	+0.2
	7.4nm,0.9s,baz=161,slow=9.4,SNR=27						
J22A	Midwest	35.17	356	⇓P	P	14 27 24.4	+0.1
	baz=35						
J21A	Lysite	35.18	355	⇑P	P	14 27 24.7	+0.2
	baz=35,SNR=5.8						
J20A	Shoshoni	35.25	354	⇓P	P	14 27 25.0	0.0
	baz=35,SNR=6.2						
J19A	Crowheart	35.27	353	⇑P	P	14 27 25.9	+0.7
	baz=35						
REDW	Red Top Meadow	35.63	351	eP	P	14 27 28.6	+0.3
	9.0nm,1.2s						
I21A	Big Trails, Te	35.63	355	⇓P	P	14 27 28.5	+0.2
	baz=36						
I22A	9 Mile Ranch,	35.65	356	⇓P	P	14 27 28.5	+0.1
	baz=36,SNR=5.9						
RRI2	Red Ridge	35.69	350	eP	P	14 27 29.2	+0.2
	4.8nm,0.8s						
TPAW	Teton Pass	35.77	351	eP	P	14 27 30.9	+1.4
I18A	Diamond G Ranc	35.80	352	⇓P	P	14 27 30.1	+0.2
	baz=36						
LOHW	Long Hollow	35.83	351	eP	P	14 27 30.5	+0.4
	10nm,1.3s						
I20A	Worland	35.84	354	⇑P	P	14 27 30.1	+0.1
	baz=36,SNR=5.4						
MOOW	Moose Ponds	35.98	351	eP	P	14 27 31.1	-0.3
	3.2nm,1.0s						
I19A	Meeteetse	36.03	353	⇓P	P	14 27 31.9	+0.2
	baz=36						
IMW	Indian Meadow	36.16	351	eP	P	14 27 32.5	-0.5
	7.0nm,1.2s						
H22A	Clearmont	36.34	356	⇑P	P	14 27 34.0	-0.3
	baz=36,SNR=6.9						
H24A	Dirks Ranch, A	36.41	359	⇓P	P	14 27 35.1	+0.2
	baz=37						
WDC	Whiskeytown Da	36.48	335	eP	P	14 27 35.2	-0.2
	5.2nm,1.0s						
HLID	Hailey	36.52	346	eP	P	14 27 36.8	+0.9
	3.8nm,0.9s						
HLID	Hailey	36.52	346	⇓P	P	14 27 36.1	+0.2
	baz=37,SNR=7.8						
WVOR	Wild Horse Val	36.65	341	eP	P	14 27 37.5	+0.5
	8.2nm,0.9s						
I14A	Mackay	36.66	348	⇓P	P	14 27 37.0	-0.1
	baz=37,SNR=5.4						
MFID	Camas Ranch	36.73	345	⇓P	P	14 27 38.2	+0.5
	baz=37						
H18A	Shoshone NF, C	36.74	352	⇑P	P	14 27 38.2	+0.3
	baz=37						
G23A	Biddle	36.90	358	⇑P	P	14 27 38.8	-0.2
	baz=37						
G22A	Birney	36.96	357	⇑P	P	14 27 39.6	0.0
	baz=37						
H16A	Russell Place,	37.00	351	⇓P	P	14 27 40.5	+0.5
	baz=37,SNR=5.4						
G21A	Lodge Grass	37.03	355	⇑P	P	14 27 40.1	0.0
	baz=37						
G27A	Dupree	37.05	2	⇓P	P	14 27 40.1	-0.2
	baz=37						
G20A	Bridger	37.11	354	⇓P	P	14 27 40.8	-0.1
	baz=37						
QLMT	Earthquake Lak	37.15	350	P	P	14 27 42.9	+1.5
	2.4nm,1.2s						
G18A	Lazy EL Ranch,	37.36	353	⇓P	P	14 27 43.2	+0.2
	baz=38						
MCMT	McKenzie Canyo	37.40	349	eP	P	14 27 44.5	+1.0
	4.4nm,1.1s						
F23A	Volborg	37.41	358	⇑P	P	14 27 43.3	-0.1
	baz=38						
F26A	Lodgepole	37.51	1	⇓P	P	14 27 44.2	0.0
	baz=38						
F24A	Ekalaka	37.51	359	⇓P	P	14 27 44.3	+0.1
	baz=38						
YBH	Yreka Blue Hor	37.52	336	eP	P	14 27 44.0	-0.3
	4.2nm,0.8s						
F20A	Billings	37.68	355	⇑P	P	14 27 45.7	+0.1
	baz=38						
F19A	Roth Farm, Mol	37.81	354	⇑P	P	14 27 46.6	-0.2
	baz=38						
GCMT	Greycliff	37.84	353	eP	P	14 27 46.9	-0.2
	5.0nm,1.2s						
KRMB	Red Mountain	37.84	335	eP	P	14 27 48.5	+1.4
	4.2nm,0.9s						
DLMT	Dillon	37.87	349	eP	P	14 27 48.4	+1.1
	18nm,1.5s						
F18A	Big Timber	37.95	353	⇓P	P	14 27 47.9	-0.1
	baz=38,SNR=8.4						
BOZ	Bozeman (W)	37.98	351	eP	P	14 27 48.2	0.0
	7.5nm,1.4s						
F17A	Fitzpatrick Pl	38.08	352	⇑P	P	14 27 49.3	+0.2
	baz=38						
E22A	Miles City	38.16	357	⇑P	P	14 27 49.1	-0.5
	baz=38						
E23A	Ismay	38.19	358	⇑P	P	14 27 49.6	-0.3
	baz=38						
LRM	Limekiln Ridge	38.29	350	eP	P	14 27 51.3	+0.4
	65nm,1.0s						
E20A	Meyer Farm, Mu	38.38	355	⇑P	P	14 27 51.4	-0.1
	baz=38,SNR=12						
E19A	Rath Farm, Rou	38.40	354	⇓P	P	14 27 51.6	-0.1
	baz=38,SNR=13						
BMO	Blue Mountains	38.46	344	eP	P	14 27 51.8	-0.5
	2.9nm,1.0s						
E18A	Harlowton	38.63	353	⇑P	P	14 27 53.6	-0.1
	baz=39						
E17A	Martinsdale	38.65	352	⇑P	P	14 27 53.8	-0.2
	baz=39						
D24A	Glendive	38.78	359	⇑P	P	14 27 54.7	-0.1
	baz=39						
D21A	La Casta Ranch	38.84	356	⇓P	P	14 27 55.3	-0.1
	baz=39						
D22A	Cohagen	38.88	357	⇓P	P	14 27 55.3	-0.3
	baz=39						
HRY	Holter Researc	39.04	351	eP	P	14 27 56.7	-0.5
	2.5nm,0.8s						
D19A	Cripps Ranch,	39.10	354	⇑P	P	14 27 57.2	-0.4
	baz=39,SNR=6.4						
D17A	Six Diamond Ra	39.31	352	⇑P	P	14 27 58.9	-0.4
	baz=40,SNR=7.4						
C22A	Vida	39.46	357	⇑P	P	14 28 00.2	-0.3
	baz=40						
CHMT	Chamberlain Mo	39.48	349	eP	P	14 28 00.5	-0.4
	2.8nm,1.2s						
C23A	Lambert	39.49	358	⇓P	P	14 28 00.3	-0.4
	baz=40,SNR=10						
C26A	Wahner Farm, P	39.49	1	⇓P	P	14 28 00.4	-0.4
	baz=40						
MSO	Missoula	39.53	349	⇑P	P	14 28 00.9	-0.3
	baz=40						
C20A	Veseth Ranch,	39.56	355	⇑P	P	14 28 00.9	-0.5
	baz=40						
C21A	Desert Coulee	39.61	356	⇑P	P	14 28 01.4	-0.4
	baz=40						
C17A	Wharram Farm,	39.79	352	⇑P	P	14 28 02.9	-0.5
	baz=40,SNR=5.5						
B25A	Knox Farm, Ray	39.92	0	⇓P	P	14 28 04.2	-0.2
	baz=40						
EGMT	Eagleton	40.05	353	⇓P	P	14 28 05.0	-0.5
	baz=40						
C16A	Fuhringer Ranc	40.09	351	⇓P	P	14 28 05.2	-0.6
	baz=40						
DGMT	Dagmar	40.13	359	eP	P	14 28 05.9	-0.2
	17nm,0.8s						
DGMT	Dagmar	40.13	359	⇑P	P	14 28 05.8	-0.3
	baz=40,SNR=6.2						
B20A	Solberg Farm,	40.29	355	⇓P	P	14 28 07.1	-0.3
	baz=40,SNR=6.5						
B18A	Beardsley Farm	40.41	353	⇑P	P	14 28 08.3	-0.1
	baz=41						
A24A	Westby	40.58	359	⇓P	P	14 28 09.4	-0.4
	baz=41						
A25A	Svangstu Ranch	40.59	0	⇓P	P	14 28 09.5	-0.4
	baz=41						
A20A	Cobblestone Ra	40.72	355	⇑P	P	14 28 10.6	-0.3
	baz=41						
B15A	Bradely Ranch,	40.72	351	⇓P	P	14 28 10.9	-0.1
	baz=41						
A21A	Bergtoll Ranch	40.76	356	⇑P	P	14 28 11.3	0.0
	baz=41						
A19A	Klindworth Far	40.84	355	⇑P	P	14 28 11.9	-0.1
	baz=41						
A18A	Metzger Ranch,	40.94	353	⇓P	P	14 28 12.4	-0.4
	baz=41						
A17A	Triple J Farms	41.07	353	⇓P	P	14 28 13.7	-0.1
	baz=41						
B13A	Whitefish	41.12	349	⇑P	P	14 28 14.2	-0.1
	baz=41						
A15A	Johnson Ranch,	41.39	351	⇓P	P	14 28 16.3	-0.3
	baz=42,SNR=6.1						
A14A	Double T Ranch	41.50	350	⇑P	P	14 28 17.2	-0.3
	baz=42						
LON	Longmire	41.52	341	eP	P	14 28 17.8	+0.2
	8.0nm,0.8s						
NEW	Newport	41.58	346	eP	P	14 28 18.0	-0.1
	9.6nm,0.9s						
NEW	Newport	41.58	346	⇑P	P	14 28 17.8	-0.3
	baz=42,SNR=7.3						
A13A	Flathead Natio	41.64	349	⇑P	P	14 28 18.4	-0.3
	baz=42						
WALA	Waterton Lakes	41.67	350	eP	P	14 28 19.0	+0.1
	0.2nm,1.1s						
SADO	Sadowa	42.05	26	P	P

PPT	Papeete	52.35 240	LR	LR	14 45 06.0		
	comp=Z,483nm,19.6s,baz=3.4,slow=28						
PPT2	Papeete2	52.36 240	eLR	LR	14 44 30.2		
	699nm,24.8s,baz=57						
DLBC	Dease Lake	54.13 343	eP	P	14 29 55.8	+0.6	
YKA	Yellowknife Ar	54.80 354	P	P	14 29 58.5	-1.5	
YKA	Yellowknife Ar	54.80 354	P	P	14 29 58.5	-1.5	
	2.0nm,1.0s,baz=158,slow=7.7,SNR=5.0						
SCHQ	Schefferville	54.84 25	eP	P	14 29 58.6	-1.7	
	13nm,1.1s						
SCHQ	Schefferville	54.84 25	P	P	14 29 58.6	-1.7	
	7.5nm,0.9s,baz=275,slow=5.1,SNR=5.7						
SCHQ			LR	LR	14 55 28.3		
	comp=Z,274nm,18.0s,baz=110,slow=38						
TBI	Tubuai	54.90 234	eLR	LR	14 45 42.2		
	559nm,28.2s,baz=58						
CPUP	Villa Florida	56.35 129	eP	P	14 30 11.8	+0.2	
	13nm,0.8s						
CPUP	Villa Florida	56.35 129	P	P	14 30 12.2	+0.5	
	3.4nm,0.8s,baz=292,slow=8.2,SNR=6.9						
CPUP			LR	LR	14 51 49.8		
	comp=Z,192nm,20.2s,baz=306,slow=33						
DAWY	Dawson	61.35 343	eP	P	14 30 45.6	-0.3	
RAR	Rarotonga	62.62 241	LR	LR	14 49 60.0		
	comp=Z,307nm,18.2s,baz=301,slow=28						
INK	Inuvik	63.26 348	eP	P	14 30 57.6	-0.9	
	5.5nm,1.0s						
ILAR	Eielson Array	64.17 341	P	P	14 31 03.2	-1.3	
ILAR	Eielson Array	64.17 341	P	P	14 31 03.2	-1.3	
	4.7nm,1.0s,baz=154,slow=5.2,SNR=30						
ILAR			LR	LR	14 58 59.1		
	comp=Z,107nm,19.1s,baz=156,slow=36						
MCK	McKinley	64.19 339	eP	P	14 31 05.7	+0.9	
	5.5nm,1.1s						
BORG	Borgarnes	79.22 26	LR	LR	15 07 46.1		
	comp=Z,66nm,20.9s,baz=202,slow=36						
JMIC	Jan Mayen	83.88 19	LR	LR	15 11 56.3		
	comp=Z,123nm,18.9s,baz=69,slow=37						
SPITS	Spitsbergen Ar	87.85 10	LR	LR	15 13 31.4		
	comp=Z,166nm,19.0s,baz=315,slow=36						
PETK	Petropavlovsk-	88.83 323	P	P	14 33 23.9	-0.5	
PETK	Petropavlovsk-	88.83 323	P	P	14 33 23.9	-0.5	
	2.8nm,0.9s,baz=106,slow=7.9,SNR=5.0						
ESDC	Sonseca Array	91.98 50	LR	LR	15 08 55.4		
	comp=Z,121nm,18.6s,baz=285,slow=32						
NOA	NORSAR Array B	94.39 26	LR	LR	15 14 30.1		
	comp=Z,104nm,20.9s,baz=280,slow=34						
HFS	Hagfors	95.89 27	LR	LR	15 14 50.8		
	comp=Z,187nm,21.1s,baz=227,slow=34						
DBIC	Dimbokro	97.42 82	LR	LR	15 11 50.0		
	comp=Z,118nm,21.3s,baz=294,slow=32						
VNDA	Vanda	99.00 193	LR	LR	15 11 55.4		
	comp=Z,55nm,21.1s,baz=116,slow=31						
HHC	Hu-ho-hao-te	121.55 329	ePKP	PKPdf	14 39 22.0	-2.5	
HHC			PP	PP	14 40 57.9	+2.4	
HHC			PKS	PKSdf	14 42 57.3	-4.0	
HHC			SKS	SKSdf	14 46 32.0	-5.0	
HHC			SKKS	SKKSac	14 47 49.2	-7.2	
HHC			SS	SS	14 57 29.2	-1.5	
HHC			LR	LR			
	comp=Z,200nm,20.5s						
WRA	Warramunga Arr	123.07 252	PKP	PKPdf	14 39 27.1	-0.7	
WRA	Warramunga Arr	123.07 252	PKP	PKPdf	14 39 27.1	-0.7	
	comp=Z,2.1nm,0.7s,baz=89,slow=2.1,SNR=17						
ASAR	Alice Springs	123.19 247	PKP	PKPdf	14 39 27.7	-0.3	
ASAR	Alice Springs	123.19 247	PKP	PKPdf	14 39 27.7	-0.3	
	comp=Z,1.5nm,0.8s,baz=88,slow=1.7,SNR=18						
NJ2	Nanjing	123.20 317	ePKP	PKPdf	14 39 26.8	-1.0	
MKAR	Makanchi Array	125.01 355	PKP	PKPdf	14 39 29.2	-1.7	
MKAR	Makanchi Array	125.01 355	PKP	PKPdf	14 39 29.2	-1.7	
	comp=Z,0.5nm,0.7s,baz=355,slow=1.2,SNR=5.5						
WMQ	Urumqi	127.25 350	ePKP	PKPdf	14 39 35.5	+0.2	
GTA	Gaotai	127.97 337	ePKPbc	PKPdf	14 39 40.9	+4.0	
LZH	Lanzhou	129.04 332	ePKP	PKPdf	14 39 39.5	+0.4	
LZH			sPKP		14 39 44.1		
LZH			LR	LR			
	comp=Z,150nm,20.1s						
FITZ	Fitzroy Crossi	131.41 253	PKP	PKPdf	14 39 42.3	-1.4	
FITZ	Fitzroy Crossi	131.41 253	PKP	PKPdf	14 39 42.3	-1.4	
	comp=Z,1.8nm,0.8s,baz=126,slow=19,SNR=2.2						
KSH	Kashi	132.51 1	ePKP	PKPdf	14 39 37.7	-7.8	
CD2	Chengdu	133.22 327	ePKP	PKPdf	14 39 46.2	-0.8	
CHTO	Chiang Mai	145.29 321	ePKP	PKPbc	14 40 08.1	-0.7	
CM31	Chiang Mai Arr	145.55 320	ePKP	PKPdf	14 40 10.0	+0.4	
CMAR	Chiang Mai Arr	145.55 320	PKPbc	PKPdf	14 40 09.6	0.0	
CMAR	Chiang Mai Arr	145.55 320	PKPbc	PKPdf	14 40 09.6	0.0	
	comp=Z,5.9nm,0.9s,baz=17,slow=2.5,SNR=20						

IDC 05 14:31:08.1±2.4, 14°.62N×144°.06E, h0^{km}, mb3.6/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.7/6, MS3.2/6, Ms1 3.2/6, ms1mx3.0/36, Error ellipse: s-maj=77.2km s-min=20.5km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	21.97 329		LR	LR	14 44 30.7	
	comp=Z,40nm,18.0s,baz=82,slow=36						
MJAR	Matsushiro Arr	22.45 348		P	P	14 36 09.0	+0.2
	2.2nm,0.9s,baz=178,slow=8.5,SNR=5.5						
KSRS	Korea Array	26.89 331		P	P	14 36 56.6	+5.9
	1.2nm,0.8s,baz=144,slow=10,SNR=5.9						
KSRS				LR	LR	14 46 38.0	
	comp=Z,17nm,19.5s,baz=130,slow=35						
HNR	Honiara	28.62 146		LR	LR	14 46 30.0	
	comp=Z,49nm,21.9s,baz=197,slow=32						
WRA	Warramunga Arr	35.65 196		P	P	14 38 07.8	-0.3
	2.1nm,0.9s,baz=14,slow=9.7,SNR=8.7						
ASAR	Alice Springs	39.32 195		P	P	14 38 39.3	+0.1
	0.2nm,0.5s,baz=11,slow=11,SNR=3.3						
CMAR	Chiang Mai Arr	43.34 281		P	P	14 39 12.4	+0.1
	1.2nm,0.9s,baz=75,slow=7.6,SNR=6.3						
CMAR				LR	LR	14 56 18.4	
	comp=Z,17nm,18.6s,baz=110,slow=35						
SONM	Songino Array	45.44 325		P	P	14 39 28.6	-0.4
	0.5nm,0.6s,baz=124,slow=7.2,SNR=4.3						
SONM				LR	LR	14 58 05.2	
	comp=Z,29nm,19.2s,baz=150,slow=36						
MKAR	Makanchi Array	60.21 316		P	P	14 41 17.9	-0.2
	1.5nm,1.0s,baz=90,slow=7.0,SNR=7.8						
KBZ	Khabaz	87.88 315		LR	LR	15 29 35.0	
	comp=Z,86nm,20.3s,baz=37,slow=40						

IDC 05 14:40:04.1±8.1, 4°.93S×152°.47E, h105^{km}±57^{km}, mb3.1/2, mb1 3.3/3, mb1mx3.0/19, mbtmp3.2/3, Error ellipse: s-maj=121.5km s-min=50.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.90 230		P	Pn	14 41 42.7	0.0
	0.4nm,0.3s,baz=65,slow=19,SNR=3.3						
PMG				S	Sn	14 43 00.4	+0.7
	1.2nm,0.3s,baz=335,slow=17,SNR=3.5						
WRA	Warramunga Arr	23.12 228		P	P	14 45 01.4	+0.3
	1.5nm,0.5s,baz=54,slow=10.0,SNR=24						
ASAR	Alice Springs	25.84 222		P	P	14 45 26.0	+0.1
	0.3nm,0.9s,baz=56,slow=9.3,SNR=5.0						
TORD	Torodi Ar. Bea	150.03 288		PKPbc	PKPbc	14 59 42.8	-0.7
	1.0nm,0.6s,baz=92,slow=2.3,SNR=7.4						

*NSSC **05** 15:07:07.3±1.2, 33°.78N×35°.67E, h0^{km}±8^{km}, ML1.3*
*GRAL **05** 15:07:08.5±0.3, 33°.78N×35°.76E, h9^{km}±8^{km}, MD2.8*
CSEM 05 15:07:07.7±0.3, 33°.77N×35°.67E, h5^{km}, ML1.3, Error ellipse: s-maj=6.4km s-min=3.4km az=79.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.14 354		eP	Pg	15 07 11.7	+1.0
BHL				eS	Sg	15 07 14.0	+1.4
BHL	Bhannes	0.14 354		eP	Pg	15 07 11.7	+1.0
BHL				eS	Sg	15 07 14.0	+1.4
RCY	Rachaya	0.30 153		eP	Pg	15 07 13.9	0.0
RCY				eS	Sg	15 07 17.9	-0.1
RCY	Rachaya	0.30 153		eP	Pg	15 07 13.9	+0.1
RCY				eS	Sg	15 07 17.9	-0.1
BRBR	Barbar	0.43 147		eP	Pg	15 07 15.8	-0.4
BRBR				eS	Sg	15 07 22.0	0.0
BRBR				AML	AML	15 07 25.6	
	comp=N,39nm,0.4s						
BRBR				AML	AML	15 07 26.5	
	comp=E,53nm,0.3s						
BRBR	Barbar	0.43 147		eP	Pg	15 07 15.8	-0.4
	SNR=92						
BRBR				eS	Sg	15 07 22.0	0.0
	comp=E,53nm,0.3s,SNR=59						
HWQ	Hawqa	0.56 24		eP	Pg	15 07 18.0	-0.6
HWQ	Hawqa	0.56 24		eP	Pg	15 07 18.0	-0.6
MARH	Ras Al Marh	0.72 69		eP	Pg	15 07 21.9	-0.1
MARH				eS	Sg	15 07 32.3	+0.6
MARH				AML	AML	15 07 35.1	
	comp=Z,23nm,0.3s						
MARH				AML	AML	15 07 35.7	
	comp=N,38nm,0.4s						
MARH				AML	AML	15 07 39.7	
	comp=E,38nm,0.4s						
MARH	Ras Al Marh	0.72 69		eP	Pg	15 07 21.9	-0.1
	SNR=92						
MARH				eS	Sg	15 07 32.3	+0.6
	comp=E,38nm,0.4s,SNR=59						
TOTH	TOTAH	0.75 122		eP	Pg	15 07 21.5	-0.8
TOTH				eS	Sg	15 07 32.7	+0.6
TOTH				AML	AML	15 07 40.6	
	comp=E,12nm,0.4s						
TOTH				AML	AML	15 07 41.2	
	comp=N,13nm,0.4s						
TOTH	TOTAH	0.75 122		eP	Pg	15 07 21.5	-0.7
	SNR=75						
TOTH				eS	Sg	15 07 32.7	+0.6
	comp=N,13nm,0.4s,SNR=59						
SALA	Sala	1.38 140		eP	Pn	15 07 33.9	0.0
SALA				eS	Sb	15 07 52.4	+0.1
SALA				AML	AML	15 07 59.5	
	comp=E,0.9nm,0.4s						
SALA				AML	AML	15 08 02.8	
	comp=N,9.6nm,0.4s						
SALA	Sala	1.38 140		eP	Pn	15 07 33.9	0.0
	SNR=57						
SALA				eS	Sb	15 07 52.4	0.0
	comp=N,9.6nm,0.4s,SNR=49						
ZALF	Zalf	1.63 121		eP	Pn	15 07 37.2	+0.1
ZALF				eS	Sb	15 07 59.1	-0.1
ZALF				AML	AML	15 08 07.0	
	comp=N,4.4nm,0.6s						
ZALF				AML	AML	15 08 08.8	
	comp=E,4.7nm,0.4s						
ZALF	Zalf	1.63 121		eP	Pn	15 07 37.2	+0.1
	SNR=57						
ZALF				eS	Sb	15 07 59.1	-0.1
	comp=E,4.7nm,0.4s,SNR=49						

*ISCJB **05** 16:07:19.4±0.6, 37°.90S±0°.03×177°.63E±0°.06, h66^{km}, mb4.0/4, Error ellipse: s-maj=7.4km s-min=4.2km az=158.5*
*WEL **05** 16:07:20.9±0.1, 37°.80S×177°.60E, h43^{km}±1^{km}, ML4.2/17, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 5.
*IDC **05** 16:07:21.8±1.4, 38°.06S×177°.37E, h59^{km}±8^{km}, mb3.8/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=31.9km s-min=24.5km az=126.0*
ISC 05 16:07:21.0±0.8, 37°.88S±0°.04×177°.61E±0°.05, h66^{km}, n96, σ1^{s}50/91, mb4.0/4, 2C-26D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	0.46 188		⇓P*	Pn	16 07 31.5	-1.6
MWZ				S*	Sn	16 07 39.7	-2.3
MWZ				AML	AML	16 07 40.0	
MWZ				AML	AML	16 07 40.3	
MWZ				AML	AML	16 07 40.3	
WIZ	White Island	0.49 316		P*	Pn	16 07 30.4	-2.9
PUZ	Puketiti	0.54 111		PN	Pn	16 07 33.2	-0.7
PUZ				AML	AML	16 07 45.0	
PUZ				AML	AML	16 07 45.7	
URZ	Urewera	0.55 226		P*	Pn	16 07 32.4	-1.5
URZ				S*	Sn	16 07 41.1	-2.3
URZ				AML	AML	16 07 41.6	
URZ	Urewera	0.55 226		P	Pn	16 07 32.2	-1.7
	662nm,0.3s,baz=328,slow=1.3,SNR=3428						
URZ				S	Sn	16 07 41.3	-2.1
	658nm,0.3s,baz=150,slow=20,SNR=70						
MXZ	Matakaoa Point	0.64 60		AML	AML	16 07 35.3	
MXZ				AML	AML	16 07 35.8	
EDRZ	Edgecumbe	0.73 252		⇓P*	Pn	16 07 34.8	-1.2
EDRZ				S*	Sn	16 07 45.6	-1.4
MARZ	Manawahe	0.75 262		⇓P*	Pn	16 07 34.6	-1.6
CNGZ	Carnagh Statio	0.76 142		⇓PN	Pn	16 07 36.5	+0.1
OPRZ	Ohinepanea	0.84 272		P*	Pn	16 07 35.5	-1.7
TARZ	Mount Tarawera	0.94 248		⇓P*	Pn	16 07 37.8	-0.9
LIRZ	Lichensteins R	0.98 263		⇓P*	Pn	16 07 38.1	-0.9
RRRZ	Republican Roa	0.98 242		⇓P*	Pn	16 07 38.2	-0.9
OMRZ	Omania	1.00 257		⇓P*	Pn	16 07 38.4	-1.0
TGRZ	Tauranga	1.08 278		⇓P*	Pn	16 07 38.7	-1.6
KARZ	Kaharoa	1.09 262		⇓P*	Pn	16 07 39.4	-1.1
RAHZ	Arahi	1.11 202		⇓PN	Pn	16 07 40.9	+0.1
PRRZ	Plateau Road	1.14 237		⇓P*	Pn	16 07 40.4	-0.7
HRRZ	Handcock Road	1.16 244		⇓P*	Pn	16 07 40.7	-0.8
ALRZ	Allen Road	1.21 235		⇓P*	Pn	16 07 41.3	-0.7
MYRZ	Mayor Island	1.24 298		⇓P*	Pn	16 07 40.6	-1.9
MHGZ	Mahia Peninsul	1.29 170		PN	Pn	16 07 42.8	-0.2
NMHZ	Naumai	1.37 207		⇓PN	Pn	16 07 44.6	+0.4
WHTZ	Whakaora	1.52 238		P*	Pn	16 07 46.3	+0.1
BKZ	Black Stump Fm	1.55 214		⇓P*	Pn	16 07 46.1	-0.5
BKZ				AML	AML	16 08 12.4	
BKZ				AML	AML	16 08 12.8	
HATZ	Hinemaiaia	1.56 229		P*	Pn	16 07 46.1	-0.6
TOZ	Tahuroa Road	1.68 275		P*	Pn	16 07 47.0	-1.2
WATZ	Wairara	1.69 240		⇓P*	Pn	16 07 48.0	-0.5
MCHZ	McNeill Hill	1.71 204		PN	Pn	16 07 49.6	+0.8
RATZ	Rangitukua	1.75 235		⇓P*	Pn	16 07 49.1	-0.2
RITZ	Rihia Road	1.76 231		P*	Pn	16 07 49.4	+0.1
CKHZ	Cape Kidnapper	1.82 193		PN	Pn	16 07 49.5	-0.6
KUZ	Kuaotunu	1.89 306		PN	Pn	16 07 49.0	-2.0
KRVZ	Karewarewa	1.96 231		⇓P*	Pn	16 07 52.1	-0.1
KAHZ	Kahuranaki	1.99 197		PN	Pn	16 07 52.1	-0.4
WTVZ	West Tongariro	2.01 232		P*	Pn	16 07 52.8	0.0
BHHZ	Black Hill Sta	2.01 217		P*	Pn	16 07 52.5	-0.2
NGZ	Ngauruhoe	2.04 230		⇓P*	Pn	16 07 53.2	-0.1
TUVZ	Tukino	2.07 227		P*	Pn	16 07 53.4	-0.2
WPVZ	Whakapapa	2.09 230		P*	Pn	16 07 54.0	+0.1
MKAZ	Moumakai	2.09 291		PN	Pn	16 07 52.6	-1.2
MOVZ	Moawhango	2.11 223		⇓P*	Pn	16 07 53.6	-0.5
FWVZ	Far West T-bar	2.12 229		P*	Pn	16 07 54.1	-0.2
WNVZ	Wahianoa	2.14 227		P*	Pn	16 07 54.3	-0.2
PXZ	Pawanui	2.22 195		AML	AML	16 08 22.7	
PXZ				AML	AML	16 08 22.7	
PXZ				AML	AML	16 08 23.1	
PXZ				AML	AML	16 08 23.1	
MTVZ	Mangateitei	2.25 228		P*	Pn	16 07 55.8	-0.2
HIZ	Hauiti	2.26 253		⇓PN	Pn	16 07 56.3	+0.2
PKVZ	Pokaka	2.26 231		P*	Pn	16 07 56.3	+0.1
PNHZ	Pukenui	2.31 208		PN	Pn	16 07 56.0	-0.8
OTAZ	Otara	2.33 293		⇓PN	Pn	16 07 56.4	-0.7
MTAZ	Motutapu	2.42 296		PN	Pn	16 07 57.4	-0.8
TSZ	Takapari Road	2.53 210		PN	Pn	16 07 58.6	-1.1
TSZ				AML	AML	16 08 44.2	
TSZ				AML	AML	16 08 46.1	
KAAZ	Kauri Point	2.55 294		⇑PN	Pn	16 07 59.7	-0.2
VRZ	Vera Road	2.56 240		P*	Pn	16 08 00.9	+0.7
ABAZ	Army Bay	2.56 299		PN	Pn	16 07 59.4	-0.8
WTAZ	Waiatarua	2.60 290		PN	Pn	16 08 00.2	-0.5
RVAZ	Riverhead Bore	2.66 294		⇓PN	Pn	16 08 01.0	-0.5
DVHZ	Dannevirke	2.66 205		PN	Pn	16 07 59.8	-1.8
WAZ	Wanganui	2.78 227		⇑PN	Pn	16 08 03.9	+0.8
MHEZ	Mangahewa	2.84 244		PN	Pn	16 08 05.8	+1.8
DREZ	Durham Road	2.98 243		PN	Pn	16 08 07.8	+2.0
BFZ	Birch Farm	2.99 200		PN	Pn	16 08 04.0	-2.0
NEZ	North Egmont	3.08 242		PN	Pn	16 08 09.5	+2.1
PKE	Pukeiti	3.13 244		PN	Pn	16 08 09.6	+1.6
TIWZ	Tintock	3.19 204		PN	Pn	16 08 06.6	-2.1
MRZ	Mangatainoka R	3.19 209		PN	Pn	16 08 06.5	-2.3
MRZ				AML	AML	16 08 45.4	
MRZ				AML	AML	16 08 46.8	
WCZ	Waipu Caves	3.26 306		⇓PN	Pn	16 08 08.8	-0.8
HOWZ	Holdsworth Sta	3.42 208		PN	Pn	16 08 09.4	-2.5
TMWZ	Te Maipa	3.48 202		PN	Pn	16 08 10.3	-2.5
OGWZ	Otaki Gorge	3.49 212		PN	Pn	16 08 10.9	-2.0
KIW	Kapiti Island	3.64 214		PN	Pn	16 08 13.1	-1.7
KIW				AML	AML	16 08 56.5	
KIW				AML	AML	16 08 59.1	
MTW	Mount Morrison	3.66 206		PN	Pn	16 08 12.5	-2.6
MTW				AML	AML	16 08 56.5	
MTW				AML	AML	16 08 56.8	
CAW	Cannon Point	3.77 211		PN	Pn	16 08 14.0	-2.7
CAW				AML	AML	16 08 58.3	
CAW				AML	AML	16 09 21.2	
TRWZ	Traveller	3.81 202		PN	Pn	16 08 14.5	-2.8
TRWZ				AML	AML	16 08 59.1	
TRWZ				AML	AML	16 09 03.0	
PAWZ	Paruwai Farm	3.88 205		ePN	Pn	16 08 15.4	-2.8
PAWZ				AML	AML	16 09 01.1	
PAWZ				AML	AML	16 09 03.6	
MSWZ	Moikau Station	3.97 207		AML	AML	16 09 05.9	
MSWZ				AML	AML	16 09 37.3	
DUWZ	D'Urville Isla	4.08 223		PN	Pn	16 08 19.7	-1.3
SNZO	South Karori	4.09 212		ePN	Pn	16 08 18.2	-2.9
SNZO				AML	AML	16 09 06.7	
SNZO				AML	AML	16 09 28.2	
PLWZ	Palliser	4.11 206		PN	Pn	16 08 17.5	-3.8
BHW	Baring Head	4.11 210		AML	AML	16 09 05.3	
BHW				AML	AML	16 09 36.4	
OUZ	Omahuta	4.18 308		PN	Pn	16 08 22.0	-0.3
TCW	Tory Channel	4.21 217		PN	Pn	16 08 19.8	-2.9
TCW				AML	AML	16 09 11.3	
TCW				AML	AML	16 09 11.7	
NNZ	Nelson	4.67 223		PN	Pn	16 08 26.8	-2.2
BSWZ	Blackbirch Sta	4.79 216		PN	Pn	16 08 27.7	-2.9
THZ	Tophouse	5.30 222		PN	Pn	16 08 35.0	-2.7
KHZ	Kahutara	5.50 213		PN	Pn	16 08 36.7	-3.5
LTZ	Lake Taylor	6.37 218		PN	Pn	16 08 48.0	-4.3
CRLZ	Canterbury Las	6.83 212		PN	Pn	16 08 54.2	-4.3
RPZ	Rata Peaks	7.66 218		P	Pn	16 09 06.1	-3.7
	1.3nm,0.3s,baz=30,slow=8.8,SNR=12						
RPZ				S	Sn	16 10 27.4	-7.7
	4.9nm,0.3s,baz=90,slow=16,SNR=16						
ASAR	Alice Springs	39.78 278		P	P	16 14 48.0	+0.4
	0.7nm,0.4s,baz=121,slow=7.1,SNR=23						
ASAR				LR	LR	16 29 15.7	
	comp=Z,50nm,20.2s,baz=72,slow=33						
WRA	Warramunga Arr	41.47 283		P	P	16 15 02.0	+0.5
	1.7nm,0.7s,baz=127,slow=6.5,SNR=20						
KSRS	Korea Array	87.88 323		P	P	16 20 04.3	+1.4
	0.7nm,0.6s,baz=128,slow=5.0,SNR=3.8						
CMAR	Chiang Mai Arr	92.57 291		P	P	16 20 26.1	+0.7
	0.8nm,0.5s,baz=123,slow=3.3,SNR=4.7						
ARCES	ARCESS Array B	144.92 343		PKPbc	PKPdf	16 26 49.1	-0.3
	1.1nm,0.7s,baz=20,slow=4.2,SNR=4.8						
FINES	FINESS Array B	150.52 332		PKPbc	PKPbc	16 27 05.6	+1.4
	1.0nm,0.4s,baz=46,slow=6.0,SNR=3.0						
TORD	Torodi Ar. Bea	155.10 189		PKPbc	PKPdf	16 27 17.6	+11
	0.1nm,0.3s,baz=149,slow=3.1,SNR=3.3						
TORD				PKPab	PKPab	16 27 33.6	+2.0
	0.2nm,0.4s,baz=161,slow=3.5,SNR=2.9						

*ISCJB **05** 16:34:34.0±0.9, 30°.66S±0°.04×71°.5W±0°.1, h62^{km}±7^{km}, mb4.0/4, Error ellipse: s-maj=14.7km s-min=6.0km az=7.7*
*NEIC **05** 16:34:35.2, 30°.71S×71°.32W, h43^{km}, MG4.2(GUC), After GUC.*
NEIC Felt [III] at Tongoy and [II] at Andocollo, Combarbala, Coquimbo, La Serena, Ovalle and Punitaqui.
*GUC **05** 16:34:35.2±0.5, 30°.71S×71°.32W, h43^{km}±2^{km}, MD4.1, ML4.2*
*IDC **05** 16:34:37.9±4.1, 30°.58S×71°.15W, h76^{km}±30^{km}, mb3.7/4, mb1 3.7/7, mb1mx3.6/18, mbtmp3.6/7, Error ellipse: s-maj=50.0km s-min=31.4km az=41.0*
ISC 05 16:34:34.7±1.3, 30°.67S±0°.04×71°.5W±0°.1, h51^{km}±11^{km}, n19, σ0^{s}98/30, mb4.1/4, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.64 142		eP	Pn	16 34 46.7	-1.0
CMCH				i S	Sn	16 34 55.9	-1.2
CMCH	Combarbala	0.64 142		eP	Pn	16 34 46.7	-1.0
CMCH				i S	Sn	16 34 55.9	-1.2
CMCH				AML	AML	16 34 56.4	
	comp=N,43μm,0.4s						
TLL	Tololo Astrono	0.75 48		eP	Pn	16 34 49.4	0.0
TLL				i S	Sn	16 35 00.5	+0.4
TLL	Tololo Astrono	0.75 48		eP	Pn	16 34 49.4	0.0
TLL				i S	Sn	16 35 00.5	+0.4
PTCH	Petorca	1.65 164		i P	Pn	16 35 01.8	+0.5
PTCH				i S	Sn	16 35 21.5	+0.1
PTCH	Petorca	1.65 164		i P	Pn	16 35 01.8	+0.5
PTCH				i S	Sn	16 35 21.5	+0.1
PTCH				AML	AML	16 35 27.3	
	comp=E,4μm,0.3s						
JACH	Jahuel	2.13 160		i P	Pn	16 35 08.6	+0.7
JACH				i S	Sn	16 35 33.7	+0.3
JACH	Jahuel	2.13 160		i P	Pn	16 35 08.6	+0.7
JACH				i S	Sn	16 35 33.7	+0.3
ROCH	El Roble	2.33 171		⇑iP	Pn	16 35 11.6	+0.9
ROCH				i S	Sn	16 35 39.4	+1.2
ROCH				AML	AML	16 35 58.3	
	comp=N,962nm,0.7s						
PEL	Peldehue	2.55 165		i P	Pn	16 35 14.2	+0.6
PEL				i S	Sn	16 35 43.6	+0.1
PEL				AML	AML	16 36 02.4	
	comp=E,1μm,0.6s						
CFAA	Coronel Fontan	2.91 109		P	Pn	16 35 19.2	+0.6
	comp=E,2.0nm,0.3s,baz=296,slow=12,SNR=240						
CFAA				S	Sn	16 35 54.0	+1.7
	comp=E,3.7nm,0.3s,baz=174,slow=4.1,SNR=5.9						
CPUP	Villa Florida	13.15 74		P	Pn	16 37 40.8	+2.1
	comp=E,0.7nm,0.3s,ba

CMAR	**Chiang Mai Arr**	**42.85 282**	LR	LR	17 06 15.8	
	comp=Z,13nm,20.1s,baz=115,slow=33					
SONM	**Songino Array**	**45.27 325**	P	P	16 50 53.5	-0.3
	0.6nm,0.6s,baz=140,slow=9.2,SNR=3.8					
MKAR	**Makanchi Array**	**59.96 316**	P	P	16 52 43.6	+1.1
	0.6nm,0.6s,baz=95,slow=8.6,SNR=8.6					

JMA ***05*** *17:12:18.6±0.2,24.°3N×125.°24E,h28km,M3.5*
IDC ***05*** *17:12:41.4±37.0,26.°76N×122.°90E,h0km,mb3.8/4,*
mb1 3.8/4,mb1mx3.4/26,mbtmp3.8/4,Error ellipse:
s-maj=1217.0km s-min=115.8km az=12.0
ISC 05 17:12:18.5±2.4,24.°3N±0.°1×125.°23E±0.°1,h28km±12km,
n12,σ0^{s}72/14,mb3.8/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.52**	**18**	P	**Pb**	**17 12 29.0**	**-0.2**
JOGS				S	**Sn**	**17 12 37.2**	**-0.9**
JMJ	**Miyako jima 2**	**0.55**	**6**	P	**Pb**	**17 12 29.4**	**-0.3**
JMJ				S	**Sb**	**17 12 37.6**	**+0.2**
JTJ	**Tarama**	**0.61**	**308**	P	**Pb**	**17 12 30.5**	**-0.1**
JTJ				S	**Sb**	**17 12 38.7**	**-0.2**
JIJ	**Ishigaki jima**	**0.99**	**276**	P	**Pb**	**17 12 36.8**	**-0.3**
JIJ				S	**Sn**	**17 12 49.3**	**-0.4**
JKRS	**Kuro-shima**	**1.11**	**269**	P	**Pb**	**17 12 39.2**	**+0.1**
HATJ	**Hateruma jima**	**1.31**	**261**	P	**Pb**	**17 12 41.6**	**-0.9**
HATJ				*e*S	**Sb**	**17 12 59.0**	**0.0**
IRIF	**Iriomote-Funau**	**1.37**	**273**	P	**Pb**	**17 12 42.5**	**-0.9**
YOJ	**Yonaguni jima**	**2.03**	**276**	P	**Pn**	**17 12 52.3**	**+1.5**
MKAR	**Makanchi Array**	**40.89**	**314**	P	**P**	**17 19 57.8**	**-0.4**
	0.3nm,0.5s,baz=96,slow=10,SNR=5.7						
FINES	**FINESS Array B**	**73.23**	**330**	P	P	17 23 55.7	+9.0
	0.6nm,0.5s,baz=63,slow=6.8,SNR=7.4						
HFS	**Hagfors**	**79.28**	**332**	P	P	17 24 30.5	+9.4
	1.2nm,0.8s,baz=90,slow=14,SNR=3.3						
NOA	**NORSAR Array B**	**79.85**	**333**	P	P	17 24 33.2	+8.9
	0.5nm,0.6s,baz=54,slow=5.8,SNR=3.4						

NIED ***05*** *17:15:00,43.°80N×148.°40E,h35km,Mw4.3 Best double couple: M0=3.00000×10^15 NP1:φ=48.00000°,δ=60.00000°,λ=83.00000°. NP2:φ=242.00000°,δ=30.00000°,λ=102.00000°.*
ISCJB ***05*** *17:15:30.5±0.7,43.°98N±0.°03×148.°69E±0.°05,h40km±5km,mb4.4/52,MS3.7/10,Error ellipse: s-maj=7.3km s-min=4.7km az=36.3*
JMA ***05*** *17:15:31.4±0.3,43.°85N×148.°38E,h0km,M5.0*
BJI ***05*** *17:15:31.1,44.°04N×149.°20E,h80km,mB4.8/7,mb4.6/13,Ms4.3/4,Ms7 4.1/4*
MOS ***05*** *17:15:32.3±1.0,44.°20N×148.°60E,h52km,mb4.5/28,Error ellipse: s-maj=10.0km s-min=7.5km az=112.3*
SKHL ***05*** *17:15:33.0±0.2,44.°07N×148.°64E,h46km±2km,mb5.1/7*
IDC ***05*** *17:15:34.2±0.7,44.°17N×148.°57E,h50km±6km,mb4.0/26,mb1 4.1/33,mb1mx4.1/38,mbtmp4.0/33,MS3.5/10,Ms1 3.5/10,ms1mx3.2/39,Error ellipse: s-maj=13.0km s-min=9.8km az=145.0*
ISC 05 17:15:33.8±0.7,44.°15N±0.°05×148.°55E±0.°05,h49km±5km,
n141,σ1^{s}27/164,mb4.4/52,MS3.7/10,3C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.19**	**336**	⇓*i*PN	**Pn**	**17 15 53.5**	**-0.5**
KUR				*i* S	**Sn**	**17 16 09.1**	**+0.1**
KUR				pmax	pmax		
	comp=N,832nm,0.3s						
KUR				pmax	pmax		
	comp=E,1μm,0.3s						
KUR				pmax	pmax		
	comp=Z,5μm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
KUR				smax	smax		
	comp=N,4μm,0.5s						
KUR	**Kuril'sk**	**1.19**	**336**	⇓*i*P	**Pn**	**17 15 53.6**	**-0.5**
KUR				AMB	AMB	17 15 54.0	
	comp=N,16μm,1.4s						
KUR				AMB	AMB	17 15 54.1	
	comp=N,832nm,0.3s						
KUR				AMB	AMB	17 15 54.1	
	comp=N,1μm,0.3s						
KUR				AMB	AMB	17 15 54.1	
	comp=N,5μm,0.3s						
KUR				AMB	AMB	17 15 58.2	
	comp=N,5μm,0.4s						
KUR				*i* S	**Sn**	**17 16 09.2**	**+0.2**
KUR				A	A	17 16 12.0	
	comp=N,8μm,0.5s						
KUR				A	A	17 16 12.0	
	comp=N,4μm,0.5s						
KUR				A	A	17 16 12.0	
	comp=N,15μm,1.6s						
KUR				A	A	17 16 12.0	
	comp=N,10μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**1.94**	**268**	*d i*PN	**Pn**	**17 16 04.0**	**-0.2**
YUK				*i* S	**Sn**	**17 16 27.3**	**-0.1**
YUK				pmax	pmax		
	comp=N,157nm,0.2s						
YUK				pmax	pmax		
	comp=E,136nm,0.2s						
YUK				pmax	pmax		
	comp=Z,606nm,0.2s						
YUK				smax	smax		
	comp=E,3μm,0.7s						
YUK				smax	smax		
	comp=N,1μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.94**	**268**	⇓*i*P	**Pn**	**17 16 04.1**	**-0.2**
YUK				AMB	AMB	17 16 05.9	
	comp=N,157nm,0.2s						
YUK				AMB	AMB	17 16 05.9	
	comp=N,136nm,0.2s						
YUK				AMB	AMB	17 16 05.9	
	comp=N,606nm,0.2s						
YUK				*i* S	**Sn**	**17 16 27.3**	**-0.1**
YUK				A	A	17 16 29.8	
	comp=N,1μm,0.7s						
YUK				A	A	17 16 29.8	
	comp=N,3μm,0.7s						
NEM2	**Nemuro 2**	**2.18**	**250**	P	**Pn**	**17 16 06.6**	**-0.9**
NEM2				*e*S	**Sn**	**17 16 32.9**	**-0.4**
JRA	**Rausu**	**2.48**	**266**	P	**Pn**	**17 16 12.4**	**+0.7**
JRA				*e*S	**Sn**	**17 16 42.9**	**+2.2**
JNK	**Nakash**	**2.83**	**260**	P	**Pn**	**17 16 16.6**	**+0.2**
JNK				*e*S	**Sn**	**17 16 49.6**	**+0.3**
JAK	**Akkeshi**	**3.03**	**249**	P	**Pn**	**17 16 18.5**	**-0.7**
JAK				*e*S	**Sn**	**17 16 53.2**	**-1.0**
JTKR	**Abashiri--Toko**	**3.35**	**269**	P	**Pn**	**17 16 24.7**	**+1.1**
JAR	**Ashorobuto**	**3.57**	**258**	P	**Pn**	**17 16 27.2**	**+0.6**
JAR				*e*S	**Sn**	**17 17 08.7**	**+1.2**
JCH	**Churui**	**4.08**	**250**	P	**Pn**	**17 16 33.4**	**-0.2**
JKK2	**Kamakawa 2**	**4.20**	**268**	P	**Pn**	**17 16 37.0**	**+1.8**
ASAJ	**Asahikawa**	**4.29**	**272**	P	**Pn**	**17 16 38.3**	**+1.8**
	comp=N,5.0nm,0.3s,baz=70,slow=17,SNR=46						
ASAJ				S	Sn	17 17 38.2	+13
	comp=N,6.6nm,0.3s,baz=341,slow=18,SNR=3.8						
ASAJ				LR	LR	17 18 33.1	
	comp=N,652nm,19.2s,baz=125,slow=42						
JSE	**Soyaes**	**4.34**	**283**	P	**Pn**	**17 16 38.7**	**+1.5**
ERM	**Erimo**	**4.49**	**243**	*c i*PN	**Pn**	**17 16 39.9**	**+0.7**
ERM				pmax	pmax		
	comp=Z,106nm,0.6s						
ERM	**Erimo**	**4.49**	**243**	*e*P	**Pn**	**17 16 39.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.63**	**248**	P	**Pn**	**17 16 40.9**	**-0.3**
JNBK				*e*S	**Sn**	**17 17 32.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.94**	**307**	⇓*i*PN	**Pn**	**17 16 47.7**	**+2.3**
YSS				*e*S	**Sn**	**17 17 40.0**	**-1.2**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				smax	smax		
	comp=N,230nm,0.7s						
YSS				smax	smax		
	comp=E,370nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.94**	**307**	⇓*i*P	**Pn**	**17 16 47.7**	**+2.3**
YSS				AMB	AMB	17 16 48.2	
	comp=E,50nm,0.6s						
YSS				*e*S	**Sn**	**17 17 40.0**	**-1.2**
YSS				A	A	17 17 46.8	
	comp=E,230nm,0.7s						
YSS				A	A	17 17 46.8	
	comp=E,370nm,0.8s						
JEW	**Eniwo**	**5.33**	**258**	P	**Pn**	**17 16 52.7**	**+2.0**
JKB	**Kayabe**	**5.96**	**250**	P	**Pn**	**17 16 59.3**	**0.0**
JKB				*e*S	**Sn**	**17 18 03.3**	**-2.9**
JOT	**Ohata**	**6.17**	**246**	P	**Pn**	**17 17 01.8**	**-0.5**
JOT				*e*S	**Sn**	**17 18 07.6**	**-4.0**
JANG	**Nango**	**6.44**	**237**	P	**Pn**	**17 17 03.4**	**-2.6**
JANG				*e*S	Sn	17 18 11.9	-6.2
JTH	**Tanohata**	**6.52**	**232**	P	**Pn**	**17 17 04.4**	**-2.6**
UGL	**Uglegorsk**	**6.65**	**320**	*e*P	**Pn**	**17 17 11.0**	**+2.2**
UGL				*e*rx	rx	17 17 16.0	
JKZ	**Kuzumaki**	**6.79**	**235**	P	**Pn**	**17 17 08.8**	**-2.1**
JOSM	**Okushiri--Mats**	**6.96**	**256**	P	**Pn**	**17 17 13.3**	**+0.3**
JOSM				*e*S	**Sn**	**17 18 29.9**	**-0.8**
JOM	**Ohasama**	**7.16**	**232**	P	**Pn**	**17 17 13.7**	**-2.1**
TYV	**Tymovskoe**	**7.81**	**331**	*e*P	**Pn**	**17 17 27.0**	**+2.3**
TYV				AMB	AMB	17 17 29.2	
	comp=E,13nm,0.4s						
TYV				AMB	AMB	17 17 29.2	
	comp=E,15nm,0.8s						
TYV				AMB	AMB	17 17 29.2	
	comp=E,31nm,0.8s						
JIO	**Ouri**	**7.86**	**226**	P	**Pn**	**17 17 22.6**	**-2.8**
SKR	**Severo-Kuril's**	**8.30**	**35**	*e*PN	Pn	17 17 26.0	-5.5
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				MLR	MLR		
	comp=N,700nm,16.0s						
SKR				MLR	MLR		
	comp=E,700nm,16.0s						
SKR				MLR	MLR		
	comp=Z,900nm,16.0s						
SKR	**Severo-Kuril's**	**8.30**	**35**	*e*P	Pn	17 17 26.0	-5.5
SKR				AMB	AMB	17 17 28.5	
	comp=Z,30nm,0.5s						
SKR				AMB	AMB	17 17 28.5	
	comp=Z,20nm,0.5s						
SKR				AMB	AMB	17 17 28.5	
	comp=Z,40nm,0.5s						
SKR				AMS	AMS	17 20 35.0	
	comp=Z,700nm,16.0s						
SKR				AMS	AMS	17 20 35.0	
	comp=Z,900nm,16.0s						
JHO	**Hitachi**	**9.68**	**222**	P	Pn	17 17 46.9	-3.5
JSD	**Sado**	**9.88**	**235**	P	**Pn**	**17 17 51.7**	**-1.3**
HABR	**Khabarovsk**	**10.29**	**300**	*d*PN	**Pn**	**17 17 55.7**	**-2.9**
HABR				MLR	MLR		
	comp=Z,139nm,16.0s						
JAG	**Ashikaga**	**10.38**	**225**	P	**Pn**	**17 17 57.9**	**-2.0**
JSZ	**Suzu**	**10.80**	**236**	P	**Pn**	**17 18 04.7**	**-0.9**
PETK	**Petropavlovsk-**	**10.81**	**31**	PN	**Pn**	**17 18 04.9**	**-0.8**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**10.81**	**31**	P	**Pn**	**17 18 04.9**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=202,slow=14,SNR=62						
PETK				LR	LR	17 22 07.5	
	comp=Z,91nm,21.8s,baz=57,slow=36						
MJAR	**Matsushiro Arr**	**10.95**	**230**	P	**Pn**	**17 18 06.3**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=30,slow=15,SNR=27						
MAJO	**Matsushiro**	**10.95**	**230**	*c i*PN	**Pn**	**17 18 05.6**	**-2.2**
MAT	**Matsushiro**	**10.95**	**230**	P	**Pn**	**17 18 06.4**	**-1.4**
MAT				*e*S	**Sn**	**17 20 09.0**	**+0.2**
MAT	**Matsushiro**	**10.95**	**230**	P	**Pn**	**17 18 06.6**	**-1.2**
JNG	**Nsakai**	**11.11**	**229**	P	**Pn**	**17 18 09.0**	**-1.0**
JGN	**Niukaw**	**11.68**	**231**	P	**Pn**	**17 18 17.7**	**0.0**
USRK	**Ussuriysk Arra**	**11.89**	**276**	P	**Pn**	**17 18 19.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=82,slow=15,SNR=4.8						
JNY	**Yasuok**	**12.02**	**227**	P	**Pn**	**17 18 21.1**	**-1.4**
KLR	**Kul'dur**	**12.60**	**300**	*e*PN	**Pn**	**17 18 31.0**	**+0.9**
ZEA	**Zeya**	**16.90**	**312**	*e*P	**P**	**17 19 29.1**	**+1.0**
ZEA				AMB	AMB	17 19 38.0	
	comp=Z,17nm,1.0s						
KSRS	**Korea Array**	**16.97**	**254**	P	**Pn**	**17 19 27.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=61,slow=13,SNR=3.8						
KSRS				LR	LR	17 25 27.6	
	comp=Z,54nm,20.8s,baz=153,slow=35						
JNU	**Nakatsue**	**17.62**	**237**	P	**P**	**17 19 37.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=242,slow=21,SNR=2.6						
FX1	**Attu Island--F**	**18.42**	**53**	P	**P**	**17 19 44.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=307,slow=6.9,SNR=3.9						
YAK	**Yakutsk**	**21.05**	**335**	*e*P	**P**	**17 20 11.4**	**-1.9**
YAK				*e*		17 20 26.9	
YAK				*e*S	**S**	**17 23 59.6**	**-5.0**
YAK				*e**SS	Sn	17 24 13.9	+0.9
YAK				*e*SS	**SnSn**	**17 24 24.2**	**-4.2**
YAK				*e*SSS	SSS	17 24 37.5	
YAK				*e*		17 31 34.9	
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				smax	smax		
	comp=N,28nm,1.5s						
YAK				smax	smax		
	comp=E,28nm,1.5s						
YAK				MLR	MLR		
	comp=Z,169nm,21.0s						
YAK				MLR	MLR		
	comp=N,117nm,20.0s						
YAK				MLR	MLR		
	comp=E,77nm,20.0s						
SONM	**Songino Array**	**29.25**	**292**	P	**P**	**17 21 31.6**	**+0.5**
	comp=E,1.0nm,0.3s,baz=85,slow=8.0,SNR=21						
SONM				PcP	**PcP**	**17 24 37.0**	**0.0**
	comp=E,0.5nm,0.5s,baz=96,slow=1.4,SNR=4.2						
SONM				LR	LR	17 34 22.8	
	comp=E,96nm,18.3s,baz=71,slow=39						
LZH	**Lanzhou**	**34.77**	**272**	*e*P	**P**	**17 22 20.8**	**+1.2**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,47nm,4.2s						
LZH				LR	LR		
	comp=N,300nm,14.0s						
LZH				LR	LR		
	comp=E,270nm,14.5s						
LZH				LR	LR		
	comp=Z,340nm,17.4s						
GTA	**Gaotai**	**36.22**	**280**	*e*P	**P**	**17 22 33.0**	**+1.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KDAK	**Kodiak Island**	**38.23**	**48**	P	**P**	**17 22 49.0**	**+0.4**
	comp=Z,15nm,0.8s,baz=270,slow=6.8,SNR=12						
ILAR	**Eielson Array**	**40.57**	**37**	P	**P**	**17 23 07.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=262,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**41.56**	**307**	P	**P**	**17 23 17.4**	**+1.1**
ZALV						17 25 12.8	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,46nm,19.0s						
ZALV	**Zalesovo Beam**	**41.56**	**307**	P	**P**	**17 23 17.4**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=86,slow=8.8,SNR=3.6						
ZALV				PcP	**PcP**	**17 25 12.8**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=79,slow=2.7,SNR=8.9						
ZALV				LR	LR	17 41 44.6	
	comp=Z,46nm,19.0s,baz=70,slow=38						
MK31	**Makanchi Array**	**45.29**	**298**	*i* P	**P**	**17 23 46.0**	**-0.5**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MKAR	**Makanchi Array**	**45.29**	**298**	*i* P	**P**	**17 23 46.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**45.29**	**298**	P	**P**	**17 23 46.8**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=74,slow=8.1,SNR=37						
MKAR				PcP	**PcP**	**17 25 25.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=66,slow=4.9,SNR=2.5						
MKAR				LR	LR	17 44 09.7	
	comp=Z,93nm,18.7s,baz=241,slow=38						
INK	**Inuvik**	**45.55**	**31**	P	**P**	**17 23 47.8**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=273,slow=5.9,SNR=8.9						
INK				PcP	**PcP**	**17 25 25.3**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=135,slow=1.4,SNR=3.1						
CMAR	**Chiang Mai Arr**	**48.61**	**255**	P	**P**	**17 24 13.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=44,slow=7.5,SNR=5.8						
CMAR				pP	**pP**	**17 24 25.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=45,slow=7.6,SNR=5.2						
VOSK	**Vostochnaya**	**49.82**	**309**	P	**P**	**17 24 20.5**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BVAR	**Borovoye Array**	**50.03**	**310**	P	**P**	**17 24 23.6**	**+0.5**
BVAR						17 25 42.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.03**	**310**	P	**P**	**17 24 23.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=53,slow=7.4,SNR=5.8						
BVAR				PcP	**PcP**	**17 25 42.3**	**0.0**
	comp=Z,1.0nm,0.5s,baz=101,slow=2.9,SNR=5.7						
BRVK	**Borovoye**	**50.08**	**310**	*e*P	**P**	**17 24 24.2**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
JIRN	**Jiri**	**51.92**	**273**	*e*P	**P**	**17 24 37.9**	**-0.2**
	comp=Z,13nm,0.5s						
GUN	**Gumba**	**52.00**	**274**	*e*P	**P**	**17 24 38.7**	**+0.1**
	comp=Z,21nm,0.5s						
RAMN	**Ramite**	**52.04**	**272**	*e*P	**P**	**17 24 38.8**	**0.0**
	comp=Z,26nm,0.5s						
KKN	**Kakani**	**52.50**	**274**	*e*P	**P**	**17 24 43.0**	**+0.8**
PKI	**Pulchoki**	**52.53**	**274**	*e*P	**P**	**17 24 42.8**	**+0.2**
	comp=Z,7.7nm,0.5s						
PKIN	**Phulchoki**	**52.54**	**274**	*e*P	**P**	**17 24 42.3**	**-0.2**
	comp=Z,9.1nm,0.7s						
DANN	**Dangsing**	**53.26**	**276**	*e*P	**P**	**17 24 48.0**	**+0.1**
KOLN	**Koldanda**	**53.72**	**275**	*e*P	**P**	**17 24 49.7**	**-1.4**
KK31	**Karatay Array**	**54.42**	**298**	P	**P**	**17 24 55.7**	**-0.1**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**54.74**	**317**	*d i*P	**P**	**17 24 57.2**	**-0.7**
ARU						17 25 59.0	
ARU				S	**S**	**17 32 37.4**	**+2.9**
ARU				SS	**SS**	**17 36 13.3**	**-4.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**54.90**	**34**	P	**P**	**17 24 58.7**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=299,slow=6.9,SNR=6.8						
YKA				pP	**pP**	**17 25 14.4**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=286,slow=6.9,SNR=3.6						
AB31	**Akbulak array**	**57.60**	**309**	P	**P**	**17 25 18.6**	**+0.2**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
LVZ	**Lovozero**	**57.85**	**336**	*e*P	**P**	**17 25 19.5**	**-0.4**
LVZ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ARCES	**ARCESS Array B**	**59.22**	**340**	P	**P**	**17 25 29.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=47,slow=7.0,SNR=12						
ARCES				LR	LR	17 55 09.6	
	comp=Z,44nm,18.4s,baz=234,slow=40						
KAF	**Kangasniemi**	**64.40**	**334**	*e*P	**P**	**17 26 03.2**	**-1.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**64.40**	**334**	*e*p	**P**	**17 26 03.2**	**-1.1**
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.97**	**333**	P	**P**	**17 26 07.1**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=56,slow=5.2,SNR=19						
FINES				LR	LR	17 55 06.2	
	comp=Z,32nm,19.6s,baz=180,slow=36						
WRA	**Warramunga Arr**	**65.09**	**195**	P	**P**	**17 26 08.9**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=13,slow=6.7,SNR=22						
FITZ	**Fitzroy Crossi**	**65.40**	**204**	P	**P**	**17 26 11.4**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=273,slow=5.4,SNR=3.5						
NVAR	**Mina Array Bea**	**66.51**	**59**	P	**P**	**17 26 19.1**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=296,slow=7.3,SNR=18						
NVAR				pP	**pP**	**17 26 32.5**	**0.0**
	comp=Z,1.9nm,0.6s,baz=296,slow=7.9,SNR=7.7						
ASAR	**Alice Springs**	**68.81**	**194**	P	**P**	**17 26 33.5**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=13,slow=6.0,SNR=24						
PDAR	**Pinedale Array**	**68.88**	**51**	P	**P**	**17 26 33.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=292,slow=4.8,SNR=4.4						
NB2	**NORSAR Subarra**	**69.59**	**339**	P	**P**	**17 26 36.9**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.59**	**339**	P	**P**	**17 26 36.9**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=31,slow=6.2,SNR=25						
HFS	**Hagfors**	**69.71**	**338**	P	**P**	**17 26 37.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=17,slow=5.4,SNR=15						
KIV	**Kislovodsk**	**70.25**	**312**	*e*P	**P**	**17 26 41.5**	**-0.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,59nm,18.0s						
KBZ	**Khabaz**	**70.29**	**312**	P	**P**	**17 26 43.2**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ				MLR	MLR		
	comp=Z,92nm,18.8s						
KBZ	**Khabaz**	**70.29**	**312**	P	**P**	**17 26 43.2**	**+1.4**
	comp=Z,5.4nm,0.8s,baz=99,slow=4.4,SNR=13						
KBZ				LR	LR	18 01 49.8	
	comp=Z,92nm,18.8s,baz=211,slow=40						
AKASG	**Malin Array Be**	**71.85**	**324**	P	**P**	**17 26 50.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.85**	**324**	P	**P**	**17 26 50.9**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=34,slow=5.4,SNR=4.7						
KIEV	**Kiev**	**71.86**	**324**	*e*P	**P**	**17 26 50.9**	**-0.3**
STKA	**Stephens Creek**	**75.93**	**186**	P	**P**	**17 27 15.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=0.0,slow=5.1,SNR=3.0						
OKC	**Ostrava-Krasne**	**76.89**	**330**	*e*P	P	17 27 26.1	+5.7
OKC				*e*		17 27 47.1	
DPC	**Dobruska-Polom**	**77.11**	**331**	*i* P	**P**	**17 27 23.2**	**+1.4**
DPC				*e*		17 27 46.1	
DPC	**Dobruska-Polom**	**77.11**	**331**	*i* P	**P**	**17 27 23.2**	**+1.4**
DPC				*ex*	x	17 27 46.1	
MIB	**Mutribah**	**77.20**	**299**	*e*P	**P**	**17 27 22.5**	**0.0**
MIB				AMb	AMB	17 27 23.3	
	comp=Z,18nm,0.6s						
CLL	**Collm**	**77.42**	**333**	*e*P	**P**	**17 27 23.0**	**-0.4**
CLL				*i **PP	pP	17 27 46.4	+8.9
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NAY	**Al-Naaiem**	**77.64**	**299**	*e*P	**P**	**17 27 24.9**	**-0.1**
NAY				AMb	AMB	17 27 25.9	
	comp=Z,10nm,0.9s						
RDF	**Al-Radifah**	**77.67**	**298**	*e*P	**P**	**17 27 25.8**	**+0.7**
RDF				AMb	AMB	17 27 26.9	
	comp=Z,44nm,0.5s						
BRTR	**Keskin Array B**	**77.99**	**314**	P	**P**	**17 27 27.4**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=86,slow=2.7,SNR=9.1						
PRU	**Pruhonice**	**78.03**	**332**	*e*P	**P**	**17 27 28.8**	**+2.0**
PRU				*e*		17 27 51.0	
PRU	**Pruhonice**	**78.03**	**332**	*e*P	**P**	**17 27 28.8**	**+2.0**
PRU				*ex*	x

BDFB	**Brasilia**	148.29	32	PKPbc	PKPbc	17 35 14.2	-0.6
	comp=Z,3.4nm,0.5s,baz=222,slow=5.7,SNR=5.1						
SNAA	**Sanae**	149.14	197	*e*PKP	PKPbc	17 35 15.6	+0.2
SNAA	**Sanae**	149.14	197	PKPbc	PKPbc	17 35 15.4	0.0
	comp=Z,0.8nm,0.8s,baz=219,slow=3.9,SNR=12						
VNA1	**Neumayer--Stat**	151.04	196	*e*PKP	PKPbc	17 35 20.8	+0.9
PLCA	**Paso Flores**	151.13	97	PKPbc	PKPbc	17 35 20.8	-0.3
	comp=Z,2.0nm,0.5s,baz=261,slow=2.3,SNR=6.5						

IDC ***05*** *17:29:59.5±0.5, 3°.69S×131°.37E, h0km, mb4.3/16, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, ML4.0/1, MS3.6/4, Ms1 3.7/4, ms1mx3.1/25, Error ellipse: s-maj=23.6km s-min=12.5km az=73.0*

ISCJB ***05*** *17:30:00.9±0.3, 3°.77S±0°.03×131°.55E±0°.03, h24km, mb4.6/26, MS3.7/4, Error ellipse: s-maj=4.7km s-min=4.3km az=154.6*

AUST ***05*** *17:30:02.9±1.5, 3°.89S×131°.46E, h20km, Error ellipse: s-maj=0.9km s-min=0.6km az=33.0*

NEIC ***05*** *17:30:03.6±3.0, 3°.70S×131°.42E, h29km±22km, mb4.5/7, Error ellipse: s-maj=10.4km s-min=6.9km az=53.0*

DJA ***05*** *17:30:04.8±0.7, 4°.S±3°×13°.2E±°, h22km±7km, M4.9/27, mB5.4/9, mb5.0/27, MLv4.8/10, Mw(mB)4.9/9*

BKK ***05*** *17:30:10.0±1.1, 4°.S±6°×13°.1E±1°.1, h62km±8km, M4.9/15, mB5.6/2, mb4.8/15, MLv4.9/2, Mw(mB)5.0/2*

ISC 05 17:30:02.9±0.4, 3°.67S±0°.04×131°.50E±0°.05, h24km, n126, σ1§33/116, mb4.5/26, MS3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	1.05	45	P	Pb	17 30 22.5	-0.1
FAKI	**Fak Fak**	1.05	45	P	Pb	17 30 22.5	-0.1
	baz=1.3,SNR=259						
BNDI	**Bandanaira**	1.80	242	P	Pn	17 30 33.4	+0.9
BNDI	**Bandanaira**	1.80	242	P	Pn	17 30 33.4	+0.9
	baz=1.7,SNR=85						
MSAI	**Masohi**	2.59	277	P	Pn	17 30 44.4	+1.1
SWI	**Sorong**	2.80	355	P	Pn	17 30 46.9	+0.7
SWI	**Sorong**	2.80	355	P	Pn	17 30 44.9	-1.4
	baz=3.0,SNR=42						
SWI				S	Sn	17 31 16.5	-2.7
	baz=3.0,SNR=6.5						
AAI	**Ambon**	3.30	270	P	Pn	17 30 54.2	+1.1
AAI	**Ambon**	3.30	270	P	Pn	17 30 54.5	+1.4
	baz=3.3,SNR=30						
RKPI	**Ransiki, Papua**	3.43	51	P	Pn	17 30 56.0	+1.1
LBMI	**Labuha**	5.00	307	P	Pn	17 31 16.9	+0.3
SRPI	**Serui, Papua**	5.06	69	P	Pn	17 31 16.9	-0.5
	270nm,0.6s,5μm1.6nm						
BAKI	**Biak**	5.22	62	P	Pn	17 31 20.1	+0.5
	450nm,0.7s,6μm						
TNTI	**Ternate**	6.04	317	P	Pn	17 31 32.9	+2.0
	70nm,0.8s,0.6nm						
MNI	**Manado**	8.37	307	P	Pn	17 32 04.7	+1.8
	87nm,0.8s,1μm						
KDU	**Kakadu**	9.01	174	P	Pn	17 32 09.5	-2.2
	baz=8.9,SNR=79						
BBSI	**Bau Bau**	9.08	258	P	Pn	17 32 16.4	+3.7
	103nm,1.5s,2μm						
LUWI	**Luwuk**	9.10	286	P	Pn	17 32 12.2	-0.7
	baz=9.1,SNR=3.5						
MTN	**Manton Dam**	9.12	182	P	Pn	17 32 11.1	-2.1
	baz=9.0,SNR=261						
MTN				S	Sn	17 33 53.8	-1.5
	baz=9.0,SNR=5.5						
SOEI	**Soe**	9.39	230	P	Pn	17 32 19.9	+3.0
	231nm,1.4s,2μm						
SOEI	**Soe**	9.39	230	P	Pn	17 32 19.7	+2.8
	baz=9.2,SNR=18						
GTOI	**Gorontalo**	9.50	297	P	Pn	17 32 20.7	+2.3
	135nm,0.7s,1μm						
KKSI	**Kolaka, Sulawe**	9.84	267	P	Pn	17 32 25.3	+2.3
	57nm,0.6s						
MRSI	**Marisa**	10.40	293	P	Pn	17 32 29.0	-1.8
MMRI	**Maumere**	10.45	241	P	Pn	17 32 34.3	+3.0
	64nm,1.5s						
BSSI	**Bau Bau, Buton**	11.24	257	P	Pn	17 32 44.1	+1.9
	105nm,1.4s						
BNSI	**Bone**	11.39	266	P	Pn	17 32 47.0	+2.7
	63nm,0.7s,1μm						
BKSI	**Bulukumba**	11.46	261	P	Pn	17 32 47.6	+2.4
	30nm,1.3s						
KAPI	**Kappang**	11.79	263	Pn	Pn	17 32 50.5	+0.7
KAPI	**Kappang**	11.79	263	Pn	Pn	17 32 50.5	+0.7
	4.2nm,0.3s,baz=96,slow=12,SNR=7.5						
KNRA	**Kununurra**	12.23	193	P	Pn	17 32 51.8	-4.0
	baz=12,SNR=198						
KNRA				S	Sn	17 35 02.6	-8.9
	baz=12,SNR=4.5						
LBFI	**Labuhan Bajo,**	12.49	247	P	Pn	17 33 02.5	+3.1
	58nm,0.9s						
COEN	**Coen**	15.40	132	P	Pn	17 33 37.1	-1.8
	baz=15,SNR=10						
FITZ	**Fitzroy Crossi**	15.45	201	*e*P	Pn	17 33 33.3	-6.2
	20nm,0.6s						
FITZ				Sn	Sn	17 36 14.9	-15
FITZ	**Fitzroy Crossi**	15.45	201	Pn	Pn	17 33 33.5	-6.0
	2.7nm,0.3s,baz=32,slow=12,SNR=84						
FITZ				Sn	Sn	17 36 14.9	-15
	0.7nm,0.3s,baz=114,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	15.45	201	P	Pn	17 33 33.5	-6.0
	baz=15,SNR=62						
MTNI	**Mataram**	16.02	251	P	P	17 33 55.7	+5.6
WRAB	**Tennant Creek**	16.40	170	*e*P	Pn	17 33 46.9	-4.9
	21nm,0.6s						
WRA	**Warramunga Arr**	16.41	171	Pn	Pn	17 33 46.6	-5.2
WRA				Sn	Sn	17 36 41.6	-12
WRA	**Warramunga Arr**	16.41	171	Pn	Pn	17 33 46.6	-5.2
	0.8nm,0.3s,baz=339,slow=14,SNR=34						
WRA				Sn	Sn	17 36 41.6	-12
	1.1nm,0.3s,baz=352,slow=18,SNR=6.1						
PMG	**Port Moresby**	16.56	111	Pn	Pn	17 33 54.1	+0.3
PMG	**Port Moresby**	16.56	111	P	P	17 33 57.0	+0.8
	39nm,0.9s						
PMG	**Port Moresby**	16.56	111	Pn	Pn	17 33 54.1	+0.3
	2.0nm,0.3s,baz=308,slow=12,SNR=8.9						
BBKI	**Banjar Baru**	16.63	270	P	P	17 33 58.6	+1.7
KMMI	**Kalianget**	17.77	258	P	P	17 34 11.6	+2.0
	110nm,0.7s						
KKM	**Kota Kinabalu**	18.06	302	P	P	17 34 14.4	+1.5
	63nm,1.3s,669nm						
KKM	**Kota Kinabalu**	18.06	302	P	P	17 34 14.3	+1.5
	baz=18,SNR=4.4						
BLJI	**Banyuglugur**	18.27	256	P	Pn	17 34 15.7	+0.7
	78nm,1.3s						
MTSU	**Mount Surprise**	19.09	140	P	Pn	17 34 27.4	+2.4
	baz=19,SNR=6.8						
AS31	**Alice Springs**	20.02	174	*e*P	P	17 34 33.6	-0.6
ASAR	**Alice Springs**	20.02	174	P	P	17 34 34.7	+0.5
ASAR				S	S	17 38 05.2	-13
ASAR	**Alice Springs**	20.02	174	P	P	17 34 34.7	+0.5
	33nm,0.6s,baz=350,slow=10,SNR=548						
ASAR				S	S	17 38 05.2	-13
	1.1nm,0.8s,baz=349,slow=18,SNR=4.2						
SBUM	**Sibu**	20.20	287	P	Pn	17 34 38.4	+0.1
	28nm,1.1s						
STKI	**Sintang**	20.35	280	P	P	17 34 38.7	+0.8
	36nm,0.9s,9μm						
MBWA	**Marble Bar**	20.82	212	*e*P	P	17 34 40.0	-2.9
	20nm,0.5s						
UGM	**Wanagama**	21.29	258	P	P	17 34 46.8	-1.2
	baz=21,SNR=3.3						
CTA	**Charters Tower**	21.75	140	P	P	17 34 53.6	+0.6
CTA	**Charters Tower**	21.75	140	P	P	17 34 53.6	+0.6
	8.6nm,0.6s,baz=316,slow=11,SNR=15						
CTAO	**Charters Tower**	21.75	140	*e*P	P	17 34 53.8	+0.8
	6.4nm,0.6s						
KSM	**Kuching**	21.79	283	P	P	17 34 54.4	+1.0
	32nm,1.2s						
KSM	**Kuching**	21.79	283	P	P	17 34 54.2	+0.8
	baz=22,SNR=3.8						
CISI	**Cisompet, Garu**	23.88	260	P	P	17 35 11.8	-3.3
	baz=24,SNR=3.9						
MEEK	**Meekatharra**	25.96	207	P	P	17 35 31.8	-2.0
	baz=26,SNR=17						
FORT	**Forrest**	27.16	186	P	P	17 35 44.6	0.0
	baz=27,SNR=11						
MORW	**Morawa**	29.22	209	P	P	17 36 01.2	-1.8
	baz=29,SNR=13						
BBOO	**Buckleboo**	29.30	172	P	P	17 36 03.5	-0.2
	baz=29,SNR=5.4						
STKA	**Stephens Creek**	29.62	162	P	P	17 36 06.8	+0.3
STKA	**Stephens Creek**	29.62	162	P	P	17 36 06.8	+0.3
	4.0nm,0.6s,baz=340,slow=10.0,SNR=17						
STKA	**Stephens Creek**	29.62	162	P	P	17 36 06.8	+0.3
	baz=30,SNR=9.6						
BLDU	**Ballidu**	30.23	206	P	P	17 36 10.7	-1.1
	baz=30,SNR=18						
KLBR	**Kellerberrin**	30.64	203	P	P	17 36 14.4	-1.1
	baz=30,SNR=12						
PPI	**Padang Panjang**	31.24	275	P	P	17 36 21.0	-0.1
	40nm,1.0s						
PPI	**Padang Panjang**	31.24	275	P	P	17 36 21.0	-0.1
	baz=31,SNR=3.8						
NWAO	**Narrogin (SRO)**	32.02	203	P	P	17 36 25.9	-1.8
NWAO	**Narrogin (SRO)**	32.02	203	P	P	17 36 25.9	-1.8
	22nm,1.1s,baz=29,slow=9.4,SNR=7.0						
PSI	**Prapat**	33.19	281	P	P	17 36 36.9	-1.4
PSI	**Prapat**	33.19	281	P	P	17 36 36.9	-1.4
	7.7nm,0.6s,baz=118,slow=15,SNR=4.7						
RKGY	**Rocky Gully**	33.61	202	P	P	17 36 42.2	+0.6
	baz=34,SNR=5.3						
GSI	**Gunungsitoli**	34.26	278	S	S	17 41 49.1	-24
	baz=34,SNR=6.2						
ARPS	**Mount Arapiles**	34.29	165	P	P	17 36 48.4	+1.0
	baz=34,SNR=13						
CHAI	**Chaiyaphum**	35.08	304	P	P	17 36 54.9	+0.4
	5.3nm,0.8s						
TOO	**Toolangi**	36.10	161	P	P	17 37 05.1	+2.0
	baz=36,SNR=6.0						
LOEI	**Loei**	36.51	306	P	P	17 37 04.5	-2.3
	55nm,1.2s,2μm						
NANT	**Nan**	37.66	307	P	P	17 37 18.0	+1.5
	28nm,0.9s						
CMAR	**Chiang Mai Arr**	38.88	306	P	P	17 37 27.4	+0.5
CMAR	**Chiang Mai Arr**	38.88	306	P	P	17 37 27.4	+0.5
	3.9nm,0.8s,baz=132,slow=6.3,SNR=22						
CHTO	**Chiang Mai**	39.07	306	*e*P	P	17 37 28.7	+0.3
	19nm,1.3s						
CHTO	**Chiang Mai**	39.07	306	P	P	17 37 29.9	+1.5
	15nm,1.7s						
CHTO	**Chiang Mai**	39.07	306	P	P	17 37 29.9	+1.5
	15nm,1.7s						
MJAR	**Matsushiro Arr**	40.49	8	P	P	17 37 40.8	+0.8
MJAR	**Matsushiro Arr**	40.49	8	P	P	17 37 40.8	+0.8
	1.3nm,0.9s,baz=177,slow=8.7,SNR=4.1						
USRK	**Ussuriysk Arra**	47.65	0	P	P	17 38 38.2	+1.0
	1.3nm,0.6s,baz=197,slow=6.4,SNR=4.8						
ULN	**Ulaanbaatar**	55.61	340	*e*P	P	17 39 36.5	-0.5
	6.6nm,1.2s						
ULN	**Ulaanbaatar**	55.61	340	P	P	17 39 38.7	+1.7
SONM	**Songino Array**	55.81	340	P	P	17 39 38.7	+0.3
SONM	**Songino Array**	55.81	340	P	P	17 39 38.7	+0.3
	1.1nm,0.7s,baz=162,slow=6.2,SNR=10.0						
SONM				LR	LR	18 05 02.9	
	comp=Z,74nm,19.2s,baz=159,slow=38						
PETK	**Petropavlovsk-**	60.72	18	P	P	17 40 12.8	+0.4
PETK	**Petropavlovsk-**	60.72	18	P	P	17 40 12.8	+0.4
	1.4nm,0.7s,baz=197,slow=9.0,SNR=4.6						
MK31	**Makanchi Array**	66.31	325	*e*P	P	17 40 49.7	+0.1
MKAR	**Makanchi Array**	66.31	325	P	P	17 40 49.6	+0.1
MKAR	**Makanchi Array**	66.31	325	P	P	17 40 49.6	+0.1
	1.8nm,0.5s,baz=117,slow=8.4,SNR=29						
MKAR				LR	LR	18 14 28.1	
	comp=Z,30nm,18.9s,baz=147,slow=40						
ZAA0	**Zalesovo Array**	69.30	333	*e*P	P	17 41 07.2	-0.9
ZALV	**Zalesovo Beam**	69.30	333	P	P	17 41 07.3	-0.9
ZALV	**Zalesovo Beam**	69.30	333	P	P	17 41 07.3	-0.9
	2.0nm,0.7s,baz=118,slow=5.2,SNR=8.5						
ZALV				LR	LR	18 17 21.6	
	comp=Z,25nm,18.3s,baz=340,slow=41						
VNDA	**Vanda**	75.56	173	*e*P	P	17 41 45.8	+0.6
	4.6nm,1.0s						
VNDA	**Vanda**	75.56	173	P	P	17 41 45.6	+0.5
	3.0nm,0.6s,baz=317,slow=7.5,SNR=29						
MAW	**Mawson**	78.58	201	P	P	17 42 02.4	+0.2
MAW	**Mawson**	78.58	201	P	P	17 42 02.4	+0.2
	1.9nm,0.5s,baz=81,slow=5.7,SNR=10						
UMR	**Umm Al-Rimmam**	86.39	300	*e*P	P	17 42 43.5	-0.3
UMR				AMb	AMB	17 42 44.6	
	comp=Z,29nm,1.0s						
RDF	**Al-Radifah**	86.47	299	*e*P	P	17 42 43.3	-0.9
RDF				AMb	AMB	17 42 45.4	
	comp=Z,19nm,0.7s						
MIB	**Mutribah**	86.74	300	*e*P	P	17 42 45.0	-0.5
MIB				AMb	AMB	17 42 47.4	
	comp=Z,17nm,0.7s						
NAY	**Al-Naaiem**	86.77	299	*e*P	P	17 42 45.3	-0.4
NAY				AMb	AMB	17 42 46.4	
	comp=Z,18nm,0.7s						
ILAR	**Eielson Array**	89.72	25	P	P	17 42 59.0	+0.1
ILAR	**Eielson Array**	89.72	25	P	P	17 42 59.1	+0.1
	comp=Z,0.4nm,0.8s,baz=282,slow=4.3,SNR=3.6						
ILAR				LR	LR	18 25 17.6	
	comp=Z,50nm,18.7s,baz=315,slow=37						
ARCES	**ARCESS Array B**	98.99	340	P	P	17 43 39.8	-1.5
ARCES	**ARCESS Array B**	98.99	340	P	P	17 43 39.8	-1.5
	comp=Z,1.1nm,0.7s,baz=88,slow=5.5,SNR=7.2						
TXAR	**Lajitas Array**	121.92	58	PKP	PKPdf	17 48 56.3	+0.2
TXAR	**Lajitas Array**	121.92	58	PKP	PKPdf	17 48 56.3	+0.2
	comp=Z,0.2nm,0.5s,baz=123,slow=3.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	129.55	284	PKP	PKPdf	17 49 10.9	0.0
TORD				SKPbc	SKPbc	17 52 32.1	+0.5
TORD	**Torodi Ar. Bea**	129.55	284	PKP	PKPdf	17 49 10.9	0.0
	comp=Z,1.0nm,0.6s,baz=73,slow=2.1,SNR=6.6						
TORD				SKPbc	SKPbc	17 52 32.1	+0.5
	comp=Z,2.0nm,1.0s,baz=74,slow=3.3,SNR=7.6						
CPUP	**Villa Florida**	148.98	164	PKPbc	PKPbc	17 49 50.3	+0.6
CPUP	**Villa Florida**	148.98	164	PKPbc	PKPbc	17 49 50.3	+0.6
	comp=Z,0.4nm,0.3s,baz=190,slow=6.8,SNR=3.0						
LPAZ	**La Paz**	152.25	136	PKPbc	PKPbc	17 49 59.9	+1.3
LPAZ	**La Paz**	152.25	136	PKPbc	PKPbc	17 49 59.9	+1.3
	comp=Z,1.1nm,0.4s,baz=14,slow=4.2,SNR=8.8						
SIV	**San Ignacio**	156.84	148	PKPab	PKPab	17 50 27.4	+0.4
SIV	**San Ignacio**	156.84	148	PKPab	PKPab	17 50 27.4	+0.4
	comp=Z,0.7nm,0.5s,baz=279,slow=8.5,SNR=3.2						

BJI ***05*** *17:34:29.3, 5°.11N×127°.45E, h149km, mB4.9/24, mb5.1/50*

ISCJB ***05*** *17:34:31.0±0.4, 5°.29N±0°.02×127°.38E±0°.03, h152km±3km, mb4.9/97, Error ellipse: s-maj=5.1km s-min=4.0km az=170.6*

MOS ***05*** *17:34:31.7±0.9, 5°.27N×127°.32E, h162km, mb5.0/32, Error ellipse: s-maj=13.6km s-min=6.2km az=111.7*

MAN ***05*** *17:34:31, 5°.17N×127°.18E, h139km, mb5.6, ML4.6, MS4.9*

IDC ***05*** *17:34:31.2±1.8, 5°.28N×127°.31E, h142km±15km, mb4.5/25, mb1 4.5/26, mb1mx4.5/29, mbtmp4.5/26, MS3.6/5, Ms1 3.7/5, ms1mx3.3/29, Error ellipse: s-maj=17.5km s-min=8.4km az=85.0*

NEIC ***05*** *17:34:32.9±0.2, 5°.25N×127°.30E, mb4.9/22, Error ellipse: s-maj=8.3km s-min=5.9km az=88.0*

BKK ***05*** *17:34:33.1±0.7, 5°.N±5°×127°.7E±°, h149km±5km, M5.0/19, mB5.3/8, mb5.1/19, MLv5.2/6, Mw(mB)4.7/8*

DJA ***05*** *17:34:34.6±0.8, 5°.N±6°×127°.7E±°, h117km±11km, M5.0/12, mB5.4/9, mb5.1/12, MLv5.3/6, Mw(mB)4.8/9*

AUST ***05*** *17:34:34.3±0.0, 5°.25N×127°.41E, h178km, Error ellipse: s-maj=1.1km s-min=0.8km az=239.0*

ISC 05 17:34:32.3±0.3, 5°.27N±0°.03×127°.33E±0°.04, h150km±2km, h150km:pP-P, n255, σ1§47/341, mb4.9/97, 9C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	1.98	327	*e*P	Pn	17 35 05.4	-1.8
MATI				*e*S	Sn	17 35 29.9	-4.1
DAV	**Davao City (W)**	2.50	316	P	Pn	17 35 14.1	+0.7
DAV				S	Sn	17 35 46.5	+1.4
DAV	**Davao City (W)**	2.50	316	P	Pn	17 35 14.2	+0.8
DAV	**Davao City (W)**	2.50	316	P	Pn	17 35 14.0	+0.7
	64nm,0.3s,baz=225,slow=1.4,SNR=15						
DAV				S	Sn	17 35 46.5	+1.4
	184nm,0.3s,baz=126,slow=22,SNR=10						
DAV				LR	LR	17 36 20.6	
	comp=Z,535nm,20.6s,baz=305,slow=44						
GSPH	**General Santos**	2.51	289	⇓*i*P	Pn	17 35 10.7	-2.9
GSPH				*i* S	Sn	17 35 40.6	-4.9
DMPH	**Davao City--Mi**	2.56	315	⇑*e*P	Pn	17 35 14.6	+0.5
DMPH				*e*S	Sn	17 35 49.6	+3.2
KCP	**Kidapawan**	2.82	308	⇑*i*P	Pn	17 35 16.9	-0.5
KCP				*i* S	Sn	17 35 50.6	-1.8
BUKP	**Musuan**	3.44	319	*e*P	Pn	17 35 25.3	0.0
CTBH	**Cotabato--PC H**	3.63	302	⇓*e*P	Pn	17 35 25.7	-2.1
BUTP	**Butuan**	4.05	335	*e*P	Pn	17 35 34.6	+1.5
CGP	**Cagayan de Oro**	4.11	321	*e*P	Pn	17 35 32.9	-1.0
CGP				*i* S	Sn	17 36 21.1	-0.9
TNTI	**Ternate**	4.47	180	P	Pn	17 35 40.1	+1.4
MNI	**Manado**	4.54	213	P	Pn	17 35 39.2	-0.5
PAGZ	**Pagadian**	4.69	303	*e*P	Pn	17 35 40.1	-1.5
IPIL	**Ipil**	5.35	298	*e*P	Pn	17 35 49.5	-0.9
GTOI	**Gorontalo**	6.31	223	P	Pn	17 36 02.6	-0.6
	885nm,1.1s,9μm3.0nm						
MRSI	**Marisa**	7.19	229	P	Pn	17 36 14.9	0.0
	1μm,0.9s,9μm4.1nm						
SWI	**Sorong**	7.25	147	P	Pn	17 36 16.1	+0.5
	61nm,0.6s						
SWI	**Sorong**	7.25	147	P	Pn	17 36 16.3	+0.7
	baz=7.2,SNR=11						
SWI				S	Sn	17 37 31.6	-5.1
	baz=7.2,SNR=6.5						
PALU	**Palau**	7.39	73	P	Pn	17 36 16.9	-0.7
	baz=7.3,SNR=8.8						
PALU				S	Sn	17 37 39.9	-0.4
	baz=7.3,SNR=6.3						
TOLI	**Toli-Toli**	7.72	238	P	Pn	17 36 21.5	-0.5
	284nm,1.1s,3μm0.9nm						
LUWI	**Luwuk**	7.75	216	P	Pn	17 36 23.2	+0.8
	370nm,1.2s,3μm						
LUWI	**Luwuk**	7.75	216	P	Pn	17 36 23.8	+1.4
	baz=7.8,SNR=6.7						
MYLDM	**Lahad Datu**	8.80	270	P	Pn	17 36 38.2	+1.8
MYLDM	**Lahad Datu**	8.80	270	P	Pn	17 36 38.1	+1.8
	144nm,1.4s,2μm						
TSM	**Tawau**	9.48	265	P	Pn	17 36 45.4	-0.1
KDM	**Kudat**	10.57	279	P	Pn	17 37 01.2	+1.3
KKM	**Kota Kinabalu**	11.09	275	P	Pn	17 37 09.3	+2.4
	36nm,1.0s,610nm						
TTSI	**Tana Toraja**	11.16	222	P	Pn	17 37 07.7	0.0
	45nm,1.4s,776nm						
MMSI	**Mamuju**	11.55	227	P	Pn	17 37 11.6	-1.2
	161nm,1.2s,2μm						
BKB	**Balikpapan**	12.28	238	P	Pn	17 37 23.5	+1.2
	556nm,1.2s,5μm						
KAPI	**Kappang**	12.72	217	P	Pn	17 37 25.5	-2.4
KAPI	**Kappang**	12.72	217	P	Pn	17 37 25.5	-2.4
	baz=147,slow=12,SNR=5.0						
BTM	**Bintulu**	14.36	262	P	P	17 37 50.5	-1.0
BBKI	**Banjar Baru**	15.20	235	P	P	17 38 00.9	+0.1
	70nm,1.1s						
SBUM	**Sibu**	15.34	260	P	P	17 38 03.4	+1.0
LBFI	**Labuhan Bajo,**	15.55	209	P	P	17 38 07.3	+2.6
KSM	**Kuching**	17.41	258	P	Pn	17 38 27.3	+1.1
KSM	**Kuching**	17.41	258	P	Pn	17 38 26.6	+0.4
KSM	**Kuching**	17.41	258	P	Pn	17 38 26.5	+0.3
	baz=18,SNR=17						
KNRA	**Kununurra**	20.86	176	P	P	17 39 03.3	+0.8
	baz=21,SNR=10						
QIZ	**Qiongzhong**	21.86	310	P	P	17 39 12.5	-0.7
QIZ				pP	pP	17 39 39.2	-0.9
QIZ				sP	sP	17 39 57.2	-1.7
QIZ				S	S	17 43 06.8	+2.0
QIZ				sS	sS	17 43 52.2	+0.4
QIZ				pmax	pmax		
	comp=Z,26nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,240nm,3.2s						
FITZ	**Fitzroy Crossi**	23.28	184	*e*P	P	17 39 27.4	+0.6
FITZ	**Fitzroy Crossi**	23.28	184	P	P	17 39 27.1	+0.4
	comp=Z,12nm,0.7s,baz=11,slow=9.1,SNR=6.3						
FITZ	**Fitzroy Crossi**	23.28	184	P	P	17 39 27.8	+1.1
	baz=23,SNR=5.5						
MYKOM	**Kota Tinggi**	23.69	262	P	P	17 39 32.0	+1.4
BTDF	**Bukit Timah Da**	23.84	261	P	P	17 39 33.4	+1.5
	baz=24,SNR=3.5						
BTDF				P	P	17 39 33.4	+1.5
	baz=24,SNR=3.5						
WRA	**Warramunga Arr**	25.98	165	P	P	17 39 50.5	-0.7
WRA				ScP	ScP	17 46 42.3	+0.6
WRA	**Warramunga Arr**	25.98	165	P	P	17 39 50.5	-0.7
	comp=Z,5.2nm,0.8s,baz=343,slow=10,SNR=4.8						
WRA				ScP	ScP	17 46 42.3	+0.6
	comp=Z,0.9nm,0.6s,baz=345,slow=2.9,SNR=7.6						
SURA	**Surathani**	27.75	280	P	P	17 40 05.3	-1.8
	comp=Z,2.5nm,0.9s,comp=Z,44nm						
NJ2	**Nanjing**	27.80	344	*e*P	P	17 40 11.5	+4.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JNU	**Nakatsue**	27.91	6	P	P	17 40 08.1	-0.2
JNU	**Nakatsue**	27.91	6	P	P	17 40 08.1	-0.2
	comp=Z,20nm,0.8s,baz=190,slow=0.6,SNR=12						
JNU				LR	LR	17 50 34.7	
	comp=Z,127nm,18.9s,baz=204,slow=34						
PBKT	**Sadao Pong**	28.17	296	P	P	17 40 12.1	+1.2
	comp=Z,25nm,1.0s						
LOEI	**Loei**	28.25	298	P	P	17 40 09.1	-2.5
	comp=Z,46nm,0.8s,comp=Z,890nm						
PSI	**Prapat**	28.44	266	LR	LR	17 52 33.8	
	comp=Z,180nm,18.8s,baz=324,slow=38						
GYA	**Guiyang**	28.88	319	*e*P	P	17 40 20.0	+2.9
GYA				pP	pP	17 40 51.4	+2.6
GYA				sP	sP	17 41

BJI S S 17 46 55.2 +8.1
BJI pmax pmax
comp=Z,67nm,0.9s
SNY Shenyang 36.56 355 ⇓P **P** **17 41 24.2 +0.7**
SNY pmax pmax
comp=Z,19nm,0.8s
BLDU Ballidu 37.10 195 P **P** **17 41 28.8 +0.5**
baz=37,SNR=5.6
LZH Lanzhou 37.51 328 ⇑P **P** **17 41 33.2 +1.3**
LZH pP **pP** **17 42 06.3 +1.9**
LZH sP **sP** **17 42 26.5 +5.0**
LZH PP **PnPn** **17 43 06.2 +2.8**
LZH PcP **PcP** **17 43 47.5 +0.5**
LZH S **S** **17 47 11.2 +1.4**
LZH sS **sS** **17 48 08.5 +1.8**
LZH SS **SS** **17 49 54.5 -6.4**
LZH ScS **ScS** **17 51 26.1 -3.3**
LZH pmax pmax
comp=Z,58nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.2s
KLBR Kellerberrin 37.78 193 P **P** **17 41 34.5 +0.6**
baz=38,SNR=11
RMQ Roma 37.78 148 P P 17 41 44.8 +11
baz=38,SNR=7.0
VLA Vladivostok 37.91 5 *e*P **P** **17 41 34.6 -0.3**
VLA pmax pmax
comp=Z,13nm,1.3s
HHC Hu-ho-hao-te 38.15 340 *e*P **P** **17 41 38.1 +1.0**
HHC pP **pP** **17 42 10.2 +0.5**
HHC sP **sP** **17 42 26.1 -0.7**
HHC PP **PnPn** **17 43 12.7 +1.9**
HHC PcP **PcP** **17 43 50.2 +1.4**
HHC S **S** **17 47 20.8 +1.6**
HHC ScP **ScP** **17 47 23.8 +1.1**
HHC sS **sS** **17 48 14.6 -1.6**
HHC SS **SS** **17 50 08.0 -5.4**
HHC ScS **ScS** **17 51 32.3 -0.4**
HHC pmax pmax
comp=Z,93nm,0.7s
HHC pmax pmax
comp=Z,290nm,6.5s
HHC LR LR
comp=N,390nm,14.3s
HHC LR LR
comp=E,290nm,15.4s
HHC LR LR
comp=Z,260nm,14.9s
CN2 Changchun 38.41 358 *e*P P 17 41 44.0 +4.9
BBOO Buckleboo 38.77 168 P **P** **17 41 42.5 +0.3**
baz=39,SNR=12
USRK Ussuriysk Arra 38.99 5 P **P** **17 41 43.5 -0.4**
comp=Z,7.9nm,0.7s,baz=186,slow=7.7,SNR=20
NWAO Narrogin (SRO) 39.18 194 P **P** **17 41 46.0 +0.3**
NWAO Narrogin (SRO) 39.18 194 P **P** **17 41 46.0 +0.3**
comp=Z,24nm,0.7s,baz=24,slow=9.2,SNR=16
MDJ Mudanjiang 39.24 3 P **P** **17 41 47.2 +1.2**
MDJ PP **PnPn** **17 43 21.8 -1.7**
MDJ S **S** **17 47 40.0 +4.7**
MDJ sS **sS** **17 48 36.6 +4.1**
MDJ ScS **ScS** **17 51 33.4 -5.2**
MDJ pmax pmax
comp=Z,24nm,1.0s
MDJ pmax pmax
comp=Z,64nm,4.7s
MDJ LR LR
comp=N,33nm,18.3s
MDJ LR LR
comp=E,25nm,24.4s
MDJ LR LR
comp=Z,38nm,24.4s
STKA Stephens Creek 39.36 161 P **P** **17 41 46.8 -0.4**
STKA PcP **PcP** **17 43 52.4 -0.2**
STKA Stephens Creek 39.36 161 P **P** **17 41 46.8 -0.4**
comp=Z,10nm,0.8s,baz=332,slow=8.5,SNR=16
STKA PcP **PcP** **17 43 52.4 -0.2**
comp=Z,2.3nm,0.6s,baz=340,slow=6.0,SNR=3.1
STKA Stephens Creek 39.36 161 P **P** **17 41 47.2 +0.1**
baz=40,SNR=8.0
SHL Shillong 39.48 305 *e*P **P** **17 41 49.0 +0.5**
ASAJ Asahikawa 40.95 17 P **P** **17 42 00.3 +0.2**
ASAJ Asahikawa 40.95 17 P **P** **17 42 00.3 +0.2**
comp=Z,15nm,0.6s,baz=204,slow=7.3,SNR=39
LSA Lhasa 41.90 310 P **P** **17 42 09.6 +0.9**
LSA Lhasa 41.90 310 *e*P **P** **17 42 09.7 +1.0**
LSA Lhasa 41.90 310 *e*P **P** **17 42 09.7 +1.0**
GTA Gaotai 42.11 328 ⇑P **P** **17 42 10.9 +1.1**
GTA pP **pP** **17 42 42.1 -0.9**
GTA sP **sP** **17 42 58.5 -1.4**
GTA S **S** **17 48 20.2 +1.9**
GTA sS **sS** **17 49 15.3 -0.7**
GTA SS **SS** **17 51 26.5 -5.4**
GTA pmax pmax
comp=Z,28nm,1.4s
GTA pmax pmax
comp=Z,200nm,5.7s
HABR Khabarovsk 43.55 7 *e*P **P** **17 42 19.1 -1.9**
HABR *e**SP **sP** **17 43 09.6 -1.7**
HABR *e* 17 44 03.5
HABR *e*S **S** **17 48 37.6 -1.1**
HABR *e**SS **sS** **17 49 36.3 -0.4**
HABR *e*SS **SS** **17 52 00.1 +0.6**
HABR pmax pmax
comp=E,30nm,1.5s
HABR pmax pmax
comp=Z,65nm,1.8s
HABR pmax pmax
comp=N,29nm,1.8s
YSS Yuzh-Sakhalins 43.61 15 *e*P **P** **17 42 22.0 +0.5**
TAPN Taplejung 43.62 305 *e*P **P** **17 42 22.8 +0.4**
comp=N,34nm,0.6s
ODAN Odare 43.69 304 *e*P **P** **17 42 23.3 +0.4**
KLR Kul'dur 43.97 4 *e*P P 17 42 20.0 -4.4
KLR pmax pmax
comp=Z,34nm,1.2s
ARPS Mount Arapiles 43.97 163 P **P** **17 42 25.4 +0.9**
baz=44,SNR=9.4
RAMN Ramite 44.38 304 *e*P **P** **17 42 28.9 +0.5**
JIRN Jiri 44.98 304 *e*P **P** **17 42 33.7 +0.4**
GUN Gumba 45.33 305 *e*P **P** **17 42 36.3 +0.3**
PKI Pulchoki 45.59 304 *e*P **P** **17 42 37.9 -0.2**
PKIN Phulchoki 45.61 304 *e*P **P** **17 42 37.8 -0.3**
KKN Kakani 45.78 304 *e*P **P** **17 42 39.4 0.0**
comp=Z,64nm,1.1s
ULN Ulaanbaatar 45.86 341 *e*P **P** **17 42 40.0 +0.4**
comp=Z,40nm,0.8s
ULN *e*PcP **PcP** **17 44 14.7 +0.4**
DMN Daman 45.86 304 *e*P **P** **17 42 40.1 0.0**
comp=Z,78nm,1.2s
SONM Songino Array 46.05 340 P **P** **17 42 41.5 +0.5**
SONM PcP **PcP** **17 44 14.6 -0.4**
SONM Songino Array 46.05 340 P **P** **17 42 41.5 +0.5**
comp=Z,9.4nm,0.6s,baz=156,slow=8.3,SNR=70
SONM PcP **PcP** **17 44 14.6 -0.4**
comp=Z,3.5nm,0.8s,baz=144,slow=4.0,SNR=6.5
KOLN Koldanda 47.17 303 *e*P **P** **17 42 50.6 +0.4**
DANN Dangsing 47.23 304 *e*P **P** **17 42 50.9 +0.1**
HYB Hyderabad 49.19 288 *i*P **P** **17 43 05.0 -0.6**
ZAK Zakamensk 49.29 340 *e*P **P** **17 43 05.1 -0.8**
ZAK *e* 17 44 26.6
TLY Talaya 50.27 341 *e*P **P** **17 43 14.5 +1.3**
TLY pmax pmax
comp=Z,15nm,1.0s
TLY MLR MLR
comp=Z,44nm,15.0s
IRK Irkutsk 50.56 342 ⇑*i*P **P** **17 43 15.0 -0.3**
IRK pmax pmax
comp=Z,38nm,1.5s
MOY Mondy 51.16 339 *e*P **P** **17 43 21.7 +1.7**
MOY pmax pmax
comp=Z,31nm,1.5s
WMQ Urumqi 51.83 324 P **P** **17 43 26.5 +1.4**
WMQ pmax pmax
comp=Z,28nm,1.0s
PEA0B Petropavlovsk- 53.79 22 *e*P **P** **17 43 40.0 +0.8**
PETK Petropavlovsk- 53.79 22 P **P** **17 43 39.9 +0.7**
PETK Petropavlovsk- 53.79 22 P **P** **17 43 39.9 +0.7**
PETK Petropavlovsk- 53.79 22 P **P** **17 43 39.9 +0.7**
comp=Z,39nm,0.7s,baz=191,slow=5.9,SNR=128
PET Petropavlovsk 54.08 23 *e*P **P** **17 43 41.6 +0.3**
PET pmax pmax
comp=Z,44nm,0.7s
MK31 Makanchi Array 56.65 324 *e*P **P** **17 44 00.3 +0.4**
MK31 Makanchi Array 56.65 324 *e*P **P** **17 44 00.6 +0.7**
MK31 pmax pmax
comp=Z,30nm,0.5s
MK31 Makanchi Array 56.65 324 *e*P **P** **17 44 00.3 +0.4**
MKAR Makanchi Array 56.65 324 P **P** **17 44 00.7 +0.8**
MKAR 17 44 53.9
MKAR Makanchi Array 56.65 324 P **P** **17 44 00.7 +0.8**
MKAR PcP **PcP** **17 44 53.9 -0.5**
MKAR Makanchi Array 56.65 324 P **P** **17 44 00.7 +0.8**
comp=Z,36nm,0.5s,baz=117,slow=8.1,SNR=292
MKAR PcP **PcP** **17 44 53.9 -0.5**
comp=Z,5.8nm,0.7s,baz=120,slow=4.4,SNR=4.8
YAK Yakutsk 56.66 1 *e*P **P** **17 43 59.1 -0.5**
YAK pmax pmax
comp=Z,96nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,35nm,1.0s
KSH Kashi 57.40 314 P **P** **17 44 07.3 +1.9**
KSH sP **sP** **17 44 56.2 -0.7**
KSH PP **PP** **17 46 18.2 +3.8**
KSH S **S** **17 51 47.6 -3.1**
KSH SS **SS** **17 55 41.6 -1.1**
KSH pmax pmax
comp=Z,19nm,1.4s
KSH pmax pmax
comp=Z,45nm,4.9s
KSH LR LR
comp=N,93nm,3.7s
KSH LR LR
comp=E,98nm,5.9s
KSH LR LR
comp=Z,69nm,4.5s
KZA Kyzart 58.90 317 P **P** **17 44 17.7 +1.6**
SNR=12
TKM2 Tokmak 2 59.01 318 P **P** **17 44 17.0 +0.4**
TKM2 pmax pmax
comp=Z,21nm,0.7s
TKM2 Tokmak 2 59.01 318 P **P** **17 44 17.6 +0.9**
SNR=12
KBK Karagaybulak 59.34 317 P **P** **17 44 20.1 +1.3**
SNR=11
UCH Uchtor 59.47 317 P **P** **17 44 21.0 +0.9**
SNR=5.2
ZAA0 Zalesovo Array 59.50 332 *e*P **P** **17 44 18.6 -0.9**
ZALV Zalesovo Beam 59.50 332 *i*P **P** **17 44 19.1 -0.5**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV Zalesovo Beam 59.50 332 P **P** **17 44 19.0 -0.5**
ZALV Zalesovo Beam 59.50 332 P **P** **17 44 19.0 -0.5**
comp=Z,10nm,0.6s,baz=120,slow=6.6,SNR=37
CHMS Chumysh 59.61 318 P **P** **17 44 21.2 +0.7**
SNR=9.9
AAK Ala-Archa 59.64 317 *i*P **P** **17 44 22.0 +1.1**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 59.64 317 P **P** **17 44 22.1 +1.1**
SNR=5.3
AAK Ala-Archa 59.64 317 *e*P **P** **17 44 21.6 +0.7**
comp=Z,6.1nm,0.5s
USP Ospenovka 59.88 318 P **P** **17 44 23.2 +0.8**
SNR=23
AML Almayashu 59.99 316 P **P** **17 44 24.8 +1.2**
SNR=22
EKS2 Erkin-Say 60.14 317 P **P** **17 44 25.3 +1.0**
SNR=20
FX1 Attu Island--F 60.46 30 *e*P **P** **17 44 26.7 +0.7**
NVS Novosibirsk 60.78 333 ⇑*i*P **P** **17 44 27.8 -0.4**
NVS *e* 17 45 08.2
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=E,22nm,1.5s
NVS pmax pmax
comp=Z,32nm,1.5s
KBL Kabul 61.08 307 *e*P **P** **17 44 31.1 +0.2**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 61.08 307 *e*P **P** **17 44 31.1 +0.2**
comp=Z,15nm,0.8s
KBL Kabul 61.08 307 P **P** **17 44 31.2 +0.3**
baz=61,SNR=5.9
KK31 Karatay Array 62.53 316 *i*P **P** **17 44 40.2 0.0**
KK31 pmax pmax
comp=Z,18nm,0.6s
VOSK Vostochnaya 65.92 326 P **P** **17 45 01.1 -1.0**
VOSK pmax pmax
comp=Z,26nm,0.5s
TIXI Tiksi 66.31 1 *d*/*i*P **P** **17 45 03.5 -0.6**
TIXI pmax pmax
comp=Z,44nm,1.4s
BVA0 Borovoye Array 66.37 326 P **P** **17 45 05.0 +0.1**
BVA0 pmax pmax
comp=Z,25nm,0.7s
BRVK Borovoye 66.44 326 *d*/*i*P **P** **17 45 05.6 +0.2**
BRVK pmax pmax
comp=Z,34nm,0.8s
BRVK Borovoye 66.44 326 *e*P **P** **17 45 05.5 +0.2**
comp=Z,56nm,0.8s
AB31 Akbulak array 71.35 320 P **P** **17 45 36.0 +0.2**
AB31 pmax pmax
comp=Z,15nm,0.6s
CASY Casey 72.41 187 *e*P **P** **17 45 42.3 +0.7**
comp=Z,9.7nm,0.9s
SVE Sverdlovsk 72.98 328 *de*P **P** **17 45 45.3 0.0**
SVE pmax pmax
comp=Z,40nm,0.8s
ARU Arti 73.97 327 *c*/*i*P **P** **17 45 50.4 -0.7**
ARU *PP **pP** **17 46 27.3 -0.5**
ARU 17 48 37.4
ARU S **S** **17 55 12.7 +1.7**
ARU SS **SS** **17 59 59.6 +1.0**
ARU pmax pmax
comp=Z,30nm,0.8s
SDPT Sand Point 75.59 34 *e*P **P** **17 45 60.0 -0.5**
comp=Z,51nm,0.6s
SOKR Solikamsk 75.68 330 *e*P **P** **17 46 00.7 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
UMR Umm Al-Rimmam 78.40 299 *e*P **P** **17 46 16.1 -0.5**
UMR AMb AMB 17 46 17.3
comp=Z,74nm,0.7s
RDF Al-Radifah 78.54 298 *e*P **P** **17 46 17.6 +0.1**
RDF AMb AMB 17 46 18.6
comp=Z,72nm,0.9s
MIB Mutribah 78.73 299 *e*P **P** **17 46 18.1 -0.4**
MIB AMb AMB 17 46 19.4
comp=Z,136nm,0.8s
NAY Al-Naaiem 78.81 299 *e*P **P** **17 46 18.5 -0.5**
NAY AMb AMB 17 46 19.3
comp=Z,44nm,0.8s
KDAK Kodiak Island 80.28 32 *e*P **P** **17 46 26.5 +0.2**
comp=Z,38nm,0.6s
DGRG David-gareji 80.51 311 P **P** **17 46 29.4 +1.4**
GNI Garni 80.97 310 *e*P **P** **17 46 31.4 +0.9**
comp=Z,16nm,1.0s
PPLA Purkeypile 80.99 27 *e*P **P** **17 46 30.5 +0.3**
comp=Z,13nm,0.5s
TBLG Delisi 80.99 311 P **P** **17 46 31.5 +1.0**
TBLG Delisi 80.99 311 P **P** **17 46 31.5 +1.0**
DUS Dusheti 81.03 312 P **P** **17 46 32.2 +1.4**
GUDG Gudauri 81.20 312 P **P** **17 46 33.0 +1.1**
ZEI Tsey 81.63 312 *e*P **P** **17 46 33.8 -0.3**
ZEI pmax pmax
comp=Z,25nm,0.7s
TRF Thorofare Moun 81.90 27 *e*P **P** **17 46 34.3 -0.7**
comp=Z,33nm,1.1s
TRF *e*pP **pP** **17 47 14.0 +1.6**
ONI Oni 81.96 312 P **P** **17 46 36.5 +0.9**
COLD Coldfoot 82.25 23 *e*P **P** **17 46 37.4 +0.8**
comp=Z,21nm,0.7s
KBZ Khabaz 82.37 313 P **P** **17 46 37.4 -0.2**
KBZ Khabaz 82.37 313 P **P** **17 46 37.4 -0.2**
KBZ Khabaz 82.37 313 P **P** **17 46 37.4 -0.2**
comp=Z,4.9nm,0.9s,baz=86,slow=14,SNR=11
KIV Kislovodsk 82.52 314 *e*P **P** **17 46 38.5 0.0**
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,25nm,19.0s
MCK McKinley 82.53 26 *e*P **P** **17 46 37.7 -0.4**
MCK *PP **pP** **17 47 17.0 +1.5**
MCK pmax pmax
comp=Z,53nm,1.0s
MCK McKinley 82.53 26 *e*P **P** **17 46 37.7 -0.4**
comp=Z,53nm,1.0s
MCK *e*pP **pP** **17 47 17.0 +1.5**
SML Sawmill 82.70 28 *e*P **P** **17 46 39.2 +0.1**
SML pmax pmax
comp=Z,13nm,1.0s
SML Sawmill 82.70 28 *e*P **P** **17 46 39.2 +0.1**
comp=Z,13nm,1.0s
CHVG Ch'k'valeri 82.97 312 P **P** **17 46 41.5 +0.7**
COLA College 83.05 25 *e*P **P** **17 46 40.1 -0.6**
COLA pmax pmax
comp=Z,42nm,0.6s
COLA College 83.05 25 *e*P **P** **17 46 40.1 -0.6**
comp=Z,42nm,0.6s
VRHR Novokhopersk 83.23 321 *e*P **P** **17 46 40.9 -1.0**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,3.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
ILAR Eielson Array 83.46 25 P **P** **17 46 41.5 -1.4**
ILAR Eielson Array 83.46 25 P **P** **17 46 41.5 -1.4**
comp=E,10nm,0.6s,baz=251,slow=5.5,SNR=87
DIV Divide 83.92 29 *e*P **P** **17 46 45.9 +0.6**
comp=E,120nm,1.1s
PAX Paxson 84.06 27 *e*P **P** **17 46 46.4 +0.3**
PAX pmax pmax
comp=Z,7.0nm,0.5s
PAX Paxson 84.06 27 *e*P **P** **17 46 46.4 +0.3**
comp=Z,7.3nm,0.5s
BMRM Bremner River 84.49 29 *e*P **P** **17 46 48.6 +0.4**
comp=Z,50nm,1.1s
SOC Sochi 84.68 313 *c*/*i*P **P** **17 46 48.6 -0.8**
SOC *e**PP **pP** **17 47 28.8 +1.8**
SOC *e*S S 17 56 57.3 -7.2
SOC pmax pmax
comp=Z,25nm,0.6s
VORD Divnogorie 84.71 321 *e*P **P** **17 46 48.8 -0.6**
VORD pmax pmax
comp=Z,30nm,0.7s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 84.78 321 *e*P **P** **17 46 49.0 -0.7**
VSR pmax pmax
comp=E,20nm,0.7s
VSR pmax pmax
comp=Z,40nm,0.7s
VSR pmax pmax
comp=N,4.0nm,0.6s
VNDA Vanda 84.87 173 P **P** **17 46 49.0 -0.6**
VNDA Vanda 84.87 173 P **P** **17 46 49.0 -0.6**
comp=N,2.4nm,0.9s,baz=315,slow=5.7,SNR=4.1
MAW Mawson 85.40 200 P P 17 46 45.5 -6.9
baz=86,SNR=8.6
EGAK Eagle 85.92 25 *e*P **P** **17 46 54.9 -0.2**
comp=N,7.7nm,0.9s
OBN Obninsk 86.16 325 ⇓*i*P **P** **17 46 54.6 -1.8**
OBN pmax pmax
comp=Z,24nm,0.6s
ANN Anapa 86.26 314 *e*P **P** **17 46 55.7 -1.5**
ANN *e**PP **pP** **17 47 33.6 -1.3**
ANN *e* 17 57 06.0
ANN pmax pmax
comp=Z,39nm,1.2s
DAWY Dawson 86.74 26 *e*P **P** **17 46 59.3 0.0**
HYT Haines Junctio 87.96 29 *e*P **P** **17 47 05.0 -0.2**
INK Inuvik 88.52 22 *e*P **P** **17 47 06.8 -0.7**
comp=Z,4.6nm,0.8s
SIM Simferopol' 88.59 315 *e*P **P** **17 47 07.3 -1.1**
SIM *e* 17 50 39.0
SIM pmax pmax
comp=Z,19nm,0.8s
SIM pmax pmax
comp=Z,30nm,8.7s
ARCES ARCESS Array B 89.22 340 P **P** **17 47 09.3 -1.5**
ARCES ARCESS Array B 89.22 340 P **P** **17 47 09.3 -1.5**
comp=Z,9.1nm,0.7s,baz=81,slow=6.7,SNR=60
ARE0 ARCESS Array S 89.22 340 *e*P **P** **17 47 09.2 -1.6**
BR131 Keskin Array S 89.51 310 *e*P **P** **17 47 12.1 -0.9**
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 89.51 310 P **P** **17 47 11.6 -1.5**
BRTR Keskin Array B 89.51 310 P **P** **17 47 11.5 -1.5**
comp=Z,3.9nm,0.8s,baz=112,slow=3.9,SNR=25
KAF Kangasniemi 90.52 333 *e*P **P** **17 47 15.6 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 90.52 333 *e*p **P** **17 47 15.6 -1.4**
comp=Z,5.2nm,0.7s
FINES FINESS Array B 90.77 332 P **P** **17 47 16.5 -1.6**
FINES FINESS Array B 90.77 332 P **P** **17 47 16.5 -1.6**
comp=Z,3.0nm,0.5s,baz=60,slow=5.5,SNR=27
FINES LR LR 18 29 01.5
comp=Z,58nm,19.6s,baz=83,slow=36
AKASG Malin Array Be 91.08 321 P **P** **17 47 18.3 -1.5**
AKASG Malin Array Be 91.08 321 P **P** **17 47 18.3 -1.5**
AKASG Malin Array Be 91.08 321 P **P** **17 47 18.3 -1.5**
comp=Z,4.5nm,0.5s,baz=60,slow=5.4,SNR=20
SYO Syowa Base 94.07 201 ⇑*e*P **P** **17 47 32.4 -0.7**
BUR08 Bucovina Ar. S 94.26 318 *e*P **P** **17 47 34.0 -0.7**
KWP Kalwaria Pacla 95.41 321 *e*P **P** **17 47 39.2 -0.6**
HFS Hagfors 96.94 332 P **P** **17 47 44.6 -1.9**
HFS Hagfors 96.94 332 P **P** **17 47 44.6 -1.9**
comp=Z,4.5nm,0.5s,baz=95,slow=3.4,SNR=32
NB2 NORSAR Subarra 97.68 334 P **P** **17 47 47.8 -2.0**
comp=Z,3.5nm,0.8s,baz=66,slow=4.8
NOA NORSAR Array B 97.68 334 P **P** **17 47 47.9 -2.0**
NOA NORSAR Array B 97.68 334 P **P** **17 47 47.9 -2.0**
comp=Z,2.6nm,0.8s,baz=65,slow=4.6,SNR=9.0
NOA LR LR 18 34 08.7
comp=Z,27nm,19.6s,baz=140,slow=37
YKA Yellowknife Ar 97.86 24 P **P** **17 47 49.9 -0.6**
YKA Yellowknife Ar 97.86 24 P **P** **17 47 49.9 -0.6**
comp=Z,1.5nm,0.7s,baz=300,slow=4.6,SNR=4.8
GERES GERESS Array B 101.26 322 P **Pdif** **17 48 05.6 -0.6**
GERES GERESS Array B 101.26 322 P **Pdif** **17 48 05.6 -0.6**
comp=Z,1.1nm,0.8s,baz=60,slow=4.7,SNR=8.4
SCHQ Schefferville 118.96 9 PKP **PKPdf** **17 53 03.2 +0.1**
SCHQ Schefferville 118.96 9 PKP **PKPdf** **17 53 03.2 +0.1**
comp=Z,2.0nm,0.4s,baz=270,slow=2.0,SNR=6.0
TXAR Lajitas Array 120.18 52 PKP **PKPdf** **17 53 06.5 +0.2**
TXAR Lajitas Array 120.18 52 PKP **PKPdf** **17 53 06.5 +0.2**
comp=Z,0.5nm,0.7s,baz=301,slow=0.5,SNR=6.4
TORD Torodi Ar. Bea 123.00 289 PKP **PKPdf** **17 53 11.5 -0.4**
TORD Torodi Ar. Bea 123.00 289 PKP **PKPdf** **17 53 11.5 -0.4**
comp=Z,4.5nm,0.7s,baz=47,slow=2.0,SNR=19
TRQA Tornquist 146.28 167 *e*PKPdf **PKPbc** **17 53 55.2 -0.5**
CPUP Villa Florida 158.59 168 PKPab **PKPab** **17 54 48.9 +0.6**
comp=Z,0.3nm,0.4s,baz=248,slow=9.8,SNR=3.8
LPAZ La Paz 161.29 127 PKP **PKPdf** **17 54 16.3 -0.5**
LPAZ PKPab **PKPab** **17 55 02.8 +1.5**
LPAZ La Paz 161.29 127 PKP **PKPdf** **17 54 16.3 -0.5**
comp=Z,1.1nm,0.6s,baz=27,slow=2.3,SNR=4.8
LPAZ PKPab **PKPab** **17 55 02.8 +1.5**
comp=Z,1.1nm,0.6s,baz=7.7,slow=3.2,SNR=3.6
SIV San Ignacio 166.52 143 PKP **PKPdf** **17 54 21.2 +0.4**
SIV San Ignacio 166.52 143 PKP **PKPdf** **17 54 21.2 +0.4**
comp=Z,2.8nm,0.9s,baz=225,slow=1.4,SNR=7.6

IDC ***05*** *17:51:04.3±1.6, 40°.57S×174°.13E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.4/17, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=44.2km s-min=17.7km az=139.0*
ISCJB ***05*** *17:51:09.3±0.3, 40°.83S±0°.03×174°.38E±0°.04, h81km±5km, mb3.2/2, Error ellipse: s-maj=6.0km s-min=3.6km az=29.7*
WEL ***05*** *17:51:11.6±0.1, 40°.78S×174°.43E, h64km±2km, ML4.3/19, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0*
WEL Felt from Wellington to Nelson, maximum reported intensity MM 5.
NEIC ***05*** *17:51:11.8, 40°.78S×174°.41E, h50km, ML4.3(WEL), After WEL.*
NEIC Felt in Marlborough and Wellington.
ISC 05 17:51:10.1±0.9, 40°.80S±0°.03×174°.37E±0°.03, h69km±6km, n164, σ0.98/173, 8C-16D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.34**	**269**	Pn	**Pn**	**17 51 20.2**	**-1.3**
DUWZ				Sn	**Sn**	**17 51 27.4**	**-2.4**
KIW	**Kapiti Island**	**0.42**	**99**	⇑PN	**Pn**	**17 51 22.1**	**+0.1**
KIW				SN	**Sn**	**17 51 29.8**	**-1.0**
KIW				AML	AML	17 51 30.8	
KIW	**Kapiti Island**	**0.42**	**99**	Pn	**Pn**	**17 51 22.1**	**+0.1**
KIW				Sn	**Sn**	**17 51 29.8**	**-1.0**

TCW	**Tory Channel**	**0.42 190**	⇑PN	**Pn**	**17 51 22.2 +0.2**
TCW			SN	**Sn**	**17 51 30.4 -0.4**
TCW			AML	AML	17 51 32.4
TCW	**Tory Channel**	**0.42 190**	Pn	**Pn**	**17 51 22.2 +0.2**
TCW			Sn	**Sn**	**17 51 29.3 -1.5**
SNZO	**South Karori**	**0.57 154**	PN	**Pn**	**17 51 24.3 +0.8**
SNZO			SN	**Sn**	**17 51 34.5 +1.2**
SNZO			AML	AML	17 51 35.7
SNZO			AML	AML	17 51 35.7
SNZO			AML	AML	17 51 36.0
SNZO	**South Karori**	**0.57 154**	Pn	**Pn**	**17 51 24.1 +0.6**
WEL	**Wellington**	**0.57 148**	PN	**Pn**	**17 51 24.4 +0.8**
WEL			SN	**Sn**	**17 51 34.5 +1.1**
WEL	**Wellington**	**0.57 148**	Pn	**Pn**	**17 51 24.3 +0.8**
OGWZ	**Otaki Gorge**	**0.61 92**	⇑PN	**Pn**	**17 51 24.7 +0.8**
OGWZ			SN	**Sn**	**17 51 34.5 +0.4**
OGWZ	**Otaki Gorge**	**0.61 92**	Pn	**Pn**	**17 51 24.7 +0.8**
CAW	**Cannon Point**	**0.61 120**	⇓PN	**Pn**	**17 51 24.7 +0.8**
CAW			AML	AML	17 51 37.4
CAW			AML	AML	17 51 37.6
CAW	**Cannon Point**	**0.61 120**	Pn	**Pn**	**17 51 24.8 +0.8**
BHW	**Baring Head**	**0.72 148**	PN	**Pn**	**17 51 25.9 +0.8**
BHW			AML	AML	17 51 40.0
BHW			AML	AML	17 51 40.3
BHW	**Baring Head**	**0.72 148**	Pn	**Pn**	**17 51 25.9 +0.8**
NNZ	**Nelson**	**0.86 240**	⇓PN	**Pn**	**17 51 27.0 +0.3**
NNZ	**Nelson**	**0.86 240**	Pn	**Pn**	**17 51 27.0 +0.3**
HOWZ	**Holdsworth Sta**	**0.88 97**	PN	**Pn**	**17 51 27.5 +0.5**
HOWZ	**Holdsworth Sta**	**0.88 97**	Pn	**Pn**	**17 51 27.5 +0.5**
MSWZ	**Moikau Station**	**0.91 133**	⇓PN	**Pn**	**17 51 28.0 +0.7**
MSWZ			AML	AML	17 51 45.7
MSWZ			AML	AML	17 51 46.1
MSWZ	**Moikau Station**	**0.91 133**	Pn	**Pn**	**17 51 28.1 +0.7**
MRZ	**Mangatainoka R**	**0.93 82**	PN	**Pn**	**17 51 28.0 +0.4**
MRZ			AML	AML	17 51 45.8
MRZ			AML	AML	17 51 46.5
MRZ	**Mangatainoka R**	**0.93 82**	Pn	**Pn**	**17 51 27.8 +0.1**
MTW	**Mount Morrison**	**0.93 113**	PN	**Pn**	**17 51 28.1 +0.5**
MTW			AML	AML	17 51 46.2
MTW			AML	AML	17 51 48.1
MTW	**Mount Morrison**	**0.93 113**	Pn	**Pn**	**17 51 28.1 +0.5**
CMWZ	**Cape Campbell**	**0.96 187**	PN	**Pn**	**17 51 30.1 +2.2**
CMWZ			AML	AML	17 51 50.0
CMWZ			AML	AML	17 51 50.0
CMWZ	**Cape Campbell**	**0.96 187**	Pn	**Pn**	**17 51 30.0 +2.0**
BSWZ	**Blackbirch Sta**	**0.99 202**	⇑PN	**Pn**	**17 51 29.7 +1.3**
BSWZ			AML	AML	17 51 47.2
BSWZ			AML	AML	17 51 47.6
BSWZ	**Blackbirch Sta**	**0.99 202**	Pn	**Pn**	**17 51 29.7 +1.3**
PAWZ	**Paruwai Farm**	**0.99 126**	⇓PN	**Pn**	**17 51 29.0 +0.6**
PAWZ			AML	AML	17 51 49.2
PAWZ			AML	AML	17 51 49.4
PAWZ	**Paruwai Farm**	**0.99 126**	Pn	**Pn**	**17 51 29.0 +0.6**
PLWZ	**Palliser**	**1.02 139**	⇓PN	**Pn**	**17 51 29.3 +0.5**
PLWZ	**Palliser**	**1.02 139**	Pn	**Pn**	**17 51 29.4 +0.5**
POWZ	**Post Office Ro**	**1.14 70**	PN	**Pn**	**17 51 30.6 +0.3**
POWZ	**Post Office Ro**	**1.14 70**	Pn	**Pn**	**17 51 30.6 +0.3**
WAZ	**Wanganui**	**1.14 25**	⇓PN	**Pn**	**17 51 31.0 +0.6**
WAZ	**Wanganui**	**1.14 25**	Pn	**Pn**	**17 51 31.0 +0.6**
TIWZ	**Tintock**	**1.15 89**	PN	**Pn**	**17 51 30.8 +0.3**
TIWZ	**Tintock**	**1.15 89**	Pn	**Pn**	**17 51 30.8 +0.3**
TRWZ	**Traveller**	**1.16 121**	⇓PN	**Pn**	**17 51 31.0 +0.4**
TRWZ			AML	AML	17 51 55.8
TRWZ			AML	AML	17 51 56.5
TRWZ	**Traveller**	**1.16 121**	Pn	**Pn**	**17 51 31.0 +0.4**
TMWZ	**Te Maipa**	**1.19 105**	⇓PN	**Pn**	**17 51 31.3 +0.3**
TMWZ	**Te Maipa**	**1.19 105**	Pn	**Pn**	**17 51 31.3 +0.3**
TSZ	**Takapari Road**	**1.42 59**	PN	**Pn**	**17 51 34.1 +0.1**
TSZ			AML	AML	17 51 57.2
TSZ			AML	AML	17 51 57.3
TSZ	**Takapari Road**	**1.42 59**	Pn	**Pn**	**17 51 34.1 +0.1**
BFZ	**Birch Farm**	**1.43 86**	PN	**Pn**	**17 51 33.9 -0.2**
BFZ	**Birch Farm**	**1.43 86**	Pn	**Pn**	**17 51 33.9 -0.2**
DVHZ	**Dannevirke**	**1.46 71**	⇓PN	**Pn**	**17 51 34.3 -0.2**
DVHZ	**Dannevirke**	**1.46 71**	Pn	**Pn**	**17 51 34.3 -0.2**
THZ	**Tophouse**	**1.47 228**	PN	**Pn**	**17 51 35.3 +0.8**
THZ	**Tophouse**	**1.47 228**	Pn	**Pn**	**17 51 35.6 +1.0**
DFE	**Dawson Falls**	**1.48 352**	PN	**Pn**	**17 51 35.8 +1.0**
DFE	**Dawson Falls**	**1.48 352**	Pn	**Pn**	**17 51 35.9 +1.0**
RAEZ	**Rainy Point**	**1.51 1**	PN	**Pn**	**17 51 36.7 +1.6**
RAEZ	**Rainy Point**	**1.51 1**	Pn	**Pn**	**17 51 36.7 +1.6**
NEZ	**North Egmont**	**1.54 352**	⇓PN	**Pn**	**17 51 36.4 +0.8**
NEZ	**North Egmont**	**1.54 352**	Pn	**Pn**	**17 51 36.4 +0.8**
NWEZ	**Newall Road**	**1.57 346**	PN	**Pn**	**17 51 36.7 +0.7**
NWEZ	**Newall Road**	**1.57 346**	Pn	**Pn**	**17 51 36.7 +0.7**
DREZ	**Durham Road**	**1.61 355**	PN	**Pn**	**17 51 37.5 +1.0**
DREZ	**Durham Road**	**1.61 355**	Pn	**Pn**	**17 51 37.5 +1.0**
PKE	**Pukeiti**	**1.63 350**	PN	**Pn**	**17 51 37.4 +0.7**
PKE	**Pukeiti**	**1.63 350**	Pn	**Pn**	**17 51 37.6 +0.9**
MTVZ	**Mangateitei**	**1.65 31**	PN	**Pn**	**17 51 37.8 +0.8**
MTVZ	**Mangateitei**	**1.65 31**	Pn	**Pn**	**17 51 37.9 +0.9**
PNHZ	**Pukenui**	**1.66 58**	⇓PN	**Pn**	**17 51 37.0 -0.1**
PNHZ	**Pukenui**	**1.66 58**	Pn	**Pn**	**17 51 37.0 -0.1**
PKVZ	**Pokaka**	**1.68 27**	PN	**Pn**	**17 51 38.2 +0.7**
PKVZ	**Pokaka**	**1.68 27**	Pn	**Pn**	**17 51 38.3 +0.8**
VRZ	**Vera Road**	**1.70 10**	⇓PN	**Pn**	**17 51 38.4 +0.7**
VRZ	**Vera Road**	**1.70 10**	Pn	**Pn**	**17 51 38.4 +0.7**
MHEZ	**Mangahewa**	**1.72 359**	⇑PN	**Pn**	**17 51 39.2 +1.3**
MHEZ	**Mangahewa**	**1.72 359**	Pn	**Pn**	**17 51 39.2 +1.3**
KHZ	**Kahutara**	**1.73 201**	⇓PN	**Pn**	**17 51 39.4 +1.4**
KHZ			AML	AML	17 52 09.3
KHZ			AML	AML	17 52 11.4
KHZ	**Kahutara**	**1.73 201**	Pn	**Pn**	**17 51 39.4 +1.4**
WPHZ	**Waipukurau**	**1.74 66**	PN	**Pn**	**17 51 38.1 -0.2**
WPHZ	**Waipukurau**	**1.74 66**	Pn	**Pn**	**17 51 38.1 -0.2**
WNVZ	**Wahianoa**	**1.75 33**	PN	**Pn**	**17 51 39.7 +1.2**
WNVZ	**Wahianoa**	**1.75 33**	Pn	**Pn**	**17 51 39.7 +1.2**
MOVZ	**Moawhango**	**1.75 38**	PN	**Pn**	**17 51 38.9 +0.5**
MOVZ	**Moawhango**	**1.75 38**	Pn	**Pn**	**17 51 38.9 +0.5**
TRVZ	**Turoa**	**1.75 32**	PN	**Pn**	**17 51 39.6 +1.1**
TRVZ	**Turoa**	**1.75 32**	Pn	**Pn**	**17 51 39.6 +1.1**
FWVZ	**Far West T-bar**	**1.79 31**	PN	**Pn**	**17 51 40.1 +1.0**
FWVZ	**Far West T-bar**	**1.79 31**	Pn	**Pn**	**17 51 40.1 +1.0**
PRHZ	**Porangahau**	**1.81 74**	PN	**Pn**	**17 51 38.8 -0.3**
PRHZ	**Porangahau**	**1.81 74**	Pn	**Pn**	**17 51 38.8 -0.3**
TUVZ	**Tukino**	**1.82 33**	PN	**Pn**	**17 51 40.6 +1.2**
TUVZ	**Tukino**	**1.82 33**	Pn	**Pn**	**17 51 40.6 +1.2**
WPVZ	**Whakapapa**	**1.83 30**	PN	**Pn**	**17 51 40.6 +1.0**
WPVZ	**Whakapapa**	**1.83 30**	Pn	**Pn**	**17 51 40.6 +1.0**
BHHZ	**Black Hill Sta**	**1.84 45**	PN	**Pn**	**17 51 40.1 +0.4**
BHHZ	**Black Hill Sta**	**1.84 45**	Pn	**Pn**	**17 51 40.1 +0.4**
NGZ	**Ngauruhoe**	**1.88 31**	⇑PN	**Pn**	**17 51 41.4 +1.2**
NGZ	**Ngauruhoe**	**1.88 31**	Pn	**Pn**	**17 51 41.4 +1.2**
TWVZ	**Taurewa**	**1.91 26**	PN	**Pn**	**17 51 41.4 +0.8**
TWVZ	**Taurewa**	**1.91 26**	Pn	**Pn**	**17 51 41.4 +0.8**
OTVZ	**Oturere**	**1.91 32**	PN	**Pn**	**17 51 42.0 +1.3**
OTVZ	**Oturere**	**1.91 32**	Pn	**Pn**	**17 51 42.0 +1.3**
WTVZ	**West Tongariro**	**1.93 30**	PN	**Pn**	**17 51 41.7 +0.9**
WTVZ	**West Tongariro**	**1.93 30**	Pn	**Pn**	**17 51 41.7 +0.9**
KRVZ	**Karewarewa**	**1.96 30**	PN	**Pn**	**17 51 42.2 +0.9**
KRVZ	**Karewarewa**	**1.96 30**	Pn	**Pn**	**17 51 42.3 +1.0**
PXZ	**Pawanui**	**2.05 69**	PN	**Pn**	**17 51 41.8 -0.6**
PXZ			AML	AML	17 52 28.9
PXZ			AML	AML	17 52 28.9
PXZ			AML	AML	17 52 35.1
PXZ			AML	AML	17 52 35.2
PXZ	**Pawanui**	**2.05 69**	Pn	**Pn**	**17 51 41.8 -0.6**
RITZ	**Rihia Road**	**2.15 33**	PN	**Pn**	**17 51 44.7 +0.9**
RITZ	**Rihia Road**	**2.15 33**	Pn	**Pn**	**17 51 44.7 +0.9**
KAHZ	**Kahuranaki**	**2.17 63**	PN	**Pn**	**17 51 43.4 -0.5**
KAHZ	**Kahuranaki**	**2.17 63**	Pn	**Pn**	**17 51 43.5 -0.5**
RATZ	**Rangitukua**	**2.21 30**	Pn	**Pn**	**17 51 45.9 +1.3**
MCHZ	**McNeill Hill**	**2.24 54**	PN	**Pn**	**17 51 44.9 -0.1**
MCHZ	**McNeill Hill**	**2.24 54**	Pn	**Pn**	**17 51 44.9 -0.1**
BKZ	**Black Stump Fm**	**2.31 46**	⇓PN	**Pn**	**17 51 45.5 -0.4**
BKZ			AML	AML	17 52 25.2
BKZ			AML	AML	17 52 25.8
BKZ	**Black Stump Fm**	**2.31 46**	Pn	**Pn**	**17 51 45.5 -0.4**
HIZ	**Hauiti**	**2.31 10**	PN	**Pn**	**17 51 46.6 +0.7**
HIZ	**Hauiti**	**2.31 10**	Pn	**Pn**	**17 51 46.6 +0.7**
LTZ	**Lake Taylor**	**2.53 218**	⇓PN	**Pn**	**17 51 49.5 +0.7**
LTZ	**Lake Taylor**	**2.53 218**	Pn	**Pn**	**17 51 49.5 +0.7**
PRRZ	**Plateau Road**	**2.78 35**	PN	**Pn**	**17 51 51.7 -0.5**
PRRZ	**Plateau Road**	**2.78 35**	Pn	**Pn**	**17 51 52.0 -0.3**
RAHZ	**Arahi**	**2.81 49**	PN	**Pn**	**17 51 51.8 -0.9**
RAHZ	**Arahi**	**2.81 49**	Pn	**Pn**	**17 51 51.8 -0.9**
CRLZ	**Canterbury Las**	**3.06 204**	Pn	**Pn**	**17 51 56.1 +0.1**
KNZ	**Kokohu**	**3.10 56**	PN	**Pn**	**17 51 54.5 -2.0**
KNZ	**Kokohu**	**3.10 56**	Pn	**Pn**	**17 51 54.5 -2.0**
TOZ	**Tahuroa Road**	**3.19 16**	PN	**Pn**	**17 51 58.3 +0.6**
TOZ	**Tahuroa Road**	**3.19 16**	Pn	**Pn**	**17 51 58.4 +0.6**
URZ	**Urewera**	**3.31 41**	PN	**Pn**	**17 51 57.7 -1.7**
URZ			AML	AML	17 52 47.6
URZ			AML	AML	17 52 48.1
URZ	**Urewera**	**3.31 41**	Pn	**Pn**	**17 51 57.7 -1.7**
URZ	**Urewera**	**3.31 41**	Pn	**Pn**	**17 51 57.7 -1.7**
2.1nm,0.3s,baz=200,slow=4.3,SNR=44					
URZ			Pg		17 52 02.4
27nm,0.3s,baz=236,slow=7.0,SNR=51					
URZ			Sn	**Sn**	**17 52 35.7 -1.8**
16nm,0.3s,baz=90,slow=15,SNR=5.9					
URZ			Lg	Lg	17 52 44.0
46nm,0.3s,baz=54,slow=21,SNR=11					
MWZ	**Matawai**	**3.47 46**	PN	**Pn**	**17 51 59.9 -1.8**
MWZ			AML	AML	17 52 57.3
MWZ			AML	AML	17 52 57.4
MWZ			AML	AML	17 53 00.1
MWZ			AML	AML	17 53 00.1
MWZ	**Matawai**	**3.47 46**	Pn	**Pn**	**17 51 59.9 -1.8**
WVZ	**Waitaha Valley**	**3.54 229**	PN	**Pn**	**17 52 02.6 +0.1**
WVZ	**Waitaha Valley**	**3.54 229**	Pn	**Pn**	**17 52 03.0 +0.5**
MKAZ	**Moumakai**	**3.73 10**	⇑PN	**Pn**	**17 52 05.8 +0.6**
MKAZ	**Moumakai**	**3.73 10**	Pn	**Pn**	**17 52 05.8 +0.6**
RPZ	**Rata Peaks**	**3.81 219**	Pn	**Pn**	**17 52 06.2 -0.1**
RPZ	**Rata Peaks**	**3.81 219**	Pn	**Pn**	**17 52 05.8 -0.6**
0.9nm,0.3s,baz=30,slow=5.4,SNR=15					
RPZ			Pg		17 52 13.5
7.9nm,0.3s,baz=9.5,slow=7.0,SNR=30					
RPZ			Sn	**Sn**	**17 52 46.1 -3.8**
12nm,0.3s,baz=71,slow=18,SNR=4.7					
RPZ			Lg	Lg	17 53 01.2
16nm,0.3s,baz=44,slow=17,SNR=9.0					
WTAZ	**Waiatarua**	**3.86 2**	PN	**Pn**	**17 52 07.8 +0.8**
WTAZ	**Waiatarua**	**3.86 2**	Pn	**Pn**	**17 52 07.9 +0.8**
OTAZ	**Otara**	**3.87 7**	PN	**Pn**	**17 52 07.9 +0.8**
RVAZ	**Riverhead Bore**	**4.03 2**	⇑PN	**Pn**	**17 52 09.8 +0.6**
MTAZ	**Motutapu**	**4.03 6**	PN	**Pn**	**17 52 10.0 +0.7**
MTAZ	**Motutapu**	**4.03 6**	Pn	**Pn**	**17 52 10.0 +0.7**
PUZ	**Puketiti**	**4.06 49**	AML	AML	17 53 21.3
PUZ			AML	AML	17 53 21.4
PUZ	**Puketiti**	**4.06 49**	Pn	**Pn**	**17 52 07.1 -2.7**
KUZ	**Kuaotunu**	**4.18 15**	PN	**Pn**	**17 52 11.5 +0.1**
KUZ	**Kuaotunu**	**4.18 15**	Pn	**Pn**	**17 52 11.6 +0.2**
ABAZ	**Army Bay**	**4.21 5**	PN	**Pn**	**17 52 12.4 +0.7**
FOZ	**Fox Glacier**	**4.44 230**	PN	**Pn**	**17 52 13.7 -1.2**
FOZ	**Fox Glacier**	**4.44 230**	Pn	**Pn**	**17 52 13.7 -1.2**
LBZ	**Lake Benmore**	**4.73 219**	Pn	**Pn**	**17 52 17.8 -1.1**
WCZ	**Waipu Caves**	**4.85 360**	PN	**Pn**	**17 52 20.8 +0.3**
WCZ	**Waipu Caves**	**4.85 360**	Pn	**Pn**	**17 52 20.8 +0.3**
ODZ	**Otahua Downs**	**5.05 212**	PN	**Pn**	**17 52 22.0 -1.2**
ODZ	**Otahua Downs**	**5.05 212**	Pn	**Pn**	**17 52 22.2 -1.0**
JCZ	**Jackson Bay**	**5.29 230**	PN	**Pn**	**17 52 25.8 -0.8**
JCZ	**Jackson Bay**	**5.29 230**	Pn	**Pn**	**17 52 25.8 -0.8**
OUZ	**Omahuta**	**5.60 354**	⇓PN	**Pn**	**17 52 31.3 +0.5**
OUZ	**Omahuta**	**5.60 354**	Pn	**Pn**	**17 52 31.3 +0.5**
CTZ	**Chatham Island**	**7.30 117**	Pn	**Pn**	**17 52 54.2 +0.2**
ASAR	**Alice Springs**	**37.87 284**	P	**P**	**17 58 20.9 +0.5**
0.2nm,0.6s,baz=121,slow=7.1,SNR=9.5					
WRA	**Warramunga Arr**	**39.86 289**	P	**P**	**17 58 37.4 +0.3**
0.2nm,0.4s,baz=127,slow=8.4,SNR=6.0					
ARCES	**ARCESS Array B**	**146.91 341**	PKPbc	**PKPab**	**18 10 47.0 +2.1**
0.5nm,0.7s,baz=31,slow=2.1,SNR=4.6					

IDC 05 17:55:22.4±2.1, 1°71N×126°94E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=171.7km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.71**	**162**	P	P	18 00 26.3	+0.3
0.7nm,0.4s,baz=340,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.11**	**165**	P	P	18 00 57.9	-0.4
0.4nm,0.9s,baz=347,slow=7.9,SNR=7.2							
MKAR	**Makanchi Array**	**59.33**	**326**	P	P	18 05 26.4	+0.1
0.4nm,0.7s,baz=120,slow=7.6,SNR=5.9							

*ISK **05** 18:07:59.4, 39°95N×39°07E, h8km, MD2.6*
*DDA **05** 18:08:00.2, 39°92N×39°03E, h7km, ML3.2*
*CSEM **05** 18:08:00.1±0.1, 39°94N×39°06E, h8km, ML3.2, Error ellipse: s-maj=3.6km s-min=2.7km az=146.0*

ISC 05 18:08:00.5±0.9, 39°94N±0°02×39°05E±0°02, h12km±8km, n24, σ0°62/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.26**	**36**	*i* P	**Pg**	**18 08 06.4**	**+0.3**
KELT				*i* S	**Sg**	**18 08 10.3**	**+0.5**
KELT	**Kelkit**	**0.26**	**36**	*i* P	**Pg**	**18 08 06.4**	**+0.3**
KELT				*i* S	**Sg**	**18 08 10.3**	**+0.5**
EZC	**Erzincan**	**0.30**	**128**	*e*PG	**Pg**	**18 08 05.8**	**-0.8**
EZC				*e*SG	**Sg**	**18 08 10.6**	**-0.1**
EZC	**Erzincan**	**0.30**	**128**	*e*Pg	**Pg**	**18 08 05.8**	**-0.8**
EZC				*e*Sg	**Sg**	**18 08 10.6**	**-0.1**
ILIC	**ilic-Erzincan**	**0.61**	**218**	*e*PG	**Pg**	**18 08 11.7**	**-0.7**
ILIC				*e*SG	**Sg**	**18 08 21.3**	**+0.8**
ILIC	**ilic-Erzincan**	**0.61**	**218**	*e*Pg	**Pg**	**18 08 11.7**	**-0.7**
ILIC				*e*Sg	**Sg**	**18 08 21.3**	**+0.8**
GUMT	**Gumushane**	**0.62**	**32**	*e*PG	**Pg**	**18 08 11.6**	**-0.9**
GUMT				*e*SG	**Sg**	**18 08 20.4**	**-0.3**
GUMT	**Gumushane**	**0.62**	**32**	*e*Pg	**Pg**	**18 08 11.6**	**-0.9**
GUMT				*e*Sg	**Sg**	**18 08 20.4**	**-0.3**
ERZN	**Erzincan**	**0.62**	**124**	*e*PG	**Pg**	**18 08 12.0**	**-0.7**
ERZN				*e*SG	**Sg**	**18 08 21.2**	**+0.3**
SUSE	**Susehri**	**0.71**	**293**	*i* P	**Pb**	**18 08 14.6**	**-0.3**
SUSE				*i* S	**Sg**	**18 08 24.1**	**+0.6**
SUSE	**Susehri**	**0.71**	**293**	*i* P	**Pb**	**18 08 14.6**	**-0.3**
SUSE				*i* S	**Sg**	**18 08 24.1**	**+0.6**
KEMA	**Kemaliye**	**0.80**	**213**	*i* P	**Pg**	**18 08 15.3**	**-0.6**
KEMA				*i* S	**Sg**	**18 08 26.2**	**-0.1**
KEMA	**Kemaliye**	**0.80**	**213**	*i* P	**Pg**	**18 08 15.3**	**-0.6**
KEMA				*i* S	**Sg**	**18 08 26.2**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.95**	**61**	*e*PG	**Pg**	**18 08 17.7**	**-1.2**
BAYT				*e*SG	**Sg**	**18 08 31.1**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.95**	**61**	*e*Pg	**Pg**	**18 08 17.7**	**-1.2**
BAYT				*e*Sg	**Sg**	**18 08 31.1**	**-0.2**
ESPY	**Espiye-Giresun**	**1.01**	**346**	*e*PG	**Pg**	**18 08 19.0**	**-1.0**
ESPY	**Espiye-Giresun**	**1.01**	**346**	*e*Pg	**Pg**	**18 08 19.0**	**-1.0**
KOPT	**Kop Dagi**	**1.11**	**85**	*i* P	**Pg**	**18 08 21.7**	**-0.3**
KOPT				*i* S	**Sn**	**18 08 38.2**	**+0.5**
KOPT	**Kop Dagi**	**1.11**	**85**	*i* P	**Pg**	**18 08 21.7**	**-0.3**
KOPT				*i* S	**Sn**	**18 08 38.2**	**+0.5**
SVSK	**Karacayir**	**1.58**	**270**	*e*PN	**Pn**	**18 08 28.7**	**+0.4**
SVSK	**Karacayir**	**1.58**	**270**	*e*Pn	**Pn**	**18 08 28.7**	**+0.4**
DBAD	**Bademkaya**	**2.29**	**61**	*i* P	**Pb**	**18 08 42.1**	**+0.3**
DBAD				*i* S	**Sb**	**18 09 10.4**	**+0.3**
DAGI	**Agillar**	**2.46**	**62**	*i* P	**Pb**	**18 08 45.3**	**+0.5**
DAGI				*i* S	**Sb**	**18 09 15.4**	**+0.3**
ARTV	**Artvin**	**2.52**	**59**	*i* P	**Pb**	**18 08 46.1**	**+0.2**
ARTV				*i* S	**Sb**	**18 09 15.9**	**-1.0**

GUC 05 18:11:44.3±0.8, 32°22S×71°04W, h83km±4km, MD3.4, ML3.7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.10**	**114**	*e*P	Pn	18 11 56.7	+0.5
PTCH				*e*S	Sn	18 12 05.6	+0.7
PTCH				AML	AML	18 12 06.8	
comp=E,6μm,0.2s							
JACH	**Jahuel**	**0.59**	**141**	*e*P	Pn	18 11 59.4	+0.1
ROCH	**El Roble**	**0.75**	**178**	⇓*i*P	Pn	18 12 01.7	+0.7
ROCH				*e*S	Sn	18 12 14.1	+0.7
IHA	**Instituto Hidr**	**0.95**	**212**	*e*P	Pn	18 12 04.6	+1.7
PEL	**Peldehue**	**0.96**	**162**	⇑*i*P	Pn	18 12 03.6	+0.4
PEL				*e*S	Sn	18 12 17.8	+0.5
PEL				AML	AML	18 12 18.8	
comp=N,5μm,0.3s							
CMCH	**Combarbala**	**1.05**	**2**	⇓*e*P	Pn	18 12 04.6	+0.3
CMCH				*e*S	Sn	18 12 19.8	+0.7
CMCH				AML	AML	18 12 20.5	
comp=E,4μm,0.2s							
RCDM	**Rinconada Maip**	**1.28**	**171**	*e*P	Pn	18 12 07.5	+0.5
RCDM				*e*S	Sn	18 12 24.6	+0.6
RCDM				AML	AML	18 12 27.2	
comp=E,2μm,0.1s							
TACH	**Talagante**	**1.43**	**177**	⇑*i*P	Pn	18 12 09.7	+0.8
TACH				*i* S	Sn	18 12 27.8	+0.4
PCH	**Pirque**	**1.46**	**163**	⇑*i*P	Pn	18 12 09.8	+0.4
PCH				*i* S	Sn	18 12 29.4	+1.1
CHCH	**Chadas Angostu**	**1.74**	**169**	*e*P	Pn	18 12 13.4	+0.5
LMEL	**Las Melosas**	**1.77**	**157**	*e*P	Pn	18 12 14.0	+0.6
LMEL				AML	AML	18 12 39.4	
comp=E,1μm,0.2s							
CACH	**El Canelo**	**1.92**	**169**	*e*P	Pn	18 12 16.5	+1.0
TLL	**Tololo Astrono**	**2.06**	**6**	*e*P	Pn	18 12 21.0	+3.6
TLL				*e*S	Sn	18 12 46.1	+3.5
TLL				AML	AML	18 12 48.4	
comp=N,268nm,0.3s							
LCO	**Las Campanas**	**3.21**	**5**	*e*P	Pn	18 12 33.5	+0.5

*AUST **05** 18:19:58.9, 7°48S×129°54E, h100km*
*ISCJB **05** 18:19:59.8±0.2, 7°35S±0°02×129°44E±0°03, h150km, mb4.5/24, Error ellipse: s-maj=4.4km s-min=3.1km az=151.3*
*BJI **05** 18:19:59.5, 7°34S×129°46E, h160km, mB5.1/6, mb4.4/11*
*IDC **05** 18:20:00.5±2.4, 7°19S×129°41E, h135km±21km, mb4.1/14, mb1 4.2/15, mb1mx4.1/20, mbtmp4.1/15, MS3.2/3, Ms1 3.2/3, ms1mx2.7/31, Error ellipse: s-maj=18.6km s-min=11.1km az=70.0*
*BKK **05** 18:20:01.7±0.6, 7°S±4°×13°0E±°, h161km±8km, M4.9/11, mB5.0/3, mb4.8/11, MLv4.9/2, Mw(mB)4.3/3*
*NEIC **05** 18:20:01.7±1.5, 7°30S×129°32E, h149km±14km, mb4.8/9, Error ellipse: s-maj=12.0km s-min=6.8km az=55.0*
*DJA **05** 18:20:02.1±0.3, 7°S±3°×13°0E±°, h117km±7km, M5.2/20, mB5.6/10, mb5.1/20, MLv5.3/10, Mw(mB)5.1/10*

ISC 05 18:20:01.3±0.3, 7°30S±0°04×129°46E±0°05, h150km, n171, σ1°35/165, mb4.5/24, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.79**	**9**	P	**Pn**	**18 20 47.3**	**+1.2**
BNDI	**Bandanaira**	**2.79**	**9**	P	**Pn**	**18 20 47.6**	**+1.5**
baz=3.0,SNR=24							
AAI	**Ambon**	**3.80**	**341**	P	**Pn**	**18 21 00.2**	**+1.1**
AAI	**Ambon**	**3.80**	**341**	P	**Pn**	**18 21 00.4**	**+1.3**
baz=4.0,SNR=42							
MSAI	**Masohi**	**3.96**	**352**	P	**Pn**	**18 21 02.9**	**+1.8**
FAKI	**Fak Fak**	**5.16**	**33**	P	**Pn**	**18 21 16.1**	**-0.8**
256nm,0.8s,14μm2.7nm							
FAKI	**Fak Fak**	**5.16**	**33**	P	**Pn**	**18 21 15.4**	**-1.5**
baz=5.3,SNR=61							
FAKI				S	**Sn**	**18 22 12.6**	**-3.4**
baz=5.3,SNR=16							
SOEI	**Soe**	**5.69**	**244**	P	**Pn**	**18 21 23.2**	**-0.8**
329nm,0.8s,12μm5.8nm							
SOEI	**Soe**	**5.69**	**244**	P	**Pn**	**18 21 22.9**	**-1.1**
baz=5.7,SNR=45							
SOEI				S	**Sn**	**18 22 26.0**	**-2.6**
baz=5.7,SNR=18							
MTN	**Manton Dam**	**5.75**	**164**	P	**Pn**	**18 21 23.6**	**-1.2**
baz=5.6,SNR=522							
MTN				S	**Sn**	**18 22 25.5**	**-4.5**
baz=5.6,SNR=9.3							
KDU	**Kakadu**	**6.12**	**151**	P	**Pn**	**18 21 28.4**	**-1.2**
baz=6.0,SNR=773							

4.8nm,0.7s,baz=283,slow=13,SNR=5.2
CTAO Charters Tower 20.66 130 P Pn 18 24 33.0 -0.5
29nm,1.2s
KSM Kuching 21.00 294 P **P** **18 24 32.8 -0.5**
KSM Kuching 21.00 294 P **P** **18 24 33.5 +0.3**
KSM Kuching 21.00 294 P **P** **18 24 32.7 -0.5**
baz=21,SNR=14
CISI Cisompet, Garu 21.47 268 P **P** **18 24 39.1 +0.8**
baz=22,SNR=3.6
MEEK Meekatharra 21.83 207 P **P** **18 24 41.5 -0.4**
baz=22,SNR=4.1
FORT Forrest 23.40 183 *e*P **P** **18 24 57.6 +0.9**
83nm,0.8s
FORT Forrest 23.40 183 P **P** **18 24 57.6 +0.9**
baz=23,SNR=23
MORW Morawa 25.08 209 P **P** **18 25 14.6 +2.6**
baz=25,SNR=3.6
BBOO Buckleboo 26.11 167 *e*P **P** **18 25 21.8 +0.5**
391nm,0.8s
BBOO Buckleboo 26.11 167 P **P** **18 25 22.1 +0.7**
baz=26,SNR=20
STKA Stephens Creek 26.95 157 P **P** **18 25 29.7 +0.9**
STKA PP PnPn 18 26 11.3 -9.2
STKA Stephens Creek 26.95 157 P **P** **18 25 29.7 +0.9**
14nm,0.6s,baz=327,slow=10,SNR=43
STKA PP PnPn 18 26 11.3 -9.2
4.7nm,0.4s,baz=336,slow=11,SNR=2.9
STKA Stephens Creek 26.95 157 P **P** **18 25 29.9 +1.1**
baz=27,SNR=7.0
MYKOM Kota Tinggi 27.10 288 P **P** **18 25 33.1 +2.7**
CMSA Cobar Meteorol 28.48 150 P **P** **18 25 44.0 +1.5**
baz=28,SNR=60
HNR Honiara 30.23 96 LR LR 18 39 46.1
comp=Z,46nm,18.3s,baz=267,slow=39
ARMA Armidale 31.00 141 P P 18 26 08.3 +3.4
baz=31,SNR=4.0
ARPS Mount Arapiles 31.43 161 P **P** **18 26 10.4 +2.0**
baz=31,SNR=39
YNG Young 32.05 150 P **P** **18 26 16.3 +2.4**
baz=32,SNR=9.1
PSI Prapat 32.08 287 P **P** **18 26 13.3 -1.3**
PSI Prapat 32.08 287 P **P** **18 26 13.3 -1.3**
14nm,0.7s,baz=157,slow=5.3,SNR=12
PSI Prapat 32.08 287 P **P** **18 26 15.3 +0.7**
baz=32,SNR=3.4
TOO Toolangi 33.47 157 P P 18 26 29.4 +3.1
baz=33,SNR=6.2
CM31 Chiang Mai Arr 39.52 311 *e*P **P** **18 27 18.0 +0.3**
4.3nm,0.4s
CMAR Chiang Mai Arr 39.52 311 P **P** **18 27 17.6 -0.1**
CMAR PcP **PcP** **18 29 23.2 +0.8**
CMAR ScP **ScP** **18 32 58.9 +1.6**
CMAR Chiang Mai Arr 39.52 311 P **P** **18 27 17.6 -0.1**
12nm,1.0s,baz=141,slow=7.5,SNR=30
CMAR PcP **PcP** **18 29 23.2 +0.8**
1.8nm,0.8s,baz=163,slow=2.0,SNR=6.7
CMAR ScP **ScP** **18 32 58.9 +1.6**
0.9nm,0.9s,baz=116,slow=3.3,SNR=4.6
CMMT Chiang Mai 39.73 311 P **P** **18 27 19.3 -0.2**
CHTO Chiang Mai 39.73 311 *e*P **P** **18 27 19.1 -0.4**
23nm,1.1s
CHTO Chiang Mai 39.73 311 P **P** **18 27 19.6 +0.1**
25nm,1.1s
MAT Matsushiro 44.38 10 P **P** **18 27 55.8 -1.1**
MJAR Matsushiro Arr 44.38 10 P **P** **18 27 55.5 -1.3**
MJAR Matsushiro Arr 44.38 10 P **P** **18 27 55.5 -1.3**
7.9nm,0.9s,baz=187,slow=9.1,SNR=20
KSAR Wonju Array Be 44.53 358 P **P** **18 27 58.2 +0.2**
KSRS Korea Array 44.54 358 P **P** **18 27 58.2 +0.1**
2.0nm,0.6s,baz=172,slow=8.4,SNR=14
HHC Hu-ho-hao-te 50.66 342 *e*P **P** **18 28 43.6 -1.9**
HHC S **S** **18 35 46.0 -3.0**
HHC pmax pmax
comp=Z,41nm,0.7s
HHC pmax pmax
comp=Z,290nm,5.9s
USRK Ussuriysk Arra 51.31 2 P **P** **18 28 49.8 -0.2**
comp=Z,4.6nm,0.7s,baz=185,slow=6.3,SNR=16
LSA Lhasa 52.05 317 *e*P **P** **18 28 56.5 +0.1**
comp=Z,6.9nm,0.6s
ODAN Odare 53.05 311 *e*P **P** **18 29 02.8 -0.8**
comp=Z,27nm,0.5s
TAPN Taplejung 53.09 312 *e*P **P** **18 29 03.1 -0.8**
comp=Z,45nm,0.7s
RAMN Ramite 53.69 311 *e*P **P** **18 29 08.0 -0.2**
comp=Z,72nm,0.6s
GTA Gaotai 53.98 332 ⇓P **P** **18 29 10.1 +0.1**
GTA PcP **PcP** **18 30 14.8 +1.5**
GTA pmax pmax
comp=Z,7.0nm,1.2s
JIRN Jiri 54.38 312 *e*P **P** **18 29 12.9 -0.5**
comp=Z,28nm,0.6s
GUN Gumba 54.75 312 *e*P **P** **18 29 15.5 -0.5**
comp=Z,77nm,0.7s
PKI Pulchoki 54.91 311 *e*P **P** **18 29 16.3 -0.9**
comp=Z,20nm,0.6s
PKIN Phulchoki 54.93 311 *e*P **P** **18 29 15.8 -1.4**
comp=Z,14nm,0.5s
KKN Kakani 55.13 311 *e*P **P** **18 29 17.8 -0.8**
comp=Z,22nm,0.6s
DMN Daman 55.16 311 *e*P **P** **18 29 18.2 -0.7**
comp=Z,25nm,0.7s
KOLN Koldanda 56.38 310 *e*P **P** **18 29 27.0 -0.5**
comp=Z,42nm,0.7s
DANN Dangsing 56.56 311 *e*P **P** **18 29 28.1 -0.8**
comp=Z,35nm,0.8s
PYUN Piuthan 57.01 310 *e*P **P** **18 29 31.7 -0.3**
comp=Z,93nm,0.8s
ULN Ulaanbaatar 58.38 342 *e*P **P** **18 29 41.4 +0.3**
comp=Z,3.6nm,0.7s
SONM Songino Array 58.56 342 P **P** **18 29 42.7 +0.4**
SONM Songino Array 58.56 342 P **P** **18 29 42.7 +0.4**
comp=Z,1.7nm,0.5s,baz=161,slow=6.7,SNR=22
PETK Petropavlovsk- 64.77 18 P **P** **18 30 24.7 +1.1**
PETK Petropavlovsk- 64.77 18 P **P** **18 30 24.7 +1.1**
comp=Z,4.5nm,0.7s,baz=189,slow=7.4,SNR=14
MK31 Makanchi Array 68.18 327 *e*P **P** **18 30 45.3 -0.2**
MK31 ePcP **PcP** **18 31 10.2 -0.1**
MKAR Makanchi Array 68.18 327 P **P** **18 30 45.7 +0.2**
MKAR Makanchi Array 68.18 327 P **P** **18 30 45.7 +0.2**
comp=Z,4.0nm,0.6s,baz=124,slow=7.6,SNR=66
ZAA0 Zalesovo Array 71.61 334 *e*P **P** **18 31 05.4 -0.9**
ZALV Zalesovo Beam 71.61 334 P **P** **18 31 05.6 -0.6**
ZALV Zalesovo Beam 71.61 334 P **P** **18 31 05.6 -0.6**
comp=Z,11nm,0.9s,baz=121,slow=5.0,SNR=36
VNDA Vanda 72.22 173 P **P** **18 31 10.8 +1.2**
VNDA Vanda 72.22 173 P **P** **18 31 10.8 +1.2**
comp=Z,0.4nm,0.7s,baz=315,slow=8.7,SNR=4.7
MAW Mawson 74.48 201 P **P** **18 31 24.3 +1.4**
MAW Mawson 74.48 201 P **P** **18 31 24.3 +1.4**
comp=Z,1.6nm,0.7s,baz=85,slow=7.9,SNR=4.0
RDF Al-Radifah 86.47 300 *e*P **P** **18 32 26.6 -1.0**
RDF AMb AMB 18 32 29.8
comp=Z,18nm,1.5s
NAY Al-Naaiem 86.79 300 *e*P **P** **18 32 28.4 -0.8**
NAY AMb AMB 18 32 29.9
comp=Z,11nm,0.8s
MIB Mutribah 86.80 300 *e*P **P** **18 32 28.4 -0.8**
MIB AMb AMB 18 32 33.9
comp=Z,9.9nm,0.4s
ILAR Eielson Array 93.84 25 P **P** **18 33 00.3 -1.0**
ILAR Eielson Array 93.84 25 P **P** **18 33 00.3 -1.0**
comp=Z,1.4nm,0.7s,baz=252,slow=4.6,SNR=12
SNAA Sanae 95.25 194 *e*P **P** **18 33 09.3 +1.5**
DAWY Dawson 97.01 26 *e*P Pdif 18 33 16.5 +0.6
DAWY *e*pP pP 18 33 53.1 -0.8
ARCES ARCESS Array B 101.67 340 P **Pdif** **18 33 35.7 -0.7**
ARCES ARCESS Array B 101.67 340 P **Pdif** **18 33 35.7 -0.7**
comp=Z,2.4nm,0.7s,baz=78,slow=6.3,SNR=14
FINES FINESS Array B 102.77 331 Pdif **Pdif** **18 33 40.6 -0.8**
FINES FINESS Array B 102.77 331 Pdiff **Pdif** **18 33 40.6 -0.8**
comp=Z,0.8nm,0.8s,baz=46,slow=5.5,SNR=4.2
GERES GERESS Array B 112.31 320 PKiKP **PKiKP** **18 38 19.6 0.0**
GERES GERESS Array B 112.31 320 PKiKP **PKiKP** **18 38 19.6 0.0**
comp=Z,1.0nm,0.6s,baz=48,slow=1.5,SNR=6.9
CDF Champ du Feu 116.50 321 *e*PKIKP **PKPdf** **18 38 28.6 +1.0**
HINF Hinteralfeld 116.97 320 *e*PKIKP **PKPdf** **18 38 28.4 -0.1**
PDAR Pinedale Array 117.48 45 PKP **PKPdf** **18 38 30.6 +0.7**
PDAR Pinedale Array 117.48 45 PKP **PKPdf** **18 38 30.6 +0.7**
comp=Z,0.7nm,0.7s,baz=304,slow=2.1,SNR=6.3
LPG La Plagne 117.82 318 *e*PKIKP **PKPdf** **18 38 31.1 +0.6**
comp=Z,2.8nm,0.6s
LPL La Plagne 117.83 318 *e*PKIKP **PKPdf** **18 38 30.9 +0.5**
comp=Z,2.7nm,0.6s
CABF La Chapelle 117.88 319 *e*PKIKP **PKPdf** **18 38 31.0 +0.7**
comp=Z,4.4nm,0.6s
MBDF Montbardon 118.06 317 *e*PKIKP **PKPdf** **18 38 31.6 +0.8**
ORIF Oris-en-Rattie 118.60 318 *e*PKIKP **PKPdf** **18 38 32.2 +0.4**
comp=Z,3.0nm,0.6s
LOR Lormes 119.06 321 *e*PKIKP **PKPdf** **18 38 32.9 +0.4**
SMRF Simiane la Rot 119.12 317 *e*PKIKP **PKPdf** **18 38 33.6 +0.9**
SSF Saint Saulge 119.36 321 *e*PKIKP **PKPdf** **18 38 33.7 +0.7**
VIVF Saint-Julien-l 119.42 318 *e*PKIKP **PKPdf** **18 38 33.8 +0.5**
BGF Bois d'Agland 119.97 320 *e*PKIKP **PKPdf** **18 38 35.0 +0.8**
comp=Z,8.8nm,0.6s
TCF Toulx Ste Croi 120.49 320 *e*PKIKP **PKPdf** **18 38 36.0 +0.7**
LDF La Druitiere 120.93 323 *e*PKIKP **PKPdf** **18 38 37.1 +1.1**
CAF Calviac 121.12 319 *e*PKIKP **PKPdf** **18 38 37.5 +1.0**
comp=Z,3.7nm,0.7s
MTLF Montolieu 121.62 317 *e*PKIKP **PKPdf** **18 38 38.0 +0.5**
comp=Z,3.7nm,0.8s
MFF Saint Martin d 121.83 321 *e*PKIKP **PKPdf** **18 38 38.2 +0.4**
LFF La Frestale 121.98 319 *e*PKIKP **PKPdf** **18 38 39.0 +0.9**
ETSF Etsaut 123.67 317 *e*PKIKP **PKPdf** **18 38 42.2 +0.6**
comp=Z,6.7nm,0.8s
SJPF Ste Jean 124.02 318 *e*PKIKP **PKPdf** **18 38 43.5 +1.4**
TXAR Lajitas Array 125.54 59 PKP **PKPdf** **18 38 47.3 +1.7**
TXAR Lajitas Array 125.54 59 PKP **PKPdf** **18 38 47.3 +1.7**
comp=Z,1.0nm,0.8s,baz=264,slow=0.9,SNR=6.8
TORD Torodi Ar. Bea 128.34 281 PKP **PKPdf** **18 38 51.5 +0.4**
TORD SKPbc SKiKP 18 41 54.8 -19
TORD Torodi Ar. Bea 128.34 281 PKP **PKPdf** **18 38 51.5 +0.4**
comp=Z,3.0nm,0.6s,baz=84,slow=2.0,SNR=19
TORD SKPbc SKiKP 18 41 54.8 -19
comp=Z,1.2nm,1.0s,baz=113,slow=2.8,SNR=3.5
JCT Junction City 128.50 57 *e*PKPdf **PKPdf** **18 38 53.1 +2.0**
DBIC Dimbokro 134.67 272 SKPbc **SKPbc** **18 42 18.6 -0.9**
comp=Z,8.0nm,1.0s,baz=153,slow=4.5,SNR=4.1
LIC Lamto 134.81 272 *e*PKIKP **PKPdf** **18 39 03.5 +0.1**
LRAL Lakeview Retre 137.62 48 *e*PKPpre PKPpre 18 39 02.7
CPUP Villa Florida 145.93 169 PKPbc **PKPab** **18 39 24.8 +0.2**
CPUP *e*PKPdf **PKiKP** **18 39 25.6 -1.7**
CPUP Villa Florida 145.93 169 PKPbc **PKPab** **18 39 24.8 +0.2**
comp=Z,3.9nm,0.8s,baz=177,slow=4.8,SNR=7.7
LPAZ La Paz 150.80 143 PKP **PKPdf** **18 39 34.0 +1.9**
LPAZ PKPbc **PKiKP** **18 39 39.7 +1.3**
LPAZ La Paz 150.80 143 PKP **PKPdf** **18 39 34.0 +1.9**
comp=Z,1.4nm,0.8s,baz=40,slow=3.0,SNR=5.8
LPAZ PKPbc **PKiKP** **18 39 39.7 +1.3**
comp=Z,3.5nm,0.7s,baz=23,slow=2.7,SNR=10

KRSC 05 18:23:07.3±0.1, 54°.56N×160°.66E, h141km±41km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.62**	**90**	P	Pn		18 23 29.5	+1.3
MKZ				S	Sn		18 23 44.6	+0.4
KII	**Karymskiy**	**0.88**	**234**	P	Pn		18 23 31.4	+1.1
KII				S	Sn		18 23 49.8	+2.0
KMNR	**Kamenistaya**	**1.22**	**349**	P	Pn		18 23 34.7	+1.3
KMNR				S	Sn		18 23 54.4	+1.0
BZMR	**Bezymyannaya**	**1.38**	**356**	P	Pn		18 23 36.1	+1.0
BZMR				S	Sn		18 23 57.6	+1.3
BZGR	**Bezymyannyi-Gr**	**1.38**	**1**	S	Sn		18 23 58.5	+2.2
KIRR	**Kirishev**	**1.41**	**353**	P	Pn		18 23 36.0	+0.7
KIRR				S	Sn		18 23 57.5	+0.7
KPT	**Kopyto**	**1.43**	**350**	P	Pn		18 23 36.2	+0.7
KPT				S	Sn		18 23 57.5	+0.4
SPN	**Mys Shipunski**	**1.51**	**195**	P	Pn		18 23 36.9	+0.6
SPN				S	Sn		18 23 57.9	-0.5
KOZ	**Kozyrevsk**	**1.57**	**344**	P	Pn		18 23 36.6	-0.3
NLC	**Nalytchevo**	**1.59**	**210**	P	Pn		18 23 38.3	+1.1
NLC				S	Sn		18 24 00.7	+0.7
SDLR	**Sedlovina**	**1.66**	**220**	P	Pn		18 23 39.5	+1.4
SDLR				S	Sn		18 24 03.3	+1.7
KRSR	**Krestovskiy**	**1.66**	**358**	S	Sn		18 24 03.2	+1.6
KRER	**Koryakskii**	**1.69**	**223**	P	Pn		18 23 40.2	+1.7
KRER				S	Sn		18 24 04.5	+2.1
SMAR	**Somma**	**1.70**	**221**	P	Pn		18 23 40.1	+1.4
SMAR				S	Sn		18 24 04.1	+1.4
AVH	**Avacha**	**1.73**	**222**	P	Pn		18 23 40.5	+1.7
AVH				S	Sn		18 24 04.2	+1.4
UGLR	**Uglovaya**	**1.74**	**220**	P	Pn		18 23 40.4	+1.5
UGLR				S	Sn		18 24 04.8	+1.7
KOK	**Koryaka**	**1.75**	**224**	P	Pn		18 23 40.7	+1.7
KOK				S	Sn		18 24 05.8	+2.5
KLY	**Klyuchi**	**1.76**	**360**	P	Pn		18 23 39.7	+0.8
KLY				S	Sn		18 24 04.2	+0.9
ESO	**Esso**	**1.77**	**321**	P	Pn		18 23 39.6	+0.4
ESO				S	Sn		18 24 02.2	-1.4
GNL	**Ganaly**	**1.82**	**243**	P	Pn		18 23 41.1	+1.2
GNL				S	Sn		18 24 05.5	+0.7
SRDR	**Sredinnyy**	**1.84**	**343**	P	Pn		18 23 40.7	+0.7
PET	**Petropavlovsk**	**1.95**	**219**	P	Pn		18 23 42.7	+1.5
PET				S	Sn		18 24 07.6	+0.5
BDR	**Baidarnaya**	**2.04**	**9**	P	Pn		18 23 44.0	+1.6
BDR				S	Sn		18 24 10.8	+1.5
KBG	**Krutoberegovo**	**2.06**	**34**	P	Pn		18 23 44.2	+1.7
KBG				S	Sn		18 24 10.5	+0.9
SMKR	**Semkarok**	**2.08**	**12**	P	Pn		18 23 45.0	+2.2
SMKR				S	Sn		18 24 12.2	+2.0
SRKR	**Sorokina**	**2.12**	**8**	P	Pn		18 23 44.7	+1.4
SRKR				S	Sn		18 24 12.5	+1.4
RUS	**Russkaya**	**2.49**	**212**	P	Pn		18 23 48.5	+0.7
RUS				S	Sn		18 24 18.9	0.0
MTVR	**Mutnovka**	**2.55**	**216**	P	Pn		18 23 50.6	+1.8
MTVR				S	Sn		18 24 21.9	+1.2
APC	**Apacha**	**2.65**	**233**	P	Pn		18 23 51.7	+1.9
APC				S	Sn		18 24 23.7	+1.2
ASAK	**Asacha**	**2.73**	**218**	P	Pn		18 23 52.6	+1.6
BKI	**Bering**	**3.14**	**76**	S	Sn		18 24 33.4	-0.1
MIPR	**Malaya Ipel'ka**	**3.27**	**227**	P	Pn		18 23 59.1	+1.4
SKR	**Severo-Kuril's**	**4.77**	**217**	P	Pn		18 24 18.5	+1.1

BJI ***05*** *18:29:51.9, 0°.28S×121°.16E, h90km, mB5.0/11, mb4.9/21*
NEIC ***05*** *18:29:59.0±0.3, 0°.36N×120°.84E, mb4.7/6, Error ellipse: s-maj=13.4km s-min=6.0km az=71.0*
ISCJB ***05*** *18:29:58.7±0.4, 0°.43N±0°.03×120°.85E±0°.03, h100km±4km, mb4.5/31, Error ellipse: s-maj=5.7km s-min=4.4km az=164.1*
IDC ***05*** *18:29:58.6±0.5, 0°.34N×120°.78E, h90km±4km, mb4.2/19, mb1 4.3/21, mb1mx4.2/28, mbtmp4.2/21, MS3.2/4, Ms1 3.3/4, ms1mx2.7/32, Error ellipse: s-maj=16.7km s-min=8.0km az=80.0*
AUST ***05*** *18:29:59.5±0.0, 0°.48N×120°.80E, h104km, Error ellipse: s-maj=1.3km s-min=0.8km az=39.0*
BKK ***05*** *18:30:00.6±0.3, 0°.N±4°×12°.1E±°, h77km±5km, M5.0/14, mB5.4/7, mb4.8/14, MLv5.1/6, Mw(mB)4.8/7*
DJA ***05*** *18:30:01.2±0.8, 0°.N±4°×12°.1E±°, h35km±11km, M5.1/11, mb5.0/5, mB5.7/2, MLv5.1/11, Mw(mB)5.2/2*
ISC 05 18:29:59.2±0.4, 0°.38N±0°.04×120°.83E±0°.05, h95km±3km,
h95km:pP-P, n121, σ1$41/141, mb4.5/31, 2C-2D,
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.74**	**358**	P	**Pn**		**18 30 15.5**	**-1.1**
MRSI	**Marisa**	**1.12**	**85**	P	**Pn**		**18 30 21.8**	**+1.2**
MRSI				S	**Sn**		**18 30 38.2**	**+1.4**
GTOI	**Gorontalo**	**2.20**	**83**	P	**Pn**		**18 30 36.0**	**+1.8**
LUWI	**Luwuk**	**2.40**	**126**	P	Pn		18 30 40.3	+3.4
LUWI	**Luwuk**	**2.40**	**126**	P	**Pn**		**18 30 39.3**	**+2.3**
baz=2.5,SNR=116								
TTSI	**Tana Toraja**	**3.54**	**196**	P	**Pn**		**18 30 53.8**	**+1.6**
MMSI	**Mamuju**	**3.60**	**212**	P	**Pn**		**18 30 52.5**	**-0.5**
MNI	**Manado**	**4.15**	**75**	P	**Pn**		**18 31 02.2**	**+1.8**
MNI				S	**Sn**		**18 31 44.5**	**-3.4**
BNSI	**Bone**	**4.80**	**189**	P	Pn		18 31 12.7	+3.5
TSM	**Tawau**	**4.88**	**323**	P	**Pn**		**18 31 08.3**	**-2.0**
MYLDM	**Lahad Datu**	**5.31**	**334**	P	**Pn**		**18 31 17.0**	**+0.9**
MYLDM	**Lahad Datu**	**5.31**	**334**	P	**Pn**		**18 31 18.2**	**+2.1**
694nm,0.8s,30μm13nm								
KAPI	**Kappang**	**5.46**	**191**	P	**Pn**		**18 31 17.4**	**-0.9**
KAPI				S	**Sn**		**18 32 17.4**	**-2.4**
KAPI	**Kappang**	**5.46**	**191**	P	**Pn**		**18 31 17.5**	**-0.7**
KAPI	**Kappang**	**5.46**	**191**	P	**Pn**		**18 31 17.4**	**-0.9**
14nm,0.3s,baz=356,slow=8.0,SNR=65								
KAPI				S	**Sn**		**18 32 17.4**	**-2.4**
13nm,0.3s,baz=80,slow=19,SNR=3.1								
KAPI				LR	LR		18 33 57.0	
comp=Z,309nm,18.8s,baz=13,slow=44								
BBSI	**Bau Bau**	**6.08**	**163**	P	Pn		18 31 34.0	+7.3
SDKM	**Sandakan**	**6.36**	**325**	P	**Pn**		**18 31 29.9**	**-0.6**
BSSI	**Bau Bau, Buton**	**6.49**	**183**	P	Pn		18 31 36.2	+4.0
126nm,0.6s,1μm0.5nm								
ZMPH	**Zamboanga City**	**6.65**	**11**	⇑*i*P	**Pn**		**18 31 33.8**	**-0.6**
ZMPH				*i*S	**Sn**		**18 32 44.3**	**-4.4**
GSPH	**General Santos**	**7.01**	**36**	*e*P	**Pn**		**18 31 39.0**	**-0.4**
GSPH				*e*S	**Sn**		**18 32 56.2**	**-1.5**
BBKI	**Banjar Baru**	**7.09**	**237**	P	**Pn**		**18 31 40.7**	**+0.3**
84nm,0.8s,0.4nm								
KKM	**Kota Kinabalu**	**7.27**	**321**	P	Pn		18 31 50.4	+7.5
KKM	**Kota Kinabalu**	**7.27**	**321**	P	**Pn**		**18 31 42.5**	**-0.4**
baz=7.2,SNR=4.0								
KKM				S	**Sn**		**18 33 03.1**	**-1.0**
baz=7.2,SNR=3.6								
IPIL	**Ipil**	**7.56**	**13**	*e*P	**Pn**		**18 31 46.4**	**-0.5**
CTBH	**Cotabato--PC H**	**7.61**	**27**	⇑*i*P	**Pn**		**18 31 45.9**	**-1.5**
PAGZ	**Pagadian**	**7.85**	**19**	*e*P	**Pn**		**18 31 50.5**	**-0.2**
AAI	**Ambon**	**8.40**	**119**	P	Pn		18 32 04.0	+5.7
baz=8.5,SNR=6.6								
MATI	**Mati**	**8.48**	**40**	*e*P	**Pn**		**18 31 59.1**	**-0.2**
BUKP	**Musuan**	**8.56**	**29**	*e*P	**Pn**		**18 32 00.2**	**-0.3**
SBUM	**Sibu**	**8.85**	**284**	P	**Pn**		**18 32 04.9**	**+0.6**
55nm,1.1s,0.2nm								
PPR	**Puerto Princes**	**9.57**	**347**	⇓*e*P	**Sn**		**18 34 02.2**	**+2.3**
KSM	**Kuching**	**10.57**	**276**	P	**Pn**		**18 32 28.7**	**+0.9**
SOEI	**Soe**	**10.63**	**161**	P	Pn		18 32 36.1	+7.3
baz=11,SNR=3.8								
SJI	**Sawahan**	**12.11**	**228**	P	**P**		**18 32 59.2**	**+1.9**
BJII	**Banjamegara**	**13.47**	**235**	P	P		18 33 19.6	+7.1
CISI	**Cisompet, Garu**	**15.18**	**238**	P	**P**		**18 33 32.7**	**+1.2**
baz=15,SNR=7.5								
MTN	**Manton Dam**	**16.64**	**142**	P	**P**		**18 33 48.4**	**+0.8**
baz=17,SNR=24								
KNRA	**Kununurra**	**17.77**	**154**	P	**Pn**		**18 34 02.3**	**+1.7**
baz=18,SNR=7.6								
FITZ	**Fitzroy Crossi**	**18.96**	**166**	P	**Pn**		**18 34 14.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**18.96**	**166**	P	**Pn**		**18 34 14.3**	**-0.6**
8.5nm,0.3s,baz=1.0,slow=7.7,SNR=62								
FITZ				LR	LR		18 42 55.7	
comp=Z,64nm,18.4s,baz=162,slow=41								
PPI	**Padang Panjang**	**20.45**	**268**	P	Pn		18 34 33.5	+1.3
baz=20,SNR=3.7								
PPI				S	Sn		18 38 42.1	+19
baz=20,SNR=4.0								
PSI	**Prapat**	**22.02**	**277**	P	**P**		**18 34 46.7**	**+0.4**
PSI	**Prapat**	**22.02**	**277**	P	**P**		**18 34 46.7**	**+0.4**
5.8nm,0.6s,baz=100,slow=11,SNR=5.3								
GSI	**Gunungsitoli**	**23.27**	**272**	S	S		18 39 13.6	+10
baz=23,SNR=7.6								
NAYO	**Nakonayok**	**23.75**	**307**	P	**P**		**18 35 03.9**	**+0.8**
196nm,1.1s,7μm								
WRAB	**Tennant Creek**	**24.15**	**147**	*e*P	**P**		**18 35 06.4**	**-0.2**
11nm,0.8s								
WRA	**Warramunga Arr**	**24.15**	**147**	P	**P**		**18 35 06.2**	**-0.4**
WRA				pP	**pP**		**18 35 27.9**	**+0.5**
WRA				ScP	**ScP**		**18 42 13.8**	**-1.8**
WRA	**Warramunga Arr**	**24.15**	**147**	P	**P**		**18 35 06.2**	**-0.4**
12nm,0.7s,baz=338,slow=9.1,SNR=29								
WRA				pP	**pP**		**18 35 27.9**	**+0.5**
7.2nm,0.9s,baz=330,slow=10,SNR=4.6								
WRA				ScP	**ScP**		**18 42 13.8**	**-1.8**
0.9nm,0.8s,baz=328,slow=2.7,SNR=6.6								
CHAI	**Chaiyaphum**	**24.16**	**311**	P	**P**		**18 35 07.2**	**+0.5**
14nm,0.7s,112nm								
PHET	**Kaeng Krachan**	**24.42**	**302**	P	**P**		**18 35 10.2**	**+1.1**
113nm,0.9s								
PBKT	**Sadao Pong**	**25.34**	**310**	P	**P**		**18 35 19.3**	**+1.9**
14nm,0.9s								
MEEK	**Meekatharra**	**26.94**	**184**	P	**P**		**18 35 31.4**	**-0.5**
baz=27,SNR=5.2								
AS31	**Alice Springs**	**27.07**	**153**	*e*P	**P**		**18 35 33.4**	**+0.3**
ASAR	**Alice Springs**	**27.07**	**153**	P	**P**		**18 35 33.0**	**0.0**
ASAR				pP	**pP**		**18 35 54.5**	**+0.1**
ASAR				PcP	**PcP**		**18 38 50.8**	**-1.3**
ASAR				ScP	**ScP**		**18 42 22.1**	**-1.8**
ASAR	**Alice Springs**	**27.07**	**153**	P	**P**		**18 35 33.0**	**0.0**
4.9nm,0.6s,baz=325,slow=8.7,SNR=23								
ASAR				pP	**pP**		**18 35 54.5**	**+0.1**
2.4nm,0.6s,baz=339,slow=10.0,SNR=2.2								
ASAR				PcP	**PcP**		**18 38 50.8**	**-1.3**
0.9nm,0.5s,baz=342,slow=2.2,SNR=6.6								
ASAR				ScP	**ScP**		**18 42 22.1**	**-1.8**
0.9nm,0.7s,baz=339,slow=3.0,SNR=8.5								
CMAR	**Chiang Mai Arr**	**28.01**	**311**	P	**P**		**18 35 42.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**28.01**	**311**	P	**P**		**18 35 42.3**	**+0.8**
2.4nm,0.7s,baz=138,slow=7.2,SNR=14								
CMAR				LR	LR		18 48 40.7	
comp=Z,35nm,19.0s,baz=320,slow=40								
MORW	**Morawa**	**29.64**	**188**	P	**P**		**18 35 55.5**	**-0.3**
baz=30,SNR=4.8								
KMI	**Kunming**	**30.18**	**326**	P	**P**		**18 36 02.7**	**+1.8**
KMI				pmax	pmax			
comp=Z,14nm,0.6s								
BLDU	**Ballidu**	**31.07**	**187**	P	**P**		**18 36 07.6**	**-0.8**
baz=31,SNR=12								
NWAO	**Narrogin (SRO)**	**33.30**	**186**	P	**P**		**18 36 27.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**33.30**	**186**	P	**P**		**18 36 27.7**	**-0.1**
comp=Z,10nm,0.5s,baz=9.2,slow=8.1,SNR=12								
BBOO	**Buckleboo**	**36.00**	**158**	P	**P**		**18 36 51.9**	**+0.7**
baz=36,SNR=4.6								
KSAR	**Wonju Array Be**	**37.45**	**9**	P	**P**		**18 37 04.7**	**+1.3**
KSAR				pP	**pP**		**18 37 25.3**	**-0.1**
KSRS	**Korea Array**	**37.47**	**9**	P	**P**		**18 37 04.7**	**+1.2**
comp=Z,2.3nm,0.6s,baz=189,slow=9.1,SNR=16								
KSRS				pP	**pP**		**18 37 25.3**	**-0.2**
comp=Z,2.6nm,0.7s,baz=191,slow=8.6,SNR=8.5								
SHL	**Shillong**	**37.52**	**314**	*e*P	**P**		**18 37 06.0**	**+1.6**
STKA	**Stephens Creek**	**37.62**	**150**	P	**P**		**18 37 05.5**	**+0.5**
STKA	**Stephens Creek**	**37.62**	**150**	P	**P**		**18 37 05.5**	**+0.5**
comp=Z,8.8nm,0.8s,baz=320,slow=10,SNR=9.8								
STKA	**Stephens Creek**

comp=Z,16nm,1.0s
WMQ pmax pmax
comp=Z,82nm,3.5s
MK31 Makanchi Array 57.17 329 *e*P **P 18 39 37.1 +0.8**
MKAR Makanchi Array 57.17 329 P **P 18 39 37.3 +1.1**
MKAR Makanchi Array 57.17 329 P **P 18 39 37.3 +1.1**
comp=Z,9.4nm,0.4s,baz=128,slow=9.3,SNR=189
KBL Kabul 59.04 311 *e*P **P 18 39 50.0 +0.2**
comp=Z,8.2nm,0.6s
AAK Ala-Archa 59.07 322 P **P 18 39 51.2 +1.4**
AAK Ala-Archa 59.07 322 P **P 18 39 51.2 +1.4**
comp=Z,6.0nm,0.5s,baz=135,slow=6.0,SNR=7.8
PETK Petropavlovsk- 60.82 24 P **P 18 40 02.0 +0.7**
PETK Petropavlovsk- 60.82 24 P **P 18 40 02.0 +0.7**
comp=Z,2.8nm,1.0s,baz=224,slow=4.0,SNR=4.8
ZAA0 Zalesovo Array 61.09 337 *e*P **P 18 40 03.1 0.0**
ZALV Zalesovo Beam 61.09 337 P **P 18 40 03.0 -0.1**
ZALV Zalesovo Beam 61.09 337 P **P 18 40 03.0 -0.1**
comp=Z,10.0nm,0.7s,baz=137,slow=6.8,SNR=56
BRVK Borovoye 67.12 330 *e*P **P 18 40 42.9 +0.2**
comp=Z,16nm,0.8s
MAW Mawson 78.62 199 P **P 18 41 50.2 0.0**
MAW Mawson 78.62 199 P **P 18 41 50.2 0.0**
comp=Z,1.1nm,0.5s,baz=47,slow=5.5,SNR=4.3
VNDA Vanda 80.93 172 *e*P **P 18 42 02.1 -0.5**
comp=Z,1.9nm,0.6s
VNDA *e*pP **pP 18 42 28.0 +0.6**
VNDA Vanda 80.93 172 P **P 18 42 01.8 -0.7**
comp=Z,1.6nm,0.4s,baz=331,slow=6.2,SNR=8.3
KBZ Khabaz 81.02 314 P **P 18 42 03.4 -0.3**
KBZ pP **pP 18 42 26.2 -2.3**
KBZ Khabaz 81.02 314 P **P 18 42 03.4 -0.3**
comp=Z,2.3nm,0.9s,baz=79,slow=7.1,SNR=4.8
KBZ pP **pP 18 42 26.2 -2.3**
comp=Z,2.6nm,0.9s,baz=62,slow=3.5,SNR=3.4
BRTR Keskin Array B 87.59 310 P **P 18 42 36.2 -1.1**
BRTR pP **pP 18 42 59.3 -3.1**
BRTR Keskin Array B 87.59 310 P **P 18 42 36.2 -1.1**
comp=Z,2.7nm,0.8s,baz=124,slow=5.5,SNR=16
BRTR pP **pP 18 42 59.3 -3.1**
comp=Z,1.0nm,0.8s,baz=107,slow=4.8,SNR=3.4
AKASG Malin Array Be 90.73 321 P **P 18 42 49.9 -1.6**
AKASG pP **pP 18 43 14.0 -2.8**
AKASG Malin Array Be 90.73 321 P **P 18 42 49.9 -1.6**
comp=Z,0.3nm,0.4s,baz=70,slow=4.6,SNR=5.8
AKASG pP **pP 18 43 14.0 -2.8**
comp=Z,0.7nm,0.5s,baz=68,slow=4.9,SNR=3.3
TORD Torodi Ar. Bea 118.21 285 PKP **PKPdf 18 48 35.1 -1.3**
TORD Torodi Ar. Bea 118.21 285 PKP **PKPdf 18 48 35.1 -1.3**
comp=Z,0.3nm,0.6s,baz=75,slow=1.9,SNR=2.7
TXAR Lajitas Array 128.29 51 SKPbc SKiKP 18 52 07.0 -17
TXAR Lajitas Array 128.29 51 SKPbc SKiKP 18 52 07.0 -17
comp=Z,0.2nm,0.6s,baz=338,slow=1.3,SNR=4.5

*IDC **05** 18:50:44.0±3.4, 27°.10N×140°.41E, h407km±35km, mb3.2/9, mb1 3.3/10, mb1mx3.0/26, mbtmp3.1/10, Error ellipse: s-maj=34.9km s-min=17.4km az=79.0*
*JMA **05** 18:50:44.2±0.1, 27°.34N×141°.10E, h420km, M3.7*
ISC 05 18:50:43.7±0.9, 27°.27N±0°.09×140°.8E±0°.1, h400km, n25, σ1§83/28, mb3.5/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.24**	**98**	*e*S	**S**	**18 52 19.1**	**+1.4**
JHHJ	**Haha-jima-NKT**	**1.38**	**117**	*e*S	**S**	**18 52 21.4**	**+2.6**
BSO1	**Boso 1**	**7.36**	**1**	P	**P**	**18 52 33.2**	**+1.9**
BSO3	**Boso 3**	**7.51**	**358**	P	**P**	**18 52 34.6**	**+1.3**
JIE	**Ise**	**7.92**	**335**	P	**P**	**18 52 40.3**	**+2.2**
JKN2	**Miekihoku**	**7.96**	**332**	P	**P**	**18 52 40.7**	**+2.1**
HMMJ	**Hamamatsu 2**	**8.01**	**341**	P	**P**	**18 52 40.6**	**+1.5**
JAG	**Ashikaga**	**9.20**	**353**	P	**Pn**	**18 52 52.5**	**+0.1**
JAG				*e*S	**S**	**18 54 33.8**	**-4.2**
JHO	**Hitachi**	**9.31**	**359**	P	**Pn**	**18 52 55.4**	**+1.7**
JHO				*e*S	**S**	**18 54 39.1**	**-1.3**
MJAR	**Matsushiro Arr**	**9.50**	**347**	P	**Pn**	**18 52 56.5**	**+0.6**
	0.5nm,0.3s,baz=165,slow=9.9,SNR=6.6						
JNA	**Nagahama**	**9.53**	**313**	P	**Pn**	**18 52 58.7**	**+2.4**
JKY	**Yasaka**	**9.65**	**331**	P	**Pn**	**18 52 59.5**	**+1.9**
JKSM	**Kasumi**	**9.81**	**329**	P	**Pn**	**18 53 01.6**	**+2.2**
JHK	**Hiroka**	**10.06**	**352**	P	**Pn**	**18 53 03.1**	**+0.8**
JHS	**Saijyo**	**10.13**	**321**	P	**Pn**	**18 53 04.8**	**+1.6**
WRA	**Warramunga Arr**	**47.35**	**188**	P	**P**	**18 58 37.5**	**-2.1**
	0.4nm,0.5s,baz=6.6,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**48.55**	**319**	P	**P**	**18 58 46.8**	**-1.4**
	0.5nm,0.4s,baz=118,slow=7.7,SNR=2.9						
ZALV				PcP	**PcP**	**19 00 05.7**	**-1.3**
	0.6nm,0.6s,baz=104,slow=1.7,SNR=2.9						
MKAR	**Makanchi Array**	**49.42**	**310**	P	P	18 58 52.7	-2.2
	0.2nm,0.6s,baz=83,slow=10.0,SNR=3.1						
MKAR				PcP	**PcP**	**19 00 08.7**	**-1.6**
	0.3nm,0.7s,baz=98,slow=7.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**52.04**	**314**	P	**P**	**18 59 12.9**	**-1.2**
	1.4nm,0.5s,baz=92,slow=8.1,SNR=20						
BVAR	**Borovoye Array**	**57.08**	**317**	P	**P**	**18 59 48.9**	**-0.9**
	2.5nm,0.4s,baz=88,slow=6.7,SNR=25						
YKA	**Yellowknife Ar**	**72.57**	**28**	P	**P**	**19 01 29.8**	**+1.6**
	0.9nm,0.6s,baz=302,slow=6.3,SNR=3.9						
ARCES	**ARCESS Array B**	**72.97**	**341**	P	**P**	**19 01 30.7**	**+0.2**
	1.1nm,0.7s,baz=67,slow=9.3,SNR=8.9						
FINES	**FINESS Array B**	**77.25**	**333**	P	**P**	**19 01 54.2**	**-0.5**
	1.9nm,0.4s,baz=62,slow=4.9,SNR=32						
NB2	**NORSAR Subarra**	**82.99**	**338**	P	**P**	**19 02 24.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**82.99**	**338**	P	**P**	**19 02 23.9**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=44,slow=4.9,SNR=3.8						

*IDC **05** 19:05:55.2±5.2, 37°.21N×86°.98E, h0km, mb1 3.5/5, mb1mx3.3/31, mbtmp3.5/5, ML3.4/5, Error ellipse: s-maj=71.1km s-min=42.1km az=38.0*
*BJI **05** 19:05:55.7, 37°.21N×86°.88E, h3km, mb3.4/1, ML3.6/6, Ms3.4/1, Ms7 3.1/1*
ISC 05 19:05:59.1±1.9, 37°.5N±0°.1×86°.6E±0°.1, h10km, n8, σ1§79/13, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**6.36**	**7**	Pn	**Pn**	**19 07 34.7**	**+1.8**
WMQ				Sg	**Sg**	**19 09 21.9**	**-1.1**
WMQ				smax	smax		
	comp=N,27nm,0.8s						
WMQ				smax	smax		
	comp=E,42nm,0.8s						
MKAR	**Makanchi Array**	**9.82**	**342**	Pn	**Pn**	**19 08 21.8**	**+1.5**
	comp=E,0.8nm,0.3s,baz=152,slow=14,SNR=40						
MKAR				Sn	**Sn**	**19 10 11.1**	**+0.5**
	comp=E,0.3nm,0.3s,baz=155,slow=25,SNR=3.1						
MKAR				Lg	Lg	19 11 21.7	
	comp=E,0.1nm,0.3s,baz=141,slow=35,SNR=2.4						
GTA	**Gaotai**	**10.52**	**76**	*e*P	**Pn**	**19 08 31.0**	**+1.0**
GTA				pP		19 08 34.9	
GTA				sP		19 08 37.0	
GTA				S	**Sn**	**19 10 28.7**	**+0.8**
GTA				sS		19 10 33.9	
GTA				SS	**SnSn**	**19 10 41.3**	**+1.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.7s						
GTA				LR	LR		
	comp=N,170nm,11.4s						
GTA				LR	LR		
	comp=E,93nm,11.2s						
GTA				LR	LR		
	comp=Z,90nm,10.9s						
KURBB	**Kurchatov Arra**	**14.33**	**339**	Pn	**Pn**	**19 09 21.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**16.49**	**356**	Pn	**Pn**	**19 09 50.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=6.5						
ZALV				Sn	**Sn**	**19 12 51.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=176,slow=23,SNR=3.5						
SONM	**Songino Array**	**17.78**	**48**	P	**Pn**	**19 10 04.8**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=245,slow=14,SNR=2.4						
BVAR	**Borovoye Array**	**19.20**	**329**	P	**Pn**	**19 10 25.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=7.9						
NJ2	**Nanjing**	**26.94**	**92**	*e*P	**P**	**19 11 37.6**	**-3.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						

WEL 05 19:08:54.4±0.1, 38°.17S×177°.58E, h56km±1km, ML3.6/5, 7C-8D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.17**	**195**	⇑PN	Pn	19 09 02.6	-0.7
MWZ				SN	Sn	19 09 08.8	-0.9
MWZ				AML	AML	19 09 09.3	
MWZ				AML	AML	19 09 09.3	
MWZ				AML	AML	19 09 09.3	
URZ	**Urewera**	**0.38**	**257**	⇓PN	Pn	19 09 04.3	-0.5
URZ				SN	Sn	19 09 12.1	-0.2
URZ				AML	AML	19 09 13.9	
PUZ	**Puketiti**	**0.54**	**79**	⇓PN	Pn	19 09 06.5	-0.1
PUZ				SN	Sn	19 09 16.0	+0.6
PUZ				AML	AML	19 09 16.8	
CNGZ	**Carnagh Statio**	**0.58**	**122**	⇑PN	Pn	19 09 07.2	+0.2
EDRZ	**Edgecumbe**	**0.67**	**275**	PN	Pn	19 09 07.7	-0.4
EDRZ				SN	Sn	19 09 18.2	+0.1
WIZ	**White Island**	**0.72**	**334**	PN	Pn	19 09 08.0	-0.6
MARZ	**Manawahe**	**0.74**	**284**	⇓PN	Pn	19 09 08.8	-0.2
MARZ				SN	Sn	19 09 19.5	-0.1
PRGZ	**Paritu Road**	**0.79**	**163**	PN	Pn	19 09 09.4	-0.2
MXZ	**Matakaoa Point**	**0.84**	**44**	AML	AML	19 09 14.2	
MXZ				AML	AML	19 09 14.6	
RAHZ	**Arahi**	**0.84**	**207**	⇓PN	Pn	19 09 10.3	0.0
KNZ	**Kokohu**	**0.85**	**175**	⇑PN	Pn	19 09 09.8	-0.5
KNZ				SN	Sn	19 09 21.9	0.0
TARZ	**Mount Tarawera**	**0.85**	**266**	PN	Pn	19 09 10.5	0.0
RRRZ	**Republican Roa**	**0.86**	**258**	⇓PN	Pn	19 09 10.2	-0.2
OPRZ	**Ohinepanea**	**0.87**	**292**	⇑PN	Pn	19 09 10.0	-0.7
OPRZ				SN	Sn	19 09 22.1	-0.4
OMRZ	**Omania**	**0.96**	**274**	PN	Pn	19 09 11.6	-0.2
PRRZ	**Plateau Road**	**0.99**	**251**	⇓PN	Pn	19 09 11.9	-0.3
MHGZ	**Mahia Peninsul**	**1.01**	**165**	PN	Pn	19 09 12.1	-0.4
HRRZ	**Handcock Road**	**1.04**	**258**	PN	Pn	19 09 12.8	-0.2
ALRZ	**Allen Road**	**1.05**	**248**	⇑PN	Pn	19 09 12.8	-0.1
KARZ	**Kaharoa**	**1.07**	**278**	PN	Pn	19 09 12.9	-0.3
NMHZ	**Naumai**	**1.10**	**213**	⇓PN	Pn	19 09 14.1	+0.3
BKZ	**Black Stump Fm**	**1.31**	**220**	⇓PN	Pn	19 09 16.3	-0.2
BKZ				AML	AML	19 09 41.2	
BKZ				AML	AML	19 09 47.4	
MCHZ	**McNeill Hill**	**1.44**	**208**	PN	Pn	19 09 18.1	-0.2
CKHZ	**Cape Kidnapper**	**1.54**	**195**	PN	Pn	19 09 18.2	-1.2
TOZ	**Tahuroa Road**	**1.70**	**284**	PN	Pn	19 09 21.3	-0.4
KAHZ	**Kaharanaki**	**1.71**	**199**	⇑PN	Pn	19 09 20.9	-1.0
BHHZ	**Black Hill Sta**	**1.77**	**222**	PN	Pn	19 09 22.4	-0.4
KRVZ	**Karewarewa**	**1.78**	**238**	PN	Pn	19 09 23.0	+0.1
OTVZ	**Oturere**	**1.80**	**236**	PN	Pn	19 09 23.1	-0.1
NGZ	**Ngauruhoe**	**1.84**	**237**	PN	Pn	19 09 23.8	-0.1
TUVZ	**Tukino**	**1.86**	**233**	PN	Pn	19 09 24.2	0.0
MOVZ	**Moawhango**	**1.89**	**229**	PN	Pn	19 09 23.8	-0.6
FWVZ	**Far West T-bar**	**1.92**	**235**	PN	Pn	19 09 24.8	-0.2
WNVZ	**Wahianoa**	**1.93**	**233**	⇑PN	Pn	19 09 24.9	-0.3
MTVZ	**Mangateitei**	**2.05**	**233**	PN	Pn	19 09 26.3	-0.3
KUZ	**Kuaotunu**	**2.06**	**313**	PN	Pn	19 09 25.6	-0.9
PKVZ	**Pokaka**	**2.07**	**237**	PN	Pn	19 09 27.4	+0.4
HIZ	**Hauiti**	**2.17**	**260**	PN	Pn	19 09 28.7	+0.6
MKAZ	**Moumakai**	**2.19**	**298**	PN	Pn	19 09 28.2	-0.2
PRHZ	**Porangahau**	**2.22**	**199**	PN	Pn	19 09 26.4	-2.4
TSZ	**Takapari Road**	**2.27**	**213**	PN	Pn	19 09 27.4	-2.1
DVHZ	**Dannevirke**	**2.39**	**207**	PN	Pn	19 09 28.4	-2.8
VRZ	**Vera Road**	**2.41**	**246**	PN	Pn	19 09 32.2	+0.8
WAZ	**Wanganui**	**2.57**	**231**	PN	Pn	19 09 34.0	+0.4
BFZ	**Birch Farm**	**2.71**	**202**	PN	Pn	19 09 32.7	-2.8
TIWZ	**Tintock**	**2.91**	**206**	PN	Pn	19 09 36.0	-2.4
MRZ	**Mangatainoka R**	**2.93**	**211**	PN	Pn	19 09 35.4	-3.2
NEZ	**North Egmont**	**2.94**	**247**	PN	Pn	19 09 41.3	+2.5
DFE	**Dawson Falls**	**2.95**	**246**	PN	Pn	19 09 41.6	+2.7
PKE	**Pukeiti**	**2.99**	**249**	PN	Pn	19 09 41.9	+2.5
TMWZ	**Te Maipa**	**3.21**	**203**	PN	Pn	19 09 38.6	-3.7

*IDC **05** 19:10:42.2±0.9, 38°.91S×137°.22E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.1/16, mbtmp4.2/8, ML4.6/1, Error ellipse: s-maj=42.2km s-min=21.6km az=84.0*
*ISCJB **05** 19:10:43.5±0.9, 38°.54S±0°.10×137°.32E±0°.08, h10km, mb4.0/6, Error ellipse: s-maj=13.8km s-min=9.3km az=5.0*
*AUST **05** 19:10:45.1±51.0, 38°.74S×137°.22E, h17km±1km, Error ellipse: s-maj=3.6km s-min=1.4km az=35.0*
ISC 05 19:10:43.8±0.8, 38°.73S±0°.09×137°.3E±0°.1, h10km, n23, σ1§58/22, mb4.1/6, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	**Mount Arapiles**	**4.12**	**63**	P	**Pn**	**19 11 47.3**	**+0.5**
	baz=4.1,SNR=416						
BBOO	**Buckleboo**	**5.99**	**350**	P	**Pn**	**19 12 13.2**	**+0.7**
	baz=6.0,SNR=29						
TOO	**Toolangi**	**6.58**	**82**	P	**Pn**	**19 12 20.8**	**+0.1**
	baz=6.6,SNR=13						
STKA	**Stephens Creek**	**7.70**	**29**	Pn	**Pn**	**19 12 37.0**	**+1.0**
	4.8nm,0.3s,baz=195,slow=11,SNR=103						
STKA				Sn	**Sn**	**19 14 00.8**	**-2.4**
	9.4nm,0.3s,baz=292,slow=19,SNR=7.5						
STKA	**Stephens Creek**	**7.70**	**29**	P	**Pn**	**19 12 37.0**	**+1.0**
	baz=7.7,SNR=94						
MILA	**Mila**	**9.54**	**84**	P	**Pn**	**19 13 02.5**	**+1.2**
	baz=9.6,SNR=11						
CMSA	**Cobar Meteorol**	**9.95**	**46**	S	Sn	19 14 51.9	-6.6
	baz=10.0,SNR=4.7						
YNG	**Young**	**9.99**	**67**	P	**Pn**	**19 13 08.2**	**+0.8**
	baz=10.0,SNR=11						
ASAR	**Alice Springs**	**15.29**	**348**	Pn	**Pn**	**19 14 16.4**	**-3.3**
	0.5nm,0.3s,baz=162,slow=10,SNR=30						
ASAR				Sn	Sn	19 16 59.8	-9.4
	0.2nm,0.3s,baz=170,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**18.89**	**351**	P	**P**	**19 15 02.7**	**-1.8**
	0.9nm,0.3s,baz=170,slow=11,SNR=41						
MEEK	**Meekatharra**	**19.75**	**302**	P	**P**	**19 15 13.8**	**-0.1**
	baz=20,SNR=4.8						
CTA	**Charters Tower**	**20.14**	**25**	P	Pn	19 15 20.5	+0.5
	5.5nm,0.9s,baz=200,slow=17,SNR=3.7						
MTSU	**Mount Surprise**	**21.42**	**19**	P	**P**	**19 15 35.2**	**+3.2**
	baz=22,SNR=6.9						
FITZ	**Fitzroy Crossi**	**22.92**	**331**	P	**P**	**19 15 48.5**	**+0.6**
	7.4nm,0.8s,baz=178,slow=9.7,SNR=14						
VNDA	**Vanda**	**40.28**	**172**	P	**P**	**19 18 18.9**	**-1.6**
	1.0nm,0.5s,baz=331,slow=10.0,SNR=12						
CMAR	**Chiang Mai Arr**	**67.27**	**320**	P	**P**	**19 21 39.2**	**+0.6**
	1.1nm,0.8s,baz=162,slow=5.4,SNR=5.5						
KSRS	**Korea Array**	**76.30**	**352**	P	**P**	**19 22 33.6**	**+1.2**
	1.5nm,0.8s,baz=160,slow=6.2,SNR=6.3						
USRK	**Ussuriysk Arra**	**82.69**	**356**	P	**P**	**19 23 09.3**	**+2.2**
	2.5nm,0.7s,baz=190,slow=4.4,SNR=8.0						
SONM	**Songino Array**	**90.47**	**340**	P	**P**	**19 23 45.7**	**+0.3**
	0.7nm,0.8s,baz=154,slow=5.9,SNR=5.8						
TXAR	**Lajitas Array**	**129.46**	**81**	PKP	**PKPdf**	**19 29 51.8**	**-1.1**
	0.7nm,0.9s,baz=209,slow=5.0,SNR=4.8						
FINES	**FINESS Array B**	**133.02**	**322**	PKP	**PKPdf**	**19 29 58.0**	**-0.5**
	0.7nm,0.8s,baz=84,slow=4.3,SNR=4.6						
ARCES	**ARCESS Array B**	**133.26**	**333**	PKP	**PKPdf**	**19 29 58.1**	**-0.6**
	1.0nm,0.9s,baz=299,slow=36,SNR=4.9						
ESDC	**Sonseca Array**	**150.10**	**284**	PKPbc	**PKPbc**	**19 30 35.0**	**+0.4**
	0.3nm,0.4s,baz=90,slow=2.4,SNR=5.4						

*ISK **05** 19:16:31.9, 40°.40N×25°.84E, h8km, ML3.7*
*ISCJB **05** 19:16:33.2±0.4, 40°.38N±0°.01×25°.91E±0°.02, h9km±3km, Error ellipse: s-maj=2.4km s-min=2.0km az=0.2*
*ATH **05** 19:16:33.5, 40°.38N×25°.95E, h28km±1km, MD3.4/19*
*DDA **05** 19:16:34.4, 40°.42N×26°.03E, h36km, MD3.4*
*CSEM **05** 19:16:34.0±0.1, 40°.37N×25°.93E, h10km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.3km az=170.0*
*THE **05** 19:16:34.5, 40°.37N×25°.94E, h12km±1km, ML3.4/17, Error ellipse: s-maj=1.0km s-min=0.5km az=301.0*
*BEO **05** 19:16:34.3±1.3, 40°.21N×25°.93E, h20km±6km, ML3.7/7*
ISC 05 19:16:34.0±1.0, 40°.38N±0°.01×25°.95E±0°.02, h10km±8km, n252, σ0§69/309, 8C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.33**	**286**	P	**Pb**	**19 16 41.2**	**-0.8**
SMTH				S	**Sg**	**19 16 45.9**	**+0.9**
SMTH	**Samothraki Isl**	**0.33**	**286**	*e*PB	**Pb**	**19 16 41.4**	**-0.6**
SMTH				*e*SB	**Sg**	**19 16 45.8**	**+0.8**
SMTH	**Samothraki Isl**	**0.33**	**286**	P	**Pb**	**19 16 41.2**	**-0.8**
SMTH				S	**Sg**	**19 16 45.9**	**+0.9**
ENEZ	**Enez**	**0.39**	**24**	*e*PG	**Pg**	**19 16 40.5**	**-1.2**
ENEZ				*e*SG	**Sg**	**19 16 46.7**	**-0.1**
ENEZ	**Enez**	**0.39**	**24**	*e*Pg	**Pg**	**19 16 40.5**	**-1.2**
ENEZ				*e*Sg	**Sg**	**19 16 46.7**	**-0.1**
ALN	**Alexandroupoli**	**0.52**	**8**	P	**Pg**	**19 16 44.4**	**+0.3**
ALN				S	**Sg**	**19 16 51.6**	**+0.6**
ALN	**Alexandroupoli**	**0.52**	**8**	*e*PN	**Pg**	**19 16 44.5**	**+0.3**
ALN				*e*SN	**Sg**	**19 16 51.8**	**+0.8**
ALN	**Alexandroupoli**	**0.52**	**8**	*e*Pn	**Pg**	**19 16 44.5**	**+0.3**
ALN				S	**Sg**	**19 16 51.6**	**+0.6**
LPK	**Lapseki**	**0.62**	**91**	*e*PG	**Pg**	**19 16 45.9**	**-0.2**
LPK				*e*SG	**Sb**	**19 16 56.1**	**+0.3**
LPK	**Lapseki**	**0.62**	**91**	*e*Pg	**Pg**	**19 16 45.9**	**-0.2**
LPK				*e*Sg	**Sb**	**19 16 56.2**	**+0.3**
LIA	**Limnos Island**	**0.76**	**231**	P	**Pb**	**19 16 49.0**	**-0.3**
LIA				S	**Sb**	**19 17 00.2**	**+0.5**
LIA	**Limnos Island**	**0.76**	**231**	*e*PN	**Pb**	**19 16 49.2**	**-0.1**
LIA				*e*SN	**Sb**	**19 17 00.3**	**+0.5**
LIA	**Limnos Island**	**0.76**	**231**	P	**Pb**	**19 16 49.0**	**-0.3**
LIA				*e*Sn	**Sb**	**19 17 00.3**	**+0.5**
RDO	**Rodhopi**	**0.82**	**338**	P	**Pg**	**19 16 49.9**	**0.0**
RDO				S	**Sb**	**19 17 02.1**	**+0.5**
RDO	**Rodhopi**	**0.82**	**338**	*e*PN	**Pb**	**19 16 50.1**	**-0.4**
RDO	**Rodhopi**	**0.82**	**338**	P	**Pg**	**19 16 49.9**	**0.0**
RDO				S	**Sb**	**19 17 02.1**	**+0.5**
RKY	**Sarkoy-Tekirda**	**0.99**	**72**	*e*PG	**Pb**	**19 16 52.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.99**	**72**	*e*Pg	**Pb**	**19 16 52.6**	**-0.7**
SART	**Tekirdag**	**0.99**	**72**	*i* P	**Pb**	**19 16 52.3**	**-1.1**
SART				*i* S	**Sb**	**19 17 06.9**	**+0.4**
SART	**Tekirdag**	**0.99**	**72**	*i* P	**Pb**	**19 16 52.3**	**-1.1**
SART				*i* S	**Sb**	**19 17 06.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.03**	**89**	*e*PN	**Pb**	**19 16 53.0**	**-1.1**
KRBG	**Karabiga-Canak**	**1.03**	**89**	*e*Pn	**Pb**	**19 16 53.0**	**-1.1**
MFT	**Murefte**	**1.09**	**68**	*e*PN	**Pb**	**19 16 55.0**	**-0.1**
MFT	**Murefte**	**1.09**	**68**	*e*Pn	**Pb**	**19 16 55.1**	**-0.1**
PRK	**Paraskevi**	**1.16**	**167**	P	**Pb**	**19 16 56.0**	**-0.3**
PRK				S	**Sg**	**19 17 11.5**	**0.0**
PRK	**Paraskevi**	**1.16**	**167**	*e*PN	**Pb**	**19 16 55.2**	**-1.1**
PRK				*e*SN	**Sn**	**19 17 11.8**	**-0.5**
PRK	**Paraskevi**	**1.16**	**167**	*e*Pn	**Pb**	**19 16 55.2**	**-1.1**
PRK	**Paraskevi**	**1.16**	**167**	P	**Pb**	**19 16 56.0**	**-0.3**
PRK				S	**Sg**	**19 17 11.5**	**0.0**
AYVA	**Ayvalik**	**1.22**	**152**	*i* P	**Pg**	**19 16 57.4**	**0.0**
AYVA				*i* S	**Sn**	**19 17 13.1**	**-0.6**
AYVA	**Ayvalik**	**1.22**	**152**	*i* P	**Pg**	**19 16 57.4**	**0.0**
AYVA				*i* S	**Sn**	**19 17 13.1**	**-0.6**
KAVA	**Kavala**	**1.25**	**300**	P	**Pn**	**19 16 57.0**	**-0.6**
KAVA				S	**Sg**	**19 17 14.3**	**+0.1**
KAVA	**Kavala**	**1.25**	**300**	P	**Pn**	**19 16 57.0**	**-0.6**
KAVA				S	**Sg**	**19 17 14.3**	**+0.1**
TKR	**Tekirdag**	**1.35**	**63**	*e*PN	**Pn**	**19 16 58.8**	**-0.2**
TKR	**Tekirdag**	**1.35**	**63**	*e*Pn	**Pn**	**19 16 58.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.38**	**104**	*e*PN	**Pn**	**19 16 58.4**	**-0.9**
GONE	**Gonen-Balikesi**	**1.38**	**104**	*e*Pn	**Pn**	**19 16 58.4**	**-0.9**
BALY	**Balya**	**1.44**	**116**	*i* P	**Pb**	**19 17 00.6**	**-0.4**
BALY				*i* S	**Sb**	**19 17 19.8**	**+0.5**
BALY	**Balya**	**1.44**	**116**	*i* P	**Pb**	**19 17 00.6**	**-0.4**
BALY				*i* S	**Sb**	**19 17 19.8**	**+0.5**
OUR	**Ouranopolis**	**1.50**	**269**	P	**Pn**	**19 17 00.1**	**-0.9**
OUR				S	**Sn**	**19 17 20.1**	**-0.6**
OUR	**Ouranopolis**	**1.50**	**269**	P	**Pn**	**19 17 00.1**	**-0.9**
OUR				S	**Sn**	**19 17 20.1**	**-0.6**
BNT	**Bandirma**	**1.51**	**90**	*e*PN	**Pn**	**19 17 01.2**	**0.0**
BNT	**Bandirma**	**1.51**	**90**	*e*Pn	**Pn**	**19 17 01.2**	**0.0**
EDRB	**Edirne**	**1.58**	**22**	*e*PN	**Pn**	**19 17 01.2**	**-1.0**
EDRB	**Edirne**	**1.58**	**22**	P	**Pn**	**19 17 01.1**	**-1.1**
EDRB				S	**Sb**	**19 17 23.4**	**-0.1**
EDRB	**Edirne**	**1.58**	**22**	*e*Pn	**Pn**	**19 17 01.2**	**-1.0**
EDRB				S	**Sb**	**19 17 23.4**	**-0.1**
BALB	**Balikesir**	**1.66**	**116**	*e*PN	**Pn**	**19 17 03.2**	**-0.1**
BALB	**Balikesir**	**1.66**	**116**	*e*Pn	**Pn**	**19 17 03.2**	**-0.1**
PHSR	**Pinarhisar**	**1.73**	**43**	*e*PN	**Pn**	**19 17 03.3**	**-0.9**
PHSR	**Pinarhisar**	**1.73**	**43**	*e*Pn	**Pn**	**19 17 03.3**	**-0.9**
PAIG	**Paliouri**	**1.79**	**256**	P	**Pn**	**19 17 04.0**	**-1.1**

ISK	Istanbul-Kandi	2.46	73	P	Pn	19 17 13.2	-1.1	BALY			*i* S	Sb	19 28 47.7 -0.6
ISK	Istanbul-Kandi	2.46	73	*e*Pn	Pn	19 17 14.8	+0.5	**BALY**	**Balya**	**0.57 336**	*i* P	Pb	19 28 39.5 -0.6
MRKA	Markates	2.48	228	P	Pn	19 17 13.6	-0.9	BALY			*i* S	Sb	19 28 47.7 -0.6
MRKA	Markates	2.48	228	P	Pn	19 17 13.6	-0.9	**DURS**	**Dursunbey**	**0.58 49**	*i* P	Pb	19 28 39.7 -0.7
GEMT	Gemlik	2.48	88	*e*PN	Pn	19 17 15.0	+0.5	DURS			*i* S	Sb	19 28 48.4 -0.3
GEMT	Gemlik	2.48	88	*e*Pn	Pn	19 17 15.0	+0.5	**DST**	**Dursunbey**	**0.67 55**	*e*PG	Pb	19 28 42.0 +0.1
KLYT	Kilyos	2.51	69	*e*PN	Pn	19 17 15.4	+0.6	**DST**	**Dursunbey**	**0.67 55**	*e*Pg	Pb	19 28 42.0 +0.1
KLYT	Kilyos	2.51	69	*e*Pn	Pn	19 17 15.4	+0.6	**GONE**	**Gonen-Balikesi**	**0.84 348**	*e*PG	Pb	19 28 44.7 -0.1
ERET	Eretria	2.55	221	P	Pn	19 17 14.4	-1.2	GONE			*e*SG	Sn	19 28 57.0 -1.4
ERET	Eretria	2.55	221	P	Pn	19 17 14.4	-1.2	**GONE**	**Gonen-Balikesi**	**0.84 348**	*e*Pg	Pb	19 28 44.7 -0.1
SMIA	Simia	2.59	235	P	Pn	19 17 15.7	-0.4	GONE			*e*Sg	Sn	19 28 57.0 -1.4
SMIA	Simia	2.59	235	P	Pn	19 17 15.7	-0.4	**KULA**	**Kula-Manisa**	**0.92 140**	*e*PG	Pn	19 28 46.7 -0.4
YLV	Yalova	2.62	85	*e*PN	Pn	19 17 17.3	+0.7	**KULA**	**Kula-Manisa**	**0.92 140**	P	Pn	19 28 46.6 -0.5
YLV	Yalova	2.62	85	*e*Pn	Pn	19 17 17.3	+0.7	KULA			S	Sb	19 28 58.6 +0.3
MRMA	Marmari	2.62	208	P	Pn	19 17 16.4	-0.1	**KULA**	**Kula-Manisa**	**0.92 140**	P	Pn	19 28 46.6 -0.5
MRMA	Marmari	2.62	208	P	Pn	19 17 16.4	-0.1	KULA			S	Sb	19 28 58.6 +0.3
VAY	Valandovo	2.73	291	P	Pn	19 17 17.4	-0.5	**AYVA**	**Ayvalik**	**0.95 276**	*i* P	Pn	19 28 47.8 +0.3
VAY	Valandovo	2.73	291	*i* Pn	Pn	19 17 18.2	+0.3	AYVA			*i* S	Sn	19 29 01.6 +0.5
VAY	Valandovo	2.73	291	*e*Pn	Pn	19 17 17.8	-0.1	**AYVA**	**Ayvalik**	**0.95 276**	*i* P	Pn	19 28 47.8 +0.3
VAY	Valandovo	2.73	291	P	Pn	19 17 17.4	-0.5	AYVA			*i* S	Sn	19 29 01.6 +0.5
VAY	Valandovo	2.73	291	*e*Pn	Pn	19 17 17.8	-0.1	**IZM**	**Izmir**	**0.97 212**	*e*PG	Pg	19 28 46.6 -0.1
GRG	Griva	2.75	283	P	Pn	19 17 18.5	+0.2	**IZM**	**Izmir**	**0.97 212**	*e*Pg	Pg	19 28 46.6 -0.1
GRG	Griva	2.75	283	*e*PN	Pn	19 17 19.0	+0.7	**KCTX**	**Karacabey (Bur**	**1.10 18**	*e*PN	Pn	19 28 49.6 0.0
GRG	Griva	2.75	283	P	Pn	19 17 18.5	+0.2	**KCTX**	**Karacabey (Bur**	**1.10 18**	*e*Pn	Pn	19 28 49.6 0.0
GRG	Griva	2.75	283	*e*Pn	Pn	19 17 19.0	+0.7	**ORLT**	**Orhaneli**	**1.12 42**	*e*PN	Pn	19 28 50.4 +0.5
SMG	Samos	2.76	165	P	Pn	19 17 18.1	-0.3	**ORLT**	**Orhaneli**	**1.12 42**	*e*Pn	Pn	19 28 50.4 +0.5
SMG	Samos	2.76	165	P	Pn	19 17 18.1	-0.3	**BNT**	**Bandirma**	**1.13 0**	*e*PN	Pn	19 28 50.3 +0.3
KULA	Kula-Manisa	2.81	131	*e*PN	Pn	19 17 19.7	+0.5	**BNT**	**Bandirma**	**1.13 0**	*e*Pn	Pn	19 28 50.3 +0.3
KULA	Kula-Manisa	2.81	131	*e*Pn	Pn	19 17 19.7	+0.5	**KRBG**	**Karabiga-Canak**	**1.26 338**	*e*PN	Pg	19 28 52.5 +0.1
PTL	Penteli	2.84	215	P	Pn	19 17 18.5	-1.0	**KRBG**	**Karabiga-Canak**	**1.26 338**	*e*Pn	Pg	19 28 52.5 +0.1
PTL	Penteli	2.84	215	P	Pn	19 17 18.5	-1.0	**PRK**	**Paraskevi**	**1.27 272**	P	Pg	19 28 52.8 +0.2
ADVT	Abdulvahap	2.90	88	*e*PN	Pn	19 17 21.1	+0.8	PRK			S	Sn	19 29 09.4 +0.4
ADVT	Abdulvahap	2.90	88	*e*Pn	Pn	19 17 21.1	+0.8	**PRK**	**Paraskevi**	**1.27 272**	*e*PN	Pg	19 28 52.9 +0.3
SILT	Sile	2.91	73	*e*PN	Pn	19 17 20.1	-0.4	PRK			*e*SN	Sn	19 29 10.6 +1.6
SILT	Sile	2.91	73	*e*Pn	Pn	19 17 20.1	-0.4	**PRK**	**Paraskevi**	**1.27 272**	*e*Pn	Pg	19 28 52.9 +0.3
VTS	Vitosha	3.02	318	P	Pn	19 17 22.6	+0.6	PRK			S	Sn	19 29 09.4 +0.4
VTS				S	Sn	19 17 58.7	+0.4	PRK			*e*Sn	Sn	19 29 10.6 +1.6
VTS	**Vitosha**	**3.02 318**		‖ *i*P	Pn	19 17 22.8	+0.8	**ULDT**	**Uludag**	**1.32 45**	*i* P	Pg	19 28 54.3 +0.8
VTS	**Vitosha**	**3.02 318**		*e*Pn	Pn	19 17 22.8	+0.8	ULDT			*i* S	Sn	19 29 12.4 +2.0
VTS				*e*Sn	Sn	19 17 58.9	+0.6	**ULDT**	**Uludag**	**1.32 45**	*i* P	Pg	19 28 54.3 +0.8
VTS	**Vitosha**	**3.02 318**		P	Pn	19 17 22.6	+0.6	ULDT			*i* S	Sn	19 29 12.4 +2.0
VTS				S	Sn	19 17 58.7	+0.4	**URLA**	**Izmir**	**1.34 231**	*i* P	Pb	19 28 53.1 -0.2
AGG	**Agios Georgios**	**3.10 245**		P	Pn	19 17 22.9	-0.2	URLA			*i* S	Sg	19 29 11.9 +0.6
AGG	**Agios Georgios**	**3.10 245**		*e*PN	Pn	19 17 22.9	-0.2	**URLA**	**Izmir**	**1.34 231**	*i* P	Pb	19 28 53.1 -0.2
AGG	**Agios Georgios**	**3.10 245**		P	Pn	19 17 22.9	-0.2	URLA			*i* S	Sg	19 29 11.9 +0.6
THL	**Klokotos Trika**	**3.13 256**		P	Pn	19 17 23.3	-0.1	**EZN**	**Ezine**	**1.37 297**	*e*PN	Pg	19 28 54.1 -0.3
THL	**Klokotos Trika**	**3.13 256**		*e*PN	Pn	19 17 23.5	+0.1	**EZN**	**Ezine**	**1.37 297**	*e*Pn	Pg	19 28 54.1 -0.3
THL	**Klokotos Trika**	**3.13 256**		P	Pn	19 17 23.3	-0.1	**MDNY**	**Mudanya-Bursa**	**1.37 33**	*e*PN	Pg	19 28 54.7 +0.2
KZN	**Kozani**	**3.19 270**		P	Pn	19 17 24.6	+0.2	**MDNY**	**Mudanya-Bursa**	**1.37 33**	*e*Pn	Pg	19 28 54.7 +0.2
KZN	**Kozani**	**3.19 270**		P	Pn	19 17 24.6	+0.2	**LPK**	**Lapseki**	**1.45 323**	*e*PN	Pg	19 28 55.5 -0.5
MAKR	**Makrakomi, Fth**	**3.24 246**		P	Pn	19 17 25.0	-0.1	**LPK**	**Lapseki**	**1.45 323**	*e*Pn	Pg	19 28 55.5 -0.5
MAKR	**Makrakomi, Fth**	**3.24 246**		P	Pn	19 17 25.0	-0.1	**KHAL**	**Karahalli**	**1.50 124**	*i* P	Pg	19 28 56.6 -0.3
DSF	**Desfina**	**3.30 234**		P	Pn	19 17 25.0	-0.9	KHAL			*i* S	Sg	19 29 17.5 +1.2
DSF	**Desfina**	**3.30 234**		P	Pn	19 17 25.0	-0.9	**KHAL**	**Karahalli**	**1.50 124**	*i* P	Pg	19 28 56.6 -0.3
ZIMR		**3.30 353**		‖ *i*P	Pg	19 17 35.4	-1.9	KHAL			*i* S	Sg	19 29 17.5 +1.2
LTK	**Loutraki**	**3.30 225**		P	Pn	19 17 25.3	-0.6	**ARMT**	**Armutlu**	**1.53 28**	*e*PN	Pg	19 28 57.2 -0.3
LTK	**Loutraki**	**3.30 225**		P	Pn	19 17 25.3	-0.6	**ARMT**	**Armutlu**	**1.53 28**	*e*Pn	Pg	19 28 57.2 -0.3
APE	**Apeiranthos**	**3.33 186**		*e*PN	Pn	19 17 26.2	+0.1	**KHL**	**Karahalli**	**1.54 125**	*e*PN	Pg	19 28 57.6 -0.2
APE	**Apeiranthos**	**3.33 186**		P	Pn	19 17 25.4	-0.8	**KHL**	**Karahalli**	**1.54 125**	*e*Pn	Pg	19 28 57.6 -0.2
APE	**Apeiranthos**	**3.33 186**		*e*PN	Pn	19 17 25.5	-0.8	**AYDN**	**Tasoluk**	**1.56 181**	*i* P	Pb	19 28 56.4 -0.6
APE	**Apeiranthos**	**3.33 186**		⇑ *i*P	Pn	19 17 25.3	-0.9	AYDN			*i* S	Sg	19 29 18.5 +0.2
APE	**Apeiranthos**	**3.33 186**		P	Pn	19 17 25.4	-0.8	**AYDN**	**Tasoluk**	**1.56 181**	*i* P	Pb	19 28 56.4 -0.6
APE	**Apeiranthos**	**3.33 186**		*e*Pn	Pn	19 17 26.3	+0.1	AYDN			*i* S	Sg	19 29 18.5 +0.2
ALT	**Altintas**	**3.48 111**		*e*PN	Pn	19 17 29.3	+1.0	**GEMT**	**Gemlik**	**1.56 39**	*e*PN	Pb	19 28 56.8 -0.3
ALT	**Altintas**	**3.48 111**		P	Pn	19 17 28.9	+0.6	**GEMT**	**Gemlik**	**1.56 39**	*e*Pn	Pb	19 28 56.8 -0.3
ALT	**Altintas**	**3.48 111**		P	Pn	19 17 28.9	+0.6	**RKY**	**Sarkoy-Tekirda**	**1.57 339**	*e*PN	Pg	19 28 57.3 -1.0
ALT	**Altintas**	**3.48 111**		*e*Pn	Pn	19 17 29.3	+1.0	**RKY**	**Sarkoy-Tekirda**	**1.57 339**	*e*Pn	Pg	19 28 57.3 -1.0
BODT	**Bodrum**	**3.48 162**		*e*PN	Pn	19 17 28.5	+0.1	**SART**	**Tekirdag**	**1.57 339**	*i* P	Pb	19 28 57.2 -0.1
BODT	**Bodrum**	**3.48 162**		*e*Pn	Pn	19 17 28.5	+0.1	SART			*i* S	Sg	19 29 18.2 -0.5
GULT	**Gulveren**	**3.49 88**		*e*PN	Pn	19 17 29.5	+1.0	**SART**	**Tekirdag**	**1.57 339**	*i* P	Pb	19 28 57.2 -0.1
GULT	**Gulveren**	**3.49 88**		*e*Pn	Pn	19 17 29.5	+1.0	SART			*i* S	Sg	19 29 18.2 -0.5
FNA	**Florina**	**3.50 278**		P	Pn	19 17 29.2	+0.6	**GCAM**	**G?zelcaml?**	**1.61 200**	*i* P	Pn	19 28 56.2 -0.3
FNA	**Florina**	**3.50 278**		*e*PN	Pn	19 17 29.1	+0.5	GCAM			*i* S	Sg	19 29 21.0 +1.1
FNA	**Florina**	**3.50 278**		*e*Pn	Pn	19 17 29.1	+0.5	**GCAM**	**G?zelcaml?**	**1.61 200**	*i* P	Pn	19 28 56.2 -0.3
EVR	**Evrytania**	**3.51 247**		P	Pn	19 17 28.9	+0.1	GCAM			*i* S	Sg	19 29 21.0 +1.1
EVR	**Evrytania**	**3.51 247**		P	Pn	19 17 28.9	+0.1	**MFT**	**Murefte**	**1.64 343**	*e*PN	Pg	19 28 59.0 -0.6
KALE	**Kalíthea**	**3.56 237**		P	Pn	19 17 28.6	-0.8	**MFT**	**Murefte**	**1.64 343**	*e*Pn	Pg	19 28 59.0 -0.6
KALE	**Kalithea**	**3.56 237**		P	Pn	19 17 28.6	-0.8	**CHOS**	**Chios island**	**1.67 241**	P	Pn	19 28 58.1 +0.6
DID	**Didima**	**3.56 217**		P	Pn	19 17 28.6	-0.9	CHOS			S	Sn	19 29 18.3 -0.7
DID	**Didima**	**3.56 217**		*e*PN	Pn	19 17 29.6	+0.1	**CHOS**	**Chios island**	**1.67 241**	*e*PB	Pb	19 28 58.5 -0.5
DID	**Didima**	**3.56 217**		P	Pn	19 17 28.6	-0.9	CHOS			*e*SN	Sg	19 29 23.1 +1.1
DID	**Didima**	**3.56 217**		*e*Pn	Pn	19 17 29.6	+0.1	**CHOS**	**Chios island**	**1.67 241**	P	Pn	19 28 58.1 +0.6
DIDY	**Didyma**	**3.60 217**		P	Pn	19 17 29.5	-0.5	**CHOS**	**Chios island**	**1.67 241**	*e*Pb	Pb	19 28 58.5 -0.5
DIDY	**Didyma**	**3.60 217**		P	Pn	19 17 29.5	-0.5	CHOS			S	Sn	19 29 18.3 -0.7
TRIZ	**Trizonia**	**3.61 237**		P	Pn	19 17 29.3	-0.8	CHOS			*e*Sn	Sg	19 29 23.1 +1.1
TRIZ	**Trizonia**	**3.61 237**		*e*PN	Pn	19 17 29.3	-0.8	**ALT**	**Altintas**	**1.72 95**	*e*PN	Pg	19 29 00.9 -0.9
TRIZ	**Trizonia**	**3.61 237**		P	Pn	19 17 29.3	-0.8	**ALT**	**Altintas**	**1.72 95**	P	Pb	19 28 58.9 -0.9
TRIZ	**Trizonia**	**3.61 237**		*e*Pn	Pn	19 17 29.9	-0.2	ALT			S	Sn	19 29 19.1 -1.0
EFP	**Efpalio**	**3.69 239**		P	Pn	19 17 31.3	+0.2	**ALT**	**Altintas**	**1.72 95**	*i* P	Pn	19 28 58.0 -0.1
EFP	**Efpalio**	**3.69 239**		*e*PN	Pn	19 17 31.6	+0.5	ALT			*i* S	Sg	19 29 26.1 +2.8
EFP	**Efpalio**	**3.69 239**		P	Pn	19 17 31.3	+0.2	**ALT**	**Altintas**	**1.72 95**	P	Pb	19 28 58.9 -0.9
EFP	**Efpalio**	**3.69 239**		*e*Pn	Pn	19 17 31.6	+0.5	**ALT**	**Altintas**	**1.72 95**	*e*Pn	Pg	19 29 00.1 -1.0
GUR	**Goura**	**3.72 230**		P	Pn	19 17 31.0	-0.6	ALT			S	Sn	19 29 19.1 -1.0
GUR	**Goura**	**3.72 230**		P	Pn	19 17 31.0	-0.6	**SMG**	**Samos**	**1.73 210**	P	Pn	19 28 58.1 -0.1
NEST	**Nestorio**	**3.74 272**		P	Pn	19 17 32.3	+0.4	**SMG**	**Samos**	**1.73 210**	*e*PN	Pg	19 29 00.9 -0.4
NEST	**Nestorio**	**3.74 272**		P	Pn	19 17 32.3	+0.4	SMG			*e*SN	Sg	19 29 25.0 +1.2
LAKA	**Lakka**	**3.75 236**		P	Pn	19 17 31.4	-0.6	**SMG**	**Samos**	**1.73 210**	P	Pn	19 28 58.1 -0.1
LAKA	**Lakka**	**3.75 236**		P	Pn	19 17 31.4	-0.6	**SMG**	**Samos**	**1.73 210**	*e*Pn	Pg	19 29 00.9 -0.4
KLV	**Kalavryta, Ach**	**3.76 233**		P	Pn	19 17 31.5	-0.7	SMG			*e*Sn	Sg	19 29 25.0 +1.2
KLV	**Kalavryta, Ach**	**3.76 233**		P	Pn	19 17 31.5	-0.7	**YLV**	**Yalova**	**1.75 39**	*e*PN	Pg	19 29 00.9 -0.9
ZAPS	**Zavoj**	**3.80 320**		*e*Pn	Pn	19 17 34.9	+2.1	**YLV**	**Yalova**	**1.75 39**	*e*Pn	Pg	19 29 00.9 -0.9
ESKT	**Eskisehir**	**3.87 101**		*e*PN	Pn	19 17 34.2	+0.5	**DNZL**	**Cakiroluk**	**1.77 149**	*i* P	Pb	19 28 59.8 -0.9
ESKT	**Eskisehir**	**3.87 101**		*e*Pn	Pn	19 17 34.2	+0.5	**DNZL**	**Cakiroluk**	**1.77 149**	*i* P	Pb	19 28 59.8 -0.9
MDUB	**Mudurnu**	**4.01 87**		*e*PN	Pn	19 17 36.9	+1.3	**CAVI**	**Cavuskoy**	**1.78 56**	*e*PN	Pb	19 29 00.9 0.0
MDUB	**Mudurnu**	**4.01 87**		*e*Pn	Pn	19 17 36.9	+1.2	**CAVI**	**Cavuskoy**	**1.78 56**	*e*Pn	Pb	19 29 00.9 0.0
HUMR	**Humele**	**4.20 351**		‖ *i*P	Pn	19 17 38.5	+0.3	**TKR**	**Tekirdag**	**1.79 351**	*e*PN	Pb	19 29 00.6 -0.4
VLI	**Veliai**	**4.35 214**		P	Pn	19 17 39.4	-0.9	**TKR**	**Tekirdag**	**1.79 351**	*e*Pn	Pb	19 29 00.6 -0.4
VLI	**Veliai**	**4.35 214**		P	Pn	19 17 39.4	-0.9	**ADVT**	**Abdulvahap**	**1.85 49**	*e*PN	Pb	19 29 02.0 -0.1
AMT	**Artemida-Makis**	**4.36 231**		*e*PN	Pn	19 17 40.5	+0.1	**ADVT**	**Abdulvahap**	**1.85 49**	*e*Pn	Pb	19 29 02.0 -0.1
AMT	**Artemida-Makis**	**4.36 231**		*e*Pn	Pn	19 17 40.5	+0.1	**BUY**	**Buyukada**	**1.87 29**	*i* P	Pb	19 29 00.9 -1.5
TIRR	**Tirgusor**	**4.46 23**		⇑ *i*P	Pn	19 17 42.0	+0.2	BUY			*i* S	Sg	19 29 27.9 -0.5
ITM	**Ithomi**	**4.48 226**		P	Pn	19 17 41.6	-0.5	**BUY**	**Buyukada**	**1.87 29**	*i* P	Pb	19 29 00.9 -1.5
ITM	**Ithomi**	**4.48 226**		P	Pn	19 17 41.6	-0.5	**MLSB**	**Milas**	**1.93 183**	*e*PN	Pb	19 29 02.7 -0.6
SRN	**Sarande**	**4.58 266**		P	Pn	19 17 44.4	+1.0	**MLSB**	**Milas**	**1.93 183**	*e*Pn	Pb	19 29 02.7 -0.6
SRN	**Sarande**	**4.58 266**		P	Pn	19 17 44.4	+1.0	**ELBA**	**Catalca**	**1.96 11**	*i* P	Pn	19 29 02.2 +0.7
SELS	**Selova**	**4.59 310**		‖ *i*Pn	Pn	19 17 43.7	+0.2	ELBA			*i* S	Sb	19 29 27.2 -1.3
KIZT	**Kizilcal**	**4.82 106**		*e*PN	Pn	19 17 48.0	+1.2	**ELBA**	**Catalca**	**1.96 11**	*i* P	Pn	19 29 02.2 +0.7
KIZT	**Kizilcal**	**4.82 106**		*e*Pn	Pn	19 17 48.0	+1.2	ELBA			*i* S	Sb	19 29 27.2 -1.3
CFR	**Carcaliu**	**5.06 18**		‖ *i*P	Pn	19 17 50.1	+0.2	**SLVT**	**Silivri**	**2.02 6**	*e*PN	Pb	19 29 04.0 -0.9
ARR	**Arges**	**5.07 349**		‖ *i*P	Pn	19 17 50.8	+0.6	**SLVT**	**Silivri**	**2.02 6**	*e*Pn	Pb	19 29 04.0 -0.9
VOIR		**5.09 353**		‖ *i*P	Pn	19 17 51.0	+0.8	**ENEZ**	**Enez**	**2.03 319**	*e*PN	Pb	19 29 03.7 -1.6
MLR	**Muntele Rosu**	**5.11 0**		‖ *i*P	Pn	19 17 52.3	+1.6	**ENEZ**	**Enez**	**2.03 319**	*e*Pn	Pb	19 29 03.7 -1.4
GRUS	**Gruza**	**5.23 314**		⇑ *i*Pn	Pn	19 17 52.5	+0.2	**ISK**	**Istanbul-Kandi**	**2.04 25**	*e*PN	Pb	19 29 04.4 -0.9
GRUS	**Gruza**	**5.23 314**		⇑ *i*Pn	Pn	19 17 52.5	+0.2	**ISK**	**Istanbul-Kandi**	**2.04 25**	P	Pn	19 29 02.8 +0.3
TLCR		**5.24 23**		‖ *i*P	Pn	19 17 53.3	+0.8	ISK			S	Sn	19 29 27.5 -0.5
LOT	**Lotru**	**5.31 343**		‖ *i*P	Pn	19 17 54.5	+1.0	**ISK**	**Istanbul-Kandi**	**2.04 25**	P	Pn	19 29 02.8 +0.3
PLOR	**Plostina**	**5.49 5**		⇑ *i*P	Pn	19 17 57.4	+1.5	**ISK**	**Istanbul-Kandi**	**2.04 25**	*e*Pn	Pb	19 29 04.4 -0.9
VRI	**Vrincioaia**	**5.51 6**		‖ *i*P	Pn	19 17 57.7	+1.5	ISK			S	Sn	19 29 27.5 -0.5
GZR	**Gura Zlata**	**5.52 336**		‖ *i*P	Pn	19 17 56.8	+0.4	**CTKS**	**Kestanelik-??a**	**2.06 13**	*e*PN	Pb	19 29 04.6 -1.0
DIVS	**Divibare**	**5.77 312**		*e*Pn	Pn	19 18 00.0	+0.2	**CTKS**	**Kestanelik-??a**	**2.06 13**	*e*Pn	Pb	19 29 04.6 -1.0
DIVS	**Divibare**	**5.77 312**		*e*Pn	Pn	19 18 00.0	+0.2	**BGKT**	**Bogazkoy**	**2.07 18**	*e*PN	Pb	19 29 04.8 -0.9
BBLS	**Lazići**	**5.98 308**		*e*Pn	Pn	19 18 02.5	-0.2	**BGKT**	**Bogazkoy**	**2.07 18**	*e*Pn	Pb	19 29 04.8 -0.9
BBLS	**Lazići**	**5.98 308**		*e*Pn	Pn	19 18 02.5	-0.2	**BORA**	**Eskisehir**	**2.07 71**	*i* P	Pn	19 29 04.0 +1.0
BZS	**Buzias**	**6.12 330**		‖ *i*P	Pn	19 18 04.6	+0.1	BORA			*i* S	Sg	19 29 36.1 +1.4
TESR	**Tescani**	**6.15 5**		‖ *i*P	Pn	19 18 05.9	+1.0	**BORA**	**Eskisehir**	**2.07 71**	*i* P	Pn	19 29 04.0 +1.0
BURAR	**Bucovina Array**	**7.25 356**		‖ *i*P	Pn	19 18 22.2	+2.1	**HRT**	**Hereke**	**2.09 40**	*e*PN	Pb	19 29 05.5 -0.7
								HRT	**Hereke**	**2.09 40**	*e*Pn	Pb	19 29 05.5 -0.7
								YER	**Yerkesik**	**2.10 172**	*e*PN	Pb	19 29 05.2 -1.1
								YER	**Yerkesik**	**2.10 172**	*e*Pn	Pb	19 29 05.3 -1.1
								GPA	**Golpazari**	**2.13 59**	*e*PN	Pb	19 29 06.2 -0.7
								GPA	**Golpazari**	**2.13 59**	*e*Pn	Pb	19 29 06.2 -0.7
								SHUT	**Suhut-Afyon**	**2.16 107**	*e*PN	Pb	19 29 06.2 -1.1
								SHUT	**Suhut-Afyon**	**2.16 107**	*e*Pn	Pb	19 29 06.3 -1.1
								BDRM	**Kayabasi**	**2.18 190**	*i* P	Pn	19 29 04.8 +0.4
								BDRM	**Kayabasi**	**2.18 190**	*i* P	Pn	19 29 04.8 +0.4
								ALN	**Alexandroupoli**	**2.20 320**	P	Pn	19 29 05.8 +1.1
								ALN			S	Sn	19 29 32.1 +0.1
								ALN	**Alexandroupoli**	**2.20 320**	*e*PN	Pn	19 29 05.9 +1.2
								ALN	**Alexandroupoli**	**2.20 320**	*e*Pn	Pn	19 29 05.9 +1.2
								ALN			S	Sn	19 29 32.1 +0.1
								KLYT	**Kilyos**	**2.21 23**	*e*PN	Pb	19 29 06.7 -1.4
								KLYT	**Kilyos**	**2.21 23**	*e*Pn	Pb	19 29 06.7 -1.4
								BODT	**Bodrum**	**2.21 193**	*e*PN	Pb	19 29 07.0 -1.1
								BODT	**Bodrum**	**2.21 193**	*e*Pn	Pb	19 29 07.0 -1.1
								LIA	**Limnos Island**	**2.22 289**	P	Pn	19 29 06.0 +1.1
								LIA			S	Sn	19 29 33.1 +0.8
								LIA	**Limnos Island**	**2.22 289**	*e*PB	Pn	19 29 05.1 +0.2
								LIA			*e*SN	Sn	19 29 33.5 +1.2
								LIA	**Limnos Island**	**2.22 289**	*e*Pb	Pn	19 29 05.1 +0.2
								LIA	**Limnos Island**	**2.22 289**	P	Pn	19 29 06.0 +1.1
								LIA			S	Sn	19 29 33.1 +0.8
								LIA			*e*SN	Sn	19 29 33.5 +1.2
								LIA	**Limnos Island**	**2.22 289**	P	Pn	19 29 06.0 +1.1
								LIA			S	Sn	19 29 33.1 +0.8
								SMTH	**Samothraki Isl**	**2.22 305**	P	Pn	19 29 05.9 +1.0
								SMTH			S	Sn	19 29 32.8 +0.4
								SMTH	**Samothraki Isl**	**2.22 305**	*e*PB	Pn	19 29 05.1 +0.2
								SMTH			*e*SN	Sn	19 29 33.0 +0.6
								SMTH	**Samothraki Isl**	**2.22 305**	*e*Pb	Pn	19 29 05.1 +0.2
								SMTH	**Samothraki Isl**	**2.22 305**	P	Pn	19 29 05.9 +1.0
								SMTH			S	Sn	19 29 32.8 +0.4
								CTYL	**Yal??k??y-??at**	**2.27 7**	*e*PN	Pb	19 29 07.5 -1.6
								CTYL	**Yal??k??y-??at**	**2.27 7**	*e*Pn	Pb	19 29 07.5 -1.6
								ESKT	**Eskisehir**	**2.30 82**	*e*PN	Pb	19 29 08.3 -1.4
								ESKT	**Eskisehir**	**2.30 82**	*e*Pn	Pb	19 29 08.3 -1.4
								GULT	**Gulveren**	**2.34 58**	*e*PN	Pb	19 29 08.9 -1.5
								GULT	**Gulveren**	**2.34 58**	*e*Pn	Pb	19 29 08.9 -1.5
								SILT	**Sile**	**2.34 34**	*e*PN	Pb	19 29 08.7 -1.6
								SILT	**Sile**	**2.34 34**	*e*Pn	Pb	19 29 08.7 -1.6
								SPNC	**Sapanca-Adapaz**	**2.35 51**	*e*PN	Pb	19 29 08.9 -1.6
								SPNC	**Sapanca-Adapaz**	**2.35 51**	*e*Pn	Pb	19 29 08.9 -1.6
								PHSR	**Pinarhisar**	**2.43 353**	*e*PN	Pb	19 29 09.6 -2.2
								PHSR	**Pinarhisar**	**2.43 353**	*e*Pn	Pb	19 29 09.6 -2.2
								DALY	**Dalyan (Mu¨la**	**2.47 166**	*e*PN	Pb	19 29 10.8 -1.8
								DALY	**Dalyan (Mu¨la**	**2.47 166**	*e*Pn	Pb	19 29 10.8 -1.8
								ISP	**Isparta**	**2.48 123**	*e*PN	Pb	19 29 11.8 -0.9
								ISP	**Isparta**	**2.48 123**	*e*Pn	Pb	19 29 11.8 -0.9
								DAT	**Datca**	**2.50 186**	*e*PN	Pn	19 29 10.8 +1.9
								DAT	**Datca**	**2.50 186**	*e*Pn	Pn	19 29 10.8 +1.9
								RDO	**Rodhopi**	**2.65 317**	P	Pn	19 29 12.2 +1.4
								RDO	**Rodhopi**	**2.65 317**	*e*PB	Pn	19 29 12.6 +1.8
								RDO	**Rodhopi**	**2.65 317**	P	Pn	19 29 12.2 +1.4
								RDO	**Rodhopi**	**2.65 317**	*e*Pb	Pn	19 29 12.6 +1.8
								BCK	**Bucak**	**2.74 129**	*e*PN	Pn	19 29 14.1 +1.9
								BCK	**Bucak**	**2.74 129**	*e*Pn	Pn	19 29 14.1 +1.9
								FETY	**Fethiye**	**2.74 160**	*e*PN	Pn	19 29 14.6 +2.4
								FETY	**Fethiye**	**2.74 160**	*e*Pn	Pn	19 29 14.6 +2.4
								EDRB	**Edirne**	**2.77 342**	*e*PN	Pn	19 29 14.4 +1.9
								EDRB	**Edirne**	**2.77 342**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR				eS	Sn	19 48 05.3	-2.4
PAU	**Pauzhetka**	**2.08**	**3**	PN	Pn	19 48 01.2	-0.1
PAU				S	Sn	19 48 25.6	-0.4
PAU	**Pauzhetka**	**2.08**	**3**	eP	Pn	19 48 01.2	-0.1
PAU				eS	Sn	19 48 25.6	-0.4
MIPR	**Malaya Ipel'ka**	**2.88**	**2**	eP	Pn	19 48 13.0	+0.6
MIPR				S	Sn	19 48 45.3	-0.5
ASAK	**Asacha**	**3.10**	**15**	eP	Pn	19 48 16.6	+1.2
ASAK				eS	Sn	19 48 51.2	0.0
MTVR	**Mutnovka**	**3.24**	**17**	i P	Pn	19 48 18.5	+1.1
MTVR				eS	Sn	19 48 54.6	-0.2
RUS	**Russkaya**	**3.27**	**21**	PN	Pn	19 48 17.7	+0.1
RUS	**Russkaya**	**3.27**	**21**	eP	Pn	19 48 17.7	+0.1
RUS				eS	Sn	19 48 53.6	-1.6
GRL	**Gorelyy**	**3.29**	**16**	eP	Pn	19 48 19.1	+1.1
GRL				eS	Sn	19 48 56.2	+0.3
APC	**Apacha**	**3.55**	**5**	P	Pn	19 48 23.4	+2.0
PETK	**Petropavlovsk-**	**3.78**	**10**	PN	Pn	19 48 26.3	+1.7
PETK				S	Sn	19 49 10.7	+3.0
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.78**	**10**	P	Pn	19 48 26.3	+1.7
	comp=N,0.7nm,0.3s,baz=166,slow=15,SNR=29						
PETK				S	Sn	19 49 10.7	+3.0
	comp=N,0.6nm,0.3s,baz=174,slow=17,SNR=2.7						
PET	**Petropavlovsk**	**3.85**	**19**	S	Sn	19 49 07.2	-2.3
UGLR	**Uglovaya**	**4.06**	**19**	eP	Pn	19 48 30.0	+1.4
UGLR				S	Sn	19 49 15.1	+0.3
SMAR	**Somma**	**4.11**	**19**	eP	Pn	19 48 31.3	+2.0
SMAR				S	Sn	19 49 17.5	+1.4
SDLR	**Sedlovina**	**4.14**	**19**	eP	Pn	19 48 30.5	+0.9
SDLR				eS	Sn	19 49 15.5	-1.2
NLC	**Nalytchevo**	**4.15**	**23**	eS	Sn	19 49 13.8	-3.0
SPN	**Mys Shipunski**	**4.28**	**29**	PN	Pn	19 48 32.2	+0.8
SPN	**Mys Shipunski**	**4.28**	**29**	eP	Pn	19 48 32.2	+0.8
SPN				eS	Sn	19 49 19.1	-0.9
GNL	**Ganaly**	**4.38**	**10**	eP	Pn	19 48 35.1	+2.1
MKZ	**Mys Kozlova**	**6.05**	**30**	PN	Pn	19 48 55.4	-0.3
MKZ	**Mys Kozlova**	**6.05**	**30**	eP	Pn	19 48 55.4	-0.3
MKZ				S	Sn	19 49 59.4	-4.2
ASAJ	**Asahikawa**	**10.97**	**247**	P	Pn	19 50 03.8	+0.8
	comp=N,0.2nm,0.3s,baz=80,slow=12,SNR=3.3						
KSRS	**Korea Array**	**23.86**	**251**	P	**P**	19 52 37.4	+0.4
	comp=N,0.6nm,0.4s,baz=49,slow=9.8,SNR=4.3						
ILAR	**Eielson Array**	**33.01**	**41**	P	**P**	19 54 00.3	+2.0
	comp=N,0.2nm,0.5s,baz=257,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	**47.83**	**297**	P	**P**	19 55 59.2	-1.6
MKAR	**Makanchi Array**	**47.83**	**297**	P	**P**	19 55 59.2	-1.6
	comp=N,0.1nm,0.4s,baz=50,slow=6.2,SNR=3.1						
KURK	**Kurchatov**	**47.87**	**303**	P	**P**	19 56 00.1	-0.9
KURBB	**Kurchatov Arra**	**47.97**	**303**	P	**P**	19 56 00.1	-1.6
	comp=N,0.4nm,0.4s,baz=63,slow=8.0,SNR=4.8						
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	19 56 23.0	-1.8
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	19 56 23.0	-1.8
	comp=Z,0.6nm,0.5s,baz=54,slow=11,SNR=3.7						

MOS ***05*** *19:53:12.3±0.9, 55°.39N×110°.38E, h10km, mb4.0/2, Error ellipse: s-maj=14.8km s-min=7.8km az=75.3*
IDC ***05*** *19:53:13.8±1.6, 55°.40N×110°.30E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.4/31, mbtmp3.7/7, ML3.6/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/35, Error ellipse: s-maj=28.8km s-min=20.2km az=127.0*
BYKL ***05*** *19:53:13.6±0.3, 55°.38N×110°.30E*
ISC 05 19:53:14.0±0.6, 55°.38N±0°.02×110°.45E±0°.02, h10km, n54, σ1°98/94, mb3.5/3, 12C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.65**	**141**	⇓iPg	**Pg**	**19 53 25.6**	**-0.9**
	180nm,0.7s						
YLYR				⇑iPg	**Pg**	**19 53 25.6**	**-0.9**
	136nm,0.7s						
YLYR				⇑iPg	**Pg**	**19 53 25.6**	**-0.9**
	186nm,0.7s						
YLYR				eSg	**Sg**	**19 53 35.0**	**+0.1**
YLYR				Pmax			
	283nm,0.5s						
YLYR				Smax			
	489nm,0.2s						
YLYR	**Ulyunkhan**	**0.65**	**141**	ePG	**Pg**	**19 53 25.5**	**-0.9**
YLYR				e		19 53 35.1	
YLYR				pmax	pmax		
	comp=Z,285nm,0.4s						
YLYR				smax	smax		
	comp=N,1μm,2.5s						
NIZ	**Nizh Angarsk**	**0.66**	**308**	⇓iPg	**Pg**	**19 53 25.0**	**-1.8**
NIZ				e		19 53 27.0	
NIZ				ePb	**Pn**	**19 53 29.2**	**-0.2**
NIZ				eSg	**Sg**	**19 53 33.7**	**-1.6**
NIZ				max			
	comp=N,94nm,0.3s						
NIZ				Smax			
	comp=N,700nm,0.2s						
NIZ	**Nizh Angarsk**	**0.66**	**308**	ePG	**Pg**	**19 53 24.9**	**-1.8**
NIZ				e		19 53 34.4	
NIZ				pmax	pmax		
	comp=Z,95nm,0.3s						
NIZ				smax	smax		
	comp=N,697nm,0.2s						
KMO	**Kumora**	**0.67**	**39**	⇑iPg	**Pg**	**19 53 25.8**	**-1.2**
	comp=N,36nm,0.5s						
KMO				⇑iPg	**Pg**	**19 53 25.8**	**-1.2**
	comp=N,52nm,0.5s						
KMO				⇑iPg	**Pg**	**19 53 25.8**	**-1.2**
	comp=N,436nm,0.5s						
KMO				eSg	**Sg**	**19 53 35.3**	**-0.4**
KMO				eSb	**Sn**	**19 53 38.8**	**-1.3**
KMO				Pmax			
	comp=N,559nm,0.8s						
KMO				max			
	comp=N,2μm,1.4s						
KMO	**Kumora**	**0.67**	**39**	ePG	**Pg**	**19 53 25.7**	**-1.2**
KMO				e		19 53 35.2	
KMO				pmax	pmax		
	comp=Z,506nm,0.4s						
KMO				smax	smax		
	comp=N,2μm,1.4s						
SYVR	**Suvo**	**1.74**	**189**	⇑iPn	**Pn**	**19 53 44.7**	**+0.4**
SYVR				⇑iPg	**Pb**	**19 53 45.2**	**-0.9**
SYVR				i Sg	**Sg**	**19 54 09.2**	**-0.7**
SYVR				e		19 54 11.5	
SYVR				Pmax			
	comp=N,126nm,0.5s						
SYVR				max			
	comp=N,589nm,0.6s						
SYVR	**Suvo**	**1.74**	**189**	ePN	**Pn**	**19 53 44.8**	**+0.4**
SYVR				e		19 54 08.8	
SYVR				pmax	pmax		
	comp=Z,118nm,0.2s						
SYVR				smax	smax		
	comp=N,608nm,0.5s						
MXMB	**Maximikha**	**2.34**	**206**	ePn	**Pn**	**19 53 52.0**	**-0.6**
MXMB				⇑iPg	**Pb**	**19 53 55.8**	**-0.5**
MXMB				eSg	**Sb**	**19 54 26.9**	**+1.7**
MXMB				Pmax			
	comp=N,173nm,0.6s						
MXMB				Smax			
	comp=N,990nm,0.8s						
OGRR	**Ongureny**	**2.41**	**225**	ePn	**Pn**	**19 53 54.1**	**+0.7**
OGRR				ePg	**Pb**	**19 53 56.2**	**-1.2**
OGRR				ePgPg	**Pg**	**19 53 59.6**	**-0.5**
OGRR				e		19 54 25.1	
OGRR				i Sg	**Sb**	**19 54 27.5**	**+0.4**
OGRR				max			
	comp=N,125nm,0.4s						
OGRR				Smax			
	comp=N,865nm,1.1s						
OGRR	**Ongureny**	**2.41**	**225**	ePN	**Pb**	**19 53 57.3**	**-0.1**
OGRR				e		19 54 25.4	
OGRR				pmax	pmax		
	comp=Z,125nm,0.4s						
OGRR				smax	smax		
	comp=E,867nm,1.0s						
BOD	**Bodaibo**	**3.14**	**37**	ePn	**Pn**	**19 54 04.2**	**+0.7**
BOD				ePg	**Pb**	**19 54 09.6**	**-0.3**
BOD				eSn	**Sn**	**19 54 42.2**	**+1.2**
BOD				i Sg	**Sb**	**19 54 51.0**	**+2.8**
BOD				Pmax			
	comp=E,40nm,0.7s						
BOD				Smax			
	comp=E,174nm,1.4s						
BOD	**Bodaibo**	**3.14**	**37**	ePN	**Pn**	**19 54 03.5**	**0.0**
BOD				e		19 54 10.1	
BOD				e		19 54 50.7	
BOD				pmax	pmax		
	comp=Z,40nm,0.4s						
BOD				smax	smax		
	comp=E,157nm,0.6s						
NLYR	**Nelyaty**	**3.16**	**67**	ePN	**Pn**	**19 54 05.0**	**+1.2**
NLYR				e		19 54 12.2	
NLYR				eS	**Sn**	**19 54 42.2**	**+0.7**
NLYR				e		19 54 50.9	
NLYR				pmax	pmax		
	comp=Z,76nm,0.9s						
NLYR				smax	smax		
	comp=N,282nm,1.2s						
ZRHB	**Zarechye**	**3.43**	**216**	ePn	**Pn**	**19 54 06.1**	**-1.5**
ZRHB				⇓iPg	**Pb**	**19 54 14.6**	**-0.3**
ZRHB				e		19 54 25.6	
ZRHB				e		19 54 54.5	
ZRHB				eSg	**Sb**	**19 55 00.0**	**+3.3**
ZRHB				Pmax			
	comp=N,126nm,0.8s						
ZRHB				Smax			
	comp=N,1μm,1.1s						
TRG	**Tyrgan**	**3.56**	**224**	⇓iPn	**Pn**	**19 54 09.6**	**+0.2**
TRG				⇓i		19 54 13.0	
TRG				ePg	**Pb**	**19 54 16.4**	**-0.8**
TRG				e		19 54 20.3	
TRG				eSg	**Sb**	**19 55 01.9**	**+1.4**
TRG				Pmax			
	comp=N,51nm,0.6s						
TRG				Smax			
	comp=N,237nm,1.3s						
TRG	**Tyrgan**	**3.56**	**224**	ePN	**Pn**	**19 54 09.9**	**+0.5**
TRG				e		19 54 17.4	
TRG				eS	**Sn**	**19 54 50.5**	**-1.1**
TRG				e		19 55 02.2	
TRG				pmax	pmax		
	comp=Z,45nm,0.5s						
TRG				smax	smax		
	comp=E,206nm,0.6s						
CIT	**Chita**	**3.83**	**150**	eSg	**Sg**	**19 55 13.0**	**-4.0**
CIT				Smax			
	comp=E,209nm,0.4s						
CIT	**Chita**	**3.83**	**150**	ePN	**Pb**	**19 54 23.7**	**+2.0**
CIT				e		19 55 11.5	
CIT				pmax	pmax		
	comp=Z,19nm,1.4s						
CIT				smax	smax		
	comp=E,160nm,1.3s						
UUDB	**Ulan-Yde**	**3.89**	**206**	ePg	**Pb**	**19 54 22.4**	**-0.2**
UUDB				e		19 54 24.9	
UUDB				eSn	**Sn**	**19 54 53.8**	**-5.7**
UUDB				i Sg	**Sb**	**19 55 13.7**	**+4.0**
UUDB				max			
	comp=E,56nm,1.1s						
UUDB				Smax			
	comp=E,211nm,1.2s						
VTMR	**Vitim**	**4.23**	**15**	eSg	**Sg**	**19 55 27.0**	**-2.8**
HRMR	**Khuramsha**	**4.29**	**211**	⇓iPn	**Pn**	**19 54 20.0**	**+0.6**
HRMR				e		19 54 23.9	
HRMR				ePg	**Pb**	**19 54 29.7**	**+0.1**
HRMR				eSn	**Sn**	**19 55 08.4**	**-1.2**
HRMR				eSg	**Sb**	**19 55 26.0**	**+4.5**
HRMR				Pmax			
	comp=E,60nm,0.6s						
HRMR				Smax			
	comp=E,521nm,0.8s						
CRS	**Chara**	**4.63**	**68**	⇑iPn	**Pn**	**19 54 25.4**	**+1.4**
CRS				⇑iPg	**Pb**	**19 54 38.1**	**+2.8**
CRS				e		19 54 46.5	
CRS				eSg	**Sg**	**19 55 39.6**	**-3.0**
CRS				e		19 55 51.1	
CRS	**Chara**	**4.63**	**68**	ePN	Pb	19 54 38.5	+3.2
IRK	**Irkutsk**	**4.82**	**232**	e	Pn	19 54 21.5	-5.2
IRK				e		19 54 28.6	
IRK				ePg	**Pb**	**19 54 38.3**	**-0.3**
IRK				e		19 54 42.7	
IRK				e		19 55 23.5	
IRK				i Sg	**Sb**	**19 55 40.3**	**+3.7**
IRK				e		19 55 49.5	
IRK				max			
	comp=E,33nm,0.5s						
IRK				max			
	comp=E,607nm,0.8s						
IRK	**Irkutsk**	**4.82**	**232**	ePN	**Pb**	**19 54 38.5**	**-0.1**
IRK				e		19 55 40.3	
IRK				pmax	pmax		
	comp=Z,77nm,0.8s						
IRK				smax	smax		
	comp=N,605nm,0.9s						
LSTR	**Listvyanka**	**4.85**	**226**	⇓iPn	**Pn**	**19 54 28.5**	**+1.5**
LSTR				Pg	**Pb**	**19 54 38.2**	**-0.8**
LSTR				e		19 54 40.5	
LSTR				e		19 55 23.3	
LSTR				eSg	**Sb**	**19 55 40.6**	**+3.2**
LSTR				max			
	comp=N,13nm,0.6s						
LSTR				Smax			
	comp=N,319nm,1.6s						
TLY	**Talaya**	**5.49**	**230**	ePn	**Pn**	**19 54 34.8**	**-1.1**
TLY				e		19 54 45.7	
TLY				ePg	**Pb**	**19 54 49.2**	**-0.8**
TLY				e		19 54 52.4	
TLY				e		19 54 59.6	
TLY				eSg	**Sb**	**19 56 00.0**	**+4.1**
TLY				max			
	comp=N,17nm,0.7s						
TLY				Smax			
	comp=N,157nm,1.0s						
TLY	**Talaya**	**5.49**	**230**	ePN	**Pn**	**19 54 35.1**	**-0.8**
TLY				e		19 54 51.3	
TLY				eS	**Sn**	**19 55 36.6**	**-2.5**
TLY				e		19 55 59.7	
TLY				pmax	pmax		
	comp=Z,20nm,0.5s						
TLY				smax	smax		
	comp=E,174nm,1.0s						
KHNR	**Khani**	**5.55**	**70**	eSg	**Sg**	**19 56 08.9**	**-3.0**
TUP	**Tupik**	**5.56**	**96**	e	Pn	19 54 29.1	-7.8
TUP				eSn	**Sn**	**19 55 41.5**	**+0.7**
TUP				i Sg	**Sg**	**19 56 08.7**	**-3.8**
TUP				e		19 56 19.1	
TUP				max			
	comp=E,12nm,0.5s						
TUP				Smax			
	comp=E,129nm,1.0s						
TUP	**Tupik**	**5.56**	**96**	ePN	Pb	19 54 54.2	+3.0
TUP				e		19 56 07.4	
TUP				pmax	pmax		
	comp=Z,11nm,0.6s						
TUP				smax	smax		
	comp=N,122nm,1.1s						
KPC	**Khapcheranga**	**5.80**	**168**	ePn	**Pn**	**19 54 39.8**	**-0.4**
KPC				e		19 54 41.9	
KPC				ePg	Pb	19 54 58.5	+3.2
KPC				e		19 55 25.1	
KPC				i Sn	**Sn**	**19 55 43.4**	**-3.3**
KPC				e		19 56 03.4	
KPC				i Sg	Sg	19 56 13.4	-6.7
KPC				Pmax			
	comp=N,8.0nm,0.5s						
KPC				Smax			
	comp=N,96nm,1.0s						
KPC	**Khapcheranga**	**5.80**	**168**	ePN	**Pn**	**19 54 39.7**	**-0.4**
KPC				e		19 54 58.4	
KPC				eS	**Sn**	**19 55 44.9**	**-1.8**
KPC				e		19 56 13.4	
KPC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KPC				smax	smax		
	comp=E,96nm,1.2s						
ARS	**Arshan**	**5.90**	**237**	ePN	**Pn**	**19 54 41.4**	**0.0**
ARS				e		19 55 01.0	
ARS				eS	**Sn**	**19 55 47.1**	**-2.0**
ARS				e		19 56 11.4	
ARS				pmax	pmax		
	comp=Z,84nm,0.6s						
ARS				smax	smax		
	comp=E,446nm,0.7s						
YKLR	**Yuktali**	**6.41**	**74**	⇓iPn	**Pn**	**19 54 50.1**	**+1.7**
YKLR				e		19 54 57.6	
YKLR				ePg	Pb	19 55 09.1	+3.6
YKLR				eSg	**Sg**	**19 56 33.8**	**-5.6**
ZAK	**Zakamensk**	**6.62**	**224**	ePg	**Pb**	**19 55 11.0**	**+1.8**
ZAK				e		19 55 14.0	
ZAK				e		19 55 19.8	
ZAK				eSg	Sb	19 56 37.1	+8.7
ZAK				max			
	comp=E,6.0nm,0.5s						
ZAK				Smax			
	comp=E,40nm,1.3s						
ZAK	**Zakamensk**	**6.62**	**224**	ePN	**Pn**	**19 54 52.2**	**+0.8**
ZAK				e		19 55 12.0	
ZAK				e		19 56 35.9	
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAK				smax	smax		
	comp=E,41nm,0.9s						
MOY	**Mondy**	**6.75**	**241**	⇑iPn	**Pn**	**19 54 54.4**	**+1.2**
MOY				⇑i		19 54 56.8	
MOY				ePg	Pb	19 55 15.1	+3.6
MOY				e		19 56 10.5	
MOY				e		19 56 38.4	
MOY				eSg	Sg	19 56 42.1	-8.5
MOY				Pmax			
	comp=E,65nm,1.2s						
MOY				Smax			
	comp=E,140nm,1.6s						
MOY	**Mondy**	**6.75**	**241**	ePN	**Pn**	**19 54 54.0**	**+0.8**
MOY				e		19 55 14.5	
SONM	**Songino Array**	**7.96**	**200**	Pn	**Pn**	**19 55 11.1**	**+1.2**
	comp=E,0.4nm,0.3s,baz=16,slow=11,SNR=16						
SONM				Pg	Pb	19 55 37.4	+5.4
	comp=E,0.6nm,0.3s,baz=10,slow=16,SNR=10						
SONM				Lg	Lg	19 57 25.3	
	comp=E,1.5nm,0.3s,baz=16,slow=26,SNR=20						
IENR	**Iengra**	**8.16**	**78**	⇓iPn	**Pn**	**19 55 14.4**	**+1.9**
IENR				ePg	Pb	19 55 42.4	+7.0
IENR				eSg	**Sg**	**19 57 30.4**	**-5.4**
CLNS	**Chul'man**	**8.21**	**74**	e	Sn	19 56 35.0	-11
CLNS				e		19 57 21.7	
CLNS				eSg	Sg	19 57 30.3	-6.8
CLNS				e		19 57 34.0	
ZALV	**Zalesovo Beam**	**14.88**	**275**	P	**Pn**	**19 56 44.1**	**-0.1**
ZALV	**Zalesovo Beam**	**14.88**	**275**	Pn	**Pn**	**19 56 44.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=80,slow=9.5,SNR=27						
ZALV				Lg	Lg	20 01 01.4	
	comp=E,0.1nm,0.3s,baz=72,slow=28,SNR=3.0						
MKAR	**Makanchi Array**	**19.55**	**256**	P	**Pn**	**19 57 42.1**	**-0.9**
MKAR	**Makanchi Array**	**19.55**	**256**	P	**Pn**	**19 57 42.0**	**-0.9**
	comp=E,0.4nm,0.3s,baz=61,slow=9.6,SNR=16						
KURK	**Kurchatov**	**19.59**	**270**	P	**Pn**	**19 57 43.4**	**0.0**
KURBB	**Kurchatov Arra**	**19.68**	**269**	P	**P**	**19 57 43.4**	**+0.3**
	comp=E,0.1nm,0.3s,baz=59,slow=12,SNR=13						
BVAR	**Borovoye Array**	**23.33**	**281**	P	**P**	**19 58 24.2**	**+2.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**23.33**	**281**	P	**P**	**19 58 24.2**	**+2.2**
	comp=Z,1.9nm,0.6s,baz=74,slow=11,SNR=8.0						
AAK	**Ala-Archa**	**26.48**	**256**	LR	LR	20 10 12.6	
	comp=Z,11nm,20.6s,baz=12,slow=39						
FINES	**FINESS Array B**	**41.67**	**314**	P	**P**	**20 01 01.1**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=62,slow=9.6,SNR=4.2						
ILAR	**Eielson Array**	**46.51**	**35**	P	**P**	**20 01 42.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=308,slow=7.4,SNR=3.9						

IDC 05 20:13:21.4±4.8, 29°.79S×177°.20W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.7/2, Error ellipse: s-maj=274.9km s-min=68.6km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.84**	**266**	P	P	20 21 29.2	-0.4
	0.2nm,0.4s,baz=104,slow=7.5,SNR=9.8						
WRA	**Warramunga Arr**	**44.77**	**271**	P	P	20 21 37.1	+0.1
	0.7nm,0.3s,baz=110,slow=8.1,SNR=39						
FINES	**FINESS Array B**	**144.81**	**341**	PKP	PKPbc	20 32 59.0	+0.3
	1.9nm,1.1s,baz=49,slow=4.2,SNR=7.7						

MEX 05 20:24:58.1±0.4, 18°.39N×103°.66W, h36km±7km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.32**	**108**	i P	Pn	20 25 04.8	-1.4
MMIG				i S	Sn	20 25 10.0	-2.9
R15V		**0.84**	**339**	eP	Pn	20 25 11.9	-1.6
R15V				i S	Sn	20 25 22.5	-2.2
EZ5V		**1.09**	**3**	eP	Pn	20 25 14.9	-2.3
EZ5V				eS	Sn	20 25 28.9	-2.3
ZIIG	**Zihuatanejo**	**2.23**	**110**	i P	Pn	20 25 31.5	-1.1
ZIIG				i S	Sn	20 25 57.1	-1.7
ARIG	**Puente Sto Nin**	**3.15**	**91**	i P	Pn	20 25 43.5	-1.7
ARIG				i S	Sn	20 26 20.4	-1.3

ISCJB ***05*** *20:32:01.3±0.7, 39°.53N±0°.02×26°.32E±0°.04, h7km±4km, Error ellipse: s-maj=4.9km s-min=3.8km az=168.1*
ATH ***05*** *20:32:01.6, 39°.51N×26°.35E, h19km±5km, MD2.9/4*
DDA ***05*** *20:32:01, 39°.54N×26°.30E, h7km, MD2.8*
CSEM ***05*** *20:32:01.8±0.1, 39°.51N×26°.33E, h10km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.6km az=94.0*
ISK ***05*** *20:32:04.0, 39°.65N×26°.44E, h13km, MD2.7*
ISC 05 20:32:01.9±0.9, 39°.52N±0°.02×26°.34E±0°.02, h13km±7km, n30, σ0°67/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.28**	**190**	ePB	**Pg**	**20 32 07.5**	**-0.3**
PRK				eSB	**Sg**	**20 32 12.4**	**+0.7**
PRK	**Paraskevi**	**0.28**	**190**	ePb	**Pg**	**20 32 07.5**	**-0.3**
PRK				eSb	**Sg**	**20 32 12.4**	**+0.7**
EZN	**Ezine**	**0.30**	**358**	ePG	**Pb**	**20 32 08.6**	**-0.7**
EZN				eSG	**Sg**	**20 32 12.4**	**0.0**
EZN	**Ezine**	**0.30**	**358**	ePg	**Pb**	**20 32 08.6**	**-0.7**
EZN				eSg	**Sg**	**20 32 12.4**	**0.0**
AYVA	**Ayvalik**	**0.35**	**128**	i P	**Pg**	**20 32 08.6**	**-0.4**
AYVA				i S	**Sg**	**20 32 14.1**	**+0.4**
AYVA	**Ayvalik**	**0.35**	**128**	i P	**Pg**	**20 32 08.6**	**-0.4**
AYVA				i S	**Sg**	**20 32 14.1**	**+0.4**
LIA	**Limnos Island**	**0.97**	**293**	ePN	**Pn**	**20 32 21.6**	**+0.4**
LIA				eSN	**Sg**	**20 32 33.8**	**+0.6**
LIA	**Limnos Island**	**0.97**	**293**	ePn	**Pn**	**20 32 21.6**	**+0.4**
LIA				eSn	**Sg**	**20 32 33.8**	**+0.6**
BALY	**Balya**	**1.01**	**77**	i P	**Pb**	**20 32 21.1**	**-0.3**
BALY				i S	**Sg**	**20 32 34.6**	**-0.1**
BALY	**Balya**	**1.01**	**77**	i P	**Pb**	**20 32 21.1**	**-0.3**
BALY				i S	**Sg**	**20 32 34.6**	**-0.1**
SMTH	**Samothraki Isl**	**1.13**	**327**	ePN	**Pg**	**20 32 23.6**	**-0.2**
SMTH				eSN	**Sn**	**20 32 38.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.13**	**327**	ePn	**Pg**	**20 32 23.6**	**-0.2**
SMTH				eSn	**Sn**	**20 32 38.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.14**	**40**	ePG	**Pg**	**20 32 23.7**	**-0.2**
KRBG				eSG	**Sb**	**20 32 37.5**	**-0.7**
KRBG	**Karabiga-Canak**	**1.14**	**40**	ePg	**Pg**	**20 32 23.7**	**-0.2**
KRBG				eSg	**Sb**	**20 32 37.5**	**-0.7**
CHOS	**Chios island**	**1.16**	**191**	ePN	**Pn**	**20 32 23.3**	**-0.6**
CHOS				eSN	**Sb**	**20 32 39.1**	**+0.4**
CHOS	**Chios island**	**1.16**	**191**	ePn	**Pn**	**20 32 23.3**	**-0.6**
CHOS				eSn	**Sb**	**20 32 39.1**	**+0.4**
GONE	**Gonen-Balikesi**	**1.16**	**63**	ePG	**Pg**	**20 32 24.2**	**-0.2**
GONE				eSG	**Sg**	**20 32 38.9**	**-0.6**
GONE	**Gonen-Balikesi**	**1.16**	**63**	ePg	**Pg**	**20 32 24.2**	**-0.2**
GONE				eSg	**Sg**	**20 32 38.9**	**-0.6**
URLA	**Izmir**	**1.18**	**170**	i P	**Pn**	**20 32 23.5**	**-0.6**
URLA				i S	**Sg**	**20 32 41.0**	**+1.1**
URLA	**Izmir**	**1.18**	**170**	i P	**Pn**	**20 32 23.5**	**-0.6**
URLA				i S	**Sg**	**20 32 41.0**	**+1.1**
BALB	**Balikesir**	**1.20**	**84**	ePN	**Pg**	**20 32 25.5**	**+0.5**
BALB				eSN	**Sg**	**20 32 42.5**	**+1.9**
BALB	**Balikesir**	**1.20**	**84**	ePn	**Pg**	**20 32 25.5**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**1.65**	**87**	*i* P	**Pn**	**20 32 30.4**	**-0.4**
DURS				*i* S	**Sb**	**20 32 53.0**	**-0.1**
ARMT	**Armutlu**	**2.20**	**61**	*e*PN	**Pn**	**20 32 39.3**	**+1.1**
ARMT	**Armutlu**	**2.20**	**61**	*e*Pn	**Pn**	**20 32 39.3**	**+1.1**
EDRB	**Edirne**	**2.34**	**7**	*e*PN	**Pn**	**20 32 41.2**	**+1.1**
EDRB	**Edirne**	**2.34**	**7**	*e*Pn	**Pn**	**20 32 41.2**	**+1.1**

GUC 05 20:32:19.1±0.9, 32°61′S×71°67′W, h4km±3km, MD3.6, ML2.7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.67**	**123**	⇓*i*P	Pb	20 32 33.1	-0.6
ROCH				*i* S	Sb	20 32 43.5	-0.1
ROCH				AML	AML	20 32 44.8	
	comp=N,528nm,0.5s						
JACH	**Jahuel**	**0.92**	**95**	*e*P	Pg	20 32 36.8	-0.1
JACH				*i* S	Sb	20 32 49.9	-0.5
PEL	**Peldehue**	**0.99**	**123**	⇑*i*P	Pg	20 32 38.2	0.0
PEL				*i* S	Sb	20 32 52.9	+0.4
PEL				AML	AML	20 32 54.9	
	comp=E,814nm,0.4s						
RCDM	**Rinconada Maip**	**1.14**	**141**	*e*P	Pg	20 32 40.3	-0.8
RCDM				*i* S	Sg	20 32 56.0	0.0
RCDM				AML	AML	20 33 02.5	
	comp=N,237nm,0.2s						
CLCH	**Cerro Calan**	**1.24**	**130**	*e*P	Pg	20 32 42.0	-1.0
CLCH				*e*S	Sg	20 32 59.3	+0.1
CLCH				AML	AML	20 33 00.6	
	comp=E,665nm,0.8s						
CLCH				AML	AML	20 33 01.7	
	comp=N,229nm,0.4s						
CHCH	**Chadas Angostu**	**1.58**	**147**	*e*P	Pn	20 32 46.9	-1.0
CACH	**El Canelo**	**1.75**	**149**	*e*P	Pn	20 32 49.8	-0.7

IDC 05 20:43:23.0±7.3, 15°79S×179°57E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/37, Error ellipse: s-maj=334.8km s-min=31.4km az=142.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.57**	**79**	LR	LR	20 48 12.1	
	comp=Z,201nm,19.2s,baz=263,slow=34						
HNR	**Honiara**	**20.15**	**286**	LR	LR	20 54 16.8	
	comp=Z,146nm,21.3s,baz=117,slow=32						
WRA	**Warramunga Arr**	**43.15**	**258**	P	P	20 51 25.1	-0.6
	0.6nm,0.9s,baz=91,slow=9.7,SNR=3.9						
ASAR	**Alice Springs**	**43.54**	**252**	P	P	20 51 29.1	+0.2
	2.0nm,0.9s,baz=86,slow=8.7,SNR=18						
ASAR				LR	LR	21 08 10.7	
	comp=Z,87nm,19.3s,baz=256,slow=34						
TGY	**Tagaytay City**	**65.11**	**294**	LR	LR	21 18 00.3	
	comp=Z,1.8nm,18.3s,baz=267,slow=32						
ILAR	**Eielson Array**	**84.28**	**14**	P	P	20 55 55.7	-0.6
	1.2nm,0.9s,baz=224,slow=5.0,SNR=9.6						
GERES	**GERESS Array B**	**145.06**	**344**	PKPbc	PKPab	21 03 01.9	0.0
	0.3nm,0.7s,baz=24,slow=3.3,SNR=4.2						

IDC 05 20:49:00.7±1.2, 19°68N×145°60E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, MS3.8/1, Ms1 3.7/1, ms1mx2.5/30, Error ellipse: s-maj=55.7km s-min=23.7km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.89**	**196**	P	P	20 56 45.7	+1.0
	0.5nm,0.8s,baz=16,slow=8.8,SNR=3.3						
ASAR	**Alice Springs**	**44.56**	**195**	P	P	20 57 13.1	-1.5
	0.2nm,0.5s,baz=15,slow=8.8,SNR=4.6						
STKA	**Stephens Creek**	**51.40**	**184**	LR	LR	21 20 22.3	
	comp=Z,92nm,18.8s,baz=206,slow=37						
MKAR	**Makanchi Array**	**57.72**	**313**	P	P	20 58 53.8	+0.5
	0.4nm,0.6s,baz=98,slow=8.8,SNR=4.8						
ILAR	**Eielson Array**	**62.82**	**26**	P	P	20 59 27.8	-0.1
	0.3nm,0.7s,baz=280,slow=5.2,SNR=3.7						
FINES	**FINESS Array B**	**85.96**	**335**	P	P	21 01 42.1	-0.4
	0.9nm,0.6s,baz=59,slow=7.4,SNR=5.7						

IDC 05 21:05:15.4±2.5, 2°43N×96°27E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, ML2.4/1, Error ellipse: s-maj=69.5km s-min=25.0km az=48.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.67**	**82**	Pn	Pn	21 05 59.8	-0.1
	0.6nm,0.3s,baz=295,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**43.47**	**123**	P	P	21 13 20.5	-0.2
	0.3nm,0.9s,baz=301,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**45.84**	**347**	P	P	21 13 39.3	0.0
	0.9nm,0.7s,baz=164,slow=7.9,SNR=10						
SONM	**Songino Array**	**46.07**	**9**	P	P	21 13 41.1	-0.1
	0.2nm,0.4s,baz=193,slow=9.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**52.21**	**351**	P	P	21 14 27.7	-0.3
	1.1nm,0.5s,baz=180,slow=6.7,SNR=8.0						

*IDC **05** 21:08:08.4±1.3, 2°05N×96°07E, h0km, mb3.8/9, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML2.9/1, MS3.3/4, Ms1 3.3/4, ms1mx2.6/42, Error ellipse: s-maj=42.5km s-min=18.0km az=48.0*

*ISCJB **05** 21:08:10.1±0.7, 2°1N±0°1×96°1E±0°1, h27km, mb4.0/14, MS3.5/3, Error ellipse: s-maj=20.5km s-min=9.6km az=139.9*

*NEIC **05** 21:08:13.3±0.6, 2°09N×96°11E, h35km, mb4.2/5, Error ellipse: s-maj=18.2km s-min=8.4km az=50.0*

ISC 05 21:08:12.3±0.9, 2°2N±0°1×96°1E±0°1, h27km, n34, σ0°74/31, mb4.0/14, MS3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.85**	**77**	Pn	**Pn**	**21 08 56.0**	**-0.1**
PSI	**Prapat**	**2.85**	**77**	Pn	**Pn**	**21 08 56.0**	**-0.1**
	1.8nm,0.3s,baz=286,slow=8.2,SNR=9.7						
CMAR	**Chiang Mai Arr**	**16.44**	**9**	Pn	**P**	**21 12 03.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.44**	**9**	Pn	**P**	**21 12 03.7**	**-0.1**
	baz=202,slow=12,SNR=6.3						
CMAR				LR	LR	21 19 15.6	
	comp=Z,44nm,18.6s,baz=205,slow=40						
LSA	**Lhasa**	**27.81**	**351**	*e*P	**P**	**21 14 00.4**	**+0.5**
	2.2nm,0.6s						
ENH	**Enshi**	**30.70**	**23**	*e*P	**P**	**21 14 24.0**	**-1.1**
	3.7nm,0.5s						
KBL	**Kabul**	**40.95**	**325**	*e*P	**P**	**21 15 50.5**	**-2.5**
	5.1nm,0.6s						
WRA	**Warramunga Arr**	**43.43**	**122**	P	**P**	**21 16 13.5**	**+0.3**
WRA	**Warramunga Arr**	**43.43**	**122**	P	**P**	**21 16 13.5**	**+0.3**
	0.7nm,1.0s,baz=300,slow=9.1,SNR=4.3						
WRAB	**Tennant Creek**	**43.43**	**122**	*e*P	**P**	**21 16 13.8**	**+0.5**
	5.5nm,1.1s						
ASAR	**Alice Springs**	**44.80**	**127**	P	**P**	**21 16 24.5**	**+0.2**
ASAR	**Alice Springs**	**44.80**	**127**	P	**P**	**21 16 24.5**	**+0.2**
	0.3nm,0.8s,baz=313,slow=8.5,SNR=3.7						
MK31	**Makanchi Array**	**46.08**	**347**	*e*P	**P**	**21 16 34.1**	**+0.1**
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**21 16 34.7**	**+0.7**
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**21 16 34.7**	**+0.7**
	2.2nm,0.7s,baz=158,slow=7.3,SNR=18						
SONM	**Songino Array**	**46.37**	**10**	P	**P**	**21 16 37.2**	**+0.8**
SONM	**Songino Array**	**46.37**	**10**	P	**P**	**21 16 37.2**	**+0.8**
	0.8nm,0.6s,baz=191,slow=9.3,SNR=9.8						
KURBB	**Kurchatov Arra**	**50.55**	**346**	P	**P**	**21 17 08.9**	**+0.6**
	0.4nm,0.3s,baz=168,slow=7.1,SNR=6.7						
KURK	**Kurchatov**	**50.62**	**346**	P	**P**	**21 17 08.9**	**+0.1**
PMG	**Port Moresby**	**52.10**	**104**	LR	LR	21 43 07.8	
	comp=Z,62nm,19.6s,baz=36,slow=40						
ZAA0	**Zalesovo Array**	**52.47**	**352**	*e*P	**P**	**21 17 23.0**	**+0.4**
ZALV	**Zalesovo Beam**	**52.47**	**352**	P	**P**	**21 17 23.4**	**+0.8**
ZALV	**Zalesovo Beam**	**52.47**	**352**	P	**P**	**21 17 23.4**	**+0.8**
	2.5nm,0.5s,baz=180,slow=6.5,SNR=17						
CTAO	**Charters Tower**	**53.81**	**117**	*e*P	**P**	**21 17 33.7**	**+0.1**
BVAR	**Borovoye Array**	**55.02**	**341**	P	**P**	**21 17 41.7**	**+0.3**
BVAR	**Borovoye Array**	**55.02**	**341**	P	**P**	**21 17 41.7**	**+0.3**
	0.6nm,0.6s,baz=134,slow=8.5,SNR=5.3						
BRVK	**Borovoye**	**55.08**	**341**	*e*P	**P**	**21 17 41.9**	**+0.1**
	0.7nm,0.4s						
CAN	**Canberra**	**61.83**	**132**	P	**P**	**21 18 28.5**	**-0.8**
KBZ	**Khabaz**	**62.67**	**319**	P	**P**	**21 18 35.5**	**+0.9**
KBZ	**Khabaz**	**62.67**	**319**	P	**P**	**21 18 35.5**	**+0.9**
	0.6nm,0.5s,baz=117,slow=6.8,SNR=3.0						
FX1	**Attu Island--F**	**80.47**	**37**	LR	LR	21 56 08.6	
	comp=Z,24nm,19.0s,baz=261,slow=36						
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**21 20 26.4**	**+0.5**
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**21 20 26.4**	**+0.5**
	0.8nm,0.8s,baz=82,slow=6.5,SNR=3.8						
NOA	**NORSAR Array B**	**85.67**	**331**	LR	LR	21 59 28.2	
	comp=Z,9.3nm,19.6s,baz=230,slow=36						

*IDC **05** 21:16:15.9±2.1, 24°18N×124°97E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/27, mbtmp3.7/8, Error ellipse: s-maj=149.9km s-min=18.4km az=64.0*

*JMA **05** 21:16:19.5±0.2, 24°23N×125°18E, h0km, M3.5*

*ISCJB **05** 21:16:20.4±0.9, 24°33N±0°09×125°27E±0°07, h51km±6km, mb3.6/8, Error ellipse: s-maj=16.4km s-min=7.2km az=152.3*

ISC 05 21:16:22.0±1.5, 24°4N±0°1×125°20E±0°08, h41km±12km, n15, σ1°23/20, mb3.6/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.40**	**28**	P	**Pn**	**21 16 30.9**	**-0.6**
JOGS				S	**Sn**	**21 16 39.8**	**+1.6**
JMJ	**Miyako jima 2**	**0.42**	**12**	P	**Pn**	**21 16 31.6**	**-0.1**
JMJ				S	**Sn**	**21 16 39.9**	**+1.3**
JTJ	**Tarama**	**0.51**	**298**	P	**Pn**	**21 16 31.7**	**-1.2**
JTJ				*e*S	**Sn**	**21 16 39.3**	**-1.4**
JIJ	**Ishigaki jima**	**0.97**	**268**	P	**Pn**	**21 16 38.3**	**-0.7**
JIJ				*e*S	**Sn**	**21 16 51.3**	**-0.3**
JKRS	**Kuro-shima**	**1.10**	**262**	P	**Pn**	**21 16 40.2**	**-0.7**
JKRS				*e*S	**Sn**	**21 16 55.2**	**+0.3**
HATJ	**Hateruma jima**	**1.32**	**255**	*e*S	**Sn**	**21 17 02.2**	**+1.9**
IRIF	**Iriomote-Funau**	**1.34**	**267**	P	**Pn**	**21 16 45.3**	**+1.1**
IRIF				*e*S	**Sn**	**21 17 03.8**	**+2.9**
MKAR	**Makanchi Array**	**40.77**	**314**	P	**P**	**21 23 59.0**	**-0.1**
	0.7nm,0.5s,baz=102,slow=9.1,SNR=16						
ZALV	**Zalesovo Beam**	**42.11**	**325**	P	**P**	**21 24 09.6**	**-0.3**
	0.5nm,0.6s,baz=116,slow=9.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.34**	**318**	P	**P**	**21 24 27.7**	**-0.2**
	0.5nm,0.6s,baz=109,slow=9.7,SNR=4.5						
WRA	**Warramunga Arr**	**44.97**	**168**	P	P	21 24 30.9	-2.3
	0.5nm,0.5s,baz=348,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**48.52**	**169**	P	**P**	**21 24 59.9**	**-1.1**
	0.3nm,0.6s,baz=356,slow=8.3,SNR=6.8						
BVAR	**Borovoye Array**	**49.85**	**320**	P	**P**	**21 25 10.8**	**-0.1**
	0.3nm,0.5s,baz=102,slow=6.5,SNR=3.5						
AKTO	**Aktyubinsk**	**57.19**	**315**	P	**P**	**21 26 05.1**	**+0.4**
	0.7nm,0.5s,baz=107,slow=11,SNR=5.3						
FINES	**FINESS Array B**	**73.09**	**330**	P	**P**	**21 27 48.0**	**+0.4**
	1.4nm,0.8s,baz=113,slow=15,SNR=5.2						

IDC 05 21:16:34.0±11.0, 15°26S×174°52W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/19, mbtmp3.8/2, Error ellipse: s-maj=497.0km s-min=60.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.82**	**257**	P	P	21 25 21.3	-0.2
	0.1nm,0.3s,baz=89,slow=7.5,SNR=6.9						
ASAR	**Alice Springs**	**49.12**	**252**	P	P	21 25 23.8	-0.1
	2.4nm,0.7s,baz=86,slow=8.2,SNR=37						
BRTR	**Keskin Array B**	**145.36**	**320**	PKPbc	PKPbc	21 36 13.4	-0.8
	0.6nm,0.7s,baz=41,slow=3.4,SNR=3.4						

*ISCJB **05** 21:18:34.7±0.3, 50°83N±0°01×5°53E±0°02, h15km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=28.4*

*CSEM **05** 21:18:35.9±0.1, 50°89N×5°57E, h14km, ML3.3/30, Error ellipse: s-maj=2.3km s-min=1.6km az=150.0*

*BGR **05** 21:18:36.8±0.5, 50°93N×5°63E, h10km, ML2.8/5, Error ellipse: s-maj=6.7km s-min=3.3km az=89.0*

*UCC **05** 21:18:36.7±0.3, 50°91N×5°57E, h12km±1km, ML2.7*

*LDG **05** 21:18:37.0±0.1, 50°92N×5°58E, h10km, Md3.6/3, Ml3.2/35, Error ellipse: s-maj=1.2km s-min=0.9km az=146.0*

*PRU **05** 21:18:38.9, 50°85N×5°91E, h0km*

*BNS **05** 21:18:38.1±0.5, 50°92N×5°66E, h10km, ML2.5*

*STR **05** 21:18:41.2±0.4, 50°66N×5°78E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 05 21:18:35.0±0.9, 50°91N±0°01×5°55E±0°01, h19km±2km, n184, σ1°45/330, 7C-3D, Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOPT	**Opiter**	**0.21**	**14**	P	**Pg**	**21 18 41.1**	**+0.9**
BOPT				S	**Sg**	**21 18 44.7**	**+0.9**
	1μm,0.2s						
BLCH	**La Chartreuse**	**0.27**	**174**	P	**Pg**	**21 18 42.3**	**+1.2**
BLCH				S	**Sb**	**21 18 46.0**	**+0.8**
	185nm,0.2s						
HGN	**Heimansgroeve**	**0.28**	**121**	*e*Pg	**Pg**	**21 18 42.4**	**+1.1**
HGN	**Heimansgroeve**	**0.28**	**121**	*e*Pg	**Pg**	**21 18 42.3**	**+1.0**
	48nm,0.2s						
HGN				*e*Sg	**Sb**	**21 18 46.2**	**+0.6**
HGN	**Heimansgroeve**	**0.28**	**121**	*e*Pg	**Pg**	**21 18 42.3**	**+1.0**
	48nm,0.2s						
HGN				*e*Sg	**Sb**	**21 18 46.2**	**+0.6**
BSTI	**Sart Tilman**	**0.33**	**179**	P	**Pb**	**21 18 43.4**	**+1.2**
MEM	**Membach**	**0.42**	**136**	⇓P	**Pb**	**21 18 44.9**	**+1.0**
MEM	**Membach**	**0.42**	**136**	S	**Sb**	**21 18 50.3**	**+0.6**
	comp=N,226nm,0.2s						
MEM	**Membach**	**0.42**	**136**	P	**Pb**	**21 18 44.8**	**+1.0**
MEM				S	**Sb**	**21 18 50.3**	**+0.6**
	comp=N,226nm,0.2s						
BMOL	**Mol**	**0.42**	**316**	P	**Pb**	**21 18 45.0**	**+1.0**
BMOL				S	**Sb**	**21 18 50.9**	**+0.9**
	comp=N,306nm,0.3s						
RWB	**Wassenberg**	**0.43**	**63**	⇑*e*Pg	**Pb**	**21 18 44.9**	**+0.9**
RWB				*e*Sg	**Sb**	**21 18 50.3**	**+0.2**
	comp=N,213nm,0.2s						
RWB	**Wassenberg**	**0.43**	**63**	Pg	**Pb**	**21 18 44.9**	**+0.9**
RWB				Sg	**Sb**	**21 18 50.3**	**+0.2**
	comp=N,213nm,0.2s						
RODG	**Roetgen-Dahlhe**	**0.46**	**59**	⇑*e*Pg	**Pg**	**21 18 45.5**	**+1.1**
RODG				*e*Sg	**Sg**	**21 18 51.0**	**+0.3**
	comp=N,477nm,0.5s						
RODG	**Roetgen-Dahlhe**	**0.46**	**59**	Pg	**Pg**	**21 18 45.5**	**+1.1**
RODG				Sg	**Sg**	**21 18 51.0**	**+0.3**
	comp=N,477nm,0.5s						
HKB	**Herkenbosch**	**0.48**	**54**	P	**Pg**	**21 18 45.8**	**+1.0**
HKB				S	**Sg**	**21 18 51.1**	**-0.2**
DREG	**Dreilaegerbach**	**0.50**	**119**	*e*Pg	**Pg**	**21 18 46.3**	**+1.2**
DREG				*e*Sg	**Sg**	**21 18 52.7**	**+0.9**
	comp=N,316nm,0.5s						
DREG	**Dreilaegerbach**	**0.50**	**119**	Pg	**Pg**	**21 18 46.3**	**+1.2**
DREG				Sg	**Sg**	**21 18 52.7**	**+0.9**
	comp=N,316nm,0.5s						
KLL	**Kalltalsperre**	**0.55**	**118**	*e*Pg	**Pg**	**21 18 47.2**	**+1.2**
KLL				*e*Sg	**Sg**	**21 18 54.2**	**+0.8**
	comp=N,169nm,0.0s						
KLL	**Kalltalsperre**	**0.55**	**118**	Pg	**Pg**	**21 18 47.2**	**+1.2**
KLL				Sg	**Sg**	**21 18 54.2**	**+0.8**
GSH	**Grosshau**	**0.55**	**108**	⇑*e*Pg	**Pg**	**21 18 47.4**	**+1.3**
GSH				*e*Sg	**Sg**	**21 18 54.2**	**+0.7**
	comp=N,112nm,0.1s						
GSH	**Grosshau**	**0.55**	**108**	Pg	**Pg**	**21 18 47.4**	**+1.3**
GSH				Sg	**Sg**	**21 18 54.2**	**+0.7**
	comp=N,112nm,0.1s						
JCK	**Jackerath**	**0.57**	**77**	*e*Pg	**Pg**	**21 18 47.3**	**+0.9**
JCK				*e*Sg	**Sb**	**21 18 54.3**	**+0.4**
	comp=N,438nm,0.1s						
JCK	**Jackerath**	**0.57**	**77**	Pg	**Pg**	**21 18 47.3**	**+0.9**
JCK				Sg	**Sb**	**21 18 54.3**	**+0.4**
	comp=N,438nm,0.1s						
BGES	**Gesves**	**0.60**	**210**	P	**Pg**	**21 18 48.4**	**+1.4**
BGES				S	**Sg**	**21 18 57.0**	**+1.9**
OLFT	**Oleftalsperre**	**0.69**	**127**	⇓*e*Pg	**Pn**	**21 18 49.8**	**+0.1**
OLFT				*e*Sg	**Sg**	**21 18 58.7**	**+0.9**
OPLO	**Oploo**	**0.70**	**13**	*e*Pg	**Pn**	**21 18 50.0**	**+0.1**
OPLO				*e*Sg	**Sn**	**21 18 59.7**	**-0.4**
OPLO	**Oploo**	**0.70**	**13**	*e*Pg	**Pn**	**21 18 49.9**	**+0.1**
	comp=N,50nm,0.2s						
OPLO				*e*Sg	**Sn**	**21 18 59.8**	**-0.3**
OPLO	**Oploo**	**0.70**	**13**	*e*Pg	**Pn**	**21 18 49.9**	**+0.1**
	comp=N,50nm,0.2s						
OPLO				Sg	**Sn**	**21 18 59.7**	**-0.4**
UCC	**Uccle**	**0.77**	**262**	⇑P	**Pn**	**21 18 51.2**	**+0.5**
UCC				S	**Sg**	**21 19 01.1**	**+0.9**
	comp=N,347nm,0.1s						
UCC	**Uccle**	**0.77**	**262**	P	**Pn**	**21 18 51.2**	**+0.5**
UCC				S	**Sg**	**21 19 01.0**	**+0.9**
	comp=N,347nm,0.1s						
PLH	**Pulheim**	**0.81**	**83**	*e*Pg	**Pg**	**21 18 51.3**	**+0.5**
PLH				*e*Sg	**Sb**	**21 19 01.6**	**+0.7**
	comp=N,1μm,0.2s						
PLH	**Pulheim**	**0.81**	**83**	Pg	**Pg**	**21 18 51.3**	**+0.5**
PLH				Sg	**Sb**	**21 19 01.6**	**+0.7**
	comp=N,1μm,0.2s						
STB	**Steinbach**	**0.88**	**111**	*e*Pg	**Pn**	**21 18 53.4**	**+1.1**
STB				*e*Sg	**Sg**	**21 19 04.3**	**+0.6**
	comp=N,170nm,0.3s						
STB	**Steinbach**	**0.88**	**111**	Pg	**Pn**	**21 18 53.4**	**+1.1**
STB				Sg	**Sg**	**21 19 04.3**	**+0.6**
	comp=N,170nm,0.3s						
BRQR	**Ronqui¨¤re**	**0.90**	**251**	P	**Pg**	**21 18 53.2**	**+0.7**
SNF	**Seneffe**	**0.90**	**244**	P	**Pg**	**21 18 53.4**	**+0.8**
SNF	**Seneffe**	**0.90**	**244**	P	**Pg**	**21 18 53.3**	**+0.8**
GIVF	**Givet**	**0.93**	**210**	*e*Pn	**Pg**	**21 18 54.5**	**+1.3**
	SNR=1.0						
GIVF	**Givet**	**0.93**	**210**	*e*Pg	**Pg**	**21 18 55.1**	**+1.9**
GIVF				*e*Sg	**Sn**	**21 19 07.4**	**+1.5**
	comp=N,169nm,0.2s,SNR=1.0						
GIVF	**Givet**	**0.93**	**210**	*e*Pn	**Pg**	**21 18 54.5**	**+1.3**
	SNR=1.0						
GIVF	**Givet**	**0.93**	**210**	*e*Pg	**Pg**	**21 18 55.1**	**+1.9**
GIVF				*e*Sg	**Sn**	**21 19 07.4**	**+1.5**
	comp=N,84nm,0.2s,SNR=1.0						
TDN	**Todenfeld**	**0.94**	**110**	*e*Pg	**Pg**	**21 18 54.1**	**+0.7**
TDN				*e*Sg	**Sg**	**21 19 06.2**	**+0.3**
	comp=N,108nm,0.1s						
TDN	**Todenfeld**	**0.94**	**110**	Pg	**Pg**	**21 18 54.1**	**+0.7**
TDN				Sg	**Sg**	**21 19 06.2**	**+0.3**
	comp=N,108nm,0.1s						
HILG	**Hillesheim**	**0.95**	**130**	*e*Pg	**Pg**	**21 18 54.8**	**+1.4**
HILG				*e*Sg	**Sn**	**21 19 07.2**	**+1.0**
HILG	**Hillesheim**	**0.95**	**130**	Pg	**Pg**	**21 18 54.8**	**+1.4**
HILG				Sg	**Sn**	**21 19 07.2**	**+1.0**
LOH	**Wallersheim-Lo**	**0.96**	**139**	*e*Pg	**Pg**	**21 18 55.1**	**+1.4**
LOH				*e*Sg	**Sn**	**21 19 07.1**	**+0.5**
	comp=N,218nm,0.1s						
LOH	**Wallersheim-Lo**	**0.96**	**139**	Pg	**Pg**	**21 18 55.1**	**+1.4**
LOH				Sg	**Sn**	**21 19 07.1**	**+0.5**
BSKQ	**Steenkerk**	**0.97**	**255**	P	**Pg**	**21 18 54.9**	**+1.0**
BSKQ				S	**Sb**	**21 19 06.1**	**+0.5**
LAUG	**Laupendahl**	**0.98**	**63**	*e*Pg	**Pg**	**21 18 54.7**	**+0.6**
LAUG				*e*Sg	**Sg**	**21 19 07.8**	**+0.8**
LAUG	**Laupendahl**	**0.98**	**63**	Pg	**Pg**	**21 18 54.7**	**+0.6**
LAUG				Sg	**Sg**	**21 19 07.8**	**+0.8**
DOU	**Dourbes**	**1.02**	**217**	⇑P	**Pg**	**21 18 55.9**	**+1.1**
DOU				S	**Sg**	**21 19 09.7**	**+1.5**
	comp=E,74nm,0.2s						
DOU	**Dourbes**	**1.02**	**217**	P	**Pg**	**21 18 55.9**	**+1.1**
DOU				S	**Sg**	**21 19 09.7**	**+1.5**
	comp=E,74nm,0.2s						
BNS	**Bensberg**	**1.03**	**86**	*e*Pg	**Pg**	**21 18 55.9**	**+0.9**
BNS				*e*Sg	**Sg**	**21 19 09.0**	**+0.5**
BNS	**Bensberg**	**1.03**	**86**	Pg	**Pg**	**21 18 55.9**	**+0.9**
BNS				Sg	**Sg**	**21 19 09.0**	**+0.5**
LVIA	**Vianden**	**1.06**	**157**	P	**Pg**	**21 18 57.0**	**+1.4**
LVIA				S	**Sg**	**21 19 10.4**	**+0.9**
WBS	**Wahnbachtalspe**	**1.10**	**95**	⇓*e*Pg	**Pg**	**21 18 57.0**	**+0.6**
WBS				*e*Sg	**Sn**	**21 19 10.5**	**+0.5**
	comp=E,135nm,0.2s						
WBS	**Wahnbachtalspe**	**1.10**	**95**	Pg	**Pg**	**21 18 57.0**	**+0.6**
WBS				Sg	**Sn**	**21 19 10.5**	**+0.5**
	comp=E,135nm,0.2s						
HOBG	**Hohbusch**	**1.13**	**86**	*e*Pg	**Pg**	**21 18 57.6**	**+0.7**
HOBG				*e*Sg	**Sg**	**21 19 11.7**	**0.0**
	comp=E,340nm,0.5s						
HOBG	**Hohbusch**	**1.13**	**86**	Pg	**Pg**	**21 18 57.6**	**+0.7**
HOBG				Sg	**Sg**	**21 19 11.7**	**0.0**
	comp=E,340nm,0.5s						
BBOU	**Bougnies**	**1.15**	**244**	P	**Pg**	**21 18 58.3**	**+1.0**
BHE	**Schloss Buerre**	**1.18**	**118**	*e*Pg	**Pg**	**21 18 58.2**	**+0.4**
BHE				*e*Sg	**Sn**	**21 19 12.8**	**+0.9**
	comp=E,112nm,0.1s						
BHE	**Schloss Buerre**	**1.18**	**118**	Pg	**Pg**	**21 18 58.2**	**+0.4**
BHE				Sg	**Sn**	**21 19 12.8**	**+0.9**
BUG	**Bochum--Univer**	**1.20**	**63**	*e*Pg	**Pg**	**21 18 58.5**	**+0.2**
BUG				*e*Sg	**Sn**	**21 19 12.9**	**+0.3**
BAIF	**Baives**	**1.21**	**226**	*e*Pn	**Pb**	**21 18 58.3**	**+1.0**
	SNR=1.0						
BAIF	**Baives**	**1.21**	**226**	*e*Pg	**Pg**	**21 18 59.9**	**+1.5**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**21 19 13.7**	**+1.0**
BAIF				*e*Sg	**Sg**	**21 19 16.2**	**+2.0**
	comp=E,56nm,0.2s,SNR=1.0						
BAIF	**Baives**	**1.21**	**226

CDF	**Champ du Feu**	**2.74**	**155**	*e*Pg	**Pg**	**21 19 27.8**	**+0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**21 19 49.9**	**-0.7**
CDF				*e*Sg	**Sg**	**21 20 01.0**	**-2.0**
	comp=E,30nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**2.74**	**155**	*e*Pn	**Pn**	**21 19 19.8**	**+1.8**
	SNR=1.0						
CDF	**Champ du Feu**	**2.74**	**155**	*e*Pg	**Pg**	**21 19 27.8**	**+0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**21 19 49.9**	**-0.7**
CDF				*e*Sg	**Sg**	**21 20 01.0**	**-2.0**
	comp=E,15nm,0.5s,SNR=1.0						
WLS	**Welschbruch**	**2.76**	**154**	Pn	**Pn**	**21 19 20.2**	**+2.0**
ECH	**Echery**	**2.89**	**158**	Pn	**Pn**	**21 19 21.5**	**+1.5**
ECH				Sg	**Sg**	**21 20 06.4**	**-1.5**
HAU	**Haudompre**	**2.95**	**170**	*e*P	**Pb**	**21 19 25.0**	**-2.0**
	SNR=1.0						
HAU	**Haudompre**	**2.95**	**170**	*e*Pg	**Pg**	**21 19 31.4**	**-0.2**
HAU				*e*Sn	**Sn**	**21 19 55.0**	**-0.8**
HAU				*e*Sg	**Sg**	**21 20 09.7**	**-0.1**
	comp=E,42nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.95**	**170**	*e*P	**Pb**	**21 19 25.0**	**-2.0**
	SNR=1.0						
HAU	**Haudompre**	**2.95**	**170**	*e*Pg	**Pg**	**21 19 31.4**	**-0.2**
HAU				*e*Sn	**Sn**	**21 19 55.0**	**-0.8**
HAU				*e*Sg	**Sg**	**21 20 09.7**	**-0.1**
	comp=E,21nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**3.15**	**144**	*e*Pn	**Pn**	**21 19 25.8**	**+2.2**
BFO	**Black Forest**	**3.15**	**144**	Pn	**Pn**	**21 19 25.8**	**+2.2**
HINF	**Hinteralfeld**	**3.21**	**164**	*e*Pn	**Pn**	**21 19 26.4**	**+2.0**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.21**	**164**	*e*Pg	**Pg**	**21 19 36.8**	**+0.3**
HINF				*e*Sn	**Sn**	**21 20 01.1**	**-1.0**
HINF				*e*Sg	**Sg**	**21 20 18.1**	**0.0**
	comp=E,20nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.21**	**164**	*e*Pn	**Pn**	**21 19 26.4**	**+2.0**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.21**	**164**	*e*Pg	**Pg**	**21 19 36.8**	**+0.3**
HINF				*e*Sn	**Sn**	**21 20 01.1**	**-1.0**
HINF				*e*Sg	**Sg**	**21 20 18.1**	**0.0**
	comp=E,9.8nm,0.3s,SNR=1.0						
MOF	**Molkenrain**	**3.23**	**161**	Pn	**Pn**	**21 19 27.0**	**+2.3**
MOF	**Molkenrain**	**3.23**	**161**	Pg	**Pg**	**21 19 37.2**	**+0.3**
MOF				Sg	**Sg**	**21 20 17.0**	**-1.7**
LOR	**Lormes**	**3.81**	**198**	*e*Pn	**Pn**	**21 19 34.3**	**+1.6**
	baz=19,SNR=1.0						
LOR	**Lormes**	**3.81**	**198**	*e*Pg	**Pg**	**21 19 47.6**	**-0.4**
	baz=17						
LOR				*e*Sn	**Sn**	**21 20 15.3**	**-1.6**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**21 20 36.8**	**-0.5**
	comp=E,23nm,0.3s,SNR=1.0						
LOR	**Lormes**	**3.81**	**198**	*e*Pn	**Pn**	**21 19 34.3**	**+1.6**
	baz=19,SNR=1.0						
LOR	**Lormes**	**3.81**	**198**	*e*Pg	**Pg**	**21 19 47.6**	**-0.4**
	baz=17						
LOR				*e*Sn	**Sn**	**21 20 15.3**	**-1.6**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**21 20 36.8**	**-0.5**
	comp=E,12nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**4.08**	**200**	*e*Pn	**Pn**	**21 19 37.9**	**+1.6**
	SNR=1.0						
SSF	**Saint Saulge**	**4.08**	**200**	*e*Pg	**Pg**	**21 19 52.6**	**-0.5**
SSF				*e*Sn	**Sn**	**21 20 21.6**	**-1.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**21 20 45.0**	**-0.9**
	comp=E,22nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**4.08**	**200**	*e*Pn	**Pn**	**21 19 37.9**	**+1.6**
	SNR=1.0						
SSF	**Saint Saulge**	**4.08**	**200**	*e*Pg	**Pg**	**21 19 52.6**	**-0.5**
SSF				*e*Sn	**Sn**	**21 20 21.6**	**-1.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**21 20 45.0**	**-0.9**
	comp=E,11nm,0.5s,SNR=1.0						
HYF	**Humbligny**	**4.12**	**209**	*e*Pg	**Pg**	**21 19 53.5**	**-0.3**
HYF				*e*Sg	**Sg**	**21 20 46.4**	**-0.7**
HYF	**Humbligny**	**4.12**	**209**	*e*Pg	**Pg**	**21 19 53.5**	**-0.3**
HYF				*e*Sg	**Sg**	**21 20 46.4**	**-0.7**
CABF	**La Chapelle**	**4.32**	**175**	*e*Pn	**Pn**	**21 19 41.6**	**+1.9**
	SNR=1.0						
CABF	**La Chapelle**	**4.32**	**175**	*e*Pg	**Pg**	**21 19 57.3**	**-0.3**
CABF				*e*Sn	**Sn**	**21 20 27.6**	**-1.9**
	comp=E,6.9nm,0.3s,SNR=1.0						
CABF				*e*Sg	**Sg**	**21 20 52.6**	**-0.9**
	comp=E,26nm,0.6s						
CABF	**La Chapelle**	**4.32**	**175**	*e*Pn	**Pn**	**21 19 41.6**	**+1.9**
	SNR=1.0						
CABF	**La Chapelle**	**4.32**	**175**	*e*Pg	**Pg**	**21 19 57.3**	**-0.3**
CABF				*e*Sn	**Sn**	**21 20 27.6**	**-1.9**
	comp=E,3.5nm,0.3s,SNR=1.0						
CABF				*e*Sg	**Sg**	**21 20 52.6**	**-0.9**
	comp=E,13nm,0.6s						
LDF	**La Druitiere**	**4.35**	**240**	*e*Pn	**Pn**	**21 19 42.1**	**+2.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**21 20 28.4**	**-1.7**
	comp=E,4.6nm,0.2s,SNR=1.0						
LDF				*e*Sg	**Sg**	**21 20 52.8**	**-1.7**
	comp=E,5.4nm,0.2s						
LDF	**La Druitiere**	**4.35**	**240**	*e*Pn	**Pn**	**21 19 42.1**	**+2.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**21 20 28.4**	**-1.7**
	comp=E,2.3nm,0.2s,SNR=1.0						
LDF				*e*Sg	**Sg**	**21 20 52.8**	**-1.7**
	comp=E,2.7nm,0.2s						
AVF	**Avril sur Loir**	**4.37**	**200**	*e*Pn	**Pn**	**21 19 41.5**	**+1.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**4.37**	**200**	*e*Pg	**Pg**	**21 19 59.1**	**+0.4**
AVF				*e*Sn	**Sn**	**21 20 29.1**	**-1.6**
	comp=E,4.4nm,0.3s,SNR=1.0						
AVF				*e*Sg	**Sg**	**21 20 54.2**	**-1.0**
	comp=E,10nm,0.5s						
AVF	**Avril sur Loir**	**4.37**	**200**	*e*Pn	**Pn**	**21 19 41.5**	**+1.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**4.37**	**200**	*e*Pg	**Pg**	**21 19 59.1**	**+0.4**
AVF				*e*Sn	**Sn**	**21 20 29.1**	**-1.6**
	comp=E,2.2nm,0.3s,SNR=1.0						
AVF				*e*Sg	**Sg**	**21 20 54.2**	**-1.0**
	comp=E,5.2nm,0.5s						
SMF	**Signal de Mont**	**4.42**	**196**	*e*Pn	**Pn**	**21 19 41.9**	**+0.9**
	SNR=1.0						
SMF	**Signal de Mont**	**4.42**	**196**	*e*Pg	**Pg**	**21 19 59.4**	**-0.1**
SMF				*e*Sn	**Sn**	**21 20 30.1**	**-1.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**21 20 54.9**	**-1.8**
	comp=E,18nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**4.42**	**196**	*e*Pn	**Pn**	**21 19 41.9**	**+0.9**
	SNR=1.0						
SMF	**Signal de Mont**	**4.42**	**196**	*e*Pg	**Pg**	**21 19 59.4**	**-0.1**
SMF				*e*Sn	**Sn**	**21 20 30.1**	**-1.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**21 20 54.9**	**-1.8**
	comp=E,8.8nm,0.3s,SNR=1.0						
NKC	**Novy Kostel**	**4.45**	**96**	*e*PN	Pb	21 19 48.9	-3.5
NKC				*e*SB	**Sg**	**21 20 53.6**	**-4.1**
	comp=E,4.3nm,0.6s						
NKC	**Novy Kostel**	**4.45**	**96**	Pg	Pb	21 19 48.9	-3.5
NKC				Sg	**Sg**	**21 20 53.6**	**-4.1**
	comp=E,4.3nm,0.6s						
FLN	**La Foliniere**	**4.46**	**244**	*e*Pn	**Pn**	**21 19 43.8**	**+2.3**
	baz=61,SNR=1.0						
FLN				*e*Sn	**Sn**	**21 20 31.1**	**-1.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**21 20 57.0**	**-1.0**
	comp=E,9.2nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**4.46**	**244**	*e*Pn	**Pn**	**21 19 43.8**	**+2.3**
	baz=61,SNR=1.0						
FLN				*e*Sn	**Sn**	**21 20 31.1**	**-1.7**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**21 20 57.0**	**-1.0**
	comp=E,4.6nm,0.2s,SNR=1.0						
DAVA	**Damuels**	**4.61**	**140**	⇑*i*Pn	Pn	21 19 46.9	+3.2
BGF	**Bois d'Agland**	**4.71**	**203**	*e*Pn	**Pn**	**21 19 46.7**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**21 20 37.0**	**-2.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**21 21 05.2**	**-0.9**
	comp=E,30nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.71**	**203**	*e*Pn	**Pn**	**21 19 46.7**	**+1.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**21 20 37.0**	**-2.0**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**21 21 05.2**	**-0.9**
	comp=E,15nm,0.4s,SNR=1.0						
CLL	**Collm**	**4.71**	**82**	*e*Sg	Sb	21 21 00.0	+6.8
	comp=Z,6.0nm,0.5s						
GRR	**Gorron**	**4.87**	**241**	*e*Pn	**Pn**	**21 19 48.0**	**+0.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**21 20 41.4**	**-1.6**
GRR				*e*Sg	**Sg**	**21 21 10.0**	**-1.2**
	comp=Z,5.4nm,0.2s,SNR=1.0						
GRR	**Gorron**	**4.87**	**241**	*e*Pn	**Pn**	**21 19 48.0**	**+0.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**21 20 41.4**	**-1.6**
GRR				*e*Sg	**Sg**	**21 21 10.0**	**-1.2**
	comp=Z,2.7nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**5.13**	**207**	*e*Pn	**Pn**	**21 19 52.6**	**+1.8**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**5.13**	**207**	*e*Pg	**Pg**	**21 20 12.5**	**-0.7**
TCF				*e*Sn	**Sn**	**21 20 47.2**	**-2.2**
TCF				*e*Sg	**Sg**	**21 21 18.2**	**-1.3**
	comp=Z,3.3nm,0.2s						
TCF	**Toulx Ste Croi**	**5.13**	**207**	*e*Pn	**Pn**	**21 19 52.6**	**+1.8**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**5.13**	**207**	*e*Pg	**Pg**	**21 20 12.5**	**-0.7**
TCF				*e*Sn	**Sn**	**21 20 47.2**	**-2.2**
TCF				*e*Sg	**Sg**	**21 21 18.2**	**-1.3**
	comp=Z,1.6nm,0.2s						
BRG	**Berggiesshubel**	**5.31**	**87**	SG	**Sg**	**21 21 19.9**	**-5.4**
	comp=Z,3.3nm,0.9s						
LPL	**La Plagne**	**5.45**	**171**	*e*Pn	**Pn**	**21 19 56.5**	**+1.1**
	SNR=1.0						
LPL	**La Plagne**	**5.45**	**171**	*e*Pn	**Pn**	**21 19 56.5**	**+1.1**
	SNR=1.0						
KHC	**Kasperske Hory**	**5.47**	**106**	*e*SB	**Sg**	**21 21 27.2**	**-3.3**
	comp=Z,1.6nm,0.5s						
KHC	**Kasperske Hory**	**5.47**	**106**	Sg	**Sg**	**21 21 27.2**	**-3.3**
	comp=Z,1.6nm,0.5s						
LPG	**La Plagne**	**5.47**	**171**	*e*Pn	**Pn**	**21 19 57.7**	**+1.9**
LPG				*e*Sg	**Sg**	**21 21 29.5**	**-1.1**
	comp=Z,1.7nm,0.3s						
LPG	**La Plagne**	**5.47**	**171**	*e*Pn	**Pn**	**21 19 57.7**	**+1.9**
LPG				*e*Sg	**Sg**	**21 21 29.5**	**-1.1**
	comp=Z,0.9nm,0.3s						
MFF	**Saint Martin d**	**5.72**	**223**	*e*Pn	**Pn**	**21 19 59.9**	**+1.0**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**21 21 01.3**	**-2.7**
MFF				*e*Sg	**Sg**	**21 21 35.7**	**-2.9**
	comp=Z,2.9nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**5.72**	**223**	*e*Pn	**Pn**	**21 19 59.9**	**+1.0**
	SNR=1.0						
PRU	**Pruhonice**	**5.82**	**96**	*e*SB	**Sg**	**21 21 37.3**	**-4.2**
	comp=Z,3.8nm,0.8s						
PRU	**Pruhonice**	**5.82**	**96**	Sg	**Sg**	**21 21 37.3**	**-4.2**
	comp=Z,3.8nm,0.8s						
SGMF	**Saint Gilles**	**5.91**	**246**	*e*Pn	**Pn**	**21 20 02.9**	**+1.5**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**21 21 05.9**	**-2.6**
	comp=Z,2.6nm,0.3s						
SGMF	**Saint Gilles**	**5.91**	**246**	*e*Pn	**Pn**	**21 20 02.9**	**+1.5**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**6.00**	**178**	*e*Pn	**Pn**	**21 20 04.1**	**+1.3**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**21 21 43.4**	**-4.0**
	comp=Z,4.2nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**6.00**	**178**	*e*Pn	**Pn**	**21 20 04.1**	**+1.3**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**6.08**	**186**	*e*P	Pn	21 20 09.2	+5.3
VIVF				*e*Sn	**Sn**	**21 21 10.3**	**-2.7**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**21 21 47.6**	**-2.6**
	comp=Z,4.0nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**6.22**	**207**	*e*Pn	**Pn**	**21 20 07.1**	**+1.3**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**21 21 13.7**	**-2.7**
	comp=Z,2.9nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**6.22**	**207**	*e*Pn	**Pn**	**21 20 07.1**	**+1.3**
	SNR=1.0						
ROSF	**Rostrenen**	**6.29**	**249**	*e*Pn	**Pn**	**21 20 07.8**	**+1.2**
ROSF				*e*Sn	**Sn**	**21 21 14.8**	**-3.1**
	comp=Z,1.2nm,0.2s						
ROSF	**Rostrenen**	**6.29**	**249**	*e*Pn	**Pn**	**21 20 07.8**	**+1.2**
QUIF	**Quistinic**	**6.43**	**246**	*e*Pn	**Pn**	**21 20 09.7**	**+1.1**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**21 21 18.4**	**-2.9**
	comp=Z,1.9nm,0.2s						
QUIF	**Quistinic**	**6.43**	**246**	*e*Pn	**Pn**	**21 20 09.7**	**+1.1**
	SNR=1.0						
CAF	**Calviac**	**6.43**	**203**	*e*Pn	**Pn**	**21 20 09.5**	**+0.9**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**21 21 18.1**	**-3.3**
	comp=Z,1.7nm,0.3s,SNR=1.0						
CAF	**Calviac**	**6.43**	**203**	*e*Pn	**Pn**	**21 20 09.5**	**+0.9**
	SNR=1.0						
LFF	**La Frestale**	**6.79**	**210**	*e*Pn	**Pn**	**21 20 14.9**	**+1.4**
LFF				*e*Sn	**Sn**	**21 21 26.3**	**-4.0**
	comp=Z,3.2nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**6.79**	**210**	*e*Pn	**Pn**	**21 20 14.9**	**+1.4**
DPC	**Dobruska-Polom**	**6.88**	**90**	*e*SB	**Sg**	**21 22 10.3**	**-5.1**
DPC	**Dobruska-Polom**	**6.88**	**90**	Sg	**Sg**	**21 22 10.3**	**-5.1**
LASF	**Ste Croix**	**6.93**	**190**	*e*Pn	**Pn**	**21 20 17.0**	**+1.5**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**21 22 14.7**	**-2.6**
	comp=Z,4.8nm,0.5s						
LASF	**Ste Croix**	**6.93**	**190**	*e*Pn	**Pn**	**21 20 17.0**	**+1.5**
	SNR=1.0						

ISCJB ***05*** *21:27:19.1±0.5,50.°89N±0.°02×5.°55E±0.°04,h9km±5km,*
Error ellipse: s-maj=4.6km s-min=3.9km az=5.3
UCC ***05*** *21:27:19.9±0.3,50.°90N×5.°58E,h10km±1km,ML1.3*
LDG ***05*** *21:27:19.7±0.1,50.°92N×5.°57E,h9km,Md2.1/1,Ml2.0/7,*
Error ellipse: s-maj=1.8km s-min=1.1km az=168.0
CSEM ***05*** *21:27:19.2±0.1,50.°90N×5.°56E,h12km,ML1.3,Error*
ellipse: s-maj=3.1km s-min=2.7km az=121.0

ISC 05 21:27:19.6±0.9,50.°92N±0.°02×5.°56E±0.°03,h15km±7km,
n29,σ1°06/50,1C-1D,Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOPT	**Opiter**	**0.20**	**13**	P	**Pg**	**21 27 23.9**	**-0.4**
BOPT				S	**Sg**	**21 27 27.5**	**+0.1**
	62nm,0.2s						
BLCH	**La Chartreuse**	**0.28**	**175**	P	**Pg**	**21 27 25.2**	**-0.4**
BLCH				S	**Sg**	**21 27 29.2**	**-0.4**
HGN	**Heimansgroeve**	**0.28**	**123**	*e*Pg	**Pg**	**21 27 25.2**	**-0.4**
HGN				*e*Sg	**Sg**	**21 27 29.1**	**-0.5**
HGN	**Heimansgroeve**	**0.28**	**123**	*e*Pg	**Pg**	**21 27 25.2**	**-0.4**
HGN				*e*Sg	**Sg**	**21 27 29.1**	**-0.5**
MEM	**Membach**	**0.42**	**137**	⇑P	**Pg**	**21 27 27.6**	**-0.5**
MEM				S	**Sg**	**21 27 33.4**	**-0.4**
	comp=E,5.2nm,0.2s						
MEM	**Membach**	**0.42**	**137**	P	**Pg**	**21 27 27.5**	**-0.5**
MEM				S	**Sg**	**21 27 33.3**	**-0.4**
	comp=E,5.2nm,0.2s						
BMOL	**Mol**	**0.42**	**315**	S	**Sg**	**21 27 34.2**	**+0.3**
HKB	**Herkenbosch**	**0.47**	**54**	P	**Pg**	**21 27 28.6**	**-0.4**
BGES	**Gesves**	**0.61**	**210**	P	**Pg**	**21 27 31.4**	**-0.3**
BGES				S	**Sg**	**21 27 39.4**	**-0.4**
GIVF	**Givet**	**0.94**	**210**	*e*Pn	**Pg**	**21 27 37.3**	**-0.6**
GIVF	**Givet**	**0.94**	**210**	*e*Pg	**Pb**	**21 27 37.9**	**+0.2**
GIVF				*e*Sg	**Sb**	**21 27 50.3**	**+0.3**
	comp=E,7.1nm,0.2s						
GIVF	**Givet**	**0.94**	**210**	*e*Pn	**Pg**	**21 27 37.3**	**-0.6**
GIVF	**Givet**	**0.94**	**210**	*e*Pg	**Pb**	**21 27 37.9**	**+0.2**
BSKQ	**Steenkerk**	**0.98**	**255**	P	**Pg**	**21 27 37.8**	**-0.8**
BSKQ				S	**Sg**	**21 27 49.1**	**-2.3**
DOU	**Dourbes**	**1.03**	**217**	⇓P	**Pg**	**21 27 39.3**	**-0.3**
DOU				S	**Sg**	**21 27 52.6**	**-0.4**
	comp=E,3.2nm,0.2s						
DOU	**Dourbes**	**1.03**	**217**	P	**Pg**	**21 27 39.2**	**-0.3**
DOU				S	**Sg**	**21 27 52.5**	**-0.4**
	comp=E,3.2nm,0.2s						
LVIA	**Vianden**	**1.06**	**157**	P	**Pg**	**21 27 39.9**	**-0.3**
LVIA				S	**Sg**	**21 27 53.2**	**-0.9**
BAIF	**Baives**	**1.22**	**226**	*e*Pg	**Pn**	**21 27 42.6**	**+0.5**
BAIF				*e*Sg	**Sn**	**21 27 59.0**	**+0.7**
	comp=E,1.9nm,0.2s						
BAIF	**Baives**	**1.22**	**226**	*e*Pg	**Pn**	**21 27 42.6**	**+0.5**
WTSB	**Winterswijk**	**1.30**	**36**	*e*Pn	**Pn**	**21 27 43.6**	**+0.3**
	comp=E,3.0nm,0.3s						
WTSB				*e*Sg	**Sb**	**21 27 59.2**	**-1.2**
WTSB	**Winterswijk**	**1.30**	**36**	*e*Pn	**Pn**	**21 27 43.6**	**+0.3**
	comp=E,3.0nm,0.3s						
WTSB				*e*Sg	**Sb**	**21 27 59.2**	**-1.2**
PAGF	**Fort de Pagny**	**2.37**	**177**	*e*Pg	**Pg**	**21 28 03.9**	**-1.1**
PAGF				*e*Sg	**Sg**	**21 28 34.6**	**-1.1**
	comp=E,0.3nm,0.2s						
PAGF	**Fort de Pagny**	**2.37**	**177**	*e*Pg	**Pg**	**21 28 03.9**	**-1.1**
PAGF				*e*Sg	**Sg**	**21 28 34.6**	**-1.1**
	comp=E,0.2nm,0.2s						
MEZF	**Maizieres J'vi**	**2.44**	**188**	*e*Pg	**Pb**	**21 28 04.8**	**+1.6**
MEZF				*e*Sg	**Sg**	**21 28 36.3**	**-1.7**
	comp=E,2.2nm,0.3s						
MEZF	**Maizieres J'vi**	**2.44**	**188**	*e*Pg	**Pb**	**21 28 04.8**	**+1.6**
MEZF				*e*Sg	**Sg**	**21 28 36.3**	**-1.7**
	comp=E,1.1nm,0.3s						
CDF	**Champ du Feu**	**2.74**	**155**	*e*Pg	**Pg**	**21 28 10.7**	**-1.5**
CDF				*e*Sg	**Sb**	**21 28 43.8**	**+1.9**
	comp=E,0.6nm,0.2s						
CDF	**Champ du Feu**	**2.74**	**155**	*e*Pg	**Pg**	**21 28 10.7**	**-1.5**
CDF				*e*Sg	**Sb**	**21 28 43.8**	**+1.9**
	comp=E,0.3nm,0.2s						
HAU	**Haudompre**	**2.96**	**170**	*e*Sg	**Sg**	**21 28 52.5**	**-2.1**
	comp=E,1.0nm,0.2s						
HAU	**Haudompre**	**2.96**	**170**	*e*Sg	**Sg**	**21 28 52.5**	**-2.1**
	comp=E,0.5nm,0.2s						

ISCJB ***05*** *21:28:27.9±0.4,50.°91N±0.°02×5.°60E±0.°05,h18km±8km,*
Error ellipse: s-maj=5.1km s-min=3.4km az=22.4
CSEM ***05*** *21:28:27.4±0.1,50.°90N×5.°59E,h15km,ML2.3/7,Error*
ellipse: s-maj=3.0km s-min=2.2km az=106.0
LDG ***05*** *21:28:28.1±0.1,50.°92N×5.°58E,h9km,Md2.4/1,Ml2.3/9,*
Error ellipse: s-maj=1.5km s-min=1.0km az=149.0
UCC ***05*** *21:28:28.2±0.3,50.°91N×5.°57E,h10km±1km,ML1.2*

ISC 05 21:28:27.6±0.9,50.°90N±0.°02×5.°59E±0.°03,h19km±2km,
n39,σ0°93/68,1C-1D,Belgium

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOPT	**Opiter**	**0.21**	**7**	P	**Pb**	**21 28 32.5**	**+0.2**
BOPT				S	**Sg**	**21 28 36.0**	**-0.3**
	16nm,0.1s						
HGN	**Heimansgroeve**	**0.26**	**123**	*e*Pg	**Pg**	**21 28 33.7**	**+0.2**
	3.5nm,0.2s						
HGN				*e*Sg	**Sb**	**21 28 37.8**	**+0.4**
HGN	**Heimansgroeve**	**0.26**	**123**	*e*Pg	**Pg**	**21 28 33.7**	**+0.3**
	3.5nm,0.2s						
HGN				*e*Sg	**Sb**	**21 28 37.8**	**+0.4**
BLCH	**La Chartreuse**	**0.27**	**179**	P	**Pg**	**21 28 33.6**	**0.0**
BLCH				S	**Sb**	**21 28 37.2**	**-0.4**
	12nm,0.1s						
BSTI	**Sart Tilman**	**0.32**	**183**	P	**Pg**	**21 28 34.8**	**+0.2**
MEM	**Membach**	**0.40**	**138**	⇓P	**Pg**	**21 28 36.2**	**+0.4**
MEM				S	**Sg**	**21 28 41.8**	**+0.4**
MEM	**Membach**	**0.40**	**138**	P	**Pg**	**21 28 36.2**	**+0.4**
MEM				S	**Sg**	**21 28 41.8**	**+0.4**
BMOL	**Mol**	**0.45**	**314**	P	**Pg**	**21 28 36.3**	**-0.4**
BMOL				S	**Sg**	**21 28 42.2**	**-0.7**
HKB	**Herkenbosch**	**0.46**	**52**	P	**Pg**	**21 28 37.1**	**+0.1**
HKB				S	**Sg**	**21 28 42.5**	**-0.9**
BGES	**Gesves**	**0.61**	**212**	P	**Pb**	**21 28 39.8**	**+0.2**
BGES				S	**Sb**	**21 28 47.8**	**0.0**
OPLO	**Oploo**	**0.70**	**11**	*e*Pg	**Pb**	**21 28 40.0**	**-1.2**
	4.2nm,0.1s						
OPLO				*e*Sg	**Sg**	**21 28 51.5**	**+0.8**
OPLO	**Oploo**	**0.70**	**11**	*e*Pg	**Pb**	**21 28 40.0**	**-1.2**
	4.2nm,0.1s						
OPLO				*e*Sg	**Sg**	**21 28 51.5**	**+0.8**
BRQR	**Ronqui˜¤re**	**0.92**	**252**	P	**Pb**	**21 28 44.5**	**-0.4**
GIVF	**Givet**	**0.94**	**212**	*e*Pn	**Pb**	**21 28 45.8**	**+0.5**
GIVF	**Givet**	**0.94**	**212**	*e*Pg	**Pg**	**21 28 46.4**	**+0.5**
GIVF				*e*Sg	**Sg**	**21 28 58.7**	**+0.4**
	14nm,0.2s						
GIVF	**Givet**	**0.94**	**212**	*e*Pn	**Pb**	**21 28 45.8**	**+0.5**
GIVF	**Givet**	**0.94**	**212**	*e*Pg	**Pg**	**21 28 46.4**	**+0.5**
GIVF				*e*Sg	**Sg**	**21 28 58.7**	**+0.4**
	7.0nm,0.2s						
BSKQ	**Steenkerk**	**0.99**	**256**	P	**Pb**	**21 28 46.2**	**0.0**
DOU	**Dourbes**	**1.03**	**219**	⇑P	**Pn**	**21 28 47.5**	**+0.4**
DOU				S	**Sn**	**21 29 01.0**	**0.0**
	comp=E,5.8nm,0.2s						
DOU	**Dourbes**	**1.03**	**219**	P	**Pn**	**21 28 47.4**	**+0.4**
DOU				S	**Sn**	**21 29 01.0**	**0.0**
	comp=E,5.8nm,0.2s						
BBOU	**Bougnies**	**1.17**	**244**	P	**Pb**	**21 28 49.9**	**+0.7**
BAIF	**Baives**	**1.22**	**227**	*e*Pg	**Pb**	**21 28 51.0**	**+0.9**
BAIF				*e*Sg	**Sg**	**21 29 07.5**	**+0.2**
	comp=E,3.9

0.4nm,0.6s,baz=128,slow=9.7,SNR=4.3
PDAR Pinedale Array 48.06 324 P **P 21 37 16.4 +0.6**
0.4nm,0.6s,baz=122,slow=8.6,SNR=3.6
YKA Yellowknife Ar 63.20 340 P **P 21 39 03.1 0.0**
1.7nm,0.6s,baz=136,slow=6.7,SNR=7.0
ILAR Eielson Array 76.91 335 P **P 21 40 26.7 0.0**
0.3nm,0.7s,baz=114,slow=6.0,SNR=3.2
MKAR Makanchi Array 122.17 20 PKP **PKPdf 21 47 27.7 -0.8**
0.5nm,1.0s,baz=343,slow=3.3,SNR=4.2

---

*NIED **05** 21:33:00.34˚90N×140˚40E,h62km,Mw3.7 Best double couple: M0=4.55000×10¹⁴ NP1:φ=229.00000°,δ74.00000°,λ=116.00000°. NP2:φ=348.00000°,δ=30.00000°,λ=33.00000°.*
*ISCJB **05** 21:33:12.7±0.4,34˚98N±0˚05×140˚35E±0˚05,h78km±2km, mb3.8/12,Error ellipse: s-maj=8.9km s-min=6.3km az=30.3*
*IDC **05** 21:33:12.7±2.5,34˚95N×140˚43E,h63km±20km,mb3.7/12, mb1 3.7/15,mb1mx3.5/31,mbtmp3.6/15,MS2.6/1, Ms1 2.6/1,ms1mx2.2/40,Error ellipse: s-maj=22.3km s-min=16.0km az=71.0*
*JMA **05** 21:33:13.1±0.2,35˚03N×140˚37E,h74km±2km,M3.5*
JMA Felt I J1.
ISC 05 21:33:14.1±0.7,35˚07N±0˚06×140˚36E±0˚05,h72km±5km, n30,σ1§26/40,mb3.9/12,3C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.08**	**193**	⇑P	**Pn**	**21 33 24.0**	**-0.4**
BSO4				S	**Sn**	**21 33 32.6**	**+0.6**
KTR	**Katsuura**	**0.09**	**336**	P	**Pn**	**21 33 23.9**	**-0.6**
KTR				S	**Sn**	**21 33 31.6**	**-0.6**
BSO3	**Boso 3**	**0.29**	**155**	⇓P	**Pn**	**21 33 24.4**	**-0.7**
JCN	**Nagara**	**0.37**	**340**	⇑P	**Pn**	**21 33 26.2**	**+0.2**
JCN				S	**Sn**	**21 33 36.3**	**+1.5**
TATJ	**Tateyama 2**	**0.39**	**265**	⇑P	**Pn**	**21 33 26.0**	**-0.1**
TATJ				S	**Sn**	**21 33 35.5**	**+0.6**
BSO1	**Boso 1**	**0.66**	**129**	⇓P	**Pn**	**21 33 27.3**	**-0.7**
BSO1				S	**Sn**	**21 33 39.1**	**+0.7**
JIM2	**Oshima 3**	**0.84**	**246**	⇓P	**Pn**	**21 33 29.4**	**-1.3**
JIM2				S	**Sn**	**21 33 41.4**	**-1.7**
JOD2	**Odawara 2**	**1.06**	**281**	⇓P	**Pn**	**21 33 32.5**	**-0.9**
JOD2				S	**Sn**	**21 33 46.5**	**-1.4**
JIZS	**Izushimoda**	**1.27**	**254**	⇓P	**Pn**	**21 33 35.1**	**-0.9**
JIZS				S	**Sn**	**21 33 51.1**	**-1.4**
JRY	**Ryogami san**	**1.52**	**309**	⇓P	**Pn**	**21 33 39.2**	**-0.2**
JAG	**Ashikaga**	**1.54**	**332**	⇓P	**Pn**	**21 33 39.7**	**0.0**
JYN	**Shimob**	**1.55**	**287**	⇓P	**Pn**	**21 33 39.3**	**-0.5**
MJAR	**Matsushiro Arr**	**2.29**	**311**	P	**Pn**	**21 33 50.0**	**+0.4**
	17nm,0.3s,baz=159,slow=14,SNR=123						
MJAR				S	**Sn**	**21 34 17.9**	**+1.1**
	14nm,0.3s,baz=131,slow=20,SNR=11						
MAT	**Matsushiro**	**2.29**	**311**	P	**Pn**	**21 33 50.0**	**+0.4**
MAT				S	**Sn**	**21 34 17.6**	**+0.8**
JNU	**Nakatsue**	**8.10**	**259**	P	**Pn**	**21 35 11.8**	**+2.8**
	0.5nm,0.3s,baz=100,slow=6.1,SNR=4.1						
ASAJ	**Asahikawa**	**9.20**	**10**	P	**Pn**	**21 35 23.1**	**-0.8**
	0.5nm,0.3s,baz=214,slow=14,SNR=4.6						
ASAJ				S	**Sn**	**21 37 01.5**	**-4.2**
	0.5nm,0.3s,baz=217,slow=20,SNR=3.0						
KSRS	**Korea Array**	**10.32**	**287**	LR	LR	21 39 24.2	
	comp=Z,29nm,18.0s,baz=135,slow=36						
USRK	**Ussuriysk Arra**	**11.16**	**327**	P	**Pn**	**21 35 52.1**	**+1.5**
	0.1nm,0.3s,baz=148,slow=13,SNR=5.1						
SONM	**Songino Array**	**28.23**	**307**	P	**P**	**21 39 00.0**	**-0.2**
	0.7nm,0.5s,baz=108,slow=9.0,SNR=8.7						
CMAR	**Chiang Mai Arr**	**40.19**	**257**	P	**P**	**21 40 42.0**	**-1.5**
	0.3nm,0.5s,baz=70,slow=12,SNR=2.8						
ZALV	**Zalesovo Beam**	**42.63**	**314**	P	**P**	**21 41 03.6**	**+0.6**
	1.2nm,0.6s,baz=82,slow=6.5,SNR=6.1						
MKAR	**Makanchi Array**	**44.47**	**304**	P	**P**	**21 41 18.7**	**+0.7**
	1.5nm,0.5s,baz=84,slow=10,SNR=34						
KURBB	**Kurchatov Arra**	**46.56**	**309**	P	**P**	**21 41 34.6**	**+0.3**
	3.2nm,0.4s,baz=82,slow=7.5,SNR=54						
BVAR	**Borovoye Array**	**51.28**	**313**	P	**P**	**21 42 12.4**	**+1.9**
	0.5nm,0.4s,baz=104,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**55.00**	**187**	P	**P**	**21 42 36.9**	**-1.2**
	1.9nm,0.6s,baz=3.3,slow=7.6,SNR=39						
ASAR	**Alice Springs**	**58.73**	**187**	P	**P**	**21 43 03.6**	**-0.8**
	0.4nm,0.3s,baz=358,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**65.53**	**339**	P	**P**	**21 43 49.8**	**+0.4**
	0.2nm,0.4s,baz=52,slow=7.9,SNR=5.7						
FINES	**FINESS Array B**	**70.15**	**332**	P	**P**	**21 44 19.0**	**+0.6**
	1.8nm,1.1s,baz=84,slow=5.9,SNR=5.0						
KBZ	**Khabaz**	**71.53**	**311**	P	**P**	**21 44 27.7**	**+0.5**
	1.2nm,0.8s,baz=50,slow=4.1,SNR=3.7						
NEW	**Newport**	**72.14**	**43**	P	**P**	**21 44 30.4**	**-0.4**
	1.0nm,0.4s,baz=324,slow=8.7,SNR=2.7						

IDC 05 21:34:11.6±6.7,32˚19S×179˚33E,h509km±90km,mb2.9/3, mb1 3.1/4,mb1mx2.8/17,mbtmp2.9/4,Error ellipse: s-maj=114.6km s-min=33.4km az=3.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.32**	**196**	P	P	21 35 53.0	+1.9
	2.0nm,0.3s,baz=115,slow=5.3,SNR=7.3						
URZ				S	S	21 37 11.1	-1.7
	0.5nm,0.3s,baz=72,slow=20,SNR=4.3						
STKA	**Stephens Creek**	**31.88**	**260**	P	P	21 39 55.0	+0.4
	3.4nm,1.1s,baz=101,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**40.78**	**270**	P	P	21 41 08.4	+0.1
	0.2nm,0.3s,baz=107,slow=7.2,SNR=3.9						
WRA	**Warramunga Arr**	**41.94**	**276**	P	P	21 41 16.9	-0.6
	0.7nm,0.4s,baz=111,slow=8.1,SNR=40						
FINES	**FINESS Array B**	**145.98**	**337**	PKPbc	PKPdf	21 52 52.3	+0.9
	2.0nm,0.6s,baz=58,slow=4.8,SNR=26						

---

*AUST **05** 21:43:24.7±99.0,38˚93S×137˚17E,h0km±1km,Error ellipse: s-maj=4.8km s-min=2.6km az=244.0*
*ISCJB **05** 21:43:25.1±0.3,38˚88S±0˚05×137˚37E±0˚05,h10km, mb4.8/33,MS4.1/24,Error ellipse: s-maj=6.6km s-min=5.4km az=8.7*
*DJA **05** 21:43:25.7±1.7,39˚S±4˚×13˚7E±˚,h10km,M5.2/17, mb4.9/17,MLv5.3/2*
*IDC **05** 21:43:25.4±0.5,38˚90S×137˚17E,h0km,mb4.6/14, mb1 4.7/16,mb1mx4.6/19,mbtmp4.6/16,ML5.4/1,MS3.9/21, Ms1 3.9/21,ms1mx3.8/28,Error ellipse: s-maj=19.9km s-min=14.9km az=84.0*
*NEIC **05** 21:43:26.2±0.2,38˚84S×137˚24E,h10km,mb5.0/14,Error ellipse: s-maj=6.9km s-min=5.7km az=75.0*
NEIC Felt at Adelaide and Melbourne.
ISC 05 21:43:27.0±0.3,38˚88S±0˚05×137˚31E±0˚05,h10km,n142, σ1§81/156,mb4.9/33,MS4.0/24,5C,Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	**Mount Arapiles**	**4.16**	**61**	P	**Pn**	**21 44 30.6**	**+0.1**
	baz=4.3,SNR=174						
BBOO	**Buckleboo**	**6.15**	**350**	*e*Pn	**Pn**	**21 44 57.0**	**-0.8**
BBOO				*e*Sn	**Sn**	**21 46 03.8**	**-4.4**
BBOO	**Buckleboo**	**6.15**	**350**	P	**Pn**	**21 44 58.0**	**+0.2**
	baz=6.2,SNR=21						
TOO	**Toolangi**	**6.57**	**81**	P	**Pn**	**21 45 03.8**	**+0.1**
	baz=6.7,SNR=43						
STKA	**Stephens Creek**	**7.82**	**28**	*e*Pn	**Pn**	**21 45 19.9**	**-1.0**
STKA				*e*Sn	Sn	21 46 43.1	-6.3
STKA	**Stephens Creek**	**7.82**	**28**	Pn	**Pn**	**21 45 19.8**	**-1.0**
	30nm,0.3s,baz=193,slow=12,SNR=177						
STKA				Sn	**Sn**	**21 46 44.5**	**-4.8**
	41nm,0.3s,baz=326,slow=6.9,SNR=8.1						
STKA				LR	LR	21 48 33.4	
	comp=Z,1μm,21.6s,baz=201,slow=39						
STKA	**Stephens Creek**	**7.82**	**28**	P	**Pn**	**21 45 21.7**	**+0.9**
	baz=7.9,SNR=37						
MOO	**Moorlands**	**8.31**	**118**	P	**Pn**	**21 45 26.6**	**-0.9**
	baz=8.4,SNR=14						
TAU	**Tasmania Unive**	**8.58**	**121**	Pn	**Pn**	**21 45 31.0**	**-0.2**
	197nm,0.5s,SNR=7.1						
TAU	**Tasmania Unive**	**8.58**	**121**	*e*Pn	**Pn**	**21 45 29.8**	**-1.4**
TAU				*e*Sn	Sn	21 47 01.5	-6.4
MILA	**Mila**	**9.53**	**83**	P	**Pn**	**21 45 46.5**	**+2.2**
	baz=9.6,SNR=20						
CAN	**Canberra**	**9.99**	**73**	*e*Pn	**Pn**	**21 45 50.5**	**-0.1**
	18nm,0.7s						
CAN				*e*Sn	**Sn**	**21 47 43.1**	**+0.4**
YNG	**Young**	**10.02**	**66**	P	**Pn**	**21 45 51.5**	**+0.5**
	baz=10,SNR=7.3						
CMSA	**Cobar Meteorol**	**10.03**	**46**	P	**Pn**	**21 45 48.4**	**-2.8**
	baz=10,SNR=49						
CNB	**Canberra Magne**	**10.26**	**73**	P	Pn	21 46 03.0	+8.6
	baz=10,SNR=4.9						
FORT	**Forrest**	**11.09**	**314**	*e*Pn	**Pn**	**21 46 03.0**	**-2.6**
FORT				*e*Sn	**Sn**	**21 48 06.0**	**-3.8**
ARMA	**Armidale**	**14.49**	**59**	*e*Pn	**Pn**	**21 46 51.3**	**-0.9**
ARMA				*e*Sn	Sn	21 49 25.5	-7.3
ARMA	**Armidale**	**14.49**	**59**	P	**P**	**21 47 01.0**	**+2.0**
	baz=15,SNR=10						
ASAR	**Alice Springs**	**15.45**	**348**	Pn	**Pn**	**21 47 01.9**	**-3.1**
ASAR				Sn	Sn	21 49 47.8	-8.4
ASAR	**Alice Springs**	**15.45**	**348**	Pn	**Pn**	**21 47 01.9**	**-3.1**
	1.2nm,0.3s,baz=163,slow=11,SNR=54						
ASAR				Sn	Sn	21 49 47.8	-8.4
	baz=168,slow=23,SNR=4.2						
ASAR				LR	LR	21 52 43.3	
	comp=Z,541nm,20.7s,baz=165,slow=36						
AS31	**Alice Springs**	**15.45**	**348**	*e*Pn	**Pn**	**21 47 00.2**	**-4.8**
AS31				*e*Sn	Sn	21 49 45.9	-10
RMQ	**Roma**	**15.66**	**41**	P	**P**	**21 47 13.3**	**+1.5**
	baz=16,SNR=36						
NWAO	**Narrogin (SRO)**	**17.30**	**284**	*e*Pn	**Pn**	**21 47 26.1**	**-2.6**
	5μm,1.7s						
NWAO				S	Sn	21 50 22.1	-19
NWAO	**Narrogin (SRO)**	**17.30**	**284**	P	**Pn**	**21 47 25.9**	**-2.7**
	0.7nm,0.3s,baz=110,slow=15,SNR=5.5						
NWAO				S	Sn	21 50 22.1	-19
	0.5nm,0.3s,baz=139,slow=20,SNR=2.5						
NWAO				LR	LR	21 52 06.0	
	comp=Z,291nm,20.8s,baz=182,slow=30						
WRA	**Warramunga Arr**	**19.05**	**351**	P	**P**	**21 47 46.4**	**-3.0**
WRA				S	Sn	21 51 05.3	-18
WRA	**Warramunga Arr**	**19.05**	**351**	P	**P**	**21 47 46.4**	**-3.0**
	2.0nm,0.3s,baz=177,slow=11,SNR=59						
WRA				S	Sn	21 51 05.3	-18
	baz=179,slow=22,SNR=5.4						
WRAB	**Tennant Creek**	**19.06**	**351**	P	**P**	**21 47 46.2**	**-3.3**
	396nm,0.9s,SNR=32						
WRAB	**Tennant Creek**	**19.06**	**351**	*e*P	**P**	**21 47 47.3**	**-2.1**
	58nm,0.7s						
MEEK	**Meekatharra**	**19.86**	**302**	P	**P**	**21 47 56.3**	**-2.0**
	baz=20,SNR=22						
MORW	**Morawa**	**20.13**	**293**	P	Pn	21 48 03.8	+0.8
	baz=20,SNR=9.6						
CTA	**Charters Tower**	**20.26**	**25**	P	**P**	**21 48 02.2**	**-0.4**
CTA	**Charters Tower**	**20.26**	**25**	P	**P**	**21 48 02.2**	**-0.4**
	25nm,0.9s,baz=202,slow=12,SNR=11						
CTAO	**Charters Tower**	**20.26**	**25**	*e*P	**P**	**21 48 01.3**	**-1.4**
	68nm,1.0s						
MTSU	**Mount Surprise**	**21.56**	**18**	P	**P**	**21 48 18.6**	**+1.9**
	baz=22,SNR=18						
MBWA	**Marble Bar**	**23.25**	**314**	*e*P	**P**	**21 48 33.2**	**-1.3**
	66nm,1.2s						
KNRA	**Kununurra**	**24.31**	**340**	P	**P**	**21 48 43.9**	**-0.8**
	baz=24,SNR=7.6						
COEN	**Coen**	**25.36**	**13**	*e*P	**P**	**21 48 53.7**	**-0.6**
	469nm,1.5s						
RPZ	**Rata Peaks**	**25.70**	**112**	*e*P	**P**	**21 48 59.0**	**+1.8**
	71nm,1.5s						
RPZ	**Rata Peaks**	**25.70**	**112**	P	**P**	**21 48 59.8**	**+2.6**
	11nm,0.7s,baz=192,slow=3.2,SNR=6.6						
RPZ				LR	LR	21 58 46.1	
	comp=Z,106nm,19.2s,baz=355,slow=36						
KDU	**Kakadu**	**26.44**	**349**	P	P	21 49 14.6	+11
	baz=27,SNR=5.2						
MTN	**Manton Dam**	**26.51**	**346**	P	P	21 49 16.4	+12
	baz=27,SNR=4.5						
DZM	**Mont Dzumac**	**30.01**	**65**	LR	LR	21 59 40.9	
	comp=Z,327nm,20.2s,baz=179,slow=32						
PMG	**Port Moresby**	**30.65**	**19**	LR	LR	22 02 48.0	
	comp=Z,560nm,19.6s,baz=210,slow=38						
URZ	**Urewera**	**30.95**	**102**	*e*P	**P**	**21 49 44.6**	**+0.4**
	105nm,2.2s						
URZ	**Urewera**	**30.95**	**102**	P	**P**	**21 49 44.9**	**+0.7**
	5.3nm,0.6s,baz=264,slow=9.2,SNR=3.8						
URZ				LR	LR	21 59 32.7	
	comp=Z,152nm,19.7s,baz=254,slow=31						
CASY	**Casey**	**31.39**	**200**	*e*P	**P**	**21 49 46.3**	**-1.4**
	25nm,1.6s						
HNR	**Honiara**	**35.66**	**41**	P	**P**	**21 50 22.8**	**-2.5**
HNR	**Honiara**	**35.66**	**41**	LR	LR	22 04 51.1	
	comp=Z,279nm,18.6s,baz=206,slow=36						
MMSI	**Mamuju**	**39.74**	**330**	P	**P**	**21 51 01.0**	**+1.1**
	42nm,1.6s						
VNDA	**Vanda**	**40.12**	**172**	*e*P	**P**	**21 51 01.9**	**-0.5**
	23nm,1.3s						
VNDA	**Vanda**	**40.12**	**172**	P	**P**	**21 51 01.8**	**-0.5**
	5.6nm,0.5s,baz=327,slow=8.8,SNR=122						
VNDA				LR	LR	22 04 25.0	
	comp=Z,120nm,20.6s,baz=334,slow=31						
SBA	**Scott Base**	**40.98**	**171**	*e*P	**P**	**21 51 09.1**	**-0.4**
	13nm,1.1s						
LEM	**Lembang**	**41.66**	**312**	P	P	21 51 19.3	+3.4
	43nm,1.6s						
MAW	**Mawson**	**48.88**	**209**	*e*P	**P**	**21 52 10.0**	**-2.4**
MAW	**Mawson**	**48.88**	**209**	P	**P**	**21 52 11.8**	**-0.5**
	8.0nm,1.1s,baz=93,slow=8.1,SNR=14						
MAW				LR	LR	22 08 15.1	
	comp=Z,113nm,18.0s,baz=69,slow=30						
QSPA	**South Pole Qui**	**51.23**	**180**	*e*P	**P**	**21 52 29.8**	**-0.7**
	16nm,1.3s						
QSPA	**South Pole Qui**	**51.23**	**180**	P	**P**	**21 52 29.8**	**-0.7**
	1.4nm,0.6s,baz=348,slow=2.7,SNR=14						
RAR	**Rarotonga**	**56.19**	**91**	LR	LR	22 12 34.4	
	comp=Z,46nm,21.1s,baz=83,slow=31						
SYO	**Syowa Base**	**56.95**	**205⇑**	*e*P	**P**	**21 53 11.0**	**-0.9**
SYO	**Syowa Base**	**56.95**	**205⇑**	*e*PcP	**PcP**	**21 54 06.0**	**-1.1**
YULB	**Yu-li**	**63.74**	**344**	*e*P	**P**	**21 53 57.9**	**-1.0**
	214nm,2.6s						
PPT	**Papeete**	**66.18**	**94**	LR	LR	22 17 32.3	
	comp=Z,102nm,21.5s,baz=203,slow=31						
SNAA	**Sanae**	**66.20**	**193**	*e*P	**P**	**21 54 14.1**	**-0.4**
	11nm,1.3s						
CMAR	**Chiang Mai Arr**	**67.41**	**320**	P	**P**	**21 54 23.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**67.41**	**320**	P	**P**	**21 54 23.2**	**+0.5**
	3.0nm,0.9s,baz=161,slow=6.6,SNR=16						
CMAR				LR	LR	22 25 32.1	
	comp=Z,40nm,19.3s,baz=150,slow=38						
CHTO	**Chiang Mai**	**67.71**	**321**	*e*P	**P**	**21 54 24.6**	**0.0**
	18nm,1.3s						
GYA	**Guiyang**	**71.04**	**331**	P	**P**	**21 54 47.2**	**+2.0**
GYA				PP	**PP**	**21 57 27.3**	**+4.2**
GYA				S	**S**	**22 04 03.8**	**+2.3**
GYA				SKS	**SKSac**	**22 04 46.0**	**-1.9**
GYA				SS	**SS**	**22 08 39.2**	**+3.8**
GYA				pmax	pmax		
	comp=Z,50nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,7.4s						
GYA				LR	LR		
	comp=N,450nm,20.8s						
GYA				LR	LR		
	comp=E,380nm,21.0s						
GYA				LR	LR		
	comp=Z,400nm,20.4s						
KMI	**Kunming**	**71.42**	**327**	P	**P**	**21 54 49.7**	**+2.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
NJ2	**Nanjing**	**72.63**	**344**	*e*P	**P**	**21 54 56.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**75.06**	**1**	P	**P**	**21 55 08.1**	**-0.6**
MJAR	**Matsushiro Arr**	**75.06**	**1**	P	**P**	**21 55 08.1**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=187,slow=7.7,SNR=7.1						
MJAR				LR	LR	22 26 12.1	
	comp=Z,52nm,19.6s,baz=335,slow=34						
PMSA	**Palmer Station**	**75.32**	**171**	LR	LR	22 24 03.9	
	comp=Z,103nm,18.5s,baz=208,slow=32						
CD2	**Chengdu**	**76.14**	**331**	*e*P	**P**	**21 55 16.2**	**+1.2**
CD2				pP	**pP**	**21 55 20.8**	**+2.5**
CD2				sP	**sP**	**21 55 23.2**	**+3.7**
CD2				PP	**PP**	**21 58 09.3**	**+2.9**
CD2				S	**S**	**22 05 00.3**	**+1.4**
CD2				sS	**sS**	**22 05 07.3**	**+3.0**
CD2				SS	**SS**	**22 09 57.6**	**+4.6**
CD2				pmax	pmax		
	comp=Z,20nm,1.1s						
CD2				pmax	pmax		
	comp=Z,110nm,6.2s						
CD2				LR	LR		
	comp=N,400nm,10.7s						
CD2				LR	LR		
	comp=Z,530nm,10.4s						
KSAR	**Wonju Array Be**	**76.45**	**352**	P	**P**	**21 55 16.9**	**+0.3**
KSRS	**Korea Array**	**76.45**	**352**	P	**P**	**21 55 16.9**	**+0.3**
	comp=Z,5.7nm,1.0s,baz=173,slow=6.6,SNR=17						
KSRS				LR	LR	22 29 07.5	
	comp=Z,67nm,18.4s,baz=269,slow=36						
SHL	**Shillong**	**76.92**	**319**	*e*P	**P**	**21 55 21.5**	**+1.8**
LZH	**Lanzhou**	**80.75**	**333**	*e*P	**P**	**21 55 41.5**	**+1.0**
LZH				pP	**pP**	**21 55 44.8**	**+1.0**
LZH				sP	**sP**	**21 55 46.2**	**+1.2**
LZH				*e*PP	**PP**	**21 58 48.6**	**+3.6**
LZH				*e*S	**S**	**22 05 48.5**	**+0.2**
LZH				SKS	**SKSac**	**22 05 54.3**	**-4.6**
LZH				sS	**sS**	**22 05 55.6**	**+1.8**
LZH				*e*SS	**SS**	**22 11 05.5**	**+3.0**
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,9.2s						
LZH				LR	LR		
	comp=N,310nm,17.0s						
LZH				LR	LR		
	comp=E,310nm,17.2s						
LZH				LR	LR		
	comp=Z,410nm,19.8s						
BJI	**Beijing**	**80.89**	**344**	P	**P**	**21 55 41.9**	**+1.0**
BJI				pmax	pmax		
	comp=Z,14nm,1.2s						
BJI				pmax	pmax		
	comp=Z,120nm,3.5s						
HHC	**Hu-ho-hao-te**	**82.77**	**341**	*e*P	**P**	**21 55 52.7**	**+1.7**
HHC				sP	sP	21 56 02.3	+6.8
HHC				PP	**PP**	**21 59 06.1**	**+4.6**
HHC				S	**S**	**22 06 09.8**	**+1.0**
HHC				sS	**ScS**	**22 06 20.4**	**-3.2**
HHC				SS	**SS**	**22 11 37.2**	**+5.0**
HHC				pmax	pmax		
	comp=Z,41nm,0.8s						
HHC				pmax	pmax		
	comp=Z,340nm,6.7s						
HHC				LR	LR		
	comp=N,330nm,16.9s						
HHC				LR	LR		
	comp=E,350nm,17.0s						
HHC				LR	LR		
	comp=Z,190nm,16.7s						
USRK	**Ussuriysk Arra**	**82.84**	**356**	P	**P**	**21 55 52.0**	**+0.9**
	comp=Z,8.7nm,1.0s,baz=190,slow=3.8,SNR=21						
USRK				LR	LR	22 32 14.3	
	comp=Z,105nm,20.7s,baz=283,slow=35						
CN2	**Changchun**	**83.00**	**351**	*e*P	**P**	**21 55 52.9**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ	**Mudanjiang**	**83.41**	**354**	P	**P**	**21 55 55.5**	**+1.5**
MDJ				PP	**PP**	**21 59 07.7**	**+1.1**
MDJ				S	S	22 06 20.5	+5.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,76nm,5.6s						
MDJ				LR	LR		
	comp=Z,52nm,25.3s						
GTA	**Gaotai**	**85.16**	**332**	P	**P**	**21 56 04.3**	**+1.0**
GTA				pP	**pP**	**21 56 09.1**	**+2.5**
GTA				sP	**sP**	**21 56 11.3**	**+3.5**
GTA				S	**SKKSac**	**22 06 34.6**	**+0.4**
GTA				sS	**ScS**	**22 06 42.9**	**-0.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,54nm,4.5s						
GTA				LR	LR		
	comp=N,81nm,13.5s						
GTA				LR	LR		
	comp=E,86nm,13.5s						
GTA				LR	LR		
	comp=Z,76nm,13.5s						
BOSA	**Boshof**	**87.70**	**235**	P	**P**	**21 56 16.4**	**+0.2**
BOSA	**Boshof**	**87.70**	**235**	P	**P**	**21 56 16.4**	**+0.2**
	comp=Z,12nm,1.1s,baz=139,slow=5.7,SNR=6.4						
BOSA				LR	LR	22 28 57.6	
	comp=Z,142nm,18.4s,baz=264,slow=31						
ULN	**Ulaanbaatar**	**90.47**	**340**	*e*P	**P**	**21 56 27.4**	**-1.3**
	comp=Z,6.7nm,1.0s						
SONM	**Songino Array**	**90.62**	**340**	P	**P**	**21 56 29.3**	**+0.1**
SONM	**Songino Array**	**90.62**	**340**	P	**P**	**21 56 29.3**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=155,slow=4.9,SNR=16						
SONM				LR	LR	22 43 04.4	
	comp=Z,42nm,19.0s,baz=41,slow=40						
PETK	**Petropavlovsk-**	**93.31**	**12**	P	**P**	**21 56 42.3**	**+0.9**
PETK	**Petropavlovsk-**	**93.31**	**12**	P	**P**	**21 56 42.3**	**+0.9**
	comp=Z,3.4nm,1.0s,baz=193,slow=4.6,SNR=5.4						
PETK				LR	LR	22 38 33.9	
	comp=Z,44nm,18.8s,baz=105,slow=35						
WMQ	**Urumqi**	**93.75**	**326**	*e*P	**P**	**21 56 43.6**	**-0.2**
MKAR	**Makanchi Array**	**98.44**	**325**	P	**P**	**21 57 04.0**	**-1.0**
MKAR	**Makanchi Array**	**98.44**	**325**	P	**P**	**21 57 04.0**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=140,slow=5.6,SNR=4.1						
MKAR				LR	LR	22 42 39.1	
	comp=Z,32nm,19.2s,baz=169,slow=36						
ILAR	**Eielson Array**	**118.87**	**28**	PKP	**PKPdf**	**22 02 13.4**	**-1.2**
ILAR	**Eielson Array**	**118.87**	**28**	PKP	**PKPdf**	**22 02 13.4**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=283,slow=3.2,SNR=5.0						
NVAR	**Mina Array Bea**	**122.64**	**65**	PKP	**PKPdf**	**22 02 23.0**	**+0.1**
NVAR	**Mina Array Bea**	**122.64**	**65**	PKP	**PKPdf**	**22 02 23.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=234,slow=5.1,SNR=4.3						
BRTR	**Keskin Array B**	**122.70**	**297**	PKP	**PKPdf**	**22 02 22.1**	**-0.8**
BRTR	**Keskin Array B**	**122.70**	**297**	PKP	**PKPdf**	**22 02 22.1**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=155,slow=6.8,SNR=8.5						
INK	**Inuvik**	**125.18**	**27**	PKP	**PKPdf**	**22 02 25.7**	**-0.9**
INK	**Inuvik**	**125.18**	**27**	PKP	**PKPdf**	**22 02 25.7

BLA	Blacksburg	150.38	81	*e*PKPbc	PKPbc	22 03 18.0	-0.5
SADO	Sadowa	152.37	66	PKPbc	PKPbc	22 03 23.8	+1.0
SADO	Sadowa	152.37	66	PKPbc	PKPbc	22 03 23.8	+1.0
	comp=Z,6.1nm,0.9s,baz=328,slow=2.5,SNR=2.9						

IGQ 05 21:58:35.2, 2°.16S×79°.87W, h22km±77km, Mb4.1, Ms3.9, 17C-11D, Error ellipse: s-maj=1.4km s-min=1.1km az=3.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	Mancha de Ca P	1.38	353	⇓P	Pb	21 59 01.7	+1.3
CHIS	Cerro-Chispas-	1.39	322	S	Sb	21 59 18.0	+0.1
CHIS	Cerro-Chispas-	1.39	322	P	Pb	21 59 00.1	-0.4
ARNL	Arenillas	1.40	188	⇓P	Pb	21 59 00.5	-0.1
IGUA	Igualata	1.40	62	⇓P	Pb	21 59 01.8	+0.4
BIL2	Estacion Bilba	1.54	63	⇑S	Sb	21 59 23.8	+1.1
BIL2	Estacion Bilba	1.54	63	⇑P	Pb	21 59 04.1	+0.7
BMAS	Trigal station	1.54	65	⇓S	Sb	21 59 23.9	+1.1
BMAS	Trigal station	1.54	65	⇓P	Pb	21 59 03.4	-0.1
BBIL	Ulba Tungurahu	1.55	63	⇑S	Sb	21 59 23.9	+0.7
BBIL	Ulba Tungurahu	1.55	63	⇑P	Pb	21 59 04.2	+0.5
ARRY	Arrayan	1.56	66	⇓P	Pb	21 59 03.5	-0.3
PAT1	Patacocha	1.57	66	⇑P	Pb	21 59 04.3	+0.1
BPAT	Tungurahua Vol	1.58	66	⇑P	Pb	21 59 04.3	0.0
JUI6	Juive	1.58	63	⇑S	Sb	21 59 24.4	+0.4
JUI6	Juive	1.58	63	⇑P	Pb	21 59 04.5	+0.4
RETU	Refugio	1.59	64	S	Sb	21 59 25.2	+0.6
RETU	Refugio	1.59	64	P	Pb	21 59 04.8	+0.2
RUN5	Runtun	1.62	63	S	Sb	21 59 26.1	+0.8
RUN5	Runtun	1.62	63	P	Pb	21 59 04.8	-0.1
ULBA	Ulba	1.62	64	P	Pb	21 59 05.2	+0.2
BULB	Ulba Tungurahu	1.63	64	⇓S	Sb	21 59 25.6	+0.2
BULB	Ulba Tungurahu	1.63	64	⇓P	Pb	21 59 05.1	+0.1
BRUN	Tungurahua Vol	1.63	63	S	Sb	21 59 25.2	-0.3
BRUN	Tungurahua Vol	1.63	63	P	Pb	21 59 04.7	-0.4
PISA	Pisayambo	1.84	54	P	Pb	21 59 08.6	-0.3
CATE	Catamayo	1.86	164	⇑S	Sb	21 59 30.5	-1.3
CATE	Catamayo	1.86	164	⇑P	Pb	21 59 07.8	-0.9
PAST	Pastocalle	1.90	40	P	Pb	21 59 11.4	+1.5
BMOR	Cotopaxi Volca	2.00	45	P	Pb	21 59 10.8	-0.8
CAMI	Rancho Maria	2.01	43	⇑P	Pb	21 59 11.3	-0.3
MOV1	Cotopaxi Vol s	2.03	45	P	Pb	21 59 11.0	-1.1
BNAS	Cotopaxi Volca	2.03	43	⇓P	Pb	21 59 11.4	-0.6
NAS2	Nasa	2.06	43	⇑P	Pb	21 59 12.3	-0.2
BREF	Cotopaxi Volca	2.06	44	⇓P	Pb	21 59 12.1	-0.6
MAG1	Magdalena	2.07	3	⇑P	Pn	21 59 09.6	+0.8
BTAM	Cotopaxi Volca	2.08	45	⇑P	Pb	21 59 11.9	-1.1
TAMB	Tambo	2.09	46	P	Pb	21 59 11.8	-1.3
VC1	Cotopaxi 1	2.10	44	⇓P	Pb	21 59 12.6	-0.7
COV1	Cotopaxi Volc	2.13	46	P	Pn	21 59 12.1	+1.8
PITA	Cotopaxi Volc	2.14	42	⇑P	Pb	21 59 13.4	-0.5
TERV	Terraza Guagua	2.34	33	S	Sn	21 59 43.9	+2.2
TERV	Terraza Guagua	2.34	33	P	Pn	21 59 15.0	+1.9
GGP	Refugio Guagua	2.35	33	⇑P	Pn	21 59 15.0	+1.8
PINO	Pino	2.35	33	P	Pn	21 59 15.0	+1.7
ANTI	Antisana	2.41	45	⇑P	Pb	21 59 17.4	-1.2
GOLV	Golondrinas	2.46	17	P	Pn	21 59 13.5	-0.6
CAYA	Cayambe	2.91	40	P	Pb	21 59 26.9	-0.1
COTA	Cotacachi	2.91	32	P	Pn	21 59 23.5	+2.6

IDC 05 22:00:49.0±49.0, 17°.21S×177°.58W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=913.0km s-min=169.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.66	241	P	P	22 08 23.8	+0.8
	1.1nm,0.6s,baz=96,slow=9.2,SNR=3.2						
WRA	Warramunga Arr	45.54	259	P	P	22 09 10.6	-0.4
	0.4nm,0.5s,baz=97,slow=7.1,SNR=7.6						
ASAR	Alice Springs	45.75	254	P	P	22 09 12.0	-0.6
	2.1nm,0.6s,baz=87,slow=8.9,SNR=34						

IDC 05 22:12:11.0±2.1, 22°.04N×144°.34E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/28, mbtmp3.9/6, MS3.8/2, Ms1 3.8/2, ms1mx2.9/30, Error ellipse: s-maj=90.5km s-min=26.7km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.85	194	P	P	22 20 10.9	-0.2
	0.3nm,0.4s,baz=22,slow=7.5,SNR=12						
ASAR	Alice Springs	46.55	193	LR	LR	22 40 25.7	
	comp=Z,121nm,18.7s,baz=349,slow=36						
MKAR	Makanchi Array	55.26	312	P	P	22 21 46.1	-0.1
	0.3nm,0.6s,baz=91,slow=9.5,SNR=3.5						
KURBB	Kurchatov Arra	58.01	317	P	P	22 22 05.1	-0.4
	0.7nm,0.4s,baz=94,slow=7.5,SNR=9.9						
BVAR	Borovoye Array	63.11	319	P	P	22 22 40.1	-0.3
	1.3nm,0.3s,baz=98,slow=7.8,SNR=18						
ARCES	ARCESS Array B	78.94	342	P	P	22 24 17.6	+1.5
	0.6nm,0.4s,baz=74,slow=8.5,SNR=10						
FINES	FINESS Array B	83.33	335	P	P	22 24 38.7	-0.9
	1.1nm,0.5s,baz=61,slow=4.7,SNR=18						
GERES	GERESS Array B	96.84	330	LR	LR	23 11 11.6	
	comp=Z,30nm,19.5s,baz=355,slow=37						

IDC 05 22:13:14.4±5.0, 39°.32N×110°.40E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=106.8km s-min=23.3km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.00	342	Pn	Pn	22 15 25.6	-0.2
	0.1nm,0.3s,baz=157,slow=13,SNR=13						
SONM				Sn	Sn	22 17 05.5	-2.3
	0.2nm,0.3s,baz=162,slow=20,SNR=2.8						
SONM				Lg	Lg	22 17 58.3	
	0.2nm,0.3s,baz=160,slow=28,SNR=6.6						
MKAR	Makanchi Array	21.78	299	P	P	22 18 07.5	-0.2
	2.3nm,0.8s,baz=97,slow=13,SNR=19						
ZALV	Zalesovo Beam	22.69	319	P	P	22 18 18.2	+0.9
	0.7nm,0.6s,baz=128,slow=9.6,SNR=3.8						
CMAR	Chiang Mai Arr	23.04	209	P	P	22 18 21.0	-0.3
	2.0nm,0.7s,baz=12,slow=9.5,SNR=12						
KURBB	Kurchatov Arra	25.03	307	P	P	22 18 40.0	+0.1
	1.1nm,0.9s,baz=107,slow=9.7,SNR=4.9						

*ISCJB **05** 22:27:52.4±0.5, 38°.69S×0°.05×137°.33E±0°.06, h10km, mb4.1/11, MS3.7/5, Error ellipse: s-maj=7.5km s-min=6.2km az=21.9*
*IDC **05** 22:27:52.7±0.6, 38°.97S×137°.44E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.2/17, mbtmp4.1/12, ML4.9/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/23, Error ellipse: s-maj=28.8km s-min=16.6km az=87.0*
*NEIC **05** 22:27:54.0±0.4, 38°.87S×137°.30E, h10km, mb4.3/3, Error ellipse: s-maj=10.9km s-min=8.7km az=79.0*
*AUST **05** 22:27:57.5±32.0, 38°.69S×137°.31E, h32km±1km, Error ellipse: s-maj=3.5km s-min=1.4km az=35.0*
ISC 05 22:27:54.0±0.5, 38°.77S±0°.06×137°.26E±0°.07, h10km, n60, σ19°66/58, mb4.2/10, MS3.5/5, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	Mount Arapiles	4.14	63	P	Pn	22 28 57.4	+0.1
	baz=4.1,SNR=71						
BBOO	Buckleboo	6.02	350	*e*Pn	Pn	22 29 24.0	+0.8
	442nm,0.5s						
BBOO				*e*Sn	Sn	22 30 30.1	-2.1
BBOO	Buckleboo	6.02	350	P	Pn	22 29 23.7	+0.5
	baz=6.0,SNR=32						
TOO	Toolangi	6.59	82	P	Pn	22 29 31.0	0.0
	baz=6.5,SNR=21						
STKA	Stephens Creek	7.73	29	*e*Pn	Pn	22 29 47.0	+0.3
STKA				*e*Sn	Sn	22 31 11.5	-2.8
STKA	Stephens Creek	7.73	29	Pn	Pn	22 29 46.4	-0.3
	9.6nm,0.3s,baz=194,slow=11,SNR=100						
STKA				Sn	Sn	22 31 11.2	-3.1
	10nm,0.3s,baz=289,slow=20,SNR=5.3						
STKA				LR	LR	22 33 16.9	
	comp=Z,227nm,19.9s,baz=200,slow=41						
STKA	Stephens Creek	7.73	29	P	Pn	22 29 47.2	+0.5
	baz=7.7,SNR=150						
MILA	Mila	9.56	83	P	Pn	22 30 12.3	+0.6
	baz=9.5,SNR=11						
CAN	Canberra	9.99	73	*e*Pn	Pn	22 30 17.5	-0.2
	5.5nm,0.5s						
CAN				*e*Sn	Sn	22 32 10.5	+0.6
YNG	Young	10.01	67	P	Pn	22 30 17.7	-0.1
	baz=9.9,SNR=11						
FORT	Forrest	10.98	314	*e*Pn	Pn	22 30 30.5	-0.7
	46nm,0.8s						
FORT				*e*Sn	Sn	22 32 31.0	-3.1
ASAR	Alice Springs	15.32	348	Pn	Pn	22 31 27.6	-2.9
ASAR				Sn	Sn	22 34 08.5	-12
ASAR	Alice Springs	15.32	348	Pn	Pn	22 31 27.5	-2.9
	0.5nm,0.3s,baz=167,slow=13,SNR=23						
ASAR				Sn	Sn	22 34 08.5	-12
	0.3nm,0.3s,baz=163,slow=23,SNR=4.0						
AS31	Alice Springs	15.32	348	*e*Pn	Pn	22 31 26.7	-3.8
AS31				*e*Sn	Sn	22 34 23.2	+3.0
NWAO	Narrogin (SRO)	17.24	284	LR	LR	22 37 29.8	
	comp=Z,130nm,21.6s,baz=3.8,slow=33						
WRA	Warramunga Arr	18.93	352	P	P	22 32 12.6	-2.5
WRA				S	Sn	22 35 38.1	-10
WRA	Warramunga Arr	18.93	352	P	P	22 32 12.6	-2.5
	0.4nm,0.3s,baz=170,slow=12,SNR=44						
WRA				S	Sn	22 35 38.1	-10
	0.1nm,0.3s,baz=163,slow=25,SNR=5.1						
WRAB	Tennant Creek	18.94	352	*e*P	Pn	22 32 15.2	-0.7
	21nm,0.9s						
MEEK	Meekatharra	19.77	302	P	Pn	22 32 25.0	-0.8
	baz=20,SNR=5.6						
CTA	Charters Tower	20.17	25	P	Pn	22 32 30.7	+0.1
CTA	Charters Tower	20.17	25	P	Pn	22 32 30.7	+0.1
	6.9nm,0.9s,baz=211,slow=14,SNR=4.0						
MTSU	Mount Surprise	21.46	19	P	P	22 32 45.5	+2.9
	baz=21,SNR=8.2						
MBWA	Marble Bar	23.14	314	*e*P	P	22 33 01.4	+1.0
	16nm,1.0s						
KNRA	Kununurra	24.18	340	P	P	22 33 11.1	+0.5
	baz=24,SNR=5.4						
RPZ	Rata Peaks	25.78	112	P	P	22 33 23.3	-1.7
RPZ	Rata Peaks	25.78	112	P	P	22 33 23.3	-1.7
	6.0nm,0.9s,baz=270,slow=7.1,SNR=2.3						
DZM	Mont Dzumac	30.00	65	LR	LR	22 44 20.2	
	comp=Z,192nm,18.5s,baz=182,slow=33						
PMG	Port Moresby	30.55	19	LR	LR	22 46 44.7	
	comp=Z,130nm,21.3s,baz=232,slow=37						
VNDA	Vanda	40.24	172	*e*P	P	22 35 29.0	-1.4
	2.6nm,0.6s						
VNDA	Vanda	40.24	172	P	P	22 35 29.2	-1.2
	1.4nm,0.7s,baz=321,slow=7.9,SNR=11						
VNDA				LR	LR	22 49 26.4	
	comp=Z,65nm,21.8s,baz=115,slow=32						
MAW	Mawson	48.96	209	P	P	22 36 39.4	-0.6
MAW	Mawson	48.96	209	P	P	22 36 39.4	-0.6
	2.3nm,0.9s,baz=61,slow=6.1,SNR=3.9						
MAW				LR	LR	22 52 29.3	
	comp=Z,50nm,21.4s,baz=315,slow=30						
QSPA	South Pole Qui	51.35	180	P	P	22 36 56.4	-2.0
QSPA	South Pole Qui	51.35	180	P	P	22 36 56.4	-2.0
	0.6nm,0.9s,baz=302,slow=2.3,SNR=2.7						
CMAR	Chiang Mai Arr	67.30	320	P	P	22 38 51.1	+2.1
CMAR	Chiang Mai Arr	67.30	320	P	P	22 38 51.1	+2.1
	0.6nm,0.3s,baz=169,slow=6.3,SNR=7.5						
MJAR	Matsushiro Arr	74.94	1	P	P	22 39 36.1	+1.1
MJAR	Matsushiro Arr	74.94	1	P	P	22 39 36.1	+1.1
	1.4nm,0.8s,baz=187,slow=7.5,SNR=5.1						
KSAR	Wonju Array Be	76.33	352	P	P	22 39 44.9	+2.0
KSRS	Korea Array	76.33	352	P	P	22 39 44.9	+2.0
	2.9nm,0.8s,baz=172,slow=7.2,SNR=6.0						
USRK	Ussuriysk Arra	82.72	356	P	P	22 40 19.2	+1.7
	3.6nm,0.7s,baz=212,slow=6.7,SNR=12						
BOSA	Boshof	87.73	235	LR	LR	23 13 46.8	
	comp=Z,88nm,18.7s,baz=155,slow=31						
SONM	Songino Array	90.50	340	P	P	22 40 56.5	+0.8
SONM	Songino Array	90.50	340	P	P	22 40 56.5	+0.8
	0.3nm,0.5s,baz=126,slow=2.6,SNR=4.3						
MKAR	Makanchi Array	98.32	325	P	Pdif	22 41 32.0	+0.4
MKAR	Makanchi Array	98.32	325	P	Pdif	22 41 32.0	+0.4
	0.3nm,0.7s,baz=145,slow=5.3,SNR=3.1						
BRTR	Keskin Array B	122.61	297	PKP	PKPdf	22 46 50.1	+0.3
BRTR	Keskin Array B	122.61	297	PKP	PKPdf	22 46 50.1	+0.3
	0.5nm,0.7s,baz=109,slow=3.0,SNR=3.6						
TXAR	Lajitas Array	129.47	81	PKP	PKPdf	22 47 03.6	+0.4
TXAR	Lajitas Array	129.47	81	PKP	PKPdf	22 47 03.6	+0.4
	0.7nm,0.9s,baz=234,slow=4.3,SNR=6.8						
FINES	FINESS Array B	133.05	322	PKP	PKPdf	22 47 09.2	+0.5
FINES	FINESS Array B	133.05	322	PKP	PKPdf	22 47 09.2	+0.5
	1.9nm,0.8s,baz=101,slow=2.8,SNR=4.7						
TORD	Torodi Ar. Bea	133.21	249	PKP	PKPdf	22 47 09.9	-0.6
TORD	Torodi Ar. Bea	133.21	249	PKP	PKPdf	22 47 09.9	-0.6
	0.6nm,0.8s,baz=70,slow=1.7,SNR=8.9						
ARCES	ARCESS Array B	133.29	333	PKP	PKPdf	22 47 10.8	+1.7
ARCES	ARCESS Array B	133.29	333	PKP	PKPdf	22 47 10.8	+1.7
	0.9nm,0.8s,baz=116,slow=2.1,SNR=3.8						
GERES	GERESS Array B	138.91	303	PKP	PKPdf	22 47 21.6	+1.4
GERES	GERESS Array B	138.91	303	PKP	PKPdf	22 47 21.6	+1.4
	0.2nm,0.4s,baz=116,slow=2.3,SNR=2.6						
ESDC	Sonseca Array	150.10	284	PKPbc	PKPbc	22 47 45.5	+0.7
ESDC	Sonseca Array	150.10	284	PKPbc	PKPbc	22 47 45.5	+0.7
	0.2nm,0.3s,baz=107,slow=3.0,SNR=6.4						

*IDC **05** 22:39:02.2±10.0, 6°.92S×129°.64E, h99km±103km, mb3.5/2, mb1 3.9/4, mb1mx3.4/19, mbtmp3.7/4, ML4.2/2, Error ellipse: s-maj=116.5km s-min=38.8km az=60.0*
*ISCJB **05** 22:39:07.7±0.9, 7°.46S±0°.06×129°.21E±0°.06, h131km, mb3.5/2, Error ellipse: s-maj=9.6km s-min=8.2km az=42.9*
*AUST **05** 22:39:08.5±0.0, 7°.34S×129°.05E, h164km, Error ellipse: s-maj=1.1km s-min=1.0km az=323.0*
ISC 05 22:39:08.0±0.9, 7°.45S±0°.06×129°.25E±0°.07, h131km, n14, σ2°38/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	5.40	34	P	Pn	22 40 28.1	+1.5
	baz=5.5,SNR=5.2						
FAKI				S	Sn	22 41 24.2	-3.5
	baz=5.5,SNR=4.1						
SOEI	Soe	5.44	245	P	Pn	22 40 28.3	+1.2
	baz=5.3,SNR=10						
SOEI				S	Sn	22 41 27.5	-1.2
	baz=5.3,SNR=4.6						
MTN	Manton Dam	5.67	161	P	Pn	22 40 33.5	+3.4
	baz=5.9,SNR=68						
MTN				S	Sn	22 41 35.3	+1.1
	baz=5.9,SNR=10						
KDU	Kakadu	6.09	149	P	Pn	22 40 39.0	+3.2
	baz=6.3,SNR=72						
KDU				S	Sn	22 41 44.5	+0.1
	baz=6.3,SNR=9.6						
KNRA	Kununurra	8.19	183	P	Pn	22 41 05.1	+1.1
	baz=8.3,SNR=15						
KNRA				S	Sn	22 42 32.6	-2.4
	baz=8.3,SNR=7.0						
WRA	Warramunga Arr	13.36	159	P	Pn	22 42 11.3	-1.3
	0.8nm,0.3s,baz=340,slow=12,SNR=26						
WRA				S	Sn	22 44 35.8	-4.4
	2.1nm,0.3s,baz=335,slow=20,SNR=10						
COEN	Coen	15.12	116	P	P	22 42 40.1	+3.1
	baz=15,SNR=6.8						
ASAR	Alice Springs	16.73	165	P	P	22 42 56.8	+2.0
	1.8nm,0.3s,baz=341,slow=11,SNR=99						
ASAR				S	Sn	22 45 57.7	-3.5
	0.4nm,0.3s,baz=326,slow=14,SNR=5.6						
UGM	Wanagama	18.57	267	P	P	22 43 09.2	-5.8
	baz=18,SNR=26						
MANU	Manus Island	18.83	74	P	P	22 43 15.8	-2.0
	baz=19,SNR=4.3						
STKA	Stephens Creek	26.89	156	P	P	22 44 36.9	+0.1
	2.0nm,0.6s,baz=324,slow=15,SNR=5.9						
STKA	Stephens Creek	26.89	156	P	P	22 44 37.5	+0.7
	baz=27,SNR=3.8						
ARPS	Mount Arapiles	31.36	160	P	P	22 45 17.7	+1.5
	baz=32,SNR=7.8						
ARPS				S	S	22 50 28.4	+14
	baz=32,SNR=14						
MKAR	Makanchi Array	68.20	327	P	P	22 49 50.7	-3.7
	0.2nm,0.5s,baz=118,slow=7.1,SNR=5.9						

*NEIC **05** 22:39:33.6, 38°.60S×175°.54E, h180km, MG4.0(WEL), After WEL.*
WEL 05 22:39:33.6±0.3, 38°.60S×175°.54E, h180km±2km, ML4.0/16, 9C-19D, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	Wairara	0.18	125	⇑PN	Pn	22 39 57.8	+0.2
WATZ	Wairara	0.18	125	Pn	Pn	22 39 57.8	+0.2
KATZ	Kakaramea	0.39	162	PN	Pn	22 39 58.1	-0.1
KATZ	Kakaramea	0.39	162	Pn	Pn	22 39 58.1	-0.1
TWVZ	Taurewa	0.47	190	PN	Pn	22 39 58.2	-0.2
TWVZ				SN	Sn	22 40 16.5	-1.3
TWVZ	Taurewa	0.47	190	Pn	Pn	22 39 58.2	-0.2
TWVZ				Sn	Sn	22 40 16.4	-1.4
KRVZ	Karewarewa	0.50	171	PN	Pn	22 39 58.5	-0.1
KRVZ				SN	Sn	22 40 16.8	-1.2
KRVZ	Karewarewa	0.50	171	Pn	Pn	22 39 58.5	-0.1
KRVZ				Sn	Sn	22 40 16.4	-1.6
WTVZ	West Tongariro	0.51	176	PN	Pn	22 39 58.6	-0.1
WTVZ				SN	Sn	22 40 16.6	-1.5
WTVZ	West Tongariro	0.51	176	Pn	Pn	22 39 58.6	-0.1
WTVZ				Sn	Sn	22 40 16.6	-1.5
HATZ	Hinemaiaia	0.52	124	PN	Pn	22 39 58.3	-0.3
HATZ	Hinemaiaia	0.52	124	Pn	Pn	22 39 58.3	-0.3
HIZ	Hauiti	0.55	279	PN	Pn	22 39 58.5	-0.2
HIZ	Hauiti	0.55	279	Pn	Pn	22 39 58.5	-0.2
OTVZ	Oturere	0.57	170	PN	Pn	22 39 59.1	+0.2
OTVZ				SN	Sn	22 40 17.9	-0.8
OTVZ	Oturere	0.57	170	Pn	Pn	22 39 59.1	+0.2
NGZ	Ngauruhoe	0.57	175	⇑PN	Pn	22 39 59.0	+0.1
NGZ				SN	Sn	22 40 17.5	-1.1
NGZ	Ngauruhoe	0.57	175	Pn	Pn	22 39 59.0	+0.1
WPVZ	Whakapapa	0.60	180	PN	Pn	22 39 58.6	-0.5
WPVZ				SN	Sn	22 40 17.7	-1.1
WPVZ	Whakapapa	0.60	180	Pn	Pn	22 39 58.6	-0.4
TUVZ	Tukino	0.67	173	PN	Pn	22 39 59.5	+0.1
TUVZ				SN	Sn	22 40 18.1	-1.4
TUVZ	Tukino	0.67	173	Pn	Pn	22 39 59.5	+0.1
WNVZ	Wahianoa	0.72	177	PN	Pn	22 39 59.8	0.0
WNVZ	Wahianoa	0.72	177	Pn	Pn	22 39 59.8	0.0
MTVZ	Mangateitei	0.78	184	PN	Pn	22 39 59.9	0.0
MTVZ	Mangateitei	0.78	184	Pn	Pn	22 39 59.9	0.0
VRZ	Vera Road	0.80	229	PN	Pn	22 39 59.7	-0.3
VRZ	Vera Road	0.80	229	Pn	Pn	22 39 59.7	-0.3
MOVZ	Moawhango	0.82	169	⇓PN	Pn	22 39 59.9	-0.3
MOVZ	Moawhango	0.82	169	Pn	Pn	22 39 59.9	-0.3
TARZ	Mount Tarawera	0.84	64	⇓PN	Pn	22 40 00.4	-0.1
TARZ	Mount Tarawera	0.84	64	Pn	Pn	22 40 00.4	-0.1
TOZ	Tahuroa Road	0.87	358	PN	Pn	22 40 00.6	+0.1
BKZ	Black Stump Fm	0.93	128	⇓PN	Pn	22 40 00.7	-0.2
BKZ				AML	AML	22 40 20.9	
BKZ				AML	AML	22 40 22.3	
BKZ	Black Stump Fm	0.93	128	Pn	Pn	22 40 00.7	-0.2
BHHZ	Black Hill Sta	0.97	156	⇓PN	Pn	22 40 00.9	-0.3
BHHZ	Black Hill Sta	0.97	156	Pn	Pn	22 40 00.9	-0.3
NMHZ	Naumai	1.10	117	⇓PN	Pn	22 40 02.9	+0.7
NMHZ	Naumai	1.10	117	Pn	Pn	22 40 02.9	+0.7
MCHZ	McNeill Hill	1.23	133	⇓PN	Pn	22 40 03.9	+0.8
MCHZ	McNeill Hill	1.23	133	Pn	Pn	22 40 03.9	+0.8
WAZ	Wanganui	1.23	200	⇑PN	Pn	22 40 03.0	-0.2
WAZ	Wanganui	1.23	200	Pn	Pn	22 40 03.0	-0.2
RAHZ	Arahi	1.25	105	⇓PN	Pn	22 40 03.7	+0.3
RAHZ	Arahi	1.25	105	Pn	Pn	22 40 03.7	+0.4
URZ	Urewera	1.28	75	⇓PN	Pn	22 40 02.8	-0.7
URZ				AML	AML	22 40 03.8	
URZ				AML	AML	22 40 24.7	
URZ	Urewera	1.28	75	*e*Pn	Pn	22 40 02.8	-0.8
URZ				*e*Sn	Sn	22 40 24.2	-2.5
NEZ	North Egmont	1.31	239	⇓PN	Pn	22 40 04.0	+0.1
NEZ	North Egmont	1.31	239	Pn	Pn	22 40 04.0	+0.1
PKE	Pukeiti	1.35	244	⇑PN	Pn	22 40 04.1	-0.1
PKE	Pukeiti	1.35	244	Pn	Pn	22 40 04.1	-0.1
PNHZ	Pukenui	1.41	159	⇓PN	Pn	22 40 04.5	-0.2
PNHZ	Pukenui	1.41	159	Pn	Pn	22 40 04.5	-0.2
NWEZ	Newall Road	1.47	242	PN	Pn	22 40 05.2	-0.1
NWEZ	Newall Road	1.47	242	Pn	Pn	22 40 05.2	-0.1
KAHZ	Kahuranaki	1.58	139	⇓PN	Pn	22 40 06.6	+0.3
KAHZ	Kahuranaki	1.58	139	Pn	Pn	22 40 06.7	+0.3
MWZ	Matawai	1.58	81	⇓PN	Pn	22 40 05.9	-0.5
MWZ				AML	AML	22 40 30.0	
MWZ				AML	AML	22 40 30.4	
MWZ				AML	AML	22 40 32.4	
MWZ	Matawai	1.58	81	Pn	Pn	22 40 05.9	-0.5
CKHZ	Cape Kidnapper	1.59	132	⇓PN	Pn	22 40 06.8	+0.3
CKHZ	Cape Kidnapper	1.59	132	Pn	Pn	22 40 06.8	+0.4
WPHZ	Waipukurau	1.62	155	⇓PN	Pn	22 40 06.5	-0.2
WPHZ	Waipukurau	1.62	155	Pn	Pn	22 40 06.5	-0.2
KNZ	Kokohu	1.72	105	⇓PN	Pn

BHW				AML	AML	22 40 54.4	
BHW	**Baring Head**	**2.85**	**190**	Pn	Pn	22 40 18.4	-2.0
PLWZ	**Palliser**	**2.97**	**184**	PN	Pn	22 40 19.7	-2.3
PLWZ	**Palliser**	**2.97**	**184**	Pn	Pn	22 40 19.7	-2.2
TUWZ	**Tuamarina**	**3.08**	**203**	PN	Pn	22 40 20.8	-2.4
TUWZ	**Tuamarina**	**3.08**	**203**	Pn	Pn	22 40 21.0	-2.1
NNZ	**Nelson**	**3.10**	**212**	PN	Pn	22 40 20.8	-2.6
NNZ	**Nelson**	**3.10**	**212**	Pn	Pn	22 40 20.9	-2.5
BSWZ	**Blackbirch Sta**	**3.36**	**202**	PN	Pn	22 40 24.6	-2.0
BSWZ	**Blackbirch Sta**	**3.36**	**202**	Pn	Pn	22 40 24.6	-2.0
THZ	**Tophouse**	**3.75**	**212**	PN	Pn	22 40 28.2	-3.3
THZ	**Tophouse**	**3.75**	**212**	Pn	Pn	22 40 28.3	-3.3
KHZ	**Kahutara**	**4.10**	**201**	PN	Pn	22 40 33.4	-2.5
KHZ				AML	AML	22 41 21.3	
KHZ	**Kahutara**	**4.10**	**201**	*e*Pn	Pn	22 40 33.7	-2.2
KHZ				*e*Sn	Sn	22 41 19.5	-5.4
LTZ	**Lake Taylor**	**4.86**	**210**	PN	Pn	22 40 41.9	-3.8
LTZ	**Lake Taylor**	**4.86**	**210**	Pn	Pn	22 40 41.8	-3.9
RPZ	**Rata Peaks**	**6.13**	**212**	*e*Pn	Pn	22 40 58.9	-3.3
TAU	**Tasmania Unive**	**21.76**	**250**	*e*P	P	22 44 10.5	-0.3
STKA	**Stephens Creek**	**28.41**	**273**	*e*P	P	22 45 10.5	-0.8

*IDC **05** 22:55:39.8±1.9, 32°.37N×47°.13E, h0km, mb3.6/8, mb1 3.6/9, mb1mx3.5/27, mbtmp3.6/9, Error ellipse: s-maj=43.5km s-min=22.9km az=158.0*
*THR **05** 22:55:40.5±0.5, 32°.28N×47°.14E, h16km±14km, ML3.5*
*ISCJB **05** 22:55:41.4±1.2, 32°.43N±0°.03×47°.26E±0°.04, h5km±8km, mb3.5/8, Error ellipse: s-maj=5.9km s-min=4.3km az=137.3*
*TEH **05** 22:55:42.2, 32°.33N×47°.11E, h7km, ML3.6*
*CSEM **05** 22:55:42.4±0.2, 32°.42N×47°.23E, h2km, ML3.6, Error ellipse: s-maj=4.8km s-min=3.1km az=80.0*
*KISR **05** 22:55:44.5±1.0, 32°.10N×46°.88E, h10km±999km, ML3.2*

ISC 05 22:55:41.6±1.8, 32°.41N±0°.03×47°.21E±0°.04, h8km±12km, n87, σ1s44/101, mb3.6/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.29**	**303**	*i* Pb	**Pb**	**22 56 06.0**	**-0.1**
IBDR				*i* Sb	**Sn**	**22 56 24.0**	**+0.6**
IKOM	**Komasi**	**1.78**	**8**	*e*Pn	**Pn**	**22 56 14.3**	**+1.4**
IKOM				*e*Sg	**Sg**	**22 56 40.6**	**+1.7**
IKOM				*e*		22 56 43.0	
	comp=Z,8μm,0.2s						
IKOM	**Komasi**	**1.78**	**8**	*e*Pn	**Pn**	**22 56 14.3**	**+1.4**
IKOM				*e*Sg	**Sg**	**22 56 40.6**	**+1.7**
IGHG	**Ghaleghazi**	**1.99**	**344**	*e*Pn	**Pn**	**22 56 17.0**	**+1.2**
IGHG				*e*		22 57 04.4	
	comp=Z,9μm,0.4s						
IGHG	**Ghaleghazi**	**1.99**	**344**	*e*Pn	**Pn**	**22 56 17.0**	**+1.2**
IVIS	**Veis**	**2.14**	**352**	*e*Pn	**Pn**	**22 56 19.1**	**+1.4**
IVIS				*e*Sg	**Sg**	**22 56 50.5**	**+0.2**
IVIS				*e*		22 56 54.7	
	comp=Z,3μm,0.2s						
IVIS	**Veis**	**2.14**	**352**	*e*Pn	**Pn**	**22 56 19.1**	**+1.4**
IVIS				*e*Sg	**Sg**	**22 56 50.5**	**+0.2**
IDHR	**Dehrash**	**2.39**	**343**	*e*Pn	**Pn**	**22 56 22.2**	**+0.9**
IDHR				*e*Sg	**Sg**	**22 56 58.7**	**+0.3**
IDHR				*e*		22 57 01.9	
	comp=Z,4μm,0.2s						
IDHR	**Dehrash**	**2.39**	**343**	*e*Pn	**Pn**	**22 56 22.2**	**+0.9**
IDHR				*e*Sg	**Sg**	**22 56 58.7**	**+0.3**
ILIN	**Lien**	**2.52**	**355**	*e*Pn	**Pn**	**22 56 24.4**	**+1.4**
ILIN				*e*		22 56 29.9	
	comp=Z,2μm,0.1s						
ILIN	**Lien**	**2.52**	**355**	*e*Pn	**Pn**	**22 56 24.4**	**+1.4**
BHD	**Baghdad**	**2.54**	**291**	*e*Pn	Pn	22 56 18.0	-5.1
BHD				*e*Sn	Sn	22 56 46.0	-8.1
MIB	**Mutribah**	**2.60**	**178**	*e*P	**Pb**	**22 56 26.1**	**-2.3**
MIB				*e*S	**Sn**	**22 56 56.6**	**+1.0**
MIB				AML	AML	22 57 06.8	
	comp=Z,160nm,0.5s						
MIB	**Mutribah**	**2.60**	**178**	*e*P	**Pb**	**22 56 26.1**	**-2.3**
MIB				*e*S	**Sn**	**22 56 56.6**	**+1.0**
	comp=Z,160nm,0.5s						
KHMZ	**Khomeyn**	**2.66**	**59**	*e*Pn	**Pn**	**22 56 26.6**	**+1.6**
KHMZ				*e*Sg	**Sg**	**22 57 07.6**	**+0.5**
KHMZ				AML	AML	22 57 17.1	
	comp=E,147nm,0.5s						
KHMZ				AML	AML	22 57 18.2	
	comp=N,127nm,0.6s						
KHMZ	**Khomeyn**	**2.66**	**59**	*e*Pn	**Pn**	**22 56 26.6**	**+1.6**
KHMZ				*e*Sg	**Sg**	**22 57 07.6**	**+0.5**
SNGE	**Sanandaj**	**2.68**	**2**	*e*Pn	**Pn**	**22 56 27.0**	**+1.7**
SNGE	**Sanandaj**	**2.68**	**2**	*e*Pn	**Pn**	**22 56 27.0**	**+1.7**
UMR	**Umm Al-Rimmam**	**2.88**	**171**	*e*P	**Pn**	**22 56 29.9**	**+2.1**
UMR	**Umm Al-Rimmam**	**2.88**	**171**	*e*P	**Pn**	**22 56 29.9**	**+2.1**
IPIR	**Pirpir**	**3.12**	**84**	*e*Pn	**Pn**	**22 56 33.3**	**+1.9**
IPIR				*e*		22 57 16.3	
	comp=Z,2μm,0.3s						
IPIR	**Pirpir**	**3.12**	**84**	*e*Pn	**Pn**	**22 56 33.3**	**+1.9**
ASAO	**Ashtian**	**3.18**	**47**	*e*Pn	**Pn**	**22 56 34.1**	**+2.0**
ASAO				*e*Sg	**Sg**	**22 57 23.8**	**+0.2**
ASAO				AML	AML	22 57 34.6	
	comp=N,112nm,0.6s						
ASAO	**Ashtian**	**3.18**	**47**	*e*Pn	**Pn**	**22 56 34.1**	**+2.0**
ASAO				*e*Sg	**Sg**	**22 57 23.8**	**+0.2**
KBD	**Kabd**	**3.25**	**173**	*e*P	**Pn**	**22 56 35.1**	**+2.3**
KBD				*e*S	**Sn**	**22 57 14.0**	**+2.3**
KBD				AML	AML	22 57 18.9	
	comp=Z,38nm,0.4s						
KBD	**Kabd**	**3.25**	**173**	*e*P	**Pn**	**22 56 35.1**	**+2.3**
KBD				*e*S	**Sn**	**22 57 14.0**	**+2.3**
RDF	**Al-Radifah**	**3.48**	**175**	*e*P	**Pn**	**22 56 38.8**	**+2.7**
RDF				*e*S	**Sn**	**22 57 18.5**	**+1.0**
RDF				AML	AML	22 57 25.1	
	comp=Z,82nm,0.4s						
RDF	**Al-Radifah**	**3.48**	**175**	*e*P	**Pn**	**22 56 38.8**	**+2.7**
RDF				*e*S	**Sn**	**22 57 18.5**	**+1.0**
	comp=Z,82nm,0.4s						
IRAZ	**Razeghan**	**3.75**	**36**	*e*Pn	**Pn**	**22 56 41.8**	**+1.9**
IRAZ				*e*		22 57 01.4	
	comp=Z,846nm,0.2s						
IRAZ	**Razeghan**	**3.75**	**36**	*e*Pn	**Pn**	**22 56 41.8**	**+1.9**
IKLH	**Kolahrood**	**3.78**	**75**	*e*Pn	**Pn**	**22 56 42.3**	**+1.8**
IKLH				*e*		22 57 00.4	
	comp=Z,1μm,0.2s						
IKLH	**Kolahrood**	**3.78**	**75**	*e*Pn	**Pn**	**22 56 42.3**	**+1.8**
IR5	**Iran Long-Peri**	**3.96**	**44**	*e*Pn	**Pn**	**22 56 44.9**	**+2.1**
IR5	**Iran Long-Peri**	**3.96**	**44**	*e*Pn	**Pn**	**22 56 44.9**	**+2.1**
GHVR	**GHOM**	**3.99**	**58**	*e*Pn	**Pn**	**22 56 44.7**	**+1.5**
GHVR				AML	AML	22 57 47.6	
	comp=N,54nm,0.8s						
GHVR				AML	AML	22 58 04.0	
	comp=E,65nm,0.7s						
GHVR	**GHOM**	**3.99**	**58**	*e*Pn	**Pn**	**22 56 44.7**	**+1.5**
IGAR	**Gharneh**	**4.08**	**89**	*e*Pn	**Pn**	**22 56 46.0**	**+1.4**
IGAR				*e*		22 57 43.0	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**4.34**	**82**	*e*Pn	**Pn**	**22 56 49.7**	**+1.5**
IZEF				*e*		22 57 08.0	
	comp=Z,484nm,0.3s						
IZEF	**Zefreh**	**4.34**	**82**	*e*Pn	**Pn**	**22 56 49.7**	**+1.5**
IR3	**Iran Long-Peri**	**4.41**	**45**	*e*Pn	Pn	22 56 52.2	+3.3
IR3	**Iran Long-Peri**	**4.41**	**45**	*e*Pn	Pn	22 56 52.2	+3.3
ZNJK	**Zanjan**	**4.42**	**16**	*e*Pn	**Pn**	**22 56 51.2**	**+1.9**
ZNJK	**Zanjan**	**4.42**	**16**	*e*Pn	**Pn**	**22 56 51.2**	**+1.9**
IVRN	**Varamin**	**4.56**	**54**	*e*Pn	**Pn**	**22 56 52.0**	**+1.0**
IVRN	**Varamin**	**4.56**	**54**	*e*Pn	**Pn**	**22 56 52.0**	**+1.0**
ISFB	**Sefidab**	**4.63**	**64**	*e*Pn	**Pn**	**22 56 52.9**	**+0.9**
ISFB				*e*		22 58 21.6	
	comp=Z,288nm,0.4s						
ISFB	**Sefidab**	**4.63**	**64**	*e*Pn	**Pn**	**22 56 52.9**	**+0.9**
IGZV	**Ghazvin**	**4.68**	**31**	*e*Pn	**Pn**	**22 56 54.1**	**+1.3**
IGZV				*e*		22 56 56.8	
	comp=Z,313nm,0.0s						
IGZV	**Ghazvin**	**4.68**	**31**	*e*Pn	**Pn**	**22 56 54.1**	**+1.3**
NASN	**Na'in**	**4.74**	**84**	*e*Pn	**Pn**	**22 56 54.6**	**+0.9**
NASN	**Na'in**	**4.74**	**84**	*e*Pn	**Pn**	**22 56 54.6**	**+0.9**
IDMV	**Damavand**	**5.10**	**50**	*e*Pn	**Pn**	**22 56 59.5**	**+0.9**
IDMV				*e*		22 57 05.4	
	comp=Z,261nm,0.1s						
IDMV	**Damavand**	**5.10**	**50**	*e*Pn	**Pn**	**22 56 59.5**	**+0.9**
IAZR	**Azarshahr**	**5.36**	**349**	*e*		22 57 23.9	
	comp=Z,306nm,0.1s						
IAZR				*e*Pn	**Pn**	**22 57 03.2**	**+1.1**
ISRB	**Sarab**	**5.42**	**4**	*e*Pn	**Pn**	**22 57 03.5**	**+0.6**
ISRB				*e*		22 57 30.9	
	comp=Z,163nm,0.3s						
ISRB	**Sarab**	**5.42**	**4**	*e*Pn	**Pn**	**22 57 03.5**	**+0.6**
ISAD	**Sadrabad**	**5.51**	**93**	*e*Pn	**Pn**	**22 57 05.4**	**+1.2**
ISAD				*e*		22 58 53.6	
	comp=Z,477nm,0.6s						
ISAD	**Sadrabad**	**5.51**	**93**	*e*Pn	**Pn**	**22 57 05.4**	**+1.2**
IFIR	**Firoozkooh**	**5.62**	**53**	*e*		22 57 12.9	
	comp=Z,214nm,0.1s						
IFIR				*e*Pn	**Pn**	**22 57 07.7**	**+2.0**
ILAS	**Lasjerd**	**5.62**	**57**	*e*		22 57 12.9	
	comp=Z,318nm,0.1s						
ILAS				*e*Pn	**Pn**	**22 57 07.0**	**+1.2**
IALA	**Alasht**	**5.91**	**50**	*e*Pn	**Pn**	**22 57 11.9**	**+2.2**
IALA				*e*		22 57 19.7	
	comp=Z,252nm,0.2s						
IALA	**Alasht**	**5.91**	**50**	*e*Pn	**Pn**	**22 57 11.9**	**+2.2**
ISHB	**Shabestar**	**6.01**	**348**	*e*Pn	**Pn**	**22 57 11.5**	**+0.5**
ISHB				*e*		22 57 44.3	
	comp=Z,142nm,0.3s						
ISHB	**Shabestar**	**6.01**	**348**	*e*Pn	**Pn**	**22 57 11.5**	**+0.5**
ISHM	**Shahmirzad**	**6.08**	**54**	*e*Pn	**Pn**	**22 57 13.4**	**+1.4**
ISHM				*e*		22 57 20.1	
	comp=Z,236nm,0.2s						
ISHM	**Shahmirzad**	**6.08**	**54**	*e*Pn	**Pn**	**22 57 13.4**	**+1.4**
ICHK	**Chekchek**	**6.09**	**90**	*e*Pn	**Pn**	**22 57 13.2**	**+1.0**
ICHK				*e*		22 59 15.6	
	comp=Z,247nm,0.4s						
ICHK	**Chekchek**	**6.09**	**90**	*e*Pn	**Pn**	**22 57 13.2**	**+1.0**
IMEH	**Mehriz**	**6.37**	**97**	*e*Pn	**Pn**	**22 57 16.8**	**+0.7**
IMEH				*e*		22 58 36.7	
	comp=Z,123nm,0.2s						
IMEH	**Mehriz**	**6.37**	**97**	*e*Pn	**Pn**	**22 57 16.8**	**+0.7**
GHIR	**Ghir-Karzin**	**6.46**	**128**	*e*Pn	**Pn**	**22 57 17.2**	**0.0**
GHIR	**Ghir-Karzin**	**6.46**	**128**	*e*Pn	**Pn**	**22 57 17.2**	**0.0**
IKIA	**Kiasar**	**6.56**	**53**	*e*Pn	**Pn**	**22 57 20.5**	**+1.9**
IKIA				*e*		22 59 38.6	
	comp=Z,126nm,0.4s						
IKIA	**Kiasar**	**6.56**	**53**	*e*Pn	**Pn**	**22 57 20.5**	**+1.9**
IBAF	**Bafgh**	**7.14**	**94**	*e*Pn	**Pn**	**22 57 26.5**	**0.0**
IBAF				*e*		22 57 50.7	
	comp=Z,60nm,0.1s						
IBAF	**Bafgh**	**7.14**	**94**	*e*Pn	**Pn**	**22 57 26.5**	**0.0**
ISFR	**Sfrayin**	**10.01**	**59**	*e*Pn	**Pn**	**22 58 06.7**	**+0.7**
ISFR				*e*		23 00 15.2	
	comp=Z,79nm,0.1s						
ISFR	**Sfrayin**	**10.01**	**59**	*e*Pn	**Pn**	**22 58 06.7**	**+0.7**
AKTO	**Aktyubinsk**	**19.71**	**21**	P	**P**	**23 00 10.2**	**-1.2**
	baz=199,slow=9.8						
AKASG	**Malin Array Be**	**22.60**	**329**	P	**P**	**23 00 43.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=133,slow=11,SNR=5.0						
BVAR	**Borovoye Array**	**26.52**	**32**	P	**P**	**23 01 19.4**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=220,slow=8.9,SNR=14						
KURBB	**Kurchatov Arra**	**29.37**	**42**	P	**P**	**23 01 45.4**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=246,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**30.33**	**51**	P	**P**	**23 01 53.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=251,slow=7.3,SNR=9.0						
FINES	**FINESS Array B**	**32.13**	**341**	P	**P**	**23 02 07.9**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=123,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**34.28**	**40**	P	**P**	**23 02 28.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=264,slow=8.4,SNR=3.6						
ARCES	**ARCESS Array B**	**39.13**	**348**	P	**P**	**23 03 08.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=165,slow=10.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**45.74**	**256**	P	**P**	**23 04 02.3**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=63,slow=8.1,SNR=6.4						

*IDC **05** 23:13:29.5±2.0, 32°.57N×47°.13E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/27, mbtmp3.7/6, Error ellipse: s-maj=96.1km s-min=23.5km az=149.0*
*TEH **05** 23:13:31.6, 32°.31N×47°.14E, h10km, ML3.5*
*ISCJB **05** 23:13:32.8±1.1, 32°.44N±0°.03×47°.25E±0°.05, h26km±12km, mb3.6/5, Error ellipse: s-maj=6.6km s-min=4.7km az=9.4*
*KISR **05** 23:13:32.4±0.7, 32°.20N×47°.80E, h7km±999km, ML3.4*
*CSEM **05** 23:13:32.1±0.2, 32°.41N×47°.29E, h5km, ML3.5, Error ellipse: s-maj=4.8km s-min=3.1km az=85.0*

ISC 05 23:13:32.6±2.0, 32°.44N±0°.04×47°.23E±0°.04, h19km±14km, n70, σ1s25/80, mb3.7/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.29**	**302**	*i* Pb	**Pn**	**23 13 54.0**	**-1.7**
IBDR				*i* Sb	**Sb**	**23 14 12.0**	**-0.5**
IKOM	**Komasi**	**1.75**	**8**	*e*Pn	**Pn**	**23 14 03.5**	**+1.3**
IKOM				*e*Sg	**Sg**	**23 14 30.5**	**+1.3**
IKOM				*e*		23 14 31.5	
	comp=Z,13μm,0.4s						
IKOM	**Komasi**	**1.75**	**8**	*e*Pn	**Pn**	**23 14 03.5**	**+1.3**
IKOM				*e*Sg	**Sg**	**23 14 30.5**	**+1.3**
IGHG	**Ghaleghazi**	**1.97**	**344**	*e*		23 14 48.8	
	comp=Z,6μm,0.4s						
IGHG				*e*Pn	**Pn**	**23 14 07.0**	**+1.7**
IVIS	**Veis**	**2.11**	**351**	*e*Sg	**Sg**	**23 14 40.8**	**+0.2**
IVIS				*e*Pn	**Pn**	**23 14 08.5**	**+1.4**
IVIS				*e*		23 14 47.9	
	comp=Z,2μm,0.2s						
IDHR	**Dehrash**	**2.37**	**343**	*e*Pn	**Pn**	**23 14 11.4**	**+0.7**
IDHR				*e*		23 14 51.7	
	comp=Z,2μm,0.2s						
IDHR	**Dehrash**	**2.37**	**343**	*e*Pn	**Pn**	**23 14 11.4**	**+0.7**
ILIN	**Lien**	**2.49**	**355**	*e*Pn	**Pn**	**23 14 13.9**	**+1.5**
ILIN				*e*		23 14 20.8	
	comp=Z,1μm,0.2s						
ILIN	**Lien**	**2.49**	**355**	*e*Pn	**Pn**	**23 14 13.9**	**+1.5**
BHD	**Baghdad**	**2.54**	**290**	*e*Pn	Pn	23 14 08.0	-4.9
BHD				*e*Sn	Sn	23 14 36.0	-7.3
MIB	**Mutribah**	**2.63**	**178**	*e*P	**Pn**	**23 14 15.1**	**+1.0**
MIB				*e*S	**Sn**	**23 14 47.8**	**+2.4**
MIB				AML	AML	23 15 01.9	
	comp=Z,352nm,0.5s						
MIB	**Mutribah**	**2.63**	**178**	*e*P	**Pn**	**23 14 15.1**	**+1.0**
MIB				*e*S	**Sn**	**23 14 47.8**	**+2.4**
	comp=Z,352nm,0.5s						
KHMZ	**Khomeyn**	**2.63**	**60**	*e*Pn	**Pn**	**23 14 15.6**	**+1.2**
KHMZ				*e*Sg	**Sg**	**23 14 56.0**	**-1.3**
SNGE	**Sanandaj**	**2.65**	**2**	*e*Pn	**Pn**	**23 14 16.4**	**+1.8**
UMR	**Umm Al-Rimmam**	**2.90**	**172**	*e*P	**Pn**	**23 14 18.6**	**+0.7**
UMR	**Umm Al-Rimmam**	**2.90**	**172**	*e*P	**Pn**	**23 14 18.6**	**+0.7**
IPIR	**Pirpir**	**3.10**	**84**	*e*Pn	**Pn**	**23 14 22.7**	**+1.8**
IPIR				*e*		23 15 04.7	
	comp=Z,2μm,0.4s						
IPIR	**Pirpir**	**3.10**	**84**	*e*Pn	**Pn**	**23 14 22.7**	**+1.8**
ASAO	**Ashtian**	**3.14**	**47**	*e*Pn	**Pn**	**23 14 23.1**	**+1.7**
ASAO				*e*Sg	**Sg**	**23 15 12.3**	**-1.4**
KBD	**Kabd**	**3.27**	**173**	*e*P	**Pn**	**23 14 23.8**	**+0.8**
KBD				*e*S	**Sn**	**23 15 02.3**	**+0.8**
KBD				AML	AML	23 15 06.6	
	comp=Z,78nm,0.4s						
KBD	**Kabd**	**3.27**	**173**	*e*P	**Pn**	**23 14 23.8**	**+0.8**
KBD				*e*S	**Sn**	**23 15 02.3**	**+0.8**
RDF	**Al-Radifah**	**3.51**	**175**	*e*P	**Pn**	**23 14 27.8**	**+1.6**
RDF				*e*S	**Sn**	**23 15 08.8**	**+1.5**
RDF				AML	AML	23 15 11.2	
	comp=Z,65nm,0.4s						
RDF	**Al-Radifah**	**3.51**	**175**	*e*P	**Pn**	**23 14 27.8**	**+1.6**
RDF				*e*S	**Sn**	**23 15 08.8**	**+1.5**
	comp=Z,65nm,0.4s						
IRAZ	**Razeghan**	**3.71**	**36**	*e*Pn	**Pn**	**23 14 31.1**	**+1.8**
IRAZ				*e*		23 14 49.8	
	comp=Z,1μm,0.3s						
IRAZ	**Razeghan**	**3.71**	**36**	*e*Pn	**Pn**	**23 14 31.1**	**+1.8**
IKLH	**Kolahrood**	**3.76**	**75**	*e*Pn	**Pn**	**23 14 31.3**	**+1.4**
IKLH				*e*		23 15 44.3	
	comp=Z,699nm,0.2s						
IKLH	**Kolahrood**	**3.76**	**75**	*e*Pn	**Pn**	**23 14 31.3**	**+1.4**
IR5	**Iran Long-Peri**	**3.93**	**44**	*e*Pn	**Pn**	**23 14 33.6**	**+1.5**
IR5	**Iran Long-Peri**	**3.93**	**44**	*e*Pn	**Pn**	**23 14 33.6**	**+1.5**
GHVR	**GHOM**	**3.96**	**58**	*e*Pn	**Pn**	**23 14 33.5**	**+1.0**
IGAR	**Gharneh**	**4.07**	**89**	*e*Pn	**Pn**	**23 14 34.7**	**+0.6**
IGAR				*e*		23 15 25.7	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**4.32**	**83**	*e*Pn	**Pn**	**23 14 38.6**	**+0.9**
IZEF				*e*		23 14 56.0	
	comp=Z,369nm,0.3s						
IZEF	**Zefreh**	**4.32**	**83**	*e*Pn	**Pn**	**23 14 38.6**	**+0.9**
ZNJK	**Zanjan**	**4.39**	**15**	*e*P	**Pn**	**23 14 40.6**	**+2.0**
IVRN	**Varamin**	**4.53**	**54**	*e*Pn	**Pn**	**23 14 41.8**	**+1.4**
IVRN				*e*		23 15 14.7	
	comp=Z,418nm,0.3s						
IVRN	**Varamin**	**4.53**	**54**	*e*Pn	**Pn**	**23 14 41.8**	**+1.4**
ISFB	**Sefidab**	**4.60**	**64**	*e*Pn	**Pn**	**23 14 42.3**	**+0.9**
ISFB				*e*		23 16 10.3	
	comp=Z,273nm,0.4s						
ISFB	**Sefidab**	**4.60**	**64**	*e*Pn	**Pn**	**23 14 42.3**	**+0.9**
IGZV	**Ghazvin**	**4.65**	**31**	*e*Pn	**Pn**	**23 14 43.0**	**+0.9**
IGZV				*e*		23 15 08.3	
	comp=Z,359nm,0.3s						
IGZV	**Ghazvin**	**4.65**	**31**	*e*Pn	**Pn**	**23 14 43.0**	**+0.9**
NASN	**Na'in**	**4.72**	**84**	*e*Pn	**Pn**	**23 14 43.7**	**+0.5**
IDMV	**Damavand**	**5.07**	**51**	*e*Pn	**Pn**	**23 14 48.6**	**+0.6**
IDMV				*e*		23 15 09.3	
	comp=Z,346nm,0.4s						
IDMV	**Damavand**	**5.07**	**51**	*e*Pn	**Pn**	**23 14 48.6**	**+0.6**
ISRB	**Sarab**	**5.39**	**4**	*e*Pn	**Pn**	**23 14 53.5**	**+1.2**
ISRB				*e*		23 15 19.9	
	comp=Z,152nm,0.3s						
ISRB	**Sarab**	**5.39**	**4**	*e*Pn	**Pn**	**23 14 53.5**	**+1.2**
ISAD	**Sadrabad**	**5.50**	**94**	*e*Pn	**Pn**	**23 14 53.9**	**+0.1**
ISAD				*e*		23 16 43.0	
	comp=Z,370nm,0.4s						
ISAD	**Sadrabad**	**5.50**	**94**	*e*Pn	**Pn**	**23 14 53.9**	**+0.1**
ILAS	**Lasjerd**	**5.59**	**57**	*e*Pn	**Pn**	**23 14 56.2**	**+1.1**
ILAS				*e*		23 15 19.8	
	comp=Z,170nm,0.2s						
ILAS	**Lasjerd**	**5.59**	**57**	*e*Pn	**Pn**	**23 14 56.2**	**+1.1**
IALA	**Alasht**	**5.88**	**50**	*e*Pn	**Pn**	**23 14 58.9**	**-0.2**
IALA				*e*		23 15 32.5	
	comp=Z,231nm,0.2s						
IALA	**Alasht**	**5.88**	**50**	*e*Pn	**Pn**	**23 14 58.9**	**-0.2**
ISHB	**Shabestar**	**5.98**	**348**	*e*Pn	**Pn**	**23 15 01.0**	**+0.6**
ISHB				*e*		23 15 33.0	
	comp=Z,103nm,0.3s						
ISHB	**Shabestar**	**5.98**	**348**	*e*Pn	**Pn**	**23 15 01.0**	**+0.6**
ISHM	**Shahmirzad**	**6.05**	**55**	*e*Pn	**Pn**	**23 15 02.5**	**+1.1**
ISHM				*e*		23 15 26.4	
	comp=Z,288nm,0.2s						
ISHM	**Shahmirzad**	**6.05**	**55**	*e*Pn	**Pn**	**23 15 02.5**	**+1.1**
ICHK	**Chekchek**	**6.08**	**90**	*e*Pn	**Pn**	**23 15 01.4**	**-0.3**
ICHK				*e*		23 15 33.2	
	comp=Z,211nm,0.3s						
ICHK	**Chekchek**	**6.08**	**90**	*e*Pn	**Pn**	**23 15 01.4**	**-0.3**
IMEH	**Mehriz**	**6.36**	**97**	*e*Pn	**Pn**	**23 15 05.5**	**-0.2**
IMEH				*e*		23 16 26.4	
	comp=Z,97nm,0.2s						
IMEH	**Mehriz**	**6.36**	**97**	*e*Pn	**Pn**	**23 15 05.5**	**-0.2**
GHIR	**Ghir-Karzin**	**6.47**	**128**	*e*Pn	**Pn**	**23 15 05.8**	**-1.2**
IKIA	**Kiasar**	**6.53**	**53**	*e*	Pg	23 15 49.9	+12
	comp=Z,98nm,0.3s						
IGLO	**Ghaloghah**	**6.79**	**52**	*e*Pn	**Pn**	**23 15 14.2**	**+2.7**
IGLO				*e*		23 15 54.0	
	comp=Z,196nm,0.3s						
ISFR	**Sfrayin**	**9.98**	**60**	*e*Pn	**Pn**	**23 15 56.1**	**+0.7**
ISFR				*e*		23 16 28.2	
	comp=Z,52nm,0.2s						
ISFR	**Sfrayin**	**9.98**	**60**	*e*Pn	**Pn**	**23 15 56.1**	**+0.7**
AKTO	**Aktyubinsk**	**19.68**	**21**	P	**P**	**23 17 59.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=7.0						
KURBB	**Kurchatov Arra**	**29.34**	**42**	P	**P**	**23 19 34.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=247,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**30.30**	**51**	P	**P**	**23 19 42.4**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=246,slow=8.5,SNR=9.2						
ZALV	**Zalesovo Beam**	**34.24**	**40**	P	**P**	**23 20 15.7**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=254,slow=9.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**45.76**	**256**	P	**P**	**23 21 52.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=54,slow=8.9,SNR=3.7						
SONM	**Songino Array**	**46.65**	**53**	P

0.7nm,0.9s,baz=121,slow=7.0,SNR=4.8
MKAR Makanchi Array 62.85 319 P P 00 19 55.5 +0.1
1.3nm,1.0s,baz=96,slow=10,SNR=6.5
ZALV Zalesovo Beam 63.84 327 P P 00 20 01.2 -0.6
0.3nm,0.3s,baz=116,slow=3.4,SNR=2.6
ILAR Eielson Array 74.71 25 P P 00 21 09.0 0.0
0.4nm,0.8s,baz=248,slow=7.4,SNR=3.8
ILAR LR LR 00 52 40.9
comp=Z,38nm,20.3s,baz=330,slow=35

IDC 06 00:22:46.5±0.6, 2°.29N×126°.91E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/22, mbtmp4.1/14, MS3.3/2, Ms1 3.3/2, ms1mx2.8/25, Error ellipse: s-maj=42.5km s-min=12.6km az=79.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.30**	**183**	P	Pn	00 27 25.9	-0.2
1.7nm,0.7s							
WRA	**Warramunga Arr**	**23.27**	**162**	P	P	00 27 55.6	-0.3
5.6nm,0.5s,baz=340,slow=10,SNR=80							
ASAR	**Alice Springs**	**26.68**	**166**	P	P	00 28 27.1	-0.4
1.3nm,0.5s,baz=356,slow=7.7,SNR=18							
ASAR				PcP	PcP	00 31 51.1	-0.4
0.6nm,0.5s,baz=346,slow=2.1,SNR=6.9							
KSRS	**Korea Array**	**35.01**	**1**	P	P	00 29 40.5	-0.3
0.6nm,0.4s,baz=176,slow=9.3,SNR=4.4							
MJAR	**Matsushiro Arr**	**35.65**	**16**	LR	LR	00 43 06.6	
comp=Z,38nm,19.1s,baz=215,slow=34							
STKA	**Stephens Creek**	**36.73**	**159**	P	P	00 29 55.3	-0.4
7.1nm,0.6s,baz=334,slow=8.6,SNR=14							
STKA				PcP	PcP	00 32 19.1	+0.7
2.1nm,0.8s,baz=278,slow=7.1,SNR=2.8							
USRK	**Ussuriysk Arra**	**41.98**	**5**	P	P	00 30 39.4	0.0
1.1nm,0.6s,baz=205,slow=4.5,SNR=5.2							
SONM	**Songino Array**	**48.71**	**342**	P	P	00 31 33.8	+0.9
1.2nm,0.6s,baz=162,slow=7.9,SNR=12							
SONM				PcP	PcP	00 32 57.6	-0.5
0.6nm,0.7s,baz=172,slow=3.7,SNR=3.0							
PETK	**Petropavlovsk-**	**56.69**	**22**	P	P	00 32 32.5	+0.8
1.0nm,0.8s,baz=225,slow=3.9,SNR=2.6							
MKAR	**Makanchi Array**	**58.84**	**326**	P	P	00 32 47.0	0.0
0.9nm,0.4s,baz=120,slow=7.6,SNR=18							
ZALV	**Zalesovo Beam**	**61.95**	**333**	P	P	00 33 07.9	-0.2
0.5nm,0.3s,baz=126,slow=7.5,SNR=4.8							
RAR	**Rarotonga**	**75.33**	**112**	LR	LR	01 04 44.1	
comp=Z,19nm,19.2s,baz=75,slow=33							
VNDA	**Vanda**	**81.98**	**173**	P	P	00 35 07.8	-0.1
0.7nm,0.7s,baz=332,slow=6.5,SNR=5.2							
MAW	**Mawson**	**82.47**	**200**	P	P	00 35 10.9	+0.4
0.8nm,0.6s,baz=94,slow=9.3,SNR=5.5							
ARCES	**ARCESS Array B**	**91.85**	**340**	P	P	00 35 55.0	-1.4
1.3nm,0.7s,baz=76,slow=7.6,SNR=11							
FINES	**FINESS Array B**	**93.18**	**332**	P	P	00 36 01.4	-1.1
3.0nm,1.1s,baz=58,slow=8.4,SNR=3.5							
TXAR	**Lajitas Array**	**122.33**	**53**	PKP	PKPdf	00 41 43.9	-0.7
0.3nm,0.7s,baz=104,slow=3.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.52**	**287**	PKP	PKPdf	00 41 46.8	-0.3
0.4nm,0.6s,baz=109,slow=0.6,SNR=4.1							

KRSC 06 00:23:34.5±0.6, 50°.42N×157°.59E, h53km±52km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**286**	P	Pn	00 23 51.8	-0.1
SKR				S	Sn	00 24 04.1	-0.7
PAU	**Pauzhetka**	**1.16**	**335**	P	Pn	00 23 55.8	+1.4
PAU				S	Sn	00 24 11.4	+2.2
ASAK	**Asacha**	**1.98**	**6**	P	Pn	00 24 08.1	+2.5
ASAK				S	Sn	00 24 32.7	+3.4
RUS	**Russkaya**	**2.10**	**16**	P	Pn	00 24 09.6	+2.5
RUS				S	Sn	00 24 34.6	+2.6
MTVR	**Mutnovka**	**2.10**	**10**	P	Pn	00 24 09.6	+2.2
MTVR				S	Sn	00 24 35.8	+3.3
UGLR	**Uglovaya**	**2.90**	**15**	P	Pn	00 24 21.5	+3.2
UGLR				S	Sn	00 24 55.6	+3.7
AVH	**Avacha**	**2.94**	**14**	P	Pn	00 24 21.9	+3.1
AVH				S	Sn	00 24 56.7	+3.8
SMAR	**Somma**	**2.94**	**14**	P	Pn	00 24 21.9	+2.8
KOK	**Koryaka**	**2.95**	**12**	P	Pn	00 24 22.2	+3.2
KOK				S	Sn	00 24 57.1	+3.9
NLC	**Nalytchevo**	**2.96**	**21**	S	Sn	00 24 54.6	+1.4
SDLR	**Sedlovina**	**2.97**	**15**	P	Pn	00 24 21.9	+2.6
SDLR				S	Sn	00 24 56.5	+2.7
KRER	**Koryakskii**	**2.98**	**14**	P	Pn	00 24 22.3	+2.8
KRER				S	Sn	00 24 57.1	+3.0
SPN	**Mys Shipunski**	**3.08**	**28**	P	Pn	00 24 23.7	+3.1
SPN				S	Sn	00 24 59.6	+3.5
GNL	**Ganaly**	**3.29**	**4**	P	Pn	00 24 25.8	+2.2
MKZ	**Mys Kozlova**	**4.85**	**30**	P	Pn	00 24 46.6	+1.7
MKZ				S	Sn	00 25 40.4	+0.7

IDC 06 00:38:08.8±2.2, 20°.36S×174°.12W, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.8/21, mbtmp3.9/4, ML2.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/26, Error ellipse: s-maj=101.4km s-min=27.0km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.80**	**20**	Pn	Pn	00 39 50.5	+0.6
2.9nm,0.3s,baz=252,slow=20,SNR=2.9							
AFI				Sn	Sn	00 41 00.1	-8.1
10nm,0.3s,baz=11,slow=22,SNR=4.1							
AFI				LR	LR	00 41 47.3	
comp=Z,73nm,21.0s,baz=78,slow=32							
ASAR	**Alice Springs**	**48.09**	**256**	P	P	00 46 50.5	-0.1
0.8nm,0.7s,baz=88,slow=7.7,SNR=7.1							
WRA	**Warramunga Arr**	**48.22**	**261**	P	P	00 46 51.7	0.0
0.5nm,0.6s,baz=96,slow=8.5,SNR=6.5							
NVAR	**Mina Array Bea**	**78.47**	**42**	P	P	00 50 12.0	-0.1
1.6nm,0.9s,baz=213,slow=6.5,SNR=4.0							
CFAA	**Coronel Fontan**	**92.21**	**125**	LR	LR	01 22 48.2	
comp=Z,39nm,18.7s,baz=258,slow=29							
AKASG	**Malin Array Be**	**144.57**	**334**	PKP	PKPbc	00 57 46.3	+0.5
0.2nm,0.3s,baz=29,slow=3.6,SNR=5.2							
GERES	**GERESS Array B**	**150.90**	**349**	PKPbc	PKPbc	00 58 03.1	-0.4
0.2nm,0.5s,baz=43,slow=3.3,SNR=3.2							

IDC 06 01:07:52.0±1.7, 30°.22S×177°.35W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=40.2km s-min=31.7km az=126.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**333**	Pn	Pn	01 08 14.5	0.0
443nm,0.3s,baz=90,slow=20,SNR=2.5							
RAO				Sn	Sg	01 08 24.9	-2.1
2μm,0.3s,baz=90,slow=20,SNR=9.4							
URZ	**Urewera**	**9.23**	**208**	Sn	Sn	01 11 49.0	-2.0
0.5nm,0.3s,baz=174,slow=19,SNR=3.4							
CTA	**Charters Tower**	**34.33**	**279**	P	P	01 14 41.4	+0.8
3.9nm,0.7s,baz=127,slow=7.7,SNR=3.6							
STKA	**Stephens Creek**	**35.07**	**257**	P	P	01 14 47.9	+1.0
1.6nm,0.7s,baz=90,slow=6.1,SNR=2.8							
ASAR	**Alice Springs**	**43.68**	**266**	P	P	01 15 58.3	-0.6
0.7nm,0.6s,baz=104,slow=6.8,SNR=6.3							
WRA	**Warramunga Arr**	**44.65**	**272**	P	P	01 16 05.7	-1.1
1.4nm,0.5s,baz=110,slow=7.9,SNR=10							
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	PKPbc	01 27 29.8	-0.6
1.7nm,0.4s,baz=62,slow=3.9,SNR=23							
NOA	**NORSAR Array B**	**148.66**	**352**	PKPbc	PKPbc	01 27 40.3	-0.2
0.8nm,0.7s,baz=17,slow=4.6,SNR=3.2							
AKASG	**Malin Array Be**	**151.50**	**323**	PKPbc	PKPbc	01 27 46.7	-0.9
0.8nm,0.4s,baz=43,slow=3.4,SNR=6.0							

*ISCJB **06** 01:20:32.2±0.8, 32°.38S±0°.03×71°.81W±0°.06, h30km±5km, mb4.1/6, MS3.0/1, Error ellipse: s-maj=9.0km s-min=4.1km az=171.8*
*GUC **06** 01:20:33.9±0.6, 32°.41S×71°.64W, h19km±39km, MD4.2, ML4.0*
*NEIC **06** 01:20:33.9, 32°.41S×71°.64W, h19km, mb4.0/3, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Cabildo, Papudo, Puchuncavi and Zapallar.
*IDC **06** 01:20:39.4±3.1, 32°.13S×71°.60W, h74km±25km, mb3.8/4, mb1 3.7/9, mb1mx3.6/19, mbtmp3.6/9, MS3.2/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=34.5km s-min=25.3km az=120.0*

ISC 06 01:20:32.7±1.3, 32°.40S±0°.03×71°.78W±0°.06, h25km±9km, n54, σ0°99/72, mb4.2/6, 7C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.64**	**169**	⇑*i*P	**Pb**	**01 20 45.6**	**+0.4**
IHA				*i*S	**Sb**	**01 20 54.1**	**+0.4**
IHA	**Instituto Hidr**	**0.64**	**169**	⇑*i*P	**Pb**	**01 20 45.6**	**+0.4**
IHA				*i*S	**Sb**	**01 20 54.1**	**+0.4**
PTCH	**Petorca**	**0.73**	**80**	*e*P	**Pb**	**01 20 46.8**	**-0.1**
PTCH				*i*S	**Sb**	**01 20 55.9**	**-0.6**
PTCH	**Petorca**	**0.73**	**80**	*e*P	**Pb**	**01 20 46.8**	**-0.1**
PTCH				*i*S	**Sb**	**01 20 55.9**	**-0.6**
PTCH				AML	AML	01 20 56.7	
comp=N,6μm,0.2s							
ROCH	**El Roble**	**0.86**	**131**	⇓*i*P	**Pn**	**01 20 48.7**	**-0.8**
ROCH				*i*S	**Sb**	**01 20 59.7**	**-0.8**
ROCH				AML	AML	01 21 01.3	
comp=E,8μm,0.4s							
PEL	**Peldehue**	**1.18**	**129**	⇑*i*P	**Pn**	**01 20 53.6**	**-0.1**
PEL				*e*S	**Sn**	**01 21 08.2**	**-0.8**
PEL				AML	AML	01 21 10.2	
comp=E,13μm,0.3s							
RCDM	**Rinconada Maip**	**1.36**	**143**	⇑*e*P	**Pn**	**01 20 56.4**	**+0.2**
RCDM				*i*S	**Sn**	**01 21 13.2**	**-0.2**
RCDM	**Rinconada Maip**	**1.36**	**143**	⇑*e*P	**Pn**	**01 20 56.4**	**+0.2**
RCDM				*i*S	**Sn**	**01 21 13.2**	**-0.2**
CMCH	**Combarbala**	**1.39**	**29**	⇑*i*P	**Pn**	**01 20 57.1**	**+0.5**
CMCH				*i*S	**Sb**	**01 21 14.8**	**-0.6**
CMCH	**Combarbala**	**1.39**	**29**	⇑*i*P	**Pn**	**01 20 57.1**	**+0.5**
CMCH				*i*S	**Sb**	**01 21 14.8**	**-0.6**
CMCH				AML	AML	01 21 19.7	
comp=N,12μm,1.0s							
SAN	**Santiago**	**1.41**	**138**	⇓*i*P	**Pn**	**01 20 57.2**	**+0.4**
SAN				*i*S	**Sn**	**01 21 14.4**	**-0.2**
SAN	**Santiago**	**1.41**	**138**	⇓*i*P	**Pn**	**01 20 57.2**	**+0.4**
SAN				*i*S	**Sn**	**01 21 14.4**	**-0.2**
TACH	**Talagante**	**1.44**	**151**	*e*P	**Pn**	**01 20 57.7**	**+0.6**
TACH				*e*S	**Sn**	**01 21 15.4**	**+0.1**
TACH	**Talagante**	**1.44**	**151**	*e*P	**Pn**	**01 20 57.7**	**+0.6**
TACH				*e*S	**Sn**	**01 21 15.4**	**+0.1**
CLCH	**Cerro Calan**	**1.44**	**134**	⇓*i*P	**Pn**	**01 20 57.5**	**+0.2**
CLCH				*i*S	**Sn**	**01 21 15.5**	**0.0**
CLCH				AML	AML	01 21 18.4	
comp=E,4μm,0.8s							
ANTU	**Antumapu**	**1.51**	**141**	AML	AML	01 21 24.1	
comp=E,2μm,0.5s							
PCH	**Pirque**	**1.62**	**139**	*e*P	**Pn**	**01 21 00.2**	**+0.5**
PCH				*i*S	**Sn**	**01 21 20.1**	**+0.3**
PCH	**Pirque**	**1.62**	**139**	*e*P	**Pn**	**01 21 00.2**	**+0.5**
PCH				*i*S	**Sn**	**01 21 20.1**	**+0.3**
LMEL	**Las Melosas**	**1.96**	**138**	AML	AML	01 21 37.5	
comp=N,1μm,0.2s							
CACH	**El Canelo**	**1.98**	**150**	⇓*i*P	**Pb**	**01 21 07.0**	**-1.1**
CACH				*i*S	**Sb**	**01 21 32.1**	**-0.2**
CACH	**El Canelo**	**1.98**	**150**	⇓*i*P	**Pb**	**01 21 07.0**	**-1.1**
CACH				*i*S	**Sb**	**01 21 32.1**	**-0.2**
TLL	**Tololo Astrono**	**2.38**	**21**	AML	AML	01 21 57.8	
comp=N,2μm,0.7s							
CFAA	**Coronel Fontan**	**3.11**	**76**	P	**Pn**	**01 21 23.4**	**+3.1**
CFAA				S	**Sb**	**01 22 03.5**	**-1.5**
CFAA	**Coronel Fontan**	**3.11**	**76**	P	**Pn**	**01 21 23.4**	**+3.1**
comp=N,3.0nm,0.3s,baz=243,slow=11,SNR=171							
CFAA				S	**Sb**	**01 22 03.5**	**-1.5**
comp=N,5.2nm,0.3s,baz=45,slow=12,SNR=5.6							
LCO	**Las Campanas**	**3.50**	**16**	*e*Pn	**Pn**	**01 21 26.9**	**+1.1**
LCO				*e*S	**Sn**	**01 22 07.0**	**+0.4**
LCO	**Las Campanas**	**3.50**	**16**	AML	AML	01 22 29.8	
comp=E,434nm,0.5s							
LCO				AML	AML	01 22 29.8	
comp=E,418nm,0.6s							
PLCA	**Paso Flores**	**8.38**	**174**	P	Pn	01 22 42.5	+10
PLCA	**Paso Flores**	**8.38**	**174**	P	Pn	01 22 42.5	+10
comp=E,0.6nm,0.3s,baz=332,slow=11,SNR=5.0							
TRQA	**Tornquist**	**9.80**	**128**	*e*Pn	**Pn**	**01 22 53.8**	**+1.7**
comp=E,22nm,1.3s							
LVC	**Limon Verde**	**10.08**	**15**	*e*Pn	**Pn**	**01 22 56.4**	**+0.4**
CPUP	**Villa Florida**	**13.97**	**68**	P	**Pn**	**01 23 48.9**	**-0.2**
CPUP				S	**Sn**	**01 26 26.4**	**+3.0**
CPUP	**Villa Florida**	**13.97**	**68**	P	**Pn**	**01 23 48.9**	**-0.2**
comp=E,0.4nm,0.3s,baz=248,slow=16,SNR=2.8							
CPUP				S	**Sn**	**01 26 26.4**	**+3.0**
comp=E,0.3nm,0.3s,baz=291,slow=3.4,SNR=2.8							
LPAZ	**La Paz**	**16.38**	**13**	*e*Pn	**Pn**	**01 24 22.2**	**+0.6**
comp=E,2.4nm,0.8s							
LPAZ				pP	pP	01 24 37.5	+6.4
LPAZ	**La Paz**	**16.38**	**13**	P	**Pn**	**01 24 22.0**	**+0.4**
comp=E,0.3nm,0.3s,baz=180,slow=8.0,SNR=8.4							
LPAZ				pP	pP	01 24 37.5	+6.4
comp=E,0.1nm,0.3s,baz=212,slow=8.2,SNR=5.2							
SIV	**San Ignacio**	**19.01**	**33**	P	**P**	**01 24 52.1**	**-0.6**
SIV	**San Ignacio**	**19.01**	**33**	P	**P**	**01 24 52.1**	**-0.6**
comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=3.9							
EFI	**East Falkland**	**21.72**	**156**	*e*P	**P**	**01 25 21.2**	**-0.6**
comp=E,57nm,0.9s							
SAML	**Samuel**	**24.66**	**21**	*e*P	**P**	**01 25 52.0**	**+0.4**
comp=E,1.5nm,0.4s							
ATAH	**Atahualpa**	**25.88**	**345**	pP	pP	01 26 20.1	+10
ATAH	**Atahualpa**	**25.88**	**345**	pP	pP	01 26 20.1	+10
comp=E,5.4nm,0.7s,baz=60,slow=4.2,SNR=3.6							
BDFB	**Brasilia**	**27.28**	**58**	P	**P**	**01 26 14.4**	**-1.0**
BDFB	**Brasilia**	**27.28**	**58**	P	**P**	**01 26 14.4**	**-1.0**
comp=E,2.8nm,0.7s,baz=245,slow=2.6,SNR=5.6							
BDFB				LR	LR	01 38 35.8	
comp=E,50nm,21.4s,baz=134,slow=40							
TXAR	**Lajitas Array**	**68.45**	**330**	P	**P**	**01 31 32.8**	**+0.1**
TXAR	**Lajitas Array**	**68.45**	**330**	P	**P**	**01 31 32.8**	**+0.1**
comp=E,0.2nm,0.7s,baz=146,slow=8.3,SNR=3.7							
DBIC	**Dimbokro**	**74.47**	**72**	P	**P**	**01 32 09.1**	**-0.1**
DBIC	**Dimbokro**	**74.47**	**72**	P	**P**	**01 32 09.1**	**-0.1**
comp=E,5.5nm,1.0s,baz=248,slow=4.1,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**01 32 58.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**01 32 58.3**	**-0.2**
comp=E,2.2nm,0.8s,baz=278,slow=5.3,SNR=17							
WRA	**Warramunga Arr**	**122.26**	**209**	PKP	**PKPdf**	**01 39 25.5**	**-0.5**
WRA	**Warramunga Arr**	**122.26**	**209**	PKP	**PKPdf**	**01 39 25.5**	**-0.5**
comp=E,0.6nm,0.9s,baz=156,slow=1.9,SNR=3.0							
ZALV	**Zalesovo Beam**	**152.75**	**31**	PKPbc	**PKPbc**	**01 40 27.1**	**+0.3**
ZALV				PKPab	**PKPab**	**01 40 35.9**	**-1.8**
ZALV	**Zalesovo Beam**	**152.75**	**31**	PKPbc	**PKPbc**	**01 40 27.1**	**+0.3**
comp=E,2.2nm,0.5s,baz=307,slow=3.6,SNR=9.2							
ZALV				PKPab	**PKPab**	**01 40 35.9**	**-1.8**
comp=E,0.9nm,0.4s,baz=320,slow=4.9,SNR=3.9							
MKAR	**Makanchi Array**	**155.53**	**46**	PKPab	**PKPab**	**01 40 49.9**	**+0.1**
MKAR	**Makanchi Array**	**155.53**	**46**	PKPab	**PKPab**	**01 40 49.9**	**+0.1**
comp=E,0.4nm,0.5s,baz=273,slow=2.4,SNR=4.2							

IDC 06 01:35:48.4±12.0, 38°.15S×137°.37E, h0km, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=152.2km s-min=67.1km az=163.0, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**7.15**	**30**	Pn	Pn	01 37 34.9	+0.6
0.8nm,0.3s,baz=210,slow=13,SNR=9.7							
STKA				Sn	Sn	01 38 56.0	-0.3
0.5nm,0.3s,baz=110,slow=15,SNR=2.5							
ASAR	**Alice Springs**	**14.73**	**347**	Pn	Pn	01 39 19.9	+1.6
0.2nm,0.3s,baz=174,slow=10,SNR=7.2							
WRA	**Warramunga Arr**	**18.33**	**351**	P	Pn	01 40 03.1	-1.1
0.1nm,0.3s,baz=176,slow=11,SNR=5.5							

*NIED **06** 01:52:00, 46°.90N×153°.90E, h32km, Mw4.0 Best double couple: Mo1.29000×10^15 NP1:φs229.00000°, δ64.00000°, λ145.00000°. NP2:φs337.00000°, δ59.00000°, λ31.00000°.*
*ISCJB **06** 01:52:51.4±0.4, 47°.31N±0°.07×153°.36E±0°.09, h31km, mb4.1/37, MS3.3/8, Error ellipse: s-maj=12.2km s-min=4.0km az=140.6*
*MOS **06** 01:52:52.1±1.0, 47°.33N×153°.15E, h38km, mb4.3/14, Error ellipse: s-maj=14.9km s-min=8.5km az=78.2*
*JMA **06** 01:52:53.5±0.8, 46°.93N×153°.89E, h30km, M4.5*
*IDC **06** 01:52:56.2±0.6, 47°.36N×153°.22E, h58km±6km, mb3.6/20, mb1 3.9/23, mb1mx3.8/31, mbtmp3.7/23, MS3.1/11, Ms1 3.1/11, ms1mx3.0/29, Error ellipse: s-maj=18.2km s-min=12.2km az=137.0*
ISC 06 01:52:52.9±0.6, 47°.25N±0°.09×153°.46E±0°.08, h31km, n86, σ1s60/84, mb4.2/37, MS3.4/8, 2C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.86**	**26**	*e*PN	**Pn**	**01 53 48.0**	**-2.0**
SKR				pmax	pmax		
comp=Z,40nm,0.5s							
KUR	**Kuril'sk**	**4.37**	**245**	⇑*i*PN	Pn	01 54 01.3	+4.2
KUR				*e*S	**Sn**	**01 54 51.1**	**+4.2**
KUR				pmax	pmax		
comp=E,27nm,0.1s							
KUR				pmax	pmax		
comp=E,33nm,0.1s							
KUR				pmax	pmax		
comp=Z,49nm,0.3s							
KUR				smax	smax		
comp=N,127nm,0.4s							
KUR				smax	smax		
comp=E,112nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**6.22**	**242**	⇑*i*PN	Pn	01 54 26.2	+3.7
YUK				*i*S	**Sn**	**01 55 37.9**	**+5.4**
YUK				pmax	pmax		
comp=E,21nm,0.1s							
YUK				pmax	pmax		
comp=Z,60nm,0.3s							
YUK				pmax	pmax		
comp=N,17nm,0.3s							
YUK				smax	smax		
comp=E,113nm,0.7s							
YUK				smax	smax		
comp=N,74nm,0.7s							
PETK	**Petropavlovsk-**	**6.47**	**23**	PN	**Pn**	**01 54 28.7**	**+2.9**
PETK				S	Sb	01 55 49.9	-11
PETK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**6.47**	**23**	P	**Pn**	**01 54 28.7**	**+2.9**
comp=Z,1.1nm,0.3s,baz=185,slow=14,SNR=16							
PETK				S	Sb	01 55 49.9	-11
baz=192,slow=18,SNR=1.9							
PETK				LR	LR	01 57 10.9	
comp=Z,54nm,21.4s,baz=98,slow=40							
PET	**Petropavlovsk**	**6.67**	**28**	*e*PN	Pn	01 54 36.4	+7.7
NEM2	**Nemuro 2**	**6.68**	**237**	P	**Pn**	**01 54 29.7**	**+0.9**
NEM2				*e*S	**Sn**	**01 55 40.5**	**-3.4**
JNK	**Nakash**	**7.16**	**242**	P	**Pn**	**01 54 37.7**	**+2.3**
JNK				*e*S	**Sn**	**01 55 56.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.31**	**272**	*e*PN	Pn	01 54 43.0	+5.5
YSS				*e*S	**Sn**	**01 56 03.0**	**+3.6**
YSS				pmax	pmax		
comp=Z,60nm,0.5s							
YSS				MLR	MLR		
comp=Z,500nm,16.0s							
JTKR	**Abashiri--Toko**	**7.46**	**247**	P	Pn	01 54 45.6	+6.2
JAK	**Akkeshi**	**7.51**	**239**	P	**Pn**	**01 54 41.2**	**+1.0**
JMP	**Marusepju**	**7.79**	**249**	P	Pn	01 54 50.1	+6.1
JAR	**Ashorobuto**	**7.89**	**243**	P	Pn	01 54 48.6	+3.1
JAR				*e*S	**Sn**	**01 56 15.1**	**+1.4**
JOB	**Onbets**	**8.08**	**241**	P	**Pn**	**01 54 50.4**	**+2.4**
JOB				*e*S	**Sn**	**01 56 16.1**	**-2.1**
ASAJ	**Asahikawa**	**8.23**	**252**	P	Pn	01 54 54.3	+4.3
comp=Z,1.3nm,0.3s,baz=57,slow=29,SNR=4.5							
ASAJ				LR	LR	01 57 58.3	
comp=Z,110nm,18.2s,baz=21,slow=37							
JWK2	**Keihoku**	**8.24**	**261**	P	Pn	01 54 56.9	+6.7
JCH	**Churui**	**8.53**	**241**	P	**Pn**	**01 54 55.7**	**+1.5**
JCH				*e*S	**Sn**	**01 56 26.0**	**-3.3**
ERM	**Erimo**	**9.02**	**238**	*e*PN	**Pn**	**01 54 59.7**	**-1.1**
JNBK	**Urakawa-nobuka**	**9.09**	**241**	P	**Pn**	**01 55 02.9**	**+1.0**
JNBK				*e*S	**Sn**	**01 56 39.3**	**-3.8**
JKB	**Kayabe**	**10.36**	**243**	P	**Pn**	**01 55 19.1**	**-0.1**
JKB				*e*S	Sn	01 57 06.9	-7.2
JANG	**Nango**	**11.03**	**236**	P	Pn	01 55 25.9	-2.5
JOSM	**Okushiri--Mats**	**11.21**	**248**	P	**Pn**	**01 55 31.6**	**+0.7**
FX1	**Attu Island--F**	**13.84**	**59**	P	**Pn**	**01 56 08.6**	**+1.9**
comp=Z,1.7nm,0.3s,baz=268,slow=23,SNR=13							
FX1				S	Sn	01 58 28.7	-10
comp=Z,0.7nm,0.3s,baz=58,slow=19,SNR=5.0							
FX1				LR	LR	02 01 40.8	
comp=Z,33nm,18.2s,baz=227,slow=38							
USRK	**Ussuriysk Arra**	**15.30**	**266**	P	**Pn**	**01 56 27.9**	**+1.5**
comp=Z,0.5nm,0.3s,baz=68,slow=12,SNR=9.4							
MAJO	**Matsushiro**	**15.57**	**232**	*e*P	**Pn**	**01 56 28.2**	**-1.9**
MJAR	**Matsushiro Arr**	**15.57**	**232**	P	**P**	**01 56 35.4**	**+1.3**
comp=Z,0.4nm,0.3s,baz=28,slow=9.7,SNR=4.3							
MJAR				LR	LR	02 02 09.0	
comp=Z,79nm,20.5s,baz=185,slow=36							
VLA	**Vladivostok**	**15.75**	**263**	*i*P	**Pn**	**01 56 33.0**	**+0.7**
CLNS	**Chul'man**	**19.88**	**309**	*e*P	**P**	**01 57 19.8**	**-1.6**
CLNS				pmax	pmax		
comp=Z,10.0nm,1.0s							
CLNS				pmax	pmax		
comp=N,7.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,6.0nm,0.9s							
KSRS	**Korea Array**	**21.18**	**252**	P	**P**	**01 57 35.9**	**+0.4**
comp=E,2.2nm,0.8s,baz=55,slow=11,SNR=7.9							
KSRS				LR	LR	02 04 35.3	
comp=E,37nm,20.9s,baz=60,slow=33							

AKASG	**Malin Array Be**	71.26 326	P		**P**	02 04 06.7	-2.1
AKASG	**Malin Array Be**	71.26 326	P		**P**	02 04 06.7	-2.1
	comp=Z,1.0nm,0.4s,baz=34,slow=7.4,SNR=5.8						
ASAR	**Alice Springs**	72.76 199	P		**P**	02 04 18.6	+0.7
	comp=Z,1.4nm,0.8s,baz=11,slow=6.8,SNR=11						
ASAR			pP		**PcP**	02 04 34.5	-0.6
	comp=Z,1.3nm,0.8s,baz=8.7,slow=6.3,SNR=5.9						
OKC	**Ostrava-Krasne**	75.86 332	*i* P		**P**	02 04 36.4	+0.6
OKC	**Ostrava-Krasne**	75.86 332	⇓*i* P		**P**	02 04 36.4	+0.6
CLL	**Collm**	76.11 336	⇓*i* P		**P**	02 04 36.1	-1.1
CLL			pmax		pmax		
	comp=Z,6.0nm,1.0s						
CLL	**Collm**	76.11 336	⇓*i* P		**P**	02 04 36.1	-1.1
	comp=Z,6.0nm,1.0s						
BRG	**Berggiesshubel**	76.23 335	*e* P		**P**	02 04 37.6	-0.3
	comp=Z,3.1nm,1.1s						
BRG	**Berggiesshubel**	76.23 335	*e* P		**P**	02 04 37.6	-0.3
BRG			pmax		pmax		
	comp=Z,3.0nm,1.1s						
PRU	**Pruhonice**	76.84 334	*i* P		**P**	02 04 41.1	-0.3
PRU	**Pruhonice**	76.84 334	⇓*i* P		**P**	02 04 41.1	-0.3
TXAR	**Lajitas Array**	77.04 61	P		**P**	02 04 43.7	+0.7
	comp=Z,0.4nm,0.6s,baz=304,slow=5.8,SNR=8.2						
TXAR			pP		PcP	02 04 59.6	+5.7
	comp=Z,1.9nm,0.7s,baz=298,slow=4.5,SNR=13						
NKC	**Novy Kostel**	77.23 336	*i* P		**P**	02 04 43.0	-0.6
NKC	**Novy Kostel**	77.23 336	⇓*i* P		**P**	02 04 43.0	-0.6
KHC	**Kasperske Hory**	77.89 334	*i* P		**P**	02 04 46.7	-0.7
KHC	**Kasperske Hory**	77.89 334	*i* P		**P**	02 04 46.7	-0.7
GERES	**GERESS Array B**	78.11 334	P		**P**	02 04 47.2	-1.4
	comp=Z,0.3nm,0.3s,baz=45,slow=5.8,SNR=6.9						
BRTR	**Keskin Array B**	78.19 317	P		**P**	02 04 48.2	-1.1
	comp=Z,0.6nm,0.6s,baz=38,slow=2.2,SNR=5.0						
CDF	**Champ du Feu**	80.28 338	*e* P		**P**	02 04 59.7	-0.8
	comp=Z,14nm,1.1s						
PAGF	**Fort de Pagny**	80.54 339	*e* P		**P**	02 05 01.5	-0.3
	comp=Z,2.9nm,0.7s						
HAU	**Haudompre**	80.90 338	*e* P		**P**	02 05 02.8	-0.9
	comp=Z,8.5nm,1.0s						
SFTF	**Sexfontaines**	81.03 339	*e* P		**P**	02 05 03.8	-0.6
	comp=Z,11nm,0.8s						
LOR	**Lormes**	82.19 340	*e* P		**P**	02 05 09.6	-1.0
	comp=Z,5.8nm,0.8s						
SSF	**Saint Saulge**	82.47 340	*e* P		**P**	02 05 11.1	-0.9
	comp=Z,2.8nm,0.7s						
MMAI	**Mount Meron Ar**	82.66 312	P		**P**	02 05 13.3	0.0
	comp=Z,2.0nm,0.5s,baz=40,slow=7.9,SNR=9.8						
AVF	**Avril sur Loir**	82.76 340	*e* P		**P**	02 05 12.8	-0.7
SMF	**Signal de Mont**	82.78 339	*e* P		**P**	02 05 13.0	-0.6
	comp=Z,14nm,1.2s						
LPL	**La Plagne**	83.11 337	*e* P		**P**	02 05 15.5	-0.1
	comp=Z,8.3nm,1.0s						
LPG	**La Plagne**	83.12 337	*e* P		**P**	02 05 15.7	-0.1
ORIF	**Oris-en-Rattie**	83.88 337	*e* P		**P**	02 05 19.4	-0.1
	comp=Z,9.2nm,1.1s						
SBF	**Sospel**	84.44 336	*e* P		**P**	02 05 21.2	-1.1
	comp=Z,19nm,1.1s						
LMR	**La Mourre**	85.19 336	*e* P		**P**	02 05 25.3	-0.6
	comp=Z,15nm,1.1s						
EIL	**Elat**	85.55 310	P		**P**	02 05 27.8	-0.2
	comp=Z,2.7nm,0.6s,baz=17,slow=8.3,SNR=3.8						

*IDC **06** 02:21:56.6±0.8, 32°.28N×130°.54E, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.8/27, mbtmp3.8/12, ML3.6/2, MS3.4/11, Ms1 3.4/11, ms1mx3.2/34, Error ellipse: s-maj=20.4km s-min=9.8km az=108.0*

*ISCJB **06** 02:21:57.4±0.5, 32°.32N±0°.03×130°.54E±0°.04, h13km±3km, mb3.7/11, MS3.5/8, Error ellipse: s-maj=5.2km s-min=4.3km az=1.9*

*JMA **06** 02:21:57.6, 32°.32N×130°.53E, h7km±1km, M4.3*

JMA Felt III J1.

*NIED **06** 02:22:00, 32°.30N×130°.50E, h5km, Mw4.2 Best double couple: M0=2.01000×10^15 NP1:φ=212.00000°, δ=84.00000°, λ=-153.00000°. NP2:φ=119.00000°, δ=63.00000°, λ=-7.00000°.*

ISC 06 02:21:58.2±1.0, 32°.31N±0°.03×130°.52E±0°.03, h7km±7km, n29, σ0°99/31, mb3.8/11, MS3.5/8, 4C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	0.18	158	⇑P	**Pg**	02 22 01.5	-0.4
JZO				S	**Sg**	02 22 04.4	+0.1
JIU2	**Izumi 2**	0.34	46	⇓P	**Pg**	02 22 04.0	-0.9
JIU2				S	**Sg**	02 22 08.9	-0.6
JHD	**Hondo**	0.36	296	P	**Pg**	02 22 05.1	-0.1
JHD				S	**Sg**	02 22 10.4	+0.4
JTZ	**Takazaki**	0.63	130	⇑P	**Pg**	02 22 10.2	-0.1
JTZ				eS	**Sg**	02 22 18.4	-0.1
JTA	**Tamana**	0.66	1	⇑P	**Pg**	02 22 10.1	-0.7
JTA				eS	**Sg**	02 22 18.9	-0.5
JSU	**Suzuyama**	0.80	184	⇑P	**Pg**	02 22 13.1	-0.5
JSU				S	**Sg**	02 22 24.0	0.0
JTSN	**Tsuno**	0.84	94	⇓P	**Pg**	02 22 13.7	-0.6
JNU	**Nakatsue**	0.87	20	Pg	**Pg**	02 22 14.0	-0.8
	430nm,0.3s,baz=197,slow=8.8,SNR=1782						
JNU				Lg	Lg	02 22 25.5	
	5μm,0.3s,baz=114,slow=18,SNR=106						
JSJ	**Shimokoshiki**	0.93	228	⇓P	**Pg**	02 22 15.2	-0.8
KSRS	**Korea Array**	5.56	338	Pn	**Pn**	02 23 22.6	+1.3
	0.8nm,0.3s,baz=154,slow=14,SNR=8.9						
KSRS				Pg	Pb	02 23 39.3	+3.8
	1.9nm,0.3s,baz=154,slow=18,SNR=11						
KSRS				Lg	Lg	02 24 47.8	
	2.9nm,0.3s,baz=148,slow=32,SNR=5.7						
KSRS				LR	LR	02 25 52.5	
	comp=Z,149nm,18.8s,baz=340,slow=42						
MAT	**Matsushiro**	7.63	54	P	**Pn**	02 23 50.8	+1.1
MAT				S	**Sn**	02 25 15.2	-1.2
MJAR	**Matsushiro Arr**	7.63	54	Pn	**Pn**	02 23 50.7	+0.9
	1.7nm,0.3s,baz=241,slow=14,SNR=17						
MJAR				Sn	**Sn**	02 25 17.4	+1.0
	baz=234,slow=18,SNR=1.8						
MJAR				Lg	Lg	02 25 55.3	
	0.6nm,0.3s,baz=229,slow=35,SNR=3.8						
MJAR				LR	LR	02 26 42.3	
	comp=Z,209nm,19.6s,baz=295,slow=37						
USRK	**Ussuriysk Arra**	11.93	5	Pn	**Pn**	02 24 51.3	+2.7
	0.2nm,0.3s,baz=188,slow=19,SNR=6.6						
USRK				LR	LR	02 29 30.3	
	comp=Z,127nm,18.0s,baz=59,slow=38						
SONM	**Songino Array**	23.97 317	P		**P**	02 27 13.7	+0.5
	1.3nm,0.8s,baz=134,slow=8.8,SNR=6.3						
SONM				LR	LR	02 37 46.3	
	comp=Z,100nm,20.1s,baz=119,slow=40						
PETK	**Petropavlovsk-**	28.54	35	LR	LR	02 38 28.2	
	comp=Z,29nm,20.6s,baz=244,slow=35						
CMAR	**Chiang Mai Arr**	31.55	252	P	**P**	02 28 20.6	-0.7
	0.6nm,0.4s,baz=75,slow=7.4,SNR=4.4						
ZALV	**Zalesovo Beam**	38.87	318	LR	LR	02 46 29.6	
	comp=Z,61nm,18.2s,baz=68,slow=38						
MKAR	**Makanchi Array**	39.28	306	P	**P**	02 29 28.8	+1.3
	0.5nm,0.8s,baz=96,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	52.08	175	P	**P**	02 31 07.4	-1.5
	1.0nm,1.0s,baz=353,slow=7.9,SNR=11						
ASAR	**Alice Springs**	55.75	176	P	**P**	02 31 35.8	+0.1
	1.0nm,0.5s,baz=5.8,slow=8.1,SNR=14						
ILAR	**Eielson Array**	58.17	30	P	**P**	02 31 52.9	+0.5
	0.3nm,0.8s,baz=298,slow=7.9,SNR=3.9						
ARCES	**ARCESS Array B**	65.12	338	LR	LR	03 06 15.5	
	comp=Z,48nm,18.3s,baz=240,slow=41						
GNI	**Garni**	67.08	304	LR	LR	03 05 24.9	
	comp=Z,26nm,20.1s,baz=80,slow=39						
FINES	**FINESS Array B**	68.59	330	P	**P**	02 33 00.1	-1.3
	0.7nm,0.6s,baz=81,slow=8.6,SNR=5.8						
FINES				LR	LR	03 05 48.3	
	comp=Z,38nm,19.1s,baz=215,slow=38						
AKASG	**Malin Array Be**	72.24	319	P	**P**	02 33 22.6	-1.3
	0.4nm,0.5s,baz=53,slow=6.2,SNR=3.2						
HFS	**Hagfors**	74.38	332	LR	LR	03 10 06.1	
	comp=Z,29nm,18.0s,baz=201,slow=39						
NOA	**NORSAR Array B**	74.76	334	P	P	02 33 34.8	-3.8
	0.6nm,0.7s,baz=48,slow=5.9,SNR=4.5						
NOA				LR	LR	03 11 43.9	
	comp=Z,34nm,18.2s,baz=50,slow=40						
NVAR	**Mina Array Bea**	84.89	47	P	**P**	02 34 34.1	-0.1
	0.5nm,0.5s,baz=292,slow=4.8,SNR=2.5						
PDAR	**Pinedale Array**	87.20	40	P	**P**	02 34 44.6	-0.9
	0.4nm,0.7s,baz=316,slow=2.5,SNR=4.1						

*ISCJB **06** 02:54:26.6±0.4, 36°.64N±0°.03×26°.91E±0°.03, h142km±4km, mb3.3/3, Error ellipse: s-maj=5.6km s-min=3.3km az=164.7*

*CSEM **06** 02:54:27.8±0.2, 36°.65N×26°.92E, h134km±3km, MD2.7, Error ellipse: s-maj=4.6km s-min=2.9km az=160.0*

*IDC **06** 02:54:27.5±3.2, 36°.62N×26°.98E, h146km±36km, mb3.1/3, mb1 3.1/6, mb1mx2.9/28, mbtmp3.1/6, Error ellipse: s-maj=33.6km s-min=21.1km az=122.0*

*ISK **06** 02:54:28.3, 36°.77N×27°.03E, h140km, MD2.7*

*THE **06** 02:54:30.7, 36°.66N×26°.85E, h142km±5km, ML3.5/1, Error ellipse: s-maj=6.1km s-min=1.0km az=137.0*

*ATH **06** 02:54:30.1, 36°.65N×26°.83E, h91km±4km*

*DDA **06** 02:54:32.0, 36°.58N×27°.44E, h10km, MD2.8*

ISC 06 02:54:27.0±0.8, 36°.68N±0°.03×26°.92E±0°.03, h139km±5km, n106, σ1°48/161, mb3.3/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	0.49	39	*e*PG	**Pn**	02 54 47.8	+0.7
BODT				*e*SG	**Sn**	02 55 03.2	+0.8
BODT	**Bodrum**	0.49	39	*e*Pg	**Pn**	02 54 47.8	+0.7
BODT				*e*Sg	**Sn**	02 55 03.2	+0.8
DAT	**Datca**	0.53	84	*e*PG	**Pn**	02 54 48.2	+0.8
DAT				*e*SG	**Sn**	02 55 03.2	+0.4
DAT	**Datca**	0.53	84	*e*Pg	**Pn**	02 54 48.2	+0.8
DAT				*e*Sg	**Sn**	02 55 03.2	+0.4
BDRM	**Kayabasi**	0.57	47	*i* P	**Pn**	02 54 48.4	+0.9
BDRM				*i* S	**Sn**	02 55 03.7	+0.6
BDRM	**Kayabasi**	0.57	47	*i* P	**Pn**	02 54 48.4	+0.9
BDRM				*i* S	**Sn**	02 55 03.7	+0.6
MLSB	**Milas**	0.92	48	*e*PG	**Pn**	02 54 50.6	+0.5
MLSB	**Milas**	0.92	48	*e*Pg	**Pn**	02 54 50.6	+0.5
SMG	**Samos**	1.03	356	P	**Pn**	02 54 51.8	+0.8
SMG	**Samos**	1.03	356	*e*P	**Pn**	02 54 51.8	+0.8
SMG				*e*S	**Sn**	02 55 06.2	-3.1
SMG	**Samos**	1.03	356	P	**Pn**	02 54 51.8	+0.8
SMG				*e*S	**Sn**	02 55 06.2	-3.1
ARG	**Arkhangelos**	1.08	115	P	**Pn**	02 54 52.7	+1.3
ARG				S	**Sn**	02 55 10.7	+0.7
ARG	**Arkhangelos**	1.08	115	*e*P	**Pn**	02 54 52.6	+1.2
ARG				*e*S	**Sn**	02 55 08.3	-1.7
ARG	**Arkhangelos**	1.08	115	*e*P	**Pn**	02 54 52.6	+1.2
ARG				S	**Sn**	02 55 10.7	+0.7
KARP	**Karpathos**	1.15	170	P	**Pn**	02 54 53.0	+0.8
KARP				S	**Sn**	02 55 11.7	+0.4
KARP	**Karpathos**	1.15	170	*e*P	**Pn**	02 54 52.5	+0.3
KARP				*e*S	**Sn**	02 55 07.8	-3.5
KARP	**Karpathos**	1.15	170	P	**Pn**	02 54 53.0	+0.8
KARP				S	**Sn**	02 55 11.7	+0.4
APE	**Apeiranthos**	1.18	290	*e*PN	**Pn**	02 54 55.3	+2.9
APE	**Apeiranthos**	1.18	290	P	**Pn**	02 54 53.3	+0.9
APE	**Apeiranthos**	1.18	290	*e*P	**Pn**	02 54 53.3	+0.9
APE				*e*S	**Sn**	02 55 08.4	-3.4
APE	**Apeiranthos**	1.18	290	P	**Pn**	02 54 53.3	+0.9
APE	**Apeiranthos**	1.18	290	*e*Pn	**Pn**	02 54 55.3	+2.9
APE				*e*S	**Sn**	02 55 08.4	-3.4
YER	**Yerkesik**	1.19	67	*e*PG	**Pn**	02 54 53.4	+0.9
YER	**Yerkesik**	1.19	67	*e*Pg	**Pn**	02 54 53.4	+0.9
SANT	**Santorini**	1.21	256	*e*P	**Pn**	02 54 53.1	+0.3
SANT	**Santorini**	1.21	256	*e*P	**Pn**	02 54 53.1	+0.3
THR1	**Thera Island**	1.21	256	P	**Pn**	02 54 54.0	+1.2
THR1	**Thera Island**	1.21	256	P	**Pn**	02 54 54.0	+1.2
AYDN	**Tasoluk**	1.25	38	*i* P	**Pn**	02 54 54.3	+1.2
AYDN				*i* S	**Sn**	02 55 13.3	+0.2
AYDN	**Tasoluk**	1.25	38	*i* P	**Pn**	02 54 54.3	+1.2
AYDN				*i* S	**Sn**	02 55 13.3	+0.2
THR3	**Thira Island,**	1.25	258	P	**Pn**	02 54 54.4	+1.3
THR3	**Thira Island,**	1.25	258	P	**Pn**	02 54 54.4	+1.3
THR6	**Thira Island,**	1.27	256	P	**Pn**	02 54 54.2	+1.0
THR6	**Thira Island,**	1.27	256	P	**Pn**	02 54 54.2	+1.0
TURN	**Turunc**	1.37	81	*i* P	**Pn**	02 54 52.2	-2.0
TURN				*i* S	**Sn**	02 55 09.7	-5.3
TURN	**Turunc**	1.37	81	*i* P	**Pn**	02 54 52.2	-2.0
DALY	**Dalyan (Mu¨la**	1.40	84	*e*PN	**Pn**	02 54 55.7	+1.1
DALY	**Dalyan (Mu¨la**	1.40	84	*e*Pn	**Pn**	02 54 55.7	+1.1
ZKR	**Zakros**	1.66	200	P	**Pn**	02 54 58.6	+1.0
ZKR				S	**Sn**	02 55 21.4	+0.5
ZKR	**Zakros**	1.66	200	*e*P	**Pn**	02 54 58.8	+1.2
ZKR				*e*S	**Sn**	02 55 18.7	-2.2
ZKR	**Zakros**	1.66	200	P	**Pn**	02 54 58.6	+1.0
ZKR				S	**Sn**	02 55 21.4	+0.5
FETY	**Fethiye**	1.74	91	*e*PN	**Pn**	02 54 59.4	+1.0
FETY	**Fethiye**	1.74	91	*e*Pn	**Pn**	02 54 59.4	+1.0
NPS	**Neapolis**	1.77	217	P	**Pn**	02 54 59.4	+0.6
NPS				S	**Sn**	02 55 22.5	-0.5
NPS	**Neapolis**	1.77	217	*e*P	**Pn**	02 54 59.6	+0.8
NPS				*e*S	**Sn**	02 55 21.1	-1.9
NPS	**Neapolis**	1.77	217	*e*P	**Pn**	02 54 59.6	+0.8
NPS				S	**Sn**	02 55 22.5	-0.5
CHOS	**Chios island**	1.84	338	P	**Pn**	02 55 00.7	+1.1
CHOS	**Chios island**	1.84	338	*e*P	**Pn**	02 55 01.6	+2.0
CHOS	**Chios island**	1.84	338	P	**Pn**	02 55 00.7	+1.1
LAST	**Lasithi**	1.91	218	P	**Pn**	02 55 00.8	+0.3
LAST				S	**Sn**	02 55 25.9	-0.3
LAST	**Lasithi**	1.91	218	*e*P	**Pn**	02 55 01.3	+0.8
LAST				*e*S	**Sn**	02 55 25.1	-1.1
LAST	**Lasithi**	1.91	218	*e*P	**Pn**	02 55 01.3	+0.8
LAST				S	**Sn**	02 55 25.9	-0.3
IDI	**Anoyia**	2.15	230	P	**Pn**	02 55 03.8	+0.4
IDI				S	**Sn**	02 55 30.2	-1.0
IDI	**Anoyia**	2.15	230	*e*P	**Pn**	02 55 04.0	+0.6
IDI				*e*S	**Sn**	02 55 30.3	-1.0
IDI	**Anoyia**	2.15	230	*e*P	**Pn**	02 55 04.0	+0.6
IDI				*e*S	**Sn**	02 55 30.3	-1.0
GOLH	**Golhisar**	2.19	74	*i* P	**Pn**	02 55 05.2	+1.4
GOLH				*i* S	**Sn**	02 55 31.2	-0.9
GOLH	**Golhisar**	2.19	74	*i* P	**Pn**	02 55 05.2	+1.4
GOLH				*i* S	**Sn**	02 55 31.2	-0.9
AKAS	**Kas**	2.21	101	*i* P	**Pn**	02 55 04.9	+0.8
AKAS				*i* S	**Sn**	02 55 31.3	-1.3
AKAS	**Kas**	2.21	101	*i* P	**Pn**	02 55 04.9	+0.8
AKAS				*i* S	**Sn**	02 55 31.3	-1.3
SIVA	**Sivas**	2.38	227	P	**Pn**	02 55 07.4	+1.3
SIVA				S	**Sn**	02 55 36.5	+0.3
SIVA	**Sivas**	2.38	227	*e*P	**Pn**	02 55 07.4	+1.3
SIVA				*e*S	**Sn**	02 55 35.0	-1.2
SIVA	**Sivas**	2.38	227	P	**Pn**	02 55 07.4	+1.3
SIVA				S	**Sn**	02 55 36.5	+0.3
ELL	**Elmali**	2.40	87	*e*PN	**Pn**	02 55 07.5	+1.0
ELL	**Elmali**	2.40	87	*e*Pn	**Pn**	02 55 07.5	+1.0
VAM	**Vamos**	2.54	241	P	**Pn**	02 55 09.1	+1.0
VAM				S	**Sn**	02 55 38.6	-1.1
VAM	**Vamos**	2.54	241	*e*P	**Pn**	02 55 09.2	+1.1
VAM	**Vamos**	2.54	241	*e*P	**Pn**	02 55 09.2	+1.1
VAM				S	**Sn**	02 55 38.6	-1.1
KHAL	**Karahalli**	2.65	50	*i* P	**Pn**	02 55 10.4	+0.8
KHAL	**Karahalli**	2.65	50	*i* P	**Pn**	02 55 10.4	+0.8
ANKY	**Antikythira Is**	3.03	256	P	**Pn**	02 55 13.9	-0.4
ANKY				S	**Sn**	02 55 48.8	-2.1
ANKY	**Antikythira Is**	3.03	256	P	**Pn**	02 55 13.9	-0.4
ANKY				S	**Sn**	02 55 48.8	-2.1
DID	**Didima**	3.06	287	P	**Pn**	02 55 15.8	+1.1
DID	**Didima**	3.06	287	P	**Pn**	02 55 15.8	+1.1
DIDY	**Didyma**	3.07	286	P	**Pn**	02 55 15.6	+0.7
DIDY	**Didyma**	3.07	286	P	**Pn**	02 55 15.6	+0.7
KYTH	**Kithira**	3.15	264	P	**Pn**	02 55 17.1	+1.2
KYTH				S	**Sn**	02 55 53.5	-0.2
KYTH	**Kithira**	3.15	264	*e*P	**Pn**	02 55 17.3	+1.4
KYTH	**Kithira**	3.15	264	P	**Pn**	02 55 17.1	+1.2
KYTH				S	**Sn**	02 55 53.5	-0.2
VLI	**Veliai**	3.20	272	P	**Pn**	02 55 17.4	+0.9
VLI				S	**Sn**	02 55 53.2	-1.5
VLI	**Veliai**	3.20	272	*e*P	**Pn**	02 55 18.1	+1.6
VLI	**Veliai**	3.20	272	P	**Pn**	02 55 17.4	+0.9
VLI				S	**Sn**	02 55 53.2	-1.5
DYR	**Agios Nikonas**	3.68	273	P	**Pn**	02 55 25.2	+2.4
DYR	**Agios Nikonas**	3.68	273	P	**Pn**	02 55 25.2	+2.4
VLX	**Vlachokerasia**	3.70	282	P	**Pn**	02 55 24.1	+1.1
VLX				S	**Sn**	02 56 05.8	-0.7
VLX	**Vlachokerasia**	3.70	282	P	**Pn**	02 55 24.1	+1.1
VLX				S	**Sn**	02 56 05.8	-0.7
GUR	**Goura**	3.86	290	P	**Pn**	02 55 26.9	+1.8
GUR	**Goura**	3.86	290	P	**Pn**	02 55 26.9	+1.8
DSF	**Desfina**	3.89	298	P	**Pn**	02 55 26.9	+1.3
DSF	**Desfina**	3.89	298	P	**Pn**	02 55 26.9	+1.3
ITM	**Ithomi**	4.03	279	P	**Pn**	02 55 29.0	+1.7
ITM				S	**Sn**	02 56 14.0	-0.2
ITM	**Ithomi**	4.03	279	*e*P	**Pn**	02 55 29.5	+2.2
ITM	**Ithomi**	4.03	279	P	**Pn**	02 55 29.0	+1.7
ITM				S	**Sn**	02 56 14.0	-0.2
KLV	**Kalavryta, Ach**	4.03	291	P	**Pn**	02 55 29.1	+1.7
KLV	**Kalavryta, Ach**	4.03	291	P	**Pn**	02 55 29.1	+1.7
PYL	**PYLOS**	4.16	275	P	**Pn**	02 55 29.3	+0.3
PYL				S	**Sn**	02 56 15.1	-2.1
PYL	**PYLOS**	4.16	275	P	**Pn**	02 55 29.3	+0.3
PYL				S	**Sn**	02 56 15.1	-2.1
LTBQ	**Tobruq**	5.24	209	*e*S	**Sn**	02 56 39.5	-3.4
	13nm,0.8s,SNR=90						
VLS	**Valsamata**	5.25	288	P	**Pn**	02 55 43.4	-0.2
VLS				S	**Sn**	02 56 40.4	-2.9
VLS	**Valsamata**	5.25	288	P	**Pn**	02 55 43.4	-0.2
VLS				S	**Sn**	02 56 40.4	-2.9
BRTR	**Keskin Array B**	6.10	58	P	**Pn**	02 55 56.8	+1.7
	0.1nm,0.3s,baz=225,slow=16,SNR=5.1						
MMAI	**Mount Meron Ar**	7.87	115	P	**Pn**	02 56 17.4	-1.4
	9.3nm,0.3s,baz=310,slow=11,SNR=25						
MMAI				S	**Sn**	02 57 40.7	-5.7
	1.2nm,0.3s,baz=303,slow=24,SNR=2.5						
EIL	**Elat**	9.70	134	P	**Pn**	02 56 42.0	-1.2
	0.3nm,0.3s,baz=335,slow=19,SNR=7.1						
EIL				S	Sn	02 58 23.6	-7.0
	1.0nm,0.3s,baz=327,slow=14,SNR=6.7						
KBZ	**Khabaz**	14.08	55	P	**P**	02 57 45.0	+1.4
	0.1nm,0.3s,baz=253,slow=11,SNR=4.1						
FINES	**FINESS Array B**	24.79	359	P	**P**	02 59 35.1	-0.6
	0.7nm,0.7s,baz=161,slow=15,SNR=3.1						
TORD	**Torodi Ar. Bea**	32.56	230	P	**P**	03 00 45.3	+0.2
	0.2nm,0.4s,baz=35,slow=8.9,SNR=5.4						
MKAR	**Makanchi Array**	41.76	58	P	**P**	03 02 02.4	0.0
	0.3nm,0.3s,baz=269,slow=8.3,SNR=10						

IDC 06 03:11:59.0±5.4, 9°.99S×119°.98E, h56km±48km, mb3.4/2, mb1 3.6/5, mb1mx3.3/20, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=149.8km s-min=20.3km az=63.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	4.95	357	P	Pn	03 13 10.7	-0.2
	2.1nm,0.3s,baz=145,slow=8.3,SNR=5.4						
KAPI				S	Sn	03 14 01.0	-6.0
	0.3nm,0.3s,baz=233,slow=20,SNR=4.6						
FITZ	**Fitzroy Crossi**	9.75	146	P	Pn	03 14 17.1	+0.4
	0.3nm,0.3s,baz=331,slow=9.9,SNR=22						
FITZ				S	Sn	03 15 57.1	-7.7
	1.2nm,0.3s,baz=174,slow=18,SNR=13						
WRA	**Warramunga Arr**	17.02	127	P	Pn	03 15 48.5	-5.0
	0.2nm,0.3s,baz=304,slow=14,SNR=16						
WRA				S	Sn	03 18 40.6	-21
	0.3nm,0.3s,baz=308,slow=25,SNR=8.4						
ASAR	**Alice Springs**	19.02	137	P	P	03 16 16.2	-0.3
	0.3nm,0.3s,baz=309,slow=9.5,SNR=13						
STKA	**Stephens Creek**	29.58	141	P	P	03 17 58.8	0.0
	1.1nm,0.7s,baz=326,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	65.78	333	P	P	03 22 38.3	+0.1
	0.2nm,0.5s,baz=153,slow=7.5,SNR=2.9						

IDC 06 03:31:45.4±1.0, 26°.42S×71°.76E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/24, mbtmp3.8/7, MS3.5/3, Ms1 3.5/3, ms1mx2.9/34, 1C, Error ellipse: s-maj=34.9km s-min=22.6km az=85.0, Mid-Indian Ridge

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

CAIG	El Cayaco	7.78 270	*i* P	Pn	04 01 17.1	-1.2
ARIG	Puente Sto Nin	7.91 279	*i* P	Pn	04 01 18.7	-1.3
ARIG			*i* S	Sn	04 02 44.8	-3.9
ZIIG	Zihuatanejo	8.92 274	*i* P	Pn	04 01 32.3	-1.6
ZIIG			*i* S	Sn	04 03 09.8	-3.7
JTS	JuntasAbangare	9.76 134	Pn	Pn	04 01 45.8	+0.4
JTS	JuntasAbangare	9.76 134	Pn	Pn	04 01 45.8	+0.4
	0.4nm,0.3s,baz=322,slow=18,SNR=2.9					
732A	Laxson Ranch,	13.58 329	⇑P	Pn	04 02 33.4	-4.2
	baz=14,SNR=13					
632A	Uvalde	14.15 332	⇑P	Pn	04 02 40.9	-4.4
	baz=14,SNR=24					
631A	Perdido Creek	14.44 329	⇑P	Pn	04 02 44.9	-4.5
	baz=15					
532A	Rocksprings	14.73 333	⇑P	Pn	04 02 50.0	-3.3
	baz=15,SNR=14					
JCT	Junction City	14.99 334	*e*Pn	Pn	04 02 56.0	-0.7
JCT			*e*S	Sn	04 05 23.0	-19
JCT	Junction City	14.99 334	⇑P	Pn	04 02 53.9	-2.9
	baz=15					
531A	Rocksprings	15.05 331	⇓P	Pn	04 02 54.2	-3.4
	baz=15,SNR=16					
VBMS	Vicksburg	15.06 5	Pn	Pn	04 02 57.9	+0.3
	32nm,0.6s					
432A	Menard	15.33 334	⇑P	Pn	04 02 58.7	-2.6
	baz=16					
530A	J-C Ranch, Com	15.42 329	⇓P	Pn	04 03 00.2	-2.3
	baz=16					
431A	Sonora	15.52 332	⇓P	Pn	04 03 01.4	-2.3
	baz=16,SNR=15					
WHTX	Lake Whitney	15.53 343	⇓P	Pn	04 03 01.3	-2.6
	baz=16,SNR=26					
628A	Black Gap, Mar	15.73 323	⇓P	Pn	04 03 05.2	-1.4
	baz=16					
332A	Millersview	15.75 335	⇑P	Pn	04 03 04.7	-2.1
	baz=16					
529A	Stev Forest Ra	15.86 326	⇑P	Pn	04 03 06.1	-2.1
	baz=16					
430A	Baggett Ranch,	15.90 330	⇑P	Pn	04 03 06.9	-1.7
	baz=16					
331A	San Angelo	15.97 333	⇓P	Pn	04 03 08.6	-1.0
	baz=16,SNR=9.7					
627A	Terlingua Ranc	16.00 322	⇑P	Pn	04 03 10.1	0.0
	baz=16,SNR=21					
TXAR	Lajitas Array	16.08 321	Pn	Pn	04 03 12.8	+1.8
TXAR			Sn	Sn	04 05 57.7	-11
TXAR	Lajitas Array	16.08 321	Pn	Pn	04 03 12.8	+1.8
	0.2nm,0.3s,baz=138,slow=13,SNR=15					
TXAR			Sn	Sn	04 05 57.7	-11
	0.1nm,0.3s,baz=137,slow=27,SNR=2.3					
429A	Davenport Ranc	16.09 328	⇑P	Pn	04 03 10.2	-0.9
	baz=16,SNR=15					
232A	Coleman	16.16 336	⇓P	Pn	04 03 11.4	-0.7
	baz=16					
TIGA	Tifton	16.19 27	⇓P	Pn	04 03 08.6	-3.8
	baz=16					
528A	Cox Ranch, San	16.19 325	⇑P	Pn	04 03 11.8	-0.6
	baz=16,SNR=6.9					
330A	Mertzon	16.39 332	⇑P	Pn	04 03 14.7	-0.2
	baz=17,SNR=26					
LRAL	Lakeview Retre	16.46 15	*e*Pn	Pn	04 03 14.5	-1.3
	16nm,0.8s					
231A	Bronte	16.47 335	⇑P	Pn	04 03 14.1	-1.9
	baz=17					
626A	Big Bend Ranch	16.52 320	⇑P	Pn	04 03 17.4	+0.7
	baz=17,SNR=14					
428A	Kincaid Ranch,	16.57 326	⇑P	Pn	04 03 17.1	-0.2
	baz=17					
527A	Woodward Ranch	16.64 323	⇓P	Pn	04 03 18.9	+0.6
	baz=17,SNR=33					
230A	Sterling City	16.77 333	⇓P	Pn	04 03 18.9	-0.8
	baz=17,SNR=9.6					
ABTX	Abilene, Hawle	16.82 338	⇓P	Pn	04 03 19.5	-0.9
	baz=17,SNR=8.8					
329A	Wagon Wheel Ra	16.83 330	⇑P	Pn	04 03 20.4	-0.2
	baz=17					
526A	Mary Lane Ranc	16.86 322	⇑P	Pn	04 03 20.8	-0.2
	baz=17,SNR=18					
427A	Hayter Ranch,	17.06 325	⇑P	P	04 03 24.5	-0.5
	baz=17					
131A	Roby	17.15 336	⇓P	Pn	04 03 25.1	+0.6
	baz=17					
328A	Wristen Ranch,	17.16 328	⇑P	Pn	04 03 24.5	-0.1
	baz=17,SNR=6.2					
426A	McDonald Obser	17.27 323	⇓P	Pn	04 03 26.1	-0.2
	baz=18,SNR=18					
130A	Snyder	17.31 334	⇑P	Pn	04 03 26.7	+0.1
	baz=18					
Z32A	Haskell	17.38 339	⇑P	Pn	04 03 26.0	-1.3
	baz=18,SNR=12					
OXF	Oxford	17.44 8	*e*Pn	Pn	04 03 26.3	-1.8
	25nm,0.4s					
UALR	University of	17.54 359	*e*Pn	P	04 03 30.3	+0.2
	30nm,1.0s					
UALR			*e*S	Sn	04 06 25.3	-18
Z31A	Sharp Cattle R	17.63 337	⇓P	Pn	04 03 29.1	-1.3
	baz=18,SNR=9.6					
228A	UT Block 9, Go	17.64 329	⇑P	Pn	04 03 30.8	+0.1
	baz=18					
326A	Caldwell Ranch	17.73 325	⇓P	Pn	04 03 32.1	+0.3
	baz=18					
129A	Stewart Farms,	17.73 332	⇓P	Pn	04 03 31.7	-0.1
	baz=18					
425A	Indio Mountain	17.92 322	⇑P	P	04 03 35.0	+0.5
	baz=18,SNR=14					
Z30A	Sanderson Ranc	17.98 335	⇑P	Pn	04 03 33.6	-1.2
	baz=18,SNR=7.4					
Y32A	R-V Farms, Ver	18.00 340	⇓P	Pn	04 03 34.5	-0.5
	baz=18					
128A	Castleberry Fa	18.01 331	⇓P	Pn	04 03 35.5	+0.3
	baz=18,SNR=8.8					
PLAL	Pickwick Lake	18.11 11	*e*P	Pn	04 03 34.7	-1.5
	28nm,1.2s					
PLAL			*e*Sn	Sn	04 06 40.8	-17
Z29A	Hungry Hill Ra	18.20 333	⇑P	Pn	04 03 37.5	0.0
	baz=18					
Y31A	Rekieta Farm,	18.25 338	⇑P	P	04 03 38.8	+0.7
	baz=18,SNR=18					
325A	Bean Ranch, Si	18.33 323	⇑P	Pn	04 03 40.0	+0.7
	baz=18,SNR=14					
LPIG	La Paz	18.35 295	P	Pn	04 03 41.5	+2.2
LPIG	La Paz	18.35 295	P	Pn	04 03 41.5	+2.2
	0.4nm,0.3s,baz=115,slow=19,SNR=2.9					
LPIG			LR	LR	04 10 46.8	
	comp=Z,26nm,20.8s,baz=114,slow=37					
Y30A	Stafford Cattl	18.41 336	⇑P	Pn	04 03 40.4	+0.4
	baz=19					
226B	Tecolote Peak,	18.42 326	⇓P	Pn	04 03 41.4	+1.2
	baz=19					
127A	Arkansas Junct	18.47 329	⇓P	Pn	04 03 41.7	+0.8
	baz=19					
WMOK	Wichita Mounta	18.48 342	*e*Pn	Pn	04 03 41.0	+0.2
	34nm,0.8s					
Z28A	Tucker Farm, M	18.52 332	⇑P	Pn	04 03 41.9	+0.5
	baz=19,SNR=5.7					
324A	Moseley Ranch,	18.68 322	⇓P	Pn	04 03 43.6	+0.1
	baz=19,SNR=6.7					
Y29A	Porterfield Fa	18.70 335	⇓P	P	04 03 43.3	+0.2
	baz=19,SNR=7.2					
X31A	McDonald Ranch	18.76 339	⇑P	P	04 03 44.0	+0.4
	baz=19,SNR=11					
126A	Clayton Basin,	18.79 327	⇑P	Pn	04 03 45.1	+0.4
	baz=19					
225A	Deer Hill, Car	18.80 325	⇓P	Pn	04 03 45.3	+0.4
	baz=19,SNR=16					
MNTX	Cornudas Mount	18.81 323	*e*P	Pn	04 03 46.6	+1.8
GNAR	Gosnell	18.82 5	*e*Pn	P	04 03 43.5	-0.7
	733nm,1.1s					
X30A	Coker Ranch, T	18.91 337	⇑P	Pn	04 03 46.4	+0.4
	baz=19					
Z27A	Tatum	18.93 330	⇓P	P	04 03 46.0	+0.4
	baz=19,SNR=22					
TUL1	Tulsa	18.95 351	⇓P	P	04 03 46.2	+0.5
	baz=19					
Y28A	McKinney Farm,	18.99 333	⇑P	P	04 03 46.7	+0.5
	baz=19,SNR=11					
125A	Gardner Draw,	19.13 326	⇑P	P	04 03 48.2	+0.3
	baz=19,SNR=10					
224A	Cornudas Mount	19.17 323	⇑P	Pn	04 03 49.6	+0.3
	baz=19					
X29A	Tulia	19.22 335	⇑P	Pn	04 03 50.0	+0.1
	baz=20					
W31A	Holland Ranch,	19.25 340	⇓P	Pn	04 03 49.9	-0.3
	baz=20					
Z26A	Caprock	19.26 329	⇓P	Pn	04 03 50.3	-0.1
	baz=20,SNR=6.9					
MSTX	Muleshoe	19.27 332	⇑P	P	04 03 50.1	+0.8
	baz=20,SNR=7.2					
WVT	Waverly	19.27 11	*e*P	Pn	04 03 50.1	-0.2
	20nm,1.1s					
WVT			*e*S	Sn	04 07 10.8	-15
Y27A	Causey	19.37 331	⇓P	Pn	04 03 51.5	-0.2
	baz=20,SNR=8.4					
CPCT	Cooper Cave	19.43 19	*e*P	P	04 03 50.7	-0.3
CPCT			*e*S	S	04 07 14.1	-15
X28A	Dimmitt	19.49 334	⇑P	Pn	04 03 52.9	-0.2
	baz=20					
124A	Stringfield Ra	19.59 325	⇑P	Pn	04 03 54.1	-0.4
	baz=20,SNR=37					
AMTX	Amarillo	19.60 336	*e*P	P	04 03 53.7	+0.7
	35nm,0.8s					
Z25A	Roswell	19.64 327	⇑P	P	04 03 54.5	+1.0
	baz=20,SNR=15					
V31A	Spring Creek L	19.76 341	⇑P	Pn	04 03 55.8	-0.5
	baz=20					
W29A	Amraillo	19.80 336	⇑P	P	04 03 55.2	+0.1
	baz=20,SNR=7.9					
TKL	Tuckaleechee C	19.86 20	*e*P	Pn	04 03 56.6	-0.8
TKL			*e*S	S	04 07 34.3	-3.6
TKL	Tuckaleechee C	19.86 20	P	Pn	04 03 57.4	0.0
	0.9nm,0.3s,baz=192,slow=12,SNR=9.2					
TKL			S	S	04 07 27.8	-10
	0.3nm,0.3s,baz=278,slow=19,SNR=2.5					
TKL			LR	LR	04 12 46.0	
	comp=Z,183nm,19.1s,baz=109,slow=40					
X27A	F and S Farms,	19.98 333	⇓P	P	04 03 57.4	+0.2
	baz=20,SNR=15					
V30A	Spur Ranch, Mi	20.02 339	⇑P	P	04 03 57.4	-0.1
	baz=20,SNR=6.8					
Z24A	Sheeppen Canyo	20.02 326	⇑P	P	04 03 58.4	+0.7
	baz=20,SNR=10					
W28A	Vega	20.13 335	⇓P	P	04 03 59.5	+0.8
	baz=20					
Y25A	Mesa, Roswell	20.14 328	⇑P	P	04 03 59.9	+1.1
	baz=20,SNR=47					
X26A	CR and CF Fran	20.22 331	⇑P	Pn	04 04 01.1	-0.7
	baz=20					
W27A	Bowe Ranch, En	20.32 333	⇓P	P	04 04 01.6	+0.8
	baz=21,SNR=7.9					
V29A	Stinnett	20.42 338	⇑P	P	04 04 02.7	+0.9
	baz=21					
Z23A	Rita Site, Whi	20.45 324	⇑P	Pn	04 04 04.0	-0.5
	baz=21					
221A	Mesquite Ranch	20.48 319	⇓P	Pn	04 04 04.5	-0.4
	baz=21					
122A	Conniff Cattle	20.48 322	⇑P	Pn	04 04 04.5	-0.4
	baz=21					
320A	Kipp Ranch, An	20.52 316	⇑P	Pn	04 04 05.1	-0.3
	baz=21					
Y24A	Capitan	20.52 327	⇑P	P	04 04 04.4	+1.3
	baz=21,SNR=24					
V28A	Channing	20.57 336	⇓P	P	04 04 04.2	+0.7
	baz=21,SNR=14					
X25A	Clemmons Ranch	20.61 329	⇓P	P	04 04 05.2	+1.2
	baz=21					
SIUC	Southern Illin	20.63 7	*e*P	P	04 04 04.6	+0.6
	57nm,0.8s					
W26A	Owens Ranch, T	20.65 332	⇓P	P	04 04 05.5	+1.1
	baz=21					
U30A	WK&E Inc. Balk	20.71 340	⇓P	P	04 04 05.7	+0.7
	baz=21					
TZTN	Tazewell	20.74 20	*e*P	P	04 04 05.5	+0.3
	17nm,0.7s					
TZTN			*e*S	S	04 07 55.3	-0.1
V27A	Dan Oppiter Fa	20.82 335	⇑P	P	04 04 07.1	+0.9
	baz=21					
121A	Cookes Peak, D	20.84 320	⇓P	P	04 04 07.5	+1.0
	baz=21,SNR=14					
Y23A	Lovelace Mesa,	20.85 326	⇓P	P	04 04 07.0	+0.3
	baz=21,SNR=13					
Z22A	Elephant Butte	20.86 323	⇑P	P	04 04 07.5	+0.9
	baz=21					
220A	Playas Peak, P	20.88 318	⇓P	Pn	04 04 08.6	-0.9
	baz=21,SNR=17					
T31A	Randall Ranch,	20.94 343	⇓P	P	04 04 07.3	-0.1
	baz=21,SNR=5.1					
319A	Douglas	21.04 315	⇓P	P	04 04 10.5	+1.9
	baz=21,SNR=13					
W25A	X Bar L Ranch,	21.07 331	⇑P	P	04 04 10.1	+1.1
	baz=21,SNR=9.7					
USIN	University of	21.09 10	*e*P	P	04 04 07.7	-1.3
	25nm,0.8s					
V26A	Tecuesquite Ra	21.25 333	⇑P	P	04 04 11.6	+0.7
	baz=22,SNR=16					
ROSC	El Rosal	21.30 123	*e*P	P	04 04 14.1	+2.2
ROSC	El Rosal	21.30 123	P	P	04 04 13.5	+1.6
	9.2nm,0.7s,baz=99,slow=22,SNR=9.2					
ROSC			LR	LR	04 12 51.3	
	comp=Z,203nm,21.8s,baz=342,slow=38					
Z21A	St. Cloud Mine	21.31 322	⇓P	P	04 04 12.4	+0.8
	baz=22					
120A	U Bar Ranch, L	21.37 319	⇓P	P	04 04 13.8	+1.5
	baz=22					
U27A	Thompson Grove	21.39 336	⇓P	P	04 04 13.1	+0.8
	baz=22,SNR=27					
LPM	Los Pinos Moun	21.45 325	*e*P	P	04 04 14.6	+1.5
T29A	Hugoton	21.49 340	⇓P	P	04 04 14.0	+0.6
	baz=22					
W24A	Lazy 6 Ranch,	21.52 329	⇓P	P	04 04 14.8	+0.9
	baz=22,SNR=12					
LENM	Lemitar	21.53 325	*e*P	P	04 04 16.4	+2.4
WCI	Wyandotte Cave	21.60 13	*e*P	P	04 04 14.0	-0.4
	27nm,0.8s					
WCI			*e*S	S	04 08 11.6	-0.7
V25A	Rancho No Teng	21.66 332	⇑P	P	04 04 16.0	+0.7
	baz=22,SNR=22					
Z20A	Nine Sixteen R	21.73 320	⇓P	P	04 04 17.6	+1.5
	baz=22					
U26A	Atchley Ranch,	21.74 334	⇑P	P	04 04 17.0	+0.8
	baz=22,SNR=15					
T28A	Walsh	21.74 338	⇑P	P	04 04 17.0	+0.9
	baz=22					
LAZ	Ladron	21.80 325	*e*P	P	04 04 19.1	+2.2
X22A	Bernardo	21.80 325	⇑P	P	04 04 18.5	+1.6
	baz=22					
Y21A	Point of Rocks	21.81 323	⇓P	P	04 04 18.4	+1.3
	baz=22,SNR=10					
ANMO	Albuquerque	21.84 327	*e*P	P	04 04 19.5	+2.2
ANMO	Albuquerque	21.84 327	P	P	04 04 19.8	+2.5
	2.6nm,0.8s,baz=157,slow=11,SNR=12					
W23A	Werner Place,	21.85 328	⇑P	P	04 04 19.1	+1.7
	baz=22,SNR=18					
S29A	Ulysses	21.86 341	⇓P	P	04 04 18.1	+0.8
	baz=22					
V24A	Rampart Ranch,	21.87 330	⇓P	P	04 04 19.3	+1.6
	baz=22,SNR=19					
R31A	Burdett	22.02 344	⇑P	P	04 04 20.5	+1.5
	baz=22					
U25A	Circle Dot Ran	22.03 333	⇓P	P	04 04 20.6	+1.2
	baz=22,SNR=21					
S28A	Manter	22.09 339	⇓P	P	04 04 21.3	+1.5
	baz=22					
Y20A	Horse Springs,	22.15 322	⇓P	P	04 04 21.9	+1.3
	baz=22,SNR=18					
W22A	Albuquerque	22.16 326	⇑P	P	04 04 22.7	+2.0
	baz=22					
X21A	Alamocita Cree	22.19 324	⇑P	P	04 04 22.6	+1.5
	baz=22,SNR=27					
KSU1	Kansas State U	22.20 351	*e*P	P	04 04 22.1	+1.2
	31nm,0.9s					
R30A	Dighton	22.22 343	⇑P	P	04 04 22.0	+0.9
	baz=22					
V23A	Ortiz Mt. (NFS	22.33 329	⇑P	P	04 04 23.8	+1.2
	baz=23,SNR=10					
T26A	Comanche Natio	22.35 335	⇓P	P	04 04 23.7	+0.9
	baz=23					
U24A	Moreno Valley	22.43 331	⇑P	P	04 04 25.3	+1.6
	baz=23,SNR=5.9					
SDV	Santo Domingo	22.48 109	*e*P	P	04 04 26.0	+1.6
TUC	Tucson	22.62 315	*e*P	P	04 04 27.4	+1.8
T25A	Trinidad	22.66 334	⇓P	P	04 04 27.1	+1.1
	baz=23,SNR=36					
X20A	Quemado	22.67 323	⇑P	P	04 04 28.0	+1.8
	baz=23					
S26A	Kim	22.69 336	⇓P	P	04 04 27.5	+1.2
	baz=23					
R28A	Tribune	22.74 340	⇓P	P	04 04 27.1	+0.4
	baz=23,SNR=6.3					
U23A	El Rito	22.80 330	⇑P	P	04 04 29.1	+1.5
	baz=23,SNR=18					
V22A	San Miguel Ran	22.83 328	⇓P	P	04 04 28.4	+0.6
	baz=23					
Q30A	Quinter	22.85 344	⇑P	P	04 04 29.1	+1.2
	baz=23					
Q29A	Oakley	22.98 342	⇑P	P	04 04 29.6	+0.4
	baz=23					
R27A	Eads	23.03 338	⇑P	P	04 04 29.8	+0.1
	baz=23					
W20A	Ramah	23.09 324	⇑P	P	04 04 32.1	+1.5
	baz=23,SNR=7.7					
S25A	Robets Cordova	23.11 334	⇑P	P	04 04 31.5	+0.8
	baz=23,SNR=16					
V21A	Milan	23.12 326	⇑P	P	04 04 32.2	+1.3
	baz=23,SNR=6.4					
P31A	Stockton	23.15 346	⇓P	P	04 04 31.0	+0.1
	baz=23					
U22A	Llaves	23.16 329	⇓P	P	04 04 32.9	+1.7
	baz=23,SNR=11					
R26A	Arlington	23.28 337	⇑P	P	04 04 33.5	+1.2
	baz=24					
T23A	Casias Ranch,	23.29 331	⇑P	P	04 04 33.9	+1.2
	baz=24					
P30A	Seiden	23.39 344	⇓P	P	04 04 33.6	+0.3
	baz=24					
Q28A	Sharon Springs	23.40 341	⇑P	P	04 04 34.2	+0.7
	baz=24					
S24A	Houchin Ranch,	23.42 333	⇓P	P	04 04 35.3	+1.3
	baz=24,SNR=9.7					
R25A	Fountain Ranch	23.46 335	⇑P	P	04 04 35.6	+1.4
	baz=24,SNR=17					
X18A	Snowflake	23.52 321	⇑P	P	04 04 36.4	+1.6
	baz=24,SNR=8.2					
SFIN	Scholer Farm	23.54 10	⇓P	P	04 04 34.6	0.0
	baz=24					
V20A	Brimhall	23.56 325	⇑P	P	04 04 36.4	+1.2
	baz=24					
U21A	Nageezi	23.61 327	⇓P	P	04 04 37.3	+1.6
	baz=24,SNR=20					
KSCO	Kaye Shedlock'	23.62 339	⇓P	P	04 04 36.5	+0.9
	baz=24					
SDCO	Great Sand Dun	23.63 333	*e*P	P	04 04 37.8	+1.8
T22A	Edith	23.69 329	⇑P	P	04 04 38.2	+1.8
	baz=24,SNR=13					
W18A	Petrified Fore	23.79 322	⇑P	P	04 04 39.0	+1.6
	baz=24					
214A	Organ Pipe Nat	23.82 312	⇓P	P	04 04 39.8	+2.2
	baz=24,SNR=12					
S23A	Nye Farm, Mont	23.82 332	⇑P	P	04 04 39.3	+1.6
	baz=24					
P28A	Saint Francis	23.84 341	⇓P	P	04 04 39.0	+1.2
	baz=24					
R24A	Sanders Place,	23.87 334	⇑P	P	04 04 39.8	+1.7
	baz=24,SNR=13					
O30A	MW Ranch, Wils	23.94 345	⇓P	P	04 04 39.7	+1.1
	baz=24					
T21A	Navajo Lake	23.98 328	⇑P	P	04 04 41.2	+2.0
	baz=24,SNR=11					
U20A	Newcomb	24.02 326	⇑P	P	04 04 41.3	+1.8
	baz=24					
P27A	Ficken Ranch,	24.09 340	⇓P	P	04 04 41.4	+1.3
	baz=24					
Q25A	Bedland, Calha	24.11 336	⇑P	P	04 04 41.5	+1.1
	baz=24,SNR=7.4					
R23A	Moffat	24.15 333	⇓P	P	04 04 42.4	+1.6
	baz=24,SNR=12					
S22A	4UR Ranch, Cre	24.24 331	⇓P	P	04 04 42.9	+1.2
	baz=24,SNR=26					
P26A	Davis Ranch, A	24.36 339	⇓P	P	04 04 43.2	+0.6
	baz=25					
O28A	Krutsinger Ran	24.36 342	⇓P	P	04 04 43.3	+0.8
	baz=25					
CELP	Cerrillos	24.36 84	*e*P	P	04 04 43.1	+0.5
X16A	Lo Mia Camp, P	24.37 318	⇑P	P	04 04 44.7	+1.9
	baz=24,SNR=17					
R22A	Saguache, Gunn	24.59 331	⇓P	P	04 04 46.1	+1.2
	baz=25,SNR=16					
P25A	Willow Gulch B	24.61 337	⇓P	P	04 04 46.2	+1.3
	baz=25					
S21A	Coal Bank Pass	24.63 329	⇑P	P	04 04 46.6	+1.4
	baz=25,SNR=13					
O27A	Beecher Island	24.63 341	⇓P	P	04 04 46.2	+1.2
	baz=25					
MVCO	Mesa Verde	24.64 327	*e*P	P	04 04 46.9	+1.7
MVCO	Mesa Verde	24.64 327	⇑P	P	04 04 46.2	+1.0
	baz=25,SNR=16					
SCIA	State Center	24.67 358	*e*P	P	04 04 46.7	+1.5
Z14A	Wintersburg	24.71 315	⇑P	P	04 04 48.0	+2.3
	baz=25					
P24A	Kohler Place,	24.89 336	⇑P	P	04 04 48.9	+1.5
	baz=25					
113A	Mohawk Valley,	24.95 313	⇑P	P	04 04 49.7	+1.9
	baz=25,SNR=15					
S20A	Disappointment	25.04 328	⇓P	P	04 04 50.4	+1.5
	baz=25,SNR=10					
CBYP	Canovanas	25.05 83	*e*P	P	04 04 49.1	+0.3
WUAZ	Wupatki	25.05 321	*e*P	P	04 04 50.9	+2.1
WUAZ	Wupatki	25.05 321	⇑P	P	04 04 50.7	+1.9
	baz=25,SNR=13					
R21A	Cimarron	25.07 330	⇑P	P	04 04 50.6	+1.4
	baz=25					
Y14A	Wickenburg	25.09 316	⇑P	P	04 04 50.7	+1.6
	baz=25,SNR=9.3					
P23A	Jefferson	25.14 334	⇑P	P	04 04 51.4	+1.5
	baz=25,SNR=28					
Q22A	Crested Butte,	25.18 332	⇓P	P	04 04 51.6	+1.4
	baz=25,SNR=9.4					
OGNE	Ogallala	25.19 342	⇑P	P	04 04 51.4	+1.4
	baz=26					
N27A	Anderson Farm,	25.21 341	⇓P	P	04 04 51.7	+1.4
	baz=26					
R20A	Redvale	25.33 329	⇓P	P	04 04 52.9	+1.4
	baz=26,SNR=12					
MTP	Monte Pirata	25.34 84	*e*P	P	04 04 50.6	-0.8
PV01	Paradox Valley	25.38 329	*e*P	P	04 04 53.5	+1.6
ISCO	Idaho Springs	25.41 335	*e*P	P	04 04 53.8	+1.4
ISCO	Idaho Springs	25.41 335	⇓P	P	04 04 53.4	+1.1
	baz=26,SNR=13					
Q21A	Lamborn Mesa,	25.46 331	⇓P	P	04 04 54.0	+1.4
	baz=26,SNR=8.7					
O24A	Longmont	25.48 336	⇑P	P	04 04 54.0	+1.3
	baz=26					
P22A	Eagle	25.72 333	⇓P	P	04 04 56.5	+1.5
	baz=26,SNR=7.9					
PV04	Paradox Valley	25.75 329	*e*P	P	04 04 56.9	+1.6
PV10	Paradox Valley	25.80 328	*e*P	P	04 04 57.0	+1.1
L29A	Maesberg Ranch	25.82 346	⇑P	P	04 04 56.9	+1.2
	baz=26					
GLA	Glamis	25.85 312	*e*P	P	04 04 59.4	+3.3
GLA	Glamis	25.85 312	⇑P	P	04 04 58.3	+2.3
	baz=26					
O23A	Lake Granby, G	25.89 335	⇓P	P	04 04 57.8	+1.2
	baz=26					
Q20A	Ridgley Place,	25.89 330	⇓P	P	04 04 57.9	+1.4
	baz=26					
P21A	Newcastle	25.96 332	⇓P	P	04 04 58.6	+1.4
	baz=26,SNR=16					
Y12C	Blythe	26.02 314	⇓P	P	04 04 59.8	+2.3
	baz=26					
N24A	Carr	26.02 338	⇓P	P	04 04 59.1	+1.4
	baz=26					
PDMCI	Parker Dam,Lak	26.06 315	⇑P	P	04 04 59.9	+2.0
	baz=26					
O22A	Kremmling	26.10 334	⇓P	P	04 04 60.0	+1.4
	baz=26,SNR=10					
U15A	North Rim	26.21 321	⇓P	P	04 05 00.9	+1.3
	baz=26,SNR=7.6					
W13A	Hualapai Mount	26.37 317	⇓P	P	04 05 02.8	+1.9
	baz=26					
N23A	Red Feather La	26.48 336	⇓P	P	04 05 03.2	+1.2
	baz=27					
N22A	Wattenberg

	baz=28					
MSU	Marysvale	27.57	324	eP	P	04 05 14.0 +2.3
MVU	Marysvale	27.58	324	eP	P	04 05 14.1 +2.3
M21A	Separation Pea	27.65	335	⇑P	P	04 05 13.3 +0.9
	baz=28					
J26A	Sides Ranch, S	27.67	343	⇑P	P	04 05 13.4 +1.0
	baz=28					
ARUT	Antelope Range	27.80	322	eP	P	04 05 15.9 +2.3
I28A	Midland	27.82	346	⇑P	P	04 05 14.9 +1.3
	baz=28					
L21A	Rawlins	27.95	335	⇓P	P	04 05 15.4 +0.3
	baz=28,SNR=5.3					
SPMN	St. Paul	27.98	359	⇓P	P	04 05 15.5 +0.5
	baz=28					
K22A	Casper	28.21	337	⇑P	P	04 05 18.6 +1.3
	baz=28					
I22A	9 Mile Ranch,	29.28	338	⇓P	P	04 05 27.8 +1.1
	baz=30					
MPMC	Manual Prospec	29.32	315	⇑P	P	04 05 28.7 +1.4
	baz=30					
H24A	Dirks Ranch, A	29.41	342	⇑P	P	04 05 29.0 +1.1
	baz=30					
R11A	Troy Canyon, C	29.45	320	⇑P	P	04 05 29.6 +1.3
	baz=30,SNR=8.4					
I21A	Big Trails, Te	29.50	337	⇓P	P	04 05 29.8 +1.1
	baz=30					
PDAR	Pinedale Array	29.52	333	P	P	04 05 28.6 -0.5
PDAR	Pinedale Array	29.52	333	P	P	04 05 28.6 -0.5
	0.4nm,0.6s,baz=124,slow=13,SNR=3.9					
HWUT	Hardware Ranch	29.52	330	eP	P	04 05 29.8 +0.8
SADO	Sadowa	29.61	19	LR	LR	04 18 45.7
	comp=Z,199nm,19.1s,baz=134,slow=39					
J19A	Crowheart	29.72	335	⇓P	P	04 05 31.8 +1.0
	baz=30					
ISA	Isabella	29.78	313	⇓P	P	04 05 33.3 +2.0
	baz=30					
CWC	Cottonwood Cre	29.93	315	⇑P	P	04 05 33.9 +1.3
	baz=30					
I20A	Worland	29.93	336	⇓P	P	04 05 33.5 +1.0
	baz=30,SNR=5.8					
VES	Vestal, Richgr	30.30	313	⇓P	P	04 05 38.1 +2.4
	baz=30					
H20A	Greybull	30.34	337	⇓P	P	04 05 37.3 +1.1
	baz=31					
I19A	Meeteetse	30.34	336	⇓P	P	04 05 37.3 +1.1
	baz=31,SNR=7.6					
I18A	Diamond G Ranc	30.40	334	⇑P	P	04 05 37.7 +0.9
	baz=31					
E26A	Carlson Angus	30.45	346	⇓P	P	04 05 38.1 +1.1
	baz=31					
F23A	Volborg	30.55	342	⇓P	P	04 05 39.1 +1.2
	baz=31					
SNOW	Snow King Moun	30.60	333	eP	P	04 05 40.3 +1.7
LOHW	Long Hollow	30.66	333	eP	P	04 05 40.1 +1.0
SMMC	Simmler	30.68	311	⇓P	P	04 05 40.9 +1.7
	baz=31					
E25A	Miller Ranch,	30.71	345	⇓P	P	04 05 40.4 +1.1
	baz=31					
TPAW	Teton Pass	30.71	333	eP	P	04 05 40.8 +1.2
MOOW	Moose Ponds	30.83	333	eP	P	04 05 41.2 +0.7
H19A	Powell	30.87	336	⇓P	P	04 05 41.8 +1.0
	baz=31					
I17A	Pilgrim Ck.	30.89	334	⇑P	P	04 05 42.1 +0.9
	baz=31					
E24A	Baker	31.00	344	⇑P	P	04 05 42.4 +0.5
	baz=31					
G20A	Bridger	31.05	338	⇑P	P	04 05 42.9 +0.6
	baz=31					
NV11	Mina Array Sit	31.10	318	eP	P	04 05 45.6 +2.6
H18A	Shoshone NF, C	31.14	335	⇑P	P	04 05 44.1 +0.8
	baz=31,SNR=22					
NVAR	Mina Array Bea	31.19	318	P	P	04 05 46.5 +2.7
NVAR	Mina Array Bea	31.19	318	P	P	04 05 46.5 +2.7
	7.7nm,0.9s,baz=134,slow=9.3,SNR=31					
NVAR				LR	LR	04 21 27.3
	comp=Z,68nm,19.6s,baz=318,slow=42					
MDND	Maddock	31.21	350	⇓P	P	04 05 43.8 +0.2
	baz=32					
RLMT	Red Lodge	31.36	336	eP	P	04 05 45.7 +0.5
G18A	Lazy EL Ranch,	31.63	336	⇓P	P	04 05 47.9 +0.3
	baz=32,SNR=7.3					
D23A	Lindsay	31.81	343	⇓P	P	04 05 49.9 +0.9
	baz=32					
H16A	Russell Place,	31.81	334	⇓P	P	04 05 49.7 +0.4
	baz=32					
F19A	Roth Farm, Mol	31.85	337	⇑P	P	04 05 49.6 +0.2
	baz=32,SNR=5.8					
C24A	Savage	31.93	344	⇓P	P	04 05 50.1 +0.2
	baz=32					
D22A	Cohagen	32.07	342	⇓P	P	04 05 51.6 +0.4
	baz=32					
GCMT	Greycliff	32.07	337	eP	P	04 05 52.0 +0.6
E20A	Meyer Farm, Mu	32.12	339	⇑P	P	04 05 52.6 +0.9
	baz=32					
F18A	Big Timber	32.18	337	⇑P	P	04 05 52.6 +0.3
	baz=32,SNR=17					
I14A	Mackay	32.19	330	⇓P	P	04 05 53.3 +0.7
	baz=32					
D21A	La Casta Ranch	32.25	341	⇓P	P	04 05 53.4 +0.5
	baz=32					
E19A	Rath Farm, Rou	32.32	338	⇑P	P	04 05 53.4 -0.1
	baz=33,SNR=7.0					
CMB	Columbia Colle	32.34	316	eP	P	04 05 55.9 +2.2
HLID	Hailey	32.38	329	eP	P	04 05 55.5 +1.3
HLID	Hailey	32.38	329	⇑P	P	04 05 54.9 +0.8
	baz=33					
C22A	Vida	32.52	343	⇓P	P	04 05 55.7 +0.5
	baz=33					
F17A	Fitzpatrick Pl	32.55	336	⇑P	P	04 05 55.7 +0.1
	baz=33,SNR=9.3					
MCMT	McKenzie Canyo	32.61	332	eP	P	04 05 58.3 +2.1
PAHR	Pah Rah Range	32.62	319	eP	P	04 05 59.4 +3.1
D20A	Manuel Ranch,	32.64	340	⇓P	P	04 05 56.1 -0.2
	baz=33,SNR=6.7					
A26A	Wade Farm, Ken	32.66	348	⇓P	P	04 05 56.4 +0.1
	baz=33					
BOZ	Bozeman (W)	32.73	334	eP	P	04 05 58.1 +1.0
E18A	Harlowton	32.81	337	⇑P	P	04 05 58.4 +0.5
	baz=33,SNR=8.9					
A25A	Svangstu Ranch	32.93	347	⇓P	P	04 05 59.1 +0.4
	baz=33					
D19A	Cripps Ranch,	32.95	339	⇓P	P	04 05 59.6 +0.6
	baz=33,SNR=7.8					
MFID	Camas Ranch	32.99	327	⇑P	P	04 06 00.2 +0.7
	baz=33					
E17A	Martinsdale	33.09	336	⇓P	P	04 06 00.7 +0.4
	baz=33					
A24A	Westby	33.12	346	⇓P	P	04 06 00.9 +0.6
	baz=33					
ULM	Lac du Bonnet	33.14	356	P	P	04 05 58.3 -2.2
ULM	Lac du Bonnet	33.14	356	P	P	04 05 58.3 -2.2
	4.8nm,1.0s,baz=141,slow=7.8,SNR=3.4					
ULM				LR	LR	04 23 19.8
	comp=Z,135nm,19.6s,baz=157,slow=43					
C20A	Veseth Ranch,	33.14	340	⇑P	P	04 06 01.1 +0.5
	baz=33					
LRM	Limekiln Ridge	33.22	334	eP	P	04 06 02.7 +1.2
D18A	Linhart Farms,	33.31	338	⇓P	P	04 06 02.7 +0.5
	baz=34					
BEKR	Beckworth	33.32	318	eP	P	04 06 05.1 +2.6
C19A	Slack Wire Ran	33.51	339	⇑P	P	04 06 04.5 +0.6
	baz=34					
D17A	Six Diamond Ra	33.60	337	⇑P	P	04 06 05.6 +0.9
	baz=34,SNR=14					
WVOR	Wild Horse Val	33.84	324	eP	P	04 06 08.0 +1.1
EGMT	Eagleton	34.00	339	eP	P	04 06 08.0 -0.1
EGMT	Eagleton	34.00	339	⇑P	P	04 06 08.4 +0.3
	baz=34,SNR=8.0					
C17A	Wharram Farm,	34.03	337	⇑P	P	04 06 08.9 +0.5
	baz=34,SNR=9.0					
B19A	Brinkman Farms	34.09	340	⇓P	P	04 06 09.5 +0.6
	baz=34					
B18A	Beardsley Farm	34.32	339	⇓P	P	04 06 11.9 +1.0
	baz=35					
A19A	Klindworth Far	34.44	341	⇑P	P	04 06 12.6 +0.6
	baz=35					
MSO	Missoula	34.65	333	⇓P	P	04 06 14.3 +0.5
	baz=35					
BMO	Blue Mountains	34.76	328	eP	P	04 06 14.9 +0.2
A18A	Metzger Ranch,	34.80	339	⇑P	P	04 06 15.5 +0.5
	baz=35,SNR=12					
C15A	Salmond Ranch,	34.85	336	⇓P	P	04 06 15.5 -0.1
	baz=35,SNR=7.1					
B16A	M & M Farms, S	35.03	337	⇑P	P	04 06 17.3 +0.3
	baz=35					
A17A	Triple J Farms	35.11	339	⇓P	P	04 06 18.1 +0.4
	baz=35					
B15A	Bradely Ranch,	35.27	336	⇓P	P	04 06 19.1 0.0
	baz=36,SNR=6.5					
C14A	Swan Lake	35.30	335	⇑P	P	04 06 20.0 +0.6
	baz=36					
KIPM	Iron Peak	35.32	316	eP	P	04 06 22.7 +3.0
A16A	West Butte Ran	35.43	338	⇓P	P	04 06 21.1 +0.6
	baz=36					
B14A	Marquette Ranc	35.59	336	⇓P	P	04 06 22.7 +0.8
	baz=36					
A15A	Johnson Ranch,	35.88	337	⇓P	P	04 06 24.4 0.0
	baz=36,SNR=10					
B13A	Whitefish	36.08	335	⇓P	P	04 06 26.2 +0.2
	baz=36,SNR=5.3					
A14A	Double T Ranch	36.14	336	⇑P	P	04 06 27.2 +0.6
	baz=36,SNR=15					
WALA	Waterton Lakes	36.40	336	eP	P	04 06 29.7 +0.9
A13A	Flathead Natio	36.50	335	⇑P	P	04 06 30.0 +0.4
	baz=37					
NEW	Newport	37.13	332	⇓P	P	04 06 35.5 +0.5
	baz=37					
SAML	Samuel	38.63	130	eP	P	04 06 45.1 -2.9
EDM	Edmonton	39.62	340	eP	P	04 06 55.7 -0.2
LPAZ	La Paz	40.80	143	P	P	04 07 05.9 -0.7
LPAZ	La Paz	40.80	143	P	P	04 07 05.9 -0.7
	1.3nm,0.7s,baz=316,slow=11,SNR=9.3					
LPAZ				LR	LR	04 24 29.1
	comp=Z,136nm,19.7s,baz=254,slow=37					
SCHQ	Schefferville	42.32	22	LR	LR	04 26 06.3
	comp=Z,310nm,18.5s,baz=251,slow=38					
SIV	San Ignacio	44.98	135	P	P	04 07 38.3 -1.6
SIV	San Ignacio	44.98	135	P	P	04 07 38.3 -1.6
	2.5nm,0.8s,baz=327,slow=8.4,SNR=9.3					
YKA	Yellowknife Ar	47.94	346	P	P	04 08 02.0 -0.5
YKA	Yellowknife Ar	47.94	346	P	P	04 08 02.0 -0.5
	2.0nm,0.7s,baz=142,slow=8.0,SNR=10					
DLBC	Dease Lake	49.74	335	eP	P	04 08 18.3 +1.9
BDFB	Brasilia	54.36	124	P	P	04 08 50.0 -1.6
BDFB	Brasilia	54.36	124	P	P	04 08 50.0 -1.6
	1.1nm,0.6s,baz=276,slow=9.2,SNR=2.8					
CPUP	Villa Florida	54.90	141	P	P	04 08 53.0 -2.0
CPUP	Villa Florida	54.90	141	P	P	04 08 53.0 -2.0
	1.2nm,0.8s,baz=312,slow=16,SNR=2.6					
CPUP				LR	LR	04 31 43.2
	comp=Z,91nm,19.1s,baz=128,slow=35					
RKT	Rikitea	57.94	228	eLR	LR	04 26 32.8
	178nm,26.5s					
ILAR	Eielson Array	59.90	336	P	P	04 09 29.6 -0.3
ILAR	Eielson Array	59.90	336	P	P	04 09 29.6 -0.3
	2.0nm,1.0s,baz=127,slow=4.1,SNR=20					
ILAR				LR	LR	04 38 34.9
	comp=Z,74nm,18.7s,baz=141,slow=39					
TRF	Thorofare Moun	60.74	334	eP	P	04 09 35.8 -0.1
RSO	Redoubt South	60.84	330	eP	P	04 09 35.4 -1.2
PLCA	Paso Flores	60.99	161	P	P	04 09 38.1 +0.4
PLCA	Paso Flores	60.99	161	P	P	04 09 38.1 +0.4
	4.6nm,1.1s,baz=332,slow=6.1,SNR=4.0					
PLCA				LR	LR	04 32 28.4
	comp=Z,173nm,18.3s,baz=181,slow=33					
PPT	Papeete	66.25	241	LR	LR	04 33 49.7
	comp=Z,81nm,20.3s,baz=23,slow=31					
PPT2	Papeete2	66.26	241	eLR	LR	04 30 21.9
	114nm,24.0s					
TBI	Tubuai	68.98	236	eLR	LR	04 31 39.5
	140nm,27.8s					
ESDC	Sonseca Array	77.87	52	P	P	04 11 22.7 +0.5
ESDC	Sonseca Array	77.87	52	P	P	04 11 22.7 +0.5
	1.9nm,0.6s,baz=290,slow=5.6,SNR=10					
NOA	NORSAR Array B	81.44	29	LR	LR	04 49 16.8
	comp=Z,50nm,18.2s,baz=275,slow=37					
ARCES	ARCESS Array B	83.19	18	P	P	04 11 52.7 +2.7
ARCES	ARCESS Array B	83.19	18	P	P	04 11 52.7 +2.7
	2.7nm,1.1s,baz=202,slow=2.0,SNR=7.7					
ARCES				LR	LR	04 47 39.4
	comp=Z,86nm,21.5s,baz=256,slow=35					
GERES	GERESS Array B	87.25	40	P	P	04 12 11.1 +0.2
GERES	GERESS Array B	87.25	40	P	P	04 12 11.1 +0.2
	0.2nm,0.6s,baz=281,slow=5.9,SNR=3.6					
FINES	FINESS Array B	87.70	25	P	P	04 12 15.0 +2.4
FINES	FINESS Array B	87.70	25	P	P	04 12 15.0 +2.4
	1.8nm,1.0s,baz=204,slow=5.5,SNR=3.0					
FINES				LR	LR	04 53 04.0
	comp=Z,83nm,18.7s,baz=124,slow=37					
TORD	Torodi Ar. Bea	89.76	76	P	P	04 12 24.8 +1.5
TORD	Torodi Ar. Bea	89.76	76	P	P	04 12 24.8 +1.5
	0.4nm,0.8s,baz=274,slow=5.9,SNR=2.9					
TORD				LR	LR	04 46 57.5
	comp=Z,104nm,19.9s,baz=160,slow=32					
HHC	Hu-ho-hao-te	118.23	340	ePKP	PKPdf	04 18 10.5 -1.3
HHC				sPKP		04 18 24.0
HHC				PP	PP	04 19 28.7 +2.5
HHC				PKS	PKSdf	04 21 46.3 -2.3
HHC				SKS	SKSdf	04 25 18.2 -4.0
HHC				SKKS	SKKSac	04 26 16.9 -9.3
HHC				SS	SS	04 35 36.2 -3.1
HHC				LR	LR	
	comp=N,180nm,20.2s					
HHC				LR	LR	
	comp=E,230nm,21.4s					
HHC				LR	LR	
	comp=Z,190nm,20.2s					
WMQ	Urumqi	119.31	0	ePKP	PKPdf	04 18 15.0 +1.3
LZH	Lanzhou	124.92	344	ePKP	PKPdf	04 18 26.2 +1.3
LZH				sPKP		04 18 40.7
LZH				LR	LR	
	comp=N,99nm,18.0s					
LZH				LR	LR	
	comp=E,110nm,18.1s					
LZH				LR	LR	
	comp=Z,150nm,20.2s					
CD2	Chengdu	129.82	342	ePKP	PKPdf	04 18 34.6 +0.4
KMI	Kunming	135.54	341	PKP	PKPdf	04 18 45.8 +0.4
WRA	Warramunga Arr	135.97	259	PKP	PKPdf	04 18 47.8 +1.9
WRA	Warramunga Arr	135.97	259	PKP	PKPdf	04 18 47.8 +1.9
	comp=Z,0.8nm,0.8s,baz=87,slow=2.5,SNR=4.6					
ASAR	Alice Springs	136.52	254	PKP	PKPdf	04 18 50.5 +3.6
ASAR	Alice Springs	136.52	254	PKP	PKPdf	04 18 50.5 +3.6
	comp=Z,0.2nm,0.3s,baz=67,slow=3.1,SNR=3.1					

WEL 06 04:18:40.1±0.3, 46°.16S×165°.87E, h33km, ML4.4/19, 1C-2D, Error ellipse: s-maj=3.2km s-min=1.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.13	53	⇑PN	Pn	04 18 59.1	-0.5
DCZ				SN	Sn	04 19 14.0	+0.1
DCZ				SN	Sb	04 19 14.3	-1.1
DCZ				AML	AML	04 19 16.5	
DCZ				AML	AML	04 19 17.0	
WHZ	Wether Hill Ro	1.47	80	⇓PN	Pn	04 19 04.8	+0.4
WHZ				AML	AML	04 19 25.3	
WHZ				AML	AML	04 19 27.3	
APZ	The Paps	1.61	116	⇓PN	Pn	04 19 05.9	-0.5
MLZ	Mavora Lakes	1.81	64	PN	Pn	04 19 10.0	+1.0
MLZ				SN	Sb	04 19 35.1	+0.2
MLZ				AML	AML	04 19 41.2	
MSZ	Milford Sound	2.08	45	PN	Pn	04 19 12.9	+0.3
MSZ				AML	AML	04 19 51.3	
MSZ				AML	AML	04 19 51.6	
MSZ				AML	AML	04 19 60.0	
MSZ				AML	AML	04 20 00.0	
SYZ	Scrubby Hill	2.30	101	PN	Pn	04 19 15.9	+0.3
EAZ	Earnscleugh	2.58	70	PN	Pn	04 19 21.5	+1.9
EAZ				AML	AML	04 20 00.4	
EAZ				AML	AML	04 20 00.5	
EAZ				AML	AML	04 20 02.6	
EAZ				AML	AML	04 20 02.6	
WKZ	Wanaka	2.58	60	PN	Pn	04 19 22.0	+2.3
WKZ				AML	AML	04 19 58.6	
WKZ				AML	AML	04 20 01.9	
WKZ				AML	AML	04 20 03.6	
WKZ				AML	AML	04 20 05.6	
TUZ	Tuapeka	2.63	87	PN	Pn	04 19 21.3	+1.1
TUZ				AML	AML	04 20 05.4	
TUZ				AML	AML	04 20 05.5	
JCZ	Jackson Bay	2.92	46	ePN	Pn	04 19 25.8	+1.4
JCZ				AML	AML	04 20 17.6	
JCZ				AML	AML	04 20 20.7	
LBZ	Lake Benmore	3.52	61	ePN	Pn	04 19 33.4	+0.8
LBZ				AML	AML	04 20 31.1	
LBZ				AML	AML	04 20 34.1	
ODZ	Otahua Downs	3.53	73	PN	Pn	04 19 33.0	+0.3
FOZ	Fox Glacier	3.75	48	ePN	Pn	04 19 37.8	+2.1
FOZ				AML	AML	04 20 46.7	
FOZ				AML	AML	04 20 52.7	
RPZ	Rata Peaks	4.42	58	PN	Pn	04 19 44.8	-0.1
RPZ				AML	AML	04 21 03.4	
RPZ				AML	AML	04 21 14.1	
WVZ	Waitaha Valley	4.64	50	ePN	Pn	04 19 48.1	+0.2
WVZ				AML	AML	04 20 52.8	
THZ	Tophouse	6.71	52	ePN	Pn	04 20 15.4	-1.0
THZ				AML	AML	04 22 00.9	

IDC ***06*** *04:50:34.5±0.6, 7°.69S×128°.57E, h0km, mb4.3/15, mb1 4.5/19, mb1mx4.4/25, mbtmp4.4/19, ML4.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=24.5km s-min=13.1km az=68.0*

NEIC ***06*** *04:50:39.7±0.3, 7°.70S×128°.51E, h35km, mb4.5/7, Error ellipse: s-maj=10.8km s-min=6.2km az=68.0*

ISCJB ***06*** *04:50:44.0±0.3, 7°.89S±0°.03×128°.63E±0°.04, h100km, mb4.2/19, Error ellipse: s-maj=5.4km s-min=3.5km az=161.6*

DJA ***06*** *04:50:45.8±0.3, 8°.5S±3°.×12°.9E±°, h102km±13km, M4.8/9, mB5.4/3, mb4.8/9, MLv4.8/8, Mw(mB)4.8/3*

AUST ***06*** *04:50:45.8±0.0, 7°.95S×128°.70E, h63km, Error ellipse: s-maj=0.8km s-min=0.7km az=282.0*

ISC 06 04:50:45.7±0.4, 7°.93S±0°.04×128°.64E±0°.05, h100km, n90, σ2.13/84, mb4.3/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.61	20	P	Pn	04 51 37.6	-2.0
BNDI	Bandanaira	3.61	20	P	Pn	04 51 38.0	-1.6
	baz=3.6,SNR=5.9						
AAI	Ambon	4.24	354	P	Pn	04 51 46.4	-1.7
AAI	Ambon	4.24	354	P	Pn	04 51 46.7	-1.4
	baz=4.3,SNR=5.7						
MSAI	Masohi	4.56	4	P	Pn	04 51 51.1	-1.4
SOEI	Soe	4.69	247	P	Pn	04 51 55.3	+1.0
SOEI				S	Sn	04 52 47.2	-0.4
SOEI	Soe	4.69	247	P	Pn	04 51 55.3	+1.0
	baz=4.7,SNR=11						
NLAI	Namlea	4.90	342	P	Pn	04 51 56.9	-0.2
MTN	Manton Dam	5.47	154	P	Pn	04 52 06.5	+1.7
	baz=5.4,SNR=25						
MTN				S	Sn	04 53 07.8	+1.4
	baz=5.4,SNR=4.8						
KDU	Kakadu	6.05	142	P	Pn	04 52 14.2	+1.6
	baz=6.0,SNR=41						
KDU				S	Sn	04 53 21.7	+1.1
	baz=6.0,SNR=5.4						
FAKI	Fak Fak	6.14	36	P	Pn	04 52 13.9	0.0
	75nm,0.8s,0.3nm						
FAKI				S	Sn	04 53 20.7	-2.0
	75nm,0.8s,0.3nm						
FAKI	Fak Fak	6.14	36	P	Pn	04 52 13.7	-0.2
	baz=6.1,SNR=4.9						
FAKI				S	Sn	04 53 23.8	+1.1
	baz=6.1,SNR=4.7						
BBSI	Bau Bau	6.50	292	P	Pn	04 52 21.1	+2.4
	94nm,1.3s,0.4nm						
KNRA	Kununurra	7.70	179	P	Pn	04 52 35.2	+0.1
	baz=7.7,SNR=136						
KNRA				S	Sn	04 54 00.3	-0.6
	baz=7.7,SNR=5.0						
WSI	Waingapu	8.42	258	P	Pn	04 52 54.5	+10
WSI	Waingapu	8.42	258	P	Pn	04 52 49.0	+4.0
	baz=8.5,SNR=4.1						
LBFI	Labuhan Bajo,	8.68	266	P	Pn	04 53 05.2	+17
BKSI	Bulukumba	8.85	286	P	Pn	04 52 53.1	+2.4
	50nm,1.0s,573nm						
LUWI	Luwuk	9.00	319	P	Pn	04 53 00.1	+7.3
LUWI	Luwuk	9.00	319	S	Sn	04 55 00.5	+28
	baz=9.1,SNR=5.2						
SKSI	Soroako, Sulaw	9.03	306	P	Pn	04 53 04.3	+11
KAPI	Kappang	9.29	288	Pn	Pn	04 52 45.9	-11
KAPI	Kappang	9.29	288	Pn	Pn	04 52 45.9	-11
	baz=84,slow=14,SNR=2.1						
SPSI	Sidrap Palu	9.66	294	P	Pn	04 53 01.0	-0.8
	24nm,1.5s						
FITZ	Fitzroy Crossi	10.53	196	ePn	Pn	04 53 11.6	-2.0
FITZ				eS	Sn	04 55 05.6	-4.0
FITZ	Fitzroy Crossi	10.53	196	Pn	Pn	04 53 11.1	-2.5
	14nm,0.3s,baz=21,slow=13,SNR=84						
FITZ				Sn	Sn	04 55 04.6	-5.0
	9.0nm,0.3s,baz=97,slow=21,SNR=3.9						
FITZ	Fitzroy Crossi	10.53	196	P	Pn	04 53 11.7	-1.9
	baz=11,SNR=149						
FITZ				S	Sn	04 55 04.5	-5.1
	baz=11,SNR=3.2						
MRSI	Marisa	10.69	321	P	Pn	04 53 15.8	0.0
	30nm,1.2s,3μm						
WRAB	Tennant Creek	13.16	156	ePn	Pn	04 53 46.3	-2.4
	42nm,0.7s						
WRAB				eS	Sn	04 56 05.5	-8.0
WRA	Warramunga Arr	13.16	156	Pn	Pn	04 53 46.2	-2.5
WRA				Sn	Sn	04 56 03.9	-10
WRA	Warramunga Arr	13.16	156	Pn	Pn	04 53 46.2	-2.5
	5.3nm,0.3s,baz=323,slow=14,SNR=117						
WRA				Sn	Sn	04 56 03.9	-10
	5.3nm,0.3s,baz=330,slow=24,SNR=13						
COEN	Coen	15.47	114	ePn	P	04 54 18.8	-2.0
	71nm,0.6s						
COEN				eS	Sn	04 56 58.2	-11
COEN	Coen	15.47	114	P	P	04 54 19.5	-1.3
	baz=15,SNR=21						
COEN				S	Sn	04 57 01.1	-8.6
	baz=15,SNR=6.3						
MBWA	Marble Bar	15.72	212	ePn	Pn	04 54 20.2	-1.3
	14nm,0.6s						
MBWA				eS	Sn	04 57 03.6	-12
PALU	Palau	16.25	21	S	S	04 57 57.5	+23
	baz=16,SNR=5.1						
ASAR	Alice Springs	16.45	163	Pn	Pn	04 54 30.2	-0.4
ASAR				Sn	Sn	04 57 29.1	-3.9
ASAR	Alice Springs	16.45	163	Pn	Pn	04 54 30.2	-0.4
	2.4nm,0.3s,baz=332,slow=9.8,SNR=90						
ASAR				Sn	Sn	04 57 29.1	-3.9
	2.4nm,0.3s,baz=345,slow=24,SNR=6.5						
MTSU	Mount Surprise	18.32	125	P	Pn	04 54 56.0	+2.6
	baz=18,SNR=31						
MTSU				S	S	04 58 10.9	-5.7
	baz=18,SNR=4.5						
MEEK	Meekatharra	20.90	206	P	Pn	04 55 25.4	+1.8
	baz=21,SNR=10						
CTA	Charters Tower	20.91	127	P	P	04 55 20.6	+0.3
CTA	Charters Tower	20.91	127	P	P	04 55 20.6	+0.3
	4.8nm,0.6s,baz=306,slow=13,SNR=2.1						
FORT	Forrest	22.74	181	eP	P	04 55 42.3	+2.9
	62nm,0.8s						
FORT	Forrest	22.74	181	P	P	04 55 43.0	+3.6
	baz=23,SNR=9.6						
MORW	Morawa	24.14	208	P	P	04 55 55.8	+3.3
	baz=24,SNR=4.9						
BLDU	Ballidu	25.18	205	P	P	04 56 06.8	+4.9
	baz=25,SNR=6.0				

XAN	Xi'an	45.73	337	P	P	04 58 55.8	-1.2
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,48nm,5.2s						
USRK	Ussuriysk Arra	51.97	3	P	P	04 59 43.9	-0.5
	comp=Z,1.5nm,0.7s,baz=188,slow=5.8,SNR=5.7						
SONM	Songino Array	58.90	343	P	P	05 00 35.0	+0.7
SONM	Songino Array	58.90	343	P	P	05 00 35.1	+0.7
	comp=Z,3.7nm,0.8s,baz=166,slow=7.9,SNR=15						
PETK	Petropavlovsk-	65.62	19	P	P	05 01 19.1	+0.2
PETK	Petropavlovsk-	65.62	19	P	P	05 01 19.1	+0.2
	comp=Z,2.8nm,0.6s,baz=191,slow=8.2,SNR=9.4						
MKAR	Makanchi Array	68.27	328	P	P	05 01 36.2	+0.3
MKAR	Makanchi Array	68.27	328	P	P	05 01 36.2	+0.3
	comp=Z,2.1nm,0.5s,baz=120,slow=7.7,SNR=29						
VNDA	Vanda	71.70	173	P	P	05 01 59.2	+2.9
VNDA	Vanda	71.70	173	P	P	05 01 59.2	+2.9
	comp=Z,0.8nm,0.6s,baz=340,slow=5.9,SNR=3.9						
ZAA0	Zalesovo Array	71.82	334	eP	P	05 01 56.6	-0.7
ZALV	Zalesovo Beam	71.82	334	P	P	05 01 57.0	-0.3
ZALV	Zalesovo Beam	71.82	334	P	P	05 01 57.0	-0.3
	comp=Z,3.1nm,0.6s,baz=132,slow=6.1,SNR=16						
BVAR	Borovoye Array	78.13	328	P	P	05 02 34.0	+0.3
BVAR	Borovoye Array	78.13	328	P	P	05 02 34.0	+0.3
	comp=Z,6.0nm,0.9s,baz=133,slow=6.3,SNR=21						
BRVK	Borovoye	78.20	328	eP	P	05 02 34.2	+0.1
	comp=Z,6.8nm,0.9s						
QSPA	South Pole Qui	82.06	180	eP	P	05 02 58.3	+3.5
	comp=Z,1.7nm,0.8s						
AKTO	Aktyubinsk	83.98	323	P	P	05 03 05.1	+0.3
AKTO	Aktyubinsk	83.98	323	P	P	05 03 05.1	+0.3
	comp=Z,3.0nm,0.8s,baz=105,slow=5.8,SNR=10.0						
ILAR	Eielson Array	94.76	25	P	P	05 03 55.0	-0.7
ILAR	Eielson Array	94.76	25	P	P	05 03 55.0	-0.7
	comp=Z,0.5nm,0.8s,baz=259,slow=5.0,SNR=6.2						
TORD	Torodi Ar. Bea	127.66	280	PKP	PKPdf	05 09 42.0	+1.7
TORD	Torodi Ar. Bea	127.66	280	PKP	PKPdf	05 09 42.0	+1.7
	comp=Z,0.5nm,0.6s,baz=69,slow=1.7,SNR=3.8						
PLCA	Paso Flores	128.45	161	PKP	PKPdf	05 09 44.2	+2.9
PLCA	Paso Flores	128.45	161	PKP	PKPdf	05 09 44.2	+2.9
	comp=Z,1.4nm,0.8s,baz=127,slow=2.4,SNR=3.3						
CPUP	Villa Florida	145.46	171	PKPbc	PKPab	05 10 16.0	+2.8
CPUP	Villa Florida	145.46	171	PKPbc	PKPab	05 10 16.0	+2.8
	comp=Z,1.7nm,0.6s,baz=174,slow=2.9,SNR=7.4						
LPAZ	La Paz	150.77	145	ePKPbc	PKPab	05 10 31.9	-3.5
LPAZ	La Paz	150.77	145	PKPbc	PKPbc	05 10 30.9	+2.7
	comp=Z,2.1nm,0.4s,baz=100,slow=2.1,SNR=17						

TIR ***06*** *04:57:41.4, 37.°30N×22.°31E, h50km*
IDC ***06*** *04:57:43.0±0.5, 37.°52N×22.°04E, h0km, mb4.3/25, mb1 4.4/35, mb1mx4.4/42, mbtmp4.3/35, ML4.1/10, MS3.3/5, Ms1 3.3/5, ms1mx2.8/47, Error ellipse: s-maj=11.4km s-min=11.2km az=96.0*
CSEM ***06*** *04:57:44.9±0.1, 37.°48N×22.°02E, h10km, mb4.7/11, Error ellipse: s-maj=2.4km s-min=1.9km az=42.0*
BJI ***06*** *04:57:44.5, 37.°54N×21.°43E, h43km, mB4.8/9, mb4.6/16, Ms5.1/5, Ms7 4.6/5*
PDG ***06*** *04:57:44.5±0.5, 37.°36N×22.°05E, h24km±4km, ML4.3/7, Error ellipse: s-maj=5.0km s-min=2.4km az=90.0*
NEIC ***06*** *04:57:44.5, 37.°49N×22.°03E, h16km, mb4.5/13, ML4.2(ATH), After ATH.*
NEIC Felt at Kopanaki, Sami and Tripolis.
ISCJB ***06*** *04:57:44.9±0.2, 37.°48N±0.°01×21.°97E±0.°01, h22km±1km, mb4.5/60, MS3.6/8, Error ellipse: s-maj=1.9km s-min=1.6km az=37.8*
ATH ***06*** *04:57:44.5, 37.°49N×22.°03E, h16km, MD3.8/19, ML4.2*
PRU ***06*** *04:57:45.8, 37.°47N×21.°99E, h0km, M4.6*
THE ***06*** *04:57:45.0, 37.°51N×22.°04E, h2km, ML4.4/18, Error ellipse: s-maj=0.6km s-min=0.3km az=229.0*
MOS ***06*** *04:57:46.1±1.1, 37.°52N×22.°08E, h31km, mb4.6/15, Error ellipse: s-maj=7.4km s-min=3.5km az=88.4*
BGS ***06*** *04:57:52.8±3.0, 38.°30N×21.°62E, h15km, mb4.4*
BEO ***06*** *04:57:54.9, 38.°18N×22.°03E, h0km*
ISC 06 04:57:44.8±0.4, 37.°51N±0.°01×22.°02E±0.°01, h11km±2km, n642, σ1°35/773, mb4.6/60, MS3.4/8, 29C-21D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	Artemida-Makis	0.25	276	P	Pg	04 57 49.8	-0.2
AMT				S	Sg	04 57 54.4	+1.0
AMT	Artemida-Makis	0.25	276	ePB	Pg	04 57 50.2	+0.2
AMT				eSB	Sg	04 57 54.2	+0.8
AMT	Artemida-Makis	0.25	276	P	Pg	04 57 49.8	-0.2
AMT	Artemida-Makis	0.25	276	ePb	Pg	04 57 50.2	+0.2
AMT				S	Sg	04 57 54.3	+0.8
VLX	Vlachokerasia	0.32	115	P	Pg	04 57 51.0	-0.2
VLX				S	Sg	04 57 55.2	-0.3
VLX	Vlachokerasia	0.32	115	ePB	Pg	04 57 51.3	+0.1
VLX				eSB	Sg	04 57 55.4	-0.1
VLX	Vlachokerasia	0.32	115	P	Pg	04 57 51.0	-0.2
VLX	Vlachokerasia	0.32	115	ePb	Pg	04 57 51.3	+0.1
VLX				S	Sg	04 57 55.2	-0.3
ITM	Ithomi	0.33	193	P	Pg	04 57 51.2	-0.3
ITM				S	Sg	04 57 56.3	+0.3
ITM	Ithomi	0.33	193	ePB	Pg	04 57 51.3	-0.3
ITM	Ithomi	0.33	193	P	Pg	04 57 51.2	-0.3
ITM				S	Sg	04 57 56.1	+0.1
GUR	Goura	0.50	31	P	Pg	04 57 54.1	-0.5
GUR				S	Sg	04 58 01.4	+0.1
GUR	Goura	0.50	31	ePN	Pg	04 57 54.2	-0.4
GUR				eSN	Sg	04 58 01.2	-0.1
GUR	Goura	0.50	31	P	Pg	04 57 54.2	-0.4
GUR				S	Sg	04 58 01.4	+0.1
KLV	Kalavryta, Ach	0.55	11	P	Pg	04 57 54.9	-0.6
KLV				S	Sg	04 58 03.8	+1.0
KLV	Kalavryta, Ach	0.55	11	ePN	Pg	04 57 55.2	-0.3
KLV				eSN	Sb	04 58 04.2	-0.3
KLV	Kalavryta, Ach	0.55	11	ePn	Pg	04 57 55.2	-0.3
KLV				S	Sg	04 58 03.3	+0.5
KLV				eSn	Sb	04 58 04.2	-0.3
PYL	PYLOS	0.65	200	P	Pg	04 57 56.6	-0.8
PYL				S	Sg	04 58 06.5	+0.6
PYL	PYLOS	0.65	200	ePN	Pg	04 57 57.0	-0.4
PYL				eSN	Sg	04 58 05.8	-0.1
PYL	PYLOS	0.65	200	P	Pg	04 57 56.6	-0.8
PYL	PYLOS	0.65	200	ePn	Pg	04 57 57.0	-0.4
PYL				eSn	Sg	04 58 05.8	-0.1
PYL				S	Sg	04 58 06.5	+0.6
RLS	Riolos of Patr	0.70	322	P	Pg	04 57 58.0	-0.4
RLS				S	Sg	04 58 08.5	+0.8
RLS	Riolos of Patr	0.70	322	ePN	Pg	04 57 58.1	-0.4
RLS				eSN	Sb	04 58 09.2	+0.3
RLS	Riolos of Patr	0.70	322	P	Pg	04 57 58.0	-0.4
RLS				S	Sg	04 58 08.5	+0.8
RLS				eSn	Sb	04 58 09.2	+0.3
LAKA	Lakka	0.73	357	P	Pg	04 57 58.5	-0.5
LAKA				S	Sg	04 58 09.3	+0.6
LAKA	Lakka	0.73	357	ePN	Pg	04 57 58.6	-0.5
LAKA				eSN	Sb	04 58 10.2	+0.4
LAKA	Lakka	0.73	357	P	Pg	04 57 58.5	-0.5
LAKA				S	Sg	04 58 09.3	+0.6
LAKA				eSn	Sb	04 58 10.2	+0.4
THAL	Thalero	0.74	44	P	Pg	04 57 58.4	-0.6
THAL				S	Sg	04 58 09.5	+0.8
THAL	Thalero	0.74	44	P	Pg	04 57 58.5	-0.6
THAL				S	Sg	04 58 09.5	+0.8
ACOR	Acrocorinthos	0.78	60	P	Pg	04 57 59.0	-0.8
ACOR				S	Sg	04 58 10.0	0.0
ACOR	Acrocorinthos	0.78	60	P	Pg	04 57 59.0	-0.8
ACOR				S	Sg	04 58 10.0	0.0
DYR	Agios Nikonas	0.78	161	P	Pg	04 57 58.9	-1.0
DYR				S	Sb	04 58 11.2	0.0
DYR	Agios Nikonas	0.78	161	ePN	Pg	04 57 59.4	-0.5
DYR				eSN	Sg	04 58 10.3	+0.1
DYR	Agios Nikonas	0.78	161	P	Pg	04 57 59.0	-1.0
DYR	Agios Nikonas	0.78	161	ePn	Pg	04 57 59.4	-0.5
DYR				eSn	Sg	04 58 10.3	+0.1
UPR	University Cam	0.80	347	P	Pg	04 58 00.0	-0.3
UPR				S	Sb	04 58 11.9	+0.3
PSA1	Psathopyrgos	0.83	353	ePB	Pg	04 58 00.2	-0.6
PSA1				eSN	Sb	04 58 12.4	0.0
SFD	Strofades	0.84	253	P	Pg	04 58 01.4	+0.4
SFD				S	Sb	04 58 13.2	+0.5
SFD	Strofades	0.84	253	P	Pg	04 58 01.4	+0.4
SFD				S	Sb	04 58 13.2	+0.5
AXS	Araxos	0.86	324	P	Pg	04 58 00.4	-1.0
AXS				S	Sb	04 58 13.6	+0.3
AXS	Araxos	0.86	324	P	Pg	04 58 00.4	-1.0
AXS				S	Sb	04 58 13.6	+0.3
TRIZ	Trizonia	0.86	3	P	Pg	04 58 00.5	-0.9
TRIZ				S	Sb	04 58 14.4	+1.0
TRIZ	Trizonia	0.86	3	ePB	Pg	04 58 00.8	-0.6
TRIZ				eSN	Sg	04 58 13.3	+0.7
TRIZ	Trizonia	0.86	3	P	Pg	04 58 00.5	-0.9
TRIZ	Trizonia	0.86	3	ePb	Pg	04 58 00.8	-0.6
TRIZ				S	Sg	04 58 13.1	+0.5
KALE	Kalithea	0.89	6	P	Pg	04 58 01.1	-0.9
KALE				S	Sb	04 58 15.2	+0.9
KALE	Kalithea	0.89	6	ePB	Pg	04 58 01.3	-0.7
KALE				eSN	Sg	04 58 14.2	+0.6
KALE	Kalithea	0.89	6	ePb	Pg	04 58 01.3	-0.7
KALE				S	Sg	04 58 14.4	+0.8
LTK	Loutraki	0.91	55	P	Pg	04 58 01.6	-0.8
LTK				S	Sg	04 58 14.4	+0.1
LTK	Loutraki	0.91	55	ePN	Pg	04 58 01.8	-0.6
LTK				eSN	Sg	04 58 14.8	+0.5
LTK	Loutraki	0.91	55	P	Pg	04 58 01.6	-0.8
LTK				S	Sg	04 58 14.4	+0.1
EFP	Efpalio	0.92	354	P	Pg	04 58 01.8	-0.9
EFP				S	Sb	04 58 16.1	+0.9
EFP	Efpalio	0.92	354	ePN	Pg	04 58 02.3	-0.4
EFP				eSN	Sg	04 58 15.2	+0.5
EFP	Efpalio	0.92	354	P	Pg	04 58 02.2	-0.4
EFP				S	Sb	04 58 15.4	+0.2
DIDY	Didyma	0.95	91	P	Pg	04 58 02.5	-0.6
DIDY				S	Sb	04 58 16.8	+0.8
DIDY	Didyma	0.95	91	P	Pg	04 58 02.5	-0.6
DIDY				S	Sg	04 58 15.8	+0.3
DID	Didima	0.97	90	P	Pg	04 58 02.6	-0.9
DID				S	Sg	04 58 16.1	0.0
DID	Didima	0.97	90	ePN	Pg	04 58 03.4	-0.1
DID	Didima	0.97	90	P	Pg	04 58 02.7	-0.8
DID	Didima	0.97	90	ePn	Pg	04 58 03.4	-0.1
DID				S	Sg	04 58 16.1	0.0
DSF	Desfina	0.99	24	P	Pg	04 58 02.5	-1.4
DSF				S	Sb	04 58 18.2	+1.0
DSF	Desfina	0.99	24	P	Pg	04 58 02.5	-1.4
DSF				S	Sb	04 58 18.2	+1.0
VLI	Veliai	1.07	137	P	Pb	04 58 04.7	-0.7
VLI				S	Sn	04 58 21.0	+0.2
VLI	Veliai	1.07	137	ePN	Pb	04 58 04.8	-0.7
VLI	Veliai	1.07	137	P	Pb	04 58 04.8	-0.7
VLI				S	Sn	04 58 21.0	+0.2
KFL	Anninata	1.15	302	P	Pb	04 58 06.6	-0.1
KFL	Anninata	1.15	302	P	Pb	04 58 06.7	0.0
VIL2	Platees	1.21	54	P	Pn	04 58 08.1	+0.3
VIL2				S	Sg	04 58 24.5	+0.5
VLS	Valsamata	1.32	301	P	Pn	04 58 09.2	0.0
VLS				S	Sg	04 58 28.7	+1.5
VLS	Valsamata	1.32	301	P	Pn	04 58 09.2	0.0
VLS				S	Sg	04 58 28.7	+1.5
AXAR	Agios Charalam	1.36	22	P	Pn	04 58 09.1	-0.7
AXAR				S	Sg	04 58 29.5	+1.0
AXAR	Agios Charalam	1.36	22	P	Pn	04 58 09.1	-0.7
AXAR				S	Sg	04 58 29.5	+1.0
EVR	Evrytania	1.42	353	P	Pn	04 58 10.6	-0.1
EVR				S	Sg	04 58 31.4	+0.9
EVR	Evrytania	1.42	353	ePN	Pn	04 58 10.9	+0.2
EVR	Evrytania	1.42	353	P	Pn	04 58 10.6	-0.1
EVR	Evrytania	1.42	353	ePn	Pn	04 58 10.9	+0.2
EVR				S	Sg	04 58 31.4	+0.9
ATH	Athens Observa	1.42	70	P	Pn	04 58 11.1	+0.4
ATH				S	Sg	04 58 31.7	+1.0
ATH	Athens Observa	1.42	70	ePN	Pn	04 58 11.2	+0.5
ATH				eSN	Sb	04 58 30.5	+0.9
ATH	Athens Observa	1.42	70	ePn	Pn	04 58 11.2	+0.5
ATH				eSn	Sb	04 58 30.5	+0.9
ATH				S	Sg	04 58 31.7	+1.0
ATAL	Atalanti	1.43	33	P	Pn	04 58 09.6	-1.1
ATAL				S	Sg	04 58 30.9	+0.2
ATAL	Atalanti	1.43	33	P	Pn	04 58 09.6	-1.1
ATAL				S	Sg	04 58 30.9	+0.2
KYTH	Kithira	1.47	146	P	Pn	04 58 11.8	+0.5
KYTH	Kithira	1.47	146	P	Pn	04 58 11.8	+0.5
ATHU	Athens Univers	1.47	71	P	Pn	04 58 11.5	+0.1
ATHU				S	Sb	04 58 32.0	+1.0
ATHU	Athens Univers	1.47	71	P	Pn	04 58 11.5	+0.1
ATHU				S	Sb	04 58 32.0	+1.0
MAKR	Makrakomi, Fth	1.51	3	P	Pn	04 58 12.5	+0.6
MAKR	Makrakomi, Fth	1.51	3	P	Pn	04 58 12.5	+0.6
MAKR				S	Sg	04 58 34.5	+1.1
AGG	Agios Georgios	1.53	9	P	Pn	04 58 12.1	-0.1
AGG				S	Sg	04 58 34.7	+0.5
AGG	Agios Georgios	1.53	9	ePN	Pn	04 58 12.6	+0.4
AGG	Agios Georgios	1.53	9	ePn	Pn	04 58 12.6	+0.4
AGG				S	Sb	04 58 34.0	+1.2
PTL	Penteli	1.56	69	P	Pn	04 58 12.9	+0.3
PTL				S	Sb	04 58 34.3	+0.8
PTL	Penteli	1.56	69	ePN	Pn	04 58 13.1	+0.5
PTL				eSN	Sb	04 58 34.4	+0.9
PTL	Penteli	1.56	69	P	Pn	04 58 12.9	+0.3
PTL				S	Sb	04 58 34.3	+0.8
SMIA	Simia	1.66	34	P	Pn	04 58 14.0	0.0
SMIA				S	Sb	04 58 36.4	-0.1
SMIA	Simia	1.66	34	P	Pn	04 58 14.0	0.0
SMIA				S	Sb	04 58 36.4	-0.1
LKD2	Lefkada island	1.67	320	P	Pn	04 58 14.5	+0.4
LKD2	Lefkada island	1.67	320	P	Pn	04 58 14.5	+0.4
ERET	Eretria	1.69	56	P	Pn	04 58 15.3	+0.8
ERET				S	Sn	04 58 37.3	+1.1
ERET	Eretria	1.69	56	P	Pn	04 58 15.3	+0.8
ERET				S	Sn	04 58 37.3	+1.1
MRKA	Markates	1.72	45	P	Pn	04 58 15.2	+0.4
MRKA				S	Sb	04 58 38.1	-0.1
MRKA	Markates	1.72	45	P	Pn	04 58 15.2	+0.4
MRKA				S	Sb	04 58 38.1	-0.1
ANKY	Antikythira Is	1.93	147	P	Pb	04 58 20.6	+0.5
ANKY	Antikythira Is	1.93	147	P	Pb	04 58 20.6	+0.5
MRMA	Marmari	1.95	73	P	Pn	04 58 19.4	+1.5
MRMA	Marmari	1.95	73	P	Pn	04 58 19.4	+1.5
SKIA	Skiathos	2.01	34	P	Pn	04 58 19.4	+0.6
SKIA				S	Sb	04 58 45.8	-0.7
SKIA	Skiathos	2.01	34	P	Pn	04 58 19.4	+0.6
SKIA				S	Sb	04 58 45.8	-0.7
NEO	Neokhori	2.03	27	P	Pn	04 58 19.5	+0.4
NEO				S	Sn	04 58 45.5	+1.0
NEO	Neokhori	2.03	27	ePB	Pn	04 58 19.5	+0.4
NEO	Neokhori	2.03	27	P	Pn	04 58 19.5	+0.4
NEO				S	Sn	04 58 45.5	+1.0
THL	Klokotos Trika	2.06	360	P	Pn	04 58 20.6	+1.2
THL				S	Sb	04 58 47.7	-0.1
THL	Klokotos Trika	2.06	360	ePN	Pn	04 58 21.0	+1.6
THL	Klokotos Trika	2.06	360	P	Pn	04 58 20.6	+1.2
THL	Klokotos Trika	2.06	360	ePn	Pn	04 58 21.0	+1.6
THL				S	Sb	04 58 47.7	-0.1
XOR	Xorichti	2.07	26	P	Pn	04 58 20.0	+0.3
XOR				S	Sn	04 58 46.4	+0.9
XOR	Xorichti	2.07	26	P	Pn	04 58 20.0	+0.3
XOR				S	Sn	04 58 46.4	+0.9
AOS	Alonnisos	2.21	41	P	Pn	04 58 21.7	+0.2
AOS	Alonnisos	2.21	41	ePB	Pn	04 58 21.8	+0.2
AOS	Alonnisos	2.21	41	P	Pn	04 58 21.7	+0.2
JAN	Janina	2.33	337	P	Pn	04 58 24.3	+1.0
JAN				S	Sb	04 58 55.0	-0.9
JAN	Janina	2.33	337	P	Pn	04 58 24.3	+1.0
JAN				S	Sb	04 58 55.0	-0.9
IGT	Igoumenitsa	2.42	327	P	Pn	04 58 26.3	+1.9
IGT	Igoumenitsa	2.42	327	P	Pn	04 58 26.3	+1.9
VAM	Vamos	2.73	139	P	Pn	04 58 29.9	+1.2
VAM	Vamos	2.73	139	P	Pn	04 58 29.9	+1.2
PAIG	Paliouri	2.75	28	P	Pn	04 58 28.8	0.0
PAIG				S	Sn	04 59 03.5	+1.5
PAIG	Paliouri	2.75	28	P	Pn	04 58 28.8	0.0
PAIG				S	Sn	04 59 03.5	+1.5
KZN	Kozani	2.80	356	P	Pn	04 58 30.1	+0.4
KZN	Kozani	2.80	356	ePN	Pn	04 58 31.5	+1.8
KZN	Kozani	2.80	356	P	Pn	04 58 30.1	+0.4
KZN	Kozani	2.80	356	ePn	Pn	04 58 31.5	+1.8
KEK	Kerkira	2.81	322	P	Pn	04 58 31.4	+1.7
KEK				S	Sn	04 59 06.2	+2.6
KEK	Kerkira	2.81	322	P	Pn	04 58 31.4	+1.7
KEK				S	Sn	04 59 06.2	+2.6
APE	Apeiranthos	2.83	98	ePN	Pn	04 58 31.0	+0.8
APE	Apeiranthos	2.83	98	P	Pn	04 58 30.6	+0.4
APE				S	Sn	04 59 06.7	+2.4
APE	Apeiranthos	2.83	98	*i* P	Pn	04 58 30.5	+0.4
APE	Apeiranthos	2.83	98	⇓*i* P	Sn	04 59 05.8	+1.5
APE	Apeiranthos	2.83	98	*i* P	Pn	04 58 30.5	+0.4
APE				S	Sn	04 59 06.7	+2.4
SRN	Sarande	2.85	327	ePN	Pn	04 58 32.7	+2.4
SRN	Sarande	2.85	327	P	Pn	04 58 32.1	+1.8
SRN				S	Sn	04 59 06.6	+2.0
SRN	Sarande	2.85	327	P	Pn	04 58 32.1	+1.8
SRN	Sarande	2.85	327	ePn	Pn	04 58 32.7	+2.4
SRN				S	Sn	04 59 06.6	+2.0
THR3	Thira Island,	2.92	111	P	Pn	04 58 32.4	+1.1
THR3	Thira Island,	2.92	111	P	Pn	04 58 32.4	+1.1
THR2	Thira island,	2.93	110	P	Pn	04 58 31.8	+0.4
THR2	Thira island,	2.93	110	P	Pn	04 58 31.8	+0.4
THR6	Thira Island,	2.94	112	P	Pn	04 58 32.5	+1.0
THR6	Thira Island,	2.94	112	P	Pn	04 58 32.5	+1.0
SANT	Santorini	2.98	111	P	Pn	04 58 33.0	+0.9
SANT	Santorini	2.98	111	ePn	Pn	04 58 34.2	+2.1
SANT				eS	Sb	04 59 15.4	+1.0
SANT	Santorini	2.98	111	P	Pn	04 58 33.0	+0.9
SANT	Santorini	2.98	111	ePn	Pn	04 58 34.2	+2.1
THR1	Thera Island	2.98	111	P	Pn	04 58 33.2	+1.1
THR1	Thera Island	2.98	111	P	Pn	04 58 33.2	+1.1
IDI	Anoyia	3.20	133	ePn	Pn	04 58 36.8	+1.6
IDI				eS	Sn	04 59 09.0	-4.4
IDI	Anoyia	3.20	133	ePn	Pn	04 58 36.8	+1.6
IDI				eS	Sn	04 59 09.0	-4.4
KBN	Korca	3.26	343	ePN	Pb	04 58 40.1	-2.6
KBN	Korca	3.26	343	ePn	Pb	04 58 40.1	-2.6
URLA	Izmir	3.72	75	*i* P	Pn	04 58 43.3	+1.1
URLA	Izmir	3.72	75	*i* P	Pn	04 58 43.3	+1.1
VAY	Valandovo	3.83	6	ePn	Pn	04 58 44.4	+0.6
VAY	Valandovo	3.83	6	ePn	Pn	04 58 45.7	+1.2
VAY	Valandovo	3.83	6	ePn	Pn	04 58 44.4	+0.6
GCAM	G?zelcaml?	4.14	86	*i* P	Pn	04 58 49.9	+1.8
GCAM	G?zelcaml?	4.14	86	*i* P	Pn	04 58 49.9	+1.8
TIR	Tirane	4.18	337	ePN	Pn	04 58 51.8	+3.2
TIR	Tirane	4.18	337	eP	Pn	04 58 51.5	+2.9
TIR	Tirane	4.18	337	ePn	Pn	04 58 51.5	+2.9
TIR	Tirane	4.18	337	ePn	Pn	04 58 52.2	+3.6
TIR	Tirane	4.18	337	eP	Pn	04 58 51.5	+2.9
IZM	Izmir	4.24	76	ePN	Pn	04 58 50.8	+1.3
BODT	Bodrum	4.24	94	ePN	Pn	04 58 51.0	+1.6
BDRM	Kayabasi	4.35	94	*i* P	Pn	04 58 52.1	+1.2
BDRM	Kayabasi	4.35	94	*i* P	Pn	04 58 52.1	+1.2
PHP	Peshkopia	4.35	344	ePN	Pn	04 58 54.3	+3.4
PHP	Peshkopia	4.35	344	ePn	Pn	04 58 54.3	+3.4
TIP	Timpagrande	4.46	294	ePn	Pn	04 58 54.4	+1.9
TIP				eS	Sn	04 59 41.8	-2.6
TIP	Timpagrande	4.46	294	ePn	Pn	04 58 54.4	+1.9
TIP				eS	Sn	04 59 41.8	-2.6
SKO	Skopje	4.48	354	ePn	Pn	04 58 56.0	+3.3
SKO	Skopje	4.48	354	ePn	Pn	04 58 56.0	+3.3
DAT	Datca	4.51	98	ePN	Pn	04 58 55.6	+2.4
ENEZ	Enez	4.55	44	ePN	Pn	04 58 54.4	+0.7
AYDN	Tasoluk	4.66	86	*i* P	Pn	04 58 57.1	+1.9
AYDN	Tasoluk	4.66	86	*i* P	Pn	04 58 57.1	+1.9
LPK	Lapseki	4.67	51	ePN	Pn	04 58 56.1	+0.8
PUK	Puka	4.82	341	ePN	Pn	04 58 59.9	+2.5
PUK	Puka	4.82	341	ePn	Pn	04 58 59.9	+2.5
CEL	Celeste	4.90	281	ePn	Pn	04 58 58.6	0.0
CEL				eS	Sn	04 59 55.7	+0.3
CEL	Celeste	4.90	281	ePn	Pn	04 58 58.6	0.0
CEL				eS	Sn	04 59 55.7	+0.3
BALY	Balya	4.92	61	*i* P	Pn	04 58 59.6	+0.8
BALY	Balya	4.92	61	*i* P	Pn	04 58 59.6	+0.8
YEI1	Yerkesik	5.01	92	ePN	Pn	04 59 03.2	+3.2
KRBG	Karabiga-Canak	5.02	53	ePN	Pn	04 59 01.0	+0.9
PLD	Plovdiv	5.04	23	ePn	Pn	04 59 02.7	+2.4
PLD	Plovdiv	5.04	23	ePn	Pn	04 59 02.7	+2.4
BALB	Balikesir	5.06	63	ePN	Pn	04 59 01.8	+1.1
BCI	Bajram Curri	5.08	343	ePN	Pn	04 59 04.0	+3.0
GONE	Gonen-Balikesi	5.10	58	ePN	Pn	04 59 02.4	+1.2
VTS	Vitosha	5.16	10	⇑P	Pn	04 59 04.0	+1.8
VTS	Vitosha	5.16	10	⇑*i* P	Pn	04 59 04.0	+1.8
VTS	Vitosha	5.16	10	ePn	Pn	04 59 04.4	+2.2
VTS	Vitosha	5.16

TIRR	**Tirgusor**	**8.46**	**33**	P		**Pn**	**04 59 49.0 +1.7**
TIRR	**Tirgusor**	**8.46**	**33**	*e*Pn		**Pn**	**04 59 49.5 +2.2**
MLR	**Muntele Rosu**	**8.50**	**19**	⇑*i*P		**Pn**	**04 59 51.0 +3.0**
MLR	**Muntele Rosu**	**8.50**	**19**	Pn		**Pn**	**04 59 50.2 +2.2**
MLR	**Muntele Rosu**	**8.50**	**19**	Pn		**Pn**	**04 59 50.2 +2.2**
0.7nm,0.3s,baz=202,slow=10,SNR=16							
MLR	**Muntele Rosu**	**8.50**	**19**	P		**Pn**	**04 59 50.2 +2.2**
NVLJ	**Novalja**	**8.88**	**325**	*e*Pn		**Pn**	**04 59 53.7 +0.7**
NVLJ				Sn		**Sn**	**05 01 29.9 -3.1**
NVLJ	**Novalja**	**8.88**	**325**	*e*Pn		**Pn**	**04 59 53.7 +0.7**
CFR	**Carcaliu**	**8.94**	**29**	⇓*i*P		**Pn**	**04 59 52.6 -1.2**
PLOR	**Plostina**	**9.03**	**21**	⇓*i*P		Pn	04 59 59.1 +3.9
PKSM	**Moragy**	**9.06**	**345**	⇓P		**Pn**	**04 59 55.6 +0.1**
PKSM	**Moragy**	**9.06**	**345**	⇓*i*P		**Pn**	**04 59 55.6 +0.1**
PKSM	**Moragy**	**9.06**	**345**	⇓*e*Pn		**Pn**	**04 59 55.7 +0.2**
PKSM	**Moragy**	**9.06**	**345**	P		**Pn**	**04 59 55.6 +0.1**
VRI	**Vrincioaia**	**9.06**	**21**	⇓P		Pn	04 59 59.2 +3.6
VRI	**Vrincioaia**	**9.06**	**21**	⇓*i*P		Pn	04 59 59.2 +3.6
DRGR		**9.29**	**3**	⇓P		Pn	05 00 02.2 +3.4
DRGR		**9.29**	**3**	⇓*i*P		Pn	05 00 02.2 +3.4
BR131	**Keskin Array S**	**9.36**	**73**	*e*Pn		**Pn**	**05 00 02.7 +2.8**
6.5nm,0.6s							
BRTR	**Keskin Array B**	**9.36**	**73**	Pn		**Pn**	**05 00 00.3 +0.5**
BRTR	**Keskin Array B**	**9.36**	**73**	Pn		**Pn**	**05 00 00.3 +0.5**
1.2nm,0.3s,baz=254,slow=13,SNR=37							
BRTR	**Keskin Array B**	**9.36**	**73**	P		**Pn**	**05 00 00.3 +0.5**
BOJS	**Bojanci**	**9.46**	**330**	*i* Pn		**Pn**	**05 00 01.4 +0.3**
BOJS				*i* Sn		**Sn**	**05 01 45.4 -2.0**
TESR	**Tescani**	**9.63**	**19**	⇑*i*P		Pn	05 00 10.2 +6.8
CRES	**Cresnjev**	**9.65**	**332**	*e*Pn		**Pn**	**05 00 03.2 -0.5**
CRES				*e*Sn		**Sn**	**05 01 50.1 -2.0**
LJFR	**Jufra**	**9.86**	**214**	*i* P		**Pn**	**05 00 05.5 -1.0**
SNR=22							
SKDS	**Skadanscina**	**10.02**	**326**	*i* Pn		**Pn**	**05 00 08.4 -0.3**
SKDS				*i* Sn		**Sn**	**05 01 57.9 -3.4**
TRI	**Trieste**	**10.26**	**326**	*e*P		**Pn**	**05 00 12.7 +0.7**
TRI				*e*S		**Sn**	**05 02 06.8 -0.2**
TRI	**Trieste**	**10.26**	**326**	*e*Pn		**Pn**	**05 00 12.7 +0.7**
TRI				*e*S		**Sn**	**05 02 06.8 -0.2**
TRI	**Trieste**	**10.26**	**326**	*e*P		**Pn**	**05 00 12.7 +0.7**
TRI				*e*S		**Sn**	**05 02 06.8 -0.2**
JAVS	**Javornik**	**10.27**	**327**	*i* Pn		**Pn**	**05 00 12.4 +0.2**
JAVS				*i* Sn		**Sn**	**05 02 04.7 -2.8**
KEST	**Kesra**	**10.34**	**264**	Pn		**Pn**	**05 00 13.7 +0.4**
KEST	**Kesra**	**10.34**	**264**	Pn		**Pn**	**05 00 13.7 +0.4**
0.2nm,0.3s,baz=55,slow=16,SNR=5.7							
KEST	**Kesra**	**10.34**	**264**	Pn		**Pn**	**05 00 13.6 +0.4**
BURAR	**Bucovina Array**	**10.37**	**12**	⇑P		**Pn**	**05 00 15.9 +2.3**
BURAR	**Bucovina Array**	**10.37**	**12**	⇑*i*P		**Pn**	**05 00 15.9 +2.3**
BUR08	**Bucovina Ar. S**	**10.40**	**12**	*e*Pn		**Pn**	**05 00 15.3 +1.3**
BUR08	**Bucovina Ar. S**	**10.40**	**12**	*e*Pn		**Pn**	**05 00 15.3 +1.3**
VOY	**Vojsko**	**10.45**	**327**	*e*Pn		**Pn**	**05 00 15.2 +0.5**
VOY				*e*Sn		**Sn**	**05 02 08.0 -3.9**
PERS	**Pernice**	**10.46**	**333**	*i* Pn		**Pn**	**05 00 14.0 -0.8**
PSZ	**Piszkesteto**	**10.52**	**352**	⇓P		**Pn**	**05 00 17.6 +1.9**
PSZ	**Piszkesteto**	**10.52**	**352**	⇓*i*P		**Pn**	**05 00 17.6 +1.9**
PSZ	**Piszkesteto**	**10.52**	**352**	*e*Pn		**Pn**	**05 00 17.8 +2.2**
PSZ	**Piszkesteto**	**10.52**	**352**	⇓*e*Pn		**Pn**	**05 00 17.7 +2.0**
PSZ	**Piszkesteto**	**10.52**	**352**	P		**Pn**	**05 00 17.6 +1.9**
OBKA	**Obir**	**10.57**	**331**	⇑*i*Pn		**Pn**	**05 00 15.7 -0.6**
OBKA				⇑*i*Sn		**Sn**	**05 02 09.8 -4.9**
OBKA	**Obir**	**10.57**	**331**	Pn		**Pn**	**05 00 15.7 -0.6**
ARSA	**Arzberg**	**10.85**	**336**	⇑*i*Pn		**Pn**	**05 00 18.9 -1.3**
ARSA				⇑*i*Sn		**Sn**	**05 02 16.8 -4.8**
ARSA	**Arzberg**	**10.85**	**336**	Pn		**Pn**	**05 00 18.9 -1.3**
KECS	**Kecovo**	**11.03**	**355**	*e*P		Pn	05 00 25.9 +3.4
KECS	**Kecovo**	**11.03**	**355**	*e*PN		Pn	05 00 25.9 +3.4
VLC	**Villacollemand**	**11.03**	**311**	Pn		Pn	05 00 26.4 +3.8
UZH	**Uzhgorod**	**11.12**	**1**	*e*P		Pn	05 00 30.0 +6.2
PGF	**Pioggiola**	**11.18**	**301**	*e*P		**Pn**	**05 00 26.1 +1.4**
13nm,0.7s							
PGF	**Pioggiola**	**11.18**	**301**	*e*P		**Pn**	**05 00 26.1 +1.4**
6.4nm,0.7s							
VYHS	**Vyhne**	**11.23**	**349**	*e*P		**Pn**	**05 00 26.0 +0.8**
VYHS	**Vyhne**	**11.23**	**349**	*e*PN		**Pn**	**05 00 26.0 +0.8**
VYHS	**Vyhne**	**11.23**	**349**	*e*P		**Pn**	**05 00 26.0 +0.8**
KOLS	**Kolonicke sedl**	**11.43**	**1**	*e*P		Pn	05 00 31.3 +3.4
KOLS	**Kolonicke sedl**	**11.43**	**1**	*e*PN		Pn	05 00 31.3 +3.4
KBA	**Koelnbreinsper**	**11.51**	**329**	⇑*i*Pn		**Pn**	**05 00 28.5 -0.8**
KBA	**Koelnbreinsper**	**11.51**	**329**	Pn		**Pn**	**05 00 28.5 -0.8**
SIM	**Simferopol'**	**11.75**	**47**	*e*P		**Pn**	**05 00 35.4 +3.0**
SIM				*e*S		**Sn**	**05 02 48.6 +5.1**
SIM				pmax	pmax		
comp=Z,57nm,0.4s							
SIM				MLR	MLR		
comp=Z,50nm,12.4s							
MMAI	**Mount Meron Ar**	**11.82**	**108**	Pn		**Pn**	**05 00 32.2 -1.3**
MMAI				Sn		**Sn**	**05 02 40.9 -4.5**
MMAI	**Mount Meron Ar**	**11.82**	**108**	Pn		**Pn**	**05 00 32.2 -1.3**
comp=Z,3.6nm,0.3s,baz=309,slow=12,SNR=7.8							
MMAI				Sn		**Sn**	**05 02 40.9 -4.5**
comp=Z,1.4nm,0.3s,baz=300,slow=23,SNR=2.3							
MMAI	**Mount Meron Ar**	**11.82**	**108**	Pn		**Pn**	**05 00 32.2 -1.3**
NIE	**Niedzica**	**11.97**	**355**	*e*P		Pn	05 00 38.9 +3.5
KWP	**Kalwaria Pacla**	**12.13**	**2**	*e*P		Pn	05 00 42.8 +5.2
VRAC	**Vranov**	**12.44**	**343**	Pn		**Pn**	**05 00 42.3 +0.5**
VRAC	**Vranov**	**12.44**	**343**	Pn		**Pn**	**05 00 42.3 +0.5**
comp=Z,0.2nm,0.3s,baz=176,slow=15,SNR=3.5							
VRAC	**Vranov**	**12.44**	**343**	P		**Pn**	**05 00 42.3 +0.5**
OKC	**Ostrava-Krasne**	**12.64**	**348**	*e*P		**Pn**	**05 00 46.2 +1.7**
OKC				MLR	MLR		
comp=Z,300nm,11.2s							
OKC	**Ostrava-Krasne**	**12.64**	**348**	*e*P		**Pn**	**05 00 46.2 +1.7**
OKC				*ex*	x		05 00 49.9
OKC				*ex*	x		05 00 58.8
OKC				AMS	AMS		05 07 20.0
comp=Z,300nm,11.2s							
OKC	**Ostrava-Krasne**	**12.64**	**348**	P		**Pn**	**05 00 46.2 +1.7**
MORC	**Moravsky Berou**	**12.69**	**347**	*e*P		**Pn**	**05 00 46.3 +1.1**
MORC				*e*S		**Sn**	**05 03 10.3 +3.9**
MORC	**Moravsky Berou**	**12.69**	**347**	*e*Pn		**Pn**	**05 00 46.3 +1.1**
MORC				*e*S		**Sn**	**05 03 10.3 +3.9**
MORC	**Moravsky Berou**	**12.69**	**347**	*e*P		**Pn**	**05 00 46.3 +1.1**
TREC	**Trest**	**12.70**	**340**	AMS	AMS		05 06 10.0
comp=Z,600nm,10.8s							
MOTA	**Moosalm**	**12.70**	**324**	⇑*i*Pn		**Pn**	**05 00 45.0 -0.6**
MOTA	**Moosalm**	**12.70**	**324**	Pn		**Pn**	**05 00 45.0 -0.6**
SBF	**Sospel**	**12.75**	**304**	*e*P		**Pn**	**05 00 47.6 +1.4**
comp=Z,24nm,0.8s							
SBF	**Sospel**	**12.75**	**304**	*e*P		**Pn**	**05 00 47.6 +1.4**
comp=Z,12nm,0.8s							
GERES	**GERESS Array B**	**12.85**	**335**	Pn		**Pn**	**05 00 48.6 +1.2**
GERES				Sn		**Sn**	**05 03 09.1 -1.4**
GERES	**GERESS Array B**	**12.85**	**335**	Pn		**Pn**	**05 00 48.6 +1.2**
comp=Z,0.6nm,0.3s,baz=162,slow=14,SNR=12							
GERES				Sn		**Sn**	**05 03 09.1 -1.4**
comp=Z,0.3nm,0.3s,baz=157,slow=23,SNR=3.7							
GERES	**GERESS Array B**	**12.85**	**335**	P		**Pn**	**05 00 48.6 +1.2**
DAVOX	**Davos/Dischmat**	**12.91**	**320**	Pn		**Pn**	**05 00 48.7 +0.3**
DAVOX				Sn		**Sn**	**05 03 13.4 +1.2**
DAVOX	**Davos/Dischmat**	**12.91**	**320**	Pn		**Pn**	**05 00 48.7 +0.3**
comp=Z,0.2nm,0.3s,baz=131,slow=20,SNR=2.6							
DAVOX				Sn		**Sn**	**05 03 13.4 +1.2**
comp=Z,0.6nm,0.3s,baz=311,slow=20,SNR=4.8							
DAVOX				LR	LR		05 06 08.2
comp=Z,102nm,21.2s,baz=100,slow=39							
DAVOX	**Davos/Dischmat**	**12.91**	**320**	P		**Pn**	**05 00 48.7 +0.3**
TUE	**Stuetta**	**12.99**	**318**	*e*Pn		**Pn**	**05 00 51.0 +1.5**
TUE				*e*S		**Sn**	**05 03 09.7 -4.5**
TUE	**Stuetta**	**12.99**	**318**	*e*Pn		**Pn**	**05 00 51.0 +1.5**
KHC	**Kasperske Hory**	**13.13**	**335**	*e*P		**Pn**	**05 00 51.2 -0.1**
KHC				*e*S		**Sn**	**05 03 16.7 -0.7**
KHC				MLR	MLR		
comp=Z,600nm,11.9s							
KHC	**Kasperske Hory**	**13.13**	**335**	*e*P		**Pn**	**05 00 51.2 -0.1**
KHC				*ex*	x		05 00 57.2
KHC				*ex*	x		05 01 02.9
KHC				*e*S		**Sn**	**05 03 16.7 -0.7**
KHC				*ex*	x		05 03 37.0
KHC				AMS	AMS		05 06 30.0
comp=Z,600nm,11.9s							
KHC	**Kasperske Hory**	**13.13**	**335**	*e*Pn		**Pn**	**05 00 51.0 -0.3**
KHC				*e*S		**Sn**	**05 03 16.1 -1.3**
KHC	**Kasperske Hory**	**13.13**	**335**	P		**Pn**	**05 00 51.2 -0.1**
LMR	**La Mourre**	**13.17**	**301**	*e*P		**Pn**	**05 00 53.9 +2.2**
comp=Z,7.7nm,0.8s							
LMR	**La Mourre**	**13.17**	**301**	*e*P		**Pn**	**05 00 53.9 +2.2**
comp=Z,3.8nm,0.8s							
EIL	**Elat**	**13.30**	**122**	Pn		**Pn**	**05 00 52.7 -1.0**
EIL				Sn		Sn	05 03 15.1 -6.6
EIL	**Elat**	**13.30**	**122**	Pn		**Pn**	**05 00 52.7 -1.0**
comp=Z,1.3nm,0.3s,baz=318,slow=12,SNR=8.5							
EIL				Sn		Sn	05 03 15.1 -6.6
comp=Z,1.4nm,0.3s,baz=300,slow=20,SNR=3.6							
EIL	**Elat**	**13.30**	**122**	Pn		**Pn**	**05 00 52.7 -1.0**
DPC	**Dobruska-Polom**	**13.47**	**344**	*e*P		**P**	**05 01 03.3 -2.0**
DPC	**Dobruska-Polom**	**13.47**	**344**	*e*P		**P**	**05 01 03.3 -2.0**
DPC				*ex*	x		05 01 07.6
DPC				AMS	AMS		05 08 00.0
DPC	**Dobruska-Polom**	**13.47**	**344**	*e*Pn		**P**	**05 01 03.2 -2.0**
MBDF	**Montbardon**	**13.56**	**307**	*e*P		**Pn**	**05 00 59.0 +1.8**
comp=Z,21nm,0.9s							
MBDF	**Montbardon**	**13.56**	**307**	*e*P		**Pn**	**05 00 59.0 +1.8**
comp=Z,11nm,0.9s							
PRU	**Pruhonice**	**13.59**	**339**	*e*P		**P**	**05 01 06.3 -0.2**
PRU				MLR	MLR		
comp=Z,600nm,10.1s							
PRU	**Pruhonice**	**13.59**	**339**	*e*P		**P**	**05 01 06.3 -0.2**
PRU				*ex*	x		05 01 08.4
PRU				AMS	AMS		05 06 40.0
comp=Z,600nm,10.1s							
ANN	**Anapa**	**13.70**	**53**	*e*P		Pn	05 00 56.0 -2.9
ANN				*e*S		Sn	05 03 25.3 -5.8
ANN				pmax	pmax		
comp=Z,17nm,1.0s							
LPG	**La Plagne**	**13.94**	**310**	*e*P		**Pn**	**05 01 02.2 -0.3**
comp=Z,11nm,0.7s							
LPG	**La Plagne**	**13.94**	**310**	*e*P		**Pn**	**05 01 02.2 -0.3**
comp=Z,5.3nm,0.7s							
LPL	**La Plagne**	**13.96**	**310**	*e*P		**Pn**	**05 01 03.1 +0.4**
comp=Z,6.9nm,0.6s							
LPL	**La Plagne**	**13.96**	**310**	*e*P		**Pn**	**05 01 03.1 +0.4**
comp=Z,3.5nm,0.6s							
SMRF	**Simiane la Rot**	**14.03**	**303**	*e*P		**Pn**	**05 01 04.7 +1.1**
SMRF	**Simiane la Rot**	**14.03**	**303**	*e*P		**Pn**	**05 01 04.7 +1.1**
SENIN	**Lac Senin/Sane**	**14.07**	**314**	*e*Pn		**Pn**	**05 01 06.8 +2.6**
SENIN	**Lac Senin/Sane**	**14.07**	**314**	*e*Pn		**Pn**	**05 01 06.8 +2.6**
PVCC	**Panska Ves**	**14.07**	**340**	*e*P		**P**	**05 01 12.8 +1.0**
PVCC				MLR	MLR		
comp=Z,500nm,10.2s							
PVCC	**Panska Ves**	**14.07**	**340**	*e*P		**P**	**05 01 12.8 +1.0**
PVCC				AMS	AMS		05 07 00.0
comp=Z,500nm,10.2s							
KIEV	**Kiev**	**14.15**	**19**	*e*P		**Pn**	**05 01 06.1 +1.0**
KIEV				pmax	pmax		
comp=Z,16nm,0.8s							
KIEV	**Kiev**	**14.15**	**19**	*e*Pn		**Pn**	**05 01 06.1 +1.0**
comp=Z,16nm,0.8s							
KIEV	**Kiev**	**14.15**	**19**	*e*Pn		**Pn**	**05 01 06.1 +1.0**
comp=Z,16nm,0.8s							
AKASG	**Malin Array Be**	**14.16**	**19**	P		**Pn**	**05 01 05.1 -0.2**
AKASG	**Malin Array Be**	**14.16**	**19**	Pn		**Pn**	**05 01 05.1 -0.2**
AKASG	**Malin Array Be**	**14.16**	**19**	Pn		**Pn**	**05 01 05.1 -0.2**
comp=Z,1.1nm,0.3s,baz=207,slow=12,SNR=26							
AKASG	**Malin Array Be**	**14.16**	**19**	Pn		**Pn**	**05 01 05.1 -0.2**
ORIF	**Oris-en-Rattie**	**14.21**	**306**	*e*P		**Pn**	**05 01 07.5 +1.4**
ORIF				*e*R			
comp=Z,176nm,20.5s							
BEL	**Belsk**	**14.36**	**357**	*e*P		**P**	**05 01 17.4 +2.4**
BEL	**Belsk**	**14.36**	**357**	*e*P		**P**	**05 01 17.5 +2.4**
NKC	**Novy Kostel**	**14.46**	**335**	*e*P		**Pn**	**05 01 11.8 +2.4**
NKC				MLR	MLR		
comp=Z,400nm,12.8s							
NKC	**Novy Kostel**	**14.46**	**335**	*e*P		**Pn**	**05 01 11.8 +2.4**
NKC				*ex*	x		05 01 18.3
NKC				AMS	AMS		05 07 20.0
comp=Z,400nm,12.8s							
BRG	**Berggiesshubel**	**14.55**	**339**	*i* P		**P**	**05 01 18.8 +1.6**
comp=Z,12nm,1.2s							
BRG				pmax	pmax		
comp=Z,544nm,11.0s							
BRG				MLR	MLR		
comp=N,377nm,11.5s							
BRG				MLR	MLR		
comp=E,187nm,11.0s							
BRG	**Berggiesshubel**	**14.55**	**339**	*i* P		**P**	**05 01 18.8 +1.6**
BRG				pmax	pmax		
comp=Z,12nm,1.2s							
BRG				MLR	MLR		
comp=Z,544nm,11.0s							
BRG				MLR	MLR		
comp=N,377nm,11.5s							
BRG				MLR	MLR		
comp=E,187nm,11.0s							
BRG	**Berggiesshubel**	**14.55**	**339**	*i* P		**P**	**05 01 18.8 +1.6**
comp=E,377nm,11.5s							
BFO	**Black Forest**	**14.73**	**322**	*e*P		**Pn**	**05 01 14.2 +1.1**
BFO	**Black Forest**	**14.73**	**322**	*e*Pn		**Pn**	**05 01 14.2 +1.1**
BFO	**Black Forest**	**14.73**	**322**	*e*Pn		**Pn**	**05 01 14.2 +1.1**
LOMF	**Lomont**	**14.90**	**316**	*e*P		**Pn**	**05 01 17.7 +2.3**
CABF	**La Chapelle**	**14.90**	**313**	*e*P		**Pn**	**05 01 16.3 +0.8**
comp=E,12nm,0.6s							
VIVF	**Saint-Julien-l**	**14.97**	**305**	*e*P		**Pn**	**05 01 17.6 +1.2**
MOF	**Molkenrain**	**15.03**	**318**	*e*P		**Pn**	**05 01 17.4 +0.2**
HINF	**Hinteralfeld**	**15.16**	**318**	*e*P		**Pn**	**05 01 17.5 -1.4**
comp=E,9.7nm,0.6s							
CLL	**Collm**	**15.21**	**338**	⇑*i*P		**P**	**05 01 26.9 +2.4**
CLL				pmax	pmax		
comp=Z,41nm,1.0s							
CLL				MLR	MLR		
comp=Z,300nm,19.4s							
CLL	**Collm**	**15.21**	**338**	⇑*i*PP		**P**	**05 01 26.9 +2.4**
comp=Z,41nm,1.0s							
CLL				*es*PP			05 01 32.0
CLL				*i*			05 01 35.2
CLL				*e*			05 01 41.0
CLL				Lm	MLR		05 07 00.0
comp=N,300nm,18.1s							
CLL				Lm	MLR		05 07 00.0
comp=E,100nm,20.9s							
CLL				Lm	MLR		05 07 00.0
comp=Z,300nm,19.4s							
CLL	**Collm**	**15.21**	**338**	*i* P		**P**	**05 01 26.9 +2.4**
comp=Z,300nm,19.4s							
LASF	**Ste Croix**	**15.23**	**301**	*e*P		**Pn**	**05 01 20.1 +0.3**
comp=Z,33nm,1.4s							
ECH	**Echery**	**15.25**	**319**	*e*P		**Pn**	**05 01 22.0 +2.0**
ECH				*e*S		**Sn**	**05 04 03.9 -5.0**
ECH				pmax	pmax		
comp=Z,6.0nm,0.8s							
ECH	**Echery**	**15.25**	**319**	*e*Pn		**Pn**	**05 01 22.0 +2.0**
comp=Z,5.6nm,0.8s							
ECH				*e*S		**Sn**	**05 04 03.9 -5.0**
ECH	**Echery**	**15.25**	**319**	*e*Pn		**Pn**	**05 01 22.0 +2.0**
comp=Z,5.6nm,0.8s							
CDF	**Champ du Feu**	**15.31**	**320**	*e*P		**Pn**	**05 01 19.6 -1.3**
comp=Z,15nm,0.9s							
HAU	**Haudompre**	**15.54**	**317**	*e*P		**Pn**	**05 01 24.5 +0.6**
comp=Z,27nm,0.9s							
HAU				*e*R			
comp=Z,127nm,17.8s							
THEF	**They Montfort**	**15.87**	**318**	*e*P		**P**	**05 01 30.8 -1.1**
GKP	**Gorka Klasztor**	**16.11**	**350**	*e*P		**P**	**05 01 36.1 +1.6**
GKP	**Gorka Klasztor**	**16.11**	**350**	*e*P		**P**	**05 01 36.2 +1.7**
MTLF	**Montolieu**	**16.15**	**297**	*e*P		**Pn**	**05 01 32.3 +0.5**
comp=Z,5.3nm,0.9s							
SMF	**Signal de Mont**	**16.27**	**310**	*e*P		**P**	**05 01 35.4 -0.9**
comp=Z,8.6nm,0.7s							
SMF	**Signal de Mont**	**16.27**	**310**	*e*P		**P**	**05 01 35.4 -0.9**
comp=Z,4.3nm,0.7s							
SUW	**Suwalki**	**16.53**	**2**	*e*P		**Pn**	**05 01 36.4 -0.1**
SUW				pmax	pmax		
comp=Z,240nm,0.8s							
SUW	**Suwalki**	**16.53**	**2**	*e*Pn		**Pn**	**05 01 36.4 -0.1**
comp=Z,240nm,0.8s							
SUW	**Suwalki**	**16.53**	**2**	*e*P		**Pn**	**05 01 36.5 -0.1**
SUW	**Suwalki**	**16.53**	**2**	*e*Pn		**Pn**	**05 01 36.4 -0.1**
comp=Z,240nm,0.8s							
MEZF	**Maizieres J'vi**	**16.54**	**317**	*e*P		**Pn**	**05 01 36.8 +0.1**
LOR	**Lormes**	**16.55**	**312**	*e*P		**Pn**	**05 01 37.2 +0.3**
comp=Z,6.6nm,0.5s							
LOR				*e*R			
comp=Z,97nm,18.8s							
AVF	**Avril sur Loir**	**16.63**	**310**	*e*P		**Pn**	**05 01 38.9 +1.0**
comp=Z,11nm,0.8s							
AVF	**Avril sur Loir**	**16.63**	**310**	*e*P		**Pn**	**05 01 38.9 +1.0**
comp=Z,5.3nm,0.8s							
SSF	**Saint Saulge**	**16.66**	**311**	*e*P		**Pn**	**05 01 37.9 -0.4**
comp=Z,34nm,1.0s							
WLF	**Walferdange**	**16.69**	**322**	P		**P**	**05 01 44.6 +3.7**
CAF	**Calviac**	**16.72**	**303**	*e*P		**Pn**	**05 01 39.4 +0.3**
CAF	**Calviac**	**16.72**	**303**	*e*P		**Pn**	**05 01 39.4 +0.3**
BGF	**Bois d'Agland**	**16.84**	**309**	*e*P		**Pn**	**05 01 40.8 +0.3**
BGF	**Bois d'Agland**	**16.84**	**309**	*e*P		**Pn**	**05 01 40.8 +0.3**
KIV	**Kislovodsk**	**16.92**	**61**	*e*P		**Pn**	**05 01 40.4 -1.2**
KIV				pmax	pmax		
comp=Z,8.0nm,0.8s							
KIV				MLR	MLR		
comp=Z,31nm,13.0s							
KBZ	**Khabaz**	**17.01**	**62**	P		**P**	**05 01 46.0 +1.5**
KBZ	**Khabaz**	**17.01**	**62**	Pn		**P**	**05 01 46.0 +1.5**
KBZ	**Khabaz**	**17.01**	**62**	Pn		**P**	**05 01 46.0 +1.5**
comp=Z,0.4nm,0.3s,baz=247,slow=12,SNR=18							
KBZ	**Khabaz**	**17.01**	**62**	P		**P**	**05 01 46.0 +1.5**
TCF	**Toulx Ste Croi**	**17.13**	**307**	*e*P		**Pn**	**05 01 45.3 +1.1**
TCF	**Toulx Ste Croi**	**17.13**	**307**	*e*P		**Pn**	**05 01 45.3 +1.1**
RJF	**Les Rejaudoux**	**17.21**	**303**	*e*P		**Pn**	**05 01 46.1 +0.9**
RJF				*e*R			
comp=Z,92nm,19.5s							
RJF	**Les Rejaudoux**	**17.21**	**303**	*e*P		**Pn**	**05 01 46.1 +0.9**
EPF	**Esparros**	**17.42**	**295**	*e*P		**P**	**05 01 48.9 -0.3**
comp=Z,10nm,1.1s							
EPF	**Esparros**	**17.42**	**295**	*e*P		**P**	**05 01 48.9 -0.3**
comp=Z,5.1nm,1.1s							
ZEI	**Tsey**	**17.52**	**66**	*e*P		**P**	**05 01 52.8 +2.3**
ZEI				pmax	pmax		
comp=Z,14nm,0.7s							
ZEI	**Tsey**	**17.52**	**66**	*e*P		**P**	**05 01 52.8 +2.3**
comp=Z,14nm,0.7s							
GIVF	**Givet**	**17.63**	**321**	*e*P		**Pn**	**05 01 50.0 -0.3**
comp=Z,25nm,0.9s							
GIVF	**Givet**	**17.63**	**321**	*e*P		**Pn**	**05 01 50.0 -0.3**
comp=Z,12nm,0.9s							
NACGM	**Naroch**	**17.70**	**9**	*e*		**Pn**	**05 01 49.0 -2.2**
DOU	**Dourbes**	**17.74**	**321**	P		**P**	**05 01 54.0 +1.5**
GNI	**Garni**	**17.89**	**74**	*e*P		**Pn**	**05 01 52.5 -1.4**
comp=Z,8.0nm,0.7s							
BAIF	**Baives**	**17.91**	**320**	*e*P		**Pn**	**05 01 53.3 -0.5**
comp=Z,14nm,0.7s							
BAIF	**Baives**	**17.91**	**320**	*e*P		**Pn**	**05 01 53.3 -0.5**
comp=Z,6.8nm,0.7s							
ETSF	**Etsaut**	**18.05**	**294**	*e*P		**P**	**05 01 56.5 +0.4**
comp=Z,5.0nm,0.4s							
ETSF	**Etsaut**	**18.05**	**294**	*e*P		**P**	**05 01 56.5 +0.4**
comp=Z,2.5nm,0.4s							
VORD	**Divnogorie**	**18.22**	**37**	*e*P		**Pn**	**05 01 56.8 -0.8**
VORD				pmax	pmax		
comp=Z,6.0nm,1.0s							
VORD				pmax	pmax		
comp=N,7.0nm,0.9s							
VORD				pmax	pmax		
comp=E,10.0nm,0.9s							
VORD	**Divnogorie**	**18.22**	**37**	*e*P		**Pn**	**05 01 56.8 -0.8**
comp=E,6.0nm,1.0s							
BSD	**Bornholm Skovb**	**18.27**	**347**	*i* P		**Pn**	**05 01 58.5 +0.4**
BSD				pmax	pmax		
comp=Z,26nm,0.8s							
BSD	**Bornholm Skovb**	**18.27**	**347**	*i* P		**Pn**	**05 01 58.5 +0.4**
comp=Z,26nm,0.7s							
BSD	**Bornholm Skovb**	**18.27**	**347**	*i* P		**Pn**	**05 01 58.5 +0.4**
comp=Z,26nm,0.8s							
VSR	**Storozhevoye**	**18.33**	**36**	*e*P		**Pn**	**05 01 59.0 +0.1**
VSR				pmax	pmax		
comp=Z,5.0nm,0.4s							
VSR				pmax	pmax		
comp=N,10.0nm,0.9s							
VSR				pmax	pmax		
comp=E,10.0nm,0.8s							
VSR	**Storozhevoye**	**18.33**	**36**	*e*P		**Pn**	**05 01 59.0 +0.1**
comp=E,10.0nm,0.9s							

HFS Hagfors 23.26 349 P P 05 02 51.3 -0.8
comp=Z,16nm,0.5s,baz=153,slow=10.0,SNR=77
KONO Kongsberg 23.56 344 *e*P **P 05 02 54.3 -0.7**
KONO pmax pmax
comp=Z,16nm,0.8s
KONO Kongsberg 23.56 344 *e*P **P 05 02 54.3 -0.7**
comp=Z,16nm,0.8s
FINES FINESS Array B 24.10 5 P **P 05 02 59.4 -0.8**
FINES FINESS Array B 24.10 5 P **P 05 02 59.4 -0.8**
comp=Z,7.2nm,0.4s,baz=173,slow=11,SNR=60
FINES LR LR 05 12 34.8
comp=Z,80nm,19.0s,baz=116,slow=37
FIA1 FINESS Array S 24.10 5 *e*P **P 05 02 59.1 -1.1**
NAO01 NORSAR Array S 24.40 347 *e*P **P 05 03 03.0 -0.1**
comp=Z,9.3nm,0.4s
RAYN Ar Rayn 24.48 118 *e*P **P 05 03 08.0 +3.9**
comp=Z,11nm,1.4s
NB2 NORSAR Subarra 24.52 347 P **P 05 03 03.8 -0.4**
comp=Z,19nm,0.8s,baz=158,slow=11
NB2 NORSAR Subarra 24.52 347 P **P 05 03 03.8 -0.4**
baz=158,slow=11
NB2 NORSAR Subarra 24.52 347 P **P 05 03 03.8 -0.4**
SNR=33
NOA NORSAR Array B 24.52 347 P **P 05 03 04.0 -0.1**
NOA NORSAR Array B 24.52 347 P **P 05 03 04.0 -0.1**
comp=Z,8.7nm,0.7s,baz=154,slow=9.5,SNR=62
NOA LR LR 05 13 48.7
comp=Z,42nm,19.0s,baz=175,slow=39
ECK Cauldkaine Hil 24.56 324 *e*P **P 05 03 05.3 +0.8**
ECK Cauldkaine Hil 24.56 324 *e*P **P 05 03 05.3 +0.8**
EKA Eskdalemuir Ar 24.66 324 P **P 05 03 05.5 0.0**
EKA Eskdalemuir Ar 24.66 324 P **P 05 03 05.5 0.0**
comp=Z,8.6nm,0.5s,baz=125,slow=9.8,SNR=54
ESK Eskdalemuir 24.68 324 *e*P **P 05 03 05.1 -0.5**
ESK Eskdalemuir 24.68 324 *i*P **P 05 03 07.6 +2.0**
ESK Eskdalemuir 24.68 324 *e*P **P 05 03 06.0 +0.4**
comp=Z,20nm,0.8s
ESK Eskdalemuir 24.68 324 *e*P **P 05 03 05.1 -0.5**
KAF Kangasniemi 24.78 5 *e*P **P 05 03 06.3 -0.1**
KAF pmax pmax
comp=Z,9.0nm,0.4s
KAF Kangasniemi 24.78 5 *e*p **P 05 03 06.3 -0.1**
comp=Z,9.0nm,0.4s
EDI Edinburgh 25.03 325 AMB AMB 05 03 13.5
comp=Z,33nm,2.1s
DRUM Mains of Drumt 25.33 328 *e*P **P 05 03 09.8 -1.7**
DRUM AMB AMB 05 03 18.3
comp=Z,63nm,3.2s
DRUM Mains of Drumt 25.33 328 *e*P **P 05 03 09.8 -1.7**
EAB Aberfoyle 25.70 325 *e*P **P 05 03 15.0 +0.1**
EAB Aberfoyle 25.70 325 *e*P **P 05 03 15.0 +0.1**
AKTO Aktyubinsk 28.65 52 P **P 05 03 41.3 -0.1**
AKTO Aktyubinsk 28.65 52 P **P 05 03 41.3 -0.1**
AKTO Aktyubinsk 28.65 52 P **P 05 03 41.3 -0.1**
comp=Z,0.7nm,0.3s,baz=255,slow=12,SNR=2.7
MOR8 Moi Rana 29.04 354 *e*P **P 05 03 45.5 +0.7**
MOR8 Moi Rana 29.04 354 *e*P **P 05 03 45.5 +0.7**
SNR=28
TORD Torodi Ar. Bea 30.29 222 P **P 05 03 56.4 +0.2**
TORD Torodi Ar. Bea 30.29 222 P **P 05 03 56.4 +0.2**
comp=Z,1.4nm,0.4s,baz=33,slow=9.0,SNR=34
TORD LR LR 05 15 58.1
comp=Z,52nm,18.5s,baz=130,slow=36
ARU Arti 30.79 40*d i*P **P 05 03 59.4 -0.9**
ARU 05 04 56.6
ARU S **S 05 09 00.0 -3.3**
ARU SS **ScP 05 10 38.5 -1.4**
ARU pmax pmax
comp=Z,8.0nm,1.7s
APA Apatity 30.79 9⇑*e*P P 05 04 03.6 +3.4
APA MLR MLR
comp=Z,100nm,16.0s
KTK1 Kautokeino 31.57 1 *e*P **P 05 04 07.0 0.0**
KTK1 AMB AMB 05 04 09.2
comp=Z,178nm,1.1s
KTK1 Kautokeino 31.57 1 *e*P **P 05 04 07.0 0.0**
comp=Z,178nm,1.1s,SNR=27
ARCES ARCESS Array B 32.15 2 P **P 05 04 12.0 -0.1**
ARCES ARCESS Array B 32.15 2 P **P 05 04 12.0 -0.1**
comp=Z,16nm,0.6s,baz=193,slow=11,SNR=201
ARCES LR LR 05 18 12.7
comp=Z,88nm,19.1s,baz=352,slow=38
ARCES ARCESS Array B 32.15 2 P **P 05 04 12.0 -0.1**
ARE0 ARCESS Array S 32.15 2 *e*P **P 05 04 11.9 -0.2**
ARE0 ARCESS Array S 32.15 2 *e*P **P 05 04 11.9 -0.2**
TRO Tromso 32.23 358 *e*P **P 05 04 12.6 -0.1**
TRO AMB AMB 05 04 13.9
comp=Z,23nm,1.2s
TRO Tromso 32.23 358 *e*P **P 05 04 12.6 -0.1**
comp=Z,23nm,1.2s,SNR=27
KEV Kevo 32.42 3 *e*P **P 05 04 14.7 +0.2**
KEV pmax pmax
comp=Z,7.0nm,0.3s
KEV Kevo 32.42 3 *e*p **P 05 04 14.7 +0.2**
comp=Z,7.2nm,0.3s
KEV Kevo 32.42 3 *e*P **P 05 04 14.7 +0.2**
comp=Z,13nm,0.7s
KEV Kevo 32.42 3 *e*P **P 05 04 14.7 +0.2**
comp=Z,13nm,0.7s
BRVK Borovoye 36.59 49 *e*P **P 05 04 49.0 -1.7**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 36.59 49 *e*P **P 05 04 50.9 +0.1**
comp=Z,4.5nm,0.8s
BRVK Borovoye 36.59 49 *e*P **P 05 04 50.9 +0.1**
comp=Z,4.5nm,0.8s
BVAR Borovoye Array 36.65 49 P **P 05 04 51.3 0.0**
BVAR Borovoye Array 36.65 49 P **P 05 04 51.3 0.0**
BVAR Borovoye Array 36.65 49 P **P 05 04 51.3 0.0**
comp=Z,2.5nm,0.5s,baz=248,slow=7.5,SNR=8.2
BVAR Borovoye Array 36.65 49 P **P 05 04 51.3 0.0**
BJO Bjornoya 37.11 359 *e*P **P 05 04 55.3 +0.4**
BJO Bjornoya 37.11 359 *e*P **P 05 04 55.3 +0.4**
SNR=27
DBIC Dimbokro 39.23 225 P **P 05 05 13.8 +0.4**
DBIC Dimbokro 39.23 225 P **P 05 05 13.8 +0.4**
comp=Z,1.7nm,0.4s,baz=19,slow=11,SNR=6.1
DBIC Dimbokro 39.23 225 P **P 05 05 13.8 +0.4**
LIC Lamto 39.69 225 *e*P **P 05 05 16.2 -1.1**
comp=Z,15nm,0.6s
LIC Lamto 39.69 225 *e*P **P 05 05 16.2 -1.1**
comp=Z,7.4nm,0.6s
AAK Ala-Archa 39.95 66 *e*P **P 05 05 18.2 -1.2**
AAK pmax pmax
comp=Z,20nm,2.5s
AAK Ala-Archa 39.95 66 *e*P **P 05 05 18.2 -1.2**
comp=Z,20nm,2.5s
SPA0 Spitsbergen Ar 40.85 358 *e*P **P 05 05 27.1 +0.9**
SPA0 Spitsbergen Ar 40.85 358 *e*P **P 05 05 27.1 +0.9**
SNR=26
KBS Kingsbay 41.74 357*d i*P **P 05 05 34.2 +0.8**
KBS pmax pmax
comp=Z,14nm,1.0s
KBS Kingsbay 41.74 357 *i*P **P 05 05 34.2 +0.8**
comp=Z,14nm,1.0s
NVS Novosibirsk 44.27 47⇑*i*P **P 05 05 54.8 +0.6**
NVS *e* 05 06 08.7
NVS pmax pmax
comp=Z,17nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS Novosibirsk 44.27 47 *i*P **P 05 05 54.8 +0.6**
comp=E,17nm,1.4s
MK31 Makanchi Array 44.65 58 *e*P **P 05 05 56.9 -0.5**
MK31 Makanchi Array 44.65 58 *e*P **P 05 05 56.9 -0.5**
MK31 Makanchi Array 44.65 58 *e*P **P 05 05 56.9 -0.5**
MKAR Makanchi Array 44.65 58 P **P 05 05 56.8 -0.6**
MKAR 05 07 39.6
MKAR Makanchi Array 44.65 58 P **P 05 05 56.8 -0.6**
MKAR PcP **PcP 05 07 39.6 -0.3**
MKAR ScP **ScP 05 11 34.4 +2.3**
MKAR Makanchi Array 44.65 58 P **P 05 05 56.8 -0.6**
comp=E,2.2nm,0.5s,baz=279,slow=6.8,SNR=24
MKAR PcP **PcP 05 07 39.6 -0.3**
comp=E,1.6nm,0.7s,baz=284,slow=3.9,SNR=3.8
MKAR ScP **ScP 05 11 34.4 +2.3**
comp=E,0.5nm,0.7s,baz=278,slow=4.2,SNR=3.7
MKAR Makanchi Array 44.65 58 P **P 05 05 56.8 -0.6**
ZAA0 Zalesovo Array 45.26 48 *e*P **P 05 06 01.8 -0.4**
ZAA0 Zalesovo Array 45.26 48 *e*P **P 05 06 01.8 -0.4**
ZALV Zalesovo Beam 45.26 48 *i*P **P 05 06 01.5 -0.6**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 45.26 48 P **P 05 06 01.6 -0.5**
ZALV Zalesovo Beam 45.26 48 P **P 05 06 01.6 -0.5**
comp=Z,6.1nm,0.5s,baz=269,slow=8.9,SNR=23
ZALV Zalesovo Beam 45.26 48 P **P 05 06 01.6 -0.5**
SUMG Summit 45.88 339 *i*P **P 05 06 08.3 +1.0**
comp=Z,5.9nm,0.7s
WMQ Urumqi 49.05 61 *e*P **P 05 06 33.3 +1.3**
WMQ pmax pmax
comp=Z,1.0nm,1.0s
LSZ Lusaka 52.82 173 P **P 05 07 02.0 +1.5**
LSZ Lusaka 52.82 173 P **P 05 07 02.0 +1.5**
comp=Z,0.8nm,0.4s,baz=6.4,slow=8.0,SNR=5.1
TLY Talaya 56.87 47 *e*P **P 05 07 31.6 +2.1**
TLY pmax pmax
comp=Z,3.0nm,0.9s
ZAK Zakamensk 57.11 49 *e*P **P 05 07 30.7 -0.6**
ZAK pmax pmax
comp=Z,1.0nm,1.5s
SCHQ Schefferville 59.76 318 P **P 05 07 49.8 +0.2**
SCHQ Schefferville 59.76 318 P **P 05 07 49.8 +0.2**
comp=Z,9.6nm,0.5s,baz=72,slow=7.9,SNR=29
TIXI Tiksi 59.87 21*c e*P **P 05 07 50.5 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
SONM Songino Array 59.97 51 P **P 05 07 50.9 -0.4**
SONM Songino Array 59.97 51 P **P 05 07 50.9 -0.4**
comp=Z,1.0nm,0.7s,baz=282,slow=7.4,SNR=6.9
LZH Lanzhou 63.44 64 *e*P **P 05 08 14.6 -0.4**
LZH pP pP 05 08 27.1 +8.7
LZH sP sP 05 08 32.5 +13
LZH PP **PP 05 10 35.0 +0.8**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,52nm,7.4s
LZH LR LR
comp=N,180nm,15.0s
LZH LR LR
comp=E,190nm,15.3s
LZH LR LR
comp=Z,260nm,19.0s
BOSA Boshof 65.84 177 P **P 05 08 30.4 0.0**
BOSA Boshof 65.84 177 P **P 05 08 30.4 0.0**
comp=Z,2.2nm,0.7s,baz=3.1,slow=7.6,SNR=3.8
CD2 Chengdu 65.91 69 *e*P **P 05 08 31.5 +0.5**
CD2 pP pP 05 08 44.0 +10
CD2 sP sP 05 08 48.9 +13
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,30nm,5.2s
HHC Hu-ho-hao-te 66.43 56 *e*P **P 05 08 34.9 +0.6**
HHC PcP **PcP 05 09 04.0 +0.1**
HHC PP **PP 05 11 03.2 +3.0**
HHC ScP 05 13 02.1
HHC PcS 05 13 07.2
HHC S **S 05 17 19.6 -5.0**
HHC sS sS 05 17 41.3 +11
HHC ScS SKSac 05 18 23.3 -7.6
HHC SS **SS 05 21 37.3 -3.3**
HHC pmax pmax
comp=Z,61nm,0.8s
HHC pmax pmax
comp=Z,380nm,6.8s
HHC LR LR
comp=N,260nm,16.6s
HHC LR LR
comp=E,530nm,16.6s
HHC LR LR
comp=Z,300nm,16.3s
KMI Kunming 68.15 75 P **P 05 08 47.3 +1.8**
KMI pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 68.80 83 P **P 05 08 48.7 -0.8**
CMAR Chiang Mai Arr 68.80 83 P **P 05 08 48.7 -0.8**
comp=Z,1.6nm,0.7s,baz=302,slow=8.0,SNR=6.2
GYA Guiyang 70.42 71 *e*P **P 05 08 59.2 -0.2**
GYA pP pP 05 09 12.0 +9.1
GYA sP sP 05 09 19.4 +15
GYA PP **PP 05 11 37.0 +1.9**
GYA S S 05 18 06.5 -5.9
GYA SKS SKSac 05 18 53.8 -7.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 73.47 47 *e*P **P 05 09 16.6 -0.8**
WHN Wuhan 73.82 64 *e*P P 05 09 15.4 -4.2
YKA Yellowknife Ar 74.42 341 P **P 05 09 21.8 -0.8**
YKA Yellowknife Ar 74.42 341 P **P 05 09 21.8 -0.8**
comp=Z,0.6nm,0.5s,baz=38,slow=5.5,SNR=7.0
MDJ Mudanjiang 75.35 45 P **P 05 09 26.6 -1.7**
MDJ pmax pmax
comp=Z,3.0nm,0.7s
MDJ pmax pmax
comp=Z,57nm,4.2s
COLD Coldfoot 75.42 357 *e*P **P 05 09 29.0 +0.7**
comp=Z,5.2nm,1.1s
ULM Lac du Bonnet 76.94 324 P **P 05 09 37.2 0.0**
ULM Lac du Bonnet 76.94 324 P **P 05 09 37.2 0.0**
comp=Z,2.7nm,0.5s,baz=36,slow=5.6,SNR=4.2
USRK Ussuriysk Arra 76.95 44 P **P 05 09 36.4 -0.9**
comp=Z,3.4nm,0.7s,baz=320,slow=4.2,SNR=8.9
ILAR Eielson Array 77.69 355 P **P 05 09 40.5 -0.6**
ILAR Eielson Array 77.69 355 P **P 05 09 40.5 -0.6**
comp=Z,1.1nm,1.0s,baz=357,slow=4.0,SNR=11
KSAR Wonju Array Be 78.81 51 P **P 05 09 47.5 -0.4**
KSRS Korea Array 78.83 51 P **P 05 09 47.4 -0.5**
comp=Z,1.4nm,0.6s,baz=310,slow=4.3,SNR=4.4
MJAR Matsushiro Arr 85.60 46 P **P 05 10 23.4 -0.1**
MJAR Matsushiro Arr 85.60 46 P **P 05 10 23.4 -0.1**
comp=Z,2.2nm,0.7s,baz=316,slow=4.2,SNR=6.4
NEW Newport 87.18 334 *e*P **P 05 10 31.5 +0.4**
comp=Z,1.1nm,0.6s
PDAR Pinedale Array 88.77 327 P **P 05 10 38.5 -0.5**
PDAR Pinedale Array 88.77 327 P **P 05 10 38.5 -0.5**
comp=Z,0.5nm,0.8s,baz=89,slow=6.2,SNR=5.5
WMOK Wichita Mounta 89.51 315 *e*P **P 05 10 43.3 +0.9**
WMOK pmax pmax
comp=Z,2.0nm,0.8s
WMOK Wichita Mounta 89.51 315 *e*P **P 05 10 43.3 +0.9**
comp=Z,1.7nm,0.8s
HWUT Hardware Ranch 90.58 327 *e*P **P 05 10 47.6 +0.1**
comp=Z,3.7nm,0.7s
TXAR Lajitas Array 96.29 314 P **P 05 11 13.9 0.0**
TXAR Lajitas Array 96.29 314 P **P 05 11 13.9 0.0**
comp=Z,0.4nm,0.8s,baz=54,slow=6.4,SNR=4.2
WRA Warramunga Arr 119.32 93 PKP **PKPdf 05 16 33.6 -1.0**
WRA Warramunga Arr 119.32 93 PKP **PKPdf 05 16 33.6 -1.0**
comp=Z,0.4nm,0.4s,baz=312,slow=2.0,SNR=8.2
ASAR Alice Springs 120.92 97 PKP **PKPdf 05 16 36.6 -1.0**
ASAR Alice Springs 120.92 97 PKP **PKPdf 05 16 36.6 -1.0**
comp=Z,0.5nm,0.3s,baz=302,slow=1.8,SNR=7.7

ISCJB ***06*** *05:09:49.8±0.2, 38°.85N±0°.01×7°.99W±0°.02, h2km±2km, Error ellipse: s-maj=2.2km s-min=1.7km az=177.4*
MDD ***06*** *05:09:51.4±0.3, 38°.83N×8°.11W, h0km, mbLg3.5/33, Error ellipse: s-maj=3.2km s-min=2.5km az=105.0, PRXIMO*
CSEM ***06*** *05:09:51.2±0.1, 38°.83N×8°.06W, h2km, ML3.7/27, Error ellipse: s-maj=2.1km s-min=1.6km az=86.0*
LDG ***06*** *05:09:52.5±0.1, 38°.81N×8°.16W, h2km, Md3.7/1, Ml3.5/3, Error ellipse: s-maj=2.4km s-min=1.9km az=79.0*
SFS ***06*** *05:09:52.0, 38°.86N×8°.07W, h0km, ML3.5*
IGIL ***06*** *05:09:52.4, 38°.81N×8°.09W, h4km, ML3.2*
INMG ***06*** *05:09:52.5±1.3, 38°.81N×8°.09W, h4km±2km, MD2.7, ML3.3, Error ellipse: s-maj=1.4km s-min=1.1km az=97.0*
ISC 06 05:09:51.0±0.6, 38°.83N±0°.01×8°.08W±0°.01, h12km±3km, n194, σ1§39/300, 5C-4D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMTG	**Montargil**	**0.27**	**335**	*i* Pg	**Pg**	**05 09 57.0**	**+0.5**
PMTG				*e*Sg	**Sg**	**05 10 00.8**	**+0.6**
PMTG				A	A	05 10 01.2	
3μm,0.1s							
EVO	**Evora**	**0.30**	**170**	*e*Pg	**Pg**	**05 09 57.4**	**+0.3**
EVO				*e*Sg	**Sg**	**05 10 01.4**	**+0.2**
2μm,0.3s							
EVO	**Evora**	**0.30**	**170**	*i* Pg	**Pg**	**05 09 57.8**	**+0.7**
EVO				*e*Sg	**Sg**	**05 10 01.7**	**+0.5**
EVO				A	A	05 10 02.7	
1μm,0.3s							
EVO	**Evora**	**0.30**	**170**	⇑Pg	**Pg**	**05 09 57.8**	**+0.7**
EVO				Lg	Lg	05 10 01.7	
1μm,0.3s							
EVO	**Evora**	**0.30**	**170**	Pg	**Pg**	**05 09 57.8**	**+0.7**
EVO				*e*Sg	**Sg**	**05 10 01.7**	**+0.5**
1μm,0.3s							
EVOP	**Sao Brissos**	**0.30**	**187**	*e*Pg	**Pg**	**05 09 57.4**	**+0.2**
EVOP				*e*Sg	**Sg**	**05 10 01.4**	**+0.1**
1μm,0.3s							
MOE	**Montemor**	**0.37**	**215**	*e*Pg	**Pg**	**05 09 58.5**	**+0.1**
MOE				*e*Sg	**Sg**	**05 10 03.2**	**-0.2**
MOE	**Montemor**	**0.37**	**215**	Pg	**Pg**	**05 09 58.5**	**+0.1**
MOE				Lg	Lg	05 10 03.2	
MOE	**Montemor**	**0.37**	**215**	*e*Pg	**Pg**	**05 09 58.5**	**+0.1**
MOE				Lg	Lg	05 10 03.2	
PESTR	**Estremoz**	**0.38**	**84**	*i* Pg	**Pb**	**05 10 00.1**	**+0.3**
PESTR				*e*Sg	**Sg**	**05 10 05.5**	**+1.7**
PESTR				A	A	05 10 06.7	
538nm,0.3s							
PESTR	**Estremoz**	**0.38**	**84**	⇓Pg	**Pb**	**05 10 00.1**	**+0.3**
PESTR				Lg	Lg	05 10 05.5	
269nm,0.3s							
PESTR	**Estremoz**	**0.38**	**84**	Pg	**Pb**	**05 10 00.1**	**+0.3**
PESTR				*e*Sg	**Sg**	**05 10 05.5**	**+1.7**
538nm,0.3s							
ALMR	**Almeirim**	**0.51**	**310**	*e*P	**Pg**	**05 10 01.1**	**+0.2**
ALMR				*e*S	**Sg**	**05 10 07.6**	**0.0**
ALMR				AML	AML	05 10 08.7	
comp=N,1μm,0.2s							
PACT	**Alcochete**	**0.59**	**264**	*e*Pg	**Pg**	**05 10 03.3**	**+0.8**
PACT				*e*Sg	**Sg**	**05 10 11.3**	**+0.9**
PNCL	**Nicolau / Gran**	**0.80**	**206**	*e*P	**Pg**	**05 10 06.5**	**+0.1**
PNCL				*e*S	**Sg**	**05 10 17.4**	**+0.5**
PNCL				A	A	05 10 20.2	
comp=N,253nm,0.5s							
PNCL	**Nicolau / Gran**	**0.80**	**206**	*e*P	**Pg**	**05 10 06.5**	**+0.1**
PNCL				*e*S	**Sg**	**05 10 17.4**	**+0.5**
comp=N,253nm,0.5s							
PMRV	**Marv??o**	**0.80**	**42**	*e*P	**Pb**	**05 10 08.0**	**+1.0**
PMRV				*e*S	**Sb**	**05 10 19.1**	**+1.3**
PMRV				A	A	05 10 22.0	
comp=N,803nm,0.2s							
PMRV	**Marv??o**	**0.80**	**42**	⇑Pg	**Pb**	**05 10 08.0**	**+1.0**
PMRV				Lg	Lg	05 10 19.1	
comp=N,803nm,0.2s							
PMRV	**Marv??o**	**0.80**	**42**	Pg	**Pb**	**05 10 08.0**	**+1.0**
PMRV				*e*S	**Sb**	**05 10 19.1**	**+1.3**
comp=N,803nm,0.2s							
PBEJ	**Beja**	**0.82**	**168**	*e*P	**Pg**	**05 10 06.8**	**0.0**
PBEJ				*e*S	**Sg**	**05 10 17.7**	**+0.2**
PBEJ				A	A	05 10 20.7	
comp=N,453nm,0.3s							
PBEJ	**Beja**	**0.82**	**168**	Pg	**Pg**	**05 10 06.8**	**0.0**
PBEJ				Lg	Lg	05 10 17.7	
comp=N,227nm,0.3s							
PBEJ	**Beja**	**0.82**	**168**	*e*P	**Pg**	**05 10 06.8**	**0.0**
PBEJ				*e*S	**Sg**	**05 10 17.7**	**+0.2**
comp=N,453nm,0.3s							
INMG	**Instituto de M**	**0.82**	**267**	*e*P	**Pg**	**05 10 07.4**	**+0.6**
INMG				*e*S	**Sb**	**05 10 18.5**	**+0.3**
INMG	**Instituto de M**	**0.82**	**267**	Pg	**Pg**	**05 10 07.4**	**+0.6**
INMG				Lg	Lg	05 10 18.5	
INMG	**Instituto de M**	**0.82**	**267**	*e*P	**Pg**	**05 10 07.4**	**+0.6**
INMG				Lg	Lg	05 10 18.5	
PTOM	**Tomar**	**0.83**	**342**	*e*P	**Pb**	**05 10 07.7**	**+0.3**
PTOM				*e*S	**Sb**	**05 10 18.9**	**+0.4**
PTOM				A	A	05 10 19.6	
comp=N,622nm,0.2s							
PTOM	**Tomar**	**0.83**	**342**	⇑Pg	**Pb**	**05 10 07.7**	**+0.3**
PTOM				Lg	Lg	05 10 18.9	
comp=N,311nm,0.2s							
PTOM	**Tomar**	**0.83**	**342**	Pg	**Pb**	**05 10 07.7**	**+0.3**
PTOM				*e*S	**Sb**	**05 10 18.9**	**+0.4**
comp=N,622nm,0.2s							
EBAD	**Badajoz**	**0.84**	**95**	⇓Pg	**Pb**	**05 10 08.2**	**+0.7**
comp=N,173nm,0.1s,SNR=18							
EBAD				Lg	Lg	05 10 19.7	
comp=N,379nm,0.1s,SNR=5.0							
EBAD	**Badajoz**	**0.84**	**95**	Pg	**Pb**	**05 10 08.2**	**+0.7**
comp=N,173nm,0.1s,SNR=18							
EBAD				Lg	Lg	05 10 19.7	
comp=N,379nm,0.1s,SNR=5.0							
LIS	**Lisbon**	**0.84**	**263**	*e*P	**Pg**	**05 10 07.7**	**+0.4**
LIS				*e*S	**Sg**	**05 10 18.6**	**+0.3**
LIS				AML	AML	05 10 21.0	
comp=N,979nm,0.5s							
PMST	**Lisbon--Monsan**	**0.87**	**264**	*e*P	**Pg**	**05 10 08.3**	**+0.5**
PMST				*e*S	**Sb**	**05 10 20.1**	**+0.5**
PMST				A	A	05 10 22.8	
comp=N,2μm,0.2s							
PMST	**Lisbon--Monsan**	**0.87**	**264**	*e*P	**Pg**	**05 10 08.3**	**+0.5**
PMST				*e*S	**Sb**	**05 10 20.1**	**+0.5**
comp=N,2μm,0.2s							
PMAFR	**Mafra**	**0.95**	**278**	*e*P	**Pb**	**05 10 09.5**	**+0.1**
PMAFR				*e*S	**Sb**	**05 10 22.4**	**+0.5**
PMAFR				A	A	05 10 24.3	
comp=N,1μm,0.2s							
PMAFR	**Mafra**	**0.95**	**278**	⇓Pg	**Pb**	**05 10 09.5**	**+0.1**
comp=N,324nm,0.1s,SNR=18							
PMAFR				Lg	Lg	05 10 22.3	
comp=N,2μm,0.2s,SNR=40							
PMAFR	**Mafra**	**0.95**	**278**	Pg	**Pb**	**05 10 09.5**	**+0.1**
comp=N,324nm,0.1s,SNR=18							
PMAFR				Lg	Lg	05 10 22.3	
comp=N,2μm,0.2s,SNR=40							
PMAFR				*e*S	**Sb**	**05 10 22.4**	**+0.5**
comp=N,1μm,0.2s							
PBAR	**Barrancos**	**1.04**	**128**	*e*P	**Pb**	**05 10 11.3**	**+0.2**
PBAR				*e*S	**Sg**	**05 10 26.0**	**+1.3**
PBAR				A	A	05 10 28.5	
comp=N,586nm,0.4s							
PBAR	**Barrancos**	**1.04**	**128**	Pg	**Pb**	**05 10 11.3**	**+0.2**
PBAR				Lg	Lg	05 10 26.0	
comp=N,586nm,0.4s							
PBAR	**Barrancos**	**1.04**	**128**	*e*P	**Pb**	**05 10 11.3**	**+0.2**
PBAR				*e*S	**Sg**	**05 10 26.0**	**+1.3**
comp=N,586nm,0.4s							
PCBR	**Castelo Branco**	**1.11**	**25**	*e*P	**Pg**	**05 10 13.5**	**+1.1**
PCBR				*e*S	**Sn**	**05 10 28.6**	**+0.8**
PCBR				A	A	05 10 29.2	
comp=N,580nm,0.3s							
PCBR	**Castelo Branco**	**1.11**	**25**	Pg	**Pg**	**05 10 13.5**	**+1.1**
PCBR				Lg	Lg	05 10 28.6	
comp=N,290nm,0.3s							
PCBR	**Castelo Branco**	**1.11**	**25**	*e*P	**Pg**	**05 10 13.5**	**+1.1**
PCBR				*e*S	**Sn**	**05 10 28.6**	**+0.8**
comp=N,580nm,0.3s							
PCVE	**Castro Verde**	**1.20**	**178**	*e*P	**Pn**	**05 10 13.9**	**+0.3**
PCVE				*e*S	**Sb**	**05 10 29.7**	**+0.7**
PCVE				A	A	05 10 30.7	
comp=N,223nm,0.3s							
PCVE	**Castro Verde**	**1.20**	**178**	Pg	**Pn**	**05 10 13.9**	**+0.3**
PCVE				Lg	Lg	05 10 29.7	
comp=N,223nm,0.3s							
PCVE	**Castro Verde**	**1.20**	**178**	*e*P	**Pn**	**05 10 13.9**	**+0.3**
PCVE				*e*S	**Sb**	**05 10 29.7**	**+0.7**
comp=N,223nm,0.3s							
PCAS	**Casmilo, Conde**	**1.27**	**345**	*e*P	**Pg**	**05 10 15.9**	**+0.6**
PCAS				*e*S	**Sg**	**05 10 33.0**	**+1.2**
PCAS				A	A	05 10 34.5	
comp=N,713nm,0.6s							
PCAS	**Casmilo, Conde**	**1.27**	**345**	*e*P	**Pg**	**05 10 15.9**	**+0.6**
PCAS				*e*S	**Sg**	**05 10 33.0**	**+1.2**
comp=N,713nm,0.6s							
EGRO	**El Granado**	**1.38**	**160**	⇑Pn	**Pn**	**05 10 16.8**	**+0.7**
comp=N,18nm,0.1s,SNR=18							
EGRO				Pg	**Pg**	**05 10 18.3**	**+0.9**
comp=N,47nm,0.1s,SNR=7.9							
EGRO				Lg	Lg	05 10 35.5	
comp=N,243nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**1.38**	**160**	Pn	**Pn**	**05 10 16.8**	**+0.7**
comp=N,18nm,0.1s,SNR=18							
PTEO	**Sao Teotonio**	**1.38**	**202**	*e*P	**Pn**	**05 10 16.2**	**+0.1**
PTEO				*e*S	**Sb**	**05 10 35.2**	**+0.9**
PTEO				A	A	05 10 37.7	
comp=N,278nm,0.6s							
PTEO	**Sao Teotonio**	**1.38**	**202**	Pg	**Pn**	**05 10 16.2**	**+0.1**
PTEO				Lg	Lg	05 10 35.2	
comp=N,139nm,0.6s							
PTEO	**Sao Teotonio**	**1.38**	**202**	*e*P	**Pn**	**05 10 16.2**	**+0.1**
PTEO				*e*S	**Sb**	**05 10 35.2**	**+0.9**
comp=N,278nm,0.6s							
PVAQ	**Vaqueiros**	**1.45**	**169**	*e*Pn	**Pn**	**05 10 17.7**	**+0.6**
PVAQ				*e*Sg	**Sb**	**05 10 37.9**	**+1.5**
PVAQ				A	A	05 10 41.3	
comp=N,326nm,0.3s							
PVAQ	**Vaqueiros**	**1.45**	**169**	Pn	**Pn**	**05 10 17.7**	**+0.6**
PVAQ				Lg	Lg	05 10 37.9	
comp=N,326nm,0.3s							

PVAQ Vaqueiros 1.45 169 ePn **Pn 05 10 17.7 +0.6**
PVAQ eSg **Sb 05 10 37.9 +1.5**
comp=N,326nm,0.3s
EMIN Mina Concepcio 1.53 133 ⇓Pg **Pn 05 10 19.4 +1.2**
comp=N,18nm,0.1s,SNR=18
EMIN Lg Lg 05 10 40.5
comp=N,163nm,0.2s,SNR=5.0
EMIN Mina Concepcio 1.53 133 Pg **Pn 05 10 19.4 +1.2**
comp=N,18nm,0.1s,SNR=18
EMIN Lg Lg 05 10 40.5
comp=N,163nm,0.2s,SNR=5.0
MORF Marmelete 1.58 197 ePn **Pn 05 10 19.2 +0.2**
MORF eSg **Sg 05 10 42.2 +0.2**
MORF A A 05 10 47.5
comp=N,128nm,0.1s
MORF Marmelete 1.58 197 Pn **Pn 05 10 19.2 +0.2**
MORF Lg Lg 05 10 42.2
comp=N,128nm,0.1s
MORF Marmelete 1.58 197 ePn **Pn 05 10 19.2 +0.2**
MORF Lg Lg 05 10 42.2
comp=N,128nm,0.1s
PBDV Barranco-do-Ve 1.59 176 ePn **Pn 05 10 19.7 +0.7**
PBDV eSg **Sb 05 10 42.0 +1.6**
PBDV A A 05 10 45.4
comp=N,159nm,0.4s
PBDV Barranco-do-Ve 1.59 176 ⇑Pn **Pn 05 10 19.7 +0.7**
PBDV Lg Lg 05 10 42.0
comp=N,159nm,0.4s
PBDV Barranco-do-Ve 1.59 176 Pn **Pn 05 10 19.7 +0.7**
PBDV eSg **Sb 05 10 42.0 +1.6**
comp=N,159nm,0.4s
MTE Manteigas 1.62 15 ePn **Pb 05 10 20.9 -0.1**
MTE eSg **Sg 05 10 44.0 +0.8**
MTE A A 05 10 45.1
comp=N,403nm,0.6s
MTE Manteigas 1.62 15 Pn **Pb 05 10 20.9 -0.1**
MTE Lg Lg 05 10 44.0
comp=N,202nm,0.6s
MTE Manteigas 1.62 15 ePn **Pb 05 10 20.9 -0.1**
MTE eSg **Sg 05 10 44.0 +0.8**
comp=N,403nm,0.6s
PVIS Viseu 1.89 4 ePn **Pb 05 10 25.1 -0.4**
PVIS eSg **Sg 05 10 52.4 +0.6**
PVIS A A 05 10 54.2
comp=N,213nm,0.1s
PVIS Viseu 1.89 4 Pn **Pb 05 10 25.1 -0.4**
PVIS Lg Lg 05 10 52.4
comp=N,106nm,0.1s
PVIS Viseu 1.89 4 ePn **Pb 05 10 25.1 -0.4**
PVIS eSg **Sg 05 10 52.4 +0.6**
comp=N,213nm,0.1s
EPLA Plasencia 1.98 51 Pn **Pn 05 10 25.6 +1.2**
comp=N,0.3nm,0.1s,SNR=7.9
EPLA Pg **Pb 05 10 27.0 0.0**
comp=N,9.0nm,0.1s,SNR=45
EPLA Lg Lg 05 10 54.7
comp=N,108nm,0.1s,SNR=23
EPLA Plasencia 1.98 51 Pn **Pn 05 10 25.6 +1.2**
comp=N,0.3nm,0.1s,SNR=7.9
ECAB El Cabril 2.22 109 Pn **Pn 05 10 29.6 +1.9**
comp=N,1.0nm,0.1s,SNR=111
ECAB Pg **Pb 05 10 32.0 +0.9**
comp=N,46nm,0.3s,SNR=7.9
ECAB Lg Lg 05 11 01.3
comp=N,120nm,0.2s,SNR=10
ECAB El Cabril 2.22 109 Pn **Pn 05 10 29.6 +1.9**
comp=N,1.0nm,0.1s,SNR=111
PTO Porto 2.34 350 ePn **Pn 05 10 30.8 +1.5**
PTO eSg **Sg 05 11 05.4 -0.9**
PTO Porto 2.34 350 Pn **Pn 05 10 30.8 +1.5**
PTO Lg Lg 05 11 05.4
PTO Porto 2.34 350 ePn **Pn 05 10 30.8 +1.5**
PTO Lg Lg 05 11 05.4
PVRL Vila Real 2.46 6 ePn **Pn 05 10 32.8 +1.8**
PVRL eSg **Sg 05 11 09.8 -0.3**
PVRL A A 05 11 12.8
comp=N,105nm,0.3s
PVRL Vila Real 2.46 6 Pn **Pn 05 10 32.8 +1.8**
PVRL Lg Lg 05 11 09.8
comp=N,52nm,0.3s
PVRL Vila Real 2.46 6 ePn **Pn 05 10 32.8 +1.8**
PVRL eSg **Sg 05 11 09.8 -0.3**
comp=N,105nm,0.3s
MVO Moncorvo 2.47 19 ePn **Pn 05 10 32.5 +1.3**
MVO eSg **Sg 05 11 11.1 +0.8**
MVO A A 05 11 16.8
comp=N,133nm,0.6s
MVO Moncorvo 2.47 19 Pn **Pn 05 10 32.2 +1.1**
comp=N,2.9nm,0.1s,SNR=7.9
MVO Pg **Pb 05 10 34.5 -0.9**
comp=N,32nm,0.2s,SNR=94
MVO Lg Lg 05 11 09.4
comp=N,62nm,0.1s,SNR=9.8
MVO Moncorvo 2.47 19 ePn **Pn 05 10 32.5 +1.3**
MVO Moncorvo 2.47 19 Pg **Pb 05 10 34.5 -0.9**
comp=N,32nm,0.2s,SNR=94
MVO Lg Lg 05 11 09.4
comp=N,62nm,0.1s,SNR=9.8
MVO eSg **Sg 05 11 11.1 +0.8**
comp=N,133nm,0.6s
POLO Lamas de Olo 2.55 5 ePn **Pn 05 10 33.2 +0.9**
POLO eSg **Sg 05 11 11.7 -1.3**
POLO A A 05 11 14.9
comp=N,60nm,0.4s
POLO Lamas de Olo 2.55 5 ePn **Pn 05 10 33.2 +0.9**
POLO eSg **Sg 05 11 11.7 -1.3**
comp=N,60nm,0.4s
EADA Adamuz 2.83 102 Pn **Pn 05 10 36.8 +0.7**
comp=N,1.3nm,0.1s
EADA Pg **Pb 05 10 43.4 +2.0**
comp=N,15nm,0.3s,SNR=36
EADA Lg Lg 05 11 21.5
comp=N,52nm,0.1s,SNR=9.2
EADA Adamuz 2.83 102 Pn **Pn 05 10 36.8 +0.7**
comp=N,1.3nm,0.1s
LIJA Lijar 2.86 131 eP Pn 05 10 39.8 +3.3
PCAB Cabril 2.88 1 ePn **Pn 05 10 37.8 +1.0**
PCAB eSg **Sg 05 11 23.4 -0.1**
PCAB A A 05 11 27.9
comp=N,98nm,0.5s
PCAB Cabril 2.88 1 Pn **Pn 05 10 37.8 +1.0**
PCAB Lg Lg 05 11 23.4
comp=N,49nm,0.5s
PCAB Cabril 2.88 1 ePn **Pn 05 10 37.8 +1.0**
PCAB eSg **Sg 05 11 23.4 -0.1**
comp=N,98nm,0.5s
ELOB Lobios 3.04 0 Pn **Pn 05 10 39.9 +0.9**
comp=N,14nm,0.1s,SNR=69
ELOB Pg **Pb 05 10 47.5 +2.5**
comp=N,15nm,0.2s,SNR=4.9
ELOB Sn **Sn 05 11 15.3 0.0**
comp=N,14nm,0.2s,SNR=5.0
ELOB Lg Lg 05 11 25.0
comp=N,70nm,0.2s,SNR=4.8
ELOB Lobios 3.04 0 Pn **Pn 05 10 39.9 +0.9**
comp=N,14nm,0.1s,SNR=69
ELOB Lobios 3.04 0 Pg **Pb 05 10 47.5 +2.5**
comp=N,15nm,0.2s,SNR=4.9
ELOB Sn **Sn 05 11 15.3 0.0**
comp=N,14nm,0.2s,SNR=5.0
ELOB Lg Lg 05 11 25.0
comp=N,70nm,0.2s,SNR=4.8
PGAV Gavieira, Arco 3.14 357 ePn **Pn 05 10 41.6 +1.2**
PGAV eSg **Sg 05 11 31.5 -0.3**
PGAV A A 05 11 35.8
comp=N,65nm,0.2s
PGAV Gavieira, Arco 3.14 357 ePn **Pn 05 10 41.6 +1.2**
PGAV eSg **Sg 05 11 31.5 -0.3**
comp=N,65nm,0.2s
PBRG Braganca 3.14 19 ePn **Pn 05 10 42.0 +1.6**
PBRG eSg **Sg 05 11 32.9 +0.9**
PBRG A A 05 11 42.6
comp=N,54nm,0.7s
PBRG Braganca 3.14 19 Pn **Pn 05 10 42.0 +1.6**
PBRG Lg Lg 05 11 32.9
comp=N,27nm,0.7s
PBRG Braganca 3.14 19 ePn **Pn 05 10 42.0 +1.6**
PBRG eSg **Sg 05 11 32.9 +0.9**
comp=N,54nm,0.7s
EJIF Jimena Fronter 3.15 138 Pn **Pn 05 10 42.7 +2.2**
comp=N,7.4nm,0.2s,SNR=7.9
EJIF Pg **Pg 05 10 51.2 -0.2**
comp=N,11nm,0.3s,SNR=7.9
EJIF Lg Lg 05 11 34.4
comp=N,47nm,0.5s,SNR=7.9
EJIF Jimena Fronter 3.15 138 Pn **Pn 05 10 42.7 +2.2**
comp=N,7.4nm,0.2s,SNR=7.9
ECAL Calabor 3.27 18 Pn **Pn 05 10 43.3 +1.0**
comp=N,36nm,0.3s,SNR=78
ECAL Pg **Pg 05 10 54.0 +0.3**
comp=N,46nm,0.5s,SNR=11
ECAL Sn **Sn 05 11 20.5 -0.7**
comp=N,19nm,0.2s,SNR=5.0
ECAL Lg Lg 05 11 35.5
comp=N,206nm,0.6s,SNR=15
ECAL Calabor 3.27 18 Pn **Pn 05 10 43.3 +1.0**
comp=N,36nm,0.3s,SNR=78
ECAL Calabor 3.27 18 Pg **Pg 05 10 54.0 +0.3**
comp=N,46nm,0.5s,SNR=11
ECAL Sn **Sn 05 11 20.5 -0.7**
comp=N,19nm,0.2s,SNR=5.0
ECAL Lg Lg 05 11 35.5
comp=N,206nm,0.6s,SNR=15
ESDC Sonseca Array 3.31 74 Pn **Pn 05 10 43.7 +1.0**
comp=N,7.0nm,0.3s,baz=258,slow=13,SNR=63
ESDC Sn **Sn 05 11 22.4 +0.5**
comp=N,16nm,0.1s,baz=260,slow=23,SNR=4.8
ESDC Lg Lg 05 11 32.3
comp=N,33nm,0.1s,baz=265,slow=29,SNR=156
ESDC Sonseca Array 3.31 74 Pn **Pn 05 10 43.7 +1.0**
comp=N,7.0nm,0.3s,baz=258,slow=13,SNR=63
ESDC Sn **Sn 05 11 22.4 +0.5**
comp=N,16nm,0.1s,slow=23,SNR=4.8
ESDC Lg Lg 05 11 32.3
comp=N,33nm,0.1s,SNR=156
EZAM Zamans 3.35 352 Pn **Pn 05 10 44.4 +1.2**
comp=N,14nm,0.2s,SNR=7.9
EZAM Sn **Sn 05 11 22.4 -0.5**
comp=N,6.0nm,0.2s,SNR=7.9
EZAM Lg Lg 05 11 35.3
comp=N,31nm,0.2s,SNR=7.9
EZAM Zamans 3.35 352 Pn **Pn 05 10 44.4 +1.2**
comp=N,14nm,0.2s,SNR=7.9
EZAM Sn **Sn 05 11 22.4 -0.5**
comp=N,6.0nm,0.2s,SNR=7.9
EZAM Lg Lg 05 11 35.3
comp=N,31nm,0.2s,SNR=7.9
EBAN Banos Encina 3.43 100 Pn **Pn 05 10 46.6 +2.2**
comp=N,3.0nm,0.2s,SNR=6.5
EBAN Pg **Pg 05 10 55.5 -1.3**
comp=N,14nm,0.2s
EBAN Lg Lg 05 11 40.8
comp=N,78nm,0.4s,SNR=13
EBAN Banos Encina 3.43 100 Pn **Pn 05 10 46.6 +2.2**
comp=N,3.0nm,0.2s,SNR=6.5
EMIJ Mijas 3.46 130 Pn **Pn 05 10 47.4 +2.6**
comp=N,5.7nm,0.1s,SNR=12
EMIJ Sn **Sn 05 11 26.3 +0.6**
comp=N,12nm,0.3s,SNR=6.1
EMIJ Lg Lg 05 11 43.1
comp=N,49nm,0.4s,SNR=5.0
EMIJ Mijas 3.46 130 Pn **Pn 05 10 47.4 +2.6**
comp=N,5.7nm,0.1s,SNR=12
EMIJ Sn **Sn 05 11 26.3 +0.6**
comp=N,12nm,0.3s,SNR=6.1
EMIJ Lg Lg 05 11 43.1
comp=N,49nm,0.4s,SNR=5.0
ELOJ Sierra Loja 3.53 117 Pn Pn 05 10 49.0 +3.2
comp=N,5.0nm,0.3s,SNR=7.5
ELOJ Pg **Pg 05 10 57.1 -1.5**
comp=N,14nm,0.4s,SNR=7.9
ELOJ Lg Lg 05 11 42.0
comp=N,28nm,0.5s,SNR=9.2
ELOJ Sierra Loja 3.53 117 Pn Pn 05 10 49.0 +3.2
comp=N,5.0nm,0.3s,SNR=7.5
ELOJ Sierra Loja 3.53 117 Pg **Pg 05 10 57.1 -1.5**
comp=N,14nm,0.4s,SNR=7.9
ELOJ Lg Lg 05 11 42.0
comp=N,28nm,0.5s,SNR=9.2
GUD Guadarrama 3.53 58 Pn **Pn 05 10 46.6 +0.8**
comp=N,3.6nm,0.2s,SNR=7.9
GUD Pg **Pg 05 10 57.3 -1.3**
comp=N,6.3nm,0.2s,SNR=7.9
GUD Sn **Sn 05 11 26.5 -1.1**
comp=N,12nm,0.2s,SNR=7.9
GUD Lg Lg 05 11 42.1
comp=N,68nm,0.3s,SNR=7.9
GUD Guadarrama 3.53 58 Pn **Pn 05 10 46.6 +0.8**
comp=N,3.6nm,0.2s,SNR=7.9
EMAL Malaga-Limoner 3.55 124 Pg **Pb 05 10 52.7 -1.1**
EMAL Lg Lg 05 11 43.2
ECEU Ceuta 3.63 143 Pn **Pn 05 10 49.1 +2.0**
comp=N,14nm,0.4s,SNR=15
ECEU Sn **Sn 05 11 31.4 +1.5**
comp=N,2.8nm,0.2s,SNR=5.0
ECEU Ceuta 3.63 143 Pn **Pn 05 10 49.1 +2.0**
comp=N,14nm,0.4s,SNR=15
ECEU Sn **Sn 05 11 31.4 +1.5**
comp=N,2.8nm,0.2s,SNR=5.0
ERON Agron 3.83 117 Pn **Pn 05 10 52.6 +2.6**
comp=N,3.3nm,0.4s,SNR=7.9
ERON Lg Lg 05 11 55.3
comp=N,14nm,0.4s,SNR=7.9
ERON Agron 3.83 117 Pn **Pn 05 10 52.6 +2.6**
comp=N,3.3nm,0.4s,SNR=7.9
ERON Lg Lg 05 11 55.3
comp=N,14nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 3.88 112 Pg Pb 05 11 02.5 +2.9
comp=N,4.9nm,0.4s,SNR=4.0
ECOG Sn **Sn 05 11 37.0 +0.7**
comp=N,6.7nm,0.3s,SNR=7.9
ECOG Lg Lg 05 11 57.0
comp=N,20nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 3.88 112 Pg Pb 05 11 02.5 +2.9
comp=N,4.9nm,0.4s,SNR=4.0
ECOG Sn **Sn 05 11 37.0 +0.7**
comp=N,6.7nm,0.3s,SNR=7.9
ECOG Lg Lg 05 11 57.0
comp=N,20nm,0.3s,SNR=7.9
EQUE Quentar 4.01 112 Pn Pn 05 10 56.1 +3.7
comp=N,3.6nm,0.2s,SNR=4.9
EQUE Pg **Pg 05 11 06.9 -0.9**
comp=N,7.5nm,0.3s,SNR=4.0
EQUE Sn **Sn 05 11 40.1 +0.9**
comp=N,9.1nm,0.3s,SNR=7.9
EQUE Lg Lg 05 12 00.9
comp=N,29nm,0.4s,SNR=4.9
EQUE Quentar 4.01 112 Pn Pn 05 10 56.1 +3.7
comp=N,3.6nm,0.2s,SNR=4.9
STS Santiago 4.07 355 Sn **Sn 05 11 38.9 -1.8**
comp=N,5.6nm,0.2s,SNR=7.9
STS Lg Lg 05 12 00.6
comp=N,33nm,0.5s,SNR=7.2
STS Santiago 4.07 355 Sn **Sn 05 11 38.9 -1.8**
comp=N,5.6nm,0.2s,SNR=7.9
STS Lg Lg 05 12 00.6
comp=N,33nm,0.5s,SNR=7.2
EQES Quesada 4.07 103 Pn **Pn 05 10 54.9 +1.7**
comp=N,0.6nm,0.1s,SNR=10.0
EQES Pg **Pg 05 11 07.9 -1.1**
comp=N,11nm,0.5s
EQES Sn **Sn 05 11 40.7 -0.2**
comp=N,10nm,0.4s,SNR=4.7
EQES Lg Lg 05 12 01.7
comp=N,27nm,0.3s,SNR=5.0
EQES Quesada 4.07 103 Pn **Pn 05 10 54.9 +1.7**
comp=N,0.6nm,0.1s,SNR=10.0
EGUA Guajares 4.09 118 Pn Pn 05 10 56.8 +3.4
comp=N,17nm,0.2s,SNR=7.9
EGUA Sn **Sn 05 11 41.2 -0.1**
comp=N,17nm,0.3s,SNR=7.9
EGUA Lg Lg 05 12 05.9
comp=N,226nm,0.8s,SNR=7.9
EGUA Guajares 4.09 118 Pn Pn 05 10 56.8 +3.4
comp=N,17nm,0.2s,SNR=7.9
EGUA Sn **Sn 05 11 41.2 -0.1**
comp=N,17nm,0.3s,SNR=7.9
EGUA Lg Lg 05 12 05.9
comp=N,226nm,0.8s,SNR=7.9
EMAZ Mazaricos 4.17 351 Pn **Pn 05 10 55.8 +1.3**
comp=N,5.1nm,0.1s,SNR=9.3
EMAZ Sn **Sn 05 11 40.6 -2.6**
comp=N,7.4nm,0.3s,SNR=5.1
EMAZ Lg Lg 05 12 03.7
comp=N,42nm,0.4s,SNR=5.0
EMAZ Mazaricos 4.17 351 Pn **Pn 05 10 55.8 +1.3**
comp=N,5.1nm,0.1s,SNR=9.3
EMAZ Sn **Sn 05 11 40.6 -2.6**
comp=N,7.4nm,0.3s,SNR=5.1
EMAZ Lg Lg 05 12 03.7
comp=N,42nm,0.4s,SNR=5.0
EVIA Vianos 4.37 91 Pn **Pn 05 10 58.4 +1.1**
comp=N,3.8nm,0.2s,SNR=7.6
EVIA Pg **Pg 05 11 13.3 -1.3**
comp=N,17nm,0.4s,SNR=6.0
EVIA Sn **Sn 05 11 48.1 -0.1**
comp=N,15nm,0.4s,SNR=8.7
EVIA Lg Lg 05 12 11.7
comp=N,137nm,0.6s,SNR=5.0
EVIA Vianos 4.37 91 Pn **Pn 05 10 58.4 +1.1**
comp=N,3.8nm,0.2s,SNR=7.6
EHUE Huescar 4.43 101 Pg **Pg 05 11 14.3 -1.6**
comp=N,2.5nm,0.2s,SNR=4.0
EHUE Sn **Sn 05 11 50.1 +0.3**
comp=N,2.9nm,0.2s,SNR=7.9
EHUE Lg Lg 05 12 14.4
comp=N,12nm,0.2s,SNR=7.9
EHUE Huescar 4.43 101 Pg **Pg 05 11 14.3 -1.6**
comp=N,2.5nm,0.2s,SNR=4.0
EHUE Sn **Sn 05 11 50.1 +0.3**
comp=N,2.9nm,0.2s,SNR=7.9
EHUE Lg Lg 05 12 14.4
comp=N,12nm,0.2s,SNR=7.9
EBER Berja 4.54 114 Pn Pn 05 11 02.7 +3.0
comp=N,7.4nm,0.4s,SNR=13
EBER Sn **Sn 05 11 52.0 -0.5**
comp=N,9.1nm,0.3s,SNR=7.9
EBER Lg Lg 05 12 18.1
comp=N,46nm,0.6s,SNR=5.0
EBER Berja 4.54 114 Pn Pn 05 11 02.7 +3.0
comp=N,7.4nm,0.4s,SNR=13
EBER Sn **Sn 05 11 52.0 -0.5**
comp=N,9.1nm,0.3s,SNR=7.9
EBER Lg Lg 05 12 18.1
comp=N,46nm,0.6s,SNR=5.0
EPON Pontenova 4.55 9 Pn **Pn 05 11 01.4 +1.7**
comp=N,1.9nm,0.2s,SNR=7.9
EPON Sn **Sn 05 11 51.2 -1.3**
comp=N,2.6nm,0.2s,SNR=7.9
EPON Lg Lg 05 12 16.0
comp=N,20nm,0.3s,SNR=6.1
EPON Pontenova 4.55 9 Pn **Pn 05 11 01.4 +1.7**
comp=N,1.9nm,0.2s,SNR=7.9
EPON Sn **Sn 05 11 51.2 -1.3**
comp=N,2.6nm,0.2s,SNR=7.9
EPON Lg Lg 05 12 16.0
comp=N,20nm,0.3s,SNR=6.1
EARI Arriondas 4.97 25 Pn **Pn 05 11 07.8 +2.3**
comp=N,0.9nm,0.1s,SNR=14
EARI Lg Lg 05 12 29.4
comp=N,55nm,1.2s,SNR=5.0
EARI Arriondas 4.97 25 Pn **Pn 05 11 07.8 +2.3**
comp=N,0.9nm,0.1s,SNR=14
EARI Lg Lg 05 12 29.5
comp=N,55nm,1.2s,SNR=5.0
ETOR Torete 5.05 65 Pn **Pn 05 11 07.6 +1.0**
comp=N,20nm,0.3s,SNR=24
ETOR Sn **Sn 05 12 03.4 -1.6**
comp=N,16nm,0.2s,SNR=8.4
ETOR Lg Lg 05 12 32.4
comp=N,113nm,0.4s,SNR=6.5
ETOR Torete 5.05 65 Pn **Pn 05 11 07.6 +1.0**
comp=N,20nm,0.3s,SNR=24
ETOR Sn **Sn 05 12 03.3 -1.6**
comp=N,16nm,0.2s,SNR=8.4
ETOR Lg Lg 05 12 32.4
comp=N,113nm,0.4s,SNR=6.5
ETOB Tobarra 5.11 90 Pn **Pn 05 11 08.8 +1.3**
comp=N,1.1nm,0.2s,SNR=6.9
ETOB Pg **Pg 05 11 28.3 -0.6**
comp=N,24nm,0.4s,SNR=7.7
ETOB Sn **Sn 05 12 04.7 -1.8**
comp=N,5.9nm,0.4s,SNR=7.9
ETOB Lg Lg 05 12 35.5
comp=N,26nm,0.3s,SNR=5.0
ETOB Tobarra 5.11 90 Pn **Pn 05 11 08.8 +1.3**
comp=N,1.1nm,0.2s,SNR=6.9
ECHE Chera 5.58 80 Pn **Pn 05 11 16.6 +2.8**
comp=N,1.9nm,0.3s,SNR=7.9
ECHE Sn **Sn 05 12 15.8 -2.1**
comp=N,3.5nm,0.4s,SNR=7.9
ECHE Lg Lg 05 12 50.7
comp=N,21nm,0.4s,SNR=6.6
ECHE Chera 5.58 80 Pn **Pn 05 11 16.6 +2.8**
comp=N,1.9nm,0.3s,SNR=7.9
ECHE Lg Lg 05 12 50.7
comp=N,21nm,0.4s,SNR=6.6
EMOS Mosqueruela 6.07 73 Pn **Pn 05 11 22.2 +1.4**
comp=N,4.9nm,0.4s,SNR=9.5
EMOS Sn **Sn 05 12 25.8 -4.5**
comp=N,2.5nm,0.3s,SNR=7.9
EMOS Lg Lg 05 13 07.0
comp=N,50nm,1.1s,SNR=5.0
EMOS Mosqueruela 6.07 73 Pn **Pn 05 11 22.2 +1.4**
comp=N,4.9nm,0.4s,SNR=9.5
EMOS Lg Lg 05 13 07.0
comp=N,50nm,1.1s,SNR=5.0
EBEN Beniarda 6.14 89 Pg **Pb 05 11 40.0 +2.0**
comp=N,0.9nm,0.4s,SNR=4.0
EBEN Lg Lg 05 13 09.3
comp=N,31nm,0.7s,SNR=7.9
EARA Aranguren 6.31 49 Lg Lg 05 13 13.3
comp=N,55nm,0.9s,SNR=4.0
EARA Aranguren 6.31 49 Lg Lg 05 13 13.3
comp=N,55nm,0.9s,SNR=4.0
IUNC Unciti 6.35 50 Sn **Sn 05 12 34.3 -2.6**
comp=N,5.4nm,0.4s,SNR=7.9
IUNC Lg Lg 05 13 13.1
comp=N,18nm,0.5s,SNR=7.9
IUSE Utxeti 6.43 48 Pn **Pn 05 11 28.1 +2.4**
comp=N,1.8nm,0.3s,SNR=4.0
IUSE Sn **Sn 05 12 36.6 -2.5**
comp=N,1.5nm,0.2s,SNR=7.9
IUSE Lg Lg 05 13 17.1
comp=N,12nm,0.4s,SNR=7.9
IUSE Utxeti 6.43 48 Pn **Pn 05 11 28.1 +2.4**
comp=N,1.8nm,0.3s,SNR=4.0
IUSE Lg Lg 05 13 17.0
comp=N,12nm,0.4s,SNR=7.9
ESAC San Caprasio 6.50 61 Pn **Pn 05 11 29.2 +2.7**
comp=N,6.5nm,0.2s,SNR=7.9
ESAC Sn **Sn 05 12 38.5 -2.1**
comp=N,22nm,0.3s,SNR=7.9
ESAC Lg Lg 05 13 19.8
comp=N,62nm,0.4s,SNR=4.0
ESAC San Caprasio 6.50 61 Pn **Pn 05 11 29.2 +2.7**
comp=N,6.5nm,0.2s,SNR=7.9
ESAC Lg Lg 05 13 19.8
comp=N,62nm,0.4s,SNR=4.0
IEPA Eparoz 6.50 50 Pn **Pn 05 11 28.1 +1.5**
comp=N,2.0nm,0.2s,SNR=7.9
IEPA Sn **Sn 05 12 38.3 -2.4**
comp=N,2.3nm,0.2s,SNR=7.9
IEPA Lg Lg 05 13 19.4
comp=N,20nm,0.5s,SNR=4.0
IEPA Eparoz 6.50 50 Pn **Pn 05 11 28.1 +1.5**
comp=N,2.0nm,0.2s,SNR=7.9
IEPA Lg Lg 05 13 19.4
comp=N,20nm,0.5s,SNR=4.0
IELO Elcoad 6.56 50 Pn **Pn 05 11 28.7 +1.4**
comp=N,1.4nm,0.2s,SNR=7.9
IELO Sn **Sn 05 12 39.8 -2.3**
comp=N,2.0nm,0.2s,SNR=7.9
IELO Lg Lg 05 13 21.5
comp=N,28nm,1.1s,SNR=7.9
IELO Elcoad 6.56 50 Pn **Pn 05 11 28.7 +1.4**
comp=N,1.4nm,0.2s,SNR=7.9
IELO Lg Lg 05 13 21.5
comp=N,28nm,1.1s,SNR=7.9
ELIZ Elizondo 6.58 47 Pn **Pn 05 11 29.5 +1.9**
comp=N,3.7nm,0.4s,SNR=7.9
ELIZ Sn **Sn 05 12 39.6 -3.0**
comp=N,2.5nm,0.2s,SNR=7.9
ELIZ Lg Lg 05 13 20.4
comp=N,16nm,0.7s,SNR=7.9
ELIZ Elizondo 6.58 47 Pn **Pn 05 11 29.5 +1.9**
comp=N,3.7nm,0.4s,SNR=7.9
ELIZ Lg Lg 05 13 20.4
comp=N,16nm,0.7s,SNR=7.9
EALK Alkurruntz 6.63 46 Pn **Pn 05 11 30.3 +2.1**
comp=N,0.6nm,0.2s,SNR=7.9
EALK Sn **Sn 05 12 41.0 -2.7**
comp=N,4.6nm,0.4s,SNR=7.9
EALK Lg Lg 05 13 22.1
comp=N,58nm,0.7s,SNR=7.9
EALK Alkurruntz 6.63 46 Pn **Pn 05 11 30.3 +2.1**
comp=N,0.6nm,0.2s,SNR=7.9
EALK Lg Lg 05 13 22.0
comp=N,58nm,0.7s,SNR=7.9
SJPF Ste Jean 6.72 48 ePn **Pn 05 11 31.3 +1.7**
SJPF eSn **Sn 05 12 43.2 -2.9**
SJPF eSg **Sg 05 13 24.6 -2.1**

comp=N,17nm,0.7s
SJPF Ste Jean 6.72 48 *e*Pn **Pn 05 11 31.3 +1.7**
SJPF *e*Sg **Sg 05 13 24.6 -2.1**
comp=N,8.3nm,0.7s
SJPF Lg Lg 05 13 24.6
comp=N,8.4nm,0.7s
ERTA Horta de San J 6.81 69 Pn **Pn 05 11 32.3 +1.5**
comp=N,0.8nm,0.1s,SNR=7.9
ERTA Lg Lg 05 13 28.6
comp=N,12nm,0.5s,SNR=7.9
ERTA Horta de San J 6.81 69 Pn **Pn 05 11 32.3 +1.5**
comp=N,0.8nm,0.1s,SNR=7.9
ERTA Lg Lg 05 13 28.6
comp=N,12nm,0.5s,SNR=7.9
ETSF Etsaut 7.00 52 *e*Pn **Pn 05 11 34.7 +1.3**
ETSF *e*Sn **Sn 05 12 50.4 -2.6**
ETSF *e*Sg **Sg 05 13 33.0 -2.6**
comp=N,9.1nm,0.6s
ETSF Etsaut 7.00 52 *e*Pn **Pn 05 11 34.7 +1.3**
ETSF Lg Lg 05 13 33.0
comp=N,4.6nm,0.6s
EBIE Bielsa 7.33 56 Pn **Pn 05 11 39.4 +1.3**
comp=N,2.3nm,0.2s,SNR=8.4
EBIE Sn **Sn 05 12 58.9 -2.6**
comp=N,3.5nm,0.5s,SNR=31
EBIE Bielsa 7.33 56 Pn **Pn 05 11 39.4 +1.3**
comp=N,2.3nm,0.2s,SNR=8.4
EPOB Poblet 7.46 67 Pn **Pn 05 11 39.7 0.0**
comp=N,1.1nm,0.2s,SNR=7.9
EPOB Sn **Sn 05 13 01.0 -3.3**
comp=N,1.0nm,0.4s,SNR=7.9
EPOB Lg Lg 05 13 49.8
comp=N,18nm,1.1s,SNR=7.9
EPOB Poblet 7.46 67 Pn **Pn 05 11 39.7 0.0**
comp=N,1.1nm,0.2s,SNR=7.9
EPOB Lg Lg 05 13 49.8
comp=N,18nm,1.1s,SNR=7.9
EPF Esparros 7.63 54 *e*Pn **Pn 05 11 43.2 +1.1**
EPF *e*Sn **Sn 05 13 04.9 -3.6**
EPF *e*Sg Sg 05 13 52.6 -3.3
comp=N,6.6nm,0.5s
EPF Esparros 7.63 54 *e*Pn **Pn 05 11 43.2 +1.1**
EPF Lg Lg 05 13 52.6
comp=N,3.4nm,0.5s
CSOR Sort 7.85 60 Pn **Pn 05 11 47.6 +2.5**
comp=N,0.3nm,0.2s,SNR=7.9
CSOR Sn **Sn 05 13 11.1 -3.0**
comp=N,2.0nm,0.4s,SNR=7.9
CSOR Lg Lg 05 14 02.2
comp=N,12nm,0.8s,SNR=7.9
CSOR Sort 7.85 60 Pn **Pn 05 11 47.7 +2.5**
comp=N,0.3nm,0.2s,SNR=7.9
CSOR Lg Lg 05 14 02.2
comp=N,12nm,0.8s,SNR=7.9
EMIR Miracle 7.95 64 Pn **Pn 05 11 47.0 +0.5**
comp=N,4.4nm,0.5s,SNR=7.9
EMIR Sn **Sn 05 13 12.7 -3.8**
comp=N,1.6nm,0.2s,SNR=7.9
EMIR Lg Lg 05 14 05.5
comp=N,12nm,0.8s,SNR=7.9
EMIR Miracle 7.95 64 Pn **Pn 05 11 47.0 +0.5**
comp=N,4.4nm,0.5s,SNR=7.9
EMIR Lg Lg 05 14 05.5
comp=N,12nm,0.8s,SNR=7.9
CLLI Llivia 8.47 61 Sn **Sn 05 13 24.4 -4.8**
comp=N,0.0nm,0.2s,SNR=4.0
QUIF Quistinic 9.76 20 *e*Pn **Pn 05 12 11.6 +0.4**
QUIF Quistinic 9.76 20 *e*Pn **Pn 05 12 11.6 +0.4**
ROSF Rostrenen 10.12 19 *e*Pn **Pn 05 12 16.4 +0.3**
ROSF Rostrenen 10.12 19 *e*Pn **Pn 05 12 16.4 +0.3**
SGMF Saint Gilles 10.23 21 *e*Pn **Pn 05 12 17.9 +0.2**
SGMF Saint Gilles 10.23 21 *e*Pn **Pn 05 12 17.9 +0.2**
LASF Ste Croix 10.38 56 *e*Pn **Pn 05 12 20.2 +0.5**
LASF Ste Croix 10.38 56 *e*P Pn 05 12 26.2 +6.5
LASF Ste Croix 10.38 56 *e*Pn **Pn 05 12 20.2 +0.5**

GUC 06 05:34:18.3±1.1,30.′98S×71.′55W,h16km±8km,ML3.5,
1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.51**	**113**	⇓*i*P	Pn	05 34 32.1	+1.0
CMCH				*i* S	Sn	05 34 40.1	+0.6
CMCH				AML	AML	05 34 40.9	
comp=E,11μm,0.6s							
TLL	**Tololo Astrono**	**1.03**	**39**	*i* P	Pg	05 34 42.4	+3.8
TLL				*i* S	Sn	05 34 56.0	+3.1
TLL				AML	AML	05 34 58.0	
comp=E,1μm,0.5s							
ROCH	**El Roble**	**2.04**	**167**	*e*P	Pn	05 34 53.2	+0.9
ROCH				*e*S	Sn	05 35 19.1	+1.5
ROCH				AML	AML	05 35 23.6	
comp=N,411nm,0.4s							
LCO	**Las Campanas**	**2.09**	**21**	*e*P	Pn	05 34 54.3	+1.1
LCO				*e*S	Sb	05 35 20.9	-1.4
LCO				AML	AML	05 35 22.1	
comp=E,246nm,0.4s							
PEL	**Peldehue**	**2.28**	**161**	⇑*i*P	Pn	05 34 56.4	+1.0
PEL				*i* S	Sb	05 35 25.4	-1.8
PEL				AML	AML	05 35 30.9	
comp=N,456nm,0.5s							
CLCH	**Cerro Calan**	**2.56**	**161**	*e*P	Pn	05 35 00.0	+0.8
CLCH				*i* S	Sn	05 35 32.0	+1.9
CLCH				AML	AML	05 35 44.3	
comp=N,431nm,0.7s							

NIED ***06*** *05:39:00,37.′20N×142.′10E,h23km,Mw4.6 Best double couple: M0:8.40000×10^15 NP1:φs356.00000°,δ77.00000°, λ53.00000°. NP2:φs249.00000°,δ38.00000°,λ159.00000°.*
IDC ***06*** *05:39:42.8±0.5,37.′18N×142.′15E,h0km,mb4.3/25, mb1 4.4/29,mb1mx4.4/33,mbtmp4.3/29,ML3.9/3,MS3.9/23, Ms1 3.9/23,ms1mx3.7/43,Error ellipse: s-maj=14.6km s-min=13.0km az=112.0*
ISCJB ***06*** *05:39:44.5±0.9,37.′21N±0.′03×142.′14E±0.′04,h21km±6km, mb4.5/66,MS4.0/24,Error ellipse: s-maj=5.3km s-min=4.4km az=17.7*
JMA ***06*** *05:39:45.7±0.2,37.′25N×142.′14E,h36km±4km,M4.9*
JMA Felt II J1.
MOS ***06*** *05:39:46.0±0.9,37.′07N×142.′07E,h33km,mb4.8/33,Error ellipse: s-maj=9.8km s-min=6.0km az=115.9*
NEIC ***06*** *05:39:47.8±1.8,37.′18N×142.′11E,h32km±12km,mb4.6/20, MW4.5(NIED),Error ellipse: s-maj=7.1km s-min=4.9km az=130.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi, Tochigi and Yamagata.

ISC 06 05:39:47.9±0.8,37.′20N±0.′05×142.′04E±0.′05,h31km±5km,
n189,σ1φ04/192,mb4.5/66,MS4.0/24,3C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.94**	**281**	P	**Pn**	**05 40 03.9**	**-1.1**
JFK				*e*S	**Sn**	**05 40 16.6**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.99**	**265**	P	**Pn**	**05 40 04.6**	**-1.1**
ONAJ				*e*S	**Sn**	**05 40 18.2**	**-0.5**
JMM	**Marumori**	**1.19**	**305**	P	**Pn**	**05 40 07.0**	**-1.4**
JMM				*e*S	**Sn**	**05 40 22.2**	**-1.4**
JIO	**Ouri**	**1.37**	**337**	P	**Pn**	**05 40 08.8**	**-2.0**
JIO				*e*S	**Sn**	**05 40 25.3**	**-2.6**
JFT	**Otama**	**1.39**	**284**	P	**Pn**	**05 40 11.4**	**+0.2**
JFT				*e*S	**Sn**	**05 40 29.4**	**+0.9**
JOU	**Okura**	**1.60**	**317**	P	**Pn**	**05 40 13.3**	**-0.7**
JOU				*e*S	**Sn**	**05 40 32.7**	**-0.9**
JMK	**Ichinoseki**	**1.87**	**340**	P	**Pn**	**05 40 16.4**	**-1.3**
JMK				*e*S	**Sn**	**05 40 39.1**	**-1.1**
JYS	**Shiratake**	**1.87**	**304**	P	**Pn**	**05 40 17.9**	**+0.2**
JYS				*e*S	**Sn**	**05 40 41.0**	**+0.7**
JFY	**Yanaizu**	**1.87**	**277**	P	**Pn**	**05 40 18.7**	**+0.9**
JFY				*e*S	**Sn**	**05 40 41.8**	**+1.5**
JYK	**Kaneyama**	**2.17**	**323**	P	**Pn**	**05 40 21.6**	**-0.3**
JYK				*e*S	**Sn**	**05 40 47.8**	**+0.1**
JAG	**Ashikaga**	**2.21**	**250**	P	**Pn**	**05 40 22.9**	**+0.5**
JOM	**Ohasama**	**2.35**	**346**	P	**Pn**	**05 40 23.2**	**-1.1**
JOM				*e*S	**Sn**	**05 40 51.3**	**-0.8**
MJAR	**Matsushiro Arr**	**3.14**	**259**	Pn	Pn	05 40 31.3	-3.9
MJAR				Sn	**Sb**	**05 41 20.5**	**-0.3**
MJAR	**Matsushiro Arr**	**3.14**	**259**	Pn	Pn	05 40 31.3	-3.9
1.6nm,0.3s,baz=87,slow=17,SNR=7.8							
MJAR				Sn	**Sb**	**05 41 20.5**	**-0.3**
28nm,0.3s,baz=80,slow=28,SNR=6.0							
MJAR				LR	LR	05 41 57.8	
comp=Z,1μm,20.5s,baz=85,slow=42							
MAJO	**Matsushiro**	**3.14**	**259**	*e*P	**Pn**	**05 40 33.1**	**-2.1**
MAJO	**Matsushiro**	**3.14**	**259**	*e*Pn	**Pn**	**05 40 33.1**	**-2.1**
MAT	**Matsushiro**	**3.14**	**259**	P	**Pn**	**05 40 33.0**	**-2.2**
MAT				S	**Sb**	**05 41 17.7**	**-3.1**
ERM	**Erimo**	**4.89**	**10**	*c*e*P	**Pn**	**05 40 57.9**	**-1.3**
ERM				pmax	pmax		
comp=Z,52nm,1.0s							
ERM	**Erimo**	**4.89**	**10**	Pn	**Pn**	**05 41 00.4**	**+1.2**
ERM				*e*Sn	**Sn**	**05 41 56.0**	**+1.2**
ASAJ	**Asahikawa**	**6.93**	**3**	*e*Pn	**Pn**	**05 41 26.8**	**-0.4**
ASAJ				Sn	**Sn**	**05 42 43.9**	**-1.0**
ASAJ	**Asahikawa**	**6.93**	**3**	Pn	**Pn**	**05 41 25.9**	**-1.3**
comp=Z,3.3nm,0.3s,baz=231,slow=10.0,SNR=8.3							
ASAJ				Sn	**Sn**	**05 42 43.9**	**-1.0**
comp=Z,3.1nm,0.3s,baz=105,slow=20,SNR=2.8							
ASAJ				LR	LR	05 45 04.9	
comp=Z,1μm,19.4s,baz=4.4,slow=46							
YUK	**Yuzh-Kuril'sk**	**7.42**	**22**	*d i*P	**Pn**	**05 41 31.0**	**-3.0**
YUK				*i*		05 42 51.3	
YUK				pmax	pmax		
comp=E,19nm,0.9s							
YUK				pmax	pmax		
comp=N,23nm,0.5s							
YUK				pmax	pmax		
comp=Z,37nm,0.9s							
YUK				MLR	MLR		
comp=Z,301nm,11.0s							
KUR	**Kuril'sk**	**9.15**	**27**	*e*P	**Pn**	**05 42 00.6**	**+2.9**
KUR				pmax	pmax		
comp=Z,26nm,0.6s							
YSS	**Yuzh-Sakhalins**	**9.77**	**3**	⇑*e*P	Pn	05 42 10.0	+3.9
YSS				*e*S	**Sn**	**05 43 56.0**	**+1.4**
YSS				MLR	MLR		
comp=N,500nm,14.0s							
YSS				MLR	MLR		
comp=Z,500nm,14.0s							
JNU	**Nakatsue**	**10.00**	**249**	Pn	**Pn**	**05 42 09.6**	**+0.2**
JNU	**Nakatsue**	**10.00**	**249**	Pn	**Pn**	**05 42 09.6**	**+0.2**
comp=Z,0.8nm,0.3s,baz=74,slow=7.4,SNR=18							
JNU				LR	LR	05 46 16.2	
comp=Z,548nm,20.3s,baz=71,slow=39							
USRK	**Ussuriysk Arra**	**10.34**	**316**	Pn	**Pn**	**05 42 14.1**	**+0.1**
comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=6.5							
USRK				LR	LR	05 45 58.6	
comp=Z,603nm,19.8s,baz=107,slow=36							
KSRS	**Korea Array**	**11.24**	**276**	Pn	**Pn**	**05 42 28.1**	**+1.7**
comp=Z,0.5nm,0.3s,baz=89,slow=13,SNR=30							
KSRS				LR	LR	05 46 39.3	
comp=Z,738nm,19.0s,baz=94,slow=37							
KSAR	**Wonju Array Be**	**11.27**	**276**	Pn	**Pn**	**05 42 28.1**	**+1.3**
MDJ	**Mudanjiang**	**11.97**	**312**	Pn	**Pn**	**05 42 38.0**	**+1.7**
comp=Z,32nm,0.9s							
HABR	**Khabarovsk**	**12.38**	**338**	*e*P	Pn	05 42 46.0	+4.2
HABR				MLR	MLR		
comp=Z,556nm,15.0s							
KLR	**Kul'dur**	**14.16**	**331**	*e*P	**Pn**	**05 43 08.8**	**+2.7**
KLR				MLR	MLR		
comp=E,500nm,13.5s							
KLR				MLR	MLR		
comp=Z,900nm,13.5s							
PETK	**Petropavlovsk-**	**19.30**	**30**	P	**P**	**05 44 09.4**	**-0.7**
PETK	**Petropavlovsk-**	**19.30**	**30**	P	**P**	**05 44 09.4**	**-0.7**
PETK	**Petropavlovsk-**	**19.30**	**30**	P	**P**	**05 44 09.4**	**-0.7**
baz=215,slow=12,SNR=3.5							
PETK				LR	LR	05 50 56.9	
comp=Z,186nm,21.9s,baz=230,slow=35							
CLNS	**Chul'man**	**22.74**	**335**	*e*P	**P**	**05 44 47.4**	**+0.2**
CLNS				pmax	pmax		
comp=Z,4.0nm,0.9s							
CLNS				pmax	pmax		
comp=Z,15nm,0.9s							
CLNS				pmax	pmax		
comp=N,13nm,1.2s							
CIT	**Chita**	**24.91**	**316**	*e*P	**P**	**05 45 08.6**	**+0.7**
CIT				*e*		05 45 16.9	
CIT				*e*		05 45 24.1	
CIT				*e*		05 45 39.5	
CIT				pmax	pmax		
comp=Z,104nm,1.6s							
YAK	**Yakutsk**	**26.02**	**347**	*e*P	**P**	**05 45 20.0**	**+2.2**
YAK				*e**PP	**pP**	**05 45 26.2**	**-0.7**
YAK				*e*		05 45 36.0	
YAK				*e*		05 45 56.9	
YAK				*e*		05 48 39.6	
YAK				*e*S	**S**	**05 49 49.1**	**+2.7**
YAK				*e*SSS	SSS	05 50 59.6	
YAK				pmax	pmax		
comp=Z,24nm,0.7s							
YAK				pmax	pmax		
comp=Z,9.0nm,0.4s							
YAK				pmax	pmax		
comp=N,15nm,1.0s							
YAK				smax	smax		
comp=E,60nm,1.7s							
YAK				smax	smax		
comp=N,29nm,1.5s							
YAK				MLR	MLR		
comp=E,147nm,16.0s							
YAK				MLR	MLR		
comp=Z,262nm,14.0s							
YAK				MLR	MLR		
comp=N,275nm,14.0s							
FX1	**Attu Island--F**	**26.74**	**44**	LR	LR	05 53 16.2	
comp=N,142nm,21.3s,baz=250,slow=30							
ULN	**Ulaanbaatar**	**27.68**	**304**	*e*P	**P**	**05 45 33.0**	**-0.1**
comp=N,28nm,1.6s							
ENH	**Enshi**	**27.84**	**265**	*e*P	**P**	**05 45 34.6**	**0.0**
comp=N,26nm,0.9s							
SONM	**Songino Array**	**28.11**	**304**	P	**P**	**05 45 37.5**	**+0.5**
SONM	**Songino Array**	**28.11**	**304**	P	**P**	**05 45 37.4**	**+0.5**
comp=N,5.0nm,0.6s,baz=97,slow=8.4,SNR=16							
SONM				LR	LR	05 57 08.5	
comp=N,174nm,18.3s,baz=78,slow=37							
ZAK	**Zakamensk**	**30.56**	**308**	*e*P	**P**	**05 45 58.4**	**-0.2**
ZAK				pmax	pmax		
comp=Z,10.0nm,1.6s							
TLY	**Talaya**	**30.60**	**311**	*e*P	**P**	**05 46 00.9**	**+2.0**
TLY				pmax	pmax		
comp=Z,16nm,1.3s							
TLY				MLR	MLR		
comp=Z,265nm,16.0s							
ATKA	**Atka Island**	**33.97**	**50**	*e*P	P	05 46 37.4	+9.1
comp=Z,24μm,0.8s							
HVS	**Khovu-Aksy**	**36.69**	**308**	⇓*e*P	**P**	**05 46 53.2**	**+1.4**
HVS				pmax	pmax		
comp=Z,53nm,1.3s							
CMAR	**Chiang Mai Arr**	**42.02**	**256**	P	**P**	**05 47 36.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.02**	**256**	P	**P**	**05 47 36.9**	**+0.4**
comp=Z,1.2nm,0.5s,baz=46,slow=6.0,SNR=4.4							
CMAR				LR	LR	06 08 16.4	
comp=Z,148nm,18.3s,baz=47,slow=41							
ZAA0	**Zalesovo Array**	**42.17**	**312**	*e*P	**P**	**05 47 37.1**	**-0.3**
ZALV	**Zalesovo Beam**	**42.17**	**312**	*i* P	**P**	**05 47 37.5**	**+0.1**
ZALV				pmax	pmax		
comp=Z,3.0nm,0.4s							
ZALV	**Zalesovo Beam**	**42.17**	**312**	P	**P**	**05 47 37.5**	**+0.1**
ZALV				PcP	**PcP**	**05 49 30.9**	**-0.3**
ZALV	**Zalesovo Beam**	**42.17**	**312**	P	**P**	**05 47 37.5**	**+0.1**
comp=Z,2.5nm,0.4s,baz=88,slow=6.7,SNR=15							
ZALV				PcP	**PcP**	**05 49 30.9**	**-0.3**
comp=Z,1.2nm,0.6s,baz=93,slow=2.9,SNR=2.7							
ZALV				LR	LR	06 05 49.1	
comp=Z,146nm,19.4s,baz=243,slow=37							
NVS	**Novosibirsk**	**43.09**	**314**	*e*P	**P**	**05 47 43.1**	**-1.7**
MK31	**Makanchi Array**	**44.45**	**302**	*i* P	**P**	**05 47 55.9**	**-0.1**
MK31				pmax	pmax		
comp=Z,6.0nm,0.7s							
MKAR	**Makanchi Array**	**44.45**	**302**	*c*e*P	**P**	**05 47 56.2**	**+0.2**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**44.45**	**302**	P	**P**	**05 47 56.1**	**+0.2**
MKAR	**Makanchi Array**	**44.45**	**302**	P	**P**	**05 47 56.1**	**+0.2**
comp=Z,3.1nm,0.6s,baz=86,slow=9.8,SNR=25							
MKAR				LR	LR	06 07 40.9	
comp=Z,65nm,20.0s,baz=270,slow=38							
KURK	**Kurchatov**	**46.22**	**308**	P	**P**	**05 48 10.5**	**+0.6**
KURK	**Kurchatov**	**46.22**	**308**	P	**P**	**05 48 10.4**	**+0.6**
KURBB	**Kurchatov Arra**	**46.30**	**308**	P	**P**	**05 48 10.4**	**0.0**
comp=Z,13nm,0.5s,baz=83,slow=8.1,SNR=15							
TAPN	**Taplejung**	**46.42**	**274**	*e*P	**P**	**05 48 13.4**	**+1.3**
comp=Z,17nm,0.4s							
PPLA	**Purkeypile**	**46.75**	**35**	*e*P	pP	05 48 24.8	+1.4
SPU	**Mount Spurr**	**46.80**	**37**	*e*P	pP	05 48 24.4	+0.7
KAPI	**Kappang**	**46.86**	**211**	*e*P	**P**	**05 48 17.4**	**+2.2**
KAPI	**Kappang**	**46.86**	**211**	P	**P**	**05 48 15.2**	**+0.1**
comp=Z,7.4nm,0.6s,baz=326,slow=3.6,SNR=3.5							
ODAN	**Odare**	**46.90**	**274**	*e*P	**P**	**05 48 16.8**	**+1.0**
comp=Z,25nm,0.8s							
RAMN	**Ramite**	**47.49**	**274**	*e*P	**P**	**05 48 21.0**	**+0.6**
comp=Z,51nm,1.1s							
JIRN	**Jiri**	**47.50**	**275**	*e*P	**P**	**05 48 21.5**	**+0.9**
comp=Z,23nm,0.7s							
GUN	**Gumba**	**47.63**	**276**	*e*P	**P**	**05 48 22.6**	**+1.0**
comp=Z,32nm,0.4s							
KKN	**Kakani**	**48.16**	**276**	*e*P	**P**	**05 48 26.4**	**+0.8**
comp=Z,14nm,0.5s							
PKIN	**Phulchoki**	**48.16**	**276**	*e*P	**P**	**05 48 26.0**	**+0.4**
COLA	**College**	**48.68**	**32**	P	**P**	**05 48 28.3**	**-0.4**
COLA				pmax	pmax		
comp=Z,6.0nm,0.4s							
COLA	**College**	**48.68**	**32**	P	**P**	**05 48 28.3**	**-0.4**
comp=Z,6.0nm,0.4s							
ILAR	**Eielson Array**	**49.09**	**32**	P	**P**	**05 48 31.4**	**-0.5**
ILAR	**Eielson Array**	**49.09**	**32**	P	**P**	**05 48 31.4**	**-0.5**
comp=Z,1.5nm,0.8s,baz=271,slow=6.7,SNR=16							
DANN	**Dangsing**	**49.12**	**277**	*e*P	**P**	**05 48 34.1**	**+1.1**
KOLN	**Koldanda**	**49.51**	**277**	*e*P	**P**	**05 48 36.5**	**+0.6**
PYUN	**Piuthan**	**49.84**	**278**	*e*P	**P**	**05 48 39.3**	**+0.9**
TKM2	**Tokmak 2**	**49.99**	**298**	*e*P	**P**	**05 48 40.5**	**+1.1**
TKM2	**Tokmak 2**	**49.99**	**298**	*e*P	**P**	**05 48 40.5**	**+1.1**
VOSK	**Vostochnaya**	**50.54**	**312**	P	**P**	**05 48 42.5**	**-0.6**
VOSK				pmax	pmax		
comp=Z,7.0nm,0.8s							
BVA0	**Borovoye Array**	**50.83**	**312**	P	P	05 48 48.6	+3.3
BVA0				pmax	pmax		
comp=Z,5.0nm,1.1s							
BVAR	**Borovoye Array**	**50.83**	**312**	P	**P**	**05 48 45.3**	**0.0**
BVAR	**Borovoye Array**	**50.83**	**312**	P	**P**	**05 48 45.3**	**0.0**
BVAR	**Borovoye Array**	**50.83**	**312**	P	**P**	**05 48 45.3**	**0.0**
comp=Z,1.4nm,0.5s,baz=68,slow=7.8,SNR=7.9							
AAK	**Ala-Archa**	**50.85**	**298**	*e*P	**P**	**05 48 46.3**	**+0.5**
AAK				pmax	pmax		
comp=Z,2.0nm,0.3s							
AAK	**Ala-Archa**	**50.85**	**298**	*e*P	**P**	**05 48 46.3**	**+0.5**
comp=Z,1.9nm,0.3s							
BRVK	**Borovoye**	**50.89**	**312**	*e*P	**P**	**05 48 46.6**	**+0.9**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.7s							
BRVK	**Borovoye**	**50.89**	**312**	*e*P	**P**	**05 48 46.6**	**+0.9**
comp=Z,5.1nm,0.7s							
EKS2	**Erkin-Say**	**51.34**	**299**	*e*P	P	05 48 53.2	+3.7
EKS2				pmax	pmax		
comp=Z,4.0nm,0.8s							
EKS2	**Erkin-Say**	**51.34**	**299**	*e*P	P	05 48 53.2	+3.7
comp=Z,3.7nm,0.8s							
KK31	**Karatay Array**	**53.47**	**300**	*i* P	**P**	**05 49 05.7**	**+0.6**
KK31				pmax	pmax		
comp=Z,3.0nm,0.6s							
KKAR	**Karatay Array**	**53.47**	**300**	*e*P	**P**	**05 49 06.8**	**+1.7**
KKAR	**Karatay Array**	**53.47**	**300**	*e*P	**P**	**05 49 06.8**	**+1.7**
INK	**Inuvik**	**54.02**	**27**	P	**P**	**05 49 08.4**	**-0.2**
INK	**Inuvik**	**54.02**	**27**	P	**P**	**05 49 08.4**	**-0.2**
comp=Z,1.1nm,0.6s,baz=340,slow=11,SNR=3.6							
SVE	**Sverdlovsk**	**55.35**	**319**	*e*P	P	05 49 28.0	+9.5
SVE				pmax	pmax		
comp=Z,21nm,1.0s							
ARU	**Arti**	**56.57**	**319**	*d i*P	**P**	**05 49 27.3**	**+0.1**
ARU						05 51 28.8	
ARU				S	**S**	**05 57 17.6**	**+1.0**
ARU				SS	**SS**	**06 00 58.3**	**-5.4**
ARU				pmax	pmax		
comp=Z,10.0nm,1.2s							
ARU				MLR	MLR		
comp=Z,248nm,17.0s							
FITZ	**Fitzroy Crossi**	**57.13**	**199**	*e*P	**P**	**05 49 32.4**	**+0.9**
comp=Z,5.7nm,0.9s							
WRAB	**Tennant Creek**	**57.28**	**189**	*e*P	**P**	**05 49 32.4**	**-0.2**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.7s							
WRAB	**Tennant Creek**	**57.28**	**189**	*e*P	**P**	**05 49 32.4**	**-0.2**
comp=Z,7.4nm,0.7s							
WRA	**Warramunga Arr**	**57.29**	**189**	P	**P**	**05 49 32.0**	**-0.7**
WRA				PcP	**PcP**	**05 50 26.6**	**0.0**
WRA	**Warramunga Arr**	**57.29**	**189**	P	**P**	**05 49 32.0**	**-0.7**
comp=Z,6.1nm,0.6s,baz=5.3,slow=7.3,SNR=90							
WRA				PcP	**PcP**	**05 50 26.6**	**0.0**
comp=Z,1.5nm,0.7s,baz=360,slow=4.1,SNR=3.2							
KBL	**Kabul**	**57.82**	**291**	*e*P	**P**	**05 49 36.8**	**+0.1**
KBL				pmax	pmax		
comp=Z,3.0nm,0.4s							
KBL	**Kabul**	**57.82**	**291**	*e*P	**P**	**05 49 36.8**	**+0.1**
comp=Z,3.2nm,0.4s							
DLBC	**Dease Lake**	**58.19**	**38**	P	**P**	**05 49 39.0**	**+0.2**
DLBC	**Dease Lake**	**58.19**	**38**	P	**P**	**05 49 39.0**	**+0.2**
comp=Z,0.8nm,0.7s,baz=295,slow=7.6,SNR=1.9							
AB31	**Akbulak array**	**58.22**	**310**	P	**P**	**05 49 38.3**	**-0.6**
AB31				pmax	pmax		
comp=Z,5.0nm,0.8s							
ASAR	**Alice Springs**	**61.02**	**189**	P	**P**	**05 49 58.3**	**-0.2**
ASAR	**Alice Springs**	**61.02**	**189**	P	**P**	**05 49 58.3**	**-0.2**
comp=Z,3.2nm,0.7s,baz=13,slow=6.7,SNR=32							
MBWA	**Marble Bar**	**61.73**	**204**	*e*P	**P**	**05 50 03.5**	**+0.3**
comp=Z,3.8nm,0.6s							
DZM	**Mont Dzumac**	**63.28**	**155**	LR	LR	06 15 05.5	
comp=Z,144nm,19.4s,baz=180,slow=34							
YKA	**Yellowknife Ar**	**63.42**	**30**	P	**P**	**05 50 13.5**	**-0.6**
YKA	**Yellowknife Ar**	**63.42**	**30**	P	**P**	**05 50 13.5**	**-0.6**
comp=Z,0.8nm,0.6s,baz=304,slow=6.2,SNR=3.7							
KEV	**Kevo**	**63.47**	**339**	*e*P	P	05 50 20.1	+5.8
KEV				pmax	pmax		
comp=Z,1.0nm,0.4s							
KEV	**Kevo**	**63.47**	**339**	*e*p	P	05 50 20.1	+5.8
comp=Z,0.7nm,0.4s							
ARCES	**ARCESS Array B**	**64.02**	**340**	P	**P**	**05 50 17.9**	**0.0**
ARCES	**ARCESS Array B**	**64.02**	**340**	P	**P**	**05 50 17.9**	**0.0**
comp=Z,1.1nm,0.8s,baz=44,slow=7.1,SNR=6.1							
ARCES				LR	LR	06 20 51.2	
comp=Z,99nm,21.1s,baz=261,slow=38							
AFI	**Afiamalu**	**66.86**	**130**	LR	LR	06 13 44.3	
comp=Z,75nm,21.4s,baz=90,slow=31							
OBN	**Obninsk**	**68.26**	**323**	*e*P	**P**	**05 50 45.4**	**0.0**
OBN				*e*		05 50 50.8	
OBN				*e*		05 53 15.2	
OBN				*e*SS	SS	06 04 05.8	-0.4
OBN				pmax	pmax		
comp=Z,4.0nm,0.7s							
OBN				MLR	MLR		
comp=Z,100nm,16.0s							
KAF	**Kangasniemi**	**68.39**	**333**	*e*P	**P**	**05 50 45.9**	**-0.2**
KAF				pmax	pmax		
comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**68

comp=Z,103nm,19.1s,baz=25,slow=39
BOZ Bozeman (W) 74.25 44 *e*P **P 05 51 22.1 +0.1**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 74.25 44 *e*P **P 05 51 22.1 +0.1**
comp=Z,2.2nm,0.9s
AKASG Malin Array Be 74.47 323 P **P 05 51 22.6 -0.4**
AKASG Malin Array Be 74.47 323 P **P 05 51 22.6 -0.4**
AKASG Malin Array Be 74.47 323 P **P 05 51 22.6 -0.4**
comp=Z,3.0nm,0.4s,baz=46,slow=6.5,SNR=26
KIEV Kiev 74.48 323 *e*P **P 05 51 22.3 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 74.48 323 *e*P **P 05 51 22.3 -0.7**
comp=Z,4.3nm,0.8s
NVAR Mina Array Bea 74.49 53 P **P 05 51 23.4 -0.2**
NVAR Mina Array Bea 74.49 53 P **P 05 51 23.4 -0.2**
comp=Z,0.5nm,0.6s,baz=287,slow=4.3,SNR=3.6
GCMT Greycliff 75.25 43 *e*P **P 05 51 24.9 -2.8**
comp=Z,2.7nm,1.1s
MOOW Moose Ponds 75.91 46 *e*P **P 05 51 30.1 -1.6**
comp=Z,4.1nm,1.3s
REDW Red Top Meadow 76.08 46 P P 05 51 24.2 -8.5
comp=Z,4.8nm,1.1s
BW06 Boulder Array 77.20 46 P P 05 51 45.5 +6.5
comp=Z,2.2nm,1.0s
PDAR Pinedale Array 77.20 46 P **P 05 51 38.5 -0.5**
PDAR Pinedale Array 77.20 46 P **P 05 51 38.5 -0.5**
comp=Z,0.5nm,0.6s,baz=219,slow=1.2,SNR=7.6
BUR08 Bucovina Ar. S 78.48 321 *e*P **P 05 51 46.2 +0.3**
BRTR Keskin Array B 79.12 312 P **P 05 51 50.0 +0.4**
BRTR Keskin Array B 79.12 312 P **P 05 51 50.0 +0.4**
comp=Z,2.1nm,1.0s,baz=120,slow=7.3,SNR=7.3
MORC Moravsky Berou 80.49 327 *e*P **P 05 51 57.4 +0.7**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 80.49 327 *e*P **P 05 51 57.4 +0.7**
comp=Z,6.7nm,1.0s
DPC Dobruska-Polom 80.58 328 *e*P **P 05 51 57.5 +0.3**
DPC *e* 05 52 08.2
DPC Dobruska-Polom 80.58 328 *e*P **P 05 51 57.5 +0.3**
DPC *e*PCP **PcP 05 52 02.6 -1.4**
DPC *e*pP **pP 05 52 08.2 +1.1**
BRG Berggiesshubel 81.17 330 *e*P **P 05 52 00.4 +0.2**
comp=Z,4.6nm,1.0s
BRG Berggiesshubel 81.17 330 *e*P **P 05 52 00.4 +0.2**
BRG pmax pmax
comp=Z,5.0nm,1.0s
PVCC Panska Ves 81.18 329 AMS AMS 06 30 50.0
comp=Z,200nm,17.9s
CLL Collm 81.20 330⇓ *i*P **P 05 52 00.5 +0.1**
CLL *i* 05 52 10.3
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 81.20 330⇓ *i*P **P 05 52 00.5 +0.1**
comp=Z,8.0nm,1.0s
CLL *i* pP **pP 05 52 10.3 0.0**
CLL LmH 06 27 00.0
comp=N,100nm,19.0s
CLL LmH 06 27 00.0
comp=E,100nm,19.6s
PRU Pruhonice 81.60 329 AMS AMS 06 31 20.0
comp=E,200nm,16.0s
TREC Trest 81.74 328 AMS AMS 06 33 30.0
comp=E,200nm,20.0s
URZ Urewera 81.76 153 LR LR 06 24 11.3
comp=E,84nm,21.3s,baz=230,slow=33
KHC Kasperske Hory 82.67 329 *e*P **P 05 52 08.2 0.0**
KHC *e* 05 52 17.8
KHC Kasperske Hory 82.67 329 *e*P **P 05 52 08.2 0.0**
KHC *e*PCP **PcP 05 52 12.8 -0.3**
KHC *e*pP **pP 05 52 17.8 -0.3**
GERES GERESS Array B 82.83 329 P **P 05 52 09.1 -0.1**
GERES GERESS Array B 82.83 329 P **P 05 52 09.1 -0.1**
comp=E,1.3nm,0.4s,baz=32,slow=5.2,SNR=11
GERES LR LR 06 30 46.5
comp=E,71nm,21.2s,baz=110,slow=37
ANMO Albuquerque 84.10 50 *e*P **P 05 52 16.3 +0.2**
comp=E,2.9nm,1.1s
PPT Papeete 84.26 117 LR LR 06 26 39.0
comp=E,72nm,18.7s,baz=338,slow=34
PPT2 Papeete2 84.28 117 *e*LR LR 06 18 41.6
comp=E,73nm,21.2s
SCHQ Schefferville 85.04 16 P **P 05 52 20.0 -0.2**
SCHQ Schefferville 85.04 16 P **P 05 52 20.0 -0.2**
comp=E,3.4nm,0.7s,baz=266,slow=13,SNR=3.1
BFO Black Forest 85.41 331 *e*P **P 05 52 22.1 0.0**
BFO pmax pmax
comp=Z,4.0nm,0.8s
BFO Black Forest 85.41 331 *e*P **P 05 52 22.1 0.0**
comp=Z,4.2nm,0.8s
TBI Tubuai 88.18 121 *e*LR LR 06 20 33.6
comp=Z,100nm,28.8s
TXAR Lajitas Array 89.63 53 P **P 05 52 42.1 -0.8**
TXAR Lajitas Array 89.63 53 P **P 05 52 42.1 -0.8**
comp=Z,0.3nm,0.6s,baz=303,slow=2.5,SNR=5.7
KEST Kesra 95.19 323 LR LR 06 40 48.8
comp=Z,37nm,18.0s,baz=300,slow=38
TKL Tuckaleechee C 95.97 36 LR LR 06 32 57.9
comp=Z,54nm,21.7s,baz=295,slow=33
ESDC Sonseca Array 97.36 334 LR LR 06 42 02.8
comp=Z,107nm,19.1s,baz=0.0,slow=38
TORD Torodi Ar. Bea 117.57 315 PKP **PKPdf 05 58 30.1 -1.1**
TORD Torodi Ar. Bea 117.57 315 PKP **PKPdf 05 58 30.1 -1.1**
comp=Z,0.3nm,0.5s,baz=34,slow=1.2,SNR=8.6
LPAZ La Paz 146.18 60 PKPbc **PKPdf 05 59 24.8 -0.5**
LPAZ La Paz 146.18 60 PKPbc **PKPdf 05 59 24.8 -0.5**
comp=Z,2.4nm,1.0s,baz=5.5,slow=1.9,SNR=7.5

IDC 06 06:20:31.6±9.7, 13°.07N×143°.82E, h123km±89km, mb3.6/13, mb1 3.8/13, mb1mx3.6/28, mbtmp3.6/13, Error ellipse: s-maj=31.6km s-min=17.2km az=79.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.91**	**349**	P	P	06 25 32.8	-1.4
	0.7nm,0.3s,baz=171,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**34.11**	**196**	P	P	06 27 04.6	-0.2
	1.7nm,0.8s,baz=18,slow=9.3,SNR=16						
ASAR	**Alice Springs**	**37.78**	**195**	P	P	06 27 35.9	-0.1
	0.4nm,0.5s,baz=19,slow=12,SNR=12						
SONM	**Songino Array**	**46.58**	**326**	P	P	06 28 48.9	+1.7
	0.3nm,0.4s,baz=127,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**61.16**	**316**	P	P	06 30 33.2	0.0
	0.4nm,0.5s,baz=95,slow=8.8,SNR=7.7						
BVAR	**Borovoye Array**	**69.70**	**322**	P	P	06 31 27.9	-0.2
	0.6nm,0.4s,baz=101,slow=7.5,SNR=4.6						
YKA	**Yellowknife Ar**	**83.79**	**27**	P	P	06 32 46.5	-0.4
	0.9nm,0.4s,baz=285,slow=5.1,SNR=8.7						
YBH	**Yreka Blue Hor**	**83.98**	**49**	P	P	06 32 49.2	+0.7
	1.5nm,0.6s,baz=242,slow=6.3,SNR=8.4						
NEW	**Newport**	**86.29**	**41**	P	P	06 32 59.9	0.0
	3.7nm,0.8s,baz=286,slow=4.6,SNR=9.5						
ARCES	**ARCESS Array B**	**87.26**	**342**	P	P	06 33 03.8	-0.3
	0.2nm,0.3s,baz=44,slow=8.1,SNR=4.3						
NVAR	**Mina Array Bea**	**88.04**	**51**	P	P	06 33 09.2	+0.5
	2.3nm,0.7s,baz=267,slow=5.4,SNR=16						
FINES	**FINESS Array B**	**91.20**	**335**	P	P	06 33 20.6	-2.0
	0.6nm,0.5s,baz=66,slow=4.7,SNR=4.7						
PDAR	**Pinedale Array**	**93.05**	**45**	P	P	06 33 31.5	-0.5
	0.2nm,0.6s,baz=215,slow=1.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**134.31**	**303**	PKP	PKPdf	06 39 35.4	-0.6
	0.3nm,0.5s,baz=54,slow=1.8,SNR=4.4						

FUNV 06 06:34:36.4, 10°.13N×73°.17W, h134km, MW4.0, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.83**	**64**	*e*P	Pn	06 34 57.8	-0.5
VIRV				*e*S	Sn	06 35 13.5	-1.3
VIGV	**El Vigia**	**2.19**	**126**⇑	*i*P	Pn	06 35 12.2	-0.8
CAPV	**Capacho**	**2.40**	**159**	*e*P	Pn	06 35 14.9	-1.0
CAPV				*e*S	Sn	06 35 43.9	-2.3
QARV	**Quebrada Arrib**	**2.60**	**88**	*e*S	Sn	06 35 47.3	-2.9
DABV	**Dabajuro**	**2.61**	**72**	*e*P	Pn	06 35 17.4	-0.7
DABV				*e*S	Sn	06 35 47.1	-3.2
SOCV	**Socops**	**2.93**	**129**	*e*P	Pn	06 35 20.8	-1.4
SOCV				*e*S	Sn	06 35 54.0	-3.6
CURV	**Curarigua**	**3.16**	**92**	*e*P	Pn	06 35 24.1	-1.3
CURV				*e*S	Sn	06 35 58.8	-4.3
SIQV	**Siquisique**	**3.34**	**81**	*e*P	Pn	06 35 26.3	-1.4
SIQV				*e*S	Sn	06 36 03.8	-3.6
MONV	**Montecano**	**3.62**	**60**	*e*P	Pn	06 35 29.8	-1.5
MONV				*e*S	Sn	06 36 10.2	-3.7
TEPV	**Terepaima**	**3.92**	**92**	*e*P	Pn	06 35 34.1	-1.1
TEPV				*e*S	Sn	06 36 16.9	-3.9
MAPV	**Macapo**	**4.65**	**93**	*e*P	Pn	06 35 43.5	-1.5
ELOV	**Elorza**	**4.79**	**130**	*e*P	Pn	06 35 44.8	-2.0
ELOV				*e*S	Sn	06 36 36.0	-5.5
BAUV	**El Baul**	**5.19**	**103**	*e*P	Pn	06 35 49.8	-2.3
BAUV				*e*S	Sn	06 36 45.1	-6.0
TURV	**Turiamo**	**5.25**	**86**	*e*P	Pn	06 35 50.9	-2.0
TURV				*e*S	Sn	06 36 46.3	-6.3
BIRV	**Birongo**	**6.79**	**86**	*e*P	Pn	06 36 11.5	-2.2
CUPV	**Cœpira**	**7.26**	**90**	*e*P	Pn	06 36 18.0	-2.1

IDC 06 06:50:45.7±3.9, 5°.29S×143°.44E, h72km±40km, mb3.3/5, mb1 3.7/7, mb1mx3.4/19, mbtmp3.5/7, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/17, Error ellipse: s-maj=31.8km s-min=17.1km az=110.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.50**	**138**	P	Pn	06 52 04.9	-0.2
	4.6nm,0.3s,baz=319,slow=11,SNR=7.4						
PMG				S	Sn	06 53 07.5	+0.5
	2.4nm,0.3s,baz=143,slow=20,SNR=3.0						
PMG				LR	LR	06 54 20.8	
	comp=Z,106nm,21.9s,baz=33,slow=39						
WRA	**Warramunga Arr**	**17.04**	**211**	P	Pn	06 54 38.9	-0.6
	0.7nm,0.3s,baz=32,slow=12,SNR=36						
WRA				S	Sn	06 57 40.8	-7.7
	0.3nm,0.3s,baz=29,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**20.45**	**206**	P	P	06 55 18.8	+1.3
	3.0nm,0.9s,baz=31,slow=10,SNR=17						
ASAR				S	S	06 59 02.9	+0.3
	0.7nm,0.5s,baz=21,slow=27,SNR=3.1						
FITZ	**Fitzroy Crossi**	**21.56**	**232**	P	P	06 55 28.8	-0.6
	1.6nm,0.6s,baz=54,slow=8.7,SNR=1.9						
MKAR	**Makanchi Array**	**74.72**	**321**	P	P	07 02 18.2	+0.4
	0.4nm,0.7s,baz=117,slow=5.2,SNR=3.5						
MKAR				pP	pP	07 02 35.0	-2.2
	0.7nm,0.7s,baz=119,slow=7.1,SNR=4.5						
BVAR	**Borovoye Array**	**84.13**	**324**	P	P	07 03 09.1	+0.3
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.9						
ILAR	**Eielson Array**	**86.25**	**24**	P	P	07 03 18.4	-0.7
	0.3nm,0.6s,baz=261,slow=5.4,SNR=3.6						
ILAR				pP	pP	07 03 38.1	-0.7
	0.6nm,0.7s,baz=256,slow=4.9,SNR=6.5						

DJA 06 07:02:58.8±1.6, 1°.5S°.×12°.3E±1°.9, h12km±9km, M3.6/5, MLv3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.59**	**220**	P	Pg	07 03 10.1	-0.2
GTOI	**Gorontalo**	**1.23**	**353**	P	Pg	07 03 22.5	+0.1
MRSI	**Marisa**	**1.61**	**311**	P	Pn	07 03 25.9	-1.1
SKSI	**Soroako, Sulaw**	**2.65**	**223**	P	Pn	07 03 40.4	-1.0
TTSI	**Tana Toraja**	**4.13**	**234**	P	Pn	07 04 02.5	+0.8

IDC 06 07:12:32.1±3.5, 52°.32N×157°.28E, h145km±12km, mb2.9/3, mb1 3.3/4, mb1mx2.9/27, mbtmp2.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/8, Error ellipse: s-maj=68.0km s-min=37.6km az=14.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.83**	**18**	P	Pn	07 12 55.0	0.0
	5.5nm,0.3s,baz=172,slow=12,SNR=224						
PETK				S	Sn	07 13 13.3	+0.8
	0.7nm,0.3s,baz=279,slow=22,SNR=7.4						
FX1	**Attu Island--F**	**9.69**	**80**	P	Pn	07 14 46.8	-1.1
	0.3nm,0.3s,baz=270,slow=13,SNR=5.3						
FX1				S	Sn	07 16 27.6	-7.4
	1.2nm,0.3s,baz=270,slow=19,SNR=9.1						
MJAR	**Matsushiro Arr**	**20.74**	**228**	LR	LR	07 26 29.0	
	comp=Z,44nm,18.8s,baz=215,slow=40						
ILAR	**Eielson Array**	**30.57**	**44**	P	P	07 18 30.8	-0.8
	0.2nm,0.8s,baz=270,slow=7.8,SNR=4.3						
PDAR	**Pinedale Array**	**59.39**	**59**	P	P	07 22 20.3	+1.0
	0.4nm,0.7s,baz=335,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**72.52**	**65**	P	P	07 23 43.1	-0.1
	0.2nm,0.6s,baz=318,slow=1.2,SNR=3.8						

MEX 06 07:21:01.0±0.9, 16°.99N×99°.55W, h27km±33km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.69**	**275**	*e*P	Pb	07 21 11.9	-2.5
CAIG				*i* S	Sb	07 21 21.5	-2.1
PLIG	**Platanillo**	**1.40**	**2**	*e*P	Pn	07 21 21.7	-3.2
PLIG				*i* S	Sn	07 21 39.5	-3.0
PNIG	**Pinotepa**	**1.49**	**113**	*e*P	Pn	07 21 24.6	-1.4
PNIG				*i* S	Sn	07 21 41.1	-3.6
ARIG	**Puente Sto Nin**	**1.49**	**330**	*e*P	Pn	07 21 23.4	-2.7
ARIG				*i* S	Sn	07 21 41.0	-3.8
YAIG	**Yautepec**	**1.92**	**14**	*i* P	Pn	07 21 29.2	-3.0
YAIG				*i* S	Sn	07 21 53.3	-2.3
ZIIG	**Zihuatanejo**	**1.93**	**289**	*e*P	Pn	07 21 30.1	-1.9
ZIIG				*i* S	Sn	07 21 52.9	-2.5

*ISCJB **06** 07:31:01.4±0.5, 50°.63N±0°.03×141°.18E±0°.08, h10km, mb3.4/8, Error ellipse: s-maj=7.2km s-min=4.2km az=170.4*
*SKHL **06** 07:31:01.6±0.5, 50°.65N×141°.36E, h10km, mb4.4/6*
*IDC **06** 07:31:02.0±1.0, 50°.42N×140°.91E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/27, mbtmp3.5/8, ML3.1/1, Error ellipse: s-maj=27.2km s-min=22.6km az=72.0*
*MOS **06** 07:31:02.1±1.3, 50°.57N×141°.14E, h14km, mb3.8/5, Error ellipse: s-maj=26.8km s-min=13.1km az=101.0*
ISC 06 07:31:02.0±0.8, 50°.74N±0°.05×141°.45E±0°.04, h10km, n25, σ1§74/25, mb3.5/8, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.78**	**81**	*e*Pg	**Pg**	**07 31 17.5**	**+0.5**
TYV				AMB	AMB	07 31 20.0	
	570nm,0.4s						
TYV				*e*Sg	**Sg**	**07 31 28.3**	**+1.1**
TYV				A	A	07 31 29.6	
	2μm,1.0s						
TYV				A	A	07 31 31.5	
	799nm,0.5s						
UGL	**Uglegorsk**	**1.71**	**166**	*e*PN	**Pn**	**07 31 33.0**	**+1.1**
UGL	**Uglegorsk**	**1.71**	**166**	*e*Pg	**Pn**	**07 31 32.0**	**+0.1**
UGL				*e*Pg	**Pb**	**07 31 34.0**	**+0.4**
UGL				AMB	AMB	07 31 34.5	
	120nm,0.3s						
UGL				*e*Sg	**Sg**	**07 31 57.0**	**-0.1**
NKL	**Nikolayevsk**	**2.46**	**349**	AMB	AMB	07 32 05.0	
	500nm,1.0s						
NKL				AMB	AMB	07 32 05.2	
	380nm,0.2s						
NKL				AMB	AMB	07 32 05.2	
	570nm,0.2s						
NKL				*e*Sg	Sg	07 32 30.0	+9.1
NKL				A	A	07 32 34.5	
	387nm,0.5s						
NKL				A	A	07 32 34.5	
	250nm,0.5s						
NKL				A	A	07 32 35.0	
	2μm,0.8s						
NKL				A	A	07 32 35.0	
	1μm,0.8s						
OKH	**Okha**	**2.96**	**17**	*e*Sg	Sg	07 32 45.5	+8.6
GRNR	**Gornyy**	**3.19**	**272**	*e*P	**Pn**	**07 31 50.0**	**-2.2**
GRNR				AMB	AMB	07 31 50.5	
	10.0nm,0.5s						
GRNR				*e*Sg	**Sg**	**07 32 48.0**	**+3.6**
GRNR				A	A	07 32 51.5	
	310nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.89**	**167**‖	*e*PN	**Pn**	**07 32 03.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**3.89**	**167**‖	*e*P	**Pn**	**07 32 02.8**	**+1.0**
YSS				*e*Pg	**Pg**	**07 32 16.5**	**0.0**
YSS				*e*Sg	**Sg**	**07 33 10.0**	**+3.1**
YSS				A	A	07 33 16.0	
	50nm,0.7s						
KLR	**Kul'dur**	**6.43**	**260**	*e*PN	**Pn**	**07 32 39.3**	**+2.5**
KLR	**Kul'dur**	**6.43**	**260**	*e*P	**Pn**	**07 32 39.3**	**+2.5**
TEY	**Ternei**	**6.57**	**212**	*e*S	**Sn**	**07 33 51.0**	**-2.6**
TEY				*e*Sg	Sb	07 34 00.0	-15
ASAJ	**Asahikawa**	**6.68**	**173**	Pn	Pn	07 32 36.5	-3.7
	0.4nm,0.3s,baz=6.3,slow=18,SNR=2.6						
BMKR	**Bomnak**	**8.62**	**302**	*e*P	**Pn**	**07 33 09.5**	**+2.8**
BMKR				AMB	AMB	07 33 09.9	
	4.0nm,0.4s						
BMKR				*e*Sg	**Sg**	**07 35 38.0**	**-0.3**
BMKR				A	A	07 35 39.1	
	55nm,0.9s						
USRK	**Ussuriysk Arra**	**9.15**	**228**	Pn	**Pn**	**07 33 13.8**	**-0.3**
	0.2nm,0.3s,baz=31,slow=16,SNR=3.1						
ZEA	**Zeya**	**9.21**	**294**	*e*Sg	Sn	07 35 50.9	+52
ZEA				A	A	07 35 54.5	
	120nm,1.5s						
ZEA				A	A	07 35 54.5	
	93nm,1.5s						
KROS	**Kirovskiy**	**9.55**	**298**	*e*P	Pn	07 33 26.0	+6.5
KROS				AMB	AMB	07 33 28.5	
	3.0nm,0.5s						
KROS				*e*Sg	Sn	07 36 03.0	+56
KROS				A	A	07 36 05.5	
	40nm,0.9s						
SONM	**Songino Array**	**22.91**	**276**	P	**P**	**07 36 04.0**	**-2.1**
	0.4nm,0.7s,baz=69,slow=9.4,SNR=2.7						
MKAR	**Makanchi Array**	**38.29**	**288**	P	**P**	**07 38 21.6**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**38.29**	**288**	P	**P**	**07 38 21.6**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=70,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**38.43**	**41**	P	P	07 38 28.1	+4.8
	comp=Z,0.4nm,0.7s,baz=291,slow=7.9,SNR=10						
KURK	**Kurchatov**	**38.69**	**295**	P	**P**	**07 38 25.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**38.78**	**295**	P	**P**	**07 38 25.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=70,slow=8.8,SNR=3.7						
NOA	**NORSAR Array B**	**61.65**	**335**	P	P	07 41 23.5	+4.0
	comp=Z,0.5nm,0.7s,baz=36,slow=6.5,SNR=2.8						
WRA	**Warramunga Arr**	**70.65**	**187**	P	**P**	**07 42 17.1**	**-0.6**
	comp=Z,0.6nm,1.1s,baz=1.5,slow=6.7,SNR=7.1						
ASAR	**Alice Springs**	**74.38**	**187**	P	**P**	**07 42 39.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=3.3,slow=5.4,SNR=4.4						

WEL 06 07:40:28.3±0.2, 45°.44S×166°.68E, h22km±1km, ML3.5/16, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**96**	P*	Pb	07 40 35.6	-0.1
DCZ				S*	Sb	07 40 40.4	-0.2
DCZ				AML	AML	07 40 41.0	
DCZ				AML	AML	07 40 41.0	
DCZ				AML	AML	07 40 41.1	
WHZ	**Wether Hill Ro**	**1.00**	**117**	PN	Pb	07 40 46.6	-0.4
WHZ				AML	AML	07 41 05.6	
WHZ				AML	AML	07 41 08.6	
MLZ	**Mavora Lakes**	**1.06**	**85**	PN	Pn	07 40 46.9	-1.1
MLZ				AML	AML	07 41 00.9	
MLZ				AML	AML	07 41 02.4	
MSZ	**Milford Sound**	**1.17**	**50**	PN	Pn	07 40 47.6	-1.8
MSZ				AML	AML	07 41 09.4	
MSZ				AML	AML	07 41 09.4	
MSZ				AML	AML	07 41 09.8	
MSZ				AML	AML	07 41 09.8	
APZ	**The Paps**	**1.66**	**147**	*e*PN	Pb	07 40 57.3	-1.0
WKZ	**Wanaka**	**1.77**	**71**	*e*PN	Pb	07 40 59.1	-0.9
WKZ				AML	AML	07 41 30.0	
WKZ				AML	AML	07 41 31.2	
EAZ	**Earnscleugh**	**1.87**	**84**	PN	Pn	07 41 00.3	+1.3
EAZ				AML	AML	07 41 28.9	
EAZ				AML	AML	07 41 29.9	
JCZ	**Jackson Bay**	**2.02**	**48**	*e*PN	Pb	07 41 03.5	-0.9
JCZ				AML	AML	07 41 35.9	
JCZ				AML	AML	07 41 37.2	
SYZ	**Scrubby Hill**	**2.04**	**123**	PN	Pn	07 41 02.6	+1.3
TUZ	**Tuapeka**	**2.13**	**105**	PN	Pn	07 41 04.1	+1.5
TUZ				AML	AML	07 41 38.3	
TUZ				AML	AML	07 41 39.3	
LBZ	**Lake Benmore**	**2.71**	**68**	*e*PN	Pn	07 41 10.9	+0.4
ODZ	**Otahua Downs**	**2.83**	**83**	PN	Pn	07 41 12.3	+0.1
FOZ	**Fox Glacier**	**2.86**	**50**	AML	AML	07 42 06.1	
RPZ	**Rata Peaks**	**3.57**	**63**	AML	AML	07 42 28.3	

*IDC **06** 07:53:18.6±1.4, 24°.28S×175°.92W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/21, mbtmp4.0/9, ML3.7/1, MS3.6/9, Ms1 3.5/9, ms1mx3.3/28, Error ellipse: s-maj=47.3km s-min=22.8km az=154.0*
*NEIC **06** 07:53:20.4±0.6, 24°.34S×175°.94W, h10km, mb4.5/4, Error ellipse: s-maj=16.0km s-min=12.5km az=132.0*
ISC 06 07:53:22.3±0.7, 24°.62S±0°.08×176°.0W±0°.1, h30km, n35, σ1§33/29, mb4.2/12, MS3.5/8, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.84**	**320**	*e*Pn	**Pn**	**07 55 25.7**	**-2.4**
URZ	**Urewera**	**14.81**	**202**	Pn	**P**	**07 56 53.8**	**-1.4**
URZ				Sn	**Sn**	**07 59 32.3**	**-0.5**
URZ	**Urewera**	**14.81**	**202**	Pn	**P**	**07 56 53.8**	**-1.4**
	0.3nm,0.3s,baz=210,slow=20,SNR=3.2						
URZ				Sn	**Sn**	**07 59 32.3**	**-0.5**
	0.4nm,0.3s,baz=301,slow=23,SNR=11						
RAR	**Rarotonga**	**15.31**	**80**	LR	LR	08 01 55.8	
	comp=Z,202nm,18.6s,baz=283,slow=34						
RPZ	**Rata Peaks**	**21.81**	**206**	LR	LR	08 06 16.1	
	comp=Z,170nm,21.8s,baz=310,slow=35						
PPT2	**Papeete2**	**25.57**	**79**	*e*LR	LR	08 04 40.5	
	98nm,21.8s						
PPT	**Papeete**	**25.58**	**79**	LR	LR	08 06 26.9	
	comp=Z,115nm,20.6s,baz=150,slow=31						
HNR	**Honiara**	**27.46**	**299**	LR	LR	08 07 53.8	
	comp=Z,56nm,20.9s,baz=114,slow=32						
CTA	**Charters Tower**	**35.15**	**270**	P	**P**	**08 00 15.1**	**+1.4**
CTA	**Charters Tower**	**35.15**	**270**	P	**P**	**08 00 15.1**	**+1.4**
	6.3nm,0.9s,baz=100,slow=12,SNR=5.1						
CTAO	**Charters Tower**	**35.15**	**270**	*e*P	**P**	**08 00 16.8**	**+3.1**
	6.9nm,0.8s						
PMG	**Port Moresby**	**38.21**	**287**	*e*P	**P**	**08 00 39.4**	**-0.3**
	18nm,0.7s						
PMG	**Port Moresby**	**38.21**	**287**	P	**P**	**08 00 40.0**	**+0.3**
	32nm,1.0s,baz=80,slow=6.1,SNR=4.4						
ASAR	**Alice Springs**	**45.54**	**260**	P	**P**	**08 01 41.6**	**+2.0**
ASAR	**Alice Springs**	**45.54**	**260**	P	**P**	**08 01 41.6**	**+2.0**
	2.0nm,0.8s,baz=98,slow=8.5,SNR=14						
WRAB	**Tennant Creek**	**46.01**	**266**	*e*P	**P**	**08 01 44.2**	**+0.8**
	4.6nm,1.0s						
WRA	**Warramunga Arr**	**46.02**	**266**	P	**P**	**08 01 43.9**	**+0.5**
WRA	**Warramunga Arr**	**46.02**	**266**	P	**P**	**08 01 43.9**	**+0.5**
	1.5nm,0.6s,baz=104,slow=8.1,SNR=12						
VNDA	**Vanda**	**54.00**	**186**	LR	LR	08 19 54.4	
	comp=Z,31nm,20.5s,baz=342,slow=29						
FITZ	**Fitzroy Crossi**	**54.43**	**265**	*e*P	**

ISCJB ***06*** *08:13:38.2±0.2,6.′43S±0.′03×130.′58E±0.′04,h10km, mb4.7/52,MS4.3/5,Error ellipse: s-maj=5.7km s-min=4.5km az=143.5*

NEIC ***06*** *08:13:39.8±0.3,6.′41S×130.′44E,h10km,mb4.9/12,Error ellipse: s-maj=8.8km s-min=5.7km az=60.0*

MOS ***06*** *08:13:42.7±0.9,6.′48S×130.′49E,h46km,mb5.0/13,Error ellipse: s-maj=16.1km s-min=7.0km az=112.1*

BKK ***06*** *08:13:43.0±0.3,7.′S±9.′×13.′0E±.′,h10km,M5.2/16,mB6.0/1, mb5.2/16,Mw(mB)5.6/1*

IDC ***06*** *08:13:46.6±2.9,6.′51S×130.′44E,h66km±27km,mb4.2/19, mb1 4.4/23,mb1mx4.3/27,mbtmp4.3/23,ML4.8/4,Error ellipse: s-maj=17.1km s-min=10.5km az=67.0*

DJA ***06*** *08:13:52.0±0.3,7.′S±3.′×13.′1E±.′,h57km±13km,M5.3/21, mB5.8/12,mb5.2/21,MLv5.3/9,Mw(mB)5.3/12*

ISC 06 08:13:40.0±0.3,6.′42S±0.′04×130.′53E±0.′04,h10km,n178, σ1°89/172,mb4.8/52,MS4.5/6,2C-3D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.98**	**342**	P	Pg	08 14 27.4	+9.3
MSAI	**Masohi**	**3.44**	**332**	P	**Pg**	**08 14 46.6**	**+0.5**
MSAI				S	**Sg**	**08 15 27.8**	**-3.0**
AAI	**Ambon**	**3.58**	**319**	P	**Pg**	**08 14 47.8**	**-0.8**
FAKI	**Fak Fak**	**3.88**	**26**	P	**Pb**	**08 14 50.9**	**+2.4**
FAKI				S	**Sb**	**08 15 33.0**	**-2.6**
NLAI	**Namlea**	**4.65**	**313**	P	**Pb**	**08 15 03.1**	**+1.3**
SWI	**Sorong**	**5.57**	**8**	P	Pb	08 15 13.0	-4.4
	183nm,0.8s,32µm						
RKPI	**Ransiki, Papua**	**6.08**	**37**	P	Pb	08 15 21.1	-5.1
	300nm,0.6s,26µm						
LBMI	**Labuha**	**6.49**	**332**	P	Pb	08 15 27.7	-5.4
	215nm,0.8s,7µm2.4nm						
SOEI	**Soe**	**7.03**	**241**	P	Pn	08 15 31.5	+8.3
	230nm,0.7s,10µm4.3nm						
SOEI				S	**Sn**	**08 16 45.2**	**+1.9**
	230nm,0.7s,10µm4.3nm						
BATI	**Baumata**	**7.76**	**241**	P	Pn	08 15 39.6	+6.5
BATI				S	**Sn**	**08 17 00.4**	**-0.9**
BATI	**Baumata**	**7.76**	**241**	P	Pn	08 15 40.7	+7.5
	136nm,0.6s,3µm1.2nm						
BATI				S	**Sn**	**08 17 01.3**	**0.0**
	136nm,0.6s,3µm1.2nm						
BATI	**Baumata**	**7.76**	**241**	P	Pn	08 15 39.6	+6.5
	40nm,0.3s,baz=133,slow=5.3,SNR=12						
BATI				S	**Sn**	**08 17 00.4**	**-0.9**
	65nm,0.3s,baz=149,slow=22,SNR=16						
BBSI	**Bau Bau**	**7.97**	**276**	P	Pb	08 16 03.6	+5.3
WAMI	**Wamena**	**8.53**	**73**	P	Pn	08 15 57.3	+14
	193nm,0.8s						
LUWI	**Luwuk**	**9.40**	**304**	P	Pn	08 16 07.3	+12
	174nm,1.2s,2µm						
SKSI	**Soroako, Sulaw**	**9.95**	**292**	P	Pn	08 16 15.5	+12
	52nm,0.8s,4µm						
KAPI	**Kappang**	**10.81**	**277**	*e*Pn	**Pn**	**08 16 12.5**	**-2.5**
KAPI				S	**Sn**	**08 18 12.5**	**-3.7**
KAPI	**Kappang**	**10.81**	**277**	P	Pn	08 16 22.9	+7.9
	50nm,0.9s						
KAPI	**Kappang**	**10.81**	**277**	P	Pn	08 16 24.3	+9.2
	1.2nm,0.3s,baz=135,slow=2.9,SNR=2.6						
KAPI				S	**Sn**	**08 18 12.5**	**-3.7**
	0.6nm,0.3s,baz=93,slow=19,SNR=1.6						
JAY	**Jayapura**	**10.86**	**70**	P	Pn	08 16 25.3	+10
	33nm,0.7s,4µm						
MRSI	**Marisa**	**10.97**	**308**	P	Pn	08 16 27.7	+11
	260nm,1.1s,3µm						
SPSI	**Sidrap Palu**	**10.99**	**282**	P	Pn	08 16 27.2	+10
	81nm,0.7s,850nm						
TTSI	**Tana Toraja**	**11.19**	**287**	P	Pn	08 16 32.2	+12
	38nm,0.8s						
MMSI	**Mamuju**	**12.16**	**287**	P	Pn	08 16 45.9	+12
	111nm,0.8s,1µm						
FITZ	**Fitzroy Crossi**	**12.55**	**202**	*e*Pn	**Pn**	**08 16 39.0**	**+0.2**
FITZ				S	Sn	08 18 48.1	-11
FITZ				*e*Sn	Sn	08 18 48.8	-10
FITZ	**Fitzroy Crossi**	**12.55**	**202**	P	**Pn**	**08 16 39.6**	**+0.8**
	4.7nm,0.3s,baz=38,slow=10,SNR=123						
FITZ				S	Sn	08 18 48.1	-11
	16nm,0.3s,baz=63,slow=22,SNR=10						
WRAB	**Tennant Creek**	**13.94**	**165**	*e*P	**Pn**	**08 16 57.8**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,27nm,0.4s						
WRAB	**Tennant Creek**	**13.94**	**165**	*e*Pn	**Pn**	**08 16 57.8**	**+0.1**
	comp=Z,27nm,0.4s						
WRAB				*e*Sn	Sn	08 19 18.4	-14
WRA	**Warramunga Arr**	**13.94**	**165**	P	**Pn**	**08 16 58.5**	**+0.7**
WRA				S	Sn	08 19 22.9	-10
WRA	**Warramunga Arr**	**13.94**	**165**	P	**Pn**	**08 16 58.5**	**+0.7**
	comp=Z,7.5nm,0.3s,baz=338,slow=15,SNR=168						
WRA				S	Sn	08 19 22.9	-10
	comp=Z,10nm,0.3s,baz=347,slow=22,SNR=22						
COEN	**Coen**	**14.52**	**122**	*e*Pn	**Pn**	**08 17 07.2**	**+1.5**
COEN				*e*Sn	Sn	08 19 40.6	-6.3
KMMI	**Kalianget**	**16.46**	**267**	P	P	08 17 42.0	+8.0
TSM	**Tawau**	**16.52**	**310**	P	**P**	**08 17 37.6**	**+2.9**
MYLDM	**Lahad Datu**	**16.64**	**314**	P	P	08 17 41.4	+5.4
PMG	**Port Moresby**	**16.74**	**101**	*e*P	**P**	**08 17 36.4**	**-0.7**
	comp=Z,197nm,1.5s						
PMG				S	**Sn**	**08 20 36.6**	**-4.3**
PMG	**Port Moresby**	**16.74**	**101**	P	**P**	**08 17 41.4**	**+4.4**
	comp=Z,91nm,1.6s						
PMG	**Port Moresby**	**16.74**	**101**	P	**P**	**08 17 38.7**	**+1.7**
	comp=Z,2.6nm,0.3s,baz=348,slow=2.9,SNR=7.9						
PMG				S	**Sn**	**08 20 36.6**	**-4.3**
	comp=Z,1.6nm,0.3s,baz=17,slow=22,SNR=7.9						
BLJI	**Banyuglugur**	**16.86**	**265**	P	**P**	**08 17 41.6**	**+3.2**
ASAR	**Alice Springs**	**17.45**	**170**	P	**P**	**08 17 44.9**	**-0.1**
ASAR				S	Sn	08 20 47.0	-11
ASAR	**Alice Springs**	**17.45**	**170**	P	**P**	**08 17 44.9**	**-0.1**
	comp=Z,7.3nm,0.3s,baz=336,slow=8.6,SNR=129						
ASAR				S	Sn	08 20 47.0	-11
	comp=Z,3.9nm,0.3s,baz=0.3,slow=24,SNR=8.7						
MBWA	**Marble Bar**	**18.00**	**214**	*e*P	**P**	**08 17 51.4**	**+0.4**
	comp=Z,18nm,0.9s						
MBWA				*e*S	Sn	08 20 59.2	-12
KKM	**Kota Kinabalu**	**18.91**	**311**	*e*P	**Pn**	**08 18 04.4**	**+2.7**
	comp=Z,100nm,0.8s						
KDM	**Kudat**	**19.03**	**314**	P	**Pn**	**08 18 07.3**	**+4.2**
BTM	**Bintulu**	**19.87**	**298**	P	**Pn**	**08 18 15.2**	**+2.1**
SBUM	**Sibu**	**20.29**	**295**	P	Pn	08 18 20.0	+1.8
CTA	**Charters Tower**	**20.44**	**133**	P	Pn	08 18 19.2	-0.7
CTA	**Charters Tower**	**20.44**	**133**	P	Pn	08 18 19.2	-0.7
	comp=Z,31nm,0.8s,baz=309,slow=13,SNR=21						
CTAO	**Charters Tower**	**20.44**	**133**	*e*P	**P**	**08 18 17.8**	**0.0**
CTAO				pmax	pmax		
	comp=Z,27nm,0.7s						
CTAO	**Charters Tower**	**20.44**	**133**	*e*P	**P**	**08 18 17.8**	**0.0**
	comp=Z,27nm,0.7s						
KSM	**Kuching**	**21.66**	**291**	*e*P	**P**	**08 18 34.2**	**+3.2**
	comp=Z,19nm,0.7s						
KSM	**Kuching**	**21.66**	**291**	P	**P**	**08 18 33.4**	**+2.5**
FORT	**Forrest**	**24.34**	**185**	*e*P	**P**	**08 18 57.8**	**-0.3**
	comp=Z,49nm,0.7s						
STKA	**Stephens Creek**	**27.36**	**159**	P	**P**	**08 19 25.7**	**+0.3**
	comp=Z,9.2nm,0.5s,baz=339,slow=7.9,SNR=30						
MYKOM	**Kota Tinggi**	**27.86**	**286**	P	**P**	**08 19 33.8**	**+3.7**
KGM	**Kluang**	**28.43**	**286**	P	P	08 19 38.8	+3.5
NWAO	**Narrogin (SRO)**	**29.13**	**203**	P	**P**	**08 19 40.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**29.13**	**203**	P	**P**	**08 19 40.6**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=41,slow=11,SNR=3.8						
HNR	**Honiara**	**29.29**	**98**	P	**P**	**08 19 43.3**	**+0.5**
HNR	**Honiara**	**29.29**	**98**	P	**P**	**08 19 43.3**	**+0.5**
	comp=Z,49nm,0.5s,baz=45,slow=6.4,SNR=3.8						
KTGM	**Kuala Trenggan**	**29.73**	**293**	P	P	08 19 51.1	+4.3
IPM	**Ipoh**	**31.38**	**289**	P	**P**	**08 20 01.2**	**-0.2**
KULM	**Kulim**	**32.01**	**291**	P	**P**	**08 20 08.1**	**+1.2**
PSI	**Prapat**	**32.86**	**285**	P	**P**	**08 20 12.7**	**-1.8**
PSI	**Prapat**	**32.86**	**285**	P	**P**	**08 20 12.7**	**-1.8**
	comp=Z,12nm,0.6s,baz=168,slow=10,SNR=5.1						
UBPT	**Khong Chiam**	**32.89**	**311**	P	**P**	**08 20 15.9**	**+1.4**
	comp=Z,54nm,0.8s						
CAN	**Canberra**	**33.41**	**152**	*e*P	**P**	**08 20 20.2**	**+1.2**
CAN				pmax	pmax		
	comp=Z,22nm,0.8s						
CAN	**Canberra**	**33.41**	**152**	*e*P	**P**	**08 20 20.1**	**+1.2**
	comp=Z,22nm,0.8s						
PANO	**Nakornpanom**	**34.71**	**313**	P	**P**	**08 20 32.1**	**+1.7**
	comp=Z,34nm,1.2s						
LOEI	**Loei**	**37.43**	**310**	P	**P**	**08 20 51.7**	**-2.0**
	comp=Z,32nm,1.1s						
DZM	**Mont Dzumac**	**37.99**	**118**	P	**P**	**08 20 58.5**	**-0.1**
DZM	**Mont Dzumac**	**37.99**	**118**	P	**P**	**08 20 58.5**	**-0.1**
	comp=Z,8.7nm,0.8s,baz=269,slow=15,SNR=6.8						
LAMP	**Lampang**	**39.28**	**310**	P	**P**	**08 21 10.7**	**+1.4**
	comp=Z,6.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.77**	**309**	P	**P**	**08 21 14.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**39.77**	**309**	P	**P**	**08 21 14.2**	**+0.7**
	comp=Z,8.7nm,0.5s,baz=134,slow=7.0,SNR=34						
NJ2	**Nanjing**	**39.84**	**344**	*e*P	P	08 21 20.4	+6.6
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
WHN	**Wuhan**	**39.89**	**338**	P	**P**	**08 21 14.9**	**+0.7**
CMMT	**Chiang Mai**	**39.97**	**309**	P	**P**	**08 21 15.4**	**+0.3**
	comp=Z,22nm,0.6s						
CHTO	**Chiang Mai**	**39.98**	**309**	*e*P	**P**	**08 21 15.6**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,12nm,0.6s						
CHTO	**Chiang Mai**	**39.98**	**309**	*e*P	**P**	**08 21 15.6**	**+0.5**
	comp=Z,12nm,0.6s						
CHTO	**Chiang Mai**	**39.98**	**309**	P	**P**	**08 21 15.7**	**+0.6**
	comp=Z,23nm,0.6s						
GYA	**Guiyang**	**40.05**	**326**	P	P	08 21 22.0	+6.3
GYA				PP	PnPn	08 22 58.7	+7.3
GYA				PcP	PcP	08 23 26.2	+5.5
GYA				ScP	**ScP**	**08 27 14.0**	**+3.9**
GYA				S	S	08 27 30.5	+8.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,460nm,17.9s						
GYA				LR	LR		
	comp=E,410nm,18.0s						
GYA				LR	LR		
	comp=Z,480nm,19.0s						
CMAI	**Chiengmai2**	**40.56**	**311**	P	**P**	**08 21 20.5**	**+0.4**
	comp=Z,39nm,0.8s						
KMI	**Kunming**	**41.40**	**320**	P	**P**	**08 21 29.2**	**+2.1**
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
MJAR	**Matsushiro Arr**	**43.34**	**9**	P	**P**	**08 21 42.3**	**-0.1**
MJAR	**Matsushiro Arr**	**43.34**	**9**	P	**P**	**08 21 42.3**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=188,slow=9.2,SNR=6.1						
MAT	**Matsushiro**	**43.34**	**9**	P	**P**	**08 21 42.6**	**+0.2**
KSAR	**Wonju Array Be**	**43.70**	**357**	P	**P**	**08 21 46.4**	**+1.1**
KSRS	**Korea Array**	**43.71**	**357**	P	**P**	**08 21 46.4**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=177,slow=8.0,SNR=3.8						
CD2	**Chengdu**	**45.10**	**327**	*e*P	P	08 22 03.5	+6.8
CD2				pP	pP	08 22 08.0	+8.2
CD2				sP	sP	08 22 10.5	+9.4
CD2				PP	PP	08 23 50.3	+8.0
CD2				S	**S**	**08 28 40.1**	**+4.0**
CD2				sS	sS	08 28 51.0	+10
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,400nm,10.8s						
CD2				LR	LR		
	comp=Z,390nm,7.2s						
BJI	**Beijing**	**48.09**	**345**	P	**P**	**08 22 20.3**	**+0.4**
BJI				pmax	pmax		
	comp=Z,16nm,0.7s						
LZH	**Lanzhou**	**49.15**	**331**	*e*P	**P**	**08 22 30.0**	**+1.7**
LZH				pP	**pP**	**08 22 33.5**	**+2.0**
LZH				PP	**PP**	**08 24 24.9**	**+2.7**
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				pmax	pmax		
	comp=Z,86nm,6.2s						
LZH				LR	LR		
	comp=N,310nm,14.0s						
LZH				LR	LR		
	comp=E,300nm,13.9s						
LZH				LR	LR		
	comp=Z,410nm,18.1s						
HHC	**Hu-ho-hao-te**	**50.16**	**341**	*e*P	P	08 22 42.7	+6.8
HHC				PcP	PcP	08 24 00.4	+5.1
HHC				PP	PP	08 24 39.4	+8.1
HHC				ScP	**ScP**	**08 27 54.3**	**+2.9**
HHC				PcS	**PcS**	**08 27 55.9**	**+3.6**
HHC				S	S	08 29 55.5	+7.6
HHC				sS	sS	08 30 03.3	+10
HHC				ScS	**ScS**	**08 32 30.2**	**+2.6**
HHC				pmax	pmax		
	comp=Z,32nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,6.4s						
HHC				LR	LR		
	comp=N,370nm,16.8s						
HHC				LR	LR		
	comp=E,520nm,16.5s						
HHC				LR	LR		
	comp=Z,340nm,16.6s						
CN2	**Changchun**	**50.20**	**355**	*e*P	P	08 22 44.9	+8.9
CN2				*es*P	sP	08 22 51.9	+12
CN2				*e*S	S	08 29 58.9	+11
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
USRK	**Ussuriysk Arra**	**50.40**	**1**	P	**P**	**08 22 37.6**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=196,slow=6.6,SNR=5.9						
MDJ	**Mudanjiang**	**50.81**	**359**	P	P	08 22 48.0	+7.4
MDJ				pP	pP	08 22 51.3	+7.5
MDJ				sP	sP	08 22 52.5	+7.5
MDJ				PP	PP	08 24 45.2	+8.2
MDJ				ScP	**ScP**	**08 27 59.1**	**+5.2**
MDJ				PcS	PcS	08 28 00.1	+5.4
MDJ				S	S	08 30 08.7	+12
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,34nm,4.4s						
RPZ	**Rata Peaks**	**51.37**	**143**	*e*P	**P**	**08 22 46.0**	**+1.1**
RPZ	**Rata Peaks**	**51.37**	**143**	P	**P**	**08 22 44.1**	**-0.9**
	comp=Z,13nm,0.7s,baz=322,slow=2.2,SNR=6.3						
ASAJ	**Asahikawa**	**51.47**	**11**	P	**P**	**08 22 46.1**	**+0.5**
ASAJ	**Asahikawa**	**51.47**	**11**	P	**P**	**08 22 46.1**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=31,slow=5.9,SNR=2.0						
LSA	**Lhasa**	**52.15**	**316**	P	**P**	**08 22 51.5**	**0.0**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**52.15**	**316**	*e*P	**P**	**08 22 52.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**52.15**	**316**	*e*P	**P**	**08 22 52.0**	**+0.5**
	comp=Z,15nm,0.8s						
URZ	**Urewera**	**52.68**	**134**	P	**P**	**08 22 54.3**	**-0.5**
URZ	**Urewera**	**52.68**	**134**	P	**P**	**08 22 54.3**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=292,slow=11,SNR=6.4						
ODAN	**Odare**	**53.28**	**310**	*e*P	**P**	**08 22 58.8**	**-0.8**
	comp=Z,66nm,1.0s						
TAPN	**Taplejung**	**53.30**	**311**	*e*P	**P**	**08 22 59.3**	**-0.6**
	comp=Z,78nm,0.8s						
GTA	**Gaotai**	**53.72**	**331**	P	**P**	**08 23 03.2**	**+0.6**
GTA				pP	**pP**	**08 23 07.9**	**+2.2**
GTA				sP	**sP**	**08 23 10.3**	**+3.3**
GTA				S	**S**	**08 30 34.1**	**-2.9**
GTA				sS	sS	08 30 51.0	+8.8
GTA				SS	**SKiKP**	**08 34 15.0**	**-2.8**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,74nm,5.7s						
GTA				LR	LR		
	comp=N,190nm,17.1s						
GTA				LR	LR		
	comp=E,150nm,16.4s						
GTA				LR	LR		
	comp=Z,110nm,15.7s						
RAMN	**Ramite**	**53.93**	**310**	*e*P	**P**	**08 23 04.0**	**-0.4**
	comp=Z,122nm,0.8s						
JIRN	**Jiri**	**54.61**	**310**	*e*P	**P**	**08 23 08.9**	**-0.6**
	comp=Z,29nm,0.6s						
HABR	**Khabarovsk**	**54.80**	**4**	*e*P	**P**	**08 23 10.7**	**+0.7**
HABR				*e*		08 24 10.0	
HABR				*e*		08 25 15.1	
HABR				*e*PPP	PPP	08 26 28.7	
HABR				*e*S	**S**	**08 30 46.8**	**-4.1**
HABR				*e*SS	**SS**	**08 34 33.8**	**-0.6**
HABR				pmax	pmax		
	comp=Z,30nm,1.4s						
HABR				pmax	pmax		
	comp=E,25nm,1.0s						
HABR				pmax	pmax		
	comp=N,14nm,1.8s						
HABR				MLR	MLR		
	comp=Z,49nm,20.0s						
GUN	**Gumba**	**54.97**	**311**	*e*P	**P**	**08 23 11.2**	**-0.9**
	comp=Z,88nm,0.8s						
PKI	**Pulchoki**	**55.15**	**310**	*e*P	**P**	**08 23 12.2**	**-1.2**
	comp=Z,22nm,0.6s						
PKIN	**Phulchoki**	**55.17**	**310**	*e*P	**P**	**08 23 12.2**	**-1.2**
	comp=Z,21nm,0.5s						
KKN	**Kakani**	**55.36**	**310**	*e*P	**P**	**08 23 13.8**	**-1.0**
	comp=Z,56nm,1.0s						
DMN	**Daman**	**55.40**	**310**	*e*P	**P**	**08 23 14.4**	**-0.8**
	comp=Z,72nm,1.0s						
KLR	**Kul'dur**	**55.43**	**1**	*e*P	**P**	**08 23 16.0**	**+1.4**
HYB	**Hyderabad**	**56.53**	**296**	*i* P	**P**	**08 23 21.0**	**-2.1**
KOLN	**Koldanda**	**56.64**	**309**	*e*P	**P**	**08 23 23.1**	**-0.8**
	comp=Z,62nm,0.9s						
DANN	**Dangsing**	**56.80**	**310**	*e*P	**P**	**08 23 24.0**	**-1.2**
	comp=Z,37nm,0.8s						
PYUN	**Piuthan**	**57.27**	**309**	*e*P	**P**	**08 23 27.7**	**-0.7**
	comp=Z,183nm,1.0s						
ULN	**Ulaanbaatar**	**57.88**	**342**	*e*P	**P**	**08 23 33.4**	**+1.1**
	comp=Z,10nm,0.8s						
SONM	**Songino Array**	**58.06**	**341**	P	**P**	**08 23 34.4**	**+0.9**
SONM	**Songino Array**	**58.06**	**341**	P	**P**	**08 23 34.4**	**+0.9**
	comp=Z,3.3nm,0.6s,baz=158,slow=7.5,SNR=17						
ZAK	**Zakamensk**	**61.30**	**340**	*e*P	**P**	**08 23 55.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TLY	**Talaya**	**62.29**	**341**	*e*P	**P**	**08 24 02.9**	**+0.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMQ	**Urumqi**	**63.20**	**327**	P	**P**	**08 24 11.4**	**+2.8**
WMQ				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.0s						
PETK	**Petropavlovsk-**	**63.61**	**18**	P	**P**	**08 24 11.5**	**+0.5**
PETK	**Petropavlovsk-**	**63.61**	**18**	P	**P**	**08 24 11.5**	**+0.5**
PETK	**Petropavlovsk-**	**63.61**	**18**	P	**P**	**08 24 11.5**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=186,slow=7.4,SNR=7.3						
HVS	**Khovu-Aksy**	**65.48**	**335**	*i*P	**P**	**08 24 23.4**	**0.0**
KSH	**Kashi**	**67.95**	**317**	*e*P	**P**	**08 24 39.8**	**+0.3**
KSH				PP	**PP**	**08 27 13.7**	**+4.2**
KSH				S	**S**	**08 33 32.8**	**-5.9**
KSH				SS	**SS**	**08 37 57.5**	**-3.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,26nm,5.1s						
KSH				LR	LR		
	comp=N,78nm,4.8s						
KSH				LR	LR		
	comp=E,80nm,6.2s						
KSH				LR	LR		
	comp=Z,45nm,4.3s						
MK31	**Makanchi Array**	**68.03**	**326**	*e*P	**P**	**08 24 39.6**	**-0.1**
MK31	**Makanchi Array**	**68.03**	**326**	*e*P	**P**	**08 24 39.6**	**-0.1**
MKAR	**Makanchi Array**	**68.03**	**326**	P	**P**	**08 24 39.7**	**0.0**
MKAR	**Makanchi Array**	**68.03**	**326**	P	**P**	**08 24 39.6**	**0.0**
MKAR	**Makanchi Array**	**68.03**	**326**	P	**P**	**08 24 39.6**	**0.0**
	comp=Z,11nm,0.6s,baz=123,slow=7.9,SNR=106						
YAK	**Yakutsk**	**68.25**	**360**	*e*P	**P**	**08 24 40.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
KZA	**Kyzart**	**69.68**	**319**	P	**P**	**08 24 51.2**	**+0.6**
	SNR=10						
TKM2	**Tokmak 2**	**69.88**	**320**	*i* P	**P**	**08 24 51.3**	**-0.2**
TKM2	**Tokmak 2**	**69.88**	**320**	P	**P**	**08 24 51.3**	**-0.2**
	SNR=7.5						
AAK	**Ala-Archa**	**70.44**	**319⇑**	*i*P	**P**	**08 24 55.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,20nm,1.1s						
AAK	**Ala-Archa**	**70.44**	**319**	*e*P	**P**	**08 24 55.0**	**+0.2**
	comp=Z,2.9nm,0.6s						
AML	**Almayashu**	**70.72**	**319**	P	**P**	**08 24 57.3**	**+0.4**
	SNR=7.7						
USP	**Ospenovka**	**70.75**	**320**	P	**P**	**08 24 56.9**	**+0.3**
	SNR=11						
EKS2	**Erkin-Say**	**70.92**	**319**	P	**P**	**08 24 58.6**	**+0.8**
	SNR=5.3						
ZAA0	**Zalesovo Array**	**71.30**	**333**	*e*P	**P**	**08 24 58.8**	**-0.9**
ZALV	**Zalesovo Beam**	**71.30**	**333**	P	**P**	**08 24 58.7**	**-1.0**
ZALV	**Zalesovo Beam**	**71.30**	**333**	P	**P**	**08 24 58.6**	**-1.0**
ZALV	**Zalesovo Beam**	**71.30**	**333**	P	**P**	**08 24 58.6**	**-1.0**
	comp=Z,5.0nm,0.6s,baz=116,slow=4.8,SNR=21						
VNDA	**Vanda**	**72.96**	**173**	P	**P**	**08 25 08.4**	**-0.8**
VNDA	**Vanda**	**72.96**	**173**	P	**P**	**08 25 08.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=309,slow=8.3,SNR=6.2						
MAW	**Mawson**	**75.68**	**201**	P	**P**	**08 25 24.0**	**-1.2**
MAW	**Mawson**	**75.68**	**201**	P	**P**	**08 25 24.0**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=90,slow=11,SNR=11						
TIXI	**Tiksi**	**77.92**	**359⇑**	*i*P	**P**	**08 25 37.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRVK	**Borovoye**	**77.93**	**328⇓**	*i*P	**P**	**08 25 37.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**77.93**	**328**	*e*P	**P**	**08 25 37.0**	**-1.2**
	comp=Z,8.2nm,0.9s						
ARU	**Arti**	**85.50**	**328**	*d i*P	**P**	**08 26 16.3**	**-1.7**
ARU						08 29 33.8	
ARU				S	S	08 36 31.5	-18
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**92.60**	**25**	P	**P**	**08 26 49.7**	**-1.9**
ILAR	**Eielson Array**	**92.60**	**25**	P	**P**	**08 26 49.7**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=259,slow=4.5,SNR=5.1						
OBN	**Obninsk**	**97.49**	**325**	*e*P	Pdif	08 27 14.1	-0.1
OBN				*e*PP	pP	08 27 33.9	+16
OBN	

VNDA					LR		LR		09 31 30.1		
	comp=Z,263nm,21.1s,baz=168,slow=35										
PLCA	**Paso Flores**		**52.53**	**250**	P		**P**		**09 12 44.8**	**-1.3**	
	1.2nm,0.9s,baz=117,slow=2.3,SNR=2.9										
PLCA					LR		LR		09 31 18.4		
	comp=Z,67nm,19.0s,baz=359,slow=32										
CPUP	**Villa Florida**		**55.05**	**272**	P		**P**		**09 13 04.6**	**0.0**	
	0.8nm,0.6s,baz=145,slow=16,SNR=3.4										
CPUP					LR		LR		09 30 54.3		
	comp=Z,74nm,21.4s,baz=118,slow=30										
BDFB	**Brasilia**		**57.92**	**288**	LR		LR		09 33 00.8		
	comp=Z,94nm,18.1s,baz=224,slow=30										
DBIC	**Dimbokro**		**61.24**	**345**	P		**P**		**09 13 48.1**	**+0.2**	
	5.2nm,0.9s,baz=172,slow=14,SNR=3.1										
DBIC					LR		LR		09 32 24.0		
	comp=Z,77nm,21.9s,baz=125,slow=28										
TORD	**Torodi Ar. Bea**		**66.88**	**353**	P		**P**		**09 14 25.0**	**+0.1**	
	0.8nm,0.8s,baz=188,slow=6.7,SNR=4.7										
TORD					LR		LR		09 37 43.3		
	comp=Z,75nm,19.8s,baz=150,slow=31										
LPAZ	**La Paz**		**69.16**	**271**	P		**P**		**09 14 40.6**	**+0.5**	
	1.7nm,0.8s,baz=136,slow=5.8,SNR=7.7										
NWAO	**Narrogin (SRO)**		**74.04**	**124**	P		**P**		**09 15 08.3**	**-0.4**	
	6.6nm,0.7s,baz=225,slow=4.3,SNR=7.7										
RPZ	**Rata Peaks**		**81.77**	**167**	LR		LR		09 48 03.1		
	comp=Z,162nm,19.8s,baz=135,slow=33										
ATAH	**Atahualpa**		**82.48**	**268**	LR		LR		09 50 55.3		
	comp=Z,71nm,18.1s,baz=22,slow=34										
URZ	**Urewera**		**87.84**	**171**	LR		LR		09 50 08.7		
	comp=Z,105nm,19.9s,baz=127,slow=32										
ROSC	**El Rosal**		**89.66**	**279**	LR		LR		09 55 58.1		
	comp=Z,68nm,21.0s,baz=24,slow=35										
BRTR	**Keskin Array B**		**95.58**	**19**	LR		LR		10 05 28.0		
	comp=Z,34nm,18.2s,baz=279,slow=39										
YBH	**Yreka Blue Hor**		**145.75**	**270**	PKPbc		**PKPbc**		**09 23 11.5**	**0.0**	
	0.6nm,0.6s,baz=92,slow=4.4,SNR=5.0										
YKA	**Yellowknife Ar**		**149.68**	**310**	PKPbc		**PKPbc**		**09 23 22.1**	**+0.8**	
	1.7nm,0.7s,baz=83,slow=3.7,SNR=6.3										

*IDC **06** 09:04:57.7±1.8, 46°.25S×166°.08E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, ML3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/25, Error ellipse: s-maj=57.3km s-min=23.9km az=167.0*

*ISCJB **06** 09:04:58.4±0.9, 46°.20S±0°.08×166°.04E±0°.08, h12km, mb3.9/2, MS3.7/1, Error ellipse: s-maj=12.1km s-min=7.8km az=165.7*

*WEL **06** 09:05:00.0±0.4, 46°.19S×165°.92E, h33km, ML4.4/20, Error ellipse: s-maj=4.5km s-min=1.9km az=90.0*

ISC 06 09:04:59.2±1.0, 46°.27S±0°.08×166°.15E±0°.06, h12km, n26, σ0$97/28, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.05**	**42**	PN	**Pb**	**09 05 18.9**	**-0.5**
DCZ				SN	**Sg**	**09 05 32.0**	**-1.2**
DCZ				SN	**Sb**	**09 05 32.1**	**-0.9**
DCZ				AML	AML	09 05 45.7	
DCZ				AML	AML	09 05 46.3	
WHZ	**Wether Hill Ro**	**1.30**	**74**	PN	**Pb**	**09 05 24.0**	**+0.4**
WHZ				SN	**Sn**	**09 05 40.4**	**-0.1**
WHZ				SN	**Sg**	**09 05 41.3**	**+0.2**
APZ	**The Paps**	**1.39**	**115**	⇓PN	**Pn**	**09 05 24.6**	**+0.1**
MLZ	**Mavora Lakes**	**1.68**	**58**	PN	**Pb**	**09 05 29.5**	**-0.6**
MLZ				SN	**Sb**	**09 05 51.3**	**0.0**
MLZ				AML	AML	09 05 58.0	
MSZ	**Milford Sound**	**2.02**	**39**	*e*PN	**Pn**	**09 05 33.7**	**+0.6**
MSZ				AML	AML	09 06 11.2	
MSZ				AML	AML	09 06 20.7	
SYZ	**Scrubby Hill**	**2.08**	**99**	PN	**Pn**	**09 05 34.8**	**+0.8**
EAZ	**Earnscleugh**	**2.44**	**66**	*e*PN	**Pn**	**09 05 40.7**	**+1.9**
EAZ				AML	AML	09 06 15.3	
EAZ				AML	AML	09 06 15.3	
EAZ				AML	AML	09 06 18.2	
EAZ				AML	AML	09 06 18.3	
TUZ	**Tuapeka**	**2.44**	**84**	*e*PN	**Pn**	**09 05 39.9**	**+1.1**
TUZ				AML	AML	09 06 13.1	
TUZ				AML	AML	09 06 21.1	
WKZ	**Wanaka**	**2.47**	**55**	PN	**Pb**	**09 05 42.1**	**-1.5**
WKZ				AML	AML	09 06 19.3	
WKZ				AML	AML	09 06 19.3	
WKZ				AML	AML	09 06 22.7	
WKZ				AML	AML	09 06 22.8	
JCZ	**Jackson Bay**	**2.86**	**41**	*e*PN	**Pn**	**09 05 46.6**	**+1.8**
JCZ				AML	AML	09 06 39.5	
JCZ				AML	AML	09 06 39.5	
ODZ	**Otahua Downs**	**3.38**	**70**	PN	**Pn**	**09 05 51.9**	**+0.2**
LBZ	**Lake Benmore**	**3.41**	**58**	PN	**Pn**	**09 05 52.7**	**+0.6**
LBZ				AML	AML	09 06 43.2	
LBZ				AML	AML	09 06 50.2	
FOZ	**Fox Glacier**	**3.69**	**44**	*e*PN	**Pn**	**09 05 58.5**	**+2.5**
FOZ				AML	AML	09 07 05.0	
FOZ				AML	AML	09 07 09.6	
RPZ	**Rata Peaks**	**4.31**	**55**	*e*PN	**Pn**	**09 06 04.5**	**-0.1**
RPZ				AML	AML	09 07 00.5	
RPZ				AML	AML	09 07 01.6	
RPZ	**Rata Peaks**	**4.31**	**55**	Pn	**Pn**	**09 06 05.0**	**+0.4**
	7.2nm,0.3s,baz=214,slow=8.5,SNR=22						
RPZ				Sn	**Sn**	**09 06 55.8**	**+1.0**
	18nm,0.3s,baz=342,slow=20,SNR=8.6						
WVZ	**Waitaha Valley**	**4.57**	**47**	AML	AML	09 07 13.1	
WVZ				AML	AML	09 07 19.2	
LTZ	**Lake Taylor**	**5.59**	**54**	AML	AML	09 07 29.1	
LTZ				AML	AML	09 07 33.1	
THZ	**Tophouse**	**6.63**	**50**	AML	AML	09 07 57.5	
URZ	**Urewera**	**11.39**	**49**	Pn	**Pn**	**09 07 41.9**	**+0.3**
	0.3nm,0.3s,baz=235,slow=7.1,SNR=3.1						
URZ				Sn	Sn	09 09 41.3	-7.4
	0.2nm,0.3s,baz=300,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**34.37**	**300**	P	**P**	**09 11 45.8**	**-0.2**
	1.1nm,0.7s,baz=132,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**36.98**	**304**	P	**P**	**09 12 08.0**	**-0.5**
	1.2nm,0.6s,baz=138,slow=7.8,SNR=20						
FITZ	**Fitzroy Crossi**	**43.61**	**296**	LR	LR	09 28 38.3	
	comp=Z,94nm,21.8s,baz=22,slow=33						
TORD	**Torodi Ar. Bea**	**144.47**	**207**	PKP	**PKPab**	**09 24 34.2**	**+0.3**
	0.7nm,0.6s,baz=173,slow=1.4,SNR=7.6						
BRTR	**Keskin Array B**	**145.09**	**277**	PKPbc	**PKPbc**	**09 24 35.1**	**-0.6**
	2.2nm,1.0s,baz=113,slow=3.2,SNR=6.7						
SPITS	**Spitsbergen Ar**	**145.93**	**349**	PKPbc	**PKPbc**	**09 24 37.3**	**+0.2**
	0.9nm,0.7s,baz=41,slow=3.7,SNR=2.5						
ARCES	**ARCESS Array B**	**149.64**	**334**	PKPbc	**PKPbc**	**09 24 47.8**	**+0.4**
	0.6nm,0.5s,baz=62,slow=2.9,SNR=9.4						

IDC 06 09:14:42.5±56.0, 22°.13S×177°.35W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/18, mbtmp4.3/3, Error ellipse: s-maj=1025.0km s-min=158.9km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.65**	**246**	P	P	09 21 59.8	+0.2
	4.7nm,0.9s,baz=89,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**44.76**	**258**	P	P	09 22 57.7	-0.4
	2.1nm,0.5s,baz=93,slow=7.3,SNR=38						
WRA	**Warramunga Arr**	**44.99**	**264**	P	P	09 22 59.9	-0.1
	2.8nm,0.6s,baz=102,slow=8.4,SNR=82						

*IDC **06** 09:17:30.3±0.8, 52°.97N×166°.95W, h0km, mb4.1/22, mb1 4.2/25, mb1mx4.1/35, mbtmp4.1/25, ML3.7/3, MS3.6/10, Ms1 3.7/10, ms1mx3.3/45, Error ellipse: s-maj=22.5km s-min=11.0km az=173.0*

*NEIC **06** 09:17:31.0, 52°.81N×166°.78W, h0km, mb4.0/7, ML4.0(AEIC), After AEIC.*

*ISCJB **06** 09:17:34.2±0.6, 52°.80N±0°.06×166°.79W±0°.05, h46km±5km, mb4.2/28, MS3.7/9, Error ellipse: s-maj=9.9km s-min=3.8km az=157.2*

ISC 06 09:17:36.9±1.2, 52°.93N±0°.08×166°.88W±0°.05, h49km±10km, n110, σ1$06/117, mb4.1/28, MS3.7/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.79**	**309**	P	**Pn**	**09 17 50.1**	**-1.7**
OKFG				S	**Sn**	**09 18 04.4**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**0.84**	**304**	P	**Pn**	**09 17 51.5**	**-1.0**
MGOD	**Makushin Gods**	**0.87**	**0**	P	**Pn**	**09 17 51.7**	**-1.9**
OKSO	**Okmok South**	**0.88**	**300**	P	**Pn**	**09 17 51.2**	**-1.8**
OKSO				S	**Sn**	**09 18 07.0**	**+2.2**
MREP	**Makushin Rep't**	**0.89**	**5**	P	**Pn**	**09 17 51.8**	**-1.4**
OKSP	**Okmok Steeple**	**0.91**	**292**	P	**Pn**	**09 17 51.8**	**-1.7**
OKCE	**Okmok Cone E**	**0.92**	**304**	P	**Pn**	**09 17 52.3**	**-1.3**
OKCE				S	**Sn**	**09 18 08.4**	**+2.7**
UNV	**Unalaska Valle**	**0.95**	**14**	P	**Pn**	**09 17 51.5**	**-2.4**
UNV				S	**Sn**	**09 18 09.1**	**+2.7**
MCIR	**Makushin Cirqu**	**1.03**	**360**	P	**Pn**	**09 17 54.1**	**-0.9**
MTBL	**Makushin Table**	**1.05**	**7**	P	**Pn**	**09 17 54.0**	**-1.4**
NIKH	**Nikolski High**	**1.19**	**273**	P	**Pn**	**09 17 54.6**	**-2.6**
NIKH				S	**Sn**	**09 18 13.9**	**+1.6**
ZRO	**Akutan Zero**	**1.29**	**24**	P	**Pn**	**09 17 57.3**	**-1.2**
AKRB	**Akutan Reef Bi**	**1.30**	**22**	P	**Pn**	**09 17 57.8**	**-0.9**
AKRB				S	**Sn**	**09 18 18.2**	**+3.2**
LVA	**Lava Point**	**1.34**	**22**	P	**Pn**	**09 17 58.6**	**-0.6**
AKLV	**Akutan Long Va**	**1.36**	**24**	P	**Pn**	**09 17 57.5**	**-2.0**
AKUT	**Akutan**	**1.38**	**28**	P	**Pn**	**09 17 58.4**	**-1.3**
AKGG	**Akutan Green G**	**1.38**	**22**	P	**Pn**	**09 17 59.3**	**-0.5**
WESE	**West Dahl East**	**2.06**	**40**	P	**Pn**	**09 18 08.2**	**-1.0**
FALS	**False Pass**	**2.82**	**45**	*e*Pn	**Pn**	**09 18 18.9**	**-0.5**
KOFP	**Korovin Flat P**	**4.45**	**264**	P	**Pn**	**09 18 42.1**	**+0.3**
SDPT	**Sand Point**	**4.48**	**55**	P	**Pn**	**09 18 40.8**	**-1.4**
KOWE	**Korovin West**	**4.52**	**266**	P	**Pn**	**09 18 43.2**	**+0.4**
SPIA	**Saint Paul Isl**	**4.68**	**337**	P	**Pn**	**09 18 46.2**	**+1.3**
GSMY	**Great Sitkin M**	**5.68**	**265**	P	**Pn**	**09 18 58.4**	**-0.3**
GSTD	**Great Sitkin T**	**5.73**	**265**	P	**Pn**	**09 18 59.4**	**0.0**
GSCK	**Great Sitkin C**	**5.75**	**265**	P	**Pn**	**09 18 59.5**	**-0.1**
ETKA	**Kagalaska Isla**	**5.93**	**263**	P	**Pn**	**09 19 02.0**	**-0.1**
ADAG	**Mount Adagdak**	**6.02**	**265**	P	**Pn**	**09 19 03.9**	**+0.6**
ADK	**Adak**	**6.09**	**264**	P	**Pn**	**09 19 03.9**	**-0.4**
TAFL	**Tanaga Flats**	**6.85**	**265**	P	**Pn**	**09 19 15.0**	**+0.3**
GAEA	**Gareloi East**	**7.36**	**266**	P	**Pn**	**09 19 22.7**	**+1.0**
CERAA	**Semis' Rag'd T**	**8.28**	**268**	P	**Pn**	**09 19 34.9**	**+0.7**
CESW	**Semis' Southwe**	**8.35**	**268**	P	**Pn**	**09 19 35.5**	**+0.3**
AMKA	**Amchitka**	**8.64**	**265**	P	**Pn**	**09 19 38.7**	**-0.4**
KDAK	**Kodiak Island**	**9.48**	**53**	Pn	**Pn**	**09 19 50.2**	**-0.4**
KDAK	**Kodiak Island**	**9.48**	**53**	Pn	**Pn**	**09 19 50.2**	**-0.4**
	0.6nm,0.3s,baz=270,slow=13,SNR=4.0						
FX1	**Attu Island--F**	**12.05**	**278**	*e*Pn	**Pn**	**09 20 26.8**	**+1.0**
FX1	**Attu Island--F**	**12.05**	**278**	Pn	**Pn**	**09 20 25.4**	**-0.3**
	5.1nm,0.3s,baz=90,slow=14,SNR=53						
FX1				LR	LR	09 24 44.2	
	32nm,1.4s						
PPLA	**Purkeypile**	**12.65**	**32**	*e*Pn	**Pn**	**09 20 33.4**	**-0.6**
	32nm,1.4s						
PAX	**Paxson**	**15.10**	**40**	*e*Pn	**Pn**	**09 21 07.5**	**+0.7**
	4.4nm,0.9s						
ILAR	**Eielson Array**	**15.65**	**33**	Pn	**Pn**	**09 21 11.8**	**-2.0**
ILAR	**Eielson Array**	**15.65**	**33**	Pn	**Pn**	**09 21 11.8**	**-2.0**
	0.0nm,0.3s,baz=226,slow=11,SNR=5.2						
COLD	**Coldfoot**	**16.49**	**23**	*e*Pn	**P**	**09 21 25.7**	**-0.8**
	12nm,1.1s						
EGAK	**Eagle**	**17.67**	**38**	*e*Pn	**Pn**	**09 21 38.5**	**-0.6**
	2.6nm,0.6s						
HYT	**Haines Junctio**	**17.77**	**52**	*e*Pn	**P**	**09 21 42.8**	**+2.0**
DAWY	**Dawson**	**18.01**	**41**	*e*Pn	**P**	**09 21 43.0**	**-0.4**
SKAG	**Skagway**	**18.60**	**57**	*e*P	**Pn**	**09 21 51.3**	**+0.8**
	8.5nm,0.8s						
WRAK	**Wrangell Islan**	**20.14**	**66**	*e*P	Pn	09 22 08.3	-0.5
	13nm,1.1s						
VIB	**Van Inlet**	**20.52**	**75**	T	T	09 43 22.7	
PEA0B	**Petropavlovsk-**	**21.18**	**285**	*e*P	**P**	**09 22 17.8**	**-0.2**
PETK	**Petropavlovsk-**	**21.18**	**285**	P	**P**	**09 22 17.9**	**-0.1**
PETK	**Petropavlovsk-**	**21.18**	**285**	P	**P**	**09 22 17.9**	**-0.1**
	10.0nm,0.4s,baz=87,slow=12,SNR=36						
DLBC	**Dease Lake**	**21.30**	**60**	*e*P	**P**	**09 22 20.6**	**+1.4**
DLBC	**Dease Lake**	**21.30**	**60**	P	**P**	**09 22 19.9**	**+0.7**
	1.0nm,0.7s,baz=277,slow=16,SNR=1.9						
DLBC				LR	LR	09 30 20.7	
	comp=Z,153nm,20.2s,baz=156,slow=36						
INK	**Inuvik**	**22.05**	**33**	*e*P	**P**	**09 22 26.6**	**-0.5**
INK	**Inuvik**	**22.05**	**33**	P	**P**	**09 22 26.1**	**-0.9**
	3.3nm,0.8s,baz=243,slow=6.8,SNR=6.7						
YKA	**Yellowknife Ar**	**28.73**	**50**	PcP	**PcP**	**09 26 38.5**	**+0.3**
YKA	**Yellowknife Ar**	**28.73**	**50**	PcP	**PcP**	**09 26 38.5**	**+0.3**
	1.1nm,0.7s,baz=299,slow=2.8,SNR=4.3						
ASAJ	**Asahikawa**	**33.97**	**276**	LR	LR	09 35 35.4	
	comp=Z,89nm,21.8s,baz=140,slow=32						
NVAR	**Mina Array Bea**	**36.17**	**94**	P	**P**	**09 24 35.5**	**+0.8**
NVAR	**Mina Array Bea**	**36.17**	**94**	P	**P**	**09 24 35.5**	**+0.8**
	1.1nm,0.7s,baz=299,slow=7.9,SNR=7.8						
NVAR				LR	LR	09 36 00.8	
	comp=Z,75nm,21.9s,baz=325,slow=31						
PDAR	**Pinedale Array**	**38.81**	**81**	P	**P**	**09 24 56.9**	**-0.2**
PDAR	**Pinedale Array**	**38.81**	**81**	P	**P**	**09 24 56.9**	**-0.2**
	1.0nm,0.8s,baz=294,slow=5.0,SNR=8.5						
MAJO	**Matsushiro**	**41.23**	**269**	*e*P	**P**	**09 25 17.3**	**+0.5**
	16nm,0.8s						
MAT	**Matsushiro**	**41.23**	**269**	P	**P**	**09 25 17.4**	**+0.5**
MJAR	**Matsushiro Arr**	**41.23**	**269**	P	**P**	**09 25 17.0**	**+0.2**
MJAR	**Matsushiro Arr**	**41.23**	**269**	P	**P**	**09 25 17.0**	**+0.2**
	4.3nm,1.0s,baz=45,slow=8.2,SNR=14						
PV01	**Paradox Valley**	**42.25**	**86**	*e*P	**P**	**09 25 24.7**	**-0.8**
	243nm,0.9s						
KSRS	**Korea Array**	**46.84**	**278**	P	**P**	**09 26 02.5**	**+0.8**
	3.7nm,0.9s,baz=60,slow=7.3,SNR=11						
KSRS				LR	LR	09 43 30.4	
	comp=Z,43nm,20.5s,baz=50,slow=33						
KSAR	**Wonju Array Be**	**46.87**	**278**	P	**P**	**09 26 02.5**	**+0.5**
MNTX	**Cornudas Mount**	**48.52**	**91**	P	**P**	**09 26 14.2**	**-0.7**
	1.6nm,0.9s						
DAG	**Danmarks Havn**	**49.01**	**9**	*i* P	**P**	**09 26 17.1**	**-0.9**
	5.6nm,0.9s						
SPITS	**Spitsbergen Ar**	**49.14**	**359**	P	**P**	**09 26 17.8**	**-1.3**
SPITS	**Spitsbergen Ar**	**49.14**	**359**	P	**P**	**09 26 17.8**	**-1.3**
	0.8nm,0.4s,baz=30,slow=5.1,SNR=7.6						
SUMG	**Summit**	**49.79**	**18**	*i* P	**P**	**09 26 25.2**	**+0.7**
TXAR	**Lajitas Array**	**51.23**	**91**	P	**P**	**09 26 34.7**	**-0.9**
TXAR	**Lajitas Array**	**51.23**	**91**	P	**P**	**09 26 34.7**	**-0.9**
	0.8nm,0.9s,baz=300,slow=5.2,SNR=10						
TXAR				LR	LR	09 46 27.2	
	comp=Z,65nm,19.0s,baz=355,slow=34						
SONM	**Songino Array**	**52.31**	**302**	P	**P**	**09 26 42.8**	**-0.6**
SONM	**Songino Array**	**52.31**	**302**	P	**P**	**09 26 42.8**	**-0.6**
	1.1nm,0.5s,baz=47,slow=6.1,SNR=4.4						
SONM				LR	LR	09 51 26.8	
	comp=Z,124nm,18.2s,baz=223,slow=39						
KEV	**Kevo**	**57.21**	**354**	*ep*	**P**	**09 27 18.1**	**-0.3**
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**57.52**	**355**	P	**P**	**09 27 20.0**	**-0.6**
ARCES				PcP	**PcP**	**09 28 13.0**	**-0.6**
ARCES	**ARCESS Array B**	**57.52**	**355**	P	**P**	**09 27 20.0**	**-0.6**
	1.4nm,0.7s,baz=5.4,slow=8.4,SNR=9.2						
ARCES				PcP	**PcP**	**09 28 13.0**	**-0.6**
	1.2nm,0.7s,baz=0.0,slow=3.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**58.02**	**319**	P	**P**	**09 27 23.6**	**-0.7**
ZALV				PcP	**PcP**	**09 28 15.8**	**0.0**
ZALV	**Zalesovo Beam**	**58.02**	**319**	P	**P**	**09 27 23.6**	**-0.7**
	0.6nm,0.4s,baz=57,slow=5.3,SNR=3.0						
ZALV				PcP	**PcP**	**09 28 15.8**	**0.0**
	0.8nm,0.3s,baz=20,slow=5.3,SNR=3.5						
ZALV				LR	LR	09 54 03.9	
	comp=Z,80nm,18.2s,baz=60,slow=38						
KURK	**Kurchatov**	**62.95**	**319**	P	**P**	**09 27 58.8**	**+0.8**
KURBB	**Kurchatov Arra**	**63.06**	**319**	P	**P**	**09 27 58.8**	**+0.1**
	0.4nm,0.3s,baz=46,slow=7.1,SNR=4.5						
BVAR	**Borovoye Array**	**64.12**	**326**	P	**P**	**09 28 05.9**	**+0.3**
BVAR				PcP	**PcP**	**09 28 40.8**	**+0.4**
BVAR	**Borovoye Array**	**64.12**	**326**	P	**P**	**09 28 05.9**	**+0.3**
	2.6nm,0.8s,baz=56,slow=8.0,SNR=8.1						
BVAR				PcP	**PcP**	**09 28 40.8**	**+0.4**
	1.7nm,0.6s,baz=81,slow=4.1,SNR=4.6						
MKAR	**Makanchi Array**	**64.51**	**315**	P	**P**	**09 28 07.7**	**-0.7**
MKAR	**Makanchi Array**	**64.51**	**315**	P	**P**	**09 28 07.7**	**-0.7**
	1.2nm,0.8s,baz=56,slow=7.3,SNR=5.4						
MKAR				LR	LR	09 57 07.3	
	comp=Z,66nm,18.1s,baz=352,slow=37						
KAF	**Kangasniemi**	**64.83**	**353**	*ep*	**P**	**09 28 10.0**	**-0.1**
	2.0nm,0.5s						
FINES	**FINESS Array B**	**65.51**	**353**	P	**P**	**09 28 13.6**	**-0.9**
FINES	**FINESS Array B**	**65.51**	**353**	P	**P**	**09 28 13.6**	**-0.9**
	1.2nm,0.4s,baz=15,slow=6.6,SNR=15						
NB2	**NORSAR Subarra**	**66.37**	**1**	P	**P**	**09 28 19.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=1.9,slow=7.4						
NOA	**NORSAR Array B**	**66.37**	**1**	P	**P**	**09 28 20.1**	**-0.1**
NOA	**NORSAR Array B**	**66.37**	**1**	P	**P**	**09 28 20.1**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=0.0,slow=6.6,SNR=5.1						
PMOR	**Pomariorio Ree**	**69.61**	**160**	*e*T	T	10 44 32.2	
	comp=Z,1.2nm,0.2s						
PPT2	**Papeete2**	**71.80**	**163**	*e*LR	LR	09 50 48.4	
	comp=Z,63nm,24.2s						
AKASG	**Malin Array Be**	**75.86**	**350**	P	**P**	**09 29 17.1**	**-0.5**
AKASG	**Malin Array Be**	**75.86**	**350**	P	**P**	**09 29 17.1**	**-0.5**
	comp=Z,4.5nm,0.5s,baz=12,slow=5.7,SNR=14						
CMAR	**Chiang Mai Arr**	**77.96**	**285**	P	**P**	**09 29 30.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**77.96**	**285**	P	**P**	**09 29 30.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=27,slow=8.1,SNR=3.6						
CMAR				LR	LR	10 07 59.6	
	comp=Z,51nm,18.4s,baz=40,slow=39						
GERES	**GERESS Array B**	**78.60**	**360**	P	**P**	**09 29 33.7**	**+0.5**
GERES	**GERESS Array B**	**78.60**	**360**	P	**P**	**09 29 33.7**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=15,slow=5.7,SNR=6.0						
KBZ	**Khabaz**	**80.37**	**339**	P	**P**	**09 29 43.1**	**+0.5**
KBZ	**Khabaz**	**80.37**	**339**	P	**P**	**09 29 43.1**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=334,slow=3.4,SNR=8.1						
BRTR	**Keskin Array B**	**86.02**	**344**	P	**P**	**09 30 13.4**	**+1.3**
BRTR	**Keskin Array B**	**86.02**	**344**	P	**P**	**09 30 13.4**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=75,slow=1.9,SNR=11						
MAW	**Mawson**	**152.26**	**219**	PKPbc	**PKPbc**	**09 37 25.7**	**+0.1**
MAW	**Mawson**	**152.26**	**219**	PKPbc	**PKPbc**	**09 37 25.7**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=77,slow=2.1,SNR=6.0						

NNC 06 09:19:25.2±4.6, 53°.46N×87°.09E, h0km, mb3.8, mpv3.5, 4C-3D, Error ellipse: s-maj=40.2km s-min=17.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**7.34**	**207**	⇓Pn	Pn	09 21 14.6	+0.8
	2.0nm,0.7s,baz=29,slow=13,SNR=59						
MK31				⇓Sn	Sn	09 22 38.4	+0.7
	12nm,0.9s,baz=31,slow=22,SNR=5.6						
MK31				⇓Lg	Lg	09 23 19.0	
	12nm,0.7s,baz=6.6,slow=35,SNR=5.4						
VOSK	**Vostochnaya**	**9.72**	**272**	⇑Pn	Pn	09 21 47.5	+1.2
	1.3nm,0.7s						
VOSK				⇑Sn	Sn	09 23 36.0	0.0
	9.2nm,0.6s						
BVA0	**Borovoye Array**	**10.02**	**274**	⇑Pn	Pn	09 21 48.0	-2.3
	0.6nm,0.3s,baz=85,slow=13,SNR=4.7						
BVA0				⇑Sn	Sn	09 23 46.5	+3.0
	3.2nm,0.5s,baz=81,slow=26,SNR=5.9						

*ISCJB **06** 09:25:31.1±0.7, 5°.31S±0°.06×147°.06E±0°.07, h195km, mb3.9/6, Error ellipse: s-maj=10.2km s-min=8.2km az=159.7*

*IDC **06** 09:25:31.1±1.8, 5°.48S×147°.02E, h178km±15km, mb3.7/6, mb1 4.0/8, mb1mx3.5/20, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.1/34, Error ellipse: s-maj=22.9km s-min=10.8km az=122.0*

*AUST **06** 09:25:37.2, 5°.79S×146°.09E, h100km*

ISC 06 09:25:32.5±0.8, 5°.44S±0°.07×147°.03E±0°.09, h195km, n21, σ1$61/22, mb4.0/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**178**	P	**Pn**	**09 26 31.5**	**-2.0**
	30nm,0.3s,baz=3.3,slow=5.1,SNR=78						
PMG				S	**Sn**	**09 27 16.5**	**-5.0**
	18nm,0.3s,baz=128,slow=9.1,SNR=4.5						
JAY	**Jayapura**	**6.94**	**294**	P	**Pn**	**09 27 11.4**	**-0.7**
	baz=6.3,SNR=5.7						
JAY				S	**Sn**	**09 28 29.0**	**-1.9**
	baz=6.3,SNR=3.2						
COEN	**Coen**	**9.28**	**204**	P	**Pn**	**09 27 43.3**	**+0.8**
	baz=8.7,SNR=18						
COEN				S	**Sn**	**09 29 27.7**	**+1.3**
	baz=8.7,SNR=4.5						
MTSU	**Mount Surprise**	**12.89**	**192**	P	**Pn**	**09 28 30.9**

MEX 06 09:55:44.8±0.4, 14°75'N×92°68'W, h81km±6km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.43**	**68**	*e*P	Pn	09 55 56.7	-1.4
THIG				*i* S	Sn	09 56 06.3	-1.6
CCIG	**Comitan**	**1.61**	**19**	*e*P	Pn	09 56 10.9	-1.0
CCIG				*i* S	Sn	09 56 30.4	-2.0
TGIG		**2.06**	**348**	*e*P	Pn	09 56 16.4	-1.3
TGIG				*i* S	Sn	09 56 40.8	-1.9
HUIG	**Huatulco**	**3.46**	**288**	*e*P	Pn	09 56 35.8	-0.6
HUIG				*i* S	Sn	09 57 14.7	-1.7
SCIG	**Sabancuy**	**4.43**	**19**	*e*P	Pn	09 56 47.5	-2.2

*STR **06** 10:25:12.7±0.2, 43°05'N×0°52'W, h5km, MI3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*MDD **06** 10:25:12.6±0.3, 43°17'N×0°49'W, h0km, mbLg2.8/18, Error ellipse: s-maj=2.9km s-min=1.8km az=6.0, PRXIMO*
*CSEM **06** 10:25:12.1±0.1, 43°21'N×0°47'W, h2km, ML3.5/28, Error ellipse: s-maj=1.8km s-min=1.5km az=156.0*
*LDG **06** 10:25:13.3±0.1, 43°14'N×0°50'W, h2km, Md3.2/5, MI3.4/46, Error ellipse: s-maj=1.1km s-min=0.9km az=155.0*

ISC 06 10:25:12.1±0.9, 43°20'N±0°02'×0°48'W±0°01, h11km±7km, n173, σ1§24/238, 2C-2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.15**	**155**	Pg	**Pg**	**10 25 15.5**	**0.0**
REYF				Lg	Lg	10 25 17.1	
ETSF	**Etsaut** SNR=1.0	**0.31**	**191**	*e*Pg	**Pg**	**10 25 17.3**	**-1.1**
ETSF				*e*Sg	**Sg**	**10 25 21.5**	**-1.1**
ETSF	**Etsaut** 691nm,0.2s	**0.31**	**191**	Pg	**Pg**	**10 25 17.3**	**-1.1**
ETSF				*e*Sg	**Sg**	**10 25 21.5**	**-1.1**
ORDF	**Ordiarp** 346nm,0.2s	**0.34**	**272**	Pg	**Pb**	**10 25 19.5**	**-0.6**
ORDF	**Ordiarp**	**0.34**	**272**	Pg	**Pb**	**10 25 19.6**	**-0.6**
ORDF				Lg	Lg	10 25 25.0	
FDAF	**Les Forges d'A**	**0.39**	**190**	Pg	**Pg**	**10 25 18.8**	**-1.0**
FDAF				Lg	Lg	10 25 23.0	
LARF	**Larrau**	**0.41**	**246**	Pg	**Pg**	**10 25 19.9**	**-0.2**
LARF	**Larrau**	**0.41**	**246**	Pg	**Pg**	**10 25 20.0**	**-0.2**
LARF				Lg	Lg	10 25 25.5	
LABF	**Labassere**	**0.43**	**111**	Pg	**Pg**	**10 25 21.2**	**+0.6**
LABF				Sg	**Sg**	**10 25 27.4**	**+1.1**
LABF	**Labassere**	**0.43**	**111**	Pg	**Pg**	**10 25 21.0**	**+0.4**
LABF				Lg	Lg	10 25 27.5	
VIEF	**Viey**	**0.49**	**131**	Pg	**Pg**	**10 25 21.5**	**-0.1**
VIEF				Sg	**Sg**	**10 25 27.3**	**-0.8**
VIEF	**Viey**	**0.49**	**131**	Pg	**Pg**	**10 25 21.6**	**-0.1**
VIEF				Lg	Lg	10 25 27.5	
SJPF	**Ste Jean** SNR=1.0	**0.56**	**261**	*e*Pg	**Pg**	**10 25 22.9**	**0.0**
SJPF				*e*Sg	**Sg**	**10 25 30.8**	**+0.6**
SJPF	**Ste Jean** 178nm,0.2s,SNR=1.0	**0.56**	**261**	Pg	**Pg**	**10 25 22.9**	**0.0**
SJPF				*e*Sg	**Sg**	**10 25 30.8**	**+0.6**
OSSF	**Osses** 89nm,0.2s,SNR=1.0	**0.58**	**275**	Pg	**Pg**	**10 25 23.2**	**-0.1**
OSSF				Sg	**Sg**	**10 25 31.1**	**+0.2**
OSSF	**Osses**	**0.58**	**275**	Pg	**Pg**	**10 25 23.1**	**-0.2**
OSSF				Lg	Lg	10 25 31.2	
EPF	**Esparros** SNR=1.0	**0.62**	**106**	*e*Pg	**Pb**	**10 25 25.2**	**+0.2**
EPF				*e*Sg	**Sg**	**10 25 33.0**	**+0.6**
EPF	**Esparros** 236nm,0.2s	**0.62**	**106**	Pg	**Pb**	**10 25 25.2**	**+0.2**
EPF				*e*Sg	**Sg**	**10 25 33.0**	**+0.6**
IELO	**Elcoad** 118nm,0.2s	**0.66**	**237**	⇑Pg	**Pg**	**10 25 24.6**	**-0.4**
IELO				Lg	Lg	10 25 32.5	
IELO	**Elcoad** 7.0nm,0.1s,SNR=18	**0.66**	**237**	Pg	**Pg**	**10 25 24.6**	**-0.4**
IELO				Lg	Lg	10 25 32.5	
EBIE	**Bielsa** 37nm,0.1s,SNR=7.9	**0.69**	**138**	⇑Pg	**Pg**	**10 25 25.0**	**-0.4**
EBIE				Lg	Lg	10 25 33.3	
EBIE	**Bielsa** 174nm,0.2s,SNR=7.9	**0.69**	**138**	Pg	**Pg**	**10 25 25.0**	**-0.4**
EBIE				Lg	Lg	10 25 33.3	
IEPA	**Eparoz** 174nm,0.2s,SNR=7.9	**0.72**	**234**	Pg	**Pg**	**10 25 25.6**	**-0.4**
IEPA				Lg	Lg	10 25 35.6	
IEPA	**Eparoz** 89nm,0.1s,SNR=7.9	**0.72**	**234**	Pg	**Pg**	**10 25 25.6**	**-0.4**
IEPA				Lg	Lg	10 25 35.6	
RESF	**Ens** 89nm,0.1s,SNR=7.9	**0.72**	**123**	Pg	**Pg**	**10 25 25.9**	**-0.1**
RESF				Sg	**Sg**	**10 25 35.0**	**-0.4**
RESF	**Ens**	**0.72**	**123**	Pg	**Pg**	**10 25 25.9**	**-0.1**
RESF				Lg	Lg	10 25 35.3	
EALK	**Alkurruntz** 6.1nm,0.2s,SNR=46	**0.75**	**272**	Pg	**Pg**	**10 25 26.4**	**-0.2**
EALK				Lg	Lg	10 25 37.1	
EALK	**Alkurruntz** 35nm,0.1s,SNR=7.9	**0.75**	**272**	Pg	**Pg**	**10 25 26.4**	**-0.2**
EALK				Lg	Lg	10 25 37.1	
ELIZ	**Elizondo** 35nm,0.1s,SNR=7.9	**0.77**	**267**	Pg	**Pg**	**10 25 26.6**	**-0.3**
ELIZ				Lg	Lg	10 25 36.3	
ELIZ	**Elizondo** 30nm,0.1s,SNR=7.9	**0.77**	**267**	Pg	**Pg**	**10 25 26.6**	**-0.3**
ELIZ				Lg	Lg	10 25 36.3	
IZUN	**Zunzarren** 30nm,0.1s,SNR=7.9	**0.80**	**245**	Pg	**Pg**	**10 25 27.2**	**-0.2**
IZUN				Lg	Lg	10 25 39.3	
IZUN	**Zunzarren** 66nm,0.2s,SNR=7.9	**0.80**	**245**	Pg	**Pg**	**10 25 27.2**	**-0.2**
IZUN				Lg	Lg	10 25 39.3	
IUSE	**Utxeti** 66nm,0.2s,SNR=7.9	**0.83**	**252**	Pg	**Pg**	**10 25 27.7**	**-0.3**
IUSE				Lg	Lg	10 25 38.1	
IUSE	**Utxeti** 42nm,0.1s,SNR=7.9	**0.83**	**252**	Pg	**Pg**	**10 25 27.7**	**-0.3**
IUSE				Lg	Lg	10 25 38.1	
IUNC	**Unciti** 42nm,0.1s,SNR=7.9	**0.87**	**239**	Pg	**Pb**	**10 25 29.5**	**+0.2**
IUNC				Lg	Lg	10 25 42.7	
IUNC	**Unciti** 28nm,0.1s,SNR=7.9	**0.87**	**239**	Pg	**Pb**	**10 25 29.5**	**+0.2**
IUNC				Lg	Lg	10 25 42.7	
EARA	**Aranguren** 28nm,0.1s,SNR=7.9	**0.92**	**242**	Pg	**Pg**	**10 25 29.8**	**0.0**
EARA				Lg	Lg	10 25 43.0	
EARA	**Aranguren** 20nm,0.1s,SNR=8.1	**0.92**	**242**	Pg	**Pg**	**10 25 29.8**	**0.0**
EARA				Lg	Lg	10 25 43.0	
MELF	**Melles** 20nm,0.1s,SNR=8.1	**0.96**	**110**	Pg	**Pg**	**10 25 30.8**	**+0.1**
MELF				Lg	Lg	10 25 43.6	
CSOR	**Sort** 4.6nm,0.3s,SNR=18	**1.45**	**124**	⇓Pn	**Pb**	**10 25 39.4**	**+0.3**
CSOR				Lg	Lg	10 25 59.4	
CSOR	**Sort** 40nm,0.2s,SNR=7.9	**1.45**	**124**	Pn	**Pb**	**10 25 39.4**	**+0.3**
CSOR				Lg	Lg	10 25 59.4	
ESAC	**San Caprasio** 40nm,0.2s,SNR=7.9	**1.48**	**180**	⇓Pg	**Pb**	**10 25 39.7**	**0.0**
ESAC				Lg	Lg	10 25 58.6	
ESAC	**San Caprasio** 212nm,0.2s,SNR=7.9	**1.48**	**180**	Pg	**Pb**	**10 25 39.7**	**0.0**
ESAC				Lg	Lg	10 25 58.6	
GRBF	**Gourbit** 212nm,0.2s,SNR=7.9	**1.52**	**103**	Pg	**Pg**	**10 25 42.2**	**+0.9**
GRBF				Lg	Lg	10 26 01.6	
PAND	**Andorre**	**1.64**	**114**	Pg	**Pb**	**10 25 43.1**	**+0.7**
PAND				Lg	Lg	10 26 06.1	
PAND	**Andorre**	**1.64**	**114**	Pg	**Pb**	**10 25 43.1**	**+0.7**
PAND				Lg	Lg	10 26 06.1	
LPEF	**Le Peyrat**	**1.77**	**98**	Pg	**Pg**	**10 25 47.6**	**+1.7**
LPEF				Lg	Lg	10 26 10.0	
LFF	**La Frestale** SNR=1.0	**1.94**	**26**	*e*Pn	**Pb**	**10 25 46.7**	**-0.8**
LFF	**La Frestale** 47nm,0.3s,SNR=1.0	**1.94**	**26**	*e*Pg	**Pg**	**10 25 52.0**	**+2.6**
LFF				*e*Sn	**Sn**	**10 26 10.3**	**+0.8**
LFF	222nm,0.3s			*e*Sg	**Sg**	**10 26 17.1**	**+2.5**
LFF	**La Frestale**	**1.94**	**26**	Pn	**Pb**	**10 25 46.7**	**-0.8**
LFF	**La Frestale**	**1.94**	**26**	Pg	**Pg**	**10 25 52.0**	**+2.6**
LFF				*e*Sn	**Sn**	**10 26 10.3**	**+0.8**
LFF	24nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**10 26 17.1**	**+2.5**
CARF	**Carcanieres** 111nm,0.3s	**1.96**	**104**	Pg	**Pg**	**10 25 50.1**	**+0.5**
CARF				Sg	**Sg**	**10 26 16.2**	**+1.2**
CARF	**Carcanieres**	**1.96**	**104**	Pg	**Pg**	**10 25 50.2**	**+0.6**
CARF				Lg	Lg	10 26 15.4	
EMIR	**Miracle** 1.9nm,0.1s,SNR=20	**1.96**	**130**	Pn	**Pg**	**10 25 49.0**	**-0.7**
EMIR				Lg	Lg	10 26 15.7	
EMIR	**Miracle** SNR=7.9 1.9nm,0.1s,SNR=20	**1.96**	**130**	Pn	**Pg**	**10 25 49.0**	**-0.7**
EMIR				Lg	Lg	10 26 15.7	
MTLF	**Montolieu** SNR=7.9 SNR=1.0	**1.97**	**85**	*e*Pn	**Pn**	**10 25 46.1**	**+0.6**
MTLF	**Montolieu** SNR=1.0	**1.97**	**85**	*e*Pg	**Pg**	**10 25 50.4**	**+0.5**
MTLF	61nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**10 26 15.9**	**+0.4**
MTLF	**Montolieu**	**1.97**	**85**	Pn	**Pn**	**10 25 46.1**	**+0.6**
MTLF	**Montolieu**	**1.97**	**85**	Pg	**Pg**	**10 25 50.4**	**+0.5**
MTLF				*e*Sg	**Sg**	**10 26 15.9**	**+0.4**
VALF	**Valcebollere** 31nm,0.2s,SNR=1.0	**2.00**	**113**	Pg	**Pg**	**10 25 50.6**	**+0.1**
VALF				Sg	**Sg**	**10 26 17.7**	**+1.2**
VALF	**Valcebollere**	**2.00**	**113**	Pg	**Pg**	**10 25 50.5**	**+0.1**
VALF				Lg	Lg	10 26 16.8	
EPOB	**Poblet** 0.7nm,0.1s,SNR=27	**2.18**	**148**	Pn	**Pb**	**10 25 51.4**	**-0.2**
EPOB				Lg	Lg	10 26 18.8	
EPOB	**Poblet** 25nm,0.2s,SNR=7.9	**2.18**	**148**	Pn	**Pb**	**10 25 51.4**	**-0.2**
EPOB				Lg	Lg	10 26 18.8	
LRDF	**Laroque-de-Fa** 0.7nm,0.1s,SNR=27	**2.23**	**96**	Pg	**Pg**	**10 25 53.9**	**-0.8**
LRDF	**Laroque-de-Fa**	**2.23**	**96**	Pg	**Pb**	**10 25 53.5**	**+1.2**
LRDF				Lg	Lg	10 26 22.9	
FILF	**Fillols** 25nm,0.2s,SNR=7.9	**2.32**	**105**	Pg	**Pb**	**10 25 54.2**	**+0.2**
FILF				Sg	**Sb**	**10 26 24.5**	**+1.7**
FILF	**Fillols**	**2.32**	**105**	Pg	**Pb**	**10 25 54.5**	**+0.5**
FILF				Lg	Lg	10 26 22.6	
ERTA	**Horta de San J** 56nm,0.3s,SNR=15	**2.33**	**165**	Lg	Lg	10 26 23.9	
ERTA	**Horta de San J** 56nm,0.3s,SNR=15	**2.33**	**165**	Lg	Lg	10 26 23.9	
CAF	**Calviac** SNR=1.0	**2.51**	**46**	*e*Pn	**Pn**	**10 25 54.3**	**+1.3**
CAF	**Calviac** SNR=1.0	**2.51**	**46**	*e*Pg	**Pg**	**10 26 01.2**	**+1.0**
CAF				*e*Sn	**Sn**	**10 26 23.4**	**-0.2**
CAF	28nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**10 26 34.3**	**+1.5**
CAF	**Calviac** 81nm,0.3s	**2.51**	**46**	Pn	**Pn**	**10 25 54.3**	**+1.3**
CAF	**Calviac**	**2.51**	**46**	Pg	**Pg**	**10 26 01.2**	**+1.0**
CAF				*e*Sn	**Sn**	**10 26 23.4**	**-0.2**
CAF	14nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**10 26 34.3**	**+1.5**
RJF	**Les Rejaudoux** 41nm,0.3s	**2.54**	**34**	*e*Pn	**Pn**	**10 25 54.3**	**+1.0**
RJF	**Les Rejaudoux** SNR=1.0	**2.54**	**34**	*e*Pg	**Pg**	**10 26 01.4**	**+0.6**
RJF				*e*Sn	**Sn**	**10 26 23.3**	**-1.0**
RJF	14nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**10 26 35.0**	**+1.3**
RJF	**Les Rejaudoux** 69nm,0.2s	**2.54**	**34**	Pn	**Pn**	**10 25 54.3**	**+1.0**
RJF	**Les Rejaudoux**	**2.54**	**34**	Pg	**Pg**	**10 26 01.4**	**+0.6**
RJF				*e*Sn	**Sn**	**10 26 23.3**	**-1.0**
RJF	7.2nm,0.2s,SNR=1.0			Lg	Lg	10 26 35.0	
EJON	**La Jonquera** 34nm,0.2s	**2.59**	**106**	Pn	**Pn**	**10 25 56.3**	**+2.3**
EJON				Pg	**Pg**	**10 26 02.2**	**+0.5**
EJON	3.4nm,0.2s,SNR=9.7			Lg	Lg	10 26 35.4	
EJON	**La Jonquera** 11nm,0.3s,SNR=11	**2.59**	**106**	Pn	**Pn**	**10 25 56.3**	**+2.3**
CFON	**Fontmartina** 0.3nm,0.1s,SNR=7.9	**2.59**	**123**	Pn	**Pn**	**10 25 54.7**	**+0.6**
CFON				Pg	**Pg**	**10 26 00.7**	**-1.0**
CFON	0.4nm,0.1s,SNR=12			Lg	Lg	10 26 33.8	
CFON	**Fontmartina** 5.4nm,0.1s,SNR=7.9	**2.59**	**123**	Pn	**Pn**	**10 25 54.7**	**+0.6**
ETOR	**Torete** 109nm,0.2s,SNR=7.9	**2.66**	**207**	Pn	**Pn**	**10 25 56.1**	**+1.1**
ETOR				Sn	**Sn**	**10 26 27.4**	**+0.2**
ETOR	5.1nm,0.1s,SNR=12			Lg	Lg	10 26 36.4	
ETOR	**Torete** 39nm,0.2s,SNR=7.9	**2.66**	**207**	Pn	**Pn**	**10 25 56.1**	**+1.1**
ETOR				Sn	**Sn**	**10 26 27.4**	**+0.2**
ETOR	39nm,0.2s,SNR=7.9			Lg	Lg	10 26 36.4	
EMOS	**Mosqueruela** 39nm,0.2s,SNR=7.9	**2.84**	**180**	Pn	**Pn**	**10 25 59.0**	**+1.4**
EMOS				Lg	Lg	10 26 38.7	
EMOS	**Mosqueruela** 2.0nm,0.1s,SNR=12	**2.84**	**180**	Pn	**Pn**	**10 25 59.0**	**+1.4**
EMOS				Lg	Lg	10 26 38.7	
LASF	**Ste Croix** 21nm,0.3s,SNR=5.7	**3.27**	**73**	*e*Pn	**Pn**	**10 26 04.5**	**+1.2**
LASF	**Ste Croix** SNR=1.0	**3.27**	**73**	*e*Pg	**Pg**	**10 26 15.2**	**+0.6**
LASF				*e*Sg	**Sg**	**10 26 56.8**	**-0.1**
LASF	**Ste Croix** 36nm,0.3s,SNR=1.0	**3.27**	**73**	Pn	**Pn**	**10 26 04.5**	**+1.2**
LASF	**Ste Croix**	**3.27**	**73**	Pg	**Pg**	**10 26 15.2**	**+0.6**
LASF				*e*Sg	**Sg**	**10 26 56.8**	**-0.1**
LBL	**Lubilhac** 18nm,0.3s,SNR=1.0	**3.36**	**52**	Pn	**Pn**	**10 26 05.1**	**+0.5**
LBL	**Lubilhac**	**3.36**	**52**	Pg	**Pg**	**10 26 18.4**	**+2.0**
MFF	**Saint Martin d** SNR=1.0	**3.41**	**4**	*e*Pn	**Pn**	**10 26 05.5**	**+0.3**
MFF	**Saint Martin d**	**3.41**	**4**	*e*Pg	**Pg**	**10 26 18.1**	**+0.8**
MFF				*e*Sn	**Sn**	**10 26 45.2**	**-0.4**
MFF	8.8nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**10 27 01.4**	**0.0**
MFF	**Saint Martin d** 45nm,0.3s	**3.41**	**4**	Pn	**Pn**	**10 26 05.5**	**+0.3**
MFF	**Saint Martin d**	**3.41**	**4**	Pg	**Pg**	**10 26 18.1**	**+0.8**
MFF				*e*Sn	**Sn**	**10 26 45.2**	**-0.4**
MFF	4.4nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**10 27 01.4**	**0.0**
EARI	**Arriondas** 22nm,0.3s	**3.46**	**273**	Pn	**Pn**	**10 26 09.1**	**+3.1**
EARI				Sn	**Sn**	**10 26 49.1**	**+2.1**
EARI	**Arriondas** 0.3nm,0.1s,SNR=6.6	**3.46**	**273**	Pn	**Pn**	**10 26 09.1**	**+3.1**
EARI				Sn	**Sn**	**10 26 49.1**	**+2.1**
PYM	**Petit Puy Mans** 0.4nm,0.1s,SNR=7.9	**3.56**	**43**	Pn	**Pn**	**10 26 09.5**	**+2.1**
PYM	**Petit Puy Mans**	**3.56**	**43**	Pg	**Pg**	**10 26 22.3**	**+2.0**
ECHE	**Chera** 5.5nm,0.2s,SNR=4.7	**3.63**	**186**	Lg	Lg	10 27 05.6	
ECHE	**Chera**	**3.63**	**186**	Lg	Lg	10 27 05.6	
TCF	**Toulx Ste Croi** 5.5nm,0.2s,SNR=4.7	**3.63**	**31**	*e*Pn	**Pn**	**10 26 09.8**	**+1.5**
TCF	**Toulx Ste Croi**	**3.63**	**31**	*e*Pg	**Pg**	**10 26 22.3**	**+0.7**
TCF				*e*Sn	**Sn**	**10 26 50.0**	**-1.1**
TCF	38nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**10 27 09.2**	**+0.6**
TCF	**Toulx Ste Croi** 43nm,0.3s	**3.63**	**31**	Pn	**Pn**	**10 26 09.8**	**+1.5**
TCF	**Toulx Ste Croi**	**3.63**	**31**	Pg	**Pg**	**10 26 22.3**	**+0.7**
TCF				*e*Sn	**Sn**	**10 26 50.0**	**-1.1**
TCF	19nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**10 27 09.2**	**+0.6**
GUD	**Guadarrama** 21nm,0.3s	**3.75**	**228**	Pn	**Pn**	**10 26 11.8**	**+1.7**
GUD	**Guadarrama** 1.7nm,0.2s,SNR=7.9	**3.75**	**228**	Pn	**Pn**	**10 26 11.8**	**+1.7**
AGO	**Saint Agoulin** 1.7nm,0.2s,SNR=7.9	**3.84**	**41**	Pn	**Pn**	**10 26 13.8**	**+2.6**
AGO	**Saint Agoulin**	**3.84**	**41**	Pg	**Pg**	**10 26 27.4**	**+1.8**
VIVF	**Saint-Julien-l** SNR=1.0	**4.06**	**64**	*e*Pn	**Pn**	**10 26 15.0**	**+0.7**
VIVF	**Saint-Julien-l** 12nm,0.3s	**4.06**	**64**	*e*Pg	**Pg**	**10 26 29.6**	**-0.3**
VIVF				*e*Sg	**Sg**	**10 27 21.5**	**-1.0**
VIVF	**Saint-Julien-l** 5.8nm,0.3s	**4.06**	**64**	Pn	**Pn**	**10 26 15.0**	**+0.7**
VIVF	**Saint-Julien-l**	**4.06**	**64**	Pg	**Pg**	**10 26 29.6**	**-0.3**
VIVF				*e*Sg	**Sg**	**10 27 21.5**	**-1.0**
BGF	**Bois d'Agland** 133nm,0.4s,SNR=1.0	**4.10**	**34**	*e*Pn	**Pn**	**10 26 15.2**	**+0.5**
BGF	**Bois d'Agland**	**4.10**	**34**	*e*Pg	**Pg**	**10 26 30.4**	**-0.2**
BGF				*e*Sg	**Sg**	**10 27 23.2**	**-0.5**
BGF	**Bois d'Agland** 66nm,0.4s,SNR=1.0	**4.10**	**34**	Pn	**Pn**	**10 26 15.2**	**+0.5**
BGF	**Bois d'Agland**	**4.10**	**34**	Pg	**Pg**	**10 26 30.4**	**-0.2**
BGF				*e*Sg	**Sg**	**10 27 23.2**	**-0.5**
ESDC	**Sonseca Array** 0.6nm,0.2s,baz=36,slow=14,SNR=6.3	**4.39**	**218**	Pn	**Pn**	**10 26 19.0**	**+0.2**
ESDC	**Sonseca Array** 0.6nm,0.2s,baz=36,slow=14,SNR=6.3	**4.39**	**218**	Pn	**Pn**	**10 26 19.0**	**+0.2**
SMRF	**Simiane la Rot** 6.6nm,0.3s	**4.46**	**78**	*e*P	Pn	10 26 24.3	+4.5
SMRF				*e*Sg	**Sg**	**10 27 34.3**	**-1.1**
SMRF	**Simiane la Rot** 3.3nm,0.3s	**4.46**	**78**	*e*P	Pn	10 26 24.3	+4.5
SMRF				*e*Sg	**Sg**	**10 27 34.3**	**-1.1**
AVF	**Avril sur Loir** SNR=1.0	**4.50**	**36**	*e*Pn	**Pn**	**10 26 21.5**	**+1.3**
AVF				*e*Sg	**Sg**	**10 27 35.8**	**-0.7**
AVF	**Avril sur Loir** 33nm,0.4s	**4.50**	**36**	Pn	**Pn**	**10 26 21.5**	**+1.3**
AVF				*e*Sg	**Sg**	**10 27 35.8**	**-0.7**
SMF	**Signal de Mont** 16nm,0.4s	**4.61**	**40**	*e*Pn	**Pn**	**10 26 21.0**	**-0.7**
SMF				*e*Sg	**Sg**	**10 27 38.8**	**-1.2**
SMF	**Signal de Mont** SNR=1.0 15nm,0.3s,SNR=1.0	**4.61**	**40**	Pn	**Pn**	**10 26 21.0**	**-0.7**
SMF				Lg	Lg	10 27 38.8	
SMF	**Signal de Mont** 7.6nm,0.3s	**4.61**	**40**	Pn	**Pn**	**10 26 21.0**	**-0.7**
SMF				*e*Sg	**Sg**	**10 27 38.8**	**-1.2**
HYF	**Humbligny** 7.5nm,0.3s,SNR=1.0	**4.62**	**27**	*e*Sg	**Sg**	**10 27 40.4**	**0.0**
HYF	**Humbligny**	**4.62**	**27**	Lg	Lg	10 27 40.4	
SSF	**Saint Saulge** SNR=1.0	**4.78**	**35**	*e*Pn	**Pn**	**10 26 24.8**	**+0.8**
SSF	**Saint Saulge** 4.0nm,0.2s	**4.78**	**35**	*e*Pg	**Pg**	**10 26 42.7**	**-0.8**
SSF				*e*Sn	**Sn**	**10 27 17.6**	**-1.8**
SSF	19nm,0.4s,SNR=1.0			*e*Sg	**Sg**	**10 27 44.8**	**-0.6**
SSF	**Saint Saulge**	**4.78**	**35**	Pn	**Pn**	**10 26 24.8**	**+0.8**
SSF	**Saint Saulge**	**4.78**	**35**	Pg	**Pg**	**10 26 42.7**	**-0.8**
SSF				*e*Sg	**Sg**	**10 27 44.8**	**-0.6**
ECAL	**Calabor** 9.5nm,0.4s,SNR=1.0	**4.79**	**257**	Pn	**Pn**	**10 26 25.9**	**+1.6**
ECAL				Sn	**Sn**	**10 27 19.5**	**-0.4**
ECAL	**Calabor** 1.5nm,0.1s,SNR=10 4.6nm,0.2s,SNR=7.9	**4.79**	**257**	Pn	**Pn**	**10 26 25.9**	**+1.6**
ECAL				Sn	**Sn**	**10 27 19.5**	**-0.4**
ORIF	**Oris-en-Rattie** 1.5nm,0.1s,SNR=10 4.6nm,0.2s,SNR=7.9	**4.89**	**67**	*e*Sg	**Sg**	**10 27 47.9**	**-1.2**
ORIF	**Oris-en-Rattie** 5.2nm,0.6s	**4.89**	**67**	*e*Sg	**Sg**	**10 27 47.9**	**-1.2**
QUIF	**Quistinic** 2.6nm,0.6s SNR=1.0	**5.08**	**339**	*e*Pn	**Pn**	**10 26 29.3**	**+1.2**
QUIF				*e*Sn	**Sn**	**10 27 25.0**	**-1.7**
QUIF	5.5nm,0.2s			*e*Sg	**Sg**	**10 27 54.1**	**-0.9**
QUIF	**Quistinic** 13nm,0.3s	**5.08**	**339**	Pn	**Pn**	**10 26 29.3**	**+1.2**
QUIF				*e*Sn	**Sn**	**10 27 25.0**	**-1.7**
QUIF	2.8nm,0.2s			*e*Sg	**Sg**	**10 27 54.1**	**-0.9**
LOR	**Lormes** 6.3nm,0.3s baz=221	**5.09**	**35**	*e*Pn	**Pn**	**10 26 29.8**	**+1.5**
LOR	**Lormes** baz=218	**5.09**	**35**	*e*Pg	**Pg**	**10 26 49.1**	**-0.4**
LOR				*e*Sn	**Sn**	**10 27 23.5**	**-3.6**
LOR	SNR=1.0			*e*Sg	**Sg**	**10 27 53.8**	**-1.6**
LOR	**Lormes** 23nm,0.3s,SNR=1.0	**5.09**	**35**	Pn	**Pn**	**10 26 29.8**	**+1.5**
LOR	**Lormes**	**5.09**	**35**	Pg	**Pg**	**10 26 49.1**	**-0.4**
LOR				*e*Sg	**Sg**	**10 27 53.8**	**-1.6**
LMR	**La Mourre** 11nm,0.3s,SNR=1.0 2.0nm,0.3s	**5.10**	**86**	*e*Sg	**Sg**	**10 27 53.6**	**-2.3**
LMR	**La Mourre** 1.0nm,0.3s	**5.10**	**86**	*e*Sg	**Sg**	**10 27 53.6**	**-2.3**
GRR	**Gorron** SNR=1.0	**5.19**	**357**	*e*Pn	**Pn**	**10 26 30.8**	**+1.1**
GRR				*e*Sn	**Sn**	**10 27 28.6**	**-1.0**
GRR	6.6nm,0.3s,SNR=1.0			*e*Sg	**Sg**	**10 27 57.3**	**-1.4**
GRR	**Gorron** 15nm,0.4s,SNR=1.0	**5.19**	**357**	Pn	**Pn**	**10 26 30.8**	**+1.1**
GRR				*e*Sn	**Sn**	**10 27 28.6**	**-1.0**
GRR	3.3nm,0.3s,SNR=1.0			Lg	Lg	10 27 57.3	
FRF	**La Foret Royal** 7.4nm,0.4s	**5.21**	**84**	*e*P	Pn	10 26 34.8	+4.9
FRF				*e*Sg	**Sg**	**10 27 56.8**	**-2.3**
FRF	**La Foret Royal** 4.3nm,0.3s	**5.21**	**84**	*e*P	Pn	10 26 34.8	+4.9
FRF				*e*Sg	**Sg**	**10 27 56.8**	**-2.3**
SGMF	**Saint Gilles** 2.2nm,0.3s	**5.26**	**345**	*e*Pn	**Pn**	**10 26 31.8**	**+1.2**
SGMF				*e*Sn	**Sn**	**10 27 28.7**	**-2.5**
SGMF	3.4nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**10 27 59.3**	**-1.4**
SGMF	**Saint Gilles** 12nm,0.3s	**5.26**	**345**	Pn	**Pn**	**10 26 31.8**	**+1.2**
SGMF				*e*Sn	**Sn**	**10 27 28.7**	**-2.5**
SGMF	1.7nm,0.2s,SNR=1.0			*e*Sg	**Sg**	**10 27 59.3**	**-1.4**
LDF	**La Druitiere** 6.0nm,0.3s SNR=1.0	**5.40**	**3**	*e*Pn	**Pn**	**10 26 33.4**	**+0.9**
LDF				*e*Sg	**Sg**	**10 28 04.6**	**-0.6**
LDF	**La Druitiere** 12nm,0.3s,SNR=1.0	**5.40**	**3**	*e*Pn	**Pn**	**10 26 33.4**	**+0.9**
LDF				*e*Sg	**Sg**	**10 28 04.6**	**-0.6**
MBDF	**Montbardon** 6.2nm,0.3s,SNR=1.0 3.0nm,0.6s	**5.45**	**71**	*e*Sg	**Sg**	**10 28 05.0**	**-2.0**
MBDF	**Montbardon** 1.6nm,0.6s	**5.45**	**71**	Lg	Lg	10 28 05.0	
**ROSF

FLN				*e*Sg	**Sg**	**10 28 08.9**	**-1.6**
	6.9nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**5.67**	**64**	*e*Sg	**Sg**	**10 28 12.3**	**-1.7**
	3.6nm,0.5s						
LPG	**La Plagne**	**5.67**	**64**	Lg	Lg	10 28 12.3	
	1.8nm,0.5s						
CABF	**La Chapelle**	**5.77**	**52**	*e*Sn	**Sn**	**10 27 41.1**	**-3.0**
	3.9nm,0.3s						
CABF				*e*Sg	**Sg**	**10 28 16.0**	**-1.3**
	6.5nm,0.4s						
SFTF	**Sexfontaines**	**6.32**	**36**	*e*Sg	**Sg**	**10 28 33.0**	**-1.8**
	11nm,0.4s						
SFTF	**Sexfontaines**	**6.32**	**36**	Lg	Lg	10 28 33.0	
	5.3nm,0.4s						
MEZF	**Maizieres J'vi**	**6.55**	**34**	*e*Sg	**Sg**	**10 28 39.9**	**-2.4**
	11nm,0.3s						
MEZF	**Maizieres J'vi**	**6.55**	**34**	Lg	Lg	10 28 39.9	
	5.6nm,0.3s						
HAU	**Haudompre**	**6.78**	**43**	*e*Pg	**Pg**	**10 27 19.1**	**-2.7**
HAU				*e*Sg	**Sg**	**10 28 47.1**	**-2.4**
	8.8nm,0.5s						
HAU	**Haudompre**	**6.78**	**43**	Lg	Lg	10 28 47.1	
	4.4nm,0.5s						
PAGF	**Fort de Pagny**	**6.88**	**37**	*e*Sg	**Sg**	**10 28 50.2**	**-2.6**
	6.8nm,0.7s						
HINF	**Hinteralfeld**	**6.91**	**46**	*e*Sg	**Sg**	**10 28 51.3**	**-2.5**
	4.0nm,0.4s						
HINF	**Hinteralfeld**	**6.91**	**46**	Lg	Lg	10 28 51.3	
	2.0nm,0.4s						
CDF	**Champ du Feu**	**7.51**	**43**	*e*Sg	**Sg**	**10 29 10.1**	**-3.0**
	3.0nm,0.3s						
CDF	**Champ du Feu**	**7.51**	**43**	Lg	Lg	10 29 10.1	
	1.6nm,0.3s						
BAIF	**Baives**	**7.58**	**24**	*e*Sg	**Sg**	**10 29 12.2**	**-2.8**
	2.3nm,0.4s						
BAIF	**Baives**	**7.58**	**24**	Lg	Lg	10 29 12.2	
	1.2nm,0.4s						

IDC 06 10:48:07.3±3.3, 15°.73S×66°.94E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, MS3.4/3, Ms1 3.5/3, ms1mx2.9/38, Error ellipse: s-maj=111.9km s-min=30.5km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**46.34**	**44**	LR	LR	11 12 29.3	
	comp=Z,60nm,18.5s,baz=317,slow=32						
ASAR	**Alice Springs**	**63.06**	**109**	P	P	10 58 36.5	-0.4
	0.6nm,0.8s,baz=268,slow=6.1,SNR=6.3						
MKAR	**Makanchi Array**	**63.75**	**12**	P	P	10 58 40.1	-0.7
	0.8nm,1.0s,baz=262,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**63.93**	**105**	P	P	10 58 42.8	+0.1
	1.8nm,0.9s,baz=263,slow=6.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**71.07**	**11**	P	P	10 59 26.6	-0.4
	0.3nm,0.3s,baz=205,slow=6.4,SNR=4.0						
SONM	**Songino Array**	**72.43**	**27**	P	P	10 59 37.2	+1.7
	0.3nm,0.5s,baz=212,slow=5.1,SNR=2.5						
SONM				LR	LR	11 28 50.2	
	comp=Z,20nm,18.1s,baz=57,slow=34						
KSRS	**Korea Array**	**77.96**	**45**	LR	LR	11 35 02.4	
	comp=Z,19nm,18.4s,baz=160,slow=36						
PDAR	**Pinedale Array**	**152.89**	**354**	PKPbc	PKPbc	11 08 07.3	+0.3
	0.5nm,0.8s,baz=44,slow=2.7,SNR=3.9						

WEL 06 10:48:57.4±0.3, 40°.11S×173°.75E, h182km±2km, ML3.8/12, 2C-32D, Error ellipse: s-maj=1.7km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.70**	**169**	⇓PN	Pn	10 49 23.3	-0.1
DUWZ				SN	Sn	10 49 41.7	-1.9
DFE	**Dawson Falls**	**0.83**	**19**	PN	Pn	10 49 24.0	-0.2
NWEZ	**Newall Road**	**0.84**	**6**	PN	Pn	10 49 24.2	0.0
NWEZ				SN	Sn	10 49 44.7	-0.2
NEZ	**North Egmont**	**0.88**	**18**	PN	Pn	10 49 24.4	-0.2
PKE	**Pukeiti**	**0.93**	**12**	PN	Pn	10 49 24.6	-0.2
PKE				SN	Sn	10 49 44.8	-1.3
DREZ	**Durham Road**	**0.98**	**21**	PN	Pn	10 49 25.0	-0.2
WAZ	**Wanganui**	**1.02**	**70**	PN	Pn	10 49 25.8	+0.4
MHEZ	**Mangahewa**	**1.12**	**24**	PN	Pn	10 49 26.3	0.0
NNZ	**Nelson**	**1.14**	**194**	⇓PN	Pn	10 49 25.8	-0.5
KIW	**Kapiti Island**	**1.16**	**131**	⇓PN	Pn	10 49 26.5	0.0
KIW				AML	AML	10 49 47.3	
KIW				AML	AML	10 49 47.7	
TCW	**Tory Channel**	**1.17**	**160**	PN	Pn	10 49 26.7	+0.1
TCW				AML	AML	10 49 47.6	
TCW				AML	AML	10 49 47.9	
VRZ	**Vera Road**	**1.26**	**39**	⇓PN	Pn	10 49 26.7	-0.6
OGWZ	**Otaki Gorge**	**1.29**	**124**	⇓PN	Pn	10 49 27.8	+0.2
TUWZ	**Tuamarina**	**1.33**	**174**	PN	Pn	10 49 27.6	-0.3
TUWZ				AML	AML	10 49 49.3	
TUWZ				AML	AML	10 49 49.6	
SNZO	**South Karori**	**1.40**	**149**	⇓PN	Pn	10 49 28.6	+0.1
SNZO				AML	AML	10 49 28.8	
SNZO				AML	AML	10 49 28.8	
SNZO				AML	AML	10 49 30.4	
SNZO				AML	AML	10 49 30.4	
WEL	**Wellington**	**1.41**	**147**	⇓PN	Pn	10 49 28.7	+0.2
CAW	**Cannon Point**	**1.42**	**135**	⇓PN	Pn	10 49 28.9	+0.2
CAW				AML	AML	10 49 53.0	
CAW				AML	AML	10 49 53.4	
PKVZ	**Pokaka**	**1.48**	**57**	⇓PN	Pn	10 49 29.2	-0.2
MRZ	**Mangatainoka R**	**1.50**	**112**	PN	Pn	10 49 29.6	+0.1
MRZ				SN	Sn	10 49 51.9	-2.6
MRZ				AML	AML	10 49 54.0	
MTVZ	**Mangateitei**	**1.51**	**62**	⇓PN	Pn	10 49 29.5	-0.2
BHW	**Baring Head**	**1.55**	**147**	⇓PN	Pn	10 49 29.9	-0.1
BHW				AML	AML	10 49 53.8	
BHW				AML	AML	10 49 54.0	
HOWZ	**Holdsworth Sta**	**1.56**	**121**	⇓PN	Pn	10 49 30.2	+0.1
POWZ	**Post Office Ro**	**1.57**	**101**	⇓PN	Pn	10 49 30.3	+0.1
BSWZ	**Blackbirch Sta**	**1.61**	**177**	PN	Pn	10 49 30.7	+0.2
TRVZ	**Turoa**	**1.61**	**60**	PN	Pn	10 49 30.5	-0.4
WNVZ	**Wahianoa**	**1.63**	**62**	⇓PN	Pn	10 49 30.7	-0.2
FWVZ	**Far West T-bar**	**1.63**	**59**	PN	Pn	10 49 30.7	-0.4
WPVZ	**Whakapapa**	**1.66**	**58**	PN	Pn	10 49 30.8	-0.4
TWVZ	**Taurewa**	**1.67**	**52**	⇓PN	Pn	10 49 30.6	-0.6
CMWZ	**Cape Campbell**	**1.68**	**168**	PN	Pn	10 49 31.6	+0.5
TUVZ	**Tukino**	**1.69**	**61**	⇓PN	Pn	10 49 31.5	-0.1
MOVZ	**Moawhango**	**1.70**	**66**	⇓PN	Pn	10 49 31.0	-0.5
MTW	**Mount Morrison**	**1.70**	**129**	⇓PN	Pn	10 49 31.4	0.0
MTW				AML	AML	10 49 57.5	
MTW				AML	AML	10 49 57.8	
TSZ	**Takapari Road**	**1.70**	**89**	⇓PN	Pn	10 49 31.4	-0.1
TSZ				AML	AML	10 49 58.4	
TSZ				AML	AML	10 49 58.8	
NGZ	**Ngauruhoe**	**1.71**	**57**	⇓PN	Pn	10 49 31.3	-0.4
MSWZ	**Moikau Station**	**1.73**	**139**	PN	Pn	10 49 31.6	-0.1
MSWZ				AML	AML	10 49 58.6	
MSWZ				AML	AML	10 49 58.7	
WTVZ	**West Tongariro**	**1.73**	**56**	⇓PN	Pn	10 49 31.5	-0.5
OTVZ	**Oturere**	**1.76**	**58**	⇓PN	Pn	10 49 32.0	-0.2
TIWZ	**Tintock**	**1.76**	**113**	PN	Pn	10 49 32.3	+0.2
THZ	**Tophouse**	**1.77**	**201**	⇑PN	Pn	10 49 31.5	-0.7
KRVZ	**Karewarewa**	**1.78**	**56**	⇓PN	Pn	10 49 32.0	-0.5
PAWZ	**Paruwai Farm**	**1.80**	**135**	⇓PN	Pn	10 49 32.3	-0.1
PAWZ				AML	AML	10 49 59.4	
PAWZ				AML	AML	10 49 59.6	
HIZ	**Hauiti**	**1.81**	**29**	PN	Pn	10 49 31.8	-0.8
PLWZ	**Palliser**	**1.85**	**142**	PN	Pn	10 49 32.7	-0.3
KATZ	**Kakaramea**	**1.88**	**54**	PN	Pn	10 49 33.3	-0.3
BHHZ	**Black Hill Sta**	**1.89**	**72**	⇓PN	Pn	10 49 32.7	-0.8
PNHZ	**Pukenui**	**1.89**	**85**	⇓PN	Pn	10 49 33.4	-0.1
TMWZ	**Te Maipa**	**1.91**	**122**	PN	Pn	10 49 33.7	0.0
TRWZ	**Traveller**	**1.96**	**132**	⇓PN	Pn	10 49 34.0	0.0
TRWZ				AML	AML	10 50 03.3	
TRWZ				AML	AML	10 50 04.1	
BFZ	**Birch Farm**	**1.99**	**107**	⇑PN	Pn	10 49 34.5	0.0
RATZ	**Rangitukua**	**2.00**	**52**	⇓PN	Pn	10 49 34.7	+0.1
WPHZ	**Waipukurau**	**2.07**	**90**	⇓PN	Pn	10 49 35.3	0.0
PRHZ	**Porangahau**	**2.22**	**95**	PN	Pn	10 49 37.0	+0.1
KHZ	**Kahutara**	**2.31**	**184**	⇓PN	Pn	10 49 37.4	-0.5
BKZ	**Black Stump Fm**	**2.32**	**67**	PN	Pn	10 49 37.4	-0.8
MCHZ	**McNeill Hill**	**2.37**	**75**	PN	Pn	10 49 38.9	+0.3
PXZ	**Pawanui**	**2.39**	**89**	⇓PN	Pn	10 49 38.8	-0.1
KAHZ	**Kahuranaki**	**2.43**	**84**	PN	Pn	10 49 39.4	0.0
NMHZ	**Naumai**	**2.57**	**68**	PN	Pn	10 49 41.3	+0.2
CKHZ	**Cape Kidnapper**	**2.60**	**81**	PN	Pn	10 49 41.7	+0.4
RAHZ	**Arahi**	**2.84**	**66**	PN	Pn	10 49 43.9	-0.4
LTZ	**Lake Taylor**	**2.89**	**202**	PN	Pn	10 49 43.6	-1.2
URZ	**Urewera**	**3.20**	**56**	PN	Pn	10 49 47.0	-1.5
KNZ	**Kokohu**	**3.22**	**72**	PN	Pn	10 49 48.1	-0.7
MHGZ	**Mahia Peninsul**	**3.35**	**75**	PN	Pn	10 49 50.0	-0.4
PRGZ	**Paritu Road**	**3.41**	**71**	PN	Pn	10 49 50.3	-0.8
MWZ	**Matawai**	**3.43**	**60**	⇓PN	Pn	10 49 50.2	-1.3
CRLZ	**Canterbury Las**	**3.56**	**193**	SN	Sn	10 50 30.1	-6.5
WVZ	**Waitaha Valley**	**3.73**	**216**	*e*PN	Pn	10 49 52.9	-2.0
CNGZ	**Carnagh Statio**	**3.82**	**66**	PN	Pn	10 49 55.5	-0.8
PUZ	**Puketiti**	**4.06**	**61**	PN	Pn	10 49 57.4	-1.9
ODZ	**Otahua Downs**	**5.44**	**204**	PN	Pn	10 50 14.8	-2.1

*ATH **06** 11:06:16.1, 38°.00N×26°.15E, h65km±2km*
*DDA **06** 11:06:18.9, 38°.24N×26°.61E, h7km, MD2.5*
*ISCJB **06** 11:06:19.7±0.7, 38°.30N±0°.07×26°.63E±0°.07, h11km±8km, Error ellipse: s-maj=12.6km s-min=8.4km az=27.6*
*CSEM **06** 11:06:19.6±0.3, 38°.31N×26°.63E, h10km, MD2.5, Error ellipse: s-maj=11.6km s-min=5.4km az=44.0*

ISC 06 11:06:19.5±1.0, 38°.28N±0°.05×26°.62E±0°.05, h11km±7km, n10, σ0°.40/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.08**	**346**	*i* P	**Pg**	**11 06 21.9**	**-0.2**
URLA				*i* S	**Sg**	**11 06 23.9**	**0.0**
URLA	**Izmir**	**0.08**	**346**	*i* P	**Pg**	**11 06 21.9**	**-0.2**
URLA				*i* S	**Sg**	**11 06 23.9**	**0.0**
CHOS	**Chios island**	**0.46**	**284**	*e*P	**Pg**	**11 06 28.3**	**-0.2**
CHOS				*e*S	**Sb**	**11 06 36.4**	**-0.1**
CHOS	**Chios island**	**0.46**	**284**	*e*P	**Pg**	**11 06 28.3**	**-0.2**
CHOS				*e*S	**Sb**	**11 06 36.4**	**-0.1**
SMG	**Samos**	**0.59**	**163**	*e*P	**Pg**	**11 06 30.4**	**-0.6**
SMG				*e*S	**Sb**	**11 06 40.7**	**+0.4**
SMG	**Samos**	**0.59**	**163**	*e*P	**Pg**	**11 06 30.4**	**-0.6**
SMG				*e*S	**Sb**	**11 06 40.7**	**+0.4**
PRK	**Paraskevi**	**1.00**	**344**	*e*P	**Pg**	**11 06 38.3**	**-0.5**
PRK	**Paraskevi**	**1.00**	**344**	*e*P	**Pg**	**11 06 38.3**	**-0.5**
AYDN	**Tasoluk**	**1.17**	**121**	*i* P	**Pb**	**11 06 42.2**	**+0.5**
AYDN				*i* S	**Sb**	**11 06 56.9**	**0.0**
AYDN	**Tasoluk**	**1.17**	**121**	*i* P	**Pb**	**11 06 42.2**	**+0.5**
AYDN				*i* S	**Sb**	**11 06 56.9**	**0.0**

*THE **06** 11:06:43.7, 35°.69N×27°.97E, h4km±5km, ML2.8/2, Error ellipse: s-maj=5.7km s-min=0.9km az=335.0*
*DDA **06** 11:06:43.8, 35°.74N×27°.93E, h18km, MD3.1*
*CSEM **06** 11:06:43.8±0.4, 35°.68N×27°.92E, h5km, ML2.8/2, Error ellipse: s-maj=8.7km s-min=5.1km az=142.0*
*ISCJB **06** 11:06:44.2±0.9, 35°.72N±0°.04×27°.93E±0°.05, h7km±6km, Error ellipse: s-maj=8.1km s-min=5.6km az=140.9*
*ISK **06** 11:06:45.2, 35°.81N×27°.98E, h7km, ML2.9*

ISC 06 11:06:43.1±1.3, 35°.72N±0°.04×27°.98E±0°.03, h6km±11km, n37, σ1°.22/50, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.51**	**13**	P	**Pb**	**11 06 54.8**	**+0.2**
ARG				S	**Sb**	**11 07 02.2**	**-0.1**
ARG	**Arkhangelos**	**0.51**	**13**	*e*P	**Pb**	**11 06 54.7**	**+0.1**
ARG	**Arkhangelos**	**0.51**	**13**	P	**Pb**	**11 06 54.8**	**+0.2**
ARG				S	**Sb**	**11 07 02.2**	**-0.1**
KARP	**Karpathos**	**0.69**	**256**	P	**Pg**	**11 06 56.5**	**+0.1**
KARP				S	**Sb**	**11 07 07.4**	**0.0**
KARP	**Karpathos**	**0.69**	**256**	*e*P	**Pg**	**11 06 56.7**	**+0.3**
KARP	**Karpathos**	**0.69**	**256**	P	**Pg**	**11 06 56.5**	**+0.1**
DAT	**Datca**	**1.06**	**342**	*e*PG	**Pb**	**11 07 04.3**	**+0.3**
DAT				*e*SG	**Sb**	**11 07 18.3**	**0.0**
DAT	**Datca**	**1.06**	**342**	*e*Sg	**Sb**	**11 07 18.3**	**0.0**
DAT	**Datca**	**1.06**	**342**	*e*Pg	**Pb**	**11 07 04.3**	**+0.3**
NIS1	**Nisyros Isl.**	**1.10**	**324**	P	**Pg**	**11 07 04.5**	**+0.3**
NIS1	**Nisyros Isl.**	**1.10**	**324**	P	**Pg**	**11 07 04.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.23**	**26**	*e*PN	**Pn**	**11 07 07.5**	**+0.7**
DALY				*e*SN	**Sn**	**11 07 23.7**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.23**	**26**	*e*Sn	**Sn**	**11 07 23.7**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.23**	**26**	*e*Pn	**Pn**	**11 07 07.5**	**+0.7**
TURN	**Turunc**	**1.26**	**23**	*i* P	**Pn**	**11 07 04.9**	**-2.4**
TURN				*i* S	**Sg**	**11 07 19.7**	**-3.9**
TURN	**Turunc**	**1.26**	**23**	*i* S	**Sg**	**11 07 19.7**	**-3.9**
TURN	**Turunc**	**1.26**	**23**	*i* P	**Pn**	**11 07 04.9**	**-2.4**
AKAS	**Kas**	**1.41**	**68**	*i* P	**Pb**	**11 07 10.6**	**+0.6**
AKAS				*i* S	**Sg**	**11 07 31.1**	**+2.5**
AKAS	**Kas**	**1.41**	**68**	*i* P	**Pb**	**11 07 10.6**	**+0.6**
BDRM	**Kayabasi**	**1.42**	**342**	*i* P	**Pn**	**11 07 09.9**	**+0.5**
BDRM				*i* S	**Sg**	**11 07 28.8**	**+0.1**
BDRM	**Kayabasi**	**1.42**	**342**	*i* P	**Pn**	**11 07 10.0**	**+0.5**
BDRM				*i* S	**Sg**	**11 07 28.7**	**+0.1**
YER	**Yerkesik**	**1.44**	**10**	*e*PN	**Pg**	**11 07 11.0**	**+0.3**
YER	**Yerkesik**	**1.44**	**10**	*e*Pn	**Pg**	**11 07 11.0**	**+0.3**
BODT	**Bodrum**	**1.45**	**338**	*e*PN	**Pg**	**11 07 11.4**	**+0.5**
BODT	**Bodrum**	**1.45**	**338**	*e*Pn	**Pg**	**11 07 11.4**	**+0.5**
ZKR	**Zakros**	**1.56**	**248**	P	**Pn**	**11 07 10.1**	**-1.4**
ZKR	**Zakros**	**1.56**	**248**	P	**Pn**	**11 07 10.1**	**-1.4**
MLSB	**Milas**	**1.59**	**354**	*e*PN	**Pb**	**11 07 13.0**	**+0.1**
MLSB	**Milas**	**1.59**	**354**	*e*Pn	**Pb**	**11 07 13.0**	**+0.1**
ELL	**Elmali**	**1.87**	**56**	*e*PN	**Pb**	**11 07 17.7**	**0.0**
ELL	**Elmali**	**1.87**	**56**	*e*Pn	**Pb**	**11 07 17.7**	**0.0**
AYDN	**Tasoluk**	**1.94**	**358**	*i* P	**Pb**	**11 07 18.5**	**-0.6**
AYDN				*i* S	**Sb**	**11 07 43.3**	**-0.3**
AYDN	**Tasoluk**	**1.94**	**358**	*i* P	**Pb**	**11 07 18.5**	**-0.6**
AYDN				*i* S	**Sb**	**11 07 43.3**	**-0.3**
DNZL	**Cakiroluk**	**2.15**	**23**	*i* P	**Pg**	**11 07 24.9**	**+0.6**
DNZL				*i* S	**Sg**	**11 07 53.3**	**+1.1**
DNZL	**Cakiroluk**	**2.15**	**23**	*i* P	**Pg**	**11 07 24.9**	**+0.6**
DNZL				*i* S	**Sg**	**11 07 53.3**	**+1.1**
APE	**Apeiranthos**	**2.40**	**305**	*e*PN	**Pn**	**11 07 25.1**	**+2.1**
APE	**Apeiranthos**	**2.40**	**305**	*e*Pn	**Pn**	**11 07 25.1**	**+2.1**

IDC 06 11:20:01.7±1.2, 6°.88N×127°.02E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/25, mbtmp3.6/5, Error ellipse: s-maj=59.7km s-min=21.4km az=84.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.45**	**277**	Sn	Sn	11 20 58.2	+9.4
	47nm,0.3s,baz=90,slow=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**24.86**	**183**	P	P	11 25 24.9	-1.2
	1.0nm,0.6s,baz=10.0,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**27.61**	**165**	P	P	11 25 50.9	-0.1
	0.2nm,0.3s,baz=344,slow=10,SNR=13						
ASAR	**Alice Springs**	**31.10**	**168**	P	P	11 26 23.3	+1.3
	0.6nm,1.0s,baz=349,slow=8.6,SNR=3.8						
PETK	**Petropavlovsk-**	**52.42**	**23**	P	P	11 29 15.3	-0.6
	1.1nm,0.9s,baz=206,slow=9.6,SNR=2.4						
MKAR	**Makanchi Array**	**55.17**	**324**	P	P	11 29 36.7	+0.5
	0.2nm,0.4s,baz=124,slow=8.4,SNR=4.3						

WEL 06 11:23:08.6±0.2, 45°.48S×166°.75E, h22km±1km, ML3.8/17, 1C-2D, Error ellipse: s-maj=1.8km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.29**	**91**	P*	Pb	11 23 15.1	-0.1
DCZ				S*	Sb	11 23 19.2	-0.5
DCZ				AML	AML	11 23 19.5	
DCZ				AML	AML	11 23 19.8	
DCZ				AML	AML	11 23 19.9	
WHZ	**Wether Hill Ro**	**0.94**	**117**	⇓P*	Pb	11 23 25.9	-0.3
WHZ				S*	Sb	11 23 38.3	+0.1
WHZ				AML	AML	11 23 45.9	
MLZ	**Mavora Lakes**	**1.01**	**83**	⇓PN	Pb	11 23 26.3	-1.2
MLZ				AML	AML	11 23 48.4	
MLZ				AML	AML	11 23 49.6	
MSZ	**Milford Sound**	**1.16**	**47**	PN	Pn	11 23 27.5	-2.0
MSZ				AML	AML	11 23 48.4	
MSZ				AML	AML	11 23 48.4	
MSZ				AML	AML	11 23 48.5	
MSZ				AML	AML	11 23 48.6	
APZ	**The Paps**	**1.61**	**148**	PN	Pb	11 23 36.9	-0.8
WKZ	**Wanaka**	**1.73**	**69**	PN	Pn	11 23 38.0	+0.5
WKZ				AML	AML	11 24 06.5	
WKZ				AML	AML	11 24 06.6	
WKZ				AML	AML	11 24 09.8	
WKZ				AML	AML	11 24 09.8	
EAZ	**Earnscleugh**	**1.82**	**83**	PN	Pn	11 23 39.7	+1.1
EAZ				AML	AML	11 24 08.1	
EAZ				AML	AML	11 24 08.1	
EAZ				AML	AML	11 24 09.4	
EAZ				AML	AML	11 24 09.5	
SYZ	**Scrubby Hill**	**1.98**	**123**	*e*PN	Pn	11 23 41.7	+1.0
JCZ	**Jackson Bay**	**2.00**	**46**	*e*PN	Pn	11 23 42.7	+1.5
JCZ				AML	AML	11 24 16.2	
JCZ				AML	AML	11 24 20.6	
TUZ	**Tuapeka**	**2.08**	**104**	*e*PN	Pn	11 23 43.4	+1.3
TUZ				AML	AML	11 24 15.3	
TUZ				AML	AML	11 24 16.4	
LBZ	**Lake Benmore**	**2.67**	**67**	*e*PN	Pn	11 23 50.2	-0.2
LBZ				AML	AML	11 24 26.6	
LBZ				AML	AML	11 24 35.2	
ODZ	**Otahua Downs**	**2.79**	**82**	⇑PN	Pn	11 23 51.8	0.0
FOZ	**Fox Glacier**	**2.84**	**49**	*e*PN	Pn	11 23 54.6	+2.0
FOZ				AML	AML	11 24 42.7	
FOZ				AML	AML	11 24 50.7	
RPZ	**Rata Peaks**	**3.54**	**62**	*e*PN	Pn	11 24 03.6	+1.3
RPZ				AML	AML	11 24 47.5	
RPZ				AML	AML	11 25 02.4	
WVZ	**Waitaha Valley**	**3.74**	**51**	*e*PN	Pn	11 24 05.6	+0.7

IGQ 06 11:38:20.9, 3°.88S×79°.70W, h103km±54km, Mb4.1, Ms3.9, 2C-7D, Error ellipse: s-maj=13.8km s-min=7.7km az=9.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.49**	**312**	⇓S	Sn	11 38 47.9	-1.0
ARNL	**Arenillas**	**0.49**	**312**	⇓P	Pn	11 38 36.9	-0.1
IGUA	**Igualata**	**2.60**	**24**	P	Pn	11 39 02.5	+0.3
BMAS	**Trigal station**	**2.66**	**27**	⇓P	Pn	11 39 02.7	-0.1
ARRY	**Arrayan**	**2.67**	**28**	⇓P	Pn	11 39 02.4	-0.4
ARRY	**Arrayan**	**2.67**	**28**	⇓S	Sn	11 39 31.9	-3.1
PAT1	**Patacocha**	**2.67**	**28**	P	Pn	11 39 04.1	+1.0
BPAT	**Tungurahua Vol**	**2.68**	**28**	⇑S	Sn	11 39 34.4	-1.1
BPAT	**Tungurahua Vol**	**2.68**	**28**	⇑P	Pn	11 39 04.2	+1.1
RETU	**Refugio**	**2.72**	**27**	P	Pn	11 39 04.1	+0.4
BULB	**Ulba Tungurahu**	**2.75**	**28**	P	Pn	11 39 04.3	+0.3
BRUN	**Tungurahua Vol**	**2.76**	**28**	P	Pn	11 39 04.5	+0.5
PISA	**Pisayambo**	**3.09**	**25**	P	Pn	11 39 08.9	+0.2
BNAS	**Cotopaxi Volca**	**3.41**	**21**	P	Pn	11 39 15.4	+2.4
BREF	**Cotopaxi Volca**	**3.43**	**22**	P	Pn	11 39 14.8	+1.5
TAMB	**Tambo**	**3.43**	**23**	P	Pn	11 39 16.4	+3.1
BTAM	**Cotopaxi Volca**	**3.44**	**22**	P	Pn	11 39 15.9	+2.5
VC1	**Cotopaxi 1**	**3.47**	**22**	P	Pn	11 39 16.7	+2.9
PITA	**Cotopaxi Volc**	**3.53**	**21**	P	Pn	11 39 14.8	+0.2
ANTI	**Antisana**	**3.74**	**24**	P	Pn	11 39 17.6	+0.1
MAG1	**Magdalena**	**3.78**	**359**	P	Pn	11 39 16.9	-0.4
JUA2	**San Juan 2**	**3.80**	**17**	S	Sn	11 40 02.1	-0.2
JUA2	**San Juan 2**	**3.80**	**17**	P	Pn	11 39 19.6	+1.4
TERV	**Terraza Guagua**	**3.84**	**17**	P	Pn	11 39 20.1	+1.3
GGP	**Refugio Guagua**	**3.84**	**17**	⇓S	Sn	11 40 03.7	+0.1
GGP	**Refugio Guagua**	**3.84**	**17**	⇓P	Pn	11 39 19.8	+1.0
PINO	**Pino**	**3.85**	**16**	P	Pn	11 39 19.4	+0.3
COTA	**Cotacachi**	**4.40**	**18**	P	Pn	11 39 28.7	+2.4

*IDC **06** 12:02:28.1±3.2, 22°.26S×68°.83W, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.6/17, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=79.2km s-min=54.7km az=93.0*
*ISCJB **06** 12:02:44.4±1.0, 21°.24S±0°.09×69°.0W±0°.3, h131km±15km, mb3.5/1, Error ellipse: s-maj=42.6km s-min=11.4km az=166.6*
*GUC **06** 12:02:44.0±0.8, 21°.20S×68°.91W, h125km±7km, ML3.4*

ISC 06 12:02:45.2±1.2, 21°.24S±0°.08×69°.0W±0°.2, h125km±14km, n10, σ0°.32/12, 1C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.49**	**293**	*e*P	**Pn**	**12 03 03.5**	**-0.4**
PB01				*i* S	**Sn**	**12 03 18.1**	**+0.3**
PB01				AML	AML

ASAR Alice Springs 53.81 186 P P 12 40 25.9 -0.9
0.4nm,0.4s,baz=1.6,slow=6.4,SNR=14

IDC 06 12:46:51.6±1.2, 24°.69N×99°.90E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, Error ellipse: s-maj=42.7km s-min=17.9km az=81.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.26**	**188**	Pg	Pg	12 48 47.4	-4.4
	1.7nm,0.3s,baz=6.3,slow=19,SNR=14						
CMAR				Lg	Lg	12 50 11.6	
	0.8nm,0.3s,baz=3.7,slow=29,SNR=5.2						
SONM	**Songino Array**	**23.67**	**11**	P	P	12 52 06.5	+1.6
	0.2nm,0.4s,baz=202,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**26.17**	**332**	P	P	12 52 27.7	0.0
	0.8nm,0.8s,baz=149,slow=10.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**31.33**	**343**	P	P	12 53 12.5	-1.0
	0.3nm,0.3s,baz=142,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**55.60**	**140**	P	P	12 56 28.7	-0.7
	1.4nm,1.1s,baz=328,slow=7.9,SNR=3.5						

---

*ISCJB **06** 12:53:23.6±0.5, 6°.61S±0°.08×155°.05E±0°.06, h56km, mb3.9/12, MS3.6/4, Error ellipse: s-maj=11.0km s-min=7.6km az=16.4*
*IDC **06** 12:53:23.3±0.8, 6°.56S×155°.13E, h36km±6km, mb3.8/11, mb1 4.0/14, mb1mx3.8/23, mbtmp3.9/14, ML3.7/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/34, Error ellipse: s-maj=20.6km s-min=16.6km az=97.0*
*NEIC **06** 12:53:24.3±1.4, 6°.59S×155°.08E, h46km±13km, mb4.0/1, Error ellipse: s-maj=12.8km s-min=9.8km az=176.0*
ISC 06 12:53:24.6±0.5, 6°.44S±0°.08×155°.14E±0°.06, h56km, n36, σ2°.01/44, mb3.9/12, MS3.4/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.61**	**122**	Pn	**Pn**	**12 54 45.6**	**+0.1**
HNR				Sn	**Sn**	**12 55 51.3**	**+2.6**
HNR	**Honiara**	**5.61**	**122**	Pn	**Pn**	**12 54 45.6**	**+0.1**
	6.1nm,0.3s,baz=131,slow=9.2,SNR=3.6						
HNR				Sn	**Sn**	**12 55 51.3**	**+2.6**
	10nm,0.3s,baz=98,slow=14,SNR=2.6						
HNR				LR	LR	12 56 54.5	
	comp=Z,379nm,18.0s,baz=118,slow=38						
PMG	**Port Moresby**	**8.44**	**249**	Pn	**Pn**	**12 55 22.3**	**-2.0**
PMG				Sn	**Sn**	**12 57 01.7**	**+3.6**
PMG	**Port Moresby**	**8.44**	**249**	Pn	**Pn**	**12 55 22.3**	**-2.0**
	1.0nm,0.3s,baz=34,slow=3.6,SNR=3.5						
PMG				Sn	**Sn**	**12 57 01.7**	**+3.6**
	1.3nm,0.3s,baz=9.0,slow=8.2,SNR=3.3						
COEN	**Coen**	**13.94**	**237**	*e*Pn	**Pn**	**12 56 36.8**	**-2.7**
CTAO	**Charters Tower**	**16.08**	**212**	*e*Pn	**Pn**	**12 57 05.2**	**-2.0**
DZM	**Mont Dzumac**	**18.99**	**146**	P	**P**	**12 57 40.7**	**-1.2**
DZM	**Mont Dzumac**	**18.99**	**146**	P	**P**	**12 57 40.7**	**-1.2**
	1.1nm,0.3s,baz=89,slow=20,SNR=13						
WRAB	**Tennant Creek**	**24.24**	**234**	*e*P	**P**	**12 58 35.7**	**-0.9**
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**24.25**	**234**	P	**P**	**12 58 36.9**	**+0.2**
WRA	**Warramunga Arr**	**24.25**	**234**	P	**P**	**12 58 36.9**	**+0.2**
	2.6nm,0.6s,baz=59,slow=9.3,SNR=40						
AS31	**Alice Springs**	**26.65**	**228**	*e*P	**P**	**12 58 56.8**	**-1.5**
ASAR	**Alice Springs**	**26.65**	**228**	P	**P**	**12 58 57.7**	**-0.7**
ASAR	**Alice Springs**	**26.65**	**228**	P	**P**	**12 58 57.7**	**-0.7**
	1.2nm,0.7s,baz=59,slow=8.9,SNR=23						
STKA	**Stephens Creek**	**28.30**	**205**	P	**P**	**12 59 14.3**	**+1.3**
STKA	**Stephens Creek**	**28.30**	**205**	P	**P**	**12 59 14.3**	**+1.3**
	2.2nm,0.7s,baz=5.1,slow=19,SNR=3.1						
FITZ	**Fitzroy Crossi**	**31.01**	**245**	P	**P**	**12 59 37.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**31.01**	**245**	P	**P**	**12 59 37.0**	**-0.2**
	3.4nm,0.7s,baz=104,slow=6.6,SNR=10						
RAO	**Raoul Island**	**34.07**	**135**	LR	LR	13 11 29.2	
	comp=Z,913nm,21.5s,baz=49,slow=32						
RPZ	**Rata Peaks**	**39.67**	**162**	P	**P**	**13 00 49.9**	**-1.4**
RPZ	**Rata Peaks**	**39.67**	**162**	P	**P**	**13 00 49.9**	**-1.4**
	12nm,0.9s,baz=296,slow=7.8,SNR=4.2						
RPZ				LR	LR	13 12 41.3	
	comp=Z,107nm,20.7s,baz=136,slow=29						
PETK	**Petropavlovsk-**	**59.36**	**2**	P	**P**	**13 03 23.6**	**+2.7**
PETK				pP	**pP**	**13 03 33.4**	**-2.8**
PETK	**Petropavlovsk-**	**59.36**	**2**	P	**P**	**13 03 23.6**	**+2.7**
	1.4nm,0.8s,baz=180,slow=8.5,SNR=4.6						
PETK				pP	**pP**	**13 03 33.4**	**-2.8**
	2.5nm,0.9s,baz=152,slow=9.6,SNR=4.8						
PETK				LR	LR	13 27 52.6	
	comp=Z,14nm,18.3s,baz=175,slow=35						
CMAR	**Chiang Mai Arr**	**60.68**	**295**	P	**P**	**13 03 33.0**	**+2.4**
CMAR	**Chiang Mai Arr**	**60.68**	**295**	P	**P**	**13 03 33.0**	**+2.4**
	1.2nm,0.4s,baz=124,slow=5.9,SNR=7.8						
SONM	**Songino Array**	**68.95**	**327**	P	**P**	**13 04 24.9**	**+0.9**
SONM	**Songino Array**	**68.95**	**327**	P	**P**	**13 04 24.9**	**+0.9**
	0.3nm,0.5s,baz=136,slow=5.2,SNR=3.0						
ILAR	**Eielson Array**	**82.81**	**21**	P	**P**	**13 05 44.3**	**+1.7**
ILAR				pP	**pP**	**13 05 55.3**	**-3.1**
ILAR	**Eielson Array**	**82.81**	**21**	P	**P**	**13 05 44.3**	**+1.7**
	0.5nm,1.0s,baz=232,slow=3.0,SNR=3.2						
ILAR				pP	**pP**	**13 05 55.3**	**-3.1**
	0.3nm,0.6s,baz=252,slow=5.5,SNR=2.5						
MKAR	**Makanchi Array**	**83.09**	**319**	P	**P**	**13 05 45.1**	**+0.7**
MKAR				pP	**pP**	**13 05 56.9**	**-3.4**
MKAR	**Makanchi Array**	**83.09**	**319**	P	**P**	**13 05 45.1**	**+0.7**
	0.4nm,0.8s,baz=98,slow=6.1,SNR=3.8						
MKAR				pP	**pP**	**13 05 56.9**	**-3.4**
	0.6nm,0.7s,baz=111,slow=4.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**83.81**	**326**	P	**P**	**13 05 47.6**	**-0.2**
ZALV	**Zalesovo Beam**	**83.81**	**326**	P	**P**	**13 05 47.6**	**-0.2**
	0.4nm,0.4s,baz=87,slow=6.1,SNR=2.3						
LPIG	**La Paz**	**96.74**	**67**	LR	LR	13 41 44.2	
	comp=Z,5.2nm,19.4s,baz=330,slow=30						
TORD	**Torodi Ar. Bea**	**153.02**	**286**	PKPbc	**PKPbc**	**13 13 17.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**153.02**	**286**	PKPbc	**PKPbc**	**13 13 17.3**	**+0.4**
	0.5nm,0.7s,baz=70,slow=2.5,SNR=3.4						

IDC 06 12:56:34.8±30.0, 18°.82S×176°.48W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=573.2km s-min=155.2km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.82**	**243**	P	P	13 04 09.6	-0.4
	2.8nm,0.8s,baz=73,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**46.28**	**260**	P	P	13 05 02.6	+0.1
	0.4nm,0.3s,baz=96,slow=7.5,SNR=36						
ASAR	**Alice Springs**	**46.32**	**255**	P	P	13 05 02.8	0.0
	1.7nm,0.6s,baz=90,slow=8.1,SNR=18						
FITZ	**Fitzroy Crossi**	**54.69**	**261**	P	P	13 06 05.8	-0.3
	0.8nm,0.5s,baz=100,slow=6.1,SNR=5.8						

---

*ISCJB **06** 13:02:42.9±0.7, 14°.33N±0°.07×91°.93W±0°.06, h73km±6km, mb3.6/6, Error ellipse: s-maj=14.7km s-min=4.5km az=36.4*
*MEX **06** 13:02:42.1±0.4, 13°.97N×92°.41W, h22km±19km, MD4.1*
*CASC **06** 13:02:44.6±1.2, 14°.28N×91°.85W, h57km±11km, MD4.0, ML4.2*
*IDC **06** 13:02:49.5±3.2, 14°.61N×91°.50W, h121km±31km, mb3.4/6, mb1 3.7/9, mb1mx3.5/25, mbtmp3.5/9, MS3.0/1, Ms1 3.0/1, ms1mx2.3/22, Error ellipse: s-maj=37.4km s-min=13.8km az=63.0*
ISC 06 13:02:43.9±1.0, 14°.34N±0°.07×91°.91W±0°.06, h71km±8km, n37, σ1°.52/45, mb3.8/6, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.27**	**95**	*e*P	**Pn**	**13 02 54.2**	**-0.6**
THIG		**0.66**	**329**	*e*P	**Pn**	**13 02 57.1**	**-1.3**
THIG				*i* S	**Sn**	**13 03 08.4**	**-0.7**
FUG	**Fuego 3**	**1.04**	**84**	*e*P	**Pn**	**13 03 02.5**	**-0.6**
PCG	**Pacaya**	**1.26**	**87**	*e*P	**Pn**	**13 03 06.0**	**0.0**
PCG				*e*S	**Sn**	**13 03 22.6**	**+0.1**
GCG	**Guatemala City**	**1.35**	**79**	*e*P	**Pn**	**13 03 07.1**	**0.0**
GCG				*e*S	**Sn**	**13 03 24.1**	**-0.5**
NBG	**Las Nubes**	**1.53**	**81**	*e*P	**Pn**	**13 03 10.6**	**+1.1**
NBG				*e*S	**Sn**	**13 03 29.4**	**+0.5**
CCIG	**Comitan**	**1.94**	**354**	*e*P	**Pn**	**13 03 16.4**	**+1.5**
CCIG				*i* S	**Sn**	**13 03 43.9**	**+5.4**
RBDL	**Robledal**	**2.17**	**96**	*e*P	**Pn**	**13 03 17.5**	**-0.4**
RTR	**El Retiro**	**2.24**	**101**	*e*P	**Pn**	**13 03 18.8**	**-0.1**
MRL	**Marmol**	**2.26**	**71**	*e*P	**Pn**	**13 03 20.1**	**+0.8**
SBLS	**San Blas**	**2.27**	**102**	*e*P	**Pn**	**13 03 19.4**	**0.0**
SNJE	**San Jose**	**2.28**	**102**	*e*P	**Pn**	**13 03 19.4**	**-0.2**
BOQS	**Boqueron**	**2.62**	**103**	*e*P	**Pn**	**13 03 24.2**	**0.0**
BOQS				*e*S	**Sn**	**13 03 55.9**	**+0.9**
SNET	**Serv Nac Est T**	**2.68**	**104**	*e*S	**Sn**	**13 03 55.4**	**-0.8**
SNET				AML	AML	13 04 00.5	
	comp=Z,2μm,0.2s						
TGIG		**2.69**	**334**	*e*P	**Pn**	**13 03 24.4**	**-0.5**
TGIG				*e*S	**Sn**	**13 03 57.8**	**+1.3**
LFU	**La Fuente**	**2.78**	**102**	*e*P	**Pn**	**13 03 25.7**	**-0.4**
LBRS	**Las Brisas**	**2.84**	**102**	*e*P	**Pn**	**13 03 26.9**	**-0.2**
LFRS	**El Faro**	**2.85**	**104**	*e*P	**Pn**	**13 03 26.9**	**-0.3**
SNVI	**San Vicente**	**3.07**	**103**	*e*P	**Pn**	**13 03 30.4**	**+0.2**
CAHU	**Cacacuatique**	**3.63**	**99**	*e*P	**Pn**	**13 03 37.5**	**-0.4**
VSM	**San Miguel**	**3.64**	**104**	*e*P	**Pn**	**13 03 38.8**	**+0.7**
CNCH	**Conchagua**	**4.10**	**104**	*e*P	**Pn**	**13 03 43.9**	**-0.3**
HUIG	**Huatulco**	**4.30**	**290**	*e*P	Pn	13 03 40.6	-6.2
HUIG				*i* S	Sn	13 04 25.7	-10
SCIG	**Sabancuy**	**4.65**	**8**	*i* P	**Pn**	**13 03 51.9**	**+0.2**
TEIG	**Tepich**	**6.80**	**30**	P	**Pn**	**13 04 21.0**	**-0.1**
	comp=Z,24nm,0.3s,baz=223,slow=1.6,SNR=38						
TEIG				S	**Sn**	**13 05 33.2**	**-3.9**
	comp=Z,11nm,0.3s,baz=213,slow=23,SNR=12						
JTS	**JuntasAbangare**	**7.90**	**120**	P	**Pn**	**13 04 37.1**	**+1.0**
	comp=Z,7.7nm,0.3s,baz=308,slow=22,SNR=20						
JTS				S	**Sn**	**13 06 07.3**	**+3.2**
	comp=Z,0.8nm,0.3s,baz=30,slow=20,SNR=1.9						
TXAR	**Lajitas Array**	**18.46**	**326**	P	**Pn**	**13 06 55.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=5.2						
TKL	**Tuckaleechee C**	**22.45**	**18**	LR	LR	13 17 24.3	
	comp=Z,39nm,20.9s,baz=255,slow=40						
ANMO	**Albuquerque**	**24.35**	**330**	P	**P**	**13 07 56.7**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=142,slow=15,SNR=3.4						
ATAH	**Atahualpa**	**25.20**	**147**	P	**P**	**13 08 05.0**	**+1.5**
	comp=Z,4.1nm,0.7s,baz=270,slow=3.0,SNR=3.6						
PDAR	**Pinedale Array**	**32.15**	**335**	P	**P**	**13 09 05.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=133,slow=9.2,SNR=3.6						
NVAR	**Mina Array Bea**	**33.46**	**321**	P	**P**	**13 09 18.9**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=134,slow=9.4,SNR=7.3						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	**P**	**13 11 35.0**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=146,slow=7.6,SNR=6.6						
ILAR	**Eielson Array**	**62.56**	**337**	P	**P**	**13 12 59.6**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.7,SNR=14						
ILAR				PcP	**PcP**	**13 13 34.7**	**-3.9**
	comp=Z,0.5nm,0.8s,baz=118,slow=4.0,SNR=6.8						
MKAR	**Makanchi Array**	**118.93**	**5**	PKP	**PKPdf**	**13 21 23.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=10.0,slow=5.0,SNR=2.8						
WRA	**Warramunga Arr**	**135.56**	**256**	PKP	**PKPdf**	**13 21 56.3**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=88,slow=3.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**145.70**	**342**	PKPbc	**PKPdf**	**13 22 15.1**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=332,slow=3.0,SNR=10						

IDC 06 13:03:04.1±2.0, 13°.53N×92°.72E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/26, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=63.3km s-min=26.8km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.73**	**50**	Pn	Pn	13 04 58.0	0.0
	0.4nm,0.3s,baz=236,slow=17,SNR=3.3						
CMAR				Sn	Sn	13 06 19.6	-6.8
	0.2nm,0.3s,baz=240,slow=29,SNR=9.1						
MKAR	**Makanchi Array**	**34.30**	**347**	P	P	13 09 52.1	-0.1
	0.6nm,0.8s,baz=163,slow=9.6,SNR=5.8						
WRA	**Warramunga Arr**	**52.76**	**128**	P	P	13 12 20.9	-0.3
	0.7nm,0.6s,baz=309,slow=7.9,SNR=16						
ASAR	**Alice Springs**	**54.66**	**132**	P	P	13 12 35.2	+0.1
	0.6nm,0.4s,baz=308,slow=6.7,SNR=18						

IDC 06 13:06:55.9±3.1, 23°.84S×179°.73W, h497km±40km, mb3.2/4, mb1 3.4/6, mb1mx3.1/20, mbtmp3.3/6, Error ellipse: s-maj=50.5km s-min=25.5km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.41**	**39**	P	P	13 09 39.1	0.0
	1.3nm,0.3s,baz=252,slow=20,SNR=2.8						
URZ	**Urewera**	**14.63**	**190**	P	P	13 10 01.8	-0.3
	0.5nm,0.3s,baz=9.5,slow=6.1,SNR=5.1						
URZ				S	S	13 12 31.6	-4.0
	0.3nm,0.3s,baz=319,slow=23,SNR=8.2						
CTA	**Charters Tower**	**31.73**	**270**	P	P	13 12 39.3	+0.8
	baz=89,slow=12						
STKA	**Stephens Creek**	**34.98**	**248**	P	P	13 13 05.8	-0.1
	1.1nm,0.5s,baz=94,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**42.29**	**260**	P	P	13 14 05.0	-0.5
	1.6nm,0.8s,baz=98,slow=6.8,SNR=15						
WRA	**Warramunga Arr**	**42.66**	**266**	P	P	13 14 07.7	-0.7
	4.1nm,0.7s,baz=97,slow=8.3,SNR=60						
FITZ	**Fitzroy Crossi**	**51.08**	**265**	P	P	13 15 12.4	+0.2
	2.0nm,0.7s,baz=122,slow=8.2,SNR=9.1						
ARCES	**ARCESS Array B**	**131.88**	**348**	PKP	PKPdf	13 25 10.3	-1.3
	0.3nm,0.6s,baz=54,slow=4.9,SNR=3.9						
AKASG	**Malin Array Be**	**145.06**	**327**	PKPbc	PKPdf	13 25 36.1	+0.1
	0.3nm,0.3s,baz=39,slow=4.6,SNR=6.0						

IDC 06 13:25:56.6±3.0, 16°.97S×174°.01W, h88km±30km, mb3.9/8, mb1 4.1/9, mb1mx3.7/24, mbtmp4.0/9, Error ellipse: s-maj=30.0km s-min=18.1km az=117.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.73**	**36**	P	Pn	13 26 52.5	+0.4
	29nm,0.3s,baz=175,slow=2.8,SNR=43						
AFI				S	Sn	13 27 31.4	-3.7
	71nm,0.3s,baz=48,slow=21,SNR=32						
URZ	**Urewera**	**22.59**	**198**	P	P	13 30 49.3	-0.6
	5.8nm,0.4s,baz=90,slow=4.3,SNR=21						
RPZ	**Rata Peaks**	**29.51**	**202**	P	P	13 31 52.0	-0.6
	9.1nm,1.0s,baz=18,slow=19,SNR=4.4						
STKA	**Stephens Creek**	**42.76**	**241**	P	P	13 33 46.0	+0.4
	6.0nm,0.9s,baz=87,slow=9.4,SNR=5.2						
WRA	**Warramunga Arr**	**48.93**	**258**	P	P	13 34 34.0	-0.3
	2.1nm,0.6s,baz=96,slow=7.0,SNR=60						
ASAR	**Alice Springs**	**49.08**	**253**	P	P	13 34 35.2	-0.2
	15nm,0.8s,baz=86,slow=8.6,SNR=132						
QSPA	**South Pole Qui**	**73.08**	**180**	P	P	13 37 18.0	+0.8
	1.1nm,0.9s,baz=349,slow=1.3,SNR=4.8						
PETK	**Petropavlovsk-**	**73.94**	**343**	P	P	13 37 22.1	0.0
	1.0nm,0.8s,baz=144,slow=8.0,SNR=3.6						
PDAR	**Pinedale Array**	**83.82**	**42**	P	P	13 38 15.9	-0.8
	0.2nm,0.5s,baz=172,slow=3.0,SNR=3.9						
BRTR	**Keskin Array B**	**146.98**	**319**	PKPbc	PKPbc	13 45 29.0	-0.6
	0.6nm,0.6s,baz=48,slow=2.1,SNR=3.6						

MAN 06 13:35:06, 16°.75N×119°.43E, h33km, mb4.6, ML3.5, MS3.4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.08**	**154**	*e*P	Pn	13 35 25.3	+0.5
SCZP				*e*S	Sn	13 35 38.4	-0.2
ABRA	**Dolores**	**1.52**	**54**	*e*P	Pn	13 35 31.8	+0.9
SIPP	**Brgy, Tapao**	**1.52**	**40**	‖*e*P	Pn	13 35 31.3	+0.4
PIP	**Pasuquin**	**1.93**	**36**	‖*i*P	Pb	13 35 40.6	-0.1
APYP	**Conner**	**2.06**	**57**	*e*P	Pn	13 35 39.5	+1.3
APYP				*e*S	Sn	13 36 03.4	+0.6
BALP	**Baler**	**2.29**	**116**	*e*P	Pn	13 35 43.2	+1.7
CAUP	**Cauayan**	**2.30**	**85**	*e*P	Pn	13 35 44.1	+2.5
PALP	**Palanan**	**2.89**	**83**	*e*P	Pn	13 35 51.2	+1.5

---

*ISCJB **06** 13:37:18.6±0.5, 21°.88S±0°.08×178°.08W±0°.08, h373km, mb3.9/11, Error ellipse: s-maj=12.8km s-min=7.9km az=145.0*
*IDC **06** 13:37:22.5±4.7, 21°.77S×178°.14W, h399km±48km, mb3.6/11, mb1 3.8/12, mb1mx3.6/21, mbtmp3.6/12, Error ellipse: s-maj=19.9km s-min=18.6km az=117.0*
*AUST **06** 13:37:25.4±4.8, 20°.72S×177°.74W, h490km, Error ellipse: s-maj=5.0km s-min=3.7km az=250.0*
ISC 06 13:37:19.6±0.6, 21°.8S±0°.1×178°.0W±0°.1, h373km, n30, σ1°.03/29, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.03**	**72**	S	**S**	**13 40 47.7**	**-0.8**
	baz=7.5,SNR=9.4						
URZ	**Urewera**	**16.97**	**193**	P	**P**	**13 40 53.8**	**-0.5**
	0.8nm,0.3s,baz=25,slow=9.9,SNR=13						
URZ				S	S	13 43 45.5	-6.6
	0.3nm,0.3s,baz=306,slow=19,SNR=3.4						
RMQ	**Roma**	**30.65**	**255**	P	**P**	**13 43 03.0**	**+1.8**
	baz=31,SNR=6.7						
CMSA	**Cobar Meteorol**	**33.75**	**246**	P	**P**	**13 43 28.3**	**+0.5**
	baz=34,SNR=9.8						
STKA	**Stephens Creek**	**37.26**	**246**	P	**P**	**13 43 57.8**	**+0.5**
	6.1nm,0.8s,baz=93,slow=12,SNR=12						
STKA	**Stephens Creek**	**37.26**	**246**	P	**P**	**13 43 57.9**	**+0.6**
	baz=38,SNR=6.9						
ASAR	**Alice Springs**	**44.24**	**258**	P	**P**	**13 44 53.5**	**-0.4**
	7.6nm,0.7s,baz=98,slow=8.3,SNR=101						
ASAR				PcP	**PcP**	**13 46 30.2**	**-0.8**
	0.5nm,0.9s,baz=113,slow=3.6,SNR=4.2						
WRA	**Warramunga Arr**	**44.44**	**263**	P	**P**	**13 44 54.4**	**-1.0**
	5.1nm,0.8s,baz=96,slow=7.7,SNR=41						
KDU	**Kakadu**	**47.99**	**272**	P	**P**	**13 45 22.1**	**-0.7**
	baz=48,SNR=6.6						
KDU				S	S	13 51 58.9	+6.9
	baz=48,SNR=3.6						
MTN	**Manton Dam**	**49.19**	**272**	S	S	13 51 55.4	-13
	baz=49,SNR=3.3						
KNRA	**Kununurra**	**50.59**	**267**	P	**P**	**13 45 42.0**	**-0.2**
	baz=51,SNR=10						
FITZ	**Fitzroy Crossi**	**52.87**	**263**	P	**P**	**13 45 59.0**	**+0.1**
	baz=53,SNR=6.0						
BLDU	**Baliidu**	**58.55**	**247**	P	**P**	**13 46 37.7**	**-0.9**
	baz=59,SNR=6.0						
MORW	**Morawa**	**59.36**	**248**	P	**P**	**13 46 43.6**	**-0.5**
	baz=60,SNR=3.7						
QSPA	**South Pole Qui**	**68.31**	**180**	P	**P**	**13 47 42.0**	**+0.6**
	2.5nm,0.9s,baz=47,slow=1.2,SNR=13						
MJAR	**Matsushiro Arr**	**71.23**	**324**	P	**P**	**13 47 59.1**	**-0.1**
	1.6nm,0.6s,baz=159,slow=5.4,SNR=5.4						
PETK	**Petropavlovsk-**	**77.49**	**345**	P	**P**	**13 48 34.5**	**-0.1**
	2.2nm,0.9s,baz=142,slow=7.3,SNR=5.0						
YBH	**Yreka Blue Hor**	**81.27**	**38**	P	**P**	**13 48 56.7**	**+1.5**
	2.6nm,0.6s,baz=182,slow=1.7,SNR=8.2						
NVAR	**Mina Array Bea**	**81.94**	**43**	P	**P**	**13 49 00.2**	**+1.3**
	1.6nm,0.7s,baz=214,slow=8.7,SNR=6.8						
ILAR	**Eielson Array**	**89.54**	**13**	P	**P**	**13 49 34.4**	**-0.6**
	0.7nm,0.6s,baz=216,slow=5.7,SNR=13						
PDAR	**Pinedale Array**	**89.88**	**43**	P	**P**	**13 49 37.8**	**+0.4**
	1.4nm,0.7s,baz=202,slow=3.6,SNR=9.7						
CMAR	**Chiang Mai Arr**	**90.54**	**290**	P	**P**	**13 49 41.2**	**+0.6**
	1.6nm,0.8s,baz=137,slow=1.6,SNR=6.8						
ARCES	**ARCESS Array B**	**130.16**	**349**	PKP	**PKPdf**	**13 55 43.9**	**-1.2**
	1.2nm,0.6s,baz=8.6,slow=1.4,SNR=14						
FINES	**FINESS Array B**	**136.98**	**343**	PKhKP	PKPpre	13 55 53.1	
	0.4nm,0.6s,baz=48,slow=2.1,SNR=2.2						
HFS	**Hagfors**	**140.78**	**351**	PKhKP	PKPpre	13 55 58.3	
	1.7nm,0.8s,baz=352,slow=2.9,SNR=6.0						
AKASG	**Malin Array Be**	**144.11**	**330**	PKP	**PKPab**	**13 56 08.6**	**-1.5**
	1.5nm,0.4s,baz=40,slow=4.8,SNR=5.5						
EKA	**Eskdalemuir Ar**	**146.26**	**5**	PKPbc	**PKPdf**	**13 56 16.1**	**+1.3**
	0.8nm,0.6s,baz=347,slow=3.4,SNR=8.3						
BRTR	**Keskin Array B**	**147.68**	**311**	PKPbc	**PKPdf**	**13 56 20.4**	**+2.6**
	0.8nm,0.6s,baz=143,slow=6.1,SNR=5.3						
GERES	**GERESS Array B**	**151.41**	**344**	PKPbc	**PKPbc**	**13 56 29.2**	**-0.6**
	0.7nm,0.4s,baz=46,slow=3.9,SNR=8.9						
TORD	**Torodi Ar. Bea**	**171.43**	**178**	PKP	**PKPdf**	**13 56 43.4**	**-1.3**
	0.6nm,0.8s,baz=191,slow=0.5,SNR=2.9						
TORD				PKPab	**PKPab**	**13 58 07.7**	**+0.2**
	0.5nm,0.6s,baz=167,slow=4.1,SNR=3.8						

---

*CSEM **06** 13:37:45.8, 40°.52N×35°.01E, h7km, MD2.7, After DDA*
DDA 06 13:37:45.8, 40°.52N×35°.01E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.19**	**301**	*i* P	Pg	13 37 49.4	-0.5
CTKT				*i* S	Sg	13 37 54.1	+1.3
CTKT	**Corum**	**0.19**	**301**	*i* P	Pg	13 37 49.4	-0.6
CTKT				*i* S	Sg	13 37 54.1	+1.3
CDAG	**Cicekdag**	**1.02**	**209**	*i* P	Pg	13 38 05.5	-0.1
CDAG				*i* S	Sb	13 38 19.6	-0.1
**CDA

KYTH	Kithira	2.24	314	*e*PN	Pb	13 38 39.5	-0.8
KYTH	Kithira	2.24	314	P	Pn	13 38 38.4	+1.4
KYTH	Kithira	2.24	314	*e*Pn	Pb	13 38 39.5	-0.8
APE	Apeiranthos	2.36	10	P	Pn	13 38 39.4	+0.7
APE	Apeiranthos	2.36	10	*e*PB	Pn	13 38 40.0	+1.3
APE				*e*SN	Sb	13 39 12.3	+0.6
APE	Apeiranthos	2.36	10	P	Pn	13 38 39.4	+0.7
APE	Apeiranthos	2.36	10	*e*Pb	Pn	13 38 40.0	+1.3
APE				*e*Sn	Sb	13 39 12.3	+0.6
VLI	Veliai	2.61	320	P	Pn	13 38 43.2	+1.2
VLI	Veliai	2.61	320	*e*PB	Pn	13 38 43.3	+1.2
VLI				*e*SB	Sn	13 39 14.4	+0.6
VLI	Veliai	2.61	320	P	Pn	13 38 43.2	+1.2
VLI				*e*Sb	Sn	13 39 14.4	+0.6
DYR	Agios Nikonas	2.98	313	*e*PN	Pn	13 38 49.2	+2.0
DYR	Agios Nikonas	2.98	313	*e*Pn	Pn	13 38 49.2	+2.0
DIDY	Didyma	3.10	332	P	Pn	13 38 49.1	+0.2
DIDY	Didyma	3.10	332	P	Pn	13 38 49.1	+0.2
DID	Didima	3.12	333	P	Pn	13 38 49.3	+0.2
DID	Didima	3.12	333	*e*PN	Pn	13 38 50.0	+0.9
DID	Didima	3.12	333	P	Pn	13 38 49.3	+0.2
DID	Didima	3.12	333	*e*Pn	Pn	13 38 50.0	+0.9
VLX	Vlachokerasia	3.39	322	*e*PB	Pn	13 38 55.8	+2.9
VLX	Vlachokerasia	3.39	322	*e*Pb	Pn	13 38 55.8	+2.9
ITM	Ithomi	3.50	315	*e*PN	Pn	13 38 55.1	+0.8
ITM	Ithomi	3.50	315	*e*Pn	Pn	13 38 55.1	+0.8
LTK	Loutraki	3.68	334	*e*PN	Pn	13 38 59.3	+2.6
LTK	Loutraki	3.68	334	*e*Pn	Pn	13 38 59.3	+2.6
GUR	Goura	3.86	327	*e*PN	Pn	13 39 00.8	+1.5
GUR				*e*SN	Sn	13 39 46.9	+2.1
GUR	Goura	3.86	327	*e*Pn	Pn	13 39 00.8	+1.5
GUR				*e*Sn	Sn	13 39 46.9	+2.1
KLV	Kalavryta, Ach	4.04	326	*e*PN	Pn	13 39 02.6	+0.9
KLV	Kalavryta, Ach	4.04	326	*e*Pn	Pn	13 39 02.6	+0.9
LAKA	Lakka	4.27	326	*e*PN	Pn	13 39 08.1	+3.2
LAKA	Lakka	4.27	326	*e*Pn	Pn	13 39 08.1	+3.2
KALE	Kalithea	4.33	328	*e*PN	Pn	13 39 07.9	+2.2
KALE	Kalithea	4.33	328	*e*Pn	Pn	13 39 07.9	+2.2
TRIZ	Trizonia	4.33	328	*e*PN	Pn	13 39 08.4	+2.7
TRIZ	Trizonia	4.33	328	*e*Pn	Pn	13 39 08.4	+2.7
MMAI	Mount Meron Ar	8.80	98	Pn	Pn	13 40 06.2	-0.9
	1.7nm,0.3s,baz=287,slow=12,SNR=2.6						
EIL	Elat	9.80	118	Pn	Pn	13 40 19.8	-1.1
	0.3nm,0.3s,baz=355,slow=16,SNR=3.7						
AKASG	Malin Array Be	16.25	10	Pn	Pn	13 41 47.6	-0.4
	1.6nm,0.3s,baz=202,slow=11,SNR=12						
GERES	GERESS Array B	16.41	333	Pn	Pn	13 41 50.2	+0.1
	0.2nm,0.3s,baz=153,slow=13,SNR=3.3						
KBZ	Khabaz	16.48	52	Pn	P	13 41 53.2	-0.4
	0.2nm,0.3s,baz=239,slow=11,SNR=5.1						
AKTO	Aktyubinsk	28.62	47	P	P	13 43 54.9	-1.3
	0.8nm,0.5s,baz=258,slow=9.3,SNR=3.8						
TORD	Torodi Ar. Bea	30.13	230	P	P	13 44 10.3	+0.3
	0.5nm,0.6s,baz=37,slow=8.7,SNR=5.5						
MKAR	Makanchi Array	44.10	56	P	P	13 46 07.2	-1.0
	0.8nm,0.7s,baz=275,slow=8.9,SNR=7.3						

*CSEM **06** 13:38:51.7, 39°.70N×29°.45E, h7km, MD2.6, After DDA*

DDA 06 13:38:51.7, 39°.70N×29°.45E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.50	331	*i* P	Pg	13 39 02.2	+0.4
ULDT				*i* S	Sg	13 39 09.1	+0.6
ULDT	Uludag	0.50	331	*i* P	Pg	13 39 02.2	+0.5
ULDT				*i* S	Sg	13 39 09.1	+0.6
DURS	Dursunbey	0.76	263	*i* P	Pg	13 39 06.4	-0.1
DURS				*i* S	Sb	13 39 17.8	-0.3
DURS	Dursunbey	0.76	263	*i* P	Pg	13 39 06.4	-0.1
DURS				*i* S	Sb	13 39 17.8	-0.3
BORA	Eskisehir	0.79	77	*i* P	Pg	13 39 06.6	-0.5
BORA				*i* S	Sb	13 39 19.2	+0.2
BORA	Eskisehir	0.79	77	*i* P	Pg	13 39 06.6	-0.5
BORA				*i* S	Sb	13 39 19.2	+0.2
SEYT	Eskypehyr	1.09	99	*i* P	Pg	13 39 12.8	-0.2
SEYT				*i* S	Sn	13 39 28.6	-0.6
SEYT	Eskypehyr	1.09	99	*i* P	Pg	13 39 12.8	-0.1
SEYT				*i* S	Sn	13 39 28.6	-0.6
BUY	Buyukada	1.18	348	*i* P	Pg	13 39 12.9	-1.5
BUY	Buyukada	1.18	348	*i* P	Pg	13 39 12.9	-1.4
KHAL	Karahalli	1.33	179	*i* P	Pb	13 39 17.2	+0.1
KHAL	Karahalli	1.33	179	*i* P	Pb	13 39 17.2	0.0
MANT	Manisa	1.40	210	*i* P	Pn	13 39 17.0	-1.0
MANT	Manisa	1.40	210	*i* P	Pn	13 39 17.0	-0.9
BALY	Balya	1.41	272	*i* P	Pg	13 39 19.0	0.0
BALY				*i* S	Sg	13 39 39.1	+1.8
BALY	Balya	1.41	272	*i* P	Pg	13 39 19.0	+0.1
BALY				*i* S	Sg	13 39 39.1	+1.7

IDC 06 13:41:00.0±5.3, 12°.87S×166°.15E, h59km±32km, mb3.6/3, mb1 4.0/5, mb1mx3.5/21, mbtmp3.9/5, ML4.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/22, Error ellipse: s-maj=71.3km s-min=24.0km az=55.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.98	299	P	Pn	13 42 39.4	-0.3
	13nm,0.3s,baz=154,slow=4.5,SNR=5.1						
HNR				S	Sn	13 43 58.4	+0.8
	14nm,0.3s,baz=90,slow=4.0,SNR=4.4						
HNR				LR	LR	13 45 10.4	
	comp=Z,130nm,20.3s,baz=341,slow=36						
DZM	Mont Dzumac	9.16	178	P	Pn	13 43 09.7	+0.1
	1.9nm,0.3s,baz=71,slow=2.2,SNR=41						
WRA	Warramunga Arr	31.28	253	P	P	13 47 14.5	-0.2
	0.8nm,0.9s,baz=84,slow=9.1,SNR=2.9						
ASAR	Alice Springs	32.37	246	P	P	13 47 24.3	0.0
	1.4nm,0.7s,baz=75,slow=9.2,SNR=11						
CMAR	Chiang Mai Arr	73.20	294	P	P	13 52 25.3	+0.1
	0.8nm,0.7s,baz=113,slow=4.8,SNR=4.2						

*IDC **06** 13:41:42.3±3.7, 35°.65N×70°.78E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.5/32, mbtmp3.9/9, ML3.7/5, Error ellipse: s-maj=58.1km s-min=31.7km az=171.0*

*ISCJB **06** 13:41:55.8±1.1, 36°.24N±0°.07×71°.3E±0°.1, h188km, mb3.4/3, Error ellipse: s-maj=18.1km s-min=5.1km az=153.3*

*NNC **06** 13:42:01.6±14.0, 36°.82N×70°.52E, h86km±244km, mb3.6, mpv4.0, Error ellipse: s-maj=108.8km s-min=77.1km az=10.0*

ISC 06 13:41:55.5±1.2, 36°.29N±0°.08×71°.1E±0°.1, h188km, n26, σ2°.93/24, mb3.3/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	5.48	132	*e*P	Pn	13 43 17.0	+1.0
DLH				*e*S	Sn	13 44 18.0	-1.3
AML	Almayashu	6.16	18	P	Pn	13 43 25.7	+0.8
	SNR=49						
KZA	Kyzart	6.61	28	P	Pn	13 43 32.1	+1.4
	SNR=9.8						
EKS2	Erkin-Say	6.68	17	P	Pn	13 43 33.0	+1.5
	SNR=6.0						
SDNR	Sundarnagar	6.81	133	*e*4	x	13 44 00.0	
SDNR				*e*S	Sn	13 44 48.0	-2.6
KK31	Karatay Array	6.82	356	P	Pn	13 43 32.3	-0.9
	3.4nm,0.3s,baz=176,slow=12,SNR=64						
KK31				⇑S	Sn	13 44 45.8	-4.8
	4.3nm,0.3s,baz=187,slow=24,SNR=7.0						
AAK	Ala-Archa	6.85	21	P	Pn	13 43 35.4	+1.7
	SNR=10						
AAK	Ala-Archa	6.85	21	Pn	Pn	13 43 35.3	+1.6
	5.1nm,0.3s,baz=186,slow=14,SNR=17						
AAK				Sn	Sn	13 44 49.2	-2.2
	2.0nm,0.3s,baz=137,slow=22,SNR=10						
SMLA	Simla	7.20	134	*i* P	Pn	13 43 36.4	-1.8
SMLA				*i* S	Sn	13 44 57.0	-2.6
CHMS	Chumysh	7.26	22	P	Pn	13 43 40.5	+1.5
	SNR=10						
USP	Ospenovka	7.43	19	P	Pn	13 43 42.8	+1.6
	SNR=6.8						
TKM2	Tokmak 2	7.46	26	⇑P	Pn	13 43 43.1	+1.3
	6.4nm,0.6s						
TKM2				⇑S	Sn	13 45 01.8	-4.3
	2.4nm,0.6s						
TKM2	Tokmak 2	7.46	26	P	Pn	13 43 43.5	+1.7
	SNR=8.6						
KHET	Khetri	9.10	153	*e*S	Sn	13 45 32.3	-13
KHET				AML	AML	13 45 42.4	
	comp=E,169nm,0.1s						
KHET				AML	AML	13 45 42.4	
	comp=N,196nm,0.1s						
KUDL	Kundal	9.30	149	*e*S	Sn	13 45 37.9	-12
KUDL				AML	AML	13 45 48.2	
	comp=E,10nm,0.5s						
KUDL				AML	AML	13 45 50.2	
	comp=N,9.2nm,0.3s						
MK31	Makanchi Array	13.40	35	P	P	13 45 10.8	+10
	comp=N,0.4nm,0.5s,baz=211,slow=10,SNR=16						
MKAR	Makanchi Array	13.40	35	Pn	P	13 45 03.9	+2.6
	comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=3.5						
KURBB	Kurchatov Arra	15.29	18	Pn	P	13 45 27.3	+5.2
	comp=N,0.1nm,0.3s,baz=209,slow=10.0,SNR=5.6						
AB31	Akbulak array	15.31	331	⇓P	P	13 45 22.9	+0.5
	comp=N,1.1nm,0.3s,baz=155,slow=12,SNR=53						
BVAR	Borovoye Array	16.74	358	Pn	Pn	13 45 43.3	+4.3
	comp=N,0.2nm,0.3s,baz=175,slow=8.7,SNR=3.6						
AKTO	Aktyubinsk	17.01	330	⇑P	Pn	13 45 46.0	+3.7
	comp=N,4.1nm,0.8s						
AKTO				⇓S	S	13 48 41.9	-6.7
	comp=N,3.5nm,1.3s						
AKTO	Aktyubinsk	17.01	330	P	Pn	13 45 45.5	+3.2
	comp=N,0.4nm,0.3s,baz=147,slow=14,SNR=11						
ZALV	Zalesovo Beam	20.06	24	P	Pn	13 46 23.2	+4.8
	comp=N,4.8nm,0.4s,baz=229,slow=11,SNR=14						
SONM	Songino Array	28.37	55	P	P	13 47 43.8	+12
	comp=N,0.3nm,0.5s,baz=262,slow=9.8,SNR=3.4						
ARCES	ARCESS Array B	41.38	338	P	P	13 49 33.9	+11
	comp=N,0.6nm,0.6s,baz=110,slow=8.4,SNR=10						
HFS	Hagfors	43.29	322	P	P	13 49 47.8	+10
	comp=N,0.4nm,0.4s,baz=107,slow=9.5,SNR=2.7						

IDC 06 13:44:48.0±1.6, 15°.78S×175°.21W, h253km±27km, mb3.1/4, mb1 3.4/5, mb1mx3.1/20, mbtmp3.2/5, Error ellipse: s-maj=83.7km s-min=18.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.81	61	P	Pn	13 45 51.1	+1.2
	6.9nm,0.3s,baz=210,slow=17,SNR=10						
AFI				S	S	13 46 38.7	-0.2
	8.3nm,0.3s,baz=208,slow=23,SNR=6.7						
WRA	Warramunga Arr	48.06	257	P	P	13 53 02.3	-0.3
	0.5nm,0.5s,baz=92,slow=6.6,SNR=20						
ASAR	Alice Springs	48.33	252	P	P	13 53 04.4	-0.3
	1.5nm,0.4s,baz=88,slow=7.8,SNR=70						
PETK	Petropavlovsk-	72.48	343	P	P	13 55 46.8	0.0
	0.4nm,0.5s,baz=153,slow=9.7,SNR=4.4						
ILAR	Eielson Array	83.17	12	P	P	13 56 45.0	-0.3
	0.3nm,0.5s,baz=215,slow=4.9,SNR=7.0						
ARCES	ARCESS Array B	124.73	351	PKP	PKPdf	14 03 16.1	-0.9
	0.7nm,0.8s,baz=46,slow=2.6,SNR=4.1						
BRTR	Keskin Array B	145.33	319	PKPbc	PKPbc	14 03 56.5	0.0
	0.5nm,0.5s,baz=69,slow=2.8,SNR=3.1						

*ISCJB **06** 13:47:58.3±0.7, 24°.31S±0°.05×67°.17W±0°.09, h179km±13km, mb3.5/2, Error ellipse: s-maj=13.4km s-min=8.8km az=7.1*

*IDC **06** 13:47:58.1±1.6, 24°.32S×67°.07W, h152km±16km, mb3.4/2, mb1 3.5/7, mb1mx3.3/20, mbtmp3.4/7, Error ellipse: s-maj=27.4km s-min=12.8km az=99.0*

*GUC **06** 13:48:01.4±0.5, 24°.02S×67°.56W, h210km±10km, ML4.5*

ISC 06 13:47:58.6±0.9, 24°.34S±0°.06×67°.09W±0°.08, h160km±13km, n17, σ1°.41/22, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.40	315	*e*P	Pn	13 48 41.0	+1.7
LVC				*i* S	Sn	13 49 11.2	+0.5
PB04	Plate Boundary	3.02	313	*e*P	Pn	13 48 53.0	+6.4
PB04				*e*S	Sn	13 49 31.3	+7.5
PB04				AML	AML	13 49 33.0	
	comp=N,534nm,0.4s						
ANCH	Antofagasta	3.11	282	*e*P	Pn	13 48 48.6	+0.9
ANCH				*i* S	Sn	13 49 25.1	-0.7
ANCH				AML	AML	13 49 27.0	
	comp=N,509nm,0.3s						
PB10	Plate Boundary	3.28	284	*e*P	Pn	13 48 50.5	+0.6
PB10				*e*S	Sn	13 49 28.1	-1.5
PB10				AML	AML	13 49 33.3	
	comp=E,1μm,0.4s						
PB07	Plate Boundary	3.66	315	*e*P	Pn	13 48 55.5	+0.5
PB07				*e*S	Sn	13 49 36.1	-2.7
PB07				AML	AML	13 49 38.4	
	comp=N,895nm,0.5s						
HMBC	Humberstone	4.80	327	‖*e*P	Pn	13 49 10.7	+0.9
PSGC	Pisagua	5.50	329	*e*P	Pn	13 49 19.2	+0.3
CFAA	Coronel Fontan	7.31	188	P	Pn	13 49 44.0	+1.3
	comp=N,0.0nm,0.3s,baz=14,slow=19,SNR=6.9						
CFAA				S	Sn	13 51 01.8	-2.9
	comp=N,0.1nm,0.3s,baz=58,slow=23,SNR=4.5						
LPAZ	La Paz	8.07	353	P	Pn	13 49 54.4	+0.8
	comp=N,2.0nm,0.3s,baz=153,slow=7.2,SNR=42						
LPAZ				S	Sn	13 51 21.6	-2.5
	comp=N,0.1nm,0.3s,baz=233,slow=20,SNR=5.5						
CPUP	Villa Florida	9.05	105	P	Pn	13 50 06.6	+0.8
	comp=N,0.4nm,0.3s,baz=281,slow=12,SNR=4.4						
SIV	San Ignacio	10.04	35	P	Pn	13 50 18.0	-1.2
	comp=N,0.4nm,0.3s,baz=222,slow=14,SNR=13						
SIV				S	Sn	13 51 56.9	-14
	comp=N,0.1nm,0.3s,baz=242,slow=7.0,SNR=3.0						
PLCA	Paso Flores	16.60	189	P	P	13 51 42.1	+0.3
	comp=N,0.1nm,0.3s,baz=15,slow=15,SNR=2.8						
BDFB	Brasilia	19.89	68	P	P	13 52 17.7	-0.1
	comp=N,1.3nm,0.3s,baz=237,slow=9.3,SNR=12						
SNAA	Sanae	59.05	161	P	P	13 57 42.1	+0.7
	comp=N,0.5nm,0.9s,baz=4.0,slow=8.9,SNR=9.2						
TORD	Torodi Ar. Bea	76.77	69	P	P	13 59 32.4	-0.4
	comp=N,1.0nm,0.5s,baz=258,slow=5.3,SNR=16						
WRA	Warramunga Arr	131.29	207	PKP	PKPdf	14 06 52.8	+0.3
	comp=N,0.2nm,0.5s,baz=157,slow=1.8,SNR=4.1						
MKAR	Makanchi Array	146.84	40	PKPbc	PKPbc	14 07 22.5	+0.6
	comp=N,0.3nm,0.6s,baz=299,slow=3.5,SNR=4.0						

IDC 06 13:51:09.2±12.0, 38°.23S×137°.19E, h0km, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=155.3km s-min=67.3km az=163.0, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	7.29	31	Pn	Pn	13 52 57.8	+0.8
	0.2nm,0.3s,baz=209,slow=13,SNR=3.5						
STKA				Sn	Sn	13 54 19.8	-0.7
	1.0nm,0.3s,baz=139,slow=13,SNR=6.5						
ASAR	Alice Springs	14.78	348	Pn	Pn	13 54 39.6	0.0
	0.1nm,0.3s,baz=174,slow=11,SNR=5.0						
WRA	Warramunga Arr	18.39	351	P	Pn	13 55 25.3	-0.4
	0.1nm,0.3s,baz=174,slow=10,SNR=5.0						

IDC 06 14:06:21.4±14.0, 14°.96S×167°.07E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=249.7km s-min=40.6km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.10	185	Pn	Pn	14 08 06.4	-0.3
	0.9nm,0.3s,baz=8.1,slow=7.1,SNR=9.9						
DZM				Sn	Sn	14 09 29.0	+0.7
	0.4nm,0.3s,baz=90,slow=20,SNR=2.6						
STKA	Stephens Creek	28.70	230	P	P	14 12 21.1	+0.7
	2.6nm,0.9s,baz=49,slow=9.3,SNR=6.7						
WRA	Warramunga Arr	31.59	256	P	P	14 12 45.6	-0.4
	0.2nm,0.6s,baz=88,slow=7.5,SNR=3.1						
ASAR	Alice Springs	32.42	249	P	P	14 12 53.0	-0.3
	0.5nm,0.7s,baz=78,slow=9.1,SNR=12						

*CSEM **06** 14:17:05.8, 34°.00N×25°.37E, h5km, MD3.5, After ATH*

ATH 06 14:17:05.8, 34°.00N×25°.37E, h5km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.91	17	*e*PB	Pg	14 17 23.5	+0.2
XRY	Khrisi	0.91	17	*e*Pb	Pg	14 17 23.5	+0.2
SIVA	Sivas	1.11	336	*e*PB	Pb	14 17 27.6	0.0
SIVA				*e*SB	Sn	14 17 43.4	-0.4
SIVA	Sivas	1.11	336	*e*Pb	Pb	14 17 27.6	0.0
SIVA				*e*Sb	Sn	14 17 43.4	-0.4
LAST	Lasithi	1.16	4	*e*PG	Pg	14 17 27.7	-0.5
LAST				*e*SB	Sg	14 17 43.7	+0.3
LAST	Lasithi	1.16	4	*e*Pg	Pg	14 17 27.7	-0.5
LAST				*e*Sb	Sg	14 17 43.7	+0.3
NPS	Neapolis	1.27	9	*e*PG	Pg	14 17 29.7	-0.6
NPS				*e*SB	Sn	14 17 48.0	+0.1
NPS	Neapolis	1.27	9	*e*Pg	Pg	14 17 29.7	-0.6
NPS				*e*Sb	Sn	14 17 48.0	+0.1
ZKR	Zakros	1.31	32	*e*PB	Pn	14 17 30.8	0.0
ZKR				*e*SB	Sn	14 17 49.3	+0.5
ZKR	Zakros	1.31	32	*e*Pb	Pn	14 17 30.8	0.0
ZKR				*e*Sb	Sn	14 17 49.3	+0.5
IDI	Anoyia	1.34	343	*e*PB	Pn	14 17 31.4	0.0
IDI				*e*SB	Sn	14 17 49.6	-0.1
IDI	Anoyia	1.34	343	*e*Pb	Pn	14 17 31.4	0.0
IDI				*e*Sb	Sn	14 17 49.6	-0.1
VAM	Vamos	1.70	326	*e*PG	Pb	14 17 37.7	+0.1
VAM				*e*SN	Sg	14 18 02.4	+1.8
VAM	Vamos	1.70	326	*e*PG	Pb	14 17 37.7	+0.1
VAM				*e*Sn	Sg	14 18 02.4	+1.8
KARP	Karpathos	2.13	43	*e*PG	Pb	14 17 45.9	+0.9
KARP	Karpathos	2.13	43	*e*Pg	Pb	14 17 45.9	+0.9
KYTH	Kithira	2.97	321	*e*PN	Pb	14 17 56.7	-2.6
KYTH	Kithira	2.97	321	*e*Pn	Pb	14 17 56.7	-2.6

GUC 06 14:20:43.1±0.8, 31°.43S×69°.17W, h150km±49km, ML3.9, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.59	279	*e*P	Pn	14 21 14.0	+0.3
CMCH				*e*S	Sn	14 21 37.9	+0.7
CMCH				AML	AML	14 21 39.1	
	comp=N,2μm,0.4s						
TLL	Tololo Astrono	1.89	311	*e*P	Pn	14 21 20.2	+2.9
TLL				*i* S	Sn	14 21 45.6	+2.1
TLL				AML	AML	14 21 51.0	
	comp=E,260nm,0.6s						
PEL	Peldehue	2.14	216	*e*P	Pn	14 21 20.0	0.0
PEL				*e*S	Sn	14 21 48.8	+0.4
PEL				AML	AML	14 21 50.4	
	comp=N,966nm,0.4s						
ROCH	El Roble	2.20	225	*e*P	Pn	14 21 21.6	+0.8
ROCH				*e*S	Sn	14 21 50.8	+0.9
ROCH				AML	AML	14 21 54.1	
	comp=N,607nm,0.5s						
CLCH	Cerro Calan	2.28	210	*e*P	Pn	14 21 22.3	+0.7
CLCH				*e*S	Sn	14 21 53.0	+1.5
CLCH				AML	AML	14 21 56.4	
	comp=E,463nm,0.4s						
RCDM	Rinconada Maip	2.48	214	*e*P	Pn	14 21 24.9	+0.8
RCDM				*e*S	Sn	14 21 56.5	+0.8
RCDM				AML	AML	14 22 01.1	
	comp=E,530nm,0.2s						
LCO	Las Campanas	2.75	331	*e*P	Pn	14 21 26.9	-0.8
LCO				AML	AML	14 22 04.6	
	comp=E,195nm,0.5s						
CHCH	Chadas Angostu	2.80	206	*e*P	Pn	14 21 28.7	+0.8
CACH	El Canelo	2.94	204	*e*P	Pn	14 21 31.2	+1.3

*IDC **06** 14:41:56.5±1.5, 62°.09N×151°.23W, h50km±16km, mb3.7/10, mb1 3.8/15, mb1mx3.6/31, mbtmp3.7/15, ML3.5/5, MS3.6/1, Ms1 3.6/1, ms1mx2.4/38, Error ellipse: s-maj=14.4km s-min=9.1km az=107.0*

*ISCJB **06** 14:41:57.4±0.2, 62°.07N±0°.02×150°.90W±0°.04, h80km±3km, mb3.8/10, Error ellipse: s-maj=3.2km s-min=2.6km az=39.3*

*NEIC **06** 14:41:59.4, 62°.05N×150°.93W, h64km, ML3.8(AEIC), After AEIC.*

NEIC Felt [II] at Anchorage and Eagle River. Also felt at Big Lake and Talkeetna.

ISC 06 14:41:58.4±0.7, 62°.06N±0°.03×150°.97W±0°.03, h70km±7km, n123, σ0°.89/143, mb4.0/10, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.28	254	P	Pn	14 42 09.4	0.0
CUT	Chulitna	0.48	43	P	Pn	14 42 11.1	+0.2
SUA	Susitna One	0.61	170	P	Pn	14 42 12.4	+0.1
STLK	Strandline Lak	0.70	217	P	Pn	14 42 13.3	+0.1
NCG	North Capps Gl	0.87	221	P	Pn	14 42 15.4	+0.1
SPCG	Spurr Capps Gl	0.92	214	P	Pn	14 42 16.0	0.0
SPCG				S	Sn	14 42 29.1	+0.1
PMR	Palmer	0.99	117	*e*Pg	Pn	14 42 16.4	-0.2
PMR				*e*Sg	Sn	14 42 27.8	-2.4
PPLA	Purkeypile	1.01	327	*e*Pg	Pn	14 42 17.0	-0.1
PPLA				*e*Sg	Sn	14 42 30.1	-1.0
SPU	Mount Spurr	1.02	211	P	Pn	14 42 17.3	+0.2
SPBG	Spurr Blockage	1.04	220	P	Pn	14 42 18.0	+0.6
SPBG				S	Sn	14 42 32.5	+0.8
BGL	Barrier Glacie	1.05	221	P	Pn	14 42 18.2	+0.7
CKL	Chakachamna La	1.08	218	P	Pn	14 42 18.3	+0.3
HUR	Hurricane	1.11	33	P	Pn	14 42 18.5	+0.3
SML	Sawmill	1.27	100	*e*Pn	Pn	14 42 20.7	+0.4
SML				*e*Sn	Sn	14 42 35.4	-1.4
NKA	Nikishka	1.33	186	P	Pn	14 42 23.4	+2.4
TRF	Thorofare Moun	1.43	12	*e*Pn	Pn	14 42 22.3	-0.2
TRF				*e*Sn	Sn	14 42 39.8	-0.9
BGRM	Barrier Glacie	1.48	209	P	Pn	14 42 23.6	+0.5
KTH	Kantishna Hill	1.50	1	P	Pn	14 42 24.1	+0.7
KTH				S	Sn	14 42 42.5	+0.3
SLKM	Skilak Lake	1.60	167	P	Pn	14 42 25.0	+0.4
RDT	Redoubt	1.64	206	P	Pn	14 42 26.0	+0.7
RND	Reindeer	1

GOAT	Goat Mountain	3.35	113	P	Pn	14 42 47.5	-0.8
RAGM	Ragged Mountai	3.47	116	P	Pn	14 42 49.5	-0.5
MENT	Mentasta	3.48	72	*e*Pn	Pn	14 42 50.1	+0.1
MENT				*e*Sn	Sn	14 43 30.4	+0.4
SCRK	Sand Creek	3.72	56	P	Pn	14 42 54.1	+0.8
MCARA	McCarthy VSAT	3.84	97	P	Pn	14 42 54.9	-0.1
NICHA	Nichawak Mount	3.85	115	P	Pn	14 42 53.8	-1.3
BERG	Berg Lake	3.89	112	P	Pn	14 42 55.0	-0.7
GRIN	Grindle Hills	4.11	112	P	Pn	14 42 57.8	-0.8
IM3	Indian Mountai	4.13	344	P	Pn	14 42 59.0	+0.1
PTPK	Patty Peak	4.15	98	P	Pn	14 42 59.2	-0.1
BALM	Baldy	4.25	100	P	Pn	14 43 00.1	-0.6
KIAG	Kiagna River	4.28	102	P	Pn	14 43 00.2	-0.9
KAKN	Katmai Knife C	4.29	210	P	Pn	14 43 01.4	+0.3
KDAK	Kodiak Island	4.37	191	*e*Pn	Pn	14 43 02.2	+0.1
KDAK				S	Sn	14 43 48.7	-2.9
KDAK	Kodiak Island	4.37	191	P	Pn	14 43 02.2	+0.1
	3.3nm,0.3s,baz=40,slow=8.5,SNR=18						
KDAK				S	Sn	14 43 48.7	-2.9
	18nm,0.3s,baz=356,slow=19,SNR=7.9						
BCA3	Beaver Creek A	4.37	73	P	Pn	14 43 02.5	+0.3
KULT	Kultieth River	4.39	111	P	Pn	14 43 01.9	-0.6
ISLE	Juniper Island	4.41	106	P	Pn	14 43 02.2	-0.6
KABR	Katmai Barrier	4.42	209	P	Pn	14 43 03.1	+0.2
BARK	Barkley Ridge	4.42	108	P	Pn	14 43 03.2	+0.3
BARN	Barnard Glacie	4.56	99	P	Pn	14 43 05.1	+0.2
BAGL	Bagley Icefiel	4.56	106	P	Pn	14 43 04.6	-0.1
CAHL	Cahill	4.57	210	P	Pn	14 43 06.0	+1.1
GRNC	Granite Creek	4.62	103	P	Pn	14 43 05.5	-0.3
MESA	MESA	4.76	109	P	Pn	14 43 07.7	0.0
OHAK	Old Harbor	4.99	195	*e*Pn	Pn	14 43 08.7	-1.9
TABL	Table Mountain	5.01	105	P	Pn	14 43 11.5	+0.4
EGAK	Eagle	5.18	54	*e*Pn	Pn	14 43 13.3	+0.2
	39nm,0.6s						
COLD	Coldfoot	5.20	3	*e*Pn	Pn	14 43 14.1	+0.6
	19nm,0.4s						
SAMH	Samovar Hills	5.31	107	P	Pn	14 43 15.2	+0.2
DAWY	Dawson	5.63	64	*e*Pn	Pn	14 43 19.8	+0.4
BM3	Burnt Mountain	6.03	24	P	Pn	14 43 25.4	+0.5
HYT	Haines Junctio	6.57	95	*e*Pn	Pn	14 43 32.1	-0.3
SKAG	Skagway	8.09	102	*e*Pn	Pn	14 43 50.7	-2.2
	7.5nm,0.4s						
TNA	Tin City	8.27	303	*e*Pn	Pn	14 43 56.7	+1.3
	49nm,0.6s						
INK	Inuvik	9.62	42	P	Pn	14 44 13.7	+0.1
INK	Inuvik	9.62	42	P	Pn	14 44 13.7	+0.1
	0.1nm,0.3s,baz=247,slow=11,SNR=3.1						
DLBC	Dease Lake	11.00	100	P	Pn	14 44 31.9	-0.8
DLBC	Dease Lake	11.00	100	P	Pn	14 44 31.9	-0.8
	0.3nm,0.3s,baz=324,slow=11,SNR=4.5						
YKA	Yellowknife Ar	16.79	72	P	P	14 45 49.9	+0.2
YKA	Yellowknife Ar	16.79	72	P	P	14 45 49.9	+0.2
	0.1nm,0.3s,baz=287,slow=13,SNR=4.0						
FX1	Attu Island--F	21.09	261	P	P	14 46 35.4	-1.3
FX1	Attu Island--F	21.09	261	P	P	14 46 35.4	-1.3
	3.6nm,0.6s,baz=82,slow=15,SNR=5.0						
YBH	Yreka Blue Hor	26.42	127	P	P	14 47 30.3	+2.0
YBH	Yreka Blue Hor	26.42	127	P	P	14 47 30.3	+2.0
	2.0nm,0.8s,baz=334,slow=5.1,SNR=4.3						
NVAR	Mina Array Bea	30.97	125	P	P	14 48 09.9	+1.0
NVAR	Mina Array Bea	30.97	125	P	P	14 48 09.9	+1.0
	2.1nm,0.7s,baz=315,slow=9.4,SNR=8.5						
PDAR	Pinedale Array	31.02	109	P	P	14 48 10.3	+1.0
PDAR	Pinedale Array	31.02	109	P	P	14 48 10.3	+1.0
	0.3nm,0.5s,baz=306,slow=5.1,SNR=3.8						
TXAR	Lajitas Array	44.86	115	P	P	14 50 06.8	+1.2
TXAR	Lajitas Array	44.86	115	P	P	14 50 06.8	+1.2
	0.4nm,0.6s,baz=329,slow=8.8,SNR=5.6						
KSRS	Korea Array	53.69	283	P	P	14 51 12.9	+0.2
	1.2nm,0.5s,baz=30,slow=6.8,SNR=8.4						
KSRS				LR	LR	15 17 03.6	
	comp=Z,51nm,18.7s,baz=199,slow=39						
KSAR	Wonju Array Be	53.72	283	P	P	14 51 12.9	0.0
SONM	Songino Array	54.38	306	P	P	14 51 18.1	+0.4
SONM	Songino Array	54.38	306	P	P	14 51 18.1	+0.4
	1.3nm,0.7s,baz=31,slow=6.9,SNR=11						
ZALV	Zalesovo Beam	56.29	324	P	P	14 51 29.9	-1.2
ZALV	Zalesovo Beam	56.29	324	P	P	14 51 29.9	-1.2
	1.0nm,0.3s,baz=28,slow=6.8,SNR=6.8						
MKAR	Makanchi Array	63.43	322	P	P	14 52 18.8	-1.5
MKAR	Makanchi Array	63.43	322	P	P	14 52 18.8	-1.5
	0.5nm,0.5s,baz=36,slow=6.9,SNR=12						
AKASG	Malin Array Be	67.59	360	P	P	14 52 45.8	-1.2
AKASG	Malin Array Be	67.59	360	P	P	14 52 45.8	-1.2
	0.7nm,0.4s,baz=358,slow=5.4,SNR=4.8						

IDC 06 15:14:04.6±1.9, 14°.91S×167°.79E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.8/4, Error ellipse: s-maj=54.0km s-min=38.7km az=1.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.26	230	P	P	15 20 09.7	+1.1
	1.4nm,0.8s,baz=49,slow=11,SNR=3.6						
WRA	Warramunga Arr	32.27	256	P	P	15 20 34.5	-0.8
	0.2nm,0.6s,baz=84,slow=7.8,SNR=5.1						
ASAR	Alice Springs	33.08	249	P	P	15 20 42.2	-0.1
	0.4nm,0.4s,baz=76,slow=9.2,SNR=28						
QSPA	South Pole Qui	75.11	180	P	P	15 25 48.3	-0.2
	1.9nm,0.8s,baz=347,slow=1.0,SNR=19						
ARCES	ARCESS Array B	120.56	346	PKP	PKPdf	15 32 57.9	+0.2
	0.9nm,0.9s,baz=50,slow=1.9,SNR=5.8						

*ISCJB **06** 15:27:13.1±0.6, 47°.05N±0°.04×9°.48E±0°.04, h13km±5km, Error ellipse: s-maj=7.4km s-min=4.4km az=161.6*
*ZUR **06** 15:27:13.6, 47°.06N×9°.49E, h9km±1km, ML1.7/6*
*VIE **06** 15:27:13.6±0.1, 47°.06N×9°.50E, h5km, mb1.1/1, ML1.9/3, Error ellipse: s-maj=1.1km s-min=1.0km az=165.0 5 km E of Sargans*
*CSEM **06** 15:27:13.4±0.2, 47°.04N×9°.50E, h12km, ML1.7/6, Error ellipse: s-maj=6.3km s-min=4.2km az=170.0*

ISC 06 15:27:13.1±1.2, 46°.99N±0°.04×9°.54E±0°.03, h2km±16km, n22, σ0°49/32, 9C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLONS	Plons/SG	0.12	301	⇑*i*Pg	Pg	15 27 16.0	+0.5
PLONS				*i* Sg	Sg	15 27 17.5	+0.3
PLONS	Plons/SG	0.12	301	⇑*i*Pg	Pg	15 27 16.0	+0.5
PLONS				*i* Sg	Sg	15 27 17.5	+0.3
DAVOX	Davos/Dischmat	0.31	131	⇑*i*Pg	Pb	15 27 21.5	0.0
	79nm,0.3s						
DAVOX				*i* Sg	Sb	15 27 27.1	0.0
	79nm,0.3s						
DAVOX	Davos/Dischmat	0.31	131	⇑*i*Pg	Pb	15 27 21.5	0.0
	79nm,0.3s						
DAVOX				*i* Sg	Sb	15 27 27.1	0.0
	79nm,0.3s						
LIENZ	Kamor/St.Gall	0.31	355	*e*Pg	Pg	15 27 18.6	-0.5
	163nm,0.5s						
LIENZ	Kamor/St.Gall	0.31	355	*e*Pg	Pg	15 27 18.6	-0.5
	163nm,0.5s						
DAVA	Damuels	0.38	38	⇑*i*Pg	Pg	15 27 20.4	-0.1
DAVA				⇑*i*Sg	Sg	15 27 25.2	-0.2
	17nm,0.2s						
DAVA	Damuels	0.38	38	Pg	Pg	15 27 20.4	-0.1
DAVA				Sg	Sg	15 27 25.2	-0.2
	17nm,0.2s						
LLS	Linth-Limmern	0.39	249	*e*Sg	Sg	15 27 24.7	-0.9
	165nm,0.2s						
LLS	Linth-Limmern	0.39	249	*e*Sg	Sg	15 27 24.7	-0.9
WILA	Wila	0.61	315	⇓*i*Pn	Pg	15 27 25.4	+0.7
	76nm,0.4s						
WILA	Wila	0.61	315	⇓*i*Pn	Pg	15 27 25.4	+0.7
	76nm,0.4s						
MUO	Muotathal	0.62	269	*i* Pg	Pb	15 27 26.8	+0.1
	58nm,0.5s						
MUO	Muotathal	0.62	269	*i* Pg	Pb	15 27 26.8	+0.1
	58nm,0.5s						
FUSIO	Fusio	0.80	229	⇓*i*Pn	Pb	15 27 29.8	0.0
	27nm,0.3s						
FUSIO	Fusio	0.80	229	⇓*i*Pn	Pb	15 27 29.8	0.0
	27nm,0.3s						
RETA	Reutte	0.97	59	⇓⇓*i*Pg	Pg	15 27 32.1	+0.3
RETA				⇓⇓*i*Sg	Sb	15 27 45.6	-0.5
	3.6nm,0.1s						
RETA	Reutte	0.97	59	Pg	Pg	15 27 32.1	+0.3
RETA				Sg	Sb	15 27 45.6	-0.5
	3.6nm,0.1s						
SLE	Schleitheim	1.05	318	⇑*i*P1	Pg	15 27 32.6	-0.7
	62nm,0.4s						
SLE	Schleitheim	1.05	318	⇑*i*P	Pg	15 27 32.6	-0.7
	62nm,0.4s						
MOTA	Moosalm	1.13	71	⇓⇓*i*Pg	Pb	15 27 35.5	+0.1
MOTA				⇑⇑*i*Sg	Sb	15 27 51.4	+0.8
	9.3nm,0.2s						
MOTA	Moosalm	1.13	71	Pg	Pb	15 27 35.5	+0.1
MOTA				Sg	Sb	15 27 51.4	+0.8

*IDC **06** 15:27:11.3±1.4, 17°.93S×178°.49W, h540km±18km, mb3.6/12, mb1 3.8/14, mb1mx3.5/23, mbtmp3.6/14, Error ellipse: s-maj=21.7km s-min=11.4km az=146.0*
*ISCJB **06** 15:27:13.4±0.5, 17°.7S±0°.1×178°.58W±0°.08, h579km, mb4.0/11, Error ellipse: s-maj=18.5km s-min=7.5km az=156.9*
*AUST **06** 15:27:14.9±0.0, 17°.73S×178°.43W, h590km, Error ellipse: s-maj=2.1km s-min=1.5km az=352.0*

ISC 06 15:27:14.2±0.6, 17°.9S±0°.1×178°.48W±0°.09, h579km, n34, σ1°21/36, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.56	59	P	P	15 29 04.4	-4.4
	3.8nm,0.3s,baz=163,slow=12,SNR=6.5						
AFI				S	S	15 30 38.6	-4.0
	1.8nm,0.3s,baz=169,slow=16,SNR=3.1						
NIUE	Niue	8.20	100	P	P	15 29 15.8	+1.1
	baz=8.2,SNR=3.5						
DZM	Mont Dzumac	14.77	251	P	P	15 30 20.0	-0.9
	0.6nm,0.3s,baz=88,slow=17,SNR=10						
URZ	Urewera	20.66	190	P	P	15 31 11.6	-3.0
	3.6nm,0.7s,baz=53,slow=5.0,SNR=3.5						
ARMA	Armidale	29.89	240	P	P	15 32 37.0	+0.8
	baz=30,SNR=10.0						
MGCD	Mangrove Creek	31.25	235	P	P	15 32 49.2	+1.5
	baz=31,SNR=5.2						
RMQ	Roma	31.45	248	P	P	15 32 50.2	+0.7
	baz=32,SNR=8.8						
CNB	Canberra Magne	33.38	232	P	P	15 33 06.6	+0.8
	baz=34,SNR=27						
PMG	Port Moresby	34.39	280	P	P	15 33 13.2	-1.2
	34nm,0.8s,baz=104,slow=2.4,SNR=4.8						
CMSA	Cobar Meteorol	35.10	240	P	P	15 33 20.5	+0.4
	baz=35,SNR=29						
MTSU	Mount Surprise	35.34	264	P	P	15 33 22.1	-0.3
	baz=35,SNR=5.3						
COEN	Coen	37.04	270	P	P	15 33 36.6	+0.4
	baz=37,SNR=8.2						
STKA	Stephens Creek	38.58	241	P	P	15 33 49.3	+0.7
	10nm,0.5s,baz=97,slow=10,SNR=35						
STKA	Stephens Creek	38.58	241	P	P	15 33 49.4	+0.7
	baz=39,SNR=28						
JAY	Jayapura	42.84	286	P	P	15 34 23.2	+0.5
	baz=43,SNR=7.2						
BBOO	Buckleboo	43.36	241	P	P	15 34 26.5	+0.2
	baz=43,SNR=13						
WRA	Warramunga Arr	44.57	260	P	P	15 34 35.0	-1.0
	5.6nm,0.5s,baz=93,slow=7.7,SNR=133						
WRA				PcP	PcP	15 36 06.1	-0.2
	0.9nm,0.7s,baz=93,slow=3.3,SNR=3.4						
ASAR	Alice Springs	44.73	254	P	P	15 34 36.9	-0.3
	42nm,0.6s,baz=88,slow=8.1,SNR=1341						
ASAR				PcP	PcP	15 36 06.6	-0.2
	1.0nm,0.6s,baz=102,slow=3.9,SNR=3.4						
KDU	Kakadu	47.49	269	P	P	15 34 57.6	-0.5
	baz=48,SNR=14						
MTN	Manton Dam	48.73	268	P	P	15 35 06.5	-0.8
	baz=49,SNR=4.7						
KNRA	Kununurra	50.42	264	P	P	15 35 19.1	-0.6
	baz=50,SNR=7.8						
FITZ	Fitzroy Crossi	52.97	261	P	P	15 35 38.0	0.0
	baz=53,SNR=9.0						
SOEI	Soe	56.01	270	P	P	15 36 00.6	+1.2
	baz=56,SNR=3.3						
MEEK	Meekatharra	58.38	249	P	P	15 36 14.3	-1.0
	baz=58,SNR=7.7						
KLBR	Kellerberrin	58.78	244	P	P	15 36 17.2	-0.6
	baz=59,SNR=11						
MORW	Morawa	60.43	246	P	P	15 36 28.2	-0.6
	baz=60,SNR=5.2						
MJAR	Matsushiro Arr	67.86	323	P	P	15 37 15.0	-0.6
	0.9nm,0.4s,baz=146,slow=6.2,SNR=5.0						
NVAR	Mina Array Bea	79.46	44	P	P	15 38 22.9	+1.3
	2.3nm,0.8s,baz=228,slow=8.7,SNR=7.1						
MAW	Mawson	83.85	200	P	P	15 38 44.0	+0.8
	1.0nm,0.5s,baz=184,slow=14,SNR=2.6						
ILAR	Eielson Array	85.89	13	P	P	15 38 52.3	-0.6
	0.4nm,0.5s,baz=222,slow=5.0,SNR=7.4						
TXAR	Lajitas Array	86.04	58	P	P	15 38 56.8	+2.1
	2.7nm,0.8s,baz=211,slow=6.7,SNR=20						
PDAR	Pinedale Array	87.39	43	P	P	15 39 01.6	+0.8
	1.4nm,0.7s,baz=211,slow=2.9,SNR=14						
CMAR	Chiang Mai Arr	88.82	290	P	P	15 39 08.6	+0.8
	0.4nm,0.3s,baz=108,slow=2.9,SNR=3.3						
BRTR	Keskin Array B	144.73	315	PKP	PKPdf	15 45 46.3	+0.2
	0.8nm,0.7s,baz=106,slow=3.1,SNR=4.7						

PRU 06 15:28:13.4, 50°.03N×18°.47E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPC	Dobruska-Polom	1.42	284	*e*PG	Pn	15 28 39.1	-1.4
DPC				*e*SG	Sg	15 28 58.3	-0.8

*IDC **06** 15:36:42.8±0.8, 41°.60N×13°.54E, h0km, mb3.8/12, mb1 3.9/23, mb1mx3.9/36, mbtmp3.7/23, ML4.1/10, MS3.4/10, Ms1 3.4/10, ms1mx3.0/45, Error ellipse: s-maj=14.0km s-min=13.7km az=86.0*
*TIR **06** 15:36:43.1, 41°.67N×13°.61E, h50km*
*LDG **06** 15:36:43.8±0.1, 41°.70N×13°.68E, h10km, Ml3.6/9, Error ellipse: s-maj=2.2km s-min=1.3km az=33.0*
*MOS **06** 15:36:43.6±0.9, 41°.70N×13°.64E, h12km, mb4.3/8, Error ellipse: s-maj=5.6km s-min=3.7km az=73.8*
*THE **06** 15:36:44.4, 41°.75N×13°.72E, h0km±8km, ML4.4/3, Error ellipse: s-maj=14.1km s-min=2.2km az=283.0*
*NEIC **06** 15:36:44.0, 41°.63N×13°.67E, h11km, mb4.2/4, ML3.9(ROM), After ROM.*
NEIC Felt [V] at Casalvieri, Colfelice, Isola del Liri, Posta Fibreno and San Donato Val di Comino; [IV] at Alatri, Arpino, Atina, Cassino, Ceccano, Ferentino, Frosinone, Sora and Veroli; [III] at Rome. Felt in much of Abruzzo and Lazio and in parts of Campania and Molise.
*ISCJB **06** 15:36:44.5±0.2, 41°.66N±0°.01×13°.65E±0°.02, h21km±1km, mb3.9/20, MS3.6/11, Error ellipse: s-maj=2.5km s-min=1.7km az=29.2*
*CSEM **06** 15:36:44.6±0.1, 41°.66N×13°.64E, h5km, mb4.1/8, ML4.7/10, Error ellipse: s-maj=2.4km s-min=1.6km az=30.0*
*ROM **06** 15:36:44.4±0.1, 41°.65N×13°.67E, h16km±2km, Ml4.2/39, Error ellipse: s-maj=1.2km s-min=0.8km az=29.0*
*PRU **06** 15:36:45.4, 41°.64N×13°.81E, h5km, M4.4*
*PDG **06** 15:36:45.1±0.3, 41°.70N×13°.72E, h16km, ML4.0/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*VIE **06** 15:36:45.7±0.3, 41°.70N×13°.66E, h10km, mb3.6/10, ML3.9/7, Ms3.7/3, Error ellipse: s-maj=3.8km s-min=2.0km az=71.0 100 km ESE of Rome*
*BEO **06** 15:36:46.4±0.9, 41°.66N×13°.69E, ML4.1/8*
*STR **06** 15:36:49.4±0.0, 41°.94N×13°.40E, h10km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 06 15:36:45.5±0.6, 41°.65N±0°.02×13°.67E±0°.01, h14km±3km, n588, σ1°28/681, mb3.9/20, MS3.6/11, 42C-37D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	Posta Fibreno	0.08	24	⇓⇓*i*Pg	Pg	15 36 47.9	-0.7
POFI				Sg	Sg	15 36 49.9	-0.7
	181μm,0.4s						
POFI	Posta Fibreno	0.08	24	P	Pg	15 36 47.9	-0.7
POFI				S	Sg	15 36 50.0	-0.6
POFI	Posta Fibreno	0.08	24	⇓⇓*i*Pg	Pg	15 36 47.9	-0.7
POFI				S	Sg	15 36 50.0	-0.6
SDI	San Donato	0.12	59	⇓⇓*i*Pg	Pg	15 36 48.3	-0.8
SDI	San Donato	0.12	59	P	Pg	15 36 48.3	-0.8
SDI	San Donato	0.12	59	⇓⇓*i*Pg	Pg	15 36 48.3	-0.8
VVLD	Villa Vallelon	0.23	351	Pg	Pg	15 36 49.8	-0.8
VVLD				Sg	Sg	15 36 53.6	-0.5
	48μm,0.6s						
VVLD	Villa Vallelon	0.23	351	P	Pg	15 36 49.9	-0.8
VVLD				S	Sg	15 36 53.6	-0.5
VVLD	Villa Vallelon	0.23	351	Pg	Pg	15 36 49.8	-0.8
VVLD				Sg	Sg	15 36 53.6	-0.5
	48μm,0.6s						
CERA	Filignano	0.27	100	Pg	Pg	15 36 50.3	-0.9
CERA				Sg	Sg	15 36 54.6	-0.5
	67μm,0.4s						
CERA	Filignano	0.27	100	Pg	Pg	15 36 50.3	-0.9
CERA				Sg	Sg	15 36 54.6	-0.5
	67μm,0.4s						
GUAR	Guarcino	0.31	299	Pg	Pg	15 36 51.2	-0.7
GUAR				Sg	Sg	15 36 55.9	-0.4
	32μm,0.3s						
GUAR	Guarcino	0.31	299	Pg	Pg	15 36 51.2	-0.7
GUAR				Sg	Sg	15 36 55.9	-0.4
	32μm,0.3s						
GIUL	Giuliano Di Ro	0.32	254	⇑*i*Pg	Pg	15 36 51.7	-0.5
GIUL				Sg	Sg	15 36 57.2	+0.4
	31μm,0.4s						
GIUL	Giuliano Di Ro	0.32	254	P	Pg	15 36 51.6	-0.5
GIUL				S	Sg	15 36 57.2	+0.4
GIUL	Giuliano Di Ro	0.32	254	P	Pg	15 36 51.6	-0.6
GIUL				Sg	Sg	15 36 57.2	+0.4
	31μm,0.4s						
RNI2	Rionero Sannit	0.37	81	⇑*i*Pg	Pg	15 36 52.5	-0.5
RNI2				Sg	Sb	15 36 58.9	-0.5
	43μm,0.6s						
RNI2	Rionero Sannit	0.37	81	⇑*i*Pg	Pg	15 36 52.5	-0.5
RNI2				Sg	Sb	15 36 58.9	-0.5
	43μm,0.6s						
INTR	Introdacqua	0.41	26	⇑*i*Pg	Pg	15 36 52.7	-1.0
INTR				Sg	Sg	15 36 59.5	+0.2
	32μm,0.4s						
INTR	Introdacqua	0.41	26	P	Pg	15 36 52.7	-1.0
INTR				S	Sb	15 37 00.2	-0.4
INTR	Introdacqua	0.41	26	⇑*i*Pg	Pg	15 36 52.7	-1.0
INTR				Sg	Sg	15 36 59.5	+0.2
	32μm,0.4s						
INTR				S	Sb	15 37 00.2	-0.4
PTQR	Pietraquaria	0.43	332	⇓*i*Pg	Pg	15 36 53.2	-0.9
PTQR	Pietraquaria	0.43	332	⇓*i*Pg	Pg	15 36 53.2	-0.9
MIDA	Miranda	0.44	90	Pg	Pg	15 36 53.0	-1.3
MIDA				Sg	Sg	15 36 59.9	-0.3
	28μm,0.5s						
MIDA	Miranda	0.44	90	Pg	Pg	15 36 53.0	-1.3
MIDA				Sg	Sg	15 36 59.9	-0.3
	28μm,0.5s						
VAGA	Valle Agricola	0.48	118	Pg	Pg	15 36 53.8	-1.3
	10μm,0.4s						
VAGA	Valle Agricola	0.48	118	Pg	Pg	15 36 53.8	-1.3
	10μm,0.4s						
MSC	Monte Massico	0.51	153	Pg	Pg	15 36 54.5	-1.0
MSC	Monte Massico	0.51	153	Pg	Pg	15 36 54.5	-1.0
MODR	Mondragone	0.52	163	Pg	Pg	15 36 54.3	-1.5
MODR				Sg	Sb	15 37 03.6	-0.2
	9μm,0.6s						
MODR	Mondragone	0.52	163	Pg	Pg	15 36 54.3	-1.5
MODR				Sg	Sb	15 37 03.6	-0.2
	9μm,0.6s						
SGG	Gregorio Mates	0.59	116	Pg	Pg	15 36 56.1	-1.0
	14μm,0.7s						
SGG	Gregorio Mates	0.59	116	Pg	Pg	15 36 56.1	-1.0
	14μm,0.7s						
CERT	Cerreto	0.60	301	Pg	Pg	15 36 55.9	-1.4
CERT				Sg	Sg	15 37 04.7	-0.5
	41μm,0.6s						
CERT	Cerreto	0.60	301	Pg	Pg	15 36 55.9	-1.4
CERT				Sg	Sg	15 37 04.7	-0.5
	41μm,0.6s						
FAGN	Fagnano	0.62	354	Pg	Pg	15 36 56.3	-1.4
	22μm,0.6s						
FAGN	Fagnano	0.62	354	Pg	Pg	15 36 56.3	-1.4
	22μm,0.6s						
TRIV	Trivento	0.67	79	Pg	Pg	15 36 57.2	-1.4
	10μm,0.9s						
TRIV	Trivento	0.67	79	Pg	Pg	15 36 57.2	-1.4
	10μm,0.9s						
BSSO	Busso	0.70	98	Pg	Pg	15 36 58.0	-1.2
	30μm,1.6s						
BSSO	Busso	0.70	98	Pg	Pg	15 36 58.0	-1.2
	30μm,1.6s						
PTRJ	Pietraroja	0.70	113	Pg	Pg	15 36 57.8	-1.4
	17μm,0.5s						
PTRJ	Pietraroja	0.70	113	Pg	Pg	15 36 57.8	-1.4
	17μm,0.5s						
RDP	Rocca di Papa	0.72	279	Pg	Pg	15 36 58.2	-1.4
	24μm,0.5s						
RDP	Rocca di Papa	0.72	279	Pg	Pg	15 36 58.2	-1.4
	24μm,0.5s						
LAV9	Lanuvio	0.73	273	Pg	Pg	15 36 58.3	-1.4
	34μm,0.3s						
LAV9	Lanuvio	0.73	273	Pg	Pg	15 36 58.3	-1.4
	34μm,0.3s						
AQU	L'Aquila	0.73	344	Pg	Pg	15 36 58.2	-1.6
	10μm,0.6s						
AQU	L'Aquila	0.73	344	*e*P	Pg	15 36 58.4	-1.5
AQU	L'Aquila	0.73	344	*e*P	Pg	15 36 58.4	-1.5
RMP	Rome, Mte Porz	0.74	283	Pg	Pg	15 36 58.5	-1.5
	17μm,0.6s						
RMP	Rome, Mte Porz	0.74	283	Pg	Pg	15 36 58.5	-1.5
	17μm,0.6s						
FIAM	Fiamignano	0.75	327	Pg	Pg	15 36 58.2	-1.9
	10μm,0.6s						
FIAM	Fiamignano	0.75	327	Pg	Pg	15 36 58.2	-1.9
	10μm,0.6s						
VCEL	Villa Celiera	0.76	10	Pg	Pg	15 36 58.9	-1.4
VCEL				Sg	Sb	15 37 10.8	0.0
VCEL	Villa Celiera	0.76	10	Pg	Pg	15 36 58.9	-1.4
VCEL				Sg	Sb	15 37 10.8	0.0
CAFR	Castel Frentan	0.77	41	Pg	Pg	15 36 58.9	-1.6
	22μm,0.8s						
CAFR	Castel Frentan	0.77	41	Pg	Pg	15 36 58.9	-1.6
	22μm,0.8s						
MTCE	Montecel

2µm,0.7s
SNAL S. Angelo Dei 1.36 121 Pg Pn 15 37 08.8 -1.4
7µm,1.4s
MCRV Calabrutti - M 1.42 127 Pg Pn 15 37 09.8 -1.2
2µm,0.8s
SGRT San Giovanni R 1.56 85 Pg Pn 15 37 12.3 -0.5
2µm,0.7s
CUC Castrocucco 2.32 135 eP Pn 15 37 23.0 -0.3
CUC Castrocucco 2.32 135 eP Pn 15 37 23.0 -0.3
BAI Bari 2.47 102 ePn Pn 15 37 25.3 0.0
PE1 Pezze di Greco 2.95 105 ePn Pn 15 37 32.5 +0.6
NVLJ Novalja 3.05 16 ePn Pn 15 37 33.6 +0.5
NVLJ Sn **Sn 15 38 09.5 +0.1**
STON Ston 3.23 66 i Pn Pn 15 37 36.0 +0.3
STON Sn **Sn 15 38 10.4 -3.6**
STON Ston 3.23 66 ePn Pn 15 37 36.2 +0.5
UDBI Udbina 3.26 27 i Pn Pn 15 37 36.8 +0.6
UDBI Sn **Sn 15 38 13.7 -1.3**
UDBI Udbina 3.26 27 i Pn Pn 15 37 36.8 +0.6
UDBI Sn **Sn 15 38 13.6 -1.3**
TIP Timpagrande 3.41 135 P Pn 15 37 39.0 +0.7
TIP S **Sb 15 38 23.0 -4.0**
TIP Timpagrande 3.41 135 P Pn 15 37 39.0 +0.7
TIP S **Sb 15 38 23.0 -4.0**
TIP Timpagrande 3.41 135 P Pn 15 37 39.0 +0.7
TIP S **Sb 15 38 23.0 -4.0**
VLC Villacollemand 3.48 317 eP Pn 15 37 40.0 +0.7
VLC Villacollemand 3.48 317 eP Pn 15 37 40.0 +0.7
PGF Pioggiola 3.59 286 eP Pn 15 37 40.2 -0.6
PGF eSn **Sn 15 38 17.5 -5.5**
53nm,0.5s
PGF Pioggiola 3.59 286 eP Pn 15 37 40.2 -0.6
HCY Herceg Novi 3.68 76⇑i Pn Pn 15 37 42.0 +0.1
HCY eSn **Sn 15 38 25.3 +0.2**
HCY Herceg Novi 3.68 76⇑i Pn Pn 15 37 42.0 +0.1
HCY eSn **Sn 15 38 25.3 +0.2**
CEL Celeste 3.79 152 eP Pn 15 37 43.0 -0.5
CEL Celeste 3.79 152 eP Pn 15 37 43.0 -0.5
BRY Bratogost 3.82 69⇓i Pn Pn 15 37 44.4 +0.4
BRY eSn **Sn 15 38 28.9 +0.1**
BRY Bratogost 3.82 69⇓i Pn Pn 15 37 44.4 +0.4
BRY eSn **Sn 15 38 28.9 +0.1**
SKDS Skadanscina 3.91 4 i Pn Pn 15 37 44.3 -0.8
SKDS i Sn **Sn 15 38 30.0 -0.7**
SKDS
comp=Z,253nm,0.7s
SKDS Skadanscina 3.91 4 i Pn Pn 15 37 44.3 -0.8
SKDS i Sn **Sn 15 38 30.0 -0.7**
comp=Z,253nm,0.7s
VSL Villasalto 3.91 238 eP Pn 15 37 43.2 -1.9
VSL Villasalto 3.91 238 eP Pn 15 37 43.2 -1.9
BUM Brajici-Budva 3.95 79⇑i Pn Pn 15 37 45.8 +0.1
BUM eSn **Sn 15 38 32.0 +0.2**
BUM Brajici-Budva 3.95 79⇑i Pn Pn 15 37 45.8 +0.1
BUM eSn **Sn 15 38 32.0 +0.2**
BOJS Bojanci 4.02 16 i Pn Pn 15 37 48.2 +1.6
BOJS i Sn **Sn 15 38 35.1 +1.6**
BOJS Bojanci 4.02 16 i Pn Pn 15 37 48.2 +1.6
BOJS i Sn **Sn 15 38 35.1 +1.6**
TRI Trieste 4.06 1 eP Pn 15 37 47.0 -0.2
TRI Trieste 4.06 1 eP Pn 15 37 47.0 -0.2
TRI Trieste 4.06 1 eP Pn 15 37 47.0 -0.2
NKME Niksic 4.08 72⇓i Pn Pn 15 37 47.7 +0.2
NKME eSn **Sn 15 38 34.4 -0.6**
NKME Niksic 4.08 72⇓i Pn Pn 15 37 47.7 +0.2
NKME eSn **Sn 15 38 34.4 -0.6**
NKY Niksic 4.12 72⇑i Pn Pn 15 37 48.0 -0.1
NKY eSn **Sn 15 38 36.1 0.0**
NKY Niksic 4.12 72⇑i Pn Pn 15 37 48.0 -0.1
NKY eSn **Sn 15 38 36.1 0.0**
DRME Dracevica, Mon 4.15 81⇓i Pn Pn 15 37 49.4 +1.0
DRME eSn **Sn 15 38 36.7 0.0**
DRME Dracevica, Mon 4.15 81⇓i Pn Pn 15 37 49.4 +1.0
DRME eSn **Sn 15 38 36.7 0.0**
UPM Unac-Piva 4.18 66⇓i Pn Pn 15 37 49.4 +0.5
UPM eSn **Sn 15 38 36.9 -0.7**
UPM Unac-Piva 4.18 66⇓i Pn Pn 15 37 49.4 +0.5
UPM eSn **Sn 15 38 36.9 -0.7**
ULC Ulcinj 4.18 84⇑i Pn Pn 15 37 49.2 +0.4
ULC eSn **Sn 15 38 37.8 +0.4**
ULC Ulcinj 4.18 84⇑i Pn Pn 15 37 49.2 +0.4
ULC eSn **Sn 15 38 37.8 +0.4**
PDG Podgorica 4.23 77 P Pn 15 37 50.5 +1.0
PDG S **Sn 15 38 40.1 +1.4**
PDG Podgorica 4.23 77 ePn Pn 15 37 50.3 +0.8
PDG eSn **Sn 15 38 39.0 +0.3**
PDG Podgorica 4.23 77⇑i Pn Pn 15 37 49.9 +0.4
PDG Podgorica 4.23 77 P Pn 15 37 50.5 +1.0
PDG eSn **Sn 15 38 39.0 +0.3**
PDG S Sb 15 38 40.1 -10
TTG Podgorica 4.23 77⇑i Pn Pn 15 37 49.9 +0.4
TTG eSn **Sn 15 38 38.5 -0.2**
TTG Podgorica 4.23 77 P Pn 15 37 50.5 +1.0
TTG S **Sn 15 38 40.1 +1.4**
TTG Podgorica 4.23 77 P Pn 15 37 50.5 +1.0
TTG S **Sn 15 38 40.1 +1.4**
TTG Podgorica 4.23 77 P Pn 15 37 50.5 +1.0
TTG S **Sn 15 38 40.1 +1.4**
JAVS Javornik 4.26 4 i Pn Pn 15 37 49.7 -0.2
JAVS i Sn **Sn 15 38 39.4 0.0**
JAVS Javornik 4.26 4 i Pn Pn 15 37 49.7 -0.2
JAVS i Sn **Sn 15 38 39.4 0.0**
VOY Vojsko 4.39 2 ePn Pn 15 37 51.3 -0.4
VOY e 15 37 55.2
VOY e 15 38 42.4
VOY Vojsko 4.39 2 ePn Pn 15 37 51.3 -0.4
LJU Ljubljana 4.44 8 i Pn Pn 15 37 54.0 +1.6
LJU Ljubljana 4.44 8 i Pn Pn 15 37 54.0 +1.6
LJU i Sn **Sn 15 38 44.3 +0.5**
PLE Pljevlja 4.55 66⇓i Pn Pn 15 37 54.7 +0.7
PLE eSn **Sn 15 38 46.6 -0.1**
PLE Pljevlja 4.55 66⇓i Pn Pn 15 37 54.7 +0.7
PLE eSn **Sn 15 38 46.6 -0.1**
TIR Tirane 4.66 92 eP Pn 15 37 56.0 +0.6
TIR Tirane 4.66 92 eP Pn 15 37 56.0 +0.6
TIR Tirane 4.66 92 ePn Pn 15 37 56.3 +0.9
TIR eSn **Sn 15 38 47.9 -1.4**
TIR Tirane 4.66 92 eP Pn 15 37 56.0 +0.6
TIR Tirane 4.66 92 ePn Pn 15 37 56.3 +0.9
TIR eSn **Sn 15 38 47.9 -1.4**
PUK Puka 4.67 83 ePN Pn 15 37 57.0 +1.5
PUK i SN **Sn 15 38 49.5 0.0**
PUK Puka 4.67 83 ePn Pn 15 37 57.0 +1.5
PUK i Sn **Sn 15 38 49.5 0.0**
BBLS Lazići 4.77 60 ePn Pn 15 37 58.1 +1.1
BBLS Lazići 4.77 60 ePn Pn 15 37 58.1 +1.1
PVY Plav 4.77 76⇑i Pn Pn 15 37 58.2 +1.2
PVY eSn **Sn 15 38 51.6 -0.6**
PVY Plav 4.77 76⇑i Pn Pn 15 37 58.2 +1.2
PVY eSn **Sn 15 38 51.6 -0.6**
BEY Berane 4.78 73⇑i Pn Pn 15 37 59.1 +2.0
BEY eSn **Sn 15 38 51.4 -0.9**
IVA Berane 4.78 73⇑i Pn Pn 15 37 59.1 +2.0
IVA eSn **Sn 15 38 51.4 -0.9**
OBKA Obir 4.90 7⇓i Pn Pn 15 37 58.6 -0.2
SNR=15
OBKA ⇑i Sn **Sn 15 38 56.4 +1.1**
OBKA Obir 4.90 7 Pn Pn 15 37 58.6 -0.2
SNR=15
OBKA Sn **Sn 15 38 56.4 +1.1**
SJES Sjenica 4.94 69 ePn Pn 15 37 59.7 +0.4
MYKA Terra Mystica 4.98 360⇓i Pn Pn 15 37 59.2 -0.7
SNR=20
MYKA ⇓i Sn **Sn 15 38 57.5 +0.2**
MYKA Terra Mystica 4.98 360 Pn Pn 15 37 59.2 -0.7
SNR=20
MYKA Sn **Sn 15 38 57.5 +0.2**
KEK Kerkira 5.04 110 P Pn 15 38 01.4 +0.7
KEK Kerkira 5.04 110 P Pn 15 38 01.4 +0.7
KEK Kerkira 5.04 110 P Pn 15 38 01.4 +0.7
PHP Peshkopia 5.07 87 ePN Pn 15 38 03.1 +2.0
PHP Peshkopia 5.07 87 P Pn 15 38 02.0 +0.9
PHP S **Sn 15 39 01.2 +1.7**
PHP Peshkopia 5.07 87 P Pn 15 38 02.0 +0.9
PHP Peshkopia 5.07 87 P Pn 15 38 02.0 +0.9
PHP Peshkopia 5.07 87 P Pn 15 38 02.0 +0.9
PHP Peshkopia 5.07 87 ePn Pn 15 38 03.1 +2.0
PHP S **Sn 15 39 01.2 +1.7**
SBF Sospel 5.10 298 eP Pn 15 38 00.7 -0.8
SBF eSn Sn 15 38 53.3 -6.8
comp=Z,26nm,0.6s
SBF Sospel 5.10 298 eP Pn 15 38 00.7 -0.8
SRN Sarande 5.12 108 P Pn 15 38 02.4 +0.7
SRN Sarande 5.12 108 P Pn 15 38 02.4 +0.7
SRN Sarande 5.12 108 P Pn 15 38 02.4 +0.7
SOKA Soboth 5.12 11⇑i Pn Pn 15 38 02.2 +0.3
SNR=11
SOKA ⇑i Sn **Sn 15 39 02.2 +1.4**
SOKA Soboth 5.12 11 Pn Pn 15 38 02.2 +0.3
SNR=11
SOKA Sn **Sn 15 39 02.2 +1.4**
ABTA Abfaltersbach 5.17 351⇓i Pn Pn 15 38 02.1 -0.4
SNR=12
ABTA Abfaltersbach 5.17 351 Pn Pn 15 38 02.1 -0.4
SNR=12
TEKS Tekeris 5.18 54 ePn Pn 15 38 04.1 +1.6
TEKS Tekeris 5.18 54 ePn Pn 15 38 04.1 +1.6
DIVS Divibare 5.25 60 P Pn 15 38 04.0 +0.4
DIVS Divibare 5.25 60⇓i Pn Pn 15 38 04.1 +0.4
DIVS Divibare 5.25 60 P Pn 15 38 04.0 +0.4
BEHE Becsehely 5.32 24 epPn Pn 15 38 06.4 +2.0
BEHE Becsehely 5.32 24 eP Pn 15 38 06.4 +2.0
KBA Koelnbreinsper 5.44 358⇓i Pn Pn 15 38 06.4 +0.2
SNR=9.2
KBA ⇑i Sn **Sn 15 39 09.1 +0.5**
KBA Koelnbreinsper 5.44 358 Pn Pn 15 38 06.4 +0.2
SNR=9.2
KBA Sn **Sn 15 39 09.1 +0.5**
KBN Korca 5.47 98 ePN Pn 15 38 08.7 +2.1
KBN Korca 5.47 98 ePn Pn 15 38 08.7 +2.1
IGT Igoumenitsa 5.49 110 P Pn 15 38 07.8 +1.0
IGT Igoumenitsa 5.49 110 P Pn 15 38 07.8 +1.0
IGT Igoumenitsa 5.49 110 P Pn 15 38 07.8 +1.0
IGT Igoumenitsa 5.49 110 P Pn 15 38 07.8 +1.0
FRF La Foret Royal 5.53 293 ePn Pn 15 38 05.1 -2.2
FRF eSn Sn 15 39 03.7 -6.8
comp=Z,9.3nm,0.3s
FRF La Foret Royal 5.53 293 ePn Pn 15 38 05.1 -2.2
LMR La Mourre 5.56 290 ePn Pn 15 38 05.9 -1.8
LMR eSn Sn 15 39 04.4 -6.9
comp=Z,12nm,0.4s
LMR La Mourre 5.56 290 ePn Pn 15 38 05.9 -1.8
GRUS Gruza 5.65 64 ePn Pn 15 38 09.3 +0.3
GRUS eSn **Sn 15 39 12.8 -0.8**
GRUS Gruza 5.65 64 ePn Pn 15 38 09.3 +0.3
GRUS eSn **Sn 15 39 12.8 -0.8**
NEST Nestorio 5.71 100 P Pn 15 38 11.8 +1.8
NEST Nestorio 5.71 100 P Pn 15 38 11.8 +1.8
SELS Selova 5.73 72 ePn Pn 15 38 10.8 +0.7
SELS Selova 5.73 72 ePn Pn 15 38 10.8 +0.7
TUE Stuetta 5.74 329 eP Pn 15 38 10.0 -0.5
comp=Z,21nm,0.6s
TUE Stuetta 5.74 329 eP Pn 15 38 10.0 -0.5
comp=Z,21nm,0.6s
ARSA Arzberg 5.76 13⇓i Pn Pn 15 38 11.3 +0.7
SNR=10
ARSA ⇑i Sn **Sn 15 39 17.3 +1.0**
ARSA Arzberg 5.76 13 ePn Pn 15 38 11.2 +0.7
ARSA eSn **Sn 15 39 14.2 -2.1**
ARSA Arzberg 5.76 13 ePn Pn 15 38 11.2 +0.7
ARSA Sn **Sn 15 39 17.3 +1.0**
SURF Saint Ours 5.77 302 P Pn 15 38 10.5 -0.3
PKSM Moragy 5.81 37 ⇑P Pn 15 38 12.1 +1.0
PKSM Moragy 5.81 37⇑i P Pn 15 38 12.1 +1.0
PKSM Moragy 5.81 37 ePn Pn 15 38 11.3 +0.2
PKSM Moragy 5.81 37 eP Pn 15 38 11.3 +0.2
DAVOX Davos/Dischmat 5.81 333 Pn Pn 15 38 10.7 -0.6
DAVOX Sn **Sn 15 39 19.9 +2.1**
DAVOX Davos/Dischmat 5.81 333 Pn Pn 15 38 10.7 -0.6
comp=Z,2.4nm,0.3s,baz=157,slow=17,SNR=16
DAVOX Sn **Sn 15 39 19.9 +2.1**
comp=Z,1.2nm,0.3s,baz=251,slow=18,SNR=2.2
DAVOX Davos/Dischmat 5.81 333 P Pn 15 38 10.7 -0.6
DAVOX S **Sn 15 39 19.9 +2.1**
JAN Janina 5.81 108 P Pn 15 38 12.9 +1.7
JAN Janina 5.81 108 P Pn 15 38 12.9 +1.7
JAN Janina 5.81 108 P Pn 15 38 12.9 +1.7
JAN Janina 5.81 108 P Pn 15 38 12.9 +1.7
SKO Skopje 5.81 84 ePn Pn 15 38 14.6 +3.4
FNA Florina 5.88 96 P Pn 15 38 13.3 +1.2
FNA Florina 5.88 96 P Pn 15 38 13.3 +1.2
FNA Florina 5.88 96 P Pn 15 38 13.3 +1.2
FNA Florina 5.88 96 P Pn 15 38 13.3 +1.2
WATA Walderalm 5.88 346⇓i Pn Pn 15 38 12.4 +0.1
SNR=9.1
WATA Walderalm 5.88 346 Pn Pn 15 38 12.4 +0.1
SNR=9.1
MBDF Montbardon 5.91 304 eP Pn 15 38 13.4 +0.7
MBDF eSn Sn 15 39 11.7 -8.5
comp=Z,14nm,0.5s
MBDF Montbardon 5.91 304 eP Pn 15 38 13.4 +0.7
PKS9 Tamasi 5.95 32 ePn Pn 15 38 12.7 -0.4
PKS9 Tamasi 5.95 32 eP Pn 15 38 12.7 -0.4
MOTA Moosalm 5.99 343⇑i Pn Pn 15 38 13.4 -0.3
SNR=6.5
MOTA Moosalm 5.99 343 Pn Pn 15 38 13.4 -0.3
SNR=6.5
LKD2 Lefkada island 6.06 116 P Pn 15 38 16.2 +1.5
LKD2 Lefkada island 6.06 116 P Pn 15 38 16.2 +1.5
LKD2 Lefkada island 6.06 116 P Pn 15 38 16.2 +1.5
BNI Bardonecchia 6.13 306 eP Pn 15 38 16.2 +0.5
BNI pmax pmax
comp=Z,19nm,0.7s
BNI Bardonecchia 6.13 306 eP Pn 15 38 16.2 +0.5
comp=Z,19nm,0.7s
BNI Bardonecchia 6.13 306 eP Pn 15 38 16.2 +0.5
comp=Z,19nm,0.7s
MOA Molln 6.22 4⇓i Pn Pn 15 38 17.1 +0.3
SNR=46
MOA ⇓i Sn **Sn 15 39 28.1 +0.5**
MOA Molln 6.22 4 Pn Pn 15 38 17.1 +0.3
SNR=46
MOA Sn **Sn 15 39 28.1 +0.5**
KZN Kozani 6.28 100 P Pn 15 38 19.0 +1.4
KZN Kozani 6.28 100 P Pn 15 38 19.0 +1.4
KZN Kozani 6.28 100 P Pn 15 38 19.0 +1.4
KZN Kozani 6.28 100 P Pn 15 38 19.0 +1.4
LPG La Plagne 6.33 310 eP Pn 15 38 20.0 +1.4
LPG La Plagne 6.33 310 eP Pn 15 38 20.0 +1.4
LPL La Plagne 6.35 310 eP Pn 15 38 20.0 +1.2
LPL La Plagne 6.35 310 eP Pn 15 38 20.0 +1.2
SMRF Simiane la Rot 6.39 294 eP Pn 15 38 19.5 +0.3
SMRF Simiane la Rot 6.39 294 eP Pn 15 38 19.5 +0.3
CONA Conrad Observa 6.47 13⇓i Pn Pn 15 38 20.4 0.0
SNR=30
CONA Conrad Observa 6.47 13 Pn Pn 15 38 20.4 0.0
SNR=30
RSL Roselend 6.51 311 P Pn 15 38 20.4 -0.6
KFL Anninata 6.51 121 P Pn 15 38 21.4 +0.5
KFL Anninata 6.51 121 P Pn 15 38 21.4 +0.5
GDM Grand'Maison 6.55 305 P Pn 15 38 20.7 -0.8
ORIF Oris-en-Rattie 6.56 303 eP Pn 15 38 23.0 +1.5
ORIF Oris-en-Rattie 6.56 303 eP Pn 15 38 23.0 +1.5
PKSG 6.66 29 epPn Pn 15 38 23.5 +0.7
PKSG 6.66 29 eP Pn 15 38 23.5 +0.7
THL Klokotos Trika 6.68 105 P Pn 15 38 25.4 +2.3
THL Klokotos Trika 6.68 105 P Pn 15 38 25.4 +2.3
KEST Kesra 6.80 211 eP Pn 15 38 26.6 +1.7
KEST Kesra 6.80 211 Pn Pn 15 38 25.5 +0.6
comp=Z,1.5nm,0.3s,baz=306,slow=3.1,SNR=30
KEST Kesra 6.80 211 eP Pn 15 38 26.6 +1.7
ZAPS Zavoj 6.83 73 ePn Pn 15 38 26.6 +1.4
ZAPS Zavoj 6.83 73 ePn Pn 15 38 26.6 +1.4
AXS Araxos 6.85 118 P Pn 15 38 26.0 +0.5
AXS Araxos 6.85 118 P Pn 15 38 26.0 +0.5
LIT Litokhoron 6.86 100 P Pn 15 38 26.8 +1.2
LIT Litokhoron 6.86 100 P Pn 15 38 26.8 +1.2
LIT Litokhoron 6.86 100 P Pn 15 38 26.8 +1.2
LIT Litokhoron 6.86 100 P Pn 15 38 26.8 +1.2
PKSN Nyarlorinc 6.88 38 epPn Pn 15 38 27.1 +1.3
PKSN Nyarlorinc 6.88 38 eP Pn 15 38 27.1 +1.3
KNT Kendrikon 6.96 91 P Pn 15 38 27.6 +0.7
KNT Kendrikon 6.96 91 P Pn 15 38 27.6 +0.7
KNT Kendrikon 6.96 91 P Pn 15 38 27.6 +0.7
KNT Kendrikon 6.96 91 P Pn 15 38 27.6 +0.7
BZS Buzias 7.00 53 ⇑P Pn 15 38 28.2 +0.7
BZS Buzias 7.00 53⇑i P Pn 15 38 28.2 +0.7
BZS Buzias 7.00 53 P Pn 15 38 28.2 +0.7
EFP Efpalio 7.09 114 P Pn 15 38 30.5 +1.8
EFP Efpalio 7.09 114 P Pn 15 38 30.5 +1.8
AGG Agios Georgios 7.12 109 P Pn 15 38 30.4 +1.3
AGG Agios Georgios 7.12 109 P Pn 15 38 30.4 +1.3
AGG Agios Georgios 7.12 109 P Pn 15 38 30.4 +1.3
AGG Agios Georgios 7.12 109 P Pn 15 38 30.4 +1.3
VTS Vitosha 7.16 79 P Pn 15 38 30.2 +0.5
VTS Vitosha 7.16 79 ⇓P Pn 15 38 30.3 +0.5
VTS Vitosha 7.16 79⇓i P Pn 15 38 30.3 +0.5
VTS Vitosha 7.16 79 P Pn 15 38 30.2 +0.5
VTS Vitosha 7.16 79 P Pn 15 38 30.3 +0.5
HORT Hortiatis 7.20 95 P Pn 15 38 30.5 +0.2
HORT Hortiatis 7.20 95 P Pn 15 38 30.5 +0.2
HORT Hortiatis 7.20 95 P Pn 15 38 30.5 +0.2
GERES GERESS Array B 7.20 0 Pn Pn 15 38 30.0 -0.3
GERES Sn **Sn 15 39 47.6 -4.3**
GERES GERESS Array B 7.20 0 Pn Pn 15 38 30.0 -0.3
comp=Z,3.1nm,0.3s,baz=176,slow=13,SNR=59
GERES Sn **Sn 15 39 47.6 -4.3**
comp=Z,2.2nm,0.3s,baz=182,slow=22,SNR=3.6
GERES GERESS Array B 7.20 0 P Pn 15 38 30.0 -0.3
LAKA Lakka 7.23 115 P Pn 15 38 32.2 +1.5
LAKA Lakka 7.23 115 P Pn 15 38 32.2 +1.5
LAKA Lakka 7.23 115 P Pn 15 38 32.2 +1.5
TRIZ Trizonia 7.23 114 P Pn 15 38 32.8 +2.1
TRIZ Trizonia 7.23 114 P Pn 15 38 32.8 +2.1
KALE Kalithea 7.27 114 P Pn 15 38 33.5 +2.2
KALE Kalithea 7.27 114 P Pn 15 38 33.5 +2.2
KALE Kalithea 7.27 114 P Pn 15 38 33.5 +2.2
VIVF Saint-Julien-I 7.31 299 eP Pn 15 38 31.9 +0.1
VIVF Saint-Julien-I 7.31 299 eP Pn 15 38 31.9 +0.1
CABF La Chapelle 7.37 315 ePn Pn 15 38 28.6 -4.1
CABF La Chapelle 7.37 315 eP Pn 15 38 33.9 +1.2
CABF La Chapelle 7.37 315 eP Pn 15 38 33.9 +1.2
KLV Kalavryta, Ach 7.45 116 P Pn 15 38 35.2 +1.4
KLV Kalavryta, Ach 7.45 116 P Pn 15 38 35.2 +1.4
KLV Kalavryta, Ach 7.45 116 P Pn 15 38 35.2 +1.4
SRS Serrai 7.48 91 P Pn 15 38 35.4 +1.3
SRS Serrai 7.48 91 P Pn 15 38 35.4 +1.3
SRS Serrai 7.48 91 P Pn 15 38 35.4 +1.3
SRS Serrai 7.48 91 P Pn 15 38 35.4 +1.3
KHC Kasperske Hory 7.49 360 eP Pn 15 38 33.8 -0.4
KHC e 15 39 55.6
KHC MLR MLR
comp=Z,300nm,10.1s
KHC Kasperske Hory 7.49 360 ePN Pn 15 38 33.8 -0.4
KHC eSN **Sn 15 39 55.6 -3.2**
KHC AMS AMS 15 42 00.0
comp=Z,300nm,10.1s
KHC Kasperske Hory 7.49 360 eP Pn 15 38 33.5 -0.7
comp=Z,14nm,0.6s
KHC Kasperske Hory 7.49 360 eP Pn 15 38 33.5 -0.7
comp=Z,14nm,0.6s
KHC Kasperske Hory 7.49 360 Pn **Pn 15 38 33.8 -0.4**
PLG Polygyros 7.50 97 P Pn 15 38 34.2 -0.2
PLG Polygyros 7.50 97 P Pn 15 38 34.2 -0.2
PLG Polygyros 7.50 97 P Pn 15 38 34.2 -0.2
PLG Polygyros 7.50 97 P Pn 15 38 34.2 -0.2
LOMF Lomont 7.51 322 P Pn 15 38 34.3 -0.3
SSB Saint Sauveur 7.57 302 eP Pn 15 38 36.4 +1.0
SSB pmax pmax
comp=Z,6.0nm,0.7s
SSB Saint Sauveur 7.57 302 eP Pn 15 38 36.4 +1.0
comp=Z,6.5nm,0.7s
SSB Saint Sauveur 7.57 302 eP Pn 15 38 36.4 +1.0
comp=Z,6.5nm,0.7s
GZR Gura Zlata 7.60 57 ⇑P Pn 15 38 36.3 +0.4
GZR Gura Zlata 7.60 57⇑i P Pn 15 38 36.3 +0.4
GZR Gura Zlata 7.60 57 P Pn 15 38 36.3 +0.4
XOR Xorichti 7.60 104 P Pn 15 38 36.6 +0.8
XOR Xorichti 7.60 104 P Pn 15 38 36.6 +0.8
XOR Xorichti 7.60 104 P Pn 15 38 36.6 +0.8
LASF Ste Croix 7.61 292 ePn Pn 15 38 31.8 -4.1
GUR Goura 7.63 116 P Pn 15 38 38.5 +2.2
GUR Goura 7.63 116 P Pn 15 38 38.5 +2.2
PSZ Piszkesteto 7.67 33 ⇓P Pn 15 38 37.1 +0.3
PSZ Piszkesteto 7.67 33⇓i P Pn 15 38 37.1 +0.3
PSZ Piszkesteto 7.67 33 eP Pn 15 38 36.3 -0.6
comp=Z,9.0nm,0.6s
PSZ Piszkesteto 7.67 33 ePn Pn 15 38 36.6 -0.2
PSZ Piszkesteto 7.67 33 P Pn 15 38 37.1 +0.3
BFO Black Forest 7.68 332 eP Pn 15 38 36.2 -0.6
BFO pmax pmax
comp=Z,8.0nm,0.7s
BFO Black Forest 7.68 332 eP Pn 15 38 36.2 -0.6
comp=Z,8.4nm,0.7s
BFO Black Forest 7.68 332 eP Pn 15 38 36.2 -0.6
comp=Z,8.4nm,0.7s
MOF Molkenrain 7.75 325 P Pn 15 38 37.9 0.0
TREC Trest 7.75 9 eP Pn 15 38 37.9 0.0
TREC e 15 40 02.2
TREC MLR MLR
comp=Z,600nm,14.0s
TREC Trest 7.75 9 ePN Pn 15 38 37.9 0.0
TREC eSN **Sn 15 40 02.2 -3.2**
TREC AMS AMS 15 42 00.0
comp=Z,600nm,14.0s
TREC Trest 7.75 9 Pn Pn 15 38 37.9 0.0
VYHS Vyhne 7.76 26 eP Pn 15 38 37.8 -0.1
VYHS e 15 40 01.0
VYHS Vyhne 7.76 26 ePN Pn 15 38 37.8 -0.1
VYHS eSN **Sn 15 40 00.9 -4.7**
VYHS Vyhne 7.76 26 eP Pn 15 38 37.8 -0.1
PAIG Paliouri 7.79 99 P Pn 15 38 38.6 +0.3
PAIG Paliouri 7.79 99 P Pn 15 38 38.6 +0.3
PAIG Paliouri 7.79 99 P Pn 15 38 38.6 +0.3
PAIG Paliouri 7.79 99 P Pn 15 38 38.6 +0.3
ITM Ithomi 7.79 122 P Pn 15 38 39.6 +1.2
ITM Ithomi 7.79 122 P Pn 15 38 39.6 +1.2
ITM Ithomi 7.79 122 P Pn 15 38 39.6 +1.2
SMIA Simia 7.80 108 P Pn 15 38 40.1 +1.6
SMIA Simia 7.80 108 P Pn 15 38 40.1 +1.6
HINF Hinteralfeld 7.85 324 ePn Pn 15 38 35.3 -3.9
HINF Hinteralfeld 7.85 324 eP Pn 15 38 40.2 +1.0
HINF eSn Sn 15 39 58.6 -9.1
comp=Z,15nm,0.5s
HINF Hinteralfeld 7.85 324 eP Pn 15 38 40.2 +1.0
SKIA Skiathos 7.87 105 P Pn 15 38 40.3 +0.8
SKIA Skiathos 7.87 105 P Pn 15 38 40.3 +0.8
VRAC Vranov 7.93 14 Pn Pn 15 38 41.6 +1.3
VRAC Vranov 7.93 14 Pn Pn 15 38 41.6 +1.3
comp=Z,1.2nm,0.3s,baz=204,slow=12,SNR=4.9
VRAC Vranov 7.93 14 ePn Pn 15 38 40.2 -0.1
VRAC Vranov 7.93 14 P Pn 15 38 41.6 +1.3
ECH Echery 8.03 327 eP Pn 15 38 40.7 -0.9
ECH pmax pmax
comp=Z,8.0nm,0.6s
ECH Echery 8.03 327 eP Pn 15 38 40.7 -0.9
comp=Z,8.5nm,0.6s
ECH Echery 8.03 327 P Pn 15 38 40.9 -0.7
ECH Echery 8.03 327 eP Pn 15 38 40.7 -0.9
comp=Z,8.5nm,0.6s
CDF Champ du Feu 8.14 328 ePn Pn 15 38 40.9 -2.3
CDF eSn Sn 15 40 05.0 -10
comp=Z,10nm,0.6s
CDF Champ du Feu 8.14 328 ePn Pn 15 38 40.9 -2.3
MRKA Markates 8.14 108 P Pn 15 38 44.7 +1.5
MRKA Markates 8.14 108 P Pn 15 38 44.7 +1.5
KAVA Kavala 8.19 91 P Pn 15 38 43.5 -0.3
KAVA Kavala 8.19 91 P Pn 15 38 43.5 -0.3
KAVA Kavala 8.19 91 P Pn 15 38 43.5 -0.3
HAU Haudompre 8.21 323 ePn Pn 15 38 40.7 -3.5
HAU eSn Sn 15 40 06.4 -10
comp=Z,9.8nm,0.4s
LOT Lotru 8.26 59⇓i P Pn 15 38 46.7 +1.8
DRGR 8.28 49 ⇓P Pn 15 38 46.8 +1.7
DRGR 8.28 49⇓i P Pn 15 38 46.8 +1.7
DRGR 8.28 49 P Pn 15 38 46.8 +1.7
KECS Kecovo 8.36 33 eP Pn 15 38 46.4 +0.2
KECS Kecovo 8.36 33 ePN Pn 15 38 46.4 +0.2
KECS Kecovo 8.36 33 eP Pn 15 38 46.4 +0.2
PRU Pruhonice 8.37 4 eP Pn 15 38 46.0 -0.2
PRU e 15 40 17.1
PRU MLR MLR
comp=Z,500nm,15.1s
PRU Pruhonice 8.37 4 ePN Pn 15 38 46.0 -0.2
PRU eSN **Sn 15 40 17.1 -3.3**
PRU AMS AMS 15 42 20.0
comp=Z,500nm,15.1s
PRU Pruhonice 8.37 4 Pn Pn 15 38 46.0 -0.2
LANF Langenberg 8.42 333 P Pn 15 38 46.6 -0.3
DIDY Didyma 8.46 116 P Pn 15 38 48.8 +1.1
DIDY Didyma 8.46 116 P Pn 15 38 48.8 +1.1
DID Didima 8.46 116 P Pn 15 38 48.7 +1.1
DID Didima 8.46 116 P Pn 15 38 48.7 +1.1
MORC Moravsky Berou 8.57 17 eP Pn 15 38 50.5 +1.4

MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 8.57 17 *eP* **Pn 15 38 50.5 +1.4**
comp=Z,5.2nm,0.8s
MORC Moravsky Berou 8.57 17 *eP* **Pn 15 38 50.5 +1.4**
comp=Z,5.2nm,0.8s
MTLF Montolieu 8.63 285 *e*Pn **Pn 15 38 46.7 -3.2**
MTLF *e*Sn Sn 15 40 18.0 -9.0
comp=Z,1.2nm,0.2s
NKC Novy Kostel 8.63 355 *e*P **Pn 15 38 50.0 +0.1**
NKC *e* 15 40 24.4
NKC MLR MLR
comp=Z,200nm,11.8s
NKC Novy Kostel 8.63 355 *e*PN **Pn 15 38 50.0 +0.1**
NKC *e*SN **Sn 15 40 24.4 -2.6**
NKC AMS AMS 15 43 10.0
comp=Z,200nm,11.8s
NKC Novy Kostel 8.63 355 Pn Pn **15 38 50.0 +0.1**
SMF Signal de Mont 8.65 309 *e*Pn Pn 15 38 46.5 -3.7
SMF Signal de Mont 8.65 309 *e*P **Pn 15 38 51.6 +1.4**
SMF Signal de Mont 8.65 309 *e*P **Pn 15 38 51.6 +1.4**
VLI Veliai 8.71 121 P **Pn 15 38 52.8 +1.7**
VLI Veliai 8.71 121 P **Pn 15 38 52.8 +1.7**
VLI Veliai 8.71 121 P **Pn 15 38 52.8 +1.7**
HUMR Humele 8.76 67⇑ *i*P **Pn 15 38 54.0 +2.3**
OKC Ostrava-Krasne 8.77 19 *e*P **Pn 15 38 51.3 -0.4**
OKC MLR MLR
comp=Z,600nm,13.4s
OKC Ostrava-Krasne 8.77 19 *e*PN **Pn 15 38 51.3 -0.4**
OKC AMS AMS 15 43 10.0
comp=Z,600nm,13.4s
OKC Ostrava-Krasne 8.77 19 Pn **Pn 15 38 51.3 -0.4**
ARR Arges 8.79 61⇑ *i*P **Pn 15 38 53.3 +1.2**
DPC Dobruska-Polom 8.90 11 *e*P **Pn 15 38 53.5 -0.1**
DPC Dobruska-Polom 8.90 11 *e*PN **Pn 15 38 53.5 -0.1**
DPC AMS AMS 15 42 50.0
DPC Dobruska-Polom 8.90 11 Pn **Pn 15 38 53.5 -0.1**
PVCC Panska Ves 8.91 4 *e*P **Pn 15 38 53.4 -0.2**
PVCC *e* 15 40 30.9
PVCC MLR MLR
comp=Z,400nm,12.2s
PVCC Panska Ves 8.91 4 *e*PN **Pn 15 38 53.4 -0.2**
PVCC *e*SN **Sn 15 40 30.9 -2.8**
PVCC AMS AMS 15 42 50.0
comp=Z,400nm,12.2s
PVCC Panska Ves 8.91 4 Pn **Pn 15 38 53.4 -0.2**
LOR Lormes 8.99 312 *e*P **Pn 15 38 56.5 +1.7**
LOR Lormes 8.99 312 *e*P **Pn 15 38 56.5 +1.7**
AVF Avril sur Loir 9.02 308 *e*Pn Pn 15 38 50.9 -4.2
KYTH Kithira 9.05 123 P **Pn 15 38 56.6 +1.0**
KYTH Kithira 9.05 123 P **Pn 15 38 56.6 +1.0**
KYTH Kithira 9.05 123 P **Pn 15 38 56.6 +1.0**
SSF Saint Saulge 9.07 310 *e*P **Pn 15 38 57.1 +1.2**
SSF Saint Saulge 9.07 310 *e*P **Pn 15 38 57.1 +1.2**
CAF Calviac 9.08 295 *e*P **Pn 15 38 56.3 +0.3**
CAF Calviac 9.08 295 *e*P **Pn 15 38 56.3 +0.3**
VOIR 9.09 62⇑P **Pn 15 38 58.7 +2.4**
VOIR 9.09 62⇑ *i*P **Pn 15 38 58.7 +2.4**
VOIR 9.09 62 P **Pn 15 38 58.7 +2.4**
CRVS Cervenica-Dubn 9.10 34 *e*P **Pn 15 38 58.2 +1.9**
CRVS Cervenica-Dubn 9.10 34 *e*PN **Pn 15 38 58.2 +1.9**
CRVS Cervenica-Dubn 9.10 34 *e*P **Pn 15 38 58.2 +1.9**
BRG Berggiesshubel 9.23 1 PN **Pn 15 38 58.5 +0.4**
comp=Z,2.8nm,0.5s
BRG SN **Sn 15 40 40.5 -1.2**
BRG *e* 15 41 51.8
comp=Z,17nm,1.3s
BRG
comp=Z,319nm,12.9s
BRG
comp=N,275nm,16.3s
BRG
comp=E,184nm,16.3s
BRG Berggiesshubel 9.23 1 P **Pn 15 38 58.5 +0.4**
BRG 15 40 40.5
BRG pmax pmax
comp=Z,3.0nm,0.5s
BRG MLR MLR
comp=Z,319nm,12.9s
BRG MLR MLR
comp=N,275nm,16.3s
BRG MLR MLR
comp=E,184nm,16.3s
BRG Berggiesshubel 9.23 1 P **Pn 15 38 58.5 +0.4**
comp=E,3.0nm,0.5s
BRG S **Sn 15 40 40.5 -1.2**
comp=E,319nm,12.9s
UZH Uzhgorod 9.26 38 *e*P **Pn 15 38 59.6 +1.1**
UZH Uzhgorod 9.26 38 *e*P **Pn 15 38 59.6 +1.1**
KOLS Kolonicke sedl 9.47 37 *e*P Pn 15 39 05.8 +4.4
KOLS Kolonicke sedl 9.47 37 *e*PN Pn 15 39 05.8 +4.4
CLL Collm 9.68 358 *i*P **Pn 15 39 03.9 -0.3**
CLL *e* 15 40 47.0
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 9.68 358 *i*Pn **Pn 15 39 03.9 -0.3**
comp=Z,5.0nm,0.6s
CLL *e*Sn **Sn 15 40 47.0 -5.5**
CLL *e* 15 41 18.0
CLL *e* 15 41 50.0
CLL Lmax 15 42 00.0
CLL *e*Sg 15 42 10.0
comp=E,400nm,20.4s
CLL Collm 9.68 358 *i*P **Pn 15 39 03.9 -0.3**
comp=E,5.0nm,0.6s
MLR Muntele Rosu 9.70 63⇑ *i*P **Pn 15 39 07.2 +2.5**
MLR Muntele Rosu 9.70 63 Pn **Pn 15 39 06.2 +1.6**
MLR Muntele Rosu 9.70 63 Pn **Pn 15 39 06.2 +1.6**
comp=E,0.1nm,0.3s,baz=217,slow=5.5,SNR=30
MLR Muntele Rosu 9.70 63 Pn **Pn 15 39 06.2 +1.6**
MLR Muntele Rosu 9.70 63 P **Pn 15 39 07.2 +2.5**
BURAR Bucovina Array 10.16 50⇑P **Pn 15 39 13.4 +2.5**
BURAR Bucovina Array 10.16 50⇑ *i*P **Pn 15 39 13.4 +2.5**
BUR08 Bucovina Ar. S 10.17 50 *e*P **Pn 15 39 13.8 +2.8**
BUR08 Bucovina Ar. S 10.17 50 *e*P **Pn 15 39 13.8 +2.8**
PLOR Plostina 10.29 62⇑P **Pn 15 39 13.6 +1.0**
PLOR Plostina 10.29 62⇑ *i*P **Pn 15 39 13.6 +1.0**
PLOR Plostina 10.29 62 P **Pn 15 39 13.6 +1.0**
VRI Vrincioaia 10.34 62⇑P **Pn 15 39 14.8 +1.4**
VRI Vrincioaia 10.34 62⇑ *i*P **Pn 15 39 14.8 +1.4**
VRI Vrincioaia 10.34 62 P **Pn 15 39 14.8 +1.4**
ESDC Sonseca Array 13.53 267 Pn **Pn 15 39 54.8 -2.2**
ESDC Sonseca Array 13.53 267 Pn **Pn 15 39 54.8 -2.2**
comp=E,0.5nm,0.3s,baz=72,slow=13,SNR=5.0
AKASG Malin Array Be 14.05 45 *i*P **Pn 15 40 06.9 +2.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 14.05 45 Pn **Pn 15 40 04.7 +0.7**
AKASG Malin Array Be 14.05 45 Pn **Pn 15 40 04.7 +0.7**
comp=Z,0.8nm,0.3s,baz=233,slow=13,SNR=4.0
AKASG Malin Array Be 14.05 45 Pn **Pn 15 40 04.7 +0.7**
AKASG Malin Array Be 14.05 45 *i*P **Pn 15 40 06.9 +2.9**
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 15.27 91 Pn **Pn 15 40 21.1 +0.3**
BRTR Keskin Array B 15.27 91 Pn **Pn 15 40 21.1 +0.3**
comp=Z,0.1nm,0.3s,baz=279,slow=10,SNR=2.7
BRTR Keskin Array B 15.27 91 Pn **Pn 15 40 21.0 +0.3**
MDT Midelt 17.00 245 LR LR 15 46 21.0
comp=Z,58nm,18.4s,baz=343,slow=34
ANN Anapa 17.59 72 *e*P **Pn 15 40 49.6 -0.4**
ANN *e*S **Sn 15 44 05.4 -0.2**
ANN pmax pmax
comp=Z,24nm,1.1s
ANN MLR MLR
comp=Z,133nm,14.0s
ANN Anapa 17.59 72 *e*P **Pn 15 40 49.6 -0.4**
comp=Z,24nm,1.1s
EKA Eskdalemuir Ar 17.59 327 P **Pn 15 40 49.9 -0.2**
EKA Eskdalemuir Ar 17.59 327 P **Pn 15 40 49.9 -0.2**
baz=136,slow=14,SNR=5.5
EKA Eskdalemuir Ar 17.59 327 P **Pn 15 40 49.9 -0.2**
HFS Hagfors 18.51 0 P **Pn 15 41 02.0 +0.8**
HFS Hagfors 18.51 0 P **Pn 15 41 02.0 +0.8**
comp=Z,0.1nm,0.3s,baz=161,slow=14,SNR=4.7
HFS LR LR 15 49 07.8
comp=Z,56nm,21.9s,baz=182,slow=40
HFS Hagfors 18.51 0 P **Pn 15 41 02.0 +0.8**
VSU Vasula 18.75 22 *e*P **Pn 15 41 05.9 +1.8**
VSU pmax pmax
comp=Z,21nm,1.1s
VSU MLR MLR
comp=Z,400nm,15.0s
VSU Vasula 18.75 22 *e*P **Pn 15 41 05.9 +1.8**
comp=Z,400nm,15.0s

MMAI Mount Meron Ar 19.27 110 P **Pn 15 41 11.3 +0.5**
MMAI Mount Meron Ar 19.27 110 P **Pn 15 41 11.3 +0.5**
comp=Z,1.1nm,0.3s,baz=292,slow=9.0,SNR=3.2
MMAI Mount Meron Ar 19.27 110 P **Pn 15 41 11.3 +0.5**
NB2 NORSAR Subarra 19.48 356 P **P 15 41 11.2 -0.5**
comp=Z,1.1nm,0.6s,baz=180,slow=11
NB2 NORSAR Subarra 19.48 356 P **P 15 41 11.2 -0.5**
comp=Z,1.1nm,0.6s,SNR=7.6
NOA NORSAR Array B 19.48 356 P **P 15 41 11.8 +0.1**
NOA NORSAR Array B 19.48 356 P **P 15 41 11.8 +0.1**
comp=Z,0.1nm,0.3s,baz=171,slow=8.6,SNR=4.5
NOA LR LR 15 49 16.1
comp=Z,37nm,18.6s,baz=180,slow=39
NOA NORSAR Array B 19.48 356 P **P 15 41 11.9 +0.1**
VORD Divnogorie 19.92 53 *e*P **Pn 15 41 18.4 +0.2**
VORD pmax pmax
comp=Z,3.0nm,0.4s
VORD pmax pmax
comp=N,7.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.6s
VORD Divnogorie 19.92 53 *e*P **Pn 15 41 18.4 +0.2**
comp=E,7.0nm,0.9s
VSR Storozhevoye 19.92 53 *e*P **Pn 15 41 18.2 0.0**
VSR pmax pmax
comp=Z,3.0nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.7s
VSR pmax pmax
comp=E,5.0nm,0.5s
VSR Storozhevoye 19.92 53 *e*P **Pn 15 41 18.2 0.0**
comp=E,10.0nm,1.7s
TAM Tamanrasset 20.00 202 *e*P Pn 15 41 20.3 +0.7
TAM pmax pmax
comp=Z,7.0nm,1.1s
TAM Tamanrasset 20.00 202 *e*P Pn 15 41 20.3 +0.7
comp=Z,6.8nm,1.1s
TAM Tamanrasset 20.00 202 *e*P Pn 15 41 20.3 +0.7
comp=Z,6.8nm,1.1s
OBN Obninsk 20.20 40⇓ *i*P **P 15 41 19.4 -0.1**
OBN *e*S **S 15 45 05.6 +0.1**
OBN *e* 15 45 37.7
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 20.20 40 *i*P **P 15 41 19.4 -0.1**
comp=Z,6.0nm,0.5s
OBN *e*S **S 15 45 05.6 +0.1**
FINES FINESS Array B 21.20 17 P **P 15 41 29.6 -0.8**
FINES FINESS Array B 21.20 17 P **P 15 41 29.6 -0.8**
comp=Z,4.8nm,0.6s,baz=191,slow=9.3,SNR=17
FINES LR LR 15 50 59.4
comp=Z,110nm,20.1s,baz=112,slow=40
FINES FINESS Array B 21.20 17 P **P 15 41 29.6 -0.8**
FIA1 FINESS Array S 21.20 17 P **P 15 41 29.3 -1.0**
FIA1 FINESS Array S 21.20 17 P **P 15 41 29.3 -1.0**
VRHR Novokhopersk 21.36 54 *e*P **P 15 41 34.1 +1.9**
VRHR pmax pmax
comp=Z,8.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,30nm,1.9s
VRHR Novokhopersk 21.36 54 *e*P **P 15 41 34.1 +1.9**
comp=E,10.0nm,1.2s
KIV Kislovodsk 21.37 74 *e*P **P 15 41 33.2 +0.8**
KIV *e*S **S 15 45 32.3 +3.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,38nm,14.0s
KIV Kislovodsk 21.37 74 *e*P **P 15 41 33.2 +0.8**
comp=Z,8.0nm,1.1s
KIV *e*S **S 15 45 32.3 +3.0**
comp=Z,38nm,14.0s
KBZ Khabaz 21.54 75 P **P 15 41 35.4 +1.3**
KBZ Khabaz 21.54 75 P **P 15 41 35.4 +1.3**
KBZ Khabaz 21.54 75 P **P 15 41 35.4 +1.3**
comp=Z,1.4nm,0.8s,baz=282,slow=9.3,SNR=2.8
KBZ Khabaz 21.54 75 P **P 15 41 35.3 +1.2**
KAF Kangasniemi 21.85 16 *e*P **P 15 41 36.3 -1.0**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 21.85 16 *e*p **P 15 41 36.3 -1.0**
comp=Z,1.7nm,0.6s
KAF Kangasniemi 21.85 16 *e*P **P 15 41 36.3 -1.0**
comp=Z,2.0nm,0.6s
ONI Oni 22.06 78 P **S 15 45 41.3 -1.5**
ONI S Sn 15 45 44.2 -9.4
ONI Oni 22.06 78 S **S 15 45 44.2 +1.4**
ARCES ARCESS Array B 28.63 9 P **P 15 42 43.0 +1.9**
ARCES ARCESS Array B 28.63 9 P **P 15 42 43.0 +1.9**
comp=Z,0.9nm,0.8s,baz=190,slow=6.2,SNR=4.4
ARCES LR LR 15 54 31.6
comp=Z,37nm,20.1s,baz=249,slow=37
ARCES ARCESS Array B 28.63 9 P **P 15 42 43.0 +1.9**
TORD Torodi Ar. Bea 30.25 204 P **P 15 42 55.8 -0.1**
TORD Torodi Ar. Bea 30.25 204 P **P 15 42 55.8 -0.1**
comp=Z,1.5nm,0.9s,baz=16,slow=8.6,SNR=8.0
TORD Torodi Ar. Bea 30.25 204 P **P 15 42 55.8 -0.1**
ARU Arti 32.28 47 *d i*P **P 15 43 16.3 +2.9**
ARU 15 44 22.2
ARU S S 15 48 32.6 +6.3
ARU SS **SnSn 15 50 22.7 +5.0**
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU MLR MLR
comp=Z,158nm,16.0s
ARU Arti 32.28 47 *i*P **P 15 43 16.3 +2.9**
comp=Z,7.0nm,1.7s
ABKAR Akbulak array 32.91 61 P **P 15 43 18.4 -0.5**
ABKAR Akbulak array 32.91 61 P **P 15 43 18.5 -0.5**
BRVK Borovoye 39.03 53⇓ *e*P P 15 44 14.6 +3.2
BRVK pmax pmax
comp=Z,8.0nm,1.8s
BRVK MLR MLR
comp=Z,101nm,17.0s
BRVK Borovoye 39.03 53 *e*P P 15 44 14.6 +3.2
comp=Z,101nm,17.0s
ZALV Zalesovo Beam 47.38 49 P **P 15 45 18.7 -0.1**
ZALV Zalesovo Beam 47.38 49 P **P 15 45 18.7 -0.1**
ZALV Zalesovo Beam 47.38 49 P **P 15 45 18.7 -0.1**
comp=Z,0.4nm,0.4s,baz=269,slow=8.2,SNR=2.1
ZALV Zalesovo Beam 47.38 49 P **P 15 45 18.7 -0.1**
MK31 Makanchi Array 48.03 59 *e*P **P 15 45 23.9 -0.1**
MK31 Makanchi Array 48.03 59 *e*P **P 15 45 23.9 -0.1**
MK31 Makanchi Array 48.03 59 *e*P **P 15 45 23.9 -0.1**
MKAR Makanchi Array 48.03 59 *i*P **P 15 45 23.8 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 48.03 59 P **P 15 45 24.0 0.0**
MKAR PcP **PcP 15 46 50.9 -1.0**
MKAR Makanchi Array 48.03 59 P **P 15 45 24.0 0.0**
comp=Z,1.3nm,0.7s,baz=286,slow=6.6,SNR=22
MKAR PcP **PcP 15 46 50.8 -1.0**
comp=Z,0.6nm,0.7s,baz=283,slow=4.4,SNR=3.0
MKAR Makanchi Array 48.03 59 P **P 15 45 24.0 0.0**
FRB Frobisher Bay 50.35 325 LR LR 16 09 19.9
comp=Z,52nm,18.1s,baz=280,slow=39
SONM Songino Array 62.28 49 P **P 15 47 07.3 +0.3**
SONM Songino Array 62.28 49 P **P 15 47 07.3 +0.3**
comp=Z,0.6nm,0.8s,baz=293,slow=9.4,SNR=5.3
SONM Songino Array 62.28 49 P **P 15 47 07.3 +0.3**
SADO Sadowa 63.99 308 LR LR 16 10 53.3
comp=Z,30nm,20.8s,baz=115,slow=32
YKA Yellowknife Ar 68.24 337 P **P 15 47 44.5 -0.7**
YKA Yellowknife Ar 68.24 337 P **P 15 47 44.5 -0.7**
comp=Z,0.7nm,0.7s,baz=57,slow=3.1,SNR=4.0
YKA Yellowknife Ar 68.24 337 P **P 15 47 44.5 -0.7**
ILAR Eielson Array 72.83 351 P **P 15 48 12.9 -0.2**
ILAR Eielson Array 72.83 351 P **P 15 48 12.9 -0.2**
comp=Z,0.5nm,0.8s,baz=0.0,slow=7.2,SNR=6.3
ILAR Eielson Array 72.83 351 P **P 15 48 13.0 -0.2**
CMAR Chiang Mai Arr 74.52 79 P **P 15 48 22.5 -1.3**
CMAR Chiang Mai Arr 74.52 79 P **P 15 48 22.5 -1.3**
comp=Z,0.4nm,0.3s,baz=300,slow=8.0,SNR=5.5
CMAR Chiang Mai Arr 74.52 79 P **P 15 48 22.5 -1.3**
USRK Ussuriysk Arra 78.22 40 LR LR 16 27 21.8
comp=Z,59nm,19.7s,baz=285,slow=39
SDV Santo Domingo 79.92 273 *e*P **P 15 48 53.4 -1.0**
comp=Z,0.6nm,0.6s
SDV Santo Domingo 79.92 273 *e*P **P 15 48 53.4 -1.0**
comp=Z,0.6nm,0.6s
PDAR Pinedale Array 81.64 321 P **P 15 49 02.3 -1.0**

PDAR Pinedale Array 81.64 321 P **P 15 49 02.3 -1.0**
comp=Z,0.7nm,0.8s,baz=69,slow=4.9,SNR=6.4
PDAR Pinedale Array 81.64 321 P **P 15 49 02.3 -1.0**
SDCO Great Sand Dun 83.46 316 *e*P **P 15 49 12.8 -0.1**
comp=Z,3.1nm,1.1s
SDCO Great Sand Dun 83.46 316 *e*P **P 15 49 12.8 -0.1**
comp=Z,3.1nm,1.1s
HWUT Hardware Ranch 83.47 322 *e*P **P 15 49 12.3 -0.5**
comp=Z,2.8nm,0.9s
HWUT Hardware Ranch 83.47 322 *e*P **P 15 49 12.3 -0.5**
comp=Z,2.8nm,0.9s
MJAR Matsushiro Arr 87.12 42 LR LR 16 32 27.7
comp=Z,88nm,18.9s,baz=195,slow=38
TXAR Lajitas Array 88.73 309 P **P 15 49 39.6 +0.7**
TXAR Lajitas Array 88.73 309 P **P 15 49 39.6 +0.7**
comp=Z,0.4nm,0.7s,baz=20,slow=4.0,SNR=3.8
TXAR Lajitas Array 88.73 309 P **P 15 49 39.6 +0.7**
COCO West Island 92.96 104 *i*P P 15 49 53.1 -5.3
CPUP Villa Florida 94.19 238 LR LR 16 35 54.3
comp=Z,52nm,18.7s,baz=4.0,slow=38
ASAR Alice Springs 127.61 90 PKP **PKPdf 15 55 48.3 -2.1**
ASAR Alice Springs 127.61 90 PKP **PKPdf 15 55 48.3 -2.1**
comp=Z,0.4nm,0.9s,baz=301,slow=1.7,SNR=3.6
QSPA South Pole Qui 131.50 180 PKP **PKPdf 15 55 55.5 -1.0**
QSPA South Pole Qui 131.50 180 PKP **PKPdf 15 55 55.4 -1.0**
comp=Z,0.7nm,0.8s,baz=131,slow=6.6,SNR=4.4

IDC 06 15:50:01.4±3.6, 16°.63S×175°.96W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.2/4, Error ellipse: s-maj=154.8km s-min=74.5km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	4.0nm,0.9s,baz=94,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**41.30**	**240**	P	P	15 57 49.9	+1.0
	0.5nm,0.5s,baz=98,slow=7.0,SNR=18						
WRA	**Warramunga Arr**	**47.18**	**258**	P	P	15 58 35.7	-0.5
WRA				PcP	PcP	16 00 07.9	0.0
	0.2nm,0.7s,baz=96,slow=3.2,SNR=2.5						
ASAR	**Alice Springs**	**47.40**	**253**	P	P	15 58 37.6	-0.3
	6.4nm,0.5s,baz=88,slow=7.9,SNR=230						
ASAR				PcP	PcP	16 00 08.2	-0.4
	0.4nm,0.7s,baz=104,slow=4.5,SNR=4.0						
FITZ	**Fitzroy Crossi**	**55.56**	**259**	P	P	15 59 38.6	-0.5
	1.3nm,0.7s						

IDC 06 16:41:18.9±1.2, 24°.64S×176°.60W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, ML4.6/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/25, Error ellipse: s-maj=41.3km s-min=29.1km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.74**	**194**	LR	LR	16 44 16.1	
	comp=Z,354nm,20.1s,baz=292,slow=37						
URZ	**Urewera**	**14.59**	**200**	Pn	Pn	16 44 44.5	-2.2
	2.6nm,0.3s,baz=111,slow=1.5,SNR=16						
STKA	**Stephens Creek**	**37.34**	**249**	P	P	16 48 33.4	+0.1
	0.9nm,0.6s,baz=88,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**44.97**	**261**	P	P	16 49 35.9	-0.3
	0.4nm,0.3s,baz=98,slow=7.4,SNR=30						
ASAR				LR	LR	17 08 15.2	
	comp=Z,104nm,21.5s,baz=260,slow=36						
WRA	**Warramunga Arr**	**45.45**	**266**	P	P	16 49 39.6	-0.3
	0.3nm,0.3s,baz=104,slow=7.9,SNR=25						
VNDA	**Vanda**	**53.93**	**186**	P	P	16 50 44.3	+0.6
	0.4nm,0.6s,baz=16,slow=4.9,SNR=3.5						
TXAR	**Lajitas Array**	**88.22**	**57**	P	P	16 54 11.9	-0.4
	0.7nm,0.9s,baz=232,slow=6.2,SNR=5.9						
NOA	**NORSAR Array B**	**143.22**	**354**	PKP	PKPbc	17 00 52.1	+0.6
	0.5nm,0.6s,baz=16,slow=2.4,SNR=3.7						
BRTR	**Keskin Array B**	**150.49**	**308**	PKPbc	PKPbc	17 01 13.3	+0.4
	0.2nm,0.4s,baz=72,slow=4.7,SNR=2.2						

---

*IDC **06** 16:46:12.2±1.0, 20°.02N×121°.54E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/37, Error ellipse: s-maj=40.9km s-min=17.3km az=68.0*
*ISCJB **06** 16:46:16.8±0.7, 20°.14N±0°.06×121°.4E±0°.1, h40km, mb3.5/7, MS3.3/2, Error ellipse: s-maj=20.0km s-min=7.8km az=173.7*
*MAN **06** 16:46:17, 20°.01N×121°.09E, h20km, mb4.8, ML3.7, MS3.8*
ISC 06 16:46:18.7±0.8, 20°.07N±0°.09×121°.3E±0°.1, h40km, n16, σ1§59/14, mb3.7/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.84**	**200**⇑ *i*P	**Pn**	**Pn**	**16 46 46.4**	**-1.4**
APYP	**Conner**	**2.19**	**181** *e*P	**Pn**	**Pn**	**16 46 52.6**	**-0.1**
ABRA	**Dolores**	**2.46**	**193** *e*P	**Pn**	**Pn**	**16 46 57.1**	**+0.7**
ABRA				*e*S	Sn	16 47 15.7	-10
CAUP	**Cauayan**	**3.15**	**170** *e*P	**Pn**	**Pn**	**16 47 08.1**	**+2.3**
PALP	**Palanan**	**3.18**	**160** *e*P	**Pn**	**Pn**	**16 47 07.3**	**+1.0**
BALP	**Baler**	**4.31**	**176** *e*P	**Pn**	**Pn**	**16 47 22.9**	**+1.1**
KSRS	**Korea Array**	**18.27**	**17** P	**P**	**P**	**16 50 27.1**	**-1.8**
	0.1nm,0.3s,baz=197,slow=12,SNR=7.6						
CMAR	**Chiang Mai Arr**	**21.14**	**269** P	**P**	**P**	**16 51 02.1**	**+1.7**
	0.8nm,0.6s,baz=74,slow=8.6,SNR=5.5						
ASAJ	**Asahikawa**	**29.85**	**32** LR	LR	LR	17 05 17.3	
	comp=Z,47nm,18.1s,baz=344,slow=38						
SONM	**Songino Array**	**30.21**	**340** P	**P**	**P**	**16 52 25.7**	**+0.2**
	0.1nm,0.4s,baz=151,slow=9.7,SNR=2.7						
MKAR	**Makanchi Array**	**41.42**	**319** P	**P**	**P**	**16 54 01.5**	**+0.2**
	0.7nm,0.5s,baz=112,slow=8.6,SNR=14						
WRA	**Warramunga Arr**	**41.77**	**161** P	**P**	**P**	**16 54 01.7**	**-2.6**
	0.8nm,0.5s,baz=344,slow=8.9,SNR=18						
ZALV	**Zalesovo Beam**	**43.78**	**329** P	**P**	**P**	**16 54 19.8**	**-0.4**
	1.1nm,0.7s,baz=113,slow=6.9,SNR=6.9						
ASAR	**Alice Springs**	**45.18**	**164** P	**P**	**P**	**16 54 30.5**	**-1.3**
	0.6nm,0.4s,baz=345,slow=7.0,SNR=28						
FINES	**FINESS Array B**	**75.04**	**330** P	**P**	**P**	**16 57 57.5**	**+1.6**
	0.3nm,0.5s,baz=66,slow=6.5,SNR=4.0						
NOA	**NORSAR Array B**	**81.89**	**332** LR	LR	LR	17 39 00.1	
	comp=Z,16nm,19.3s,baz=335,slow=39						

---

*IDC **06** 16:58:55.7±1.4, 8°.14N×74°.59W, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/22, mbtmp3.6/3, ML2.1/1, Error ellipse: s-maj=50.7km s-min=30.5km az=93.0*
*FUNV **06** 17:00:08.4, 8°.60N×71°.23W, h2km, MW2.5*
ISC 06 16:58:57.3±1.8, 8°.1N±0°.1×75°.2W±0°.1, h10km, n12, σ2§22/8, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**2.84**	**95** *e*S		Sg	17 00 50.7	+22
ROSC	**El Rosal**	**3.34**	**166** Pn		**Pn**	**16 59 50.7**	**+0.7**
	4.3nm,0.3s,baz=282,slow=19,SNR=8.7						
ROSC				Sn	**Sn**	**17 00 30.5**	**+0.5**
	18nm,0.3s,baz=72,slow=20,SNR=8.4						
VIRV	**Villa del Rosa**	**3.61**	**49** *e*S		Sg	17 01 12.9	+19
VIGV	**El Vigia**	**3.83**	**79**⇑ *e*P		**Pg**	**17 00 13.9**	**+3.2**
VIGV				*e*S	Sn	17 00 17.8	-24
SOCV	**Socops**	**4.27**	**87** *e*P		**Pg**	**17 00 17.9**	**-1.3**
SOCV				*e*S	Sn	17 00 24.7	-28
CURV	**Curarigua**	**5.47**	**69** *e*P		**Pg**	**17 00 40.7**	**-1.6**
SANV	**Sanarito**	**5.73**	**76** *e*P		Pb	17 00 42.0	+4.4
TEPV	**Terepaima**	**6.18**	**72** *e*P		Pb	17 00 49.0	+3.8
LPAZ	**La Paz**	**25.23**	**164** P		**P**	**17 04 21.5**	**-2.8**
	0.7nm,0.5s,baz=345,slow=7.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**75.47**	**79** P		P	17 10 39.5	-2.9
	0.3nm,0.4s,baz=279,slow=6.8,SNR=5.1						
ASAR	**Alice Springs**	**148.15**	**238** PKPbc		**PKPbc**	**17 18 45.1**	**+0.7**
	0.1nm,0.8s,baz=109,slow=4.4,SNR=5.4						
WRA	**Warramunga Arr**	**149.12**	**245** PKPbc		**PKPbc**	**17 18 48.1**	**+1.2**
	0.4nm,0.8s,baz=104,slow=2.8,SNR=4.5						

---

*ISCJB **06** 17:16:02.8±0.3, 6°.41S±0°.05×154°.95E±0°.04, h56km, mb4.3/26, MS3.5/4, Error ellipse: s-maj=7.2km s-min=6.1km az=171.4*
*IDC **06** 17:16:02.1±0.6, 6°.52S×155°.00E, h39km±4km, mb4.0/17, mb1 4.1/19, mb1mx4.1/22, mbtmp4.0/19, ML3.8/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/27, Error ellipse: s-maj=18.2km s-min=12.6km az=108.0*
*NEIC **06** 17:16:06.4±1.0, 6°.57S×155°.00E, h81km±10km, mb4.5/9, Error ellipse: s-maj=8.3km s-min=7.3km az=170.0*
*AUST **06** 17:16:08.7, 6°.54S×155°.17E, h100km*
ISC 06 17:16:04.0±0.4, 6°.39S±0°.06×154°.94E±0°.05, h56km, n71, σ1§63/91, mb4.2/26, MS3.4/4, Bougainville - Solomon

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.52**	**308**	P	Pn	17 17 02.7	+6.3
	baz=3.8,SNR=21						
HNR	**Honiara**	**5.81**	**122**	Pn	**Pn**	**17 17 28.3**	**+0.7**
HNR				Sn	**Sn**	**17 18 35.8**	**+2.9**
HNR	**Honiara**	**5.81**	**122**	Pn	**Pn**	**17 17 28.3**	**+0.7**
	6.3nm,0.3s,baz=270,slow=4.0,SNR=7.1						
HNR				Sn	**Sn**	**17 18 35.8**	**+2.9**
	12nm,0.3s,baz=65,slow=22,SNR=2.4						
PMG	**Port Moresby**	**8.27**	**248**	*e*Pn	**Pn**	**17 18 03.7**	**+2.3**
PMG				Sn	**Sn**	**17 19 36.1**	**+2.6**
PMG	**Port Moresby**	**8.27**	**248**	Pn	**Pn**	**17 18 03.7**	**+2.3**
	2.4nm,0.3s,baz=9.1,slow=5.7,SNR=9.0						
PMG				Sn	**Sn**	**17 19 36.1**	**+2.6**
	0.8nm,0.3s,baz=68,slow=23,SNR=2.3						
PMG				LR	LR	17 21 15.4	
	comp=Z,208nm,18.3s,baz=39,slow=38						
CTA	**Charters Tower**	**16.02**	**211**	Pn	**Pn**	**17 19 45.1**	**-0.7**
CTA	**Charters Tower**	**16.02**	**211**	Pn	**Pn**	**17 19 45.1**	**-0.7**
	0.2nm,0.3s,baz=27,slow=9.1,SNR=4.3						
DZM	**Mont Dzumac**	**19.15**	**146**	Pn	**P**	**17 20 21.9**	**-1.1**
DZM	**Mont Dzumac**	**19.15**	**146**	Pn	**P**	**17 20 21.9**	**-1.1**
	0.6nm,0.3s,baz=296,slow=17,SNR=7.8						
RMQ	**Roma**	**20.84**	**196**	P	**P**	**17 20 42.0**	**+0.8**
	baz=21,SNR=4.9						
KDU	**Kakadu**	**23.01**	**253**	P	**P**	**17 21 04.9**	**+0.5**
	baz=23,SNR=3.3						
WRAB	**Tennant Creek**	**24.11**	**234**	*e*P	**P**	**17 21 14.2**	**-0.5**
	5.4nm,0.6s						
WRA	**Warramunga Arr**	**24.12**	**234**	P	**P**	**17 21 14.7**	**-0.2**
WRA				pP	**pP**	**17 21 24.3**	**-4.5**
WRA				PcP	**PcP**	**17 24 54.6**	**-0.4**
WRA	**Warramunga Arr**	**24.12**	**234**	P	**P**	**17 21 14.7**	**-0.2**
	2.0nm,0.6s,baz=56,slow=9.6,SNR=34						
WRA				pP	**pP**	**17 21 24.3**	**-4.5**
	3.4nm,0.4s,baz=59,slow=9.8,SNR=11						
WRA				PcP	**PcP**	**17 24 54.6**	**-0.4**
	1.7nm,0.6s,baz=60,slow=2.2,SNR=12						
MTN	**Manton Dam**	**24.32**	**253**	P	P	17 21 24.2	+7.5
	baz=24,SNR=4.5						
ASAR	**Alice Springs**	**26.54**	**227**	P	**P**	**17 21 35.6**	**-1.2**
ASAR				pP	**pP**	**17 21 47.0**	**-3.8**
ASAR				PcP	**PcP**	**17 25 00.2**	**-0.2**
ASAR	**Alice Springs**	**26.54**	**227**	P	**P**	**17 21 35.6**	**-1.2**
	0.7nm,0.5s,baz=60,slow=9.3,SNR=28						
ASAR				pP	**pP**	**17 21 47.0**	**-3.8**
	1.6nm,0.4s,baz=56,slow=9.5,SNR=14						
ASAR				PcP	**PcP**	**17 25 00.2**	**-0.2**
	1.5nm,0.7s,baz=70,slow=2.0,SNR=10.0						
ASAR				LR	LR	17 30 24.5	
	comp=Z,116nm,21.1s,baz=239,slow=33						
KNRA	**Kununurra**	**27.27**	**248**	P	P	17 21 49.6	+6.2
	baz=27,SNR=4.4						
STKA	**Stephens Creek**	**28.26**	**205**	pP	pP	17 22 00.8	-5.3
	1.4nm,0.6s,baz=8.7,slow=7.6,SNR=1.4						
SOEI	**Soe**	**30.55**	**262**	S	**S**	**17 27 09.8**	**-1.0**
	baz=31,SNR=5.3						
FITZ	**Fitzroy Crossi**	**30.85**	**245**	P	**P**	**17 22 14.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.85**	**245**	P	**P**	**17 22 14.4**	**-0.7**
	2.2nm,0.6s,baz=79,slow=7.6,SNR=12						
FITZ				LR	LR	17 34 52.2	
	comp=Z,107nm,21.5s,baz=175,slow=37						
FITZ	**Fitzroy Crossi**	**30.85**	**245**	P	**P**	**17 22 14.5**	**-0.7**
	baz=31,SNR=7.4						
URZ	**Urewera**	**37.56**	**151**	P	**P**	**17 23 12.8**	**-0.2**
URZ	**Urewera**	**37.56**	**151**	P	**P**	**17 23 12.8**	**-0.2**
	1.8nm,0.4s,baz=304,slow=7.3,SNR=5.1						
MEEK	**Meekatharra**	**40.01**	**236**	P	**P**	**17 23 35.1**	**+1.4**
	baz=40,SNR=4.0						
KSM	**Kuching**	**45.23**	**278**	*e*P	**P**	**17 24 17.2**	**+0.9**
	16nm,1.2s						
KSM	**Kuching**	**45.23**	**278**	P	**P**	**17 24 18.2**	**+2.0**
	baz=46,SNR=3.3						
MJAR	**Matsushiro Arr**	**45.49**	**341**	P	**P**	**17 24 18.2**	**+0.3**
MJAR	**Matsushiro Arr**	**45.49**	**341**	P	**P**	**17 24 18.2**	**+0.3**
	0.7nm,0.5s,baz=162,slow=7.6,SNR=4.0						
KSRS	**Korea Array**	**50.38**	**332**	P	**P**	**17 24 56.7**	**+1.0**
	1.0nm,0.7s,baz=143,slow=6.9,SNR=6.1						
KSAR	**Wonju Array Be**	**50.39**	**332**	P	**P**	**17 24 56.7**	**+0.9**
ASAJ	**Asahikawa**	**51.49**	**349**	P	**P**	**17 25 05.8**	**+1.9**
ASAJ	**Asahikawa**	**51.49**	**349**	P	**P**	**17 25 05.8**	**+1.9**
	2.4nm,0.6s,baz=172,slow=8.2,SNR=7.2						
PETK	**Petropavlovsk-**	**59.31**	**2**	P	**P**	**17 26 01.6**	**+1.6**
PETK	**Petropavlovsk-**	**59.31**	**2**	P	**P**	**17 26 01.6**	**+1.6**
	3.1nm,0.6s,baz=150,slow=8.0,SNR=20						
PETK				LR	LR	17 52 05.8	
	comp=Z,22nm,19.0s,baz=190,slow=36						
CM31	**Chiang Mai Arr**	**60.48**	**295**	*e*P	**P**	**17 26 10.3**	**+1.6**
	8.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.48**	**295**	P	**P**	**17 26 10.4**	**+1.8**
CMAR				pP	**pP**	**17 26 21.5**	**-2.4**
CMAR	**Chiang Mai Arr**	**60.48**	**295**	P	**P**	**17 26 10.4**	**+1.8**
	9.3nm,0.7s,baz=122,slow=5.2,SNR=56						
CMAR				pP	**pP**	**17 26 21.5**	**-2.4**
	3.1nm,0.8s,baz=117,slow=5.0,SNR=5.8						
CHTO	**Chiang Mai**	**60.59**	**296**	*e*P	**P**	**17 26 09.0**	**-0.4**
	4.9nm,0.8s						
FX1	**Attu Island--F**	**61.04**	**13**	*e*P	**P**	**17 26 12.3**	**+0.5**
ULN	**Ulaanbaatar**	**68.47**	**328**	*e*P	**P**	**17 27 01.6**	**+1.1**
	1.9nm,0.9s						
SONM	**Songino Array**	**68.80**	**327**	P	**P**	**17 27 03.5**	**+1.0**
SONM	**Songino Array**	**68.80**	**327**	P	**P**	**17 27 03.5**	**+1.0**
	1.4nm,0.6s,baz=141,slow=6.3,SNR=12						
SONM				LR	LR	17 55 28.4	
	comp=Z,40nm,18.4s,baz=273,slow=34						
SML	**Sawmill**	**80.70**	**24**	*e*P	**P**	**17 28 11.8**	**+0.9**
	2.4nm,0.8s						
TRF	**Thorofare Moun**	**80.86**	**22**	*e*P	**P**	**17 28 11.6**	**-0.3**
	93nm,2.6s						
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**17 28 21.2**	**-0.8**
ILAR				pP	**pP**	**17 28 34.5**	**-3.5**
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**17 28 21.2**	**-0.8**
	0.6nm,0.4s,baz=234,slow=5.1,SNR=10						
ILAR				pP	**pP**	**17 28 34.5**	**-3.5**
	0.6nm,0.9s,baz=231,slow=6.9,SNR=3.3						
MK31	**Makanchi Array**	**82.92**	**319**	*e*P	**P**	**17 28 23.3**	**+0.3**
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**	**17 28 23.4**	**+0.4**
MKAR				pP	**pP**	**17 28 36.9**	**-2.0**
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**	**17 28 23.4**	**+0.4**
	1.2nm,0.7s,baz=103,slow=5.5,SNR=11						
MKAR				pP	**pP**	**17 28 36.9**	**-2.0**
	1.4nm,0.7s,baz=108,slow=5.2,SNR=6.5						
QSPA	**South Pole Qui**	**83.58**	**180**	*e*P	**P**	**17 28 24.6**	**-1.6**
	5.4nm,0.9s						
ZALV	**Zalesovo Beam**	**83.65**	**326**	P	**P**	**17 28 25.3**	**-1.2**
ZALV	**Zalesovo Beam**	**83.65**	**326**	P	**P**	**17 28 25.3**	**-1.2**
	0.4nm,0.4s,baz=113,slow=3.9,SNR=4.3						
HYT	**Haines Junctio**	**84.86**	**27**	*e*P	**P**	**17 28 33.6**	**+1.0**
MAW	**Mawson**	**84.93**	**203**	P	**P**	**17 28 33.1**	**+0.3**
MAW	**Mawson**	**84.93**	**203**	P	**P**	**17 28 33.1**	**+0.3**
	1.0nm,0.4s,baz=119,slow=10,SNR=4.4						
EGAK	**Eagle**	**84.98**	**23**	*e*P	**P**	**17 28 33.9**	**+0.9**
	4.3nm,0.9s						
NVAR	**Mina Array Bea**	**91.39**	**52**	P	**P**	**17 29 05.1**	**+0.6**
NVAR	**Mina Array Bea**	**91.39**	**52**	P	**P**	**17 29 05.1**	**+0.6**
	1.1nm,0.6s,baz=149,slow=3.1,SNR=4.2						
YKA	**Yellowknife Ar**	**95.83**	**28**	P	**P**	**17 29 24.5**	**+0.4**
YKA				pP	**pP**	**17 29 37.9**	**-2.3**
YKA	**Yellowknife Ar**	**95.83**	**28**	P	**P**	**17 29 24.5**	**+0.4**
	1.9nm,0.7s,baz=269,slow=4.5,SNR=8.9						
YKA				pP	**pP**	**17 29 37.9**	**-2.3**
	0.7nm,0.7s,baz=271,slow=4.8,SNR=2.4						
PDAR	**Pinedale Array**	**98.33**	**48**	P	**P**	**17 29 35.0**	**-1.2**
PDAR	**Pinedale Array**	**98.33**	**48**	P	**P**	**17 29 35.0**	**-1.2**
	0.3nm,0.7s,baz=286,slow=6.5,SNR=2.5						
GERES	**GERESS Array B**	**126.51**	**329**	PKP	**PKPdf**	**17 35 01.1**	**0.0**
GERES	**GERESS Array B**	**126.51**	**329**	PKP	**PKPdf**	**17 35 01.1**	**0.0**
	0.4nm,0.7s,baz=79,slow=2.9,SNR=5.0						
BDFB	**Brasilia**	**148.44**	**134**	PKPbc	**PKPdf**	**17 35 43.7**	**+1.7**
BDFB	**Brasilia**	**148.44**	**134**	PKPbc	**PKPdf**	**17 35 43.7**	**+1.7**
	3.5nm,0.6s,baz=208,slow=3.5,SNR=4.4						
TOA0	**Torodi Ar. Sit**	**152.81**	**286**	*e*PKPbc	**PKPbc**	**17 35 54.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**152.81**	**286**	PKP	**PKPdf**	**17 35 47.7**	**-0.9**
TORD				PKPbc	**PKPbc**	**17 35 54.9**	**-1.0**
TORD				pPKPbc	**PKPab**	**17 36 06.9**	**0.0**
TORD	**Torodi Ar. Bea**	**152.81**	**286**	PKP	**PKPdf**	**17 35 47.7**	**-0.9**
	0.3nm,0.7s,baz=74,slow=2.4,SNR=2.8						
TORD				PKPbc	**PKPbc**	**17 35 54.9**	**-1.0**
	2.8nm,0.7s,baz=66,slow=1.8,SNR=19						
TORD				pPKPbc	**PKPab**	**17 36 06.9**	**0.0**
	1.4nm,0.6s,baz=75,slow=4.1,SNR=5.8						

*IDC **06** 17:16:01.7±1.0, 13°.09N×125°.08E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, Error ellipse: s-maj=46.8km s-min=18.3km az=68.0*
*ISCJB **06** 17:16:05.7±0.8, 13°.21N±0°.06×125°.3E±0°.1, h41km, mb3.6/8, Error ellipse: s-maj=20.1km s-min=8.3km az=172.3*

ISC 06 17:16:07.3±0.9, 13°.17N±0°.08×125°.2E±0°.2, h41km, n10, σ0.88/12, mb3.5/8, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**2.00**	**187**	⇓*e*P	**Pn**	**17 16 38.0**	**-0.7**
PLP				eS	**Sn**	**17 17 04.1**	**+1.5**
GQP	**Guinayangan**	**2.79**	**286**	⇑*e*P	**Pn**	**17 16 49.5**	**-0.1**
KSRS	**Korea Array**	**24.31**	**5**	P	**P**	**17 21 21.4**	**+0.4**
	1.5nm,0.9s,baz=189,slow=9.9,SNR=5.8						
CMAR	**Chiang Mai Arr**	**25.81**	**285**	P	**P**	**17 21 33.9**	**-1.0**
	0.4nm,0.4s,baz=88,slow=6.4,SNR=3.7						
ASAR	**Alice Springs**	**37.58**	**167**	P	**P**	**17 23 17.4**	**-0.7**
	0.4nm,0.3s,baz=346,slow=7.1,SNR=6.6						
ASAR				PcP	**PcP**	**17 25 36.9**	**+1.4**
	0.2nm,0.8s,baz=19,slow=3.3,SNR=2.4						
SONM	**Songino Array**	**37.96**	**339**	P	**P**	**17 23 21.5**	**+0.3**
	0.3nm,0.6s,baz=148,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**47.46**	**161**	P	**P**	**17 24 38.0**	**-0.2**
	3.0nm,0.8s,baz=355,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**49.12**	**322**	P	**P**	**17 24 51.0**	**+0.1**
	1.5nm,0.8s,baz=113,slow=9.3,SNR=15						
ZALV	**Zalesovo Beam**	**51.61**	**331**	P	**P**	**17 25 09.8**	**+0.3**
	0.3nm,0.5s,baz=101,slow=7.5,SNR=2.4						
BRTR	**Keskin Array B**	**82.91**	**309**	P	**P**	**17 28 27.9**	**-0.4**
	0.3nm,0.7s,baz=20,slow=4.6,SNR=2.5						

*IDC **06** 17:31:15.0±3.6, 37°.58N×70°.32E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, Error ellipse: s-maj=81.8km s-min=25.5km az=152.0*
*ISCJB **06** 17:31:16.5±2.0, 37°.8N±0°.2×70°.1E±0°.2, h12km, mb3.4/3, Error ellipse: s-maj=33.0km s-min=15.2km az=152.2*
*NNC **06** 17:31:19.4±4.5, 37°.92N×70°.09E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=44.4km s-min=34.6km az=164.0*

ISC 06 17:31:17.8±2.0, 37°.7N±0°.2×70°.1E±0°.2, h12km, n8, σ1.9/93/9, mb3.5/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.41**	**3**	⇑Pn	**Pn**	**17 32 38.0**	**-0.3**
	0.3nm,0.3s,baz=199,slow=16,SNR=21						
KK31				⇓Pg	**Pb**	**17 32 55.0**	**+2.8**
	1.5nm,0.5s,baz=182,slow=18,SNR=4.3						
KK31				Lg	Lg	17 34 03.4	
	3.2nm,0.5s,baz=179,slow=27,SNR=6.4						
TKM2	**Tokmak 2**	**6.71**	**37**	⇑Pn	**Pn**	**17 32 56.8**	**+0.5**
	2.1nm,0.6s						
TKM2				⇑Lg	Lg	17 34 46.8	
	5.5nm,0.9s						
MKAR	**Makanchi Array**	**12.81**	**41**	Pn	**Pn**	**17 34 18.4**	**-1.4**
	baz=222,slow=11,SNR=6.0						
AB31	**Akbulak array**	**13.67**	**331**	⇓P	**Pn**	**17 34 29.1**	**-2.3**
	0.3nm,0.5s,baz=173,slow=11,SNR=7.5						
AKTO	**Aktyubinsk**	**15.37**	**330**	⇑P	**P**	**17 34 58.3**	**-0.8**
	2.8nm,0.7s						
KBZ	**Khabaz**	**21.40**	**295**	P	**P**	**17 36 07.8**	**+2.4**
	2.0nm,0.8s,baz=129,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**39.75**	**337**	P	**P**	**17 38 49.7**	**-0.3**
	0.4nm,0.6s,baz=115,slow=8.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**65.01**	**268**	P	**P**	**17 41 58.4**	**+0.3**
	0.2nm,0.4s,baz=60,slow=6.4,SNR=2.9						

IDC 06 18:06:24.4±10.0, 2°.03N×127°.74E, h267km±103km, mb2.5/3, mb1 2.7/3, mb1mx2.5/21, mbtmp2.5/3, Error ellipse: s-maj=166.9km s-min=23.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**164**	P	P	18 11 04.3	+0.1
	0.5nm,1.0s,baz=344,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**26.23**	**167**	P	P	18 11 35.4	-0.1
	0.2nm,0.6s,baz=354,slow=7.9,SNR=6.7						
ASAR				PcP	PcP	18 14 54.4	-0.3
	0.3nm,0.9s,baz=359,slow=2.0,SNR=4.8						
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	18 15 59.9	-0.1
	0.1nm,0.4s,baz=108,slow=7.7,SNR=2.8						

*ISCJB **06** 18:07:29.3±0.1, 43°.76N±0°.01×105°.32W±0°.02, h0km, mb3.9/5, MS2.8/1, Error ellipse: s-maj=1.8km s-min=1.6km az=175.1*
*NEIC **06** 18:07:29.9±0.3, 43°.81N×105°.22W, h0km, mb4.2/2, ML3.4, Error ellipse: s-maj=4.3km s-min=3.8km az=174.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **06** 18:07:31.1±0.8, 44°.08N×105°.73W, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/31, mbtmp3.7/10, ML3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.0/43, Error ellipse: s-maj=22.3km s-min=7.7km az=144.0*

ISC 06 18:07:29.6±0.5, 43°.75N±0°.01×105°.34W±0°.01, h0km, n278, σ0.99/351, mb3.9/5, 132C-141D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.23**	**336**	P	**Pg**	**18 07 35.5**	**+1.6**
	baz=0.2,SNR=396						
I23A				⇓S	**Sg**	**18 07 37.8**	**+0.9**
	baz=0.2						
I23A	**Meade Ranch, G**	**0.23**	**336**	P	**Pg**	**18 07 35.5**	**+1.6**
	baz=0.2,SNR=396						
I23A				⇓S	**Sg**	**18 07 37.8**	**+0.9**
	baz=0.2						
I23A				⇓S	**Sg**	**18 07 37.8**	**+0.9**
	baz=0.2						
J23A	**Dilts Ranch, B**	**0.38**	**204**	⇑P	**Pg**	**18 07 37.6**	**+0.8**
	baz=0.5,SNR=225						
J23A				⇑S	**Sg**	**18 07 42.0**	**+0.1**
	baz=0.5						
J23A	**Dilts Ranch, B**	**0.38**	**204**	⇑P	**Pg**	**18 07 37.6**	**+0.8**
	baz=0.5,SNR=225						
J23A				⇑S	**Sg**	**18 07 42.0**	**+0.1**
	baz=0.5						
J23A				⇑S	**Sg**	**18 07 42.0**	**+0.1**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.52**	**78**	⇓P	**Pg**	**18 07 39.9**	**+0.3**
	baz=0.4						
I24A				⇑S	**Sg**	**18 07 47.5**	**+1.0**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.52**	**78**	⇓P	**Pg**	**18 07 39.9**	**+0.3**
	baz=0.4						
I24A				⇑S	**Sg**	**18 07 47.5**	**+1.0**
	baz=0.4						
I24A				⇑S	**Sg**	**18 07 47.5**	**+1.0**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.65**	**130**	⇓P	**Pg**	**18 07 41.9**	**0.0**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.65**	**130**	⇓P	**Pg**	**18 07 41.9**	**0.0**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.81**	**357**	⇓P	**Pg**	**18 07 45.4**	**+0.3**
	baz=0.8						
H23A	**Clabaugh Cattl**	**0.81**	**357**	⇓P	**Pg**	**18 07 45.4**	**+0.3**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.84**	**280**	P	**Pg**	**18 07 46.5**	**+0.7**
	baz=0.9,SNR=708						
I22A				⇑S	**Sg**	**18 07 56.6**	**-0.1**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.84**	**280**	P	**Pg**	**18 07 46.5**	**+0.7**
	baz=0.9,SNR=708						
I22A				⇑S	**Sg**	**18 07 56.6**	**-0.1**
	baz=0.9						
I22A				⇑S	**Sg**	**18 07 56.6**	**-0.1**
	baz=0.9						
J22A	**Midwest**	**0.90**	**248**	⇓P	**Pg**	**18 07 46.8**	**0.0**
	baz=1.0,SNR=290						
J22A	**Midwest**	**0.90**	**248**	⇓P	**Pg**	**18 07 46.8**	**0.0**
	baz=1.0,SNR=290						
RSSD	**Black Hills**	**1.01**	**68**	*e*P	**Pg**	**18 07 48.0**	**-0.9**
K23A	**Bowen Ranch, D**	**1.02**	**192**	⇓P	**Pg**	**18 07 49.0**	**-0.1**
	baz=1.1,SNR=12						
K23A	**Bowen Ranch, D**	**1.02**	**192**	⇓P	**Pg**	**18 07 49.0**	**-0.1**
	baz=1.1,SNR=12						
K24A	**Anderson Ranch**	**1.10**	**160**	⇓P	**Pg**	**18 07 50.3**	**-0.2**
	baz=1.1,SNR=70						
K24A				⇑S	**Sg**	**18 08 05.5**	**+0.7**
	baz=1.1						
K24A	**Anderson Ranch**	**1.10**	**160**	⇓P	**Pg**	**18 07 50.3**	**-0.2**
	baz=1.1,SNR=70						
K24A				⇑S	**Sg**	**18 08 05.5**	**+0.7**
	baz=1.1						
K24A				⇑S	**Sg**	**18 08 05.5**	**+0.7**
	baz=1.1						
H22A	**Clearmont**	**1.12**	**319**	⇑P	**Pg**	**18 07 51.1**	**+0.1**
	baz=1.1,SNR=165						
H22A	**Clearmont**	**1.12**	**319**	⇑P	**Pg**	**18 07 51.1**	**+0.1**
	baz=1.1,SNR=165						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇓P	**Pg**	**18 07 50.8**	**-0.7**
	baz=1.1						
H24A				⇑S	**Sb**	**18 08 07.6**	**-0.2**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇓P	**Pg**	**18 07 50.8**	**-0.7**
	baz=1.1						
H24A				⇑S	**Sb**	**18 08 07.6**	**-0.2**
	baz=1.1						
H24A				⇑S	**Sb**	**18 08 07.6**	**-0.2**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.17**	**107**	⇓P	**Pg**	**18 07 51.6**	**-0.5**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.17**	**107**	⇓P	**Pg**	**18 07 51.6**	**-0.5**
	baz=1.1						
I25A	**Rochford**	**1.19**	**76**	⇑P	**Pg**	**18 07 51.5**	**-0.9**
	baz=1.1						
I25A	**Rochford**	**1.19**	**76**	⇑P	**Pg**	**18 07 51.5**	**-0.9**
	baz=1.1						
K22A	**Casper**	**1.40**	**219**	⇑P	**Pn**	**18 07 55.8**	**-0.8**
	baz=1.5,SNR=247						
K22A	**Casper**	**1.40**	**219**	⇑P	**Pn**	**18 07 55.8**	**-0.8**
	baz=1.5,SNR=247						
I21A	**Big Trails, Te**	**1.42**	**273**	⇓P	**Pn**	**18 07 55.5**	**-1.3**
	baz=1.5,SNR=417						
I21A				⇓S	**Sg**	**18 08 15.9**	**+0.8**
	baz=1.5						
I21A	**Big Trails, Te**	**1.42**	**273**	⇓P	**Pn**	**18 07 55.5**	**-1.3**
	baz=1.5,SNR=417						
I21A				⇓S	**Sg**	**18 08 15.9**	**+0.8**
	baz=1.5						
I21A				⇓S	**Sg**	**18 08 15.9**	**+0.8**
	baz=1.5						
G23A	**Biddle**	**1.45**	**358**	⇓P	**Pn**	**18 07 56.5**	**-0.7**
	baz=1.4						
G23A	**Biddle**	**1.45**	**358**	⇓P	**Pn**	**18 07 56.5**	**-0.7**
	baz=1.4						
H21A	**Big Horn, Sher**	**1.51**	**306**	⇑P	**Pn**	**18 07 58.1**	**+0.1**
	baz=1.5,SNR=87						
H21A				⇓S	**Sg**	**18 08 18.6**	**+0.5**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.51**	**306**	⇑P	**Pn**	**18 07 58.1**	**+0.1**
	baz=1.5,SNR=87						
H21A				⇓S	**Sg**	**18 08 18.6**	**+0.5**
	baz=1.5						
H21A				⇓S	**Sg**	**18 08 18.6**	**+0.5**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.56**	**136**	⇑P	**Pn**	**18 07 59.0**	**+0.2**
	baz=1.6,SNR=55						
K25A	**Mack Ranch, Ha**	**1.56**	**136**	⇑P	**Pn**	**18 07 59.0**	**+0.2**
	baz=1.6,SNR=55						
J21A	**Lysite**	**1.59**	**256**	P	**Pn**	**18 07 58.7**	**-0.4**
	baz=1.7,SNR=346						
J21A	**Lysite**	**1.59**	**256**	P	**Pn**	**18 07 58.7**	**-0.4**
	baz=1.7,SNR=346						
G22A	**Birney**	**1.62**	**335**	⇑P	**Pn**	**18 07 59.6**	**+0.1**
	baz=1.6,SNR=228						
G22A	**Birney**	**1.62**	**335**	⇑P	**Pn**	**18 07 59.6**	**+0.1**
	baz=1.6,SNR=228						
L23A	**Garrett**	**1.66**	**189**	P	**Pn**	**18 07 59.8**	**-0.3**
	baz=1.7,SNR=786						
L23A				⇓S	**Sn**	**18 08 22.7**	**+0.4**
	baz=1.7						
L23A	**Garrett**	**1.66**	**189**	P	**Pn**	**18 07 59.8**	**-0.3**
	baz=1.7,SNR=786						
L23A				⇓S	**Sn**	**18 08 22.7**	**+0.4**
	baz=1.7						
L23A				⇓S	**Sn**	**18 08 22.7**	**+0.4**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.70**	**104**	⇓P	**Pn**	**18 08 00.6**	**0.0**
	baz=1.6						
J26A				⇑Sb	**Sg**	**18 08 25.1**	**+0.9**
	baz=1.6						
J26A	**Sides Ranch, S**	**1.70**	**104**	⇓P	**Pn**	**18 08 00.6**	**0.0**
	baz=1.6						
J26A				⇑Sb	**Sg**	**18 08 25.1**	**+0.9**
	baz=1.6						
J26A				⇑Sb	**Sg**	**18 08 25.1**	**+0.9**
	baz=1.6						
G24A	**Alzada**	**1.71**	**22**	⇑P	**Pn**	**18 08 01.1**	**+0.4**
	baz=1.6,SNR=122						
G24A				⇑Sb	**Sg**	**18 08 25.5**	**+1.1**
	baz=1.6						
G24A	**Alzada**	**1.71**	**22**	⇑P	**Pn**	**18 08 01.1**	**+0.4**
	baz=1.6,SNR=122						
G24A			

J20A	Shoshoni	2.04 260	⇑Pb	Pb	18 08 07.5	0.0
	baz=2.1					
F22A	Rosebud	2.13 342	P	Pn	18 08 06.7	+0.2
	baz=2.1,SNR=306					
F22A			⇑S	Sn	18 08 34.9	+1.2
	baz=2.1					
F22A	Rosebud	2.13 342	P	Pn	18 08 06.7	+0.2
	baz=2.1,SNR=306					
F22A			⇑S	Sn	18 08 34.9	+1.2
	baz=2.1					
F22A			⇑S	Sn	18 08 34.9	+1.2
	baz=2.1					
F24A	Ekalaka	2.19 17	⇓P	Pn	18 08 08.2	+0.9
	baz=2.1,SNR=43					
F24A	Ekalaka	2.19 17	⇓P	Pn	18 08 08.2	+0.9
	baz=2.1,SNR=43					
M24A	Cheyenne	2.31 170	⇓P	Pn	18 08 10.3	+1.2
	baz=2.4,SNR=184					
M24A			⇑Sb	Sb	18 08 43.1	+1.6
	baz=2.4					
M24A	Cheyenne	2.31 170	⇓P	Pn	18 08 10.3	+1.2
	baz=2.4,SNR=184					
M24A			⇑Sb	Sb	18 08 43.1	+1.6
	baz=2.4					
M24A			⇑Sb	Sb	18 08 43.1	+1.6
	baz=2.4					
L21A	Rawlins	2.33 221	⇑Sb	Sb	18 08 43.1	+1.1
	baz=2.4					
L21A	Rawlins	2.33 221	⇑Sb	Sb	18 08 43.1	+1.1
	baz=2.4					
L26A	Underwood Farm	2.38 135	⇑Pb	Pb	18 08 12.6	-0.8
	baz=2.4					
L26A	Underwood Farm	2.38 135	⇑Pb	Pb	18 08 12.6	-0.8
	baz=2.4					
I27A	Quinn	2.39 81	⇓P	Pn	18 08 11.1	+0.9
	baz=2.3,SNR=14					
I27A	Quinn	2.39 81	⇓P	Pn	18 08 11.1	+0.9
	baz=2.3,SNR=14					
F21A	Absaloka Mine,	2.43 329	⇓P	Pn	18 08 10.6	0.0
	baz=2.4,SNR=13					
F21A			⇓S	Sn	18 08 41.5	+0.4
	baz=2.4					
F21A	Absaloka Mine,	2.43 329	⇓P	Pn	18 08 10.6	0.0
	baz=2.4,SNR=13					
F21A			⇓S	Sn	18 08 41.5	+0.4
	baz=2.4					
F21A			⇓S	Sn	18 08 41.5	+0.4
	baz=2.4					
PHWY	Pilot Hill	2.45 182	eP	Pn	18 08 11.6	+0.5
K20A	Yellowstone Ra	2.46 245	⇓Pb	Pb	18 08 13.9	-0.8
	baz=2.5					
K20A			⇓Sb	Sb	18 08 46.7	+1.1
	baz=2.5					
K20A	Yellowstone Ra	2.46 245	⇓Pb	Pb	18 08 13.9	-0.8
	baz=2.5					
K20A			⇓Sb	Sb	18 08 46.7	+1.1
	baz=2.5					
K20A			⇓Sb	Sb	18 08 46.7	+1.1
	baz=2.5					
RWWY	Rawlins	2.48 214	eP	Pn	18 08 13.2	+1.7
G26A	Maurine	2.49 51	⇑P	Pn	18 08 12.8	+1.3
	baz=2.4,SNR=29					
G26A	Maurine	2.49 51	⇑P	Pn	18 08 12.8	+1.3
	baz=2.4,SNR=29					
K27A	Flueckinger Fa	2.50 114	⇑P	Pn	18 08 12.5	+0.9
	baz=2.4,SNR=30					
K27A	Flueckinger Fa	2.50 114	⇑P	Pn	18 08 12.5	+0.9
	baz=2.4,SNR=30					
M25A	Palm-Egli Farm	2.50 157	⇑P	Pn	18 08 12.8	+1.2
	baz=2.5,SNR=5.7					
M25A	Palm-Egli Farm	2.50 157	⇑P	Pn	18 08 12.8	+1.2
	baz=2.5,SNR=5.7					
M22A	Cedar Creek Ra	2.52 202	⇓P	Pn	18 08 13.8	+1.7
	baz=2.6					
M22A			⇑Sb	Sb	18 08 48.7	+1.1
	baz=2.6					
M22A	Cedar Creek Ra	2.52 202	⇓P	Pn	18 08 13.8	+1.7
	baz=2.6					
M22A			⇑Sb	Sb	18 08 48.7	+1.1
	baz=2.6					
M22A			⇑Sb	Sb	18 08 48.7	+1.1
	baz=2.6					
G20A	Bridger	2.53 306	P	Pn	18 08 12.2	+0.2
	baz=2.6,SNR=176					
G20A			⇓Sb	Sb	18 08 49.1	+1.4
	baz=2.6					
G20A	Bridger	2.53 306	P	Pn	18 08 12.2	+0.2
	baz=2.6,SNR=176					
G20A			⇓Sb	Sb	18 08 49.1	+1.4
	baz=2.6					
G20A			⇓Sb	Sb	18 08 49.1	+1.4
	baz=2.6					
F25A	Bowman	2.55 31	⇓P	Pn	18 08 13.6	+1.3
	baz=2.5,SNR=30					
F25A	Bowman	2.55 31	⇓P	Pn	18 08 13.6	+1.3
	baz=2.5,SNR=30					
M21A	Separation Pea	2.61 216	⇓P	Pn	18 08 14.6	+1.3
	baz=2.7					
M21A	Separation Pea	2.61 216	⇓P	Pn	18 08 14.6	+1.3
	baz=2.7					
I19A	Meeteetse	2.66 277	⇓P	Pn	18 08 15.2	+1.3
	baz=2.7					
I19A	Meeteetse	2.66 277	⇓P	Pn	18 08 15.2	+1.3
	baz=2.7					
E22A	Miles City	2.72 351	⇓P	Pn	18 08 14.5	-0.1
	baz=2.7,SNR=18					
E22A	Miles City	2.72 351	⇓P	Pn	18 08 14.5	-0.1
	baz=2.7,SNR=18					
K19A	Absolon Red Bu	2.73 251	⇓P	Pn	18 08 15.9	+1.1
	baz=2.8					
K19A			⇑Sb	Sb	18 08 54.3	+1.0
	baz=2.8					
K19A	Absolon Red Bu	2.73 251	⇓P	Pn	18 08 15.9	+1.1
	baz=2.8					
K19A			⇑Sb	Sb	18 08 54.3	+1.0
	baz=2.8					
K19A			⇑Sb	Sb	18 08 54.3	+1.0
	baz=2.8					
E23A	Ismay	2.75 0	⇓P	Pn	18 08 15.3	+0.4
	baz=2.7					
E23A	Ismay	2.75 0	⇓P	Pn	18 08 15.3	+0.4
	baz=2.7					
J19A	Crowheart	2.75 261	⇓P	Pn	18 08 17.2	+2.1
	baz=2.8					
J19A			⇓Sb	Sb	18 08 55.2	+1.2
	baz=2.8					
J19A	Crowheart	2.75 261	⇓P	Pn	18 08 17.2	+2.1
	baz=2.8					
J19A			⇓Sb	Sb	18 08 55.2	+1.2
	baz=2.8					
J19A			⇓Sb	Sb	18 08 55.2	+1.2
	baz=2.8					
H19A	Powell	2.78 291	⇓P	Pn	18 08 16.6	+1.1
	baz=2.8					
H19A	Powell	2.78 291	⇓P	Pn	18 08 16.6	+1.1
	baz=2.8					
M26A	McRoberts Ranc	2.80 144	⇓P	Pn	18 08 16.8	+1.1
	baz=2.8,SNR=6.9					
M26A	McRoberts Ranc	2.80 144	⇓P	Pn	18 08 16.8	+1.1
	baz=2.8,SNR=6.9					
F26A	Lodgepole	2.83 41	⇑P	Pn	18 08 16.4	+0.3
	baz=2.7,SNR=13					
F26A			⇓Sb	Sb	18 08 58.2	+2.0
	baz=2.7					
F26A	Lodgepole	2.83 41	⇑P	Pn	18 08 16.4	+0.3
	baz=2.7,SNR=13					
F26A			⇓Sb	Sb	18 08 58.2	+2.0
	baz=2.7					
F26A			⇓Sb	Sb	18 08 58.2	+2.0
	baz=2.7					
F20A	Billings	2.87 317	⇓P	Pn	18 08 16.7	+0.1
	baz=2.9,SNR=38					
F20A	Billings	2.87 317	⇓P	Pn	18 08 16.7	+0.1
	baz=2.9,SNR=38					
N23A	Red Feather La	2.89 189	⇑P	Pn	18 08 18.0	+0.9
	baz=3.0					
N23A	Red Feather La	2.89 189	⇑P	Pn	18 08 18.0	+0.9
	baz=3.0					
E24A	Baker	2.90 14	⇑P	Pn	18 08 17.6	+0.5
	baz=2.8,SNR=38					
E24A	Baker	2.90 14	⇑P	Pn	18 08 17.6	+0.5
	baz=2.8,SNR=38					
G27A	Dupree	2.93 55	⇑P	Pn	18 08 18.0	+0.6
	baz=2.8,SNR=11					
G27A	Dupree	2.93 55	⇑P	Pn	18 08 18.0	+0.6
	baz=2.8,SNR=11					
E21A	Keefer Ranch,	3.05 337	⇑Sb	Sg	18 09 05.4	-2.1
	baz=3.0					
E21A	Keefer Ranch,	3.05 337	⇑Sb	Sg	18 09 05.4	-2.1
	baz=3.0					
N25A	Grover	3.08 162	⇑Sb	Sb	18 09 06.2	+2.7
	baz=3.1					
N25A	Grover	3.08 162	⇑Sb	Sb	18 09 06.2	+2.7
	baz=3.1					
M20A	Sweetwater, Wa	3.09 224	⇑Sb	Sb	18 09 05.0	+1.2
	baz=3.2					
M20A	Sweetwater, Wa	3.09 224	⇑Sb	Sb	18 09 05.0	+1.2
	baz=3.2					
RLMT	Red Lodge	3.13 297	eP	Pn	18 08 21.0	+0.6
BW06	Boulder Array	3.24 254	eP	Pn	18 08 23.4	+1.6
PDAR	Pinedale Array	3.24 254	Pn	Pn	18 08 23.8	+1.9
PDAR			Sn	Sn	18 09 02.8	+1.5
PDAR			Lg	Lg	18 09 07.9	
PDAR	Pinedale Array	3.24 254	Pn	Pn	18 08 23.8	+1.9
	4.4nm,0.3s,baz=75,slow=15,SNR=101					
PDAR			Sn	Sn	18 09 02.8	+1.5
	3.3nm,0.3s,baz=65,slow=25,SNR=4.6					
PDAR			Lg	Lg	18 09 07.9	
	10nm,0.3s,baz=75,slow=31,SNR=6.8					
N26A	Koester Ranch,	3.31 151	⇑P	Pn	18 08 23.9	+1.1
	baz=3.3,SNR=10					
N26A	Koester Ranch,	3.31 151	⇑P	Pn	18 08 23.9	+1.1
	baz=3.3,SNR=10					
F19A	Roth Farm, Mol	3.32 311	⇓P	Pn	18 08 23.7	+0.8
	baz=3.3,SNR=58					
F19A	Roth Farm, Mol	3.32 311	⇓P	Pn	18 08 23.7	+0.8
	baz=3.3,SNR=58					
E20A	Meyer Farm, Mu	3.39 325	⇑P	Pn	18 08 23.5	-0.3
	baz=3.4,SNR=6.5					
E20A	Meyer Farm, Mu	3.39 325	⇑P	Pn	18 08 23.5	-0.3
	baz=3.4,SNR=6.5					
E26A	Carlson Angus	3.40 36	⇓P	Pn	18 08 24.9	+1.0
	baz=3.3,SNR=7.6					
E26A	Carlson Angus	3.40 36	⇓P	Pn	18 08 24.9	+1.0
	baz=3.3,SNR=7.6					
G18A	Lazy EL Ranch,	3.40 299	⇓P	Pn	18 08 24.9	+0.8
	baz=3.4,SNR=33					
G18A	Lazy EL Ranch,	3.40 299	⇓P	Pn	18 08 24.9	+0.8
	baz=3.4,SNR=33					
D23A	Lindsay	3.42 1	⇑P	Pn	18 08 24.9	+0.6
	baz=3.4,SNR=55					
D23A	Lindsay	3.42 1	⇑P	Pn	18 08 24.9	+0.6
	baz=3.4,SNR=55					
D22A	Cohagen	3.45 350	⇑P	Pn	18 08 24.8	+0.2
	baz=3.4,SNR=11					
D22A	Cohagen	3.45 350	⇑P	Pn	18 08 24.8	+0.2
	baz=3.4,SNR=11					
N27A	Anderson Farm,	3.60 144	⇑P	Pn	18 08 27.8	+1.0
	baz=3.6,SNR=11					
N27A	Anderson Farm,	3.60 144	⇑P	Pn	18 08 27.8	+1.0
	baz=3.6,SNR=11					
E19A	Rath Farm, Rou	3.65 319	⇓P	Pn	18 08 27.1	-0.2
	baz=3.7,SNR=46					
E19A	Rath Farm, Rou	3.65 319	⇓P	Pn	18 08 27.1	-0.2
	baz=3.7,SNR=46					
GCMT	Greycliff	3.70 305	eP	Pn	18 08 29.1	+1.0
OGNE	Ogallala	3.72 138	eP	Pn	18 08 29.1	+0.7
LKWY	Lake	3.73 284	eP	Pn	18 08 31.2	+2.5
LOHW	Long Hollow	3.82 270	eP	Pn	18 08 31.6	+1.7
C24A	Savage	3.83 9	⇓P	Pn	18 08 31.1	+1.2
	baz=3.8,SNR=40					
C24A	Savage	3.83 9	⇓P	Pn	18 08 31.1	+1.2
	baz=3.8,SNR=40					
D20A	Manuel Ranch,	3.88 330	⇑P	Pn	18 08 30.2	-0.3
	baz=3.9,SNR=12					
D20A	Manuel Ranch,	3.88 330	⇑P	Pn	18 08 30.2	-0.3
	baz=3.9,SNR=12					
MOOW	Moose Ponds	3.92 272	eP	Pn	18 08 33.5	+2.3
L29A	Maesberg Ranch	3.95 114	⇓P	Pn	18 08 32.3	+0.9
	baz=3.9,SNR=5.2					
L29A	Maesberg Ranch	3.95 114	⇓P	Pn	18 08 32.3	+0.9
	baz=3.9,SNR=5.2					
SNOW	Snow King Moun	3.95 268	eP	Pn	18 08 32.5	+0.9
ISCO	Idaho Springs	3.95 183	eP	Pn	18 08 32.7	+0.9
YNR	Norris Junctio	3.96 286	eP	Pn	18 08 32.6	+0.8
C22A	Vida	4.01 355	⇑P	Pn	18 08 33.6	+1.3
	baz=4.0,SNR=11					
C22A	Vida	4.01 355	⇑P	Pn	18 08 33.6	+1.3
	baz=4.0,SNR=11					
YFT	Old Faithful	4.02 282	P	Pn	18 08 34.5	+1.9
REDW	Red Top Meadow	4.03 266	eP	Pn	18 08 31.8	-1.0
C23A	Lambert	4.05 1	⇑P	Pn	18 08 34.1	+1.2
	baz=4.0,SNR=35					
C23A	Lambert	4.05 1	⇑P	Pn	18 08 34.1	+1.2
	baz=4.0,SNR=35					
IMW	Indian Meadow	4.06 274	eP	Pn	18 08 35.3	+2.1
TPAW	Teton Pass	4.09 268	eP	Pn	18 08 33.5	-0.1
N28A	Pribbeno Ranch	4.16 136	⇑P	Pn	18 08 35.2	+0.8
	baz=4.1,SNR=5.7					
N28A	Pribbeno Ranch	4.16 136	⇑P	Pn	18 08 35.2	+0.8
	baz=4.1,SNR=5.7					
C25A	Freed Ranch, W	4.22 19	⇑P	Pn	18 08 36.8	+1.6
	baz=4.1,SNR=10					
C25A	Freed Ranch, W	4.22 19	⇑P	Pn	18 08 36.8	+1.6
	baz=4.1,SNR=10					
D19A	Cripps Ranch,	4.23 325	⇓P	Pn	18 08 35.5	+0.2
	baz=4.2,SNR=7.1					
D19A	Cripps Ranch,	4.23 325	⇓P	Pn	18 08 35.5	+0.2
	baz=4.2,SNR=7.1					
E18A	Harlowton	4.29 313	⇑P	Pn	18 08 36.5	+0.3
	baz=4.3,SNR=28					
E18A	Harlowton	4.29 313	⇑P	Pn	18 08 36.5	+0.3
	baz=4.3,SNR=28					
RRI2	Red Ridge	4.37 267	eP	Pn	18 08 38.5	+1.1
C20A	Veseth Ranch,	4.38 336	⇓P	Pn	18 08 37.9	+0.5
	baz=4.4,SNR=12					
C20A	Veseth Ranch,	4.38 336	⇓P	Pn	18 08 37.9	+0.5
	baz=4.4,SNR=12					
P26A	Davis Ranch, A	4.45 160	⇓P	Pn	18 08 39.3	+0.9
	baz=4.5,SNR=9.7					
P26A	Davis Ranch, A	4.45 160	⇓P	Pn	18 08 39.3	+0.9
	baz=4.5,SNR=9.7					
QLMT	Earthquake Lak	4.51 286	P	Pn	18 08 39.6	+0.3
P27A	Ficken Ranch,	4.67 153	⇑P	Pn	18 08 41.9	+0.4
	baz=4.7,SNR=10					
P27A	Ficken Ranch,	4.67 153	⇑P	Pn	18 08 41.9	+0.4
	baz=4.7,SNR=10					
C19A	Slack Wire Ran	4.76 328	⇑P	Pn	18 08 42.8	+0.2
	baz=4.7,SNR=21					
C19A	Slack Wire Ran	4.76 328	⇑P	Pn	18 08 42.8	+0.2
	baz=4.7,SNR=21					
B25A	Knox Farm, Ray	4.77 18	⇓P	Pn	18 08 43.3	+0.6
	baz=4.7,SNR=38					
B25A	Knox Farm, Ray	4.77 18	⇓P	Pn	18 08 43.3	+0.6
	baz=4.7,SNR=38					
DGMT	Dagmar	4.79 9	eP	Pn	18 08 44.0	+1.0
DGMT	Dagmar	4.79 9	⇑P	Pn	18 08 44.0	+1.0
	baz=4.7,SNR=8.9					
DGMT	Dagmar	4.79 9	⇑P	Pn	18 08 44.0	+1.0
	baz=4.7,SNR=8.9					
BOZ	Bozeman (W)	4.87 295	eP	Pn	18 08 44.2	-0.1
Q25A	Bedland, Calha	4.90 170	⇓P	Pn	18 08 44.7	0.0
	baz=4.9,SNR=9.7					
Q25A	Bedland, Calha	4.90 170	⇓P	Pn	18 08 44.7	0.0
	baz=4.9,SNR=9.7					
P28A	Saint Francis	4.96 146	⇑P	Pn	18 08 44.9	-0.6
	baz=5.0,SNR=6.4					
P28A	Saint Francis	4.96 146	⇑P	Pn	18 08 44.9	-0.6
	baz=5.0,SNR=6.4					
Q26A	Hugo	5.01 164	⇓P	Pn	18 08 46.7	+0.5
	baz=5.0,SNR=5.9					
Q26A	Hugo	5.01 164	⇓P	Pn	18 08 46.7	+0.5
	baz=5.0,SNR=5.9					
D17A	Six Diamond Ra	5.07 314	⇓P	Pn	18 08 47.1	+0.1
	baz=5.1,SNR=54					
D17A	Six Diamond Ra	5.07 314	⇓P	Pn	18 08 47.1	+0.1
	baz=5.1,SNR=54					
A24A	Westby	5.25 10	⇑P	Pn	18 08 50.7	+1.3
	baz=5.2,SNR=12					
A24A	Westby	5.25 10	⇑P	Pn	18 08 50.7	+1.3
	baz=5.2,SNR=12					
EGMT	Eagleton	5.27 326	eP	Pn	18 08 49.9	+0.3
	32nm,0.6s					
EGMT	Eagleton	5.27 326	⇓P	Pn	18 08 49.9	+0.3
	baz=5.3,SNR=14					
EGMT	Eagleton	5.27 326	⇓P	Pn	18 08 49.9	+0.3
	baz=5.3,SNR=14					
C17A	Wharram Farm,	5.43 317	⇓P	Pn	18 08 51.2	-0.6
	baz=5.4,SNR=16					
C17A	Wharram Farm,	5.43 317	⇓P	Pn	18 08 51.2	-0.6
	baz=5.4,SNR=16					
DLMT	Dillon	5.43 290	eP	Pn	18 08 53.7	+1.7
	8.0nm,0.7s					
HRY	Holter Researc	5.46 305	eP	Pn	18 08 52.7	+0.4
	26nm,0.6s					
LRM	Limekiln Ridge	5.47 295	eP	Pn	18 08 53.2	+0.7
	51nm,0.6s					
MCMT	McKenzie Canyo	5.50 284	eP	Pn	18 08 56.1	+3.1
	3.4nm,0.5s					
DAU	Daniels Canyon	5.53 235	eP	Pn	18 08 56.9	+3.5
	14nm,0.5s					
JLU	Jordanelle	5.53 237	eP	Pn	18 08 51.0	-2.3
	13nm,0.5s					
R26A	Arlington	5.63 165	⇑P	Pn	18 08 54.7	+0.1
	baz=5.7,SNR=33					
R26A	Arlington	5.63 165	⇑P	Pn	18 08 54.7	+0.1
	baz=5.7,SNR=33					
A26A	Wade Farm, Ken	5.63 23	⇓P	Pn	18 08 54.4	-0.1
	baz=5.5,SNR=8.8					
A26A	Wade Farm, Ken	5.63 23	⇓P	Pn	18 08 54.4	-0.1
	baz=5.5,SNR=8.8					
R25A	Fountain Ranch	5.66 172	⇑P	Pn	18 08 54.9	-0.1
	baz=5.7,SNR=8.1					
R25A	Fountain Ranch	5.66 172	⇑P	Pn	18 08 54.9	-0.1
	baz=5.7,SNR=8.1					
HVU	Hansel Valley	5.82 253	eP	Pn	18 08 59.0	+1.7
	7.9nm,0.5s					
PV04	Paradox Valley	5.99 208	eP	Pn	18 09 00.4	+0.7
R28A	Tribune	6.02 153	⇓P	Pn	18 08 59.5	-0.5
	baz=6.0,SNR=8.4					
R28A	Tribune	6.02 153	⇓P	Pn	18 08 59.5	-0.5
	baz=6.0,SNR=8.4					
C16A	Fuhringer Ranc	6.04 314	⇑P	Pn	18 08 59.4	-0.8
	baz=6.0,SNR=6.8					
C16A	Fuhringer Ranc	6.04 314	⇑P	Pn	18 08 59.4	-0.8
	baz=6.0,SNR=6.8					
SRU	San Rafael	6.06 222	eP	Pn	18 09 00.3	-0.2
	22nm,0.7s					
PV01	Paradox Valley	6.12 205	eP	Pn	18 09 02.8	+1.3
	896nm,0.6s					
S25A	Robets Cordova	6.12 173	⇑P	Pn	18 09 01.2	-0.3
	baz=6.2,SNR=7.7					
S25A	Robets Cordova	6.12 173	⇑P	Pn	18 09 01.2	-0.3
	baz=6.2,SNR=7.7					
TMUT	Trail Mountain	6.26 227	eP	Pn	18 09 04.7	+1.2
	14nm,0.6s					
ECSD	EROS Data Cent	6.32 87	eP	Pn	18 09 04.0	0.0
	7.7nm,0.5s					
CHMT	Chamberlain Mo	6.41 302	eP	Pn	18 09 06.1	+0.7
	3.7nm,0.6s					
B16A	M & M Farms, S	6.43 319	⇑P	Pn	18 09 05.3	-0.2
	baz=6.4,SNR=18					
B16A	M & M Farms, S	6.43 319	⇑P	Pn	18 09 05.3	-0.2
	baz=6.4,SNR=18					
HLID	Hailey	6.59 271	eP	Pn	18 09 10.1	+2.3
	2.5nm,0.6s					
SLMT	Seeley Lake	6.71 304	eP	Pn	18 09 09.9	+0.4
	6.3nm,0.6s					
B15A	Bradely Ranch,	6.79 315	⇑P	Pn	18 09 10.1	-0.4
	baz=6.8,SNR=14					
B15A	Bradely Ranch,	6.79 315	⇑P	Pn	18 09 10.1	-0.4
	baz=6.8,SNR=14					
MVCO	Mesa Verde	6.96 201	eP	Pn	18 09 15.3	+2.2
	10nm,0.6s					
T27A	Campo	6.97 163	⇓P	Pn	18 09 12.8	-0.3
	baz=7.0,SNR=6.2					
T27A	Campo	6.97 163	⇓P	Pn	18 09 12.8	-0.3
	baz=7.0,SNR=6.2					
B14A	Marquette Ranc	7.19 313	⇑P	Pn	18 09 15.6	-0.5
	baz=7.2,SNR=12					
B14A	Marquette Ranc	7.19 313	⇑P	Pn	18 09 15.6	-0.5
	baz=7.2,SNR=12					
A15A	Johnson Ranch,	7.31 318	⇓P	Pn	18 09 16.9	-0.8
	baz=7.3,SNR=6.4					
A15A	Johnson Ranch,	7.31 318	⇓P	Pn	18 09 16.9	-0.8
	baz=7.3,SNR=6.4					
YBMT	Yellow Bay	7.32 307	eP	Pn	18 09 19.4	+1.5
	5.0nm,0.6s					
JTMT	Jette	7.42 306	eP	Pn	18 09 20.5	+1.3
	4.4nm,0.6s					
WALA	Waterton Lakes	7.95 315	eP	Pn	18 09 25.5	-1.0
	0.1nm,0.6s					
ULM	Lac du Bonnet	9.16 42	eP	Pn	18 09 41.3	-1.6
	5.1nm,0.6s					
ULM	Lac du Bonnet	9.16 42	Pn	Pn	18 09 41.7	-1.2
	1.4nm,0.3s,baz=236,slow=14,SNR=8.8					
NVAR	Mina Array Bea	11.13 246	Pn	Pn	18 10 13.1	+2.9
NVAR	Mina Array Bea	11.13 246	Pn	Pn	18 10 13.1	+2.9
	0.2nm,0.3s,baz=49,slow=11,SNR=3.2					
FFC	Flin Flon	11.20 10	eP	Pn	18 10 08.9	-1.9
	5.1nm,0.6s					
YBH	Yreka Blue Hor	12.93 267	Pn	Pn	18 10 39.7	+5.1
YBH	Yreka Blue Hor	12.93 267	Pn	Pn	18 10 39.7	+5.1
	0.2nm,0.3s,baz=63,slow=11,SNR=6.0					
TXAR	Lajitas Array	14.45 174	Pn	P	18 11 03.6	+1.0
	baz=356,slow=11,SNR=2.8					
TZTN	Tazewell	18.11 106	eP	Pn	18 11 40.8	-1.8
	12nm,0.8s					
YKA	Yellowknife Ar	19.54 347	P	P	18 11 57.3	-1.1
YKA	Yellowknife Ar	19.54 347	P	P	18 11 57.3	-1.1
	0.1nm,0.3s,baz=161,slow=13,SNR=3.9					
BLA	Blacksburg	20.00 101	eP	P	18 12 03.4	-0.3
	18nm,1.0s					
DLBC	Dease Lake	21.19 323	LR	LR	18 21 55.2	
	comp=Z,36nm,18.9s,baz=173,slow=42					
ARCES	ARCESS Array B	61.42 18	P	P	18 17 46.3	-0.7
ARCES	ARCESS Array B	61.42 18	P	P	18 17 46.3	-0.7
	0.5nm,0.5s,baz=342,slow=7.6,SNR=9.4					
ZALV	Zalesovo Beam	82.29 354	P	P	18 19 52.1	-0.4
ZALV	Zalesovo Beam	82.29 354	P	P	18 19 52.1	-0.4
	0.9nm,0.6s,baz=346,slow=4.2,SNR=5.1					
BVAR	Borovoye Array	83.53 3	P	P	18 19 59.3	+0.2
BVAR	Borovoye Array	83.53 3	P	P	18 19 59.3	+0.2
	0.3nm,0.5s,baz=38,slow=7.3,SNR=2.9					
SONM	Songino Array	84.61 339	P	P	18 20 05.3	+0.5
SONM	Songino Array	84.61 339	P	P	18 20 05.3	+0.5
	0.1nm,0.3s,baz=354,slow=3.1,SNR=3.5					
MKAR	Makanchi Array	89.59 355	P	P	18 20 28.3	-0.6
MKAR	Makanchi Array	89.59 355	P	P	18 20 28.3	-0.6
	0.6nm,0.7s,baz=355,slow=4.5,SNR=8.3					

*CASC **06** 18:28:03.7±1.8, 16°.26N×87°.31W, h0km±66km, MD4.3, ML4.3*
*ISCJB **06** 18:28:07.7±0.7, 16°.41N±0°.04×88°.2W±0°.1, h10km, mb3.7/3, MS2.9/4, Error ellipse: s-maj=14.1km s-min=5.3km az=4.9*
*IDC **06** 18:28:09.6±1.6, 16°.38N×88°.09W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/22, mbtmp3.6/5, ML3.7/2, MS2.9/8, Ms1 2.9/8, ms1mx2.8/31, Error ellipse: s-maj=78.1km s-min=30.0km az=60.0*

ISC 06 18:28:10.1±0.8, 16°.35N±0°.05×88°.28W±0°.10, h10km, n30, σ1§54/23, mb3.8/3, MS3.0/4, Belize

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	Marmol	1.86	227	eP	Pn	18 28 40.6	-

comp=Z,0.1nm,0.3s,baz=128,slow=10,SNR=14
TKL Tuckaleechee C 19.65 11 LR LR 18 42 45.6
comp=Z,22nm,18.2s,baz=82,slow=45
LPIG La Paz 22.04 294 LR LR 18 42 45.4
comp=Z,6.5nm,20.1s,baz=247,slow=40
SADO Sadowa 29.36 13 LR LR 18 46 56.8
comp=Z,20nm,19.3s,baz=250,slow=38
LPAZ La Paz 38.04 148 LR LR 18 51 59.5
comp=Z,36nm,20.3s,baz=58,slow=38
YKA Yellowknife Ar 49.66 344 P **P 18 37 03.1 +1.4**
comp=Z,0.3nm,0.5s,baz=135,slow=7.8,SNR=3.1
BDFB Brasilia 50.89 127 LR LR 18 57 33.2
comp=Z,47nm,19.8s,baz=55,slow=35
ILAR Eielson Array 62.15 336 P **P 18 38 33.7 +2.4**
comp=Z,0.5nm,0.8s,baz=132,slow=4.3,SNR=4.9
ARCES ARCESS Array B 82.78 19 P **P 18 40 34.0 -0.2**
comp=Z,0.8nm,0.9s,baz=298,slow=4.7,SNR=3.9
WRA Warramunga Arr 139.42 258 PKP **PKPdf 18 47 39.8 +1.2**
comp=Z,0.6nm,1.0s,baz=90,slow=2.3,SNR=2.5
ASAR Alice Springs 139.81 253 PKhKP PKPpre 18 47 28.5
comp=Z,0.3nm,0.9s,baz=101,slow=4.8,SNR=2.6
ASAR PKP **PKiKP 18 47 40.1 -1.6**
comp=Z,0.4nm,0.8s,baz=101,slow=2.0,SNR=3.3

GUC 06 18:31:42.1±0.6, 31°.78S×69°.46W, h148km±16km, ML3.7, 6C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.32**	**226**	⇓	*i* P	Pn	18 32 10.4	+0.6
JACH					*i* S	Sn	18 32 31.6	+0.7
CMCH	**Combarbala**	**1.45**	**294**	⇓	*i* P	Pn	18 32 11.5	+0.5
CMCH					*i* S	Sn	18 32 33.8	+0.7
CMCH					AML	AML	18 32 37.1	
	comp=N,3μm,0.8s							
CLCH	**Cerro Calan**	**1.85**	**209**	⇑	*i* P	Pn	18 32 15.9	+0.5
CLCH					*i* S	Sn	18 32 41.5	+0.3
CLCH					AML	AML	18 32 43.3	
	comp=E,524nm,0.6s							
SAN	**Santiago**	**1.96**	**211**		*i* S	Sn	18 32 43.5	+0.3
SAN					AML	AML	18 32 44.6	
	comp=N,368nm,0.5s							
TLL	**Tololo Astrono**	**1.97**	**324**	⇑	*i* P	Pn	18 32 20.7	+3.5
TLL					*i* S	Sn	18 32 47.5	+3.5
TLL					AML	AML	18 32 52.8	
	comp=N,216nm,0.5s							
ANTU	**Antumapu**	**2.04**	**209**		*e*P	Pn	18 32 18.3	+0.6
ANTU					*e*S	Sn	18 32 45.3	+0.3
ANTU					AML	AML	18 32 49.0	
	comp=E,407nm,0.4s							
PCH	**Pirque**	**2.04**	**205**	⇑	*i* P	Pn	18 32 18.4	+0.7
PCH					*i* S	Sn	18 32 45.7	+0.6
RCDM	**Rinconada Maip**	**2.05**	**213**	⇑	*i* P	Pn	18 32 18.3	+0.6
RCDM					*i* S	Sn	18 32 45.6	+0.4
RCDM					AML	AML	18 32 49.6	
	comp=E,583nm,0.4s							
CHCH	**Chadas Angostu**	**2.37**	**205**	⇑	*i* P	Pn	18 32 22.2	+0.6
CHCH					*i* S	Sn	18 32 52.3	+0.2
CACH	**El Canelo**	**2.52**	**202**	⇑	*i* P	Pn	18 32 24.4	+0.9
CACH					*i* S	Sn	18 32 56.4	+0.9
LCO	**Las Campanas**	**2.96**	**338**		*e*P	Pn	18 32 30.1	+0.9
LCO					*e*S	Sn	18 33 06.1	+0.6

IDC 06 18:50:49.4±5.0, 23°.83N×141°.64E, h56km±47km, mb3.6/11, mb1 3.8/13, mb1mx3.5/28, mbtmp3.5/13, ML3.4/2, Error ellipse: s-maj=28.4km s-min=14.6km az=108.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.01**	**348**		P	Pn	18 53 51.2	-0.3
	0.2nm,0.3s,baz=156,slow=8.2,SNR=2.9							
KSRS	**Korea Array**	**17.96**	**322**		P	Pn	18 54 56.2	+1.1
	0.1nm,0.3s,baz=141,slow=12,SNR=8.6							
ASAJ	**Asahikawa**	**20.25**	**2**		P	P	18 55 20.5	+0.5
	0.8nm,0.4s,baz=209,slow=19,SNR=2.9							
CMAR	**Chiang Mai Arr**	**40.06**	**271**		P	P	18 58 18.9	-0.7
	0.3nm,0.6s,baz=56,slow=7.7,SNR=2.9							
WRA	**Warramunga Arr**	**44.09**	**190**		P	P	18 58 51.5	-0.7
	2.6nm,0.7s,baz=11,slow=8.5,SNR=27							
FITZ	**Fitzroy Crossi**	**44.51**	**202**		P	P	18 58 56.1	+0.6
	5.9nm,1.2s,baz=20,slow=12,SNR=4.8							
ASAR	**Alice Springs**	**47.81**	**190**		P	P	18 59 21.3	-0.2
	0.6nm,0.7s,baz=15,slow=12,SNR=16							
MKAR	**Makanchi Array**	**52.21**	**312**		P	P	18 59 55.0	+0.3
	0.3nm,0.6s,baz=92,slow=8.4,SNR=7.8							
ILAR	**Eielson Array**	**60.81**	**28**		P	P	19 00 54.2	-1.2
	1.9nm,0.8s,baz=260,slow=5.9,SNR=25							
YKA	**Yellowknife Ar**	**75.24**	**28**		P	P	19 02 25.2	-0.8
	0.8nm,0.6s,baz=294,slow=5.6,SNR=4.0							
NVAR	**Mina Array Bea**	**82.93**	**51**		P	P	19 03 09.8	+1.0
	1.9nm,0.8s,baz=280,slow=2.7,SNR=5.4							
PDAR	**Pinedale Array**	**86.88**	**44**		P	P	19 03 28.4	-0.1
	0.5nm,0.8s,baz=287,slow=6.0,SNR=3.8							
TXAR	**Lajitas Array**	**97.95**	**53**		P	Pdif	19 04 21.4	+1.5
	0.2nm,0.6s,baz=298,slow=2.7,SNR=2.8							

MEX 06 19:13:27.4±0.9, 17°.36N×92°.17W, h117km±25km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.08**	**179**		*e*P	Pn	19 13 48.5	-1.8
CCIG					*i* S	Sn	19 14 06.1	-1.3
TGIG		**1.08**	**238**		*e*P	Pn	19 13 49.5	-0.6
TGIG					*i* S	Sn	19 14 05.2	-2.1
SCIG	**Sabancuy**	**1.85**	**30**		*e*P	Pn	19 14 04.1	+5.3
SCIG					*e*S	Sn	19 14 27.2	+4.5
THIG		**2.44**	**182**		*e*P	Pn	19 14 05.2	-1.2
THIG					*e*S	Sn	19 14 35.2	-1.1
HUIG	**Huatulco**	**4.10**	**248**		*i* P	Pn	19 14 27.0	-1.3
HUIG					*i* S	Sn	19 15 13.9	-1.6

IDC 06 19:24:12.1±5.2, 6°.13S×146°.87E, h177km±57km, mb3.1/3, mb1 3.2/6, mb1mx3.0/20, mbtmp3.0/6, Error ellipse: s-maj=78.1km s-min=26.5km az=138.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.27**	**175**		P	Pn	19 25 03.5	-0.5
	3.2nm,0.3s,baz=337,slow=13,SNR=13							
PMG					S	Sn	19 25 45.2	+0.6
	9.7nm,0.3s,baz=0.0,slow=20,SNR=13							
CTA	**Charters Tower**	**13.89**	**182**		P	Pn	19 27 20.8	-0.9
	0.2nm,0.3s,baz=1.9,slow=14,SNR=2.4							
WRA	**Warramunga Arr**	**18.35**	**220**		P	P	19 28 13.7	+0.2
	0.1nm,0.3s,baz=40,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**21.44**	**214**		P	P	19 28 46.9	+0.2
	0.3nm,0.5s,baz=56,slow=9.0,SNR=3.6							
FITZ	**Fitzroy Crossi**	**23.89**	**238**		P	P	19 29 09.3	-0.5
	2.1nm,0.7s,baz=65,slow=8.6,SNR=6.3							
ILAR	**Eielson Array**	**85.65**	**23**		P	P	19 36 30.9	+0.3
	0.5nm,0.7s,baz=246,slow=6.8,SNR=5.4							

*DDA **06** 19:28:43.6, 36°.03N×28°.28E, h5km, MD2.9*
*ATH **06** 19:28:44.3, 36°.10N×28°.32E, h22km±3km, MD3.8/9*
*CSEM **06** 19:28:44.3±0.2, 36°.03N×28°.32E, h5km, MD3.8, Error ellipse: s-maj=4.5km s-min=3.0km az=152.0*
*ISK **06** 19:28:45.2, 36°.10N×28°.37E, h9km, MD2.9*
ISC 06 19:28:44.5±1.3, 36°.03N±0°.04×28°.34E±0°.02, h5km±10km, n46, σ0°60/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.26**	**318**		*e*PB	**Pg**	**19 28 49.3**	**-0.3**
ARG					*e*SB	**Sg**	**19 28 53.7**	**+0.8**
ARG	**Arkhangelos**	**0.26**	**318**		*e*Pb	**Pg**	**19 28 49.3**	**-0.3**
ARG					*e*Sb	**Sg**	**19 28 53.7**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.83**	**18**		*e*PG	**Pg**	**19 28 59.3**	**-1.2**
DALY					*e*SG	**Sg**	**19 29 10.9**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.83**	**18**		*e*Pg	**Pg**	**19 28 59.3**	**-1.2**
DALY					*e*Sg	**Sg**	**19 29 10.9**	**-0.3**
FETY	**Fethiye**	**0.85**	**44**		*e*PG	**Pg**	**19 29 00.8**	**-0.1**
FETY					*e*SG	**Sg**	**19 29 11.9**	**-0.2**
FETY	**Fethiye**	**0.85**	**44**		*e*Pg	**Pg**	**19 29 00.8**	**-0.1**
FETY					*e*Sg	**Sg**	**19 29 11.9**	**-0.2**
TURN	**Turunc**	**0.87**	**14**		*i* P	Pg	19 28 57.5	-3.8
TURN	**Turunc**	**0.87**	**14**		*i* P	Pg	19 28 57.5	-3.8
DAT	**Datca**	**0.93**	**319**		*e*PG	**Pg**	**19 29 02.6**	**+0.2**
DAT					*e*SG	**Sb**	**19 29 15.7**	**-0.3**
DAT	**Datca**	**0.93**	**319**		*e*Pg	**Pg**	**19 29 02.6**	**+0.2**
DAT					*e*Sg	**Sb**	**19 29 15.7**	**-0.3**
AKAS	**Kas**	**1.04**	**78**		*i* P	**Pg**	**19 29 04.1**	**-0.5**
AKAS					*i* S	**Sn**	**19 29 20.8**	**-0.2**
AKAS	**Kas**	**1.04**	**78**		*i* P	**Pg**	**19 29 04.1**	**-0.5**
AKAS					*i* S	**Sn**	**19 29 20.8**	**-0.2**
KARP	**Karpathos**	**1.07**	**244**		*e*PN	**Pn**	**19 29 06.3**	**+0.1**
KARP					*e*SN	**Sb**	**19 29 20.0**	**+0.1**
KARP	**Karpathos**	**1.07**	**244**		*e*Pn	**Pn**	**19 29 06.3**	**+0.1**
KARP					*e*Sn	**Sb**	**19 29 20.0**	**+0.1**
NIS1	**Nisyros Isl.**	**1.10**	**302**		*e*PN	**Pg**	**19 29 05.4**	**-0.2**
NIS1	**Nisyros Isl.**	**1.10**	**302**		*e*Pn	**Pg**	**19 29 05.4**	**-0.2**
YER	**Yerkesik**	**1.11**	**358**		*e*PG	**Pg**	**19 29 06.0**	**+0.2**
YER	**Yerkesik**	**1.11**	**358**		*e*Pg	**Pg**	**19 29 06.0**	**+0.2**
BDRM	**Kayabasi**	**1.26**	**325**		*i* P	**Pg**	**19 29 08.2**	**-0.6**
BDRM					*i* S	**Sn**	**19 29 27.1**	**+0.9**
BDRM	**Kayabasi**	**1.26**	**325**		*i* P	**Pg**	**19 29 08.2**	**-0.6**
BDRM					*i* S	**Sn**	**19 29 27.1**	**+0.9**
BODT	**Bodrum**	**1.32**	**322**		*e*PN	**Pn**	**19 29 09.0**	**-0.7**
BODT	**Bodrum**	**1.32**	**322**		*e*Pn	**Pn**	**19 29 09.0**	**-0.7**
MLSB	**Milas**	**1.34**	**340**		*e*PN	**Pn**	**19 29 09.9**	**-0.1**
MLSB	**Milas**	**1.34**	**340**		*e*Pn	**Pn**	**19 29 09.9**	**-0.1**
GOLH	**Golhisar**	**1.56**	**39**		*i* P	**Pn**	**19 29 12.9**	**-0.1**
GOLH	**Golhisar**	**1.56**	**39**		*i* P	**Pn**	**19 29 12.9**	**-0.1**
AYDN	**Tasoluk**	**1.67**	**347**		*i* P	**Pn**	**19 29 14.3**	**-0.2**
AYDN					*i* S	**Sn**	**19 29 36.4**	**0.0**
AYDN	**Tasoluk**	**1.67**	**347**		*i* P	**Pn**	**19 29 14.3**	**-0.2**
AYDN					*i* S	**Sn**	**19 29 36.4**	**0.0**
DNZL	**Cakiroluk**	**1.75**	**19**		*i* P	**Pn**	**19 29 16.3**	**+0.5**
DNZL					*i* S	**Sg**	**19 29 42.2**	**+1.2**
DNZL	**Cakiroluk**	**1.75**	**19**		*i* P	**Pn**	**19 29 16.3**	**+0.5**
DNZL					*i* S	**Sg**	**19 29 42.2**	**+1.2**
ZKR	**Zakros**	**1.96**	**243**		*e*PN	**Pn**	**19 29 19.2**	**+0.8**
ZKR	**Zakros**	**1.96**	**243**		*e*Pn	**Pn**	**19 29 19.2**	**+0.8**
SMG	**Samos**	**2.07**	**325**		*e*PN	**Pn**	**19 29 19.3**	**-0.6**
SMG	**Samos**	**2.07**	**325**		*e*Pn	**Pn**	**19 29 19.3**	**-0.6**
NPS	**Neapolis**	**2.35**	**252**		*e*PN	**Pn**	**19 29 23.3**	**-0.5**
NPS	**Neapolis**	**2.35**	**252**		*e*Pn	**Pn**	**19 29 23.3**	**-0.5**
LAST	**Lasithi**	**2.49**	**251**		*e*PN	**Pn**	**19 29 25.7**	**0.0**
LAST	**Lasithi**	**2.49**	**251**		*e*Pn	**Pn**	**19 29 25.7**	**0.0**
APE	**Apeiranthos**	**2.49**	**296**		*e*PN	**Pn**	**19 29 25.0**	**-0.8**
APE	**Apeiranthos**	**2.49**	**296**		*e*Pn	**Pn**	**19 29 25.0**	**-0.8**
KULA	**Kula-Manisa**	**2.50**	**6**		*e*PN	**Pn**	**19 29 26.3**	**+0.4**
KULA	**Kula-Manisa**	**2.50**	**6**		*e*Pn	**Pn**	**19 29 26.3**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.58**	**55**		*e*PN	**Pn**	**19 29 27.9**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.58**	**55**		*e*Pn	**Pn**	**19 29 27.9**	**+0.8**
IDI	**Anoyia**	**2.90**	**256**		*e*PN	**Pn**	**19 29 30.2**	**-1.3**
IDI	**Anoyia**	**2.90**	**256**		*e*Pn	**Pn**	**19 29 30.2**	**-1.3**

*ISCJB **06** 19:29:32.7±0.7, 22°.91S±0°.05×69°.51W±0°.07, h92km±7km, mb3.4/1, Error ellipse: s-maj=11.9km s-min=6.3km az=29.5*
*IDC **06** 19:29:33.9±2.6, 22°.95S×69°.39W, h76km±7km, mb3.4/1, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/11, Error ellipse: s-maj=73.4km s-min=39.5km az=55.0*
*GUC **06** 19:29:33.1±0.6, 22°.86S×69°.51W, h79km±5km, ML4.1*
ISC 06 19:29:33.5±0.9, 22°.92S±0°.05×69°.50W±0°.07, h81km±7km, n12, σ1°17/21, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.63**	**61**		*e*P	**Pn**	**19 29 48.7**	**-0.1**
LVC					*i* S	**Sn**	**19 30 00.0**	**-0.1**
PB04	**Plate Boundary**	**0.65**	**1**	⇑	*i* P	**Pn**	**19 29 50.4**	**+1.7**
PB04					*i* S	**Sn**	**19 30 03.4**	**+3.4**
PB04					AML	AML	19 30 03.8	
	comp=N,9μm,0.4s							
ANCH	**Antofagasta**	**1.13**	**227**		*e*P	**Pn**	**19 29 54.3**	**+0.1**
ANCH					*i* S	**Sn**	**19 30 10.6**	**+1.0**
PB10	**Plate Boundary**	**1.13**	**238**		*e*P	**Pn**	**19 29 54.2**	**0.0**
PB10					*i* S	**Sn**	**19 30 10.3**	**+0.6**
PB09	**Plate Boundary**	**1.14**	**12**	⇓	*i* P	**Pn**	**19 29 54.6**	**+0.1**
PB09					*i* S	**Sn**	**19 30 10.9**	**+0.6**
PB09					AML	AML	19 30 15.7	
	comp=E,12μm,0.7s							
PB07	**Plate Boundary**	**1.24**	**343**	⇑	*i* P	**Pn**	**19 29 55.1**	**-0.6**
PB07					*i* S	**Sn**	**19 30 11.6**	**-0.8**
PB07					AML	AML	19 30 12.7	
	comp=E,5μm,0.3s							
PB01	**Plate Boundary**	**1.87**	**0**	⇑	*i* P	**Pn**	**19 30 03.5**	**-0.3**
PB01					*i* S	**Sn**	**19 30 26.1**	**-0.6**
PB01					AML	AML	19 30 27.1	
	comp=E,2μm,0.2s							
LPAZ	**La Paz**	**6.72**	**11**		P	**Pn**	**19 31 11.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=199,slow=8.0,SNR=6.0							
CPUP	**Villa Florida**	**11.58**	**110**		P	**Pn**	**19 32 16.6**	**+0.7**
	comp=E,0.1nm,0.3s,baz=261,slow=13,SNR=3.7							
ROSC	**El Rosal**	**28.00**	**350**		LR	LR	19 48 04.0	
	comp=E,18nm,21.0s,baz=173,slow=40							
TORD	**Torodi Ar. Bea**	**78.35**	**70**		P	**P**	**19 41 25.0**	**-0.6**
	comp=E,0.4nm,0.5s,baz=243,slow=5.0,SNR=5.5							
TORD					pP	**pP**	**19 41 46.6**	**-0.4**
	comp=E,1.2nm,0.8s,baz=247,slow=5.0,SNR=4.7							
TORD					sP	**sP**	**19 41 53.8**	**-1.9**
	comp=E,0.9nm,0.6s,baz=241,slow=6.0,SNR=3.7							
MKAR	**Makanchi Array**	**147.10**	**37**		PKPbc	**PKPbc**	**19 49 07.8**	**+0.6**
	comp=E,0.6nm,0.8s,baz=316,slow=3.3,SNR=4.7							
MKAR					pPKPbc	**pPKPbc**	**19 49 29.2**	**-0.5**
	comp=E,0.5nm,0.7s,baz=303,slow=3.1,SNR=4.9							

*ISCJB **06** 20:00:17.7±1.6, 56°.1S±0°.1×27°.1W±0°.7, h112km, mb4.1/4, Error ellipse: s-maj=53.0km s-min=21.1km az=178.0*
*IDC **06** 20:00:18.5±10.0, 56°.09S×27°.29W, h107km±93km, mb3.8/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=42.7km s-min=28.1km az=111.0*
ISC 06 20:00:18.9±1.0, 56°.1S±0°.1×27°.3W±0°.3, h112km, n11, σ1°07/13, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.82**	**158**		*e*P	**P**	**20 04 10.1**	**+2.8**
VNA2	**Neumayer--Watz**	**17.21**	**158**		*e*P	**P**	**20 04 11.4**	**-0.4**
SNAA	**Sanae**	**18.77**	**156**		*e*P	**P**	**20 04 27.5**	**-1.3**
SNAA	**Sanae**	**18.77**	**156**		P	**P**	**20 04 27.8**	**-1.1**
	0.5nm,0.3s,baz=304,slow=11,SNR=147							
QSPA	**South Pole Qui**	**34.19**	**180**		P	**P**	**20 06 53.4**	**+0.3**
	3.6nm,0.6s,baz=212,slow=1.4,SNR=22							
MAW	**Mawson**	**40.19**	**144**		P	**P**	**20 07 43.4**	**-0.1**
	1.4nm,0.4s,baz=229,slow=8.3,SNR=7.5							
VNDA	**Vanda**	**46.56**	**183**		P	**P**	**20 08 34.3**	**-0.2**
	1.3nm,0.7s,baz=190,slow=6.3,SNR=16							
TORD	**Torodi Ar. Bea**	**73.11**	**30**		P	**P**	**20 11 37.3**	**+0.5**
	1.1nm,0.4s,baz=199,slow=6.1,SNR=16							
FINES	**FINESS Array B**	**124.43**	**28**		PKP	**PKPdf**	**20 19 02.9**	**-0.2**
	1.1nm,0.8s,baz=183,slow=3.8,SNR=5.1							
ILAR	**Eielson Array**	**150.06**	**312**		PKPbc	**PKPbc**	**20 19 55.0**	**+0.3**
	0.3nm,0.7s,baz=134,slow=2.6,SNR=4.4							
ILAR					PKPab	**PKPab**	**20 20 00.7**	**-0.4**
	0.4nm,0.7s,baz=57,slow=5.0,SNR=5.1							
SONM	**Songino Array**	**150.81**	**87**		PKPbc	**PKPbc**	**20 19 56.8**	**-0.4**
	0.2nm,0.6s,baz=222,slow=1.9,SNR=2.3							
SONM					PKPab	**PKPab**	**20 20 04.6**	**-0.2**
	0.2nm,0.5s,baz=245,slow=3.3,SNR=3.0							

*ISCJB **06** 20:33:09.6±0.7, 61°.92N±0°.05×79°.50W±0°.09, h25km, mb3.2/1, Error ellipse: s-maj=6.8km s-min=5.8km az=158.3*
*OTT **06** 20:33:15.0±0.2, 62°.03N×79°.53W, h18km, MN3.6/8, 95km southwest from Ivujivik, Qc Boothia Ungava Seismic Zone.*
*IDC **06** 20:33:15.5±2.0, 62°.02N×79°.46W, h15km±15km, mb3.4/1, mb1 3.8/5, mb1mx3.3/31, mbtmp3.7/5, ML3.0/4, Error ellipse: s-maj=13.3km s-min=8.7km az=167.0*
ISC 06 20:33:12.4±0.6, 62°.00N±0°.07×79°.56W±0°.05, h25km, n14, σ2°16/19, Hudson Bay

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**5.34**	**66**		PN	Pn	20 34 33.7	+3.4
FRB					SN	**Sn**	**20 35 30.8**	**-0.1**
FRB					LG	Lg	20 35 56.5	
FRB					Trac		20 36 05.2	
	comp=Z,38nm,0.3s							
FRB	**Frobisher Bay**	**5.34**	**66**		Pn	Pn	20 34 33.8	+3.4
	0.6nm,0.3s,baz=262,slow=15,SNR=3.4							
FRB					Pg	Pb	20 34 49.6	+4.8
	3.1nm,0.3s,baz=255,slow=15,SNR=10							
FRB					Sn	**Sn**	**20 35 29.8**	**-1.1**
	7.8nm,0.3s,baz=196,slow=9.5,SNR=9.5							
FRB					Lg	Lg	20 35 55.5	
	12nm,0.3s,baz=164,slow=22,SNR=9.2							
KUQ	**Kuujjuuaa**	**6.81**	**120**		PN	**Pn**	**20 34 48.8**	**-1.7**
KUQ					SN	**Sn**	**20 36 05.8**	**-1.2**
KUQ					LG	Lg	20 36 41.9	
KUQ					Trac		20 36 49.5	
	comp=Z,31nm,0.5s							
ILON	**Igloolik, Nuna**	**7.46**	**354**		PN	**Pn**	**20 35 01.3**	**+1.9**
ILON					SN	**Sn**	**20 36 20.6**	**-2.6**
ILON					Trac		20 37 04.6	
	comp=Z,34nm,0.3s							
ILON					LG	Lg	20 37 05.9	
FCC	**Fort Churchill**	**7.89**	**252**		PN	**Pn**	**20 35 07.7**	**+2.4**
FCC					SN	**Sn**	**20 36 31.9**	**-1.8**
FCC					LG	Lg	20 37 19.6	
FCC					Trac		20 37 23.4	
	comp=Z,22nm,0.5s							
SILO	**Sutton Inlier**	**8.05**	**203**		PN	Pn	20 35 09.9	+2.4
SILO					SN	**Sn**	**20 36 37.5**	**-0.1**
SILO					LG	Lg	20 37 19.7	
SILO					Trac		20 37 20.4	
	comp=Z,16nm,0.4s							
LG4Q	**La Grande 4**	**8.88**	**158**		PN	**Pn**	**20 35 21.0**	**+2.0**
LG4Q					SN	**Sn**	**20 36 56.9**	**-1.2**
LG4Q					LG	Lg	20 37 47.3	
LG4Q					Trac		20 37 56.4	
	comp=Z,11nm,0.2s							
VIMO	**Victor Mine**	**9.47**	**196**		PN	Pn	20 35 30.2	+3.1
VIMO					SN	**Sn**	**20 37 11.0**	**-1.6**
VIMO					Trac		20 38 19.4	
	comp=Z,47nm,0.9s							
SCHQ	**Schefferville**	**9.79**	**131**		PN	**Pn**	**20 35 32.3**	**+0.9**
SCHQ					SN	**Sn**	**20 37 16.2**	**-4.2**
SCHQ					LG	Lg	20 38 22.3	
SCHQ					Trac		20 38 22.3	
	comp=Z,50nm,0.8s							
SCHQ	**Schefferville**	**9.79**	**131**		Pn	**Pn**	**20 35 32.7**	**+1.2**
	1.1nm,0.3s,baz=323,slow=15,SNR=10							
SCHQ					Sn	**Sn**	**20 37 16.2**	**-4.2**
	0.7nm,0.3s,baz=307,slow=20,SNR=3.0							
SCHQ					Lg	Lg	20 38 15.7	
	2.1nm,0.3s,baz=347,slow=19,SNR=7.9							
SMQ	**Clarke City**	**13.77**	**143**		PN	**Pn**	**20 36 24.9**	**-1.0**
ULM	**Lac du Bonnet**	**14.82**	**225**		Pn	**Pn**	**20 36 39.5**	**-0.6**
	0.6nm,0.3s,baz=30,slow=13,SNR=5.9							
ULM					Sn	Sn	20 39 14.1	-9.0
	0.6nm,0.3s,baz=228,slow=17,SNR=4.6							
ULM					Lg	Lg	20 40 51.4	
	0.9nm,0.3s,baz=314,slow=22,SNR=6.7							
YKA	**Yellowknife Ar**	**16.21**	**287**		Pn	**Pn**	**20 36 56.2**	**-1.9**
	0.1nm,0.3s,baz=82,slow=12,SNR=4.6							
YKA					Sn	Sn	20 39 46.9	-10
	0.2nm,0.3s,baz=74,slow=20,SNR=4.2							
YKA					Lg	Lg	20 41 34.6	
	0.3nm,0.3s,baz=74,slow=30,SNR=6.3							
PDAR	**Pinedale Array**	**26.17**	**237**		P	P	20 38 50.5	+5.7
	0.6nm,0.8s,baz=50,slow=8.4,SNR=4.5							

*ISCJB **06** 20:52:42.0±0.4, 52°.43N±0°.03×106°.63E±0°.04, h10km, Error ellipse: s-maj=4.1km s-min=2.7km az=146.7*
*MOS **06** 20:52:43.8±0.9, 52°.40N×106°.70E, h10km, mb4.2/1, Error ellipse: s-maj=28.7km s-min=16.3km az=63.6*
*BYKL **06** 20:52:44.0±0.3, 52°.44N×106°.63E*
ISC 06 20:52:43.2±0.7, 52°.46N±0°.02×106°.71E±0°.02, h10km, n29, σ1°84/55, 12C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.29**	**71**		*i* Pg	**Pb**	**20 52 51.1**	**+0.6**
ZRHB					*e*		20 52 52.4	
ZRHB					*i* Sg	**Sb**	**20 52 55.9**	**+0.5**
ZRHB					Pmax			
	305nm,0.1s							
ZRHB					Smax			
	5μm,0.7s							
TRG	**Tyrgan**	**0.37**	**324**	⇑	*i* Pg	**Pb**	**20 52 52.0**	**+0.1**
TRG					*i* Sg	**Sb**	**20 52 57.5**	**-0.3**
TRG					Pmax			
	850nm,0.1s							
TRG					Smax			
	3μm,0.1s							
TRG	**Tyrgan**	**0.37**	**324**		*e*PG	**Pb**	**20 52 52.1**	**+0.1**
TRG					*e*		20 52 57.9	
TRG					pmax	pmax		
	comp=Z,843nm,0.1s							
TRG					smax	smax		
	comp=N,3μm,0.2s					

TLY				Pmax				
	comp=N,20nm,0.2s							
TLY				Smax				
	comp=N,236nm,0.3s							
TLY	**Talaya**	**2.04**	**249**	*e*PN	**Pn**	**20 53 18.2**	**+0.6**	
TLY				*e*		20 53 20.0		
TLY				*e*		20 53 46.0		
TLY				pmax	pmax			
	comp=Z,16nm,0.2s							
TLY				smax	smax			
	comp=N,236nm,0.3s							
SYVR	**Suvo**	**2.32**	**58**	⇓*i*	**Pn**	**20 53 22.7**	**+1.2**	
SYVR				*e*Pg	**Pg**	**20 53 26.4**	**-1.3**	
SYVR				*e*Sg	**Sg**	**20 53 58.2**	**+0.4**	
SYVR				Pmax				
	comp=N,9.0nm,0.4s							
SYVR				Smax				
	comp=N,88nm,0.4s							
ARS	**Arshan**	**2.69**	**260**	*e*	**Pb**	**20 53 28.9**	**-2.6**	
ARS				*e*Pg	Pn	20 53 30.2	+3.6	
ARS				*e*Sg	**Sb**	**20 54 05.4**	**+0.9**	
ARS				Pmax				
	comp=N,37nm,0.3s							
ARS				Smax				
	comp=N,494nm,0.3s							
ZAK	**Zakamensk**	**2.99**	**227**	*e*	**Pn**	**20 53 32.4**	**+1.7**	
ZAK				⇑*i*Pg	**Pb**	**20 53 37.5**	**+0.9**	
ZAK				*i* Sg	**Sg**	**20 54 16.8**	**-2.3**	
ZAK				Pmax				
	comp=N,6.0nm,0.4s							
ZAK				Smax				
	comp=N,35nm,1.0s							
YLYR	**Ulyunkhan**	**3.59**	**46**	⇓*i*	**Pn**	**20 53 40.1**	**+1.2**	
YLYR				*e*Pg	**Pb**	**20 53 48.0**	**+1.3**	
YLYR				*e*		20 54 22.9		
YLYR				*i* Sg	**Sg**	**20 54 35.5**	**-2.9**	
YLYR				Pmax				
	comp=N,3.0nm,0.4s							
YLYR				Smax				
	comp=N,26nm,0.9s							
MOY	**Mondy**	**3.61**	**260**	*e*Pn	Pb	20 53 43.4	-3.8	
MOY				*e*Pg	Pg	20 53 46.7	-5.7	
MOY				*e*PgPg	**PbPb**	**20 53 49.0**	**-1.4**	
MOY				*e*		20 54 25.3		
MOY				*i* Sg	**Sb**	**20 54 33.5**	**+2.4**	
MOY				*e*SgSg	**Sg**	**20 54 39.8**	**+0.6**	
MOY				max				
	comp=N,29nm,1.0s							
MOY				max				
	comp=N,139nm,1.0s							
NIZ	**Nizh Angarsk**	**3.72**	**26**	*e*	Pb	20 53 45.3	-3.6	
NIZ				*e*		20 53 47.6		
NIZ				*e*Pg	Pg	20 53 50.1	-4.3	
NIZ				*e*Sg	**Sg**	**20 54 39.3**	**-3.2**	
NIZ				max				
	comp=N,10.0nm,0.2s							
NIZ				Smax				
	comp=N,91nm,0.8s							
NIZ	**Nizh Angarsk**	**3.72**	**26**	*e*PN	**Pn**	**20 53 42.2**	**+1.6**	
NIZ				*e*		20 53 51.2		
NIZ				*e*S	**Sn**	**20 54 26.1**	**+1.6**	
NIZ				*e*		20 54 39.4		
NIZ				pmax	pmax			
	comp=Z,10.0nm,0.5s							
NIZ				smax	smax			
	comp=N,91nm,0.7s							
CIT	**Chita**	**4.23**	**93**	*e*Sg	**Sg**	**20 54 57.5**	**-1.5**	
CIT				*e*		20 55 01.3		
CIT				max				
	comp=N,124nm,0.1s							
KMO	**Kumora**	**4.33**	**36**	*e*	Pb	20 53 54.6	-4.8	
KMO				*e*		20 54 03.5		
KMO				*e*		20 54 37.0		
KMO				*e*Sg	**Sg**	**20 55 00.5**	**-1.7**	
KMO				*e*		20 55 01.0		
KMO				max				
	comp=N,65nm,1.0s							
KPC	**Khapcheranga**	**4.52**	**125**	*e*	**Pn**	**20 53 51.9**	**+0.2**	
KPC				⇑*i*		20 53 56.0		
KPC				Pg	**Pb**	**20 54 04.5**	**+1.9**	
KPC				*e*		20 54 09.7		
KPC				*e*		20 54 45.5		
KPC				*i* Sg	**Sg**	**20 55 04.7**	**-3.5**	
KPC				max				
	comp=N,6.0nm,0.3s							
KPC				Smax				
	comp=N,50nm,0.7s							
NLYR	**Nelyaty**	**6.62**	**49**	*e*PG	Pg	20 54 44.4	-5.4	
NLYR				*e*		20 56 08.4		
NLYR				pmax	pmax			
	comp=Z,18nm,0.8s							
NLYR				smax	smax			
	comp=N,37nm,1.2s							
BOD	**Bodaibo**	**6.80**	**35**	*e*Sg	**Sg**	**20 56 15.7**	**-5.7**	
BOD				Smax				
	comp=N,75nm,0.8s							
CRS	**Chara**	**8.04**	**52**	*e*Sg	**Sg**	**20 56 55.7**	**-5.3**	
TUP	**Tupik**	**8.15**	**71**	*e*		20 56 39.9		
TUP				*i* Sg	**Sg**	**20 56 59.8**	**-4.8**	
TUP				Smax				
	comp=N,36nm,1.4s							
TUP	**Tupik**	**8.15**	**71**	*e*PG	Pb	20 55 10.3	+5.9	
TUP				pmax	pmax			
	comp=Z,1.0nm,0.3s							

IDC 06 21:06:30.2±1.8, 29°30N×5°15E, h0km, mb3.5/6, mb1 3.5/10, mb1mx3.4/33, mbtmp3.5/10, ML3.6/3, Error ellipse: s-maj=31.8km s-min=28.5km az=155.0, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**7.33**	**28**	Pn	Pn	21 08 20.2	+1.5
	0.5nm,0.3s,baz=214,slow=17,SNR=62						
KEST				Sn	Sn	21 09 41.5	-1.1
	0.4nm,0.3s,baz=315,slow=24,SNR=4.9						
MDT	**Midelt**	**9.08**	**295**	Pn	Pn	21 08 43.4	+0.8
	0.1nm,0.3s,baz=115,slow=18,SNR=5.2						
MDT				Lg	Lg	21 11 24.5	
	0.9nm,0.3s,baz=360,slow=19,SNR=3.8						
ESDC	**Sonseca Array**	**12.78**	**326**	Pn	Pn	21 09 32.7	-0.6
	0.2nm,0.3s,baz=154,slow=14,SNR=3.0						
TORD	**Torodi Ar. Bea**	**16.39**	**192**	Pn	Pn	21 10 20.9	-0.8
	0.1nm,0.3s,baz=8.2,slow=13,SNR=6.0						
TORD				Lg	Lg	21 15 03.9	
	0.5nm,0.3s,baz=10.0,slow=28,SNR=8.4						
GERES	**GERESS Array B**	**20.59**	**16**	P	P	21 11 11.0	+0.1
	0.3nm,0.5s,baz=208,slow=12,SNR=6.0						
BRTR	**Keskin Array B**	**25.58**	**58**	P	P	21 12 02.7	+1.5
	0.3nm,0.5s,baz=240,slow=5.8,SNR=3.7						
EKA	**Eskdalemuir Ar**	**26.70**	**349**	P	P	21 12 11.6	+0.7
	0.8nm,0.7s,baz=171,slow=9.7,SNR=3.9						
AKASG	**Malin Array Be**	**28.01**	**34**	P	P	21 12 21.6	-1.1
	0.4nm,0.4s,baz=228,slow=9.6,SNR=3.0						
FINES	**FINESS Array B**	**35.02**	**17**	P	P	21 13 23.3	-0.9
	0.9nm,0.9s,baz=230,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**60.84**	**50**	P	P	21 16 44.2	-0.2
	0.4nm,0.7s,baz=271,slow=7.6,SNR=3.9						

*ISCJB **06** 21:19:46.6±0.6, 26°80S±0°04×70°7W±0°1, h41km, Error ellipse: s-maj=15.8km s-min=5.1km az=4.8*
*GUC **06** 21:19:47.6±0.6, 26°81S×70°71W, h32km±4km, ML4.3*
*NEIC **06** 21:19:47.6, 26°81S×70°71W, h32km, ML4.3(GUC), After GUC.*
NEIC Felt [III] at Caldera and [II] at Copiapo.
ISC 06 21:19:47.9±1.0, 26°84S±0°05×70°71W±0°09, h41km, n17, σ1§05/22, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.25**	**204**	⇓*i*P	**Pn**	**21 19 55.2**	**-0.5**
CDCH				*i* S	**Sn**	**21 19 59.9**	**-1.2**
CDCH	**Caldera**	**0.25**	**204**	⇓*i*P	**Pn**	**21 19 55.2**	**-0.5**
CDCH				*i* S	**Sn**	**21 19 59.9**	**-1.2**
CPCH	**Copiapo**	**0.60**	**148**	⇓*i*P	**Pn**	**21 19 59.9**	**-0.2**
CPCH				*i* S	**Sn**	**21 20 09.1**	**+0.3**
CPCH	**Copiapo**	**0.60**	**148**	⇓*i*P	**Pn**	**21 19 59.9**	**-0.2**
CPCH				*i* S	**Sn**	**21 20 09.1**	**+0.3**
CPCH				AML	AML	21 20 09.8	
	comp=N,85μm,0.1s						
ANCH	**Antofagasta**	**3.16**	**5**	*e*P	**Pn**	**21 20 36.0**	**+0.9**
ANCH	**Antofagasta**	**3.16**	**5**	*e*P	**Pn**	**21 20 36.0**	**+0.9**
TLL	**Tololo Astrono**	**3.31**	**181**	*e*P	**Pn**	**21 20 39.6**	**+2.1**
TLL	**Tololo Astrono**	**3.31**	**181**	*e*P	**Pn**	**21 20 39.6**	**+2.1**
TLL				AML	AML	21 21 36.4	
	comp=E,168nm,0.3s						
LVC	**Limon Verde**	**4.52**	**22**	*e*Pn	**Pn**	**21 20 52.3**	**-1.7**
LVC				*e*Sn	**Sn**	**21 21 45.4**	**0.0**
PB07	**Plate Boundary**	**5.15**	**9**	*e*P	**Pn**	**21 21 03.6**	**+1.0**
PB07	**Plate Boundary**	**5.15**	**9**	*e*P	**Pn**	**21 21 03.6**	**+1.0**
PB01	**Plate Boundary**	**5.88**	**11**	*e*P	**Pn**	**21 21 13.3**	**+0.7**
PB01	**Plate Boundary**	**5.88**	**11**	*e*P	**Pn**	**21 21 13.3**	**+0.7**
LPAZ	**La Paz**	**10.77**	**13**	*e*Pn	**Pn**	**21 22 19.6**	**-0.6**
TRQA	**Tornquist**	**13.38**	**149**	*e*Pn	**Pn**	**21 22 54.7**	**-0.6**
PLCA	**Paso Flores**	**13.86**	**179**	*e*Pn	**Pn**	**21 23 02.3**	**+0.6**
SAML	**Samuel**	**19.17**	**23**	P	**P**	**21 24 07.6**	**-0.5**

*IDC **06** 21:35:38.8±4.0, 5°08S×103°14E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=169.1km s-min=20.7km az=55.0*
*DJA **06** 21:35:53.5±1.3, 5°S±7°×10°4E±°, h66km±15km, M3.3/4, MLv3.3/4*
ISC 06 21:35:48.1±2.0, 5°5S±0°1×103°2E±0°1, h49km, n12, σ3§56/8, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.99**	**61**	P	**Pn**	**21 36 07.6**	**+1.8**
LWLI				S	**Sn**	**21 36 23.2**	**+4.4**
MNAI	**Manna**	**1.16**	**348**	P	Pn	21 36 10.1	+2.1
MNAI				S	**Sn**	**21 36 23.7**	**+0.9**
KASI	**Kota Agung**	**1.30**	**91**	P	Pn	21 36 13.7	+3.8
KASI				S	**Sn**	**21 36 28.7**	**+2.5**
KLSI		**1.73**	**62**	P	**Pn**	**21 36 14.5**	**-1.3**
KLSI				S	**Sn**	**21 36 31.3**	**-5.5**
KSI	**Kapahiang**	**1.93**	**342**	P	Pn	21 36 20.2	+1.6
CMAR	**Chiang Mai Arr**	**24.18**	**350**	P	P	21 40 53.4	-6.7
	0.3nm,0.5s,baz=188,slow=9.0,SNR=4.3						
WRA	**Warramunga Arr**	**33.51**	**118**	P	**P**	**21 42 22.0**	**-1.4**
	0.4nm,0.8s,baz=300,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**34.64**	**125**	P	**P**	**21 42 33.1**	**0.0**
	0.2nm,0.3s,baz=297,slow=7.9,SNR=3.7						
MJAR	**Matsushiro Arr**	**53.13**	**35**	LR	LR	22 08 13.7	
	comp=Z,30nm,18.6s,baz=170,slow=37						
SONM	**Songino Array**	**53.19**	**3**	P	P	21 44 55.8	-5.7
	0.9nm,0.7s,baz=188,slow=8.1,SNR=6.1						
MKAR	**Makanchi Array**	**55.27**	**343**	P	P	21 45 11.0	-5.5
	0.4nm,0.5s,baz=146,slow=9.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**61.21**	**348**	P	P	21 45 51.9	-5.9
	0.4nm,0.3s,baz=152,slow=6.5,SNR=4.2						

MEX 06 21:39:07.1±0.4, 16°27N×96°26W, h59km±6km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**164**	*e*P	Pn	21 39 17.7	-1.5
HUIG				*i* S	Sn	21 39 26.3	-1.7
VHO	**Vista Hermosa**	**0.92**	**330**	*e*P	Pn	21 39 22.8	-1.6
VHO				*i* S	Sn	21 39 35.1	-2.0
PNIG	**Pinotepa**	**1.80**	**274**	*e*P	Pn	21 39 34.7	-1.2
PNIG				*i* S	Sn	21 39 55.6	-2.1
TGIG		**3.05**	**80**	*e*P	Pn	21 39 50.9	-2.1
TGIG				*i* S	Sn	21 40 26.6	-1.7

GUC 06 21:45:17.0±1.0, 31°53S×71°66W, h11km±9km, ML3.9, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.66**	**58**	*e*P	Pg	21 45 30.3	+0.3
CMCH				*i* S	Sg	21 45 39.2	+0.4
CMCH				AML	AML	21 45 43.7	
	comp=N,8μm,0.8s						
PTCH	**Petorca**	**0.96**	**140**	*e*P	Pg	21 45 34.5	-1.2
PTCH				*i* S	Sb	21 45 48.7	+0.1
PTCH				AML	AML	21 45 51.7	
	comp=E,4μm,0.2s						
JACH	**Jahuel**	**1.47**	**142**	*e*P	Pn	21 45 43.5	0.0
TLL	**Tololo Astrono**	**1.54**	**29**	⇑*i*P	Pg	21 45 47.4	+0.4
TLL				*i* S	Sg	21 46 07.5	+0.3
TLL				AML	AML	21 46 11.4	
	comp=N,1μm,0.4s						
ROCH	**El Roble**	**1.54**	**159**	⇓*e*P	Pn	21 45 45.2	+0.4
ROCH				*e*S	Sg	21 46 06.5	-0.7
ROCH				AML	AML	21 46 09.9	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.81**	**153**	*e*P	Pn	21 45 48.8	+0.6
PEL				*e*S	Sb	21 46 13.1	0.0
PEL				AML	AML	21 46 15.3	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**2.09**	**160**	*e*P	Pn	21 45 53.3	+1.3
RCDM				*e*S	Sb	21 46 21.0	+0.1

WEL 06 21:50:37.5±0.2, 45°51S×166°71E, h22km±1km, ML3.5/14, 2D, Error ellipse: s-maj=2.1km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**85**	P*	Pb	21 50 44.4	-0.1
DCZ				S*	Sb	21 50 48.7	-0.5
DCZ				AML	AML	21 50 48.9	
DCZ				AML	AML	21 50 48.9	
DCZ				AML	AML	21 50 49.1	
WHZ	**Wether Hill Ro**	**0.95**	**115**	⇓P*	Pb	21 50 55.0	-0.3
WHZ				AML	AML	21 51 15.5	
WHZ				AML	AML	21 51 15.8	
MLZ	**Mavora Lakes**	**1.04**	**82**	⇓PN	Pn	21 50 55.7	-1.1
MLZ				AML	AML	21 51 10.2	
MLZ				AML	AML	21 51 10.4	
MSZ	**Milford Sound**	**1.20**	**46**	AML	AML	21 51 18.2	
MSZ				AML	AML	21 51 18.2	
MSZ				AML	AML	21 51 22.9	
MSZ				AML	AML	21 51 22.9	
APZ	**The Paps**	**1.60**	**147**	PN	Pn	21 51 05.0	+0.6
WKZ	**Wanaka**	**1.77**	**68**	PN	Pb	21 51 08.1	-1.2
WKZ				AML	AML	21 51 36.1	
WKZ				AML	AML	21 51 39.0	
EAZ	**Earnscleugh**	**1.85**	**82**	PN	Pn	21 51 09.1	+1.2
EAZ				AML	AML	21 51 37.5	
EAZ				AML	AML	21 51 38.0	
SYZ	**Scrubby Hill**	**1.98**	**122**	PN	Pb	21 51 11.6	-1.2
JCZ	**Jackson Bay**	**2.04**	**46**	*e*PN	Pb	21 51 13.7	-0.3
JCZ				AML	AML	21 51 45.7	
JCZ				AML	AML	21 51 48.8	
TUZ	**Tuapeka**	**2.09**	**103**	PN	Pb	21 51 13.3	-1.4
TUZ				AML	AML	21 51 44.3	
TUZ				AML	AML	21 51 45.8	
LBZ	**Lake Benmore**	**2.71**	**67**	*e*PN	Pn	21 51 21.9	+2.2
ODZ	**Otahua Downs**	**2.81**	**82**	PN	Pn	21 51 21.2	+0.1

MEX 06 21:52:38.4±0.4, 18°11N×103°32W, h12km±2km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.18**	**352**	*i* P	Pg	21 52 41.9	-0.6
MMIG				*i* S	Sg	21 52 44.8	-0.4
R15V		**1.23**	**329**	*e*P	Pn	21 52 57.7	-3.8
R15V				*i* S	Sb	21 53 12.8	-4.7
EZ5V		**1.39**	**349**	*e*P	Pn	21 53 00.4	-3.6
EZ5V				*e*S	Sn	21 53 17.1	-5.4

*CSEM **06** 21:59:53.1, 35°12N×36°64E, h4km, ML2.1, After NSSC*
NSSC 06 21:59:53.1±1.4, 35°12N×36°64E, h4km±6km, ML2.1, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFRA	**Kufra**	**0.16**	**56**	*i* P	Pg	21 59 56.1	-0.2
KFRA				*e*S	Sg	21 59 58.9	+0.4
KFRA				AML	AML	22 00 00.6	
	comp=N,747nm,0.5s						
KFRA	**Kufra**	**0.16**	**56**	*i* P	Pg	21 59 56.1	-0.2
	SNR=96						
KFRA				*e*S	Sg	21 59 58.9	+0.4
	comp=N,747nm,0.5s,SNR=91						
HAWK	**Haweek**	**0.63**	**198**	*i* P	Pg	22 00 05.6	+0.2
HAWK				*e*S	Sg	22 00 13.7	0.0
HAWK				AML	AML	22 00 14.1	
	comp=N,180nm,0.3s						
HAWK				AML	AML	22 00 15.0	
	comp=E,98nm,0.6s						
HAWK	**Haweek**	**0.63**	**198**	*i* P	Pg	22 00 05.6	+0.2
	SNR=90						
HAWK				*e*S	Sg	22 00 13.7	0.0
	comp=E,98nm,0.6s,SNR=90						
ARNB	**Al Arnab**	**0.92**	**324**	*e*P	Pb	22 00 11.3	-0.4
ARNB				AML	AML	22 00 11.9	
	comp=N,32nm,0.3s						
ARNB				*e*S	Sg	22 00 22.6	-0.2
ARNB				AML	AML	22 00 26.0	
	comp=E,59nm,0.4s						
ARNB	**Al Arnab**	**0.92**	**324**	*e*P	Pb	22 00 11.9	+0.2
ARNB				AML	AML	22 00 11.9	
	comp=N,32nm,0.3s						
ARNB				*e*S	Sb	22 00 25.4	+1.0
ARNB				AML	AML	22 00 26.0	
	comp=E,59nm,0.4s						
ARNB	**Al Arnab**	**0.92**	**324**	*e*P	Pb	22 00 11.3	-0.4
	SNR=72						
ARNB				*e*S	Sg	22 00 22.6	-0.2
	comp=E,59nm,0.4s,SNR=90						
ARNB	**Al Arnab**	**0.92**	**324**	*e*P	Pb	22 00 11.9	+0.2
	SNR=75						
ARNB				*e*S	Sb	22 00 25.4	+1.1
	comp=E,59nm,0.4s,SNR=59						
BTCH	**Batrach**	**0.92**	**351**	*e*P	Pb	22 00 11.8	0.0
BTCH				AML	AML	22 00 13.2	
	comp=E,54nm,0.3s						
BTCH				*e*S	Sg	22 00 22.8	-0.3
BTCH				AML	AML	22 00 30.3	
	comp=N,89nm,0.4s						
BTCH	**Batrach**	**0.92**	**351**	*e*P	Pb	22 00 11.8	0.0
	SNR=72						
BTCH				*e*S	Sg	22 00 22.8	-0.3
	comp=N,89nm,0.4s,SNR=90						
DRWC	**Darouich**	**1.50**	**1**	*e*P	Pg	22 00 26.2	+4.3
DRWC				*e*S	Sg	22 00 48.0	+6.6
DRWC				AML	AML	22 00 55.9	
	comp=N,42nm,0.3s						
DRWC				AML	AML	22 00 56.5	
	comp=E,70nm,0.4s						
DRWC	**Darouich**	**1.50**	**1**	*e*P	Pg	22 00 26.2	+4.3
	SNR=57						
DRWC				*e*S	Sg	22 00 48.0	+6.6
	comp=E,70nm,0.4s,SNR=49						
BRBR	**Barbar**	**1.80**	**199**	*e*P	Pn	22 00 25.1	-0.2
BRBR				*e*S	Sn	22 00 47.0	-1.7
BRBR				AML	AML	22 01 00.1	
	comp=N,16nm,0.5s						
BRBR				AML	AML	22 01 02.4	
	comp=E,14nm,0.6s						
BRBR	**Barbar**	**1.80**	**199**	*e*P	Pn	22 00 25.0	-0.2
	SNR=57						
BRBR				*e*S	Sn	22 00 47.0	-1.7
	comp=E,14nm,0.6s,SNR=49						
ZALF	**Zalf**	**2.27**	**165**	*e*P	Pb	22 00 34.8	0.0
ZALF				*e*S	Sb	22 01 02.4	-0.8
ZALF				AML	AML	22 01 04.2	
	comp=E,6.8nm,0.5s						
ZALF				AML	AML	22 01 08.4	
	comp=N,9.1nm,0.3s						
ZALF	**Zalf**	**2.27**	**165**	*e*P	Pb	22 00 34.8	+0.1
	SNR=45						
ZALF				*e*S	Sb	22 01 02.4	-0.8
	comp=N,9.1nm,0.3s,SNR=40						
SALA	**Sala**	**2.41**	**178**	*e*P	Pn	22 00 33.8	+0.2
SALA				*e*S	Sb	22 01 06.3	-1.2
SALA				AML	AML	22 01 13.8	
	comp=E,0.9nm,0.3s						
SALA				AML	AML	22 01 14.5	
	comp=N,19nm,0.5s						
SALA	**Sala**	**2.41**	**178**	*e*P	Pn	22 00 33.8	+0.3
	SNR=45						
SALA				*e*S	Sb	22 01 06.3	-1.2
	comp=N,19nm,0.5s,SNR=40						

IDC 06 22:17:14.8±1.2, 52°13N×30°98W, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/32, mbtmp3.6/7, MS3.0/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=34.9km s-min=23.5km az=25.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**22.40**	**113**	P	P	22 22 15.2	+0.5
	0.1nm,0.2s,baz=313,slow=11,SNR=3.5						
ESDC				LR	LR	22 28 23.1	
	comp=Z,41nm,21.5s,baz=190,slow=30						
NOA	**NORSAR Array B**	**24.48**	**52**	LR	LR	22 30 31.3	
	comp=Z,26nm,20.2s,baz=280,slow=32						
ARCES	**ARCESS Array B**	**31.04**	**35**	LR	LR	22 33 10.6	
	comp=Z,35nm,21.9s,baz=338,slow=31						
FINES	**FINESS Array B**	**31.61**	**50**	LR	LR	22 34 47.0	
	comp=Z,42nm,20.9s,baz=251,slow=33						
AKASG	**Malin Array Be**	**36.63**	**68**	P	P	22 24 22.0	-0.6
	0.2nm,0.3s,baz=295,slow=8.8,SNR=3.9						
BRTR	**Keskin Array B**	**45.17**	**79**	P	P	22 25 32.6	-0.7
	0.3nm,0.5s,baz=324,slow=12,SNR=3.0						
TORD	**Torodi Ar. Bea**	**46.89**	**134**	P	P	22 25 46.7	-0.1
	0.7nm,0.6s,baz=338,slow=8.1,SNR=11						
PDAR	**Pinedale Array**	**51.49**	**293**	P	P	22 26 21.8	-0.3
	0.3nm,0.7s,baz=64,slow=6.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**61.54**	**37**	P	P	22 27 33.7	+0.5
	0.5nm,0.4s,baz=304,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**66.12**	**44**	P	P	22 28 03.6	0.0
	0.9nm,0.5s,baz=324,slow=5.0,SNR=17						
WRA	**Warramunga Arr**	**145.89**	**25**	PKPbc	PKPdf	22 36 55.4	-0.1
	0.5nm,0.9s,baz=344,slow=3.6,SNR=2.9						

*PGC **06** 22:39:37.9±1.0, 50°52N×130°38W, h10km, ML3.5/20, Mw4.2, 209km west of Pt. Hardy, Bc Vancouver Island Region*
*NEIC **06** 22:39:37.9, 50°52N×130°37W, h10km, mb4.1/10, MW4.2(PGC), After PGC.*
*IDC **06** 22:39:41.3±1.3, 50°70N×129°82W, h0km, mb3.8/3, mb1 4.1/11, mb1mx3.7/34, mbtmp3.8/11, ML3.7/8, MS3.2/9, Ms1 3.2/9, ms1mx3.0/33, Error ellipse: s-maj=19.6km s-min=8.9km az=72.0*
ISC 06 22:39:39.7±1.8, 50°67N±0°05×129°95W±0°06, h3km±10km, n239, σ1§16/225, mb4.0/9, MS3.3/6, 76C-84D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.16**	**91**	⇑Pn	**Pg**	**22 40 02.0**	**+0.1**
HOLB				⇓Sn	**Sb**	**22 40 17.7**	**-0.2**
HOLB	**Holberg**	**1.16**	**91**	⇑Pn	**Pg**	**22 40 02.0**	**+0.1**
HOLB				Sn	**Sb**	**22 40 17.7**	**-0.2**
BPBC	**Brooks Peninsu**	**1.49**	**109**	⇑Pn	**Pn**	**22 40 05.2**	**-2.2**
BPBC	**Brooks Peninsu**	**1.49**	**109**	⇑Pn	**Pn**	**22 40 05.2**	**-2.2**
PHC	**Port Hardy**	**1.60**	**88**	⇑Pn	**Pn**	**22 40 08.5**	**-0.4**
PHC				⇓Sn	**Sg**	**22 40 29.4**	**-1.8**
PHC	**Port Hardy**	**1.60**	**88**	⇑Pn	**Pn**	**22 40 08.5**	**-0.4**
PHC				Sn	**Sg**	**22 40 29.4**	**-1.8**
MAYB	**Maynard**	**1.79**	**98**	⇑Pn	**Pn**	**22 40 10.7**	**-1.0**
MAYB	**Maynard**	**1.79**	**98**	Pn	**Pn**	**22 40 10.7**	**-1.0**
BBB	**Bella Bella**	**1.90**	**37**	⇓Pn	**Pn**	**22 40 12.8**	**-0.2**
BBB				⇓Sn	**Sn**	**22 40 36.5**	**-1.0**
BBB	**Bella Bella**	**1.90**	**37**	Pn	**Pn**	**22 40 12.8**	**-0.2**
BBB	

DIB	Dawson Inlet,	2.98	329	⇑Pn	Pn	22 40 23.6	-4.2
DIB	Dawson Inlet,	2.98	329	⇑Pn	Pn	22 40 23.6	-4.2
DIB	Dawson Inlet,	2.98	329	Pn	Pn	22 40 23.9	-3.9
DIB				Sn	Sn	22 40 59.1	-4.8
	SNR=3281						
CBB	Campbell River	3.01	101	⇓Pn	Pn	22 40 28.0	-0.2
CBB				⇓Sn	Sn	22 41 03.3	-1.5
CBB	Campbell River	3.01	101	⇓Pn	Pn	22 40 28.0	-0.2
CBB				Sn	Sn	22 41 03.3	-1.5
VIB	Van Inlet	3.04	329	⇓Pn	Pn	22 40 24.3	-4.4
VIB	Van Inlet	3.04	329	⇓Pn	Pn	22 40 24.3	-4.4
VIB	Van Inlet	3.04	329	Pn	Pn	22 40 24.5	-4.2
VIB				Sn	Sn	22 41 01.7	-4.0
	SNR=3309						
BTB	Buttle Lake	3.10	111	⇓Pn	Pn	22 40 28.4	-1.3
BTB	Buttle Lake	3.10	111	⇓Pn	Pn	22 40 28.4	-1.3
OZB	Mount Ozzard	3.36	119	⇑Pn	Pn	22 40 30.9	-2.2
OZB	Mount Ozzard	3.36	119	⇑Pn	Pn	22 40 30.9	-2.2
ALB	Alberni	3.59	111	⇓Pn	Pn	22 40 35.4	-0.9
ALB	Alberni	3.59	111	⇓Pn	Pn	22 40 35.4	-0.9
RUBB	Prince Rupert	3.66	357	⇑Pn	Pn	22 40 36.0	-1.2
RUBB				⇑Sn	Sn	22 41 18.4	-2.5
RUBB	Prince Rupert	3.66	357	⇑Pn	Pn	22 40 36.0	-1.2
RUBB				Sn	Sn	22 41 18.4	-2.5
TXB	Texada	3.68	103	⇑Pn	Pn	22 40 37.1	-0.4
TXB	Texada	3.68	103	Pn	Pn	22 40 38.1	+0.6
NDB	Naden	3.76	332	⇑Pn	Pn	22 40 35.0	-3.7
NDB	Naden	3.76	332	⇑Pn	Pn	22 40 35.0	-3.7
MGB	Mount Grey	3.79	114	⇓Pn	Pn	22 40 37.8	-1.4
MGB	Mount Grey	3.79	114	Pn	Pn	22 40 37.8	-1.4
GHNB	Nanoose	3.93	108	⇓Pn	Pn	22 40 40.9	0.0
SHB	Sechelt	4.05	103	⇑Pn	Pn	22 40 42.5	-0.2
YOUB	Youbou, Lake C	4.09	114	⇓Pn	Pn	22 40 42.4	-0.8
PFB	Port Renfrew	4.16	118	⇓Pn	Pn	22 40 42.8	-1.3
PFB	Port Renfrew	4.16	118	Pn	Pn	22 40 42.8	-1.3
LZB	Mount Lazard	4.49	115	⇑Pn	Pn	22 40 48.8	+0.2
LZB	Mount Lazard	4.49	115	Pn	Pn	22 40 48.8	+0.2
OTR	Olympics--Tyee	4.49	123	P	Pn	22 40 49.2	+0.5
OFR	Olym-F Res Ctr	4.55	125	P	Pn	22 40 50.4	+0.9
OBC	Olympics--Boni	4.66	122	P	Pn	22 40 51.5	+0.5
PGC	Sidney	4.68	113	*e*Pn	Pn	22 40 49.7	-1.6
SNB	Saturna Island	4.79	111	P	Pn	22 40 54.3	+1.5
CRAG	Craig	5.17	340	*e*Pn	Pn	22 40 55.2	-2.8
NLWA	Neilton Lookou	5.17	127	*e*Pn	Pn	22 40 57.1	-1.0
RPW	Rockport	5.92	109	P	Pn	22 41 09.7	+1.3
RMW	Rattlesnake Mo	6.24	118	P	Pn	22 41 14.9	+2.1
LON	Longmire	6.66	123	*e*Pn	Pn	22 41 19.6	+1.0
DLBC	Dease Lake	7.78	360	*e*Pn	Pn	22 41 34.3	+0.4
DLBC				Sn	Sn	22 43 03.0	+0.5
DLBC				Lg	Lg	22 43 46.1	
DLBC	Dease Lake	7.78	360	Pn	Pn	22 41 35.2	+1.4
	0.8nm,0.3s,baz=185,slow=14,SNR=14						
DLBC				Sn	Sn	22 43 03.0	+0.5
	baz=337,slow=17,SNR=1.6						
DLBC				Lg	Lg	22 43 46.1	
	0.2nm,0.3s,baz=163,slow=19,SNR=2.1						
DLBC				LR	LR	22 43 59.7	
	comp=Z,69nm,20.4s,baz=332,slow=33						
NEW	Newport	8.70	101	*e*Pn	Pn	22 41 46.8	+0.4
NEW				Lg	Lg	22 44 12.6	
NEW	Newport	8.70	101	Pn	Pn	22 41 47.0	+0.6
	1.3nm,0.3s,baz=300,slow=13,SNR=11						
NEW				Lg	Lg	22 44 12.6	
	0.2nm,0.3s,baz=211,slow=22,SNR=1.9						
NEW	Newport	8.70	101	⇑P	Pn	22 41 47.1	+0.7
	baz=8.9						
YBH	Yreka Blue Hor	10.25	148	*e*Pn	Pn	22 42 06.6	-1.2
YBH				Lg	Lg	22 45 12.9	
YBH	Yreka Blue Hor	10.25	148	Pn	Pn	22 42 10.9	+3.2
	0.1nm,0.3s,baz=6.0,slow=18,SNR=6.7						
YBH				Lg	Lg	22 45 12.9	
	0.0nm,0.3s,baz=360,slow=19,SNR=2.0						
YBH				LR	LR	22 45 33.8	
	comp=Z,126nm,19.2s,baz=327,slow=34						
BSMT	Bassoo Peak	10.31	100	*e*Pn	Pn	22 42 10.4	+1.8
B13A	Whitefish	10.33	97	⇑P	Pn	22 42 09.5	+0.7
	baz=10						
A14A	Double T Ranch	10.82	93	⇓P	Pn	22 42 16.6	+1.1
	baz=11						
SWMT	Swartz Lake	10.93	101	*e*Pn	Pn	22 42 17.3	+0.2
C14A	Swan Lake	10.99	99	⇓P	Pn	22 42 18.0	+0.2
	baz=11						
MSO	Missoula	11.25	104	⇑P	Pn	22 42 21.3	0.0
	baz=11						
A15A	Johnson Ranch,	11.25	92	⇓P	Pn	22 42 22.2	+0.8
	baz=12						
WDC	Whiskeytown Da	11.34	150	*e*P	Pn	22 42 24.9	+2.3
B15A	Bradely Ranch,	11.55	95	⇓P	Pn	22 42 26.6	+1.0
	baz=12						
CHMT	Chamberlain Mo	11.64	102	*e*Pn	Pn	22 42 27.5	+0.7
C15A	Salmond Ranch,	11.71	98	⇓P	Pn	22 42 27.9	+0.2
	baz=12						
A16A	West Butte Ran	11.98	91	⇓P	Pn	22 42 31.5	+0.1
	baz=12						
A17A	Triple J Farms	12.56	90	⇓P	Pn	22 42 42.1	+2.9
	baz=13,SNR=9.1						
HLID	Hailey	12.74	118	*e*Pn	Pn	22 42 42.3	+0.5
HLID	Hailey	12.74	118	⇑P	Pn	22 42 43.4	+1.6
	baz=13						
MCMT	McKenzie Canyo	12.90	110	*e*Pn	Pn	22 42 44.6	+0.5
C17A	Wharram Farm,	12.92	96	⇑P	Pn	22 42 45.5	+1.3
	baz=13						
I14A	Mackay	13.06	115	⇓P	Pn	22 42 47.6	+1.4
	baz=13						
A18A	Metzger Ranch,	13.11	90	⇓P	Pn	22 42 48.6	+1.9
	baz=13						
D17A	Six Diamond Ra	13.15	98	⇑P	Pn	22 42 49.2	+1.8
	baz=13						
B18A	Beardsley Farm	13.30	92	⇓P	Pn	22 42 51.5	+2.1
	baz=14						
E17A	Martinsdale	13.32	101	⇓P	Pn	22 42 50.8	+1.0
	baz=14						
F17A	Fitzpatrick Pl	13.69	103	⇓P	Pn	22 42 54.7	-0.1
	baz=14						
A19A	Klindworth Far	13.80	89	⇑P	Pn	22 42 60.0	+3.7
	baz=14						
E18A	Harlowton	13.87	99	⇑P	Pn	22 42 57.9	+0.7
	baz=14						
I16A	Newdale	14.24	111	⇓P	Pn	22 43 03.5	+1.2
	baz=14						
D19A	Cripps Ranch,	14.28	96	⇓P	Pn	22 43 04.0	+1.2
	baz=14						
A20A	Cobblestone Ra	14.34	89	⇓P	Pn	22 43 05.4	+1.8
	baz=15						
YKA	Yellowknife Ar	14.50	29	Pn	Pn	22 43 04.6	-1.0
YKA	Yellowknife Ar	14.50	29	Pn	Pn	22 43 04.6	-1.0
	0.1nm,0.3s,baz=220,slow=12,SNR=4.6						
E19A	Rath Farm, Rou	14.62	99	⇓P	Pn	22 43 09.6	+2.1
	baz=15						
MOOW	Moose Ponds	14.75	111	*e*Pn	Pn	22 43 10.0	+0.6
NVAR	Mina Array Bea	14.77	142	Pn	Pn	22 43 13.0	+3.4
NVAR	Mina Array Bea	14.77	142	Pn	Pn	22 43 13.0	+3.4
	0.1nm,0.3s,baz=319,slow=14,SNR=2.6						
TPAW	Teton Pass	14.78	112	*e*P	Pn	22 43 13.4	+3.6
REDW	Red Top Meadow	14.91	112	*e*Pn	Pn	22 43 13.7	+2.1
	7.3nm,0.8s						
LOHW	Long Hollow	14.91	111	*e*Pn	Pn	22 43 10.5	-1.1
RLMT	Red Lodge	14.92	104	*e*Pn	Pn	22 43 12.0	+0.3
EGAK	Eagle	15.32	342	*e*Pn	Pn	22 43 15.9	-0.7
	4.0nm,0.8s						
D21A	La Casta Ranch	15.52	95	⇑P	Pn	22 43 20.5	+1.1
	baz=16,SNR=7.3						
A22A	Carney Farms,	15.59	87	⇑P	Pn	22 43 21.6	+1.3
	baz=16						
I19A	Meeteetse	15.65	107	⇑P	Pn	22 43 22.1	+0.8
	baz=16						
B22A	Reddig Ranch S	15.73	89	⇑P	Pn	22 43 24.5	+2.3
	baz=16						
F21A	Absaloka Mine,	15.94	99	⇑P	Pn	22 43 26.8	+1.9
	baz=16						
C22A	Vida	15.98	91	⇓P	Pn	22 43 26.2	+0.8
	baz=16						
D22A	Cohagen	16.00	94	⇑P	Pn	22 43 27.1	+1.4
	baz=16						
H20A	Greybull	16.02	104	⇑P	Pn	22 43 27.8	+1.7
	baz=16						
PDAR	Pinedale Array	16.03	112	Pn	P	22 43 29.1	-0.7
PDAR	Pinedale Array	16.03	112	Pn	P	22 43 29.1	-0.7
	0.1nm,0.3s,baz=311,slow=12,SNR=30						
B23A	Brockton	16.32	88	⇓P	Pn	22 43 31.0	+1.2
	baz=16						
C23A	Lambert	16.41	90	⇓P	Pn	22 43 31.3	+0.4
	baz=17						
K19A	Absolon Red Bu	16.42	110	⇑P	Pn	22 43 31.8	+0.6
	baz=17						
E22A	Miles City	16.42	96	⇑P	Pn	22 43 32.6	+1.5
	baz=17						
F22A	Rosebud	16.50	98	⇑P	Pn	22 43 34.0	+1.8
	baz=17						
H21A	Big Horn, Sher	16.55	103	⇑P	Pn	22 43 34.1	+1.3
	baz=17						
L19A	Farson	16.55	113	⇓P	Pn	22 43 33.8	+0.8
	baz=17						
J20A	Shoshoni	16.57	108	⇑P	Pn	22 43 34.3	+1.1
	baz=17						
D23A	Lindsay	16.61	93	⇓P	P	22 43 36.2	+0.1
	baz=17,SNR=6.0						
ILAR	Eielson Array	16.69	334	Pn	P	22 43 37.7	+1.0
ILAR	Eielson Array	16.69	334	Pn	P	22 43 37.7	+1.0
	0.0nm,0.3s,baz=141,slow=8.9,SNR=19						
G22A	Birney	16.73	100	⇑P	P	22 43 37.9	+0.4
	baz=17						
I21A	Big Tails, Te	16.81	105	⇓P	Pn	22 43 37.0	+0.8
	baz=17						
A24A	Westby	16.82	86	⇑P	Pn	22 43 37.0	+0.9
	baz=17						
DGMT	Dagmar	16.82	88	*e*P	P	22 43 38.8	+0.4
	14nm,0.7s						
DGMT	Dagmar	16.82	88	⇓P	Pn	22 43 37.4	+1.2
	baz=17						
J21A	Lysite	16.97	107	⇑P	Pn	22 43 38.5	+0.4
	baz=17						
C24A	Savage	16.98	91	⇓P	P	22 43 40.6	+0.5
	baz=17						
F23A	Volborg	17.06	97	⇓P	Pn	22 43 39.4	+0.1
	baz=17						
ISA	Isabella	17.15	147	⇓P	Pn	22 43 41.4	+1.1
	baz=17						
MPMC	Manual Prospec	17.15	144	⇓P	Pn	22 43 41.3	+0.8
	baz=17						
I22A	9 Mile Ranch,	17.26	104	⇓P	Pn	22 43 42.0	+0.2
	baz=17						
G23A	Biddle	17.30	99	⇑P	Pn	22 43 42.0	-0.3
	baz=18						
E24A	Baker	17.41	94	⇑P	Pn	22 43 44.1	+0.6
	baz=18						
K21A	Alcova	17.49	109	⇑P	Pn	22 43 46.0	+1.3
	baz=18						
J22A	Midwest	17.52	105	⇓P	Pn	22 43 45.5	+0.4
	baz=18,SNR=5.4						
F24A	Ekalaka	17.62	96	⇓P	P	22 43 48.0	+0.8
	baz=18						
INK	Inuvik	17.78	356	LR	LR	22 50 20.8	
	comp=Z,47nm,20.3s,baz=94,slow=36						
L21A	Rawlins	17.81	111	⇑P	Pn	22 43 48.8	+0.1
	baz=18						
K22A	Casper	17.92	108	⇓P	Pn	22 43 51.0	+1.0
	baz=18						
N20A	Spence Gulch,	17.99	115	⇓P	Pn	22 43 52.0	+1.0
	baz=18,SNR=8.1						
E25A	Miller Ranch,	18.01	93	⇑P	P	22 43 52.2	+0.7
	baz=18						
H24A	Dirks Ranch, A	18.04	99	⇓P	Pn	22 43 52.3	+0.8
	baz=18						
A26A	Wade Farm, Ken	18.07	85	⇓P	Pn	22 43 52.1	+0.4
	baz=18						
F25A	Bowman	18.21	95	⇑P	P	22 43 54.5	+0.7
	baz=18						
L22A	Ellis Ranch, M	18.33	109	⇑P	Pn	22 43 55.5	+0.4
	baz=18						
P19A	Cripple Cowboy	18.39	119	⇓P	Pn	22 43 56.1	+0.3
	baz=18						
D26A	Manning	18.43	91	⇓P	Pn	22 43 55.6	-0.4
	baz=19						
G25A	Newell	18.55	97	⇓P	P	22 43 58.2	+0.7
	baz=19						
E26A	Carlson Angus	18.62	92	⇑P	Pn	22 44 00.2	+1.7
	baz=19,SNR=6.3						
H25A	Fruitdale	18.70	99	⇓P	P	22 43 59.9	+0.7
	baz=19						
F26A	Lodgepole	18.74	94	⇑P	Pn	22 44 01.6	+1.7
	baz=19,SNR=8.7						
I25A	Rochford	18.91	100	⇓P	P	22 44 02.5	+0.9
	baz=19						
G26A	Maurine	19.02	96	⇑P	Pn	22 44 04.4	+1.1
	baz=19						
H26A	Fairpoint	19.22	98	⇓P	Pn	22 44 06.6	+0.8
	baz=19						
Q20A	Ridgley Place,	19.24	119	⇓P	P	22 44 06.2	+1.0
	baz=19						
N23A	Red Feather La	19.31	111	⇑P	P	22 44 05.8	-0.3
	baz=20						
P21A	Newcastle	19.32	117	⇑P	P	22 44 06.9	+0.7
	baz=20						
PHWY	Pilot Hill	19.35	109	*e*Pn	P	22 44 07.0	+0.4
	5.9nm,0.9s						
G27A	Dupree	19.41	95	⇓P	P	22 44 07.2	+0.3
	baz=20						
O22A	Kremmling	19.42	114	⇓P	P	22 44 07.0	-0.4
	baz=20						
PFO	Pinyon Flat Ob	19.72	145	P	Pn	22 44 13.5	+1.7
PFO	Pinyon Flat Ob	19.72	145	P	Pn	22 44 13.5	+1.7
	0.2nm,0.3s,baz=291,slow=6.0,SNR=3.4						
I27A	Quinn	19.94	99	⇓P	Pn	22 44 15.2	+0.8
	baz=20						
K26A	Motz Farm, Whi	19.94	103	⇓P	Pn	22 44 14.7	+0.3
	baz=20						
S20A	Disappointment	20.01	122	⇓P	Pn	22 44 15.9	+0.5
	baz=20						
G28A	Parade	20.19	95	⇓P	P	22 44 16.7	+1.3
	baz=20						
ISCO	Idaho Springs	20.20	113	⇓P	Pn	22 44 17.8	0.0
	baz=20						
P23A	Jefferson	20.35	114	⇑P	P	22 44 18.4	+0.9
	baz=20						
MONP	Monument Peak	20.38	146	⇑P	P	22 44 18.2	+0.5
	baz=20						
MVCO	Mesa Verde	20.39	123	*e*P	P	22 44 17.2	-0.6
	8.8nm,1.0s						
MVCO	Mesa Verde	20.39	123	⇑P	Pn	22 44 20.1	+0.1
	baz=20						
R22A	Saguache, Gunn	20.61	118	⇑P	P	22 44 21.6	+1.3
	baz=21						
K28A	Ten Mile Ranch	21.06	101	⇑P	P	22 44 26.1	+1.2
	baz=21						
O26A	Horse Wrangler	21.29	109	⇓P	P	22 44 28.7	+1.3
	baz=21						
N27A	Anderson Farm,	21.41	107	⇓P	P	22 44 29.7	+0.9
	baz=22						
U21A	Nageezi	21.42	123	⇓P	P	22 44 29.4	+0.4
	baz=22						
V20A	Brimhall	21.48	126	⇓P	P	22 44 29.2	-0.4
	baz=22						
Q25A	Bedland, Calha	21.58	113	⇑P	P	22 44 31.6	+0.9
	baz=22						
ULM	Lac du Bonnet	21.59	78	*e*P	P	22 44 29.4	-1.1
	5.5nm,0.8s						
ULM	Lac du Bonnet	21.59	78	P	P	22 44 30.6	+0.1
	3.4nm,0.5s,baz=292,slow=11,SNR=3.7						
ULM				LR	LR	22 53 11.4	
	comp=Z,94nm,18.4s,baz=230,slow=38						
X18A	Snowflake	21.73	130	⇑P	P	22 44 33.2	+0.9
	baz=22						
S24A	Houchin Ranch,	21.89	117	⇑P	P	22 44 35.7	+1.6
	baz=22						
V21A	Milan	21.90	124	⇑P	P	22 44 35.2	+1.1
	baz=22						
W20A	Ramah	21.98	127	⇑P	P	22 44 36.6	+1.6
	baz=22,SNR=6.9						
R25A	Fountain Ranch	22.07	115	⇑P	P	22 44 38.0	+2.1
	baz=22						
AGMN	Agassiz Nation	22.16	83	*e*P	P	22 44 36.9	+0.3
	5.3nm,0.6s						
S25A	Robets Cordova	22.32	116	⇑P	P	22 44 38.9	+0.3
	baz=22						
R26A	Arlington	22.46	113	⇑P	P	22 44 41.6	+1.6
	baz=23						
214A	Organ Pipe Nat	22.60	139	⇑P	P	22 44 42.5	+1.0
	baz=23						
X21A	Alamocita Cree	22.88	127	⇑P	P	22 44 46.8	+2.2
	baz=23,SNR=5.7						
S26A	Kim	22.90	115	⇓P	P	22 44 44.7	0.0
	baz=23						
Y20A	Horse Springs,	23.00	129	⇓P	P	22 44 46.0	+0.2
	baz=23						
ANMO	Albuquerque	23.18	124	P	P	22 44 48.3	+0.6
ANMO	Albuquerque	23.18	124	P	P	22 44 48.3	+0.6
	1.9nm,0.9s,baz=321,slow=10,SNR=4.6						
V25A	Rancho No Teng	23.51	119	⇑P	P	22 44 52.2	+1.2
	baz=24						
Z20A	Nine Sixteen R	23.54	130	⇑P	P	22 44 51.5	+0.3
	baz=24						
ECSD	EROS Data Cent	23.54	94	*e*P	P	22 44 51.5	+0.5
	5.5nm,0.7s						
W24A	Lazy 6 Ranch,	23.54	122	⇑P	P	22 44 52.8	+1.5
	baz=24,SNR=5.6						
U26A	Atchley Ranch,	23.60	117	⇑P	P	22 44 52.2	+0.3
	baz=24						
V26A	Tequesquite Ra	24.01	118	⇑P	P	22 44 57.1	+1.3
	baz=24,SNR=7.6						
T28A	Walsh	24.03	114	⇑P	P	22 44 57.1	+1.2
	baz=24						
W25A	X Bar L Ranch,	24.05	120	⇑P	P	22 44 56.1	-0.1
	baz=24						
220A	Playas Peak, P	24.56	132	⇑P	P	22 45 02.2	+1.3
	baz=25						
319A	Douglas	24.65	134	⇓P	P	22 45 03.4	+1.8
	baz=25						
320A	Kipp Ranch, An	25.03	132	⇑P	P	22 45 05.4	+0.3
	baz=25						
124A	Stringfield Ra	25.45	126	⇓P	P	22 45 09.0	+0.1
	baz=26						
125A	Gardner Draw,	25.89	124	⇓P	P	22 45 12.8	-0.1
	baz=26						
Z27A	Tatum	26.16	121	⇓P	P	22 45 14.9	-0.4
	baz=26						
MNTX	Cornudas Mount	26.28	127	*e*P	P	22 45 15.6	-0.7
	2.2nm,1.1s						
325A	Bean Ranch, Si	26.75	127	⇓P	P	22 45 20.8	+0.1
	baz=27						
WMOK	Wichita Mounta	27.63	113	*e*P	P	22 45 27.0	-1.4
	3.0nm,1.0s						
426A	McDonald Obser	27.79	126	⇑P	P	22 45 31.0	+0.8
	baz=28,SNR=6.8						
526A	Mary Lane Ranc	28.25	127	⇑P	P	22 45 31.5	-2.7
	baz=28						
527A	Woodward Ranch	28.43	126	⇑P	P	22 45 35.2	-0.6
	baz=28						
428A	Kincaid Ranch,	28.45	124	⇓P	P	22 45 35.7	-0.1
	baz=29						
528A	Cox Ranch, San	28.84	125	⇑P	P	22 45 38.2	-1.2
	baz=29						
TXAR	Lajitas Array	29.05	127	P	P	22 45 42.2	+0.9
TXAR	Lajitas Array	29.05	127	P	P	22 45 42.2	+0.9
	1.5nm,1.0s,baz=325,slow=6.1,SNR=11						
TXAR				LR	LR	22 57 36.0	
	comp=Z,42nm,20.3s,baz=10.0,slow=37						
627A	Terlingua Ranc	29.10	127	⇑P	P	22 45 41.1	-0.5
	baz=29						
529A	Stev Forest Ra	29.17	124	⇑P	P	22 45 43.0	+0.8
	baz=29						
628A	Black Gap, Mar	29.33	126	⇓P	P	22 45 42.8	-0.8
	baz=29						
431A	Sonora	29.59	121	⇓P	P	22 45 45.3	-0.7
	baz=30						
530A	J-C Ranch, Com	29.62	123	⇑P	P	22 45 46.6	+0.4
	baz=30						
631A	Perdido Creek	30.60	123	⇑P	P	22 45 54.6	-0.2
	baz=31						
ARCES	ARCESS Array B	58.76	10	LR	LR	23 15 01.0	
	comp=Z,28nm,21.3s,baz=162,slow=36						
NOA	NORSAR Array B	64.36	20	LR	LR	23 18 31.5	
	comp=Z,19nm,18.8s,baz=270,slow=36						
FINES	FINESS Array B	66.60	12	LR	LR	23 18 28.2	
	comp=Z,23nm,21.9s,baz=128,slow=35						
HHC	Hu-ho-hao-te	74.19	316	*e*P	P	22 51 13.9	-3.8
HHC				S	SKiKP	23 00 43.9	-1.9
HHC				pmax	pmax		
	comp=Z,48nm,0.7s						
HHC				pmax	pmax		
	comp=Z,400nm,6.6s						
MKAR	Makanchi Array	79.00	338	LR	LR	23 30 05.0	
	comp=Z,20nm,21.8s,baz=350,slow=38						
CD2	Chengdu	85.95	316	*e*P	P	22 52 16.6	-4.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,6.2s						

NIED ***06*** *22:43:00, 32.°40N×141.°90E, h5km, Mw3.9 Best double couple: M0 9.28000×10^14 NP1:φ=130.00000°, δ=75.00000°, λ=80.00000°. NP2:φ=343.00000°, δ=17.00000°, λ=122.00000°.*
JMA ***06*** *22:43:06.0±0.7, 32.°37N×141.°90E, h0km, M3.8*
ISCJB ***06*** *22:43:10.0±1.0, 32.°47N±0.°05×142.°1E±0.°1, h39km, mb3.5/4, Error ellipse: s-maj=13.6km s-min=7.3km az=166.4*
IDC ***06*** *22:43:15.4±4.1, 32.°12N×141.°42E, h47km±10km, mb3.2/4, mb1 3.4/5, mb1mx3.1/25, mbtmp3.2/5, ML3.0/1, Error ellipse: s-maj=152.2km s-min=17.9km az=68.0*

ISC 06 22:43:12.4±1.2, 32.°46N±0.°08×142.°1E±0.°1, h39km, n11, σ1=43/19, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.03	289	P	Pn	22 43 40.2	-3.9
JHJ2				*e*S	Sn	22 44 06.1	-2.1
BSO1	Boso 1	2.38	337	P	Pn	22 43 47.8	-0.6
BSO1				*e*S	Sn	22 44 16.7	+0.6
BSO3	Boso 3	2.69	331	P	Pn	22 43 52.5	-0.4
JHO	Hitachi	4.33	343	P	Pn	22 44 15.4	-0.3
JHO				*e*S	Sn	22 45 03.6	-1.4
JAG	Ashikaga	4.52	332	P	Pn	22 44 18.1	-0.2
JAG				S	Sn	22 45 08.1	-1.5
MJAR	Matsushiro Arr	5.19	323	P	Pn	22 44 28.0	+0.5
	0.5nm,0.3s,baz=140,slow=12,SNR=4.9						
MJAR				S	Sn	22 45 26.1	0.0
	0.4nm,0.3s,baz=208,slow=20,SNR=2.7						
JFT	Otama	5.25	345	P	Pn	22 44 28.0	-0.4
JFT				S	Sn	22 45 25.7	-2.0
SONM	Songino Array	30.99	310	P	P	22 49 26.9	+0.8
	0.4nm,0.6s,baz=111,slow=7.9,SNR=3.5						
SONM				pP	pP	22 49 39.8	+2.8
	0.3nm,0.4s,baz=104,slow=12,SNR=2.4						
MKAR	Makanchi Array	47.14	306	P	P	22 51 39.9	-0.9
	0.3nm,0.5s,baz=83,slow=9.5,SNR=7.1						
MKAR				pP	pP	22 51 54.3	+2.3
	0.4nm,0.5s,baz=73,slow=9.7,SNR=5.0						
WRA

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.70**	**36**	P	Pn	23 57 09.4	0.0
	2.2nm,0.3s,baz=172,slow=7.1,SNR=2.6						
AFI				S	Sn	23 58 19.3	-6.3
	1.5nm,0.3s,baz=358,slow=18,SNR=3.3						
URZ	**Urewera**	**19.79**	**197**	P	P	23 59 48.6	-0.1
	1.5nm,0.3s,baz=24,slow=4.3,SNR=7.9						
RPZ	**Rata Peaks**	**26.64**	**201**	P	P	00 00 53.9	-0.1
	3.6nm,0.5s,baz=37,slow=13,SNR=1.5						
CTA	**Charters Tower**	**35.61**	**262**	P	P	00 02 13.2	+0.5
	9.0nm,0.8s,baz=89,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**40.08**	**243**	P	P	00 02 50.0	0.0
	2.5nm,0.7s,baz=78,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**46.73**	**255**	P	P	00 03 43.2	-0.1
	5.6nm,0.7s,baz=88,slow=8.4,SNR=64						
WRA	**Warramunga Arr**	**46.75**	**261**	P	P	00 03 42.9	-0.6
	2.3nm,0.3s,baz=96,slow=7.6,SNR=105						
ARCES	**ARCESS Array B**	**128.15**	**351**	PKP	PKPdf	00 14 15.1	-0.6
	0.7nm,0.9s,baz=30,slow=2.5,SNR=5.0						
BRTR	**Keskin Array B**	**147.51**	**315**	PKPbc	PKPbc	00 14 54.7	-0.2
	0.8nm,1.0s,baz=184,slow=5.8,SNR=3.6						

NNC ***07*** *00:19:39.9±6.1,36°.45N×69°.00E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=49.7km s-min=35.5km az=175.0*

ISC 07 00:19:40.2±3.1,36°.2N±0°.2×69°.0E±0°.1,h35km,n9, σ1§77/13,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.97**	**30**	P	**Pn**	**00 21 20.7**	**+0.6**
	SNR=13						
KK31	**Karatay Array**	**7.00**	**9**	P	**Pn**	**00 21 22.6**	**+2.4**
	0.8nm,0.3s,baz=199,slow=14,SNR=29						
KK31				⇑S	**Sn**	**00 22 40.7**	**+2.1**
	1.8nm,0.3s,baz=195,slow=21,SNR=8.4						
EKS2	**Erkin-Say**	**7.45**	**28**	P	**Pn**	**00 21 27.4**	**+1.0**
	SNR=7.0						
KZA	**Kyzart**	**7.63**	**38**	P	**Pn**	**00 21 28.8**	**-0.4**
	SNR=5.8						
CHMS	**Chumysh**	**8.12**	**31**	P	**Pn**	**00 21 36.1**	**+0.5**
	SNR=5.2						
TKM2	**Tokmak 2**	**8.44**	**35**	⇓P	**Pn**	**00 21 38.4**	**-1.8**
	4.3nm,0.8s						
TKM2				⇑S	**Sn**	**00 23 14.1**	**-0.1**
	2.2nm,0.7s						
TKM2	**Tokmak 2**	**8.44**	**35**	P	**Pn**	**00 21 40.0**	**-0.1**
	SNR=7.3						
AB31	**Akbulak array**	**14.63**	**336**	⇓P	**Pn**	**00 23 05.0**	**+0.5**
	0.8nm,0.5s,baz=152,slow=13,SNR=30						
AB31				⇑S	**Sn**	**00 25 42.0**	**-3.3**
	0.6nm,0.6s,baz=157,slow=24,SNR=2.8						
AKTO	**Aktyubinsk**	**16.29**	**334**	⇑P	**P**	**00 23 28.9**	**+0.1**
	2.9nm,1.5s						
AKTO				⇓S	**Sn**	**00 26 23.4**	**-2.3**
	1.1nm,0.8s						

IDC 07 00:24:17.6±1.1,32°.91S×178°.86W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.9/18,mbtmp4.1/4,Error ellipse: s-maj=39.6km s-min=29.0km az=61.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.27**	**210**	Pn	Pn	00 25 47.4	-4.0
	5.1nm,0.3s,baz=262,slow=1.9,SNR=30						
URZ				Sn	Sn	00 26 52.7	-11
	7.6nm,0.3s,baz=124,slow=18,SNR=12						
RPZ	**Rata Peaks**	**13.38**	**213**	Pn	Pn	00 27 22.0	-6.8
	0.7nm,0.3s,baz=75,slow=19,SNR=5.2						
RPZ				Sn	Sn	00 29 32.8	-25
	0.6nm,0.3s,baz=149,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**42.31**	**270**	P	P	00 32 13.4	0.0
	1.3nm,0.4s,baz=108,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**43.53**	**275**	P	P	00 32 23.3	+0.1
	0.7nm,0.3s,baz=117,slow=8.2,SNR=7.6						
QSPA	**South Pole Qui**	**57.21**	**180**	P	P	00 34 05.8	-0.5
	1.2nm,0.6s,baz=356,slow=1.9,SNR=13						
MAW	**Mawson**	**69.71**	**201**	P	P	00 35 29.0	+0.2
	1.3nm,0.4s,baz=100,slow=4.2,SNR=4.4						
KURBB	**Kurchatov Arra**	**122.26**	**313**	PKP	PKPdf	00 43 12.7	-1.4
	0.2nm,0.4s,baz=113,slow=2.1,SNR=4.7						
ARCES	**ARCESS Array B**	**140.87**	**347**	PKhKP	PKPpre	00 43 41.8	
	0.4nm,0.7s,baz=66,slow=3.0,SNR=4.3						
ARCES				PKP	PKPdf	00 43 49.5	+1.0
	0.5nm,0.8s,baz=64,slow=2.8,SNR=4.5						
KAF	**Kangasniemi**	**146.64**	**339**	*e*p	PKPdf	00 43 57.8	-1.0
	1.6nm,0.5s						
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	PKPbc	00 44 02.1	+0.1
	1.9nm,0.5s,baz=34,slow=4.8,SNR=33						
NB2	**NORSAR Subarra**	**151.10**	**350**	PKP	PKPbc	00 44 11.9	-0.1
	comp=Z,0.5nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.10**	**350**	PKPbc	PKPbc	00 44 12.2	+0.2
	comp=Z,0.6nm,0.9s,baz=14,slow=4.6,SNR=6.1						
BRTR	**Keskin Array B**	**153.05**	**294**	PKPbc	PKPbc	00 44 15.3	-1.9
	comp=Z,0.3nm,0.5s,baz=145,slow=3.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**160.33**	**182**	PKPab	PKPab	00 45 01.2	+1.1
	comp=Z,0.2nm,0.6s,baz=161,slow=4.5,SNR=4.5						

JMA ***07*** *00:35:27.7±0.3,42°.91N×146°.82E,h49km±5km,M3.0*
MOS ***07*** *00:35:31.1±1.1,43°.63N×147°.12E,h66km,mb4.1/1,Error ellipse: s-maj=91.3km s-min=28.0km az=31.0*
IDC ***07*** *00:35:39.9±6.0,45°.52N×145°.60E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.3/26,mbtmp3.4/5,ML2.7/1,Error ellipse: s-maj=118.6km s-min=40.1km az=126.0*

ISC 07 00:35:28.0±1.7,43°.0N±0°.1×146°.8E±0°.1,h30km,n16, σ0§78/19,mb3.5/4,1C,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.86**	**297**	P	**Pn**	**00 35 44.4**	**+0.4**
NEM2				*e*S	**Sb**	**00 35 56.4**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.25**	**328**	*c i*PN	**Pn**	**00 35 49.6**	**+0.1**
YUK				*i*		00 36 07.8	
YUK				pmax	pmax		
	comp=E,42nm,0.3s						
YUK				pmax	pmax		
	comp=Z,119nm,0.3s						
YUK				pmax	pmax		
	comp=N,23nm,0.3s						
YUK				smax	smax		
	comp=E,158nm,0.3s						
YUK				smax	smax		
	comp=N,179nm,0.4s						
JAK	**Akkeshi**	**1.54**	**271**	P	**Pn**	**00 35 53.4**	**+0.1**
JRA	**Rausu**	**1.55**	**309**	P	**Pn**	**00 35 54.4**	**+0.9**
JNK	**Nakash**	**1.63**	**293**	P	**Pn**	**00 35 54.9**	**+0.3**
JNK				*e*S	**Sn**	**00 36 14.8**	**+0.2**
JOB	**Onbets**	**2.17**	**269**	P	**Pn**	**00 36 02.6**	**+0.5**
JAR	**Ashorobuto**	**2.23**	**279**	P	**Pn**	**00 36 03.6**	**+0.7**
JAR				*e*S	**Sn**	**00 36 30.1**	**+0.6**
JCH	**Churui**	**2.55**	**263**	*e*S	**Sn**	**00 36 37.5**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.06**	**258**	P	**Pn**	**00 36 14.6**	**+0.3**
ASAJ	**Asahikawa**	**3.25**	**292**	Pn	**Pb**	**00 36 22.7**	**-2.3**
	comp=N,1.0nm,0.3s,baz=87,slow=19,SNR=2.1						
SONM	**Songino Array**	**28.53**	**294**	P	**P**	**00 41 21.5**	**+0.5**
	comp=N,0.6nm,0.5s,baz=90,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**44.71**	**298**	P	**P**	**00 43 38.8**	**+0.6**
MKAR	**Makanchi Array**	**44.71**	**298**	P	**P**	**00 43 38.8**	**+0.6**
	comp=N,0.4nm,0.6s,baz=77,slow=8.3,SNR=4.4						
KURK	**Kurchatov**	**45.74**	**305**	P	**P**	**00 43 46.6**	**+0.3**
KURBB	**Kurchatov Arra**	**45.83**	**304**	P	**P**	**00 43 46.6**	**-0.4**
	comp=N,0.3nm,0.4s,baz=70,slow=7.8,SNR=3.2						
NOA	**NORSAR Array B**	**70.22**	**339**	P	**P**	**00 46 37.6**	**-0.1**
	comp=N,1.0nm,0.8s,baz=31,slow=6.4,SNR=3.8						

ISCJB ***07*** *00:36:40.5±0.4,25°.38N±0°.06×124°.37E±0°.06, h133km±5km,mb3.7/16,Error ellipse: s-maj=12.0km s-min=7.4km az=138.3*
JMA ***07*** *00:36:42.2±0.3,25°.35N×124°.37E,h124km,M3.8*
IDC ***07*** *00:36:45.7±3.8,25°.48N×124°.38E,h167km±37km, mb3.5/16,mb1 3.6/18,mb1mx3.5/30,mbtmp3.5/18,Error ellipse: s-maj=23.1km s-min=9.9km az=71.0*

ISC 07 00:36:41.8±0.6,25°.36N±0°.07×124°.38E±0°.07,h131km±6km, n25,σ0§85/33,mb3.8/16,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.78**	**158**	P	**Pn**	**00 37 02.9**	**0.0**
JTJ				S	**Sn**	**00 37 18.0**	**-0.8**
JMJ	**Miyako jima 2**	**0.99**	**123**	P	**Pn**	**00 37 04.6**	**-0.1**
JMJ				*e*S	**Sn**	**00 37 21.3**	**-0.8**
JIJ	**Ishigaki jima**	**1.02**	**192**	P	**Pn**	**00 37 04.3**	**-0.7**
JIJ				S	**Sn**	**00 37 21.0**	**-1.6**
JKRS	**Kuro-shima**	**1.17**	**197**	P	**Pn**	**00 37 06.3**	**-0.1**
JKRS				S	**Sn**	**00 37 24.4**	**-0.8**
HATJ	**Hateruma jima**	**1.40**	**202**	P	**Pn**	**00 37 08.9**	**0.0**
HATJ				*e*S	**Sn**	**00 37 29.5**	**0.0**
YOJ	**Yonaguni jima**	**1.53**	**235**	*e*S	**Sn**	**00 37 32.8**	**+0.7**
JKE	**Kume jima 2**	**2.37**	**66**	P	**Pn**	**00 37 20.4**	**0.0**
JKE				*e*S	**Sn**	**00 37 49.6**	**-0.4**
KSRS	**Korea Array**	**12.43**	**13**	P	**Pn**	**00 39 35.9**	**+1.8**
	0.5nm,0.3s,baz=189,slow=12,SNR=9.0						
USRK	**Ussuriysk Arra**	**19.79**	**16**	P	**P**	**00 41 02.0**	**+0.3**
	0.2nm,0.3s,baz=195,slow=15,SNR=5.0						
SONM	**Songino Array**	**26.55**	**332**	P	**P**	**00 42 07.0**	**-0.3**
	0.4nm,0.4s,baz=140,slow=9.2,SNR=3.3						
SONM				pP	**pP**	**00 42 36.3**	**+1.0**
	0.4nm,0.5s,baz=149,slow=6.7,SNR=4.4						
PETK	**Petropavlovsk-**	**37.28**	**33**	P	**P**	**00 43 39.9**	**-0.9**
	0.6nm,0.6s,baz=192,slow=3.3,SNR=5.1						
MKAR	**Makanchi Array**	**39.57**	**314**	P	**P**	**00 43 59.7**	**-0.4**
	1.6nm,0.5s,baz=100,slow=10,SNR=29						
ZALV	**Zalesovo Beam**	**40.90**	**325**	P	**P**	**00 44 10.2**	**-0.7**
	2.1nm,0.4s,baz=115,slow=8.7,SNR=13						
KURBB	**Kurchatov Arra**	**43.13**	**318**	P	**P**	**00 44 28.6**	**-0.4**
	1.7nm,0.6s,baz=109,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**43.22**	**178**	P	**P**	**00 44 30.3**	**+0.3**
	3.4nm,0.7s,baz=18,slow=4.3,SNR=13						
WRA	**Warramunga Arr**	**46.06**	**167**	P	**P**	**00 44 53.9**	**+1.3**
	3.3nm,0.6s,baz=349,slow=8.8,SNR=45						
BVAR	**Borovoye Array**	**48.64**	**319**	P	**P**	**00 45 12.2**	**0.0**
	1.3nm,0.5s,baz=105,slow=7.9,SNR=9.9						
BVAR				PcP	**PcP**	**00 46 36.0**	**+0.4**
	0.6nm,0.5s,baz=103,slow=4.7,SNR=4.0						
ASAR	**Alice Springs**	**49.60**	**169**	P	**P**	**00 45 21.6**	**+1.8**
	1.5nm,0.5s,baz=355,slow=13,SNR=20						
STKA	**Stephens Creek**	**59.24**	**163**	P	**P**	**00 46 30.1**	**+0.8**
	2.6nm,0.8s,baz=285,slow=8.8,SNR=3.1						
ARCES	**ARCESS Array B**	**69.53**	**338**	P	**P**	**00 47 35.5**	**-0.3**
	0.5nm,0.7s,baz=74,slow=8.4,SNR=6.5						
FINES	**FINESS Array B**	**71.89**	**330**	P	**P**	**00 47 50.1**	**-0.1**
	0.4nm,0.4s,baz=70,slow=6.3,SNR=9.0						
BRTR	**Keskin Array B**	**74.80**	**307**	P	**P**	**00 48 07.1**	**-0.8**
	0.9nm,0.9s,baz=119,slow=7.6,SNR=4.7						
NOA	**NORSAR Array B**	**78.53**	**333**	P	**P**	**00 48 26.9**	**-1.4**
	0.1nm,0.4s,baz=53,slow=6.0,SNR=3.3						
YKA	**Yellowknife Ar**	**80.74**	**24**	P	**P**	**00 48 39.4**	**-0.8**
	0.6nm,0.5s,baz=306,slow=5.9,SNR=3.6						
GERES	**GERESS Array B**	**83.76**	**322**	P	**P**	**00 48 56.5**	**+0.2**
	0.5nm,0.8s,baz=55,slow=5.1,SNR=4.4						

ISCJB ***07*** *00:45:47.9±0.4,20°.88S±0°.04×67°.72W±0°.06,h170km±6km, mb3.5/4,Error ellipse: s-maj=9.9km s-min=6.8km az=20.1*
NEIC ***07*** *00:45:49.5,20°.99S×68°.08W,h189km,MG4.6(GUC), After GUC.*
GUC ***07*** *00:45:49.5±1.0,20°.99S×68°.08W,h189km±11km,ML4.6*
IDC ***07*** *00:45:51.5±1.8,20°.74S×67°.55W,h180km±16km,mb3.3/5, mb1 3.5/9,mb1mx3.4/21,mbtmp3.4/9,Error ellipse: s-maj=19.9km s-min=13.7km az=58.0*

ISC 07 00:45:49.2±0.7,20°.89S±0°.05×67°.77W±0°.07,h169km±8km, n31,σ1§58/45,mb3.4/4,9C-4D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**1.61**	**264**	⇑*i*P	**Pn**	**00 46 21.7**	**+0.2**
PB01				*i* S	**Sn**	**00 46 45.8**	**-0.5**
PB01	**Plate Boundary**	**1.61**	**264**	⇑*i*P	**Pn**	**00 46 21.7**	**+0.2**
PB01				*i* S	**Sn**	**00 46 45.8**	**-0.5**
PB01				AML	AML	00 46 48.0	
	comp=N,3μm,0.2s						
PB09	**Plate Boundary**	**1.64**	**236**	⇑*i*P	**Pn**	**00 46 22.8**	**+0.9**
PB09				*i* S	**Sn**	**00 46 47.9**	**+0.8**
PB09	**Plate Boundary**	**1.64**	**236**	⇑*i*P	**Pn**	**00 46 22.8**	**+0.9**
PB09				*i* S	**Sn**	**00 46 47.9**	**+0.8**
PB09				AML	AML	00 46 48.6	
	comp=N,7μm,0.3s						
LVC	**Limon Verde**	**2.02**	**212**	⇑*i*P	**Pn**	**00 46 26.6**	**+0.6**
LVC				*i* S	**Sn**	**00 46 54.7**	**+0.2**
LVC	**Limon Verde**	**2.02**	**212**	⇑*i*P	**Pn**	**00 46 26.6**	**+0.6**
LVC				*i* S	**Sn**	**00 46 54.7**	**+0.2**
PB04	**Plate Boundary**	**2.10**	**229**	*e*P	Pn	00 46 32.2	+5.6
PB04				*i* S	Sn	00 47 05.2	+10
PB04	**Plate Boundary**	**2.10**	**229**	*e*P	Pn	00 46 32.2	+5.6
PB04				*i* S	Sn	00 47 05.2	+10
PB04				AML	AML	00 47 07.0	
	comp=E,2μm,0.2s						
PB07	**Plate Boundary**	**2.14**	**247**	⇑*i*P	**Pn**	**00 46 27.3**	**0.0**
PB07				*i* S	**Sn**	**00 46 55.6**	**-1.2**
PB07	**Plate Boundary**	**2.14**	**247**	⇑*i*P	**Pn**	**00 46 27.3**	**0.0**
PB07				*i* S	**Sn**	**00 46 55.6**	**-1.2**
PB07				AML	AML	00 46 56.6	
	comp=N,5μm,0.2s						
PSGC	**Pisagua**	**2.56**	**300**	⇓*i*P	**Pn**	**00 46 31.6**	**-0.5**
PSGC				*i* S	**Sn**	**00 47 03.8**	**-1.5**
PSGC	**Pisagua**	**2.56**	**300**	⇓*i*P	**Pn**	**00 46 31.6**	**-0.5**
PSGC				*i* S	**Sn**	**00 47 03.8**	**-1.5**
PSGC				AML	AML	00 47 05.8	
	comp=E,860nm,0.4s						
PB10	**Plate Boundary**	**3.67**	**224**	⇑*i*P	**Pn**	**00 46 45.2**	**-0.6**
PB10				*i* S	**Sn**	**00 47 25.4**	**-4.5**
PB10				AML	AML	00 47 30.2	
	comp=E,2μm,0.3s						
ANCH	**Antofagasta**	**3.70**	**221**	⇓*i*P	**Pn**	**00 46 45.8**	**-0.3**
ANCH				S	**Sn**	**00 47 26.6**	**-4.0**
ANCH	**Antofagasta**	**3.70**	**221**	⇓*i*P	**Pn**	**00 46 45.8**	**-0.3**
ANCH				*i* S	**Sn**	**00 47 26.6**	**-4.0**
ANCH				AML	AML	00 47 30.1	
	comp=E,617nm,0.3s						
LPAZ	**La Paz**	**4.59**	**356**	*e*Pn	**Pn**	**00 47 00.0**	**+1.7**
LPAZ				*e*Sn	**Sn**	**00 47 51.8**	**-0.3**
LPAZ	**La Paz**	**4.59**	**356**	P	**Pn**	**00 46 60.0**	**+1.7**
	comp=E,5.1nm,0.3s,baz=173,slow=7.0,SNR=122						
LPAZ				S	**Sn**	**00 47 52.2**	**0.0**
	comp=E,1.6nm,0.3s,baz=330,slow=17,SNR=5.4						
SIV	**San Ignacio**	**8.01**	**54**	P	**Pn**	**00 47 40.4**	**-2.3**
	comp=E,8.8nm,0.3s,baz=248,slow=13,SNR=280						
SIV				S	**Sn**	**00 49 08.9**	**-3.5**
	comp=E,0.2nm,0.3s,baz=326,slow=19,SNR=4.1						
CFAA	**Coronel Fontan**	**10.68**	**182**	P	**Pn**	**00 48 16.2**	**-1.6**
	comp=E,0.1nm,0.3s,baz=349,slow=10,SNR=10						
CFAA				S	Sn	00 50 07.3	-9.0
	comp=E,0.2nm,0.3s,baz=134,slow=12,SNR=5.7						
CPUP	**Villa Florida**	**10.99**	**121**	*e*Pn	**Pn**	**00 48 21.3**	**-0.7**
	comp=E,12nm,0.4s						
CPUP	**Villa Florida**	**10.99**	**121**	P	**Pn**	**00 48 22.0**	**0.0**
	comp=E,0.8nm,0.3s,baz=284,slow=12,SNR=7.0						
SAML	**Samuel**	**12.67**	**21**	*e*Pn	**Pn**	**00 48 41.8**	**-1.9**
	comp=E,4.4nm,1.0s						
BDFB	**Brasilia**	**19.47**	**78**	P	**P**	**00 50 03.8**	**+0.5**
	comp=E,0.6nm,0.3s,baz=254,slow=11,SNR=5.6						
PLCA	**Paso Flores**	**19.92**	**186**	P	**Pn**	**00 50 12.2**	**+0.6**
	comp=E,2.0nm,0.6s,baz=216,slow=16,SNR=4.1						
TXAR	**Lajitas Array**	**60.75**	**324**	P	**P**	**00 55 44.2**	**+0.8**
	comp=E,0.3nm,0.5s,baz=148,slow=9.1,SNR=4.1						
SNAA	**Sanae**	**62.51**	**161**	P	**P**	**00 55 55.5**	**+1.0**
	comp=E,0.4nm,0.7s,baz=328,slow=8.4,SNR=11						
PDAR	**Pinedale Array**	**74.12**	**329**	P	**P**	**00 57 08.1**	**+0.8**
	comp=E,0.6nm,0.8s,baz=126,slow=12,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**76.15**	**70**	*e*P	**P**	**00 57 18.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.15**	**70**	P	**P**	**00 57 18.7**	**-0.4**
	comp=E,3.5nm,0.7s,baz=254,slow=5.5,SNR=40						
ZALV	**Zalesovo Beam**	**140.95**	**26**	PKP	**PKPdf**	**01 05 00.6**	**+1.7**
	comp=E,0.4nm,0.3s,baz=278,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**144.52**	**36**	PKP	**PKPdf**	**01 05 06.4**	**+0.9**
	comp=E,2.1nm,0.8s,baz=323,slow=3.0,SNR=14						

WEL 07 00:50:43.4±0.3,45°.86S×166°.43E,h40km±1km,ML3.7/11, 1C-2D,Error ellipse: s-maj=3.5km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.64**	**54**	PN	Pn	00 50 55.4	-0.5
DCZ				SN	Sn	00 51 04.6	-0.2
DCZ				AML	AML	00 51 05.3	
DCZ				AML	AML	00 51 05.7	
DCZ				AML	AML	00 51 05.7	
WHZ	**Wether Hill Ro**	**1.06**	**93**	⇓PN	Pn	00 51 02.2	+0.4
WHZ				AML	AML	00 51 19.3	
WHZ				AML	AML	00 51 20.0	
MLZ	**Mavora Lakes**	**1.33**	**68**	⇑PN	Pn	00 51 06.0	+0.5
MLZ				SN	Sn	00 51 23.7	+1.7
MLZ				AML	AML	00 51 29.4	
APZ	**The Paps**	**1.46**	**133**	⇓PN	Pn	00 51 06.8	-0.5
APZ				SN	Sn	00 51 24.4	-0.7
MSZ	**Milford Sound**	**1.59**	**42**	PN	Pn	00 51 09.4	+0.4
MSZ				AML	AML	00 51 37.6	
MSZ				AML	AML	00 51 39.0	
MSZ				AML	AML	00 51 39.0	
MSZ				AML	AML	00 51 41.5	
SYZ	**Scrubby Hill**	**2.00**	**111**	PN	Pn	00 51 14.4	-0.3
SYZ				SN	Sn	00 51 38.2	-0.3
WKZ	**Wanaka**	**2.10**	**62**	PN	Pn	00 51 17.7	+1.7
WKZ				AML	AML	00 51 49.4	
WKZ				AML	AML	00 51 49.4	
WKZ				AML	AML	00 51 51.1	
EAZ	**Earnscleugh**	**2.12**	**74**	PN	Pn	00 51 17.6	+1.3
EAZ				AML	AML	00 51 48.8	
EAZ				AML	AML	00 51 48.9	
EAZ				AML	AML	00 51 49.6	
TUZ	**Tuapeka**	**2.24**	**94**	PN	Pn	00 51 18.2	+0.3
TUZ				AML	AML	00 51 46.0	
TUZ				AML	AML	00 51 46.0	
JCZ	**Jackson Bay**	**2.43**	**44**	PN	Pn	00 51 21.7	+1.0
JCZ				AML	AML	00 52 00.2	
JCZ				AML	AML	00 52 00.4	
LBZ	**Lake Benmore**	**3.04**	**62**	PN	Pn	00 51 29.0	0.0
LBZ				SN	Sn	00 52 04.5	+0.3
LBZ				AML	AML	00 52 04.7	
ODZ	**Otahua Downs**	**3.08**	**76**	PN	Pn	00 51 28.8	-0.7
FOZ	**Fox Glacier**	**3.27**	**47**	PN	Pn	00 51 33.2	+1.2
RPZ	**Rata Peaks**	**3.93**	**59**	PN	Pn	00 51 40.3	-0.9
RPZ				AML	AML	00 52 26.3	
RPZ				AML	AML	00 52 27.9	
WVZ	**Waitaha Valley**	**4.15**	**49**	PN	Pn	00 51 43.9	-0.3
LTZ	**Lake Taylor**	**5.20**	**56**	PN	Pn	00 51 57.2	-1.4
KHZ	**Kahutara**	**6.17**	**59**	PN	Pn	00 52 10.2	-1.6
THZ	**Tophouse**	**6.22**	**51**	PN	Pn	00 52 10.9	-1.8
NNZ	**Nelson**	**6.86**	**50**	PN	Pn	00 52 21.9	+0.6
TUWZ	**Tuamarina**	**7.02**	**54**	PN	Pn	00 52 25.2	+1.6

JMA 07 01:10:28.7±0.1,39°.83N×142°.66E,h30km±2km,M3.5,2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.62**	**280**	P	Pb	01 10 40.9	-0.2
JTH				S	Sb	01 10 49.9	+0.3
MIYJ	**Miyakonagasawa**	**0.70**	**249**	P	Pb	01 10 41.8	-0.6
MIYJ				S	Sb	01 10 51.0	-0.7
JANG	**Nango**	**1.03**	**302**	P	Pn	01 10 46.6	-0.6
JANG				S	Sn	01 10 59.6	-1.0
JKZ	**Kuzumaki**	**1.03**	**279**	P	Pn	01 10 47.4	+0.2
JKZ				S	Sn	01 11 00.8	0.0
OFUJ	**Ofunato**	**1.07**	**226**	⇑P	Pn	01 10 47.5	-0.2
OFUJ				*e*S	Sn	01 11 01.3	-0.2
JOM	**Ohasama**	**1.11**	**252**	⇑P	Pn	01 10 48.8	+0.5
JOM				*e*S	Sn	01 11 03.0	+0.4
JMK	**Ichinoseki**	**1.42**	**232**	P	Pn	01 10 53.3	+0.9
JMK				S	Sn	01 11 11.0	+0.9
JTM	**Tenmabayashi**	**1.55**	**309**	P	Pn	01 10 55.0	+0.8
JTM				*e*S	Sn	01 11 14.2	+0.9
JAH	**Hinai**	**1.59**	**284**	P	Pb	01 10 56.5	-1.0
JAH				S	Sb	01 11 17.2	-0.1
JRG	**Rokugo**	**1.62**	**255**	P	Pb	01 10 57.3	-0.7
JRG				S	Sb	01 11 19.2	+1.1
JIO	**Ouri**	**1.71**	**217**	P	Pn	01 10 56.9	+0.5
JIO				*e*S	Sn	01 11 17.9	+0.6

BJI ***07*** *01:10:57.7,6°.80N×72°.90W,h164km*
ISCJB ***07*** *01:10:58.7±0.4,6°.82N±0°.04×72°.95W±0°.04,h168km±4km, mb4.3/53,Error ellipse: s-maj=6.3km s-min=6.0km az=18.7*
NEIC ***07*** *01:10:59.7±0.6,6°.81N×72°.90W,h164km±6km,mb4.4/33, Error ellipse: s-maj=8.0km s-min=5.1km az=79.0*
IDC ***07*** *01:11:00.2±1.4,6°.74N×73°.03W,h172km±15km,mb3.7/14, mb1 3.9/17,mb1mx3.7/25,mbtmp3.7/17,Error ellipse: s-maj=20.8km s-min=10.4km az=55.0*
FUNV ***07*** *01:11:02.1,6°.89N×72°.99W,h152km,MW4.1*

ISC 07 01:10:59.4±0.6,6°.82N±0°.04×72°.97W±0°.05,h164km±5km, n347,σ1§13/363,mb4.2/53,117C-141D,Northern Colombia

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

23nm,0.7s
432A Menard 34.70 317 ⇑P P 01 17 34.0 +0.1
baz=35
332A Millersview 34.98 318 ⇓P P 01 17 36.1 -0.1
baz=35,SNR=5.4
431A Sonora 35.14 316 ⇑P P 01 17 37.6 0.0
baz=35
232A Coleman 35.23 319 ⇑P P 01 17 38.5 +0.1
baz=35,SNR=8.3
530A J-C Ranch, Com 35.34 315 ⇓P P 01 17 39.4 +0.1
baz=36,SNR=13
331A San Angelo 35.40 317 ⇑P P 01 17 40.2 +0.5
baz=36
WES Weston 35.45 2 eP P 01 17 40.2 +0.2
ABTX Abilene, Hawle 35.70 320 ⇑P P 01 17 42.9 +0.5
baz=36
231A Bronte 35.71 318 ⇑P P 01 17 42.2 -0.2
baz=36
TUL1 Tulsa 35.72 327 ⇓P P 01 17 42.3 -0.1
baz=36
SFIN Scholer Farm 35.74 341 ⇑P P 01 17 43.3 +0.9
baz=36,SNR=12
529A Stev Forest Ra 35.95 314 ⇑P P 01 17 44.4 -0.1
baz=36,SNR=6.0
330A Mertzon 35.96 317 ⇑P P 01 17 44.3 -0.3
baz=36
429A Davenport Ranc 36.00 315 ⇑P P 01 17 44.7 -0.3
baz=36
Z32A Haskell 36.04 321 ⇓P P 01 17 45.8 +0.6
baz=36
628A Black Gap, Mar 36.08 312 ⇑P P 01 17 46.0 +0.3
baz=36
230A Sterling City 36.21 317 ⇑P P 01 17 47.0 +0.3
baz=36
131A Roby 36.22 319 ⇓P P 01 17 46.9 +0.2
baz=36
CPUP Villa Florida 36.28 156 eP P 01 17 47.0 -0.2
19nm,1.1s
528A Cox Ranch, San 36.38 313 ⇑P P 01 17 48.2 0.0
baz=36,SNR=5.7
627A Terlingua Ranc 36.43 312 ⇑P P 01 17 49.1 +0.4
baz=36,SNR=11
Z31A Sharp Cattle R 36.47 320 ⇑P P 01 17 49.2 +0.3
baz=37
Y32A R-V Farms, Ver 36.48 321 ⇓P P 01 17 49.2 +0.3
baz=37
130A Snyder 36.55 318 ⇓P P 01 17 49.7 +0.1
baz=37
329A Wagon Wheel Ra 36.56 316 ⇓P P 01 17 49.8 +0.1
baz=37,SNR=6.5
WMOK Wichita Mounta 36.57 323 eP P 01 17 49.6 -0.1
5.0nm,0.6s
TXAR Lajitas Array 36.58 312 P P 01 17 50.5 +0.6
2.9nm,0.7s,baz=127,slow=9.2,SNR=48
TXAR PcP PcP 01 20 11.4 +1.6
0.4nm,0.6s,baz=119,slow=4.4,SNR=4.0
428A Kincaid Ranch, 36.62 314 ⇓P P 01 17 50.8 +0.6
baz=37,SNR=7.4
HDIL Hopedale 36.63 339 eP P 01 17 50.0 0.0
14nm,0.6s
229A Bryant Ranch, 36.73 317 ⇓P P 01 17 51.4 +0.3
baz=37,SNR=5.5
Y31A Rekieta Farm, 36.96 321 ⇑P P 01 17 53.9 +0.9
baz=37,SNR=7.4
527A Woodward Ranch 36.97 313 ⇓P P 01 17 53.5 +0.3
baz=37,SNR=7.9
626A Big Bend Ranch 37.04 312 ⇑P P 01 17 54.1 +0.4
baz=37
328A Wristen Ranch, 37.08 315 ⇓P P 01 17 54.0 -0.1
baz=37,SNR=6.7
Z30A Sanderson Ranc 37.09 319 ⇑P P 01 17 54.5 +0.4
baz=37,SNR=5.2
129A Stewart Farms, 37.17 318 ⇓P P 01 17 55.3 +0.5
baz=37
427A Hayter Ranch, 37.20 314 ⇑P P 01 17 55.3 +0.2
baz=37,SNR=10
X31A McDonald Ranch 37.23 322 ⇓P P 01 17 55.6 +0.3
baz=37
526A Mary Lane Ranc 37.27 312 ⇓P P 01 17 56.2 +0.4
baz=37
Y30A Stafford Cattl 37.31 320 ⇑P P 01 17 56.8 +0.8
baz=37
Z29A Hungry Hill Ra 37.45 319 ⇓P P 01 17 57.3 +0.2
baz=38,SNR=13
426A McDonald Obser 37.55 313 ⇓P P 01 17 58.6 +0.3
baz=38,SNR=8.9
W31A Holland Ranch, 37.58 322 ⇓P P 01 17 57.9 -0.3
baz=38,SNR=6.0
128A Castleberry Fa 37.58 317 ⇑P P 01 17 58.8 +0.5
baz=38,SNR=16
X30A Coker Ranch, T 37.66 321 ⇑P P 01 17 59.6 +0.7
baz=38,SNR=6.8
Y29A Porterfield Fa 37.80 319 ⇑P P 01 18 00.6 +0.5
baz=38,SNR=7.0
Z28A Tucker Farm, M 37.91 318 ⇑P P 01 18 01.7 +0.6
baz=38
Y28A McKinney Farm, 38.20 319 ⇑P P 01 18 03.5 0.0
baz=38
425A Indio Mountain 38.31 313 ⇑P P 01 18 04.8 +0.2
baz=38,SNR=6.9
226B Tecolote Peak, 38.42 315 ⇓P P 01 18 05.9 +0.5
baz=38
AMTX Amarillo 38.45 321 eP P 01 18 06.3 +0.7
5.3nm,0.6s
Z27A Tatum 38.48 317 ⇓P P 01 18 05.7 -0.2
baz=39,SNR=19
MSTX Muleshoe 38.58 319 ⇑P P 01 18 06.7 0.0
baz=39,SNR=5.7
325A Bean Ranch, Si 38.61 313 ⇓P P 01 18 07.5 +0.5
baz=39
T31A Randall Ranch, 38.73 325 ⇓P P 01 18 08.3 +0.5
baz=39
Y27A Causey 38.79 318 ⇑P P 01 18 08.4 0.0
baz=39,SNR=5.8
225A Deer Hill, Car 38.91 315 ⇑P P 01 18 09.8 +0.3
baz=39
Z26A Caprock 38.98 317 ⇓P P 01 18 10.3 +0.3
baz=39,SNR=14
V29A Stinnett 38.99 322 ⇑P P 01 18 11.0 +0.9
baz=39
324A Moseley Ranch, 39.02 313 ⇓P P 01 18 10.6 +0.2
baz=39,SNR=9.1
125A Gardner Draw, 39.09 315 ⇑P P 01 18 11.5 +0.5
baz=39,SNR=12
X27A F and S Farms, 39.21 319 ⇑P P 01 18 12.7 +0.8
baz=39
Y26A Elida 39.26 318 ⇑P P 01 18 13.1 +0.7
baz=39
224A Cornudas Mount 39.39 314 ⇓P P 01 18 14.3 +0.8
baz=40,SNR=14
W27A Bowe Ranch, En 39.45 320 ⇑P P 01 18 14.2 +0.3
baz=40,SNR=6.9
Z25A Roswell 39.49 316 ⇓P P 01 18 15.1 +0.9
baz=40,SNR=11
R31A Burdett 39.49 326 ⇑P P 01 18 14.2 +0.1
baz=40
124A Stringfield Ra 39.68 315 ⇓P P 01 18 16.9 +1.0
baz=40
Y25A Mesa, Roswell 39.84 317 ⇓P P 01 18 18.0 +0.8
baz=40,SNR=6.3
W26A Owens Ranch, T 39.92 319 ⇓P P 01 18 18.6 +0.9
baz=40
S29A Ulysses 39.92 324 ⇓P P 01 18 18.8 +1.1
baz=40
Z24A Sheeppen Canyo 39.96 316 ⇑P P 01 18 19.0 +0.7
baz=40
U27A Thompson Grove 40.15 321 ⇓P P 01 18 20.5 +0.8
baz=40
X25A Clemmons Ranch 40.17 318 ⇑P P 01 18 20.9 +1.0
baz=40,SNR=7.1
T28A Walsh 40.17 323 ⇑P P 01 18 20.7 +0.9
baz=40
Y24A Capitan 40.35 316 ⇓P P 01 18 22.3 +0.9
baz=40,SNR=9.7
S28A Manter 40.36 324 ⇓P P 01 18 22.3 +1.0
baz=40
V26A Tequesquite Ra 40.36 320 ⇑P P 01 18 22.3 +0.9
baz=40
W25A X Bar L Ranch, 40.45 319 ⇓P P 01 18 23.0 +0.8
baz=41,SNR=10
T27A Campo 40.50 322 ⇑P P 01 18 23.5 +0.9
baz=41
Z23A Rita Site, Whi 40.53 315 ⇑P P 01 18 23.6 +0.8
baz=41
U26A Atchley Ranch, 40.71 321 ⇑P P 01 18 24.9 +0.6
baz=41
X24A Lazy VL Ranch, 40.71 317 ⇓P P 01 18 25.6 +1.2
baz=41

Y23A Lovelace Mesa, 40.78 316 ⇑P P 01 18 26.0 +1.0
baz=41
R28A Tribune 40.81 325 ⇑P P 01 18 25.5 +0.5
baz=41,SNR=5.1
V25A Rancho No Teng 40.92 319 ⇑P P 01 18 27.2 +1.1
baz=41
W24A Lazy 6 Ranch, 41.07 318 ⇓P P 01 18 28.5 +1.2
baz=41
X23A Hourglass Bar 41.23 317 ⇓P P 01 18 29.9 +1.2
baz=41
V24A Rampart Ranch, 41.28 319 ⇑P P 01 18 30.5 +1.5
baz=41,SNR=6.7
S26A Kim 41.32 322 ⇑P P 01 18 30.5 +1.2
baz=42
R27A Eads 41.35 324 ⇓P P 01 18 29.9 +0.5
baz=42,SNR=10
W23A Werner Place, 41.53 317 ⇑P P 01 18 32.3 +1.1
baz=42
T25A Trinidad 41.59 321 ⇑P P 01 18 32.8 +1.2
baz=42
ANMO Albuquerque 41.62 317 eP P 01 18 32.6 +0.8
1.9nm,0.9s
R26A Arlington 41.74 323 ⇓P P 01 18 33.6 +1.0
baz=42
X22A Bernardo 41.75 316 ⇓P P 01 18 34.0 +1.2
baz=42
LAZ Ladron 41.78 316 eP P 01 18 34.0 +0.8
2.6nm,0.9s
120A U Bar Ranch, L 41.88 312 ⇓P P 01 18 35.0 +1.1
baz=42
V23A Ortiz Mt. (NFS 41.89 318 ⇑P P 01 18 35.7 +1.7
baz=42,SNR=5.6
S25A Robets Cordova 41.93 322 ⇓P P 01 18 35.7 +1.4
baz=42,SNR=8.7
ECSD EROS Data Cent 42.22 334 eP P 01 18 35.8 -0.5
17nm,1.5s
X21A Alamocita Cree 42.26 315 ⇑P P 01 18 38.4 +1.4
baz=42
Y20A Horse Springs, 42.39 314 ⇓P P 01 18 39.5 +1.4
baz=42
S24A Houchin Ranch, 42.40 321 ⇓P P 01 18 39.8 +1.5
baz=42
Q25A Bedland, Calha 42.62 323 ⇓P P 01 18 41.1 +1.3
baz=43
SDCO Great Sand Dun 42.65 321 eP P 01 18 41.2 +1.1
4.5nm,0.9s
U22A Llaves 42.70 318 ⇑P P 01 18 41.9 +1.3
baz=43
R24A Sanders Place, 42.70 322 ⇓P P 01 18 41.9 +1.3
baz=43,SNR=7.6
X20A Quemado 42.81 315 ⇑P P 01 18 42.8 +1.4
baz=43
V21A Milan 42.90 317 ⇑P P 01 18 43.3 +1.1
baz=43
T22A Edith 43.10 319 ⇓P P 01 18 45.0 +1.2
baz=43
W20A Ramah 43.12 316 ⇓P P 01 18 45.0 +1.1
baz=43
R23A Moffat 43.12 321 ⇑P P 01 18 45.2 +1.2
baz=43
U21A Nageezi 43.26 318 ⇓P P 01 18 46.4 +1.3
baz=43
V20A Brimhall 43.46 317 ⇓P P 01 18 47.9 +1.3
baz=44
S22A 4UR Ranch, Cre 43.48 320 ⇓P P 01 18 48.2 +1.3
baz=44,SNR=5.7
T21A Navajo Lake 43.50 319 ⇑P P 01 18 48.2 +1.2
baz=44
R22A Saguache, Gunn 43.73 321 ⇓P P 01 18 50.0 +1.2
baz=44
X18A Snowflake 43.83 314 ⇓P P 01 18 50.8 +1.3
baz=44
EYMN Ely 43.92 342 eP P 01 18 50.2 +0.3
14nm,0.6s
ISCO Idaho Springs 44.00 323 eP P 01 18 52.3 +1.3
6.0nm,0.9s
ISCO Idaho Springs 44.00 323 ⇑P P 01 18 52.1 +1.1
baz=44,SNR=7.8
S21A Coal Bank Pass 44.05 319 ⇓P P 01 18 52.4 +0.9
baz=44,SNR=6.3
Q22A Crested Butte, 44.20 321 ⇓P P 01 18 53.8 +1.1
baz=44,SNR=7.4
MVCO Mesa Verde 44.26 318 ⇑P P 01 18 54.1 +1.1
baz=44
R21A Cimarron 44.31 320 ⇓P P 01 18 54.9 +1.4
baz=44
SMCO Snowmass 44.44 322 eP P 01 18 56.0 +1.4
19nm,1.9s
O23A Lake Granby, G 44.44 323 ⇓P P 01 18 56.1 +1.6
baz=45
I28A Midland 44.51 331 ⇓P P 01 18 54.6 0.0
baz=45
S20A Disappointment 44.52 319 ⇓P P 01 18 56.6 +1.5
baz=45,SNR=11
P22A Eagle 44.56 322 ⇓P P 01 18 56.4 +1.0
baz=45
M24A Cheyenne 44.63 326 ⇓P P 01 18 57.3 +1.4
baz=45
R20A Redvale 44.74 320 ⇓P P 01 18 58.3 +1.5
baz=45,SNR=7.0
214A Organ Pipe Nat 44.75 309 ⇑P P 01 18 58.0 +1.2
baz=45
O22A Kremmling 44.78 323 ⇑P P 01 18 58.0 +0.8
baz=45,SNR=10
PV01 Paradox Valley 44.83 319 eP P 01 18 58.9 +1.3
230nm,0.8s
N23A Red Feather La 44.89 324 ⇓P P 01 18 59.4 +1.4
baz=45
P21A Newcastle 44.94 322 ⇓P P 01 18 59.9 +1.5
baz=45,SNR=6.0
J26A Sides Ranch, S 44.96 329 ⇓P P 01 18 59.3 +1.0
baz=45
Q20A Ridgley Place, 45.13 320 ⇓P P 01 19 01.2 +1.4
baz=45,SNR=7.4
WUAZ Wupatki 45.33 315 eP P 01 19 03.1 +1.6
13nm,0.9s
WUAZ Wupatki 45.33 315 ⇓P P 01 19 02.7 +1.3
baz=45
O21A Pagoda 45.37 322 ⇓P P 01 19 03.2 +1.4
baz=46
Z14A Wintersburg 45.46 311 ⇑P P 01 19 03.3 +1.0
baz=46
P20A De Beque 45.51 321 ⇓P P 01 19 04.0 +1.2
baz=46
L23A Garrett 45.55 326 ⇓P P 01 19 04.6 +1.5
baz=46
AGMN Agassiz Nation 45.68 339 eP P 01 19 04.2 +0.4
6.1nm,0.6s
N21A Black Mountain 45.74 323 ⇑P P 01 19 06.2 +1.5
baz=46
Y14A Wickenburg 45.76 312 ⇓P P 01 19 06.0 +1.2
baz=46
O20A White River Ci 45.79 322 ⇓P P 01 19 06.4 +1.3
baz=46
I25A Rochford 45.80 329 ⇓P P 01 19 06.1 +1.2
baz=46
TRQA Tornquist 45.80 168 eP P 01 19 05.5 +0.6
9.6nm,1.4s
G27A Dupree 45.89 332 ⇓P P 01 19 06.3 +0.7
baz=46
K23A Bowen Ranch, D 45.93 326 ⇑P P 01 19 06.9 +0.8
baz=46
P19A Cripple Cowboy 45.96 321 ⇑P P 01 19 07.0 +0.6
baz=46
I24A Kuemmerle Ranc 46.15 328 ⇓P P 01 19 08.5 +0.9
baz=46
G26A Maurine 46.15 331 ⇑P P 01 19 07.6 +0.1
baz=46
H25A Fruitdale 46.15 330 ⇓P P 01 19 08.0 +0.4
baz=46
N20A Spence Gulch, 46.23 323 ⇓P P 01 19 09.7 +1.2
baz=46
F27A Lemmon 46.30 332 ⇓P P 01 19 09.5 +0.8
baz=46
U15A North Rim 46.43 315 ⇓P P 01 19 11.3 +1.1
baz=46
O19A Miners Draw (B 46.43 321 ⇓P P 01 19 11.0 +1.0
baz=47
E27A Carson 46.51 333 ⇑P P 01 19 11.4 +1.1
baz=47
M20A Sweetwater, Wa 46.58 323 ⇑P P 01 19 12.3 +1.1
baz=47
K21A Alcova 46.76 325 ⇑P P 01 19 13.6 +1.1
baz=47
MDND Maddock 46.76 336 ⇓P P 01 19 13.5 +1.3
baz=47
J22A Midwest 46.84 327 ⇑P P 01 19 13.5 +0.4
baz=47,SNR=8.4

E26A Carlson Angus 46.95 332 ⇓P P 01 19 14.5 +0.7
baz=47
L20A Wamsutter 46.99 324 ⇑P P 01 19 15.4 +1.0
baz=47
D27A Center 47.01 333 ⇓P P 01 19 15.6 +1.4
baz=47
I22A 9 Mile Ranch, 47.16 327 ⇓P P 01 19 17.0 +1.5
baz=47
J21A Lysite 47.33 326 ⇓P P 01 19 17.8 +0.9
baz=48
ULM Lac du Bonnet 47.34 340 eP P 01 19 16.8 +0.1
97nm,2.5s
ULM Lac du Bonnet 47.34 340 P P 01 19 16.4 -0.3
6.8nm,0.4s,baz=146,slow=7.1,SNR=12
D26A Manning 47.36 333 ⇓P P 01 19 17.8 +0.9
baz=48
PLCA Paso Flores 47.37 178 eP P 01 19 16.6 -0.5
9.2nm,1.4s
K20A Yellowstone Ra 47.40 325 ⇓P P 01 19 18.4 +1.0
baz=48
E25A Miller Ranch, 47.41 332 ⇓P P 01 19 18.6 +1.2
baz=48
IRM Iron Mountain 47.46 311 ⇓P P 01 19 18.9 +1.0
baz=48
G23A Biddle 47.47 329 ⇓P P 01 19 18.7 +0.8
baz=48
I21A Big Trails, Te 47.54 326 ⇓P P 01 19 18.7 +0.2
baz=48,SNR=5.7
L19A Farson 47.65 323 ⇑P P 01 19 20.3 +0.9
baz=48
J20A Shoshoni 47.69 325 ⇓P P 01 19 21.0 +1.3
baz=48
K19A Absolon Red Bu 47.79 324 ⇑P P 01 19 21.4 +0.9
baz=48
C26A Wahner Farm, P 47.81 334 ⇑P P 01 19 21.2 +0.9
baz=48
F23A Volborg 47.84 330 ⇑P P 01 19 21.3 +0.7
baz=48
D25A Fairfield 47.85 332 ⇓P P 01 19 21.6 +0.8
baz=48
H21A Big Horn, Sher 47.94 327 ⇓P P 01 19 22.3 +0.7
baz=48
G22A Birney 47.94 328 ⇓P P 01 19 22.0 +0.5
baz=48,SNR=5.7
L18A Fontenelle, Gr 47.95 323 ⇑P P 01 19 22.2 +0.4
baz=48,SNR=5.3
M17A Scullys Gap (B 48.07 322 ⇓P P 01 19 23.3 +0.6
baz=48
I20A Worland 48.09 326 ⇑P P 01 19 23.9 +1.2
baz=48
GMRC Granite Mounta 48.11 311 ⇑P P 01 19 23.9 +0.9
baz=48
SCHQ Schefferville 48.13 5 eP P 01 19 23.4 +0.7
7.1nm,0.8s
SCHQ Schefferville 48.13 5 P P 01 19 22.5 -0.2
2.2nm,0.5s,baz=173,slow=6.8,SNR=6.9
BW06 Boulder Array 48.17 324 eP P 01 19 23.6 +0.1
3.6nm,0.9s
PDAR Pinedale Array 48.17 324 P P 01 19 22.5 -1.0
2.3nm,0.6s,baz=126,slow=9.1,SNR=18
J19A Crowheart 48.18 325 ⇑P P 01 19 24.4 +0.9
baz=48
C25A Freed Ranch, W 48.24 333 ⇑P P 01 19 25.1 +1.4
baz=48
B26A Jensen Ranch, 48.28 334 ⇑P P 01 19 25.3 +1.3
baz=48
F22A Rosebud 48.31 329 ⇓P P 01 19 25.2 +1.0
baz=48
E23A Ismay 48.33 330 ⇑P P 01 19 25.2 +0.8
baz=48
H20A Greybull 48.37 327 ⇓P P 01 19 25.8 +1.0
baz=48
G21A Lodge Grass 48.43 328 ⇓P P 01 19 25.5 +0.2
baz=49,SNR=5.2
A26A Wade Farm, Ken 48.60 335 ⇑P P 01 19 27.7 +1.3
baz=49
B25A Knox Farm, Ray 48.61 333 ⇑P P 01 19 27.9 +1.4
baz=49
I19A Meeteetse 48.63 326 ⇑P P 01 19 28.0 +1.0
baz=49
C24A Savage 48.64 332 ⇑P P 01 19 28.4 +1.6
baz=49
HWUT Hardware Ranch 48.70 321 eP P 01 19 27.7 +0.2
3.7nm,0.6s
DUG Dugway 48.72 319 ⇓P P 01 19 28.7 +1.2
baz=49
D23A Lindsay 48.76 331 ⇓P P 01 19 28.8 +1.1
baz=49
I18A Diamond G Ranc 48.89 325 ⇓P P 01 19 29.6 +0.6
baz=49
G20A Bridger 48.96 327 ⇑P P 01 19 29.9 +0.5
baz=49
H19A Powell 49.03 326 ⇓P P 01 19 31.0 +1.1
baz=49
A25A Svangstu Ranch 49.09 334 ⇑P P 01 19 31.4 +1.3
baz=49
GSC Goldstone 49.18 312 ⇓P P 01 19 31.9 +0.8
baz=49
C23A Lambert 49.20 332 ⇓P P 01 19 32.1 +1.1
baz=49
D22A Cohagen 49.21 330 ⇑P P 01 19 32.2 +1.0
baz=49,SNR=5.3
DGMT Dagmar 49.22 333 eP P 01 19 32.7 +1.5
27nm,0.6s
DGMT Dagmar 49.22 333 ⇓P P 01 19 32.1 +0.9
baz=49,SNR=7.1
E21A Keefer Ranch, 49.24 329 ⇓P P 01 19 32.6 +1.2
baz=49
REDW Red Top Meadow 49.29 324 eP P 01 19 32.7 +0.7
8.0nm,0.7s
LOHW Long Hollow 49.29 324 eP P 01 19 32.9 +0.9
4.1nm,0.6s
F20A Billings 49.30 328 ⇑P P 01 19 32.8 +0.9
baz=49
H18A Shoshone NF, C 49.41 326 ⇓P P 01 19 33.3 +0.5
baz=50
TPAW Teton Pass 49.42 324 eP P 01 19 34.0 +0.9
4.8nm,0.9s
MOOW Moose Ponds 49.45 324 eP P 01 19 34.0 +0.8
3.6nm,1.0s
A24A Westby 49.47 333 ⇓P P 01 19 34.6 +1.6
baz=50
C22A Vida 49.49 331 ⇓P P 01 19 34.4 +1.2
baz=50
RRI2 Red Ridge 49.55 324 eP P 01 19 34.6 +0.6
10nm,0.7s
D21A La Casta Ranch 49.56 330 ⇓P P 01 19 34.8 +1.0
baz=50,SNR=5.4
B23A Brockton 49.58 332 ⇓P P 01 19 35.1 +1.2
baz=50,SNR=5.2
R11A Troy Canyon, C 49.65 316 ⇓P P 01 19 35.6 +0.8
baz=50
G18A Lazy EL Ranch, 49.75 327 ⇓P P 01 19 36.2 +0.8
baz=50
E20A Meyer Farm, Mu 49.76 329 ⇓P P 01 19 36.3 +1.0
baz=50,SNR=9.2
A23A Redstone 49.89 333 ⇑P P 01 19 38.0 +1.8
baz=50
EDW2 Edwards Air Fo 49.89 311 ⇑P P 01 19 37.4 +0.8
baz=50
B22A Reddig Ranch S 49.93 332 ⇓P P 01 19 38.3 +1.8
baz=50
I16A Newdale 49.96 324 ⇑P P 01 19 38.6 +1.5
baz=50
E19A Rath Farm, Rou 50.07 328 ⇑P P 01 19 38.8 +1.1
baz=50
C21A Desert Coulee 50.13 330 ⇓P P 01 19 39.7 +1.6
baz=50
D20A Manuel Ranch, 50.15 329 ⇓P P 01 19 39.6 +1.4
baz=50
F18A Big Timber 50.21 327 ⇓P P 01 19 39.5 +0.8
baz=50,SNR=5.4
H16A Russell Place, 50.32 325 ⇓P P 01 19 40.8 +1.1
baz=50
A22A Carney Farms, 50.39 332 ⇑P P 01 19 41.5 +1.5
baz=50,SNR=10
F17A Fitzpatrick Pl 50.72 327 ⇑P P 01 19 43.5 +0.9
baz=51
E18A Harlowton 50.73 328 ⇓P P 01 19 43.7 +1.0
baz=51
A21A Bergtoll Ranch 50.86 332 ⇓P P 01 19 45.3 +1.9
baz=51
BOZ Bozeman (W) 51.10 326 eP P 01 19 45.8 +0.3
2.8nm,0.9s
I14A Mackay 51.15 323 ⇑P P 01 19 46.9 +1.0
baz=51
E17A Martinsdale 51.18 327 ⇑P P 01 19 46.8 +0.8
baz=51,SNR=5.5

A20A	Cobblestone Ra	51.26 331	⇑P		P	01 19 47.6	+1.2
	baz=51,SNR=7.0						
PKM	Peak Mountain	51.29 310	⇓P		P	01 19 48.1	+1.0
	baz=51						
D17A	Six Diamond Ra	51.52 328	⇑P		P	01 19 49.6	+1.0
	baz=52						
HLID	Hailey	51.53 322	*e*P		P	01 19 49.8	+1.0
	2.5nm,0.8s						
HLID	Hailey	51.53 322	⇓P		P	01 19 49.9	+1.2
	baz=52						
NVAR	Mina Array Bea	51.59 315	P		P	01 19 50.5	+1.1
	1.6nm,0.7s,baz=128,slow=7.1,SNR=8.2						
A19A	Klindworth Far	51.69 331	⇑P		P	01 19 51.0	+1.4
	baz=52						
B18A	Beardsley Farm	51.84 329	⇑P		P	01 19 51.9	+1.1
	baz=52,SNR=6.6						
C17A	Wharram Farm,	51.86 328	⇓P		P	01 19 51.9	+0.9
	baz=52						
MFID	Camas Ranch	52.33 321	*e*P		P	01 19 55.4	+0.8
	5.2nm,0.8s						
MFID	Camas Ranch	52.33 321	⇓P		P	01 19 55.3	+0.8
	baz=52,SNR=6.9						
A17A	Triple J Farms	52.67 330	⇑P		P	01 19 57.8	+0.9
	baz=53						
B16A	M & M Farms, S	52.84 328	⇓P		P	01 19 59.1	+0.9
	baz=53						
C15A	Salmond Ranch,	52.93 327	⇓P		P	01 19 59.8	+0.9
	baz=53						
MSO	Missoula	53.09 326	⇓P		P	01 20 00.8	+0.7
	baz=53						
A16A	West Butte Ran	53.12 329	⇑P		P	01 20 01.5	+1.1
	baz=53						
FFC	Flin Flon	53.14 339	*e*P		P	01 19 59.9	-0.3
	3.6nm,0.6s						
B15A	Bradely Ranch,	53.23 328	⇑P		P	01 20 02.4	+1.4
	baz=53						
C14A	Swan Lake	53.54 327	⇓P		P	01 20 04.8	+1.4
	baz=54						
WVOR	Wild Horse Val	53.63 319	*e*P		P	01 20 04.5	+0.3
	5.2nm,0.9s						
B14A	Marquette Ranc	53.64 328	⇑P		P	01 20 05.1	+1.0
	baz=54						
A15A	Johnson Ranch,	53.73 328	⇑P		P	01 20 04.9	+0.2
	baz=54,SNR=7.3						
A14A	Double T Ranch	54.09 328	⇑P		P	01 20 08.1	+0.8
	baz=54						
OHCM	Honcut	54.23 314	*e*P		P	01 20 09.5	+1.2
FCC	Fort Churchill	54.31 347	*e*P		P	01 20 08.6	+0.1
YBH	Yreka Blue Hor	56.05 316	*e*P		P	01 20 20.1	-1.4
	1.3nm,0.5s						
KHMM	Horse Mountain	56.41 315	*e*P		P	01 20 25.4	+1.2
	7.3nm,0.8s						
EDM	Edmonton	56.70 332	*e*P		P	01 20 25.9	+0.1
YKA	Yellowknife Ar	63.32 340	P		P	01 21 10.8	+0.2
	5.5nm,0.6s,baz=133,slow=6.5,SNR=24						
YKW3	Yellowknife Ar	63.37 340	*e*P		P	01 21 11.0	+0.1
INK	Inuvik	73.08 340	*e*P		P	01 22 11.1	-0.2
	2.8nm,0.8s						
TORD	Torodi Ar. Bea	73.59 78	P		P	01 22 14.8	-0.5
	0.3nm,0.3s,baz=284,slow=6.4,SNR=15						
ILAR	Eielson Array	77.03 335	P		P	01 22 34.3	+0.3
	0.7nm,0.6s,baz=102,slow=4.2,SNR=8.7						
WLF	Walferdange	77.80 41	*e*P		P	01 22 37.0	-1.6
	4.9nm,0.9s						
COLD	Coldfoot	78.81 337	*e*P		P	01 22 45.0	+1.2
NB2	NORSAR Subarra	81.26 29	P		P	01 22 58.2	+1.1
	comp=Z,0.6nm,0.5s,baz=268,slow=5.6						
NOA	NORSAR Array B	81.26 29	P		P	01 22 58.5	+1.4
	comp=Z,0.7nm,0.6s,baz=268,slow=5.3,SNR=6.2						
GERES	GERESS Array B	82.73 42	P		P	01 23 06.9	+1.8
	comp=Z,0.1nm,0.3s,baz=223,slow=4.0,SNR=4.0						
MORC	Moravsky Berou	85.18 41	*e*P		P	01 23 18.5	+1.1
	comp=Z,1.6nm,0.8s						
ARCES	ARCESS Array B	86.62 20	P		P	01 23 23.2	-0.9
	comp=Z,0.5nm,0.5s,baz=268,slow=3.6,SNR=9.9						
MKAR	Makanchi Array	122.28 20	PKP		PKPdf	01 29 35.2	0.0
	comp=Z,0.3nm,0.3s,baz=300,slow=2.6,SNR=6.5						
SONM	Songino Array	125.58 1	PKP		PKPdf	01 29 42.7	+1.1
	comp=Z,0.5nm,0.4s,baz=229,slow=2.0,SNR=2.9						
WMQ	Urumqi	126.65 17	*e*PKP		PKPdf	01 29 43.8	+0.1
CN2	Changchun	126.93 343	*e*PKP		PKPdf	01 29 38.7	-5.4
HHC	Hu-ho-hao-te	132.39 355	*e*PKP		PKPdf	01 29 53.0	-1.8
HHC			sPKP			01 30 52.2	
HHC			PP		PP	01 32 21.2	+3.0
HHC			PKS		PKSdf	01 33 27.5	-3.8
HHC			SKS		SKSdf	01 36 46.5	-4.5
HHC			SKKS		SKKSac	01 38 54.5	-5.0
HHC			SS		SS	01 49 43.2	+0.2
HHC			LR		LR		
	comp=N,280nm,22.3s						
HHC			LR		LR		
	comp=E,340nm,20.5s						
HHC			LR		LR		
	comp=Z,230nm,22.7s						
LZH	Lanzhou	137.22 4	*e*PKP		PKPdf	01 30 03.0	-1.0
LZH			sPKP			01 31 02.5	
PMG	Port Moresby	140.20 264	*e*PKPdf		PKPdf	01 30 09.2	-0.5
CD2	Chengdu	142.36 5	*e*PKP		PKPdf	01 30 11.2	-2.1
ASAR	Alice Springs	149.23 234	PKPbc		PKPdf	01 30 26.9	+1.8
	comp=Z,0.9nm,0.6s,baz=117,slow=3.3,SNR=9.9						
WRAB	Tennant Creek	150.46 241	*e*PKPbc		PKPbc	01 30 33.4	+0.8
WRA	Warramunga Arr	150.47 241	PKPbc		PKPbc	01 30 31.4	-1.2
	comp=Z,1.1nm,0.5s,baz=107,slow=2.5,SNR=12						

*IDC **07** 01:24:10.2±2.1,5°.44N×125°.98E, $h0^{km}$, mb3.5/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=123.3km s-min=26.0km az=69.0*
*ISCJB **07** 01:24:18.3±0.8,5°.32N±0°.07×126°.3E±0°.2, $h66^{km}$, mb3.4/4, Error ellipse: s-maj=24.1km s-min=7.8km az=165.9*
*MAN **07** 01:24:21,5°.62N×126°.40E, $h91^{km}$, mb4.7, ML3.6, MS3.6*
ISC 07 01:24:18.6±1.1,5°.34N±0°.08×126°.3E±0°.2, $h66^{km}$, n8, σ1°54/10, mb3.5/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.57	298	*e*P	Pn	01 24 45.7	+1.1
MATI	Mati	1.60	357	*e*P	Pn	01 24 45.1	+0.3
MATI				*e*S	Sn	01 25 06.0	+1.5
DAV	Davao City (W)	1.88	336	Pn	Pn	01 24 48.6	+0.1
	69nm,0.3s,baz=37,slow=10,SNR=1.7						
BUKP	Musuan	2.82	333	*e*P	Pn	01 25 03.5	+2.0
BUKP				*e*S	Sn	01 25 33.2	-1.2
FITZ	Fitzroy Crossi	23.31	182	P	P	01 29 21.6	+0.6
	2.5nm,1.0s,baz=356,slow=7.8,SNR=11						
WRA	Warramunga Arr	26.33	163	P	P	01 29 50.4	+1.9
	1.2nm,0.7s,baz=339,slow=10,SNR=12						
ASAR	Alice Springs	29.76	166	P	P	01 30 18.8	-0.3
	0.1nm,0.3s,baz=359,slow=8.3,SNR=4.1						
MKAR	Makanchi Array	56.02	325	P	P	01 33 48.7	-1.9
	0.2nm,0.4s,baz=116,slow=8.3,SNR=4.1						

*ISCJB **07** 01:41:41.8±0.5,50°.23N±0°.03×19°.19E±0°.03, $h0^{km}$, Error ellipse: s-maj=5.1km s-min=2.4km az=10.3*
*IPEC **07** 01:41:42.6±0.3,50°.24N×19°.35E, $h0^{km}$, ML2.2/4, Error ellipse: s-maj=3.0km s-min=2.0km az=158.0*
*CSEM **07** 01:41:43.4±0.3,50°.21N×19°.23E, $h1^{km}$, ML2.9/7, Error ellipse: s-maj=7.6km s-min=3.9km az=6.0*
*PRU **07** 01:41:44.4,50°.19N×19°.21E, $h0^{km}$*
ISC 07 01:41:43.6±0.8,50°.18N±0°.04×19°.22E±0°.02, $h0^{km}$, n32, σ1°15/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.37	83	*e*Pg	Pg	01 41 50.4	-0.3
OJC				*e*Sg	Sg	01 41 54.8	-0.8
OKC	Ostrava-Krasne	0.77	244	*e*PG	Pb	01 41 59.7	-0.2
OKC				*e*SG	Sg	01 42 07.0	-1.4
	comp=Z,24nm,0.6s						
OKC	Ostrava-Krasne	0.77	244	Pg	Pb	01 41 59.7	-0.2
OKC				Sg	Sg	01 42 07.0	-1.4
	24nm,0.6s						
NIE	Niedzica	1.03	137	*e*Pg	Pb	01 42 04.7	+0.3
MORC	Moravsky Berou	1.16	250	*e*Pg	Pg	01 42 06.0	+0.3
MORC				*e*Sg	Sb	01 42 22.7	+0.7
	38nm,0.3s,baz=68						
STHS	Stebnicka Huta	1.51	119	*e*PG	Pn	01 42 11.9	-0.1
STHS				*e*SG	Sg	01 42 33.9	+1.7
JAVC	Velka Javorina	1.66	218	*e*Sg	Sg	01 42 40.6	+3.7
	16nm,0.7s						
VYHS	Vyhne	1.70	189	*e*PN	Pn	01 42 13.9	-0.7
VYHS				*e*SN	Sn	01 42 36.0	-1.0
VYHS	Vyhne	1.70	189	*e*Pn	Pn	01 42 13.9	-0.7
VYHS				*e*Sn	Sn	01 42 36.0	-1.0
DPC	Dobruska-Polom	1.87	276	*e*PG	Pn	01 42 17.1	+0.2
DPC				*e*SG	Sb	01 42 42.8	+0.2
DPC	Dobruska-Polom	1.87	276	Pg	Pn	01 42 17.1	+0.2
DPC				Sg	Sb	01 42 42.8	+0.2
KECS	Kecovo	1.88	154	*e*PN	Pn	01 42 16.0	-1.1
KECS				*e*SN	Sn	01 42 39.9	-1.6
KECS	Kecovo	1.88	154	*e*Pn	Pn	01 42 16.0	-1.1
KECS				*e*Sn	Sn	01 42 39.9	-1.6
VRAC	Vranov	1.91	244	*e*Pn	Pn	01 42 17.5	0.0
	baz=62						
VRAC				*e*Sg	Sg	01 42 45.2	+0.1
	20nm,0.7s,baz=62						
CRVS	Cervenica-Dubn	1.94	130	*e*PN	Pn	01 42 17.1	-0.7
CRVS				*e*SG	Sg	01 42 45.9	+0.1
CRVS	Cervenica-Dubn	1.94	130	*e*Pn	Pn	01 42 17.1	-0.7
CRVS				*e*Sg	Sg	01 42 45.9	+0.1
KSP	Ksiaz	1.99	291	*e*Pg	Pg	01 42 21.8	+0.1
KSP				*e*Sg	Sg	01 42 49.8	+2.4
KSP	Ksiaz	1.99	291	*e*Pn	Pg	01 42 21.8	+0.1
KSP	Ksiaz	1.99	291	*e*Pg	Pg	01 42 24.0	+2.3
KRUC	Moravsky	2.15	240	*e*Pn	Pn	01 42 21.2	+0.5
	baz=57						
KRUC				*e*Sg	Sg	01 42 52.7	0.0
	12nm,0.7s,baz=57						
KOLS	Kolonicke sedl	2.34	121	*e*PG	Pg	01 42 30.2	+1.7
KOLS	Kolonicke sedl	2.34	121	*e*Pg	Pg	01 42 30.2	+1.7
WAR	Warsaw	2.36	28	*e*Pn	Pn	01 42 21.8	-1.8
WAR	Warsaw	2.36	28	*e*Pg	Pn	01 42 24.0	+0.4
PVCC	Panska Ves	3.00	279	*e*SG	Sg	01 43 19.4	-0.6
	comp=Z,17nm,0.6s						
PVCC	Panska Ves	3.00	279	Sg	Sg	01 43 19.4	-0.6
	17nm,0.6s						
PRU	Pruhonice	3.02	268	*e*PN	Pn	01 42 32.8	+0.1
PRU				*e*PG	Pb	01 42 38.8	+0.6
PRU				*e*SG	Sg	01 43 19.4	-1.2
	comp=Z,6.3nm,0.6s						
PRU	Pruhonice	3.02	268	Pn	Pn	01 42 32.8	+0.1
PRU				Sg	Sg	01 43 19.4	-1.2
	6.3nm,0.6s						
BRG	Berggiesshubel	3.44	284	PG	Pg	01 42 47.9	-1.6
BRG				SG	Sg	01 43 34.6	+0.5
	4.3nm,0.5s						
KHC	Kasperske Hory	3.81	256	*e*PN	Pn	01 42 43.9	+0.3
KHC				*e*x	x	01 42 51.4	
KHC				*e*SN	Sn	01 43 30.0	+0.8
KHC				*e*SG	Sg	01 43 44.0	-2.1
	comp=Z,4.6nm,0.5s						
KHC	Kasperske Hory	3.81	256	Pn	Pn	01 42 43.9	+0.3
CLL	Collm	4.11	288	*e*Sg	Sg	01 43 57.0	+1.4

*IDC **07** 01:46:23.0±3.0,36°.24S×179°.69E, $h0^{km}$, mb3.9/2, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=75.7km s-min=33.7km az=128.0*
*ISCJB **07** 01:46:25.8±1.2,36°.64S±0°.08×179°.99W±0°.10, $h118^{km}$, mb3.8/2, Error ellipse: s-maj=11.7km s-min=10.9km az=33.9*
*WEL **07** 01:46:25.9±0.4,36°.42S×179°.91W, $h33^{km}$, ML3.8/5, Error ellipse: s-maj=4.0km s-min=2.4km az=90.0*
ISC 07 01:46:28.5±2.2,36°.7S±0°.1×179°.9E±0°.1, $h118^{km}$, n41, σ1°08/44, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.55	236	PN	Pn	01 46 54.2	-2.1
MXZ				SN	Sn	01 47 15.7	-1.9
MXZ				AML	AML	01 47 16.1	
PUZ	Puketiti	1.91	224	PN	Pn	01 46 59.7	-1.0
PUZ				SN	Sn	01 47 25.2	-0.1
PUZ				AML	AML	01 47 26.2	
CNGZ	Carnagh Statio	2.24	217	PN	Pn	01 47 05.0	+0.1
MWZ	Matawai	2.51	229	PN	Pn	01 47 07.9	-0.4
MWZ				SN	Sn	01 47 39.1	+0.2
MWZ				AML	AML	01 47 41.0	
MWZ				AML	AML	01 47 50.1	
MWZ				AML	AML	01 47 55.4	
URZ	Urewera	2.73	234	PN	Pn	01 47 10.7	-0.4
URZ				AML	AML	01 47 45.6	
URZ				AML	AML	01 47 46.1	
URZ	Urewera	2.73	234	Pn	Pn	01 47 10.7	-0.4
	8.7nm,0.3s,baz=258,slow=3.4,SNR=62						
URZ				Sn	Sn	01 47 44.6	+0.7
	20nm,0.3s,baz=347,slow=16,SNR=16						
PRGZ	Paritu Road	2.74	216	PN	Pn	01 47 10.8	-0.6
MARZ	Manawahe	2.89	243	PN	Pn	01 47 12.5	-0.8
KNZ	Kokohu	2.92	217	PN	Pn	01 47 12.8	-0.8
MHGZ	Mahia Peninsul	2.92	213	PN	Pn	01 47 13.3	-0.4
OPRZ	Ohinepanea	2.92	246	PN	Pn	01 47 12.2	-1.5
MYRZ	Mayor Island	3.01	258	PN	Pn	01 47 13.2	-1.6
TARZ	Mount Tarawera	3.12	240	PN	Pn	01 47 16.2	-0.2
RAHZ	Arahi	3.15	225	PN	Pn	01 47 16.9	+0.2
RAHZ				SN	Sn	01 47 55.2	+1.2
PRRZ	Plateau Road	3.33	236	PN	Pn	01 47 19.4	+0.3
KUZ	Kuaotunu	3.38	268	PN	Pn	01 47 17.9	-1.8
NMHZ	Naumai	3.44	225	PN	Pn	01 47 21.1	+0.5
BKZ	Black Stump Fm	3.66	227	PN	Pn	01 47 23.1	-0.4
CKHZ	Cape Kidnapper	3.71	216	PN	Pn	01 47 23.2	-0.8
MCHZ	McNeill Hill	3.74	222	PN	Pn	01 47 24.0	-0.4
MKAZ	Moumakai	3.84	263	PN	Pn	01 47 25.1	-0.6
KAHZ	Kahuranaki	3.91	217	PN	Pn	01 47 25.7	-1.1
MTAZ	Motutapu	4.03	267	PN	Pn	01 47 27.9	-0.4
BHHZ	Black Hill Sta	4.13	226	PN	Pn	01 47 29.4	-0.3
KRVZ	Karewarewa	4.15	234	PN	Pn	01 47 30.9	+0.9
TUVZ	Tukino	4.24	232	PN	Pn	01 47 31.9	+0.7
WTAZ	Waiatarua	4.30	265	PN	Pn	01 47 32.6	+0.5
WNVZ	Wahianoa	4.31	231	PN	Pn	01 47 31.9	-0.3
PNHZ	Pukenui	4.34	221	PN	Pn	01 47 31.9	-0.6
PRHZ	Porangahau	4.40	215	PN	Pn	01 47 31.1	-2.2
MTVZ	Mangateitei	4.42	231	PN	Pn	01 47 34.2	+0.6
BFZ	Birch Farm	4.91	215	PN	Pn	01 47 37.8	-2.2
WAZ	Wanganui	4.94	230	PN	Pn	01 47 41.2	+0.6
MRZ	Mangatainoka R	5.21	219	PN	Pn	01 47 42.1	-2.1
MRZ				AML	AML	01 48 43.3	
MRZ				AML	AML	01 48 43.9	
KIW	Kapiti Island	5.71	222	PN	Pn	01 47 50.3	-0.6
TCW	Tory Channel	6.30	223	PN	Pn	01 47 57.6	-1.2
CTZ	Chatham Island	7.50	160	PN	Pn	01 48 14.9	-0.2
KHZ	Kahutara	7.54	219	PN	Pn	01 48 16.4	+0.8
ASAR	Alice Springs	41.48	275	P	P	01 54 10.1	+6.1
	2.0nm,0.6s,baz=117,slow=7.5,SNR=10						
WRA	Warramunga Arr	43.04	280	P	P	01 54 22.1	+5.5
	0.6nm,0.5s,baz=121,slow=7.5,SNR=4.8						
FINES	FINESS Array B	150.29	335	PKPbc	PKPab	02 06 13.4	+1.9
	0.6nm,0.5s,baz=64,slow=3.5,SNR=7.8						

IDC 07 01:48:45.9±5.4,5°.80S×147°.32E, $h0^{km}$, mb4.2/3, mb1 4.3/5, mb1mx3.8/19, mbtmp4.2/5, ML2.7/1, Error ellipse: s-maj=84.0km s-min=36.1km az=59.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.59	183	Pn	Pn	01 49 44.9	+2.0
	5.3nm,0.3s,baz=322,slow=8.6,SNR=10						
PMG				Pg	Pb	01 49 50.5	+0.2
	15nm,0.3s,baz=10,slow=11,SNR=30						
PMG				Sn	Sn	01 50 27.2	+1.1
	9.0nm,0.3s,baz=195,slow=22,SNR=7.3						
WRA	Warramunga Arr	18.90	221	P	P	01 53 07.8	-0.5
	0.7nm,0.3s,baz=47,slow=11,SNR=37						
ASAR	Alice Springs	21.97	215	P	P	01 53 41.4	-0.2
	6.6nm,0.8s,baz=50,slow=9.1,SNR=47						
FITZ	Fitzroy Crossi	24.45	238	P	P	01 54 06.5	-0.3
	8.8nm,0.5s,baz=71,slow=7.7,SNR=59						
STKA	Stephens Creek	26.49	191	P	P	01 54 25.4	+0.2
	1.5nm,0.6s,baz=2.6,slow=11,SNR=3.8						

*IDC **07** 01:56:48.4±1.3,37°.53N×70°.38E, $h0^{km}$, mb3.6/5, mb1 3.7/11, mb1mx3.5/31, mbtmp3.6/11, ML3.5/5, Error ellipse: s-maj=23.2km s-min=16.2km az=136.0*
*NNC **07** 01:56:54.9±7.4,38°.28N×69°.56E, $h0^{km}$, mb3.8, mpv3.3, Error ellipse: s-maj=54.5km s-min=43.1km az=1.0*
ISC 07 01:56:52.5±1.5,37°.9N±0°.1×69°.9E±0°.1, $h12^{km}$, n16, σ1°85/18, mb3.5/5, 3C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.18	5	⇑Pn	Pn	01 58 12.2	+2.4
	0.7nm,0.5s,baz=196,slow=16,SNR=11						
KK31				⇓Pg	Pg	01 58 27.8	-3.9
	2.3nm,0.4s,baz=186,slow=16,SNR=11						
KK31				⇓Sn	Sn	01 59 13.4	+3.9
	2.8nm,0.5s,baz=196,slow=23						
KK31				⇓Lg	Lg	01 59 31.8	
	4.8nm,0.6s,baz=197,slow=29,SNR=5.8						
AAK	Ala-Archa	5.87	36	Pn	Pn	01 58 20.1	+0.7
	2.1nm,0.3s,baz=208,slow=3.8,SNR=7.1						
AAK				Lg	Lg	01 59 56.8	
	1.1nm,0.3s,baz=8.3,slow=18,SNR=5.7						
TKM2	Tokmak 2	6.62	39	⇓Pn	Pn	01 58 30.5	+0.8
	3.0nm,0.5s						
TKM2				⇓Sn	Sn	01 59 43.9	-1.2
	4.4nm,0.8s						
TKM2				⇑Lg	Lg	02 00 20.6	
	5.3nm,0.6s						
MKAR	Makanchi Array	12.73	42	Pn	Pn	01 59 52.4	-0.9
	0.1nm,0.3s,baz=229,slow=14,SNR=6.0						
AB31	Akbulak array	13.39	331	⇓Pn	Pn	02 00 01.6	-0.6
	1.1nm,0.7s,baz=150,slow=14,SNR=15						
AB31				⇓Sn	Sn	02 02 27.7	-3.3
	0.4nm,0.5s						
KURBB	Kurchatov Arra	14.10	23	Pn	Pn	02 00 11.3	-0.6
	baz=215,slow=11,SNR=3.5						
AKTO	Aktyubinsk	15.09	330	⇑Pn	P	02 00 28.4	-2.2
	4.3nm,0.8s						
AKTO	Aktyubinsk	15.09	330	Pn	P	02 00 29.0	-1.6
	0.4nm,0.3s,baz=140,slow=11,SNR=16						
BVAR	Borovoye Array	15.09	1	Pn	Pn	02 00 25.7	+0.3
	0.2nm,0.3s,baz=162,slow=11,SNR=4.0						
ZALV	Zalesovo Beam	19.02	28	P	P	02 01 12.4	-1.6
	0.2nm,0.3s,baz=219,slow=11,SNR=3.2						
FINES	FINESS Array B	35.79	325	P	P	02 03 52.7	+1.5
	0.7nm,0.6s,baz=124,slow=10,SNR=6.0						
ARCES	ARCESS Array B	39.47	337	P	P	02 04 23.1	+0.9
	0.6nm,0.6s,baz=106,slow=8.9,SNR=7.9						
NB2	NORSAR Subarra	42.69	322	P	P	02 04 49.8	+0.9
	comp=Z,0.4nm,0.6s,baz=95,slow=8.6						
NOA	NORSAR Array B	42.69	322	P	P	02 04 50.1	+1.2
	comp=Z,0.9nm,0.8s,baz=96,slow=8.1,SNR=5.4						
TORD	Torodi Ar. Bea	64.87	267	P	P	02 07 32.4	+0.5
	comp=Z,0.2nm,0.5s,baz=57,slow=6.2,SNR=5.9						
WRA	Warramunga Arr	83.51	121	P	P	02 09 16.2	-4.2
	comp=Z,0.3nm,1.0s,baz=326,slow=4.9,SNR=2.7						

IDC 07 01:58:41.1±1.8,6°.59S×127°.43E, $h0^{km}$, mb3.7/2, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=98.6km s-min=25.4km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.58	189	Pn	Pn	02 01 27.5	-0.4
	0.1nm,0.3s,baz=9.4,slow=14,SNR=8.2						
FITZ				Sn	Sn	02 03 13.0	-25
	0.2nm,0.3s,baz=66,slow=20,SNR=5.2						
WRA	Warramunga Arr	14.88	154	Pn	Pn	02 02 12.1	-0.9
	0.2nm,0.3s,baz=333,slow=11,SNR=11						
WRA				Sn	Sn	02 04 34.0	-25
	0.1nm,0.3s,baz=330,slow=23,SNR=3.1						
ASAR	Alice Springs	18.09	161	P	P	02 02 54.8	+0.2
	0.1nm,0.3s,baz=330,slow=9.7,SNR=3.5						
MKAR	Makanchi Array	66.50	328	P	P	02 09 32.5	-0.2
	0.3nm,0.5s,baz=124,slow=8.1,SNR=4.2						
KURBB	Kurchatov Arra	70.84	329	P	P	02 09 60.0	+0.2
	0.3nm,0.2s,baz=120,slow=6.4,SNR=4.2						

IDC 07 02:15:57.4±2.2,33°.60N×88°.73E, $h0^{km}$, mb3.5/2, mb1 3.7/5, mb1mx3.4/27, mbtmp3.6/5, ML3.2/3, Error ellipse: s-maj=71.3km s-min=25.7km az=67.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.06	342	Pn	Pn	02 19 17.1	-0.8
	0.0nm,0.3s,baz=152,slow=13,SNR=3.3						
KURBB	Kurchatov Arra	18.59	339	P	P	02 20 14.7	-1.3
	0.0nm,0.3s,baz=146,slow=12,SNR=7.3						
SONM	Songino Array	19.47	38	P	P	02 20 26.1	+0.3
	0.2nm,0.3s,baz=243,slow=9.8,SNR=6.8						
ZALV	Zalesovo Beam	20.53	353	P	P	02 20 37.1	-0.1
	1.6nm,0.7s,baz=163,slow=11,SNR=9.0						
WRA	Warramunga Arr	68.74	134	P	P	02 27 03.3	0.0
	0.3nm,0.7s,baz=329,slow=6.4,SNR=6.6						

*IDC **07** 02:42:33.3±0.7,15°.69S×177°.20W, $h0^{km}$, mb4.1/15, mb1 4.2/17, mb1mx4.2/24, mbtmp4.1/17, ML2.6/2, MS4.2/23, Ms1 4.1/23, ms1mx4.1/28, Error ellipse: s-maj=25.5km s-min=16.1km az=147.0*
*NEIC **07** 02:42:34.6±0.4,15°.73S×177°.22W, $h10^{km}$, mb4.6/9, Error ellipse: s-maj=18.0km s-min=7.9km az=152.0*
*ISCJB **07** 02:42:36.8±0.5,15°.7S±0°.1×177°.3W±0°.1, $h33^{km}$, mb4.2/22, MS4.2/20, Error ellipse: s-maj=21.3km s-min=10.0km az=147.4*
*GCMT **07** 02:42:39.4±0.3,15°.57S×177°.05W, $h20^{km}$, M_W5.0, Moment Tensor Solution. s23,c29; s76,c112; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31±.20; $M_{\theta\theta}$0.39±.17; $M_{\phi\phi}$0.91±.15; $M_{r\theta}$-1.08±.31; $M_{\theta\phi}$4.13±.13; $M_{\phi r}$0.32±.26; Best double couple: M_0=4.40000×10^{16} NP1:ϕ_s=86.00000°, δ78.00000°, λ-19.00000°. NP2:ϕ_s=180.00000°, δ71.00000°, λ-168.00000°. Principal

VNDA	**Vanda**	**62.68**	**185**	P	**P**	**02 53 01.3**	**+2.2**
VNDA	**Vanda**	**62.68**	**185**	P	**P**	**02 53 01.3**	**+2.2**
	0.3nm,0.7s,baz=13,slow=10,SNR=2.7						
VNDA				LR	LR	03 14 57.1	
	comp=Z,80nm,21.9s,baz=31,slow=31						
MJAR	**Matsushiro Arr**	**66.92**	**322**	P	**P**	**02 53 27.1**	**-0.2**
MJAR	**Matsushiro Arr**	**66.92**	**322**	P	**P**	**02 53 27.1**	**-0.2**
	0.6nm,0.4s,baz=158,slow=7.2,SNR=2.9						
MJAR				LR	LR	03 16 35.4	
	comp=Z,180nm,20.9s,baz=150,slow=31						
ASAJ	**Asahikawa**	**69.98**	**330**	P	**P**	**02 53 48.0**	**+1.7**
ASAJ	**Asahikawa**	**69.98**	**330**	P	**P**	**02 53 48.0**	**+1.7**
	1.4nm,0.3s,baz=258,slow=33,SNR=3.6						
PETK	**Petropavlovsk-**	**71.92**	**344**	P	**P**	**02 53 58.0**	**+0.1**
PETK	**Petropavlovsk-**	**71.92**	**344**	P	**P**	**02 53 58.0**	**+0.1**
	0.7nm,0.3s,baz=62,slow=3.4,SNR=4.7						
PETK				LR	LR	03 22 40.0	
	comp=Z,114nm,18.7s,baz=158,slow=34						
KSRS	**Korea Array**	**73.90**	**317**	P	**P**	**02 54 10.7**	**+0.8**
	1.0nm,0.6s,baz=138,slow=7.9,SNR=4.9						
KSRS				LR	LR	03 19 47.9	
	comp=Z,187nm,21.2s,baz=132,slow=30						
KSAR	**Wonju Array Be**	**73.92**	**317**	P	**P**	**02 54 10.7**	**+0.6**
CMB	**Columbia Colle**	**75.47**	**43**	*eP*	**P**	**02 54 19.0**	**-0.1**
	1.8nm,0.9s						
USRK	**Ussuriysk Arra**	**75.53**	**325**	P	**P**	**02 54 20.0**	**+0.8**
	1.0nm,0.6s,baz=109,slow=16,SNR=2.9						
USRK				LR	LR	03 22 36.2	
	comp=Z,152nm,19.0s,baz=63,slow=32						
YBH	**Yreka Blue Hor**	**76.12**	**39**	*eP*	**P**	**02 54 23.8**	**+1.0**
	2.5nm,0.8s						
YBH	**Yreka Blue Hor**	**76.12**	**39**	P	**P**	**02 54 22.1**	**-0.7**
	1.8nm,0.8s,baz=329,slow=1.1,SNR=9.0						
NVAR	**Mina Array Bea**	**77.06**	**44**	P	**P**	**02 54 28.2**	**-0.2**
NVAR	**Mina Array Bea**	**77.06**	**44**	P	**P**	**02 54 28.2**	**-0.2**
	1.6nm,0.6s,baz=231,slow=9.9,SNR=6.0						
NVAR				LR	LR	03 24 33.6	
	comp=Z,65nm,18.1s,baz=80,slow=33						
MCK	**McKinley**	**82.20**	**12**	*eP*	**P**	**02 54 55.1**	**-0.3**
	6.5nm,1.0s						
HLID	**Hailey**	**82.24**	**41**	*eP*	**P**	**02 54 57.2**	**+0.9**
	2.5nm,1.1s						
BNM	**Barren Site**	**83.39**	**52**	*eP*	**P**	**02 55 02.5**	**-0.1**
COLA	**College**	**83.43**	**12**	*eP*	**P**	**02 55 01.4**	**-0.3**
	15nm,0.8s						
ILAR	**Eielson Array**	**83.54**	**13**	P	**P**	**02 55 02.1**	**-0.2**
ILAR	**Eielson Array**	**83.54**	**13**	P	**P**	**02 55 02.1**	**-0.2**
	0.7nm,0.7s,baz=225,slow=3.8,SNR=6.3						
ANMO	**Albuquerque**	**83.84**	**51**	*eP*	**P**	**02 55 05.7**	**+0.8**
	3.7nm,1.1s						
ANMO	**Albuquerque**	**83.84**	**51**	P	**P**	**02 55 05.4**	**+0.6**
	1.8nm,1.0s,baz=222,slow=5.4,SNR=4.0						
TXAR	**Lajitas Array**	**83.85**	**57**	P	**P**	**02 55 05.7**	**+0.8**
TXAR	**Lajitas Array**	**83.85**	**57**	P	**P**	**02 55 05.7**	**+0.8**
	1.4nm,1.0s,baz=255,slow=4.9,SNR=9.4						
TXAR				LR	LR	03 24 52.9	
	comp=Z,154nm,18.5s,baz=5.0,slow=30						
TPAW	**Teton Pass**	**84.41**	**42**	*eP*	**P**	**02 55 08.4**	**+0.8**
	5.2nm,1.2s						
IMW	**Indian Meadow**	**84.61**	**42**	*eP*	**P**	**02 55 09.2**	**+0.5**
	2.8nm,0.8s						
DAWY	**Dawson**	**84.71**	**16**	*eP*	**P**	**02 55 07.9**	**-0.5**
PDAR	**Pinedale Array**	**84.99**	**43**	P	**P**	**02 55 10.4**	**-0.1**
PDAR	**Pinedale Array**	**84.99**	**43**	P	**P**	**02 55 10.4**	**-0.1**
	1.1nm,1.0s,baz=202,slow=1.6,SNR=5.6						
PDAR				LR	LR	03 26 10.7	
	comp=Z,89nm,19.2s,baz=248,slow=31						
MAW	**Mawson**	**86.27**	**199**	LR	LR	03 33 23.5	
	comp=Z,106nm,20.1s,baz=250,slow=35						
CMAR	**Chiang Mai Arr**	**89.28**	**289**	LR	LR	03 32 14.0	
	comp=Z,134nm,19.0s,baz=342,slow=33						
YKW3	**Yellowknife Ar**	**91.93**	**24**	*eP*	**P**	**02 55 43.6**	**+0.8**
PLCA	**Paso Flores**	**91.95**	**133**	LR	LR	03 31 04.7	
	comp=Z,83nm,18.6s,baz=316,slow=32						
ULM	**Lac du Bonnet**	**96.51**	**40**	LR	LR	03 32 44.6	
	comp=Z,198nm,21.5s,baz=272,slow=31						
MK31	**Makanchi Array**	**108.48**	**315**	*e*PKP	**PKiKP**	**03 01 01.5**	**-1.9**
BRTR	**Keskin Array B**	**144.05**	**318**	PKP	PKPbc	03 02 08.8	0.0
BRTR	**Keskin Array B**	**144.05**	**318**	PKP	PKPbc	03 02 08.8	0.0
	1.3nm,0.8s,baz=40,slow=2.3,SNR=4.2						
PSZ	**Piszkesteto**	**144.97**	**340**	*e*PKPdf	PKPbc	03 02 11.4	+0.1
KHC	**Kasperske Hory**	**145.57**	**347**	*e*PKP	**PKPab**	**03 02 14.0**	**+0.6**
KHC	**Kasperske Hory**	**145.57**	**347**	*e*PKPbc	**PKPbc**	**03 02 13.3**	**+0.1**
GERES	**GERESS Array B**	**145.82**	**347**	PKPbc	**PKPdf**	**03 02 13.7**	**+0.2**
GERES	**GERESS Array B**	**145.82**	**347**	PKPbc	**PKPdf**	**03 02 13.7**	**+0.2**
	1.2nm,0.7s,baz=28,slow=3.2,SNR=13						

AZER ***07*** *03:05:58.4,40°.54N×52°.86E,h27km*
ISCJB ***07*** *03:06:06.2±0.4,40°.66N±0°.03×52°.14E±0°.02,h44km±4km, mb4.4/75,MS3.5/11,Error ellipse: s-maj=4.6km s-min=3.1km az=178.7*
BJI ***07*** *03:06:06.5,40°.50N×52°.00E,h45km,mB4.9/3,mb4.7/12, Ms4.5/2,Ms7 4.2/4*
NEIC ***07*** *03:06:07.5±0.7,40°.60N×52°.06E,h38km±7km,mb4.4/21, Error ellipse: s-maj=7.6km s-min=4.3km az=176.0*
MOS ***07*** *03:06:07.4±1.3,40°.87N×52°.09E,h44km,mb4.4/27,Error ellipse: s-maj=6.1km s-min=4.4km az=129.3*
CSEM ***07*** *03:06:08.2±0.1,40°.67N×52°.14E,h46km,mb4.4/35,Ms3.0, Error ellipse: s-maj=5.4km s-min=3.3km az=170.0*
IDC ***07*** *03:06:08.4±0.7,40°.57N×51°.95E,h45km±4km,mb3.8/20, mb1 3.9/26,mb1mx3.9/34,mbtmp3.8/26,ML3.9/4,MS3.1/12, Ms1 3.1/12,ms1mx2.9/39,Error ellipse: s-maj=16.3km s-min=8.1km az=178.0*
NNC ***07*** *03:06:14.3±3.4,41°.41N×52°.86E,h0km,mb4.7,Error ellipse: s-maj=30.1km s-min=23.0km az=77.0*
THR ***07*** *03:06:22.4±0.6,39°.57N×51°.10E,h46km,ML4.3*
ISC 07 03:06:08.0±0.3,40°.62N±0°.04×52°.07E±0°.03,h48km±2km, h47km:pP-P,n403,σ1°65/492,mb4.4/76,MS3.2/11, 66C-33D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.47**	**263**	⇓P	Pn	03 06 36.2	+4.1
	SNR=3.1						
GALA				⇑S	**Sn**	**03 06 52.4**	**+2.3**
GALA	**Gala**	**1.47**	**263**	⇓Pn	Pn	03 06 36.2	+4.1
	SNR=3.1						
GALA				⇑Sn	**Sn**	**03 06 52.4**	**+2.3**
GALA	**Gala**	**1.47**	**263**	P	Pn	03 06 36.2	+4.1
	SNR=3.1						
GALA				S	**Sn**	**03 06 52.4**	**+2.3**
NDR	**Nardaran**	**1.58**	**269**	⇓P	Pn	03 06 37.2	+3.6
	SNR=6.5						
NDR	**Nardaran**	**1.58**	**269**	⇓Pn	Pn	03 06 37.2	+3.6
	SNR=6.5						
NDR	**Nardaran**	**1.58**	**269**	P	Pn	03 06 37.2	+3.6
	SNR=6.5						
GOBA	**Gobu**	**1.79**	**264**	⇑P	**Pn**	**03 06 38.5**	**+2.0**
	SNR=6.2						
GOBA	**Gobu**	**1.79**	**264**	⇑Pn	**Pn**	**03 06 38.5**	**+2.0**
	SNR=6.2						
GOBA	**Gobu**	**1.79**	**264**	P	**Pn**	**03 06 38.5**	**+2.0**
	SNR=6.2						
ALIB	**Äli-Bayra**	**2.43**	**255**	⇑P	**Pn**	**03 06 47.1**	**+1.9**
	SNR=4.5						
ALIB	**Äli-Bayra**	**2.43**	**255**	⇑Pn	**Pn**	**03 06 47.1**	**+1.9**
	SNR=4.5						
ALIB	**Äli-Bayra**	**2.43**	**255**	P	**Pn**	**03 06 47.1**	**+1.9**
	SNR=4.5						
SIZA	**Siyzn**	**2.45**	**282**	⇓P	**Pn**	**03 06 48.2**	**+2.6**
	SNR=10						
SIZA				⇓S	**Sn**	**03 07 19.1**	**+4.9**
SIZA	**Siyzn**	**2.45**	**282**	⇓Pn	**Pn**	**03 06 48.2**	**+2.6**
	SNR=10						
SIZA				⇓Sn	**Sn**	**03 07 19.1**	**+4.9**
SIZA	**Siyzn**	**2.45**	**282**	P	**Pn**	**03 06 48.2**	**+2.6**
	SNR=10						
PQL	**Pirkuli**	**2.65**	**275**	⇓P	**Pn**	**03 06 50.4**	**+2.1**
	SNR=15						
PQL				⇓S	**Sn**	**03 07 21.6**	**+2.3**
PQL	**Pirkuli**	**2.65**	**275**	⇓Pn	**Pn**	**03 06 50.4**	**+2.1**
	SNR=15						
PQL				⇓Sn	**Sn**	**03 07 21.6**	**+2.3**
PQL	**Pirkuli**	**2.65**	**275**	P	**Pn**	**03 06 50.4**	**+2.1**
	SNR=15						
PQL				S	**Sn**	**03 07 21.6**	**+2.3**
QUBA	**Quba, Azerbaij**	**2.80**	**286**	⇓P	**Pn**	**03 06 52.9**	**+2.5**
	SNR=16						
QUBA				⇑Sn	Sn	03 07 32.8	+10
QUBA	**Quba, Azerbaij**	**2.80**	**286**	P	**Pn**	**03 06 52.9**	**+2.5**
	SNR=16						
IML	**Ismayilli**	**2.96**	**275**	⇓P	**Pn**	**03 06 53.9**	**+1.4**
	SNR=14						
IML				⇑S	**Sn**	**03 07 28.8**	**+2.0**
IML	**Ismayilli**	**2.96**	**275**	⇓Pn	**Pn**	**03 06 53.9**	**+1.4**
	SNR=14						
IML				⇑Sn	**Sn**	**03 07 28.8**	**+2.0**
IML	**Ismayilli**	**2.96**	**275**	P	**Pn**	**03 06 53.9**	**+1.4**
	SNR=14						
IML				S	**Sn**	**03 07 28.8**	**+2.0**
GLBA	**Clilabad**	**3.14**	**245**	⇑P	**Pn**	**03 06 56.0**	**+1.0**
	SNR=21						
GLBA				⇑S	**Sn**	**03 07 31.0**	**-0.2**
GLBA	**Clilabad**	**3.14**	**245**	⇑Pn	**Pn**	**03 06 56.0**	**+1.0**
	SNR=21						
GLBA				⇑Sn	**Sn**	**03 07 31.0**	**-0.2**
GLBA	**Clilabad**	**3.14**	**245**	P	**Pn**	**03 06 56.0**	**+1.0**
	SNR=21						
LKRN	**Lenkeran, Azer**	**3.17**	**234**	⇑P	**Pn**	**03 06 55.5**	**+0.1**
	SNR=17						
LKRN				⇓S	**Sn**	**03 07 30.3**	**-1.7**
LKRN	**Lenkeran, Azer**	**3.17**	**234**	⇑Pn	**Pn**	**03 06 55.5**	**+0.1**
	SNR=17						
LKRN				⇓Sn	**Sn**	**03 07 30.3**	**-1.7**
AKT	**Akhty**	**3.39**	**286**	P	Pn	03 07 14.0	+15
GRMI	**Germi**	**3.69**	**242**	*eP*	**Pn**	**03 07 02.7**	**+0.1**
GRMI				*e*Sg	**Sn**	**03 07 42.8**	**-2.1**
GRMI				AML	AML	03 07 44.9	
	comp=N,551nm,0.2s						
GRMI	**Germi**	**3.69**	**242**	*eP*	**Pn**	**03 07 02.7**	**+0.1**
GRMI				*e*Sg	**Sn**	**03 07 42.8**	**-2.1**
SEKA	**Sheki**	**3.74**	**281**	⇑P	**Pn**	**03 07 05.0**	**+1.8**
	SNR=75						
SEKA				⇑S	**Sn**	**03 07 48.0**	**+2.0**
SEKA	**Sheki**	**3.74**	**281**	⇑Pn	**Pn**	**03 07 05.0**	**+1.8**
	SNR=75						
SEKA				⇑Sn	**Sn**	**03 07 48.0**	**+2.0**
SEKA	**Sheki**	**3.74**	**281**	P	**Pn**	**03 07 05.0**	**+1.8**
	SNR=75						
SEKA				S	**Sn**	**03 07 48.0**	**+2.0**
BRDA	**Brd**	**3.75**	**266**	⇑P	**Pn**	**03 07 05.0**	**+1.8**
	SNR=3.2						
BRDA				⇑S	**Sn**	**03 07 49.4**	**+3.3**
BRDA	**Brd**	**3.75**	**266**	⇑Pn	**Pn**	**03 07 05.0**	**+1.8**
	SNR=3.2						
BRDA				⇑Sn	**Sn**	**03 07 49.4**	**+3.3**
BRDA	**Brd**	**3.75**	**266**	P	**Pn**	**03 07 05.0**	**+1.8**
	SNR=3.2						
BRDA				S	**Sn**	**03 07 49.4**	**+3.3**
MAK	**Makhachkala**	**4.14**	**306**	*eP*	**Pn**	**03 07 09.6**	**+1.0**
MAK				*e*S	**Sn**	**03 07 58.8**	**+3.1**
MAK				pmax	pmax		
	comp=Z,59nm,0.2s						
MAK				smax	smax		
	comp=N,690nm,0.6s						
MAK				smax	smax		
	comp=E,614nm,0.6s						
MAK	**Makhachkala**	**4.14**	**306**	*eP*	**Pn**	**03 07 09.6**	**+1.0**
	comp=E,59nm,0.2s						
MAK				*e*S	**Sn**	**03 07 58.8**	**+3.1**
	comp=E,690nm,0.6s						
GANJ	**Ganja**	**4.37**	**272**	⇑P	**Pn**	**03 07 11.7**	**-0.2**
	SNR=8.1						
GANJ				⇑S	**Sn**	**03 08 00.0**	**-1.6**
GANJ	**Ganja**	**4.37**	**272**	⇑Pn	**Pn**	**03 07 11.7**	**-0.2**
	SNR=8.1						
GANJ				⇑Sn	**Sn**	**03 08 00.0**	**-1.6**
GANJ	**Ganja**	**4.37**	**272**	P	**Pn**	**03 07 11.7**	**-0.2**
	SNR=8.1						
DBC	**Dubki**	**4.59**	**303**	⇑*iP*	**Pn**	**03 07 16.0**	**+1.0**
DBC	**Dubki**	**4.59**	**303**	*iP*	**Pn**	**03 07 16.0**	**+1.0**
ZNJK	**Zanjan**	**4.75**	**215**	*e*Pn	**Pn**	**03 07 14.5**	**-2.8**
ZNJK				AML	AML	03 08 09.9	
	comp=E,629nm,0.7s						
ZNJK				AML	AML	03 08 10.5	
	comp=N,675nm,0.3s						
ZNJK	**Zanjan**	**4.75**	**215**	*e*Pn	**Pn**	**03 07 14.5**	**-2.8**
CHTH	**Charan**	**4.76**	**189**	*eP*	**Pn**	**03 07 17.8**	**+0.3**
CHTH	**Charan**	**4.76**	**189**	*eP*	**Pn**	**03 07 17.8**	**+0.3**
THKV	**Tehran--Karaj**	**4.78**	**192**	*e*Pn	**Pn**	**03 07 17.1**	**-0.6**
THKV				AML	AML	03 08 13.7	
	comp=N,713nm,0.2s						
THKV				AML	AML	03 08 14.0	
	comp=E,441nm,0.9s						
THKV	**Tehran--Karaj**	**4.78**	**192**	*e*Pn	**Pn**	**03 07 17.1**	**-0.6**
DAMV	**Damavand**	**4.98**	**181**	*e*Pn	**Pn**	**03 07 22.1**	**+1.6**
DAMV				AML	AML	03 08 19.7	
	comp=N,592nm,0.6s						
DAMV				AML	AML	03 08 19.7	
	comp=E,384nm,0.7s						
DAMV	**Damavand**	**4.98**	**181**	*e*Pn	**Pn**	**03 07 22.0**	**+1.6**
DGRG	**David-gareji**	**5.13**	**282**	P	**Pn**	**03 07 23.4**	**+1.1**
DGRG				S	**Sn**	**03 08 22.2**	**+1.9**
DGRG	**David-gareji**	**5.13**	**282**	P	**Pn**	**03 07 23.4**	**+1.1**
DGRG				S	**Sn**	**03 08 22.2**	**+1.9**
NAX	**Nakhchivan**	**5.25**	**256**	⇑P	**Pn**	**03 07 25.9**	**+1.8**
	SNR=3.2						
NAX				⇑S	**Sn**	**03 08 25.7**	**+2.3**
NAX	**Nakhchivan**	**5.25**	**256**	⇑Pn	**Pn**	**03 07 25.9**	**+1.8**
	SNR=3.2						
NAX				⇑Sn	**Sn**	**03 08 25.7**	**+2.3**
NAX	**Nakhchivan**	**5.25**	**256**	P	**Pn**	**03 07 25.9**	**+1.8**
	SNR=3.2						
NAX				S	**Sn**	**03 08 25.7**	**+2.3**
GNI	**Garni**	**5.61**	**268**	*e*Pn	**Pn**	**03 07 30.2**	**+1.1**
	comp=E,32nm,0.7s						
GNI				S	**Sn**	**03 08 27.8**	**-4.5**
GNI	**Garni**	**5.61**	**268**	P	**Pn**	**03 07 30.1**	**+1.0**
	comp=E,6.4nm,0.3s,baz=291,slow=0.7,SNR=12						
GNI				S	**Sn**	**03 08 27.8**	**-4.5**
	comp=E,1.4nm,0.3s,baz=314,slow=8.2,SNR=5.1						
GNI	**Garni**	**5.61**	**268**	*e*Pn	**Pn**	**03 07 30.2**	**+1.1**
	comp=E,32nm,0.7s						
GNI	**Garni**	**5.61**	**268**	*i* P	**Pn**	**03 07 30.9**	**+1.8**
	comp=E,16nm,0.7s						
GNI				S	**Sn**	**03 08 27.8**	**-4.5**
TBLG	**Delisi**	**5.64**	**284**	*i* P	**Pn**	**03 07 29.3**	**0.0**
TBLG				*e*S	**Sn**	**03 08 31.9**	**-0.9**
TBLG	**Delisi**	**5.64**	**284**	P	**Pn**	**03 07 29.3**	**0.0**
TBLG				S	**Sn**	**03 08 31.9**	**-0.9**
TBLG	**Delisi**	**5.64**	**284**	*i* P	**Pn**	**03 07 29.3**	**0.0**
TBLG				*e*S	**Sn**	**03 08 31.9**	**-0.9**
DUS	**Dusheti**	**5.73**	**287**	P	Pn	03 07 34.5	+3.8
DUS				S	**Sn**	**03 08 36.0**	**+0.9**
KZR	**Kazreti**	**5.84**	**280**	P	**Sn**	**03 08 34.0**	**-3.7**
GUDG	**Gudauri**	**5.99**	**290**	P	**Pn**	**03 07 36.0**	**+1.8**
GUDG				S	**Sn**	**03 08 41.3**	**-0.3**
GUDG	**Gudauri**	**5.99**	**290**	P	**Pn**	**03 07 36.0**	**+1.8**
GUDG				S	**Sn**	**03 08 41.3**	**-0.3**
GHVR	**GHOM**	**6.16**	**186**	*e*Pn	**Pn**	**03 07 36.7**	**+0.2**
GHVR	**GHOM**	**6.16**	**186**	*e*Pn	**Pn**	**03 07 36.7**	**+0.2**
ZEI	**Tsey**	**6.48**	**292**	*eP*	Pn	03 07 46.8	+5.8
ZEI				pmax	pmax		
	comp=Z,12nm,0.5s						
AKH	**Akhalkalaki**	**6.53**	**280**	P	**Sn**	**03 08 54.6**	**-0.4**
ONI	**Oni**	**6.75**	**290**	P	Pn	03 07 49.1	+4.5
ONI				S	Sn	03 09 07.2	+7.1
KHMZ	**Khomeyn**	**7.07**	**194**	*e*Pn	**Pn**	**03 07 47.9**	**-1.2**
KHMZ	**Khomeyn**	**7.07**	**194**	*e*Pn	**Pn**	**03 07 47.9**	**-1.2**
KBZ	**Khabaz**	**7.49**	**298**	P	**Pn**	**03 07 54.2**	**-0.3**
KBZ				S	**Sn**	**03 09 14.1**	**-3.9**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ				smax	smax		
	comp=N,2.0nm,0.3s						
KBZ	**Khabaz**	**7.49**	**298**	P	**Pn**	**03 07 54.2**	**-0.3**
KBZ				S	**Sn**	**03 09 14.1**	**-3.9**
KBZ	**Khabaz**	**7.49**	**298**	P	**Pn**	**03 07 54.2**	**-0.3**
	comp=N,0.8nm,0.3s,baz=106,slow=11,SNR=18						
KBZ				S	**Sn**	**03 09 14.1**	**-3.9**
	comp=N,1.8nm,0.3s,baz=297,slow=4.5,SNR=2.8						
KBZ				LR	LR	03 11 43.1	
	comp=N,42nm,18.6s,baz=252,slow=45						
KBZ	**Khabaz**	**7.49**	**298**	P	**Pn**	**03 07 54.2**	**-0.3**
	comp=N,1.0nm,0.3s						
KBZ				S	**Sn**	**03 09 14.1**	**-3.9**
KIV	**Kislovodsk**	**7.71**	**299**	⇑*eP*	**Pn**	**03 07 57.0**	**-0.8**
KIV				*e*S	**Sn**	**03 09 28.8**	**+5.0**
KIV				pmax	pmax		
	comp=Z,24nm,0.7s						
KIV	**Kislovodsk**	**7.71**	**299**	*eP*	**Pn**	**03 07 57.0**	**-0.8**
	comp=Z,24nm,0.7s						
SOC	**Sochi**	**9.65**	**292**	*eP*	Pn	03 08 19.7	-4.4
SOC				*e*		03 10 07.4	
SOC				MLR	MLR		
	comp=Z,54nm,12.0s						
AB31	**Akbulak array**	**10.28**	**30**	Pn	**Pn**	**03 08 31.1**	**-1.7**
	comp=Z,9.0nm,0.5s,baz=211,slow=13,SNR=207						
AB31				⇑Sn	Sn	03 10 15.9	-11
	comp=Z,11nm,0.3s,baz=208,slow=25,SNR=17						
AB31	**Akbulak array**	**10.28**	**30**	P	**Pn**	**03 08 31.1**	**-1.7**
AB31						03 10 15.8	
AB31				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AB31				smax	smax		
	comp=N,24nm,0.3s						
AB31	**Akbulak array**	**10.28**	**30**	Pn	**Pn**	**03 08 31.1**	**-1.7**
	comp=N,9.0nm,0.5s,baz=211,SNR=207						
ABKAR	**Akbulak array**	**10.28**	**30**	*e*Pn	**Pn**	**03 08 30.9**	**-1.9**
ABKAR	**Akbulak array**	**10.28**	**30**	*e*Pn	**Pn**	**03 08 30.9**	**-1.9**
AKTK	**Aktyubinsk**	**10.67**	**21**	P	**Pn**	**03 08 36.8**	**-1.3**
	comp=N,16nm,0.3s						
AKTO	**Aktyubinsk**	**10.67**	**21**	⇓Pn	**Pn**	**03 08 36.6**	**-1.5**
	comp=N,53nm,0.6s						
AKTO				⇑Sn	Sn	03 10 27.5	-8.5
	comp=N,48nm,0.5s						
AKTO	**Aktyubinsk**	**10.67**	**21**	P	**Pn**	**03 08 36.8**	**-1.3**
AKTO				S	Sn	03 10 27.3	-8.7
AKTO				pmax	pmax		
	comp=Z,16nm,0.3s						
AKTO				smax	smax		
	comp=N,11nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,111nm,19.1s						
AKTO	**Aktyubinsk**	**10.67**	**21**	P	**Pn**	**03 08 36.8**	**-1.3**
AKTO				S	Sn	03 10 27.3	-8.7
AKTO	**Aktyubinsk**	**10.67**	**21**	P	**Pn**	**03 08 36.8**	**-1.3**
	comp=Z,16nm,0.3s,baz=202,slow=10,SNR=62						
AKTO				S	Sn	03 10 27.3	-8.7
	comp=Z,11nm,0.3s,baz=106,slow=23,SNR=9.8						
AKTO				LR	LR	03 14 07.4	
	comp=Z,111nm,19.1s,baz=214,slow=45						
AKTO	**Aktyubinsk**	**10.67**	**21**	Pn	**Pn**	**03 08 36.6**	**-1.5**
	comp=Z,53nm,0.6s						
AKTO				S	Sn	03 10 27.3	-8.7
MIB	**Mutribah**	**11.46**	**201**	*eP*	**Pn**	**03 08 49.0**	**0.0**
MIB				AMb	AMB	03 09 01.9	
	comp=Z,16nm,0.8s						
NAY	**Al-Naaiem**	**12.01**	**201**	*eP*	**Pn**	**03 08 55.6**	**-0.8**
NAY				AMb	AMB	03 08 58.2	
	comp=Z,5.4nm,0.7s						
RDF	**Al-Radifah**	**12.23**	**199**	*eP*	**Pn**	**03 08 59.1**	**-0.5**
RDF				AMb	AMB	03 09 00.3	
	comp=Z,21nm,1.2s						
VRHR	**Novokhopersk**	**12.74**	**329**	*eP*	**Pn**	**03 09 05.6**	**-0.8**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.6s						
VRHR				pmax	pmax		
	comp=E,50nm,1.7s						
VRHR	**Novokhopersk**	**12.74**	**329**	*eP*	**Pn**	**03 09 05.6**	**-0.8**
VORD	**Divnogorie**	**13.64**	**324**	*eP*	Pn	03 09 15.2	-3.4
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,40nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,1.0s						
VSR	**Storozhevoye**	**13.87**	**324**	*eP*	Pn	03 09 18.3	-3.5
VSR				pmax	pmax		
	comp=Z,60nm,1.8s						
VSR				pmax	pmax		
	comp=N,30nm,1.0s						
VSR				pmax	pmax		
	comp=E,30nm,1.0s						
KK31	**Karatay Array**	**13.97**	**74**	⇓P	**Pn**	**03 09 21.2**	**-2.1**
	comp=E,3.7nm,0.7s,baz=271,slow=15,SNR=32						
KK31				⇑S	Sn	03 11 48.2	-8.6
	comp=E,11nm,0.8s,baz=261,slow=23,SNR=5.9						
KK31	**Karatay Array**	**13.97**	**74**	*eP*	**Pn**	**03 09 20.8**	**-2.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR	**Karatay Array**	**13.97**	**74**	*eP*	**Pn**	**03 09 21.6**	**-1.7**
KKAR	**Karatay Array**	**13.97**	**74**	*e*Pn	**Pn**	**03 09 21.6**	**-1.7**
KKAR	**Karatay Array**	**13.97**	**74**	*e*Pn	**Pn**	**03 09 21.5**	**-1.7**
BRTR	**Keskin Array B**	**14.12**	**272**	P	**Pn**	**03 09 26.3**	**+0.9**
BRTR	**Keskin Array B**	**14.12**	**272**	P	**Pn**	**03 09 26.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=7.6						
BRTR	**Keskin Array B**	**14.12**	**272**	P	**Pn**	**03 09 26.3**	**+0.9**
CSS	**Prodhromos**	**15.84**	**255**	*e*Pn	**Pn**	**03 09 47.7**	**-0.1**
CSS	**Prodhromos**	**15.84**	**255**	*e*Pn	**Pn**	**03 09 47.7**	**-0.1**
EKS2	**Erkin-Say**	**16.36**	**76**	*eP*	**Pn**	**03 09 54.7**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EKS2	**Erkin-Say**	**16.36**	**76**	*e*Pn	**Pn**	**03 09 54.7**	**+0.3

VOSK	Vostochnaya	17.69	40	P	Pn	03 10 08.2	-2.5
VOSK				pmax	pmax		
comp=Z,11nm,0.6s							
VOSK	Vostochnaya	17.69	40	P	Pn	03 10 08.2	-2.5
comp=Z,11nm,0.6s							
TKM2	Tokmak 2	17.70	75	⇓P	P	03 10 11.7	+0.2
comp=Z,11nm,0.9s							
TKM2	Tokmak 2	17.70	75	eP	P	03 10 12.5	+1.0
TKM2				pmax	pmax		
comp=Z,8.0nm,0.8s							
TKM2	Tokmak 2	17.70	75	ePn	P	03 10 12.5	+1.0
comp=Z,8.4nm,0.8s							
TKM2	Tokmak 2	17.70	75	P	P	03 10 11.7	+0.2
comp=Z,11nm,0.9s							
TKM2	Tokmak 2	17.70	75	ePn	P	03 10 12.5	+1.0
comp=Z,8.4nm,0.8s							
OBN	Obninsk	17.78	330	⇑eP	Pn	03 10 08.2	-3.6
OBN				eS	Sn	03 13 18.6	-10
OBN				pmax	pmax		
comp=Z,34nm,1.5s							
OBN				MLR	MLR		
comp=Z,100nm,17.0s							
MOS	Moscow	17.88	333	eP	Pn	03 10 09.5	-3.5
MOS				eS	Sn	03 13 15.7	-15
MOS				pmax	pmax		
comp=Z,59nm,1.1s							
RAYN	Ar Rayn	17.92	200	ePn	Pn	03 10 12.6	-1.1
comp=Z,43nm,2.0s							
RAYN	Ar Rayn	17.92	200	ePn	Pn	03 10 12.6	-1.1
comp=Z,43nm,2.0s							
CFR	Carcaliu	18.09	293	⇓P	Pn	03 10 15.9	+0.2
CFR	Carcaliu	18.09	293	⇓iP	Pn	03 10 15.9	+0.2
CFR	Carcaliu	18.09	293	P	Pn	03 10 15.9	+0.2
AKASG	Malin Array Be	18.81	310	iP	P	03 10 23.1	-0.3
AKASG				pmax	pmax		
comp=Z,9.0nm,0.6s							
AKASG	Malin Array Be	18.81	310	P	P	03 10 21.8	-1.7
AKASG				S	Sn	03 13 49.9	-4.0
AKASG	Malin Array Be	18.81	310	P	P	03 10 21.8	-1.7
comp=Z,4.1nm,0.3s,baz=114,slow=12,SNR=32							
AKASG				S	Sn	03 13 49.9	-4.0
comp=Z,0.8nm,0.3s,baz=109,slow=20,SNR=6.2							
AKASG	Malin Array Be	18.81	310	iP	P	03 10 23.1	-0.3
comp=Z,9.0nm,0.6s							
KIEV	Kiev	18.82	310	eP	P	03 10 21.8	-1.7
KIEV				pmax	pmax		
comp=Z,16nm,0.7s							
KIEV	Kiev	18.82	310	eP	P	03 10 21.8	-1.7
comp=Z,16nm,0.7s							
KIEV	Kiev	18.82	310	eP	P	03 10 21.8	-1.7
comp=Z,16nm,0.7s							
VRI	Vrincioaia	19.16	294	⇑P	Pn	03 10 29.0	+0.5
VRI	Vrincioaia	19.16	294	⇑iP	Pn	03 10 29.0	+0.5
VRI	Vrincioaia	19.16	294	P	Pn	03 10 29.0	+0.5
PLOR	Plostina	19.21	294	⇑P	Pn	03 10 29.4	+0.2
PLOR	Plostina	19.21	294	⇑iP	Pn	03 10 29.4	+0.2
PLOR	Plostina	19.21	294	P	Pn	03 10 29.4	+0.2
SOKR	Solikamsk	19.23	7	eP	P	03 10 27.5	-0.4
SOKR				pmax	pmax		
comp=Z,40nm,1.1s							
SOKR	Solikamsk	19.23	7	eP	P	03 10 27.5	-0.4
comp=Z,40nm,1.1s							
TESR	Tescani	19.30	296	⇑iP	P	03 10 29.5	+0.7
MLR	Muntele Rosu	19.66	293	⇑iP	Pn	03 10 34.2	-0.5
MLR	Muntele Rosu	19.66	293	P	Pn	03 10 34.2	-0.5
MLR	Muntele Rosu	19.66	293	P	Pn	03 10 34.2	-0.5
comp=Z,0.1nm,0.3s,baz=233,slow=23,SNR=8.7							
MLR				LR	LR	03 20 09.9	
comp=Z,18nm,20.6s,baz=278,slow=43							
MLR	Muntele Rosu	19.66	293	P	Pn	03 10 34.2	-0.5
VOIR		20.29	293	⇑P	Pn	03 10 41.0	-1.0
VOIR		20.29	293	⇑iP	Pn	03 10 41.0	-1.0
VOIR		20.29	293	P	Pn	03 10 41.0	-1.0
BURAR	Bucovina Array	20.44	299	⇓P	P	03 10 42.2	+0.8
BURAR	Bucovina Array	20.44	299	⇓iP	P	03 10 42.2	+0.8
BUR08	Bucovina Ar. S	20.46	299	eP	P	03 10 41.1	-0.5
BUR08	Bucovina Ar. S	20.46	299	eP	P	03 10 41.1	-0.5
ARR	Arges	20.57	292	⇓iP	P	03 10 44.0	+1.2
KURBB	Kurchatov Arra	20.94	53	P	Pn	03 10 48.6	-1.0
comp=Z,8.0nm,0.9s,baz=254,slow=12,SNR=21							
KURBB				S	S	03 14 30.6	-6.5
comp=Z,1.2nm,0.6s,baz=277,slow=30,SNR=4.3							
KURK	Kurchatov	21.02	52	P	P	03 10 48.6	+1.1
KURK				S	S	03 14 30.6	-8.1
KURK				pmax	pmax		
comp=Z,8.0nm,0.9s							
KURK				smax	smax		
comp=N,1.0nm,0.6s							
KURK	Kurchatov	21.02	52	P	P	03 10 48.6	+1.1
KURK				S	S	03 14 30.6	-8.1
KURK	Kurchatov	21.02	52	P	P	03 10 48.6	+1.1
comp=N,8.0nm,0.9s							
MICGM	Minsk	21.29	319	eP	P	03 10 48.0	-2.3
MNK	Minsk	21.31	319	eP	P	03 10 48.0	-2.5
MNK				eS	S	03 14 38.0	-6.4
VTS	Vitosha	21.63	285	⇑P	P	03 10 55.6	+1.4
VTS	Vitosha	21.63	285	⇑iP	P	03 10 55.6	+1.4
VTS	Vitosha	21.63	285	P	P	03 10 55.6	+1.4
LVV	L'vov	21.68	304	eP	P	03 10 57.1	+2.6
LVV	L'vov	21.68	304	eP	P	03 10 57.1	+2.6
DRGR		22.02	296	⇓P	P	03 11 00.0	+1.7
DRGR		22.02	296	⇓iP	P	03 11 00.0	+1.7
DRGR		22.02	296	P	P	03 11 00.0	+1.7
NACGM	Naroch	22.04	319	e	P	03 10 54.0	-4.3
KWP	Kalwaria Pacla	22.47	303	eP	P	03 11 03.7	+0.7
KWP				pmax	pmax		
comp=Z,16nm,0.6s							
KWP	Kalwaria Pacla	22.47	303	⇑iP	P	03 11 03.5	+0.5
KWP	Kalwaria Pacla	22.47	303	eP	P	03 11 03.7	+0.7
comp=Z,16nm,0.6s							
KWP	Kalwaria Pacla	22.47	303	eP	P	03 11 03.6	+0.5
KWP	Kalwaria Pacla	22.47	303	eP	P	03 11 03.7	+0.7
comp=Z,16nm,0.6s							
KOLS	Kolonicke sedl	22.61	302	eP	P	03 11 06.5	+1.9
KOLS	Kolonicke sedl	22.61	302	eP	P	03 11 06.5	+1.9
KOLS	Kolonicke sedl	22.61	302	eP	P	03 11 06.5	+1.9
MK31	Makanchi Array	22.62	64	P	P	03 11 06.2	+1.6
comp=Z,9.0nm,0.7s,baz=258,slow=8.5,SNR=23							
MK31				⇑S	S	03 15 12.2	+3.1
comp=Z,2.0nm,0.7s,baz=248,slow=25,SNR=5.3							
MK31	Makanchi Array	22.62	64	iP	P	03 11 06.2	+1.6
MK31				pmax	pmax		
comp=Z,12nm,0.7s							
MK31	Makanchi Array	22.62	64	P	P	03 11 06.2	+1.6
comp=Z,9.0nm,0.7s,baz=258,SNR=23							
MKAR	Makanchi Array	22.62	64	P	P	03 11 06.5	+1.9
MKAR				*PP	pP	03 11 17.4	+1.5
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
MKAR				pmax	pmax		
comp=Z,9.0nm,0.7s							
MKAR	Makanchi Array	22.62	64	eP	P	03 11 06.6	+1.9
MKAR				pP	pP	03 11 17.4	+1.5
MKAR				S	S	03 15 13.5	+4.5
MKAR	Makanchi Array	22.62	64	P	P	03 11 06.5	+1.9
comp=Z,2.7nm,0.7s,baz=260,slow=9.2,SNR=20							
MKAR				pP	pP	03 11 17.4	+1.5
comp=Z,9.3nm,0.7s,baz=260,slow=9.3,SNR=21							
MKAR				S	S	03 15 13.5	+4.5
comp=Z,0.4nm,0.4s,baz=263,slow=22,SNR=3.8							
MKAR				LR	LR	03 19 52.4	
comp=Z,34nm,18.8s,baz=103,slow=36							
MKAR	Makanchi Array	22.62	64	eP	P	03 11 06.6	+1.9
BZS	Buzias	22.70	293	⇑P	P	03 11 06.2	+0.7
BZS	Buzias	22.70	293	⇑iP	P	03 11 06.2	+0.7
BZS	Buzias	22.70	293	P	P	03 11 06.2	+0.7
CRVS	Cervenica-Dubn	23.13	301	eP	P	03 11 11.0	+1.1
CRVS	Cervenica-Dubn	23.13	301	eP	P	03 11 11.0	+1.1
CRVS	Cervenica-Dubn	23.13	301	eP	P	03 11 11.0	+1.1
STHS	Stebnicka Huta	23.36	302	eP	P	03 11 12.2	+0.1
STHS				e		03 11 19.1	
STHS	Stebnicka Huta	23.36	302	eP	P	03 11 12.2	+0.1
STHS				epP	pP	03 11 19.1	-4.8
STHS	Stebnicka Huta	23.36	302	eP	P	03 11 12.2	+0.1
SUW	Suwalki	23.53	314	eP	P	03 11 13.6	0.0
SUW	Suwalki	23.53	314	eP	P	03 11 13.6	0.0
KECS	Kecovo	23.71	300	eP	P	03 11 16.0	+0.6
KECS	Kecovo	23.71	300	eP	P	03 11 15.9	+0.6
KECS	Kecovo	23.71	300	eP	P	03 11 16.0	+0.6
VSU	Vasula	24.03	326	eP	P	03 11 18.5	+0.3
VSU				pmax	pmax		
comp=Z,16nm,0.7s							
VSU	Vasula	24.03	326	eP	P	03 11 18.5	+0.3
comp=Z,16nm,0.7s							
PSZ	Piszkesteto	24.04	298	eP	P	03 11 19.9	+1.4
PSZ				pmax	pmax		
comp=Z,5.0nm,0.8s							
PSZ	Piszkesteto	24.04	298	eP	P	03 11 19.9	+1.4
comp=Z,4.7nm,0.8s							
PSZ	Piszkesteto	24.04	298	eP	P	03 11 19.9	+1.4
comp=Z,4.7nm,0.8s							
VYHS	Vyhne	24.80	300	eP	P	03 11 23.2	-2.2
VYHS	Vyhne	24.80	300	eP	P	03 11 23.2	-2.2
TMCR	Tamitsa	24.97	345	eP	P	03 11 28.2	+1.5
TMCR				e		03 12 02.7	
TMCR				pmax	pmax		
comp=Z,44nm,1.2s							
NVS	Novosibirsk	25.08	45	eP	P	03 11 27.7	-0.1
ZAA0	Zalesovo Array	25.65	48	eP	P	03 11 34.4	+1.4
ZAA0	Zalesovo Array	25.65	48	eP	P	03 11 34.4	+1.4
ZALV	Zalesovo Beam	25.65	48	iP	P	03 11 35.0	+2.0
ZALV				pmax	pmax		
comp=Z,2.0nm,0.3s							
ZALV	Zalesovo Beam	25.65	48	P	P	03 11 34.0	+1.1
ZALV				pP	pP	03 11 46.9	+1.6
ZALV	Zalesovo Beam	25.65	48	P	P	03 11 34.0	+1.1
comp=Z,2.3nm,0.3s,baz=262,slow=10,SNR=14							
ZALV				pP	pP	03 11 46.9	+1.6
comp=Z,3.7nm,0.7s,baz=260,slow=10,SNR=5.8							
ZALV				LR	LR	03 23 09.8	
comp=Z,62nm,18.9s,baz=248,slow=40							
ZALV	Zalesovo Beam	25.65	48	P	P	03 11 34.0	+1.1
ZALV				pP	pP	03 11 46.9	+1.6
MORC	Moravsky Berou	25.80	302	eP	P	03 11 35.7	+1.2
MORC				pmax	pmax		
comp=Z,6.0nm,1.3s							
MORC	Moravsky Berou	25.80	302	eP	P	03 11 35.7	+1.2
comp=Z,5.6nm,1.3s							
MORC	Moravsky Berou	25.80	302	eP	P	03 11 35.7	+1.2
comp=Z,5.6nm,1.3s							
FIA1	FINESS Array S	26.17	331	eP	P	03 11 39.6	+2.0
FIA1	FINESS Array S	26.17	331	eP	P	03 11 39.6	+2.0
FINES	FINESS Array B	26.17	331	P	P	03 11 38.0	+0.4
FINES				pP	pP	03 11 50.8	+0.8
FINES	FINESS Array B	26.17	331	P	P	03 11 38.0	+0.4
comp=Z,5.4nm,0.6s,baz=133,slow=10,SNR=32							
FINES				pP	pP	03 11 50.8	+0.8
comp=Z,4.0nm,0.5s,baz=125,slow=9.6,SNR=6.5							
FINES	FINESS Array B	26.17	331	P	P	03 11 38.0	+0.4
FINES				pP	pP	03 11 50.8	+0.8
VRAC	Vranov	26.36	301	LR	LR	03 24 10.6	
comp=Z,47nm,18.2s,baz=95,slow=41							
WMQ	Urumqi	26.45	71	eP	P	03 11 45.3	+4.8
WMQ				pmax	pmax		
comp=Z,13nm,1.3s							
WMQ				pmax	pmax		
comp=Z,150nm,5.0s							
WMQ				LR	LR		
comp=Z,140nm,22.0s							
KAF	Kangasniemi	26.53	333	eP	P	03 11 42.0	+1.1
KAF				pmax	pmax		
comp=Z,8.0nm,0.8s							
KAF	Kangasniemi	26.53	333	ep	P	03 11 42.0	+1.1
comp=Z,8.0nm,0.8s							
KAF	Kangasniemi	26.53	333	eP	P	03 11 42.0	+1.1
comp=Z,8.0nm,0.8s							
DPC	Dobruska-Polom	26.65	303	eP	P	03 11 43.8	+1.6
DPC				pmax	pmax		
comp=Z,26nm,0.9s							
DPC	Dobruska-Polom	26.65	303	eP	P	03 11 43.7	+1.6
DPC				epP	pP	03 11 59.5	+4.9
DPC	Dobruska-Polom	26.65	303	eP	P	03 11 43.8	+1.6
comp=Z,26nm,0.9s							
DPC	Dobruska-Polom	26.65	303	P	P	03 11 43.7	+1.6
ARSA	Arzberg	26.96	297	⇑iP	P	03 11 45.6	+0.7
comp=Z,3.2nm,0.5s							
ARSA	Arzberg	26.96	297	P	P	03 11 45.6	+0.7
comp=Z,3.2nm,0.5s							
SOKA	Soboth	27.29	295	⇓iP	P	03 11 49.2	+1.2
comp=Z,4.6nm,0.6s,SNR=7.2							
SOKA	Soboth	27.29	295	P	P	03 11 49.2	+1.2
comp=Z,4.6nm,0.6s,SNR=7.2							
PRU	Pruhonice	27.75	302	eP	P	03 11 46.6	-5.3
BRG	Berggiesshubel	28.22	304	eP	P	03 11 58.0	+1.9
comp=Z,2.3nm,0.4s							
BRG	Berggiesshubel	28.22	304	eP	P	03 11 58.0	+1.9
BRG				pmax	pmax		
comp=Z,2.0nm,0.4s							
GEC2	GERESS Array S	28.22	300	eP	P	03 11 57.3	+1.0
GEC2	GERESS Array S	28.22	300	eP	P	03 11 57.3	+1.0
GEC2	GERESS Array S	28.22	300	eP	P	03 11 57.3	+1.0
GERES	GERESS Array B	28.22	300	P	P	03 11 56.5	+0.2
GERES				PcP	PcP	03 15 08.7	0.0
GERES	GERESS Array B	28.22	300	P	P	03 11 56.5	+0.2
comp=Z,1.0nm,0.4s,baz=90,slow=8.4,SNR=19							
GERES				PcP	PcP	03 15 08.7	0.0
comp=Z,0.5nm,0.7s,baz=115,slow=1.4,SNR=3.9							
GERES				LR	LR	03 23 59.3	
comp=Z,49nm,19.2s,baz=274,slow=38							
GERES	GERESS Array B	28.22	300	P	P	03 11 56.5	+0.2
GERES	GERESS Array B	28.22	300	PcP	PcP	03 15 08.7	0.0
comp=Z,49nm,19.2s							
KHC	Kasperske Hory	28.32	300	eP	P	03 11 57.4	+0.3
KHC	Kasperske Hory	28.32	300	eP	P	03 11 57.4	+0.3
KHC	Kasperske Hory	28.32	300	P	P	03 11 57.4	+0.3
KBA	Koelnbreinsper	28.44	296	⇑iP	P	03 11 59.4	+1.1
comp=Z,4.1nm,0.5s							
KBA	Koelnbreinsper	28.44	296	P	P	03 11 59.4	+1.1
comp=Z,4.1nm,0.5s							
CLL	Collm	28.86	305	⇑iP	P	03 12 03.2	+1.4
CLL				e		03 12 20.0	
CLL	Collm	28.86	305	⇑iP	P	03 12 03.2	+1.4
CLL				eSP	sP	03 12 20.0	0.0
CLL				e		03 12 44.0	
WTTA	Wattenberg	29.60	297	⇑iP	P	03 12 08.9	+0.3
comp=Z,5.4nm,0.4s							
WTTA	Wattenberg	29.60	297	P	P	03 12 08.9	+0.3
comp=Z,5.4nm,0.4s							
FETA	Feichten	30.23	296	⇑iP	P	03 12 14.7	+0.5
comp=Z,3.7nm,1.0s,SNR=4.1							
FETA	Feichten	30.23	296	P	P	03 12 14.7	+0.5
comp=Z,3.7nm,1.0s,SNR=4.1							
HFS	Hagfors	30.67	322	P	P	03 12 17.8	+0.1
HFS				pP	pP	03 12 29.8	-0.4
HFS	Hagfors	30.67	322	P	P	03 12 17.8	+0.1
comp=Z,2.8nm,0.5s,baz=110,slow=8.5,SNR=25							
HFS				pP	pP	03 12 29.8	-0.4
comp=Z,2.7nm,0.6s,baz=120,slow=8.8,SNR=6.9							
HFS	Hagfors	30.67	322	P	P	03 12 17.8	+0.1
HFS				pP	pP	03 12 29.8	-0.4
DAVA	Damuels	30.80	297	⇑iP	P	03 12 19.1	-0.1
comp=Z,5.0nm,0.9s							
DAVA	Damuels	30.80	297	P	P	03 12 19.1	-0.1
comp=Z,5.0nm,0.9s							
DAVOX	Davos/Dischmat	30.83	296	P	P	03 12 19.9	+0.4
DAVOX	Davos/Dischmat	30.83	296	P	P	03 12 19.9	+0.4
comp=Z,2.2nm,0.5s,baz=119,slow=8.4,SNR=8.3							
DAVOX				LR	LR	03 26 37.6	
comp=Z,39nm,18.2s,baz=79,slow=40							
DAVOX	Davos/Dischmat	30.83	296	P	P	03 12 19.9	+0.4
STU	Stuttgart	31.20	300	eP	P	03 12 23.1	+0.6
STU				pmax	pmax		
comp=Z,11nm,0.7s							
STU	Stuttgart	31.20	300	eP	P	03 12 23.1	+0.6
comp=Z,11nm,0.7s							
STU	Stuttgart	31.20	300	eP	P	03 12 23.1	+0.6
comp=Z,11nm,0.7s							
TUE	Stuetta	31.22	295	eP	P	03 12 22.7	-0.3
comp=Z,3.1nm,0.8s							
TUE	Stuetta	31.22	295	eP	P	03 12 22.7	-0.3
comp=Z,3.1nm,0.8s							
KEV	Kevo	32.01	344	eP	P	03 12 30.3	+0.9
KEV				pmax	pmax		
comp=Z,2.0nm,0.6s							
KEV	Kevo	32.01	344	ep	P	03 12 30.3	+0.9
comp=Z,2.0nm,0.6s							
KEV	Kevo	32.01	344	eP	P	03 12 30.3	+0.9
comp=Z,2.0nm,0.6s							
NOA	NORSAR Array B	32.14	323	P	P	03 12 30.6	-0.2
NOA				pP	pP	03 12 42.8	-0.5
NOA	NORSAR Array B	32.14	323	P	P	03 12 30.6	-0.2
comp=Z,1.0nm,0.6s,baz=114,slow=8.4,SNR=14							
NOA				pP	pP	03 12 42.8	-0.5
comp=Z,1.2nm,0.5s,baz=112,slow=8.4,SNR=6.0							
NOA				LR	LR	03 26 45.9	
comp=Z,47nm,19.7s,baz=110,slow=38							
NOA	NORSAR Array B	32.14	323	P	P	03 12 30.5	-0.2
NOA				pP	pP	03 12 42.8	-0.5
ARCES	ARCESS Array B	32.17	343	P	P	03 12 31.8	+1.0
ARCES	ARCESS Array B	32.17	343	P	P	03 12 31.8	+1.0
comp=Z,0.7nm,0.7s,baz=144,slow=10,SNR=7.4							
ARCES				LR	LR	03 27 21.3	
comp=Z,46nm,18.3s,baz=156,slow=40							
ARCES	ARCESS Array B	32.17	343	P	P	03 12 31.8	+1.0
NAO01	NORSAR Array S	32.23	323	eP	P	03 12 32.0	+0.6
comp=Z,2.0nm,0.6s							
NAO01	NORSAR Array S	32.23	323	eP	P	03 12 32.0	+0.6
comp=Z,2.0nm,0.6s							
CDF	Champ du Feu	32.49	299	eP	P	03 12 33.8	-0.1
comp=Z,3.5nm,0.6s							
SENIN	Lac Senin/Sane	32.64	295	eP	P	03 12 35.6	+0.1
comp=Z,3.6nm,0.6s							
SENIN	Lac Senin/Sane	32.64	295	eP	P	03 12 35.6	+0.1
comp=Z,3.6nm,0.6s							
LPG	La Plagne	33.12	294	eP	P	03 12 40.0	+0.2
HAU	Haudompre	33.13	298	eP	P	03 12 39.6	+0.1
comp=Z,13nm,0.8s							
HAU				eR			
comp=Z,52nm,23.0s							
LPL	La Plagne	33.14	294	eP	P	03 12 40.0	+0.2
WLF	Walferdange	33.17	301	eP	P	03 12 39.6	-0.2
WLF				pmax	pmax		
comp=Z,9.0nm,1.1s							
WLF	Walferdange	33.17	301	eP	P	03 12 39.6	-0.2
comp=Z,9.5nm,1.1s							
WLF	Walferdange	33.17	301	eP	P	03 12 39.6	-0.2
comp=Z,9.5nm,1.1s							
MBDF	Montbardon	33.23	292	eP	P	03 12 40.8	+0.3
comp=Z,8.1nm,0.6s							
BNI	Bardonecchia	33.24	293	eP	P	03 12 40.9	+0.3
BNI				pmax	pmax		
comp=Z,9.0nm,1.4s							
BNI	Bardonecchia	33.24	293	eP	P	03 12 40.9	+0.3
comp=Z,9.1nm,1.4s							
BNI	Bardonecchia	33.24	293	eP	P	03 12 40.9	+0.3
comp=Z,9.1nm,1.4s							
CABF	La Chapelle	33.44	296	eP	P	03 12 42.5	+0.2
comp=Z,8.3nm,0.6s							
FRF	La Foret Royal	33.52	290	eP	P	03 12 43.1	+0.2
comp=Z,8.3nm,0.8s							
KEST	Kesra	33.69	276	eP	P	03 12 45.3	+0.7
KEST	Kesra	33.69	276	P	P	03 12 45.2	+0.7
comp=Z,0.5nm,0.6s,baz=310,slow=11,SNR=4.7							
KEST	Kesra	33.69	276	eP	P	03 12 45.3	+0.7
MEZF	Maizieres J'vi	33.96	299	eP	P	03 12 47.2	+0.6
GIVF	Givet	34.01	302	eP	P	03 12 48.8	+1.7
comp=Z,6.9nm,0.6s							
LOR	Lormes	34.88	297	eP	P	03 12 54.7	0.0
comp=Z,7.1nm,0.8s							
LOR				eR			
comp=Z,33nm,18.2s							
SMF	Signal de Mont	34.97	296	eP	P	03 12 55.7	+0.2
comp=Z,8.7nm,0.9s							
AVF	Avril sur Loir	35.29	297	eP	P	03 12 58.5	+0.4
comp=Z,9.0nm,0.8s							
TCF	Toulx Ste Croi	36.14	296	eP	P	03 13 06.3	+0.8
CAF	Calviac	36.49	294	eP	P	03 13 09.4	+0.9
ZAK	Zakamensk	36.54	57	eP	pP	03 13 23.2	+1.6
ZAK				pmax	pmax		
comp=Z,4.0nm,1.1s							
TLY	Talaya	36.68	55	eP	pP	03 13 25.2	+2.5
TLY				pmax	pmax		
comp=Z,5.0nm,1.4s							
LDF	La Druitiere	37.37	300	eP	P	03 13 16.0	+0.2
comp=Z,9.2nm,0.8s							
LDF	La Druitiere	37.37	300	eP	P	03 13 16.0	+0.2
comp=Z,4.6nm,0.8s							
FLN	La Foliniere	37.58	301	eP	P	03 13 18.0	+0.4
comp=Z,9.7nm,0.7s							
FLN				eR			
comp=Z,54nm,20.2s							
FLN	La Foliniere	37.58	301	eP	P	03 13 18.0	+0.4
comp=Z,4.8nm,0.7s							
MFF	Saint Martin d	37.69	297	eP	P	03 13 18.8	+0.2
comp=Z,6.8nm,0.8s							
MFF	Saint Martin d	37.69	297	eP	P	03 13 18.8	+0.2
comp=Z,3.4nm,0.8s							
GRR	Gorron	37.88	300	eP	P	03 13 20.8	+0.6
comp=Z,10nm,0.7s							
GRR	Gorron	37.88	300	eP	P	03 13 20.8	+0.6
comp=Z,5.2nm,0.7s							
EKA	Eskdalemuir Ar	38.72	311	P	P	03 13 27.7	+0.6
EKA				PcP	PcP	03 15 39.4	+1.4
EKA	Eskdalemuir Ar	38.72	311	P	P	03 13 27.7	+0.6
comp=Z,1.4nm,0.4s,baz=97,slow=8.8,SNR=34							
EKA				PcP	PcP	03 15 39.4	+1.4
comp=Z,0.6nm,0.5s,baz=86,slow=2.8,SNR=5.2							
EKA	Eskdalemuir Ar	38.72	311	P	P	03 13 27.7	+0.6
comp=Z,2.0nm,0.4s							
ESK	Eskdalemuir	38.74	311	iP	P	03 13 28.0	+0.7
ESK	Eskdalemuir	38.74	311	eP	P	03 13 28.0	+0.7
comp=Z,7.8nm,1.0s							
ESK	Eskdalemuir	38.74	311	eP	P	03 13 28.0	+0.7
comp=Z,7.8nm,1.0s							
SONM	Songino Array	38.90	61	P	P	03 13 30.7	+1.8
SONM				pP	pP	03 13 42.6	+0.9
SONM	Songino Array	38.90	61	P	P	03 13 30.7	+1.8
comp=Z,0.4nm,0.5s,baz=279,slow=9.6,SNR=3.1							
SONM				pP	pP	03 13 42.6	+0.9
comp=Z,1.5nm,0.7s,baz=277,slow=9.8,SNR=10							
SONM	Songino Array	38.90	61	P	P	03 13 30.7	+1.8
comp=Z,2.0nm,0.7s							
SONM				pP	pP	03 13 42.6	+0.9
SGMF	Saint Gilles	39.02	300	eP	P	03 13 30.5	+0.7
comp=Z

HHC				PcS	**PcS**	03 19 50.2	+0.1
HHC				S	**S**	03 20 43.3	-0.6
HHC				sS	**sS**	03 21 04.1	-1.4
HHC				SS	SS	03 23 53.6	-10
HHC				ScS	**ScS**	03 24 05.7	-1.6
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
HHC				LR	LR		
	comp=N,510nm,15.7s						
HHC				LR	LR		
	comp=E,370nm,16.2s						
HHC				LR	LR		
	comp=Z,710nm,15.3s						
KMI	**Kunming**	**44.67**	**94**	P	**P**	03 14 19.0	+2.5
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.73**	**105**	P	**P**	03 14 26.1	+1.4
CMAR	**Chiang Mai Arr**	**45.73**	**105**	P	**P**	03 14 26.1	+1.4
	comp=Z,0.8nm,0.4s,baz=303,slow=8.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**45.73**	**105**	P	**P**	03 14 26.1	+1.4
	comp=Z,1.0nm,0.4s						
GYA	**Guiyang**	**46.95**	**90**	*e*P	**P**	03 14 36.0	+1.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**47.88**	**69**	P	P	03 14 44.8	+3.7
BJI				pmax	pmax		
	comp=Z,15nm,0.5s						
TOA0	**Torodi Ar. Sit**	**51.72**	**253**	*e*P	**P**	03 15 10.3	-0.3
TOA0	**Torodi Ar. Sit**	**51.72**	**253**	*e*P	**P**	03 15 10.3	-0.3
TORD	**Torodi Ar. Bea**	**51.72**	**253**	P	**P**	03 15 10.2	-0.5
TORD	**Torodi Ar. Bea**	**51.72**	**253**	P	**P**	03 15 10.2	-0.5
	comp=Z,0.7nm,0.5s,baz=37,slow=7.2,SNR=16						
TORD	**Torodi Ar. Bea**	**51.72**	**253**	P	**P**	03 15 10.1	-0.5
CN2	**Changchun**	**52.78**	**61**	*e*P	**P**	03 15 20.7	+2.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**55.16**	**58**	P	**P**	03 15 36.4	+0.9
MDJ				pP	**pP**	03 15 48.0	-0.8
MDJ				PP	**PP**	03 17 40.0	+1.1
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
USRK	**Ussuriysk Arra**	**56.89**	**58**	P	**P**	03 15 48.9	+1.0
	comp=Z,0.7nm,0.5s,baz=126,slow=12,SNR=5.1						
KSAR	**Wonju Array Be**	**57.25**	**67**	P	**P**	03 15 51.7	+1.2
KSAR				pP	**pP**	03 16 04.5	+0.6
KSAR	**Wonju Array Be**	**57.25**	**67**	P	**P**	03 15 51.7	+1.2
KSAR				pP	**pP**	03 16 04.5	+0.6
KSRS	**Korea Array**	**57.27**	**67**	P	**P**	03 15 51.7	+1.1
	comp=Z,1.0nm,0.5s,baz=289,slow=6.9,SNR=3.5						
KSRS				pP	**pP**	03 16 04.5	+0.5
	comp=Z,0.8nm,0.5s,baz=293,slow=6.5,SNR=2.4						
KSRS	**Korea Array**	**57.27**	**67**	P	**P**	03 15 51.7	+1.1
	comp=Z,1.0nm,0.5s						
KIC	**Kosan Boka**	**60.95**	**252**	*e*P	**P**	03 16 16.8	+0.4
	comp=Z,81nm,1.5s						
TIC	**Toumodi**	**60.96**	**253**	*e*P	**P**	03 16 15.0	-1.5
	comp=Z,140nm,1.8s						
LIC	**Lamto**	**61.25**	**252**	*e*P	**P**	03 16 18.4	0.0
	comp=Z,22nm,0.8s						
LIC	**Lamto**	**61.25**	**252**	*e*P	**P**	03 16 18.7	+0.3
	comp=Z,51nm,1.1s						
LBTB	**Lobatse**	**69.78**	**206**	*e*P	**P**	03 17 14.8	+1.5
	comp=Z,9.8nm,0.7s						
LBTB	**Lobatse**	**69.78**	**206**	*e*P	**P**	03 17 14.8	+1.5
	comp=Z,9.8nm,0.7s						
BOSA	**Boshof**	**73.24**	**204**	*e*P	**P**	03 17 34.5	+0.4
	comp=Z,7.1nm,0.9s						
BOSA	**Boshof**	**73.24**	**204**	P	**P**	03 17 35.0	+0.9
	comp=Z,3.0nm,0.7s,baz=30,slow=14,SNR=6.3						
BOSA	**Boshof**	**73.24**	**204**	*e*P	**P**	03 17 34.5	+0.4
	comp=Z,7.1nm,0.9s						
ILAR	**Eielson Array**	**73.90**	**8**	P	**P**	03 17 38.6	+1.1
ILAR				pP	**pP**	03 17 51.4	0.0
ILAR	**Eielson Array**	**73.90**	**8**	P	**P**	03 17 38.6	+1.1
	comp=Z,0.3nm,0.9s,baz=351,slow=4.6,SNR=4.1						
ILAR				pP	**pP**	03 17 51.4	0.0
	comp=Z,0.2nm,0.5s,baz=309,slow=2.7,SNR=2.7						
ILAR	**Eielson Array**	**73.90**	**8**	P	**P**	03 17 38.6	+1.1
ILAR				pP	**pP**	03 17 51.3	0.0
WRA	**Warramunga Arr**	**97.10**	**110**	P	**P**	03 19 35.1	-0.1
WRA				pP	**pP**	03 19 48.6	-0.7
WRA	**Warramunga Arr**	**97.10**	**110**	P	**P**	03 19 35.1	-0.1
	comp=Z,0.6nm,0.9s,baz=354,slow=6.7,SNR=4.0						
WRA				pP	**pP**	03 19 48.7	-0.7
	comp=Z,0.8nm,0.7s,baz=349,slow=2.7,SNR=3.3						
WRA	**Warramunga Arr**	**97.10**	**110**	P	**P**	03 19 35.1	-0.1
WRA				pP	**pP**	03 19 48.7	-0.7
CPUP	**Villa Florida**	**120.86**	**260**	PKP	**PKPdf**	03 24 54.8	-0.2
CPUP	**Villa Florida**	**120.86**	**260**	PKP	**PKPdf**	03 24 54.8	-0.2
	comp=Z,0.7nm,0.6s,baz=194,slow=19,SNR=2.8						
CPUP	**Villa Florida**	**120.86**	**260**	PKIKP	**PKPdf**	03 24 54.8	-0.2
LPAZ	**La Paz**	**123.26**	**277**	PKP	**PKPdf**	03 25 00.3	-0.4
LPAZ	**La Paz**	**123.26**	**277**	PKP	**PKPdf**	03 25 00.3	-0.4
	comp=Z,0.8nm,0.7s,baz=240,slow=1.9,SNR=3.6						
LPAZ	**La Paz**	**123.26**	**277**	PKIKP	**PKPdf**	03 25 00.3	-0.4

CSEM ***07*** *03:08:01.8±0.2, 42°.28N×19°.52E, h17km±2km, ML1.8, Error ellipse: s-maj=3.8km s-min=2.8km az=130.0*
ISCJB ***07*** *03:08:02.5±0.6, 42°.24N±0°.03×19°.51E±0°.04, h16km±7km, Error ellipse: s-maj=5.7km s-min=4.0km az=140.7*
PDG ***07*** *03:08:02.4±0.2, 42°.29N×19°.49E, h18km, ML1.9/10, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
BEO ***07*** *03:08:03.6±0.4, 42°.31N×19°.47E, h10km±5km, ML1.8/4*
ISC 07 03:08:02.3±1.0, 42°.29N±0°.02×19°.49E±0°.02, h14km±7km, n35, σ0°.78/66, 7C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.23**	**309**	*e*Pg	**Pg**	03 08 07.5	+0.3
PDG				*e*Sg	**Sb**	03 08 11.9	-0.2
PDG	**Podgorica**	**0.23**	**309**	*e*Pg	**Pg**	03 08 07.5	+0.3
PDG				*e*Sg	**Sb**	03 08 11.9	-0.2
TTG	**Podgorica**	**0.23**	**309**	⇑*i*Pg	**Pg**	03 08 07.5	+0.3
TTG				*e*Sg	**Sb**	03 08 12.2	+0.1
DRME	**Dracevica, Mon**	**0.25**	**246**	⇓*i*Pg	**Pg**	03 08 07.5	-0.1
DRME				*e*Sg	**Sb**	03 08 12.8	0.0
DRME	**Dracevica, Mon**	**0.25**	**246**	⇓*i*Pg	**Pg**	03 08 07.5	-0.1
DRME				*e*Sg	**Sb**	03 08 12.8	0.0
ULC	**Ulcinj**	**0.37**	**210**	⇑*i*Pg	**Pg**	03 08 09.7	-0.1
ULC				*e*Sg	**Sb**	03 08 16.2	-0.1
ULC	**Ulcinj**	**0.37**	**210**	⇑*i*Pg	**Pg**	03 08 09.7	-0.1
ULC				*e*Sg	**Sb**	03 08 16.2	-0.1
BUM	**Brajici-Budva**	**0.44**	**272**	⇓*i*Pg	**Pg**	03 08 11.2	+0.1
BUM				*e*Sg	**Sb**	03 08 18.7	+0.2
BUM	**Brajici-Budva**	**0.44**	**272**	⇓*i*Pg	**Pg**	03 08 11.2	+0.1
BUM				*e*Sg	**Sb**	03 08 18.7	+0.2
PVY	**Plav**	**0.46**	**48**	⇑*i*Pg	**Pg**	03 08 11.5	0.0
PVY				*e*Sg	**Sb**	03 08 19.6	+0.5
PVY	**Plav**	**0.46**	**48**	⇑*i*Pg	**Pg**	03 08 11.5	0.0
PVY				*e*Sg	**Sb**	03 08 19.6	+0.5
NKME	**Niksic**	**0.62**	**321**	⇓*i*Pg	**Pg**	03 08 13.7	-0.7
NKME				*e*Sg	**Sb**	03 08 23.4	-0.2
NKME	**Niksic**	**0.62**	**321**	⇓*i*Pg	**Pg**	03 08 13.7	-0.7
NKME				*e*Sg	**Sb**	03 08 23.4	-0.2
BEY	**Berane**	**0.66**	**27**	⇓*i*Pg	**Pg**	03 08 14.9	-0.2
BEY				*e*Sg	**Sb**	03 08 25.2	+0.6
IVA	**Berane**	**0.66**	**27**	⇓*i*Pg	**Pg**	03 08 14.9	-0.2
IVA				*e*Sg	**Sb**	03 08 25.2	+0.6
HCY	**Herceg Novi**	**0.76**	**283**	⇑*i*Pg	**Pb**	03 08 16.5	-0.7
HCY				*e*Sg	**Sg**	03 08 27.9	+1.0
HCY	**Herceg Novi**	**0.76**	**283**	⇑*i*Pg	**Pb**	03 08 16.5	-0.7
HCY				*e*Sg	**Sg**	03 08 27.9	+1.0
BRY	**Bratogost**	**0.93**	**311**	*e*Pg	**Pb**	03 08 19.8	-0.5
BRY				*e*Sg	**Sn**	03 08 34.4	0.0
BRY	**Bratogost**	**0.93**	**311**	*e*Pg	**Pb**	03 08 19.8	-0.5
BRY				*e*Sg	**Sn**	03 08 34.4	0.0
TIR	**Tirane**	**0.98**	**163**	*e*Pg	**Pb**	03 08 20.3	-0.7
TIR				*e*Sg	**Sn**	03 08 36.7	+1.4
TIR	**Tirane**	**0.98**	**163**	*e*Pg	**Pb**	03 08 20.3	-0.7
SJES	**Sjenica**	**1.04**	**20**	*e*Pg	**Pb**	03 08 21.5	-0.6
SJES				*e*Sg	**Sn**	03 08 36.8	-0.1
SJES	**Sjenica**	**1.04**	**20**	*e*Pg	**Pb**	03 08 21.5	-0.6
SJES				*e*Sg	**Sn**	03 08 36.8	-0.1
PLE	**Pljevlja**	**1.04**	**356**	⇓*i*Pg	**Pn**	03 08 22.4	-0.2
PLE				*e*Sg	**Sn**	03 08 37.9	+0.8
PLE	**Pljevlja**	**1.04**	**356**	⇓*i*Pg	**Pn**	03 08 22.4	-0.2
PLE				*e*Sg	**Sn**	03 08 37.9	+0.8
STON	**Ston**	**1.45**	**294**	*e*Pn	**Pn**	03 08 27.4	-0.6
STON				Sn	**Sg**	03 08 48.5	-0.3
STON	**Ston**	**1.45**	**294**	*e*Pg	**Pg**	03 08 29.5	-0.5
STON				*e*Sg	**Sg**	03 08 48.7	-0.1
STON	**Ston**	**1.45**	**294**	*e*Pn	**Pn**	03 08 27.4	-0.6
STON	**Ston**	**1.45**	**294**	*e*Pg	**Pg**	03 08 29.5	-0.5
STON				Sn	**Sg**	03 08 48.5	-0.3
BBLS	**Lazići**	**1.58**	**358**	*e*Pg	**Pb**	03 08 31.5	+0.2
BBLS				*e*Sg	**Sg**	03 08 52.2	-0.9
BBLS	**Lazići**	**1.58**	**358**	*e*Pg	**Pb**	03 08 31.5	+0.2
BBLS				*e*Sg	**Sg**	03 08 52.2	-0.9
UDBI	**Udbina**	**3.52**	**311**	*i* Pn	**Pn**	03 08 56.7	+0.1
UDBI				Sn	**Sn**	03 09 41.5	+3.4
UDBI	**Udbina**	**3.52**	**311**	*i* Pn	**Pn**	03 08 56.7	+0.1
UDBI				Sn	**Sn**	03 09 41.4	+3.4
NVLJ	**Novalja**	**4.06**	**306**	*e*Pn	Pn	03 09 00.3	-3.7
NVLJ				Sn	**Sn**	03 09 51.2	-0.1
NVLJ	**Novalja**	**4.06**	**306**	*e*Pn	Pn	03 09 00.2	-3.7
NVLJ				Sn	**Sn**	03 09 51.2	-0.1

ROM 07 03:18:35.7±0.2, 42°.28N×13°.50E, h6km±1km, Md1.7/4, Ml1.3/2, Error ellipse: s-maj=2.1km s-min=0.6km az=14.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.06**	**100**	Pg	Pg	03 18 37.6	+0.2
FAGN				Sg	Sg	03 18 38.9	+0.3
AQU	**L'Aquila**	**0.11**	**316**	Pg	Pg	03 18 38.4	+0.2
AQU				Sg	Sg	03 18 40.6	+0.8
	37nm,0.1s						
VCEL	**Villa Celiera**	**0.28**	**64**	Pg	Pg	03 18 42.2	+0.9
VCEL				Sg	Sg	03 18 46.5	+1.4

MEX 07 03:18:48.1±0.8, 18°.14N×103°.35W, h10km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.15**	**1**	*i* P	Pg	03 18 50.6	-0.8
MMIG				*i* S	Sg	03 18 53.1	-0.6
R15V		**1.19**	**330**	*e*P	Pb	03 19 06.7	-4.1
R15V				*i* S	Sb	03 19 21.7	-4.6
EZ5V		**1.35**	**350**	*e*P	Pn	03 19 10.4	-3.0
EZ5V				*e*S	Sb	03 19 27.3	-4.2

NIED ***07*** *03:25:00, 45°.90N×151°.90E, h11km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φ8 14.00000°, δ74.00000°, λ84.00000°. NP2:φ8 217.00000°, δ17.00000°, λ111.00000°.*
ISCJB ***07*** *03:25:30.8±0.5, 45°.55N±0°.07×152°.03E±0°.07, h30km, mb3.9/16, Error ellipse: s-maj=10.9km s-min=4.5km az=149.9*
JMA ***07*** *03:25:34.2±0.6, 45°.85N×151°.86E, h30km, M4.5*
MOS ***07*** *03:25:34.7±1.3, 45°.89N×151°.83E, h53km, mb4.5/13, Error ellipse: s-maj=12.7km s-min=10.3km az=139.8*
IDC ***07*** *03:25:36.5±2.7, 45°.91N×151°.81E, h54km±23km, mb3.6/14, mb1 3.8/19, mb1mx3.7/32, mbtmp3.6/19, ML3.6/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/34, Error ellipse: s-maj=25.1km s-min=15.2km az=139.0*
ISC 07 03:25:31.9±0.7, 45°.57N±0°.08×152°.19E±0°.07, h30km, n59, σ1§73/59, mb3.9/16, 3C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.07**	**265**	*c i*PN	**Pn**	03 26 18.5	+0.2
KUR				*i* S	**Sn**	03 26 51.6	-2.3
KUR				pmax	pmax		
	comp=Z,135nm,0.5s						
KUR				pmax	pmax		
	comp=N,67nm,0.3s						
KUR				pmax	pmax		
	comp=E,26nm,0.3s						
KUR				pmax	pmax		
	comp=Z,27μm,0.4s						
KUR				smax	smax		
	comp=E,232nm,0.3s						
KUR				smax	smax		
	comp=N,344μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.76**	**253**	*c i*PN	**Pn**	03 26 43.8	+2.3
YUK				*i* S	**Sn**	03 27 35.6	-0.1
YUK				pmax	pmax		
	comp=N,33nm,0.4s						
YUK				pmax	pmax		
	comp=E,42nm,0.4s						
YUK				pmax	pmax		
	comp=Z,118nm,0.4s						
YUK				smax	smax		
	comp=N,124nm,0.6s						
YUK				smax	smax		
	comp=E,262nm,0.6s						
NEM2	**Nemuro 2**	**5.12**	**247**	P	**Pn**	03 26 46.9	+0.5
NEM2				*e*S	**Sn**	03 27 40.1	-4.3
JRA	**Rausu**	**5.29**	**255**	P	Pn	03 26 51.5	+2.6
JRA				*e*S	**Sn**	03 27 49.6	+0.8
JNK	**Nakash**	**5.70**	**252**	P	**Pn**	03 26 56.3	+1.9
JNK				*e*S	**Sn**	03 27 57.8	-0.9
SKR	**Severo-Kuril's**	**5.75**	**26**	*e*PN	Pn	03 26 51.5	-3.6
JAK	**Akkeshi**	**5.96**	**247**	P	**Pn**	03 26 58.4	+0.3
JTKR	**Abashiri--Toko**	**6.11**	**258**	P	**Pn**	03 27 02.0	+1.9
JAR	**Ashorobuto**	**6.45**	**252**	P	**Pn**	03 27 06.7	+2.0
JAR				*e*S	**Sn**	03 28 15.8	-1.4
JMP	**Maruseppu**	**6.48**	**259**	P	Pn	03 27 07.7	+2.5
JOB	**Onbets**	**6.57**	**249**	P	**Pn**	03 27 07.7	+1.3
JOB				*e*S	**Sn**	03 28 16.7	-3.5
YSS	**Yuzh-Sakhalins**	**6.69**	**285**	*e*PN	Pn	03 27 10.0	+2.0
YSS				*e*S	**Sn**	03 28 22.5	-0.6
YSS				MLR	MLR		
	comp=E,200nm,15.0s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
JKK2	**Kamakawa 2**	**6.94**	**259**	P	Pn	03 27 14.0	+2.5
ASAJ	**Asahikawa**	**6.98**	**261**	P	Pn	03 27 14.7	+2.7
ASAJ	**Asahikawa**	**6.98**	**261**	P	**Pn**	03 27 14.3	+2.3
	comp=Z,2.8nm,0.3s,baz=88,slow=13,SNR=20						
ASAJ				LR	LR	03 29 51.0	
	comp=Z,213nm,19.2s,baz=325,slow=38						
JCH	**Churui**	**7.01**	**248**	P	**Pn**	03 27 12.8	+0.3
JCH				*e*S	**Sn**	03 28 26.6	-4.5
JWK2	**Keihoku**	**7.25**	**272**	P	Pn	03 27 20.5	+4.8
JEM	**Erimo**	**7.44**	**245**	*e*S	**Sn**	03 28 38.7	-3.0
ERM	**Erimo**	**7.44**	**245**	*e*PN	Pn	03 27 20.9	+2.6
JNBK	**Urakawa-nobuka**	**7.57**	**248**	P	**Pn**	03 27 20.3	+0.2
JBT2	**Biratori 2**	**7.60**	**252**	P	**Pn**	03 27 21.1	+0.6
PETK	**Petropavlovsk-**	**8.35**	**23**	*e*PN	Pn	03 27 38.1	+7.2
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.35**	**23**	P	**Pn**	03 27 31.1	+0.3
	comp=Z,0.4nm,0.3s,baz=187,slow=17,SNR=3.1						
JNB	**Noboribetsu**	**8.62**	**253**	P	**Pn**	03 27 35.1	+0.6
JNB				*e*S	**Sn**	03 29 06.6	-3.9
JKB	**Kayabe**	**8.88**	**249**	P	**Pn**	03 27 38.0	-0.1
JKB				*e*S	Sn	03 29 08.8	-8.2
JYM2	**Yakumo 2**	**9.21**	**252**	P	**Pn**	03 27 43.3	+0.6
JANG	**Nango**	**9.39**	**240**	P	**Pn**	03 27 43.7	-1.4
JANG				*e*S	Sn	03 29 18.4	-11
JTM	**Tenmabayashi**	**9.43**	**243**	P	**Pn**	03 27 45.5	-0.1
JTM				*e*S	Sn	03 29 22.1	-8.4
JTH	**Tanohata**	**9.45**	**237**	P	**Pn**	03 27 44.2	-1.7
JTH				*e*S	Sn	03 29 20.5	-11
JSR	**Shiriuchi**	**9.46**	**249**	P	**Pn**	03 27 45.9	-0.1
JOSM	**Okushiri--Mats**	**9.83**	**254**	P	**Pn**	03 27 51.0	-0.1
OFUJ	**Ofunato**	**10.13**	**234**	P	**Pn**	03 27 53.3	-2.0
OFUJ				*e*S	Sn	03 29 39.0	-8.8
JRG	**Rokugo**	**10.53**	**238**	P	**Pn**	03 28 00.7	0.0
JRG				*e*S	Sn	03 29 47.0	-11
JIO	**Ouri**	**10.75**	**232**	P	**Pn**	03 28 03.5	-0.2
JIO				*e*S	Sn	03 29 52.8	-10
MJAR	**Matsushiro Arr**	**13.86**	**234**	P	P	03 28 51.2	-3.0
	comp=Z,0.3nm,0.3s,baz=29,slow=10.0,SNR=3.7						
MAJO	**Matsushiro**	**13.87**	**234**	⇓*e*P	Pn	03 28 49.8	+3.5
MAJO				pmax	pmax		
	comp=Z,29nm,2.8s						
USRK	**Ussuriysk Arra**	**14.39**	**272**	P	**Pn**	03 28 52.1	-1.3
	comp=Z,0.4nm,0.3s,baz=78,slow=13,SNR=8.0						
USRK				LR	LR	03 34 08.9	
	comp=Z,103nm,19.5s,baz=115,slow=36						
KSRS	**Korea Array**	**19.85**	**254**	P	**Pn**	03 30 01.4	-0.5
	comp=Z,0.4nm,0.3s,baz=58,slow=12,SNR=12						
YAK	**Yakutsk**	**21.00**	**330**	*e*P	**P**	03 30 09.0	-3.5
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
SONM	**Songino Array**	**31.14**	**291**	P	**P**	03 31 47.2	-0.7
	comp=N,0.2nm,0.3s,baz=90,slow=5.8,SNR=2.9						
ILAR	**Eielson Array**	**37.87**	**38**	P	**P**	03 32 47.0	+1.4
	comp=N,0.2nm,0.5s,baz=263,slow=5.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**42.79**	**307**	PcP	**PcP**	03 35 17.6	+0.3
	comp=N,0.6nm,0.3s,baz=113,slow=3.3,SNR=3.8						
INK	**Inuvik**	**42.99**	**32**	P	**P**	03 33 29.4	+1.5
	comp=N,1.7nm,0.7s,baz=270,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**46.92**	**298**	*e*P	**P**	03 33 58.2	-1.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**46.92**	**298**	P	**P**	03 33 57.7	-1.8
	comp=Z,1.5nm,0.5s,baz=70,slow=7.6,SNR=22						
MKAR				PcP	**PcP**	03 35 31.6	-0.2
	comp=Z,0.9nm,0.6s,baz=76,slow=2.2,SNR=7.6						
CMAR	**Chiang Mai Arr**	**51.47**	**256**	P	**P**	03 34 35.5	+0.9
	comp=Z,0.5nm,0.3s,baz=35,slow=10.0,SNR=4.3						
AAK	**Ala-Archa**	**53.79**	**297**	*e*P	**P**	03 34 53.4	+1.7
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**55.45**	**318**	*c i*P	**P**	03 35 03.4	+0.1
ARU				S	S	03 42 36.4	-9.5
ARU				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ARCES	**ARCESS Array B**	**58.76**	**341**	P	**P**	03 35 25.2	-1.2
	comp=Z,0.4nm,0.6s,baz=60,slow=7.2,SNR=6.7						
WRA	**Warramunga Arr**	**67.19**	**198**	P	**P**	03 36 25.7	+2.7
	comp=Z,1.0nm,1.1s,baz=12,slow=6.6,SNR=2.6						
NB2	**NORSAR Subarra**	**69.14**	**341**	P	**P**	03 36 33.4	-1.5
	comp=Z,0.8nm,0.4s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**69.14**	**341**	P	**P**	03 36 33.5	-1.3
	comp=Z,1.3nm,0.5s,baz=28,slow=6.2,SNR=5.9						
HFS	**Hagfors**	**69.34**	**339**	P	**P**	03 36 34.6	-1.4
	comp=Z,1.9nm,0.3s,baz=36,slow=4.1,SNR=8.4						
KBZ	**Khabaz**	**71.22**	**314**	P	**P**	03 36 48.0	+0.2
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**71.22**	**314**	P	**P**	03 36 48.0	+0.2
	comp=Z,1.5nm,0.7s,baz=68,slow=4.9,SNR=4.9						
EKA	**Eskdalemuir Ar**	**77.33**	**346**	P	**P**	03 37 22.9	-0.3
	comp=Z,0.9nm,0.3s,baz=19,slow=5.1,SNR=9.3						
MLR	**Muntele Rosu**	**77.66**	**325**	P	**P**	03 37 25.2	-0.2
	comp=Z,0.8nm,0.6s,baz=288,slow=8.5,SNR=6.4						
TXAR	**Lajitas Array**	**78.63**	**60**	P	**P**	03 37 33.6	+2.6
	comp=Z,0.1nm,0.5s,baz=317,slow=4.4,SNR=3.7						
BRTR	**Keskin Array B**	**78.81**	**316**	P	**P**	03 37 31.9	+0.1
	comp=Z,1.0nm,0.8s,baz=65,slow=5.9,SNR=6.0						

BJI ***07*** *03:33:16.7, 51°.72N×15°.43E, h25km, mB4.5/1, mb4.4/2, Ms4.6/1, Ms7 4.3/1*
ISCJB ***07*** *03:33:17.0±0.2, 51°.55N±0°.01×16°.05E±0°.02, h0km, mb4.1/14, MS4.5/2, Error ellipse: s-maj=1.9km s-min=1.6km az=35.4*
CSEM ***07*** *03:33:18.9±0.1, 51°.55N×16°.09E, h0km, mb4.0/8, ML4.4/18, Ms4.0, Error ellipse: s-maj=2.3km s-min=1.9km az=106.0*
LDG ***07*** *03:33:18.6±0.2, 51°.58N×16°.19E, h1km, Ml4.2/15, Error ellipse: s-maj=5.0km s-min=3.0km az=174.0, Suspected Mining induced.*
MOS ***07*** *03:33:18.2±1.2, 51°.63N×16°.13E, h10km, mb4.1/8, Error ellipse: s-maj=7.7km s-min=4.3km az=88.3*
IPEC ***07*** *03:33:18.6±0.2, 51°.58N×16°.23E, h0km, ML3.7/4, Error ellipse: s-maj=1.6km s-min=1.5km az=45.0*
WAR ***07*** *03:33:20.8, 51°.52N×16°.12E*
PRU ***07*** *03:33:20.5, 51°.49N×16°.13E, h0km*
IDC ***07*** *03:33:20.2±0.5, 51°.52N×16°.05E, h0km, mb3.7/9, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, ML3.7/8, Error ellipse: s-maj=10.7km s-min=5.7km az=103.0*
BGR ***07*** *03:33:20.1±0.4, 51°.53N×16°.18E, h1km, ML3.9/15, Error ellipse: s-maj=5.6km s-min=2.2km az=14.0*
STR ***07*** *03:33:22.4±0.1, 51°.60N×15°.62E, h5km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
VIE ***07*** *03:33:22.6±0.6, 51°.27N×16°.02E, h0km±2km, mb3.5/14, ML3.5/14, Ms4.0/2, Error ellipse: s-maj=3.1km s-min=2.1km az=5.0 71 km WNW of Wroclaw Suspected Mining induced.*
UPP ***07*** *03:33:25.4, 51°.88N×15°.89E, h0km, ML3.0, Suspected Mining explosion.*
ISC 07 03:33:18.6±0.4, 51°.51N±0°.02×16°.11E±0°.02, h0km, n297, σ1§52/397, mb4.0/14, 36C-27D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pb**	03 33 33.6	+0.3
KSP

CLL	**Collm**	**1.96 265**	*e*Pn	**Pn**	**03 33 54.0**	**+1.0**
CLL			*e*Pg	**Pg**	**03 33 57.0**	**+0.9**
CLL			*i*		03 34 00.0	
CLL			*e*Sn	**Sn**	**03 34 18.0**	**-0.3**
CLL			*i* Sg	**Sg**	**03 34 23.1**	**+1.7**
	comp=Z,700nm,0.8s					
CLL	**Collm**	**1.96 265**	Pn	**Pn**	**03 33 53.4**	**+0.4**
CLL	**Collm**	**1.96 265**	*e*P	**Pn**	**03 33 54.0**	**+1.0**
CLL			*i* S	**Sg**	**03 34 23.1**	**+1.7**
MORC	**Moravsky Berou**	**1.96 152**	*e*Pn	**Pn**	**03 33 54.0**	**+0.8**
MORC	**Moravsky Berou**	**1.96 152**	Pn	**Pn**	**03 33 54.0**	**+0.8**
MORC			*e*Sg	**Sb**	**03 34 21.1**	**+0.9**
	comp=Z,565nm,0.9s,baz=336					
OKC	**Ostrava-Krasne**	**2.12 141**	*e*Pn	**Pn**	**03 33 55.5**	**+0.2**
OKC			*e*Sg	**Sb**	**03 34 26.3**	**+1.6**
OKC	**Ostrava-Krasne**	**2.12 141**	*e*P	**Pn**	**03 33 55.3**	**0.0**
OKC			*e*		03 34 23.2	
OKC			smax	smax		
	comp=N,432nm,0.5s					
OKC			MLR	MLR		
	comp=Z,500nm,3.8s					
OKC	**Ostrava-Krasne**	**2.12 141**	⇓*e*PN	**Pn**	**03 33 55.3**	**0.0**
OKC			*e*PG	**Pb**	**03 33 58.7**	**+0.8**
OKC			*e*SN	**Sn**	**03 34 23.2**	**+0.9**
OKC			*e*SG	**Sb**	**03 34 26.3**	**+1.6**
	comp=Z,432nm,0.5s					
OKC			AMS	AMS	03 34 40.0	
	comp=Z,500nm,3.8s					
OKC	**Ostrava-Krasne**	**2.12 141**	Pn	**Pn**	**03 33 55.5**	**+0.2**
VRAC	**Vranov**	**2.23 172**	Pn	**Pn**	**03 33 57.9**	**+1.1**
	comp=Z,14nm,0.3s,baz=337,slow=13,SNR=50					
VRAC			Lg	Lg	03 34 30.2	
	comp=Z,45nm,0.3s,baz=82,slow=22,SNR=14					
VRAC	**Vranov**	**2.23 172**	P	**Pn**	**03 33 57.9**	**+1.1**
VRAC			*e*Sg	**Sg**	**03 34 30.2**	**+0.1**
	comp=Z,475nm,0.7s,baz=354					
TREC	**Trest**	**2.25 190**	*i* P	**Pn**	**03 33 58.4**	**+1.2**
TREC			*e*		03 34 26.0	
TREC			smax	smax		
	comp=N,204nm,0.3s					
TREC			MLR	MLR		
	comp=Z,500nm,4.3s					
TREC	**Trest**	**2.25 190**	⇓*i*PN	**Pn**	**03 33 58.4**	**+1.2**
TREC			*i* PG	**Pg**	**03 34 01.7**	**-0.1**
TREC			*e*SN	**Sn**	**03 34 26.0**	**+0.3**
TREC			*e*SG	**Sg**	**03 34 31.8**	**+0.8**
	comp=Z,204nm,0.3s					
TREC			AMS	AMS	03 34 50.0	
	comp=Z,500nm,4.3s					
TREC	**Trest**	**2.25 190**	Pn	**Pn**	**03 33 58.4**	**+1.2**
TREC	**Trest**	**2.25 190**	Pg	**Pg**	**03 34 01.7**	**-0.1**
TREC			Sn	**Sn**	**03 34 26.0**	**+0.3**
TREC			Sg	**Sg**	**03 34 31.8**	**+0.8**
	comp=Z,204nm,0.3s					
KRUC	**Moravsky**	**2.46 176**	*e*Pn	**Pn**	**03 34 01.0**	**+1.0**
	baz=358					
KRUC			*e*Sg	**Sg**	**03 34 37.5**	**0.0**
	comp=Z,260nm,0.7s,baz=358					
TANN	**Tannenbergstha**	**2.55 246**	*e*Pn	**Pn**	**03 34 02.6**	**+1.3**
TANN	**Tannenbergstha**	**2.55 246**	Pn	**Pn**	**03 34 02.6**	**+1.3**
WERD	**Werda**	**2.63 248**	*e*Pn	**Pn**	**03 34 03.5**	**+1.2**
WERD	**Werda**	**2.63 248**	Pn	**Pn**	**03 34 03.5**	**+1.2**
NKC	**Novy Kostel**	**2.65 243**	*e*P	**Pn**	**03 34 03.6**	**+1.0**
NKC			*e*		03 34 45.3	
NKC			smax	smax		
	comp=N,299nm,0.4s					
NKC	**Novy Kostel**	**2.65 243**	⇓*e*PN	**Pn**	**03 34 03.6**	**+1.0**
NKC			*e*PG	**Pb**	**03 34 08.1**	**+1.2**
NKC			*e*SG	**Sg**	**03 34 45.3**	**+1.7**
	comp=N,299nm,0.4s					
NKC	**Novy Kostel**	**2.65 243**	Pn	**Pn**	**03 34 03.6**	**+1.0**
NKC	**Novy Kostel**	**2.65 243**	Pg	**Pb**	**03 34 08.1**	**+1.2**
NKC			Sg	**Sg**	**03 34 45.3**	**+1.7**
	comp=N,299nm,0.4s					
OJC	**Ojcow**	**2.67 117**	*e*Pn	**Pn**	**03 34 01.9**	**-1.0**
OJC			*e*Pg	**Pg**	**03 34 09.7**	**-0.1**
OJC			*e*Sg	**Sg**	**03 34 44.4**	**-0.1**
OJC	**Ojcow**	**2.67 117**	*e*P	**Pn**	**03 34 01.9**	**-1.0**
OJC			*e*		03 34 44.3	
OJC	**Ojcow**	**2.67 117**	Pn	**Pn**	**03 34 01.9**	**-1.0**
JAVC	**Velka Javorina**	**2.84 159**	*e*Sg	**Sg**	**03 34 52.1**	**+2.4**
	comp=N,271nm,0.8s					
KHC	**Kasperske Hory**	**2.88 215**	⇓*i*P	**Pn**	**03 34 06.8**	**+1.0**
KHC			*e*		03 34 41.2	
KHC			smax	smax		
	comp=N,157nm,0.4s					
KHC			MLR	MLR		
	comp=Z,400nm,3.2s					
KHC	**Kasperske Hory**	**2.88 215**	⇓*i*PN	**Pn**	**03 34 06.8**	**+1.0**
KHC			*e*PG	**Pg**	**03 34 13.0**	**-0.8**
KHC			*e*SN	**Sn**	**03 34 41.2**	**0.0**
KHC			*e*SG	**Sg**	**03 34 50.7**	**-0.4**
	comp=Z,157nm,0.4s					
KHC			AMS	AMS	03 35 10.0	
	comp=Z,400nm,3.2s					
KHC	**Kasperske Hory**	**2.88 215**	Pn	**Pn**	**03 34 06.8**	**+1.0**
KHC	**Kasperske Hory**	**2.88 215**	Pg	**Pg**	**03 34 13.0**	**-0.8**
KHC			Sn	**Sn**	**03 34 41.2**	**0.0**
KHC			Sg	**Sg**	**03 34 50.7**	**-0.4**
	comp=Z,157nm,0.4s					
BEL	**Belsk**	**2.94 82**	*e*Pg	**Pn**	**03 34 09.0**	**+2.5**
BEL			*e*Sg	**Sg**	**03 34 56.6**	**+3.7**
MOX	**Moxa**	**2.96 255**	*e*Pn	**Pn**	**03 34 07.8**	**+0.9**
MOX			*e*Pg	**Pg**	**03 34 16.1**	**+0.7**
MOX			*e*Sg	**Sg**	**03 34 56.1**	**+2.3**
MOX	**Moxa**	**2.96 255**	*e*P	**Pn**	**03 34 07.8**	**+0.9**
MOX	**Moxa**	**2.96 255**	Pn	**Pn**	**03 34 07.8**	**+0.9**
MANZ	**Manzenberg**	**2.96 241**	*e*Pn	**Pn**	**03 34 08.3**	**+1.4**
MANZ			*e*Pg	**Pg**	**03 34 17.1**	**+1.7**
MANZ	**Manzenberg**	**2.96 241**	Pn	**Pn**	**03 34 08.3**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.04 236**	*e*Pn	**Pn**	**03 34 09.0**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.04 236**	Pn	**Pn**	**03 34 09.0**	**+1.1**
GERES	**GERESS Array B**	**3.08 211**	Pn	**Pn**	**03 34 09.7**	**+1.0**
	comp=Z,12nm,0.3s,baz=32,slow=12,SNR=316					
GERES			Pg	**Pg**	**03 34 17.6**	**-0.1**
	comp=Z,22nm,0.3s,baz=28,slow=15,SNR=81					
GERES			Lg	Lg	03 34 57.9	
	comp=Z,32nm,0.3s,baz=26,slow=27,SNR=12					
GERES	**GERESS Array B**	**3.08 211**	P	**Pn**	**03 34 09.7**	**+1.0**
	comp=Z,12nm,0.3s					
SMOL	**Smolenice**	**3.12 164**	*e*P	**Pn**	**03 34 11.2**	**+2.2**
SMOL	**Smolenice**	**3.12 164**	*e*PN	**Pn**	**03 34 11.2**	**+2.2**
SMOL	**Smolenice**	**3.12 164**	*e*P	**Pn**	**03 34 11.2**	**+2.2**
WET	**Wettzell**	**3.15 222**	*e*Pn	**Pn**	**03 34 10.5**	**+1.1**
WET	**Wettzell**	**3.15 222**	*e*P	**Pn**	**03 34 10.5**	**+1.1**
WET	**Wettzell**	**3.15 222**	Pn	**Pn**	**03 34 10.5**	**+1.1**
ZST	**Bratislava**	**3.38 169**	*e*P	**Pn**	**03 34 14.4**	**+1.8**
ZST			*e*		03 35 02.2	
ZST	**Bratislava**	**3.38 169**	*e*PN	**Pn**	**03 34 14.4**	**+1.8**
ZST			*e*SN	**Sb**	**03 35 02.2**	**+1.2**
ZST	**Bratislava**	**3.38 169**	*e*P	**Pn**	**03 34 14.4**	**+1.8**
NIE	**Niedzica**	**3.41 126**	*e*P	**Pg**	**03 34 25.7**	**+1.8**
VYHS	**Vyhne**	**3.49 149**	*e*P	**Pn**	**03 34 14.7**	**+0.5**
VYHS	**Vyhne**	**3.49 149**	*e*PN	**Pn**	**03 34 14.7**	**+0.5**
VYHS			*e*SN	**Sg**	**03 35 08.8**	**-2.0**
VYHS	**Vyhne**	**3.49 149**	*e*P	**Pn**	**03 34 14.7**	**+0.5**
CONA	**Conrad Observa**	**3.59 183**	⇓*i*Pn	**Pn**	**03 34 16.8**	**+1.2**
	SNR=24					
CONA			⇓*i*Sg	**Sg**	**03 35 14.5**	**+0.6**
	comp=Z,143nm,0.4s					
CONA	**Conrad Observa**	**3.59 183**	Pn	**Pn**	**03 34 16.8**	**+1.2**
	SNR=24					
CONA			Sg	**Sg**	**03 35 14.5**	**+0.6**
	comp=Z,143nm,0.4s					
GRA1	**Grafenberg Arr**	**3.60 242**	Pn	**Pn**	**03 34 17.4**	**+1.6**
GRF	**Grafenberg Arr**	**3.60 242**	*e*Pn	**Pn**	**03 34 17.4**	**+1.6**
GRF	**Grafenberg Arr**	**3.60 242**	*e*P	**Pn**	**03 34 17.4**	**+1.6**
BSD	**Bornholm Skovb**	**3.68 349**	*i* P	**Pn**	**03 34 16.1**	**-0.6**
BSD			*i* S	**Sn**	**03 34 56.8**	**-4.0**
MOA	**Molln**	**3.85 199**	⇓*i*Pn	**Pn**	**03 34 20.6**	**+1.4**
	SNR=50					
MOA			⇑*i*Sg	**Sg**	**03 35 23.0**	**+0.6**
	comp=Z,126nm,0.5s					
MOA	**Molln**	**3.85 199**	Pn	**Pn**	**03 34 20.6**	**+1.4**
	SNR=50					
MOA			Sg	**Sg**	**03 35 23.0**	**+0.6**
	comp=Z,126nm,0.5s					
STHS	**Stebnicka Huta**	**3.89 121**	*e*P	**Pn**	**03 34 21.2**	**+1.5**
STHS	**Stebnicka Huta**	**3.89 121**	*e*PN	**Pn**	**03 34 21.2**	**+1.5**
STHS	**Stebnicka Huta**	**3.89 121**	*e*P	**Pn**	**03 34 21.2**	**+1.5**
KECS	**Kecovo**	**4.14 135**	*e*P	**Pn**	**03 34 23.3**	**+0.2**
KECS	**Kecovo**	**4.14 135**	*e*PN	**Pn**	**03 34 23.3**	**+0.2**
KECS			*e*SN	**Sg**	**03 35 29.5**	**-2.1**
KECS	**Kecovo**	**4.14 135**	*e*P	**Pn**	**03 34 23.3**	**+0.2**
ARSA	**Arzberg**	**4.28 185**	⇓*i*Pn	**Pn**	**03 34 26.4**	**+1.4**
	SNR=14					
ARSA			⇓*i*Sg	**Sg**	**03 35 34.9**	**-1.2**
	comp=Z,164nm,0.7s					
ARSA	**Arzberg**	**4.28 185**	Pn	**Pn**	**03 34 26.4**	**+1.4**
	SNR=14					
ARSA			Sg	**Sg**	**03 35 34.9**	**-1.2**
	comp=Z,164nm,0.7s					
CRVS	**Cervenica-Dubn**	**4.32 125**	*e*P	**Pn**	**03 34 26.8**	**+1.3**
CRVS	**Cervenica-Dubn**	**4.32 125**	*e*PN	**Pn**	**03 34 26.8**	**+1.3**
CRVS	**Cervenica-Dubn**	**4.32 125**	*e*P	**Pn**	**03 34 26.8**	**+1.3**
PSZ	**Piszkesteto**	**4.35 144**	⇑*i*P	**Pn**	**03 34 28.0**	**+1.9**
PSZ	**Piszkesteto**	**4.35 144**	⇑*e*	**Pn**	**03 34 27.7**	**+1.6**
PSZ	**Piszkesteto**	**4.35 144**	⇑*e*P	**Pn**	**03 34 27.7**	**+1.6**
CSKK	**Cs^‡kako**	**4.38 160**	⇑*e*	**Pn**	**03 34 27.7**	**+1.3**
PKSG		**4.38 159**	⇑*e*	**Pn**	**03 34 27.8**	**+1.4**
PKSG		**4.38 159**	⇑*e*P	**Pn**	**03 34 27.8**	**+1.4**
PKST	**T^'s**	**4.44 163**	⇑*e*	**Pn**	**03 34 28.9**	**+1.7**
PKST	**T^'s**	**4.44 163**	⇑*e*P	**Pn**	**03 34 28.9**	**+1.7**
LLD	**Lille Linde**	**4.48 330**	*e*P	**Pn**	**03 34 28.4**	**+0.7**
LLD			*i* S	**Sn**	**03 35 22.0**	**+1.5**
LLD	**Lille Linde**	**4.48 330**	*i* P	**Pn**	**03 34 28.4**	**+0.7**
LLD			*i* S	**Sn**	**03 35 22.0**	**+1.5**
LLD	**Lille Linde**	**4.48 330**	*e*P	**Pn**	**03 34 28.4**	**+0.7**
LLD			*i* S	**Sn**	**03 35 22.0**	**+1.5**
KWP	**Kalwaria Pacla**	**4.61 112**	⇓*i*P	**Pg**	**03 34 44.4**	**-2.5**
KWP	**Kalwaria Pacla**	**4.61 112**	*e*Pn	**Pn**	**03 34 29.8**	**+0.3**
KWP			*e*Pb	**Pb**	**03 34 39.6**	**-0.7**
KWP			*e*PPP	PPP	03 34 44.7	
KWP			*e*Pg	**Pg**	**03 34 49.0**	**+2.1**
KWP			*e*Sn	**Sn**	**03 35 27.7**	**+4.0**
KWP			*e*Sg	**Sg**	**03 35 48.2**	**+1.6**
KWP	**Kalwaria Pacla**	**4.61 112**	*e*Pn	**Pn**	**03 34 29.9**	**+0.4**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*P	**Pn**	**03 34 32.1**	**+1.0**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*PN	**Pn**	**03 34 32.1**	**+1.0**
KOLS	**Kolonicke sedl**	**4.72 121**	*e*P	**Pn**	**03 34 32.1**	**+1.0**
KBA	**Koelnbreinsper**	**4.79 203**	⇓*i*Pn	**Pn**	**03 34 33.9**	**+1.7**
	SNR=29					
KBA			⇑*i*Sg	**Sg**	**03 35 53.0**	**+0.5**
	comp=Z,128nm,0.7s					
KBA	**Koelnbreinsper**	**4.79 203**	Pn	**Pn**	**03 34 33.9**	**+1.7**
	SNR=29					
KBA			Sg	**Sg**	**03 35 53.0**	**+0.5**
	comp=Z,128nm,0.7s					
BLEU	**Blekinge**	**4.81 358**	P	**Pn**	**03 34 32.0**	**-0.2**
BLEU			S	**Sn**	**03 35 24.0**	**-4.5**
SOKA	**Soboth**	**4.89 189**	⇑*i*Pn	**Pn**	**03 34 35.0**	**+1.6**
	SNR=6.8					
SOKA			⇓*i*Sg	**Sg**	**03 35 55.1**	**-0.5**
	comp=Z,34nm,0.7s					
SOKA	**Soboth**	**4.89 189**	Pn	**Pn**	**03 34 35.0**	**+1.6**
	SNR=6.8					
SOKA			Sg	**Sg**	**03 35 55.1**	**-0.5**
	comp=Z,34nm,0.7s					
UZH	**Uzhgorod**	**4.92 123**	*e*P	**Pn**	**03 34 32.6**	**-1.1**
UZH			*e*S	**Sn**	**03 35 29.0**	**-2.3**
UZH			smax	smax		
	comp=N,70nm,0.9s					
UZH			smax	smax		
	comp=E,80nm,0.9s					
UZH	**Uzhgorod**	**4.92 123**	*e*P	**Pn**	**03 34 32.6**	**-1.1**
UZH			*e*S	**Sn**	**03 35 29.0**	**-2.3**
PERS	**Pernice**	**4.92 188**	*i* Pn	**Pn**	**03 34 35.6**	**+1.7**
PERS	**Pernice**	**4.92 188**	Pn	**Pn**	**03 34 35.6**	**+1.7**
SUW	**Suwalki**	**4.97 57**	*e*Pg	Pg	03 35 00.6	+6.7
SUW			*e*Sg	Sg	03 36 08.2	+10
WATA	**Walderalm**	**5.12 217**	⇑*i*Pn	**Pn**	**03 34 38.2**	**+1.5**
	SNR=32					
WATA			⇑*i*Sn	**Sn**	**03 35 36.4**	**-0.1**
WATA			⇑*i*Sg	**Sg**	**03 36 03.8**	**+0.8**
	comp=E,66nm,0.8s					
WATA	**Walderalm**	**5.12 217**	Pn	**Pn**	**03 34 38.2**	**+1.5**
	SNR=32					
WATA			Sn	**Sn**	**03 35 36.4**	**-0.1**
WATA			Sg	**Sg**	**03 36 03.8**	**+0.8**
	comp=E,66nm,0.8s					
DEL	**Delary**	**5.14 346**	P	**Pn**	**03 34 38.7**	**+1.9**
WTTA	**Wattenberg**	**5.16 216**	⇑*i*Pn	**Pn**	**03 34 38.5**	**+1.3**
	SNR=17					
WTTA			⇑*i*Sg	**Sg**	**03 36 06.3**	**+2.1**
	comp=E,120nm,1.1s					
WTTA	**Wattenberg**	**5.16 216**	Pn	**Pn**	**03 34 38.5**	**+1.3**
	SNR=17					
WTTA			Sg	**Sg**	**03 36 06.3**	**+2.1**
	comp=E,120nm,1.1s					
MOTA	**Moosalm**	**5.29 220**	⇓*i*Pn	**Pn**	**03 34 40.0**	**+0.9**
	SNR=19					
MOTA			⇑*i*Sn	**Sn**	**03 35 39.9**	**-0.9**
MOTA			⇓*i*Sg	**Sg**	**03 36 10.4**	**+1.8**
	comp=E,90nm,0.8s					
MOTA	**Moosalm**	**5.29 220**	Pn	**Pn**	**03 34 40.0**	**+0.9**
	SNR=19					
MOTA			Sn	**Sn**	**03 35 39.9**	**-0.9**
MOTA			Sg	**Sg**	**03 36 10.4**	**+1.8**
	comp=E,90nm,0.8s					
LVV	**L'vov**	**5.32 105**	*e*P	**Pn**	**03 34 41.0**	**+1.8**
LVV			*i* S	**Sn**	**03 35 41.0**	**-0.1**
LVV	**L'vov**	**5.32 105**	*e*P	**Pn**	**03 34 41.0**	**+1.8**
LVV			*i* S	**Sn**	**03 35 41.0**	**-0.1**
ABTA	**Abfaltersbach**	**5.32 208**	⇑*i*Pn	**Pn**	**03 34 41.4**	**+2.1**
	SNR=21					
ABTA			⇑*i*Sn	**Sn**	**03 35 40.8**	**-0.5**
ABTA			⇑*i*Sg	**Sg**	**03 36 09.3**	**-0.1**
ABTA	**Abfaltersbach**	**5.32 208**	Pn	**Pn**	**03 34 41.4**	**+2.1**
	SNR=21					
ABTA			Sn	**Sn**	**03 35 40.8**	**-0.5**
ABTA			Sg	**Sg**	**03 36 09.3**	**-0.1**
RETA	**Reutte**	**5.32 223**	⇑*i*Pn	**Pn**	**03 34 40.2**	**+0.8**
	SNR=12					
RETA	**Reutte**	**5.32 223**	Pn	**Pn**	**03 34 40.2**	**+0.8**
	SNR=12					
TRPA	**Tarpa**	**5.36 127**	⇑*i*P	**Pn**	**03 34 40.0**	**+0.1**
TRPA	**Tarpa**	**5.36 127**	⇑*e*	**Pn**	**03 34 41.3**	**+1.4**
TRPA	**Tarpa**	**5.36 127**	⇑*e*P	**Pn**	**03 34 41.3**	**+1.4**
VNDS	**Vrh nad Dolski**	**5.49 190**	*i* Pn	**Pn**	**03 34 43.6**	**+1.9**
PKSM	**Moragy**	**5.56 162**	⇑*i*P	**Pn**	**03 34 44.7**	**+2.1**
PKSM	**Moragy**	**5.56 162**	⇑*e*	**Pn**	**03 34 44.5**	**+1.9**
PKSM	**Moragy**	**5.56 162**	⇑*e*P	**Pn**	**03 34 44.5**	**+1.9**
LEGS	**Legarje**	**5.59 186**	*e*Pn	**Pn**	**03 34 45.3**	**+2.3**
LEGS	**Legarje**	**5.59 186**	*e*Pn	**Pn**	**03 34 45.3**	**+2.3**
VOY	**Vojsko**	**5.67 196**	*e*Pn	**Pn**	**03 34 45.6**	**+1.4**
VOY			*e*		03 35 07.9	
VOY			*e*Sn	**Sg**	**03 36 23.6**	**+2.8**
VOJS	**Vojsko**	**5.68 196**	*i* Pn	**Pn**	**03 34 45.4**	**+1.1**
VOJS	**Vojsko**	**5.68 196**	*i* Pn	**Pn**	**03 34 45.4**	**+1.1**
FETA	**Feichten**	**5.71 220**	⇑*i*Pn	**Pn**	**03 34 45.8**	**+1.0**
	SNR=7.9					
FETA	**Feichten**	**5.71 220**	Pn	**Pn**	**03 34 45.8**	**+1.0**
	SNR=7.9					
JAVS	**Javornik**	**5.78 194**	*i* Pn	**Pn**	**03 34 46.3**	**+0.6**
JAVS	**Javornik**	**5.78 194**	*i* Pn	**Pn**	**03 34 46.3**	**+0.6**
BYXU	**Byxelkrok**	**5.82 5**	P	**Pn**	**03 34 46.6**	**+0.6**
FABU	**Falkenberg**	**5.85 341**	P	**Pn**	**03 34 45.6**	**-0.9**
DAVA	**Damuels**	**5.86 226**	⇑*i*Pn	**Pn**	**03 34 47.6**	**+0.7**
	SNR=7.6					
DAVA			⇑*i*Sn	**Sn**	**03 35 54.3**	**-0.5**
DAVA			⇓*i*Sg	**Sg**	**03 36 29.3**	**+2.4**
	comp=E,57nm,0.5s					
DAVA	**Damuels**	**5.86 226**	Pn	**Pn**	**03 34 47.6**	**+0.7**
	SNR=7.6					
DAVA			Sn	**Sn**	**03 35 54.3**	**-0.5**
DAVA			Sg	**Sg**	**03 36 29.3**	**+2.4**
	comp=E,57nm,0.5s					
LANF	**Langenberg**	**5.90 248**	P	**Pn**	**03 34 46.7**	**-0.5**
LANF			S	**Sn**	**03 35 56.9**	**+1.4**
BFO	**Black Forest**	**5.95 241**	*i* P	**Pn**	**03 34 48.6**	**+0.7**
BFO	**Black Forest**	**5.95 241**	*i* P	**Pn**	**03 34 48.6**	**+0.7**
GNOU	**Gnosjoe**	**5.95 348**	P	**Pn**	**03 34 47.5**	**-0.4**
BOJS	**Bojanci**	**6.04 186**	*i* Pn	**Pn**	**03 34 51.1**	**+2.0**
BOJS	**Bojanci**	**6.04 186**	*i* Pn	**Pn**	**03 34 51.1**	**+2.0**
EKSU	**Eksjoe**	**6.09 356**	P	**Pn**	**03 34 49.8**	**-0.1**
VSTU	**Vaestervik**	**6.17 2**	P	**Pn**	**03 34 51.3**	**+0.4**
DAVOX	**Davos/Dischmat**	**6.25 223**	Pn	**Pn**	**03 34 53.1**	**+0.9**
	comp=E,2.4nm,0.3s,baz=33,slow=12,SNR=34					
DAVOX			Lg	Lg	03 36 37.9	
	comp=E,1.9nm,0.3s,baz=183,slow=21,SNR=4.1					
DAVOX	**Davos/Dischmat**	**6.25 223**	P	**Pn**	**03 34 53.1**	**+0.9**
DRGR		**6.41 135**	⇓*i*P	**Pn**	**03 34 55.8**	**+1.5**
MEM	**Membach**	**6.43 266**	P	**Pn**	**03 34 55.3**	**+0.7**
MEM	**Membach**	**6.43 266**	P	**Pn**	**03 34 55.2**	**+0.7**
BORU	**Boraas**	**6.44 344**	P	**Pn**	**03 34 54.4**	**-0.2**
CDF	**Champ du Feu**	**6.49 245**	*e*Pn	**Pn**	**03 34 54.5**	**-0.9**
CDF	**Champ du Feu**	**6.49 245**	*e*Pg	Pg	03 35 18.7	-4.2
CDF			*e*Sg	**Sg**	**03 36 43.8**	**-3.1**
	comp=E,138nm,0.9s					
CDF	**Champ du Feu**	**6.49 245**	*e*Pn	**Pn**	**03 34 54.5**	**-0.9**
WLF	**Walferdange**	**6.60 258**	P	**Pn**	**03 34 58.5**	**+1.6**
WLF	**Walferdange**	**6.60 258**	P	**Pn**	**03 34 58.5**	**+1.6**
ECH	**Echery**	**6.66 244**	P	**Pn**	**03 34 57.4**	**-0.3**
LNKU	**Linkoeping**	**6.74 357**	P	**Pn**	**03 34 58.3**	**-0.4**
BZS	**Buzias**	**6.94 146**	⇓*i*P	**Pn**	**03 35 04.0**	**+2.5**
UDBI	**Udbina**	**6.99 182**	*i* Pn	**Pn**	**03 35 03.0**	**+0.7**
UDBI	**Udbina**	**6.99 182**	*i* Pn	**Pn**	**03 35 03.0**	**+0.7**
VIKU	**Vikbolandet**	**7.02 3**	P	**Pn**	**03 35 02.3**	**-0.2**
HINF	**Hinteralfeld**	**7.05 242**	*e*Pn	**Pn**	**03 35 01.3**	**-1.8**
HINF			*e*Sg	**Sg**	**03 37 01.1**	**-3.9**
	comp=E,69nm,0.6s					
BURAR	**Bucovina Array**	**7.09 120**	⇑*i*P	**Pn**	**03 35 04.0**	**+0.3**
HAU	**Haudompre**	**7.23 245**	*e*Pn	**Pn**	**03 35 04.8**	**-0.7**
HAU			*e*Sg	**Sg**	**03 37 05.6**	**-5.0**
	comp=E,65nm,0.7s					
HAU	**Haudompre**	**7.23 245**	*e*Pn	**Pn**	**03 35 04.8**	**-0.7**
NACGM	**Naroch**	**7.25 58**	*e*P	**Pg**	**03 35 37.0**	**-0.5**
GIVF	**Givet**	**7.29 263**	*e*Pn	**Pn**	**03 35 04.1**	**-2.2**
GIVF	**Givet**	**7.29 263**	*e*Pg	Pg	03 35 33.6	-4.6
GIVF			*e*Sg	**Sg**	**03 37 08.9**	**-3.7**
	comp=E,89nm,0.9s					
PAGF	**Fort de Pagny**	**7.31 250**	*e*Pn	**Pn**	**03 35 05.4**	**-1.2**
	baz=74					
PAGF			*e*Sg	**Sg**	**03 37 10.5**	**-2.8**
	comp=E,37nm,1.1s					
PAGF	**Fort de Pagny**	**7.31 250**	*e*Pn	**Pn**	**03 35 05.4**	**-1.2**
	baz=74					
THEF	**They Montfort**	**7.32 247**	P	**Pn**	**03 35 06.1**	**-0.6**
VANU	**Vaenersborg**	**7.37 343**	P	**Pn**	**03 35 06.3**	**-1.1**
DOU	**Dourbes**	**7.43 264**	P	**Pn**	**03 35 09.9**	**+1.6**
DOU	**Dourbes**	**7.43 264**	P	**Pn**	**03 35 09.8**	**+1.6**
ASKU	**Askersund**	**7.44 355**	P	**Pn**	**03 35 07.8**	**-0.5**
NASU	**Vaermlandsnaes**	**7.62 349**	P	**Pn**	**03 35 10.5**	**-0.3**
BAIF	**Baives**	**7.68 264**	*e*Sg	**Sg**	**03 37 19.9**	**-5.3**
	comp=E,70nm,1.0s					
MICGM	**Minsk**	**7.71 63**	*e*P	Pb	03 35 37.0	+4.0
ESKU	**Eskilstuna**	**7.74 1**	P	**Pn**	**03 35 12.3**	**-0.1**
SFTF	**Sexfontaines**	**7.88 250**	*e*Sg	**Sg**	**03 37 27.7**	**-3.8**
	comp=E,167nm,1.3s					
LOT	**Lotru**	**7.92 137**	⇑*i*P	Pn	03 35 18.4	+3.4
STRU	**Stroemstad**	**8.05 342**	P	**Pn**	**03 35 14.9**	**-1.7**
NRAU	**Nora**	**8.10 356**	P	**Pn**	**03 35 17.2**	**-0.2**
FINU	**Finntorp**	**8.18 347**	P	**Pn**	**03 35 17.8**	**-0.6**
CABF	**La Chapelle**	**8.20 237**	*e*Pn	**Pn**	**03 35 17.9**	**-1.0**
CABF	**La Chapelle**	**8.20 237**	*e*Pg	Pg	03 35 50.9	-4.8
CABF			*e*Sg	**Sg**	**03 37 36.6**	**-5.3**
	comp=E,110nm,1.0s					
CABF	**La Chapelle**	**8.20 237**	*e*Pn	**Pn**	**03 35 17.9**	**-1.0**
KIEV	**Kiev**	**8.29 91**	*i* P	**Pn**	**03 35 21.3**	**+1.3**
KIEV	**Kiev**	**8.29 91**	*i* P	**Pn**	**03 35 21.3**	**+1.3**
AKASG	**Malin Array Be**	**8.30 90**	P	**Pn**	**03 35 19.2**	**-0.9**
AKASG			pmax	pmax		
	comp=Z,4.0nm,0.3s					
AKASG	**Malin Array Be**	**8.30 90**	Pn	**Pn**	**03 35 19.2**	**-0.9**
	comp=Z,4.2nm,0.3s,baz=279,slow=12,SNR=27					
AKASG			Lg	Lg	03 37 48.2	
	comp=Z,2.2nm,0.3s,baz=277,slow=24,SNR=4.2					
AKASG	**Malin Array Be**	**8.30 90**	P	**Pn**	**

AKTK	**Aktyubinsk**	**26.16**	**76**	P		**P**	**03 38 55.3**	**+1.0**
	comp=Z,2.0nm,0.7s							
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**03 38 55.3**	**+1.0**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**03 38 55.3**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=281,slow=12,SNR=11							
BRVK	**Borovoye**	**32.52**	**66**	⇑*i* P		**P**	**03 39 51.5**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BRVK	**Borovoye**	**32.52**	**66**	*i* P		**P**	**03 39 51.5**	**+0.7**
	comp=Z,4.0nm,1.3s							
TORD	**Torodi Ar. Bea**	**40.00**	**202**	P		**P**	**03 40 56.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=11,slow=8.2,SNR=8.2							
ZALV	**Zalesovo Beam**	**40.20**	**59**	P		**P**	**03 40 57.9**	**+1.5**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**40.20**	**59**	P		**P**	**03 40 57.9**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=294,slow=11,SNR=3.4							
ZALV	**Zalesovo Beam**	**40.20**	**59**	P		**P**	**03 40 57.9**	**+1.5**
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**42.22**	**69**	*i* P		**P**	**03 41 13.1**	**0.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**42.22**	**69**	P		**P**	**03 41 13.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=307,slow=10.0,SNR=4.3							
MKAR	**Makanchi Array**	**42.22**	**69**	*i* P		**P**	**03 41 13.1**	**0.0**
	comp=Z,1.0nm,0.8s							
WMQ	**Urumqi**	**47.04**	**70**	*e*P		**P**	**03 41 51.8**	**+0.1**
SONM	**Songino Array**	**54.92**	**55**	P		**P**	**03 42 53.1**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=282,slow=9.2,SNR=6.5							
SONM	**Songino Array**	**54.92**	**55**	P		**P**	**03 42 53.1**	**+2.1**
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**59.86**	**336**	P		**P**	**03 43 26.7**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=31,slow=6.6,SNR=5.0							
YKA	**Yellowknife Ar**	**59.86**	**336**	P		**P**	**03 43 26.7**	**+1.3**
	comp=Z,1.0nm,0.6s							
LZH	**Lanzhou**	**61.46**	**67**	*e*P		P	03 43 33.5	-3.5
LZH				pP		pP	03 43 46.7	
LZH				sP			03 43 48.2	
LZH				PP		**PP**	**03 45 50.6**	**-1.2**
LZH				pmax	pmax			
	comp=Z,47nm,7.4s							
LZH				LR	LR			
	comp=N,170nm,16.0s							
LZH				LR	LR			
	comp=E,150nm,15.9s							
LZH				LR	LR			
	comp=Z,210nm,19.2s							
HHC	**Hu-ho-hao-te**	**62.38**	**58**	SS	SS		03 56 01.6	-12
HHC				pmax	pmax			
	comp=Z,45nm,0.5s							
HHC				pmax	pmax			
	comp=Z,380nm,5.0s							
HHC				LR	LR			
	comp=N,250nm,16.5s							
HHC				LR	LR			
	comp=E,610nm,15.7s							
HHC				LR	LR			
	comp=Z,330nm,16.7s							
ILAR	**Eielson Array**	**63.31**	**352**	P		**P**	**03 43 50.4**	**+1.7**
	comp=Z,0.3nm,0.9s,baz=0.0,slow=7.2,SNR=5.2							
ILAR	**Eielson Array**	**63.31**	**352**	P		**P**	**03 43 50.4**	**+1.7**
	comp=Z,1.0nm,1.0s							
CD2	**Chengdu**	**65.10**	**71**	*e*P		**P**	**03 44 00.1**	**-0.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2	**Changchun**	**67.13**	**48**	*e*P		**P**	**03 44 12.5**	**-1.3**
MDJ	**Mudanjiang**	**68.37**	**45**	P		**P**	**03 44 19.9**	**-1.7**
GYA	**Guiyang**	**70.09**	**72**	*e*P		**P**	**03 44 32.2**	**-0.5**
PDAR	**Pinedale Array**	**74.94**	**322**	P		**P**	**03 45 02.9**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=50,slow=5.1,SNR=5.5							
TXAR	**Lajitas Array**	**83.71**	**310**	P		**P**	**03 45 51.0**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=90,slow=2.5,SNR=4.0							
TXAR	**Lajitas Array**	**83.71**	**310**	P		**P**	**03 45 51.0**	**+1.5**

IDC ***07*** *03:34:35.5±0.7, 15°.91S×177°.11W, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.4/21, mbtmp4.2/15, ML2.7/2, MS4.3/23, Ms1 4.3/23, ms1mx4.3/24, Error ellipse: s-maj=28.7km s-min=16.3km az=148.0*

BJI ***07*** *03:34:35.6, 15°.61S×176°.95W, h8km, mB5.0/10, mb4.8/19, Ms5.2/10, Ms7 4.7/12*

NEIC ***07*** *03:34:37.8±0.3, 15°.65S×177°.20W, h10km, mb4.8/29, Error ellipse: s-maj=14.0km s-min=6.2km az=146.0*

ISCJB ***07*** *03:34:39.8±0.3, 15°.70S±0°.08×177°.24W±0°.06, h33km, mb4.6/48, MS4.5/31, Error ellipse: s-maj=12.3km s-min=7.0km az=151.9*

GCMT ***07*** *03:34:42.2±0.2, 15°.52S×177°.16W, h17km±1km, MW5.0, Moment Tensor Solution. s31,c39; s81,c122; Moment tensor: Scale 10^16Nm; Mrr-0.40±.14; Mθθ-0.31±.14; Mφφ0.72±.12; Mrθ-0.16±.36; Mrφ4.57±.12; Mθφ0.35±.33; Best double couple: M0 4.60000×10^16 NP1:φs177.00000°, δ88.00000°, λ-175.00000°. NP2:φs87.00000°, δ85.00000°, λ-2.00000°. Principal axes: T 4.8000, Plg2.0000°, Azm312.0000°; N -0.3800, Plg85.0000°, Azm203.0000°; P -4.4300, Plg5.0000°, Azm42.0000°; Data Used: II IU IC CN G.*

ISC 07 03:34:41.6±0.4, 15°.86S±0°.08×177°.15W±0°.08, h35km, n203, σ1§12/201, mb4.7/49, MS4.5/31, 39C-44D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.96**	**247**	*e*Pn	**Pn**	**03 35 54.2**	**+0.4**
AFI	**Afiamalu**	**5.54**	**70**	*e*Pn	Pn	03 35 58.3	-3.4
AFI	**Afiamalu**	**5.54**	**70**	Pn	Pn	03 35 57.8	-3.9
	4.7nm,0.3s,baz=30,slow=7.3,SNR=7.2						
AFI				LR	LR	03 37 29.0	
	comp=Z,1μm,20.0s,baz=252,slow=31						
RAO	**Raoul Island**	**13.35**	**183**	LR	LR	03 42 18.4	
	comp=Z,928nm,18.7s,baz=164,slow=35						
DZM	**Mont Dzumac**	**16.70**	**246**	*e*LR	LR	03 42 38.4	
	2μm,24.9s						
DZM	**Mont Dzumac**	**16.70**	**246**	Pn	**Pn**	**03 38 30.6**	**-2.4**
DZM	**Mont Dzumac**	**16.70**	**246**	Pn	**Pn**	**03 38 30.6**	**-2.4**
	0.1nm,0.3s,baz=76,slow=16,SNR=9.6						
RAR	**Rarotonga**	**17.31**	**111**	LR	LR	03 43 49.0	
	comp=Z,686nm,18.4s,baz=270,slow=32						
URZ	**Urewera**	**22.88**	**192**	*e*P	**P**	**03 39 43.9**	**+1.8**
	8.8nm,0.8s						
URZ	**Urewera**	**22.88**	**192**	LR	LR	03 47 23.9	
	comp=Z,1μm,18.3s,baz=219,slow=34						
HNR	**Honiara**	**23.23**	**283**	LR	LR	03 47 08.1	
	comp=Z,3μm,21.3s,baz=118,slow=32						
PPT2	**Papeete2**	**26.45**	**98**	*e*LQ	LQ	03 45 40.1	
	2μm,28.0s						
PPT2				*e*LR	LR	03 46 54.7	
	837nm,24.0s,baz=259						
PPT	**Papeete**	**26.45**	**98**	LR	LR	03 47 45.3	
	comp=Z,399nm,21.5s,baz=267,slow=30						
TBI	**Tubuai**	**27.09**	**110**	*e*S	**S**	**03 44 56.8**	**-0.4**
	172nm,27.2s						
TBI				*e*LQ	LQ	03 45 59.8	
	912nm,34.0s						
TBI				*e*LR	LR	03 47 18.1	
	2μm,28.5s,baz=286						
RPZ	**Rata Peaks**	**29.53**	**198**	LR	LR	03 50 56.2	
	comp=Z,496nm,18.6s,baz=223,slow=33						
RKT	**Rikitea**	**40.30**	**107**	*e*LR	LR	03 53 22.6	
	898nm,28.5s,baz=279						
STKA	**Stephens Creek**	**40.69**	**239**	*e*P	**P**	**03 42 20.6**	**+1.7**
	12nm,1.5s						
STKA	**Stephens Creek**	**40.69**	**239**	P	**P**	**03 42 19.3**	**+0.5**
	21nm,1.1s,baz=83,slow=5.4,SNR=7.8						
STKA				LR	LR	03 56 49.1	
	comp=Z,571nm,18.5s,baz=41,slow=33						
WRAB	**Tennant Creek**	**46.21**	**257**	*e*P	**P**	**03 43 02.6**	**-1.0**
	14nm,1.5s						
WRA	**Warramunga Arr**	**46.22**	**257**	P	**P**	**03 43 01.6**	**-2.0**
WRA	**Warramunga Arr**	**46.22**	**257**	P	**P**	**03 43 01.6**	**-2.0**
	3.1nm,1.0s,baz=90,slow=7.1,SNR=12						
AS31	**Alice Springs**	**46.53**	**252**	*e*P	**P**	**03 43 04.8**	**-1.2**
ASAR	**Alice Springs**	**46.53**	**252**	P	**P**	**03 43 04.9**	**-1.2**
ASAR	**Alice Springs**	**46.53**	**252**	P	**P**	**03 43 04.9**	**-1.2**
	9.0nm,0.7s,baz=84,slow=8.2,SNR=64						
ASAR				LR	LR	04 02 09.4	
	comp=Z,391nm,19.6s,baz=85,slow=36						
VNDA	**Vanda**	**62.58**	**185**	P	**P**	**03 44 59.2**	**-2.4**
VNDA	**Vanda**	**62.58**	**185**	P	**P**	**03 44 59.2**	**-2.4**
	0.7nm,1.1s,baz=306,slow=6.0,SNR=3.3						
VNDA				LR	LR	04 07 06.9	
	comp=Z,112nm,18.9s,baz=30,slow=31						
MJAR	**Matsushiro Arr**	**67.02**	**322**	P	**P**	**03 45 29.8**	**-1.3**
MJAR	**Matsushiro Arr**	**67.02**	**322**	P	**P**	**03 45 29.8**	**-1.3**
	1.4nm,0.8s,baz=167,slow=6.4,SNR=4.3						
MJAR				LR	LR	04 08 49.9	
	comp=Z,200nm,19.6s,baz=170,slow=31						
MAJO	**Matsushiro**	**67.02**	**322**	*e*P	**P**	**03 45 30.0**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CASY	**Casey**	**68.49**	**204**	*e*P	**P**	**03 45 41.5**	**+1.6**
	comp=Z,37nm,2.0s						
PETK	**Petropavlovsk-**	**72.03**	**344**	P	**P**	**03 46 01.4**	**-0.4**
PETK	**Petropavlovsk-**	**72.03**	**344**	P	**P**	**03 46 01.4**	**-0.4**
	comp=Z,5.2nm,0.9s,baz=132,slow=8.2,SNR=5.4						
PETK				LR	LR	04 14 22.9	
	comp=Z,156nm,19.4s,baz=154,slow=33						
KSRS	**Korea Array**	**74.00**	**317**	P	**P**	**03 46 13.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=147,slow=7.2,SNR=6.4						
KSRS				LR	LR	04 14 10.4	
	comp=Z,223nm,19.0s,baz=120,slow=32						
KSAR	**Wonju Array Be**	**74.02**	**317**	P	**P**	**03 46 13.2**	**-0.6**
QSPA	**South Pole Qui**	**74.18**	**180**	*e*P	**P**	**03 46 16.1**	**+1.6**
	comp=Z,141nm,3.0s						
EDW2	**Edwards Air Fo**	**75.46**	**47**	⇓P	**P**	**03 46 22.3**	**-0.1**
	baz=76						
CMB	**Columbia Colle**	**75.53**	**43**	*e*P	**P**	**03 46 21.9**	**-0.7**
	comp=Z,4.7nm,1.0s						
WDC	**Whiskeytown Da**	**75.61**	**40**	*e*P	**P**	**03 46 22.4**	**-0.5**
	comp=Z,6.9nm,1.2s						
USRK	**Ussurisk Arra**	**75.63**	**325**	P	**P**	**03 46 23.1**	**+0.1**
	comp=Z,3.2nm,1.1s,baz=116,slow=4.4,SNR=4.1						
USRK				LR	LR	04 14 49.9	
	comp=Z,168nm,19.6s,baz=60,slow=32						
MPMC	**Manual Prospec**	**76.42**	**46**	⇓P	**P**	**03 46 28.1**	**+0.1**
	baz=76						
FURC	**Furnace Creek,**	**77.07**	**46**	⇓P	**P**	**03 46 32.1**	**+0.8**
	baz=77						
NVAR	**Mina Array Bea**	**77.12**	**44**	P	**P**	**03 46 31.7**	**-0.2**
NVAR	**Mina Array Bea**	**77.12**	**44**	P	**P**	**03 46 31.7**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=229,slow=10,SNR=13						
NVAR				LR	LR	04 12 09.3	
	comp=Z,182nm,21.6s,baz=316,slow=29						
NV11	**Mina Array Sit**	**77.22**	**44**	*e*P	**P**	**03 46 31.9**	**-0.4**
MDJ	**Mudanjiang**	**77.23**	**324**	P	**P**	**03 46 32.7**	**+0.7**
MDJ				pP	PcP	03 46 35.4	-7.2
MDJ				PcP	**pP**	**03 46 42.9**	**-0.1**
MDJ				S	**S**	**03 56 20.7**	**+1.5**
MDJ				SS	**SS**	**04 01 20.4**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,130nm,6.3s						
MDJ				LR	LR		
	comp=N,76nm,32.1s						
MDJ				LR	LR		
	comp=E,130nm,32.1s						
MDJ				LR	LR		
	comp=Z,160nm,38.2s						
113A	**Mohawk Valley,**	**77.47**	**50**	⇑P	**P**	**03 46 34.0**	**+0.3**
	baz=78						
NJ2	**Nanjing**	**77.59**	**309**	*e*P	**P**	**03 46 34.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,67nm,1.3s						
214A	**Organ Pipe Nat**	**77.80**	**52**	⇑P	**P**	**03 46 35.5**	**-0.1**
	baz=78						
Z14A	**Wintersburg**	**78.35**	**50**	⇓P	**P**	**03 46 38.5**	**0.0**
	baz=78						
W13A	**Hualapai Mount**	**78.49**	**48**	⇓P	**P**	**03 46 38.3**	**-1.3**
	baz=78						
Y14A	**Wickenburg**	**78.58**	**50**	⇑P	**P**	**03 46 39.8**	**-0.1**
	baz=79						
WVOR	**Wild Horse Val**	**79.07**	**40**	*e*P	**P**	**03 46 41.7**	**-0.8**
	comp=Z,1.9nm,1.0s						
CN2	**Changchun**	**79.16**	**322**	*e*P	**P**	**03 46 42.9**	**+0.1**
CN2				*e*S	**S**	**03 56 41.4**	**+1.4**
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
TUC	**Tucson**	**79.50**	**52**	*e*P	**P**	**03 46 45.9**	**+0.9**
	comp=Z,19nm,1.0s						
X16A	**Lo Mia Camp, P**	**79.95**	**50**	⇑P	**P**	**03 46 46.9**	**-0.6**
	baz=80						
319A	**Douglas**	**80.25**	**54**	⇓P	**P**	**03 46 49.5**	**+0.4**
	baz=80						
PMR	**Palmer**	**80.34**	**13**	*e*P	**P**	**03 46 46.7**	**-2.0**
	comp=Z,7.7nm,1.3s						
WUAZ	**Wuatki**	**80.50**	**49**	⇓P	**P**	**03 46 50.6**	**+0.1**
	baz=80						
320A	**Kipp Ranch, An**	**80.81**	**54**	⇑P	**P**	**03 46 51.9**	**-0.3**
	baz=81						
220A	**Playas Peak, P**	**81.05**	**53**	⇑P	**P**	**03 46 54.2**	**+0.7**
	baz=81						
BMO	**Blue Mountains**	**81.20**	**38**	*e*P	**P**	**03 46 52.7**	**-1.2**
	comp=Z,3.5nm,1.0s						
MFID	**Camas Ranch**	**81.34**	**40**	⇓P	**P**	**03 46 55.4**	**+0.7**
	baz=81						
Z20A	**Nine Sixteen R**	**81.51**	**52**	⇓P	**P**	**03 46 57.0**	**+1.1**
	baz=82						
TRF	**Thorofare Moun**	**81.77**	**12**	*e*P	**P**	**03 46 54.1**	**-2.4**
	comp=Z,20nm,1.5s						
121A	**Cookes Peak, D**	**81.88**	**53**	⇓P	**P**	**03 46 58.6**	**+0.7**
	baz=82						
Y20A	**Horse Springs,**	**82.01**	**52**	⇑P	**P**	**03 46 59.2**	**+0.6**
	baz=82						
MCK	**McKinley**	**82.29**	**12**	*e*P	**P**	**03 46 57.1**	**-2.0**
	comp=Z,10nm,1.0s						
Z21A	**St. Cloud Mine**	**82.29**	**52**	⇑P	**P**	**03 46 59.8**	**-0.3**
	baz=82,SNR=6.0						
HLID	**Hailey**	**82.30**	**41**	*e*P	**P**	**03 47 00.0**	**+0.2**
	comp=Z,4.8nm,1.0s						
HLID	**Hailey**	**82.30**	**41**	⇓P	**P**	**03 47 00.4**	**+0.6**
	baz=82						
TMUT	**Trail Mountain**	**82.35**	**46**	*e*P	**P**	**03 47 00.3**	**-0.1**
W20A	**Ramah**	**82.43**	**50**	⇑⇑P	**P**	**03 47 01.5**	**+0.7**
	baz=82						
Y21A	**Point of Rocks**	**82.58**	**52**	⇑P	**P**	**03 47 01.5**	**-0.1**
	baz=83						
X21A	**Alamocita Cree**	**82.68**	**51**	⇑P	**P**	**03 47 02.1**	**0.0**
	baz=83						
Z22A	**Elephant Butte**	**82.81**	**53**	⇓P	**P**	**03 47 03.4**	**+0.7**
	baz=83						
I14A	**Mackay**	**83.09**	**41**	⇓P	**P**	**03 47 03.8**	**-0.1**
	baz=83						
Y22A	**Socorro**	**83.09**	**52**	⇓P	**P**	**03 47 04.9**	**+0.7**
	baz=83						
LAZ	**Ladron**	**83.15**	**52**	*e*P	**P**	**03 47 04.5**	**0.0**
	comp=Z,11nm,1.7s						
324A	**Moseley Ranch,**	**83.24**	**55**	⇓P	**P**	**03 47 05.3**	**+0.3**
	baz=83						
425A	**Indio Mountain**	**83.37**	**56**	⇓P	**P**	**03 47 06.0**	**+0.3**
	baz=83						
MNTX	**Cornudas Mount**	**83.42**	**55**	*e*P	**P**	**03 47 06.0**	**+0.4**
	comp=Z,7.3nm,1.3s						
BNM	**Barren Site**	**83.43**	**52**	*e*P	**P**	**03 47 05.7**	**-0.3**
	comp=Z,14nm,1.5s						
224A	**Cornudas Mount**	**83.45**	**54**	⇓P	**P**	**03 47 06.7**	**+0.7**
	baz=84						
LPM	**Los Pinos Moun**	**83.49**	**52**	*e*P	**P**	**03 47 06.3**	**0.0**
COLA	**College**	**83.53**	**12**	*e*P	**P**	**03 47 03.8**	**-1.6**
	comp=Z,41nm,1.2s						
626A	**Big Bend Ranch**	**83.59**	**57**	⇓P	**P**	**03 47 06.7**	**0.0**
	baz=84						
U21A	**Nageezi**	**83.61**	**49**	⇑P	**P**	**03 47 07.2**	**+0.3**
	baz=84						
325A	**Bean Ranch, Si**	**83.61**	**55**	⇑P	**P**	**03 47 07.5**	**+0.6**
	baz=84						
ILAR	**Eielson Array**	**83.63**	**13**	P	**P**	**03 47 04.8**	**-1.2**
ILAR	**Eielson Array**	**83.63**	**13**	P	**P**	**03 47 04.8**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=218,slow=7.1,SNR=7.6						
ILAR				LR	LR	04 18 20.8	
	comp=Z,83nm,19.5s,baz=223,slow=31						
PV01	**Paradox Valley**	**83.67**	**48**	*e*P	**P**	**03 47 06.6**	**-0.6**
S20A	**Disappointment**	**83.69**	**48**	⇑P	**P**	**03 47 08.0**	**+0.7**
	baz=84						
124A	**Stringfield Ra**	**83.75**	**54**	⇑P	**P**	**03 47 07.6**	**-0.1**
	baz=84						
Y23A	**Lovelace Mesa,**	**83.78**	**52**	⇓P	**P**	**03 47 08.7**	**+1.0**
	baz=84						
526A	**Mary Lane Ranc**	**83.81**	**57**	⇓P	**P**	**03 47 08.6**	**+0.6**
	baz=84						
TXAR	**Lajitas Array**	**83.88**	**57**	P	**P**	**03 47 08.9**	**+0.7**
TXAR	**Lajitas Array**	**83.88**	**57**	P	**P**	**03 47 08.9**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=241,slow=4.1,SNR=13						
TXAR				LR	LR	04 17 25.3	
	comp=Z,269nm,18.4s,baz=5.0,slow=31						
ANMO	**Albuquerque**	**83.88**	**51**	*e*P	**P**	**03 47 08.3**	**+0.1**
	comp=Z,7.2nm,1.2s						
225A	**Deer Hill, Car**	**84.01**	**54**	⇑P	**P**	**03 47 09.2**	**+0.3**
	baz=84						
S21A	**Coal Bank Pass**	**84.03**	**48**	⇓P	**P**	**03 47 09.7**	**+0.6**
	baz=84						
426A	**McDonald Obser**	**84.09**	**56**	⇓P	**P**	**03 47 09.3**	**-0.1**
	baz=84,SNR=7.6						
627A	**Terlingua Ranc**	**84.15**	**57**	⇓P	**P**	**03 47 10.3**	**+0.7**
	baz=84						
RRI2	**Red Ridge**	**84.16**	**42**	*e*P	**P**	**03 47 09.0**	**-0.6**
	comp=Z,7.2nm,0.9s						
U22A	**Llaves**	**84.17**	**50**	⇓P	**P**	**03 47 10.4**	**+0.7**
	baz=84						
W23A	**Werner Place,**	**84.20**	**51**	⇓P	**P**	**03 47 10.9**	**+1.0**
	baz=84						
Q20A	**Ridgley Place,**	**84.22**	**47**	⇓P	**P**	**03 47 10.3**	**+0.5**
	baz=84						
527A	**Woodward Ranch**	**84.23**	**57**	⇓P	**P**	**03 47 10.2**	**+0.1**
	baz=84,SNR=7.2						
Y24A	**Capitan**	**84.25**	**53**	⇓P	**P**	**03 47 09.8**	**-0.4**
	baz=84						
DLMT	**Dillon**	**84.32**	**40**	*e*P	**P**	**03 47 09.5**	**-0.7**
	comp=Z,28nm,1.8s						
125A	**Gardner Draw,**	**84.35**	**54**	⇓P	**P**	**03 47 11.0**	**+0.4**
	baz=84						
P20A	**De Beque**	**84.39**	**46**	⇑P	**P**	**03 47 10.8**	**+0.1**
	baz=84						
T22A	**Edith**	**84.40**	**49**	⇑P	**P**	**03 47 10.5**	**-0.4**
	baz=84						
V23A	**Ortiz Mt. (NFS**	**84.41**	**51**	⇓P	**P**	**03 47 11.3**	**+0.3**
	baz=84						
TPAW	**Teton Pass**	**84.47**	**42**	*e*P	**P**	**03 47 10.8**	**-0.3**
	comp=Z,3.4nm,0.8s						
REDW	**Red Top Meadow**	**84.47**	**42**	*e*P	**P**	**03 47 09.6**	**-1.5**
	comp=Z,25nm,1.6s						
R21A	**Cimarron**	**84.50**	**48**	⇑P	**P**	**03 47 11.7**	**+0.4**
	baz=84						
226B	**Tecolote Peak,**	**84.52**	**55**	⇓P	**P**	**03 47 11.3**	**-0.1**
	baz=85,SNR=9.8						
Z25A	**Roswell**	**84.55**	**53**	⇓P	**P**	**03 47 11.9**	**+0.4**
	baz=85						
628A	**Black Gap, Mar**	**84.57**	**57**	⇓P	**P**	**03 47 12.1**	**+0.4**
	baz=85						
U23A	**El Rito**	**84.64**	**50**	⇑P	**P**	**03 47 12.4**	**+0.3**
	baz=85						
427A	**Hayter Ranch,**	**84.66**	**56**	⇑P	**P**	**03 47 12.3**	**+0.2**
	baz=85,SNR=7.8						
IMW	**Indian Meadow**	**84.66**	**42**	*e*P	**P**	**03 47 11.1**	**-1.0**
	comp=Z,7.5nm,1.2s						
LOHW	**Long Hollow**	**84.75**	**42**	*e*P	**P**	**03 47 11.8**	**-0.6**
	comp=Z,16nm,1.8s						
S22A	**4UR Ranch, Cre**	**84.76**	**49**	⇑P	**P**	**03 47 12.7**	**-0.1**
	baz=85						
W24A	**Lazy 6 Ranch,**	**84.78**	**51**	⇓P	**P**	**03 47 13.1**	**+0.3**
	baz=85						
DAWY	**Dawson**	**84.80**	**16**	*e*P	**P**	**03 47 11.0**	**-1.0**
Y25A	**Mesa, Roswell**	**84.81**	**53**	⇑P	**P**	**03 47 13.0**	**0.0**
	baz=85						
H16A	**Russell Place,**	**84.84**	**41**	⇑P	**P**	**03 47 13.5**	**+0.5**
	baz=85						
528A	**Cox Ranch, San**	**84.90**	**57**	⇑P	**P**	**03 47 13.2**	**-0.1**
	baz=85,SNR=6.8						
EGAK	**Eagle**	**84.94**	**15**	*e*P	**P**	**03 47 14.4**	**+1.9**
	comp=Z,8.7nm,1.1s						
R22A	**Saguache, Gunn**	**85.01**	**48**	⇑P	**P**	**03 47 15.0**	**+0.9**
	baz=85						
BW06	**Boulder Array**	**85.04**	**43**	*e*P	**P**	**03 47 13.1**	**-0.9**
	comp=Z,4.4nm,1.0s						
PDAR	**Pinedale Array**	**85.04**	**43**	P	**P**	**03 47 12.2**	**-1.7**
PDAR	**Pinedale Array**	**85.04**	**43**	P	**P**	**03 47 12.2**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=211,slow=3.2,SNR=7.2						
PDAR				LR	LR	04 18 23.5	
	comp=Z,121nm,19.8s,baz=249,slow=31						
GYA	**Guiyang**	**85.09**	**299**	*e*P	**P**	**03 47 15.0**	**+0.6**
GYA				PP	**PP**	**03 50 33.6**	**+1.5**
GYA				SKS	**S**	**03 57 36.4**	**-5.5**
GYA				S	**SKKSac**	**03 57 43.0**	**-0.3**
GYA				SS	**SS**	**04 03 19.2**	**+2.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,6.1s						
GYA				LR	LR		
	comp=N,480nm,20.9s						
GYA				LR	LR		
	comp=E,450nm,21.0s						
GYA				LR	LR		
	comp=Z,460nm,20.0s						
Z26A	**Caprock**	**85.11**	**54**	⇑P	**P**	**03 47 14.8**	**+0.4**
	baz=85						
Q22A	**Crested Butte,**	**85.16**	**48**	⇑P	**P**	**03 47 15.0**	**+0.3**
	baz=85						
428A	**Kincaid Ranch,**	**85.19**	**56**	⇑P	**P**	**03 47 14.8**	**0.0**
	baz=85						
COLD	**Coldfoot**	**85.19**	**10**	*e*P	**P**	**03 47 13.7**	**-0.2**
	comp=Z,11nm,1.2s						
529A	**Stev Forest Ra**	**85.34**	**57**	⇓P	**P**	**03 47 16.3**	**+0.7**
	baz=85						
HRY	**Holter Researc**	**85.44**	**39**	*e*P	**P**	**03 47 13.4**	**-2.3**
	comp=Z,3.3nm,0.8s						
W25A	**X Bar L Ranch,**	**85.49**	**52**	⇑P	**P**	**03 47 15.7**	**-0.6**
	baz=86						
C15A	**Salmond Ranch,**	**85.50**	**38**	⇓P	**P**	**03 47 16.0**	**0.0**
	baz=86						
429A	**Davenport Ranc**	**85.78**	**57**	⇓P	**P**	**03 47

LZH pmax pmax
comp=Z,17nm,1.5s
LZH pmax pmax
comp=Z,75nm,8.2s
LZH LR LR
comp=N,220nm,17.1s
LZH LR LR
comp=E,190nm,17.5s
LZH LR LR
comp=Z,260nm,19.8s
PLCA Paso Flores 91.86 133 LR LR 04 17 53.2
comp=Z,139nm,21.6s,baz=316,slow=28
SONM Songino Array 92.80 319 LR LR 04 28 04.5
comp=Z,87nm,20.6s,baz=156,slow=35
GTA Gaotai 94.67 310 *e*P **P 03 47 59.8 +0.4**
GTA pP **PcP 03 48 04.6 +4.9**
GTA sP sP 03 48 06.9 -7.7
GTA pmax pmax
comp=Z,3.0nm,1.7s
ULM Lac du Bonnet 96.57 40 LR LR 04 24 46.8
comp=Z,307nm,21.1s,baz=261,slow=31
ARCES ARCESS Array B 124.51 351 PKP **PKPdf 03 53 36.4 -0.2**
ARCES ARCESS Array B 124.51 351 PKP **PKPdf 03 53 36.4 -0.2**
comp=Z,1.3nm,1.0s,baz=77,slow=5.4,SNR=4.3
KIS Kishinev 142.21 331 *e*L L 03 57 32.0
CRVS Cervenica-Dubn 143.70 339 *e*PKP **PKPdf 03 54 12.6 -0.3**
DPC Dobruska-Polom 143.91 345 *e*PKP PKPbc 03 54 11.4 +0.3
MORC Moravsky Berou 144.13 344 *e*PKPdf **PKPdf 03 54 13.6 -0.1**
BR131 Keskin Array S 144.15 318 *e*PKPdf PKPbc 03 54 13.0 +0.8
BRTR Keskin Array B 144.15 318 PKP PKPbc 03 54 12.7 +0.4
BRTR Keskin Array B 144.15 318 PKP PKPbc 03 54 12.7 +0.4
comp=Z,2.0nm,1.0s,baz=66,slow=1.5,SNR=6.3
PVCC Panska Ves 144.15 347 AMS AMS 05 01 50.0
comp=Z,200nm,20.2s
KECS Kecovo 144.39 340 *e*PKP **PKPdf 03 54 14.6 +0.5**
PRU Pruhonice 144.66 347 *e*PKP **PKPdf 03 54 15.1 +0.6**
PRU AMS AMS 04 56 30.0
comp=Z,200nm,19.1s
VYHS Vyhne 144.91 341 *e*PKP **PKPab 03 54 13.8 -0.4**
PSZ Piszkesteto 145.08 340 *e*PKPdf **PKPdf 03 54 15.3 -0.1**
TREC Trest 145.10 346 *e*PKP **PKPdf 03 54 18.1 +2.8**
TREC AMS AMS 04 59 50.0
comp=Z,100nm,19.5s
KHC Kasperske Hory 145.68 347 *e*PKP **PKPdf 03 54 16.4 0.0**
KHC *ex* x 03 54 25.4
KHC *ex* x 03 54 38.9
KHC AMS AMS 05 04 10.0
comp=Z,100nm,17.1s
KHC Kasperske Hory 145.68 347 *e*PKPbc **PKPab 03 54 16.8 -0.2**
GERES GERESS Array B 145.92 347 PKPbc **PKPdf 03 54 16.2 -0.7**
GERES GERESS Array B 145.92 347 PKPbc **PKPdf 03 54 16.2 -0.7**
comp=Z,1.7nm,0.9s,baz=36,slow=2.5,SNR=7.8
MMAI Mount Meron Ar 145.98 306 PKPbc **PKPab 03 54 19.2 +0.4**
MMAI Mount Meron Ar 145.98 306 PKPbc **PKPab 03 54 19.2 +0.4**
comp=Z,14nm,1.0s,baz=61,slow=3.9,SNR=7.6
WLF Walferdange 146.18 356 *e*PKPbc **PKPab 03 54 20.1 +1.3**
CONA Conrad Observa 146.27 344 ⇓*i*pPKPbc **PKPab 03 54 20.4 +1.1**
comp=Z,15nm,1.3s
MOA Molln 146.74 346 ⇑*i*pPKPdf **PKPbc 03 54 19.9 +0.1**
comp=Z,11nm,1.1s
ARSA Arzberg 146.98 344 ⇑*i*sPKPdf **PKPab 03 54 21.9 -0.2**
comp=Z,7.9nm,1.4s
BFO Black Forest 147.31 353 *e*PKPbc **PKPbc 03 54 20.7 -0.8**
EIL Elat 147.49 301 PKPbc **PKPbc 03 54 22.9 +0.4**
EIL Elat 147.49 301 PKPbc **PKPbc 03 54 22.9 +0.4**
comp=Z,4.5nm,0.8s,baz=127,slow=3.2,SNR=2.9
PERS Pernice 147.66 344 *i* PKPdf **PKPab 03 54 24.0 -0.7**
DAVA Damuels 148.12 351 ⇑*i*PKPab **PKPbc 03 54 24.7 +0.8**
comp=Z,15nm,1.3s
ABTA Abfaltersbach 148.17 347 ⇑*i*pPKPdf **PKPbc 03 54 23.4 -0.6**
comp=Z,9.9nm,1.2s
FETA Feichten 148.25 350 ⇑*i*PKPab **PKPbc 03 54 25.3 +1.0**
comp=Z,10nm,1.3s
JAVS Javornik 148.62 345 *i* PKPdf **PKPbc 03 54 26.2 +1.1**
BOJS Bojanci 148.66 343 *i* PKPdf **PKPab 03 54 29.4 +0.7**
TUE Stuetta 149.00 351 *e*PKPdf **PKPdf 03 54 23.8 +1.6**
TUE *e*PKPbc **PKPab 03 54 29.1 -1.3**
BNI Bardonecchia 150.72 354 *e*PKPbc **PKPbc 03 54 30.1 -0.3**
TORD Torodi Ar. Bea 177.08 157 PKP **PKPdf 03 54 49.0 -0.3**
TORD Torodi Ar. Bea 177.08 157 PKP **PKPdf 03 54 49.0 -0.3**
comp=Z,0.9nm,0.9s,baz=214,slow=1.0,SNR=3.4

IDC 07 03:46:11.9±1.1, 7°.95S×68°.16E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/27, mbtmp3.8/7, MS3.6/2, Ms1 3.5/2, ms1mx3.1/28, Error ellipse: s-maj=32.7km s-min=25.7km az=40.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.52**	**281**	LR	LR	04 02 49.0	
comp=Z,70nm,21.9s,baz=278,slow=32							
LSZ	**Lusaka**	**39.77**	**256**	P	P	03 53 47.0	-0.1
1.0nm,0.5s,baz=91,slow=15,SNR=4.2							
BOSA	**Boshof**	**45.30**	**237**	LR	LR	04 12 49.9	
comp=Z,86nm,18.2s,baz=257,slow=35							
MKAR	**Makanchi Array**	**55.94**	**12**	P	P	03 55 51.2	-0.6
0.6nm,0.7s,baz=184,slow=7.4,SNR=5.6							
AKTO	**Aktyubinsk**	**58.81**	**352**	P	P	03 56 11.5	-0.5
0.6nm,0.6s,baz=176,slow=9.1,SNR=3.3							
ASAR	**Alice Springs**	**64.67**	**112**	P	P	03 56 51.6	-0.6
0.5nm,0.7s,baz=272,slow=6.4,SNR=5.1							
WRA	**Warramunga Arr**	**64.98**	**108**	P	P	03 56 54.5	+0.2
0.4nm,0.6s,baz=273,slow=5.8,SNR=3.8							
SONM	**Songino Array**	**65.00**	**27**	P	P	03 56 54.7	+0.8
0.9nm,0.8s,baz=216,slow=6.0,SNR=5.8							
ARCES	**ARCESS Array B**	**82.67**	**346**	P	P	03 58 36.6	-0.3
0.8nm,0.7s,baz=104,slow=10,SNR=6.5							
PDAR	**Pinedale Array**	**145.26**	**357**	PKPbc	PKPdf	04 05 52.2	-0.1
0.5nm,0.8s,baz=63,slow=0.3,SNR=3.5							

---

*ISCJB **07** 04:32:45.0±0.7, 41°.99N±0°.04×75°.78E±0°.03, h4km±4km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=6.5km s-min=4.4km az=1.3*
*IDC **07** 04:32:44.6±1.0, 41°.84N×75°.65E, h0km, mb3.6/7, mb1 3.8/12, mb1mx3.6/32, mbtmp3.7/12, ML3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/49, Error ellipse: s-maj=12.5km s-min=9.6km az=179.0*
*BJI **07** 04:32:45.7, 42°.30N×75°.49E, h10km, mb3.5/1, ML3.8/7*
*NNC **07** 04:32:46.6±0.9, 42°.01N×75°.67E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=6.3km s-min=5.5km az=154.0*
*KNET **07** 04:32:47.3±0.7, 42°.06N×75°.66E, h12km±2km, ml4.0, Error ellipse: s-maj=4.9km s-min=2.2km az=126.0*
*MOS **07** 04:32:49.0±1.5, 42°.05N×75°.65E, h33km, mb3.9/4, Error ellipse: s-maj=10.2km s-min=6.4km az=109.6*
ISC 07 04:32:47.2±1.2, 42°.03N±0°.04×75°.67E±0°.03, h10km±7km, n58, σ1§39/68, mb3.5/7, 16C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.32**	**279**	*i* PG	**Pg**	**04 32 53.8**	**+0.2**
KZA	**Kyzart**	**0.32**	**279**	⇓P	**Pg**	**04 32 53.8**	**+0.2**
2μm,0.1s,SNR=9597							
KZA				⇑S	**Sg**	**04 32 59.3**	**+1.4**
44μm,0.3s							
KBK	**Karagaybulak**	**0.82**	**320**	*i* PG	**Pb**	**04 33 03.3**	**-0.5**
KBK	**Karagaybulak**	**0.82**	**320**	P	**Pb**	**04 33 03.3**	**-0.5**
3μm,0.2s,SNR=794							
KBK				⇓S	**Sn**	**04 33 15.3**	**-2.1**
4μm,0.2s							
UCH	**Uchtor**	**0.88**	**284**	*i* PG	**Pg**	**04 33 03.8**	**-0.5**
UCH	**Uchtor**	**0.88**	**284**	P	**Pg**	**04 33 03.7**	**-0.5**
400nm,0.2s,SNR=348							
TKM2	**Tokmak 2**	**0.90**	**357**	⇓P	**Pb**	**04 33 04.1**	**-0.9**
448nm,0.3s							
TKM2				⇓S	**Sb**	**04 33 16.9**	**-0.2**
740nm,0.4s							
TKM2	**Tokmak 2**	**0.90**	**357**	PG	**Pb**	**04 33 04.1**	**-0.9**
TKM2				S	**Sb**	**04 33 16.9**	**-0.2**
TKM2				pmax	pmax		
comp=Z,448nm,0.3s							
TKM2				smax	smax		
comp=N,740nm,0.4s							
TKM2	**Tokmak 2**	**0.90**	**357**	⇓P	**Pb**	**04 33 04.2**	**-0.8**
comp=N,932nm,0.2s,SNR=2879							
TKM2				⇑S	**Sb**	**04 33 16.9**	**-0.2**
comp=N,3μm,0.2s							
AAK	**Ala-Archa**	**1.06**	**305**	*i* PG	**Pg**	**04 33 07.2**	**-0.4**
AAK	**Ala-Archa**	**1.06**	**305**	P	**Pg**	**04 33 07.3**	**-0.4**
comp=N,1μm,0.2s,SNR=645							
AAK				⇑S	**Sn**	**04 33 22.1**	**-1.1**
comp=N,4μm,0.3s							
AAK	**Ala-Archa**	**1.06**	**305**	Pg	**Pg**	**04 33 07.3**	**-0.3**
comp=N,387nm,0.3s,baz=117,slow=10,SNR=1040							
AAK				Lg	Lg	04 33 22.1	
comp=N,651nm,0.3s,baz=300,slow=20,SNR=63							
FRU	**Bishkek**	**1.12**	**316**	⇓*i* PG	**Pn**	**04 33 08.5**	**-0.5**
FRU				*i* S	**Sn**	**04 33 25.0**	**+0.4**
FRU				pmax	pmax		
comp=Z,830nm,1.6s							
FRU				smax	smax		
comp=E,2μm,2.0s							
CHMS	**Chumysh**	**1.18**	**325**	*i* PG	**Pg**	**04 33 09.5**	**-0.4**
CHMS	**Chumysh**	**1.18**	**325**	P	**Pg**	**04 33 09.5**	**-0.4**
comp=E,1μm,0.2s,SNR=1027							
CHMS				⇓S	**Sn**	**04 33 25.9**	**-0.2**
comp=E,1μm,0.2s							
AML	**Almayashu**	**1.47**	**275**	*i* PG	**Pb**	**04 33 14.3**	**-0.7**
AML	**Almayashu**	**1.47**	**275**	P	**Pb**	**04 33 14.3**	**-0.7**
comp=E,302nm,0.3s,SNR=420							
AML				⇓S	**Sg**	**04 33 34.9**	**+0.3**
comp=E,2μm,0.3s							
USP	**Ospenovka**	**1.51**	**326**	*i* PG	**Pg**	**04 33 15.1**	**-1.0**
USP	**Ospenovka**	**1.51**	**326**	P	**Pg**	**04 33 15.1**	**-1.0**
comp=E,1μm,0.2s,SNR=4329							
USP				⇑S	**Sg**	**04 33 36.2**	**+0.4**
comp=E,1μm,0.2s							
KNDC	**Almaty**	**1.53**	**38**	⇑P	**Pb**	**04 33 15.4**	**-0.3**
comp=E,153nm,0.2s							
KNDC				⇓S	**Sg**	**04 33 36.2**	**-0.1**
comp=E,637nm,0.5s							
EKS2	**Erkin-Say**	**1.54**	**295**	⇓P	**Pg**	**04 33 15.8**	**-0.9**
comp=E,293nm,0.2s,SNR=811							
EKS2				⇓S	**Sg**	**04 33 38.5**	**+1.8**
comp=E,1μm,0.4s							
KSH	**Kashi**	**2.52**	**175**	Pn	**Pg**	**04 33 36.2**	**+0.7**
KSH				Sn	Sg	04 34 17.8	+10
KSH				smax	smax		
comp=N,430nm,0.7s							
KSH				smax	smax		
comp=E,1μm,0.7s							
KK31	**Karatay Array**	**3.96**	**288**	⇑Pn	Pn	04 33 50.8	+2.8
comp=E,1.8nm,0.6s,baz=100,slow=13,SNR=146							
KK31				⇓Pg	**Pg**	**04 34 01.5**	**-1.5**
comp=E,23nm,0.4s,baz=95,slow=15,SNR=8.6							
KK31				Lg	Lg	04 34 50.8	
comp=E,64nm,0.4s,baz=100,slow=32,SNR=9.6							
KK31	**Karatay Array**	**3.96**	**288**	*e*PN	Pn	04 33 51.6	+3.6
KK31						04 34 50.8	
KK31				pmax	pmax		
comp=Z,18nm,0.2s							
MK31	**Makanchi Array**	**6.72**	**43**	Pn	**Pn**	**04 34 27.3**	**+1.2**
comp=Z,6.0nm,0.4s,baz=215,slow=14,SNR=174							
MK31				⇓Lg	Lg	04 36 14.9	
comp=Z,20nm,0.6s,baz=227,slow=29,SNR=6.2							
MK31	**Makanchi Array**	**6.72**	**43**	*e*PN	**Pn**	**04 34 27.2**	**+1.2**
MK31						04 36 08.9	
MK31				pmax	pmax		
comp=Z,5.0nm,0.2s							
MKAR	**Makanchi Array**	**6.72**	**43**	*i* PN	**Pn**	**04 34 27.5**	**+1.5**
MKAR				pmax	pmax		
comp=Z,6.0nm,0.4s							
MKAR	**Makanchi Array**	**6.72**	**43**	Pn	**Pn**	**04 34 27.1**	**+1.1**
comp=Z,1.3nm,0.3s,baz=222,slow=14,SNR=31							
MKAR				Pg	**Pg**	**04 34 53.2**	**-2.6**
comp=Z,4.1nm,0.3s,baz=219,slow=15,SNR=8.9							
MKAR				Sn	**Sn**	**04 35 44.6**	**+1.9**
comp=Z,2.6nm,0.3s,baz=224,slow=23,SNR=4.2							
MKAR				Lg	Lg	04 36 19.7	
comp=Z,9.3nm,0.3s,baz=227,slow=28,SNR=6.1							
KURBB	**Kurchatov Arra**	**8.82**	**12**	Pn	**Pn**	**04 34 55.9**	**+1.2**
comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=4.7							
KURBB				Pg	Pg	04 35 27.6	-8.4
comp=Z,0.5nm,0.3s,baz=197,slow=16,SNR=6.2							
KURBB				Sn	**Sn**	**04 36 36.4**	**+2.2**
comp=Z,0.5nm,0.3s,baz=195,slow=16,SNR=5.2							
KURBB				Lg	Lg	04 37 23.1	
comp=Z,0.8nm,0.3s,baz=203,slow=32,SNR=6.6							
KURK	**Kurchatov**	**8.93**	**12**	P	**Pn**	**04 34 55.9**	**-0.3**
KURK						04 36 36.4	
KURK				pmax	pmax		
comp=Z,1.0nm,0.3s							
KURK				smax	smax		
comp=N,1.0nm,0.3s							
VOSK	**Vostochnaya**	**11.16**	**345**	⇑Pn	**Pn**	**04 35 28.4**	**+1.6**
comp=N,2.0nm,0.6s							
VOSK				⇑Lg	Lg	04 38 40.1	
comp=N,39nm,1.1s							
VOSK	**Vostochnaya**	**11.16**	**345**	P	Pn	04 35 39.1	+12
VOSK				pmax	pmax		
comp=Z,1.0nm,0.4s							
BVA0	**Borovoye Array**	**11.56**	**344**	⇑Pn	Pn	04 35 37.1	+4.8
comp=Z,1.9nm,0.5s							
BVA0				⇑Lg	Lg	04 38 52.7	
comp=Z,60nm,1.1s							
BVA0	**Borovoye Array**	**11.56**	**344**	P	Pn	04 35 38.0	+5.7
BVA0				pmax	pmax		
comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**11.56**	**344**	P	**Pn**	**04 35 32.8**	**+0.6**
BVAR						04 37 43.3	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR				smax	smax		
comp=N,1.0nm,0.3s							
BVAR	**Borovoye Array**	**11.56**	**344**	Pn	**Pn**	**04 35 32.8**	**+0.6**
comp=N,0.5nm,0.3s,baz=165,slow=12,SNR=5.3							
BVAR				Sn	**Sn**	**04 37 43.3**	**+1.9**
comp=N,0.9nm,0.3s,baz=159,slow=21,SNR=3.5							
BVAR				Lg	Lg	04 38 50.0	
comp=N,2.1nm,0.3s,baz=149,slow=29,SNR=8.2							
BRVK	**Borovoye**	**11.62**	**344**	⇓Pn	Pn	04 35 36.0	+3.0
comp=N,6.8nm,0.8s							
BRVK				⇑Lg	Lg	04 38 51.2	
comp=N,91nm,1.1s							
BRVK	**Borovoye**	**11.62**	**344**	*i* P	**Pn**	**04 35 34.6**	**+1.6**
AB31	**Akbulak array**	**13.15**	**309**	⇑Pn	**Pn**	**04 35 55.7**	**+1.8**
comp=N,4.2nm,0.6s,baz=114,slow=14,SNR=71							
AB31				⇓Sn	**Sn**	**04 38 24.2**	**+4.0**
comp=N,3.1nm,0.7s							
AB31				⇑Lg	Lg	04 39 44.4	
comp=N,4.8nm,0.8s							
AB31	**Akbulak array**	**13.15**	**309**	*e*P	**Pn**	**04 35 56.2**	**+2.3**
AB31				pmax	pmax		
comp=Z,6.0nm,0.6s							
ZALV	**Zalesovo Beam**	**13.39**	**24**	*i* P	**Pn**	**04 35 58.4**	**+1.2**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**13.39**	**24**	Pn	**Pn**	**04 35 57.4**	**+0.1**
comp=Z,0.4nm,0.3s,baz=216,slow=14,SNR=7.6							
ZALV				Lg	Lg	04 39 53.3	
comp=Z,0.4nm,0.3s,baz=196,slow=26,SNR=5.6							
NVS	**Novosibirsk**	**13.76**	**19**	*e*P	P	04 36 05.8	-5.1
AKTO	**Aktyubinsk**	**14.80**	**311**	⇑Pn	**P**	**04 36 19.5**	**-3.0**
comp=Z,10nm,1.4s							
AKTO				⇓Sn	**Sn**	**04 39 02.8**	**+2.3**
comp=Z,3.6nm,1.4s							
AKTO				⇑Lg	Lg	04 40 37.5	
comp=Z,10nm,1.0s							
AKTO	**Aktyubinsk**	**14.80**	**311**	P	**Pn**	**04 36 14.6**	**-1.9**
AKTO	**Aktyubinsk**	**14.80**	**311**	Pn	**Pn**	**04 36 14.6**	**-1.9**
comp=Z,0.1nm,0.3s,baz=104,slow=13,SNR=4.1							
ARU	**Arti**	**18.16**	**328**	*e*P	**P**	**04 37 02.5**	**+2.9**
ARU				pmax	pmax		
comp=Z,8.0nm,1.7s							
ZAK	**Zakamensk**	**20.76**	**57**	*e*P	**P**	**04 37 28.0**	**-0.2**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**22.42**	**64**	P	**P**	**04 37 45.9**	**-0.2**
comp=Z,0.2nm,0.3s,baz=273,slow=5.3,SNR=3.4							
BRTR	**Keskin Array B**	**31.63**	**280**	P	**P**	**04 39 10.8**	**+0.2**
comp=Z,2.3nm,0.7s,baz=96,slow=8.4,SNR=15							
ARCES	**ARCESS Array B**	**37.60**	**334**	P	**P**	**04 40 03.2**	**+1.6**
comp=Z,0.5nm,0.7s,baz=94,slow=8.3,SNR=5.8							
KSRS	**Korea Array**	**39.93**	**79**	LR	LR	04 56 45.4	
comp=Z,30nm,19.0s,baz=225,slow=36							
NB2	**NORSAR Subarra**	**42.35**	**319**	P	**P**	**04 40 40.1**	**-1.1**
comp=Z,0.5nm,0.5s,baz=88,slow=8.6							
NOA	**NORSAR Array B**	**42.35**	**319**	P	**P**	**04 40 40.5**	**-0.7**
comp=Z,0.5nm,0.6s,baz=87,slow=8.1,SNR=3.7							
GERES	**GERESS Array B**	**42.94**	**301**	P	**P**	**04 40 46.5**	**+0.3**
comp=Z,0.1nm,0.3s,baz=107,slow=7.3,SNR=5.1							
COCO	**West Island**	**57.36**	**155**	*i* P	P	04 42 39.2	+3.6
TORD	**Torodi Ar. Bea**	**69.44**	**269**	P	**P**	**04 43 54.5**	**-1.4**
comp=Z,2.2nm,0.7s,baz=51,slow=5.3,SNR=30							
WRA	**Warramunga Arr**	**82.05**	**126**	P	**P**	**04 45 05.8**	**-2.1**
comp=Z,0.5nm,0.9s,baz=328,slow=4.6,SNR=2.9							

---

*AUST **07** 04:41:34.4, 8°.49N×127°.03E, h60km*

*IDC **07** 04:41:40.0±0.8, 7°.08N×126°.57E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/26, mbtmp3.9/8, Error ellipse: s-maj=17.0km s-min=11.3km az=23.0*
*MAN **07** 04:41:44, 7°.00N×126°.36E, h32km, mb4.0, ML2.8, MS2.5*
ISC 07 04:41:48.1±0.8, 6°.79N±0°.06×126°.09E±0°.07, h53km, n28, σ1§08/26, mb3.9/8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.23**	**47**	*e*P	Pn	04 41 51.4	-5.6
MATI				*e*S	**Pn**	**04 41 55.8**	**-1.1**
DAV	**Davao City (W)**	**0.58**	**299**	Pg	**Pn**	**04 41 59.9**	**-0.6**
345nm,0.3s,baz=282,slow=2.1,SNR=18							
DAV				Lg	Lg	04 42 12.1	
760nm,0.3s,baz=270,slow=20,SNR=37							
DMPH	**Davao City--Mi**	**0.65**	**297**	⇓*e*P	**Pn**	**04 42 01.0**	**-0.4**
DMPH				*e*S	**Sn**	**04 42 12.6**	**+1.7**
GSPH	**General Santos**	**1.33**	**238**	*e*P	**Pn**	**04 42 08.8**	**-1.7**
GSPH				*e*S	**Sn**	**04 42 27.3**	**0.0**
BUKP	**Musuan**	**1.48**	**317**	*e*P	**Pn**	**04 42 10.7**	**-1.8**
CTBH	**Cotabato--PC H**	**1.88**	**283**	⇓*i*P	**Pn**	**04 42 17.7**	**-0.1**
BUTP	**Butuan**	**2.21**	**348**	*e*P	**Pn**	**04 42 23.3**	**+0.9**
PAGZ	**Pagadian**	**2.88**	**292**	*e*P	**Pn**	**04 42 32.0**	**+0.4**
SOEI	**Soe**	**16.54**	**186**	S	S	04 49 06.8	+18
baz=18,SNR=4.4							
WSI	**Waingapu**	**17.34**	**200**	S	S	04 49 28.4	+23
baz=19,SNR=4.0							
KNRA	**Kununurra**	**22.48**	**173**	P	**P**	**04 46 44.9**	**+1.7**
baz=24,SNR=11							
PMBI	**Palembang**	**23.37**	**246**	P	P	04 46 58.4	+6.1
baz=25,SNR=4.4							
PMBI				S	Sn	04 51 15.5	-8.3
baz=25,SNR=3.8							
FITZ	**Fitzroy Crossi**	**24.74**	**181**	P	**P**	**04 47 05.0**	**+0.2**
2.4nm,0.5s,baz=13,slow=9.5,SNR=17							
FITZ	**Fitzroy Crossi**	**24.74**	**181**	P	**P**	**04 47 05.4**	**+0.7**
baz=27,SNR=18							
WRA	**Warramunga Arr**	**27.78**	**163**	P	**P**	**04 47 31.8**	**-0.5**
2.2nm,0.7s,baz=334,slow=10,SNR=16							
GSI	**Gunungsitoli**	**28.95**	**260**	P	P	04 47 35.6	-7.2
baz=30,SNR=3.0							
ASAR	**Alice Springs**	**31.22**	**166**	P	**P**	**04 48 03.0**	**+0.2**
1.0nm,0.4s,baz=347,slow=7.5,SNR=15							
MEEK	**Meekatharra**	**34.01**	**192**	P	**P**	**04 48 27.5**	**+0.4**
baz=36,SNR=4.4							
MORW	**Morawa**	**36.94**	**195**	P	**P**	**04 48 52.6**	**+0.4**
baz=39,SNR=3.3							
FORT	**Forrest**	**37.40**	**177**	P	**P**	**04 48 56.8**	**+0.7**
baz=39,SNR=8.4							
BLDU	**Ballidu**	**38.27**	**193**	P	**P**	**04 49 03.7**	**+0.3**
baz=40,SNR=5.0							
BBOO	**Buckleboo**	**40.51**	**167**	P	**P**	**04 49 22.7**	**+0.6**
baz=42,SNR=11							
STKA	**Stephens Creek**	**41.20**	**160**	P	**P**	**04 49 28.4**	**+0.6**
3.2nm,0.5s,baz=344,slow=9.2,SNR=8.0							
STKA	**Stephens Creek**	**41.20**	**160**	P	**P**	**04 49 28.8**	**+1.0**
baz=43,SNR=4.4							
SONM	**Songino Array**	**44.21**	**341**	P	**P**	**04 49 51.4**	**-0.8**
0.3nm,0.5s,baz=136,slow=9.2,SNR=3.2							
MKAR	**Makanchi Array**	**54.70**	**324**	P	**P**	**04 51 12.0**	**0.0**
0.6nm,0.6s,baz=119,slow=7.1,SNR=9.3							
ZALV	**Zalesovo Beam**	**57.59**	**332**	P	**P**	**04 51 30.1**	**-2.3**
0.4nm,0.4s,baz=72,slow=4.7,SNR=2.7							
KURBB	**Kurchatov Arra**	**58.84**	**327**	P	**P**	**04 51 39.5**	**-1.7**
0.9nm,0.7s,baz=125,slow=6.0,SNR=8.8							

---

*ISCJB **07** 04:45:22.5±0.8, 41°.41N±0°.03×140°.13E±0°.05, h12km±5km, mb3.5/2, Error ellipse: s-maj=6.5km s-min=4.7km az=176.6*
*JMA **07** 04:45:22.5, 41°.41N×140°.10E, h7km±1km, M3.3*
JMA Felt II J1.
*IDC **07** 04:45:32.9±2.2, 41°.26N×139°.96E, h88km±26km, mb3.0/2, mb1 3.3/5, mb1mx3.0/27, mbtmp3.2/5, Error ellipse: s-maj=55.1km s-min=20.2km az=121.0*
ISC 07 04:45:22.5±1.2, 41°.42N±0°.03×140°.13E±0°.05, h19km±2km, n13, σ0§42/17, 2C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSR	**Shiriuchi**	**0.24**	**62**	⇑P	**Pb**	**04 45 27.9**	**-0.2**
JSR				*e*S	**Sb**	**04 45 31.6**	**-0.2**
JSI2	**Shiura 2**	**0.42**	**149**	⇓P	**Pg**	**04 45 30.8**	**-0.2**
JSI2				*e*S	**Sg**	**04 45 36.7**	**-0.1**
JOT	**Ohata**	**0.69**	**92**	⇓P	**Pb**	**04 45 35.9**	**0.0**
JOT				*e*S	**Sg**	**04 45 45.3**	**0.0**
JYM2	**Yakumo 2**	**0.72**	**14**	P	**Pb**	**04 45 36.5**	**0.0**
JYM2				*e*S	**Sb**	**04 45 46.3**	**+0.3**
JKB	**Kayabe**	**0.82**	**55**	⇓P	**Pb**	**04 45 38.6**	**+0.4**
JKB				*e*S	**Sb**	**04 45 49.4**	**+0.5**
JIW	**Iwasaki**	**0.83**	**186**	⇑P	**Pb**	**04 45 38.0**	**-0.3**
JIW				*e*S	**Sb**	**04 45 48.8**	**-0.2**
JOSM	**Okushiri--Mats**	**0.83**	**324**	⇓P	Pb	04 45 37.7	-0.5
JOSM				*e*S	**Sb**	**04 45 48.9**	**-0.1**
JTM	**Tenmabayashi**	**0.95**	**131**	P	**Pb**	**04 45 40.1**	**-0.2**
JTM				*e*S	**Sb**	**04 45 52.6**	**+0.1**
ASAJ	**Asahikawa**	**3.25**	**33**	P	**Pg**	**04 46 23.9**	**-0.9**
1.0nm,0.3s,baz=318,slow=28,SNR=4.5							
MJAR	**Matsushiro Arr**	**5.09**	**198**	P	Pn	04 46 44.8	+7.0
0.5nm,0.3s,baz=12,slow=12,SNR=3.8							
KSRS	**Korea Array**	**10.24**	**251**	P	Pn	04 47 54.8	+6.5
0.8nm,0.3s,baz=63,slow=14,SNR=21							
ILAR	**Eielson Array**	**46.39**	**34**	P	P	04 53 51.8	+4.5
0.4nm,0.8s,baz=264,slow=7.2,SNR=4.5							
WRA	**Warramunga Arr**	**61.28**	**186**	P	**P**	**04

comp=Z,142nm,0.4s
PRU AMS AMS 04 50 10.0
comp=Z,300nm,4.5s
PRU Pruhonice 1.85 214 Pn **Pn 04 49 34.6 +0.2**
FBE Freiberg 1.86 252 *e*Pn **Pg 04 49 37.5 +0.5**
FBE *e*Sg **Sg 04 50 01.9 +0.8**
FBE Freiberg 1.86 252 Pn **Pg 04 49 37.5 +0.5**
FBE Sg **Sg 04 50 01.9 +0.8**
GKP Gorka Klasztor 1.87 21 *e*Pn **Pn 04 49 34.4 -0.3**
GKP *e*Pb **Pb 04 49 36.9 +0.5**
GKP *e*Pg **Pg 04 49 38.3 +1.0**
GKP *e*PP PnPn 04 49 44.3 +2.3
GKP *e*Sg **Sg 04 50 04.6 +3.1**
GKP Gorka Klasztor 1.87 21 *e*Pn **Pn 04 49 34.5 -0.3**
GKP Gorka Klasztor 1.87 21 *e*Pb **Pb 04 49 37.0 +0.5**
MORC Moravsky Berou 1.96 153 *e*Pn **Pn 04 49 36.4 +0.3**
MORC *e*Sg **Sg 04 50 05.3 +0.7**
MORC Moravsky Berou 1.96 153 Pn **Pn 04 49 36.4 +0.3**
MORC *e*Sg **Sb 04 50 03.8 +0.6**
125nm,0.6s,baz=336
CLL Collm 1.98 265 *e*Pn **Pn 04 49 36.4 +0.2**
CLL Collm 1.98 265 *e*Pn **Pn 04 49 36.0 -0.2**
CLL *e*Pg **Pb 04 49 39.0 +0.7**
CLL *i* 04 49 42.7
CLL *i* Sg **Sg 04 50 06.0 +1.0**
comp=Z,152nm,0.7s
CLL Collm 1.98 265 Pn **Pn 04 49 36.4 +0.2**
OKC Ostrava-Krasne 2.12 142 *e*Pn **Pn 04 49 38.4 +0.3**
OKC Ostrava-Krasne 2.12 142⇓*e*PN **Pn 04 49 38.4 +0.3**
OKC *e*PG **Pb 04 49 41.1 +0.4**
OKC *e*SG **Sb 04 50 08.8 +1.3**
comp=Z,150nm,0.8s
OKC AMS AMS 04 50 20.0
comp=Z,200nm,4.2s
OKC Ostrava-Krasne 2.12 142 Pn **Pn 04 49 38.4 +0.3**
VRAC Vranov 2.24 172 Pn **Pn 04 49 40.8 +1.0**
comp=Z,7.2nm,0.3s,baz=354,slow=15,SNR=19
VRAC Lg Lg 04 50 12.4
comp=Z,8.7nm,0.3s,baz=70,slow=21,SNR=11
VRAC Vranov 2.24 172 *e*Pn **Pn 04 49 40.7 +0.9**
baz=354
VRAC *e*Sg **Sb 04 50 12.6 +1.6**
comp=Z,104nm,0.7s,baz=354
TREC Trest 2.27 191⇓*e*PN **Pn 04 49 41.2 +0.9**
TREC *e*PG **Pb 04 49 43.8 +0.4**
TREC *e*SG **Sb 04 50 13.5 +1.5**
comp=Z,45nm,0.2s
TREC AMS AMS 04 50 20.0
comp=Z,200nm,5.0s
TREC Trest 2.27 191 Pn **Pn 04 49 41.2 +0.9**
TREC Trest 2.27 191 Pg **Pb 04 49 43.8 +0.4**
TREC Sg **Sb 04 50 13.5 +1.5**
comp=Z,45nm,0.2s
KRUC Moravsky 2.47 176 *e*Pn **Pn 04 49 43.9 +0.9**
baz=358
KRUC *e*Sg **Sg 04 50 20.4 -0.5**
comp=Z,84nm,0.8s,baz=358
TANN Tannenbergstha 2.58 246 *e*Pn **Pn 04 49 45.6 +1.1**
TANN *e*Pg **Pg 04 49 51.6 +0.7**
TANN *e*Sg **Sg 04 50 24.6 +0.3**
TANN Tannenbergstha 2.58 246 Pn **Pn 04 49 45.6 +1.1**
WERD Werda 2.66 247 *e*Pn **Pn 04 49 46.5 +1.0**
WERD *e*Pg **Pg 04 49 53.0 +0.7**
WERD Werda 2.66 247 Pn **Pn 04 49 46.5 +1.0**
OJC Ojcow 2.66 118 *e*Pg **Pg 04 49 52.9 +0.5**
OJC *e*Sg **Sg 04 50 28.8 +1.9**
OJC Ojcow 2.66 118 *e*Pn **Pn 04 49 45.7 +0.1**
OJC Ojcow 2.66 118 Pg **Pg 04 49 52.9 +0.5**
OJC Sg **Sg 04 50 28.8 +1.9**
NKC Novy Kostel 2.67 242⇓*e*PN **Pn 04 49 47.1 +1.3**
NKC *e*PG **Pb 04 49 51.8 +1.6**
NKC *e*SG **Sg 04 50 27.7 +0.3**
comp=Z,42nm,0.3s
NKC AMS AMS 04 50 40.0
comp=Z,200nm,5.7s
NKC Novy Kostel 2.67 242 Pn **Pn 04 49 47.1 +1.3**
NKC Novy Kostel 2.67 242 Pg **Pb 04 49 51.8 +1.6**
NKC Sg **Sg 04 50 27.7 +0.3**
comp=Z,42nm,0.3s
JAVC Velka Javorina 2.84 159 *e*Sg **Sg 04 50 34.5 +1.7**
comp=Z,86nm,1.6s
KHC Kasperske Hory 2.91 215⇓*e*PN **Pn 04 49 49.6 +0.6**
KHC *e*PG **Pb 04 49 55.2 +1.0**
KHC *e*SN **Sn 04 50 24.4 -0.3**
KHC *e*SG **Sg 04 50 34.0 -0.8**
comp=Z,29nm,0.3s
KHC AMS AMS 04 50 50.0
comp=Z,200nm,4.2s
KHC Kasperske Hory 2.91 215 Pn **Pn 04 49 49.6 +0.6**
KHC Kasperske Hory 2.91 215 Pg **Pb 04 49 55.2 +1.0**
KHC Sn **Sn 04 50 24.4 -0.3**
KHC Sg **Sg 04 50 34.0 -0.8**
comp=Z,29nm,0.3s
MOX Moxa 2.99 255 *e*Pg **Pg 04 49 58.7 0.0**
MOX *e*Sg **Sg 04 50 38.5 +1.1**
MOX Moxa 2.99 255 Pg **Pg 04 49 58.7 0.0**
MOX Sg **Sg 04 50 38.5 +1.1**
MANZ Manzenberg 2.99 241 *e*Pn **Pn 04 49 51.4 +1.2**
MANZ Manzenberg 2.99 241 Pn **Pn 04 49 51.4 +1.2**
ROTZ Rotzenmuhle 3.06 236 *e*Pn **Pn 04 49 52.3 +1.2**
ROTZ *e*Sg **Sg 04 50 40.8 +1.0**
ROTZ Rotzenmuhle 3.06 236 Pn **Pn 04 49 52.3 +1.2**
ROTZ Sg **Sg 04 50 40.8 +1.0**
GEC2 GERESS Array S 3.11 211 *e*Pn **Pn 04 49 53.3 +1.5**
GEC2 *e*Sg **Sg 04 50 40.9 -0.4**
GEC2 GERESS Array S 3.11 211 Pn **Pn 04 49 53.3 +1.5**
GEC2 Sg **Sg 04 50 40.9 -0.4**
GERES GERESS Array B 3.11 211 Pn **Pn 04 49 53.5 +1.7**
comp=Z,2.0nm,0.3s,baz=29,slow=12,SNR=32
GERES Pg **Pg 04 50 00.3 -0.7**
comp=Z,7.8nm,0.3s,baz=29,slow=17,SNR=56
GERES Lg Lg 04 50 38.8
comp=Z,5.4nm,0.3s,baz=25,slow=29,SNR=5.2
WET Wettzell 3.17 223 *e*Pn **Pn 04 49 53.8 +1.1**
WET Wettzell 3.17 223 Pn **Pn 04 49 53.8 +1.1**
VYHS Vyhne 3.50 149 *e*PN **Pn 04 49 56.9 -0.2**
VYHS Vyhne 3.50 149 *e*Pn **Pn 04 49 56.9 -0.2**
CONA Conrad Observa 3.61 183⇑*i*Pn **Pn 04 49 58.8 +0.1**
SNR=7.4
CONA ⇑*i*Sg **Sg 04 50 54.8 -2.5**
comp=Z,26nm,0.3s
CONA Conrad Observa 3.61 183 Pn **Pn 04 49 58.8 +0.1**
SNR=7.4
CONA Sg **Sg 04 50 54.8 -2.5**
comp=Z,26nm,0.3s
GRA1 Grafenberg Arr 3.63 242 Pn **Pn 04 49 59.7 +0.7**
GRA1 Sg **Sg 04 50 58.7 +0.6**
GRF Grafenberg Arr 3.63 242 *e*Pn **Pn 04 49 59.7 +0.7**
GRF *e*Sg **Sg 04 50 58.7 +0.6**
BSD Bornholm Skovb 3.67 349 *i* P **Pn 04 49 59.3 -0.1**
BSD *i* S **Sn 04 50 39.9 -3.4**
BSD Bornholm Skovb 3.67 349 *i* P **Pn 04 49 59.3 -0.1**
MOA Molln 3.88 199⇑*i*Pn **Pn 04 50 03.6 +1.2**
SNR=8.2
MOA ⇓*i*Sg **Sg 04 51 06.1 +0.1**
comp=Z,47nm,0.8s
MOA Molln 3.88 199 Pn **Pn 04 50 03.6 +1.2**
SNR=8.2
MOA Sg **Sg 04 51 06.1 +0.1**
comp=Z,47nm,0.8s
STHS Stebnicka Huta 3.88 121 *e*PN **Pn 04 50 03.6 +1.2**
STHS Stebnicka Huta 3.88 121 *e*Pn **Pn 04 50 03.6 +1.2**
KECS Kecovo 4.14 136 *e*PN **Pn 04 50 05.6 -0.3**
KECS Kecovo 4.14 136 *e*Pn **Pn 04 50 05.6 -0.3**
CRVS Cervenica-Dubn 4.31 126 *e*PN **Pn 04 50 09.3 +1.1**
CRVS Cervenica-Dubn 4.31 126 *e*Pn **Pn 04 50 09.3 +1.1**
KWP Kalwaria Pacla 4.59 112 *e*PPP PPP 04 50 27.2
KWP *e*Pg **Pg** 04 50 33.9 +4.5
KWP *e*Sb **Sb 04 51 21.8 +3.1**
KWP *e*Sg Sg 04 51 37.4 +8.5
KOLS Kolonicke sedl 4.71 121 *e*PN **Pn 04 50 14.6 +0.8**
KOLS Kolonicke sedl 4.71 121 *e*Pn **Pn 04 50 14.6 +0.8**
KBA Koelnbreinsper 4.81 203⇑*i*Pn **Pn 04 50 16.8 +1.4**
SNR=6.2
KBA ⇓*i*Sg **Sg 04 51 34.5 -1.5**
comp=Z,21nm,0.7s
KBA Koelnbreinsper 4.81 203 Pn **Pn 04 50 16.8 +1.4**
SNR=6.2
KBA Sg **Sg 04 51 34.5 -1.5**
comp=Z,21nm,0.7s
DAVOX Davos/Dischmat 6.28 223 Pn **Pn 04 50 37.0 +1.6**
comp=Z,0.7nm,0.3s,baz=20,slow=14,SNR=7.2
DAVOX Lg Lg 04 52 21.2
comp=Z,0.4nm,0.3s,baz=15,slow=22,SNR=4.7
NACGM Naroch 7.22 58 *e* 05 06 18.0
MICGM Minsk 7.68 63 *e* **Pg 04 51 26.0 -2.5**
AKASG Malin Array Be 8.28 91 Pn **Pn 04 51 02.2 -0.4**
comp=Z,1.8nm,0.3s,baz=279,slow=12,SNR=9.9
HFS Hagfors 8.74 352 Pn **Pn 04 51 09.4 +0.5**
comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=5.1
NOA NORSAR Array B 9.92 346 Pn **Pn 04 51 25.0 -0.2**
comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=2.5
FINES FINESS Array B 11.34 25 Pn **Pn 04 51 44.0 -0.5**
comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=5.1
FINES Sn Sn 04 53 45.3 -6.5
comp=Z,0.2nm,0.3s,baz=214,slow=20,SNR=5.1
EKA Eskdalemuir Ar 12.12 296 Pn **Pn 04 51 52.4 -2.8**
baz=101,slow=14,SNR=3.8
ARCES ARCESS Array B 18.60 10 Pn **P 04 53 17.5 -2.5**
comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=5.6
TORD Torodi Ar. Bea 40.02 202 P **P 04 56 38.5 +0.4**
comp=Z,0.5nm,0.9s,baz=12,slow=7.8,SNR=2.9

IDC ***07*** *04:54:01.3±0.9, 27°.81N×57°.15E, h0km, mb3.9/17, mb1 4.0/19, mb1mx3.9/34, mbtmp3.9/19, ML4.1/1, MS3.6/5, Ms1 3.6/5, ms1mx3.0/41, Error ellipse: s-maj=22.3km s-min=14.9km az=176.0*
ISCJB ***07*** *04:54:05.1±0.3, 28°.05N±0°.03×57°.09E±0°.04, h24km, mb4. 1/25, MS3.6/4, Error ellipse: s-maj=4.6km s-min=4.0km az=2.1*
TEH ***07*** *04:54:06.9, 28°.11N×56°.97E, h16km, ML4.1*
CSEM ***07*** *04:54:06.1±0.4, 28°.01N×57°.20E, h20km, mb4.8/9, Ms3.9, Error ellipse: s-maj=14.3km s-min=6.7km az=85.0*
THR ***07*** *04:54:08.8±1.1, 28°.21N×56°.72E, h15km±8km, ML4.4*
KISR ***07*** *04:54:10.4±0.6, 28°.77N×56°.37E, h6km±999km, ML4.2*
OMAN ***07*** *04:54:19.1±99.0, 27°.04N×56°.76E, h0km±371km, Error ellipse: s-maj=806.1km s-min=42.4km az=6.0*

ISC 07 04:54:06.0±0.5, 28°.02N±0°.04×57°.10E±0°.04, h24km, n104, σ1§53/103, mb4.2/25, MS3.6/4, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.76**	**221**	*e*Pg	**Pn**	**04 54 22.5**	**+1.3**
IBND				*e*Sg	**Sn**	**04 54 34.1**	**+2.3**
IBND				*e*		04 54 54.9	
	comp=Z,41μm,0.4s						
IBND	**Bandar-abas**	**0.76**	**221**	*e*Pg	**Pn**	**04 54 22.5**	**+1.3**
IBND				*e*Sg	**Sn**	**04 54 34.1**	**+2.3**
BNDS	**Bandar-Abbas**	**1.03**	**233**	*e*Pg	**Pb**	**04 54 26.3**	**+1.1**
BNDS				AML	AML	04 54 44.2	
	comp=E,8μm,0.6s						
BNDS				AML	AML	04 54 44.3	
	comp=N,13μm,0.1s						
BNDS	**Bandar-Abbas**	**1.03**	**233**	*e*Pg	**Pb**	**04 54 26.3**	**+1.1**
KRBR	**Kerman**	**1.97**	**351**	*e*Pg	**Pb**	**04 54 41.0**	**-0.4**
KRBR				AML	AML	04 55 13.8	
	comp=N,4μm,0.4s						
KRBR				AML	AML	04 55 14.0	
	comp=E,3μm,0.2s						
KRBR	**Kerman**	**1.97**	**351**	*e*Pg	**Pb**	**04 54 41.0**	**-0.4**
BANOM	**Banah**	**2.21**	**199**	P	**Pn**	**04 54 41.9**	**+0.7**
	SNR=127						
BANOM	**Banah**	**2.21**	**199**	P	**Pn**	**04 54 41.9**	**+0.7**
	SNR=127						
BANOM				S	**Sn**	**04 55 07.7**	**-0.1**
NAZ	**Nazwa, Dubai**	**3.29**	**203**	P	**Pn**	**04 54 55.7**	**-0.3**
HATD	**Hatta, Dubai**	**3.30**	**195**	P	**Pn**	**04 54 57.4**	**+1.2**
ASHO	**Ashiyiah**	**3.46**	**196**	P	**Pn**	**04 55 00.2**	**+1.9**
	SNR=13						
ASHO	**Ashiyiah**	**3.46**	**196**	P	**Pn**	**04 54 59.3**	**+1.0**
	SNR=20						
FAQ	**Al Faqa, Dubai**	**3.53**	**203**	P	**Pn**	**04 55 00.2**	**+0.8**
ZHSF	**Zahedan**	**3.59**	**63**	*e*Pn	**Pb**	**04 55 09.5**	**+0.6**
ZHSF	**Zahedan**	**3.59**	**63**	*e*Pn	**Pb**	**04 55 09.5**	**+0.6**
GHIR	**Ghir-Karzin**	**3.64**	**275**	*e*Pn	**Pn**	**04 55 02.4**	**+1.4**
GHIR	**Ghir-Karzin**	**3.64**	**275**	*e*Pn	**Pn**	**04 55 02.4**	**+1.4**
ASUD	**Al Ashush, Dub**	**3.74**	**206**	P	**Pn**	**04 55 02.5**	**+0.3**
IBAF	**Bafgh**	**3.79**	**340**	*e*		04 56 16.3	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**3.99**	**298**	*e*Pn	**Pn**	**04 55 09.0**	**+3.1**
IPAR				*e*		04 56 19.7	
	comp=Z,3μm,0.3s						
IPAR	**Pars**	**3.99**	**298**	*e*Pn	**Pn**	**04 55 09.0**	**+3.1**
IMEH	**Mehriz**	**3.99**	**328**	*e*Pn	**Pn**	**04 55 09.0**	**+3.1**
IMEH				*e*		04 56 20.3	
	comp=Z,2μm,0.2s						
IMEH	**Mehriz**	**3.99**	**328**	*e*Pn	**Pn**	**04 55 09.0**	**+3.1**
HOQ	**Hoqain**	**4.43**	**177**	P	**Pn**	**04 55 11.7**	**0.0**
	SNR=16						
HOQ	**Hoqain**	**4.43**	**177**	P	**Pn**	**04 55 11.7**	**0.0**
	SNR=16						
ARQ	**Araqi**	**4.70**	**187**	P	Pn	04 55 18.4	+3.0
	SNR=10						
ARQ	**Araqi**	**4.70**	**187**	P	Pn	04 55 18.4	+3.0
	SNR=10						
ICHK	**Chekchek**	**4.81**	**332**	*e*Pn	Pn	04 55 20.5	+3.4
ICHK				*e*		04 55 39.8	
	comp=Z,2μm,0.4s						
ICHK	**Chekchek**	**4.81**	**332**	*e*Pn	Pn	04 55 20.5	+3.4
ISAD	**Sadrabad**	**4.88**	**323**	*e*Pn	**Pn**	**04 55 21.3**	**+3.2**
ISAD				*e*		04 57 03.2	
	comp=Z,2μm,0.6s						
ISAD	**Sadrabad**	**4.88**	**323**	*e*Pn	**Pn**	**04 55 21.3**	**+3.2**
BSY	**Bisya**	**5.26**	**179**	⇑P	**Pn**	**04 55 24.9**	**+1.8**
	SNR=6.7						
BSYO	**Bisya**	**5.27**	**179**	P	**Pn**	**04 55 24.9**	**+1.6**
	SNR=6.7						
IGAR	**Gharneh**	**6.18**	**316**	*e*Pn	**Pn**	**04 55 38.8**	**+2.8**
IGAR				*e*		04 56 53.7	
	comp=Z,527nm,0.1s						
IZEF	**Zefreh**	**6.37**	**321**	*e*Pn	**Pn**	**04 55 40.5**	**+2.0**
IZEF				*e*		04 55 43.9	
	comp=Z,221nm,0.2s						
IZEF	**Zefreh**	**6.37**	**321**	*e*Pn	**Pn**	**04 55 40.5**	**+2.0**
IPIR	**Pirpir**	**7.09**	**312**	*e*Pn	**Pn**	**04 55 51.6**	**+3.0**
IPIR				*e*		04 57 15.4	
	comp=N,805nm,0.2s						
IPIR	**Pirpir**	**7.09**	**312**	*e*Pn	**Pn**	**04 55 51.6**	**+3.0**
IKLH	**Kolahrood**	**7.10**	**319**	*e*Pn	**Pn**	**04 55 51.4**	**+2.8**
IKLH				*e*		04 57 15.6	
	comp=N,413nm,0.2s						
IKLH	**Kolahrood**	**7.10**	**319**	*e*Pn	**Pn**	**04 55 51.4**	**+2.8**
KBD	**Kabd**	**8.35**	**280**	*e*P	**Pn**	**04 56 07.8**	**+2.3**
KBD				AML	AML	04 57 38.4	
	comp=Z,26nm,0.4s						
KBD	**Kabd**	**8.35**	**280**	*e*P	**Pn**	**04 56 07.8**	**+2.3**
UMR	**Umm Al-Rimmam**	**8.37**	**283**	*e*P	**Pn**	**04 56 07.1**	**+1.2**
UMR				AML	AML	04 57 39.3	
	comp=Z,46nm,0.4s						
UMR	**Umm Al-Rimmam**	**8.37**	**283**	*e*P	**Pn**	**04 56 07.1**	**+1.2**
RDF	**Al-Radifah**	**8.45**	**278**	*e*P	**Pn**	**04 56 08.9**	**+1.9**
RDF				*e*S	**Sn**	**04 57 38.1**	**-3.5**
RDF				AML	AML	04 57 44.1	
	comp=Z,30nm,0.3s						
RDF	**Al-Radifah**	**8.45**	**278**	*e*P	**Pn**	**04 56 08.9**	**+1.9**
NAY	**Al-Naaiem**	**8.75**	**280**	*e*P	**Pn**	**04 56 12.8**	**+1.9**
NAY				AML	AML	04 57 46.5	
	comp=Z,10nm,0.6s						
NAY	**Al-Naaiem**	**8.75**	**280**	*e*P	**Pn**	**04 56 12.9**	**+1.9**
DGRG	**David-gareji**	**16.48**	**327**	P	P	04 58 03.4	+5.3
MMAI	**Mount Meron Ar**	**19.33**	**290**	P	**Pn**	**04 58 30.4**	**-0.5**
	baz=89,slow=14,SNR=2.2						
MMAI				LR	LR	05 07 51.5	
	comp=Z,96nm,19.7s,baz=110,slow=43						
EIL	**Elat**	**19.47**	**280**	P	**P**	**04 58 31.4**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=347,slow=18,SNR=2.0						
AML	**Almayashu**	**19.51**	**40**	P	**Pn**	**04 58 33.1**	**-0.1**
	SNR=7.5						
AAK	**Ala-Archa**	**20.29**	**40**	P	Pn	04 58 41.6	-0.6
	comp=Z,4.4nm,0.5s,baz=193,slow=5.4,SNR=5.6						
AKTO	**Aktyubinsk**	**22.39**	**2**	P	**P**	**04 59 04.2**	**+1.7**
	comp=Z,4.0nm,0.6s,baz=179,slow=9.8,SNR=15						
BRTR	**Keskin Array B**	**22.64**	**307**	P	**P**	**04 59 06.8**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=123,slow=9.7,SNR=11						
PYUN	**Piuthan**	**22.84**	**84**	*e*P	**P**	**04 59 09.0**	**+1.3**
	comp=Z,42nm,0.9s						
KOLN	**Koldanda**	**23.41**	**84**	*e*P	**P**	**04 59 15.6**	**+2.1**
	comp=Z,9.5nm,0.5s						
DANN	**Dangsing**	**23.49**	**83**	*e*P	**P**	**04 59 14.4**	**+0.1**
	comp=Z,34nm,0.7s						
KKN	**Kakani**	**24.89**	**84**	*e*P	**P**	**04 59 28.3**	**+1.1**
	comp=Z,22nm,0.6s						
PKIN	**Phulchoki**	**25.02**	**84**	*e*P	**P**	**04 59 30.0**	**+1.5**
	comp=Z,13nm,0.6s						
PKI	**Pulchoki**	**25.03**	**84**	*e*P	**P**	**04 59 30.0**	**+1.3**
	comp=Z,20nm,0.3s						
GUN	**Gumba**	**25.40**	**83**	*e*P	**P**	**04 59 33.4**	**+1.4**
	comp=Z,30nm,0.6s						
JIRN	**Jiri**	**25.70**	**84**	*e*P	**P**	**04 59 35.0**	**+0.2**
	comp=Z,12nm,0.4s						
RAMN	**Ramite**	**26.17**	**85**	*e*P	**P**	**04 59 41.1**	**+2.2**
BVAR	**Borovoye Array**	**26.85**	**18**	P	**P**	**04 59 45.1**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=201,slow=7.8,SNR=7.5						
BVAR				LR	LR	05 11 49.0	
	comp=Z,123nm,18.6s,baz=337,slow=40						
MKAR	**Makanchi Array**	**27.22**	**40**	P	**P**	**04 59 48.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=223,slow=7.9,SNR=12						
KURBB	**Kurchatov Array**	**27.81**	**30**	P	**P**	**04 59 53.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=228,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**32.90**	**30**	P	**P**	**05 00 38.3**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=245,slow=10,SNR=11						
ZALV				LR	LR	05 16 23.6	
	comp=Z,20nm,18.4s,baz=255,slow=41						
DPC	**Dobruska-Polom**	**38.02**	**317**	*e*P	P	05 01 26.5	+4.3
DPC				*e*pP	pP	05 01 31.0	+1.5
GERES	**GERESS Array B**	**39.17**	**314**	P	**P**	**05 01 32.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=115,slow=9.0,SNR=12						
GERES				PcP	**PcP**	**05 03 41.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=145,slow=3.6,SNR=4.4						
FINES	**FINESS Array B**	**39.29**	**337**	P	**P**	**05 01 32.7**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=151,slow=7.7,SNR=6.9						
KHC	**Kasperske Hory**	**39.33**	**314**	*e*P	**P**	**05 01 33.2**	**0.0**
KHC				*e*pP	**pP**	**05 01 37.6**	**-2.9**
KHC				*e*sP	**sP**	**05 01 42.1**	**-1.3**
KHC	**Kasperske Hory**	**39.33**	**314**	P	**P**	**05 01 33.2**	**0.0**
SBF	**Sospel**	**42.55**	**305**	*e*P	**P**	**05 01 59.7**	**-0.2**
SONM	**Songino Array**	**42.75**	**49**	P	**P**	**05 02 01.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=264,slow=7.3,SNR=3.7						
SONM				LR	LR	05 21 51.4	
	comp=Z,102nm,19.3s,baz=44,slow=39						
MBDF	**Montbardon**	**43.11**	**307**	*e*P	**P**	**05 02 04.4**	**0.0**
	comp=Z,5.5nm,0.6s						
MBDF	**Montbardon**	**43.11**	**307**	*e*P	**P**	**05 02 04.4**	**0.0**
	comp=Z,5.0nm,0.6s						
LPG	**La Plagne**	**43.20**	**308**	*e*P	**P**	**05 02 04.9**	**-0.4**
	comp=Z,6.6nm,0.7s						
LPG	**La Plagne**	**43.20**	**308**	*e*P	**P**	**05 02 04.9**	**-0.4**
	comp=Z,6.0nm,0.7s						
LPL	**La Plagne**	**43.21**	**308**	*e*P	**P**	**05 02 04.7**	**-0.7**
LPL	**La Plagne**	**43.21**	**308**	*e*P	**P**	**05 02 04.7**	**-0.7**
CABF	**La Chapelle**	**43.78**	**309**	*e*P	**P**	**05 02 09.7**	**-0.1**
	comp=Z,14nm,1.0s						
CABF	**La Chapelle**	**43.78**	**309**	*e*P	**P**	**05 02 09.7**	**-0.1**
	comp=Z,13nm,1.0s						
NB2	**NORSAR Subarra**	**44.94**	**330**	P	**P**	**05 02 17.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=114,slow=7.9						
NOA	**NORSAR Array B**	**44.94**	**330**	P	**P**	**05 02 19.6**	**+0.8**
	comp=Z,0.7nm,1.0s,baz=115,slow=7.9,SNR=2.6						
SMF	**Signal de Mont**	**45.32**	**309**	*e*P	**P**	**05 02 21.7**	**-0.3**
	comp=Z,20nm,0.9s						
SMF	**Signal de Mont**	**45.32**	**309**	*e*P	**P**	**05 02 21.7**	**-0.3**
	comp=Z,20nm,0.9s						
LOR	**Lormes**	**45.37**	**310**	*e*P	**P**	**05 02 21.8**	**-0.6**
	comp=Z,6.5nm,0.7s						
LOR	**Lormes**	**45.37**	**310**	*e*P	**P**	**05 02 21.8**	**-0.6**
	comp=Z,6.0nm,0.7s						
ARCES	**ARCESS Array B**	**45.38**	**345**	P	**P**	**05 02 21.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=132,slow=8.2,SNR=12						
ARCES				PcP	**PcP**	**05 04 00.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=138,slow=3.1,SNR=7.9						
SSF	**Saint Saulge**	**45.59**	**310**	*e*P	**P**	**05 02 23.8**	**-0.3**
	comp=Z,15nm,0.8s						
SSF	**Saint Saulge**	**45.59**	**310**	*e*P	**P**	**05 02 23.8**	**-0.3**
	comp=Z,14nm,0.8s						
AVF	**Avril sur Loir**	**45.67**	**309**	*e*P	**P**	**05 02 24.2**	**-0.5**
	comp=Z,9.1nm,0.9s						
AVF	**Avril sur Loir**	**45.67**	**309**	*e*P	**P**	**05 02 24.2**	**-0.5**
	comp=Z,9.0nm,0.9s						
TCF	**Toulx Ste Croi**	**46.42**	**308**	*e*P	**P**	**05 02 30.5**	**-0.2**
	comp=Z,11nm,0.8s						
TCF	**Toulx Ste Croi**	**46.42**	**308**	*e*P	**P**	**05 02 30.5**	**-0.2**
	comp=Z,11nm,0.8s						
RJF	**Les Rejaudoux**	**46.86**	**307**	*e*P	**P**	**05 02 34.5**	**+0.4**
	comp=Z,9.1nm,0.7s						
RJF	**Les Rejaudoux**	**46.86**	**307**	*e*P	**P**	**05 02 34.5**	**+0.4**
	comp=Z,9.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**50.64**	**320**	P	**P**	**05 03 01.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=97,slow=8.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**53.52**	**266**	P	**P**	**05 03 24.2**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=61,slow=7.2,SNR=60						
KSRS	**Korea Array**	**59.06**	**61**	P	**P**	**05 04 03.0**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=273,slow=6.6,SNR=8.4						
DAV	**Davao City (W)**	**67.73**	**94**	LR	LR	05 35 03.6	
	comp=Z,143nm,18.4s,baz=150,slow=36						
WRA	**Warramunga Arr**	**88.55**	**113**	P	**P**	**05 06 56.9**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=318,slow=4.1,SNR=7.2						
ASAR	**Alice Springs**	**90.09**	**117**	P	**P**	**05 07 01.8**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=294,slow=4.8,SNR=4.0						

MEX 07 04:56:06.3±0.4, 16°.21N×98°.20W, h4km±3km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**20**	*i* P	Pg	04 56 09.7	-0.4
PNIG				*i* S	Sg	04 56 12.7	-0.1
VHO	**Vista Hermosa**	**1.64**	**58**	*e*P	Pn	04 56 32.7	-3.6
VHO				*e*S	Sn	04 56 53.4	-4.8
HUIG	**Huatulco**	**2.06**	**102**	*e*P	Pn	04 56 38.7	-3.0
HUIG				*i* S	Sn	04 57 03.0	-4.8
CAIG	**El Cayaco**	**2.15**	**293**	*e*P	Pn	04 56 40.4	-2.7
CAIG				*e*S	Sn	04 57 05.9	-4.3
MEIG	**Mezcala**	**2.18**	**322**	*e*P	Pn	04 56 40.3	-3.2
MEIG				*e*S	Sn	04 57 05.7	-5.5
TPIG	**Tehuac#an**	**2.34**	**20**	*i* P	Pn	04 56 42.4	-3.4
TPIG				*i* S	Sn	04 57 11.3	-3.9
PLIG	**Platanillo**	**2.50**	**330**	*e*P	Pn	04 56 45.6	-2.3
PLIG				*e*S	Sn	04 57 14.4	-4.7
YAIG

MJAR	Matsushiro Arr	0.93	72	P	Pn	05 05 17.5	+0.7
	16nm,0.3s,baz=254,slow=6.9,SNR=145						
MJAR				S	S	05 05 45.8	+0.1
	1.6nm,0.3s,baz=30,slow=13,SNR=17						
JSZ	Suzu	1.21	10	P	Pn	05 05 18.6	+0.4
JSZ				eS	S	05 05 48.6	+0.2
JYN	Shimob	1.39	123	P	Pn	05 05 19.1	-0.5
JRY	Ryogami san	1.47	99	P	Pn	05 05 20.3	+0.2
JRY				eS	S	05 05 51.0	-0.6
JHG	Hegura jima	1.59	355	P	Pn	05 05 21.7	+0.9
JHG				eS	S	05 05 54.2	+1.1
JWT	Wachi	1.70	236	P	Pn	05 05 21.5	-0.3
JWT				eS	S	05 05 52.6	-2.0
JOD2	Odawara 2	1.89	121	P	Pn	05 05 23.5	+0.2
JOD2				eS	S	05 05 57.6	+0.2
JIE	Ise	1.89	190	P	Pn	05 05 23.6	+0.2
JIE				eS	S	05 05 56.7	-0.8
JAG	Ashikaga	1.90	84	P	Pn	05 05 23.0	-0.3
JAG				eS	S	05 05 56.2	-1.3
JSD	Sado	2.00	27	P	Pn	05 05 24.8	+0.7
JSD				eS	S	05 05 58.7	-0.3
TK02	Tokai 2	2.37	167	P	Pn	05 05 27.6	+0.3
JAW	Awa shima	2.78	37	P	Pn	05 05 32.1	+0.7
JNU	Nakatsue	6.01	240	P	Pn	05 06 08.4	-0.5
	1.2nm,0.3s,baz=298,slow=10,SNR=6.7						
USRK	Ussuriysk Arra	8.84	335	P	Pn	05 06 45.2	+1.3
	0.3nm,0.3s,baz=156,slow=12,SNR=18						
ASAJ	Asahikawa	8.90	26	P	Pn	05 06 42.9	-1.8
	14nm,0.3s,baz=218,slow=12,SNR=41						
ASAJ				S	S	05 08 20.3	-5.2
	0.8nm,0.3s,baz=47,slow=19,SNR=2.4						
MKAR	Makanchi Array	41.60	302	P	P	05 12 01.4	-0.7
	0.4nm,0.6s,baz=93,slow=9.4,SNR=5.0						
KURBB	Kurchatov Arra	43.76	308	P	P	05 12 19.2	-0.1
	0.7nm,0.5s,baz=85,slow=7.7,SNR=11						
KURBB				PcP	PcP	05 13 59.8	-1.0
	0.2nm,0.4s,baz=97,slow=3.7,SNR=4.3						
ILAR	Eielson Array	51.99	32	P	P	05 13 22.6	+0.7
	0.3nm,0.5s,baz=253,slow=4.6,SNR=5.7						
WRA	Warramunga Arr	55.95	183	P	P	05 13 49.9	-1.0
	1.0nm,0.4s,baz=360,slow=7.6,SNR=43						
ASAR	Alice Springs	59.68	183	P	P	05 14 16.0	-0.7
	0.5nm,0.6s,baz=12,slow=13,SNR=10						
ARCES	ARCESS Array B	63.48	339	P	P	05 14 41.6	+0.2
	0.4nm,0.5s,baz=62,slow=7.5,SNR=9.2						
FINES	FINESS Array B	67.85	331	P	P	05 15 09.2	-0.1
	0.9nm,0.5s,baz=70,slow=6.9,SNR=8.6						
NB2	NORSAR Subarra	73.52	336	P	P	05 15 43.2	-0.2
	comp=Z,0.5nm,0.5s,baz=42,slow=5.9						
NOA	NORSAR Array B	73.52	336	P	P	05 15 43.6	+0.2
	comp=Z,0.8nm,0.7s,baz=41,slow=5.8,SNR=5.1						
NVAR	Mina Array Bea	78.19	51	P	P	05 16 11.4	+0.9
	comp=Z,0.4nm,0.3s,baz=306,slow=7.7,SNR=4.2						
PDAR	Pinedale Array	80.64	43	P	P	05 16 24.2	+0.7
	comp=Z,0.7nm,0.7s,baz=313,slow=4.8,SNR=6.9						
TXAR	Lajitas Array	93.30	50	P	P	05 17 26.1	+1.1
	comp=Z,0.7nm,0.6s,baz=298,slow=3.0,SNR=13						

IDC 07 05:06:56.1±5.6, 1°32S×100°56E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=307.2km s-min=28.7km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.86	122	P	P	05 14 15.3	+0.3
	0.8nm,0.4s,baz=299,slow=8.9,SNR=6.9						
ASAR	Alice Springs	39.21	127	P	P	05 14 25.9	-0.5
	0.4nm,0.5s,baz=302,slow=8.3,SNR=5.2						
MKAR	Makanchi Array	50.53	344	P	P	05 15 56.1	-0.1
	0.3nm,0.4s,baz=152,slow=8.3,SNR=4.6						
TXAR	Lajitas Array	143.83	37	PKP	PKPdf	05 26 33.6	-0.7
	baz=306,slow=3.1,SNR=3.0						

*ISCJB **07** 05:33:53.8±0.4, 2°.42N±0°.06×128°.7E±0°.1, h250km, mb3.9/14, Error ellipse: s-maj=17.4km s-min=7.2km az=162.4*
*IDC **07** 05:33:53.2±1.9, 2°.40N×128°.70E, h228km±18km, mb3.6/15, mb1 3.8/15, mb1mx3.7/23, mbtmp3.6/15, Error ellipse: s-maj=22.7km s-min=8.3km az=80.0*
ISC 07 05:33:55.4±0.6, 2°.41N±0°.09×128°.7E±0°.2, h250km, n26, σ0°86/29, mb4.0/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	15.35	171	P	Pn	05 37 19.6	-0.3
	baz=1.0,SNR=6.2						
KDU	Kakadu	15.47	166	P	Pn	05 37 22.2	+0.9
	baz=1.4,SNR=3.9						
KNRA	Kununurra	17.97	180	P	P	05 37 47.9	+0.1
	baz=3.3,SNR=8.8						
FITZ	Fitzroy Crossi	20.60	188	P	P	05 38 14.3	-1.7
	1.3nm,0.5s,baz=10,slow=8.4,SNR=11						
WRA	Warramunga Arr	22.90	166	P	P	05 38 37.2	-0.5
	6.7nm,0.4s,baz=345,slow=10.0,SNR=98						
WRA				ScP	ScP	05 45 35.5	+1.1
	0.8nm,0.7s,baz=340,slow=3.1,SNR=8.9						
ASAR	Alice Springs	26.41	169	P	P	05 39 09.2	-0.4
	2.3nm,0.6s,baz=358,slow=8.2,SNR=28						
ASAR				PcP	PcP	05 42 28.2	+0.1
	0.6nm,0.5s,baz=360,slow=3.0,SNR=5.5						
ASAR				ScP	ScP	05 45 45.5	+1.4
	0.9nm,0.6s,baz=349,slow=2.4,SNR=11						
CMAR	Chiang Mai Arr	33.20	301	P	P	05 40 09.6	+0.4
	1.6nm,0.4s,baz=123,slow=8.9,SNR=9.4						
KSRS	Korea Array	34.88	359	P	P	05 40 22.6	-0.7
	3.0nm,0.4s,baz=177,slow=9.6,SNR=10						
MJAR	Matsushiro Arr	35.09	13	P	P	05 40 23.4	-1.8
	4.0nm,0.7s,baz=190,slow=10.0,SNR=9.5						
STKA	Stephens Creek	36.24	161	P	P	05 40 34.5	-0.5
	3.4nm,0.3s,baz=339,slow=8.1,SNR=22						
USRK	Ussuriysk Arra	41.72	4	P	P	05 41 20.2	+0.2
	2.0nm,0.5s,baz=163,slow=4.8,SNR=6.5						
TAPN	Taplejung	46.35	306	eP	P	05 41 56.5	-0.9
ODAN	Odare	46.40	306	eP	P	05 41 58.5	+0.8
RAMN	Ramite	47.08	305	eP	P	05 42 04.0	+1.0
	22nm,0.5s						
JIRN	Jiri	47.70	306	eP	P	05 42 08.3	+0.4
	9.6nm,0.3s						
GUN	Gumba	48.06	306	eP	P	05 42 09.6	-1.0
	16nm,0.4s						
SONM	Songino Array	49.17	340	P	P	05 42 19.0	+0.6
	1.7nm,0.6s,baz=157,slow=8.0,SNR=11						
KOLN	Koldanda	49.86	305	eP	P	05 42 24.5	+0.4
DANN	Dangsing	49.95	306	eP	P	05 42 24.8	0.0
	28nm,0.6s						
PYUN	Piuthan	50.48	305	eP	P	05 42 29.1	+0.4
	167nm,1.0s						
PETK	Petropavlovsk-	55.95	21	P	P	05 43 08.4	+0.7
	2.0nm,0.6s,baz=186,slow=8.1,SNR=6.2						
MKAR	Makanchi Array	59.74	325	P	P	05 43 34.3	+0.2
	3.3nm,0.4s,baz=114,slow=8.1,SNR=69						
ZALV	Zalesovo Beam	62.64	333	P	P	05 43 52.6	-0.8
	1.0nm,0.4s,baz=104,slow=6.3,SNR=5.6						
VNDA	Vanda	81.89	173	P	P	05 45 47.1	+0.6
	1.8nm,0.7s,baz=315,slow=6.3,SNR=19						
ILAR	Eielson Array	85.46	25	P	P	05 46 05.5	+0.7
	0.1nm,0.5s,baz=244,slow=5.4,SNR=5.2						
ARCES	ARCESS Array B	92.34	340	P	P	05 46 36.0	-1.2
	0.7nm,0.6s,baz=74,slow=5.4,SNR=6.4						

*ATH **07** 06:07:05.8, 36°.91N×21°.29E, h26km±1km, MD3.4/16*
*ISCJB **07** 06:07:06.6±0.8, 36°.91N±0°.04×21°.34E±0°.05, h24km±5km, mb3.5/9, Error ellipse: s-maj=7.7km s-min=5.6km az=144.6*
*CSEM **07** 06:07:08.3±0.3, 36°.97N×21°.45E, h20km, ML3.4/8, Error ellipse: s-maj=6.2km s-min=3.3km az=53.0*
*THE **07** 06:07:09.4, 36°.99N×21°.51E, h20km, ML3.4/8, Error ellipse: s-maj=1.4km s-min=0.7km az=67.0*
*IDC **07** 06:07:16.7±4.4, 37°.09N×21°.38E, h136km±45km, mb3.2/8, mb1 3.2/10, mb1mx3.1/30, mbtmp3.2/10, Error ellipse: s-maj=24.0km s-min=19.2km az=129.0*
ISC 07 06:07:07.2±1.0, 36°.95N±0°.03×21°.40E±0°.05, h31km±6km, n94, σ1°54/115, mb3.6/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.28	101	P	Pb	06 07 14.5	+0.1
PYL				S	Sb	06 07 18.6	-0.7
PYL	PYLOS	0.28	101	ePB	Pb	06 07 14.6	+0.1
PYL				eSB	Sb	06 07 20.6	+1.3
PYL	PYLOS	0.28	101	P	Pb	06 07 14.5	+0.1
PYL				S	Sb	06 07 18.6	-0.7
PYL				eSb	Sb	06 07 20.6	+1.3
ITM	Ithomi	0.48	61	P	Pb	06 07 17.3	0.0
ITM				S	Sb	06 07 23.3	-0.9
ITM	Ithomi	0.48	61	ePN	Pb	06 07 17.4	+0.1
ITM				eSN	Sn	06 07 25.6	+0.3
ITM	Ithomi	0.48	61	P	Pb	06 07 17.3	0.0
ITM				S	Sb	06 07 23.3	-0.9
ITM				eSn	Sn	06 07 25.6	+0.3
AMT	Artemida-Makis	0.63	23	P	Pb	06 07 19.9	+0.1
AMT				S	Sb	06 07 28.8	+0.4
AMT	Artemida-Makis	0.63	23	ePN	Pb	06 07 19.9	+0.1
AMT	Artemida-Makis	0.63	23	P	Pb	06 07 19.9	+0.1
AMT				S	Sb	06 07 28.8	+0.4
DYR	Agios Nikonas	0.77	104	P	Pb	06 07 22.3	+0.2
DYR				S	Sn	06 07 33.5	+1.0
DYR	Agios Nikonas	0.77	104	ePN	Pb	06 07 22.4	+0.3
DYR				eSN	Sn	06 07 34.8	+2.3
DYR	Agios Nikonas	0.77	104	P	Pb	06 07 22.3	+0.2
DYR				S	Sn	06 07 33.5	+1.0
DYR				eSn	Sn	06 07 34.8	+2.3
VLX	Vlachokerasia	0.89	61	P	Pn	06 07 24.4	+0.8
VLX				S	Sb	06 07 35.6	0.0
VLX	Vlachokerasia	0.89	61	ePN	Pn	06 07 24.2	+0.6
VLX				eSN	Sn	06 07 38.3	+2.8
VLX	Vlachokerasia	0.89	61	P	Pn	06 07 24.4	+0.8
VLX				S	Sb	06 07 35.6	0.0
VLX				eSn	Sn	06 07 38.3	+2.8
RLS	Riolos of Patr	1.11	3	P	Pn	06 07 28.1	+1.6
RLS	Riolos of Patr	1.11	3	ePN	Pb	06 07 28.3	+0.6
RLS	Riolos of Patr	1.11	3	ePn	Pb	06 07 28.3	+0.6
GUR	Goura	1.23	37	P	Pn	06 07 29.8	+1.4
GUR	Goura	1.23	37	ePN	Pn	06 07 29.9	+1.5
GUR	Goura	1.23	37	ePn	Pn	06 07 29.9	+1.5
KLV	Kalavryta, Ach	1.24	28	P	Pn	06 07 29.9	+1.4
KLV	Kalavryta, Ach	1.24	28	ePN	Pn	06 07 29.9	+1.4
KLV				eSN	Sb	06 07 49.8	+4.0
KLV	Kalavryta, Ach	1.24	28	P	Pn	06 07 29.9	+1.4
KLV				eSn	Sb	06 07 49.8	+4.0
AXS	Araxos	1.24	359	P	Pb	06 07 30.5	+0.4
AXS	Araxos	1.24	359	P	Pb	06 07 30.5	+0.4
VLI	Veliai	1.25	100	P	Pn	06 07 30.4	+1.9
VLI				S	Sb	06 07 46.5	+0.5
VLI	Veliai	1.25	100	ePN	Pn	06 07 30.5	+1.9
VLI				eSN	Sb	06 07 49.9	+3.9
VLI	Veliai	1.25	100	P	Pn	06 07 30.4	+1.9
VLI				S	Sb	06 07 46.5	+0.5
VLI				eSn	Sb	06 07 49.9	+3.9
LAKA	Lakka	1.36	19	P	Pn	06 07 32.0	+1.8
LAKA	Lakka	1.36	19	ePN	Pb	06 07 32.2	0.0
LAKA	Lakka	1.36	19	P	Pn	06 07 32.0	+1.8
KYTH	Kithira	1.47	117	P	Pn	06 07 33.4	+1.8
KYTH	Kithira	1.47	117	ePN	Pn	06 07 33.7	+2.1
KYTH	Kithira	1.47	117	P	Pn	06 07 33.4	+1.8
KYTH	Kithira	1.47	117	ePn	Pn	06 07 33.7	+2.1
THAL	Thalero	1.48	42	P	Pn	06 07 33.2	+1.6
THAL				S	Sn	06 07 51.0	+1.1
THAL	Thalero	1.48	42	P	Pn	06 07 33.2	+1.6
THAL				S	Sn	06 07 51.0	+1.1
ACOR	Acrocorinthos	1.50	51	P	Pn	06 07 33.3	+1.3
ACOR	Acrocorinthos	1.50	51	P	Pn	06 07 33.3	+1.3
TRIZ	Trizonia	1.51	20	P	Pb	06 07 34.7	+0.2
TRIZ	Trizonia	1.51	20	ePN	Pb	06 07 34.7	+0.2
TRIZ	Trizonia	1.51	20	P	Pb	06 07 34.7	+0.2
EFP	Efpalio	1.53	15	P	Pb	06 07 34.9	+0.1
EFP	Efpalio	1.53	15	ePN	Pb	06 07 35.1	+0.3
EFP	Efpalio	1.53	15	P	Pb	06 07 34.9	+0.1
DIDY	Didyma	1.54	69	P	Pn	06 07 33.6	+1.0
DIDY	Didyma	1.54	69	P	Pn	06 07 33.6	+1.0
KALE	Kalithea	1.55	22	P	Pb	06 07 35.4	+0.1
KALE	Kalithea	1.55	22	ePN	Pb	06 07 35.5	+0.1
KALE	Kalithea	1.55	22	P	Pb	06 07 35.4	+0.1
DID	Didima	1.56	69	P	Pn	06 07 33.5	+0.6
DID	Didima	1.56	69	ePB	Pn	06 07 34.3	+1.4
DID	Didima	1.56	69	P	Pn	06 07 33.5	+0.6
DID	Didima	1.56	69	ePb	Pn	06 07 34.3	+1.4
LTK	Loutraki	1.64	49	P	Pn	06 07 35.4	+1.5
LTK	Loutraki	1.64	49	ePB	Pn	06 07 35.5	+1.5
LTK	Loutraki	1.64	49	P	Pn	06 07 35.4	+1.5
DSF	Desfina	1.71	31	P	Pn	06 07 36.5	+1.6
DSF	Desfina	1.71	31	P	Pn	06 07 36.5	+1.6
ANKY	Antikythira Is	1.88	125	P	Pn	06 07 38.8	+1.6
ANKY	Antikythira Is	1.88	125	ePB	Pn	06 07 38.7	+1.6
ANKY	Antikythira Is	1.88	125	P	Pn	06 07 38.8	+1.6
LKD2	Lefkada island	1.93	342	P	Pn	06 07 40.4	+2.5
LKD2	Lefkada island	1.93	342	P	Pn	06 07 40.4	+2.5
ATHU	Athens Univers	2.15	61	P	Pn	06 07 42.2	+1.3
ATHU	Athens Univers	2.15	61	P	Pn	06 07 42.2	+1.3
AGG	Agios Georgios	2.19	19	P	Pn	06 07 44.1	+2.5
AGG	Agios Georgios	2.19	19	P	Pn	06 07 44.1	+2.5
SMIA	Simia	2.40	36	P	Pn	06 07 45.5	+1.2
SMIA	Simia	2.40	36	P	Pn	06 07 45.5	+1.2
ERET	Eretria	2.42	51	P	Pn	06 07 45.5	+0.8
ERET	Eretria	2.42	51	P	Pn	06 07 45.5	+0.8
MRKA	Markates	2.46	44	P	Pn	06 07 46.1	+0.9
MRKA	Markates	2.46	44	P	Pn	06 07 46.1	+0.9
THL	Klokotos Trika	2.65	10	P	Pn	06 07 50.2	+2.4
THL	Klokotos Trika	2.65	10	P	Pn	06 07 50.2	+2.4
XOR	Xorichti	2.79	30	P	Pn	06 07 51.0	+1.2
XOR	Xorichti	2.79	30	P	Pn	06 07 51.0	+1.2
STON	Ston	6.56	335	ePn	Pn	06 08 39.1	-2.3
STON				Sn	Sn	06 09 48.8	-6.4
BRTR	Keskin Array B	10.00	70	P	Pn	06 09 36.4	+7.5
	0.1nm,0.3s,baz=254,slow=13,SNR=4.2						
AKASG	Malin Array Be	14.85	20	P	P	06 10 38.6	-1.6
	0.8nm,0.3s,baz=209,slow=9.0,SNR=4.1						
HFS	Hagfors	23.72	350	P	P	06 12 14.5	-1.7
	1.0nm,0.4s,baz=167,slow=13,SNR=6.2						
FINES	FINESS Array B	24.69	5	P	P	06 12 23.5	-1.6
	1.1nm,0.4s,baz=179,slow=11,SNR=15						
EKA	Eskdalemuir Ar	24.83	326	P	P	06 12 24.7	-1.8
	0.3nm,0.5s,baz=123,slow=9.2,SNR=3.9						
NB2	NORSAR Subarra	24.96	348	P	P	06 12 25.5	-2.1
	comp=Z,0.3nm,0.4s,baz=154,slow=10						
NOA	NORSAR Array B	24.96	348	P	P	06 12 26.2	-1.4
	comp=Z,0.6nm,0.6s,baz=157,slow=9.1,SNR=4.8						
KAF	Kangasniemi	25.37	5	ep	P	06 12 29.3	-2.0
	comp=Z,1.8nm,0.4s						
TORD	Torodi Ar. Bea	29.55	222	P	P	06 13 09.5	+0.3
	comp=Z,0.4nm,0.6s,baz=28,slow=8.5,SNR=3.5						
ARCES	ARCESS Array B	32.72	3	P	P	06 13 34.9	-1.7
	comp=Z,0.2nm,0.5s,baz=186,slow=9.8,SNR=4.9						
MKAR	Makanchi Array	45.36	58	P	P	06 15 20.8	-1.7
	comp=Z,0.6nm,0.5s,baz=272,slow=7.5,SNR=12						
ZALV	Zalesovo Beam	46.00	47	P	P	06 15 25.0	-2.4
	comp=Z,0.7nm,0.4s,baz=260,slow=8.2,SNR=2.9						

WEL 07 06:40:31.2±0.5, 46°.08S×165°.92E, h25km±2km, ML3.6/14, 1C, Error ellipse: s-maj=4.6km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.05	56	PN	Pn	06 40 49.8	-0.6
DCZ				AML	AML	06 41 04.4	
DCZ				AML	AML	06 41 05.6	
DCZ				AML	AML	06 41 06.8	
WHZ	Wether Hill Ro	1.43	83	PN	Pn	06 40 55.5	0.0
WHZ				SN	Sb	06 41 14.4	-0.5
WHZ				AML	AML	06 41 15.0	
APZ	The Paps	1.62	119	↑PN	Pn	06 40 57.7	-0.5
APZ				SN	Sn	06 41 18.1	-0.2
MLZ	Mavora Lakes	1.74	66	PN	Pn	06 41 01.0	+1.1
MLZ				SN	Sb	06 41 24.4	+0.4
MLZ				AML	AML	06 41 27.5	
MSZ	Milford Sound	2.00	46	PN	Pb	06 41 05.3	-1.5
MSZ				AML	AML	06 41 39.4	
MSZ				AML	AML	06 41 42.5	
MSZ				AML	AML	06 41 43.2	
MSZ				AML	AML	06 41 44.8	
SYZ	Scrubby Hill	2.28	103	PN	Pn	06 41 07.8	+0.6
WKZ	Wanaka	2.52	61	PN	Pb	06 41 13.2	-2.5
WKZ				AML	AML	06 41 53.7	
EAZ	Earnscleugh	2.52	72	PN	Pn	06 41 12.8	+2.2
EAZ				AML	AML	06 41 47.8	
EAZ				AML	AML	06 41 55.6	
EAZ				AML	AML	06 41 55.7	
TUZ	Tuapeka	2.59	89	PN	Pn	06 41 13.0	+1.5
TUZ				AML	AML	06 41 46.5	
TUZ				AML	AML	06 41 46.8	
JCZ	Jackson Bay	2.84	46	PN	Pn	06 41 18.0	+2.9
JCZ				AML	AML	06 42 09.6	
JCZ				AML	AML	06 42 12.6	
LBZ	Lake Benmore	3.46	62	PN	Pn	06 41 24.4	+0.9
ODZ	Otahua Downs	3.48	74	PN	Pn	06 41 23.8	+0.1
FOZ	Fox Glacier	3.68	48	PN	Pn	06 41 29.7	+3.3
WVZ	Waitaha Valley	4.57	51	PN	Pn	06 41 40.6	+1.9
THZ	Tophouse	6.64	52	PN	Pn	06 42 10.3	+3.2

IDC 07 07:24:56.5±3.2, 13°.04S×66°.77E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/24, mbtmp3.6/3, MS3.6/6, Ms1 3.6/6, ms1mx3.1/36, Error ellipse: s-maj=119.4km s-min=35.5km az=54.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	31.54	290	LR	LR	07 43 39.7	
	comp=Z,50nm,19.4s,baz=277,slow=36						
PSI	Prapat	35.58	66	LR	LR	07 42 34.5	
	comp=Z,95nm,19.1s,baz=192,slow=30						
BOSA	Boshof	41.55	241	LR	LR	07 49 14.9	
	comp=Z,107nm,18.6s,baz=86,slow=35						
CMAR	Chiang Mai Arr	44.56	46	LR	LR	07 51 09.3	
	comp=Z,66nm,19.1s,baz=198,slow=35						
FITZ	Fitzroy Crossi	56.74	103	LR	LR	07 53 10.2	
	comp=Z,60nm,20.6s,baz=261,slow=30						
MKAR	Makanchi Array	61.16	12	P	P	07 35 12.8	0.0
	0.3nm,0.7s,baz=197,slow=7.4,SNR=3.5						
ASAR	Alice Springs	64.10	110	P	P	07 35 33.2	+0.2
	0.7nm,0.8s,baz=272,slow=5.5,SNR=5.4						
WRA	Warramunga Arr	64.79	106	P	P	07 35 37.4	-0.2
	0.9nm,0.7s,baz=268,slow=5.9,SNR=6.3						
WRA				LR	LR	07 58 52.2	
	comp=Z,77nm,21.7s,baz=330,slow=31						
PDAR	Pinedale Array	150.21	355	PKPbc	PKPbc	07 44 49.6	-0.4
	0.9nm,0.9s,baz=64,slow=3.4,SNR=5.9						

*THR **07** 07:27:34.0±1.3, 36°.82N×55°.23E, h14km±13km, ML3.5*
*CSEM **07** 07:27:34.1±0.2, 36°.83N×55°.23E, h2km, ML3.7, Error ellipse: s-maj=8.4km s-min=4.2km az=151.0*
*ISCJB **07** 07:27:35.0±0.3, 36°.78N±0°.04×55°.24E±0°.04, h15km, mb3.5/1, Error ellipse: s-maj=6.2km s-min=3.5km az=146.3*
*TEH **07** 07:27:36.7, 36°.82N×55°.21E, h17km, ML3.7*
*NNC **07** 07:27:42.5±8.7, 37°.68N×55°.54E, h0km, mb3.7, Error ellipse: s-maj=114.0km s-min=45.9km az=65.0*
ISC 07 07:27:36.3±0.7, 36°.88N±0°.05×55°.18E±0°.03, h15km, n69, σ1°19/69, 1C-7D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	0.42	26	↓ePg	Pg	07 27 43.8	-0.9
IMND				eSg	Sb	07 27 51.6	+0.1
IMND	Minoodasht	0.42	26	↓ePg	Pg	07 27 43.8	-0.9
IMND				eSg	Sb	07 27 51.6	+0.1
MRVT	Maraveh tapeh	1.06	43	ePg	Pb	07 27 53.6	-2.8
MRVT				AML	AML	07 28 16.5	
	comp=E,848nm,0.3s						
MRVT	Maraveh tapeh	1.06	43	ePg	Pb	07 27 53.6	-2.8
SHRO	Shahrood	1.12	143	ePg	Pb	07 27 53.1	-4.3
SHRO	Shahrood	1.12	143	ePg	Pb	07 27 53.1	-4.3
IKIA	Kiasar	1.38	241	ePn	Pn	07 27 58.6	-2.6
IKIA				eSg	Sg	07 28 20.8	0.0
IKIA				e		07 28 24.4	
	comp=Z,6μm,0.2s						
IKIA	Kiasar	1.38	241	ePn	Pn	07 27 58.6	-2.6
IKIA				eSg	Sg	07 28 20.8	0.0
BJRD	Bojnurd	1.96	65	ePg	Pn	07 28 10.1	+1.0
BJRD				AML	AML	07 28 41.7	
	comp=N,312nm,1.0s						
BJRD	Bojnurd	1.96	65	ePg	Pn	07 28 10.1	+1.0
IALA	Alasht	2.07	248	ePn	Pn	07 28 10.4	-0.3
IALA				eSg	Sb	07 28 40.2	+0.9
IALA				e		07 28 41.8	
	comp=Z,17μm,0.1s						
IALA	Alasht	2.07	248	ePn	Pn	07 28 10.4	-0.3
IALA				eSg	Sb	07 28 40.2	+0.9
ISFR	Sfrayin	2.27	85	ePn	Pn	07 28 13.3	-0.2
ISFR				e		07 28 51.8	
	comp=Z,6μm,0.3s						
ISFR	Sfrayin	2.27	85	ePn	Pn	07 28 13.3	-0.2
IFIR	Firoozkooh	2.32	238	ePn	Pn	07 28 14.7	+0.6
IFIR				e		07 28 17.6	
	comp=Z,7μm,0.2s						
IFIR	Firoozkooh	2.32	238	ePn	Pn	07 28 14.7	+0.6
IPRN	Peran	2.37	255	ePn	Pn	07 28 14.7	-0.1
IPRN				e		07 28 49.8	
	comp=Z,21μm,0.2s						
IKRD	Kardeh	2.68	91	ePn	Pg	07 28 29.8	+2.1
IKRD				e		07 29 39.2	
	comp=Z,760nm,0.3s						
IKRD	Kardeh	2.68	91	ePn	Pg	07 28 29.8	+2.1
IEMG	Emamgholi	2.83	78	ePn	Pn	07 28 21.0	-0.2
IEMG				e		07 29 08.5	
	comp=Z,2μm,0.3s						
IEMG	Emamghol

IMEH	Mehriz	5.50	185	*e*Pn		Pn	07 28 56.4	-1.5
IMEH	Mehriz	5.50	185	*e*Pn		Pn	07 28 56.4	-1.5
AB31	Akbulak array	12.85	14	⇓Pn		Pn	07 30 33.5	-4.7
	comp=Z,0.5nm,0.5s,baz=196,slow=13,SNR=8.8							
AB31				⇓Sn		Sn	07 32 51.0	-10
	comp=Z,0.6nm,0.5s,baz=200,slow=23,SNR=4.4							
AB31	Akbulak array	12.85	14	Pn		Pn	07 30 33.5	-4.7
	comp=Z,0.5nm,0.5s,SNR=8.8							
AB31				Sn		Sn	07 32 51.0	-10
	comp=Z,0.6nm,0.5s,SNR=4.4							
KK31	Karatay Array	13.29	57	P		Pn	07 30 40.6	-3.8
	comp=Z,0.7nm,0.5s,baz=244,slow=15,SNR=8.0							
KK31	Karatay Array	13.29	57	P		Pn	07 30 40.6	-3.8
	comp=Z,0.7nm,0.5s,SNR=8.0							
AKTO	Aktyubinsk	13.70	8	⇓Pn		Pn	07 30 45.3	-4.6
	comp=Z,2.3nm,0.7s							
AKTO				⇓Sn		Sn	07 33 10.6	-11
	comp=Z,1.7nm,0.7s							
AKTO	Aktyubinsk	13.70	8	Pn		Pn	07 30 45.3	-4.6
	comp=Z,2.3nm,0.7s							
AKTO				Sn		Sn	07 33 10.6	-11
	comp=Z,1.7nm,0.7s							
BRVK	Borovoye	19.32	28	⇑P		Pn	07 32 03.6	+1.8
	comp=Z,4.0nm,1.1s							
BRVK	Borovoye	19.32	28	P		Pn	07 32 03.6	+1.8
	comp=Z,4.0nm,1.1s							
BVA0	Borovoye Array	19.33	29	P		P	07 32 01.1	+0.2
	comp=Z,1.7nm,0.8s,baz=211,slow=13,SNR=8.2							
BVA0	Borovoye Array	19.33	29	P		P	07 32 01.1	+0.2
	comp=Z,1.7nm,0.8s,SNR=8.2							
MK31	Makanchi Array	22.40	55	⇓P		P	07 32 34.6	+0.5
	comp=Z,2.6nm,1.1s,baz=248,slow=12,SNR=7.5							
MK31	Makanchi Array	22.40	55	P		P	07 32 34.6	+0.5
	comp=Z,2.6nm,1.1s,SNR=7.5							

*IDC **07** 07:29:05.7±5.6, 9°.20S×119°.56E, h0km, mb4.2/1, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=170.2km s-min=29.1km az=73.0*
*ISCJB **07** 07:29:14.3±2.1, 9°.3S±0°.2×120°.0E±0°.1, h61km, mb4.0/1, Error ellipse: s-maj=26.1km s-min=16.0km az=14.6*
*AUST **07** 07:29:21.4, 9°.99S×119°.97E, h35km*

ISC 07 07:29:18.2±1.5, 9°.5S±0°.1×120°.1E±0°.1, h61km, n12, σ1§72/15, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.32	130	P		Pn	07 29 34.2	+5.7
	baz=0.5,SNR=7.2							
WSI				S		Sn	07 29 34.5	-1.6
	baz=0.5,SNR=5.6							
SOEI	Soe	4.17	94	P		Pn	07 30 23.0	+3.6
	baz=4.2,SNR=5.1							
KAPI	Kappang	4.43	356	Pn		Pn	07 30 10.8	-12
	2.9nm,0.3s,baz=193,slow=5.6,SNR=18							
KAPI				Sn		Sn	07 30 52.6	-21
	5.9nm,0.3s,baz=206,slow=22,SNR=14							
FITZ	Fitzroy Crossi	10.16	148	Pn		Pn	07 31 41.4	+0.1
	0.2nm,0.3s,baz=326,slow=9.4,SNR=13							
FITZ				Sn		Sn	07 33 33.3	-0.4
	0.6nm,0.3s,baz=191,slow=19,SNR=12							
FITZ	Fitzroy Crossi	10.16	148	P		Pn	07 31 43.1	+1.8
	baz=9.8,SNR=5.0							
FITZ				S		Sn	07 33 31.9	-1.8
	baz=9.8,SNR=5.5							
KNRA	Kununurra	10.51	127	P		Pn	07 31 47.9	+1.8
	baz=10,SNR=5.3							
KNRA				S		Sn	07 33 45.9	+3.6
	baz=10,SNR=4.5							
MTN	Manton Dam	11.38	108	S		Sn	07 34 03.4	-0.3
	baz=11,SNR=6.4							
KDU	Kakadu	12.61	106	P		Pn	07 32 14.7	-0.1
	baz=13,SNR=5.3							
PMBI	Palembang	16.51	292	P		P	07 33 08.4	+0.8
	baz=17,SNR=3.7							
WRA	Warramunga Arr	17.29	129	P		Pn	07 33 15.2	-0.4
	0.2nm,0.3s,baz=302,slow=13,SNR=11							
WRA				S		Sn	07 36 24.8	-2.7
	0.2nm,0.3s,baz=299,slow=23,SNR=8.3							
ASAR	Alice Springs	19.36	139	P		P	07 33 39.0	0.0
	0.2nm,0.3s,baz=314,slow=9.0,SNR=25							
ASAR				S		Sn	07 37 18.1	+0.7
	0.1nm,0.3s,baz=316,slow=22,SNR=4.5							
STKA	Stephens Creek	29.94	141	P		P	07 35 19.6	-1.1
	2.9nm,0.9s,baz=338,slow=11,SNR=3.0							

*IDC **07** 07:52:44.2±2.0, 22°.93S×68°.58W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=52.3km s-min=31.7km az=15.0*
*ISCJB **07** 07:53:04.3±0.7, 21°.61S±0°.05×68°.4W±0°.1, h150km±8km, mb3.4/2, Error ellipse: s-maj=17.9km s-min=8.3km az=1.0*
*GUC **07** 07:53:05.8±0.8, 21°.71S×68°.64W, h150km±5km, ML3.9*

ISC 07 07:53:05.5±1.0, 21°.62S±0°.05×68°.4W±0°.1, h144km±9km, n13, σ1§60/19, 4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	0.80	257	⇑*i*P		Pn	07 53 28.9	+0.6
PB09				*i*S		Sn	07 53 45.9	+0.4
PB09				AML		AML	07 53 48.8	
	comp=E,4μm,0.5s							
LVC	Limon Verde	1.09	206	⇑*i*P		Pn	07 53 30.9	+0.1
LVC				*i*S		Sn	07 53 50.1	0.0
PB01	Plate Boundary	1.17	299	⇑*i*P		Pn	07 53 31.5	+0.2
PB01				*i*S		Sn	07 53 51.1	+0.2
PB01				AML		AML	07 53 52.8	
	comp=N,2μm,0.3s							
CEN1	Los Morros	2.42	223	*e*P		Pn	07 53 46.8	+1.3
CEN1				*i*S		Sn	07 54 18.9	+2.7
CEN1				AML		AML	07 54 21.4	
	comp=E,292nm,0.6s							
PSGC	Pisagua	2.58	321	⇑*i*P		Pn	07 53 46.4	-1.1
PSGC				*i*S		Sn	07 54 18.4	-1.4
PSGC				AML		AML	07 54 21.9	
	comp=N,346nm,0.7s							
PB10	Plate Boundary	2.74	226	⇓*e*P		Pn	07 53 48.8	-0.5
PB10				*i*S		Sn	07 54 20.3	-2.8
PB10				AML		AML	07 54 23.0	
	comp=N,696nm,0.3s							
ANCH	Antofagasta	2.77	222	*i*P		Pn	07 53 49.7	+0.1
ANCH				*i*S		Sn	07 54 22.0	-1.7
ANCH				AML		AML	07 54 25.1	
	comp=N,517nm,0.1s							
LPAZ	La Paz	5.31	3	Pn		Pn	07 54 24.9	+1.2
	comp=N,0.8nm,0.3s,baz=153,slow=7.4,SNR=47							
SIV	San Ignacio	8.92	52	Pn		Pn	07 55 06.5	-4.8
	comp=N,1.7nm,0.3s,baz=245,slow=13,SNR=22							
BDFB	Brasilia	20.20	76	P		P	07 57 26.9	-2.4
	comp=N,2.4nm,0.6s,baz=250,slow=12,SNR=6.6							
TXAR	Lajitas Array	61.00	325	P		P	08 03 05.5	+1.5
	comp=N,0.2nm,0.6s,baz=146,slow=9.8,SNR=2.6							
TORD	Torodi Ar. Bea	76.95	70	P		P	08 04 41.7	-1.0
	comp=N,1.4nm,0.7s,baz=257,slow=5.6,SNR=15							
MKAR	Makanchi Array	145.45	36	PKPbc		PKPab	08 12 29.1	+2.0
	comp=N,0.1nm,0.4s,baz=326,slow=3.3,SNR=2.7							

*FUNV **07** 07:54:43.8, 7°.40N×72°.03W, h10km, MW3.5*
*IDC **07** 07:54:48.0±3.8, 7°.37N×71°.96W, h71km±35km, mb3.4/7, mb1 3.6/8, mb1mx3.4/23, mbtmp3.4/8, Error ellipse: s-maj=31.4km s-min=18.5km az=73.0*

ISC 07 07:54:43.4±1.5, 7°.40N±0°.06×72°.03W±0°.05, h26km±11km, n29, σ1§11/40, mb3.7/7, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	0.54	329	⇓*e*P		Pb	07 54 54.0	-0.5
CAPV				*e*S		Sb	07 55 01.6	-0.5
SOCV	Socops	1.46	53	*e*P		Pn	07 55 09.0	+0.9
SOCV				*e*S		Sb	07 55 28.9	+0.8
VIGV	El Vigia	1.57	25	*e*P		Pb	07 55 11.7	-0.2
VIGV				*e*S		Sb	07 55 32.2	+0.8
ELOV	Elorza	2.56	99	*e*P		Pn	07 55 24.7	+1.5
ELOV				*e*S		Sn	07 55 55.1	+1.6
VIRV	Villa del Rosa	3.10	353	*e*P		Pn	07 55 32.3	+1.5
VIRV				*e*S		Sn	07 56 07.4	+0.3
QARV	Quebrada Arrib	3.16	28	*e*P		Pn	07 55 32.9	+1.3
CURV	Curarigua	3.30	38	*e*P		Pn	07 55 35.3	+1.7
CURV				*e*S		Sn	07 56 12.3	+0.2
ROSC	El Rosal	3.41	222	P		Pn	07 55 39.2	+3.9
	2.8nm,0.3s,baz=82,slow=19,SNR=11							
DABV	Dabajuro	3.76	21	*e*P		Pn	07 55 41.2	+1.4
DABV				*e*S		Sn	07 56 22.7	-0.6
TEPV	Terepaima	3.79	48	*e*P		Pn	07 55 41.5	+1.3
TEPV				*e*S		Sn	07 56 23.5	-0.5
SIQV	Siquisique	3.90	34	*e*P		Pn	07 55 43.3	+1.5
SIQV				*e*S		Sn	07 56 26.5	-0.3
BAUV	El Baul	4.23	68	*e*P		Pn	07 55 46.5	+0.2
BAUV				*e*S		Sn	07 56 34.3	-0.6
MAPV	Macapo	4.28	55	*e*P		Pn	07 55 48.2	+1.2
MAPV				*e*S		Sn	07 56 35.6	-0.5
MONV	Montecano	4.96	24	*e*P		Pn	07 55 57.0	+0.7
MONV				*e*S		Sn	07 56 50.4	-2.5
TURV	Turiamo	5.13	53	*e*P		Pn	07 55 59.3	+0.7
MERV	Las Mercedes	5.96	72	*e*P		Pn	07 56 09.8	-0.3
BIRV	Birongo	6.46	61	*e*P		Pn	07 56 16.9	0.0
CUPV	Cepira	6.71	66	*e*P		Pn	07 56 20.5	+0.1
PRGV	PARIAGUAN	7.43	79	*e*P		Pn	07 56 29.4	-0.9
PCRV	Puerto La Cruz	7.81	69	*e*P		Pn	07 56 35.5	0.0
LPAZ	La Paz	23.85	171	P		P	07 59 55.0	-0.5
	1.1nm,0.9s,baz=346,slow=8.3,SNR=3.2							
TXAR	Lajitas Array	36.90	310	P		P	08 01 51.3	+1.0
	0.2nm,0.4s,baz=125,slow=9.0,SNR=8.8							
SCHQ	Schefferville	47.48	4	P		P	08 03 15.6	-0.4
	1.9nm,0.5s,baz=211,slow=11,SNR=5.7							
PLCA	Paso Flores	47.91	178	P		P	08 03 19.5	-0.2
	1.5nm,0.9s,baz=360,slow=10,SNR=3.4							
YKA	Yellowknife Ar	63.10	339	P		P	08 05 07.6	-0.8
	1.1nm,0.6s,baz=133,slow=5.5,SNR=3.4							
TORD	Torodi Ar. Bea	72.56	79	P		P	08 06 08.1	-0.9
	0.6nm,0.8s,baz=276,slow=5.2,SNR=2.9							
ILAR	Eielson Array	76.90	335	P		P	08 06 32.9	-0.3
	0.3nm,0.8s,baz=101,slow=4.7,SNR=4.3							
ASAR	Alice Springs	150.33	234	PKPbc		PKPdf	08 14 31.1	+3.0
	0.2nm,0.7s,baz=115,slow=3.3,SNR=3.6							
WRA	Warramunga Arr	151.56	241	PKPbc		PKPbc	08 14 35.2	-1.1
	0.7nm,0.8s,baz=106,slow=2.6,SNR=8.3							

IDC 07 07:59:26.7±9.4, 25°.44S×179°.88W, h520km±102km, mb3.5/4, mb1 3.6/5, mb1mx3.1/19, mbtmp3.5/5, Error ellipse: s-maj=95.6km s-min=46.2km az=20.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.03	191	P		P	08 02 14.4	-1.5
	0.4nm,0.3s,baz=234,slow=4.4,SNR=4.0							
CTA	Charters Tower	31.62	273	P		P	08 05 07.0	0.0
	2.8nm,0.3s,baz=105,slow=11,SNR=6.6							
STKA	Stephens Creek	34.27	250	P		P	08 05 29.4	0.0
	2.8nm,0.5s,baz=106,slow=11,SNR=20							
ASAR	Alice Springs	41.91	262	P		P	08 06 31.6	-0.1
	2.7nm,0.4s,baz=92,slow=7.4,SNR=35							
WRA	Warramunga Arr	42.43	268	P		P	08 06 35.1	-0.7
	1.9nm,0.3s,baz=100,slow=6.2,SNR=12							
NOA	NORSAR Array B	143.61	351	PKP		PKPdf	08 18 02.1	+0.4
	0.2nm,0.5s,baz=15,slow=4.9,SNR=3.6							

IDC 07 07:59:49.0±5.2, 4°.60S×137°.32E, h96km±48km, mb3.4/1, mb1 3.6/3, mb1mx3.2/17, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/15, Error ellipse: s-maj=86.0km s-min=17.4km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.53	191	P		Pn	08 03 20.9	-1.8
	0.3nm,0.3s,baz=9.9,slow=12,SNR=15							
WRA				S		Sn	08 06 12.6	-1.9
	0.3nm,0.3s,baz=11,slow=22,SNR=5.3							
WRA				LR		LR	08 09 22.5	
	comp=Z,59nm,21.9s,baz=155,slow=37							
ASAR	Alice Springs	19.25	190	P		P	08 04 06.7	+0.7
	0.4nm,0.3s,baz=27,slow=11,SNR=24							
ASAR				S		P	08 07 39.8	+0.8
	0.0nm,0.3s,baz=11,slow=29,SNR=4.6							
MKAR	Makanchi Array	70.45	323	P		P	08 10 53.1	0.0
	0.5nm,0.6s,baz=114,slow=8.6,SNR=5.7							

IDC 07 08:15:57.3±2.9, 14°.77S×167°.56E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=118.4km s-min=47.2km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.34	188	*e*P		Pn	08 17 49.7	+3.7
DZM				*e*S		Sn	08 19 02.3	-7.9
STKA	Stephens Creek	29.18	230	P		P	08 22 00.3	-0.3
	3.1nm,1.0s,baz=48,slow=9.2,SNR=5.8							
WRA	Warramunga Arr	32.09	256	P		P	08 22 26.7	+0.2
	0.2nm,0.6s,baz=85,slow=8.8,SNR=4.9							
ASAR	Alice Springs	32.92	249	P		P	08 22 33.7	-0.1
	0.7nm,0.4s,baz=80,slow=8.8,SNR=20							
ARCES	ARCESS Array B	120.36	345	PKP		PKPdf	08 34 50.0	-0.1
	0.5nm,0.8s,baz=76,slow=1.1,SNR=4.2							

NNC 07 08:18:17.1±4.7, 53°.24N×87°.29E, h0km, mb4.0, mpv3.9, 5C-2D, Error ellipse: s-maj=38.7km s-min=25.5km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	6.02	248	⇑Pn		Pn	08 19 48.9	+1.6
	7.5nm,0.5s,baz=62,slow=14							
KURBB				⇑Sn		Sn	08 20 58.5	+1.8
	11nm,0.6s,baz=53,slow=24							
KURBB				⇓Lg		Lg	08 21 31.8	
	29nm,0.7s,baz=65,slow=33							
MK31	Makanchi Array	7.21	209	Pn		Pn	08 20 06.4	+2.7
	1.7nm,0.4s,baz=30,slow=13,SNR=26							
MK31				⇓Sn		Sn	08 21 31.0	+4.8
	5.7nm,0.8s,baz=28,slow=23,SNR=7.6							
MK31				⇑Lg		Lg	08 22 05.8	
	11nm,0.8s,baz=33,slow=30,SNR=5.8							
VOSK	Vostochnaya	9.85	274	⇑Pn		Pn	08 20 39.0	-0.9
	0.6nm,0.5s							
VOSK				⇑Sn		Sn	08 22 28.7	-2.5
	5.6nm,1.1s							

*IDC **07** 08:39:33.4±0.9, 0°.56N×128°.85E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=45.0km s-min=18.1km az=78.0*
*ISCJB **07** 08:39:36.8±0.6, 0°.55N±0°.05×128°.86E±0°.04, h33km, mb4.1/8, Error ellipse: s-maj=7.8km s-min=5.0km az=23.9*
*DJA **07** 08:39:37.2±0.5, 1°.N±4°×12°.9E±°, h17km, M4.5/9, mb4.9/5, mB5.4/2, MLv4.2/9, Mw(mB)4.9/2, Mwp6.4/1*
*NEIC **07** 08:39:38.6±0.8, 0°.52N×128°.79E, h35km, mb4.0/2, Error ellipse: s-maj=17.0km s-min=12.3km az=54.0*

ISC 07 08:39:39.3±0.7, 0°.48N±0°.06×128°.83E±0°.06, h35km, n35, σ1§26/39, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.50	281	P		Pn	08 40 01.6	-2.1
TNTI				S		Sn	08 40 22.2	+0.2
LBMI	Labuha	1.74	230	P		Pn	08 40 05.7	-1.3
LBMI				S		Sn	08 40 29.4	+1.4
SWI	Sorong	2.77	119	P		Pn	08 40 20.2	-1.0
SWI				S		Sn	08 40 54.4	+0.9
MSAI	Masohi	3.80	179	P		Pn	08 40 36.7	+1.2
MSAI				S		Sn	08 41 21.0	+2.0
NLAI	Namlea	4.08	205	P		Pn	08 40 39.1	-0.2
MNI	Manado	4.11	283	P		Pn	08 40 39.1	-0.6
AAI	Ambon	4.19	189	P		Pn	08 40 41.0	+0.2
FAKI	Fak Fak	4.80	135	P		Pn	08 40 48.5	-0.7
GTOI	Gorontalo	5.83	272	P		Pn	08 41 05.7	+2.4
	54nm,0.7s,0.2nm							
SKSI	Soroako, Sulaw	8.07	248	P		Pn	08 41 33.3	-0.9
	102nm,0.6s,2μm232μm							
TTSI	Tana Toraja	9.67	249	P		Pn	08 41 57.2	+1.1
	34nm,0.7s							
SPSI	Sidrap Palu	10.08	244	P		Pn	08 42 02.2	+0.5
	61nm,0.6s,2μm							
BKSI	Bulukumba	10.44	236	P		Pn	08 42 08.2	+1.6
KAPI	Kappang	10.59	239	*e*Pn		Pn	08 42 07.9	-0.8
KAPI	Kappang	10.59	239	Pn		Pn	08 42 08.4	-0.3
	1.9nm,0.3s,baz=55,slow=13,SNR=3.7							
KAPI				LR		LR	08 46 33.7	
	comp=Z,62nm,19.7s,baz=269,slow=40							
KDU	Kakadu	13.57	165	P		Pn	08 42 44.8	-4.7
	baz=1.3,SNR=3.6							
KNRA	Kununurra	16.05	180	P		P	08 43 26.0	+0.3
	baz=4.5,SNR=4.2							
FITZ	Fitzroy Crossi	18.73	190	P		P	08 43 54.1	-1.1
FITZ	Fitzroy Crossi	18.73	190	P		P	08 43 54.1	-1.1
	0.1nm,0.3s,baz=36,slow=14,SNR=3.8							
WRAB	Tennant Creek	21.00	165	*e*P		P	08 44 19.4	-0.5
	7.3nm,0.9s							
WRA	Warramunga Arr	21.00	165	P		P	08 44 19.8	-0.2
WRA	Warramunga Arr	21.00	165	P		P	08 44 19.8	-0.2
	3.7nm,0.7s,baz=342,slow=10,SNR=24							
AS31	Alice Springs	24.50	169	*e*P		P	08 44 55.7	+0.1
ASAR	Alice Springs	24.50	169	P		P	08 44 55.5	-0.1
ASAR	Alice Springs	24.50	169	P		P	08 44 55.5	-0.1
	8.6nm,0.6s,baz=349,slow=9.6,SNR=142							
STKA	Stephens Creek	34.38	161	*e*P		P	08 46 23.2	+0.1
	1.6nm,1.1s							
STKA	Stephens Creek	34.38	161	P		P	08 46 23.0	-0.2
	2.4nm,0.7s,baz=319,slow=8.0,SNR=8.5							
HHC	Hu-ho-hao-te	43.13	341	*e*P		P	08 47 38.4	+1.8
HHC				S		S	08 54 04.7	+4.0
HHC				pmax		pmax		
	comp=Z,38nm,0.7s							
HHC				pmax		pmax		
	comp=Z,630nm,5.5s							
USRK	Ussuriysk Arra	43.62	3	P		P	08 47 39.2	-1.1
	comp=Z,1.0nm,0.7s,baz=180,slow=8.9,SNR=5.7							
MKAR	Makanchi Array	61.41	325	P		P	08 49 50.9	-1.2
MKAR	Makanchi Array	61.41	325	P		P	08 49 50.9	-1.2
	comp=Z,0.5nm,0.5s,baz=110,slow=10.0,SNR=9.4							
VNDA	Vanda	79.97	173	P		P	08 51 43.9	-0.6
VNDA	Vanda	79.97	173	P		P	08 51 43.9	-0.6
	comp=Z,0.2nm,0.5s,baz=284,slow=9.0,SNR=3.1							
CFAA	Coronel Fontan	145.08	154	PKPbc		PKPbc	08 59 12.3	-0.9
CFAA	Coronel Fontan	145.08	154	PKPbc		PKPbc	08 59 12.3	-0.9
	comp=Z,0.3nm,0.7s,baz=222,slow=3.2,SNR=8.0							

MEX 07 08:50:33.0±0.3, 21°.43N×106°.17W, h13km±6km, MD3.7, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANIG	Ahuacatlan	1.58	103	*e*P		Pn	08 50 57.8	-3.1
ANIG				*i*S		Sn	08 51 17.0	-4.4
MAIG	Mazatlaan	1.77	352	*e*P		Pn	08 50 59.9	-3.5
MAIG				*e*S		Sn	08 51 20.9	-4.8
CJM	Chamela	2.19	151	*e*P		Pn	08 51 05.4	-3.7
CJM				*e*S		Sn	08 51 32.2	-3.9
R15V		3.04	137	*e*P		Pn	08 51 18.3	-2.6
R15V				*e*S		Sn	08 51 53.9	-3.4
EZ5V		3.09	128	*e*P		Pn	08 51 19.2	-2.7
EZ5V				*e*S		Sn	08 51 55.4	-3.6
ZAIG	Zacatecas	3.60	68	*e*P		Pn	08 51 26.9	-2.0
ZAIG				*e*S		Sn	08 52 08.2	-3.4
MMIG	Aquila	4.10	139	*e*P		Pn	08 51 33.3	-2.1
MMIG				*e*S		Sn	08 52 19.2	-4.1

CASC 07 08:54:26.6±3.3, 9°.50N×84°.56W, h6km±11km, MD4.0, 1C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.39	100	⇓*i*P		Pg	08 54 34.6	+0.4
QCR				*e*S		Sb	08 54 41.7	-0.5
CGA2	Cerro Gallo 2	0.52	10	⇓*i*P		Pb	08 54 38.2	-0.3
CGA2				*e*S		Sb	08 54 45.8	-0.6
JCR	Jicaral	0.65	303	⇓*i*P		Pg	08 54 38.9	-0.4
JCR				*e*S		Sg	08 54 48.8	+1.0
SJS	Escuela Geolog	0.66	48	⇓*i*P		Pb	08 54 40.3	-0.5
SJS				*e*S		Sg	08 54 48.4	+0.1
BUS	Buena Vista	0.79	86	⇓*i*P		Pg	08 54 41.6	-0.7
BUS				*e*S		Sg	08 54 52.0	-1.0
URSC	Urasca	0.84	66	⇓*i*P		Pg	08 54 43.2	+0.2
CEDE	Laguna Cedeˆ–o	0.99	352	*i*P		Pg	08 54 46.0	+0.2
AMAS	Alto Masis	1.19	339	*i*P		Pg	08 54 48.5	-1.1
AMAS				*i*S		Sn	08 55 06.2	-0.4
VCR	Vista de Mar	1.23	301	⇑*e*P		Pg	08 54 47.0	-3.4
PTEN	Parque Tenorio	1.28	341	*i*P		Pg	08 54 51.4	0.0
CUI	Cuipilapa	1.30	333	*i*P		Pn	08 54 50.5	-1.0
COLC	Colonia	1.33	331	*i*P		Pn	08 54 50.8	-1.0
LIM1	Limonal	1.38	330	*i*P		Pn	08 54 51.9	-0.6
MESS	Mesas	1.39	333	*i*P		Pn	08 54 51.9	-0.7
MESS				*i*S		Sg	08 55 11.5	0.0
GPS3	Bodega del ICE	1.48	328	*i*P		Pn	08 54 53.0	-0.9
NY14	Universidad de	1.50	320	*i*P		Pn	08 54 52.9	-1.2
LAPC	Finca la Perla	1.53	326	*i*P		Pn	08 54 53.4	-1.2
GB1A	Borinquen Arri	1.55	328	*i*P		Pn	08 54 54.4	-0.6
ACR	Cerro Adams	1.61	121	⇓*i*P		Pn	08 54 52.4	-3.2
ACR				*e*S		Sn	08 55 10.3	-6.4
BRU2	Volcan	1.97	111	*e*P		Pn	08 55 01.9	+1.2
BRU2				*e*S		Sg	08 55 30.1	-0.2
CNI	Changuinola	2.01	92	*e*P		Pn	08 55 00.0	-1.1
CNI				*e*S		Sb	08 55 27.9	-1.0
BRU	Baru	2.08	109	*e*P		Pb	08 55 04.2	-1.2
ZANG	Zanguenga, Cho	4.66	96	*e*P		Pn	08 55 36.3	-1.2
ZANG				*e*S		Sn	08 56 33.2	+1.2

**JMA

IDC 07 10:12:42.3±7.0, 19°52S×177°90W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=304.9km s-min=37.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.83**	**261**	P	P	10 20 58.4	-0.2
	0.4nm,0.5s,baz=97,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**44.84**	**256**	P	P	10 20 58.5	-0.1
	1.1nm,0.5s,baz=96,slow=7.7,SNR=20						
ILAR	**Eielson Array**	**87.34**	**13**	P	P	10 25 30.7	0.0
	0.2nm,0.5s,baz=220,slow=5.9,SNR=5.7						

ISCJB 07 10:18:44.1±1.1, 10°.1S±0°.1×115°.6E±0°.1, h33km, mb2.7/1, Error ellipse: s-maj=23.0km s-min=9.9km az=139.6
DJA 07 10:18:47.6±1.2, 10°S±8°×11°6E±°, h24km±14km, M3.9/6, MLv3.9/6
IDC 07 10:19:05.8±3.6, 11°.22S×117°.54E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=250.3km s-min=25.0km az=47.0
ISC 07 10:18:45.8±1.5, 10°.0S±0°.1×115°.6E±0°.1, h35km, n11, σ1§16/10, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.22**	**337**	P	**Pn**	**10 19 05.7**	**-0.7**
IGBI				S	**Sn**	**10 19 20.3**	**-1.4**
DNP	**Denpasar**	**1.33**	**342**	P	**Pn**	**10 19 09.3**	**+1.4**
MTNI	**Mataram**	**1.41**	**22**	P	**Pn**	**10 19 09.8**	**+0.7**
SRBI	**Singaraja**	**1.90**	**348**	P	**Pn**	**10 19 16.6**	**+0.8**
BYJI	**Banyuwangi**	**2.13**	**324**	P	**Pn**	**10 19 20.5**	**+1.5**
GMJI	**Gumukmas**	**2.72**	**308**	P	**Pn**	**10 19 27.3**	**+0.2**
BLJI	**Banyuglugur**	**2.97**	**317**	P	**Pn**	**10 19 31.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**12.65**	**131**	Pn	Pn	10 21 37.5	-5.8
	baz=325,slow=12						
FITZ				Sn	Sn	10 23 46.8	-16
	0.2nm,0.3s,baz=265,slow=18,SNR=6.1						
WRA	**Warramunga Arr**	**20.61**	**121**	P	**P**	**10 23 21.6**	**-0.6**
	0.1nm,0.3s,baz=296,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**22.15**	**130**	P	**P**	**10 23 38.6**	**-0.1**
	0.1nm,0.3s,baz=306,slow=9.7,SNR=4.1						
MKAR	**Makanchi Array**	**63.85**	**335**	P	P	10 29 52.8	+38
	0.2nm,0.6s,baz=131,slow=7.9,SNR=7.4						

MEX 07 10:21:33.4±0.6, 16°25N×97°64W, h27km±12km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**287**	*i* P	Pb	10 21 41.6	-2.0
PNIG				*i* S	Sb	10 21 49.0	-1.5
VHO	**Vista Hermosa**	**1.19**	**47**	*e*P	Pn	10 21 51.9	-2.7
VHO				*i* S	Sn	10 22 06.8	-3.3
HUIG	**Huatulco**	**1.55**	**108**	*e*P	Pn	10 21 57.3	-1.9
HUIG				*i* S	Sn	10 22 15.1	-3.3
TPIG	**Tehuac#an**	**2.18**	**7**	*i* P	Pn	10 22 06.0	-2.1
TPIG				*i* S	Sn	10 22 31.2	-3.1
MEIG	**Mezcala**	**2.52**	**312**	*i* P	Pn	10 22 13.4	+0.7
MEIG				*i* S	Sn	10 22 40.2	-2.6
CAIG	**El Cayaco**	**2.64**	**288**	*i* P	Pn	10 22 12.7	-1.5
CAIG				*i* S	Sn	10 22 42.9	-2.5
PLIG	**Platanillo**	**2.78**	**320**	*i* P	Pn	10 22 13.8	-2.5
PLIG				*i* S	Sn	10 22 46.8	-2.2

IDC 07 10:22:08.3±0.7, 4°.96N×127°.81E, h0km, mb4.1/11, mb1 4.2/11, mb1mx3.9/27, mbtmp4.1/11, MS2.9/1, Ms1 2.9/1, ms1mx2.6/37, Error ellipse: s-maj=40.0km s-min=14.1km az=72.0
NEIC 07 10:22:13.5±0.5, 4°.91N×127°.72E, h35km, mb4.4/1, Error ellipse: s-maj=28.0km s-min=9.2km az=75.0
AUST 07 10:22:18.6, 5°.00N×127°.51E, h100km
ISCJB 07 10:22:19.7±0.4, 4°.84N±0°.04×127°.60E±0°.05, h108km, mb3.9/12, Error ellipse: s-maj=8.1km s-min=4.9km az=152.1
MAN 07 10:22:23, 4°.94N×127°.37E, h95km, mb4.4, ML3.2, MS3.0
ISC 07 10:22:21.3±0.5, 4°.88N±0°.06×127°.57E±0°.07, h108km, n42, σ1§20/43, mb4.0/12, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.43**	**328**	*e*P	**Pn**	**10 22 59.6**	**-0.2**
MATI				*e*S	**Sn**	**10 23 26.9**	**-2.3**
BUKP	**Musuan**	**3.88**	**320**	*e*P	**Pn**	**10 23 20.1**	**+1.0**
CTBH	**Cotabato--PC H**	**4.04**	**305**	‖*i*P	**Pn**	**10 23 21.0**	**-0.1**
SWI	**Sorong**	**6.79**	**147**	P	**Pn**	**10 24 01.1**	**+2.6**
	baz=7.0,SNR=6.0						
SWI				S	**Sn**	**10 25 12.3**	**-2.1**
	baz=7.0,SNR=10.0						
PALU	**Palau**	**7.29**	**70**	P	**Pn**	**10 24 06.1**	**+0.9**
	baz=7.3,SNR=5.1						
PALU				S	**Sn**	**10 25 26.3**	**-0.1**
	baz=7.3,SNR=6.5						
LUWI	**Luwuk**	**7.59**	**219**	P	**Pn**	**10 24 11.9**	**+2.7**
	baz=7.7,SNR=5.7						
FAKI	**Fak Fak**	**9.05**	**149**	P	**Pn**	**10 24 31.2**	**+2.1**
	baz=9.2,SNR=4.8						
FAKI				S	**Sn**	**10 26 07.2**	**-2.1**
	baz=9.2,SNR=5.9						
KAPI	**Kappang**	**12.55**	**219**	LR	LR	10 30 58.2	
	comp=Z,53nm,19.2s,baz=148,slow=42						
MTN	**Manton Dam**	**17.96**	**169**	P	**P**	**10 26 23.0**	**-0.3**
	baz=18,SNR=6.4						
KDU	**Kakadu**	**18.12**	**164**	P	**Pn**	**10 26 26.1**	**0.0**
	baz=18,SNR=4.8						
KNRA	**Kununurra**	**20.46**	**177**	P	**P**	**10 26 50.9**	**+0.4**
	baz=21,SNR=16						
FITZ	**Fitzroy Crossi**	**22.92**	**185**	P	**P**	**10 27 14.0**	**-2.2**
FITZ	**Fitzroy Crossi**	**22.92**	**185**	P	**P**	**10 27 14.0**	**-2.2**
	3.3nm,0.4s,baz=25,slow=11,SNR=22						
FITZ	**Fitzroy Crossi**	**22.92**	**185**	P	**P**	**10 27 16.5**	**+0.3**
	baz=23,SNR=18						
PMBI	**Palembang**	**24.06**	**252**	P	P	10 27 38.8	+12
	baz=24,SNR=4.7						
WRAB	**Tennant Creek**	**25.55**	**165**	*e*P	**P**	**10 27 39.4**	**-0.8**
	5.6nm,0.5s						
WRA	**Warramunga Arr**	**25.55**	**165**	P	**P**	**10 27 39.0**	**-1.2**
WRA	**Warramunga Arr**	**25.55**	**165**	P	**P**	**10 27 39.0**	**-1.2**
	1.9nm,0.4s,baz=348,slow=9.9,SNR=46						
ASAR	**Alice Springs**	**29.04**	**168**	P	**P**	**10 28 11.1**	**-0.4**
ASAR	**Alice Springs**	**29.04**	**168**	P	**P**	**10 28 11.1**	**-0.4**
	1.1nm,0.5s,baz=1.7,slow=7.4,SNR=17						
GSI	**Gunungsitoli**	**30.15**	**264**	P	P	10 28 15.5	-6.0
	baz=30,SNR=3.2						
MEEK	**Meekatharra**	**32.51**	**195**	P	**P**	**10 28 41.7**	**-0.2**
	baz=33,SNR=3.6						
MORW	**Morawa**	**35.53**	**198**	P	**P**	**10 29 07.8**	**-0.2**
	baz=36,SNR=3.9						
BLDU	**Ballidu**	**36.79**	**196**	P	**P**	**10 29 18.6**	**-0.2**
	baz=37,SNR=5.3						
BBOO	**Buckleboo**	**38.34**	**168**	P	**P**	**10 29 31.4**	**-0.4**
	baz=39,SNR=5.2						
STKA	**Stephens Creek**	**38.92**	**161**	*e*P	**P**	**10 29 36.4**	**-0.2**
STKA	**Stephens Creek**	**38.92**	**161**	P	**P**	**10 29 36.4**	**-0.2**
	4.9nm,0.5s,baz=331,slow=7.5,SNR=7.7						
STKA	**Stephens Creek**	**38.92**	**161**	P	**P**	**10 29 36.4**	**-0.2**
	baz=39,SNR=6.0						
SONM	**Songino Array**	**46.49**	**340**	P	**P**	**10 30 38.5**	**+0.7**
SONM	**Songino Array**	**46.49**	**340**	P	**P**	**10 30 38.5**	**+0.7**
	0.5nm,0.6s,baz=161,slow=8.3,SNR=3.2						
DZM	**Mont Dzumac**	**46.53**	**127**	*e*P	**P**	**10 30 37.7**	**-0.7**
DZM	**Mont Dzumac**	**46.53**	**127**	P	**P**	**10 30 37.4**	**-1.1**
	5.8nm,0.7s,baz=239,slow=6.7,SNR=18						
MKAR	**Makanchi Array**	**57.10**	**324**	P	**P**	**10 31 56.8**	**+0.3**
MKAR	**Makanchi Array**	**57.10**	**324**	P	**P**	**10 31 56.8**	**+0.3**
	0.6nm,0.4s,baz=116,slow=7.4,SNR=9.4						
KURK	**Kurchatov**	**61.23**	**327**	P	**P**	**10 32 26.4**	**+1.6**
KURBB	**Kurchatov Arra**	**61.23**	**327**	P	**P**	**10 32 26.4**	**+1.5**
	1.2nm,0.6s,baz=125,slow=6.0,SNR=10						
ILAR	**Eielson Array**	**83.71**	**25**	P	**P**	**10 34 37.1**	**-0.9**
ILAR	**Eielson Array**	**83.71**	**25**	P	**P**	**10 34 37.1**	**-0.9**
	0.2nm,0.8s,baz=257,slow=5.4,SNR=4.0						
INK	**Inuvik**	**88.79**	**22**	P	**P**	**10 35 02.9**	**+0.3**
INK	**Inuvik**	**88.79**	**22**	P	**P**	**10 35 02.9**	**+0.3**
	1.0nm,0.6s,baz=198,slow=3.2,SNR=2.5						
ARCES	**ARCESS Array B**	**89.66**	**340**	P	**P**	**10 35 06.7**	**-0.1**
ARCES	**ARCESS Array B**	**89.66**	**340**	P	**P**	**10 35 06.7**	**-0.1**
	0.7nm,0.8s,baz=71,slow=9.1,SNR=3.8						

NEIC 07 10:37:47.3, 22°.08S×70°.23W, h44km, MD3.7(GUC), After GUC.
NEIC Felt [III] at Tocopilla.
GUC 07 10:37:47.3±1.0, 22°.08S×70°.23W, h44km±2km, MD3.7, ML3.7, 6C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.48**	**42**	‖*i*P	Pn	10 37 58.6	+0.4
PB07				*i* S	Sn	10 38 06.1	+0.3
PB07	**Plate Boundary**	**0.48**	**42**	‖*i*P	Pn	10 37 58.6	+0.4
PB07				*i* S	Sn	10 38 06.1	+0.3
PB04	**Plate Boundary**	**0.71**	**105**	⇑‖*i*P	Pn	10 37 56.0	-4.9
PB04				*i* S	Sn	10 38 01.9	-8.8
PB04	**Plate Boundary**	**0.71**	**105**	⇑‖*i*P	Pn	10 37 56.0	-4.9
PB04				*i* S	Sn	10 38 01.9	-8.8
PB04				AML	AML	10 38 02.3	
	comp=N,9μm,0.1s						
PB09	**Plate Boundary**	**0.96**	**73**	‖*i*P	Pn	10 38 06.8	+2.2
PB09				*i* S	Sn	10 38 19.9	+2.6
PB09	**Plate Boundary**	**0.96**	**73**	‖*i*P	Pn	10 38 06.8	+2.2
PB09				*i* S	Sn	10 38 19.9	+2.6
PB09				AML	AML	10 38 21.9	
	comp=E,4μm,0.6s						
PB01	**Plate Boundary**	**1.24**	**34**	‖*i*P	Pn	10 38 09.5	+1.1
PB01				*i* S	Sn	10 38 26.1	+2.0
PB01	**Plate Boundary**	**1.24**	**34**	‖*i*P	Pn	10 38 09.5	+1.1
PB01				*i* S	Sn	10 38 26.1	+2.0
PB01				AML	AML	10 38 29.1	
	comp=E,2μm,0.5s						
LVC	**Limon Verde**	**1.33**	**114**	*e*Pn	Pn	10 38 12.2	+2.5
LVC				*e*Sn	Sn	10 38 25.8	-0.7
LVC				*i* S		10 38 31.2	
LVC	**Limon Verde**	**1.33**	**114**	⇑‖*e*P	Pn	10 38 12.7	+3.0
LVC				*i* S	Sn	10 38 31.2	+4.7
PB10	**Plate Boundary**	**1.45**	**192**	⇑‖*i*P	Pn	10 38 11.9	+0.8
PB10				AML	AML	10 38 41.4	
	comp=N,888nm,0.8s						
ANCH	**Antofagasta**	**1.60**	**186**	⇑‖*i*P	Pn	10 38 14.3	+1.1
ANCH				*i* S	Sn	10 38 34.3	+1.7
ANCH	**Antofagasta**	**1.60**	**186**	⇑‖*i*P	Pn	10 38 14.3	+1.1
ANCH				*i* S	Sn	10 38 34.3	+1.7
MNMC	**Minimini**	**3.00**	**11**	*e*P	Pn	10 38 34.2	+1.5
MNMC	**Minimini**	**3.00**	**11**	*e*P	Pn	10 38 34.2	+1.5
MNMC				AML	AML	10 39 30.7	
	comp=N,630nm,0.7s						
LPAZ	**La Paz**	**6.10**	**19**	*e*Pn	Pn	10 39 20.4	+4.7
	comp=N,3.3nm,0.6s						

MOS 07 10:46:12.8±1.6, 48°.36N×155°.11E, h18km, mb4.0/3, Error ellipse: s-maj=24.2km s-min=8.4km az=69.9
ISCJB 07 10:46:15.3±0.6, 48°.34N±0°.06×155°.2E±0°.1, h36km, mb3.5/8, Error ellipse: s-maj=14.6km s-min=5.2km az=33.7
KRSC 07 10:46:15.6±1.1, 48°.33N×156°.26E, h5km±5km, ML4.3
IDC 07 10:46:18.9±2.7, 48°.37N×155°.03E, h54km±25km, mb3.2/8, mb1 3.6/11, mb1mx3.4/29, mbtmp3.4/11, ML3.3/3, Error ellipse: s-maj=24.4km s-min=16.8km az=139.0
ISC 07 10:46:16.9±0.9, 48°.31N±0°.10×155°.4E±0°.1, h36km, n33, σ1§61/39, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.43**	**12**	*e*PN	Pn	10 46 49.1	-4.9
SKR				pmax	pmax		
	comp=Z,80nm,0.9s						
SKR	**Severo-Kuril's**	**2.43**	**12**	*e*P	**Pn**	**10 46 54.4**	**+0.4**
SKR				*e*S	**Sn**	**10 47 22.4**	**0.0**
PAU	**Pauzhetka**	**3.30**	**16**	PN	**Pn**	**10 47 07.1**	**+1.2**
PAU				S	**Sn**	**10 47 44.7**	**+0.8**
PAU	**Pauzhetka**	**3.30**	**16**	P	**Pn**	**10 47 07.1**	**+1.2**
PAU				*e*S	**Sn**	**10 47 44.7**	**+0.8**
MIPR	**Malaya Ipel'ka**	**4.08**	**12**	P	**Pn**	**10 47 18.8**	**+2.2**
ASAK	**Asacha**	**4.39**	**21**	P	**Pn**	**10 47 23.2**	**+2.1**
MTVR	**Mutnovka**	**4.56**	**22**	*e*P	**Pn**	**10 47 24.5**	**+1.2**
MTVR				*e*S	**Sn**	**10 48 15.4**	**+0.4**
RUS	**Russkaya**	**4.60**	**25**	PN	**Pn**	**10 47 24.4**	**+0.6**
RUS	**Russkaya**	**4.60**	**25**	*e*P	**Pn**	**10 47 24.4**	**+0.6**
RUS				*e*S	**Sn**	**10 48 15.7**	**-0.2**
APC	**Apacha**	**4.76**	**13**	*e*P	Pn	10 47 29.5	+3.5
PETK	**Petropavlovsk-**	**5.03**	**16**	*e*PN	**Pn**	**10 47 32.1**	**+2.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.03**	**16**	P	**Pn**	**10 47 32.1**	**+2.4**
	comp=Z,1.2nm,0.3s,baz=181,slow=15,SNR=44						
PETK				S	Sn	10 48 35.1	+8.5
	baz=178,slow=14,SNR=2.3						
PET	**Petropavlovsk**	**5.17**	**23**	*e*PN	**Pn**	**10 47 32.1**	**+0.5**
PET				pmax	pmax		
	comp=Z,12nm,0.7s						
UGLR	**Uglovaya**	**5.38**	**23**	P	**Pn**	**10 47 36.2**	**+1.6**
SDLR	**Sedlovina**	**5.46**	**23**	P	**Pn**	**10 47 37.1**	**+1.4**
SDLR				*e*S	**Sn**	**10 48 36.7**	**-0.5**
NLC	**Nalytchevo**	**5.49**	**26**	*e*S	**Sn**	**10 48 35.2**	**-2.6**
GNL	**Ganaly**	**5.64**	**16**	*e*P	**Pn**	**10 47 40.7**	**+2.6**
SPN	**Mys Shipunski**	**5.64**	**30**	PN	**Pn**	**10 47 37.5**	**-0.6**
SPN	**Mys Shipunski**	**5.64**	**30**	P	**Pn**	**10 47 37.5**	**-0.6**
SPN				*e*S	**Sn**	**10 48 38.8**	**-2.7**
MKZ	**Mys Kozlova**	**7.42**	**30**	PN	**Pn**	**10 48 02.8**	**+0.4**
MKZ	**Mys Kozlova**	**7.42**	**30**	*e*P	**Pn**	**10 48 02.8**	**+0.4**
MKZ				S	**Sn**	**10 49 21.3**	**-3.9**
ASAJ	**Asahikawa**	**9.78**	**249**	P	**Pn**	**10 48 35.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=9.9						
FX1	**Attu Island--F**	**12.20**	**61**	P	**Pn**	**10 49 10.1**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=78,slow=23,SNR=7.1						
FX1				S	Sn	10 51 15.9	-6.7
	comp=Z,0.6nm,0.3s,baz=30,slow=16,SNR=5.8						
KSRS	**Korea Array**	**22.72**	**252**	P	**P**	**10 51 14.1**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=52,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**34.38**	**40**	P	**P**	**10 53 01.4**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=264,slow=7.3,SNR=5.3						
MKAR	**Makanchi Array**	**47.58**	**297**	P	**P**	**10 54 48.5**	**-0.2**
MKAR	**Makanchi Array**	**47.58**	**297**	P	**P**	**10 54 48.5**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=77,slow=6.5,SNR=2.6						
KURK	**Kurchatov**	**47.77**	**303**	P	**P**	**10 54 48.6**	**-1.5**
KURBB	**Kurchatov Arra**	**47.86**	**303**	P	**P**	**10 54 48.6**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=64,slow=8.3,SNR=2.7						
FINES	**FINESS Array B**	**63.27**	**335**	P	**P**	**10 56 39.4**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=67,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**70.50**	**201**	P	**P**	**10 57 26.8**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=20,slow=6.6,SNR=4.0						
ASAR	**Alice Springs**	**74.18**	**200**	P	**P**	**10 57 50.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=12,slow=6.0,SNR=3.8						
TXAR	**Lajitas Array**	**75.42**	**62**	P	**P**	**10 57 59.0**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=308,slow=4.8,SNR=5.3						

IDC 07 10:48:40.2±1.2, 45°.48S×166°.59E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/15, mbtmp4.0/3, ML4.4/1, MS3.5/3, Ms1 3.5/3, ms1mx3.2/18, Error ellipse: s-maj=48.6km s-min=26.5km az=173.0
ISCJB 07 10:48:41.8±0.7, 45°.52S±0°.09×166°.66E±0°.05, h15km, mb3.8/3, MS3.5/3, Error ellipse: s-maj=12.8km s-min=5.0km az=179.8
AUST 07 10:48:41.9±0.9, 45°.74S×166°.57E, h6km, Error ellipse: s-maj=1.5km s-min=0.8km az=358.0
WEL 07 10:48:42.4±0.2, 45°.55S×166°.66E, h21km±1km, ML4.5/19, Error ellipse: s-maj=2.4km s-min=1.1km az=90.0
NEIC 07 10:48:44.2, 45°.55S×166°.77E, h12km, ML4.5(WEL), After WEL.
ISC 07 10:48:42.3±0.7, 45°.48S±0°.07×166°.67E±0°.05, h15km, n43, σ1§47/45, mb3.8/3, MS3.5/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**91**	P*	**Pb**	**10 48 49.9**	**-0.2**
DCZ				S*	**Sb**	**10 48 54.7**	**-0.6**
DCZ				AML	AML	10 48 54.7	
DCZ				AML	AML	10 48 54.9	
DCZ				AML	AML	10 48 55.2	
MLZ	**Mavora Lakes**	**1.06**	**84**	PN	**Pb**	**10 49 01.4**	**-1.1**
MLZ				SN	**Sb**	**10 49 15.2**	**-1.1**
MLZ				AML	AML	10 49 16.2	
MSZ	**Milford Sound**	**1.20**	**48**	PN	**Pn**	**10 49 02.8**	**-1.7**
MSZ				AML	AML	10 49 24.4	
MSZ				AML	AML	10 49 24.4	
MSZ				AML	AML	10 49 24.8	
MSZ				AML	AML	10 49 24.8	
WKZ	**Wanaka**	**1.78**	**70**	PN	**Pn**	**10 49 13.2**	**+0.6**
WKZ				AML	AML	10 49 43.2	
WKZ				AML	AML	10 49 43.3	
WKZ				AML	AML	10 49 43.5	
WKZ				AML	AML	10 49 43.6	
EAZ	**Earnscleugh**	**1.88**	**84**	PN	**Pn**	**10 49 14.5**	**+0.6**
EAZ				AML	AML	10 49 44.9	
EAZ				AML	AML	10 49 48.4	
EAZ				AML	AML	10 49 48.4	
SYZ	**Scrubby Hill**	**2.02**	**123**	PN	**Pn**	**10 49 16.4**	**+0.5**
JCZ	**Jackson Bay**	**2.04**	**47**	PN	**Pb**	**10 49 18.2**	**-0.9**
JCZ				AML	AML	10 49 54.4	
JCZ				AML	AML	10 49 56.7	
TUZ	**Tuapeka**	**2.13**	**104**	PN	**Pn**	**10 49 18.5**	**+1.2**
TUZ				AML	AML	10 49 50.4	
TUZ				AML	AML	10 49 51.4	
LBZ	**Lake Benmore**	**2.72**	**68**	PN	**Pn**	**10 49 26.3**	**+0.8**
LBZ				AML	AML	10 50 19.6	
LBZ				AML	AML	10 50 19.6	
LBZ				AML	AML	10 50 19.8	
LBZ				AML	AML	10 50 19.8	
ODZ	**Otahua Downs**	**2.84**	**83**	PN	**Pn**	**10 49 26.8**	**-0.3**
ODZ	**Otahua Downs**	**2.84**	**83**	*e*Pn	**Pn**	**10 49 26.8**	**-0.3**
ODZ				*e*Sn	**Sn**	**10 50 01.9**	**+0.9**
FOZ	**Fox Glacier**	**2.88**	**50**	PN	**Pn**	**10 49 30.2**	**+2.5**
FOZ				AML	AML	10 50 21.4	
FOZ				AML	AML	10 50 21.4	
FOZ				AML	AML	10 50 30.1	
FOZ				AML	AML	10 50 30.1	
RPZ	**Rata Peaks**	**3.59**	**62**	PN	**Pn**	**10 49 36.6**	**-0.8**
RPZ				AML	AML	10 50 25.2	
RPZ				AML	AML	10 50 43.9	
RPZ	**Rata Peaks**	**3.59**	**62**	*e*Pn	**Pn**	**10 49 37.2**	**-0.2**
RPZ				Sn	**Sn**	**10 50 23.1**	**+3.5**
RPZ				*e*Sn	**Sb**	**10 50 24.0**	**-4.9**
RPZ	**Rata Peaks**	**3.59**	**62**	Pn	**Pn**	**10 49 37.9**	**+0.4**
	31nm,0.3s,baz=205,slow=4.7,SNR=93						
RPZ				Sn	**Sn**	**10 50 23.1**	**+3.5**
	29nm,0.3s,baz=241,slow=11,SNR=14						
WVZ	**Waitaha Valley**	**3.78**	**52**	PN	**Pn**	**10 49 41.1**	**+1.1**
WVZ				AML	AML	10 50 49.7	
WVZ				AML	AML	10 50 54.0	
MQZ	**McQueen's Vall**	**4.62**	**70**	PN	**Pn**	**10 49 52.4**	**+0.8**
LTZ	**Lake Taylor**	**4.84**	**58**	PN	**Pn**	**10 49 56.5**	**+1.8**
LTZ				AML	AML	10 50 59.9	
LTZ				AML	AML	10 51 06.6	
KHZ	**Kahutara**	**5.82**	**61**	PN	**Pn**	**10 50 10.0**	**+2.0**
THZ	**Tophouse**	**5.85**	**53**	PN	**Pn**	**10 50 09.9**	**+1.4**
THZ				AML	AML	10 51 25.9	
THZ				AML	AML	10 51 29.1	
NNZ	**Nelson**	**6.48**	**51**	PN	**Pn**	**10 50 18.5**	**+1.4**
TCW	**Tory Channel**	**6.99**	**55**	PN	Pn	10 50 28.5	+4.4
MOO	**Moorlands**	**14.35**	**275**	P	**Pn**	**10 52 03.7**	**-1.2**
	baz=14,SNR=3.9						
TOO	**Toolangi**	**17.68**	**289**	P	**P**	**10 52 50.4**	**+1.6**
	baz=18,SNR=7.0						
STKA	**Stephens Creek**	**23.70**	**296**	*e*P	**P**	**10 53 55.8**	**+2.2**
STKA	**Stephens Creek**	**23.70**	**296**	LR	LR	11 01 51.7	
	comp=Z,148nm,20.1s,baz=206,slow=34						
VNDA	**Vanda**	**32.21**	**182**	LR	LR	11 05 47.2	
	comp=Z,68nm,21.1s,baz=120,slow=32						
ASAR	**Alice Springs**	**34.30**	**298**	P	**P**	**10 55 27.8**	**-0.3**
ASAR	**Alice Springs**	**34.30**	**298**	P	**P**	**10 55 27.8**	**-0.3**
	0.9nm,0.8s,baz=131,slow=8.1,SNR=6.9						
ASAR				LR	LR	11 08 31.0	
	comp=Z,110nm,20.7s,baz=317,slow=35						
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**10 55 49.7**	**-0.3**
WRA	**Warramunga Arr**	**36.85**	**303**	P	**P**	**10 55 49.7**	**-0.3**
	2.1nm,1.1s,baz=139,slow=9.6,SNR=5.0						
WRAB	**Tennant Creek**	**36.85**	**303**	*e*P	P	10 55 54.0	+4.0
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**122.22**	**311**	PKP	**PKPdf**	**11 07 35.1**	**-0.6**
	0.5nm,0.6s,baz=114,slow=1.6,SNR=7.0						
KURK	**Kurchatov**	**122.23**	**311**	PKP	**PKPdf**	**11 07 35.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**145.34**	**206**	PKPbc	**PKPbc**	**11 08 19.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**145.34**	**206**	PKPbc	**PKPbc**	**11 08 19.1**	**-0.5**
	4.9nm,0.6s,baz=147,slow=2.4,SNR=52						
BRTR	**Keskin Array B**	**145.35**	**277**	PKPbc	**PKPdf**	**11 08 19.2**	**0.0**
BRTR	**Keskin Array B**	**145.35**	**277**	PKPbc	**PKPdf**	**11 08 19.2**	**0.0**
	2.1nm,0.9s,baz=152,slow=5.1,SNR=7.6						
ARCES	**ARCESS Array B**	**149.09**	**335**	PKPbc	**PKPbc**	**11 08 28.7**	**+0.2**
ARCES	**ARCESS Array B**	**149.09**	**335**	PKPbc	**PKPbc**	**11 08 28.7**	**+0.2**
	1.9nm,0.6s,baz=74,slow=3.6,SNR=16						
KAF	**Kangasniemi**	**151.88**	**320**	*e*p	**PKPbc**	**11 08 34.5**	**-0.8**
	2.1nm,0.4s						
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**11 08 36.2**	**+0.1**
FINES	**FINESS Array B**	**152.18**	**319**	PKPbc	**PKPbc**	**11 08 36.2**	**+0.1**
	2.2nm,0.6s,baz=90,slow=4.2,SNR=14						

*B

WAKR eSg Sb 10 51 48.5 +4.4
WVOR Wild Horse Val 4.94 63 ePn Pn 10 50 46.9 -1.3
NVAR Mina Array Bea 5.22 109 Pn Pn 10 50 52.5 +0.2
NVAR Mina Array Bea 5.22 109 Pn Pn 10 50 52.5 +0.2
1.4nm,0.3s,baz=292,slow=14,SNR=56
NVAR LR LR 10 52 45.4
comp=Z,2µm,19.4s,baz=159,slow=37
MLAC Mammoth Lakes 5.23 119 ⇑P Pn 10 50 52.8 +0.4
baz=5.2,SNR=5.6
NV11 Mina Array Sit 5.33 109 ePn Pn 10 50 53.9 +0.2
MTUM Tungsten Hills 5.56 121 ePn Pn 10 51 00.8 +3.9
PTRM Twissleman Ran 5.81 142 ePn Pn 10 50 58.4 -1.8
RCTC Rector, Farmer 5.81 132 ⇑P Pn 10 50 59.7 -0.5
baz=5.8,SNR=28
SMMC Simmler 6.19 143 ⇓P Pn 10 51 05.4 -0.1
baz=6.2
VES Vestal, Richgr 6.24 134 ⇑P Pn 10 51 05.5 -0.6
baz=6.2,SNR=49
CWC Cottonwood Cre 6.42 125 ⇓P Pn 10 51 09.1 +0.4
baz=6.4
PKM Peak Mountain 6.62 144 ⇑P Pn 10 51 10.7 -0.7
baz=6.6
ISA Isabella 6.71 132 ePn Pn 10 51 13.8 +1.2
ISA Isabella 6.71 132 ⇑P Pn 10 51 13.4 +0.8
baz=6.7,SNR=94
LON Longmire 6.71 17 ePn Pn 10 51 15.1 +2.6
ARVC Arvin 6.92 137 ⇓P Pn 10 51 15.6 +0.2
baz=6.9,SNR=32
BMO Blue Mountains 7.01 48 ePn Pn 10 51 17.4 +0.8
27nm,0.8s
MPMC Manual Prospec 7.03 125 ⇑P Pn 10 51 17.5 +0.4
baz=7.0
NLWA Neilton Lookou 7.07 4 ePn Pn 10 51 19.3 +1.9
FURC Furnace Creek, 7.19 120 ⇓P Pn 10 51 19.5 +0.5
baz=7.2
MFID Camas Ranch 7.22 62 ePn Pn 10 51 19.6 +0.1
MFID Camas Ranch 7.22 62 ⇓P Pn 10 51 20.7 +1.1
baz=7.3
R11A Troy Canyon, C 7.25 103 ⇑P Pn 10 51 20.0 -0.1
baz=7.3
LRMC Laurel Mountai 7.30 130 ⇑P Pn 10 51 21.0 +0.3
baz=7.3
OSI Osito Adit 7.37 139 ePn Pn 10 51 24.0 +2.4
49nm,0.5s
OSI Osito Adit 7.37 139 ⇑P Pn 10 51 22.3 +0.7
baz=7.4
EDW2 Edwards Air Fo 7.55 134 ⇓P Pn 10 51 23.8 -0.3
baz=7.6,SNR=28
BLG Laguna Peak 7.62 143 ⇓P Pn 10 51 26.6 +1.6
baz=7.6
DECC Green Verdugo 7.86 139 ⇓P Pn 10 51 28.9 +0.7
baz=7.9
GSC Goldstone 7.95 127 ePn Pn 10 51 30.9 +1.4
GSC Goldstone 7.95 127 ⇓P Pn 10 51 30.0 +0.5
baz=8.0,SNR=15
PASC Pasadena Art C 7.99 138 ePn Pn 10 51 30.1 -0.1
36nm,0.8s
MWC Mount Wilson 8.02 138 ePn Pn 10 51 31.4 +0.8
MWC eSn Sn 10 52 59.2 -1.9
RRX Edison Barstow 8.12 130 ⇓P Pn 10 51 32.4 +0.6
baz=8.1,SNR=11
BFSC Mount Baldy Ra 8.21 136 ⇓P Pn 10 51 33.4 +0.1
baz=8.2,SNR=17
HLID Hailey 8.23 64 ePn Pn 10 51 35.8 +2.3
HLID Hailey 8.23 64 ⇑P Pn 10 51 34.7 +1.2
baz=8.3,SNR=40
TUQ Turquoise Moun 8.41 123 ⇓P Pn 10 51 35.2 -0.8
baz=8.4
HEC Hector,Ludlow 8.55 127 ⇑P Pn 10 51 38.7 +0.8
baz=8.6
BBRC Big Bear Solar 8.60 132 ⇓P Pn 10 51 38.4 -0.3
baz=8.6,SNR=14
MURC Murrieta 8.95 136 ⇑P Pn 10 51 43.3 0.0
baz=9.0
GMRC Granite Mounta 9.00 125 ⇓P Pn 10 51 45.3 +1.3
baz=9.0,SNR=7.5
DUG Dugway 9.00 87 ePn Pn 10 51 46.0 +2.0
DUG Dugway 9.00 87 ⇑P Pn 10 51 45.4 +1.4
baz=9.0,SNR=18
I14A Mackay 9.01 63 ⇑P Pn 10 51 45.6 +1.4
baz=9.0
ARUT Antelope Range 9.03 103 ePn Pn 10 51 36.7 -7.8
1.9nm,0.7s
HVU Hansel Valley 9.04 77 ePn Pn 10 51 46.6 +2.1
CCUT Cedar City 9.17 104 ePn Pn 10 51 49.6 +3.1
BELC Belle Mtn. Jos 9.32 130 P Pn 10 51 49.1 +0.7
baz=9.3,SNR=14
PFO Pinyon Flat Ob 9.35 133 ePn Pn 10 51 49.5 +0.7
PFO Pinyon Flat Ob 9.35 133 Pn Pn 10 51 48.2 -0.6
2.5nm,0.3s,baz=317,slow=8.8,SNR=20
PFO LR LR 10 55 41.1
comp=Z,809nm,18.9s,baz=300,slow=40
PFO Pinyon Flat Ob 9.35 133 ⇓P Pn 10 51 48.5 -0.3
baz=9.3,SNR=5.3
NEW Newport 9.55 32 ePn Pn 10 51 53.8 +2.4
NEW Newport 9.55 32 Pn Pn 10 51 53.3 +1.9
0.4nm,0.3s,baz=209,slow=13,SNR=6.6
NEW LR LR 10 55 43.3
comp=Z,901nm,20.5s,baz=220,slow=39
NEW Newport 9.55 32 ⇓P Pn 10 51 51.1 -0.4
baz=9.6
IRM Iron Mountain 9.72 126 ⇑P Pn 10 51 53.3 -0.5
baz=9.7
MCMT McKenzie Canyo 9.74 59 ePn Pn 10 51 55.5 +1.2
6.9nm,0.8s
MVU Marysvale 9.75 97 ePn Pn 10 51 56.3 +1.9
MSU Marysvale 9.77 97 ePn Pn 10 51 57.1 +2.5
BC3 Big Chuckawall 9.89 130 ⇑P Pn 10 51 56.1 -0.1
baz=9.9
MONP Monument Peak 9.91 136 ⇑P Pn 10 51 56.9 +0.3
baz=9.9,SNR=8.7
HWUT Hardware Ranch 9.93 78 ePn Pn 10 51 58.5 +1.8
15nm,1.0s
W13A Hualapai Mount 9.96 118 ⇓P Pn 10 51 56.8 -0.4
baz=10.0
JLU Jordanelle 10.01 84 ePn Pn 10 51 59.5 +1.5
4.3nm,0.9s
MSO Missoula 10.08 46 ePn Pn 10 52 00.5 +1.8
MSO Missoula 10.08 46 ⇓P Pn 10 52 00.5 +1.8
baz=10,SNR=77
DLMT Dillon 10.13 56 ePn Pn 10 52 02.0 +2.6
DVTC Desert V Tower 10.26 136 ⇑P Pn 10 52 02.3 +1.1
baz=10
BSMT Bassoo Peak 10.29 40 ePn Pn 10 52 03.7 +2.0
RRI2 Red Ridge 10.34 69 ePn Pn 10 52 06.0 +3.5
TMUT Trail Mountain 10.34 91 ePn Pn 10 52 04.6 +2.0
I16A Newdale 10.35 66 ⇓P Pn 10 52 04.5 +1.9
baz=10,SNR=12
Y12C Blythe 10.38 126 ⇓P Pn 10 52 04.2 +1.4
baz=10,SNR=5.4
U15A North Rim 10.41 108 ⇓P Pn 10 52 04.3 +0.9
baz=10
LRM Limekiln Ridge 10.42 54 ePn Pn 10 52 04.6 +1.0
SWMT Swartz Lake 10.46 43 ePn Pn 10 52 06.0 +2.0
JTMT Jette 10.47 42 ePn Pn 10 52 09.2 +5.1
CHMT Chamberlain Mo 10.51 48 ePn Pn 10 52 07.1 +2.3
SLMT Seeley Lake 10.57 46 ePn Pn 10 52 07.1 +1.6
M17A Scullys Gap (B 10.60 79 ⇓P Pn 10 52 07.5 +1.5
baz=11
TPAW Teton Pass 10.63 68 ePn Pn 10 52 08.2 +1.7
REDW Red Top Meadow 10.68 69 ePn Pn 10 52 09.6 +2.5
GLA Glamis 10.68 130 ⇑P Pn 10 52 08.1 +1.1
baz=11
QLMT Earthquake Lak 10.68 61 ePn Pn 10 52 10.6 +3.5
IMW Indian Meadow 10.74 66 ePn Pn 10 52 10.0 +2.0
C14A Swan Lake 10.76 43 ⇑P Pn 10 52 09.5 +1.5
baz=11,SNR=15
H16A Russell Place, 10.76 62 ⇓P Pn 10 52 09.5 +1.3
baz=11,SNR=6.2
SNOW Snow King Moun 10.77 69 ePn Pn 10 52 10.4 +2.1
B13A Whitefish 10.80 39 ⇓P Pn 10 52 09.3 +0.7
baz=11
MOOW Moose Ponds 10.84 67 ePn Pn 10 52 11.3 +2.0
BOZ Bozeman (W) 10.86 57 ePn Pn 10 52 10.7 +1.2
7.3nm,1.0s
SRU San Rafael 10.90 92 ePn Pn 10 52 12.0 +1.9
LOHW Long Hollow 10.91 68 ePn Pn 10 52 12.0 +1.8
FLWY Flagg Ranch 10.95 66 ePn Pn 10 52 13.0 +2.2
YFT Old Faithful 10.96 63 ePn Pn 10 52 12.9 +1.9
10nm,1.0s
HRY Holter Researc 11.23 51 ePn Pn 10 52 14.7 +0.2
G17A Pierce Place, 11.31 59 ⇑P Pn 10 52 16.6 +0.9
baz=11,SNR=8.7
C15A Salmond Ranch, 11.37 45 ⇓P Pn 10 52 17.9 +1.5
baz=11,SNR=158
B14A Marquette Ranc 11.38 41 ⇓P Pn 10 52 17.2 +0.6
baz=11
BW06 Boulder Array 11.52 73 ePn Pn 10 52 20.0 +1.4
7.5nm,0.9s
PDAR Pinedale Array 11.52 73 Pn Pn 10 52 20.9 +2.4
PDAR Pinedale Array 11.52 73 Pn Pn 10 52 20.9 +2.4
0.1nm,0.3s,baz=271,slow=7.1,SNR=23
PDAR LR LR 10 57 05.2
comp=Z,916nm,20.3s,baz=265,slow=40
WALA Waterton Lakes 11.55 37 ePn Pn 10 52 21.2 +2.3
0.5nm,1.0s
F17A Fitzpatrick Pl 11.59 57 ⇓P Pn 10 52 19.9 +0.4
baz=12,SNR=8.6
L19A Farson 11.60 76 ⇓P Pn 10 52 18.7 -1.1
baz=12
E17A Martinsdale 11.70 54 ⇑P Pn 10 52 20.9 -0.1
baz=12,SNR=7.3
A14A Double T Ranch 11.72 39 ⇑P Pn 10 52 22.4 +1.2
baz=12,SNR=23
B15A Bradely Ranch, 11.72 43 P Pn 10 52 22.6 +1.4
baz=12,SNR=32
H18A Shoshone NF, C 11.83 64 ⇑P Pn 10 52 23.3 +0.5
baz=12
C16A Fuhringer Ranc 11.86 47 ⇑P Pn 10 52 23.7 +0.7
baz=12,SNR=22
K19A Absolon Red Bu 12.04 73 ⇑P Pn 10 52 26.0 +0.3
baz=12
A15A Johnson Ranch, 12.06 40 ⇑P Pn 10 52 26.3 +0.5
baz=12,SNR=11
G18A Lazy EL Ranch, 12.09 61 ⇓P Pn 10 52 26.7 +0.4
baz=12
BBB Bella Bella 12.09 350 Pn Pn 10 52 29.2 +3.1
BBB Bella Bella 12.09 350 Pn Pn 10 52 29.2 +3.1
0.2nm,0.3s,baz=172,slow=11,SNR=11
D17A Six Diamond Ra 12.13 51 ⇓P Pn 10 52 26.7 -0.1
baz=12,SNR=8.6
I19A Meeteetse 12.14 67 ⇑P Pn 10 52 27.1 +0.1
baz=12
GCMT Greycliff 12.19 59 ePn Pn 10 52 29.3 +1.7
4.0nm,0.9s
F18A Big Timber 12.20 58 ⇓P Pn 10 52 28.2 +0.4
baz=12,SNR=7.1
RLMT Red Lodge 12.23 62 ePn Pn 10 52 29.8 +1.5
12nm,1.0s
B16A M & M Farms, S 12.23 44 ⇓P Pn 10 52 28.8 +0.6
baz=12
PV04 Paradox Valley 12.29 94 ePn Pn 10 52 28.1 -1.0
H19A Powell 12.29 64 ⇓P Pn 10 52 29.8 +0.7
baz=12
C17A Wharram Farm, 12.32 49 ⇓P Pn 10 52 29.2 -0.2
baz=12,SNR=18
E18A Harlowton 12.33 55 ⇓P Pn 10 52 29.7 +0.1
baz=12
L20A Wamsutter 12.35 77 ⇓P Pn 10 52 29.6 -0.3
baz=12
K20A Yellowstone Ra 12.40 74 ⇓P Pn 10 52 30.6 +0.1
baz=12
N20A Spence Gulch, 12.42 82 ⇑P Pn 10 52 31.3 +0.3
baz=12
PV01 Paradox Valley 12.61 95 ePn Pn 10 52 36.8 +3.2
526nm,0.9s
Q20A Ridgley Place, 12.63 91 ⇑P Pn 10 52 34.7 +0.9
baz=13
B17A L&G Farms, Che 12.66 47 ⇑P Pn 10 52 33.7 -0.3
baz=13,SNR=9.2
J20A Shoshoni 12.66 71 ⇓P Pn 10 52 34.3 +0.1
baz=13
D18A Linhart Farms, 12.68 52 ⇑P Pn 10 52 33.9 -0.4
baz=13
I20A Worland 12.73 68 ⇑P Pn 10 52 35.9 +0.9
baz=13
R20A Redvale 12.74 95 ⇓P Pn 10 52 35.4 +0.1
baz=13
S20A Disappointment 12.85 96 ⇓P Pn 10 52 37.3 +0.5
baz=13
H20A Greybull 12.93 66 ⇓P Pn 10 52 38.7 +1.0
baz=13,SNR=8.3
MVCO Mesa Verde 12.93 99 ePn Pn 10 52 40.3 +2.3
MVCO Mesa Verde 12.93 99 ⇓P Pn 10 52 38.4 +0.5
baz=13
G20A Bridger 12.97 63 ⇑P Pn 10 52 40.0 +1.7
baz=13,SNR=44
N21A Black Mountain 12.99 83 ⇓P Pn 10 52 38.8 +0.1
baz=13
X18A Snowflake 12.99 112 ⇑P Pn 10 52 39.0 +0.3
baz=13
E19A Rath Farm, Rou 13.00 57 ⇓P Pn 10 52 39.2 +0.5
baz=13,SNR=14
L21A Rawlins 13.07 77 ⇓P Pn 10 52 40.0 +0.2
baz=13
M21A Separation Pea 13.08 79 ⇓P Pn 10 52 38.5 -1.3
baz=13
A17A Triple J Farms 13.09 44 ⇓P Pn 10 52 39.5 -0.3
baz=13,SNR=7.7
EGMT Eagleton 13.11 49 ePn Pn 10 52 40.4 +0.2
EGMT Eagleton 13.11 49 ⇑P Pn 10 52 39.9 -0.2
baz=13
J21A Lysite 13.12 71 ⇑P Pn 10 52 40.7 +0.2
baz=13,SNR=12
P21A Newcastle 13.18 88 ⇑P Pn 10 52 42.1 +0.9
baz=13
RWWY Rawlins 13.19 78 ePn Pn 10 52 41.6 +0.2
K21A Alcova 13.20 74 ⇑P Pn 10 52 42.2 +0.8
baz=13
D19A Cripps Ranch, 13.23 54 ⇓P Pn 10 52 41.3 -0.5
baz=13,SNR=23
B18A Beardsley Farm 13.29 48 ⇓P Pn 10 52 42.5 0.0
baz=13
I21A Big Trails, Te 13.30 69 ⇓P Pn 10 52 42.5 -0.3
baz=13,SNR=16
R21A Cimarron 13.33 93 ⇑P Pn 10 52 43.4 +0.1
baz=13
S21A Coal Bank Pass 13.33 96 ⇓P Pn 10 52 43.3 -0.2
baz=13
C19A Slack Wire Ran 13.38 51 ⇑P Pn 10 52 43.8 0.0
baz=13
E20A Meyer Farm, Mu 13.44 57 ⇓P Pn 10 52 43.7 -1.0
baz=14,SNR=14
V20A Brimhall 13.48 105 ⇑P Pn 10 52 44.4 -1.0
baz=14
A18A Metzger Ranch, 13.53 46 ⇓P Pn 10 52 45.0 -0.9
baz=14,SNR=15
H21A Big Horn, Sher 13.63 66 ⇓P Pn 10 52 47.1 -0.2
baz=14
M22A Cedar Creek Ra 13.65 80 ⇑P Pn 10 52 47.4 -0.4
baz=14
G21A Lodge Grass 13.66 63 ⇑P Pn 10 52 47.3 -0.4
baz=14
D20A Manuel Ranch, 13.66 55 ⇑P Pn 10 52 47.4 -0.3
baz=14
P22A Eagle 13.69 87 ⇑P Pn 10 52 48.0 -0.3
baz=14
TUC Tucson 13.70 121 ePn Pn 10 52 50.4 +2.1
Q22A Crested Butte, 13.71 90 ⇓P Pn 10 52 48.8 +0.2
baz=14
K22A Casper 13.73 74 ⇓P Pn 10 52 48.4 -0.3
baz=14
L22A Ellis Ranch, M 13.77 77 ⇓P Pn 10 52 49.5 +0.2
baz=14
O22A Kremmling 13.78 85 ⇓P Pn 10 52 49.4 -0.1
baz=14
N22A Wattenberg Ran 13.79 82 ⇓P Pn 10 52 49.2 -0.5
baz=14
B19A Brinkman Farms 13.79 49 ⇑P Pn 10 52 49.4 0.0
baz=14
J22A Midwest 13.83 71 ⇑P Pn 10 52 50.2 +0.1
baz=14,SNR=16
U21A Nageezi 13.84 101 ⇓P Pn 10 52 50.4 +0.1
baz=14
F21A Absaloka Mine, 13.88 61 ⇓P Pn 10 52 50.3 -0.3
baz=14
I22A 9 Mile Ranch, 13.89 69 ⇓P Pn 10 52 51.6 +0.7
baz=14
C20A Veseth Ranch, 14.00 53 ⇓P Pn 10 52 51.3 -1.0
baz=14,SNR=8.1
S22A 4UR Ranch, Cre 14.04 95 ⇓P Pn 10 52 52.6 -0.5
baz=14
H22A Clearmont 14.11 66 ⇑P Pn 10 52 53.2 -0.6
baz=14
E21A Keefer Ranch, 14.13 58 ⇑P Pn 10 52 53.8 -0.3
baz=14
A19A Klindworth Far 14.15 47 ⇓P Pn 10 52 53.0 -1.3
baz=14,SNR=6.3
N23A Red Feather La 14.17 82 ⇓P Pn 10 52 54.4 -0.5
baz=14
T22A Edith 14.20 98 ⇓P Pn 10 52 54.4 -0.9
baz=14
O23A Lake Granby, G 14.25 84 ⇑P Pn 10 52 55.8 -0.2
baz=14
G22A Birney 14.28 64 ⇓P Pn 10 52 55.8 -0.4
baz=14
L23A Garrett 14.32 77 ⇑P Pn 10 52 56.6 -0.3
baz=14
B20A Solberg Farm, 14.32 50 ⇑P Pn 10 52 56.6 -0.1
baz=14
D21A La Casta Ranch 14.37 56 ⇑P Pn 10 52 57.1 -0.3
baz=14,SNR=45
K23A Bowen Ranch, D 14.40 74 ⇓P Pn 10 52 56.6 -1.3
baz=14,SNR=8.3
U22A Llaves 14.46 100 ⇑P Pn 10 52 58.6 -0.2
baz=14
PHWY Pilot Hill 14.52 80 ePn Pn 10 52 58.9 -0.7
ISCO Idaho Springs 14.54 86 ePn Pn 10 52 59.9 0.0
ISCO Idaho Springs 14.54 86 ⇑P Pn 10 53 00.1 +0.1
baz=14
A20A Cobblestone Ra 14.59 49 ⇑P Pn 10 52 59.4 -1.0
baz=15
V22A San Miguel Ran 14.59 102 ⇑P Pn 10 53 00.8 +0.2
baz=15
C21A Desert Coulee 14.61 53 ⇑P Pn 10 52 59.4 -1.2
baz=15,SNR=8.4
E22A Miles City 14.84 60 ⇓P Pn 10 53 02.3 -1.5
baz=15,SNR=9.1
L24A Wheatland 14.89 77 ⇑P Pn 10 53 04.2 -0.4
baz=15
G23A Biddle 14.90 65 ⇓P Pn 10 53 03.0 -1.6
baz=15,SNR=6.8
B21A Ellsworth Farm 14.91 51 ⇑P Pn 10 53 04.2 -0.5
baz=15
D22A Cohagen 14.92 57 ⇓P Pn 10 53 04.0 -0.8
baz=15,SNR=34
N24A Carr 14.98 82 ⇓P Pn 10 53 05.2 -0.6
baz=15
EDM Edmonton 14.98 27 ePn Pn 10 53 05.0 -0.5
M24A Cheyenne 14.98 79 ⇑P Pn 10 53 05.1 -0.8
baz=15
F23A Volborg 15.01 63 ⇓P Pn 10 53 04.3 -1.7
baz=15,SNR=7.8
Q24A Divide 15.03 89 ⇓P Pn 10 53 05.3 -1.3
baz=15
SDCO Great Sand Dun 15.05 94 ePn Pn 10 53 09.1 +2.2
8.2nm,1.0s
LAZ Ladron 15.07 108 ePn Pn 10 53 09.5 +2.4
3.1nm,1.1s
J24A Dixon Ranch, L 15.14 72 ⇑P Pn 10 53 06.4 -1.5
baz=15,SNR=8.6
I24A Kuemmerle Ranc 15.22 70 ⇑P Pn 10 53 08.0 -0.9
baz=15
A21A Bergtoll Ranch 15.22 50 ⇑P Pn 10 53 07.0 -1.8
baz=15,SNR=8.8
R24A Sanders Place, 15.23 92 ⇑P Pn 10 53 08.3 -0.9
baz=15
319A Douglas 15.28 121 ⇑P Pn 10 53 09.0 -0.7
baz=15
E23A Ismay 15.28 60 ⇑P Pn 10 53 08.0 -1.7
baz=15,SNR=9.3
LENM Lemitar 15.31 108 eP P 10 53 19.3 +4.4
C22A Vida 15.32 55 ⇓P Pn 10 53 08.9 -1.3
baz=15
ANMO Albuquerque 15.33 105 ePn Pn 10 53 12.2 +1.7
ANMO Albuquerque 15.33 105 Pn Pn 10 53 10.1 -0.3
0.1nm,0.3s,baz=318,slow=9.4,SNR=5.2
H24A Dirks Ranch, A 15.40 67 ⇓P Pn 10 53 08.7 -2.5
baz=15,SNR=14
B22A Reddig Ranch S 15.47 53 ⇑P Pn 10 53 10.4 -1.8
baz=16,SNR=9.5
BNM Barren Site 15.56 108 ePn P 10 53 17.0 -0.9
10nm,1.3s
G24A Alzada 15.60 65 ⇓P Pn 10 53 11.7 -2.1
baz=16,SNR=5.3
L25A Engebretsen Ra 15.61 77 ⇑P Pn 10 53 12.4 -1.7
baz=16
U24A Moreno Valley 15.64 98 ⇑P Pn 10 53 13.8 -0.8
baz=16
RSSD Black Hills 15.67 69 ePn Pn 10 53 12.7 -2.2
5.8nm,0.9s
P25A Willow Gulch B 15.68 86 ⇑P Pn 10 53 13.6 -1.4
baz=16
K25A Mack Ranch, Ha 15.69 75 ⇓P Pn 10 53 13.9 -1.1
baz=16
X23A Hourglass Bar 15.69 106 ⇑P Pn 10 53 13.5 -1.6
baz=16
F24A Ekalaka 15.69 63 ⇓P Pn 10 53 12.9 -2.1
baz=16,SNR=7.7
J25A Sunshine Ranch 15.77 72 ⇑P Pn 10 53 13.7 -2.5
baz=16,SNR=6.0
C23A Lambert 15.79 55 ⇑P Pn 10 53 13.9 -2.3
baz=16,SNR=31
320A Kipp Ranch, An 15.80 120 ⇓P Pn 10 53 15.0 -1.5
baz=16,SNR=6.7
A22A Carney Farms, 15.81 51 ⇓P Pn 10 53 15.5 -1.1
baz=16
R25A Fountain Ranch 15.88 91 ⇓P Pn 10 53 16.9 -0.7
baz=16
I25A Rochford 15.88 70 ⇑P Pn 10 53 15.9 -1.7
baz=16
S25A Robets Cordova 15.89 93 ⇑P Pn 10 53 17.6 -0.1
baz=16
V24A Rampart Ranch, 15.89 101 ⇑P Pn 10 53 16.5 -1.3
baz=16
E24A Baker 15.96 60 ⇑P Pn 10 53 17.7 -0.8
baz=16
W24A Lazy 6 Ranch, 15.99 103 ⇑P Pn 10 53 17.6 -1.5
baz=16,SNR=5.9
H25A Fruitdale 16.05 68 P Pn 10 53 17.7 -2.0
baz=16,SNR=14
T25A Trinidad 16.06 95 ⇓P Pn 10 53 18.8 -1.1
baz=16
Y23A Lovelace Mesa, 16.09 108 ⇓P Pn 10 53 19.1 -1.2
baz=16
B23A Brockton 16.15 53 P Pn 10 53 19.0 -1.9
baz=16,SNR=34
C24A Savage 16.17 57 ⇓P Pn 10 53 19.4 -1.8
baz=16,SNR=19
K26A Motz Farm, Whi 16.20 75 ⇑P Pn 10 53 19.6 -2.0
baz=16,SNR=5.4
O26A Horse Wrangler 16.23 83 ⇓P Pn 10 53 20.8 -1.2
baz=16
M26A McRoberts Ranc 16.25 79 ⇑P Pn 10 53 20.9 -1.3
baz=16
G25A Newell 16.27 66 ⇓P Pn 10 53 20.4 -2.0
baz=16,SNR=7.0
J26A Sides Ranch, S 16.30 72 ⇓P Pn 10 53 21.0 -1.8
baz=16,SNR=11
V25A Rancho No Teng 16.34 100 ⇑P Pn 10 53 22.9 -0.7
baz=16
F25A Bowman 16.38 63 ⇑P Pn 10 53 22.7 -1.2
baz=16
A23A Redstone 16.42 52 ⇑P Pn 10 53 22.9 -1.4
baz=16
R26A Arlington 16.48 90 ⇑P Pn 10 53 24.6 -0.6
baz=16
Y24A Capitan 16.54 107 ⇑P Pn 10 53 24.7 -1.4
baz=16
E25A Miller Ranch, 16.55 61 ⇑P Pn 10 53 25.2 -0.8
baz=17
H26A Fairpoint 16.63 68 ⇓P Pn 10 53 25.8 -1.2
baz=17,SNR=8.2
DGMT Dagmar 16.64 54 ePn Pn 10 53 25.1 -2.0
145nm,1.9s
DGMT Dagmar 16.64 54 ⇑P Pn 10 53 25.1 -2.0
baz=17
D25A Fairfield 16.77 59 ⇓P Pn 10 53 26.6 -2.3
baz=17
U26A Atchley Ranch, 16.80 97 ⇑P Pn 10 53 27.0 -2.4
baz=17
G26A Maurine 16.85 66 ⇑P Pn 10 53 28.2 -1.6
baz=17
K27A Flueckinger Fa 16.89 75 ⇓P Pn 10 53 28.3 -2.2
baz=17,SNR=8.2
F26A Lodgepole 16.90 64 ⇓P Pn 10 53 28.1 -2.4
baz=17,SNR=11
A24A Westby 16.93 53 ⇓P Pn 10 53 28.6 -2.3
baz=17,SNR=6.9
C25A Freed Ranch, W 16.98 57 ⇑P Pn 10 53 29.6 -1.8
baz=17,SNR=9.6
I27A Quinn 17.09 70 ⇑P Pn 10 53 29.9 -2.9
baz=17,SNR=6.8
H27A Howes 17.13 68 ⇓P Pn 10 53 31.5 -1.8
baz=17
E26A Carlson Angus 17.18 62 ⇑P Pn 10 53 32.3 -1.6
baz=17
G27A Dupree 17.33 66 ⇓P Pn 10 53 33.1 -2.8
baz=17,SNR=16
F27A Lemmon 17.35 64 ⇑P Pn 10 53 33.6 -2.5
baz=17,SNR=12
O28A Krutsinger Ran 17.41 83 ⇓P Pn 10 53 36.0 -0.9

baz=17,SNR=5.2
P28A Saint Francis 17.51 85 ⇑P Pn 10 53 37.9 -0.3
baz=18
K28A Ten Mile Ranch 17.54 75 ⇓P Pn 10 53 36.3 -2.1
baz=18
J28A Allard Ranch, 17.64 72 ⇑P Pn 10 53 37.6 -2.1
baz=18,SNR=12
R28A Tribune 17.72 89 ⇑P Pn 10 53 39.3 -1.4
baz=18
125A Gardner Draw, 17.74 109 ⇓P Pn 10 53 39.8 -1.2
baz=18
MNTX Cornudas Mount 17.74 113 *eP* **P 10 53 42.5 +0.8**
7.6nm,1.3s
C26A Wahner Farm, P 17.76 58 ⇓P Pn 10 53 39.0 -2.1
baz=18
E27A Carson 17.77 62 ⇑P Pn 10 53 39.3 -2.0
baz=18
324A Moseley Ranch, 17.81 114 ⇑P Pn 10 53 39.9 -2.1
baz=18
B26A Jensen Ranch, 17.84 56 ⇓P Pn 10 53 40.2 -1.9
baz=18
H28A Mission Ridge 17.88 68 ⇑P Pn 10 53 41.0 -1.6
baz=18
G28A Parade 18.00 67 ⇓P Pn 10 53 42.5 -1.6
baz=18
M29A Burnside Ranch 18.09 79 ⇓P Pn 10 53 43.1 -2.1
baz=18
C27A Sayler Ranch, 18.12 58 ⇓P Pn 10 53 43.6 -1.9
baz=18,SNR=6.1
P29A Atwood 18.14 85 ⇑P Pn 10 53 44.1 -1.8
baz=18
O29A 4D Ranch, Culb 18.15 83 ⇓P Pn 10 53 44.3 -1.7
baz=18
GDL2 Guadalupe Moun 18.19 110 *ePn* **Pn 10 53 45.1 -1.5**
325A Bean Ranch, Si 18.21 113 ⇑P P 10 53 47.2 +0.1
baz=18
Y27A Causey 18.24 104 ⇓P Pn 10 53 47.1 -0.1
baz=18
K29A Lazy Trails An 18.31 74 ⇓P Pn 10 53 46.9 -1.0
baz=18
DLBC Dease Lake 18.45 351 *eP* **Pn 10 53 51.5 +2.1**
DLBC Dease Lake 18.45 351 P Pn 10 53 51.7 +2.2
0.1nm,0.3s,baz=147,slow=11,SNR=6.6
Z27A Tatum 18.46 106 ⇓P P 10 53 45.3 -4.6
baz=18
425A Indio Mountain 18.54 115 ⇓P P 10 53 46.4 -4.3
baz=18
Z28A Tucker Farm, M 19.09 105 ⇓P P 10 53 53.2 -3.4
baz=19
426A McDonald Obser 19.28 114 ⇑P P 10 53 55.6 -3.3
baz=19
BRSD Miller 19.34 69 ⇓P P 10 53 56.6 -2.6
baz=19,SNR=5.7
R31A Burdett 19.48 88 ⇓P P 10 53 59.3 -1.5
baz=20,SNR=5.8
526A Mary Lane Ranc 19.59 115 ⇓P P 10 54 01.4 -0.8
baz=20
427A Hayter Ranch, 19.61 112 ⇓P P 10 54 02.0 -0.4
baz=20
626A Big Bend Ranch 19.87 116 ⇓P P 10 54 06.2 +0.9
baz=20
527A Woodward Ranch 19.88 114 ⇑P Pn 10 54 06.4 -0.6
baz=20
W31A Holland Ranch, 20.12 97 ⇑P Pn 10 54 09.2 -0.5
baz=20
LPIG La Paz 20.15 139 LR LR 11 01 48.1
comp=Z,70nm,18.0s,baz=331,slow=37
229A Bryant Ranch, 20.16 107 ⇑P Pn 10 54 10.3 0.0
baz=20
428A Kincaid Ranch, 20.19 112 ⇑P Pn 10 54 10.3 -0.4
baz=20
329A Wagon Wheel Ra 20.28 109 ⇑P Pn 10 54 11.5 -0.3
baz=20
SKAG Skagway 20.30 344 *eP* Pn 10 54 14.3 +2.8
TXAR Lajitas Array 20.33 116 P Pn 10 54 12.3 0.0
TXAR Lajitas Array 20.33 116 P Pn 10 54 12.3 0.0
6.6nm,0.9s,baz=301,slow=9.1,SNR=76
TXAR LR LR 11 02 31.9
comp=Z,217nm,19.2s,baz=5.0,slow=39
528A Cox Ranch, San 20.44 113 ⇓P Pn 10 54 13.3 -0.4
baz=20
627A Terlingua Ranc 20.45 116 ⇑P Pn 10 54 13.1 -0.6
baz=20
628A Black Gap, Mar 20.77 115 ⇓P Pn 10 54 16.5 -1.0
baz=21
429A Davenport Ranc 20.81 111 ⇑P Pn 10 54 16.9 -1.1
baz=21
FFC Flin Flon 20.84 39 *eP* **P 10 54 14.8 -0.7**
937nm,1.8s
131A Roby 20.86 104 ⇑P Pn 10 54 17.6 -0.7
baz=21
529A Stev Forest Ra 20.86 112 ⇑P Pn 10 54 17.6 -0.9
baz=21
330A Mertzon 20.91 108 ⇑P Pn 10 54 17.9 -1.2
baz=21
ECSD EROS Data Cent 21.00 72 *eP* **P 10 54 14.0 -3.4**
40nm,1.9s
430A Baggett Ranch, 21.20 109 ⇑P P 10 54 20.4 +0.9
baz=21
Z32A Haskell 21.24 101 ⇓P P 10 54 20.9 +0.9
baz=21
231A Bronte 21.27 106 ⇑P P 10 54 21.2 +0.9
baz=21
ABTX Abilene, Hawle 21.43 103 ⇓P P 10 54 23.5 +1.4
baz=21
530A J-C Ranch, Com 21.48 111 ⇓P P 10 54 23.5 +0.9
baz=22
331A San Angelo 21.51 107 ⇓P P 10 54 23.6 +0.7
baz=22
KSU1 Kansas State U 21.52 84 *eP* **P 10 54 26.1 +3.2**
45nm,0.9s
431A Sonora 21.71 109 ⇓P P 10 54 26.3 +1.2
baz=22
AGMN Agassiz Nation 21.94 59 *eP* **P 10 54 26.6 -0.8**
21nm,0.8s
HYT Haines Junctio 22.01 343 *eP* **P 10 54 30.9 +2.7**
432A Menard 22.20 107 ⇓P P 10 54 29.8 -0.5
baz=22
ULM Lac du Bonnet 22.37 54 *eP* **P 10 54 30.9 -1.0**
44nm,1.7s
ULM Lac du Bonnet 22.37 54 P P 10 54 31.7 -0.2
4.1nm,0.6s,baz=251,slow=8.4,SNR=7.1
ULM LR LR 11 03 53.5
comp=Z,1μm,18.5s,baz=258,slow=39
JCT Junction City 22.40 108 *eP* **P 10 54 33.9 +1.4**
18nm,1.4s
JCT Junction City 22.40 108 ⇓P P 10 54 32.8 +0.3
baz=22
YKA Yellowknife Ar 22.98 12 P P 10 54 37.9 -0.4
YKA Yellowknife Ar 22.98 12 P P 10 54 37.8 -0.4
1.9nm,0.8s,baz=201,slow=11,SNR=3.7
WHTX Lake Whitney 23.36 102 ⇓P P 10 54 43.4 +1.0
baz=23
DAWY Dawson 25.30 345 *eP* **P 10 55 02.9 +2.6**
MENT Mentasta 25.35 340 *eP* **P 10 55 01.7 +1.0**
SML Sawmill 25.88 334 *eP* P 10 55 12.7 +7.2
3.0nm,1.1s
PMR Palmer 26.00 333 *eP* **P 10 55 07.2 +0.8**
2.6nm,0.6s
RSO Redoubt South 26.63 329 *eP* P 10 55 17.6 +5.2
MCK McKinley 27.46 337 *eP* **P 10 55 19.6 -0.1**
3.9nm,0.8s
ILAR Eielson Array 27.67 339 P P 10 55 23.5 +2.0
ILAR PcP **PcP 10 58 39.8 +1.6**
ILAR Eielson Array 27.67 339 P P 10 55 23.5 +2.0
0.5nm,0.9s,baz=155,slow=7.6,SNR=7.3
ILAR PcP **PcP 10 58 39.8 +1.6**
0.2nm,0.9s,baz=144,slow=1.7,SNR=2.7
PPLA Purkeypile 27.94 333 *eP* **P 10 55 27.0 +2.9**
14nm,1.0s
INK Inuvik 28.44 353 P P 10 55 31.1 +2.8
INK Inuvik 28.44 353 P P 10 55 31.1 +2.8
1.4nm,0.8s,baz=186,slow=13,SNR=2.1
INK LR LR 11 07 52.0
comp=Z,493nm,19.3s,baz=8.3,slow=39
SCHQ Schefferville 40.37 49 LR LR 11 13 14.0
comp=Z,399nm,21.0s,baz=282,slow=35
PETK Petropavlovsk- 52.23 312 P P 10 58 46.7 +2.0
PETK Petropavlovsk- 52.23 312 P P 10 58 46.7 +2.0
1.0nm,0.7s,baz=90,slow=12,SNR=3.3
ROSC El Rosal 57.23 114 LR LR 11 27 52.6
comp=Z,82nm,19.2s,baz=323,slow=40
PPT Papeete 62.13 207 LR LR 11 19 23.2
comp=Z,79nm,21.7s,baz=0.0,slow=29
PPT2 Papeete2 62.15 207 *eS* **S 11 08 18.0 -2.2**
241nm,28.8s
PPT2 *e*LR LR 11 18 11.9
174nm,26.2s

ASAJ Asahikawa 65.15 308 P P 11 00 17.1 +2.3
ASAJ Asahikawa 65.15 308 P P 11 00 17.1 +2.3
1.9nm,0.7s,baz=333,slow=4.5,SNR=2.7
TBI Tubuai 67.47 205 *e*LR LR 11 20 45.3
115nm,31.8s
ARCES ARCESS Array B 68.25 11 LR LR 11 33 30.1
comp=Z,148nm,18.3s,baz=147,slow=39
AFI Afiamalu 69.49 230 LR LR 11 23 01.5
comp=Z,137nm,19.6s,baz=34,slow=29
USRK Usuriysk Arra 71.32 312 P P 11 00 56.1 +2.7
2.2nm,0.9s,baz=76,slow=12,SNR=3.3
USRK LR LR 11 30 47.8
comp=Z,79nm,18.7s,baz=230,slow=35
MJAR Matsushiro Arr 72.24 303 P P 11 01 03.2 +4.0
MJAR Matsushiro Arr 72.24 303 P P 11 01 03.2 +4.0
0.5nm,0.5s,baz=52,slow=7.9,SNR=3.0
MDJ Mudanjiang 72.39 314 P **P 11 00 59.7 -0.2**
MDJ sP **sP 11 01 05.0 -1.4**
MDJ S **S 11 10 21.2 -1.7**
MDJ SS **SS 11 15 04.6 +4.2**
MDJ pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 72.75 21 P **P 11 01 03.3 +1.5**
NOA NORSAR Array B 72.75 21 P **P 11 01 03.3 +1.5**
comp=Z,0.5nm,0.8s,baz=330,slow=6.2,SNR=2.1
NOA LR LR 11 31 19.1
comp=Z,149nm,21.5s,baz=10.0,slow=34
CN2 Changchun 75.18 315 *eP* **P 11 01 17.8 +1.6**
CN2 *e*S **S 11 10 53.0 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
FINES FINESS Array B 75.80 14 P **P 11 01 19.9 +0.5**
FINES FINESS Array B 75.80 14 P **P 11 01 19.9 +0.5**
comp=Z,0.9nm,0.8s,baz=351,slow=6.1,SNR=3.6
FINES LR LR 11 33 46.3
comp=Z,197nm,21.7s,baz=340,slow=35
LPAZ La Paz 76.94 125 P **P 11 01 26.8 -0.5**
LPAZ La Paz 76.94 125 P **P 11 01 26.8 -0.5**
comp=Z,0.9nm,0.7s,baz=3.9,slow=17,SNR=4.3
KSRS Korea Array 78.02 309 P **P 11 01 33.2 +0.8**
comp=Z,0.3nm,0.5s,baz=61,slow=6.7,SNR=3.3
KSAR Wonju Array Be 78.05 309 P **P 11 01 33.2 +0.6**
SONM Songino Array 81.24 328 P P 11 01 53.4 +3.5
SONM Songino Array 81.24 328 P P 11 01 53.4 +3.5
comp=Z,0.4nm,0.4s,baz=48,slow=2.1,SNR=2.3
SONM LR LR 11 37 53.5
comp=Z,164nm,18.2s,baz=201,slow=36
ZALV Zalesovo Beam 82.73 343 P **P 11 01 58.4 +1.0**
ZALV Zalesovo Beam 82.73 343 P **P 11 01 58.4 +1.0**
comp=Z,0.5nm,0.4s,baz=27,slow=4.8,SNR=3.5
ZALV LR LR 11 41 48.9
comp=Z,110nm,19.5s,baz=249,slow=38
ESDC Sonseca Array 83.71 42 LR LR 11 34 45.5
comp=Z,122nm,21.5s,baz=195,slow=32
GERES GERESS Array B 83.85 26 LR LR 11 41 18.3
comp=Z,107nm,18.9s,baz=106,slow=37
HHC Hu-ho-hao-te 84.43 321 *eP* **P 11 02 04.2 -2.3**
HHC sP **sP 11 02 10.3 -2.8**
HHC PP **PP 11 05 20.3 -0.6**
HHC SKS **SKSac 11 12 23.8 -6.2**
HHC S **S 11 12 27.1 -5.3**
HHC SS **SS 11 17 58.9 -2.5**
HHC LR LR
comp=Z,330nm,17.0s
HNR Honiara 85.17 253 LR LR 11 29 27.4
comp=Z,76nm,21.8s,baz=108,slow=28
BVAR Borovoye Array 86.11 351 P **P 11 02 15.9 +1.3**
BVAR Borovoye Array 86.11 351 P **P 11 02 15.9 +1.3**
comp=Z,1.2nm,0.4s,baz=255,slow=40,SNR=3.9
AKASG Malin Array Be 86.47 16 P **P 11 02 16.2 -0.1**
AKASG Malin Array Be 86.47 16 P **P 11 02 16.2 -0.1**
comp=Z,0.2nm,0.2s,baz=332,slow=4.1,SNR=2.8
AKASG LR LR 11 41 58.7
comp=Z,144nm,18.6s,baz=315,slow=36
KURK Kurchatov 87.07 345 P **P 11 02 20.4 +1.2**
NJ2 Nanjing 87.12 310 *eP* **P 11 02 20.1 +0.2**
KURBB Kurchatov Arra 87.17 346 P **P 11 02 20.4 +0.6**
comp=Z,1.9nm,0.8s,baz=17,slow=4.7,SNR=14
DZM Mont Dzumac 89.23 240 *e*LR LR 11 30 45.9
comp=Z,236nm,23.8s
MKAR Makanchi Array 90.00 342 P **P 11 02 34.7 +1.4**
MKAR Makanchi Array 90.00 342 P **P 11 02 34.7 +1.4**
comp=Z,0.4nm,0.8s,baz=0.0,slow=4.9,SNR=3.5
MKAR LR LR 11 46 05.2
comp=Z,89nm,18.2s,baz=356,slow=38
BDFB Brasília 90.10 110 LR LR 11 42 15.5
comp=Z,112nm,19.9s,baz=258,slow=35
GTA Gaotai 90.88 327 *eP* **P 11 02 39.8 +2.1**
GTA pP **pP 11 02 44.6 +2.0**
GTA sP **sP 11 02 46.8 +2.5**
GTA pmax pmax
comp=Z,4.0nm,1.9s
CPUP Villa Florida 91.10 124 LR LR 11 42 38.6
comp=Z,93nm,20.0s,baz=82,slow=35
WMQ Urumqi 91.31 337 *eP* **P 11 02 41.7 +2.2**
LZH Lanzhou 91.88 323 *eP* P 11 02 39.0 -3.4
LZH pP **PcP 11 02 43.8 +0.5**
LZH sP sP 11 02 46.1 -2.9
LZH PP **PP 11 06 20.1 -0.6**
LZH pmax pmax
comp=Z,17nm,1.5s
LZH LR LR
comp=N,230nm,17.5s
LZH LR LR
comp=E,200nm,17.9s
LZH LR LR
comp=Z,270nm,19.8s
KEST Kesra 93.24 36 LR LR 11 45 47.5
comp=Z,46nm,18.9s,baz=232,slow=36
PLCA Paso Flores 94.47 142 LR LR 11 40 55.6
comp=Z,146nm,19.0s,baz=136,slow=33
KBZ Khabaz 95.55 9 LR LR 11 48 41.5
comp=Z,128nm,19.9s,baz=194,slow=37
CD2 Chengdu 96.15 320 *eP* **P 11 03 00.2 -1.8**
CD2 pP **pP 11 03 05.8 -1.0**
CD2 sP **sP 11 03 08.6 0.0**
CD2 PP **PP 11 06 55.0 +0.9**
CD2 SKS **SKSac 11 13 34.8 -3.5**
CD2 S S 11 14 14.8 -6.1
CD2 sS **ScS 11 14 23.5 +2.0**
CD2 SS **SS 11 20 48.4 -2.6**
CD2 LR LR
comp=N,160nm,18.0s
CD2 LR LR
comp=Z,150nm,16.2s
BRTR Keskin Array B 97.87 17 LR LR 11 51 48.2
comp=Z,71nm,19.3s,baz=108,slow=38
GYA Guiyang 98.23 315 *eP* **P 11 03 11.0 -0.6**
GYA PP **PP 11 07 12.2 +1.8**
GYA SKS S 11 13 47.5 -52
GYA S **ScS 11 14 33.0 -6.2**
GYA SS **SS 11 21 19.8 -1.0**
GYA LR LR
comp=Z,460nm,21.8s
KMI Kunming 101.39 317 P **Pdif 11 03 26.7 +0.9**
ASAR Alice Springs 113.41 258 PKiKP **PKiKP 11 08 16.0 +4.0**
ASAR Alice Springs 113.41 258 PKiKP **PKiKP 11 08 16.0 +4.0**
comp=Z,0.5nm,0.9s,baz=48,slow=1.9,SNR=4.3

*ISK **07** 10:57:47.5, 40°.25N×41°.32E, h8km, MD2.6*
*ISCJB **07** 10:57:48.3±0.6, 40°.22N±0°.03×41°.31E±0°.04, h8km±7km, Error ellipse: s-maj=5.9km s-min=4.6km az=162.8*
*DDA **07** 10:57:48.1, 40°.24N×41°.34E, h7km, ML3.0*
*CSEM **07** 10:57:48.0±0.2, 40°.21N×41°.34E, h10km, ML3.0, Error ellipse: s-maj=6.2km s-min=4.7km az=118.0*
ISC 07 10:57:48.2±1.0, 40°.24N±0°.03×41°.32E±0°.03, h10km±9km, n23, σ0s63/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.33**	**174**	*i* P	**Pg**	**10 57 54.6**	**-0.4**
ERZM	**Erzurum**	**0.33**	**174**	*i* P	**Pg**	**10 57 54.6**	**-0.4**
EZM	**Erzurum**	**0.33**	**175**	*e*PG	**Pg**	**10 57 54.4**	**-0.5**
EZM				*e*SG	**Sg**	**10 58 00.2**	**+0.8**
HOMI	**Horasan**	**0.49**	**113**	*i* P	**Pg**	**10 57 57.4**	**-0.4**
HOMI				*i* S	**Sg**	**10 58 05.3**	**+1.0**
KOPT	**Kop Dagi**	**0.67**	**251**	*i* P	**Pb**	**10 58 02.1**	**-0.1**
KOPT				*i* S	**Sn**	**10 58 14.2**	**-0.5**
KOPT	**Kop Dagi**	**0.67**	**251**	*i* P	**Pb**	**10 58 02.1**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**0.92**	**280**	*e*PG	**Pg**	**10 58 05.5**	**-0.4**
BAYT				*e*SG	**Sg**	**10 58 18.6**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**0.92**	**280**	*e*Pg	**Pg**	**10 58 05.5**	**-0.4**
BAYT				*e*Sg	**Sg**	**10 58 18.6**	**+0.7**
DAGI	**Agillar**	**0.95**	**28**	*i* P	**Pb**	**10 58 06.7**	**-0.3**
DAGI				*i* S	**Sn**	**10 58 20.8**	**-0.7**
ARTV	**Artvin**	**1.05**	**26**	*i* P	**Pb**	**10 58 09.0**	**+0.3**
ARTV				*i* S	**Sb**	**10 58 23.0**	**+0.4**
ARTV	**Artvin**	**1.05**	**26**	*i* P	**Pb**	**10 58 09.0**	**+0.3**
ARTV				*i* S	**Sb**	**10 58 23.0**	**+0.4**
DBOC	**Borcka**	**1.14**	**13**	*i* P	**Pb**	**10 58 10.0**	**0.0**
DBOC				*i* S	**Sg**	**10 58 24.6**	**-0.3**
DBOC	**Borcka**	**1.14**	**13**	*i* P	**Pb**	**10 58 10.0**	**0.0**
DBOC				*i* S	**Sg**	**10 58 24.6**	**-0.3**
BNGB	**Bing¨¶l**	**1.34**	**202**	*e*PN	**Pn**	**10 58 13.1**	**0.0**
GUMT	**Gumushane**	**1.43**	**280**	*e*PN	**Pn**	**10 58 14.3**	**0.0**
GUMT	**Gumushane**	**1.43**	**280**	*e*Pn	**Pn**	**10 58 14.3**	**0.0**
AGRB	**Hanur-Agry**	**1.45**	**117**	*e*PN	**Pn**	**10 58 14.8**	**+0.2**
AGRB	**Hanur-Agry**	**1.45**	**117**	*e*Pn	**Pn**	**10 58 14.8**	**+0.2**
BINT	**Bingol**	**1.50**	**206**	*e*Pn	**Pn**	**10 58 13.1**	**-2.3**
KELT	**Kelkit**	**1.58**	**267**	*i* P	**Pb**	**10 58 17.6**	**-0.2**
KELT				*i* S	**Sn**	**10 58 38.1**	**+0.9**
KELT	**Kelkit**	**1.58**	**267**	*i* P	**Pb**	**10 58 17.6**	**-0.2**
KELT				*i* S	**Sn**	**10 58 38.1**	**+0.9**
PTK	**Pertek**	**2.01**	**229**	*e*PN	**Pn**	**10 58 22.5**	**+0.1**
PTK	**Pertek**	**2.01**	**229**	*e*Pn	**Pn**	**10 58 22.5**	**+0.1**

IDC 07 11:10:49.7±4.4, 33°.89N×92°.44E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/25, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=552.4km s-min=41.3km az=58.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.01**	**332**	Pn	Pn	11 14 20.2	-2.9
0.1nm,0.3s,baz=143,slow=15,SNR=5.3							
WRA	**Warramunga Arr**	**66.78**	**137**	P	P	11 21 42.8	-0.4
0.1nm,0.3s,baz=316,slow=8.1,SNR=4.9							
ASAR	**Alice Springs**	**69.52**	**140**	P	P	11 22 00.7	+0.3
0.1nm,0.6s,baz=321,slow=7.2,SNR=3.6							

IDC 07 11:19:33.3±3.6, 28°.70S×177°.82W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/17, mbtmp3.2/2, Error ellipse: s-maj=74.5km s-min=18.7km az=77.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.56**	**189**	Pn	Pn	11 19 49.2	+0.7
139nm,0.3s,baz=90,slow=19,SNR=13							
RAO				Sn	Sn	11 19 57.9	-0.6
394nm,0.3s,baz=79,slow=17,SNR=19							
ASAR	**Alice Springs**	**43.38**	**265**	P	P	11 27 37.4	-0.5
0.2nm,0.8s,baz=102,slow=8.6,SNR=2.9							
WRA	**Warramunga Arr**	**44.22**	**270**	P	P	11 27 44.9	+0.3
0.2nm,0.4s,baz=111,slow=8.2,SNR=6.0							
FINES	**FINESS Array B**	**143.60**	**341**	PKP	PKPbc	11 39 06.6	-0.2
0.9nm,0.6s,baz=45,slow=3.0,SNR=4.7							

*ISCJB **07** 11:25:07.9±0.8, 32°.40N±0°.05×76°.34E±0°.09, h14km, Error ellipse: s-maj=11.8km s-min=5.6km az=153.8*
*NDI **07** 11:25:08.2±1.6, 32°.33N×76°.42E, h10km, ML3.7*
*NNC **07** 11:25:21.1±5.8, 35°.72N×80°.05E, h0km, mb3.3, Error ellipse: s-maj=100.9km s-min=48.3km az=45.0*
ISC 07 11:25:08.6±0.9, 32°.31N±0°.07×76°.43E±0°.07, h14km, n10, σ1s52/14, 4C-1D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.12**	**242**	*e*P	**Pg**	**11 25 10.9**	**-1.3**
DHRM				*e*S	**Sg**	**11 25 13.7**	**-1.0**
DHRM				AML	AML	11 25 14.2	
comp=N,11μm,0.4s							
DHRM				AML	AML	11 25 14.5	
comp=E,15μm,0.3s							
DLH	**Dalhousie**	**0.46**	**301**	*e*P	**Pg**	**11 25 17.0**	**-0.8**
DLH				*e*4	Sb	11 25 31.0	+5.7
BHK	**Bhakra**	**0.89**	**181**	*e*P	**Pn**	**11 25 26.8**	**+0.1**
BHK				*e*4	Sn	11 25 48.4	+9.0
SDNR	**Sundarnagar**	**0.93**	**150**	*e*P	**Pg**	**11 25 26.6**	**0.0**
SDNR				*e*S	**Sg**	**11 25 39.0**	**+0.3**
SMLA	**Simla**	**1.33**	**152**	*e*P	**Pb**	**11 25 33.6**	**+0.2**
SMLA				*i* S	**Sg**	**11 25 53.3**	**+1.7**
SMLA				*i* S	**Sg**	**11 25 53.4**	**+1.7**
SMLA				AML	AML	11 25 56.1	
comp=E,2μm,0.6s							
SMLA				AML	AML	11 25 56.3	
comp=N,1μm,0.2s							
JMU	**Jammu**	**1.35**	**288**	*e*4	**Sg**	**11 25 56.0**	**+3.7**
DDI	**Dehra Dun**	**2.42**	**144**	*e*P	**Pg**	**11 25 53.6**	**-1.4**
DDI				*e*S	**Sb**	**11 26 21.8**	**+0.2**
DDI				AML	AML	11 26 29.3	
comp=E,486nm,0.3s							
DDI				AML	AML	11 26 30.8	
comp=N,700nm,0.3s							
KK31	**Karatay Array**	**11.75**	**338**	⇓Pn	**Pn**	**11 27 55.0**	**-0.7**
comp=N,0.5nm,0.4s,baz=139,slow=12,SNR=7.4							
KK31				⇑Sn	Sn	11 29 55.5	-11
comp=N,0.5nm,0.3s,baz=131,slow=19,SNR=5.5							
MK31	**Makanchi Array**	**15.15**	**16**	⇑Pg	**Pn**	**11 28 42.2**	**+0.1**
comp=N,0.6nm,0.6s,baz=199,slow=13,SNR=13							
MK31				⇑Lg	Lg	11 31 13.9	
comp=N,0.2nm,0.5s							
AB31	**Akbulak array**	**20.96**	**329**	⇑Pn	Pn	11 29 55.4	+1.8
comp=N,0.3nm,0.5s,baz=133,slow=13,SNR=5.1							

OTT 07 11:32:46.1±0.4, 60°.63N×58°.58W, h18km, ML3.8/8, LAlbertaRADOR Sea Seismic Zone. 319km east from Killiniq, Qc, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**5.62**	**308**	PN	Pn	11 34 08.8	+0.2
FRB				SN	Sn	11 35 09.2	-3.3
FRB				Trac		11 35 12.1	
comp=Z,2.6nm,0.1s							
KUQ	**Kuujjuuaa**	**5.63**	**248**	PN	Pn	11 34 04.5	-4.3
KUQ				SN	Sn	11 35 03.8	-9.0
KUQ				Trac		11 35 07.3	
comp=Z,9.5nm,0.3s							
SFJD	**Kangerlussuaq**	**7.29**	**25**	PN	Pn	11 34 31.7	+0.1
SFJD				SN	Sn	11 35 48.3	-5.5
SFJD				Trac		11 35 53.1	
comp=Z,30nm,0.3s							
SCHQ	**Schefferville**	**7.30**	**221**	PN	Pn	11 34 32.1	+0.4
SCHQ				SN	Sn	11 35 49.3	-4.8
SCHQ				Trac		11 35 51.7	
comp=Z,28nm,0.7s							
NATG	**Natashquan Que**	**10.63**	**195**	PN	Pn	11 35 14.9	-2.5
NATG				SN	Sn	11 37 04.0	-12
NATG				Trac		11 37 11.7	
comp=Z,6.8nm,0.4s							
YOSQ	**Ashton Mining**	**10.77**	**230**	PN	Pn	11 35 16.7	-2.6
YOSQ				SN	Sn	11 37 08.6	-11
YOSQ				Trac		11 37 11.4	
comp=Z,7.2nm,0.3s							
LG4Q	**La Grande 4**	**10.95**	**237**	PN	Pn	11 35 18.8	-2.9
LG4Q				SN	Sn	11 37 11.9	-12
LG4Q				Trac		11 37 18.6	
comp=Z,1.6nm,0.1s							
SMQ	**Clarke City**	**11.39**	**207**	PN	Pn	11 35 23.9	-3.9
SMQ				SN	Sn	11 37 22.2	-12
SMQ				Trac		11 37 25.2	
comp=Z,2.7nm,0.2s							
ICQ	**Pointe Anglais**	**12.18**	**208**	PN	Pn	11 35 34.0	-4.5
ICQ				SN	Sn	11 37 38.4	-15
SILO	**Sutton Inlier**	**15.34**	**258**	PN	Pn	11 36 17.7	-3.8
SILO				SN	Sn	11 38 53.5	-17
VIMO	**Victor Mine**	**15.79**	**252**	PN	Pn	11 36 23.1	-4.2
VIMO				SN	Sn	11 39 07.7	-14

IDC 07 11:35:42.4±0.7, 57°.71S×25°.56W, h66km±6km, mb3.9/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, MS2.5/1, Ms1 2.5/1, ms1mx2.4/27, Error ellipse: s-maj=28.2km s-min=16.2km az=76.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**15.32**	**157**	*e*Pn	Pn	11 39 13.0	-1.3
SNAA	**Sanae**	**16.86**	**155**	*e*Pn	Pn	11 39 34.3	+0.5
SNAA	**Sanae**	**16.86**	**155**	P	Pn	11 39 33.6	-0.2
	0.3nm,0.3s,baz=317,slow=13,SNR=35						
SNAA				LR	LR	11 44 59.1	
	comp=Z,15nm,18.4s,baz=7.4,slow=33						
QSPA	**South Pole Qui**	**32.54**	**180**	P	P	11 42 06.7	-0.1
	1.6nm,0.4s,baz=218,slow=0.5,SNR=36						
MAW	**Mawson**	**38.29**	**142**	P	P	11 42 55.6	-0.1
	1.1nm,0.4s,baz=252,slow=6.4,SNR=6.2						
VNDA	**Vanda**	**44.95**	**182**	P	P	11 43 50.7	+0.6
	1.8nm,0.6s,baz=185,slow=6.5,SNR=32						
LPAZ	**La Paz**	**52.06**	**305**	P	P	11 44 45.1	-1.0
	1.2nm,0.7s,baz=184,slow=7.8,SNR=6.5						
LPAZ				pP	pP	11 45 04.8	+1.7
	0.7nm,0.5s,baz=96,slow=7.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**74.08**	**28**	P	P	11 47 11.9	+0.8
	2.8nm,0.5s,baz=199,slow=6.5,SNR=39						
TORD				pP	pP	11 47 29.2	+0.2
	4.0nm,0.7s,baz=196,slow=6.4,SNR=12						
STKA	**Stephens Creek**	**90.11**	**169**	P	P	11 48 36.6	+1.7
	1.6nm,0.7s,baz=191,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**97.13**	**161**	P	P	11 49 06.2	-1.1
	0.3nm,0.5s,baz=183,slow=4.4,SNR=11						
WRA	**Warramunga Arr**	**100.85**	**161**	P	Pdif	11 49 22.9	-1.0
	0.2nm,0.5s,baz=198,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**121.97**	**300**	PKP	PKPdf	11 54 27.3	-1.2
	0.2nm,0.5s,baz=116,slow=4.1,SNR=3.4						
FINES	**FINESS Array B**	**125.44**	**28**	PKP	PKPdf	11 54 33.6	-0.6
	0.7nm,0.4s,baz=177,slow=3.2,SNR=7.9						
ARCES	**ARCESS Array B**	**132.15**	**22**	PKP	PKPdf	11 54 46.4	-0.5
	0.3nm,0.6s,baz=270,slow=0.7,SNR=6.2						
YKA	**Yellowknife Ar**	**137.99**	**316**	PKP	PKPdf	11 54 59.0	+1.1
	0.5nm,0.3s,baz=135,slow=2.1,SNR=8.4						
SONM	**Songino Array**	**149.91**	**88**	PKPbc	PKPbc	11 55 23.8	-0.3
	1.8nm,0.5s,baz=218,slow=4.2,SNR=11						
SONM				pPKPbc	pPKPbc	11 55 41.4	-1.8
	0.8nm,0.6s,baz=237,slow=3.5,SNR=3.6						
ILAR	**Eielson Array**	**151.87**	**309**	PKPbc	PKPbc	11 55 27.6	-0.5
	1.9nm,0.5s,baz=144,slow=2.3,SNR=22						

*ISCJB **07** 11:48:37.9±0.5,24°.10S±0°.04×66°.89W±0°.06,h172km±4km, mb4.1/34,Error ellipse: s-maj=9.4km s-min=6.1km az=158.9*

*IDC **07** 11:48:38.5±1.4,24°.12S×66°.96W,h167km±12km,mb3.8/9, mb1 4.0/15,mb1mx3.9/21,mbtmp3.8/15,Error ellipse: s-maj=16.3km s-min=11.0km az=83.0*

*NEIC **07** 11:48:38.6±0.5,24°.11S×66°.87W,h166km±4km,mb4.2/28, Error ellipse: s-maj=8.6km s-min=5.5km az=71.0*

*GUC **07** 11:48:40.4±0.7,24°.01S×67°.50W,h218km±13km,ML5.3*

ISC 07 11:48:37.6±0.7,24°.13S±0°.05×66°.86W±0°.07,h162km±6km, n376,σ0°98/388,mb4.2/34,137C-148D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**308**	*e*Pn	**Pn**	**11 49 21.0**	**+2.4**
LVC				*i* S	**Sn**	**11 49 51.9**	**+1.7**
LVC				*e*Sn		11 49 52.3	
LVC	**Limon Verde**	**2.42**	**308**	⇑*i*P	**Pn**	**11 49 21.0**	**+2.4**
LVC				*i* S	**Sn**	**11 49 51.9**	**+1.7**
PB04	**Plate Boundary**	**3.05**	**307**	⇑*i*P	Pn	11 49 32.6	+6.6
PB04				*i* S	Sn	11 50 12.0	+8.4
PB04	**Plate Boundary**	**3.05**	**307**	⇑*i*P	Pn	11 49 32.6	+6.6
PB04				*i* S	Sn	11 50 12.0	+8.4
PB04				AML	AML	11 50 18.0	
	comp=N,3μm,0.5s						
CEN1	**Los Morros**	**3.15**	**283**	⇓*i*P	Pn	11 49 31.1	+3.7
CEN1				*e*S	**Sn**	**11 50 08.0**	**+2.0**
CEN1	**Los Morros**	**3.15**	**283**	⇓*i*P	Pn	11 49 31.1	+3.7
CEN1				*e*S	**Sn**	**11 50 08.0**	**+2.0**
CEN1				AML	AML	11 50 12.0	
	comp=N,3μm,0.5s						
PB09	**Plate Boundary**	**3.20**	**316**	⇑*i*P	**Pn**	**11 49 30.1**	**+2.1**
PB09				*e*S	**Sn**	**11 50 07.7**	**+0.4**
PB09	**Plate Boundary**	**3.20**	**316**	⇑*i*P	**Pn**	**11 49 30.1**	**+2.1**
PB09				*e*S	**Sn**	**11 50 07.7**	**+0.4**
PB09				AML	AML	11 50 09.4	
	comp=N,6μm,0.3s						
PB10	**Plate Boundary**	**3.44**	**280**	⇑*i*P	**Pn**	**11 49 31.2**	**+0.2**
PB10				*e*S	**Sn**	**11 50 09.0**	**-3.5**
PB10				AML	AML	11 50 16.7	
	comp=E,8μm,0.5s						
PB07	**Plate Boundary**	**3.68**	**310**	⇑*i*P	**Pn**	**11 49 34.9**	**+0.7**
PB07				S	**Sn**	**11 50 15.4**	**-2.7**
PB07	**Plate Boundary**	**3.68**	**310**	⇑*i*P	**Pn**	**11 49 34.9**	**+0.7**
PB07				*e*S	**Sn**	**11 50 15.4**	**-2.7**
PB07				AML	AML	11 50 17.3	
	comp=N,3μm,0.4s						
HMBC	**Humberstone**	**4.75**	**323**	P	**Pn**	**11 49 46.8**	**-1.2**
HMBC	**Humberstone**	**4.75**	**323**	*e*P	**Pn**	**11 49 46.8**	**-1.2**
PSGC	**Pisagua**	**5.43**	**325**	P	**Pn**	**11 49 55.4**	**-1.7**
PSGC	**Pisagua**	**5.43**	**325**	*e*P	**Pn**	**11 49 55.4**	**-1.7**
MNMC	**Minimini**	**5.59**	**332**	P	**Pn**	**11 49 59.0**	**-0.2**
MNMC	**Minimini**	**5.59**	**332**	*e*P	**Pn**	**11 49 59.0**	**-0.2**
LCO	**Las Campanas**	**5.96**	**214**	*e*Pn	**Pn**	**11 50 03.0**	**-1.0**
LCO				*e*Sg	Sn	11 51 03.0	-8.9
CFAA	**Coronel Fontan**	**7.55**	**189**	P	**Pn**	**11 50 25.7**	**+0.8**
CFAA				S	**Sn**	**11 51 45.0**	**-4.5**
CFAA	**Coronel Fontan**	**7.55**	**189**	P	**Pn**	**11 50 25.7**	**+0.8**
	comp=N,1.2nm,0.3s,baz=4.6,slow=12,SNR=55						
CFAA				S	**Sn**	**11 51 45.0**	**-4.5**
	comp=N,1.4nm,0.3s,baz=275,slow=22,SNR=13						
LPAZ	**La Paz**	**7.89**	**351**	*e*Pn	**Pn**	**11 50 31.3**	**+1.2**
LPAZ				S	**Sn**	**11 51 55.5**	**-3.2**
LPAZ				*e*Sn		11 51 60.0	
LPAZ	**La Paz**	**7.89**	**351**	P	**Pn**	**11 50 31.6**	**+1.5**
	comp=N,20nm,0.3s,baz=157,slow=9.7,SNR=289						
LPAZ				S	**Sn**	**11 51 55.5**	**-3.2**
	baz=190,slow=6.1,SNR=1.6						
CPUP	**Villa Florida**	**8.90**	**106**	*e*Pn	Pn	11 50 45.3	+2.4
	comp=N,27nm,0.4s						
CPUP	**Villa Florida**	**8.90**	**106**	P	Pn	11 50 45.4	+2.5
	comp=N,1.3nm,0.3s,baz=276,slow=11,SNR=16						
SIV	**San Ignacio**	**9.75**	**35**	P	**Pn**	**11 50 55.4**	**+1.2**
SIV				S	Sn	11 52 32.5	-10
SIV	**San Ignacio**	**9.75**	**35**	P	**Pn**	**11 50 55.4**	**+1.2**
	comp=N,2.3nm,0.3s,baz=226,slow=14,SNR=24						
SIV				S	Sn	11 52 32.5	-10
	comp=N,0.2nm,0.3s,baz=222,slow=16,SNR=5.3						
TRQA	**Tornquist**	**14.49**	**164**	*e*Pn	**Pn**	**11 51 55.5**	**+0.3**
	comp=N,211nm,0.7s						
TRQA				*e*Sn	**Sn**	**11 54 36.3**	**0.0**
SAML	**Samuel**	**15.50**	**14**	*e*Pn	**P**	**11 52 07.8**	**-0.8**
	comp=N,6.0nm,0.9s						
PLCA	**Paso Flores**	**16.84**	**190**	*e*Pn	**Pn**	**11 52 25.0**	**+1.1**
	comp=N,34nm,1.8s						
PLCA	**Paso Flores**	**16.84**	**190**	P	**Pn**	**11 52 25.0**	**+1.1**
	comp=N,0.2nm,0.3s,baz=7.8,slow=12,SNR=6.4						
BDFB	**Brasilia**	**19.61**	**68**	P	**Pn**	**11 52 55.6**	**-1.3**
BDFB	**Brasilia**	**19.61**	**68**	P	**Pn**	**11 52 55.6**	**-1.3**
	comp=N,3.1nm,0.3s,baz=240,slow=11,SNR=64						
SNAA	**Sanae**	**59.19**	**161**	P	**P**	**11 58 22.8**	**+1.7**
SNAA	**Sanae**	**59.19**	**161**	P	**P**	**11 58 22.8**	**+1.7**
	comp=N,0.9nm,0.7s,baz=288,slow=7.7,SNR=15						
KMSC	**Kings Mountain**	**60.52**	**346**	⇑P	**P**	**11 58 30.9**	**+0.4**
	baz=61						
732A	**Laxson Ranch,**	**61.46**	**327**	⇑P	**P**	**11 58 36.9**	**-0.2**
	baz=62						
SWET	**Sewanee**	**61.73**	**342**	*e*P	**P**	**11 58 38.3**	**-0.5**
	comp=N,7.9nm,0.9s						
632A	**Uvalde**	**62.01**	**328**	⇑P	**P**	**11 58 40.7**	**-0.1**
	baz=62						
631A	**Perdido Creek**	**62.33**	**327**	⇓P	**P**	**11 58 42.7**	**-0.1**
	baz=63						
532A	**Rocksprings**	**62.58**	**328**	⇑P	**P**	**11 58 44.6**	**0.0**
	baz=63						
JCT	**Junction City**	**62.82**	**328**	*e*P	**P**	**11 58 45.9**	**-0.3**
	comp=N,8.6nm,0.8s						
JCT	**Junction City**	**62.82**	**328**	⇑P	**P**	**11 58 45.8**	**-0.3**
	baz=63						
WHTX	**Lake Whitney**	**63.01**	**331**	⇑P	**P**	**11 58 47.5**	**+0.2**
	baz=63						
432A	**Menard**	**63.15**	**328**	⇓P	**P**	**11 58 48.0**	**-0.3**
	baz=63						
530A	**J-C Ranch, Com**	**63.31**	**327**	⇑P	**P**	**11 58 49.2**	**-0.1**
	baz=64						
431A	**Sonora**	**63.38**	**328**	⇑P	**P**	**11 58 49.3**	**-0.6**
	baz=64						
332A	**Millersview**	**63.54**	**329**	⇓P	**P**	**11 58 50.8**	**0.0**
	baz=64						
628A	**Black Gap, Mar**	**63.57**	**325**	⇓P	**P**	**11 58 51.5**	**+0.4**
	baz=64,SNR=7.8						
529A	**Stev Forest Ra**	**63.73**	**326**	⇓P	**P**	**11 58 52.2**	**+0.1**
	baz=64,SNR=11						
430A	**Baggett Ranch,**	**63.78**	**327**	⇑P	**P**	**11 58 52.2**	**-0.2**
	baz=64						
627A	**Terlingua Ranc**	**63.80**	**325**	⇓P	**P**	**11 58 52.5**	**-0.2**
	baz=64						
331A	**San Angelo**	**63.81**	**328**	⇓P	**P**	**11 58 52.3**	**-0.3**
	baz=64						
TXAR	**Lajitas Array**	**63.86**	**324**	P	**P**	**11 58 53.2**	**+0.1**
TXAR	**Lajitas Array**	**63.86**	**324**	P	**P**	**11 58 53.2**	**+0.1**
	comp=N,1.1nm,0.7s,baz=152,slow=6.7,SNR=13						
232A	**Coleman**	**63.92**	**329**	⇑P	**P**	**11 58 53.2**	**-0.1**
	baz=64						
429A	**Davenport Ranc**	**63.97**	**327**	⇑P	**P**	**11 58 53.8**	**+0.1**
	baz=64						
528A	**Cox Ranch, San**	**64.06**	**326**	⇓P	**P**	**11 58 54.0**	**-0.4**
	baz=64						
330A	**Mertzon**	**64.25**	**328**	⇑P	**P**	**11 58 55.4**	**-0.1**
	baz=64						
626A	**Big Bend Ranch**	**64.28**	**324**	⇓P	**P**	**11 58 56.2**	**+0.4**
	baz=64,SNR=15						
428A	**Kincaid Ranch,**	**64.45**	**326**	⇓P	**P**	**11 58 57.1**	**+0.2**
	baz=65						
527A	**Woodward Ranch**	**64.47**	**325**	⇑P	**P**	**11 58 56.9**	**-0.2**
	baz=65,SNR=7.3						
ABTX	**Abilene, Hawle**	**64.53**	**330**	⇓P	**P**	**11 58 57.4**	**+0.2**
	baz=65						
230A	**Sterling City**	**64.61**	**328**	⇓P	**P**	**11 58 57.9**	**0.0**
	baz=65						
526A	**Mary Lane Ranc**	**64.66**	**325**	⇑P	**P**	**11 58 58.4**	**+0.1**
	baz=65,SNR=10						
329A	**Wagon Wheel Ra**	**64.71**	**327**	⇓P	**P**	**11 58 58.4**	**-0.1**
	baz=65						
131A	**Roby**	**64.92**	**329**	⇓P	**P**	**11 58 59.6**	**-0.2**
	baz=65						
427A	**Hayter Ranch,**	**64.92**	**326**	⇓P	**P**	**11 58 59.8**	**-0.1**
	baz=65						
229A	**Bryant Ranch,**	**65.02**	**328**	⇑P	**P**	**11 59 00.4**	**-0.1**
	baz=65						
Z32A	**Haskell**	**65.02**	**330**	⇓P	**P**	**11 59 00.0**	**-0.4**
	baz=65						
328A	**Wristen Ranch,**	**65.05**	**326**	⇓P	**P**	**11 59 00.5**	**-0.1**
	baz=65,SNR=6.7						
426A	**McDonald Obser**	**65.11**	**325**	⇑P	**P**	**11 59 01.5**	**+0.2**
	baz=65,SNR=6.1						
130A	**Snyder**	**65.13**	**329**	⇑P	**P**	**11 59 00.9**	**-0.3**
	baz=65						
Z31A	**Sharp Cattle R**	**65.34**	**330**	⇓P	**P**	**11 59 02.4**	**-0.1**
	baz=66						
327A	**Balmorhea Ranc**	**65.38**	**326**	⇓P	**P**	**11 59 02.7**	**-0.2**
	baz=66						
228A	**UT Block 9, Go**	**65.53**	**327**	⇑P	**P**	**11 59 03.5**	**-0.3**
	baz=66						
129A	**Stewart Farms,**	**65.59**	**328**	⇓P	**P**	**11 59 03.5**	**-0.7**
	baz=66						
Y32A	**R-V Farms, Ver**	**65.59**	**331**	⇓P	**P**	**11 59 03.8**	**-0.3**
	baz=66						
326A	**Caldwell Ranch**	**65.59**	**325**	⇓P	**P**	**11 59 04.1**	**-0.1**
	baz=66						
425A	**Indio Mountain**	**65.70**	**324**	⇑P	**P**	**11 59 04.9**	**-0.1**
	baz=66,SNR=8.1						
227A	**Bennet, Jal**	**65.80**	**326**	⇓P	**P**	**11 59 05.6**	**+0.1**
	baz=66						
128A	**Castleberry Fa**	**65.88**	**327**	⇓P	**P**	**11 59 05.7**	**-0.4**
	baz=66						
Y31A	**Rekieta Farm,**	**65.93**	**330**	⇑P	**P**	**11 59 06.3**	**+0.1**
	baz=66						
Z29A	**Hungry Hill Ra**	**66.03**	**328**	⇑P	**P**	**11 59 06.6**	**-0.3**
	baz=66						
QSPA	**South Pole Qui**	**66.08**	**180**	*e*P	**P**	**11 59 08.2**	**+1.2**
	comp=N,3.8nm,0.8s						
Y30A	**Stafford Cattl**	**66.15**	**329**	⇑P	**P**	**11 59 07.8**	**+0.1**
	baz=66						
325A	**Bean Ranch, Si**	**66.15**	**325**	⇑P	**P**	**11 59 07.7**	**-0.2**
	baz=66,SNR=17						
X31A	**McDonald Ranch**	**66.36**	**331**	⇑P	**P**	**11 59 08.7**	**-0.3**
	baz=67						
127A	**Arkansas Junct**	**66.36**	**327**	⇑P	**P**	**11 59 09.1**	**-0.1**
	baz=67						
Z28A	**Tucker Farm, M**	**66.38**	**328**	⇓P	**P**	**11 59 08.9**	**-0.3**
	baz=67						
324A	**Moseley Ranch,**	**66.48**	**324**	⇑P	**P**	**11 59 09.1**	**-0.9**
	baz=67,SNR=6.6						
Y29A	**Porterfield Fa**	**66.50**	**329**	⇓P	**P**	**11 59 09.4**	**-0.5**
	baz=67						
X30A	**Coker Ranch, T**	**66.61**	**330**	⇓P	**P**	**11 59 10.5**	**-0.1**
	baz=67						
MNTX	**Cornudas Mount**	**66.63**	**325**	*e*P	**P**	**11 59 10.1**	**-0.7**
	comp=N,5.3nm,1.3s						
225A	**Deer Hill, Car**	**66.66**	**325**	⇓P	**P**	**11 59 10.7**	**-0.4**
	baz=67,SNR=5.9						
126A	**Clayton Basin,**	**66.67**	**326**	⇓P	**P**	**11 59 11.4**	**+0.3**
	baz=67						
Z27A	**Tatum**	**66.80**	**327**	⇑P	**P**	**11 59 11.5**	**-0.4**
	baz=67						
Y28A	**McKinney Farm,**	**66.81**	**328**	⇓P	**P**	**11 59 11.7**	**-0.3**
	baz=67						
SFIN	**Scholer Farm**	**66.89**	**343**	⇓P	**P**	**11 59 12.7**	**+0.6**
	baz=67						
X29A	**Tulia**	**67.00**	**329**	⇑P	**P**	**11 59 12.8**	**-0.3**
	baz=67						
224A	**Cornudas Mount**	**67.00**	**325**	⇑P	**P**	**11 59 12.5**	**-0.8**
	baz=67,SNR=11						
125A	**Gardner Draw,**	**67.00**	**326**	⇓P	**P**	**11 59 12.9**	**-0.3**
	baz=67						
MSTX	**Muleshoe**	**67.12**	**328**	⇓P	**P**	**11 59 13.7**	**-0.2**
	baz=67						
Z26A	**Caprock**	**67.15**	**327**	⇓P	**P**	**11 59 13.8**	**-0.3**
	baz=67,SNR=6.7						
Y27A	**Causey**	**67.24**	**328**	⇓P	**P**	**11 59 14.3**	**-0.4**
	baz=68						
V31A	**Spring Creek L**	**67.26**	**331**	⇓P	**P**	**11 59 15.0**	**+0.3**
	baz=68						
124A	**Stringfield Ra**	**67.45**	**325**	⇑P	**P**	**11 59 15.9**	**-0.3**
	baz=68,SNR=8.9						
W29A	**Amraillo**	**67.53**	**330**	⇑P	**P**	**11 59 16.0**	**-0.4**
	baz=68						
Z25A	**Roswell**	**67.53**	**326**	⇓P	**P**	**11 59 16.1**	**-0.4**
	baz=68,SNR=5.3						
Y26A	**Elida**	**67.59**	**327**	⇓P	**P**	**11 59 17.4**	**+0.5**
	baz=68						
Z24A	**Sheeppen Canyo**	**67.90**	**326**	⇑P	**P**	**11 59 18.7**	**-0.2**
	baz=68,SNR=9.8						
Y25A	**Mesa, Roswell**	**68.03**	**327**	⇑P	**P**	**11 59 19.1**	**-0.6**
	baz=68,SNR=5.3						
X26A	**CR and CF Fran**	**68.09**	**328**	⇓P	**P**	**11 59 20.1**	**+0.1**
	baz=68						
W27A	**Bowe Ranch, En**	**68.14**	**329**	⇑P	**P**	**11 59 20.2**	**-0.1**
	baz=68						
U30A	**WK&E Inc. Balk**	**68.25**	**331**	⇓P	**P**	**11 59 21.3**	**+0.4**
	baz=68						
Z23A	**Rita Site, Whi**	**68.30**	**325**	⇑P	**P**	**11 59 21.8**	**+0.4**
	baz=68						
Y24A	**Capitan**	**68.40**	**326**	⇓P	**P**	**11 59 22.1**	**0.0**
	baz=69						
220A	**Playas Peak, P**	**68.49**	**323**	⇓P	**P**	**11 59 22.4**	**-0.2**
	baz=69						
W26A	**Owens Ranch, T**	**68.50**	**328**	⇓P	**P**	**11 59 23.0**	**+0.5**
	baz=69						
319A	**Douglas**	**68.52**	**322**	⇓P	**P**	**11 59 23.1**	**+0.4**
	baz=69						
121A	**Cookes Peak, D**	**68.56**	**324**	⇓P	**P**	**11 59 23.7**	**+0.7**
	baz=69						
Z22A	**Elephant Butte**	**68.67**	**325**	⇑P	**P**	**11 59 24.4**	**+0.7**
	baz=69,SNR=16						
Y23A	**Lovelace Mesa,**	**68.73**	**326**	⇑P	**P**	**11 59 24.4**	**+0.4**
	baz=69						
U28A	**Mallet**	**68.83**	**330**	⇓P	**P**	**11 59 25.0**	**+0.4**
	baz=69						
W25A	**X Bar L Ranch,**	**68.94**	**328**	⇓P	**P**	**11 59 25.3**	**-0.1**
	baz=69						
Z21A	**St. Cloud Mine**	**69.09**	**324**	⇑P	**P**	**11 59 27.4**	**+1.0**
	baz=69,SNR=5.5						
S30A	**Montezuma**	**69.09**	**332**	⇓P	**P**	**11 59 26.8**	**+0.7**
	baz=69						
U27A	**Thompson Grove**	**69.14**	**330**	⇓P	**P**	**11 59 27.0**	**+0.5**
	baz=69						
Y22A	**Socorro**	**69.20**	**325**	⇓P	**P**	**11 59 27.1**	**+0.1**
	baz=69						
S29A	**Ulysses**	**69.36**	**331**	⇓P	**P**	**11 59 28.2**	**+0.4**
	baz=70						
T28A	**Walsh**	**69.39**	**330**	⇑P	**P**	**11 59 28.2**	**+0.2**
	baz=70						
W24A	**Lazy 6 Ranch,**	**69.41**	**327**	⇓P	**P**	**11 59 28.4**	**+0.2**
	baz=70						
Z20A	**Nine Sixteen R**	**69.44**	**323**	⇓P	**P**	**11 59 29.4**	**+0.9**
	baz=70						
V25A	**Rancho No Teng**	**69.52**	**328**	⇓P	**P**	**11 59 29.0**	**+0.1**
	baz=70						
U26A	**Atchley Ranch,**	**69.55**	**329**	⇑P	**P**	**11 59 29.7**	**+0.6**
	baz=70						
R30A	**Dighton**	**69.56**	**332**	⇑P	**P**	**11 59 29.7**	**+0.8**
	baz=70						
T27A	**Campo**	**69.61**	**330**	⇑P	**P**	**11 59 29.9**	**+0.5**
	baz=70						
Y21A	**Point of Rocks**	**69.63**	**325**	⇓P	**P**	**11 59 31.0**	**+1.3**
	baz=70,SNR=5.9						
LAZ	**Ladron**	**69.65**	**325**	*e*P	**P**	**11 59 31.0**	**+1.3**
	comp=N,3.9nm,1.4s						
S28A	**Manter**	**69.68**	**331**	⇑P	**P**	**11 59 30.4**	**+0.7**
	baz=70						
ANMO	**Albuquerque**	**69.73**	**326**	*e*P	**P**	**11 59 30.9**	**+0.7**
	comp=N,5.2nm,0.9s						
W23A	**Werner Place,**	**69.74**	**326**	⇑P	**P**	**11 59 30.7**	**+0.4**
	baz=70						
V24A	**Rampart Ranch,**	**69.75**	**327**	⇑P	**P**	**11 59 30.5**	**+0.2**
	baz=70,SNR=5.2						
U25A	**Circle Dot Ran**	**69.87**	**328**	⇓P	**P**	**11 59 31.4**	**+0.4**
	baz=70						
Y20A	**Horse Springs,**	**69.93**	**324**	⇓P	**P**	**11 59 32.1**	**+0.6**
	baz=70						
X21A	**Alamocita Cree**	**70.03**	**325**	⇑P	**P**	**11 59 33.0**	**+0.9**
	baz=70,SNR=5.2						
W22A	**Albuquerque**	**70.03**	**326**	⇑P	**P**	**11 59 32.9**	**+0.9**
	baz=70						
JFWS	**Jewell Farm**	**70.11**	**342**	*e*P	**P**	**11 59 31.6**	**-0.5**
	comp=N,6.8nm,0.5s						
T26A	**Comanche Natio**	**70.11**	**329**	⇑P	**P**	**11 59 33.3**	**+0.8**
	baz=70						
Q30A	**Quinter**	**70.11**	**333**	⇑P	**P**	**11 59 33.3**	**+1.0**
	baz=70						
V23A	**Ortiz Mt. (NFS**	**70.21**	**327**	⇑P	**P**	**11 59 33.9**	**+0.8**
	baz=70						
S26A	**Kim**	**70.42**	**330**	⇓P	**P**	**11 59 35.1**	**+0.9**
	baz=71						
T25A	**Trinidad**	**70.46**	**329**	⇓P	**P**	**11 59 35.5**	**+0.8**
	baz=71						
W21A	**San Fidel**	**70.47**	**325**	⇓P	**P**	**11 59 35.6**	**+0.8**
	baz=71						
R27A	**Eads**	**70.65**	**331**	⇑P	**P**	**11 59 35.8**	**+0.1**
	baz=71						
U23A	**El Rito**	**70.68**	**327**	⇓P	**P**	**11 59 36.4**	**+0.4**
	baz=71						
V22A	**San Miguel Ran**	**70.71**	**326**	⇓P	**P**	**11 59 37.3**	**+1.1**
	baz=71						
S25A	**Robets Cordova**	**70.89**	**329**	⇑P	**P**	**11 59 38.1**	**+0.9**
	baz=71						
W20A	**Ramah**	**70.92**	**325**	⇓P	**P**	**11 59 38.3**	**+0.8**
	baz=71						
R26A	**Arlington**	**70.96**	**330**	⇓P	**P**	**11 59 38.3**	**+0.8**
	baz=71						
214A	**Organ Pipe Nat**	**70.98**	**320**	⇑P	**P**	**11 59 38.5**	**+0.8**
	baz=71						
U22A	**Llaves**	**71.05**	**327**	⇓P	**P**	**11 59 39.2**	**+1.0**
	baz=71						
T23A	**Casias Ranch,**	**71.16**	**328**	⇑P	**P**	**11 59 39.6**	**+0.6**
	baz=71						
KSCO	**Kaye Shedlock'**	**71.17**	**331**	⇑P	**P**	**11 59 39.7**	**+0.9**
	baz=71						
R25A	**Fountain Ranch**	**71.22**	**330**	⇓P	**P**	**11 59 39.5**	**+0.4**
	baz=72						
S24A	**Houchin Ranch,**	**71.24**	**329**	⇑P	**P**	**11 59 40.6**	**+1.1**
	baz=72						
X18A	**Snowflake**	**71.25**	**323**	⇑P	**P**	**11 59 40.4**	**+1.0**
	baz=72						
V20A	**Brimhall**	**71.42**	**325**	⇓P	**P**	**11 59 41.3**	**+0.8**
	baz=72						
SDCO	**Great Sand Dun**	**71.47**	**329**	*e*P	**P**	**11 59 41.5**	**+0.8**
	comp=N,1.6nm,0.6s						
U21A	**Nageezi**	**71.49**	**326**	⇓P	**P**	**11 59 42.1**	**+1.2**
	baz=72						
Q26A	**Hugo**	**71.50**	**331**	⇑P	**P**	**11 59 42.0**	**+1.2**
	baz=72						
T22A	**Edith**	**71.57**	**327**	⇑P	**P**	**11 59 42.2**	**+0.9**
	baz=72						
W18A	**Petrified Fore**	**71.58**	**324**	⇓P	**P**	**11 59 42.4**	**+1.0**
	baz=72						
R24A	**Sanders Place,**	**71.67**	**329**	⇓P	**P**	**11 59 43.1**	**+1.2**
	baz=72						
O28A	**Krutsinger Ran**	**71.73**	**332**	⇓P	**P**	**11 59 43.4**	**+1.4**
	baz=72						
T21A	**Navajo Lake**	**71.87**	**327**	⇓P	**P**	**11 59 44.1**	**+1.0**
	baz=72						
U20A	**Newcomb**	**71.89**	**326**	⇓P	**P**	**11 59 44.3**	**+1.1**
	baz=72						
P26A	**Davis Ranch, A**	**71.94**	**331**	⇑P	**P**	**11 59 44.8**	**+1.4**
	baz=72						
R23A	**Moffat**	**71.97**	**329

comp=N,1.4nm,0.9s,baz=125,slow=5.6,SNR=8.9
P19A Cripple Cowboy 74.63 328 ⇓P P 12 00 00.0 +0.8
baz=75,SNR=9.4
O20A White River Ci 74.66 328 ⇑P P 11 59 60.0 +0.6
baz=75,SNR=5.0
GMRC Granite Mounta 74.66 320 ⇑P P 12 00 00.5 +1.1
baz=75
N21A Black Mountain 74.81 329 ⇓P P 12 00 01.1 +0.8
baz=75
J26A Sides Ranch, S 74.92 333 ⇓P P 12 00 02.1 +1.4
baz=75
SRU San Rafael 75.00 326 *eP* **P 12 00 02.4 +1.0**
comp=N,7.0nm,0.8s
L23A Garrett 75.06 331 ⇓P P 12 00 02.0 +0.3
baz=75
SCI San Clemente I 75.18 317 ⇓P P 12 00 03.1 +0.8
baz=75
Q16A Castle Valley 75.19 326 ⇑P P 12 00 03.4 +1.0
baz=75
O19A Miners Draw (B 75.21 328 ⇑P P 12 00 03.5 +1.0
baz=76
CCUT Cedar City 75.34 323 *eP* **P 12 00 05.4 +2.0**
comp=N,7.7nm,0.8s
RWWY Rawlins 75.40 330 *eP* **P 12 00 04.7 +1.0**
comp=N,4.6nm,0.8s
M21A Separation Pea 75.40 330 ⇓P P 12 00 04.6 +0.9
baz=76
MSU Marysvale 75.41 325 *eP* **P 12 00 04.7 +1.0**
MVU Marysvale 75.42 325 *eP* **P 12 00 05.1 +1.3**
K23A Bowen Ranch, D 75.54 332 ⇑P P 12 00 05.1 +0.8
baz=76
ARUT Antelope Range 75.55 324 *eP* **P 12 00 06.3 +1.8**
comp=N,4.5nm,0.9s
G28A Parade 75.55 336 ⇑P P 12 00 05.3 +1.1
baz=76
J24A Dixon Ranch, L 75.59 332 ⇑P P 12 00 05.6 +1.1
baz=76
H27A Howes 75.62 335 ⇑P P 12 00 05.6 +1.0
baz=76
L21A Rawlins 75.69 330 ⇑P P 12 00 05.6 +0.4
baz=76,SNR=5.2
GSC Goldstone 75.70 320 ⇑P P 12 00 05.9 +0.6
baz=76
I25A Rochford 75.77 333 ⇑P P 12 00 06.6 +0.9
baz=76
K22A Casper 75.85 331 ⇓P P 12 00 07.2 +1.1
baz=76
J23A Dilts Ranch, B 76.03 332 ⇑P P 12 00 07.6 +0.6
baz=76
EDW2 Edwards Air Fo 76.12 319 ⇑P P 12 00 08.3 +0.6
baz=76
K21A Alcova 76.16 330 ⇓P P 12 00 08.6 +0.7
baz=76,SNR=7.9
L20A Wamsutter 76.17 329 ⇑P P 12 00 08.6 +0.6
baz=76
G27A Dupree 76.19 335 ⇑P P 12 00 08.2 +0.3
baz=76
LRMC Laurel Mountai 76.34 319 ⇓P P 12 00 08.8 -0.2
baz=77
G26A Maurine 76.38 335 ⇑P P 12 00 09.2 +0.3
baz=77
OSI Osito Adit 76.38 318 ⇓P P 12 00 09.1 0.0
baz=77
J22A Midwest 76.44 331 ⇓P P 12 00 09.6 +0.2
baz=77
TORD Torodi Ar. Bea 76.49 69 P P 12 00 10.3 +0.2
TORD Torodi Ar. Bea 76.49 69 P P 12 00 10.3 +0.2
comp=N,2.1nm,0.6s,baz=258,slow=5.4,SNR=15
FURC Furnace Creek, 76.54 321 ⇓P P 12 00 10.7 +0.8
baz=77
MPMC Manual Prospec 76.62 320 ⇓P P 12 00 11.1 +0.5
baz=77
F27A Lemmon 76.64 336 ⇓P P 12 00 10.8 +0.5
baz=77
AGMN Agassiz Nation 76.65 341 *eP* **P 12 00 10.0 -0.2**
comp=N,2.6nm,0.6s
K20A Yellowstone Ra 76.68 330 ⇓P P 12 00 11.1 +0.3
baz=77
H24A Dirks Ranch, A 76.71 333 ⇓P P 12 00 10.7 0.0
baz=77,SNR=6.6
L19A Farson 76.72 329 ⇑P P 12 00 11.2 +0.1
baz=77,SNR=5.3
J21A Lysite 76.81 331 ⇑P P 12 00 12.2 +0.7
baz=77
I22A 9 Mile Ranch, 76.83 332 ⇑P P 12 00 12.2 +0.7
baz=77
F26A Lodgepole 76.87 335 ⇑P P 12 00 12.3 +0.7
baz=77
L18A Fontenelle, Gr 76.90 328 ⇓P P 12 00 12.8 +0.7
baz=77
ISA Isabella 76.94 319 ⇑P P 12 00 12.8 +0.6
baz=77
DUG Dugway 76.98 326 ⇓P P 12 00 13.1 +0.5
baz=77
K19A Absolon Red Bu 77.04 330 ⇑P P 12 00 13.3 +0.5
baz=77
I21A Big Trails, Te 77.11 331 ⇓P P 12 00 13.1 -0.1
baz=77,SNR=8.3
R11A Troy Canyon, C 77.13 323 ⇓P P 12 00 14.5 +1.1
baz=77
GRAC Grapevine Rang 77.20 321 ⇑P P 12 00 14.8 +1.1
baz=77
CWC Cottonwood Cre 77.23 320 ⇓P P 12 00 14.5 +0.5
baz=77
PKM Peak Mountain 77.24 318 ⇓P P 12 00 14.8 +0.7
baz=77
PDAR Pinedale Array 77.33 329 P P 12 00 14.6 +0.1
PDAR Pinedale Array 77.33 329 P P 12 00 14.6 +0.1
comp=N,0.8nm,0.5s,baz=136,slow=8.0,SNR=11
H22A Clearmont 77.33 332 ⇑P P 12 00 15.0 +0.7
baz=78
G23A Biddle 77.42 333 ⇑P P 12 00 14.5 -0.3
baz=78,SNR=5.9
VES Vestal, Richgr 77.42 319 ⇓P P 12 00 15.8 +0.9
baz=78
MDND Maddock 77.46 338 ⇑P P 12 00 15.1 +0.4
baz=78
J19A Crowheart 77.48 330 ⇓P P 12 00 15.5 +0.3
baz=78,SNR=5.1
F24A Ekalaka 77.56 334 ⇓P P 12 00 15.9 +0.3
baz=78
I20A Worland 77.59 331 ⇓P P 12 00 16.2 +0.4
baz=78
H21A Big Horn, Sher 77.66 332 ⇓P P 12 00 16.2 +0.1
baz=78
F23A Volborg 77.85 333 ⇑P P 12 00 17.5 +0.5
baz=78
H20A Greybull 77.96 331 ⇓P P 12 00 17.9 +0.1
baz=78,SNR=5.2
I19A Meeteetse 78.05 330 ⇑P P 12 00 18.9 +0.5
baz=78
E24A Baker 78.10 335 ⇑P P 12 00 19.2 +0.7
baz=78
I18A Diamond G Ranc 78.17 330 ⇓P P 12 00 20.0 +0.9
baz=78
G21A Lodge Grass 78.20 332 ⇓P P 12 00 19.8 +0.7
baz=78
D25A Fairfield 78.20 336 ⇓P P 12 00 20.1 +1.1
baz=78
REDW Red Top Meadow 78.39 329 *eP* **P 12 00 21.3 +0.9**
ULM Lac du Bonnet 78.39 341 P P 12 00 19.3 -0.5
ULM Lac du Bonnet 78.39 341 P P 12 00 19.3 -0.5
comp=N,5.2nm,0.6s,baz=149,slow=4.9,SNR=7.5
E23A Ismay 78.44 334 ⇑P P 12 00 20.8 +0.5
baz=79
LOHW Long Hollow 78.46 329 *eP* **P 12 00 21.4 +0.6**
TPAW Teton Pass 78.53 329 *eP* **P 12 00 21.9 +0.8**
RRI2 Red Ridge 78.60 329 *eP* **P 12 00 22.6 +1.0**
comp=N,7.3nm,1.3s
G20A Bridger 78.63 332 ⇓P P 12 00 21.4 0.0
baz=79,SNR=8.2
I17A Pilgrim Ck. 78.69 329 ⇓P P 12 00 23.1 +1.2
baz=79
NVAR Mina Array Bea 78.72 321 P P 12 00 22.8 +0.6
NVAR Mina Array Bea 78.72 321 P P 12 00 22.8 +0.6
comp=N,1.2nm,0.7s,baz=159,slow=6.3,SNR=8.5
IMW Indian Meadow 78.84 329 *eP* **P 12 00 23.9 +1.0**
comp=N,4.2nm,0.8s
H18A Shoshone NF, C 78.85 330 ⇑P P 12 00 22.8 0.0
baz=79,SNR=6.9
FLWY Flagg Ranch 78.87 329 *eP* **P 12 00 23.9 +1.0**
C24A Savage 78.94 335 ⇓P P 12 00 23.9 +0.9
baz=79
RLMT Red Lodge 79.02 331 *eP* **P 12 00 24.4 +0.7**
comp=N,1.8nm,0.5s
I16A Newdale 79.08 329 ⇑P P 12 00 25.0 +1.0
baz=79
B25A Knox Farm, Ray 79.08 336 ⇓P P 12 00 25.1 +1.4
baz=79
G18A Lazy EL Ranch, 79.30 331 ⇑P P 12 00 25.6 +0.5
baz=80
D22A Cohagen 79.32 334 ⇓P P 12 00 26.0 +0.9
baz=80
D21A La Casta Ranch 79.58 333 ⇓P P 12 00 26.7 +0.2
baz=80,SNR=7.4
H16A Russell Place, 79.60 330 ⇓P P 12 00 27.8 +0.9
baz=80
E20A Meyer Farm, Mu 79.61 332 ⇓P P 12 00 26.8 +0.2
baz=80,SNR=7.4
DGMT Dagmar 79.63 336 ⇑P P 12 00 27.7 +1.0
baz=80
C22A Vida 79.69 334 ⇑P P 12 00 27.4 +0.4
baz=80
GCMT Greycliff 79.72 331 *eP* **P 12 00 28.0 +0.6**
comp=N,1.8nm,0.8s
F18A Big Timber 79.83 331 ⇓P P 12 00 28.1 +0.2
baz=80,SNR=6.7
E19A Rath Farm, Rou 79.86 332 ⇓P P 12 00 28.0 0.0
baz=80,SNR=9.4
B23A Brockton 79.92 335 ⇓P P 12 00 29.2 +0.9
baz=80
A24A Westby 79.93 336 ⇓P P 12 00 29.3 +1.0
baz=80
I14A Mackay 80.06 328 ⇓P P 12 00 30.2 +0.9
baz=80
D20A Manuel Ranch, 80.08 333 ⇑P P 12 00 29.2 +0.1
baz=80
C21A Desert Coulee 80.23 334 ⇓P P 12 00 30.2 +0.2
baz=80,SNR=6.8
F17A Fitzpatrick Pl 80.25 331 ⇑P P 12 00 31.1 +0.9
baz=80
HLID Hailey 80.27 327 *eP* **P 12 00 31.6 +1.2**
comp=N,6.6nm,0.9s
HLID Hailey 80.27 327 ⇓P P 12 00 31.6 +1.2
baz=80
E18A Harlowton 80.42 331 ⇑P P 12 00 31.4 +0.3
baz=81
MCMT McKenzie Canyo 80.44 329 *eP* **P 12 00 32.9 +1.4**
comp=N,4.5nm,1.2s
D19A Cripps Ranch, 80.45 332 ⇑P P 12 00 31.6 +0.5
baz=81
C20A Veseth Ranch, 80.51 333 ⇑P P 12 00 31.6 +0.1
baz=81
BOSA Boshof 80.56 117 P P 12 00 33.0 +0.6
BOSA Boshof 80.56 117 P P 12 00 33.0 +0.6
comp=N,4.2nm,0.9s,baz=250,slow=6.0,SNR=8.2
B21A Ellsworth Farm 80.69 334 ⇑P P 12 00 32.5 +0.1
baz=81,SNR=8.7
A22A Carney Farms, 80.71 335 ⇓P P 12 00 33.2 +0.7
baz=81
DLMT Dillon 80.72 329 *eP* **P 12 00 33.5 +0.8**
comp=N,2.2nm,0.8s
E17A Martinsdale 80.76 331 ⇑P P 12 00 33.5 +0.5
baz=81
D18A Linhart Farms, 80.86 332 ⇓P P 12 00 34.0 +0.5
baz=81
MFID Camas Ranch 80.87 326 ⇓P P 12 00 34.1 +0.5
baz=81
C19A Slack Wire Ran 80.97 333 ⇑P P 12 00 34.0 +0.1
baz=81
LRM Limekiln Ridge 81.00 330 *eP* **P 12 00 35.4 +1.0**
D17A Six Diamond Ra 81.22 331 ⇓P P 12 00 35.6 +0.2
baz=82,SNR=7.8
A20A Cobblestone Ra 81.41 334 ⇓P P 12 00 36.2 0.0
baz=82,SNR=10
B19A Brinkman Farms 81.49 333 ⇑P P 12 00 36.9 +0.3
baz=82
EGMT Eagleton 81.49 332 *eP* **P 12 00 36.9 +0.2**
comp=N,4.9nm,0.8s
EGMT Eagleton 81.49 332 ⇑P P 12 00 36.9 +0.2
baz=82
C17A Wharram Farm, 81.62 332 ⇑P P 12 00 37.3 0.0
baz=82,SNR=5.8
A19A Klindworth Far 81.78 334 ⇓P P 12 00 38.3 +0.2
baz=82
B18A Beardsley Farm 81.79 333 ⇑P P 12 00 38.6 +0.4
baz=82,SNR=5.9
C16A Fuhringer Ranc 82.17 331 ⇑P P 12 00 40.1 -0.2
baz=82
A18A Metzger Ranch, 82.22 333 ⇓P P 12 00 40.6 +0.2
baz=82
MSO Missoula 82.44 330 ⇓P P 12 00 42.0 +0.3
baz=83
C15A Salmond Ranch, 82.53 331 ⇑P P 12 00 42.9 +0.7
baz=83
A17A Triple J Farms 82.60 333 ⇑P P 12 00 42.8 +0.3
baz=83
B15A Bradely Ranch, 82.92 331 ⇓P P 12 00 43.7 -0.5
baz=83
SWMT Swartz Lake 82.97 330 *eP* **P 12 00 45.1 +0.7**
A15A Johnson Ranch, 83.49 332 ⇑P P 12 00 46.6 -0.5
baz=84
A14A Double T Ranch 83.79 331 ⇑P P 12 00 48.4 -0.2
baz=84
B13A Whitefish 83.81 330 ⇑P P 12 00 48.9 +0.2
baz=84
EDM Edmonton 86.94 334 *eP* **P 12 01 03.5 -0.4**
YKA Yellowknife Ar 94.29 340 P P 12 01 37.9 -0.1
YKA Yellowknife Ar 94.29 340 P P 12 01 37.8 -0.1
comp=N,1.8nm,0.6s,baz=129,slow=4.7,SNR=7.5
ASAR Alice Springs 128.39 204 PKP PKPdf 12 07 25.4 -0.3
ASAR Alice Springs 128.39 204 PKP PKPdf 12 07 25.4 -0.3
comp=N,2.1nm,0.7s,baz=137,slow=1.9,SNR=34
WRA Warramunga Arr 131.57 207 PKP PKPdf 12 07 31.6 -0.2
WRA SKPbc **SKPbc 12 10 39.9 -2.4**
WRA Warramunga Arr 131.57 207 PKP PKPdf 12 07 31.6 -0.2
comp=N,1.3nm,0.5s,baz=158,slow=1.7,SNR=40
WRA SKPbc **SKPbc 12 10 39.9 -2.4**
comp=N,2.0nm,1.0s,baz=150,slow=3.6,SNR=10
WRAB Tennant Creek 131.58 207 *e*PKPdf **PKPdf 12 07 32.2 +0.4**
ZAA0 Zalesovo Array 143.44 28 *e*PKPdf PKPbc 12 07 51.0 +0.8
ZALV Zalesovo Beam 143.44 28 PKP PKPbc 12 07 50.8 +0.7
ZALV Zalesovo Beam 143.44 28 PKP PKPbc 12 07 50.8 +0.7
comp=N,2.6nm,0.5s,baz=308,slow=4.6,SNR=14
MK31 Makanchi Array 146.54 40 *e*PKPdf **PKPdf 12 07 58.8 +0.7**
MKAR Makanchi Array 146.54 40 PKPbc **PKPdf 12 07 58.8 +0.7**
MKAR Makanchi Array 146.54 40 PKPbc **PKPdf 12 07 58.8 +0.7**
comp=N,4.3nm,0.7s,baz=293,slow=1.2,SNR=41
MJAR Matsushiro Arr 155.16 306 PKPab **PKPab 12 08 36.3 -0.9**
MJAR Matsushiro Arr 155.16 306 PKPab **PKPab 12 08 36.3 -0.9**
comp=N,3.5nm,1.0s,baz=61,slow=1.5,SNR=9.2
CN2 Changchun 157.93 336 *e*PKP **PKPdf 12 08 16.0 +1.1**
HHC Hu-ho-hao-te 163.27 4 *e*PKP **PKPdf 12 08 19.7 -1.3**
HHC pPKP **pPKPdf 12 09 02.5 -1.4**
HHC sPKP 12 09 19.1
HHC PKS **PKSdf 12 11 51.8 -2.3**
HHC PP **PP 12 12 59.4 +2.6**
HHC SKKS 12 19 29.0
HHC SS **SS 12 33 08.3 -0.1**
HHC LR LR
comp=N,200nm,20.0s
HHC LR LR
comp=E,380nm,21.4s
HHC LR LR
comp=Z,140nm,21.5s
LZH Lanzhou 165.63 32 *e*PKP **PKPdf 12 08 20.6 -2.7**
LZH pPKP **pPKPdf 12 09 03.5 -2.7**
LZH sPKP 12 09 20.0
CD2 Chengdu 169.28 49 *e*PKP **PKPdf 12 08 24.6 -1.3**

*IPEC **07** 12:20:58.3±2.9, 51.°61N×16.°25E, h0km, ML2.6/3, Error ellipse: s-maj=19.8km s-min=15.6km az=38.0*
*ISCJB **07** 12:20:58.5±0.8, 51.°46N±0.°04×16.°11E±0.°04, h0km, Error ellipse: s-maj=5.6km s-min=3.1km az=17.0*
*CSEM **07** 12:20:59.4±0.4, 51.°50N×16.°10E, h2km, ML3.4/9, Error ellipse: s-maj=7.0km s-min=3.9km az=5.0*
*IDC **07** 12:21:00.6±1.0, 51.°50N×16.°17E, h0km, mb1 3.2/4, mb1mx3.0/25, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=20.7km s-min=9.4km az=110.0*
*WAR **07** 12:21:00.7, 51.°52N×16.°11E*
*PRU **07** 12:21:00.8, 51.°46N×16.°13E, h0km*

ISC 07 12:20:58.1±0.9, 51.°61N±0.°04×16.°13E±0.°03, h0km, n32, σ1°01/61, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**172**	*e*Pg	**Pg**	**12 21 13.4**	**+0.6**
KSP				*e*Sg	**Sg**	**12 21 22.7**	**-0.2**
KSP	**Ksiaz**	**0.77**	**172**	⇓*i*Pg	**Pg**	**12 21 13.5**	**+0.6**
KSP				*e*Sg	**Sg**	**12 21 22.7**	**-0.2**
DPC	**Dobruska-Polom**	**1.26**	**175**	*e*Pg	**Pg**	**12 21 22.1**	**-0.2**
DPC				*e*SG	**Sg**	**12 21 36.9**	**-1.8**
DPC	**Dobruska-Polom**	**1.26**	**175**	Pg	**Pg**	**12 21 22.1**	**-0.2**
DPC				Sg	**Sg**	**12 21 36.9**	**-1.8**
PVCC	**Panska Ves**	**1.46**	**223**	*e*PG	**Pn**	**12 21 25.8**	**0.0**
PVCC				*e*SG	**Sg**	**12 21 44.9**	**-0.2**
comp=Z,170nm,0.2s							
PVCC	**Panska Ves**	**1.46**	**223**	Pg	**Pn**	**12 21 25.8**	**0.0**
PVCC				Sg	**Sg**	**12 21 44.9**	**-0.2**
170nm,0.2s							
BRG	**Berggiesshubel**	**1.56**	**243**	PG	**Pg**	**12 21 28.3**	**+0.3**
BRG				SG	**Sg**	**12 21 49.4**	**+1.2**
80nm,0.4s							
PRU	**Pruhonice**	**1.91**	**213**	*e*PG	**Pb**	**12 21 33.7**	**-0.1**
PRU				*e*SG	**Sb**	**12 21 57.6**	**-0.6**
comp=Z,30nm,0.3s							
PRU	**Pruhonice**	**1.91**	**213**	Pg	**Pb**	**12 21 33.7**	**-0.1**
PRU				Sg	**Sb**	**12 21 57.6**	**-0.6**
30nm,0.3s							
CLL	**Collm**	**1.98**	**263**	*i* Pn	**Pn**	**12 21 33.1**	**+0.2**
CLL				*i* Pg	**Pg**	**12 21 36.6**	**+0.5**
CLL				*i*		12 21 39.9	
CLL				*i* Sg	**Sg**	**12 22 02.9**	**+1.2**
comp=Z,25nm,0.4s							
MORC	**Moravsky Berou**	**2.04**	**153**	*e*Pn	**Pn**	**12 21 33.5**	**-0.2**
MORC				*e*Sg	**Sb**	**12 22 01.8**	**-0.2**
comp=Z,33nm,0.6s,baz=336							
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*PG	**Pg**	**12 21 39.2**	**-0.8**
OKC				*e*SG	**Sb**	**12 22 06.2**	**+0.1**
comp=Z,23nm,0.4s							
OKC	**Ostrava-Krasne**	**2.19**	**143**	Pg	**Pg**	**12 21 39.2**	**-0.8**
OKC				Sg	**Sb**	**12 22 06.2**	**+0.1**
comp=Z,23nm,0.4s							
VRAC	**Vranov**	**2.32**	**173**	Pn	**Pn**	**12 21 38.7**	**+1.2**
comp=Z,1.5nm,0.3s,baz=0.8,slow=11,SNR=7.8							
VRAC				Lg	Lg	12 22 10.0	
comp=Z,5.4nm,0.3s,baz=239,slow=18,SNR=7.5							
VRAC	**Vranov**	**2.32**	**173**	*e*Pn	**Pn**	**12 21 38.0**	**+0.4**
baz=355							
VRAC				*e*Sg	**Sb**	**12 22 10.1**	**+0.1**
comp=Z,29nm,0.7s,baz=355							
TREC	**Trest**	**2.35**	**190**	*e*PN	**Pn**	**12 21 38.1**	**+0.1**
TREC				*e*PG	**Pb**	**12 21 41.5**	**+0.2**
TREC				*e*SG	**Sb**	**12 22 11.5**	**+0.6**
comp=Z,21nm,0.3s							
TREC	**Trest**	**2.35**	**190**	Pn	**Pn**	**12 21 38.1**	**+0.1**
TREC	**Trest**	**2.35**	**190**	Pg	**Pb**	**12 21 41.5**	**+0.2**
TREC				Sg	**Sb**	**12 22 11.5**	**+0.6**
comp=Z,21nm,0.3s							
KRUC	**Moravsky**	**2.55**	**176**	*e*Pn	**Pn**	**12 21 41.2**	**+0.5**
baz=358							
KRUC				*e*Sg	**Sb**	**12 22 18.1**	**+1.4**
comp=Z,23nm,0.7s,baz=358							
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**12 21 50.0**	**+0.1**
OJC				*e*Sg	**Sg**	**12 22 25.8**	**+0.9**
NKC	**Novy Kostel**	**2.71**	**241**	*e*PN	**Pn**	**12 21 44.0**	**+1.1**
NKC				*e*PG	**Pg**	**12 21 49.1**	**-0.9**
NKC				*e*SG	**Sg**	**12 22 24.3**	**-0.8**
comp=Z,30nm,0.3s							
NKC	**Novy Kostel**	**2.71**	**241**	Pn	**Pn**	**12 21 44.0**	**+1.1**
NKC	**Novy Kostel**	**2.71**	**241**	Pg	**Pg**	**12 21 49.1**	**-0.9**
NKC				Sg	**Sg**	**12 22 24.3**	**-0.8**
comp=Z,30nm,0.3s							
KHC	**Kasperske Hory**	**2.97**	**214**	*e*PN	**Pn**	**12 21 46.9**	**+0.4**
KHC				*e*PG	**Pb**	**12 21 52.8**	**+0.9**
KHC				*e*SN	**Sn**	**12 22 22.3**	**-0.5**
KHC				*e*SG	**Sb**	**12 22 30.8**	**+2.1**
comp=Z,12nm,0.3s							
KHC	**Kasperske Hory**	**2.97**	**214**	Pn	**Pn**	**12 21 46.9**	**+0.4**
KHC	**Kasperske Hory**	**2.97**	**214**	Pg	**Pb**	**12 21 52.8**	**+0.9**
KHC				Sn	**Sn**	**12 22 22.3**	**-0.5**
KHC				Sg	**Sb**	**12 22 30.8**	**+2.1**
comp=Z,12nm,0.3s							
GERES	**GERESS Array B**	**3.17**	**210**	Pn	**Pn**	**12 21 50.7**	**+1.3**
comp=Z,1.3nm,0.3s,baz=28,slow=12,SNR=21							
GERES				Pg	**Pb**	**12 21 57.3**	**+1.9**
comp=Z,2.0nm,0.3s,baz=29,slow=23,SNR=18							
GERES				Lg	Lg	12 22 36.9	
comp=Z,3.1nm,0.3s,baz=34,slow=28,SNR=4.6							
VYHS	**Vyhne**	**3.57**	**150**	*e*SG	**Sb**	**12 22 46.6**	**+0.6**
VYHS	**Vyhne**	**3.57**	**150**	*e*Sg	**Sb**	**12 22 46.6**	**+0.6**
STHS	**Stebnicka Huta**	**3.93**	**122**	*e*	**Sg**	**12 23 08.0**	**+3.7**
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**12 23 39.4**	**-0.8**
comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=3.0							
ARCES	**ARCESS Array B**	**18.52**	**10**	Pn	**P**	**12 25 13.7**	**-2.1**
comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=2.9							

CASC 07 12:39:12.9±2.1, 9.°61N×84.°31W, h13km±10km, MD3.6, 5C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.23**	**141**	⇑*e*P	Pg	12 39 18.2	+0.4
SJS	**Escuela Geolog**	**0.42**	**37**	⇓*e*P	Pg	12 39 21.8	+0.3
SJS				*e*S	Sb	12 39 28.2	-0.6
CGA2	**Cerro Gallo 2**	**0.44**	**340**	⇓*e*P	Pg	12 39 21.8	0.0
CGA2				*e*S	Sg	12 39 27.8	0.0
BUS	**Buena Vista**	**0.55**	**95**	⇑*i*P	Pg	12 39 23.8	-0.4
BUS				*e*S	Sg	12 39 32.2	+0.2
URSC	**Urasca**	**0.57**	**66**	⇑*i*P	Pg	12 39 24.4	0.0
URSC				*e*S	Sg	12 39 32.0	-0.2
JCR	**Jicaral**	**0.82**	**287**	⇑*i*P	Pg	12 39 28.0	-1.0
JCR				*e*S	Sg	12 39 39.9	0.0
AMAS	**Alto Masis**	**1.20**	**326**	*i* P	Pn	12 39 34.6	-1.1
AMAS				*i* S	Sb	12 39 50.8	-0.6
CUI	**Cuipilapa**	**1.34**	**321**	*i* P	Pn	12 39 36.7	-0.7
CUI				*i* S	Sb	12 39 54.5	-0.6
COLC	**Colonia**	**1.37**	**320**	*i* P	Pn	12 39 37.1	-0.8
VCR	**Vista de Mar**	**1.40**	**292**	⇑*e*P	Pn	12 39 37.5	-0.8
VCR				*e*S	Sn	12 39 56.2	-0.5
MESS	**Mesas**	**1.42**	**322**	*i* P	Pn	12 39 38.1	-0.5
ACR	**Cerro Adams**	**1.47**	**130**	*e*P	Pn	12 39 38.0	-1.2
ACR				*e*S	Sn	12 39 57.2	-1.3
NY14	**Universidad de**	**1.59**	**311**	*i* P	Pn	12 39 40.5	-0.3
LAPC	**Finca la Perla**	**1.60**	**316**	*i* P	Pn	12 39 40.2	-0.7
CNI	**Changuinola**	**1.78**	**96**	*e*P	Pn	12 39 44.0	+0.6
CNI				*e*S	Sb	12 40 08.0	+0.3
BRU2	**Volcan**	**1.79**	**117**	*e*P	Pn	12 39 42.9	-0.8
BRU2				*e*S	Sb	12 40 09.1	+0.8
BRU	**Baru**	**1.90**	**115**	*e*P	Pn	12 39 46.1	+0.4

*ISCJB **07** 12:39:45.8±1.3, 45.°53S±0.°04×166.°59E±0.°04, h7km±9km, mb4.1/7, MS3.6/6, Error ellipse: s-maj=6.3km s-min=4.6km az=2.6*
*IDC **07** 12:39:45.8±0.8, 45.°42S×166.°49E, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.2/15, mbtmp4.2/6, ML4.8/1, MS3.7/6, Ms1 3.7/6, ms1mx3.4/19, Error ellipse: s-maj=26.3km s-min=21.2km az=59.0*
*AUST **07** 12:39:46.9, 45.°46S×166.°50E, h0km*
*WEL **07** 12:39:48.0±0.3, 45.°55S×166.°67E, h18km±1km, ML4.8/25, Error ellipse: s-maj=2.8km s-min=1.2km az=90.0*
*NEIC **07** 12:39:49.4, 45.°48S×166.°39E, h33km, ML4.9(WEL), After WEL.*

ISC 07 12:39:46.4±1.5, 45.°58S±0.°03×166.°63E±0.°05, h5km±10km, n76, σ1°08/83, mb4.1/7, MS3.7/6, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**75**	P*	**Pb**	**12 39 55.0**	**-0.6**
DCZ				S*	**Sg**	**12 39 59.8**	**+1.0**
DCZ				AML	AML	12 40 00.1	
DCZ				AML	AML	12 40 00.1	
DCZ				AML	AML	12 40 00.1	
WHZ	**Wether Hill Ro**	**0.98**	**109**	P*	**Pg**	**12 40 05.5**	**+0.4**
WHZ				S*	**Sg**	**12 40 18.4**	**+0.6**
WHZ				AML	AML	12 40 25.5	
MLZ	**Mavora Lakes**	**1.11**	**79**	P*	**Pg**	**12 40 06.7**	**-1.0**
MLZ				S*	**Sg**	**12 40 19.8**	**-2.3**
MLZ				AML	AML	12 40 21.6	
MSZ	**Milford Sound**	**1.29**	**46**	PN	**Pg**	**12 40 11.5**	**+0.4**
MSZ				SN	**Sb**	**12 40 28.1**	**+0.1**
MSZ				AML	AML	12 40 29.7	
MSZ				AML	AML	12 40 32.3	
MSZ				AML	AML	12 40 32.4	
MSZ	**Milford Sound**	**1.29**	**46**	Pn	**Pg**	**12 40 11.5**	**+0.4**
MSZ				Sn	**Sb**	**12 40 28.1**	**+0.1**
APZ	**The Paps**	**1.57**	**143**	PN	**Pg**	**12 40 17.4**	**+0.9**
APZ				SN	**Sn**	**12 40 35.7**	**0.0**
APZ	**The Paps**	**1.57**	**143**	Pn	**Pg**	**12 40 17.4**	**+0.9**
APZ				Sn	**Sn**	**12 40 35.2**	**-0.5**
WKZ	**Wanaka**	**1.85**	**67**	PN	**Pn**	**12 40 18.3**	**-0.5**

WKZ					SN	**Sn**	**12 40 43.4**	**+0.8**
WKZ					AML	AML	12 40 48.2	
WKZ					AML	AML	12 40 48.4	
WKZ					AML	AML	12 40 48.4	
EAZ	**Earnscleugh**	**1.92**	**81**		PN	**Pn**	**12 40 20.4**	**+0.7**
EAZ					AML	AML	12 40 50.5	
EAZ					AML	AML	12 40 52.1	
EAZ					AML	AML	12 40 53.6	
EAZ					AML	AML	12 40 53.6	
EAZ	**Earnscleugh**	**1.92**	**81**		Pn	**Pn**	**12 40 20.4**	**+0.7**
SYZ	**Scrubby Hill**	**2.00**	**120**		PN	**Pn**	**12 40 20.3**	**-0.4**
SYZ	**Scrubby Hill**	**2.00**	**120**		Sn	**Sb**	**12 40 48.5**	**+0.2**
JCZ	**Jackson Bay**	**2.14**	**46**		PN	**Pn**	**12 40 21.6**	**-1.2**
JCZ					AML	AML	12 40 59.5	
JCZ					AML	AML	12 41 01.8	
TUZ	**Tuapeka**	**2.14**	**101**		PN	**Pb**	**12 40 24.8**	**-0.8**
TUZ					AML	AML	12 40 55.5	
TUZ					AML	AML	12 40 55.9	
TUZ	**Tuapeka**	**2.14**	**101**		Pn	**Pb**	**12 40 24.8**	**-0.8**
LBZ	**Lake Benmore**	**2.79**	**66**		PN	**Pn**	**12 40 33.6**	**+1.8**
LBZ					AML	AML	12 41 08.7	
LBZ					AML	AML	12 41 08.8	
LBZ					AML	AML	12 41 24.8	
LBZ					AML	AML	12 41 24.8	
LBZ	**Lake Benmore**	**2.79**	**66**		Pn	**Pn**	**12 40 33.6**	**+1.8**
ODZ	**Otahua Downs**	**2.88**	**81**		PN	**Pn**	**12 40 33.3**	**+0.3**
ODZ	**Otahua Downs**	**2.88**	**81**		Pn	**Pn**	**12 40 33.3**	**+0.3**
FOZ	**Fox Glacier**	**2.97**	**48**		PN	**Pb**	**12 40 38.7**	**-1.1**
FOZ					AML	AML	12 41 28.3	
FOZ					AML	AML	12 41 28.3	
FOZ					AML	AML	12 41 29.5	
FOZ					AML	AML	12 41 29.5	
RPZ	**Rata Peaks**	**3.67**	**61**		Pn	**Pn**	**12 40 44.6**	**+0.8**
RPZ					AML	AML	12 41 38.8	
RPZ					AML	AML	12 41 49.0	
RPZ	**Rata Peaks**	**3.67**	**61**	*e*Pn	**Pn**	**12 40 45.0**	**+1.2**
RPZ					Sn	**Sn**	**12 41 27.4**	**0.0**
RPZ				*e*Sn	Sb	12 41 29.5	-6.9
RPZ	**Rata Peaks**	**3.67**	**61**		Pn	**Pn**	**12 40 44.8**	**+1.0**
72nm,0.3s,baz=204,slow=4.4,SNR=48								
RPZ					Sn	**Sn**	**12 41 27.4**	**0.0**
72nm,0.3s,baz=25,slow=18,SNR=17								
WVZ	**Waitaha Valley**	**3.87**	**51**		PN	**Pn**	**12 40 49.5**	**+3.0**
WVZ					AML	AML	12 41 52.2	
WVZ					AML	AML	12 41 54.8	
MQZ	**McQueen's Vall**	**4.69**	**69**		PN	**Pn**	**12 40 58.0**	**+0.3**
MQZ	**McQueen's Vall**	**4.69**	**69**		Pn	**Pn**	**12 40 57.8**	**+0.1**
CRLZ	**Canterbury Las**	**4.73**	**67**		PN	**Pn**	**12 40 58.8**	**+0.5**
CRLZ					AML	AML	12 42 27.4	
CRLZ					AML	AML	12 42 28.9	
CRLZ	**Canterbury Las**	**4.73**	**67**		Pn	**Pn**	**12 40 58.8**	**+0.5**
LTZ	**Lake Taylor**	**4.93**	**57**		PN	**Pn**	**12 41 02.0**	**+0.9**
LTZ					AML	AML	12 42 04.9	
LTZ					AML	AML	12 42 11.6	
KHZ	**Kahutara**	**5.90**	**60**		PN	**Pn**	**12 41 15.2**	**+0.8**
KHZ	**Kahutara**	**5.90**	**60**	*e*Pn	**Pn**	**12 41 15.3**	**+0.8**
KHZ				*e*Sn	**Sn**	**12 42 23.3**	**+0.9**
THZ	**Tophouse**	**5.94**	**52**		PN	**Pn**	**12 41 16.3**	**+1.3**
THZ					AML	AML	12 42 31.0	
THZ					AML	AML	12 42 34.2	
NNZ	**Nelson**	**6.57**	**51**		PN	**Pn**	**12 41 24.2**	**+0.6**
NNZ					AML	AML	12 42 51.6	
NNZ					AML	AML	12 42 52.2	
TUWZ	**Tuamarina**	**6.74**	**55**		PN	**Pn**	**12 41 28.0**	**+2.0**
TUWZ					AML	AML	12 42 53.7	
CAW	**Cannon Point**	**7.60**	**57**		PN	**Pn**	**12 41 37.7**	**-0.1**
CAW					AML	AML	12 43 07.1	
CAW					AML	AML	12 43 10.3	
MRZ	**Mangatainoka R**	**8.18**	**56**		PN	**Pn**	**12 41 46.7**	**+1.0**
MRZ					AML	AML	12 43 19.7	
MRZ					AML	AML	12 43 19.8	
PKE	**Pukeiti**	**8.38**	**43**		PN	**Pn**	**12 41 49.4**	**+0.9**
MCQ	**Macquarie Isla**	**10.20**	**206**		S	**Sn**	**12 44 07.6**	**-0.2**
baz=10,SNR=3.1								
URZ	**Urewera**	**10.69**	**51**	*e*Pn	**Pn**	**12 42 21.3**	**+1.2**
MOO	**Moorlands**	**14.33**	**276**	P	**Pn**	**12 43 09.0**	**-0.8**
baz=14,SNR=3.1								
LHI	**Lord Howe Isla**	**15.22**	**335**	S	**Sn**	**12 46 13.9**	**+3.1**
baz=15,SNR=4.8								
TOO	**Toolangi**	**17.69**	**289**	P	**P**	**12 43 55.7**	**+1.4**
baz=18,SNR=5.7								
STKA	**Stephens Creek**	**23.72**	**297**	*e*P	**P**	**12 44 59.0**	**-0.3**
STKA	**Stephens Creek**	**23.72**	**297**	P	**P**	**12 45 00.5**	**+1.2**
4.0nm,0.9s,baz=119,slow=11,SNR=6.8								
STKA				LR	LR	12 53 19.2	
comp=Z,221nm,18.9s,baz=205,slow=34								
RMQ	**Roma**	**23.82**	**317**	P	**P**	**12 45 01.6**	**+1.4**
baz=24,SNR=5.9								
VNDA	**Vanda**	**32.11**	**182**	*e*P	**P**	**12 46 14.8**	**+0.9**
0.5nm,0.3s								
VNDA	**Vanda**	**32.11**	**182**	P	**P**	**12 46 15.5**	**+1.5**
0.6nm,0.6s,baz=269,slow=18,SNR=7.8								
VNDA				LR	LR	12 57 21.1	
comp=Z,62nm,18.2s,baz=298,slow=33								
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**12 46 31.9**	**-2.0**
ASAR				PcP	**PcP**	**12 49 09.1**	**-0.9**
ASAR	**Alice Springs**	**34.32**	**298**	P	**P**	**12 46 31.9**	**-2.0**
3.9nm,1.1s,baz=140,slow=8.1,SNR=14								
ASAR				PcP	**PcP**	**12 49 09.1**	**-0.9**
0.4nm,0.7s,baz=141,slow=4.3,SNR=5.3								
ASAR				LR	LR	13 01 11.2	
comp=Z,120nm,18.0s,baz=192,slow=38								
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**12 46 54.6**	**-1.2**
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**12 46 54.6**	**-1.2**
4.0nm,1.1s,baz=139,slow=7.7,SNR=12								
WRAB	**Tennant Creek**	**36.88**	**303**	*e*P	**P**	**12 46 54.0**	**-1.8**
4.7nm,1.1s								
TBI	**Tubuai**	**41.79**	**73**	*e*LR	LR	12 59 06.1	
69nm,33.0s								
KNRA	**Kununurra**	**43.51**	**301**	S	S	12 54 26.8	+6.7
baz=43,SNR=9.6								
QSPA	**South Pole Qui**	**44.55**	**180**	*e*P	**P**	**12 48 00.4**	**+1.5**
QSPA	**South Pole Qui**	**44.55**	**180**	P	**P**	**12 48 00.2**	**+1.4**
2.3nm,0.8s,baz=333,slow=3.8,SNR=14								
PPT2	**Papeete2**	**45.79**	**67**	*e*LR	LR	13 00 58.9	
112nm,27.2s								
PPT	**Papeete**	**45.80**	**67**	LR	LR	13 03 23.4	
comp=Z,101nm,21.3s,baz=193,slow=31								
MAW	**Mawson**	**53.59**	**208**	LR	LR	13 10 49.1	
comp=Z,86nm,18.6s,baz=109,slow=35								
XMIS	**Christmas Isla**	**62.37**	**284**	P	**P**	**12 50 10.0**	**-0.1**
baz=62,SNR=4.3								
GSI	**Gunungsitoli**	**76.41**	**286**	P	P	12 51 42.9	+5.8
baz=76,SNR=7.5								
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**12 52 39.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**88.33**	**299**	P	**P**	**12 52 39.5**	**+0.4**
2.1nm,0.8s,baz=157,slow=3.1,SNR=11								
CMAR				LR	LR	13 37 12.7	
comp=Z,24nm,18.5s,baz=185,slow=39								
KURBB	**Kurchatov Arra**	**122.27**	**311**	PKP	**PKPdf**	**12 58 40.5**	**-1.1**
1.0nm,0.5s,baz=108,slow=1.8,SNR=5.2								
KURK	**Kurchatov**	**122.27**	**311**	PKP	**PKPdf**	**12 58 40.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**145.24**	**206**	PKPbc	**PKPbc**	**12 59 24.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**145.24**	**206**	PKPbc	**PKPbc**	**12 59 24.4**	**-0.7**
12nm,0.7s,baz=147,slow=2.2,SNR=63								
BRTR	**Keskin Array B**	**145.33**	**277**	PKPbc	**PKPbc**	**12 59 24.5**	**-0.4**
BRTR	**Keskin Array B**	**145.33**	**277**	PKPbc	**PKPbc**	**12 59 24.5**	**-0.4**
3.6nm,0.9s,baz=155,slow=4.4,SNR=13								
BR131	**Keskin Array S**	**145.33**	**277**	*e*PKPbc	**PKPbc**	**12 59 24.9**	**0.0**
ARCES	**ARCESS Array B**	**149.17**	**334**	PKPbc	**PKPbc**	**12 59 33.9**	**-0.7**
ARCES	**ARCESS Array B**	**149.17**	**334**	PKPbc	**PKPbc**	**12 59 33.9**	**-0.7**
4.6nm,0.8s,baz=58,slow=3.2,SNR=23								
FINES	**FINESS Array B**	**152.24**	**319**	PKPbc	**PKPbc**	**12 59 41.5**	**-0.5**
FINES	**FINESS Array B**	**152.24**	**319**	PKPbc	**PKPbc**	**12 59 41.5**	**-0.5**
3.5nm,0.5s,baz=103,slow=4.4,SNR=11								
GERES	**GERESS Array B**	**161.36**	**290**	PKPab	**PKPab**	**13 00 31.4**	**-0.3**
GERES	**GERESS Array B**	**161.36**	**290**	PKPab	**PKPab**	**13 00 31.4**	**-0.3**
0.1nm,0.3s,baz=90,slow=2.0,SNR=3.6								

KRSC 07 12:45:13.0±0.7, 53°.70N×160°.69E, h41km±31km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.72**	**214**	*e*P	Pn	12 45 26.2	-0.6
SPN				*e*S	Sn	12 45 35.9	-0.8
KII	**Karymskiy**	**0.81**	**295**	*e*P	Pn	12 45 28.0	0.0
KII				*e*S	Sn	12 45 39.0	0.0
NLC	**Nalytchevo**	**0.96**	**237**	*e*P	Pn	12 45 29.8	-0.2
NLC				*e*S	Sn	12 45 42.0	-0.5
MKZ	**Mys Kozlova**	**1.05**	**35**	*e*P	Pn	12 45 29.9	-1.4
MKZ				*e*S	Sn	12 45 42.4	-2.3
SDLR	**Sedlovina**	**1.16**	**249**	*e*P	Pn	12 45 33.2	+0.3
SDLR				*e*S	Sn	12 45 48.2	+0.6
UGLR	**Uglovaya**	**1.22**	**247**	*e*P	Pn	12 45 34.0	+0.3
UGLR				*e*S	Sn	12 45 49.3	+0.2
KRER	**Koryakskii**	**1.23**	**252**	*e*P	Pn	12 45 34.4	+0.5
KRER				*e*S	Sn	12 45 49.8	+0.3
AVH	**Avacha**	**1.25**	**250**	*e*P	Pn	12 45 34.7	+0.7
AVH				*e*S	Sn	12 45 50.8	+1.1
KOK	**Koryaka**	**1.29**	**252**	*e*P	Pn	12 45 35.2	+0.5
KOK				*e*S	Sn	12 45 51.1	+0.2
PET	**Petropavlovsk**	**1.40**	**242**	*e*P	Pn	12 45 36.2	+0.3
PET				S	Sn	12 45 53.1	0.0
TUMR	**Tumrok**	**1.62**	**349**	*e*P	Pn	12 45 39.4	+0.2
TUMR				*e*S	Sn	12 45 58.6	-0.3
GNL	**Ganaly**	**1.63**	**271**	*e*P	Pn	12 45 40.2	+0.8
GNL				*e*S	Sn	12 46 00.1	+0.8
RUS	**Russkaya**	**1.83**	**227**	*e*P	Pn	12 45 41.7	-0.2
RUS				*e*S	Sn	12 46 02.3	-1.4
MTVR	**Mutnovka**	**1.94**	**232**	*e*P	Pn	12 45 44.0	+0.3
MTVR				*e*S	Sn	12 46 06.8	-0.2
GRL	**Gorelyy**	**1.95**	**235**	P	Pn	12 45 44.5	+0.7
KMNR	**Kamenistaya**	**2.08**	**353**	P	Pn	12 45 47.0	+1.5
ASAK	**Asacha**	**2.14**	**233**	*e*P	Pn	12 45 48.1	+1.8
ASAK				*e*S	Sn	12 46 13.5	+1.8
APC	**Apacha**	**2.26**	**251**	P	Pn	12 45 48.3	+0.5
ESO	**Esso**	**2.51**	**333**	P	Pn	12 45 52.0	+0.7
SRDR	**Sredinnyy**	**2.68**	**348**	P	Pn	12 45 55.6	+1.9
KBG	**Krutoberegovo**	**2.81**	**24**	S	Sn	12 46 29.0	+1.0
BKI	**Bering**	**3.43**	**62**	*e*P	Pn	12 46 03.2	-0.7
BKI				*e*S	Sn	12 46 39.2	-4.0

*AUST **07** 12:50:36.6, 4°.99S×128°.02E, h200km*
*ISCJB **07** 12:50:51.5±1.5, 6°.9S±0°.1×128°.86E±0°.10, h10km, mb3.3/1, Error ellipse: s-maj=17.4km s-min=13.7km az=173.2*
*IDC **07** 12:50:51.5±2.1, 6°.81S×129°.10E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=88.9km s-min=27.4km az=75.0*
ISC 07 12:50:53.7±1.7, 6°.9S±0°.1×128°.9E±0°.1, h10km, n9, σ1§23/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.37**	**237**	P	Pb	12 52 22.3	-5.5
baz=6.0,SNR=3.9							
SOEI				S	**Sn**	**12 53 16.3**	**+0.2**
baz=6.0,SNR=5.0							
MTN	**Manton Dam**	**6.36**	**159**	P	Pn	12 52 33.1	+5.5
baz=8.4,SNR=16							
KDU	**Kakadu**	**6.81**	**149**	P	Pn	12 52 40.2	+6.5
baz=8.9,SNR=24							
KNRA	**Kununurra**	**8.77**	**181**	P	**Pn**	**12 53 02.7**	**+2.1**
baz=11,SNR=26							
FITZ	**Fitzroy Crossi**	**11.61**	**195**	Pn	**Pn**	**12 53 39.1**	**-0.5**
0.1nm,0.3s,baz=25,slow=19,SNR=11							
FITZ				Sn	Sn	12 55 33.5	-16
0.5nm,0.3s,baz=83,slow=18,SNR=7.1							
FITZ	**Fitzroy Crossi**	**11.61**	**195**	P	**Pn**	**12 53 39.4**	**-0.2**
baz=13,SNR=5.3							
WRA	**Warramunga Arr**	**14.06**	**158**	Pn	**Pn**	**12 54 12.0**	**-1.1**
0.2nm,0.3s,baz=343,slow=12,SNR=20							
WRA				Sn	Sn	12 56 34.9	-15
0.4nm,0.3s,baz=327,slow=24,SNR=8.8							
ASAR	**Alice Springs**	**17.41**	**164**	P	**Pn**	**12 54 56.4**	**-0.5**
0.2nm,0.3s,baz=338,slow=9.8,SNR=33							
MKAR	**Makanchi Array**	**67.48**	**327**	P	**P**	**13 01 50.0**	**+0.1**
0.1nm,0.3s,baz=116,slow=6.6,SNR=2.3							

*ISCJB **07** 13:14:50.8±1.2, 41°.2N±0°.1×50°.95E±0°.09, h33km, mb3.6/8, Error ellipse: s-maj=18.7km s-min=8.7km az=163.2*
*IDC **07** 13:14:52.9±3.8, 40°.87N×51°.00E, h70km±32km, mb3.4/7, mb1 3.5/11, mb1mx3.3/29, mbtmp3.5/11, ML4.0/4, Error ellipse: s-maj=32.1km s-min=16.9km az=168.0*
*NNC **07** 13:14:56.0±9.1, 41°.15N×52°.01E, h0km, mb3.7, Error ellipse: s-maj=101.2km s-min=36.0km az=74.0*
ISC 07 13:14:52.1±1.5, 41°.1N±0°.2×50°.95E±0°.09, h35km, n16, σ1§66/17, mb3.6/8, 3C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**6.53**	**297**	P	**Pn**	**13 16 27.8**	**+2.2**
0.2nm,0.3s,baz=104,slow=12,SNR=3.4							
KBZ				S	Sn	13 17 44.9	+6.1
0.8nm,0.3s,baz=290,slow=13,SNR=4.6							
AB31	**Akbulak array**	**10.36**	**35**	⇑Pn	**Pn**	**13 17 19.3**	**+1.2**
0.7nm,0.5s,baz=214,slow=9.2,SNR=16							
AB31				⇑Sn	**Sn**	**13 19 13.7**	**+0.8**
1.1nm,0.3s,baz=225,slow=25,SNR=13							
AKTO	**Aktyubinsk**	**10.59**	**25**	⇑Pn	**Pn**	**13 17 22.8**	**+1.5**
1.0nm,0.3s							
AKTO				⇓Sn	**Sn**	**13 19 16.1**	**-2.4**
6.4nm,0.6s							
AKTO	**Aktyubinsk**	**10.59**	**25**	P	**Pn**	**13 17 23.4**	**+2.1**
1.0nm,0.3s,baz=205,slow=12,SNR=17							
AKTO				S	**Sn**	**13 19 17.4**	**-1.1**
0.9nm,0.3s,baz=108,slow=22,SNR=11							
KK31	**Karatay Array**	**14.67**	**76**	⇓Pn	**Pn**	**13 18 16.0**	**-1.0**
0.3nm,0.3s,baz=311,slow=14,SNR=5.5							
BVA0	**Borovoye Array**	**17.78**	**41**	⇓Pn	**P**	**13 19 00.4**	**+3.2**
1.4nm,0.8s,baz=230,slow=13,SNR=6.0							
BVAR	**Borovoye Array**	**17.78**	**41**	P	**P**	**13 18 57.2**	**0.0**
0.4nm,0.3s,baz=220,slow=13,SNR=6.6							
AKASG	**Malin Array Be**	**17.88**	**310**	P	**P**	**13 18 58.1**	**-0.1**
3.4nm,0.3s,baz=122,slow=10,SNR=11							
MKAR	**Makanchi Array**	**23.19**	**65**	P	**P**	**13 19 56.0**	**+0.4**
0.9nm,0.6s,baz=266,slow=8.7,SNR=6.4							
FINES	**FINESS Array B**	**25.38**	**332**	P	**P**	**13 20 15.8**	**+0.1**
2.1nm,0.5s,baz=143,slow=10.0,SNR=19							
KAF	**Kangasniemi**	**25.75**	**333**	*e*p	P	13 20 10.7	-8.4
0.5nm,0.3s							
HFS	**Hagfors**	**29.80**	**322**	P	**P**	**13 20 54.8**	**-0.5**
0.9nm,0.5s,baz=108,slow=9.8,SNR=5.4							
NOA	**NORSAR Array B**	**31.28**	**323**	P	**P**	**13 21 07.4**	**-1.0**
0.3nm,0.5s,baz=118,slow=8.5,SNR=3.4							
ARCES	**ARCESS Array B**	**31.49**	**343**	P	**P**	**13 21 08.2**	**-2.0**
0.7nm,0.8s,baz=143,slow=9.8,SNR=6.1							
EKA	**Eskdalemuir Ar**	**37.78**	**311**	P	**P**	**13 22 03.5**	**-1.1**
0.7nm,0.4s,baz=94,slow=7.9,SNR=6.2							
TORD	**Torodi Ar. Bea**	**51.05**	**252**	P	P	13 23 46.6	-4.4
0.2nm,0.7s,baz=55,slow=7.3,SNR=2.6							

IDC 07 13:22:40.7±0.7, 20°.27N×146°.94E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.1/32, mbtmp4.1/19, ML4.1/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/43, Error ellipse: s-maj=24.2km s-min=14.7km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.92**	**337**	P	Pn	13 26 51.3	-0.2
0.3nm,0.3s,baz=163,slow=9.9,SNR=4.7							
JNU	**Nakatsue**	**19.20**	**315**	P	P	13 27 06.1	-0.1
0.6nm,0.3s,baz=109,slow=5.1,SNR=5.6							
KSRS	**Korea Array**	**23.81**	**320**	P	P	13 27 55.6	+0.3
3.0nm,0.8s,baz=145,slow=8.9,SNR=19							
KSRS				LR	LR	13 36 19.3	
comp=Z,45nm,19.1s,baz=125,slow=34							
ASAJ	**Asahikawa**	**24.05**	**352**	P	P	13 27 58.5	+1.0
4.7nm,0.9s,baz=234,slow=20,SNR=9.1							
USRK	**Ussuriysk Arra**	**26.91**	**336**	P	P	13 28 25.0	+1.6
0.9nm,0.7s,baz=114,slow=13,SNR=3.6							
PETK	**Petropavlovsk-**	**33.81**	**12**	P	P	13 29 25.3	+0.9
1.6nm,0.8s,baz=216,slow=7.1,SNR=3.3							
FX1	**Attu Island--F**	**38.34**	**26**	LR	LR	13 42 49.2	
comp=Z,134nm,21.2s,baz=146,slow=32							
WRA	**Warramunga Arr**	**41.83**	**198**	P	P	13 30 33.4	+0.9
0.7nm,0.4s,baz=20,slow=8.5,SNR=18							
SONM	**Songino Array**	**42.68**	**320**	P	P	13 30 40.6	+1.3
0.5nm,0.5s,baz=128,slow=9.3,SNR=4.3							
SONM				LR	LR	13 48 14.0	
comp=Z,48nm,18.7s,baz=207,slow=36							
ASAR	**Alice Springs**	**45.48**	**197**	P	P	13 31 01.4	-0.5
0.5nm,0.6s,baz=15,slow=6.4,SNR=14							
STKA	**Stephens Creek**	**52.10**	**186**	P	P	13 31 52.5	-0.2
0.9nm,0.5s,baz=355,slow=11,SNR=3.8							
ZALV	**Zalesovo Beam**	**57.50**	**322**	P	P	13 32 31.1	-0.5
2.8nm,0.6s,baz=102,slow=6.5,SNR=14							
MKAR	**Makanchi Array**	**58.24**	**313**	P	P	13 32 36.9	-0.1
4.2nm,0.6s,baz=90,slow=9.1,SNR=35							
KURBB	**Kurchatov Arra**	**60.95**	**317**	P	P	13 32 55.0	-0.6
4.8nm,0.6s,baz=92,slow=7.7,SNR=54							
ILAR	**Eielson Array**	**61.72**	**26**	P	P	13 32 59.6	-0.9
1.1nm,0.9s,baz=262,slow=5.8,SNR=12							
BVAR	**Borovoye Array**	**66.03**	**320**	P	P	13 33 28.8	-0.3
4.3nm,0.5s,baz=92,slow=7.6,SNR=2.8							
INK	**Inuvik**	**67.47**	**23**	P	P	13 33 38.0	0.0
2.5nm,0.9s,baz=276,slow=7.2,SNR=3.1							
NVAR	**Mina Array Bea**	**81.25**	**52**	P	P	13 34 60.0	+0.8
1.2nm,0.8s,baz=260,slow=6.9,SNR=9.0							
ARCES	**ARCESS Array B**	**81.36**	**342**	P	P	13 34 58.1	-0.8
1.2nm,0.8s,baz=51,slow=7.9,SNR=8.0							
KAF	**Kangasniemi**	**85.47**	**336**	*e*p	P	13 35 17.8	-2.3
1.5nm,0.5s							
FINES	**FINESS Array B**	**85.95**	**336**	P	P	13 35 21.1	-1.5
1.8nm,0.5s,baz=77,slow=5.3,SNR=15							

PRU 07 13:33:41.3, 50°.36N×18°.83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*PG	Pn	13 34 11.0	0.0
DPC				*e*SG	Sb	13 34 32.7	-0.1

*ISCJB **07** 13:34:09.4±0.4, 37°.30N±0°.02×22°.09E±0°.03, h12km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=11.7*
*CSEM **07** 13:34:09.4±0.1, 37°.31N×22°.08E, h15km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.7km az=99.0*
*THE **07** 13:34:09.5, 37°.29N×22°.10E, h11km±1km, ML2.3/4, Error ellipse: s-maj=1.4km s-min=0.4km az=211.0*
*ATH **07** 13:34:09.5, 37°.31N×22°.09E, h17km±2km, MD2.9/14*
ISC 07 13:34:09.4±0.9, 37°.31N±0°.02×22°.09E±0°.02, h13km±6km, n54, σ0§45/86, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.18**	**226**	P	**Pg**	**13 34 13.3**	**-0.3**
ITM				S	**Sg**	**13 34 16.3**	**-0.1**
ITM	**Ithomi**	**0.18**	**226**	*e*PB	**Pg**	**13 34 13.4**	**-0.2**
ITM				*e*SB	**Sg**	**13 34 17.4**	**+1.0**
ITM	**Ithomi**	**0.18**	**226**	*e*Pb	**Pg**	**13 34 13.4**	**-0.2**
ITM				S	**Sg**	**13 34 16.3**	**-0.1**
ITM				*e*Sb	**Sg**	**13 34 17.4**	**+1.0**
VLX	**Vlachokerasia**	**0.24**	**75**	P	**Pg**	**13 34 14.5**	**0.0**
VLX				S	**Sg**	**13 34 18.2**	**+0.1**
VLX	**Vlachokerasia**	**0.24**	**75**	*e*PB	**Pg**	**13 34 14.6**	**0.0**
VLX				*e*SB	**Sb**	**13 34 19.4**	**-0.5**
VLX	**Vlachokerasia**	**0.24**	**75**	*e*Pb	**Pg**	**13 34 14.6**	**0.0**
VLX				S	**Sg**	**13 34 18.2**	**+0.1**
VLX				*e*Sb	**Sb**	**13 34 19.4**	**-0.5**
AMT	**Artemida-Makis**	**0.38**	**307**	P	**Pg**	**13 34 17.0**	**0.0**
AMT				S	**Sb**	**13 34 23.2**	**-0.6**
AMT	**Artemida-Makis**	**0.38**	**307**	*e*PB	**Pg**	**13 34 17.2**	**+0.2**
AMT				*e*SB	**Sb**	**13 34 23.5**	**-0.3**
AMT	**Artemida-Makis**	**0.38**	**307**	P	**Pg**	**13 34 17.0**	**0.0**
AMT				S	**Sb**	**13 34 23.2**	**-0.6**
PYL	**PYLOS**	**0.50**	**214**	P	**Pg**	**13 34 19.1**	**-0.1**
PYL				S	**Sg**	**13 34 26.2**	**+0.4**
PYL	**PYLOS**	**0.50**	**214**	*e*PB	**Pg**	**13 34 19.6**	**+0.4**
PYL				*e*SB	**Sb**	**13 34 27.2**	**0.0**
PYL	**PYLOS**	**0.50**	**214**	P	**Pg**	**13 34 19.1**	**-0.1**
PYL	**PYLOS**	**0.50**	**214**	*e*Pb	**Pg**	**13 34 19.6**	**+0.4**
PYL				S	**Sg**	**13 34 26.2**	**+0.4**
PYL				*e*Sb	**Sb**	**13 34 27.2**	**0.0**
DYR	**Agios Nikonas**	**0.58**	**160**	P	**Pg**	**13 34 20.3**	**-0.4**
DYR				S	**Sg**	**13 34 28.5**	**+0.1**
DYR	**Agios Nikonas**	**0.58**	**160**	*e*PN	**Pg**	**13 34 20.7**	**-0.4**
DYR	**Agios Nikonas**	**0.58**	**160**	P	**Pg**	**13 34 20.3**	**-0.4**
DYR				S	**Sg**	**13 34 28.5**	**+0.1**
GUR	**Goura**	**0.66**	**18**	P	**Pg**	**13 34 21.7**	**-0.6**
GUR				S	**Sb**	**13 34 32.4**	**+0.4**
GUR	**Goura**	**0.66**	**18**	*e*PB	**Pg**	**13 34 21.9**	**-0.4**
GU

PB04 *i* S Sn 13 37 39.7 +9.0
PB04 AML AML 13 37 46.6
comp=E,2μm,0.5s
CEN1 Los Morros 1.45 253⇑ *e*P Pn 13 37 20.2 -0.1
CEN1 *e*S Sn 13 37 40.6 +0.8
CEN1 AML AML 13 37 47.2
comp=E,898nm,0.7s
PB07 Plate Boundary 1.66 318⇑ *i*P Pn 13 37 22.8 -0.2
PB07 *i* S Sn 13 37 43.8 -0.8
PB07 AML AML 13 37 47.5
comp=N,2μm,0.5s
PB01 Plate Boundary 2.06 339 *e*P Pn 13 37 28.0 +0.1
LPAZ La Paz 6.67 5 Pn Pn 13 38 31.4 +0.9
comp=N,0.2nm,0.3s,baz=177,slow=5.3,SNR=4.5
TORD Torodi Ar. Bea 77.66 70 P P 13 48 39.6 -0.7
comp=N,3.1nm,0.6s,baz=256,slow=5.4,SNR=38
MKAR Makanchi Array 146.69 37 PKPbc PKPdf 13 56 23.9 +1.3
comp=N,0.7nm,0.8s,baz=300,slow=2.0,SNR=5.7

---

*BJI **07** 13:38:17.4, 50.˚55N×179.˚11W, h11km, mB4.8/8, mb4.7/31, Ms4.8/8, Ms7 4.4/8*
*ISCJB **07** 13:38:20.4±0.2, 50.˚23N±0.˚03×178.˚87W±0.˚03, h33km, mb4.6/120, MS3.7/22, Error ellipse: s-maj=4.5km s-min=2.5km az=167.1*
*MOS **07** 13:38:20.6±1.1, 50.˚29N×178.˚87W, h33km, mb4.8/50, Error ellipse: s-maj=8.6km s-min=6.0km az=100.7*
*NEIC **07** 13:38:22.9±0.2, 50.˚32N×178.˚88W, mb4.5/46, ML4.4(AEIC), Error ellipse: s-maj=4.5km s-min=2.7km az=171.0*
*IDC **07** 13:38:23.2±0.5, 50.˚23N×178.˚97W, h40km±3km, mb4.2/34, mb1 4.4/36, mb1mx4.3/39, mbtmp4.2/36, ML4.2/2, MS3.6/16, Ms1 3.6/16, ms1mx3.3/45, Error ellipse: s-maj=11.8km s-min=8.0km az=177.0*
ISC 07 13:38:22.3±0.3, 50.˚22N±0.˚06×178.˚93W±0.˚03, h35km, h35km; pP-P, n471, σ1♀08/534, mb4.6/121, MS3.7/22, 93C-83D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.34**	**3**	P	**Pn**	**13 38 42.7**	**-1.8**
GALAA	**Gareloi Lava P**	**1.55**	**4**	P	**Pn**	**13 38 46.2**	**-1.1**
GAEA	**Gareloi East**	**1.57**	**4**	P	**Pn**	**13 38 46.7**	**-1.0**
GANE	**Gareloi Northe**	**1.60**	**3**	P	**Pn**	**13 38 47.0**	**-1.2**
AMKA	**Amchitka**	**1.61**	**317**	*e*Pn	**Pn**	**13 38 46.0**	**-2.3**
AMKA				*e*Sn	**Sn**	**13 39 05.1**	**-2.6**
TASE	**Tanaga Southea**	**1.71**	**19**	P	**Pn**	**13 38 48.7**	**-1.0**
TAPA	**Tanaga Point A**	**1.75**	**23**	P	**Pn**	**13 38 48.9**	**-1.3**
TANO	**Tanaga North**	**1.77**	**17**	P	**Pn**	**13 38 49.7**	**-0.8**
TAFP	**Tanaga Falls P**	**1.79**	**19**	P	**Pn**	**13 38 49.5**	**-1.1**
TAFP				S	**Sn**	**13 39 11.5**	**-0.6**
CERAA	**Semis' Rag'd T**	**1.90**	**333**	P	**Pn**	**13 38 51.2**	**-1.0**
CESW	**Semis' Southwe**	**1.93**	**331**	P	**Pn**	**13 38 51.6**	**-1.0**
KIKV	**Kanaga Island**	**2.00**	**33**	P	**Pn**	**13 38 52.4**	**-1.2**
CETU	**Semis' Tuman**	**2.01**	**331**	P	**Pn**	**13 38 52.8**	**-0.9**
CEAP	**Semis' Anvil P**	**2.02**	**333**	P	**Pn**	**13 38 53.1**	**-0.7**
KICM	**Kanaga Island**	**2.02**	**32**	P	**Pn**	**13 38 53.0**	**-0.9**
KIRH	**Kanaga Island**	**2.04**	**34**	P	**Pn**	**13 38 53.2**	**-1.0**
KINC	**Kanaga Island**	**2.06**	**33**	P	**Pn**	**13 38 53.4**	**-1.0**
ADK	**Adak**	**2.19**	**40**	P	**Pn**	**13 38 54.8**	**-1.3**
ADK				S	**Sn**	**13 39 20.4**	**-1.6**
ADK	**Adak**	**2.19**	**40**	P	**Pn**	**13 38 54.8**	**-1.3**
ADK				S	**Sn**	**13 39 20.4**	**-1.6**
ETKA	**Kagalaska Isla**	**2.29**	**43**	P	**Pn**	**13 38 56.2**	**-1.4**
ADAG	**Mount Adagdak**	**2.29**	**39**	P	**Pn**	**13 38 57.1**	**-0.6**
LSSE	**Little Sitkin**	**2.33**	**318**	P	**Pn**	**13 38 57.2**	**-0.9**
LSSA	**Little Sitkin**	**2.36**	**318**	P	**Pn**	**13 38 57.7**	**-0.9**
LSNW	**Little Sitkin**	**2.38**	**318**	P	**Pn**	**13 38 57.7**	**-1.1**
GSCK	**Great Sitkin C**	**2.50**	**43**	P	**Pn**	**13 38 59.5**	**-1.0**
GSTD	**Great Sitkin T**	**2.54**	**43**	P	**Pn**	**13 39 00.1**	**-0.9**
GSTD				S	**Sn**	**13 39 30.4**	**-0.5**
GSMY	**Great Sitkin M**	**2.57**	**44**	P	**Pn**	**13 39 00.4**	**-1.1**
GSTR	**Great Sitkin T**	**2.61**	**43**	*e*Pn	**Pn**	**13 38 59.4**	**-2.6**
GSTR				*e*Sn	**Sn**	**13 39 28.7**	**-3.7**
KOKL	**Mount Kliuchef**	**3.64**	**53**	P	**Pn**	**13 39 16.2**	**0.0**
KOSE	**Korovin Southe**	**3.73**	**53**	P	**Pn**	**13 39 17.7**	**+0.3**
SMY	**Shemya**	**5.03**	**303**	P	**Pn**	**13 39 35.4**	**+0.3**
SMY	**Shemya**	**5.03**	**303**	P	**Pn**	**13 39 35.4**	**+0.3**
FX1	**Attu Island--F**	**5.60**	**301**	P	**Pn**	**13 39 42.0**	**-1.1**
FX1	**Attu Island--F**	**5.60**	**301**	Pn	**Pn**	**13 39 40.8**	**-2.2**
	14nm,0.3s,baz=144,slow=3.8,SNR=102						
FX1				Sn	**Sn**	**13 40 42.0**	**-4.2**
	12nm,0.3s,baz=282,slow=19,SNR=6.7						
NIKH	**Nikolski High**	**6.86**	**62**	P	**Pn**	**13 39 59.6**	**-0.6**
OKSO	**Okmok South**	**7.38**	**61**	P	**Pn**	**13 40 08.0**	**+0.5**
OKCE	**Okmok Cone E**	**7.41**	**60**	P	**Pn**	**13 40 08.7**	**+0.9**
MSOM	**Makushin Julie**	**8.22**	**59**	P	**Pn**	**13 40 18.7**	**-0.2**
MSOM	**Makushin Julie**	**8.22**	**59**	P	**Pn**	**13 40 18.7**	**-0.2**
MTBL	**Makushin Table**	**8.43**	**59**	P	**Pn**	**13 40 22.2**	**+0.3**
SPIA	**Saint Paul Isl**	**8.66**	**33**	P	**Pn**	**13 40 26.4**	**+1.5**
AKRB	**Akutan Reef Bi**	**8.82**	**59**	P	**Pn**	**13 40 27.7**	**+0.5**
LVA	**Lava Point**	**8.85**	**59**	P	**Pn**	**13 40 27.8**	**+0.2**
ZRO	**Akutan Zero**	**8.86**	**59**	P	**Pn**	**13 40 28.1**	**+0.5**
AKGG	**Akutan Green G**	**8.89**	**58**	P	**Pn**	**13 40 28.5**	**+0.4**
AKLV	**Akutan Long Va**	**8.89**	**59**	P	**Pn**	**13 40 28.5**	**+0.3**
AKUT	**Akutan**	**8.98**	**59**	*e*Pn	**Pn**	**13 40 26.8**	**-2.6**
WESE	**West Dahl East**	**9.75**	**59**	P	**Pn**	**13 40 40.2**	**+0.1**
FALS	**False Pass**	**10.52**	**58**	*e*Pn	**Pn**	**13 40 48.9**	**-1.6**
SDPT	**Sand Point**	**12.28**	**58**	*e*Pn	**Pn**	**13 41 12.1**	**-2.4**
CHGN	**Chignik**	**13.68**	**56**	*e*Pn	**Pn**	**13 41 30.4**	**-3.1**
PET	**Petropavlovsk**	**14.19**	**290⇑**	*i*P	**Pn**	**13 41 39.5**	**-1.0**
PET				*e*S	**Sn**	**13 44 18.2**	**+1.7**
PET				pmax	pmax		
	comp=Z,12nm,0.7s						
PEA0B	**Petropavlovsk-**	**14.77**	**290**	*e*Pn	**Pn**	**13 41 48.2**	**-0.2**
PETK	**Petropavlovsk-**	**14.77**	**290**	P	**Pn**	**13 41 49.4**	**+1.0**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**14.77**	**290**	Pn	**Pn**	**13 41 49.4**	**+1.0**
PETK	**Petropavlovsk-**	**14.77**	**290**	Pn	**Pn**	**13 41 49.4**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=94,slow=18,SNR=32						
OHAK	**Old Harbor**	**16.65**	**55**	*e*Pn	Pn	13 42 06.9	-5.7
	comp=Z,23nm,0.7s						
SVW2	**Sparrevohn**	**16.98**	**41**	*e*Pn	**Pn**	**13 42 16.7**	**-0.2**
	comp=Z,16nm,1.0s						
RSO	**Redoubt South**	**17.95**	**45**	*e*P	**Pn**	**13 42 28.0**	**-1.0**
SPU	**Mount Spurr**	**18.55**	**44**	*e*Pn	**Pn**	**13 42 36.2**	**0.0**
PPLA	**Purkeypile**	**19.26**	**39**	*e*P	**P**	**13 42 41.8**	**-1.9**
	comp=Z,70nm,1.4s						
PMR	**Palmer**	**20.01**	**44**	*e*P	**P**	**13 42 50.0**	**-1.6**
PMR				pmax	pmax		
	comp=Z,21nm,1.6s						
PMR	**Palmer**	**20.01**	**44**	*e*P	**P**	**13 42 50.0**	**-1.6**
	comp=Z,21nm,1.6s						
TRF	**Thorofare Moun**	**20.28**	**38**	*e*P	**P**	**13 42 53.4**	**-1.5**
	comp=Z,52nm,1.6s						
SML	**Sawmill**	**20.44**	**44**	*e*P	**P**	**13 42 54.7**	**-1.7**
SML	**Sawmill**	**20.44**	**44**	*e*P	**P**	**13 42 54.7**	**-1.7**
	comp=Z,2.8nm,1.0s						
MCK	**McKinley**	**20.95**	**38**	*e*P	**P**	**13 42 59.9**	**-1.9**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**20.95**	**38**	*e*P	**P**	**13 42 59.9**	**-1.9**
	comp=Z,9.6nm,0.8s						
COLA	**College**	**21.89**	**36**	*e*P	**P**	**13 43 10.6**	**-1.2**
COLA				pmax	pmax		
	comp=Z,45nm,0.9s						
COLA	**College**	**21.89**	**36**	*e*P	**P**	**13 43 10.6**	**-1.2**
	comp=Z,45nm,0.9s						
BMRM	**Bremner River**	**21.91**	**48**	*e*P	**P**	**13 43 10.8**	**-1.3**
	comp=Z,13nm,1.0s						
PAX	**Paxson**	**22.09**	**42**	*e*P	**P**	**13 43 13.2**	**-1.0**
PAX				*e*S	**S**	**13 47 15.3**	**-0.2**
PAX				pmax	pmax		
	comp=Z,34nm,1.7s						
PAX	**Paxson**	**22.09**	**42**	*e*P	**P**	**13 43 13.2**	**-1.0**
	comp=Z,34nm,1.7s						
PAX				*e*S	**S**	**13 47 15.3**	**-0.2**
ILAR	**Eielson Array**	**22.21**	**37**	P	**P**	**13 43 13.7**	**-1.7**
ILAR				PcP	**PcP**	**13 47 10.0**	**-0.5**
ILAR				pPcP		13 47 22.8	
ILAR	**Eielson Array**	**22.21**	**37**	P	**P**	**13 43 13.7**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=240,slow=9.0,SNR=18						
ILAR				PcP	**PcP**	**13 47 10.0**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=268,slow=3.5,SNR=15						
ILAR				pPcP		13 47 22.8	
	comp=Z,0.8nm,0.6s,baz=279,slow=3.6,SNR=6.9						
ILAR				LR	LR	13 53 24.1	
	comp=Z,155nm,18.8s,baz=211,slow=41						
COLD	**Coldfoot**	**22.30**	**30**	*e*P	**P**	**13 43 15.0**	**-1.2**
	comp=Z,18nm,1.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**22.84**	**43**	*e*P	**P**	**13 43 21.1**	**-1.0**
EGAK	**Eagle**	**24.49**	**39**	*e*P	**P**	**13 43 34.4**	**-3.4**
	comp=Z,22nm,1.2s						
YUK	**Yuzh-Kuril'sk**	**24.57**	**269**	*e*P	**P**	**13 43 34.6**	**-4.1**
YUK				*e*S	**S**	**13 47 50.3**	**-6.8**
YUK				pmax	pmax		
	comp=N,35nm,0.9s						
YUK				pmax	pmax		
	comp=Z,67nm,0.9s						
YUK				pmax	pmax		
	comp=E,17nm,0.5s						
DAWY	**Dawson**	**25.02**	**41**	*e*P	**P**	**13 43 41.0**	**-1.7**
HYT	**Haines Junctio**	**25.30**	**49**	*e*P	**P**	**13 43 45.2**	**-0.1**
YSS	**Yuzh-Sakhalins**	**25.36**	**278⇓**	*e*P	**P**	**13 43 48.1**	**+2.3**
YSS				*e*		13 44 00.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
ASAJ	**Asahikawa**	**26.63**	**272**	*e*P	**P**	**13 43 57.5**	**+0.2**
	comp=Z,5.3nm,1.0s						
ASAJ	**Asahikawa**	**26.63**	**272**	P	**P**	**13 43 58.0**	**+0.6**
	comp=Z,11nm,0.9s,baz=63,slow=4.3,SNR=17						
INK	**Inuvik**	**28.46**	**34**	P	**P**	**13 44 12.7**	**-0.8**
INK	**Inuvik**	**28.46**	**34**	P	**P**	**13 44 12.7**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=255,slow=9.7,SNR=13						
INK				LR	LR	13 57 33.0	
	comp=Z,109nm,19.9s,baz=250,slow=40						
DLBC	**Dease Lake**	**29.09**	**55**	*e*P	**P**	**13 44 18.1**	**-1.1**
DLBC	**Dease Lake**	**29.09**	**55**	P	**P**	**13 44 19.9**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=298,slow=11,SNR=7.8						
DLBC				LR	LR	13 55 08.7	
	comp=Z,81nm,18.3s,baz=279,slow=35						
HABR	**Khabarovsk**	**29.67**	**285**	*e*P	**P**	**13 44 23.1**	**-1.3**
HABR				*e*		13 47 28.1	
HABR				*e*S	**S**	**13 49 18.3**	**+0.8**
HABR				*e*SS	**SnSn**	**13 50 47.1**	**-0.7**
HABR				*i*		13 55 01.4	
HABR				pmax	pmax		
	comp=Z,11nm,1.6s						
HABR				pmax	pmax		
	comp=N,8.0nm,1.1s						
HABR				pmax	pmax		
	comp=E,14nm,0.8s						
HABR				MLR	MLR		
	comp=Z,39nm,16.0s						
YAK	**Yakutsk**	**30.13**	**313**	*e*P	**P**	**13 44 27.2**	**-1.1**
YAK				*e*		13 45 22.9	
YAK				*e*S	**S**	**13 49 23.4**	**-1.1**
YAK				*e*SSS	SSS	13 51 23.3	
YAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				smax	smax		
	comp=N,58nm,2.5s						
YAK				smax	smax		
	comp=E,20nm,1.5s						
OPA	**Opana**	**32.90**	**142**	*e*P	**P**	**13 44 52.6**	**-0.5**
OPA	**Opana**	**32.90**	**142**	*e*P	**P**	**13 44 52.6**	**-0.5**
KIP	**Kipapa**	**33.14**	**143**	*e*P	**P**	**13 44 55.5**	**+0.4**
KIP	**Kipapa**	**33.14**	**143**	*e*P	**P**	**13 44 55.5**	**+0.4**
	comp=E,539nm,2.1s						
USRK	**Ussuriysk Arna**	**33.37**	**279**	P	**P**	**13 44 56.6**	**-0.4**
	comp=E,3.1nm,0.8s,baz=56,slow=9.8,SNR=11						
USRK				PcP	**PcP**	**13 47 38.9**	**+1.0**
	comp=E,1.4nm,0.7s,baz=69,slow=5.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**33.53**	**263**	P	**P**	**13 44 59.2**	**+0.7**
MJAR				PcP	**PcP**	**13 47 38.9**	**+0.3**
MJAR	**Matsushiro Arr**	**33.53**	**263**	P	**P**	**13 44 59.2**	**+0.7**
	comp=E,1.5nm,0.8s,baz=40,slow=8.7,SNR=5.6						
MJAR				PcP	**PcP**	**13 47 38.9**	**+0.3**
	comp=E,1.4nm,0.9s,baz=98,slow=2.8,SNR=4.3						
VLA	**Vladivostok**	**33.96**	**277**	*e*P	**P**	**13 45 02.2**	**+0.1**
MDJ	**Mudanjiang**	**34.69**	**281**	P	**P**	**13 45 08.7**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**36.10**	**45**	P	**P**	**13 45 21.4**	**+1.1**
YKA	**Yellowknife Ar**	**36.10**	**45**	P	**P**	**13 45 21.4**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=281,slow=8.8,SNR=7.4						
CN2	**Changchun**	**37.70**	**282**	*e*P	**P**	**13 45 33.8**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YBH	**Yreka Blue Hor**	**39.15**	**80**	*e*P	**P**	**13 45 45.2**	**-1.2**
	comp=Z,2.0nm,0.8s						
YBH	**Yreka Blue Hor**	**39.15**	**80**	P	**P**	**13 45 47.7**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=323,slow=2.3,SNR=10						
NEW	**Newport**	**39.38**	**68**	*e*P	**P**	**13 45 47.9**	**-0.4**
	comp=Z,7.2nm,0.9s						
NEW	**Newport**	**39.38**	**68**	P	**P**	**13 45 48.6**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=292,slow=8.0,SNR=8.4						
NEW	**Newport**	**39.38**	**68**	⇑P	**P**	**13 45 48.3**	**0.0**
	baz=39,SNR=5.4						
EDM	**Edmonton**	**39.46**	**59**	*e*P	**P**	**13 45 48.9**	**0.0**
EDM	**Edmonton**	**39.46**	**59**	*e*P	**P**	**13 45 48.9**	**0.0**
KSRS	**Korea Array**	**39.58**	**272**	P	**P**	**13 45 51.1**	**+1.2**
	comp=Z,5.2nm,0.8s,baz=58,slow=8.0,SNR=25						
KSRS				PcP	**PcP**	**13 47 57.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=66,slow=4.3,SNR=4.2						
KSAR	**Wonju Array Be**	**39.61**	**272**	P	**P**	**13 45 51.1**	**+0.9**
KSAR				PcP	**PcP**	**13 47 57.0**	**+0.2**
JNU	**Nakatsue**	**40.36**	**264**	P	**P**	**13 45 57.3**	**+0.7**
JNU	**Nakatsue**	**40.36**	**264**	P	**P**	**13 45 57.3**	**+0.7**
	comp=Z,12nm,0.8s,baz=170,slow=14,SNR=6.8						
B13A	**Whitefish**	**40.91**	**67**	⇑P	**P**	**13 46 01.0**	**+0.1**
	baz=41						
WALA	**Waterton Lakes**	**40.91**	**66**	*e*P	**P**	**13 46 00.3**	**-0.8**
	comp=Z,0.3nm,0.9s						
BSMT	**Bassoo Peak**	**40.96**	**68**	*e*P	**P**	**13 46 01.2**	**-0.3**
	comp=Z,5.8nm,0.8s						
A14A	**Double T Ranch**	**41.24**	**65**	⇑P	**P**	**13 46 03.7**	**0.0**
	baz=41,SNR=10						
WVOR	**Wild Horse Val**	**41.34**	**77**	*e*P	**P**	**13 46 03.4**	**-1.2**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WVOR	**Wild Horse Val**	**41.34**	**77**	*e*P	**P**	**13 46 03.4**	**-1.2**
	comp=Z,3.0nm,0.7s						
B14A	**Marquette Ranc**	**41.62**	**66**	⇓P	**P**	**13 46 06.9**	**0.0**
	baz=41,SNR=7.9						
A15A	**Johnson Ranch,**	**41.64**	**65**	⇓P	**P**	**13 46 06.6**	**-0.4**
	baz=41						
MSO	**Missoula**	**41.96**	**69**	*e*P	**P**	**13 46 09.3**	**-0.4**
	comp=Z,8.8nm,1.1s						
MSO	**Missoula**	**41.96**	**69**	⇑P	**P**	**13 46 09.4**	**-0.2**
	baz=42						
SLMT	**Seeley Lake**	**42.02**	**68**	*e*P	**P**	**13 46 09.8**	**-0.4**
	comp=Z,6.2nm,1.0s						
B15A	**Bradely Ranch,**	**42.05**	**66**	⇑P	**P**	**13 46 09.8**	**-0.6**
	baz=42,SNR=8.7						
C15A	**Salmond Ranch,**	**42.29**	**67**	⇓P	**P**	**13 46 12.4**	**+0.1**
	baz=42,SNR=6.6						
CHMT	**Chamberlain Mo**	**42.33**	**68**	*e*P	**P**	**13 46 12.1**	**-0.7**
PAHR	**Pah Rah Range**	**42.37**	**81**	*e*P	**P**	**13 46 11.2**	**-1.9**
	comp=Z,5.9nm,0.8s						
B16A	**M & M Farms, S**	**42.51**	**65**	⇑P	**P**	**13 46 13.9**	**-0.2**
	baz=42						
C16A	**Fuhringer Ranc**	**42.78**	**66**	⇑P	**P**	**13 46 16.0**	**-0.3**
	baz=42						
A17A	**Triple J Farms**	**42.84**	**64**	⇑P	**P**	**13 46 16.1**	**-0.6**
	baz=43,SNR=7.5						
B17A	**L&G Farms, Che**	**43.10**	**65**	⇑P	**P**	**13 46 18.4**	**-0.4**
	baz=43						
A18A	**Metzger Ranch,**	**43.34**	**64**	⇑P	**P**	**13 46 20.3**	**-0.4**
	baz=43						
HLID	**Hailey**	**43.35**	**73**	*e*P	**P**	**13 46 19.9**	**-1.1**
	comp=Z,2.7nm,0.9s						
HLID	**Hailey**	**43.35**	**73**	⇓P	**P**	**13 46 20.8**	**-0.3**
	baz=43						
C17A	**Wharram Farm,**	**43.44**	**66**	⇑P	**P**	**13 46 21.3**	**-0.3**
	baz=43						
DLMT	**Dillon**	**43.51**	**70**	*e*P	**P**	**13 46 21.3**	**-0.9**
	comp=Z,39nm,2.5s						
MCMT	**McKenzie Canyo**	**43.63**	**71**	*e*P	**P**	**13 46 22.6**	**-0.8**
	comp=Z,1.6nm,0.6s						
B18A	**Beardsley Farm**	**43.64**	**64**	⇓P	**P**	**13 46 23.1**	**-0.1**
	baz=43,SNR=6.0						
D17A	**Six Diamond Ra**	**43.73**	**66**	⇓P	**P**	**13 46 23.8**	**-0.2**
	baz=44						
I14A	**Mackay**	**43.74**	**72**	⇑P	**P**	**13 46 24.3**	**0.0**
	baz=44						
NVAR	**Mina Array Bea**	**43.79**	**81**	P	**P**	**13 46 25.8**	**+1.0**
NVAR				PcP	**PcP**	**13 48 11.7**	**+0.9**
NVAR	**Mina Array Bea**	**43.79**	**81**	P	**P**	**13 46 25.8**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=293,slow=8.6,SNR=13						
NVAR				PcP	**PcP**	**13 48 11.7**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=284,slow=3.4,SNR=5.0						
EGMT	**Eagleton**	**43.84**	**65**	*e*P	**P**	**13 46 23.6**	**-1.2**
	comp=Z,13nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGMT	**Eagleton**	**43.84**	**65**	⇑P	**P**	**13 46 24.7**	**-0.1**
	baz=44						
BOZ	**Bozeman (W)**	**43.94**	**69**	*e*P	**P**	**13 46 24.2**	**-1.5**
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BOZ	**Bozeman (W)**	**43.94**	**69**	*e*P	**P**	**13 46 24.2**	**-1.5**
	comp=Z,8.9nm,1.1s						
A19A	**Klindworth Far**	**43.97**	**63**	⇑P	**P**	**13 46 25.9**	**0.0**
	baz=44						
E17A	**Martinsdale**	**43.98**	**67**	⇑P	**P**	**13 46 26.0**	**-0.1**
	baz=44						
B19A	**Brinkman Farms**	**44.09**	**64**	⇑P	**P**	**13 46 26.5**	**-0.3**
	baz=44,SNR=6.0						
D18A	**Linhart Farms,**	**44.23**	**66**	⇓P	**P**	**13 46 28.4**	**+0.4**
	baz=44						
F17A	**Fitzpatrick Pl**	**44.38**	**68**	⇑P	**P**	**13 46 29.1**	**-0.2**
	baz=44,SNR=5.7						
C19A	**Slack Wire Ran**	**44.39**	**65**	⇑P	**P**	**13 46 29.5**	**+0.3**
	baz=44,SNR=13						
A20A	**Cobblestone Ra**	**44.47**	**63**	⇑P	**P**	**13 46 29.5**	**-0.3**
	baz=44,SNR=5.7						
E18A	**Harlowton**	**44.48**	**67**	⇑P	**P**	**13 46 30.2**	**+0.2**
	baz=44						
B20A	**Solberg Farm,**	**44.63**	**64**	⇓P	**P**	**13 46 30.6**	**-0.5**
	baz=44						
H16A	**Russell Place,**	**44.67**	**70**	⇑P	**P**	**13 46 31.5**	**-0.2**
	baz=44						
D19A	**Cripps Ranch,**	**44.78**	**66**	⇓P	**P**	**13 46 31.9**	**-0.5**
	baz=44						
FFC	**Flin Flon**	**44.90**	**53**	*e*P	**P**	**13 46 32.3**	**-0.7**
FFC	**Flin Flon**	**44.90**	**53**	*e*P	**P**	**13 46 32.3**	**-0.7**
	comp=Z,116nm,3.0s						
F18A	**Big Timber**	**44.95**	**68**	⇑P	**P**	**13 46 33.8**	**0.0**
	baz=45						
I16A	**Newdale**	**44.97**	**71**	⇓P	**P**	**13 46 34.2**	**+0.2**
	baz=45						
A21A	**Bergtoll Ranch**	**44.98**	**62**	⇑P	**P**	**13 46 33.6**	**-0.2**
	baz=45,SNR=6.1						
C20A	**Veseth Ranch,**	**45.01**	**64**	⇓P	**P**	**13 46 34.1**	**-0.1**
	baz=45,SNR=10						
E19A	**Rath Farm, Rou**	**45.20**	**66**	⇑P	**P**	**13 46 35.7**	**0.0**
	baz=45,SNR=5.0						
B21A	**Ellsworth Farm**	**45.21**	**63**	⇓P	**P**	**13 46 36.1**	**+0.4**
	baz=45						
H17A	**Grant Village**	**45.24**	**70**	⇓P	**P**	**13 46 36.1**	**-0.2**
	baz=45						
D20A	**Manuel Ranch,**	**45.26**	**65**	⇑P	**P**	**13 46 35.9**	**-0.2**
	baz=45						
G18A	**Lazy EL Ranch,**	**45.35**	**68**	⇑P	**P**	**13 46 36.6**	**-0.4**
	baz=45						
ISA	**Isabella**	**45.35**	**85**	⇓P	**P**	**13 46 36.9**	**-0.1**
	baz=45						
RRI2	**Red Ridge**	**45.36**	**71**	*e*P	**P**	**13 46 36.5**	**-0.7**
	comp=Z,3.9nm,0.8s						
C21A	**Desert Coulee**	**45.48**	**64**	⇓P	**P**	**13 46 37.7**	**-0.1**
	baz=45,SNR=7.8						
A22A	**Carney Farms,**	**45.55**	**62**	⇓P	**P**	**13 46 38.3**	**-0.1**
	baz=45,SNR=6.3						
R11A	**Troy Canyon, C**	**45.56**	**80**	⇑P	**P**	**13 46 39.0**	**+0.2**
	baz=45,SNR=6.3						
E20A	**Meyer Farm, Mu**	**45.57**	**66**	⇓P	**P**	**13 46 38.6**	**0.0**
	baz=45						
RLMT	**Red Lodge**	**45.63**	**68**	*e*P	**P**	**13 46 38.1**	**-1.1**
	comp=Z,8.1nm,0.8s						
H18A	**Shoshone NF, C**	**45.63**	**69**	⇑P	**P**	**13 46 39.3**	**-0.1**
	baz=45						
F20A	**Billings**	**45.93**	**67**	⇓P	**P**	**13 46 41.5**	**0.0**
	baz=46						
D21A	**La Casta Ranch**	**45.93**	**65**	⇓P	**P**	**13 46 41.5**	**0.0**
	baz=46						
A23A	**Redstone**	**46.16**	**61**	⇓P	**P**	**13 46 43.2**	**0.0**
	baz=46						
G20A	**Bridger**	**46.20**	**68**	⇑P	**P**	**13 46 43.5**	**-0.2**
	baz=46,SNR=8.3						
C22A	**Vida**	**46.22**	**63**	⇑P	**P**	**13 46 43.3**	**-0.4**
	baz=46						
DUG	**Dugway**	**46.22**	**76**	⇓P	**P**	**13 46 43.2**	**-0.7**
	baz=46						
B23A	**Brockton**	**46

HHC LR LR
comp=Z,340nm,16.8s
PFO Pinyon Flat Ob 47.94 85 LR LR 14 03 04.3
comp=Z,24nm,20.2s,baz=112,slow=31
I22A 9 Mile Ranch, 47.97 68 ⇓P **P 13 46 57.5 0.0**
baz=48
Q16A Castle Valley 48.00 76 ⇓P **P 13 46 57.4 -0.5**
baz=48
F24A Ekalaka 48.08 65 ⇓P **P 13 46 58.2 -0.1**
baz=48
K21A Alcova 48.23 70 ⇓P **P 13 46 59.5 -0.1**
baz=48
J22A Midwest 48.24 69 ⇑P **P 13 46 59.3 -0.4**
baz=48
IRM Iron Mountain 48.42 84 ⇓P **P 13 47 00.9 -0.1**
baz=48
O19A Miners Draw (B 48.45 74 ⇓P **P 13 47 01.1 -0.1**
baz=48
L21A Rawlins 48.54 71 ⇑P **P 13 47 01.9 -0.1**
baz=48
H24A Dirks Ranch, A 48.63 66 ⇓P **P 13 47 02.2 -0.3**
baz=48
W13A Hualapai Mount 48.63 82 ⇓P **P 13 47 02.3 -0.5**
baz=48
NJ2 Nanjing 48.77 273 *e*P **P 13 47 04.2 +0.6**
NJ2 pmax pmax
comp=Z,16nm,1.0s
U15A North Rim 48.81 80 ⇓P **P 13 47 03.6 -0.7**
baz=49
E26A Carlson Angus 48.87 63 ⇑P **P 13 47 04.0 -0.3**
baz=49
P19A Cripple Cowboy 48.93 74 ⇓P **P 13 47 04.8 -0.3**
baz=49
L22A Ellis Ranch, M 49.07 70 ⇓P **P 13 47 05.8 -0.3**
baz=49
Y12C Blythe 49.08 84 ⇑P **P 13 47 05.9 -0.1**
baz=49
O20A White River Ci 49.09 73 ⇓P **P 13 47 05.8 -0.4**
baz=49
K23A Bowen Ranch, D 49.13 69 ⇑P **P 13 47 06.1 -0.4**
baz=49
J24A Dixon Ranch, L 49.38 68 ⇑P **P 13 47 06.8 -1.5**
baz=49
G26A Maurine 49.46 64 ⇑P **P 13 47 08.3 -0.5**
baz=49
F27A Lemmon 49.46 64 ⇑P **P 13 47 08.4 -0.5**
baz=49
L23A Garrett 49.46 70 ⇑P **P 13 47 08.3 -0.8**
baz=49,SNR=6.3
G27A Dupree 49.80 64 ⇓P **P 13 47 10.9 -0.5**
baz=50
P21A Newcastle 49.94 73 ⇑P **P 13 47 12.3 -0.5**
baz=50
N23A Red Feather La 50.04 71 ⇑P **P 13 47 13.2 -0.4**
baz=50
R20A Redvale 50.18 75 ⇑P **P 13 47 14.1 -0.5**
baz=50
ULM Lac du Bonnet 50.40 56 P **P 13 47 15.3 -0.4**
ULM Lac du Bonnet 50.40 56 P **P 13 47 15.3 -0.4**
comp=Z,2.1nm,0.5s,baz=304,slow=8.1,SNR=3.3
S20A Disappointment 50.41 76 ⇑P **P 13 47 16.7 +0.3**
baz=50
X16A Lo Mia Camp, P 50.62 81 ⇑P **P 13 47 17.6 -0.3**
baz=50
Q22A Crested Butte, 50.68 74 ⇓P **P 13 47 18.0 -0.4**
baz=50
H28A Mission Ridge 50.73 64 ⇑P **P 13 47 18.0 -0.5**
baz=50
S21A Coal Bank Pass 50.87 75 ⇑P **P 13 47 19.8 -0.1**
baz=51
ISCO Idaho Springs 50.90 72 ⇑P **P 13 47 19.7 -0.5**
baz=51
W18A Petrified Fore 51.25 79 ⇑P **P 13 47 21.7 -0.9**
baz=51
214A Organ Pipe Nat 51.34 85 ⇓P **P 13 47 22.8 -0.4**
baz=51
X18A Snowflake 51.49 80 ⇓P **P 13 47 25.1 +0.7**
baz=51
AGMN Agassiz Nation 51.52 58 *e*P **P 13 47 23.9 -0.4**
comp=Z,66nm,2.5s
SPITS Spitsbergen Ar 51.52 356 P **P 13 47 24.0 +0.1**
SPITS pP **pP 13 47 35.9 +1.5**
SPITS Spitsbergen Ar 51.52 356 P **P 13 47 24.0 +0.1**
comp=Z,2.4nm,0.4s,baz=46,slow=7.1,SNR=11
SPITS pP **pP 13 47 35.9 +1.5**
comp=Z,3.5nm,0.5s,baz=45,slow=7.2,SNR=5.8
U21A Nageezi 51.73 77 ⇓P **P 13 47 26.5 +0.3**
baz=52
R23A Moffat 51.76 74 ⇑P **P 13 47 26.1 -0.4**
baz=52
T22A Edith 51.83 76 ⇓P **P 13 47 26.6 -0.4**
baz=52
BRSD Miller 52.06 63 ⇓P **P 13 47 27.5 -0.8**
baz=52
HVS Khovu-Aksy 52.14 307 *e*P **P 13 47 27.5 -1.4**
U22A Llaves 52.26 76 ⇓P **P 13 47 29.5 -0.7**
baz=52
U23A El Rito 52.70 76 ⇓P **P 13 47 33.4 -0.1**
baz=52
Y20A Horse Springs, 52.89 80 ⇑P **P 13 47 34.8 0.0**
baz=53
X21A Alamocita Cree 52.91 79 ⇑P **P 13 47 34.4 -0.7**
baz=53
S25A Robets Cordova 52.95 73 ⇑P **P 13 47 34.6 -0.7**
baz=53
Y21A Point of Rocks 53.27 79 ⇑P **P 13 47 37.9 +0.3**
baz=53
Z20A Nine Sixteen R 53.27 80 ⇓P **P 13 47 37.7 +0.1**
baz=53
X22A Bernardo 53.36 78 ⇑P **P 13 47 37.7 -0.6**
baz=53
S26A Kim 53.56 73 ⇑P **P 13 47 40.4 +0.7**
baz=53
V24A Rampart Ranch, 53.66 76 ⇓P **P 13 47 40.8 +0.2**
baz=53
Z21A St. Cloud Mine 53.72 80 ⇓P **P 13 47 41.0 0.0**
baz=54
Y22A Socorro 53.76 79 ⇓P **P 13 47 41.2 0.0**
baz=54
ECSD EROS Data Cent 53.83 63 *e*P **P 13 47 41.3 -0.1**
comp=Z,4.9nm,1.1s
W24A Lazy 6 Ranch, 53.91 76 ⇑P **P 13 47 41.7 -0.7**
baz=54
V25A Rancho No Teng 54.00 75 ⇑P **P 13 47 42.9 0.0**
baz=54
EYMN Ely 54.08 56 *e*P **P 13 47 43.0 -0.1**
comp=Z,11nm,1.2s
220A Playas Peak, P 54.11 82 ⇑P **P 13 47 43.8 +0.1**
baz=54
121A Cookes Peak, D 54.16 80 ⇓P **P 13 47 44.5 +0.3**
baz=54
U26A Atchley Ranch, 54.18 74 ⇓P **P 13 47 44.6 +0.3**
baz=54
Z22A Elephant Butte 54.20 79 ⇑P **P 13 47 44.5 0.0**
baz=54
Y23A Lovelace Mesa, 54.33 78 ⇓P **P 13 47 45.7 +0.3**
baz=54
320A Kipp Ranch, An 54.48 82 ⇑P **P 13 47 47.2 +0.7**
baz=54
W25A X Bar L Ranch, 54.49 76 ⇑P **P 13 47 46.6 0.0**
baz=54
V26A Tequesquite Ra 54.54 75 ⇑P **P 13 47 46.2 -0.6**
baz=54
Y24A Capitan 54.73 78 ⇑P **P 13 47 48.6 +0.3**
baz=54
ZAA0 Zalesovo Array 54.77 314 *e*P **P 13 47 47.2 -0.8**
ZALV Zalesovo Beam 54.77 314 P **P 13 47 47.8 -0.3**
ZALV 13 48 50.6
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 54.77 314 P **P 13 47 47.8 -0.3**
ZALV PcP **PcP 13 48 50.5 +0.4**
ZALV Zalesovo Beam 54.77 314 P **P 13 47 47.8 -0.3**
comp=Z,1.6nm,0.5s,baz=20,slow=4.9,SNR=7.1
ZALV PcP **PcP 13 48 50.5 +0.4**
comp=Z,3.5nm,0.8s,baz=18,slow=6.2,SNR=5.3
NVS Novosibirsk 54.93 316 *e*P **P 13 47 48.4 -0.8**
Z24A Sheeppen Canyo 55.16 78 ⇓P **P 13 47 51.4 0.0**
baz=55
124A Stringfield Ra 55.52 79 ⇓P **P 13 47 54.0 -0.1**
baz=55
LZH Lanzhou 55.63 287 *e*P **P 13 47 53.8 -0.9**
LZH pP pP 13 47 57.0 -8.3
LZH PP **PP 13 49 59.0 +0.1**
LZH pmax pmax
comp=Z,17nm,1.4s
LZH pmax pmax
comp=Z,65nm,8.0s
LZH LR LR
comp=N,330nm,15.2s
LZH LR LR
comp=E,330nm,15.6s
LZH LR LR
comp=Z,380nm,18.7s
224A Cornudas Mount 55.89 79 ⇑P **P 13 47 56.7 0.0**
baz=56
GTA Gaotai 55.92 292 ⇓P **P 13 47 57.4 +0.6**
GTA pP pP 13 48 01.9 -5.4
GTA sP sP 13 48 04.5 -6.9
GTA S **S 13 55 44.3 +2.2**
GTA sS sS 13 55 50.9 -8.6
GTA SS **SS 13 59 29.4 +1.7**
GTA pmax pmax
comp=Z,12nm,0.8s
GTA LR LR
comp=N,250nm,13.5s
GTA LR LR
comp=E,160nm,15.9s
GTA LR LR
comp=Z,110nm,15.0s
125A Gardner Draw, 56.05 78 ⇑P **P 13 47 57.2 -0.6**
baz=56
Z26A Caprock 56.07 77 ⇓P **P 13 47 58.6 +0.7**
baz=56
MNTX Cornudas Mount 56.23 80 *e*P **P 13 47 57.0 -1.9**
comp=Z,2.4nm,0.9s
225A Deer Hill, Car 56.31 79 ⇓P **P 13 47 59.0 -0.7**
baz=56
325A Bean Ranch, Si 56.71 80 ⇑P **P 13 48 02.6 0.0**
baz=56
326A Caldwell Ranch 57.38 79 ⇑P **P 13 48 07.2 +0.1**
baz=57
128A Castleberry Fa 57.44 77 ⇓P **P 13 48 06.7 -0.9**
baz=57
426A McDonald Obser 57.78 80 ⇑P **P 13 48 08.8 -1.3**
baz=58
427A Hayter Ranch, 58.06 79 ⇓P **P 13 48 11.4 -0.6**
baz=58
328A Wristen Ranch, 58.07 78 ⇓P **P 13 48 11.8 -0.2**
baz=58
526A Mary Lane Ranc 58.16 80 ⇑P **P 13 48 11.8 -0.9**
baz=58
527A Woodward Ranch 58.40 80 ⇓P **P 13 48 14.8 +0.3**
baz=58
626A Big Bend Ranch 58.48 81 ⇓P **P 13 48 14.3 -0.5**
baz=58
KEV Kevo 58.84 350 *e*P **P 13 48 16.8 +0.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 58.84 350 *e*p **P 13 48 16.8 +0.1**
comp=Z,1.3nm,0.4s
528A Cox Ranch, San 58.91 79 ⇑P **P 13 48 17.3 -0.6**
baz=59
TXAR Lajitas Array 58.92 80 P **P 13 48 17.8 -0.2**
TXAR PcP **PcP 13 49 07.5 +0.6**
TXAR Lajitas Array 58.92 80 P **P 13 48 17.8 -0.2**
comp=Z,1.2nm,0.7s,baz=305,slow=5.1,SNR=8.2
TXAR PcP **PcP 13 49 07.5 +0.6**
comp=Z,3.0nm,0.8s,baz=271,slow=2.5,SNR=11
627A Terlingua Ranc 59.02 80 ⇓P **P 13 48 18.4 -0.3**
baz=59
CD2 Chengdu 59.13 282 *e*P **P 13 48 19.3 -0.1**
CD2 pP pP 13 48 24.8 -5.2
CD2 sP sP 13 48 27.2 -6.9
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,40nm,6.2s
ARCES ARCESS Array B 59.22 350 P **P 13 48 19.0 -0.3**
ARCES pP **pP 13 48 31.1 +1.1**
ARCES ARCESS Array B 59.22 350 P **P 13 48 19.0 -0.3**
comp=Z,1.7nm,0.5s,baz=26,slow=8.6,SNR=37
ARCES pP **pP 13 48 31.1 +1.1**
comp=Z,1.9nm,0.4s,baz=26,slow=8.2,SNR=5.9
ARCES LR LR 14 13 38.8
comp=Z,29nm,18.7s,baz=92,slow=36
628A Black Gap, Mar 59.31 80 ⇓P **P 13 48 20.8 +0.1**
baz=59
LVZ Lovozero 59.54 346 *e*P **P 13 48 20.5 -1.1**
LVZ pmax pmax
comp=Z,10.0nm,0.9s
232A Coleman 59.70 75 ⇑P **P 13 48 22.4 -0.9**
baz=60
KURK Kurchatov 59.76 314 P **P 13 48 24.3 +1.0**
KURK *PP **pP 13 48 36.7 +2.7**
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 59.76 314 P **P 13 48 24.2 +1.0**
KURK pP **pP 13 48 36.6 +2.7**
530A J-C Ranch, Com 59.83 78 ⇑P **P 13 48 24.0 -0.2**
baz=60
KURBB Kurchatov Arra 59.87 314 P **P 13 48 24.2 +0.2**
comp=Z,10.0nm,0.7s,baz=44,slow=6.6,SNR=87
KURBB pP **pP 13 48 36.6 +2.0**
comp=Z,4.2nm,0.6s,baz=43,slow=6.7,SNR=8.2
WMQ Urumqi 59.90 303 P **P 13 48 26.7 +2.2**
WMQ pmax pmax
comp=Z,7.0nm,1.1s
431A Sonora 59.93 77 ⇓P **P 13 48 24.6 -0.2**
baz=60
332A Millersview 59.99 76 ⇑P **P 13 48 24.4 -0.8**
baz=60
GYA Guiyang 60.37 277 *e*P **P 13 48 28.7 +0.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 60.69 309 *i*P **P 13 48 29.1 -0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 60.69 309 *e*P **P 13 48 27.6 -2.2**
MKAR Makanchi Array 60.69 309 *e*P **P 13 48 29.5 -0.3**
MKAR *PP **pP 13 48 42.1 +1.6**
MKAR Makanchi Array 60.69 309 *e*P **P 13 48 29.4 -0.3**
MKAR pP **pP 13 48 42.0 +1.6**
MKAR Makanchi Array 60.69 309 P **P 13 48 29.3 -0.5**
comp=Z,2.4nm,0.5s,baz=49,slow=5.8,SNR=34
MKAR pP **pP 13 48 42.0 +1.6**
comp=Z,2.2nm,0.6s,baz=54,slow=7.3,SNR=9.0
MKAR LR LR 14 13 47.9
comp=Z,32nm,18.4s,baz=260,slow=35
532A Rocksprings 60.75 77 ⇑P **P 13 48 30.2 -0.2**
baz=60
631A Perdido Creek 60.82 78 ⇓P **P 13 48 30.1 -0.8**
baz=61
SCHQ Schefferville 60.97 38 P **P 13 48 32.3 +0.7**
SCHQ Schefferville 60.97 38 P **P 13 48 32.3 +0.7**
comp=Z,6.2nm,0.9s,baz=337,slow=11,SNR=4.1
SCHQ LR LR 14 15 34.5
comp=Z,62nm,18.5s,baz=276,slow=37
BVA0 Borovoye Array 61.72 320 *i*P **P 13 48 36.7 +0.1**
BVA0 pmax pmax
comp=Z,9.0nm,0.5s
BRVK Borovoye 61.74 320 *d*iP **P 13 48 37.2 +0.5**
BRVK pmax pmax
comp=Z,13nm,1.3s
BRVK Borovoye 61.74 320 *e*P **P 13 48 37.0 +0.3**
comp=Z,11nm,0.7s
HNR Honiara 62.20 204 LR LR 14 11 58.5
comp=Z,44nm,21.0s,baz=104,slow=32
TMCR Tamitsa 62.35 343 *e*P **P 13 48 38.3 -2.3**
TMCR pmax pmax
comp=Z,13nm,0.6s
ARU Arti 63.55 328 *d*iP **P 13 48 49.2 +0.5**
ARU S **S 13 57 23.9 +4.5**
ARU SS **SS 14 01 29.6 +3.7**
ARU pmax pmax
comp=Z,14nm,1.0s
KMI Kunming 63.80 278 P **P 13 48 51.2 0.0**
KMI pmax pmax
comp=Z,7.0nm,1.6s
KAF Kangasniemi 66.22 347 *e*P **P 13 49 06.0 0.0**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 66.22 347 *e*p **P 13 49 06.0 0.0**
comp=Z,7.4nm,0.7s
PMG Port Moresby 66.32 217 LR LR 14 15 37.3
comp=Z,43nm,18.6s,baz=122,slow=34
TKM2 Tokmak 2 66.79 310 *e*P **P 13 49 11.0 +0.8**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 66.79 310 P **P 13 49 11.0 +0.8**
SNR=8.4
TKM2 Tokmak 2 66.79 310 *e*P **P 13 49 11.0 +0.8**
comp=Z,8.1nm,0.9s
FIA1 FINESS Array S 66.89 347 *e*P **P 13 49 09.8 -0.5**
FINES FINESS Array B 66.89 347 P **P 13 49 10.1 -0.2**
FINES pP **pP 13 49 21.5 +0.4**
FINES FINESS Array B 66.89 347 P **P 13 49 10.1 -0.2**
comp=Z,6.2nm,0.7s,baz=35,slow=7.0,SNR=33
FINES pP **pP 13 49 21.5 +0.4**
comp=Z,2.0nm,0.6s,baz=105,slow=4.3,SNR=3.9
USP Ospenovka 67.07 311 P **P 13 49 12.9 +1.0**
SNR=16
AAK Ala-Archa 67.54 310 *i*P **P 13 49 16.1 +1.1**
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 67.54 310 P **P 13 49 16.1 +1.1**
SNR=5.4
AAK Ala-Archa 67.54 310 *e*P **P 13 49 14.8 -0.2**
comp=Z,10nm,0.8s
AAK Ala-Archa 67.54 310 P **P 13 49 15.0 0.0**
comp=Z,7.9nm,0.7s,baz=138,slow=3.9,SNR=12
KZA Kyzart 67.58 309 P **P 13 49 17.1 +1.5**
SNR=6.9
EKS2 Erkin-Say 67.87 311 *e*P **P 13 49 17.6 +0.6**
EKS2 pmax pmax
comp=Z,13nm,0.7s
EKS2 Erkin-Say 67.87 311 P **P 13 49 18.2 +1.2**
SNR=11
EKS2 Erkin-Say 67.87 311 *e*P **P 13 49 17.6 +0.6**
comp=Z,13nm,0.7s
AML Almayashu 68.31 310 P **P 13 49 21.6 +1.5**
SNR=9.3
AKTO Aktyubinsk 68.58 325 P **P 13 49 21.4 +0.2**
AKTO pmax pmax
comp=Z,13nm,0.8s
NB2 NORSAR Subarra 68.79 355 P **P 13 49 22.6 +0.3**
comp=Z,6.8nm,0.8s,baz=7.2,slow=6.5
NOA NORSAR Array B 68.79 355 P **P 13 49 22.9 +0.6**
NOA NORSAR Array B 68.79 355 P **P 13 49 22.9 +0.6**
comp=Z,5.2nm,0.8s,baz=6.6,slow=6.3,SNR=26
NOA LR LR 14 21 17.0
comp=Z,18nm,18.2s,baz=90,slow=37
AB31 Akbulak array 68.81 323 *e*P **P 13 49 23.2 +0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 68.81 323 *e*P **P 13 49 23.3 +0.7**
KK31 Karatay Array 69.11 313 *i*P **P 13 49 24.7 +0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 69.11 313 *e*P **P 13 49 25.3 +0.7**
KKAR Karatay Array 69.11 313 *e*P **P 13 49 25.2 +0.7**
KSH Kashi 69.12 307 P P 13 49 29.1 +4.2
KSH sP sP 13 49 36.0 -3.8
KSH PP PP 13 52 05.1 +7.8
KSH S S 13 58 35.6 +7.7
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH pmax pmax
comp=Z,45nm,4.2s
KSH LR LR
comp=N,64nm,5.5s
KSH LR LR
comp=E,120nm,6.8s
KSH LR LR
comp=Z,85nm,5.6s
VSU Vasula 69.65 346 *e*P **P 13 49 27.1 -0.5**
VSU pmax pmax
comp=Z,33nm,1.0s
OBN Obninsk 70.92 339 ⇑*e*P **P 13 49 34.6 -0.8**
OBN *e* 13 52 08.7
OBN *e*S **S 13 58 47.2 -0.9**
OBN pmax pmax
comp=Z,24nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
CMAR Chiang Mai Arr 71.05 276 P **P 13 49 36.6 -0.2**
CMAR pP **pP 13 49 49.3 +1.7**
CMAR Chiang Mai Arr 71.05 276 P **P 13 49 36.6 -0.2**
comp=Z,2.6nm,0.7s,baz=31,slow=6.7,SNR=16
CMAR pP **pP 13 49 49.3 +1.7**
comp=Z,1.8nm,0.6s,baz=32,slow=7.1,SNR=6.2
VRHR Novokhopersk 73.32 335 *e*P **P 13 49 49.1 -0.7**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.7s
VSR Storozhevoye 73.86 336 *e*P **P 13 49 53.1 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,20nm,1.5s
VSR pmax pmax
comp=E,6.0nm,0.6s
VORD Divnogorie 74.06 336 *e*P **P 13 49 54.0 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,8.0nm,0.4s
TEIG Tepich 75.14 76 *e*P **P 13 49 59.7 -1.2**
comp=E,7.5nm,0.9s
KBL Kabul 76.48 308 *e*P **P 13 50 08.7 0.0**
KBL pmax pmax
comp=Z,12nm,0.8s
KBL Kabul 76.48 308 *e*P **P 13 50 08.7 0.0**
comp=Z,12nm,0.8s
AKASG Malin Array Be 76.62 342 P **P 13 50 09.3 +0.4**
AKASG *PP **PcP 13 50 21.4 +1.1**
AKASG pmax pmax
comp=Z,14nm,0.8s
AKASG Malin Array Be 76.62 342 P **P 13 50 09.3 +0.4**
AKASG pP **PcP 13 50 21.4 +1.1**
AKASG Malin Array Be 76.62 342 P **P 13 50 09.3 +0.4**
comp=Z,14nm,0.8s,baz=19,slow=5.7,SNR=28
AKASG pP **PcP 13 50 21.4 +1.1**
comp=Z,4.7nm,0.6s,baz=21,slow=5.9,SNR=6.3
KIEV Kiev 76.63 342 *e*P **P 13 50 09.3 +0.3**
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV Kiev 76.63 342 *e*P **P 13 50 09.3 +0.3**
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 78.81 346 ⇓P **P 13 50 22.3 +1.1**
KWP Kalwaria Pacla 78.81 346 ⇓*i*P **P 13 50 22.3 +1.1**
DPC Dobruska-Polom 78.96 350 *e*P **P 13 50 23.3 +1.2**
DPC pmax pmax
comp=Z,48nm,1.4s
DPC Dobruska-Polom 78.96 350 ⇑*i*P **P 13 50 23.2 +1.2**
DPC *e*PCP **PcP 13 50 27.5 -3.1**
DPC Dobruska-Polom 78.96 350 *e*P **P 13 50 23.3 +1.2**
comp=Z,48nm,1.4s
STHS Stebnicka Huta 79.24 347 *e*P **P 13 50 25.3 +1.7**
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS Stebnicka Huta 79.24 347 *e*P **P 13 50 25.2 +1.7**
KIV Kislovodsk 79.44 331 ⇑*e*P **P 13 50 24.6 -0.2**
KIV *e*S S 14 00 12.4 -11
KIV pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 79.56 346 *e*P **P 13 50 26.4 +1.1**
KOLS pmax pmax
comp=Z,7.0nm,1.4s
KOLS Kolonicke sedl 79.56 346 *e*P **P 13 50 26.4 +1.1**
KBZ Khabaz 79.58 331 P **P 13 50 26.1 +0.7**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 79.58 331 P **P 13 50 26.1 +0.7**
KBZ Khabaz 79.58 331 P **P 13 50 26.1 +0.7**
comp=Z,4.3nm,0.8s,baz=72,slow=2.9,SNR=8.7
KBZ LR LR 14 31 07.8
comp=Z,31nm,18.4s,baz=217,slow=40
CRVS Cervenica-Dubn 79.71 346 *e*P **P 13 50 26.9 +0.8**
CRVS pmax pmax
comp=Z,4.0nm,1.2s
CRVS Cervenica-Dubn 79.71 346 *e*P **P 13 50 26.9 +0.8**
BAIF Baives 80.06 358 *e*P **P 13 50 28.8 +0.9**
KECS Kecovo 80.27 347 *e*P **P 13 50 29.6 +0.5**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 80.27 347 *e*P **P 13 50 29.6 +0.5**
BURAR Bucovina Array 80.34 344 ⇑P **P 13 50 30.6 +1.0**
BURAR Bucovina Array 80.34 344 ⇑*i*P **P 13 50 30.6 +1.0**
KHC Kasperske Hory 80.45 352 *e*P **P 13 50 31.3 +1.2**
KHC pmax pmax
comp=Z,8.0nm,1.3s
KHC Kasperske Hory 80.45 352 ⇑*i*P **P 13 50 31.2 +1.2**
KHC *e*PCP **PcP 13 50 34.2 -2.8**

KHC	Kasperske Hory	80.45	352	eP		P	13 50 31.3 +1.2
	comp=Z,8.1nm,1.3s						
VYHS	Vyhne	80.48	348	eP		P	13 50 31.1 +0.8
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.6s						
VYHS	Vyhne	80.48	348	eP		P	13 50 31.1 +0.8
GERES	GERESS Array B	80.72	352	P		P	13 50 32.2 +0.6
GERES				pP		pP	13 50 44.1 +1.5
GERES	GERESS Array B	80.72	352	P		P	13 50 32.2 +0.6
	comp=Z,1.9nm,0.8s,baz=20,slow=4.3,SNR=7.5						
GERES				pP		pP	13 50 44.1 +1.5
	comp=Z,0.8nm,0.6s,baz=23,slow=4.4,SNR=2.5						
GERES				LR	LR		14 32 13.5
	comp=Z,28nm,18.8s,baz=339,slow=40						
WRA	Warramunga Arr	81.12	224	P		P	13 50 33.0 -0.9
WRA				pP		pP	13 50 45.1 +0.2
WRA	Warramunga Arr	81.12	224	P		P	13 50 33.0 -0.9
	comp=Z,1.5nm,0.5s,baz=32,slow=6.0,SNR=14						
WRA				pP		pP	13 50 45.1 +0.2
	comp=Z,2.1nm,0.8s,baz=37,slow=6.3,SNR=8.9						
FLN	La Foliniere	81.39	1	eP		P	13 50 36.5 +1.4
FLN				eR			
	comp=Z,30nm,21.5s						
LDF	La Druitiere	81.56	1	eP		P	13 50 37.2 +1.2
	comp=Z,6.7nm,0.7s						
ROSF	Rostrenen	81.75	3	eP		P	13 50 37.7 +0.7
	comp=Z,31nm,1.1s						
GRR	Gorron	81.76	1	eP		P	13 50 37.4 +0.4
	comp=Z,57nm,1.3s						
SGMF	Saint Gilles	81.86	2	eP		P	13 50 39.0 +1.5
	comp=Z,30nm,1.1s						
MLR	Muntele Rosu	82.25	343	‖iP		P	13 50 41.6 +1.7
VOIR		82.47	343	‖P		P	13 50 42.9 +2.0
VOIR		82.47	343	‖iP		P	13 50 42.9 +2.0
LOR	Lormes	82.86	358	eP		P	13 50 43.3 +0.4
LOR				eR			
	comp=Z,38nm,22.0s						
GZR	Gura Zlata	82.92	345	⇑P		P	13 50 44.1 +0.8
GZR	Gura Zlata	82.92	345	⇑iP		P	13 50 44.0 +0.8
SSF	Saint Saulge	83.08	358	eP		P	13 50 45.1 +1.2
	comp=Z,4.7nm,0.6s						
AVF	Avril sur Loir	83.35	358	eP		P	13 50 47.0 +1.7
TUE	Stuetta	83.42	354	eP		P	13 50 46.0 0.0
	comp=Z,69nm,2.7s						
CABF	La Chapelle	83.45	357	eP		P	13 50 43.7 -2.3
SMF	Signal de Mont	83.48	358	eP		P	13 50 47.7 +1.6
	comp=Z,14nm,0.8s						
MFF	Saint Martin d	83.55	1	eP		P	13 50 47.1 +0.7
FITZ	Fitzroy Crossi	83.69	232	P		P	13 50 47.4 +0.2
FITZ	Fitzroy Crossi	83.69	232	P		P	13 50 47.4 +0.2
	comp=Z,6.7nm,0.7s,baz=21,slow=3.2,SNR=16						
LPL	La Plagne	84.52	356	eP		P	13 50 53.0 +1.4
LPG	La Plagne	84.53	356	eP		P	13 50 53.3 +1.5
	comp=Z,11nm,0.7s						
ASAR	Alice Springs	84.58	222	P		P	13 50 51.7 -0.1
ASAR				pP		pP	13 51 03.5 +0.6
ASAR	Alice Springs	84.58	222	P		P	13 50 51.7 -0.1
	comp=Z,2.6nm,0.8s,baz=24,slow=5.6,SNR=27						
ASAR				pP		pP	13 51 03.5 +0.6
	comp=Z,1.6nm,0.8s,baz=40,slow=5.1,SNR=6.4						
ASAR				LR	LR		14 27 33.6
	comp=Z,84nm,20.2s,baz=262,slow=35						
RJF	Les Rejaudoux	84.86	360	eP		P	13 50 53.3 +0.2
RJF				eR			
	comp=Z,45nm,20.2s						
BNI	Bardonecchia	84.98	356	eP		P	13 50 54.3 +0.4
BNI				pmax	pmax		
	comp=Z,14nm,0.9s						
BNI	Bardonecchia	84.98	356	eP		P	13 50 54.3 +0.4
	comp=Z,14nm,0.9s						
ORIF	Oris-en-Rattie	85.15	357	eP		P	13 50 55.6 +0.9
	comp=Z,10nm,0.9s						
ORIF				eR			
	comp=Z,42nm,21.8s						
CAF	Calviac	85.23	359	eP		P	13 50 55.8 +0.8
VIVF	Saint-Julien-l	85.25	357	eP		P	13 50 55.7 +0.6
	comp=Z,7.5nm,0.8s						
MBDF	Montbardon	85.30	356	eP		P	13 50 56.5 +1.0
	comp=Z,11nm,0.7s						
BRTR	Keskin Array B	85.96	335	P		P	13 50 58.8 -0.1
BRTR	Keskin Array B	85.96	335	P		P	13 50 58.8 -0.1
	comp=Z,1.7nm,0.6s,baz=31,slow=2.9,SNR=8.5						
BRTR				LR	LR		14 34 44.6
	comp=Z,14nm,18.4s,baz=102,slow=39						
LASF	Ste Croix	86.05	358	eP		P	13 51 00.0 +0.9
SBF	Sospel	86.13	355	eP		P	13 50 59.6 +0.1
FRF	La Foret Royal	86.47	356	eP		P	13 51 01.5 +0.4
PGF	Pioggiola	87.35	354	eP		P	13 51 05.9 +0.4
STKA	Stephens Creek	88.91	213	P		P	13 51 12.4 -0.2
STKA	Stephens Creek	88.91	213	P		P	13 51 12.4 -0.2
	comp=Z,5.0nm,1.0s,baz=5.3,slow=4.6,SNR=4.7						
STKA				LR	LR		14 31 46.4
	comp=Z,103nm,18.0s,baz=26,slow=36						
ESDC	Sonseca Array	90.37	4	P		P	13 51 19.0 -0.8
ESDC	Sonseca Array	90.37	4	P		P	13 51 19.0 -0.8
	comp=Z,1.5nm,0.6s,baz=358,slow=4.4,SNR=7.1						
COCO	West Island	95.61	258	iP		P	13 51 45.6 +1.6
TORD	Torodi Ar. Bea	116.90	359	PKP		PKPdf	13 57 02.1 -1.2
TORD				pPKP		pPKPdf	13 57 15.2 +0.3
TORD	Torodi Ar. Bea	116.90	359	PKP		PKPdf	13 57 02.1 -1.2
	comp=Z,0.9nm,0.6s,baz=355,slow=1.8,SNR=8.6						
TORD				pPKP		pPKPdf	13 57 15.2 +0.3
	comp=Z,0.6nm,0.5s,baz=335,slow=2.5,SNR=3.1						
PLCA	Paso Flores	130.70	108	PKP		PKPdf	13 57 27.9 -1.2
PLCA	Paso Flores	130.70	108	PKP		PKPdf	13 57 27.9 -1.2
	comp=Z,2.0nm,1.0s,baz=253,slow=5.4,SNR=3.8						
QSPA	South Pole Qui	139.97	180	PKPpre		PKPpre	13 57 43.0
QSPA	South Pole Qui	139.97	180	PKhKP		PKPpre	13 57 43.0
	comp=Z,3.0nm,1.0s,baz=33,slow=2.0,SNR=8.0						
MAW	Mawson	145.51	217	PKPbc		PKPdf	13 57 55.0 -0.1
MAW	Mawson	145.51	217	PKPbc		PKPdf	13 57 55.0 -0.1
	comp=Z,2.5nm,0.6s,baz=322,slow=5.1,SNR=8.0						
LBTB	Lobatse	148.48	314	PKPbc		PKPbc	13 58 05.6 +0.4
LBTB				pPKPbc		pPKPbc	13 58 18.3 +1.7
LBTB	Lobatse	148.48	314	PKPbc		PKPbc	13 58 05.6 +0.4
	comp=Z,7.4nm,0.6s,baz=61,slow=1.5,SNR=12						
LBTB				pPKPbc		pPKPbc	13 58 18.3 +1.7
	comp=Z,5.2nm,0.6s,baz=313,slow=1.1,SNR=5.1						
BOSA	Boshof	151.68	311	PKPbc		PKPbc	13 58 13.1 +0.2
BOSA				pPKPbc		pPKPbc	13 58 25.9 +1.6
BOSA	Boshof	151.68	311	PKPbc		PKPbc	13 58 13.1 +0.2
	comp=Z,5.2nm,0.5s,baz=42,slow=1.4,SNR=20						
BOSA				pPKPbc		pPKPbc	13 58 25.9 +1.6
	comp=Z,4.9nm,0.5s,baz=9.9,slow=1.5,SNR=5.1						

IDC 07 13:43:44.0±1.9, 9°.63S×130°.03E, h0km, mb3.2/1, mb1 3.3/4, mb1mx3.2/19, mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=62.3km s-min=27.8km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.44	206	Pn	Pn	13 46 00.7	-0.6
	0.1nm,0.3s,baz=40,slow=23,SNR=10						
FITZ				Sn	Sn	13 48 02.5	+14
	0.2nm,0.3s,baz=101,slow=20,SNR=7.1						
WRA	Warramunga Arr	11.07	158	Pn	Pn	13 46 23.7	+0.1
	0.1nm,0.3s,baz=338,slow=13,SNR=14						
WRA				Sn	Sn	13 48 47.4	+19
	0.2nm,0.3s,baz=329,slow=24,SNR=8.1						
ASAR	Alice Springs	14.44	166	Pn	Pn	13 47 10.3	+0.5
	0.1nm,0.3s,baz=339,slow=9.7,SNR=7.4						
MKAR	Makanchi Array	70.43	327	P	P	13 55 00.2	+0.1
	0.1nm,0.4s,baz=127,slow=6.0,SNR=2.8						

ROM 07 13:48:00.1±0.1, 43°.08N×13°.38E, h10km, Md1.6/3, Ml1.4/2, Error ellipse: s-maj=1.3km s-min=0.7km az=74.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.22	258	Pg	Pg	13 48 05.4	+0.7
FDMO				Sg	Sg	13 48 09.3	+1.5
	25nm,0.1s						
NRCA	Norcia	0.32	218	Pg	Pg	13 48 07.1	+0.5
NRCA				Sg	Sb	13 48 12.2	-1.1
	62nm,0.1s						
SNTG	Esanatoglia	0.36	298	Pg	Pg	13 48 08.0	+0.6
SNTG				Sg	Sb	13 48 13.5	-1.1
	12nm,0.2s						

MEX 07 13:48:23.4±0.7, 14°.71N×93°.15W, h17km±29km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.88	77	iP	Pb	13 48 37.0	-3.2
THIG				iS	Sb	13 48 47.8	-3.8
CCIG	Comitan	1.84	32	eP	Pn	13 48 51.7	-2.8
CCIG				iS	Sn	13 49 13.8	-3.8
TGIG		2.06	1	eP	Pn	13 48 54.3	-3.1
TGIG				iS	Sn	13 49 17.9	-4.8

TRN ***07*** *14:07:06.0, 18°.57N×64°.05W, h51km*
NEIC ***07*** *14:07:08.2, 18°.60N×64°.02W, h50km, MD3.5(RSPR), After RSPR.*

RSPR 07 14:07:08.2, 18°.60N×64°.02W, h50km±1km, MD3.5/7, 30C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.32	294	‖eP	Pn	14 07 16.7	-0.8
ABV	Anegada	0.32	294	eS	Sn	14 07 24.0	-0.1
ABV				eS		14 07 25.1	
ABV	Anegada	0.32	294	‖eP	Pn	14 07 16.7	-0.8
ABV				eS	Sn	14 07 24.3	+0.1
ABVI	Anegada Island	0.32	294	‖eP	Pn	14 07 16.7	-0.8
ABVI				eS	Sn	14 07 24.0	-0.1
CDVI	St. Croix	1.10	220	‖eP	Pn	14 07 26.6	-0.6
CDVI	St. Croix	1.10	220	eS	Sn	14 07 40.5	-0.8
CDVI	St. Croix	1.10	220	‖eP	Pn	14 07 26.6	-0.6
CDVI				eS	Sn	14 07 40.5	-0.8
CDVI	St. Croix	1.10	220	‖eP	Pn	14 07 26.6	-0.6
CDVI				eS	Sn	14 07 40.5	-0.8
MTP	Monte Pirata	1.54	251	‖eP	Pn	14 07 32.6	-0.6
MTP	Monte Pirata	1.54	251	eS	Sn	14 07 50.9	-1.1
MTP	Monte Pirata	1.54	251	‖eP	Pn	14 07 32.6	-0.6
MTP				eS	Sn	14 07 50.9	-1.1
MTP	Monte Pirata	1.54	251	‖eP	Pn	14 07 32.6	-0.6
MTP				eS	Sn	14 07 50.9	-1.1
CBYP	Canovanas	1.77	260	‖eP	Pn	14 07 35.0	-1.4
CBYP	Canovanas	1.77	260	eS	Sn	14 07 56.6	-1.3
CBYP	Canovanas	1.77	260	‖eP	Pn	14 07 35.0	-1.4
CBYP				eS	Sn	14 07 56.6	-1.3
CBYP	Canovanas	1.77	260	‖eP	Pn	14 07 35.3	-1.2
CBYP				eS	Sn	14 07 56.6	-1.3
CPD	Cerro la Pandu	1.88	253	‖eP	Pn	14 07 37.3	-0.7
CPD	Cerro la Pandu	1.88	253	eS	Sn	14 08 00.1	-0.5
CPD	Cerro la Pandu	1.88	253	‖eP	Pn	14 07 37.3	-0.7
CPD				eS	Sn	14 08 00.1	-0.5
CPD	Cerro la Pandu	1.88	253	‖eP	Pn	14 07 37.3	-0.7
CPD				eS	Sn	14 08 00.1	-0.5
CELP	Cerrillos	2.48	258	‖eP	Pn	14 07 45.8	-0.4
CELP				eS	Sn	14 08 13.8	-1.5
CELP	Cerrillos	2.48	258	‖eP	Pn	14 07 45.8	-0.4
CELP				eS	Sn	14 08 13.8	-1.5
CELP	Cerrillos	2.48	258	‖eP	Pn	14 07 45.8	-0.4
CELP				eS	Sn	14 08 13.8	-1.5
OBIP	Obispado Ponce	2.52	258	‖eP	Pn	14 07 45.0	-1.5
OBIP	Obispado Ponce	2.52	258	eS	Sn	14 08 15.5	-0.6
OBIP	Obispado Ponce	2.52	258	‖eP	Pn	14 07 45.0	-1.5
OBIP				eS	Sn	14 08 15.5	-0.6
OBIP	Obispado Ponce	2.52	258	‖eP	Pn	14 07 45.5	-1.1
OBIP				eS	Sn	14 08 15.5	-0.6
AOPR	Arecibo Observ	2.60	265	‖eP	Pn	14 07 47.1	-0.7
AOPR	Arecibo Observ	2.60	265	eS	Sn	14 08 17.9	-0.5
AOPR	Arecibo Observ	2.60	265	‖eP	Pn	14 07 47.1	-0.7
AOPR				eS	Sn	14 08 17.9	-0.5
AOPR	Arecibo Observ	2.60	265	‖eP	Pn	14 07 47.1	-0.7
AOPR				eS	Sn	14 08 17.9	-0.5
LRS	Lares	2.70	264	‖eP	Pn	14 07 47.7	-1.4
LRS	Lares	2.70	264	‖eP	Pn	14 07 47.7	-1.4
LRS	Lares	2.70	264	‖eP	Pn	14 07 47.7	-1.4
AGPR	Aguadilla, PR	2.93	268	eS	Sn	14 08 24.9	-1.4
AGPR	Aguadilla, PR	2.93	268	eS	Sn	14 08 24.9	-1.4
LSP	Las Mesas	2.94	262	‖eP	Pn	14 07 51.4	-1.0
LSP	Las Mesas	2.94	262	eS	Sn	14 08 25.5	-1.1
LSP	Las Mesas	2.94	262	‖eP	Pn	14 07 51.4	-1.0
LSP				eS	Sn	14 08 25.5	-1.1
LSP	Las Mesas	2.94	262	‖eP	Pn	14 07 51.4	-1.0
LSP				eS	Sn	14 08 25.5	-1.1
IDE	Isla Desecheo	3.28	267	‖eP	Pn	14 07 56.3	-0.8
IDE	Isla Desecheo	3.28	267	‖eP	Pn	14 07 56.3	-0.8
IDE	Isla Desecheo	3.28	267	‖eP	Pn	14 07 56.3	-0.8

IDC 07 14:09:01.7±35.0, 5°.82N×127°.31E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=593.3km s-min=105.5km az=159.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.83	184	P	P	14 14 18.1	+1.5
	1.2nm,0.9s,baz=4.4,slow=13,SNR=2.3						
WRA	Warramunga Arr	26.52	165	P	P	14 14 40.5	-0.7
	0.2nm,0.4s,baz=343,slow=10.0,SNR=8.6						
ASAR	Alice Springs	30.01	168	P	P	14 15 11.5	-0.8
	0.3nm,0.5s,baz=352,slow=8.1,SNR=13						
STKA	Stephens Creek	39.89	161	P	P	14 16 37.5	+0.1
	1.5nm,0.9s,baz=349,slow=10,SNR=2.4						

IDC 07 14:16:08.1±1.9, 6°.40N×74°.32W, h0km, mb3.5/2, mb1 4.0/2, mb1mx3.4/21, mbtmp3.5/2, Error ellipse: s-maj=76.9km s-min=17.0km az=80.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	1.54	180	Pn	Pn	14 16 35.5	-1.6
	28nm,0.3s,baz=355,slow=1.1,SNR=14						
ROSC				Pg	Pg	14 16 38.1	+0.5
	28nm,0.3s,baz=45,slow=8.6,SNR=15						
ROSC				Sn	Sg	14 16 59.5	+1.3
	69nm,0.3s,baz=106,slow=23,SNR=39						
NVAR	Mina Array Bea	50.93	315	P	P	14 25 12.4	+0.8
	0.6nm,0.8s,baz=134,slow=6.4,SNR=4.5						
ILAR	Eielson Array	76.84	335	P	P	14 28 01.2	-0.4
	0.3nm,0.6s,baz=132,slow=4.8,SNR=6.1						

ISCJB ***07*** *14:42:10.8±0.7, 53°.29N±0°.06×165°.66W±0°.06, h59km±5km, mb3.9/19, MS3.3/5, Error ellipse: s-maj=10.9km s-min=4.7km az=156.8*
NEIC ***07*** *14:42:11.4, 53°.24N×165°.59W, h27km, ML3.8(AEIC), After AEIC.*
IDC ***07*** *14:42:15.1±3.5, 53°.49N×165°.77W, h74km±31km, mb3.6/19, mb1 3.7/21, mb1mx3.6/35, mbtmp3.6/21, MS3.3/6, Ms1 3.3/6, ms1mx2.9/38, Error ellipse: s-maj=22.9km s-min=12.8km az=7.0*

ISC 07 14:42:13.2±1.0, 53°.37N±0°.08×165°.71W±0°.04, h61km±7km, n51, σ1°.21/61, mb4.0/19, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRO	Akutan Zero	0.74	348	P	Pn	14 42 26.4	-1.6
MREP	Makushin Rep't	0.76	306	P	Pn	14 42 27.1	-1.2
AKUT	Akutan	0.77	357	P	Pn	14 42 26.5	-1.8
AKUT				S	Sn	14 42 39.3	-0.1
AKRB	Akutan Reef Bi	0.80	345	P	Pn	14 42 27.2	-1.5
AKRB				S	Sn	14 42 40.6	+0.6
AKLV	Akutan Long Va	0.81	350	P	Pn	14 42 27.0	-1.9
LVA	Lava Point	0.82	347	P	Pn	14 42 27.4	-1.6
MTBL	Makushin Table	0.84	317	P	Pn	14 42 28.1	-1.2
AKGG	Akutan Green G	0.85	349	P	Pn	14 42 27.8	-1.6
AKGG				S	Sn	14 42 42.2	+0.9
MCIR	Makushin Cirqu	0.92	310	P	Pn	14 42 29.2	-1.0
WESE	West Dahl East	1.29	30	P	Pn	14 42 33.5	-1.7
OKFG	Magazine Ridge	1.32	273	P	Pn	14 42 33.6	-1.9
OKTU	Okmok Mt. Tuli	1.40	272	P	Pn	14 42 35.5	-1.1
OKSO	Okmok South	1.47	271	P	Pn	14 42 35.6	-1.9
OKSO				S	Sn	14 42 54.7	-1.0
OKCE	Okmok Cone E	1.47	273	P	Pn	14 42 36.6	-0.9
OKSP	Okmok Steeple	1.55	267	P	Pn	14 42 37.3	-1.3
SSBA	Shishaldin	1.69	33	P	Pn	14 42 39.1	-1.4
SSBA				S	Sn	14 43 02.6	+1.5
SSLW	Shishaldin Wes	1.69	33	P	Pn	14 42 39.4	-1.1
BRPK	Brown Peak	1.73	41	P	Pn	14 42 38.7	-2.3
NIKH	Nikolski High	1.93	260	P	Pn	14 42 42.3	-1.4
FALS	False Pass	2.01	41	P	Pn	14 42 43.1	-1.7
FALS				S	Sn	14 43 09.3	+0.5
DRIA	Deer Island	2.58	50	P	Pn	14 42 50.9	-1.7
DT1	Dutton Round H	2.66	48	P	Pn	14 42 52.2	-1.5
DTNA	Dutton South F	2.70	47	P	Pn	14 42 52.9	-1.3
DOL	Dolgoi Island	2.88	50	P	Pn	14 42 54.9	-1.7
SDPT	Sand Point	3.65	55	P	Pn	14 43 05.1	-2.0
PPLA	Purkeypile	11.90	31	ePn	Pn	14 44 59.4	-0.5
TNA	Tin City	12.28	356	ePn	Pn	14 45 05.9	+0.9
FX1	Attu Island--F	12.70	276	P	Pn	14 45 12.6	+1.9
	0.8nm,0.3s,baz=313,slow=23,SNR=11						
ILAR	Eielson Array	14.90	33	P	Pn	14 45 41.7	+1.8
	0.1nm,0.3s,baz=216,slow=12,SNR=4.5						
ILAR				LR	LR	14 52 03.4	
	comp=Z,103nm,18.7s,baz=190,slow=40						
HYT	Haines Junctio	16.94	53	ePn	Pn	14 46 06.2	+0.3
DAWY	Dawson	17.22	41	ePn	P	14 46 10.1	+0.1
INK	Inuvik	21.30	33	P	P	14 46 54.8	+0.5
	1.9nm,0.5s,baz=240,slow=11,SNR=9.6						
INK				LR	LR	14 55 57.3	
	comp=Z,53nm,18.3s,baz=265,slow=39						
PETK	Petropavlovsk-	21.75	284	P	P	14 46 59.0	-0.4
	2.6nm,0.6s,baz=90,slow=13,SNR=18						
PETK				LR	LR	14 55 29.7	
	comp=Z,23nm,18.0s,baz=236,slow=37						
YBH	Yreka Blue Hor	30.80	95	LR	LR	14 57 30.7	
	comp=Z,50nm,20.9s,baz=26,slow=30						
NVAR	Mina Array Bea	35.50	95	P	P	14 49 05.4	+1.3
	1.2nm,0.8s,baz=297,slow=8.9,SNR=7.6						
NVAR				PcP	PcP	14 51 32.8	+0.6
	0.3nm,0.6s,baz=300,slow=3.6,SNR=3.6						
PDAR	Pinedale Array	38.05	83	P	P	14 49 26.0	+0.2
	0.3nm,0.8s,baz=298,slow=3.2,SNR=4.1						
KSRS	Korea Array	47.47	278	P	P	14 50 42.1	+0.5
	2.7nm,0.8s,baz=51,slow=7.2,SNR=13						
SPITS	Spitsbergen Ar	48.71	359	P	P	14 50 49.8	-1.0
	0.5nm,0.5s,baz=43,slow=18,SNR=2.6						
SPITS				PcP	PcP	14 52 15.2	+0.3
	0.9nm,0.6s,baz=26,slow=10,SNR=2.8						
TXAR	Lajitas Array	50.54	93	P	P	14 51 05.8	+0.4
	1.2nm,0.6s,baz=300,slow=5.2,SNR=14						
TXAR				pP	pP	14 51 21.4	+0.2
	0.9nm,0.6s,baz=303,slow=5.9,SNR=7.1						
SONM	Songino Array	52.67	302	P	P	14 51 20.7	-0.4
	0.4nm,0.6s,baz=39,slow=8.0,SNR=3.3						
SONM				PcP	PcP	14 52 31.2	+0.9
	0.6nm,0.5s,baz=73,slow=2.0,SNR=3.4						
ARCES	ARCESS Array B	57.14	355	P	P	14 51 52.6	-0.2
	0.2nm,0.3s,baz=337,slow=12,SNR=3.8						
ARCES				PcP	PcP	14 52 47.2	+0.4
	0.8nm,0.6s,baz=15,slow=5.0,SNR=8.3						
ZALV	Zalesovo Beam	58.16	319	P	P	14 51 60.0	-0.2
	0.7nm,0.4s,baz=26,slow=6.0,SNR=4.4						
KURBB	Kurchatov Arra	63.18	320	P	P	14 52 34.2	-0.1
	1.3nm,0.8s,baz=52,slow=7.3,SNR=16						
BVAR	Borovoye Array	64.15	326	P	P	14 52 41.2	+0.5
	1.8nm,0.6s,baz=60,slow=6.7,SNR=9.5						
MKAR	Makanchi Array	64.70	315	P	P	14 52 43.6	-0.8
	1.9nm,0.6s,baz=43,slow=5.7,SNR=22						
MKAR				LR	LR	15 26 33.6	
	comp=Z,35nm,18.2s,baz=239,slow=41						
FINES	FINESS Array B	65.15	354	P	P	14 52 46.3	-0.8
	1.0nm,0.5s,baz=12,slow=9.8,SNR=9.5						
AKTO	Aktyubinsk	70.21	332	P	P	14 53 18.6	-0.6
	1.1nm,0.5s,baz=29,slow=6.4,SNR=4.5						
AKASG	Malin Array Be	75.55	350	P	P	14 53 49.5	-1.1
	1.1nm,0.4s,baz=11,slow=5.3,SNR=4.2						
CMAR	Chiang Mai Arr	78.53	285	P	P	14 54 08.4	+0.5
	1.0nm,0.7s,baz=19,slow=5.7,SNR=6.1						
BRTR	Keskin Array B	85.78	345	P	P	14 54 45.9	+0.1
	0.9nm,0.7s,baz=15,slow=5.1,SNR=3.7						
ASAR	Alice Springs	92.75	233	P	P	14 55 18.1	-0.5
	0.2nm,0.8s,baz=36,slow=4.5,SNR=4.8						
ASAR				LR	LR	15 32 52.8	
	comp=Z,60nm,19.4s,baz=84,slow=33						

IDC 07 14:58:37.1±4.1, 4°.12S×102°.88E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=171.2km s-min=23.6km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.45	120	P	P	15 05 26.8	-0.1
	0.4nm,1.0s,baz=306,slow=8.3,SNR=3.7						
ASAR	Alice Springs	35.69	126	P	P	15 05 37.3	-0.3
	0.3nm,0.8s,baz=297,slow=7.9,SNR=2.8						
SONM	Songino Array	51.82	3	P	P	15 07 48.0	+0.9
	0.6nm,0.6s,baz=177,slow=8.2,SNR=2.9						
MKAR	Makanchi Array	53.86	343	P	P	15 08 01.0	-1.0
	0.5nm,0.6s,baz=148,slow=8.7,SNR=6.3						

NIED ***07*** *15:03:00, 34°.30N×137°.00E, h340km, Mw4.2 Best double couple: M0 2.11000×10^15 NP1:φs 180.00000°, δ88.00000°, λ58.00000°. NP2:φs 87.00000°, δ32.00000°, λ177.00000°.*
ISCJB ***07*** *15:03:48.5±0.4, 34°.31N±0°.06×137°.04E±0°.07, h343km±2km, mb3.5/15, Error ellipse: s-maj=11.0km s-min=7.1km az=143.3*
IDC ***07*** *15:03:48.5±0.8, 34°.24N×137°.06E, h331km±7km, mb3.3/15, mb1 3.5/19, mb1mx3.4/30, mbtmp3.3/19, Error ellipse: s-maj=13.0km s-min=10.6km az=118.0*
JMA ***07*** *15:03:49.4±0.1, 34°.35N×137°.04E, h341km±1km, M3.5*

**ISC 07 15:03:49.2±0.7, 34°.30N±0°.07×137°.07E±0°.07, h338km±

13nm,0.5s
PKI Pulchoki 44.42 276 *e*P **P 15 11 27.1 -1.1**
5.5nm,0.3s
PKIN Phulchoki 44.43 276 *e*P **P 15 11 27.6 -0.5**
7.2nm,0.7s
KKN Kakani 44.45 276 *e*P **P 15 11 28.0 -0.2**
DMN Daman 44.66 276 *e*P **P 15 11 29.0 -0.9**
DANN Dangsing 45.49 278 *e*P **P 15 11 36.3 -0.1**
41nm,0.5s
KOLN Koldanda 45.84 277 *e*P **P 15 11 38.3 -0.7**
11nm,0.7s
PYUN Piuthan 46.22 278 *e*P **P 15 11 41.8 -0.1**
18nm,0.5s
ILAR Eielson Array 53.67 31 P **P 15 12 36.9 +0.2**
1.1nm,0.9s,baz=282,slow=6.4,SNR=8.8
WRA Warramunga Arr 54.01 183 P **P 15 12 38.6 -1.0**
1.4nm,0.3s,baz=360,slow=7.6,SNR=55
ASAR Alice Springs 57.73 183 P **P 15 13 05.0 -0.7**
0.4nm,0.3s,baz=354,slow=4.8,SNR=38
ARCES ARCESS Array B 65.28 339 P **P 15 13 55.3 +0.1**
0.4nm,0.4s,baz=61,slow=8.5,SNR=8.1
FINES FINESS Array B 69.54 331 P **P 15 14 21.3 -0.5**
0.8nm,0.4s,baz=76,slow=5.8,SNR=14
KBZ Khabaz 69.95 310 P **P 15 14 24.1 -0.4**
2.6nm,0.8s,baz=103,slow=3.7,SNR=7.5
BRTR Keskin Array B 77.94 310 P **P 15 15 10.6 -0.3**
0.5nm,0.4s,baz=92,slow=6.4,SNR=3.8
NVAR Mina Array Bea 79.45 51 P **P 15 15 20.2 +1.1**
0.8nm,0.6s,baz=290,slow=5.1,SNR=6.4
PDAR Pinedale Array 82.09 43 P **P 15 15 33.4 +0.5**
0.8nm,0.8s,baz=288,slow=3.7,SNR=7.1
TXAR Lajitas Array 94.59 50 P **P 15 16 33.2 +0.8**
0.3nm,0.6s,baz=294,slow=4.4,SNR=3.9

IDC 07 15:05:37.6±5.1, 17°69S×69°31W, h161km±31km, mb3.8/2, mb1 4.0/3, mb1mx3.4/18, mbtmp3.9/3, Error ellipse: s-maj=69.7km s-min=27.3km az=21.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.79**	**39**	P	Pn	15 06 11.1	-0.8
9.3nm,0.3s,baz=237,slow=9.0,SNR=240							
LPAZ				S	Sn	15 06 38.4	+0.1
3.3nm,0.3s,baz=229,slow=12,SNR=5.2							
SIV	**San Ignacio**	**8.07**	**79**	P	Pn	15 07 31.3	-0.7
4.2nm,0.3s,baz=281,slow=10,SNR=44							
SIV				S	Sn	15 09 03.0	+0.8
0.1nm,0.3s,baz=18,slow=20,SNR=2.8							
TORD	**Torodi Ar. Bea**	**76.47**	**71**	P	P	15 17 10.0	-0.2
2.0nm,0.8s,baz=253,slow=5.9,SNR=9.2							
YKA	**Yellowknife Ar**	**87.48**	**341**	P	P	15 18 06.3	-0.3
1.6nm,0.6s,baz=135,slow=4.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**138.64**	**23**	PKP	PKPdf	15 24 44.0	-0.2
0.9nm,0.6s,baz=336,slow=1.8,SNR=4.2							
MKAR	**Makanchi Array**	**142.71**	**33**	PKhKP	PKPpre	15 24 47.5	
0.2nm,0.5s,baz=317,slow=5.0,SNR=4.2							
SONM	**Songino Array**	**149.72**	**6**	PKPbc	PKPbc	15 25 09.0	+0.5
1.3nm,0.8s,baz=336,slow=3.2,SNR=5.8							

IDC 07 15:26:55.0±8.7, 82°34N×0°14E, h0km, mb3.0/2, mb1 3.4/4, mb1mx3.2/28, mbtmp3.4/4, ML3.4/2, MS3.1/5, Ms1 3.1/5, ms1mx2.6/16, Error ellipse: s-maj=164.2km s-min=64.4km az=26.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**4.98**	**138**	Pn	Pn	15 28 08.5	-2.4
baz=350,slow=9.3,SNR=21							
SPITS				Sn	Sn	15 29 04.6	-4.6
baz=336,slow=10,SNR=1.3							
SPITS				LR	LR	15 30 07.7	
comp=Z,168nm,18.4s,baz=315,slow=39							
ARCES	**ARCESS Array B**	**14.00**	**142**	Pn	Pn	15 30 12.2	-2.1
0.2nm,0.3s,baz=353,slow=11,SNR=8.1							
NOA	**NORSAR Array B**	**21.61**	**165**	P	P	15 31 46.8	+0.7
0.5nm,0.8s,baz=345,slow=9.7,SNR=4.0							
FINES	**FINESS Array B**	**22.02**	**146**	P	P	15 31 49.5	-1.0
0.7nm,0.7s,baz=0.0,slow=13,SNR=3.5							
FRB	**Frobisher Bay**	**24.60**	**264**	LR	LR	15 41 57.7	
comp=Z,55nm,19.0s,baz=179,slow=37							
SCHQ	**Schefferville**	**33.01**	**258**	LR	LR	15 46 22.3	
comp=Z,44nm,21.0s,baz=239,slow=35							
ZALV	**Zalesovo Beam**	**36.23**	**85**	LR	LR	15 53 31.7	
comp=Z,11nm,18.5s,baz=68,slow=44							
ULM	**Lac du Bonnet**	**41.34**	**285**	LR	LR	15 51 42.8	
comp=Z,39nm,20.6s,baz=19,slow=36							

*ISCJB **07** 16:04:07.8±0.5, 5°44S±0°06×151°71E±0°05, h57km, mb4.3/18, MS3.4/6, Error ellipse: s-maj=8.4km s-min=7.0km az=165.9*
*IDC **07** 16:04:11.7±2.1, 5°53S×151°69E, h75km±18km, mb4.0/14, mb1 4.1/17, mb1mx4.0/23, mbtmp4.0/17, MS3.3/8, Ms1 3.3/8, ms1mx3.3/19, Error ellipse: s-maj=14.7km s-min=11.3km az=145.0*
*NEIC **07** 16:04:11.1±1.6, 5°50S×151°62E, h71km±14km, mb4.6/3, Error ellipse: s-maj=12.7km s-min=10.4km az=165.0*
*AUST **07** 16:04:15.5, 5°67S×151°61E, h100km*
ISC 07 16:04:09.8±0.5, 5°47S±0°07×151°70E±0°06, h57km, n72, σ1°28/76, mb4.3/18, MS3.4/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.50**	**308**	P	Pn	16 05 38.8	+10
baz=5.6,SNR=5.6							
PMG	**Port Moresby**	**5.96**	**229**	*e*Pn	**Pn**	**16 05 36.3**	**+0.8**
365nm,0.8s							
PMG				*e*Sn	**Sn**	**16 06 41.9**	**-0.6**
PMG	**Port Moresby**	**5.96**	**229**	P	**Pn**	**16 05 37.9**	**+2.4**
56nm,0.3s,baz=36,slow=13,SNR=107							
PMG				S	**Sn**	**16 06 44.1**	**+1.6**
52nm,0.3s,baz=165,slow=21,SNR=9.7							
PMG				LR	LR	16 07 19.4	
comp=Z,78nm,19.8s,baz=313,slow=32							
HNR	**Honiara**	**9.08**	**116**	P	**Pn**	**16 06 20.0**	**+1.8**
HNR				S	**Sn**	**16 07 57.9**	**-1.1**
HNR	**Honiara**	**9.08**	**116**	P	**Pn**	**16 06 20.0**	**+1.8**
2.0nm,0.3s,baz=236,slow=11,SNR=3.0							
HNR				S	**Sn**	**16 07 57.9**	**-1.1**
2.4nm,0.3s,baz=214,slow=15,SNR=2.4							
HNR				LR	LR	16 09 19.2	
comp=Z,109nm,18.4s,baz=223,slow=34							
COEN	**Coen**	**11.90**	**224**	P	**Pn**	**16 06 57.8**	**+1.0**
baz=12,SNR=15							
MTSU	**Mount Surprise**	**14.51**	**209**	P	**Pn**	**16 07 32.8**	**+0.7**
baz=14,SNR=7.4							
CTA	**Charters Tower**	**15.46**	**200**	P	**Pn**	**16 07 44.5**	**0.0**
CTA	**Charters Tower**	**15.46**	**200**	P	**Pn**	**16 07 44.5**	**0.0**
0.2nm,0.3s,baz=20,slow=15,SNR=3.4							
KDU	**Kakadu**	**20.28**	**248**	P	**P**	**16 08 41.3**	**+0.3**
baz=20,SNR=48							
RMQ	**Roma**	**21.09**	**187**	P	**P**	**16 08 51.1**	**+1.6**
baz=21,SNR=8.7							
MTN	**Manton Dam**	**21.57**	**249**	P	**P**	**16 08 54.9**	**+0.1**
baz=21,SNR=45							
DZM	**Mont Dzumac**	**21.82**	**141**	P	**P**	**16 08 56.8**	**-0.6**
DZM	**Mont Dzumac**	**21.82**	**141**	P	**P**	**16 08 56.8**	**-0.6**
2.3nm,0.5s,baz=315,slow=19,SNR=9.6							
WRAB	**Tennant Creek**	**22.17**	**228**	*e*P	**P**	**16 08 59.1**	**-2.1**
19nm,0.8s							
WRA	**Warramunga Arr**	**22.18**	**228**	P	**P**	**16 09 01.4**	**0.0**
WRA				S	**S**	**16 13 00.3**	**-2.1**
WRA	**Warramunga Arr**	**22.18**	**228**	P	**P**	**16 09 01.4**	**0.0**
16nm,0.7s,baz=52,slow=9.9,SNR=81							
WRA				S	**S**	**16 13 00.3**	**-2.1**
1.4nm,0.8s,baz=57,slow=19,SNR=6.7							
KNRA	**Kununurra**	**24.69**	**244**	P	**P**	**16 09 26.1**	**+0.4**
baz=24,SNR=279							
KNRA				S	S	16 13 54.8	+11
baz=24,SNR=3.3							
AS31	**Alice Springs**	**24.92**	**222**	*e*P	**P**	**16 09 25.1**	**-2.7**
ASAR	**Alice Springs**	**24.92**	**222**	P	**P**	**16 09 27.8**	**0.0**
ASAR				ScP	**ScP**	**16 16 39.5**	**+2.8**
ASAR	**Alice Springs**	**24.92**	**222**	P	**P**	**16 09 27.8**	**0.0**
9.3nm,0.8s,baz=54,slow=9.0,SNR=149							
ASAR				ScP	**ScP**	**16 16 39.5**	**+2.8**
0.6nm,1.0s,baz=40,slow=2.3,SNR=4.7							
LHI	**Lord Howe Isla**	**26.82**	**166**	S	**S**	**16 14 17.4**	**+0.3**
baz=27,SNR=3.5							
STKA	**Stephens Creek**	**27.92**	**199**	P	**P**	**16 09 54.2**	**-0.5**
STKA	**Stephens Creek**	**27.92**	**199**	P	**P**	**16 09 54.2**	**-0.5**
1.2nm,0.7s,baz=69,slow=12,SNR=4.3							
STKA				LR	LR	16 21 27.0	
comp=Z,141nm,21.4s,baz=25,slow=37							
FITZ	**Fitzroy Crossi**	**28.38**	**242**	P	**P**	**16 09 58.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**28.38**	**242**	P	**P**	**16 09 58.8**	**-0.1**
11nm,0.5s,baz=64,slow=7.2,SNR=82							
FITZ				LR	LR	16 20 32.1	
comp=Z,69nm,20.0s,baz=50,slow=35							
FITZ	**Fitzroy Crossi**	**28.38**	**242**	P	**P**	**16 09 58.8**	**-0.1**
baz=28,SNR=72							
MBWA	**Marble Bar**	**34.69**	**240**	*e*P	**P**	**16 10 53.1**	**-1.2**
7.3nm,0.6s							
MEEK	**Meekatharra**	**37.93**	**233**	P	**P**	**16 11 21.8**	**-0.2**
baz=38,SNR=91							
MORW	**Morawa**	**41.07**	**231**	P	**P**	**16 11 47.6**	**-0.5**
baz=41,SNR=38							
BLDU	**Ballidu**	**41.31**	**228**	P	P	16 11 53.9	+3.9
baz=41,SNR=5.0							
RPZ	**Rata Peaks**	**41.73**	**159**	P	**P**	**16 11 55.8**	**+2.5**
RPZ	**Rata Peaks**	**41.73**	**159**	P	**P**	**16 11 55.8**	**+2.5**
2.4nm,0.4s,baz=353,slow=14,SNR=4.4							
KSRS	**Korea Array**	**48.11**	**334**	LR	LR	16 31 49.4	
comp=Z,37nm,18.8s,baz=160,slow=34							
MCQ	**Macquarie Isla**	**49.23**	**174**	S	**S**	**16 19 50.1**	**-3.9**
baz=49,SNR=4.5							
CMAR	**Chiang Mai Arr**	**57.17**	**296**	P	**P**	**16 13 52.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**57.17**	**296**	P	**P**	**16 13 52.7**	**+1.3**
2.4nm,0.8s,baz=122,slow=5.8,SNR=14							
CMAR				LR	LR	16 35 52.2	
comp=Z,34nm,21.3s,baz=90,slow=33							
PETK	**Petropavlovsk-**	**58.58**	**4**	LR	LR	16 33 57.1	
comp=Z,32nm,20.6s,baz=1.6,slow=30							
SONM	**Songino Array**	**66.31**	**328**	P	**P**	**16 14 52.7**	**+0.2**
SONM	**Songino Array**	**66.31**	**328**	P	**P**	**16 14 52.7**	**+0.2**
1.2nm,0.4s,baz=146,slow=5.4,SNR=10							
SONM				LR	LR	16 42 09.8	
comp=Z,37nm,18.0s,baz=264,slow=34							
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**16 15 28.5**	**+0.2**
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**16 15 28.5**	**+0.2**
1.0nm,0.7s,baz=326,slow=6.6,SNR=9.6							
MK31	**Makanchi Array**	**80.11**	**319**	*e*P	**P**	**16 16 12.0**	**-1.7**
MKAR	**Makanchi Array**	**80.11**	**319**	P	**P**	**16 16 13.1**	**-0.6**
MKAR	**Makanchi Array**	**80.11**	**319**	P	**P**	**16 16 13.1**	**-0.6**
0.5nm,0.5s,baz=96,slow=6.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**81.10**	**327**	P	**P**	**16 16 17.7**	**-1.1**
ZALV	**Zalesovo Beam**	**81.10**	**327**	P	**P**	**16 16 17.7**	**-1.1**
1.1nm,0.3s,baz=114,slow=6.1,SNR=8.4							
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**16 16 28.9**	**-0.6**
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**16 16 28.9**	**-0.6**
0.7nm,0.7s,baz=245,slow=5.1,SNR=8.9							
QSPA	**South Pole Qui**	**84.49**	**180**	*e*P	**P**	**16 16 34.0**	**-2.4**
3.7nm,0.9s							
MAW	**Mawson**	**84.53**	**203**	P	**P**	**16 16 36.2**	**-0.1**
MAW	**Mawson**	**84.53**	**203**	P	**P**	**16 16 36.2**	**-0.1**
1.4nm,0.5s,baz=92,slow=8.6,SNR=8.5							
BVAR	**Borovoye Array**	**89.12**	**323**	P	**P**	**16 16 57.5**	**-1.4**
BVAR	**Borovoye Array**	**89.12**	**323**	P	**P**	**16 16 57.5**	**-1.4**
2.2nm,0.8s,baz=96,slow=6.0,SNR=14							
NVAR	**Mina Array Bea**	**93.36**	**52**	P	**P**	**16 17 20.5**	**+1.2**
NVAR	**Mina Array Bea**	**93.36**	**52**	P	**P**	**16 17 20.5**	**+1.2**
1.0nm,0.7s,baz=250,slow=4.6,SNR=7.1							
PDAR	**Pinedale Array**	**100.11**	**48**	P	**Pdif**	**16 17 49.9**	**+0.1**
PDAR	**Pinedale Array**	**100.11**	**48**	P	**Pdif**	**16 17 49.9**	**+0.1**
0.4nm,0.7s,baz=189,slow=3.9,SNR=3.8							
AKASG	**Malin Array Be**	**114.39**	**324**	PKP	PKPdf	16 22 42.2	-1.0
AKASG	**Malin Array Be**	**114.39**	**324**	PKP	PKPdf	16 22 42.2	-1.0
0.4nm,0.4s,baz=56,slow=4.3,SNR=4.2							
BRTR	**Keskin Array B**	**114.92**	**311**	PKP	PKPdf	16 22 44.5	-0.3
BRTR	**Keskin Array B**	**114.92**	**311**	PKP	PKPdf	16 22 44.5	-0.3
0.5nm,0.5s,baz=96,slow=2.5,SNR=2.8							
GERES	**GERESS Array B**	**124.04**	**328**	PKP	**PKPdf**	**16 23 02.2**	**+0.2**
GERES	**GERESS Array B**	**124.04**	**328**	PKP	**PKPdf**	**16 23 02.2**	**+0.2**
1.3nm,0.6s,baz=50,slow=2.1,SNR=11							
EKA	**Eskdalemuir Ar**	**126.34**	**342**	PKP	**PKPdf**	**16 23 06.0**	**-0.1**
EKA	**Eskdalemuir Ar**	**126.34**	**342**	PKP	**PKPdf**	**16 23 06.0**	**-0.1**
0.4nm,0.4s,baz=3.4,slow=2.9,SNR=3.5							
LPAZ	**La Paz**	**135.06**	**119**	PKP	**PKPdf**	**16 23 25.3**	**+0.8**
LPAZ	**La Paz**	**135.06**	**119**	PKP	**PKPdf**	**16 23 25.3**	**+0.8**
1.1nm,0.8s,baz=180,slow=6.1,SNR=4.4							
TORD	**Torodi Ar. Bea**	**149.46**	**287**	PKPbc	**PKPbc**	**16 23 53.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.46**	**287**	PKPbc	**PKPbc**	**16 23 53.3**	**-0.3**
16nm,0.7s,baz=77,slow=3.0,SNR=71							
BDFB	**Brasilia**	**151.35**	**137**	PKP	**PKPdf**	**16 23 50.9**	**-1.3**
BDFB				PKPbc	**PKPbc**	**16 23 58.4**	**+0.1**
BDFB				PKPab	**PKPab**	**16 24 05.3**	**-1.1**
BDFB	**Brasilia**	**151.35**	**137**	PKP	**PKPdf**	**16 23 50.9**	**-1.3**
1.7nm,0.4s,baz=228,slow=9.5,SNR=2.2							
BDFB				PKPbc	**PKPbc**	**16 23 58.4**	**+0.1**
5.1nm,0.6s,baz=180,slow=5.1,SNR=6.3							
BDFB				PKPab	**PKPab**	**16 24 05.3**	**-1.1**
5.0nm,0.8s,baz=169,slow=5.2,SNR=4.3							

*NEIC **07** 16:08:21.0, 38°34S×73°26W, h65km, MG4.2(GUC), After GUC.*
NEIC Felt [II] at Angol and Temuco.
GUC 07 16:08:21.1±1.2, 38°34S×73°26W, h65km±45km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.46**	**180**	*e*P	Pn	16 08 52.3	+6.9
VLCH				*e*S	Sn	16 09 10.6	+6.9
VLCH	**Valdivia**	**1.46**	**180**	*e*P	Pn	16 08 52.3	+6.9
VLCH				*e*S	Sn	16 09 10.6	+6.9
CCHI	**Chillan**	**1.98**	**29**	*e*P	Pn	16 08 52.3	0.0
CCHI				*e*S	Sn	16 09 15.9	-0.1
CCHI	**Chillan**	**1.98**	**29**	*e*P	Pn	16 08 52.3	0.0
CCHI				*e*S	Sn	16 09 15.9	-0.1
CCHI				AML	AML	16 09 26.4	
comp=N,826nm,0.5s							
PUYE	**Entre Lagos**	**2.40**	**168**	*e*P	Pn	16 09 01.9	+3.9
PUYE				*e*S	Sn	16 09 29.2	+3.0
PUYE	**Entre Lagos**	**2.40**	**168**	*e*P	Pn	16 09 01.9	+3.9
PUYE				*e*S	Sn	16 09 29.2	+3.0
PUYE				AML	AML	16 09 53.6	
comp=N,5μm,0.5s							
PLCA	**Paso Flores**	**3.18**	**140**	*e*Pn	Pn	16 09 12.5	+3.7
TRQA	**Tornquist**	**8.89**	**92**	*e*Pn	Pn	16 10 22.7	-4.1

*NSSC **07** 16:14:21.4±2.8, 35°90N×26°58E, h0km±399km, MD2.5, ML3.8*
*MOS **07** 16:14:27.6±1.5, 35°84N×26°66E, h91km, mb4.1/13, Error ellipse: s-maj=12.8km s-min=5.0km az=96.8*
*ISCJB **07** 16:14:27.3±0.1, 35°83N±0°01×26°73E±0°01, h102km±2km, mb4.0/32, Error ellipse: s-maj=2.3km s-min=1.8km az=18.2*
*CSEM **07** 16:14:28.7±0.1, 35°82N×26°70E, h100km, mb3.9/19, Error ellipse: s-maj=1.9km s-min=1.4km az=30.0*
*ISK **07** 16:14:28.3, 35°91N×26°69E, h85km, ML4.1*
*ATH **07** 16:14:29.3, 36°00N×26°65E, h76km±2km, ML3.8*
*NIC **07** 16:14:29.7±0.1, 36°01N×26°97E, h66km, mb4.5, ML4.0, MW3.8*
*IDC **07** 16:14:30.3±2.3, 36°15N×26°55E, h94km±18km, mb3.9/16, mb1 3.9/20, mb1mx3.8/31, mbtmp3.8/20, MS2.6/1, Ms1 2.6/1, ms1mx1.9/36, Error ellipse: s-maj=19.7km s-min=12.1km az=169.0*
*THE **07** 16:14:31.3, 35°96N×26°60E, h67km±2km, ML3.9/9, Error ellipse: s-maj=2.9km s-min=0.6km az=145.0*
*DDA **07** 16:14:32.7, 36°17N×26°86E, h48km, ML4.2*
*HLW **07** 16:14:37.5, 35°39N×27°06E, h32km±4km, Md3.9, Ml0.0*
ISC 07 16:14:28.9±0.4, 35°90N±0°03×26°68E±0°02, h95km±4km, n584, σ1°28/676, mb4.0/31, 13C-10D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**132**	P	**Pn**	**16 14 44.5**	**+0.2**
KARP				S	**Sn**	**16 14 55.1**	**-0.7**
KARP	**Karpathos**	**0.52**	**132**	*e*P	**Pn**	**16 14 44.8**	**+0.5**
KARP				*e*S	**Sn**	**16 14 55.1**	**-0.7**
KARP	**Karpathos**	**0.52**	**132**	P	**Pn**	**16 14 44.5**	**+0.2**
KARP				*e*S	**Sn**	**16 14 55.1**	**-0.7**
NIS1	**Nisyros Isl.**	**0.81**	**29**	P	**Pn**	**16 14 46.8**	**-0.1**
NIS1				S	**Sn**	**16 14 57.7**	**-2.7**
NIS1	**Nisyros Isl.**	**0.81**	**29**	P	**Pn**	**16 14 46.8**	**-0.1**
NIS1				S	**Sn**	**16 14 57.7**	**-2.7**
ZKR	**Zakros**	**0.87**	**206**	P	**Pn**	**16 14 48.3**	**+0.8**
ZKR				S	**Sn**	**16 15 01.3**	**-0.1**
ZKR	**Zakros**	**0.87**	**206**	*e*P	**Pn**	**16 14 48.7**	**+1.2**
ZKR				*e*S	**Sn**	**16 15 02.5**	**+1.1**
ZKR	**Zakros**	**0.87**	**206**	P	**Pn**	**16 14 48.3**	**+0.8**
ZKR				S	**Sn**	**16 15 01.3**	**-0.1**
NPS	**Neapolis**	**1.08**	**234**	P	**Pn**	**16 14 49.9**	**+0.1**
NPS				S	**Sn**	**16 15 04.1**	**-1.4**
NPS	**Neapolis**	**1.08**	**234**	*e*P	**Pn**	**16 14 50.0**	**+0.1**
NPS				*e*S	**Sn**	**16 15 04.4**	**-1.1**
NPS	**Neapolis**	**1.08**	**234**	P	**Pn**	**16 14 49.9**	**+0.1**
NPS				*e*S	**Sn**	**16 15 04.4**	**-1.1**
SANT	**Santorini**	**1.10**	**296**	P	**Pn**	**16 14 49.1**	**-0.9**
SANT				S	**Sn**	**16 15 02.9**	**-3.1**
SANT	**Santorini**	**1.10**	**296**	*e*P	**Pn**	**16 14 49.7**	**-0.3**
SANT				*e*S	**Sn**	**16 15 03.3**	**-2.7**
SANT	**Santorini**	**1.10**	**296**	*e*P	**Pn**	**16 14 49.7**	**-0.3**
SANT				S	**Sn**	**16 15 02.9**	**-3.1**
THR1	**Thera Island**	**1.10**	**296**	P	**Pn**	**16 14 49.6**	**-0.4**
THR1	**Thera Island**	**1.10**	**296**	P	**Pn**	**16 14 49.6**	**-0.4**
DAT	**Datca**	**1.10**	**41**	PN	**Pn**	**16 14 49.6**	**-0.6**
DAT	**Datca**	**1.10**	**41**	*i* Pn	**Pn**	**16 14 49.6**	**-0.6**
THR2	**Thira island,**	**1.15**	**299**	P	**Pn**	**16 14 50.1**	**-0.5**
THR2	**Thira island,**	**1.15**	**299**	P	**Pn**	**16 14 50.1**	**-0.5**
THR5	**Thira Island,**	**1.20**	**296**	P	**Pn**	**16 14 50.1**	**-1.1**
THR5	**Thira Island,**	**1.20**	**296**	P	**Pn**	**16 14 50.1**	**-1.1**
ARG	**Arkhangelos**	**1.21**	**74**	P	**Pn**	**16 14 52.2**	**+0.9**
ARG				S	**Sn**	**16 15 08.4**	**+0.1**
ARG	**Arkhangelos**	**1.21**	**74**	*e*P	**Pn**	**16 14 52.2**	**+0.9**
ARG				*e*S	**Sn**	**16 15 08.0**	**-0.3**
ARG	**Arkhangelos**	**1.21**	**74**	*e*P	**Pn**	**16 14 52.2**	**+0.9**
ARG				S	**Sn**	**16 15 08.4**	**+0.1**
LAST	**Lasithi**	**1.23**	**234**	P	**Pn**	**16 14 51.6**	**0.0**
LAST				S	**Sn**	**16 15 07.4**	**-1.3**
LAST	**Lasithi**	**1.23**	**234**	*e*P	**Pn**	**16 14 52.1**	**+0.5**
LAST				*e*S	**Sn**	**16 15 08.0**	**-0.7**
LAST	**Lasithi**	**1.23**	**234**	P	**Pn**	**16 14 51.6**	**0.0**
LAST				*e*S	**Sn**	**16 15 08.0**	**-0.7**
BODT	**Bodrum**	**1.27**	**23**	*e*PN	**Pn**	**16 14 52.0**	**0.0**
BODT				*e*SN	**Sn**	**16 15 08.0**	**-1.5**
BODT	**Bodrum**	**1.27**	**23**	*e*Pn	**Pn**	**16 14 52.1**	**0.0**
BODT				*e*Sn	**Sn**	**16 15 08.0**	**-1.5**
APE	**Apeiranthos**	**1.49**	**322**	*e*PN	**Pn**	**16 14 54.7**	**-0.2**
APE	**Apeiranthos**	**1.49**	**322**	P	**Pn**	**16 14 54.6**	**-0.2**
APE				S	**Sn**	**16 15 12.6**	**-1.9**
APE	**Apeiranthos**	**1.49**	**322**	*e*P	**Pn**	**16 14 54.6**	**-0.2**
APE				*e*S	**Sn**	**16 15 12.7**	**-1.8**
APE	**Apeiranthos**	**1.49**	**322**	*e*Pn	**Pn**	**16 14 54.7**	**-0.2**
APE				S	**Sn**	**16 15 12.6**	**-1.9**
IDI	**Anoyia**	**1.58**	**248**	P	**Pn**	**16 14 55.4**	**-0.5**
IDI				S	**Sn**	**16 15 14.8**	**-1.7**
IDI	**Anoyia**	**1.58**	**248**	*e*P	**Pn**	**16 14 56.0**	**+0.1**
IDI				*e*S	**Sn**	**16 15 15.4**	**-1.1**
IDI	**Anoyia**	**1.58**	**248**	*e*P	**Pn**	**16 14 56.0**	**+0.1**
IDI				*e*S	**Sn**	**16 15 15.4**	**-1.1**
MLSB	**Milas**	**1.65**	**32**	*e*PN	**Pn**	**16 14 56.8**	**0.0**
MLSB	**Milas**	**1.65**	**32**	*e*Pn	**Pn**	**16 14 56.8**	**0.0**
SIVA	**Sivas**	**1.76**	**241**	P	**Pn**	**16 14 59.3**	**+1.2**
SIVA				S	**Sn**	**16 15 20.1**	**-0.3**
SIVA	**Sivas**	**1.76**	**241**	*e*P	**Pn**	**16 14 59.7**	**+1.6**
SIVA				*e*S	**Sn**	**16 15 21.2**	**+0.8**
SIVA	**Sivas**	**1.76**	**241**	P	**Pn**	**16 14 59.3**	**+1.2**
SIVA				S	**Sn**	**16 15 20.1**	**-0.3**
YER	**Yerkesik**	**1.79**	**46**	*e*PN	**Pn**	**16 14 58.8**	**+0.3**
YER	**Yerkesik**	**1.79**	**46**	*e*Pn	**Pn**	**16 14 58.8**	**+0.3**
SMG	**Samos**	**1.81**	**4**	P	**Pn**	**16 14 58.9**	**+0.1**
SMG				S	**Sn**	**16 15 20.1**	**-1.5**
SMG	**Samos**	**1.81**	**4**	*e*P	**Pn**	**16 14 58.9**	**+0.1**
SMG	**Samos**	**1.81**	**4**	*e*P	**Pn**	**16 14 58.9**	**+0.1**
SMG				S	**Sn**	**16 15 20.1**	**-1.5**
DALY	**Dalyan (Mu¨la**	**1.84**	**59**	*e*PN	**Pn**	**16 14 59.4**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.84**	**59**	*e*Pn	**Pn**	**16 14 59.4**	**+0.3**
AYDN	**Tasoluk**	**2.01**	**28**	*i* P	**Pn**	**16 15 02.7**	**+1.3**
AYDN				*i* S	**Sn**	**16 15 26.1**	**0.0**
AYDN	**Tasoluk**	**2.01**	**28**	*i* P	**Pn**	**16 15 02.7**	**+1.3**
AYDN				*i* S	**Sn**	**16 15 26.1**	**0.0**
FETY	**Fethiye**	**2.08**	**68**	*e*PN	**Pn**	**16 15 02.7**	**+0.4**
FETY	**Fethiye**	**2.08**	**68**	*e*Pn	**Pn**	**16 15 02.7**	**+0.4**
VAM	**Vamos**	**2.08**	**257**	P	**Pn**	**16 15 01.8**	**-0.5**
VAM				S	**Sn**	**16 15 27.4**	**-0.4**
VAM	**Vamos**	**2.08**	**257**	*e*P	**Pn**	**16 15 02.3**	**0.0**
VAM	**Vamos**	**2.08**	**257**	*e*P	**Pn**	**16 15 02.3**	**0.0**
VAM				S	**Sn**	**16 15 27.4**	**-0.4**
KSL	**Kastellorizon

DEMI Demirci 3.53 27 eP Pn 16 15 22.8 +1.1
DEMI i S Sn 16 15 56.2 -6.4
DEMI Demirci 3.53 27 eP Pn 16 15 22.8 +1.1
DYR Agios Nikonas 3.62 285 P Pn 16 15 23.9 +1.1
DYR Agios Nikonas 3.62 285 eP Pn 16 15 24.1 +1.3
DYR Agios Nikonas 3.62 285 P Pn 16 15 23.9 +1.1
ISP Isparta 3.63 57 ePN Pn 16 15 23.5 +0.5
ISP Isparta 3.63 57 P Pn 16 15 23.6 +0.5
ISP Isparta 3.63 57 ePn Pn 16 15 23.5 +0.5
ACOR Acrocorinthos 3.65 304 P Pn 16 15 24.2 +1.0
ACOR Acrocorinthos 3.65 304 P Pn 16 15 24.2 +1.0
LTK Loutraki 3.66 307 P Pn 16 15 24.8 +1.5
LTK Loutraki 3.66 307 eP Pn 16 15 24.9 +1.6
LTK Loutraki 3.66 307 P Pn 16 15 24.8 +1.5
MRKA Markates 3.74 320 P Pn 16 15 25.5 +1.1
MRKA Markates 3.74 320 P Pn 16 15 25.5 +1.1
VLX Vlachokerasia 3.76 294 P Pn 16 15 25.5 +0.7
VLX S Sn 16 16 06.2 -1.9
VLX Vlachokerasia 3.76 294 eP Pn 16 15 25.5 +0.7
VLX Vlachokerasia 3.76 294 eP Pn 16 15 25.5 +0.7
VLX S Sn 16 16 06.2 -1.9
SUTC Sutluce-Ispart 3.81 64 ePN Pn 16 15 26.1 +0.6
SUTC Sutluce-Ispart 3.81 64 ePn Pn 16 15 26.1 +0.6
BALB Balikesir 3.86 14 ePN Pn 16 15 26.1 +0.1
BALB Balikesir 3.86 14 ePn Pn 16 15 26.1 +0.1
THAL Thalero 3.86 305 P Pn 16 15 27.5 +1.4
THAL Thalero 3.86 305 P Pn 16 15 27.5 +1.4
GDZ Gediz 3.89 34 i P Pn 16 15 27.5 +1.0
GDZ i S Sn 16 16 09.1 -2.1
GDZ Gediz 3.89 34 i P Pn 16 15 27.5 +1.0
GDZ i S Sn 16 16 09.1 -2.1
BALY Balya 3.91 11 i P Pn 16 15 27.7 +0.9
BALY eS Sn 16 16 07.6 -4.0
BALY Balya 3.91 11 i P Pn 16 15 27.7 +0.9
EZN Ezine 3.93 356 ePN Pn 16 15 27.3 +0.3
EZN Ezine 3.93 356 ePn Pn 16 15 27.3 +0.3
AOS Alonnisos 3.96 327 P Pn 16 15 27.6 +0.3
AOS Alonnisos 3.96 327 eP Pn 16 15 27.9 +0.6
AOS Alonnisos 3.96 327 eP Pn 16 15 27.9 +0.6
DURS Dursunbey 3.96 20 i P Pn 16 15 28.0 +0.5
DURS Dursunbey 3.96 20 i P Pn 16 15 28.0 +0.5
DST Dursunbey 4.01 22 ePN Pn 16 15 28.8 +0.7
DST Dursunbey 4.01 22 ePn Pn 16 15 28.8 +0.7
GUR Goura 4.03 302 P Pn 16 15 29.1 +0.6
GUR Goura 4.03 302 eP Pn 16 15 29.4 +0.9
GUR Goura 4.03 302 P Pn 16 15 29.1 +0.6
ITM Ithomi 4.04 290 P Pn 16 15 29.2 +0.7
ITM S Sn 16 16 13.6 -1.1
ITM Ithomi 4.04 290 eP Pn 16 15 29.7 +1.2
ITM eS Sn 16 16 13.8 -0.9
ITM Ithomi 4.04 290 P Pn 16 15 29.2 +0.7
ITM eS Sn 16 16 13.8 -0.9
SHUT Suhut-Afyon 4.07 48 ePN Pn 16 15 29.7 +0.7
SHUT Suhut-Afyon 4.07 48 ePn Pn 16 15 29.7 +0.7
PYL PYLOS 4.11 286 P Pn 16 15 29.1 -0.3
PYL S Sn 16 16 15.5 -0.9
PYL PYLOS 4.11 286 eP Pn 16 15 29.1 -0.3
PYL PYLOS 4.11 286 eP Pn 16 15 29.1 -0.3
PYL S Sn 16 16 15.5 -0.9
SKIA Skiathos 4.15 323 P Pn 16 15 31.3 +1.4
SKIA Skiathos 4.15 323 P Pn 16 15 31.3 +1.4
DSF Desfina 4.16 308 P Pn 16 15 31.4 +1.2
DSF Desfina 4.16 308 P Pn 16 15 31.4 +1.2
LIA Limnos Island 4.17 344 P Pn 16 15 30.6 +0.4
LIA Limnos Island 4.17 344 eP Pn 16 15 30.9 +0.7
LIA Limnos Island 4.17 344 eP Pn 16 15 30.9 +0.7
ALT Altintas 4.17 40 ePN Pn 16 15 31.1 +0.8
ALT Altintas 4.17 40 P Pn 16 15 31.4 +1.1
ALT Altintas 4.17 40 ePn Pn 16 15 31.1 +0.8
ALT Altintas 4.17 40 P Pn 16 15 31.4 +1.1
KLV Kalavryta, Ach 4.21 302 P Pn 16 15 31.4 +0.5
KLV Kalavryta, Ach 4.21 302 eP Pn 16 15 31.6 +0.7
KLV Kalavryta, Ach 4.21 302 eP Pn 16 15 31.6 +0.7
GONE Gonen-Balikesi 4.22 11 ePN Pn 16 15 31.1 +0.3
GONE Gonen-Balikesi 4.22 11 ePn Pn 16 15 31.2 +0.3
AMT Artemida-Makis 4.32 294 P Pn 16 15 33.9 +1.6
AMT Artemida-Makis 4.32 294 P Pn 16 15 33.9 +1.6
KALE Kalithea 4.40 306 P Pn 16 15 34.7 +1.3
KALE Kalithea 4.40 306 eP Pn 16 15 34.7 +1.3
KALE Kalithea 4.40 306 eP Pn 16 15 34.7 +1.3
LAKA Lakka 4.43 303 P Pn 16 15 34.4 +0.6
LAKA Lakka 4.43 303 eP Pn 16 15 35.4 +1.6
LAKA eS Sn 16 16 22.2 -2.0
LAKA Lakka 4.43 303 P Pn 16 15 34.4 +0.6
XOR Xorichti 4.44 322 P Pn 16 15 35.1 +1.2
XOR Xorichti 4.44 322 P Pn 16 15 35.1 +1.2
LTBQ Tobruq 4.46 212 i P Pn 16 15 35.2 +0.9
SNR=23
LTBQ eS Sn 16 16 22.5 -2.6
260nm,0.4s,SNR=23
LPK Lapseki 4.47 1 ePN Pn 16 15 34.7 +0.4
LPK Lapseki 4.47 1 ePn Pn 16 15 34.7 +0.4
KRBG Karabiga-Canak 4.52 6 ePN Pn 16 15 35.6 +0.7
KRBG Karabiga-Canak 4.52 6 ePn Pn 16 15 35.6 +0.7
KCTX Karacabey (Bur 4.56 16 ePN Pn 16 15 35.9 +0.4
KCTX Karacabey (Bur 4.56 16 ePn Pn 16 15 35.9 +0.4
SLUM 4.56 196 P Pn 16 15 35.5 -0.1
baz=203
SLUM 4.56 196 P Pn 16 15 35.5 -0.1
MATC Matruh 4.56 174 P Pn 16 15 35.0 -0.6
EFP Efpalio 4.58 305 P Pn 16 15 37.5 +1.8
EFP Efpalio 4.58 305 P Pn 16 15 37.5 +1.8
GAZI Gazipasa 4.58 84 i P Pn 16 15 35.4 -0.4
GAZI i S Sn 16 16 21.2 -6.6
GAZI Gazipasa 4.58 84 i P Pn 16 15 35.4 -0.4
SMTH Samothraki Isl 4.66 349 P Pn 16 15 37.2 +0.3
SMTH Samothraki Isl 4.66 349 eP Pn 16 15 37.1 +0.2
SMTH Samothraki Isl 4.66 349 P Pn 16 15 37.2 +0.3
AGG Agios Georgios 4.66 313 P Pn 16 15 38.9 +2.0
AGG Agios Georgios 4.66 313 eP Pn 16 15 39.0 +2.0
AGG Agios Georgios 4.66 313 P Pn 16 15 38.9 +2.0
PAIG Paliouri 4.67 330 P Pn 16 15 37.8 +0.8
PAIG Paliouri 4.67 330 eP Pn 16 15 38.0 +1.0
PAIG Paliouri 4.67 330 eP Pn 16 15 38.0 +1.0
AKMC Akamas 4.69 99 P Pn 16 15 36.3 -1.0
AKMC Akamas 4.69 99 P Pn 16 15 36.3 -1.0
RLS Riolos of Patr 4.70 299 P Pn 16 15 39.1 +1.7
RLS Riolos of Patr 4.70 299 eP Pn 16 15 39.6 +2.2
RLS Riolos of Patr 4.70 299 P Pn 16 15 39.1 +1.7
PPCY Paphos 4.73 101 P Pn 16 15 36.7 -1.2
PPCY Paphos 4.73 101 P Pn 16 15 36.7 -1.2
MAKR Makrakomi, Fth 4.77 312 P Pn 16 15 41.0 +2.5
MAKR Makrakomi, Fth 4.77 312 P Pn 16 15 41.0 +2.5
HMAT Matruh 4.80 176 P Pn 16 15 39.2 +0.3
baz=179
HMAT S Sn 16 16 25.1 -8.1
baz=179
HMAT Matruh 4.80 176 P Pn 16 15 39.2 +0.3
AXS Araxos 4.83 300 P Pn 16 15 41.1 +2.0
AXS Araxos 4.83 300 P Pn 16 15 41.1 +2.0
ALFC Alevga 4.88 97 P Pn 16 15 38.8 -1.1
57nm,0.1s
ALFC S Sn 16 16 32.6 -2.6
ALFC Alevga 4.88 97 P Pn 16 15 38.8 -1.1
57nm,0.1s
ALFC S Sn 16 16 32.6 -2.6
ESKT Eskisehir 4.90 41 ePN Pn 16 15 40.8 +0.6
ESKT Eskisehir 4.90 41 ePn Pn 16 15 40.8 +0.6
EVR Evrytania 4.91 309 P Pn 16 15 41.7 +1.3
EVR Evrytania 4.91 309 P Pn 16 15 41.7 +1.3
OUR Ouranopolis 4.92 335 P Pn 16 15 41.4 +1.1
OUR Ouranopolis 4.92 335 P Pn 16 15 41.4 +1.1
GEMT Gemlik 4.94 23 ePN Pn 16 15 41.2 +0.5
GEMT Gemlik 4.94 23 ePn Pn 16 15 41.2 +0.5
CAVI Cavuskoy 4.97 29 ePN Pn 16 15 41.8 +0.7
CAVI Cavuskoy 4.97 29 ePn Pn 16 15 41.8 +0.7
KONT Konya--Tatoy 4.99 64 ePN Pn 16 15 41.8 +0.5
KONT Konya--Tatoy 4.99 64 ePn Pn 16 15 41.8 +0.5
ALN Alexandroupoli 5.02 354 P Pn 16 15 41.9 +0.2
ALN Alexandroupoli 5.02 354 P Pn 16 15 41.9 +0.2
ERMK Ermenek 5.09 80 i P Pn 16 15 45.4 +2.5
ERMK i S Sn 16 16 36.8 -3.7
ERMK Ermenek 5.09 80 i P Pn 16 15 45.4 +2.5
ERMK i S Sn 16 16 36.8 -3.7
LADK Ladik-KONYA 5.09 61 ePN Pn 16 15 43.3 +0.4
LADK Ladik-KONYA 5.09 61 ePn Pn 16 15 43.3 +0.4
KIZT Kizilcal 5.10 53 ePN Pn 16 15 43.5 +0.6
KIZT Kizilcal 5.10 53 ePn Pn 16 15 43.5 +0.6
LEF Lefka 5.12 97 ePN Pn 16 15 42.4 -0.7
LEF Lefka 5.12 97 ePn Pn 16 15 42.4 -0.7

SZAC Souni-Zanaja 5.20 101 P Pn 16 15 43.2 -1.0
SZAC Souni-Zanaja 5.20 101 P Pn 16 15 43.2 -1.0
THL Klokotos Trika 5.21 316 P Pn 16 15 46.6 +2.3
THL Klokotos Trika 5.21 316 eP Pn 16 15 46.0 +1.7
THL Klokotos Trika 5.21 316 eP Pn 16 15 46.0 +1.7
SVRH Sivrihisar-ESK 5.22 46 ePN Pn 16 15 45.3 +0.6
SVRH Sivrihisar-ESK 5.22 46 ePn Pn 16 15 45.3 +0.6
GPA Golpazari 5.24 32 ePN Pn 16 15 45.4 +0.7
GPA Golpazari 5.24 32 ePn Pn 16 15 45.4 +0.7
RDO Rodhopi 5.32 351 P Pn 16 15 46.4 +0.6
RDO Rodhopi 5.32 351 P Pn 16 15 46.4 +0.6
KAVA Kavala 5.37 342 P Pn 16 15 47.3 +0.8
KAVA Kavala 5.37 342 P Pn 16 15 47.3 +0.8
MAMC Mammari 5.38 96 P Pn 16 15 45.5 -1.1
MAMC Mammari 5.38 96 P Pn 16 15 45.5 -1.1
VLS Valsamata 5.38 297 P Pn 16 15 46.0 -0.7
VLS Valsamata 5.38 297 eP Pn 16 15 46.6 -0.1
VLS Valsamata 5.38 297 eP Pn 16 15 46.6 -0.1
GULT Gulveren 5.44 33 ePN Pn 16 15 48.2 +0.6
GULT Gulveren 5.44 33 ePn Pn 16 15 48.2 +0.6
HORT Hortiatis 5.48 330 P Pn 16 15 49.9 +1.9
HORT Hortiatis 5.48 330 P Pn 16 15 49.9 +1.9
CSS Prodhromos 5.51 98 P Pn 16 15 47.4 -1.0
7.8nm,0.3s
CSS S Sn 16 16 48.2 -2.2
CSS Prodhromos 5.51 98 ePN Pn 16 15 48.2 -0.2
CSS Prodhromos 5.51 98 P Pn 16 15 47.2 -1.2
CSS Prodhromos 5.51 98 P Pn 16 15 47.4 -1.0
7.8nm,0.3s
CSS Prodhromos 5.51 98 ePn Pn 16 15 48.2 -0.2
CSS S Sn 16 16 48.2 -2.2
LKD2 Lefkada island 5.60 303 P Pn 16 15 49.8 +0.1
LKD2 Lefkada island 5.60 303 P Pn 16 15 49.8 +0.1
AKIN Ak'–nc'–lar- K 5.61 97 ePN Pn 16 15 49.7 0.0
AKIN Ak'–nc'–lar- K 5.61 97 ePn Pn 16 15 49.7 0.0
LFK Lefkose 5.62 94 ePN Pn 16 15 49.8 -0.2
LFK Lefkose 5.62 94 ePn Pn 16 15 49.8 -0.2
IKL Isikli 5.68 84 ePN Pn 16 15 51.2 +0.5
IKL Isikli 5.68 84 ePn Pn 16 15 51.2 +0.5
SRS Serrai 5.75 336 P Pn 16 15 52.9 +1.2
SRS Serrai 5.75 336 P Pn 16 15 52.9 +1.2
KDZ Kurdzhali 5.83 351 i P Pn 16 15 53.5 +0.7
NVR Nevrokopi 5.88 339 P Pn 16 15 54.7 +1.3
NVR Nevrokopi 5.88 339 P Pn 16 15 54.7 +1.3
HBRG Burj al 'Arab 5.93 153 P Pn 16 15 52.8 -1.3
baz=153
EDRB Edirne 5.94 0 P Pn 16 15 55.1 +0.8
EDRB Edirne 5.94 0 P Pn 16 15 55.1 +0.8
RZN Rozhen 5.98 346 i P Pn 16 15 56.3 +1.3
KNT Kendrikon 6.04 332 P Pn 16 15 57.6 +2.0
KNT Kendrikon 6.04 332 P Pn 16 15 57.6 +2.0
PHNC Paralimni 6.06 96 P Pn 16 15 56.4 +0.4
4.4nm,0.5s
PHNC S Sn 16 17 02.4 -1.6
PHNC Paralimni 6.06 96 P Pn 16 15 56.4 +0.4
4.4nm,0.5s
PHNC S Sn 16 17 02.4 -1.6
GRG Griva 6.07 328 P Pn 16 15 58.3 +2.3
GRG Griva 6.07 328 P Pn 16 15 58.3 +2.3
MMB Musomiste 6.14 339 i P Pn 16 15 58.1 +1.1
AFSR Af'ar-Bala (A 6.18 53 ePN Pn 16 15 58.0 +0.3
AFSR Af'ar-Bala (A 6.18 53 ePn Pn 16 15 58.0 +0.3
LOD Lodumlu 6.25 49 ePN Pn 16 15 58.8 +0.3
LOD Lodumlu 6.25 49 ePn Pn 16 15 58.8 +0.3
ANTO Ankara 6.25 49 ePN Pn 16 15 58.8 +0.2
ANTO Ankara 6.25 49⇑ i P Pn 16 15 59.9 +1.3
ANTO Ankara 6.25 49 ePn Pn 16 15 58.8 +0.2
VAY Valandovo 6.30 331 ePn Pn 16 16 00.6 +1.5
PLD Plovdiv 6.39 347 P Pn 16 16 02.1 +1.8
PLD Plovdiv 6.39 347 P Pn 16 16 02.1 +1.8
KKB Krupnik 6.59 336 i P Pn 16 16 05.0 +1.9
KEK Kerkira 6.65 307 P Pn 16 16 02.8 -1.1
KEK Kerkira 6.65 307 P Pn 16 16 02.8 -1.1
BRTR Keskin Array B 6.70 53 P Pn 16 16 06.0 +1.2
1.3nm,0.3s,baz=210,slow=12,SNR=34
BRTR S Sn 16 17 18.4 -1.2
1.6nm,0.3s,baz=217,slow=24,SNR=16
BRTR Keskin Array B 6.70 53 i P Pn 16 16 06.0 +1.2
3.0nm,0.3s
SWA2 6.71 189 P Pn 16 16 04.5 -0.3
baz=193
SWA2 6.71 189 P Pn 16 16 04.6 -0.3
KARA Karaisali 6.87 76 ePN Pn 16 16 07.0 0.0
KARA Karaisali 6.87 76 ePn Pn 16 16 07.0 0.0
HMYD Mayadein 7.00 149 P Pn 16 16 07.8 -1.0
baz=149
HMYD Mayadein 7.00 149 P Pn 16 16 07.8 -1.0
HNAT Natroun 7.07 151 P Pn 16 16 08.3 -1.4
baz=151
HNAT Natroun 7.07 151 P Pn 16 16 08.3 -1.4
SQR 7.10 146 P Pn 16 16 09.1 -1.0
baz=146
SQR 7.10 146 P Pn 16 16 09.1 -1.0
HLW Helwan 7.18 146 P Pn 16 16 09.2 -2.0
baz=145
HLW Helwan 7.18 146 P Pn 16 16 09.2 -2.0
FYM Al Fayyum 7.19 148 P Pn 16 16 10.5 -0.9
baz=148
FYM S Sn 16 17 19.0 -13
baz=148
FYM Al Fayyum 7.19 148 P Pn 16 16 10.5 -0.9
VTS Vitosha 7.21 339 P Pn 16 16 11.5 -0.2
VTS Vitosha 7.21 339 ⇑P Pn 16 16 13.3 +1.6
VTS Vitosha 7.21 339 i P Pn 16 16 14.3 +2.6
VTS Vitosha 7.21 339⇑ i P Pn 16 16 13.3 +1.6
VTS Vitosha 7.21 339 P Pn 16 16 13.3 +1.6
AYT Al 'Ayyat 7.23 147 P Pn 16 16 10.8 -1.1
baz=147
AYT Al 'Ayyat 7.23 147 P Pn 16 16 10.8 -1.1
KOT Kottamia 7.36 143 P Pn 16 16 11.9 -1.7
baz=142
KOT S Sn 16 17 24.0 -12
baz=142
KOT Kottamia 7.36 143 P Pn 16 16 11.9 -1.7
HHAG Hagoal 7.47 141 P Pn 16 16 13.4 -1.8
baz=140
HHAG S Sn 16 17 25.7 -13
baz=140
HHAG Hagoal 7.47 141 P Pn 16 16 13.4 -1.8
HSAF As Saff 7.48 145 P Pn 16 16 13.9 -1.4
baz=145
HSAF As Saff 7.48 145 P Pn 16 16 13.9 -1.4
KOZT Kozan 7.51 75 ePN Pn 16 16 15.7 -0.1
KOZT Kozan 7.51 75 ePn Pn 16 16 15.7 -0.1
ARNB Al Arnab 7.54 88 eP Pn 16 16 15.3 -0.8
ARNB AML AML 16 16 18.0
comp=N,36nm,0.2s
ARNB eS Sn 16 17 36.1 -4.0
ARNB AML AML 16 17 45.4
comp=E,62nm,0.8s
ARNB Al Arnab 7.54 88 eP Pn 16 16 14.7 -1.5
ARNB AML AML 16 16 17.8
comp=N,36nm,0.2s
ARNB eS Sn 16 17 34.0 -6.1
ARNB Al Arnab 7.54 88 eP Pn 16 16 14.7 -1.5
SNR=45
AMAG Maghara 7.57 132 P Pn 16 16 13.7 -2.8
baz=130
AMAG Maghara 7.57 132 P Pn 16 16 13.7 -2.8
GLL Jalalah 7.59 145 P Pn 16 16 15.3 -1.4
baz=144
GLL Jalalah 7.59 145 P Pn 16 16 15.4 -1.4
BHL Bhannes 7.63 102 eP Pn 16 16 15.2 -2.2
HTY Hatay 7.67 86 ePN Pn 16 16 17.8 0.0
HTY Hatay 7.67 86 ePn Pn 16 16 17.8 0.0
RSH 7.67 128 P Pn 16 16 15.7 -2.2
baz=126
RSH 7.67 128 P Pn 16 16 15.7 -2.2
MMAI Mount Meron Ar 7.75 109 P Pn 16 16 17.0 -2.1
comp=N,27nm,0.3s,baz=303,slow=13,SNR=132
MMAI S Sn 16 17 39.8 -5.5
comp=N,57nm,0.3s,baz=304,slow=29,SNR=12
HWQ Hawqa 7.76 99 eP Pn 16 16 17.8 -1.5
AWBH 7.78 165 P Pn 16 16 18.2 -1.2
baz=167
AWBH 7.78 165 P Pn 16 16 18.2 -1.2
RCY Rachaya 7.91 105 eP Pn 16 16 19.4 -1.8
BTCH Batrach 7.93 86 eP Pn 16 16 20.2 -1.3
BTCH AML AML 16 16 22.9
comp=E,70nm,0.3s
BTCH eS Sn 16 17 46.9 -2.6
BTCH AML AML 16 17 58.3
comp=N,59nm,0.5s

BTCH Batrach 7.93 86 eP Pn 16 16 20.1 -1.3
BTCH AML AML 16 16 22.6
comp=E,70nm,0.3s
BTCH eS Sn 16 17 44.1 -5.4
BTCH AML AML 16 18 06.9
comp=N,74nm,0.4s
BTCH Batrach 7.93 86 eP Pn 16 16 20.1 -1.3
SNR=45
SUZ 7.95 138 P Pn 16 16 20.7 -1.0
baz=137
SUZ 7.95 138 P Pn 16 16 20.7 -1.0
BRBR Barbar 8.03 105 eP Pn 16 16 21.7 -1.2
BRBR eS Sn 16 17 46.7 -5.4
BRBR AML AML 16 17 49.3
comp=E,270nm,0.3s
BRBR AML AML 16 17 49.6
comp=N,212nm,0.5s
BRBR Barbar 8.03 105 i P Pn 16 16 21.7 -1.2
BRBR eS Sn 16 17 44.3 -7.9
BRBR AML AML 16 17 49.3
comp=E,270nm,0.3s
BRBR AML AML 16 17 49.6
comp=N,212nm,0.5s
BRBR Barbar 8.03 105 i P Pn 16 16 21.7 -1.2
SNR=45
HAWK Haweek 8.07 97 eP Pn 16 16 22.1 -1.4
HAWK AML AML 16 17 51.9
comp=N,128nm,0.8s
LUJL Ujela 8.14 215 i P Pn 16 16 23.3 -1.0
SNR=22
ZAF 8.24 141 P Pn 16 16 24.1 -1.6
baz=141
ZAF 8.24 141 P Pn 16 16 24.1 -1.6
MARH Ras Al Marh 8.26 100 eP Pn 16 16 25.4 -0.8
MARH eS Sn 16 17 53.8 -4.1
MARH AML AML 16 18 00.5
comp=N,101nm,0.6s
MARH Ras Al Marh 8.26 100 i P Pn 16 16 25.4 -0.8
MARH eS Sn 16 17 49.7 -8.2
MARH AML AML 16 17 55.9
comp=E,101nm,0.3s
MARH AML AML 16 18 00.4
comp=N,101nm,0.6s
MARH Ras Al Marh 8.26 100 i P Pn 16 16 25.4 -0.8
SNR=45
KFRA Kufra 8.27 92 eP Pn 16 16 24.6 -1.5
KFRA eS Sn 16 17 51.0 -6.9
KFRA AML AML 16 18 00.5
comp=E,260nm,0.7s
KFRA AML AML 16 18 00.8
comp=N,83nm,0.3s
KFRA Kufra 8.27 92 eP Pn 16 16 24.6 -1.5
SNR=45
TCHB Talchebab 8.33 110 eP Pn 16 16 24.8 -2.0
TCHB eS Sn 16 17 56.6 -2.7
ZNM 8.34 140 P Pn 16 16 25.8 -1.1
baz=139
ZNM 8.34 140 P Pn 16 16 25.8 -1.1
TOTH TOTAH 8.42 105 i P Pn 16 16 28.3 +0.2
TOTH eS Sn 16 17 56.2 -5.3
TOTH AML AML 16 17 59.4
comp=N,88nm,0.6s
TOTH TOTAH 8.42 105 i P Pn 16 16 28.3 +0.2
SNR=45
HNKL Nakhl 8.54 132 P Pn 16 16 28.5 -1.3
baz=131
HNKL Nakhl 8.54 132 P Pn 16 16 28.5 -1.3
TIRR Tirgusor 8.65 8 ⇓P Pn 16 16 33.1 +2.0
TIRR Tirgusor 8.65 8⇓ i P Pn 16 16 33.1 +2.0
TIRR Tirgusor 8.65 8 P Pn 16 16 33.1 +2.0
HFRF Wahat Farafira 8.83 171 P Pn 16 16 32.9 -0.8
baz=172
HFRF Wahat Farafira 8.83 171 P Pn 16 16 32.9 -0.8
SALA Sala 8.90 108 eP Pn 16 16 34.1 -0.7
SALA eS Sn 16 18 08.9 -4.5
SALA AML AML 16 18 20.9
comp=N,106nm,0.7s
SALA Sala 8.90 108 i P Pn 16 16 34.0 -0.7
SALA eS Sn 16 18 07.0 -6.4
SALA AML AML 16 18 13.6
comp=E,9.1nm,0.4s
SALA AML AML 16 18 20.8
comp=N,106nm,0.7s
SALA Sala 8.90 108 i P Pn 16 16 34.0 -0.7
SNR=45
GRB Gharib 9.20 144 P Pn 16 16 37.1 -1.6
baz=144
GRB Gharib 9.20 144 P Pn 16 16 37.1 -1.6
ZALF Zalf 9.29 106 eP Pn 16 16 39.6 -0.3
ZALF eS Sn 16 18 21.5 -1.1
EIL Elat 9.32 129 P Pn 16 16 39.0 -1.3
comp=N,2.6nm,0.3s,baz=288,slow=5.4,SNR=85
EIL S Sn 16 18 14.9 -8.6
comp=N,42nm,0.3s,baz=348,slow=14,SNR=20
CFR Carcaliu 9.34 6 ⇓P Pn 16 16 42.5 +2.1
CFR Carcaliu 9.34 6⇓ i P Pn 16 16 42.5 +2.1
CFR Carcaliu 9.34 6 P Pn 16 16 42.5 +2.1
HBST Basata 9.51 132 P Pn 16 16 41.6 -1.3
baz=131
HBST Basata 9.51 132 P Pn 16 16 41.6 -1.3
MLR Muntele Rosu 9.60 357⇓ i P Pn 16 16 45.5 +1.3
MLR Muntele Rosu 9.60 357 P Pn 16 16 45.4 +1.3
comp=N,0.1nm,0.3s,baz=179,slow=6.5,SNR=11
MLR Muntele Rosu 9.60 357 P Pn 16 16 45.4 +1.3
VOIR 9.61 353 ⇑P Pn 16 16 44.7 +0.4
VOIR 9.61 353⇑ i P Pn 16 16 44.7 +0.4
VOIR 9.61 353 P Pn 16 16 44.7 +0.4
MALT Malatya 9.69 72⇑ i P Pn 16 17 11.1 +26
STON Ston 9.84 318 ePn Pn 16 16 43.9 -3.4
STON Sn Sn 16 18 25.2 -11
GZR Gura Zlata 9.94 344 ⇑P Pn 16 16 48.7 0.0
GZR Gura Zlata 9.94 344⇑ i P Pn 16 16 48.7 0.0
GZR Gura Zlata 9.94 344 P Pn 16 16 48.7 0.0
LMSR Misrath 10.32 253 i P Pn 16 16 51.3 -2.6
SNR=22
BZS Buzias 10.44 340 ⇑P Pn 16 16 56.4 +0.9
BZS Buzias 10.44 340⇑ i P Pn 16 16 56.4 +0.9
BZS Buzias 10.44 340 P Pn 16 16 56.4 +0.9
BURAR Bucovina Array 11.76 355 ⇓P Pn 16 17 14.1 +0.7
BURAR Bucovina Array 11.76 355⇓ i P Pn 16 17 14.1 +0.7
UDBI Udbina 11.99 319 ePn Pn 16 17 14.5 -1.9
UDBI Sn Sn 16 19 21.4 -6.8
KECS Kecovo 13.38 342 eP P 16 17 42.4 +1.5
KECS Kecovo 13.38 342 eP P 16 17 42.4 +1.5
KECS Kecovo 13.38 342 eP P 16 17 42.4 +1.5
KOLS Kolonicke sedl 13.43 347 eP P 16 17 42.5 +1.1
KOLS Kolonicke sedl 13.43 347 eP P 16 17 42.5 +1.1
KOLS Kolonicke sedl 13.43 347 eP P 16 17 42.5 +1.1
CRVS Cervenica-Dubn 13.55 345 eP P 16 17 43.2 +0.4
CRVS Cervenica-Dubn 13.55 345 eP P 16 17 43.2 +0.4
CRVS Cervenica-Dubn 13.55 345 eP P 16 17 43.2 +0.4
VYHS Vyhne 13.86 338 eP P 16 17 45.6 -0.5
VYHS Vyhne 13.86 338 eP P 16 17 45.6 -0.5
VYHS Vyhne 13.86 338 eP P 16 17 45.6 -0.5
SOKA Soboth 13.87 325⇑ i P P 16 17 46.8 +0.5
comp=N,8.4nm,0.6s,SNR=8.9
SOKA Soboth 13.87 325 P P 16 17 46.8 +0.5
comp=N,8.4nm,0.6s,SNR=8.9
KEST Kesra 14.07 274 P Pn 16 17 44.2 +0.3
comp=N,0.2nm,0.3s,baz=72,slow=7.5,SNR=12
KEST S Sn 16 20 05.7 -13
comp=N,0.4nm,0.3s,baz=128,slow=20,SNR=3.5
STHS Stebnicka Huta 14.09 345 eP P 16 17 50.3 +1.6
STHS Stebnicka Huta 14.09 345 eP P 16 17 50.3 +1.6
STHS Stebnicka Huta 14.09 345 eP P 16 17 50.3 +1.6
NIE Niedzica 14.30 343 eP P 16 17 54.4 +3.4
KIV Kislovodsk 14.67 52⇓ eP Pn 16 17 52.7 +1.2
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 14.67 52 eP Pn 16 17 52.7 +1.2
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 14.91 6 i P Pn 16 17 55.5 +1.0
AKASG pmax pmax
comp=Z,19nm,0.4s
AKASG Malin Array Be 14.91 6 P Pn 16 17 53.4 -1.1
comp=Z,11nm,0.3s,baz=195,slow=11,SNR=90
KBA Koelnbreinsper 14.97 322⇓ i P P 16 17 59.7 +1.1
comp=Z,15nm,0.6s,SNR=8.7
KBA Koelnbreinsper 14.97 322 P P 16 17 59.7 +1.1
comp=Z,15nm,0.6s,SNR=8.7
MOA Molln 15.08 326⇑ i P P 16 17 59.6 -0.2
comp=Z,6.8nm,0.7s,SNR=5.7
MOA Molln 15.08 326 P P 16 17 59.6 -0.2
comp=Z,6.8nm,0.7s,SNR=5.7

OJC	Ojcow	15.16 343	eP	P	16 18 01.1 +0.5
OJC	Ojcow	15.16 343	eP	P	16 18 01.1 +0.5
OKC	Ostrava-Krasne	15.26 339	eP	P	16 18 02.2 +0.5
OKC	Ostrava-Krasne	15.26 339	eP	P	16 18 02.2 +0.5
OKC			ex	x	16 18 04.9
OKC	Ostrava-Krasne	15.26 339	eP	P	16 18 02.2 +0.5
VRAC	Vranov	15.30 334	P	P	16 18 02.3 +0.1
	comp=Z,1.3nm,0.3s,baz=138,slow=11,SNR=12				
VRAC	Vranov	15.30 334	P	P	16 18 02.3 +0.1
	comp=Z,1.0nm,0.3s				
MORC	Moravsky Berou	15.39 337	eP	P	16 18 03.7 +0.5
TREC	Trest	15.70 332	eP	P	16 18 07.3 +0.7
TREC	Trest	15.70 332	eP	P	16 18 07.3 +0.7
TREC	Trest	15.70 332	eP	P	16 18 07.3 +0.7
GERES	GERESS Array B	16.08 328	P	Pn	16 18 08.1 -1.2
	comp=Z,1.0nm,0.3s,baz=145,slow=9.6,SNR=33				
GERES			S	Sn	16 21 04.5 -2.7
	comp=Z,0.1nm,0.3s,baz=148,slow=24,SNR=2.3				
GERES			LR	LR	16 24 48.7
	comp=Z,26nm,21.3s,baz=98,slow=39				
DPC	Dobruska-Polom	16.28 336	eP	Pn	16 18 12.7 +0.9
DPC	Dobruska-Polom	16.28 336	eP	Pn	16 18 12.7 +0.9
DPC	Dobruska-Polom	16.28 336	eP	Pn	16 18 12.7 +0.9
FETA	Feichten	16.29 318	⇑/P	P	16 18 14.2 +0.9
	comp=Z,8.0nm,0.8s,SNR=5.4				
FETA	Feichten	16.29 318	P	P	16 18 14.2 +0.9
	comp=Z,8.0nm,0.8s,SNR=5.4				
KHC	Kasperske Hory	16.35 328	eP	Pn	16 18 13.2 +0.6
KHC	Kasperske Hory	16.35 328	eP	Pn	16 18 13.2 +0.6
KHC			ex	x	16 18 14.9
KHC	Kasperske Hory	16.35 328	eP	Pn	16 18 13.2 +0.6
DAVOX	Davos/Dischmat	16.62 316	P	P	16 18 18.5 +1.5
	comp=Z,0.8nm,0.3s,baz=184,slow=22,SNR=6.9				
DAVOX	Davos/Dischmat	16.62 316	P	P	16 18 18.5 +1.5
	comp=Z,1.0nm,0.3s				
PRU	Pruhonice	16.62 332	eP	P	16 18 17.1 +0.3
PRU	Pruhonice	16.62 332	eP	P	16 18 17.1 +0.3
PRU	Pruhonice	16.62 332	eP	P	16 18 17.1 +0.3
MBDF	Montbardon	17.53 306	eP	P	16 18 24.8 -2.2
	comp=Z,6.5nm,0.5s				
MBDF	Montbardon	17.53 306	eP	P	16 18 24.8 -2.2
	comp=Z,3.2nm,0.5s				
LPG	La Plagne	17.86 309	eP	P	16 18 30.8 0.0
	comp=Z,7.9nm,0.6s				
LPG	La Plagne	17.86 309	eP	P	16 18 30.8 0.0
	comp=Z,4.0nm,0.6s				
LPL	La Plagne	17.88 309	eP	P	16 18 30.9 0.0
	comp=Z,8.8nm,0.5s				
LPL	La Plagne	17.88 309	eP	P	16 18 30.9 0.0
	comp=Z,4.4nm,0.5s				
ORIF	Oris-en-Rattie	18.19 306	eP	P	16 18 30.9 -3.2
ORIF			eR		
	comp=Z,46nm,17.0s				
CLL	Collm	18.27 332	eP	P	16 18 35.0 +0.2
CLL			pmax	pmax	
	comp=Z,3.0nm,0.9s				
CLL	Collm	18.27 332	eP	P	16 18 35.0 +0.2
	comp=Z,3.0nm,0.9s				
CLL			i		16 18 36.5
	comp=Z,6.0nm,0.9s				
CLL			e		16 18 47.0
CLL	Collm	18.27 332	eP	P	16 18 35.0 +0.2
	comp=Z,3.0nm,0.9s				
MIB	Mutribah	18.38 103	eP	Pn	16 18 38.1 +0.7
MIB			AMb	AMB	16 18 40.7
	comp=Z,26nm,0.7s				
NAY	Al-Naaiem	18.54 105	eP	Pn	16 18 39.9 +0.6
NAY			AMb	AMB	16 18 41.3
	comp=Z,17nm,0.6s				
CABF	La Chapelle	18.77 311	eP	P	16 18 40.2 -0.3
	comp=Z,17nm,0.5s				
CABF	La Chapelle	18.77 311	eP	P	16 18 40.2 -0.3
	comp=Z,8.7nm,0.5s				
HINF	Hinteralfeld	18.91 315	eP	P	16 18 42.0 0.0
	comp=Z,4.2nm,0.5s				
HINF	Hinteralfeld	18.91 315	eP	P	16 18 42.0 0.0
	comp=Z,2.1nm,0.5s				
RDF	Al-Radifah	18.92 106	eP	Pn	16 18 44.5 +0.7
RDF			AMb	AMB	16 18 45.8
	comp=Z,17nm,0.6s				
VIVF	Saint-Julien-l	18.96 305	eP	P	16 18 42.7 +0.1
	comp=Z,18nm,0.8s				
VIVF	Saint-Julien-l	18.96 305	eP	P	16 18 42.7 +0.1
	comp=Z,8.9nm,0.8s				
CDF	Champ du Feu	19.00 317	eP	P	16 18 43.2 +0.2
	comp=Z,6.5nm,0.7s				
CDF	Champ du Feu	19.00 317	eP	P	16 18 43.2 +0.2
	comp=Z,3.2nm,0.7s				
LASF	Ste Croix	19.26 302	eP	P	16 18 46.5 +0.7
LASF	Ste Croix	19.26 302	eP	P	16 18 46.5 +0.7
HAU	Haudompre	19.30 315	eP	P	16 18 46.1 -0.1
	comp=Z,12nm,0.5s				
HAU	Haudompre	19.30 315	eP	P	16 18 46.1 -0.1
	comp=Z,6.2nm,0.5s				
PAGF	Fort de Pagny	19.94 316	eP	P	16 18 52.6 -0.5
	comp=Z,2.6nm,0.5s				
PAGF	Fort de Pagny	19.94 316	eP	P	16 18 52.6 -0.5
	comp=Z,1.3nm,0.5s				
SFTF	Sexfontaines	20.16 314	eP	P	16 18 55.6 +0.1
	comp=Z,20nm,0.6s				
SFTF	Sexfontaines	20.16 314	eP	P	16 18 55.6 +0.1
	comp=Z,10nm,0.6s				
SMF	Signal de Mont	20.18 309	eP	P	16 18 54.7 -1.0
	comp=Z,6.3nm,0.4s				
SMF	Signal de Mont	20.18 309	eP	P	16 18 54.7 -1.0
	comp=Z,3.2nm,0.4s				
MEZF	Maizieres J'vi	20.30 315	eP	P	16 18 57.0 0.0
	comp=Z,11nm,0.4s				
MEZF	Maizieres J'vi	20.30 315	eP	P	16 18 57.0 0.0
	comp=Z,5.6nm,0.4s				
OBN	Obninsk	20.39 16⇓	eP	P	16 18 58.9 +1.0
OBN			e		16 19 23.6
OBN			pmax	pmax	
	comp=Z,21nm,1.0s				
OBN	Obninsk	20.39 16	eP	P	16 18 58.9 +1.0
	comp=Z,21nm,1.0s				
LOR	Lormes	20.43 311	eP	P	16 18 57.7 -0.7
	comp=Z,7.0nm,0.6s				
LOR			eR		
	comp=Z,26nm,21.5s				
LOR	Lormes	20.43 311	eP	P	16 18 57.7 -0.7
	comp=Z,3.5nm,0.6s				
AVF	Avril sur Loir	20.55 309	eP	P	16 18 58.5 -1.1
	comp=Z,4.6nm,0.5s				
AVF	Avril sur Loir	20.55 309	eP	P	16 18 58.5 -1.1
	comp=Z,2.3nm,0.5s				
SSF	Saint Saulge	20.56 310	eP	P	16 18 59.4 -0.4
	comp=Z,22nm,0.5s				
SSF	Saint Saulge	20.56 310	eP	P	16 18 59.4 -0.4
	comp=Z,11nm,0.5s				
CAF	Calviac	20.74 303	eP	P	16 19 01.7 -0.1
	comp=Z,3.9nm,0.5s				
CAF	Calviac	20.74 303	eP	P	16 19 01.7 -0.1
	comp=Z,2.0nm,0.5s				
BGF	Bois d'Agland	20.78 308	eP	P	16 19 02.0 -0.1
	comp=Z,10nm,0.6s				
BGF	Bois d'Agland	20.78 308	eP	P	16 19 02.0 -0.1
	comp=Z,5.2nm,0.6s				
MEM	Membach	20.95 321	P	P	16 19 04.1 +0.2
	comp=Z,5.4nm,1.0s				
TCF	Toulx Ste Croi	21.09 307	eP	P	16 19 05.4 -0.1
	comp=Z,5.8nm,0.9s				
TCF	Toulx Ste Croi	21.09 307	eP	P	16 19 05.4 -0.1
	comp=Z,2.9nm,0.9s				
RJF	Les Rejaudoux	21.22 304	eP	P	16 19 07.1 +0.2
	comp=Z,4.8nm,0.5s				
RJF			eR		
	comp=Z,38nm,17.2s				
RJF	Les Rejaudoux	21.22 304	eP	P	16 19 07.1 +0.2
	comp=Z,2.4nm,0.5s				
GIVF	Givet	21.27 319	eP	P	16 19 06.8 -0.6
	comp=Z,6.6nm,0.5s				
GIVF	Givet	21.27 319	eP	P	16 19 06.8 -0.6
	comp=Z,3.3nm,0.5s				
DOU	Dourbes	21.39 318	P	P	16 19 08.7 0.0
	comp=Z,2.8nm,0.7s				
EPF	Esparros	21.50 297	eP	P	16 19 09.9 0.0
	comp=Z,3.1nm,0.5s				
EPF	Esparros	21.50 297	eP	P	16 19 09.9 0.0
	comp=Z,1.5nm,0.5s				
BAIF	Baives	21.58 318	eP	P	16 19 09.5 -1.2
	comp=Z,11nm,0.5s				
BAIF	Baives	21.58 318	eP	P	16 19 09.5 -1.2
	comp=Z,5.7nm,0.5s				
LFF	La Frestale	21.64 303	eP	P	16 19 12.2 +0.8
	comp=Z,7.3nm,0.4s				
LFF	La Frestale	21.64 303	eP	P	16 19 12.2 +0.8
	comp=Z,3.7nm,0.4s				
VSU	Vasula	22.58 0	eP	P	16 19 19.4 -1.7
VSU			pmax	pmax	
	comp=Z,12nm,1.0s				
VSU	Vasula	22.58 0	eP	P	16 19 19.4 -1.7
	comp=Z,12nm,1.0s				
MFF	Saint Martin d	22.73 306	eP	P	16 19 21.6 -1.2
	comp=Z,8.0nm,0.6s				
MFF	Saint Martin d	22.73 306	eP	P	16 19 21.6 -1.2
	comp=Z,4.0nm,0.6s				
LDF	La Druitiere	23.41 311	eP	P	16 19 27.1 -2.2
	comp=Z,7.2nm,0.5s				
LDF	La Druitiere	23.41 311	eP	P	16 19 27.1 -2.2
	comp=Z,3.6nm,0.5s				
FLN	La Foliniere	23.70 311	eP	P	16 19 29.7 -2.2
FLN			eR		
	comp=Z,36nm,18.8s				
FLN	La Foliniere	23.70 311	eP	P	16 19 29.7 -2.2
GRR	Gorron	23.79 310	eP	P	16 19 31.9 -0.8
	comp=Z,8.4nm,0.3s				
GRR	Gorron	23.79 310	eP	P	16 19 31.9 -0.8
	comp=Z,4.2nm,0.3s				
ESDC	Sonseca Array	24.45 288	P	P	16 19 39.8 +0.9
	comp=Z,0.4nm,0.5s,baz=77,slow=9.1,SNR=4.1				
SGMF	Saint Gilles	24.81 309	eP	P	16 19 41.3 -0.6
SGMF	Saint Gilles	24.81 309	eP	P	16 19 41.3 -0.6
QUIF	Quistinic	25.09 308	eP	P	16 19 43.5 -1.0
	comp=Z,6.1nm,0.3s				
QUIF	Quistinic	25.09 308	eP	P	16 19 43.5 -1.0
	comp=Z,3.0nm,0.3s				
ROSF	Rostrenen	25.29 309	eP	P	16 19 44.3 -2.0
ROSF	Rostrenen	25.29 309	eP	P	16 19 44.3 -2.0
FINES	FINESS Array B	25.57 359	P	P	16 19 47.7 -0.9
	comp=Z,1.9nm,0.4s,baz=161,slow=12,SNR=17				
FINES			PcP	PcP	16 23 17.8 +0.6
	comp=Z,0.5nm,0.5s,baz=144,slow=3.1,SNR=3.4				
FINES	FINESS Array B	25.57 359	PcP	PcP	16 23 17.8 +0.6
HFS	Hagfors	25.67 345	P	P	16 19 48.4 -1.2
	comp=Z,1.7nm,0.4s,baz=144,slow=10,SNR=19				
KAF	Kangasniemi	26.24 360	eP	P	16 19 56.3 +1.6
KAF			pmax	pmax	
	comp=Z,4.0nm,0.5s				
KAF	Kangasniemi	26.24 360	ep	P	16 19 56.3 +1.6
	comp=Z,4.3nm,0.5s				
KAF	Kangasniemi	26.24 360	eP	P	16 19 56.3 +1.6
	comp=Z,4.0nm,0.5s				
AKTK	Aktyubinsk	26.84 47	P	P	16 20 00.9 +0.6
	comp=Z,1.0nm,0.3s				
AKTO	Aktyubinsk	26.84 47	P	P	16 20 00.9 +0.6
AKTO			pmax	pmax	
	comp=Z,1.0nm,0.3s				
AKTO	Aktyubinsk	26.84 47	P	P	16 20 00.9 +0.6
	comp=Z,1.4nm,0.3s,baz=250,slow=6.0,SNR=9.5				
NB2	NORSAR Subarra	27.03 343	P	P	16 20 00.6 -1.3
	comp=Z,0.6nm,0.6s,baz=159,slow=9.3				
NB2	NORSAR Subarra	27.03 343	P	P	16 20 00.6 -1.3
	comp=Z,0.6nm,0.6s,SNR=7.0				
NOA	NORSAR Array B	27.03 343	P	P	16 20 00.6 -1.3
	comp=Z,0.5nm,0.5s,baz=148,slow=11,SNR=6.9				
EKA	Eskdalemuir Ar	28.18 323	P	P	16 20 11.3 -0.9
	comp=Z,1.0nm,0.4s,baz=120,slow=9.8,SNR=8.6				
EKA	Eskdalemuir Ar	28.18 323	P	P	16 20 11.3 -0.9
	comp=Z,1.0nm,0.4s				
TORD	Torodi Ar. Bea	31.91 231	P	P	16 20 47.2 +1.7
	comp=Z,3.9nm,0.5s,baz=33,slow=8.6,SNR=46				
ARCES	ARCESS Array B	33.70 359	P	P	16 20 59.0 -1.5
	comp=Z,0.6nm,0.4s,baz=178,slow=9.6,SNR=9.8				
ARCES			PP	PnPn	16 22 16.1 +0.3
	comp=Z,0.7nm,0.5s,baz=171,slow=8.6,SNR=4.4				
MKAR	Makanchi Array	42.33 57	P	P	16 22 15.2 +1.9
MKAR			pmax	pmax	
	comp=Z,3.0nm,0.4s				
MKAR			pmax	pmax	
	comp=N,1.0nm,0.8s				
MKAR	Makanchi Array	42.33 57	P	P	16 22 15.2 +1.9
	comp=N,2.9nm,0.4s,baz=267,slow=8.2,SNR=84				
MKAR			ScP	ScP	16 27 48.1 +1.0
	comp=N,0.8nm,0.8s,baz=277,slow=4.7,SNR=6.5				
MKAR	Makanchi Array	42.33 57	P	P	16 22 15.2 +1.9
	comp=N,1.0nm,0.8s				
NVS	Novosibirsk	42.69 45	eP	P	16 22 16.8 +0.8
NVS			pmax	pmax	
	comp=N,2.0nm,0.5s				
NVS			pmax	pmax	
	comp=E,3.0nm,0.5s				
NVS			pmax	pmax	
	comp=Z,10.0nm,0.5s				
NVS	Novosibirsk	42.69 45	eP	P	16 22 16.8 +0.8
ZALV	Zalesovo Beam	43.60 47	P	P	16 22 24.2 +0.8
ZALV			pmax	pmax	
	comp=Z,9.0nm,0.5s				
ZALV	Zalesovo Beam	43.60 47	P	P	16 22 24.2 +0.8
	comp=Z,8.5nm,0.5s,baz=269,slow=8.5,SNR=43				
ZALV	Zalesovo Beam	43.60 47	P	P	16 22 24.2 +0.8
	comp=Z,9.0nm,0.5s				
SONM	Songino Array	58.06 51	P	P	16 24 14.0 +1.9
	comp=Z,1.1nm,0.4s,baz=288,slow=7.3,SNR=7.4				
SONM	Songino Array	58.06 51	P	P	16 24 14.0 +1.9
	comp=Z,1.0nm,0.4s				
SCHQ	Schefferville	63.43 320	P	P	16 24 48.2 0.0
	comp=Z,14nm,0.5s,baz=57,slow=5.4,SNR=40				
KSRS	Korea Array	76.85 53	P	P	16 26 11.6 +1.1
	comp=Z,1.2nm,0.5s,baz=309,slow=4.5,SNR=9.6				
KSRS	Korea Array	76.85 53	P	P	16 26 11.6 +1.1
	comp=Z,1.0nm,0.5s				
YKA	Yellowknife Ar	77.12 343	P	P	16 26 11.1 -0.4
	comp=Z,0.8nm,0.4s,baz=31,slow=5.4,SNR=4.8				
YKA	Yellowknife Ar	77.12 343	P	P	16 26 11.1 -0.4
	comp=Z,1.0nm,0.5s				
ILAR	Eielson Array	79.54 357	P	P	16 26 24.9 +0.1
	comp=Z,0.4nm,0.6s,baz=329,slow=3.6,SNR=5.9				
ILAR	Eielson Array	79.54 357	P	P	16 26 25.0 +0.1
	comp=Z,1.0nm,0.7s				
ULM	Lac du Bonnet	80.38 327	P	P	16 26 29.8 +0.1
	comp=Z,2.9nm,0.5s,baz=62,slow=4.1,SNR=4.9				
ULM	Lac du Bonnet	80.38 327	P	P	16 26 29.8 +0.1
	comp=Z,3.0nm,0.6s				
WRA	Warramunga Arr	115.44 97	PKP	PKPdf	16 33 01.4 +1.4
	comp=Z,0.5nm,1.0s,baz=281,slow=2.1,SNR=3.3				
ASAR	Alice Springs	116.96 101	PKP	PKPdf	16 33 03.3 +0.4
	comp=Z,0.4nm,0.9s,baz=302,slow=1.8,SNR=4.8				

MAN 07 16:36:15, 7°.72N×124°.52E, h21km, mb3.9, ML2.7, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.56	73	eP	Pn	16 36 27.8	0.0
CTBH	Cotabato--PC H	0.56	209	⇑/P	Pb	16 36 26.4	+0.1
CGP	Cagayan de Oro	0.75	13	eP	Pn	16 36 30.2	-0.2
CGP				i S	Sn	16 36 41.9	+0.7
PAGZ	Pagadian	1.14	277	eP	Pn	16 36 35.6	-0.1
PAGZ				eS	Sn	16 36 51.0	+0.3
IPIL	Ipil	1.94	272	eP	Pb	16 36 49.3	-0.3
IPIL				eS	Sb	16 37 13.3	0.0

*IDC **07** 17:06:09.7±11.0, 33°.20N×141°.98E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=434.2km s-min=34.1km az=66.0*

JMA 07 17:05:31.2±0.1, 40°.72N×141°.32E, h94km±1km, M2.4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	Tenmabayashi	0.20	289	P	Pn	17 05 44.5	-0.2
JTM				S	Sn	17 05 54.3	-0.4
JANG	Nango	0.38	157	P	Pn	17 05 45.4	-0.1
JANG				eS	Sn	17 05 55.7	-0.5
JOT	Ohata	0.69	343	P	Pn	17 05 48.2	+0.2
JOT				eS	Sn	17 06 01.5	+1.0
JAH	Hinai	0.74	225	P	Pn	17 05 48.8	+0.3
JAH				S	Sn	17 06 01.6	+0.2
JIW	Iwasaki	1.01	263	P	Pn	17 05 51.6	+0.3
JIW				eS	Sn	17 06 06.8	+0.5
JSR	Shiriuchi	1.06	320	P	Pn	17 05 52.0	+0.2
JSR				eS	Sn	17 06 07.2	-0.1
JKB	Kayabe	1.19	350	P	Pn	17 05 53.9	+0.6
JKB				eS	Sn	17 06 10.9	+1.0
JOM	Ohasama	1.25	181	P	Pn	17 05 54.6	+0.6
JOM				eS	Sn	17 06 11.4	+0.2
JRG	Rokugo	1.42	202	P	Pn	17 05 57.1	+0.9
JMK	Ichinoseki	1.77	183	P	Pn	17 06 00.7	+0.2
SONM	Songino Array	25.83	298	P	P	17 12 24.1	+90
	0.4nm,0.6s,baz=100,slow=7.9,SNR=2.3						
WRA	Warramunga Arr	60.70	188	P	P	17 15 31.5	-1.2
	0.3nm,0.5s,baz=7.8,slow=7.7,SNR=9.1						
ASAR	Alice Springs	64.43	188	P	P	17 15 56.9	-0.5
	0.1nm,0.3s,baz=0.6,slow=6.7,SNR=7.2						

PRE 07 17:22:36.8±0.6, 26°.36S×27°.33E, h2km, ML1.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.56	177	eP	Pg	17 22 48.0	+0.1
PRYS				eS	Sg	17 22 55.6	+0.3
PRYS				AML	AML	17 22 56.7	
	comp=Z,3.2nm,0.2s						
PRYS	Parys	0.56	177	eP	Pb	17 22 48.8	-0.8
PRYS				eS	Sg	17 22 54.2	-1.1
SWZ	Schweizer	1.96	245	eP	Pn	17 23 11.5	+0.2
SWZ				eS	Sn	17 23 37.1	+0.4
SWZ				AML	AML	17 23 43.1	
	comp=Z,1.9nm,0.1s						
SWZ	Schweizer	1.96	245	eP	Pg	17 23 15.2	+0.5
SWZ				eS	Sb	17 23 39.1	+0.5
LBTB	Lobatse	2.06	310	eP	Pn	17 23 12.5	-0.1
LBTB				eS	Sn	17 23 39.7	+0.8
LBTB				AML	AML	17 23 47.5	
	comp=Z,2.8nm,0.6s						
LBTB	Lobatse	2.06	310	eP	Pg	17 23 18.0	+1.5
LBTB				eS	Sg	17 23 43.5	+0.2

IDC 07 17:24:31.8±1.8, 6°.73N×127°.16E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, Error ellipse: s-maj=84.1km s-min=22.9km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	24.72	183	P	P	17 29 55.1	+0.1
	0.7nm,0.3s,baz=352,slow=18,SNR=5.7						
WRA	Warramunga Arr	27.43	165	P	P	17 30 19.0	-0.6
	0.2nm,0.4s,baz=345,slow=10,SNR=4.9						
ASAR	Alice Springs	30.92	168	P	P	17 30 50.4	-0.2
	0.2nm,0.4s,baz=346,slow=7.2,SNR=14						
NWAO	Narrogin (SRO)	40.55	193	P	P	17 32 13.2	+0.2
	2.7nm,0.5s,baz=30,slow=8.1,SNR=5.4						
STKA	Stephens Creek	40.79	161	P	P	17 32 15.2	+0.1
	1.1nm,0.3s,baz=5.7,slow=8.4,SNR=4.4						
MKAR	Makanchi Array	55.37	324	P	P	17 34 07.7	-0.1
	0.3nm,0.5s,baz=116,slow=8.2,SNR=10.0						

*ISCJB **07** 17:27:24.4±0.7, 8°.6S±0°.1×118°.42E±0°.06, h152km, mb3.1/2, Error ellipse: s-maj=15.7km s-min=7.6km az=11.1*

*IDC **07** 17:27:26.2±1.4, 10°.15S×118°.52E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, ML3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/26, Error ellipse: s-maj=45.9km s-min=26.0km az=59.0*

*DJA **07** 17:27:26.6±0.6, 9°.S±9°.×11°.8E±°, h106km±10km, M3.8/4, mb4.0/2, MLv3.7/4*

ISC 07 17:27:25.0±1.2, 8°.7S±0°.1×118°.43E±0°.06, h152km, n13, σ2° 07/12, mb3.1/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	Labuhan Bajo,	1.46	83	P	Pn	17 27 53.3	-0.9
LBFI				S	Sn	17 28 13.9	-2.8
MTNI	Mataram	2.23	271	P	Pn	17 28 02.2	-0.7
IGBI	Denpasar	3.25	267	P	Pn	17 28 15.6	+0.1
BKSI	Bulukumba	3.73	27	P	Pn	17 28 22.1	+0.3
GMJI	Gumukmas	4.95	274	P	Pn	17 28 37.3	-0.4
BATI	Baumata	5.39	107	P	Pn	17 28 44.6	+1.0
	30nm,1.7s						
BATI	Baumata	5.39	107	Pn	Pn	17 28 44.8	+1.2
	5.1nm,0.3s,baz=291,slow=6.5,SNR=7.5						
BATI				Sn	Sn	17 29 39.7	-5.3
	3.2nm,0.3s,baz=299,slow=18,SNR=2.4						
SOEI	Soe	5.87	101	P	Pn	17 28 50.9	+0.9
FITZ	Fitzroy Crossi	11.71	144	Sn	Sn	17 32 10.5	-6.4
	0.4nm,0.3s,baz=204,slow=19,SNR=13						
FITZ				LR	LR	17 34 29.9	
	comp=Z,34nm,19.8s,baz=216,slow=40						
WRA	Warramunga Arr	19.04	128	P	P	17 31 37.8	+2.3
	0.2nm,0.3s,baz=301,slow=12,SNR=7.0						
WRA				S	S	17 35 00.3	-3.4
	0.0nm,0.3s,baz=312,slow=24,SNR=2.8						
ASAR	Alice Springs	21.02	137	P	P	17 31 59.9	+3.1
	0.2nm,0.3s,baz=314,slow=9.5,SNR=26						
ASAR				S	Sn	17 35 55.1	-4.6
	0.1nm,0.3s,baz=308,slow=23,SNR=5.8						
SONM	Songino Array	57.26	350	P	P	17 37 25.7	+29
	0.1nm,0.4s,baz=140,slow=5.6,SNR=2.5						
VNDA	Vanda	72.40	171	P	P	17 38 45.1	+11
	0.4nm,0.6s,baz=342,slow=3.2,SNR=4.5						

*IDC **07** 17:34:13.2±0.5, 16°.13S×177°.63W, h0km, mb4.7/25, mb1 4.8/26, mb1mx4.8/29, mbtmp4.7/26, ML1.8/1, MS5.0/27, Ms1 5.0/27, ms1mx5.0/29, Error ellipse: s-maj=18.1km s-min=12.4km az=142.0*

*AUST **07** 17:34:15.3, 16°.48S×177°.54W, h0km*

*NEIC **07** 17:34:15.1±0.2, 16°.15S×177°.76W, h10km, mb5.2/83, MS5.1/137, Error ellipse: s-maj=8.5km s-min=4.6km az=149.0*

*ISCJB **07** 17:34:16.5±2.2, 16°.15S±0°.04×177°.73W±0°.03, h25km±15km, mb5.0/134, MS5.1/181, Error ellipse: s-maj=7.4km s-min=5.3km az=160.7*

*BJI **07** 17:34:16.1, 15°.42S×177°.77W, h6km, mB5.5/28, mb5.0/39, Ms5.4/28, Ms7 5.1/30*

*DJA **07** 17:34:16.4±0.7, 17°.S±11°.×17°.8W±1°.3, h10km, M5.3/16, mB5.8/1, mb5.3/16, Mw(mB)5.4/1*

*MOS **07** 17:34:17.8±1.2, 16°.11S×177°.82W, h33km, mb5.4/35, MS5.1/29, Error ellipse: s-maj=9.4km s-min=7.7km az=155.5*

*BKK **07** 17:34:20.2±0.6, 17°.S±10°.×17°.8W±1°.3, h10km, M5.3/20, mB6.5/2, mb5.3/20, Mw(mB)6.3/2*

*GCMT **07** 17:34:21.0±0.1, 16°.11S×177°.54W, h13km, MW5.6, Moment Tensor Solution. s90,c174; s47,c58; Moment tensor: Scale 10^17^Nm; M_{rr}=0.05±.03; $M_{\theta\theta}$=2.19±.03; $M_{\phi\phi}$=2.24±.03; $M_{r\theta}$=0.24±.06; $M_{r\phi}$=1.71±.03; $M_{\theta\phi}$=0.23±.07; Best double couple: M_0=2.80000×10^17^ NP1:φs=64.00000°, δ88.00000°, λ.6.00000°. NP2:φs=334.00000°, δ84.00000°, λ178.00000°. Principal axes: T 2.8500, Plg6.0000°, Azm289.0000°; N -0.0700, Plg83.0000°, Azm80.0000°; P -2.7800, Plg3.0000°, Azm199.0000°; Data Used: II IU IC G CN. Surface waves: sta=108, comp=224, per= 50.*

ISC 07 17:34:16.1±0.4, 16°.13S±0°.05×177°.67W±0°.04, h14km±1km, h14km: pP-P, n734, σ1s25/649, mb5.1/134, MS5.1/181, 117C-100D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.40	248	Pn	Pn	17 35 21.9	-0.7
	902nm,0.4s,SNR=41						
MSVF	Nonsavu	4.40	248	eP	Pn	17 35 21.2	-1.4
MSVF	Nonsavu	4.40	248	ePn	Pn	17 35 21.2	-1.4
AFI	Afiamalu	6.10	70	Pn	Pn	17 35 42.6	-3.4
AFI	Afiamalu	6

3.2nm,0.3s,baz=270,slow=12,SNR=2.8
RAR LR LR 17 43 31.5
comp=Z,6µm,20.4s,baz=271,slow=32
OUZ Omahuta 20.56 201 *e*Pn Pn 17 38 57.8 +1.2
1µm,2.4s
URZ Urewera 22.52 191 P **P** **17 39 14.3 -1.2**
URZ Urewera 22.52 191 P **P** **17 39 14.3 -1.2**
45nm,0.9s,baz=357,slow=8.3,SNR=12
URZ LR LR 17 46 25.6
comp=Z,8µm,19.5s,baz=220,slow=32
HNR Honiara 22.81 284 *e*P **P** **17 39 19.2 +0.5**
230nm,1.2s
HNR Honiara 22.81 284 P **P** **17 39 19.2 +0.5**
12nm,0.3s,baz=201,slow=5.9,SNR=6.6
HNR LR LR 17 46 48.7
comp=Z,21µm,19.4s,baz=145,slow=33
SNZO South Karori 25.95 193 P **P** **17 39 45.5 -2.5**
SNZO LR LR
comp=Z,10µm,20.0s
PAE Paea 26.91 97 *e*P **P** **17 39 57.4 +0.4**
comp=Z,7.0nm,1.1s
PPT Papeete 26.91 97 LR LR 17 47 34.0
comp=Z,3µm,21.6s,baz=260,slow=30
PPT2 Papeete2 26.91 97 *e*P **P** **17 39 58.1 +1.0**
comp=Z,77nm,1.5s
PPT2 *e*S **S** **17 44 31.1 -2.7**
comp=Z,2µm,28.1s
PPT2 *e*LR LR 17 46 40.5
comp=Z,11µm,27.0s,baz=259
XMAS Kiritimati 26.93 50 PFAKE 17 40 10.0 +13
XMAS LR LR
comp=Z,2µm,19.0s
TBI Tubuai 27.47 110 *e*P **P** **17 40 03.8 +1.8**
comp=Z,142nm,1.3s
TBI *e*S **S** **17 44 39.7 -2.6**
comp=Z,1µm,26.9s
TBI *e*LQ LQ 17 45 53.9
comp=Z,3µm,29.3s
TBI *e*LR LR 17 47 01.8
comp=Z,15µm,29.0s,baz=283
PMOR Pomariorio Ree 28.69 92 *e*P **P** **17 40 13.1 +0.2**
comp=Z,108nm,1.4s
RPZ Rata Peaks 29.13 197 P **P** **17 40 19.0 +2.5**
RPZ Rata Peaks 29.13 197 P **P** **17 40 19.0 +2.5**
comp=Z,19nm,0.9s,baz=34,slow=8.2,SNR=5.2
RPZ LR LR 17 50 04.3
comp=Z,5µm,20.9s,baz=300,slow=33
RMQ Roma 32.84 246 P **P** **17 40 50.2 +0.7**
baz=33,SNR=7.7
CTA Charters Tower 34.48 258 P **P** **17 41 03.9 0.0**
CTA Charters Tower 34.48 258 P **P** **17 41 03.9 0.0**
comp=Z,19nm,0.9s,baz=80,slow=12,SNR=8.7
CTA LR LR 17 53 25.9
comp=Z,4µm,19.3s,baz=87,slow=33
CTAO Charters Tower 34.48 258 *e*P **P** **17 41 04.2 +0.3**
CTAO pmax pmax
comp=Z,85nm,1.1s
CTAO MLR MLR
comp=Z,5µm,19.0s
CTAO Charters Tower 34.48 258 *e*P **P** **17 41 04.2 +0.3**
comp=Z,86nm,1.1s
CTAO LR LR
comp=Z,5µm,19.0s
PMG Port Moresby 34.91 277 P **P** **17 41 07.7 +0.1**
PMG Port Moresby 34.91 277 P **P** **17 41 08.8 +1.2**
comp=Z,53nm,1.0s
PMG Port Moresby 34.91 277 P **P** **17 41 07.7 +0.1**
comp=Z,35nm,0.8s,baz=93,slow=5.0,SNR=8.1
PMG LR LR 17 53 14.1
comp=Z,3µm,22.0s,baz=240,slow=33
CNB Canberra Magne 35.09 231 P **P** **17 41 09.8 +0.8**
baz=35,SNR=5.4
CAN Canberra 35.36 231 PFAKE 17 41 20.0 +8.6
CAN LR LR
comp=Z,2µm,19.0s
MTSU Mount Surprise 36.34 261 P **P** **17 41 19.9 -0.1**
baz=36,SNR=7.4
CMSA Cobar Meteorol 36.66 239 P **P** **17 41 22.5 0.0**
baz=37,SNR=16
TOO Toolangi 38.85 229 P **P** **17 41 40.9 0.0**
baz=39,SNR=6.5
TAU Tasmania Unive 40.04 221 PFAKE 17 42 00.0 +9.3
TAU LR LR
comp=Z,5µm,21.0s
STKA Stephens Creek 40.12 239 P **P** **17 41 51.6 -0.1**
STKA Stephens Creek 40.12 239 P **P** **17 41 51.6 -0.1**
comp=Z,14nm,1.0s,baz=79,slow=8.0,SNR=20
STKA LR LR 17 56 51.0
comp=Z,3µm,20.3s,baz=71,slow=34
STKA Stephens Creek 40.12 239 P **P** **17 41 51.9 +0.2**
baz=40,SNR=21
RKT Rikitea 40.70 107 *e*P **P** **17 41 56.8 +0.3**
comp=Z,82nm,1.5s
RKT *e*S **S** **17 48 05.2 -1.3**
comp=Z,356nm,25.8s
RKT *e*LR LR 17 53 07.1
comp=Z,8µm,28.2s,baz=275
ARPS Mount Arapiles 41.29 232 P P 17 42 06.1 +4.9
baz=41,SNR=5.9
KIP Kipapa 42.00 28 PFAKE 17 42 20.0 +13
KIP LR LR
comp=Z,3µm,20.0s
MIDW Midway 44.08 0 PFAKE 17 42 40.0 +16
MIDW LR LR
comp=Z,2µm,22.0s
BBOO Buckleboo 44.90 240 P **P** **17 42 30.2 -0.3**
baz=45,SNR=8.5
WRAB Tennant Creek 45.67 258 P **P** **17 42 35.2 -1.6**
comp=Z,140nm,1.3s,SNR=7.0
WRAB Tennant Creek 45.67 258 *e*P **P** **17 42 35.5 -1.3**
WRAB pmax pmax
comp=Z,48nm,1.4s
WRAB MLR MLR
comp=Z,2µm,20.0s
WRAB Tennant Creek 45.67 258 *e*P **P** **17 42 35.5 -1.3**
comp=Z,48nm,1.4s
WRAB LR LR
comp=Z,2µm,20.0s
WRA Warramunga Arr 45.68 258 P **P** **17 42 35.0 -1.8**
WRA Warramunga Arr 45.68 258 P **P** **17 42 35.0 -1.8**
comp=Z,6.1nm,1.0s,baz=91,slow=7.2,SNR=22
WRA LR LR 17 59 05.1
comp=Z,2µm,20.9s,baz=80,slow=33
AS31 Alice Springs 45.98 253 *e*P **P** **17 42 37.6 -1.6**
ASAR Alice Springs 45.98 253 P **P** **17 42 37.9 -1.4**
ASAR Alice Springs 45.98 253 P **P** **17 42 37.9 -1.4**
comp=Z,10.0nm,0.5s,baz=84,slow=8.4,SNR=178
ASAR LR LR 18 00 38.6
comp=Z,5µm,19.8s,baz=92,slow=34
KDU Kakadu 48.33 267 P **P** **17 42 58.2 +0.7**
baz=48,SNR=6.3
MTN Manton Dam 49.58 267 P **P** **17 43 07.6 +0.4**
baz=50,SNR=12
KNRA Kununurra 51.40 263 P **P** **17 43 21.2 +0.2**
baz=51,SNR=7.2
FORT Forrest 51.42 243 P **P** **17 43 23.8 +2.9**
baz=51,SNR=7.0
SWI Sorong 52.56 282 P **P** **17 43 29.7 +0.1**
baz=53,SNR=3.9
FITZ Fitzroy Crossi 54.04 259 P **P** **17 43 39.6 -0.9**
FITZ Fitzroy Crossi 54.04 259 P **P** **17 43 39.6 -0.9**
comp=Z,4.9nm,0.9s,baz=92,slow=7.8,SNR=13
SOEI Soe 56.80 269 P P 17 44 05.5 +5.0
baz=57,SNR=8.6
BATI Baumata 57.28 268 P **P** **17 44 04.6 +0.8**
BATI Baumata 57.28 268 P **P** **17 44 04.6 +0.8**
comp=Z,46nm,1.0s,baz=185,slow=14,SNR=4.0
DRV Dumont d'Urvil 57.57 199 P P 17 43 50.0 -15
DRV Dumont d'Urvil 57.57 199 PP PP 17 45 39.0 -34
DRV S S 17 51 41.0 -21
DRV SS SS 17 55 26.0 -26
DRV L L 18 01 00.0
DRV R 18 03 00.0
MBWA Marble Bar 59.21 255 *e*P **P** **17 44 16.2 -1.1**
comp=Z,32nm,0.9s
MBWA LR LR
comp=Z,3µm,19.0s
MEEK Meekatharra 59.74 248 P **P** **17 44 19.2 -1.7**
baz=60,SNR=7.7
KLBR Kellerberrin 60.27 243 P **P** **17 44 22.8 -1.6**
baz=60,SNR=22
NWAO Narrogin (SRO) 60.68 241 *e*P **P** **17 44 25.0 -2.2**
comp=Z,88nm,1.6s
NWAO LR LR
comp=Z,3µm,21.0s
NWAO Narrogin (SRO) 60.68 241 P **P** **17 44 25.9 -1.3**
comp=Z,14nm,0.9s,baz=89,slow=6.5,SNR=5.1

DAV Davao City (W) 60.71 288 PFAKE 17 44 40.0 +12
DAV LR LR
comp=Z,2µm,22.0s
BLDU Ballidu 61.19 244 P **P** **17 44 33.7 +3.0**
baz=61,SNR=5.7
MORW Morawa 61.85 245 P **P** **17 44 33.8 -1.4**
baz=62,SNR=6.1
SBA Scott Base 62.23 184 *e*P **P** **17 44 39.1 +2.2**
SBA pmax pmax
comp=Z,127nm,1.8s
SBA MLR MLR
comp=Z,1µm,20.0s
SBA Scott Base 62.23 184 *e*P **P** **17 44 39.0 +2.2**
comp=Z,127nm,1.8s
SBA LR LR
comp=Z,1µm,20.0s
VNDA Vanda 62.27 185 P **P** **17 44 38.0 +0.8**
VNDA Vanda 62.27 185 P **P** **17 44 38.0 +0.8**
comp=Z,1.2nm,0.8s,baz=356,slow=5.8,SNR=7.6
VNDA LR LR 18 06 51.2
comp=Z,955nm,20.9s,baz=33,slow=31
KAPI Kappang 62.30 273 PFAKE 17 44 50.0 +12
KAPI LR LR
comp=Z,479nm,19.0s
RPN Rapa Nui 63.80 113 PFAKE 17 45 00.0 +12
RPN LR LR
comp=Z,4µm,19.0s
MYLDM Lahad Datu 66.59 283 P **P** **17 45 09.0 +2.6**
MYLDM Lahad Datu 66.59 283 P **P** **17 45 08.6 +2.2**
comp=Z,51nm,1.2s
MJAR Matsushiro Arr 66.92 322 P **P** **17 45 06.3 -1.8**
MJAR Matsushiro Arr 66.92 322 P **P** **17 45 06.3 -1.8**
comp=Z,4.9nm,0.9s,baz=162,slow=6.0,SNR=12
MJAR LR LR 18 09 01.9
comp=Z,800nm,21.8s,baz=135,slow=31
MAT Matsushiro 66.92 322 P **P** **17 45 06.9 -1.3**
MAT S **S** **17 54 02.6 +1.7**
ADK Adak 67.73 1 PFAKE 17 45 20.0 +7.2
ADK LR LR
comp=Z,1µm,21.0s
SDKM Sandakan 67.96 283 P **P** **17 45 15.9 +0.6**
CASY Casey 68.04 204 *e*P **P** **17 45 14.3 -0.5**
comp=Z,51nm,1.4s
CASY LR LR
comp=Z,2µm,20.0s
ERM Erimo 68.21 330 PFAKE 17 45 30.0 +14
ERM LR LR
comp=Z,1µm,21.0s
YUK Yuzh-Kuril'sk 68.52 333 *d i* P **P** **17 45 20.3 +2.3**
YUK *i* 17 47 52.4
YUK *e*PPP PPP 17 49 36.0
YUK *e* 17 55 07.9
KUR Kuril'sk 68.62 335 P **P** **17 45 15.9 -2.7**
KUR *i* S **S** **17 54 21.6 +0.8**
KUR pmax pmax
comp=E,26nm,1.5s
KUR pmax pmax
comp=Z,91nm,1.5s
KUR pmax pmax
comp=N,23nm,1.5s
KUR smax smax
comp=E,3µm,0.8s
KUR smax smax
comp=N,42µm,1.6s
KUR MLR MLR
comp=E,423nm,17.0s
KUR MLR MLR
comp=N,800nm,17.0s
KKM Kota Kinabalu 69.02 283 *e*P **P** **17 45 23.7 +1.7**
comp=N,72nm,1.2s
KKM Kota Kinabalu 69.02 283 P **P** **17 45 24.1 +2.1**
KKM Kota Kinabalu 69.02 283 P P 17 45 25.6 +3.7
comp=N,55nm,1.2s
KKM Kota Kinabalu 69.02 283 P **P** **17 45 23.6 +1.7**
baz=69,SNR=3.7
ASAJ Asahikawa 70.07 331 *e*P **P** **17 45 27.5 -0.1**
comp=N,8.9nm,1.1s
ASAJ Asahikawa 70.07 331 P **P** **17 45 27.9 +0.2**
comp=N,11nm,0.9s,baz=208,slow=8.2,SNR=20
SBUM Sibu 71.64 278 P **P** **17 45 40.1 +2.2**
SBUM Sibu 71.64 278 P **P** **17 45 39.2 +1.3**
comp=N,18nm,1.5s
PET Petropavlovsk 71.84 345 *e*P P 17 45 45.9 +7.8
PET *e*S **S** **17 55 03.4 +5.3**
PET pmax pmax
comp=Z,25nm,1.5s
PEA0B Petropavlovsk- 72.15 345 *e*P **P** **17 45 39.5 -0.6**
PETK Petropavlovsk- 72.15 345 P **P** **17 45 39.7 -0.4**
PETK Petropavlovsk- 72.15 345 P **P** **17 45 39.7 -0.4**
PETK Petropavlovsk- 72.15 345 P **P** **17 45 39.7 -0.4**
comp=Z,12nm,0.8s,baz=133,slow=7.6,SNR=21
PETK LR LR 18 11 26.1
comp=Z,550nm,20.2s,baz=262,slow=31
YSS Yuzh-Sakhalins 72.16 333 *e*P **P** **17 45 41.4 +1.2**
YSS *e* 17 45 52.5
YSS *i* 17 45 57.0
YSS *e*S **S** **17 55 04.0 +1.9**
YSS *e* 17 59 32.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=E,300nm,17.0s
YSS MLR MLR
comp=Z,400nm,17.0s
KSM Kuching 73.17 277 *e*P **P** **17 45 47.5 +0.5**
comp=Z,64nm,1.1s
KSM LR LR
comp=Z,369nm,20.0s
KSM Kuching 73.17 277 P **P** **17 45 48.1 +1.0**
KSM Kuching 73.17 277 P P 17 45 50.6 +3.6
comp=Z,55nm,1.3s
KSM Kuching 73.17 277 P **P** **17 45 47.7 +0.6**
baz=73,SNR=7.2
LEM Lembang 73.49 268 P **P** **17 45 50.5 +1.4**
baz=74,SNR=8.2
KSRS Korea Array 73.86 318 P **P** **17 45 51.0 +0.5**
comp=Z,3.8nm,1.0s,baz=128,slow=7.8,SNR=13
KSRS LR LR 18 12 05.9
comp=Z,853nm,21.8s,baz=119,slow=31
KSAR Wonju Array Be 73.88 318 P **P** **17 45 51.0 +0.4**
QSPA South Pole Qui 73.92 180 *e*P **P** **17 45 50.0 -0.7**
comp=Z,81nm,1.8s
QSPA LR LR
comp=Z,2µm,20.0s
SAO San Andreas Ge 74.65 44 *e*P **P** **17 45 56.4 +1.2**
SAO pmax pmax
comp=Z,28nm,1.3s
SAO San Andreas Ge 74.65 44 *e*P **P** **17 45 56.4 +1.2**
comp=Z,28nm,1.3s
INCN Inchon 74.72 317 PFAKE 17 46 10.0 +14
INCN LR LR
comp=Z,997nm,19.0s
PKM Peak Mountain 74.74 46 ⇑P **P** **17 45 56.0 0.0**
baz=75
HOPS Hopland 74.87 41 P **P** **17 45 55.0 -1.4**
comp=Z,43nm,1.4s
VLA Vladivostok 74.92 324 *e*P **P** **17 45 56.7 +0.1**
VLA pmax pmax
comp=Z,14nm,1.0s
MIR Mirnyy 75.07 204 *e*P **P** **17 46 00.0 +2.9**
MIR MLR MLR
comp=N,800nm,21.0s
MIR MLR MLR
comp=E,3µm,21.0s
MIR MLR MLR
comp=Z,3µm,21.0s
KIPM Iron Peak 75.10 40 *e*P **P** **17 45 57.4 -0.5**
comp=Z,20nm,1.2s
SSE Sheshan 75.17 309 *e*P **P** **17 45 59.4 +1.1**
SSE sP **sP** **17 46 04.0 -0.8**
SSE S **S** **17 55 33.3 -3.4**
SSE sS sS 17 55 38.7 -5.9
SSE pmax pmax
comp=Z,32nm,0.8s
SSE pmax pmax
comp=Z,630nm,4.6s
SSE LR LR
comp=N,86nm,22.4s
SSE LR LR
comp=E,260nm,22.4s
SSE LR LR
comp=Z,390nm,26.8s
USRK Ussuriysk Arra 75.56 325 P **P** **17 46 00.1 -0.1**
comp=Z,2.9nm,0.9s,baz=143,slow=3.8,SNR=17

USRK LR LR 18 15 05.7
comp=Z,389nm,18.9s,baz=242,slow=32
KHMM Horse Mountain 75.58 39 *e*P **P** **17 46 01.4 +0.8**
comp=Z,28nm,1.2s
VES Vestal, Richgr 75.75 46 ⇑P **P** **17 46 02.1 +0.6**
baz=76
KRMB Red Mountain 75.86 39 *e*P **P** **17 46 03.2 +1.1**
comp=Z,36nm,1.7s
BFSC Mount Baldy Ra 75.91 48 ⇓P **P** **17 46 02.7 +0.1**
baz=76
MURC Murrieta 75.91 48 ⇑P **P** **17 46 02.8 +0.2**
baz=76
EDW2 Edwards Air Fo 76.01 47 ⇑P **P** **17 46 03.6 +0.4**
baz=76
CMB Columbia Colle 76.06 43 *e*P **P** **17 46 03.6 +0.3**
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 76.06 43 *e*P **P** **17 46 03.6 +0.3**
comp=Z,13nm,1.0s
ISA Isabella 76.08 46 *e*P **P** **17 46 04.0 +0.5**
ISA pmax pmax
comp=Z,20nm,1.3s
ISA Isabella 76.08 46 *e*P **P** **17 46 04.0 +0.5**
comp=Z,20nm,1.3s
ISA Isabella 76.08 46 ⇑P **P** **17 46 03.4 -0.1**
baz=76,SNR=5.9
OHCM Honcut 76.08 42 *e*P P 17 46 08.1 +4.8
MONP Monument Peak 76.12 49 ⇑P **P** **17 46 05.0 +1.0**
baz=76
WDC Whiskeytown Da 76.13 40 *e*P **P** **17 46 03.6 0.0**
WDC pmax pmax
comp=Z,28nm,1.4s
WDC Whiskeytown Da 76.13 40 *e*P **P** **17 46 03.6 0.0**
comp=Z,28nm,1.4s
KEBM Edson Butte 76.42 37 *e*P **P** **17 46 06.3 +1.0**
comp=Z,37nm,1.2s
PFO Pinyon Flat Ob 76.46 49 LR LR 18 11 08.3
comp=Z,795nm,21.6s,baz=265,slow=29
LRMC Laurel Mountai 76.53 47 ⇓P **P** **17 46 07.5 +1.4**
baz=77
YBH Yreka Blue Hor 76.70 39 *e*P **P** **17 46 06.5 -0.5**
comp=Z,30nm,1.4s
HABR Khabarovsk 76.83 330 *de*P **P** **17 46 05.0 -2.3**
HABR *e* 17 46 15.9
HABR *e**SP sP 17 46 19.5 +5.7
HABR *e* 17 48 57.7
HABR *e*S **S** **17 55 50.6 -3.7**
HABR *e**SS sS 17 56 08.4 +6.2
HABR *e* 17 56 18.9
HABR *e*SS **SS** **18 00 48.0 -3.2**
HABR SSS SSS 18 04 11.9
HABR pmax pmax
comp=Z,57nm,1.8s
HABR pmax pmax
comp=E,10.0nm,1.3s
HABR pmax pmax
comp=N,14nm,2.3s
MTUM Tungsten Hills 76.91 45 *e*P **P** **17 46 08.9 +0.6**
MPMC Manual Prospec 76.97 46 ⇑P **P** **17 46 08.7 0.0**
baz=77,SNR=7.0
TIN Tinemaha 76.98 45 ⇓P **P** **17 46 09.6 +1.0**
baz=77
BELC Belle Mtn. Jos 76.98 49 ⇑P **P** **17 46 09.4 +0.7**
baz=77
GSC Goldstone 77.06 47 *e*P **P** **17 46 09.3 +0.2**
GSC pmax pmax
comp=Z,20nm,1.4s
GSC Goldstone 77.06 47 *e*P **P** **17 46 09.3 +0.2**
comp=Z,20nm,1.4s
GSC Goldstone 77.06 47 ⇓P **P** **17 46 09.8 +0.7**
baz=77
HUMO Hull Mountain 77.07 38 *e*P **P** **17 46 10.0 +1.1**
comp=Z,23nm,1.3s
MDJ Mudanjiang 77.15 324 P **P** **17 46 09.4 +0.1**
MDJ pP **pP** **17 46 12.9 -1.2**
MDJ PP **PP** **17 49 04.2 +0.8**
MDJ SS SS 18 00 55.9 -0.4
MDJ pmax pmax
comp=Z,12nm,2.0s
MDJ pmax pmax
comp=Z,150nm,6.5s
MDJ LR LR
comp=E,510nm,38.4s
MDJ LR LR
comp=Z,500nm,32.4s
MDJ Mudanjiang 77.15 324 *e*P **P** **17 46 09.8 +0.5**
comp=Z,32nm,1.4s
MDJ LR LR
comp=Z,692nm,21.0s
HEC Hector,Ludlow 77.16 48 ⇑P **P** **17 46 10.3 +0.7**
baz=77
BC3 Big Chuckawall 77.20 49 ⇓P **P** **17 46 11.0 +1.0**
baz=77
GLA Glamis 77.37 50 ⇓P **P** **17 46 11.3 +0.5**
baz=78
NJ2 Nanjing 77.37 309 *e*P **P** **17 46 10.8 0.0**
NJ2 pmax pmax
comp=Z,26nm,1.2s
GRAC Grapevine Rang 77.53 45 ⇓P **P** **17 46 11.7 +0.1**
baz=78,SNR=11
GMRC Granite Mounta 77.61 48 ⇑P **P** **17 46 13.6 +1.3**
baz=78
FURC Furnace Creek, 77.61 46 ⇓P **P** **17 46 12.5 +0.5**
baz=78
NVAR Mina Array Bea 77.65 44 P **P** **17 46 11.8 -0.7**
NVAR Mina Array Bea 77.65 44 P **P** **17 46 11.8 -0.7**
comp=Z,6.4nm,0.9s,baz=227,slow=8.8,SNR=26
NVAR LR LR 18 11 53.7
comp=Z,602nm,21.7s,baz=120,slow=29
IRM Iron Mountain 77.67 49 ⇓P **P** **17 46 12.9 +0.5**
baz=78
TUQ Turquoise Moun 77.75 47 ⇓P **P** **17 46 14.0 +1.0**
baz=78
NV11 Mina Array Sit 77.75 44 *e*P **P** **17 46 12.6 -0.4**
Y12C Blythe 77.93 49 ⇑P **P** **17 46 14.7 +0.8**
baz=78
113A Mohawk Valley, 78.02 51 ⇓P **P** **17 46 15.2 +0.8**
baz=78
LDFC Landfair 78.15 48 *e*P **P** **17 46 15.8 +0.6**
comp=Z,60nm,1.2s
IRO Indian Ridge 78.31 37 P **P** **17 46 16.1 +0.1**
214A Organ Pipe Nat 78.36 52 ⇓P **P** **17 46 17.1 +0.8**
baz=79
PDMCI Parker Dam,Lak 78.47 49 ⇑P **P** **17 46 18.0 +1.1**
baz=79
FRIS Frissel Point 78.52 37 P **P** **17 46 17.4 +0.3**
Z14A Wintersburg 78.91 50 ⇑P **P** **17 46 19.4 +0.1**
baz=79
RSO Redoubt South 78.92 12 *e*P P 17 46 22.9 +3.9
SVW2 Sparrevohn 78.97 11 *e*P **P** **17 46 17.8 -1.2**
comp=Z,21nm,1.5s
W13A Hualapai Mount 79.04 49 ⇓P **P** **17 46 20.4 +0.1**
baz=79
CN2 Changchun 79.06 322 *e*P **P** **17 46 21.6 +1.7**
CN2 *e*sP **sP** **17 46 28.5 +2.1**
CN2 *e*S **S** **17 56 19.1 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,600nm,11.0s
CN2 LR LR
comp=E,400nm,11.0s
CN2 LR LR
comp=Z,600nm,12.0s
Y14A Wickenburg 79.13 50 ⇑P **P** **17 46 20.3 -0.3**
baz=79
QIZ Qiongzhong 79.39 293 P **P** **17 46 21.9 -0.3**
QIZ PP **PP** **17 49 22.5 -0.1**
QIZ S **S** **17 56 21.7 -1.5**
QIZ SS **SS** **18 01 31.3 +0.4**
QIZ LR LR
comp=Z,2µm,28.2s
QIZ Qiongzhong 79.39 293 PFAKE 17 46 30.0 +7.8
QIZ LR LR
comp=Z,2µm,19.0s
BTDF Bukit Timah Da 79.39 275 P P 17 46 27.6 +5.2
baz=80,SNR=4.5
BTDF P P 17 46 27.6 +5.2
baz=80,SNR=4.5
BMN Battle Mountai 79.42 42 *e*P **P** **17 46 22.0 -0.2**
BMN pmax pmax
comp=Z,19nm,1.4s
BMN Battle Mountai 79.42 42 *e*P **P** **17 46 22.0 -0.2**
comp=Z,19nm,1.4s

R11A	Troy Canyon, C	79.44	45	⇓P	P	17 46 22.8	+0.4
	baz=80						
MYKOM	Kota Tinggi	79.44	275	P	P	17 46 27.7	+5.0
	comp=Z,32nm,1.2s						
NLWA	Neilton Lookou	79.45	34	eP	P	17 46 22.4	+0.5
	comp=Z,28nm,1.4s						
NLWA				LR	LR		
	comp=Z,1µm,22.0s						
WVOR	Wild Horse Val	79.60	40	eP	P	17 46 23.1	+0.1
WVOR				pmax	pmax		
	comp=Z,25nm,1.4s						
WVOR				MLR	MLR		
	comp=Z,1µm,20.0s						
WVOR	Wild Horse Val	79.60	40	eP	P	17 46 23.1	+0.1
	comp=Z,26nm,1.4s						
WVOR				LR	LR		
	comp=Z,1µm,20.0s						
TDL	Tradedollar La	79.72	35	P	P	17 46 24.0	+0.4
SPU	Mount Spurr	79.72	12	eP	P	17 46 26.8	+3.6
TUC	Tucson	80.05	52	eP	P	17 46 26.8	+1.1
TUC				pmax	pmax		
	comp=Z,56nm,1.0s						
TUC				MLR	MLR		
	comp=Z,583nm,22.0s						
TUC	Tucson	80.05	52	eP	P	17 46 26.8	+1.1
	comp=Z,56nm,1.0s						
TUC				LR	LR		
	comp=Z,583nm,22.0s						
LON	Longmire	80.18	35	eP	P	17 46 30.4	+4.4
LON				pmax	pmax		
	comp=Z,13nm,1.4s						
LON	Longmire	80.18	35	eP	P	17 46 30.4	+4.4
	comp=Z,13nm,1.4s						
GLK	Glacier Lake	80.19	36	P	P	17 46 26.4	+0.3
WPW	White Pass	80.30	35	P	P	17 46 26.8	+0.1
PGC	Sidney	80.44	33	ePP	PP	17 49 36.8	+6.1
X16A	Lo Mia Camp, P	80.50	50	⇑P	P	17 46 28.3	+0.1
	baz=81						
CCUT	Cedar City	80.58	47	eP	P	17 46 25.4	-3.2
	comp=Z,3.8nm,0.6s						
PMR	Palmer	80.71	13	eP	P	17 46 32.3	+3.9
PMR				pmax	pmax		
	comp=Z,63nm,1.8s						
PMR	Palmer	80.71	13	eP	P	17 46 32.3	+3.9
	comp=Z,64nm,1.8s						
RAGM	Ragged Mountai	80.75	16	eP	P	17 46 33.3	+4.6
	comp=Z,36nm,1.4s						
319A	Douglas	80.80	54	⇓P	P	17 46 30.7	+0.9
	baz=81						
U15A	North Rim	80.81	48	⇓P	P	17 46 29.6	-0.3
	baz=81,SNR=5.8						
CMW	Cultus Mountai	81.01	34	P	P	17 46 30.7	+0.2
WUAZ	Wupatki	81.05	49	PFAKE		17 46 40.0	+8.9
WUAZ				LR	LR		
	comp=Z,653nm,20.0s						
SML	Sawmill	81.08	14	eP	P	17 46 35.5	+5.0
SML				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SML	Sawmill	81.08	14	eP	P	17 46 35.5	+5.0
	comp=Z,5.3nm,1.3s						
BMRM	Bremner River	81.26	16	eP	P	17 46 28.2	-3.3
	comp=Z,48nm,1.4s						
ETW	Entiat	81.50	35	P	P	17 46 33.0	-0.1
WRAK	Wrangell Islan	81.60	24	PFAKE		17 46 40.0	+6.8
WRAK				LR	LR		
	comp=Z,2µm,20.0s						
220A	Playas Peak, P	81.61	53	⇑P	P	17 46 35.2	+1.1
	baz=82						
X18A	Snowflake	81.65	51	⇑P	P	17 46 35.4	+1.0
	baz=82						
BMO	Blue Mountains	81.72	39	eP	P	17 46 33.3	-1.0
	comp=Z,15nm,1.3s						
BMO				LR	LR		
	comp=Z,1µm,20.0s						
TNA	Tin City	81.77	4	eP	P	17 46 34.3	+0.4
	comp=Z,48nm,1.1s						
MVU	Marysvale	81.83	46	eP	P	17 46 36.4	+1.1
	comp=Z,6.7nm,1.0s						
MSU	Marysvale	81.86	46	eP	P	17 46 36.4	+1.0
MSU	Marysvale	81.86	46	eP	P	17 46 36.4	+1.0
MFID	Camas Ranch	81.86	40	eP	P	17 46 36.0	+0.9
	comp=Z,10nm,1.1s						
MFID	Camas Ranch	81.86	40	⇑P	P	17 46 35.5	+0.3
	baz=82						
Z20A	Nine Sixteen R	82.07	52	⇓P	P	17 46 36.6	+0.1
	baz=82,SNR=10						
TRF	Thorofare Moun	82.13	12	eP	P	17 46 34.6	-1.5
	comp=Z,19nm,0.9s						
DUG	Dugway	82.22	44	eP	P	17 46 37.8	+0.7
DUG				pmax	pmax		
	comp=Z,13nm,1.3s						
DUG				MLR	MLR		
	comp=Z,558nm,21.0s						
DUG	Dugway	82.22	44	eP	P	17 46 37.8	+0.7
	comp=Z,13nm,1.3s						
DUG				LR	LR		
	comp=Z,558nm,21.0s						
DUG	Dugway	82.22	44	⇓P	P	17 46 37.8	+0.7
	baz=82						
COCO	West Island	82.43	260	PFAKE		17 46 50.0	+11
COCO				LR	LR		
	comp=Z,1µm,20.0s						
121A	Cookes Peak, D	82.44	53	⇑P	P	17 46 39.5	+1.0
	baz=83						
Y20A	Horse Springs,	82.56	52	⇓P	P	17 46 38.8	-0.4
	baz=83,SNR=16						
MCK	McKinley	82.66	12	eP	P	17 46 38.3	-0.4
MCK				pmax	pmax		
	comp=Z,23nm,1.0s						
MCK	McKinley	82.66	12	eP	P	17 46 38.2	-0.4
	comp=Z,23nm,1.0s						
PAX	Paxson	82.76	14	eP	P	17 46 42.2	+2.9
PAX				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PAX	Paxson	82.76	14	eP	P	17 46 42.2	+2.9
	comp=Z,7.6nm,1.2s						
SKAG	Skagway	82.79	20	eP	P	17 46 40.3	+0.9
	comp=Z,29nm,1.3s						
222A	Williams Famil	82.80	54	⇓P	P	17 46 41.4	+1.1
	baz=83						
HLID	Hailey	82.83	41	eP	P	17 46 40.8	+0.6
	comp=Z,17nm,1.3s						
HLID				LR	LR		
	comp=Z,669nm,21.0s						
HLID	Hailey	82.83	41	⇓P	P	17 46 40.8	+0.6
	baz=83						
Z21A	St. Cloud Mine	82.85	52	⇑P	P	17 46 41.9	+1.3
	baz=83						
TMUT	Trail Mountain	82.89	46	eP	P	17 46 42.2	+1.3
	comp=Z,76nm,0.5s						
IPM	Ipoh	82.91	277	eP	P	17 46 42.6	+1.4
	comp=Z,46nm,0.9s						
IPM	Ipoh	82.91	277	P	P	17 46 42.5	+1.4
	comp=Z,57nm,1.0s						
MPU	Maple Canyon	82.93	45	eP	P	17 46 46.4	+5.5
	comp=Z,46nm,1.9s						
W20A	Ramah	82.99	51	⇑P	P	17 46 41.0	-0.3
	baz=83,SNR=13						
HVU	Hansel Valley	83.00	43	eP	P	17 46 42.1	+0.9
HVU				pmax	pmax		
	comp=Z,21nm,1.3s						
HVU	Hansel Valley	83.00	43	eP	P	17 46 42.1	+0.9
	comp=Z,21nm,1.3s						
BJT	Baijiatuau	83.02	315	P	P	17 46 40.6	-0.5
BJT				LR	LR		
	comp=Z,621nm,19.0s						
BJI	Beijing	83.03	315	P	P	17 46 41.2	+0.1
BJI				PP	PP	17 49 54.6	+2.3
BJI				pmax	pmax		
	comp=Z,19nm,2.2s						
BJI				pmax	pmax		
	comp=Z,170nm,3.2s						
BJI				LR	LR		
	comp=N,430nm,16.3s						
BJI				LR	LR		
	comp=E,540nm,17.6s						
BJI				LR	LR		
	comp=Z,510nm,24.4s						
Y21A	Point of Rocks	83.14	52	⇑P	P	17 46 42.1	-0.1
	baz=83,SNR=7.3						
HYT	Haines Junctio	83.15	19	eP	P	17 46 41.9	+0.4
X21A	Alamocita Cree	83.23	51	⇓P	P	17 46 42.9	+0.2
	baz=84						
SRU	San Rafael	83.28	46	eP	P	17 46 43.7	+1.0
SRU				pmax	pmax		
	comp=Z,34nm,1.5s						
SRU	San Rafael	83.28	46	eP	P	17 46 43.7	+1.0
	comp=Z,34nm,1.5s						
Z22A	Elephant Butte	83.37	53	⇑P	P	17 46 43.2	-0.1
	baz=84,SNR=10						
PANO	Nakornpanom	83.42	290	P	P	17 46 49.5	+5.8
	comp=Z,691nm,0.8s,comp=Z,22µm						
U20A	Newcomb	83.50	49	⇑P	P	17 46 44.2	+0.3
	baz=84						
I14A	Mackay	83.61	41	⇓P	P	17 46 45.1	+0.8
	baz=84						
W21A	San Fidel	83.62	51	⇑P	P	17 46 45.1	+0.5
	baz=84						
Y22A	Socorro	83.64	52	⇑P	P	17 46 45.0	+0.3
	baz=84						
NEW	Newport	83.66	36	PFAKE		17 47 00.0	+16
NEW				LR	LR		
	comp=Z,796nm,22.0s						
LAZ	Ladron	83.70	52	eP	P	17 46 45.3	+0.3
	comp=Z,9.5nm,1.4s						
HWUT	Hardware Ranch	83.72	44	eP	P	17 46 44.5	-0.5
	comp=Z,12nm,1.2s						
HWUT				LR	LR		
	comp=Z,682nm,22.0s						
324A	Moseley Ranch,	83.80	55	⇓P	P	17 46 45.3	-0.2
	baz=84,SNR=13						
X22A	Bernardo	83.84	52	⇑P	P	17 46 46.3	+0.6
	baz=84						
ENH	Enshi	83.87	304	eP	P	17 46 45.7	-0.1
	comp=Z,54nm,1.2s						
MVCO	Mesa Verde	83.88	49	PFAKE		17 47 00.0	+14
MVCO				LR	LR		
	comp=Z,879nm,22.0s						
COLA	College	83.89	12	eP	P	17 46 44.8	-0.2
COLA				MLR	MLR		
	comp=Z,1µm,20.0s						
COLA	College	83.89	12	eP	P	17 46 44.8	-0.2
	comp=Z,245nm,1.4s						
COLA				LR	LR		
	comp=Z,1µm,20.0s						
V21A	Milan	83.91	50	⇓P	P	17 46 45.9	-0.2
	baz=84						
DLBC	Dease Lake	83.92	23	eP	P	17 46 43.9	-1.5
Z23A	Rita Site, Whi	83.93	53	⇑P	P	17 46 45.8	-0.3
	baz=84						
425A	Indio Mountain	83.94	56	⇓P	P	17 46 46.0	-0.2
	baz=84,SNR=16						
MNTX	Cornudas Mount	83.97	55	eP	P	17 46 46.0	-0.2
	comp=Z,19nm,1.4s						
MNTX				LR	LR		
	comp=Z,402nm,22.0s						
BNM	Barren Site	83.99	52	eP	P	17 46 46.7	+0.2
	comp=Z,16nm,1.4s						
ILAR	Eielson Array	84.00	13	P	P	17 46 44.2	-1.3
ILAR	Eielson Array	84.00	13	P	P	17 46 44.2	-1.3
	comp=Z,6.5nm,1.0s,baz=225,slow=5.8,SNR=24						
224A	Cornudas Mount	84.01	54	⇓P	P	17 46 46.5	-0.1
	baz=84,SNR=14						
LPM	Los Pinos Moun	84.05	52	eP	P	17 46 47.4	+0.7
626A	Big Bend Ranch	84.15	57	⇓P	P	17 46 47.0	-0.3
	baz=84,SNR=8.6						
U21A	Nageezi	84.16	50	⇓P	P	17 46 46.9	-0.4
	baz=84,SNR=14						
325A	Bean Ranch, Si	84.17	55	⇑P	P	17 46 47.1	-0.4
	baz=84,SNR=17						
S20A	Disappointment	84.24	48	⇓P	P	17 46 47.9	+0.1
	baz=84						
M17A	Scullys Gap (B	84.26	44	⇑P	P	17 46 47.8	+0.1
	baz=84						
124A	Stringfield Ra	84.31	54	⇑P	P	17 46 47.7	-0.5
	baz=84,SNR=7.6						
Y23A	Lovelace Mesa,	84.33	52	⇓P	P	17 46 48.5	+0.2
	baz=84						
526A	Mary Lane Ranc	84.38	57	⇓P	P	17 46 48.0	-0.5
	baz=85,SNR=10						
MCMT	McKenzie Canyo	84.43	40	P	P	17 46 49.5	+0.9
ANMO	Albuquerque	84.44	51	eP	P	17 46 49.1	+0.4
	comp=Z,16nm,1.3s						
ANMO				LR	LR		
	comp=Z,616nm,22.0s						
TXAR	Lajitas Array	84.44	57	P	P	17 46 49.8	+1.0
TXAR	Lajitas Array	84.44	57	P	P	17 46 49.8	+1.0
	comp=Z,6.9nm,1.2s,baz=234,slow=4.2,SNR=22						
TXAR				LR	LR	18 19 13.4	
	comp=Z,320nm,19.6s,baz=305,slow=32						
PSI	Prapat	84.45	275	P	P	17 46 48.2	-1.0
PSI	Prapat	84.45	275	P	P	17 46 48.2	-1.0
	comp=Z,4.6nm,0.4s,baz=180,slow=7.1,SNR=4.1						
T21A	Navajo Lake	84.48	49	⇓P	P	17 46 49.4	+0.5
	baz=85						
X23A	Hourglass Bar	84.49	52	⇑P	P	17 46 49.2	+0.2
	baz=85						
V22A	San Miguel Ran	84.50	50	⇓P	P	17 46 49.5	+0.5
	baz=85						
AHID	Auburn Hatcher	84.56	43	eP	P	17 46 49.2	0.0
	comp=Z,23nm,1.2s						
AHID				LR	LR		
	comp=Z,451nm,21.0s						
225A	Deer Hill, Car	84.57	55	⇑P	P	17 46 49.0	-0.4
	baz=85,SNR=8.6						
S21A	Coal Bank Pass	84.58	48	⇑P	P	17 46 48.9	-0.6
	baz=85,SNR=14						
P19A	Cripple Cowboy	84.58	46	⇑P	P	17 46 49.8	+0.4
	baz=85						
Z24A	Sheeppen Canyo	84.62	53	⇓P	P	17 46 49.9	+0.2
	baz=85						
426A	McDonald Obser	84.65	56	⇑P	P	17 46 49.4	-0.6
	baz=85,SNR=15						
RRI2	Red Ridge	84.69	42	eP	P	17 46 50.4	+0.5
	comp=Z,21nm,1.1s						
627A	Terlingua Ranc	84.72	57	⇑P	P	17 46 49.5	-0.7
	baz=85,SNR=14						
U22A	Llaves	84.72	50	⇑P	P	17 46 51.0	+0.8
	baz=85						
MSO	Missoula	84.75	38	eP	P	17 46 50.8	+0.8
	comp=Z,16nm,1.4s						
MSO	Missoula	84.75	38	⇑P	P	17 46 50.1	+0.1
	baz=85						
W23A	Werner Place,	84.75	51	⇓P	P	17 46 50.8	+0.5
	baz=85						
Q20A	Ridgley Place,	84.77	47	⇑P	P	17 46 49.6	-0.7
	baz=85,SNR=6.6						
BSMT	Bassoo Peak	84.78	37	eP	P	17 46 50.5	+0.4
O19A	Miners Draw (B	84.78	46	⇓P	P	17 46 50.4	+0.1
	baz=85						
GYA	Guiyang	84.78	299	eP	P	17 46 52.4	+1.8
GYA				PP	PP	17 50 08.9	+1.8
GYA				SKS	SKSac	17 57 12.0	-3.0
GYA				S	S	17 57 17.2	-1.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,520nm,22.7s						
GYA				LR	LR		
	comp=E,490nm,23.0s						
GYA				LR	LR		
	comp=Z,550nm,21.4s						
527A	Woodward Ranch	84.79	57	⇑P	P	17 46 49.6	-1.0
	baz=85,SNR=11						
Y24A	Capitan	84.81	53	⇑P	P	17 46 49.4	-1.2
	baz=85,SNR=7.2						
I16A	Newdale	84.83	42	⇑P	P	17 46 50.9	+0.4
	baz=85						
DLMT	Dillon	84.84	40	eP	P	17 46 51.0	+0.5
	comp=Z,18nm,1.2s						
L18A	Fontenelle, Gr	84.88	44	⇑P	P	17 46 50.2	-0.6
	baz=85						
125A	Gardner Draw,	84.91	54	⇑P	P	17 46 51.4	+0.3
	baz=85						
P20A	De Beque	84.94	47	⇓P	P	17 46 50.1	-1.0
	baz=85,SNR=5.5						
326A	Caldwell Ranch	84.94	56	⇑P	P	17 46 51.9	+0.6
	baz=85						
T22A	Edith	84.95	49	⇑P	P	17 46 51.8	+0.4
	baz=85						
V23A	Ortiz Mt. (NFS	84.97	51	⇑P	P	17 46 51.9	+0.5
	baz=85						
TPAW	Teton Pass	85.00	42	eP	P	17 46 51.9	+0.4
	comp=Z,13nm,1.0s						
REDW	Red Top Meadow	85.00	42	eP	P	17 46 51.8	+0.4
	comp=Z,34nm,1.3s						
R21A	Cimarron	85.05	48	⇓P	P	17 46 51.2	-0.6
	baz=85,SNR=7.0						
226B	Tecolote Peak,	85.08	55	⇓P	P	17 46 51.8	-0.1
	baz=85,SNR=11						
Z25A	Roswell	85.11	53	⇓P	P	17 46 52.6	+0.6
	baz=85						
SNOW	Snow King Moun	85.11	42	eP	P	17 46 53.2	+1.2
	comp=Z,26nm,1.1s						
628A	Black Gap, Mar	85.13	58	⇓P	P	17 46 52.3	+0.1
	baz=85,SNR=10						
LRM	Limekiln Ridge	85.16	40	eP	P	17 46 52.4	+0.2
PMSA	Palmer Station	85.16	157	P	P	17 46 53.1	+1.5
DAWY	Dawson	85.19	16	eP	P	17 46 51.0	-0.6
IMW	Indian Meadow	85.19	42	eP	P	17 46 53.1	+0.7
	comp=Z,22nm,1.4s						
U23A	El Rito	85.19	50	⇓P	P	17 46 52.2	-0.4
	baz=85,SNR=5.8						
CHMT	Chamberlain Mo	85.21	38	eP	P	17 46 53.1	+0.7
427A	Hayter Ranch,	85.22	56	⇓P	P	17 46 53.0	+0.3
	baz=85,SNR=9.6						
SLMT	Seeley Lake	85.22	38	P	P	17 46 49.1	-3.3
B13A	Whitefish	85.23	37	⇓P	P	17 46 52.3	+0.1
	baz=86						
Q21A	Lamborn Mesa,	85.23	47	⇑P	P	17 46 53.4	+0.8
	baz=86						
MOOW	Moose Ponds	85.25	42	eP	P	17 46 53.0	+0.4
	comp=Z,8.7nm,1.2s						
LOHW	Long Hollow	85.28	42	eP	P	17 46 53.7	+0.9
	comp=Z,22nm,1.5s						
M19A	Rock Springs	85.28	45	⇑P	P	17 46 53.2	+0.4
	baz=86						
S22A	4UR Ranch, Cre	85.31	49	⇑P	P	17 46 52.9	-0.2
	baz=86,SNR=11						
QLMT	Earthquake Lak	85.32	41	eP	P	17 46 54.1	+1.2
EGAK	Eagle	85.32	15	eP	P	17 46 52.2	-0.1
	comp=Z,21nm,1.0s						
EGAK				LR	LR		
	comp=Z,1µm,22.0s						
W24A	Lazy 6 Ranch,	85.33	51	⇑P	P	17 46 54.0	+0.8
	baz=86						
HIA	Hailar	85.34	324	eP	P	17 46 52.0	-0.7
HIA				LR	LR		
	comp=Z,801nm,21.0s						
H16A	Russell Place,	85.37	41	⇓P	P	17 46 53.1	-0.1
	baz=86,SNR=9.0						
Y25A	Mesa, Roswell	85.37	53	⇓P	P	17 46 54.0	+0.5
	baz=86						
L19A	Farson	85.41	44	⇑P	P	17 46 53.4	-0.1
	baz=86,SNR=6.1						
FLWY	Flagg Ranch	85.43	42	eP	P	17 46 55.5	+2.0
	comp=Z,25nm,1.3s						
528A	Cox Ranch, San	85.46	57	⇑P	P	17 46 53.5	-0.4
	baz=86,SNR=13						
COLD	Coldfoot	85.54	10	eP	P	17 46 53.8	+0.5
	comp=Z,20nm,1.2s						
BW06	Boulder Array	85.58	43	eP	P	17 46 53.6	-0.8
	comp=Z,16nm,1.4s						
BW06				LR	LR		
	comp=Z,619nm,22.0s						
PDAR	Pinedale Array	85.58	43	P	P	17 46 53.8	-0.6
PDAR				PP	PP	17 50 12.1	-1.3
PDAR	Pinedale Array	85.58	43	P	P	17 46 53.8	-0.6
	comp=Z,6.5nm,1.1s,baz=204,slow=3.3,SNR=20						
PDAR				PP	PP	17 50 12.1	-1.3
	comp=Z,0.2nm,0.7s,baz=244,slow=8.3,SNR=1.9						
PDAR				LR	LR	18 17 28.6	
	comp=Z,533nm,21.1s,baz=252,slow=30						
BOZ	Bozeman (W)	85.58	40	eP	P	17 46 54.2	0.0
BOZ				pmax	pmax		
	comp=Z,30nm,1.7s						
BOZ				MLR	MLR		
	comp=Z,1µm,19.0s						
BOZ	Bozeman (W)	85.58	40	eP	P	17 46 54.2	0.0
	comp=Z,30nm,1.7s						
BOZ				LR	LR		
	comp=Z,1µm,19.0s						
X25A	Clemmons Ranch	85.63	52	⇓P	P	17 46 54.9	+0.2
	baz=86						
V24A	Rampart Ranch,	85.64	51	⇑P	P	17 46 55.9	+1.1
	baz=86						
Z26A	Caprock	85.67	54	⇓P	P	17 46 54.8	-0.1
	baz=86						
428A	Kincaid Ranch,	85.75	57	⇓P	P	17 46 56.9	+1.6
	baz=86						
XAN	Xi'an	85.75	307	P	P	17 46 56.6	+1.4
XAN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MAW	Mawson	85.77	200	P	P	17 46 54.1	-0.5
MAW	Mawson	85.77	200	P	P	17 46 54.1	-0.5
	comp=Z,11nm,1.1s,baz=128,slow=2.6,SNR=8.8						
MAW				LR	LR	18 22 26.8	
	comp=Z,2µm,20.8s,baz=106,slow=34						
MAW	Mawson	85.77	200	P	P	17 46 55.6	+1.0
	baz=85,SNR=6.6						
SMCO	Snowmass	85.80	47	eP	P	17 47 01.1	+5.4
	comp=Z,14nm,1.1s						
I18A	Diamond G Ranc	85.83	42	⇓P	P	17 46 55.8	+0.3
	baz=86						
LKWY	Lake	85.84	41	PFAKE		17 47 10.0	+14
LKWY				LR	LR		
	comp=Z,933nm,22.0s						
328A	Wristen Ranch,	85.89	56	⇑P	P	17 46 55.9	0.0
	baz=86						
529A	Stev Forest Ra	85.91	57	⇑P	P	17 46 56.7	+0.6
	baz=86						
B14A	Marquette Ranc	85.91	37	⇑P	P	17 46 56.4	+0.6
	baz=86						
HRY	Holter Researc	85.96	39	P	P	17 46 55.9	-0.1
	comp=Z,9.0nm,1.0s						
C15A	Salmond Ranch,	86.01	38	⇓P	P	17 46 55.4	-0.8
	baz=86,SNR=11						
L20A	Wamsutter	86.05	44	⇓P	P	17 46 57.4	+0.7
	baz=86						
K19A	Absolon Red Bu	86.07	43	⇑P	P	17 46 57.1	+0.3
	baz=86						
A14A	Double T Ranch	86.13	36	⇓P	P	17 46 56.6	-0.2
	baz=86,SNR=8.1						
J19A	Crowheart	86.13	43	⇑P	P	17 46 57.7	+0.7
	baz=86						
V25A	Rancho No Teng	86.17	51	⇑P	P	17 46 57.5	+0.1
	baz=86						
R23A	Moffat	86.21	49	⇓P	P	17 46 57.9	+0.3
	baz=86						
SDCO	Great Sand Dun	86.27	49	PFAKE		17 47 10.0	+12
SDCO				LR	LR		
	comp=Z,614nm,21.0s						
B15A	Bradely Ranch,	86.30	37	⇑P	P	17 46 57.3	-0.3
	baz=86						
F17A	Fitzpatrick Pl	86.30	40	⇑P	P	17 46 57.5	-0.2
	baz=86,SNR=7.6						
K20A	Yellowstone Ra	86.33	44	⇓P	P	17 46 58.7	+0.7
	baz=87						
429A	Davenport Ranc	86.35	57	⇓P	P	17 46 58.8	+0.6
	baz=86						
O22A	Kremmling	86.50	47	⇓P	P	17 46 59.6	+0.5
	baz=87						
I19A	Meeteetse	86.51	42	⇓P	P	17 46 59.2	+0.3
	baz=87						
A15A	Johnson Ranch,	86.52	37	⇓P	P	17 46 59.0	+0.3
	baz=87						
C16A	Fuhringer Ranc	86.53	38	⇑P	P	17 46 59.1	+0.3
	baz=87						
M21A	Separation Pea	86.54	45	⇑P	P	17 46 59.7	+0.6
	baz=87						
HHC	Hu-ho-hao-te	86.55	314	eP	P	17 46 57.6	-1.4
HHC				pP	PcP	17 47 02.4	+1.0
HHC				sP	sP	17 47 04.6	-0.9
HHC				PP	PP	17 50 21.7	+0.6
HHC				SKS	SKSac	17 57 21.0	-4.4
HHC				S	SKKSac	17 57 32.3	-1.2
HHC				sS	sS	17 57 40.4	-2.9
HHC				SS	SS	18 03 16.3	-0.2
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,500nm,6.5s						
HHC				LR	LR		
	comp=N,760nm,17.5s						
HHC				LR	LR		
	comp=E,660nm,17.1s						
HHC				LR	LR		
	comp=Z,2µm,17.7s						
PBKT	Sadao Pong	86.55	288	P	P	17 47 04.4	+5.0
	comp=Z,21nm,1.6s						
LOEI	Loei	86.57	289	P	P	17 47 02.5	+3.0
	comp=Z,86nm,2.0s						
128A	Castleberry Fa	86.60	55	⇓P	P	17 47 00.3	+0.9
	baz=87						
530A	J-C Ranch, Com	86.63	57	⇑P	P	17 46 59.9	+0.3
	baz=87						
L21A	Rawlins	86.69	45	⇑P	P	17 47 00

J20A	**Shoshoni**	**86.80**	**43**	⇑P		**P**	**17 46 59.8**	**-0.5**
	baz=87,SNR=6.3							
RLMT	**Red Lodge**	**86.82**	**41**	P		**P**	**17 46 58.9**	**-1.5**
	comp=Z,12nm,1.1s							
RLMT				LR	LR			
	comp=Z,913nm,22.0s							
B16A	**M & M Farms, S**	**86.85**	**38**	⇓P		**P**	**17 47 00.6**	**+0.3**
	baz=87							
D17A	**Six Diamond Ra**	**86.86**	**39**	⇓P		**P**	**17 46 59.9**	**-0.6**
	baz=87,SNR=14							
F18A	**Big Timber**	**86.89**	**40**	⇑P		**P**	**17 47 00.1**	**-0.5**
	baz=87,SNR=7.9							
631A	**Perdido Creek**	**86.99**	**58**	⇑P		**P**	**17 47 00.6**	**-0.7**
	baz=87,SNR=9.4							
ISCO	**Idaho Springs**	**87.01**	**47**	PFAKE			17 47 10.0	+8.4
ISCO				LR	LR			
	comp=Z,415nm,20.0s							
S25A	**Robets Cordova**	**87.01**	**50**	⇓P		**P**	**17 47 01.5**	**0.0**
	baz=87							
I20A	**Worland**	**87.03**	**43**	⇑P		**P**	**17 47 02.4**	**+1.0**
	baz=87							
U26A	**Atchley Ranch,**	**87.04**	**51**	⇓P		**P**	**17 47 01.3**	**-0.3**
	baz=87							
C17A	**Wharram Farm,**	**87.04**	**39**	⇑P		**P**	**17 47 00.7**	**-0.5**
	baz=87,SNR=18							
K21A	**Alcova**	**87.05**	**44**	⇑P		**P**	**17 47 01.5**	**-0.1**
	baz=87							
E18A	**Harlowton**	**87.06**	**40**	⇑P		**P**	**17 47 02.0**	**+0.6**
	baz=87							
A16A	**West Butte Ran**	**87.17**	**37**	⇑P		**P**	**17 47 00.6**	**-1.3**
	baz=87,SNR=13							
N23A	**Red Feather La**	**87.22**	**46**	⇓P		**P**	**17 47 03.0**	**+0.5**
	baz=87							
R25A	**Fountain Ranch**	**87.31**	**49**	⇓P		**P**	**17 47 03.2**	**+0.4**
	baz=88							
B17A	**L&G Farms, Che**	**87.32**	**38**	⇓P		**P**	**17 47 03.2**	**+0.7**
	baz=88							
F19A	**Roth Farm, Mol**	**87.34**	**41**	⇑P		**P**	**17 47 03.1**	**+0.3**
	baz=88							
L22A	**Ellis Ranch, M**	**87.35**	**45**	⇑P		**P**	**17 47 03.9**	**+0.9**
	baz=88							
D18A	**Linhart Farms,**	**87.42**	**39**	⇓P		**P**	**17 47 04.0**	**+0.9**
	baz=88							
NANT	**Nan**	**87.48**	**290**	P		P	17 47 09.5	+5.6
	comp=Z,27nm,1.0s							
BTO	**Baotou**	**87.52**	**313**	*e*P		**P**	**17 47 03.6**	**-0.1**
I21A	**Big Trails, Te**	**87.52**	**43**	⇑P		**P**	**17 47 03.3**	**-0.4**
	baz=88							
G20A	**Bridger**	**87.53**	**41**	⇑P		**P**	**17 47 04.0**	**+0.3**
	baz=88							
KMI	**Kunming**	**87.66**	**297**	P		**P**	**17 47 05.5**	**+0.6**
KMI				pP		**pP**	**17 47 08.9**	**-0.9**
KMI				sP		**sP**	**17 47 09.9**	**-1.6**
KMI				PP		**PP**	**17 50 33.0**	**+2.5**
KMI				SKS		**SKSac**	**17 57 31.1**	**-2.1**
KMI				S		**SKKSac**	**17 57 43.5**	**+0.7**
KMI				SS		**SS**	**18 03 33.5**	**-0.2**
KMI				pmax	pmax			
	comp=Z,19nm,1.6s							
KMI				pmax	pmax			
	comp=Z,560nm,4.6s							
KMI				LR	LR			
	comp=N,1μm,13.7s							
KMI				LR	LR			
	comp=E,1μm,17.8s							
KMI				LR	LR			
	comp=Z,2μm,17.3s							
632A	**Uvalde**	**87.67**	**59**	⇑P		**P**	**17 47 05.8**	**+1.2**
	baz=88							
A17A	**Triple J Farms**	**87.69**	**37**	⇑P		**P**	**17 47 03.4**	**-0.9**
	baz=88,SNR=15							
E19A	**Rath Farm, Rou**	**87.71**	**40**	⇑P		**P**	**17 47 05.8**	**+1.3**
	baz=88							
532A	**Rocksprings**	**87.78**	**58**	⇓P		**P**	**17 47 06.0**	**+0.8**
	baz=88							
EGMT	**Eagleton**	**87.82**	**38**	PFAKE			17 47 20.0	+15
EGMT				LR	LR			
	comp=Z,729nm,22.0s							
L23A	**Garrett**	**87.88**	**45**	⇓P		**P**	**17 47 06.4**	**+0.8**
	baz=88							
J22A	**Midwest**	**87.89**	**44**	⇑P		**P**	**17 47 05.8**	**+0.2**
	baz=88							
P25A	**Willow Gulch B**	**87.92**	**48**	⇑P		**P**	**17 47 05.7**	**-0.1**
	baz=88							
D19A	**Cripps Ranch,**	**87.97**	**40**	⇑P		**P**	**17 47 06.3**	**+0.6**
	baz=88							
B18A	**Beardsley Farm**	**87.98**	**38**	⇓P		**P**	**17 47 06.0**	**+0.3**
	baz=88							
R26A	**Arlington**	**87.98**	**49**	⇑P		**P**	**17 47 06.4**	**+0.3**
	baz=88							
JCT	**Junction City**	**87.99**	**58**	PFAKE			17 47 20.0	+14
JCT				LR	LR			
	comp=Z,359nm,20.0s							
AMTX	**Amarillo**	**88.04**	**53**	PFAKE			17 47 20.0	+14
AMTX				LR	LR			
	comp=Z,748nm,22.0s							
I22A	**9 Mile Ranch,**	**88.08**	**43**	⇑P		**P**	**17 47 07.3**	**+0.9**
	baz=88							
C19A	**Slack Wire Ran**	**88.11**	**39**	⇓P		**P**	**17 47 05.8**	**-0.6**
	baz=88,SNR=7.3							
A18A	**Metzger Ranch,**	**88.17**	**38**	⇑P		**P**	**17 47 07.2**	**+0.6**
	baz=88							
EDM	**Edmonton**	**88.29**	**33**	*e*P		**P**	**17 47 06.9**	**-0.1**
EDM	**Edmonton**	**88.29**	**33**	*e*P		**P**	**17 47 06.9**	**-0.1**
LAMP	**Lampang**	**88.36**	**290**	P		P	17 47 14.7	+6.6
	comp=Z,4.2nm,1.2s							
D20A	**Manuel Ranch,**	**88.39**	**40**	⇓P		**P**	**17 47 08.3**	**+0.6**
	baz=89							
KVTX	**Kingsville**	**88.59**	**61**	PFAKE			17 47 20.0	+11
KVTX				LR	LR			
	comp=Z,308nm,19.0s							
CD2	**Chengdu**	**88.71**	**303**	*e*P		**P**	**17 47 11.0**	**+1.4**
CD2				pP		**pP**	**17 47 15.7**	**+1.3**
CD2				sP		**sP**	**17 47 17.9**	**+1.8**
CD2				PP		**PP**	**17 50 41.8**	**+3.2**
CD2				SKS		**SKSac**	**17 57 37.9**	**-0.9**
CD2				S		**S**	**17 57 55.6**	**-0.8**
CD2				sS		**ScS**	**17 58 03.0**	**+1.1**
CD2				SS		**SS**	**18 03 49.9**	**+1.5**
CD2				pmax	pmax			
	comp=Z,30nm,1.6s							
CD2				pmax	pmax			
	comp=Z,210nm,6.4s							
CD2				LR	LR			
	comp=N,1μm,20.2s							
CD2				LR	LR			
	comp=Z,1μm,22.6s							
C20A	**Veseth Ranch,**	**88.74**	**39**	⇓P		**P**	**17 47 09.9**	**+0.6**
	baz=89							
CMAR	**Chiang Mai Arr**	**88.96**	**289**	P		**P**	**17 47 11.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.96**	**289**	P		**P**	**17 47 11.9**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=105,slow=2.8,SNR=7.8							
CMAR				LR	LR		18 24 34.5	
	comp=Z,735nm,21.2s,baz=282,slow=34							
CHTO	**Chiang Mai**	**89.07**	**290**	*e*P		**P**	**17 47 11.1**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,90nm,2.2s							
CHTO				MLR	MLR			
	comp=Z,867nm,21.0s							
CHTO	**Chiang Mai**	**89.07**	**290**	*e*P		**P**	**17 47 11.1**	**-0.3**
	comp=Z,90nm,2.2s							
CHTO				LR	LR			
	comp=Z,867nm,21.0s							
CHTO	**Chiang Mai**	**89.07**	**290**	P		P	17 47 14.7	+3.3
	comp=Z,16nm,2.6s							
D21A	**La Casta Ranch**	**89.08**	**40**	⇓P		**P**	**17 47 11.6**	**+0.6**
	baz=89							
R28A	**Tribune**	**89.19**	**50**	⇑P		**P**	**17 47 11.7**	**0.0**
	baz=89							
Z32A	**Haskell**	**89.20**	**55**	⇓P		**P**	**17 47 12.3**	**+0.5**
	baz=89							
A20A	**Cobblestone Ra**	**89.29**	**38**	⇓P		**P**	**17 47 12.1**	**+0.2**
	baz=90							
C21A	**Desert Coulee**	**89.34**	**39**	⇓P		**P**	**17 47 12.7**	**+0.6**
	baz=90							
W31A	**Holland Ranch,**	**89.48**	**53**	⇓P		**P**	**17 47 13.5**	**+0.4**
	baz=90							
F23A	**Volborg**	**89.53**	**42**	⇓P		**P**	**17 47 13.7**	**+0.6**
	baz=90							
B21A	**Ellsworth Farm**	**89.64**	**39**	⇓P		**P**	**17 47 13.8**	**+0.3**
	baz=90							
H24A	**Dirks Ranch, A**	**89.70**	**43**	⇓P		**P**	**17 47 13.8**	**-0.1**
	baz=90							
RSSD	**Black Hills**	**89.80**	**44**	*e*P		**P**	**17 47 13.9**	**-0.7**
RSSD				pmax	pmax			
	comp=Z,17nm,1.4s							
RSSD	**Black Hills**	**89.80**	**44**	*e*P		**P**	**17 47 13.8**	**-0.7**
	comp=Z,16nm,1.4s							
I25A	**Rochford**	**89.96**	**44**	⇑P		**P**	**17 47 15.4**	**+0.1**
	baz=90							
OGNE	**Ogallala**	**89.97**	**47**	PFAKE			17 47 30.0	+15
OGNE				LR	LR			
	comp=Z,540nm,22.0s							
WMOK	**Wichita Mounta**	**90.23**	**54**	PFAKE			17 47 30.0	+13
WMOK				LR	LR			
	comp=Z,356nm,21.0s							
LZH	**Lanzhou**	**90.38**	**307**	*e*P		**P**	**17 47 18.3**	**+0.9**
LZH				pP		**pP**	**17 47 21.6**	**-0.6**
LZH				sP		**sP**	**17 47 23.1**	**-0.8**
LZH				PP		**PP**	**17 50 54.5**	**+2.5**
LZH				SKS		**SKSac**	**17 57 47.3**	**-1.4**
LZH				*e*S		**S**	**17 58 10.5**	**-1.5**
LZH				sS		**ScS**	**17 58 17.6**	**+1.9**
LZH				*e*SS		**SS**	**18 04 12.4**	**-0.2**
LZH				pmax	pmax			
	comp=Z,29nm,1.5s							
LZH				pmax	pmax			
	comp=Z,200nm,7.8s							
LZH				LR	LR			
	comp=N,330nm,17.0s							
LZH				LR	LR			
	comp=E,350nm,17.5s							
LZH				LR	LR			
	comp=Z,460nm,19.8s							
C23A	**Lambert**	**90.51**	**40**	⇓P		**P**	**17 47 18.8**	**+1.3**
	baz=91							
H26A	**Fairpoint**	**90.82**	**44**	⇓P		**P**	**17 47 20.1**	**+0.9**
	baz=91							
B23A	**Brockton**	**90.89**	**39**	⇓P		**P**	**17 47 20.6**	**+1.2**
	baz=91							
SYO	**Syowa Base**	**91.04**	**193**	⇓*e*sP		sP	17 47 27.5	+1.3
DGMT	**Dagmar**	**91.38**	**40**	P		**P**	**17 47 22.5**	**+0.9**
DGMT				LR	LR			
	comp=Z,1μm,20.0s							
DGMT	**Dagmar**	**91.38**	**40**	⇓P		**P**	**17 47 22.5**	**+0.9**
	baz=92							
PLCA	**Paso Flores**	**92.03**	**133**	P		**P**	**17 47 25.0**	**0.0**
	comp=Z,5.9nm,1.1s							
PLCA	**Paso Flores**	**92.03**	**133**	LR	LR		18 20 08.7	
	comp=Z,548nm,19.8s,baz=69,slow=30							
ULN	**Ulaanbaatar**	**92.27**	**319**	*e*P		**P**	**17 47 25.9**	**0.0**
	comp=Z,18nm,1.4s							
ULN				LR	LR			
	comp=Z,431nm,21.0s							
ULN	**Ulaanbaatar**	**92.27**	**319**	P		**P**	**17 47 29.1**	**+3.2**
SNAA	**Sanae**	**92.35**	**178**	*e*P		**P**	**17 47 24.3**	**-1.5**
SNAA	**Sanae**	**92.35**	**178**	*e*pP		pP	17 47 42.8	+12
SNAA	**Sanae**	**92.35**	**178**	*e*P		**P**	**17 47 24.0**	**-1.9**
	comp=Z,11nm,1.2s							
YKA	**Yellowknife Ar**	**92.43**	**24**	P		**P**	**17 47 27.1**	**+1.0**
YKA	**Yellowknife Ar**	**92.43**	**24**	P		**P**	**17 47 27.0**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=250,slow=3.6,SNR=5.4							
C26A	**Wahner Farm, P**	**92.44**	**41**	⇓P		**P**	**17 47 27.7**	**+1.2**
	baz=93							
SONM	**Songino Array**	**92.67**	**319**	P		**P**	**17 47 27.1**	**-0.6**
SONM	**Songino Array**	**92.67**	**319**	P		**P**	**17 47 27.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=117,slow=2.6,SNR=4.9							
SONM				LR	LR		18 24 38.9	
	comp=Z,444nm,21.0s,baz=116,slow=33							
VNA2	**Neumayer--Watz**	**92.91**	**177**	*e*P		**P**	**17 47 28.2**	**-0.1**
VNA2	**Neumayer--Watz**	**92.91**	**177**	*e*pP		pP	17 47 41.1	+7.9
VNA2	**Neumayer--Watz**	**92.91**	**177**	*e*sP		sP	17 47 44.2	+9.3
MAIT	**Maitri**	**93.07**	**183**	*e*P		P	17 47 22.5	-6.6
MAIT				*e*			17 47 25.8	
VNA1	**Neumayer--Stat**	**93.13**	**176**	*e*P		**P**	**17 47 29.6**	**+0.3**
KSU1	**Kansas State U**	**93.28**	**50**	PFAKE			17 47 40.0	+9.4
KSU1				LR	LR			
	comp=Z,488nm,20.0s							
MIAR	**Mount Ida**	**94.25**	**55**	PFAKE			17 47 50.0	+15
MIAR				LR	LR			
	comp=Z,372nm,21.0s							
GTA	**Gaotai**	**94.45**	**310**	*e*P		**P**	**17 47 36.4**	**+0.3**
GTA				pP		**pP**	**17 47 41.2**	**+0.2**
GTA				sP		**sP**	**17 47 43.5**	**+0.8**
GTA				S		**S**	**17 58 47.8**	**-0.5**
GTA				sS		**ScS**	**17 58 52.8**	**+3.4**
GTA				SS		**SS**	**18 05 10.7**	**-0.3**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.9s							
GTA				pmax	pmax			
	comp=Z,68nm,5.7s							
GTA				LR	LR			
	comp=N,520nm,18.8s							
GTA				LR	LR			
	comp=E,470nm,17.8s							
GTA				LR	LR			
	comp=Z,530nm,19.5s							
EFI	**East Falkland**	**94.57**	**147**	PFAKE			17 47 50.0	+14
EFI				LR	LR			
	comp=Z,337nm,19.0s							
ECSD	**EROS Data Cent**	**94.69**	**46**	*e*P		**P**	**17 47 36.8**	**-0.2**
	comp=Z,21nm,1.6s							
ECSD				LR	LR			
	comp=Z,669nm,20.0s							
TEIG	**Tepich**	**94.89**	**70**	PFAKE			17 47 50.0	+12
TEIG				LR	LR			
	comp=Z,353nm,21.0s							
FFC	**Flin Flon**	**94.99**	**34**	PFAKE			17 47 50.0	+12
FFC				LR	LR			
	comp=Z,836nm,21.0s							
ZAK	**Zakamensk**	**95.46**	**321**	*e*P		**P**	**17 47 39.5**	**-1.0**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
VBMS	**Vicksburg**	**96.08**	**58**	PFAKE			17 47 50.0	+6.5
VBMS				LR	LR			
	comp=Z,344nm,19.0s							
LCO	**Las Campanas**	**96.46**	**123**	PFAKE			17 48 00.0	+14
LCO				LR	LR			
	comp=Z,2μm,21.0s							
AGMN	**Agassiz Nation**	**96.55**	**42**	PFAKE			17 48 00.0	+15
AGMN				LR	LR			
	comp=Z,729nm,20.0s							
SCIA	**State Center**	**96.56**	**48**	PFAKE			17 48 00.0	+14
SCIA				LR	LR			
	comp=Z,751nm,22.0s							
ULM	**Lac du Bonnet**	**97.10**	**40**	LR	LR		18 25 15.4	
	comp=Z,878nm,20.3s,baz=258,slow=32							
OXF	**Oxford**	**97.56**	**56**	PFAKE			17 48 00.0	+10
OXF				LR	LR			
	comp=Z,412nm,19.0s							
BRAL	**Brewton**	**98.64**	**60**	PFAKE			17 48 10.0	+15
BRAL				LR	LR			
	comp=Z,367nm,21.0s							
LSA	**Lhasa**	**98.82**	**298**	PFAKE			17 48 10.0	+13
LSA				LR	LR			
	comp=Z,696nm,21.0s							
OTAV	**Otavalo**	**98.92**	**92**	PFAKE			17 48 10.0	+13
OTAV				LR	LR			
	comp=Z,661nm,22.0s							
JFWS	**Jewell Farm**	**98.94**	**48**	PFAKE			17 48 10.0	+14
JFWS				LR	LR			
	comp=Z,744nm,20.0s							
LRAL	**Lakeview Retre**	**99.16**	**58**	PFAKE			17 48 10.0	+13
LRAL				LR	LR			
	comp=Z,274nm,19.0s							
TRQA	**Tornquist**	**99.17**	**134**	PFAKE			17 48 10.0	+12
TRQA				LR	LR			
	comp=Z,540nm,22.0s							
EYMN	**Ely**	**99.28**	**43**	PFAKE			17 48 10.0	+12
EYMN				LR	LR			
	comp=Z,735nm,19.0s							
BCIP	**Isla Barro Col**	**99.96**	**83**	PFAKE			17 48 10.0	+8.6
BCIP				LR	LR			
	comp=Z,505nm,22.0s							
LVC	**Limon Verde**	**100.37**	**117**	PFAKE			17 48 10.0	+6.5
LVC				LR	LR			
	comp=Z,1μm,22.0s							
COWI	**Conover**	**100.43**	**45**	PFAKE			17 48 10.0	+7.2
COWI				LR	LR			
	comp=Z,682nm,19.0s							
GLMI	**Grayling**	**103.32**	**47**	PFAKE			17 48 30.0	+14
GLMI				LR	LR			
	comp=Z,767nm,21.0s							
MTDJ	**Mount Denham**	**104.27**	**75**	PFAKE			17 48 30.0	+9.4
MTDJ				LR	LR			
	comp=Z,456nm,22.0s							
BLA	**Blacksburg**	**105.25**	**55**	PFAKE			17 52 50.0	
BLA				LR	LR			
	comp=Z,313nm,21.0s							
DGAR	**Diego Garcia**	**106.79**	**257**	PFAKE			17 52 50.0	
DGAR				LR	LR			
	comp=Z,930nm,21.0s							
GTBY	**Guantanamo Bay**	**106.86**	**74**	PFAKE			17 52 50.0	
GTBY				LR	LR			
	comp=Z,352nm,20.0s							
CNNC	**Cliffs of the**	**106.99**	**58**	PFAKE			17 52 50.0	
CNNC				LR	LR			
	comp=Z,359nm,20.0s							
ZALV	**Zalesovo Beam**	**107.28**	**322**	P		**Pdif**	**17 48 33.3**	**+0.3**
ZALV	**Zalesovo Beam**	**107.28**	**322**	Pdif		**Pdif**	**17 48 33.3**	**+0.3**
ZALV	**Zalesovo Beam**	**107.28**	**322**	Pdiff		**Pdif**	**17 48 33.3**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=92,slow=5.1,SNR=2.3							
CBN	**Corbin**	**107.78**	**54**	PFAKE			17 52 50.0	
CBN				LR	LR			
	comp=Z,398nm,20.0s							
MKAR	**Makanchi Array**	**108.41**	**315**	P		**Pdif**	**17 48 39.9**	**+1.6**
MKAR	**Makanchi Array**	**108.41**	**315**	Pdif		**Pdif**	**17 48 39.9**	**+1.6**
MKAR				PKiKP		**PKiKP**	**17 52 43.6**	**-0.6**
MKAR	**Makanchi Array**	**108.41**	**315**	Pdiff		**Pdif**	**17 48 39.9**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=102,slow=2.1,SNR=2.9							
MKAR				PKiKP		**PKiKP**	**17 52 43.6**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=132,slow=2.1,SNR=2.5							
SDV	**Santo Domingo**	**108.70**	**86**	PFAKE			17 53 00.0	
SDV				LR	LR			
	comp=Z,44nm,19.0s							
BINY	**Binghamton**	**109.23**	**50**	PFAKE			17 53 00.0	
BINY				LR	LR			
	comp=Z,518nm,19.0s							
SDDR	**Presa de Saban**	**110.22**	**75**	PFAKE			17 53 00.0	
SDDR				LR	LR			
	comp=Z,989nm,20.0s							
LONY	**Lake Ozonia**	**110.40**	**48**	PFAKE			17 53 00.0	
LONY				LR	LR			
	comp=Z,511nm,20.0s							
SAML	**Samuel**	**110.54**	**106**	PFAKE			17 53 00.0	
SAML				LR	LR			
	comp=Z,803nm,20.0s							
NCB	**Newcomb**	**110.63**	**49**	PFAKE			17 53 00.0	
NCB				LR	LR			
	comp=Z,621nm,20.0s							
GRTK	**Grand Turk**	**110.81**	**73**	PFAKE			17 53 00.0	
GRTK				LR	LR			
	comp=Z,196nm,19.0s							
KURK	**Kurchatov**	**110.97**	**319**	PKiKP		**PKiKP**	**17 52 47.7**	**-1.1**
KURBB	**Kurchatov Arra**	**111.03**	**318**	PKiKP		**PKiKP**	**17 52 47.7**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=126,slow=1.4,SNR=4.1							
LBNH	**Lisbon**	**112.29**	**48**	PFAKE			17 53 00.0	
LBNH				LR	LR			
	comp=Z,661nm,19.0s							
TKM2	**Tokmak 2**	**113.00**	**310**	PFAKE			17 53 00.0	
TKM2				LR	LR			
	comp=Z,419nm,20.0s							
AAK	**Ala-Archa**	**113.80**	**310**	PFAKE			17 53 10.0	
AAK				LR	LR			
	comp=Z,414nm,21.0s							
MPR	**Mayaguez**	**113.96**	**77**	*e*PP		PP	17 53 50.3	+0.7
BVAR	**Borovoye Array**	**115.91**	**321**	PKiKP		**PKPdf**	**17 52 56.7**	**-1.6**
BVAR	**Borovoye Array**	**115.91**	**321**	PKP		**PKPdf**	**17 52 56.7**	**-1.6**
BVAR	**Borovoye Array**	**115.91**	**321**	PKP		**PKPdf**	**17 52 56.7**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=78,slow=1.9,SNR=3.9							
BRVK	**Borovoye**	**115.97**	**322**	PFAKE			17 53 10.0	+12
BRVK				LR	LR			
	comp=Z,455nm,19.0s							
KBS	**Kingsbay**	**117.00**	**358**	PFAKE			17 53 10.0	+10
KBS				LR	LR			
	comp=Z,603nm,20.0s							
SPITS	**Spitsbergen Ar**	**117.54**	**357**	PKP		**PKPdf**	**17 52 57.9**	**-2.9**
SPITS	**Spitsbergen Ar**	**117.54**	**357**	PKP		**PKPdf**	**17 52 57.9**	**-2.9**
	comp=Z,1.2nm,0.7s,baz=17,slow=2.1,SNR=2.3							
BBSR	**BB Station**	**117.68**	**62**	PFAKE			17 53 10.0	+7.7
BBSR				LR	LR			
	comp=Z,278nm,20.0s							
GRGR	**Grenville**	**118.03**	**85**	PFAKE			17 53 10.0	+6.6
GRGR				LR	LR			
	comp=Z,355nm,20.0s							
SFJD	**Kangerlussuaq**	**118.78**	**21**	PFAKE			17 53 10.0	+6.7
SFJD				LR	LR			
	comp=Z,951nm,19.0s							
ANWB	**Willy Bob**	**118.90**	**78**	PFAKE			17 53 20.0	+15
ANWB				LR	LR			
	comp=Z,345nm,21.0s							
FDF	**Fort de France**	**119.01**	**82**	PFAKE			17 53 20.0	+15
FDF				LR	LR			
	comp=Z,364nm,21.0s							
ARU	**Arti**	**121.76**	**327**	*i* PKIKP		**PKPdf**	**17 53 12.5**	**+3.1**
ARU							18 00 10.8	
MSEY	**Mahe Island**	**123.52**	**253**	PFAKE			17 53 30.0	+16
MSEY				LR	LR			
	comp=Z,859nm,20.0s							
ABPO	**Ambohimpanom**	**123.69**	**233**	PFAKE			17 53 30.0	+15
ABPO				LR	LR			
	comp=Z,935nm,20.0s							
AKTO	**Aktyubinsk**	**123.97**	**320**	PKIKP		**PKPdf**	**17 53 14.2**	**+0.4**
AKTO	**Aktyubinsk**	**123.97**	**320**	PKP		**PKPdf**	**17 53 14.2**	**+0.4**
AKTO	**Aktyubinsk**	**123.97**	**320**	PKP		**PKPdf**	**17 53 14.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=97,slow=5.1,SNR=2.9							
KEV	**Kevo**	**124.25**	**350**	PFAKE			17 53 30.0	+16
KEV				LR	LR			
	comp=Z,407nm,19.0s							
ARCES	**ARCESS Array B**	**124.69**	**350**	PKP		**PKPdf**	**17 53 12.8**	**-1.9**
ARCES	**ARCESS Array B**	**124.69**	**350**	PKP		**PKPdf**	**17 53 12.8**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=37,slow=0.6,SNR=6.7							
SUR	**Sutherland**	**128.62**	**200**	PFAKE			17 53 30.0	+6.3
SUR				LR	LR			
	comp=Z,1μm,21.0s							
FIA1	**FINESS Array S**	**131.67**	**345**	PKPdf		**PKPdf**	**17 53 27.6**	**-0.6**
FINES	**FINESS Array B**	**131.67**	**345**	PKP		**PKPdf**	**17 53 27.4**	**-0.8**
FINES	**FINESS Array B**	**131.67**	**345**	PKP		**PKPdf**	**17 53 27.4**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=98,slow=3.9,SNR=5.8							
OBN	**Obninsk**	**133.04**	**334**	⇑*i* PKIKP		**PKPdf**	**17 53 30.4**	**-0.5**
OBN				*e*			17 55 59.9	
OBN				*e*			18 00 40.7	
OBN				*i* SS	SS		18 13 40.9	+2.6
OBN				pmax	pmax			
	comp=Z,11nm,1.3s							
OBN				MLR	MLR			
	comp=Z,400nm,19.0s							
NB2	**NORSAR Subarra**	**134.69**	**354**	PKPdf		**PKPdf**	**17 53 37.2**	**+3.2**
	comp=Z,28nm,2.5s,baz=14,slow=1.8							
NB2	**NORSAR Subarra**	**134.69**	**354**	PKPdf		**PKPdf**	**17 53 37.2**	**+3.2**
	baz=14,slow=1.8							
NOA	**NORSAR Array B**	**134.69**	**354**	PKP		**PKPdf**	**17 53 31.5**	**-2.5**
NOA	**N

KWP LR LR
comp=Z,532nm,20.0s
OJC Ojcow 143.18 341 *e*PKIKP **PKPdf 17 53 50.6 +0.9**
BURAR Bucovina Array 143.36 334 ⇑PKIKP **PKPdf 17 53 49.0 -1.3**
BURAR Bucovina Array 143.36 334 ⇑*i*P **PKPdf 17 53 49.0 -1.3**
STHS Stebnicka Huta 143.41 339 *e*PKIKP PKPbc 17 53 48.0 +0.7
STHS Stebnicka Huta 143.41 339 *e*PKP PKPbc 17 53 48.0 +0.7
KOLS Kolonicke sedl 143.45 338 *e*PKIKP PKPbc 17 53 48.5 +1.0
KOLS Kolonicke sedl 143.45 338 *e*PKP PKPbc 17 53 48.5 +1.0
KSP Ksiaz 143.60 345 *i*PKIKP **PKPdf 17 53 54.8 +4.3**
UZH Uzhgorod 143.70 338 *e*PKIKP PKPab 17 53 47.2 -0.2
NIE Niedzica 143.72 340 *e*PKIKP **PKPdf 17 53 51.8 +1.0**
CRVS Cervenica-Dubn 143.77 339 *e*PKIKP PKPab 17 53 48.0 +0.3
CRVS Cervenica-Dubn 143.77 339 *e*PKP PKPab 17 53 48.0 +0.3
CLL Collm 143.88 349 *i*PKIKP **PKPdf 17 53 49.9 -1.0**
CLL *i* 17 53 58.2
CLL *i* 17 54 03.3
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL MLR MLR
comp=Z,500nm,19.6s
CLL Collm 143.88 349 *i*PKPdf **PKPdf 17 53 49.9 -1.0**
comp=Z,4.0nm,0.8s
CLL *e*PKiKP **PKiKP 17 53 54.0 -0.4**
CLL *i*pPKiKP **pPKiKP 17 53 58.2 -1.1**
comp=Z,19nm,1.7s
CLL *i* 17 54 03.3
CLL *e* 17 56 00.0
CLL *e*PP **PP 17 57 06.0 +2.6**
CLL *e*PPP PPP 18 00 06.0
CLL *e*SS SS 18 15 45.0 -0.7
CLL *e* 18 16 54.0
CLL *e*SSS SSS 18 21 12.0
CLL Lm MLR 19 01 00.0
comp=Z,500nm,19.6s
BR131 Keskin Array S 144.00 317 *e*PKPdf **PKPab 17 53 48.9 -0.1**
BRTR Keskin Array B 144.00 317 PKP **PKPab 17 53 49.1 +0.1**
BRTR Keskin Array B 144.00 317 PKP **PKPab 17 53 49.1 +0.1**
comp=Z,9.0nm,0.9s,baz=112,slow=1.2,SNR=27
VRI Vrincioaia 144.01 331 ⇓PKIKP **PKPdf 17 53 54.1 +2.7**
VRI Vrincioaia 144.01 331 ⇓*i*P **PKPdf 17 53 54.1 +2.7**
OKC Ostrava-Krasne 144.01 343 *e*PKIKP **PKPdf 17 53 53.1 +1.9**
OKC *e* 17 54 03.2
OKC *e*SS SS 18 15 42.6 -4.9
OKC MLR MLR
comp=Z,400nm,18.6s
OKC Ostrava-Krasne 144.01 343 *e*PKP **PKPdf 17 53 53.1 +1.9**
OKC *ep*PKP **pPKPdf 17 53 56.8 +0.6**
OKC *ex* x 17 54 03.2
OKC *ex* x 17 56 53.0
OKC *e*SS SS 18 15 42.6 -4.9
OKC AMS AMS 19 00 00.0
comp=Z,400nm,18.6s
TRPA Tarpa 144.02 337 ⇑*i*P **PKPdf 17 53 53.1 +1.8**
TRPA Tarpa 144.02 337 ⇑*e*PKPdf **PKPdf 17 53 53.0 +1.8**
DPC Dobruska-Polom 144.04 345 *e*PKIKP **PKPab 17 53 48.9 +0.2**
DPC *e* 17 53 57.4
DPC *e* 17 54 03.8
DPC Dobruska-Polom 144.04 345 *e*PKIKP PKPbc 17 53 49.0 -0.2
DPC Dobruska-Polom 144.04 345 *e*PKP **PKPab 17 53 48.9 +0.2**
DPC *ex* x 17 53 52.7
DPC *ep*PKP **pPKPdf 17 53 57.4 +1.1**
DPC *ex* x 17 54 03.8
DPC Dobruska-Polom 144.04 345 *e*PKPdf **PKPab 17 53 49.0 +0.2**
BRG Berggiesshubel 144.10 347 *e*PKP **PKPdf 17 53 54.3 +3.0**
comp=Z,3.9nm,0.9s
BRG *e* 17 56 54.0
BRG Berggiesshubel 144.10 347 *e*PKIKP **PKPdf 17 53 54.3 +3.0**
BRG SS SS 18 15 50.0 +1.6
BRG pmax pmax
comp=Z,4.0nm,0.9s
TIRR Tirgusor 144.18 327 ⇑PKIKP **PKPdf 17 53 54.5 +2.9**
TIRR Tirgusor 144.18 327 ⇑*i*P **PKPdf 17 53 54.5 +2.9**
MORC Moravsky Berou 144.24 343 *e*PKIKP **PKPdf 17 53 51.9 +0.2**
MORC Moravsky Berou 144.24 343 *e*PKPdf **PKPdf 17 53 51.9 +0.2**
PVCC Panska Ves 144.29 347 *e*PKIKP PKPbc 17 53 50.2 +0.3
PVCC *e* 17 53 56.6
PVCC *e* 17 54 03.9
PVCC MLR MLR
comp=Z,500nm,18.3s
PVCC Panska Ves 144.29 347 *e*PKP PKPbc 17 53 50.2 +0.3
PVCC *ep*PKP pPKPdf 17 53 56.6 0.0
PVCC *ex* x 17 54 03.9
PVCC AMS AMS 19 01 50.0
comp=Z,500nm,18.3s
KECS Kecovo 144.46 339 *e*PKIKP **PKPab 17 53 50.1 -0.2**
KECS Kecovo 144.46 339 *e*PKP **PKPab 17 53 50.1 -0.2**
ANTO Ankara 144.48 318 ⇑PKIKP **PKPab 17 53 50.6 -0.1**
ANTO Ankara 144.48 318 ⇑*i*P **PKPab 17 53 50.6 -0.1**
ANTO Ankara 144.48 318 *e*PKPdf PKPbc 17 53 51.3 +0.3
ANTO LR LR
comp=Z,359nm,19.0s
MLR Muntele Rosu 144.66 331 PKP **PKPab 17 53 51.0 -0.3**
MLR Muntele Rosu 144.66 331 PKP **PKPab 17 53 51.0 -0.3**
comp=Z,1.9nm,0.9s,baz=48,slow=6.0,SNR=6.9
PRA Prague 144.75 346 PKP **PKPdf 17 53 52.0 -0.5**
PRA AMS AMS 18 50 00.0
PRU Pruhonice 144.81 346 *e*PKIKP PKPbc 17 53 51.6 0.0
PRU *e* 17 53 56.0
PRU *e* 17 54 06.6
PRU *e*SS SS 18 15 53.2 -3.3
PRU MLR MLR
comp=Z,500nm,24.0s
PRU Pruhonice 144.81 346 *e*PKP PKPbc 17 53 51.6 0.0
PRU *ep*PKP **pKiKP 17 53 56.0 -0.3**
PRU *ex* x 17 54 06.6
PRU *ex* x 17 56 57.3
PRU *e*SS SS 18 15 53.2 -3.3
PRU AMS AMS 18 49 00.0
comp=Z,500nm,24.0s
VRAC Vranov 144.93 344 PKP **PKPab 17 53 51.7 -0.2**
VRAC Vranov 144.93 344 PKP **PKPab 17 53 51.7 -0.2**
comp=Z,18nm,1.0s,baz=40,slow=8.6,SNR=11
VYHS Vyhne 145.00 341 *e*PKIKP **PKPab 17 53 51.8 -0.5**
VYHS Vyhne 145.00 341 *e*PKP **PKPab 17 53 51.8 -0.5**
NKC Novy Kostel 145.01 349 *e*PKIKP **PKPdf 17 53 56.2 +3.2**
NKC *e* 17 54 06.8
NKC *e*SS SS 18 15 54.5 -4.3
NKC MLR MLR
comp=Z,300nm,23.1s
NKC Novy Kostel 145.01 349 *e*PKP **PKPdf 17 53 56.2 +3.2**
NKC *ex* x 17 54 06.8
NKC *e*SS SS 18 15 54.5 -4.3
NKC AMS AMS 18 59 50.0
comp=Z,300nm,23.1s
DRGR 145.05 335 ⇑PKIKP **PKPbc 17 53 51.6 -1.0**
DRGR 145.05 335 ⇑*i*P **PKPbc 17 53 51.6 -1.0**
VOIR 145.11 332 ⇑PKIKP **PKPbc 17 53 52.5 -0.3**
VOIR 145.11 332 ⇑*i*P **PKPbc 17 53 52.5 -0.3**
PSZ Piszkesteto 145.15 339 ⇑PKP2 **PKPbc 17 53 51.6 -1.3**
PSZ Piszkesteto 145.15 339 ⇑*i*P **PKPbc 17 53 51.6 -1.3**
PSZ Piszkesteto 145.15 339 PFAKE 17 54 00.0 +6.6
PSZ LR LR
comp=Z,521nm,21.0s
PSZ Piszkesteto 145.15 339 ⇓*e*PKPbc **PKPbc 17 53 52.3 -0.6**
TREC Trest 145.23 345 *e*PKIKP **PKPbc 17 53 52.4 -0.6**
TREC *e* 17 54 07.4
TREC MLR MLR
comp=Z,600nm,19.6s
TREC Trest 145.23 345 *e*PKP **PKPbc 17 53 52.4 -0.6**
TREC *ep*PKP **PKiKP 17 53 56.2 -1.1**
TREC *ex* x 17 54 07.4
TREC *ex* x 17 56 57.5
TREC AMS AMS 19 02 30.0
comp=Z,600nm,19.6s
MEM Membach 145.48 356 PKP **PKPbc 17 53 52.5 -1.1**
LOT Lotru 145.68 333 ⇓*i*P **PKPdf 17 53 53.5 -0.9**
GRFO Grafenberg 145.75 350 *e*PKP2 **PKPdf 17 53 53.8 -0.4**
GRFO Grafenberg 145.75 350 *e*PKPdf **PKPdf 17 53 53.8 -0.4**
ZST Bratislava 145.79 342 *e*PKP2 **PKPab 17 53 58.9 +3.7**
ZST Bratislava 145.79 342 *e*PKP **PKPab 17 53 58.9 +3.7**
KHC Kasperske Hory 145.83 347 *e*PKP2 **PKPdf 17 53 54.0 -0.4**
KHC MLR MLR
comp=Z,400nm,19.7s
KHC Kasperske Hory 145.83 347 *e*PKP **PKPdf 17 53 54.0 -0.4**
KHC *ep*PKP **PKiKP 17 53 57.9 -0.6**
KHC *ex* x 17 54 03.2
KHC *ex* x 17 54 09.0
KHC AMS AMS 18 59 40.0
comp=Z,400nm,19.7s
KHC Kasperske Hory 145.83 347 *e*PKPdf **PKPdf 17 53 54.2 -0.3**
DOU Dourbes 146.07 357 PKP **PKPdf 17 53 54.8 0.0**
GEC2 GERESS Array S 146.07 347 *e*PKP2 **PKPdf 17 53 55.1 +0.2**
GEC2 GERESS Array S 146.07 347 *e*PKPdf **PKPdf 17 53 55.1 +0.2**
GERES GERESS Array B 146.07 347 PKPbc **PKPdf 17 53 54.9 0.0**
GERES GERESS Array B 146.07 347 PKPbc **PKPdf 17 53 54.9 0.0**
comp=Z,6.2nm,0.9s,baz=28,slow=3.5,SNR=16
GZR Gura Zlata 146.15 334 ⇓*i*P **PKPdf 17 53 53.4 -1.7**
CONA Conrad Observa 146.38 343 *i*PKPab **PKPbc 17 53 56.4 -0.3**
comp=Z,30nm,1.0s,SNR=23
WLF Walferdange 146.41 356 PKP **PKPbc 17 53 56.3 -0.3**
WLF Walferdange 146.41 356 *e*PKP2 **PKPdf 17 53 55.1 -0.2**
WLF MLR MLR
comp=Z,754nm,21.0s
WLF Walferdange 146.41 356 *e*PKPdf **PKPdf 17 53 55.1 -0.2**
WLF LR LR
comp=Z,754nm,21.0s
BZS Buzias 146.45 335 ⇑PKP2 **PKPdf 17 53 55.9 +0.4**
BZS Buzias 146.45 335 ⇑*i*P **PKPdf 17 53 55.9 +0.4**
CSS Prodhromos 146.53 310 PKPbc **PKPbc 17 53 57.2 -0.3**
CSS LR LR
comp=Z,377nm,19.0s
PKSM Moragy 147.06 339 ⇑PKP2 **PKPdf 17 53 57.3 +0.8**
PKSM Moragy 147.06 339 ⇑*i*P **PKPdf 17 53 57.3 +0.8**
PKSM Moragy 147.06 339 ⇓*e*PKPdf **PKPbc 17 53 57.6 -1.0**
ISP Isparta 147.08 317 PFAKE 17 54 10.0 +9.4
ISP LR LR
comp=Z,404nm,20.0s
MBAR Mbarara 147.41 242 PFAKE 17 54 10.0 +7.3
MBAR LR LR
comp=Z,624nm,19.0s
BFO Black Forest 147.51 353 *e*PKP2 **PKPbc 17 53 58.6 -1.2**
BFO MLR MLR
comp=Z,359nm,21.0s
BFO Black Forest 147.51 353 *e*PKPdf **PKPbc 17 53 58.6 -1.2**
BFO LR LR
comp=Z,359nm,21.0s
ECH Echery 147.75 354 *e*PKP2 **PKPdf 17 53 58.7 +1.0**
ECH MLR MLR
comp=Z,465nm,20.0s
ECH Echery 147.75 354 *e*PKPbc **PKPdf 17 53 58.7 +1.0**
ECH LR LR
comp=Z,465nm,20.0s
ECH Echery 147.75 354 PKP **PKPdf 17 53 56.6 -1.1**
SOKA Soboth 147.76 344 ⇑*i*PKPbc **PKPbc 17 53 59.4 -1.2**
comp=Z,15nm,0.9s,SNR=7.5
PERS Pernice 147.77 343 *i*PKPdf **PKPbc 17 54 00.5 -0.2**
PERS *i*PKPbc **PKPab 17 54 04.3 +1.4**
RETA Reutte 147.96 349 ⇑*p*PKPdf **PKPbc 17 54 00.2 -0.9**
comp=Z,23nm,1.2s,SNR=5.9
WTTA Wattenberg 148.01 348 ⇑*i*PKPdf **PKPdf 17 53 56.5 -1.8**
comp=Z,37nm,1.2s,SNR=12
MOTA Moosalm 148.03 349 ⇓*i*pPKPdf **PKPbc 17 54 00.5 -1.0**
comp=Z,21nm,0.9s,SNR=6.6
MOF Molkenrain 148.12 354 PKP **PKPbc 17 54 00.1 -1.5**
VTS Vitosha 148.14 330 ⇓PKIKP **PKPdf 17 53 57.6 -1.1**
VTS Vitosha 148.14 330 ⇓*i*P **PKPdf 17 53 57.6 -1.1**
DAVA Damuels 148.31 350 ⇑*p*PKPdf **PKPbc 17 54 01.3 -0.9**
comp=Z,32nm,1.2s,SNR=6.5
ABTA Abfaltersbach 148.32 347 ⇑*i*PKPbc **PKPdf 17 53 59.8 +1.0**
comp=Z,32nm,1.2s,SNR=6.2
LJU Ljubljana 148.48 344 *e*PKPbc **PKPab 17 54 05.8 +0.1**
MMB Musomiste 148.63 328 *i*P **PKPab 17 54 07.0 +0.4**
LOMF Lomont 148.64 354 PKP **PKPdf 17 53 57.5 -1.7**
VOY Vojsko 148.66 344 *e*PKPdf **PKPbc 17 54 01.4 -1.6**
VOY *e*PKPbc **PKPab 17 54 06.2 -0.4**
JAVS Javornik 148.74 344 *i*PKPdf **PKPbc 17 54 01.8 -1.4**
JAVS *i*PKPbc **PKPab 17 54 06.7 -0.2**
BOJS Bojanci 148.77 342 *i*PKPdf **PKPbc 17 54 02.0 -1.2**
BOJS *i*PKPbc **PKPab 17 54 07.0 +0.1**
DAVOX Davos/Dischmat 148.80 350 PKPbc **PKPbc 17 54 02.9 -0.7**
DAVOX Davos/Dischmat 148.80 350 PKPbc **PKPbc 17 54 02.9 -0.7**
comp=Z,16nm,0.9s,baz=219,slow=3.5,SNR=17
FUORN Ofenpass-Fuorn 148.89 349 *e*PKPdf **PKPbc 17 54 03.6 -0.2**
TUE Stuetta 149.19 351 *e*PKPdf **PKPdf 17 53 59.7 -0.6**
TUE LR LR
comp=Z,906nm,21.0s
SENIN Lac Senin/Sane 149.57 353 *e*PKPdf **PKPbc 17 54 06.7 +1.2**
OG35 Corcelles 150.05 355 PKP **PKPdf 17 54 03.9 +2.4**
AGO Saint Agoulin 150.16 359 PKP **PKPbc 17 54 05.2 -1.5**
RSL Roselend 150.31 354 PKP **PKPbc 17 54 04.8 -2.4**
PYM Petit Puy Mans 150.46 359 PKP **PKPdf 17 54 02.4 +0.2**
TIR Tirane 150.66 332 PFAKE 17 54 10.0 +2.0
TIR LR LR
comp=Z,1μm,22.0s
FRNF Fournols 150.83 360 PKP **PKPbc 17 54 08.0 -0.3**
SSB Saint Sauveur 150.88 357 *e*PKIKP **PKPbc 17 54 06.0 -2.5**
SSB MLR MLR
comp=Z,686nm,20.0s
SSB Saint Sauveur 150.88 357 *e*PKPbc **PKPbc 17 54 06.0 -2.5**
SSB LR LR
comp=Z,686nm,20.0s
SSB Saint Sauveur 150.88 357 PKP **PKPbc 17 54 06.7 -1.7**
BNI Bardonecchia 150.93 354 *e*PKIKP **PKPbc 17 54 08.1 -0.6**
BNI MLR MLR
comp=Z,513nm,19.0s
BNI Bardonecchia 150.93 354 *e*PKPdf **PKPbc 17 54 08.1 -0.6**
BNI LR LR
comp=Z,513nm,19.0s
LBL Lubilhac 150.97 359 PKP **PKPbc 17 54 08.0 -0.7**
SANT Santorini 151.21 319 PFAKE 17 54 10.0 +0.5
SANT LR LR
comp=Z,281nm,20.0s
VLC Villacollemand 151.24 348 PFAKE 17 54 10.0 +0.7
VLC LR LR
comp=Z,571nm,21.0s
SAOF Saorge 151.88 352 PKP **PKPdf 17 54 01.5 -2.9**
TOUF Mont Tournerai 151.89 352 PKP **PKPdf 17 54 02.2 -2.4**
LUCF Luceram 152.00 352 PKP **PKPdf 17 54 02.7 -1.9**
AQU L'Aquila 152.19 342 PFAKE 17 54 20.0 -1.2
AQU LR LR
comp=Z,924nm,21.0s
CALN Calern 152.19 353 PKP **PKPdf 17 54 02.2 -2.8**
CUC Castrocucco 153.48 336 PFAKE 17 54 20.0 +5.5
CUC LR LR
comp=Z,383nm,20.0s
TIP Timpagrande 153.79 334 PFAKE 17 54 20.0 +4.8
TIP LR LR
comp=Z,535nm,22.0s
MTE Manteigas 154.34 18 PFAKE 17 54 20.0 +3.7
MTE LR LR
comp=Z,843nm,20.0s
CEL Celeste 154.93 334 PFAKE 17 54 20.0 +2.3
CEL LR LR
comp=Z,558nm,22.0s
SACV Santiago Islan 154.98 89 PFAKE 17 54 20.0 +1.6
SACV LR LR
comp=Z,429nm,22.0s
ESDC Sonseca Array 155.90 12 PKP **PKPdf 17 54 09.4 -0.9**
ESDC Sonseca Array 155.90 12 PKP **PKPdf 17 54 09.4 -0.9**
comp=Z,0.1nm,0.3s,baz=346,slow=1.5,SNR=3.2
VSL Villasalto 155.92 347 PFAKE 17 54 20.0 +10
VSL LR LR
comp=Z,526nm,19.0s
PAB San Pablo 155.95 13 PFAKE 17 54 20.0 +10
PAB LR LR
comp=Z,591nm,22.0s
WDD Wield Dalam 157.53 333 PFAKE 17 54 20.0 +7.7
WDD LR LR
comp=Z,478nm,20.0s
MSKU Masuku 159.11 213 PFAKE 17 54 30.0 +15
MSKU LR LR
comp=Z,2.0nm,20.0s
RTC Rabat Centre 160.38 23 PFAKE 17 54 30.0 +14
RTC LR LR
comp=Z,677nm,22.0s
TAM Tamanrasset 172.72 336 PFAKE 17 54 40.0 +14
TAM LR LR
comp=Z,521nm,19.0s
TORD Torodi Ar. Bea 176.97 168 PKP **PKPdf 17 54 24.7 -2.4**
TORD PP **PP 18 00 00.9 -0.6**
TORD Torodi Ar. Bea 176.97 168 PKP **PKPdf 17 54 24.7 -2.4**
comp=Z,2.9nm,1.0s,baz=252,slow=3.8,SNR=5.9
TORD PP **PP 18 00 00.9 -0.6**
comp=Z,0.7nm,1.1s,baz=222,slow=3.7,SNR=2.2

IDC 07 17:38:52.3±1.3,**31°.92N**×**83°.83E**,**h0**km,**mb3.6**/5,
mb1 3.6/7,**mb1mx3.3**/28,**mbtmp3.4**/7,**ML2.5**/1,**Error**
ellipse: s-maj=70.1km s-min=20.9km az=60.0,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.90**	**356**	Pn	Pn	17 42 25.0	+0.8
	0.0nm,0.3s,baz=178,slow=14,SNR=2.3						
KURBB	**Kurchatov Arra**	**19.10**	**350**	P	P	17 43 14.6	-1.8
	baz=168,slow=10,SNR=2.5						
ZALV	**Zalesovo Beam**	**22.03**	**2**	P	P	17 43 48.3	+0.2
	0.2nm,0.2s,baz=171,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**47.20**	**326**	P	P	17 47 25.5	-0.9
	0.7nm,0.5s,baz=112,slow=8.5,SNR=6.5						
HFS	**Hagfors**	**53.12**	**324**	P	P	17 48 12.3	+0.9
	1.1nm,0.6s,baz=116,slow=9.8,SNR=4.8						
WRA	**Warramunga Arr**	**70.71**	**130**	P	P	17 50 11.3	+1.0
	0.5nm,0.7s,baz=323,slow=6.5,SNR=6.1						
ASAR	**Alice Springs**	**73.12**	**133**	P	P	17 50 23.7	-1.1
	0.2nm,0.6s,baz=316,slow=5.9,SNR=4.9						

ISCJB ***07*** *17:52:48.0*±*0.5,36°.66N*±*0°.03*×*77°.2E*±*0°.1,h77*km*,mb3.5/9,*
Error ellipse: s-maj=13.1km s-min=4.2km az=178.8
IDC ***07*** *17:52:50.6*±*5.6,36°.62N*×*76°.94E,h75*km*±42*km*,mb3.3/9,*
mb1 3.4/12,mb1mx3.2/29,mbtmp3.4/12,ML3.6/3,Error
ellipse: s-maj=41.7km s-min=19.5km az=178.0
NNC ***07*** *17:52:55.6*±*5.1,37°.71N*×*76°.94E,h0*km*,mb3.5,mpv3.1,*
Error ellipse: s-maj=42.9km s-min=20.9km az=170.0
ISC 07 17:52:49.5±0.7,**36°.63N**±0°.05×**77°.16E**±0°.10,**h77**km,**n27,**
σ2°.**41**/34,**mb3.6/9,5C-4D,Kashmir-Xinjiang border**
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.03**	**342**	Pn	**Pn**	**17 53 35.6**	**+0.3**
KSH				Sn	**Sn**	**17 54 07.5**	**-3.1**
KSH				smax	smax		
	comp=N,240nm,0.4s						
KSH				smax	smax		
	comp=E,250nm,0.5s						
DLH	**Dalhousie**	**4.19**	**194**	*e*P	Pn	17 53 56.0	+4.8
DLH				*e*S	**Sn**	**17 54 41.0**	**+1.9**
SDNR	**Sundarnagar**	**5.12**	**182**	*e*P	Pn	17 54 10.0	+6.4
SDNR				*e*S	**Sn**	**17 55 02.0**	**+0.6**
SMLA	**Simla**	**5.49**	**180**	*i* 4		17 53 44.4	
SMLA				*i* S	**Sn**	**17 55 08.8**	**-1.5**
SMLA				AML	AML	17 55 15.4	
	comp=N,1μm,0.3s						
SMLA				AML	AML	17 55 15.8	
	comp=E,1μm,0.3s						
AAK	**Ala-Archa**	**6.34**	**342**	P	**Pn**	**17 54 21.5**	**+1.1**
	comp=E,0.6nm,0.3s,baz=171,slow=10,SNR=2.5						
AAK				S	**Sn**	**17 55 32.3**	**+0.8**
	comp=E,0.5nm,0.3s,baz=221,slow=20,SNR=4.3						
TKM2	**Tokmak 2**	**6.40**	**350**	⇑Pg	**Pn**	**17 54 23.4**	**+2.1**
	comp=E,1.0nm,0.5s						
TKM2				⇓Lg	Lg	17 55 44.1	
	comp=E,3.9nm,0.8s						
NDI	**New Delhi**	**7.92**	**180**	*e*4		17 53 28.0	
NDI				*e*S	**Sn**	**17 56 06.1**	**-3.9**
NDI				AML	AML	17 56 30.9	
	comp=E,32nm,0.1s						
NDI				AML	AML	17 56 31.2	
	comp=N,19nm,0.2s						
KK31	**Karatay Array**	**8.24**	**324**	⇑Pn	**Pn**	**17 54 47.1**	**+0.9**
	comp=N,0.8nm,0.4s,baz=126,slow=12,SNR=21						
KK31				⇑Sn	**Sn**	**17 56 14.1**	**-3.5**
	comp=N,13nm,0.8s,baz=144,slow=18,SNR=16						
SONA	**Sohna**	**8.35**	**180**	*e*P	**Pn**	**17 54 49.6**	**+1.8**
SONA				*e*S	**Sn**	**17 56 15.1**	**-5.5**
SONA				AML	AML	17 56 18.7	
	comp=N,16nm,0.1s						
SONA				AML	AML	17 56 21.3	
	comp=E,35nm,0.1s						
KUDL	**Kundal**	**8.48**	**184**	*e*P	**Pn**	**17 54 50.8**	**+1.4**
KUDL				*e*S	**Sn**	**17 56 19.4**	**-4.2**
KUDL				AML	AML	17 56 28.8	
	comp=E,13nm,0.4s						
KUDL				AML	AML	17 56 28.9	
	comp=N,14nm,0.2s						
KHET	**Khetri**	**8.61**	**188**	*e*S	**Sn**	**17 56 21.9**	**-4.9**
KHET				AML	AML	17 56 24.6	
	comp=E,162nm,0.2s						
KHET				AML	AML	17 56 24.7	
	comp=N,166nm,0.0s						
MK31	**Makanchi Array**	**10.85**	**19**	⇑Pn	**Pn**	**17 55 22.1**	**+0.3**
	comp=N,0.3nm,0.3s,baz=202,slow=12,SNR=42						
MK31				⇓Sn	**Sn**	**17 57 17.8**	**-3.7**
	comp=N,1.1nm,0.6s,baz=202,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**10.85**	**19**	P	**Pn**	**17 55 22.4**	**+0.6**
	comp=N,0.6nm,0.3s,baz=201,slow=12,SNR=32						
MKAR				S	Sn	17 57 16.8	-4.6
	comp=N,0.5nm,0.3s,baz=198,slow=18,SNR=6.8						
KURBB	**Kurchatov Arra**	**14.03**	**4**	P	**Pn**	**17 56 02.5**	**-1.9**
	comp=N,0.0nm,0.3s,baz=189,slow=13,SNR=5.2						
KURBB				S	**Sn**	**17 58 34.8**	**-3.6**
	comp=N,0.0nm,0.3s,baz=126,slow=26,SNR=4.5						
AB31	**Akbulak array**	**17.78**	**321**	⇑Pn	**Pn**	**17 56 51.7**	**0.0**
	comp=N,0.4nm,0.3s,baz=129,slow=12,SNR=28						
AB31				⇓Sn	Sn	17 59 57.8	-11
	comp=N,1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**18.12**	**15**	P	**P**	**17 56 53.4**	**-1.7**
	comp=N,0.3nm,0.3s,baz=212,slow=9.2,SNR=4.5						
AKTO	**Aktyubinsk**	**19.49**	**321**	⇓Pn	**P**	**17 57 10.0**	**-0.2**
	comp=N,2.2nm,0.8s						
AKTO	**Aktyubinsk**	**19.49**	**321**	P	**P**	**17 57 10.2**	**0.0**
	comp=N,0.4nm,0.3s,baz=123,slow=14,SNR=7.7						
SONM	**Songino Array**	**24.23**	**53**	P	**P**	**17 58 02.5**	**+3.4**
	comp=N,1.0nm,0.6s,baz=253,slow=9.3,SNR=6.8						
BRTR	**Keskin Array B**	**34.10**	**289**	P	**P**	**17 59 27.9**	**+1.0**
	comp=N,0.4nm,0.8s,baz=64,slow=11,SNR=2.4						
AKASG	**Malin Array Be**	**36.76**	**308**	P	**P**	**17 59 50.5**	**+1.3**
	comp=N,0.2nm,0.3s,baz=92,slow=8.5,SNR=5.3						
FINES	**FINESS Array B**	**40.20**	**325**	P	**P**	**18 00 17.9**	**0.0**
	comp=N,0.5nm,0.3s,baz=112,slow=9.9,SNR=9.8						
ARCES	**ARCESS Array B**	**42.98**	**336**	P	**P**	**18 00 40.9**	**+0.3**
	comp=N,0.5nm,0.5s,baz=102,slow=8.8,SNR=7.7						
HFS	**Hagfors**	**46.04**	**322**	P	**P**	**18 01 05.4**	**+0.4**
	comp=N,0.8nm,0.6s,baz=72,slow=9.3,SNR=3.2						
NOA	**NORSAR Array B**	**47.27**	**323**	P	**P**	**18 01 15.1**	**+0.4**
	comp=N,0.4nm,0.6s,baz=90,slow=7.6,SNR=3.1						
PETK	**Petropavlovsk-**	**56.38**	**46**	P	**P**	**18 02 24.8**	**+2.2**
	comp=N,1.3nm,0.9s,baz=289,slow=7.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**70.67**	**272**	P	**P**	**18 03 56.5**	**-0.8**
	comp=N,0.5nm,0.5s,baz=44,slow=5.7,SNR=5.3						

BKK ***07*** *18:32:32.9*±*0.9,5°.S*±*7°.*×*13°.2E*±*1°.2,h10*km*,M5.6/9,*
mB6.5/2,mb4.9/9,MLv5.9/1,Mw(mB)6.2/2
NEIC ***07*** *18:32:40.5*±*1.9,5°.57S*×*131°.34E,h61*km*±18*km*,mb4.5/17,*
Error ellipse: s-maj=15.2km s-min=8.5km az=58.0
BJI ***07*** *18:32:42.7,5°.93S*×*131°.27E,h112*km*,mb4.8/5*
ISCJB ***07*** *18:32:43.2*±*0.2,5°.69S*±*0°.02*×*131°.18E*±*0°.04,h100*km*,*
mb4.4/27,Error ellipse: s-maj=5.6km s-min=3.4km
az=170.5
AUST ***07*** *18:32:44.4*±*0.0,5°.64S*×*131°.09E,h85*km*,Error ellipse:*
s-maj=0.8km s-min=0.6km az=247.0
IDC ***07*** *18:32:44.8*±*3.0,5°.61S*×*131°.07E,h84*km*±27*km*,mb3.8/12,*
mb1 3.9/14,mb1mx3.9/20,mbtmp3.9/14,MS3.0/1,
Ms1 3.0/1,ms1mx2.4/40,Error ellipse: s-maj=19.3km
s-min=10.6km az=65.0
DJA ***07*** *18:32:47.9*±*0.7,5°.S*±*6°.*×*13°.1E*±*°,h81*km*±16*km*,M4.9/5,*
mb4.8/4,mB5.0/2,MLv4.9/5,Mw(mB)4.3/2
ISC 07 18:32:45.0±0.3,**5°.63S**±0°.04×**131°.14E**±0°.05,**h100**km,**n128,**
σ1°.**55**/117,**mb4.4**/27,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.65**	**312**	P	**Pn**	**18 33 13.5**	**+0.3**
BNDI				S	**Sn**	**18 33 33.8**	**-0.8**
BNDI	**Bandanaira**	**1.65**	**312**	P	**Pn**	**18 33 13.4**	**+0.3**
	baz=1.6,SNR=31						
BNDI				S	**Sn**	**18 33 33.1**	**-1.4**
	baz=1.6,SNR=26						
FAKI	**Fak Fak**	**2.91**	**22**	P	**Pn**	**18 33 29.0**	**-0.7**
FAKI				S	**Sn**	**18 34 02.0**	**-2.0**
FAKI	**Fak Fak**	**2.91**	**22**	P	**Pn**	**18 33 29.1**	**-0.6**
	baz=3.0,SNR=407						
FAKI				S	**Sn**	**18 34 02.0**	**-2.0**
	baz=3.0,SNR=34						
MSAI	**Masohi**	**3.16**	**316**	P	**Pn**	**18 33 32.9**	**-0.1**
MSAI				S	**Sn**	**18 34 06.5**	**-3.5**
AAI	**Ambon**	**3.51**	**303**	P	**Pn**	**18 33 37.5**	**-0.2**
AAI	**Ambon**	**3.51**	**303**	P	**Pn**	**18 33 37.6**	**-0.1**
	baz=3.5,SNR=20						
SWI	**Sorong**	**4.74**	**1**	P	**Pn**	**18 33 52.5**	**-1.7**
	baz=4.8,SNR=555						
SWI				S	**Sn**	**18 34 42.9**	**-5.2**
	baz=4.8,SNR=18						
RKPI	**Ransiki, Papua**	**5.09**	**37**	P	**Pn**	**18 33 59.6**	**+0.5**
BAKI	**Biak**	**6.64**	**49**	P	Pn

KDU	**Kakadu**	**7.13 169**	P	**Pn**	**18 34 26.0**	**-0.8**
	baz=7.2,SNR=1000					
KDU			S	**Sn**	**18 35 43.2**	**-3.2**
	baz=7.2,SNR=5.5					
MTN	**Manton Dam**	**7.17 180**	P	**Pn**	**18 34 26.8**	**-0.5**
	baz=7.2,SNR=1000					
MTN			S	**Sn**	**18 35 44.4**	**-2.8**
	baz=7.2,SNR=9.8					
SOEI	**Soe**	**7.95 239**	P	**Pn**	**18 34 38.5**	**+0.5**
	70nm,0.7s,1μm					
SOEI	**Soe**	**7.95 239**	P	**Pn**	**18 34 39.0**	**+1.0**
	baz=7.9,SNR=12					
SOEI			S	**Sn**	**18 36 05.5**	**-0.9**
	baz=7.9,SNR=10					
BBSI	**Bau Bau**	**8.53 271**	P	Pn	18 34 51.1	+5.3
BATI	**Baumata**	**8.69 238**	P	**Pn**	**18 34 48.3**	**+0.3**
BATI			S	**Sn**	**18 36 20.3**	**-4.0**
BATI	**Baumata**	**8.69 238**	P	**Pn**	**18 34 48.3**	**+0.3**
	25nm,0.3s,baz=110,slow=3.5,SNR=37					
BATI			S	**Sn**	**18 36 20.3**	**-4.0**
	48nm,0.3s,baz=177,slow=2.4,SNR=9.8					
KKSI	**Kolaka, Sulawe**	**9.56 278**	P	Pn	18 35 03.3	+3.4
	70nm,0.9s,778nm					
MMPI	**Merauke**	**9.60 108**	P	**Pn**	**18 35 02.2**	**+1.9**
	baz=9.7,SNR=4.2					
KNRA	**Kununurra**	**10.25 193**	P	**Pn**	**18 35 06.5**	**-2.8**
	baz=10,SNR=1000					
KNRA			S	Sn	18 36 54.3	-8.0
	baz=10,SNR=9.1					
MRSI	**Marisa**	**11.01 303**	P	**Pn**	**18 35 17.9**	**-1.6**
	41nm,0.9s					
KAPI	**Kappang**	**11.36 273**	P	Pn	18 35 29.7	+5.5
KAPI	**Kappang**	**11.36 273**	P	Pn	18 35 29.7	+5.5
	1.0nm,0.3s,baz=124,slow=5.3,SNR=6.2					
KAPI			LR	LR	18 40 24.6	
	comp=Z,68nm,19.4s,baz=225,slow=41					
TTSI	**Tana Toraja**	**11.57 282**	P	Pn	18 35 30.7	+3.5
FITZ	**Fitzroy Crossi**	**13.51 203**	P	Pn	18 35 47.8	-4.8
FITZ			S	Sn	18 38 09.6	-12
FITZ	**Fitzroy Crossi**	**13.51 203**	P	Pn	18 35 47.8	-4.8
	9.5nm,0.3s,baz=32,slow=10,SNR=240					
FITZ			S	Sn	18 38 09.6	-12
	7.2nm,0.3s,baz=49,slow=22,SNR=7.9					
FITZ	**Fitzroy Crossi**	**13.51 203**	P	Pn	18 35 47.8	-4.8
	baz=14,SNR=715					
FITZ			S	Sn	18 38 11.0	-10
	baz=14,SNR=4.4					
DAV	**Davao City (W)**	**13.78 336**	S	Sn	18 38 14.7	-13
	40nm,0.3s,baz=144,slow=19,SNR=2.2					
COEN	**Coen**	**14.45 126**	P	**Pn**	**18 36 04.6**	**-0.3**
	baz=14,SNR=9.1					
COEN			S	Sn	18 38 32.8	-12
	baz=14,SNR=5.6					
WRAB	**Tennant Creek**	**14.56 168**	*e*Pn	Pn	18 36 01.4	-4.9
	26nm,0.5s					
WRAB			*e*Sn	Sn	18 38 32.1	-15
WRA	**Warramunga Arr**	**14.56 168**	P	Pn	18 36 02.1	-4.2
WRA			S	Sn	18 38 35.5	-12
WRA	**Warramunga Arr**	**14.56 168**	P	Pn	18 36 02.1	-4.2
	4.4nm,0.3s,baz=350,slow=13,SNR=119					
WRA			S	Sn	18 38 35.5	-12
	9.6nm,0.3s,baz=345,slow=20,SNR=7.7					
PMG	**Port Moresby**	**16.32 104**	*e*Pn	**P**	**18 36 31.1**	**+1.5**
	52nm,1.3s					
PMG			S	Sn	18 39 19.1	-10
PMG	**Port Moresby**	**16.32 104**	P	**P**	**18 36 31.3**	**+1.8**
	0.8nm,0.3s,baz=292,slow=11,SNR=3.7					
PMG			S	Sn	18 39 19.1	-10
	0.3nm,0.3s,baz=252,slow=13,SNR=2.6					
SDKM	**Sandakan**	**17.86 309**	P	**Pn**	**18 36 48.5**	**+1.2**
MTSU	**Mount Surprise**	**17.89 135**	P	**Pn**	**18 36 50.0**	**+2.4**
	baz=18,SNR=20					
AS31	**Alice Springs**	**18.13 172**	*e*P	**P**	**18 36 49.1**	**-0.4**
AS31			*e*Sn	S	18 39 58.8	-13
ASAR	**Alice Springs**	**18.13 172**	P	**Pn**	**18 36 49.4**	**-1.1**
ASAR			S	S	18 40 00.8	-11
ASAR	**Alice Springs**	**18.13 172**	P	**Pn**	**18 36 49.4**	**-1.1**
	5.0nm,0.3s,baz=347,slow=8.4,SNR=154					
ASAR			S	S	18 40 00.8	-11
	0.5nm,0.3s,baz=336,slow=15,SNR=4.5					
KKM	**Kota Kinabalu**	**18.88 308**	*e*P	**Pn**	**18 36 57.3**	**-2.2**
	25nm,0.7s					
KKM	**Kota Kinabalu**	**18.88 308**	P	**Pn**	**18 36 59.1**	**-0.4**
KKM	**Kota Kinabalu**	**18.88 308**	P	**Pn**	**18 36 59.4**	**-0.1**
	baz=19,SNR=7.8					
MBWA	**Marble Bar**	**18.99 215**	*e*P	**Pn**	**18 36 59.1**	**-1.5**
	13nm,0.8s					
MBWA			*e*S	S	18 40 12.3	-17
SBUM	**Sibu**	**20.53 293**	P	Pn	18 37 18.1	-0.6
CTA	**Charters Tower**	**20.55 136**	P	Pn	18 37 19.2	+0.3
CTA			S	**S**	**18 41 01.8**	**+1.4**
CTA	**Charters Tower**	**20.55 136**	P	Pn	18 37 19.2	+0.3
	1.9nm,0.7s,baz=311,slow=11,SNR=3.5					
CTA			S	**S**	**18 41 01.8**	**+1.4**
	2.5nm,0.2s,baz=280,slow=13,SNR=2.9					
CTAO	**Charters Tower**	**20.55 136**	*e*P	**P**	**18 37 13.3**	**-2.5**
	11nm,1.0s					
RABL	**Rabaul**	**21.00 87**	P	P	18 37 33.0	+12
	baz=21,SNR=3.1					
KSM	**Kuching**	**21.97 288**	P	P	18 37 34.1	+3.0
MEEK	**Meekatharra**	**24.07 208**	P	**P**	**18 37 52.1**	**+0.8**
	baz=24,SNR=10.0					
FORT	**Forrest**	**25.18 186**	P	**P**	**18 38 02.8**	**+1.5**
	baz=25,SNR=14					
MORW	**Morawa**	**27.34 210**	P	**P**	**18 38 21.2**	**+0.5**
	baz=27,SNR=10					
STKA	**Stephens Creek**	**27.89 161**	*e*P	**P**	**18 38 22.4**	**-3.2**
	1.5nm,0.6s					
STKA	**Stephens Creek**	**27.89 161**	P	**P**	**18 38 27.4**	**+1.8**
	1.0nm,0.5s,baz=353,slow=9.8,SNR=5.6					
STKA	**Stephens Creek**	**27.89 161**	P	**P**	**18 38 27.7**	**+2.1**
	baz=28,SNR=4.8					
BLDU	**Ballidu**	**28.32 207**	P	**P**	**18 38 30.3**	**+0.9**
	baz=28,SNR=14					
KLBR	**Kellerberrin**	**28.71 204**	P	**P**	**18 38 34.2**	**+1.3**
	baz=29,SNR=4.8					
NWAO	**Narrogin (SRO)**	**30.09 204**	P	**P**	**18 38 46.7**	**+1.6**
NWAO	**Narrogin (SRO)**	**30.09 204**	P	**P**	**18 38 46.7**	**+1.6**
	7.0nm,0.9s,baz=27,slow=6.8,SNR=3.7					
RKGY	**Rocky Gully**	**31.67 203**	S	S	18 43 43.1	-18
	baz=32,SNR=5.0					
GSI	**Gunungsitoli**	**34.22 281**	P	P	18 39 31.5	+10
	baz=34,SNR=5.0					
CHAI	**Chaiyaphum**	**35.92 307**	P	**P**	**18 39 36.3**	**+0.2**
	5.3nm,0.7s					
KWAJ	**Kwajalein Atol**	**39.09 69**	*e*P	**P**	**18 40 01.0**	**-1.8**
	116nm,1.0s					
LAMP	**Lampang**	**39.26 308**	P	P	18 40 06.9	+2.7
	4.2nm,0.8s					
CM31	**Chiang Mai Arr**	**39.76 308**	*e*P	**P**	**18 40 08.5**	**+0.2**
	3.1nm,0.5s					
CMAR	**Chiang Mai Arr**	**39.76 308**	P	**P**	**18 40 08.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.76 308**	P	**P**	**18 40 08.8**	**+0.4**
	6.1nm,0.7s,baz=137,slow=7.4,SNR=39					
CHTO	**Chiang Mai**	**39.96 308**	*e*P	**P**	**18 40 09.3**	**-0.7**
	194nm,2.9s					
CHTO	**Chiang Mai**	**39.96 308**	P	**P**	**18 40 11.0**	**+1.0**
	53nm,1.6s					
ENH	**Enshi**	**41.29 331**	*e*P	**P**	**18 40 20.0**	**-0.8**
	6.4nm,0.6s					
MJAR	**Matsushiro Arr**	**42.47 8**	P	**P**	**18 40 30.4**	**+0.1**
MJAR	**Matsushiro Arr**	**42.47 8**	P	**P**	**18 40 30.4**	**+0.1**
	0.6nm,0.5s,baz=169,slow=9.1,SNR=4.8					
KSAR	**Wonju Array Be**	**42.96 356**	P	P	18 40 36.8	+2.6
KSRS	**Korea Array**	**42.97 356**	P	P	18 40 36.8	+2.5
	0.3nm,0.5s,baz=177,slow=9.1,SNR=2.2					
HHC	**Hu-ho-hao-te**	**49.62 341**	*e*P	**P**	**18 41 27.8**	**+1.3**
HHC			S	**S**	**18 48 28.9**	**+1.5**
HHC			pmax	pmax		
	comp=Z,30nm,0.7s					
LSA	**Lhasa**	**52.02 315**	P	**P**	**18 41 46.1**	**+1.0**
LSA			pmax	pmax		
	comp=Z,10.0nm,0.7s					
LSA	**Lhasa**	**52.02 315**	*e*P	**P**	**18 41 45.8**	**+0.6**
	comp=Z,9.4nm,0.7s					
ODAN	**Odare**	**53.24 310**	*e*P	**P**	**18 41 54.0**	**+0.1**
	comp=Z,25nm,0.5s					
TAPN	**Taplejung**	**53.25 310**	*e*P	**P**	**18 41 54.2**	**+0.2**
	comp=Z,57nm,0.4s					
GTA	**Gaotai**	**53.34 330**	*e*P	**P**	**18 41 55.6**	**+1.3**
GTA			pmax	pmax		
	comp=Z,5.0nm,1.4s					
RAMN	**Ramite**	**53.89 309**	*e*P	**P**	**18 41 59.2**	**+0.5**
	comp=Z,92nm,0.5s					
JIRN	**Jiri**	**54.57 310**	*e*P	**P**	**18 42 03.9**	**+0.2**
GUN	**Gumba**	**54.93 310**	*e*P	**P**	**18 42 06.3**	**0.0**
	comp=Z,47nm,0.4s					
PKI	**Pulchoki**	**55.12 309**	*e*P	**P**	**18 42 07.4**	**-0.3**
PKIN	**Phulchoki**	**55.13 309**	*e*P	**P**	**18 42 07.5**	**-0.2**
	comp=Z,5.1nm,0.2s					
KKN	**Kakani**	**55.33 309**	*e*P	**P**	**18 42 09.0**	**0.0**
	comp=Z,18nm,0.4s					
DMN	**Daman**	**55.37 309**	*e*P	**P**	**18 42 09.6**	**+0.2**
KOLN	**Koldanda**	**56.62 308**	*e*P	**P**	**18 42 18.6**	**+0.4**
	comp=Z,36nm,0.4s					
DANN	**Dangsing**	**56.77 309**	*e*P	**P**	**18 42 19.0**	**-0.4**
PYUN	**Piuthan**	**57.25 309**	*e*P	**P**	**18 42 23.1**	**+0.4**
	comp=Z,46nm,0.6s					
ULN	**Ulaanbaatar**	**57.33 341**	*e*P	**P**	**18 42 21.4**	**-1.4**
	comp=Z,3.0nm,0.6s					
SONM	**Songino Array**	**57.52 340**	P	**P**	**18 42 25.6**	**+1.4**
SONM	**Songino Array**	**57.52 340**	P	**P**	**18 42 25.6**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=161,slow=6.7,SNR=15					
PETK	**Petropavlovsk-**	**62.68 18**	P	**P**	**18 42 59.6**	**+0.6**
PETK	**Petropavlovsk-**	**62.68 18**	P	**P**	**18 42 59.6**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=197,slow=4.1,SNR=4.6					
MK31	**Makanchi Array**	**67.72 326**	*e*P	**P**	**18 43 32.5**	**+0.7**
MKAR	**Makanchi Array**	**67.72 326**	P	**P**	**18 43 32.9**	**+1.1**
MKAR	**Makanchi Array**	**67.72 326**	P	**P**	**18 43 32.9**	**+1.1**
	comp=Z,5.6nm,0.4s,baz=113,slow=8.0,SNR=138					
KZA	**Kyzart**	**69.49 319**	P	P	18 43 45.2	+1.8
	SNR=5.8					
TKM2	**Tokmak 2**	**69.67 320**	P	**P**	**18 43 45.0**	**+0.8**
	SNR=7.8					
AAK	**Ala-Archa**	**70.24 319**	P	**P**	**18 43 49.0**	**+1.3**
	comp=Z,3.5nm,0.7s					
AML	**Almayashu**	**70.53 318**	P	**P**	**18 43 51.0**	**+1.2**
	SNR=10.0					
USP	**Ospenovka**	**70.54 320**	P	**P**	**18 43 50.6**	**+1.3**
	SNR=6.8					
EKS2	**Erkin-Say**	**70.72 319**	P	**P**	**18 43 52.3**	**+1.7**
	SNR=8.0					
EKS2	**Erkin-Say**	**70.72 319**	*e*P	**P**	**18 43 50.1**	**-0.5**
	comp=Z,5.3nm,0.8s					
KBL	**Kabul**	**70.76 309**	*e*P	**P**	**18 43 51.0**	**-0.2**
	comp=Z,5.6nm,0.9s					
ZAA0	**Zalesovo Array**	**70.87 333**	*e*P	**P**	**18 43 50.9**	**-0.1**
ZALV	**Zalesovo Beam**	**70.87 333**	P	**P**	**18 43 51.3**	**+0.3**
ZALV	**Zalesovo Beam**	**70.87 333**	P	**P**	**18 43 51.3**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=117,slow=5.8,SNR=13					
XMAS	**Kiritimati**	**71.73 86**	*e*P	**P**	**18 43 55.0**	**-2.0**
	comp=Z,48nm,1.0s					
KKAR	**Karatay Array**	**73.07 318**	*e*P	**P**	**18 44 02.9**	**-1.6**
VNDA	**Vanda**	**73.67 173**	*e*P	**P**	**18 44 09.1**	**+1.7**
	comp=Z,1.9nm,1.0s					
VNDA	**Vanda**	**73.67 173**	P	**P**	**18 44 09.6**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=331,slow=6.4,SNR=4.2					
SBA	**Scott Base**	**74.54 173**	P	P	18 44 15.2	+2.8
MAW	**Mawson**	**76.63 201**	P	**P**	**18 44 26.3**	**+1.9**
MAW	**Mawson**	**76.63 201**	P	**P**	**18 44 26.3**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=83,slow=8.3,SNR=4.9					
BRVK	**Borovoye**	**77.59 327**	*e*P	**P**	**18 44 29.2**	**-0.9**
	comp=Z,3.8nm,0.8s					
ABKAR	**Akbulak array**	**82.15 321**	*e*P	**P**	**18 44 53.6**	**-1.2**
QSPA	**South Pole Qui**	**84.34 180**	P	**P**	**18 45 05.3**	**-0.6**
RAYN	**Ar Rayn**	**88.23 294**	*e*P	**P**	**18 45 24.3**	**-1.5**
	comp=Z,2.9nm,0.7s					
TORD	**Torodi Ar. Bea**	**129.64 282**	PKP	**PKPdf**	**18 51 44.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**129.64 282**	PKP	**PKPdf**	**18 51 44.4**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=81,slow=2.5,SNR=9.4					
CPUP	**Villa Florida**	**147.19 166**	PKPbc	**PKPab**	**18 52 19.5**	**+0.3**
CPUP	**Villa Florida**	**147.19 166**	PKPbc	**PKPab**	**18 52 19.5**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=150,slow=8.1,SNR=5.8					
LPAZ	**La Paz**	**151.06 139**	PKPbc	**PKPbc**	**18 52 31.1**	**+2.8**
LPAZ	**La Paz**	**151.06 139**	PKPbc	**PKPbc**	**18 52 31.1**	**+2.8**
	comp=Z,1.7nm,0.4s,baz=268,slow=2.9,SNR=10					
BDFB	**Brasilia**	**158.85 182**	PKPab	**PKPab**	**18 53 11.3**	**+2.9**
BDFB	**Brasilia**	**158.85 182**	PKPab	**PKPab**	**18 53 11.3**	**+2.9**
	comp=Z,1.5nm,0.4s,baz=151,slow=13,SNR=2.4					

*IDC **07** 18:46:23.0±2.2, 6°.29S×131°.29E, h0km, mb3.2/1, mb1 3.9/5, mb1mx3.5/20, mbtmp3.7/5, ML3.7/4, Error ellipse: s-maj=58.9km s-min=27.9km az=84.0*
*AUST **07** 18:46:30.5, 6°.47S×131°.04E, h100km*
ISC 07 18:46:30.2±0.9, **6°.60S**±0°.06×**130°.9E**±0°.1, **h62**km, **n12**, σ2.5**41/12, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.90**	**20**	P	**Pn**	**18 47 30.1**	**+2.4**
	baz=3.8,SNR=28						
FAKI				S	**Sn**	**18 48 09.4**	**-2.8**
	baz=3.8,SNR=5.3						
SWI	**Sorong**	**5.71**	**4**	P	**Pn**	**18 47 53.8**	**+1.3**
	baz=5.6,SNR=10						
SWI				S	**Sn**	**18 48 53.3**	**-3.4**
	baz=5.6,SNR=5.3						
MTN	**Manton Dam**	**6.21**	**178**	P	Pn	18 48 04.7	+5.3
	baz=6.4,SNR=43						
KDU	**Kakadu**	**6.25**	**166**	P	Pn	18 48 04.9	+5.0
	baz=6.4,SNR=137						
SOEI	**Soe**	**7.27**	**244**	P	Pn	18 48 19.5	+5.6
	baz=7.5,SNR=3.5						
BATI	**Baumata**	**8.00**	**243**	Pn	Pn	18 48 28.3	+4.5
	1.4nm,0.3s,baz=76,slow=17,SNR=4.0						
BATI				Sn	**Sn**	**18 49 50.7**	**-2.2**
	1.0nm,0.3s,baz=36,slow=19,SNR=2.3						
KNRA	**Kununurra**	**9.26**	**193**	P	Pn	18 48 45.3	+4.2
	baz=9.5,SNR=12						
KNRA				S	**Sn**	**18 50 23.6**	**-0.2**
	baz=9.5,SNR=8.2						
FITZ	**Fitzroy Crossi**	**12.53**	**204**	Pn	**Pn**	**18 49 26.5**	**+0.8**
	0.3nm,0.3s,baz=23,slow=11,SNR=26						
FITZ				Sn	Sn	18 51 36.0	-7.7
	0.4nm,0.3s,baz=189,slow=18,SNR=8.6						
FITZ	**Fitzroy Crossi**	**12.53**	**204**	P	**Pn**	**18 49 26.9**	**+1.1**
	baz=13,SNR=12						
FITZ				S	Sn	18 51 37.3	-6.4
	baz=13,SNR=4.8						
WRA	**Warramunga Arr**	**13.68**	**166**	Pn	**Pn**	**18 49 41.2**	**-0.2**
	0.4nm,0.3s,baz=352,slow=13,SNR=27						
WRA				Sn	**Sn**	**18 52 08.1**	**-3.7**
	0.3nm,0.3s,baz=343,slow=25,SNR=7.0						
ASAR	**Alice Springs**	**17.22**	**171**	P	**P**	**18 50 29.4**	**+1.9**
	0.3nm,0.3s,baz=341,slow=8.2,SNR=29						
ASAR				S	Sn	18 53 30.1	-7.5
	baz=352,slow=26,SNR=2.9						
MKAR	**Makanchi Array**	**68.38**	**326**	P	**P**	**18 57 26.2**	**+0.9**
	0.1nm,0.4s,baz=126,slow=7.3,SNR=3.6						

*IDC **07** 18:46:18.9±8.5, 22°.10N×122°.41E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.7/5, MS3.8/2, Ms1 3.8/2, ms1mx3.0/47, Error ellipse: s-maj=157.5km s-min=149.2km az=133.0*
*ISCJB **07** 18:46:39.1±0.5, 22°.75N±0°.02×121°.40E±0°.04, h107km±3km, mb3.5/5, Error ellipse: s-maj=6.2km s-min=3.7km az=18.5*
*TAP **07** 18:46:39.2, 22°.77N×121°.46E, h103km, ML4.3, C*
ISC 07 18:46:39.1±1.0, **22°.74N**±0°.04×**121°.44E**±0°.05, **h105**km±6km, **n54**, σ0.9**77/98, mb3.6/5, 3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.27**	**274**	*e*P	**Pn**	**18 46 54.5**	**+0.5**
	baz=279						
TTN				*e*S	**Sn**	**18 47 05.9**	**+0.7**
	baz=279						
TWG	**Pinlang**	**0.35**	**284**	⇓*i*P	**Pn**	**18 46 54.5**	**+0.1**
	baz=277						
TWG				*i* S	**Sn**	**18 47 05.8**	**-0.2**
	baz=277						
CHKT	**Chengkung**	**0.37**	**350**	*i* P	**Pn**	**18 46 55.0**	**+0.4**
	baz=336						
CHKT				S	**Sn**	**18 47 06.2**	**+0.1**
	baz=336						
ECL	**Taimali**	**0.47**	**253**	*e*P	**Pn**	**18 46 55.6**	**+0.5**
	baz=249						
ECL				*e*S	**Sn**	**18 47 06.4**	**-0.7**
	baz=249						
ELDTW	**Lidau**	**0.59**	**319**	⇓*i*P	**Pn**	**18 46 56.7**	**+0.5**
	baz=318						
ELDTW				S	**Sn**	**18 47 08.8**	**-0.3**
	baz=318						
TAW	**Tawu**	**0.63**	**233**	P	**Pn**	**18 46 56.9**	**+0.6**
	baz=227						
TAW				S	**Sn**	**18 47 09.4**	**+0.2**
	baz=227						
TWF1	**Yuli**	**0.63**	**348**	⇓*i*P	**Pn**	**18 46 56.3**	**-0.1**
	baz=341						
TWF1				S	**Sn**	**18 47 07.7**	**-1.6**
	baz=341						
LAY	**Lan-yu**	**0.70**	**171**	*e*P	**Pn**	**18 46 57.0**	**+0.1**
	baz=179						
LAY				*e*S	**Sn**	**18 47 09.8**	**-0.6**
	baz=179						
EHY	**Hungye**	**0.78**	**352**	P	**Pn**	**18 46 57.5**	**-0.2**
	baz=350						
EHY				S	**Sn**	**18 47 10.2**	**-1.3**
	baz=350						
SCZT	**Fangliau**	**0.84**	**245**	P	**Pn**	**18 46 58.7**	**+0.6**
	baz=238						
SCZT				*e*S	**Sn**	**18 47 12.1**	**-0.4**
	baz=238						
SGST	**Jiashian**	**0.86**	**294**	*e*P	**Pn**	**18 46 58.6**	**+0.2**
	baz=290						
SGST				*e*S	**Sn**	**18 47 12.9**	**-0.1**
	baz=290						
SGLT	**Jiouru**	**0.87**	**270**	*e*P	**Pn**	**18 47 00.2**	**+1.7**
	baz=267						
SGLT				*e*S	**Sn**	**18 47 13.4**	**+0.2**
	baz=267						
YUS	**Yu-Shan**	**0.87**	**329**	*e*P	**Pn**	**18 46 59.8**	**+0.7**
	baz=317						
YUS				*e*S	**Sn**	**18 47 14.3**	**+0.2**
	baz=317						
TWM1	**Shoushan**	**0.94**	**276**	P	**Pn**	**18 47 00.8**	**+1.6**
	baz=273						
TWM1				*e*S	**Sn**	**18 47 16.3**	**+1.9**
	baz=273						
CHN1	**Nanshi**	**0.95**	**298**	P	**Pn**	**18 46 60.0**	**+0.6**
	baz=287						
CHN1				S	**Sn**	**18 47 14.4**	**-0.2**
	baz=287						
ALS	**Alishan**	**0.97**	**323**	*e*P	**Pn**	**18 47 00.4**	**+0.6**
	baz=310						
ALS				*e*S	**Sn**	**18 47 14.8**	**-0.6**
	baz=310						
HEN	**Hengchun**	**0.97**	**222**	*e*P	**Pn**	**18 47 00.1**	**+0.5**
	baz=215						
HEN				*e*S	**Sn**	**18 47 16.1**	**+1.2**
	baz=215						
TEGC	**Jichi Village**	**0.97**	**6**	P	**Pn**	**18 47 00.5**	**+1.0**
	baz=356						
TEGC				S	**Sn**	**18 47 16.1**	**+1.1**
	baz=356						
CHN4	**Tsaushan**	**0.99**	**308**	*e*P	**Pn**	**18 46 59.8**	**+0.1**
	baz=299						
CHN4				S	**Sn**	**18 47 15.1**	**-0.2**
	baz=299						
CHN3	**Shinhua**	**1.05**	**289**	*e*P	**Pn**	**18 47 01.5**	**+1.2**
	baz=286						
CHN3				*e*S	**Sn**	**18 47 17.3**	**+0.9**
	baz=286						
ESL	**Shilin**	**1.07**	**360**	*e*P	**Pn**	**18 47 01.1**	**+0.4**
	baz=2.0						
ESL				*e*S	**Sn**	**18 47 15.3**	**-1.7**
	baz=2.0						
CHN5	**Tsauling**	**1.11**	**321**	P	**Pn**	**18 47 01.6**	**+0.4**
	baz=311						
CHN5				S	**Sn**	**18 47 17.6**	**-0.1**
	baz=311						
CHY	**Chiayi**	**1.20**	**309**	*e*P	**Pn**	**18 47 02.2**	**+0.2**
	baz=306						
CHY				*e*S	**Sn**	**18 47 18.9**	**-0.6**
	baz=306						
WGK	**Gukeng**	**1.24**	**320**	P	**Pn**	**18 47 02.8**	**+0.2**
	baz=308						
WGK				S	**Sn**	**18 47 20.3**	**0.0**
	baz=308						
SMLT	**Sun Moon Lake**	**1.25**	**337**	*e*P	**Pn**	**18 47 02.8**	**+0.1**
	baz=325						
SMLT				*e*S	**Sn**	**18 47 20.7**	**+0.1**
	baz=325						
TYC	**Yuchr**	**1.28**	**335**	*e*P	**Pn**	**18 47 03.2**	**+0.2**
	baz=325						
TYC				S	**Sn**	**18 47 21.1**	**+0.1**
	baz=325						
CHN8	**Yiju**	**1.28**	**299**	*e*P	**Pn**	**18 47 03.2**	**+0.3**
	baz=290						
CHN8				*e*S	**Sn**	**18 47 20.7**	**-0.4**
	baz=290						
WNT	**Mingjian**	**1.33**	**329**	*i* P	**Pn**	**18 47 04.1**	**+0.5**
	baz=318						
WNT				*i* S	**Sn**	**18 47 22.2**	**+0.1**
	baz=318						
TWD	**Chiawan**	**1.35**	**6**	*e*P	**Pn**	**18 47 03.8**	**+0.1**
	baz=360						
TWD				S	**Sn**	**18 47 21.8**	**-0.6**
	baz=360						
WHF	**Hehuan Shan**	**1.41**	**354**	*e*P	**Pn**	**18 47 05.8**	**+0.8**
	baz=358						
WHF				S	**Sn**	**18 47 24.7**	**+0.2**
	baz=358						
WSF	**Szhu**	**1.44**	**309**	*e*P	**Pn**	**18 47 04.7**	**-0.1**
	baz=306						
WSF				*e*S	**Sn**	**18 47 23.5**	**-0.8**
	baz=306						
TWT	**Tachien**	**1.53**	**351**	P	**Pn**	**18 47 07.2**	**+1.0**
	baz=336						
TWT				S	**Sn**	**18 47 27.8**	**+1.2**
	baz=336						
WTCT	**Ta-ch'eng**	**1.55**	**317**	*e*P	**Pn**	**18 47 06.6**	**+0.5**
	baz=309						
WTCT				*e*S	**Sn**	**18 47 26.3**	**-0.4**
	baz=309						
TCU	**Taichung**	**1.57**	**334**	*e*P	**Pn**	**18 47 07.1**	**+0.7**
	baz=321						
TCU				*e*S	**Sn**	**18 47 27.8**	**+0.6**
	baz=321						
NNS	**Nan Shan**	**1.70**	**358**	P	**Pn**	**18 47 09.6**	**+1.4**
	baz=2.0						
NNS				S	**Sn**	**18 47 30.6**	**+0.4**
	baz=2.0						
ENA	**Nanau**	**1.71**	**9**	P	**Pn**	**18 47 09.1**	**+1.0**
	baz=360						
ENA				*e*S	**Sn**	**18 47 29.8**	**-0.4**
	baz=360						
TWQ1	**Liyutan**	**1.72**	**339**	*e*P	**Pn**	**18 47 08.5**	**+0.2**
	baz=337						
TWQ1				*e

FINES FINESS Array B 72.81 330 P **P** **18 57 54.9 -1.1**
1.0nm,1.0s,baz=90,slow=14,SNR=3.8
RPZ Rata Peaks 80.27 146 LR LR 19 33 38.3
comp=Z,112nm,18.7s,baz=29,slow=36

*IDC **07** 18:49:21.9±1.2,28˚.48N×94˚.55E,h0km,mb3.5/6, mb1 3.6/7,mb1mx3.4/28,mbtmp3.5/7,Error ellipse: s-maj=63.1km s-min=18.5km az=63.0*
ISC 07 18:49:24.5±0.9,28˚.62N±0˚.07×94˚.35E±0˚.09,h20km,n9, σ1§64/10,mb3.7/5,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.00**	**292**	Pn	**Pb**	**18 50 15.5**	**-2.1**
LSA				Sn	**Sb**	**18 50 54.1**	**+0.1**
LSA				smax	smax		
	comp=N,20nm,0.9s						
LSA				smax	smax		
	comp=E,30nm,0.7s						
SHL	**Shillong**	**3.76**	**216**	*e*PN	**Pb**	**18 50 30.0**	**-0.3**
SHL				*i* SN	**Sb**	**18 51 17.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**10.96**	**156**	Pn	**Pn**	**18 51 59.2**	**-1.1**
	baz=334,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**20.45**	**336**	P	Pn	18 54 04.1	+1.2
	comp=E,0.5nm,0.3s,baz=133,slow=11,SNR=11						
SONM	**Songino Array**	**21.34**	**23**	P	**P**	**18 54 11.4**	**+1.0**
	comp=E,0.5nm,0.6s,baz=205,slow=12,SNR=4.3						
KURBB	**Kurchatov Arra**	**25.02**	**336**	P	**P**	**18 54 49.6**	**+2.6**
	comp=E,0.8nm,0.3s,baz=145,slow=10,SNR=5.2						
FINES	**FINESS Array B**	**54.95**	**327**	P	**P**	**18 58 54.8**	**+1.0**
	comp=E,0.8nm,0.9s,baz=89,slow=7.0,SNR=2.3						
WRA	**Warramunga Arr**	**61.83**	**137**	P	**P**	**18 59 41.3**	**-1.1**
	comp=E,0.6nm,0.7s,baz=326,slow=7.0,SNR=5.6						
ASAR	**Alice Springs**	**64.45**	**140**	P	**P**	**18 59 58.7**	**-1.1**
	comp=E,0.4nm,0.6s,baz=331,slow=6.4,SNR=8.0						

*BJI **07** 18:59:17.6,26˚.50N×56˚.53E,h10km,mB4.9/17,mb4.5/32, Ms4.8/10,Ms7 4.4/9*
*OMAN **07** 18:59:23.9±99.0,26˚.80N×57˚.48E,h4km±147km,Error ellipse: s-maj=36.1km s-min=5.5km az=20.0*
*IDC **07** 18:59:24.8±0.6,26˚.63N×57˚.53E,h0km,mb4.2/28, mb1 4.3/29,mb1mx4.3/36,mbtmp4.2/29,ML1.6/1,MS3.4/1, Ms1 3.4/1,ms1mx2.8/43,Error ellipse: s-maj=14.9km s-min=12.2km az=8.0*
*TEH **07** 18:59:29.9,26˚.68N×57˚.45E,h10km,ML4.3*
*CSEM **07** 18:59:29.6±0.1,26˚.59N×57˚.57E,h40km,mb4.4/60,Ms3.3, Error ellipse: s-maj=4.9km s-min=3.8km az=110.0*
*MOS **07** 18:59:29.4±0.9,26˚.78N×57˚.59E,h40km,mb4.5/43,Error ellipse: s-maj=8.1km s-min=5.4km az=98.1*
*NEIC **07** 18:59:31.0±0.8,26˚.74N×57˚.60E,h47km±7km,mb4.5/23, Error ellipse: s-maj=7.1km s-min=4.9km az=170.0*
*THR **07** 18:59:33.9±0.8,26˚.99N×57˚.28E,h18km±14km,ML4.1*
ISC 07 18:59:26.8±0.4,26˚.61N±0˚.03×57˚.58E±0˚.03,h15km±2km, n368,σ1§18/384,mb4.4/98,MS3.6/7,27C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.25**	**312**	*e*Pg	**Pb**	**18 59 50.1**	**+0.1**
IBND				*e*Sg	**Sb**	**19 00 04.8**	**-1.1**
IBND				*e*		19 00 20.5	
	comp=Z,19μm,0.2s						
IBND	**Bandar-abas**	**1.25**	**312**	*e*Pg	**Pb**	**18 59 50.1**	**+0.1**
IBND				*e*Sg	**Sb**	**19 00 04.8**	**-1.1**
BANOM	**Banah**	**1.34**	**239**	P	**Pb**	**18 59 51.6**	**0.0**
	SNR=838						
BANOM				P	**Pg**	**18 59 51.8**	**-0.7**
	SNR=47						
BANOM	**Banah**	**1.34**	**239**	P	**Pb**	**18 59 51.5**	**0.0**
	SNR=32						
BANOM				S	**Sg**	**19 00 10.2**	**+0.3**
BNDS	**Bandar-Abbas**	**1.48**	**302**	*e*Pg	**Pb**	**18 59 54.2**	**+0.1**
BNDS				AML	AML	19 00 21.5	
	comp=N,5μm,0.0s						
BNDS	**Bandar-Abbas**	**1.48**	**302**	*e*Pg	**Pb**	**18 59 54.2**	**+0.1**
HATD	**Hatta, Dubai**	**2.21**	**217**	P	**Pn**	**19 00 02.4**	**-0.5**
	SNR=7.1						
HATD	**Hatta, Dubai**	**2.21**	**217**	P	**Pn**	**19 00 02.4**	**-0.5**
	SNR=7.1						
ASHO	**Ashiyiah**	**2.36**	**216**	P	**Pn**	**19 00 05.1**	**+0.1**
	SNR=70						
ASHO	**Ashiyiah**	**2.36**	**216**	P	**Pn**	**19 00 05.1**	**+0.1**
	SNR=70						
NAZ	**Nazwa, Dubai**	**2.37**	**227**	P	**Pb**	**19 00 08.6**	**-0.5**
	SNR=84						
NAZ	**Nazwa, Dubai**	**2.37**	**227**	P	**Pn**	**19 00 05.2**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.58**	**224**	P	**Pn**	**19 00 08.0**	**0.0**
ASUD	**Al Ashush, Dub**	**2.83**	**226**	P	**Pb**	**19 00 14.6**	**-2.4**
	SNR=115						
ASUD				P	Pn	19 00 14.9	+3.4
	SNR=26						
ASUD	**Al Ashush, Dub**	**2.83**	**226**	P	**Pn**	**19 00 12.1**	**+0.6**
HOQ	**Hoqain**	**3.02**	**185**	P	**Pn**	**19 00 13.6**	**-0.6**
	SNR=32						
HOQ	**Hoqain**	**3.02**	**185**	P	**Pn**	**19 00 13.6**	**-0.6**
	SNR=32						
ARQ	**Araqi**	**3.40**	**197**	P	**Pn**	**19 00 21.7**	**+2.4**
	SNR=95						
ARQ				P	Pb	19 00 21.8	-4.9
	SNR=46						
ARQ	**Araqi**	**3.40**	**197**	P	**Pn**	**19 00 21.7**	**+2.4**
	SNR=95						
KRBR	**Kerman**	**3.44**	**348**	*e*Pn	**Pn**	**19 00 22.7**	**+2.6**
KRBR				*e*Sg	**Sb**	**19 01 08.4**	**-0.8**
KRBR				AML	AML	19 01 27.7	
	comp=N,664nm,0.1s						
KRBR				AML	AML	19 01 28.8	
	comp=E,587nm,0.5s						
KRBR	**Kerman**	**3.44**	**348**	*e*Pn	**Pn**	**19 00 22.7**	**+2.6**
KRBR				*e*Sg	**Sb**	**19 01 08.4**	**-0.8**
SMDO	**Samad**	**3.56**	**173**	⇑P	**Pn**	**19 00 22.6**	**+0.9**
	SNR=20						
SMDO	**Samad**	**3.56**	**173**	P	**Pn**	**19 00 22.6**	**+0.9**
	SNR=20						
BSY	**Bisya**	**3.87**	**185**	P	**Pn**	**19 00 28.2**	**+2.4**
	SNR=14						
BSYO	**Bisya**	**3.88**	**185**	P	**Pn**	**19 00 28.2**	**+2.3**
	SNR=14						
ZHSF	**Zahedan**	**4.11**	**43**	*e*Pn	**Pb**	**19 00 37.4**	**-1.6**
ZHSF	**Zahedan**	**4.11**	**43**	*e*Pn	**Pb**	**19 00 37.4**	**-1.6**
WBK	**Wadi Bani Khal**	**4.18**	**162**	P	**Pn**	**19 00 30.3**	**+0.2**
	SNR=42						
WBK	**Wadi Bani Khal**	**4.18**	**162**	P	**Pn**	**19 00 30.3**	**+0.2**
	SNR=42						
ISRV	**Sarvestan**	**4.82**	**306**	*e*Pn	**Pn**	**19 00 40.3**	**+1.2**
ISRV				*e*		19 02 36.5	
	comp=Z,4μm,0.6s						
ISRV	**Sarvestan**	**4.82**	**306**	Pn	**Pn**	**19 00 40.1**	**+1.0**
ISRV	**Sarvestan**	**4.82**	**306**	*e*Pn	**Pn**	**19 00 40.3**	**+1.2**
IBAF	**Bafgh**	**5.26**	**341**	*e*Pn	**Pn**	**19 00 46.8**	**+1.7**
IBAF	**Bafgh**	**5.26**	**341**	Pn	**Pn**	**19 00 46.8**	**+1.7**
IBAF	**Bafgh**	**5.26**	**341**	*e*Pn	**Pn**	**19 00 46.8**	**+1.7**
IMEH	**Mehriz**	**5.42**	**332**	*e*Pn	**Pn**	**19 00 48.4**	**+1.1**
IMEH				*e*		19 02 37.0	
	comp=Z,2μm,0.6s						
IMEH	**Mehriz**	**5.42**	**332**	Pn	**Pn**	**19 00 48.4**	**+1.1**
IMEH	**Mehriz**	**5.42**	**332**	*e*Pn	**Pn**	**19 00 48.4**	**+1.1**
ISAD	**Sadrabad**	**6.28**	**328**	*e*Pn	**Pn**	**19 01 00.5**	**+1.3**
ISAD				*e*		19 02 23.1	
	comp=Z,719nm,0.3s						
ISAD	**Sadrabad**	**6.28**	**328**	Pn	**Pn**	**19 01 00.7**	**+1.5**
ISAD	**Sadrabad**	**6.28**	**328**	*e*Pn	**Pn**	**19 01 00.5**	**+1.3**
TABS	**Tabas**	**7.03**	**357**	*e*Pn	Pn	19 01 12.7	+3.5
TABS	**Tabas**	**7.03**	**357**	*e*Pn	Pn	19 01 12.7	+3.5
IGAR	**Gharneh**	**7.52**	**321**	*e*Pn	**Pn**	**19 01 16.4**	**+0.3**
IGAR				*e*		19 02 45.5	
	comp=Z,625nm,0.2s						
IZEF	**Zefreh**	**7.75**	**325**	*e*Pn	**Pn**	**19 01 20.2**	**+0.9**
IZEF				*e*		19 01 36.6	
	comp=Z,222nm,0.2s						
IZEF				*e*Sn	**Sn**	**19 02 42.1**	**-4.8**
IZEF	**Zefreh**	**7.75**	**325**	Pn	**Pn**	**19 01 20.1**	**+0.8**
IZEF	**Zefreh**	**7.75**	**325**	*e*Pn	**Pn**	**19 01 20.2**	**+0.9**
IPIR	**Pirpir**	**8.39**	**318**	*e*Pn	**Pn**	**19 01 29.3**	**+1.1**
IPIR				*e*		19 03 04.5	
	comp=Z,987nm,0.3s						
IPIR	**Pirpir**	**8.39**	**318**	Pn	**Pn**	**19 01 29.6**	**+1.4**
IPIR	**Pirpir**	**8.39**	**318**	*e*Pn	**Pn**	**19 01 29.3**	**+1.1**
IKLH	**Kolahrood**	**8.47**	**324**	*e*Pn	**Pn**	**19 01 30.0**	**+0.9**
IKLH				*e*		19 01 42.3	
	comp=Z,263nm,0.2s						
IKLH	**Kolahrood**	**8.47**	**324**	Pn	**Pn**	**19 01 30.1**	**+0.9**
IKLH	**Kolahrood**	**8.47**	**324**	Pn	**Pn**	**19 01 30.1**	**+0.9**
KBD	**Kabd**	**9.11**	**289**	*e*P	**Pn**	**19 01 35.9**	**-1.9**
KBD				AML	AML	19 03 16.4	
	comp=Z,23nm,0.4s						
RDF	**Al-Radifah**	**9.18**	**287**	*e*P	**Pn**	**19 01 37.4**	**-1.3**
RDF				AML	AML	19 03 16.7	
	comp=Z,29nm,0.5s						
RDF	**Al-Radifah**	**9.18**	**287**	*e*P	**Pn**	**19 01 37.4**	**-1.3**
UMR	**Umm Al-Rimmam**	**9.19**	**291**	*e*P	**Pn**	**19 01 37.2**	**-1.6**
UMR				AML	AML	19 03 17.2	
	comp=Z,24nm,0.4s						
UMR	**Umm Al-Rimmam**	**9.19**	**291**	*e*P	**Pn**	**19 01 37.2**	**-1.6**
NAY	**Al-Naaiem**	**9.51**	**288**	*e*P	**Pn**	**19 01 42.1**	**-1.1**
NAY	**Al-Naaiem**	**9.51**	**288**	*e*P	**Pn**	**19 01 42.1**	**-1.1**
MIB	**Mutribah**	**9.57**	**292**	*e*P	**Pn**	**19 01 43.2**	**-0.9**
MIB				AML	AML	19 03 29.7	
	comp=Z,78nm,0.6s						
MIB	**Mutribah**	**9.57**	**292**	*e*P	**Pn**	**19 01 43.2**	**-0.9**
RAYN	**Ar Rayn**	**11.37**	**257**	*e*Pn	**Pn**	**19 02 06.3**	**-2.4**
KBL	**Kabul**	**12.64**	**49**	*e*P	**Pn**	**19 02 27.0**	**+0.7**
KBL	**Kabul**	**12.64**	**49**	*e*Pn	**Pn**	**19 02 27.0**	**+0.7**
KBL	**Kabul**	**12.64**	**49**	*e*P	**Pn**	**19 02 27.0**	**+0.7**
THW	**Thamme Wali**	**13.76**	**60**	P	**Pn**	**19 02 40.6**	**-0.8**
THW				S	Sn	19 05 00.0	-14
CEP	**Cherat**	**14.32**	**56**	P	**Pn**	**19 02 50.5**	**+1.4**
CHCP	**Chirah Chowk**	**15.27**	**59**	P	**Pn**	**19 03 01.2**	**-0.7**
GNI	**Garni**	**17.21**	**325**	*e*Pn	**P**	**19 03 29.1**	**+0.8**
	comp=Z,38nm,1.2s						
GNI	**Garni**	**17.21**	**325**	Pn	**P**	**19 03 29.5**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=191,slow=12,SNR=5.3						
GNI	**Garni**	**17.21**	**325**	*e*Pn	**P**	**19 03 29.1**	**+0.8**
	comp=Z,38nm,1.2s						
GNI	**Garni**	**17.21**	**325**	P	**P**	**19 03 29.5**	**+1.1**
	comp=Z,1.0nm,0.3s						
DGRG	**David-gareji**	**17.90**	**329**	P	**P**	**19 03 37.3**	**+1.5**
DGRG	**David-gareji**	**17.90**	**329**	P	**P**	**19 03 37.3**	**+1.5**
TBLG	**Delisi**	**18.41**	**328**	*e*P	**Pn**	**19 03 44.4**	**+2.9**
TBLG	**Delisi**	**18.41**	**328**	P	**Pn**	**19 03 44.4**	**+2.9**
KK31	**Karatay Array**	**19.54**	**29**	*i* P	**Pn**	**19 03 54.8**	**-0.3**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KK31	**Karatay Array**	**19.54**	**29**	*i* P	**Pn**	**19 03 54.8**	**-0.3**
	comp=Z,6.0nm,0.6s						
KKAR	**Karatay Array**	**19.54**	**29**	*e*P	**Pn**	**19 03 54.6**	**-0.5**
KKAR	**Karatay Array**	**19.54**	**29**	*e*Pn	**Pn**	**19 03 54.6**	**-0.5**
KKAR	**Karatay Array**	**19.54**	**29**	*e*P	**Pn**	**19 03 54.6**	**-0.5**
ZEI	**Tsey**	**19.61**	**329**	*e*P	**Pn**	**19 03 58.1**	**+1.9**
ZEI				pmax	pmax		
	comp=Z,29nm,1.3s						
ONI	**Oni**	**19.69**	**328**	P	**Pn**	**19 04 01.4**	**+4.5**
KSH	**Kashi**	**20.03**	**45**	P	**P**	**19 03 54.9**	**-4.4**
KSH				sP	**sP**	**19 04 01.9**	**-3.6**
KSH				PP	**PnPn**	**19 04 13.9**	**-1.5**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,49nm,5.1s						
KSH				LR	LR		
	comp=N,120nm,4.1s						
KSH				LR	LR		
	comp=E,300nm,7.0s						
EIL	**Elat**	**20.18**	**284**	P	Pn	19 04 01.9	-0.8
EIL	**Elat**	**20.18**	**284**	P	Pn	19 04 01.9	-0.8
	comp=E,7.2nm,0.6s,baz=92,slow=3.4,SNR=12						
EIL	**Elat**	**20.18**	**284**	P	Pn	19 04 01.9	-0.9
MMAI	**Mount Meron Ar**	**20.25**	**294**	P	**P**	**19 04 02.5**	**+0.8**
MMAI	**Mount Meron Ar**	**20.25**	**294**	P	**P**	**19 04 02.5**	**+0.8**
	comp=E,3.0nm,0.4s,baz=99,slow=15,SNR=14						
MMAI	**Mount Meron Ar**	**20.25**	**294**	P	**P**	**19 04 02.5**	**+0.8**
ATD	**Arta Tunnel**	**20.43**	**226**	P	Pn	19 04 06.1	+0.2
ATD	**Arta Tunnel**	**20.43**	**226**	P	Pn	19 04 06.1	+0.2
	comp=E,15nm,0.8s,baz=61,slow=15,SNR=5.2						
CHVG	**Ch'k'valeri**	**20.45**	**326**	P	P	19 03 58.7	-5.0
EKS2	**Erkin-Say**	**20.77**	**35**	*e*P	**P**	**19 04 07.5**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,19nm,0.9s						
EKS2	**Erkin-Say**	**20.77**	**35**	*e*Pn	**P**	**19 04 07.5**	**+0.2**
	comp=Z,19nm,0.9s						
EKS2	**Erkin-Say**	**20.77**	**35**	*e*P	**P**	**19 04 07.5**	**+0.2**
	comp=Z,19nm,0.9s						
KBZ	**Khabaz**	**20.82**	**329**	P	Pn	19 04 11.0	+0.9
KBZ	**Khabaz**	**20.82**	**329**	P	Pn	19 04 11.0	+1.0
KBZ	**Khabaz**	**20.82**	**329**	P	Pn	19 04 11.0	+1.0
	comp=Z,2.4nm,0.9s,baz=111,slow=10,SNR=4.8						
KIV	**Kislovodsk**	**21.09**	**329**	⇓*e*P	**P**	**19 04 11.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,17nm,1.2s						
KIV	**Kislovodsk**	**21.09**	**329**	*e*P	**P**	**19 04 11.5**	**+0.8**
	comp=Z,17nm,1.2s						
AAK	**Ala-Archa**	**21.13**	**37**	P	**P**	**19 04 11.9**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AAK	**Ala-Archa**	**21.13**	**37**	*e*P	**P**	**19 04 10.2**	**-1.0**
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**21.13**	**37**	P	**P**	**19 04 11.9**	**+0.7**
	comp=Z,4.6nm,0.6s,baz=192,slow=5.5,SNR=8.5						
AAK	**Ala-Archa**	**21.13**	**37**	P	**P**	**19 04 11.9**	**+0.7**
	comp=Z,5.0nm,0.6s						
FRU	**Bishkek**	**21.34**	**36**	*e*P	P	19 04 19.0	+5.7
FRU				pmax	pmax		
	comp=Z,30nm,2.2s						
HYB	**Hyderabad**	**21.47**	**111**	*i* P	**P**	**19 04 16.5**	**+1.6**
TKM2	**Tokmak 2**	**21.92**	**37**	P	**P**	**19 04 20.5**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,11nm,1.3s						
TKM2	**Tokmak 2**	**21.92**	**37**	*e*P	**P**	**19 04 17.7**	**-2.1**
	comp=Z,12nm,1.2s						
TKM2	**Tokmak 2**	**21.92**	**37**	P	**P**	**19 04 20.5**	**+0.7**
	comp=Z,11nm,1.3s						
CSS	**Prodhromos**	**22.39**	**298**	Pn	**P**	**19 04 25.5**	**+0.8**
CSS	**Prodhromos**	**22.39**	**298**	Pn	**P**	**19 04 25.5**	**+0.8**
AB31	**Akbulak array**	**22.68**	**4**	*e*P	**P**	**19 04 27.2**	**-0.4**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AB31	**Akbulak array**	**22.68**	**4**	*e*P	**P**	**19 04 27.2**	**-0.4**
	comp=Z,6.0nm,0.5s						
ABKAR	**Akbulak array**	**22.68**	**4**	*e*P	**P**	**19 04 25.5**	**-2.1**
ABKAR	**Akbulak array**	**22.68**	**4**	*e*P	**P**	**19 04 25.5**	**-2.1**
AKTK	**Aktyubinsk**	**23.79**	**1**	P	**P**	**19 04 38.8**	**0.0**
	comp=Z,13nm,0.6s						
AKTO	**Aktyubinsk**	**23.79**	**1**	P	**P**	**19 04 38.8**	**0.0**
AKTO				pmax	pmax		
	comp=Z,13nm,0.6s						
AKTO	**Aktyubinsk**	**23.79**	**1**	P	**P**	**19 04 38.8**	**0.0**
AKTO	**Aktyubinsk**	**23.79**	**1**	P	**P**	**19 04 38.8**	**0.0**
	comp=Z,12nm,0.6s,baz=167,slow=9.8,SNR=65						
AKTO	**Aktyubinsk**	**23.79**	**1**	P	**P**	**19 04 38.8**	**0.0**
BRTR	**Keskin Array B**	**23.84**	**309**	P	**P**	**19 04 40.0**	**+0.4**
BRTR	**Keskin Array B**	**23.84**	**309**	P	**P**	**19 04 40.0**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=128,slow=12,SNR=22						
BRTR	**Keskin Array B**	**23.84**	**309**	P	**P**	**19 04 40.0**	**+0.4**
	comp=Z,5.0nm,0.8s						
BR131	**Keskin Array S**	**23.84**	**309**	*e*P	**P**	**19 04 37.8**	**-1.8**
	comp=Z,3.0nm,0.6s						
BR131	**Keskin Array S**	**23.84**	**309**	*e*P	**P**	**19 04 37.8**	**-1.8**
	comp=Z,3.0nm,0.6s						
ISP	**Isparta**	**25.39**	**303**	*e*P	**P**	**19 04 53.2**	**-0.5**
ISP				pmax	pmax		
	comp=Z,15nm,0.8s						
ISP	**Isparta**	**25.39**	**303**	*e*P	**P**	**19 04 53.1**	**-0.5**
	comp=Z,15nm,0.8s						
ISP	**Isparta**	**25.39**	**303**	*e*P	**P**	**19 04 53.2**	**-0.5**
	comp=Z,15nm,0.8s						
SIM	**Simferopol'**	**26.25**	**320**	P	**P**	**19 05 04.3**	**+3.0**
SIM				MLR	MLR		
	comp=Z,80nm,17.0s						
VOSK	**Vostochnaya**	**27.95**	**18**	P	**P**	**19 05 14.9**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VOSK	**Vostochnaya**	**27.95**	**18**	P	**P**	**19 05 14.9**	**-1.6**
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**28.05**	**38**	*i* P	**P**	**19 05 17.9**	**+0.4**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**28.05**	**38**	*e*P	**P**	**19 05 15.9**	**-1.6**
MK31	**Makanchi Array**	**28.05**	**38**	*i* P	**P**	**19 05 17.9**	**+0.4**
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**28.05**	**38**	*e*P	**P**	**19 05 16.0**	**-1.5**
MKAR						19 08 32.3	
MKAR	**Makanchi Array**	**28.05**	**38**	*e*P	**P**	**19 05 16.0**	**-1.5**
MKAR				PcP	**PcP**	**19 08 32.3**	**+0.4**
MKAR	**Makanchi Array**	**28.05**	**38**	P	**P**	**19 05 17.7**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=239,slow=6.1,SNR=10						
MKAR				PcP	**PcP**	**19 08 32.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=240,slow=2.4,SNR=4.3						
MKAR	**Makanchi Array**	**28.05**	**38**	*e*P	**P**	**19 05 16.0**	**-1.5**
BVA0	**Borovoye Array**	**28.07**	**17**	*i* P	**P**	**19 05 16.8**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BVA0	**Borovoye Array**	**28.07**	**17**	*i* P	**P**	**19 05 16.8**	**-0.7**
	comp=Z,8.0nm,1.1s						
BVAR	**Borovoye Array**	**28.07**	**17**	P	**P**	**19 05 17.3**	**-0.2**
BVAR						19 08 32.5	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR				MLR	MLR		
	comp=Z,78nm,20.1s						
BVAR	**Borovoye Array**	**28.07**	**17**	P	**P**	**19 05 17.3**	**-0.2**
BVAR				PcP	**PcP**	**19 08 32.5**	**+0.7**
BVAR	**Borovoye Array**	**28.07**	**17**	P	**P**	**19 05 17.3**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=191,slow=7.2,SNR=18						
BVAR				PcP	**PcP**	**19 08 32.5**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=227,slow=4.1,SNR=3.7						
BVAR				LR	LR	19 16 50.0	
	comp=Z,78nm,20.1s,baz=273,slow=37						
BVAR	**Borovoye Array**	**28.07**	**17**	P	**P**	**19 05 17.3**	**-0.2**
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**28.07**	**16**	*c i* P	**P**	**19 05 17.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BRVK	**Borovoye**	**28.07**	**16**	*e*P	**P**	**19 05 15.7**	**-1.9**
	comp=Z,12nm,1.4s						
BRVK	**Borovoye**	**28.07**	**16**	*i* P	**P**	**19 05 17.2**	**-0.3**
	comp=Z,7.0nm,1.3s						
VSR	**Storozhevoye**	**28.28**	**335**	*i* P	**P**	**19 05 18.4**	**-1.0**
VSR	**Storozhevoye**	**28.28**	**335**	*i* P	**P**	**19 05 18.4**	**-1.0**
KURBB	**Kurchatov Arra**	**28.84**	**28**	P	**P**	**19 05 24.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=132,slow=8.3,SNR=3.3						
KURK	**Kurchatov**	**28.94**	**28**	P	**P**	**19 05 24.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**28.94**	**28**	P	**P**	**19 05 24.3**	**-1.0**
KURK	**Kurchatov**	**28.94**	**28**	P	**P**	**19 05 24.3**	**-1.0**
	comp=Z,2.0nm,0.6s						
WMQ	**Urumqi**	**29.78**	**47**	*e*P	**P**	**19 05 33.8**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**29.80**	**1**	P	**P**	**19 05 33.2**	**+0.3**
ARU	**Arti**	**29.80**	**1**	P	**P**	**19 05 33.2**	**+0.3**
AKASG	**Malin Array Be**	**32.34**	**326**	P	**P**	**19 05 54.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**32.34**	**326**	P	**P**	**19 05 54.8**	**-0.6**
AKASG	**Malin Array Be**	**32.34**	**326**	P	**P**	**19 05 54.8**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=132,slow=8.3,SNR=20						
AKASG	**Malin Array Be**	**32.34**	**326**	P	**P**	**19 05 54.8**	**-0.6**
	comp=Z,4.0nm,0.5s						
KIEV	**Kiev**	**32.35**	**326**	*e*P	**P**	**19 05 54.7**	**-0.7**
KIEV				pmax	pmax		
	comp=Z,14nm,0.7s						
KIEV	**Kiev**	**32.35**	**326**	*e*P	**P**	**19 05 54.7**	**-0.7**
	comp=Z,14nm,0.7s						
KIEV	**Kiev**	**32.35**	**326**	*e*P	**P**	**19 05 54.7**	**-0.7**
	comp=Z,14nm,0.7s						
OBN	**Obninsk**	**32.35**	**337**	⇓*e*P	**P**	**19 05 54.2**	**-1.1**
OBN				*e*		19 07 02.5	
OBN				*e*S	**S**	**19 11 06.4**	**-2.2**
OBN				pmax	pmax		
	comp=Z,15nm,1.6s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
OBN	**Obninsk**	**32.35**	**337**	*e*P	**P**	**19 05 54.2**	**-1.1**
	comp=Z,15nm,1.6s						
KMBO	**Kilima Mbogo**	**33.83**	**219**	P	P	19 06 13.1	+4.1
	comp=Z,13nm,1.4s						
NVS	**Novosibirsk**	**33.88**	**27**	*e*P	P	19 06 04.6	-4.1
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,17nm,1.2s						
ZAA0	**Zalesovo Array**	**33.91**	**29**	*e*P	**P**	**19 06 07.7**	**-1.3**
ZAA0	**Zalesovo Array**	**33.91**	**29**	*e*P	**P**	**19 06 07.7**	**-1.3**
ZALV	**Zalesovo Beam**	**33.91**	**29**	P	**P**	**19 06 08.5**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**33.91**	**29**	P	**P**	**19 06 08.5**	**-0.5**
ZALV	**Zalesovo Beam**	**33.91**	**29

MOA	**Molln**	39.82	314	P		**P**	19 06 59.7	+0.3
	comp=Z,4.0nm,0.6s,SNR=5.5							
LZH	**Lanzhou**	40.31	65	*e*P		**P**	19 07 02.5	-1.3
LZH				pP		**pP**	19 07 05.7	-2.7
LZH				PP		**PnPn**	19 08 39.6	-0.6
LZH				pmax	pmax			
	comp=Z,20nm,1.3s							
LZH				pmax	pmax			
	comp=Z,63nm,5.2s							
LZH				LR	LR			
	comp=N,350nm,13.8s							
LZH				LR	LR			
	comp=E,340nm,14.0s							
LZH				LR	LR			
	comp=Z,390nm,17.8s							
PVCC	**Panska Ves**	40.46	318	*e*P		**P**	19 07 04.9	+0.2
PVCC	**Panska Ves**	40.46	318	*e*P		**P**	19 07 04.9	+0.2
PVCC	**Panska Ves**	40.46	318	*e*P		**P**	19 07 04.9	+0.2
GERES	**GERESS Array B**	40.47	315	P		**P**	19 07 04.9	+0.1
GERES	**GERESS Array B**	40.47	315	P		**P**	19 07 04.9	+0.1
	comp=Z,1.4nm,0.5s,baz=115,slow=6.7,SNR=16							
GERES	**GERESS Array B**	40.47	315	P		**P**	19 07 04.9	+0.1
	comp=Z,1.0nm,0.5s							
CD2	**Chengdu**	40.49	73	*e*P		**P**	19 07 05.2	0.0
CD2				pP		**pP**	19 07 09.8	-0.1
CD2				sP		**sP**	19 07 12.4	+0.7
CD2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2				pmax	pmax			
	comp=Z,30nm,6.4s							
KMI	**Kunming**	40.51	82	P		**P**	19 07 08.5	+2.9
KMI				pmax	pmax			
	comp=Z,16nm,2.0s							
KHC	**Kasperske Hory**	40.63	316	*e*P		**P**	19 07 05.7	-0.4
KHC				*e*			19 07 16.0	
KHC	**Kasperske Hory**	40.63	316	*e*P		**P**	19 07 05.7	-0.4
KHC				*ex*		x	19 07 10.1	
KHC				*ep*P		pP	19 07 16.0	+5.2
KHC	**Kasperske Hory**	40.63	316	*e*P		**P**	19 07 05.6	-0.4
	comp=Z,6.0nm,0.7s							
KHC	**Kasperske Hory**	40.63	316	*e*P		**P**	19 07 05.7	-0.4
ABTA	**Abfaltersbach**	40.69	312	*i* P		**P**	19 07 06.7	0.0
	comp=Z,7.5nm,1.2s,SNR=5.2							
ABTA	**Abfaltersbach**	40.69	312	P		**P**	19 07 06.7	0.0
	comp=Z,7.5nm,1.2s,SNR=5.2							
FIA1	**FINESS Array S**	40.76	337	*e*P		**P**	19 07 06.7	-0.2
FIA1	**FINESS Array S**	40.76	337	*e*P		**P**	19 07 06.7	-0.2
FINES	**FINESS Array B**	40.76	337	P		**P**	19 07 06.8	-0.1
FINES	**FINESS Array B**	40.76	337	P		**P**	19 07 06.8	-0.1
	comp=Z,5.8nm,0.5s,baz=134,slow=9.4,SNR=117							
FINES	**FINESS Array B**	40.76	337	P		**P**	19 07 06.8	-0.1
	comp=Z,6.0nm,0.5s							
BRG	**Berggiesshubel**	40.95	318	*e*P		**P**	19 07 08.5	-0.2
	comp=Z,3.4nm,0.8s							
BRG	**Berggiesshubel**	40.95	318	*e*P		**P**	19 07 08.5	-0.2
BRG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BRG	**Berggiesshubel**	40.95	318	*e*P		**P**	19 07 08.5	-0.2
	comp=Z,3.0nm,0.8s							
KAF	**Kangasniemi**	41.15	338	*e*P		**P**	19 07 09.3	-0.8
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KAF	**Kangasniemi**	41.15	338	*e*p		**P**	19 07 09.3	-0.8
	comp=Z,2.1nm,0.5s							
KAF	**Kangasniemi**	41.15	338	*e*P		**P**	19 07 09.3	-0.8
	comp=Z,2.0nm,0.5s							
CLL	**Collm**	41.66	318	*i* P		**P**	19 07 14.6	+0.1
CLL				*i*			19 07 24.1	
CLL				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CLL	**Collm**	41.66	318	*i* P		**P**	19 07 14.6	+0.1
	comp=Z,6.0nm,1.2s							
CLL				*i*			19 07 19.2	
	comp=Z,8.0nm,1.3s							
CLL	**Collm**	41.66	318	*i* P		**P**	19 07 14.6	+0.1
	comp=Z,6.0nm,1.2s							
MOTA	**Moosalm**	41.76	312	⇓*i*P		**P**	19 07 14.5	-1.1
	comp=Z,4.2nm,0.5s							
MOTA	**Moosalm**	41.76	312	P		**P**	19 07 14.5	-1.1
	comp=Z,4.2nm,0.5s							
KEST	**Kesra**	41.91	295	P		**P**	19 07 18.0	+1.1
KEST	**Kesra**	41.91	295	P		**P**	19 07 18.0	+1.1
	comp=Z,1.0nm,0.6s,baz=28,slow=3.7,SNR=5.3							
FETA	**Feichten**	41.94	312	⇑*i*P		**P**	19 07 16.7	-0.4
	comp=Z,4.0nm,0.5s							
FETA	**Feichten**	41.94	312	P		**P**	19 07 16.7	-0.4
	comp=Z,4.0nm,0.5s							
PGF	**Pioggiola**	42.45	305	*e*P		**P**	19 07 20.7	-0.5
	comp=Z,5.6nm,0.8s							
PGF	**Pioggiola**	42.45	305	*e*P		**P**	19 07 20.7	-0.5
	comp=Z,2.8nm,0.8s							
DAVA	**Damuels**	42.56	312	⇑*i*P		**P**	19 07 21.5	-0.6
	comp=Z,14nm,0.5s							
DAVA	**Damuels**	42.56	312	P		**P**	19 07 21.5	-0.6
	comp=Z,14nm,0.5s							
TLY	**Talaya**	42.66	41	*e*P		**P**	19 07 24.8	+2.1
TLY				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SONM	**Songino Array**	43.41	48	P		**P**	19 07 30.2	+1.2
SONM	**Songino Array**	43.41	48	P		**P**	19 07 30.2	+1.2
	comp=Z,3.4nm,1.1s,baz=255,slow=8.2,SNR=12							
GYA	**Guiyang**	43.69	79	*e*P		**P**	19 07 32.0	+0.5
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SBF	**Sospel**	43.73	307	*e*P		**P**	19 07 31.0	-0.5
	comp=Z,13nm,0.7s							
SBF	**Sospel**	43.73	307	*e*P		**P**	19 07 31.0	-0.5
	comp=Z,6.6nm,0.7s							
ULN	**Ulaanbaatar**	43.85	48	*e*P		**P**	19 07 32.2	-0.4
	comp=Z,10nm,1.6s							
MBDF	**Montbardon**	44.30	308	⇑*i*P		**P**	19 07 35.9	-0.2
	comp=Z,6.5nm,0.8s							
MBDF	**Montbardon**	44.30	308	⇑*i*P		**P**	19 07 35.9	-0.2
	comp=Z,3.2nm,0.8s							
BNI	**Bardonecchia**	44.40	308	*e*P		**P**	19 07 35.9	-1.0
BNI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BNI	**Bardonecchia**	44.40	308	*e*P		**P**	19 07 35.9	-1.0
	comp=Z,5.1nm,1.0s							
LPL	**La Plagne**	44.42	309	⇑*i*P		**P**	19 07 36.3	-0.9
	comp=Z,5.6nm,0.5s							
LPL	**La Plagne**	44.42	309	⇑*i*P		**P**	19 07 36.3	-0.9
	comp=Z,2.8nm,0.5s							
ECH	**Echery**	44.54	313	P		**P**	19 07 36.7	-1.2
ECH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ECH	**Echery**	44.54	313	P		**P**	19 07 36.7	-1.2
	comp=Z,5.7nm,1.0s							
ORIF	**Oris-en-Rattie**	44.95	308	*e*P		**P**	19 07 41.4	+0.1
ORIF	**Oris-en-Rattie**	44.95	308	*e*P		**P**	19 07 41.4	+0.1
CABF	**La Chapelle**	45.01	310	⇑*i*P		**P**	19 07 41.3	-0.4
CABF	**La Chapelle**	45.01	310	⇑*i*P		**P**	19 07 41.3	-0.4
HAU	**Haudompre**	45.04	312	*e*P		**P**	19 07 41.8	-0.1
HAU	**Haudompre**	45.04	312	*e*P		**P**	19 07 41.8	-0.1
VIVF	**Saint-Julien-l**	45.79	308	*e*P		**P**	19 07 47.2	-0.7
VIVF	**Saint-Julien-l**	45.79	308	*e*P		**P**	19 07 47.2	-0.7
SFTF	**Sexfontaines**	45.94	312	*e*P		**P**	19 07 48.9	-0.1
	comp=Z,22nm,0.8s							
SFTF	**Sexfontaines**	45.94	312	*e*P		**P**	19 07 48.9	-0.1
	comp=Z,11nm,0.8s							
MEZF	**Maizieres J'vi**	45.98	313	*e*P		**P**	19 07 49.3	+0.1
	comp=Z,12nm,0.7s							
MEZF	**Maizieres J'vi**	45.98	313	*e*P		**P**	19 07 49.3	+0.1
	comp=Z,5.9nm,0.7s							
OPO	**Ambohidratompo**	46.03	194	P		**P**	19 07 48.5	-1.6
OPO	**Ambohidratompo**	46.03	194	P		**P**	19 07 48.5	-1.6
	comp=Z,3.9nm,0.9s,baz=75,slow=16,SNR=2.3							
PSI	**Prapat**	46.14	114	P		**P**	19 07 50.9	-0.1
PSI	**Prapat**	46.14	114	P		**P**	19 07 50.9	-0.1
	comp=Z,4.4nm,0.6s,baz=332,slow=17,SNR=3.2							
LASF	**Ste Croix**	46.32	307	*e*P		**P**	19 07 51.7	-0.4
	comp=Z,5.3nm,0.7s							
LASF	**Ste Croix**	46.32	307	*e*P		**P**	19 07 51.7	-0.4
	comp=Z,2.7nm,0.7s							
NB2	**NORSAR Subarra**	46.38	331	P		**P**	19 07 51.4	-0.9
	comp=Z,4.7nm,0.8s,baz=113,slow=7.9							
NB2	**NORSAR Subarra**	46.38	331	P		**P**	19 07 51.4	-0.9
	comp=Z,4.7nm,0.8s,SNR=1.6							
NOA	**NORSAR Array B**	46.38	331	P		**P**	19 07 51.5	-0.9
NOA	**NORSAR Array B**	46.38	331	P		**P**	19 07 51.5	-0.9
	comp=Z,3.7nm,0.7s,baz=115,slow=7.9,SNR=23							
GIVF	**Givet**	46.39	315	*e*P		**P**	19 07 52.3	-0.2
	comp=Z,20nm,0.8s							
GIVF	**Givet**	46.39	315	*e*P		**P**	19 07 52.3	-0.2
	comp=Z,10nm,0.8s							
HHC	**Hu-ho-hao-te**	46.40	58	*e*P		**P**	19 07 51.1	-1.8
HHC				pP		**pP**	19 07 55.7	-1.9
HHC				sP		**sP**	19 07 58.1	-1.3
HHC				PcP		**PcP**	19 09 27.3	-0.3
HHC				PP		**PP**	19 09 39.7	-2.1
HHC				ScP		**ScP**	19 13 18.7	-1.9
HHC				PcS		**PcS**	19 13 20.4	-1.9
HHC				S		**S**	19 14 36.2	-3.9
HHC				ScS		**ScS**	19 17 43.7	-4.2
HHC				LR	LR			
	comp=N,610nm,15.3s							
HHC				LR	LR			
	comp=E,540nm,15.1s							
HHC				LR	LR			
	comp=Z,390nm,15.5s							
NAO01	**NORSAR Array S**	46.44	331	*e*P		**P**	19 07 52.2	-0.5
	comp=Z,3.3nm,0.6s							
SMF	**Signal de Mont**	46.55	310	⇑*i*P		**P**	19 07 53.3	-0.5
	comp=Z,12nm,0.7s							
SMF	**Signal de Mont**	46.55	310	⇑*i*P		**P**	19 07 53.3	-0.5
	comp=Z,6.0nm,0.7s							
LOR	**Lormes**	46.60	311	⇑*i*P		**P**	19 07 53.6	-0.6
	comp=Z,6.8nm,0.6s							
LOR	**Lormes**	46.60	311	⇑*i*P		**P**	19 07 53.6	-0.6
	comp=Z,3.4nm,0.6s							
KEV	**Kevo**	46.69	346	*e*P		**P**	19 07 54.0	-0.5
KEV				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KEV	**Kevo**	46.69	346	*e*p		**P**	19 07 54.0	-0.5
	comp=Z,6.4nm,0.7s							
KEV	**Kevo**	46.69	346	*e*P		**P**	19 07 53.8	-0.7
KEV	**Kevo**	46.69	346	*e*P		**P**	19 07 54.0	-0.5
	comp=Z,6.4nm,0.7s							
BAIF	**Baives**	46.77	315	*e*P		**P**	19 07 55.9	+0.4
BAIF	**Baives**	46.77	315	*e*P		**P**	19 07 55.9	+0.4
SSF	**Saint Saulge**	46.82	311	⇑*i*P		**P**	19 07 55.6	-0.3
	comp=Z,9.8nm,0.6s							
SSF	**Saint Saulge**	46.82	311	⇑*i*P		**P**	19 07 55.6	-0.3
	comp=Z,4.9nm,0.6s							
ARE0	**ARCESS Array S**	46.85	345	*e*P		**P**	19 07 54.9	-0.9
ARCES	**ARCESS Array B**	46.85	345	P		**P**	19 07 55.9	+0.1
ARCES	**ARCESS Array B**	46.85	345	P		**P**	19 07 55.9	+0.1
	comp=Z,2.3nm,0.6s,baz=138,slow=9.1,SNR=36							
AVF	**Avril sur Loir**	46.90	310	⇑*i*P		**P**	19 07 55.9	-0.6
	comp=Z,5.5nm,0.6s							
AVF	**Avril sur Loir**	46.90	310	⇑*i*P		**P**	19 07 55.9	-0.6
	comp=Z,2.8nm,0.6s							
TAM	**Tamanrasset**	47.18	277	*e*P		**P**	19 07 59.4	+0.1
TAM				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TAM	**Tamanrasset**	47.18	277	*e*P		**P**	19 07 59.4	+0.1
	comp=Z,3.9nm,1.0s							
BGF	**Bois d'Agland**	47.22	310	*e*P		**P**	19 07 58.9	-0.2
BGF	**Bois d'Agland**	47.22	310	*e*P		**P**	19 07 58.9	-0.2
MTLF	**Montolieu**	47.47	305	*e*P		**P**	19 08 01.3	+0.2
	comp=Z,6.5nm,0.7s							
MTLF	**Montolieu**	47.47	305	*e*P		**P**	19 08 01.3	+0.2
	comp=Z,3.2nm,0.7s							
TCF	**Toulx Ste Croi**	47.64	309	⇑*i*P		**P**	19 08 02.1	-0.2
	comp=Z,4.0nm,0.6s							
TCF	**Toulx Ste Croi**	47.64	309	⇑*i*P		**P**	19 08 02.1	-0.2
	comp=Z,2.0nm,0.6s							
CAF	**Calviac**	47.65	308	⇑*i*P		**P**	19 08 02.4	-0.1
	comp=Z,7.9nm,0.8s							
CAF	**Calviac**	47.65	308	⇑*i*P		**P**	19 08 02.4	-0.1
	comp=Z,4.0nm,0.8s							
RJF	**Les Rejaudoux**	48.06	308	⇑*i*P		**P**	19 08 05.8	+0.2
	comp=Z,10nm,0.9s							
RJF	**Les Rejaudoux**	48.06	308	⇑*i*P		**P**	19 08 05.8	+0.2
	comp=Z,5.2nm,0.9s							
LFF	**La Frestale**	48.59	308	*e*P		**P**	19 08 09.3	-0.4
	comp=Z,10nm,0.8s							
LFF	**La Frestale**	48.59	308	*e*P		**P**	19 08 09.3	-0.4
	comp=Z,5.2nm,0.8s							
LDF	**La Druitiere**	49.40	312	⇑*i*P		**P**	19 08 15.2	-0.6
	comp=Z,11nm,0.6s							
LDF	**La Druitiere**	49.40	312	⇑*i*P		**P**	19 08 15.2	-0.6
	comp=Z,5.6nm,0.6s							
ETSF	**Etsaut**	49.50	305	*e*P		**P**	19 08 17.1	+0.3
	comp=Z,18nm,1.0s							
ETSF	**Etsaut**	49.50	305	*e*P		**P**	19 08 17.1	+0.3
	comp=Z,9.2nm,1.0s							
FLN	**La Foliniere**	49.65	313	*e*P		**P**	19 08 16.8	-0.9
FLN	**La Foliniere**	49.65	313	*e*P		**P**	19 08 16.8	-0.9
SJPF	**Ste Jean**	49.98	305	*e*P		**P**	19 08 20.8	+0.4
	comp=Z,8.2nm,0.6s							
SJPF	**Ste Jean**	49.98	305	*e*P		**P**	19 08 20.8	+0.4
	comp=Z,4.1nm,0.6s							
QUIF	**Quistinic**	51.39	311	*e*P		**P**	19 08 30.4	-0.5
QUIF	**Quistinic**	51.39	311	*e*P		**P**	19 08 30.4	-0.5
ESDC	**Sonseca Array**	52.23	301	P		**P**	19 08 35.6	-1.8
ESDC	**Sonseca Array**	52.23	301	P		**P**	19 08 35.6	-1.8
	comp=Z,0.2nm,0.3s,baz=72,slow=7.4,SNR=5.4							
ESLA	**Sonseca Array**	52.23	301	P		**P**	19 08 37.1	-0.3
NJ2	**Nanjing**	53.08	69	*e*P		**P**	19 08 43.4	-0.3
NJ2				pmax	pmax			
	comp=Z,12nm,0.8s							
TOA0	**Torodi Ar. Sit**	53.85	267	*e*P		**P**	19 08 48.9	-0.7
TORD	**Torodi Ar. Bea**	53.85	267	P		**P**	19 08 49.2	-0.4
TORD	**Torodi Ar. Bea**	53.85	267	P		**P**	19 08 49.2	-0.4
	comp=Z,4.4nm,0.5s,baz=60,slow=7.3,SNR=21							
CN2	**Changchun**	56.53	54	*e*P		**P**	19 09 09.2	+0.7
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KSAR	**Wonju Array Be**	59.35	61	P		**P**	19 09 29.3	+0.9
KSRS	**Korea Array**	59.37	61	P		**P**	19 09 29.3	+0.7
	comp=Z,3.3nm,0.9s,baz=275,slow=6.7,SNR=9.4							
MDJ	**Mudanjiang**	59.38	52	P		**P**	19 09 27.4	-1.1
MDJ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,88nm,6.9s							
MDJ				LR	LR			
	comp=N,69nm,29.1s							
MDJ				LR	LR			
	comp=E,36nm,27.0s							
MDJ				LR	LR			
	comp=Z,45nm,25.0s							
LBTB	**Lobatse**	59.89	214	*e*P		**P**	19 09 33.6	+1.3
	comp=Z,8.3nm,1.2s							
DAG	**Danmarks Havn**	61.14	345	*i* P		**P**	19 09 40.0	0.0
DAG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
DAG	**Danmarks Havn**	61.14	345	*i* P		**P**	19 09 40.0	0.0
	comp=Z,3.4nm,0.8s							
USRK	**Usuriysk Arra**	61.15	52	P		**P**	19 09 42.4	+1.7
	comp=Z,1.3nm,0.8s,baz=283,slow=6.4,SNR=2.9							
BOSA	**Boshof**	63.07	212	*e*P		**P**	19 09 55.0	+1.3
	comp=Z,7.9nm,1.0s							
BOSA	**Boshof**	63.07	212	P		**P**	19 09 55.3	+1.6
	comp=Z,6.1nm,1.0s,baz=49,slow=6.5,SNR=4.4							
SUMG	**Summit**	66.64	341	*e*P		**P**	19 10 17.2	+0.4
SUMG				pmax	pmax			
	comp=Z,14nm,1.0s							
SUMG	**Summit**	66.64	341	*i* P		**P**	19 10 17.6	+0.8
	comp=Z,9.4nm,1.0s							
SUMG	**Summit**	66.64	341	*e*P		**P**	19 10 17.2	+0.4
	comp=Z,14nm,1.0s							
SUMG	**Summit**	66.64	341	*i* P		**P**	19 10 17.6	+0.8
	comp=Z,9.4nm,1.0s							
YSS	**Yuzh-Sakhalins**	67.91	47	*e*P		**P**	19 10 25.5	+0.8
MBWA	**Marble Bar**	76.68	122	*e*P		**P**	19 11 18.4	+0.9
ILAR	**Eielson Array**	86.94	10	P		**P**	19 12 10.4	-0.5
ILAR	**Eielson Array**	86.94	10	P		**P**	19 12 10.4	-0.5
	comp=Z,0.5nm,0.7s,baz=304,slow=3.3,SNR=4.8							
WRA	**Warramunga Arr**	87.60	114	P		**P**	19 12 15.6	+0.8
WRA	**Warramunga Arr**	87.60	114	P		**P**	19 12 15.6	+0.8
	comp=Z,1.2nm,0.7s,baz=314,slow=3.8,SNR=13							
WRAB	**Tennant Creek**	87.61	114	*e*P		**P**	19 12 15.2	+0.3
WRAB				pmax	pmax			
	comp=Z,4.0nm,1.0s							
WRAB	**Tennant Creek**	87.61	114	*e*P		**P**	19 12 15.2	+0.3
	comp=Z,3.8nm,1.0s							
ASAR	**Alice Springs**	89.07	117	P		**P**	19 12 22.6	+0.8
ASAR	**Alice Springs**	89.07	117	P		**P**	19 12 22.6	+0.8
	comp=Z,1.1nm,0.8s,baz=302,slow=4.6,SNR=10							
YKA	**Yellowknife Ar**	90.99	356	P		**P**	19 12 30.9	+0.9
YKA	**Yellowknife Ar**	90.99	356	P		**P**	19 12 30.9	+0.9
	comp=Z,0.6nm,0.8s,baz=13,slow=4.6,SNR=3.3							

IDC 07 19:02:18.6±3.1, 47°.40S×100°.33E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, MS3.3/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=153.7km s-min=31.0km az=125.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	27.81	210	LR	LR	19 17 14.1	
	comp=Z,59nm,18.3s,baz=76,slow=32						
ASAR	**Alice Springs**	35.72	60	P	P	19 09 19.6	+0.7
	0.3nm,0.7s,baz=217,slow=7.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	35.83	44	P	P	19 09 20.0	+0.2
	1.4nm,0.8s,baz=206,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	38.87	57	P	P	19 09 45.4	-0.3
	0.6nm,0.6s,baz=222,slow=8.2,SNR=12						
NVAR	**Mina Array Bea**	150.58	93	PKPbc	PKPbc	19 22 10.7	-1.5
	0.3nm,0.5s,baz=232,slow=4.4,SNR=3.7						
NVAR				PKPab	PKPab	19 22 17.5	-1.5
	0.4nm,0.6s,baz=242,slow=4.9,SNR=3.4						
TEIG	**Tepich**	152.00	163	PKPbc	PKPbc	19 22 16.3	+0.6
	4.8nm,0.4s,baz=222,slow=2.6,SNR=5.1						
TEIG				PKPab	PKPab	19 22 25.1	+0.2
	5.6nm,0.3s,baz=212,slow=2.2,SNR=5.5						

*KRSC **07** 19:03:39.5±0.7, 50°.66N×155°.71E, h256km±33km, ML4.0*
*MOS **07** 19:03:39.7±2.4, 51°.05N×154°.81E, h237km, mb3.8/2, Error ellipse: s-maj=20.4km s-min=10.3km az=54.9*
*ISCJB **07** 19:03:40.1±0.5, 51°.01N±0°.09×154°.9E±0°.1, h242km±6km, mb3.4/8, Error ellipse: s-maj=18.6km s-min=7.6km az=135.6*
*IDC **07** 19:03:41.2±1.6, 51°.06N×154°.80E, h238km±16km, mb3.2/7, mb1 3.3/10, mb1mx3.0/30, mbtmp3.2/10, Error ellipse: s-maj=25.9km s-min=15.7km az=156.0*

ISC 07 19:03:40.7±0.8, 50°.93N±0°.10×155°.21E±0°.09, h246km±6km, n47, σ1§69/62, mb3.4/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	0.62	113	*e*PN	Pn	19 04 07.0	-6.5
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	0.62	113	*i* P	**Pn**	**19 04 12.7**	**-0.8**
SKR				*i* S	**S**	**19 04 37.4**	**-1.9**
PAU	**Pauzhetka**	1.14	61	PN	**Pn**	**19 04 17.2**	**+1.1**
PAU				S	**S**	**19 04 44.1**	**+0.2**
PAU	**Pauzhetka**	1.14	61	P	**Pn**	**19 04 17.2**	**+1.1**
PAU				*i* S	**S**	**19 04 44.1**	**+0.2**
MIPR	**Malaya Ipel'ka**	1.66	35	*e*P	**Pn**	**19 04 20.6**	**+0.8**
ASAK	**Asacha**	2.22	48	*e*P	**Pn**	**19 04 25.7**	**+0.8**
ASAK				*e*S	**S**	**19 04 59.9**	**+0.1**
APC	**Apacha**	2.33	30	*i* P	**Pn**	**19 04 26.7**	**+0.8**
APC				*i* S	**S**	**19 05 02.0**	**+0.4**
MTVR	**Mutnovka**	2.42	49	*e*P	**Pn**	**19 04 28.2**	**+1.3**
MTVR				*i* S	**S**	**19 05 03.2**	**-0.2**
RUS	**Russkaya**	2.55	52	PN	**Pn**	**19 04 28.8**	**+0.8**
RUS				S	**S**	**19 05 04.2**	**-1.3**
RUS	**Russkaya**	2.55	52	*i* P	**Pn**	**19 04 28.8**	**+0.8**
RUS				*i* S	**S**	**19 05 04.2**	**-1.3**
PETK	**Petropavlovsk-**	2.67	34	*e*PN	Pn	19 04 35.3	+6.0
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	2.67	34	P	**Pn**	**19 04 29.9**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=214,slow=10,SNR=24						
PETK				S	S	19 05 15.0	+7.2
	comp=Z,0.2nm,0.3s,baz=212,slow=19,SNR=2.4						
PET	**Petropavlovsk**	2.99	44	*e*PN	**Pn**	**19 04 33.9**	**+1.3**
PET				*e*S	**S**	**19 05 16.2**	**+2.4**
PET				pmax	pmax		
	comp=Z,14nm,0.5s						
PET				smax	smax		
	comp=N,14nm,0.4s						
PET				smax	smax		
	comp=E,12nm,0.6s						
PET	**Petropavlovsk**	2.99	44	P	**Pn**	**19 04 34.3**	**+1.7**
KOK	**Koryaka**	3.17	40	P	**Pn**	**19 04 36.8**	**+2.0**
UGLR	**Uglovaya**	3.19	43	*e*P	**Pn**	**19 04 36.9**	**+1.9**
UGLR				*e*S	**S**	**19 05 18.5**	**+0.4**
AVH	**Avacha**	3.19	42	*e*P	**Pn**	**19 04 37.1**	**+2.1**
SMAR	**Somma**	3.22	42	*e*P	**Pn**	**19 04 36.2**	**+0.7**
KRER	**Koryakskii**	3.23	41	*e*P	**Pn**	**19 04 37.2**	**+1.7**
GNL	**Ganaly**	3.24	30	*e*P	**Pn**	**19 04 36.4**	**+0.9**
SDLR	**Sedlovina**	3.27	42	*e*P	**Pn**	**19 04 37.

mb1 4.4/8, mb1mx4.1/21, mbtmp4.2/8, MS3.2/2, Ms1 3.2/2, ms1mx2.9/39, Error ellipse: s-maj=23.6km s-min=21.6km az=119.0

ISCJB ***07*** *19:31:00.5±0.6, 31°.16S±0°.06×177°.6W±0°.1, h27km, mb4.4/13, MS3.1/1, Error ellipse: s-maj=15.8km s-min=8.3km az=177.8*

NEIC ***07*** *19:31:01.8±4.7, 31°.08S×177°.46W, h29km±32km, mb4.6/8, Error ellipse: s-maj=14.2km s-min=11.7km az=109.0*

ISC 07 19:31:01.7±0.6, 31°.10S±0°.07×177°.4W±0°.1, h27km, n55, σ1§25/55, mb4.3/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.90**	**346**	*e*Pn	**Pn**	**19 31 31.5**	**-0.8**
RAO				Sn	**Sn**	**19 31 55.0**	**-0.3**
RAO	**Raoul Island**	**1.90**	**346**	Pn	**Pn**	**19 31 32.0**	**-0.3**
	133nm,0.3s,baz=128,slow=20,SNR=4.7						
RAO				Sn	**Sn**	**19 31 54.9**	**-0.3**
	103nm,0.3s,baz=75,slow=22,SNR=5.6						
RAO				LR	LR	19 31 57.3	
	comp=Z,1μm,18.2s,baz=237,slow=32						
URZ	**Urewera**	**8.46**	**211**	Pn	Pn	19 32 57.5	-5.0
URZ				Sn	Sn	19 34 28.3	-8.8
URZ	**Urewera**	**8.46**	**211**	Pn	Pn	19 32 57.5	-5.0
	0.5nm,0.3s,baz=37,slow=5.1,SNR=4.6						
URZ				Sn	Sn	19 34 28.3	-8.8
	1.1nm,0.3s,baz=156,slow=20,SNR=5.1						
DZM	**Mont Dzumac**	**17.01**	**298**	*e*Pn	**P**	**19 35 02.6**	**+3.1**
	35nm,1.4s						
DZM	**Mont Dzumac**	**17.01**	**298**	LR	LR	19 40 07.8	
	comp=Z,144nm,19.9s,baz=11,slow=32						
CTA	**Charters Tower**	**34.44**	**280**	P	**P**	**19 37 47.9**	**+0.7**
CTA	**Charters Tower**	**34.44**	**280**	P	**P**	**19 37 47.9**	**+0.7**
	4.7nm,0.6s,baz=110,slow=10,SNR=9.0						
CTAO	**Charters Tower**	**34.44**	**280**	*e*P	**P**	**19 37 47.2**	**0.0**
	41nm,1.5s						
STKA	**Stephens Creek**	**34.84**	**258**	P	**P**	**19 37 49.8**	**-0.8**
STKA	**Stephens Creek**	**34.84**	**258**	P	**P**	**19 37 49.8**	**-0.8**
	2.6nm,0.8s,baz=110,slow=20,SNR=5.5						
AS31	**Alice Springs**	**43.60**	**267**	*e*P	**P**	**19 39 02.3**	**-1.6**
ASAR	**Alice Springs**	**43.60**	**267**	P	**P**	**19 39 02.7**	**-1.2**
ASAR				ScP	**ScP**	**19 44 44.5**	**+3.6**
ASAR	**Alice Springs**	**43.60**	**267**	P	**P**	**19 39 02.7**	**-1.2**
	3.0nm,0.6s,baz=106,slow=7.3,SNR=35						
ASAR				ScP	**ScP**	**19 44 44.5**	**+3.6**
	0.7nm,1.0s,baz=107,slow=3.1,SNR=3.7						
WRAB	**Tennant Creek**	**44.65**	**273**	*e*P	**P**	**19 39 11.4**	**-0.9**
	15nm,1.0s						
WRA	**Warramunga Arr**	**44.66**	**273**	P	**P**	**19 39 11.4**	**-0.9**
WRA	**Warramunga Arr**	**44.66**	**273**	P	**P**	**19 39 11.4**	**-0.9**
	2.2nm,0.7s,baz=111,slow=8.1,SNR=58						
SBA	**Scott Base**	**47.39**	**185**	*e*P	**P**	**19 39 33.3**	**+0.2**
	6.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.89**	**270**	P	**P**	**19 40 15.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.89**	**270**	P	**P**	**19 40 15.3**	**-0.3**
	2.0nm,0.8s,baz=111,slow=13,SNR=12						
CASY	**Casey**	**54.78**	**208**	*e*P	**P**	**19 40 26.9**	**-1.7**
	5.7nm,0.8s						
QSPA	**South Pole Qui**	**59.02**	**180**	*e*P	**P**	**19 40 59.4**	**+0.5**
	7.7nm,0.8s						
QSPA	**South Pole Qui**	**59.02**	**180**	P	**P**	**19 40 59.5**	**+0.5**
	5.8nm,1.0s,baz=44,slow=2.1,SNR=12						
SNAA	**Sanae**	**77.45**	**178**	*e*P	**P**	**19 42 53.7**	**-0.5**
SNAA	**Sanae**	**77.45**	**178**	*e*	pP	19 43 04.9	+2.1
SNAA	**Sanae**	**77.45**	**178**	P	**P**	**19 42 53.3**	**-0.9**
	3.8nm,1.2s						
VNA2	**Neumayer--Watz**	**78.02**	**177**	*e*P	**P**	**19 42 56.6**	**-0.7**
VNA2	**Neumayer--Watz**	**78.02**	**177**	*e*	pP	19 43 07.3	+1.4
PLCA	**Paso Flores**	**81.65**	**133**	P	**P**	**19 43 19.1**	**+1.5**
	5.7nm,1.1s						
LPIG	**La Paz**	**84.45**	**58**	LR	LR	20 15 09.2	
	comp=Z,8.2nm,20.0s,baz=46,slow=31						
ISA	**Isabella**	**86.42**	**44**	P	**P**	**19 43 39.2**	**-2.6**
PETK	**Petropavlovsk-**	**86.62**	**345**	P	**P**	**19 43 43.3**	**+1.1**
PETK	**Petropavlovsk-**	**86.62**	**345**	P	**P**	**19 43 43.3**	**+1.1**
	1.3nm,0.7s,baz=148,slow=11,SNR=2.5						
NVAR	**Mina Array Bea**	**88.39**	**42**	P	**P**	**19 43 52.7**	**+1.3**
NVAR	**Mina Array Bea**	**88.39**	**42**	P	**P**	**19 43 52.7**	**+1.3**
	0.2nm,0.3s,baz=224,slow=6.2,SNR=4.9						
MKAR	**Makanchi Array**	**118.62**	**310**	PKP	**PKPdf**	**19 49 46.0**	**-0.8**
MKAR	**Makanchi Array**	**118.62**	**310**	PKP	**PKPdf**	**19 49 46.0**	**-0.8**
	0.1nm,0.5s,baz=204,slow=1.9,SNR=2.2						
KAF	**Kangasniemi**	**145.38**	**341**	*e*p	**PKPbc**	**19 50 35.5**	**-0.8**
	4.2nm,0.6s						
KBZ	**Khabaz**	**145.94**	**303**	PKPbc	**PKPab**	**19 50 40.4**	**+1.3**
KBZ	**Khabaz**	**145.94**	**303**	PKPbc	**PKPab**	**19 50 40.4**	**+1.3**
	1.0nm,0.7s,baz=153,slow=2.3,SNR=2.7						
FIA1	**FINESS Array S**	**145.98**	**340**	*e*PKPdf	**PKPdf**	**19 50 37.7**	**+0.3**
FINES	**FINESS Array B**	**145.98**	**340**	PKPbc	**PKPdf**	**19 50 37.8**	**+0.4**
FINES	**FINESS Array B**	**145.98**	**340**	PKPbc	**PKPdf**	**19 50 37.8**	**+0.4**
	2.2nm,0.6s,baz=41,slow=3.9,SNR=32						
NB2	**NORSAR Subarra**	**149.51**	**352**	PKP	**PKPbc**	**19 50 47.7**	**-0.1**
	comp=Z,6.0nm,1.2s,baz=14,slow=4.1						
NOA	**NORSAR Array B**	**149.51**	**352**	PKPbc	**PKPbc**	**19 50 46.9**	**-0.9**
NOA	**NORSAR Array B**	**149.51**	**352**	PKPbc	**PKPbc**	**19 50 46.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=14,slow=4.2,SNR=3.0						
AKASG	**Malin Array Be**	**152.17**	**322**	PKPbc	**PKPbc**	**19 50 54.1**	**-0.2**
AKASG				PKPab	**PKPab**	**19 51 03.0**	**-1.2**
AKASG	**Malin Array Be**	**152.17**	**322**	PKPbc	**PKPbc**	**19 50 54.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=48,slow=2.7,SNR=6.2						
AKASG				PKPab	**PKPab**	**19 51 03.0**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=51,slow=3.0,SNR=11						
KIEV	**Kiev**	**152.19**	**322**	*e*PKPab	**PKPab**	**19 51 02.8**	**-1.3**
BRTR	**Keskin Array B**	**153.39**	**297**	PKPbc	**PKPbc**	**19 50 57.9**	**+0.3**
BRTR	**Keskin Array B**	**153.39**	**297**	PKPbc	**PKPbc**	**19 50 57.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=151,slow=3.3,SNR=3.4						
GERES	**GERESS Array B**	**160.38**	**338**	PKPab	**PKPab**	**19 51 38.3**	**-1.1**
GERES	**GERESS Array B**	**160.38**	**338**	PKPab	**PKPab**	**19 51 38.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=32,slow=5.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**162.12**	**177**	PKPab	**PKPab**	**19 51 47.7**	**0.0**
TORD	**Torodi Ar. Bea**	**162.12**	**177**	PKPab	**PKPab**	**19 51 47.7**	**0.0**
	comp=Z,0.8nm,1.0s,baz=209,slow=2.6,SNR=2.6						

IDC 07 19:32:59.9±2.9, 0°.12S×132°.71E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/21, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=157.9km s-min=26.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.76**	**175**	P	P	19 37 31.8	0.0
	0.1nm,0.3s,baz=354,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**23.43**	**177**	P	P	19 38 11.1	0.0
	0.4nm,0.8s,baz=357,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**64.14**	**324**	P	P	19 43 36.2	0.0
	0.2nm,0.7s,baz=117,slow=5.2,SNR=3.1						

IDC 07 19:38:28.2±6.2, 30°.40S×177°.92W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/18, mbtmp3.4/2, Error ellipse: s-maj=249.8km s-min=55.9km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.18**	**267**	P	P	19 46 30.6	-0.4
	0.2nm,0.4s,baz=107,slow=7.2,SNR=7.7						
WRA	**Warramunga Arr**	**44.17**	**272**	P	P	19 46 39.2	+0.2
	0.3nm,0.3s,baz=112,slow=7.8,SNR=6.8						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	PKPbc	19 58 05.7	-0.9
	0.8nm,0.7s,baz=54,slow=3.6,SNR=8.5						

ISCJB ***07*** *19:55:37.5±0.2, 63°.16N±0°.02×150°.95W±0°.05, h137km±2km, mb3.9/31, Error ellipse: s-maj=3.7km s-min=3.4km az=2.5*

BJI ***07*** *19:55:37.1, 63°.30N×150°.90W, h141km, mB4.9/5, mb4.3/8*

NEIC ***07*** *19:55:39.0, 63°.13N×150°.90W, h132km, mb4.2/9, After AEIC.*

IDC ***07*** *19:55:40.1±1.9, 63°.37N×150°.91W, h137km±15km, mb3.7/17, mb1 3.8/22, mb1mx3.7/32, mbtmp3.7/22, Error ellipse: s-maj=20.5km s-min=10.7km az=49.0*

ISC 07 19:55:39.1±0.5, 63°.16N±0°.03×150°.94W±0°.03, h133km±4km, n317, σ1§39/336, mb4.1/31, 86C-83D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.40**	**1**	P	**Pn**	**19 55 57.7**	**-0.4**
KTH				S	**Sn**	**19 56 11.8**	**-0.7**
TRF	**Thorofare Moun**	**0.42**	**45**	P	**Pn**	**19 55 57.6**	**-0.8**
TRF				S	**Sn**	**19 56 12.1**	**-0.8**
CAST	**Castle Rocks**	**0.58**	**298**	P	**Pn**	**19 55 58.6**	**-0.4**
CAST				S	**Sn**	**19 56 12.9**	**-1.2**
PPLA	**Purkeypile**	**0.62**	**246**	P	**Pn**	**19 55 59.2**	**-0.3**
PPLA				S	**Sn**	**19 56 14.3**	**-0.6**
CHUM	**Lake Minchumin**	**0.95**	**320**	P	**Pn**	**19 56 01.8**	**0.0**
CHUM				S	**Sn**	**19 56 18.5**	**-0.6**
RND	**Reindeer**	**0.98**	**74**	P	**Pn**	**19 56 01.8**	**-0.4**
RND				S	**Sn**	**19 56 19.4**	**-0.3**
MCK	**McKinley**	**1.07**	**56**	P	**Pn**	**19 56 02.9**	**-0.1**
MCK				S	**Sn**	**19 56 20.4**	**-0.8**
SKT	**Skwentna**	**1.21**	**193**	P	**Pn**	**19 56 03.8**	**-0.6**
SKT				S	**Sn**	**19 56 22.6**	**-1.0**
DHY	**Denali Highway**	**1.62**	**91**	P	**Pn**	**19 56 08.6**	**-0.4**
DHY				S	**Sn**	**19 56 31.6**	**-0.2**
NEA	**Nenana**	**1.65**	**29**	P	**Pn**	**19 56 08.6**	**-0.4**
SUA	**Susitna One**	**1.70**	**177**	P	**Pn**	**19 56 09.2**	**-0.6**
STLK	**Strandline Lak**	**1.72**	**194**	P	**Pn**	**19 56 09.2**	**-0.8**
PMR	**Palmer**	**1.78**	**151**	P	**Pn**	**19 56 09.6**	**-1.0**
PMR				S	**Sn**	**19 56 33.2**	**-1.4**
SML	**Sawmill**	**1.82**	**137**	P	**Pn**	**19 56 10.1**	**-1.0**
WRH	**Wood River Hil**	**1.83**	**43**	P	**Pn**	**19 56 10.9**	**-0.2**
NCG	**North Capps Gl**	**1.85**	**198**	P	**Pn**	**19 56 10.9**	**-0.7**
MLY	**Manley**	**1.88**	**3**	P	**Pn**	**19 56 11.6**	**-0.3**
BGL	**Barrier Glacie**	**2.02**	**200**	P	**Pn**	**19 56 13.6**	**+0.1**
SPBG	**Spurr Blockage**	**2.02**	**200**	P	**Pn**	**19 56 13.3**	**-0.3**
CCB	**Clear Creek Bu**	**2.04**	**41**	P	**Pn**	**19 56 13.3**	**-0.3**
SPU	**Mount Spurr**	**2.05**	**195**	P	**Pn**	**19 56 13.0**	**-0.9**
CKL	**Chakachamna La**	**2.07**	**199**	P	**Pn**	**19 56 13.7**	**-0.6**
SCM	**Sheep Creek Mo**	**2.14**	**127**	P	**Pn**	**19 56 13.8**	**-1.2**
MDM	**Murphy Dome**	**2.17**	**32**	P	**Pn**	**19 56 15.0**	**-0.3**
HDA	**Harding Lake**	**2.17**	**53**	P	**Pn**	**19 56 15.4**	**+0.1**
COLA	**College**	**2.20**	**37**	P	**Pn**	**19 56 15.3**	**-0.2**
TT01	**Tatalina**	**2.33**	**266**	P	**Pn**	**19 56 16.6**	**-0.7**
GLM	**Gilmore Dome**	**2.41**	**39**	P	**Pn**	**19 56 18.2**	**-0.1**
IL1	**Eielson Array**	**2.41**	**46**	P	**Pn**	**19 56 17.9**	**-0.5**
ILAR	**Eielson Array**	**2.41**	**46**	P	**Pn**	**19 56 17.9**	**-0.4**
ILAR				S	**Sn**	**19 56 46.9**	**-1.6**
ILAR	**Eielson Array**	**2.41**	**46**	P	**Pn**	**19 56 17.9**	**-0.4**
	28nm,0.3s,baz=228,slow=12,SNR=986						
ILAR				S	**Sn**	**19 56 46.9**	**-1.6**
	19nm,0.3s,baz=220,slow=17,SNR=13						
PAX	**Paxson**	**2.50**	**92**	P	**Pn**	**19 56 19.2**	**-0.2**
SLKM	**Skilak Lake**	**2.68**	**172**	P	**Pn**	**19 56 21.0**	**-0.8**
RDT	**Redoubt**	**2.68**	**196**	P	**Pn**	**19 56 21.4**	**-0.4**
DFR	**Drift River**	**2.70**	**199**	P	**Pn**	**19 56 21.9**	**-0.2**
HARP	**HAARP**	**2.76**	**103**	P	**Pn**	**19 56 22.5**	**-0.3**
NCT	**North Crescent**	**2.77**	**201**	P	**Pn**	**19 56 23.2**	**+0.3**
RSO	**Redoubt South**	**2.84**	**198**	*e*Pn	**Pn**	**19 56 23.0**	**-0.9**
KLU	**Klutina**	**2.88**	**123**	P	**Pn**	**19 56 22.7**	**-1.6**
GLI	**Glacier Island**	**2.92**	**140**	P	**Pn**	**19 56 23.3**	**-1.5**
JPK	**Jack Peak**	**2.94**	**134**	P	**Pn**	**19 56 23.4**	**-1.7**
VLZ	**Valdez**	**2.97**	**131**	P	**Pn**	**19 56 23.4**	**-1.9**
SVW2	**Sparrevohn**	**3.00**	**229**	P	**Pn**	**19 56 24.9**	**-1.0**
IM04	**Indian Mountai**	**3.08**	**338**	*e*Pn	**Pn**	**19 56 26.0**	**-0.8**
IM04				*e*Sn	Sn	19 56 57.2	-6.6
IM3	**Indian Mountai**	**3.09**	**338**	P	**Pn**	**19 56 26.4**	**-0.4**
DIV	**Divide**	**3.17**	**128**	P	**Pn**	**19 56 26.1**	**-1.9**
SCRK	**Sand Creek**	**3.22**	**72**	P	**Pn**	**19 56 28.4**	**-0.3**
MENT	**Mentasta**	**3.30**	**91**	*e*Pn	**Pn**	**19 56 28.9**	**-0.8**
BRLK	**Bradley Lake**	**3.41**	**180**	P	**Pn**	**19 56 30.2**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.59**	**134**	P	**Pn**	**19 56 32.5**	**-1.0**
CNPM	**China Poot**	**3.65**	**182**	P	**Pn**	**19 56 33.5**	**-0.8**
BMRM	**Bremner River**	**3.70**	**124**	P	**Pn**	**19 56 33.4**	**-1.6**
GOAT	**Goat Mountain**	**3.92**	**129**	P	**Pn**	**19 56 36.3**	**-1.6**
AUE	**Augustine Isla**	**3.99**	**198**	P	**Pn**	**19 56 38.1**	**-0.6**
VRDI	**Verde Repeater**	**4.01**	**116**	P	**Pn**	**19 56 38.1**	**-1.1**
RAGM	**Ragged Mountai**	**4.07**	**130**	P	**Pn**	**19 56 38.4**	**-1.4**
COLD	**Coldfoot**	**4.10**	**4**	P	**Pn**	**19 56 40.3**	**+0.2**
MCARA	**McCarthy VSAT**	**4.11**	**112**	P	**Pn**	**19 56 40.0**	**-0.2**
BCA3	**Beaver Creek A**	**4.16**	**87**	P	**Pn**	**19 56 40.0**	**-1.0**
MCNL	**McNeil River**	**4.31**	**204**	P	**Pn**	**19 56 42.8**	**-0.2**
MID	**Middleton Isla**	**4.35**	**147**	*e*Pn	**Pn**	**19 56 42.1**	**-1.4**
BERG	**Berg Lake**	**4.42**	**126**	P	**Pn**	**19 56 43.4**	**-1.0**
NICHA	**Nichawak Mount**	**4.43**	**128**	P	**Pn**	**19 56 43.2**	**-1.4**
PTPK	**Patty Peak**	**4.44**	**113**	P	**Pn**	**19 56 44.2**	**-0.7**
KHIT	**Khitrov Hills**	**4.55**	**123**	P	**Pn**	**19 56 45.2**	**-1.1**
BALM	**Baldy**	**4.57**	**114**	P	**Pn**	**19 56 45.2**	**-1.3**
EGAK	**Eagle**	**4.61**	**65**	P	**Pn**	**19 56 46.1**	**-0.8**
KIAG	**Kiagna River**	**4.62**	**115**	P	**Pn**	**19 56 45.7**	**-1.6**
GRIN	**Grindle Hills**	**4.63**	**125**	P	**Pn**	**19 56 47.8**	**+0.5**
ISLE	**Juniper Island**	**4.81**	**118**	P	**Pn**	**19 56 48.1**	**-1.7**
BARN	**Barnard Glacie**	**4.84**	**112**	P	**Pn**	**19 56 49.9**	**-0.3**
BARK	**Barkley Ridge**	**4.87**	**121**	P	**Pn**	**19 56 49.7**	**-0.8**
KULT	**Kultieth River**	**4.88**	**123**	P	**Pn**	**19 56 49.8**	**-0.8**
GRNC	**Granite Creek**	**4.97**	**115**	P	**Pn**	**19 56 50.8**	**-1.2**
BAGL	**Bagley Icefiel**	**4.98**	**119**	P	**Pn**	**19 56 50.4**	**-1.4**
BM3	**Burnt Mountain**	**5.04**	**29**	P	**Pn**	**19 56 52.4**	**-0.3**
MESA	**MESA**	**5.22**	**121**	P	**Pn**	**19 56 54.9**	**-0.4**
DAWY	**Dawson**	**5.23**	**75**	P	**Pn**	**19 56 54.6**	**-0.7**
KAKN	**Katmai Knife C**	**5.28**	**204**	P	**Pn**	**19 56 56.2**	**+0.2**
TABL	**Table Mountain**	**5.39**	**116**	P	**Pn**	**19 56 56.2**	**-1.3**
KABR	**Katmai Barrier**	**5.42**	**203**	P	**Pn**	**19 56 57.9**	**0.0**
CAHL	**Cahill**	**5.55**	**205**	P	**Pn**	**19 56 58.5**	**-1.1**
SAMH	**Samovar Hills**	**5.71**	**118**	P	**Pn**	**19 57 01.0**	**-0.8**
OHAK	**Old Harbor**	**6.07**	**192**	P	**Pn**	**19 57 04.3**	**-2.1**
HYT	**Haines Junctio**	**6.75**	**104**	P	**Pn**	**19 57 14.4**	**-1.3**
INK	**Inuvik**	**8.82**	**47**	*e*Pn	Pn	19 57 39.0	-4.2
INK	**Inuvik**	**8.82**	**47**	P	**Pn**	**19 57 42.9**	**-0.3**
	0.4nm,0.3s,baz=245,slow=14,SNR=4.5						
DLBC	**Dease Lake**	**11.23**	**105**	P	**Pn**	**19 58 16.6**	**+1.0**
DLBC	**Dease Lake**	**11.23**	**105**	P	**Pn**	**19 58 16.6**	**+1.0**
	0.1nm,0.3s,baz=292,slow=10,SNR=5.7						
BBB	**Bella Bella**	**16.32**	**122**	P	**Pn**	**19 59 21.1**	**+0.8**
BBB	**Bella Bella**	**16.32**	**122**	P	**Pn**	**19 59 21.1**	**+0.8**
	0.2nm,0.3s,baz=325,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**16.47**	**76**	P	**Pn**	**19 59 20.9**	**-1.2**
YKA	**Yellowknife Ar**	**16.47**	**76**	P	**Pn**	**19 59 20.9**	**-1.2**
	0.6nm,0.3s,baz=284,slow=9.6,SNR=9.9						
WALA	**Waterton Lakes**	**24.56**	**108**	*e*P	**P**	**20 00 46.2**	**-0.2**
	0.2nm,0.8s						
A14A	**Double T Ranch**	**24.84**	**107**	⇑P	**P**	**20 00 49.9**	**+1.1**
	baz=25,SNR=6.1						
B13A	**Whitefish**	**24.84**	**109**	⇑P	**P**	**20 00 50.0**	**+1.1**
	baz=25,SNR=5.6						
A15A	**Johnson Ranch,**	**25.14**	**106**	⇑P	**P**	**20 00 52.3**	**+0.8**
	baz=25,SNR=5.2						
B14A	**Marquette Ranc**	**25.37**	**108**	⇑P	**P**	**20 00 54.6**	**+0.9**
	baz=25,SNR=7.3						
B15A	**Bradely Ranch,**	**25.71**	**107**	⇑P	**P**	**20 00 57.1**	**+0.3**
	baz=26,SNR=5.0						
A17A	**Triple J Farms**	**26.05**	**104**	⇓P	**P**	**20 01 00.7**	**+1.0**
	baz=26						
C15A	**Salmond Ranch,**	**26.11**	**108**	⇑P	**P**	**20 01 01.4**	**+1.0**
	baz=26						
HUMO	**Hull Mountain**	**26.24**	**128**	*e*P	**P**	**20 01 02.5**	**+1.1**
	1.4nm,0.6s						
MSO	**Missoula**	**26.27**	**111**	⇓P	**P**	**20 01 02.6**	**+0.8**
	baz=26						
A18A	**Metzger Ranch,**	**26.45**	**103**	⇑P	**P**	**20 01 03.8**	**+0.5**
	baz=26						
C16A	**Fuhringer Ranc**	**26.46**	**107**	⇑P	**P**	**20 01 04.4**	**+0.9**
	baz=26						
BMO	**Blue Mountains**	**26.47**	**118**	*e*P	**P**	**20 01 03.4**	**-0.2**
	1.8nm,1.0s						
BMO				*e*pP	**pP**	**20 01 33.3**	**+1.5**
B17A	**L&G Farms, Che**	**26.50**	**105**	⇓P	**P**	**20 01 04.1**	**+0.4**
	baz=26						
B18A	**Beardsley Farm**	**26.87**	**104**	⇓P	**P**	**20 01 08.1**	**+1.0**
	baz=27						
A19A	**Klindworth Far**	**26.93**	**102**	⇓P	**P**	**20 01 08.6**	**+1.0**
	baz=27						
C17A	**Wharram Farm,**	**27.01**	**106**	⇓P	**P**	**20 01 08.8**	**+0.4**
	baz=27,SNR=12						
YBH	**Yreka Blue Hor**	**27.10**	**129**	P	**P**	**20 01 10.9**	**+1.7**
YBH	**Yreka Blue Hor**	**27.10**	**129**	P	**P**	**20 01 10.9**	**+1.7**
	1.6nm,0.6s,baz=331,slow=5.2,SNR=7.0						
EGMT	**Eagleton**	**27.16**	**104**	⇓P	**P**	**20 01 10.2**	**+0.5**
	baz=27						
B19A	**Brinkman Farms**	**27.19**	**103**	⇑P	**P**	**20 01 10.8**	**+0.9**
	baz=27						
A20A	**Cobblestone Ra**	**27.33**	**101**	⇓P	**P**	**20 01 12.8**	**+1.6**
	baz=27						
D17A	**Six Diamond Ra**	**27.42**	**107**	⇑P	**P**	**20 01 12.8**	**+0.8**
	baz=27						
B20A	**Solberg Farm,**	**27.61**	**102**	⇓P	**P**	**20 01 15.0**	**+1.3**
	baz=28						
C19A	**Slack Wire Ran**	**27.69**	**104**	⇓P	**P**	**20 01 15.7**	**+1.3**
	baz=28						
E17A	**Martinsdale**	**27.88**	**108**	⇑P	**P**	**20 01 17.4**	**+1.2**
	baz=28						
WVOR	**Wild Horse Val**	**27.99**	**123**	*e*P	**P**	**20 01 18.0**	**+0.8**
	6.3nm,1.2s						
B21A	**Ellsworth Farm**	**28.07**	**101**	⇑P	**P**	**20 01 19.2**	**+1.5**
	baz=28						
A22A	**Carney Farms,**	**28.14**	**99**	⇓P	**P**	**20 01 20.0**	**+1.6**
	baz=28						
D19A	**Cripps Ranch,**	**28.20**	**105**	⇓P	**P**	**20 01 19.9**	**+1.0**
	baz=28						
MFID	**Camas Ranch**	**28.26**	**118**	⇑P	**P**	**20 01 20.7**	**+1.1**
	baz=28						
D20A	**Manuel Ranch,**	**28.58**	**104**	⇑P	**P**	**20 01 23.3**	**+1.0**
	baz=28,SNR=7.1						
E19A	**Rath Farm, Rou**	**28.78**	**105**	⇓P	**P**	**20 01 25.5**	**+1.4**
	baz=29						
F18A	**Big Timber**	**28.81**	**107**	⇑P	**P**	**20 01 26.0**	**+1.6**
	baz=29						
B23A	**Brockton**	**28.95**	**99**	⇓P	**P**	**20 01 26.7**	**+1.2**
	baz=29						
A24A	**Westby**	**29.05**	**97**	⇓P	**P**	**20 01 27.9**	**+1.5**
	baz=29						
C22A	**Vida**	**29.08**	**101**	⇓P	**P**	**20 01 27.4**	**+0.7**
	baz=29						
F19A	**Roth Farm, Mol**	**29.18**	**106**	⇑P	**P**	**20 01 29.3**	**+1.6**
	baz=29						
G18A	**Lazy EL Ranch,**	**29.34**	**108**	⇓P	**P**	**20 01 30.0**	**+0.9**
	baz=29						
C23A	**Lambert**	**29.35**	**100**	⇑P	**P**	**20 01 30.3**	**+1.2**
	baz=29,SNR=5.2						
D22A	**Cohagen**	**29.40**	**102**	⇑P	**P**	**20 01 32.2**	**+2.7**
	baz=29						
A25A	**Svangstu Ranch**	**29.44**	**96**	⇓P	**P**	**20 01 31.1**	**+1.2**
	baz=29						
E21A	**Keefer Ranch,**	**29.47**	**104**	⇑P	**P**	**20 01 31.6**	**+1.5**
	baz=29						
RLMT	**Red Lodge**	**29.62**	**108**	P	**P**	**20 01 32.7**	**+1.0**
	6.7nm,0.9s						
I16A	**Newdale**	**29.67**	**112**	⇓P	**P**	**20 01 33.9**	**+1.8**
	baz=30						
H18A	**Shoshone NF, C**	**29.80**	**109**	⇓P	**P**	**20 01 34.7**	**+1.4**
	baz=30						
D23A	**Lindsay**	**29.82**	**101**	⇑P	**P**	**20 01 34.7**	**+1.4**
	baz=30						
A26A	**Wade Farm, Ken**	**29.96**	**95**	⇑P	**P**	**20 01 35.5**	**+1.0**
	baz=30						
G20A	**Bridger**	**30.00**	**106**	⇓P	**P**	**20 01 35.7**	**+0.8**
	baz=30						
E22A	**Miles City**	**30.05**	**102**	⇑P	**P**	**20 01 37.0**	**+1.8**
	baz=30						
H19A	**Powell**	**30.10**	**108**	⇑P	**P**	**20 01 37.7**	**+1.8**
	baz=30						
RRI2	**Red Ridge**	**30.17**	**112**	*e*P	**P**	**20 01 38.0**	**+1.4**
	3.8nm,0.7s						
C25A	**Freed Ranch, W**	**30.29**	**98**	⇓P	**P**	**20 01 39.1**	**+1.8**
	baz=30						
E23A	**Ismay**	**30.29**	**102**	⇑P	**P**	**20 01 39.0**	**+1.6**
	baz=30						
I19A	**Meeteetse**	**30.60**	**109**	⇑P	**P**	**20 01 42.1**	**+1.7**
	baz=30						
H20A	**Greybull**	**

N24A	Carr	34.98	108	⇓P		P	20 02 20.0 +1.6
	baz=35						
TUQ	Turquoise Moun	35.12	125	⇑P		P	20 02 21.7 +2.0
	baz=35						
U15A	North Rim	35.64	120	⇓P		P	20 02 26.6 +2.4
	baz=36						
N26A	Koester Ranch,	35.70	106	⇓P		P	20 02 27.0 +2.4
	baz=36						
P23A	Jefferson	35.77	110	⇑P		P	20 02 27.6 +2.2
	baz=36						
GMRC	Granite Mounta	35.81	126	⇑P		P	20 02 27.5 +2.0
	baz=36						
R21A	Cimarron	35.90	113	⇓P		P	20 02 28.1 +1.7
	baz=36						
N27A	Anderson Farm,	36.02	105	⇑P		P	20 02 29.1 +1.8
	baz=36						
CIS	Catalina Islan	36.06	130	⇑P		P	20 02 29.7 +2.2
	baz=36						
W13A	Hualapai Mount	36.19	123	⇓P		P	20 02 31.0 +2.2
	baz=36						
BELC	Belle Mtn. Jos	36.38	127	⇓P		P	20 02 31.8 +1.4
	baz=36						
IRM	Iron Mountain	36.55	125	⇑P		P	20 02 34.2 +2.5
	baz=36						
N28A	Pribbeno Ranch	36.55	104	⇓P		P	20 02 33.5 +1.7
	baz=36						
P26A	Davis Ranch, A	36.69	107	⇑P		P	20 02 35.2 +2.3
	baz=37						
S22A	4UR Ranch, Cre	36.72	113	⇓P		P	20 02 35.7 +2.3
	baz=37						
R23A	Moffat	36.77	111	⇓P		P	20 02 36.0 +2.1
	baz=37						
WUAZ	Wupatki	36.79	120	⇑P		P	20 02 36.1 +2.2
	baz=37						
BC3	Big Chuckawall	36.89	126	⇑P		P	20 02 36.1 +1.5
	baz=37						
SPMN	St. Paul	36.89	91	⇑P		P	20 02 35.8 +1.3
	baz=37						
R24A	Sanders Place,	37.04	110	⇓P		P	20 02 37.8 +1.8
	baz=37						
Q26A	Hugo	37.14	108	⇑P		P	20 02 38.6 +1.8
	baz=37						
Y12C	Blythe	37.15	125	⇓P		P	20 02 39.2 +2.5
	baz=37						
MONP	Monument Peak	37.23	128	⇓P		P	20 02 39.5 +1.8
	baz=37						
R25A	Fountain Ranch	37.46	109	⇓P		P	20 02 41.1 +1.6
	baz=37						
S24A	Houchin Ranch,	37.49	111	⇓P		P	20 02 42.4 +2.4
	baz=37						
Y14A	Wickenburg	37.55	123	⇑P		P	20 02 42.1 +2.0
	baz=37						
GLA	Glamis	37.66	126	⇓P		P	20 02 42.7 +1.6
	baz=38						
R26A	Arlington	37.69	108	⇓P		P	20 02 42.5 +1.1
	baz=38						
V20A	Brimhall	37.71	116	⇑P		P	20 02 43.4 +1.7
	baz=38						
X16A	Lo Mia Camp, P	37.73	121	⇑P		P	20 02 43.8 +1.9
	baz=38						
W18A	Petrified Fore	37.79	118	⇑P		P	20 02 44.5 +2.2
	baz=38						
S25A	Robets Cordova	37.81	110	⇓P		P	20 02 44.1 +1.7
	baz=38						
R27A	Eads	37.99	108	⇑P		P	20 02 45.7 +1.9
	baz=38						
P30A	Selden	38.06	104	⇑P		P	20 02 45.7 +1.3
	baz=38						
X18A	Snowflake	38.22	119	⇓P		P	20 02 48.2 +2.2
	baz=38						
S26A	Kim	38.25	109	⇑P		P	20 02 47.6 +1.4
	baz=38						
W20A	Ramah	38.28	117	⇑P		P	20 02 48.2 +1.7
	baz=38						
113A	Mohawk Valley,	38.30	125	⇓P		P	20 02 48.1 +1.7
	baz=38						
R28A	Tribune	38.37	107	⇓P		P	20 02 48.9 +1.9
	baz=38						
P31A	Stockton	38.46	103	⇓P		P	20 02 48.9 +1.2
	baz=38						
T26A	Comanche Natio	38.58	110	⇓P		P	20 02 50.4 +1.5
	baz=38						
R29A	Marlenthal	38.59	106	⇓P		P	20 02 50.5 +1.6
	baz=38						
SPITS	Spitsbergen Ar	38.69	4	P		P	20 02 48.8 -0.3
SPITS	Spitsbergen Ar	38.69	4	P		P	20 02 48.8 -0.3
	5.5nm,0.5s,baz=15,slow=6.0,SNR=37						
U25A	Circle Dot Ran	38.89	111	⇑P		P	20 02 53.6 +2.2
	baz=39						
T27A	Campo	39.05	109	⇑P		P	20 02 54.5 +1.8
	baz=39						
V24A	Rampart Ranch,	39.10	113	⇑P		P	20 02 55.3 +2.0
	baz=39						
X21A	Alamocita Cree	39.16	116	⇑P		P	20 02 56.2 +2.3
	baz=39						
U26A	Atchley Ranch,	39.17	110	⇓P		P	20 02 55.6 +1.7
	baz=39						
W23A	Werner Place,	39.22	114	⇑P		P	20 02 56.4 +2.2
	baz=39						
T28A	Walsh	39.26	108	⇓P		P	20 02 55.9 +1.5
	baz=39						
V25A	Rancho No Teng	39.28	112	⇓P		P	20 02 57.0 +2.3
	baz=39						
214A	Organ Pipe Nat	39.39	124	⇑P		P	20 02 57.4 +1.9
	baz=39						
R31A	Burdett	39.41	104	⇑P		P	20 02 57.2 +1.5
	baz=39						
V26A	Tequesquite Ra	39.66	111	⇓P		P	20 03 00.3 +2.4
	baz=40						
W25A	X Bar L Ranch,	39.87	112	⇑P		P	20 03 01.3 +1.7
	baz=40						
120A	U Bar Ranch, L	40.48	119	⇓P		P	20 03 07.3 +2.6
	baz=40						
Z22A	Elephant Butte	40.53	116	⇓P		P	20 03 06.6 +1.6
	baz=40						
Y24A	Capitan	40.58	114	⇓P		P	20 03 07.7 +2.2
	baz=40						
W27A	Bowe Ranch, En	40.59	111	⇑P		P	20 03 08.0 +2.4
	baz=40						
121A	Cookes Peak, D	40.83	118	⇓P		P	20 03 09.7 +2.2
	baz=41						
Y25A	Mesa, Roswell	40.89	113	⇑P		P	20 03 09.8 +1.9
	baz=41						
X27A	F and S Farms,	40.94	111	⇑P		P	20 03 10.5 +2.1
	baz=41						
220A	Playas Peak, P	41.09	119	⇑P		P	20 03 11.7 +2.1
	baz=41						
V31A	Spring Creek L	41.38	107	⇓P		P	20 03 13.1 +1.3
	baz=41						
Y27A	Causey	41.56	112	⇑P		P	20 03 15.3 +1.9
	baz=41						
124A	Stringfield Ra	41.63	115	⇑P		P	20 03 16.4 +2.3
	baz=42						
MSTX	Muleshoe	41.65	111	⇑P		P	20 03 15.6 +1.4
	baz=42						
Z26A	Caprock	41.75	113	⇑P		P	20 03 16.6 +1.6
	baz=42						
Z27A	Tatum	42.03	112	⇓P		P	20 03 18.9 +1.6
	baz=42						
X30A	Coker Ranch, T	42.05	109	⇑P		P	20 03 18.4 +1.0
	baz=42						
Z29A	Hungry Hill Ra	42.72	111	⇑P		P	20 03 24.1 +1.4
	baz=43						
325A	Bean Ranch, Si	42.99	116	⇑P		P	20 03 27.6 +2.5
	baz=43						
425A	Indio Mountain	43.50	116	⇑P		P	20 03 31.4 +2.3
	baz=43						
329A	Wagon Wheel Ra	44.13	112	⇑P		P	20 03 34.9 +0.8
	baz=44						
232A	Coleman	44.77	110	⇓P		P	20 03 39.9 +0.7
	baz=45						
MIAR	Mount Ida	45.17	101	*e*pP		P	20 03 41.6 -0.6
TXAR	Lajitas Array	45.31	116	P		P	20 03 44.8 +1.3
TXAR	Lajitas Array	45.31	116	P		P	20 03 44.8 +1.3
	1.8nm,0.8s,baz=343,slow=8.9,SNR=3.5						
MDJ	Mudanjiang	46.92	286	P		P	20 03 57.0 +1.2
MDJ				pmax	pmax		
	comp=Z,4.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,110nm,6.0s						
KEV	Kevo	47.36	1	*e*p		P	20 03 57.6 -1.2
	comp=Z,1.9nm,0.3s						
ARCES	ARCESS Array B	47.57	2	P		P	20 03 59.6 -0.9
ARCES				PcP		PcP	20 05 28.6 +0.6
ARCES	ARCESS Array B	47.57	2	P		P	20 03 59.6 -0.9
	comp=Z,1.2nm,0.5s,baz=4.0,slow=8.0,SNR=35						
ARCES				PcP		PcP	20 05 28.6 +0.6
	comp=Z,0.5nm,0.5s,baz=353,slow=4.0,SNR=6.8						
ARE0	ARCESS Array S	47.57	2	*e*P		P	20 03 58.8 -1.6
KSRS	Korea Array	53.47	282	P		P	20 04 45.5 +0.4
	comp=Z,1.5nm,0.6s,baz=28,slow=7.2,SNR=9.6						
KSAR	Wonju Array Be	53.50	282	P		P	20 04 45.5 +0.2
SONM	Songino Array	53.74	305	P		P	20 04 47.7 +0.5
SONM	Songino Array	53.74	305	P		P	20 04 47.7 +0.5
	comp=Z,2.2nm,0.8s,baz=42,slow=6.6,SNR=12						
KAF	Kangasniemi	55.03	2	*e*p		P	20 04 55.4 -0.6
	comp=Z,1.5nm,0.4s						
NB2	NORSAR Subarra	55.38	10	P		P	20 04 57.3 -1.4
	comp=Z,1.0nm,0.8s,baz=353,slow=6.9						
NOA	NORSAR Array B	55.38	10	P		P	20 04 57.4 -1.3
NOA	NORSAR Array B	55.38	10	P		P	20 04 57.4 -1.3
	comp=Z,0.6nm,0.7s,baz=352,slow=7.1,SNR=4.7						
ZAA0	Zalesovo Array	55.41	324	*e*P		P	20 04 57.8 -1.2
ZALV	Zalesovo Beam	55.41	324	P		P	20 04 58.0 -0.9
ZALV	Zalesovo Beam	55.41	324	P		P	20 04 58.0 -0.9
	comp=Z,2.8nm,0.6s,baz=28,slow=6.7,SNR=14						
FINES	FINESS Array B	55.70	2	P		P	20 04 59.9 -0.9
FINES	FINESS Array B	55.70	2	P		P	20 04 59.9 -0.9
	comp=Z,1.6nm,0.7s,baz=15,slow=8.3,SNR=12						
KURK	Kurchatov	59.96	326	P		P	20 05 30.2 -0.5
KURK				PcP		PcP	20 06 16.4 +0.9
KURBB	Kurchatov Arra	60.07	326	P		P	20 05 30.2 -1.3
	comp=Z,1.6nm,0.5s,baz=26,slow=7.0,SNR=15						
KURBB				PcP		PcP	20 06 16.4 +0.5
	comp=Z,0.6nm,0.5s,baz=29,slow=4.2,SNR=4.3						
MKAR	Makanchi Array	62.57	322	P		P	20 05 47.0 -1.4
MKAR	Makanchi Array	62.57	322	P		P	20 05 47.0 -1.4
	comp=Z,2.1nm,0.6s,baz=43,slow=6.6,SNR=30						
GTA	Gaotai	63.42	305	*e*P		P	20 05 54.1 -0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CLL	Collm	65.18	11	*e*P		P	20 06 04.0 -1.3
AKASG	Malin Array Be	66.49	360	P		P	20 06 12.7 -1.0
AKASG	Malin Array Be	66.49	360	P		P	20 06 12.7 -1.0
	comp=Z,2.7nm,0.5s,baz=360,slow=5.9,SNR=20						
GERES	GERESS Array B	67.68	11	P		P	20 06 19.1 -2.3
GERES	GERESS Array B	67.68	11	P		P	20 06 19.1 -2.3
	comp=Z,0.2nm,0.4s,baz=33,slow=3.8,SNR=3.0						
KKAR	Karatay Array	69.06	329	*e*P		P	20 06 28.6 -1.4
	comp=Z,0.9nm,0.7s						
KBZ	Khabaz	72.89	350	P		P	20 06 53.1 +0.1
KBZ	Khabaz	72.89	350	P		P	20 06 53.1 +0.1
	comp=Z,0.9nm,0.5s,baz=1.0,slow=5.4,SNR=4.1						
BRTR	Keskin Array B	77.40	356	P		P	20 07 18.9 -0.2
BRTR	Keskin Array B	77.40	356	P		P	20 07 18.9 -0.2
	comp=Z,0.6nm,0.4s,baz=3.7,slow=3.7,SNR=4.5						
BOSA	Boshof	145.36	6	PKPbc		PKPdf	20 15 01.2 +0.6
BOSA	Boshof	145.36	6	PKPbc		PKPdf	20 15 01.2 +0.6
	comp=Z,5.5nm,0.9s,baz=8.8,slow=6.3,SNR=4.3						

WEL 07 20:00:20.4±0.3, 45°.88S×165°.78E, h12km, ML3.7/14, 1C, Error ellipse: s-maj=2.9km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.04	68	P*	Pb	20 00 39.0	-1.4
DCZ				AML	AML	20 00 52.4	
DCZ				AML	AML	20 00 52.4	
DCZ				AML	AML	20 00 53.7	
DCZ				AML	AML	20 00 53.7	
WHZ	Wether Hill Ro	1.52	91	PN	Pn	20 00 46.5	-0.9
WHZ				AML	AML	20 01 07.8	
WHZ				AML	AML	20 01 13.7	
MLZ	Mavora Lakes	1.76	73	PN	Pn	20 00 50.3	-0.6
MLZ				SN	Sn	20 01 12.4	-0.8
MLZ				AML	AML	20 01 15.2	
APZ	The Paps	1.81	123	⇑PN	Pn	20 00 50.4	-1.0
APZ				SN	Sn	20 01 12.2	-2.1
MSZ	Milford Sound	1.94	52	PN	Pn	20 00 54.0	+0.9
MSZ				AML	AML	20 01 33.9	
MSZ				AML	AML	20 01 37.4	
SYZ	Scrubby Hill	2.43	107	PN	Pn	20 00 59.6	-0.3
SYZ				SN	Sn	20 01 28.8	-0.6
WKZ	Wanaka	2.51	67	PN	Pb	20 01 03.7	-1.8
WKZ				AML	AML	20 01 36.6	
WKZ				AML	AML	20 01 46.7	
EAZ	Earnscleugh	2.56	77	PN	Pn	20 01 02.5	+0.7
EAZ				AML	AML	20 01 40.1	
EAZ				AML	AML	20 01 41.5	
EAZ				AML	AML	20 02 17.7	
EAZ				AML	AML	20 02 17.8	
TUZ	Tuapeka	2.69	93	PN	Pn	20 01 03.5	0.0
TUZ				AML	AML	20 01 40.0	
TUZ				AML	AML	20 01 58.1	
JCZ	Jackson Bay	2.78	51	PN	Pn	20 01 05.6	+0.7
JCZ				AML	AML	20 01 58.6	
JCZ				AML	AML	20 02 00.8	
LBZ	Lake Benmore	3.46	66	PN	Pn	20 01 13.9	-0.2
ODZ	Otahua Downs	3.52	78	PN	Pn	20 01 14.0	-1.0

*ISCJB **07** 20:04:10.0±0.6, 23°.4S±0°.1×177°.0W±0°.1, h86km, mb4.5/9, Error ellipse: s-maj=20.6km s-min=7.7km az=146.0*
*NEIC **07** 20:04:13.7±1.8, 23°.52S×176°.59W, h136km±20km, mb4.9/5, Error ellipse: s-maj=26.8km s-min=13.4km az=124.0*
*IDC **07** 20:04:18.7±4.7, 23°.02S×176°.90W, h164km±37km, mb4.0/7, mb1 4.1/8, mb1mx3.6/23, mbtmp4.1/8, Error ellipse: s-maj=59.5km s-min=19.9km az=144.0*
*AUST **07** 20:04:30.4, 21°.92S×177°.06W, h300km*
ISC 07 20:04:11.2±0.6, 23°.6S±0°.1×176°.9W±0°.1, h86km, n40, σ1°65/47, mb4.4/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.91	57	S	Sn	20 07 33.3	+1.8
	baz=7.3,SNR=6.3						
AFI	Afiamalu	10.77	28	*e*Pn	Pn	20 06 42.2	-0.4
	36nm,0.7s						
AFI				*e*Sn	Sn	20 08 22.7	-19
AFI	Afiamalu	10.77	28	P	Pn	20 06 42.2	-0.4
	6.8nm,0.3s,baz=217,slow=10,SNR=5.7						
AFI				S	Sn	20 08 26.5	-15
	5.9nm,0.3s,baz=18,slow=19,SNR=3.6						
DZM	Mont Dzumac	15.39	272	P	P	20 07 53.4	+6.9
DZM	Mont Dzumac	15.39	272	P	P	20 07 53.4	+6.9
	0.6nm,0.3s,baz=82,slow=15,SNR=16						
URZ	Urewera	15.52	198	P	Pn	20 07 45.9	+0.9
URZ				S	S	20 10 44.7	-1.8
URZ	Urewera	15.52	198	P	Pn	20 07 45.9	+0.9
	6.4nm,0.3s,baz=165,slow=4.2,SNR=39						
URZ				S	S	20 10 44.7	-1.8
	0.8nm,0.3s,baz=70,slow=22,SNR=8.4						
CMSA	Cobar Meteorol	33.94	248	P	P	20 10 49.2	+2.8
	baz=34,SNR=7.6						
CTA	Charters Tower	34.28	269	P	P	20 10 50.7	+1.3
CTA	Charters Tower	34.28	269	P	P	20 10 50.7	+1.3
	9.7nm,0.4s,baz=96,slow=12,SNR=23						
CTAO	Charters Tower	34.28	269	*e*P	P	20 10 50.4	+1.0
	13nm,0.5s						
MTSU	Mount Surprise	36.52	271	P	P	20 11 09.4	+0.8
	baz=36,SNR=9.8						
PMG	Port Moresby	37.06	286	*e*P	P	20 11 12.2	-1.0
	32nm,0.9s						
PMG	Port Moresby	37.06	286	P	P	20 11 12.5	-0.7
	22nm,0.8s,baz=139,slow=8.3,SNR=4.5						
STKA	Stephens Creek	37.45	248	P	P	20 11 18.6	+2.2
STKA	Stephens Creek	37.45	248	P	P	20 11 18.6	+2.2
	0.9nm,0.4s,baz=102,slow=13,SNR=8.0						
STKA	Stephens Creek	37.45	248	P	P	20 11 18.9	+2.5
	baz=38,SNR=7.8						
AS31	Alice Springs	44.85	260	*e*P	P	20 12 17.3	+0.1
AS31				*e*pP	pP	20 12 49.4	+11
ASAR	Alice Springs	44.85	260	P	P	20 12 17.6	+0.4
ASAR				PcP	PcP	20 13 56.3	-1.4
ASAR	Alice Springs	44.85	260	P	P	20 12 17.6	+0.4
	2.7nm,0.4s,baz=97,slow=7.2,SNR=131						
ASAR				PcP	PcP	20 13 56.3	-1.4
	0.8nm,0.6s,baz=106,slow=4.0,SNR=6.8						
WRAB	Tennant Creek	45.22	265	*e*P	P	20 12 18.7	-1.4
	4.7nm,1.0s						
WRA	Warramunga Arr	45.23	265	P	P	20 12 19.2	-1.0
WRA				PcP	PcP	20 13 57.3	-1.7
WRA	Warramunga Arr	45.23	265	P	P	20 12 19.2	-1.0
	1.3nm,0.4s,baz=101,slow=8.3,SNR=144						
WRA				PcP	PcP	20 13 57.3	-1.7
	0.6nm,0.7s,baz=99,slow=3.0,SNR=3.8						
KNRA	Kununurra	51.49	268	P	P	20 13 07.7	-0.7
	baz=51,SNR=4.8						
FITZ	Fitzroy Crossi	53.65	264	P	P	20 13 24.1	-0.2
FITZ	Fitzroy Crossi	53.65	264	P	P	20 13 24.1	-0.2
	1.6nm,0.6s,baz=102,slow=4.4,SNR=9.2						
FITZ	Fitzroy Crossi	53.65	264	P	P	20 13 24.4	+0.2
	baz=54,SNR=5.7						
NWAO	Narrogin (SRO)	57.92	245	P	P	20 13 55.4	+0.8
NWAO	Narrogin (SRO)	57.92	245	P	P	20 13 55.4	+0.8
	6.3nm,1.0s,baz=125,slow=12,SNR=3.2						
MBWA	Marble Bar	58.19	259	P	P	20 13 55.0	-1.7
	4.0nm,0.8s						
BLDU	Ballidu	58.75	247	P	P	20 14 00.4	0.0
	baz=59,SNR=5.0						
MORW	Morawa	59.62	249	P	P	20 14 06.6	+0.1
	baz=60,SNR=7.6						
ARCES	ARCESS Array B	132.09	350	PKP	PKPdf	20 23 11.3	-2.8
ARCES	ARCESS Array B	132.09	350	PKP	PKPdf	20 23 11.3	-2.8
	0.7nm,0.8s,baz=354,slow=1.2,SNR=5.2						
AKASG	Malin Array Be	146.14	330	PKPbc	PKPdf	20 23 37.2	-3.0
AKASG	Malin Array Be	146.14	330	PKPbc	PKPdf	20 23 37.2	-3.0
	1.9nm,0.4s,baz=38,slow=3.9,SNR=12						
BRTR	Keskin Array B	149.57	309	PKPbc	PKPdf	20 23 47.5	+1.1
BRTR				PKPab	PKiKP	20 23 52.5	+0.4
BRTR	Keskin Array B	149.57	309	PKPbc	PKPdf	20 23 47.5	+1.1
	1.4nm,0.7s,baz=139,slow=4.8,SNR=8.7						
BRTR				PKPab	PKiKP	20 23 52.5	+0.4
	0.6nm,0.6s,baz=55,slow=3.5,SNR=3.9						
CLL	Collm	151.25	347	*e*PKPbc	PKPdf	20 23 51.0	+2.6
	comp=Z,4.0nm,1.0s						
CLL				*e*PKPab	PKiKP	20 23 58.0	+3.1
BRG	Berggiesshubel	151.45	346	*e*P	PKPbc	20 23 52.5	-2.4
	comp=Z,3.1nm,0.8s						

*IDC **07** 20:08:47.9±10.0, 5°.32S×128°.87E, h266km±106km, mb3.0/1, mb1 3.3/5, mb1mx2.9/22, mbtmp3.1/5, Error ellipse: s-maj=120.8km s-min=21.7km az=49.0*
*ISCJB **07** 20:08:52.8±0.9, 5°.86S±0°.09×128°.6E±0°.1, h322km, mb3.0/1, Error ellipse: s-maj=16.2km s-min=8.5km az=37.1*
*AUST **07** 20:08:59.5±6.1, 6°.47S×128°.91E, h226km, Error ellipse: s-maj=2.6km s-min=1.3km az=318.0*
ISC 07 20:08:53.4±1.0, 5°.86S±0°.07×128°.51E±0°.08, h322km, n11, σ2°64/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.73	52	P	Pn	20 10 13.0	+4.1
	baz=4.9,SNR=13						
FAKI				S	S	20 11 08.3	-1.2
	baz=4.9,SNR=4.1						
SOEI	Soe	5.72	227	P	Pn	20 10 21.4	+1.2
	baz=5.6,SNR=5.7						
BATI	Baumata	6.46	228	P	Pn	20 10 30.1	+1.3
	11nm,0.3s,baz=99,slow=19,SNR=24						
BATI				S	S	20 11 41.5	-4.5
	0.9nm,0.3s,baz=270,slow=20,SNR=2.0						
MTN	Manton Dam	7.41	160	P	Pn	20 10 38.2	-1.9
	baz=6.7,SNR=5.9						
MTN				S	S	20 11 56.9	-10
	baz=6.7,SNR=4.6						
KDU	Kakadu	7.83	150	S	S	20 12 06.4	-10
	baz=7.1,SNR=3.6						
KNRA	Kununurra	9.76	179	P	Pn	20 11 07.3	-1.2
	baz=9.2,SNR=4.8						
FITZ	Fitzroy Crossi	12.49	193	P	P	20 11 44.1	+2.3
	0.2nm,0.3s,baz=13,slow=14,SNR=9.6						
FITZ				S	S	20 13 57.3	-2.7
	0.1nm,0.3s,baz=254,slow=18,SNR=2.0						
FITZ	Fitzroy Crossi	12.49	193	P	P	20 11 44.7	+2.9
	baz=12,SNR=6.0						
WRA	Warramunga Arr	15.10	159	P	Pn	20 12 10.2	-2.2
	0.2nm,0.3s,baz=339,slow=11,SNR=16						
WRA				S	S	20 14 55.9	+1.7
	0.0nm,0.3s,baz=337,slow=20,SNR=3.0						
ASAR	Alice Springs	18.45	164	P	P	20 12 50.0	+3.2
	0.4nm,0.3s,baz=344,slow=11,SNR=17						
CMAR	Chiang Mai Arr	37.87	310	P	P	20 15 39.2	-1.4
	0.3nm,0.3s,baz=140,slow=10,SNR=3.0						

*IDC **07** 20:09:51.9±1.3, 43°.34N×105°.14W, h0km, mb3.8/6, mb1 3.8/11, mb1mx3.6/30, mbtmp3.7/11, ML4.1/4, Error ellipse: s-maj=33.1km s-min=9.0km az=154.0*
*ISCJB **07** 20:09:54.0±0.1, 43°.74N±0°.01×105°.33W±0°.02, h0km, mb3.9/6, Error ellipse: s-maj=1.7km s-min=1.6km az=173.3*
*NEIC **07** 20:09:54.7±0.4, 43°.80N×105°.23W, h0km, ML3.4, Error ellipse: s-maj=5.6km s-min=4.5km az=151.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 07 20:09:54.2±0.5, 43°.74N±0°.02×105°.30W±0°.02, h0km, n373, σ1°08/404, mb3.9/6, 180C-122D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.25	333	⇓P	Pg	20 10 00.7	+1.7
	baz=0.2,SNR=218						
I23A	Meade Ranch, G	0.25	333	⇓P	Pg	20 10 00.7	+1.7
	baz=0.2,SNR=218						
J23A	Dilts Ranch, B	0.38	209	P	Pg	20 10 02.2	+0.8
	baz=0.5,SNR=356						
J23A				⇑S	Sg	20 10 06.1	-0.2
	baz=0.5						
J23A	Dilts Ranch, B	0.38	209	P	Pg	20 10 02.2	+0.8
	baz=0.5,SNR=356						
J23A				⇑S	Sg	20 10 06.1	-0.2
	baz=0.5						
I24A	Kuemmerle Ranc	0.51	76	P	Pg	20 10 05.0	+1.2
	baz=0.4,SNR=378						
I24A				⇓S	Sg	20 10 12.4	+2.0
	baz=0.4						
I24A	Kuemmerle Ranc	0.51	76	P	Pg	20 10 05.0	+1.2
	baz=0.4,SNR=378						
I24A				⇓S	Sg	20 10 12.4	+2.0
	baz=0.4						
J24A	Dixon Ranch, L	0.62	131	P	Pg	20 10 06.7	+0.7
	baz=0.6,SNR=64						
J24A	Dixon Ranch, L	0.62	131	P	Pg	20 10 06.7	+0.7
	baz=0.6,SNR=64						
H23A	Clabaugh Cattl	0.83	355	P	Pg	20 10 10.8	+0.7
	baz=0.8,SNR=83						
H23A	Clabaugh Cattl	0.83	355	P	Pg	20 10 10.8	+0.7
	baz=0.8,SNR=83						
I22A	9 Mile Ranch,	0.87	281	P	Pg	20 10 11.3	+0.5
	baz=0.9,SNR=940						
I22A	9 Mile Ranch,	0.87	281	P	Pg	20 10 11.3	+0.5
	baz=0.9,SNR=940						
J22A	Midwest	0.91	250	P	Pg	20 10 11.5	-0.2
	baz=1.0,SNR=327						
J

G23A **Biddle** 1.47 358 ⇑P Pn 20 10 21.8 -0.2
baz=1.4,SNR=470
H25A **Fruitdale** 1.51 54 ⇓P Pn 20 10 23.0 +0.3
baz=1.4,SNR=61
H25A ⇓S Sn 20 10 44.6 +1.6
baz=1.4
H25A **Fruitdale** 1.51 54 ⇓P Pn 20 10 23.0 +0.3
baz=1.4,SNR=61
H25A ⇓S Sn 20 10 44.6 +1.6
baz=1.4
K25A **Mack Ranch, Ha** 1.54 136 ⇑P Pb 20 10 23.7 +0.1
baz=1.5,SNR=139
K25A **Mack Ranch, Ha** 1.54 136 ⇑P Pb 20 10 23.7 +0.1
baz=1.5,SNR=139
H21A **Big Horn, Sher** 1.54 306 ⇑P Pn 20 10 23.4 +0.4
baz=1.5,SNR=431
H21A **Big Horn, Sher** 1.54 306 ⇑P Pn 20 10 23.4 +0.4
baz=1.5,SNR=431
J21A **Lysite** 1.61 257 ⇑P Pn 20 10 23.4 -0.6
baz=1.7,SNR=188
J21A ⇓S Sn 20 10 45.9 +0.3
baz=1.7
J21A **Lysite** 1.61 257 ⇑P Pn 20 10 23.4 -0.6
baz=1.7,SNR=188
J21A ⇓S Sn 20 10 45.9 +0.3
baz=1.7
G22A **Birney** 1.64 335 ⇓P Pn 20 10 25.0 +0.6
baz=1.6,SNR=354
G22A **Birney** 1.64 335 ⇓P Pn 20 10 25.0 +0.6
baz=1.6,SNR=354
L23A **Garrett** 1.65 190 ⇓P Pn 20 10 24.4 -0.2
baz=1.7,SNR=658
L23A ⇑Sb Sg 20 10 48.3 +1.2
baz=1.7
L23A **Garrett** 1.65 190 ⇓P Pn 20 10 24.4 -0.2
baz=1.7,SNR=658
L23A ⇑Sb Sg 20 10 48.3 +1.2
baz=1.7
J26A **Sides Ranch, S** 1.68 104 ⇑P Pn 20 10 25.5 +0.6
baz=1.6,SNR=68
J26A **Sides Ranch, S** 1.68 104 ⇑P Pn 20 10 25.5 +0.6
baz=1.6,SNR=68
L24A **Wheatland** 1.71 171 ⇑P Pn 20 10 25.8 +0.4
baz=1.8,SNR=45
L24A ⇑S Sb 20 10 49.2 +0.4
baz=1.8
L24A **Wheatland** 1.71 171 ⇑P Pn 20 10 25.8 +0.4
baz=1.8,SNR=45
L24A ⇑S Sb 20 10 49.2 +0.4
baz=1.8
G24A **Alzada** 1.71 21 ⇓P Pn 20 10 26.4 +1.0
baz=1.6,SNR=25
G24A ⇓Sb Sg 20 10 50.8 +1.5
baz=1.6
G24A **Alzada** 1.71 21 ⇓P Pn 20 10 26.4 +1.0
baz=1.6,SNR=25
G24A ⇓Sb Sg 20 10 50.8 +1.5
baz=1.6
K21A **Alcova** 1.80 233 P Pn 20 10 27.2 +0.5
baz=1.9,SNR=506
K21A ⇓S Sn 20 10 51.3 +0.9
baz=1.9
K21A **Alcova** 1.80 233 P Pn 20 10 27.2 +0.5
baz=1.9,SNR=506
K21A ⇓S Sn 20 10 51.3 +0.9
baz=1.9
L25A **Engebretsen Ra** 1.86 148 ⇑P Pb 20 10 28.9 -0.3
baz=1.9,SNR=249
L25A **Engebretsen Ra** 1.86 148 ⇑P Pb 20 10 28.9 -0.3
baz=1.9,SNR=249
K26A **Motz Farm, Whi** 1.87 123 ⇓P Pn 20 10 28.4 +0.9
baz=1.9,SNR=30
K26A ⇑S Sb 20 10 53.0 -0.1
baz=1.9
K26A **Motz Farm, Whi** 1.87 123 ⇓P Pn 20 10 28.4 +0.9
baz=1.9,SNR=30
K26A ⇑S Sb 20 10 53.0 -0.1
baz=1.9
L22A **Ellis Ranch, M** 1.90 206 ⇑P Pn 20 10 28.5 +0.5
baz=2.0,SNR=53
L22A ⇑S Sn 20 10 53.6 +0.9
baz=2.0
L22A **Ellis Ranch, M** 1.90 206 ⇑P Pn 20 10 28.5 +0.5
baz=2.0,SNR=53
L22A ⇑S Sn 20 10 53.6 +0.9
baz=2.0
F23A **Volborg** 1.99 358 P Pn 20 10 30.1 +0.9
baz=1.9,SNR=237
F23A **Volborg** 1.99 358 P Pn 20 10 30.1 +0.9
baz=1.9,SNR=237
G25A **Newell** 1.99 42 ⇑P Pb 20 10 30.7 -0.6
baz=1.9,SNR=46
G25A ⇑S Sb 20 10 56.5 -0.1
baz=1.9
G25A **Newell** 1.99 42 ⇑P Pb 20 10 30.7 -0.6
baz=1.9,SNR=46
G25A ⇑S Sb 20 10 56.5 -0.1
baz=1.9
G21A **Lodge Grass** 2.02 318 ⇑P Pn 20 10 30.3 +0.7
baz=2.0,SNR=54
G21A ⇑Sb Sg 20 10 59.7 +0.7
baz=2.0
G21A **Lodge Grass** 2.02 318 ⇑P Pn 20 10 30.3 +0.7
baz=2.0,SNR=54
G21A ⇑Sb Sg 20 10 59.7 +0.7
baz=2.0
I20A **Worland** 2.06 277 P Pn 20 10 31.2 +1.1
baz=2.1,SNR=544
I20A **Worland** 2.06 277 P Pn 20 10 31.2 +1.1
baz=2.1,SNR=544
J20A **Shoshoni** 2.06 260 ⇓Pb Pb 20 10 32.4 -0.1
baz=2.1,SNR=86
J20A **Shoshoni** 2.06 260 ⇓Pb Pb 20 10 32.4 -0.1
baz=2.1,SNR=86
H20A **Greybull** 2.08 292 ⇑P Pn 20 10 30.9 +0.5
baz=2.1,SNR=89
H20A ⇑S Sn 20 10 58.1 +0.9
baz=2.1
H20A **Greybull** 2.08 292 ⇑P Pn 20 10 30.9 +0.5
baz=2.1,SNR=89
H20A ⇑S Sn 20 10 58.1 +0.9
baz=2.1
F24A **Ekalaka** 2.20 16 ⇓P Pn 20 10 33.2 +1.2
baz=2.1
F24A **Ekalaka** 2.20 16 ⇓P Pn 20 10 33.2 +1.2
baz=2.1
M24A **Cheyenne** 2.29 171 ⇑P Pn 20 10 35.0 +1.6
baz=2.4,SNR=210
M24A ⇓Sb Sg 20 11 07.3 -0.5
baz=2.4
M24A **Cheyenne** 2.29 171 ⇑P Pn 20 10 35.0 +1.6
baz=2.4,SNR=210
M24A ⇓Sb Sg 20 11 07.3 -0.5
baz=2.4
L21A **Rawlins** 2.33 221 ⇑P Pn 20 10 35.1 +1.1
baz=2.4,SNR=74
L21A **Rawlins** 2.33 221 ⇑P Pn 20 10 35.1 +1.1
baz=2.4,SNR=74
L26A **Underwood Farm** 2.36 135 ⇑P Pn 20 10 35.8 +1.5
baz=2.4,SNR=7.8
L26A **Underwood Farm** 2.36 135 ⇑P Pn 20 10 35.8 +1.5
baz=2.4,SNR=7.8
I27A **Quinn** 2.37 81 ⇓P Pn 20 10 36.4 +2.0
baz=2.3,SNR=56
I27A ⇑Sb Sg 20 11 10.1 -0.3
baz=2.3
I27A **Quinn** 2.37 81 ⇓P Pn 20 10 36.4 +2.0
baz=2.3,SNR=56
I27A ⇑Sb Sg 20 11 10.1 -0.3
baz=2.3
PHWY **Pilot Hill** 2.44 183 *e*Pn Pn 20 10 36.3 +0.8
F21A **Absaloka Mine,** 2.46 329 ⇑P Pn 20 10 36.0 +0.4
baz=2.4
F21A **Absaloka Mine,** 2.46 329 ⇑P Pn 20 10 36.0 +0.4
baz=2.4
K27A **Flueckinger Fa** 2.47 114 ⇑P Pn 20 10 37.4 +1.6
baz=2.4,SNR=28
K27A **Flueckinger Fa** 2.47 114 ⇑P Pn 20 10 37.4 +1.6
baz=2.4,SNR=28
K20A **Yellowstone Ra** 2.47 245 ⇑P Pn 20 10 37.0 +1.2
baz=2.5,SNR=34
K20A **Yellowstone Ra** 2.47 245 ⇑P Pn 20 10 37.0 +1.2
baz=2.5,SNR=34
M25A **Palm-Egli Farm** 2.48 158 ⇑P Pn 20 10 37.7 +1.8
baz=2.5,SNR=7.6
M25A **Palm-Egli Farm** 2.48 158 ⇑P Pn 20 10 37.7 +1.8
baz=2.5,SNR=7.6
RWWY **Rawlins** 2.48 215 *e*Pn Pn 20 10 37.7 +1.6

G26A **Maurine** 2.48 50 ⇓P Pn 20 10 37.7 +1.8
baz=2.4,SNR=38
G26A ⇑Sb Sg 20 11 13.4 -0.6
baz=2.4
G26A **Maurine** 2.48 50 ⇓P Pn 20 10 37.7 +1.8
baz=2.4,SNR=38
G26A ⇑Sb Sg 20 11 13.4 -0.6
baz=2.4
M22A **Cedar Creek Ra** 2.52 203 ⇑P Pn 20 10 38.3 +1.7
baz=2.6,SNR=85
M22A **Cedar Creek Ra** 2.52 203 ⇑P Pn 20 10 38.3 +1.7
baz=2.6,SNR=85
F25A **Bowman** 2.55 30 ⇑P Pn 20 10 38.9 +1.9
baz=2.5,SNR=53
F25A **Bowman** 2.55 30 ⇑P Pn 20 10 38.9 +1.9
baz=2.5,SNR=53
G20A **Bridger** 2.56 306 P Pn 20 10 37.2 +0.2
baz=2.6,SNR=300
G20A **Bridger** 2.56 306 P Pn 20 10 37.2 +0.2
baz=2.6,SNR=300
M21A **Separation Pea** 2.61 216 ⇑P Pn 20 10 39.9 +1.9
baz=2.7,SNR=202
M21A **Separation Pea** 2.61 216 ⇑P Pn 20 10 39.9 +1.9
baz=2.7,SNR=202
I19A **Meeteetse** 2.69 278 ⇓P Pn 20 10 40.3 +1.4
baz=2.7,SNR=72
I19A **Meeteetse** 2.69 278 ⇓P Pn 20 10 40.3 +1.4
baz=2.7,SNR=72
E22A **Miles City** 2.74 351 ⇓P Pn 20 10 39.7 +0.2
baz=2.7,SNR=17
E22A **Miles City** 2.74 351 ⇓P Pn 20 10 39.7 +0.2
baz=2.7,SNR=17
K19A **Absolon Red Bu** 2.74 252 ⇑P Pn 20 10 40.6 +1.0
baz=2.8,SNR=50
K19A **Absolon Red Bu** 2.74 252 ⇑P Pn 20 10 40.6 +1.0
baz=2.8,SNR=50
E23A **Ismay** 2.76 360 P Pn 20 10 40.5 +0.7
baz=2.7,SNR=45
E23A **Ismay** 2.76 360 P Pn 20 10 40.5 +0.7
baz=2.7,SNR=45
J19A **Crowheart** 2.77 262 ⇓P Pn 20 10 42.0 +2.1
baz=2.8,SNR=85
J19A **Crowheart** 2.77 262 ⇓P Pn 20 10 42.0 +2.1
baz=2.8,SNR=85
H19A **Powell** 2.81 291 ⇓P Pn 20 10 41.2 +0.8
baz=2.8,SNR=30
H19A **Powell** 2.81 291 ⇓P Pn 20 10 41.2 +0.8
baz=2.8,SNR=30
F26A **Lodgepole** 2.83 41 ⇑P Pn 20 10 41.5 +0.9
baz=2.7
F26A **Lodgepole** 2.83 41 ⇑P Pn 20 10 41.5 +0.9
baz=2.7
N23A **Red Feather La** 2.88 190 ⇑P Pn 20 10 42.9 +1.3
baz=3.0,SNR=77
N23A **Red Feather La** 2.88 190 ⇑P Pn 20 10 42.9 +1.3
baz=3.0,SNR=77
F20A **Billings** 2.89 317 ⇓P Pn 20 10 41.7 +0.1
baz=2.9,SNR=14
F20A **Billings** 2.89 317 ⇓P Pn 20 10 41.7 +0.1
baz=2.9,SNR=14
E24A **Baker** 2.91 14 ⇑P Pn 20 10 42.8 +1.0
baz=2.8,SNR=55
E24A **Baker** 2.91 14 ⇑P Pn 20 10 42.8 +1.0
baz=2.8,SNR=55
G27A **Dupree** 2.92 55 ⇑P Pn 20 10 43.1 +1.2
baz=2.8,SNR=15
G27A **Dupree** 2.92 55 ⇑P Pn 20 10 43.1 +1.2
baz=2.8,SNR=15
N24A **Carr** 2.92 174 ⇑P Pn 20 10 43.4 +1.3
baz=3.0,SNR=17
N24A **Carr** 2.92 174 ⇑P Pn 20 10 43.4 +1.3
baz=3.0,SNR=17
J28A **Allard Ranch,** 2.97 95 ⇑P Pn 20 10 45.4 +2.7
baz=2.9,SNR=13
J28A **Allard Ranch,** 2.97 95 ⇑P Pn 20 10 45.4 +2.7
baz=2.9,SNR=13
K28A **Ten Mile Ranch** 3.05 108 ⇑P Pn 20 10 45.4 +1.7
baz=3.0,SNR=6.2
K28A **Ten Mile Ranch** 3.05 108 ⇑P Pn 20 10 45.4 +1.7
baz=3.0,SNR=6.2
N25A **Grover** 3.06 162 ⇑P Pn 20 10 45.2 +1.3
baz=3.1
N25A **Grover** 3.06 162 ⇑P Pn 20 10 45.2 +1.3
baz=3.1
E21A **Keefer Ranch,** 3.07 337 P Pn 20 10 43.8 -0.3
baz=3.0,SNR=12
E21A **Keefer Ranch,** 3.07 337 P Pn 20 10 43.8 -0.3
baz=3.0,SNR=12
E25A **Miller Ranch,** 3.08 25 ⇑P Pn 20 10 46.1 +2.0
baz=3.0,SNR=13
E25A **Miller Ranch,** 3.08 25 ⇑P Pn 20 10 46.1 +2.0
baz=3.0,SNR=13
M27A **Reverse DX Ran** 3.08 135 ⇓Pg Pg 20 10 54.0 +0.8
baz=3.1
M27A **Reverse DX Ran** 3.08 135 ⇓Pg Pg 20 10 54.0 +0.8
baz=3.1
M20A **Sweetwater, Wa** 3.09 224 ⇑P Pn 20 10 45.6 +1.1
baz=3.2,SNR=47
M20A **Sweetwater, Wa** 3.09 224 ⇑P Pn 20 10 45.6 +1.1
baz=3.2,SNR=47
RLMT **Red Lodge** 3.16 297 *e*Pn Pn 20 10 45.6 +0.2
F27A **Lemmon** 3.17 46 ⇑Pb Pb 20 10 52.2 +0.9
baz=3.1
F27A **Lemmon** 3.17 46 ⇑Pb Pb 20 10 52.2 +0.9
baz=3.1
H28A **Mission Ridge** 3.22 72 ⇑Pb Pb 20 10 53.2 +0.9
baz=3.1
H28A **Mission Ridge** 3.22 72 ⇑Pb Pb 20 10 53.2 +0.9
baz=3.1
BW06 **Boulder Array** 3.26 254 *e*Pn Pn 20 10 47.3 +0.6
PDAR **Pinedale Array** 3.26 254 Pn Pn 20 10 47.7 +1.0
PDAR Pg Pb 20 10 54.6 +1.6
PDAR Lg Lg 20 11 29.3
PDAR **Pinedale Array** 3.26 254 Pn Pn 20 10 47.7 +1.0
7.8nm,0.3s,baz=72,slow=16,SNR=99
PDAR Pg Pb 20 10 54.6 +1.6
18nm,0.3s,baz=69,slow=18,SNR=52
PDAR Lg Lg 20 11 29.3
10nm,0.3s,baz=68,slow=32,SNR=4.5
I18A **Diamond G Ranc** 3.27 271 ⇓P Pn 20 10 48.7 +1.7
baz=3.3
I18A **Diamond G Ranc** 3.27 271 ⇓P Pn 20 10 48.7 +1.7
baz=3.3
H18A **Shoshone NF, C** 3.27 288 ⇓P Pn 20 10 47.4 +0.4
baz=3.3,SNR=25
H18A **Shoshone NF, C** 3.27 288 ⇓P Pn 20 10 47.4 +0.4
baz=3.3,SNR=25
N26A **Koester Ranch,** 3.29 151 ⇑P Pn 20 10 48.1 +1.1
baz=3.3,SNR=11
N26A **Koester Ranch,** 3.29 151 ⇑P Pn 20 10 48.1 +1.1
baz=3.3,SNR=11
F19A **Roth Farm, Mol** 3.35 311 P Pn 20 10 48.9 +1.1
baz=3.3,SNR=158
F19A **Roth Farm, Mol** 3.35 311 P Pn 20 10 48.9 +1.1
baz=3.3,SNR=158
E26A **Carlson Angus** 3.40 35 ⇓P Pn 20 10 49.9 +1.5
baz=3.3
E26A **Carlson Angus** 3.40 35 ⇓P Pn 20 10 49.9 +1.5
baz=3.3
L19A **Farson** 3.40 243 ⇓P Pn 20 10 49.8 +1.2
baz=3.5,SNR=27
L19A **Farson** 3.40 243 ⇓P Pn 20 10 49.8 +1.2
baz=3.5,SNR=27
N21A **Black Mountain** 3.40 210 ⇑P Pn 20 10 50.4 +1.7
baz=3.5
N21A **Black Mountain** 3.40 210 ⇑P Pn 20 10 50.4 +1.7
baz=3.5
E20A **Meyer Farm, Mu** 3.42 325 P Pn 20 10 48.5 -0.3
baz=3.4,SNR=7.8
E20A **Meyer Farm, Mu** 3.42 325 P Pn 20 10 48.5 -0.3
baz=3.4,SNR=7.8
G28A **Parade** 3.42 65 ⇓P Pn 20 10 50.2 +1.4
baz=3.3
G28A **Parade** 3.42 65 ⇓P Pn 20 10 50.2 +1.4
baz=3.3
G18A **Lazy EL Ranch,** 3.43 299 ⇑P Pn 20 10 49.9 +0.8
baz=3.4,SNR=47
G18A **Lazy EL Ranch,** 3.43 299 ⇑P Pn 20 10 49.9 +0.8
baz=3.4,SNR=47
D23A **Lindsay** 3.44 1 P Pn 20 10 50.3 +1.2
baz=3.4,SNR=63
D23A **Lindsay** 3.44 1 P Pn 20 10 50.3 +1.2
baz=3.4,SNR=63
D22A **Cohagen** 3.47 350 ⇑P Pn 20 10 50.0 +0.6
baz=3.4,SNR=8.0
D22A **Cohagen** 3.47 350 ⇑P Pn 20 10 50.0 +0.6
baz=3.4,SNR=8.0
D21A **La Casta Ranch** 3.54 341 ⇑P Pn 20 10 50.9 +0.5
baz=3.5,SNR=5.1
D21A **La Casta Ranch** 3.54 341 ⇑P Pn 20 10 50.9 +0.5
baz=3.5,SNR=5.1
N27A **Anderson Farm,** 3.58 144 ⇑P Pn 20 10 52.1 +1.1
baz=3.6,SNR=18
N27A **Anderson Farm,** 3.58 144 ⇑P Pn 20 10 52.1 +1.1
baz=3.6,SNR=18
O24A **Longmont** 3.61 177 ⇓P Pn 20 10 52.8 +1.2
baz=3.7
O24A **Longmont** 3.61 177 ⇓P Pn 20 10 52.8 +1.2
baz=3.7
E19A **Rath Farm, Rou** 3.67 319 P Pn 20 10 52.5 +0.2
baz=3.7,SNR=81
E19A **Rath Farm, Rou** 3.67 319 P Pn 20 10 52.5 +0.2
baz=3.7,SNR=81
D25A **Fairfield** 3.69 22 ⇑P Pn 20 10 54.6 +2.1
baz=3.6
D25A **Fairfield** 3.69 22 ⇑P Pn 20 10 54.6 +2.1
baz=3.6
O22A **Kremmling** 3.69 195 ⇑P Pn 20 10 54.0 +1.3
baz=3.8,SNR=11
O22A **Kremmling** 3.69 195 ⇑P Pn 20 10 54.0 +1.3
baz=3.8,SNR=11
OGNE **Ogallala** 3.69 138 *e*Pn Pn 20 10 53.9 +1.3
OGNE **Ogallala** 3.69 138 ⇓P Pn 20 10 53.8 +1.2
baz=3.7,SNR=14
OGNE **Ogallala** 3.69 138 ⇓P Pn 20 10 53.8 +1.2
baz=3.7,SNR=14
GCMT **Greycliff** 3.73 305 *e*Pn Pn 20 10 53.9 +0.8
O25A **Wiggins** 3.73 166 ⇓P Pn 20 10 54.4 +1.3
baz=3.8
O25A **Wiggins** 3.73 166 ⇓P Pn 20 10 54.4 +1.3
baz=3.8
LKWY **Lake** 3.76 284 *e*Pn Pn 20 10 56.6 +2.9
K29A **Lazy Trails An** 3.77 103 ⇓P Pn 20 10 54.9 +1.2
baz=3.7
K29A **Lazy Trails An** 3.77 103 ⇓P Pn 20 10 54.9 +1.2
baz=3.7
E27A **Carson** 3.78 43 ⇑P Pn 20 10 54.9 +1.2
baz=3.7
E27A **Carson** 3.78 43 ⇑P Pn 20 10 54.9 +1.2
baz=3.7
F18A **Big Timber** 3.82 306 P Pn 20 10 55.4 +1.1
baz=3.8,SNR=57
F18A **Big Timber** 3.82 306 P Pn 20 10 55.4 +1.1
baz=3.8,SNR=57
C24A **Savage** 3.84 9 ⇑P Pn 20 10 56.4 +1.7
baz=3.8
C24A **Savage** 3.84 9 ⇑P Pn 20 10 56.4 +1.7
baz=3.8
LOHW **Long Hollow** 3.85 270 *e*Pn Pn 20 10 56.4 +1.6
D20A **Manuel Ranch,** 3.90 330 P Pn 20 10 55.7 +0.2
baz=3.9,SNR=42
D20A **Manuel Ranch,** 3.90 330 P Pn 20 10 55.7 +0.2
baz=3.9,SNR=42
FLWY **Flagg Ranch** 3.92 277 *e*Pn Pn 20 10 56.5 +0.7
L18A **Fontenelle, Gr** 3.92 244 ⇑P Pn 20 10 56.9 +1.0
baz=4.0
L18A **Fontenelle, Gr** 3.92 244 ⇑P Pn 20 10 56.9 +1.0
baz=4.0
ISCO **Idaho Springs** 3.94 183 *e*Pn Pn 20 10 57.3 +1.1
ISCO **Idaho Springs** 3.94 183 ⇓P Pn 20 10 57.3 +1.1
baz=4.0
ISCO **Idaho Springs** 3.94 183 ⇓P Pn 20 10 57.3 +1.1
baz=4.0
MOOW **Moose Ponds** 3.94 272 Pn Pn 20 10 59.5 +3.3
SNOW **Snow King Moun** 3.97 268 *e*Pn Pn 20 11 00.8 +4.2
C22A **Vida** 4.03 354 ⇓P Pn 20 10 59.0 +1.8
baz=4.0,SNR=17
C22A **Vida** 4.03 354 ⇓P Pn 20 10 59.0 +1.8
baz=4.0,SNR=17
REDW **Red Top Meadow** 4.05 267 *e*Pn Pn 20 10 59.0 +1.3
C23A **Lambert** 4.07 1 ⇑P Pn 20 10 59.4 +1.7
baz=4.0,SNR=36
C23A **Lambert** 4.07 1 ⇑P Pn 20 10 59.4 +1.7
baz=4.0,SNR=36
IMW **Indian Meadow** 4.08 274 *e*Pn Pn 20 11 00.1 +1.9
TPAW **Teton Pass** 4.11 269 *e*Pn Pn 20 11 00.0 +1.5
O27A **Beecher Island** 4.12 148 ⇑P Pn 20 10 59.5 +1.0
baz=4.1,SNR=7.9
O27A **Beecher Island** 4.12 148 ⇑P Pn 20 10 59.5 +1.0
baz=4.1,SNR=7.9
N28A **Pribbeno Ranch** 4.13 136 ⇑P Pn 20 10 59.6 +0.9
baz=4.1,SNR=15
N28A **Pribbeno Ranch** 4.13 136 ⇑P Pn 20 10 59.6 +0.9
baz=4.1,SNR=15
G17A **Pierce Place,** 4.20 294 ⇓P Pn 20 11 00.5 +0.9
baz=4.2,SNR=11
G17A **Pierce Place,** 4.20 294 ⇓P Pn 20 11 00.5 +0.9
baz=4.2,SNR=11
O20A **White River Ci** 4.21 212 ⇑P Pn 20 11 00.9 +1.1
baz=4.3
O20A **White River Ci** 4.21 212 ⇑P Pn 20 11 00.9 +1.1
baz=4.3
C25A **Freed Ranch, W** 4.23 19 ⇓P Pn 20 11 01.7 +1.8
baz=4.1,SNR=10
C25A **Freed Ranch, W** 4.23 19 ⇓P Pn 20 11 01.7 +1.8
baz=4.1,SNR=10
D19A **Cripps Ranch,** 4.25 325 ⇓P Pn 20 11 00.7 +0.4
baz=4.2
D19A **Cripps Ranch,** 4.25 325 ⇓P Pn 20 11 00.7 +0.4
baz=4.2
C21A **Desert Coulee** 4.28 344 ⇑P Pn 20 11 01.2 +0.6
baz=4.2
C21A **Desert Coulee** 4.28 344 ⇑P Pn 20 11 01.2 +0.6
baz=4.2
P25A **Willow Gulch B** 4.30 168 ⇑P Pn 20 11 01.7 +0.6
baz=4.4
P25A **Willow Gulch B** 4.30 168 ⇑P Pn 20 11 01.7 +0.6
baz=4.4
E18A **Harlowton** 4.32 313 ⇑P Pn 20 11 02.2 +0.9
baz=4.3,SNR=12
E18A **Harlowton** 4.32 313 ⇑P Pn 20 11 02.2 +0.9
baz=4.3,SNR=12
RRI2 **Red Ridge** 4.39 267 *e*Pn Pn 20 11 03.5 +1.1
C20A **Veseth Ranch,** 4.41 336 ⇑P Pn 20 11 02.9 +0.6
baz=4.4
C20A **Veseth Ranch,** 4.41 336 ⇑P Pn 20 11 02.9 +0.6
baz=4.4
P26A **Davis Ranch, A** 4.42 160 ⇑P Pn 20 11 03.7 +1.0
baz=4.5,SNR=18
P26A **Davis Ranch, A** 4.42 160 ⇑P Pn 20 11 03.7 +1.0
baz=4.5,SNR=18
O19A **Miners Draw (B** 4.46 221 ⇑P Pn 20 11 04.0 +0.8
baz=4.5
O19A **Miners Draw (B** 4.46 221 ⇑P Pn 20 11 04.0 +0.8
baz=4.5
O28A **Krutsinger Ran** 4.46 143 ⇓P Pn 20 11 03.8 +0.6
baz=4.5,SNR=14
O28A **Krutsinger Ran** 4.46 143 ⇓P Pn 20 11 03.8 +0.6
baz=4.5,SNR=14
N29A **Votaw Ranch, W** 4.53 128 ⇓P Pn 20 11 05.0 +0.9
baz=4.5
N29A **Votaw Ranch, W** 4.53 128 ⇓P Pn 20 11 05.0 +0.9
baz=4.5
B22A **Reddig Ranch S** 4.59 354 ⇑P Pn 20 11 05.8 +0.9
baz=4.5
B22A **Reddig Ranch S** 4.59 354 ⇑P Pn 20 11 05.8 +0.9
baz=4.5
P27A **Ficken Ranch,** 4.65 153 ⇑P Pn 20 11 06.5 +0.8
baz=4.7,SNR=12
P27A **Ficken Ranch,** 4.65 153 ⇑P Pn 20 11 06.5 +0.8
baz=4.7,SNR=12
C26A **Wahner Farm, P** 4.67 28 ⇑P Pn 20 11 07.4 +1.5
baz=4.6
C26A **Wahner Farm, P** 4.67 28 ⇑P Pn 20 11 07.4 +1.5
baz=4.6
D18A **Linhart Farms,** 4.69 319 ⇑P Pn 20 11 07.3 +1.1
baz=4.7
D18A **Linhart Farms,** 4.69 319 ⇑P Pn 20 11 07.3 +1.1
baz=4.7
SMCO **Snowmass** 4.72 196 Pn Pn 20 11 09.6 +2.6
B23A **Brockton** 4.74 3 P Pn 20 11 08.2 +1.4
baz=4.7,SNR=31
B23A **Brockton** 4.74 3 P Pn 20 11 08.2 +1.4
baz=4.7,SNR=31
B25A **Knox Farm, Ray** 4.78 17 ⇓P Pn 20 11 09.1 +1.6
baz=4.7,SNR=20
B25A **Knox Farm, Ray** 4.78 17 ⇓P Pn 20 11 09.1 +1.6
baz=4.7,SNR=20
C19A **Slack Wire Ran** 4.78 328 ⇓P Pn 20 11 08.1 +0.6
baz=4.7,SNR=16
C19A **Slack Wire Ran** 4.78 328 ⇓P Pn 20 11 08.1 +0.6
baz=4.7,SNR=16
E17A **Martinsdale** 4.79 307 P Pn 20 11 08.9 +1.2
baz=4.8,SNR=19
E17A **Martinsdale** 4.79 307 P Pn 20 11 08.9 +1.2
baz=4.8,SNR=19

C27A	Sayler Ranch, baz=4.7	4.79	32	⇓P	Pn	20 11 08.5 +1.0
C27A	Sayler Ranch, baz=4.7	4.79	32	⇓P	Pn	20 11 08.5 +1.0
DGMT	Dagmar	4.80	9	ePn	Pn	20 11 08.9 +1.2
DGMT	Dagmar baz=4.7,SNR=16	4.80	9	⇑P	Pn	20 11 09.2 +1.5
DGMT	Dagmar baz=4.7,SNR=16	4.80	9	⇑P	Pn	20 11 09.2 +1.5
B21A	Ellsworth Farm baz=4.8	4.84	346	⇑P	Pn	20 11 08.9 +0.6
B21A	Ellsworth Farm baz=4.8	4.84	346	⇑P	Pn	20 11 08.9 +0.6
BOZ	Bozeman (W)	4.90	295	ePn	Pn	20 11 08.7 -0.5
O29A	4D Ranch, Culb baz=4.9	4.93	135	⇑P	Pn	20 11 10.2 +0.6
O29A	4D Ranch, Culb baz=4.9	4.93	135	⇑P	Pn	20 11 10.2 +0.6
P28A	Saint Francis baz=5.0,SNR=30	4.94	146	⇓P	Pn	20 11 09.8 +0.1
P28A	Saint Francis baz=5.0,SNR=30	4.94	146	⇓P	Pn	20 11 09.8 +0.1
B20A	Solberg Farm, baz=5.0,SNR=10	5.07	339	⇑P	Pn	20 11 11.9 +0.4
B20A	Solberg Farm, baz=5.0,SNR=10	5.07	339	⇑P	Pn	20 11 11.9 +0.4
HWUT	Hardware Ranch 16nm,0.5s	5.08	247	ePn	Pn	20 11 12.2 +0.4
D17A	Six Diamond Ra baz=5.1,SNR=82	5.10	314	⇓P	Pn	20 11 12.4 +0.4
D17A	Six Diamond Ra baz=5.1,SNR=82	5.10	314	⇓P	Pn	20 11 12.4 +0.4
KSCO	Kaye Shedlock' baz=5.2	5.13	156	⇓P	Pn	20 11 12.9 +0.5
KSCO	Kaye Shedlock' baz=5.2	5.13	156	⇓P	Pn	20 11 12.9 +0.5
A23A	Redstone baz=5.2	5.23	3	⇓P	Pn	20 11 14.6 +0.9
A23A	Redstone baz=5.2	5.23	3	⇓P	Pn	20 11 14.6 +0.9
A24A	Westby baz=5.2,SNR=11	5.27	9	⇑P	Pn	20 11 15.5 +1.3
A24A	Westby baz=5.2,SNR=11	5.27	9	⇑P	Pn	20 11 15.5 +1.3
P29A	Atwood baz=5.3,SNR=8.7	5.27	140	⇓P	Pn	20 11 14.6 +0.3
P29A	Atwood baz=5.3,SNR=8.7	5.27	140	⇓P	Pn	20 11 14.6 +0.3
A22A	Carney Farms, baz=5.2,SNR=7.1	5.28	356	⇓P	Pn	20 11 14.7 +0.4
A22A	Carney Farms, baz=5.2,SNR=7.1	5.28	356	⇓P	Pn	20 11 14.7 +0.4
O30A	MW Ranch, Wils baz=5.3	5.28	130	⇑P	Pn	20 11 15.9 +1.4
O30A	MW Ranch, Wils baz=5.3	5.28	130	⇑P	Pn	20 11 15.9 +1.4
EGMT	Eagleton 36nm,0.6s	5.30	326	ePn	Pn	20 11 14.1 -0.5
Q28A	Sharon Springs baz=5.4	5.35	150	⇓P	Pn	20 11 15.4 +0.1
Q28A	Sharon Springs baz=5.4	5.35	150	⇓P	Pn	20 11 15.4 +0.1
B19A	Brinkman Farms baz=5.3	5.36	333	⇓P	Pn	20 11 16.0 +0.6
B19A	Brinkman Farms baz=5.3	5.36	333	⇓P	Pn	20 11 16.0 +0.6
A25A	Svangstu Ranch baz=5.3,SNR=8.6	5.42	15	⇓P	Pn	20 11 17.4 +1.2
A25A	Svangstu Ranch baz=5.3,SNR=8.6	5.42	15	⇓P	Pn	20 11 17.4 +1.2
C17A	Wharram Farm, baz=5.4,SNR=14	5.46	317	⇓P	Pn	20 11 17.5 +0.6
C17A	Wharram Farm, baz=5.4,SNR=14	5.46	317	⇓P	Pn	20 11 17.5 +0.6
DLMT	Dillon 5.8nm,0.4s	5.46	290	ePn	Pn	20 11 17.3 +0.4
HRY	Holter Researc 22nm,0.4s	5.49	305	ePn	Pn	20 11 14.6 -2.7
LRM	Limekiln Ridge 36nm,0.3s	5.50	295	ePn	Pn	20 11 18.2 +0.7
MCMT	McKenzie Canyo 2.6nm,0.3s	5.53	284	ePn	Pn	20 11 21.7 +3.7
DAU	Daniels Canyon 16nm,0.4s	5.54	235	Pn	Pn	20 11 21.5 +3.4
B18A	Beardsley Farm baz=5.6	5.60	328	⇑P	Pn	20 11 19.1 +0.3
B18A	Beardsley Farm baz=5.6	5.60	328	⇑P	Pn	20 11 19.1 +0.3
R26A	Arlington baz=5.7,SNR=19	5.61	165	⇓P	Pn	20 11 19.4 +0.4
R26A	Arlington baz=5.7,SNR=19	5.61	165	⇓P	Pn	20 11 19.4 +0.4
A26A	Wade Farm, Ken baz=5.5,SNR=10	5.64	23	P	Pn	20 11 20.0 +0.8
A26A	Wade Farm, Ken baz=5.5,SNR=10	5.64	23	P	Pn	20 11 20.0 +0.8
R25A	Fountain Ranch baz=5.7	5.64	172	⇑P	Pn	20 11 19.9 +0.5
R25A	Fountain Ranch baz=5.7	5.64	172	⇑P	Pn	20 11 19.9 +0.5
R27A	Eads baz=5.8	5.76	160	⇓P	Pn	20 11 21.8 +0.7
R27A	Eads baz=5.8	5.76	160	⇓P	Pn	20 11 21.8 +0.7
HVU	Hansel Valley 6.8nm,0.4s	5.84	253	ePn	Pn	20 11 22.9 +0.8
B17A	L&G Farms, Che baz=5.9,SNR=6.7	5.95	322	⇓P	Pn	20 11 23.6 0.0
B17A	L&G Farms, Che baz=5.9,SNR=6.7	5.95	322	⇓P	Pn	20 11 23.6 0.0
R28A	Tribune baz=6.0,SNR=19	6.00	153	⇑P	Pn	20 11 24.4 +0.1
R28A	Tribune baz=6.0,SNR=19	6.00	153	⇑P	Pn	20 11 24.4 +0.1
SRU	San Rafael 17nm,0.4s	6.06	222	ePn	Pn	20 11 25.5 +0.3
C16A	Fuhringer Ranc baz=6.0	6.07	314	⇓P	Pn	20 11 25.2 0.0
C16A	Fuhringer Ranc baz=6.0	6.07	314	⇓P	Pn	20 11 25.2 0.0
S25A	Robets Cordova baz=6.2,SNR=11	6.10	174	⇑P	Pn	20 11 26.0 +0.2
S25A	Robets Cordova baz=6.2,SNR=11	6.10	174	⇑P	Pn	20 11 26.0 +0.2
S26A	Kim baz=6.3	6.26	167	⇑P	Pn	20 11 28.4 +0.4
S26A	Kim baz=6.3	6.26	167	⇑P	Pn	20 11 28.4 +0.4
TMUT	Trail Mountain 11nm,0.4s	6.27	227	ePn	Pn	20 11 29.6 +1.4
ECSD	EROS Data Cent 11nm,0.4s	6.30	87	ePn	Pn	20 11 28.5 +0.2
A17A	Triple J Farms baz=6.4	6.41	326	⇑P	Pn	20 11 30.4 +0.5
A17A	Triple J Farms baz=6.4	6.41	326	⇑P	Pn	20 11 30.4 +0.5
CHMT	Chamberlain Mo 143nm,0.5s	6.44	302	ePn	Pn	20 11 31.0 +0.6
B16A	M & M Farms, S baz=6.4,SNR=12	6.46	319	⇑P	Pn	20 11 30.7 +0.1
B16A	M & M Farms, S baz=6.4,SNR=12	6.46	319	⇑P	Pn	20 11 30.7 +0.1
C15A	Salmond Ranch, baz=6.5	6.51	311	⇑P	Pn	20 11 31.5 +0.1
C15A	Salmond Ranch, baz=6.5	6.51	311	⇑P	Pn	20 11 31.5 +0.1
Q16A	Castle Valley baz=6.6,SNR=7.4	6.53	225	⇑P	Pn	20 11 32.7 +1.0
Q16A	Castle Valley baz=6.6,SNR=7.4	6.53	225	⇑P	Pn	20 11 32.7 +1.0
DUG	Dugway 5.0nm,0.4s	6.62	240	ePn	Pn	20 11 33.4 +0.6
DUG	Dugway baz=6.7,SNR=22	6.62	240	⇑P	Pn	20 11 33.8 +0.9
DUG	Dugway baz=6.7,SNR=22	6.62	240	⇑P	Pn	20 11 33.8 +0.9
SLMT	Seeley Lake 6.0nm,0.5s	6.74	304	ePn	Pn	20 11 34.5 0.0
B15A	Bradely Ranch, baz=6.8,SNR=11	6.82	315	⇓P	Pn	20 11 35.1 -0.4
B15A	Bradely Ranch, baz=6.8,SNR=11	6.82	315	⇓P	Pn	20 11 35.1 -0.4
MSO	Missoula baz=6.8	6.83	300	⇓P	Pn	20 11 36.1 +0.4
MSO	Missoula baz=6.8	6.83	300	⇓P	Pn	20 11 36.1 +0.4
T27A	Campo baz=7.0	6.95	163	⇓P	Pn	20 11 37.5 +0.1
T27A	Campo baz=7.0	6.95	163	⇓P	Pn	20 11 37.5 +0.1
SWMT	Swartz Lake 3.8nm,0.3s	7.17	305	ePn	Pn	20 11 40.8 +0.5
B14A	Marquette Ranc baz=7.2,SNR=7.9	7.22	313	⇑P	Pn	20 11 40.8 -0.3
B14A	Marquette Ranc baz=7.2,SNR=7.9	7.22	313	⇑P	Pn	20 11 40.8 -0.3
MSU	Marysvale 6.2nm,0.6s	7.36	227	ePn	Pn	20 11 44.1 +1.1
AGMN	Agassiz Nation 17nm,0.4s	8.00	52	ePn	Pn	20 11 50.4 -1.2
ULM	Lac du Bonnet	9.16	41	Pn	Pn	20 12 06.1 -1.4
ULM				Pg		20 12 36.8
ULM				Sn	Sn	20 13 46.8 -4.5
ULM				Lg	Lg	20 14 36.3
ULM	Lac du Bonnet 1.0nm,0.3s,baz=232,slow=12,SNR=6.1	9.16	41	Pn	Pn	20 12 06.1 -1.4
ULM				Pg		20 12 36.8
	0.9nm,0.3s,baz=222,slow=14,SNR=3.9					
ULM				Sn	Sn	20 13 46.8 -4.5
	0.2nm,0.3s,baz=344,slow=19,SNR=1.9					
ULM				Lg	Lg	20 14 36.3
	0.9nm,0.3s,baz=313,slow=19,SNR=2.2					
NEW	Newport	9.39	303	Pn	Pn	20 12 11.5 +0.8
NEW				Lg	Lg	20 14 47.2
NEW	Newport 0.3nm,0.3s,baz=110,slow=11,SNR=3.1	9.39	303	Pn	Pn	20 12 11.5 +0.8
NEW				Lg	Lg	20 14 47.2
	0.1nm,0.3s,baz=59,slow=19,SNR=2.1					
WUAZ	Wupatki	9.45	212	ePn	Pn	20 12 12.9 +1.2
NVAR	Mina Array Bea	11.15	246	Pn	Pn	20 12 34.5 -0.4
NVAR	Mina Array Bea 0.2nm,0.3s,baz=48,slow=16,SNR=3.5	11.15	246	Pn	Pn	20 12 34.6 -0.4
FFC	Flin Flon 2.8nm,0.5s	11.21	10	ePn	Pn	20 12 33.9 -1.7
YBH	Yreka Blue Hor	12.96	267	Pn	Pn	20 13 04.9 +5.3
YBH	Yreka Blue Hor 0.1nm,0.3s,baz=16,slow=7.4,SNR=3.5	12.96	267	Pn	Pn	20 13 04.9 +5.3
ARCES	ARCESS Array B	61.43	18	P	P	20 20 10.6 -1.1
ARCES	ARCESS Array B 0.5nm,0.5s,baz=327,slow=6.1,SNR=12	61.43	18	P	P	20 20 10.6 -1.1
FINES	FINESS Array B	68.04	23	P	P	20 20 54.5 -0.5
FINES	FINESS Array B 0.4nm,0.6s,baz=340,slow=7.3,SNR=7.2	68.04	23	P	P	20 20 54.5 -0.5
AKASG	Malin Array Be	77.97	28	P	P	20 21 53.4 -0.6
AKASG	Malin Array Be 0.3nm,0.3s,baz=323,slow=4.9,SNR=3.2	77.97	28	P	P	20 21 53.4 -0.6
ZALV	Zalesovo Beam	82.31	354	P	P	20 22 16.7 -0.6
ZALV	Zalesovo Beam 0.7nm,0.6s,baz=14,slow=7.3,SNR=3.9	82.31	354	P	P	20 22 16.7 -0.6
SONM	Songino Array	84.63	339	P	P	20 22 30.0 +0.4
SONM	Songino Array 0.3nm,0.4s,baz=7.6,slow=4.4,SNR=4.6	84.63	339	P	P	20 22 30.0 +0.4
MKAR	Makanchi Array	89.61	355	P	P	20 22 53.4 -0.2
MKAR	Makanchi Array 0.5nm,0.7s,baz=13,slow=5.0,SNR=4.7	89.61	355	P	P	20 22 53.4 -0.2

IDC ***07*** *20:28:47.8±0.4, 7°.93S×156°.56E, h0km, mb5.0/27, mb1 5.1/29, mb1mx5.1/30, mbtmp5.0/29, ML4.4/2, MS4.6/27, Ms1 4.6/27, ms1mx4.5/35, Error ellipse: s-maj=13.7km s-min=10.6km az=77.0*

ISCJB ***07*** *20:28:47.4±1.0, 7°.95S±0°.03×156°.67E±0°.02, h8km±6km, mb5.4/186, MS4.8/172, Error ellipse: s-maj=4.9km s-min=4.0km az=5.1*

BJI ***07*** *20:28:48.5, 7°.63S×156°.71E, h11km, mB5.5/34, mb5.5/55, Ms5.2/40, Ms7 4.8/41*

NEIC ***07*** *20:28:51.8±2.1, 7°.97S×156°.62E, h28km±14km, mb5.4/83, MS4.8/122, Error ellipse: s-maj=5.5km s-min=4.8km az=153.0*

NEIC Felt at Gizo.

MOS ***07*** *20:28:51.8±1.2, 7°.89S×156°.56E, h33km, mb5.5/45, MS4.7/34, Error ellipse: s-maj=7.4km s-min=5.9km az=93.1*

BKK ***07*** *20:28:52.5±0.3, 8°S±5°×15°7E±°, h10km, M5.6/37, mB6.0/17, mb5.6/37, Mw(mB)5.6/17*

AUST ***07*** *20:28:54.0, 7°.94S×156°.61E, h35km*

GCMT ***07*** *20:28:54.1±0.1, 8°.07S×156°.71E, h21km, MW5.4, Moment Tensor Solution. s88,c155; s99,c190; Moment tensor: Scale 10^17^Nm; Mrr0.35±.02; Mθθ0.04±.02; Mφφ-0.39±.02; Mrθ-0.06±.03; Mθφ1.38±.02; Mφr-0.01±.03; Best double couple: M0 1.40000×10^17^ NP1:φs274.00000°, δ88.00000°, λ3.00000°. NP2:φs184.00000°, δ87.00000°, λ178.00000°. Principal axes: T 1.2200, Plg3.0000°, Azm139.0000°; N 0.3500, Plg87.0000°, Azm306.0000°; P -1.5700, Plg1.0000°, Azm49.0000°; Data Used: II IU IC G CN. Surface waves from 105 sta.*

DJA ***07*** *20:28:58.5±0.9, 8°S±6°×15°7E±°, h74km±8km, M5.5/47, mb5.6/47, mB5.9/31, Mw(mB)5.5/31, Mwp6.7/1*

ISC 07 20:28:49.8±0.3, 7°.97S±0°.04×156°.76E±0°.04, h15km±1km, h15km:pP-P,n691,σ1°48/666, mb5.4/193, MS4.8/173, 58C-39D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time h m s	Res ISC
HNR	Honiara	3.47	115	ePn	20 29 42.0	-1.3
HNR				eSn	20 30 30.7	-2.3
HNR	Honiara 269nm,0.3s,baz=244,slow=2.9,SNR=20	3.47	115	Pn	20 29 42.1	-1.3
HNR				Sn	20 30 31.4	-1.6
	1μm,0.3s,baz=206,slow=22,SNR=8.2					
RABL	Rabaul baz=5.8,SNR=63	5.91	309	P	20 30 16.1	-0.8
RABL				S	20 31 48.7	+5.3
	baz=5.8,SNR=7.2					
PMG	Port Moresby	9.60	261	ePn	20 31 09.9	+2.4
PMG				Sn	20 33 03.3	+8.2
PMG	Port Moresby 335nm,0.9s,2μm	9.60	261	P	20 31 11.6	+4.1
PMG	Port Moresby 15nm,0.3s,baz=69,slow=7.5,SNR=38	9.60	261	Pn	20 31 10.7	+3.2
PMG				Sn	20 33 03.3	+8.2
	baz=27,slow=17,SNR=2.6					
PMG				LR	20 34 34.7	
	comp=Z,7μm,19.1s,baz=69,slow=37					
MANU	Manus Island baz=11,SNR=4.5	11.05	302	P	20 31 32.6	+5.1
COEN	Coen baz=14,SNR=13	14.60	245	P	20 32 17.9	+1.9
CTA	Charters Tower	15.77	219	Pn	20 32 31.8	+0.3
CTA	Charters Tower 0.5nm,0.3s,baz=48,slow=16,SNR=15	15.77	219	Pn	20 32 31.8	+0.3
CTA				LR	20 37 40.2	
	comp=Z,2μm,18.5s,baz=40,slow=34					
CTAO	Charters Tower	15.77	219	eP	20 32 31.0	-0.5
CTAO				pmax	pmax	
	comp=Z,90nm,1.1s					
CTAO	Charters Tower comp=Z,90nm,1.1s	15.77	219	ePn	20 32 31.0	-0.5
MTSU	Mount Surprise baz=16,SNR=43	15.77	229	P	20 32 34.6	-0.8
NOUC	Port Laguerre	16.79	148	eP	20 32 46.8	+0.1
DZM	Mont Dzumac comp=Z,514nm,1.1s	16.84	147	eP	20 32 46.5	-0.8
DZM				eLR	20 36 40.1	
	comp=Z,5μm,29.6s					
DZM	Mont Dzumac	16.84	147	eP	20 32 45.0	-0.3
DZM	Mont Dzumac comp=Z,191nm,0.9s	16.84	147	⇑ePn	20 32 46.0	+0.8
DZM	Mont Dzumac comp=Z,3.1nm,0.3s,baz=349,slow=12,SNR=59	16.84	147	Pn	20 32 46.3	+1.1
DZM				LR	20 38 05.4	
	comp=Z,4μm,18.1s,baz=317,slow=33					
JAY	Jayapura comp=Z,272nm,1.3s,comp=Z,12μm	16.87	288	P	20 32 45.9	+0.2
TARA	Tarawa comp=Z,676nm,1.1s	18.59	61	⇑eP	20 33 09.7	+2.8
TARA				eSn	20 36 26.4	-8.3
KWAJ	Kwajalein Atol	19.86	33	⇑eP	20 33 22.6	+0.4
KWAJ				pmax	pmax	
	comp=Z,451nm,0.7s					
KWAJ	Kwajalein Atol comp=Z,451nm,0.7s	19.86	33	⇑eP	20 33 22.6	+0.4
KWAJ				e	20 33 33.1	
KWAJ				eS	20 36 48.9	-15
RMQ	Roma baz=20,SNR=104	19.92	201	P	20 33 22.8	-0.1
SRPI	Serui, Papua comp=Z,375nm,1.2s,comp=Z,3μm	21.31	285	P	20 33 36.9	+0.6
BAKI	Biak	21.65	287	P	20 33 40.5	+0.6
	comp=Z,624nm,1.1s					
FUNA	Funafuti comp=Z,286nm,1.4s	22.21	93	eP	20 33 43.9	-2.1
ARMA	Armidale baz=23,SNR=14	22.84	191	P	20 33 53.2	+0.6
MSVF	Nonsavu	22.89	117	eP	20 33 53.7	+0.5
MSVF				pmax	pmax	
	comp=Z,188nm,1.3s					
MSVF				MLR	MLR	
	comp=Z,1μm,19.0s					
MSVF	Nonsavu comp=Z,188nm,1.3s	22.89	117	eP	20 33 53.7	+0.5
MSVF				LR	LR	
	comp=Z,1μm,19.0s					
RKPI	Ransiki, Papua comp=Z,313nm,1.1s,comp=Z,4μm	23.39	285	P	20 33 59.2	+0.9
KDU	Kakadu baz=24,SNR=55	24.34	257	P	20 34 07.3	0.0
GUMO	Guam	24.46	331	eP	20 34 07.8	-0.5
WRAB	Tennant Creek comp=Z,1μm,0.9s,SNR=91	24.75	239	P	20 34 10.0	-1.0
WRAB	Tennant Creek	24.75	239	⇓iP	20 34 10.3	-0.7
WRAB				pmax	pmax	
	comp=Z,210nm,0.9s					
WRAB				MLR	MLR	
	comp=Z,1μm,19.0s					
WRAB	Tennant Creek comp=Z,210nm,0.9s	24.75	239	⇓iP	20 34 10.3	-0.7
WRAB				LR	LR	
	comp=Z,1μm,19.0s					
WRA	Warramunga Arr	24.76	239	P	20 34 10.7	-0.4
WRA				PcP	PcP	20 37 47.9	0.0
WRA				ScP	ScP	20 41 28.1	+1.6
WRA	Warramunga Arr comp=Z,85nm,0.7s,baz=64,slow=9.6,SNR=363	24.76	239	P	20 34 10.7	-0.4
WRA				PcP	PcP	20 37 47.9	0.0
	comp=Z,7.3nm,0.8s,baz=63,slow=2.1,SNR=5.6					
WRA				ScP	ScP	20 41 28.1	+1.6
	comp=Z,3.0nm,1.1s,baz=63,slow=2.1,SNR=3.4					
WRA				LR	LR	20 43 28.8	
	comp=Z,2μm,18.9s,baz=60,slow=36					
FAKI	Fak Fak comp=Z,214nm,1.4s,comp=Z,2μm	24.90	280	P	20 34 14.2	+1.8
FAKI	Fak Fak baz=25,SNR=16	24.90	280	P	20 34 12.4	-0.1
CMSA	Cobar Meteorol baz=26,SNR=102	25.62	202	P	20 34 18.5	-0.2
MGCD	Mangrove Creek baz=26,SNR=6.0	25.66	191	P	20 34 19.6	+0.6
MTN	Manton Dam baz=26,SNR=23	25.66	257	P	20 34 20.3	+1.0
SWI	Sorong comp=Z,216nm,0.8s,comp=Z,2μm	26.37	284	P	20 34 28.0	+2.3
SWI	Sorong baz=26,SNR=7.1	26.37	284	P	20 34 25.4	-0.3
AS31	Alice Springs	26.89	232	eP	20 34 28.6	-1.9
ASAR	Alice Springs	26.89	232	P	20 34 28.9	-1.6
ASAR				ScP	ScP	20 41 35.2	+2.6
ASAR	Alice Springs comp=Z,6.2nm,0.8s,baz=63,slow=9.1,SNR=52	26.89	232	P	20 34 28.9	-1.6
ASAR				ScP	ScP	20 41 35.2	+2.6
	comp=Z,0.8nm,0.8s,baz=74,slow=4.0,SNR=3.1					
ASAR				LR	LR	20 43 54.5	
	comp=Z,876nm,20.4s,baz=229,slow=34					
PALU	Palau baz=27,SNR=14	26.93	304	P	20 34 30.9	+0.2
STKA	Stephens Creek	27.66	209	P	20 34 36.5	-0.7
STKA	Stephens Creek comp=Z,74nm,0.8s,baz=18,slow=10.0,SNR=82	27.66	209	P	20 34 36.5	-0.7
STKA				LR	LR	20 44 21.6	
	comp=Z,1μm,19.2s,baz=26,slow=34					
STKA	Stephens Creek baz=28,SNR=80	27.66	209	P	20 34 37.7	+0.5
CAN	Canberra	28.14	194	eP	20 34 43.3	+1.8
CAN				pmax	pmax	
	comp=Z,44nm,1.1s					
CAN				MLR	MLR	
	comp=Z,2μm,20.0s					
CAN	Canberra comp=Z,44nm,1.1s	28.14	194	eP	20 34 43.3	+1.8
CAN				LR	LR	
	comp=Z,2μm,20.0s					
KNRA	Kununurra baz=28,SNR=26	28.43	252	P	20 34 44.4	+0.2
WAKE	Wake Island	28.78	20	PFAKE	20 35 00.0	+13
WAKE				LR	LR	
	comp=Z,2μm,20.0s					
LBMI	Labuha comp=Z,220nm,1.1s,comp=Z,4μm	30.05	283	P	20 35 00.3	+1.6
TNTI	Ternate comp=Z,110nm,1.3s,comp=Z,2μm	30.56	285	P	20 35 03.9	+0.7
TOO	Toolangi baz=31,SNR=5.5	31.19	197	P	20 35 15.9	+7.4
BBOO	Buckleboo baz=31,SNR=7.6	31.29	215	P	20 35 08.5	-0.9
AFI	Afiamalu	31.43	104	LR	LR	20 45 12.0
	comp=Z,1μm,21.3s,baz=292,slow=31					
ARPS	Mount Arapiles baz=32,SNR=8.5	31.72	203	P	20 35 13.4	+0.3
RAO	Raoul Island	31.86	135	P	20 35 17.1	+2.6
RAO	Raoul Island comp=Z,841nm,0.9s,baz=298,slow=21,SNR=5.6	31.86	135	P	20 35 17.1	+2.6
RAO				LR	LR	20 44 51.9	
	comp=Z,1μm,20.7s,baz=107,slow=30					
FITZ	Fitzroy Crossi	31.89	248	P	20 35 13.9	-0.9
FITZ	Fitzroy Crossi comp=Z,6.8nm,0.6s,baz=91,slow=8.4,SNR=39	31.89	248	P	20 35 13.9	-0.9
FITZ				LR	LR	20 47 11.3	
	comp=Z,988nm,21.9s,baz=79,slow=35					
FITZ	Fitzroy Crossi baz=32,SNR=28	31.89	248	P	20 35 14.0	-0.9
SOEI	Soe baz=32,SNR=4.8	32.15	264	P	20 35 17.9	+0.6
BATI	Baumata	32.75	264	P	20 35 23.4	+0.9
BATI	Baumata comp=Z,53nm,1.2s	32.75	264	P	20 35 24.1	+1.7
BATI	Baumata comp=Z,21nm,0.7s,baz=135,slow=14,SNR=5.7	32.75	264	P	20 35 23.4	+0.9
MNI	Manado comp=Z,171nm,1.1s,comp=Z,152μm	33.17	285	P	20 35 25.9	-0.3
MATI	Mati	33.83	295	eP	20 35 30.6	-1.3
MMRI	Maumere comp=Z,199nm,1.2s,comp=Z,2μm	34.16	266	P	20 35 34.3	-0.4
DAV	Davao City (W) comp=Z,541nm,19.4s,baz=108,slow=32	34.49	295	LR	LR	20 47 08.0
LUWI	Luwuk comp=Z,222nm,1.2s,comp=Z,3μm	34.55	280	P	20 35 39.1	+1.0
LUWI	Luwuk baz=34,SNR=7.8	34.55	280	P	20 35 38.4	+0.2
GTOI	Gorontalo comp=Z,282nm,0.7s,comp=Z,3μm	34.71	283	P	20 35 40.5	+1.0
KKSI	Kolaka, Sulawe	35.10	274	P	20 35 51.2	+8.3
FORT	Forrest baz=35,SNR=16	35.13	226	P	20 35 42.0	-0.9
BUKP	Musuan	35.30	296	eP	20 35 44.5	-0.1
URZ	Urewera comp=Z,95nm,1.4s	35.31	152	eP	20 35 46.6	+2.2
URZ	Urewera comp=Z,46nm,1.1s,baz=36,slow=5.0,SNR=7.4	35.31	152	P	20 35 47.4	+3.0
MRSI	Marisa comp=Z,93nm,1.2s,comp=Z,846nm	35.71	282	P	20 35 46.9	-1.2
CTBH	Cotabato--PC H	35.76	294	⇑iP	20 35 42.3	-6.2
TAU	Tasmania Unive	35.78	192	eP	20 35 49.4	+1.1
TAU				pmax	pmax	
	comp=Z,239nm,1.6s					
TAU	Tasmania Unive comp=Z,239nm,1.6s	35.78	192	eP	20 35 49.4	+1.1
BSSI	Bau Bau, Buton comp=Z,130nm,1.2s,comp=Z,2μm	36.03	271	P	20 35 52.6	+1.7
LBFI	Labuhan Bajo, comp=Z,114nm,1.0s,comp=Z,2μm	36.48	267	P	20 35 56.4	+1.6
PAGZ	Pagadian	36.79	294	eP	20 35 57.5	+0.1
SNZO	South Karori	36.83	157	PFAKE	20 36 10.0	+13
SNZO				LR	LR	
	comp=Z,2μm,20.0s					
KAPI	Kappang comp=Z,70nm,1.0s	36.88	272	eP	20 35 56.5	-1.6
KAPI				LR	LR	
	comp=Z,654nm,19.0s					
KAPI	Kappang comp=Z,66nm,1.0s,comp=Z,680nm	36.88	272	P	20 35 57.3	-0.8
KAPI	Kappang comp=Z,18nm,0.8s,baz=115,slow=5.5,SNR=6.6	36.88	272	P	20 35 56.9	-1.2
TOLI	Toli-Toli comp=Z,143nm,0.9s,comp=Z,2μm	36.98	283	P	20 35 59.0	0.0
TTSI	Tana Toraja comp=Z,58nm,1.0s	37.08	275	P	20 36 01.9	+2.1

KHZ	Kahutara	37.37 159	eP	P	20 36 01.6	-0.2
	comp=Z,51nm,0.8s					
RPZ	Rata Peaks	37.74 163	eP	P	20 36 05.1	+0.1
	comp=Z,85nm,1.1s					
RPZ	Rata Peaks	37.74 163	P	P	20 36 05.3	+0.2
	comp=Z,20nm,0.8s,baz=316,slow=4.6,SNR=7.1					
MMSI	Mamuju	38.03 276	P	P	20 36 14.0	+6.1
MBWA	Marble Bar	38.05 246	eP	P	20 36 06.6	-1.3
	comp=Z,26nm,0.8s					
MBWA			LR	LR		
	comp=Z,695nm,20.0s					
GUIM	Jordan	38.70 298	eP	P	20 36 13.4	-0.1
MYLDM	Lahad Datu	40.34 288	P	P	20 36 26.5	-0.7
MYLDM	Lahad Datu	40.34 288	P	P	20 36 29.0	+1.8
	comp=Z,117nm,1.2s					
MEEK	Meekatharra	40.66 238	P	P	20 36 28.9	-0.8
	baz=41,SNR=23					
TSM	Tawau	40.66 286	P	P	20 36 29.4	-0.4
SDKM	Sandakan	41.71 288	P	P	20 36 37.4	-1.2
TGY	Tagaytay City	41.77 302	P	P	20 36 38.4	-0.5
TGY	Tagaytay City	41.77 302	P	P	20 36 38.4	-0.5
	comp=Z,118nm,0.4s,baz=143,slow=20,SNR=5.0					
PPR	Puerto Princes	41.77 294‖	eP	P	20 36 43.1	+4.1
BBKI	Banjar Baru	41.93 274	P	P	20 36 41.1	+0.8
	comp=Z,92nm,1.1s					
KDM	Kudat	42.47 289	P	P	20 36 46.2	+1.5
KKM	Kota Kinabalu	42.77 288	eP	P	20 36 46.8	-0.4
	comp=Z,112nm,0.7s					
KKM	Kota Kinabalu	42.77 288	P	P	20 36 47.0	-0.2
KKM	Kota Kinabalu	42.77 288	P	P	20 36 46.7	-0.5
	comp=Z,172nm,0.9s,comp=Z,1μm					
KKM	Kota Kinabalu	42.77 288	P	P	20 36 46.8	-0.4
	baz=43,SNR=28					
KLBR	Kellerberrin	43.23 232	P	P	20 36 49.6	-1.1
	baz=43,SNR=15					
MORW	Morawa	43.63 236	P	P	20 36 53.2	-0.8
	baz=44,SNR=12					
BLDU	Ballidu	43.66 233	P	P	20 36 53.2	-1.0
	baz=44,SNR=13					
MIDW	Midway	43.81 34	PFAKE		20 37 10.0	+15
MIDW			LR	LR		
	comp=Z,1μm,19.0s					
RAR	Rarotonga	43.92 112	P	P	20 36 59.1	+2.8
RAR	Rarotonga	43.92 112	P	P	20 36 59.1	+2.8
	comp=Z,37nm,1.0s,baz=270,slow=5.6,SNR=2.6					
NWAO	Narrogin (SRO)	44.19 230	eP	P	20 36 57.6	-0.8
	comp=Z,112nm,1.7s					
NWAO			LR	LR		
	comp=Z,956nm,22.0s					
NWAO	Narrogin (SRO)	44.19 230	P	P	20 36 57.6	-0.8
	comp=Z,111nm,0.8s,baz=54,slow=9.3,SNR=7.3					
JOW	Kunigami	44.27 322	eP	P	20 37 00.1	+1.1
	comp=Z,124nm,0.8s					
PWJI	Pagerwojo	44.50 267	P	P	20 37 05.3	+4.2
SJI	Sawahan	44.55 267	P	P	20 37 07.1	+5.5
BTM	Bintulu	44.96 283	P	P	20 37 04.0	-0.8
PCJI	Pacitan	45.11 266	P	P	20 37 05.8	-0.2
	comp=Z,247nm,1.2s,comp=Z,3μm					
SBUM	Sibu	45.61 281	P	P	20 37 09.3	-0.7
SBUM	Sibu	45.61 281	P	P	20 37 11.1	+1.1
	comp=Z,33nm,0.8s,comp=Z,629nm					
UGM	Wanagama	45.77 267	eP	P	20 37 11.1	-0.2
	comp=Z,473nm,1.5s					
UGM	Wanagama	45.77 267	P	P	20 37 11.1	-0.2
	baz=46,SNR=4.3					
STKI	Sintang	45.83 278	P	P	20 37 12.2	+0.5
	comp=Z,41nm,1.3s,comp=Z,6μm					
KSM	Kuching	47.26 279	eP	P	20 37 22.0	-1.0
	comp=Z,50nm,1.2s					
KSM	Kuching	47.26 279	P	P	20 37 22.8	-0.1
KSM	Kuching	47.26 279	P	P	20 37 22.9	0.0
	comp=Z,38nm,1.0s					
KSM	Kuching	47.26 279	P	P	20 37 22.8	-0.1
	baz=47,SNR=6.3					
MJAR	Matsushiro Arr	47.58 340	P	P	20 37 23.9	-1.1
MJAR	Matsushiro Arr	47.58 340	P	P	20 37 23.9	-1.1
	comp=Z,21nm,0.7s,baz=167,slow=8.5,SNR=81					
MJAR			LR	LR	20 55 28.6	
	comp=Z,804nm,18.5s,baz=205,slow=34					
MAT	Matsushiro	47.58 340	P	P	20 37 23.9	-1.1
MAT			eS	S	20 44 22.4	+2.5
JNU	Nakatsue	47.71 330	P	P	20 37 26.0	-0.1
JNU	Nakatsue	47.71 330	P	P	20 37 26.0	-0.1
	comp=Z,71nm,0.9s,baz=86,slow=4.0,SNR=42					
JNU			LR	LR	20 54 18.9	
	comp=Z,463nm,19.3s,baz=180,slow=32					
CISI	Cisompet, Garu	48.47 267	P	P	20 37 31.2	-1.2
	comp=Z,316nm,1.1s,comp=Z,3μm					
CISI	Cisompet, Garu	48.47 267	P	P	20 37 31.3	-1.2
	baz=48,SNR=6.3					
LEM	Lembang	48.72 268	P	P	20 37 34.3	-0.2
	comp=Z,231nm,0.9s,comp=Z,2μm					
LEM	Lembang	48.72 268	P	P	20 37 34.6	+0.2
	baz=49,SNR=20					
TPI	Tanjungpandan	49.13 273	P	P	20 37 38.1	+0.7
	comp=Z,40nm,1.1s,comp=Z,443nm					
DBJI	Dramaga	49.60 268	P	P	20 37 40.4	-0.6
	comp=Z,119nm,1.0s					
SKJI	Sukabumi	49.76 268	P	P	20 37 40.3	-1.9
	comp=Z,375nm,1.1s,comp=Z,3μm					
PPBI	Pangkal Pinang	50.72 274	P	P	20 37 49.6	+0.1
	comp=Z,35nm,1.0s,comp=Z,473nm					
ERM	Erimo	51.28 347	eP	P	20 37 53.3	+0.2
ERM			pmax	pmax		
	comp=Z,11nm,0.8s					
ERM	Erimo	51.28 347	PFAKE		20 38 10.0	+17
ERM			LR	LR		
	comp=Z,872nm,20.0s					
SSE	Sheshan	51.66 320	eP	P	20 37 56.5	+0.3
SSE			pP	pP	20 37 59.8	-1.2
SSE			S	S	20 45 19.8	+2.7
SSE			sS	sS	20 45 26.3	+1.3
SSE			pmax	pmax		
	comp=Z,91nm,1.3s					
SSE			pmax	pmax		
	comp=Z,440nm,3.5s					
SSE			LR	LR		
	comp=N,390nm,24.1s					
SSE			LR	LR		
	comp=E,300nm,24.1s					
SSE			LR	LR		
	comp=Z,510nm,24.3s					
KLSI		51.79 270	P	P	20 38 05.4	+7.9
KASI	Kota Agung	51.93 269	P	P	20 37 56.6	-2.0
	comp=Z,115nm,1.1s					
LWLI	Liwa	52.42 270	P	P	20 38 01.3	-1.0
	comp=Z,142nm,1.0s					
KSRS	Korea Array	52.62 331	P	P	20 38 03.3	+0.1
	comp=Z,19nm,0.8s,baz=150,slow=8.8,SNR=71					
KSRS			LR	LR	20 57 30.6	
	comp=Z,552nm,21.3s,baz=133,slow=33					
KSAR	Wonju Array Be	52.63 331	P	P	20 38 03.3	0.0
YUK	Yuzh-Kuril'sk	52.69 350	d iP	P	20 38 06.7	+3.1
YUK			e		20 39 15.9	
YUK			i		20 39 59.7	
YUK			i S	S	20 45 33.6	+2.8
YUK			i SS	SS	20 49 09.5	-0.2
YUK			pmax	pmax		
	comp=E,99nm,1.5s					
YUK			pmax	pmax		
	comp=Z,204nm,1.4s					
YUK			pmax	pmax		
	comp=N,91nm,1.5s					
PPT	Papeete	53.05 106	LR	LR	20 55 29.7	
	comp=N,579nm,18.5s,baz=145,slow=30					
PAE	Paea	53.05 106	eP	P	20 38 08.4	+1.6
	comp=N,3.9nm,0.9s					
PPT2	Papeete2	53.05 106	eP	P	20 38 08.4	+1.5
	comp=N,67nm,1.5s					
PPT2			eS	S	20 45 35.0	-1.8
	comp=N,189nm,26.0s					
PPT2			eLQ	LQ	20 51 13.4	
	comp=N,2μm,25.0s					
PPT2			eLR	LR	20 53 27.7	
	comp=N,1μm,22.8s,baz=277					
TIAR	Tiarei	53.27 106	eP	P	20 38 10.1	+1.7
	comp=N,42nm,0.8s					
INCN	Inchon	53.27 330	eP	P	20 38 08.0	-0.1
	comp=N,121nm,1.0s					
INCN			LR	LR		
	comp=Z,670nm,22.0s					
TVO	Taravao	53.37 106	eP	P	20 38 11.5	+2.3
	comp=Z,59nm,0.9s					
ASAJ	Asahikawa	53.40 347	eP	P	20 38 09.7	+0.8
	comp=Z,13nm,1.0s					
ASAJ	Asahikawa	53.40 347	P	P	20 38 09.9	+1.0
	comp=Z,15nm,0.6s,baz=216,slow=11,SNR=41					
QIZ	Qiongzhong	53.46 301	P	P	20 38 09.3	-0.5
QIZ			S	S	20 45 41.4	-0.8
QIZ			sS	sS	20 45 47.8	-2.3
QIZ			LR	LR		
	comp=Z,2μm,24.6s					
QIZ	Qiongzhong	53.46 301	P	P	20 38 10.3	+0.5
QIZ			LR	LR		
	comp=Z,1μm,19.0s					
TBI	Tubuai	53.69 113	eP	P	20 38 13.1	+1.7
	comp=Z,215nm,1.0s					
TBI			eS	S	20 45 43.4	-1.8
	comp=Z,353nm,30.2s					
TBI			eLQ	LQ	20 51 29.6	
	comp=Z,5μm,29.8s					
TBI			eLR	LR	20 53 44.6	
	comp=Z,2μm,28.5s,baz=284					
NJ2	Nanjing	53.78 320	eP	P	20 38 13.0	+1.1
NJ2			pmax	pmax		
	comp=Z,65nm,1.4s					
MASI	Maura Aman, Be	54.44 272	P	P	20 38 19.5	+2.4
	comp=Z,108nm,1.3s					
PMOR	Pomariorio Ree	54.57 103	eP	P	20 38 19.8	+1.8
	comp=Z,112nm,1.1s					
VLA	Vladivostok	55.66 338	c iP	P	20 38 25.6	+0.3
VLA			pmax	pmax		
	comp=Z,66nm,1.3s					
WHN	Wuhan	55.85 315	P	P	20 38 23.5	-3.5
WHN			S	S	20 46 13.2	-0.8
WHN			LR	LR		
	comp=N,3μm,24.6s					
WHN			LR	LR		
	comp=E,4μm,32.2s					
WHN			LR	LR		
	comp=Z,4μm,15.6s					
YSS	Yuzh-Sakhalins	56.08 348⇑	i P	P	20 38 30.0	+1.8
YSS			eS	S	20 46 16.0	-0.5
YSS			e		20 46 24.0	
YSS			e		20 49 58.0	
YSS			pmax	pmax		
	comp=E,40nm,1.0s					
YSS			pmax	pmax		
	comp=Z,90nm,1.0s					
YSS			MLR	MLR		
	comp=Z,500nm,19.0s					
USRK	Ussuriysk Arra	56.55 339	P	P	20 38 32.0	+0.3
	comp=Z,24nm,0.9s,baz=154,slow=7.9,SNR=73					
USRK			LR	LR	20 59 22.8	
	comp=Z,324nm,20.9s,baz=131,slow=32					
PPI	Padang Panjang	56.65 275	P	P	20 38 31.6	-1.4
	comp=Z,52nm,1.2s					
PPI	Padang Panjang	56.65 275	P	P	20 38 31.6	-1.4
	baz=56,SNR=6.4					
DL2	Dalian	56.92 328	P	P	20 38 34.4	+0.1
DL2			pmax	pmax		
	comp=Z,170nm,0.7s					
IPM	Ipoh	56.95 281	eP	P	20 38 34.1	-1.1
	comp=Z,119nm,1.7s					
IPM	Ipoh	56.95 281	P	P	20 38 42.9	+7.7
PANO	Nakornpanom	57.26 296	P	P	20 38 44.0	+6.8
	comp=Z,287nm,1.4s					
KULM	Kulim	57.49 281	eP	P	20 38 37.7	-1.2
	comp=Z,34nm,0.9s					
KULM	Kulim	57.49 281	P	P	20 38 38.5	-0.5
	comp=Z,44nm,1.8s,comp=Z,2μm					
MDJ	Mudanjiang	57.80 337	P	P	20 38 40.4	0.0
MDJ			sP	sP	20 38 44.9	-2.2
MDJ			PcP	PcP	20 39 32.7	-0.3
MDJ			S	S	20 46 41.7	+2.5
MDJ			ScS	ScS	20 48 30.2	+0.6
MDJ			SS	SS	20 50 31.1	+0.9
MDJ			pmax	pmax		
	comp=Z,30nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,240nm,5.2s					
MDJ			LR	LR		
	comp=Z,380nm,30.0s					
MDJ	Mudanjiang	57.80 337	eP	P	20 38 40.5	0.0
	comp=Z,38nm,1.1s					
MDJ			LR	LR		
	comp=Z,538nm,20.0s					
CHBT	CHBT	57.86 290	P	P	20 38 44.7	+3.2
	comp=Z,42nm,1.1s,comp=Z,2μm					
SNY	Shenyang	58.13 331	⇑P	P	20 38 42.5	-0.3
SNY			S	S	20 46 48.9	+5.3
SNY			pmax	pmax		
	comp=Z,21nm,1.1s					
SNY			pmax	pmax		
	comp=Z,130nm,5.5s					
SNY			LR	LR		
	comp=N,300nm,10.4s					
SNY			LR	LR		
	comp=E,460nm,14.4s					
PSI	Prapat	58.67 278	P	P	20 38 44.7	-2.6
PSI	Prapat	58.67 278	P	P	20 38 44.7	-2.6
	comp=E,1.4nm,0.3s,baz=136,slow=5.7,SNR=3.9					
PSI			LR	LR	21 01 03.1	
	comp=E,282nm,21.4s,baz=105,slow=33					
CN2	Changchun	58.82 334	⇑P	P	20 38 47.5	-0.2
CN2			PcP	PcP	20 39 37.2	+0.1
CN2			eS	S	20 46 52.4	-0.2
CN2			pmax	pmax		
	comp=Z,30nm,1.0s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,500nm,14.0s					
CN2			LR	LR		
	comp=E,700nm,14.0s					
CN2			LR	LR		
	comp=Z,600nm,15.0s					
ENH	Enshi	59.18 312	eP	P	20 38 49.9	-0.6
	comp=Z,26nm,0.9s					
CHAI	Chaiyaphum	59.19 294	P	P	20 38 50.1	-0.6
	comp=Z,11nm,0.7s					
HABR	Khabarovsk	59.37 343	de P	P	20 38 50.1	-1.2
HABR			e*SP	sP	20 39 03.9	+5.9
HABR			e		20 39 36.7	
HABR			e		20 41 01.1	
HABR			eS	S	20 46 58.0	-1.5
HABR			e		20 47 09.9	
HABR			e*SS	sS	20 47 14.7	+7.3
HABR			e		20 48 37.0	
HABR			eSS	SS	20 50 54.2	-0.5
HABR			pmax	pmax		
	comp=Z,180nm,1.7s					
HABR			pmax	pmax		
	comp=N,45nm,1.6s					
HABR			pmax	pmax		
	comp=Z,122nm,1.2s					
HABR			pmax	pmax		
	comp=E,41nm,1.1s					
HABR			MLR	MLR		
	comp=Z,397nm,17.0s					
GYA	Guiyang	59.43 307	eP	P	20 38 53.4	+1.0
GYA			PP	PP	20 41 07.2	+3.4
GYA			ScP	ScP	20 43 41.0	+0.3
GYA			S	S	20 47 01.8	+0.4
GYA			SS	SS	20 50 57.4	+0.6
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,140nm,5.2s					
GYA			LR	LR		
	comp=N,820nm,18.7s					
GYA			LR	LR		
	comp=E,690nm,19.0s					
GYA			LR	LR		
	comp=Z,750nm,17.4s					
PBKT	Sadao Pong	60.33 294	P	P	20 38 59.4	+0.9
	comp=Z,34nm,0.6s					
LOEI	Loei	60.38 295	P	P	20 38 56.8	-2.1
	comp=Z,49nm,1.0s					
PHET	Kaeng Krachan	60.42 290	P	P	20 38 59.8	+0.6
	comp=Z,250nm,0.9s					
BJT	Baijiatuau	60.70 325	eP	P	20 39 00.2	-0.5
	comp=Z,42nm,0.8s					
BJT			LR	LR		
	comp=Z,670nm,19.0s					
BJI	Beijing	60.71 325	P	P	20 39 00.2	-0.5
BJI			PP	PP	20 41 14.6	-0.1
BJI			S	S	20 47 19.2	+2.1
BJI			pmax	pmax		
	comp=Z,54nm,0.8s					
BJI			pmax	pmax		
	comp=Z,590nm,4.6s					
BJI			LR	LR		
	comp=N,650nm,15.7s					
BJI			LR	LR		
	comp=E,530nm,18.5s					
BJI			LR	LR		
	comp=Z,420nm,32.2s					
PET	Petropavlovsk	60.78 1	eP	P	20 39 00.6	-0.3
PET			e		20 41 16.5	
PET			eS	S	20 47 14.2	-3.2
PET			eSS	SS	20 51 13.6	-3.1
PET			pmax	pmax		
	comp=Z,13nm,0.6s					
PET			MLR	MLR		
	comp=Z,500nm,19.0s					
PEA0B	Petropavlovsk-	60.85 1	eP	P	20 39 01.4	0.0
PETK	Petropavlovsk-	60.85 1	P	P	20 39 01.6	+0.2
PETK	Petropavlovsk-	60.85 1	P	P	20 39 01.6	+0.2
PETK	Petropavlovsk-	60.85 1	P	P	20 39 01.6	+0.2
	comp=Z,7.1nm,0.6s,baz=165,slow=7.8,SNR=20					
PETK			LR	LR	21 00 30.8	
	comp=Z,428nm,20.4s,baz=172,slow=31					
LHMI	Lhok Sumawe	61.08 280	P	P	20 39 06.3	+2.5
	baz=61,SNR=3.1					
NANT	Nan	61.33 296	P	P	20 39 05.3	-0.1
	comp=Z,198nm,1.1s,comp=Z,2μm					
XAN	Xi'an	61.62 316	P	P	20 39 06.3	-0.8
XAN			pmax	pmax		
	comp=Z,7.0nm,1.0s					
XAN			pmax	pmax		
	comp=Z,110nm,4.7s					
KMI	Kunming	62.01 304	⇑P	P	20 39 10.4	+0.3
KMI			pP	pP	20 39 13.1	-1.9
KMI			S	S	20 47 33.1	-1.5
KMI			pmax	pmax		
	comp=Z,38nm,0.8s					
KMI			LR	LR		
	comp=N,1μm,14.3s					
KMI			LR	LR		
	comp=E,600nm,15.2s					
KMI			LR	LR		
	comp=Z,1μm,12.6s					
LAMP	Lampang	62.19 296	P	P	20 39 11.7	+0.6
	comp=Z,16nm,0.9s,comp=Z,178nm					
FX1	Attu Island--F	62.21 11	eP	P	20 39 10.4	-0.2
CM31	Chiang Mai Arr	62.78 295	eP	P	20 39 15.1	0.0
	comp=Z,29nm,0.9s					
CMAR	Chiang Mai Arr	62.78 295	P	P	20 39 15.3	+0.2
CMAR			P'P'ab	P'P'ab	21 08 32.9	+0.1
CMAR	Chiang Mai Arr	62.78 295	P	P	20 39 15.3	+0.2
	comp=Z,15nm,0.8s,baz=115,slow=4.9,SNR=58					
CMAR			LR	LR	21 07 02.6	
	comp=Z,257nm,18.4s,baz=296,slow=37					
CMAR			PKP2ab		21 08 32.9	
	comp=Z,0.9nm,1.0s,baz=283,slow=5.4,SNR=4.1					
CMMT	Chiang Mai	62.89 296	P	P	20 39 15.7	-0.2
	comp=Z,52nm,2.6s					
CHTO	Chiang Mai	62.90 296	eP	P	20 39 15.4	-0.5
CHTO			pmax	pmax		
	comp=Z,46nm,1.2s					
CHTO			MLR	MLR		
	comp=Z,423nm,19.0s					
CHTO	Chiang Mai	62.90 296	eP	P	20 39 15.4	-0.5
	comp=Z,46nm,1.2s					
CHTO			LR	LR		
	comp=Z,423nm,19.0s					
CHTO	Chiang Mai	62.90 296	P	P	20 39 16.1	+0.2
	comp=Z,41nm,1.3s					
CHTO	Chiang Mai	62.90 296	P	P	20 39 16.1	+0.2
	comp=Z,41nm,1.3s					
CD2	Chengdu	63.77 310⇑	i P	P	20 39 21.2	-0.4
CD2			pP	pP	20 39 27.2	+0.8
CD2			sP	sP	20 39 29.2	+0.9
CD2			PcP	PcP	20 39 57.8	+0.3
CD2			PP	PP	20 41 43.2	+1.2
CD2			S	S	20 47 53.9	-2.4
CD2			sS	sS	20 48 01.8	-2.5
CD2			ScS	SKSac	20 49 11.2	-3.9
CD2			SS	SS	20 52 03.8	-0.8
CD2			pmax	pmax		
	comp=Z,80nm,1.2s					
CD2			pmax	pmax		
	comp=Z,750nm,6.8s					
CD2			LR	LR		
	comp=N,2μm,14.2s					
CD2			LR	LR		
	comp=E,1μm,13.2s					
CD2			LR	LR		
	comp=Z,1μm,16.6s					
ADK	Adak	63.83 18	eP	P	20 39 21.8	+0.4
ADK			MLR	MLR		
	comp=Z,733nm,20.0s					
ADK	Adak	63.83 18	eP	P	20 39 21.8	+0.4
	comp=Z,297nm,0.8s					
ADK			LR	LR		
	comp=Z,733nm,20.0s					
HHC	Hu-ho-hao-te	63.91 323	eP	P	20 39 22.8	+0.5
HHC			pP	pP	20 39 27.5	+0.3
HHC			sP	sP	20 39 29.8	+0.7
HHC			PcP	PcP	20 39 58.0	+0.1
HHC			PP	PP	20 41 45.3	+2.2
HHC			ScP		20 43 58.7	
HHC			PcS		20 44 00.3	
HHC			S	S	20 47 57.0	-0.7
HHC			sS	sS	20 48 04.6	-1.2
HHC			ScS	SKSac	20 49 12.2	-3.6
HHC			SS	SS	20 52 07.0	+0.5
HHC			pmax	pmax		
	comp=Z,120nm,0.9s					
HHC			pmax	pmax		
	comp=Z,620nm,6.3s					
HHC			LR	LR		
	comp=N,910nm,17.8s					
HHC			LR	LR		
	comp=E,880nm,17.8s					
HHC			LR	LR		
	comp=Z,740nm,17.8s					
BTO	Baotou	64.69 322	eP	P	20 39 27.1	-0.3
BTO			pmax	pmax		
	comp=Z,27nm,0.9s					
HIA	Hailar	65.55 334	eP	P	20 39 33.6	+0.9
	comp=Z,96nm,0.8s					
HIA			LR	LR		
	comp=Z,537nm,20.0s					
CASY	Casey	66.22 199	eP	P	20 39 35.7	-1.1
	comp=Z,29nm,1.1s					
CASY			LR	LR		
	comp=Z,870nm,21.0s					
LZH	Lanzhou	66.23 315	⇑P	P	20 39 38.2	+0.6
LZH			pP	pP	20 39 41.3	-1.2
LZH			sP	sP	20 39 43.0	-1.3
LZH			PP	PP	20 42 06.5	+2.9
LZH			S	S	20 48 25.0	-1.6
LZH			sS	sS	20 48 33.0	-1.6
LZH			SS	SS	20 52 42.5	-0.5
LZH			pmax	pmax		
	comp=Z,78nm,1.5s					
LZH			pmax	pmax		
	comp=Z,480nm,6.2s					
LZH			LR	LR		
	comp=N,1μm,15.0s					
LZH			LR	LR		
	comp=E,1μm,16.0s					
LZH			LR	LR		
	comp=Z,2μm,18.0s					
RKT	Rikitea	66.96 112	eP	P	20 39 43.0	+0.7
	comp=Z,32nm,1.1s					
RKT			eS	S	20 48 32.5	-3.0
	comp=Z,181nm,26.8s					
RKT			eLQ	LQ	20 57 04.3	
	comp=Z,1μm,38.2s					
RKT			eLR	LR	20 59 54.2	
	comp=Z,905nm,30.8s,baz=275					
AKUT	Akutan	69.44 22	eP	P	20 39 56.5	-0.6
	comp=Z,75nm,0.8s					
VNDA	Vanda	69.57 179	eP	P	20 39 57.9	+0.2
	comp=Z,19nm,1.1s					
VNDA	Vanda	69.57 179	P	P	20 39 58.2	+0.5
	comp=Z,2.7nm,0.9s,baz=333,slow=5.8,SNR=9.7					
VNDA			LR	LR	21 06 33.8	
	comp=Z,506nm,18.6s,baz=0.6,slow=33					
CLNS	Chul'man	69.68 342	eP	P	20 39 59.2	+0.5
CLNS			pmax	pmax		
	comp=Z,97nm,0.9s					
CLNS			pmax	pmax		
	comp=N,46nm,1.2s					
CLNS			pmax	pmax		
	comp=E,16nm,0.8s					

SBA Scott Base 70.05 178 *e*P **P 20 40 02.0 +1.4**
SBA pmax pmax
comp=Z,144nnm,2.3s
SBA MLR MLR
comp=Z,697nm,19.0s
SBA Scott Base 70.05 178 *e*P **P 20 40 02.0 +1.4**
comp=Z,144nnm,2.3s
SBA LR LR
comp=Z,697nm,19.0s
CIT Chita 70.26 333 *e*P **P 20 40 02.9 +0.5**
CIT *e* 20 40 10.7
CIT *e* 20 40 20.1
CIT *e* 20 40 25.1
CIT pmax pmax
comp=Z,155nm,1.8s
GTA Gaotai 70.64 317 ⇑P **P 20 40 05.7 +0.6**
GTA pP **pP 20 40 10.3 +0.3**
GTA sP **sP 20 40 12.8 +0.9**
GTA S **S 20 49 17.9 -1.0**
GTA sS **sS 20 49 25.3 -1.7**
GTA SS **SS 20 53 51.1 +0.1**
GTA pmax pmax
comp=Z,44nm,1.4s
GTA pmax pmax
comp=Z,340nm,5.7s
GTA LR LR
comp=N,440nm,18.0s
GTA LR LR
comp=E,330nm,17.6s
GTA LR LR
comp=Z,460nm,22.8s
ULN Ulaanbaatar 70.76 327 ⇑*i*P **P 20 40 06.4 +0.7**
comp=Z,157nm,0.9s
ULN LR LR
comp=Z,668nm,22.0s
ULN Ulaanbaatar 70.76 327 P **P 20 40 06.2 +0.5**
FALS False Pass 70.89 23 *e*P **P 20 40 05.5 -0.5**
comp=Z,81nm,0.8s
SONM Songino Array 71.10 327 P **P 20 40 08.4 +0.7**
SONM Songino Array 71.10 327 P **P 20 40 08.4 +0.7**
comp=Z,153nm,0.8s,baz=136,slow=6.1,SNR=645
SONM LR LR 21 13 21.6
comp=Z,448nm,18.2s,baz=111,slow=38
SHL Shillong 71.29 300 *i* PCS **P 20 40 10.0 +0.6**
SDPT Sand Point 72.41 24 *e*P **P 20 40 13.8 -1.4**
comp=Z,65nm,0.7s
MIR Mirnyy 72.45 202 ⇑*i*P P 20 40 23.0 +7.7
MIR *i* 20 40 30.0
MIR *i* 20 40 38.0
MIR pmax pmax
comp=Z,66nm,1.2s
YAK Yakutsk 72.88 347 *c i*P **P 20 40 17.8 -0.1**
YAK *e* 20 40 28.6
YAK *e**PP PcP 20 40 43.0 +8.1
YAK *e* 20 43 03.9
YAK *e*S S 20 49 36.5 -7.0
YAK *e*SS **SS 20 54 28.4 +4.3**
YAK *e*SSS SSS 20 57 33.1
YAK pmax pmax
comp=Z,111nm,0.9s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,25nm,1.4s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK smax smax
comp=E,111nm,1.7s
YAK smax smax
comp=N,67nm,2.5s
LSA Lhasa 73.26 304 P **P 20 40 21.6 +0.2**
LSA Lhasa 73.26 304 *e*P **P 20 40 21.6 +0.2**
LSA pmax pmax
comp=Z,25nm,0.9s
LSA MLR MLR
comp=Z,743nm,22.0s
LSA Lhasa 73.26 304 *e*P **P 20 40 21.6 +0.2**
comp=Z,25nm,0.9s
LSA LR LR
comp=Z,743nm,22.0s
CHGN Chignik 73.91 24 *e*P **P 20 40 23.2 -0.8**
ZAK Zakamensk 74.24 328 ⇑*i*P **P 20 40 26.6 +0.3**
ZAK pmax pmax
comp=Z,46nm,1.2s
TLY Talaya 74.79 329 *e*P **P 20 40 29.9 +0.5**
TLY *e* 20 40 45.6
TLY pmax pmax
comp=Z,52nm,1.1s
TLY MLR MLR
comp=Z,275nm,19.0s
TLY Talaya 74.79 329 P **P 20 40 29.0 -0.4**
comp=Z,218nm,1.1s,SNR=12
IRK Irkutsk 74.80 330 *e*P **P 20 40 28.9 -0.5**
IRK pmax pmax
comp=Z,73nm,1.6s
TAPN Taplejung 75.40 301 *e*P **P 20 40 33.6 -0.2**
comp=Z,160nm,1.1s
ODAN Odare 75.53 300 *e*P **P 20 40 34.2 -0.2**
MOY Mondy 76.16 328 *e*P **P 20 40 37.4 +0.1**
MOY pmax pmax
comp=Z,55nm,1.6s
RAMN Ramite 76.23 300 *e*P **P 20 40 38.0 -0.5**
OHAK Old Harbor 76.64 25 *e*P **P 20 40 39.8 0.0**
comp=Z,31nm,0.9s
JIRN Jiri 76.78 301 *e*P **P 20 40 41.4 -0.3**
comp=Z,73nm,1.0s
GUN Gumba 77.11 301 *e*P **P 20 40 43.4 -0.2**
comp=Z,98nm,0.9s
KDAK Kodiak Island 77.29 25 P **P 20 40 43.9 +0.5**
comp=Z,168nm,0.7s,SNR=7.9
PALK Pallekele 77.32 279 *e*P **P 20 40 44.9 +0.3**
comp=Z,98nm,1.4s
PKI Pulchoki 77.42 300 *e*P **P 20 40 44.6 -0.7**
comp=Z,74nm,1.0s
PKIN Phulchoki 77.43 300 *e*P **P 20 40 45.2 -0.1**
comp=Z,71nm,1.2s
KKN Kakani 77.59 301 *e*P **P 20 40 45.4 -0.7**
comp=Z,40nm,0.8s
DMN Daman 77.69 300 *e*P **P 20 40 45.9 -0.8**
comp=Z,138nm,1.0s
SVW2 Sparrevohn 78.25 22 *e*P **P 20 40 49.8 +1.1**
comp=Z,41nm,1.0s
RSO Redoubt South 78.89 23 P P 20 40 48.7 -3.8
KOLN Koldanda 79.02 300 *e*P **P 20 40 53.2 -0.8**
comp=Z,46nm,0.8s
DANN Dangsing 79.04 301 *e*P **P 20 40 53.3 -0.9**
comp=Z,155nm,1.2s
SPU Mount Spurr 79.61 23 *e*P **P 20 40 57.8 +1.6**
PYUN Piuthan 79.63 300 *e*P **P 20 40 56.5 -0.8**
HVS Khovu-Aksy 79.88 325 *c i*P **P 20 40 57.8 -0.2**
PPLA Purkeypile 80.64 21 *e*P **P 20 41 01.4 -0.5**
comp=Z,43nm,1.3s
WMQ Urumqi 80.73 317 P **P 20 41 02.6 -0.1**
WMQ S **S 20 51 08.6 -1.5**
WMQ SKS **SKSac 20 51 17.0 -3.8**
WMQ ScS **SKKSac 20 51 25.6 +2.5**
WMQ SS **SS 20 56 25.2 +1.6**
WMQ pmax pmax
comp=Z,42nm,1.3s
WMQ pmax pmax
comp=Z,350nm,5.2s
WMQ LR LR
comp=N,280nm,26.0s
WMQ LR LR
comp=E,380nm,28.0s
WMQ LR LR
comp=Z,430nm,22.0s
PMR Palmer 80.98 23 *e*P **P 20 41 03.3 -0.2**
PMR pmax pmax
comp=Z,36nm,0.9s
PMR Palmer 80.98 23 *e*P **P 20 41 03.3 -0.2**
comp=Z,36nm,0.9s
HYB Hyderabad 81.24 289 *i*P **P 20 41 04.0 -1.9**
SML Sawmill 81.42 23 *e*P **P 20 41 06.1 +0.2**
SML pmax pmax
comp=Z,20nm,1.0s
SML Sawmill 81.42 23 *e*P **P 20 41 06.1 +0.2**
comp=Z,20nm,1.0s
TIXI Tiksi 81.57 351 *c i*P **P 20 41 05.9 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TRF Thorofare Moun 81.66 21 *e*P **P 20 41 05.3 -2.0**
comp=Z,37nm,0.8s
QSPA South Pole Qui 82.01 180 *e*P **P 20 41 09.1 -0.1**
comp=Z,40nm,0.9s
QSPA LR LR
comp=Z,514nm,19.0s
DIV Divide 82.06 24 *e*P **P 20 41 09.1 -0.3**
comp=Z,22nm,0.8s
IM04 Indian Mountai 82.07 18 *e*P **P 20 41 09.2 -0.1**
RAGM Ragged Mountai 82.13 25 *e*P **P 20 41 10.3 +0.6**
comp=Z,48nm,1.4s
MCK McKinley 82.31 21 *e*P **P 20 41 09.6 -1.0**
MCK McKinley 82.31 21 *e*P **P 20 41 09.6 -1.0**
BMRM Bremner River 82.46 25 *e*P **P 20 41 11.6 +0.1**
comp=Z,44nm,1.0s
BMRM *e*PP **PP 20 44 18.4 -2.4**
PAX Paxson 83.18 23 *e*P **P 20 41 15.2 0.0**
PAX pmax pmax
comp=Z,14nm,1.0s
PAX Paxson 83.18 23 *e*P **P 20 41 15.2 0.0**
comp=Z,14nm,1.0s
COLA College 83.36 21 *e*P **P 20 41 14.7 -1.2**
COLA pmax pmax
comp=Z,146nm,0.8s
COLA MLR MLR
comp=Z,337nm,19.0s
COLA College 83.36 21 *e*P **P 20 41 14.7 -1.2**
comp=Z,146nm,0.8s
COLA LR LR
comp=Z,337nm,19.0s
ILAR Eielson Array 83.64 21 P **P 20 41 16.2 -1.2**
ILAR Eielson Array 83.64 21 P **P 20 41 16.2 -1.2**
comp=Z,6.0nm,0.9s,baz=263,slow=4.8,SNR=31
ILAR LR LR 21 15 12.2
comp=Z,346nm,18.7s,baz=83,slow=33
MENT Mentasta 83.84 23 *e*P **P 20 41 18.1 -0.4**
COLD Coldfoot 83.98 18 P **P 20 41 20.4 +1.3**
comp=Z,15nm,1.3s
MAW Mawson 84.17 203 P **P 20 41 20.7 +0.6**
MAW Mawson 84.17 203 P **P 20 41 20.7 +0.6**
comp=Z,3.4nm,0.9s,baz=40,slow=2.4,SNR=4.9
MAW LR LR 21 13 27.9
comp=Z,385nm,18.9s,baz=96,slow=32
MAW Mawson 84.17 203 P **P 20 41 21.2 +1.0**
baz=84,SNR=7.4
NDI New Delhi 84.71 300 *e*P **P 20 41 21.0 -2.7**
MK31 Makanchi Array 85.29 318 ⇑*i*P **P 20 41 25.7 -0.5**
MK31 Makanchi Array 85.29 318 ⇑*i*P **P 20 41 25.7 -0.5**
MKAR Makanchi Array 85.29 318 *e*P **P 20 41 26.0 -0.2**
MKAR Makanchi Array 85.29 318 *e*P **P 20 41 26.0 -0.2**
MKAR Makanchi Array 85.29 318 P **P 20 41 25.9 -0.2**
comp=Z,22nm,0.8s,baz=100,slow=6.3,SNR=200
MKAR LR LR 21 20 25.3
comp=Z,271nm,19.1s,baz=108,slow=36
HYT Haines Junctio 85.45 27 *e*P **P 20 41 27.6 +0.8**
EGAK Eagle 85.74 22 *e*P **P 20 41 28.0 0.0**
comp=Z,22nm,1.0s
EGAK LR LR
comp=Z,441nm,21.0s
SKAG Skagway 85.89 28 *e*P **P 20 41 29.7 +0.9**
comp=Z,40nm,1.2s
ZAA0 Zalesovo Array 85.96 326 *e*P **P 20 41 27.4 -1.9**
ZALV Zalesovo Beam 85.96 326 *i*P **P 20 41 28.0 -1.3**
ZALV pmax pmax
comp=Z,16nm,0.9s
ZALV Zalesovo Beam 85.96 326 P **P 20 41 27.8 -1.5**
ZALV Zalesovo Beam 85.96 326 P **P 20 41 27.8 -1.5**
comp=Z,16nm,0.9s,baz=109,slow=4.8,SNR=49
ZALV LR LR 21 18 22.8
comp=Z,158nm,19.2s,baz=250,slow=35
DAWY Dawson 86.09 23 ⇑*i*P **P 20 41 30.5 +0.7**
WRAK Wrangell Islan 86.24 32 PFAKE 20 41 40.0 +9.4
WRAK LR LR
comp=Z,351nm,21.0s
NVS Novosibirsk 87.13 326 *e*P **P 20 41 33.3 -1.7**
NVS *e*S **SKSac 20 51 56.4 -5.3**
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,36nm,1.8s
NVS pmax pmax
comp=N,8.0nm,1.5s
NVS smax smax
comp=N,9.0nm,2.2s
NVS smax smax
comp=E,32nm,2.7s
KHMM Horse Mountain 87.31 48 *e*P **P 20 41 37.8 +1.3**
comp=E,14nm,1.0s
KRMB Red Mountain 87.32 48 *e*P **P 20 41 38.1 +1.7**
comp=E,47nm,2.7s
KSH Kashi 87.97 310 P **P 20 41 41.1 +1.5**
KSH sP **sP 20 41 47.9 +1.4**
KSH PP **PP 20 45 10.0 +3.8**
KSH S **S 20 52 22.0 -0.9**
KSH sS **sS 20 52 30.5 -0.7**
KSH SS **SS 20 58 13.2 +2.2**
KSH pmax pmax
comp=Z,11nm,1.2s
KSH pmax pmax
comp=Z,62nm,3.8s
KSH LR LR
comp=N,150nm,6.6s
KSH LR LR
comp=E,140nm,8.0s
KSH LR LR
comp=Z,110nm,8.0s
DLBC Dease Lake 88.09 30 *e*P **P 20 41 41.3 +1.6**
WDC Whiskeytown Da 88.13 49 P **P 20 41 39.4 -0.8**
WDC pmax pmax
comp=Z,22nm,1.6s
WDC Whiskeytown Da 88.13 49 P **P 20 41 39.4 -0.8**
comp=Z,22nm,1.6s
YBH Yreka Blue Hor 88.25 48 *e*P **P 20 41 42.0 +1.2**
comp=Z,6.4nm,0.9s
HUMO Hull Mountain 88.25 47 *e*P **P 20 41 42.5 +1.7**
comp=Z,6.3nm,0.9s
OHCM Honcut 88.67 50 *e*P P 20 41 46.0 +3.3
KURK Kurchatov 88.68 322 P **P 20 41 41.4 -1.1**
KURK 20 45 07.3
KURK Kurchatov 88.68 322 P **P 20 41 41.4 -1.1**
KURK PP **PP 20 45 07.3 -4.0**
NLWA Neilton Lookou 88.68 42 PFAKE 20 41 50.0 +7.3
NLWA LR LR
comp=Z,400nm,20.0s
KURBB Kurchatov Arra 88.71 321 P **P 20 41 41.4 -1.2**
comp=Z,4.2nm,1.0s,baz=111,slow=3.9,SNR=19
KURBB PP **PP 20 45 07.3 -4.3**
comp=Z,4.8nm,1.0s,baz=103,slow=9.3,SNR=5.4
TKM2 Tokmak 2 88.95 313 *e*P **P 20 41 43.9 -0.4**
TKM2 *e* 20 45 13.1
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 88.95 313 P **P 20 41 44.0 -0.4**
SNR=9.4
TKM2 Tokmak 2 88.95 313 *e*P **P 20 41 43.9 -0.4**
comp=Z,7.6nm,0.8s
TKM2 *e*PP **PP 20 45 13.1 -0.9**
KZA Kyzart 89.03 313 P **P 20 41 45.4 +0.4**
SNR=23
PKM Peak Mountain 89.15 55 ⇑P **P 20 41 46.4 +1.0**
baz=89
CMB Columbia Colle 89.27 52 *e*P P 20 41 50.2 +4.5
CMB pmax pmax
comp=Z,16nm,1.5s
CMB Columbia Colle 89.27 52 *e*P P 20 41 50.2 +4.5
comp=Z,16nm,1.5s
CHMS Chumysh 89.57 313 P **P 20 41 46.9 -0.1**
SNR=7.2
FRU Bishkek 89.64 313 *e*P **P 20 41 48.0 +0.7**
FRU pmax pmax
comp=Z,50nm,2.0s
AAK Ala-Archa 89.69 313 *c i*P **P 20 41 47.1 -0.6**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 89.69 313 *e*P **P 20 41 46.9 -0.8**
comp=Z,8.2nm,0.9s
AAK LR LR
comp=Z,344nm,21.0s
AAK Ala-Archa 89.69 313 P **P 20 41 47.4 -0.3**
comp=Z,3.9nm,0.6s,baz=129,slow=4.5,SNR=7.1
USP Ospenovka 89.81 314 P **P 20 41 47.6 -0.5**
SNR=8.2
INK Inuvik 90.01 20 *e*P **P 20 41 47.9 -0.4**
comp=Z,22nm,1.4s
CIS Catalina Islan 90.06 56 ⇓P **P 20 41 51.1 +1.7**
baz=90
AML Almayashu 90.18 312 P **P 20 41 50.4 +0.1**
SNR=14
EKS2 Erkin-Say 90.21 313 *e*P **P 20 41 49.9 -0.2**
EKS2 pmax pmax
comp=Z,31nm,1.7s
EKS2 Erkin-Say 90.21 313 P **P 20 41 50.0 -0.2**
SNR=12
EKS2 Erkin-Say 90.21 313 *e*P **P 20 41 49.9 -0.2**
comp=Z,30nm,1.7s
PAHR Pah Rah Range 90.34 50 *e*P **P 20 41 52.0 +1.2**
comp=Z,14nm,1.2s
ISA Isabella 90.37 54 *e*P **P 20 41 53.2 +2.3**
ISA pmax pmax
comp=Z,14nm,1.1s
ISA Isabella 90.37 54 *e*P **P 20 41 53.2 +2.3**
comp=Z,14nm,1.1s
ISA Isabella 90.37 54 ⇓P **P 20 41 54.0 +3.1**
baz=90
MWC Mount Wilson 90.47 56 *e*P **P 20 41 52.5 +0.9**
MWC pmax pmax
comp=Z,71nm,1.3s
MWC Mount Wilson 90.47 56 *e*P **P 20 41 52.5 +0.9**
comp=Z,71nm,1.3s
MTUM Tungsten Hills 90.57 53 *e*P P 20 41 55.9 +3.9
EDW2 Edwards Air Fo 90.63 55 ⇓P **P 20 41 53.8 +1.7**
baz=91,SNR=10.0
BFSC Mount Baldy Ra 90.80 56 ⇓P **P 20 41 54.8 +1.7**
baz=91,SNR=5.5
CWC Cottonwood Cre 90.81 53 ⇓P **P 20 41 54.3 +1.3**
baz=91
NVAR Mina Array Bea 90.95 51 P P **20 41 55.9 +2.1**
NVAR Mina Array Bea 90.95 51 P P **20 41 55.9 +2.1**
comp=Z,9.8nm,1.0s,baz=245,slow=6.1,SNR=34
NVAR LR LR 21 17 42.5
comp=Z,471nm,19.5s,baz=344,slow=32
LRMC Laurel Mountai 90.97 54 ⇑P **P 20 41 55.4 +1.6**
baz=91,SNR=8.5
NV11 Mina Array Sit 91.07 52 *e*P **P 20 41 56.0 +1.8**
MPMC Manual Prospec 91.22 54 ⇓P **P 20 41 57.2 +2.1**
baz=91,SNR=11
WVOR Wild Horse Val 91.36 47 *e*P **P 20 41 56.2 +0.8**
WVOR pmax pmax
comp=Z,29nm,1.2s
WVOR MLR MLR
comp=Z,312nm,19.0s
WVOR Wild Horse Val 91.36 47 *e*P **P 20 41 56.2 +0.8**
comp=Z,29nm,1.2s
WVOR LR LR
comp=Z,312nm,19.0s
GRAC Grapevine Rang 91.46 53 ⇑P **P 20 41 58.3 +2.3**
baz=92,SNR=5.9
MONP Monument Peak 91.62 57 ⇑P **P 20 41 58.1 +1.1**
baz=92
GSC Goldstone 91.66 55 *e*P **P 20 41 59.3 +2.4**
GSC pmax pmax
comp=Z,26nm,1.4s
GSC Goldstone 91.66 55 *e*P **P 20 41 59.3 +2.4**
comp=Z,26nm,1.4s
GSC Goldstone 91.66 55 ⇓P **P 20 41 58.1 +1.2**
baz=92,SNR=5.3
PFO Pinyon Flat Ob 91.69 56 *e*P **P 20 41 59.9 +2.7**
comp=Z,16nm,1.2s
PFO LR LR
comp=Z,369nm,20.0s
TPH Tonopah 91.74 52 PFAKE 20 42 10.0 +13
TPH LR LR
comp=Z,526nm,19.0s
FURC Furnace Creek, 91.78 54 ⇑P **P 20 41 59.3 +1.9**
baz=92,SNR=15
DVTC Desert V Tower 91.85 57 ⇑P **P 20 41 59.8 +1.9**
baz=92
HEC Hector,Ludlow 91.97 55 ⇓P **P 20 42 00.6 +2.2**
baz=92
SYO Syowa Base 91.97 199 ⇓*e*P **P 20 41 56.4 -1.2**
SYO Syowa Base 91.97 199 ⇑*e*sP sP 20 42 03.6 -0.8
BMN Battle Mountai 92.09 50 *e*P **P 20 42 00.4 +1.4**
BMN pmax pmax
comp=Z,16nm,1.0s
BMN MLR MLR
comp=Z,222nm,20.0s
BMN Battle Mountai 92.09 50 *e*P **P 20 42 00.4 +1.4**
comp=Z,16nm,1.0s
BMN LR LR
comp=Z,222nm,20.0s
BELC Belle Mtn. Jos 92.13 56 ⇓P **P 20 42 01.3 +2.1**
baz=92,SNR=9.2
SWSC Sam W. Stewart 92.14 57 ⇓P **P 20 42 01.4 +2.3**
baz=92
SHOC Shoshone 92.17 54 ⇑P **P 20 42 01.5 +2.3**
baz=92
TUQ Turquoise Moun 92.39 55 ⇓P **P 20 42 02.1 +1.7**
baz=93,SNR=6.9
GMRC Granite Mounta 92.51 55 ⇓P **P 20 42 03.2 +2.2**
baz=93,SNR=13
BC3 Big Chuckawall 92.53 57 ⇓P **P 20 42 03.0 +2.0**
baz=93
KBL Kabul 92.59 304 *e*P **P 20 41 59.4 -2.0**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 92.59 304 *e*P **P 20 41 59.4 -2.0**
comp=Z,11nm,1.0s
KKAR Karatay Array 92.65 313 *e*P **P 20 41 59.3 -2.0**
KKAR Karatay Array 92.65 313 *e*P **P 20 41 59.3 -2.0**
BMO Blue Mountains 92.69 45 *e*P **P 20 42 01.5 0.0**
BMO pmax pmax
comp=Z,10.0nm,1.3s
BMO MLR MLR
comp=Z,301nm,19.0s
BMO Blue Mountains 92.69 45 *e*P **P 20 42 01.5 0.0**
comp=Z,9.8nm,1.3s
BMO LR LR
comp=Z,301nm,19.0s
IRM Iron Mountain 92.84 56 ⇑P **P 20 42 05.4 +3.0**
baz=93,SNR=9.0
GLA Glamis 92.97 57 *e*P P 20 42 07.1 +4.1
GLA Glamis 92.97 57 *e*P P 20 42 07.1 +4.1
LDFC Landfair 93.00 55 *e*P P 20 42 06.9 +3.7
comp=Z,71nm,1.4s
R11A Troy Canyon, C 93.05 52 ⇓P **P 20 42 05.5 +2.0**
baz=93,SNR=17
NEW Newport 93.31 42 P **P 20 42 03.7 -0.5**
comp=Z,6.3nm,1.1s
NEW LR LR
comp=Z,385nm,20.0s
NEW Newport 93.31 42 ⇓P **P 20 42 05.4 +1.2**
baz=94
MFID Camas Ranch 93.54 47 *e*P P 20 42 08.8 +3.2
comp=Z,21nm,1.5s
W13A Hualapai Mount 94.00 55 ⇓P **P 20 42 09.6 +1.7**
baz=94
BRVK Borovoye 94.19 323 P **P 20 42 06.0 -2.1**
comp=Z,55nm,1.1s,SNR=6.0
BRVK Borovoye 94.19 323 *e*P **P 20 42 06.0 -2.1**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK MLR MLR
comp=Z,348nm,20.0s
BRVK Borovoye 94.19 323 *e*P **P 20 42 06.0 -2.1**
comp=Z,15nm,1.2s
BRVK *e*PP PP 20 45 46.4 -8.5
BRVK LR LR
comp=Z,348nm,20.0s
HLID Hailey 94.58 47 *e*P **P 20 42 11.1 +0.7**
comp=Z,5.3nm,1.0s
HLID LR LR
comp=Z,293nm,19.0s
CCUT Cedar City 94.70 53 *e*P **P 20 42 12.9 +1.7**
comp=Z,9.4nm,1.1s
B13A Whitefish 95.08 42 ⇑P **P 20 42 14.7 +2.3**
baz=95
DUG Dugway 95.41 50 PFAKE 20 42 30.0 +16
DUG LR LR
comp=Z,238nm,20.0s
U15A North Rim 95.43 54 ⇑P **P 20 42 15.8 +1.3**
baz=96
MVU Marysvale 95.70 52 PFAKE 20 42 30.0 +14
MVU LR LR
comp=Z,579nm,19.0s
MSU Marysvale 95.73 52 *e*P **P 20 42 16.4 +0.6**
MSU Marysvale 95.73 52 *e*P **P 20 42 16.4 +0.6**
MCMT McKenzie Canyo 95.83 46 *e*P **P 20 42 18.1 +2.0**
comp=Z,1.5nm,1.0s
DLMT Dillon 96.06 45 *e*P **P 20 42 18.0 +1.0**
comp=Z,4.6nm,1.0s
WUAZ Wupatki 96.08 55 PFAKE 20 42 30.0 +13
WUAZ LR LR
comp=Z,293nm,20.0s
TUC Tucson 96.27 58 PFAKE 20 42 30.0 +12

TUC LR LR
comp=Z,410nm,20.0s
YKA Yellowknife Ar 96.38 28 P **P 20 42 18.4 +0.6**
YKA Yellowknife Ar 96.38 28 P **P 20 42 18.4 +0.6**
comp=Z,7.8nm,0.7s,baz=264,slow=4.8,SNR=29
YKW3 Yellowknife Ar 96.38 28 *e*P **P 20 42 17.5 -0.4**
comp=Z,0.4nm,1.1s
HWUT Hardware Ranch 96.48 49 PFAKE 20 42 30.0 +11
HWUT LR LR
comp=Z,221nm,21.0s
Q16A Castle Valley 96.55 52 ⇓P **P 20 42 21.4 +1.9**
baz=97
TMUT Trail Mountain 96.56 51 *e*P P 20 42 22.8 +3.2
comp=Z,6.9nm,0.8s
BOZ Bozeman (W) 96.76 45 PFAKE 20 42 30.0 +10
BOZ LR LR
comp=Z,342nm,19.0s
RRI2 Red Ridge 96.80 47 *e*P **P 20 42 21.2 +0.6**
comp=Z,5.8nm,1.0s
AHID Auburn Hatcher 96.92 48 PFAKE 20 42 30.0 +8.9
AHID LR LR
comp=Z,313nm,19.0s
F17A Fitzpatrick Pl 97.46 45 ⇓P Pdif 20 42 25.4 +2.0
baz=98
LKWY Lake 97.55 46 PFAKE 20 42 40.0 +16
LKWY LR LR
comp=Z,351nm,21.0s
BW06 Boulder Array 98.05 48 PFAKE 20 42 40.0 +14
BW06 LR LR
comp=Z,231nm,19.0s
PDAR Pinedale Array 98.05 48 P Pdif 20 42 26.4 +0.1
PDAR Pinedale Array 98.05 48 P Pdif 20 42 26.4 +0.1
comp=Z,2.1nm,0.9s,baz=240,slow=2.0,SNR=17
PDAR LR LR 21 22 42.3
comp=Z,179nm,18.0s,baz=105,slow=33
EGMT Eagleton 98.19 43 PFAKE 20 42 40.0 +13
EGMT LR LR
comp=Z,284nm,19.0s
RLMT Red Lodge 98.39 46 PFAKE 20 42 40.0 +12
RLMT LR LR
comp=Z,293nm,19.0s
MVCO Mesa Verde 98.53 54 PFAKE 20 42 40.0 +11
MVCO LR LR
comp=Z,380nm,19.0s
H19A Powell 98.57 46 ⇑Pdiff Pdif 20 42 30.3 +2.0
baz=99
H19A Powell 98.57 46 ⇑Pdiff Pdif 20 42 30.3 +2.0
baz=99
K19A Absolon Red Bu 98.58 48 ⇑Pdiff Pdif 20 42 29.5 +0.9
baz=99
K19A Absolon Red Bu 98.58 48 ⇑Pdiff Pdif 20 42 29.5 +0.9
baz=99
E19A Rath Farm, Rou 98.78 44 ⇓Pdiff Pdif 20 42 31.0 +1.7
baz=99
E19A Rath Farm, Rou 98.78 44 ⇓Pdiff Pdif 20 42 31.0 +1.7
baz=99
G20A Bridger 99.14 45 ⇓Pdiff **Pdif 20 42 31.9 +1.0**
baz=99
G20A Bridger 99.14 45 ⇓Pdiff **Pdif 20 42 31.9 +1.0**
baz=99
E20A Meyer Farm, Mu 99.24 44 ⇑Pdiff **Pdif 20 42 32.4 +1.1**
baz=99
E20A Meyer Farm, Mu 99.24 44 ⇑Pdiff **Pdif 20 42 32.4 +1.1**
baz=99
SNAA Sanae 99.38 186 *e*P **Pdif 20 42 30.3 -1.1**
comp=Z,2.3nm,0.9s
SNAA Sanae 99.38 186 LR LR 21 25 42.0
comp=Z,108nm,18.6s,baz=199,slow=34
ANMO Albuquerque 100.06 56 PFAKE 20 42 50.0 +15
ANMO LR LR
comp=Z,337nm,20.0s
ABKAR Akbulak array 100.43 319 *e*Pdif **Pdif 20 42 34.2 -2.1**
ABKAR *e*PP PP 20 46 37.0 -5.9
MSEY Mahe Island 100.48 264 PFAKE 20 42 50.0 +13
MSEY LR LR
comp=Z,410nm,21.0s
MNTX Cornudas Mount 100.81 59 PFAKE 20 42 50.0 +12
MNTX LR LR
comp=Z,401nm,19.0s
ISCO Idaho Springs 100.90 51 PFAKE 20 42 50.0 +11
ISCO LR LR
comp=Z,420nm,20.0s
SDCO Great Sand Dun 100.94 53 PFAKE 20 42 50.0 +11
SDCO LR LR
comp=Z,268nm,20.0s
ARU Arti 101.13 326 P **Pdif 20 42 37.2 -2.1**
ARU 20 46 46.2
ARU S **SKSac 20 53 13.7 -4.2**
ARU SP **SP 20 55 54.5 +6.4**
PMSA Palmer Station 101.35 163 PFAKE 20 42 50.0 +10
PMSA LR LR
comp=Z,518nm,21.0s
DGMT Dagmar 101.91 42 PFAKE 20 42 50.0 +7.0
DGMT LR LR
comp=Z,274nm,19.0s
TXAR Lajitas Array 102.18 62 P **Pdif 20 42 45.8 +1.0**
TXAR PP **PP 20 46 54.4 -2.6**
TXAR Lajitas Array 102.18 62 P **Pdif 20 42 45.8 +1.0**
comp=Z,0.3nm,0.7s,baz=230,slow=9.1,SNR=2.2
TXAR PP **PP 20 46 54.4 -2.6**
comp=Z,1.6nm,1.1s,baz=234,slow=4.3,SNR=4.2
FFC Flin Flon 102.97 36 PFAKE 20 43 00.0 +12
FFC LR LR
comp=Z,383nm,19.0s
OGNE Ogallala 103.64 50 PFAKE 20 43 00.0 +9.0
OGNE LR LR
comp=Z,312nm,19.0s
AMTX Amarillo 103.98 56 PFAKE 20 43 00.0 +7.4
AMTX LR LR
comp=Z,432nm,20.0s
JCT Junction City 105.56 61 PFAKE 20 47 20.0
JCT LR LR
comp=Z,370nm,19.0s
ABPO Ambohimpanom 105.58 248 PFAKE 20 47 20.0
ABPO LR LR
comp=Z,411nm,20.0s
WMOK Wichita Mounta 106.37 56 PFAKE 20 47 30.0
WMOK LR LR
comp=Z,346nm,19.0s
KBS Kingsbay 106.96 353 PFAKE 20 47 30.0
KBS LR LR
comp=Z,217nm,21.0s
KVTX Kingsville 107.23 64 PFAKE 20 47 30.0
KVTX LR LR
comp=Z,377nm,21.0s
AGMN Agassiz Nation 107.46 42 *e*Pdif **Pdif 20 43 06.7 -1.0**
AGMN LR LR
comp=Z,245nm,19.0s
ECSD EROS Data Cent 107.48 47 PFAKE 20 47 30.0
ECSD LR LR
comp=Z,287nm,19.0s
KSU1 Kansas State U 107.89 52 PFAKE 20 47 30.0
KSU1 LR LR
comp=Z,443nm,19.0s
APA Apatity 109.64 340 ⇑*e*P **Pdif 20 43 09.0 -7.9**
APA MLR MLR
comp=Z,300nm,24.0s
SCIA State Center 110.17 48 PFAKE 20 47 30.0
SCIA LR LR
comp=Z,278nm,20.0s
EYMN Ely 110.41 42 PFAKE 20 47 30.0
EYMN LR LR
comp=Z,304nm,20.0s
KEV Kevo 110.46 343 PFAKE 20 47 30.0
KEV LR LR
comp=Z,349nm,22.0s
MIAR Mount Ida 110.67 56 PFAKE 20 47 30.0
MIAR LR LR
comp=Z,359nm,20.0s
ARCES ARCESS Array B 111.02 344 PKiKP **PKiKP 20 47 21.8 -0.4**
ARCES ARCESS Array B 111.02 344 PKiKP **PKiKP 20 47 21.8 -0.4**
comp=Z,1.5nm,0.8s,baz=64,slow=2.1,SNR=8.1
GNI Garni 111.91 310 PFAKE 20 47 40.0
GNI LR LR
comp=Z,174nm,22.0s
JFWS Jewell Farm 112.19 47 PFAKE 20 47 40.0
JFWS LR LR
comp=Z,250nm,21.0s
COWI Conover 112.36 43 PFAKE 20 47 40.0
COWI LR LR
comp=Z,288nm,19.0s
KIV Kislovodsk 112.77 314 ⇑*i*PKIKP **PKiKP 20 47 25.6 -0.7**
KIV *e* 20 48 11.7
KIV *e*PS **PS 20 57 50.7 +1.6**
KIV *e*SS SS 21 04 05.3 +9.2
KIV *e*SSS SSS 21 08 05.2
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,200nm,18.0s
BHD Baghdad 113.02 303 *e*P **Pdif 20 43 33.0 +0.3**
BHD *e*SKS 20 53 13.0
VBMS Vicksburg 113.42 58 PFAKE 20 47 40.0
VBMS LR LR
comp=Z,303nm,19.0s
OBN Obninsk 113.51 327 ⇑*i*PKIKP **PKiKP 20 47 26.3 -0.9**
OBN *e* 20 48 15.3
OBN *e* 20 54 29.4
OBN *e*PS **PS 20 57 49.3 -5.8**
OBN pmax pmax
comp=Z,14nm,1.8s
OXF Oxford 114.09 56 PFAKE 20 47 40.0 +11
OXF LR LR
comp=Z,328nm,20.0s
FINES FINESS Array B 115.53 336 PKP **PKPdf 20 47 30.2 -0.7**
FINES FINESS Array B 115.53 336 PKP **PKPdf 20 47 30.2 -0.7**
comp=Z,1.9nm,0.8s,baz=39,slow=3.4,SNR=9.4
GLMI Grayling 115.75 44 PFAKE 20 47 40.0 +8.1
GLMI LR LR
comp=Z,408nm,19.0s
TEIG Tepich 116.10 71 PFAKE 20 47 50.0 +17
TEIG LR LR
comp=Z,277nm,22.0s
ANN Anapa 116.24 316 *i* PKIKP **PKPdf 20 47 30.2 -2.6**
LRAL Lakeview Retre 116.27 57 PFAKE 20 47 50.0 +17
LRAL LR LR
comp=Z,303nm,19.0s
BRAL Brewton 116.48 59 PFAKE 20 47 50.0 +16
BRAL LR LR
comp=Z,602nm,20.0s
MALT Malatya 117.05 309 PFAKE 20 47 50.0 +15
MALT LR LR
comp=Z,204nm,21.0s
SFJD Kangerlussuaq 118.19 12 PFAKE 20 47 50.0 +14
SFJD LR LR
comp=Z,335nm,19.0s
KMBO Kilima Mbogo 119.01 264 PKP **PKPdf 20 47 39.9 +0.5**
KMBO LR LR
comp=Z,213nm,20.0s
KMBO Kilima Mbogo 119.01 264 PKP **PKPdf 20 47 39.9 +0.5**
comp=Z,1.3nm,0.8s,baz=167,slow=6.1,SNR=2.2
GOGA Godfrey 119.14 56 PFAKE 20 47 50.0 +11
GOGA LR LR
comp=Z,1.0nm,22.0s
AKASG Malin Array Be 119.34 325 *c i*PKIKP **PKPdf 20 47 38.0 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 119.34 325 PKP **PKPdf 20 47 37.5 -1.1**
AKASG PP **PP 20 49 00.5 +1.0**
AKASG Malin Array Be 119.34 325 PKP **PKPdf 20 47 37.5 -1.1**
comp=Z,3.4nm,0.7s,baz=59,slow=2.8,SNR=19
AKASG PP **PP 20 49 00.5 +1.0**
comp=Z,0.3nm,0.3s,baz=51,slow=7.5,SNR=4.1
BR131 Keskin Array S 120.33 312 *e*PKPdf **PKPdf 20 47 39.8 -1.3**
BRTR Keskin Array B 120.33 312 PKP **PKPdf 20 47 40.4 -0.7**
BRTR Keskin Array B 120.33 312 PKP **PKPdf 20 47 40.4 -0.7**
comp=Z,4.2nm,0.9s,baz=133,slow=2.7,SNR=15
BOSA Boshof 120.76 230 PKP **PKPdf 20 47 41.9 -0.3**
BOSA Boshof 120.76 230 PKP **PKPdf 20 47 41.9 -0.3**
comp=Z,3.4nm,0.9s,baz=93,slow=9.1,SNR=3.5
BLA Blacksburg 120.77 51 PFAKE 20 47 50.0 +8.1
BLA LR LR
comp=Z,207nm,21.0s
ANTO Ankara 120.92 312 ⇑PKIKP **PKPdf 20 47 42.0 -0.1**
ANTO Ankara 120.92 312 ⇑*i*P **PKPdf 20 47 42.0 -0.1**
ANTO Ankara 120.92 312 *e*PKPdf **PKPdf 20 47 41.7 -0.4**
ANTO *e* 20 47 50.7
ANTO LR LR
comp=Z,131nm,19.0s
SUW Suwalki 120.94 330 *e*PKIKP **PKPdf 20 47 41.4 -0.2**
SUW Suwalki 120.94 330 *e*PKPdf **PKPdf 20 47 41.4 -0.2**
NB2 NORSAR Subarra121.19 341 PKPdf **PKPdf 20 47 40.2 -1.7**
comp=Z,1.5nm,0.8s,baz=39,slow=1.9
NOA NORSAR Array B121.19 341 PKP **PKPdf 20 47 41.0 -0.9**
NOA PP **PP 20 49 09.2 -2.5**
NOA NORSAR Array B121.19 341 PKP **PKPdf 20 47 41.0 -0.9**
comp=Z,2.3nm,0.8s,baz=46,slow=1.9,SNR=13
NOA PP **PP 20 49 09.2 -2.5**
comp=Z,2.8nm,0.9s,baz=42,slow=7.3,SNR=5.3
CSS Prodhromos 121.78 306 PFAKE 20 48 00.0 +16
CSS LR LR
comp=Z,246nm,22.0s
LBTB Lobatse 122.25 234 *e*PKPdf **PKPdf 20 47 41.0 -4.1**
CFR Carcaliu 122.32 319 ⇓PKIKP **PKPdf 20 47 44.9 +0.4**
CFR Carcaliu 122.32 319 ⇓*i*P **PKPdf 20 47 44.9 +0.4**
TIRR Tirgusor 122.42 318 ⇑PKIKP **PKPdf 20 47 40.6 -4.1**
TIRR Tirgusor 122.42 318 ⇑*i*P **PKPdf 20 47 40.6 -4.1**
BINY Binghamton 122.53 45 PFAKE 20 48 00.0 +15
BINY LR LR
comp=Z,383nm,20.0s
LONY Lake Ozonia 122.57 41 PFAKE 20 48 00.0 +15
LONY LR LR
comp=Z,299nm,20.0s
LVV L'vov 122.70 326 *e*PKIKP **PKPdf 20 47 44.5 -0.6**
LVV *e* 20 47 52.1
KONO Kongsberg 122.77 341 PFAKE 20 48 00.0 +15
KONO LR LR
comp=Z,265nm,20.0s
CBN Corbin 122.82 49 PFAKE 20 48 00.0 +14
CBN LR LR
comp=Z,605nm,19.0s
VRI Vrincioaia 122.93 320 ⇑PKIKP **PKPdf 20 47 42.7 -3.0**
VRI Vrincioaia 122.93 320 ⇑*i*P **PKPdf 20 47 42.7 -3.0**
NCB Newcomb 123.06 42 PFAKE 20 48 00.0 +14
NCB LR LR
comp=Z,362nm,20.0s
BUR08 Bucovina Ar. S 123.08 323 *e*PKPdf **PKPdf 20 47 45.2 -0.9**
BURAR Bucovina Array 123.08 323 ⇑PKIKP **PKPdf 20 47 45.6 -0.5**
BURAR Bucovina Array 123.08 323 ⇑*i*P **PKPdf 20 47 45.5 -0.5**
ISP Isparta 123.21 310 PFAKE 20 48 00.0 +13
ISP LR LR
comp=Z,138nm,20.0s
CNNC Cliffs of the 123.25 53 PFAKE 20 48 00.0 +13
CNNC LR LR
comp=Z,269nm,19.0s
KWP Kalwaria Pacla 123.53 326 PFAKE 20 48 00.0 +13
KWP LR LR
comp=Z,378nm,21.0s
MLR Muntele Rosu 123.59 320 ⇑*i*P **PKPdf 20 47 47.4 +0.2**
LSZ Lusaka 124.05 246 *e*PKPdf **PKPdf 20 47 49.4 +0.5**
LSZ *e* 20 47 57.1
BCIP Isla Barro Col 124.07 84 PFAKE 20 48 00.0 +11
BCIP LR LR
comp=Z,173nm,19.0s
KOLS Kolonicke sedl 124.14 325 *e*PKIKP **PKPdf 20 47 48.4 +0.5**
KOLS Kolonicke sedl 124.14 325 *e*PKP **PKPdf 20 47 48.4 +0.5**
UZH Uzhgorod 124.29 325 *e*PKIKP **PKPdf 20 47 49.4 +1.2**
OTAV Otavalo 124.45 95 PFAKE 20 48 00.0 +10
OTAV LR LR
comp=Z,179nm,21.0s
LBNH Lisbon 124.46 41 PFAKE 20 48 00.0 +11
LBNH LR LR
comp=Z,354nm,19.0s
STHS Stebnicka Huta 124.46 326 *e*PKIKP **PKPdf 20 47 49.1 +0.5**
STHS Stebnicka Huta 124.46 326 *e*PKP **PKPdf 20 47 49.0 +0.5**
ARR Arges 124.47 321 ⇑*i*P **PKPdf 20 47 50.2 +1.4**
CRVS Cervenica-Dubn 124.61 326 *e*PKIKP **PKPdf 20 47 49.0 +0.2**
CRVS Cervenica-Dubn 124.61 326 *e*PKP **PKPdf 20 47 49.0 +0.2**
OJC Ojcow 124.79 328 *e*PKIKP **PKPdf 20 47 49.5 +0.4**
OJC Ojcow 124.79 328 *e*PKPdf **PKPdf 20 47 49.5 +0.4**
LOT Lotru 124.98 321 ⇑*i*P **PKPdf 20 47 49.2 -0.6**
KECS Kecovo 125.38 326 *e*PKIKP **PKPdf 20 47 50.1 -0.2**
KECS Kecovo 125.38 326 *e*PKP **PKPdf 20 47 50.1 -0.2**
MBAR Mbarara 125.52 264 PFAKE 20 48 00.0 +8.2
MBAR LR LR
comp=Z,787nm,21.0s
GZR Gura Zlata 125.62 321 ⇑PKIKP **PKPdf 20 47 51.3 +0.3**
GZR Gura Zlata 125.62 321 ⇑*i*P **PKPdf 20 47 51.3 +0.3**
OKC Ostrava-Krasne 125.88 328 *e*PKIKP **PKPdf 20 47 51.2 0.0**
OKC *e* 20 48 00.2
OKC MLR MLR
comp=Z,200nm,18.0s
OKC Ostrava-Krasne 125.88 328 *e*PKPdf **PKPdf 20 47 51.2 0.0**
OKC *e*pPKP **pPKPdf 20 48 00.2 +3.8**
OKC AMS AMS 21 46 20.0
comp=Z,200nm,18.0s
PSZ Piszkesteto 126.02 325 *e*PKIKP **PKPdf 20 47 50.5 -1.2**
PSZ MLR MLR
comp=Z,336nm,20.0s
PSZ Piszkesteto 126.02 325 ⇑*i*P PKPdf 20 47 45.5 -6.2
PSZ Piszkesteto 126.02 325 *e*PKPdf **PKPdf 20 47 50.5 -1.2**
PSZ LR LR
comp=Z,336nm,20.0s
KSP Ksiaz 126.22 330 *e*PKIKP **PKPdf 20 47 52.2 +0.4**
KSP *e* 20 48 00.9
BZS Buzias 126.22 322 ⇓⇓PKIKP **PKPdf 20 47 52.2 +0.2**
BZS Buzias 126.22 322 ⇓⇓*i*P **PKPdf 20 47 52.2 +0.2**
MORC Moravsky Berou 126.23 328 *e*PKIKP **PKPdf 20 47 52.1 +0.1**
MORC *e* 20 49 42.3
MORC Moravsky Berou 126.23 328 *e*PKPdf **PKPdf 20 47 52.1 +0.1**
MORC *e*PP **PP 20 49 42.3 -3.7**
VYHS Vyhne 126.29 326 *e*PKIKP **PKPdf 20 47 51.1 -1.0**
VYHS Vyhne 126.29 326 *e*PKP **PKPdf 20 47 51.1 -1.0**
DPC Dobruska-Polom 126.51 329 *e*PKIKP **PKPdf 20 47 53.3 +0.8**
DPC *e* 20 49 49.3
DPC Dobruska-Polom 126.51 329 *e*PKPdf **PKPdf 20 47 52.7 +0.2**
DPC *e*pPKP **pPKPdf 20 48 01.3 +3.6**
DPC *e*x x 20 48 06.5
DPC *e*PP **PP 20 49 48.8 +1.0**
DPC AMS AMS 21 43 50.0
DPC Dobruska-Polom 126.51 329 *e*PKPdf **PKPdf 20 47 53.3 +0.8**
DPC *e*PP **PP 20 49 49.3 +1.5**
VTS Vitosha 126.64 318 ⇓⇓PKIKP **PKPdf 20 47 53.6 +0.4**
VTS Vitosha 126.64 318 ⇓⇓*i*P **PKPdf 20 47 53.5 +0.4**
SMOL Smolenice 127.04 327 *e*PKIKP **PKPdf 20 47 53.6 +0.1**
SMOL Smolenice 127.04 327 *e*PKP **PKPdf 20 47 53.6 +0.1**
PVCC Panska Ves 127.26 331 *e*PKIKP **PKPdf 20 47 54.6 +0.8**
PVCC *e* 20 48 04.5
PVCC Panska Ves 127.26 331 *e*PKPdf **PKPdf 20 47 54.6 +0.8**
PVCC *e*x x 20 47 59.2
PVCC *e*pPKP **pPKPdf 20 48 04.5 +5.5**
BRG Berggiesshubel 127.34 331 *e*PKP **PKPdf 20 47 54.4 +0.4**
comp=Z,13nm,1.2s
BRG
comp=N,277nm,18.4s
BRG
comp=E,186nm,21.9s
BRG
comp=Z,304nm,17.8s
BRG Berggiesshubel 127.34 331 *e*PKIKP **PKPdf 20 47 54.4 +0.4**
BRG pmax pmax
comp=Z,13nm,1.2s
BRG MLR MLR
comp=N,277nm,18.4s
BRG MLR MLR
comp=E,186nm,21.9s
BRG MLR MLR
comp=Z,304nm,17.8s
CLL Collm 127.49 332 ⇓*i*PKIKP **PKPdf 20 47 54.6 +0.4**
CLL *i* 20 48 03.0
CLL pmax pmax
comp=Z,11nm,1.0s
CLL MLR MLR
comp=Z,200nm,19.9s
CLL Collm 127.49 332 ⇓*i*PKPdf **PKPdf 20 47 54.6 +0.4**
comp=Z,11nm,1.0s
CLL *i* pPKPdf **pPKPdf 20 48 03.0 +3.6**
CLL *i* (sPKPdf) 20 48 08.9
CLL *e*SSSS 21 15 36.0
CLL LmV 21 47 00.0
comp=Z,200nm,19.9s
SANT Santorini 127.51 310 PFAKE 20 48 10.0 +15
SANT LR LR
comp=Z,155nm,19.0s
TREC Trest 127.59 329 AMS AMS 21 43 10.0
comp=Z,400nm,17.8s
PRU Pruhonice 127.62 330 *e*PKIKP **PKPdf 20 47 54.6 +0.1**
PRU *e* 20 48 03.2
PRU *e* 20 48 09.2
PRU MLR MLR
comp=Z,300nm,18.2s
PRU Pruhonice 127.62 330 *e*PKPdf **PKPdf 20 47 54.6 +0.1**
PRU *e*pPKP **pPKPdf 20 48 03.2 +3.5**
PRU *e*x x 20 48 09.2
PRU AMS AMS 21 47 20.0
comp=Z,300nm,18.2s
PKSM Moragy 127.67 324 ⇓⇓PKIKP **PKPdf 20 47 53.8 -0.9**
PKSM Moragy 127.67 324 ⇓⇓*i*P **PKPdf 20 47 53.8 -0.9**
CONA Conrad Observa 128.23 327 ⇓⇓*i*PKIKP **PKiKP 20 47 56.3 -0.2**
comp=Z,9.8nm,1.3s
NKC Novy Kostel 128.48 331 *e*PKIKP **PKPdf 20 47 57.0 +0.8**
NKC *e* 20 48 05.2
NKC MLR MLR
comp=Z,200nm,15.9s
NKC Novy Kostel 128.48 331 *e*PKPdf **PKPdf 20 47 57.0 +0.8**
NKC *e*pPKP **pPKPdf 20 48 05.2 +3.8**
NKC AMS AMS 21 45 50.0
comp=Z,200nm,15.9s
KHC Kasperske Hory 128.66 330 *e*PKIKP **PKPdf 20 47 56.3 -0.3**
KHC *e* 20 48 05.8
KHC Kasperske Hory 128.66 330 *e*PKPdf **PKPdf 20 47 55.6 -1.0**
KHC *e*x x 20 48 03.0
KHC *e*pPKP **pPKPdf 20 48 05.6 +3.8**
KHC AMS AMS 21 45 10.0
comp=Z,300nm,20.0s
KHC Kasperske Hory 128.66 330 *e*PKPdf **PKPdf 20 47 56.3 -0.3**
KHC *e* 20 48 05.8
GEC2 GERESS Array S 128.78 329 *e*PKIKP **PKPdf 20 47 57.4 +0.4**
GEC2 GERESS Array S 128.78 329 *e*PKPdf **PKPdf 20 47 57.4 +0.4**
GERES GERESS Array B 128.78 329 PKP **PKPdf 20 47 56.9 -0.1**
GERES GERESS Array B 128.78 329 PKP **PKPdf 20 47 56.9 -0.1**
comp=Z,4.8nm,0.8s,baz=48,slow=2.0,SNR=43
PERS Pernice 129.42 326 *i* PKPdf **PKPdf 20 47 58.9 +0.7**
TIR Tirane 129.43 318 PFAKE 20 48 10.0 +12
TIR LR LR
comp=Z,207nm,20.0s
LPAZ La Paz 129.46 119 PKP **PKPdf 20 48 00.8 +1.1**
LPAZ *e*PKPdf **PKiKP 20 48 02.7 +2.2**
LPAZ La Paz 129.46 119 PKP **PKPdf 20 48 00.8 +1.1**
comp=Z,3.2nm,1.0s,baz=13,slow=3.5,SNR=7.1
BOJS Bojanci 130.02 325 *i* PKPdf **PKPdf 20 47 59.6 +0.3**
ESK Eskdalemuir 130.16 345 PFAKE 20 48 10.0 +11
ESK LR LR
comp=Z,206nm,19.0s
JAVS Javornik 130.45 326 *i* PKPdf **PKPdf 20 47 59.4 -0.8**
TSUM Tsumeb 131.55 236 PFAKE 20 48 10.0 +6.9
TSUM LR LR
comp=Z,470nm,21.0s
WLF Walferdange 131.72 335 PFAKE 20 48 10.0 +7.7
WLF LR LR
comp=Z,333nm,20.0s
BFO Black Forest 131.74 332 PFAKE 20 48 10.0 +7.5
BFO LR LR
comp=Z,231nm,20.0s
GIVF Givet 131.93 336 *e*PKIKP **PKPdf 20 48 02.8 +0.1**
FUORN Ofenpass-Fuorn 131.99 329 *e*PKPdf **PKPdf 20 48 04.2 +0.9**
SDDR Presa de Saban 132.16 72 PFAKE 20 48 20.0 +16
SDDR LR LR
comp=Z,249nm,22.0s
CDF Champ du Feu 132.16 333 *e*PKIKP **PKPdf 20 48 02.9 -0.4**
comp=Z,10nm,1.1s
BAIF Baives 132.21 336 *e*PKIKP **PKPdf 20 48 03.3 +0.1**
comp=Z,61nm,1.7s
ECH Echery 132.36 333 PFAKE 20 48 20.0 +16
ECH LR LR
comp=Z,329nm,19.0s
CPUP Villa Florida 132.48 137 PKP **PKPdf 20 48 05.3 +0.8**
CPUP Villa Florida 132.48 137 PKP **PKPdf 20 48 05.3 +0.8**
comp=Z,0.3nm,0.3s,baz=108,slow=3.2,SNR=2.7
TUE Stuetta 132.56 330 *e*PKPpre PKPpre 20 47 58.2
TUE *e*PKPdf **PKPdf 20 48 04.3 0.0**
TUE LR LR
comp=Z,528nm,20.0s
TIP Timpagrande 132.56 317 PFAKE 20 48 20.0 +16
TIP LR LR
comp=Z,89nm,19.0s
CUC Castrocucco 132.77 319 PFAKE 20 48 20.0 +15
CUC LR LR
comp=Z,161nm,20.0s
HINF Hinteralfeld 132.79 333 *e*PKIKP **PKPdf 20 48 03.8 -0.7**
comp=Z,42nm,1.5s
HAU Haudompre 132.88 333 *e*PKIKP **PKPdf 20 48 04.4 -0.2**
comp=Z,24nm,1.2s
AQU L'Aquila 132.96 323 PFAKE 20 48 20.0 +15
AQU LR LR
comp=Z,507nm,22.0s
MEZF Maizieres J'vi 133.07 334 *e*PKIKP **PKPdf 20 48 04.7 -0.2**
comp=Z,37nm,1.3s
SDV Santo Domingo 133.14 85 PFAKE 20 48 20.0 +14
SDV LR LR
comp=Z,55nm,20.0s
SFTF Sexfontaines 133.30 334 *e*PKIKP **PKPdf 20 48 05.5 +0.1**
comp=Z,9.1nm,0.6s
VLC Villacollemand 133.57 327 PFAKE 20 48 20.0 +14

VLC LR LR
comp=Z,284nm,19.0s
CEL Celeste 133.61 317 PFAKE 20 48 20.0 +14
CEL LR LR
comp=Z,144nm,20.0s
CABF La Chapelle 134.03 332 *e*PKIKP **PKPdf 20 48 05.6 -1.3**
comp=Z,19nm,0.9s
LPL La Plagne 134.52 330 *e*PKIKP **PKPdf 20 48 07.3 -0.8**
comp=Z,25nm,1.1s
LPG La Plagne 134.53 330 *e*PKIKP **PKPdf 20 48 07.4 -0.8**
comp=Z,16nm,0.9s
LOR Lormes 134.53 344 *e*PKIKP **PKPdf 20 48 07.2 -0.6**
comp=Z,12nm,1.0s
SSF Saint Saulge 134.85 334 *e*PKIKP **PKPdf 20 48 07.6 -0.7**
comp=Z,16nm,1.1s
BNI Bardonecchia 134.88 330 *e*PKIKP PKPpre 20 48 06.8
BNI MLR MLR
comp=Z,259nm,19.0s
BNI Bardonecchia 134.88 330 *e*PKPpre PKPpre 20 48 06.8
BNI LR LR
comp=Z,259nm,19.0s
SMF Signal de Mont 135.02 334 *e*PKIKP **PKPdf 20 48 09.0 +0.3**
comp=Z,21nm,1.3s
FLN La Foliniere 135.04 339 *e*PKIKP **PKPdf 20 48 08.9 +0.3**
MBDF Montbardon 135.07 330 *e*PKIKP **PKPdf 20 48 08.2 -0.8**
comp=Z,18nm,1.1s
AVF Avril sur Loir 135.12 334 *e*PKIKP **PKPdf 20 48 08.8 0.0**
comp=Z,5.9nm,0.8s
ORIF Oris-en-Rattie 135.37 331 *e*PKIKP **PKPdf 20 48 08.5 -1.0**
comp=Z,9.0nm,0.8s
PGF Pioggiola 135.39 326 *e*PKIKP **PKPdf 20 48 08.6 -1.0**
comp=Z,41nm,1.1s
GRR Gorron 135.49 339 *e*PKIKP **PKPdf 20 48 09.3 -0.2**
SSB Saint Sauveur 135.74 332 *e*PKIKP **PKPdf 20 48 09.6 -0.5**
SSB MLR MLR
comp=Z,236nm,22.0s
SSB Saint Sauveur 135.74 332 *e*PKPdf **PKPdf 20 48 09.6 -0.5**
SSB LR LR
comp=Z,236nm,22.0s
WDD Wield Dalam 135.75 315 PFAKE 20 48 20.0 +10
WDD LR LR
comp=Z,176nm,21.0s
FRF La Foret Royal 135.96 329 *e*PKIKP **PKPdf 20 48 09.7 -0.8**
VIVF Saint-Julien-l 136.00 331 *e*PKIKP **PKPdf 20 48 09.9 -0.7**
comp=Z,18nm,1.0s
TCF Toulx Ste Croi 136.01 335 *e*PKIKP **PKPdf 20 48 09.8 -0.8**
comp=Z,18nm,1.1s
SGMF Saint Gilles 136.20 340 *e*PKIKP **PKPdf 20 48 10.0 -0.8**
SMRF Simiane la Rot 136.21 330 *e*PKIKP **PKPdf 20 48 09.5 -1.5**
comp=Z,32nm,1.2s
QUIF Quistinic 136.69 340 *e*PKIKP **PKPdf 20 48 11.1 -0.6**
MFF Saint Martin d 136.72 337 *e*PKIKP **PKPdf 20 48 11.1 -0.7**
comp=Z,22nm,1.1s
SAML Samuel 136.80 112 *e*PKPdf **PKPdf 20 48 13.2 +0.3**
SAML LR LR
comp=Z,207nm,20.0s
VSL Villasalto 137.12 322 PFAKE 20 48 20.0 +7.2
VSL LR LR
comp=Z,194nm,19.0s
KEST Kesra 139.38 318 PKP **PKPdf 20 48 18.1 +0.9**
KEST *e*PKPdf **PKPdf 20 48 18.1 +0.9**
KEST Kesra 139.38 318 PKP **PKPdf 20 48 18.1 +0.9**
comp=Z,3.4nm,0.9s,baz=299,slow=9.9,SNR=9.3
ANWB Willy Bob 141.27 72 PFAKE 20 48 30.0 +9.1
ANWB LR LR
comp=Z,128nm,20.0s
MSKU Masuku 142.02 257 PFAKE 20 48 30.0 +7.5
MSKU LR LR
comp=Z,2.0nm,20.0s
PGAV Gavieira, Arco 143.64 341 *e*LR LR 21 38 16.1
comp=Z,156nm,20.0s
MVO Moncorvo 143.94 339 *e*PKP **PKPdf 20 48 24.9 -0.2**
MVO Moncorvo 143.94 339 *e*LR LR 21 38 12.3
comp=Z,156nm,18.0s
ESDC Sonseca Array 144.01 334 PKP PKPbc 20 48 23.3 +0.1
ESDC PP **PP 20 51 39.3 +1.1**
ESDC Sonseca Array 144.01 334 PKP PKPbc 20 48 23.3 +0.1
comp=Z,2.1nm,0.8s,baz=3.1,slow=2.9,SNR=12
ESDC PP **PP 20 51 39.3 +1.1**
comp=Z,7.6nm,1.2s,baz=24,slow=6.8,SNR=6.1
ESLA Sonseca Array 144.01 334 *e*PKPdf PKPbc 20 48 23.4 +0.3
POLO Lamas de Olo 144.02 340 *e*PKP **PKPdf 20 48 25.6 +0.3**
PAB San Pablo 144.28 335 *e*PKIKP **PKPdf 20 48 27.9 +2.1**
PAB MLR MLR
comp=Z,227nm,19.0s
PAB San Pablo 144.28 335 *e*PKPdf **PKPdf 20 48 27.9 +2.1**
PAB LR LR
comp=Z,227nm,19.0s
PVIS Viseu 144.64 340 *e*PKP **PKPdf 20 48 27.1 +0.7**
MTE Manteigas 144.80 339 *e*PKP **PKPdf 20 48 29.6 +2.9**
MTE Manteigas 144.80 339 *e*LR LR 21 39 29.6
comp=Z,201nm,22.0s
MTE Manteigas 144.80 339 PFAKE 20 48 40.0 +13
MTE LR LR
comp=Z,285nm,19.0s
PCBR Castelo Branco 145.27 338 *e*PKP **PKPdf 20 48 28.2 +0.8**
PMRV Marv??o 145.60 338 *e*PKP **PKPab 20 48 28.5 +0.1**
PMRV Marv??o 145.60 338 *e*LR LR 21 39 44.6
comp=Z,158nm,24.0s
PTOM Tomar 145.80 339 *e*PKP **PKPab 20 48 29.9 +0.8**
BDFB Brasilia 146.05 134 PKPbc **PKPab 20 48 30.8 0.0**
BDFB Brasilia 146.05 134 PKPbc **PKPab 20 48 30.8 0.0**
comp=Z,11nm,0.7s,baz=283,slow=0.6,SNR=13
PMTG Montargil 146.22 339 *e*PKP **PKPbc 20 48 30.0 0.0**
PBAR Barrancos 146.55 336 *e*PKP **PKPdf 20 48 30.3 +0.7**
EVO Evora 146.62 338 *e*PKIKP **PKPdf 20 48 28.7 -1.0**
comp=Z,25nm,0.9s
EVO Evora 146.62 338 *e*PKP **PKPbc 20 48 31.4 +0.2**
PBEJ Beja 147.00 337 *e*PKP **PKPdf 20 48 31.3 +0.9**
PNCL Nicolau / Gran 147.18 338 *e*PKP **PKPbc 20 48 32.8 0.0**
PVAQ Vaqueiros 147.49 337 *e*PKP **PKPbc 20 48 32.5 -1.2**
PVAQ Vaqueiros 147.49 337 *e*LR LR 21 41 32.6
comp=Z,162nm,22.0s
MORF Marmelete 147.93 338 *e*PKP **PKPdf 20 48 32.7 +0.7**
TAM Tamanrasset 148.68 301 *e*PKIKP **PKPdf 20 48 34.0 +0.2**
TAM *e* 20 48 38.2
TAM MLR MLR
comp=Z,145nm,20.0s
TAM Tamanrasset 148.68 301 *e*PKPdf **PKPdf 20 48 34.0 +0.2**
TAM *e*PKPbc **PKPbc 20 48 38.2 +0.6**
TAM LR LR
comp=Z,145nm,20.0s
RTC Rabat Centre 150.02 332 PFAKE 20 48 50.0 +4.0
RTC LR LR
comp=Z,173nm,19.0s
TOA0 Torodi Ar. Sit 154.96 284 *e*PKPdf **PKPdf 20 48 42.6 -0.6**
TOA0 *e*PKPbc **PKPbc 20 48 50.9 -1.1**
TOA0 *e* 20 48 59.0
TORD Torodi Ar. Bea 154.96 284 PKP **PKPdf 20 48 42.5 -0.7**
TORD PKPbc **PKPbc 20 48 51.8 -0.2**
TORD PKPab **PKPab 20 49 09.9 +2.5**
TORD Torodi Ar. Bea 154.96 284 PKP **PKPdf 20 48 42.5 -0.7**
comp=Z,1.6nm,0.8s,baz=56,slow=1.6,SNR=8.4
TORD PKPbc **PKPbc 20 48 51.8 -0.2**
comp=Z,7.7nm,0.9s,baz=16,slow=1.1,SNR=17
TORD PKPab **PKPab 20 49 09.9 +2.5**
comp=Z,6.8nm,1.0s,baz=77,slow=2.7,SNR=5.6
RCBR Riachuelo 161.36 137 PFAKE 20 49 00.0 +8.9
RCBR LR LR
comp=Z,256nm,20.0s
KIC Kosan Boka 161.57 266 *e*P **PKPab 20 49 35.5 -0.6**
comp=Z,122nm,1.3s
LIC Lamto 161.84 266 *e*P **PKPab 20 49 37.5 +0.2**
comp=Z,73nm,1.2s
TIC Toumodi 161.88 267 *e*P **PKPab 20 49 36.1 -1.3**
comp=Z,132nm,1.4s
SACV Santiago Islan 173.03 3 PFAKE 20 49 10.0 +10
SACV LR LR
comp=Z,287nm,19.0s

KRSC 07 20:31:03.9±0.5, 55°82N×161°17E, h181km±20km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.28**	**314**	*e*P	Pn	20 31 29.4	+1.2
ZLN				*i* S	Sn	20 31 48.5	+1.5
BZGR	**Bezymyannyi-Gr**	**0.29**	**294**	*i* P	Pn	20 31 29.4	+1.2
BZGR				*i* S	Sn	20 31 48.2	+1.2
LGNR	**Loginova**	**0.38**	**314**	*e*P	Pn	20 31 29.5	+0.8
LGNR				*i* S	Sn	20 31 48.5	+0.7
CIRR	**Tsirk**	**0.38**	**321**	*i* P	Pn	20 31 29.4	+0.9
CIRR				*e*S	Sn	20 31 48.2	+0.6
BZMR	**Bezymyannaya**	**0.40**	**287**	*i* P	Pn	20 31 29.6	+1.0
BZMR				*i* S	Sn	20 31 48.4	+0.8
KIRR	**Kirishev**	**0.48**	**286**	*e*P	Pn	20 31 29.6	+0.7
KIRR				*i* S	Sn	20 31 48.4	+0.2
KMNR	**Kamenistaya**	**0.53**	**263**	*i* P	Pn	20 31 30.3	+1.3
KMNR				*i* S	Sn	20 31 50.1	+1.7
KPT	**Kopyto**	**0.55**	**286**	*i* P	Pn	20 31 29.6	+0.5
KPT				*i* S	Sn	20 31 48.8	+0.2
KLY	**Klyuchi**	**0.57**	**330**	*i* P	Pn	20 31 29.1	+0.1
KLY				*i* S	Sn	20 31 48.3	-0.3
BDR	**Baidarnaya**	**0.75**	**2**	*e*P	Pn	20 31 30.7	+0.6
BDR				*i* S	Sn	20 31 50.4	-0.1
KOZ	**Kozyrevsk**	**0.77**	**289**	*e*P	Pn	20 31 30.6	+0.5
KOZ				*i* S	Sn	20 31 50.4	0.0
SMKR	**Semkarok**	**0.78**	**12**	*e*P	Pn	20 31 31.0	+0.7
SMKR				*i* S	Sn	20 31 50.9	+0.1
SRKR	**Sorokina**	**0.84**	**360**	*e*P	Pn	20 31 30.9	+0.3
SRKR				*i* S	Sn	20 31 50.9	-0.5
SRDR	**Sredinnyy**	**0.95**	**302**	*e*P	Pn	20 31 31.4	0.0
SRDR				*i* S	Sn	20 31 51.8	-0.9
KBG	**Krutoberegovo**	**0.97**	**63**	*e*P	Pn	20 31 32.1	+0.7
KBG				*i* S	Sn	20 31 52.2	-0.4
MKZ	**Mys Kozlova**	**1.31**	**166**	*i* P	Pn	20 31 35.4	+1.3
MKZ				*i* S	Sn	20 31 58.9	+1.4
ESO	**Esso**	**1.40**	**275**	*e*P	Pn	20 31 35.3	+0.3
BKI	**Bering**	**2.80**	**101**	*e*P	Pn	20 31 51.9	+1.8
BKI				*i* S	Sn	20 32 27.2	+1.2
SPN	**Mys Shipunski**	**2.81**	**194**	*e*P	Pn	20 31 50.8	+0.5
SPN				*i* S	Sn	20 32 25.3	-1.0
GNL	**Ganaly**	**2.83**	**223**	*e*P	Pn	20 31 52.6	+1.9
GNL				*i* S	Sn	20 32 28.4	+1.3
NLC	**Nalytchevo**	**2.86**	**203**	P	Pn	20 31 52.5	+1.7
NLC				*i* S	Sn	20 32 28.1	+0.7
SDLR	**Sedlovina**	**2.87**	**209**	*e*P	Pn	20 31 53.9	+2.7
AVH	**Avacha**	**2.93**	**210**	P	Pn	20 31 53.9	+2.1
AVH				*i* S	Sn	20 32 30.9	+1.9
UGLR	**Uglovaya**	**2.95**	**209**	*e*P	Pn	20 31 54.9	+2.8
APC	**Apacha**	**3.73**	**221**	*e*P	Pn	20 32 04.2	+2.6
RUS	**Russkaya**	**3.74**	**206**	*e*P	Pn	20 32 02.8	+1.2
RUS				*i* S	Sn	20 32 46.1	-0.7
MTVR	**Mutnovka**	**3.78**	**209**	P	Pn	20 32 03.9	+1.5
MTVR				*i* S	Sn	20 32 47.5	-0.6
ASAK	**Asacha**	**3.94**	**211**	*e*P	Pn	20 32 06.3	+1.9

IDC 07 20:42:00.2±1.5, 7°79S×156°64E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML4.4/1, Error ellipse: s-maj=36.2km s-min=32.7km az=2.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.65**	**117**	Pn	Pn	20 42 57.4	-0.6
	28nm,0.3s,baz=217,slow=4.1,SNR=7.6						
HNR				Sn	Sn	20 43 38.5	-3.3
	17nm,0.3s,baz=213,slow=21,SNR=3.8						
WRA	**Warramunga Arr**	**24.75**	**239**	P	P	20 47 21.8	-1.9
	0.7nm,0.7s,baz=63,slow=9.5,SNR=4.9						
FITZ	**Fitzroy Crossi**	**31.85**	**248**	P	P	20 48 28.6	+1.5
	1.3nm,0.9s,baz=56,slow=3.6,SNR=3.0						
SONM	**Songino Array**	**70.89**	**327**	P	P	20 53 18.9	-0.4
	0.5nm,0.7s,baz=133,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**85.08**	**318**	P	P	20 54 39.0	+0.9
	0.4nm,0.7s,baz=100,slow=6.3,SNR=4.4						

IDC 07 21:09:54.4±7.4, 30°84S×177°98W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/18, mbtmp3.2/2, Error ellipse: s-maj=315.7km s-min=56.3km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.10**	**267**	P	P	21 17 56.0	-0.6
	0.2nm,0.6s,baz=107,slow=7.4,SNR=3.8						
WRA	**Warramunga Arr**	**44.13**	**273**	P	P	21 18 05.2	+0.3
	0.1nm,0.4s,baz=111,slow=8.1,SNR=7.1						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	PKPdf	21 29 33.1	-0.7
	0.4nm,0.8s,baz=27,slow=4.7,SNR=2.6						

IDC 07 21:14:27.9±1.1, 7°23S×155°96E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp4.0/6, ML4.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/26, Error ellipse: s-maj=29.7km s-min=27.7km az=59.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.51**	**119**	Pn	Pn	21 15 38.6	+1.1
	14nm,0.3s,baz=225,slow=8.1,SNR=3.9						
HNR				Sn	Sn	21 16 32.5	+1.7
	11nm,0.3s,baz=191,slow=7.2,SNR=4.0						
HNR				LR	LR	21 17 16.2	
	comp=Z,249nm,21.4s,baz=317,slow=37						
WRA	**Warramunga Arr**	**24.48**	**237**	P	P	21 19 49.7	+0.8
	1.0nm,0.6s,baz=63,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**26.74**	**230**	P	P	21 20 09.3	-0.2
	0.2nm,0.7s,baz=64,slow=9.3,SNR=4.0						
SONM	**Songino Array**	**70.05**	**327**	P	P	21 25 43.2	+1.3
	0.7nm,0.7s,baz=142,slow=6.9,SNR=6.9						
MKAR	**Makanchi Array**	**84.21**	**318**	P	P	21 27 01.8	+0.4
	3.8nm,0.7s,baz=102,slow=6.0,SNR=41						
ZALV	**Zalesovo Beam**	**84.91**	**326**	P	P	21 27 03.8	-0.9
	2.8nm,0.7s,baz=109,slow=6.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**154.01**	**285**	PKPbc	PKPbc	21 34 28.6	-2.0
	0.4nm,0.7s,baz=92,slow=2.0,SNR=3.3						

*ISCJB **07** 21:14:50.8±0.6, 20°79S±0°04×69°0W±0°1, h120km±10km, mb4.0/1, Error ellipse: s-maj=16.3km s-min=6.9km az=177.9*
*GUC **07** 21:14:51.9±0.8, 20°80S×69°12W, h115km±7km, ML4.3*
*IDC **07** 21:14:54.8±2.8, 20°76S×68°47W, h125km±23km, mb4.0/1, mb1 3.4/5, mb1mx3.3/18, mbtmp3.4/5, Error ellipse: s-maj=35.1km s-min=24.3km az=110.0*
ISC 07 21:14:51.1±0.8, 20°73S±0°05×68°88W±0°08, h120km±7km, n17, σ2°01/23, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**1.04**	**296**	⇑*i*P	**Pn**	**21 15 13.3**	**-0.4**
HMBC				*i* S	**Sn**	**21 15 28.9**	**-1.9**
HMBC				AML	AML	21 15 30.9	
	comp=N,7μm,0.6s						
PB09	**Plate Boundary**	**1.11**	**197**	⇓*e*P	**Pn**	**21 15 14.4**	**0.0**
PB09				*e*S	**Sn**	**21 15 31.1**	**-1.0**
PB09				AML	AML	21 15 33.6	
	comp=E,14μm,0.6s						
PB07	**Plate Boundary**	**1.36**	**223**	⇑*i*P	**Pn**	**21 15 16.4**	**-0.8**
PB07				*e*S	**Sn**	**21 15 34.3**	**-2.7**
PB07				AML	AML	21 15 35.5	
	comp=E,6μm,0.4s						
PB04	**Plate Boundary**	**1.62**	**200**	*e*P	Pn	21 15 23.6	+3.6
PB04				*e*S	**Sn**	**21 15 46.8**	**+4.8**
PB04				AML	AML	21 15 54.3	
	comp=N,2μm,0.6s						
PSGC	**Pisagua**	**1.62**	**314**	⇑*i*P	**Pn**	**21 15 19.9**	**-0.3**
PSGC				*e*S	**Sn**	**21 15 40.7**	**-1.5**
PSGC				AML	AML	21 15 44.4	
	comp=N,3μm,0.8s						
MNMC	**Minimini**	**1.73**	**337**	⇑*i*P	**Pn**	**21 15 22.7**	**+1.1**
MNMC				*e*S	**Sn**	**21 15 46.2**	**+1.4**
MNMC				AML	AML	21 15 48.1	
	comp=N,5μm,0.6s						
LVC	**Limon Verde**	**1.87**	**181**	⇓*e*P	**Pn**	**21 15 23.8**	**+0.5**
PB10	**Plate Boundary**	**3.17**	**209**	*e*P	**Pn**	**21 15 37.1**	**-2.5**
PB10				*e*S	Sn	21 16 09.9	-7.2
ANCH	**Antofagasta**	**3.26**	**205**	*e*P	**Pn**	**21 15 39.3**	**-1.5**
LPAZ	**La Paz**	**4.48**	**9**	P	Pn	21 16 01.3	+3.6
	comp=N,3.4nm,0.3s,baz=200,slow=6.1,SNR=66						
SIV	**San Ignacio**	**8.79**	**59**	P	**Pn**	**21 16 54.7**	**-0.7**
	comp=N,1.8nm,0.3s,baz=259,slow=9.9,SNR=18						
SIV				S	**Sn**	**21 18 28.7**	**-4.1**
	comp=N,0.1nm,0.3s,baz=312,slow=23,SNR=3.6						
CFAA	**Coronel Fontan**	**10.84**	**177**	S	Sn	21 19 10.8	-12
	comp=N,0.1nm,0.3s,baz=218,slow=19,SNR=4.6						
CPUP	**Villa Florida**	**11.97**	**120**	P	**Pn**	**21 17 37.1**	**-0.8**
	comp=N,0.8nm,0.3s,baz=281,slow=13,SNR=4.2						
PLCA	**Paso Flores**	**19.99**	**184**	P	**Pn**	**21 19 17.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=341,slow=10.0,SNR=3.3						
BDFB	**Brasilia**	**20.46**	**79**	P	Pn	21 19 23.5	+0.7
	comp=N,6.5nm,0.3s,baz=239,slow=8.6,SNR=9.7						
TORD	**Torodi Ar. Bea**	**77.08**	**70**	P	**P**	**21 26 32.8**	**+1.1**
	comp=N,1.2nm,0.3s,baz=254,slow=5.7,SNR=45						
TORD				pP	**pP**	**21 27 03.1**	**+1.1**
	comp=N,1.1nm,0.8s,baz=247,slow=5.3,SNR=2.3						
TORD				sP	**sP**	**21 27 15.9**	**+1.1**
	comp=N,0.8nm,0.6s,baz=250,slow=5.4,SNR=2.0						
MKAR	**Makanchi Array**	**145.00**	**35**	PKP	**PKPdf**	**21 34 16.3**	**+2.1**
	comp=N,0.8nm,0.7s,baz=317,slow=3.6,SNR=9.3						
MKAR				pPKP	**pPKPdf**	**21 34 47.6**	**+0.9**
	comp=N,0.6nm,0.8s,baz=308,slow=4.5,SNR=3.5						

WEL 07 21:35:31.5±0.4, 35°63S×178°84E, h262km±5km, ML3.5/5, Error ellipse: s-maj=7.9km s-min=7.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.48**	**191**	PN	Pn	21 36 19.5	0.0
PUZ				SN	S	21 36 56.2	-1.3
CNGZ	**Carnagh Statio**	**2.89**	**190**	PN	Pn	21 36 22.8	-0.7
URZ	**Urewera**	**2.97**	**207**	PN	Pn	21 36 23.8	-0.6
URZ				SN	S	21 37 05.9	-0.4
KNZ	**Kokohu**	**3.51**	**195**	PN	Pn	21 36 30.6	+0.5
NMHZ	**Naumai**	**3.82**	**205**	PN	Pn	21 36 34.1	+0.3
KAHZ	**Kahuranaki**	**4.44**	**200**	PN	Pn	21 36 41.1	+0.1
TSZ	**Takapari Road**	**4.97**	**206**	PN	Pn	21 36 47.0	-0.3
MRZ	**Mangatainoka R**	**5.64**	**206**	PN	Pn	21 36 54.6	-0.8
MRZ				SN	S	21 38 01.6	-1.0
OGWZ	**Otaki Gorge**	**5.93**	**208**	PN	Pn	21 36 58.6	-0.3
TCW	**Tory Channel**	**6.62**	**211**	PN	Pn	21 37 06.4	-1.1

IDC 07 21:42:20.3±4.2, 5°23S×148°90E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/17, mbtmp3.1/2, Error ellipse: s-maj=161.7km s-min=47.7km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.36**	**223**	P	P	21 46 58.5	-0.3
	0.3nm,0.4s,baz=49,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**23.34**	**217**	P	P	21 47 30.7	+0.2
	0.3nm,0.8s,baz=43,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**146.72**	**286**	PKPbc	PKPdf	22 02 04.5	+0.8
	0.2nm,0.4s,baz=78,slow=4.4,SNR=4.2						

ROM 07 21:46:54.4±0.3, 42°58N×13°48E, h10km±2km, Md1.3/3, Ml0.5/1, Error ellipse: s-maj=6.5km s-min=1.7km az=46.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.07**	**230**	Pg	Pg	21 46 57.1	+0.3
CAMP				Sg	Sg	21 46 58.7	+0.2
	26nm,0.4s						
NRCA	**Norcia**	**0.37**	**314**	Pg	Pg	21 47 02.1	+0.2
NRCA				Sg	Sb	21 47 08.1	-1.0

*CSEM **07** 21:47:37.9±0.1, 45°83N×10°05E, h10km, ML2.2/6, Error ellipse: s-maj=1.7km s-min=1.3km az=11.0*
*VIE **07** 21:47:38.3±0.5, 45°87N×10°07E, h10km±1km, mb1.6/4, ML1.9/4, Error ellipse: s-maj=3.2km s-min=1.5km az=24.0*
37 km SSE of Sondrio
ROM 07 21:47:37.3±0.2, 45°85N×10°06E, h4km±2km, Md2.4/12, Ml1.6/7, 4C-9D, Error ellipse: s-maj=2.0km s-min=1.4km az=167.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDI	**Monti di Nese**	**0.26**	**255**	Pg	Pg	21 47 42.5	+0.1
MDI				Sg	Sg	21 47 47.2	+1.4
	114nm,0.2s						
MDI	**Monti di Nese**	**0.26**	**255**	Pg	Pg	21 47 42.5	+0.1
MDI				Sg	Sg	21 47 47.2	+1.4
	114nm,0.2s						
MABI	**Malga Bissina**	**0.38**	**56**	Pg	Pb	21 47 46.0	-0.9
MABI				Sg	Sg	21 47 51.6	+1.6
	40nm,0.4s						
MABI	**Malga Bissina**	**0.38**	**56**	Pg	Pb	21 47 46.0	-0.9
MABI				Sg	Sg	21 47 51.6	+1.6
	40nm,0.4s						
SALO	**Salr**	**0.40**	**125**	Pg	Pb	21 47 46.0	-1.0
SALO				Sg	Sb	21 47 52.6	-0.8
	53nm,0.5s						
SALO	**Salr**	**0.40**	**125**	Pg	Pb	21 47 46.0	-1.0
SALO				Sg	Sb	21 47 52.6	-0.8
	53nm,0.5s						
MAGA	**Magasa**	**0.40**	**100**	Pg	Pg	21 47 46.1	+0.9
MAGA				Sg	Sg	21 47 52.0	+1.4
	138nm,0.4s						
MAGA	**Magasa**	**0.40**	**100**	Pg	Pg	21 47 46.1	+0.9
MAGA				Sg	Sg	21 47 52.0	+1.4
	138nm,0.4s						
RNI	**Roncone**	**0.43**	**71**	⇓*e*Pg	Pg	21 47 46.6	+0.8
RNI				*e*Sg	Sg	21 47 52.5	+0.9
RNI	**Roncone**	**0.43**	**71**	⇓*e*Pg	Pg	21 47 46.6	+0.8
RNI				*e*Sg	Sg	21 47 52.5	+1.0
BERNI	**Berninapass**	**0.57**	**357**	Pg	Pb	21 47 49.9	-0.4
BERNI				Sg	Sb	21 47 57.7	-1.3
BERNI	**Berninapass**	**0.57**	**357**	Pg	Pb	21 47 49.9	-0.4
BERNI				Sg	Sb	21 47 57.7	-1.3
BRMO	**Bormio**	**0.67**	**19**	Pg	Pb	21 47 51.7	-0.1
BRMO				Sg	Sb	21 48 00.6	-0.9
	7.0nm,0.4s						
BRMO	**Bormio**	**0.67**	**19**	Pg	Pb	21 47 51.7	-0.1
BRMO				Sg	Sb	21 48 00.6	-0.9
	7.0nm,0.4s						
MUGIO	**Muggio**	**0.72**	**277**	Pg	Pg	21 47 51.6	+0.4
MUGIO				Sg	Sb	21 48 02.1	-0.7
MUGIO	**Muggio**	**0.72**	**277**	Pg	Pg	21 47 51.6	+0.4
MUGIO				Sg	Sb	21 48 02.1	-0.7
ROVR	**Rover^¤ Verone**	**0.73**	**105**	Pg	Pg	21 47 52.2	+0.6
ROVR				Sg	Sb	21 48 02.9	-0.5
ROVR	**Rover^¤ Verone**	**0.73**	**105**	Pg	Pg	21 47 52.2	+0.6
ROVR				Sg	Sb	21 48 02.9	-0.5
FUORN	**Ofenpass-Fuorn**	**0.79**	**10**	Pg	Pb	21 47 53.8	-0.2
FUORN				Sg	Sb	21 48 04.8	-0.5
FUORN	**Ofenpass-Fuorn**	**0.79**	**10**	Pg	Pb	21 47 53.8	-0.2
FUORN				Sg	Sb	21 48 04.8	-0.5
TUE	**Stuetta**	**0.80**	**322**	Pg	Pb	21 47 54.2	+0.1
TUE				Sg	Sg	21 48 04.3	+0.7
	11nm,0.3s						
TUE	**Stuetta**	**0.80**	**322**	Pg	Pb	21 47 54.2	+0.1
TUE				Sg	Sg	21 48 04.3	+0.7
	11nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.94**	**352**	Pg	Pb	21 47 56.8	+0.2
DAVOX				Sg	Sb	21 48 09.3	-0.4
DAVOX	**Davos/Dischmat**	**0.94**	**352**	Pg	Pb	21 47 56.8	+0.2
DAVOX				Sg	Sb	21 48 09.3	-0.4
KOSI	**Kohlern**	**1.10**	**55**	⇓*e*Pg	Pn	21 47 59.6	-0.2
CTI	**Castel Tesino**	**1.13**	**79**	Pg	Pn	21 48 00.0	-0.1
	16nm,0.3s						
CTI	**Castel Tesino**	**1.13**	**79**	Pg	Pn	21 48 00.0	-0.1
	16nm,0.3s						
BOB	**Bobbio (Coli)**	**1.16**	**202**	Pg	Pb	21 48 00.1	0.0
BOB	**Bobbio (Coli)**	**1.16**	**202**	Pg	Pb	21 48 00.1	0.0
CGRP

WRA	Warramunga Arr	34.71 198	P	P	22 00 36.4	-0.3
	0.6nm,0.9s,baz=18,slow=9.2,SNR=4.5					
ASAR	Alice Springs	38.35 197	P	P	22 01 08.3	+0.5
	0.3nm,0.7s,baz=19,slow=12,SNR=4.2					
CMAR	Chiang Mai Arr	44.69 283	P	P	22 01 59.3	-0.7
	0.5nm,0.6s,baz=86,slow=6.7,SNR=3.8					
MKAR	Makanchi Array	61.92 316	P	P	22 04 06.5	0.0
	0.4nm,0.5s,baz=93,slow=8.6,SNR=9.0					
KURBB	Kurchatov Arra	65.05 320	P	P	22 04 26.3	-0.7
	0.5nm,0.5s,baz=101,slow=7.2,SNR=5.8					
ILAR	Eielson Array	68.70 25	P	P	22 04 49.7	-0.4
	0.2nm,0.5s,baz=257,slow=5.3,SNR=4.0					
TORD	Torodi Ar. Bea	135.29 305	PKP	PKPdf	22 13 08.5	+0.8
	0.3nm,0.5s,baz=26,slow=2.4,SNR=7.4					

IDC 07 22:05:57.8±1.9, 32°.08S×178°.39W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=45.3km s-min=42.5km az=64.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.19	210	Pn	Pn	22 07 45.3	+1.2
	0.7nm,0.3s,baz=335,slow=19,SNR=12						
URZ				Sn	Sn	22 08 59.8	-6.6
	1.8nm,0.3s,baz=261,slow=23,SNR=8.0						
ASAR	Alice Springs	42.72	269	P	P	22 13 56.6	-0.2
	0.2nm,0.3s,baz=104,slow=7.5,SNR=5.4						
WRA	Warramunga Arr	43.86	274	P	P	22 14 05.6	-0.4
	1.3nm,0.3s,baz=112,slow=8.1,SNR=56						
FINES	FINESS Array B	146.59	339	PKPbc	PKPbc	22 25 40.5	0.0
	0.4nm,0.4s,baz=64,slow=4.4,SNR=9.6						
TORD	Torodi Ar. Bea	161.16	180	PKPab	PKPab	22 26 42.7	-1.2
	0.3nm,0.7s,baz=180,slow=5.0,SNR=2.7						

*CSEM **07** 22:11:11.3, 42°.23N×13°.49E, h9km, MD2.3/17, After ROM*
ROM 07 22:11:11.3±0.1, 42°.23N×13°.49E, h9km, Md2.3/17, Ml1.7/13, Error ellipse: s-maj=1.0km s-min=0.8km az=98.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	Fagnano	0.08	59	Pg	Pg	22 11 13.9	+0.3
FAGN				Sg	Sg	22 11 15.4	+0.2
	3μm,0.3s						
FAGN	Fagnano	0.08	59	Pg	Pg	22 11 13.9	+0.3
FAGN				Sg	Sg	22 11 15.4	+0.2
	3μm,0.3s						
AQU	L'Aquila	0.14	333	Pg	Pg	22 11 15.2	+0.6
AQU				Sg	Sg	22 11 17.5	+0.7
	255nm,0.2s						
AQU	L'Aquila	0.14	333	Pg	Pg	22 11 15.2	+0.6
AQU				Sg	Sg	22 11 17.5	+0.7
	255nm,0.2s						
PTQR	Pietraquaria	0.21	199	Pg	Pg	22 11 16.7	+0.9
PTQR				Sg	Sg	22 11 20.4	+1.6
	35nm,0.1s						
PTQR	Pietraquaria	0.21	199	Pg	Pg	22 11 16.7	+0.9
PTQR				Sg	Sg	22 11 20.4	+1.6
	35nm,0.1s						
FIAM	Fiamignano	0.28	279	Pg	Pg	22 11 17.6	+0.5
FIAM				Sg	Sg	22 11 22.3	+1.3
	68nm,0.6s						
FIAM	Fiamignano	0.28	279	Pg	Pg	22 11 17.6	+0.5
FIAM				Sg	Sg	22 11 22.3	+1.3
	68nm,0.6s						
VCEL	Villa Celiera	0.31	57	Pg	Pg	22 11 17.8	+0.2
VCEL				Sg	Sb	22 11 24.1	-0.4
	143nm,0.3s						
VCEL	Villa Celiera	0.31	57	Pg	Pg	22 11 17.8	+0.2
VCEL				Sg	Sb	22 11 24.1	-0.4
	143nm,0.3s						
CAMP	Campotosto	0.32	349	Pg	Pg	22 11 18.2	+0.4
CAMP				Sg	Sb	22 11 24.0	-0.8
	45nm,0.4s						
CAMP	Campotosto	0.32	349	Pg	Pg	22 11 18.2	+0.4
CAMP				Sg	Sb	22 11 24.0	-0.8
	45nm,0.4s						
VVLD	Villa Vallelon	0.37	165	Pg	Pg	22 11 19.4	+0.7
VVLD				Sg	Sb	22 11 25.4	-0.7
	28nm,0.4s						
VVLD	Villa Vallelon	0.37	165	Pg	Pg	22 11 19.4	+0.7
VVLD				Sg	Sb	22 11 25.4	-0.7
	28nm,0.4s						
INTR	Introdacqua	0.37	125	Pg	Pg	22 11 19.1	+0.3
INTR				Sg	Sg	22 11 24.9	+1.1
	73nm,0.2s						
INTR	Introdacqua	0.37	125	Pg	Pg	22 11 19.1	+0.3
INTR				Sg	Sg	22 11 24.9	+1.1
	73nm,0.2s						
TERO	Teramo	0.41	12	Pg	Pg	22 11 19.3	-0.1
TERO				Sg	Sg	22 11 26.0	+1.2
	40nm,0.3s						
TERO	Teramo	0.41	12	Pg	Pg	22 11 19.3	-0.1
TERO				Sg	Sg	22 11 26.0	+1.2
	40nm,0.3s						
GUAR	Guarcino	0.45	197	Pg	Pg	22 11 20.7	+0.5
GUAR				Sg	Sb	22 11 27.7	-0.8
	31nm,0.2s						
GUAR	Guarcino	0.45	197	Pg	Pg	22 11 20.7	+0.5
GUAR				Sg	Sb	22 11 27.7	-0.8
	31nm,0.2s						
CERT	Cerreto	0.47	234	Pg	Pg	22 11 20.9	+0.4
CERT				Sg	Sg	22 11 27.7	+0.9
	61nm,0.3s						
CERT	Cerreto	0.47	234	Pg	Pg	22 11 20.9	+0.4
CERT				Sg	Sg	22 11 27.7	+0.9
	61nm,0.3s						
LNSS	Leonessa	0.50	319	Pg	Pb	22 11 22.0	-0.6
	37nm,0.3s						
LNSS	Leonessa	0.50	319	Pg	Pb	22 11 22.0	-0.6
	37nm,0.3s						
POFI	Posta Fibreno	0.53	162	Pg	Pg	22 11 22.2	+0.4
POFI	Posta Fibreno	0.53	162	Pg	Pg	22 11 22.2	+0.4
MNS	Montasola	0.62	285	Pg	Pg	22 11 23.5	+0.1
	29nm,0.4s						
MNS	Montasola	0.62	285	Pg	Pg	22 11 23.5	+0.1
	29nm,0.4s						
NRCA	Norcia	0.67	335	Pg	Pg	22 11 24.5	+0.1
	5.0nm,0.3s						
NRCA	Norcia	0.67	335	Pg	Pg	22 11 24.5	+0.1
	5.0nm,0.3s						
FDMO	Fiordimonte	0.86	340	Pg	Pg	22 11 28.0	0.0
FDMO	Fiordimonte	0.86	340	Pg	Pg	22 11 28.0	0.0

*NIED **07** 22:30:00, 37°.30N×142°.20E, h23km, Mw4.4 Best double couple: Mo3.81000×10^15 NP1:φs=345.00000°, δ62.00000°, λ55.00000°. NP2:φs=222.00000°, δ44.00000°, λ138.00000°.*
*IDC **07** 22:30:29.4±0.5, 37°.22N×142°.22E, h0km, mb4.4/19, mb1 4.5/23, mb1mx4.5/28, mbtmp4.4/23, ML4.1/3, MS3.6/11, Ms1 3.6/11, ms1mx3.2/44, Error ellipse: s-maj=16.0km s-min=13.8km az=98.0*
*BJI **07** 22:30:30.1, 37°.04N×142°.55E, h38km, mB5.2/18, mb4.6/38, Ms4.4/16, Ms7 4.2/18*
*ISCJB **07** 22:30:30.3±0.9, 37°.29N±0°.03×142°.26E±0°.04, h15km±5km, mb4.5/78, MS3.8/12, Error ellipse: s-maj=6.2km s-min=4.6km az=136.8*
*JMA **07** 22:30:32.4±0.2, 37°.25N×142°.15E, h36km, M4.7*
JMA Felt II J1.
*MOS **07** 22:30:34.3±0.9, 37°.48N×142°.12E, h33km, mb4.8/45, Error ellipse: s-maj=8.5km s-min=5.4km az=111.0*
*NEIC **07** 22:30:35.2±0.8, 37°.24N×142°.19E, h38km±7km, mb4.6/27, MW4.3(NIED), Error ellipse: s-maj=7.0km s-min=5.0km az=139.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi, Tochigi and Yamagata.
ISC 07 22:30:34.7±0.4, 37°.23N±0°.05×142°.18E±0°.04, h34km±1km, h34km:pP-P, n244, σ1§31/296, mb4.5/78, MS3.8/13, 19C-20D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.05	278	∥P	Pn	22 30 50.7	-2.3
JFK				S	Sn	22 31 03.7	-2.7
ONAJ	Iwakimizuishiy	1.11	264	∥P	Pn	22 30 51.4	-2.4
JMM	Marumori	1.27	301	∥P	Pn	22 30 53.9	-2.1
JMM				S	Sn	22 31 09.2	-2.7
JIO	Ouri	1.39	332	∥P	Pn	22 30 55.6	-2.0
JIO				S	Sn	22 31 11.9	-2.9
JFT	Otama	1.49	282	∥P	Pn	22 30 58.1	-1.0
JOU	Okura	1.65	314	∥P	Pn	22 31 00.0	-1.3
JMK	Ichinoseki	1.88	337	∥P	Pn	22 31 03.1	-1.3
JMK				eS	Sn	22 31 25.4	-1.5
JYS	Shiratake	1.95	301	∥P	Pn	22 31 04.4	-0.9
JFY	Yanaizu	1.98	276	∥P	Pn	22 31 04.9	-0.9
JYK	Kaneyama	2.21	320	P	Pn	22 31 08.0	-1.0
MJAR	Matsushiro Arr	3.25	259	Pn	Pn	22 31 23.4	+0.2
MJAR				Sn	Sb	22 32 07.4	-3.5
MJAR	Matsushiro Arr	3.25	259	Pn	Pn	22 31 23.4	+0.2
	41nm,0.3s,baz=93,slow=15,SNR=174						
MJAR				Sn	Sb	22 32 07.4	-3.5
	32nm,0.3s,baz=99,slow=26,SNR=7.0						
MAT	Matsushiro	3.25	259	P	Pn	22 31 23.4	+0.1
MAT				S	Sn	22 31 57.2	-3.7
ERM	Erimo	4.84	9	eP	Pn	22 31 45.1	0.0
ERM				pmax	pmax		
	comp=Z,36nm,1.3s						
ERM	Erimo	4.84	9	ePn	Pn	22 31 43.9	-1.1
ERM				eSn	Sn	22 32 38.1	-1.8
ASAJ	Asahikawa	6.89	3	ePn	Pn	22 32 12.1	-1.0
ASAJ				Sn	Sn	22 33 28.5	-1.9
ASAJ	Asahikawa	6.89	3	Pn	Pn	22 32 12.2	-1.0
	comp=Z,3.8nm,0.3s,baz=219,slow=8.9,SNR=16						
ASAJ				Sn	Sn	22 33 28.5	-1.9
	comp=Z,3.0nm,0.3s,baz=162,slow=20,SNR=2.7						
YUK	Yuzh-Kuril'sk	7.36	21c	iP	Pn	22 32 17.9	-1.7
YUK				i S	Sn	22 33 36.3	-5.5
YUK				pmax	pmax		
	comp=E,30nm,0.4s						
YUK				pmax	pmax		
	comp=Z,82nm,0.5s						
YUK				pmax	pmax		
	comp=N,61nm,0.3s						
YUK				smax	smax		
	comp=N,134nm,1.8s						
YUK				smax	smax		
	comp=E,240nm,2.6s						
YUK				MLR	MLR		
	comp=E,182nm,6.0s						
KUR	Kuril'sk	9.07	26	eP	Pn	22 32 42.9	-0.2
KUR				pmax	pmax		
	comp=Z,28nm,0.5s						
KUR				pmax	pmax		
	comp=N,32nm,0.1s						
KUR				pmax	pmax		
	comp=E,20nm,0.1s						
YSS	Yuzh-Sakhalins	9.73	2	eP	Pn	22 32 52.0	-0.1
VLA	Vladivostok	9.82	310	iP	Pn	22 32 55.0	+1.6
JNU	Nakatsue	10.11	249	ePn	Pn	22 32 59.5	+2.0
JNU	Nakatsue	10.11	249	Pn	Pn	22 32 58.3	+0.9
	comp=E,0.9nm,0.3s,baz=51,slow=10.0,SNR=15						
JNU				LR	LR	22 36 51.8	
	comp=E,222nm,19.1s,baz=62,slow=38						
USRK	Ussuriysk Arra	10.39	315	Pn	Pn	22 33 01.7	+0.5
	comp=E,0.6nm,0.3s,baz=122,slow=14,SNR=8.8						
USRK				LR	LR	22 36 51.5	
	comp=E,183nm,19.7s,baz=288,slow=37						
KSRS	Korea Array	11.35	275	Pn	Pn	22 33 17.4	+3.1
	comp=E,0.7nm,0.3s,baz=90,slow=14,SNR=27						
KSRS				LR	LR	22 37 42.3	
	comp=E,292nm,18.3s,baz=252,slow=38						
KSAR	Wonju Array Be	11.38	275	Pn	Pn	22 33 17.4	+2.7
MDJ	Mudanjiang	12.04	312	P	Pn	22 33 29.0	+5.3
MDJ				pP	P	22 33 35.3	-0.9
MDJ				S	Sn	22 35 47.3	+11
MDJ				pmax	pmax		
	comp=Z,24nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.8s						
HABR	Khabarovsk	12.39	337	P	Pn	22 33 25.9	-2.6
HABR						22 35 43.0	
CN2	Changchun	14.31	303	eP	Pn	22 33 57.6	+2.9
CN2				esP		22 34 09.8	
CN2				eS	Sn	22 36 35.7	+3.6
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
DL2	Dalian	16.27	282	P	P	22 34 23.3	+0.1
DL2				pmax	pmax		
	comp=Z,28nm,0.6s						
PETK	Petropavlovsk-	19.22	29	LR	LR	22 41 44.1	
	comp=Z,82nm,21.4s,baz=219,slow=35						
NJ2	Nanjing	19.85	262	eP	Pn	22 35 05.1	+0.6
NJ2				pmax	pmax		
	comp=Z,46nm,1.5s						
BJI	Beijing	20.48	286	P	P	22 35 09.1	-0.4
BJI				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC	Hu-ho-hao-te	23.99	288	eP	P	22 35 44.0	-2.1
HHC				pP	pP	22 35 53.3	-2.6
HHC				sP	sP	22 35 57.3	-2.7
HHC				PP	PnPn	22 36 18.5	+3.1
HHC				PcP	PcP	22 39 27.0	-0.5
HHC				S	S	22 39 55.8	-5.0
HHC				ScP	ScP	22 43 01.4	-1.9
HHC				PcS	PcS	22 43 05.3	-1.9
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,540nm,5.6s						
HHC				LR	LR		
	comp=N,700nm,12.5s						
HHC				LR	LR		
	comp=E,480nm,12.1s						
HHC				LR	LR		
	comp=Z,480nm,13.0s						
WHN	Wuhan	23.99	262	P	P	22 35 53.3	+7.2
YAK	Yakutsk	26.02	347	eP	P	22 36 04.2	0.0
FX1	Attu Island--F	26.64	44	LR	LR	22 46 27.6	
	comp=Z,51nm,18.6s,baz=64,slow=36						
XAN	Xi'an	27.14	273	P	P	22 36 14.5	-0.2
XAN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	Ulaanbaatar	27.75	304	eP	P	22 36 20.0	-0.2
	comp=Z,13nm,1.4s						
SONM	Songino Array	28.18	303	P	P	22 36 24.0	0.0
SONM	Songino Array	28.18	303	P	P	22 36 24.0	0.0
	comp=Z,5.0nm,0.5s,baz=103,slow=9.0,SNR=40						
ZAK	Zakamensk	30.63	308	eP	P	22 36 44.8	-0.8
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
LZH	Lanzhou	30.64	280	eP	P	22 36 48.5	+2.6
LZH				pP	pP	22 36 58.1	+2.4
LZH				sP	sP	22 37 02.0	+2.1
LZH				PP	PnPn	22 37 49.3	+3.4
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,51nm,4.9s						
LZH				LR	LR		
	comp=N,390nm,13.5s						
LZH				LR	LR		
	comp=E,380nm,13.0s						
LZH				LR	LR		
	comp=Z,450nm,17.3s						
TLY	Talaya	30.67	310	eP	P	22 36 46.6	+0.8
TLY				eS	S	22 41 42.9	-3.1
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,133nm,16.0s						
GYA	Guiyang	31.85	261	eP	P	22 36 56.5	-0.1
GYA				pP	pP	22 37 07.6	+1.1
GYA				sP	sP	22 37 13.2	+2.6
GYA				PP	PnPn	22 38 04.0	+2.2
GYA				PcP	PcP	22 39 48.5	+1.6
GYA				S	S	22 42 05.2	0.0
GYA				sS	sS	22 42 21.8	+0.4
GYA				ScP	ScP	22 43 28.7	+1.0
GYA				ScS	ScS	22 47 25.3	-1.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	32.28	270	eP	P	22 37 00.6	+0.3
CD2				pP	pP	22 37 10.2	+0.1
CD2				sP	sP	22 37 14.2	-0.1
CD2				PP	PnPn	22 38 08.2	+1.0
CD2				S	S	22 42 10.3	-1.4
CD2				sS	sS	22 42 26.4	-1.5
CD2				SS	SnSn	22 44 05.6	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,450nm,6.2s						
CD2				LR	LR		
	comp=Z,1μm,8.4s						
GTA	Gaotai	33.09	287	eP	P	22 37 07.9	+0.5
GTA				pP	pP	22 37 17.6	+0.4
GTA				sP	sP	22 37 21.4	0.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMI	Kunming	35.59	262	P	P	22 37 31.9	+2.6
KMI				pmax	pmax		
	comp=Z,18nm,2.0s						
HVS	Khovu-Aksy	36.76	308c	iP	P	22 37 38.9	+0.1
WMQ	Urumqi	41.30	297	P	P	22 38 17.2	+0.4
WMQ				sP	sP	22 38 31.8	+0.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,82nm,3.4s						
WMQ				LR	LR		
	comp=N,110nm,21.0s						
WMQ				LR	LR		
	comp=E,38nm,16.0s						
WMQ				LR	LR		
	comp=Z,57nm,18.0s						
CHTO	Chiang Mai	41.93	256	eP	P	22 38 25.1	+2.9
CHTO	Chiang Mai	41.93	256	eP	P	22 38 25.1	+2.9
CMAR	Chiang Mai Arr	42.13	256	P	P	22 38 24.3	+0.4
CMAR				PcP	PcP	22 40 18.8	+0.8
CMAR	Chiang Mai Arr	42.13	256	P	P	22 38 24.3	+0.4
	comp=Z,1.2nm,0.5s,baz=49,slow=6.4,SNR=7.1						
CMAR				PcP	PcP	22 40 18.8	+0.8
	comp=Z,0.4nm,0.3s,baz=357,slow=3.1,SNR=4.1						
ZAA0	Zalesovo Array	42.24	312	eP	P	22 38 22.9	-1.4
ZALV	Zalesovo Beam	42.24	312	P	P	22 38 23.7	-0.6
ZALV						22 40 17.5	
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,43nm,22.0s						
ZALV	Zalesovo Beam	42.24	312	P	P	22 38 23.7	-0.6
ZALV				PcP	PcP	22 40 17.5	-0.3
ZALV	Zalesovo Beam	42.24	312	P	P	22 38 23.7	-0.6
	comp=Z,2.6nm,0.3s,baz=94,slow=7.4,SNR=18						
ZALV				PcP	PcP	22 40 17.5	-0.3
	comp=Z,1.2nm,0.6s,baz=66,slow=3.5,SNR=3.0						
ZALV				LR	LR	22 56 42.8	
	comp=Z,42nm,22.0s,baz=70,slow=37						
NVS	Novosibirsk	43.15	314	eP	P	22 38 31.2	-0.4
NVS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,1.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
MK31	Makanchi Array	44.53	302	eP	P	22 38 42.5	-0.5
MK31	Makanchi Array	44.53	302	eP	P	22 38 42.5	-0.5
MKAR	Makanchi Array	44.53	302	P	P	22 38 42.4	-0.5
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	44.53	302	P	P	22 38 42.4	-0.5
MKAR	Makanchi Array	44.53	302	P	P	22 38 42.4	-0.5
	comp=Z,3.1nm,0.6s,baz=83,slow=9.2,SNR=31						
OHAK	Old Harbor	46.20	43	eP	P	22 38 56.2	+0.3
	comp=Z,7.6nm,1.0s						
TAPN	Taplejung	46.53	274	eP	P	22 39 02.6	+3.2
	comp=Z,12nm,0.4s						
KAPI	Kappang	46.94	211	eP	P	22 39 01.0	-1.2
	comp=Z,18nm,1.0s						
ODAN	Odare	47.01	274	eP	P	22 39 05.8	+2.8
	comp=Z,14nm,0.6s						
RAMN	Ramite	47.60	274	eP	P	22 39 08.6	+1.0
	comp=Z,35nm,0.7s						
JIRN	Jiri	47.61	275	eP	P	22 39 10.9	+3.1
	comp=Z,8.4nm,0.3s						
GUN	Gumba	47.74	276	eP	P	22 39 12.7	+3.9
MCK	McKinley	48.13	34	eP	P	22 39 11.2	+0.2
MCK	McKinley	48.13	34	eP	P	22 39 11.2	+0.2
PKI	Pulchoki	48.27	276	eP	P	22 39 14.7	+1.8
KKN	Kakani	48.27	276	eP	P	22 39 15.7	+2.9
	comp=Z,25nm,0.7s						
PKIN	Phulchoki	48.27	276	eP	P	22 39 14.6	+1.8
	comp=Z,12nm,0.6s						
DMN	Daman	48.49	276	eP	P	22 39 16.4	+1.9
COLA	College	48.59	32	eP	P	22 39 14.6	+0.2
COLA				pmax	pmax		
	comp=Z,22nm,1.0s						
COLA	College	48.59	32	eP	P	22 39 14.6	+0.2
	comp=Z,22nm,1.0s						
ILAR	Eielson Array	49.01	32	P	P	22 39 17.6	0.0
ILAR	Eielson Array	49.01	32	P	P	22 39 17.6	0.0
	comp=Z,2.2nm,0.8s,baz=266,slow=6.3,SNR=19						
DANN	Dangsing	49.23	278	eP	P	22 39 20.4	+0.2
	comp=Z,49nm,0.6s						
KOLN	Koldanda	49.61	277	eP	P	22 39 24.0	+1.0
TKM2	Tokmak 2	50.07	298	eP	P	22 39 26.9	+0.5
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	Tokmak 2	50.07	298	eP	P	22 39 26.9	+0.5
	comp=Z,8.4nm,0.6s						
KSH	Kashi	50.88	294	P	P	22 39 36.4	+4.0
KSH				sP	sP	22 39 51.4	+4.7
KSH				PP	PP	22 41 34.3	+5.6
KSH				S	S	22 46 49.7	+3.1
KSH				SS	SS	22 50 23.1	+1.9
KSH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,48nm,6.3s						
KSH				LR	LR		
	comp=N,210nm,10.5s						
KSH				LR	LR		
	comp=E,120nm,9.4s						
KSH				LR	LR		
	comp=Z,69nm,5.5s						
AAK	Ala-Archa	50.94	298	eP	P	22 39 32.3	-0.5
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	50.94	298	eP	P	22 39 32.3	-0.5
	comp=Z,4.3nm,0.8s						
AAK	Ala-Archa	50.94	298	LR	LR	23 02 44.8	
	comp=Z,90nm,18.3s,baz=303,slow=38						
BRVK	Borovoye	50.95	312	eP	P	22 39 32.5	0.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	Borovoye	50.95	312	eP	P	22 39 32.5	0.0
	comp=Z,4.6nm,0.6s						
EKS2	Erkin-Say	51.43	299	eP	P	22 39 36.7	+0.2
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	Erkin-Say	51.43	299	eP	P	22 39 36.7	+0.2
	comp=Z,3.0nm,0.8s						
KKAR	Karatay Array	53.55	300	eP	P	22 39 52.0	-0.1
KKAR	Karatay Array	53.55	300	eP	P	22 39 52.0	-0.1
HYT	Haines Junctio	53.78	37	eP	P	22 39 56.0	+2.4
INK	Inuvik	53.94	27	eP	P	22 39 54.8	+0.3
	comp=Z,3.4nm,0.7s						
SVE	Sverdlovsk	55.41	319	eP	P	22 40 05.9	+0.6
SVE				pmax	pmax		
	comp=Z,15nm,0.9s						
ARU	Arti	56.62	319d	iP	P	22 40 13.5	-0.4
ARU						22 41 08.7	
ARU						22 42 15.2	
ARU				PPP	PPP	22 43 34.5	
ARU				S	S	22 48 05.4	+2.0
ARU				SS	SS	22 51 50.9	+0.2
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
WRAB	Tennant Creek	57.33	189	eP	P	22 40 18.1	-1.2
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRAB	Tennant Creek	57.33	189	eP	P	22 40 18.1	-1.2
	comp=Z,9.5nm,0.8s						
WRA	Warramunga Arr	57.34	189	P	P	22 40 18.6	-0.8
WRA				PcP	PcP	22 41 13.0	-0.2
WRA	Warramunga Arr	57.34	189	P	P	22 40 18.6	-0.8
	comp=Z,11nm,0.6s,baz=5.7,slow=7.3,SNR=146						
WRA				PcP	PcP	22 41 13.0	-0.2
	comp=Z,2.4nm,0.5s,baz=359,slow=4.1,SNR=5

ABKAR	**Akbulak array**	58.28	310	*e*P	**P**	22 40 25.2	-0.5
AS31	**Alice Springs**	61.06	189	*e*P	**P**	22 40 44.5	-0.6
ASAR	**Alice Springs**	61.07	189	P	**P**	22 40 44.9	-0.3
ASAR	**Alice Springs**	61.07	189	P	**P**	22 40 44.9	-0.3
	comp=Z,5.7nm,0.7s,baz=13,slow=7.1,SNR=54						
MBWA	**Marble Bar**	61.81	204	*e*P	**P**	22 40 49.6	-0.6
	comp=Z,8.6nm,0.7s						
YKW3	**Yellowknife Ar**	63.30	30	*e*P	**P**	22 40 59.4	-0.3
YKA	**Yellowknife Ar**	63.34	30	P	**P**	22 41 00.0	+0.1
YKA	**Yellowknife Ar**	63.34	30	P	**P**	22 40 60.0	+0.1
	comp=Z,1.0nm,0.7s,baz=304,slow=7.0,SNR=5.7						
KEV	**Kevo**	63.48	339	*e*P	P	22 41 10.3	+10
KEV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KEV	**Kevo**	63.48	339	*e*p	P	22 41 10.3	+10
	comp=Z,7.2nm,1.1s						
ARCES	**ARCESS Array B**	64.03	340	P	**P**	22 41 04.2	-0.2
ARCES	**ARCESS Array B**	64.03	340	P	**P**	22 41 04.2	-0.2
	comp=Z,2.1nm,0.8s,baz=59,slow=10,SNR=7.9						
ARCES				LR	LR	23 14 09.0	
	comp=Z,67nm,18.1s,baz=49,slow=41						
ARE0	**ARCESS Array S**	64.03	340	*e*P	**P**	22 41 03.9	-0.6
VRHR	**Novokhopersk**	67.95	318	*e*P	**P**	22 41 28.4	-1.5
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,8.0nm,0.9s						
OBN	**Obninsk**	68.31	323⇑	*e*P	**P**	22 41 30.0	-2.0
OBN				*e*S	S	22 50 21.4	-8.9
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
KAF	**Kangasniemi**	68.42	333	*e*P	**P**	22 41 31.6	-1.0
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KAF	**Kangasniemi**	68.42	333	*e*p	**P**	22 41 31.6	-1.0
	comp=Z,5.5nm,0.6s						
STKA	**Stephens Creek**	68.75	181	P	**P**	22 41 34.8	-0.1
STKA	**Stephens Creek**	68.75	181	P	**P**	22 41 34.8	-0.1
	comp=Z,3.4nm,0.8s,baz=343,slow=9.1,SNR=6.2						
FIA1	**FINESS Array S**	68.92	332	*e*P	**P**	22 41 35.3	-0.4
FINES	**FINESS Array B**	68.93	332	P	**P**	22 41 35.6	-0.2
FINES	**FINESS Array B**	68.93	332	P	**P**	22 41 35.6	-0.2
	comp=Z,7.2nm,0.8s,baz=58,slow=7.2,SNR=44						
FINES				LR	LR	23 17 04.3	
	comp=Z,91nm,18.6s,baz=259,slow=40						
VSR	**Storozhevoye**	69.19	319	*e*P	**P**	22 41 37.1	-0.5
VSR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
VORD	**Divnogorie**	69.26	319	*e*P	**P**	22 41 37.4	-0.6
VORD				pmax	pmax		
	comp=E,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,5.0nm,0.9s						
NEW	**Newport**	69.57	44	*e*P	**P**	22 41 40.2	+0.1
	comp=N,2.0nm,0.8s						
GUDG	**Gudauri**	70.97	309	P	**P**	22 41 49.2	+0.2
KBZ	**Khabaz**	71.24	311	P	**P**	22 41 50.9	+0.7
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	71.24	311	P	**P**	22 41 50.9	+0.7
KBZ	**Khabaz**	71.24	311	P	**P**	22 41 50.9	+0.7
	comp=Z,4.1nm,0.8s,baz=64,slow=6.3,SNR=8.5						
KIV	**Kislovodsk**	71.24	311⇓	*e*P	**P**	22 41 50.9	+0.5
KIV				*e*S	S	22 50 58.5	-6.9
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BMO	**Blue Mountains**	71.35	48	*e*P	**P**	22 41 52.0	+0.9
	comp=Z,1.7nm,1.1s						
GNI	**Garni**	72.08	307	*e*P	**P**	22 41 56.1	+0.5
	comp=Z,5.1nm,0.7s						
GNI	**Garni**	72.08	307	LR	LR	23 15 47.6	
	comp=Z,37nm,18.1s,baz=83,slow=38						
FFC	**Flin Flon**	73.21	33	*e*P	**P**	22 42 02.9	+1.0
FFC	**Flin Flon**	73.21	33	*e*P	**P**	22 42 01.7	-0.2
	comp=Z,12nm,0.9s						
FFC				*e*pP	**pP**	22 42 11.3	-1.2
FCC	**Fort Churchill**	73.56	27	*e*P	**P**	22 42 02.1	-1.7
FCC	**Fort Churchill**	73.56	27	*e*P	**P**	22 42 02.1	-1.7
	comp=Z,0.3nm,0.9s						
LRM	**Limekiln Ridge**	73.58	45	*e*P	**P**	22 42 05.0	+0.4
	comp=Z,50nm,0.9s						
HLID	**Hailey**	73.79	47	*e*P	**P**	22 42 06.8	+1.1
	comp=Z,1.1nm,0.9s						
HLID				*e*pP	**pP**	22 42 16.7	+0.3
BOZ	**Bozeman (W)**	74.15	44	*e*P	**P**	22 42 08.8	+1.0
BOZ				*e**PP	**pP**	22 42 17.5	-0.9
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOZ	**Bozeman (W)**	74.15	44	*e*P	**P**	22 42 08.8	+1.0
	comp=Z,1.4nm,0.8s						
BOZ				*e*pP	**pP**	22 42 17.5	-0.9
NB2	**NORSAR Subarra**	74.24	338	P	**P**	22 42 07.6	-0.3
	comp=Z,2.8nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	74.24	338	P	**P**	22 42 08.1	+0.2
NOA	**NORSAR Array B**	74.24	338	P	**P**	22 42 08.1	+0.2
	comp=Z,3.1nm,0.8s,baz=43,slow=5.5,SNR=16						
NOA				LR	LR	23 18 19.8	
	comp=Z,48nm,18.5s,baz=40,slow=39						
NVAR	**Mina Array Bea**	74.39	54	P	**P**	22 42 09.9	+0.6
NVAR	**Mina Array Bea**	74.39	54	P	**P**	22 42 09.9	+0.6
	comp=Z,1.5nm,0.7s,baz=289,slow=5.5,SNR=6.3						
NAO01	**NORSAR Array S**	74.50	338	*e*P	**P**	22 42 08.9	-0.4
	comp=Z,2.2nm,0.6s						
AKASG	**Malin Array Be**	74.52	323	P	**P**	22 42 09.3	-0.3
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG	**Malin Array Be**	74.52	323	P	**P**	22 42 09.3	-0.3
AKASG	**Malin Array Be**	74.52	323	P	**P**	22 42 09.3	-0.3
	comp=Z,6.6nm,0.6s,baz=46,slow=5.8,SNR=27						
DUG	**Dugway**	76.77	49	*e*P	**P**	22 42 23.1	+0.2
DUG				*e**PP	**pP**	22 42 33.2	-0.4
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DUG	**Dugway**	76.77	49	*e*P	**P**	22 42 23.1	+0.2
	comp=Z,5.2nm,0.8s						
DUG				*e*pP	**pP**	22 42 33.2	-0.4
MALT	**Malatya**	77.13	308⇑	*i*P	P	22 42 49.1	+24
KWP	**Kalwaria Pacla**	78.33	325⇑	P	**P**	22 42 31.9	+0.7
KWP	**Kalwaria Pacla**	78.33	325⇑	*i*P	**P**	22 42 31.9	+0.7
KWP	**Kalwaria Pacla**	78.33	325	*e*P	**P**	22 42 31.8	+0.6
	comp=Z,14nm,1.0s						
KWP	**Kalwaria Pacla**	78.33	325	*e*P	**P**	22 42 31.9	+0.7
BUR08	**Bucovina Ar. S**	78.52	322	*e*P	**P**	22 42 32.6	+0.1
BURAR	**Bucovina Array**	78.54	322	⇑P	**P**	22 42 33.1	+0.6
BURAR	**Bucovina Array**	78.54	322	⇑*i*P	**P**	22 42 33.1	+0.6
TESR	**Tescani**	78.58	321	⇓*i*P	**P**	22 42 33.3	+0.7
CFR	**Carcaliu**	78.70	319	⇓P	**P**	22 42 33.8	+0.5
CFR	**Carcaliu**	78.70	319	⇓*i*P	**P**	22 42 33.8	+0.5
VRI	**Vrincioaia**	78.97	320	⇑P	**P**	22 42 36.5	+1.6
VRI	**Vrincioaia**	78.97	320	⇑*i*P	**P**	22 42 36.5	+1.6
ULM	**Lac du Bonnet**	79.01	34	P	**P**	22 42 34.8	-0.1
ULM	**Lac du Bonnet**	79.01	34	P	**P**	22 42 34.8	-0.1
	comp=Z,2.0nm,0.7s,baz=270,slow=3.0,SNR=2.1						
KOLS	**Kolonicke sedl**	79.02	324	*e*P	**P**	22 42 35.4	+0.3
KOLS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KOLS	**Kolonicke sedl**	79.02	324	*e*P	**P**	22 42 35.4	+0.3
STHS	**Stebnicka Huta**	79.15	325	*e*P	**P**	22 42 37.3	+1.5
STHS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STHS	**Stebnicka Huta**	79.15	325	*e*P	**P**	22 42 37.3	+1.5
BR131	**Keskin Array S**	79.18	312	*e*P	**P**	22 42 36.5	+0.2
BRTR	**Keskin Array B**	79.18	312	P	**P**	22 42 36.7	+0.4
BRTR	**Keskin Array B**	79.18	312	P	**P**	22 42 36.7	+0.4
	comp=Z,1.4nm,0.8s,baz=111,slow=3.5,SNR=6.1						
OJC	**Ojcow**	79.22	326	*e*P	**P**	22 42 36.6	+0.5
TRPA	**Tarpa**	79.47	324	⇓*i*P	**P**	22 42 38.2	+0.8
NIE	**Niedzica**	79.57	326	*e*P	**P**	22 42 40.6	+2.5
KECS	**Kecovo**	80.17	325	*e*P	**P**	22 42 41.5	+0.2
KECS	**Kecovo**	80.17	325	*e*P	**P**	22 42 41.5	+0.2
OKC	**Ostrava-Krasne**	80.22	327	*e*P	**P**	22 42 41.7	+0.2
OKC	**Ostrava-Krasne**	80.22	327	*e*P	**P**	22 42 41.7	+0.2
DRGR		80.33	323	⇑P	**P**	22 42 42.8	+0.5
DRGR		80.33	323	⇑*i*P	**P**	22 42 42.8	+0.5
ARR	**Arges**	80.38	321	⇓*i*P	**P**	22 42 44.0	+1.4
MORC	**Moravsky Berou**	80.53	327	*e*P	**P**	22 42 43.4	+0.1
MORC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MORC	**Moravsky Berou**	80.53	327	*e*P	**P**	22 42 43.4	+0.1
	comp=Z,6.0nm,1.0s						
DPC	**Dobruska-Polom**	80.62	328	*i*P	**P**	22 42 44.6	+0.9
DPC				*e*		22 42 50.9	
DPC	**Dobruska-Polom**	80.62	328	*i*P	**P**	22 42 44.6	+0.9
DPC				*e*PCP	**PcP**	22 42 50.9	+0.4
PSZ	**Piszkesteto**	80.85	325	*e*P	**P**	22 42 45.6	+0.5
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PSZ	**Piszkesteto**	80.85	325⇑	*i*P	**P**	22 42 44.2	-0.9
PSZ	**Piszkesteto**	80.85	325	*e*P	**P**	22 42 45.6	+0.5
	comp=Z,5.9nm,0.8s						
VYHS	**Vyhne**	80.91	326	*e*P	**P**	22 42 46.0	+0.7
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s						
VYHS	**Vyhne**	80.91	326	*e*P	**P**	22 42 46.0	+0.7
BRG	**Berggiesshubel**	81.19	330	*e*P	**P**	22 42 47.0	+0.3
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	81.19	330	*e*P	**P**	22 42 47.0	+0.3
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PVCC	**Panska Ves**	81.21	329	*e*P	**P**	22 42 47.5	+0.7
PVCC				*e*		22 42 53.4	
PVCC	**Panska Ves**	81.21	329	*e*P	**P**	22 42 47.5	+0.7
PVCC				*e*PCP	**PcP**	22 42 53.4	+0.4
CLL	**Collm**	81.23	331⇑	*i*P	**P**	22 42 46.8	-0.1
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	81.23	331⇑	*i*P	**P**	22 42 46.8	-0.1
	comp=Z,7.0nm,1.0s						
GZR	**Gura Zlata**	81.30	322	⇑P	**P**	22 42 48.2	+0.7
GZR	**Gura Zlata**	81.30	322	⇑*i*P	**P**	22 42 48.2	+0.7
PRU	**Pruhonice**	81.64	329	*i*P	**P**	22 42 49.8	+0.7
PRU				*e*		22 43 00.5	
PRU				*e*		22 43 02.6	
PRU	**Pruhonice**	81.64	329	*i*P	**P**	22 42 49.8	+0.7
PRU				*e*pP	**pP**	22 43 00.5	+0.7
PRU				*e*x	x	22 43 02.6	
BZS	**Buzias**	81.70	322	⇓P	**P**	22 42 49.2	-0.3
BZS	**Buzias**	81.70	322	⇓*i*P	**P**	22 42 49.2	-0.3
TREC	**Trest**	81.77	328	*i*P	**P**	22 42 50.2	+0.4
TREC				*e*		22 42 56.2	
TREC	**Trest**	81.77	328	*i*P	**P**	22 42 50.2	+0.4
TREC				*e*PCP	**PcP**	22 42 56.2	+0.7
NKC	**Novy Kostel**	82.29	330	*e*P	**P**	22 42 52.8	+0.2
NKC	**Novy Kostel**	82.29	330	*e*P	**P**	22 42 52.8	+0.2
KHC	**Kasperske Hory**	82.70	329	*i*P	**P**	22 42 55.2	+0.5
KHC				*e*		22 43 06.2	
KHC	**Kasperske Hory**	82.70	329	*i*P	**P**	22 42 55.2	+0.5
KHC				*e*PCP	**PcP**	22 43 01.5	+1.9
KHC				*e*pP	**pP**	22 43 06.2	+0.7
KHC	**Kasperske Hory**	82.70	329	*e*P	**P**	22 42 54.7	0.0
	comp=Z,3.7nm,0.8s						
GERES	**GERESS Array B**	82.87	329	P	**P**	22 42 55.5	-0.1
GERES	**GERESS Array B**	82.87	329	P	**P**	22 42 55.5	-0.1
	comp=Z,1.8nm,0.5s,baz=37,slow=5.2,SNR=28						
VTS	**Vitosha**	83.07	319	⇓P	**P**	22 42 58.0	+1.1
VTS	**Vitosha**	83.07	319	⇓*i*P	**P**	22 42 58.0	+1.1
ANMO	**Albuquerque**	84.00	50	*e*P	**P**	22 43 01.1	-0.7
	comp=Z,1.5nm,0.9s						
ANMO				*e*pP	**pP**	22 43 12.2	-0.5
STU	**Stuttgart**	84.74	331	*e*P	**P**	22 43 05.3	+0.2
STU				pmax	pmax		
	comp=Z,8.0nm,0.6s						
STU	**Stuttgart**	84.74	331	*e*P	**P**	22 43 05.2	+0.2
	comp=Z,8.1nm,0.6s						
BAIF	**Baives**	85.50	334	*e*P	**P**	22 43 08.3	-0.6
CDF	**Champ du Feu**	85.77	332	*e*P	**P**	22 43 09.8	-0.6
	comp=Z,9.2nm,0.8s						
PAGF	**Fort de Pagny**	86.22	333	*e*P	**P**	22 43 12.3	-0.2
	comp=Z,4.5nm,0.8s						
HAU	**Haudompre**	86.45	332	*e*P	**P**	22 43 12.9	-0.8
	comp=Z,6.5nm,0.8s						
LOR	**Lormes**	87.99	333	*e*P	**P**	22 43 20.3	-0.8
	comp=Z,13nm,1.1s						
LPL	**La Plagne**	88.37	330	*e*P	**P**	22 43 22.6	-0.6
LPG	**La Plagne**	88.38	330	*e*P	**P**	22 43 22.5	-0.8
AVF	**Avril sur Loir**	88.58	333	*e*P	**P**	22 43 23.4	-0.5
	comp=Z,7.9nm,0.9s						
WMOK	**Wichita Mounta**	88.71	46	*e*P	**P**	22 43 24.8	0.0
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMOK	**Wichita Mounta**	88.71	46	*e*P	**P**	22 43 24.8	0.0
	comp=Z,4.0nm,0.7s						
TXAR	**Lajitas Array**	89.52	53	P	**P**	22 43 29.3	+0.5
TXAR	**Lajitas Array**	89.52	53	P	**P**	22 43 29.3	+0.5
	comp=Z,0.5nm,0.6s,baz=293,slow=2.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	117.62	316	PKP	**PKPdf**	22 49 16.7	-0.9
TORD	**Torodi Ar. Bea**	117.62	316	PKP	**PKPdf**	22 49 16.7	-0.9
	comp=Z,0.4nm,0.5s,baz=38,slow=1.5,SNR=10.0						
VNA2	**Neumayer--Watz**	142.67	196	*e*P	**PKPdf**	22 49 59.7	-3.4
VNA1	**Neumayer--Stat**	143.07	196	*e*P	PKPbc	22 50 00.5	-0.2
LPAZ	**La Paz**	146.07	60	*e*PKPbc	**PKPbc**	22 50 12.2	0.0
LPAZ	**La Paz**	146.07	60	PKPbc	**PKPbc**	22 50 12.2	0.0
	comp=Z,4.4nm,0.9s,baz=308,slow=1.9,SNR=16						
LVC	**Limon Verde**	149.53	70	*e*PKPbc	**PKPbc**	22 50 21.6	+0.6
LCO	**Las Campanas**	151.38	83	*e*PKPbc	**PKPbc**	22 50 25.6	+0.3
LCO				*e*PKPab	**PKPab**	22 50 35.8	+2.2

WEL 07 22:33:24.7±0.4, 39.°44S×174.°39E, h229km±3km, ML3.6/6, 5C-5D, Error ellipse: s-maj=3.3km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKE	**Pukeiti**	0.39	308	PN	Pn	22 33 54.8	-0.1
WAZ	**Wanganui**	0.56	125	PN	Pn	22 33 56.0	+0.7
WAZ				SN	S	22 34 19.2	-0.2
PKVZ	**Pokaka**	0.76	79	PN	Pn	22 33 56.0	-0.3
PKVZ				SN	S	22 34 19.5	-1.4
MTVZ	**Mangateitei**	0.84	87	PN	Pn	22 33 56.7	-0.1
MTVZ				SN	S	22 34 20.0	-1.6
TWVZ	**Taurewa**	0.90	66	PN	Pn	22 33 56.6	-0.5
WNVZ	**Wahianoa**	0.95	84	⇓PN	Pn	22 33 57.3	-0.1
WTVZ	**West Tongariro**	0.99	71	PN	Pn	22 33 57.4	-0.2
HIZ	**Hauiti**	0.99	22	PN	Pn	22 33 56.3	-1.2
TUVZ	**Tukino**	1.00	81	⇑PN	Pn	22 33 57.8	+0.1
TUVZ				SN	S	22 34 21.5	-1.9
MOVZ	**Moawhango**	1.06	89	⇓PN	Pn	22 33 57.6	-0.4
BHHZ	**Black Hill Sta**	1.30	93	PN	Pn	22 33 59.1	-0.4
DUWZ	**D'Urville Isla**	1.41	194	⇑PN	Pn	22 34 00.2	-0.1
KIW	**Kapiti Island**	1.48	164	PN	Pn	22 34 00.7	-0.2
KIW				AML	AML	22 34 28.6	
KIW				AML	AML	22 34 29.0	
PNHZ	**Pukenui**	1.48	109	⇓PN	Pn	22 34 01.0	+0.1
OGWZ	**Otaki Gorge**	1.50	157	⇑PN	Pn	22 34 01.1	+0.1
MRZ	**Mangatainoka R**	1.53	144	⇑PN	Pn	22 34 01.0	-0.2
MRZ				AML	AML	22 34 28.5	
MRZ				AML	AML	22 34 29.2	
DVHZ	**Dannevirke**	1.62	123	PN	Pn	22 34 02.0	0.0
BKZ	**Black Stump Fm**	1.66	81	PN	Pn	22 34 01.9	-0.5
HOWZ	**Holdsworth Sta**	1.69	150	PN	Pn	22 34 02.3	-0.3
WPHZ	**Waipukurau**	1.70	112	⇓PN	Pn	22 34 03.0	+0.2
CAW	**Cannon Point**	1.75	163	PN	Pn	22 34 02.8	-0.3
CAW				AML	AML	22 34 33.5	
CAW				AML	AML	22 34 34.1	
TIWZ	**Tintock**	1.76	140	PN	Pn	22 34 03.2	-0.1
TCW	**Tory Channel**	1.77	183	PN	Pn	22 34 03.1	-0.2
TCW				AML	AML	22 34 33.3	
TCW				AML	AML	22 34 34.1	
MCHZ	**McNeill Hill**	1.79	91	PN	Pn	22 34 04.0	+0.5
BFZ	**Birch Farm**	1.89	132	PN	Pn	22 34 04.6	+0.2
NMHZ	**Naumai**	1.91	80	⇓PN	Pn	22 34 05.1	+0.4
MTW	**Mount Morrison**	1.92	154	PN	Pn	22 34 04.2	-0.4
MTW				AML	AML	22 34 35.2	
PRHZ	**Porangahau**	1.92	116	⇑PN	Pn	22 34 04.9	+0.3
NNZ	**Nelson**	1.94	203	PN	Pn	22 34 04.3	-0.5
KAHZ	**Kahuranaki**	1.96	101	PN	Pn	22 34 05.5	+0.4
PXZ	**Pawanui**	2.00	108	PN	Pn	22 34 05.5	+0.1
BHW	**Baring Head**	2.00	169	PN	Pn	22 34 04.8	-0.6
TUWZ	**Tuamarina**	2.02	189	PN	Pn	22 34 05.1	-0.4
TUWZ				AML	AML	22 34 37.3	
TUWZ				AML	AML	22 34 37.6	
TMWZ	**Te Maipa**	2.03	146	PN	Pn	22 34 05.4	-0.3
MSWZ	**Moikau Station**	2.08	162	PN	Pn	22 34 05.7	-0.5
CKHZ	**Cape Kidnapper**	2.09	97	PN	Pn	22 34 06.7	+0.4
PAWZ	**Paruwai Farm**	2.10	158	PN	Pn	22 34 05.9	-0.4
RAHZ	**Arahi**	2.16	77	PN	Pn	22 34 06.9	-0.2
PLWZ	**Palliser**	2.23	163	PN	Pn	22 34 07.0	-0.7
BSWZ	**Blackbirch Sta**	2.31	190	PN	Pn	22 34 08.0	-0.4
URZ	**Urewera**	2.43	62	PN	Pn	22 34 08.0	-1.8
THZ	**Tophouse**	2.58	205	PN	Pn	22 34 10.5	-0.9
KNZ	**Kokohu**	2.59	82	PN	Pn	22 34 10.9	-0.5
MWZ	**Matawai**	2.69	67	PN	Pn	22 34 11.3	-1.3
MHGZ	**Mahia Peninsul**	2.75	85	PN	Pn	22 34 13.0	-0.1
PRGZ	**Paritu Road**	2.77	80	PN	Pn	22 34 12.9	-0.5
KHZ	**Kahutara**	3.04	192	PN	Pn	22 34 15.3	-1.0
PUZ	**Puketiti**	3.32	67	PN	Pn	22 34 17.9	-1.7
LTZ	**Lake Taylor**	3.70	205	PN	Pn	22 34 22.6	-1.5
MQZ	**McQueen's Vall**	4.46	196	PN	Pn	22 34 31.4	-1.6

NEIC 07 22:44:47.8, 19.°19N×64.°73W, h56km, MD3.5(RSPR), After RSPR.

RSPR 07 22:44:47.8, 19.°19N×64.°73W, h56km±9km, MD3.5/3, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	0.59	140⇓	*e*P	Pn	22 44 59.6	-1.0
ABVI				*e*S	Sn	22 45 09.6	-0.2
ABV	**Anegada**	0.59	140⇓	*e*P	Pn	22 44 59.6	-1.0
ABV	**Anegada**	0.59	140	*e*S	Sn	22 45 09.6	-0.2
ABV	**Anegada**	0.59	140⇓	*e*P	Pn	22 44 59.6	-1.0
ABV				*e*S	Sn	22 45 09.6	-0.2
TBVI	**Tortola**	0.78	172⇑	*e*P	Pn	22 45 02.3	-0.5
TBVI				*e*S	Sn	22 45 12.6	-1.2
TBVI	**Tortola**	0.78	172⇑	*e*P	Pn	22 45 02.3	-0.5
TBVI				*e*S	Sn	22 45 12.6	-1.2
TBVI	**Tortola**	0.78	172⇑	*e*P	Pn	22 45 02.3	-0.5
TBVI				*e*S	Sn	22 45 12.6	-1.2
MTP	**Monte Pirata**	1.34	216	*e*S	Sn	22 45 26.6	-0.5
MTP	**Monte Pirata**	1.34	216⇑	*e*P	Pn	22 45 09.7	-0.5
MTP	**Monte Pirata**	1.34	216⇑	*e*P	Pn	22 45 09.7	-0.5
MTP				*e*S	Sn	22 45 26.6	-0.5
MTP	**Monte Pirata**	1.34	216⇑	*e*P	Pn	22 45 09.7	-0.5
MTP				*e*S	Sn	22 45 26.6	-0.5
CBYP	**Canovanas**	1.41	230	*e*S	Sn	22 45 27.7	-1.1
CBYP	**Canovanas**	1.41	230⇑	*e*P	Pn	22 45 09.9	-1.3
CBYP	**Canovanas**	1.41	230⇑	*e*P	Pn	22 45 09.9	-1.3
CBYP				*e*S	Sn	22 45 27.7	-1.1
CBYP	**Canovanas**	1.41	230⇑	*e*P	Pn	22 45 09.9	-1.3
CBYP				*e*S	Sn	22 45 27.7	-1.1

HEL 07 22:49:02.0±0.7, 67.°62N×34.°11E, h0km, ML2.3, Explosion
ISCJB 07 22:49:03.6±1.1, 67.°57N±0.°04×33.°3E±0.°2, h0km, Error ellipse: s-maj=8.7km s-min=5.2km az=176.1
NAO 07 22:49:04.8±1.1, 67.°68N×33.°67E, ML2.9
IDC 07 22:49:05.1±1.7, 67.°71N×33.°67E, h0km, mb1 3.2/5, mb1mx3.1/29, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=16.9km s-min=8.7km az=87.0
CSEM 07 22:49:05.4±0.4, 67.°61N×33.°39E, h1km, ML3.1, Error ellipse: s-maj=6.6km s-min=5.2km az=68.0, Mining explosion.

ISC 07 22:49:02.4±1.5, 67.°59N±0.°03×33.°76E±0.°08, h0km, n43, σ1°24/69, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	0.29	273	Pg	**Pb**	22 49 09.6	-0.9
	baz=98,slow=16						
APA0				Lg	Lg	22 49 14.2	
	baz=73,slow=37						
APA0				Rg	Rg	22 49 15.2	
APA0	**Apatity Array**	0.29	273	Pg	**Pb**	22 49 09.6	-0.9
	baz=98,slow=16						
APA0				Lg	Lg	22 49 14.2	
	baz=73,slow=37						
APA0				Rg	Rg	22 49 15.2	
APA0	**Apatity Array**	0.29	273	Pg	**Pb**	22 49 09.6	-0.9
	baz=98,slow=16	

OUL	**Oulu**	**4.04**	**235**	SG	**Sb**	**22 51 04.4**	**+0.6**
OUL				MSG		22 51 04.4	
	comp=Z,1.3nm,0.4s						
KTK1	**Kautokeino**	**4.16**	**295**	*e*S	**Sn**	**22 50 55.1**	**-1.1**
KTK1				IAML		22 51 12.5	
	comp=Z,95nm,0.8s						
KTK1	**Kautokeino**	**4.16**	**295**	*e*S	**Sn**	**22 50 55.1**	**-1.1**
	SNR=49						
FIA0	**FINESS Array S**	**7.00**	**212**	Pn	**Pn**	**22 50 47.0**	**+1.0**
	baz=23,slow=14						
FIA0				Sn	**Sn**	**22 52 06.2**	**0.0**
	baz=28,slow=22						
FIA0				Lg	Lg	22 52 38.0	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**7.00**	**212**	Pn	**Pn**	**22 50 47.0**	**+1.0**
	baz=23,slow=14						
FIA0				Sn	**Sn**	**22 52 06.2**	**0.0**
	baz=28,slow=22						
FIA0				Lg	Lg	22 52 38.0	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**7.00**	**212**	Pn	**Pn**	**22 50 47.0**	**+1.0**
	baz=23,slow=13,SNR=50						
FIA0				Sn	**Sn**	**22 52 06.2**	**0.0**
	baz=28,slow=22,SNR=50						
FIA0				Lg	Lg	22 52 38.0	
	baz=28,slow=24,SNR=90						
FINES	**FINESS Array B**	**7.00**	**212**	Pn	**Pn**	**22 50 46.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=24,slow=15,SNR=6.9						
FINES				Sn	**Sn**	**22 52 06.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=27,slow=25,SNR=7.5						
FINES				Lg	Lg	22 52 39.4	
	comp=Z,0.7nm,0.3s,baz=27,slow=25,SNR=6.0						
HFS	**Hagfors**	**11.53**	**239**	Pn	**Pn**	**22 51 47.8**	**-0.2**
	baz=46,slow=14						
HFS				Sn	Sn	22 53 51.2	-6.1
	baz=41,slow=28						
HFS				Lg	Lg	22 55 00.4	
	baz=41,slow=28

AYAN	Aya Nagar	6.73	152	eS	Sn	01 02 59.7	-1.6
KUDL	Kundal	6.82	158	eS	Sn	01 03 03.5	+0.1
KUDL				AML	AML	01 03 47.4	
	comp=N,7.7nm,0.6s						
KUDL				AML	AML	01 03 52.6	
	comp=E,8.7nm,0.4s						
SONA	Sohna	6.92	153	eS	Sn	01 03 06.5	+0.5
SONA				AML	AML	01 04 01.6	
	comp=E,19nm,0.3s						
SONA				AML	AML	01 04 01.9	
	comp=N,10nm,0.3s						
KK31	Karatay Array	8.90	345	Pn	Pn	01 02 16.6	+2.3
	comp=N,5.7nm,0.4s,baz=161,slow=12,SNR=126						
KK31				⇓Sn	Sn	01 03 11.2	-44
	comp=N,0.4nm,0.4s,baz=158,slow=28						
MKAR	Makanchi Array	13.93	26	Pn	Pn	01 03 23.3	+0.3
	baz=207,slow=12,SNR=3.1						
MKAR				Sn	Sn	01 05 56.2	-1.4
	comp=N,0.2nm,0.3s,baz=202,slow=22,SNR=7.1						
BVAR	Borovoye Array	18.65	354	P	P	01 04 23.1	-0.3
	comp=N,0.2nm,0.3s,baz=162,slow=11,SNR=5.1						
AKTO	Aktyubinsk	19.55	329	P	P	01 04 33.1	-0.3
	comp=N,0.3nm,0.3s,baz=123,slow=9.0,SNR=7.7						
ZALV	Zalesovo Beam	20.99	19	P	P	01 04 48.3	-0.6
	comp=N,1.3nm,0.5s,baz=211,slow=11,SNR=7.0						
KSRS	Korea Array	43.57	70	LR	LR	01 29 22.5	
	comp=N,35nm,18.1s,baz=195,slow=40						
ARCES	ARCESS Array B	43.78	338	P	P	01 08 11.2	+0.1
	comp=N,0.5nm,0.7s,baz=112,slow=8.3,SNR=6.8						
HFS	Hagfors	45.92	323	P	P	01 08 27.3	-1.0
	comp=N,0.8nm,0.7s,baz=106,slow=11,SNR=6.7						
TORD	Torodi Ar. Bea	67.81	271	P	P	01 11 04.0	-0.3
	comp=N,0.1nm,0.4s,baz=43,slow=6.3,SNR=3.9						
WRA	Warramunga Arr	79.15	123	P	P	01 12 09.9	-1.0
	comp=N,0.4nm,0.8s,baz=320,slow=4.6,SNR=4.6						
ASAR	Alice Springs	81.39	126	P	P	01 12 23.5	+0.6
	comp=N,0.2nm,0.6s,baz=315,slow=5.8,SNR=2.6						

*ISCJB **08** 01:01:26.1±0.2, 60°.14N±0°.03×153°.30W±0°.05, h158km±2km, mb4.0/6, Error ellipse: s-maj=5.3km s-min=3.4km az=43.0*
*NEIC **08** 01:01:28.2, 60°.14N×153°.31W, h150km, MG3.6(AEIC), After AEIC.*
*IDC **08** 01:01:30.4±6.6, 60°.51N×153°.33W, h160km±51km, mb3.7/6, mb1 3.6/8, mb1mx3.2/30, mbtmp3.5/8, Error ellipse: s-maj=58.0km s-min=32.5km az=17.0*

ISC 08 01:01:27.3±0.8, 60°.15N±0°.04×153°.25W±0°.04, h156km±5km, n108, σ0.97/122, mb4.0/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	Iliamna West	0.11	148	P	Pn	01 01 48.0	-0.4
ILW				S	Sn	01 02 03.8	-0.6
RDWB	Redoubt West	0.40	31	P	Pn	01 01 48.8	-0.2
RDWB				S	Sn	01 02 04.4	-1.3
RSO	Redoubt South	0.40	38	ePn	Pn	01 01 48.7	-0.4
NCT	North Crescent	0.44	21	P	Pn	01 01 49.1	-0.1
RDJH	Redoubt Jeurge	0.49	26	P	Pn	01 01 49.2	-0.2
RDJH				S	Sn	01 02 05.4	-1.0
OPT	Oil Point	0.50	179	P	Pn	01 01 49.2	-0.1
DFR	Drift River	0.52	32	P	Pn	01 01 49.3	-0.3
RDT	Redoubt	0.60	44	P	Pn	01 01 49.8	-0.1
AUW	Augustine West	0.79	188	P	Pn	01 01 50.9	-0.1
AUE	Augustine Isla	0.80	185	P	Pn	01 01 50.8	-0.3
AUE				S	Sn	01 02 07.5	-1.7
AUI	Augustine Isla	0.82	186	P	Pn	01 01 51.0	-0.3
AUI				S	Sn	01 02 08.7	-0.9
HOM	Homer	0.95	121	P	Pn	01 01 52.5	+0.3
HOM				S	Sn	01 02 11.4	+0.2
MCNL	McNeil River	1.11	210	P	Pn	01 01 53.0	-0.6
CKL	Chakachamna La	1.14	23	P	Pn	01 01 54.2	+0.3
SPU	Mount Spurr	1.19	29	P	Pn	01 01 54.3	0.0
BGL	Barrier Glacie	1.19	20	P	Pn	01 01 55.0	+0.6
CNPM	China Poot	1.19	121	P	Pn	01 01 54.3	-0.1
CNPM				S	Sn	01 02 14.1	-0.9
SPBG	Spurr Blockage	1.19	21	P	Pn	01 01 54.9	+0.5
SPBG				S	Sn	01 02 15.5	+0.2
CRP	Crater Peak	1.24	25	P	Pn	01 01 54.2	-0.7
BRLK	Bradley Lake	1.25	107	P	Pn	01 01 55.0	+0.2
CGLM	Capps Glacier	1.31	27	P	Pn	01 01 55.5	+0.1
SVW2	Sparrevohn	1.49	311	P	Pn	01 01 56.5	-0.7
STLK	Strandline Lak	1.52	27	P	Pn	01 01 57.7	+0.1
SLKM	Skilak Lake	1.55	75	P	Pn	01 01 57.5	-0.3
KAPH	Katmai Pasha	1.66	200	P	Pn	01 01 58.5	-0.5
KAPH				S	Sn	01 02 21.1	-2.2
SUA	Susitna One	1.80	42	P	Pn	01 02 00.6	0.0
SUA				S	Sn	01 02 26.1	-0.2
SKT	Skwentna	2.02	24	P	Pn	01 02 03.0	+0.1
KAKN	Katmai Knife C	2.08	207	P	Pn	01 02 03.1	-0.7
KAKN				S	Sn	01 02 29.7	-2.1
KELA	Mount Kelaz	2.14	218	P	Pn	01 02 03.7	-0.7
KABR	Katmai Barrier	2.21	204	P	Pn	01 02 04.2	-1.1
CAHL	Cahill	2.36	208	P	Pn	01 02 06.4	-0.6
KJL	Kejulik	2.42	211	P	Pn	01 02 07.4	-0.4
PMR	Palmer	2.48	53	ePn	Pn	01 02 08.0	-0.3
PMR				eSn	Sn	01 02 36.8	-3.3
PPLA	Purkeypile	2.80	10	P	Pn	01 02 13.3	+0.9
SML	Sawmill	2.92	53	P	Pn	01 02 12.8	-1.0
PLK1	Peulik 1	2.93	218	P	Pn	01 02 13.6	-0.3
OHAK	Old Harbor	2.94	180	P	Pn	01 02 11.8	-2.2
TT01	Tatalina	3.07	336	P	Pn	01 02 15.1	-0.5
GLI	Glacier Island	3.13	74	P	Pn	01 02 14.6	-1.8
SCM	Sheep Creek Mo	3.34	57	P	Pn	01 02 18.4	-0.7
JPK	Jack Peak	3.40	72	P	Pn	01 02 19.1	-0.9
VLZ	Valdez	3.55	71	P	Pn	01 02 20.9	-0.8
KTH	Kantishna Hill	3.59	17	P	Pn	01 02 21.9	-0.4
TRF	Thorofare Moun	3.60	22	P	Pn	01 02 21.7	-0.8
EYAK	Cordova Ski Ar	3.75	81	P	Pn	01 02 24.3	0.0
DIV	Divide	3.81	72	P	Pn	01 02 24.5	-0.7
KLU	Klutina	3.83	66	P	Pn	01 02 24.7	-0.8
RND	Reindeer	3.88	31	P	Pn	01 02 25.8	-0.3
DHY	Denali Highway	4.06	41	P	Pn	01 02 28.2	-0.3
MCK	McKinley	4.13	28	P	Pn	01 02 29.4	+0.1
ANPK	Aniakchak Peak	4.19	220	P	Pn	01 02 29.6	-0.5
GOAT	Goat Mountain	4.25	80	P	Pn	01 02 30.4	-0.6
RAGM	Ragged Mountai	4.28	83	P	Pn	01 02 31.4	+0.1
BMRM	Bremner River	4.35	75	P	Pn	01 02 31.5	-0.6
HARP	HAARP	4.51	56	P	Pn	01 02 34.3	0.0
NICHA	Nichawak Mount	4.63	85	P	Pn	01 02 36.0	+0.1
PAX	Paxson	4.67	49	P	Pn	01 02 36.8	+0.4
CHGN	Chignik	4.73	218	ePn	Pn	01 02 35.5	-1.6
BERG	Berg Lake	4.76	83	P	Pn	01 02 37.4	-0.1
NEA	Nenana	4.85	22	P	Pn	01 02 38.3	-0.3
VRDI	Verde Repeater	4.94	73	P	Pn	01 02 39.9	-0.1
WRH	Wood River Hil	4.96	27	P	Pn	01 02 39.4	-0.7
KHIT	Khitrov Hills	4.98	82	P	Pn	01 02 40.7	+0.1
VNHG	Veniaminof 1	5.03	221	P	Pn	01 02 41.5	+0.3
MLY	Manley	5.03	12	P	Pn	01 02 40.5	-0.6
MCARA	McCarthy VSAT	5.16	72	P	Pn	01 02 43.4	+0.6
HDA	Harding Lake	5.18	32	P	Pn	01 02 42.7	-0.3
KULT	Kultieth River	5.25	84	P	Pn	01 02 44.4	+0.3
COLA	College	5.36	25	P	Pn	01 02 45.0	-0.3
BARK	Barkley Ridge	5.36	83	P	Pn	01 02 46.2	+0.7
PTPK	Patty Peak	5.40	74	P	Pn	01 02 46.6	+0.4
ISLE	Juniper Island	5.43	80	P	Pn	01 02 47.1	+0.6
KIAG	Kiagna River	5.43	77	P	Pn	01 02 46.5	0.0
BALM	Baldy	5.45	76	P	Pn	01 02 46.4	-0.2
ILAR	Eielson Array	5.50	30	P	Pn	01 02 46.9	-0.2
ILAR				S	Sn	01 03 46.2	-3.5
ILAR	Eielson Array	5.50	30	P	Pn	01 02 46.9	-0.2
	8.7nm,0.3s,baz=220,slow=13,SNR=322						
ILAR				S	Sn	01 03 46.2	-3.5
	11nm,0.3s,baz=217,slow=24,SNR=16						
MESA	MESA	5.64	85	P	Pn	01 02 50.0	+0.7
GRNC	Granite Creek	5.72	79	P	Pn	01 02 51.3	+0.9
BARN	Barnard Glacie	5.78	76	P	Pn	01 02 52.0	+0.8
SCRK	Sand Creek	5.80	45	P	Pn	01 02 50.9	-0.4
IM04	Indian Mountai	5.85	358	ePn	Pn	01 02 51.8	-0.1
IM3	Indian Mountai	5.86	358	P	Pn	01 02 52.1	+0.1
RKAV	Rock Avalanche	5.94	83	P	Pn	01 02 54.6	+1.4
TABL	Table Mountain	6.03	82	P	Pn	01 02 55.4	+0.9
BCA3	Beaver Creek A	6.20	57	P	Pn	01 02 54.5	-2.1
SAMH	Samovar Hills	6.23	85	P	Pn	01 02 58.4	+1.4
DTNA	Dutton South F	6.96	228	P	Pn	01 03 06.0	-0.7
DT1	Dutton Round H	7.00	228	P	Pn	01 03 06.1	-1.1
COLD	Coldfoot	7.23	9	ePn	Pn	01 03 09.6	-0.6
	19nm,0.9s						
EGAK	Eagle	7.27	45	ePn	Pn	01 03 10.5	-0.2
	9.3nm,0.3s						
HYT	Haines Junctio	7.81	78	ePn	Pn	01 03 18.6	+0.6
HYT				eSn	Sn	01 04 43.4	-1.7
SKAG	Skagway	9.06	87	ePn	Pn	01 03 37.8	+3.3
	18nm,0.7s						
INK	Inuvik	11.79	38	ePn	Pn	01 04 12.1	+1.8
	8.5nm,0.8s						
DLBC	Dease Lake	11.98	88	ePn	Pn	01 04 15.3	+2.4
YKA	Yellowknife Ar	18.50	66	P	Pn	01 05 33.1	-0.1
YKA	Yellowknife Ar	18.50	66	P	Pn	01 05 33.1	-0.1
	0.1nm,0.3s,baz=277,slow=10.0,SNR=3.4						
SONM	Songino Array	54.60	306	P	P	01 10 40.8	+1.6
SONM	Songino Array	54.60	306	P	P	01 10 40.8	+1.6
	1.7nm,0.7s,baz=40,slow=7.5,SNR=8.6						
ZALV	Zalesovo Beam	57.18	323	P	P	01 10 58.1	+0.9
ZALV	Zalesovo Beam	57.18	323	P	P	01 10 58.1	+0.9
	2.4nm,0.5s,baz=32,slow=7.4,SNR=11						
KURK	Kurchatov	61.83	325	P	P	01 11 30.2	+1.0
BVAR	Borovoye Array	61.88	332	P	P	01 11 29.7	+0.3
BVAR	Borovoye Array	61.88	332	P	P	01 11 29.7	+0.3
	2.1nm,0.6s,baz=25,slow=5.9,SNR=15						
KURBB	Kurchatov Arra	61.94	325	P	P	01 11 30.2	+0.3
	0.9nm,0.3s,baz=28,slow=6.5,SNR=2.9						
MKAR	Makanchi Array	64.24	321	P	P	01 11 45.1	0.0
MKAR	Makanchi Array	64.24	321	P	P	01 11 45.1	0.0
	0.5nm,0.5s,baz=36,slow=6.4,SNR=7.7						
AKTO	Aktyubinsk	66.91	339	P	P	01 12 02.2	+0.1
AKTO	Aktyubinsk	66.91	339	P	P	01 12 02.2	+0.1
	0.7nm,0.4s,baz=30,slow=8.1,SNR=3.4						

*CSEM **08** 01:09:30.3, 39°.46N×29°.76W, h10km, ML2.4, After PDA*

PDA 08 01:09:30.3±0.7, 39°.46N×29°.76W, h10km, MD3.5, ML2.4, Error ellipse: s-maj=11.0km s-min=4.4km az=49.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	1.17	135	eP	Pb	01 09 48.2	-4.4
PCED				eS	Sb	01 10 01.2	-6.6
PCED				A	A	01 10 01.9	
	15nm,0.1s						
PCED	Cedros	1.17	135	eP	Pb	01 09 48.2	-4.4
PCED				eS	Sb	01 10 01.2	-6.6
CALA	Caldeira	1.20	137	eP	Pb	01 09 48.8	-4.5
CALA				eS	Sb	01 10 02.0	-7.0
CALA	Caldeira	1.20	137	eP	Pb	01 09 48.8	-4.5
CALA				eS	Sb	01 10 02.0	-7.0
HOR	Horta	1.28	136	eP	Pn	01 09 49.5	-4.7
HOR				eS	Sb	01 10 04.2	-6.8
HOR	Horta	1.28	136	eP	Pn	01 09 49.5	-4.7
HOR				eS	Sb	01 10 04.2	-6.8
ROSA	Rosais	1.39	122	eP	Pn	01 09 51.1	-4.7
ROSA				eS	Sn	01 10 06.7	-7.6
ROSA				A	A	01 10 07.1	
	9.0nm,0.3s						
ROSA	Rosais	1.39	122	eP	Pn	01 09 51.1	-4.7
ROSA				eS	Sn	01 10 06.7	-7.6
PCAN	Candelaria	1.41	135	eP	Pn	01 09 51.3	-4.7
PCAN				eS	Sn	01 10 07.4	-7.2
PCAN				A	A	01 10 08.8	
	37nm,0.2s						
PCAN	Candelaria	1.41	135	eP	Pn	01 09 51.3	-4.7
PCAN				eS	Sn	01 10 07.4	-7.2
PICO	Pico	1.41	132	eP	Pn	01 09 51.4	-4.8
PICO				eS	Sn	01 10 07.6	-7.3
PICO	Pico	1.41	132	eP	Pn	01 09 51.4	-4.8
PICO				eS	Sn	01 10 07.6	-7.3
PMAN	Manadas	1.54	122	eS	Sn	01 10 10.4	-7.5
PMAN				A	A	01 10 10.6	
	9.4nm,0.2s						
PMAN	Manadas	1.54	122	eS	Sn	01 10 10.4	-7.5

IDC 08 01:11:10.6±1.7, 28°.70S×178°.04W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/17, mbtmp3.7/2, Error ellipse: s-maj=47.7km s-min=15.7km az=65.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.56	169	Pn	Pn	01 11 26.5	+0.7
	1μm,0.3s,baz=285,slow=12,SNR=102						
RAO				Sn	Sn	01 11 35.2	-0.6
	2μm,0.3s,baz=103,slow=12,SNR=33						
ASAR	Alice Springs	43.19	265	P	P	01 19 12.7	-0.9
	0.3nm,0.4s,baz=100,slow=8.2,SNR=5.1						
WRA	Warramunga Arr	44.03	270	P	P	01 19 20.9	+0.6
	1.0nm,0.6s,baz=109,slow=7.7,SNR=5.3						
FINES	FINESS Array B	143.54	341	PKP	PKPbc	01 30 44.0	+0.1
	0.9nm,0.5s,baz=50,slow=3.3,SNR=14						
NOA	NORSAR Array B	147.07	352	PKPbc	PKPbc	01 30 54.9	-0.1
	0.6nm,0.6s,baz=16,slow=4.5,SNR=3.9						
TORD	Torodi Ar. Bea	164.52	179	PKPab	PKPab	01 32 10.4	-1.1
	0.5nm,0.9s,baz=161,slow=3.7,SNR=3.9						

IGQ 08 01:19:24.5, 3°.82S×79°.86W, h12km±31km, Mb4.2, Ms4.0, 4C-2D, Error ellipse: s-maj=21.8km s-min=2.2km az=2.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.61	28	P	Pn	01 20 09.5	+2.2
BMAS	Trigal station	2.68	31	⇑P	Pn	01 20 10.1	+2.2
BMAS	Trigal station	2.68	31	⇑S	Sn	01 20 42.7	+2.0
ARRY	Arrayan	2.69	31	⇑S	Sn	01 20 42.1	+1.1
ARRY	Arrayan	2.69	31	⇑P	Pn	01 20 09.9	+1.8
PAT1	Patacocha	2.69	32	S	Sn	01 20 42.8	+1.4
PAT1	Patacocha	2.69	32	P	Pn	01 20 10.4	+2.0
BPAT	Tungurahua Vol	2.70	32	S	Sn	01 20 43.1	+1.6
BPAT	Tungurahua Vol	2.70	32	P	Pn	01 20 10.4	+2.0
RETU	Refugio	2.74	31	P	Pb	01 20 11.6	-2.6
RETU	Refugio	2.74	31	S	Sn	01 20 44.8	+2.3
JUI6	Juive	2.75	30	P	Pn	01 20 11.0	+2.1
ULBA	Ulba	2.76	32	S	Sn	01 20 44.9	+2.1
ULBA	Ulba	2.76	32	P	Pb	01 20 11.9	-2.4
BULB	Ulba Tungurahu	2.77	31	S	Sn	01 20 44.5	+1.5
BULB	Ulba Tungurahu	2.77	31	P	Pn	01 20 11.5	+2.2
RUN5	Runtun	2.78	31	S	Sn	01 20 45.4	+2.3
RUN5	Runtun	2.78	31	P	Pb	01 20 12.0	-2.6
BRUN	Tungurahua Vol	2.78	31	⇓S	Sn	01 20 44.9	+1.7
BRUN	Tungurahua Vol	2.78	31	⇓P	Pn	01 20 11.6	+2.2
PISA	Pisayambo	3.11	28	P	Pn	01 20 16.3	+2.3
BMOR	Cotopaxi Volca	3.37	25	P	Pn	01 20 19.6	+1.9
MOV1	Cotopaxi Vol s	3.39	25	P	Pn	01 20 21.1	+3.0
CAMI	Rancho Maria	3.40	23	P	Pn	01 20 21.1	+3.1
BNAS	Cotopaxi Volca	3.41	24	P	Pn	01 20 21.1	+2.9
BTAM	Cotopaxi Volca	3.44	25	P	Pn	01 20 20.1	+1.3
VC1	Cotopaxi 1	3.47	25	P	Pn	01 20 21.3	+2.2

CASC 08 01:19:47.5±2.5, 9°.17N×84°.07W, h17km±8km, MD3.8, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.27	340	⇓iP	Pg	01 19 53.1	-0.3
QCR				eS	Sb	01 19 58.8	+0.5
BUS	Buena Vista	0.49	39	⇓iP	Pg	01 19 57.8	-0.2
BUS				eS	Sb	01 20 05.9	+0.3
URSC	Urasca	0.72	23	⇓iP	Pb	01 20 01.5	-0.4
URSC				eS	Sg	01 20 12.2	+0.5
SJS	Escuela Geolog	0.77	1	eP	Pb	01 20 00.9	-1.7
SJS				eS	Sb	01 20 12.4	-0.5
CGA2	Cerro Gallo 2	0.93	335	eP	Pb	01 20 03.7	-1.7
CGA2				eS	Sb	01 20 17.6	+0.1
ACR	Cerro Adams	1.03	120	⇑eP	Pb	01 20 05.2	-1.7
ACR				eS	Sg	01 20 21.0	-0.1
JCR	Jicaral	1.23	303	eP	Pn	01 20 08.4	-1.6
JCR				eS	Sg	01 20 27.6	+0.1
BRU2	Volcan	1.41	105	eP	Pn	01 20 10.9	-1.8
BRU2				eS	Sg	01 20 33.6	+0.1
TBS2		1.45	105	eP	Pn	01 20 13.1	0.0
TBS2				eS	Sn	01 20 31.8	0.0
AMAS	Alto Masis	1.70	328	iP	Pn	01 20 16.5	0.0
AMAS				iS	Sn	01 20 37.6	-0.4
PTEN	Parque Tenorio	1.78	330	iP	Pb	01 20 19.3	-0.6
VCR	Vista de Mar	1.81	302	eP	Pb	01 20 19.2	-1.1
CUI	Cuipilapa	1.83	324	iP	Pn	01 20 18.3	0.0
CUI				iS	Sn	01 20 40.4	-0.8
LIM1	Limonal	1.91	323	iP	Pn	01 20 19.5	+0.1
GPS3	Bodega del ICE	2.03	321	iP	Pn	01 20 21.3	+0.3
BCIP	Isla Barro Col	4.18	90	eP	Pn	01 20 51.5	+1.0

IDC 08 01:39:56.5±8.7, 19°.85S×177°.44W, h560km±91km, mb3.2/4, mb1 3.3/6, mb1mx3.0/23, mbtmp3.2/6, Error ellipse: s-maj=68.9km s-min=35.2km az=31.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.21	259	P	P	01 43 08.4	+0.3
	0.1nm,0.3s,baz=108,slow=20,SNR=3.6						
URZ	Urewera	18.94	193	P	P	01 43 42.1	-0.2
	1.0nm,0.3s,baz=35,slow=17,SNR=6.3						
CTA	Charters Tower	34.08	263	P	P	01 45 54.7	-0.5
	3.7nm,0.5s,baz=94,slow=8.4,SNR=6.3						
ASAR	Alice Springs	45.18	256	P	P	01 47 24.4	+0.2
	1.4nm,0.6s,baz=90,slow=7.6,SNR=21						
WRA	Warramunga Arr	45.21	261	P	P	01 47 24.0	-0.5
	0.8nm,0.3s,baz=98,slow=7.5,SNR=21						
FITZ	Fitzroy Crossi	53.63	262	P	P	01 48 26.3	0.0
	1.3nm,0.5s,baz=119,slow=5.4,SNR=8.0						
ARCES	ARCESS Array B	128.38	350	PKP	PKPdf	01 57 58.5	-0.7
	0.8nm,1.0s,baz=90,slow=3.6,SNR=4.4						
BRTR	Keskin Array B	146.78	313	PKPbc	PKPbc	01 58 36.2	-0.3
	0.5nm,0.6s,baz=123,slow=4.6,SNR=3.7						
GERES	GERESS Array B	149.72	345	PKPbc	PKPbc	01 58 43.2	-0.3
	0.1nm,0.3s,baz=40,slow=2.3,SNR=5.8						

*AUST **08** 01:55:02.8, 31°.24S×155°.36E, h35km*
*IDC **08** 01:55:19.1±6.0, 31°.84S×153°.57E, h0km, mb3.3/1, mb1 3.7/2, mb1mx3.5/12, mbtmp3.4/2, ML3.6/1, Error ellipse: s-maj=305.6km s-min=49.0km az=39.0*

ISC 08 01:55:17.0±2.1, 31°.91S±0°.08×153°.9E±0°.1, h10km, n10, σ1.27/12, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	2.47	306	P	Pn	01 55 57.5	0.0
	baz=3.3,SNR=63						
ARMA				S	Sn	01 56 28.6	+0.8
	baz=3.3,SNR=7.7						
MGCD	Mangrove Creek	2.72	241	P	Pn	01 55 59.5	-1.3
	baz=4.1,SNR=97						
MGCD				S	Sn	01 56 31.8	-2.0
	baz=4.1,SNR=6.7						
CNB	Canberra Magne	5.11	227	P	Pn	01 56 33.8	+0.1
	baz=6.5,SNR=18						
YNG	Young	5.23	241	P	Pn	01 56 35.0	-0.2
	baz=6.6,SNR=8.6						
YNG				S	Sb	01 57 53.7	+2.3
	baz=6.6,SNR=8.5						
MILA	Mila	6.48	216	P	Pn	01 56 53.5	+1.0
	baz=7.8,SNR=6.5						
CMSA	Cobar Meteorol	7.04	271	P	Pn	01 56 58.9	-1.1
	baz=8.3,SNR=8.9						
STKA	Stephens Creek	10.49	267	Sn	Sn	01 59 33.2	-12
	0.4nm,0.3s,baz=162,slow=20,SNR=2.3						
STKA				Lg	Lg	02 00 38.8	
	0.3nm,0.3s,baz=170,slow=19,SNR=2.1						
ASAR	Alice Springs	19.51	290	P	P	01 59 44.9	+0.3
	0.2nm,0.3s,baz=124,slow=9.8,SNR=13						
WRA	Warramunga Arr	21.23	299	P	P	02 00 03.2	-0.1
	1.3nm,0.9s,baz=131,slow=9.8,SNR=9.2						
TORD	Torodi Ar. Bea	148.44	240	PKPbc	PKPab	02 15 07.1	-0.7
	0.4nm,0.5s,baz=119,slow=2.6,SNR=11						

*ISCJB **08** 02:14:17.2±0.2, 44°.93N±0°.01×111°.76W±0°.02, h10km, mb3.1/1, Error ellipse: s-maj=2.6km s-min=1.5km az=153.1*
*IDC **08** 02:14:17.1±0.9, 44°.80N×111°.83W, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/29, mbtmp3.3/5, ML3.7/3, Error ellipse: s-maj=16.9km s-min=7.0km az=51.0*
*NEIC **08** 02:14:18.0, 44°.87N×111°.74W, h11km, ML3.7(BUT), After BUT.*
NEIC Felt [II] at Cameron. Also felt at West Yellowstone. Felt [II] at Island Park, Idaho.

ISC 08 02:14:18.2±0.6, 44°.91N±0°.01×111°.74W±0°.01, h10km, n94, σ1.54/190, 14C-11D, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLMT	Earthquake Lak	0.24	110	ePg	Pg	02 14 22.6	-0.6
H16A	Russell Place,	0.41	121	⇓P	Pg	02 14 25.8	-0.6
	baz=0.4,SNR=1000						
YMR	Madison River	0.61	114	ePg	Pg	02 14 29.4	-0.6
YMR				eSg	Sg	02 14 38.0	-0.1
BOZ	Bozeman (W)	0.74	6	ePg	Pg	02 14 31.6	-0.9
BOZ				eSg	Sg	02 14 41.4	-0.8
DLMT	Dillon	0.75	307	ePg	Pb	02 14 33.0	-0.5
DLMT				eSg	Sb	02 14 43.4	-0.5
YNR	Norris Junctio	0.78	104	ePg	Pg	02 14 32.8	-0.5
YNR				eSg	Sg	02 14 43.9	+0.3
MCMT	McKenzie Canyo	0.79	264	ePg	Pg	02 14 33.0	-0.5
YFT	Old Faithful	0.80	125	ePg	Pg	02 14 32.7	-0.9
YFT				eSg	Sg	02 14 43.5	-0.5
G17A	Pierce Place,	0.82	60	P	Pg	02 14 34.0	-0.1
	baz=0.8,SNR=229						

SNOW	Snow King Moun	1.62	154	ePn	Pn	02 14 46.9	-0.1
SNOW				ePg	Pg	02 14 49.6	+0.4
SNOW				eSn	Sb	02 15 08.7	-0.1
E17A	Martinsdale baz=1.7,SNR=672	1.67	22	Pb	Pb	02 14 48.2	-0.9
E17A	Martinsdale baz=1.7,SNR=672	1.67	22	Pb	Pb	02 14 48.2	-0.9
REDW	Red Top Meadow	1.68	157	ePn	Pn	02 14 47.9	+0.1
REDW				eSn	Sn	02 15 09.7	+0.1
GCMT	Greycliff	1.71	58	ePn	Pb	02 14 49.2	-0.6
GCMT				eSn	Sb	02 15 10.8	-0.6
F18A	Big Timber baz=1.8,SNR=1000	1.74	55	Pb	Pb	02 14 49.8	-0.5
F18A	Big Timber baz=1.8,SNR=1000	1.74	55	Pb	Pb	02 14 49.8	-0.5
RLMT	Red Lodge	1.77	82	ePn	Pb	02 14 50.0	-0.9
RLMT				ePg	Pg	02 14 52.5	+0.4
RLMT				eSn	Sn	02 15 12.5	+0.7
HRY	Holter Researc	1.80	358	ePn	Pn	02 14 49.9	+0.4
HRY				ePg	Pg	02 14 53.1	+0.4
HRY				eSg	Sg	02 15 16.0	0.0
I18A	Diamond G Ranc baz=1.8,SNR=54	1.84	131	Pb	Pb	02 14 51.0	-1.1
I18A	Diamond G Ranc baz=1.8,SNR=54	1.84	131	Pb	Pb	02 14 51.0	-1.1
H19A	Powell baz=2.0,SNR=84	1.98	96	⇑Pb	Pb	02 14 53.7	-0.7
H19A	Powell baz=2.0,SNR=84	1.98	96	⇑Pb	Pb	02 14 53.7	-0.7
E18A	Harlowton baz=2.1,SNR=247	2.09	37	Pb	Pb	02 14 54.8	-1.5
E18A	Harlowton baz=2.1,SNR=247	2.09	37	Pb	Pb	02 14 54.8	-1.5
I19A	Meeteetse baz=2.1,SNR=34	2.15	113	⇓Pb	Pb	02 14 55.9	-1.5
I19A	Meeteetse baz=2.1,SNR=34	2.15	113	⇓Pb	Pb	02 14 55.9	-1.5
F19A	Roth Farm, Mol baz=2.2,SNR=239	2.19	64	⇓Pb	Pb	02 14 57.6	-0.4
F19A	Roth Farm, Mol baz=2.2,SNR=239	2.19	64	⇓Pb	Pb	02 14 57.6	-0.4
AHID	Auburn Hatcher	2.20	168	ePn	Pn	02 14 55.7	+0.7
AHID				ePg	Pg	02 15 00.7	+0.4
AHID				eSn	Sn	02 15 23.2	+0.9
AHID				eSg	Sg	02 15 28.8	0.0
CHMT	Chamberlain Mo	2.26	333	ePn	Pn	02 14 56.4	+0.5
CHMT				ePg	Pg	02 15 01.0	-0.6
CHMT				eSg	Sg	02 15 30.2	-0.7
HLID	Hailey	2.35	236	ePn	Pn	02 14 57.2	+0.2
HLID				ePg	Pb	02 15 01.3	+0.6
HLID				eSn	Sn	02 15 25.9	0.0
HLID				eSg	Sb	02 15 31.0	+1.2
HLID	Hailey baz=2.3,SNR=670	2.35	236	⇑Pb	Pb	02 14 59.5	-1.2
HLID	Hailey baz=2.3,SNR=670	2.35	236	⇑Pb	Pb	02 14 59.5	-1.2
MSO	Missoula	2.46	322	ePn	Pn	02 14 59.0	+0.6
SLMT	Seeley Lake	2.63	333	ePn	Pn	02 15 01.2	+0.3
SLMT				eSn	Sn	02 15 33.1	+0.3
SLMT				eSg	Sg	02 15 42.1	-0.6
BW06	Boulder Array	2.67	143	ePg	Pg	02 15 09.0	-0.3
BW06				eSn	Sn	02 15 33.9	-0.1
BW06				eSg	Sb	02 15 40.2	+1.2
PDAR	Pinedale Array	2.67	143	Pn	Pn	02 15 03.1	+1.7
PDAR				Lg	Lg	02 15 39.5	
PDAR	Pinedale Array 4.7nm,0.3s,baz=342,slow=15,SNR=112	2.67	143	Pn	Pn	02 15 03.1	+1.7
PDAR	6.8nm,0.3s,baz=341,slow=27,SNR=12			Lg	Lg	02 15 39.5	
SWMT	Swartz Lake	3.03	330	ePn	Pn	02 15 07.3	+0.9
SWMT				ePg	Pg	02 15 14.9	-1.4
SWMT				eSg	Sg	02 15 54.3	-1.3
HVU	Hansel Valley	3.22	194	ePn	Pb	02 15 12.2	-3.4
HVU				ePg	Pg	02 15 22.0	+2.0
HVU				eSn	Sn	02 15 49.4	+1.9
HVU				eSg	Sg	02 15 58.8	-2.9
MFID	Camas Ranch	3.30	244	ePn	Pn	02 15 10.7	+0.7
HWUT	Hardware Ranch	3.31	178	ePn	Pn	02 15 12.5	+2.3
HWUT				ePb	Pb	02 15 17.4	+0.3
HWUT				ePg	Pg	02 15 20.7	-0.9
HWUT				eSg	Sg	02 16 02.8	-1.7
JTMT	Jette	3.33	329	ePn	Pn	02 15 12.0	+1.4
JTMT				ePg	Pg	02 15 21.5	-0.6
JTMT				eSg	Sg	02 16 03.1	-2.2
YBMT	Yellow Bay	3.34	333	ePn	Pn	02 15 11.7	+1.0
YBMT				eSn	Sn	02 15 49.0	-1.5
YBMT				eSg	Sg	02 16 04.2	-1.3
EGMT	Eagleton	3.40	23	ePn	Pn	02 15 12.7	+1.2
EGMT				ePb	Pb	02 15 18.9	+0.2
EGMT				ePg	Pg	02 15 22.7	-0.7
EGMT				eSn	Sn	02 15 53.2	+1.4
EGMT				eSg	Sb	02 16 03.5	+3.4
BLMT	Blacktail Moun	3.59	331	ePn	Pn	02 15 14.9	+0.8
BLMT				ePg	Pg	02 15 25.8	-1.1
BLMT				eSg	Sg	02 16 11.3	-2.1
BSMT	Bassoo Peak	3.62	325	ePn	Pn	02 15 15.5	+1.0
BSMT				ePg	Pg	02 15 25.6	-1.9
BSMT				eSn	Sn	02 15 57.8	+0.5
BSMT				eSg	Sg	02 16 11.5	-2.8
BMO	Blue Mountains	3.95	271	ePg	Pg	02 15 30.9	-3.0
BMO				eSn	Sn	02 16 06.6	+1.1
BMO				eSg	Sg	02 16 20.1	-5.1
CTU	Camp Tracy	4.22	180	ePn	Pn	02 15 24.1	+1.3
CTU				ePg	Pg	02 15 36.1	-2.9
JLU	Jordanelle	4.32	177	ePn	Pn	02 15 25.7	+1.5
JLU				ePg	Pg	02 15 39.8	-1.1
JLU				eSg	Sb	02 16 31.3	+4.8
WALA	Waterton Lakes	4.40	341	ePn	Pn	02 15 26.5	+1.3
WALA				ePb	Pb	02 15 35.9	+0.1
WALA				ePg	Pg	02 15 42.1	-0.5
WALA				eSn	Sn	02 16 16.7	+0.1
WALA				eSg	Sg	02 16 36.4	-3.2
DAU	Daniels Canyon	4.51	175	ePn	Pn	02 15 29.1	+2.2
DAU				ePb	Pb	02 15 37.4	-0.3
DAU				ePg	Pg	02 15 40.9	-3.8
DAU				eSg	Sg	02 16 39.9	-3.3
RWWY	Rawlins	4.62	133	ePn	Pn	02 15 28.6	+0.3
RWWY				ePb	Pb	02 15 38.2	-1.3
RWWY				ePg	Pg	02 15 44.5	-2.2
DUG	Dugway	4.78	190	ePn	Pn	02 15 31.4	+1.0
DUG				ePg	Pg	02 15 47.7	-2.1
DUG				eSn	Sn	02 16 27.8	+1.8
DUG				eSg	Sg	02 16 49.3	-2.4
NLU	North Lily Min	4.96	183	ePn	Pn	02 15 36.9	+4.0
NEW	Newport	5.00	314	ePn	Pn	02 15 34.4	+1.1
NEW				ePg	Pg	02 15 52.0	-1.9
NEW				eSn	Sn	02 16 31.2	+0.1
NEW				eSg	Sg	02 16 54.6	-4.0
NEW				Lg	Lg	02 16 54.7	
NEW	Newport 3.4nm,0.3s,baz=132,slow=13,SNR=33	5.00	314	Pn	Pn	02 15 34.7	+1.4
NEW	17nm,0.3s,baz=232,slow=19,SNR=12			Lg	Lg	02 16 54.7	
RSSD	Black Hills	5.57	95	ePn	Pn	02 15 40.6	-0.7
RSSD				ePg	Pg	02 16 02.0	-2.8
RSSD				eSg	Sg	02 17 12.4	-4.5
WVOR	Wild Horse Val 26nm,0.8s	5.58	246	ePn	Pn	02 15 43.2	+1.8
WVOR				ePg	Pg	02 16 02.0	-3.0
WVOR				eSg	Sg	02 17 13.1	-4.2
TMUT	Trail Mountain	5.63	176	ePn	Pn	02 15 44.0	+1.8
TMUT				ePg	Pg	02 16 06.2	+0.2
PHWY	Pilot Hill	5.85	126	ePn	Pn	02 15 47.1	+1.9
PHWY				ePg	Pb	02 16 02.1	+1.7
PHWY				eSg	Sg	02 17 24.0	-1.9
SRU	San Rafael	5.87	171	ePn	Pn	02 15 46.3	+0.8
SRU				ePg	Pg	02 16 09.8	-0.8
SRU				eSg	Sg	02 17 25.3	-1.4
BMN	Battle Mountai	6.03	224	ePn	Pn	02 15 48.6	+1.0
BMN				ePg	Pg	02 16 09.7	-4.0
BMN				eSg	Sb	02 17 20.9	+5.2
DGMT	Dagmar	6.29	53	ePn	Pn	02 15 52.9	+1.9
DGMT				ePg	Pb	02 16 12.3	+4.5
DGMT				eSg	Sb	02 17 31.3	+8.2
MSU	Marysvale	6.41	183	ePg	Pg	02 16 20.9	0.0
SMCO	Snowmass	6.74	147	ePn	Pn	02 15 58.5	+0.9
SMCO				ePg	Pb	02 16 20.7	+5.0
SMCO				eSg	Sb	02 17 40.1	+3.7
ISCO	Idaho Springs	6.83	136	ePn	Pn	02 16 00.1	+1.4
ISCO				ePb	Pb	02 16 16.3	-0.9
ISCO				ePg	Pg	02 16 23.8	-5.3
ISCO				eSg	Sb	02 17 46.1	+7.1
LON	Longmire	7.27	288	ePn	Pn	02 16 07.1	+2.6
NVAR	Mina Array Bea	8.13	219	Pn	Pn	02 16 17.0	+0.6
NVAR				Lg	Lg	02 18 27.2	
NVAR	Mina Array Bea 0.1nm,0.3s,baz=23,slow=17,SNR=2.3	8.13	219	Pn	Pn	02 16 17.0	+0.6
NVAR	0.2nm,0.3s,baz=40,slow=31,SNR=2.7			Lg	Lg	02 18 27.2	
ULM	Lac du Bonnet	11.96	58	Lg	Lg	02 20 29.1	
	0.8nm,0.3s,baz=321,slow=17,SNR=5.0						
YKA	Yellowknife Ar	17.69	356	Pn	Pn	02 18 21.9	-2.5
YKA	Yellowknife Ar 0.1nm,0.3s,baz=176,slow=12,SNR=3.7	17.69	356	Pn	Pn	02 18 21.9	-2.5
ILAR	Eielson Array	27.78	328	P	P	02 20 09.7	+2.8
ILAR	Eielson Array 0.4nm,0.8s,baz=110,slow=7.8,SNR=4.9	27.78	328	P	P	02 20 09.7	+2.8

IDC 08 02:19:06.0±10.0, 7°.57S×117°.39E, h307km±118km, mb3.1/4, mb1 3.2/5, mb1mx3.0/23, mbtmp3.1/5, Error ellipse: s-maj=124.4km s-min=29.9km az=57.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.5nm,0.3s,baz=331,slow=11,SNR=19	13.19	143	P	P	02 22 03.0	+0.2
FITZ	0.1nm,0.3s,baz=171,slow=19,SNR=5.7			S	S	02 24 33.8	+5.3
WRA	Warramunga Arr 0.7nm,0.6s,baz=300,slow=12,SNR=5.2	20.52	129	P	P	02 23 21.0	-0.9
ASAR	Alice Springs 1.3nm,0.5s,baz=314,slow=9.0,SNR=28	22.52	137	P	P	02 23 40.3	0.0
SONM	Songino Array 1.2nm,0.6s,baz=172,slow=8.2,SNR=6.7	56.02	351	P	P	02 28 13.8	+0.4
MKAR	Makanchi Array 0.3nm,0.3s,baz=141,slow=7.4,SNR=3.4	62.48	334	P	P	02 28 56.9	-0.4

*IDC **08** 02:22:37.4±1.0, 18°.97N×148°.02E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/30, mbtmp4.0/17, ML4.1/1, Error ellipse: s-maj=31.6km s-min=16.6km az=89.0*
*NEIC **08** 02:22:38.8±0.4, 18°.98N×148°.05E, h10km, mb4.4/5, Error ellipse: s-maj=15.4km s-min=6.5km az=78.0*
*ISCJB **08** 02:22:40.5±0.6, 18°.98N±0°.07×148°.0E±0°.2, h33km, mb4.0/20, Error ellipse: s-maj=22.2km s-min=9.2km az=168.0*

ISC 08 02:22:42.5±0.7, 18°.93N±0°.10×148°.0E±0°.2, h35km, n40, σ0°64/40, mb4.1/20, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	19.54	336	P	P	02 27 07.0	-0.1
MJAR	Matsushiro Arr 0.5nm,0.3s,baz=166,slow=11,SNR=6.2	19.54	336	P	P	02 27 07.0	-0.1
JNU	Nakatsue	20.85	316	P	P	02 27 20.1	-1.2
JNU	Nakatsue 7.8nm,0.9s,baz=180,slow=19,SNR=3.9	20.85	316	P	P	02 27 20.1	-1.2
KSRS	Korea Array 3.2nm,0.7s,baz=142,slow=9.1,SNR=16	25.47	321	P	P	02 28 07.0	-0.2
KSAR	Wonju Array Be	25.49	320	P	P	02 28 07.0	-0.4
USRK	Ussuriysk Arra 2.2nm,0.8s,baz=134,slow=8.4,SNR=6.1	28.54	335	P	P	02 28 35.4	+0.7
CTAO	Charters Tower 9.5nm,1.1s	38.82	183	eP	P	02 30 03.5	-0.6
WRAB	Tennant Creek 3.4nm,0.9s	40.88	200	eP	P	02 30 23.3	+2.0
WRA	Warramunga Arr	40.89	200	P	P	02 30 21.6	+0.2
WRA	Warramunga Arr 0.9nm,0.6s,baz=23,slow=9.6,SNR=4.3	40.89	200	P	P	02 30 21.6	+0.2
FITZ	Fitzroy Crossi	42.86	212	P	P	02 30 37.4	-0.2
FITZ	Fitzroy Crossi 0.7nm,0.3s,baz=32,slow=12,SNR=10	42.86	212	P	P	02 30 37.4	-0.2
ULN	Ulaanbaatar 1.7nm,0.5s	43.96	321	eP	P	02 30 46.7	+0.4
SONM	Songino Array	44.34	320	P	P	02 30 49.0	-0.3
SONM	Songino Array 1.9nm,0.5s,baz=138,slow=8.0,SNR=17	44.34	320	P	P	02 30 49.0	-0.3
ASAR	Alice Springs	44.52	199	P	P	02 30 52.1	+1.3
ASAR	Alice Springs 0.5nm,0.7s,baz=13,slow=8.9,SNR=5.0	44.52	199	P	P	02 30 52.1	+1.3
DZM	Mont Dzumac	44.56	155	eP	P	02 30 50.8	-0.5
ZALV	Zalesovo Beam	59.16	322	P	P	02 32 39.7	0.0
ZALV	Zalesovo Beam 1.1nm,0.3s,baz=100,slow=6.2,SNR=7.1	59.16	322	P	P	02 32 39.7	0.0
MK31	Makanchi Array	59.88	314	eP	P	02 32 44.6	-0.2
MKAR	Makanchi Array	59.88	314	P	P	02 32 45.1	+0.3
MKAR	Makanchi Array 1.7nm,0.7s,baz=89,slow=8.6,SNR=12	59.88	314	P	P	02 32 45.1	+0.3
ILAR	Eielson Array	62.48	26	P	P	02 33 02.2	+0.2
ILAR	Eielson Array 0.9nm,0.9s,baz=258,slow=6.7,SNR=6.3	62.48	26	P	P	02 33 02.2	+0.2
KURK	Kurchatov	62.56	318	P	P	02 33 03.0	+0.2
KURBB	Kurchatov Arra 5.1nm,0.9s,baz=95,slow=7.2,SNR=32	62.61	318	P	P	02 33 03.0	-0.1
BVAR	Borovoye Array	67.69	320	P	P	02 33 36.2	+0.2
BVAR	Borovoye Array 1.5nm,0.4s,baz=92,slow=7.2,SNR=12	67.69	320	P	P	02 33 36.3	+0.2
BRVK	Borovoye 4.4nm,0.9s	67.75	320	eP	P	02 33 36.5	+0.1
KKAR	Karatay Array 2.9nm,0.6s	68.30	310	eP	P	02 33 40.2	+0.1
AKTO	Aktyubinsk	75.63	319	P	P	02 34 24.1	+0.1
AKTO	Aktyubinsk 0.4nm,0.3s,baz=114,slow=10.0,SNR=3.7	75.63	319	P	P	02 34 24.1	+0.1
YKA	Yellowknife Ar	76.76	28	P	P	02 34 29.5	-0.5
YKA	Yellowknife Ar 0.7nm,0.5s,baz=282,slow=5.7,SNR=4.1	76.76	28	P	P	02 34 29.5	-0.5
ARCES	ARCESS Array B	82.93	343	P	P	02 35 04.3	+0.9
ARCES	ARCESS Array B 1.2nm,0.7s,baz=64,slow=5.5,SNR=6.7	82.93	343	P	P	02 35 04.3	+0.9
FINES	FINESS Array B	87.57	336	P	P	02 35 26.1	-0.6
FINES	FINESS Array B 0.2nm,0.3s,baz=75,slow=5.0,SNR=10	87.57	336	P	P	02 35 26.1	-0.6

MEX 08 02:48:33.3±0.9, 14°.59N×93°.12W, h18km±34km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.89	69	iP	Pb	02 48 47.3	-2.9
THIG				iS	Sb	02 48 57.8	-4.0
CCIG	Comitan	1.93	29	eP	Pn	02 49 02.7	-2.9
CCIG				iS	Sn	02 49 25.9	-3.7
TGIG		2.17	360	eP	Pn	02 49 05.7	-3.1
TGIG				iS	Sn	02 49 30.5	-4.9

*IDC **08** 02:58:50.5±0.7, 5°.54S×130°.97E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, ML4.1/2, Error ellipse: s-maj=50.0km s-min=16.8km az=69.0*
*NEIC **08** 02:58:55.7±0.5, 5°.69S×130°.84E, h35km, mb4.3/3, Error ellipse: s-maj=18.0km s-min=7.8km az=74.0*

ISC 08 02:59:00.2±0.7, 6°.00S±0°.07×131°.0E±0°.1, h86km, n32, σ2°25/33, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.10	203	Pn	Pn	03 02 02.3	-0.7
FITZ				Sn	Sn	03 04 26.0	-1.1
FITZ	Fitzroy Crossi 0.6nm,0.3s,baz=31,slow=9.7,SNR=77	13.10	203	Pn	Pn	03 02 02.3	-0.7
FITZ	1.7nm,0.3s,baz=140,slow=12,SNR=10			Sn	Sn	03 04 26.0	-1.1
WRAB	Tennant Creek 20nm,1.3s	14.23	167	ePn	Pn	03 02 18.9	+1.1
WRA	Warramunga Arr	14.24	167	Pn	Pn	03 02 16.9	-1.0
WRA				Sn	Sn	03 04 50.6	-4.0
WRA	Warramunga Arr 0.9nm,0.3s,baz=348,slow=14,SNR=23	14.24	167	Pn	Pn	03 02 16.9	-1.0
WRA	3.0nm,0.3s,baz=345,slow=22,SNR=13			Sn	Sn	03 04 50.7	-4.0
AS31	Alice Springs	17.79	171	eP	Pn	03 03 05.1	+2.8
ASAR	Alice Springs	17.79	171	P	Pn	03 03 05.0	+2.6
ASAR				S	Sn	03 06 17.4	-3.0
ASAR	Alice Springs 0.7nm,0.3s,baz=349,slow=9.2,SNR=30	17.79	171	P	Pn	03 03 05.0	+2.6
ASAR	0.8nm,0.3s,baz=357,slow=25,SNR=9.5			S	Sn	03 06 17.4	-3.0
MBWA	Marble Bar 29nm,1.5s	18.59	215	eP	Pn	03 03 12.6	+0.6
CTA	Charters Tower	20.41	135	P	Pn	03 03 34.3	+0.9
CTA	Charters Tower 2.1nm,0.4s,baz=305,slow=14,SNR=5.5	20.41	135	P	Pn	03 03 34.3	+0.9
CTAO	Charters Tower 12nm,1.0s	20.41	135	eP	Pn	03 03 34.2	+0.8
STKA	Stephens Creek	27.59	160	P	P	03 04 43.7	+4.2
STKA	Stephens Creek 1.6nm,0.4s,baz=322,slow=9.1,SNR=8.5	27.59	160	P	P	03 04 43.7	+4.2
SONM	Songino Array	57.82	341	P	P	03 08 40.7	-2.1
SONM	Songino Array 0.4nm,0.5s,baz=153,slow=7.1,SNR=5.1	57.82	341	P	P	03 08 40.7	-2.1
MK31	Makanchi Array	67.93	326	eP	P	03 09 49.3	-0.5
MKAR	Makanchi Array	67.93	326	P	P	03 09 49.5	-0.3
MKAR	Makanchi Array 1.5nm,0.5s,baz=127,slow=7.1,SNR=11	67.93	326	P	P	03 09 49.5	-0.3
KURBB	Kurchatov Arra 0.4nm,0.3s,baz=126,slow=4.9,SNR=6.9	72.17	328	P	P	03 10 15.1	-0.5
KURK	Kurchatov	72.18	328	P	P	03 10 15.1	-0.6
VNDA	Vanda	73.32	173	P	P	03 10 26.2	+4.2
VNDA	Vanda 0.4nm,0.5s,baz=319,slow=8.4,SNR=3.8	73.32	173	P	P	03 10 26.2	+4.2
BVAR	Borovoye Array	77.74	327	P	P	03 10 47.4	-0.3
BVAR	Borovoye Array 0.3nm,0.4s,baz=97,slow=6.0,SNR=3.3	77.74	327	P	P	03 10 47.4	-0.3
BRVK	Borovoye 2.1nm,0.7s	77.81	327	eP	P	03 10 47.6	-0.5
ILAR	Eielson Array	92.04	25	P	P	03 11 57.5	-1.9
ILAR	Eielson Array 0.4nm,0.7s,baz=262,slow=5.2,SNR=4.6	92.04	25	P	P	03 11 57.5	-1.9
TORD	Torodi Ar. Bea	129.55	282	PKP	PKPdf	03 18 01.3	+1.1
TORD	Torodi Ar. Bea 0.6nm,0.8s,baz=100,slow=2.3,SNR=5.3	129.55	282	PKP	PKPdf	03 18 01.3	+1.1
LPAZ	La Paz	150.88	140	PKPbc	PKPbc	03 18 47.7	+3.0
LPAZ	La Paz 0.9nm,0.4s,baz=131,slow=3.3,SNR=9.2	150.88	140	PKPbc	PKPbc	03 18 47.7	+3.0

CASC 08 03:33:53.3±2.0, 10°.50N×84°.86W, h137km±6km, MD3.9, 11C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEDE	Laguna Cede˜–o	0.15	93	⇑iP	Pn	03 34 12.5	+0.5
AMAS	Alto Masis	0.17	312	iP	Pn	03 34 12.2	+0.1
AMAS				iS	Sn	03 34 27.4	+1.1
PTEN	Parque Tenorio	0.25	330	iP	Pn	03 34 13.2	+0.9
CUI	Cuipilapa	0.34	298	iP	Pn	03 34 12.7	+0.2
CUI				iS	Sn	03 34 27.4	+0.4
COLC	Colonia	0.38	297	iP	Pn	03 34 12.8	+0.2
COLC				iS	Sn	03 34 27.3	+0.1
HORNC	Hornillas	0.38	305	iP	Pn	03 34 12.9	+0.2
MESS	Mesas	0.41	307	iP	Pn	03 34 13.5	+0.7
GUAB	Guayabo de Bag	0.42	300	iP	Pn	03 34 13.2	+0.3
GUAB				iS	Sn	03 34 28.3	+0.6
LIM1	Limonal	0.43	298	iP	Pn	03 34 13.1	+0.2
A494	Palo Verde	0.50	253	⇑iP	Pn	03 34 13.7	+0.5
A494				iS	Sn	03 34 30.0	+1.8
GPS2	Hotel Rinc˜‡n	0.55	298	iP	Pn	03 34 13.5	0.0
GPS2				iS	Sn	03 34 29.2	+0.4
GPS1	Guardaparques	0.56	300	iP	Pn	03 34 13.6	0.0
GPS1				iS	Sn	03 34 29.2	+0.2
GPS3	Bodega del ICE	0.56	298	iP	Pn	03 34 13.7	+0.1
GPS3				iS	Sn	03 34 29.2	+0.3
CGA2	Cerro Gallo 2	0.61	141	⇑iP	Pn	03 34 14.4	+0.3
CGA2				eS	Sn	03 34 30.4	+0.6
BUEV	Buena Vista	0.62	299	iP	Pn	03 34 14.1	+0.1
GB1A	Borinquen Arri	0.62	301	iP	Pn	03 34 14.3	+0.3
LAPC	Finca la Perla	0.62	296	iP	Pn	03 34 13.8	-0.2
GBS3	Finca Las lm˜¡	0.65	296	iP	Pn	03 34 14.0	-0.1
GBS3				iS	Sn	03 34 29.9	0.0
GBS2	Las Lilas	0.67	300	iP	Pn	03 34 14.3	+0.1
GBS2				iS	Sn	03 34 30.2	-0.1
NY14	Universidad de	0.68	283	⇑iP	Pn	03 34 14.6	+0.3
NY14				iS	Sn	03 34 31.7	+1.5
JCR	Jicaral	0.69	201	⇑iP	Pn	03 34 14.9	+0.5
JCR				eS	Sn	03 34 32.3	+1.8
VCR	Vista de Mar	0.84	244	⇑iP	Pn	03 34 15.8	+0.1
VCR				eS	Sn	03 34 30.9	-1.7
SJS	Escuela Geolog	0.97	125	⇑eP	Pn	03 34 17.2	+0.4
SJS				eS	Sn	03 34 37.1	+2.5
URSC	Urasca	1.25	122	⇑eP	Pn	03 34 19.8	+0.3
URSC				eS	Sn	03 34 40.8	+1.3
QCR	Quepos	1.27	147	⇑eP	Pn	03 34 20.6	+1.1
QCR				eS	Sn	03 34 41.0	+1.7
BUS	Buena Vista	1.43	131	⇑eP	Pn	03 34 22.3	+0.5
BUS				eS	Sn	03 34 44.5	+1.1
ACR	Cerro Adams	2.48	137	⇑eP	Pn	03 34 34.0	+0.4
BRU2	Volcan	2.73	128	⇓iP	Pn	03 34 38.1	+1.2
BRU2				eS	Sn	03 35 10.3	-0.2
TBS2		2.75	128	eP	Pn	03 34 38.7	+1.4
TBS2				eS	Sn	03 35 11.2	+0.1
BCIP	Isla Barro Col	5.12	104	eP	Pn	03 35 08.9	+0.7

*ISCJB **08** 04:07:06.8±0.5, 13°.00N±0°.09×88°.73W±0°.09, h55km, mb3.9/12, MS2.8/2, Error ellipse: s-maj=17.9km s-min=4.1km az=43.3*
*CASC **08** 04:07:07.5±3.4, 12°.76N×88°.95W, h75km±241km, MD4.3*
*IDC **08** 04:07:08.7±2.1, 13°.12N×88°.53W, h69km±17km, mb3.6/12, mb1 3.9/13, mb1mx3.6/27, mbtmp3.7/13, MS2.9/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=38.2km s-min=10.9km az=54.0*

ISC 08 04:07:06.9±0.7, 12°.9N±0°.1×88°.9W±0°.1, h55km, n29, σ1°90/37, mb3.8/12, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	Las Nubes	2.19	321	eP	Pn	04 07 44.0	+2.8
MRL	Marmol	2.29	341	eP	Pn	04 07 45.0	+2.5
FUG	Fuego 3	2.43	310	eP	Pn	04 07 46.8	+2.4
JAT	Jato	3.01	299	eP	Pn	04 07 54.7	+2.6
VCR	Vista de Mar	4.23	130	eP	Pn	04 08 08.0	-0.9
JTS	JuntasAbangare 10nm,0.3s,baz=307,slow=19,SNR=70	4.66	123	P	Pn	04 08 15.0	+0.3
JTS	18nm,0.3s,baz=323,slow=20,SNR=4.0			S	Sn	04 09 07.0	-0.6
JCR	Jicaral	4.80	129	eP	Pn	04 08 17.4	+0.7
CGA2	Cerro Gallo 2	5.21	123	eP	Pn	04 08 24.2	+1

ILAR	Eielson Array	65.05	336	P	P	04 17 39.6	-1.6
	0.5nm,0.9s,baz=129,slow=4.9,SNR=8.4						
WRA	Warramunga Arr	138.01	254	PKP	PKPdf	04 26 26.9	+0.5
	0.3nm,0.6s,baz=90,slow=2.5,SNR=3.2						

TAP 08 04:20:26.7,24.17N×121.81E,h7km,ML3.6,3C-2D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.15	334	*i* P	Pg	04 20 30.4	+0.5
	baz=335						
EHP				*i* S	Sg	04 20 33.0	+0.9
	baz=335						
TWD	Chiawan	0.22	245	⇓*i* P	Pg	04 20 31.6	+0.6
	baz=259						
TWD				S	Sg	04 20 36.3	+2.2
	baz=259						
ENA	Nanau	0.26	345	⇑*i* P	Pg	04 20 32.3	+0.4
	baz=341						
ENA				*i* S	Sg	04 20 36.3	+0.8
	baz=341						
HWA	Hwalien	0.27	225	*e*P	Pb	04 20 33.7	-0.2
	baz=242						
TWC	Suao	0.44	4	⇑*i* P	Pg	04 20 35.6	+0.5
	baz=353						
TWC				*i* S	Sg	04 20 42.0	+1.1
	baz=353						
NNS	Nan Shan	0.48	304	P	Pg	04 20 36.7	+0.5
	baz=304						
NNS				*e*S	Sg	04 20 43.3	+0.6
	baz=304						
ESL	Shilin	0.50	224	*e*P	Pg	04 20 36.9	+0.6
	baz=240						
WHF	Hehuan Shan	0.50	267	P	Pg	04 20 37.1	+0.1
	baz=271						
WHF				*e*S	Sg	04 20 44.1	+0.2
	baz=271						
ENTT	Nioudou	0.52	334	*i* P	Pg	04 20 37.3	+0.5
	baz=331						
ENTT				S	Sb	04 20 45.1	-0.7
	baz=331						
TWE	Neicheng	0.56	346	⇑*i* P	Pb	04 20 38.2	-0.6
	baz=342						
TWE				S	Sg	04 20 45.5	+0.6
	baz=342						
TWT	Tachien	0.59	278	*e*P	Pb	04 20 39.8	+0.3
	baz=287						
ILA	Ilan	0.59	354	*e*P	Pg	04 20 38.7	+0.6
	baz=344						
ILA				*e*S	Sb	04 20 47.9	0.0
	baz=344						
NSK	Sanguang	0.65	320	*i* P	Pb	04 20 40.0	-0.5
	baz=319						
NSK				*e*S	Sg	04 20 48.9	+0.9
	baz=319						
EHY	Hungye	0.80	214	*e*P	Pg	04 20 42.2	+0.1
	baz=233						
EHY				*e*S	Sn	04 20 55.8	-0.7
	baz=233						
TWA	Mucha	0.83	345	*i* P	Pb	04 20 43.6	+0.1
	baz=331						
TWA				*e*S	Sb	04 20 54.8	-0.1
	baz=331						
NSTT	Nanjuang	0.87	302	*e*P	Pb	04 20 44.2	+0.1
	baz=302						
NSTT				*e*S	Sb	04 20 56.0	0.0
	baz=302						
SMLT	Sun Moon Lake	0.88	251	P	Pb	04 20 44.6	+0.1
	baz=255						
SMLT				*e*S	Sn	04 20 57.7	-1.1
	baz=255						
NWF	Wu-fen Shan	0.90	358	P	Pb	04 20 44.7	+0.1
	baz=344						
NWF				S	Sb	04 20 56.8	-0.1
	baz=344						
TAP1	Taipei	0.90	343	*e*P	Pb	04 20 45.0	+0.4
	baz=334						
TAP	Taipei	0.91	342	*e*P	Pb	04 20 44.6	-0.1
	baz=338						
TAP				*e*S	Sb	04 20 56.8	-0.2
	baz=338						
TYC	Yuchr	0.92	253	P	Pb	04 20 44.9	0.0
	baz=258						
TWF1	Yuli	0.94	210	*e*P	Pg	04 20 44.6	-0.2
	baz=226						
TWQ1	Liyutan	0.97	281	⇓P	Pn	04 20 47.3	+0.7
	baz=285						
NCU	National Centr	0.98	324	*e*P	Pn	04 20 46.9	+0.1
	baz=318						
NSY	Sanyi	0.99	284	*e*P	Pn	04 20 47.5	+0.5
	baz=287						
NSY				*e*S	Sn	04 21 01.8	+0.5
	baz=287						
HSN	Hsinchu	0.99	309	*e*P	Pn	04 20 47.0	0.0
	baz=303						
TWS1	Kuangyinshan	0.99	339	*e*P	Pn	04 20 47.0	0.0
	baz=335						
TWS1				*e*S	Sn	04 21 01.0	-0.3
	baz=335						
TCU	Taichung	1.04	269	*e*P	Pn	04 20 49.3	+1.7
	baz=274						
YUS	Yu-Shan	1.04	229	*e*P	Pb	04 20 47.7	0.0
	baz=235						
WNT	Mingjian	1.07	254	*e*P	Pn	04 20 49.1	+1.0
	baz=260						
TWY	Chenhua	1.12	350	*e*P	Pn	04 20 49.4	+0.7
	baz=345						
ALS	Alishan	1.14	235	*e*P	Pn	04 20 49.3	-0.1
	baz=250						
CHN5	Tsauling	1.19	241	*e*P	Pn	04 20 50.9	+1.1
	baz=248						
CHN5				*e*S	Sn	04 21 09.2	+3.0
	baz=248						
ELDTW	Lidau	1.22	217	*e*P	Pb	04 20 49.5	-0.7
	baz=208						
WGK	Gukeng	1.24	247	*e*P	Pg	04 20 52.3	+1.8
	baz=255						
CHN4	Tsaushan	1.39	234	*e*P	Pg	04 20 54.5	+1.2
	baz=229						
CHN4				*e*S	Sg	04 21 15.5	+4.2
	baz=229						
WTP	Ta-pu	1.44	230	*e*P	Pg	04 20 54.6	+0.3
	baz=238						
CHY	Chiayi	1.44	242	*e*P	Pg	04 20 55.2	+0.9
	baz=251						
TWG	Pinlang	1.51	207	*e*P	Pn	04 20 54.2	+0.2
	baz=213						
CHN1	Nanshi	1.54	230	*e*P	Pg	04 20 56.9	+0.7
	baz=240						

ISCJB ***08*** *04:27:21.5±0.2, 8.39S±0.03×120.00E±0.02, h196km±2km, mb4.2/29, Error ellipse: s-maj=4.5km s-min=3.3km az=37.1*
AUST ***08*** *04:27:21.9±0.0, 8.44S×120.05E, h176km, Error ellipse: s-maj=0.8km s-min=0.6km az=16.0*
NEIC ***08*** *04:27:22.1±0.9, 8.26S×120.04E, h195km±9km, mb4.6/10, Error ellipse: s-maj=15.2km s-min=6.0km az=67.0*
DJA ***08*** *04:27:23.2±0.2, 8.3°S±2.3°×12.0°E±.°, h179km±3km, M4.9/30, mB5.4/19, mb5.0/30, MLv5.0/23, Mw(mB)4.9/19*
IDC ***08*** *04:27:23.6±1.3, 8.15S±120.33E, h207km±12km, mb3.9/14, mb1 4.1/17, mb1mx3.9/27, mbtmp4.0/17, MS2.9/1, Ms1 2.9/1, ms1mx2.6/31, Error ellipse: s-maj=19.3km s-min=6.6km az=62.0*

ISC 08 04:27:22.5±0.3, 8.38S±0.03×120.02E±0.04, h195km±2km, h195km:pP-P, n133, σ1.96/188, mb4.3/29, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	Labuhan Bajo,	0.16	231	P	Pn	04 27 47.6	-0.6
LBFI				S	Sn	04 28 05.8	-2.2
WSI	Waingapu	1.31	168	P	Pn	04 27 53.8	-0.3
WSI				S	Sn	04 28 16.9	-1.9
BASI	Baing, Sumba	1.91	163	P	Pn	04 27 59.8	+0.1
BASI				S	Sn	04 28 28.5	-0.3
MMRI	Maumere	2.21	97	P	Pn	04 28 03.0	+0.1
MMRI				S	Sn	04 28 33.4	-0.9
BSSI	Bau Bau, Buton	2.27	12	P	Pn	04 28 03.2	-0.4
BKSI	Bulukumba	3.04	2	P	Pn	04 28 12.6	+0.2
KAPI	Kappang	3.35	355	*e*Pn	Pn	04 28 15.5	-0.6
KAPI	Kappang	3.35	355	P	Pn	04 28 15.8	-0.4
KAPI	Kappang	3.35	355	P	Pn	04 28 15.7	-0.4
	69nm,0.3s,baz=190,slow=7.6,SNR=213						
MTNI	Mataram	3.81	266	P	Pn	04 28 21.6	-0.2
BBSI	Bau Bau	3.83	42	P	Pn	04 28 23.2	+1.2
SPSI	Sidrap Palu	4.39	357	P	Pn	04 28 29.8	+0.7
SOEI	Soe	4.41	108	P	Pn	04 28 29.5	0.0
SOEI				S	Sn	04 29 18.8	-3.2
SOEI	Soe	4.41	108	P	Pn	04 28 29.6	+0.2
	baz=4.4,SNR=195						
SOEI				S	Sn	04 29 19.6	-2.4
	baz=4.4,SNR=6.9						
DNP	Denpasar	4.77	266	P	Pn	04 28 33.7	-0.1
SRBI	Singaraja	4.77	273	P	Pn	04 28 33.3	-0.5
IGBI	Denpasar	4.84	264	P	Pn	04 28 33.6	-1.2
IGBI				S	Sn	04 29 29.1	-2.5
TTSI	Tana Toraja	5.30	358	P	Pn	04 28 42.7	+2.0
	333nm,1.1s,4μm1.1nm						
MMSI	Mamuju	5.76	349	P	Pn	04 28 47.8	+1.2
	167nm,0.9s,2μm0.5nm						
SKSI	Soroako, Sulaw	5.96	13	P	Pn	04 28 50.3	+1.0
	53nm,0.7s,0.2nm						
KMMI	Kalianget	6.14	282	P	Pn	04 28 53.3	+1.7
	164nm,0.9s,5μm0.5nm						
KBKI	Kotabaru	6.33	323	P	Pn	04 28 55.3	+1.2
	58nm,1.1s						
BLJI	Banyuglugur	6.39	275	P	Pn	04 28 55.5	+0.7
	269nm,1.0s,4μm1.1nm						
GMJI	Gumukmas	6.51	270	P	Pn	04 28 55.6	-0.7
	106nm,1.0s,5μm0.8nm						
BBKI	Banjar Baru	7.09	313	P	Pn	04 29 08.2	+4.2
	76nm,1.2s,8μm0.5nm						
KRKI	Karangkates	7.49	271	P	Pn	04 29 09.7	+0.5
	450nm,0.4s,21μm4.0nm						
PWJI	Pagerwojo	8.14	272	P	Pn	04 29 16.5	-1.1
	231nm,0.5s,12μm						
SJI	Sawahan	8.20	274	P	Pn	04 29 18.7	+0.2
	309nm,0.4s,17μm						
NLAI	Namlea	8.70	54	P	Pn	04 29 27.7	+2.8
	90nm,0.8s,2μm						
PCJI	Pacitan	8.75	271	P	Pn	04 29 23.8	-1.9
	749nm,0.6s,14μm						
MRSI	Marisa	9.00	12	P	Pn	04 29 28.9	0.0
	51nm,1.0s,860nm						
AAI	Ambon	9.37	61	P	Pn	04 29 36.2	+2.5
	223nm,1.3s						
UGM	Wanagama	9.41	272	P	Pn	04 29 33.0	-1.3
	287nm,0.7s						
UGM	Wanagama	9.41	272	P	Pn	04 29 32.6	-1.7
	baz=9.4,SNR=51						
UGM				S	Sn	04 31 14.9	-4.7
	baz=9.4,SNR=3.3						
BNDI	Bandanaira	10.54	69	P	Pn	04 29 50.6	+1.7
	536nm,0.6s,6μm						
BNDI	Bandanaira	10.54	69	P	P	04 29 57.5	+1.2
	baz=10,SNR=4.9						
FITZ	Fitzroy Crossi	11.11	151	P	Pn	04 29 55.9	-0.3
FITZ				S	Sn	04 31 57.3	-2.6
FITZ	Fitzroy Crossi	11.11	151	P	Pn	04 29 55.9	-0.3
	2.6nm,0.3s,baz=346,slow=7.8,SNR=143						
FITZ				S	Sn	04 31 57.3	-2.6
	5.5nm,0.3s,baz=156,slow=14,SNR=7.0						
FITZ				LR	LR	04 33 52.8	
	comp=Z,60nm,20.4s,baz=87,slow=35						
FITZ	Fitzroy Crossi	11.11	151	P	Pn	04 29 55.8	-0.3
	baz=11,SNR=74						
KNRA	Kununurra	11.21	131	P	Pn	04 29 55.9	-1.7
	baz=11,SNR=75						
KNRA				S	Sn	04 31 53.1	-9.4
	baz=11,SNR=8.1						
MTN	Manton Dam	11.79	113	P	Pn	04 30 03.9	-1.1
	baz=12,SNR=89						
MTN				S	Sn	04 32 06.0	-10
	baz=12,SNR=17						
STKI	Sintang	11.95	314	P	Pn	04 30 09.3	+2.3
	44nm,1.2s						
CISI	Cisompet, Garu	12.11	273	P	Pn	04 30 06.6	-2.6
	160nm,0.5s,4μm						
CISI	Cisompet, Garu	12.11	273	P	Pn	04 30 06.1	-3.0
	baz=12,SNR=10						
CISI				S	Sn	04 32 16.4	-7.9
	baz=12,SNR=4.8						
MBWA	Marble Bar	12.71	181	*e*Pn	Pn	04 30 16.0	-0.5
	34nm,0.6s						
MBWA				*e*P	P	04 30 21.9	+1.5
MBWA				*e*Sn	Sn	04 32 30.7	-7.6
KDU	Kakadu	12.97	110	P	Pn	04 30 18.6	-1.3
	baz=13,SNR=85						
CBJI	Citeko	13.20	278	P	Pn	04 30 23.8	+1.0
	278nm,0.7s						
SBUM	Sibu	13.27	324	P	P	04 30 28.4	+1.7
	141nm,0.9s,1μm						
FAKI	Fak Fak	13.32	67	P	Pn	04 30 22.6	-1.7
	95nm,0.7s						
FAKI	Fak Fak	13.32	67	P	Pn	04 30 22.4	-1.9
	baz=13,SNR=27						
FAKI				S	S	04 32 53.9	+0.2
	baz=13,SNR=4.2						
SWI	Sorong	13.46	57	P	Pn	04 30 24.5	-1.5
	133nm,0.8s,1μm						
SWI	Sorong	13.46	57	P	Pn	04 30 25.1	-0.8
	baz=14,SNR=6.8						
KSM	Kuching	13.77	315	P	P	04 30 33.0	+0.8
	31nm,0.8s						
KSM	Kuching	13.77	315	P	P	04 30 34.0	+1.8
	baz=14,SNR=5.0						
XMI	Christmas Isla	14.29	261	P	P	04 30 38.4	+0.5
	baz=14,SNR=4.2						
XMI				S	S	04 32 57.8	-18
	baz=14,SNR=5.3						
XMIS	Christmas Isla	14.33	260	P	Pn	04 30 37.0	+0.1
	baz=14,SNR=11						
XMIS				S	S	04 33 00.3	-17
	baz=14,SNR=6.5						
RKPI	Ransiki, Papua	15.66	65	P	Pn	04 30 52.4	-0.7
	125nm,0.8s,7μm						
MNAI	Manna	17.42	282	P	Pn	04 31 14.6	+0.5
	baz=18,SNR=6.2						
WRA	Warramunga Arr	18.01	131	P	P	04 31 18.9	0.0
WRA				S	S	04 34 33.3	-2.1
WRA				ScP	ScP	04 38 59.6	-2.1
WRA	Warramunga Arr	18.01	131	P	P	04 31 18.9	0.0
	3.6nm,0.3s,baz=313,slow=10.0,SNR=313						
WRA				S	S	04 34 33.3	-2.1
	1.0nm,0.3s,baz=308,slow=20,SNR=13						
WRA				ScP	ScP	04 38 59.6	-2.1
	0.1nm,0.3s,baz=316,slow=2.0,SNR=3.9						
WRAB	Tennant Creek	18.01	131	*e*P	P	04 31 18.9	0.0
	16nm,0.6s						
WRAB				*e*Sn	S	04 34 32.2	-3.2
MEEK	Meekatharra	18.21	184	P	Pn	04 31 22.9	-0.5
	baz=18,SNR=167						
MEEK				S	S	04 34 41.6	+2.3
	baz=18,SNR=13						
MMPI	Merauke	20.15	92	P	Pn	04 32 00.1	+14
	baz=20,SNR=3.9						
MMPI				S	Sn	04 35 33.2	-2.0
	baz=20,SNR=4.2						
AS31	Alice Springs	20.20	140	*e*P	P	04 31 42.8	+0.2
AS31				*e*S	S	04 35 16.6	-2.0
ASAR	Alice Springs	20.20	140	P	P	04 31 43.0	+0.4
ASAR				S	S	04 35 16.7	-1.9
ASAR				ScP	ScP	04 39 05.0	-1.7
ASAR	Alice Springs	20.20	140	P	P	04 31 43.0	+0.4
	16nm,0.6s,baz=314,slow=10,SNR=131						
ASAR				S	S	04 35 16.7	-1.9
	13nm,0.9s,baz=306,slow=18,SNR=13						
ASAR				ScP	ScP	04 39 05.0	-1.7
	3.3nm,0.7s,baz=341,slow=2.1,SNR=6.7						
MORW	Morawa	20.92	190	P	P	04 31 50.6	+0.5
	baz=21,SNR=82						
MORW				S	S	04 35 42.5	+10
	baz=21,SNR=11						
BLDU	Ballidu	22.34	188	P	P	04 32 04.8	+0.4
	baz=22,SNR=109						
KLBR	Kellerberrin	23.20	185	P	P	04 32 12.8	+0.7
	baz=23,SNR=66						
COEN	Coen	23.38	106	P	P	04 32 14.2	+0.3
	baz=23,SNR=98						
COEN				S	Sn	04 36 36.9	-15
	baz=23,SNR=4.5						
FORT	Forrest	23.52	162	P	P	04 32 15.8	+0.8
	baz=24,SNR=28						
GSI	Gunungsitoli	24.35	292	S	S	04 36 03.6	-24
	baz=24,SNR=4.2						
NWAO	Narrogin (SRO)	24.57	186	*e*P	P	04 32 25.0	+0.5
	51nm,0.9s						
NWAO	Narrogin (SRO)	24.57	186	P	P	04 32 25.9	+1.4
	48nm,0.8s,baz=4.9,slow=10,SNR=26						
MTSU	Mount Surprise	25.53	115	P	P	04 32 34.4	+0.9
	baz=26,SNR=32						
RKGY	Rocky Gully	26.26	186	P	P	04 32 42.1	+2.3
	baz=26,SNR=14						
PMG	Port Moresby	26.83	94	*e*P	P	04 32 46.0	+0.8
	16nm,0.9s						
BBOO	Buckleboo	28.49	151	P	P	04 33 00.4	+0.7
	baz=28,SNR=63						
STKA	Stephens Creek	30.81	142	*e*P	P	04 33 21.1	+1.0
	4.2nm,0.5s						
STKA	Stephens Creek	30.81	142	P	P	04 33 21.3	+1.2
	24nm,0.5s,baz=317,slow=8.9,SNR=107						
STKA	Stephens Creek	30.81	142	P	P	04 33 21.1	+1.0
	baz=31,SNR=94						
CMSA	Cobar Meteorol	33.20	137	P	P	04 33 42.7	+1.8
	baz=33,SNR=7.0						
CMAR	Chiang Mai Arr	33.82	322	P	P	04 33 46.8	+0.3
CMAR	Chiang Mai Arr	33.82	322	P	P	04 33 46.8	+0.3
	2.2nm,0.5s,baz=154,slow=7.1,SNR=8.6						
ARPS	Mount Arapiles	34.53	148	P	P	04 33 53.9	+1.6
	baz=35,SNR=26						
YNG	Young	36.69	139	P	P	04 34 12.8	+2.0
	baz=37,SNR=5.2						
GYA	Guiyang	36.98	340	*e*P	P	04 34 15.0	+1.6
GYA				pP	pP	04 34 55.4	+1.1
GYA				sP	sP	04 35 18.0	+1.5
GYA				PP	PnPn	04 35 46.9	+1.9
GYA				PcP	PcP	04 36 31.2	+0.8
GYA				S	S	04 39 46.0	+1.7
GYA				ScP	ScP	04 39 59.0	+0.1
GYA				PcS	PcS	04 40 18.3	-0.7
GYA				ScS	ScS	04 44 04.7	-2.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	Kunming	37.31	334	P	P	04 34 18.4	+2.0
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ENH	Enshi	39.74	346	*e*P	P	04 34 34.7	-1.5
	comp=Z,12nm,0.5s						
NJ2	Nanjing	40.22	358	*e*P	P	04 34 41.2	+1.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	42.06	339	*e*P	P	04 34 56.7	+1.4
CD2				pP	pP	04 35 38.6	+1.5
CD2				sP	sP	04 36 00.4	+1.4
CD2				S	S	04 41 01.6	+1.8
CD2				sS	sS	04 42 15.0	+1.7
CD2				SS	SS	04 44 10.2	-5.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,4.8s						
KSAR	Wonju Array Be	46.17	9	P	P	04 35 25.9	-1.7
KSRS	Korea Array	46.19	9	P	P	04 35 25.9	-1.9
	comp=Z,0.7nm,0.5s,baz=191,slow=9.9,SNR=4.5						
LZH	Lanzhou	46.77	342	*e*P	P	04 35 31.5	-1.2
LZH				pP	pP	04 36 13.0	-2.3
LZH				sP	sP	04 36 35.1	-1.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
BJI	Beijing	48.30	356	P	P	04 35 44.7	+0.6
BJI				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HHC	Hu-ho-hao-te	49.60	352	*e*P	P	04 35 56.0	+1.9
HHC				pP	pP	04 36 38.2	+1.0
HHC				sP	sP	04 36 59.2	+0.3
HHC				PP	PP	04 37 53.9	+3.3
HHC				ScP	ScP	04 40 50.6	+0.9
HHC				PcS	PcS	04 41 10.1	+0.4
HHC				S	S	04 42 48.5	+1.2
HHC				sS	sS	04 44 03.5	+0.8
HHC				ScS	ScS	04 45 24.2	-1.2
HHC				SS	SS	04 46 20.4	-2.0
HHC				pmax	pmax		
	comp=Z,25nm,0.7s						
HHC				pmax	pmax		
	comp=Z,310nm,6.5s						
HHC				LR	LR		
	comp=N,360nm,16.7s						
HHC				LR	LR		
	comp=E,620nm,16.9s						
HHC				LR	LR		
	comp=Z,360nm,16.5s						
CN2	Changchun	52.16	5	*e*P	P	04 36 16.8	+3.8
CN2				*es*P	sP	04 37 21.7	+3.6
CN2				*e*S	S	04 43 26.3	+4.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
USRK	Ussuriysk Arra	53.44	11	P	P	04 36 20.1	-2.2
	comp=Z,2.2nm,0.6s,baz=196,slow=8.2,SNR=7.2						
MDJ	Mudanjiang	53.45	9	P	P	04 36 23.5	+1.1
MDJ				pP	pP	04 37 06.5	+0.3
MDJ				PcP	PcP	04 37 23.9	-3.0
MDJ				PP	PP	04 38 28.3	+3.1
MDJ				PcS	PcS	04 41 22.1	-3.9
MDJ				S	S	04 43 42.7	+3.1
MDJ				ScS	ScS	04 45 50.6	-1.2
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,210nm,5.1s						
MDJ				LR	LR		
	comp=N,150nm,9.1s						
MDJ				LR	LR		
	comp=E,81nm,6.1s						
MDJ				LR	LR		
	comp=Z,280nm,4.6s						
ULN	Ulaanbaatar	57.16	350	*e*P	P	04 36 47.8	-1.3
	comp=Z,1.7nm,0.5s						
SONM	Songino Array	57.25	349	P	P	04 36 48.6	-1.0
SONM				pP	pP	04 37 35.2	+1.2
SONM	Songino Array	57.25	349	P	P	04 36 48.7	-1.0
	comp=Z,1.2nm,0.5s,baz=170,slow=7.9,SNR=8.4						
SONM				pP	pP	04 37 35.2	+1.2
	comp=Z,1.7nm,0.8s,baz=166,slow=7.1,SNR=6.0						
WMQ	Urumqi	59.64	333	*e*P	P	04 37 07.6	+1.4
WMQ				pmax	pmax		
	comp=Z,11nm,1.0s						
KSH	Kashi	62.71	323	P	P	04 37 26.8	-0.2
KSH				sP	sP	04 38 31.7	-1.6
KSH				PP	PP	04 39 49.8	+2.2
KSH				S	S	04 45 33.8	-6.4
KSH				SS	SS	04 49 43.4	-5.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,48nm,4.8s						
KSH				LR	LR		
	comp=N,84nm,8.3s						
KSH				LR	LR		
	comp=E,130nm,8.0s						
KSH				LR	LR		
	comp=Z,66nm,5.4s						
KBL	Kabul	64.37	315	*e*P	P	04 37 36.3	-1.7
	comp=Z,7.9nm,0.6s						
MK31	Makanchi Array	64.37	332	*e*P	P	04 37 36.8	-0.8
MKAR	Makanchi Array	64.37	332	P	P	04 37 36.6	-1.0
MKAR	Makanchi Array	64.37	332	P	P	04 37 36.6	-1.0
	comp=Z,2.8nm,0.6s,baz=144,slow=7.3,SNR=27						
ZAA0	Zalesovo Array	68.83	339	*e*P	P	04 38 03.4	-2.1
ZALV	Zalesovo Beam	68.83	339	P	P	04 38 04.1	-1.5
ZALV	Zalesovo Beam	68.83	339	P	P	04 38 04.1	-1.5
	comp=Z,5.9nm,0.6s,baz=140,slow=5.2,SNR=23						
KURBB	Kurchatov Arra	68.86	333	P	P	04 38 04.9	-1.0
	comp=Z,0.7nm,0.3s,baz=146,slow=5.4,SNR=14						
KURK	Kurchatov	68.89	333	P	P	04 38 04.9	-1.2
MAW	Mawson	70.16	200	P	P	04 38 15.3	+1.8
MAW	Mawson	70.16	200	P	P	04 38 15.3	+1.8
	comp=Z,5.2nm,0.9s,baz=22,slow=3.6,SNR=8.7						
MAW	Mawson	70.16	200	P	P	04 38 15.7	+2.1
	baz=70,SNR=5.1						
VNDA	Vanda	72.44	171	*e*P	P	04 38 28.2	+1.1
	comp=Z,2.1nm,0.9s						
VNDA	Vanda	72.44	171	P	P	04 38 28.5	+1.4
	comp=Z,1.2nm,0.5s,baz=311,slow=6.8,SNR=27						
BVAR	Borovoye Array	74.23	331	P	P	04 38 37.2	-0.7
BVAR	Borovoye Array	74.23	331	P	P	04 38 37.2	-0.7
	comp=Z,0.7nm,0.4s,baz=121,slow=7.4,SNR=5.9						
AKTO	Aktyubinsk	79.29	325	P	P	04 39 05.7	-0.6
AKTO	Aktyubinsk	79.29	325	P	P	04 39 05.7	-0.6
	comp=Z,1.8nm,0.6s,ba

comp=Z,0.4nm,0.5s,baz=67,slow=1.9,SNR=4.1
TXAR Lajitas Array 134.05 57 PKP **PKPdf 04 46 16.9 -0.5**
TXAR Lajitas Array 134.05 57 PKP **PKPdf 04 46 17.0 -0.5**
comp=Z,0.4nm,0.8s,baz=204,slow=2.1,SNR=4.5
TZTN Tazewell 144.70 34 *e*PKPdf **PKPab 04 46 34.0 -1.8**
TKL Tuckaleechee C 145.21 35 *e*PKPbc **PKPdf 04 46 35.6 -1.8**
CPUP Villa Florida 145.41 184 PKPbc **PKPab 04 46 39.8 +1.2**
CPUP Villa Florida 145.41 184 PKPbc **PKPab 04 46 39.8 +1.2**
comp=Z,1.5nm,0.6s,baz=133,slow=4.0,SNR=5.5
LPAZ La Paz 154.20 162 PKPab **PKPab 04 47 16.8 +1.3**
LPAZ La Paz 154.20 162 PKPab **PKPab 04 47 16.8 +1.3**
comp=Z,1.0nm,0.4s,baz=219,slow=3.2,SNR=7.9

IDC 08 04:38:07.1±3.5, 1°.19S×12°.78W, h0^{km}, mb3.9/3, mb1 4.1/3, mb1mx3.5/24, mbtmp4.0/3, MS3.7/9, Ms1 3.7/9, ms1mx3.4/29, Error ellipse: s-maj=123.3km s-min=70.0km az=126.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**10.68**	**46**	*e*PKP1	Pn	04 40 42.1	+0.6
TIC	**Toumodi**	**10.98**	**45**	*e*PKP1	Pn	04 40 43.1	-2.5
11nm,0.2s							
KIC	**Kosan Boka**	**10.98**	**47**	*e*PKP1	Pn	04 40 43.2	-2.5
111nm,1.6s							
TORD	**Torodi Ar. Bea**	**20.22**	**45**	P	P	04 42 43.9	-0.1
10nm,1.0s,baz=229,slow=11,SNR=13							
TORD				LR	LR	04 49 36.0	
comp=Z,286nm,21.8s,baz=230,slow=34							
BOSA	**Boshof**	**45.40**	**130**	LR	LR	05 02 45.0	
comp=Z,78nm,19.5s,baz=85,slow=33							
CPUP	**Villa Florida**	**49.57**	**236**	LR	LR	05 06 20.3	
comp=Z,72nm,19.5s,baz=187,slow=34							
GERES	**GERESS Array B**	**54.85**	**21**	P	P	04 47 39.6	+0.3
1.1nm,0.8s,baz=196,slow=6.1,SNR=7.4							
GERES				LR	LR	05 11 40.3	
comp=Z,55nm,19.5s,baz=292,slow=37							
ROSC	**El Rosal**	**61.78**	**276**	LR	LR	05 11 30.9	
comp=Z,72nm,18.6s,baz=54,slow=32							
FINES	**FINESS Array B**	**69.14**	**19**	P	P	04 49 14.7	-0.4
0.3nm,0.6s,baz=208,slow=5.5,SNR=3.5							
FINES				LR	LR	05 21 30.7	
comp=Z,65nm,18.7s,baz=37,slow=38							
JMIC	**Jan Mayen**	**72.10**	**1**	LR	LR	05 18 19.2	
comp=Z,25nm,19.1s,baz=245,slow=34							
ULM	**Lac du Bonnet**	**86.48**	**320**	LR	LR	05 27 20.4	
comp=Z,38nm,19.7s,baz=53,slow=34							
TXAR	**Lajitas Array**	**91.35**	**299**	LR	LR	05 27 35.1	
comp=Z,30nm,20.2s,baz=0.0,slow=32							
ASAR	**Alice Springs**	**139.27**	**129**	PKP	PKPdf	04 57 37.4	+0.2
0.2nm,0.5s,baz=229,slow=2.3,SNR=4.6							
WRA	**Warramunga Arr**	**141.52**	**125**	PKP	PKPdf	04 57 40.3	-1.0
0.3nm,0.6s,baz=241,slow=2.0,SNR=5.3							

MEX 08 04:38:46.6±0.7, 16°.94N×99°.51W, h26^{km}±24^{km}, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.73**	**278**	*e*P	Pb	04 38 58.2	-2.6
CAIG				*i* S	Sb	04 39 08.1	-2.4
MEIG	**Mezcala**	**0.98**	**354**	*i* P	Pn	04 39 01.6	-3.2
MEIG				*i* S	Sb	04 39 14.2	-3.6
PNIG	**Pinotepa**	**1.43**	**112**	*e*P	Pn	04 39 08.4	-2.5
PNIG				*e*S	Sn	04 39 25.7	-3.2
PLIG	**Platanillo**	**1.44**	**0**	*e*P	Pn	04 39 09.2	-1.9
PLIG				*e*S	Sn	04 39 26.2	-3.1
ARIG	**Puente Sto Nin**	**1.55**	**329**	*e*P	Pn	04 39 10.5	-2.1
ARIG				*e*S	Sn	04 39 28.2	-3.7
YAIG	**Yautepec**	**1.96**	**12**	*e*P	Pn	04 39 16.4	-1.9
YAIG				*i* S	Sn	04 39 39.0	-3.2
ZIIG	**Zihuatanejo**	**1.98**	**290**	*e*P	Pn	04 39 19.4	+0.9

IGQ 08 04:45:39.3, 2°.57S×78°.17W, h123^{km}±35^{km}, Mb4.1, Ms3.9, 6C-19D, Error ellipse: s-maj=3.8km s-min=1.4km az=2.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.31**	**355**	⇓S	Sn	04 46 09.4	-0.8
MACE	**Macas**	**0.31**	**355**	⇓P	Pn	04 45 57.2	+0.2
RIOE	**Riobamba**	**0.93**	**330**	⇓P	Pn	04 46 01.4	0.0
RIOE	**Riobamba**	**0.93**	**330**	⇓S	Sn	04 46 17.9	-0.2
PAT1	**Patacocha**	**1.09**	**346**	⇓P	Pn	04 46 03.1	0.0
BPAT	**Tungurahua Vol**	**1.09**	**346**	⇓P	Pn	04 46 03.2	+0.1
ARRY	**Arrayan**	**1.09**	**345**	⇓P	Pn	04 46 02.7	-0.3
BMAS	**Trigal station**	**1.10**	**344**	⇓P	Pn	04 46 03.0	-0.1
ULBA	**Ulba**	**1.14**	**348**	⇓P	Pn	04 46 03.6	+0.2
BULB	**Ulba Tungurahu**	**1.15**	**348**	⇓P	Pn	04 46 03.6	0.0
BBIL	**Ulba Tungurahu**	**1.15**	**344**	⇑P	Pn	04 46 04.0	+0.4
BRUN	**Tungurahua Vol**	**1.16**	**348**	⇓P	Pn	04 46 03.7	0.0
IGUA	**Igualata**	**1.17**	**336**	P	Pn	04 46 04.2	+0.1
RUNS	**Runtun**	**1.17**	**347**	P	Pn	04 46 03.8	0.0
JUI6	**Juive**	**1.17**	**345**	⇓P	Pn	04 46 03.9	+0.1
PISA	**Pisayambo**	**1.51**	**352**	⇑P	Pn	04 46 08.2	+0.5
TAMB	**Tambo**	**1.87**	**354**	P	Pn	04 46 13.1	+1.0
BTAM	**Cotopaxi Volca**	**1.89**	**353**	⇓P	Pn	04 46 13.3	+0.9
COV1	**Cotopaxi Volc**	**1.90**	**355**	P	Pn	04 46 13.9	+1.4
BREF	**Cotopaxi Volca**	**1.90**	**352**	⇓P	Pn	04 46 13.6	+1.0
CAMI	**Rancho Maria**	**1.91**	**350**	⇓P	Pn	04 46 13.8	+1.4
BNAS	**Cotopaxi Volca**	**1.91**	**351**	⇓P	Pn	04 46 13.2	+0.8
VC1	**Cotopaxi 1**	**1.93**	**353**	⇓P	Pn	04 46 13.9	+1.2
NAS2	**Nasa**	**1.93**	**351**	P	Pn	04 46 14.3	+1.6
PITA	**Cotopaxi Volc**	**2.01**	**352**	P	Pn	04 46 14.8	+1.1
ANTI	**Antisana**	**2.10**	**0**	⇓P	Pn	04 46 15.7	+0.8
ARNL	**Arenillas**	**2.13**	**243**	⇑S	Sn	04 46 41.1	-0.5
ARNL	**Arenillas**	**2.13**	**243**	⇑P	Pn	04 46 14.0	-0.5
JUA2	**San Juan 2**	**2.38**	**349**	P	Pn	04 46 19.4	+1.1
GGP	**Refugio Guagua**	**2.41**	**350**	P	Pn	04 46 19.5	+0.6
TERV	**Terraza Guagua**	**2.42**	**350**	P	Pn	04 46 19.8	+0.9
PINO	**Pino**	**2.43**	**350**	⇑P	Pn	04 46 20.0	+0.9
CHAR	**Charly**	**2.51**	**11**	P	Pn	04 46 20.8	+0.8
LAV4	**Lava4-Reventad**	**2.52**	**12**	⇑P	Pn	04 46 20.4	+0.6
CONE	**Cono NE Rev Vo**	**2.54**	**12**	P	Pn	04 46 20.7	+0.6
CAYA	**Cayambe**	**2.63**	**4**	P	Pn	04 46 23.0	+1.4
OTAV	**Otavalo**	**2.80**	**354**	⇓P	Pn	04 46 24.0	+0.3
MAG1	**Magdalena**	**2.95**	**327**	P	Pn	04 46 24.6	-0.5

ISCJB ***08*** *05:02:55.3±0.4, 24°.06N±0°.04×125°.26E±0°.04, h7^{km}, mb4.0/22, MS3.2/4, Error ellipse: s-maj=5.6km s-min=5.2km az=26.7*
IDC ***08*** *05:02:56.4±0.7, 24°.25N×125°.05E, h0^{km}, mb4.0/17, mb1 4.1/19, mb1mx4.1/28, mbtmp4.0/19, ML3.6/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/31, Error ellipse: s-maj=23.8km s-min=16.3km az=68.0*
NEIC ***08*** *05:02:59.8±3.2, 24°.27N×125°.04E, h21^{km}±23^{km}, mb4.5/3, MW4.2(NIED), Error ellipse: s-maj=10.6km s-min=9.4km az=86.0*
JMA ***08*** *05:03:00.5±0.3, 24°.20N×125°.19E, h24^{km}, M3.9*
NIED ***08*** *05:03:00, 24°.20N×125°.20E, h35^{km}, Mw4.2 Best double couple: M₀2.27000×10¹⁵ NP1:φ$_s$51.00000°, δ79.00000°, λ106.00000°. NP2:φ$_s$174.00000°, δ19.00000°, λ35.00000°.*

ISC 08 05:02:57.7±0.7, 24°.25N±0°.07×125°.15E±0°.05, h7^{km}, n59, σ1^{s}19/61, mb4.0/22, MS3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.56**	**25**	P	**Pn**	**05 03 12.0**	**-0.2**
JOGS				S	**Sb**	**05 03 21.0**	**+2.8**
JTJ	**Tarama**	**0.56**	**314**	P	**Pn**	**05 03 12.5**	**+0.3**
JTJ				S	**Sn**	**05 03 20.4**	**-1.4**
JMJ	**Miyako jima 2**	**0.58**	**13**	P	**Pn**	**05 03 12.3**	**-0.1**
JMJ				S	**Sb**	**05 03 21.1**	**+2.4**
JIJ	**Ishigaki jima**	**0.92**	**277**	P	**Pn**	**05 03 18.2**	**+1.1**
JIJ				S	**Sn**	**05 03 31.2**	**+0.6**
JKRS	**Kuro-shima**	**1.04**	**270**	P	**Pn**	**05 03 20.5**	**+1.8**
IRIF	**Iriomote-Funau**	**1.29**	**274**	P	**Pg**	**05 03 23.8**	**+1.2**
YOJ	**Yonaguni jima**	**1.96**	**277**	P	**Pg**	**05 03 34.2**	**-1.1**
JKE	**Kume jima 2**	**2.55**	**35**	P	**Pn**	**05 03 39.1**	**-0.4**
JAGN	**Aguni-jima**	**3.01**	**39**	P	**Pn**	**05 03 45.8**	**0.0**
TATO	**Taipei**	**3.41**	**283**	*e*Pn	**Pn**	**05 03 49.5**	**-1.8**
JOW	**Kunigami**	**3.82**	**47**	P	**Pn**	**05 03 56.6**	**-0.4**
KSAR	**Wonju Array Be**	**13.36**	**9**	Pn	**Pn**	**05 06 09.3**	**+1.5**
KSRS	**Korea Array**	**13.38**	**10**	Pn	**Pn**	**05 06 09.3**	**+1.3**
0.2nm,0.3s,baz=191,slow=12,SNR=4.8							
MJAR	**Matsushiro Arr**	**16.63**	**40**	Pn	**Pn**	**05 06 52.6**	**+1.3**
MJAR	**Matsushiro Arr**	**16.63**	**40**	Pn	**Pn**	**05 06 52.6**	**+1.3**
0.3nm,0.3s,baz=234,slow=11,SNR=12							
ERM	**Erimo**	**23.19**	**36**	*e*P	**P**	**05 08 04.4**	**-0.6**
7.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**25.05**	**262**	P	**P**	**05 08 23.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.05**	**262**	P	**P**	**05 08 23.6**	**+0.8**
1.2nm,0.3s,baz=49,slow=9.7,SNR=5.1							
CMAR				LR	LR	05 19 28.8	
comp=Z,46nm,18.4s,baz=70,slow=40							
SONM	**Songino Array**	**27.86**	**332**	P	**P**	**05 08 46.2**	**-1.8**
SONM	**Songino Array**	**27.86**	**332**	P	**P**	**05 08 46.2**	**-1.8**
0.7nm,0.6s,baz=149,slow=9.1,SNR=5.1							
PETK	**Petropavlovsk-**	**37.84**	**32**	LR	LR	05 26 30.8	
comp=Z,27nm,18.5s,baz=257,slow=37							
MK31	**Makanchi Array**	**40.85**	**314**	*e*P	**P**	**05 10 39.5**	**-0.6**
MKAR	**Makanchi Array**	**40.85**	**314**	P	**P**	**05 10 39.4**	**-0.8**
MKAR	**Makanchi Array**	**40.85**	**314**	P	**P**	**05 10 39.3**	**-0.8**
3.1nm,0.5s,baz=101,slow=9.9,SNR=41							
FITZ	**Fitzroy Crossi**	**42.09**	**179**	P	**P**	**05 10 52.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**42.09**	**179**	P	**P**	**05 10 52.6**	**+2.1**
1.8nm,0.7s,baz=14,slow=11,SNR=6.5							
ZALV	**Zalesovo Beam**	**42.21**	**325**	P	**P**	**05 10 49.1**	**-2.0**
ZALV	**Zalesovo Beam**	**42.21**	**325**	P	**P**	**05 10 49.1**	**-2.0**
2.2nm,0.6s,baz=111,slow=8.3,SNR=9.8							
ZALV				LR	LR	05 29 50.6	
comp=Z,44nm,21.1s,baz=64,slow=38							
KURK	**Kurchatov**	**44.40**	**319**	P	**P**	**05 11 07.7**	**-1.2**
KURBB	**Kurchatov Arra**	**44.42**	**319**	P	**P**	**05 11 07.7**	**-1.4**
2.2nm,0.7s,baz=110,slow=8.4,SNR=20							
WRAB	**Tennant Creek**	**44.82**	**168**	*e*P	**P**	**05 11 11.9**	**-0.6**
7.4nm,1s							
WRA	**Warramunga Arr**	**44.83**	**168**	P	**P**	**05 11 11.6**	**-1.0**
WRA	**Warramunga Arr**	**44.83**	**168**	P	**P**	**05 11 11.6**	**-1.0**
1.3nm,0.5s,baz=348,slow=8.8,SNR=13							
ASAR	**Alice Springs**	**48.38**	**169**	P	**P**	**05 11 40.0**	**-0.4**
ASAR	**Alice Springs**	**48.38**	**169**	P	**P**	**05 11 40.0**	**-0.4**
0.7nm,0.6s,baz=354,slow=7.6,SNR=14							
BVAR	**Borovoye Array**	**49.94**	**320**	P	**P**	**05 11 51.2**	**-0.9**
BVAR	**Borovoye Array**	**49.94**	**320**	P	**P**	**05 11 51.2**	**-0.9**
1.5nm,0.6s,baz=107,slow=8.3,SNR=9.3							
BRVK	**Borovoye**	**50.01**	**320**	*e*P	**P**	**05 11 51.8**	**-0.8**
2.6nm,0.4s							
AKTO	**Aktyubinsk**	**57.26**	**316**	P	**P**	**05 12 45.7**	**-0.2**
AKTO	**Aktyubinsk**	**57.26**	**316**	P	**P**	**05 12 45.7**	**-0.2**
2.5nm,0.7s,baz=73,slow=14,SNR=12							
ILAR	**Eielson Array**	**67.49**	**28**	P	**P**	**05 13 55.3**	**+1.2**
ILAR	**Eielson Array**	**67.49**	**28**	P	**P**	**05 13 55.3**	**+1.2**
0.5nm,0.6s,baz=268,slow=6.9,SNR=11							
KBZ	**Khabaz**	**68.25**	**309**	LR	LR	05 48 35.5	
comp=Z,32nm,19.1s,baz=208,slow=40							
ARCES	**ARCESS Array B**	**70.82**	**338**	P	**P**	**05 14 13.3**	**-1.4**
ARCES	**ARCESS Array B**	**70.82**	**338**	P	**P**	**05 14 13.3**	**-1.4**
0.5nm,0.7s,baz=72,slow=5.9,SNR=3.5							
KAF	**Kangasniemi**	**72.88**	**331**	*e*p	**P**	**05 14 26.3**	**-0.8**
1.8nm,0.6s							
FINES	**FINESS Array B**	**73.20**	**330**	P	**P**	**05 14 28.2**	**-0.8**
FINES	**FINESS Array B**	**73.20**	**330**	P	**P**	**05 14 28.2**	**-0.8**
4.0nm,0.7s,baz=64,slow=6.6,SNR=29							
BRTR	**Keskin Array B**	**76.03**	**307**	P	**P**	**05 14 46.0**	**-0.1**
BRTR	**Keskin Array B**	**76.03**	**307**	P	**P**	**05 14 46.0**	**-0.1**
0.9nm,0.8s,baz=86,slow=5.6,SNR=4.1							
NB2	**NORSAR Subarra**	**79.83**	**333**	P	**P**	**05 15 05.4**	**-1.3**
comp=Z,1.3nm,0.7s,baz=56,slow=5.6							
NOA	**NORSAR Array B**	**79.83**	**333**	P	**P**	**05 15 06.0**	**-0.8**
NOA	**NORSAR Array B**	**79.83**	**333**	P	**P**	**05 15 06.0**	**-0.8**
comp=Z,1.3nm,0.7s,baz=54,slow=5.5,SNR=8.2							
YKA	**Yellowknife Ar**	**81.48**	**24**	P	**P**	**05 15 14.9**	**-0.6**
YKA	**Yellowknife Ar**	**81.48**	**24**	P	**P**	**05 15 14.9**	**-0.6**
comp=Z,0.6nm,0.7s,baz=302,slow=3.5,SNR=2.8							
GERES	**GERESS Array B**	**85.06**	**322**	P	**P**	**05 15 35.2**	**+0.9**
GERES	**GERESS Array B**	**85.06**	**322**	P	**P**	**05 15 35.2**	**+0.9**
comp=Z,0.3nm,0.4s,baz=69,slow=5.4,SNR=5.1							
NVAR	**Mina Array Bea**	**93.88**	**45**	P	**P**	**05 16 16.8**	**+0.2**
NVAR	**Mina Array Bea**	**93.88**	**45**	P	**P**	**05 16 16.8**	**+0.2**
comp=Z,0.3nm,0.7s,baz=270,slow=0.9,SNR=2.9							

WEL 08 05:05:17.8±0.1, 37°.80S×178°.77E, h55^{km}±1^{km}, ML3.9/14, 2C-4D, Error ellipse: s-maj=1.3km s-min=1.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.43**	**303**	AML	AML	05 05 37.5	
PUZ	**Puketiti**	**0.49**	**236**	PN	Pn	05 05 29.2	-0.2
PUZ				SN	Sn	05 05 37.5	-0.2
PUZ				AML	AML	05 05 37.9	
MWZ	**Matawai**	**1.11**	**241**	⇓PN	Pn	05 05 36.8	-0.5
MWZ				AML	AML	05 05 51.6	
MWZ				AML	AML	05 05 51.7	
MWZ				AML	AML	05 05 56.4	
MWZ				AML	AML	05 05 56.5	
PRGZ	**Paritu Road**	**1.32**	**211**	PN	Pn	05 05 39.7	-0.3
URZ	**Urewera**	**1.39**	**250**	PN	Pn	05 05 40.8	0.0
URZ				SN	Sn	05 05 57.8	-0.4
URZ				AML	AML	05 05 58.7	
KNZ	**Kokohu**	**1.49**	**215**	⇓PN	Pn	05 05 41.6	-0.7
MHGZ	**Mahia Peninsul**	**1.51**	**206**	PN	Pn	05 05 42.6	-0.1
EDRZ	**Edgecumbe**	**1.63**	**258**	PN	Pn	05 05 43.9	-0.4
RAHZ	**Arahi**	**1.73**	**229**	PN	Pn	05 05 45.3	-0.3
TARZ	**Mount Tarawera**	**1.84**	**256**	PN	Pn	05 05 46.9	-0.3
PRRZ	**Plateau Road**	**2.00**	**249**	PN	Pn	05 05 48.6	-0.6
NMHZ	**Naumai**	**2.01**	**229**	⇓PN	Pn	05 05 49.2	-0.3
BKZ	**Black Stump Fm**	**2.25**	**232**	PN	Pn	05 05 52.1	-0.6
BKZ				SN	Sn	05 06 18.4	-0.9
BKZ				AML	AML	05 06 20.7	
CKHZ	**Cape Kidnapper**	**2.28**	**215**	⇑PN	Pn	05 05 51.9	-1.1
CKHZ				SN	Sn	05 06 19.2	-0.8
MCHZ	**McNeill Hill**	**2.31**	**224**	⇓PN	Pn	05 05 52.9	-0.6
KAHZ	**Kahuranaki**	**2.48**	**216**	PN	Pn	05 05 54.6	-1.3
KUZ	**Kuaotunu**	**2.65**	**292**	PN	Pn	05 05 56.8	-1.3
PXZ	**Pawanui**	**2.68**	**213**	PN	Pn	05 05 56.4	-2.1
PXZ				AML	AML	05 06 29.2	
PXZ				AML	AML	05 06 29.2	
PXZ				AML	AML	05 06 29.7	
PXZ				AML	AML	05 06 29.7	
KATZ	**Kakaramea**	**2.69**	**243**	PN	Pn	05 05 58.4	-0.3
BHHZ	**Black Hill Sta**	**2.71**	**231**	PN	Pn	05 05 58.0	-0.9
NGZ	**Ngauruhoe**	**2.84**	**240**	PN	Pn	05 05 59.7	-1.2
MOVZ	**Moawhango**	**2.86**	**235**	PN	Pn	05 05 59.9	-1.1
WPHZ	**Waipukurau**	**2.90**	**218**	⇑PN	Pn	05 05 59.8	-1.7
TWVZ	**Taurewa**	**2.91**	**243**	PN	Pn	05 06 01.1	-0.6
PNHZ	**Pukenui**	**2.91**	**223**	PN	Pn	05 05 59.9	-1.9
WNVZ	**Wahianoa**	**2.92**	**237**	PN	Pn	05 06 00.6	-1.3
TRVZ	**Turoa**	**2.94**	**238**	PN	Pn	05 06 01.8	-0.6
MKAZ	**Moumakai**	**2.94**	**282**	PN	Pn	05 06 01.4	-0.7
PRHZ	**Porangahau**	**2.97**	**213**	PN	Pn	05 06 00.1	-2.4
MTVZ	**Mangateitei**	**3.03**	**237**	PN	Pn	05 06 02.9	-0.5
PKVZ	**Pokaka**	**3.07**	**240**	PN	Pn	05 06 03.4	-0.5
TSZ	**Takapari Road**	**3.14**	**223**	PN	Pn	05 06 02.6	-2.3
TSZ				AML	AML	05 06 41.0	
DVHZ	**Dannevirke**	**3.21**	**218**	PN	Pn	05 06 03.4	-2.5
BFZ	**Birch Farm**	**3.48**	**213**	PN	Pn	05 06 06.5	-3.0
POWZ	**Post Office Ro**	**3.49**	**221**	PN	Pn	05 06 07.3	-2.2
WAZ	**Wanganui**	**3.54**	**235**	PN	Pn	05 06 10.1	-0.2
TIWZ	**Tintock**	**3.72**	**216**	PN	Pn	05 06 10.0	-2.8
MRZ	**Mangatainoka R**	**3.78**	**220**	PN	Pn	05 06 10.6	-3.0
MRZ				AML	AML	05 06 55.1	
MRZ				AML	AML	05 06 56.0	
TMWZ	**Te Maipa**	**3.98**	**213**	PN	Pn	05 06 13.1	-3.3
HOWZ	**Holdsworth Sta**	**3.99**	**218**	PN	Pn	05 06 13.1	-3.4
PKE	**Pukeiti**	**4.00**	**248**	PN	Pn	05 06 18.0	+1.3
OGWZ	**Otaki Gorge**	**4.11**	**222**	PN	Pn	05 06 14.7	-3.4
MTW	**Mount Morrison**	**4.20**	**216**	PN	Pn	05 06 15.5	-3.8
MTW				AML	AML	05 07 03.6	
MTW				AML	AML	05 07 03.9	
KIW	**Kapiti Island**	**4.28**	**223**	PN	Pn	05 06 17.0	-3.4
TRWZ	**Traveller**	**4.31**	**213**	PN	Pn	05 06 16.5	-4.3
CAW	**Cannon Point**	**4.37**	**220**	PN	Pn	05 06 17.9	-3.8
CAW				AML	AML	05 07 07.2	
CAW				AML	AML	05 07 08.5	
PAWZ	**Paruwai Farm**	**4.41**	**215**	PN	Pn	05 06 18.5	-3.7
PAWZ				AML	AML	05 07 09.8	
MSWZ	**Moikau Station**	**4.52**	**216**	PN	Pn	05 06 19.4	-4.3
PLWZ	**Palliser**	**4.64**	**215**	PN	Pn	05 06 21.0	-4.4
BHW	**Baring Head**	**4.70**	**219**	PN	Pn	05 06 22.0	-4.1
SNZO	**South Karori**	**4.71**	**221**	PN	Pn	05 06 22.0	-4.2
SNZO				AML	AML	05 07 15.3	
DUWZ	**D'Urville Isla**	**4.81**	**230**	PN	Pn	05 06 24.9	-2.8
TCW	**Tory Channel**	**4.87**	**224**	PN	Pn	05 06 24.5	-3.9
TCW				AML	AML	05 07 20.4	
TCW				AML	AML	05 07 20.6	
TUWZ	**Tuamarina**	**5.20**	**224**	PN	Pn	05 06 29.7	-3.3
TUWZ				AML	AML	05 07 28.1	
TUWZ				AML	AML	05 07 28.1	
NNZ	**Nelson**	**5.39**	**229**	PN	Pn	05 06 31.3	-4.2
BSWZ	**Blackbirch Sta**	**5.43**	**222**	PN	Pn	05 06 31.9	-4.3
THZ	**Tophouse**	**6.00**	**227**	PN	Pn	05 06 40.3	-3.9
KHZ	**Kahutara**	**6.11**	**219**	PN	Pn	05 06 40.2	-5.3
CTZ	**Chatham Island**	**6.89**	**151**	PN	Pn	05 06 56.5	+0.4
LTZ	**Lake Taylor**	**7.03**	**223**	PN	Pn	05 06 52.4	-5.7
MQZ	**McQueen's Vall**	**7.51**	**216**	PN	Pn	05 06 58.9	-5.6
ODZ	**Otahua Downs**	**9.46**	**218**	PN	Pn	05 07 24.2	-7.2

NIED ***08*** *05:44:00, 24°.20N×125°.20E, h38^{km}, Mw4.8 Best double couple: M₀1.89000×10¹⁶ NP1:φ$_s$51.00000°, δ75.00000°, λ78.00000°. NP2:φ$_s$271.00000°, δ19.00000°, λ128.00000°.*
BJI ***08*** *05:44:08.6, 24°.08N×125°.39E, h14^{km}, mB4.9/35, mb4.6/44, Ms4.6/41, Ms7 4.4/40*
IDC ***08*** *05:44:09.5±0.5, 24°.29N×125°.23E, h0^{km}, mb4.5/21, mb1 4.6/23, mb1mx4.6/28, mbtmp4.5/23, ML4.1/2, MS4.1/23, Ms1 4.2/23, ms1mx3.9/42, Error ellipse: s-maj=18.4km s-min=12.3km az=82.0*
DJA ***08*** *05:44:10.1±0.5, 25°.N±7°.×12°.6E±°., h15^{km}, M5.2/12, mB5.9/3, mb5.1/12, MLv5.2/1, Mw(mB)5.5/3*
NEIC ***08*** *05:44:12.9±2.4, 24°.24N×125°.20E, h18^{km}±14^{km}, mb4.8/31, MW4.8(NIED), Error ellipse: s-maj=7.5km s-min=5.5km az=149.0*
NEIC Recorded [1 JMA] on Ishigaki-jima, Miyako-jima and Tarama-jima.
MOS ***08*** *05:44:13.1±1.1, 24°.31N×125°.28E, h33^{km}, mb5.0/46, MS4.5/7, Error ellipse: s-maj=9.6km s-min=5.1km az=115.4*
ISCJB ***08*** *05:44:13.8±0.4, 24°.26N±0°.03×125°.24E±0°.02, h38^{km}±3^{km}, mb4.8/104, MS4.3/47, Error ellipse: s-maj=5.0km s-min=3.3km az=150.0*
TEH ***08*** *05:44:14.0, 24°.32N×125°.16E, h22^{km}, ML4.7*
JMA ***08*** *05:44:14.5±0.2, 24°.21N×125°.19E, h22^{km}, M5.0*
JMA Felt I J1.
BKK ***08*** *05:44:15.5±0.7, 25°.N±7°.×12°.6E±1°.0, h10^{km}, M5.0/10, mb4.8/10, MLv5.1/1*

ISC 08 05:44:13.8±0.5, 24°.28N±0°.04×125°.25E±0°.03, h24^{km}±2^{km}, h24^{km}:pP-P, n293, σ1^{s}57/314, mb4.8/104, MS4.3/47, 10C-3D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.50**	**16**	P	**Pn**	**05 44 25.8**	**+0.3**
JOGS				S	**Sn**	**05 44 34.5**	**+1.1**
JMJ	**Miyako jima 2**	**0.54**	**4**	P	**Pn**	**05 44 26.2**	**+0.2**
JMJ				S	**Sn**	**05 44 34.7**	**+0.4**
JTJ	**Tarama**	**0.62**	**306**	P	**Pn**	**05 44 26.5**	**-0.5**
JTJ				S	**Sb**	**05 44 33.8**	**-0.4**
JIJ	**Ishigaki jima**	**1.01**	**275**	P	**Pb**	**05 44 32.5**	**-0.1**
JIJ				S	**Sb**	**05 44 45.7**	**+0.1**
JKRS	**Kuro-shima**	**1.13**	**268**	P	**Pn**	**05 44 34.5**	**+0.4**
JKRS				S	**Sn**	**05 44 49.2**	**+0.3**
HATJ	**Hateruma jima**	**1.34**	**261**	P	**Pn**	**05 44 36.8**	**-0.1**
HATJ				S	**Sn**	**05 44 53.0**	**-1.0**
IRIF	**Iriomote-Funau**	**1.39**	**273**	P

CN2			*es*P	**sP**	**05 48 48.0**	**-0.6**
CN2			*e*S	**S**	**05 52 12.6**	**-4.9**
CN2			pmax	pmax		
	comp=Z,20nm,0.7s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,600nm,15.0s					
CN2			LR	LR		
	comp=E,400nm,15.0s					
CN2			LR	LR		
	comp=Z,500nm,16.0s					
HHC	**Hu-ho-hao-te**	**20.11 329**	*e*P	**P**	**05 48 46.4**	**+0.5**
HHC			PP	**PnPn**	**05 49 06.1**	**+3.6**
HHC			S	**S**	**05 52 26.0**	**-4.8**
HHC			SS	**SnSn**	**05 52 54.5**	**+6.3**
HHC			PcP	**PcP**	**05 53 00.6**	**0.0**
HHC			ScP	**ScP**	**05 56 34.9**	**-0.6**
HHC			PcS	**PcS**	**05 56 37.2**	**-1.0**
HHC			pmax	pmax		
	comp=Z,72nm,0.8s					
HHC			pmax	pmax		
	comp=Z,570nm,5.3s					
HHC			LR	LR		
	comp=N,2μm,12.3s					
HHC			LR	LR		
	comp=E,1μm,12.1s					
HHC			LR	LR		
	comp=Z,3μm,12.8s					
CD2	**Chengdu**	**20.15 294**	*e*P	Pn	05 48 47.8	-0.5
CD2			pP	pP	05 48 53.2	+0.2
CD2			sP	sP	05 48 56.5	+0.4
CD2			PP	**PnPn**	**05 49 07.8**	**+4.8**
CD2			S	**S**	**05 52 27.8**	**-3.8**
CD2			sS	Sn	05 52 35.6	+1.1
CD2			SS	**SnSn**	**05 52 56.2**	**+7.2**
CD2			pmax	pmax		
	comp=Z,50nm,1.2s					
CD2			pmax	pmax		
	comp=Z,130nm,4.6s					
CD2			LR	LR		
	comp=N,940nm,12.0s					
CD2			LR	LR		
	comp=E,2μm,13.2s					
CD2			LR	LR		
	comp=Z,1μm,14.3s					
KMI	**Kunming**	**20.47 277**	P	Pn	05 48 51.6	-0.8
KMI			pP	pP	05 48 56.0	-0.7
KMI			sP	sP	05 48 58.2	-1.6
KMI			S	**S**	**05 52 33.9**	**-4.5**
KMI			SS	**SnSn**	**05 53 02.6**	**+5.4**
KMI			pmax	pmax		
	comp=Z,22nm,1.1s					
KMI			pmax	pmax		
	comp=Z,310nm,3.7s					
KMI			LR	LR		
	comp=N,920nm,17.3s					
KMI			LR	LR		
	comp=E,1μm,13.7s					
KMI			LR	LR		
	comp=Z,1μm,13.2s					
MDJ	**Mudanjiang**	**20.60 9**	P	Pn	05 48 52.8	-0.6
MDJ			pP	pP	05 48 55.6	-2.1
MDJ			sP	sP	05 48 57.1	-3.7
MDJ			S	Sn	05 52 42.8	-2.3
MDJ			sS	sS	05 52 49.0	-1.8
MDJ			PcP	**PcP**	**05 53 02.5**	**+1.2**
MDJ			ScP	**ScP**	**05 56 39.9**	**+3.5**
MDJ			ScS	**ScS**	**06 00 22.3**	**+2.9**
MDJ			pmax	pmax		
	comp=Z,170nm,4.9s					
MDJ			LR	LR		
	comp=N,430nm,22.8s					
MDJ			LR	LR		
	comp=E,280nm,17.1s					
MDJ			LR	LR		
	comp=Z,560nm,20.9s					
USRK	**Ussuriysk Arra**	**20.63 14**	P	**P**	**05 48 50.2**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=196,slow=10,SNR=9.8					
USRK			LR	LR	05 56 51.1	
	comp=Z,383nm,19.8s,baz=189,slow=37					
LZH	**Lanzhou**	**21.88 308**	*e*P	**P**	**05 49 05.7**	**+0.6**
LZH			pP	**pP**	**05 49 11.7**	**-0.1**
LZH			pmax	pmax		
	comp=Z,29nm,1.0s					
LZH			pmax	pmax		
	comp=Z,490nm,5.0s					
LZH			LR	LR		
	comp=N,790nm,12.0s					
LZH			LR	LR		
	comp=E,2μm,17.2s					
LZH			LR	LR		
	comp=Z,2μm,16.2s					
ERM	**Erimo**	**23.11 36***c*	*i*P	**P**	**05 49 16.5**	**-1.4**
ERM			pmax	pmax		
	comp=Z,13nm,0.7s					
ERM	**Erimo**	**23.11 36**	*e*P	**P**	**05 49 16.4**	**-1.4**
	comp=Z,15nm,0.7s					
LOEI	**Loei**	**23.38 258**	P	P	05 49 29.2	+8.4
	comp=Z,35nm,2.3s					
TNTI	**Ternate**	**23.45 175**	P	**P**	**05 49 22.3**	**+0.8**
	comp=Z,119nm,1.4s					
GTOI	**Gorontalo**	**23.60 186**	P	**P**	**05 49 20.6**	**-2.3**
	comp=Z,75nm,1.0s					
MRSI	**Marisa**	**23.87 188**	P	**P**	**05 49 24.9**	**-0.7**
	comp=Z,66nm,1.4s,comp=Z,880nm					
ASAJ	**Asahikawa**	**24.35 31**	*e*P	**P**	**05 49 29.5**	**-0.3**
ASAJ	**Asahikawa**	**24.35 31**	P	**P**	**05 49 29.1**	**-0.7**
	comp=Z,4.6nm,0.6s,baz=220,slow=12,SNR=8.1					
ASAJ			LR	LR	06 00 00.2	
	comp=Z,531nm,19.7s,baz=353,slow=39					
LAMP	**Lampang**	**24.51 261**	P	P	05 49 42.5	+11
	comp=Z,13nm,0.9s					
CMAI	**Chiengmai2**	**24.64 265**	P	P	05 49 43.6	+11
	comp=Z,38nm,1.1s					
CMMT	**Chiang Mai**	**25.04 263**	P	P	05 49 46.2	+10
	comp=Z,28nm,1.4s					
CHTO	**Chiang Mai**	**25.04 263**	*e*P	**P**	**05 49 36.5**	**+0.2**
CHTO			pmax	pmax		
	comp=Z,21nm,0.8s					
CHTO	**Chiang Mai**	**25.04 263**	*e*P	**P**	**05 49 36.5**	**+0.2**
	comp=Z,20nm,0.8s					
CHTO	**Chiang Mai**	**25.04 263**	P	P	05 49 42.6	+6.3
	comp=Z,31nm,1.0s					
CHTO	**Chiang Mai**	**25.04 263**	P	P	05 49 46.7	+10
	comp=Z,31nm,1.0s					
CMAR	**Chiang Mai Arr**	**25.15 262**	P	**P**	**05 49 37.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**25.15 262**	P	**P**	**05 49 37.9**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=56,slow=9.0,SNR=8.8					
CMAR			LR	LR	06 01 08.9	
	comp=Z,344nm,18.3s,baz=249,slow=41					
HIA	**Hailar**	**25.32 352**	*e*P	**P**	**05 49 37.2**	**-1.3**
	comp=Z,49nm,1.4s					
HABR	**Khabarovsk**	**25.36 15**	*e*P	**P**	**05 49 36.1**	**-2.8**
HABR			*e**PP	**pP**	**05 49 45.6**	**-0.4**
HABR			PPP	PPP	05 50 20.2	
HABR			*e*		05 53 08.4	
HABR			*e*S	**S**	**05 54 00.9**	**-2.9**
HABR			*e**SS	**sS**	**05 54 17.3**	**+1.7**
HABR			*e*SSS	SSS	05 55 08.9	
HABR			*e*		06 00 33.6	
HABR			pmax	pmax		
	comp=E,12nm,1.1s					
HABR			pmax	pmax		
	comp=Z,16nm,1.7s					
HABR			pmax	pmax		
	comp=N,19nm,1.7s					
HABR			MLR	MLR		
	comp=Z,292nm,19.0s					
YUK	**Yuzh-Kuril'sk**	**25.94 35***d*	*i*P	**P**	**05 49 41.4**	**-2.7**
YUK			*i* S	**S**	**05 54 10.0**	**-3.0**
YUK			pmax	pmax		
	comp=Z,232nm,1.0s					
YUK			pmax	pmax		
	comp=Z,166nm,1.0s					
YUK			pmax	pmax		
	comp=E,104nm,1.0s					
YUK			pmax	pmax		
	comp=N,53nm,1.0s					
YUK			MLR	MLR		
	comp=E,379nm,21.0s					
YUK			MLR	MLR		
	comp=Z,224nm,21.0s					
GTA	**Gaotai**	**26.23 311**	⇑P	**P**	**05 49 45.9**	**-1.2**
GTA			pP	**pP**	**05 49 51.5**	**-2.7**
GTA			sP	**sP**	**05 49 54.7**	**-2.5**
GTA			S	**S**	**05 54 15.2**	**-3.0**
GTA			sS	sS	05 54 24.5	-5.5
GTA			SS	**SnSn**	**05 55 23.2**	**+5.0**
GTA			pmax	pmax		
	comp=Z,19nm,1.3s					
GTA			pmax	pmax		
	comp=Z,220nm,5.2s					
GTA			LR	LR		
	comp=N,500nm,16.1s					
GTA			LR	LR		
	comp=E,700nm,14.7s					
GTA			LR	LR		
	comp=Z,840nm,16.2s					
YSS	**Yuzh-Sakhalins**	**26.61 27**	*e*P	**P**	**05 49 51.0**	**+0.8**
YSS			*e*S	**S**	**05 54 23.0**	**-0.6**
YSS			MLR	MLR		
	comp=Z,400nm,15.0s					
YSS			MLR	MLR		
	comp=N,400nm,16.0s					
KSM	**Kuching**	**26.89 215**	P	P	05 49 58.0	+5.0
	comp=N,21nm,1.4s					
SKSI	**Soroako, Sulaw**	**26.91 189**	P	**P**	**05 49 55.8**	**+2.5**
	comp=N,24nm,1.4s					
MMSI	**Mamuju**	**27.50 194**	P	**P**	**05 50 02.0**	**+3.5**
	comp=N,57nm,1.5s					
ULN	**Ulaanbaatar**	**27.62 333**	*e*P	**P**	**05 49 58.4**	**-1.2**
	comp=N,11nm,1.2s					
ULN	**Ulaanbaatar**	**27.62 333**	P	**P**	**05 49 58.3**	**-1.2**
	comp=N,8.4nm,0.8s					
SONM	**Songino Array**	**27.87 332**	P	**P**	**05 50 00.3**	**-1.4**
SONM	**Songino Array**	**27.87 332**	P	**P**	**05 50 00.3**	**-1.4**
	comp=N,1.7nm,0.3s,baz=151,slow=12,SNR=24					
SONM			LR	LR	06 02 36.9	
	comp=N,886nm,19.7s,baz=133,slow=40					
KAPI	**Kappang**	**29.60 191**	LR	LR	06 01 49.1	
	comp=N,261nm,20.8s,baz=317,slow=36					
SHL	**Shillong**	**30.24 280**	*e*P	**P**	**05 50 26.0**	**+2.9**
JAY	**Jayapura**	**30.58 148**	P	P	05 50 19.9	-6.0
	comp=N,100nm,0.5s,comp=N,19μm					
TLY	**Talaya**	**31.98 334**	*e*P	**P**	**05 50 38.8**	**+0.9**
TLY			*e*		05 51 54.0	
TLY			*e*S	S	05 55 55.4	+7.4
TLY			pmax	pmax		
	comp=Z,8.0nm,1.1s					
TLY			MLR	MLR		
	comp=Z,638nm,14.0s					
MOY	**Mondy**	**33.06 332**	*e*P	**P**	**05 50 46.1**	**-1.4**
TAPN	**Taplejung**	**33.85 283**	*e*P	**P**	**05 50 54.9**	**0.0**
	comp=Z,54nm,0.9s					
ODAN	**Odare**	**34.17 283**	*e*P	**P**	**05 50 57.9**	**+0.3**
	comp=Z,94nm,1.0s					
RAMN	**Ramite**	**34.87 283**	*e*P	**P**	**05 51 04.1**	**+0.5**
JIRN	**Jiri**	**35.18 284**	*e*P	**P**	**05 51 06.9**	**+0.4**
	comp=Z,36nm,0.8s					
GUN	**Gumba**	**35.44 285**	*e*P	**P**	**05 51 09.1**	**+0.4**
	comp=Z,62nm,0.9s					
PKI	**Pulchoki**	**35.88 284**	*e*P	**P**	**05 51 12.4**	**0.0**
KKN	**Kakani**	**35.98 284**	*e*P	**P**	**05 51 13.1**	**0.0**
	comp=Z,68nm,1.0s					
DMN	**Daman**	**36.14 284**	*e*P	**P**	**05 51 14.7**	**+0.1**
	comp=Z,30nm,0.8s					
WMQ	**Urumqi**	**36.31 312**	P	**P**	**05 51 15.3**	**-0.4**
WMQ			PP	**PnPn**	**05 52 37.5**	**-0.4**
WMQ			S	**S**	**05 56 54.2**	**-1.0**
WMQ			sS	**sS**	**05 57 04.8**	**-2.4**
WMQ			PcS	**PcS**	**05 57 27.6**	**-0.2**
WMQ			SS	**SnSn**	**05 59 18.7**	**-4.4**
WMQ			ScS	**ScS**	**06 01 28.7**	**-2.5**
WMQ			pmax	pmax		
	comp=Z,11nm,1.0s					
WMQ			pmax	pmax		
	comp=Z,130nm,5.0s					
WMQ			LR	LR		
	comp=N,160nm,17.0s					
WMQ			LR	LR		
	comp=E,300nm,23.0s					
WMQ			LR	LR		
	comp=Z,300nm,19.0s					
DANN	**Dangsing**	**37.28 285**	*e*P	**P**	**05 51 24.7**	**+0.3**
	comp=Z,61nm,0.6s					
KOLN	**Koldanda**	**37.46 284**	*e*P	**P**	**05 51 26.1**	**+0.3**
	comp=Z,35nm,0.8s					
PETK	**Petropavlovsk-**	**37.77 32**	P	**P**	**05 51 26.8**	**-1.0**
PETK	**Petropavlovsk-**	**37.77 32**	P	**P**	**05 51 26.8**	**-1.0**
PETK	**Petropavlovsk-**	**37.77 32**	P	**P**	**05 51 26.8**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=204,slow=4.7,SNR=5.1					
PETK			LR	LR	06 07 37.2	
	comp=Z,196nm,19.8s,baz=110,slow=37					
YAK	**Yakutsk**	**37.86 3**	*e*P	**P**	**05 51 27.0**	**-1.4**
PYUN	**Piuthan**	**37.98 285**	*e*P	**P**	**05 51 30.7**	**+0.6**
	comp=Z,111nm,0.9s					
MK31	**Makanchi Array**	**40.89 314**	*e*P	**P**	**05 51 53.2**	**-0.8**
MK31	**Makanchi Array**	**40.89 314**	*e*P	**P**	**05 51 53.2**	**-0.8**
MKAR	**Makanchi Array**	**40.89 314**	*i* P	**P**	**05 51 53.5**	**-0.5**
MKAR			pmax	pmax		
	comp=Z,12nm,0.4s					
MKAR	**Makanchi Array**	**40.89 314**	*e*P	**P**	**05 51 53.4**	**-0.5**
MKAR	**Makanchi Array**	**40.89 314**	P	**P**	**05 51 53.2**	**-0.9**
	comp=Z,11nm,0.4s,baz=102,slow=8.3,SNR=134					
MKAR			LR	LR	06 10 14.5	
	comp=Z,379nm,20.0s,baz=112,slow=38					
FITZ	**Fitzroy Crossi**	**42.12 179**	P	**P**	**05 52 02.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**42.12 179**	P	**P**	**05 52 02.7**	**-1.6**
	comp=Z,4.5nm,0.7s,baz=13,slow=7.8,SNR=18					
ZAA0	**Zalesovo Array**	**42.24 325**	*e*P	**P**	**05 52 03.3**	**-1.6**
ZALV	**Zalesovo Beam**	**42.24 325**	*i* P	**P**	**05 52 03.2**	**-1.6**
ZALV			pmax	pmax		
	comp=Z,7.0nm,0.4s					
ZALV	**Zalesovo Beam**	**42.24 325**	P	**P**	**05 52 03.3**	**-1.6**
ZALV	**Zalesovo Beam**	**42.24 325**	P	**P**	**05 52 03.3**	**-1.6**
	comp=Z,6.5nm,0.4s,baz=112,slow=8.8,SNR=33					
ZALV			LR	LR	06 11 05.0	
	comp=Z,477nm,18.1s,baz=249,slow=38					
NDI	**New Delhi**	**42.99 287**	*e*P	P	05 52 01.5	-10
NVS	**Novosibirsk**	**43.47 326**	*e*P	**P**	**05 52 12.4**	**-2.4**
NVS			pmax	pmax		
	comp=N,5.0nm,1.4s					
NVS			pmax	pmax		
	comp=E,9.0nm,1.4s					
NVS			pmax	pmax		
	comp=Z,11nm,1.4s					
KSH	**Kashi**	**43.97 302**	P	P	05 52 22.4	+3.1
KSH			sP	sP	05 52 31.5	+1.9
KSH			PP	**PcP**	**05 54 07.4**	**+2.5**
KSH			S	**S**	**05 58 53.9**	**+4.0**
KSH			sS	sS	05 59 04.1	+2.0
KSH			SS	**SS**	**06 02 04.1**	**-2.9**
KSH			pmax	pmax		
	comp=Z,12nm,1.1s					
KSH			LR	LR		
	comp=N,350nm,16.6s					
KSH			LR	LR		
	comp=E,270nm,12.4s					
KSH			LR	LR		
	comp=Z,240nm,17.5s					
ULHL	**Ulahol**	**44.08 306**	*i* P	**P**	**05 52 21.1**	**+0.9**
ULHL	**Ulahol**	**44.08 306**	P	**P**	**05 52 21.1**	**+0.9**
	SNR=14					
TKM2	**Tokmak 2**	**44.65 307**	*e*P	**P**	**05 52 25.2**	**+0.4**
TKM2			pmax	pmax		
	comp=Z,18nm,0.6s					
TKM2	**Tokmak 2**	**44.65 307**	P	**P**	**05 52 25.2**	**+0.4**
	SNR=29					
TKM2	**Tokmak 2**	**44.65 307**	*e*P	**P**	**05 52 25.2**	**+0.4**
	comp=Z,18nm,0.6s					
KZA	**Kyzart**	**44.79 306**	*i* P	**P**	**05 52 27.3**	**+1.1**
KZA	**Kyzart**	**44.79 306**	P	**P**	**05 52 27.3**	**+1.1**
	SNR=16					
WRAB	**Tennant Creek**	**44.83 168**	*e*P	**P**	**05 52 25.4**	**-0.7**
WRAB			pmax	pmax		
	comp=Z,21nm,0.9s					
WRAB	**Tennant Creek**	**44.83 168**	*e*P	**P**	**05 52 25.4**	**-0.7**
	comp=Z,21nm,0.9s					
WRA	**Warramunga Arr**	**44.83 168**	P	**P**	**05 52 25.4**	**-0.7**
WRA	**Warramunga Arr**	**44.83 168**	P	**P**	**05 52 25.4**	**-0.7**
	comp=Z,10nm,0.4s,baz=348,slow=8.8,SNR=179					
WRA			LR	LR	06 12 03.3	
	comp=Z,115nm,19.7s,baz=10.0,slow=37					
CHMS	**Chumysh**	**45.27 307**	*i* P	**P**	**05 52 29.5**	**0.0**
CHMS	**Chumysh**	**45.27 307**	P	**P**	**05 52 29.5**	**0.0**
	SNR=9.0					
UCH	**Uchtor**	**45.35 306**	*i* P	**P**	**05 52 31.5**	**+0.9**
UCH	**Uchtor**	**45.35 306**	P	**P**	**05 52 31.5**	**+0.9**
	SNR=6.2					
AAK	**Ala-Archa**	**45.41 307***c*	*i*P	**P**	**05 52 31.3**	**+0.5**
AAK			pmax	pmax		
	comp=Z,17nm,1.0s					
AAK	**Ala-Archa**	**45.41 307**	*e*P	**P**	**05 52 30.9**	**+0.1**
	comp=Z,6.8nm,0.7s					
USP	**Ospenovka**	**45.49 308**	*i* P	**P**	**05 52 31.0**	**-0.3**
USP	**Ospenovka**	**45.49 308**	P	**P**	**05 52 31.0**	**-0.3**
	SNR=8.6					
EKS2	**Erkin-Say**	**45.94 307**	*e*P	**P**	**05 52 35.5**	**+0.6**
EKS2	**Erkin-Say**	**45.94 307**	P	**P**	**05 52 35.6**	**+0.6**
	SNR=7.8					
EKS2	**Erkin-Say**	**45.94 307**	*e*P	**P**	**05 52 35.5**	**+0.6**
AML	**Almayashu**	**45.95 306**	*i* P	**P**	**05 52 36.2**	**+0.9**
AML	**Almayashu**	**45.95 306**	P	**P**	**05 52 36.2**	**+0.9**
	SNR=19					
TIXI	**Tiksi**	**47.45 2**	*i* P	**P**	**05 52 45.8**	**-0.3**
TIXI			MLR	MLR		
	comp=Z,834nm,23.0s					
KK31	**Karatay Array**	**48.38 307**	*i* P	**P**	**05 52 53.3**	**-0.5**
KK31			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KKAR	**Karatay Array**	**48.38 307**	*e*P	**P**	**05 52 54.3**	**+0.5**
KKAR	**Karatay Array**	**48.38 307**	*e*P	**P**	**05 52 54.3**	**+0.5**
AS31	**Alice Springs**	**48.39 169**	*e*P	**P**	**05 52 53.8**	**-0.2**
ASAR	**Alice Springs**	**48.39 169**	P	**P**	**05 52 53.4**	**-0.6**
ASAR	**Alice Springs**	**48.39 169**	P	**P**	**05 52 53.4**	**-0.6**
	comp=Z,5.2nm,0.5s,baz=354,slow=7.5,SNR=127					
ASAR			LR	LR	06 15 21.1	
	comp=Z,109nm,19.0s,baz=351,slow=39					
KBL	**Kabul**	**49.48 296**	*e*P	**P**	**05 53 03.3**	**+0.7**
KBL			pmax	pmax		
	comp=Z,22nm,0.8s					
KBL	**Kabul**	**49.48 296**	*e*P	**P**	**05 53 03.3**	**+0.7**
	comp=Z,22nm,0.8s					
VOSK	**Vostochnaya**	**49.56 320**	P	**P**	**05 53 01.6**	**-1.1**
VOSK			pmax	pmax		
	comp=Z,4.0nm,0.4s					
BVA0	**Borovoye Array**	**49.98 320**	*i* P	**P**	**05 53 05.1**	**-0.7**
BVA0			pmax	pmax		
	comp=Z,5.0nm,0.3s					
BVAR	**Borovoye Array**	**49.98 320**	LR	LR	06 17 38.6	
	comp=Z,226nm,18.7s,baz=83,slow=40					
BRVK	**Borovoye**	**50.05 320**	P	**P**	**05 53 06.0**	**-0.3**
BRVK			pmax	pmax		
	comp=Z,7.0nm,0.4s					
BRVK	**Borovoye**	**50.05 320**	*e*P	**P**	**05 53 05.7**	**-0.7**
	comp=Z,79nm,2.0s					
AB31	**Akbulak array**	**56.04 314**	*i* P	**P**	**05 53 50.4**	**-0.2**
AB31			pmax	pmax		
	comp=Z,15nm,0.3s					
ABKAR	**Akbulak array**	**56.04 314**	*e*P	**P**	**05 53 50.6**	**+0.1**
SVE	**Sverdlovsk**	**56.18 323**⇑	*e*P	**P**	**05 53 51.5**	**+0.1**
SVE			pmax	pmax		
	comp=Z,30nm,1.2s					
SVE			MLR	MLR		
	comp=Z,857nm,19.0s					
IMYA	**Miami**	**56.57 299**	*e*P	**P**	**05 53 55.8**	**+1.0**
IMOG	**Moghan**	**57.21 298**	*e*P	**P**	**05 53 59.4**	**-0.1**
ARU	**Arti**	**57.28 323***c*	*i*P	**P**	**05 53 58.5**	**-0.7**
ARU					05 54 49.2	
ARU					05 56 03.0	
ARU			S	**S**	**06 01 53.4**	**-0.4**
ARU			pmax	pmax		
	comp=Z,20nm,1.0s					
ARU			MLR	MLR		
	comp=Z,363nm,21.0s					
AKTO	**Aktyubinsk**	**57.31 316**	P	**P**	**05 53 58.4**	**-1.2**
AKTO			pmax	pmax		
	comp=Z,10.0nm,0.9s					
AKTO	**Aktyubinsk**	**57.31 316**	LR	LR	06 20 36.1	
	comp=Z,324nm,18.6s,baz=94,slow=38					
IPAY	**Payeh**	**57.44 299**	*e*P	**P**	**05 54 01.7**	**+0.6**
IEMG	**Emamgholi**	**57.59 300**	*e*P	**P**	**05 54 03.5**	**+1.3**
IAKL	**Akhelmad**	**57.61 299**	*e*P	**P**	**05 54 01.1**	**-1.2**
IKRD	**Kardeh**	**57.78 299**	*e*P	P	05 53 59.0	-4.5
STKA	**Stephens Creek**	**57.98 164**	*e*P	**P**	**05 54 04.1**	**-0.4**
	comp=Z,1.3nm,0.7s					
STKA	**Stephens Creek**	**57.98 164**	P	**P**	**05 54 04.3**	**-0.1**
	comp=Z,5.4nm,0.7s,baz=353,slow=8.5,SNR=11					
STKA			LR	LR	06 16 34.3	
	comp=Z,131nm,19.9s,baz=23,slow=34					
ISFR	**Sfrayin**	**58.15 300**	*e*P	**P**	**05 54 07.1**	**+1.0**
ISHV	**Shirvan**	**58.32 300**	*e*P	P	05 54 16.5	+9.3
SOKR	**Solikamsk**	**58.50 326**	*e*P	**P**	**05 54 07.2**	**-0.5**
SOKR			pmax	pmax		
	comp=Z,10.0nm,0.9s					
SOKR			MLR	MLR		
	comp=Z,460nm,16.0s					
DZM	**Mont Dzumac**	**61.04 136**	*e*S	S	06 02 38.1	-5.3
	comp=Z,102nm,25.4s					
DZM			*e*LR	LR	06 12 30.5	
	comp=Z,437nm,25.3s					
IBAF	**Bafgh**	**61.08 294**	*e*P	**P**	**05 54 25.2**	**-1.1**
IANJ	**Anjillo**	**61.67 299**	*e*P	**P**	**05 54 28.6**	**-1.7**
IMEH	**Mehriz**	**61.92 294**	*e*P	P	05 54 39.9	+7.9
ISAD	**Sadrabad**	**62.58 295**	*e*P	**P**	**05 54 35.8**	**-0.7**
ISAD			*e*P	pP	05 54 36.9	-7.2
IKLH	**Kolahrood**	**64.00 297**	*e*P	**P**	**05 54 45.4**	**-0.4**
IM04	**Indian Mountai**	**64.43 27**	*e*P	**P**	**05 54 50.5**	**+2.7**
PPLA	**Purkeypile**	**65.32 30**	*e*P	P	05 54 57.1	+3.3
	comp=Z,4.2nm,0.6s					
COLD	**Coldfoot**	**65.77 25**	*e*P	P	05 54 59.9	+3.5
MCK	**McKinley**	**66.69 29**	*e*P	**P**	**05 55 03.3**	**+0.9**
MCK			pmax	pmax		
	comp=Z,3.0nm,0.6s					
MCK	**McKinley**	**66.69 29**	*e*P	**P**	**05 55 03.3**	**+0.9**
	comp=Z,3.0nm,0.6s					
COLA	**College**	**67.00 28**	*e*P	**P**	**05 55 05.2**	**+0.9**
COLA			pmax	pmax		
	comp=Z,10.0nm,0.5s					
COLA	**College**	**67.00 28**	*e*P	**P**	**05 55 05.2**	**+0.9**
	comp=Z,10.0nm,0.5s					
TMCR	**Tamitsa**	**67.24 332**	*e*P	**P**	**05 55 05.2**	**-0.6**
TMCR			*e*		05 55 32.8	
TMCR			pmax	pmax		
	comp=Z,24nm,0.4s					
ILAR	**Eielson Array**	**67.42 28**	P	**P**	**05 55 06.5**	**-0.5**
ILAR	**Eielson Array**	**67.42 28**	P	**P**	**05 55 06.5**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=252,slow=4.9,SNR=28					
ILAR			LR	LR	06 27 47.8	
	comp=Z,72nm,18.1s,baz=308,slow=39					
VRHR	**Novokhopersk**	**67.59 317**	*e*P	**P**	**05 55 07.2**	**-1.1**
VRHR			pmax	pmax		
	comp=Z,30nm,0.7s					
VRHR			pmax	pmax		
	comp=N,6.0nm,0.5s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.6s					
GNI	**Garni**	**67.79 305**	LR	LR	06 28 27.6	
	comp=E,98nm,21.0s,baz=88,slow=39					
ZEI	**Tsey**	**67.81 308**	*e*P	**P**	**05 55 10.5**	**+0.3**
ZEI			pmax	pmax		
	comp=Z,38nm,1.4s					
UMR	**Umm Al-Rimmam**	**68.14 294**	*e*P	**P**	**05 55 11.1**	**-1.1**
UMR			AMb	AMB	05 55 13.0	
	comp=Z,29nm,0.8s					
KBZ	**Khabaz**	**68.31 309**	P	**P**	**05 55 12.7**	**-0.2**
KBZ	**Khabaz**	**68.31 309**	P	**P**	**05 55 12.7**	**-0.2**
KBZ	**Khabaz**	**68.31 309**	P	**P**	**05 55 12.7**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=88,slow=6.0,SNR=5.4					
KBZ			LR	LR	06 30 09.8	
	comp=Z,225nm,18.3s,baz=265,slow=40					
PAX	**Paxson**	**68.35 29**	*e*P	**P**	**05 55 13.9**	**+0.9**
PAX			pmax	pmax		
	comp=Z,4.0nm,0.9s					
PAX	**Paxson**	**68.35 29**	*e*P	**P**	**05 55 13.9**	**+0.9**
	comp=Z,3.7nm,0.9s					
KIV	**Kislovodsk**	**68.40 310***c*	*i*P	**P**	**05 55 13.8**	**+0.1**
KIV			*i*		05 55 23.3	
KIV			pmax	pmax		
	comp=Z,18nm,1.3s					
KIV			MLR	MLR		
	comp=Z,100nm,18.0s					
RDF	**Al-Radifah**	**68.46 293**	*e*P	**P**	**05 55 13.7**	**-0.5**
RDF			AMb	AMB	05 55 14.4	
	comp=Z,28nm,0.7s					
APA	**Apatity**	**68.52 336**⇑	*e*P	P	05 55 05.6	-8.2
APA			MLR	MLR		
	comp=Z,300nm,18.0s					
NAY	**Al-Naaiem**	**68.63 293**	*e*P	**P**	**05

VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,110nm,0.7s
VORD pmax pmax
comp=E,40nm,0.8s
VSR Storozhevoye 69.08 318 *e*P **P 05 55 17.0 -0.6**
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,4.0nm,0.8s
BMRM Bremner River 69.16 31 *e*P **P 05 55 20.7 +2.7**
comp=N,3.9nm,0.6s
OBN Obninsk 69.72 322 ⇓*i*P **P 05 55 19.5 -2.0**
OBN *i* 05 55 29.4
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,200nm,23.0s
EGAK Eagle 69.82 27 *e*P **P 05 55 22.8 +0.8**
comp=Z,4.6nm,0.6s
KEV Kevo 70.26 339 *e*P **P 05 55 24.0 -0.6**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 70.26 339 *e*p **P 05 55 24.0 -0.6**
comp=Z,1.5nm,0.4s
DAWY Dawson 70.75 28 *e*P **P 05 55 28.9 +1.1**
ARCES ARCESS Array B 70.83 338 P **P 05 55 27.0 -1.1**
ARCES ARCESS Array B 70.83 338 P **P 05 55 27.0 -1.1**
comp=Z,2.8nm,0.8s,baz=69,slow=6.3,SNR=20
ARCES LR LR 06 31 23.3
comp=Z,259nm,19.7s,baz=81,slow=40
ARE0 ARCESS Array S 70.83 338 *e*P **P 05 55 26.4 -1.7**
INK Inuvik 71.73 23 *e*P **P 05 55 35.9 +2.4**
comp=Z,14nm,1.0s
ANN Anapa 71.83 312 *e*P P 05 55 43.0 +8.5
ANN pmax pmax
comp=Z,21nm,0.9s
RAYN Ar Rayn 71.86 288 *e*P **P 05 55 35.2 0.0**
comp=Z,5.2nm,1.0s
KAF Kangasniemi 72.89 331 *e*P **P 05 55 39.9 -0.7**
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 72.89 331 *e*p **P 05 55 39.9 -0.7**
comp=Z,7.7nm,0.6s
FIA1 FINESS Array S 73.22 330 *e*P **P 05 55 41.8 -0.8**
FINES FINESS Array B 73.22 330 P **P 05 55 42.1 -0.5**
FINES FINESS Array B 73.22 330 P **P 05 55 42.1 -0.5**
comp=Z,11nm,0.5s,baz=64,slow=6.0,SNR=128
FINES LR LR 06 31 32.0
comp=Z,608nm,18.1s,baz=63,slow=39
VSU Vasula 73.93 327*c i*P **P 05 55 46.7 0.0**
VSU pmax pmax
comp=Z,41nm,1.0s
SIM Simferopol' 74.04 312*d i*P P 05 55 56.9 +9.3
SIM pmax pmax
comp=Z,19nm,0.8s
SIM MLR MLR
comp=Z,50nm,15.8s
AKASG Malin Array Be 75.25 319 P **P 05 55 53.9 -0.7**
AKASG Malin Array Be 75.25 319 P **P 05 55 53.9 -0.7**
AKASG Malin Array Be 75.25 319 P **P 05 55 53.9 -0.7**
comp=Z,3.7nm,0.5s,baz=56,slow=7.3,SNR=26
BR131 Keskin Array S 76.09 307 *e*P **P 05 55 59.9 +0.1**
comp=Z,11nm,0.9s
BRTR Keskin Array B 76.09 307 P **P 05 55 59.4 -0.3**
BRTR Keskin Array B 76.09 307 P **P 05 55 59.4 -0.3**
comp=Z,2.0nm,0.6s,baz=86,slow=5.2,SNR=11
BRTR LR LR 06 33 38.0
comp=Z,47nm,18.4s,baz=200,slow=39
DAG Danmarks Havn 76.82 352 *e*P **P 05 56 02.5 -0.5**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 76.82 352 *i*P **P 05 56 02.5 -0.5**
comp=Z,4.3nm,0.8s
DLBC Dease Lake 76.95 31 *e*P **P 05 56 05.6 +1.4**
SUW Suwalki 77.44 324 *e*P **P 05 56 07.0 +0.1**
SUW Suwalki 77.44 324 *e*P **P 05 56 07.0 +0.1**
comp=Z,77nm,1.0s
SUW Suwalki 77.44 324 *e*P **P 05 56 07.5 +0.6**
SUW *e* 05 56 17.1
BUR08 Bucovina Ar. S 78.84 317 *e*P **P 05 56 14.9 -0.1**
NB2 NORSAR Subarra 79.85 333 P **P 05 56 19.5 -0.6**
comp=Z,8.9nm,0.8s,baz=53,slow=5.6
NOA NORSAR Array B 79.85 333 P **P 05 56 19.6 -0.5**
NOA NORSAR Array B 79.85 333 P **P 05 56 19.6 -0.5**
comp=Z,5.2nm,0.7s,baz=55,slow=5.5,SNR=24
NOA LR LR 06 35 47.8
comp=Z,184nm,18.1s,baz=260,slow=39
KOLS Kolonicke sedl 80.08 319 *e*P **P 05 56 22.3 +0.7**
KOLS pmax pmax
comp=Z,5.0nm,1.2s
KOLS Kolonicke sedl 80.08 319 *e*P **P 05 56 22.3 +0.7**
KOLS *e*pP **PcP 05 56 31.9 +3.0**
NAO01 NORSAR Array S 80.09 333 *e*P **P 05 56 21.3 -0.1**
comp=Z,9.0nm,1.1s
STHS Stebnicka Huta 80.48 320 *e*P **P 05 56 23.0 -0.7**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 80.48 320 *e*P **P 05 56 23.0 -0.7**
STHS *e*pP **pP 05 56 34.4 +2.8**
CRVS Cervenica-Dubn 80.58 319 *e*pP pP 05 56 35.5 +3.4
OJC Ojcow 80.96 321 *e*P **P 05 56 25.8 -0.5**
OJC Ojcow 80.96 321 *e*P **P 05 56 25.8 -0.5**
KECS Kecovo 81.34 319 *e*P **P 05 56 28.9 +0.6**
KECS pmax pmax
comp=Z,5.0nm,1.2s
KECS Kecovo 81.34 319 *e*P **P 05 56 28.9 +0.6**
KECS *e*pP **pP 05 56 38.4 +2.2**
YKA Yellowknife Ar 81.41 24 P **P 05 56 28.0 -0.4**
YKA Yellowknife Ar 81.41 24 P **P 05 56 28.0 -0.4**
comp=Z,2.4nm,0.7s,baz=317,slow=5.3,SNR=11
OKC Ostrava-Krasne 82.08 321 *e*P **P 05 56 32.4 +0.2**
OKC *e* 05 56 40.5
OKC MLR MLR
comp=Z,100nm,15.7s
OKC Ostrava-Krasne 82.08 321 *e*P **P 05 56 32.4 +0.2**
OKC *e*pP **pP 05 56 40.5 +0.5**
OKC AMS AMS 06 36 30.0
comp=Z,100nm,15.7s
VYHS Vyhne 82.31 320 *e*P **P 05 56 33.7 +0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 82.31 320 *e*P **P 05 56 33.6 +0.1**
VYHS *e*pP **pP 05 56 43.7 +2.4**
MORC Moravsky Berou 82.45 321 *e*P **P 05 56 34.3 +0.1**
MORC pmax pmax
comp=Z,13nm,1.2s
MORC Moravsky Berou 82.45 321 *e*P **P 05 56 34.3 +0.1**
comp=Z,12nm,1.2s
SUMG Summit 82.77 355 *e*P **P 05 56 36.8 +1.0**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 82.77 355 *i*P **P 05 56 36.5 +0.7**
comp=Z,4.2nm,0.8s
SUMG Summit 82.77 355 *e*P **P 05 56 36.8 +1.0**
comp=Z,14nm,1.1s
DPC Dobruska-Polom 82.86 322 *e*P **P 05 56 35.4 -0.9**
DPC *e* 05 56 47.4
DPC Dobruska-Polom 82.86 322 *e*P **P 05 56 35.4 -0.9**
DPC *ex* x 05 56 47.4
DPC AMS AMS 06 36 20.0
MUD Monsted U'grnd 83.26 330 *e*P P 05 56 48.3 +10
MUD pmax pmax
comp=Z,12nm,0.9s
MUD Monsted U'grnd 83.26 330 *i*P P 05 56 48.3 +10
comp=Z,12nm,0.9s
PVCC Panska Ves 83.74 323 AMS AMS 06 37 50.0
comp=Z,300nm,22.6s
TREC Trest 83.86 322 AMS AMS 06 36 10.0
comp=Z,300nm,17.5s
BRG Berggiesshubel 83.90 324 *e*P **P 05 56 42.9 +1.3**
comp=Z,8.2nm,1.3s
BRG Berggiesshubel 83.90 324 *e*P **P 05 56 42.9 +1.3**
BRG pmax pmax
comp=Z,8.0nm,1.3s
PRU Pruhonice 84.03 323 AMS AMS 06 37 00.0
comp=Z,300nm,22.1s
CLL Collm 84.18 324 *e*P **P 05 56 43.0 0.0**
CLL *e* 05 56 54.0
CLL pmax pmax
comp=Z,24nm,2.0s
CLL MLR MLR
comp=Z,400nm,18.3s
CLL Collm 84.18 324 *e*P **P 05 56 43.0 0.0**
comp=Z,24nm,2.0s
CLL *e*(sP) **sP 05 56 54.0 +0.3**
CLL Lm MLR 06 38 00.0
comp=N,100nm,19.4s
CLL Lm MLR 06 38 00.0
comp=E,300nm,18.3s
CLL Lm MLR 06 38 00.0
comp=Z,400nm,18.3s
KHC Kasperske Hory 85.01 322 *e*P **P 05 56 47.0 -0.3**
KHC pmax pmax
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 85.01 322 *e*P **P 05 56 46.8 -0.5**
KHC *e*pP **pP 05 56 57.0 +1.8**
KHC AMS AMS 06 37 00.0
comp=Z,200nm,19.9s
KHC Kasperske Hory 85.01 322 *e*P **P 05 56 47.0 -0.3**
comp=Z,4.8nm,1.1s
GERES GERESS Array B 85.09 322 P **P 05 56 47.4 -0.4**
GERES GERESS Array B 85.09 322 P **P 05 56 47.4 -0.4**
comp=Z,1.9nm,0.7s,baz=64,slow=6.1,SNR=17
EDM Edmonton 87.66 31 *e*P **P 05 57 01.3 +1.0**
EDM Edmonton 87.66 31 *e*P **P 05 57 01.3 +1.0**
WALA Waterton Lakes 89.99 34 *e*P **P 05 57 12.3 +0.9**
comp=Z,0.4nm,1.6s
BMO Blue Mountains 90.68 39 *e*P **P 05 57 15.6 +0.9**
BMO pmax pmax
comp=Z,6.0nm,1.8s
BMO Blue Mountains 90.68 39 *e*P **P 05 57 15.6 +0.9**
comp=Z,5.9nm,1.8s
LPG La Plagne 90.89 322 *e*P **P 05 57 15.8 -0.1**
comp=Z,23nm,1.0s
LPL La Plagne 90.89 322 *e*P **P 05 57 15.6 -0.3**
comp=Z,19nm,1.1s
BNI Bardonecchia 91.20 321 *e*P **P 05 57 17.1 -0.1**
BNI pmax pmax
comp=Z,5.0nm,0.9s
BNI Bardonecchia 91.20 321 *e*P **P 05 57 17.1 -0.1**
comp=Z,5.4nm,0.9s
SLMT Seeley Lake 91.34 36 *e*P **P 05 57 18.8 +1.0**
comp=Z,9.7nm,1.2s
SBF Sospel 91.47 320 *e*P **P 05 57 19.4 +1.0**
comp=Z,21nm,0.8s
FFC Flin Flon 91.52 25 *e*P **P 05 57 18.7 +0.5**
FFC pmax pmax
comp=Z,3.0nm,0.5s
FFC Flin Flon 91.52 25 *e*P **P 05 57 18.7 +0.5**
comp=Z,2.9nm,0.5s
ORIF Oris-en-Rattie 91.74 322 *e*P **P 05 57 21.1 +1.5**
comp=Z,5.2nm,0.6s
VIVF Saint-Julien-I 92.45 322 *e*P **P 05 57 24.0 +1.2**
comp=Z,14nm,1.1s
PPT Papeete 92.83 108 LR LR 06 32 48.5
comp=Z,68nm,21.8s,baz=322,slow=31
PPT2 Papeete2 92.84 108 *e*LR LR 06 27 11.3
comp=Z,94nm,22.8s
HLID Hailey 93.11 39 *e*P **P 05 57 26.6 +0.5**
comp=Z,1.6nm,0.7s
NVAR Mina Array Bea 93.79 45 P **P 05 57 29.9 +0.5**
NVAR Mina Array Bea 93.79 45 P **P 05 57 29.9 +0.5**
comp=Z,0.3nm,0.4s,baz=254,slow=3.4,SNR=3.8
TBI Tubuai 95.29 113 *e*LR LR 06 28 17.3
comp=Z,78nm,26.8s

*IDC **08** 06:05:30.3±1.3, 37°.13N×24°.32W, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/30, mbtmp3.6/9, Error ellipse: s-maj=34.8km s-min=25.2km az=177.0*
*CSEM **08** 06:05:35.2, 37°.06N×24°.49W, h5km, ML4.0, After PDA*
*PDA **08** 06:05:35.2±1.1, 37°.06N×24°.49W, h5km, MD4.1, ML4.0, Error ellipse: s-maj=6.0km s-min=4.9km az=71.0*
ISC 08 06:05:32.3±0.9, 37°.19N±0°.06×24°.55W±0°.06, h10km, n51, σ1§48/52, mb3.7/9, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**246**	*i*P	**Pg**	**06 05 42.6**	**+1.5**
PSMN				*e*S	**Sb**	**06 05 49.3**	**+0.2**
PSMN				A	A	06 05 50.7	
	1μm,0.2s						
BART	**Pico Bartolome**	**0.77**	**320**	*i*P	**Pg**	**06 05 49.0**	**+1.9**
BART				*e*S	**Sb**	**06 06 00.5**	**+2.1**
BART				A	A	06 06 04.0	
	2μm,0.2s						
PDA	**Ponta Delgada**	**1.05**	**303**	*i*P	**Pg**	**06 05 52.7**	**+0.3**
PDA				*e*S	**Sg**	**06 06 06.5**	**+0.4**
PDA				A	A	06 06 08.2	
	600nm,0.1s						
PSET	**Sete Cidades**	**1.13**	**305**	*i*P	**Pb**	**06 05 54.2**	**+0.3**
PSET				*e*S	**Sb**	**06 06 08.7**	**0.0**
PSET				A	A	06 06 13.1	
	1μm,0.3s						
PID	**Ribeirinha**	**3.09**	**295**	*e*P	**Pn**	**06 06 21.8**	**+0.6**
PID				*e*S	**Sn**	**06 06 56.0**	**-2.2**
PID	**Ribeirinha**	**3.09**	**295**	*e*P	**Pn**	**06 06 21.8**	**+0.6**
PID				*e*S	**Sn**	**06 06 56.0**	**-2.2**
PMAN	**Manadas**	**3.15**	**298**	*e*P	**Pn**	**06 06 22.4**	**+0.5**
PMAN				*e*S	**Sn**	**06 06 57.6**	**-2.0**
PMAN				A	A	06 06 59.9	
	110nm,0.3s						
PMAN	**Manadas**	**3.15**	**298**	*e*P	**Pn**	**06 06 22.4**	**+0.5**
PMAN				*e*S	**Sn**	**06 06 57.6**	**-2.0**
PGRA	**Graciosa**	**3.27**	**305**	*e*P	**Pn**	**06 06 24.3**	**+0.7**
PGRA				*e*S	**Sn**	**06 07 00.7**	**-1.9**
PGRA				A	A	06 07 04.0	
	60nm,0.3s						
PGRA	**Graciosa**	**3.27**	**305**	*e*P	**Pn**	**06 06 24.3**	**+0.7**
PGRA				*e*S	**Sn**	**06 07 00.7**	**-1.9**
ROSA	**Rosais**	**3.30**	**299**	*e*P	**Pn**	**06 06 24.7**	**+0.7**
ROSA				*e*S	**Sn**	**06 07 01.3**	**-1.9**
ROSA				A	A	06 07 05.7	
	82nm,0.4s						
ROSA	**Rosais**	**3.30**	**299**	*e*P	**Pn**	**06 06 24.7**	**+0.7**
ROSA				*e*S	**Sn**	**06 07 01.3**	**-1.9**
PICO	**Pico**	**3.34**	**294**	*e*P	**Pn**	**06 06 25.3**	**+0.7**
PICO				*e*S	**Sn**	**06 07 02.3**	**-2.0**
PICO	**Pico**	**3.34**	**294**	*e*P	**Pn**	**06 06 25.3**	**+0.7**
PICO				*e*S	**Sn**	**06 07 02.3**	**-2.0**
PCAN	**Candelaria**	**3.37**	**293**	*e*P	**Pn**	**06 06 25.2**	**+0.2**
PCAN				*e*S	**Sn**	**06 07 03.0**	**-2.0**
PCAN				A	A	06 07 04.5	
	75nm,0.2s						
PCAN	**Candelaria**	**3.37**	**293**	*e*P	**Pn**	**06 06 25.2**	**+0.2**
PCAN				*e*S	**Sn**	**06 07 03.0**	**-2.0**
HOR	**Horta**	**3.50**	**294**	*e*P	**Pn**	**06 06 27.2**	**+0.5**
HOR				*e*S	**Sn**	**06 07 05.5**	**-2.6**
HOR	**Horta**	**3.50**	**294**	*e*P	**Pn**	**06 06 27.2**	**+0.5**
HOR				*e*S	**Sn**	**06 07 05.5**	**-2.6**
CALA	**Caldeira**	**3.57**	**294**	*e*P	**Pn**	**06 06 28.2**	**+0.4**
CALA				*e*S	**Sn**	**06 07 07.8**	**-2.2**
CALA	**Caldeira**	**3.57**	**294**	*e*P	**Pn**	**06 06 28.2**	**+0.4**
CALA				*e*S	**Sn**	**06 07 07.8**	**-2.2**
PCED	**Cedros**	**3.59**	**295**	*e*P	**Pn**	**06 06 28.2**	**+0.3**
PCED				*e*S	**Sn**	**06 07 07.8**	**-2.5**
PCED				A	A	06 07 12.8	
	96nm,0.4s						
PCED	**Cedros**	**3.59**	**295**	*e*P	**Pn**	**06 06 28.2**	**+0.3**
PCED				*e*S	**Sn**	**06 07 07.8**	**-2.5**
PMAR	**Madeira**	**7.69**	**123**	*e*P	Pn	06 07 18.6	-5.9
PMAR				A	A	06 08 44.9	
	30nm,0.3s						
FUL	**Funchal**	**7.75**	**124**	*e*P	Pn	06 07 19.5	-5.6
PMPST	**Porto Santo, M**	**7.88**	**119**	*e*P	Pn	06 07 20.2	-6.7
PMPS	**Porto Santo**	**7.89**	**119**	*e*P	Pn	06 07 20.4	-6.7
PNCL	**Nicolau / Gran**	**12.73**	**81**	*e*S	Sn	06 10 36.9	-18
MOE	**Montemor**	**12.87**	**79**	*e*S	Sn	06 10 39.7	-19
PCAS	**Casmilo, Conde**	**12.88**	**72**	*e*S	Sn	06 10 40.9	-18
PTOM	**Tomar**	**12.89**	**74**	*e*S	Sn	06 10 40.6	-18
PMTG	**Montargil**	**12.99**	**77**	*e*S	Sn	06 10 42.8	-19
PCVE	**Castro Verde**	**13.14**	**83**	*e*S	Sn	06 10 45.3	-20
PGAV	**Gavieira, Arco**	**13.43**	**64**	*e*S	Sn	06 10 51.6	-21
PVIS	**Viseu**	**13.43**	**70**	*e*S	Sn	06 10 53.0	-19
PESTR	**Estremoz**	**13.48**	**78**	*e*S	Sn	06 10 55.7	-18
PCAB	**Cabril**	**13.54**	**65**	*e*S	Sn	06 10 55.3	-20
PCBR	**Castelo Branco**	**13.63**	**74**	*e*S	Sn	06 10 56.9	-20
POLO	**Lamas de Olo**	**13.63**	**67**	*e*S	Sn	06 10 57.7	-20
PMRV	**Marv??o**	**13.66**	**75**	*e*S	Sn	06 10 59.0	-19
PBAR	**Barrancos**	**13.91**	**81**	*e*S	Sn	06 11 03.1	-21
MVO	**Moncorvo**	**14.16**	**68**	*e*S	Sn	06 11 08.6	-22
PBRG	**Braganca**	**14.50**	**66**	*e*S	Sn	06 11 20.0	-18
EKA	**Eskdalemuir Ar**	**23.25**	**32**	P	**P**	**06 10 38.0**	**-1.6**
	1.1nm,0.6s,baz=222,slow=9.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**33.51**	**129**	P	P	06 12 09.9	-2.2
	0.3nm,0.6s,baz=322,slow=7.8,SNR=3.1						
ARCES	**ARCESS Array B**	**41.95**	**24**	P	**P**	**06 13 22.1**	**-0.8**
	1.0nm,0.7s,baz=240,slow=9.0,SNR=12						
PDAR	**Pinedale Array**	**62.72**	**304**	P	**P**	**06 15 57.8**	**+0.1**
	0.3nm,0.7s,baz=91,slow=6.3,SNR=3.0						
TXAR	**Lajitas Array**	**64.85**	**289**	P	**P**	**06 16 12.9**	**+1.1**
	0.6nm,0.8s,baz=77,slow=7.4,SNR=8.8						
ILAR	**Eielson Array**	**68.86**	**337**	P	**P**	**06 16 37.6**	**+1.0**
	0.3nm,1.1s,baz=41,slow=8.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**69.58**	**41**	P	**P**	**06 16 40.4**	**-0.9**
	0.6nm,0.7s,baz=310,slow=7.2,SNR=2.8						
ZALV	**Zalesovo Beam**	**70.80**	**36**	P	**P**	**06 16 48.1**	**-0.6**
	0.4nm,0.3s,baz=317,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**73.84**	**43**	P	**P**	**06 17 06.7**	**-0.4**
	0.5nm,0.4s,baz=312,slow=4.4,SNR=3.7						

*IDC **08** 06:22:34.2±4.1, 37°.20N×72°.31E, h186km±31km, mb3.3/7, mb1 3.5/13, mb1mx3.2/32, mbtmp3.4/13, Error ellipse: s-maj=41.2km s-min=24.5km az=154.0*
*ISCJB **08** 06:22:35.4±0.4, 37°.45N±0°.03×72°.21E±0°.08, h200km, mb3.4/7, Error ellipse: s-maj=8.8km s-min=4.1km az=0.8*
*NNC **08** 06:22:41.2±2.6, 37°.88N×71°.91E, h203km±21km, mb2.9, mpv3.7, Error ellipse: s-maj=24.3km s-min=12.6km az=16.0*
ISC 08 06:22:35.8±0.7, 37°.53N±0°.05×72°.08E±0°.09, h200km, n43, σ1§61/40, mb3.6/7, 8C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.70**	**182**	⇑P	**Pn**	**06 23 33.7**	**-0.3**
CEP				S	**Sn**	**06 24 17.0**	**-2.7**
CHCP	**Chirah Chowk**	**3.98**	**166**	P	**Pn**	**06 23 37.6**	**+0.2**
THW	**Thamme Wali**	**4.73**	**183**	⇑P	**Pn**	**06 23 46.2**	**-0.7**
AML	**Almayashu**	**4.76**	**15**	P	**Pn**	**06 23 48.3**	**+0.9**
	SNR=78						
UCH	**Uchtor**	**5.05**	**21**	P	**Pn**	**06 23 52.2**	**+1.0**
	SNR=6.1						
KZA	**Kyzart**	**5.16**	**27**	P	**Pn**	**06 23 52.5**	**-0.1**
	SNR=35						
EKS2	**Erkin-Say**	**5.29**	**14**	P	**Pn**	**06 23 55.1**	**+1.2**
	SNR=13						
AAK	**Ala-Archa**	**5.42**	**19**	P	**Pn**	**06 23 56.7**	**+1.0**
	SNR=25						
AAK	**Ala-Archa**	**5.42**	**19**	P	**Pn**	**06 23 56.8**	**+1.0**
	8.9nm,0.3s,baz=168,slow=5.5,SNR=34						
AAK				S	**Sn**	**06 24 58.1**	**-0.8**
	5.5nm,0.3s,baz=284,slow=14,SNR=26						
SARP	**Sargodha**	**5.61**	**175**	P	**Pn**	**06 23 57.8**	**-0.3**
ULHL	**Ulahol**	**5.69**	**33**	P	**Pn**	**06 23 59.4**	**+0.1**
	SNR=18						
KK31	**Karatay Array**	**5.70**	**348**	⇓P	**Pn**	**06 24 00.3**	**+1.2**
	2.4nm,0.2s,baz=152,slow=9.4,SNR=128						
KK31				⇑S	**Sn**	**06 25 02.6**	**-2.4**
	33nm,0.4s,baz=180,slow=15,SNR=25						
CHMS	**Chumysh**	**5.83**	**20**	P	**Pn**	**06 24 02.0**	**+1.1**
	SNR=6.2						
DLH	**Dalhousie**	**5.91**	**146**	*e*P	**Pn**	**06 24 00.0**	**-2.1**
DLH				*e*S	Sn	06 25 03.0	-7.2
TKM2	**Tokmak 2**	**6.02**	**25**	⇑P	**Pn**	**06 24 04.2**	**+0.8**
	3.8nm,0.5s						
TKM2				⇑S	**Sn**	**06 25 13.1**	**+0.3**
	4.6nm,0.5s						
TKM2	**Tokmak 2**	**6.02**	**25**	P	**Pn**	**06 24 04.1**	**+0.7**
	SNR=9.6						
USP	**Ospenovka**	**6.02**	**17**	P	**Pn**	**06 24 04.6**	**+1.4**
	SNR=6.6						
SMLA	**Simla**	**7.64**	**145**	*i*P	**Pn**	**06 24 22.4**	**-1.9**
SMLA				*i*S	Sn	06 25 41.9	-8.8
SMLA				*i*S		06 25 42.0	
KALG	**Kalgarh**	**9.74**	**143**	*e*4	x	06 26 58.0	
KHET	**Khetri**	**9.93**	**161**	*e*S	Sn	06 26 31.6	-14
KHET				AML	AML	06 26 35.5	
	comp=E,89nm,0.2s						
KHET				AML	AML	06 26 35.7	
	comp=N,93nm,0.1s						
AYAN	**Aya Nagar**	**9.96**	**153**	*e*S	Sn	06 26 35.7	-10
KUDL	**Kundal**	**10.06**	**157**	*e*S	Sn	06 26 34.8	-14
KUDL				AML	AML	06 26 40.5	
	comp=E,14nm,0.2s						
KUDL				AML	AML	06 26 40.5	
	comp=N,10nm,0.1s						
SONA	**Sohna**	**10.16**	**154**	*e*S	Sn	06 26 38.1	-12
SONA				AML	AML	06 26 40.7	
	comp=E,20nm,0.0s						
SONA				AML	AML	06 26 46.4	
	comp=N,12nm,0.1s						
MK31	**Makanchi Array**	**11.95**	**36**	⇓P	**P**	**06 25 23.7**	**-1.0**
	comp=N,0.7nm,0.5s,baz=257,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**11.95**	**36**	P	**Pn**	**06 25 21.6**	**+1.6**
	comp=N,0.1nm,0.3s,baz=212,slow=14,SNR=3.8						
KURBB	**Kurchatov Arra**	**13.88**	**17**	⇓P	**P**	**06 25 46.2**	**+0.2**
	comp=N,5.4nm,0.7s						
KURBB	**Kurchatov Arra**	**13.88**	**17**	P	**P**	**06 25 47.7**	**+1.7**
	comp=N,0.3nm,0.3s,baz=204,slow=11,SNR=27						
AB31	**Akbulak array**	**14.65**	**327**	P	**P**	**06 25 54.8**	**+0.2**
	comp=N,1.3nm,0.4s,baz=140,slow=9.4,SNR=28						
AB31				⇑S	**S**	**06 28 30.3**	**-5.9**
	comp=N,2.2nm,0.6s,baz=150,slow=23,SNR=10						
VOSK	**Vostochnaya**	**15.21**	**357**	⇑P	**P**	**06 26 01.5**	**+0.7**
	comp=N,0.5nm,0.3s						
BVA0	**Borovoye Array**	**15.54**	**356**	⇓P	**P**	**06 26 05.0**	**+0.5**
	comp=N,2.1nm,0.8s,baz=159,slow=11,SNR=8.1						
BVAR	**Borovoye Array**	**15.54**	**356**	P	**P**	**06 26 06.5**	**+2.1**
	comp=N,0.6nm,0.3s,baz=159,slow=13,SNR=8.3						
BRVK	**Borovoye**	**15.58**	**356**	⇑P	**P**	**06 26 05.5**	**+0.7**
	comp=N,4.9nm,0.7s						
AKTO	**Aktyubinsk**	**16.36**	**327**	⇓P	**Pn**	**06 26 15.2**	**+0.9**
	comp=N,2.2nm,0.4s						
AKTO				⇓S	**S**	**06 29 12.9**	**-1.6**
	comp=N,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.36**	**327**	P	**Pn**	**06 26 16.6**	**+2.3**
	comp=N,1.3nm,0.3s,baz=136,slow=8.6,SNR=15						
AKTO				S	**S**	**06 29 13.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=162,slow=20,SNR=4.5						
ZALV	**Zalesovo Beam**	**18.62**	**24**	P	**Pn**	**06 26 39.6**	**-1.2**
	comp=N,3.0nm,0.3s,baz=221,slow=10.0,SNR=65						
FINES	**FINESS Array B**	**37.13**	**325**	P	P	06 29 29.7	+2.9
	comp=N,0.4nm,0.3s,baz=119,slow=8.4,SNR=6.2						
ARCES	**ARCESS Array B**	**40.53**	**337**	P	P	06 29 58.0	+3.0
	comp=N,1.0nm,0.4s,baz=112,slow=8.5,SNR=33						
HFS	**Hagfors**	**42.80**	**321**	P	P	06 30 16.1	+2.6
	comp=N,1.6nm,0.5s,baz=98,slow=11,SNR=14						
NB2	**NORSAR Subarra**	**44.09**	**322**	P	P	06 30 26.1	+2.3
	comp=Z,0.5nm,0.4s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.09**	**322**	P	P	06 30 26.2	+2.4
	comp=Z,0.6nm,0.6s,baz=94,slow=7.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**66.61**	**269**	P	**P**	**06 33 06.1**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=47,slow=5.8,SNR=12						
ILAR	**Eielson Array**	**73.55**	**16**	P	**P**	**06 33 47.8**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=328,slow=5.0,SNR=4.1						
YKA	**Yellowknife Ar**	**80.18**	**3**	P	**P**	**06 34 24.8**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=350,slow=5.8,SNR=5.0						

IDC 08 06:24:47.9±12.0, 11°.86S×166°.60E, h222km±139km, mb3.4/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.4/5, Error ellipse: s-maj=102.0km s-min=28.6km az=157.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.16**	**181**	P	Pn	06 27 09.8	+0.8
	0.4nm,0.3s,baz=348,slow=20,SNR=7.8						
DZM				S		06 29 01.5	-1.5
	0.1nm,0.3s,baz=240,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**32.01**	**251**	P	P	06 30 53.8	0.0
	1.5nm,0.8s,baz=80,slow=9.2,SNR=8.1						
ASAR	**Alice Springs**	**33.20**	**245**	P	P	06 31 03.9	-0.2
	1.4nm,0.7s,baz=74,slow=9.7,SNR=17						
ILAR	**Eielson Array**	**84.02**	**18**	P	P	06 36 52.8	-0.3
	0.2nm,0.6s,baz=221,slow=5.1,SNR=3.1						
MKAR	**Makanchi Array**	**94.69**	**317**	P	P	06 37 44.1	+0.2
	0.8nm,0.5s,baz=68,slow=6.5,SNR=13						

*THR **08** 06:36:44.8±0.3, 27°.61N×52°.90E, h22km±4km, ML3.5*
*IDC **08** 06:36:44.8±2.4, 27°.70N×53°.02E, h0km, mb3.7/9, mb1 3.7/9, mb1mx3.6/29, mbtmp3.7/9, Error ellipse: s

CSEM ***08*** *06:36:49.1±0.5,27°.79N×53°.19E,h10km,ML3.5,Error ellipse: s-maj=12.2km s-min=8.8km az=14.0*

ISC 08 06:36:47.5±0.9,27°.72N±0°.05×53°.15E±0°.05,h14km,n44,
σ1♀45/47,mb3.8/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.58**	**345**	*e*Pg	**Pg**	**06 36 57.9**	**-1.1**
GHIR				*e*Sg	**Sb**	**06 37 07.5**	**-0.2**
GHIR				AML	AML	06 37 14.3	
	comp=N,4μm,0.5s						
GHIR	**Ghir-Karzin**	**0.58**	**345**	*e*Pg	**Pg**	**06 36 57.9**	**-1.1**
GHIR				*e*Sg	**Sb**	**06 37 07.5**	**-0.2**
ISRV	**Sarvestan**	**1.66**	**359**	*e*Pn	**Pb**	**06 37 18.1**	**+0.1**
ISRV				*e*Sg	**Sg**	**06 37 44.1**	**+3.2**
ISRV				*e*		06 37 53.0	
	comp=Z,13μm,0.3s						
ISRV	**Sarvestan**	**1.66**	**359**	*e*Pn	**Pb**	**06 37 18.1**	**+0.1**
ISRV				*e*Sg	**Sg**	**06 37 44.1**	**+3.2**
BNDS	**Bandar-Abbas**	**2.70**	**96**	*e*Pn	**Pn**	**06 37 32.0**	**+1.4**
BNDS	**Bandar-Abbas**	**2.70**	**96**	*e*Pn	**Pn**	**06 37 32.0**	**+1.4**
IBND	**Bandar-abas**	**3.02**	**94**	*e*Sg	**Sg**	**06 38 25.4**	**+0.9**
IBND	**Bandar-abas**	**3.02**	**94**	*e*Sg	**Sg**	**06 38 25.4**	**+0.9**
KRBR	**Kerman**	**3.89**	**54**	*e*Pn	**Pn**	**06 37 49.0**	**+1.9**
KRBR				AML	AML	06 39 01.2	
	comp=N,41nm,0.8s						
KRBR				AML	AML	06 39 06.1	
	comp=E,35nm,0.6s						
KRBR	**Kerman**	**3.89**	**54**	*e*Pn	**Pn**	**06 37 49.0**	**+1.9**
ISAD	**Sadrabad**	**4.21**	**6**	*e*Pn	**Pn**	**06 37 53.1**	**+1.7**
ISAD				*e*		06 39 15.0	
	comp=Z,630nm,0.3s						
ISAD	**Sadrabad**	**4.21**	**6**	*e*Pn	**Pn**	**06 37 53.1**	**+1.7**
IBAF	**Bafgh**	**4.39**	**28**	*e*Pn	**Pn**	**06 37 55.0**	**+1.1**
IBAF				*e*		06 38 00.0	
	comp=Z,260nm,0.2s						
IBAF	**Bafgh**	**4.39**	**28**	*e*Pn	**Pn**	**06 37 55.0**	**+1.1**
ICHK	**Chekchek**	**4.64**	**13**	*e*Pn	**Pn**	**06 37 58.6**	**+1.2**
ICHK				*e*		06 38 15.1	
	comp=Z,756nm,0.4s						
ICHK	**Chekchek**	**4.64**	**13**	*e*Pn	**Pn**	**06 37 58.6**	**+1.2**
IGAR	**Gharneh**	**4.77**	**349**	*e*Pn	**Pn**	**06 38 00.8**	**+1.7**
KBD	**Kabd**	**5.02**	**288**	*e*P	**Pn**	**06 38 04.8**	**+2.4**
KBD	**Kabd**	**5.02**	**288**	*e*P	**Pn**	**06 38 04.8**	**+2.4**
NASN	**Na'in**	**5.07**	**357**	*e*Pn	**Pn**	**06 38 03.5**	**+0.1**
NASN				AML	AML	06 39 05.6	
	comp=N,42nm,0.6s						
NASN				AML	AML	06 39 06.3	
	comp=E,24nm,0.5s						
NASN	**Na'in**	**5.07**	**357**	*e*Pn	**Pn**	**06 38 03.5**	**+0.1**
RDF	**Al-Radifah**	**5.08**	**285**	*e*P	Pn	06 38 06.1	+2.9
RDF	**Al-Radifah**	**5.08**	**285**	*e*P	Pn	06 38 06.1	+2.9
IZEF	**Zefreh**	**5.21**	**352**	*e*Pn	**Pn**	**06 38 06.1**	**+0.9**
IZEF				*e*		06 39 09.0	
	comp=Z,212nm,0.3s						
IZEF	**Zefreh**	**5.21**	**352**	*e*Pn	**Pn**	**06 38 06.1**	**+0.9**
NAY	**Al-Naaiem**	**5.42**	**288**	*e*P	**Pn**	**06 38 10.2**	**+2.3**
NAY				AML	AML	06 39 10.7	
	comp=Z,12nm,0.6s						
NAY	**Al-Naaiem**	**5.42**	**288**	*e*P	**Pn**	**06 38 10.2**	**+2.3**
IKLH	**Kolahrood**	**5.75**	**347**	*e*Pn	**Pn**	**06 38 13.6**	**+1.0**
IKLH				*e*		06 39 37.1	
	comp=Z,228nm,0.2s						
IKLH	**Kolahrood**	**5.75**	**347**	*e*Pn	**Pn**	**06 38 13.6**	**+1.0**
ISFB	**Sefidab**	**6.66**	**353**	*e*Pn	**Pn**	**06 38 25.3**	**+0.3**
ISFB				*e*Sn	**Sn**	**06 39 39.0**	**-1.7**
ISFB				*e*		06 39 52.1	
	comp=Z,92nm,0.2s						
ISFB	**Sefidab**	**6.66**	**353**	*e*Pn	**Pn**	**06 38 25.3**	**+0.3**
ISFB				*e*Sn	**Sn**	**06 39 39.0**	**-1.7**
TABS	**Tabas**	**6.83**	**29**	*e*Pn	**Pn**	**06 38 28.9**	**+1.6**
TABS	**Tabas**	**6.83**	**29**	*e*Pn	**Pn**	**06 38 28.9**	**+1.6**
IVRN	**Varamin**	**7.36**	**351**	*e*Pn	**Pn**	**06 38 35.1**	**+0.6**
IVRN				*e*		06 38 36.2	
	comp=Z,160nm,0.2s						
IVRN	**Varamin**	**7.36**	**351**	*e*Pn	**Pn**	**06 38 35.1**	**+0.6**
BRTR	**Keskin Array B**	**20.12**	**312**	P	**P**	**06 41 20.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=128,slow=13,SNR=3.2						
AKTO	**Aktyubinsk**	**22.99**	**8**	P	**P**	**06 41 52.5**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=177,slow=13,SNR=7.9						
BVAR	**Borovoye Array**	**28.34**	**22**	P	**P**	**06 42 41.1**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=216,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**29.75**	**42**	P	**P**	**06 42 53.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=238,slow=8.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**34.99**	**33**	P	**P**	**06 43 39.3**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=253,slow=8.9,SNR=2.5						
FINES	**FINESS Array B**	**38.27**	**339**	P	**P**	**06 44 06.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=134,slow=11,SNR=8.2						
HFS	**Hagfors**	**42.00**	**332**	P	**P**	**06 44 36.8**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=142,slow=12,SNR=4.8						
NOA	**NORSAR Array B**	**43.52**	**332**	P	P	06 44 47.7	-2.7
	comp=Z,0.4nm,0.7s,baz=120,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**50.01**	**264**	P	**P**	**06 45 40.7**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=55,slow=6.6,SNR=6.2						

IDC ***08*** *06:43:18.6±0.7,46°.60N×27°.47W,h0km,mb4.2/28, mb1 4.4/30,mb1mx4.3/40,mbtmp4.2/30,ML4.4/2,MS4.3/37, Ms1 4.3/37,ms1mx4.3/43,Error ellipse: s-maj=19.9km s-min=10.7km az=4.0*

BJI ***08*** *06:43:18.1,46°.70N×27°.50W,h10km,mB5.3/9,mb4.9/20, Ms5.0/9,Ms7 4.7/10*

ISCJB ***08*** *06:43:18.4±0.2,46°.49N±0°.04×27°.42W±0°.02,h10km, mb4.7/172,MS4.4/55,Error ellipse: s-maj=5.2km s-min=2.2km az=10.9*

MOS ***08*** *06:43:19.2±0.9,46°.66N×27°.47W,h10km,mb4.9/55,Error ellipse: s-maj=7.6km s-min=6.0km az=137.9*

CSEM ***08*** *06:43:20.2±0.1,46°.54N×27°.41W,h10km,mb4.8/99,Ms4.3, Mw5.1,Error ellipse: s-maj=5.7km s-min=2.6km az=7.0*

NEIC ***08*** *06:43:21.0±0.2,46°.65N×27°.46W,h10km,mb4.8/89,Error ellipse: s-maj=7.5km s-min=2.6km az=183.0*

PDA ***08*** *06:43:21.1,46°.67N×27°.47W,h10km,mb4.8*

GCMT ***08*** *06:43:21.5±0.2,46°.57N×27°.24W,h12km,MW5.1, Moment Tensor Solution. s37,c51; s90,c150; Moment tensor: Scale 10^16^Nm; Mrr-5.05±.12; Mθθ0.56±.14; Mφφ4.49±.10; Mrθ0.43±.47; Mθφ1.49±.10; Mφr-0.08±.36; Best double couple: Mo5.00000×10^16^ NP1:φs203.00000°, δ46.00000°,λ-83.00000°. NP2:φs14.00000°,δ45.00000°, λ-97.00000°. Principal axes: T 4.9900, Plg0.0000°, Azm289.0000°; N 0.0900, Plg5.0000°, Azm19.0000°; P -5.0900, Plg85.0000°, Azm195.0000°; Data Used: II IU CN IC G.*

SZGRF ***08*** *06:43:48.7,47°.43N×24°.52W,h33km,mb5.2,MS4.5, Northern Mid-Atlantic Ridge*

ISC 08 06:43:20.7±0.4,46°.53N±0°.06×27°.45W±0°.04,h15km±2km,
h14km:pP-P,n737,σ1♀28/747,mb4.8/172,MS4.4/55,
12C-17D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**8.87**	**170**	*e*P	**Pn**	**06 45 26.2**	**-2.2**
CMLA	**Cha da Macela**	**8.87**	**170**	*e*Pn	**Pn**	**06 45 26.2**	**-2.2**
CMLA	**Cha da Macela**	**8.87**	**170**	*e*P	**Pn**	**06 45 26.2**	**-2.2**
PDA	**Ponta Delgada**	**8.87**	**171**	*e*P	**Pn**	**06 45 29.0**	**+0.7**
	27nm,0.4s						
PDA	**Ponta Delgada**	**8.87**	**171**	*e*P	**Pn**	**06 45 29.0**	**+0.7**
	27nm,0.4s						
BART	**Pico Bartolome**	**8.90**	**168**	*e*P	**Pn**	**06 45 26.9**	**-2.0**
	35nm,0.5s						
BART	**Pico Bartolome**	**8.90**	**168**	*e*P	**Pn**	**06 45 26.9**	**-2.0**
	35nm,0.5s						
PSMN	**Pico do Norte,**	**9.68**	**169**	*e*P	**Pn**	**06 45 37.3**	**-2.1**
	48nm,0.9s						
PSMN	**Pico do Norte,**	**9.68**	**169**	*e*P	**Pn**	**06 45 37.3**	**-2.1**
	48nm,0.9s						
PGAV	**Gavieira, Arco**	**14.47**	**101**	*e*P	**Pn**	**06 46 42.1**	**-3.0**
	75nm,0.9s						
PGAV				*e*LR	LR	06 49 58.4	
	3μm,20.0s						
PCAB	**Cabril**	**14.75**	**102**	*e*P	**Pn**	**06 46 45.8**	**-2.9**
	94nm,1.9s						
POLO	**Lamas de Olo**	**15.05**	**103**	*e*P	**Pn**	**06 46 50.1**	**-2.8**
	38nm,1.2s						
PVRL	**Vila Real**	**15.15**	**103**	*e*P	**Pn**	**06 46 51.3**	**-2.8**
	49nm,1.5s						
PVIS	**Viseu**	**15.29**	**105**	*e*P	**Pn**	**06 46 52.8**	**-3.2**
	40nm,1.3s						
PTOM	**Tomar**	**15.51**	**110**	*e*P	**Pn**	**06 46 57.5**	**-1.3**
	59nm,1.3s						
LIS	**Lisbon**	**15.54**	**114**	*e*P	**Pn**	**06 47 00.2**	**+0.9**
LIS				AMb	AMB	06 47 07.9	
	comp=Z,149nm,1.1s						
LIS	**Lisbon**	**15.54**	**114**	*e*P	**Pn**	**06 47 00.2**	**+0.9**
PBRG	**Braganca**	**15.58**	**100**	*e*P	**Pn**	**06 46 57.5**	**-2.2**
	comp=Z,50nm,1.4s						
MVO	**Moncorvo**	**15.66**	**103**	*e*P	**Pn**	**06 46 57.6**	**-3.3**
	comp=Z,38nm,1.2s						
MVO				*e*LR	LR	06 50 32.5	
	comp=Z,2μm,20.0s						
MTE	**Manteigas**	**15.68**	**106**	*e*P	**Pn**	**06 46 57.1**	**-4.0**
	comp=Z,64nm,1.9s						
MTE				*e*LR	LR	06 50 26.7	
	comp=Z,2μm,17.9s						
MTE	**Manteigas**	**15.68**	**106**	*e*P	**P**	**06 47 03.8**	**-1.3**
	comp=Z,21nm,1.0s						
MTE	**Manteigas**	**15.68**	**106**	*e*P	**P**	**06 47 03.8**	**-1.3**
	comp=Z,21nm,1.0s						
PMTG	**Montargil**	**15.93**	**111**	*e*P	**Pn**	**06 47 02.0**	**-2.3**
	comp=Z,53nm,1.4s						
PMAR	**Madeira**	**15.97**	**146**	*e*P	**Pn**	**06 47 03.8**	**-1.2**
	comp=Z,93nm,2.1s						
PCBR	**Castelo Branco**	**16.00**	**107**	*e*P	**Pn**	**06 47 03.1**	**-2.1**
	comp=Z,38nm,1.8s						
PMRV	**Marv??o**	**16.28**	**109**	*e*P	**Pn**	**06 47 05.2**	**-3.5**
	comp=Z,74nm,1.6s						
PNCL	**Nicolau / Gran**	**16.29**	**114**	*e*P	**Pn**	**06 47 06.7**	**-2.2**
	comp=Z,35nm,1.6s						
EVO	**Evora**	**16.37**	**112**	*e*P	**Pn**	**06 47 06.2**	**-3.7**
	comp=Z,24nm,0.7s						
EVO				*e*R			
	comp=Z,2μm,20.2s						
EVO	**Evora**	**16.37**	**112**	*e*P	**Pn**	**06 47 08.0**	**-1.9**
	comp=Z,49nm,1.5s						
ROSF	**Rostrenen**	**16.44**	**75**	*e*P	**Pn**	**06 47 09.5**	**-1.3**
	comp=Z,91nm,1.3s						
PESTR	**Estremoz**	**16.45**	**111**	*e*P	Pn	06 47 06.1	-4.9
	comp=Z,48nm,1.7s						
QUIF	**Quistinic**	**16.54**	**76**	*e*P	**Pn**	**06 47 09.7**	**-2.3**
	comp=Z,56nm,1.1s						
MORF	**Marmelete**	**16.71**	**117**	*e*P	**Pn**	**06 47 14.8**	**+0.5**
MORF	**Marmelete**	**16.71**	**117**	*e*P	**Pn**	**06 47 14.8**	**+0.5**
PBAR	**Barrancos**	**17.20**	**112**	*e*P	**Pn**	**06 47 19.1**	**-1.3**
	comp=Z,33nm,1.5s						
PVAQ	**Vaqueiros**	**17.23**	**115**	*e*P	**Pn**	**06 47 19.8**	**-1.0**
	comp=Z,44nm,1.3s						
PVAQ				*e*LR	LR	06 51 31.4	
	comp=Z,1μm,20.0s						
ESK	**Eskdalemuir**	**17.56**	**51**	*e*P	**Pn**	**06 47 25.3**	**+0.6**
ESK				pmax	pmax		
	comp=Z,47nm,1.5s						
ESK	**Eskdalemuir**	**17.56**	**51**	*e*P	**Pn**	**06 47 25.3**	**+0.6**
	comp=Z,47nm,1.5s						
ESK	**Eskdalemuir**	**17.56**	**51**	*e*P	**Pn**	**06 47 25.3**	**+0.6**
	comp=Z,47nm,1.5s						
EKA	**Eskdalemuir Ar**	**17.59**	**51**	P	**Pn**	**06 47 24.6**	**-0.5**
EKA	**Eskdalemuir Ar**	**17.59**	**51**	P	**Pn**	**06 47 24.6**	**-0.5**
	baz=245,slow=12,SNR=15						
EKA	**Eskdalemuir Ar**	**17.59**	**51**	P	**Pn**	**06 47 24.6**	**-0.5**
GRR	**Gorron**	**18.05**	**74**	*e*P	**P**	**06 47 31.7**	**+0.5**
	comp=Z,159nm,1.7s						
GRR	**Gorron**	**18.05**	**74**	*e*P	**P**	**06 47 31.7**	**+0.5**
	comp=Z,80nm,1.7s						
PAB	**San Pablo**	**18.23**	**104**	*e*P	**Pn**	**06 47 32.8**	**-0.4**
PAB				pmax	pmax		
	comp=Z,93nm,2.3s						
PAB	**San Pablo**	**18.23**	**104**	*e*P	**Pn**	**06 47 32.8**	**-0.4**
	comp=Z,93nm,2.3s						
PAB	**San Pablo**	**18.23**	**104**	*e*P	**Pn**	**06 47 32.8**	**-0.4**
	comp=Z,93nm,2.3s						
FLN	**La Foliniere**	**18.27**	**73**	*e*P	**Pn**	**06 47 33.1**	**-0.5**
	comp=Z,124nm,1.4s						
FLN				*e*R			
	comp=Z,3μm,22.0s						
FLN	**La Foliniere**	**18.27**	**73**	*e*P	**Pn**	**06 47 33.1**	**-0.5**
	comp=Z,62nm,1.4s						
ESDC	**Sonseca Array**	**18.43**	**103**	P	**Pn**	**06 47 36.1**	**+0.6**
ESDC	**Sonseca Array**	**18.43**	**103**	P	**Pn**	**06 47 36.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=299,slow=11,SNR=24						
ESDC				LR	LR	06 53 19.8	
	comp=Z,1μm,18.5s,baz=300,slow=33						
ESDC	**Sonseca Array**	**18.43**	**103**	P	**Pn**	**06 47 36.2**	**+0.6**
ESLA	**Sonseca Array**	**18.43**	**103**	*e*P	**Pn**	**06 47 35.9**	**+0.3**
	comp=Z,8.7nm,1.4s						
ESLA	**Sonseca Array**	**18.43**	**103**	*e*P	**Pn**	**06 47 35.9**	**+0.3**
	comp=Z,8.7nm,1.4s						
LDF	**La Druitiere**	**18.52**	**74**	*e*P	**P**	**06 47 36.4**	**0.0**
	comp=Z,44nm,1.1s						
LDF	**La Druitiere**	**18.52**	**74**	*e*P	**P**	**06 47 36.4**	**0.0**
	comp=Z,22nm,1.1s						
BORG	**Borgarnes**	**18.57**	**8**	LR	LR	06 52 39.3	
	comp=Z,682nm,20.8s,baz=165,slow=30						
MFF	**Saint Martin d**	**18.74**	**80**	*e*P	**P**	**06 47 38.9**	**0.0**
	comp=Z,73nm,1.3s						
MFF	**Saint Martin d**	**18.74**	**80**	*e*P	**P**	**06 47 38.9**	**0.0**
	comp=Z,36nm,1.3s						
OSSF	**Osses**	**18.81**	**90**	*e*P	**Pn**	**06 47 40.4**	**+0.3**
SJPF	**Ste Jean**	**18.88**	**91**	*e*P	**Pn**	**06 47 41.7**	**+0.7**
	comp=Z,56nm,1.1s						
SJPF	**Ste Jean**	**18.88**	**91**	*e*P	**Pn**	**06 47 41.7**	**+0.7**
	comp=Z,28nm,1.1s						
ETSF	**Etsaut**	**19.41**	**91**	*e*P	**P**	**06 47 46.9**	**+0.6**
	comp=Z,49nm,1.0s						
ETSF	**Etsaut**	**19.41**	**91**	*e*P	**P**	**06 47 46.9**	**+0.6**
	comp=Z,24nm,1.0s						
REYF	**Montagne du Re**	**19.47**	**90**	*e*P	**P**	**06 47 47.4**	**+0.4**
LFF	**La Frestale**	**19.70**	**84**	*e*P	**P**	**06 47 49.4**	**0.0**
LFF	**La Frestale**	**19.70**	**84**	*e*P	**P**	**06 47 49.4**	**0.0**
VIEF	**Viey**	**19.82**	**91**	*e*P	**P**	**06 47 51.1**	**+0.3**
EPF	**Esparros**	**19.99**	**90**	*e*P	**P**	**06 47 52.6**	**0.0**
	comp=Z,33nm,1.2s						
EPF	**Esparros**	**19.99**	**90**	*e*P	**P**	**06 47 52.6**	**0.0**
	comp=Z,16nm,1.2s						
RESF	**Ens**	**20.06**	**91**	*e*P	Pn	06 47 54.6	-0.7
RJF	**Les Rejaudoux**	**20.14**	**83**	*e*P	**P**	**06 47 54.0**	**-0.2**
	comp=Z,120nm,1.9s						
RJF	**Les Rejaudoux**	**20.14**	**83**	*e*P	**P**	**06 47 54.0**	**-0.2**
	comp=Z,60nm,1.9s						
TCF	**Toulx Ste Croi**	**20.40**	**80**	*e*P	**P**	**06 47 57.4**	**+0.4**
	comp=Z,193nm,1.3s						
TCF	**Toulx Ste Croi**	**20.40**	**80**	*e*P	**P**	**06 47 57.4**	**+0.4**
	comp=Z,97nm,1.3s						
CAF	**Calviac**	**20.61**	**84**	*e*P	**P**	**06 47 59.1**	**-0.2**
	comp=Z,73nm,1.2s						
CAF	**Calviac**	**20.61**	**84**	*e*P	**P**	**06 47 59.1**	**-0.2**
	comp=Z,36nm,1.2s						
BGF	**Bois d'Agland**	**20.78**	**79**	*e*P	**P**	**06 48 01.2**	**+0.1**
	comp=Z,106nm,1.1s						
BGF	**Bois d'Agland**	**20.78**	**79**	*e*P	**P**	**06 48 01.2**	**+0.1**
	comp=Z,53nm,1.1s						
PYM	**Petit Puy Mans**	**21.06**	**81**	*e*P	**P**	**06 48 05.3**	**+1.1**
AGO	**Saint Agoulin**	**21.08**	**80**	*e*P	**P**	**06 48 05.3**	**+1.0**
AVF	**Avril sur Loir**	**21.08**	**78**	*e*P	**P**	**06 48 04.2**	**-0.1**
	comp=Z,89nm,1.3s						
AVF	**Avril sur Loir**	**21.08**	**78**	*e*P	**P**	**06 48 04.2**	**-0.1**
	comp=Z,44nm,1.3s						
SSF	**Saint Saulge**	**21.14**	**77**	*e*P	**P**	**06 48 04.9**	**0.0**
	comp=Z,48nm,1.1s						
SSF	**Saint Saulge**	**21.14**	**77**	*e*P	**P**	**06 48 04.9**	**0.0**
	comp=Z,24nm,1.1s						
MTLF	**Montolieu**	**21.18**	**88**	*e*P	**P**	**06 48 05.4**	**-0.1**
	comp=Z,187nm,1.9s						
MTLF	**Montolieu**	**21.18**	**88**	*e*P	**P**	**06 48 05.4**	**-0.1**
	comp=Z,94nm,1.9s						
BAIF	**Baives**	**21.27**	**69**	*e*P	**P**	**06 48 06.1**	**-0.2**
	comp=Z,102nm,1.3s						
BAIF	**Baives**	**21.27**	**69**	*e*P	**P**	**06 48 06.1**	**-0.2**
	comp=Z,51nm,1.3s						
LOR	**Lormes**	**21.34**	**77**	*e*P	**P**	**06 48 07.0**	**-0.1**
	comp=Z,126nm,1.3s						
LOR				*e*R			
	comp=Z,1μm,21.9s						
LOR	**Lormes**	**21.34**	**77**	*e*P	**P**	**06 48 07.0**	**-0.1**
	comp=Z,63nm,1.3s						
LBL	**Lubilhac**	**21.35**	**82**	*e*P	**P**	**06 48 08.3**	**+1.0**
MIF	**Mishlifen**	**21.39**	**120**	*i* P	**P**	**06 48 08.5**	**+0.5**
SMF	**Signal de Mont**	**21.44**	**78**	*e*P	**P**	**06 48 08.1**	**-0.1**
	comp=Z,116nm,1.3s						
SMF	**Signal de Mont**	**21.44**	**78**	*e*P	**P**	**06 48 08.1**	**-0.1**
	comp=Z,58nm,1.3s						
OUK	**Oukaimeden**	**21.50**	**128**	*i* P	**P**	**06 48 09.5**	**+0.2**
DOU	**Dourbes**	**21.52**	**69**	P	**P**	**06 48 08.3**	**-0.7**
	comp=Z,32nm,1.9s						
TZC	**Tazercounte**	**21.56**	**124**	*i* P	**P**	**06 48 10.0**	**+0.2**
TZK	**Tazeka**	**21.56**	**117**	*i* P	**P**	**06 48 09.0**	**-0.9**
GIVF	**Givet**	**21.66**	**69**	*e*P	**P**	**06 48 10.3**	**-0.2**
	comp=Z,172nm,1.3s						
GIVF	**Givet**	**21.66**	**69**	*e*P	**P**	**06 48 10.3**	**-0.2**
	comp=Z,86nm,1.3s						
MEZF	**Maizieres J'vi**	**21.95**	**73**	*e*P	**P**	**06 48 13.6**	**-0.1**
	comp=Z,205nm,1.4s						
MEZF	**Maizieres J'vi**	**21.95**	**73**	*e*P	**P**	**06 48 13.6**	**-0.1**
	comp=Z,103nm,1.4s						
SFTF	**Sexfontaines**	**21.98**	**74**	*e*P	**P**	**06 48 13.7**	**-0.3**
	comp=Z,216nm,1.3s						
SFTF	**Sexfontaines**	**21.98**	**74**	*e*P	**P**	**06 48 13.7**	**-0.3**
	comp=Z,108nm,1.3s						
LASF	**Ste Croix**	**22.08**	**85**	*e*P	**P**	**06 48 15.3**	**+0.2**
	comp=Z,91nm,1.1s						
LASF	**Ste Croix**	**22.08**	**85**	*e*P	**P**	**06 48 15.3**	**+0.2**
	comp=Z,45nm,1.1s						
BEBN	**Eben Emael**	**22.18**	**67**	P	**P**	**06 48 18.7**	**+2.7**
SSB	**Saint Sauveur**	**22.22**	**82**	*e*P	**P**	**06 48 17.2**	**+0.6**
SSB				pmax	pmax		
	comp=Z,67nm,1.5s						
SSB	**Saint Sauveur**	**22.22**	**82**	*e*P	**P**	**06 48 17.2**	**+0.6**
	comp=Z,67nm,1.5s						
SSB	**Saint Sauveur**	**22.22**	**82**	*e*P	**P**	**06 48 16.9**	**+0.3**
SSB	**Saint Sauveur**	**22.22**	**82**	*e*P	**P**	**06 48 17.2**	**+0.6**
	comp=Z,67nm,1.5s						
HGN	**Heimansgroeve**	**22.34**	**67**	*e*P	**P**	**06 48 21.0**	**+3.2**
	comp=Z,46nm,1.7s						
HGN				*e*S	**S**	**06 52 25.3**	**+2.5**
HGN				*e*L	L	06 55 50.4	
	comp=Z,893nm,20.3s						
PAGF	**Fort de Pagny**	**22.39**	**73**	*e*P	**P**	**06 48 17.8**	**-0.6**
	comp=Z,58nm,1.5s						
PAGF	**Fort de Pagny**	**22.39**	**73**	*e*P	**P**	**06 48 17.8**	**-0.6**
	comp=Z,29nm,1.5s						
VIVF	**Saint-Julien-l**	**22.42**	**83**	*e*P	**P**	**06 48 18.0**	**-0.8**
	comp=Z,79nm,1.4s						
VIVF	**Saint-Julien-l**	**22.42**	**83**	*e*P	**P**	**06 48 18.0**	**-0.8**
	comp=Z,39nm,1.4s						
WLF	**Walferdange**	**22.55**	**70**	P	**P**	**06 48 23.3**	**+3.2**
	comp=Z,22nm,1.3s						
WLF	**Walferdange**	**22.55**	**70**	*e*P	**P**	**06 48 21.9**	**+1.8**
WLF				pmax	pmax		
	comp=Z,37nm,1.2s						
WLF	**Walferdange**	**22.55**	**70**	*e*P	**P**	**06 48 21.9**	**+1.8**
	comp=Z,36nm,1.2s						
WLF	**Walferdange**	**22.55**	**70**	*e*P	**P**	**06 48 21.9**	**+1.8**
	comp=Z,36nm,1.2s						
THEF	**They Montfort**	**22.61**	**73**	*e*P	**P**	**06 48 20.0**	**-0.7**
WTSB	**Winterswijk**	**22.86**	**64**	*e*P	P	06 48 29.1	+5.8
	comp=Z,70nm,1.4s						
HAU	**Haudompre**	**22.88**	**74**	*e*P	**P**	**06 48 22.8**	**-0.8**
	comp=Z,83nm,1.1s						
HAU				*e*R			
	comp=Z,1μm,22.8s						
HAU	**Haudompre**	**22.88**	**74**	*e*P	**P**	**06 48 22.8**	**-0.8**
	comp=Z,42nm,1.1s						
CABF	**La Chapelle**	**22.96**	**77**	*e*P	**P**	**06 48 24.8**	**+0.3**
	comp=Z,149nm,1.3s						
CABF	**La Chapelle**	**22.96**	**77**	*e*P	**P**	**06 48 24.8**	**+0.3**
	comp=Z,75nm,1.3s						
ORIF	**Oris-en-Rattie**	**23.23**	**82**	*e*P	**P**	**06 48 26.9**	**-0.4**
	comp=Z,145nm,1.7s						
ORIF				*e*R			
	comp=Z,2μm,22.2s						
ORIF	**Oris-en-Rattie**	**23.23**	**82**	*e*P	**P**	**06 48 26.9**	**-0.4**
	comp=Z,72nm,1.7s						
HINF	**Hinteralfeld**	**23.25**	**74**	*e*P	**P**	**06 48 26.6**	**-0.8**
	comp=Z,128nm,1.5s						
HINF	**Hinteralfeld**	**23.25**	**74**	*e*P	**P**	**06 48 26.6**	**-0.8**
	comp=Z,64nm,1.5s						
SMRF	**Simiane la Rot**	**23.29**	**84**	*e*P	**P**	**06 48 26.0**	**-1.9**
	comp=Z,193nm,1.7s						
SMRF	**Simiane la Rot**	**23.29**	**84**	*e*P	**P**	**06 48 26.0**	**-1.9**
	comp=Z,97nm,1.7s						
LOMF	**Lomont**	**23.31**	**75**	*e*P	**P**	**06 48 26.5**	**-1.6**
ECH	**Echery**	**23.38**	**73**	*e*P	**P**	**06 48 28.7**	**0.0**
ECH				pmax	pmax		
	comp=Z,79nm,1.6s						
ECH	**Echery**	**23.38**	**73**	*e*P	**P**	**06 48 28.7**	**0.0**
	comp=Z,79nm,1.6s						
ECH	**Echery**	**23.38**	**73**	*e*P	**P**	**06 48 28.0**	**-0.7**
ECH	**Echery**	**23.38**	**73**	*e*P	**P**	**06 48 28.7**	**0.0**
	comp=

DAVOX Davos/Dischmat 25.47 76 P **P 06 48 50.2 +1.9**
comp=Z,10nm,0.8s,baz=297,slow=12,SNR=25
DAVOX LR LR 06 57 51.7
comp=Z,913nm,18.6s,baz=274,slow=34
DAVOX Davos/Dischmat 25.47 76 P **P 06 48 50.2 +1.9**
FUORN Ofenpass-Fuorn 25.76 76 *e*P **P 06 48 52.7 +1.7**
comp=Z,10nm,1.1s
FUORN Ofenpass-Fuorn 25.76 76 *e*P **P 06 48 52.7 +1.7**
comp=Z,10nm,1.1s
GRF Grafenberg Arr 25.82 69 *e*P P 06 48 56.6 +5.4
comp=Z,118nm,2.4s
GRF *e*L L 06 58 07.7
comp=Z,2µm,19.9s
GRF Grafenberg Arr 25.82 69 *e*P P 06 48 56.6 +5.4
GRF pmax pmax
comp=Z,118nm,2.4s
GRF MLR MLR
comp=Z,2µm,19.9s
GRFO Grafenberg 25.82 69 *e*P **P 06 48 53.0 +1.8**
GRFO pmax pmax
comp=Z,59nm,1.7s
GRFO Grafenberg 25.82 69 *e*P **P 06 48 53.0 +1.8**
comp=Z,59nm,1.7s
GRFO Grafenberg 25.82 69 *e*P **P 06 48 53.0 +1.8**
comp=Z,59nm,1.7s
SCHQ Schefferville 26.01 303 *e*P **P 06 48 52.7 -0.1**
comp=Z,198nm,2.8s
SCHQ Schefferville 26.01 303 P **P 06 48 53.0 +0.2**
comp=Z,5.7nm,0.8s,baz=105,slow=7.2,SNR=3.7
SCHQ LR LR 06 57 33.4
comp=Z,1µm,18.4s,baz=90,slow=33
SCHQ Schefferville 26.01 303 *e*P **P 06 48 52.7 -0.1**
comp=Z,198nm,2.8s
PGF Pioggiola 26.13 85 *e*P **P 06 48 53.9 -0.3**
comp=Z,74nm,1.4s
PGF Pioggiola 26.13 85 *e*P **P 06 48 53.9 -0.3**
comp=Z,37nm,1.4s
JMIC Jan Mayen 26.18 14 LR LR 06 56 48.0
comp=Z,309nm,18.0s,baz=71,slow=31
NKC Novy Kostel 26.53 67 *e*P P 06 49 03.6 +5.9
NKC Novy Kostel 26.53 67 *ep*P P 06 49 03.6 +5.9
NB2 NORSAR Subarra 26.58 43 P **P 06 48 57.5 -0.5**
comp=Z,18nm,1.7s,baz=255,slow=10
NB2 NORSAR Subarra 26.58 43 P **P 06 48 57.5 -0.5**
comp=Z,18nm,1.7s,baz=255,slow=9.5,SNR=6.3
NOA NORSAR Array B 26.58 43 P **P 06 48 58.2 +0.2**
NOA NORSAR Array B 26.58 43 P **P 06 48 58.2 +0.2**
comp=Z,2.8nm,0.9s,baz=254,slow=9.6,SNR=7.2
NOA LR LR 06 57 57.1
comp=Z,278nm,20.9s,baz=255,slow=33
NOA NORSAR Array B 26.58 43 P **P 06 48 58.2 +0.2**
SUMG Summit 26.63 353 *e*P **P 06 48 58.6 -0.1**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 26.63 353 *i* P **P 06 48 58.1 -0.6**
comp=Z,14nm,0.9s
SUMG
comp=Z,320nm,17.0s
SUMG Summit 26.63 353 *e*P **P 06 48 58.6 -0.1**
comp=Z,14nm,0.8s
SUMG Summit 26.63 353 *e*P **P 06 48 58.6 -0.1**
comp=Z,14nm,0.8s
CLL Collm 26.76 65 *e*P **P 06 48 59.0 -0.6**
CLL *i* 06 49 02.5
CLL *e*S S 06 53 43.0 +8.3
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 26.76 65 *e*P **P 06 48 59.0 -0.6**
comp=Z,4.0nm,0.9s
CLL *i* pP **pP 06 49 02.5 -1.6**
CLL *i* sP **sP 06 49 05.4 -0.6**
CLL *i* 06 49 15.4
CLL *e*S S 06 53 43.0 +8.3
CLL *e*(SSSS) 06 55 20.0
CLL Collm 26.76 65 *e*P **P 06 48 59.0 -0.6**
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 27.39 66 *e*P **P 06 49 10.1 +4.7**
comp=Z,21nm,1.6s
BRG S **S 06 53 50.0 +5.2**
BRG
comp=N,487nm,11.6s
BRG
comp=E,491nm,13.9s
BRG
comp=Z,826nm,14.2s
BRG Berggiesshubel 27.39 66 *e*P **P 06 49 10.1 +4.7**
BRG S **S 06 53 50.0 +5.2**
BRG pmax pmax
comp=Z,21nm,1.6s
BRG MLR MLR
comp=N,487nm,11.6s
BRG MLR MLR
comp=E,491nm,13.9s
BRG MLR MLR
comp=Z,826nm,14.2s
KHC Kasperske Hory 27.43 69 *e*P **P 06 49 07.4 +1.7**
KHC pmax pmax
comp=Z,19nm,1.6s
KHC Kasperske Hory 27.43 69 *e*P **P 06 49 07.2 +1.4**
KHC *ep*P **pP 06 49 12.0 +1.8**
KHC *e*S **S 06 53 43.7 -1.8**
KHC AMS AMS 06 59 10.0
comp=Z,1µm,18.8s
KHC Kasperske Hory 27.43 69 *e*P **P 06 49 07.4 +1.7**
comp=Z,19nm,1.6s
KHC Kasperske Hory 27.43 69 *e*P **P 06 49 07.4 +1.7**
comp=Z,19nm,1.6s
GEC2 GERESS Array S 27.56 70 *e*P **P 06 49 08.5 +1.5**
GEC2 GERESS Array S 27.56 70 *e*P **P 06 49 08.5 +1.5**
comp=Z,5µm,1.5s
GEC2 GERESS Array S 27.56 70 *e*P **P 06 49 08.5 +1.5**
comp=Z,5µm,1.5s
GERES GERESS Array B 27.56 70 P **P 06 49 07.5 +0.4**
GERES GERESS Array B 27.56 70 P **P 06 49 07.5 +0.4**
comp=Z,1.7nm,0.8s,baz=283,slow=7.5,SNR=10
GERES LR LR 06 59 27.1
comp=Z,1µm,19.1s,baz=270,slow=35
GERES GERESS Array B 27.56 70 P **P 06 49 07.4 +0.4**
HFS Hagfors 27.56 45 P **P 06 49 08.6 +1.8**
HFS Hagfors 27.56 45 P **P 06 49 08.6 +1.8**
comp=Z,1.8nm,0.8s,baz=246,slow=9.3,SNR=3.1
HFS LR LR 06 58 28.1
comp=Z,288nm,20.3s,baz=248,slow=33
HFS Hagfors 27.56 45 P **P 06 49 08.6 +1.8**
PVCC Panska Ves 27.84 66 AMS AMS 07 01 00.0
comp=Z,600nm,13.2s
PRU Pruhonice 27.90 67 *e*P **P 06 49 11.3 +1.4**
PRU *e* 06 49 16.8
PRU MLR MLR
comp=Z,1µm,19.8s
PRU Pruhonice 27.90 67 *e*P **P 06 49 11.3 +1.4**
PRU *ep*P **pP 06 49 16.8 +2.4**
PRU AMS AMS 06 59 10.0
comp=Z,1µm,19.8s
PRU Pruhonice 27.90 67 P **P 06 49 11.3 +1.4**
TREC Trest 28.63 69 AMS AMS 07 00 20.0
comp=Z,1µm,14.7s
UPC Upice 28.75 66 *e*P **P 06 49 18.9 +1.4**
UPC Upice 28.75 66 *e*P **P 06 49 18.9 +1.4**
UPC Upice 28.75 66 *e*P **P 06 49 18.9 +1.4**
DPC Dobruska-Polom 28.97 66 *e*P **P 06 49 22.3 +2.8**
DPC Dobruska-Polom 28.97 66 *e*P **P 06 49 22.3 +2.8**
DPC AMS AMS 07 00 00.0
DPC Dobruska-Polom 28.97 66 *e*P **P 06 49 22.3 +2.8**
VRAC Vranov 29.34 68 P **P 06 49 24.5 +1.8**
VRAC Vranov 29.34 68 P **P 06 49 24.5 +1.8**
comp=Z,1.0nm,0.3s,baz=280,slow=6.1,SNR=2.4
VRAC LR LR 07 00 43.5
comp=Z,2µm,18.8s,baz=271,slow=36
VRAC Vranov 29.34 68 P **P 06 49 24.5 +1.8**
KEST Kesra 29.49 98 *e*P **P 06 49 25.7 +1.4**
KEST Kesra 29.49 98 P **P 06 49 24.4 +0.1**
comp=Z,2.0nm,0.9s,baz=248,slow=5.5,SNR=4.5
KEST LR LR 07 00 22.6
comp=Z,667nm,18.1s,baz=216,slow=35
KEST Kesra 29.49 98 *e*P **P 06 49 25.7 +1.4**
MORC Moravsky Berou 29.85 67 *e*P **P 06 49 28.8 +1.5**
MORC pmax pmax
comp=Z,10.0nm,1.4s
MORC Moravsky Berou 29.85 67 *e*P **P 06 49 28.8 +1.5**
comp=Z,10nm,1.4s
MORC Moravsky Berou 29.85 67 *e*P **P 06 49 28.8 +1.5**
comp=Z,10.0nm,1.4s
OKC Ostrava-Krasne 30.22 67 AMS AMS 07 01 10.0
comp=Z,1µm,16.5s
DAG Danmarks Havn 30.56 4 *i* P **P 06 49 33.6 +0.4**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG MLR MLR
comp=Z,270nm,16.0s
DAG Danmarks Havn 30.56 4 *i* P **P 06 49 33.6 +0.4**
comp=Z,5.8nm,0.9s
DAG
comp=Z,260nm,16.0s
DAG Danmarks Havn 30.56 4 *i* P **P 06 49 33.6 +0.4**
comp=Z,270nm,16.0s
VYHS Vyhne 30.96 69 *e*P **P 06 49 39.3 +2.2**
VYHS Vyhne 30.96 69 *e*P **P 06 49 39.2 +2.2**
VYHS Vyhne 30.96 69 *e*P **P 06 49 39.3 +2.2**
PSZ Píszkesteto 31.79 70 *e*P **P 06 49 46.0 +1.6**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 31.79 70 *e*P **P 06 49 46.0 +1.6**
comp=Z,12nm,1.0s
PSZ Piszkesteto 31.79 70 *e*P **P 06 49 46.0 +1.6**
comp=Z,12nm,1.0s
CUC Castrocucco 31.86 86 *e*P **P 06 49 47.0 +1.9**
comp=Z,17nm,1.1s
CUC Castrocucco 31.86 86 *e*P **P 06 49 47.0 +1.9**
comp=Z,17nm,1.1s
KECS Kecovo 32.02 69 *e*P **P 06 49 46.6 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 32.02 69 *e*P **P 06 49 46.6 +0.2**
KECS Kecovo 32.02 69 *e*P **P 06 49 46.6 +0.2**
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 32.28 67 *e*P **P 06 49 49.9 +1.2**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 32.28 67 *e*P **P 06 49 49.9 +1.2**
STHS Stebnicka Huta 32.28 67 *e*P **P 06 49 49.9 +1.2**
comp=Z,4.0nm,1.0s
CRVS Cervenica-Dubn 32.54 68 *e*P **P 06 49 50.9 -0.1**
CRVS pmax pmax
comp=Z,17nm,1.7s
CRVS Cervenica-Dubn 32.54 68 *e*P **P 06 49 50.9 -0.1**
CRVS Cervenica-Dubn 32.54 68 *e*P **P 06 49 50.9 -0.1**
comp=Z,17nm,1.7s
NCB Newcomb 32.66 283 *e*P **P 06 49 53.3 +1.2**
comp=Z,43nm,1.8s
NCB Newcomb 32.66 283 *e*P **P 06 49 53.3 +1.2**
comp=Z,43nm,1.8s
LONY Lake Ozonia 32.67 284 *e*P **P 06 49 53.1 +1.0**
comp=Z,13nm,1.0s
LONY Lake Ozonia 32.67 284 *e*P **P 06 49 53.1 +1.0**
comp=Z,13nm,1.0s
KOLS Kolonicke sedl 33.05 67 *e*P **P 06 49 56.9 +1.5**
KOLS pmax pmax
comp=Z,17nm,2.1s
KOLS Kolonicke sedl 33.05 67 *e*P **P 06 49 56.9 +1.5**
KOLS Kolonicke sedl 33.05 67 *e*P **P 06 49 56.9 +1.5**
comp=Z,17nm,2.1s
FINES FINESS Array B 33.73 44 P **P 06 50 01.0 -0.2**
FINES FINESS Array B 33.73 44 P **P 06 50 01.0 -0.2**
comp=Z,4.5nm,0.9s,baz=263,slow=5.0,SNR=17
FINES LR LR 07 02 20.3
comp=Z,338nm,20.9s,baz=270,slow=34
FINES FINESS Array B 33.73 44 P **P 06 50 01.0 -0.2**
FIA1 FINESS Array S 33.74 44 *e*P **P 06 50 00.9 -0.3**
FIA1 FINESS Array S 33.74 44 *e*P **P 06 50 00.9 -0.3**
KAF Kangasniemi 33.86 43 *e*P **P 06 50 02.2 -0.1**
KAF pmax pmax
comp=Z,11nm,0.8s
KAF Kangasniemi 33.86 43 *e*p **P 06 50 02.2 -0.1**
comp=Z,11nm,0.8s
KAF Kangasniemi 33.86 43 *e*P **P 06 50 02.2 -0.1**
comp=Z,11nm,0.8s
VSU Vasula 34.13 49 *ce*P **P 06 50 02.7 -1.9**
VSU pmax pmax
comp=Z,18nm,1.2s
VSU Vasula 34.13 49 *e*P **P 06 50 02.7 -1.9**
comp=Z,18nm,1.2s
BINY Binghamton 34.53 281 *e*P **P 06 50 09.2 +0.8**
comp=Z,44nm,1.8s
BINY Binghamton 34.53 281 *e*P **P 06 50 09.2 +0.8**
comp=Z,44nm,1.8s
ARCES ARCESS Array B 34.57 30 P **P 06 50 07.9 -0.4**
ARCES ARCESS Array B 34.57 30 P **P 06 50 07.9 -0.4**
comp=Z,4.1nm,0.8s,baz=255,slow=8.7,SNR=26
ARCES LR LR 07 02 13.4
comp=Z,230nm,20.0s,baz=264,slow=33
ARCES ARCESS Array B 34.57 30 P **P 06 50 07.9 -0.4**
ARE0 ARCESS Array S 34.57 30 *e*P **P 06 50 07.7 -0.7**
ARE0 ARCESS Array S 34.57 30 *e*P **P 06 50 07.7 -0.7**
BUR08 Bucovina Ar. S 35.29 68 *e*P **P 06 50 16.8 +1.8**
BUR08 Bucovina Ar. S 35.29 68 *e*P **P 06 50 16.8 +1.8**
MLR Muntele Rosu 36.51 72 P P 06 50 28.7 +3.3
MLR Muntele Rosu 36.51 72 P P 06 50 28.7 +3.3
comp=Z,2.2nm,1.1s,baz=313,slow=14,SNR=6.1
MLR LR LR 07 04 55.8
comp=Z,150nm,20.0s,baz=282,slow=36
AKASG Malin Array Be 36.92 62 *i* P **P 06 50 28.1 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 36.92 62 P **P 06 50 27.1 -1.5**
AKASG Malin Array Be 36.92 62 P **P 06 50 27.1 -1.5**
comp=Z,2.1nm,0.8s,baz=284,slow=8.4,SNR=8.6
AKASG LR LR 07 06 17.1
comp=Z,664nm,18.5s,baz=290,slow=37
AKASG Malin Array Be 36.92 62 *i* P **P 06 50 28.1 -0.6**
comp=Z,2.0nm,0.7s
LVZ Lovozero 37.64 33 *d i*P **P 06 50 34.2 -0.5**
LVZ pmax pmax
comp=Z,14nm,1.0s
LVZ Lovozero 37.64 33 *i* P **P 06 50 34.2 -0.5**
comp=Z,14nm,1.0s
TMCR Tamitsa 39.12 39 *e*P **P 06 50 46.7 -0.4**
TMCR *e* 06 52 56.3
TMCR pmax pmax
comp=Z,39nm,1.4s
TMCR Tamitsa 39.12 39 *e*P **P 06 50 46.7 -0.4**
comp=Z,39nm,1.4s
TMCR Tamitsa 39.12 39 *e*PcP **PcP 06 52 56.3 -0.1**
BLA Blacksburg 39.87 276 *e*P **P 06 50 55.9 +2.2**
BLA pmax pmax
comp=Z,21nm,1.3s
BLA Blacksburg 39.87 276 *e*P **P 06 50 55.9 +2.2**
comp=Z,21nm,1.3s
BLA Blacksburg 39.87 276 *e*P **P 06 50 55.9 +2.2**
comp=Z,21nm,1.3s
OBN Obninsk 40.02 53 ⇓*i*P **P 06 50 54.7 +0.1**
OBN *e* 06 52 58.8
OBN pmax pmax
comp=Z,24nm,1.6s
OBN MLR MLR
comp=Z,600nm,20.0s
OBN Obninsk 40.02 53 *i* P **P 06 50 54.7 +0.1**
comp=Z,24nm,1.6s
OBN Obninsk 40.02 53 *e*PcP **PcP 06 52 58.8 -0.6**
comp=Z,600nm,20.0s
TOA0 Torodi Ar. Sit 41.33 134 *e*P **P 06 51 05.9 0.0**
TOA0 Torodi Ar. Sit 41.33 134 *e*P **P 06 51 05.9 0.0**
TORD Torodi Ar. Bea 41.33 134 P **P 06 51 05.3 -0.6**
TORD Torodi Ar. Bea 41.33 134 P **P 06 51 05.3 -0.6**
comp=Z,6.9nm,1.0s,baz=328,slow=7.9,SNR=21
TORD LR LR 07 07 12.9
comp=Z,2µm,18.2s,baz=325,slow=35
TORD Torodi Ar. Bea 41.33 134 P **P 06 51 05.3 -0.6**
TKL Tuckaleechee C 42.98 276 P **P 06 51 20.7 +1.4**
TKL Tuckaleechee C 42.98 276 P **P 06 51 20.7 +1.4**
comp=Z,1.9nm,0.8s,baz=63,slow=17,SNR=2.4
TKL Tuckaleechee C 42.98 276 P **P 06 51 20.7 +1.4**
BLO Bloomington 43.04 282 *e*P **P 06 51 21.4 +1.7**
BLO pmax pmax
comp=Z,58nm,1.7s
BLO Bloomington 43.04 282 *e*P **P 06 51 21.4 +1.7**
comp=Z,58nm,1.7s
BLO Bloomington 43.04 282 *e*P **P 06 51 21.4 +1.7**
comp=Z,58nm,1.7s
WCI Wyandotte Cave 43.36 281 *e*P **P 06 51 23.4 +1.1**
WCI pmax pmax
comp=Z,23nm,1.4s
WCI Wyandotte Cave 43.36 281 *e*P **P 06 51 23.4 +1.1**
comp=Z,23nm,1.4s
WCI Wyandotte Cave 43.36 281 *e*P **P 06 51 23.4 +1.1**
comp=Z,23nm,1.4s
CPCT Cooper Cave 43.61 276 *e*P **P 06 51 25.9 +1.6**
CPCT Cooper Cave 43.61 276 *e*P **P 06 51 25.9 +1.6**
BR131 Keskin Array S 44.12 76 *e*P **P 06 51 30.4 +1.9**
comp=Z,4.5nm,1.0s
BR131 Keskin Array S 44.12 76 *e*P **P 06 51 30.4 +1.9**
comp=Z,4.5nm,1.0s
BRTR Keskin Array B 44.12 76 P **P 06 51 28.6 +0.1**
BRTR Keskin Array B 44.12 76 P **P 06 51 28.6 +0.1**
comp=Z,2.8nm,0.9s,baz=304,slow=5.2,SNR=9.7
BRTR LR LR 07 09 47.0
comp=Z,264nm,20.7s,baz=107,slow=36
BRTR Keskin Array B 44.12 76 P **P 06 51 28.6 +0.1**
ULM Lac du Bonnet 44.15 301 *e*P **P 06 51 29.3 +0.8**
comp=Z,4.8nm,1.1s
ULM Lac du Bonnet 44.15 301 P **P 06 51 28.7 +0.3**
comp=Z,5.8nm,0.9s,baz=56,slow=5.6,SNR=5.8
ULM LR LR 07 08 03.8
comp=Z,677nm,18.9s,baz=252,slow=34
ULM Lac du Bonnet 44.15 301 *e*P **P 06 51 29.3 +0.8**
comp=Z,5.0nm,1.1s
ANN Anapa 44.22 68 *e*P **P 06 51 28.1 -1.0**
ANN *e*S **S 06 58 05.9 +4.1**
ANN pmax pmax
comp=Z,28nm,1.0s
ANN MLR MLR
comp=N,592nm,18.0s
ANN MLR MLR
comp=Z,584nm,18.0s
ANN MLR MLR
comp=E,347nm,9.0s
ANN Anapa 44.22 68 *e*P **P 06 51 28.1 -1.0**
comp=E,28nm,1.0s
ANN *e*S **S 06 58 05.9 +4.1**
LIC Lamto 44.56 147 *e*P **P 06 51 33.7 +1.6**
LIC *e*R
comp=E,1µm,19.8s
LIC Lamto 44.56 147 *e*P **P 06 51 33.7 +1.6**
SWET Sewanee 44.70 277 *e*P **P 06 51 35.1 +2.0**
comp=E,17nm,1.2s
SWET Sewanee 44.70 277 *e*P **P 06 51 35.1 +2.0**
comp=E,17nm,1.2s
AGMN Agassiz Nation 44.92 298 *e*P **P 06 51 35.0 +0.3**
comp=E,9.3nm,1.1s
AGMN Agassiz Nation 44.92 298 *e*P **P 06 51 35.0 +0.3**
comp=E,9.3nm,1.1s
WVT Waverly 45.50 279 *e*P **P 06 51 41.4 +2.0**
WVT pmax pmax
comp=Z,22nm,1.5s
WVT Waverly 45.50 279 *e*P **P 06 51 41.4 +2.0**
comp=Z,22nm,1.5s
WVT Waverly 45.50 279 *e*P **P 06 51 41.4 +2.0**
comp=Z,22nm,1.5s
SIUC Southern Illin 45.60 282 *e*P **P 06 51 40.4 +0.2**
comp=Z,48nm,1.7s
SIUC Southern Illin 45.60 282 *e*P **P 06 51 40.4 +0.2**
comp=Z,48nm,1.7s
FFC Flin Flon 45.89 309 *i* P **P 06 51 43.4 +1.1**
FFC Flin Flon 45.89 309 *e*P **P 06 51 43.0 +0.8**
comp=Z,16nm,1.0s
FFC Flin Flon 45.89 309 *e*P **P 06 51 43.0 +0.8**
comp=Z,16nm,1.0s
PLAL Pickwick Lake 46.30 278 *e*P **P 06 51 47.0 +1.3**
comp=Z,167nm,2.8s
PLAL Pickwick Lake 46.30 278 *e*P **P 06 51 47.0 +1.3**
comp=Z,167nm,2.8s
ECSD EROS Data Cent 47.45 293 *e*P **P 06 51 55.5 +0.9**
comp=Z,13nm,1.3s
ECSD EROS Data Cent 47.45 293 *e*P **P 06 51 55.5 +0.9**
comp=Z,13nm,1.3s
KIV Kislovodsk 47.95 66 ⇓*e*P **P 06 51 55.8 -2.8**
KIV *e*S S 06 59 04.0 +8.4
KIV pmax pmax
comp=Z,12nm,1.2s
KIV MLR MLR
comp=Z,300nm,16.0s
KBZ Khabaz 48.19 66 P **P 06 52 00.9 +0.5**
KBZ Khabaz 48.19 66 P **P 06 52 00.8 +0.5**
KBZ Khabaz 48.19 66 P **P 06 52 00.8 +0.5**
comp=Z,2.2nm,0.8s,baz=259,slow=5.2,SNR=2.4
KBZ LR LR 07 13 14.9
comp=Z,298nm,18.8s,baz=169,slow=37
KBZ Khabaz 48.19 66 P **P 06 52 00.9 +0.5**
A26A Wade Farm, Ken 48.35 302 ⇓P **P 06 52 01.3 -0.3**
baz=48
C27A Sayler Ranch, 48.58 300 ⇓P **P 06 52 04.0 +0.7**
baz=48
SOKR Solikamsk 48.85 42 *e*P **P 06 52 05.3 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR Solikamsk 48.85 42 *e*P **P 06 52 05.3 +0.2**
comp=Z,10.0nm,1.0s
A25A Svangstu Ranch 48.96 302 ⇓P **P 06 52 07.4 +1.1**
baz=49,SNR=5.8
YKA Yellowknife Ar 48.96 322 P **P 06 52 05.0 -1.0**
YKA Yellowknife Ar 48.96 322 P **P 06 52 05.0 -1.0**
comp=Z,3.1nm,0.9s,baz=62,slow=7.8,SNR=8.9
YKA Yellowknife Ar 48.96 322 P **P 06 52 05.0 -1.0**
ZEI Tsey 49.30 67 *e*P **P 06 52 12.0 +2.9**
ZEI pmax pmax
comp=Z,43nm,1.8s
ZEI Tsey 49.30 67 *e*P **P 06 52 12.0 +2.9**
comp=Z,43nm,1.8s
F27A Lemmon 49.77 298 ⇓P **P 06 52 13.2 +0.7**
baz=50
KSU1 Kansas State U 49.80 288 *e*P **P 06 52 13.3 +0.5**
comp=Z,22nm,0.9s
KSU1 Kansas State U 49.80 288 *e*P **P 06 52 13.3 +0.5**
comp=Z,22nm,0.9s
DGMT Dagmar 49.82 302 *e*P **P 06 52 13.7 +0.9**
comp=Z,13nm,1.0s
DGMT Dagmar 49.82 302 *e*P **P 06 52 13.7 +0.9**
comp=Z,13nm,1.0s
DGMT Dagmar 49.82 302 ⇓P **P 06 52 15.1 +2.3**
baz=50
B23A Brockton 50.28 302 ⇓P **P 06 52 18.2 +1.8**
baz=50,SNR=16
A22A Carney Farms, 50.57 303 P **P 06 52 19.9 +1.4**
baz=50,SNR=7.5
C23A Lambert 50.72 302 ⇓P **P 06 52 21.2 +1.6**
baz=50,SNR=5.6
TUL1 Tulsa 51.01 284 ⇑P **P 06 52 22.3 +0.4**
baz=51,SNR=6.4
ARU Arti 51.09 45 *d i*P **P 06 52 21.7 -0.5**
ARU 06 54 13.2
ARU S **S 06 59 39.1 +0.1**
ARU SS SS 07 03 06.6 -6.9
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 51.09 45 *i* P **P 06 52 21.7 -0.5**
comp=Z,10.0nm,1.0s
ARU S **S 06 59 39.1 +0.1**
C22A Vida 51.16 302 ⇓P **P 06 52 24.2 +1.2**
baz=51,SNR=7.6
GNI Garni 51.21 69 *e*P **P 06 52 23.6 0.0**
comp=Z,18nm,1.7s
E23A Ismay 51.44 300 ⇓P **P 06 52 26.9 +1.8**
baz=51,SNR=5.4
B21A Ellsworth Farm 51.48 303 ⇑P **P 06 52 26.5 +1.2**
baz=51,SNR=7.0
D22A Cohagen 51.63 301 ⇓P **P 06 52 27.8 +1.3**
baz=51,SNR=7.1
J26A Sides Ranch, S 51.72 296 ⇑P **P 06 52 27.6 +0.3**
baz=52
I25A Rochford 51.76 297 ⇑P **P 06 52 27.8 +0.1**
baz=52
A20A Cobblestone Ra 51.78 304 ⇓P **P 06 52 28.2 +0.6**
baz=52
C21A Desert Coulee 51.83 303 ⇓P **P 06 52 29.1 +1.1**
baz=52,SNR=6.2
E22A Miles City 51.85 300 ⇑P **P 06 52 29.0 +0.8**
baz=52
F23A Volborg 51.90 299 ⇑P **P 06 52 29.1 +0.6**
baz=52
O29A 4D Ranch, Culb 51.97 291 ⇑P **P 06 52 29.6 +0.3**
baz=52
K26A Motz Farm, Whi 52.10 295 ⇑P **P 06 52 30.6 +0.4**
baz=52
D21A La Casta Ranch 52.15 302 ⇑P **P 06 52 31.3 +0.9**
baz=52,SNR=6.6
C20A Veseth Ranch, 52.41 303 P **P 06 52 33.8 +1.5**
baz=52,SNR=7.5
B19A Brinkman Farms 52.57 304 P **P 06 52 34.4 +0.8**
baz=52,SNR=12
EDM Edmonton 52.58 311 *e*P **P 06 52 34.0 +0.5**
EDM Edmonton 52.58 311 *e*P **P 06 52 34.0 +0.5**
EDM Edmonton 52.58 311 *e*P **P 06 52 34.0 +0.5**
D20A Manuel Ranch, 52.81 302 P **P 06 52 36.2 +0.9**
baz=52,SNR=9.8
A18A Metzger Ranch, 52.85 305 P **P 06 52 36.1 +0.5**
baz=53,SNR=12
C19A Slack Wire Ran 53.01 303 P **P 06 52 37.6 +0.9**
baz=53,SNR=16
B18A Beardsley Farm 53.08 304 P **P 06 52 37.9 +0.6**

baz=53,SNR=8.5
INK Inuvik 53.10 333 eP P 06 52 36.1 -0.9
comp=Z,6.5nm,1.0s
INK Inuvik 53.10 333 eP P 06 52 36.1 -0.9
comp=Z,6.0nm,1.0s
E20A Meyer Farm, Mu 53.11 302 P P 06 52 38.4 +0.8
baz=53,SNR=7.8
D19A Cripps Ranch, 53.20 303 P P 06 52 38.9 +0.6
baz=53,SNR=8.4
EGMT Eagleton 53.26 304 eP P 06 52 39.3 +0.7
comp=Z,24nm,1.1s
EGMT Eagleton 53.26 304 eP P 06 52 39.3 +0.7
comp=Z,24nm,1.1s
EGMT Eagleton 53.26 304 P P 06 52 39.4 +0.8
baz=53,SNR=7.5
A17A Triple J Farms 53.32 305 P P 06 52 40.3 +1.3
baz=53,SNR=20
F20A Billings 53.49 301 P P 06 52 41.1 +0.7
baz=53,SNR=7.7
E19A Rath Farm, Rou 53.52 302 P P 06 52 41.0 +0.4
baz=53,SNR=6.6
WMOK Wichita Mounta 53.68 284 eP P 06 52 41.8 0.0
WMOK pmax pmax
comp=Z,17nm,1.4s
WMOK Wichita Mounta 53.68 284 eP P 06 52 41.8 0.0
comp=Z,17nm,1.4s
WMOK Wichita Mounta 53.68 284 eP P 06 52 41.8 0.0
comp=Z,17nm,1.4s
B17A L&G Farms, Che 53.72 305 P P 06 52 42.5 +0.5
baz=53,SNR=5.9
AKTK Aktyubinsk 53.77 52 P P 06 52 42.2 0.0
AKTO Aktyubinsk 53.77 52 P P 06 52 42.2 0.0
AKTO Aktyubinsk 53.77 52 P P 06 52 42.2 0.0
AKTO Aktyubinsk 53.77 52 P P 06 52 42.2 0.0
comp=Z,3.3nm,0.9s,baz=299,slow=8.2,SNR=7.5
AKTO Aktyubinsk 53.77 52 P P 06 52 42.2 0.0
A16A West Butte Ran 53.82 306 P P 06 52 42.9 +0.1
baz=54,SNR=10
G20A Bridger 53.84 300 P P 06 52 43.2 +0.2
baz=54,SNR=8.8
F19A Roth Farm, Mol 53.94 301 P P 06 52 44.2 +0.5
baz=54,SNR=7.5
C17A Wharram Farm, 54.04 304 P P 06 52 44.8 +0.4
baz=54,SNR=12
H20A Greybull 54.11 299 P P 06 52 45.5 +0.5
baz=54,SNR=13
D17A Six Diamond Ra 54.26 303 P P 06 52 46.5 +0.5
baz=54,SNR=12
R27A Eads 54.29 290 P P 06 52 47.0 +0.6
baz=54,SNR=8.9
GCMT Greycliff 54.40 302 eP P 06 52 47.2 +0.2
comp=Z,33nm,1.8s
GCMT Greycliff 54.40 302 eP P 06 52 47.2 +0.2
comp=Z,33nm,1.8s
A15A Johnson Ranch, 54.44 306 P P 06 52 47.5 +0.2
baz=54,SNR=9.2
RLMT Red Lodge 54.52 301 eP P 06 52 48.6 +0.5
comp=Z,13nm,1.3s
RLMT Red Lodge 54.52 301 eP P 06 52 48.6 +0.5
comp=Z,13nm,1.3s
X31A McDonald Ranch 54.54 285 P P 06 52 49.0 +0.9
baz=54,SNR=5.9
H19A Powell 54.60 300 P P 06 52 49.6 +1.1
baz=54,SNR=5.7
E17A Martinsdale 54.73 303 P P 06 52 49.9 +0.4
baz=54,SNR=7.6
N23A Red Feather La 54.82 295 P P 06 52 51.8 +1.4
baz=55,SNR=7.7
A14A Double T Ranch 54.83 306 P P 06 52 50.5 +0.4
baz=54,SNR=19
F17A Fitzpatrick Pl 54.91 302 P P 06 52 51.7 +0.8
baz=55,SNR=5.6
I19A Meeteetse 54.95 299 P P 06 52 52.0 +0.8
baz=55,SNR=6.9
Z32A Haskell 54.99 283 P P 06 52 51.8 +0.4
baz=55,SNR=9.0
H18A Shoshone NF, C 55.00 300 P P 06 52 52.0 +0.4
baz=55,SNR=6.7
C15A Salmond Ranch, 55.02 305 P P 06 52 51.9 +0.3
baz=55,SNR=12
WALA Waterton Lakes 55.05 307 eP P 06 52 51.8 0.0
comp=Z,1.0nm,1.0s
WALA Waterton Lakes 55.05 307 eP P 06 52 51.8 0.0
comp=Z,1.0nm,1.0s
B14A Marquette Ranc 55.08 306 P P 06 52 51.8 -0.1
baz=55,SNR=19
Y31A Rekieta Farm, 55.12 285 P P 06 52 53.7 +1.3
baz=55,SNR=5.5
HRY Holter Researc 55.16 303 eP P 06 52 53.0 +0.5
HRY Holter Researc 55.16 303 eP P 06 52 53.0 +0.5
ISCO Idaho Springs 55.23 293 eP P 06 52 53.3 -0.1
ISCO pmax pmax
comp=Z,7.0nm,1.4s
ISCO Idaho Springs 55.23 293 eP P 06 52 53.3 -0.1
comp=Z,7.2nm,1.4s
ISCO Idaho Springs 55.23 293 eP P 06 52 53.3 -0.1
comp=Z,7.0nm,1.4s
W29A Amraillo 55.36 287 P P 06 52 55.5 +1.4
baz=55,SNR=5.7
Z31A Sharp Cattle R 55.43 284 P P 06 52 54.9 +0.3
baz=55,SNR=7.4
ABKAR Abkulak array 55.45 53 eP P 06 52 55.3 +0.9
ABKAR Abkulak array 55.45 53 eP P 06 52 55.3 +0.9
AMTX Amarillo 55.52 286 eP P 06 52 56.5 +1.2
comp=Z,160nm,2.2s
AMTX Amarillo 55.52 286 eP P 06 52 56.5 +1.2
comp=Z,160nm,2.2s
TEIG Tepich 55.62 263 LR LR 07 11 46.7
comp=Z,366nm,21.6s,baz=266,slow=31
BOZ Bozeman (W) 55.62 302 eP P 06 52 56.4 +0.5
BOZ pmax pmax
comp=Z,11nm,1.2s
BOZ Bozeman (W) 55.62 302 eP P 06 52 56.4 +0.5
comp=Z,11nm,1.2s
BOZ Bozeman (W) 55.62 302 eP P 06 52 56.4 +0.5
comp=Z,11nm,1.2s
SLMT Seeley Lake 55.81 305 eP P 06 52 57.8 +0.5
SLMT Seeley Lake 55.81 305 eP P 06 52 57.8 +0.5
YFT Old Faithful 55.82 301 eP P 06 52 59.8 +2.3
comp=Z,15nm,1.1s
YFT Old Faithful 55.82 301 eP P 06 52 59.8 +2.3
comp=Z,15nm,1.1s
CHMT Chamberlain Mo 55.86 304 eP P 06 52 57.8 +0.1
CHMT Chamberlain Mo 55.86 304 eP P 06 52 57.8 +0.1
H16A Russell Place, 55.92 301 P P 06 52 59.1 +0.9
baz=56,SNR=6.1
SWMT Swartz Lake 55.95 305 eP P 06 52 58.1 -0.1
SWMT Swartz Lake 55.95 305 eP P 06 52 58.1 -0.1
232A Coleman 55.96 282 P P 06 52 58.6 +0.3
baz=56,SNR=7.2
T25A Trinidad 55.99 290 P P 06 53 00.3 +1.5
baz=56,SNR=6.9
BW06 Boulder Array 56.00 298 eP P 06 52 57.7 -1.1
comp=Z,9.6nm,1.4s
BW06 Boulder Array 56.00 298 eP P 06 52 57.7 -1.1
comp=Z,9.6nm,1.4s
PDAR Pinedale Array 56.00 298 P P 06 52 58.3 -0.5
PDAR Pinedale Array 56.00 298 P P 06 52 58.3 -0.5
comp=Z,2.3nm,1.0s,baz=78,slow=7.7,SNR=13
PDAR LR LR 07 15 16.3
comp=Z,618nm,21.2s,baz=59,slow=34
PDAR Pinedale Array 56.00 298 P P 06 52 58.3 -0.5
LRM Limekiln Ridge 56.01 303 eP P 06 52 59.4 +0.6
LRM Limekiln Ridge 56.01 303 eP P 06 52 59.4 +0.6
LOHW Long Hollow 56.16 300 eP P 06 53 00.3 +0.4
comp=Z,14nm,1.4s
LOHW Long Hollow 56.16 300 eP P 06 53 00.3 +0.4
comp=Z,14nm,1.4s
MOOW Moose Ponds 56.16 300 eP P 06 53 00.2 +0.3
comp=Z,8.7nm,1.2s
MOOW Moose Ponds 56.16 300 eP P 06 53 00.2 +0.3
comp=Z,8.7nm,1.2s
IMW Indian Meadow 56.20 300 eP P 06 53 01.0 +0.8
comp=Z,10.0nm,1.3s
IMW Indian Meadow 56.20 300 eP P 06 53 01.0 +0.8
comp=Z,10.0nm,1.3s
BSMT Bassoo Peak 56.20 306 eP P 06 53 00.2 +0.1
BSMT Bassoo Peak 56.20 306 eP P 06 53 00.2 +0.1
MSO Missoula 56.30 305 eP P 06 53 00.8 +0.2
comp=Z,9.4nm,1.1s
MSO Missoula 56.30 305 eP P 06 53 00.9 +0.2
comp=Z,9.4nm,1.1s
MSO Missoula 56.30 305 P P 06 53 00.9 +0.2
baz=56,SNR=10
332A Millersview 56.33 282 P P 06 53 01.3 +0.2
baz=56,SNR=12
SNOW Snow King Moun 56.33 300 eP P 06 53 01.9 +0.7
comp=Z,33nm,1.6s
SNOW Snow King Moun 56.33 300 eP P 06 53 01.9 +0.7
comp=Z,33nm,1.6s
SDCO Great Sand Dun 56.34 291 eP P 06 53 02.3 +0.9
comp=Z,32nm,2.4s
SDCO Great Sand Dun 56.34 291 eP P 06 53 02.3 +0.9
comp=Z,32nm,2.4s
DLMT Dillon 56.35 302 eP P 06 53 01.9 +0.7
comp=Z,14nm,1.2s
DLMT Dillon 56.35 302 eP P 06 53 01.9 +0.7
comp=Z,14nm,1.2s
U25A Circle Dot Ran 56.42 289 P P 06 53 03.5 +1.7
baz=56,SNR=11
TPAW Teton Pass 56.43 300 eP P 06 53 02.5 +0.6
comp=Z,9.0nm,1.3s
TPAW Teton Pass 56.43 300 eP P 06 53 02.5 +0.6
comp=Z,9.0nm,1.3s
REDW Red Top Meadow 56.45 300 eP P 06 53 02.5 +0.5
comp=Z,33nm,1.4s
REDW Red Top Meadow 56.45 300 eP P 06 53 02.5 +0.5
comp=Z,33nm,1.4s
Z29A Hungry Hill Ra 56.51 285 P P 06 53 02.5 +0.2
baz=56,SNR=5.9
432A Menard 56.67 281 P P 06 53 04.2 +0.7
baz=56,SNR=5.8
RRI2 Red Ridge 56.73 300 eP P 06 53 05.0 +0.9
comp=Z,40nm,2.1s
RRI2 Red Ridge 56.73 300 eP P 06 53 05.0 +0.9
comp=Z,40nm,2.1s
MSTX Muleshoe 56.79 286 P P 06 53 05.0 +0.6
baz=57,SNR=8.0
MCMT McKenzie Canyo 56.80 302 eP P 06 53 05.0 +0.5
comp=Z,2.1nm,1.2s
MCMT McKenzie Canyo 56.80 302 eP P 06 53 04.9 +0.5
comp=Z,2.1nm,1.2s
JCT Junction City 56.92 281 eP P 06 53 05.9 +0.6
JCT pmax pmax
comp=Z,9.0nm,1.0s
JCT Junction City 56.92 281 eP P 06 53 05.9 +0.6
comp=Z,9.3nm,1.0s
JCT Junction City 56.92 281 eP P 06 53 05.9 +0.6
comp=Z,9.0nm,1.0s
Z28A Tucker Farm, M 56.95 285 P P 06 53 05.9 +0.4
baz=57,SNR=6.1
O19A Miners Draw (B 57.15 296 P P 06 53 08.0 +1.1
baz=57,SNR=11
532A Rocksprings 57.21 281 P P 06 53 07.5 +0.1
baz=57,SNR=6.9
NEW Newport 57.26 307 eP P 06 53 07.5 0.0
comp=Z,22nm,1.1s
NEW Newport 57.26 307 eP P 06 53 07.5 0.0
comp=Z,22nm,1.1s
NEW Newport 57.26 307 P P 06 53 07.7 +0.2
baz=57,SNR=15
632A Uvalde 57.52 280 P P 06 53 10.5 +1.0
baz=57,SNR=6.8
DAWY Dawson 57.57 331 eP P 06 53 09.5 +0.1
DAWY Dawson 57.57 331 eP P 06 53 09.5 +0.1
DLBC Dease Lake 57.58 323 eP P 06 53 10.3 +0.7
DLBC Dease Lake 57.58 323 eP P 06 53 10.3 +0.7
531A Rocksprings 57.62 281 P P 06 53 10.7 +0.5
baz=58,SNR=6.7
I14A Mackay 57.67 301 P P 06 53 12.0 +1.4
baz=57,SNR=6.6
T22A Edith 57.67 291 P P 06 53 12.4 +1.6
baz=57,SNR=5.1
EGAK Eagle 57.68 332 eP P 06 53 09.8 -0.3
comp=Z,8.7nm,1.2s
EGAK Eagle 57.68 332 eP P 06 53 09.8 -0.3
comp=Z,8.6nm,1.2s
430A Baggett Ranch, 57.70 282 P P 06 53 11.6 +0.8
baz=58,SNR=6.7
W24A Lazy 6 Ranch, 57.78 289 P P 06 53 13.3 +1.8
baz=58,SNR=8.1
S21A Coal Bank Pass 57.86 292 P P 06 53 13.6 +1.4
baz=58,SNR=6.2
HWUT Hardware Ranch 57.89 298 eP P 06 53 12.1 -0.1
comp=Z,12nm,1.3s
HWUT Hardware Ranch 57.89 298 eP P 06 53 12.1 -0.1
comp=Z,12nm,1.3s
ROSC El Rosal 57.92 239 LR LR 07 14 41.9
comp=Z,187nm,20.6s,baz=17,slow=32
PV04 Paradox Valley 58.13 294 eP P 06 53 14.5 +0.6
PV04 Paradox Valley 58.13 294 eP P 06 53 14.5 +0.6
530A J-C Ranch, Com 58.17 282 P P 06 53 14.5 +0.5
baz=58,SNR=8.8
PV10 Paradox Valley 58.23 294 eP P 06 53 16.2 +1.6
comp=Z,195nm,0.9s
PV10 Paradox Valley 58.23 294 eP P 06 53 16.2 +1.6
comp=Z,195nm,0.9s
DAU Daniels Canyon 58.40 297 eP P 06 53 17.3 +1.4
DAU Daniels Canyon 58.40 297 eP P 06 53 17.3 +1.4
DAU Daniels Canyon 58.40 297 eP P 06 53 17.3 +1.4
HLID Hailey 58.45 302 eP P 06 53 16.7 +0.7
comp=Z,24nm,1.7s
HLID Hailey 58.45 302 eP P 06 53 16.7 +0.7
comp=Z,24nm,1.7s
HLID Hailey 58.45 302 P P 06 53 17.4 +1.4
baz=58,SNR=9.6
Z25A Roswell 58.50 287 P P 06 53 17.8 +1.4
baz=58,SNR=6.6
MVCO Mesa Verde 58.58 292 eP P 06 53 17.5 +0.4
comp=Z,7.8nm,1.1s
MVCO Mesa Verde 58.58 292 eP P 06 53 17.5 +0.4
comp=Z,7.8nm,1.1s
COLD Coldfoot 58.61 337 eP P 06 53 17.1 +0.6
comp=Z,5.2nm,0.9s
COLD Coldfoot 58.61 337 eP P 06 53 17.1 +0.6
comp=Z,5.2nm,0.9s
BRVK Borovoye 58.62 44 eP P 06 53 17.2 +0.4
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 58.62 44 eP P 06 53 17.2 +0.4
comp=Z,7.0nm,0.9s
BRVK Borovoye 58.62 44 eP P 06 53 17.2 +0.4
comp=Z,7.0nm,0.9s
ANMO Albuquerque 58.63 289 eP P 06 53 18.4 +1.0
comp=Z,11nm,1.6s
ANMO Albuquerque 58.63 289 eP P 06 53 18.4 +1.0
comp=Z,11nm,1.6s
BVAR Borovoye Array 58.69 44 P P 06 53 17.6 +0.3
BVAR Borovoye Array 58.69 44 P P 06 53 17.6 +0.3
BVAR Borovoye Array 58.69 44 P P 06 53 17.6 +0.3
comp=Z,3.9nm,0.8s,baz=305,slow=5.2,SNR=24
BVAR Borovoye Array 58.69 44 P P 06 53 17.6 +0.3
428A Kincaid Ranch, 58.72 283 P P 06 53 18.8 +0.8
baz=58,SNR=7.4
SRU San Rafael 58.72 295 eP P 06 53 18.6 +0.6
SRU pmax pmax
comp=Z,38nm,2.1s
SRU San Rafael 58.72 295 eP P 06 53 18.6 +0.6
comp=Z,38nm,2.1s
SRU San Rafael 58.72 295 eP P 06 53 18.6 +0.6
comp=Z,38nm,2.1s
529A Stev Forest Ra 58.78 282 P P 06 53 18.9 +0.5
baz=59,SNR=8.7
226B Tecolote Peak, 58.87 285 P P 06 53 20.1 +1.1
baz=59,SNR=7.9
TMUT Trail Mountain 59.04 296 eP P 06 53 20.9 +0.6
comp=Z,19nm,1.3s
TMUT Trail Mountain 59.04 296 eP P 06 53 20.9 +0.6
comp=Z,19nm,1.3s
SKAG Skagway 59.09 325 eP P 06 53 21.6 +1.6
comp=Z,114nm,2.5s
SKAG Skagway 59.09 325 eP P 06 53 21.6 +1.6
comp=Z,114nm,2.5s
427A Hayter Ranch, 59.12 284 P P 06 53 21.4 +0.6
baz=59,SNR=7.2
WTV Waterville 59.14 308 P P 06 53 20.5 -0.1
WTV Waterville 59.14 308 P P 06 53 20.5 -0.1
BNM Barren Site 59.23 289 eP P 06 53 23.0 +1.4
comp=Z,4.6nm,1.1s
BNM Barren Site 59.23 289 eP P 06 53 23.0 +1.4
comp=Z,4.6nm,1.1s
Q16A Castle Valley 59.24 296 P P 06 53 22.6 +1.0
baz=59,SNR=6.0
124A Stringfield Ra 59.34 287 P P 06 53 23.9 +1.4
baz=59,SNR=8.3
BMO Blue Mountains 59.36 304 eP P 06 53 20.6 -1.6
comp=Z,2.9nm,0.9s
BMO Blue Mountains 59.36 304 eP P 06 53 20.6 -1.6
comp=Z,2.9nm,0.9s
MFID Camas Ranch 59.36 302 eP P 06 53 23.6 +1.3
comp=Z,37nm,2.5s
MFID Camas Ranch 59.36 302 eP P 06 53 23.6 +1.3
comp=Z,37nm,2.5s
LAZ Ladron 59.40 289 eP P 06 53 24.2 +1.4
comp=Z,8.0nm,2.0s
LAZ Ladron 59.40 289 eP P 06 53 24.2 +1.4
comp=Z,8.0nm,2.0s
ILAR Eielson Array 59.46 334 P P 06 53 22.8 +0.3
ILAR Eielson Array 59.46 334 P P 06 53 22.8 +0.3
comp=Z,2.2nm,0.9s,baz=42,slow=5.1,SNR=24
ILAR LR LR 07 17 55.2
comp=Z,255nm,19.0s,baz=320,slow=35
ILAR Eielson Array 59.46 334 P P 06 53 22.8 +0.3
DUG Dugway 59.49 298 eP P 06 53 24.1 +0.9
DUG pmax pmax
comp=Z,23nm,1.4s
DUG Dugway 59.49 298 eP P 06 53 24.1 +0.9
comp=Z,23nm,1.4s
DUG Dugway 59.49 298 eP P 06 53 24.1 +0.9
comp=Z,23nm,1.4s
DUG Dugway 59.49 298 P P 06 53 24.2 +0.9
baz=59,SNR=8.1
Y22A Socorro 59.58 289 P P 06 53 25.6 +1.7
baz=59,SNR=9.3
628A Black Gap, Mar 59.63 282 P P 06 53 24.9 +0.7
baz=60,SNR=5.3
426A McDonald Obser 59.66 284 P P 06 53 25.6 +0.9
baz=60,SNR=9.8
COLA College 59.67 335 eP P 06 53 24.1 +0.2
COLA pmax pmax
comp=Z,29nm,1.1s
COLA College 59.67 335 eP P 06 53 24.1 +0.2
comp=Z,29nm,1.1s
COLA College 59.67 335 eP P 06 53 24.0 +0.2
comp=Z,29nm,1.1s
527A Woodward Ranch 59.70 283 P P 06 53 25.5 +0.6
baz=60,SNR=8.6
MENT Mentasta 59.77 332 eP P 06 53 25.2 +0.5
MENT Mentasta 59.77 332 eP P 06 53 25.2 +0.5
X21A Alamocita Cree 59.80 289 P P 06 53 27.5 +1.9
baz=60,SNR=5.9
EBG Ellensburg 59.95 308 P P 06 53 26.2 0.0
EBG Ellensburg 59.95 308 P P 06 53 26.2 0.0
627A Terlingua Ranc 59.99 282 P P 06 53 27.8 +1.0
baz=60,SNR=15
Z22A Elephant Butte 60.00 288 P P 06 53 28.2 +1.4
baz=60,SNR=10
526A Mary Lane Ranc 60.08 283 P P 06 53 28.6 +1.1
baz=60,SNR=6.5
MSU Marysvale 60.11 296 eP P 06 53 29.0 +1.4
MSU Marysvale 60.11 296 eP P 06 53 29.0 +1.4
MSU Marysvale 60.11 296 eP P 06 53 29.0 +1.4
MVU Marysvale 60.14 296 eP P 06 53 28.9 +1.0
comp=Z,32nm,1.8s
MVU Marysvale 60.14 296 eP P 06 53 28.9 +1.0
comp=Z,32nm,1.8s
TXAR Lajitas Array 60.25 282 P P 06 53 29.2 +0.7
TXAR Lajitas Array 60.25 282 P P 06 53 29.2 +0.7
comp=Z,2.7nm,0.8s,baz=66,slow=7.1,SNR=34
TXAR LR LR 07 19 28.7
comp=Z,1µm,18.7s,baz=0.0,slow=36
TXAR Lajitas Array 60.25 282 P P 06 53 29.2 +0.7
PAX Paxson 60.31 332 eP P 06 53 29.2 +0.7
PAX Paxson 60.31 332 eP P 06 53 29.1 +0.7
PAX Paxson 60.31 332 eP P 06 53 29.1 +0.7
Z21A St. Cloud Mine 60.43 288 P P 06 53 31.6 +1.7
baz=60,SNR=6.0
JTS JuntasAbangare 60.43 253 LR LR 07 16 06.1
comp=Z,128nm,21.2s,baz=47,slow=33
IM04 Indian Mountai 60.50 338 eP P 06 53 29.6 0.0
IM04 Indian Mountai 60.50 338 eP P 06 53 29.6 0.0
HDW Hoodsport 60.84 310 P P 06 53 32.8 +0.6
HDW Hoodsport 60.84 310 P P 06 53 32.8 +0.6
MCK McKinley 60.84 334 eP P 06 53 31.7 -0.2
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 60.84 334 eP P 06 53 31.7 -0.2
comp=Z,7.5nm,0.9s
MCK McKinley 60.84 334 eP P 06 53 31.7 -0.2
comp=Z,7.0nm,0.9s
TIXI Tiksi 60.93 8|| eP P 06 53 33.9 +1.5
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 60.93 8 eP P 06 53 33.9 +1.5
comp=Z,15nm,1.7s
OSD Olympics--Snow 61.07 310 P P 06 53 34.8 +0.8
OSD Olympics--Snow 61.07 310 P P 06 53 34.8 +0.8
ARUT Antelope Range 61.34 296 eP P 06 53 36.9 +0.9
ARUT pmax pmax
comp=Z,12nm,1.4s
ARUT Antelope Range 61.34 296 eP P 06 53 36.9 +0.9
comp=Z,12nm,1.4s
ARUT Antelope Range 61.34 296 eP P 06 53 36.9 +0.9
comp=Z,12nm,1.4s
NLWA Neilton Lookou 61.43 310 eP P 06 53 37.1 +0.9
comp=Z,25nm,1.3s
NLWA Neilton Lookou 61.43 310 eP P 06 53 37.1 +0.9
comp=Z,25nm,1.3s
CCUT Cedar City 61.44 295 eP P 06 53 37.9 +1.2
comp=Z,52nm,2.4s
CCUT Cedar City 61.44 295 eP P 06 53 37.9 +1.2
comp=Z,52nm,2.4s
TRF Thorofare Moun 61.45 335 eP P 06 53 35.6 -0.7
comp=Z,16nm,1.2s
TRF Thorofare Moun 61.45 335 eP P 06 53 35.6 -0.7
comp=Z,16nm,1.2s
U15A North Rim 61.47 294 P P 06 53 37.5 +0.5
baz=61,SNR=5.3
WVOR Wild Horse Val 61.60 303 eP P 06 53 38.4 +0.8
WVOR pmax pmax
comp=Z,21nm,1.2s
WVOR Wild Horse Val 61.60 303 eP P 06 53 38.4 +0.8
comp=Z,22nm,1.2s
WVOR Wild Horse Val 61.60 303 eP P 06 53 38.4 +0.8
comp=Z,21nm,1.2s
R11A Troy Canyon, C 62.32 297 P P 06 53 43.2 +0.6
baz=62,SNR=5.4
FRIS Frissel Point 62.46 306 P P 06 53 43.6 +0.2
FRIS Frissel Point 62.46 306 P P 06 53 43.6 +0.2
PMR Palmer 62.49 333 eP P 06 53 43.5 +0.4
PMR pmax pmax
comp=Z,7.0nm,1.0s
PMR Palmer 62.49 333 eP P 06 53 43.5 +0.4
comp=Z,6.9nm,1.0s
PMR Palmer 62.49 333 eP P 06 53 43.5 +0.4
comp=Z,7.0nm,1.0s
TUC Tucson 63.09 289 eP P 06 53 49.0 +1.4
TUC pmax pmax
comp=Z,5.0nm,1.3s
TUC Tucson 63.09 289 eP P 06 53 49.0 +1.4
comp=Z,5.0nm,1.3s
TUC Tucson 63.09 289 eP P 06 53 49.0 +1.4
comp=Z,5.0nm,1.3s
SHPR Sheep Range 63.22 296 eP P 06 53 48.8 +0.3
SHPR Sheep Range 63.22 296 eP P 06 53 48.8 +0.3
NVS Novosibirsk 63.32 37 eP P 06 53 45.6 -3.1
NVS pmax pmax
comp=Z,7.0nm,1.0s
NVS pmax pmax
comp=E,2.0nm,0.6s
NV11 Mina Array Sit 63.83 299 eP P 06 53 52.6 +0.1
NV11 Mina Array Sit 63.83 299 eP P 06 53 52.6 +0.1
NVAR Mina Array Bea 63.92 299 P P 06 53 53.0 -0.2
NVAR Mina Array Bea 63.92 299 P P 06 53 53.0 -0.2
comp=E,1.1nm,1.0s,baz=32,slow=6.8,SNR=9.1
NVAR LR LR 07 20 30.1
comp=E,515nm,19.5s,baz=136,slow=35
NVAR Mina Array Bea 63.92 299 P P 06 53 53.0 -0.2
LBCM Butte Creek Ri 64.18 303 P P 06 53 55.1 +0.3
LBCM Butte Creek Ri 64.18 303 P P 06 53 55.1 +0.3
BDFB Brasilia 64.59 202 LR LR 07 18 11.0
comp=E,320nm,18.1s,baz=18,slow=32
ZALV Zalesovo Beam 64.61 37 i P P 06 53 59.7 +2.5
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 64.61 37 P P 06 53 56.5 -0.7
ZALV Zalesovo Beam 64.61 37 P P 06 53 56.5 -0.7
comp=Z,0.7nm,0.5s,baz=298,slow=6.2,SNR=3.5
ZALV LR LR 07 22 21.6
comp=Z,182nm,20.0s,baz=68,slow=36
ZALV Zalesovo Beam 64.61 37 P P 06 53 56.5 -0.7
GSC Goldstone 65.01 296 eP P 06 54 01.7 +1.5
GSC pmax pmax
comp=Z,12nm,1.2s
GSC Goldstone 65.01 296 eP P 06 54 01.7 +1.5
comp=Z,12nm,1.2s
GSC Goldstone 65.01 296 eP P 06 54 01.7 +1.5
comp=Z,12nm,1.2s
OHCM Honcut 65.23 302 eP P 06 54 01.7 +0.3
OHCM Honcut 65.23 302 eP P 06 54 01.7 +0.3
CMB Columbia Colle 65.43 300 eP P 06 54 03.6 +0.8

CMB pmax pmax
comp=Z,7.0nm,1.1s
CMB Columbia Colle 65.43 300 *e*P **P 06 54 03.6 +0.8**
comp=Z,6.7nm,1.1s
CMB Columbia Colle 65.43 300 *e*P **P 06 54 03.6 +0.8**
comp=Z,7.0nm,1.1s
ISA Isabella 65.81 297 *e*P **P 06 54 06.4 +1.0**
ISA pmax pmax
comp=Z,23nm,1.6s
ISA Isabella 65.81 297 *e*P **P 06 54 06.4 +1.0**
comp=Z,23nm,1.6s
ISA Isabella 65.81 297 *e*P **P 06 54 06.4 +1.0**
comp=Z,23nm,1.6s
AAK Ala-Archa 67.50 51⇑ *e*P **P 06 54 17.2 +1.0**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 67.50 51 P **P 06 54 16.3 +0.1**
AAK Ala-Archa 67.50 51 P **P 06 54 16.3 +0.1**
comp=Z,2.3nm,0.5s,baz=260,slow=7.9,SNR=6.3
AAK Ala-Archa 67.50 51 P **P 06 54 16.3 +0.1**
MK31 Makanchi Array 68.57 44 *e*P **P 06 54 22.1 -0.6**
MK31 Makanchi Array 68.57 44 *e*P **P 06 54 22.1 -0.6**
MK31 Makanchi Array 68.57 44 *e*P **P 06 54 22.1 -0.6**
MKAR Makanchi Array 68.57 44 P **P 06 54 22.6 -0.1**
MKAR Makanchi Array 68.57 44 P **P 06 54 22.6 -0.1**
MKAR Makanchi Array 68.57 44 P **P 06 54 22.6 -0.1**
comp=Z,3.8nm,0.9s,baz=324,slow=6.0,SNR=29
MKAR LR LR 07 26 02.2
comp=Z,194nm,19.3s,baz=98,slow=37
MKAR Makanchi Array 68.57 44 P **P 06 54 22.5 -0.1**
KSH Kashi 70.46 53 P **P 06 54 35.8 +1.2**
KSH sP **sP 06 54 41.9 +0.7**
KSH PP **PP 06 57 12.9 +2.8**
KSH S **S 07 03 45.1 -1.9**
KSH sS **sS 07 03 53.0 -2.0**
KSH SKS **SKSac 07 04 32.1 -3.8**
KSH SS **SS 07 08 17.4 +0.2**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=N,92nm,5.1s
KSH LR LR
comp=E,140nm,6.5s
KSH LR LR
comp=Z,110nm,17.2s
SEY Seymchan 70.89 0*c*e*P* **P 06 54 35.9 -0.7**
SEY Seymchan 70.89 0 *e*P **P 06 54 35.9 -0.7**
LPAZ La Paz 72.47 221 LR LR 07 22 41.0
comp=Z,118nm,20.0s,baz=207,slow=33
WMQ Urumqi 73.33 43 *e*P P 06 54 45.1 -6.6
WMQ LR LR
comp=N,140nm,24.0s
WMQ LR LR
comp=E,190nm,21.0s
WMQ LR LR
comp=Z,140nm,28.0s
KMBO Kilima Mbogo 73.69 110 LR LR 07 26 58.6
comp=Z,455nm,20.4s,baz=282,slow=36
CPUP Villa Florida 77.40 207 LR LR 07 29 24.5
comp=Z,84nm,18.2s,baz=340,slow=36
SONM Songino Array 77.74 30 P **P 06 55 15.7 -1.3**
SONM Songino Array 77.74 30 P **P 06 55 15.7 -1.3**
comp=Z,1.8nm,0.9s,baz=321,slow=2.1,SNR=7.0
SONM LR LR 07 29 14.8
comp=Z,75nm,19.8s,baz=189,slow=36
SONM Songino Array 77.74 30 P **P 06 55 15.7 -1.3**
PETK Petropavlovsk- 80.65 357 LR LR 07 33 24.9
comp=Z,65nm,18.8s,baz=218,slow=37
GTA Gaotai 82.33 38 *e*P **P 06 55 42.0 +0.1**
GTA pP **pP 06 55 46.8 0.0**
GTA sP **sP 06 55 49.0 +0.4**
GTA S **S 07 05 54.6 -2.6**
GTA sS **SKSac 07 06 02.4 +0.1**
GTA SS **SS 07 11 16.7 +0.4**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,170nm,4.7s
GTA LR LR
comp=N,190nm,15.2s
GTA LR LR
comp=E,220nm,15.0s
GTA LR LR
comp=Z,320nm,17.6s
HHC Hu-ho-hao-te 85.64 30 *e*P **P 06 55 57.4 -1.4**
HHC sP **sP 06 56 03.8 -1.7**
HHC PP **PP 06 59 16.6 -0.2**
HHC SKS **SKSac 07 06 17.7 -6.0**
HHC S **S 07 06 25.5 -4.9**
HHC SS **SS 07 12 02.6 -2.4**
HHC pmax pmax
comp=Z,72nm,0.7s
HHC LR LR
comp=N,450nm,16.6s
HHC LR LR
comp=E,380nm,16.6s
HHC LR LR
comp=Z,280nm,17.1s
CFAA Coronel Fontan 86.06 214 LR LR 07 28 46.3
comp=Z,14nm,21.1s,baz=63,slow=32
LZH Lanzhou 86.84 38 *e*P **P 06 56 05.2 +0.4**
LZH pP **pP 06 56 10.0 +0.2**
LZH sP **sP 06 56 12.5 +1.0**
LZH pmax pmax
comp=Z,14nm,1.0s
CN2 Changchun 86.91 19 *e*P P 06 56 02.0 -2.8
MDJ Mudanjiang 87.00 16 P **P 06 56 04.3 -0.9**
MDJ pP **PcP 06 56 07.8 +0.4**
MDJ sP **sP 06 56 09.2 -2.7**
MDJ S **SKKSac 07 06 39.4 -1.0**
MDJ SS **SS 07 12 26.1 +1.7**
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,170nm,5.7s
MDJ LR LR
comp=N,31nm,18.9s
MDJ LR LR
comp=E,49nm,17.2s
MDJ LR LR
comp=Z,48nm,25.7s
USRK Ussuriysk Arra 87.85 15 P **P 06 56 08.9 -0.4**
comp=Z,2.0nm,0.9s,baz=352,slow=3.9,SNR=4.8
BOSA Boshof 88.67 136 LR LR 07 34 09.6
comp=Z,311nm,18.8s,baz=326,slow=34
CD2 Chengdu 91.21 40 *e*P **P 06 56 25.6 +0.2**
CD2 sP **sP 06 56 32.6 +0.5**
CD2 PP **PP 07 00 03.6 +2.0**
CD2 SKS **SKSac 07 06 55.6 -1.7**
CD2 S **S 07 07 19.8 -3.6**
CD2 sS **ScS 07 07 27.3 +0.8**
CD2 SS **SS 07 13 25.8 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,150nm,18.0s
CD2 LR LR
comp=Z,140nm,16.2s
KSRS Korea Array 93.52 19 P **P 06 56 34.2 -1.6**
comp=Z,0.9nm,0.7s,baz=348,slow=3.8,SNR=4.7
KSAR Wonju Array Be 93.53 19 P **P 06 56 34.2 -1.7**
KSAR Wonju Array Be 93.53 19 P **P 06 56 34.2 -1.7**
PLCA Paso Flores 95.00 211 LR LR 07 38 19.3
comp=Z,157nm,20.6s,baz=316,slow=35
KMI Kunming 95.65 44 P **P 06 56 48.0 +1.9**
KMI S **S 07 07 59.2 -3.9**
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI LR LR
comp=Z,92nm,27.1s
NJ2 Nanjing 96.07 28 *e*P **P 06 56 46.2 -1.4**
NJ2 pmax pmax
comp=Z,20nm,0.8s
GYA Guiyang 96.33 40 *e*P **P 06 56 49.1 0.0**
GYA PP **PP 07 00 44.4 +2.6**
GYA SKS **SKSac 07 07 23.8 -1.7**
GYA S S 07 08 03.2 -5.5
GYA SS **SS 07 14 38.9 -0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA LR LR
comp=N,450nm,20.4s
GYA LR LR
comp=E,390nm,21.0s
GYA LR LR
comp=Z,440nm,20.6s
CMAR Chiang Mai Arr 99.28 51 LR LR 07 47 59.7
comp=Z,121nm,18.1s,baz=162,slow=39
PPT2 Papeete2 124.58 281 *e*SS SS 07 20 55.9 -3.8
comp=Z,95nm,28.8s
PPT2 Papeete2 124.58 281 *e*LR LR 07 40 58.9
comp=Z,294nm,24.2s
TBI Tubuai 128.43 276 *e*LR LR 07 42 50.7
comp=Z,254nm,38.2s
VNDA Vanda 148.68 184 PKPbc **PKPbc 07 03 06.6 +0.8**
VNDA Vanda 148.68 184 PKPbc **PKPbc 07 03 06.6 +0.8**
comp=Z,2.8nm,1.0s,baz=232,slow=2.6,SNR=11
WRAB Tennant Creek 149.57 35 *e*PKP2 **PKPbc 07 03 08.6 -1.1**
WRAB Tennant Creek 149.57 35 *e*PKPbc **PKPbc 07 03 08.6 -1.1**
WRA Warramunga Arr 149.57 35 PKPbc **PKPbc 07 03 09.3 -0.4**
WRA Warramunga Arr 149.57 35 PKPbc **PKPbc 07 03 09.3 -0.4**
comp=Z,4.6nm,0.9s,baz=335,slow=3.3,SNR=19
AS31 Alice Springs 152.69 40 *e*PKPbc **PKPbc 07 03 15.9 -1.0**
AS31 *e*PKPab **PKPab 07 03 26.4 -1.2**
ASAR Alice Springs 152.69 40 PKPbc **PKPbc 07 03 16.1 -0.9**
ASAR Alice Springs 152.69 40 PKPbc **PKPbc 07 03 16.1 -0.9**
comp=Z,2.6nm,0.9s,baz=340,slow=2.5,SNR=22
ASAR Alice Springs 152.69 40 PKPbc **PKPbc 07 03 16.0 -0.9**
DZM Mont Dzumac 153.12 330 *e*LR LR 07 54 02.4
comp=Z,201nm,27.4s

IDC 08 07:03:13.4±3.0, 4°.59S×133°.25E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=129.2km s-min=28.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.30**	**176**	Pn	Pn	07 06 49.5	-1.4
	0.1nm,0.3s,baz=359,slow=14,SNR=5.6						
WRA				Sn	Sn	07 09 27.1	-14
	0.0nm,0.3s,baz=359,slow=23,SNR=2.8						
FITZ	**Fitzroy Crossi**	**15.35**	**208**	Pn	Pn	07 06 50.6	-1.0
	0.1nm,0.3s,baz=23,slow=15,SNR=13						
FITZ				Sn	Sn	07 09 32.5	-10
	0.1nm,0.3s,baz=344,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**18.98**	**178**	P	Pn	07 07 37.5	+0.3
	0.1nm,0.3s,baz=2.6,slow=12,SNR=14						
MKAR	**Makanchi Array**	**68.06**	**325**	P	P	07 14 15.0	0.0
	0.2nm,0.5s,baz=124,slow=7.2,SNR=3.1						

IDC 08 07:05:17.8±0.9, 13°.93S×71°.16W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.1/2, MS3.3/2, Ms1 3.4/2, ms1mx2.8/24, Error ellipse: s-maj=31.0km s-min=20.3km az=42.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.75**	**129**	Pn	Pn	07 06 21.6	+3.8
	3.8nm,0.3s,baz=284,slow=10,SNR=52						
LPAZ				Lg	Lg	07 07 19.7	
	3.6nm,0.3s,baz=354,slow=19,SNR=2.0						
LPAZ				LR	LR	07 08 09.2	
	comp=Z,454nm,18.1s,baz=329,slow=46						
ATAH	**Atahualpa**	**9.81**	**313**	Pn	Pn	07 07 45.1	+4.3
	0.4nm,0.3s,baz=92,slow=16,SNR=3.9						
SIV	**San Ignacio**	**9.96**	**103**	Pn	Pn	07 07 44.1	+1.7
	0.8nm,0.3s,baz=298,slow=12,SNR=12						
SIV				Sn	Sn	07 09 39.0	+3.9
	0.9nm,0.3s,baz=258,slow=20,SNR=2.3						
SIV				Lg	Lg	07 10 35.1	
	0.5nm,0.3s,baz=253,slow=18,SNR=3.5						
SIV				LR	LR	07 11 58.0	
	comp=Z,145nm,19.2s,slow=40						
CFAA	**Coronel Fontan**	**17.79**	**172**	P	P	07 09 28.3	+0.4
	0.0nm,0.3s,baz=333,slow=9.6,SNR=3.9						
PLCA	**Paso Flores**	**26.70**	**179**	P	P	07 10 58.9	-0.1
	1.5nm,0.9s,baz=352,slow=9.4,SNR=4.0						
TXAR	**Lajitas Array**	**53.25**	**324**	P	P	07 14 38.6	0.0
	0.2nm,0.8s,baz=140,slow=10,SNR=2.5						
PDAR	**Pinedale Array**	**66.52**	**330**	P	P	07 16 11.2	+1.4
	0.3nm,0.8s,baz=113,slow=8.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.01**	**73**	P	P	07 17 12.1	-1.2
	1.7nm,0.8s,baz=256,slow=6.2,SNR=6.7						
YKA	**Yellowknife Ar**	**83.37**	**341**	P	P	07 17 46.4	-0.1
	1.5nm,0.8s,baz=135,slow=5.2,SNR=7.3						
ASAR	**Alice Springs**	**135.31**	**214**	PKP	PKPdf	07 24 39.4	-1.1
	0.2nm,0.8s,baz=95,slow=2.0,SNR=2.7						
WRA	**Warramunga Arr**	**138.02**	**217**	PKP	PKPdf	07 24 43.6	-2.0
	0.5nm,0.9s,baz=151,slow=1.3,SNR=3.3						
MJAR	**Matsushiro Arr**	**145.41**	**316**	PKPbc	PKPbc	07 24 57.4	-0.9
	0.7nm,0.3s,baz=38,slow=1.4,SNR=5.0						
SONM	**Songino Array**	**146.14**	**3**	PKPbc	PKPdf	07 24 59.6	+0.2
	0.7nm,0.7s,baz=348,slow=1.7,SNR=4.0						

IDC 08 08:01:40.7±4.8, 46°.54N×147°.67E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=124.4km s-min=49.2km az=10.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**39.04**	**38**	P	P	08 09 08.7	-0.1
	0.4nm,0.5s,baz=266,slow=6.9,SNR=8.5						
FINES	**FINESS Array B**	**62.56**	**333**	P	P	08 12 05.8	0.0
	0.4nm,0.6s,baz=46,slow=8.0,SNR=4.2						
PDAR	**Pinedale Array**	**67.84**	**51**	P	P	08 12 40.4	-0.4
	0.3nm,0.8s,baz=335,slow=3.2,SNR=2.6						
TXAR	**Lajitas Array**	**80.80**	**57**	P	P	08 13 56.7	+0.3
	0.2nm,0.6s,baz=294,slow=3.5,SNR=4.4						

*IDC **08** 08:06:46.0±2.2, 27°.69N×53°.14E, h0km, mb3.7/10, mb1 3.7/10, mb1mx3.6/27, mbtmp3.7/10, Error ellipse: s-maj=45.1km s-min=23.2km az=164.0*
*ISCJB **08** 08:06:48.3±1.0, 27°.8N±0°.1×53°.02E±0°.07, h20km, mb3.7/10, Error ellipse: s-maj=16.0km s-min=9.4km az=176.2*
*CSEM **08** 08:06:51.8, 27°.98N×53°.18E, h24km, ML3.3, After THR*
*KISR **08** 08:07:34.6±0.9, 29°.49N×49°.36E, h34km±74km, ML2.0*

ISC 08 08:06:49.3±1.0, 27°.7N±0°.1×53°.14E±0°.07, h20km, n19, σ0°98/18, mb3.8/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.57**	**347**	*e*Pg	**Pb**	**08 06 59.6**	**-1.1**
BNDS	**Bandar-Abbas**	**2.72**	**96**	*e*Pn	**Pb**	**08 07 36.2**	**-1.1**
KRBR	**Kerman**	**3.89**	**54**	*e*Pn	**Pn**	**08 07 50.2**	**+1.9**
NASN	**Na'in**	**5.06**	**357**	*e*Pn	**Pn**	**08 08 05.4**	**+1.0**
RDF	**Al-Radifah**	**5.07**	**285**	*e*P	Pn	08 08 08.5	+4.4
RDF				*e*S	Px	08 08 34.3	
RDF				AML	AML	08 08 37.6	
	comp=Z,26nm,0.6s						
NAY	**Al-Naaiem**	**5.40**	**288**	*e*P	**Pn**	**08 08 10.8**	**+2.0**
NAY				*e*S	Px	08 08 38.3	
NAY				AML	AML	08 08 44.9	
	comp=Z,6.6nm,0.6s						
MIB	**Mutribah**	**5.49**	**293**	*e*P	**Pn**	**08 08 10.5**	**+0.5**
MIB				*e*S	Px	08 08 36.6	
MIB				AML	AML	08 08 47.2	
	comp=Z,21nm,0.6s						
TABS	**Tabas**	**6.83**	**29**	*e*Pn	**Pn**	**08 08 29.7**	**+1.3**
BRTR	**Keskin Array B**	**20.10**	**312**	P	**P**	**08 11 21.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=126,slow=14,SNR=2.7						
AKTO	**Aktyubinsk**	**22.98**	**8**	P	**P**	**08 11 52.9**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=185,slow=12,SNR=10						
BVAR	**Borovoye Array**	**28.33**	**22**	P	**P**	**08 12 42.0**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=211,slow=8.1,SNR=6.7						
AKASG	**Malin Array Be**	**29.25**	**328**	P	**P**	**08 12 49.8**	**0.0**
	comp=Z,2.6nm,0.5s,baz=131,slow=7.2,SNR=1.8						
MKAR	**Makanchi Array**	**29.75**	**42**	P	**P**	**08 12 54.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=234,slow=8.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**34.99**	**33**	P	**P**	**08 13 39.4**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=250,slow=7.1,SNR=3.1						
FINES	**FINESS Array B**	**38.26**	**339**	P	**P**	**08 14 07.7**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=142,slow=9.8,SNR=18						
NOA	**NORSAR Array B**	**43.50**	**332**	P	**P**	**08 14 50.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=123,slow=8.5,SNR=3.1						
ARCES	**ARCESS Array B**	**44.81**	**347**	P	**P**	**08 15 01.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=137,slow=11,SNR=5.1						
SONM	**Songino Array**	**45.63**	**49**	P	**P**	**08 15 08.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=277,slow=8.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**49.99**	**264**	P	**P**	**08 15 42.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=60,slow=7.4,SNR=5.7						

IDC 08 08:09:21.6±3.0, 14°.56S×167°.42E, h153km±27km, mb3.2/5, mb1 3.4/7, mb1mx3.3/21, mbtmp3.3/7, Error ellipse: s-maj=29.9km s-min=21.8km az=93.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.53**	**187**	P	Pn	08 11 10.0	+1.2
	0.3nm,0.3s,baz=270,slow=23,SNR=32						
DZM				S	Sn	08 12 33.0	-0.1
	baz=307,slow=20,SNR=2.8						
HNR	**Honiara**	**8.91**	**304**	P	Pn	08 11 26.1	-1.1
	11nm,0.3s,baz=143,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**29.21**	**229**	P	P	08 15 08.3	-0.6
	1.1nm,0.4s,baz=63,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**32.01**	**256**	P	P	08 15 33.6	-0.1
	0.3nm,0.9s,baz=86,slow=9.2,SNR=7.4						
ASAR	**Alice Springs**	**32.87**	**249**	P	P	08 15 41.3	+0.1
	0.2nm,0.3s,baz=76,slow=10.0,SNR=6.8						
SONM	**Songino Array**	**82.45**	**324**	P	P	08 21 28.3	+1.4
	0.2nm,0.3s,baz=134,slow=4.2,SNR=2.9						
ILAR	**Eielson Array**	**86.32**	**18**	P	P	08 21 45.4	-0.5
	0.2nm,0.7s,baz=232,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**120.13**	**345**	PKP	PKPdf	08 27 52.4	-1.2
	0.4nm,0.6s,baz=64,slow=2.3,SNR=6.3						

*ISCJB **08** 08:34:27.7±0.6, 41°.72N±0°.02×22°.20E±0°.04, h4km±4km, Error ellipse: s-maj=5.1km s-min=3.3km az=169.0*
*THE **08** 08:34:28.9, 41°.77N×22°.29E, h2km±45km, ML2.3/2, Error ellipse: s-maj=45.1km s-min=1.2km az=232.0*
*CSEM **08** 08:34:28.3±0.2, 41°.73N×22°.18E, h10km, ML2.3/2, Error ellipse: s-maj=4.0km s-min=2.6km az=76.0*
*SKO **08** 08:34:28.0, 41°.73N×22°.16E, h20km, M2.3, ML2.7*
*ATH **08** 08:34:29.0, 41°.71N×22°.18E, h32km±2km, MD3.1/3*
*BEO **08** 08:34:29.6±0.4, 41°.73N×22°.20E, h0km, ML2.1/6*

ISC 08 08:34:28.4±1.1, 41°.74N±0°.02×22°.18E±0°.03, h8km±10km, n36, σ0°50/61, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.51**	**145**	P	**Pg**	**08 34 37.7**	**-0.6**
VAY				S	**Sg**	**08 34 44.8**	**-0.1**
VAY	**Valandovo**	**0.51**	**145**⇑	*i*Pg	**Pg**	**08 34 38.3**	**+0.1**
VAY				*i* Sg	**Sg**	**08 34 45.5**	**+0.6**
VAY				*e*Lg	Lg	08 34 45.6	
	comp=E,367nm,0.7s						
VAY				*e*Lg	Lg	08 34 45.7	
	comp=N,350nm,0.4s						
VAY	**Valandovo**	**0.51**	**145**‖	*i*Pg	**Pg**	**08 34 37.9**	**-0.4**
VAY	**Valandovo**	**0.51**	**145**‖	*i*Pg	**Pg**	**08 34 37.9**	**-0.4**
VAY				S	**Sg**	**08 34 44.8**	**-0.1**
VAY				*i* Sg	**Sg**	**08 34 45.5**	**+0.6**
VAY				*e*Lg	Lg	08 34 45.6	
	comp=N,350nm,0.4s						
SKO	**Skopje**	**0.60**	**293**	P	**Pg**	**08 34 39.7**	**-0.3**
SKO	**Skopje**	**0.60**	**293**	*e*Pg	**Pg**	**08 34 39.7**	**-0.3**
SKO	**Skopje**	**0.60**	**293**	*e*Pg	**Pg**	**08 34 39.6**	**-0.4**
KNT	**Kendrikon**	**0.79**	**136**	P	**Pg**	**08 34 43.9**	**+0.3**
KNT				S	**Sg**	**08 34 54.2**	**+0.3**
KNT	**Kendrikon**	**0.79**	**136**	P	**Pg**	**08 34 43.9**	**+0.3**
KNT				S	**Sg**	**08 34 54.2**	**+0.3**
GRG	**Griva**	**0.80**	**168**	P	**Pg**	**08 34 44.1**	**+0.4**
GRG	**Griva**	**0.80**	**168**	*e*PN	**Pg**	**08 34 44.2**	**+0.5**
GRG				*e*SN	**Sb**	**08 34 55.7**	**+0.3**
GRG	**Griva**	**0.80**	**168**	P	**Pg**	**08 34 44.1**	**+0.4**
GRG				*e*Sn	**Sb**	**08 34 55.7**	**+0.3**
BARS	**Barje**	**1.11**	**346**	*e*Pg	**Pb**	**08 34 50.3**	**+0.4**
BARS				*i* Sg	**Sb**	**08 35 04.1**	**-0.4**
BARS	**Barje**	**1.11**	**346**	*e*Pg	**Pb**	**08 34 50.3**	**+0.4**
BARS				*i* Sg	**Sb**	**08 35 04.1**	**-0.4**
FNA	**Florina**	**1.13**	**213**	*e*PN	**Pb**	**08 34 49.8**	**-0.3**
FNA				*e*SN	**Sb**	**08 35 04.7**	**-0.3**
FNA	**Florina**	**1.13**	**213**	*e*Pn	**Pb**	**08 34 49.8**	**-0.3**
FNA				*e*Sn	**Sb**	**08 35 04.7**	**-0.3**
VTS	**Vitosha**	**1.15**	**42**	P	**Pb**	**08 34 49.7**	**-0.9**
VTS				S	**Sb**	**08 35 03.8**	**-1.8**
VTS	**Vitosha**	**1.15**	**42**	*e*Pg	**Pb**	**08 34 50.7**	**+0.1**
VTS				*e*Sg	**Sb**	**08 35 06.0**	**+0.4**
VTS	**Vitosha**	**1.15**	**42**	P	**Pb**	**08 34 49.7**	**-0.9**
VTS	**Vitosha**	**1.15**	**42**	*e*Pn	**Pb**	**08 34 50.5**	**-0.1**
VTS	**Vitosha**	**1.15**	**42**	*e*Pg	**Pb**	**08 34 50.7**	**+0.1**
VTS				S	**Sb**	**08 35 03.8**	**-1.8**
VTS				*e*Sg	**Sb**	**08 35 06.0**	**+0.4**
VTS				*e*Sn	**Sn**	**08 35 07.4**	**+0.6**
SOH	**Sokhos**	**1.27**	**136**	*e*PN	**Pn**	**08 34 52.3**	**-0.2**
SOH				*e*SN	**Sb**	**08 35 09.1**	**-0.1**
SOH	**Sokhos**	**1.27**	**136**	*e*Pn	**Pn**	**08 34 52.3**	**-0.2**
SOH				*e*Sn	**Sb**	**08 35 09.1**	**-0.1**
NVR	**Nevrokopi**	**1.32**	**106**	P	**Pn**	**08 34 53.0**	**-0.2**
NVR				S	**Sb**	**08 35 10.2**	**-0.3**
NVR	**Nevrokopi**	**1.32**	**106**	*e*PN	**Pn**	**08 34 52.9**	**-0.2**
NVR				*e*SN	**Sb**	**08 35 10.2**	**-0.3**
NVR	**Nevrokopi**	**1.32**	**106**	P	**Pn**	**08 34 53.0**	**-0.2**
NVR				S	**Sb**	**08 35 10.2**	**-0.3**
ZAPS	**Zavoj**	**1.57**	**12**	*e*Pg	**Pg**	**08 34 58.9**	**+0.3**
ZAPS				*i* Sg	**Sb**	**08 35 18.7**	**+0.9**
PLG	**Polygyros**	**1.67**	**144**	*e*PB	**Pn**	**08 34 57.7**	**-0.2**
PLG	**Polygyros**	**1.67**	**144**	*e*Pb	**Pn**	**08 34 57.7**	**-0.2**
SELS	**Selova**	**1.68**	**332**	*e*Pn	**Pb**	**08 34 59.4**	**-0.1**
PLD	**Plovdiv**	**1.92**	**78**	*e*Sg	**Sg**	**08 35 30.4**	**+0.3**
PLD	**Plovdiv**	**1.92**	**78**	*e*Sg	**Sg**	**08 35 30.4**	**+0.3**
BOLS	**Boljevac**	**2.10**	**356**	*e*Pn	**Pb**	**08 35 06.7**	**+0.1**
BOLS				*e*Sn	**Sb**	**08 35 32.7**	**-0.1**
BOLS	**Boljevac**	**2.10**	**356**	*e*Pn	**Pb**	**08 35 06.7**	**+0.1**
BOLS				*e*Sn	**Sb**	**08 35 32.7**	**-0.1**
GRUS	**Gruza**	**2.40**	**334**	*e*Sn	**Sb**	**08 35 41.8**	**+0.1**
GRUS	**Gruza**	**2.40**	**334**	*e*Sn	**Sb**	**08 35 41.8**	**+0.1**

IDC 08 08:55:49.9±1.4, 2°.05N×127°.59E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/23, mbtmp3.9/6, Error ellipse: s-maj=98.0km s-min=18.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.11**	**185**	P	P	09 00 25.4	-0.1
	1.5nm,0.7s,baz=358,slow=9.4,SNR=7.8						
WRA	**Warramunga Arr**	**22.84**	**163**	P	P	09 00 55.2	+0.3
	3.3nm,0.3s,baz=343,slow=10,SNR=96						
ASAR	**Alice Springs**	**26.29**	**167**	P	P	09 01 26.9	-0.5
	1.1nm,0.5s,baz=349,slow=7.5,SNR=27						
STKA	**Stephens Creek**	**36.27**	**160**	P	P	09 02 54.8	-0.2
	1.9nm,0.4s,baz=344,slow=9.2,SNR=10						
MKAR	**Makanchi Array**	**59.41**	**325**	P	P	09 05 54.9	+0.5
	0.5nm,0.4s,baz=132,slow=6.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**63.61**	**328**	P	P	09 06 22.4	-0.2
	0.4nm,0.5s,baz=127,slow=6.2,SNR=7.9						

IDC 08 09:28:39.7±62.0, 12°.55S×167°.75E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=1060.0km s-min=118.6km az=63.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.78**	**227**	P	P	09 34 56.8	-0.4
	1.2nm,0.5s,baz=56,slow=6.6,SNR=4.6						
WRA	**Warramunga Arr**	**32.86**	**253**	P	P	09 35 16.0	+0.3
	0.3nm,0.8s,baz=82,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**33.93**	**246**	P	P	09 35 24.8	-0.1
	0.4nm,0.5s,baz=75,slow=9.8,SNR=12						

*ISCJB **08** 09:30:49.1±0.5, 24°.13S±0°.04×66°.75W±0°.06, h191km±5km, mb4.0/23, Error ellipse: s-maj=8.6km s-min=5.8km az=170.9*
*NEIC **08** 09:30:50.0±0.7, 24°.14S×66°.73W, h184km±6km, mb4.2/17, Error ellipse: s-maj=13.9km s-min=7.9km az=72.0*
*IDC **08** 09:30:50.5±1.6, 24°.04S×66°.70W, h191km±14km, mb3.7/10, mb1 3.9/15, mb1mx3.8/20, mbtmp3.7/15, Error ellipse: s-maj=16.7km s-min=10.5km az=75.0*
*GUC **08** 09:30:52.7±0.3, 24°.04S×67°.09W, h200km, ML4.9*

ISC 08 09:30:49.2±0.6, 24°.13S±0°.05×66°.74W±0°.07, h179km±5km, n230, σ1°05/247, mb4.0/23, 22C-11D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**307**	*e*Pn

PB04	Plate Boundary	3.13 306	⇑	iP	Pn	09 31 47.2 +7.7
PB04				i S	Sn	09 32 29.2 +11
PB04				AML	AML	09 32 31.6
	comp=N,972nm,0.6s					
PB09	Plate Boundary	3.27 315	⇑	iP	Pn	09 31 44.1 +2.7
PB09				eS	Sn	09 32 23.4 +1.4
PB09	Plate Boundary	3.27 315	⇑	iP	Pn	09 31 44.1 +2.7
PB09				eS	Sn	09 32 23.4 +1.4
PB09				AML	AML	09 32 25.0
	comp=N,3μm,0.7s					
ANCH	Antofagasta	3.39 277	⇑	iP	Pn	09 31 44.8 +2.2
ANCH				i S	Sn	09 32 24.1 -0.1
ANCH	Antofagasta	3.39 277	⇑	iP	Pn	09 31 44.8 +2.2
ANCH				i S	Sn	09 32 24.1 -0.1
ANCH				AML	AML	09 32 27.0
	comp=E,1μm,0.4s					
PB10	Plate Boundary	3.55 279	⇑	iP	Pn	09 31 46.5 +1.9
PB10				i S	Sn	09 32 27.4 -0.4
PB10				AML	AML	09 32 32.5
	comp=E,2μm,0.9s					
HMBC	Humberstone	4.81 322	⇑	iP	Pn	09 32 00.7 -0.3
HMBC				eS	Sn	09 32 55.2 -2.0
HMBC	Humberstone	4.81 322	⇑	iP	Pn	09 32 00.7 -0.3
HMBC				eS	Sn	09 32 55.2 -2.0
PSGC	Pisagua	5.50 324		eP	Pn	09 32 08.5 -1.3
PSGC	Pisagua	5.50 324		eP	Pn	09 32 08.5 -1.3
PSGC				eS	Sn	09 33 09.8 -3.2
LCO	Las Campanas	6.02 215		ePn	Pn	09 32 15.6 -1.1
LCO				eSn	Sn	09 33 14.8 -11
CFAA	Coronel Fontan	7.57 190	P		Pn	09 32 37.9 +1.1
	comp=E,0.5nm,0.3s,baz=3.8,slow=14,SNR=15					
CFAA			S		Sn	09 33 58.1 -3.8
	comp=E,1.4nm,0.3s,baz=211,slow=13,SNR=19					
LPAZ	La Paz	7.91 350		ePn	Pn	09 32 43.0 +1.0
LPAZ				eSn	Sn	09 34 11.0 -0.1
LPAZ	La Paz	7.91 350	P		Pn	09 32 43.2 +1.2
	comp=E,2.1nm,0.3s,baz=164,slow=8.6,SNR=59					
LPAZ			S		Sn	09 34 10.8 -0.4
	comp=E,1.5nm,0.3s,baz=263,slow=24,SNR=7.0					
CPUP	Villa Florida	8.80 106		ePn	Pn	09 32 54.1 +1.1
	comp=E,33nm,0.6s					
CPUP	Villa Florida	8.80 106	P		Pn	09 32 54.5 +1.5
	comp=E,1.9nm,0.3s,baz=265,slow=11,SNR=21					
SIV	San Ignacio	9.69 34	P		Pn	09 33 04.8 0.0
	comp=E,2.1nm,0.3s,baz=223,slow=13,SNR=33					
TRQA	Tornquist	14.47 165		eP	Pn	09 34 05.0 -0.7
SAML	Samuel	15.47 13		ePn	P	09 34 18.5 -0.3
	comp=E,3.5nm,0.8s					
SAML				eS	Sn	09 37 02.7 -8.6
PLCA	Paso Flores	16.86 190		eP	P	09 34 34.6 +0.5
	comp=E,8.5nm,0.6s					
PLCA	Paso Flores	16.86 190	P		Pn	09 34 34.8 -0.1
	comp=E,0.5nm,0.3s,baz=8.2,slow=11,SNR=16					
BDFB	Brasilia	19.51 68	P		P	09 35 03.5 +0.4
	comp=E,2.5nm,0.3s,baz=236,slow=12,SNR=34					
SNAA	Sanae	59.15 161		eP	P	09 40 31.6 +0.8
	comp=E,7.0nm,1.1s					
SNAA	Sanae	59.15 161	P		P	09 40 31.4 +0.6
	comp=E,0.8nm,0.7s,baz=277,slow=6.0,SNR=12					
732A	Laxson Ranch,	61.52 327	⇓	P	P	09 40 47.3 0.0
	baz=62					
SWET	Sewanee	61.76 342		eP	P	09 40 48.1 -0.8
	comp=E,5.1nm,0.8s					
632A	Uvalde	62.07 327	⇓	P	P	09 40 50.9 -0.1
	baz=62					
PLAL	Pickwick Lake	62.17 340		eP	P	09 40 49.9 -1.6
631A	Perdido Creek	62.38 327	⇑	P	P	09 40 52.7 -0.4
	baz=63					
532A	Rocksprings	62.64 328	⇑	P	P	09 40 55.0 +0.2
	baz=63					
JCT	Junction City	62.88 328		eP	P	09 40 56.4 -0.1
	comp=E,4.8nm,0.7s					
JCT	Junction City	62.88 328	⇑	P	P	09 40 56.3 -0.1
	baz=63					
531A	Rocksprings	62.98 327	⇑	P	P	09 40 57.4 +0.3
	baz=63					
432A	Menard	63.20 328	⇑	P	P	09 40 58.1 -0.4
	baz=64					
530A	J-C Ranch, Com	63.37 327	⇓	P	P	09 40 59.6 0.0
	baz=64					
431A	Sonora	63.44 328	P		P	09 40 59.8 -0.3
	baz=64					
332A	Millersview	63.60 329	P		P	09 41 00.9 -0.2
	baz=64					
628A	Black Gap, Mar	63.63 325	⇓	P	P	09 41 02.2 +0.8
	baz=64,SNR=5.5					
529A	Stev Forest Ra	63.79 326	P		P	09 41 02.8 +0.4
	baz=64					
430A	Baggett Ranch,	63.83 327	P		P	09 41 02.6 -0.1
	baz=64					
331A	San Angelo	63.86 328	P		P	09 41 02.6 -0.3
	baz=64					
627A	Terlingua Ranc	63.87 325	P		P	09 41 03.0 0.0
	baz=64					
TXAR	Lajitas Array	63.92 324	P		P	09 41 03.2 -0.1
	comp=E,0.6nm,0.6s,baz=153,slow=7.7,SNR=11					
232A	Coleman	63.97 329	P		P	09 41 03.3 -0.2
	baz=64					
429A	Davenport Ranc	64.03 326	P		P	09 41 03.9 -0.1
	baz=64					
528A	Cox Ranch, San	64.12 325	P		P	09 41 04.5 -0.1
	baz=64					
PARMO	Parma	64.25 340		eP	P	09 41 05.2 +0.1
231A	Bronte	64.33 329	P		P	09 41 05.3 -0.6
	baz=65					
626A	Big Bend Ranch	64.34 324	⇑	P	P	09 41 06.7 +0.6
	baz=65,SNR=9.2					
527A	Woodward Ranch	64.53 325	P		P	09 41 07.8 +0.5
	baz=65					
230A	Sterling City	64.67 328	P		P	09 41 08.7 +0.6
	baz=65					
526A	Mary Lane Ranc	64.72 324	P		P	09 41 08.9 +0.3
	baz=65					
329A	Wagon Wheel Ra	64.77 327	P		P	09 41 08.8 0.0
	baz=65					
131A	Roby	64.97 329	P		P	09 41 10.0 0.0
	baz=65					
427A	Hayter Ranch,	64.98 325	P		P	09 41 10.3 +0.1
	baz=65					
328A	Wristen Ranch,	65.10 326	P		P	09 41 11.0 +0.1
	baz=65					
426A	McDonald Obser	65.17 325	P		P	09 41 12.0 +0.5
	baz=65					
130A	Snyder	65.18 328	P		P	09 41 11.2 -0.2
	baz=66					
Z31A	Sharp Cattle R	65.39 330	P		P	09 41 12.6 -0.1
	baz=66					
129A	Stewart Farms,	65.64 328	P		P	09 41 13.9 -0.4
	baz=66					
326A	Caldwell Ranch	65.65 325	P		P	09 41 14.6 +0.2
	baz=66					
425A	Indio Mountain	65.77 324	P		P	09 41 15.5 +0.2
	baz=66					
227A	Bennet, Jal	65.85 326	P		P	09 41 16.1 +0.4
	baz=66					
128A	Castleberry Fa	65.94 327	P		P	09 41 16.1 -0.2
	baz=66					
Y31A	Rekieta Farm,	65.98 330	P		P	09 41 16.8 +0.3
	baz=66					
QSPA	South Pole Qui	66.08 180		eP	P	09 41 17.5 +0.7
	comp=E,11nm,0.6s					
Z29A	Hungry Hill Ra	66.08 328	P		P	09 41 16.8 -0.4
	baz=66					
325A	Bean Ranch, Si	66.22 325	⇓	P	P	09 41 18.0 -0.1
	baz=66,SNR=6.9					
226B	Tecolote Peak,	66.35 326	P		P	09 41 19.7 +0.7
	baz=67					
X31A	McDonald Ranch	66.41 330	P		P	09 41 18.9 -0.3
	baz=67					
324A	Moseley Ranch,	66.54 324	P		P	09 41 19.7 -0.5
	baz=67					
Y29A	Porterfield Fa	66.56 329	P		P	09 41 19.8 -0.3
	baz=67					
MNTX	Cornudas Mount	66.69 325		eP	P	09 41 20.0 -1.0
	comp=E,0.4nm,0.5s					
225A	Deer Hill, Car	66.72 325	P		P	09 41 21.4 0.0
	baz=67					
Z27A	Tatum	66.86 327	P		P	09 41 21.8 -0.4
	baz=67					
224A	Cornudas Mount	67.06 325	P		P	09 41 23.2 -0.3
	baz=67					
125A	Gardner Draw,	67.06 326	P		P	09 41 22.8 -0.6
	baz=67					
MSTX	Muleshoe	67.17 328	P		P	09 41 23.6 -0.5
	baz=68					
Z26A	Caprock	67.21 327	P		P	09 41 24.3 0.0
	baz=68					
X28A	Dimmitt	67.34 329	P		P	09 41 25.1 -0.1
	baz=68					
Z25A	Roswell	67.59 326	P		P	09 41 26.3 -0.4
	baz=68					
Z24A	Sheeppen Canyo	67.96 326	⇑	P	P	09 41 29.4 +0.3
	baz=68,SNR=5.3					
Y25A	Mesa, Roswell	68.08 327	P		P	09 41 29.4 -0.4
	baz=68					
320A	Kipp Ranch, An	68.13 322	P		P	09 41 31.0 +0.8
	baz=68					
X26A	CR and CF Fran	68.15 328	P		P	09 41 30.4 +0.2
	baz=68					
220A	Playas Peak, P	68.55 322	P		P	09 41 33.7 +0.9
	baz=69					
319A	Douglas	68.58 322	P		P	09 41 34.1 +1.1
	baz=69					
121A	Cookes Peak, D	68.62 323	P		P	09 41 34.4 +1.1
	baz=69					
Z22A	Elephant Butte	68.74 325	⇑	P	P	09 41 35.3 +1.3
	baz=69,SNR=9.5					
Y23A	Lovelace Mesa,	68.79 326	P		P	09 41 34.7 +0.5
	baz=69					
W25A	X Bar L Ranch,	69.00 328	P		P	09 41 35.6 +0.1
	baz=69					
120A	U Bar Ranch, L	69.10 323	P		P	09 41 37.4 +1.2
	baz=69					
V26A	Tequesquite Ra	69.14 328	P		P	09 41 36.4 +0.1
	baz=69					
Z21A	St. Cloud Mine	69.16 324	P		P	09 41 37.7 +1.1
	baz=69					
X23A	Hourglass Bar	69.36 326	P		P	09 41 38.6 +0.7
	baz=70					
W24A	Lazy 6 Ranch,	69.46 327	P		P	09 41 38.4 0.0
	baz=70					
Z20A	Nine Sixteen R	69.50 323	P		P	09 41 39.8 +1.1
	baz=70					
V25A	Rancho No Teng	69.57 328	P		P	09 41 39.3 +0.3
	baz=70					
U26A	Atchley Ranch,	69.60 329	P		P	09 41 39.5 +0.3
	baz=70					
ANMO	Albuquerque	69.78 326		eP	P	09 41 41.2 +0.8
	comp=E,1.8nm,0.9s					
V24A	Rampart Ranch,	69.80 327	P		P	09 41 41.1 +0.6
	baz=70					
U25A	Circle Dot Ran	69.92 328	P		P	09 41 41.7 +0.5
	baz=70					
X21A	Alamocita Cree	70.09 325	P		P	09 41 43.6 +1.3
	baz=70					
TUC	Tucson	70.13 321		eP	P	09 41 36.0 -6.4
	comp=E,18nm,0.7s					
T26A	Comanche Natio	70.16 329	P		P	09 41 43.2 +0.5
	baz=70					
V23A	Ortiz Mt. (NFS	70.27 327	P		P	09 41 44.2 +0.8
	baz=71					
S26A	Kim	70.47 330	P		P	09 41 45.2 +0.8
	baz=71					
P30A	Selden	70.65 333	P		P	09 41 45.9 +0.5
	baz=71					
U23A	El Rito	70.74 327	P		P	09 41 46.9 +0.7
	baz=71					
V22A	San Miguel Ran	70.77 326	P		P	09 41 47.4 +1.0
	baz=71					
S25A	Robets Cordova	70.95 329	P		P	09 41 48.2 +0.9
	baz=71					
R26A	Arlington	71.01 330	P		P	09 41 48.1 +0.4
	baz=71					
S24A	Houchin Ranch,	71.30 329	P		P	09 41 50.8 +1.2
	baz=72					
U21A	Nageezi	71.55 326	P		P	09 41 52.6 +1.5
	baz=72					
Q26A	Hugo	71.55 331	P		P	09 41 52.4 +1.5
	baz=72					
T22A	Edith	71.63 327	P		P	09 41 52.5 +1.0
	baz=72					
R24A	Sanders Place,	71.72 329	P		P	09 41 53.1 +1.1
	baz=72					
R23A	Moffat	72.03 329	P		P	09 41 54.8 +0.9
	baz=72					
X16A	Lo Mia Camp, P	72.05 322	P		P	09 41 54.9 +0.8
	baz=72					
O27A	Beecher Island	72.13 332	P		P	09 41 55.3 +1.0
	baz=72					
WUAZ	Wupatki	72.83 323	P		P	09 42 00.1 +1.5
	baz=73					
ECSD	EROS Data Cent	72.89 338		eP	P	09 41 57.8 -0.8
	comp=E,39nm,2.5s					
S20A	Disappointment	72.99 327	P		P	09 42 00.9 +1.3
	baz=73					
ISCO	Idaho Springs	73.21 330	P		P	09 42 01.7 +0.8
	baz=74					
R20A	Redvale	73.28 327	P		P	09 42 02.5 +1.2
	baz=74					
SYO	Syowa Base	73.34 159	⇑	eP	P	09 42 00.2 -0.7
SMCO	Snowmass	73.36 328		eP	P	09 42 00.5 -1.4
	comp=E,18nm,1.8s					
K29A	Lazy Trails An	73.41 335	P		P	09 42 02.3 +0.6
	baz=74					
U15A	North Rim	74.00 323	P		P	09 42 06.9 +1.3
	baz=74					
K27A	Flueckinger Fa	74.12 334	P		P	09 42 07.0 +1.1
	baz=74					
M24A	Cheyenne	74.20 331	P		P	09 42 07.7 +1.2
	baz=74					
N23A	Red Feather La	74.24 330	P		P	09 42 07.6 +0.8
	baz=74					
P20A	De Beque	74.30 328	P		P	09 42 08.0 +1.0
	baz=75					
J28A	Allard Ranch,	74.32 335	P		P	09 42 07.5 +0.5
	baz=75					
J27A	Elkhorn Farm,	74.48 334	P		P	09 42 09.1 +1.1
	baz=75					
VNDA	Vanda	74.61 190	P		P	09 42 09.3 +1.1
	comp=E,1.6nm,0.9s,baz=134,slow=2.4,SNR=9.4					
P19A	Cripple Cowboy	74.69 327	⇑	P	P	09 42 10.2 +0.8
	baz=75,SNR=6.0					
GMRC	Granite Mounta	74.73 320	P		P	09 42 10.8 +1.2
	baz=75					
SRU	San Rafael	75.06 326		eP	P	09 42 12.4 +0.9
I27A	Quinn	75.19 334	P		P	09 42 12.5 +0.6
	baz=76					
O19A	Miners Draw (B	75.27 328	P		P	09 42 13.3 +0.6
	baz=76					
CCUT	Cedar City	75.40 323		eP	P	09 42 15.5 +2.0
	comp=E,2.3nm,0.8s					
K23A	Bowen Ranch, D	75.59 331	P		P	09 42 15.4 +1.0
	baz=76					
G28A	Parade	75.60 336	P		P	09 42 15.0 +0.8
	baz=76					
J24A	Dixon Ranch, L	75.64 332	P		P	09 42 15.8 +1.2
	baz=76					
H27A	Howes	75.67 335	P		P	09 42 14.7 +0.1
	baz=76					
I25A	Rochford	75.82 333	P		P	09 42 16.7 +1.0
	baz=76					
K21A	Alcova	76.21 330	⇓	P	P	09 42 18.9 +0.9
	baz=76,SNR=6.4					
L20A	Wamsutter	76.22 329	P		P	09 42 18.9 +0.8
	baz=76					
TORD	Torodi Ar. Bea	76.39 69	P		P	09 42 18.4 -1.0
	comp=E,1.6nm,0.5s,baz=257,slow=5.4,SNR=43					
G26A	Maurine	76.42 335	P		P	09 42 19.0 +0.1
	baz=77					
F27A	Lemmon	76.69 336	P		P	09 42 20.3 0.0
	baz=77					
K20A	Yellowstone Ra	76.73 330	P		P	09 42 21.3 +0.5
	baz=77					
H24A	Dirks Ranch, A	76.75 333	P		P	09 42 21.1 +0.3
	baz=77					
I22A	9 Mile Ranch,	76.88 332	P		P	09 42 21.9 +0.4
	baz=77					
F26A	Lodgepole	76.92 335	P		P	09 42 22.1 +0.4
	baz=77					
L18A	Fontenelle, Gr	76.96 328	P		P	09 42 23.0 +0.8
	baz=77					
I21A	Big Trails, Te	77.17 331	⇑	P	P	09 42 23.5 +0.3
	baz=78,SNR=6.2					
R11A	Troy Canyon, C	77.20 323	P		P	09 42 24.7 +1.1
	baz=78					
PDAR	Pinedale Array	77.38 329	P		P	09 42 24.4 -0.1
	comp=E,0.7nm,0.6s,baz=131,slow=7.5,SNR=9.2					
G23A	Biddle	77.47 333	P		P	09 42 25.0 +0.2
	baz=78					
MDND	Maddock	77.50 338	P		P	09 42 25.1 +0.3
	baz=78					
J19A	Crowheart	77.53 330	P		P	09 42 25.8 +0.5
	baz=78					
F24A	Ekalaka	77.61 334	P		P	09 42 25.8 +0.2
	baz=78					
I20A	Worland	77.65 331	P		P	09 42 26.3 +0.5
	baz=78					
F23A	Volborg	77.90 333	⇓	P	P	09 42 27.4 +0.2
	baz=78,SNR=5.1					
H20A	Greybull	78.01 331	⇓	P	P	09 42 27.8 0.0
	baz=78,SNR=5.2					
I19A	Meeteetse	78.10 330	P		P	09 42 29.2 +0.7
	baz=78					
E24A	Baker	78.14 335	P		P	09 42 29.1 +0.7
	baz=78					
D25A	Fairfield	78.25 335	P		P	09 42 29.8 +0.8
	baz=79					
G21A	Lodge Grass	78.25 332	P		P	09 42 29.6 +0.4
	baz=78					
F22A	Rosebud	78.29 333	P		P	09 42 29.5 +0.2
	baz=79					
ULM	Lac du Bonnet	78.42 341	P		P	09 42 28.0 -1.8
	comp=E,4.6nm,0.7s,baz=178,slow=6.3,SNR=6.2					
LOHW	Long Hollow	78.52 329		eP	P	09 42 31.4 +0.6
G20A	Bridger	78.68 331	⇓	P	P	09 42 31.4 -0.1
	baz=79,SNR=5.5					
C25A	Freed Ranch, W	78.69 336	P		P	09 42 32.0 +0.6
	baz=79					
NVAR	Mina Array Bea	78.79 321	P		P	09 42 32.2 -0.1
	comp=E,0.4nm,0.5s,baz=152,slow=6.0,SNR=4.8					
IMW	Indian Meadow	78.89 329		eP	P	09 42 34.0 +1.1
H18A	Shoshone NF, C	78.90 330	P		P	09 42 33.3 +0.4
	baz=79					
C24A	Savage	78.98 335	P		P	09 42 33.8 +0.8
	baz=79					
D23A	Lindsay	79.00 334	P		P	09 42 33.7 +0.6
	baz=79					
I16A	Newdale	79.14 329	P		P	09 42 34.7 +0.6
	baz=79					
G18A	Lazy EL Ranch,	79.35 331	P		P	09 42 35.8 +0.6
	baz=80					
D22A	Cohagen	79.37 334	P		P	09 42 35.8 +0.7
	baz=80					
F19A	Roth Farm, Mol	79.50 331	P		P	09 42 36.2 +0.3
	baz=80					
D21A	La Casta Ranch	79.63 333	P		P	09 42 37.0 +0.4
	baz=80					
E20A	Meyer Farm, Mu	79.66 332	⇓	P	P	09 42 37.2 +0.5
	baz=80,SNR=7.6					
DGMT	Dagmar	79.67 336	P		P	09 42 37.3 +0.6
	baz=80					
F18A	Big Timber	79.88 331	P		P	09 42 38.2 +0.2
	baz=80					
E19A	Rath Farm, Rou	79.91 332	⇑	P	P	09 42 38.2 +0.1
	baz=80,SNR=6.1					
I14A	Mackay	80.12 328	P		P	09 42 40.3 +0.9
	baz=80					
D20A	Manuel Ranch,	80.12 333	⇑	P	P	09 42 39.2 0.0
	baz=80,SNR=5.2					
B22A	Reddig Ranch S	80.23 335	P		P	09 42 39.9 +0.2
	baz=80					
C21A	Desert Coulee	80.28 334	P		P	09 42 40.1 +0.1
	baz=81					
F17A	Fitzpatrick Pl	80.30 331	P		P	09 42 41.1 +0.8
	baz=81					
HLID	Hailey	80.33 327		eP	P	09 42 42.0 +1.4
	comp=E,3.2nm,0.8s					
HLID	Hailey	80.33 327	P		P	09 42 41.8 +1.3
	baz=81					
BOSA	Boshof	80.46 117	P		P	09 42 41.3 -0.4
	comp=E,1.2nm,0.6s,baz=268,slow=4.0,SNR=3.9					
MCMT	McKenzie Canyo	80.50 329		eP	P	09 42 42.6 +1.2
	comp=E,1.8nm,1.0s					
MCMT				ePcP	PcP	09 42 50.3 +2.4
MCMT				epP	pP	09 43 26.8 +1.6
D19A	Cripps Ranch,	80.50 332	P		P	09 42 41.3 +0.1
	baz=81					
C20A	Veseth Ranch,	80.56 333	P		P	09 42 41.4 -0.1
	baz=81					
B21A	Ellsworth Farm	80.73 334	⇑	P	P	09 42 42.7 +0.4
	baz=81,SNR=6.8					
A22A	Carney Farms,	80.75 335	P		P	09 42 42.7 +0.2
	baz=81					
E17A	Martinsdale	80.81 331	P		P	09 42 43.6 +0.6
	baz=81					
C19A	Slack Wire Ran	81.01 333	P		P	09 42 43.8 -0.1
	baz=81					
B20A	Solberg Farm,	81.14 334	P		P	09 42 44.4 -0.1
	baz=81					
MAW	Mawson	81.24 163	P		P	09 42 45.7 +0.8
	comp=E,4.7nm,0.6s,baz=219,slow=6.1,SNR=20					
D17A	Six Diamond Ra	81.27 331	P		P	09 42 45.7 +0.3
	baz=82					
HRY	Holter Researc	81.44 330		eP	P	09 42 47.0 +0.7
	comp=E,2.3nm,0.6s					
A20A	Cobblestone Ra	81.46 334	⇓	P	P	09 42 46.4 +0.2
	baz=82,SNR=8.2					
C17A	Wharram Farm,	81.67 332	P		P	09 42 47.4 0.0
	baz=82					
C16A	Fuhringer Ranc	82.22 331	P		P	09 42 50.2 -0.1
	baz=82					
C15A	Salmond Ranch,	82.59 331	P		P	09 42 52.6 +0.4
	baz=83					
A16A	West Butte Ran	83.03 332	P		P	09 42 54.7 +0.2
	baz=83					
C14A	Swan Lake	83.09 330	P		P	09 42 54.9 +0.1
	baz=83					
BSMT	Bassoo Peak	83.63 330		eP	P	09 42 57.8 +0.1
	comp=E,1.2nm,0.8s					
YKA	Yellowknife Ar	94.33 340	P		P	09 43 47.5 -0.3
	comp=E,1.4nm,0.6s,baz=133,slow=4.2,SNR=6.3					
ASAR	Alice Springs	128.44 204	PKP		PKPdf	09 49 34.8 -0.6
	comp=E,1.7nm,0.7s,baz=137,slow=1.8,SNR=34					
WRA	Warramunga Arr	131.62 207	PKP		PKPdf	09 49 41.0 -0.5
	comp=E,1.2nm,0.5s,baz=156,slow=1.8,SNR=39					
FITZ	Fitzroy Crossi	136.32 197	PKP		PKPdf	09 49 50.2 -0.1
	comp=E,1.7nm,1.0s,baz=180,slow=17,SNR=4.4					
BVAR	Borovoye Array	136.75 37	PKP		PKPdf	09 49 49.8 -0.2
	comp=E,0.8nm,0.7s,baz=243,slow=1.0,SNR=5.3					
ZALV	Zalesovo Beam	143.39 28	PKP		PKPbc	09 49 59.6 -0.1
	comp=E,3.2nm,0.5s,baz=301,slow=4.2,SNR=15					
MK31	Makanchi Array	146.47 40		ePKPdf	PKPdf	09 50 07.7 +0.1
MK31				ePKPbc	PKPbc	09 50 09.4 +0.1
MKAR	Makanchi Array	146.47 40		PKPbc	PKPdf	09 50 07.7 +0.1
	comp=E,5.9nm,0.7s,baz=322,slow=2.2,SNR=50					
ASAJ	Asahikawa	148.83 317		PKPbc	PKPbc	09 50 15.1 -0.5
	comp=E,0.9nm,0.3s,baz=73,slow=25,SNR=4.1					
MJAR	Matsushiro Arr	155.25 306		PKPab	PKPab	09 50 46.7 -0.5
	comp=E,0.3nm,0.5s,baz=49,slow=1.4,SNR=4.1					
SONM	Songino Array	155.72 11		PKPab	PKPab	09 50 48.5 -0.4
	comp=E,0.7nm,0.6s,baz=328,slow=5.1,SNR=4.0					
HHC	Hu-ho-hao-te	163.26 4		ePKP	PKPdf	09 50 29.0 -1.6
HHC				pPKP	pPKPdf	09 51 13.1 -4.5
HHC				sPKP		09 51 31.6
HHC				PKS	PKSdf	09 54 01.7 -2.0
HHC				PP	PP	09 55 10.2 +3.7
HHC				SKS	SKSdf	09 57 14.7 -3.8
LZH	Lanzhou	165.57 32		ePKP	PKPdf	09 50 34.2 +1.4
LZH				pPKP	pPKPdf	09 51 18.0 -1.9
LZH				sPKP		09 51 33.8
LZH				PKP	PKPab	09 51 36.5 +4.1

ISCJB ***08*** *09:38:27.8±0.5, 44°.43N±0°.03×21°.95E±0°.05, h0km, Error ellipse: s-maj=5.3km s-min=3.2km az=23.4*
CSEM ***08*** *09:38:29.8, 44°.41N×21°.95E, h5km, ML1.8, Suspected Mining explosion. After BEO*
BEO ***08*** *09:38:29.8±0.3, 44°.41N×21°.95E, h5km±4km, ML1.8/6, Suspected Mining explosion.*
BUC ***08*** *09:38:35.0±1.9, 44°.86N×22°.04E, h5km, MD2.7/2, Error ellipse: s-maj=13.9km s-min=5.5km az=16.0*

ISC 08 09:38:28.5±0.9, 44°.42N±0°.02×21°.96E±0°.03, h0km, n21, σ1§19/35, 2C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLS	Boljevac	0.59	180	ePg	Pg	09 38 38.5	-1.2
BOLS				eSg	Sg	09 38 47.8	+0.5
BOLS	Boljevac	0.59	180	ePg	Pg	09 38 38.5	-1.2
BOLS				eSg	Sg	09 38 47.8	+0.5
GRUS	Gruza	1.04	240	⇓ iPg	Pg	09 38 49.3	+0.9
GRUS				i Sg	Sb	09 39 03.9	+0.4
GRUS	Gruza	1.04	240	⇓ iPg	Pg	09 38 49.3	+0.9
GRUS				i Sg	Sb	09 39 03.9	+0.4
GZR	Gura Zlata	1.14	30	⇓ iP	Pg	09 38 50.0	-0.2
GZR	Gura Zlata	1.14	30	⇓ iP	Pg	09 38 50.0	-0.2
GZR				i S	Sg	09 39 01.5	-3.5
GZR	Gura Zlata	1.14	30	ePg	Pg	09 38 50.1	-0.2
GZR				i S

GZR			*i* Sg		**Sg**	**09 39 07.4**	**+2.4**
BZS	**Buzias**	**1.23 349**	⇑*i*P		**Pg**	**09 38 51.6**	**-0.4**
BZS	**Buzias**	**1.23 349**	⇑*i*P		**Pg**	**09 38 51.6**	**-0.4**
BZS			*i* S		Sg	09 39 02.8	-5.1
BZS	**Buzias**	**1.23 349**	*e*Pg		**Pg**	**09 38 51.5**	**-0.4**
BZS			*i* Sg		**Sg**	**09 39 08.1**	**+0.2**
BZS	**Buzias**	**1.23 349**	*e*Pg		**Pg**	**09 38 51.5**	**-0.4**
BZS			*i* Sg		**Sg**	**09 39 08.1**	**+0.2**
ZAPS	**Zavoj**	**1.24 157**	*e*Pg		**Pg**	**09 38 52.7**	**+0.4**
DIVS	**Divibare**	**1.45 258**	*e*Pg		**Pn**	**09 38 55.0**	**-1.0**
DIVS			*e*Sg		**Sg**	**09 39 15.7**	**+0.7**
DIVS	**Divibare**	**1.45 258**	*e*Pg		**Pn**	**09 38 55.0**	**-1.0**
DIVS			*e*Sg		**Sg**	**09 39 15.7**	**+0.7**
BARS	**Barje**	**1.60 184**	*e*Pn		**Pn**	**09 38 57.5**	**-0.6**
BARS			*e*Sn		**Sn**	**09 39 19.5**	**0.0**
BARS	**Barje**	**1.60 184**	*e*Pn		**Pn**	**09 38 57.5**	**-0.6**
BARS			*e*Sn		**Sn**	**09 39 19.5**	**0.0**
VOIR		**2.42 64**	S		**Sn**	**09 39 40.8**	**+1.0**
VOIR		**2.42 64**	*i* S		**Sn**	**09 39 40.8**	**+1.0**
DRGR		**2.43 12**	⇓*i*P		**Pn**	**09 39 10.3**	**+0.7**
DRGR		**2.43 12**	⇓*i*P		**Pn**	**09 39 10.3**	**+0.7**
DRGR			*i* S		**Sn**	**09 39 37.2**	**-2.9**

IDC 08 09:52:10.2±48.0, 16°32′S×176°74′W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/19, mbtmp4.2/3, MS3.9/1, Ms1 3.8/1, ms1mx2.8/33, Error ellipse: s-maj=901.6km s-min=161.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.80**	**240**	P	P	09 59 54.1	+0.6
	2.2nm,0.9s,baz=84,slow=12,SNR=5.7						
STKA				LR	LR	10 15 26.3	
	comp=Z,142nm,18.2s,baz=180,slow=34						
WRA	**Warramunga Arr**	**46.51**	**258**	P	P	10 00 39.2	-0.5
	0.8nm,0.7s,baz=96,slow=7.8,SNR=27						
ASAR	**Alice Springs**	**46.77**	**253**	P	P	10 00 41.5	-0.3
	5.9nm,0.5s,baz=88,slow=8.1,SNR=157						

*AUST **08** 10:26:38.0±0.0, 6°63′N×126°33′E, h184km, Error ellipse: s-maj=1.6km s-min=1.4km az=14.0*
*ISCJB **08** 10:26:38.0±0.5, 5°93′N±0°06′×126°29′E±0°07, h124km±7km, mb3.5/6, Error ellipse: s-maj=12.3km s-min=10.2km az=164.6*
*IDC **08** 10:26:39.0±1.8, 6°02′N×126°47′E, h122km±17km, mb3.4/6, mb1 3.6/6, mb1mx3.3/24, mbtmp3.4/6, Error ellipse: s-maj=58.5km s-min=15.3km az=75.0*
ISC 08 10:26:38.5±0.8, 5°92′N±0°07′×126°38′E±0°07, h115km±9km, n26, σ1§12/27, mb3.5/6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.03**	**353**	*e*P	**Pn**	**10 27 00.6**	**+0.1**
MATI				*e*S	**Sn**	**10 27 18.7**	**+1.7**
DAV	**Davao City (W)**	**1.40**	**325**	P	**Pn**	**10 27 05.0**	**+0.6**
	398nm,0.3s,baz=135,slow=7.1,SNR=20						
DAV				S	**Sn**	**10 27 24.8**	**+0.7**
	345nm,0.3s,baz=56,slow=19,SNR=9.5						
GSPH	**General Santos**	**1.43**	**277**	*e*P	**Pn**	**10 27 03.8**	**-1.1**
GSPH				*i* S	**Sn**	**10 27 23.4**	**-1.6**
KCP	**Kidapawan**	**1.68**	**310**	⇑*i*P	**Pn**	**10 27 07.6**	**-0.2**
KCP				*i* S	**Sn**	**10 27 29.7**	**-0.5**
BUKP	**Musuan**	**2.35**	**326**	*e*P	**Pn**	**10 27 16.0**	**-0.2**
CTBH	**Cotabato--PC H**	**2.48**	**302**	⇑*i*P	**Pn**	**10 27 17.2**	**-0.7**
CGP	**Cagayan de Oro**	**3.03**	**327**	*e*P	**Pn**	**10 27 23.8**	**-1.2**
CGP				*i* S	**Sn**	**10 28 02.4**	**+1.6**
BUTP	**Butuan**	**3.12**	**346**	*e*P	**Pn**	**10 27 26.7**	**+0.4**
PAGZ	**Pagadian**	**3.54**	**303**	*e*P	**Pn**	**10 27 31.1**	**-0.7**
MSLP	**Maasin**	**4.45**	**340**	*e*P	Pn	10 27 39.3	-4.8
LUWI	**Luwuk**	**7.79**	**208**	P	Pn	10 28 39.0	+10
	baz=8.5,SNR=3.4						
PALU	**Palau**	**8.17**	**80**	P	**Pn**	**10 28 34.6**	**+0.4**
	baz=8.1,SNR=4.1						
PALU				S	**Sn**	**10 30 02.3**	**-2.7**
	baz=8.1,SNR=3.8						
MTN	**Manton Dam**	**19.23**	**166**	P	**Pn**	**10 30 55.9**	**0.0**
	baz=20,SNR=12						
KDU	**Kakadu**	**19.45**	**162**	P	**Pn**	**10 30 58.1**	**-0.4**
	baz=20,SNR=9.3						
KNRA	**Kununurra**	**21.58**	**174**	P	**P**	**10 31 20.5**	**+1.5**
	baz=22,SNR=13						
MANU	**Manus Island**	**22.40**	**110**	S	S	10 34 49.1	-37
	baz=23,SNR=8.4						
FITZ	**Fitzroy Crossi**	**23.88**	**182**	P	**P**	**10 31 42.3**	**+0.8**
	0.9nm,0.5s,baz=9.0,slow=11,SNR=6.2						
FITZ	**Fitzroy Crossi**	**23.88**	**182**	P	**P**	**10 31 42.4**	**+0.8**
	baz=25,SNR=5.1						
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**10 32 08.9**	**+0.4**
	0.5nm,0.3s,baz=346,slow=10,SNR=23						
ASAR	**Alice Springs**	**30.31**	**166**	P	**P**	**10 32 39.9**	**+0.7**
	1.0nm,0.5s,baz=343,slow=7.1,SNR=28						
BBOO	**Buckleboo**	**39.60**	**167**	P	**P**	**10 33 60.0**	**+1.3**
	baz=40,SNR=6.6						
KAAM	**Kaadhehdhoo**	**53.55**	**266**	P	P	10 35 41.6	-6.3
	baz=54,SNR=4.2						
MKAR	**Makanchi Array**	**55.58**	**325**	P	**P**	**10 36 00.7**	**-1.3**
	0.2nm,0.4s,baz=120,slow=6.3,SNR=4.3						
ILAR	**Eielson Array**	**83.29**	**26**	P	**P**	**10 38 51.4**	**-0.8**
	0.2nm,0.6s,baz=247,slow=5.2,SNR=6.6						
ARCES	**ARCESS Array B**	**88.29**	**340**	P	**P**	**10 39 16.9**	**+0.3**
	0.5nm,0.6s,baz=97,slow=7.4,SNR=3.4						
KMBO	**Kilima Mbogo**	**89.25**	**269**	P	P	10 39 11.9	-11
	baz=89,SNR=6.7						

*IDC **08** 10:27:21.6±1.4, 19°62′S×177°81′W, h397km±14km, mb4.0/19, mb1 4.1/21, mb1mx4.0/27, mbtmp4.0/21, Error ellipse: s-maj=12.9km s-min=9.4km az=114.0*
*ISCJB **08** 10:27:22.4±0.8, 19°64′S±0°05×177°89′W±0°05, h417km±8km, mb4.3/57, Error ellipse: s-maj=9.4km s-min=5.3km az=144.7*
*AUST **08** 10:27:23.2±0.0, 19°38′S×177°60′W, h434km, Error ellipse: s-maj=1.5km s-min=1.2km az=4.0*
*BJI **08** 10:27:23.7, 19°70′S×177°90′W, h431km, mB4.9/2, mb4.7/9*
*NEIC **08** 10:27:24.9±0.7, 19°67′S×177°87′W, h433km±8km, mb4.4/35, Error ellipse: s-maj=9.0km s-min=6.0km az=125.0*
ISC 08 10:27:24.5±0.4, 19°66′S±0°05×177°73′W±0°05, h431km±3km, h432km:pP-P, n175, σ1§29/220, mb4.3/57, 14C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**295**	*e*P	**P**	**10 28 42.6**	**-0.1**
MSVF				*e*S	**S**	**10 29 48.0**	**+1.8**
NIUE	**Niue**	**7.39**	**87**	P	**P**	**10 29 12.5**	**-0.7**
	baz=7.2,SNR=4.8						
NIUE				S	**S**	**10 30 39.9**	**-2.1**
	baz=7.2,SNR=7.2						
AFI	**Afiamalu**	**8.08**	**46**	P	P	10 29 16.3	-4.5
AFI				S	S	10 30 46.0	-10
AFI	**Afiamalu**	**8.08**	**46**	P	P	10 29 16.3	-4.5
	22nm,0.3s,baz=149,slow=1.1,SNR=36						
AFI				S	S	10 30 46.0	-10
	21nm,0.3s,baz=210,slow=20,SNR=9.5						
RAO	**Raoul Island**	**9.55**	**181**	*e*P	**P**	**10 29 35.5**	**-1.1**
RAO				*e*S	**S**	**10 31 22.7**	**-2.8**
FUNA	**Funafuti**	**11.46**	**345**	P	**P**	**10 29 58.1**	**+0.2**
DZM	**Mont Dzumac**	**14.99**	**258**	P	**P**	**10 30 37.5**	**+1.4**
DZM	**Mont Dzumac**	**14.99**	**258**	P	**P**	**10 30 37.5**	**+1.4**
	0.4nm,0.3s,baz=270,slow=24,SNR=6.6						
URZ	**Urewera**	**19.07**	**193**	P	**P**	**10 31 16.6**	**-1.6**
	7.5nm,1.0s						
URZ				S	**S**	**10 34 31.2**	**+1.8**
URZ	**Urewera**	**19.07**	**193**	P	**P**	**10 31 16.6**	**-1.6**
	8.2nm,0.3s,baz=317,slow=3.1,SNR=54						
URZ				S	**S**	**10 34 31.2**	**+1.8**
	0.7nm,0.3s,baz=38,slow=20,SNR=5.4						
KHZ	**Kahutara**	**23.86**	**196**	*e*P	**P**	**10 32 00.4**	**-1.3**
	21nm,0.5s						
RPZ	**Rata Peaks**	**25.76**	**199**	*e*P	**P**	**10 32 18.7**	**0.0**
	250nm,2.6s						
RPZ	**Rata Peaks**	**25.76**	**199**	P	**P**	**10 32 18.7**	**0.0**
	11nm,0.6s,baz=13,slow=4.6,SNR=8.9						
ARMA	**Armidale**	**29.67**	**243**	P	**P**	**10 32 54.0**	**+0.6**
	baz=30,SNR=51						
MGCD	**Mangrove Creek**	**30.86**	**238**	P	**P**	**10 33 04.5**	**+0.8**
	baz=31,SNR=6.3						
RMQ	**Roma**	**31.51**	**251**	P	**P**	**10 33 09.9**	**+0.6**
	baz=32,SNR=9.5						
CNB	**Canberra Magne**	**32.91**	**235**	P	**P**	**10 33 21.8**	**+0.5**
	baz=33,SNR=57						

YNG	**Young**	**33.34**	**237**	P	**P**	**10 33 25.1**	**+0.1**
	baz=34,SNR=13						
YNG				S	**S**	**10 38 18.3**	**+4.4**
	baz=34,SNR=5.7						
MILA	**Mila**	**33.68**	**232**	P	**P**	**10 33 28.0**	**+0.2**
	baz=34,SNR=6.3						
CTA	**Charters Tower**	**33.83**	**263**	P	**P**	**10 33 28.8**	**-0.6**
CTA	**Charters Tower**	**33.83**	**263**	P	**P**	**10 33 28.8**	**-0.6**
	31nm,0.7s,baz=94,slow=11,SNR=29						
CTAO	**Charters Tower**	**33.83**	**263**	*e*P	**P**	**10 33 28.7**	**-0.6**
	29nm,0.7s						
CMSA	**Cobar Meteorol**	**34.89**	**243**	P	**P**	**10 33 38.0**	**-0.1**
	baz=35,SNR=34						
MTSU	**Mount Surprise**	**35.89**	**266**	P	**P**	**10 33 46.1**	**-0.6**
	baz=36,SNR=5.6						
TOO	**Toolangi**	**36.60**	**233**	P	**P**	**10 33 52.3**	**0.0**
	baz=37,SNR=25						
STKA	**Stephens Creek**	**38.38**	**243**	P	**P**	**10 34 05.8**	**-1.4**
STKA	**Stephens Creek**	**38.38**	**243**	P	**P**	**10 34 05.8**	**-1.4**
	14nm,0.5s,baz=88,slow=8.8,SNR=56						
STKA	**Stephens Creek**	**38.38**	**243**	P	**P**	**10 34 05.9**	**-1.2**
	baz=39,SNR=36						
ARPS	**Mount Arapiles**	**39.16**	**236**	P	**P**	**10 34 13.0**	**-0.4**
	baz=39,SNR=15						
BBOO	**Buckleboo**	**43.15**	**243**	P	**P**	**10 34 45.0**	**-0.5**
	baz=43,SNR=59						
AS31	**Alice Springs**	**44.96**	**256**	*e*P	**P**	**10 34 58.9**	**-0.8**
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**10 34 59.0**	**-0.8**
ASAR				S	**S**	**10 41 03.6**	**-1.9**
ASAR	**Alice Springs**	**44.96**	**256**	P	**P**	**10 34 59.0**	**-0.8**
	45nm,0.7s,baz=88,slow=8.3,SNR=351						
ASAR				S	**S**	**10 41 03.6**	**-1.9**
	0.8nm,0.8s,baz=88,slow=17,SNR=6.1						
WRAB	**Tennant Creek**	**44.97**	**261**	*e*P	**P**	**10 34 58.1**	**-1.6**
	20nm,0.4s						
WRA	**Warramunga Arr**	**44.97**	**261**	P	**P**	**10 34 58.2**	**-1.7**
WRA				S	**S**	**10 41 02.2**	**-3.6**
WRA	**Warramunga Arr**	**44.97**	**261**	P	**P**	**10 34 58.2**	**-1.7**
	14nm,0.3s,baz=97,slow=7.2,SNR=138						
WRA				S	**S**	**10 41 02.2**	**-3.6**
	2.0nm,1.0s,baz=96,slow=13,SNR=7.6						
KDU	**Kakadu**	**48.19**	**270**	P	**P**	**10 35 23.3**	**-1.2**
	baz=48,SNR=10						
MTN	**Manton Dam**	**49.41**	**270**	P	**P**	**10 35 31.3**	**-2.3**
	baz=50,SNR=3.4						
FORT	**Forrest**	**49.86**	**246**	P	**P**	**10 35 35.8**	**-0.9**
	baz=50,SNR=19						
KNRA	**Kununurra**	**50.97**	**265**	P	**P**	**10 35 44.2**	**-0.9**
	baz=51,SNR=42						
FITZ	**Fitzroy Crossi**	**53.40**	**262**	P	**P**	**10 36 02.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.40**	**262**	P	**P**	**10 36 02.4**	**-0.2**
	3.7nm,0.4s,baz=114,slow=3.4,SNR=49						
FITZ	**Fitzroy Crossi**	**53.40**	**262**	P	**P**	**10 36 01.8**	**-0.8**
	baz=54,SNR=29						
MBWA	**Marble Bar**	**58.29**	**257**	*e*P	**P**	**10 36 35.8**	**-1.0**
	19nm,0.6s						
MEEK	**Meekatharra**	**58.44**	**250**	P	**P**	**10 36 36.4**	**-1.4**
	baz=59,SNR=20						
KLBR	**Kalberberrin**	**58.64**	**244**	P	**P**	**10 36 38.2**	**-0.9**
	baz=59,SNR=10						
SBA	**Scott Base**	**58.72**	**184**	*e*P	**P**	**10 36 41.4**	**+2.7**
	61nm,1.9s						
VNDA	**Vanda**	**58.76**	**185**	P	**P**	**10 36 40.4**	**+1.4**
VNDA				ScP	**ScP**	**10 40 43.9**	**+2.2**
VNDA	**Vanda**	**58.76**	**185**	P	**P**	**10 36 40.4**	**+1.4**
	2.4nm,0.7s,baz=358,slow=7.1,SNR=34						
VNDA				ScP	**ScP**	**10 40 43.9**	**+2.2**
	1.3nm,0.8s,baz=352,slow=4.9,SNR=6.6						
NWAO	**Narrogin (SRO)**	**58.97**	**243**	P	**P**	**10 36 40.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**58.97**	**243**	P	**P**	**10 36 40.8**	**-0.5**
	7.2nm,0.7s,baz=96,slow=7.3,SNR=5.8						
BLDU	**Ballidu**	**59.63**	**245**	P	**P**	**10 36 44.7**	**-1.0**
	baz=60,SNR=23						
MORW	**Morawa**	**60.38**	**247**	P	**P**	**10 36 49.8**	**-1.0**
	baz=60,SNR=5.0						
CASY	**Casey**	**64.83**	**205**	*e*P	**P**	**10 37 19.1**	**+0.1**
	18nm,1.2s						
MJAR	**Matsushiro Arr**	**69.69**	**323**	P	**P**	**10 37 48.4**	**-1.2**
MJAR	**Matsushiro Arr**	**69.69**	**323**	P	**P**	**10 37 48.4**	**-1.2**
	7.7nm,0.6s,baz=153,slow=5.8,SNR=36						
MAT	**Matsushiro**	**69.69**	**323**	P	**P**	**10 37 48.5**	**-1.1**
MAT				S	**S**	**10 46 24.0**	**+0.9**
ATKA	**Atka Island**	**71.62**	**2**	*e*P	**P**	**10 37 59.8**	**-0.8**
	69nm,1.4s						
JNU	**Nakatsue**	**71.85**	**316**	P	**P**	**10 38 02.8**	**+0.2**
JNU	**Nakatsue**	**71.85**	**316**	P	**P**	**10 38 02.8**	**+0.2**
	11nm,1.0s,baz=109,slow=5.1,SNR=2.9						
ASAJ	**Asahikawa**	**73.12**	**331**	*e*P	**P**	**10 38 09.4**	**-0.2**
	5.5nm,1.1s						
ASAJ	**Asahikawa**	**73.12**	**331**	P	**P**	**10 38 10.2**	**+0.6**
	7.4nm,0.7s,baz=232,slow=10,SNR=14						
PETK	**Petropavlovsk-**	**75.53**	**345**	P	**P**	**10 38 22.7**	**-0.4**
PETK	**Petropavlovsk-**	**75.53**	**345**	P	**P**	**10 38 22.7**	**-0.4**
	8.0nm,0.7s,baz=133,slow=7.0,SNR=18						
KSRS	**Korea Array**	**76.43**	**318**	P	**P**	**10 38 28.4**	**0.0**
	1.2nm,0.7s,baz=138,slow=5.8,SNR=5.6						
KSAR	**Wonju Array Be**	**76.45**	**318**	P	**P**	**10 38 28.4**	**-0.1**
USRK	**Ussuriysk Arra**	**78.41**	**326**	P	**P**	**10 38 40.3**	**+1.2**
	3.5nm,0.7s,baz=164,slow=3.1,SNR=11						
ISA	**Isabella**	**78.57**	**46**	*e*P	**P**	**10 38 41.6**	**+1.3**
	4.2nm,0.8s						
CMB	**Columbia Colle**	**78.68**	**43**	*e*P	**P**	**10 38 41.3**	**+0.5**
	2.5nm,0.7s						
OHCM	**Honcut**	**78.76**	**41**	*e*P	P	10 38 37.4	-3.7
WAKR	**Walker**	**79.56**	**43**	*e*P	**P**	**10 38 46.5**	**+0.8**
HUMO	**Hull Mountain**	**79.88**	**38**	*e*P	**P**	**10 38 48.4**	**+1.3**
	10nm,1.4s						
MDJ	**Mudanjiang**	**79.98**	**325**	P	**P**	**10 38 48.2**	**+0.7**
MDJ				pP	**pP**	**10 40 23.8**	**+0.3**
MDJ				sP	**sP**	**10 41 08.9**	**+0.5**
MDJ				PP	**PP**	**10 41 56.9**	**-0.1**
MDJ				S	**S**	**10 48 15.5**	**+0.5**
MDJ				ScS	**ScS**	**10 48 32.8**	**+0.8**
MDJ				sS	**sS**	**10 51 07.2**	**+1.3**
MDJ				SS	**SS**	**10 53 37.9**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVAR	**Mina Array Bea**	**80.25**	**43**	P	**P**	**10 38 50.2**	**+0.9**
NVAR	**Mina Array Bea**	**80.25**	**43**	P	**P**	**10 38 50.2**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=225,slow=8.6,SNR=23						
PAHR	**Pah Rah Range**	**80.29**	**42**	*e*P	**P**	**10 38 50.1**	**+0.7**
	comp=Z,4.7nm,0.9s						
CN2	**Changchun**	**81.80**	**322**	*e*P	**P**	**10 38 57.4**	**+0.4**
CN2				*es*P	**sP**	**10 41 17.3**	**-1.0**
CN2				*e*S	**S**	**10 48 32.9**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
TUC	**Tucson**	**82.27**	**52**	*e*P	**P**	**10 39 01.9**	**+2.1**
	comp=Z,18nm,0.9s						
WVOR	**Wild Horse Val**	**82.33**	**40**	*e*P	**P**	**10 39 00.5**	**+0.6**
	comp=Z,6.5nm,0.8s						
MAW	**Mawson**	**82.43**	**200**	P	**P**	**10 38 59.9**	**0.0**
MAW	**Mawson**	**82.43**	**200**	P	**P**	**10 38 59.9**	**0.0**
	comp=Z,2.7nm,0.6s,baz=124,slow=8.3,SNR=23						
MAW	**Mawson**	**82.43**	**200**	P	**P**	**10 39 00.0**	**+0.1**
	baz=82,SNR=17						
CCUT	**Cedar City**	**83.05**	**46**	*e*P	**P**	**10 39 05.2**	**+1.4**
	comp=Z,2.9nm,0.8s						
ARUT	**Antelope Range**	**83.12**	**46**	*e*P	**P**	**10 39 02.6**	**-1.5**
	comp=Z,1.8nm,0.5s						
PMR	**Palmer**	**84.15**	**13**	*e*P	**P**	**10 39 08.3**	**-0.1**
	comp=Z,6.8nm,0.6s						
BMO	**Blue Mountains**	**84.51**	**38**	*e*P	**P**	**10 39 10.5**	**-0.2**
	comp=Z,1.8nm,0.8s						
MFID	**Camas Ranch**	**84.58**	**40**	*e*P	P	10 39 04.1	-7.1
TRF	**Thorofare Moun**	**85.58**	**12**	*e*P	**P**	**10 39 14.1**	**-1.6**
	comp=Z,13nm,0.8s						
SRU	**San Rafael**	**85.76**	**46**	*e*P	**P**	**10 39 18.0**	**+0.8**
	comp=Z,2.7nm,0.7s						
MCK	**McKinley**	**86.11**	**12**	*e*P	**P**	**10 39 17.4**	**-0.6**
TXAR	**Lajitas Array**	**86.39**	**57**	P	**P**	**10 39 22.0**	**+1.7**
TXAR	**Lajitas Array**	**86.39**	**57**	P	**P**	**10 39 22.0**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=220,slow=5.9,SNR=16						
GYA	**Guiyang**	**86.46**	**300**	*e*P	**P**	**10 39 21.0**	**+0.3**
GYA				pP	**pP**	**10 41 01.2**	**+2.8**
GYA				sP	**sP**	**10 41 43.0**	**0.0**
GYA				PP	**PP**	**10 42 52.4**	**+2.5**
GYA				S	**S**	**10 49 18.7**	**-1.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HYT	**Haines Junctio**	**86.50**	**18**	*e*P	**P**	**10 39 21.1**	**+1.0**
ANMO	**Albuquerque**	**86.69**	**51**	*e*P	**P**	**10 39 22.7**	**+1.0**
MCMT	**McKenzie Canyo**	**87.15**	**40**	*e*P	**P**	**10 39 24.2**	**+0.5**
	comp=Z,2.1nm,0.9s						

COLA	**College**	**87.34**	**12**	*e*P	**P**	**10 39 22.7**	**-1.1**
	comp=Z,53nm,0.7s						
RRI2	**Red Ridge**	**87.34**	**42**	*e*P	**P**	**10 39 26.0**	**+1.3**
	comp=Z,3.3nm,0.9s						
ILAR	**Eielson Array**	**87.45**	**13**	P	**P**	**10 39 23.1**	**-1.3**
ILAR				pP	**pP**	**10 41 01.9**	**-0.5**
ILAR				PP	**PP**	**10 42 56.6**	**-0.2**
ILAR	**Eielson Array**	**87.45**	**13**	P	**P**	**10 39 23.1**	**-1.3**
	comp=Z,2.2nm,0.5s,baz=220,slow=4.9,SNR=48						
ILAR				pP	**pP**	**10 41 01.9**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=225,slow=5.6,SNR=6.8						
ILAR				PP	**PP**	**10 42 56.6**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=219,slow=7.1,SNR=5.3						
DLMT	**Dillon**	**87.58**	**40**	*e*P	**P**	**10 39 26.7**	**+1.1**
	comp=Z,5.8nm,1.0s						
SYO	**Syowa Base**	**87.59**	**193**	⇑*e*X		10 39 22.5	
BSMT	**Bassoo Peak**	**87.62**	**37**	*e*P	**P**	**10 39 25.8**	**+0.1**
REDW	**Red Top Meadow**	**87.65**	**42**	*e*P	**P**	**10 39 26.9**	**+0.8**
	comp=Z,4.1nm,1.1s						
SNOW	**Snow King Moun**	**87.76**	**42**	*e*P	**P**	**10 39 28.0**	**+1.4**
	comp=Z,4.7nm,1.0s						
IMW	**Indian Meadow**	**87.86**	**42**	*e*P	**P**	**10 39 28.3**	**+1.2**
	comp=Z,4.8nm,1.1s						
LOHW	**Long Hollow**	**87.93**	**42**	*e*P	**P**	**10 39 28.1**	**+0.7**
	comp=Z,1.0nm,0.7s						
QLMT	**Earthquake Lak**	**88.02**	**41**	*e*P	**P**	**10 39 29.3**	**+1.6**
BW06	**Boulder Array**	**88.18**	**43**	*e*P	**P**	**10 39 28.6**	**0.0**
	comp=Z,2.3nm,1.0s						
PDAR	**Pinedale Array**	**88.18**	**43**	P	**P**	**10 39 28.8**	**+0.2**
PDAR	**Pinedale Array**	**88.18**	**43**	P	**P**	**10 39 28.8**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=206,slow=3.2,SNR=13						
BOZ	**Bozeman (W)**	**88.31**	**40**	*e*P	**P**	**10 39 29.7**	**+0.7**
	comp=Z,1.7nm,0.8s						
BOZ				*e*pP	**pP**	**10 41 03.6**	**-3.7**
HRY	**Holter Researc**	**88.73**	**39**	*e*P	**P**	**10 39 32.1**	**+1.2**
EGAK	**Eagle**	**88.74**	**15**	*e*P	**P**	**10 39 30.4**	**+0.1**
	comp=Z,6.4nm,0.9s						
EGAK				*e*pP	**pP**	**10 41 07.9**	**-0.7**
HHC	**Hu-ho-hao-te**	**88.95**	**314**	*e*P	**P**	**10 39 30.3**	**-1.8**
HHC				pP	**pP**	**10 41 10.7**	**+0.3**
HHC				sP	**sP**	**10 41 56.1**	**+1.3**
HHC				PP	**PP**	**10 43 10.4**	**+1.0**
HHC				SKS	**SKSac**	**10 49 15.4**	**-4.5**
HHC				S	**S**	**10 49 38.4**	**-4.5**
HHC				sS	**sS**	**10 52 37.0**	**-1.1**
HHC				pmax	pmax		
	comp=Z,47nm,0.8s						
COLD	**Coldfoot**	**89.01**	**10**	*e*P	**P**	**10 39 32.0**	**+0.4**
	comp=Z,6.4nm,0.8s						
VNA2	**Neumayer--Watz**	**89.40**	**177**	*e*P	**P**	**10 39 34.1**	**+0.6**
VNA1	**Neumayer--Stat**	**89.62**	**177**	*e*P	**P**	**10 39 35.1**	**+0.6**
CD2	**Chengdu**	**90.55**	**303**	*e*P	**P**	**10 39 39.4**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,130nm,6.6s						
RSSD	**Black Hills**	**92.38**	**44**	*e*P	**P**	**10 39 48.1**	**+0.1**
	comp=Z,2.3nm,0.8s						
LZH	**Lanzhou**	**92.47**	**307**	*e*P	**P**	**10 39 47.2**	**-1.3**
LZH				pP	**pP**	**10 41 26.5**	**-0.7**
LZH				sP	**sP**	**10 42 12.5**	**+1.1**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
DGMT	**Dagmar**	**94.12**	**40**	*e*P	**P**	**10 39 56.7**	**+1.1**
	comp=Z,5.8nm,0.8s						
MKAR	**Makanchi Array**	**110.81**	**314**	PKiKP	**PKiKP**	**10 45 07.0**	**-0.3**
MKAR	**Makanchi Array**	**110.81**	**314**	PKiKP	**PKiKP**	**10 45 07.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=112,slow=2.5,SNR=4.4						
ARCES	**ARCESS Array B**	**128.15**	**350**	PKP	**PKPdf**	**10 45 40.2**	**+0.3**
ARCES				SKPbc	SKiKP	10 48 20.9	-14
ARCES	**ARCESS Array B**	**128.15**	**350**	PKP	**PKPdf**	**10 45 40.2**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=25,slow=1.1,SNR=54						
ARCES				SKPbc	SKiKP	10 48 20.9	-14
	comp=Z,2.0nm,1.0s,baz=52,slow=3.5,SNR=5.7						
FINES	**FINESS Array B**	**135.

IDC 08 10:43:32.6±1.9, 47°19′N×153°29′E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/26, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=59.2km s-min=24.1km az=154.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.10**	**252**	Pn	Pn	10 45 31.7	+0.4
	0.4nm,0.3s,baz=87,slow=13,SNR=9.3						
KSRS	**Korea Array**	**21.05**	**252**	P	P	10 48 17.4	-0.6
	0.5nm,0.5s,baz=55,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**36.13**	**39**	P	P	10 50 34.5	-1.5
	0.2nm,0.9s,baz=253,slow=8.4,SNR=2.7						
FINES	**FINESS Array B**	**63.70**	**335**	P	P	10 54 05.3	+0.1
	0.3nm,0.4s,baz=72,slow=8.9,SNR=2.9						
NB2	**NORSAR Subarra**	**67.85**	**341**	P	P	10 54 32.8	+0.6
	comp=Z,0.5nm,0.6s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.85**	**341**	P	P	10 54 32.8	+0.6
	comp=Z,0.7nm,0.7s,baz=28,slow=6.3,SNR=4.0						
TXAR	**Lajitas Array**	**77.17**	**61**	P	P	10 55 29.4	+1.1
	comp=Z,0.1nm,0.4s,baz=293,slow=6.2,SNR=4.2						

*ISCJB **08** 10:52:39.7±0.9, 46°14S±0°08×165°83E±0°07, h12km, mb3.4/2, Error ellipse: s-maj=11.2km s-min=7.2km az=12.7*
*IDC **08** 10:52:39.0±1.8, 46°19S×165°95E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=59.6km s-min=27.6km az=173.0*
*WEL **08** 10:52:42.2±0.5, 46°14S×165°87E, h33km, ML4.3/17, Error ellipse: s-maj=5.3km s-min=3.4km az=90.0*
ISC 08 10:52:40.9±1.0, 46°19S±0°08×165°93E±0°06, h12km, n24, σ0°96/30, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.11**	**51**	⇑PN	**Pb**	**10 53 01.0**	**-1.0**
DCZ				AML	AML	10 53 16.6	
DCZ				AML	AML	10 53 16.6	
DCZ				AML	AML	10 53 17.1	
DCZ				AML	AML	10 53 19.5	
WHZ	**Wether Hill Ro**	**1.43**	**79**	PN	**Pn**	**10 53 06.9**	**+0.2**
WHZ				SN	**Sg**	**10 53 26.6**	**-0.4**
WHZ				SN	**Sb**	**10 53 26.9**	**+1.2**
APZ	**The Paps**	**1.56**	**115**	PN	**Pn**	**10 53 08.6**	**+0.1**
APZ				SN	**Sb**	**10 53 29.4**	**0.0**
MLZ	**Mavora Lakes**	**1.78**	**63**	PN	**Pn**	**10 53 12.2**	**+0.7**
MLZ				SN	**Sb**	**10 53 35.3**	**-0.4**
MLZ				AML	AML	10 53 40.6	
MSZ	**Milford Sound**	**2.07**	**44**	PN	**Pn**	**10 53 15.5**	**+0.1**
MSZ				AML	AML	10 53 54.7	
MSZ				AML	AML	10 53 54.7	
MSZ				AML	AML	10 54 01.2	
MSZ				AML	AML	10 54 01.2	
EAZ	**Earnscleugh**	**2.55**	**69**	PN	**Pn**	**10 53 24.1**	**+2.0**
EAZ				AML	AML	10 54 00.2	
EAZ				AML	AML	10 54 00.2	
EAZ				AML	AML	10 54 03.3	
EAZ				AML	AML	10 54 03.3	
WKZ	**Wanaka**	**2.56**	**59**	PN	**Pn**	**10 53 24.4**	**+2.2**
WKZ				AML	AML	10 54 00.7	
WKZ				AML	AML	10 54 11.1	
WKZ				AML	AML	10 54 11.2	
WKZ				AML	AML	10 54 33.0	
TUZ	**Tuapeka**	**2.59**	**86**	PN	**Pn**	**10 53 23.7**	**+1.1**
TUZ				SN	**Sn**	**10 53 54.5**	**+0.7**
TUZ				AML	AML	10 53 57.4	
JCZ	**Jackson Bay**	**2.91**	**44**	PN	**Pn**	**10 53 28.6**	**+1.5**
JCZ				AML	AML	10 54 20.4	
JCZ				AML	AML	10 54 25.0	
ODZ	**Otahua Downs**	**3.50**	**73**	PN	**Pn**	**10 53 35.0**	**0.0**
LBZ	**Lake Benmore**	**3.50**	**61**	PN	**Pn**	**10 53 35.7**	**+0.6**
LBZ				AML	AML	10 54 17.6	
LBZ				AML	AML	10 54 40.1	
FOZ	**Fox Glacier**	**3.74**	**47**	PN	**Pn**	**10 53 39.8**	**+1.4**
FOZ				AML	AML	10 54 47.7	
FOZ				AML	AML	10 54 50.5	
RPZ	**Rata Peaks**	**4.39**	**58**	PN	**Pn**	**10 53 47.1**	**-0.3**
RPZ				AML	AML	10 54 39.6	
RPZ				AML	AML	10 55 14.7	
RPZ	**Rata Peaks**	**4.39**	**58**	Pn	**Pn**	**10 53 47.1**	**-0.3**
	4.0nm,0.3s,baz=240,slow=2.7,SNR=25						
RPZ				Sn	**Sn**	**10 54 37.7**	**-0.8**
	21nm,0.3s,baz=147,slow=21,SNR=14						
WVZ	**Waitaha Valley**	**4.63**	**49**	PN	**Pn**	**10 53 50.7**	**+0.1**
LTZ	**Lake Taylor**	**5.67**	**55**	PN	**Pn**	**10 54 04.2**	**-0.8**
THZ	**Tophouse**	**6.70**	**51**	PN	**Pn**	**10 54 18.1**	**-1.0**
NNZ	**Nelson**	**7.33**	**50**	PN	**Pn**	**10 54 29.2**	**+1.5**
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**10 59 26.2**	**0.0**
	0.2nm,0.5s,baz=136,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**36.81**	**305**	P	**P**	**10 59 48.3**	**-0.5**
	0.5nm,0.7s,baz=137,slow=7.9,SNR=8.8						
TORD	**Torodi Ar. Bea**	**144.47**	**207**	PKP	**PKPab**	**11 12 15.1**	**-0.5**
	0.7nm,0.8s,baz=164,slow=4.7,SNR=3.7						
BRTR	**Keskin Array B**	**144.93**	**277**	PKP	**PKPab**	**11 12 16.9**	**0.0**
	0.8nm,0.8s,baz=77,slow=4.2,SNR=3.7						
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**11 12 29.5**	**+0.8**
	2.0nm,1.0s,baz=50,slow=1.9,SNR=5.8						
AKASG	**Malin Array Be**	**151.24**	**295**	PKPbc	**PKPbc**	**11 12 33.7**	**+0.4**
	1.0nm,0.6s,baz=77,slow=2.8,SNR=5.5						

CASC 08 10:56:43.2±2.9, 9°88N×82°85W, h20km±14km, MD3.5, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**0.92**	**267**	⇓*e*P	Pb	10 57 00.1	-0.5
URSC				*e*S	Sb	10 57 11.0	-1.6
BUS	**Buena Vista**	**0.95**	**250**	⇓*e*P	Pb	10 57 01.3	-0.3
BUS				*e*S	Sb	10 57 13.9	-0.3
BRU2	**Volcan**	**1.09**	**172**	*e*P	Pb	10 57 04.1	+0.5
BRU2				*e*S	Sn	10 57 18.0	-0.3
TBS2		**1.10**	**170**	*e*P	Pn	10 57 03.4	-0.2
TBS2				*e*S	Sb	10 57 17.7	0.0
ACR	**Cerro Adams**	**1.26**	**194**	*e*P	Pb	10 57 06.6	+0.3
ACR				*e*S	Sb	10 57 23.2	+1.0
QCR	**Quepos**	**1.37**	**251**	⇓*e*P	Pb	10 57 08.0	-0.3
QCR				*e*S	Sn	10 57 25.1	+0.2
CGA2	**Cerro Gallo 2**	**1.60**	**275**	*e*P	Pb	10 57 12.9	+0.7
CGA2				*e*S	Sb	10 57 31.9	-0.2
BCIP	**Isla Barro Col**	**3.06**	**103**	*e*P	Pn	10 57 29.8	-0.7
BCIP				*e*S	Sn	10 58 05.2	-1.2

IDC 08 10:57:24.2±1.9, 6°50S×147°16E, h113km±23km, mb3.5/7, mb1 3.7/9, mb1mx3.5/19, mbtmp3.5/9, Error ellipse: s-maj=38.1km s-min=12.7km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.89**	**180**	P	Pn	10 58 09.9	+1.1
	24nm,0.3s,baz=7.3,slow=6.0,SNR=76						
PMG				S	Sn	10 58 43.5	+0.4
	26nm,0.3s,baz=251,slow=23,SNR=11						
CTA	**Charters Tower**	**13.53**	**184**	P	P	11 00 36.5	-0.3
	0.7nm,0.3s,baz=355,slow=14,SNR=9.0						
WRA	**Warramunga Arr**	**18.26**	**222**	P	P	11 01 28.4	-0.8
	0.2nm,0.3s,baz=43,slow=12,SNR=19						
ASAR	**Alice Springs**	**21.30**	**215**	P	P	11 02 01.9	-0.1
	1.4nm,0.5s,baz=46,slow=8.9,SNR=28						
ASAR				S	S	11 05 52.9	+0.5
	0.5nm,0.6s,baz=29,slow=21,SNR=3.4						
FITZ	**Fitzroy Crossi**	**23.95**	**239**	P	P	11 02 27.6	-0.5
	2.4nm,0.3s,baz=57,slow=10,SNR=38						
KSRS	**Korea Array**	**47.27**	**339**	P	P	11 05 45.0	-1.1
	1.0nm,0.8s,baz=151,slow=7.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**53.63**	**298**	P	P	11 06 35.5	+1.2
	1.7nm,0.6s,baz=121,slow=6.1,SNR=9.5						
MKAR	**Makanchi Array**	**77.98**	**321**	P	P	11 09 09.8	-0.3
	0.6nm,1.0s,baz=108,slow=4.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**79.52**	**328**	P	P	11 09 17.5	-0.8
	0.4nm,0.3s,baz=103,slow=6.5,SNR=2.6						
ILAR	**Eielson Array**	**85.88**	**23**	P	P	11 09 50.9	-0.1
	0.3nm,0.5s,baz=250,slow=5.1,SNR=9.8						
TORD	**Torodi Ar. Bea**	**145.37**	**284**	PKPbc	PKPab	11 16 50.9	+0.7
	2.4nm,0.6s,baz=89,slow=4.2,SNR=12						

IDC 08 11:02:07.6±1.9, 16°63S×173°20W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.7/24, mbtmp4.0/6, ML1.8/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/36, Error ellipse: s-maj=56.1km s-min=22.8km az=122.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.04**	**27**	Pn	Pn	11 02 57.7	+0.6
	7.3nm,0.3s,baz=168,slow=23,SNR=19						
AFI				Sn	Sn	11 03 33.5	-0.7
	95nm,0.3s,baz=54,slow=12,SNR=12						
URZ	**Urewera**	**23.17**	**200**	P	P	11 07 15.1	-0.7
	2.8nm,0.3s,baz=27,slow=4.5,SNR=10						
HNR	**Honiara**	**27.10**	**282**	LR	LR	11 17 11.2	
	comp=Z,76nm,19.2s,baz=177,slow=33						
STKA	**Stephens Creek**	**43.60**	**241**	P	P	11 10 15.7	+1.8
	1.3nm,0.5s,baz=48,slow=8.8,SNR=8.1						
WRA	**Warramunga Arr**	**49.76**	**258**	P	P	11 11 01.3	-1.1
	0.7nm,0.8s,baz=95,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**49.92**	**253**	P	P	11 11 02.5	-1.1
	2.0nm,0.6s,baz=88,slow=8.6,SNR=34						
FITZ	**Fitzroy Crossi**	**58.15**	**259**	P	P	11 12 04.3	+0.6
	1.1nm,0.8s,baz=97,slow=17,SNR=2.6						
ASAJ	**Asahikawa**	**72.69**	**328**	LR	LR	11 43 22.0	
	comp=Z,87nm,18.6s,baz=158,slow=34						
INK	**Inuvik**	**89.41**	**14**	LR	LR	11 51 07.5	
	comp=Z,26nm,20.4s,baz=340,slow=33						

IDC 08 11:04:04.8±11.0, 13°90N×92°90W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=197.5km s-min=87.9km az=172.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**18.31**	**329**	P	P	11 08 20.7	0.0
	0.1nm,0.3s,baz=155,slow=13,SNR=6.2						
PDAR	**Pinedale Array**	**32.16**	**337**	P	P	11 10 33.8	-0.8
	0.2nm,0.5s,baz=166,slow=5.4,SNR=3.0						
NVAR	**Mina Array Bea**	**33.20**	**322**	P	P	11 10 44.0	+0.2
	0.8nm,0.7s,baz=138,slow=8.6,SNR=8.5						
ULM	**Lac du Bonnet**	**36.33**	**357**	P	P	11 11 10.5	+0.2
	1.5nm,0.6s,baz=150,slow=7.3,SNR=2.6						

*ISCJB **08** 11:10:08.6±0.7, 36°53N±0°05×70°5E±0°2, h204km, mb3.1/2, Error ellipse: s-maj=18.5km s-min=7.0km az=170.7*
*IDC **08** 11:10:09.3±16.0, 36°10N×70°92E, h235km±192km, mb2.9/3, mb1 2.8/4, mb1mx2.6/27, mbtmp2.8/4, Error ellipse: s-maj=105.7km s-min=68.1km az=106.0*
*NNC **08** 11:10:22.6±6.5, 37°65N×71°56E, h337km±90km, mb2.0, mpv3.4, Error ellipse: s-maj=86.9km s-min=40.6km az=7.0*
ISC 08 11:10:09.7±0.9, 36°51N±0°07×70°5E±0°1, h204km, n9, σ1°44/11, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.91**	**157**	P	**Pn**	**11 10 59.0**	**+0.3**
CEP				S	**S**	**11 11 36.0**	**-0.3**
THW	**Thamme Wali**	**3.84**	**165**	P	**Pn**	**11 11 09.9**	**+0.1**
KK31	**Karatay Array**	**6.58**	**360**	P	**Pn**	**11 11 46.4**	**+1.9**
	0.6nm,0.3s,baz=172,slow=12,SNR=29						
KK31				⇑S	**S**	**11 12 56.8**	**-2.8**
	0.7nm,0.3s,baz=182,slow=28,SNR=5.7						
TKM2	**Tokmak 2**	**7.49**	**30**	⇓P	**Pn**	**11 11 55.5**	**-1.0**
	4.3nm,0.5s						
TKM2				⇑S	S	11 13 08.3	-13
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**13.50**	**37**	P	**Pn**	**11 13 13.7**	**+0.5**
	0.1nm,0.3s,baz=224,slow=12,SNR=4.7						
AB31	**Akbulak array**	**14.90**	**332**	⇑P	**Pn**	**11 13 30.2**	**-0.1**
	0.5nm,0.5s,baz=138,slow=12,SNR=5.2						
ZALV	**Zalesovo Beam**	**20.06**	**25**	P	**P**	**11 14 27.3**	**+0.1**
	0.6nm,0.3s,baz=224,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**37.27**	**326**	P	**P**	**11 17 02.5**	**+0.9**
	0.2nm,0.3s,baz=125,slow=8.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**65.35**	**268**	P	**P**	**11 20 28.7**	**-1.8**
	0.3nm,0.5s,baz=62,slow=5.7,SNR=4.3						

*IDC **08** 11:11:17.3±0.7, 21°17S×68°41W, h83km±5km, mb4.0/10, mb1 4.0/12, mb1mx3.9/18, mbtmp3.9/12, Error ellipse: s-maj=20.3km s-min=14.1km az=105.0*
*GUC **08** 11:11:19.9±0.7, 21°21S×68°83W, h132km±4km, ML4.8*
*NEIC **08** 11:11:20.5±0.5, 21°25S×68°70W, mb4.4/5, Error ellipse: s-maj=15.8km s-min=9.5km az=91.0*
ISC 08 11:11:20.9±0.5, 21°21S±0°04×68°77W±0°09, h129km±4km, n71, σ1°22/74, mb4.3/11, 4C-10D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.69**	**284**	⇓*i*P	**Pn**	**11 11 40.5**	**-0.6**
PB01				*i*S	**Sn**	**11 11 56.1**	**-0.5**
PB01	**Plate Boundary**	**0.69**	**284**	⇓*i*P	**Pn**	**11 11 40.5**	**-0.6**
PB01				*i*S	**Sn**	**11 11 56.1**	**-0.5**
PB01				AML	AML	11 11 57.4	
	comp=N,31μm,0.2s						
PB09	**Plate Boundary**	**0.73**	**217**	⇑*i*P	**Pn**	**11 11 41.4**	**-0.2**
PB09				*i*S	**Sn**	**11 11 57.1**	**-0.2**
PB09	**Plate Boundary**	**0.73**	**217**	⇑*i*P	**Pn**	**11 11 41.4**	**-0.2**
PB09				*i*S	**Sn**	**11 11 57.1**	**-0.2**
PB09				AML	AML	11 11 58.6	
	comp=N,81μm,0.5s						
PB04	**Plate Boundary**	**1.24**	**212**	⇑*i*P	Pn	11 11 51.1	+5.1
PB04				*i*S	Sn	11 12 14.3	+9.1
PB04				AML	AML	11 12 15.9	
	comp=E,7μm,0.6s						
HMBC	**Humberstone**	**1.40**	**311**	⇓*i*P	**Pn**	**11 11 47.5**	**-0.4**
HMBC				*i*S	**Sn**	**11 12 08.3**	**-0.2**
HMBC	**Humberstone**	**1.40**	**311**	⇓*i*P	**Pn**	**11 11 47.5**	**-0.4**
HMBC				*i*S	**Sn**	**11 12 08.3**	**-0.2**
HMBC				AML	AML	11 12 09.9	
	comp=N,8μm,0.3s						
LVC	**Limon Verde**	**1.40**	**185**	*e*Pn	**Pn**	**11 11 47.5**	**-0.6**
LVC				*e*Sn	**Sn**	**11 12 06.8**	**-2.0**
PSGC	**Pisagua**	**2.04**	**322**	⇓*i*P	**Pn**	**11 11 54.5**	**-0.9**
PSGC				*e*S	**Sn**	**11 12 21.1**	**-0.8**
PSGC	**Pisagua**	**2.04**	**322**	⇓*i*P	**Pn**	**11 11 54.5**	**-0.9**
PSGC				*e*S	**Sn**	**11 12 21.1**	**-0.8**
PSGC				AML	AML	11 12 27.2	
	comp=E,3μm,0.5s						
MNMC	**Minimini**	**2.21**	**339**	⇓*i*P	**Pn**	**11 11 57.4**	**-0.3**
MNMC				*i*S	**Sn**	**11 12 26.1**	**+0.3**
MNMC	**Minimini**	**2.21**	**339**	⇓*i*P	**Pn**	**11 11 57.4**	**-0.3**
MNMC				*i*S	**Sn**	**11 12 26.1**	**+0.3**
MNMC				AML	AML	11 12 27.9	
	comp=E,18μm,0.4s						
ANCH	**Antofagasta**	**2.89**	**211**	⇓*i*P	**Pn**	**11 12 05.5**	**-0.5**
ANCH	**Antofagasta**	**2.89**	**211**	⇓*i*P	**Pn**	**11 12 05.5**	**-0.5**
LPAZ	**La Paz**	**4.94**	**7**	P	**Pn**	**11 12 33.9**	**+0.1**
LPAZ	**La Paz**	**4.94**	**7**	P	**Pn**	**11 12 33.9**	**+0.1**
	comp=E,9.0nm,0.3s,baz=174,slow=8.0,SNR=218						
LCO	**Las Campanas**	**7.96**	**192**	*e*Pn	Pn	11 13 09.1	-4.9
	comp=E,40nm,0.5s						
LCO				*e*Sn	Sn	11 14 34.5	-8.1
SIV	**San Ignacio**	**8.96**	**56**	P	Pn	11 13 21.7	-5.7
SIV				S	Sn	11 14 56.3	-10
SIV	**San Ignacio**	**8.96**	**56**	P	Pn	11 13 21.7	-5.7
	comp=E,40nm,0.3s,baz=258,slow=14,SNR=469						
SIV				S	Sn	11 14 56.3	-10
	baz=304,slow=19,SNR=3.8						
CFAA	**Coronel Fontan**	**10.36**	**177**	P	Pn	11 13 42.2	-3.9
CFAA				S	Sn	11 15 31.6	-8.8
CFAA	**Coronel Fontan**	**10.36**	**177**	P	Pn	11 13 42.2	-3.9
	comp=E,0.2nm,0.3s,baz=357,slow=13,SNR=9.6						
CFAA				S	Sn	11 15 31.6	-8.8
	comp=E,0.7nm,0.3s,baz=175,slow=16,SNR=11						
SAML	**Samuel**	**13.33**	**25**	*e*Pn	Pn	11 14 20.2	-4.9
	comp=E,6.9nm,0.6s						
TRQA	**Tornquist**	**17.79**	**162**	*e*P	**P**	**11 15 18.2**	**-1.0**
	comp=E,28nm,0.9s						
PLCA	**Paso Flores**	**19.52**	**184**	*e*P	**P**	**11 15 37.0**	**-1.2**
	comp=E,6.0nm,1.0s						
PLCA	**Paso Flores**	**19.52**	**184**	P	**Pn**	**11 15 39.6**	**-1.2**
	comp=E,0.3nm,0.3s,baz=8.7,slow=13,SNR=7.5						
BDFB	**Brasilia**	**20.45**	**78**	P	**P**	**11 15 45.9**	**-2.6**
BDFB	**Brasilia**	**20.45**	**78**	P	**P**	**11 15 45.9**	**-2.6**
	comp=E,5.6nm,0.5s,baz=270,slow=7.2,SNR=8.0						
SDV	**Santo Domingo**	**29.96**	**356**	*e*P	**P**	**11 17 17.4**	**0.0**
	comp=E,2.2nm,0.4s						
CELP	**Cerrillos**	**39.10**	**3**	*e*P	**P**	**11 18 35.2**	**-0.4**
CELP				*e*pP	**pP**	**11 19 05.2**	**+0.8**
MTP	**Monte Pirata**	**39.19**	**5**	*e*P	**P**	**11 18 37.1**	**+0.6**
LRS	**Lares**	**39.30**	**3**	*e*P	**P**	**11 18 37.0**	**-0.4**
WVT	**Waverly**	**59.81**	**342**	*e*P	**P**	**11 21 12.4**	**-0.1**
	comp=E,5.4nm,0.6s						
WVT				*e*pP	**pP**	**11 21 42.0**	**-1.5**
TXAR	**Lajitas Array**	**60.47**	**325**	sP	pP	11 21 48.3	0.0
	comp=E,0.9nm,0.8s,baz=155,slow=7.0,SNR=8.0						
VNA1	**Neumayer--Stat**	**60.51**	**161**	*e*P	**P**	**11 21 18.7**	**+1.8**
VNA2	**Neumayer--Watz**	**60.88**	**161**	*e*P	**P**	**11 21 20.7**	**+1.3**
SNAA	**Sanae**	**62.51**	**161**	*e*P	**P**	**11 21 28.4**	**-2.0**
	comp=E,2.6nm,0.6s						
SNAA	**Sanae**	**62.51**	**161**	P	**P**	**11 21 31.3**	**+0.9**
	comp=E,2.1nm,0.6s,baz=284,slow=7.2,SNR=63						
QSPA	**South Pole Qui**	**68.98**	**180**	P	**P**	**11 22 14.3**	**+2.3**
QSPA				sP	**pP**	**11 22 45.9**	**+2.1**
QSPA	**South Pole Qui**	**68.98**	**180**	P	**P**	**11 22 14.3**	**+2.3**
	comp=E,3.2nm,0.7s,baz=133,slow=3.2,SNR=21						
QSPA				pP	**PcP**	**11 22 34.2**	**-1.2**
	comp=E,1.0nm,0.5s,baz=193,slow=1.3,SNR=2.8						
QSPA				sP	**pP**	**11 22 45.9**	**+2.1**
	comp=E,1.0nm,0.5s,baz=77,slow=1.1,SNR=2.3						
PDAR	**Pinedale Array**	**73.92**	**330**	pP	pP	11 23 10.3	-3.8
PDAR	**Pinedale Array**	**73.92**	**330**	pP	pP	11 23 10.3	-3.8
	comp=E,0.3nm,0.5s,baz=132,slow=8.0,SNR=3.7						
NVAR	**Mina Array Bea**	**75.35**	**322**	P	P	11 22 54.4	+4.0
NVAR				sP	pP	11 23 24.1	+1.5
NVAR	**Mina Array Bea**	**75.35**	**322**	P	P	11 22 54.4	+4.0
	comp=E,0.3nm,0.8s,baz=166,slow=4.2,SNR=2.6						
NVAR				sP	pP	11 23 24.1	+1.5
	comp=E,0.7nm,0.8s,baz=160,slow=6.7,SNR=4.3						
SCHQ	**Schefferville**	**75.75**	**1**	P	**P**	**11 22 52.0**	**0.0**
SCHQ	**Schefferville**	**75.75**	**1**	P	**P**	**11 22 52.0**	**0.0**
	comp=E,1.9nm,0.7s,baz=194,slow=4.2,SNR=2.3						
SYO	**Syowa Base**	**76.73**	**159**	⇑*e*P	**P**	**11 22 57.2**	**-0.3**
TOA0	**Torodi Ar. Sit**	**77.14**	**70**	*e*P	**P**	**11 22 59.6**	**-1.1**
TOA0				*e*pP	**pP**	**11 23 34.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**11 22 59.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**11 22 59.6**	**-1.1**
	comp=E,3.9nm,0.7s,baz=250,slow=5.3,SNR=19						
SUR	**Sutherland**	**78.61**	**120**	P	**P**	**11 23 09.7**	**+0.7**
SUR	**Sutherland**	**78.61**	**120**	P	**P**	**11 23 09.7**	**+0.7**
	comp=E,3.1nm,0.7s,baz=259,slow=5.2,SNR=4.2						
BOSA	**Boshof**	**83.47**	**118**	P	**P**	**11 23 34.4**	**-0.3**
BOSA	**Boshof**	**83.47**	**118**	P	**P**	**11 23 34.4**	**-0.3**
	comp=E,3.8nm,0.8s,baz=238,slow=6.4,SNR=5.2						
MAW	**Mawson**	**84.57**	**163**	P	**P**	**11 23 40.7**	**+1.5**
MAW	**Mawson**	**84.57**	**163**	P	**P**	**11 23 40.7**	**+1.5**
	comp=E,3.4nm,0.6s,baz=223,slow=6.6,SNR=23						
LBTB	**Lobatse**	**85.02**	**115**	P	**P**	**11 23 42.9**	**+0.3**
LBTB	**Lobatse**	**85.02**	**115**	P	**P**	**11 23 42.9**	**+0.3**
	comp=E,4.2nm,0.7s,baz=240,slow=7.5,SNR=6.5						
YKA	**Yellowknife Ar**	**90.96**	**341**	pP	pP	11 24 33.7	-9.2
	comp=E,1.2nm,0.6s,baz=129,slow=4.8,SNR=2.8						
ASAR	**Alice Springs**	**130.23**	**208**	PKP	**PKPdf**	**11 30 18.1**	**+1.5**
ASAR	**Alice Springs**	**130.23**	**208**	PKP	**PKPdf**	**11 30 18.1**	**+1.5**
	comp=E,0.5nm,0.8s,baz=139,slow=2.0,SNR=5.5						
WRA	**Warramunga Arr**	**133.27**	**210**	PKP	**PKPdf**	**11 30 23.5**	**+1.1**
WRA	**Warramunga Arr**	**133.27**	**210**	PKP	**PKPdf**	**11 30 23.5**	**+1.1**
	comp=E,0.6nm,0.7s,baz=150,slow=1.5,SNR=11						
ZALV	**Zalesovo Beam**	**141.64**	**25**	PKP	**PKPdf**	**11 30 38.2**	**+1.6**
ZALV	**Zalesovo Beam**	**141.64**	**25**	PKP	**PKPdf**	**11 30 38.2**	**+1.6**
	comp=E,0.6nm,0.4s,baz=292,slow=3.9,SNR=3.4						
MK31	**Makanchi Array**	**145.33**	**36**	*e*PKPbc	**PKPab**	**11 30 44.4**	**+0.6**
MK31				*es*PKPdf	**sPKPdf**	**11 31 32.2**	**+0.9**
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	**PKPab**	**11 30 44.5**	**+0.8**
MKAR				sPKPbc	sPKPbc	11 31 17.7	-13
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	**PKPab**	**11 30 44.5**	**+0.8**
	comp=E,1.5nm,0.7s,baz=330,slow=3.5,SNR=15						
MKAR				sPKPbc	sPKPbc	11 31 17.7	-13
	comp=E,2.3nm,0.7s,baz=323,slow=3.0,SNR=8.3						
ASAJ	**Asahikawa**	**145.42**	**319**	sPKPbc	sPKPbc	11 31 19.0	-12
	comp=E,4.1nm,0.8s,baz=0.0,slow=4.0,SNR=7.5						
SONM	**Songino Array**	**153.15**	**7**	pPKPbc	pPKPbc	11 31 32.6	-5.5
SONM	**Songino Array**	**153.15**	**7**	pPKPbc	pPKPbc	11 31 32.6	-5.5
	comp=E,0.9nm,0.8s,baz=326,slow=4.9,SNR=3.7						
HHC	**Hu-ho-hao-te**	**160.42**	**359**	*e*PKP	**PKPdf**	**11 31 01.2**	**-4.3**
HHC				PP	**PP**	**11 35 28.4**	**-0.2**

JMA 08 11:21:43.7±0.2, 31°67N×137°31E, h75km, M3.5, Southeast of Honshu

| Code

DZM	Mont Dzumac	14.79 252	eP	P	11 33 38.8	-2.2
DZM	Mont Dzumac	14.79 252	P	P	11 33 39.8	-1.2
	2.0nm,0.6s					
DZM			S	S	11 36 16.1	+2.0
DZM	Mont Dzumac	14.79 252	P	P	11 33 39.8	-1.2
	1.8nm,0.3s,baz=80,slow=16,SNR=29					
DZM			S	S	11 36 16.1	+2.0
	baz=327,slow=19,SNR=4.2					
URZ	Urewera	20.43 190	P	P	11 34 31.5	-1.0
	8.3nm,0.8s					
URZ	Urewera	20.43 190	P	P	11 34 31.5	-1.0
	20nm,0.7s,baz=2.7,slow=3.9,SNR=19					
HNR	Honiara	22.75 289	P	P	11 34 54.3	+0.7
HNR	Honiara	22.75 289	P	P	11 34 54.3	+0.7
	21nm,0.4s,baz=159,slow=8.6,SNR=4.4					
RPZ	Rata Peaks	27.01 197	P	P	11 35 31.7	+0.9
RPZ	Rata Peaks	27.01 197	P	P	11 35 31.7	+0.9
	7.9nm,0.5s,baz=166,slow=5.7,SNR=6.5					
PAE	Paea	27.39 94	eP	P	11 35 35.1	+0.6
	7.4nm,1.1s					
PPT2	Papeete2	27.40 93	eP	P	11 35 35.4	+0.7
	26nm,1.0s					
TIAR	Tiarei	27.63 93	eP	P	11 35 37.1	+0.5
	37nm,1.0s					
PMOR	Pomariorio Ree	29.36 88	eP	P	11 35 52.0	+0.3
	86nm,1.3s					
ARMA	Armidale	29.85 240	P	P	11 35 57.2	+1.4
	baz=30,SNR=11					
MGCD	Mangrove Creek	31.19 235	P	P	11 36 09.0	+1.9
	baz=32,SNR=4.3					
RMQ	Roma	31.45 249	P	P	11 36 10.1	+0.6
	baz=32,SNR=12					
CNB	Canberra Magne	33.31 233	P	P	11 36 26.8	+1.7
	baz=34,SNR=19					
CTA	Charters Tower	33.44 261	P	P	11 36 25.9	-0.5
CTA	Charters Tower	33.44 261	P	P	11 36 25.9	-0.5
	27nm,0.6s,baz=95,slow=10,SNR=29					
CTAO	Charters Tower	33.44 261	eP	P	11 36 26.0	-0.5
	36nm,0.8s					
PMG	Port Moresby	34.53 280	P	P	11 36 35.6	0.0
PMG	Port Moresby	34.53 280	P	P	11 36 35.6	0.0
	79nm,0.8s,baz=89,slow=6.2,SNR=15					
CMSA	Cobar Meteorol	35.06 241	P	P	11 36 40.4	+0.7
	baz=35,SNR=35					
MTSU	Mount Surprise	35.41 264	P	P	11 36 42.3	-0.6
	baz=36,SNR=25					
TOO	Toolangi	37.05 231	P	P	11 36 57.6	+1.5
	baz=37,SNR=11					
COEN	Coen	37.14 271	P	P	11 36 57.0	-0.1
	baz=37,SNR=35					
STKA	Stephens Creek	38.55 241	P	P	11 37 09.3	+1.0
	30nm,0.9s,baz=89,slow=9.3,SNR=52					
STKA	Stephens Creek	38.55 241	P	P	11 37 09.3	+1.0
	baz=39,SNR=42					
ARPS	Mount Arapiles	39.54 234	P	P	11 37 17.1	+0.9
	baz=40,SNR=5.6					
BBOO	Buckleboo	43.32 241	P	P	11 37 46.5	+0.5
	baz=44,SNR=42					
WRAB	Tennant Creek	44.61 260	eP	P	11 37 55.1	-1.1
	20nm,0.6s					
WRA	Warramunga Arr	44.62 260	P	P	11 37 55.4	-0.9
WRA			S	S	11 43 47.1	-4.1
WRA	Warramunga Arr	44.62 260	P	P	11 37 55.4	-0.9
	26nm,0.7s,baz=96,slow=6.8,SNR=359					
WRA			S	S	11 43 47.1	-4.1
	1.1nm,0.8s,baz=97,slow=13,SNR=3.4					
AS31	Alice Springs	44.76 254	eP	P	11 37 57.0	-0.3
ASAR	Alice Springs	44.76 254	P	P	11 37 57.1	-0.2
ASAR			PcP	PcP	11 39 26.6	-0.3
ASAR			S	S	11 43 51.7	-1.4
ASAR	Alice Springs	44.76 254	P	P	11 37 57.1	-0.2
	166nm,0.6s,baz=88,slow=8.4,SNR=2884					
ASAR			PcP	PcP	11 39 26.6	-0.3
	1.0nm,0.6s,baz=96,slow=4.3,SNR=5.4					
ASAR			S	S	11 43 51.7	-1.4
	7.4nm,1.1s,baz=87,slow=16,SNR=24					
KDU	Kakadu	47.59 269	P	P	11 38 18.0	-0.7
	baz=48,SNR=17					
MTN	Manton Dam	48.83 269	P	P	11 38 26.9	-1.0
	baz=49,SNR=13					
FORT	Forrest	49.94 245	P	P	11 38 35.5	-0.4
	baz=50,SNR=27					
KNRA	Kununurra	50.50 264	P	P	11 38 39.5	-0.7
	baz=51,SNR=28					
FAKI	Fak Fak	50.66 281	P	P	11 38 40.5	-0.9
	baz=51,SNR=5.8					
SWI	Sorong	52.33 283	P	P	11 38 53.1	-0.3
	baz=52,SNR=7.8					
FITZ	Fitzroy Crossi	53.02 261	P	P	11 38 58.0	-0.3
FITZ	Fitzroy Crossi	53.02 261	P	P	11 38 58.0	-0.3
	10nm,0.8s,baz=94,slow=6.3,SNR=30					
FITZ	Fitzroy Crossi	53.02 261	P	P	11 38 58.0	-0.3
	baz=53,SNR=7.7					
MBWA	Marble Bar	58.05 256	eP	P	11 39 32.9	-0.2
	18nm,0.8s					
MEEK	Meekatharra	58.38 249	P	P	11 39 34.6	-0.7
	baz=59,SNR=12					
KLBR	Kellerberrin	58.75 244	P	P	11 39 37.4	-0.3
	baz=59,SNR=20					
NWAO	Narrogin (SRO)	59.13 242	P	P	11 39 40.1	0.0
NWAO	Narrogin (SRO)	59.13 242	P	P	11 39 40.1	0.0
	6.1nm,0.6s,baz=99,slow=7.1,SNR=8.9					
BLDU	Ballidu	59.71 245	P	P	11 39 43.5	-0.5
	baz=60,SNR=19					
VNDA	Vanda	60.21 185	P	P	11 39 48.2	+1.7
VNDA	Vanda	60.21 185	P	P	11 39 48.2	+1.7
	0.5nm,0.6s,baz=11,slow=5.2,SNR=5.1					
MORW	Morawa	60.42 246	P	P	11 39 48.2	-0.6
	baz=61,SNR=16					
KAPI	Kappang	61.74 274	P	P	11 39 56.5	-1.1
KAPI	Kappang	61.74 274	P	P	11 39 56.5	-1.1
	6.0nm,0.3s,baz=96,slow=11,SNR=3.2					
MJAR	Matsushiro Arr	68.11 323	P	P	11 40 35.5	-1.6
MJAR	Matsushiro Arr	68.11 323	P	P	11 40 35.5	-1.6
	9.7nm,0.6s,baz=163,slow=6.1,SNR=40					
MAT	Matsushiro	68.12 323	P	P	11 40 35.6	-1.6
UGM	Wanagama	69.67 268	P	P	11 40 46.7	-0.3
	baz=70,SNR=9.2					
ASAJ	Asahikawa	71.50 331	P	P	11 40 57.3	+0.3
ASAJ	Asahikawa	71.50 331	P	P	11 40 57.3	+0.3
	6.5nm,0.5s,baz=207,slow=5.8,SNR=19					
CISI	Cisompet, Garu	72.34 268	P	P	11 41 01.6	-1.1
	baz=72,SNR=3.1					
KSM	Kuching	72.75 277	eP	P	11 41 04.9	0.0
	47nm,0.8s					
KSM	Kuching	72.75 277	P	P	11 41 05.3	+0.3
	baz=73,SNR=20					
PETK	Petropavlovsk-	73.92 345	P	P	11 41 09.6	-1.1
PETK	Petropavlovsk-	73.92 345	P	P	11 41 09.6	-1.1
	6.4nm,0.7s,baz=131,slow=7.3,SNR=13					
KSRS	Korea Array	74.90 318	P	P	11 41 16.8	+0.2
	2.1nm,0.6s,baz=128,slow=6.3,SNR=18					
KSAR	Wonju Array Be	74.92 318	P	P	11 41 16.8	+0.1
USRK	Ussuriysk Arra	76.82 326	P	P	11 41 27.4	+0.4
	2.4nm,0.6s,baz=153,slow=6.4,SNR=10.0					
ISA	Isabella	77.95 46	eP	P	11 41 33.1	-0.4
CMB	Columbia Colle	77.99 43	eP	P	11 41 33.7	+0.1
	5.2nm,0.9s					
MDJ	Mudanjiang	78.40 325	P	P	11 41 35.9	+0.4
MDJ			pP	pP	11 43 36.2	-0.9
MDJ			sP	sP	11 44 34.2	-1.9
MDJ			PP	PP	11 44 43.3	-0.6
MDJ			S	S	11 50 48.6	+4.1
MDJ			ScS	ScS	11 51 01.3	-2.0
MDJ			sS	sS	11 54 13.6	-7.7
MDJ			pmax	pmax		
	comp=Z,19nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,210nm,6.1s					
MDJ	Mudanjiang	78.40 325	eP	P	11 41 35.7	+0.2
	comp=Z,8.3nm,0.6s					
MTUM	Tungsten Hills	78.81 45	eP	P	11 41 38.7	+0.5
WAKR	Walker	78.87 43	eP	P	11 41 38.5	0.0
NVAR	Mina Array Bea	79.57 44	P	P	11 41 42.2	+0.1
NVAR	Mina Array Bea	79.57 44	P	P	11 41 42.2	+0.1
	comp=Z,3.6nm,0.8s,baz=226,slow=8.7,SNR=22					
PAHR	Pah Rah Range	79.57 42	eP	P	11 41 42.2	+0.1
	comp=Z,15nm,1.4s					
WVOR	Wild Horse Val	81.56 40	eP	P	11 41 52.0	-0.2
	comp=Z,5.4nm,1.3s					
TUC	Tucson	81.82 52	eP	P	11 41 54.8	+1.1
CCUT	Cedar City	82.45 47	eP	P	11 41 58.1	+1.1
	comp=Z,4.0nm,0.9s					
IPM	Ipoh	82.48 277	eP	P	11 41 57.5	0.0
	comp=Z,17nm,0.7s					
MAW	Mawson	83.65 200	P	P	11 42 03.6	+1.4
MAW	Mawson	83.65 200	P	P	11 42 03.6	+1.4
	comp=Z,1.8nm,0.8s,baz=139,slow=8.8,SNR=10					
MAW	Mawson	83.65 200	P	P	11 42 03.6	+1.4
	baz=84,SNR=8.1					
PSI	Prapat	83.94 275	P	P	11 42 04.0	-0.8
PSI	Prapat	83.94 275	P	P	11 42 04.0	-0.8
	comp=Z,11nm,0.7s,baz=100,slow=11,SNR=4.7					
TRF	Thorofare Moun	84.23 12	eP	P	11 42 03.1	-2.0
ENH	Enshi	84.43 304	eP	P	11 42 07.0	+0.2
	comp=Z,17nm,1.0s					
HLID	Hailey	84.78 41	eP	P	11 42 08.6	+0.2
GYA	Guiyang	85.18 300	eP	P	11 42 11.0	+0.4
GYA			pP	pP	11 44 16.4	+1.5
GYA			sP	sP	11 45 13.2	0.0
GYA			PP	PP	11 45 42.0	+2.7
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
TXAR	Lajitas Array	86.09 58	P	P	11 42 16.3	+1.5
TXAR	Lajitas Array	86.09 58	P	P	11 42 16.3	+1.5
	comp=Z,4.0nm,0.8s,baz=218,slow=6.4,SNR=38					
ILAR	Eielson Array	86.11 13	P	P	11 42 12.3	-1.6
ILAR	Eielson Array	86.11 13	P	P	11 42 12.3	-1.6
	comp=Z,0.5nm,0.6s,baz=227,slow=4.8,SNR=13					
ANMO	Albuquerque	86.22 52	eP	P	11 42 16.1	+0.6
	comp=Z,3.5nm,1.2s					
MCMT	McKenzie Canyo	86.40 40	eP	P	11 42 16.2	+0.1
	comp=Z,0.9nm,0.7s					
XAN	Xi'an	86.43 307	P	P	11 42 16.9	+0.7
XAN			pmax	pmax		
	comp=Z,7.0nm,1.0s					
XAN			pmax	pmax		
	comp=Z,110nm,6.7s					
GDL2	Guadalupe Moun	86.68 55	eP	P	11 42 10.7	-6.9
REDW	Red Top Meadow	86.94 42	eP	P	11 42 19.2	+0.5
	comp=Z,4.7nm,1.0s					
SNOW	Snow King Moun	87.05 42	eP	P	11 42 20.1	+0.8
IMW	Indian Meadow	87.14 42	eP	P	11 42 20.1	+0.5
	comp=Z,5.8nm,1.0s					
CHMT	Chamberlain Mo	87.20 39	eP	P	11 42 19.2	-0.6
	comp=Z,0.8nm,0.8s					
FLWY	Flagg Ranch	87.38 42	eP	P	11 42 21.7	+1.0
	comp=Z,5.5nm,1.0s					
HHC	Hu-ho-hao-te	87.46 314	eP	P	11 42 22.6	+1.6
HHC			PP	PP	11 46 01.2	+4.2
HHC			SKS	SKSac	11 51 53.2	-0.9
HHC			S	S	11 52 13.1	-1.1
HHC			SS	SS	11 58 22.4	+4.6
HHC			pmax	pmax		
	comp=Z,30nm,0.8s					
HHC			pmax	pmax		
	comp=Z,230nm,6.7s					
PDAR	Pinedale Array	87.50 43	P	P	11 42 21.2	-0.1
PDAR	Pinedale Array	87.50 43	P	P	11 42 21.2	-0.1
	comp=Z,2.0nm,0.6s,baz=213,slow=3.1,SNR=21					
BOZ	Bozeman (W)	87.55 40	eP	P	11 42 20.5	-0.9
	comp=Z,1.3nm,1.2s					
CMAR	Chiang Mai Arr	88.99 290	P	P	11 42 29.5	+1.0
CMAR	Chiang Mai Arr	88.99 290	P	P	11 42 29.5	+1.0
	comp=Z,5.6nm,0.9s,baz=102,slow=2.6,SNR=20					
CD2	Chengdu	89.22 303	eP	P	11 42 29.8	+0.4
CD2			pmax	pmax		
	comp=Z,10.0nm,1.2s					
CD2			pmax	pmax		
	comp=Z,110nm,5.8s					
LZH	Lanzhou	91.06 308	eP	P	11 42 38.5	+0.6
LZH			pP	pP	11 44 47.5	+3.5
LZH			pmax	pmax		
	comp=Z,15nm,1.0s					
ULN	Ulaanbaatar	93.35 319	eP	P	11 42 47.5	-0.7
	comp=Z,2.5nm,0.9s					
SONM	Songino Array	93.75 319	P	P	11 42 49.3	-0.6
SONM	Songino Array	93.75 319	P	P	11 42 49.3	-0.6
	comp=Z,0.7nm,0.6s,baz=140,slow=4.8,SNR=3.9					
WMQ	Urumqi	105.11 312	P	Pdif	11 43 41.3	+0.6
WMQ			pmax	pmax		
	comp=Z,12nm,1.5s					
ZALV	Zalesovo Beam	108.44 322	PKiKP	PKiKP	11 47 55.7	-1.5
ZALV	Zalesovo Beam	108.44 322	PKiKP	PKiKP	11 47 55.7	-1.5
	comp=Z,0.6nm,0.4s,baz=149,slow=3.0,SNR=4.0					
MKAR	Makanchi Array	109.32 314	PKiKP	PKiKP	11 47 57.9	-1.2
MKAR	Makanchi Array	109.32 314	PKiKP	PKiKP	11 47 57.9	-1.2
	comp=Z,0.9nm,0.5s,baz=152,slow=0.1,SNR=11					
BVAR	Borovoye Array	117.05 321	PKP	PKPdf	11 48 12.7	-1.0
BVAR	Borovoye Array	117.05 321	PKP	PKPdf	11 48 12.7	-1.0
	comp=Z,1.6nm,0.5s,baz=101,slow=3.0,SNR=9.8					
AKTO	Aktyubinsk	125.07 319	PKP	PKPdf	11 48 28.6	-0.5
AKTO	Aktyubinsk	125.07 319	PKP	PKPdf	11 48 28.6	-0.5
	comp=Z,1.7nm,0.7s,baz=100,slow=2.9,SNR=6.4					
ARCES	ARCESS Array B	126.55 350	PKP	PKPdf	11 48 31.0	-0.5
ARCES	ARCESS Array B	126.55 350	PKP	PKPdf	11 48 31.0	-0.5
	comp=Z,2.4nm,0.8s,baz=56,slow=2.2,SNR=8.9					
FINES	FINESS Array B	133.42 344	PKP	PKPdf	11 48 43.8	-0.9
FINES	FINESS Array B	133.42 344	PKP	PKPdf	11 48 43.8	-0.9
	comp=Z,1.1nm,0.7s,baz=96,slow=5.7,SNR=5.0					
NB2	NORSAR Subarra	136.61 353	PKP	PKPdf	11 48 50.0	-0.7
	comp=Z,0.4nm,0.5s,baz=18,slow=3.6					
NOA	NORSAR Array B	136.61 353	PKP	PKPdf	11 48 51.6	+0.9
NOA	NORSAR Array B	136.61 353	PKP	PKPdf	11 48 51.6	+0.9
	comp=Z,0.3nm,0.7s,baz=9.7,slow=3.2,SNR=3.4					
MALT	Malatya	142.19 310	⇑iP	PKPdf	11 49 15.3	+14
TLCR		144.78 326	⇑iP	PKPbc	11 49 06.3	0.0
BUR08	Bucovina Ar. S	144.82 332	ePKPdf	PKPbc	11 49 06.2	-0.3
BURAR	Bucovina Array	144.84 332	⇑iP	PKPdf	11 49 05.5	-0.4
BR131	Keskin Array S	144.97 315	ePKPbc	PKPbc	11 49 06.8	-0.5
BRTR	Keskin Array B	144.97 315	PKP	PKPdf	11 49 06.5	+0.1
BRTR	Keskin Array B	144.97 315	PKP	PKPdf	11 49 06.5	+0.1
	comp=Z,8.1nm,0.9s,baz=117,slow=3.4,SNR=27					
TESR	Tescani	144.98 329	⇓iP	PKPdf	11 49 05.9	-0.2
STHS	Stebnicka Huta	145.02 338	ePKP	PKPbc	11 49 06.9	0.0
KOLS	Kolonicke sedl	145.03 336	ePKP	PKPbc	11 49 06.8	-0.2
CFR	Carcaliu	145.15 326	⇑iP	PKPbc	11 49 07.3	-0.1
CRVS	Cervenica-Dubn	145.37 337	ePKP	PKPbc	11 49 07.6	-0.3
VRI	Vrincioaia	145.40 329	⇓iP	PKPdf	11 49 06.7	-0.1
PLOR	Plostina	145.44 329	⇑iP	PKPbc	11 49 07.9	-0.4
ANTO	Ankara	145.47 315	⇑iP	PKPbc	11 49 08.8	+0.2
ANTO	Ankara	145.47 315	ePKPbc	PKPbc	11 49 08.8	+0.2
ANTO			ePKPab	PKPab	11 49 10.4	+0.3
TIRR	Tirgusor	145.48 325	⇓iP	PKPbc	11 49 08.6	+0.2
TRPA	Tarpa	145.57 335	⇑iP	PKPbc	11 49 08.3	-0.2
CLL	Collm	145.70 347	⇓iPKPbc	PKPbc	11 49 08.3	-0.5
	comp=Z,16nm,1.0s					
OKC	Ostrava-Krasne	145.71 341	ePKP	PKPdf	11 49 07.3	+0.1
UPC	Upice	145.72 344	ePKP	PKPbc	11 49 08.9	0.0
DPC	Dobruska-Polom	145.78 343	ePKP	PKPbc	11 49 09.2	+0.1
BRG	Berggiesshubel	145.90 346	i PKP	PKPbc	11 49 09.1	-0.2
	comp=Z,17nm,1.5s					
ISR	Istrita	146.01 328	⇑iP	PKPbc	11 49 10.0	0.0
MLR	Muntele Rosu	146.05 329	⇑iP	PKPbc	11 49 09.4	-0.7
PVCC	Panska Ves	146.07 345	ePKP	PKPbc	11 49 09.9	0.0
KECS	Kecovo	146.07 337	ePKP	PKPbc	11 49 10.0	+0.1
SECR		146.31 328	⇑iP	PKPbc	11 49 09.8	-0.9
PRA	Prague	146.53 345	PKP	PKPbc	11 49 11.0	-0.1
PRU	Pruhonice	146.58 345	ePKP	PKPbc	11 49 11.2	-0.1
VYHS	Vyhne	146.65 339	ePKP	PKPbc	11 49 11.7	+0.2
NKC	Novy Kostel	146.83 347	ePKP	PKPbc	11 49 11.8	-0.2
SMOL	Smolenice	147.09 341	ePKP	PKPbc	11 49 12.8	+0.1
MEM	Membach	147.42 355	PKPbc	PKPbc	11 49 12.9	-0.6
ZST	Bratislava	147.48 341	ePKP	PKPbc	11 49 14.7	+1.0
KHC	Kasperske Hory	147.61 345	ePKP	PKPbc	11 49 14.0	-0.1
KHC	Kasperske Hory	147.61 345	ePKPbc	PKPbc	11 49 14.0	-0.1
KHC			ePKPab	PKPab	11 49 18.2	-0.1
GERES	GERESS Array B	147.85 345	PKPbc	PKPbc	11 49 14.4	-0.3
GERES	GERESS Array B	147.85 345	PKPbc	PKPbc	11 49 14.4	-0.3
	comp=Z,5.5nm,0.7s,baz=29,slow=3.0,SNR=39					
DOU	Dourbes	148.03 356	PKPbc	PKPbc	11 49 14.7	-0.3
CONA	Conrad Observa	148.10 342	⇓iPKiKP	PKPbc	11 49 15.3	-0.1
	comp=Z,6.8nm,0.7s,SNR=7.0					
WLF	Walferdange	148.34 354	PKPbc	PKPbc	11 49 16.5	+0.7
BFO	Black Forest	149.40 351	ePKPbc	PKPbc	11 49 18.2	-0.3
BFO			ePKPab	PKPab	11 49 25.1	-0.5
SOKA	Soboth	149.47 342	⇓iPKPbc	PKPbc	11 49 17.9	-0.9
	comp=Z,7.5nm,1.1s,SNR=5.3					
KBA	Koelnbreinsper	149.57 344	⇑iPKPbc	PKPbc	11 49 18.5	-0.6
	comp=Z,3.1nm,0.6s					
WTTA	Wattenberg	149.81 346	⇑iPKPbc	PKPbc	11 49 19.0	-0.7
	comp=Z,9.4nm,0.6s,SNR=5.6					
ABTA	Abfaltersbach	150.09 345	⇓iPKPbc	PKPbc	11 49 19.1	-1.1
	comp=Z,10.0nm,0.7s,SNR=5.6					
FETA	Feichten	150.24 347	⇑iPKPbc	PKPbc	11 49 20.2	-0.5
	comp=Z,9.1nm,1.0s,SNR=5.1					
TUE	Stuetta	151.04 349	ePKPbc	PKPbc	11 49 22.6	0.0
TUE			ePKPab	PKPab	11 49 33.6	+0.8
KEST	Kesra	161.19 340	PKPab	PKPab	11 50 16.1	-0.7
KEST	Kesra	161.19 340	PKPab	PKPab	11 50 16.1	-0.7
	comp=Z,0.9nm,0.6s,baz=307,slow=4.1,SNR=4.2					

NIED ***08*** *11:33:00,31°.70N×142°.20E,h5km,Mw4.0 Best double couple: M0:9.83000×10^14 NP1:φ=352.00000°, δ=68.00000°, λ=64.00000°. NP2:φ=224.00000°, δ=34.00000°, λ=137.00000°.*
IDC ***08*** *11:33:07.3±0.7,31°.19N×141°.83E,h0km,mb3.9/15, mb1 4.1/16,mb1mx4.0/28,mbtmp3.9/16,ML3.8/1,MS3.2/4, Ms1 3.2/4,ms1mx2.8/39,Error ellipse: s-maj=21.4km s-min=17.5km az=60.0*
JMA ***08*** *11:33:09.6±0.9,31°.70N×142°.17E,h0km,M4.2*
ISCJB ***08*** *11:33:12.7±0.8,31°.61N±0°.07×142°.2E±0°.1,h49km, mb3.9/15,MS3.3/2,Error ellipse: s-maj=16.4km s-min=7.4km az=152.6*

ISC 08 11:33:12.9±1.0,31°.56N±0°.08×142°.4E±0°.1,h49km,n33, σ1.953/31,mb4.0/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.70	306	P	Pn	11 33 51.4	-2.4
BSO1	Boso 1	3.31	339	P	Pn	11 34 01.2	-0.6
JYT	Yasato	5.01	339	P	Pn	11 34 25.8	+0.3
JHU	Hanno	5.02	329	P	Pn	11 34 25.1	-0.5
JHU			eS	Sn		11 35 21.4	-0.9
JHO	Hitachi	5.27	344	P	Pn	11 34 28.1	-1.0
JHO			eS	Sn		11 35 27.6	-0.9
JRY	Ryogami san	5.33	328	P	Pn	11 34 29.5	-0.4
JRY			eS	Sn		11 35 29.2	-0.7
JAG	Ashikaga	5.44	334	P	Pn	11 34 30.8	-0.7
JAG			eS	Sn		11 35 33.0	+0.2
MJAR	Matsushiro Arr	6.08	326	Pn	Pn	11 34 39.9	-0.3
	2.2nm,0.3s,baz=156,slow=11,SNR=28						
MJAR				Sn	Sn	11 35 48.9	+0.5
	0.8nm,0.3s,baz=160,slow=17,SNR=4.8						
MAT	Matsushiro	6.08	326	P	Pn	11 34 39.6	-0.6
MAT				eS	Sn	11 35 48.5	+0.1
MAT	Matsushiro	6.08	326	P	Pn	11 34 40.1	-0.1
JMK	Ichinoseki	7.44	353	P	Pn	11 34 59.8	+1.0
JMK				eS	Sn	11 36 19.1	-2.7
JNU	Nakatsue	9.89	282	LR	LR	11 38 52.3	
	comp=Z,81nm,20.7s,baz=160,slow=36						
ASAJ	Asahikawa	12.54	1	Pn	Pn	11 36 08.1	-0.4
	0.3nm,0.3s,baz=223,slow=11,SNR=6.1						
ASAJ				Sn	Sn	11 38 22.6	-4.0
	0.1nm,0.3s,baz=22,slow=19,SNR=3.3						
KSRS	Korea Array	13.32	300	LR	LR	11 41 15.6	
	comp=Z,97nm,18.5s,baz=130,slow=37						
PETK	Petropavlovsk-	24.21	23	LR	LR	11 47 40.0	
	comp=Z,43nm,19.1s,baz=310,slow=35						
SONM	Songino Array	31.79	311	P	P	11 39 33.2	+0.5
	2.3nm,0.9s,baz=125,slow=8.8,SNR=13						
CMAR	Chiang Mai Arr	41.25	262	P	P	11 40 49.1	-4.4
	0.4nm,0.3s,baz=35,slow=6.8,SNR=3.4						
ZALV	Zalesovo Beam	46.34	316	P	P	11 41 32.2	-1.6
	1.2nm,0.5s,baz=116,slow=6.6,SNR=7.2						
MKAR	Makanchi Array	47.89	307	P	P	11 41 45.3	-0.8
	1.4nm,0.8s,baz=95,slow=8.5,SNR=9.7						
KURBB	Kurchatov Arra	50.15	312	P	P	11 42 02.1	-1.1
	2.0nm,0.8s,baz=87,slow=7.8,SNR=9.5						
WRA	Warramunga Arr	51.79	190	P	P	11 42 13.5	-2.4
	3.2nm,1.0s,baz=6.9,slow=7.6,SNR=6.7						
ILAR	Eielson Array	53.73	30	P	P	11 42 34.1	+4.3
	0.7nm,1.0s,baz=270,slow=6.0,SNR=4.9						
BVAR	Borovoye Array	54.96	315	P	P	11 42 39.6	+0.8
	0.4nm,0.3s,baz=104,slow=9.9,SNR=4.2						
ASAR	Alice Springs	55.52	189	P	P	11 42 40.9	-2.3
	1.1nm,0.6s,baz=11,slow=6.7,SNR=9.5						
AKTO	Aktyubinsk	63.02	314	P	P	11 43 36.9	+2.1
	0.8nm,0.5s,baz=54,slow=8.2,SNR=4.1						
NVAR	Mina Array Bea	77.62	53	P	P	11 45 07.9	+3.5
	0.5nm,0.7s,baz=288,slow=5.8,SNR=3.7						
NB2	NORSAR Subarra	79.56	338	P	P	11 45 16.7	+2.3
	comp=Z,1.2nm,1.0s,baz=64,slow=5.1						
NOA	NORSAR Array B	79.56	338	P	P	11 45 17.6	+3.2
	comp=Z,0.9nm,0.9s,baz=42,slow=5.5,SNR=3.5						
PDAR	Pinedale Array	80.91	45	P	P	11 45 27.6	+5.3
	comp=Z,0.4nm,0.8s,baz=267,slow=2.8,SNR=3.6						
BRTR	Keskin Array B	83.14	313	P	P	11 45 35.6	+1.6
	comp=Z,2.2nm,1.0s,baz=72,slow=5.3,SNR=5.3						
GERES	GERESS Array B	87.81	329	LR	LR	12 32 47.0	
	comp=Z,26nm,18.3s,baz=292,slow=41						
TXAR	Lajitas Array	92.76	53	P	P	11 46 25.3	+4.9
	comp=Z,1.3nm,0.8s,baz=294,slow=3.5,SNR=12						
LPAZ	La Paz	148.34	68	PKPbc	PKPab	11 52 59.5	+1.1
	comp=Z,1.0nm,0.8s,baz=322,slow=5.0,SNR=4.8						

**IDC 08 11:33:23.6±4.2,16°.21N×86°.45W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/20,mbtmp3.7/5

STKA	Stephens Creek	35.23	159	P	P	11 41 12.8	+0.1
	2.0nm,0.6s,baz=330,slow=13,SNR=3.9						
MKAR	Makanchi Array	60.33	326	P	P	11 44 26.7	-0.4
MKAR	Makanchi Array	60.33	326	P	P	11 44 26.7	-0.4
	1.5nm,0.7s,baz=119,slow=8.0,SNR=8.7						
KURBB	Kurchatov Arra	64.54	328	P	P	11 44 56.3	+1.1
	3.8nm,0.9s,baz=125,slow=6.3,SNR=12						
KURK	Kurchatov	64.54	328	P	P	11 44 56.3	+1.1
BVAR	Borovoye Array	70.11	327	P	P	11 45 32.4	+1.9
BVAR	Borovoye Array	70.11	327	P	P	11 45 32.4	+1.9
	1.4nm,0.8s,baz=134,slow=6.4,SNR=5.6						
AKTO	Aktyubinsk	76.36	322	P	P	11 46 08.2	+0.7
AKTO	Aktyubinsk	76.36	322	P	P	11 46 08.2	+0.7
	0.7nm,0.5s,baz=98,slow=7.9,SNR=3.7						
VNDA	Vanda	80.55	173	P	P	11 46 29.4	-0.7
VNDA	Vanda	80.55	173	P	P	11 46 29.4	-0.7
	0.5nm,0.8s,baz=316,slow=7.1,SNR=2.6						

*NEIC **08** 11:44:38.3±1.4, 7°.50S×128°.72E, h59km±15km, mb4.5/2, Error ellipse: s-maj=15.1km s-min=9.6km az=82.0*
*IDC **08** 11:44:39.4±3.3, 7°.52S×128°.69E, h68km±31km, mb3.9/17, mb1 4.0/20, mb1mx4.0/25, mbtmp3.9/20, ML4.7/3, Error ellipse: s-maj=27.2km s-min=12.5km az=85.0*
*ISCJB **08** 11:44:43.7±0.3, 7°.82S±0°.04×128°.78E±0°.05, h150km, mb3.9/18, Error ellipse: s-maj=7.7km s-min=5.2km az=178.7*
*DJA **08** 11:44:44.3±0.7, 8°.S±7°×12°.9E±°, h114km±14km, M4.7/10, mB5.3/6, mb4.8/10, MLv4.7/8, Mw(mB)4.7/6*

ISC 08 11:44:44.8±0.5, 7°.93S±0°.05×128°.85E±0°.07, h150km, n59, σ1§86/52, mb4.0/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.55	17	P	Pn	11 45 37.3	-2.0
AAI	Ambon	4.27	351	P	Pn	11 45 44.0	-4.7
MSAI	Masohi	4.56	1	P	Pn	11 45 50.1	-2.4
FAKI	Fak Fak	6.02	34	P	Pn	11 46 09.2	-2.7
	45nm,0.6s,1μm0.4nm						
MMRI	Maumere	6.58	263	P	Pn	11 46 17.7	-1.6
	83nm,0.9s,2μm0.6nm						
LBMI	Labuha	7.37	349	P	Pn	11 46 25.7	-4.2
	41nm,1.0s,0.2nm						
SWI	Sorong	7.42	19	P	Pn	11 46 26.1	-4.5
	29nm,0.7s,1μm0.3nm						
RKPI	Ransiki, Papua	8.30	40	P	Pn	11 46 40.7	-1.6
	147nm,0.5s,3μm0.8nm						
BASI	Baing, Sumba	8.47	254	P	Pn	11 46 42.7	-1.9
	218nm,0.9s,3μm						
WSI	Waingapu	8.62	258	P	Pn	11 46 44.8	-1.8
	384nm,0.6s,12μm						
LBFI	Labuhan Bajo,	8.88	266	P	Pn	11 46 48.5	-1.5
	67nm,0.8s						
LUWI	Luwuk	9.14	318	P	Pn	11 46 50.8	-2.7
	63nm,1.3s						
FITZ	Fitzroy Crossi	10.58	197	P	Pn	11 47 12.7	+0.2
FITZ				S	Sn	11 49 05.8	-3.8
FITZ	Fitzroy Crossi	10.58	197	P	Pn	11 47 12.7	+0.2
	3.3nm,0.3s,baz=26,slow=11,SNR=94						
FITZ				S	Sn	11 49 05.8	-3.8
	17nm,0.3s,baz=2.6,slow=18,SNR=13						
WRAB	Tennant Creek	13.07	156	*e*Pn	Pn	11 47 47.1	+2.1
	17nm,0.4s						
WRAB				*e*Sn	Sn	11 50 04.3	-5.3
WRA	Warramunga Arr	13.07	157	P	Pn	11 47 46.6	+1.6
WRA				S	Sn	11 50 07.4	-2.3
WRA	Warramunga Arr	13.07	157	P	Pn	11 47 46.6	+1.6
	5.1nm,0.3s,baz=328,slow=12,SNR=173						
WRA				S	Sn	11 50 07.4	-2.3
	9.3nm,0.3s,baz=329,slow=22,SNR=18						
MBWA	Marble Bar	15.82	213	*e*Pn	P	11 48 20.7	+0.5
	13nm,0.5s						
MBWA				*e*Sn	Sn	11 51 04.2	-12
AS31	Alice Springs	16.38	163	*e*Pn	Pn	11 48 31.0	+4.7
AS31				*e*Sn	S	11 51 21.7	-6.7
ASAR	Alice Springs	16.38	163	P	Pn	11 48 30.1	+3.8
ASAR				S	S	11 51 28.7	+0.3
ASAR	Alice Springs	16.38	163	P	Pn	11 48 30.1	+3.8
	1.9nm,0.3s,baz=332,slow=8.7,SNR=88						
ASAR				S	S	11 51 28.7	+0.3
	1.9nm,0.3s,baz=337,slow=23,SNR=10						
MYLDM	Lahad Datu	16.62	321	P	Pn	11 48 28.0	-1.2
STKA	Stephens Creek	26.62	155	P	P	11 50 15.8	+6.5
STKA	Stephens Creek	26.62	155	P	P	11 50 15.8	+6.5
	1.9nm,0.5s,baz=311,slow=12,SNR=3.9						
NWAO	Narrogin (SRO)	27.10	202	P	P	11 50 19.1	+5.4
NWAO	Narrogin (SRO)	27.10	202	P	P	11 50 19.1	+5.4
	7.0nm,0.6s,baz=59,slow=7.7,SNR=8.2						
CMAR	Chiang Mai Arr	39.47	312	P	P	11 52 01.4	+0.5
CMAR	Chiang Mai Arr	39.47	312	P	P	11 52 01.4	+0.5
	0.6nm,0.4s,baz=146,slow=7.4,SNR=4.7						
MJAR	Matsushiro Arr	45.11	11	P	P	11 52 44.6	-1.6
MJAR	Matsushiro Arr	45.11	11	P	P	11 52 44.6	-1.6
	1.8nm,0.9s,baz=191,slow=10.0,SNR=5.7						
KSAR	Wonju Array Be	45.15	359	P	P	11 52 47.4	+0.9
KSRS	Korea Array	45.16	359	P	P	11 52 47.4	+0.9
	1.0nm,0.5s,baz=178,slow=9.4,SNR=9.5						
USRK	Ussuriysk Arra	51.97	3	P	P	11 53 39.0	+0.6
	1.4nm,0.5s,baz=191,slow=6.4,SNR=5.0						
ASAJ	Asahikawa	53.28	12	P	P	11 53 49.0	+0.8
ASAJ	Asahikawa	53.28	12	P	P	11 53 49.0	+0.8
	1.1nm,0.3s,baz=250,slow=11,SNR=9.4						
SONM	Songino Array	58.97	343	P	P	11 54 29.8	+1.2
SONM	Songino Array	58.97	343	P	P	11 54 29.8	+1.2
	1.5nm,0.6s,baz=160,slow=6.7,SNR=11						
PETK	Petropavlovsk-	65.57	19	P	P	11 55 14.2	+2.0
PETK	Petropavlovsk-	65.57	19	P	P	11 55 14.2	+2.0
	4.6nm,0.8s,baz=150,slow=3.4,SNR=7.1						
MKAR	Makanchi Array	68.39	328	P	P	11 55 30.9	+0.7
MKAR	Makanchi Array	68.39	328	P	P	11 55 30.9	+0.7
	0.8nm,0.3s,baz=113,slow=8.3,SNR=11						
VNDA	Vanda	71.67	173	P	P	11 55 56.5	+6.7
VNDA	Vanda	71.67	173	P	P	11 55 56.5	+6.7
	0.5nm,0.4s,baz=308,slow=6.4,SNR=7.0						
ZAA0	Zalesovo Array	71.92	334	*e*P	P	11 55 51.6	+0.1
ZALV	Zalesovo Beam	71.92	334	P	P	11 55 51.6	+0.1
ZALV	Zalesovo Beam	71.92	334	P	P	11 55 51.6	+0.1
	2.4nm,0.7s,baz=131,slow=5.2,SNR=11						
KURBB	Kurchatov Arra	72.71	329	P	P	11 55 57.2	+0.9
	2.8nm,0.5s,baz=131,slow=5.0,SNR=45						
KURK	Kurchatov	72.72	329	P	P	11 55 57.2	+0.9
MAW	Mawson	73.67	201	P	P	11 56 07.9	+6.3
MAW	Mawson	73.67	201	P	P	11 56 07.9	+6.3
	0.8nm,0.8s,baz=77,slow=8.6,SNR=4.2						
BVAR	Borovoye Array	78.25	328	P	P	11 56 28.3	+0.5
BVAR	Borovoye Array	78.25	328	P	P	11 56 28.3	+0.5
	1.6nm,0.7s,baz=147,slow=6.5,SNR=9.3						
AKTO	Aktyubinsk	84.11	323	P	P	11 56 60.0	+1.1
AKTO	Aktyubinsk	84.11	323	P	P	11 56 60.0	+1.1
	1.2nm,0.6s,baz=126,slow=7.4,SNR=3.8						
SML	Sawmill	93.55	28	*e*P	P	11 57 41.2	-2.3
	1.8nm,0.7s						
ILAR	Eielson Array	94.67	25	P	P	11 57 49.4	+0.8
ILAR	Eielson Array	94.67	25	P	P	11 57 49.4	+0.8
	0.4nm,0.9s,baz=239,slow=5.3,SNR=5.0						
LPAZ	La Paz	150.65	145	PKPbc	PKPab	12 04 26.5	-1.6
LPAZ	La Paz	150.65	145	PKPbc	PKPab	12 04 26.5	-1.6
	0.9nm,0.4s,baz=224,slow=5.2,SNR=9.5						

*IDC **08** 11:56:22.4±4.5, 36°.21N×71°.06E, h90km±38km, mb3.4/10, mb1 3.6/15, mb1mx3.4/31, mbtmp3.5/15, MS3.0/1, Ms1 3.0/1, ms1mx2.3/29, Error ellipse: s-maj=29.9km s-min=19.7km az=18.0*
*ISCJB **08** 11:56:23.1±0.5, 36°.39N±0°.03×71°.21E±0°.08, h100km, mb3.5/9, Error ellipse: s-maj=9.4km s-min=3.9km az=161.4*
*NNC **08** 11:56:33.7±3.3, 37°.14N×71°.04E, h182km±29km, mb3.0, mpv4.1, Error ellipse: s-maj=28.6km s-min=16.4km az=24.0*

ISC 08 11:56:24.1±0.7, 36°.38N±0°.05×71°.29E±0°.08, h100km, n52, σ1§91/52, mb3.6/9, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.59	169	⇑P	Pn	11 57 07.0	+2.4
CEP				S	Sn	11 57 38.0	+2.3
CHCP	Chirah Chowk	3.16	149	P	Pn	11 57 15.1	+3.1
THW	Thamme Wali	3.59	174	P	Pn	11 57 19.5	+1.7
DLH	Dalhousie	5.43	133	*e*P	Pn	11 57 45.0	+2.1
DLH				*e*S	Sn	11 58 45.0	+0.8
AML	Almayashu	6.04	17	P	Pn	11 57 52.5	+1.2
	SNR=57						
KZA	Kyzart	6.47	27	P	Pn	11 57 58.3	+1.2
	SNR=14						
EKS2	Erkin-Say	6.56	16	P	Pn	11 57 59.4	+1.3
	SNR=12						
AAK	Ala-Archa	6.72	21	P	Pn	11 58 02.5	+2.3
	SNR=14						
AAK	Ala-Archa	6.72	21	P	Pn	11 58 02.1	+1.9
	6.1nm,0.3s,baz=169,slow=6.5,SNR=18						
AAK				S	Sn	11 59 14.8	-0.6
	5.1nm,0.3s,baz=326,slow=23,SNR=11						
KK31	Karatay Array	6.75	355	⇓P	Pn	11 58 00.2	-0.2
	4.7nm,0.3s,baz=175,slow=12,SNR=316						
KK31				S	Sn	11 59 09.3	-6.5
	10nm,0.3s,baz=191,slow=26,SNR=12						
SDNR	Sundarnagar	6.77	134	*e*P	Pn	11 58 03.0	+2.1
SDNR				*e*S	Sn	11 59 15.0	-1.6
ULHL	Ulahol	7.00	32	P	Pn	11 58 05.4	+1.3
	SNR=12						
CHMS	Chumysh	7.13	21	P	Pn	11 58 07.5	+1.8
	SNR=8.8						
SMLA	Simla	7.16	135	*i* S	Sn	11 59 22.7	-3.2
SMLA				*i* S	Sn	11 59 23.6	-2.4
SMLA				AML	AML	11 59 27.8	
	comp=N,845nm,0.2s						
SMLA				AML	AML	11 59 29.7	
	comp=E,866nm,0.3s						
USP	Ospenovka	7.31	19	P	Pn	11 58 09.4	+1.3
	SNR=7.7						
TKM2	Tokmak 2	7.33	26	⇓P	Pn	11 58 10.2	+1.6
	comp=E,6.9nm,0.5s						
TKM2				⇑S	Sn	11 59 27.4	-2.9
	comp=E,18nm,0.9s						
TKM2	Tokmak 2	7.33	26	P	Pn	11 58 10.3	+1.7
	SNR=20						
KHET	Khetri	9.12	154	*e*S	Sn	12 00 08.2	-5.3
KHET				AML	AML	12 00 21.3	
	comp=N,114nm,0.1s						
KHET				AML	AML	12 00 21.4	
	comp=E,103nm,0.1s						
KUDL	Kundal	9.31	150	*e*S	Sn	12 00 10.9	-7.3
KUDL				AML	AML	12 00 16.3	
	comp=E,13nm,0.3s						
KUDL				AML	AML	12 00 17.4	
	comp=N,7.0nm,0.2s						
SONA	Sohna	9.46	147	*e*S	Sn	12 00 16.9	-5.1
SONA				AML	AML	12 00 18.3	
	comp=E,21nm,0.7s						
SONA				AML	AML	12 00 18.4	
	comp=N,13nm,0.4s						
AGRA	Agra	10.73	146	*e*4	S	12 01 05.6	
AGRA				AML	AML	12 01 39.4	
	comp=E,69nm,0.4s						
AGRA				AML	AML	12 01 40.3	
	comp=N,55nm,0.3s						
DANN	Dangsing	13.22	124	*e*P	Pn	11 59 27.0	-1.1
	comp=N,12nm,0.3s						
MK31	Makanchi Array	13.26	35	⇓P	Pn	11 59 29.5	+1.3
	comp=N,1.1nm,0.5s,baz=203,slow=9.2,SNR=28						
MKAR	Makanchi Array	13.26	35	P	Pn	11 59 29.1	+0.9
	comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=11						
KOLN	Koldanda	13.50	126	*e*P	Pn	11 59 31.0	-0.7
DMN	Daman	14.61	123	*e*P	Pn	11 59 45.1	-1.0
	comp=N,6.8nm,0.4s						
KKN	Kakani	14.61	122	*e*P	Pn	11 59 45.5	-0.6
PKIN	Phulchoki	14.83	122	*e*P	Pn	11 59 48.2	-0.6
	comp=N,7.7nm,0.3s						
PKI	Pulchoki	14.84	122	*e*P	Pn	11 59 48.7	-0.4
KURBB	Kurchatov Arra	15.17	18	P	P	11 59 55.1	-0.4
	comp=N,0.1nm,0.3s,baz=209,slow=11,SNR=12						
AB31	Akbulak array	15.31	331	⇑P	Pn	11 59 51.7	-2.8
	comp=N,1.4nm,0.3s,baz=0.0,slow=0.1,SNR=4.2						
AB31				⇑S	Sn	12 02 32.4	-11
	comp=N,3.9nm,0.6s,baz=153,slow=24,SNR=7.1						
JIRN	Jiri	15.32	120	*e*P	Pn	11 59 55.0	-0.2
	comp=N,13nm,0.4s						
RAMN	Ramite	16.05	122	*e*P	Pn	12 00 04.9	+0.7
	comp=N,7.2nm,0.3s						
VOSK	Vostochnaya	16.35	359	P	Pn	12 00 04.1	-3.3
	comp=N,1.6nm,0.9s						
TAPN	Taplejung	16.58	118	*e*P	P	12 00 12.4	+0.8
ODAN	Odare	16.65	120	*e*P	P	12 00 13.5	+1.1
	comp=N,8.2nm,0.3s						
BVA0	Borovoye Array	16.66	358	P	Pn	12 00 06.2	-5.1
	comp=N,1.2nm,0.7s,baz=0.0,slow=0.1,SNR=6.1						
BVAR	Borovoye Array	16.66	358	P	Pn	12 00 11.9	+0.6
	comp=N,0.5nm,0.3s,baz=156,slow=9.4,SNR=6.8						
BVAR				LR	LR	12 06 55.4	
	comp=N,51nm,18.2s,baz=130,slow=38						
BRVK	Borovoye	16.70	358	P	Pn	12 00 07.6	-4.1
	comp=N,1.4nm,0.4s						
AKTO	Aktyubinsk	17.01	330	P	Pn	12 00 11.1	-4.4
	comp=N,4.9nm,1.3s						
AKTO				S	Sn	12 03 11.5	-13
	comp=N,2.3nm,0.7s						
AKTO	Aktyubinsk	17.01	330	P	Pn	12 00 14.2	-1.4
	comp=N,0.4nm,0.3s,baz=132,slow=14,SNR=5.3						
AKTO				S	Sn	12 03 15.1	-9.3
	comp=N,0.3nm,0.3s,baz=156,slow=23,SNR=6.0						
ZALV	Zalesovo Beam	19.93	24	P	P	12 00 47.9	+0.2
	comp=N,5.9nm,0.5s,baz=222,slow=10,SNR=27						
SONM	Songino Array	28.21	55	P	P	12 02 09.6	+2.2
	comp=N,0.2nm,0.3s,baz=280,slow=8.9,SNR=3.3						
FINES	FINESS Array B	37.72	326	P	P	12 03 30.5	+0.9
	comp=N,0.6nm,0.7s,baz=91,slow=8.2,SNR=3.4						
ARCES	ARCESS Array B	41.35	338	P	P	12 04 01.0	+1.4
	comp=N,0.7nm,0.6s,baz=112,slow=8.0,SNR=7.0						
NB2	NORSAR Subarra	44.62	323	P	P	12 04 25.8	-0.4
	comp=Z,0.7nm,0.6s,baz=100,slow=7.9						
NOA	NORSAR Array B	44.62	323	P	P	12 04 26.2	0.0
	comp=Z,1.1nm,0.7s,baz=97,slow=7.9,SNR=7.1						
TORD	Torodi Ar. Bea	65.95	269	P	P	12 06 57.3	-2.6
	comp=Z,0.3nm,0.3s,baz=48,slow=6.1,SNR=9.0						
ILAR	Eielson Array	74.83	16	P	P	12 07 52.7	-0.5
	comp=Z,0.7nm,1.0s,baz=322,slow=5.7,SNR=4.9						
YKA	Yellowknife Ar	81.36	3	P	P	12 08 29.2	0.0
	comp=Z,1.3nm,0.7s,baz=350,slow=5.2,SNR=3.0						
WRA	Warramunga Arr	81.72	122	P	P	12 08 30.9	-0.8
	comp=Z,0.4nm,0.8s,baz=324,slow=4.9,SNR=4.7						
ASAR	Alice Springs	83.99	125	P	P	12 08 45.0	+1.6
	comp=Z,0.5nm,0.8s,baz=321,slow=4.8,SNR=5.0						

MAN 08 12:03:01, 8°.77N×122°.20E, h29km, mb4.4, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	1.04	160	⇑*i*P	Pn	12 03 19.9	+0.2
IPIL				*e*S	Sn	12 03 33.1	-0.2
DCPH	Dipolog City	1.15	99	⇑*e*P	Pn	12 03 20.8	-0.4
PAGZ	Pagadian	1.48	128	*e*P	Pn	12 03 26.4	+0.6
BUKP	Musuan	2.96	107	*e*P	Pb	12 03 50.8	-2.5

WEL 08 12:13:38.5±0.3, 46°.22S×165°.77E, h33km, ML3.6/12, Error ellipse: s-maj=3.9km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	1.22	53	PN	Pn	12 13 58.9	-0.3
DCZ				SN	Sn	12 14 15.4	+0.9
DCZ				AML	AML	12 14 15.7	
DCZ				AML	AML	12 14 16.0	
WHZ	Wether Hill Ro	1.55	79	PN	Pn	12 14 04.2	+0.4
WHZ				SN	Sn	12 14 23.8	+1.0
WHZ				AML	AML	12 14 26.0	
APZ	The Paps	1.65	113	PN	Pn	12 14 05.0	-0.3
MLZ	Mavora Lakes	1.90	64	PN	Pn	12 14 10.3	+1.7
MLZ				AML	AML	12 14 39.0	
MLZ				AML	AML	12 14 39.0	
MSZ	Milford Sound	2.17	45	PN	Pn	12 14 13.6	+1.4
MSZ				AML	AML	12 15 01.7	
MSZ				AML	AML	12 15 05.1	
EAZ	Earnscleugh	2.67	70	PN	Pn	12 14 21.4	+2.2
EAZ				AML	AML	12 14 58.7	
EAZ				AML	AML	12 14 58.7	
WKZ	Wanaka	2.67	60	PN	Pb	12 14 22.6	-3.2
TUZ	Tuapeka	2.70	86	PN	Pn	12 14 20.9	+1.3
TUZ				AML	AML	12 14 56.3	
TUZ				AML	AML	12 14 58.5	
ODZ	Otahua Downs	3.62	73	PN	Pn	12 14 32.4	+0.2

*IDC **08** 12:23:15.1±0.8, 0°.99N×127°.58E, h0km, mb4.0/7, mb1 4.2/9, mb1mx3.9/23, mbtmp4.0/9, ML3.9/2, Error ellipse: s-maj=40.0km s-min=14.9km az=81.0*
*DJA **08** 12:23:15.6±0.6, 1°.N±7°×12°.8E±°, h10km, M4.4/8, mb4.5/2, mB4.9/1, MLv4.3/8, Mw(mB)4.2/1*
*NEIC **08** 12:23:16.4±0.4, 1°.00N×127°.54E, h10km, mb4.3/2, Error ellipse: s-maj=12.6km s-min=6.8km az=80.0*
NEIC Felt [III] on Pulau Ternate.
*ISCJB **08** 12:23:17.7±0.5, 0°.93N±0°.05×127°.30E±0°.06, h33km, mb4.1/9, Error ellipse: s-maj=9.4km s-min=7.3km az=170.8*
*AUST **08** 12:23:17.3±1.4, 1°.90N×127°.91E, h96km, Error ellipse: s-maj=2.5km s-min=1.2km az=15.0*

ISC 08 12:23:19.9±0.7, 0°.87N±0°.07×127°.50E±0°.07, h35km, n40, σ1§50/35, mb4.3/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.16	235	P	Pn	12 23 22.0	-4.4
TNTI				S	Sn	12 23 27.8	-3.1
LBMI	Labuha	1.49	180	P	Pn	12 23 46.0	+1.7
KMSI	Cibinong	3.53	265	P	Pn	12 24 13.8	+1.5
SWI	Sorong	4.13	115	P	Pn	12 24 16.4	-4.2
GTOI	Gorontalo	4.50	267	P	Pn	12 24 28.8	+3.2
AAI	Ambon	4.57	171	P	Pn	12 24 24.9	-1.8
LUWI	Luwuk	5.09	248	P	Pn	12 24 40.3	+6.5
	56nm,1.0s,1μm0.4nm						
LUWI				S	Pb	12 24 40.1	
	56nm,1.0s,1μm0.4nm						
LUWI	Luwuk	5.09	248	P	Pn	12 24 39.0	+5.2
	baz=5.9,SNR=7.0						
MRSI	Marisa	5.57	266	P	Pn	12 24 43.4	+3.0
FAKI	Fak Fak	6.05	128	P	Pn	12 24 50.7	+3.7
	baz=6.5,SNR=5.8						
KAPI	Kappang	9.70	233	Pn	Pn	12 25 37.6	+0.5
KAPI				Sn	Sn	12 27 23.5	-1.3
KAPI	Kappang	9.70	233	Pn	Pn	12 25 37.6	+0.5
	2.3nm,0.3s,baz=100,slow=6.1,SNR=2.5						
KAPI				Sn	Sn	12 27 23.5	-1.3
	1.3nm,0.3s,baz=270,slow=20,SNR=2.1						
KDU	Kakadu	14.34	160	P	P	12 26 50.5	+3.3
	baz=15,SNR=4.1						
KNRA	Kununurra	16.48	176	P	P	12 27 14.1	+3.2
	baz=18,SNR=3.4						
FITZ	Fitzroy Crossi	18.94	185	P	Pn	12 27 39.3	+0.4
FITZ	Fitzroy Crossi	18.94	185	P	Pn	12 27 39.3	+0.4
	0.2nm,0.3s,baz=5.7,slow=10,SNR=6.5						
FITZ	Fitzroy Crossi	18.94	185	P	Pn	12 27 43.8	+4.9
	baz=20,SNR=3.5						
WRAB	Tennant Creek	21.73	162	*e*P	P	12 28 09.9	+1.5
	16nm,1.0s						
WRA	Warramunga Arr	21.74	162	P	P	12 28 09.9	+1.5
WRA	Warramunga Arr	21.74	162	P	P	12 28 09.9	+1.5
	7.4nm,0.6s,baz=340,slow=11,SNR=109						
AS31	Alice Springs	25.16	166	*e*P	P	12 28 43.3	+1.1
ASAR	Alice Springs	25.17	166	P	P	12 28 43.2	+1.1
ASAR	Alice Springs	25.17	166	P	P	12 28 43.2	+1.1
	8.3nm,0.8s,baz=347,slow=9.1,SNR=51						
CTAO	Charters Tower	27.77	140	*e*P	P	12 29 06.2	+0.5
	6.8nm,1.2s						
GSI	Gunungsitoli	29.92	271	P	P	12 29 21.9	-3.1
	baz=30,SNR=4.0						
GSI				S	S	12 34 11.8	-8.6
	baz=30,SNR=4.6						
BBOO	Buckleboo	34.45	167	P	P	12 30 05.4	+1.0
	baz=36,SNR=9.8						
STKA	Stephens Creek	35.20	159	P	P	12 30 11.5	+0.6
STKA	Stephens Creek	35.20	159	P	P	12 30 11.5	+0.6
	3.0nm,0.6s,baz=332,slow=8.2,SNR=7.4						
STKA	Stephens Creek	35.20	159	P	P	12 30 12.4	+1.6
	baz=36,SNR=5.0						
KSAR	Wonju Array Be	36.40	1	P	P	12 30 20.4	-0.7
KSRS	Korea Array	36.41	1	P	P	12 30 20.4	-0.8
	0.6nm,0.5s,baz=178,slow=9.1,SNR=4.8						
MJAR	Matsushiro Arr	36.86	14	P	P	12 30 23.5	-1.6
MJAR	Matsushiro Arr	36.86	14	P	P	12 30 23.5	-1.6
	0.9nm,0.7s,baz=182,slow=8.3,SNR=4.9						
SONM	Songino Array	50.24	342	P	P	12 32 13.2	+0.5
SONM	Songino Array	50.24	342	P	P	12 32 13.2	+0.5
	0.3nm,0.4s,baz=152,slow=9.4,SNR=2.6						
MK31	Makanchi Array	60.34	326	*e*P	P	12 33 25.2	-0.2
MKAR	Makanchi Array	60.34	326	P	P	12 33 25.4	0.0
MKAR	Makanchi Array	60.34	326	P	P	12 33 25.4	0.0
	1.2nm,0.5s,baz=122,slow=8.5,SNR=14						
TORD	Torodi Ar. Bea	124.50	287	PKP	PKPdf	12 42 16.6	0.0
TORD	Torodi Ar. Bea	124.50	287	PKP	PKPdf	12 42 16.6	0.0
	0.3nm,0.8s,baz=14,slow=3.2,SNR=2.4						

IDC 08 12:25:54.3±1.4, 0°.83N×127°.35E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=134.9km s-min=22.0km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.75	162	P	P	12 30 47.5	-0.1
	1.7nm,0.6s,baz=341,slow=11,SNR=6.8						
ASAR	Alice Springs	25.17	166	P	P	12 31 21.5	0.0
	1.4nm,0.7s,baz=341,slow=11,SNR=5.7						
SONM	Songino Array	50.23	342	P	P	12 34 52.3	+0.1
	0.2nm,0.5s,baz=159,slow=6.0,SNR=2.8						
MKAR	Makanchi Array	60.28	326	P	P	12 36 04.5	-0.2
	0.5nm,0.6s,baz=114,slow=8.0,SNR=5.6						

**IDC 08 12:31:07.1±1.0

MOVZ	**Moawhango**	**1.40 185**	PN	Pn	12 56 36.6	-0.4
MOVZ			SN	S	12 57 05.7	-1.6
MTVZ	**Mangateitei**	**1.42 194**	PN	Pn	12 56 37.0	-0.2
VRZ	**Vera Road**	**1.44 219**	PN	Pn	12 56 37.2	+0.1
BHHZ	**Black Hill Sta**	**1.48 176**	PN	Pn	12 56 37.3	-0.3
MCHZ	**McNeill Hill**	**1.56 157**	PN	Pn	12 56 38.5	+0.4
MCHZ			SN	S	12 57 09.5	+0.3
KNZ	**Kokohu**	**1.71 127**	⇓PN	Pn	12 56 39.0	-0.3
RAEZ	**Rainy Point**	**1.75 222**	PN	Pn	12 56 42.1	+2.6
PRGZ	**Paritu Road**	**1.80 121**	PN	Pn	12 56 39.8	-0.2
PUZ	**Puketiti**	**1.85 93**	⇑PN	Pn	12 56 39.9	-0.6
PUZ			AML	AML	12 57 14.7	
PUZ			AML	AML	12 57 20.4	
CNGZ	**Carnagh Statio**	**1.87 106**	PN	Pn	12 56 40.6	+0.1
CKHZ	**Cape Kidnapper**	**1.88 152**	PN	Pn	12 56 40.5	-0.1
WAZ	**Wanganui**	**1.89 202**	PN	Pn	12 56 40.2	-0.5
NEZ	**North Egmont**	**1.90 228**	PN	Pn	12 56 41.1	+0.2
PNHZ	**Pukenui**	**1.92 173**	PN	Pn	12 56 40.3	-0.7
PNHZ			SN	S	12 57 12.9	-1.6
PKE	**Pukeiti**	**1.92 231**	PN	Pn	12 56 41.1	0.0
DFE	**Dawson Falls**	**1.94 227**	PN	Pn	12 56 41.2	0.0
MHGZ	**Mahia Peninsul**	**1.94 127**	PN	Pn	12 56 41.0	-0.2
KAHZ	**Kahuranaki**	**1.94 157**	⇓PN	Pn	12 56 41.1	-0.1
NWEZ	**Newall Road**	**2.04 231**	PN	Pn	12 56 42.2	+0.1
TSZ	**Takapari Road**	**2.05 179**	PN	Pn	12 56 41.3	-0.9
TSZ			AML	AML	12 57 15.7	
TSZ			AML	AML	12 57 16.0	
WPHZ	**Waipukurau**	**2.10 169**	PN	Pn	12 56 42.2	-0.4
PXZ	**Pawanui**	**2.15 160**	⇓PN	Pn	12 56 42.5	-0.5
PXZ			AML	AML	12 57 17.8	
PXZ			AML	AML	12 57 17.8	
PXZ			AML	AML	12 57 20.4	
PXZ			AML	AML	12 57 20.4	
DVHZ	**Dannevirke**	**2.30 175**	PN	Pn	12 56 43.2	-1.3
DVHZ			SN	S	12 57 18.5	-2.2
PRHZ	**Porangahau**	**2.33 166**	PN	Pn	12 56 43.9	-0.8
POWZ	**Post Office Ro**	**2.38 183**	PN	Pn	12 56 43.9	-1.4
MRZ	**Mangatainoka R**	**2.66 185**	PN	Pn	12 56 46.2	-1.9
MRZ			SN	S	12 57 24.3	-2.9
MRZ			AML	AML	12 57 25.4	
BFZ	**Birch Farm**	**2.68 175**	PN	Pn	12 56 46.8	-1.5
TIWZ	**Tintock**	**2.77 180**	PN	Pn	12 56 47.3	-1.8
OGWZ	**Otaki Gorge**	**2.87 191**	PN	Pn	12 56 48.2	-1.9
HOWZ	**Holdsworth Sta**	**2.90 186**	PN	Pn	12 56 48.5	-2.1
KIW	**Kapiti Island**	**2.96 195**	PN	Pn	12 56 48.9	-2.2
KIW			AML	AML	12 57 29.9	
KIW			AML	AML	12 57 31.0	
TMWZ	**Te Maipa**	**3.10 180**	PN	Pn	12 56 50.5	-2.1
MTW	**Mount Morrison**	**3.16 186**	PN	Pn	12 56 50.8	-2.6
MTW			AML	AML	12 57 34.9	
MTW			AML	AML	12 57 34.9	
CAW	**Cannon Point**	**3.17 192**	PN	Pn	12 56 51.0	-2.4
CAW			AML	AML	12 57 35.3	
CAW			AML	AML	12 57 35.4	
DUWZ	**D'Urville Isla**	**3.19 208**	PN	Pn	12 56 51.2	-2.5
PAWZ	**Paruwai Farm**	**3.39 186**	PN	Pn	12 56 53.3	-2.6
PAWZ			AML	AML	12 57 39.0	
PAWZ			AML	AML	12 57 39.5	
TRWZ	**Traveller**	**3.39 183**	PN	Pn	12 56 53.5	-2.4
WEL	**Wellington**	**3.39 195**	PN	Pn	12 56 53.5	-2.3
SNZO	**South Karori**	**3.43 195**	PN	Pn	12 56 53.6	-2.6
SNZO			AML	AML	12 57 39.6	
SNZO			AML	AML	12 57 40.4	
MSWZ	**Moikau Station**	**3.44 188**	PN	Pn	12 56 53.6	-2.8
MSWZ			AML	AML	12 57 39.7	
MSWZ			AML	AML	12 57 40.9	
TCW	**Tory Channel**	**3.44 201**	PN	Pn	12 56 53.8	-2.6
TCW			AML	AML	12 57 39.4	
TCW			AML	AML	12 57 39.4	
BHW	**Baring Head**	**3.49 193**	PN	Pn	12 56 54.1	-2.9
BHW			AML	AML	12 57 39.9	
BHW			AML	AML	12 57 41.3	
PLWZ	**Palliser**	**3.59 188**	PN	Pn	12 56 55.3	-2.9
TUWZ	**Tuamarina**	**3.74 203**	PN	Pn	12 56 57.0	-2.7
TUWZ			AML	AML	12 56 57.9	
TUWZ			AML	AML	12 57 44.6	
NNZ	**Nelson**	**3.76 211**	PN	Pn	12 56 56.7	-3.3
BSWZ	**Blackbirch Sta**	**4.02 202**	PN	Pn	12 57 00.5	-2.6
THZ	**Tophouse**	**4.41 211**	PN	Pn	12 57 03.8	-3.9
KHZ	**Kahutara**	**4.76 202**	PN	Pn	12 57 08.5	-3.3
LTZ	**Lake Taylor**	**5.52 209**	PN	Pn	12 57 16.6	-4.5
CRLZ	**Canterbury Las**	**6.10 203**	PN	Pn	12 57 23.1	-5.0
MQZ	**McQueen's Vall**	**6.21 202**	PN	Pn	12 57 24.4	-5.1
WVZ	**Waitaha Valley**	**6.42 216**	PN	Pn	12 57 27.2	-4.9
RPZ	**Rata Peaks**	**6.79 211**	PN	Pn	12 57 31.4	-5.4
FOZ	**Fox Glacier**	**7.29 218**	PN	Pn	12 57 36.3	-6.7
LBZ	**Lake Benmore**	**7.70 212**	PN	Pn	12 57 43.1	-5.1
ODZ	**Otahua Downs**	**8.06 208**	PN	Pn	12 57 48.4	-4.4
JCZ	**Jackson Bay**	**8.12 219**	PN	Pn	12 57 47.1	-6.5

*ISCJB **08** 12:59:04.2±0.7, 51°.27N±0°.09×178°.44W±0°.04, h55km±6km, mb3.7/18, Error ellipse: s-maj=15.6km s-min=4.4km az=174.2*
*NEIC **08** 12:59:04.5, 51°.17N×178°.42W, h20km, ML3.5(AEIC), After AEIC.*
*IDC **08** 12:59:07.1±3.6, 51°.35N×178°.47W, h63km±32km, mb3.4/18, mb1 3.6/19, mb1mx3.5/31, mbtmp3.4/19, ML2.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/30, Error ellipse: s-maj=22.6km s-min=12.6km az=168.0*

ISC 08 12:59:04.7±1.5, 51°.2N±0°.1×178°.42W±0°.03, h43km±13km, n51, σ0s73/56, mb3.8/18, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.56**	**338**	P	**Pn**	**12 59 16.4**	**0.0**
GAEA	**Gareloi East**	**0.58**	**340**	P	**Pn**	**12 59 16.6**	**-0.1**
TAFL	**Tanaga Flats**	**0.61**	**32**	P	**Pn**	**12 59 16.6**	**-0.4**
TAFL				S	**Sn**	**12 59 24.6**	**-1.3**
GANE	**Gareloi Northe**	**0.62**	**339**	P	**Pn**	**12 59 17.0**	**-0.2**
TASE	**Tanaga Southea**	**0.64**	**22**	P	**Pn**	**12 59 17.3**	**-0.2**
TAPA	**Tanaga Point A**	**0.69**	**33**	P	**Pn**	**12 59 17.8**	**-0.3**
TANO	**Tanaga North**	**0.70**	**16**	P	**Pn**	**12 59 18.4**	**+0.1**
TAFP	**Tanaga Falls P**	**0.71**	**22**	P	**Pn**	**12 59 18.2**	**-0.2**
TAFP				S	**Sn**	**12 59 29.2**	**+0.9**
KIKV	**Kanaga Island**	**1.01**	**50**	P	**Pn**	**12 59 21.9**	**-0.5**
KIKV				S	**Sn**	**12 59 35.7**	**+0.2**
KICM	**Kanaga Island**	**1.02**	**48**	P	**Pn**	**12 59 22.4**	**-0.2**
KICM				S	**Sn**	**12 59 37.0**	**+1.2**
KIRH	**Kanaga Island**	**1.06**	**51**	P	**Pn**	**12 59 22.8**	**-0.3**
KINC	**Kanaga Island**	**1.06**	**49**	P	**Pn**	**12 59 22.8**	**-0.3**
ADK	**Adak**	**1.26**	**59**	P	**Pn**	**12 59 24.9**	**-1.0**
CERAA	**Semis' Rag'd T**	**1.35**	**300**	P	**Pn**	**12 59 27.3**	**+0.2**
ADAG	**Mount Adagdak**	**1.36**	**56**	P	**Pn**	**12 59 27.6**	**+0.5**
ETKA	**Kagalaska Isla**	**1.41**	**63**	P	**Pn**	**12 59 27.2**	**-0.7**
CESW	**Semis' Southwe**	**1.42**	**299**	P	**Pn**	**12 59 28.0**	**0.0**
AMKA	**Amchitka**	**1.43**	**276**	P	**Pn**	**12 59 26.7**	**-1.5**
AMKA				S	**Sn**	**12 59 45.8**	**0.0**
CEAP	**Semis' Anvil P**	**1.46**	**302**	P	**Pn**	**12 59 29.2**	**+0.6**
CETU	**Semis' Tuman**	**1.49**	**300**	P	**Pn**	**12 59 29.2**	**+0.3**
GSCK	**Great Sitkin C**	**1.61**	**60**	P	**Pn**	**12 59 30.7**	**+0.1**
GSTD	**Great Sitkin T**	**1.64**	**59**	P	**Pn**	**12 59 31.0**	**-0.1**
GSMY	**Great Sitkin M**	**1.68**	**61**	P	**Pn**	**12 59 31.6**	**0.0**
GSTR	**Great Sitkin T**	**1.70**	**59**	P	**Pn**	**12 59 32.4**	**+0.5**
LSSE	**Little Sitkin**	**2.00**	**291**	P	**Pn**	**12 59 35.5**	**-0.5**
ATKA	**Atka Island**	**2.80**	**68**	P	**Pn**	**12 59 47.4**	**+0.4**
KOFP	**Korovin Flat P**	**2.88**	**67**	P	**Pn**	**12 59 49.7**	**+1.6**
FX1	**Attu Island--F**	**5.44**	**291**	P	**Pn**	**13 00 24.5**	**+1.3**
	1.4nm,0.3s,baz=135,slow=1.4,SNR=4.1						
FX1				S	**Sn**	**13 01 26.5**	**+2.0**
	0.9nm,0.3s,baz=127,slow=20,SNR=2.5						
NIKH	**Nikolski High**	**6.15**	**70**	P	**Pn**	**13 00 33.2**	**+0.3**
PETK	**Petropavlovsk-**	**14.75**	**287**	LR	LR	13 07 22.2	
	comp=Z,43nm,21.4s,baz=187,slow=34						
ILAR	**Eielson Array**	**21.20**	**38**	P	**P**	**13 03 45.9**	**-0.4**
	0.4nm,0.7s,baz=245,slow=10,SNR=5.3						
ASAJ	**Asahikawa**	**26.94**	**270**	P	**P**	**13 04 42.8**	**+1.1**
	2.8nm,1.0s,baz=32,slow=12,SNR=3.9						
USRK	**Ussuriysk Arra**	**33.54**	**278**	P	**P**	**13 05 39.9**	**-0.1**
	1.8nm,0.7s,baz=78,slow=11,SNR=6.1						
MJAR	**Matsushiro Arr**	**34.00**	**261**	P	**P**	**13 05 44.2**	**+0.1**
	0.9nm,0.8s,baz=49,slow=7.2,SNR=5.0						
KSRS	**Korea Array**	**39.88**	**271**	P	**P**	**13 06 34.7**	**+0.7**
	0.5nm,0.6s,baz=61,slow=8.3,SNR=3.2						
NVAR	**Mina Array Bea**	**43.34**	**83**	P	**P**	**13 07 03.5**	**+1.0**
	0.3nm,0.7s,baz=312,slow=11,SNR=2.8						
PDAR	**Pinedale Array**	**46.13**	**72**	P	**P**	**13 07 25.4**	**+0.7**
	1.4nm,0.7s,baz=302,slow=4.1,SNR=20						
SONM	**Songino Array**	**46.92**	**297**	P	**P**	**13 07 31.5**	**+0.8**
	0.6nm,0.5s,baz=60,slow=8.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**54.30**	**314**	PcP	**PcP**	**13 09 29.4**	**-0.3**
	0.7nm,0.5s,baz=36,slow=3.7,SNR=4.1						
ARCES	**ARCESS Array B**	**58.27**	**350**	P	**P**	**13 08 53.0**	**-1.1**
	0.6nm,0.7s,baz=26,slow=8.4,SNR=4.4						
TXAR	**Lajitas Array**	**58.44**	**81**	P	**P**	**13 08 56.3**	**+0.2**
	0.2nm,0.6s,baz=316,slow=6.4,SNR=3.3						
MKAR	**Makanchi Array**	**60.30**	**309**	P	**P**	**13 09 07.3**	**-1.3**
	0.3nm,0.5s,baz=43,slow=4.0,SNR=4.4						
BVAR	**Borovoye Array**	**61.15**	**320**	P	**P**	**13 09 14.1**	**-0.1**
	0.7nm,0.5s,baz=42,slow=5.7,SNR=4.5						
FINES	**FINESS Array B**	**65.97**	**347**	P	**P**	**13 09 44.7**	**-1.2**
	0.8nm,0.7s,baz=46,slow=8.5,SNR=5.7						
CMAR	**Chiang Mai Arr**	**71.26**	**276**	P	**P**	**13 10 20.1**	**+0.5**
	0.9nm,0.8s,baz=28,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**82.08**	**224**	P	**P**	**13 11 19.5**	**-0.9**
	0.5nm,0.9s,baz=30,slow=6.1,SNR=3.0						
FITZ	**Fitzroy Crossi**	**84.57**	**232**	P	**P**	**13 11 33.4**	**+0.2**
	1.1nm,0.6s,baz=33,slow=2.6,SNR=6.2						
BRTR	**Keskin Array B**	**85.17**	**336**	P	**P**	**13 11 36.0**	**-0.4**
	0.3nm,0.5s,baz=35,slow=4.5,SNR=3.7						
ASAR	**Alice Springs**	**85.55**	**223**	P	**P**	**13 11 38.0**	**-0.1**
	0.3nm,0.5s,baz=23,slow=6.0,SNR=13						
MAW	**Mawson**	**146.52**	**218**	PKPbc	**PKPbc**	**13 18 39.6**	**-0.1**
	1.7nm,1.0s,baz=72,slow=3.2,SNR=3.2						
BOSA	**Boshof**	**151.24**	**313**	PKPbc	**PKPbc**	**13 18 53.3**	**+0.1**
	2.2nm,0.9s,baz=90,slow=3.0,SNR=4.6						

IDC 08 13:10:26.5±2.1, 0°.77N×127°.14E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=173.4km s-min=25.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**161**	P	P	13 15 19.3	-0.7
	0.5nm,0.6s,baz=340,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**25.17**	**165**	P	P	13 15 54.2	+0.4
	0.4nm,0.6s,baz=347,slow=9.9,SNR=8.8						
MKAR	**Makanchi Array**	**60.21**	**326**	P	P	13 20 36.4	-0.1
	0.1nm,0.5s,baz=141,slow=7.4,SNR=2.6						

MEX 08 13:17:48.0±0.7, 18°.99N×103°.06W, h97km±9km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.71**	**313**	*e*P	Pn	13 18 04.1	-1.5
EZ5V				*i* S	Sn	13 18 16.8	-1.9
MMIG	**Aquila**	**0.75**	**201**	*i* P	Pn	13 18 04.1	-1.6
MMIG				*i* S	Sn	13 18 17.4	-1.4
R15V		**0.89**	**282**	*e*P	Pn	13 18 06.0	-1.2
R15V				*i* S	Sn	13 18 20.2	-1.3
SFJM	**Santa Fe**	**1.49**	**1**	*i* P	Pn	13 18 10.5	-3.7
ZIIG	**Zihuatanejo**	**2.05**	**132**	*e*P	Pn	13 18 19.4	-1.7
ZIIG				*i* S	Sn	13 18 44.1	-2.2
ARIG	**Puente Sto Nin**	**2.67**	**105**	*i* P	Pn	13 18 28.7	-0.6
ARIG				*i* S	Sn	13 18 59.5	-1.6

IDC 08 13:22:30.1±2.5, 29°.78N×90°.73E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, ML3.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/30, Error ellipse: s-maj=88.9km s-min=28.7km az=77.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.21**	**341**	P	P	13 26 44.6	-0.1
	0.1nm,0.3s,baz=140,slow=11,SNR=2.7						
SONM	**Songino Array**	**21.70**	**29**	P	P	13 27 22.5	-0.2
	0.7nm,0.5s,baz=224,slow=10.0,SNR=3.6						
MLR	**Muntele Rosu**	**52.28**	**306**	LR	LR	13 56 29.3	
	comp=Z,71nm,20.1s,baz=171,slow=39						
WRA	**Warramunga Arr**	**64.87**	**134**	P	P	13 33 11.7	+0.4
	0.4nm,0.7s,baz=322,slow=6.4,SNR=6.0						
ASAR	**Alice Springs**	**67.41**	**137**	P	P	13 33 27.4	-0.3
	0.3nm,0.9s,baz=318,slow=6.2,SNR=3.7						

*IDC **08** 13:26:16.1±0.7, 29°.43N×105°.58E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.9/30, mbtmp3.9/16, ML3.5/2, MS3.6/8, Ms1 3.7/8, ms1mx3.3/39, Error ellipse: s-maj=23.1km s-min=13.8km az=58.0*
*NEIC **08** 13:26:17.5±0.4, 29°.36N×105°.44E, h10km, mb3.7/2, Error ellipse: s-maj=9.7km s-min=8.5km az=81.0*
NEIC At least two people killed, one person slightly injured and 440 houses damaged or destroyed in Rongchang.
*ISCJB **08** 13:26:18.4±0.4, 29°.37N±0°.04×105°.51E±0°.05, h29km, mb3.9/15, MS3.5/6, Error ellipse: s-maj=5.8km s-min=5.2km az=162.6*
*BJI **08** 13:26:18.4, 29°.40N×105°.49E, h5km, mB4.8/6, mb4.2/11, ML4.2/16, Ms4.4/12, Ms7 4.1/11*

ISC 08 13:26:20.1±0.5, 29°.27N±0°.04×105°.51E±0°.05, h29km, n54, σ1s59/65, mb4.0/15, MS3.5/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.23**	**317**	Pn	**Pn**	**13 26 56.2**	**+1.0**
CD2				Sg	**Sb**	**13 27 25.2**	**-1.8**
CD2				smax	smax		
	comp=N,5μm,0.5s						
CD2				smax	smax		
	comp=E,6μm,0.5s						
GYA	**Guiyang**	**2.98**	**160**	Pg	**Pn**	**13 27 08.6**	**+3.0**
GYA				Sg	**Sb**	**13 27 46.5**	**-2.2**
GYA				smax	smax		
	comp=N,440nm,1.0s						
GYA				smax	smax		
	comp=E,790nm,1.0s						
GYA				LR	LR		
	comp=N,2μm,5.2s						
GYA				LR	LR		
	comp=E,890nm,5.2s						
GYA				LR	LR		
	comp=Z,2μm,5.1s						
ENH	**Enshi**	**3.60**	**73**	*e*Pn	**Pn**	**13 27 15.4**	**+1.5**
ENH				*e*Sn	**Sn**	**13 27 56.3**	**+0.8**
KMI	**Kunming**	**4.81**	**211**	Pn	Pn	13 27 37.2	+6.3
KMI				LR	LR		
	comp=N,1μm,8.4s						
KMI				LR	LR		
	comp=E,1μm,9.4s						
KMI				LR	LR		
	comp=Z,2μm,7.3s						
XAN	**Xi'an**	**5.57**	**31**	Pn	**Pn**	**13 27 40.4**	**-0.7**
XAN				Pg	**Pb**	**13 27 57.0**	**+0.4**
XAN				Sn	**Sn**	**13 28 43.3**	**-0.8**
XAN				Sg	**Sb**	**13 29 06.4**	**+3.4**
XAN				smax	smax		
	comp=N,720nm,0.9s						
XAN				smax	smax		
	comp=E,270nm,1.1s						
LZH	**Lanzhou**	**6.94**	**349**	Pn	**Pn**	**13 28 01.3**	**+1.3**
LZH				Pg	**Pb**	**13 28 20.3**	**+0.3**
LZH				Sn	**Sn**	**13 29 16.9**	**-1.1**
LZH				Sg	**Sb**	**13 29 45.3**	**+2.9**
LZH				smax	smax		
	comp=N,460nm,1.4s						
LZH				smax	smax		
	comp=E,210nm,1.2s						
LZH				LR	LR		
	comp=N,2μm,7.1s						
LZH				LR	LR		
	comp=E,1μm,6.1s						
LZH				LR	LR		
	comp=Z,2μm,8.5s						
WHN	**Wuhan**	**7.78**	**78**	Pn	**Pn**	**13 28 11.9**	**+0.6**
WHN				Sn	**Sn**	**13 29 33.6**	**-4.8**
WHN				smax	smax		
	comp=N,550nm,1.2s						
WHN				smax	smax		
	comp=E,240nm,0.6s						
GTA	**Gaotai**	**11.15**	**337**	*e*P	**Pn**	**13 28 58.8**	**+1.1**
GTA				pP		13 29 02.1	
GTA				sP		13 29 05.0	
GTA				S	**Sn**	**13 31 03.0**	**+1.6**
GTA				sS		13 31 08.4	
GTA				SS	**SnSn**	**13 31 16.3**	**+2.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				LR	LR		
	comp=N,1μm,11.4s						
GTA				LR	LR		
	comp=E,480nm,11.6s						
GTA				LR	LR		
	comp=Z,1μm,13.8s						
CHTO	**Chiang Mai**	**12.01**	**211**	*e*Pn	**Pn**	**13 29 06.8**	**-2.7**
CMAR	**Chiang Mai Arr**	**12.33**	**211**	Pn	**Pn**	**13 29 16.6**	**+2.9**
CMAR	**Chiang Mai Arr**	**12.33**	**211**	Pn	**Pn**	**13 29 16.6**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=8.1						
CMAR				LR	LR	13 34 43.0	
	comp=Z,331nm,20.4s,baz=218,slow=41						
LSA	**Lhasa**	**12.52**	**275**	*e*Pn	**Pn**	**13 29 15.2**	**-1.6**
HHC	**Hu-ho-hao-te**	**12.56**	**22**	*e*P	**Pn**	**13 29 15.0**	**-2.0**
HHC				PP	**PnPn**	**13 29 25.4**	**+0.5**
HHC				S	**Sn**	**13 31 33.2**	**-2.7**
HHC				PcP	**PcP**	**13 34 56.9**	**+2.2**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,4.4s						
HHC				LR	LR		
	comp=N,1μm,9.2s						
HHC				LR	LR		
	comp=E,720nm,8.8s						
HHC				LR	LR		
	comp=Z,610nm,9.7s						
SONM	**Songino Array**	**18.55**	**2**	P	**P**	**13 30 33.6**	**-0.9**
SONM	**Songino Array**	**18.55**	**2**	P	**P**	**13 30 33.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=184,slow=9.6,SNR=12						
SONM				LR	LR	13 38 24.6	
	comp=Z,245nm,21.6s,baz=317,slow=40						
ULN	**Ulaanbaatar**	**18.60**	**3**	*e*P	**P**	**13 30 34.1**	**-1.0**
	comp=Z,1.0nm,0.5s						
ULN				*e*Sn	**Sn**	**13 34 03.1**	**+0.4**
KSAR	**Wonju Array Be**	**20.35**	**61**	P	**P**	**13 30 53.7**	**-0.5**
KSRS	**Korea Array**	**20.39**	**61**	P	**P**	**13 30 53.7**	**-0.8**
	comp=Z,4.1nm,1.0s,baz=242,slow=10,SNR=15						
CN2	**Changchun**	**21.53**	**42**	*e*P	**P**	**13 31 07.6**	**+0.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
JNU	**Nakatsue**	**22.02**	**74**	LR	LR	13 40 27.2	
	comp=Z,98nm,18.1s,baz=213,slow=39						
MDJ	**Mudanjiang**	**24.47**	**45**	*e*P	**P**	**13 31 36.7**	**+0.2**
MK31	**Makanchi Array**	**25.16**	**320**	*e*P	**P**	**13 31 42.9**	**+0.1**
MKAR	**Makanchi Array**	**25.16**	**320**	P	**P**	**13 31 42.8**	**0.0**
MKAR	**Makanchi Array**	**25.16**	**320**	P	**P**	**13 31 42.8**	**0.0**
	comp=Z,2.9nm,0.7s,baz=128,slow=9.9,SNR=22						
MKAR				LR	LR	13 42 37.7	
	comp=Z,312nm,18.7s,baz=156,slow=39						
USRK	**Ussuriysk Arra**	**25.79**	**48**	P	**P**	**13 31 47.4**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=248,slow=8.9,SNR=7.3						
PSI	**Prapat**	**27.06**	**195**	LR	LR	13 43 53.6	
	comp=Z,120nm,19.3s,baz=116,slow=39						
AAK	**Ala-Archa**	**28.25**	**307**	LR	LR	13 45 29.0	
	comp=Z,161nm,19.5s,baz=88,slow=41						
ZAA0	**Zalesovo Array**	**28.89**	**334**	*e*P	**P**	**13 32 13.8**	**-2.5**
ZALV	**Zalesovo Beam**	**28.89**	**334**	P	**P**	**13 32 14.7**	**-1.5**
ZALV	**Zalesovo Beam**	**28.89**	**334**	P	**P**	**13 32 14.7**	**-1.5**
	comp=Z,3.7nm,0.7s,baz=131,slow=9.5,SNR=13						
ZALV				LR	LR	13 44 50.9	
	comp=Z,54nm,20.4s,baz=69,slow=39						
DAV	**Davao City (W)**	**29.08**	**136**	LR	LR	13 43 45.1	
	comp=Z,141nm,20.3s,baz=24,slow=36						
KURBB	**Kurchatov Arra**	**29.43**	**324**	P	**P**	**13 32 20.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=134,slow=9.3,SNR=13						
KURK	**Kurchatov**	**29.44**	**324**	P	**P**	**13 32 20.8**	**-0.3**
BVAR	**Borovoye Array**	**34.98**	**323**	P	**P**	**13 33 09.6**	**0.0**
BVAR	**Borovoye Array**	**34.98**	**323**	P	**P**	**13 33 09.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=99,slow=9.8,SNR=5.4						
FITZ	**Fitzroy Crossi**	**50.95**	**155**	P	**P**	**13 35 19.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.95**	**155**	P	**P**	**13 35 19.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=7.3,slow=9.5,SNR=5.4						
WRAB	**Tennant Creek**	**56.28**	**147**	*e*P	**P**	**13 35 57.8**	**-0.4**
	comp=Z,2.4nm,0.8s						
WRA	**Warramunga Arr**	**56.28**	**147**	P	**P**	**13 35 59.6**	**+1.4**
WRA	**Warramunga Arr**	**56.28**	**147**	P	**P**	**13 35 59.6**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=337,slow=8.1,SNR=30						
BRTR	**Keskin Array B**	**58.71**	**301**	P	**P**	**13 36 15.4**	**0.0**
BRTR	**Keskin Array B**	**58.71**	**301**	P	**P**	**13 36 15.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=103,slow=5.3,SNR=4.6						
AS31	**Alice Springs**	**59.30**	**150**	*e*P	**P**	**13 36 21.1**	**+1.7**
ASAR	**Alice Springs**	**59.30**	**150**	P	**P**	**13 36 20.7**	**+1.3**
ASAR	**Alice Springs**	**59.30**	**150**	P	**P**	**13 36 20.7**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=331,slow=6.8,SNR=19						
FINES	**FINESS Array B**	**59.76**	**327**	P	**P**	**13 36 21.7**	**-0.3**
FINES	**FINESS Array B**	**59.76**	**327**	P	**P**	**13 36 21.7**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=115,slow=8.6,SNR=5.1						
NB2	**NORSAR Subarra**	**66.85**	**328**	P	**P**	**13 37 08.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=71,slow=6.5						
NOA	**NORSAR Array B**	**66.85**	**328**	P	**P**	**13 37 08.0**	**-1.1**
NOA	**NORSAR Array B**	**66.85**	**328**	P	**P**	**13 37 08.0**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=74,slow=6.6,SNR=3.8						
GERES	**GERESS Array B**	**69.70**

THL	**Klokotos Trika**	**1.14**	**73**	*e*Pb	**Pg**	**13 31 59.4**	**+1.7**
AXS	**Araxos**	**1.20**	**150**	P	**Pn**	**13 31 57.6**	**-1.0**
AXS				S	**Sn**	**13 32 14.8**	**-0.2**
AXS	**Araxos**	**1.20**	**150**	P	**Pn**	**13 31 57.6**	**-1.0**
AXS				S	**Sn**	**13 32 14.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.21**	**100**	P	**Pn**	**13 31 57.9**	**-0.9**
MAKR				S	**Sb**	**13 32 13.9**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.21**	**100**	P	**Pn**	**13 31 57.9**	**-0.9**
MAKR				S	**Sb**	**13 32 13.9**	**-0.6**
NEST	**Nestorio**	**1.23**	**16**	P	**Pn**	**13 31 58.4**	**-0.8**
NEST	**Nestorio**	**1.23**	**16**	P	**Pn**	**13 31 58.4**	**-0.8**
EFP	**Efpalio**	**1.30**	**128**	P	**Pn**	**13 31 59.2**	**-0.8**
EFP	**Efpalio**	**1.30**	**128**	P	**Pn**	**13 31 59.2**	**-0.8**
RLS	**Riolos of Patr**	**1.35**	**150**	P	**Pn**	**13 32 00.7**	**-0.1**
RLS				S	**Sg**	**13 32 19.1**	**-0.2**
RLS	**Riolos of Patr**	**1.35**	**150**	P	**Pn**	**13 32 00.7**	**-0.1**
RLS				S	**Sg**	**13 32 19.1**	**-0.2**
AGG	**Agios Georgios**	**1.36**	**98**	P	**Pn**	**13 32 00.7**	**-0.2**
AGG	**Agios Georgios**	**1.36**	**98**	P	**Pn**	**13 32 00.7**	**-0.2**
KBN	**Korca**	**1.40**	**6**	*e*PN	**Pg**	**13 32 05.3**	**+2.7**
KBN				*i* SN	**Sg**	**13 32 26.3**	**+5.5**
KBN	**Korca**	**1.40**	**6**	*e*Pn	**Pg**	**13 32 05.3**	**+2.7**
	SNR=4.0						
KZN	**Kozani**	**1.40**	**40**	P	**Pn**	**13 32 00.9**	**-0.6**
KZN	**Kozani**	**1.40**	**40**	P	**Pn**	**13 32 00.9**	**-0.6**
TRIZ	**Trizonia**	**1.44**	**127**	P	**Pn**	**13 32 00.9**	**-1.0**
TRIZ	**Trizonia**	**1.44**	**127**	P	**Pn**	**13 32 00.9**	**-1.0**
FNA	**Florina**	**1.66**	**21**	*e*PB	**Pg**	**13 32 07.6**	**0.0**
FNA	**Florina**	**1.66**	**21**	*e*Pb	**Pg**	**13 32 07.6**	**0.0**
BIA	**Bitola**	**1.87**	**17**	*e*Pn	**Pb**	**13 32 09.4**	**-0.7**
BIA	**Bitola**	**1.87**	**17**	*e*Pn	**Pb**	**13 32 09.4**	**-0.7**
GRG	**Griva**	**2.21**	**38**	*e*PN	**Pb**	**13 32 16.1**	**+0.3**
GRG	**Griva**	**2.21**	**38**	*e*Pn	**Pb**	**13 32 16.1**	**+0.3**
PHP	**Peshkopia**	**2.45**	**357**	*e*PN	**Pb**	**13 32 18.6**	**-1.5**
PHP	**Peshkopia**	**2.45**	**357**	*e*Pn	**Pb**	**13 32 18.6**	**-1.5**
	SNR=4.0						
AOS	**Alonnisos**	**2.54**	**90**	P	**Pn**	**13 32 16.3**	**-0.9**
AOS	**Alonnisos**	**2.54**	**90**	P	**Pn**	**13 32 16.3**	**-0.9**

ISCJB ***08*** *13:31:51.6±1.1, 28°.76N±0°.04×141°.37E±0°.07, h54km±10km, mb4.3/38, MS4.0/4, Error ellipse: s-maj=10.4km s-min=6.0km az=153.2*

NEIC ***08*** *13:31:52.4±1.9, 28°.81N×141°.39E, h57km±19km, mb4.9/10, Error ellipse: s-maj=14.3km s-min=8.8km az=74.0*

BJI ***08*** *13:31:54.4, 28°.66N×140°.85E, h54km, mB4.9/16, mb4.5/20, Ms4.6/12, Ms7 4.3/12*

IDC ***08*** *13:31:55.6±0.7, 28°.82N×141°.44E, h66km±5km, mb3.7/22, mb1 3.9/25, mb1mx3.8/31, mbtmp3.7/25, MS3.5/2, Ms1 3.6/2, ms1mx2.8/41, Error ellipse: s-maj=16.3km s-min=11.6km az=78.0*

ISC 08 13:31:53.9±0.5, 28°.78N±0°.05×141°.34E±0°.06, h62km±2km, h61km; pP-P, n59, σ1§72/97, mb4.2/38, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.18**	**342**	P	**Pn**	**13 33 52.1**	**+2.2**
	1.1nm,0.3s,baz=163,slow=12,SNR=17						
MJAR				S	**Sn**	**13 35 20.2**	**-0.6**
	baz=140,slow=24,SNR=2.2						
MAT	**Matsushiro**	**8.18**	**342**	P	**Pn**	**13 33 52.0**	**+2.1**
MAT				*e*S	**Sn**	**13 35 20.5**	**-0.4**
KSRS	**Korea Array**	**14.18**	**311**	P	**Pn**	**13 35 12.1**	**+0.6**
	baz=118,slow=16,SNR=3.1						
ASAJ	**Asahikawa**	**15.34**	**3**	*e*Pn	**Pn**	**13 35 24.4**	**-2.2**
	10nm,2.0s						
ASAJ	**Asahikawa**	**15.34**	**3**	P	**Pn**	**13 35 25.1**	**-1.5**
	0.7nm,0.3s,baz=222,slow=14,SNR=9.8						
ASAJ				S	**Sn**	**13 38 09.1**	**-6.3**
	0.1nm,0.3s,baz=53,slow=20,SNR=3.8						
GUMO	**Guam**	**15.47**	**167**	*e*Pn	**Pn**	**13 35 28.2**	**-0.1**
	97nm,0.6s						
USRK	**Ussuriysk Arra**	**17.11**	**337**	P	**Pn**	**13 35 48.9**	**+0.2**
	0.2nm,0°.3s,baz=155,slow=12,SNR=10						
MDJ	**Mudanjiang**	**18.37**	**333**	P	Pn	13 36 09.4	+5.2
MDJ				pP	pP	13 36 21.2	+4.5
MDJ				sP	sP	13 36 27.6	+3.1
MDJ				S	**Sn**	**13 39 26.7**	**-1.9**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,140nm,7.0s						
MDJ				LR	LR		
	comp=N,150nm,6.2s						
MDJ				LR	LR		
	comp=E,190nm,13.3s						
MDJ				LR	LR		
	comp=Z,220nm,11.7s						
NJ2	**Nanjing**	**19.66**	**285**	*e*P	**P**	**13 36 17.2**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
CN2	**Changchun**	**19.67**	**324**	*e*P	**Pn**	**13 36 19.7**	**+0.1**
CN2				*e*sP	**sP**	**13 36 38.7**	**-0.1**
CN2				*e*S	**S**	**13 39 53.0**	**-3.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
HHC	**Hu-ho-hao-te**	**27.12**	**304**	*e*P	**P**	**13 37 30.4**	**-0.8**
HHC				sP	**sP**	**13 37 50.6**	**-2.9**
HHC				PP	**PnPn**	**13 38 19.2**	**+2.2**
HHC				PcP	**PcP**	**13 40 49.8**	**-0.8**
HHC				S	**S**	**13 42 02.3**	**-2.8**
HHC				sS	**sS**	**13 42 28.2**	**-2.7**
HHC				SS	**SnSn**	**13 43 20.9**	**+3.6**
HHC				ScP	**ScP**	**13 44 24.1**	**-1.5**
HHC				PcS	**PcS**	**13 44 30.9**	**-1.3**
HHC				ScS	**ScS**	**13 48 14.0**	**-2.9**
HHC				pmax	pmax		
	comp=Z,24nm,0.7s						
HHC				pmax	pmax		
	comp=Z,440nm,5.8s						
HHC				LR	LR		
	comp=N,490nm,11.1s						
HHC				LR	LR		
	comp=E,490nm,12.3s						
HHC				LR	LR		
	comp=Z,450nm,12.5s						
GYA	**Guiyang**	**30.75**	**274**	P	**P**	**13 38 03.8**	**+0.2**
GYA				pP	**pP**	**13 38 18.2**	**-0.5**
GYA				sP	**sP**	**13 38 25.6**	**-0.4**
GYA				PP	**PnPn**	**13 39 07.0**	**+1.4**
GYA				PcP	**PcP**	**13 41 01.2**	**+1.2**
GYA				S	**S**	**13 43 02.9**	**+0.4**
GYA				sS	**sS**	**13 43 27.0**	**-1.3**
GYA				ScP	**ScP**	**13 44 36.3**	**-1.0**
GYA				PcS	**PcS**	**13 44 46.5**	**+2.3**
GYA				ScS	**ScS**	**13 48 32.1**	**-2.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,850nm,16.4s						
GYA				LR	LR		
	comp=E,790nm,17.2s						
GYA				LR	LR		
	comp=Z,940nm,16.1s						
KWAJ	**Kwajalein Atol**	**31.70**	**124**	*e*P	**P**	**13 38 09.8**	**-2.1**
	comp=Z,96nm,1.1s						
LZH	**Lanzhou**	**32.33**	**293**	*e*P	**P**	**13 38 18.3**	**+0.9**
LZH				pP	**pP**	**13 38 32.8**	**+0.2**
LZH				sP	**sP**	**13 38 40.0**	**+0.1**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CD2	**Chengdu**	**32.57**	**283**	*e*P	**P**	**13 38 19.7**	**+0.3**
CD2				pP	**pP**	**13 38 34.1**	**-0.5**
CD2				sP	**sP**	**13 38 41.1**	**-0.8**
CD2				PP	**PnPn**	**13 39 29.8**	**+0.9**
CD2				S	**S**	**13 43 30.0**	**-0.7**
CD2				sS	**sS**	**13 43 54.8**	**-1.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,30nm,4.6s						
CD2				LR	LR		
	comp=N,150nm,12.0s						
KMI	**Kunming**	**34.50**	**273**	P	**P**	**13 38 37.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA	**Gaotai**	**35.71**	**298**	*e*P	P	13 38 42.6	-4.0
GTA				pP	pP	13 38 57.8	-4.2
GTA				sP	sP	13 39 04.8	-4.4
PMG	**Port Moresby**	**38.37**	**171**	*e*P	**P**	**13 39 06.7**	**-2.5**
	comp=Z,49nm,1.5s						
KAPI	**Kappang**	**39.50**	**215**	*e*P	**P**	**13 39 18.1**	**-0.5**
	comp=Z,18nm,1.1s						
CMAR	**Chiang Mai Arr**	**40.00**	**265**	P	**P**	**13 39 25.4**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=96,slow=6.4,SNR=4.0						
CMAR				LR	LR	13 54 56.9	
	comp=Z,33nm,19.4s,baz=205,slow=34						
TARA	**Tarawa**	**40.64**	**126**	*e*P	**P**	**13 39 26.3**	**-1.8**
	comp=Z,83nm,0.9s						
WMQ	**Urumqi**	**45.00**	**304**	*e*P	**P**	**13 40 03.7**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.0s						
ZALV	**Zalesovo Beam**	**47.74**	**318**	P	**P**	**13 40 25.4**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=91,slow=7.5,SNR=4.4						
ZALV				PcP	**PcP**	**13 41 53.8**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=90,slow=4.3,SNR=3.5						
MK31	**Makanchi Array**	**48.84**	**308**	*e*P	**P**	**13 40 31.8**	**-1.3**
MKAR	**Makanchi Array**	**48.84**	**308**	*e*P	**P**	**13 40 32.2**	**-0.9**
MKAR	**Makanchi Array**	**48.84**	**308**	P	**P**	**13 40 34.1**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=90,slow=9.6,SNR=7.6						
MKAR				PcP	**PcP**	**13 41 58.7**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=85,slow=4.8,SNR=5.4						
MKAR				ScP	**ScP**	**13 45 46.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=79,slow=4.9,SNR=4.2						
WRAB	**Tennant Creek**	**48.89**	**189**	*e*P	**P**	**13 40 33.9**	**+0.2**
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**48.91**	**189**	P	**P**	**13 40 34.5**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=7.4,slow=7.9,SNR=38						
WRA				ScP	**ScP**	**13 45 46.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=6.9,slow=4.4,SNR=6.2						
WRA				S	**S**	**13 47 29.5**	**-3.7**
	comp=Z,0.9nm,0.9s,baz=5.0,slow=14,SNR=5.7						
FITZ	**Fitzroy Crossi**	**49.01**	**200**	P	**P**	**13 40 36.0**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=27,slow=13,SNR=8.3						
KURBB	**Kurchatov Arra**	**51.34**	**313**	P	**P**	**13 40 52.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=94,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**52.63**	**189**	P	**P**	**13 41 02.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=6.2,slow=6.8,SNR=11						
DZM	**Mont Dzumac**	**56.05**	**152**	P	**P**	**13 41 28.3**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=5.2,slow=11,SNR=4.8						
BVAR	**Borovoye Array**	**56.31**	**317**	P	**P**	**13 41 29.2**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=95,slow=6.9,SNR=10						
ILAR	**Eielson Array**	**56.61**	**29**	P	**P**	**13 41 29.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=258,slow=6.1,SNR=19						
ILAR				pP	**pP**	**13 41 48.2**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=270,slow=6.5,SNR=6.5						
KKAR	**Karatay Array**	**57.50**	**305**	*e*P	**P**	**13 41 36.3**	**-0.5**
STKA	**Stephens Creek**	**60.32**	**180**	*e*P	**P**	**13 41 55.9**	**-0.3**
	comp=Z,26nm,2.8s						
STKA	**Stephens Creek**	**60.32**	**180**	P	**P**	**13 41 59.3**	**+3.0**
	comp=Z,1.4nm,0.9s,baz=351,slow=6.0,SNR=4.2						
INK	**Inuvik**	**61.82**	**25**	P	**P**	**13 42 06.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=337,slow=7.7,SNR=3.7						
ABKAR	**Akbulak array**	**63.39**	**314**	*e*P	**P**	**13 42 16.4**	**-0.5**
AKTO	**Aktyubinsk**	**64.31**	**315**	P	**P**	**13 42 24.1**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=71,slow=14,SNR=7.6						
AKTO				LR	LR	14 11 52.7	
	comp=Z,65nm,18.6s,baz=75,slow=37						
ARCES	**ARCESS Array B**	**71.71**	**341**	P	**P**	**13 43 11.8**	**+2.8**
	comp=Z,0.5nm,0.5s,baz=69,slow=7.8,SNR=3.9						
KAF	**Kangasniemi**	**75.64**	**334**	*e*p	**P**	**13 43 33.4**	**+1.4**
	comp=Z,1.3nm,0.4s						
FINES	**FINESS Array B**	**76.11**	**333**	P	**P**	**13 43 36.0**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=72,slow=5.4,SNR=19						
NEW	**Newport**	**76.17**	**42**	*e*P	**P**	**13 43 34.2**	**-1.2**
	comp=Z,2.6nm,0.8s						
KBZ	**Khabaz**	**76.32**	**312**	P	**P**	**13 43 38.4**	**+2.1**
	comp=Z,2.2nm,0.6s,baz=112,slow=5.4,SNR=4.5						
MFID	**Camas Ranch**	**79.28**	**46**	*e*P	**P**	**13 43 52.8**	**-0.1**
	comp=Z,3.1nm,0.9s						
NVAR	**Mina Array Bea**	**80.07**	**52**	P	**P**	**13 43 58.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=290,slow=6.1,SNR=12						
LRM	**Limekiln Ridge**	**80.15**	**43**	*e*P	**P**	**13 43 57.2**	**-0.6**
AKASG	**Malin Array Be**	**80.82**	**323**	P	**P**	**13 44 02.2**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=50,slow=5.3,SNR=4.1						
AKASG				pP	**pP**	**13 44 19.8**	**+1.8**
	comp=Z,1.7nm,0.4s,baz=51,slow=5.9,SNR=4.5						
NB2	**NORSAR Subarra**	**81.78**	**338**	P	**P**	**13 44 06.8**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**81.78**	**338**	P	**P**	**13 44 06.7**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=45,slow=5.1,SNR=7.8						
PDAR	**Pinedale Array**	**83.54**	**44**	P	**P**	**13 44 15.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=178,slow=0.3,SNR=5.1						
RAYN	**Ar Rayn**	**83.79**	**293**	*e*P	**P**	**13 44 15.0**	**-2.0**
	comp=Z,4.8nm,0.8s						
BRTR	**Keskin Array B**	**84.32**	**312**	P	**P**	**13 44 21.4**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=114,slow=3.1,SNR=7.0						
BRTR				pP	**pP**	**13 44 40.0**	**+3.3**
	comp=Z,1.1nm,0.8s,baz=96,slow=4.0,SNR=3.5						
CRVS	**Cennica-Dubn**	**85.91**	**325**	*e*P	**P**	**13 44 26.1**	**-1.0**
GERES	**GERESS Array B**	**89.69**	**328**	P	**P**	**13 44 47.9**	**+2.5**
	comp=Z,0.2nm,0.4s,baz=24,slow=7.5,SNR=2.3						
GERES				pP	**pP**	**13 45 04.6**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=49,slow=4.1,SNR=4.1						
TXAR	**Lajitas Array**	**95.19**	**53**	P	**P**	**13 45 11.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=325,slow=3.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.92**	**311**	PKP	**PKPdf**	**13 50 45.3**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=100,slow=1.0,SNR=2.6						
LPAZ	**La Paz**	**150.17**	**72**	PKPbc	**PKPbc**	**13 51 40.3**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=331,slow=5.0,SNR=11						

IDC 08 13:52:33.1±51.0, 17°.41S×178°.75E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=912.0km s-min=145.3km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.52**	**240**	P	P	13 59 41.0	+0.5
	1.4nm,0.8s,baz=82,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**42.06**	**259**	P	P	14 00 26.7	-0.3
	0.4nm,0.3s,baz=95,slow=7.6,SNR=24						
ASAR	**Alice Springs**	**42.32**	**254**	P	P	14 00 28.6	-0.4
	2.0nm,0.5s,baz=87,slow=8.7,SNR=29						
ASAR				LR	LR	14 17 01.8	
	comp=Z,81nm,18.5s,baz=277,slow=35						

PRU ***08*** *13:52:30.3, 40°.03N×27°.78E, h0km, M4.3*

BJI ***08*** *13:52:35.3, 40°.30N×27°.20E, h10km, mB5.1/3, mb4.7/8, Ms4.9/2, Ms7 4.8/3*

MOS ***08*** *13:52:37.4±0.9, 40°.32N×27°.41E, h12km, mb4.4/7, Error ellipse: s-maj=5.3km s-min=3.5km az=101.7*

NEIC ***08*** *13:52:38.3±1.8, 40°.32N×27°.37E, h7km±13km, mb4.3/4, ML4.1(THE), ML4.2(ISK), Error ellipse: s-maj=4.4km s-min=4.4km az=204.0*

NEIC Felt at Balikesir, Bursa, Buyukcekmece, Canakkale and Istanbul. Also felt at Alexandroupolis, Greece.

ATH ***08*** *13:52:38.0, 40°.33N×27°.54E, h36km±10km, MD3.9/20*

DDA ***08*** *13:52:38.1, 40°.32N×27°.41E, h25km, MD4.4, ML4.5*

ISK ***08*** *13:52:38.6, 40°.33N×27°.41E, h17km, ML4.4*

IDC ***08*** *13:52:38.3±0.9, 40°.31N×27°.26E, h0km, mb3.8/11, mb1 4.0/19, mb1mx3.9/34, mbtmp3.9/19, ML3.8/8, MS3.3/9, Ms1 3.3/9, ms1mx3.0/43, Error ellipse: s-maj=15.2km s-min=11.0km az=26.0*

CSEM ***08*** *13:52:39.0±0.1, 40°.32N×27°.41E, h10km, mb4.1/17, Ms3.0, Error ellipse: s-maj=1.6km s-min=1.4km az=22.0*

ISCJB ***08*** *13:52:39.1±0.2, 40°.33N±0°.01×27°.40E±0°.01, h22km±2km, mb4.1/30, MS3.5/7, Error ellipse: s-maj=1.8km s-min=1.7km az=37.5*

SOF ***08*** *13:52:39.5, 40°.31N×27°.41E, h22km, MD4.1*

BEO ***08*** *13:52:40.9±0.8, 40°.33N×27°.22E, h8km±3km, ML4.4/1*

THE ***08*** *13:52:40.6, 40°.31N×27°.40E, h19km±2km, ML4.1/18, Error ellipse: s-maj=2.5km s-min=0.6km az=59.0*

ISC 08 13:52:38.9±0.5, 40°.35N±0°.01×27°.43E±0°.01, h13km±3km, n711, σ1§28/826, mb4.2/30, MS3.4/7, 35C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.11**	**293**	PG	**Pb**	**13 52 42.6**	**-0.3**
KRBG				*e*SG	**Sg**	**13 52 44.5**	**+0.3**
KRBG	**Karabiga-Canak**	**0.11**	**293**	*i* Pg	**Pb**	**13 52 42.6**	**-0.3**
KRBG				*e*Sg	**Sg**	**13 52 44.5**	**+0.3**
GONE	**Gonen-Balikesi**	**0.36**	**147**	PG	**Pb**	**13 52 46.8**	**-0.4**
GONE				*e*SG	**Sb**	**13 52 52.0**	**-0.7**
GONE	**Gonen-Balikesi**	**0.36**	**147**	*i* Pg	**Pb**	**13 52 46.8**	**-0.4**
GONE				*e*Sg	**Sb**	**13 52 52.0**	**-0.7**
BNT	**Bandirma**	**0.37**	**89**	PG	**Pg**	**13 52 46.7**	**+0.2**
BNT	**Bandirma**	**0.37**	**89**	*i* Pg	**Pg**	**13 52 46.7**	**+0.2**
MFT	**Murefte**	**0.45**	**345**	PG	**Pb**	**13 52 48.8**	**0.0**
MFT				*e*SG	**Sb**	**13 52 55.1**	**-0.3**
MFT	**Murefte**	**0.45**	**345**	*i* Pg	**Pb**	**13 52 48.8**	**0.0**
MFT				*e*Sg	**Sb**	**13 52 55.1**	**-0.3**
LPK	**Lapseki**	**0.51**	**273**	PG	**Pb**	**13 52 49.4**	**-0.4**
LPK	**Lapseki**	**0.51**	**273**	*i* Pg	**Pb**	**13 52 49.4**	**-0.4**
BALY	**Balya**	**0.63**	**167**	*i* P	**Pg**	**13 52 51.1**	**-0.1**
BALY				*i* S	**Sg**	**13 52 59.4**	**0.0**
BALY	**Balya**	**0.63**	**167**	*i* P	**Pg**	**13 52 51.1**	**-0.1**
BALY				*i* S	**Sg**	**13 52 59.4**	**0.0**
TKR	**Tekirdag**	**0.64**	**7**	PG	**Pb**	**13 52 52.6**	**+0.6**
TKR				*e*SG	**Sb**	**13 53 01.2**	**+0.3**
TKR	**Tekirdag**	**0.64**	**7**	*i* Pg	**Pb**	**13 52 52.6**	**+0.6**
TKR				*e*Sg	**Sb**	**13 53 01.2**	**+0.3**
KCTX	**Karacabey (Bur**	**0.71**	**97**	PG	**Pg**	**13 52 52.2**	**-0.6**
KCTX	**Karacabey (Bur**	**0.71**	**97**	*i* Pg	**Pg**	**13 52 52.2**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.73**	**274**	PG	**Pb**	**13 52 53.2**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.73**	**274**	*i* Pg	**Pb**	**13 52 53.2**	**-0.3**
BALB	**Balikesir**	**0.79**	**154**	*e*PG	**Pg**	**13 52 53.9**	**-0.3**
BALB	**Balikesir**	**0.79**	**154**	*e*Pg	**Pg**	**13 52 53.9**	**-0.3**
ENEZ	**Enez**	**1.05**	**292**	*e*PG	**Pg**	**13 52 58.9**	**-0.2**
ENEZ	**Enez**	**1.05**	**292**	*e*Pg	**Pg**	**13 52 58.9**	**-0.2**
SLVT	**Silivri**	**1.06**	**34**	*e*PN	**Pn**	**13 52 59.7**	**+0.3**
SLVT	**Silivri**	**1.06**	**34**	*e*Pn	**Pn**	**13 52 59.7**	**+0.3**
DURS	**Dursunbey**	**1.10**	**133**	*i* P	**Pb**	**13 52 59.7**	**-0.1**
DURS				*i* S	**Sg**	**13 53 14.4**	**0.0**
DURS	**Dursunbey**	**1.10**	**133**	*i* P	**Pb**	**13 52 59.7**	**-0.1**
DURS				*i* S	**Sg**	**13 53 14.4**	**0.0**
ELBA	**Catalca**	**1.10**	**43**	*i* P	**Pb**	**13 52 59.9**	**+0.1**
ELBA				*i* S	**Sn**	**13 53 15.1**	**0.0**
ELBA	**Catalca**	**1.10**	**43**	*i* P	**Pb**	**13 52 59.9**	**+0.1**
ELBA				*i* S	**Sn**	**13 53 15.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.11**	**89**	*e*PN	**Pb**	**13 52 59.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.11**	**89**	*e*Pn	**Pb**	**13 52 59.8**	**-0.2**
ARMT	**Armutlu**	**1.11**	**78**	*e*PN	**Pb**	**13 52 59.9**	**-0.1**
ARMT	**Armutlu**	**1.11**	**78**	*e*Pn	**Pb**	**13 52 59.9**	**-0.1**
ORLT	**Orhaneli**	**1.16**	**105**	*e*PN	**Pg**	**13 53 01.3**	**0.0**
ORLT	**Orhaneli**	**1.16**	**105**	*e*Pn	**Pg**	**13 53 01.3**	**0.0**
DST	**Dursunbey**	**1.18**	**129**	*e*PN	**Pb**	**13 53 01.3**	**+0.1**
DST	**Dursunbey**	**1.18**	**129**	*e*Pn	**Pb**	**13 53 01.3**	**+0.1**
ALN	**Alexandroupoli**	**1.19**	**298**	P	**Pb**	**13 53 01.2**	**-0.1**
ALN				S	**Sb**	**13 53 16.7**	**+0.2**
ALN	**Alexandroupoli**	**1.19**	**298**	P	**Pb**	**13 53 01.2**	**-0.1**
ALN				S	**Sb**	**13 53 16.7**	**+0.2**
ALN	**Alexandroupoli**	**1.19**	**298**	*e*PN	**Pb**	**13 53 01.4**	**+0.1**
ALN				*e*SN	**Sn**	**13 53 16.9**	**-0.3**
ALN	**Alexandroupoli**	**1.19**	**298**	P	**Pb**	**13 53 01.2**	**-0.1**
ALN				S	**Sb**	**13 53 16.7**	**+0.2**
ALN	**Alexandroupoli**	**1.19**	**298**	*e*Pn	**Pb**	**13 53 01.4**	**+0.1**
ALN				S	**Sb**	**13 53 16.7**	**+0.2**
AYVA	**Ayvalik**	**1.19**	**209**	*i* P	**Pb**	**13 53 01.1**	**-0.2**
AYVA				*i* S	**Sb**	**13 53 16.3**	**-0.2**
AYVA	**Ayvalik**	**1.19**	**209**	*i* P	**Pb**	**13 53 01.1**	**-0.2**
AYVA				*i* S	**Sb**	**13 53 16.3**	**-0.2**
CTKS	**Kestanelik-??a**	**1.21**	**42**	*e*PN	**Pb**	**13 53 01.6**	**0.0**
CTKS	**Kestanelik-??a**	**1.21**	**42**	*e*Pn	**Pb**	**13 53 01.6**	**0.0**
PHSR	**Pinarhisar**	**1.28**	**3**	*e*PN	**Pn**	**13 53 02.8**	**+0.3**
PHSR	**Pinarhisar**	**1.28**	**3**	*e*Pn	**Pn**	**13 53 02.8**	**+0.3**
CTYL	**Yal??k??y-??at**	**1.30**	**30**	*e*PN	**Pn**	**13 53 02.9**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.30**	**30**	*e*Pn	**Pn**	**13 53 02.9**	**+0.2**
BGKT	**Bogazkoy**	**1.31**	**50**	*e*PN	**Pn**	**13 53 03.0**	**+0.1**
BGKT	**Bogazkoy**	**1.31**	**50**	*e*Pn	**Pn**	**13 53 03.0**	**+0.1**
ULDT	**Uludag**	**1.32**	**99**	*i* P	**Pn**	**13 53 03.1**	**-0.1**
ULDT				*i* S	**Sb**	**13 53 18.8**	**-1.8**
ULDT	**Uludag**	**1.32**	**99**	*i* P	**Pn**	**13 53 03.1**	**-0.1**
ULDT				*i* S	**Sb**	**13 53 18.8**	**-1.8**
BUY	**Buy

JMB	**Yambol**	**2.21 344**	*e*Pn	**Pb**	**13 53 17.2**	**-1.5**
JMB			*e*Sn	**Sb**	**13 53 45.6**	**-0.3**
JMB	**Yambol**	**2.21 344**	P	**Pn**	**13 53 16.6**	**+1.4**
JMB	**Yambol**	**2.21 344**	*e*Pn	**Pb**	**13 53 17.2**	**-1.5**
JMB			*e*Sn	**Sb**	**13 53 45.6**	**-0.3**
SPNC	**Sapanca-Adapaz**	**2.22 80**	*e*PN	**Pn**	**13 53 16.5**	**+1.1**
SPNC	**Sapanca-Adapaz**	**2.22 80**	*e*Pn	**Pn**	**13 53 16.5**	**+1.1**
DIM	**Dimitrovgrad**	**2.22 320**	*i* P	**Pn**	**13 53 16.0**	**+0.6**
DIM	**Dimitrovgrad**	**2.22 320**	*i* P	**Pn**	**13 53 16.0**	**+0.6**
CHOS	**Chios island**	**2.23 209**	P	**Pn**	**13 53 15.2**	**-0.4**
CHOS			S	**Sn**	**13 53 42.6**	**-0.5**
CHOS	**Chios island**	**2.23 209**	*e*PN	**Pn**	**13 53 15.3**	**-0.4**
CHOS			*e*SN	**Sn**	**13 53 41.1**	**-2.0**
CHOS	**Chios island**	**2.23 209**	*e*Pn	**Pn**	**13 53 15.3**	**-0.4**
CHOS			*e*Sn	**Sn**	**13 53 41.1**	**-2.0**
CHOS			S	**Sn**	**13 53 42.6**	**-0.5**
KAVA	**Kavala**	**2.31 287**	P	**Pn**	**13 53 16.7**	**+0.1**
KAVA			S	**Sn**	**13 53 44.0**	**-0.9**
KAVA	**Kavala**	**2.31 287**	P	**Pn**	**13 53 16.7**	**+0.1**
KAVA			S	**Sn**	**13 53 44.0**	**-0.9**
KAVA	**Kavala**	**2.31 287**	P	**Pn**	**13 53 16.7**	**+0.1**
KAVA			S	**Sn**	**13 53 44.0**	**-0.9**
GULT	**Gulveren**	**2.36 87**	*e*PN	**Pn**	**13 53 18.6**	**+1.2**
GULT	**Gulveren**	**2.36 87**	*e*Pn	**Pn**	**13 53 18.6**	**+1.2**
BORA	**Eskisehir**	**2.37 100**	*i* P	**Pn**	**13 53 18.0**	**+0.5**
BORA			*i* S	**Sg**	**13 53 55.6**	**+0.6**
BORA	**Eskisehir**	**2.37 100**	*i* P	**Pn**	**13 53 18.0**	**+0.5**
ALT	**Altintas**	**2.44 121**	*e*PN	**Pn**	**13 53 18.4**	**-0.1**
ALT	**Altintas**	**2.44 121**	*e*Pn	**Pn**	**13 53 18.4**	**-0.1**
RZN	**Rozhen**	**2.45 304**	*i* P	**Pn**	**13 53 19.5**	**+0.7**
RZN	**Rozhen**	**2.45 304**	*i* P	**Pn**	**13 53 19.5**	**+0.7**
KHAL	**Karahalli**	**2.54 140**	*i* P	**Pn**	**13 53 20.6**	**+0.7**
KHAL			*i* S	**Sg**	**13 53 58.7**	**-2.0**
KHAL	**Karahalli**	**2.54 140**	*i* P	**Pn**	**13 53 20.6**	**+0.7**
KHL	**Karahalli**	**2.59 141**	*e*PN	**Pn**	**13 53 21.1**	**+0.4**
KHL	**Karahalli**	**2.59 141**	*e*Pn	**Pn**	**13 53 21.1**	**+0.4**
OUR	**Ouranopolis**	**2.64 271**	P	**Pn**	**13 53 20.7**	**-0.4**
OUR	**Ouranopolis**	**2.64 271**	P	**Pn**	**13 53 20.7**	**-0.4**
OUR	**Ouranopolis**	**2.64 271**	P	**Pn**	**13 53 20.7**	**-0.4**
OUR	**Ouranopolis**	**2.64 271**	P	**Pn**	**13 53 20.7**	**-0.4**
SMG	**Samos**	**2.68 190**	P	**Pn**	**13 53 20.9**	**-0.8**
SMG			S	**Sn**	**13 53 53.4**	**-0.6**
SMG	**Samos**	**2.68 190**	*e*PN	**Pn**	**13 53 21.0**	**-0.8**
SMG	**Samos**	**2.68 190**	P	**Pn**	**13 53 20.9**	**-0.8**
SMG			S	**Sn**	**13 53 53.4**	**-0.6**
SMG	**Samos**	**2.68 190**	*e*Pn	**Pn**	**13 53 21.0**	**-0.8**
SMG			S	**Sn**	**13 53 53.4**	**-0.6**
PLD	**Plovdiv**	**2.70 311**	P	**Pn**	**13 53 22.8**	**+0.8**
PLD	**Plovdiv**	**2.70 311**	P	**Pn**	**13 53 22.8**	**+0.8**
PLD	**Plovdiv**	**2.70 311**	P	**Pn**	**13 53 22.8**	**+0.8**
PLD	**Plovdiv**	**2.70 311**	P	**Pn**	**13 53 22.8**	**+0.8**
PLD	**Plovdiv**	**2.70 311**	⇓*i*Pn	**Pn**	**13 53 22.9**	**+0.9**
PLD			*e*Sn	**Sn**	**13 53 53.2**	**-1.4**
PLD			*e*Sg	**Sg**	**13 54 03.9**	**-1.8**
PLD	**Plovdiv**	**2.70 311**	P	**Pn**	**13 53 22.8**	**+0.8**
PLD			*e*Sn	**Sn**	**13 53 53.2**	**-1.4**
PLD			*e*Sg	**Sg**	**13 54 03.9**	**-1.8**
AYDN	**Tasoluk**	**2.71 172**	*i* P	**Pn**	**13 53 21.7**	**-0.5**
AYDN			*i* S	**Sn**	**13 53 53.8**	**-1.0**
AYDN	**Tasoluk**	**2.71 172**	*i* P	**Pn**	**13 53 21.7**	**-0.5**
AYDN			*i* S	**Sn**	**13 53 53.8**	**-1.0**
ESKT	**Eskisehir**	**2.76 106**	*e*PN	**Pn**	**13 53 23.5**	**+0.6**
ESKT	**Eskisehir**	**2.76 106**	*e*Pn	**Pn**	**13 53 23.5**	**+0.6**
SEYT	**Eskypehyr**	**2.76 106**	*i* P	**Pn**	**13 53 23.6**	**+0.7**
SEYT			*e*S	Sn	13 53 43.1	-13
SEYT	**Eskypehyr**	**2.76 106**	*i* P	**Pn**	**13 53 23.6**	**+0.7**
MDUB	**Mudurnu**	**2.88 86**	*e*PN	**Pn**	**13 53 25.0**	**+0.4**
MDUB	**Mudurnu**	**2.88 86**	*e*Pn	**Pn**	**13 53 25.0**	**+0.4**
NVR	**Nevrokopi**	**2.88 291**	P	**Pn**	**13 53 24.9**	**+0.3**
NVR	**Nevrokopi**	**2.88 291**	*e*PN	**Pn**	**13 53 24.9**	**+0.3**
NVR	**Nevrokopi**	**2.88 291**	P	**Pn**	**13 53 24.9**	**+0.3**
NVR	**Nevrokopi**	**2.88 291**	P	**Pn**	**13 53 24.9**	**+0.3**
PAIG	**Paliouri**	**2.91 263**	P	**Pn**	**13 53 24.3**	**-0.5**
PAIG	**Paliouri**	**2.91 263**	P	**Pn**	**13 53 24.3**	**-0.5**
PAIG	**Paliouri**	**2.91 263**	*e*PN	**Pn**	**13 53 24.2**	**-0.5**
PAIG	**Paliouri**	**2.91 263**	P	**Pn**	**13 53 24.3**	**-0.5**
PAIG	**Paliouri**	**2.91 263**	P	**Pn**	**13 53 24.3**	**-0.5**
DNZL	**Cakiroluk**	**2.94 154**	*i* P	**Pn**	**13 53 26.1**	**+0.6**
DNZL			*i* S	**Sg**	**13 54 12.8**	**-0.6**
DNZL	**Cakiroluk**	**2.94 154**	*i* P	**Pn**	**13 53 26.1**	**+0.6**
AOS	**Alonnisos**	**2.98 248**	P	**Pn**	**13 53 25.6**	**-0.3**
AOS			S	**Sn**	**13 54 00.5**	**-0.9**
AOS	**Alonnisos**	**2.98 248**	*e*PN	**Pn**	**13 53 25.5**	**-0.3**
AOS	**Alonnisos**	**2.98 248**	P	**Pn**	**13 53 25.6**	**-0.3**
AOS	**Alonnisos**	**2.98 248**	P	**Pn**	**13 53 25.6**	**-0.3**
AOS			S	**Sn**	**13 54 00.5**	**-0.9**
SHUT	**Suhut-Afyon**	**3.01 126**	*e*PN	**Pn**	**13 53 27.0**	**+0.6**
SHUT	**Suhut-Afyon**	**3.01 126**	*e*Pn	**Pn**	**13 53 27.0**	**+0.6**
SRS	**Serrai**	**3.02 286**	P	**Pn**	**13 53 26.4**	**0.0**
SRS	**Serrai**	**3.02 286**	P	**Pn**	**13 53 26.4**	**0.0**
SRS	**Serrai**	**3.02 286**	P	**Pn**	**13 53 26.4**	**0.0**
SRS	**Serrai**	**3.02 286**	P	**Pn**	**13 53 26.4**	**0.0**
PLG	**Polygyros**	**3.04 272**	P	**Pn**	**13 53 26.6**	**-0.2**
PLG	**Polygyros**	**3.04 272**	P	**Pn**	**13 53 26.6**	**-0.2**
PLG	**Polygyros**	**3.04 272**	*e*PN	**Pn**	**13 53 26.6**	**-0.2**
PLG	**Polygyros**	**3.04 272**	P	**Pn**	**13 53 26.6**	**-0.2**
PLG	**Polygyros**	**3.04 272**	P	**Pn**	**13 53 26.6**	**-0.2**
MLSB	**Milas**	**3.06 175**	*e*PN	**Pn**	**13 53 27.2**	**+0.2**
MLSB	**Milas**	**3.06 175**	*e*Pn	**Pn**	**13 53 27.2**	**+0.2**
MMB	**Musomiste**	**3.06 295**	*i* P	**Pn**	**13 53 27.4**	**+0.3**
MMB	**Musomiste**	**3.06 295**	*i* P	**Pn**	**13 53 27.4**	**+0.3**
SZH	**Strazhica**	**3.12 339**	*i* P	**Pn**	**13 53 28.7**	**+0.9**
SZH	**Strazhica**	**3.12 339**	*i* P	**Pn**	**13 53 28.7**	**+0.9**
SOH	**Sokhos**	**3.14 280**	P	**Pn**	**13 53 28.2**	**+0.1**
SOH	**Sokhos**	**3.14 280**	P	**Pn**	**13 53 28.2**	**+0.1**
SOH	**Sokhos**	**3.14 280**	*e*PN	**Pn**	**13 53 28.1**	**0.0**
SOH	**Sokhos**	**3.14 280**	P	**Pn**	**13 53 28.2**	**+0.1**
SOH	**Sokhos**	**3.14 280**	P	**Pn**	**13 53 28.2**	**+0.1**
BOLV	**Bolvadin**	**3.17 120**	*i* P	**Pn**	**13 53 29.9**	**+1.3**
BOLV			*i* S	**Sg**	**13 54 18.4**	**-2.4**
BOLV	**Bolvadin**	**3.17 120**	*i* P	**Pn**	**13 53 29.9**	**+1.3**
KDZE	**Karadeniz Ereo**	**3.19 71**	*e*PN	**Pn**	**13 53 30.2**	**+1.4**
KDZE	**Karadeniz Ereo**	**3.19 71**	*e*Pn	**Pn**	**13 53 30.2**	**+1.4**
PVL	**Pavlikeni**	**3.27 332**	*i* P	**Pn**	**13 53 30.6**	**+0.8**
PVL	**Pavlikeni**	**3.27 332**	*i* P	**Pn**	**13 53 30.6**	**+0.8**
SVRH	**Sivrihisar-ESK**	**3.27 105**	*e*PN	**Pn**	**13 53 31.1**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.27 105**	*e*Pn	**Pn**	**13 53 31.1**	**+1.1**
SKIA	**Skiathos**	**3.28 250**	P	**Pn**	**13 53 29.4**	**-0.5**
SKIA	**Skiathos**	**3.28 250**	P	**Pn**	**13 53 29.4**	**-0.5**
YER	**Yerkesik**	**3.28 168**	*e*PN	**Pn**	**13 53 30.3**	**+0.3**
YER	**Yerkesik**	**3.28 168**	*e*Pn	**Pn**	**13 53 30.3**	**+0.3**
BODT	**Bodrum**	**3.29 182**	*e*PN	**Pn**	**13 53 30.4**	**+0.3**
BODT	**Bodrum**	**3.29 182**	*e*Pn	**Pn**	**13 53 30.4**	**+0.3**
PGB	**Panagyurishte**	**3.29 313**	*i* P	**Pn**	**13 53 30.6**	**+0.4**
PGB	**Panagyurishte**	**3.29 313**	*i* P	**Pn**	**13 53 30.6**	**+0.4**
HORT	**Hortiatis**	**3.31 276**	P	**Pn**	**13 53 30.5**	**0.0**
HORT	**Hortiatis**	**3.31 276**	P	**Pn**	**13 53 30.5**	**0.0**
HORT	**Hortiatis**	**3.31 276**	P	**Pn**	**13 53 30.5**	**0.0**
PSN	**Preselentsi**	**3.38 9**	*i* P	**Pn**	**13 53 31.8**	**+0.5**
PSN	**Preselentsi**	**3.38 9**	*i* P	**Pn**	**13 53 31.8**	**+0.5**
MRKA	**Markates**	**3.40 242**	P	**Pn**	**13 53 31.9**	**+0.3**
MRKA	**Markates**	**3.40 242**	P	**Pn**	**13 53 31.9**	**+0.3**
NEO	**Neokhori**	**3.40 254**	P	**Pn**	**13 53 31.1**	**-0.6**
NEO	**Neokhori**	**3.40 254**	*e*PN	**Pn**	**13 53 30.9**	**-0.8**
NEO	**Neokhori**	**3.40 254**	P	**Pn**	**13 53 31.1**	**-0.6**
NEO	**Neokhori**	**3.40 254**	P	**Pn**	**13 53 31.1**	**-0.6**
XOR	**Xorichti**	**3.41 255**	P	**Pn**	**13 53 31.1**	**-0.7**
XOR	**Xorichti**	**3.41 255**	P	**Pn**	**13 53 31.1**	**-0.7**
XOR	**Xorichti**	**3.41 255**	P	**Pn**	**13 53 31.1**	**-0.7**
THE	**Thessaloniki**	**3.42 276**	P	**Pn**	**13 53 32.2**	**+0.4**
THE	**Thessaloniki**	**3.42 276**	P	**Pn**	**13 53 32.2**	**+0.4**
THE	**Thessaloniki**	**3.42 276**	P	**Pn**	**13 53 32.2**	**+0.4**
THE	**Thessaloniki**	**3.42 276**	P	**Pn**	**13 53 32.2**	**+0.4**
ISP	**Isparta**	**3.49 135**	*e*PN	**Pn**	**13 53 33.0**	**+0.1**
ISP	**Isparta**	**3.49 135**	P	**Pn**	**13 53 33.4**	**+0.5**
ISP	**Isparta**	**3.49 135**	*e*P	**Pn**	**13 53 33.2**	**+0.3**
ISP	**Isparta**	**3.49 135**	*e*Pn	**Pn**	**13 53 33.2**	**+0.3**
ISP	**Isparta**	**3.49 135**	*e*P	**Pn**	**13 53 33.2**	**+0.3**
KNT	**Kendrikon**	**3.54 285**	P	**Pn**	**13 53 34.0**	**+0.5**
KNT	**Kendrikon**	**3.54 285**	P	**Pn**	**13 53 34.0**	**+0.5**
KNT	**Kendrikon**	**3.54 285**	P	**Pn**	**13 53 34.0**	**+0.5**
KNT	**Kendrikon**	**3.54 285**	P	**Pn**	**13 53 34.0**	**+0.5**
APE	**Apeiranthos**	**3.60 205**	*e*PN	**Pn**	**13 53 34.4**	**0.0**
APE	**Apeiranthos**	**3.60 205**	P	**Pn**	**13 53 33.7**	**-0.7**
APE			S	**Sn**	**13 54 16.2**	**-0.6**
APE	**Apeiranthos**	**3.60 205**	P	**Pn**	**13 53 33.7**	**-0.7**
APE			S	**Sn**	**13 54 16.2**	**-0.6**
APE	**Apeiranthos**	**3.60 205**	*e*PN	**Pn**	**13 53 33.4**	**-1.0**
APE	**Apeiranthos**	**3.60 205**	⇑*i*P	**Pn**	**13 53 33.5**	**-1.0**
APE	**Apeiranthos**	**3.60 205**	P	**Pn**	**13 53 33.7**	**-0.7**
APE			S	**Sn**	**13 54 16.2**	**-0.6**
APE	**Apeiranthos**	**3.60 205**	P	**Pn**	**13 53 33.7**	**-0.7**
APE			S	**Sn**	**13 54 16.2**	**-0.6**
APE	**Apeiranthos**	**3.60 205**	P	**Pn**	**13 53 33.7**	**-0.7**
APE			S	**Sn**	**13 54 16.2**	**-0.6**
PTL	**Penteli**	**3.60 231**	P	**Pn**	**13 53 34.5**	**+0.1**
PTL	**Penteli**	**3.60 231**	P	**Pn**	**13 53 34.5**	**+0.1**
PTL	**Penteli**	**3.60 231**	P	**Pn**	**13 53 34.5**	**+0.1**
KKB	**Krupnik**	**3.62 296**	*i* P	**Pn**	**13 53 34.9**	**+0.3**
KKB	**Krupnik**	**3.62 296**	*i* P	**Pn**	**13 53 34.9**	**+0.3**
DAT	**Datca**	**3.62 178**	*e*PN	**Pn**	**13 53 35.1**	**+0.4**
DAT	**Datca**	**3.62 178**	*e*Pn	**Pn**	**13 53 35.1**	**+0.4**
DALY	**Dalyan (Mu¨la**	**3.66 164**	*e*PN	**Pn**	**13 53 35.6**	**+0.5**
DALY	**Dalyan (Mu¨la**	**3.66 164**	*e*Pn	**Pn**	**13 53 35.6**	**+0.5**
ATHU	**Athens Univers**	**3.70 231**	P	**Pn**	**13 53 35.6**	**-0.2**
ATHU	**Athens Univers**	**3.70 231**	P	**Pn**	**13 53 35.6**	**-0.2**
ATHU	**Athens Univers**	**3.70 231**	P	**Pn**	**13 53 35.6**	**-0.2**
KIZT	**Kizilcal**	**3.74 112**	*e*PN	**Pn**	**13 53 37.5**	**+1.1**
KIZT	**Kizilcal**	**3.74 112**	*e*Pn	**Pn**	**13 53 37.5**	**+1.1**
LIT	**Litokhoron**	**3.79 268**	P	**Pn**	**13 53 36.8**	**-0.2**
LIT	**Litokhoron**	**3.79 268**	P	**Pn**	**13 53 36.8**	**-0.2**
LIT	**Litokhoron**	**3.79 268**	P	**Pn**	**13 53 36.8**	**-0.2**
LIT	**Litokhoron**	**3.79 268**	P	**Pn**	**13 53 36.8**	**-0.2**
BCK	**Bucak**	**3.79 139**	*e*PN	**Pn**	**13 53 37.5**	**+0.3**
BCK	**Bucak**	**3.79 139**	*e*Pn	**Pn**	**13 53 37.5**	**+0.3**
VAY	**Valandovo**	**3.81 286**	P	**Pn**	**13 53 37.2**	**-0.1**
VAY	**Valandovo**	**3.81 286**	P	**Pn**	**13 53 37.2**	**-0.1**
VAY	**Valandovo**	**3.81 286**	*i* Pn	**Pn**	**13 53 37.4**	**+0.1**
VAY	**Valandovo**	**3.81 286**	P	**Pn**	**13 53 37.2**	**-0.1**
VAY	**Valandovo**	**3.81 286**	*e*Pn	**Pn**	**13 53 37.2**	**-0.1**
VAY	**Valandovo**	**3.81 286**	P	**Pn**	**13 53 37.2**	**-0.1**
LKR	**Lokris**	**3.83 245**	*e*PN	**Pn**	**13 53 38.4**	**+0.9**
LKR	**Lokris**	**3.83 245**	*e*Pn	**Pn**	**13 53 38.4**	**+0.9**
GRG	**Griva**	**3.87 281**	P	**Pn**	**13 53 39.1**	**+0.9**
GRG	**Griva**	**3.87 281**	P	**Pn**	**13 53 39.1**	**+0.9**
GRG	**Griva**	**3.87 281**	P	**Pn**	**13 53 39.1**	**+0.9**
GRG	**Griva**	**3.87 281**	P	**Pn**	**13 53 39.1**	**+0.9**
VTS	**Vitosha**	**3.88 307**	P	**Pn**	**13 53 39.2**	**+0.8**
VTS	**Vitosha**	**3.88 307**	⇑P	**Pn**	**13 53 39.7**	**+1.3**
VTS	**Vitosha**	**3.88 307**	*i* P	**Pn**	**13 53 39.6**	**+1.1**
VTS	**Vitosha**	**3.88 307**	⇑*i*P	**Pn**	**13 53 39.7**	**+1.3**
VTS	**Vitosha**	**3.88 307**	P	**Pn**	**13 53 39.2**	**+0.8**
VTS	**Vitosha**	**3.88 307**	*e*Pn	**Pn**	**13 53 39.5**	**+1.1**
VTS			*e*Sn	**Sn**	**13 54 23.3**	**-0.6**
VTS			*i* Sg	**Sg**	**13 54 40.3**	**-3.3**
VTS	**Vitosha**	**3.88 307**	P	**Pn**	**13 53 39.2**	**+0.8**
VTS	**Vitosha**	**3.88 307**	*e*Pn	**Pn**	**13 53 39.5**	**+1.1**
VTS			*e*Sn	**Sn**	**13 54 23.3**	**-0.6**
VTS			*i* Sg	**Sg**	**13 54 40.3**	**-3.3**
FETY	**Fethiye**	**3.93 160**	*e*PN	**Pn**	**13 53 39.1**	**+0.2**
FETY	**Fethiye**	**3.93 160**	*e*Pn	**Pn**	**13 53 39.1**	**+0.2**
SUTC	**Sutluce-Ispart**	**4.00 135**	*e*PN	**Pn**	**13 53 41.2**	**+1.2**
SUTC	**Sutluce-Ispart**	**4.00 135**	*e*Pn	**Pn**	**13 53 41.2**	**+1.2**
AXAR	**Agios Charalam**	**4.01 248**	P	**Pn**	**13 53 40.0**	**-0.1**
AXAR	**Agios Charalam**	**4.01 248**	P	**Pn**	**13 53 40.0**	**-0.1**
AXAR	**Agios Charalam**	**4.01 248**	P	**Pn**	**13 53 40.0**	**-0.1**
MPEP	**Malo Peshtene**	**4.08 319**	*i* P	**Pn**	**13 53 42.2**	**+1.3**
ELL	**Elmali**	**4.09 151**	*e*PN	**Pn**	**13 53 42.4**	**+1.2**
ELL	**Elmali**	**4.09 151**	*e*Pn	**Pn**	**13 53 42.4**	**+1.2**
SAFT	**Safranbolu**	**4.09 76**	*e*PN	**Pn**	**13 53 42.4**	**+1.3**
SAFT	**Safranbolu**	**4.09 76**	*e*Pn	**Pn**	**13 53 42.4**	**+1.3**
LOD	**Lodumlu**	**4.12 95**	*e*PN	**Pn**	**13 53 43.6**	**+2.0**
LOD	**Lodumlu**	**4.12 95**	*e*Pn	**Pn**	**13 53 43.6**	**+2.0**
ANTO	**Ankara**	**4.14 95**	*e*PN	**Pn**	**13 53 44.0**	**+2.1**
ANTO	**Ankara**	**4.14 95**	*e*P	**Pn**	**13 53 42.9**	**+1.0**
ANTO	**Ankara**	**4.14 95**	⇑*i*P	**Pn**	**13 53 41.9**	**0.0**
ANTO	**Ankara**	**4.14 95**	*e*Pn	**Pn**	**13 53 42.9**	**+1.0**
ANTO	**Ankara**	**4.14 95**	*e*P	**Pn**	**13 53 42.9**	**+1.0**
AGG	**Agios Georgios**	**4.15 253**	P	**Pn**	**13 53 42.0**	**0.0**
AGG	**Agios Georgios**	**4.15 253**	P	**Pn**	**13 53 42.0**	**0.0**
AGG	**Agios Georgios**	**4.15 253**	P	**Pn**	**13 53 42.0**	**0.0**
AGG	**Agios Georgios**	**4.15 253**	P	**Pn**	**13 53 42.0**	**0.0**
ARG	**Arkhangelos**	**4.16 172**	P	**Pn**	**13 53 41.9**	**-0.2**
ARG			S	**Sn**	**13 54 29.8**	**-0.8**
ARG	**Arkhangelos**	**4.16 172**	P	**Pn**	**13 53 41.9**	**-0.2**
ARG			S	**Sn**	**13 54 29.8**	**-0.8**
ARG	**Arkhangelos**	**4.16 172**	*e*PN	**Pn**	**13 53 41.9**	**-0.2**
ARG	**Arkhangelos**	**4.16 172**	P	**Pn**	**13 53 41.9**	**-0.2**
ARG			S	**Sn**	**13 54 29.8**	**-0.8**
ARG	**Arkhangelos**	**4.16 172**	P	**Pn**	**13 53 41.9**	**-0.2**
ARG			S	**Sn**	**13 54 29.8**	**-0.8**
TIRR	**Tirgusor**	**4.17 10**	⇑P	**Pn**	**13 53 43.7**	**+1.5**
TIRR	**Tirgusor**	**4.17 10**	⇑*i*P	**Pn**	**13 53 43.7**	**+1.5**
TIRR	**Tirgusor**	**4.17 10**	*e*Pn	**Pn**	**13 53 42.0**	**-0.2**
TIRR	**Tirgusor**	**4.17 10**	*e*Pn	**Pn**	**13 53 42.0**	**-0.2**
TIRR	**Tirgusor**	**4.17 10**	P	**Pn**	**13 53 43.7**	**+1.5**
LTK	**Loutraki**	**4.17 238**	P	**Pn**	**13 53 42.5**	**+0.2**
LTK	**Loutraki**	**4.17 238**	*e*PN	**Pn**	**13 53 42.7**	**+0.4**
LTK	**Loutraki**	**4.17 238**	P	**Pn**	**13 53 42.5**	**+0.2**
LTK	**Loutraki**	**4.17 238**	P	**Pn**	**13 53 42.5**	**+0.2**
THL	**Klokotos Trika**	**4.24 261**	P	**Pn**	**13 53 43.4**	**+0.3**
THL	**Klokotos Trika**	**4.24 261**	P	**Pn**	**13 53 43.4**	**+0.3**
DSF	**Desfina**	**4.26 245**	P	**Pn**	**13 53 42.9**	**-0.7**
DSF	**Desfina**	**4.26 245**	P	**Pn**	**13 53 42.9**	**-0.7**
DSF	**Desfina**	**4.26 245**	P	**Pn**	**13 53 42.9**	**-0.7**
SANT	**Santorini**	**4.26 202**	*e*Pn	**Pn**	**13 53 41.3**	**-2.3**
SANT	**Santorini**	**4.26 202**	*e*Pn	**Pn**	**13 53 41.3**	**-2.3**
ACOR	**Acrocorinthos**	**4.32 237**	P	**Pn**	**13 53 44.8**	**+0.6**
ACOR	**Acrocorinthos**	**4.32 237**	P	**Pn**	**13 53 44.8**	**+0.6**
KZN	**Kozani**	**4.33 271**	P	**Pn**	**13 53 45.0**	**+0.6**
KZN	**Kozani**	**4.33 271**	P	**Pn**	**13 53 45.0**	**+0.6**
KZN	**Kozani**	**4.33 271**	P	**Pn**	**13 53 45.0**	**+0.6**
KZN	**Kozani**	**4.33 271**	P	**Pn**	**13 53 45.0**	**+0.6**
DID	**Didima**	**4.33 230**	P	**Pn**	**13 53 44.4**	**-0.1**
DID	**Didima**	**4.33 230**	*e*PN	**Pn**	**13 53 44.3**	**-0.2**
DID	**Didima**	**4.33 230**	P	**Pn**	**13 53 44.4**	**-0.1**
HARR	**Harsova**	**4.35 5**	⇑P	**Pn**	**13 53 46.6**	**+1.9**
HARR	**Harsova**	**4.35 5**	⇑*i*P	**Pn**	**13 53 46.6**	**+1.9**
HARR	**Harsova**	**4.35 5**	P	**Pn**	**13 53 46.6**	**+1.9**
THAL	**Thalero**	**4.37 240**	P	**Pn**	**13 53 45.2**	**+0.3**
THAL	**Thalero**	**4.37 240**	P	**Pn**	**13 53 45.2**	**+0.3**
DIDY	**Didyma**	**4.37 230**	P	**Pn**	**13 53 44.8**	**-0.2**
DIDY	**Didyma**	**4.37 230**	P	**Pn**	**13 53 44.8**	**-0.2**
LADK	**Ladik-KONYA**	**4.39 118**	*e*PN	**Pn**	**13 53 47.1**	**+1.7**
LADK	**Ladik-KONYA**	**4.39 118**	*e*Pn	**Pn**	**13 53 47.1**	**+1.7**
AFSR	**Af´ar-Bala (A**	**4.43 100**	*e*PN	**Pn**	**13 53 47.4**	**+1.5**
AFSR	**Af´ar-Bala (A**	**4.43 100**	*e*Pn	**Pn**	**13 53 47.4**	**+1.5**
AKAS	**Kas**	**4.45 157**	*i* P	**Pn**	**13 53 48.3**	**+2.1**
AKAS			*e*S	**Sg**	**13 55 01.6**	**-0.2**
AKAS	**Kas**	**4.45 157**	*i* P	**Pn**	**13 53 48.3**	**+2.1**
KONT	**Konya--Tatoy**	**4.52 120**	*e*PN	**Pn**	**13 53 49.0**	**+1.9**
KONT	**Konya--Tatoy**	**4.52 120**	*e*Pn	**Pn**	**13 53 49.0**	**+1.9**
KALE	**Kalithea**	**4.54 246**	*e*PN	**Pn**	**13 53 47.3**	**-0.1**
KALE	**Kalithea**	**4.54 246**	*e*Pn	**Pn**	**13 53 47.3**	**-0.1**
EVR	**Evrytania**	**4.57 254**	P	**Pn**	**13 53 48.6**	**+0.8**
EVR	**Evrytania**	**4.57 254**	P	**Pn**	**13 53 48.6**	**+0.8**
EVR	**Evrytania**	**4.57 254**	P	**Pn**	**13 53 48.6**	**+0.8**
TRIZ	**Trizonia**	**4.60 246**	P	**Pn**	**13 53 48.4**	**+0.3**
TRIZ	**Trizonia**	**4.60 246**	*e*PN	**Pn**	**13 53 48.7**	**+0.6**
TRIZ	**Trizonia**	**4.60 246**	P	**Pn**	**13 53 48.4**	**+0.3**
TRIZ	**Trizonia**	**4.60 246**	*e*Pn	**Pn**	**13 53 48.7**	**+0.6**
FNA	**Florina**	**4.63 277**	P	**Pn**	**13 53 49.5**	**+0.9**
FNA	**Florina**	**4.63 277**	P	**Pn**	**13 53 49.5**	**+0.9**
FNA	**Florina**	**4.63 277**	P	**Pn**	**13 53 49.5**	**+0.9**
FNA	**Florina**	**4.63 277**	P	**Pn**	**13 53 49.5**	**+0.9**
GUR	**Goura**	**4.63 240**	P	**Pn**	**13 53 49.0**	**+0.3**
GUR	**Goura**	**4.63 240**	*e*PN	**Pn**	**13 53 49.2**	**+0.5**
GUR	**Goura**	**4.63 240**	P	**Pn**	**13 53 49.0**	**+0.3**
EFP	**Efpalio**	**4.69 248**	P	**Pn**	**13 53 49.5**	**+0.1**
EFP	**Efpalio**	**4.69 248**	*e*PN	**Pn**	**13 53 51.5**	**+2.1**
EFP	**Efpalio**	**4.69 248**	P	**Pn**	**13 53 49.5**	**+0.1**
EFP	**Efpalio**	**4.69 248**	*e*Pn	**Pn**	**13 53 51.5**	**+2.1**
KLV	**Kalavryta, Ach**	**4.70 242**	P	**Pn**	**13 53 49.3**	**-0.3**
KLV	**Kalavryta, Ach**	**4.70 242**	*e*PN	**Pn**	**13 53 49.8**	**+0.2**
KLV	**Kalavryta, Ach**	**4.70 242**	P	**Pn**	**13 53 49.3**	**-0.3**
KLV	**Kalavryta, Ach**	**4.70 242**	P	**Pn**	**13 53 49.3**	**-0.3**
KLV	**Kalavryta, Ach**	**4.70 242**	*e*Pn	**Pn**	**13 53 49.8**	**+0.2**
LAKA	**Lakka**	**4.72 245**	P	**Pn**	**13 53 50.7**	**+0.8**
LAKA	**Lakka**	**4.72 245**	*e*PN	**Pn**	**13 53 50.7**	**+0.8**
LAKA	**Lakka**	**4.72 245**	P	**Pn**	**13 53 50.7**	**+0.8**
LAKA	**Lakka**	**4.72 245**	P	**Pn**	**13 53 50.7**	**+0.8**
SECR		**4.79 348**	⇑*i*P	**Pn**	**13 53 53.3**	**+2.6**
KARP	**Karpathos**	**4.80 183**	P	**Pn**	**13 53 50.8**	**-0.1**
KARP	**Karpathos**	**4.80 183**	P	**Pn**	**13 53 50.8**	**-0.1**
KARP	**Karpathos**	**4.80 183**	P	**Pn**	**13 53 50.8**	**-0.1**
SKO	**Skopje**	**4.80 292**	*e*PN	**Pn**	**13 53 52.6**	**+1.7**
SKO	**Skopje**	**4.80 292**	*e*Pn	**Pn**	**13 53 52.6**	**+1.7**
BR131	**Keskin Array S**	**4.81 95**	*e*PN	**Pn**	**13 53 51.7**	**+0.6**
BR131	**Keskin Array S**	**4.81 95**	*e*Pn	**Pn**	**13 53 51.7**	**+0.6**
BRTR	**Keskin Array B**	**4.81 95**	Pn	**

comp=Z,39nm,1.3s
PKSM Moragy 8.68 315 ⇑P **Pn 13 54 44.6 +0.5**
PKSM Moragy 8.68 315 ⇑*i*P **Pn 13 54 44.6 +0.5**
PKSM Moragy 8.68 315 P **Pn 13 54 44.6 +0.5**
CUC Castrocucco 8.90 271 *e*Pn Pn 13 54 44.0 -3.2
UZH Uzhgorod 9.05 338 *e*P **Pn 13 54 49.5 +0.3**
UZH Uzhgorod 9.05 338 *e*P **Pn 13 54 49.5 +0.3**
CEL Celeste 9.18 261 *e*Pn Pn 13 54 47.7 -3.4
PSZ Piszkesteto 9.30 327 *e*P Pn 13 54 49.4 -3.3
PSZ Piszkesteto 9.30 327 *e*Pn Pn 13 54 49.4 -3.3
KOLS Kolonicke sedl 9.33 339 *e*P **Pn 13 54 54.6 +1.5**
KOLS Kolonicke sedl 9.33 339 *e*PN **Pn 13 54 54.6 +1.5**
KOLS *e*SN Sn 13 56 27.7 -10
KOLS *e*SG 13 57 47.3
KOLS Kolonicke sedl 9.33 339 *e*P **Pn 13 54 54.6 +1.5**
KECS Kecovo 9.52 331 *e*P **Pn 13 54 57.1 +1.4**
KECS Kecovo 9.52 331 *e*PN **Pn 13 54 57.1 +1.4**
KECS *e*SN Sn 13 56 31.6 -11
KECS Kecovo 9.52 331 *e*P **Pn 13 54 57.1 +1.4**
CRVS Cervenica-Dubn 9.55 336 *e*P Pn 13 55 00.8 +4.8
CRVS Cervenica-Dubn 9.55 336 *e*PN Pn 13 55 00.8 +4.8
CRVS *e*SN Sn 13 56 28.8 -14
CRVS *e*SG 13 57 56.7
MMAI Mount Meron Ar 9.72 136 Pn **Pn 13 54 58.5 0.0**
MMAI Mount Meron Ar 9.72 136 Pn **Pn 13 54 58.5 0.0**
comp=Z,1.8nm,0.3s,baz=317,slow=13,SNR=12
MMAI Mount Meron Ar 9.72 136 Pn **Pn 13 54 58.5 0.0**
LVV L'vov 9.77 347 *e*P **Pn 13 54 59.9 +0.9**
LVV *e*S **Sn 13 56 46.7 -1.8**
LVV MLR MLR
comp=N,100nm,12.0s
LVV MLR MLR
comp=E,300nm,12.0s
LVV MLR MLR
comp=Z,200nm,12.0s
LVV L'vov 9.77 347 *e*P **Pn 13 54 59.9 +0.9**
STHS Stebnicka Huta 10.07 336 *e*P Pn 13 55 11.0 +7.9
STHS Stebnicka Huta 10.07 336 *e*PN Pn 13 55 11.0 +7.9
VYHS Vyhne 10.20 326 *e*P **Pn 13 55 05.9 +1.0**
VYHS *e* 13 56 52.9
VYHS Vyhne 10.20 326 *e*PN **Pn 13 55 05.9 +1.0**
VYHS *e*SN Sn 13 56 52.9 -6.1
VYHS *e*SG 13 58 17.9
VYHS Vyhne 10.20 326 *e*P **Pn 13 55 05.9 +1.0**
AKASG Malin Array Be 10.43 6 P **Pn 13 55 07.4 -0.6**
AKASG 13 57 09.2
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG smax smax
comp=N,1.0nm,0.3s
AKASG Malin Array Be 10.43 6 Pn **Pn 13 55 07.4 -0.6**
AKASG Sn **Sn 13 57 09.2 +4.6**
AKASG Lg Lg 13 58 10.7
AKASG Malin Array Be 10.43 6 Pn **Pn 13 55 07.4 -0.6**
comp=N,1.7nm,0.3s,baz=184,slow=11,SNR=2.6
AKASG Sn **Sn 13 57 09.2 +4.6**
comp=N,1.4nm,0.3s,baz=195,slow=25,SNR=4.6
AKASG Lg Lg 13 58 10.7
baz=184,slow=29,SNR=3.4
AKASG Malin Array Be 10.43 6 P **Pn 13 55 07.4 -0.6**
comp=N,2.0nm,0.3s
ARSA Arzberg 11.02 313 ⇑*i*P **Pn 13 55 17.0 +0.8**
comp=N,7.9nm,0.8s,SNR=5.9
ARSA Arzberg 11.02 313 P **Pn 13 55 17.0 +0.8**
comp=N,7.9nm,0.8s,SNR=5.9
CONA Conrad Observa 11.24 316 ⇓*i*P **Pn 13 55 20.5 +1.3**
comp=N,12nm,0.8s,SNR=17
CONA Conrad Observa 11.24 316 P **Pn 13 55 20.5 +1.3**
comp=N,12nm,0.8s,SNR=17
OKC Ostrava-Krasne 11.52 328 *e*P Pn 13 55 31.7 +8.7
OKC MLR MLR
comp=Z,400nm,10.8s
OKC Ostrava-Krasne 11.52 328 *e*P Pn 13 55 31.7 +8.7
OKC AMS AMS 14 00 40.0
comp=Z,400nm,10.8s
VRAC Vranov 11.79 323 Pn **Pn 13 55 27.6 +0.8**
VRAC Vranov 11.79 323 Pn **Pn 13 55 27.6 +0.8**
comp=Z,0.3nm,0.3s,baz=148,slow=15,SNR=2.6
VRAC LR LR 14 00 11.5
comp=Z,141nm,18.0s,baz=310,slow=39
VRAC Vranov 11.79 323 P **Pn 13 55 27.6 +0.8**
comp=Z,141nm,18.0s
EIL Elat 12.30 148 LR LR 14 01 31.8
comp=Z,28nm,21.1s,baz=49,slow=43
TREC Trest 12.31 321 AMS AMS 14 01 40.0
comp=Z,200nm,10.9s
DPC Dobruska-Polom 12.67 326 *e*P **Pn 13 55 38.8 0.0**
DPC Dobruska-Polom 12.67 326 *e*P **Pn 13 55 38.8 0.0**
DPC AMS AMS 14 01 10.0
DPC Dobruska-Polom 12.67 326 *e*P **Pn 13 55 38.8 0.0**
GEC2 GERESS Array S 12.94 316 *e*P **Pn 13 55 40.3 -2.2**
GEC2 GERESS Array S 12.94 316 *e*Pn **Pn 13 55 40.3 -2.2**
GERES GERESS Array B 12.94 316 Pn **Pn 13 55 43.2 +0.7**
GERES GERESS Array B 12.94 316 Pn **Pn 13 55 43.2 +0.7**
comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=14
GERES LR LR 14 00 43.6
comp=Z,101nm,20.1s,baz=118,slow=38
GERES GERESS Array B 12.94 316 P **Pn 13 55 43.2 +0.7**
comp=Z,101nm,20.1s
KHC Kasperske Hory 13.17 316 *e*P **Pn 13 55 46.0 +0.4**
KHC MLR MLR
comp=Z,200nm,8.9s
KHC Kasperske Hory 13.17 316 *e*P **Pn 13 55 46.0 +0.4**
KHC AMS AMS 14 01 20.0
comp=Z,200nm,8.9s
KHC Kasperske Hory 13.17 316 *e*Pn **Pn 13 55 43.8 -1.8**
KHC Kasperske Hory 13.17 316 *e*Pn **Pn 13 55 43.8 -1.8**
KHC Kasperske Hory 13.17 316 *e*P **Pn 13 55 46.0 +0.4**
comp=Z,200nm,8.9s
PRU Pruhonice 13.23 321 AMS AMS 14 01 30.0
comp=Z,200nm,12.6s
VORD Divnogorie 13.45 34 *e*P **Pn 13 55 48.9 -0.4**
VORD pmax pmax
comp=Z,5.0nm,0.8s
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 13.45 34 *e*P **Pn 13 55 48.9 -0.4**
comp=E,50nm,0.6s
PVCC Panska Ves 13.59 323 AMS AMS 14 01 50.0
comp=E,300nm,13.5s
VSR Storozhevoye 13.59 33 *e*P **Pn 13 55 49.8 -1.4**
VSR pmax pmax
comp=E,6.0nm,0.5s
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR Storozhevoye 13.59 33 *e*P **Pn 13 55 49.8 -1.4**
comp=N,10.0nm,0.8s
FETA Feichten 13.79 304 ⇓*i*P **Pn 13 55 55.8 +1.7**
comp=N,3.1nm,0.6s,SNR=5.7
FETA Feichten 13.79 304 P **Pn 13 55 55.8 +1.7**
comp=N,3.1nm,0.6s,SNR=5.7
DAVOX Davos/Dischmat 14.24 303 Pn **Pn 13 56 01.1 +0.7**
DAVOX Davos/Dischmat 14.24 303 Pn **Pn 13 56 01.1 +0.7**
comp=N,0.3nm,0.3s,baz=139,slow=11,SNR=9.3
DAVOX Davos/Dischmat 14.24 303 Pn **Pn 13 56 01.1 +0.7**
TUE Stuetta 14.48 301 *e*Pn **Pn 13 56 01.1 -2.7**
VRHR Novokhopersk 14.59 38 *e*P **Pn 13 56 06.6 +1.7**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,9.0nm,0.7s
KEST Kesra 14.97 258 *e*Pn Pn 13 56 06.8 -3.5
KEST Kesra 14.97 258 Pn **Pn 13 56 10.2 0.0**
comp=E,0.1nm,0.3s,baz=83,slow=0.2,SNR=4.9
BFO Black Forest 15.79 307 *e*P **Pn 13 56 17.9 -3.1**
BFO pmax pmax
comp=Z,20nm,1.0s
BFO Black Forest 15.79 307 *e*Pn **Pn 13 56 17.9 -3.1**
comp=Z,20nm,1.0s
SENIN Lac Senin/Sane 15.81 299 *e*Pn **Pn 13 56 18.0 -3.3**
MBDF Montbardon 15.83 293 *e*P **P 13 56 26.7 +1.3**
comp=Z,36nm,1.0s
MBDF Montbardon 15.83 293 *e*P **P 13 56 26.7 +1.3**
comp=Z,48nm,1.0s
BNI Bardonecchia 15.95 294 *e*P **Pn 13 56 20.2 -2.9**
BNI pmax pmax
comp=Z,50nm,1.7s
BNI Bardonecchia 15.95 294 *e*Pn **Pn 13 56 20.2 -2.9**
comp=Z,50nm,1.7s
OBN Obninsk 15.98 19 ⇑*e*P **Pn 13 56 21.9 -1.3**
OBN pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 15.98 296 *e*P **Pn 13 56 25.3 +1.7**
comp=Z,32nm,1.0s
LPG La Plagne 15.98 296 *e*P **Pn 13 56 25.3 +1.7**
comp=Z,16nm,1.0s
LPL La Plagne 16.00 296 *e*P **Pn 13 56 25.2 +1.4**
comp=Z,31nm,1.1s
RSL Roselend 16.11 296 *e*P **P 13 56 30.6 +2.2**
MOF Molkenrain 16.36 304 *e*P **P 13 56 31.7 +0.5**
LANF Langenberg 16.38 308 *e*P **P 13 56 33.2 +2.0**
LOMF Lomont 16.40 302 *e*P **P 13 56 35.6 +4.0**
CDF Champ du Feu 16.48 306 *e*P **P 13 56 33.9 +1.5**
comp=Z,74nm,1.2s
CDF Champ du Feu 16.48 306 *e*P **P 13 56 33.9 +1.5**
comp=Z,37nm,1.2s
ECH Echery 16.48 305 *e*P **Pn 13 56 27.2 -2.5**
ECH pmax pmax
comp=Z,11nm,1.0s
ECH Echery 16.48 305 *e*Pn **Pn 13 56 27.2 -2.5**
comp=Z,11nm,1.0s
ECH Echery 16.48 305 *e*P **P 13 56 34.7 +2.4**
ORIF Oris-en-Rattie 16.49 293 *e*P **Pn 13 56 31.1 +1.2**
comp=Z,19nm,1.0s
ORIF *e*R
comp=Z,318nm,20.2s
ORIF Oris-en-Rattie 16.49 293 *e*P **Pn 13 56 31.1 +1.2**
comp=Z,9.6nm,1.0s
HINF Hinteralfeld 16.53 304 *e*P **P 13 56 33.1 +0.1**
HINF Hinteralfeld 16.53 304 *e*P **P 13 56 33.1 +0.1**
CABF La Chapelle 16.68 299 *e*P **P 13 56 36.2 +1.5**
comp=Z,12nm,0.9s
CABF La Chapelle 16.68 299 *e*P **P 13 56 36.2 +1.5**
comp=Z,5.9nm,0.9s
CKFL Kef-Lekhel 16.71 263 P **P 13 56 35.3 +0.2**
CKFL Kef-Lekhel 16.71 263 P **P 13 56 35.3 +0.2**
MOS Moscow 16.81 20 *e*P **Pn 13 56 34.8 +1.0**
MOS pmax pmax
comp=Z,30nm,0.7s
MOS Moscow 16.81 20 *e*P **Pn 13 56 34.8 +1.0**
comp=Z,30nm,0.7s
HAU Haudompre 16.91 304 *e*P **P 13 56 38.2 +1.0**
HAU *e*R
comp=Z,125nm,18.1s
HAU Haudompre 16.91 304 *e*P **P 13 56 38.2 +1.0**
CASM Ain Smara 16.93 263 P **P 13 56 39.1 +1.6**
CASM Ain Smara 16.93 263 P **P 13 56 39.1 +1.6**
THEF They Montfort 17.22 304 *e*P **P 13 56 42.9 +2.4**
VIVF Saint-Julien-l 17.33 293 *e*P **P 13 56 42.1 +0.3**
VIVF Saint-Julien-l 17.33 293 *e*P **P 13 56 42.1 +0.3**
PAGF Fort de Pagny 17.49 305 *e*P **P 13 56 45.9 +2.4**
comp=Z,1.8nm,0.6s
PAGF Fort de Pagny 17.49 305 *e*P **P 13 56 45.9 +2.4**
comp=Z,0.9nm,0.6s
SFTF Sexfontaines 17.81 304 *e*P **P 13 56 50.3 +3.2**
LASF Ste Croix 17.84 290 *e*P **P 13 56 47.2 -0.2**
LASF Ste Croix 17.84 290 *e*P **P 13 56 47.2 -0.2**
VSU Vasula 18.14 359 ⇑*e*P **P 13 56 50.4 -0.1**
VSU pmax pmax
comp=Z,26nm,1.2s
VSU Vasula 18.14 359 *e*P **P 13 56 50.4 -0.1**
comp=Z,26nm,1.2s
SMF Signal de Mont 18.20 298 *e*P **P 13 56 52.6 +1.2**
comp=Z,2.7nm,0.5s
SMF Signal de Mont 18.20 298 *e*P **P 13 56 52.6 +1.2**
comp=Z,1.4nm,0.5s
LOR Lormes 18.32 300 *e*P **P 13 56 54.9 +2.2**
comp=Z,23nm,1.2s
LOR *e*R
comp=Z,102nm,22.5s
LOR Lormes 18.32 300 *e*P **P 13 56 54.9 +2.2**
comp=Z,12nm,1.2s
LBL Lubilhac 18.38 293 *e*P **Pn 13 56 55.0 +1.6**
SSF Saint Saulge 18.51 299 *e*P **Pn 13 56 56.3 +1.4**
SSF Saint Saulge 18.51 299 *e*P **Pn 13 56 56.3 +1.4**
AVF Avril sur Loir 18.56 298 *e*P **Pn 13 56 56.1 +0.6**
AVF Avril sur Loir 18.56 298 *e*P **Pn 13 56 56.1 +0.6**
AGO Saint Agoulin 18.57 296 *e*P **P 13 56 55.3 -0.2**
PYM Petit Puy Mans 18.61 295 *e*P **Pn 13 56 58.1 +1.8**
MTLF Montolieu 19.00 287 *e*P **Pn 13 57 01.4 +0.5**
comp=Z,22nm,1.4s
MTLF Montolieu 19.00 287 *e*P **Pn 13 57 01.4 +0.5**
comp=Z,11nm,1.4s
CAF Calviac 19.18 292 *e*P **Pn 13 57 04.9 +1.8**
comp=Z,13nm,1.0s
CAF Calviac 19.18 292 *e*P **Pn 13 57 04.9 +1.8**
comp=Z,6.3nm,1.0s
TCF Toulx Ste Croi 19.24 296 *e*P **Pn 13 57 04.5 +0.6**
TCF Toulx Ste Croi 19.24 296 *e*P **Pn 13 57 04.5 +0.6**
RJF Les Rejaudoux 19.60 293 *e*P **Pn 13 57 08.8 +0.7**
comp=Z,8.2nm,0.8s
RJF *e*R
comp=Z,102nm,21.8s
RJF Les Rejaudoux 19.60 293 *e*P **Pn 13 57 08.8 +0.7**
comp=Z,4.1nm,0.8s
LFF La Frestale 20.12 292 *e*P Pn 13 57 13.8 -0.5
LFF La Frestale 20.12 292 *e*P Pn 13 57 13.8 -0.5
EPF Esparros 20.38 286 *e*P **P 13 57 15.6 +0.3**
EPF Esparros 20.38 286 *e*P **P 13 57 15.6 +0.3**
MFF Saint Martin d 20.90 297 *e*P **P 13 57 21.9 +1.0**
MFF Saint Martin d 20.90 297 *e*P **P 13 57 21.9 +1.0**
ETSF Etsaut 21.04 286 *e*P **P 13 57 23.4 +0.9**
comp=Z,20nm,1.0s
ETSF Etsaut 21.04 286 *e*P **P 13 57 23.4 +0.9**
comp=Z,10nm,1.0s
FINES FINESS Array B 21.14 358 P **P 13 57 25.4 +2.2**
FINES FINESS Array B 21.14 358 P **P 13 57 25.4 +2.2**
comp=Z,1.8nm,0.8s,baz=169,slow=11,SNR=7.5
FINES LR LR 14 05 34.0
comp=Z,44nm,19.2s,baz=179,slow=37
FINES FINESS Array B 21.14 358 P **P 13 57 25.4 +2.2**
comp=Z,44nm,19.2s
FLN La Foliniere 21.50 302 *e*P **P 13 57 27.9 +0.6**
comp=Z,25nm,1.0s
FLN *e*R
comp=Z,110nm,18.8s
FLN La Foliniere 21.50 302 *e*P **P 13 57 27.9 +0.6**
comp=Z,12nm,1.0s
SJPF Ste Jean 21.52 287 *e*P **P 13 57 28.7 +1.1**
comp=Z,27nm,1.1s
SJPF Ste Jean 21.52 287 *e*P **P 13 57 28.7 +1.1**
comp=Z,14nm,1.1s
HFS Hagfors 21.58 341 P **P 13 57 30.2 +2.2**
HFS Hagfors 21.58 341 P **P 13 57 30.2 +2.2**
comp=Z,2.1nm,0.8s,baz=152,slow=9.8,SNR=5.3
HFS LR LR 14 06 39.7
comp=Z,130nm,18.4s,baz=154,slow=39
HFS Hagfors 21.58 341 P **P 13 57 30.2 +2.2**
comp=Z,130nm,18.4s
GRR Gorron 21.67 301 *e*P **P 13 57 29.9 +0.8**
comp=Z,27nm,0.7s
GRR Gorron 21.67 301 *e*P **P 13 57 29.9 +0.8**
comp=Z,13nm,0.7s
KAF Kangasniemi 21.80 359 *e*P **P 13 57 33.5 +3.1**
KAF Kangasniemi 21.80 359 *e*p **P 13 57 33.5 +3.1**
comp=Z,0.2nm,0.2s
KAF Kangasniemi 21.80 359 *e*P **P 13 57 33.5 +3.1**
SGMF Saint Gilles 22.76 300 *e*P **P 13 57 41.2 +0.4**
comp=Z,16nm,0.7s
SGMF Saint Gilles 22.76 300 *e*P **P 13 57 41.2 +0.4**
comp=Z,8.2nm,0.7s
NAO01 NORSAR Array S 22.92 339 *e*P **P 13 57 39.8 -2.5**
comp=Z,7.0nm,0.8s
NB2 NORSAR Subarra 22.99 340 P **P 13 57 44.1 +1.0**
comp=Z,3.3nm,0.8s,baz=142,slow=11
NB2 NORSAR Subarra 22.99 340 P **P 13 57 44.1 +1.0**
comp=Z,3.3nm,0.8s,SNR=9.1
NOA NORSAR Array B 22.99 340 P **P 13 57 44.5 +1.4**
NOA NORSAR Array B 22.99 340 P **P 13 57 44.5 +1.4**
comp=Z,0.7nm,0.7s,baz=143,slow=11,SNR=7.0
NOA NORSAR Array B 22.99 340 P **P 13 57 44.5 +1.4**
QUIF Quistinic 23.11 299 *e*P **P 13 57 43.9 -0.5**
comp=Z,49nm,1.3s
QUIF Quistinic 23.11 299 *e*P **P 13 57 43.9 -0.5**
comp=Z,24nm,1.3s
ROSF Rostrenen 23.25 300 *e*P **P 13 57 45.1 -0.7**
comp=Z,23nm,1.0s
ROSF Rostrenen 23.25 300 *e*P **P 13 57 45.1 -0.7**
comp=Z,12nm,1.0s
AKTK Aktyubinsk 23.57 54 P **P 13 57 51.5 +2.5**
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 23.57 54 P **P 13 57 51.5 +2.4**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 23.57 54 P **P 13 57 51.5 +2.4**
comp=Z,2.0nm,0.8s,baz=239,slow=9.6,SNR=4.7
AKTO Aktyubinsk 23.57 54 P **P 13 57 51.5 +2.4**
ESDC Sonseca Array 23.99 279 P **P 13 57 53.6 +0.4**
ESDC Sonseca Array 23.99 279 P **P 13 57 53.6 +0.4**
comp=Z,1.2nm,0.5s,baz=69,slow=9.7,SNR=12
ESDC Sonseca Array 23.99 279 P **P 13 57 53.7 +0.4**
ABKAR Abkulak array 24.57 58 *e*P **P 13 57 58.9 +0.6**
ABKAR Abkulak array 24.57 58 *e*P **P 13 57 58.9 +0.6**
EKA Eskdalemuir Ar 25.15 317 P **P 13 58 03.0 -0.6**
EKA Eskdalemuir Ar 25.15 317 P **P 13 58 03.0 -0.6**
comp=Z,3.7nm,0.7s,baz=114,slow=10,SNR=16
EKA Eskdalemuir Ar 25.15 317 P **P 13 58 03.0 -0.6**
comp=Z,4.0nm,0.7s
ARU Arti 25.89 41 *d i*P **P 13 58 11.6 +1.4**
ARU 13 58 45.1
ARU S **S 14 02 42.6 +3.0**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 25.89 41 *i*P **P 13 58 11.6 +1.4**
comp=Z,12nm,1.7s
ARCES ARCESS Array B 29.27 359 LR LR 14 10 40.7
comp=Z,84nm,18.2s,baz=290,slow=37
BVAR Borovoye Array 31.59 52 LR LR 14 12 21.8
comp=Z,40nm,21.9s,baz=283,slow=37
AAK Ala-Archa 34.98 70 ⇓*e*P **P 13 59 31.4 +0.5**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 34.98 70 *e*P **P 13 59 31.4 +0.5**
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 35.28 227 P **P 13 59 33.8 +0.3**
TORD Torodi Ar. Bea 35.28 227 P **P 13 59 33.8 +0.3**
comp=Z,1.9nm,0.7s,baz=32,slow=9.0,SNR=13
TORD Torodi Ar. Bea 35.28 227 P **P 13 59 33.8 +0.3**
MK31 Makanchi Array 39.57 62 *e*P **P 14 00 09.2 -0.5**
MK31 Makanchi Array 39.57 62 *e*P **P 14 00 09.2 -0.5**
MK31 Makanchi Array 39.57 62 *e*P **P 14 00 09.2 -0.5**
MKAR Makanchi Array 39.57 62 P **P 14 00 12.6 +2.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 39.57 62 P **P 14 00 12.6 +2.9**
MKAR Makanchi Array 39.57 62 P **P 14 00 12.6 +2.9**
comp=Z,1.1nm,0.6s,baz=279,slow=7.3,SNR=10
MKAR Makanchi Array 39.57 62 P **P 14 00 12.6 +2.9**
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 40.21 50 P **P 14 00 17.5 +2.7**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 40.21 50 P **P 14 00 17.5 +2.7**
ZALV Zalesovo Beam 40.21 50 P **P 14 00 17.5 +2.7**
comp=Z,0.9nm,0.4s,baz=278,slow=10,SNR=6.3
ZALV Zalesovo Beam 40.21 50 P **P 14 00 17.5 +2.7**
comp=Z,1.0nm,0.4s
WMQ Urumqi 44.00 65 *e*P **P 14 00 47.8 +1.8**
WMQ pmax pmax
comp=Z,5.0nm,1.0s
WMQ pmax pmax
comp=Z,69nm,4.5s
HVS Khovu-Aksy 46.01 53 ⇓*e*P **P 14 01 02.0 +0.1**
HVS pmax pmax
comp=Z,11nm,1.2s
HVS Khovu-Aksy 46.01 53 *e*P **P 14 01 02.0 +0.1**
comp=Z,11nm,1.2s
LZH Lanzhou 58.42 68 *e*P **P 14 02 34.9 +0.4**
LZH pP **pP 14 02 38.0 -0.7**
LZH sP **sP 14 02 40.1 -0.2**
LZH pmax pmax
comp=Z,14nm,1.0s
CD2 Chengdu 60.99 73 *e*P **P 14 02 52.6 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,120nm,4.8s
HHC Hu-ho-hao-te 61.35 59 *e*P **P 14 02 53.2 -1.2**
HHC PcP **PcP 14 03 35.8 -0.9**
HHC PP **PP 14 05 10.4 +1.2**
HHC ScP **ScP 14 07 34.7 -3.2**
HHC PcS **PcS 14 07 36.7 -2.9**
HHC S **S 14 11 11.1 -3.6**
HHC ScS **SKKSac 14 12 40.5 -5.1**
HHC SS **SS 14 15 12.7 -2.0**
HHC pmax pmax
comp=Z,360nm,6.4s
HHC LR LR
comp=N,260nm,17.3s
HHC LR LR
comp=E,190nm,17.3s
HHC LR LR
comp=Z,130nm,17.3s
HIA Hailar 62.15 48 *i*P **P 14 03 00.1 +0.5**
KMI Kunming 63.38 79 P **P 14 03 09.8 +1.4**
KMI pmax pmax
comp=Z,9.0nm,1.0s
CMAR Chiang Mai Arr 64.34 87 P P 14 03 18.9 +4.4
comp=Z,0.9nm,0.9s,baz=293,slow=7.5,SNR=4.7
GYA Guiyang 65.56 75 *e*P **P 14 03 24.3 +1.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 68.43 50 *e*P **P 14 03 40.0 -0.3**
MDJ Mudanjiang 70.34 48 P **P 14 03 51.0 -1.2**
MDJ pP **pP 14 03 54.2 -2.3**
MDJ PcP **PcP 14 04 12.7 -1.0**
MDJ S **S 14 13 02.9 -1.1**
MDJ ScS **SKSac 14 13 53.3 -0.1**
MDJ SS **SS 14 17 37.4 +3.6**
MDJ pmax pmax
comp=Z,5.0nm,1.8s
MDJ LR LR
comp=N,110nm,6.6s
MDJ LR LR
comp=E,180nm,7.5s
MDJ LR LR
comp=Z,150nm,5.8s
KSRS Korea Array 73.75 55 LR LR 14 41 18.2
comp=Z,50nm,18.4s,baz=200,slow=40
PETK Petropavlovsk- 77.48 28 LR LR 14 44 08.3
comp=Z,31nm,19.0s,baz=107,slow=40
TXAR Lajitas Array 97.14 318 P **P 14 06 11.0 -0.3**
comp=Z,0.1nm,0.3s,baz=40,slow=4.7,SNR=3.5
TXAR Lajitas Array 97.14 318 P **P 14 06 11.0 -0.3**

GUC ***08*** *13:56:08.0±0.5, 31°.82S×71°.29W, h47km±784km, ML3.5*
NEIC ***08*** *13:56:08.0, 31°.82S×71°.29W, h47km, MG3.5(GUC), After GUC.*
NEIC Felt [II] at Illapel.
ISC 08 13:56:04.2±2.9, 31°.90S±0°.05×72°.0W±0°.3, h33km±11km, n11, σ1°.20/20, 1C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.36**	**142**	⇓*i*P	**Pb**	**13 56 29.1**	**-0.2**
ROCH				*i* S	**Sn**	**13 56 45.0**	**+0.7**
ROCH				AML	AML	13 56 51.6	
comp=N,1μm,0.5s							
PEL	**Peldehue**	**1.67**	**138**	⇑*i*P	**Pn**	**13 56 32.2**	**+0.9**
PEL				*i* S	**Sn**	**13 56 50.2**	**-1.5**
PEL				AML	AML	13 56 51.6	
comp=E,2μm,0.3s							
CLCH	**Cerro Calan**	**1.94**	**140**	⇓*i*P	**Pn**	**13 56 36.0**	**+1.0**
CLCH				*i* S	**Sn**	**13 56 57.1**	**-1.3**
CLCH				AML	AML	13 57 01.9	
comp=E,514nm,0.8s							
TLL	**Tololo Astrono**	**2.02**	**31**	⇓*i*P	**Pb**	**13 56 40.1**	**-0.3**
TLL				*i* S	**Sn**	**13 57 01.6**	**+1.1**
TLL	**Tololo Astrono**	**2.02**	**31**	⇓*i*P	**Pb**	**13 56 40.1**	**-0.3**
TLL				*i* S	**Sn**	**13 57 01.6**	**+1.1**
TLL				AML	AML	13 57 03.1	
comp=E,559nm,0.4s							
LMEL	**Las Melosas**	**2.47**	**142**	⇓*i*P	**Pn**	**13 56 43.5**	**+1.2**
LMEL				*i* S	**Sn**	**13 57 10.1**	**-1.3**
LMEL	**Las Melosas**	**2.47**	**142**	⇓*i*P	**Pn**	**13 56 43.5**	**+1.2**
LMEL				*i* S	**Sn**	**13 57 10.1**	**-1.3**
LMEL				AML	AML	13 57 13.3	
comp=N,673nm,0.1s							
LCO	**Las Campanas**	**3.10**	**22**	*e*Pn	**Pn**	**13 56 50.6**	**-0.4**
LCO				*i* P	**Pn**	**13 56 52.0**	**+1.0**
LCO				*i* S	**Sn**	**13 57 25.4**	**-1.6**
LCO	**Las Campanas**	**3.10**	**22**	*i* P	**Pn**	**13 56 52.0**	**+1.0**
LCO				*i* S	**Sn**	**13 57 25.4**	**-1.6**
LCO				AML	AML	13 57 28.9	
comp=E,183nm,0.4s							
TRQA	**Tornquist**	**10.27**	**129**	*e*Pn	Pn	13 58 25.8	-3.4
LPAZ	**La Paz**	**15.94**	**14**	*e*Pn	**Pn**	**13 59 46.6**	**-0.1**

IDC 08 13:58:16.7±3.9, 17°72′S×167°54′E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/24, Error ellipse: s-maj=67.4km s-min=29.8km az=47.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.45**	**193**	Pn	Pn	13 59 25.1	-0.6
	1.7nm,0.3s,baz=33,slow=19,SNR=7.5						
DZM				Sn	Sn	14 00 17.0	-1.4
	2.0nm,0.3s,baz=319,slow=19,SNR=4.3						
AFI	**Afiamalu**	**20.25**	**82**	LR	LR	14 08 49.1	
	comp=Z,57nm,20.3s,baz=278,slow=31						
PMG	**Port Moresby**	**21.45**	**290**	LR	LR	14 10 35.8	
	comp=Z,90nm,18.1s,baz=62,slow=34						
URZ	**Urewera**	**22.11**	**160**	P	P	14 03 13.8	0.0
	7.6nm,1.0s,baz=292,slow=16,SNR=2.2						
STKA	**Stephens Creek**	**27.36**	**234**	P	P	14 04 04.9	+1.2
	1.2nm,0.8s,baz=62,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**31.48**	**261**	P	P	14 04 39.9	-0.5
	0.6nm,0.8s,baz=90,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**31.97**	**254**	P	P	14 04 44.6	-0.2
	1.7nm,0.6s,baz=81,slow=8.3,SNR=25						

MEX 08 14:07:59.8±0.7, 16°36N×98°04W, h40km±9km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.09**	**292**	*i* P	Pn	14 08 04.8	-1.7
PNIG				*i* S	Sn	14 08 09.5	-1.5
VHO	**Vista Hermosa**	**1.44**	**60**	*i* P	Pn	14 08 22.1	-1.6
VHO				*i* S	Sn	14 08 39.1	-2.4
HUIG	**Huatulco**	**1.95**	**107**	*eP*	Pn	14 08 29.3	-1.1
HUIG				*i* S	Sn	14 08 51.4	-2.3
MEIG	**Mezcala**	**2.17**	**316**	*i* P	Pn	14 08 36.9	+3.3
CAIG	**El Cayaco**	**2.24**	**288**	*i* P	Pn	14 08 36.0	+1.6

IDC 08 14:17:37.6±1.5, 30°73N×41°68W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.6/28, mbtmp3.6/6, MS3.6/18, Ms1 3.6/18, ms1mx3.4/37, Error ellipse: s-maj=56.1km s-min=21.5km az=9.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**28.08**	**119**	LR	LR	14 32 21.9	
	comp=Z,213nm,18.7s,baz=353,slow=32						
SCHQ	**Schefferville**	**30.04**	**331**	LR	LR	14 34 14.0	
	comp=Z,106nm,18.9s,baz=86,slow=33						
ESDC	**Sonseca Array**	**31.89**	**63**	LR	LR	14 33 52.2	
	comp=Z,41nm,21.9s,baz=295,slow=31						
ROSC	**El Rosal**	**40.08**	**237**	LR	LR	14 39 41.9	
	comp=Z,72nm,20.5s,baz=197,slow=33						
TORD	**Torodi Ar. Bea**	**43.56**	**104**	P	P	14 25 43.3	-0.2
	0.8nm,1.0s,baz=311,slow=9.3,SNR=2.3						
TORD				LR	LR	14 41 28.0	
	comp=Z,88nm,18.3s,baz=285,slow=33						
ULM	**Lac du Bonnet**	**44.50**	**312**	LR	LR	14 45 11.5	
	comp=Z,47nm,18.6s,baz=46,slow=37						
NOA	**NORSAR Array B**	**45.81**	**33**	LR	LR	14 43 38.9	
	comp=Z,14nm,18.8s,baz=295,slow=34						
FINES	**FINESS Array B**	**52.95**	**34**	LR	LR	14 45 45.6	
	comp=Z,50nm,18.6s,baz=1.5,slow=32						
TXAR	**Lajitas Array**	**53.06**	**285**	P	P	14 26 58.7	+1.8
	0.5nm,0.9s,baz=98,slow=6.5,SNR=3.0						
LPAZ	**La Paz**	**53.23**	**212**	LR	LR	14 48 10.8	
	comp=Z,75nm,18.5s,baz=46,slow=34						
PDAR	**Pinedale Array**	**54.35**	**303**	P	P	14 27 04.7	-1.7
	0.8nm,1.0s,baz=89,slow=7.6,SNR=5.5						
AKASG	**Malin Array Be**	**55.14**	**47**	P	P	14 27 11.7	+0.1
	0.3nm,0.3s,baz=285,slow=5.9,SNR=2.3						
NEW	**Newport**	**58.47**	**311**	LR	LR	14 50 38.2	
	comp=Z,45nm,20.1s,baz=243,slow=34						
CPUP	**Villa Florida**	**58.68**	**196**	LR	LR	14 52 17.4	
	comp=Z,55nm,21.3s,baz=204,slow=35						
BRTR	**Keskin Array B**	**60.53**	**59**	LR	LR	14 49 56.0	
	comp=Z,17nm,20.3s,baz=100,slow=32						
NVAR	**Mina Array Bea**	**61.89**	**300**	P	P	14 27 58.0	-1.2
	0.3nm,0.6s,baz=74,slow=6.9,SNR=2.6						
INK	**Inuvik**	**62.50**	**335**	LR	LR	14 53 52.0	
	comp=Z,59nm,20.3s,baz=59,slow=35						
DLBC	**Dease Lake**	**63.55**	**324**	LR	LR	14 55 59.9	
	comp=Z,128nm,18.1s,baz=124,slow=36						
MMAI	**Mount Meron Ar**	**64.06**	**66**	LR	LR	14 56 26.0	
	comp=Z,22nm,18.8s,baz=50,slow=36						
BBB	**Bella Bella**	**64.30**	**317**	LR	LR	14 55 13.4	
	comp=Z,73nm,19.9s,baz=136,slow=35						
ILAR	**Eielson Array**	**68.74**	**334**	P	P	14 28 44.1	+1.2
	1.2nm,1.0s,baz=52,slow=3.4,SNR=8.3						
ILAR				LR	LR	14 58 14.0	
	comp=Z,62nm,18.5s,baz=63,slow=35						
KMBO	**Kilima Mbogo**	**81.06**	**97**	LR	LR	15 05 04.8	
	comp=Z,115nm,18.4s,baz=116,slow=35						
KURBB	**Kurchatov Arra**	**83.34**	**34**	P	P	14 30 06.0	-0.4
	0.8nm,0.7s,baz=312,slow=5.3,SNR=6.9						

*BJI **08** 14:18:41.2, 29°98N×51°07E, h14km, mb4.3/3, Ms7 4.5/1*
*ISCJB **08** 14:18:41.6±0.3, 29°44N±0°03×51°23E±0°03, h24km, mb4.1/31, MS3.2/6, Error ellipse: s-maj=4.9km s-min=3.6km az=24.3*
*THR **08** 14:18:41.9±0.4, 29°51N×51°34E, h18km±7km, ML4.0*
*IDC **08** 14:18:41.4±0.9, 29°66N×50°92E, h0km, mb4.0/20, mb1 4.1/22, mb1mx4.0/32, mbtmp4.0/22, ML3.5/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/38, Error ellipse: s-maj=19.5km s-min=15.7km az=170.0*
*CSEM **08** 14:18:41.2±0.2, 29°44N×51°30E, h2km, Ms3.9, Error ellipse: s-maj=5.1km s-min=3.3km az=48.0*
*TEH **08** 14:18:42.6, 29°42N×51°25E, h11km, ML3.9*

ISC 08 14:18:42.7±0.5, 29°35N±0°06×51°13E±0°03, h24km, n126, σ19°31/122, mb4.0/31, MS3.1/6, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.24**	**76**	*eSg*	**Sn**	**14 19 17.3**	**-3.5**
SHI				*ePg*	**Pn**	**14 19 02.2**	**-2.5**
SHI				*e*		14 19 28.0	
	comp=E,33μm,0.2s						
ISRV	**Sarvestan**	**1.73**	**89**	*ePn*	**Pn**	**14 19 11.1**	**-0.5**
ISRV				*eSg*	**Sb**	**14 19 34.5**	**-1.0**
ISRV				*e*		14 19 45.5	
	comp=Z,32μm,0.3s						
ISRV	**Sarvestan**	**1.73**	**89**	*ePn*	**Pn**	**14 19 11.1**	**-0.5**
ISRV				*eSg*	**Sb**	**14 19 34.5**	**-1.0**
IPAR	**Pars**	**1.74**	**73**	*ePn*	**Pn**	**14 19 11.0**	**-0.7**
IPAR				*e*		14 19 41.1	
	comp=Z,31μm,0.4s						
IPAR	**Pars**	**1.74**	**73**	*ePn*	**Pn**	**14 19 11.0**	**-0.7**
GHIR	**Ghir-Karzin**	**1.94**	**123**	*ePg*	**Pb**	**14 19 16.5**	**-1.1**
GHIR				AML	AML	14 19 55.6	
	comp=N,1μm,0.5s						
GHIR				AML	AML	14 19 59.3	
	comp=E,2μm,0.5s						
GHIR	**Ghir-Karzin**	**1.94**	**123**	*ePg*	**Pb**	**14 19 16.5**	**-1.1**
UMR	**Umm Al-Rimmam**	**2.99**	**275**	*eP*	**Pb**	**14 19 33.0**	**-2.2**
UMR				AML	AML	14 20 14.0	
	comp=Z,382nm,0.4s						
UMR	**Umm Al-Rimmam**	**2.99**	**275**	*eP*	**Pb**	**14 19 33.0**	**-2.2**
KBD	**Kabd**	**3.01**	**267**	*eP*	**Pb**	**14 19 33.5**	**-2.1**
KBD				AML	AML	14 20 16.5	
	comp=Z,198nm,0.3s						
KBD	**Kabd**	**3.01**	**267**	*eP*	**Pb**	**14 19 33.5**	**-2.1**
IGAR	**Gharneh**	**3.14**	**14**	*ePn*	**Pn**	**14 19 30.7**	**-0.2**
IGAR				*e*		14 19 45.8	
	comp=Z,2μm,0.2s						
RDF	**Al-Radifah**	**3.16**	**263**	*eP*	**Pb**	**14 19 35.9**	**-2.4**
RDF				AML	AML	14 20 20.6	
	comp=Z,265nm,0.4s						
RDF	**Al-Radifah**	**3.16**	**263**	*eP*	**Pb**	**14 19 35.9**	**-2.4**
IPIR	**Pirpir**	**3.33**	**356**	*ePn*	**Pn**	**14 19 34.0**	**+0.4**
IPIR				*e*		14 20 41.8	
	comp=Z,3μm,0.4s						
IPIR	**Pirpir**	**3.33**	**356**	*ePn*	**Pn**	**14 19 34.0**	**+0.4**
ISAD	**Sadrabad**	**3.37**	**40**	*ePn*	**Pn**	**14 19 33.9**	**-0.2**
ISAD				*e*		14 20 40.5	
	comp=Z,6μm,0.5s						
ISAD	**Sadrabad**	**3.37**	**40**	*ePn*	**Pn**	**14 19 33.9**	**-0.2**
NAY	**Al-Naaiem**	**3.40**	**269**	*eP*	Pb	14 19 38.7	-3.6
NAY				AML	AML	14 20 33.0	
	comp=Z,107nm,0.6s						
NAY	**Al-Naaiem**	**3.40**	**269**	*eP*	Pb	14 19 38.7	-3.6
IMEH	**Mehriz**	**3.63**	**55**	*ePn*	**Pn**	**14 19 36.9**	**-0.8**
IMEH				*e*		14 20 49.2	
	comp=Z,4μm,0.7s						
IMEH	**Mehriz**	**3.63**	**55**	*ePn*	**Pn**	**14 19 36.9**	**-0.8**
IZEF	**Zefreh**	**3.68**	**16**	*ePn*	**Pn**	**14 19 38.1**	**-0.3**
IZEF				*e*		14 20 33.4	
	comp=Z,770nm,0.2s						
IZEF	**Zefreh**	**3.68**	**16**	*ePn*	**Pn**	**14 19 38.1**	**-0.3**
NASN	**Na'in**	**3.72**	**22**	*ePn*	**Pn**	**14 19 38.1**	**-1.0**
NASN	**Na'in**	**3.72**	**22**	*ePn*	**Pn**	**14 19 38.1**	**-1.0**
IKLH	**Kolahrood**	**3.97**	**5**	*ePn*	**Pn**	**14 19 42.2**	**-0.2**
IKLH				*e*		14 21 09.2	
	comp=Z,2μm,0.5s						
IKLH	**Kolahrood**	**3.97**	**5**	*ePn*	**Pn**	**14 19 42.2**	**-0.2**
ICHK	**Chekchek**	**4.03**	**44**	*ePn*	**Pn**	**14 19 42.2**	**-1.0**
ICHK				*e*		14 19 59.8	
	comp=Z,1μm,0.2s						
ICHK	**Chekchek**	**4.03**	**44**	*ePn*	**Pn**	**14 19 42.2**	**-1.0**
IBAF	**Bafgh**	**4.43**	**59**	*ePn*	**Pn**	**14 19 47.5**	**-1.1**
IBAF				*e*		14 21 09.0	
	comp=Z,1μm,0.5s						
IBAF	**Bafgh**	**4.43**	**59**	*ePn*	**Pn**	**14 19 47.5**	**-1.1**
KHMZ	**Khomeyn**	**4.49**	**347**	*ePn*	**Pn**	**14 19 49.9**	**+0.5**
KHMZ	**Khomeyn**	**4.49**	**347**	*ePn*	**Pn**	**14 19 49.9**	**+0.5**
BNDS	**Bandar-Abbas**	**4.85**	**112**	*ePn*	**Pn**	**14 19 54.9**	**+0.5**
BNDS	**Bandar-Abbas**	**4.85**	**112**	*ePn*	**Pn**	**14 19 54.9**	**+0.5**
KRBR	**Kerman**	**4.94**	**81**	*ePn*	**Pn**	**14 19 55.1**	**-0.6**
KRBR				AML	AML	14 21 22.0	
	comp=N,105nm,0.7s						
KRBR				AML	AML	14 21 27.5	
	comp=E,96nm,0.7s						
KRBR	**Kerman**	**4.94**	**81**	*ePn*	**Pn**	**14 19 55.1**	**-0.6**
ISFB	**Sefidab**	**5.07**	**10**	*ePn*	**Pn**	**14 19 56.6**	**-0.8**
ISFB				*e*		14 21 04.4	
	comp=Z,452nm,0.2s						
ISFB	**Sefidab**	**5.07**	**10**	*ePn*	**Pn**	**14 19 56.6**	**-0.8**
ASAO	**Ashtian**	**5.26**	**350**	*ePn*	**Pn**	**14 20 00.5**	**+0.3**
ASAO	**Ashtian**	**5.26**	**350**	*ePn*	**Pn**	**14 20 00.5**	**+0.3**
IVRN	**Varamin**	**5.65**	**5**	*ePn*	**Pn**	**14 20 04.6**	**-0.7**
IVRN	**Varamin**	**5.65**	**5**	*ePn*	**Pn**	**14 20 04.6**	**-0.7**
BANOM	**Banah**	**5.72**	**125**	P	**Pn**	**14 20 05.3**	**-0.9**
IBDR	**Badra**	**5.82**	**311**	*ePn*	Pn	14 20 02.0	-5.5
IBDR				*eSn*	Sn	14 21 06.0	-7.5
IR5	**Iran Long-Peri**	**5.86**	**356**	*ePn*	**Pn**	**14 20 06.9**	**-1.4**
IR5	**Iran Long-Peri**	**5.86**	**356**	*ePn*	**Pn**	**14 20 06.9**	**-1.4**
NAZ	**Nazwa, Dubai**	**5.93**	**136**	P	**Pn**	**14 20 09.3**	**+0.2**
ASUD	**Al Ashush, Dub**	**6.01**	**141**	P	**Pn**	**14 20 11.1**	**+0.8**
FAQ	**Al Faqa, Dubai**	**6.07**	**138**	P	**Pn**	**14 20 11.6**	**+0.5**
IRAZ	**Razeghan**	**6.12**	**351**	*ePn*	**Pn**	**14 20 11.6**	**-0.3**
IRAZ				*e*		14 20 30.3	
	comp=Z,362nm,0.2s						
IRAZ	**Razeghan**	**6.12**	**351**	*ePn*	**Pn**	**14 20 11.6**	**-0.3**
ILAS	**Lasjerd**	**6.21**	**14**	*ePn*	**Pn**	**14 20 12.1**	**-1.0**
ILAS				*e*		14 20 18.3	
	comp=N,507nm,0.1s						
ILAS	**Lasjerd**	**6.21**	**14**	*ePn*	**Pn**	**14 20 12.1**	**-1.0**
IDMV	**Damavand**	**6.25**	**7**	*ePn*	**Pn**	**14 20 13.2**	**-0.6**
IDMV				*e*		14 20 14.3	
	comp=Z,535nm,0.1s						
IDMV	**Damavand**	**6.25**	**7**	*ePn*	**Pn**	**14 20 13.2**	**-0.6**
HATD	**Hatta, Dubai**	**6.34**	**134**	P	**Pn**	**14 20 14.2**	**-0.5**
ASHO	**Ashiyiah**	**6.40**	**135**	P	**Pn**	**14 20 15.1**	**-0.5**
	SNR=16						
IANJ	**Anjilo**	**6.53**	**20**	*ePn*	**Pn**	**14 20 16.0**	**-1.6**
IANJ				*e*		14 20 23.9	
	comp=Z,226nm,0.2s						
IANJ	**Anjilo**	**6.53**	**20**	*ePn*	**Pn**	**14 20 16.0**	**-1.6**
ILIN	**Lien**	**6.58**	**329**	*ePn*	**Pn**	**14 20 18.8**	**+0.6**
ILIN				*e*		14 20 21.1	
	comp=Z,1μm,0.1s						
ILIN	**Lien**	**6.58**	**329**	*ePn*	**Pn**	**14 20 18.8**	**+0.6**
TABS	**Tabas**	**6.67**	**49**	*ePn*	**Pn**	**14 20 17.7**	**-1.6**
TABS	**Tabas**	**6.67**	**49**	*ePn*	**Pn**	**14 20 17.7**	**-1.6**
IDHR	**Dehrash**	**6.68**	**324**	*ePn*	**Pn**	**14 20 20.0**	**+0.4**
IDHR				*e*		14 20 22.5	
	comp=Z,2μm,0.1s						
IDHR	**Dehrash**	**6.68**	**324**	*ePn*	**Pn**	**14 20 20.0**	**+0.4**
ISHM	**Shahmirzad**	**6.69**	**15**	*ePn*	**Pn**	**14 20 18.5**	**-1.2**
ISHM				*e*		14 20 31.2	
	comp=Z,537nm,0.2s						
ISHM	**Shahmirzad**	**6.69**	**15**	*ePn*	**Pn**	**14 20 18.5**	**-1.2**
IPRN	**Peran**	**6.94**	**8**	*ePn*	**Pn**	**14 20 23.1**	**0.0**
IPRN				*e*		14 20 40.4	
	comp=Z,682nm,0.3s						
BHD	**Baghdad**	**6.97**	**306**	*ePn*	**Pn**	**14 20 21.0**	**-2.4**
BHD				*i* Sn	**Sn**	**14 21 41.0**	**-0.9**
BHD				*i* Sg	Sb	14 22 25.0	+19
BHD	**Baghdad**	**6.97**	**306**	*ePn*	**Pn**	**14 20 21.0**	**-2.4**
BHD				*i* Sn	**Sn**	**14 21 41.0**	**-0.9**
BHD				*i* Sg	Sb	14 22 25.0	+19
IKIA	**Kiasar**	**7.16**	**17**	*ePn*	**Pn**	**14 20 26.1**	**-0.1**
IKIA				*e*		14 20 32.4	
	comp=Z,161nm,0.2s						
IKIA	**Kiasar**	**7.16**	**17**	*ePn*	**Pn**	**14 20 26.1**	**-0.1**
ITEG	**Tejag**	**7.42**	**60**	*ePn*	**Pn**	**14 20 27.8**	**-2.0**
ITEG				*e*		14 23 02.7	
	comp=Z,254nm,0.5s						
ITEG	**Tejag**	**7.42**	**60**	*ePn*	**Pn**	**14 20 27.8**	**-2.0**
IKOO	**Kooshah**	**7.42**	**64**	*ePn*	**Pn**	**14 20 28.4**	**-1.4**
IKOO				*e*		14 22 51.6	
	comp=Z,484nm,0.5s						
IKOO	**Kooshah**	**7.42**	**64**	*ePn*	**Pn**	**14 20 28.4**	**-1.4**
IAKL	**Akhelmad**	**9.65**	**40**	*ePn*	**Pn**	**14 20 58.9**	**-1.5**
MMAI	**Mount Meron Ar**	**13.95**	**289**	Pn	**Pn**	**14 22 00.7**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=109,slow=17,SNR=4.9						
EIL	**Elat**	**14.10**	**275**	Pn	P	14 22 05.1	-3.3
	comp=Z,0.2nm,0.3s,baz=24,slow=20,SNR=2.4						
KBZ	**Khabaz**	**15.79**	**338**	*ePn*	**Pn**	**14 22 23.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=7.3,SNR=2.0						
KBZ				LR	LR	14 29 38.4	
	comp=Z,49nm,20.2s,baz=170,slow=43						
BRTR	**Keskin Array B**	**17.71**	**310**	Pn	**Pn**	**14 22 47.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=128,slow=11,SNR=7.6						
ATD	**Arta Tunnel**	**19.34**	**205**	LR	LR	14 31 48.0	
	comp=Z,63nm,18.4s,baz=296,slow=40						
AKTO	**Aktyubinsk**	**21.69**	**12**	P	**P**	**14 23 31.0**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=190,slow=11,SNR=10						
AAK	**Ala-Archa**	**22.99**	**49**	P	**P**	**14 23 50.1**	**+4.3**
	comp=Z,1.3nm,0.3s,baz=287,slow=10,SNR=3.9						
AAK				LR	LR	14 33 02.5	
	comp=Z,68nm,20.8s,baz=58,slow=38						
MLR	**Muntele Rosu**	**25.53**	**316**	P	**P**	**14 24 12.7**	**+3.1**
	comp=Z,2.1nm,0.6s,baz=184,slow=4.1,SNR=7.2						
MLR				LR	LR	14 36 13.0	
	comp=Z,15nm,18.1s,baz=332,slow=42						
AKASG	**Malin Array Be**	**26.94**	**328**	P	**P**	**14 24 21.6**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=128,slow=8.1,SNR=2.6						
BVAR	**Borovoye Array**	**27.56**	**26**	P	**P**	**14 24 27.7**	**0.0**
	comp=Z,1.2nm,0.5s,baz=224,slow=6.2,SNR=9.7						
BVAR				LR	LR	14 36 49.8	
	comp=Z,48nm,20.0s,baz=59,slow=40						
KOLS	**Kolonicke sedl**	**29.44**	**320**	*eP*	**P**	**14 24 46.4**	**+1.9**
KURBB	**Kurchatov Arra**	**29.58**	**36**	P	P	14 24 48.5	+2.9
	comp=Z,2.7nm,0.2s,baz=235,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**29.81**	**46**	P	**P**	**14 24 49.5**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=237,slow=7.8,SNR=18						
MKAR				LR	LR	14 38 04.6	
	comp=Z,40nm,18.6s,baz=152,slow=39						
KECS	**Kecovo**	**30.25**	**318**	*eP*	**P**	**14 24 53.4**	**+1.7**
VYHS	**Vyhne**	**31.24**	**317**	*eP*	**P**	**14 25 01.1**	**+0.7**
OKC	**Ostrava-Krasne**	**32.24**	**319**	*eP*	P	14 25 14.2	+5.1
OKC				*ex*	x	14 25 19.6	
DPC	**Dobruska-Polom**	**33.52**	**319**	*eP*	**P**	**14 25 20.9**	**+0.5**
DPC				*epP*	**pP**	**14 25 25.3**	**-2.3**
UPC	**Upice**	**33.77**	**319**	*eP*	**P**	**14 25 24.8**	**+2.3**
GERES	**GERESS Array B**	**34.50**	**315**	P	**P**	**14 25 28.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=125,slow=8.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**34.64**	**35**	P	**P**	**14 25 31.8**	**+1.8**
	comp=Z,5.6nm,0.7s,baz=242,slow=9.1,SNR=18						
KHC	**Kasperske Hory**	**34.68**	**315**	*eP*	**P**	**14 25 31.0**	**+0.5**
KHC				*epP*	**pP**	**14 25 35.5**	**-2.2**
BRG	**Berggiesshubel**	**35.12**	**318**	*eP*	P	14 25 40.3	+6.2
	comp=Z,2.4nm,0.3s						
CLL	**Collm**	**35.84**	**319**	*i* P	**P**	**14 25 41.0**	**+0.7**
	comp=Z,5.0nm,0.9s						
CLL				*i*		14 25 45.3	
	comp=Z,7.0nm,1.1s						
FINES	**FINESS Array B**	**36.13**	**340**	P	**P**	**14 25 41.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=132,slow=9.8,SNR=5.1						
DAVOX	**Davos/Dischmat**	**36.36**	**310**	P	**P**	**14 25 45.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=6.7,slow=7.5,SNR=3.9						
LPG	**La Plagne**	**38.23**	**307**	*eP*	**P**	**14 26 01.5**	**+0.4**
	comp=Z,5.8nm,0.7s						
LPL	**La Plagne**	**38.25**	**307**	*eP*	**P**	**14 26 00.8**	**-0.4**
	comp=Z,10nm,1.0s						
CABF	**La Chapelle**	**38.88**	**309**	*eP*	**P**	**14 26 06.1**	**-0.2**
	comp=Z,8.5nm,0.9s						
HFS	**Hagfors**	**39.72**	**332**	P	**P**	**14 26 12.1**	**-1.0**
	comp=Z,2.7nm,0.5s,baz=128,slow=9.7,SNR=14						
SMF	**Signal de Mont**	**40.41**	**309**	*eP*	**P**	**14 26 18.3**	**-0.6**
	comp=Z,7.3nm,0.7s						
GTA	**Gaotai**	**40.98**	**63**	*eP*	**P**	**14 26 26.4**	**+2.5**
GTA				pP	**pP**	**14 26 30.5**	**-0.7**
GTA				sP	**sP**	**14 26 32.5**	**-1.7**
NB2	**NORSAR Subarra**	**41.24**	**332**	P	**P**	**14 26 24.4**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**41.24**	**332**	P	**P**	**14 26 24.5**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=123,slow=8.3,SNR=7.6						
ARCES	**ARCESS Array B**	**42.83**	**347**	P	**P**	**14 26 37.9**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=160,slow=5.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**44.77**	**93**	LR	LR	14 49 51.6	
	comp=Z,52nm,20.9s,baz=348,slow=42						
SONM	**Songino Array**	**45.93**	**50**	P	**P**	**14 27 05.2**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=237,slow=4.9,SNR=3.6						
EKA	**Eskdalemuir Ar**	**46.26**	**320**	P	**P**	**14 27 05.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=101,slow=8.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**48.45**	**261**	P	**P**	**14 27 25.0**	**+1.4**
	comp=Z,2.4nm,0.4s,baz=58,slow=7.8,SNR=21						
SPITS	**Spitsbergen Ar**	**51.31**	**351**	P	**P**	**14 27 43.0**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=141,slow=14,SNR=2.3						
LIC	**Lamto**	**57.60**	**258**	*eP*	P	14 28 35.7	+4.6
	comp=Z,10.0nm,0.7s						
BOSA	**Boshof**	**62.73**	**206**	P	P	14 29 09.7	+3.7
	comp=Z,2.7nm,0.9s,baz=32,slow=9.5,SNR=4.7						
KSRS	**Korea Array**	**62.99**	**60**	P	**P**	**14 29 08.7**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=283,slow=6.0,SNR=6.6						
SCHQ	**Schefferville**	**80.74**	**329**	P	**P**	**14 30 53.3**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=61,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**85.13**	**8**	P	**P**	**14 31 17.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=320,slow=3.6,SNR=11						
FITZ	**Fitzroy Crossi**	**85.92**	**113**	LR	LR	15 12 40.9	
	comp=Z,66nm,18.2s,baz=178,slow=38						
WRA	**Warramunga Arr**	**93.91**	**111**	P	P	14 32 03.7	+4.9
	comp=Z,0.3nm,0.9s,baz=310,slow=4.3,SNR=3.8						
ASAR	**Alice Springs**	**95.39**	**114**	P	**P**	**14 32 06.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.8,SNR=4.3						

IDC 08 14:27:19.1±2.8, 19°95S×64°09W, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=91.8km s-min=27.1km az=39.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.29**	**313**	Pn	Pn	14 28 41.0	+0.8
	1.2nm,0.3s,baz=132,slow=10,SNR=16						
LPAZ				Sn	Sn	14 29 40.5	-2.1
	3.5nm,0.3s,baz=260,slow=24,SNR=7.5						
CPUP	**Villa Florida**	**8.89**	**137**	Pn	Pn	14 29 28.5	-0.3
	1.7nm,0.3s,baz=307,slow=14,SNR=8.6						
CPUP				Lg	Lg	14 32 14.4	
	0.8nm,0.3s,baz=218,slow=18,SNR=2.7						
TORD	**Torodi Ar. Bea**	**72.59**	**69**	P	P	14 38 48.8	0.0
	0.5nm,0.6s,baz=254,slow=6.2,SNR=3.5						

*IDC **08** 14:29:50.3±8.8, 35°94N×71°32E, h71km±76km, mb3.1/3, mb1 3.2/6, mb1mx3.0/29, mbtmp3.1/6, ML3.2/3, Error ellipse: s-maj=98.3km s-min=53.2km az=88.0*
*ISCJB **08** 14:29:51.7±1.3, 36°06N±0°09×72°5E±0°3, h63km, mb3.3/2, Error ellipse: s-maj=33.8km s-min=12.5km az=0.0*

**ISC 08 14:29:52.5±1.7, 35°9N±0°1×72°5E±0°3, h63km, n8, σ2°53/9, 2C-

25nm,1.1s
MTN Manton Dam 15.03 163 P **Pn** 14 53 51.6 -0.2
baz=15,SNR=5.0
KDU Kakadu 15.34 158 P **P** 14 54 00.5 +0.7
baz=15,SNR=9.5
KSM Kuching 16.26 270 P **P** 14 54 11.0 +0.9
21nm,0.9s
KSM Kuching 16.26 270 P **P** 14 54 11.5 +1.3
baz=16,SNR=8.7
KNRA Kununurra 17.28 173 P **P** 14 54 21.0 -0.3
baz=17,SNR=7.5
FITZ Fitzroy Crossi 19.58 183 P **P** 14 54 45.3 -1.3
FITZ Fitzroy Crossi 19.58 183 P **P** 14 54 45.3 -1.3
1.3nm,0.3s,baz=26,slow=11,SNR=19
FITZ Fitzroy Crossi 19.58 183 P **P** 14 54 46.0 -0.7
baz=20,SNR=6.8
COEN Coen 22.56 134 P **P** 14 55 19.3 +0.4
baz=23,SNR=6.1
WRAB Tennant Creek 22.70 161 *eP* **P** 14 55 19.2 -1.1
60nm,0.8s
WRA Warramunga Arr 22.70 161 P **P** 14 55 19.2 -1.1
WRA S **S** 14 59 23.4 -2.2
WRA Warramunga Arr 22.70 161 P **P** 14 55 19.2 -1.1
42nm,0.5s,baz=339,slow=11,SNR=51
WRA S **S** 14 59 23.4 -2.2
1.8nm,0.9s,baz=338,slow=19,SNR=5.7
MBWA Marble Bar 23.57 196 *eP* **P** 14 55 26.7 -2.2
6.2nm,0.6s
AS31 Alice Springs 26.09 165 *eP* **P** 14 55 51.5 -0.4
ASAR Alice Springs 26.09 165 P **P** 14 55 51.5 -0.3
ASAR PcP **PcP** 14 59 19.0 +0.2
ASAR S **S** 15 00 22.1 +1.9
ASAR Alice Springs 26.09 165 P **P** 14 55 51.5 -0.3
12nm,0.4s,baz=343,slow=7.1,SNR=155
ASAR PcP **PcP** 14 59 19.0 +0.2
1.9nm,0.5s,baz=348,slow=2.1,SNR=5.8
ASAR S **S** 15 00 22.1 +1.9
1.0nm,0.9s,baz=353,slow=21,SNR=4.6
MTSU Mount Surprise 26.25 139 P **P** 14 55 53.6 +0.2
baz=26,SNR=7.6
MTSU S **S** 15 00 22.6 -0.1
baz=26,SNR=8.4
PSI Prapat 27.66 273 P **P** 14 56 05.0 -1.3
PSI Prapat 27.66 273 P **P** 14 56 05.0 -1.3
9.2nm,0.9s,baz=114,slow=4.4,SNR=5.6
CTA Charters Tower 28.92 139 P **P** 14 56 17.6 +0.4
CTA Charters Tower 28.92 139 P **P** 14 56 17.6 +0.4
4.4nm,0.9s,baz=308,slow=13,SNR=2.7
CTAO Charters Tower 28.92 139 *eP* **P** 14 56 17.2 -0.1
MEEK Meekatharra 29.09 195 P **P** 14 56 19.6 +0.9
baz=29,SNR=9.5
NANT Nan 30.59 306 P **P** 14 56 34.2 +2.0
27nm,0.6s
CMAR Chiang Mai Arr 31.87 304 P **P** 14 56 43.0 -0.5
CMAR Chiang Mai Arr 31.87 304 P **P** 14 56 43.0 -0.5
0.6nm,0.6s,baz=92,slow=4.9,SNR=5.5
MORW Morawa 32.10 198 P **P** 14 56 44.3 -1.0
baz=32,SNR=3.8
FORT Forrest 32.21 178 P **P** 14 56 46.1 0.0
baz=32,SNR=8.4
BLDU Ballidu 33.37 196 P **P** 14 56 57.3 +0.9
baz=33,SNR=7.5
KLBR Kellerberrin 34.04 194 P **P** 14 57 02.5 +0.4
baz=34,SNR=5.2
BBOO Buckleboo 35.36 166 P **P** 14 57 13.1 -0.4
baz=36,SNR=35
NWAO Narrogin (SRO) 35.44 194 P **P** 14 57 13.8 -0.4
NWAO Narrogin (SRO) 35.44 194 P **P** 14 57 13.8 -0.4
3.2nm,0.5s,baz=34,slow=11,SNR=4.5
KSAR Wonju Array Be 35.71 2 P **P** 14 57 18.0 +1.6
KSRS Korea Array 35.72 2 P **P** 14 57 18.0 +1.5
1.3nm,0.7s,baz=176,slow=10,SNR=7.6
STKA Stephens Creek 36.20 158 *eP* **P** 14 57 19.8 -0.9
1.7nm,0.8s
STKA PcP **PcP** 14 59 45.6 +0.1
STKA Stephens Creek 36.20 158 P **P** 14 57 20.5 -0.2
9.1nm,0.8s,baz=339,slow=8.9,SNR=22
STKA PcP **PcP** 14 59 45.6 +0.1
1.9nm,0.6s,baz=315,slow=7.0,SNR=3.0
STKA Stephens Creek 36.20 158 P **P** 14 57 20.5 -0.2
baz=36,SNR=23
MJAR Matsushiro Arr 36.42 16 P **P** 14 57 21.3 -1.2
MJAR Matsushiro Arr 36.42 16 P **P** 14 57 21.3 -1.2
1.4nm,0.5s,baz=187,slow=9.7,SNR=12
RKGY Rocky Gully 37.11 193 P **P** 14 57 29.8 +1.4
baz=37,SNR=7.2
CMSA Cobar Meteorol 37.61 153 P **P** 14 57 33.8 +1.1
baz=38,SNR=7.5
ARMA Armidale 39.78 145 P **P** 14 57 52.2 +1.0
baz=40,SNR=9.7
ARPS Mount Arapiles 40.71 161 P **P** 14 57 59.3 +0.7
baz=41,SNR=11
USRK Ussuriysk Arra 42.71 6 P **P** 14 58 15.6 +0.8
3.7nm,0.8s,baz=209,slow=7.8,SNR=7.7
MILA Mila 43.78 154 P P 14 58 29.5 +5.8
baz=44,SNR=5.6
ASAJ Asahikawa 44.68 16 P **P** 14 58 31.0 +0.4
ASAJ Asahikawa 44.68 16 P **P** 14 58 31.0 +0.4
2.7nm,0.6s,baz=219,slow=9.0,SNR=9.9
GTA Gaotai 44.86 330 *eP* **P** 14 58 31.9 -0.5
GTA pmax pmax
comp=Z,2.0nm,1.6s
DZM Mont Dzumac 45.46 123 P **P** 14 58 38.0 +0.7
DZM Mont Dzumac 45.46 123 P **P** 14 58 38.0 +0.7
comp=Z,6.3nm,1.1s,baz=315,slow=19,SNR=3.0
SONM Songino Array 49.28 342 P **P** 14 59 07.1 +0.4
SONM Songino Array 49.28 342 P **P** 14 59 07.1 +0.4
comp=Z,1.3nm,0.6s,baz=148,slow=12,SNR=7.2
PETK Petropavlovsk- 57.47 22 P **P** 15 00 06.8 +0.3
PETK Petropavlovsk- 57.47 22 P **P** 15 00 06.8 +0.3
comp=Z,2.1nm,0.6s,baz=178,slow=6.7,SNR=9.1
MK31 Makanchi Array 59.23 326 *eP* **P** 15 00 17.2 -1.8
MKAR Makanchi Array 59.23 326 P **P** 15 00 17.7 -1.3
MKAR Makanchi Array 59.23 326 P **P** 15 00 17.7 -1.3
comp=Z,3.3nm,0.5s,baz=120,slow=7.8,SNR=74
ZALV Zalesovo Beam 62.43 334 P **P** 15 00 38.8 -1.8
ZALV Zalesovo Beam 62.43 334 P **P** 15 00 38.8 -1.8
comp=Z,0.9nm,0.4s,baz=119,slow=7.3,SNR=5.1
KBL Kabul 62.71 308 *eP* **P** 15 00 40.1 -3.0
comp=Z,4.4nm,0.5s
FX1 Attu Island--F 64.02 29 P **P** 15 00 50.9 -0.1
FX1 Attu Island--F 64.02 29 P **P** 15 00 50.9 -0.1
comp=Z,16nm,0.8s,baz=207,slow=2.3,SNR=2.7
VNDA Vanda 81.33 173 *eP* **P** 15 02 33.1 -0.3
comp=Z,3.4nm,0.6s
VNDA Vanda 81.33 173 P **P** 15 02 33.5 +0.1
comp=Z,3.8nm,0.5s,baz=319,slow=6.3,SNR=44
MAW Mawson 81.70 200 P **P** 15 02 34.9 -0.6
MAW Mawson 81.70 200 P **P** 15 02 34.9 -0.6
comp=Z,1.1nm,0.7s,baz=56,slow=7.3,SNR=6.1
RSO Redoubt South 84.03 29 *eP* **P** 15 02 48.0 0.0
comp=Z,15nm,0.4s
KBZ Khabaz 84.34 314 P **P** 15 02 48.0 -1.7
KBZ Khabaz 84.34 314 P **P** 15 02 48.0 -1.7
comp=Z,1.0nm,0.4s,baz=135,slow=5.7,SNR=2.8
ILAR Eielson Array 87.10 25 P **P** 15 03 01.4 -1.6
ILAR Eielson Array 87.10 25 P **P** 15 03 01.4 -1.6
comp=Z,0.3nm,0.6s,baz=259,slow=4.5,SNR=3.5
BRTR Keskin Array B 91.27 310 P **P** 15 03 22.2 -1.1
BRTR Keskin Array B 91.27 310 P **P** 15 03 22.2 -1.1
comp=Z,0.6nm,0.7s,baz=119,slow=4.5,SNR=3.5
ARCES ARCESS Array B 92.40 340 P **P** 15 03 26.8 -1.0
ARCES ARCESS Array B 92.40 340 P **P** 15 03 26.8 -1.0
comp=Z,1.4nm,0.8s,baz=79,slow=5.6,SNR=4.4
KAF Kangasniemi 93.42 332 *ep* **P** 15 03 32.1 -0.4
comp=Z,0.9nm,0.4s
FINES FINESS Array B 93.64 332 P **P** 15 03 32.4 -1.2
FINES FINESS Array B 93.64 332 P **P** 15 03 32.4 -1.2
comp=Z,1.1nm,0.6s,baz=72,slow=6.2,SNR=7.9
KOLS Kolonicke sedl 98.18 320 PDIF Pdif 15 04 00.0 +5.4
CRVS Cervenica-Dubn 98.71 320 PDIF Pdif 15 03 59.6 +2.6
TXAR Lajitas Array 123.02 53 PKP **PKPdf** 15 09 15.1 +0.5
TXAR Lajitas Array 123.02 53 PKP **PKPdf** 15 09 15.1 +0.5
comp=Z,0.2nm,0.4s,baz=319,slow=2.6,SNR=2.4
TORD Torodi Ar. Bea 123.41 287 PKP **PKPdf** 15 09 14.5 -1.0
TORD Torodi Ar. Bea 123.41 287 PKP **PKPdf** 15 09 14.5 -1.0
comp=Z,0.2nm,0.4s,baz=91,slow=1.6,SNR=5.3
PLCA Paso Flores 138.05 160 PKP **PKPdf** 15 09 41.9 -0.7
PLCA Paso Flores 138.05 160 PKP **PKPdf** 15 09 41.9 -0.7
comp=Z,1.7nm,0.8s,baz=196,slow=7.4,SNR=3.1

IDC 08 15:06:38.3±2.8, 19°.94S×64°.10W, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, ML4.0/2, Error ellipse: s-maj=91.3km s-min=27.1km az=38.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.28**	**313**	Pn	Pn	15 08 00.0	+0.7
0.8nm,0.3s,baz=127,slow=11,SNR=24							
LPAZ				Sn	Sn	15 08 59.4	-2.0
2.0nm,0.3s,baz=60,slow=20,SNR=5.4							
CPUP	**Villa Florida**	**8.90**	**137**	Pn	Pn	15 08 47.9	-0.3
1.6nm,0.3s,baz=305,slow=13,SNR=8.9							
CPUP				Lg	Lg	15 11 33.9	
0.9nm,0.3s,baz=211,slow=18,SNR=2.6							
TORD	**Torodi Ar. Bea**	**72.59**	**69**	P	P	15 18 08.0	0.0
0.5nm,0.6s,baz=256,slow=6.2,SNR=3.8							

*ISCJB **08** 15:11:47.9±2.9, 0°.99N±0°.06×127°.7E±0°.1, h6km±18km, mb3.9/6, Error ellipse: s-maj=24.4km s-min=10.5km az=174.9*
*IDC **08** 15:11:48.6±1.0, 0°.99N×127°.64E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=72.1km s-min=17.4km az=75.0*
*DJA **08** 15:11:53.9±0.6, 1°N±4°×12°7E±°, h10km, M3.7/3, MLv3.7/3*
ISC 08 15:11:48.8±3.3, 0°.94N±0°.08×127°.7E±0°.1, h2km±20km, n9, σ0°87/11, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.34**	**240**	P	**Pg**	**15 11 55.3**	**0.0**
TNTI				S	**Sg**	**15 11 58.8**	**-0.9**
LBMI	**Labuha**	**1.58**	**186**	P	**Pb**	**15 12 19.1**	**+0.3**
LBMI				S	**Sn**	**15 12 38.0**	**-1.0**
GTOI	**Gorontalo**	**4.66**	**266**	P	**Pn**	**15 13 01.7**	**+1.4**
WRA	**Warramunga Arr**	**21.77**	**163**	P	**P**	**15 16 43.0**	**+0.9**
4.2nm,0.6s,baz=341,slow=11,SNR=56							
ASAR	**Alice Springs**	**25.20**	**166**	P	**P**	**15 17 16.4**	**+0.2**
4.9nm,0.8s,baz=346,slow=11,SNR=43							
STKA	**Stephens Creek**	**35.21**	**159**	P	**P**	**15 18 44.9**	**+0.1**
2.5nm,0.7s,baz=329,slow=11,SNR=5.6							
MJAR	**Matsushiro Arr**	**36.74**	**14**	P	**P**	**15 18 57.3**	**-0.5**
1.1nm,0.8s,baz=184,slow=9.7,SNR=5.0							
SONM	**Songino Array**	**50.22**	**341**	P	**P**	**15 20 46.2**	**-0.3**
0.4nm,0.5s,baz=141,slow=9.3,SNR=2.4							
MKAR	**Makanchi Array**	**60.36**	**326**	P	**P**	**15 21 59.1**	**-0.5**
0.8nm,0.8s,baz=122,slow=8.1,SNR=8.0							

IDC 08 15:45:28.3±0.7, 51°.04S×116°.93E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/16, mbtmp4.2/9, MS3.7/7, Ms1 3.6/7, ms1mx3.5/15, Error ellipse: s-maj=33.1km s-min=16.1km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.10**	**1**	LR	LR	15 54 41.0	
comp=Z,224nm,20.6s,baz=23,slow=30							
STKA	**Stephens Creek**	**26.40**	**53**	P	P	15 51 06.6	+0.2
4.8nm,1.1s,baz=186,slow=10,SNR=5.6							
STKA				LR	LR	15 59 24.4	
comp=Z,124nm,20.1s,baz=205,slow=32							
ASAR	**Alice Springs**	**30.32**	**32**	P	P	15 51 41.4	-0.1
3.5nm,0.9s,baz=217,slow=8.2,SNR=31							
ASAR				LR	LR	16 02 19.9	
comp=Z,67nm,18.0s,baz=163,slow=33							
MAW	**Mawson**	**30.88**	**217**	LR	LR	16 00 56.6	
comp=Z,112nm,22.0s,baz=354,slow=30							
VNDA	**Vanda**	**31.34**	**163**	P	P	15 51 50.5	+0.7
1.6nm,0.8s,baz=301,slow=9.8,SNR=8.3							
VNDA				LR	LR	16 03 10.8	
comp=Z,114nm,19.4s,baz=14,slow=34							
WRA	**Warramunga Arr**	**33.93**	**30**	P	P	15 52 12.4	-0.7
4.6nm,0.9s,baz=200,slow=8.7,SNR=14							
WRA				PcP	PcP	15 54 50.8	-0.8
0.6nm,1.0s,baz=215,slow=2.8,SNR=4.6							
RPZ	**Rata Peaks**	**36.65**	**100**	LR	LR	16 04 05.7	
comp=Z,274nm,19.2s,baz=191,slow=30							
QSPA	**South Pole Qui**	**39.09**	**180**	P	P	15 52 56.9	0.0
1.8nm,0.9s,baz=320,slow=1.2,SNR=10							
URZ	**Urewera**	**43.50**	**97**	LR	LR	16 07 50.2	
comp=Z,98nm,20.9s,baz=215,slow=31							
SNAA	**Sanae**	**50.47**	**201**	P	P	15 54 27.0	-0.4
1.9nm,0.9s,baz=143,slow=10.0,SNR=15							
BOSA	**Boshof**	**69.31**	**250**	P	P	15 56 37.0	-0.6
2.9nm,1.0s,baz=119,slow=13,SNR=3.6							
CMAR	**Chiang Mai Arr**	**70.97**	**342**	P	P	15 56 48.0	+0.5
1.7nm,0.9s,baz=197,slow=5.4,SNR=11							
TBI	**Tubuai**	**74.39**	**108**	*e*LR	LR	16 19 48.6	
160nm,28.0s							
PPT2	**Papeete2**	**78.69**	**104**	*e*LR	LR	16 21 49.5	
32nm,22.0s							
KSRS	**Korea Array**	**88.64**	**9**	P	P	15 58 23.3	+0.6
1.1nm,0.9s,baz=190,slow=4.1,SNR=4.2							
ILAR	**Eielson Array**	**136.87**	**39**	PKP	PKPdf	16 04 51.9	+0.5
0.5nm,0.9s,baz=328,slow=3.2,SNR=3.9							
NVAR	**Mina Array Bea**	**139.71**	**86**	PKP	PKPdf	16 04 59.1	+1.3
0.7nm,0.8s,baz=190,slow=2.7,SNR=5.7							
TXAR	**Lajitas Array**	**142.81**	**110**	PKhKP	PKPpre	16 05 00.3	
0.6nm,0.8s,baz=241,slow=1.9,SNR=4.3							
PDAR	**Pinedale Array**	**147.65**	**86**	PKPbc	PKPdf	16 05 12.1	+0.5
1.8nm,0.9s,baz=204,slow=3.3,SNR=15							
YKA	**Yellowknife Ar**	**150.36**	**47**	PKPbc	PKPbc	16 05 20.4	+0.3
4.0nm,0.8s,baz=261,slow=1.4,SNR=6.8							

IDC 08 15:47:21.7±54.0, 19°.34S×178°.52W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=979.3km s-min=147.5km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.87**	**243**	P	P	15 54 40.6	+0.1
1.2nm,0.9s,baz=79,slow=12,SNR=2.8							
WRA	**Warramunga Arr**	**44.29**	**261**	P	P	15 55 33.5	-0.1
0.3nm,0.3s,baz=97,slow=7.6,SNR=29							
ASAR	**Alice Springs**	**44.32**	**256**	P	P	15 55 33.4	-0.4
1.1nm,0.6s,baz=97,slow=7.5,SNR=21							

*IDC **08** 15:51:15.6±1.7, 39°.33N×21°.79E, h0km, mb3.5/3, mb1 3.3/4, mb1mx3.1/26, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=96.9km s-min=24.8km az=141.0*
*ISCJB **08** 15:51:16.2±0.3, 38°.15N±0°.01×22°.67E±0°.02, h4km±2km, mb3.3/3, Error ellipse: s-maj=2.1km s-min=1.9km az=141.5*
*ATH **08** 15:51:16.5, 38°.13N×22°.64E, h13km±3km, MD3.0/20, ML3.2*
*THE **08** 15:51:16.5, 38°.15N×22°.67E, h0km±1km, ML3.1/11, Error ellipse: s-maj=1.1km s-min=0.3km az=38.0*
*CSEM **08** 15:51:16.3±0.1, 38°.14N×22°.67E, h5km, ML3.1/11, Error ellipse: s-maj=1.4km s-min=1.3km az=60.0*
ISC 08 15:51:16.6±0.8, 38°.15N±0°.01×22°.67E±0°.01, h9km±6km, n139, σ0°60/214, mb3.4/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.11**	**184**	P	**Pg**	**15 51 19.1**	**-0.2**
THAL				S	**Sg**	**15 51 20.6**	**-0.5**
THAL	**Thalero**	**0.11**	**184**	P	**Pg**	**15 51 19.1**	**-0.2**
THAL				S	**Sg**	**15 51 20.6**	**-0.5**
LTK	**Loutraki**	**0.26**	**118**	P	**Pg**	**15 51 21.9**	**-0.1**
LTK				S	**Sg**	**15 51 25.8**	**+0.3**
LTK	**Loutraki**	**0.26**	**118**	*e*PG	**Pg**	**15 51 22.1**	**+0.1**
LTK				*e*SG	**Sg**	**15 51 26.7**	**+1.2**
LTK	**Loutraki**	**0.26**	**118**	P	**Pg**	**15 51 21.9**	**-0.1**
LTK				S	**Sg**	**15 51 25.8**	**+0.3**
LTK				*e*Sg	**Sg**	**15 51 26.7**	**+1.2**
DSF	**Desfina**	**0.29**	**337**	P	**Pg**	**15 51 22.2**	**-0.2**
DSF				S	**Sg**	**15 51 26.8**	**+0.5**
DSF	**Desfina**	**0.29**	**337**	P	**Pg**	**15 51 22.2**	**-0.2**
DSF				S	**Sg**	**15 51 26.8**	**+0.5**
ACOR	**Acrocorinthos**	**0.30**	**149**	P	**Pg**	**15 51 22.4**	**-0.2**
ACOR				S	**Sg**	**15 51 27.1**	**+0.5**
ACOR	**Acrocorinthos**	**0.30**	**149**	P	**Pg**	**15 51 22.4**	**-0.2**
ACOR				S	**Sg**	**15 51 27.1**	**+0.5**
GUR	**Goura**	**0.34**	**231**	P	**Pg**	**15 51 22.9**	**-0.4**
GUR				S	**Sg**	**15 51 27.5**	**-0.3**
GUR	**Goura**	**0.34**	**231**	*e*PB	**Pg**	**15 51 22.9**	**-0.4**
GUR				*e*SB	**Sg**	**15 51 27.1**	**-0.7**
GUR	**Goura**	**0.34**	**231**	P	**Pg**	**15 51 22.9**	**-0.4**
GUR				*e*Sb	**Sg**	**15 51 27.1**	**-0.7**
KLV	**Kalavryta, Ach**	**0.42**	**256**	P	**Pg**	**15 51 24.3**	**-0.7**
KLV				S	**Sg**	**15 51 30.6**	**0.0**
KLV	**Kalavryta, Ach**	**0.42**	**256**	*e*PB	**Pg**	**15 51 24.3**	**-0.7**
KLV				*e*SB	**Sg**	**15 51 30.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.42**	**256**	P	**Pg**	**15 51 24.3**	**-0.7**
KLV				*e*Sb	**Sg**	**15 51 30.0**	**-0.6**
VIL2	**Platees**	**0.47**	**82**	P	**Pg**	**15 51 25.5**	**-0.4**
VIL2				S	**Sg**	**15 51 32.5**	**+0.4**
KALE	**Kalithea**	**0.48**	**300**	P	**Pg**	**15 51 25.8**	**-0.3**
KALE				S	**Sg**	**15 51 33.1**	**+0.6**
KALE	**Kalithea**	**0.48**	**300**	*e*PB	**Pg**	**15 51 25.9**	**-0.2**
KALE	**Kalithea**	**0.48**	**300**	P	**Pg**	**15 51 25.8**	**-0.3**
KALE				S	**Sg**	**15 51 32.9**	**+0.4**
TRIZ	**Trizonia**	**0.52**	**295**	P	**Pg**	**15 51 26.4**	**-0.3**
TRIZ				S	**Sg**	**15 51 34.1**	**+0.5**
TRIZ	**Trizonia**	**0.52**	**295**	*e*PB	**Pg**	**15 51 26.5**	**-0.3**
TRIZ	**Trizonia**	**0.52**	**295**	P	**Pg**	**15 51 26.4**	**-0.3**
TRIZ				S	**Sg**	**15 51 33.6**	**0.0**
LAKA	**Lakka**	**0.55**	**280**	P	**Pg**	**15 51 26.9**	**-0.4**
LAKA				S	**Sg**	**15 51 35.4**	**+0.7**
LAKA	**Lakka**	**0.55**	**280**	*e*PB	**Pg**	**15 51 27.0**	**-0.4**
LAKA	**Lakka**	**0.55**	**280**	P	**Pg**	**15 51 27.0**	**-0.4**
LAKA				S	**Sg**	**15 51 34.1**	**-0.6**
LKR	**Lokris**	**0.56**	**27**	*e*PB	**Pg**	**15 51 27.1**	**-0.5**
LKR				*e*SB	**Sb**	**15 51 36.5**	**-0.4**
LKR	**Lokris**	**0.56**	**27**	*e*Pb	**Pg**	**15 51 27.1**	**-0.5**
LKR				*e*Sb	**Sb**	**15 51 36.5**	**-0.4**
AXAR	**Agios Charalam**	**0.62**	**359**	P	**Pg**	**15 51 28.1**	**-0.5**
AXAR				S	**Sb**	**15 51 38.2**	**-0.3**
AXAR	**Agios Charalam**	**0.62**	**359**	P	**Pg**	**15 51 28.1**	**-0.5**
AXAR				S	**Sb**	**15 51 38.2**	**-0.3**
PSA1	**Psathopyrgos**	**0.65**	**286**	*e*PB	**Pg**	**15 51 29.4**	**+0.3**
EFP	**Efpalio**	**0.66**	**295**	P	**Pg**	**15 51 28.9**	**-0.5**
EFP				S	**Sg**	**15 51 38.3**	**+0.1**
EFP	**Efpalio**	**0.66**	**295**	*e*PB	**Pg**	**15 51 29.0**	**-0.5**
EFP	**Efpalio**	**0.66**	**295**	P	**Pg**	**15 51 29.0**	**-0.5**
EFP				S	**Sg**	**15 51 38.3**	**+0.1**
UPR	**University Cam**	**0.71**	**281**	P	**Pg**	**15 51 30.4**	**0.0**
DID	**Didima**	**0.78**	**145**	P	**Pg**	**15 51 31.0**	**-0.7**
DID				S	**Sb**	**15 51 43.1**	**-0.1**
DID	**Didima**	**0.78**	**145**	*e*PG	**Pg**	**15 51 31.0**	**-0.7**
DID				*e*SB	**Sb**	**15 51 43.0**	**-0.1**
DID	**Didima**	**0.78**	**145**	P	**Pg**	**15 51 31.0**	**-0.7**
DID				S	**Sg**	**15 51 42.5**	**+0.6**
DID				*e*Sb	**Sb**	**15 51 43.0**	**-0.1**
DIDY	**Didyma**	**0.80**	**147**	P	**Pg**	**15 51 31.3**	**-0.7**
DIDY				S	**Sb**	**15 51 43.5**	**-0.1**
DIDY	**Didyma**	**0.80**	**147**	P	**Pg**	**15 51 31.3**	**-0.7**
DIDY				S	**Sb**	**15 51 43.5**	**-0.1**
VLX	**Vlachokerasia**	**0.81**	**197**	P	**Pg**	**15 51 31.4**	**-0.9**
VLX				S	**Sb**	**15 51 44.3**	**+0.3**
VLX	**Vlachokerasia**	**0.81**	**197**	*e*PB	**Pg**	**15 51 31.4**	**-0.9**
VLX	**Vlachokerasia**	**0.81**	**197**	P	**Pg**	**15 51 31.4**	**-0.9**
VLX				S	**Sg**	**15 51 42.3**	**-0.5**
ATH	**Athens Observa**	**0.84**	**102**	P	**Pg**	**15 51 32.7**	**-0.2**
ATH				S	**Sg**	**15 51 44.4**	**+0.6**
ATH	**Athens Observa**	**0.84**	**102**	*e*PB	**Pg**	**15 51 33.0**	**+0.1**
ATH				*e*SB	**Sb**	**15 51 45.2**	**+0.3**
ATH	**Athens Observa**	**0.84**	**102**	P	**Pg**	**15 51 32.7**	**-0.2**
ATH	**Athens Observa**	**0.84**	**102**	*e*Pb	**Pg**	**15 51 33.0**	**+0.1**
ATH				S	**Sg**	**15 51 44.4**	**+0.6**
ATH				*e*Sb	**Sb**	**15 51 45.2**	**+0.3**
SMIA	**Simia**	**0.84**	**30**	P	**Pg**	**15 51 31.7**	**-1.2**
SMIA				S	**Sb**	**15 51 45.3**	**+0.3**
SMIA	**Simia**	**0.84**	**30**	P	**Pg**	**15 51 31.7**	**-1.2**
SMIA				S	**Sb**	**15 51 45.3**	**+0.3**
ATHU	**Athens Univers**	**0.90**	**101**	P	**Pg**	**15 51 33.4**	**-0.5**
ATHU				S	**Sg**	**15 51 46.1**	**+0.5**
ATHU	**Athens Univers**	**0.90**	**101**	P	**Pg**	**15 51 33.4**	**-0.5**
ATHU				S	**Sg**	**15 51 46.1**	**+0.5**
MRKA	**Markates**	**0.91**	**52**	P	**Pg**	**15 51 32.9**	**-1.3**
MRKA				S	**Sb**	**15 51 48.1**	**+1.2**
MRKA	**Markates**	**0.91**	**52**	P	**Pg**	**15 51 32.9**	**-1.3**
MRKA				S	**Sb**	**15 51 48.1**	**+1.2**
AGG	**Agios Georgios**	**0.91**	**343**	P	**Pg**	**15 51 33.7**	**-0.5**
AGG				S	**Sb**	**15 51 47.1**	**0.0**
AGG	**Agios Georgios**	**0.91**	**343**	*e*PG	**Pg**	**15 51 33.5**	**-0.7**
AGG				*e*SB	**Sb**	**15 51 47.0**	**0.0**
AGG	**Agios Georgios**	**0.91**	**343**	P	**Pg**	**15 51 33.7**	**-0.5**
AGG				S	**Sg**	**15 51 46.0**	**-0.1**
AGG				*e*Sb	**Sb**	**15 51 47.0**	**0.0**
ERET	**Eretria**	**0.94**	**71**	P	**Pg**	**15 51 34.4**	**-0.3**
ERET	**Eretria**	**0.94**	**71**	P	**Pg**	**15 51 34.4**	**-0.3**
PTL	**Penteli**	**0.95**	**96**	P	**Pb**	**15 51 35.3**	**+0.1**
PTL				S	**Sb**	**15 51 48.1**	**+0.2**
PTL	**Penteli**	**0.95**	**96**	*e*PN	**Pb**	**15 51 35.3**	**+0.1**
PTL				*e*SB	**Sg**	**15 51 47.3**	**+0.1**
PTL	**Penteli**	**0.95**	**96**	P	**Pb**	**15 51 35.3**	**+0.1**
PTL				*e*Sb	**Sg**	**15 51 47.3**	**+0.1**
PTL				S	**Sb**	**15 51 48.1**	**+0.2**
RLS	**Riolos of Patr**	**0.95**	**265**	P	**Pg**	**15 51 33.8**	**-1.2**
RLS	**Riolos of Patr**	**0.95**	**265**	*e*PG	**Pg**	**15 51 33.9**	**-1.1**
RLS	**Riolos of Patr**	**0.95**	**265**	*e*Pg	**Pg**	**15 51 33.9**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.96**	**334**	P	**Pg**	**15 51 34.8**	**-0.4**
MAKR				S	**Sb**	**15 51 49.1**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.96**	**334**	P	**Pg**	**15 51 34.8**	**-0.4**
MAKR				S	**Sb**	**15 51 49.1**	**+0.7**
AMT	**Artemida-Makis**	**0.98**	**231**	P	**Pg**	**15 51 34.7**	**-0.8**
AMT				S	**Sb**	**15 51 49.4**	**+0.6**
AMT	**Artemida-Makis**	**0.98**	**231**	*e*PB	**Pg**	**15 51 34.7**	**-0.8**
AMT	**Artemida-Makis**	**0.98**	**231**	P	**Pg**	**15 51 34.7**	**-0.8**
AMT				S	**Sb**	**15 51 49.3**	**+0.5**
AXS	**Araxos**	**1.02**	**273**	P	**Pg**	**15 51 35.6**	**-0.7**
AXS				S	**Sb**	**15 51 51.2**	**+1.2**
AXS	**Araxos**	**1.02**	**273**	P	**Pg**	**15 51 35.6**	**-0.7**
AXS				S	**Sb**	**15 51 51.2**	**+1.2**
EVR	**Evrytania**	**1.02**	**319**	P	**Pg**	**15 51 36.2**	**-0.1**
EVR				S	**Sb**	**15 51 50.3**	**+0.1**
EVR	**Evrytania**	**1.02**	**319**	*e*PN	**Pg**	**15 51 36.3**	**-0.1**
EVR				*e*SB	**Sb**	**15 51 50.9**	**+0.7**
EVR	**Evrytania**	**1.02**	**319**	P	**Pg**	**15 51 36.2

ANKY	Antikythira Is	2.33	167	P	Pn	15 51 55.5 +0.3
ANKY	Antikythira Is	2.33	167	P	Pn	15 51 55.5 +0.3
OUR	Ouranopolis	2.41	25	P	Pn	15 51 55.9 -0.3
OUR	Ouranopolis	2.41	25	P	Pn	15 51 55.9 -0.3
HORT	Hortiatis	2.47	8	P	Pn	15 51 56.7 -0.5
HORT	Hortiatis	2.47	8	P	Pn	15 51 56.7 -0.5
APE	Apeiranthos	2.51	115	P	Pn	15 51 57.2 -0.5
APE	Apeiranthos	2.51	115	P	Pn	15 51 57.2 -0.5
CHOS	Chios island	2.67	84	P	Pn	15 51 59.5 -0.5
CHOS	Chios island	2.67	84	P	Pn	15 51 59.5 -0.5
SRN	Sarande	2.71	311	P	Pn	15 52 00.5 +0.2
SRN	Sarande	2.71	311	P	Pn	15 52 00.5 +0.2
GRG	Griva	2.81	356	P	Pn	15 52 02.7 +0.9
GRG	Griva	2.81	356	P	Pn	15 52 02.7 +0.9
FNA	Florina	2.82	340	P	Pn	15 52 02.7 +0.8
FNA	Florina	2.82	340	P	Pn	15 52 02.7 +0.8
VAM	Vamos	3.00	155	P	Pn	15 52 04.7 +0.4
VAM	Vamos	3.00	155	P	Pn	15 52 04.7 +0.4
KNT	Kendrikon	3.02	3	P	Pn	15 52 06.0 +1.4
KNT	Kendrikon	3.02	3	P	Pn	15 52 06.0 +1.4
SRS	Serrai	3.05	13	P	Pn	15 52 04.8 -0.3
SRS	Serrai	3.05	13	P	Pn	15 52 04.8 -0.3
IDI	Anoyia	3.37	147	P	Pn	15 52 10.1 +0.6
IDI	Anoyia	3.37	147	P	Pn	15 52 10.1 +0.6
LAST	Lasithi	3.74	142	P	Pn	15 52 14.9 +0.3
LAST	Lasithi	3.74	142	P	Pn	15 52 14.9 +0.3
BRTR	Keskin Array B	8.69	76	Pn	Pn	15 53 28.9 +6.2
	0.1nm,0.3s,baz=256,slow=12,SNR=2.6					
TORD	Torodi Ar. Bea	31.11	222	P	P	15 57 39.6 +4.1
	0.2nm,0.7s,baz=34,slow=11,SNR=2.4					
MKAR	Makanchi Array	43.87	59	P	P	15 59 23.9 +0.7
	0.3nm,0.5s,baz=274,slow=7.5,SNR=7.1					
ZALV	Zalesovo Beam	44.45	48	P	P	15 59 25.4 -2.3
	0.7nm,0.6s,baz=268,slow=9.2,SNR=2.9					

WEL 08 16:07:00.6±0.4, 37°.93S×176°.29E, h160km±3km, ML3.7/18, 6C-2D, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.23	68	⇓PN	Pn	16 07 22.0	-0.1
PRRZ	Plateau Road	0.57	172	PN	Pn	16 07 23.5	+0.1
PRRZ				SN	Sn	16 07 41.8	+0.8
TOZ	Tahuroa Road	0.65	287	⇓PN	Pn	16 07 23.9	+0.1
URZ	Urewera	0.73	117	PN	Pn	16 07 23.8	-0.5
URZ				SN	Sn	16 07 42.9	+0.5
URZ				AML	AML	16 07 46.4	
RATZ	Rangitukua	1.02	203	PN	Pn	16 07 26.7	+0.2
MWZ	Matawai	1.06	113	PN	Pn	16 07 26.7	0.0
MWZ				AML	AML	16 07 55.2	
MWZ				AML	AML	16 07 55.2	
MWZ				AML	AML	16 07 55.6	
RAHZ	Arahi	1.17	148	PN	Pn	16 07 28.1	+0.4
NMHZ	Naumai	1.24	161	PN	Pn	16 07 29.0	+0.6
BKZ	Black Stump Fm	1.25	173	PN	Pn	16 07 28.2	-0.3
BKZ				SN	Sn	16 07 49.3	-0.7
BKZ				AML	AML	16 07 53.5	
NGZ	Ngauruhoe	1.36	203	PN	Pn	16 07 30.2	+0.6
WPVZ	Whakapapa	1.40	204	PN	Pn	16 07 30.0	-0.1
TUVZ	Tukino	1.43	200	PN	Pn	16 07 30.2	-0.1
FWVZ	Far West T-bar	1.45	203	PN	Pn	16 07 30.6	0.0
WNVZ	Wahianoa	1.50	201	PN	Pn	16 07 30.8	-0.2
MOVZ	Moawhango	1.54	196	PN	Pn	16 07 30.6	-0.7
MOVZ				SN	Sn	16 07 54.9	-0.1
KNZ	Kokohu	1.54	136	PN	Pn	16 07 31.2	0.0
MCHZ	McNeill Hill	1.54	168	PN	Pn	16 07 31.7	+0.4
PKVZ	Pokaka	1.55	208	PN	Pn	16 07 31.3	-0.1
PUZ	Puketiti	1.56	96	PN	Pn	16 07 29.6	-1.9
BHHZ	Black Hill Sta	1.57	186	PN	Pn	16 07 31.1	-0.6
MTVZ	Mangateitei	1.59	204	PN	Pn	16 07 31.7	-0.2
PRGZ	Paritu Road	1.60	129	PN	Pn	16 07 31.8	-0.1
CNGZ	Carnagh Statio	1.61	111	PN	Pn	16 07 32.7	+0.7
VRZ	Vera Road	1.69	225	PN	Pn	16 07 33.3	+0.4
MHGZ	Mahia Peninsul	1.76	134	⇑PN	Pn	16 07 33.8	+0.2
CKHZ	Cape Kidnapper	1.83	161	⇑PN	Pn	16 07 34.4	0.0
KAHZ	Kahuranaki	1.92	166	⇑PN	Pn	16 07 35.2	-0.2
PNHZ	Pukenui	1.98	182	PN	Pn	16 07 35.0	-1.1
WAZ	Wanganui	2.09	209	PN	Pn	16 07 36.5	-0.8
WPHZ	Waipukurau	2.14	177	PN	Pn	16 07 36.9	-1.0
TSZ	Takapari Road	2.14	187	PN	Pn	16 07 36.7	-1.3
PXZ	Pawanui	2.15	168	⇑PN	Pn	16 07 37.2	-0.7
PXZ				SN	Sn	16 08 05.4	-1.5
PRHZ	Porangahau	2.35	174	PN	Pn	16 07 39.3	-1.1
DVHZ	Dannevirke	2.37	182	⇑PN	Pn	16 07 39.0	-1.6
POWZ	Post Office Ro	2.49	189	PN	Pn	16 07 40.4	-1.7
BFZ	Birch Farm	2.75	181	PN	Pn	16 07 43.3	-1.9
MRZ	Mangatainoka R	2.78	191	PN	Pn	16 07 43.3	-2.3
TIWZ	Tintock	2.86	186	PN	Pn	16 07 44.5	-2.1
OGWZ	Otaki Gorge	3.01	196	PN	Pn	16 07 46.0	-2.4
HOWZ	Holdsworth Sta	3.02	191	PN	Pn	16 07 45.9	-2.8
KIW	Kapiti Island	3.12	200	PN	Pn	16 07 47.0	-2.7
TMWZ	Te Maipa	3.19	185	PN	Pn	16 07 48.0	-2.7
MTW	Mount Morrison	3.28	190	PN	Pn	16 07 48.7	-3.1
CAW	Cannon Point	3.31	196	PN	Pn	16 07 49.3	-2.9
DUWZ	D'Urville Isla	3.41	212	PN	Pn	16 07 50.5	-3.0
TRWZ	Traveller	3.50	187	PN	Pn	16 07 51.5	-3.1
PAWZ	Paruwai Farm	3.51	191	PN	Pn	16 07 51.5	-3.2
WEL	Wellington	3.55	199	⇑PN	Pn	16 07 52.2	-3.0
MSWZ	Moikau Station	3.57	193	PN	Pn	16 07 52.0	-3.5
MSWZ				SN	Sn	16 08 32.6	-5.8
SNZO	South Karori	3.59	199	PN	Pn	16 07 52.3	-3.4
TCW	Tory Channel	3.63	205	PN	Pn	16 07 53.0	-3.2
BHW	Baring Head	3.64	197	PN	Pn	16 07 52.9	-3.5
PLWZ	Palliser	3.72	192	PN	Pn	16 07 53.9	-3.6
TUWZ	Tuamarina	3.94	207	PN	Pn	16 07 56.7	-3.5
NNZ	Nelson	3.98	213	PN	Pn	16 07 57.0	-3.8
THZ	Tophouse	4.63	213	PN	Pn	16 08 05.2	-4.1
KHZ	Kahutara	4.95	204	PN	Pn	16 08 09.3	-4.2
LTZ	Lake Taylor	5.74	211	PN	Pn	16 08 19.4	-4.5
MQZ	McQueen's Vall	6.40	204	PN	Pn	16 08 26.3	-6.2

IDC 08 16:38:15.2±2.0, 1°.12N×126°.69E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=174.5km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.24	161	P	P	16 43 13.2	-0.5
	0.7nm,0.5s,baz=340,slow=9.9,SNR=21						
ASAR	Alice Springs	25.62	165	P	P	16 43 46.4	-0.2
	1.2nm,0.3s,baz=347,slow=12,SNR=59						
STKA	Stephens Creek	35.73	158	P	P	16 45 15.8	+0.1
	0.4nm,0.3s,baz=339,slow=12,SNR=4.5						
MKAR	Makanchi Array	59.67	326	P	P	16 48 21.7	+0.3
	0.2nm,0.3s,baz=126,slow=6.7,SNR=4.4						

GUC 08 16:40:13.8±0.7, 21°.54S×68°.99W, h115km±4km, ML3.7, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	0.35	223	⇑iP	Pn	16 40 31.0	+0.4
PB09				*i* S	Sn	16 40 43.9	+0.6
PB09				AML	AML	16 40 44.3	
	comp=N,8μm,0.3s						
PB01	Plate Boundary	0.68	317	⇑iP	Pn	16 40 33.0	+0.3
PB01				*i* S	Sn	16 40 47.5	+0.7
PB01				AML	AML	16 40 48.9	
	comp=E,4μm,0.2s						
PB04	Plate Boundary	0.86	213	⇑iP	Pn	16 40 40.0	+6.0
PB04				*i* S	Sn	16 40 59.6	+10
PB04				AML	AML	16 41 05.6	
	comp=N,514nm,0.1s						
HMBC	Humberstone	1.51	326	⇑iP	Pn	16 40 41.8	+0.6
HMBC				*i* S	Sn	16 41 03.2	+1.1
HMBC				AML	AML	16 41 04.6	
	comp=E,1μm,0.1s						
PSGC	Pisagua	2.21	331	⇑iP	Pn	16 40 49.5	-0.3
PSGC				*i* S	Sn	16 41 17.0	-0.4
PSGC				AML	AML	16 41 23.7	
	comp=E,248nm,0.2s						
PB10	Plate Boundary	2.44	216	*e*P	Pn	16 40 53.4	+0.7
MNMC	Minimini	2.46	346	*e*P	Pn	16 40 53.9	+0.5
MNMC				*e*S	Sn	16 41 25.5	+1.8
MNMC				AML	AML	16 41 27.0	
	comp=N,515nm,0.2s						
ANCH	Antofagasta	2.51	211	*e*P	Pn	16 40 54.3	+0.9

ISCJB ***08*** *16:41:35.8±0.3, 39°.47N±0°.04×15°.46E±0°.06, h272km±3km, mb3.4/8, Error ellipse: s-maj=8.4km s-min=6.0km az=141.3*
ROM ***08*** *16:41:35.6±0.2, 39°.44N×15°.46E, h272km±3km, Ml3.1/17, Error ellipse: s-maj=5.8km s-min=2.8km az=93.0*
CSEM ***08*** *16:41:37.0±0.4, 39°.45N×15°.41E, h265km±3km, ML3.1, ML3.4/10, Error ellipse: s-maj=13.0km s-min=8.6km az=85.0*
IDC ***08*** *16:41:38.0±1.6, 39°.64N×15°.20E, h291km±19km, mb3.1/8, mb1 3.1/16, mb1mx3.0/36, mbtmp2.9/16, Error ellipse: s-maj=14.0km s-min=12.0km az=70.0*
ISC 08 16:41:36.1±0.6, 39°.48N±0°.05×15°.50E±0°.06, h269km±5km, n102, σ1°.11/123, mb3.4/8, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	Castrocucco	0.57	25	Pg	Pn	16 42 12.0	+0.7
CUC				Sg	S	16 42 39.0	-0.2
	87nm,0.9s						
CUC	Castrocucco	0.57	25	Pg	Pn	16 42 12.0	+0.7
CUC				Sg	S	16 42 39.0	-0.2
	87nm,0.9s						
CARO	Carolei	0.60	112	Pg	Pn	16 42 11.7	+0.2
CARO				Sg	S	16 42 38.2	-1.2
	427nm,0.6s						
CARO	Carolei	0.60	112	Pg	Pn	16 42 11.7	+0.2
CARO				Sg	S	16 42 38.2	-1.2
	427nm,0.6s						
BULG	Bulgheria - Ca	0.61	351	Pg	Pn	16 42 12.4	+0.9
BULG	Bulgheria - Ca	0.61	351	Pg	Pn	16 42 12.4	+0.9
MGR	Morigerati	0.66	4	Pg	Pn	16 42 12.4	+0.8
MGR				Sg	S	16 42 40.0	+0.3
	65nm,0.7s						
MGR	Morigerati	0.66	4	Pg	Pn	16 42 12.4	+0.8
MGR				Sg	S	16 42 40.0	+0.3
	65nm,0.7s						
TDS	Terranova Siba	0.67	74	Pg	Pn	16 42 13.1	+1.5
	34nm,0.2s						
TDS	Terranova Siba	0.67	74	Pg	Pn	16 42 13.1	+1.5
	34nm,0.2s						
SIRI	Monte Sirino -	0.76	22	Pg	Pn	16 42 12.8	+0.7
SIRI	Monte Sirino -	0.76	22	Pg	Pn	16 42 12.8	+0.7
MTSN	Montesano sull	0.81	14	Pg	Pn	16 42 12.8	+0.5
	39nm,0.6s						
MTSN	Montesano sull	0.81	14	Pg	Pn	16 42 12.8	+0.5
	39nm,0.6s						
CMPR	Campora	0.85	350	Pg	Pn	16 42 13.3	+0.9
	41nm,0.4s						
CMPR	Campora	0.85	350	Pg	Pn	16 42 13.3	+0.9
	41nm,0.4s						
MCEL	Monticello	0.88	15	Pg	Pn	16 42 13.9	+1.3
	79nm,0.7s						
MCEL	Monticello	0.88	15	Pg	Pn	16 42 13.9	+1.3
	79nm,0.7s						
JOPP	Joppolo	0.92	161	Pg	Pn	16 42 13.2	+0.4
JOPP				Sg	S	16 42 40.9	-0.9
	114nm,0.3s						
JOPP	Joppolo	0.92	161	Pg	Pn	16 42 13.2	+0.4
JOPP				Sg	S	16 42 40.9	-0.9
	114nm,0.3s						
TIP	Timpagrande	1.02	107	Pg	Pn	16 42 14.5	+1.2
TIP				Sg	S	16 42 42.5	-0.2
	100nm,0.5s						
TIP	Timpagrande	1.02	107	Pg	Pn	16 42 14.5	+1.2
TIP				Sg	S	16 42 42.5	-0.2
	100nm,0.5s						
CDRU	Civita di Ruta	1.02	352	Pg	Pn	16 42 14.1	+0.8
	13nm,0.3s						
CDRU	Civita di Ruta	1.02	352	Pg	Pn	16 42 14.1	+0.8
	13nm,0.3s						
SERS	Sersale	1.02	115	Pg	Pn	16 42 14.4	+1.0
SERS				Sg	S	16 42 42.7	-0.1
	176nm,0.5s						
SERS	Sersale	1.02	115	Pg	Pn	16 42 14.4	+1.0
SERS				Sg	S	16 42 42.7	-0.1
	176nm,0.5s						
SGO	Sicignano	1.09	352	Pg	Pn	16 42 14.8	+1.2
	54nm,0.6s						
SGO	Sicignano	1.09	352	Pg	Pn	16 42 14.8	+1.2
	54nm,0.6s						
VPL	Vulcano Piano	1.17	200	Pg	Pn	16 42 15.1	+1.0
VPL	Vulcano Piano	1.17	200	Pg	Pn	16 42 15.1	+1.0
MSRU	Castanea	1.21	180	Pg	Pn	16 42 14.6	+0.2
MSRU				Sg	S	16 42 43.9	-0.8
	195nm,0.6s						
MSRU	Castanea	1.21	180	Pg	Pn	16 42 14.6	+0.2
MSRU				Sg	S	16 42 43.9	-0.8
	195nm,0.6s						
CEL	Celeste	1.25	166	Pg	Pn	16 42 14.7	0.0
CEL				Sg	S	16 42 43.6	-1.6
	122nm,0.6s						
CEL	Celeste	1.25	166	Pg	Pn	16 42 14.7	0.0
CEL				Sg	S	16 42 43.6	-1.6
	122nm,0.6s						
PLAC	Placanica	1.26	144	Pg	Pn	16 42 15.4	+0.7
PLAC				Sg	S	16 42 44.2	-1.0
	90nm,0.4s						
PLAC	Placanica	1.26	144	Pg	Pn	16 42 15.4	+0.7
PLAC				Sg	S	16 42 44.2	-1.0
	90nm,0.4s						
MRLC	Muro Lucano	1.28	360	Pg	Pn	16 42 15.7	+1.0
	22nm,0.8s						
MRLC	Muro Lucano	1.28	360	Pg	Pn	16 42 15.7	+1.0
	22nm,0.8s						
MCRV	Calabrutti - M	1.33	349	Pg	Pn	16 42 16.1	+1.0
	23nm,0.7s						
MCRV	Calabrutti - M	1.33	349	Pg	Pn	16 42 16.1	+1.0
	23nm,0.7s						
MTTG	Motta San Giov	1.48	174	Pg	Pn	16 42 16.9	+0.7
MTTG				Sg	S	16 42 47.7	-0.2
	246nm,0.8s						
MTTG	Motta San Giov	1.48	174	Pg	Pn	16 42 16.9	+0.7
MTTG				Sg	S	16 42 47.7	-0.2
	246nm,0.8s						
MMME	Mongiuffi-Meli	1.55	187	Pg	Pn	16 42 17.9	+1.2
MMME	Mongiuffi-Meli	1.55	187	Pg	Pn	16 42 17.9	+1.2
MPAZ	Palizzi	1.57	165	Pg	Pn	16 42 17.4	+0.6
	106nm,0.4s						
MPAZ	Palizzi	1.57	165	Pg	Pn	16 42 17.4	+0.6
	106nm,0.4s						
PLLN	Pollina	1.82	216	Pg	Pn	16 42 19.5	+0.7
	123nm,0.9s						
PLLN	Pollina	1.82	216	Pg	Pn	16 42 19.5	+0.7
	123nm,0.9s						
GIB	Gibilmanna	1.88	218	Pg	Pn	16 42 19.5	+0.2
	21nm,0.5s						
GIB	Gibilmanna	1.88	218	Pg	Pn	16 42 19.5	+0.2
	21nm,0.5s						
PGF	Pioggiola	5.79	304	*e*P	Pn	16 43 01.1	-1.0
PGF	Pioggiola	5.79	304	*e*P	Pn	16 43 01.1	-1.0
KEST	Kesra	6.15	234	P	Pn	16 43 08.3	+1.7
	0.1nm,0.3s,baz=308,slow=5.3,SNR=4.5						
MBDF	Montbardon	8.34	312	*e*P	Pn	16 43 34.9	+1.2
	17nm,1.0s						
MBDF	Montbardon	8.34	312	*e*P	Pn	16 43 34.9	+1.2
	17nm,1.0s						
DAVOX	Davos/Dischmat	8.37	332	P	Pn	16 43 35.9	+1.8
	0.5nm,0.3s,baz=162,slow=14,SNR=4.6						
LPG	La Plagne	8.83	316	*e*P	Pn	16 43 40.9	+1.0
LPG	La Plagne	8.83	316	*e*P	Pn	16 43 40.9	+1.0
LPL	La Plagne	8.85	316	*e*P	Pn	16 43 40.5	+0.4
	4.1nm,0.6s						
LPL	La Plagne	8.85	316	*e*P	Pn	16 43 40.5	+0.4
	4.0nm,0.6s						
ORIF	Oris-en-Rattie	8.97	310	*e*P	Pn	16 43 43.7	+2.2
ORIF	Oris-en-Rattie	8.97	310	*e*P	Pn	16 43 43.7	+2.2
GERES	GERESS Array B	9.45	353	P	Pn	16 43 47.6	+0.1
	0.1nm,0.3s,baz=156,slow=9.7,SNR=5.2						
VIVF	Saint-Julien-I	9.67	307	*e*P	Pn	16 43 51.1	+0.9
VIVF	Saint-Julien-I	9.67	307	*e*P	Pn	16 43 51.1	+0.9
KHC	Kasperske Hory	9.75	353	*e*PN	P	16 43 56.3	-0.2
KHC				*e*SN	S	16 45 43.0	+2.0
MLR	Muntele Rosu	9.78	49	P	P	16 43 55.9	-1.0
	0.1nm,0.3s,baz=225,slow=8.6,SNR=3.5						
CABF	La Chapelle	9.91	319	*e*P	Pn	16 43 51.6	-1.6
	6.8nm,0.6s						
HINF	Hinteralfeld	10.42	326	*e*P	Pn	16 43 58.9	-0.7
	3.0nm,0.3s						
CDF	Champ du Feu	10.71	329	*e*P	Pn	16 44 02.2	-1.0
	4.0nm,0.6s						
DPC	Dobruska-Polom	10.89	3	*e*PN	P	16 44 09.9	+0.8
DPC	Dobruska-Polom	10.89	3	Pn	P	16 44 09.9	+0.8
SMF	Signal de Mont	11.13	314	*e*P	Pn	16 44 05.8	-2.5
	4.5nm,0.5s						
AVF	Avril sur Loir	11.49	313	*e*P	Pn	16 44 12.7	0.0
	4.2nm,0.6s						
AVF	Avril sur Loir	11.49	313	*e*P	Pn	16 44 12.7	0.0
	4.0nm,0.6s						
SSF	Saint Saulge	11.56	315	*e*P	Pn	16 44 14.9	+1.2
SSF	Saint Saulge	11.56	315	*e*P	Pn	16 44 14.9	+1.2
MEZF	Maizieres J'vi	11.74	324	*e*P	P	16 44 18.5	0.0
	7.2nm,0.5s						
MEZF	Maizieres J'vi	11.74	324	*e*P	P	16 44 18.5	0.0
	7.0nm,0.5s						
TCF	Toulx Ste Croi	11.88	309	*e*P	P	16 44 19.8	-0.4
	24nm,1.1s						
TCF	Toulx Ste Croi	11.88	309	*e*P	P	16 44 19.8	-0.4
	23nm,1.1s						
ETSF	Etsaut	12.57	291	*e*P	P	16 44 31.1	+3.2
	1.6nm,0.5s						
ETSF	Etsaut	12.57	291	*e*P	P	16 44 31.1	+3.2
	1.0nm,0.5s						
BAIF	Baives	13.26	327	*e*P	Pn	16 44 34.7	+0.3
BAIF	Baives	13.26	327	*e*P	Pn	16 44 34.7	+0.3
BRTR	Keskin Array B	13.99	83	P	P	16 44 46.9	+3.1
	0.1nm,0.3s,baz=271,slow=8.7,SNR=12						
ESDC	Sonseca Array	15.01	277	P	P	16 44 54.5	-0.5
	0.1nm,0.3s,baz=73,slow=10,SNR=4.2						
MMAI	Mount Meron Ar	17.29	106	P	Pn	16 45 23.3	+0.8
	1.7nm,0.3s,baz=316,slow=10,SNR=10						
EIL	Elat	18.74	116	P	Pn	16 45 38.2	-1.2
	0.3nm,0.3s,baz=337,slow=12,SNR=4.1						
EKA	Eskdalemuir Ar	20.17	328	P	P	16 45 47.8	-2.6
	baz=142,slow=11,SNR=8.9						
HFS	Hagfors	20.71	357	P	P	16 45 54.0	-1.9
	1.6nm,0.3s,baz=174,slow=11,SNR=24						
NB2	NORSAR Subarra	21.75	354	P	P	16 46 05.5	-0.5
	comp=Z,0.8nm,0.5s,baz=167,slow=10						
NB2	NORSAR Subarra	21.75	354	P	P	16 46 05.5	-0.5
	comp=Z,0.8nm,0.5s,SNR=5.9						
NOA	NORSAR Array B	21.75	354	P	P	16 46 04.0	-1.9
	comp=Z,0.7nm,0.4s,baz=170,slow=8.2,SNR=7.6						
FINES	FINESS Array B	22.94	13	P	P	16 46 16.4	-0.3
	comp=Z,5.0nm,0.4s,baz=187,slow=8.4,SNR=81						
KAF	Kangasniemi	23.61	13	*e*p	P	16 46 22.3	-0.4
	comp=Z,2.0nm,0.4s						
TORD	Torodi Ar. Bea	28.92	209	P	P	16 47 11.0	+0.4
	comp=Z,0.1nm,0.4s,baz=15,slow=11,SNR=3.1						
ARCES	ARCESS Array B	30.59	7	P	P	16 47 23.6	-1.2
	comp=Z,0.5nm,0.3s,baz=186,slow=8.4,SNR=18						
ZALV	Zalesovo Beam	47.75	48	P	P	16 49 46.6	+0.5
	comp=Z,0.5nm,0.3s,baz=282,slow=8.4,SNR=2.8						
MKAR	Makanchi Array	47.96	58	P	P	16 49 48.8	+1.0
	comp=Z,0.7nm,0.4s,baz=281,slow=6.9,SNR=21						
PDAR	Pinedale Array	84.20	323	P	P	16 53 36.8	-0.8
	comp=Z,0.2nm,0.5s,baz=82,slow=6.5,SNR=3.8						
ASAR	Alice Springs	126.18	92	PKP	PKPdf	17 00 06.4	-0.3
	comp=Z,0.3nm,0.9s,baz=304,slow=1.7,SNR=2.7						

IDC 08 16:46:23.2±1.8, 30°.34N×82°.96E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/27, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=124.0km s-min=26.4km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.43	358	Pn	Pn	16 50 13.6	-1.5
	0.1nm,0.3s,baz=182,slow=13,SNR=4.1						
FINES	FINESS Array B	48.11	327	P	P	16 55 04.2	-0.2
	0.7nm,0.7s,baz=120,slow=8.5,SNR=3.0						
WRA	Warramunga Arr	70.29	129	P	P	16 57 38.6	-0.1
	0.5nm,0.7s,baz=324,slow=6.2,SNR=9.3						
ASAR	Alice Springs	72.61	132	P	P	16 57 52.9	+0.2
	0.2nm,0.8s,baz=316,slow=6.4,SNR=3.9						

CASC 08 16:56:17.3±2.6, 9°.45N×84°.62W, h0km±7km, MD3.7, 3C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.45	93	⇓*i*P	Pb	16 56 27.6	-0.5
CGA2	Cerro Gallo 2	0.59	15	⇓*i*P	Pb	16 56 30.3	-0.3
JCR	Jicaral	0.63	310	⇓*i*P	Pb	16 56 30.6	-0.7
SJS	Escuela Geolog	0.74	49	⇓*i*P	Pb	16 56 32.9	-0.4
SJS				*e*S	Sg	16 56 41.1	-0.4
BUS	Buena Vista	0.86	83	*e*P	Pg	16 56 34.5	+0.1
BUS				*e*S	Sb	16 56 47.5	-0.6
URSC	Urasca	0.92	65	⇓*i*P	Pb	16 56 35.9	-0.4
CEDE	Laguna Cede˜–o	1.04	355	*i* P	Pb	16 56 38.2	-0.1
CEDE				*i* S	Sn	16 56 54.2	-0.4
VCR	Vista de Mar	1.21	304	⇑*i*P	Pg	16 56 39.1	-1.5
AMAS	Alto Masis	1.22	342	*i* P	Pg	16 56 40.6	-0.2
AMAS				*i* S	Sb	16 56 57.5	-0.3
PTEN	Parque Tenorio	1.31	344	*i* P	Pn	16 56 43.0	0.0
PTEN				*i* S	Sn	16 57 02.6	+1.2
CUI	Cuipilapa	1.32	336	*i* P	Pg	16 56 42.2	-0.5
COLC	Colonia	1.34	335	*i* P	Pg	16 56 42.6	-0.5
COLC				*i* S	Sb	16 57 01.5	+0.3
HORNC	Hornillas	1.37	336	⇑*i*P	Pg	16 56 43.0	-0.8
GUAB	Guayabo de Bag	1.39	334	*i* P	Pn	16 56 43.3

1.0nm,0.7s,baz=346,slow=11,SNR=11
STKA Stephens Creek 35.16 158 P P 17 38 41.6 +0.9
1.0nm,0.7s,baz=331,slow=10,SNR=2.9
MKAR Makanchi Array 60.26 326 P P 17 41 55.2 -0.1
0.1nm,0.5s,baz=121,slow=8.7,SNR=2.8

*IDC **08** 17:45:30.2±0.9, 6°.43S×146°.85E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, ML3.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/21, Error ellipse: s-maj=32.0km s-min=12.1km az=90.0*
*ISCJB **08** 17:45:34.7±0.8, 6°.45S±0°.06×146°.8E±0°.1, h49km, mb3.9/8, MS2.9/1, Error ellipse: s-maj=17.2km s-min=8.4km az=178.1*
ISC 08 17:45:36.8±0.8, 6°.54S±0°.07×146°.7E±0°.1, h49km, n16, σ1§64/17, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.88**	**172**	Pn	**Pn**	**17 46 19.6**	**-0.6**
	5.4nm,0.3s,baz=273,slow=19,SNR=19						
PMG				Pg		17 46 24.5	
	12nm,0.3s,baz=33,slow=8.1,SNR=16						
PMG				Sn	**Sn**	**17 46 56.5**	**+2.9**
	7.7nm,0.3s,baz=139,slow=23,SNR=3.7						
PMG				Lg	Lg	17 47 04.7	
	12nm,0.3s,baz=216,slow=23,SNR=6.2						
COEN	**Coen**	**8.16**	**205**	P	**Sn**	**17 49 00.1**	**-3.5**
	baz=4.9,SNR=4.5						
CTA	**Charters Tower**	**13.47**	**182**	Pn	**Pn**	**17 48 44.3**	**-1.1**
	0.2nm,0.3s,baz=27,slow=16,SNR=3.2						
KDU	**Kakadu**	**15.32**	**245**	P	**Pn**	**17 49 11.0**	**+1.0**
	baz=5.7,SNR=3.2						
WRA	**Warramunga Arr**	**17.95**	**221**	P	**P**	**17 49 42.5**	**-0.6**
	0.1nm,0.3s,baz=45,slow=12,SNR=20						
KNRA	**Kununurra**	**19.82**	**241**	P	**Pn**	**17 50 06.1**	**+0.7**
	baz=9.6,SNR=7.1						
ASAR	**Alice Springs**	**21.02**	**215**	P	**P**	**17 50 18.2**	**+1.6**
	2.7nm,0.9s,baz=40,slow=10,SNR=24						
ASAR				LR	LR	17 58 06.8	
	comp=Z,51nm,19.6s,baz=265,slow=36						
FITZ	**Fitzroy Crossi**	**23.56**	**239**	P	**P**	**17 50 43.2**	**+0.2**
	3.7nm,1.0s,baz=43,slow=7.7,SNR=8.6						
FITZ	**Fitzroy Crossi**	**23.56**	**239**	P	**P**	**17 50 45.5**	**+2.5**
	baz=13,SNR=4.6						
STKA	**Stephens Creek**	**25.66**	**190**	P	**P**	**17 51 02.3**	**+0.2**
	1.4nm,0.6s,baz=11,slow=10,SNR=2.8						
KSRS	**Korea Array**	**47.16**	**340**	P	**P**	**17 54 03.4**	**-1.1**
	0.9nm,0.8s,baz=162,slow=8.7,SNR=5.4						
USRK	**Ussuriysk Arra**	**52.23**	**347**	P	**P**	**17 54 42.3**	**-0.6**
	0.6nm,0.5s,baz=176,slow=4.3,SNR=3.4						
CMAR	**Chiang Mai Arr**	**53.27**	**299**	P	**P**	**17 54 52.3**	**+1.2**
	0.5nm,0.3s,baz=124,slow=5.6,SNR=4.4						
PETK	**Petropavlovsk-**	**60.15**	**8**	P	**P**	**17 55 39.7**	**+0.4**
	3.8nm,1.0s,baz=164,slow=5.9,SNR=5.0						
ILAR	**Eielson Array**	**86.08**	**23**	P	**P**	**17 58 10.7**	**-1.4**
	0.7nm,0.5s,baz=246,slow=5.0,SNR=8.2						
TORD	**Torodi Ar. Bea**	**144.96**	**284**	PKPbc	**PKPdf**	**18 05 09.6**	**-0.1**
	1.5nm,0.7s,baz=60,slow=2.5,SNR=7.2						

*IDC **08** 18:17:43.7±3.7, 55°.84N×152°.03W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=93.4km s-min=40.7km az=135.0*
*ISCJB **08** 18:17:52.9±0.8, 56°.80N±0°.07×151°.41W±0°.07, h33km, mb4.0/5, Error ellipse: s-maj=11.0km s-min=5.0km az=161.3*
*NEIC **08** 18:17:54.7, 56°.54N×151°.52W, h12km, ML2.9(AEIC), After AEIC.*
ISC 08 18:17:53.8±1.4, 56°.7N±0°.1×151°.52W±0°.06, h35km, n40, σ0§87/49, mb3.8/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.10**	**299**	*e*Pn	Pn	18 18 16.7	+4.1
KABR	**Katmai Barrier**	**2.35**	**309**	P	**Pn**	**18 18 29.0**	**-0.9**
KAPH	**Katmai Pasha**	**2.43**	**322**	P	**Pn**	**18 18 31.5**	**+0.4**
CAHL	**Cahill**	**2.45**	**305**	P	**Pn**	**18 18 30.3**	**-1.1**
ANCK	**Angle Creek**	**2.62**	**306**	P	**Pn**	**18 18 34.5**	**+0.9**
AUE	**Augustine Isla**	**2.83**	**340**	P	**Pn**	**18 18 38.4**	**+1.9**
RSO	**Redoubt South**	**3.82**	**351**	P	**Pn**	**18 18 50.5**	**+0.3**
LTI	**Latouche**	**3.86**	**28**	P	**Pn**	**18 18 50.0**	**-0.7**
STLK	**Strandline Lak**	**4.81**	**358**	P	**Pn**	**18 19 04.5**	**+0.8**
SGAM	**Sherman Glacie**	**5.04**	**38**	P	**Pn**	**18 19 06.9**	**+0.1**
PMR	**Palmer**	**5.05**	**13**	*e*Pn	**Pn**	**18 19 08.3**	**+1.4**
	3.6nm,0.4s						
JPK	**Jack Peak**	**5.05**	**28**	P	**Pn**	**18 19 06.4**	**-0.7**
RAGM	**Ragged Mountai**	**5.14**	**41**	P	**Pn**	**18 19 08.3**	**0.0**
RAGM				S	**Sn**	**18 20 06.7**	**+0.3**
GOAT	**Goat Mountain**	**5.26**	**40**	P	**Pn**	**18 19 10.2**	**+0.3**
GOAT				S	**Sn**	**18 20 07.0**	**-2.2**
SUCK	**Suckling Hills**	**5.29**	**47**	P	**Pn**	**18 19 10.4**	**+0.2**
SUCK				S	**Sn**	**18 20 10.2**	**+0.3**
NICHA	**Nichawak Mount**	**5.31**	**45**	P	**Pn**	**18 19 10.7**	**+0.1**
NICHA				S	**Sn**	**18 20 12.3**	**+1.8**
SML	**Sawmill**	**5.37**	**16**	P	**Pn**	**18 19 11.9**	**+0.5**
BMRM	**Bremner River**	**5.58**	**37**	P	**Pn**	**18 19 14.3**	**0.0**
BMRM				S	**Sn**	**18 20 15.9**	**-1.2**
KLU	**Klutina**	**5.60**	**29**	P	**Pn**	**18 19 15.1**	**+0.5**
KLU				S	**Sn**	**18 20 17.5**	**-0.1**
KULT	**Kultieth River**	**5.82**	**49**	P	**Pn**	**18 19 17.7**	**+0.1**
KULT				S	**Sn**	**18 20 22.9**	**-0.3**
BARK	**Barkley Ridge**	**6.00**	**48**	P	**Pn**	**18 19 20.3**	**+0.1**
VRDI	**Verde Repeater**	**6.16**	**39**	P	**Pn**	**18 19 21.8**	**-0.5**
VRDI				S	**Sn**	**18 20 29.5**	**-2.0**
KIAG	**Kiagna River**	**6.36**	**45**	P	**Pn**	**18 19 24.9**	**-0.2**
BALM	**Baldy**	**6.44**	**44**	P	**Pn**	**18 19 26.6**	**+0.5**
PTPK	**Patty Peak**	**6.49**	**42**	P	**Pn**	**18 19 27.4**	**+0.5**
GRNC	**Granite Creek**	**6.49**	**48**	P	**Pn**	**18 19 27.1**	**+0.2**
HYT	**Haines Junctio**	**8.37**	**55**	*e*Pn	**Pn**	**18 19 53.4**	**+0.8**
ILAR	**Eielson Array**	**8.40**	**14**	Pn	**Pn**	**18 19 52.8**	**-0.1**
ILAR				Sn	**Sn**	**18 21 25.9**	**-0.5**
ILAR	**Eielson Array**	**8.40**	**14**	Pn	**Pn**	**18 19 52.8**	**-0.1**
	0.4nm,0.3s,baz=199,slow=12,SNR=25						
ILAR				Sn	**Sn**	**18 21 25.9**	**-0.5**
	baz=200,slow=22,SNR=2.8						
SKAG	**Skagway**	**9.01**	**65**	*e*Pn	**Pn**	**18 20 01.5**	**+0.3**
	4.6nm,0.6s						
ZALV	**Zalesovo Beam**	**60.52**	**326**	P	**P**	**18 27 58.7**	**-1.1**
ZALV	**Zalesovo Beam**	**60.52**	**326**	P	**P**	**18 27 58.7**	**-1.1**
	0.3nm,0.3s,baz=36,slow=7.6,SNR=3.2						
FINES	**FINESS Array B**	**62.17**	**1**	P	**P**	**18 28 11.0**	**+0.1**
FINES	**FINESS Array B**	**62.17**	**1**	P	**P**	**18 28 11.0**	**+0.1**
	0.8nm,0.9s,baz=352,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**67.52**	**323**	P	**P**	**18 28 45.0**	**-1.0**
MKAR	**Makanchi Array**	**67.52**	**323**	P	**P**	**18 28 45.0**	**-1.0**
	0.5nm,0.7s,baz=33,slow=6.1,SNR=7.1						
AKASG	**Malin Array Be**	**72.95**	**360**	P	**P**	**18 29 19.6**	**+0.5**
AKASG	**Malin Array Be**	**72.95**	**360**	P	**P**	**18 29 19.6**	**+0.5**
	15nm,0.3s,baz=1.5,slow=6.2,SNR=1.4						
GERES	**GERESS Array B**	**74.10**	**10**	P	**P**	**18 29 27.1**	**+1.1**
GERES	**GERESS Array B**	**74.10**	**10**	P	**P**	**18 29 27.1**	**+1.1**
	0.3nm,0.7s,baz=332,slow=5.5,SNR=2.9						

*ISCJB **08** 18:25:00.0±0.2, 43°.96N±0°.02×105°.31W±0°.02, h0km, Error ellipse: s-maj=2.3km s-min=2.0km az=18.0*
*NEIC **08** 18:25:00.7±0.3, 43°.99N×105°.24W, h0km, ML3.1, Error ellipse: s-maj=4.9km s-min=3.9km az=175.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SSE of Gillette.
*IDC **08** 18:25:01.1±1.0, 44°.27N×105°.73W, h0km, mb1 3.5/4, mb1mx3.3/30, mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=22.4km s-min=8.3km az=147.0*
ISC 08 18:25:00.3±0.6, 43°.98N±0°.02×105°.30W±0°.01, h0km, n117, σ0§87/163, 36C-40D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.12**	**263**	⇑P	**Pg**	**18 25 04.0**	**+1.4**
	baz=0.2,SNR=1000						
I23A	**Meade Ranch, G**	**0.12**	**263**	⇑P	**Pg**	**18 25 04.0**	**+1.4**
	baz=0.2,SNR=1000						
I24A	**Kuemmerle Ranc**	**0.50**	**103**	P	**Pg**	**18 25 10.3**	**+0.5**
	baz=0.5,SNR=108						
I24A	**Kuemmerle Ranc**	**0.50**	**103**	P	**Pg**	**18 25 10.3**	**+0.5**
	baz=0.5,SNR=108						
H23A	**Clabaugh Cattl**	**0.59**	**353**	⇓P	**Pg**	**18 25 12.5**	**+0.9**
	baz=0.6,SNR=12						
H23A	**Clabaugh Cattl**	**0.59**	**353**	⇓P	**Pg**	**18 25 12.5**	**+0.9**
	baz=0.6,SNR=12						
J23A	**Dilts Ranch, B**	**0.60**	**198**	⇓P	**Pg**	**18 25 12.3**	**+0.5**
	baz=0.6,SNR=91						
J23A	**Dilts Ranch, B**	**0.60**	**198**	⇓P	**Pg**	**18 25 12.3**	**+0.5**
	baz=0.6,SNR=91						
J24A	**Dixon Ranch, L**	**0.79**	**144**	P	**Pg**	**18 25 15.6**	**+0.1**
	baz=0.8,SNR=166						
J24A	**Dixon Ranch, L**	**0.79**	**144**	P	**Pg**	**18 25 15.6**	**+0.1**
	baz=0.8,SNR=166						
I22A	**9 Mile Ranch,**	**0.86**	**265**	P	**Pg**	**18 25 17.2**	**+0.5**
	baz=0.9,SNR=108						
I22A				⇓S	**Sg**	**18 25 28.9**	**+1.0**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.86**	**265**	P	**Pg**	**18 25 17.2**	**+0.5**
	baz=0.9,SNR=108						
I22A				⇓S	**Sg**	**18 25 28.9**	**+1.0**
	baz=0.9						
RSSD	**Black Hills**	**0.92**	**81**	*e*Pg	**Pg**	**18 25 17.7**	**-0.2**
RSSD				*e*Sg	**Sb**	**18 25 33.1**	**+1.0**
H24A	**Dirks Ranch, A**	**0.94**	**34**	P	**Pg**	**18 25 18.4**	**+0.1**
	baz=0.9,SNR=262						
H24A	**Dirks Ranch, A**	**0.94**	**34**	P	**Pg**	**18 25 18.4**	**+0.1**
	baz=0.9,SNR=262						
H22A	**Clearmont**	**0.98**	**310**	⇑P	**Pb**	**18 25 19.8**	**-0.4**
	baz=1.0,SNR=47						
H22A	**Clearmont**	**0.98**	**310**	⇑P	**Pb**	**18 25 19.8**	**-0.4**
	baz=1.0,SNR=47						
J22A	**Midwest**	**1.03**	**237**	P	**Pg**	**18 25 19.4**	**-0.6**
	baz=1.1,SNR=190						
J22A	**Midwest**	**1.03**	**237**	P	**Pg**	**18 25 19.4**	**-0.6**
	baz=1.1,SNR=190						
I25A	**Rochford**	**1.13**	**87**	P	**Pg**	**18 25 21.8**	**-0.2**
	baz=1.1,SNR=302						
I25A				⇑S	**Sb**	**18 25 37.4**	**-0.7**
	baz=1.1						
I25A	**Rochford**	**1.13**	**87**	P	**Pg**	**18 25 21.8**	**-0.2**
	baz=1.1,SNR=302						
I25A				⇑S	**Sb**	**18 25 37.4**	**-0.7**
	baz=1.1						
G23A	**Biddle**	**1.23**	**357**	P	**Pg**	**18 25 24.1**	**+0.3**
	baz=1.2,SNR=180						
G23A	**Biddle**	**1.23**	**357**	P	**Pg**	**18 25 24.1**	**+0.3**
	baz=1.2,SNR=180						
J25A	**Sunshine Ranch**	**1.23**	**118**	P	**Pg**	**18 25 23.3**	**-0.6**
	baz=1.2,SNR=172						
J25A				⇑S	**Sb**	**18 25 41.1**	**+0.1**
	baz=1.2						
J25A	**Sunshine Ranch**	**1.23**	**118**	P	**Pg**	**18 25 23.3**	**-0.6**
	baz=1.2,SNR=172						
J25A				⇑S	**Sb**	**18 25 41.1**	**+0.1**
	baz=1.2						
K24A	**Anderson Ranch**	**1.30**	**164**	⇓Pb	**Pg**	**18 25 24.7**	**-0.5**
	baz=1.3,SNR=19						
K24A				⇑S	**Sg**	**18 25 42.5**	**+0.4**
	baz=1.3						
K24A	**Anderson Ranch**	**1.30**	**164**	⇓Pb	**Pg**	**18 25 24.7**	**-0.5**
	baz=1.3,SNR=19						
K24A				⇑S	**Sg**	**18 25 42.5**	**+0.4**
	baz=1.3						
H25A	**Fruitdale**	**1.38**	**62**	⇓Pb	**Pg**	**18 25 26.3**	**-0.4**
	baz=1.3,SNR=47						
H25A	**Fruitdale**	**1.38**	**62**	⇓Pb	**Pg**	**18 25 26.3**	**-0.4**
	baz=1.3,SNR=47						
H21A	**Big Horn, Sher**	**1.41**	**298**	⇓Pb	**Pn**	**18 25 27.4**	**0.0**
	baz=1.4,SNR=54						
H21A	**Big Horn, Sher**	**1.41**	**298**	⇓Pb	**Pn**	**18 25 27.4**	**0.0**
	baz=1.4,SNR=54						
G22A	**Birney**	**1.43**	**331**	⇓Pb	**Pn**	**18 25 27.5**	**-0.1**
	baz=1.4,SNR=43						
G22A				⇑Sb	**Sn**	**18 25 47.4**	**+0.2**
	baz=1.4						
G22A	**Birney**	**1.43**	**331**	⇓Pb	**Pn**	**18 25 27.5**	**-0.1**
	baz=1.4,SNR=43						
G22A				⇑Sb	**Sn**	**18 25 47.4**	**+0.2**
	baz=1.4						
I21A	**Big Trails, Te**	**1.45**	**264**	⇓Pb	**Pn**	**18 25 27.2**	**-0.7**
	baz=1.5						
I21A	**Big Trails, Te**	**1.45**	**264**	⇓Pb	**Pn**	**18 25 27.2**	**-0.7**
	baz=1.5						
G24A	**Alzada**	**1.49**	**25**	Pb	**Pn**	**18 25 28.7**	**+0.3**
	baz=1.5,SNR=64						
G24A	**Alzada**	**1.49**	**25**	Pb	**Pn**	**18 25 28.7**	**+0.3**
	baz=1.5,SNR=64						
K22A	**Casper**	**1.60**	**214**	Pb	**Pn**	**18 25 29.6**	**-0.3**
	baz=1.6,SNR=292						
K22A	**Casper**	**1.60**	**214**	Pb	**Pn**	**18 25 29.6**	**-0.3**
	baz=1.6,SNR=292						
J21A	**Lysite**	**1.68**	**249**	⇑Pb	**Pn**	**18 25 30.7**	**-0.4**
	baz=1.7,SNR=30						
J21A				⇑Sb	**Sn**	**18 25 53.5**	**0.0**
	baz=1.7						
J21A	**Lysite**	**1.68**	**249**	⇑Pb	**Pn**	**18 25 30.7**	**-0.4**
	baz=1.7,SNR=30						
J21A				⇑Sb	**Sn**	**18 25 53.5**	**0.0**
	baz=1.7						
K25A	**Mack Ranch, Ha**	**1.72**	**142**	Pb	**Pn**	**18 25 32.1**	**+0.6**
	baz=1.7,SNR=43						
K25A	**Mack Ranch, Ha**	**1.72**	**142**	Pb	**Pn**	**18 25 32.1**	**+0.6**
	baz=1.7,SNR=43						
J26A	**Sides Ranch, S**	**1.74**	**112**	Pb	**Pn**	**18 25 32.5**	**+0.7**
	baz=1.7,SNR=90						
J26A	**Sides Ranch, S**	**1.74**	**112**	Pb	**Pn**	**18 25 32.5**	**+0.7**
	baz=1.7,SNR=90						
F23A	**Volborg**	**1.75**	**357**	Pb	**Pb**	**18 25 32.8**	**-0.4**
	baz=1.7,SNR=109						
F23A				⇓Sb	**Sg**	**18 25 57.2**	**+0.8**
	baz=1.7						
F23A	**Volborg**	**1.75**	**357**	Pb	**Pb**	**18 25 32.8**	**-0.4**
	baz=1.7,SNR=109						
F23A				⇓Sb	**Sg**	**18 25 57.2**	**+0.8**
	baz=1.7						
I26A	**New Underwood**	**1.76**	**87**	⇓Pb	**Pb**	**18 25 33.1**	**-0.3**
	baz=1.7,SNR=37						
I26A	**New Underwood**	**1.76**	**87**	⇓Pb	**Pb**	**18 25 33.1**	**-0.3**
	baz=1.7,SNR=37						
G25A	**Newell**	**1.81**	**47**	⇑Pb	**Pb**	**18 25 34.2**	**-0.1**
	baz=1.8,SNR=38						
G25A	**Newell**	**1.81**	**47**	⇑Pb	**Pb**	**18 25 34.2**	**-0.1**
	baz=1.8,SNR=38						
G21A	**Lodge Grass**	**1.85**	**313**	Pb	**Pn**	**18 25 34.2**	**+0.8**
	baz=1.9,SNR=45						
G21A				⇓Sb	**Sg**	**18 25 59.9**	**+0.2**
	baz=1.9						
G21A	**Lodge Grass**	**1.85**	**313**	Pb	**Pn**	**18 25 34.2**	**+0.8**
	baz=1.9,SNR=45						
G21A				⇓Sb	**Sg**	**18 25 59.9**	**+0.2**
	baz=1.9						
L23A	**Garrett**	**1.89**	**189**	⇑Pb	**Pn**	**18 25 34.3**	**+0.4**
	baz=1.9,SNR=31						
L23A				⇓Sb	**Sb**	**18 26 00.1**	**+0.2**
	baz=1.9						
L23A	**Garrett**	**1.89**	**189**	⇑Pb	**Pn**	**18 25 34.3**	**+0.4**
	baz=1.9,SNR=31						
L23A				⇓Sb	**Sb**	**18 26 00.1**	**+0.2**
	baz=1.9						
H26A	**Fairpoint**	**1.92**	**70**	⇑Pb	**Pb**	**18 25 36.4**	**+0.1**
	baz=1.9,SNR=28						
H26A	**Fairpoint**	**1.92**	**70**	⇑Pb	**Pb**	**18 25 36.4**	**+0.1**
	baz=1.9,SNR=28						
F22A	**Rosebud**	**1.93**	**340**	⇓Pb	**Pb**	**18 25 35.6**	**-0.8**
	baz=1.9,SNR=165						
F22A				⇓Sb	**Sg**	**18 26 02.3**	**+0.1**
	baz=1.9						
F22A	**Rosebud**	**1.93**	**340**	⇓Pb	**Pb**	**18 25 35.6**	**-0.8**
	baz=1.9,SNR=165						
F22A				⇓Sb	**Sg**	**18 26 02.3**	**+0.1**
	baz=1.9						
L24A	**Wheatland**	**1.95**	**172**	⇓Pb	**Pn**	**18 25 35.5**	**+0.7**
	baz=2.0,SNR=17						
L24A	**Wheatland**	**1.95**	**172**	⇓Pb	**Pn**	**18 25 35.5**	**+0.7**
	baz=2.0,SNR=17						
K21A	**Alcova**	**1.96**	**227**	Pb	**Pn**	**18 25 35.6**	**+0.7**
	baz=2.0,SNR=212						
K21A				⇓Sb	**Sb**	**18 26 01.8**	**-0.2**
	baz=2.0						
K21A	**Alcova**	**1.96**	**227**	Pb	**Pn**	**18 25 35.6**	**+0.7**
	baz=2.0,SNR=212						
K21A				⇓Sb	**Sb**	**18 26 01.8**	**-0.2**
	baz=2.0						
F24A	**Ekalaka**	**1.96**	**18**	Pb	**Pb**	**18 25 36.5**	**-0.5**
	baz=1.9,SNR=47						
F24A				⇓Sb	**Sg**	**18 26 03.7**	**+0.3**
	baz=1.9						
F24A	**Ekalaka**	**1.96**	**18**	Pb	**Pb**	**18 25 36.5**	**-0.5**
	baz=1.9,SNR=47						
F24A				⇓Sb	**Sg**	**18 26 03.7**	**+0.3**
	baz=1.9						
K26A	**Motz Farm, Whi**	**2.00**	**129**	⇑Pb	**Pn**	**18 25 36.2**	**+0.7**
	baz=2.0,SNR=21						
K26A				⇑Sb	**Sb**	**18 26 03.7**	**+0.6**
	baz=2.0						
K26A	**Motz Farm, Whi**	**2.00**	**129**	⇑Pb	**Pn**	**18 25 36.2**	**+0.7**
	baz=2.0,SNR=21						
K26A				⇑Sb	**Sb**	**18 26 03.7**	**+0.6**
	baz=2.0						
H20A	**Greybull**	**2.01**	**286**	⇓Pb	**Pn**	**18 25 36.7**	**+1.2**
	baz=2.0,SNR=57						
H20A				⇑Sb	**Sb**	**18 26 03.9**	**+0.6**
	baz=2.0						
H20A	**Greybull**	**2.01**	**286**	⇓Pb	**Pn**	**18 25 36.7**	**+1.2**
	baz=2.0,SNR=57						
H20A				⇑Sb	**Sb**	**18 26 03.9**	**+0.6**
	baz=2.0						
I20A	**Worland**	**2.04**	**270**	Pb	**Pn**	**18 25 36.9**	**+0.8**
	baz=2.1,SNR=70						
I20A				⇑Sb	**Sb**	**18 26 04.7**	**+0.3**
	baz=2.1						
I20A	**Worland**	**2.04**	**270**	Pb	**Pn**	**18 25 36.9**	**+0.8**
	baz=2.1,SNR=70						
I20A				⇑Sb	**Sb**	**18 26 04.7**	**+0.3**
	baz=2.1						
L25A	**Engebretsen Ra**	**2.06**	**151**	⇓Pb	**Pn**	**18 25 37.4**	**+1.0**
	baz=2.1						
L25A				⇑Sb	**Sb**	**18 26 05.5**	**+0.5**
	baz=2.1						
L25A	**Engebretsen Ra**	**2.06**	**151**	⇓Pb	**Pn**	**18 25 37.4**	**+1.0**
	baz=2.1						
L25A				⇑Sb	**Sb**	**18 26 05.5**	**+0.5**
	baz=2.1						
L22A	**Ellis Ranch, M**	**2.12**	**204**	Pb	**Pn**	**18 25 38.1**	**+1.0**
	baz=2.1,SNR=136						
L22A	**Ellis Ranch, M**	**2.12**	**204**	Pb	**Pn**	**18 25 38.1**	**+1.0**
	baz=2.1,SNR=136						
J20A	**Shoshoni**	**2.12**	**254**	⇑Pb	**Pb**	**18 25 39.0**	**-0.6**
	baz=2.2						
J20A	**Shoshoni**	**2.12**	**254**	⇑Pb	**Pb**	**18 25 39.0**	**-0.6**
	baz=2.2						
I27A	**Quinn**	**2.34**	**87**	⇑Pb	**Pb**	**18 25 42.9**	**-0.5**
	baz=2.3						
I27A	**Quinn**	**2.34**	**87**	⇑Pb	**Pb**	**18 25 42.9**	**-0.5**
	baz=2.3						
F25A	**Bowman**	**2.35**	**33**	⇓Pb	**Pb**	**18 25 43.3**	**-0.2**
	baz=2.3,SNR=19						
F25A	**Bowman**	**2.35**	**33**	⇓Pb	**Pb**	**18 25 43.3**	**-0.2**
	baz=2.3,SNR=19						
PHWY	**Pilot Hill**	**2.68**	**183**	*e*Pn	**Pn**	**18 25 45.2**	**+0.3**
PHWY				*e*Sn	**Sn**	**18 26 17.6**	**-0.6**
RWWY	**Rawlins**	**2.69**	**212**	*e*Pn	**Pn**	**18 25 46.6**	**+1.7**
RWWY				*e*Sn	**Sb**	**18 26 21.6**	**-1.3**
RLMT	**Red Lodge**	**3.06**	**293**	*e*Pn	**Pn**	**18 25 51.2**	**+1.1**
BW06	**Boulder Array**	**3.33**	**250**	*e*Pn	**Pn**	**18 25 55.2**	**+1.3**
PDAR	**Pinedale Array**	**3.33**	**250**	Pn	**Pn**	**18 25 55.0**	**+1.1**
PDAR				Pg	**Pb**	**18 25 59.9**	**-0.5**
PDAR				Lg	Lg	18 26 42.2	
PDAR	**Pinedale Array**	**3.33**	**250**	Pn	**Pn**	**18 25 55.0**	**+1.1**
	1.3nm,0.3s,baz=70,slow=14,SNR=54						
PDAR				Pg	**Pb**	**18 25 59.9**	**-0.5**
	2.8nm,0.3s,baz=65,slow=19,SNR=53						
PDAR				Lg	Lg	18 26 42.2	
	6.9nm,0.3s,baz=68,slow=34,SNR=23						
GCMT	**Greycliff**	**3.60**	**302**	*e*Pn	**Pn**	**18 25 58.4**	**+0.9**
LOHW	**Long Hollow**	**3.86**	**266**	*e*Pn	**Pn**	**18 26 02.3**	**+1.2**
LOHW				*e*Sg	**Sg**	**18 27 01.8**	**-2.4**
OGNE	**Ogallala**	**3.87**	**140**	*e*Pn	**Pn**	**18 26 01.2**	**+0.1**
OGNE				*e*Pg	**Pb**	**18 26 11.7**	**+2.2**
MOOW	**Moose Ponds**	**3.95**	**269**	Pn	**Pn**	**18 26 02.8**	**+0.5**
SNOW	**Snow King Moun**	**3.99**	**264**	Pn	**Pn**	**18 26 02.0**	**-0.9**
IMW	**Indian Meadow**	**4.08**	**271**	Pn	**Pn**	**18 26 05.1**	**+0.9**
IMW				*e*Pg	**Pb**	**18 26 15.7**	**+2.6**
REDW	**Red Top Meadow**	**4.08**	**263**	*e*Pn	**Pn**	**18 26 05.0**	**+0.9**
REDW				*e*Pb	**Pb**	**18 26 13.2**	**+0.2**
TPAW	**Teton Pass**	**4.13**	**265**	*e*Pn	**Pn**	**18 26 06.1**	**+1.3**
TPAW				*e*Pg	**Pb**	**18 26 16.8**	**+2.9**
ISCO	**Idaho Springs**	**4.18**	**183**	*e*Pn	**Pn**	**18 26 06.5**	**+0.9**
ISCO				*e*Sg	**Sg**	**18 27 11.9**	**-2.7**
RRI2	**Red Ridge**	**4.42**	**264**	*e*Pn	**Pn**	**18 26 09.9**	**+1.1**
DGMT	**Dagmar**	**4.56**	**9**	*e*Pn	**Pn**	**18 26 11.8**	**+1.3**
DGMT				*e*Pg	**Pb**	**18 26 22.3**	**+1.1**
BOZ	**Bozeman (W)**	**4.81**	**293**	*e*Pn	**Pn**	**18 26 15.0**	**+0.9**
SMCO	**Snowmass**	**4.96**	**195**	*e*Pg	Pb	18 26 32.0	+3.8
EGMT	**Eagleton**	**5.10**	**324**	*e*Pn	**Pn**	**18 26 17.7**	**-0.3**
	15nm,0.6s						
EGMT				*e*Pg	**Pg**	**18 26 35.6**	**-2.4**
HWUT	**Hardware Ranch**	**5.18**	**245**	*e*Pn	**Pn**	**18 26 18.8**	**-0.5**
DLMT	**Dillon**	**5.39**	**287**	Pn	**Pn**	**18 26 22.3

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	1.23	116	ePn		Pg		18 41 29.7	-0.5
APE	Apeiranthos	1.26	241	ePN		Pg		18 41 31.3	+0.5
APE	Apeiranthos	1.26	241	ePN		Pn		18 41 29.4	0.0
APE				eSN		Sb		18 41 46.8	+1.0
APE	Apeiranthos	1.26	241	ePn		Pn		18 41 29.4	0.0
APE				eSn		Sb		18 41 46.8	+1.0
AKHS	Akhisar	1.39	31	eP		Pn		18 41 31.3	+0.1
AKHS				i S		Sg		18 41 51.3	-0.2
AKHS	Akhisar	1.39	31	eP		Pn		18 41 31.3	+0.1
AKHS				i S		Sg		18 41 51.3	-0.2
KULA	Kula-Manisa	1.61	59	ePN		Pb		18 41 36.0	0.0
KULA	Kula-Manisa	1.61	59	ePn		Pb		18 41 36.0	0.0
PRK	Paraskevi	1.64	342	ePN		Pn		18 41 35.7	+1.1
PRK				eSN		Sb		18 41 58.1	+1.5
PRK	Paraskevi	1.64	342	ePn		Pn		18 41 35.7	+1.1
PRK				eSn		Sb		18 41 58.1	+1.5
DALY	Dalyan (Mu¨la	1.64	121	ePN		Pb		18 41 35.8	-0.6
DALY	Dalyan (Mu¨la	1.64	121	ePn		Pb		18 41 35.8	-0.6
BALY	Balya	2.13	15	eP		Pg		18 41 46.6	-0.8
BALY				i S		Sg		18 42 13.8	-1.2
BALY	Balya	2.13	15	eP		Pg		18 41 46.6	-0.8
BALY				i S		Sg		18 42 13.8	-1.2

ATH ***08*** *18:50:11.5, 41.°44N×19.°10E, h45km, MD3.5/4*
TIR ***08*** *18:50:11.7±4.2, 41.°11N×19.°54E, h0km±15km, ML3.4*
ROM ***08*** *18:50:14.9±0.2, 41.°22N×19.°49E, h9km, Md2.8/10, Ml2.7/10, Error ellipse: s-maj=3.2km s-min=2.1km az=139.0*
PDG ***08*** *18:50:14.8±0.3, 41.°12N×19.°49E, h17km, ML2.7/11, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
BEO ***08*** *18:50:14.4±0.8, 41.°08N×19.°46E, h7km±2km, ML2.7/1*
ISCJB ***08*** *18:50:14.3±0.4, 41.°14N±0.°02×19.°50E±0.°03, h2km±3km, Error ellipse: s-maj=3.9km s-min=2.7km az=168.7*
CSEM ***08*** *18:50:16.5±0.2, 41.°15N×19.°51E, h20km, MD2.8/10, Error ellipse: s-maj=4.0km s-min=3.8km az=88.0*
ISC 08 18:50:15.5±0.9, 41.°16N±0.°02×19.°52E±0.°02, h13km±7km, n90, σ0.95/142, 9C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.33	54	ePG		Pg		18 50 21.5	-0.6
TIR				i SG		Sg		18 50 27.2	+0.5
TIR	Tirane	0.33	54	Pg		Pg		18 50 21.5	-0.6
TIR				Sg		Sg		18 50 27.1	+0.4
	709nm,0.4s								
TIR	Tirane	0.33	54	ePg		Pg		18 50 21.6	-0.6
TIR	Tirane	0.33	54	ePb		Pg		18 50 21.7	-0.5
TIR				i Sg		Sg		18 50 27.2	+0.5
	SNR=9.0								
TIR				eSb		Sb		18 50 28.0	-0.3
ULC	Ulcinj	0.83	346	ePg		Pb		18 50 31.3	-0.6
ULC				eSg		Sn		18 50 44.9	-0.2
ULC	Ulcinj	0.83	346	ePg		Pb		18 50 31.3	-0.6
ULC				eSg		Sn		18 50 44.9	-0.2
PHP	Peshkopia	0.87	52	ePG		Pb		18 50 30.7	-1.8
PHP				i SG		Sn		18 50 45.4	-0.7
PHP	Peshkopia	0.87	52	ePg		Pb		18 50 30.7	-1.8
	SNR=9.0								
PHP				i Sg		Sn		18 50 45.4	-0.7
	SNR=9.0								
PUK	Puka	0.93	17	ePG		Pb		18 50 33.1	-0.5
PUK	Puka	0.93	17	ePg		Pb		18 50 33.1	-0.5
	SNR=9.0								
DRME	Dracevica, Mon	1.06	346	ePg		Pb		18 50 35.6	-0.1
DRME				eSg		Sn		18 50 53.0	+2.3
DRME	Dracevica, Mon	1.06	346	ePg		Pb		18 50 35.6	-0.1
DRME				eSg		Sn		18 50 53.0	+2.3
KBN	Korca	1.10	118	ePG		Pb		18 50 35.1	-1.3
KBN				i SG		Sn		18 50 51.9	+0.2
KBN	Korca	1.10	118	ePg		Pb		18 50 35.1	-1.3
	SNR=9.0								
KBN				i Sg		Sn		18 50 51.9	+0.2
	SNR=9.0								
BUM	Brajici-Budva	1.24	338	ePg		Pn		18 50 38.4	-0.2
BUM				eSg		Sg		18 50 57.7	+2.3
BUM	Brajici-Budva	1.24	338	ePg		Pn		18 50 38.4	-0.2
BUM				eSg		Sg		18 50 57.7	+2.3
BCI	Bajram Curri	1.28	19	ePN		Pb		18 50 39.7	+0.2
BCI				i SN		Sg		18 50 59.7	+2.9
BCI	Bajram Curri	1.28	19	ePn		Pb		18 50 39.7	+0.2
	SNR=4.0								
BCI				i Sn		Sg		18 50 59.7	+2.9
	SNR=4.0								
PDG	Podgorica	1.29	351	Pg		Pb		18 50 39.4	-0.2
	112nm,0.3s								
PDG	Podgorica	1.29	351	ePg		Pb		18 50 39.7	+0.1
PDG				eSg		Sg		18 50 58.2	+1.1
PDG	Podgorica	1.29	351	Pg		Pb		18 50 39.4	-0.2
	112nm,0.3s								
PDG				eSg		Sg		18 50 58.2	+1.1
TTG	Podgorica	1.29	351	↑iPg		Pn		18 50 38.9	-0.3
TTG				eSg		Sg		18 50 58.2	+1.1
SCTE	Santa Cesarea	1.34	217	Pg		Pb		18 50 40.1	-0.5
SCTE				Sg		Sg		18 50 59.2	+0.3
	209nm,0.3s								
SCTE	Santa Cesarea	1.34	217	Pg		Pb		18 50 40.1	-0.5
SCTE				Sg		Sg		18 50 59.2	+0.3
	209nm,0.3s								
BIA	Bitola	1.37	95	ePn		Pn		18 50 39.2	-1.3
BIA	Bitola	1.37	95	ePn		Pn		18 50 39.1	-1.3
KEK	Kerkira	1.46	171	Pg		Pb		18 50 42.6	+0.1
KEK				Sg		Sg		18 51 03.7	+1.3
	49nm,0.4s								
KEK	Kerkira	1.46	171	eP		Pn		18 50 41.0	-0.5
KEK				eS		Sg		18 51 03.3	+0.9
KEK	Kerkira	1.46	171	ePb		Pn		18 50 41.0	-0.5
KEK	Kerkira	1.46	171	Pg		Pb		18 50 42.6	+0.1
KEK				eSn		Sg		18 51 03.3	+0.9
KEK				Sg		Sg		18 51 03.7	+1.3
	49nm,0.4s								
PVY	Plav	1.48	13	↓iPg		Pb		18 50 43.1	+0.2
PVY				eSg		Sg		18 51 03.2	+0.1
PVY	Plav	1.48	13	↓iPg		Pb		18 50 43.1	+0.2
PVY				eSg		Sg		18 51 03.2	+0.1
HCY	Herceg Novi	1.50	330	↑iPg		Pn		18 50 41.9	-0.2
HCY				eSg		Sg		18 51 04.2	+0.3
HCY	Herceg Novi	1.50	330	↑iPg		Pn		18 50 41.9	-0.2
HCY				eSg		Sg		18 51 04.2	+0.3
SKO	Skopje	1.66	60	ePn		Pb		18 50 45.7	-0.2
SKO	Skopje	1.66	60	ePn		Pb		18 50 45.7	-0.2
NKME	Niksic	1.67	346	↑iPn		Pn		18 50 44.8	+0.4
NKME				eSn		Sg		18 51 08.6	-0.5
NKME	Niksic	1.67	346	↑iPn		Pn		18 50 44.8	+0.4
NKME				eSn		Sg		18 51 08.6	-0.5
NKY	Niksic	1.70	347	↑iPn		Pb		18 50 45.8	-0.9
NKY				eSn		Sb		18 51 08.7	+0.6
NKY	Niksic	1.70	347	↑iPn		Pb		18 50 45.8	-0.9
NKY				eSn		Sb		18 51 08.7	+0.6
BEY	Berane	1.74	9	ePn		Pb		18 50 46.6	-0.7
BEY				eSn		Sg		18 51 10.5	-1.0
IVA	Berane	1.74	9	ePn		Pb		18 50 46.6	-0.7
IVA				eSn		Sg		18 51 10.5	-1.0
JAN	Janina	1.81	145	eP		Pb		18 50 48.4	-0.1
JAN	Janina	1.81	145	ePb		Pb		18 50 48.4	-0.1
BRY	Bratogost	1.89	338	↑iPn		Pn		18 50 47.7	+0.1
BRY				eSn		Sb		18 51 13.4	-0.2
BRY	Bratogost	1.89	338	↑iPn		Pn		18 50 47.7	+0.1
BRY				eSn		Sb		18 51 13.4	-0.2
NOCI	Noci	1.89	260	Pg		Pn		18 50 46.9	-0.6
	71nm,0.4s								
NOCI	Noci	1.89	260	Pg		Pn		18 50 46.9	-0.6
	71nm,0.4s								
KZN	Kozani	1.91	116	eP		Pn		18 50 48.3	+0.5
KZN	Kozani	1.91	116	ePn		Pn		18 50 48.3	+0.5
UPM	Unac-Piva	2.10	348	↓iPn		Pn		18 50 50.9	+0.4
UPM				eSn		Sb		18 51 18.5	-1.0
SJES	Sjenica	2.13	9	ePn		Pn		18 50 51.5	+0.7
SJES	Sjenica	2.13	9	ePn		Pn		18 50 51.6	+0.7
SJES				eSn		Sb		18 51 20.2	-0.2
SJES	Sjenica	2.13	9	ePn		Pn		18 50 51.6	+0.7
SJES				eSn		Sb		18 51 20.2	-0.2
PLE	Pljevlja	2.17	358	ePn		Pn		18 50 52.0	+0.5
PLE				eSn		Sb		18 51 20.7	-1.0
STON	Ston	2.19	322	ePn		Pn		18 50 50.6	-0.9
STON				Sn		Sn		18 51 17.0	-1.4
STON	Ston	2.19	322	ePn		Pn		18 50 50.8	-0.7
STON				eSn		Sn		18 51 17.6	-0.8
AMUR	Altamura	2.22	265	Pg		Pn		18 50 51.5	-0.5
	31nm,0.6s								
AMUR	Altamura	2.22	265	Pg		Pn		18 50 51.5	-0.5
	31nm,0.6s								
SELS	Selova	2.38	29	ePn		Pn		18 50 54.6	+0.3
BARS	Barje	2.38	45	ePn		Pb		18 50 56.3	-2.0
BARS				eSn		Sb		18 51 25.5	-2.1
BARS				eSg		Sg		18 51 33.4	+1.2
THL	Klokotos Trika	2.48	129	eP		Pn		18 50 56.7	+1.1
THL	Klokotos Trika	2.48	129	ePn		Pn		18 50 56.7	+1.1
MRVN	Minervino Murg	2.51	269	Pg		Pn		18 50 55.7	-0.4
MRVN	Minervino Murg	2.51	269	Pg		Pn		18 50 55.7	-0.4
BBLS	Lazići	2.71	358	ePn		Pn		18 51 00.0	+1.2
BBLS	Lazići	2.71	358	ePn		Pn		18 51 00.0	+1.2
EVR	Evrytania	2.84	141	eP		Pn		18 51 02.4	+1.7
EVR	Evrytania	2.84	141	ePn		Pn		18 51 02.4	+1.7
GRUS	Gruza	2.87	18	ePn		Pn		18 51 02.1	+1.1
GRUS				eSn		Sn		18 51 36.2	+0.9
GRUS	Gruza	2.87	18	ePn		Pn		18 51 02.1	+1.1
GRUS				eSn		Sn		18 51 36.2	+0.9
SIRI	Monte Sirino -	2.94	252	Pg		Pn		18 51 01.6	-0.4
SIRI				Sg		Sn		18 51 37.8	+0.6
SIRI	Monte Sirino -	2.94	252	Pg		Pn		18 51 01.6	-0.4
SIRI				Sg		Sn		18 51 37.8	+0.6
MCEL	Monticello	2.94	255	Pg		Pn		18 51 01.8	-0.2
MCEL	Monticello	2.94	255	Pg		Pn		18 51 01.8	-0.2
DIVS	Divibare	2.96	7	ePn		Pn		18 51 02.6	+0.3
DIVS	Divibare	2.96	7	ePn		Pn		18 51 02.6	+0.3
ZAPS	Zavoj	3.14	47	ePn		Pn		18 51 06.3	+1.7
ZAPS				eSn		Sn		18 51 42.7	+0.8
ZAPS	Zavoj	3.14	47	ePn		Pn		18 51 06.3	+1.7
ZAPS				eSn		Sn		18 51 42.7	+0.8
SGO	Sicignano	3.25	261	Pg		Pn		18 51 06.4	+0.2
SGO	Sicignano	3.25	261	Pg		Pn		18 51 06.4	+0.2
CDRU	Civita di Ruta	3.27	260	Pg		Pn		18 51 06.7	+0.2
	6.0nm,0.5s								
CDRU	Civita di Ruta	3.27	260	Pg		Pn		18 51 06.7	+0.2
	6.0nm,0.5s								
MCRV	Calabrutti - M	3.31	265	Pg		Pn		18 51 07.2	0.0
	14nm,0.6s								
MCRV	Calabrutti - M	3.31	265	Pg		Pn		18 51 07.2	0.0
	14nm,0.6s								
VAGA	Valle Agricola	3.99	275	Pg		Pn		18 51 17.1	+0.7
	9.0nm,0.4s								
VAGA	Valle Agricola	3.99	275	Pg		Pn		18 51 17.1	+0.7
	9.0nm,0.4s								
CERA	Filignano	4.16	278	Pg		Pn		18 51 19.9	+1.1
	14nm,0.5s								
CERA	Filignano	4.16	278	Pg		Pn		18 51 19.9	+1.1
	14nm,0.5s								
NVLJ	Novalja	4.82	316	ePn		Pn		18 51 28.5	+0.8
NVLJ				Sn		Sn		18 52 21.3	-2.1

DDA ***08*** *18:51:41.0, 34.°21N×24.°02E, h26km, MD3.9*
IDC ***08*** *18:51:42.2±0.7, 34.°77N×23.°98E, h0km, mb4.1/17, mb1 4.2/22, mb1mx4.1/34, mbtmp4.1/22, ML4.2/5, MS3.1/1, Ms1 3.1/1, ms1mx2.2/50, Error ellipse: s-maj=15.9km s-min=15.1km az=51.0*
MOS ***08*** *18:51:45.8±1.4, 34.°72N×24.°02E, h33km, mb4.4/19, Error ellipse: s-maj=10.4km s-min=5.4km az=71.5*
CSEM ***08*** *18:51:46.2±0.2, 34.°65N×24.°03E, h20km, mb4.3/29, Ms2.6, Error ellipse: s-maj=6.5km s-min=4.3km az=25.0*
THE ***08*** *18:51:46.1, 34.°75N×23.°98E, h0km±3km, ML3.9/4, Error ellipse: s-maj=4.3km s-min=0.9km az=206.0*
BEO ***08*** *18:51:47.0±1.1, 34.°78N×23.°34E, h0km*
ATH ***08*** *18:51:48.8, 34.°93N×24.°13E, h22km±1km, MD3.7/19, ML3.6*
HLW ***08*** *18:51:50.1, 34.°64N×24.°10E, h32km±3km, Md3.8, Ml0.0*
ISC 08 18:51:44.7±1.0, 34.°61N±0.°03×23.°93E±0.°03, h19km±3km, n368, σ1.46/376, mb4.3/34, 4C-7D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARN	Karanos	0.80	359	P		Pb		18 51 58.8	-1.1
KARN				S		Sb		18 52 08.2	-2.1
KARN	Karanos	0.80	359	ePN		Pb		18 51 59.0	-0.9
KARN	Karanos	0.80	359	ePn		Pb		18 51 59.0	-0.9
VAM	Vamos	0.83	15	P		Pb		18 51 58.9	-1.5
VAM				S		Sb		18 52 10.6	-0.6
VAM	Vamos	0.83	15	ePB		Pb		18 51 59.3	-1.1
VAM	Vamos	0.83	15	ePb		Pb		18 51 59.3	-1.1
VAM				S		Sb		18 52 10.6	-0.6
SIVA	Sivas	0.83	60	P		Pb		18 52 00.0	-0.4
SIVA				S		Sn		18 52 12.2	-0.8
SIVA	Sivas	0.83	60	ePN		Pb		18 52 00.2	-0.2
SIVA	Sivas	0.83	60	ePn		Pb		18 52 00.2	-0.2
SIVA				S		Sn		18 52 12.2	-0.8
IDI	Anoyia	1.04	49	P		Pb		18 52 02.7	-1.4
IDI				S		Sn		18 52 17.9	-0.4
ANKY	Antikythira Is	1.36	338	P		Pn		18 52 08.5	-0.1
ANKY	Antikythira Is	1.36	338	ePN		Pb		18 52 10.4	+0.9
ANKY	Antikythira Is	1.36	338	P		Pn		18 52 08.5	-0.1
ANKY	Antikythira Is	1.36	338	ePn		Pb		18 52 10.4	+0.9
LAST	Lasithi	1.39	66	P		Pn		18 52 09.3	+0.3
LAST	Lasithi	1.39	66	ePN		Pb		18 52 10.1	+0.1
LAST	Lasithi	1.39	66	ePn		Pb		18 52 10.1	+0.1
NPS	Neapolis	1.53	64	P		Pb		18 52 12.4	0.0
NPS	Neapolis	1.53	64	ePN		Pb		18 52 12.4	0.0
NPS	Neapolis	1.53	64	P		Pb		18 52 12.4	0.0
KYTH	Kithira	1.82	337	P		Pb		18 52 17.8	+0.4
KYTH	Kithira	1.82	337	ePN		Pb		18 52 18.3	+0.9
KYTH	Kithira	1.82	337	P		Pb		18 52 17.8	+0.4
KYTH	Kithira	1.82	337	ePn		Pb		18 52 18.3	+0.9
ZKR	Zakros	1.95	74	P		Pb		18 52 19.7	+0.2
ZKR	Zakros	1.95	74	ePN		Pb		18 52 20.2	+0.7
ZKR	Zakros	1.95	74	P		Pb		18 52 19.7	+0.2
ZKR	Zakros	1.95	74	ePn		Pb		18 52 20.2	+0.7
SANT	Santorini	2.16	35	P		Pn		18 52 20.9	+1.3
SANT	Santorini	2.16	35	ePN		Pn		18 52 21.4	+1.8
SANT	Santorini	2.16	35	P		Pn		18 52 20.9	+1.3
SANT	Santorini	2.16	35	ePn		Pn		18 52 21.4	+1.8
THR1	Thera Island	2.16	35	P		Pn		18 52 21.1	+1.5
THR1	Thera Island	2.16	35	P		Pn		18 52 21.1	+1.5
THR3	Thira Island,	2.16	33	P		Pn		18 52 20.9	+1.3
THR3	Thira Island,	2.16	33	P		Pn		18 52 20.9	+1.3
THR2	Thira island,	2.21	33	P		Pn		18 52 21.2	+0.9
THR2	Thira island,	2.21	33	P		Pn		18 52 21.2	+0.9
VLI	Veliai	2.26	339	P		Pb		18 52 23.2	-1.6
VLI	Veliai	2.26	339	ePN		Pb		18 52 24.2	-0.6
VLI	Veliai	2.26	339	P		Pb		18 52 23.2	-1.6
VLI	Veliai	2.26	339	ePn		Pb		18 52 24.2	-0.6
DYR	Agios Nikonas	2.52	329	P		Pb		18 52 27.3	-1.9
DYR	Agios Nikonas	2.52	329	ePN		Pb		18 52 28.4	-0.8
DYR	Agios Nikonas	2.52	329	P		Pb		18 52 27.3	-1.9
DYR	Agios Nikonas	2.52	329	ePn		Pb		18 52 28.4	-0.8
LTBQ	Tobruq	2.54	180	i P		Pb		18 52 28.8	-0.9
	SNR=76								
LTBQ				eS		Sb		18 52 59.9	-0.6
	109nm,0.4s,SNR=76								
APE	Apeiranthos	2.78	27	eP		Pn		18 52 29.8	+1.6
APE	Apeiranthos	2.78	27	P		Pn		18 52 29.1	+0.9
APE	Apeiranthos	2.78	27	i P		Pn		18 52 28.5	+0.3
APE	Apeiranthos	2.78	27	ePN		Pn		18 52 28.9	+0.7
APE	Apeiranthos	2.78	27	i P		Pn		18 52 28.5	+0.3
APE	Apeiranthos	2.78	27	ePn		Pn		18 52 28.9	+0.7
KARP	Karpathos	2.81	70	P		Pn		18 52 30.9	+2.3
KARP	Karpathos	2.81	70	ePN		Pn		18 52 31.2	+2.6
KARP	Karpathos	2.81	70	P		Pn		18 52 30.9	+2.3
KARP	Karpathos	2.81	70	ePn		Pn		18 52 31.2	+2.6
PYL	PYLOS	2.90	323	P		Pn		18 52 30.9	+1.2
PYL	PYLOS	2.90	323	ePN		Pn		18 52 32.6	+2.9
PYL	PYLOS	2.90	323	P		Pn		18 52 30.9	+1.2
PYL	PYLOS	2.90	323	ePn		Pn		18 52 32.6	+2.9
DIDY	Didyma	2.92	349	P		Pn		18 52 31.1	+0.9
DIDY	Didyma	2.92	349	P		Pn		18 52 31.1	+0.9
DID	Didima	2.95	349	P		Pn		18 52 31.4	+0.9
DID	Didima	2.95	349	P		Pn		18 52 31.4	+0.9
VLX	Vlachokerasia	3.03	336	P		Pb		18 52 35.4	-2.6
VLX	Vlachokerasia	3.03	336	ePN		Pb		18 52 35.5	-2.6
VLX	Vlachokerasia	3.03	336	ePn		Pb		18 52 35.5	-2.6
ITM	Ithomi	3.04	328	P		Pn		18 52 33.0	+1.3
ITM	Ithomi	3.04	328	ePN		Pn		18 52 35.0	+3.3
ITM	Ithomi	3.04	328	P		Pn		18 52 33.0	+1.3
ITM	Ithomi	3.04	328	ePn		Pn		18 52 35.0	+3.3
SLUM		3.29	161	S		Sn		18 53 13.4	-0.2
	baz=163								
ATH	Athens Observa	3.37	357	ePN		Pn		18 52 37.4	+1.3
ATH	Athens Observa	3.37	357	ePn		Pn		18 52 37.4	+1.3
ACOR	Acrocorinthos	3.39	346	P		Pn		18 52 38.4	+1.9
ACOR	Acrocorinthos	3.39	346	P		Pn		18 52 38.4	+1.9
AMT	Artemida-Makis	3.43	329	ePB		Pb		18 52 42.4	-2.4
AMT	Artemida-Makis	3.43	329	ePb		Pb		18 52 42.4	-2.4
PTL	Penteli	3.44	359	P		Pn		18 52 37.8	+0.6
PTL	Penteli	3.44	359	P		Pn		18 52 37.8	+0.6
LTK	Loutraki	3.50	347	P		Pn		18 52 39.9	+1.9
LTK	Loutraki	3.50	347	P		Pn		18 52 39.9	+1.9
GUR	Goura	3.56	339	P		Pn		18 52 41.5	+2.5
GUR	Goura	3.56	339	P		Pn		18 52 41.5	+2.5
DAT	Datca	3.65	53	eP		Pn		18 52 42.5	+2.4
BODT	Bodrum	3.68	47	eP		Pn		18 52 42.4	+1.9
KLV	Kalavryta, Ach	3.72	338	P		Pn		18 52 43.8	+2.7
KLV	Kalavryta, Ach	3.72	338	P		Pn		18 52 43.8	+2.7
ARG	Arkhangelos	3.78	64	P		Pn		18 52 44.0	+2.1
ARG	Arkhangelos	3.78	64	ePN		Pn		18 52 44.0	+2.1
ARG	Arkhangelos	3.78	64	P		Pn		18 52 44.0	+2.1
ERET	Eretria	3.83	359	P		Pn		18 52 44.0	+1.4
ERET	Eretria	3.83	359	P		Pn		18 52 44.0	+1.4
SMG	Samos	3.89	36	P		Pn		18 52 44.9	+1.5
SMG	Samos	3.89	36	P		Pn		18 52 44.9	+1.5
LAKA	Lakka	3.96	337	P		Pn		18 52 46.0	+1.7
LAKA	Lakka	3.96	337	P		Pn		18 52 46.0	+1.7
DSF	Desfina	3.96	344	P		Pn		18 52 46.0	+1.6
DSF	Desfina	3.96	344	P		Pn		18 52 46.0	+1.6
RLS	Riolos of Patr	3.98	331	P		Pn		18 52 47.0	+2.4
RLS	Riolos of Patr	3.98	331	P		Pn		18 52 47.0	+2.4
TRIZ	Trizonia	4.04	339	P		Pn		18 52 47.9	+2.5
TRIZ	Trizonia	4.04	339	P		Pn		18 52 47.9	+2.5
KALE	Kalithea	4.04	340	P		Pn		18 52 47.6	+2.0
KALE	Kalithea	4.04	340	P		Pn		18 52 47.6	+2.0
MRKA	Markates	4.10	356	P		Pn		18 52 47.3	+1.0
MRKA	Markates	4.10	356	P		Pn		18 52 47.3	+1.0
AXS	Araxos	4.13	331	P		Pn		18 52 49.5	+2.8
AXS	Araxos	4.13	331	P		Pn		18 52 49.5	+2.8
CHOS	Chios island	4.14	24	P		Pn		18 52 47.7	+0.8
CHOS	Chios island	4.14	24	ePN		Pn		18 52 47.8	+0.8
CHOS	Chios island	4.14	24	P		Pn		18 52 47.7	+0.8
EFP	Efpalio	4.15	337	P		Pn		18 52 50.1	+3.2
EFP	Efpalio	4.15	337	P		Pn		18 52 50.1	+3.2
AXAR	Agios Charalam	4.28	347	P		Pn		18 52 50.2	+1.5
AXAR	Agios Charalam	4.28	347	P		Pn		18 52 50.2	+1.5
SMIA	Simia	4.30	352	P		Pn		18 52 50.5	+1.4
SMIA	Simia	4.30	352	P		Pn		18 52 50.5	+1.4
YER	Yerkesik	4.34	53	eP		Pn		18 52 52.7	+3.0
HMAT	Matruh	4.40	142	P		Pn		18 52 52.1	+1.7
	baz=143								
HMAT				S		Sn		18 53 37.9	-3.2
	baz=143								
HMAT	Matruh	4.40	142	P		Pn		18 52 52.1	+1.7
AYDN	Tasoluk	4.42	45	i P		Pn		18 52 52.5	+1.9
AYDN				eS		Sn		18 53 44.5	+3.0
AYDN	Tasoluk	4.42	45	i P		Pn		18 52 52.5	+1.9
TURN	Turunc	4.42	58	i P		Pn		18 52 48.6	-2.1
TURN				i S		Sn		18 53 34.1	-7.4
TURN	Turunc	4.42	58	i P		Pn		18 52 48.6	-2.1
DALY	Dalyan (Mu¨la	4.43	59	eP		Pn		18 52 53.5	+2.7
VLS	Valsamata	4.47	324	P		Pn		18 52 52.5	+1.1
VLS	Valsamata	4.47	324	P		Pn		18 52 52.5	+1.1
AOS	Alonnisos	4.56	359	P		Pn		18 52 53.4	+0.9
AOS	Alonnisos	4.56	359	P		Pn		18 52 53.4	+0.9
SKIA	Skiathos	4.57	355	P		Pn		18 52 53.7	+1.0
SKIA	Skiathos	4.57	355	P		Pn		18 52 53.7	+1.0
AGG	Agios Georgios	4.59	344	P		Pn		18 52 54.6	+1.5
AGG	Agios Georgios	4.59

DIVS Divibare 9.96 343 *e*Pn **Pn 18 54 05.0 -1.7**
DIVS *e*Sn Sn 18 55 50.2 -7.7
EIL Elat 10.55 115 Pn **Pn 18 54 15.0 +0.1**
1.2nm,0.3s,baz=26,slow=12,SNR=14
EIL Sn Sn 18 56 05.5 -7.1
0.7nm,0.3s,baz=37,slow=20,SNR=3.7
MLR Muntele Rosu 10.98 7 Pn Pn 18 54 26.1 +5.3
0.0nm,0.3s,baz=129,slow=22,SNR=3.6
KEST Kesra 11.99 280 Pn Pn 18 54 40.0 +5.4
0.1nm,0.3s,baz=95,slow=11,SNR=2.7
KECS Kecovo 14.10 351 *e*P Pn 18 54 58.6 -4.7
KECS Kecovo 14.10 351 *e*PN Pn 18 54 58.6 -4.7
PGF Pioggiola 14.11 309 *e*P **Pn 18 55 01.2 -2.3**
108nm,1.6s
VYHS Vyhne 14.39 346 *e*P **P 18 55 14.7 +0.7**
VYHS Vyhne 14.39 346 *e* **P 18 55 14.7 +0.7**
ANN Anapa 14.53 41 *e*P **Pn 18 55 06.4 -2.7**
ANN pmax pmax
comp=Z,58nm,1.7s
ABTA Abfaltersbach 14.88 328 ⇓*i*P **P 18 55 22.6 +2.9**
comp=Z,9.2nm,0.7s
ABTA Abfaltersbach 14.88 328 P **P 18 55 22.6 +2.9**
comp=Z,9.2nm,0.7s
VRAC Vranov 15.66 342 Pn **P 18 55 29.1 +0.9**
baz=109,slow=14,SNR=4.4
VRAC Vranov 15.66 342 P **P 18 55 29.1 +0.9**
OKC Ostrava-Krasne 15.80 346 *ex* pP 18 55 38.8 +3.7
FETA Feichten 15.90 325 ⇓*i*P **P 18 55 33.7 +2.7**
comp=Z,9.1nm,1.1s
FETA Feichten 15.90 325 P **P 18 55 33.7 +2.7**
comp=Z,9.1nm,1.1s
TREC Trest 15.95 340 AMS AMS 19 02 50.0
comp=Z,200nm,7.9s
GERES GERESS Array B 16.12 335 Pn **Pn 18 55 30.3 +0.1**
comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=6.0
DAVOX Davos/Dischmat 16.14 323 Pn **P 18 55 35.1 +1.4**
comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=2.0
DAVOX Davos/Dischmat 16.14 323 P **P 18 55 35.1 +1.4**
KHC Kasperske Hory 16.41 335 *e*P **P 18 55 36.9 +0.4**
KHC MLR MLR
comp=Z,100nm,16.6s
KHC Kasperske Hory 16.41 335 *e*P **P 18 55 36.9 +0.4**
KHC *ex* x 18 55 42.1
KHC AMS AMS 19 03 00.0
comp=Z,100nm,16.6s
KHC Kasperske Hory 16.41 335 *e*P **P 18 55 36.9 +0.4**
comp=Z,100nm,16.6s
AKASG Malin Array Be 16.54 12 P **Pn 18 55 32.9 -2.5**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 16.54 12 Pn **Pn 18 55 32.9 -2.5**
comp=Z,2.0nm,0.3s,baz=202,slow=11,SNR=6.3
MBDF Montbardon 16.61 313 *e*P **P 18 55 38.6 -0.2**
comp=Z,26nm,1.3s
MBDF Montbardon 16.61 313 *e*P **P 18 55 38.6 -0.2**
comp=Z,13nm,1.3s
DPC Dobruska-Polom 16.69 343 *e*P **P 18 55 40.0 +0.4**
DPC Dobruska-Polom 16.69 343 *e*P **P 18 55 40.0 +0.4**
DPC AMS AMS 19 03 10.0
DPC Dobruska-Polom 16.69 343 *e*P **P 18 55 40.0 +0.4**
PRU Pruhonice 16.85 339 *e*P **P 18 55 42.1 +0.8**
PRU MLR MLR
comp=Z,100nm,12.3s
PRU Pruhonice 16.85 339 *e*P **P 18 55 42.1 +0.8**
PRU AMS AMS 19 03 30.0
comp=Z,100nm,12.3s
PRU Pruhonice 16.85 339 *e*P **P 18 55 42.1 +0.8**
comp=Z,100nm,12.3s
LPG La Plagne 17.03 315 *e*P **Pn 18 55 42.1 +0.1**
LPL La Plagne 17.05 315 *e*P **Pn 18 55 42.2 0.0**
KIV Kislovodsk 17.23 52 *d i*P **P 18 55 46.5 +0.8**
KIV pmax pmax
comp=Z,10.0nm,0.6s
KIV Kislovodsk 17.23 52 *i*P **P 18 55 46.5 +0.8**
comp=Z,10.0nm,0.6s
ORIF Oris-en-Rattie 17.25 312 *e*P **Pn 18 55 42.9 -1.5**
ORIF *e*R
comp=Z,52nm,19.2s
KBZ Khabaz 17.27 53 P **Pn 18 55 45.2 +0.6**
KBZ Khabaz 17.27 53 P **Pn 18 55 45.2 +0.6**
comp=Z,0.3nm,0.3s,baz=251,slow=7.3,SNR=11
KBZ Khabaz 17.27 53 P **Pn 18 55 45.2 +0.6**
GNI Garni 17.43 65 *e*P **P 18 55 48.3 +0.3**
comp=Z,3.0nm,0.6s
NKC Novy Kostel 17.74 335 AMS AMS 19 03 50.0
comp=Z,100nm,10.6s
BRG Berggiesshubel 17.81 339 *e*P **P 18 55 53.0 +1.1**
comp=Z,10nm,1.8s
BRG Berggiesshubel 17.81 339 *e*P **P 18 55 53.0 +1.1**
BRG pmax pmax
comp=Z,10.0nm,1.8s
BRG Berggiesshubel 17.81 339 *e*P **P 18 55 53.0 +1.1**
comp=Z,10.0nm,1.8s
CABF La Chapelle 18.05 317 *e*P **P 18 55 56.5 +1.8**
comp=Z,1.1nm,0.9s
CABF La Chapelle 18.05 317 *e*P **P 18 55 56.5 +1.8**
comp=Z,5.3nm,0.9s
HINF Hinteralfeld 18.37 321 *e*P **Pn 18 55 58.7 +0.5**
comp=Z,11nm,1.0s
HINF Hinteralfeld 18.37 321 *e*P **Pn 18 55 58.7 +0.5**
comp=Z,5.5nm,1.0s
CLL Collm 18.48 338 *e*P **P 18 55 59.0 -0.2**
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 18.48 338 *e*pP **P 18 55 59.0 -0.2**
comp=Z,4.0nm,1.1s
CLL *i*PP **pP 18 56 06.8 +2.1**
CLL *i*PPP PPP 18 56 15.3
CLL *e* 18 56 28.0
CLL Collm 18.48 338 *e*P **P 18 55 59.0 -0.2**
comp=Z,4.0nm,1.1s
CDF Champ du Feu 18.54 323 *e*P **Pn 18 56 03.2 +2.8**
comp=Z,4.3nm,0.6s
CDF Champ du Feu 18.54 323 *e*P **Pn 18 56 03.2 +2.8**
comp=Z,2.2nm,0.6s
HAU Haudompre 18.75 321 *e*P **Pn 18 56 04.7 +1.9**
HAU *e*R
comp=Z,75nm,19.8s
HAU Haudompre 18.75 321 *e*P **Pn 18 56 04.7 +1.9**
SUW Suwalki 19.41 359 *e*P **P 18 56 08.8 -0.7**
SUW Suwalki 19.41 359 *e*P **P 18 56 08.9 -0.6**
PAGF Fort de Pagny 19.42 321 *e*P **Pn 18 56 12.1 +1.3**
PAGF Fort de Pagny 19.42 321 *e*P **Pn 18 56 12.1 +1.3**
SFTF Sexfontaines 19.56 320 *e*P **Pn 18 56 13.7 +1.1**
comp=Z,11nm,0.8s
SFTF Sexfontaines 19.56 320 *e*P **Pn 18 56 13.7 +1.1**
comp=Z,5.7nm,0.8s
LOR Lormes 19.68 316 *e*P **Pn 18 56 14.9 +0.9**
LOR *e*R
comp=Z,45nm,19.2s
LOR Lormes 19.68 316 *e*P **Pn 18 56 14.9 +0.9**
MEZF Maizieres J'vi 19.74 320 *e*P **Pn 18 56 14.8 +0.2**
comp=Z,20nm,0.8s
MEZF Maizieres J'vi 19.74 320 *e*P **Pn 18 56 14.8 +0.2**
comp=Z,9.9nm,0.8s
SSF Saint Saulge 19.77 315 *e*P **Pn 18 56 15.5 +0.4**
SSF Saint Saulge 19.77 315 *e*P **Pn 18 56 15.5 +0.4**
WLF Walferdange 19.93 324 P **Pn 18 56 19.5 +2.6**
comp=Z,9.3nm,1.5s
VSR Storozhevoye 19.93 29 *e*P **P 18 56 13.1 -2.1**
VSR pmax pmax
comp=Z,4.0nm,0.6s
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,8.0nm,1.2s
VSR Storozhevoye 19.93 29 *e*P **P 18 56 13.1 -2.1**
comp=E,6.0nm,0.5s
TCF Toulx Ste Croi 20.16 312 *e*P Pn 18 56 20.6 +0.8
TCF Toulx Ste Croi 20.16 312 *e*P Pn 18 56 20.6 +0.8
MIB Mutribah 20.36 97 *e*P **P 18 56 20.7 +0.7**
MIB AMb AMB 18 56 21.7
comp=Z,27nm,0.8s
MIB Mutribah 20.36 97 *e*P **P 18 56 20.7 +0.7**
comp=Z,27nm,0.8s
NAY Al-Naaiem 20.48 99 *e*P **P 18 56 22.0 +0.7**
NAY AMb AMB 18 56 26.6
comp=Z,7.9nm,0.7s
NAY Al-Naaiem 20.48 99 *e*P **P 18 56 22.0 +0.7**
comp=Z,7.9nm,0.7s
UMR Umm Al-Rimmam 20.75 97 *e*P **P 18 56 24.4 +0.1**
UMR AMb AMB 18 56 27.5
comp=Z,33nm,0.7s
UMR Umm Al-Rimmam 20.75 97 *e*P **P 18 56 24.4 +0.1**
comp=Z,33nm,0.7s
RDF Al-Radifah 20.84 99 *e*P **P 18 56 25.5 +0.2**
RDF AMb AMB 18 56 27.9
comp=Z,23nm,1.3s
RDF Al-Radifah 20.84 99 *e*P **P 18 56 25.5 +0.2**
comp=Z,23nm,1.3s
VRHR Novokhopersk 20.88 33 *e*P **P 18 56 25.1 -0.4**
VRHR pmax pmax
comp=Z,5.0nm,0.6s
VRHR pmax pmax
comp=N,8.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR Novokhopersk 20.88 33 *e*P **P 18 56 25.1 -0.4**
comp=E,8.0nm,1.0s
DOU Dourbes 20.97 323 P **P 18 56 27.7 +1.3**
comp=Z,3.4nm,1.0s
BAIF Baives 21.14 323 *e*P **P 18 56 28.7 +0.4**
comp=Z,7.2nm,0.5s
BAIF Baives 21.14 323 *e*P **P 18 56 28.7 +0.4**
comp=Z,3.6nm,0.5s
MFF Saint Martin d 21.77 311 *e*P **P 18 56 37.1 +2.1**
MFF Saint Martin d 21.77 311 *e*P **P 18 56 37.1 +2.1**
OBN Obninsk 22.31 19 ⇓*e*P **P 18 56 39.5 -1.2**
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 22.31 19 *e*P **P 18 56 39.5 -1.2**
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 22.76 291 P **P 18 56 45.8 0.0**
comp=Z,0.7nm,0.6s,baz=87,slow=9.4,SNR=7.8
FLN La Foliniere 22.95 315 *e*P **P 18 56 47.7 +0.1**
comp=Z,12nm,0.6s
FLN *e*R
comp=Z,36nm,18.8s
FLN La Foliniere 22.95 315 *e*P **P 18 56 47.7 +0.1**
comp=Z,5.9nm,0.6s
GRR Gorron 22.99 314 *e*P **P 18 56 49.6 +1.6**
comp=Z,17nm,0.8s
GRR Gorron 22.99 314 *e*P **P 18 56 49.6 +1.6**
comp=Z,8.4nm,0.8s
VSU Vasula 23.94 4 *c i*P **P 18 56 56.2 -1.0**
VSU pmax pmax
comp=Z,31nm,1.2s
VSU Vasula 23.94 4 *i*P **P 18 56 56.2 -1.0**
comp=Z,31nm,1.2s
SGMF Saint Gilles 23.95 313 *e*P **P 18 56 58.1 +0.6**
SGMF Saint Gilles 23.95 313 *e*P **P 18 56 58.1 +0.6**
QUIF Quistinic 24.18 312 *e*P **P 18 56 59.9 +0.3**
comp=Z,20nm,0.9s
QUIF Quistinic 24.18 312 *e*P **P 18 56 59.9 +0.3**
comp=Z,10nm,0.9s
ROSF Rostrenen 24.41 312 *e*P **P 18 57 02.0 +0.2**
ROSF Rostrenen 24.41 312 *e*P **P 18 57 02.0 +0.2**
HFS Hagfors 26.40 348 P **P 18 57 19.2 -0.5**
comp=Z,2.6nm,0.4s,baz=158,slow=9.3,SNR=27
HFS Hagfors 26.40 348 P **P 18 57 19.2 -0.5**
comp=Z,3.0nm,0.4s
FINES FINESS Array B 26.89 2 P **P 18 57 22.2 -1.9**
comp=Z,1.7nm,0.6s,baz=157,slow=11,SNR=12
FINES LR LR 19 08 38.6
comp=Z,46nm,20.4s,baz=222,slow=38
KAF Kangasniemi 27.57 2 *e*P **P 18 57 30.9 +0.8**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 27.57 2 *e*p **P 18 57 30.9 +0.8**
comp=Z,0.8nm,0.3s
KAF Kangasniemi 27.57 2 *e*P **P 18 57 30.9 +0.8**
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 27.69 347 P **P 18 57 30.3 -1.0**
comp=Z,1.1nm,0.5s,baz=153,slow=11
NB2 NORSAR Subarra 27.69 347 P **P 18 57 30.3 -1.0**
comp=Z,1.1nm,0.5s,SNR=1.0
NOA NORSAR Array B 27.69 347 P **P 18 57 30.5 -0.8**
comp=Z,1.2nm,0.5s,baz=153,slow=8.6,SNR=13
NOA NORSAR Array B 27.69 347 P **P 18 57 30.5 -0.8**
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 27.93 326 P **P 18 57 34.3 +0.9**
comp=Z,0.7nm,0.5s,baz=126,slow=8.1,SNR=6.2
EKA Eskdalemuir Ar 27.93 326 P **P 18 57 34.3 +0.9**
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 29.36 229 P **P 18 57 48.6 +2.0**
comp=Z,1.7nm,0.6s,baz=35,slow=8.6,SNR=25
AKTK Aktyubinsk 29.36 47 P **P 18 57 45.4 -0.9**
comp=Z,4.0nm,0.7s
AKTO Aktyubinsk 29.36 47 P **P 18 57 45.4 -0.9**
AKTO pmax pmax
comp=Z,4.0nm,0.7s
AKTO Aktyubinsk 29.36 47 P **P 18 57 46.0 -0.3**
comp=Z,2.9nm,0.6s,baz=254,slow=8.2,SNR=16
AB31 Akbulak array 30.20 50 *i*P **P 18 57 53.5 -0.2**
AB31 Akbulak array 30.20 50 *i*P **P 18 57 53.5 -0.2**
ARU Arti 32.10 36 *d i*P **P 18 58 10.1 -0.2**
ARU 18 59 15.8
ARU S **S 19 03 24.3 +2.9**
ARU SS **SnSn 19 05 12.5 +0.8**
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 32.10 36 *i*P **P 18 58 10.1 -0.2**
comp=Z,11nm,1.7s
SVE Sverdlovsk 33.30 37⇑*e*P **P 18 58 19.1 -1.7**
SVE pmax pmax
comp=Z,8.0nm,0.5s
SVE Sverdlovsk 33.30 37 *e*P **P 18 58 19.1 -1.7**
comp=Z,8.0nm,0.5s
ARCES ARCESS Array B 34.99 1 P **P 18 58 33.6 -1.8**
comp=Z,1.6nm,0.5s,baz=181,slow=9.9,SNR=26
BRVK Borovoye 37.40 46 P **P 18 58 55.1 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 37.40 46 P **P 18 58 55.1 -1.0**
comp=Z,9.0nm,1.2s
BVA0 Borovoye Array 37.46 46 *i*P **P 18 58 56.5 -0.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVA0 Borovoye Array 37.46 46 *i*P **P 18 58 56.5 -0.1**
comp=Z,2.0nm,0.6s
VOSK Vostochnaya 37.76 47 P **P 18 58 58.2 -1.0**
VOSK pmax pmax
comp=Z,7.0nm,0.9s
VOSK Vostochnaya 37.76 47 P **P 18 58 58.2 -1.0**
comp=Z,7.0nm,0.9s
AAK Ala-Archa 39.81 63⇑*e*P **P 18 59 17.8 +1.1**
AAK pmax pmax
comp=Z,19nm,2.5s
AAK Ala-Archa 39.81 63 *e*P **P 18 59 17.8 +1.1**
comp=Z,19nm,2.5s
MK31 Makanchi Array 44.92 56 *i*P **P 18 59 58.3 +0.2**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 44.92 56 *i*P **P 18 59 58.3 +0.2**
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 44.92 56 *i*P **P 18 59 58.2 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.92 56 P **P 18 59 58.3 +0.1**
comp=Z,2.9nm,0.6s,baz=265,slow=8.0,SNR=50
MKAR Makanchi Array 44.92 56 *i*P **P 18 59 58.2 +0.1**
comp=Z,3.0nm,0.6s
NVS Novosibirsk 45.19 45 *e*P **P 18 59 59.5 -0.6**
NVS Novosibirsk 45.19 45 *e*P **P 18 59 59.5 -0.6**
ZALV Zalesovo Beam 46.11 46 P **P 19 00 07.0 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 46.11 46 P **P 19 00 07.0 -0.4**
comp=Z,2.6nm,0.3s,baz=269,slow=8.6,SNR=18
ZALV Zalesovo Beam 46.11 46 P **P 19 00 07.0 -0.4**
comp=Z,3.0nm,0.3s
KRAR Krasnoyarsk 50.64 43⇓*e*P **P 19 00 42.6 +0.4**
KRAR pmax pmax
comp=Z,11nm,1.2s
KRAR Krasnoyarsk 50.64 43 *e*P **P 19 00 42.6 +0.4**
comp=Z,11nm,1.2s
HVS Khovu-Aksy 51.78 49 *d i*P **P 19 00 51.1 +0.1**
HVS pmax pmax
comp=Z,6.0nm,0.6s
HVS Khovu-Aksy 51.78 49 *i*P **P 19 00 51.1 +0.1**
comp=Z,6.0nm,0.6s
SONM Songino Array 60.62 50 P **P 19 01 54.1 -0.1**
comp=Z,3.0nm,0.7s,baz=282,slow=7.4,SNR=4.3
SONM Songino Array 60.62 50 P **P 19 01 54.1 -0.1**
comp=Z,3.0nm,0.7s
BOSA Boshof 62.89 179 P **P 19 02 11.7 +2.1**
comp=Z,3.9nm,1.2s,baz=346,slow=4.2,SNR=2.8
BOSA Boshof 62.89 179 P **P 19 02 11.7 +2.1**
comp=Z,4.0nm,1.2s
CMAR Chiang Mai Arr 67.64 82 P **P 19 02 41.0 +0.4**
comp=Z,1.1nm,0.8s,baz=302,slow=8.0,SNR=7.4
CMAR Chiang Mai Arr 67.64 82 P **P 19 02 41.0 +0.4**
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 77.66 342 P **P 19 03 38.6 -0.9**
comp=Z,0.7nm,0.6s,baz=38,slow=5.0,SNR=2.3
YKA Yellowknife Ar 77.66 342 P **P 19 03 38.6 -0.9**
comp=Z,1.0nm,0.6s
USRK Ussuriysk Arra 77.95 44 P **P 19 03 41.2 -0.2**
comp=Z,1.1nm,0.7s,baz=266,slow=5.8,SNR=4.9
KSRS Korea Array 79.42 52 P **P 19 03 49.2 -0.4**
comp=Z,1.3nm,0.9s,baz=315,slow=4.5,SNR=5.8
KSRS Korea Array 79.42 52 P **P 19 03 49.2 -0.4**
comp=Z,1.0nm,0.9s
ILAR Eielson Array 80.69 356 P **P 19 03 55.4 -0.6**
comp=Z,0.5nm,0.8s,baz=338,slow=3.9,SNR=4.4
ILAR Eielson Array 80.69 356 P **P 19 03 55.4 -0.6**
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 117.53 96 PKP **PKPdf 19 10 29.2 -0.4**
comp=Z,0.5nm,1.1s,baz=316,slow=1.3,SNR=5.4
ASAR Alice Springs 118.94 100 PKP **PKPdf 19 10 32.6 +0.4**
comp=Z,0.4nm,0.8s,baz=301,slow=0.8,SNR=4.7

---

*IDC **08** 19:10:26.1±2.5, 39°.31N×74°.27E, h0km, mb3.5/4, mb1 3.4/6, mb1mx3.2/30, mbtmp3.3/6, ML2.6/2, Error ellipse: s-maj=41.4km s-min=21.7km az=134.0*
*NNC **08** 19:10:29.7±5.2, 39°.33N×74°.44E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=40.1km s-min=22.0km az=159.0*
ISC 08 19:10:24.1±2.1, 38°.9N±0°.2×74°.55E±0°.09, h10km, n14, σ1§28/17, mb3.4/4, 7C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.22**	**9**	P	**Pn**	**19 11 16.1**	**+1.1**
	SNR=6.5						
AML	**Almayashu**	**3.29**	**349**	P	**Pn**	**19 11 17.2**	**+1.2**
	SNR=9.1						
ULHL	**Ulahol**	**3.58**	**21**	P	**Pb**	**19 11 26.1**	**-1.5**
	SNR=13						
AAK	**Ala-Archa**	**3.73**	**359**	Pn	**Pn**	**19 11 22.5**	**+0.6**
	0.9nm,0.3s,baz=165,slow=16,SNR=2.6						
AAK				Lg	Lg	19 12 13.1	
	1.2nm,0.3s,baz=283,slow=21,SNR=3.9						
EKS2	**Erkin-Say**	**3.80**	**351**	P	Pn	19 11 25.3	+2.5
	SNR=7.2						
TKM2	**Tokmak 2**	**4.09**	**11**	⇑Pn	**Pn**	**19 11 28.5**	**+1.6**
	2.5nm,0.4s						
TKM2				⇑Pg	**Pb**	**19 11 37.3**	**+0.9**
	4.5nm,0.5s						
TKM2				⇑Sn	**Sn**	**19 12 14.6**	**-0.3**
	6.5nm,0.4s						
TKM2				⇑Lg	Lg	19 12 26.5	
	11nm,0.7s						
TKM2	**Tokmak 2**	**4.09**	**11**	P	**Pn**	**19 11 28.7**	**+1.8**
	SNR=11						
KK31	**Karatay Array**	**5.19**	**325**	⇓Pn	**Pn**	**19 11 42.5**	**+0.7**
	0.5nm,0.3s,baz=132,slow=13,SNR=48						
KK31				⇑Pg	**Pb**	**19 11 56.3**	**+1.4**
	1.0nm,0.3s,baz=139,slow=15,SNR=8.5						
KK31				⇓Sn	**Sn**	**19 12 40.9**	**-0.8**
	2.0nm,0.6s,baz=135,slow=25,SNR=4.1						
KK31				⇑Lg	Lg	19 13 01.3	
	3.3nm,0.6s						
MKAR	**Makanchi Array**	**9.72**	**33**	Pn	**Pn**	**19 12 45.6**	**+1.8**
	0.0nm,0.3s,baz=214,slow=15,SNR=2.9						
AB31	**Akbulak array**	**14.71**	**319**	⇑Pn	**Pn**	**19 13 50.1**	**-2.1**
	0.2nm,0.5s,baz=130,slow=12,SNR=6.5						
FINES	**FINESS Array B**	**37.15**	**323**	P	**P**	**19 17 34.7**	**+0.1**
	0.6nm,0.7s,baz=124,slow=9.6,SNR=4.7						
ARCES	**ARCESS Array B**	**40.06**	**336**	P	**P**	**19 17 59.0**	**0.0**
	0.5nm,0.7s,baz=101,slow=9.5,SNR=4.2						
HFS	**Hagfors**	**42.97**	**320**	P	**P**	**19 18 22.6**	**-0.4**
	0.7nm,0.6s,baz=97,slow=12,SNR=2.8						
GERES	**GERESS Array B**	**43.89**	**304**	P	**P**	**19 18 31.1**	**+0.3**
	0.1nm,0.4s,baz=50,slow=7.8,SNR=2.9						

---

*IDC **08** 19:10:32.3±7.7, 7°.78N×73°.58W, h137km±117km, mb1 3.3/1, mb1mx2.8/23, mbtmp3.6/1, ML2.6/1, Error ellipse: s-maj=1008.0km s-min=75.9km az=107.0*
*ISCJB **08** 19:10:33.6±0.8, 7°.52N±0°.08×72°.99W±0°.09, h142km±9km, Error ellipse: s-maj=18.0km s-min=7.3km az=40.9*
*FUNV **08** 19:10:35.9, 7°.60N×73°.10W, h131km, MW3.5*
ISC 08 19:10:34.5±1.2, 7°.60N±0°.07×73°.05W±0°.08, h135km±10km, n19, σ1§26/25, 8C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.77**	**70**⇑	*i*P	**Pn**	**19 10 57.3**	**+1.1**
CAPV				*e*S	**Sn**	**19 11 12.9**	**+0.3**
VIGV	**El Vigia**	**2.07**	**54**⇑	*e*P	**Pn**	**19 11 11.2**	**+1.6**
VIGV				*e*S	**Sn**	**19 11 35.9**	**-0.7**
SOCV	**Socops**	**2.28**	**73**⇑	*e*P	**Pn**	**19 11 12.7**	**+0.6**
SOCV				*e*S	**Sn**	**19 11 40.4**	**-0.6**
VIRV	**Villa del Rosa**	**2.95**	**12**⇑	*i*P	**Pn**	**19 11 20.8**	**+0.2**
VIRV				*e*S	**Sn**	**19 11 53.6**	**-2.7**
ROSC	**El Rosal**	**3.01**	**205**	P	**Pn**	**19 11 19.7**	**-2.1**
	16nm,0.3s,baz=90,slow=10,SNR=18						
ROSC				S	**Sn**	**19 11 56.7**	**-1.6**
	21nm,0.3s,baz=292,slow=23,SNR=8.9						
ELOV	**Elorza**	**3.59**	**99**	*e*P	**Pn**	**19 11 29.0**	**0.0**
CURV	**Curarigua**	**3.88**	**52**⇓	*e*P	**Pn**	**19 11 33.7**	**+0.8**
SANV	**Sanarito**	**3.95**	**61**⇑	*e*P	**Pn**	**19 11 34.5**	**+0.6**
SANV				*e*S	**Sn**	**19 12 18.2**	**-1.7**
DABV	**Dabajuro**	**4.07**	**36**⇑	*e*P	**Pn**	**19 11 36.1**	**+0.8**
SIQV	**Siquisique**	**4.41**	**46**	*e*P	**Pn**	**19 11 40.3**	**+0.5**
TEPV	**Terepaima**	**4.48**	**58**⇓	*e*P	**Pn**	**19 11 41.8**	**+1.0**
MAPV	**Macapo**	**5.05**	**64**⇑	*e*P	**Pn**	**19 11 48.8**	**+0.4**
BAUV	**El Baul**	**5.13**	**75**	*e*P	**Pn**	**19 11 48.8**	**-0.7**
MONV	**Montecano**	**5.28**	**35**	*e*P	**Pn**	**19 11 51.7**	**+0.2**
TURV	**Turiamo**	**5.87**	**61**	*e*P	**Pn**	**19 11 59.5**	**+0.1**
BIRV	**Birongo**	**7.28**	**66**	*e*P	**Pn**	**19 12 17.3**	**-1.0**
CUPV	**Cœpira**	**7.58**	**71**	*e*P	**Pn**	**19 12 21.1**	**-1.3**
ASAR	**Alice Springs**	**149.62**	**235**	PKPbc	**PKPdf**	**19 30 05.2**	**+0.8**
	0.1nm,0.3s,baz=121,slow=2.7,SNR=5.6						
WRA	**Warramunga Arr**	**150.76**	**242**	PKPbc	**PKPdf**	**19 30 08.3**	**+2.1**
	0.3nm,0.4s,baz=107,slow=2.6,SNR=17						

IDC 08 19:14:33.0±1.0, 50°.94S×116°.60E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, Error ellipse: s-maj=46.5km s-min=19.8km az=112.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**30.35**	**33**	P	P	19 20 46.1	-0.3
	0.7nm,0.8s,baz=200,slow=8.1,SNR=11						
VNDA	**Vanda**	**31.49**	**163**	P	P	19 20 55.8	-0.1
	1.0nm,0.8s,baz=300,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**33.95**	**31**	P	P	19 21 18.1	0.0
	0.7nm,0.7s,baz=198,slow=11,SNR=5.3						
QSPA	**South Pole Qui**	**39.19**	**180**	P	P	19 22 02.6	+0.2
	1.0nm,0.8s,baz=327,slow=4.4,SNR=6.3						
SNAA	**Sanae**	**50.49**	**201**	P	P	19 23 31.6	-0.6
	1.1nm,0.9s,baz=143,slow=10,SNR=9.0						
BOSA	**Boshof**	**69.15**	**250**	P	P	19 25 41.5	+0.2
	2.8nm,0.9s,baz=134,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**147.85**	**86**	PKPbc	PKPbc	19 34 19.3	-0.3
	0.6nm,0.8s,baz=191,slow=4.4,SNR=4.8						

IDC 08 19:14:47.1±31.0, 11°.26N×57°.96E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/26, mbtmp3.5/3, Error ellipse: s-maj=1071.0km s-min=42.1km az=78.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**47.64**	**21**	P	P	19 23 24.8	-0.1
	0.3nm,0.4s,baz=218,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**81.28**	**112**	P	P	19 27 05.7	-0.1
	0.3nm,0.7s,baz=296,slow=4.3,SNR=3.9						
ASAR	**Alice Springs**	**81.89**	**116**	P	P	19 27 09.2	+0.2
	0.2nm,0.6s,baz=292,slow=5.0,SNR=5.6						

IDC 08 19:16:39.6±2.5, 22°.84N×11°.60W, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/28, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=77.5km s-min=26.7km az=79.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.89**	**125**	Pn	Pn	19 20 26.2	+1.4
	0.1nm,0.3s,baz=312,slow=11,SNR=4.5						
TORD				Sn	Sn	19 23 20.1	-1.7

0.0nm,0.3s,baz=307,slow=20,SNR=2.9
DBIC Dimbokro 17.34 157 P Pn 19 20 42.4 -0.9
0.2nm,0.3s,baz=343,slow=17,SNR=4.4
GERES GERESS Array B 32.78 31 P P 19 23 14.6 0.0
0.3nm,0.6s,baz=218,slow=9.5,SNR=4.1
HFS Hagfors 41.27 19 P P 19 24 25.4 -1.0
1.0nm,0.5s,baz=216,slow=12,SNR=5.8
FINES FINESS Array B 46.42 24 P P 19 25 07.8 +0.1
0.5nm,0.5s,baz=238,slow=6.5,SNR=5.5
MKAR Makanchi Array 76.26 45 P P 19 28 30.7 +0.4
0.3nm,0.5s,baz=293,slow=6.0,SNR=6.7
WRA Warramunga Arr 148.20 91 PKPbc PKPbc 19 36 27.5 -0.9
1.0nm,1.1s,baz=283,slow=2.6,SNR=3.8
ASAR Alice Springs 148.34 98 PKPbc PKPbc 19 36 28.4 -0.2
0.4nm,0.7s,baz=280,slow=2.0,SNR=7.5

IDC 08 19:29:58.5±4.3, 30°08N×114°11W, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/25, mbtmp3.0/3, ML3.1/2, MS2.7/2, Ms1 2.6/2, ms1mx2.2/22, Error ellipse: s-maj=82.8km s-min=15.3km az=30.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANMO	**Albuquerque**	**8.08**	**51**	Lg	Lg	19 34 09.4	
	0.1nm,0.3s,baz=352,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**9.02**	**339**	Pn	Pn	19 32 11.3	+1.1
	0.1nm,0.3s,baz=164,slow=14,SNR=2.3						
TXAR	**Lajitas Array**	**9.12**	**92**	Pn	Pn	19 32 12.8	+1.4
	0.1nm,0.3s,baz=270,slow=12,SNR=5.2						
TXAR				Lg	Lg	19 34 44.1	
	0.1nm,0.3s,baz=273,slow=30,SNR=4.9						
TXAR				LR	LR	19 36 19.5	
	comp=Z,31nm,18.4s,baz=255,slow=42						
NEW	**Newport**	**18.31**	**354**	LR	LR	19 41 13.3	
	comp=Z,26nm,18.9s,baz=333,slow=37						
ILAR	**Eielson Array**	**40.28**	**339**	P	P	19 37 36.3	-0.7
	0.5nm,0.8s,baz=151,slow=6.6,SNR=6.3						

*ISCJB **08** 20:09:24.8±0.4, 36°46N±0°03×70°68E±0°07, h188km, mb3.4/7, Error ellipse: s-maj=7.8km s-min=3.4km az=158.6*
*IDC **08** 20:09:26.3±2.4, 36°38N×70°96E, h199km±19km, mb3.3/8, mb1 3.4/13, mb1mx3.2/32, mbtmp3.3/13, Error ellipse: s-maj=20.9km s-min=15.1km az=129.0*
*NNC **08** 20:09:33.8±2.9, 37°08N×70°79E, h225km±22km, mb3.0, mpv4.3, Error ellipse: s-maj=25.5km s-min=15.8km az=26.0*

ISC 08 20:09:25.8±0.6, 36°52N±0°05×70°79E±0°08, h188km, n52, σ1§74/58, mb3.6/7, 11C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.84**	**161**	⇑P	**Pn**	**20 10 15.0**	**+1.9**
CEP				S	**Sn**	**20 10 50.0**	**+0.1**
CHCP	**Chirah Chowk**	**3.50**	**144**	P	**Pn**	**20 10 23.0**	**+2.1**
THW	**Thamme Wali**	**3.79**	**168**	⇑P	**Pn**	**20 10 25.7**	**+1.1**
SARP	**Sargodha**	**4.84**	**161**	P	**Pn**	**20 10 38.4**	**+0.5**
DLH	**Dalhousie**	**5.83**	**131**	*e*P	**Pn**	**20 10 52.0**	**+1.2**
DLH				*e*S	**Sn**	**20 11 56.0**	**-1.9**
AML	**Almayashu**	**6.04**	**21**	P	**Pn**	**20 10 55.4**	**+1.7**
	SNR=193						
UCH	**Uchtor**	**6.39**	**26**	P	**Pn**	**20 11 00.1**	**+1.8**
	SNR=6.2						
KZA	**Kyzart**	**6.54**	**31**	P	**Pn**	**20 11 01.8**	**+1.6**
	SNR=17						
EKS2	**Erkin-Say**	**6.55**	**20**	P	**Pn**	**20 11 02.0**	**+1.9**
	SNR=52						
KK31	**Karatay Array**	**6.58**	**358**	⇑P	**Pn**	**20 11 01.7**	**+1.3**
	7.1nm,0.3s,baz=175,slow=11,SNR=319						
KK31				S	**Sn**	**20 12 12.3**	**-2.9**
	21nm,0.5s,baz=158,slow=13,SNR=16						
AAK	**Ala-Archa**	**6.74**	**24**	P	**Pn**	**20 11 04.7**	**+2.0**
	SNR=15						
AAK	**Ala-Archa**	**6.74**	**24**	P	**Pn**	**20 11 04.6**	**+2.0**
	6.0nm,0.3s,baz=173,slow=6.1,SNR=20						
AAK				S	**Sn**	**20 12 20.0**	**+0.7**
	4.0nm,0.3s,baz=339,slow=20,SNR=22						
KBK	**Karagaybulak**	**6.92**	**26**	P	**Pn**	**20 11 07.1**	**+2.2**
	SNR=13						
CHMS	**Chumysh**	**7.16**	**24**	P	**Pn**	**20 11 09.8**	**+1.9**
	SNR=14						
SDNR	**Sundarnagar**	**7.17**	**133**	*e*P	**Pn**	**20 11 07.0**	**-1.1**
SDNR				*e*S	**Sn**	**20 12 25.0**	**-4.2**
USP	**Ospenovka**	**7.32**	**22**	P	**Pn**	**20 11 11.3**	**+1.2**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.39**	**29**	⇑P	**Pn**	**20 11 12.8**	**+1.7**
	19nm,0.6s						
TKM2				⇑S	**Sn**	**20 12 32.7**	**-1.9**
	17nm,0.8s						
TKM2	**Tokmak 2**	**7.39**	**29**	P	**Pn**	**20 11 12.8**	**+1.7**
	SNR=6.4						
SMLA	**Simla**	**7.55**	**134**	*i* P	**Pn**	**20 11 12.8**	**-0.3**
SMLA				*i* S	**Sn**	**20 12 34.4**	**-3.8**
SMLA				*i* S		20 12 35.1	
KHET	**Khetri**	**9.43**	**152**	*e*P	**Pn**	**20 11 36.1**	**-1.6**
KHET				*e*S	Sn	20 13 14.1	-9.0
KHET				AML	AML	20 13 17.9	
	comp=E,175nm,0.1s						
KHET				AML	AML	20 13 18.1	
	comp=N,242nm,0.4s						
NDI	**New Delhi**	**9.50**	**143**	*e*4	x	20 12 10.0	
NDI				*e*4	**Sn**	**20 13 23.6**	**-1.3**
NDI				AML	AML	20 13 46.9	
	comp=N,18nm,0.6s						
NDI				AML	AML	20 13 47.1	
	comp=E,26nm,0.1s						
AYAN	**Aya Nagar**	**9.63**	**145**	*e*S	Sn	20 13 20.0	-7.9
KUDL	**Kundal**	**9.64**	**148**	*e*S	Sn	20 13 19.2	-8.8
KUDL				AML	AML	20 13 21.5	
	comp=E,26nm,0.7s						
KUDL				AML	AML	20 13 22.9	
	comp=N,16nm,0.3s						
SONA	**Sohna**	**9.81**	**145**	*e*S	Sn	20 13 23.4	-8.7
SONA				AML	AML	20 13 27.3	
	comp=E,27nm,0.4s						
SONA				AML	AML	20 13 28.2	
	comp=N,14nm,0.2s						
AGRA	**Agra**	**11.07**	**145**	*e*S	Sn	20 13 53.4	-8.9
AGRA				AML	AML	20 14 24.4	
	comp=N,45nm,0.2s						
AGRA				AML	AML	20 14 28.2	
	comp=E,52nm,0.5s						
MK31	**Makanchi Array**	**13.38**	**36**	⇓P	**Pn**	**20 12 29.4**	**+1.2**
	comp=E,3.9nm,0.8s,baz=209,slow=9.7,SNR=26						
MKAR	**Makanchi Array**	**13.38**	**36**	P	**Pn**	**20 12 29.7**	**+1.5**
	comp=E,0.2nm,0.3s,baz=213,slow=12,SNR=24						
KOLN	**Koldanda**	**13.91**	**125**	*e*P	**Pn**	**20 12 34.3**	**-1.0**
AB31	**Akbulak array**	**14.99**	**332**	⇓P	**P**	**20 12 48.8**	**-0.3**
	comp=E,2.9nm,0.6s,baz=148,slow=13,SNR=47						
AB31				⇑S	Sn	20 15 29.0	-6.5
	comp=E,0.6nm,0.6s,baz=159,slow=22,SNR=3.7						
DMN	**Daman**	**15.02**	**122**	*e*P	**Pn**	**20 12 49.4**	**+0.3**
	comp=E,5.5nm,0.4s						
KKN	**Kakani**	**15.03**	**121**	*e*P	**Pn**	**20 12 48.9**	**-0.2**
	comp=E,13nm,0.5s						
KURBB	**Kurchatov Arra**	**15.16**	**19**	P	**Pn**	**20 12 50.2**	**-0.1**
	comp=E,3.3nm,1.1s						
KURBB	**Kurchatov Arra**	**15.16**	**19**	P	**Pn**	**20 12 49.5**	**-0.8**
	comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=11						
PKIN	**Phulchoki**	**15.24**	**122**	*e*P	**P**	**20 12 52.6**	**+0.2**
	comp=E,12nm,0.7s						
PKI	**Pulchoki**	**15.26**	**122**	*e*P	**P**	**20 12 52.5**	**-0.1**
JIRN	**Jiri**	**15.74**	**120**	*e*P	**P**	**20 12 58.6**	**+0.6**
	comp=E,12nm,0.4s						
VOSK	**Vostochnaya**	**16.20**	**0**	⇑P	**P**	**20 13 02.3**	**-0.1**
	comp=E,1.9nm,0.8s						
BVA0	**Borovoye Array**	**16.51**	**359**	⇑P	**P**	**20 13 05.5**	**-0.3**
	comp=E,2.1nm,0.8s,baz=174,slow=13,SNR=8.7						
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**20 13 06.7**	**+0.2**
	comp=E,0.6nm,0.3s,baz=161,slow=14,SNR=11						
BVAR				S	**S**	**20 16 08.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=172,slow=21,SNR=4.5						
BRVK	**Borovoye**	**16.54**	**359**	⇑P	**P**	**20 13 06.0**	**-0.2**
	comp=E,3.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.68**	**330**	⇑P	**Pn**	**20 13 08.6**	**0.0**
	comp=E,3.0nm,0.6s						
AKTO				⇑S	**S**	**20 16 06.6**	**-5.5**
	comp=E,1.7nm,0.9s						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**20 13 09.9**	**+1.2**
	comp=E,0.6nm,0.3s,baz=141,slow=13,SNR=17						
TAPN	**Taplejung**	**17.00**	**118**	*e*P	**Pn**	**20 13 16.7**	**+3.7**
ZALV	**Zalesovo Beam**	**19.97**	**25**	P	**P**	**20 13 44.9**	**+1.6**
	comp=E,5.0nm,0.3s,baz=219,slow=11,SNR=40						
ZALV				S	**S**	**20 17 17.1**	**-0.3**
	comp=E,0.4nm,0.5s,baz=221,slow=17,SNR=2.6						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**20 16 21.3**	**+1.3**
	comp=E,0.8nm,0.4s,baz=116,slow=9.4,SNR=16						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**20 16 52.0**	**+1.6**
	comp=E,1.3nm,0.7s,baz=117,slow=7.3,SNR=9.8						
NB2	**NORSAR Subarra**	**44.27**	**323**	P	**P**	**20 17 16.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**20 17 16.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=102,slow=7.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.55**	**268**	P	**P**	**20 19 47.9**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=54,slow=5.8,SNR=3.5						
ILAR	**Eielson Array**	**74.81**	**16**	P	**P**	**20 20 45.3**	**+0.4**
	comp=Z,0.5nm,1.1s,baz=336,slow=4.2,SNR=3.2						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**20 21 20.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=346,slow=5.4,SNR=3.9						
WRA	**Warramunga Arr**	**82.14**	**122**	P	**P**	**20 21 23.9**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=325,slow=4.7,SNR=5.7						

IDC 08 20:21:14.7±1.8, 15°60S×173°37W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=120.0km s-min=22.2km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**43**	Pn	Pn	20 21 49.3	-4.5
	134nm,0.3s,baz=161,slow=2.0,SNR=130						
AFI				Sn	Sn	20 22 09.7	-13
	191nm,0.3s,baz=200,slow=22,SNR=21						
RAR	**Rarotonga**	**14.06**	**115**	LR	LR	20 28 14.7	
	comp=Z,141nm,18.1s,baz=277,slow=30						
WRA	**Warramunga Arr**	**49.82**	**257**	P	P	20 30 09.8	-0.1
	0.4nm,0.7s,baz=96,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**50.07**	**252**	P	P	20 30 11.7	-0.1
	1.1nm,0.5s,baz=86,slow=8.2,SNR=26						
NVAR	**Mina Array Bea**	**74.46**	**42**	P	P	20 32 55.3	0.0
	1.0nm,0.8s,baz=230,slow=10,SNR=5.9						
TXAR	**Lajitas Array**	**80.70**	**56**	P	P	20 33 30.3	0.0
	0.3nm,0.7s,baz=231,slow=5.7,SNR=3.5						
PDAR	**Pinedale Array**	**82.40**	**42**	P	P	20 33 39.0	0.0
	0.8nm,0.8s,baz=181,slow=4.1,SNR=6.4						
ILAR	**Eielson Array**	**82.64**	**11**	P	P	20 33 39.5	0.0
	0.3nm,0.9s,baz=216,slow=4.5,SNR=3.4						

*ISCJB **08** 20:37:59.2±0.9, 6°89N±0°09×73°0W±0°1, h155km±11km, Error ellipse: s-maj=21.6km s-min=7.7km az=38.6*
*IDC **08** 20:38:00.4±6.9, 7°19N×74°49W, h152km±166km, mb1 3.3/1, mb1mx2.8/23, mbtmp3.6/1, ML2.4/1, Error ellipse: s-maj=1148.0km s-min=80.4km az=91.0*
*FUNV **08** 20:38:02.0, 6°97N×73°01W, h157km, MW3.0*

ISC 08 20:37:58.5±1.2, 6°94N±0°08×73°05W±0°09, h166km±10km, n15, σ1§45/20, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.17**	**38**	⇑*i*P	**Pn**	**20 38 28.2**	**+1.7**
CAPV				*e*S	**Sn**	**20 38 47.2**	**-0.9**
ROSC	**El Rosal**	**2.44**	**212**	P	**Pn**	**20 38 40.1**	**0.0**
	19nm,0.3s,baz=282,slow=18,SNR=31						
ROSC				S	**Sn**	**20 39 11.0**	**-1.3**
	27nm,0.3s,baz=96,slow=22,SNR=20						
VIGV	**El Vigia**	**2.52**	**41**	⇑*e*P	**Pn**	**20 38 42.7**	**+2.0**
VIGV				*e*S	**Sn**	**20 39 12.4**	**-1.1**
SOCV	**Socops**	**2.55**	**58**	*e*P	**Pn**	**20 38 42.4**	**+1.3**
SOCV				*e*S	**Sn**	**20 39 12.1**	**-1.9**
ELOV	**Elorza**	**3.54**	**89**	⇑*i*P	**Pn**	**20 38 54.3**	**+1.0**
VIRV	**Villa del Rosa**	**3.59**	**10**	*e*P	**Pn**	**20 38 55.0**	**+1.0**
VIRV				*e*S	**Sn**	**20 39 34.5**	**-2.9**
CURV	**Curarigua**	**4.31**	**45**	*e*P	**Pn**	**20 39 04.9**	**+1.5**
TEPV	**Terepaima**	**4.85**	**52**	*e*P	**Pn**	**20 39 11.7**	**+1.3**
BAUV	**El Baul**	**5.34**	**68**	*e*P	**Pn**	**20 39 16.6**	**-0.1**
MAPV	**Macapo**	**5.37**	**57**	*e*P	**Pn**	**20 39 18.2**	**+1.1**
MONV	**Montecano**	**5.83**	**31**	*e*P	**Pn**	**20 39 24.4**	**+1.2**
TURV	**Turiamo**	**6.21**	**56**	*e*P	**Pn**	**20 39 28.3**	**+0.1**
CUPV	**Cœpira**	**7.82**	**66**	*e*P	**Pn**	**20 39 50.4**	**+0.9**
ASAR	**Alice Springs**	**149.24**	**234**	PKPbc	**PKPbc**	**20 57 28.6**	**+0.3**
	0.2nm,0.6s,baz=122,slow=2.6,SNR=4.8						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	**PKPbc**	**20 57 31.7**	**+0.3**
	1.3nm,1.2s,baz=107,slow=2.7,SNR=8.1						

*CSEM **08** 20:50:05.5±0.3, 41°06N×19°51E, h2km, ML2.6/11, Error ellipse: s-maj=10.2km s-min=4.4km az=60.0*
*PDG **08** 20:50:05.5±0.3, 41°07N×19°46E, h13km, ML2.6/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*ATH **08** 20:50:06.3, 41°23N×19°48E, h32km±12km*

BEO 08 20:50:07.2±1.2, 41°08N×19°46E, h3km±5km, ML2.3/4, 8C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**49**	*e*Pg	Pg	20 50 13.0	-2.0
TIR				*e*Sg	Sg	20 50 21.1	+0.7
TIR	**Tirane**	**0.41**	**49**	*e*Pg	Pg	20 50 13.0	-2.0
TIR				*e*Sb	Sg	20 50 18.4	-2.0
TIR				*e*Sg	Sb	20 50 21.1	-2.6
ULC	**Ulcinj**	**0.90**	**350**	⇓*i*Pg	Pg	20 50 23.0	-1.5
ULC				*e*Sg	Sb	20 50 37.2	-0.7
ULC	**Ulcinj**	**0.90**	**350**	⇓*i*Pg	Pg	20 50 23.0	-1.5
ULC				*e*Sg	Sb	20 50 37.2	-0.7
DRME	**Dracevica, Mon**	**1.12**	**350**	⇓*i*Pg	Pg	20 50 27.2	-1.6
DRME				*e*Sg	Sb	20 50 44.4	0.0
DRME	**Dracevica, Mon**	**1.12**	**350**	⇓*i*Pg	Pg	20 50 27.2	-1.6
DRME				*e*Sg	Sb	20 50 44.4	0.0
BUM	**Brajici-Budva**	**1.29**	**341**	*e*Pg	Pg	20 50 29.7	-2.4
BUM				*e*Sg	Sn	20 50 50.0	-0.2
BUM	**Brajici-Budva**	**1.29**	**341**	*e*Pg	Pg	20 50 29.7	-2.4
BUM				*e*Sg	Sn	20 50 50.0	-0.2
PDG	**Podgorica**	**1.36**	**354**	*e*Pg	Pn	20 50 31.0	-2.1
PDG	**Podgorica**	**1.36**	**354**	*e*Pg	Pn	20 50 31.0	-2.1
TTG	**Podgorica**	**1.36**	**354**	⇓*i*Pg	Pn	20 50 30.6	-2.5
TTG				*e*Sg	Sn	20 50 51.7	+0.1
KEK	**Kerkira**	**1.39**	**169**	*e*PB	Pn	20 50 33.0	-0.5
KEK	**Kerkira**	**1.39**	**169**	*e*Pn	Pn	20 50 33.0	-0.5
FNA	**Florina**	**1.48**	**101**	*e*PB	Pn	20 50 32.3	-2.6
FNA	**Florina**	**1.48**	**101**	*e*Pn	Pn	20 50 32.3	-2.6
HCY	**Herceg Novi**	**1.55**	**332**	⇓*i*Pg	Pn	20 50 34.0	-1.7
HCY				*e*Sg	Sn	20 50 56.0	-0.3
HCY	**Herceg Novi**	**1.55**	**332**	⇓*i*Pg	Pn	20 50 34.0	-1.7
HCY				*e*Sg	Sn	20 50 56.0	-0.3
PVY	**Plav**	**1.56**	**14**	⇑*i*Pg	Pn	20 50 34.9	-1.1
PVY				*e*Sg	Sn	20 50 56.8	-0.1
PVY	**Plav**	**1.56**	**14**	⇑*i*Pg	Pn	20 50 34.9	-1.1
PVY				*e*Sg	Sn	20 50 56.8	-0.1
NKME	**Niksic**	**1.73**	**348**	⇑*i*Pn	Pn	20 50 36.9	-1.3
NKME				*e*Sn	Sn	20 51 00.9	0.0
NKME	**Niksic**	**1.73**	**348**	⇑*i*Pn	Pn	20 50 36.9	-1.3
NKME				*e*Sn	Sn	20 51 00.9	0.0
NKY	**Niksic**	**1.77**	**349**	⇓*i*Pn	Pn	20 50 37.4	-1.5
NKY				*e*Sn	Sn	20 51 01.3	-0.7
NKY	**Niksic**	**1.77**	**349**	⇓*i*Pn	Pn	20 50 37.4	-1.5
NKY				*e*Sn	Sn	20 51 01.3	-0.7
JAN	**Janina**	**1.77**	**143**	*e*PN	Pn	20 50 38.1	-0.8
JAN				*e*SN	Sn	20 51 01.0	-1.0
JAN	**Janina**	**1.77**	**143**	*e*Pn	Pn	20 50 38.1	-0.8
JAN				*e*Sn	Sn	20 51 01.0	-1.0
BEY	**Berane**	**1.82**	**10**	*e*Pn	Pn	20 50 38.2	-1.4
IVA	**Berane**	**1.82**	**10**	*e*Pn	Pn	20 50 38.2	-1.4
KZN	**Kozani**	**1.92**	**113**	*e*PN	Pn	20 50 39.6	-1.3
KZN	**Kozani**	**1.92**	**113**	*e*Pn	Pn	20 50 39.6	-1.3
BRY	**Bratogost**	**1.94**	**340**	⇑*i*Pn	Pn	20 50 39.4	-2.0
BRY				*e*Sn	Sn	20 51 06.5	0.0
BRY	**Bratogost**	**1.94**	**340**	⇑*i*Pn	Pn	20 50 39.4	-2.0
BRY				*e*Sn	Sn	20 51 06.5	0.0
UPM	**Unac-Piva**	**2.16**	**349**	⇑*i*Pn	Pn	20 50 42.5	-1.9
UPM				*e*Sn	Sn	20 51 10.8	-1.1
UPM	**Unac-Piva**	**2.16**	**349**	⇑*i*Pn	Pn	20 50 42.5	-1.9
UPM				*e*Sn	Sn	20 51 10.8	-1.1
STON	**Ston**	**2.22**	**324**	*e*Pn	Pn	20 50 45.9	+1.0
STON	**Ston**	**2.22**	**324**	*e*Pn	Pn	20 50 45.9	+1.0
GRG	**Griva**	**2.23**	**92**	*e*PN	Pn	20 50 42.7	-2.4
GRG	**Griva**	**2.23**	**92**	*e*Pb	Pn	20 50 42.7	-2.4
BARS	**Barje**	**2.47**	**45**	*e*Pn	Pn	20 50 48.8	+0.4
BARS	**Barje**	**2.47**	**45**	*e*Pg	Pb	20 50 52.7	+0.4
BARS	**Barje**	**2.47**	**45**	*e*Pn	Pn	20 50 48.8	+0.4
BARS	**Barje**	**2.47**	**45**	*e*Pg	Pb	20 50 52.7	+0.4
THL	**Klokotos Trika**	**2.47**	**127**	*e*PN	Pn	20 50 48.0	-0.4
THL	**Klokotos Trika**	**2.47**	**127**	*e*Pb	Pn	20 50 48.0	-0.4
BBLS	**Lazići**	**2.79**	**359**	*e*Pn	Pn	20 50 51.5	-1.3
BBLS				*e*Sn	Sn	20 51 26.9	-0.1
BBLS	**Lazići**	**2.79**	**359**	*e*Pn	Pn	20 50 51.5	-1.3
BBLS				*e*Sn	Sn	20 51 26.9	-0.1
AGG	**Agios Georgios**	**3.01**	**132**	*e*PN	Pn	20 50 56.1	+0.2
AGG	**Agios Georgios**	**3.01**	**132**	*e*Pb	Pn	20 50 56.1	+0.2
DIVS	**Divibare**	**3.04**	**7**	*e*Pn	Pn	20 50 56.5	+0.1
DIVS	**Divibare**	**3.04**	**7**	*e*Pn	Pn	20 50 56.5	+0.1
PLG	**Polygyros**	**3.11**	**102**	*e*PN	Pn	20 50 56.1	-1.1
PLG	**Polygyros**	**3.11**	**102**	*e*Pn	Pn	20 50 56.1	-1.1

*CSEM **08** 20:50:25.2±0.3, 41°12N×19°50E, h2km, ML2.5/4, Error ellipse: s-maj=6.7km s-min=3.6km az=90.0*
*THE **08** 20:50:26.9, 41°13N×19°57E, h9km±1km, ML2.5/4, Error ellipse: s-maj=1.4km s-min=0.7km az=74.0*

TIR 08 20:50:22.6±4.9, 41°10N×19°50E, h0km±13km, ML3.3, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**48**	*e*PG	Pb	20 50 32.4	+0.3
TIR	**Tirane**	**0.37**	**48**	P	Pb	20 50 32.5	+0.4
TIR				S	Sb	20 50 37.3	-1.1
TIR	**Tirane**	**0.37**	**48**	P	Pb	20 50 32.5	+0.4
TIR				S	Sb	20 50 37.3	-1.1
PHP	**Peshkopia**	**0.92**	**50**	*e*PG	Pg	20 50 39.4	-0.9
PHP				*i* SG	Sn	20 50 57.2	+0.4
PHP	**Peshkopia**	**0.92**	**50**	P	Pn	20 50 43.2	+0.4
PHP				S	Sn	20 50 55.7	-1.1
PHP	**Peshkopia**	**0.92**	**50**	*e*Pg	Pg	20 50 39.4	-0.9
	SNR=9.0						
PHP	**Peshkopia**	**0.92**	**50**	P	Pn	20 50 43.2	+0.4
PHP				S	Sn	20 50 55.7	-1.1
PHP				*i* Sg	Sb	20 50 57.2	+2.9
	SNR=9.0						
PUK	**Puka**	**0.99**	**17**	*e*PG	Pg	20 50 41.8	+0.1
PUK				*i* SG	Sn	20 50 59.7	+1.1
PUK	**Puka**	**0.99**	**17**	*e*Pg	Pg	20 50 41.8	+0.1
	SNR=9.0						
PUK				*i* Sg	Sn	20 50 59.7	+1.1
	SNR=9.0						
KBN	**Korca**	**1.08**	**116**	*e*PG	Pn	20 50 46.0	+0.8
KBN				*i* SG	Sn	20 51 03.9	+2.9
KBN	**Korca**	**1.08**	**116**	P	Pn	20 50 46.2	+1.0
KBN				S	Sn	20 51 02.5	+1.5
KBN	**Korca**	**1.08**	**116**	P	Pn	20 50 46.2	+1.0
KBN				S	Sn	20 51 02.5	+1.5
KBN				*i* Sg	Sb	20 51 03.9	+4.7
	SNR=9.0						
SRN	**Sarande**	**1.28**	**163**	*e*PN	Pn	20 50 50.8	+3.1
SRN				*i* SN	Sn	20 51 09.2	+3.7
SRN	**Sarande**	**1.28**	**163**	P	Pn	20 50 50.8	+3.1
SRN				S	Sn	20 51 08.9	+3.4
SRN	**Sarande**	**1.28**	**163**	*e*Pn	Pn	20 50 50.8	+3.1
	SNR=4.0						
SRN				S	Sn	20 51 08.9	+3.4
SRN				*i* Sn	Sb	20 51 09.2	+4.7
	SNR=4.0						
BCI	**Bajram Curri**	**1.33**	**18**	*e*PN	Pb	20 50 51.0	+2.4
BCI				*i* SN	Sn	20 51 11.2	+4.2
BCI	**Bajram Curri**	**1.33**	**18**	*e*Pn	Pb	20 50 51.0	+2.4
	SNR=4.0						
BCI				*i* Sn	Sn	20 51 11.2	+4.2
	SNR=4.0						
PDG	**Podgorica**	**1.34**	**352**	P	Pb	20 50 49.9	+1.3
PDG				S	Sn	20 51 09.5	+2.4
PDG	**Podgorica**	**1.34**	**352**	P	Pb	20 50 49.9	+1.3
PDG				S	Sn	20 51 09.5	+2.4
NEST	**Nestorio**	**1.36**	**120**	P	Pb	20 50 50.4	+1.3
NEST				S	Sn	20 51 09.2	+1.4
NEST	**Nestorio**	**1.36**	**120**	P	Pb	20 50 50.4	+1.3
NEST				S	Sn	20 51 09.2	+1.4
BIA	**Bitola**	**1.38**	**93**	P	Pb	20 50 50.1	+0.7
BIA				S	Sn	20 51 08.9	+0.7
BIA	**Bitola**	**1.38**	**93**	*e*Pn	Pb	20 50 50.5	+1.1
BIA	**Bitola**	**1.38**	**93**	P	Pb	20 50 50.1	+0.7
BIA				S	Sn	20 51 08.9	+0.7
KEK	**Kerkira**	**1.41**	**171**	P	Pb	20 50 53.0	+3.3
KEK				S	Sn	20 51 11.5	+2.8
KEK	**Kerkira**	**1.41**	**171**	P	Pb	20 50 53.0	+3.3
KEK				S	Sn	20 51 11.5	+2.8
FNA	**Florina**	**1.46**

0.7nm,0.3s,baz=157,slow=14,SNR=9.3
KSRS LR LR 21 01 59.6
comp=Z,173nm,19.8s,baz=39,slow=39
MJAR Matsushiro Arr 8.39 43 P **Pn 20 59 10.5 +1.9**
0.4nm,0.3s,baz=242,slow=15,SNR=4.4
USRK Ussuriysk Arra 13.65 3 P **P 21 00 30.8 +1.9**
0.2nm,0.3s,baz=182,slow=9.5,SNR=20
USRK LR LR 21 05 46.4
comp=Z,98nm,18.5s,baz=150,slow=38
ASAJ Asahikawa 16.30 31 LR LR 21 07 09.5
comp=Z,65nm,20.9s,baz=305,slow=37
SONM Songino Array 25.65 319 P **P 21 02 35.2 -0.9**
1.1nm,0.5s,baz=140,slow=7.5,SNR=2.9
SONM LR LR 21 14 11.9
comp=Z,79nm,18.7s,baz=65,slow=40
PETK Petropavlovsk- 29.69 33 LR LR 21 16 51.8
comp=Z,24nm,19.5s,baz=164,slow=40
CMAR Chiang Mai Arr 31.57 255 P **P 21 03 29.2 +0.1**
0.4nm,0.6s,baz=74,slow=6.7,SNR=3.0
ZALV Zalesovo Beam 40.55 319 P **P 21 04 43.2 -2.1**
0.9nm,0.8s,baz=105,slow=9.1,SNR=3.5
MKAR Makanchi Array 40.78 308 P **P 21 04 46.4 -1.0**
0.4nm,0.5s,baz=97,slow=11,SNR=5.5
KURBB Kurchatov Arra 43.67 313 P **P 21 05 10.1 -0.8**
1.4nm,0.8s,baz=104,slow=7.6,SNR=22
WRA Warramunga Arr 50.28 176 P **P 21 06 03.1 +0.3**
0.4nm,0.6s,baz=355,slow=8.2,SNR=5.4
ASAR Alice Springs 53.96 177 P **P 21 06 30.9 +0.8**
0.2nm,0.6s,baz=9.2,slow=13,SNR=5.6
AKTO Aktyubinsk 56.72 313 LR LR 21 33 05.9
comp=Z,77nm,18.6s,baz=103,slow=38
ILAR Eielson Array 59.43 30 P **P 21 07 08.3 -0.2**
0.3nm,0.7s,baz=270,slow=6.3,SNR=3.9
STKA Stephens Creek 62.86 170 P **P 21 07 33.1 +1.0**
1.0nm,0.6s,baz=336,slow=12,SNR=3.3
ARCES ARCESS Array B 66.96 338 P **P 21 07 56.6 -1.7**
0.4nm,0.5s,baz=57,slow=9.8,SNR=8.9
KBZ Khabaz 68.46 309 P **P 21 08 08.6 +0.4**
3.3nm,0.8s,baz=144,slow=2.0,SNR=5.2
KAF Kangasniemi 69.99 331 *ep* **P 21 08 16.3 -1.1**
FINES FINESS Array B 70.40 330 P **P 21 08 18.3 -1.6**
1.8nm,0.4s,baz=64,slow=5.6,SNR=62
FINES LR LR 21 42 28.5
comp=Z,47nm,18.8s,baz=250,slow=39
AKASG Malin Array Be 73.94 320 P **P 21 08 40.4 -0.9**
15nm,0.3s,baz=54,slow=6.7,SNR=7.7
HFS Hagfors 76.20 333 P **P 21 08 52.5 -1.7**
0.5nm,0.4s,baz=36,slow=7.6,SNR=8.2
BRTR Keskin Array B 76.42 308 P **P 21 08 55.5 -0.5**
0.7nm,0.8s,baz=72,slow=4.7,SNR=5.6
NB2 NORSAR Subarra 76.58 334 P **P 21 08 55.2 -1.1**
comp=Z,0.3nm,0.6s,baz=47,slow=5.9
NOA NORSAR Array B 76.58 334 P **P 21 08 55.2 -1.1**
comp=Z,0.5nm,0.6s,baz=50,slow=5.5,SNR=4.3
EKA Eskdalemuir Ar 85.96 336 P **P 21 09 44.3 -1.8**
comp=Z,0.2nm,0.3s,baz=55,slow=4.3,SNR=6.5

---

*IDC **08** 20:58:16.5±3.5, 5°.63S×145°.88E, h75km±30km, mb3.8/3, mb1 4.1/5, mb1mx3.5/19, mbtmp4.0/5, Error ellipse: s-maj=28.0km s-min=23.5km az=122.0*
*AUST **08** 20:59:00.3±0.0, 7°.94S×144°.39E, h315km, Error ellipse: s-maj=1.9km s-min=1.3km az=290.0*
ISC 08 20:58:16.3±2.5, 5°.6S±0°.2×145°.8E±0°.2, h69km, n12, σ2§02/13, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**161**	P	**Pn**	**20 59 15.4**	**+0.4**
	17nm,0.3s,baz=349,slow=12,SNR=56						
PMG				S	**Sn**	**21 00 00.0**	**-0.6**
	11nm,0.3s,baz=259,slow=21,SNR=6.9						
COEN	**Coen**	**8.70**	**197**	P	Pn	21 00 29.7	+10
	baz=6.1,SNR=4.5						
KDU	**Kakadu**	**14.95**	**241**	P	P	21 01 51.2	+3.4
	baz=13,SNR=40						
MTN	**Manton Dam**	**16.19**	**243**	P	**P**	**21 02 06.0**	**+4.4**
	baz=14,SNR=9.4						
WRA	**Warramunga Arr**	**18.11**	**217**	P	**Pn**	**21 02 23.5**	**+0.2**
	2.5nm,0.3s,baz=38,slow=11,SNR=181						
WRA				S	**S**	**21 05 46.6**	**+0.4**
	0.0nm,0.3s,baz=39,slow=21,SNR=5.2						
KNRA	**Kununurra**	**19.52**	**238**	P	**Pn**	**21 02 40.4**	**+0.3**
	baz=17,SNR=17						
ASAR	**Alice Springs**	**21.32**	**211**	P	**P**	**21 02 56.8**	**-0.9**
	2.3nm,0.4s,baz=47,slow=8.3,SNR=65						
ASAR				S	**S**	**21 06 50.6**	**-0.3**
	1.4nm,0.7s,baz=30,slow=22,SNR=7.9						
FITZ	**Fitzroy Crossi**	**23.31**	**236**	P	**P**	**21 03 17.3**	**-1.2**
	3.2nm,0.5s,baz=59,slow=10.0,SNR=25						
FITZ	**Fitzroy Crossi**	**23.31**	**236**	P	**P**	**21 03 17.2**	**-1.3**
	baz=21,SNR=15						
STKA	**Stephens Creek**	**26.43**	**188**	P	**P**	**21 03 47.9**	**+1.1**
	1.6nm,0.4s,baz=14,slow=12,SNR=9.6						
STKA	**Stephens Creek**	**26.43**	**188**	P	**P**	**21 03 49.6**	**+2.9**
	baz=24,SNR=6.6						
MEEK	**Meekatharra**	**33.34**	**228**	P	**P**	**21 04 45.3**	**-2.7**
	baz=31,SNR=3.5						

---

*ISCJB **08** 21:07:40.1±0.5, 36°.73N±0°.02×21°.26E±0°.03, h32km±3km, mb3.7/12, MS3.1/1, Error ellipse: s-maj=4.3km s-min=3.5km az=158.9*
*CSEM **08** 21:07:41.3±0.2, 36°.80N×21°.31E, h20km, ML3.6/9, Error ellipse: s-maj=4.7km s-min=3.5km az=64.0*
*ATH **08** 21:07:41.1, 36°.82N×21°.32E, h30km±1km, MD3.6/20, ML3.6*
*IDC **08** 21:07:42.6±4.7, 36°.99N×21°.53E, h37km±41km, mb3.6/11, mb1 3.6/12, mb1mx3.5/32, mbtmp3.6/12, ML3.7/1, MS2.7/3, Ms1 2.7/3, ms1mx2.3/42, Error ellipse: s-maj=23.3km s-min=22.0km az=173.0*
*BEO **08** 21:07:42.3±1.3, 37°.08N×21°.10E, h0km, ML3.7/4*
*THE **08** 21:07:43.1, 36°.84N×21°.40E, h19km±1km, ML3.6/9, Error ellipse: s-maj=1.4km s-min=0.8km az=182.0*
*HLW **08** 21:07:53.2, 36°.55N×22°.49E, h9km±2km, Md4.1, Ml0.0*
ISC 08 21:07:41.8±0.9, 36°.84N±0°.03×21°.35E±0°.03, h33km±4km, n188, σ1§29/220, mb3.8/12, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.32**	**80**	P	**Pn**	**21 07 49.5**	**-0.7**
PYL				S	**Sb**	**21 07 54.5**	**-0.8**
PYL	**PYLOS**	**0.32**	**80**	*e*PB	**Pn**	**21 07 49.6**	**-0.7**
PYL				*e*SB	**Sn**	**21 07 55.5**	**0.0**
PYL	**PYLOS**	**0.32**	**80**	P	**Pn**	**21 07 49.5**	**-0.7**
PYL				S	**Sb**	**21 07 54.5**	**-0.8**
PYL				*e*Sb	**Sn**	**21 07 55.5**	**0.0**
SFD	**Strofades**	**0.49**	**327**	P	**Pn**	**21 07 53.0**	**+0.5**
SFD				S	**Sn**	**21 08 00.4**	**+0.5**
SFD	**Strofades**	**0.49**	**327**	P	**Pn**	**21 07 53.0**	**+0.5**
SFD				S	**Sn**	**21 08 00.4**	**+0.5**
ITM	**Ithomi**	**0.57**	**54**	P	**Pb**	**21 07 53.2**	**-0.4**
ITM				S	**Sb**	**21 08 01.8**	**+0.1**
ITM	**Ithomi**	**0.57**	**54**	*e*PN	**Pb**	**21 07 53.2**	**-0.4**
ITM				*e*SN	**Sn**	**21 08 02.6**	**+0.6**
ITM	**Ithomi**	**0.57**	**54**	P	**Pb**	**21 07 53.2**	**-0.4**
ITM				S	**Sb**	**21 08 01.8**	**+0.1**
ITM				*e*Sn	**Sn**	**21 08 02.6**	**+0.6**
AMT	**Artemida-Makis**	**0.75**	**22**	P	**Pn**	**21 07 56.1**	**0.0**
AMT				S	**Sn**	**21 08 07.8**	**+1.4**
AMT	**Artemida-Makis**	**0.75**	**22**	*e*PN	**Pn**	**21 07 56.3**	**+0.2**
AMT	**Artemida-Makis**	**0.75**	**22**	P	**Pn**	**21 07 56.1**	**0.0**
AMT				S	**Sn**	**21 08 07.8**	**+1.4**
DYR	**Agios Nikonas**	**0.79**	**95**	P	**Pn**	**21 07 56.9**	**+0.2**
DYR				S	**Sn**	**21 08 08.4**	**+0.9**
DYR	**Agios Nikonas**	**0.79**	**95**	*e*PN	**Pn**	**21 07 57.4**	**+0.7**
DYR				*e*SN	**Sn**	**21 08 10.0**	**+2.5**
DYR	**Agios Nikonas**	**0.79**	**95**	P	**Pn**	**21 07 56.9**	**+0.2**
DYR	**Agios Nikonas**	**0.79**	**95**	*e*Pn	**Pn**	**21 07 57.4**	**+0.7**
DYR				S	**Sn**	**21 08 08.4**	**+0.9**
DYR				*e*Sn	**Sn**	**21 08 10.0**	**+2.5**
VLX	**Vlachokerasia**	**0.98**	**57**	P	**Pb**	**21 08 00.3**	**-0.1**
VLX				S	**Sn**	**21 08 14.2**	**+2.0**
VLX	**Vlachokerasia**	**0.98**	**57**	*e*PN	**Pb**	**21 08 00.5**	**+0.1**
VLX				*e*SN	**Sn**	**21 08 14.5**	**+2.3**
VLX	**Vlachokerasia**	**0.98**	**57**	P	**Pb**	**21 08 00.3**	**-0.1**
VLX				S	**Sn**	**21 08 14.2**	**+2.0**
RLS	**Riolos of Patr**	**1.22**	**4**	P	**Pb**	**21 08 04.7**	**+0.3**
RLS	**Riolos of Patr**	**1.22**	**4**	*e*PN	**Pb**	**21 08 04.5**	**+0.1**
RLS	**Riolos of Patr**	**1.22**	**4**	*e*Pn	**Pb**	**21 08 04.5**	**+0.1**
VLI	**Veliai**	**1.28**	**95**	P	**Pb**	**21 08 05.4**	**0.0**
VLI				S	**Sb**	**21 08 22.0**	**+0.5**
VLI	**Veliai**	**1.28**	**95**	*e*PN	**Pb**	**21 08 05.7**	**+0.3**
VLI	**Veliai**	**1.28**	**95**	P	**Pb**	**21 08 05.4**	**0.0**
VLI	**Veliai**	**1.28**	**95**	*e*Pn	**Pb**	**21 08 05.7**	**+0.3**
VLI				S	**Sb**	**21 08 22.0**	**+0.5**
KFL	**Anninata**	**1.34**	**341**	P	**Pb**	**21 08 06.3**	**-0.2**
KFL	**Anninata**	**1.34**	**341**	P	**Pb**	**21 08 06.3**	**-0.2**
GUR	**Goura**	**1.35**	**36**	P	**Pb**	**21 08 05.9**	**-0.7**
GUR	**Goura**	**1.35**	**36**	*e*PN	**Pb**	**21 08 06.2**	**-0.4**
GUR	**Goura**	**1.35**	**36**	P	**Pb**	**21 08 05.9**	**-0.7**
GUR	**Goura**	**1.35**	**36**	*e*Pn	**Pb**	**21 08 06.2**	**-0.4**
AXS	**Araxos**	**1.35**	**1**	P	**Pb**	**21 08 06.9**	**+0.3**
AXS				S	**Sb**	**21 08 24.3**	**+0.7**
AXS	**Araxos**	**1.35**	**1**	P	**Pb**	**21 08 06.9**	**+0.3**
AXS				S	**Sb**	**21 08 24.3**	**+0.7**
KLV	**Kalavryta, Ach**	**1.36**	**28**	P	**Pb**	**21 08 06.2**	**-0.5**
KLV				S	**Sb**	**21 08 23.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.36**	**28**	*e*PN	**Pb**	**21 08 06.3**	**-0.5**
KLV				*e*SN	**Sb**	**21 08 26.6**	**+2.7**
KLV	**Kalavryta, Ach**	**1.36**	**28**	P	**Pb**	**21 08 06.2**	**-0.5**
KLV				S	**Sb**	**21 08 23.6**	**-0.3**
KLV				*e*Sn	**Sb**	**21 08 26.6**	**+2.7**
VLS	**Valsamata**	**1.47**	**336**	P	**Pb**	**21 08 07.1**	**-1.4**
VLS	**Valsamata**	**1.47**	**336**	*e*PB	**Pb**	**21 08 07.2**	**-1.3**
VLS	**Valsamata**	**1.47**	**336**	P	**Pb**	**21 08 07.1**	**-1.4**
KYTH	**Kithira**	**1.47**	**112**	P	**Pb**	**21 08 08.2**	**-0.4**
KYTH	**Kithira**	**1.47**	**112**	*e*PN	**Pb**	**21 08 08.9**	**+0.3**
KYTH	**Kithira**	**1.47**	**112**	P	**Pb**	**21 08 08.2**	**-0.4**
KYTH	**Kithira**	**1.47**	**112**	*e*Pn	**Pb**	**21 08 08.9**	**+0.3**
LAKA	**Lakka**	**1.48**	**20**	P	**Pb**	**21 08 08.4**	**-0.5**
LAKA				S	**Sb**	**21 08 27.2**	**-0.2**
LAKA	**Lakka**	**1.48**	**20**	*e*PN	**Pb**	**21 08 08.4**	**-0.5**
LAKA	**Lakka**	**1.48**	**20**	P	**Pb**	**21 08 08.4**	**-0.5**
LAKA				S	**Sb**	**21 08 27.2**	**-0.2**
ACOR	**Acrocorinthos**	**1.60**	**49**	P	**Pn**	**21 08 08.1**	**+0.2**
ACOR	**Acrocorinthos**	**1.60**	**49**	P	**Pn**	**21 08 08.1**	**+0.2**
DIDY	**Didyma**	**1.62**	**66**	P	**Pn**	**21 08 09.2**	**+1.0**
DIDY				S	**Sn**	**21 08 29.4**	**+1.5**
DIDY	**Didyma**	**1.62**	**66**	P	**Pn**	**21 08 09.2**	**+1.0**
DIDY				S	**Sn**	**21 08 29.4**	**+1.5**
TRIZ	**Trizonia**	**1.63**	**20**	P	**Pb**	**21 08 10.7**	**-0.5**
TRIZ				S	**Sb**	**21 08 31.3**	**-0.1**
TRIZ	**Trizonia**	**1.63**	**20**	P	**Pb**	**21 08 10.7**	**-0.5**
TRIZ				S	**Sb**	**21 08 31.3**	**-0.1**
EFP	**Efpalio**	**1.64**	**15**	P	**Pb**	**21 08 10.8**	**-0.7**
EFP				S	**Sb**	**21 08 31.5**	**-0.4**
EFP	**Efpalio**	**1.64**	**15**	*e*PN	**Pb**	**21 08 11.1**	**-0.4**
EFP	**Efpalio**	**1.64**	**15**	P	**Pb**	**21 08 10.8**	**-0.7**
EFP	**Efpalio**	**1.64**	**15**	*e*Pn	**Pb**	**21 08 11.1**	**-0.4**
EFP				S	**Sb**	**21 08 31.5**	**-0.4**
DID	**Didima**	**1.65**	**66**	P	**Pn**	**21 08 09.4**	**+0.9**
DID	**Didima**	**1.65**	**66**	*e*PB	**Pn**	**21 08 09.7**	**+1.2**
DID	**Didima**	**1.65**	**66**	P	**Pn**	**21 08 09.4**	**+0.9**
DID	**Didima**	**1.65**	**66**	*e*Pb	**Pn**	**21 08 09.7**	**+1.2**
KALE	**Kalithea**	**1.67**	**22**	P	**Pb**	**21 08 11.4**	**-0.6**
KALE	**Kalithea**	**1.67**	**22**	P	**Pb**	**21 08 11.4**	**-0.6**
LTK	**Loutraki**	**1.75**	**47**	P	**Pn**	**21 08 11.0**	**+1.2**
LTK				S	**Sn**	**21 08 32.7**	**+1.7**
LTK	**Loutraki**	**1.75**	**47**	*e*PB	**Pn**	**21 08 11.1**	**+1.2**
LTK	**Loutraki**	**1.75**	**47**	*e*Pb	**Pn**	**21 08 11.1**	**+1.2**
LTK				S	**Sn**	**21 08 32.7**	**+1.7**
DSF	**Desfina**	**1.83**	**30**	P	**Pb**	**21 08 12.8**	**-1.8**
DSF				S	**Sb**	**21 08 35.9**	**-1.3**
DSF	**Desfina**	**1.83**	**30**	P	**Pb**	**21 08 12.8**	**-1.8**
DSF				S	**Sb**	**21 08 35.9**	**-1.3**
ANKY	**Antikythira Is**	**1.85**	**121**	P	**Pb**	**21 08 13.5**	**-1.6**
ANKY	**Antikythira Is**	**1.85**	**121**	*e*PB	**Pb**	**21 08 13.4**	**-1.6**
ANKY	**Antikythira Is**	**1.85**	**121**	*e*Pb	**Pb**	**21 08 13.4**	**-1.6**
LKD2	**Lefkada island**	**2.02**	**344**	P	Pb	21 08 16.5	-1.4
LKD2	**Lefkada island**	**2.02**	**344**	*e*PB	Pb	21 08 16.6	-1.4
LKD2	**Lefkada island**	**2.02**	**344**	P	Pb	21 08 16.5	-1.4
EVR	**Evrytania**	**2.10**	**10**	P	Pb	21 08 18.1	-1.3
EVR	**Evrytania**	**2.10**	**10**	P	Pb	21 08 18.1	-1.3
AXAR	**Agios Charalam**	**2.19**	**28**	P	**Pb**	**21 08 18.0**	**-2.7**
AXAR	**Agios Charalam**	**2.19**	**28**	P	**Pb**	**21 08 18.0**	**-2.7**
ATH	**Athens Observa**	**2.20**	**58**	*e*PN	**Pn**	**21 08 17.8**	**+1.8**
ATH	**Athens Observa**	**2.20**	**58**	*e*Pn	**Pn**	**21 08 17.8**	**+1.8**
LKR	**Lokris**	**2.23**	**35**	*e*PN	**Pn**	**21 08 18.3**	**+1.8**
LKR	**Lokris**	**2.23**	**35**	*e*Pn	**Pn**	**21 08 18.3**	**+1.8**
ATHU	**Athens Univers**	**2.24**	**59**	P	**Pn**	**21 08 16.7**	**+0.1**
ATHU	**Athens Univers**	**2.24**	**59**	P	**Pn**	**21 08 16.7**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.26**	**16**	P	Pb	21 08 19.8	-2.2
MAKR	**Makrakomi, Fth**	**2.26**	**16**	P	Pb	21 08 19.8	-2.2
AGG	**Agios Georgios**	**2.31**	**19**	P	**Pb**	**21 08 20.0**	**-2.9**
AGG	**Agios Georgios**	**2.31**	**19**	P	**Pb**	**21 08 20.0**	**-2.9**
PTL	**Penteli**	**2.34**	**58**	P	**Pn**	**21 08 18.2**	**+0.3**
PTL	**Penteli**	**2.34**	**58**	*e*PN	**Pn**	**21 08 18.3**	**+0.3**
PTL	**Penteli**	**2.34**	**58**	*e*Pn	**Pn**	**21 08 18.3**	**+0.3**
SMIA	**Simia**	**2.51**	**35**	P	**Pn**	**21 08 21.6**	**+1.2**
SMIA	**Simia**	**2.51**	**35**	P	**Pn**	**21 08 21.6**	**+1.2**
ERET	**Eretria**	**2.52**	**50**	P	**Pn**	**21 08 21.2**	**+0.6**
ERET	**Eretria**	**2.52**	**50**	P	**Pn**	**21 08 21.2**	**+0.6**
MRKA	**Markates**	**2.57**	**43**	P	**Pn**	**21 08 21.9**	**+0.7**
MRKA	**Markates**	**2.57**	**43**	P	**Pn**	**21 08 21.9**	**+0.7**
VAM	**Vamos**	**2.71**	**121**	P	**Pn**	**21 08 24.6**	**+1.5**
VAM	**Vamos**	**2.71**	**121**	*e*PN	**Pn**	**21 08 24.7**	**+1.6**
VAM	**Vamos**	**2.71**	**121**	P	**Pn**	**21 08 24.6**	**+1.5**
THL	**Klokotos Trika**	**2.77**	**11**	P	**Pn**	**21 08 26.2**	**+2.3**
THL	**Klokotos Trika**	**2.77**	**11**	P	**Pn**	**21 08 26.2**	**+2.3**
IGT	**Igoumenitsa**	**2.81**	**344**	P	**Pn**	**21 08 25.6**	**+1.2**
IGT	**Igoumenitsa**	**2.81**	**344**	P	**Pn**	**21 08 25.6**	**+1.2**
SKIA	**Skiathos**	**2.86**	**35**	P	**Pn**	**21 08 26.1**	**+0.9**
SKIA	**Skiathos**	**2.86**	**35**	P	**Pn**	**21 08 26.1**	**+0.9**
NEO	**Neokhori**	**2.87**	**30**	P	**Pn**	**21 08 26.5**	**+1.2**
NEO	**Neokhori**	**2.87**	**30**	*e*PN	**Pn**	**21 08 26.5**	**+1.2**
NEO	**Neokhori**	**2.87**	**30**	P	**Pn**	**21 08 26.5**	**+1.2**
XOR	**Xorichti**	**2.91**	**29**	P	**Pn**	**21 08 27.4**	**+1.5**
XOR	**Xorichti**	**2.91**	**29**	P	**Pn**	**21 08 27.4**	**+1.5**
KEK	**Kerkira**	**3.12**	**337**	P	**Pn**	**21 08 29.7**	**+1.0**
KEK	**Kerkira**	**3.12**	**337**	P	**Pn**	**21 08 29.7**	**+1.0**
SRN	**Sarande**	**3.21**	**341**	P	**Pn**	**21 08 31.2**	**+1.2**
SRN	**Sarande**	**3.21**	**341**	P	**Pn**	**21 08 31.2**	**+1.2**
IDI	**Anoyia**	**3.26**	**117**	P	**Pn**	**21 08 32.0**	**+1.3**
IDI	**Anoyia**	**3.26**	**117**	*e*PN	**Pn**	**21 08 32.1**	**+1.3**
IDI	**Anoyia**	**3.26**	**117**	P	**Pn**	**21 08 32.0**	**+1.3**
SANT	**Santorini**	**3.34**	**97**	P	**Pn**	**21 08 32.5**	**+0.7**
SANT	**Santorini**	**3.34**	**97**	P	**Pn**	**21 08 32.5**	**+0.7**
APE	**Apeiranthos**	**3.36**	**85**	P	**Pn**	**21 08 32.0**	**0.0**
APE	**Apeiranthos**	**3.36**	**85**	P	**Pn**	**21 08 32.0**	**0.0**
KZN	**Kozani**	**3.48**	**5**	P	**Pn**	**21 08 35.5**	**+1.8**
KZN	**Kozani**	**3.48**	**5**	P	**Pn**	**21 08 35.5**	**+1.8**
NEST	**Nestorio**	**3.58**	**356**	P	**Pn**	**21 08 37.3**	**+2.2**
NEST	**Nestorio**	**3.58**	**356**	P	**Pn**	**21 08 37.3**	**+2.2**
PAIG	**Paliouri**	**3.58**	**30**	P	**Pn**	**21 08 35.8**	**+0.7**
PAIG	**Paliouri**	**3.58**	**30**	P	**Pn**	**21 08 35.8**	**+0.7**
PLG	**Polygyros**	**3.89**	**24**	P	**Pn**	**21 08 40.0**	**+0.6**
PLG	**Polygyros**	**3.89**	**24**	P	**Pn**	**21 08 40.0**	**+0.6**
FNA	**Florina**	**3.94**	**0**	P	**Pn**	**21 08 41.3**	**+1.3**
FNA	**Florina**	**3.94**	**0**	P	**Pn**	**21 08 41.3**	**+1.3**
CHOS	**Chios island**	**4.04**	**66**	P	**Pn**	**21 08 41.8**	**+0.3**
CHOS	**Chios island**	**4.04**	**66**	P	**Pn**	**21 08 41.8**	**+0.3**
OUR	**Ouranopolis**	**4.05**	**30**	P	**Pn**	**21 08 42.4**	**+0.9**
OUR	**Ouranopolis**	**4.05**	**30**	P	**Pn**	**21 08 42.4**	**+0.9**
BIA	**Bitola**	**4.17**	**360**	*e*Pn	Pb	21 08 50.8	-3.8
KNT	**Kendrikon**	**4.48**	**15**	P	**Pn**	**21 08 49.0**	**+1.6**
KNT	**Kendrikon**	**4.48**	**15**	P	**Pn**	**21 08 49.0**	**+1.6**
SRS	**Serrai**	**4.61**	**22**	P	**Pn**	**21 08 50.2**	**+0.9**
SRS	**Serrai**	**4.61**	**22**	P	**Pn**	**21 08 50.2**	**+0.9**
LTBQ	**Tobruq**	**5.22**	**155**	‖ *i*P	**Pn**	**21 09 00.0**	**+2.4**
LTBQ	SNR=36			*e*S	**Sn**	**21 09 54.5**	**-2.2**
	30nm,0.4s,SNR=36						
PDG	**Podgorica**	**5.81**	**345**	*e*Pn	**Pn**	**21 09 05.5**	**-0.2**
PDG	**Podgorica**	**5.81**	**345**	*e*Pn	**Pn**	**21 09 05.5**	**-0.2**
VTS	**Vitosha**	**5.92**	**13**	*e*Pn	**Pn**	**21 09 08.0**	**+0.7**
VTS	**Vitosha**	**5.92**	**13**	*e*Pn	**Pn**	**21 09 08.0**	**+0.7**
BARS	**Barje**	**5.98**	**3**	*e*Pn	**Pn**	**21 09 08.4**	**+0.4**
BARS	**Barje**	**5.98**	**3**	*e*Pn	**Pn**	**21 09 08.4**	**+0.4**
LJBD	**Adjabya**	**5.99**	**190**	*i* P	**Pn**	**21 09 08.5**	**+0.4**
	SNR=36						
SLUM		**6.22**	**148**	P	**Pn**	**21 09 12.6**	**+1.2**
	baz=155						
SLUM		**6.22**	**148**	P	**Pn**	**21 09 12.6**	**+1.2**
SELS	**Selova**	**6.37**	**358**	*e*Pn	**Pn**	**21 09 12.0**	**-1.4**
ZAPS	**Zavoj**	**6.50**	**8**	*e*Pn	**Pn**	**21 09 16.9**	**+1.7**
STON	**Ston**	**6.64**	**336**	*i* Pn	**Pn**	**21 09 15.8**	**-1.3**
STON				Sn	**Sn**	**21 10 27.1**	**-4.5**
STON	**Ston**	**6.64**	**336**	*e*Pn	**Pn**	**21 09 16.2**	**-0.9**
STON	**Ston**	**6.64**	**336**	*e*Pn	**Pn**	**21 09 16.2**	**-0.9**
LMSR	**Misrath**	**6.91**	**231**	*i* P	**Pn**	**21 09 20.3**	**-0.5**
	SNR=34						
GRUS	**Gruza**	**7.06**	**356**	*e*Pn	**Pn**	**21 09 22.2**	**-0.6**
GRUS	**Gruza**	**7.06**	**356**	*e*Pn	**Pn**	**21 09 22.2**	**-0.6**
BBLS	**Lazići**	**7.17**	**349**	*e*Pn	**Pn**	**21 09 23.3**	**-1.1**
BBLS	**Lazići**	**7.17**	**349**	*e*Pn	**Pn**	**21 09 23.3**	**-1.1**
DIVS	**Divibare**	**7.32**	**352**	*e*Pn	**Pn**	**21 09 25.5**	**-1.0**
DIVS				*e*Sn	**Sn**	**21 10 42.9**	**-5.6**
DIVS	**Divibare**	**7.32**	**352**	*e*Pn	**Pn**	**21 09 25.5**	**-1.0**
HMAT	**Matruh**	**7.46**	**139**	P	**Pn**	**21 09 27.9**	**-0.4**
	baz=143						
HMAT				S	Sn	21 10 39.9	-12
	baz=143						
HMAT	**Matruh**	**7.46**	**139**	P	**Pn**	**21 09 27.9**	**-0.4**
LJFR	**Jufra**	**9.01**	**213**	*i* P	**Pn**	**21 09 48.0**	**-1.6**
	SNR=34						
BRTR	**Keskin Array B**	**10.08**	**70**	Pn	**Pn**	**21 10 07.2**	**+2.7**
	0.0nm,0.3s,baz=234,slow=14,SNR=2.3						
KECS	**Kecovo**	**11.65**	**357**	*e*PN	**Pn**	**21 10 24.3**	**-1.4**
CRVS	**Cervenica-Dubn**	**12.06**	**0**	*e*PN	**Pn**	**21 10 32.1**	**+0.9**
STHS	**Stebnicka Huta**	**12.57**	**360**	*e*PN	**Pn**	**21 10 35.8**	**-2.5**
VRAC	**Vranov**	**12.93**	**346**	LR	LR	21 15 43.7	
	comp=Z,22nm,19.8s,baz=262,slow=38						
GERES	**GERESS Array B**	**13.23**	**337**	Pn	**Pn**	**21 10 49.8**	**+2.4**
	0.1nm,0.3s,baz=151,slow=14,SNR=2.8						
GERES				LR	LR	21 15 47.9	
	comp=Z,15nm,21.2s,baz=283,slow=37						
EIL	**Elat**	**13.43**	**118**	Pn	**Pn**	**21 10 49.5**	**-0.6**
	0.4nm,0.3s,baz=326,slow=18,SNR=2.9						
EIL				Sn	Sn	21 13 07.5	-11
	0.4nm,0.3s,baz=310,slow=16,SNR=3.7						
AKASG	**Malin Array Be**	**14.96**	**20**	Pn	**Pn**	**21 11 08.0**	**-2.8**
	baz=214,slow=14,SNR=2.0						
HFS	**Hagfors**	**23.82**	**350**	P	**P**	**21 12 50.0**	**-1.5**
	1.7nm,0.6s,baz=161,slow=11,SNR=13						
FINES	**FINESS Array B**	**24.81**	**5**	P	**P**	**21 12 59.3**	**-1.2**
	1.1nm,0.4s,baz=166,slow=9.6,SNR=20						
EKA	**Eskdalemuir Ar**	**24.90**	**326**	P	**P**	**21 13 02.0**	**+0.6**
	0.8nm,0.6s,baz=129,slow=9.1,SNR=5.8						
NB2	**NORSAR Subarra**	**25.06**	**348**	P	**P**	**21 13 02.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**25.06**	**348**	P	**P**	**21 13 02.2**	**-0.7**
	comp=Z,0.6nm,0.7s,SNR=7.7						
NOA	**NORSAR Array B**	**25.06**	**348**	P	**P**	**21 13 02.3**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=158,slow=9.0,SNR=8.5						
KAF	**Kangasniemi**	**25.49**	**5**	*ep*	**P**	**21 13 06.4**	**-0.3**
	comp=Z,3.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.44**	**222**	P	**P**	**21 13 44.6**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=33,slow=8.3,SNR=4.2						
AKTO	**Aktyubinsk**	**29.48**	**51**	P	**P**	**21 13 41.4**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=270,slow=17,SNR=2.3						
ARCES	**ARCESS Array B**	**32.83**	**3**	LR	LR	21 28 52.9	
	comp=Z,40nm,18.5

TXAR Lajitas Array 80.74 56 P P 21 53 11.4 +0.5
0.6nm,0.9s,baz=222,slow=7.5,SNR=6.6
PDAR Pinedale Array 82.35 42 P P 21 53 18.3 -1.0
0.8nm,0.8s,baz=212,slow=3.6,SNR=7.7
PDAR LR LR 22 23 22.5
comp=Z,63nm,19.0s,baz=251,slow=31
ILAR Eielson Array 82.41 11 P P 21 53 17.8 -1.0
0.4nm,0.7s,baz=229,slow=6.1,SNR=4.2
MAW Mawson 87.80 199 P P 21 53 45.6 -0.3
1.4nm,0.5s,baz=135,slow=8.0,SNR=8.5
MAW LR LR 22 31 48.6
comp=Z,86nm,21.2s,baz=299,slow=35
CMAR Chiang Mai Arr 92.39 288 LR LR 22 30 39.9
comp=Z,88nm,18.7s,baz=240,slow=32
ATAH Atahualpa 93.14 98 LR LR 22 27 04.7
comp=Z,58nm,21.0s,baz=273,slow=30
ULM Lac du Bonnet 94.01 39 LR LR 22 30 18.8
comp=Z,53nm,18.1s,baz=276,slow=32
BRTR Keskin Array B 145.97 321 PKPbc PKPbc 22 00 37.4 +0.1
1.2nm,0.8s,baz=66,slow=3.5,SNR=7.3
GERES GERESS Array B 146.04 351 PKPbc PKPbc 22 00 36.8 -0.4
0.6nm,0.8s,baz=11,slow=2.9,SNR=6.3

---

*SZGRF **08** 21:51:50.8, 24.°17S×179.°96E, h653km, South of Fiji Islands*
*BKK **08** 21:52:59.5±0.5, 23.°S±7.°×17.°9E±1.°0, h544km, M5.1/30, mB5.6/14, mb5.1/30, Mw(mB)5.1/14*
*BJI **08** 21:53:02.0, 22.°48S×179.°58E, h602km, mB5.2/27, mb4.8/41*
*ISCJB **08** 21:53:03.6±0.4, 22.°68S±0.°03×179.°14E±0.°03, h610km±5km, mb4.8/128, Error ellipse: s-maj=5.5km s-min=3.5km az=154.1*
*DJA **08** 21:53:03.2±3.1, 23.°S±8.°×17.°9E±1.°1, h584km±35km, M5.1/14, mB5.6/10, mb5.1/14, Mw(mB)5.1/10*
*IDC **08** 21:53:04.8±0.5, 22.°65S×179.°12E, h612km±5km, mb4.4/31, mb1 4.5/35, mb1mx4.5/35, mbtmp4.4/35, Error ellipse: s-maj=6.8km s-min=6.4km az=9.0*
*AUST **08** 21:53:04.1, 22.°70S×179.°21E, h600km*
*MOS **08** 21:53:04.1±1.0, 22.°58S×179.°12E, h612km, mb4.9/25, Error ellipse: s-maj=9.7km s-min=8.7km az=47.2*
*NEIC **08** 21:53:05.3±0.1, 22.°66S×179.°11E, mb4.8/73, Error ellipse: s-maj=5.5km s-min=4.0km az=134.0*
*GCMT **08** 21:53:08.1±0.2, 22.°82S×179.°24E, h635km±1km, MW5.5, Moment Tensor Solution. s81,c130; Moment tensor: Scale 10^{17}Nm; M_{rr}0.71±.04; $M_{\theta\theta}$-0.26±.06; $M_{\phi\phi}$-0.46±.06; $M_{r\theta}$-1.23±.05; $M_{\theta\phi}$-0.47±.05; $M_{\phi r}$-1.58±.05; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s218.00000°, δ79.00000°, λ90.00000°. NP2:ϕ_s40.00000°, δ11.00000°, λ92.00000°. Principal axes: T 2.0800, Plg56.0000°, Azm127.0000°; N 0.1300, Plg0.0000°, Azm218.0000°; P -2.2100, Plg34.0000°, Azm308.0000°; Data Used: II IU IC G CN.*
ISC 08 21:53:04.4±0.3, 22.°69S±0.°04×179.°23E±0.°03, h610km±2km, h611km:pP-P, n678, σ1=41/882, mb4.8/127, 46C-35D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.06**	**347**	*eP*	**P**	**21 54 39.0**	**+0.4**
MSVF				*eS*	**S**	**21 55 57.6**	**+2.3**
MSVF	**Nonsavu**	**5.06**	**347**	*eP*	**P**	**21 54 39.0**	**+0.4**
MSVF				*eS*	**S**	**21 55 57.5**	**+2.3**
RAO	**Raoul Island**	**7.02**	**159**	*eP*	**P**	**21 54 56.0**	**+1.2**
788nm,0.6s							
RAO				*eS*	**S**	**21 56 24.8**	**-0.6**
RAO	**Raoul Island**	**7.02**	**159**	P	**P**	**21 54 55.4**	**+0.6**
243nm,0.3s,baz=83,slow=9.4,SNR=10							
RAO				S	**S**	**21 56 24.7**	**-0.7**
380nm,0.3s,baz=81,slow=23,SNR=5.9							
NIUE	**Niue**	**10.76**	**72**	P	**P**	**21 55 30.6**	**-0.4**
baz=11,SNR=15							
NIUE				S	**S**	**21 57 29.9**	**-1.3**
baz=11,SNR=6.2							
DZM	**Mont Dzumac**	**11.84**	**271**	*eP*	**P**	**21 55 44.7**	**+3.0**
DZM	**Mont Dzumac**	**11.84**	**271**	*eP*	**P**	**21 55 41.7**	**0.0**
DZM	**Mont Dzumac**	**11.84**	**271**	P	**P**	**21 55 41.7**	**0.0**
DZM				S	**S**	**21 57 55.1**	**+4.3**
DZM	**Mont Dzumac**	**11.84**	**271**	P	**P**	**21 55 41.7**	**0.0**
8.5nm,0.3s,baz=76,slow=18,SNR=31							
DZM				S	**S**	**21 57 55.1**	**+4.3**
baz=326,slow=8.6,SNR=3.9							
NOUC	**Port Laguerre**	**11.97**	**270**	*eP*	P	21 55 46.7	+3.8
AFI	**Afiamalu**	**12.22**	**46**	*eP*	P	21 55 42.1	-3.4
AFI				*eS*	**S**	**21 57 52.1**	**-5.6**
AFI				ScP	**ScP**	**22 03 09.1**	**-0.1**
AFI	**Afiamalu**	**12.22**	**46**	P	P	21 55 42.2	-3.3
18nm,0.3s,baz=40,slow=2.9,SNR=30							
AFI				S	S	21 57 51.4	-6.3
4.3nm,0.3s,baz=198,slow=20,SNR=6.0							
AFI				ScP	**ScP**	**22 03 09.1**	**-0.1**
1.0nm,0.3s,baz=225,slow=1.4,SNR=5.7							
OUZ	**Omahuta**	**13.41**	**200**	*eP*	**P**	**21 55 59.5**	**+2.5**
FUNA	**Funafuti**	**14.09**	**360**	*eP*	P	21 56 00.4	-3.5
URZ	**Urewera**	**15.62**	**186**	*eP*	**P**	**21 56 16.4**	**-1.1**
134nm,0.7s							
URZ				*eS*	**S**	**21 58 53.4**	**-1.7**
URZ				ScS	**ScS**	**22 06 48.1**	**-5.4**
URZ	**Urewera**	**15.62**	**186**	P	**P**	**21 56 16.6**	**-1.0**
18nm,0.3s,baz=356,slow=4.4,SNR=91							
URZ				S	**S**	**21 58 51.3**	**-3.8**
6.6nm,0.3s,baz=188,slow=22,SNR=17							
URZ				ScS	**ScS**	**22 06 48.1**	**-5.4**
0.6nm,0.3s,baz=136,slow=22,SNR=8.3							
SNZO	**South Karori**	**18.95**	**191**	*eP*	**P**	**21 56 48.3**	**+0.5**
92nm,0.7s							
SNZO				*eS*	**S**	**21 59 47.3**	**-1.5**
RAR	**Rarotonga**	**19.54**	**90**	P	**P**	**21 56 53.4**	**-0.1**
RAR	**Rarotonga**	**19.54**	**90**	P	**P**	**21 56 53.4**	**-0.1**
2.8nm,0.3s,baz=270,slow=19,SNR=4.3							
KHZ	**Kahutara**	**20.23**	**192**	*eP*	**P**	**21 56 58.4**	**-1.1**
73nm,0.6s							
KHZ				*eS*	**S**	**22 00 06.2**	**-3.0**
RPZ	**Rata Peaks**	**22.03**	**196**	*eP*	**P**	**21 57 15.8**	**+0.3**
50nm,0.6s							
RPZ				*eS*	**S**	**22 00 37.3**	**-0.3**
RPZ				ScP	**ScP**	**22 03 28.6**	**-0.5**
RPZ	**Rata Peaks**	**22.03**	**196**	P	**P**	**21 57 16.1**	**+0.5**
47nm,0.6s,baz=335,slow=1.5,SNR=43							
RPZ				S	**S**	**22 00 36.7**	**-0.9**
18nm,0.6s,baz=326,slow=19,SNR=4.7							
RPZ				ScP	**ScP**	**22 03 28.6**	**-0.5**
5.2nm,0.5s,baz=271,slow=2.2,SNR=5.2							
HNR	**Honiara**	**22.70**	**302**	*eP*	**P**	**21 57 20.2**	**-1.7**
199nm,1.1s							
HNR				S	**S**	**22 00 49.1**	**+0.3**
HNR	**Honiara**	**22.70**	**302**	P	**P**	**21 57 20.3**	**-1.7**
48nm,0.3s,baz=140,slow=6.4,SNR=13							
HNR				S	**S**	**22 00 49.1**	**+0.3**
27nm,0.4s,baz=16,slow=18,SNR=2.5							
ODZ	**Otahua Downs**	**23.38**	**195**	*eP*	**P**	**21 57 27.3**	**-0.2**
70nm,1.6s							
TARA	**Tarawa**	**24.68**	**345**	*eP*	**P**	**21 57 38.7**	**-0.7**
294nm,0.8s							
WHZ	**Wether Hill Ro**	**24.90**	**199**	*eP*	**P**	**21 57 41.9**	**+0.9**
223nm,1.2s							
ARMA	**Armidale**	**25.81**	**247**	P	**P**	**21 57 51.2**	**+1.8**
baz=26,SNR=98							
MGCD	**Mangrove Creek**	**26.88**	**241**	P	**P**	**21 58 00.7**	**+2.1**
baz=27,SNR=61							
RMQ	**Roma**	**27.93**	**256**	P	**P**	**21 58 09.6**	**+1.8**
baz=28,SNR=79							
RMQ				S	**S**	**22 02 12.7**	**+2.3**
baz=28,SNR=18							
TBI	**Tubuai**	**28.80**	**97**	*eP*	**P**	**21 58 16.7**	**+1.4**
216nm,0.9s							
CNB	**Canberra Magne**	**28.87**	**238**	P	**P**	**21 58 17.6**	**+1.7**
baz=29,SNR=185							
CNB				S	**S**	**22 02 26.7**	**+1.9**
baz=29,SNR=5.6							
CAN	**Canberra**	**29.15**	**238**	*eP*	**P**	**21 58 19.8**	**+1.5**
CAN				pmax	pmax		
comp=Z,63nm,0.9s							
CAN	**Canberra**	**29.15**	**238**	*eP*	**P**	**21 58 19.8**	**+1.5**
comp=Z,63nm,0.9s							
YNG	**Young**	**29.34**	**240**	P	**P**	**21 58 21.9**	**+2.0**
baz=29,SNR=34							
MILA	**Mila**	**29.60**	**234**	P	**P**	**21 58 24.0**	**+1.9**
baz=30,SNR=11							
PAE	**Paea**	**29.67**	**86**	*eP*	**P**	**21 58 23.3**	**+0.4**
comp=Z,9.9nm,1.0s							
PPT2	**Papeete2**	**29.69**	**86**	*eP*	**P**	**21 58 24.1**	**+0.9**
comp=Z,63nm,1.0s							
PPT	**Papeete**	**29.70**	**86**	P	**P**	**21 58 24.1**	**+1.0**
PPT	**Papeete**	**29.70**	**86**	P	**P**	**21 58 24.2**	**+1.0**
comp=Z,74nm,0.8s,baz=36,slow=14,SNR=7.4							
TIAR	**Tiarei**	**29.91**	**86**	*eP*	**P**	**21 58 25.7**	**+0.7**
comp=Z,117nm,0.8s							
TVO	**Taravao**	**29.94**	**86**	*eP*	**P**	**21 58 25.9**	**+0.6**
comp=Z,90nm,0.7s							
CTA	**Charters Tower**	**30.77**	**269**	P	**P**	**21 58 32.8**	**+0.5**
CTA				PcP	**PcP**	**22 01 10.9**	**+0.8**
CTA				S	**S**	**22 02 53.5**	**-0.8**
CTA				ScP	**ScP**	**22 03 57.7**	**+1.9**
CTA	**Charters Tower**	**30.77**	**269**	P	**P**	**21 58 32.8**	**+0.5**
comp=Z,224nm,0.4s,baz=92,slow=11,SNR=436							
CTA				PcP	**PcP**	**22 01 10.9**	**+0.8**
comp=Z,8.2nm,0.6s,baz=106,slow=6.5,SNR=3.1							
CTA				S	**S**	**22 02 53.5**	**-0.8**
comp=Z,9.6nm,0.9s,baz=197,slow=22,SNR=13							
CTA				ScP	**ScP**	**22 03 57.7**	**+1.9**
comp=Z,18nm,0.9s,baz=133,slow=5.2,SNR=7.3							
CTAO	**Charters Tower**	**30.77**	**269**	*eP*	**P**	**21 58 32.8**	**+0.5**
CTAO	**Charters Tower**	**30.77**	**269**	*eP*	**P**	**21 58 32.8**	**+0.5**
comp=Z,308nm,0.6s							
CTAO				*e*ScP	**ScP**	**22 03 58.2**	**+2.4**
MEH	**Mehetia**	**31.01**	**87**	*eP*	**P**	**21 58 34.7**	**+0.3**
comp=Z,173nm,1.0s							
CMSA	**Cobar Meteorol**	**31.02**	**246**	P	**P**	**21 58 35.4**	**+1.1**
baz=31,SNR=14							
CMSA				S	**S**	**22 02 57.0**	**-0.8**
baz=31,SNR=6.2							
PMOR	**Pomorrio Ree**	**31.99**	**82**	*eP*	**P**	**21 58 43.3**	**+0.6**
comp=Z,287nm,1.0s							
TOO	**Toolangi**	**32.53**	**235**	P	**P**	**21 58 48.1**	**+1.2**
baz=32,SNR=65							
TOO				S	**S**	**22 03 21.2**	**+0.6**
baz=32,SNR=5.2							
MTSU	**Mount Surprise**	**32.98**	**271**	P	**P**	**21 58 51.3**	**+0.3**
baz=33,SNR=138							
MOO	**Moorlands**	**33.13**	**226**	P	**P**	**21 58 53.9**	**+2.0**
baz=33,SNR=5.1							
TAU	**Tasmania Unive**	**33.26**	**225**	*eP*	**P**	**21 58 53.9**	**+1.0**
TAU	**Tasmania Unive**	**33.26**	**225**	*eP*	**P**	**21 58 53.9**	**+1.0**
PMG	**Port Moresby**	**33.44**	**288**	*eP*	**P**	**21 58 54.7**	**-0.2**
comp=Z,372nm,0.8s							
PMG				ScP	**ScP**	**22 04 06.7**	**+1.6**
PMG	**Port Moresby**	**33.44**	**288**	P	**P**	**21 58 54.5**	**-0.4**
comp=Z,508nm,1.0s,comp=Z,4μm							
PMG	**Port Moresby**	**33.44**	**288**	P	**P**	**21 58 54.6**	**-0.2**
comp=Z,347nm,0.8s,baz=102,slow=5.0,SNR=59							
PMG				ScP	**ScP**	**22 04 06.7**	**+1.6**
comp=Z,15nm,0.8s,baz=76,slow=4.6,SNR=3.5							
STKA	**Stephens Creek**	**34.53**	**246**	*eP*	**P**	**21 59 04.8**	**+1.0**
comp=Z,20nm,0.8s							
STKA				*e*S	**S**	**22 03 50.1**	**-0.8**
STKA				*e*ScP	**ScP**	**22 04 11.3**	**+2.5**
STKA	**Stephens Creek**	**34.53**	**246**	P	**P**	**21 59 04.7**	**+0.9**
comp=Z,72nm,0.7s,baz=91,slow=9.3,SNR=129							
STKA				S	**S**	**22 03 50.2**	**-0.7**
comp=Z,9.7nm,1.0s,baz=231,slow=18,SNR=4.7							
STKA				ScP	**ScP**	**22 04 10.6**	**+1.8**
comp=Z,9.6nm,0.9s,baz=5.6,slow=1.7,SNR=5.1							
STKA	**Stephens Creek**	**34.53**	**246**	P	**P**	**21 59 05.0**	**+1.3**
baz=34,SNR=44							
STKA				S	**S**	**22 03 50.2**	**-0.7**
baz=34,SNR=8.3							
ARPS	**Mount Arapiles**	**35.13**	**238**	P	**P**	**21 59 09.6**	**+0.9**
baz=35,SNR=17							
COEN	**Coen**	**35.23**	**278**	P	**P**	**21 59 10.0**	**+0.2**
baz=35,SNR=36							
BBOO	**Buckleboo**	**39.28**	**246**	P	**P**	**21 59 42.5**	**0.0**
baz=39,SNR=109							
BBOO				S	**S**	**22 05 00.3**	**-0.7**
baz=39,SNR=12							
AS31	**Alice Springs**	**41.54**	**259**	*eP*	**P**	**22 00 00.6**	**+0.1**
ASAR	**Alice Springs**	**41.54**	**259**	P	**P**	**22 00 00.3**	**-0.3**
ASAR				PcP	**PcP**	**22 01 43.5**	**+0.4**
ASAR				ScP	**ScP**	**22 04 37.1**	**+1.1**
ASAR				S	**S**	**22 05 30.8**	**-3.2**
ASAR				ScS	**ScS**	**22 08 55.1**	**-0.3**
ASAR	**Alice Springs**	**41.54**	**259**	P	**P**	**22 00 00.3**	**-0.3**
comp=Z,159nm,0.8s,baz=91,slow=8.2,SNR=762							
ASAR				PcP	**PcP**	**22 01 43.5**	**+0.4**
comp=Z,9.2nm,0.6s,baz=100,slow=4.2,SNR=6.8							
ASAR				ScP	**ScP**	**22 04 37.1**	**+1.1**
comp=Z,7.3nm,0.8s,baz=98,slow=3.6,SNR=8.9							
ASAR				S	**S**	**22 05 30.8**	**-3.2**
comp=Z,11nm,0.8s,baz=93,slow=16,SNR=24							
ASAR				ScS	**ScS**	**22 08 55.1**	**-0.3**
comp=Z,11nm,1.0s,baz=103,slow=6.8,SNR=9.3							
ASAR				P3KPbc		22 29 15.8	
comp=Z,0.4nm,0.6s,baz=284,slow=3.9,SNR=8.5							
WRAB	**Tennant Creek**	**41.78**	**265**	*eP*	**P**	**22 00 01.5**	**-1.0**
WRAB				pmax	pmax		
comp=Z,153nm,0.9s							
WRAB	**Tennant Creek**	**41.78**	**265**	*eP*	**P**	**22 00 01.5**	**-1.0**
comp=Z,153nm,0.9s							
WRAB				*e*ScP	**ScP**	**22 04 39.2**	**+2.3**
WRA	**Warramunga Arr**	**41.79**	**265**	P	**P**	**22 00 01.6**	**-0.9**
WRA				PcP	**PcP**	**22 01 44.3**	**+0.4**
WRA				ScP	**ScP**	**22 04 38.3**	**+1.3**
WRA				S	**S**	**22 05 33.2**	**-4.3**
WRA				ScS	**ScS**	**22 08 58.1**	**+1.1**
WRA				*e*		22 29 15.4	
WRA	**Warramunga Arr**	**41.79**	**265**	P	**P**	**22 00 01.6**	**-0.9**
comp=Z,102nm,0.8s,baz=93,slow=8.2,SNR=554							
WRA				PcP	**PcP**	**22 01 44.3**	**+0.4**
comp=Z,6.6nm,0.6s,baz=103,slow=3.0,SNR=3.6							
WRA				ScP	**ScP**	**22 04 38.3**	**+1.3**
comp=Z,12nm,0.8s,baz=98,slow=4.3,SNR=16							
WRA				S	**S**	**22 05 33.2**	**-4.3**
comp=Z,7.7nm,0.7s,baz=98,slow=15,SNR=12							
WRA				ScS	**ScS**	**22 08 58.1**	**+1.1**
comp=Z,8.2nm,1.3s,baz=92,slow=9.2,SNR=8.8							
WRA				P3KPbc		22 29 15.4	
comp=Z,0.7nm,0.6s,baz=300,slow=2.9,SNR=12							
RKT	**Rikitea**	**42.06**	**100**	*eP*	**P**	**22 00 05.6**	**+1.1**
comp=Z,44nm,0.8s							
KDU	**Kakadu**	**45.48**	**274**	P	**P**	**22 00 30.0**	**-1.0**
baz=45,SNR=141							
KDU				S	**S**	**22 06 26.1**	**-3.5**
baz=45,SNR=5.2							
FORT	**Forrest**	**46.07**	**249**	P	**P**	**22 00 35.0**	**-0.2**
baz=46,SNR=79							
FORT				S	**S**	**22 06 35.0**	**-2.6**
baz=46,SNR=7.0							
MTN	**Manton Dam**	**46.66**	**274**	P	**P**	**22 00 38.8**	**-1.1**
baz=47,SNR=54							
MTN				S	**S**	**22 06 41.9**	**-4.2**
baz=47,SNR=7.2							
KNRA	**Kununurra**	**47.99**	**269**	P	**P**	**22 00 49.3**	**-0.5**
baz=48,SNR=138							
KNRA				S	**S**	**22 07 00.6**	**-3.7**
baz=48,SNR=24							
FAKI	**Fak Fak**	**49.56**	**286**	P	**P**	**22 01 00.3**	**-1.1**
baz=50,SNR=22							
FITZ	**Fitzroy Crossi**	**50.22**	**265**	P	**P**	**22 01 05.6**	**-0.5**
FITZ				S	**S**	**22 07 33.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.22**	**265**	P	**P**	**22 01 05.6**	**-0.5**
comp=Z,39nm,0.5s,baz=82,slow=6.7,SNR=105							
FITZ				S	**S**	**22 07 33.7**	**-0.9**
comp=Z,5.9nm,0.8s,baz=231,slow=21,SNR=9.6							
FITZ	**Fitzroy Crossi**	**50.22**	**265**	P	**P**	**22 01 06.3**	**+0.2**
baz=50,SNR=61							
FITZ				S	**S**	**22 07 33.5**	**-1.0**
baz=50,SNR=10							
SWI	**Sorong**	**51.39**	**288**	P	**P**	**22 01 14.0**	**-0.6**
baz=51,SNR=7.1							
PALU	**Palau**	**53.00**	**299**	P	**P**	**22 01 26.1**	**0.0**
baz=53,SNR=13							
SOEI	**Soe**	**54.04**	**274**	P	**P**	**22 01 34.6**	**+1.0**
baz=54,SNR=14							
BATI	**Baumata**	**54.44**	**274**	P	**P**	**22 01 36.1**	**-0.1**
BATI	**Baumata**	**54.44**	**274**	P	**P**	**22 01 36.2**	**-0.1**
comp=Z,73nm,0.4s,baz=136,slow=2.5,SNR=30							
MEEK	**Meekatharra**	**54.78**	**253**	P	**P**	**22 01 37.6**	**-0.9**
baz=55,SNR=55							
KLBR	**Kellerberrin**	**54.80**	**247**	P	**P**	**22 01 38.3**	**-0.3**
baz=55,SNR=72							
MBWA	**Marble Bar**	**54.88**	**259**	*eP*	**P**	**22 01 38.5**	**-0.8**
comp=Z,104nm,1.0s							
NWAO	**Narrogin (SRO)**	**55.09**	**245**	*eP*	**P**	**22 01 40.7**	**+0.2**
comp=Z,25nm,1.1s							
RKGY	**Rocky Gully**	**55.14**	**243**	P	**P**	**22 01 41.2**	**+0.4**
baz=55,SNR=32							
VNDA	**Vanda**	**55.52**	**185**	*eP*	**P**	**22 01 44.0**	**+1.3**
comp=Z,200nm,2.3s							
VNDA				*e*PcP	**PcP**	**22 02 33.2**	**0.0**
VNDA	**Vanda**	**55.52**	**185**	P	**P**	**22 01 44.0**	**+1.3**
comp=Z,7.6nm,0.5s,baz=7.3,slow=7.3,SNR=111							
VNDA				PcP	**PcP**	**22 02 33.2**	**0.0**
comp=Z,9.2nm,0.7s,baz=334,slow=5.5,SNR=6.7							
SBA	**Scott Base**	**55.53**	**183**	*eP*	**P**	**22 01 45.2**	**+2.4**
SBA				pmax	pmax		
comp=Z,141nm,1.2s							
SBA	**Scott Base**	**55.53**	**183**	*eP*	**P**	**22 01 45.2**	**+2.4**
comp=Z,141nm,1.2s							
BLDU	**Ballidu**	**55.82**	**248**	P	**P**	**22 01 45.1**	**-0.6**
baz=56,SNR=179							
MORW	**Morawa**	**56.62**	**249**	P	**P**	**22 01 50.8**	**-0.4**
baz=56,SNR=92							
WSI	**Waingapu**	**57.73**	**273**	P	**P**	**22 01 59.2**	**+0.4**
baz=58,SNR=4.3							
LUWI	**Luwuk**	**58.86**	**283**	P	**P**	**22 02 06.6**	**+0.2**
baz=59,SNR=5.4							
KAPI	**Kappang**	**59.96**	**278**	*eP*	**P**	**22 02 12.5**	**-1.2**
comp=Z,105nm,1.5s							
KAPI	**Kappang**	**59.96**	**278**	P	**P**	**22 02 13.7**	**0.0**
comp=Z,43nm,1.9s,comp=Z,1μm							
CASY	**Casey**	**60.88**	**206**	*eP*	**P**	**22 02 18.5**	**-0.4**
comp=Z,41nm,1.0s							
CASY				*e*PcP	**PcP**	**22 02 55.1**	**+0.2**
MYLDM	**Lahad Datu**	**65.46**	**287**	P	**P**	**22 02 49.4**	**+0.4**
MYLDM	**Lahad Datu**	**65.46**	**287**	P	**P**	**22 02 51.1**	**+2.1**
comp=Z,59nm,2.1s,comp=Z,2μm							
TSM	**Tawau**	**65.61**	**286**	P	**P**	**22 02 51.0**	**+1.0**
SDKM	**Sandakan**	**66.82**	**287**	P	**P**	**22 02 57.1**	**-0.4**
UGM	**Wanagama**	**67.37**	**271**	P	**P**	**22 03 00.4**	**-0.4**
baz=67,SNR=9.8							
QSPA	**South Pole Qui**	**67.38**	**180**	*eP*	**P**	**22 03 01.2**	**+1.1**
comp=Z,117nm,0.8s							
QSPA				S	**S**	**22 11 10.4**	**+1.8**
QSPA	**South Pole Qui**	**67.38**	**180**	P	**P**	**22 03 01.1**	**+1.1**
comp=Z,110nm,0.6s,baz=0.6,slow=0.7,SNR=716							
QSPA				S	**S**	**22 11 10.4**	**+1.8**
comp=Z,2.1nm,0.9s,baz=146,slow=24,SNR=13							
KDM	**Kudat**	**67.73**	**288**	P	P	22 02 55.5	-7.4
KKM	**Kota Kinabalu**	**67.87**	**287**	P	**P**	**22 03 04.2**	**+0.2**
KKM	**Kota Kinabalu**	**67.87**	**287**	P	**P**	**22 03 06.1**	**+2.2**
comp=Z,50nm,1.9s,comp=Z,996nm							
KKM	**Kota Kinabalu**	**67.87**	**287**	P	**P**	**22 03 04.0**	**0.0**
baz=68,SNR=7.2							
BTM	**Bintulu**	**69.41**	**283**	P	**P**	**22 03 13.0**	**-0.1**
SBUM	**Sibu**	**69.87**	**282**	P	**P**	**22 03 16.4**	**+0.6**
SBUM	**Sibu**	**69.87**	**282**	P	**P**	**22 03 16.5**	**+0.7**
comp=Z,24nm,1.9s							
CISI	**Cisompet, Garu**	**70.00**	**270**	P	**P**	**22 03 15.0**	**-1.7**
baz=70,SNR=7.9							
LEM	**Lembang**	**70.45**	**271**	P	**P**	**22 03 19.8**	**+0.3**
baz=70,SNR=6.4							
MJAR	**Matsushiro Arr**	**70.50**	**326**	P	**P**	**22 03 17.9**	**-1.2**
MJAR	**Matsushiro Arr**	**70.50**	**326**	P	**P**	**22 03 17.9**	**-1.2**
comp=Z,14nm,0.7s,baz=159,slow=5.6,SNR=55							
KSM	**Kuching**	**71.20**	**280**	*eP*	**P**	**22 03 23.6**	**0.0**
comp=Z,116nm,1.5s							
KSM	**Kuching**	**71.20**	**280**	P	**P**	**22 03 23.8**	**+0.1**
KSM	**Kuching**	**71.20**	**280**	P	**P**	**22 03 23.6**	**0.0**
comp=Z,53nm,1.4s,comp=Z,753nm							
KSM	**Kuching**	**71.20**	**280**	P	**P**	**22 03 23.7**	**+0.1**
baz=71,SNR=9.6							
JNU	**Nakatsue**	**72.16**	**319**	*eP*	**P**	**22 03 28.9**	**+0.1**
comp=Z,155nm,2.1s							
JNU	**Nakatsue**	**72.16**	**319**	P	**P**	**22 03 27.9**	**-0.8**
comp=Z,15nm,0.8s,baz=56,slow=4.1,SNR=10							
ERM	**Erimo**	**72.51**	**333**	*deP*	**P**	**22 03 32.5**	**+2.0**
ERM				pmax	pmax		
comp=Z,43nm,1.5s							
ERM	**Erimo**	**72.51**	**333**	*eP*	**P**	**22 03 30.6**	**0.0**
comp=Z,214nm,2.3s							
TATO	**Taipei**	**73.36**	**307**	*eP*	**P**	**22 03 35.5**	**-0.3**
comp=Z,122nm,1.0s							
ADK	**Adak**	**74.34**	**3**	*eP*	**P**	**22 03 40.0**	**-0.6**
ADK				pmax	pmax		
comp=Z,235nm,0.7s							
ADK	**Adak**	**74.34**	**3**	*eP*	**P**	**22 03 40.0**	**-0.6**
comp=Z,235nm,0.7s							
ASAJ	**Asahikawa**	**74.47**	**334**	P	**P**	**22 03 42.5**	**+0.9**
ASAJ	**Asahikawa**	**74.47**	**334**	P	**P**	**22 03 42.5**	**+0.9**
comp=Z,37nm,0.8s,baz=215,slow=7.8,SNR=70							
ATKA	**Atka Island**	**74.80**	**4**	*eP*	**P**	**22 03 42.6**	**-0.6**
comp=Z,83nm,0.8s							
YSS	**Yuzh-Sakhalins**	**76.75**	**335**	*eP*	**P**	**22 03 55.0**	**+1.0**
YSS				*e*S	**S**	**22 12 56.0**	**+3.5**
YSS				*e*SS	**SS**	**22 18 08.0**	**+0.8**
YSS				*e*SSS	SSS	22 21 40.0	
YSS				pmax	pmax		
comp=Z,60nm,0.9s							
KSRS	**Korea Array**	**76.87**	**320**	P	**P**	**22 03 55.3**	**+0.3**
comp=Z,11nm,0.8s,baz=130,slow=5.7,SNR=48							
KSAR	**Wonju Array Be**	**76.88**	**320**	P	**P**	**22 03 55.3**	**+0.2**
MYKOM	**Kota Tinggi**	**77.22**	**277**	P	**P**	**22 03 57.8**	**+0.3**
PET	**Petropavlovsk**	**77.49**	**347**	*eP*	**P**	**22 03 57.8**	**-0.1**
PET				*e*S	**S**	**22 12 57.9**	**-2.2**
PET		

CN2 esP sP 22 07 29.0 -5.2
CN2 eS **S** **22 13 52.1 +0.6**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,400nm,5.0s
MONP Monument Peak 82.59 50 P **P 22 04 26.7 +1.4**
baz=83,SNR=5.8
EDW2 Edwards Air Fo 82.60 48 P **P 22 04 25.8 +0.8**
baz=83,SNR=9.5
ISA Isabella 82.71 47 eP **P 22 04 26.1 +0.5**
ISA pmax pmax
comp=Z,20nm,1.0s
ISA Isabella 82.71 47 eP **P 22 04 26.1 +0.5**
comp=Z,20nm,1.0s
ISA Isabella 82.71 47 P **P 22 04 27.2 +1.6**
baz=83,SNR=8.4
CMB Columbia Colle 82.82 44 eP **P 22 04 26.2 +0.1**
CMB pmax pmax
comp=Z,10.0nm,0.7s
CMB Columbia Colle 82.82 44 eP **P 22 04 26.2 +0.1**
comp=Z,10.0nm,0.7s
OHAK Old Harbor 82.89 15 eP **P 22 04 25.7 -0.1**
comp=Z,19nm,0.9s
OHCM Honcut 82.90 42 eP **P 22 04 28.1 +1.7**
WDC Whiskeytown Da 83.01 41 eP **P 22 04 27.8 +1.0**
WDC pmax pmax
comp=Z,4.0nm,0.7s
WDC Whiskeytown Da 83.01 41 eP **P 22 04 27.8 +1.0**
comp=Z,4.2nm,0.7s
SWSC Sam W. Stewart 83.06 50 P **P 22 04 29.1 +1.8**
baz=83,SNR=5.1
LRMC Laurel Mountai 83.14 47 P **P 22 04 28.8 +1.0**
baz=83,SNR=8.9
KLR Kul'dur 83.14 331 eP P 22 04 24.0 -3.3
BELC Belle Mtn. Jos 83.49 49 P **P 22 04 30.8 +1.2**
baz=84,SNR=11
MPMC Manual Prospec 83.59 47 P **P 22 04 30.9 +0.8**
baz=84,SNR=10
MTUM Tungsten Hills 83.61 45 eP **P 22 04 31.8 +1.6**
YBH Yreka Blue Hor 83.61 40 eP **P 22 04 31.5 +1.5**
comp=Z,9.2nm,0.9s
YBH Yreka Blue Hor 83.61 40 P **P 22 04 31.1 +1.1**
comp=Z,3.7nm,0.5s,baz=339,slow=0.2,SNR=18
GSC Goldstone 83.64 48 eP **P 22 04 31.1 +0.8**
GSC pmax pmax
comp=Z,18nm,1.3s
GSC Goldstone 83.64 48 eP **P 22 04 31.1 +0.8**
comp=Z,18nm,1.3s
GSC Goldstone 83.64 48 P **P 22 04 31.1 +0.8**
baz=84,SNR=7.7
BC3 Big Chuckawall 83.68 50 P **P 22 04 31.9 +1.4**
baz=84,SNR=7.0
USHA Ushuaia 83.70 147 P **P 22 04 30.9 +0.8**
USHA Ushuaia 83.70 147 P **P 22 04 30.9 +0.8**
comp=Z,20nm,0.9s,baz=252,slow=6.1,SNR=16
WAKR Walker 83.70 44 eP **P 22 04 31.0 +0.4**
comp=Z,9.2nm,1.3s
GLA Glamis 83.81 50 eP **P 22 04 32.0 +0.9**
GLA pmax pmax
comp=Z,18nm,0.7s
GLA Glamis 83.81 50 eP **P 22 04 32.0 +0.9**
comp=Z,18nm,0.7s
GLA Glamis 83.81 50 P **P 22 04 32.8 +1.7**
baz=84,SNR=9.2
LTIM Timbered Crate 84.00 41 P **P 22 04 33.5 +1.5**
HUMO Hull Mountain 84.01 39 eP **P 22 04 32.7 +0.9**
comp=Z,15nm,1.1s
SYO Syowa Base 84.01 194⇓eP **P 22 04 29.0 -2.4**
SYO Syowa Base 84.01 194⇓/X **P 22 04 30.4 -1.0**
IRM Iron Mountain 84.17 49 P **P 22 04 34.2 +1.4**
baz=84,SNR=12
NVAR Mina Array Bea 84.39 44 P **P 22 04 34.1 +0.1**
NVAR pP **pP** **22 06 46.2 +2.7**
NVAR PKKPbc **PKKPbc** **22 22 43.4 +1.2**
NVAR Mina Array Bea 84.39 44 P **P 22 04 34.1 +0.1**
comp=Z,3.2nm,0.6s,baz=226,slow=8.1,SNR=28
NVAR pP **pP** **22 06 46.2 +2.7**
comp=Z,0.4nm,0.3s,baz=216,slow=9.0,SNR=2.5
NVAR PKKPbc **PKKPbc** **22 22 43.4 +1.2**
comp=Z,0.9nm,0.6s,baz=86,slow=3.9,SNR=5.1
Y12C Blythe 84.39 50 P **P 22 04 35.3 +1.5**
baz=85,SNR=5.9
PAHR Pah Rah Range 84.43 43 eP **P 22 04 34.6 +0.5**
comp=Z,32nm,1.6s
NV11 Mina Array Sit 84.49 44 eP **P 22 04 35.0 +0.6**
CHAI Chaiyaphum 84.73 290 P **P 22 04 36.0 +0.1**
comp=Z,5.7nm,0.7s
ENH Enshi 85.17 305 eP **P 22 04 38.4 +0.7**
comp=Z,28nm,1.1s
Z14A Wintersburg 85.31 51 P **P 22 04 40.0 +1.6**
baz=86,SNR=5.7
SHPR Sheep Range 85.41 47 eP **P 22 04 39.8 +0.8**
GYA Guiyang 85.52 301 eP **P 22 04 40.0 +0.4**
GYA pP **pP** **22 06 45.2 -4.3**
GYA PP **PP** **22 08 12.0 +1.8**
GYA SKS **SKSac** **22 14 07.8 +0.1**
GYA S **S** **22 14 23.5 +1.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
W13A Hualapai Mount 85.55 49 P **P 22 04 40.9 +1.2**
baz=86,SNR=12
PHET Kaeng Krachan 85.56 286 P **P 22 04 41.7 +1.8**
comp=Z,108nm,0.6s
Y14A Wickenburg 85.57 51 P **P 22 04 40.8 +1.2**
baz=86,SNR=6.4
BJI Beijing 85.67 317 P **P 22 04 40.4 +0.6**
BJI pP **pP** **22 06 44.8 -5.0**
BJI sP sP 22 07 43.6 -7.2
BJI SKS **SKSac** **22 14 03.7 -4.0**
BJI S **S** **22 14 25.0 +2.7**
BJI pmax pmax
comp=Z,43nm,0.7s
BJI pmax pmax
comp=Z,370nm,4.5s
SNAA Sanae 85.88 179 eP **P 22 04 39.4 -1.1**
comp=Z,18nm,0.5s
PBKT Sadao Pong 85.90 290 P **P 22 04 43.4 +2.0**
comp=Z,49nm,1.4s
SVW2 Sparrevohn 85.95 12 eP **P 22 04 40.0 -0.6**
comp=Z,5.3nm,0.7s
LOEI Loei 86.04 291 P **P 22 04 42.2 +0.1**
comp=Z,87nm,3.4s
BMN Battle Mountai 86.21 43 eP **P 22 04 43.7 +1.1**
BMN pmax pmax
comp=Z,9.0nm,0.9s
BMN Battle Mountai 86.21 43 eP **P 22 04 43.7 +1.1**
comp=Z,8.5nm,0.9s
TUC Tucson 86.36 53 eP **P 22 04 44.8 +1.4**
TUC pmax pmax
comp=Z,20nm,1.5s
TUC Tucson 86.36 53 eP **P 22 04 44.8 +1.4**
comp=Z,20nm,1.5s
MAIT Maitri 86.37 184 eP **P 22 04 39.7 -3.0**
WVOR Wild Horse Val 86.47 41 eP **P 22 04 44.2 +0.5**
WVOR e*PP **pP** **22 06 56.4 +2.3**
WVOR pmax pmax
comp=Z,19nm,1.2s
WVOR Wild Horse Val 86.47 41 eP **P 22 04 44.2 +0.5**
comp=Z,19nm,1.2s
WVOR epP **pP** **22 06 56.4 +2.3**
TDL Tradedollar La 86.73 36 P **P 22 04 46.5 +1.6**
SPU Mount Spurr 86.74 13 eP **P 22 04 43.4 -1.1**
CCUT Cedar City 87.19 47 eP **P 22 04 48.0 +0.7**
comp=Z,25nm,1.8s
CCUT epP **pP** **22 07 03.1 +5.1**
LON Longmire 87.20 36 eP **P 22 04 47.5 +0.5**
LON pmax pmax
comp=Z,3.0nm,0.7s
LON Longmire 87.20 36 eP **P 22 04 47.5 +0.5**
comp=Z,3.0nm,0.7s
ARUT Antelope Range 87.26 47 eP **P 22 04 46.3 -1.3**
ARUT pmax pmax
comp=Z,12nm,1.4s
ARUT Antelope Range 87.26 47 eP **P 22 04 46.2 -1.3**
comp=Z,12nm,1.4s
WPW White Pass 87.31 36 P **P 22 04 48.7 +1.1**
U15A North Rim 87.34 49 P **P 22 04 49.2 +1.0**
baz=88,SNR=25
D05A Enumclaw 87.37 36 P **P 22 04 49.5 +1.9**
XAN Xi'an 87.44 309 P **P 22 04 49.4 +1.0**
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN pmax pmax
comp=Z,51nm,4.8s
WUAZ Wupatki 87.53 50 eP **P 22 04 49.4 +0.5**
comp=Z,13nm,1.2s
WUAZ epP **pP** **22 07 00.6 +1.0**
PMR Palmer 87.76 15 eP **P 22 04 48.5 -0.6**
PMR Palmer 87.76 15 eP **P 22 04 48.5 -0.6**
220A Playas Peak, P 87.84 54 P **P 22 04 52.1 +1.7**
baz=88,SNR=6.0
RAGM Ragged Mountai 87.84 17 eP **P 22 04 49.9 +0.3**
LAMP Lampang 87.87 291 P **P 22 04 52.2 +1.5**
comp=Z,12nm,0.7s,comp=Z,132nm
CRAI Chiangrai 87.95 293 P P 22 05 03.2 +12
120A U Bar Ranch, L 88.06 54 P **P 22 04 53.2 +1.8**
baz=88,SNR=7.3
KMI Kunming 88.07 298 P **P 22 04 53.1 +1.3**
KMI pP **pP** **22 07 03.6 +0.9**
KMI sP **sP** **22 07 59.7 -3.8**
KMI S **ScS** **22 14 49.0 -0.5**
KMI SS **SS** **22 20 57.5 +3.6**
KMI pmax pmax
comp=Z,20nm,1.7s
KMI pmax pmax
comp=Z,250nm,6.6s
SML Sawmill 88.14 15 eP **P 22 04 50.7 -0.3**
SML pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 88.14 15 eP **P 22 04 50.7 -0.3**
comp=Z,2.7nm,0.8s
DIV Divide 88.18 16 eP **P 22 04 51.6 +0.4**
comp=Z,18nm,0.8s
PPLA Purkeypile 88.26 13 eP **P 22 04 51.7 +0.1**
comp=Z,4.7nm,0.8s
BMRM Bremner River 88.35 17 eP **P 22 04 52.1 +0.1**
comp=Z,19nm,0.8s
Z20A Nine Sixteen R 88.36 53 P **P 22 04 54.7 +1.8**
baz=89,SNR=6.5
CMAR Chiang Mai Arr 88.44 291 P **P 22 04 54.1 +0.8**
CMAR pP **pP** **22 07 03.9 -0.4**
CMAR PKKPbc **PKKPbc** **22 22 32.3 +0.9**
CMAR Chiang Mai Arr 88.44 291 P **P 22 04 54.1 +0.8**
comp=Z,2.6nm,0.5s,baz=114,slow=3.1,SNR=26
CMAR pP **pP** **22 07 03.9 -0.4**
comp=Z,1.6nm,1.0s,baz=102,slow=3.1,SNR=4.5
CMAR PKKPbc **PKKPbc** **22 22 32.3 +0.9**
comp=Z,1.7nm,0.6s,baz=284,slow=4.4,SNR=5.9
MSU Marysvale 88.48 47 eP **P 22 04 55.0 +1.6**
MSU Marysvale 88.48 47 eP **P 22 04 55.0 +1.6**
ETW Entiat 88.52 36 P **P 22 04 53.6 +0.4**
CMMT Chiang Mai 88.58 291 P **P 22 04 55.0 +1.0**
comp=Z,28nm,1.5s
CHTO Chiang Mai 88.58 291 eP **P 22 04 55.0 +1.0**
CHTO e*PP **pP** **22 07 05.8 +0.7**
CHTO e 22 08 33.6
CHTO pmax pmax
comp=Z,6.0nm,0.5s
CHTO Chiang Mai 88.58 291 eP **P 22 04 55.0 +1.0**
comp=Z,6.3nm,0.5s
CHTO epP **pP** **22 07 05.8 +0.7**
CHTO ePP **PP** **22 08 33.6 -0.8**
CHTO Chiang Mai 88.58 291 P **P 22 04 55.4 +1.4**
comp=Z,28nm,1.7s
BMO Blue Mountains 88.64 40 eP **P 22 04 54.5 +0.8**
comp=Z,1.7nm,0.6s
121A Cookes Peak, D 88.69 54 P **P 22 04 56.0 +1.6**
baz=89,SNR=9.6
Y20A Horse Springs, 88.90 52 P **P 22 04 57.1 +1.7**
baz=89,SNR=5.0
DUG Dugway 88.92 45 eP **P 22 04 55.7 +0.4**
DUG pmax pmax
comp=Z,6.0nm,1.2s
DUG Dugway 88.92 45 eP **P 22 04 55.6 +0.4**
comp=Z,5.8nm,1.2s
CMAI Chiengmai2 88.96 292 P **P 22 04 57.3 +1.4**
comp=Z,35nm,1.5s
222A Williams Famil 89.00 55 P **P 22 04 57.8 +1.9**
baz=89,SNR=5.2
HHC Hu-ho-hao-te 89.06 315 eP **P 22 04 56.4 +0.5**
HHC pP **pP** **22 07 05.8 -1.3**
HHC sP **sP** **22 08 05.5 -2.3**
HHC PP **PP** **22 08 40.7 +2.8**
HHC SKS **SKSac** **22 14 28.5 +0.4**
HHC S **S** **22 14 54.4 +0.4**
HHC sS **sS** **22 18 45.1 -3.0**
HHC pmax pmax
comp=Z,53nm,0.8s
HHC pmax pmax
comp=Z,430nm,6.6s
Z21A St. Cloud Mine 89.14 53 P **P 22 04 57.8 +1.2**
baz=89,SNR=11
TRF Thorofare Moun 89.14 13 eP **P 22 04 53.8 -1.9**
comp=Z,24nm,0.8s
TRF epP **pP** **22 07 06.9 -0.2**
Y21A Point of Rocks 89.46 53 P **P 22 04 59.7 +1.7**
baz=90,SNR=19
TMUT Trail Mountain 89.53 47 eP **P 22 04 59.3 +1.0**
comp=Z,45nm,1.1s
X21A Alamocita Cree 89.58 52 P **P 22 04 60.0 +1.4**
baz=90,SNR=9.0
PLCA Paso Flores 89.61 135 P **P 22 04 59.9 +1.3**
PLCA Paso Flores 89.61 135 P **P 22 04 59.9 +1.3**
comp=Z,11nm,0.7s,baz=218,slow=4.7,SNR=20
HLID Hailey 89.67 42 eP **P 22 04 59.4 +0.7**
comp=Z,7.1nm,1.5s
HLID epP **pP** **22 07 13.8 +3.7**
MCK McKinley 89.68 14 eP **P 22 04 57.2 -0.8**
MCK pmax pmax
comp=Z,12nm,0.9s
MCK McKinley 89.68 14 eP **P 22 04 57.2 -0.8**
comp=Z,12nm,0.9s
HVU Hansel Valley 89.76 44 eP **P 22 04 59.9 +0.8**
HVU pmax pmax
comp=Z,12nm,0.6s
HVU Hansel Valley 89.76 44 eP **P 22 04 59.9 +0.8**
comp=Z,12nm,0.6s
CD2 Chengdu 89.82 304 eP **P 22 05 00.2 +0.7**
CD2 pP **pP** **22 07 06.8 -4.2**
CD2 sP sP 22 08 03.7 -7.9
CD2 PP **PP** **22 08 45.8 +1.9**
CD2 SKS **SKSac** **22 14 35.5 +2.7**
CD2 S **S** **22 15 02.0 +0.9**
CD2 SS **SS** **22 21 21.8 +3.3**
CD2 pmax pmax
comp=Z,40nm,1.3s
CD2 pmax pmax
comp=Z,140nm,6.8s
CTU Camp Tracy 89.87 45 eP **P 22 05 00.9 +1.1**
comp=Z,14nm,1.0s
SRU San Rafael 89.90 47 eP **P 22 05 00.6 +0.7**
SRU pmax pmax
comp=Z,20nm,0.7s
SRU San Rafael 89.90 47 eP **P 22 05 00.6 +0.7**
comp=Z,20nm,0.7s
324A Moseley Ranch, 89.93 56 P **P 22 05 01.0 +0.8**
baz=90,SNR=20
Y22A Socorro 89.95 53 P **P 22 05 01.3 +1.1**
baz=90,SNR=7.4
JLU Jordanelle 90.03 45 eP **P 22 05 01.8 +1.2**
comp=Z,6.5nm,0.8s
LENM Lemitar 90.05 53 eP **P 22 05 02.1 +1.4**
DAU Daniels Canyon 90.06 46 eP **P 22 05 02.4 +1.6**
DAU Daniels Canyon 90.06 46 eP **P 22 05 02.4 +1.6**
MNTX Cornudas Mount 90.12 56 eP **P 22 05 01.4 +0.5**
comp=Z,8.7nm,0.9s
MNTX epP pP 22 07 19.3 +6.9
626A Big Bend Ranch 90.13 58 P **P 22 05 02.2 +1.1**
baz=90,SNR=12
HYT Haines Junctio 90.28 20 eP **P 22 05 01.5 +0.5**
LPM Los Pinos Moun 90.37 53 eP **P 22 05 03.4 +1.3**
526A Mary Lane Ranc 90.39 58 P **P 22 05 03.3 +1.0**
baz=91,SNR=9.4
TXAR Lajitas Array 90.40 58 P **P 22 05 03.6 +1.3**
TXAR pP **pP** **22 07 16.3 +2.4**
TXAR PKKPbc **PKKPbc** **22 22 26.4 -0.7**
TXAR Lajitas Array 90.40 58 P **P 22 05 03.6 +1.3**
comp=Z,8.0nm,0.8s,baz=211,slow=6.1,SNR=64
TXAR pP **pP** **22 07 16.3 +2.4**
comp=Z,0.5nm,0.9s,baz=33,slow=34,SNR=1.8
TXAR PKKPbc **PKKPbc** **22 22 26.4 -0.7**
comp=Z,0.6nm,0.5s,baz=138,slow=3.1,SNR=12
HWUT Hardware Ranch 90.45 45 eP **P 22 05 02.5 +0.1**
comp=Z,5.1nm,0.7s
I14A Mackay 90.46 42 P **P 22 05 03.8 +1.4**
baz=91,SNR=5.5
U21A Nageezi 90.60 51 P **P 22 05 04.2 +0.9**
baz=91,SNR=12
EFI East Falkland 90.61 148 eP **P 22 05 04.3 +1.6**
EFI East Falkland 90.61 148 eP **P 22 05 04.3 +1.6**
627A Terlingua Ranc 90.67 58 P **P 22 05 04.9 +1.3**
baz=91,SNR=9.2
426A McDonald Obser 90.70 57 P **P 22 05 05.0 +1.2**
baz=91,SNR=11
225A Deer Hill, Car 90.73 55 P **P 22 05 05.1 +1.2**
baz=91,SNR=9.3
IM04 Indian Mountai 90.75 11 eP **P 22 05 02.6 -0.4**
ANMO Albuquerque 90.78 52 eP **P 22 05 04.1 0.0**
527A Woodward Ranch 90.80 58 P **P 22 05 05.2 +0.9**
baz=91,SNR=12
COLA College 90.91 13 eP **P 22 05 02.7 -0.9**
COLA pmax pmax
comp=Z,20nm,0.7s
COLA College 90.91 13 eP **P 22 05 02.7 -0.9**
comp=Z,20nm,0.7s
ILAR Eielson Array 91.03 14 P **P 22 05 02.7 -1.6**
ILAR pP **pP** **22 07 15.7 -0.2**
ILAR PKKPbc **PKKPdf** **22 22 23.7 +0.2**
ILAR Eielson Array 91.03 14 P **P 22 05 02.7 -1.6**
comp=Z,1.7nm,0.6s,baz=222,slow=4.6,SNR=18
ILAR pP **pP** **22 07 15.7 -0.2**
comp=Z,0.6nm,0.8s,baz=242,slow=5.0,SNR=2.8
ILAR PKKPbc **PKKPdf** **22 22 23.7 +0.2**
comp=Z,0.4nm,0.5s,baz=17,slow=3.4,SNR=4.4
Y24A Capitan 91.08 54 P **P 22 05 06.5 +1.0**
baz=91,SNR=11
628A Black Gap, Mar 91.08 58 P **P 22 05 06.2 +0.8**
baz=91,SNR=9.0
S21A Coal Bank Pass 91.08 49 P **P 22 05 06.7 +1.1**
baz=91,SNR=5.8
P19A Cripple Cowboy 91.20 47 P **P 22 05 07.0 +1.1**
baz=91,SNR=5.3
226B Tecolote Peak, 91.21 56 P **P 22 05 07.2 +1.2**
baz=91,SNR=7.9
427A Hayter Ranch, 91.27 57 P **P 22 05 07.0 +0.7**
baz=92,SNR=18
MCMT McKenzie Canyo 91.29 41 eP **P 22 05 07.2 +1.0**
comp=Z,1.2nm,0.7s
MCMT epP **pP** **22 07 21.2 +3.3**
528A Cox Ranch, San 91.45 58 P **P 22 05 08.2 +1.0**
baz=92,SNR=5.6
RRI2 Red Ridge 91.49 43 eP **P 22 05 07.6 +0.4**
comp=Z,1.8nm,0.6s
P20A De Beque 91.53 48 P **P 22 05 08.1 +0.7**
baz=92,SNR=5.8
R21A Cimarron 91.58 49 P **P 22 05 09.1 +1.4**
baz=92,SNR=6.4
U23A El Rito 91.61 51 P **P 22 05 10.1 +2.2**
baz=92,SNR=5.3
Y25A Mesa, Roswell 91.63 54 P **P 22 05 08.6 +0.7**
baz=92,SNR=6.7
W24A Lazy 6 Ranch, 91.67 52 P **P 22 05 08.9 +0.7**
baz=92,SNR=5.2
DLMT Dillon 91.72 41 eP **P 22 05 09.3 +1.2**
DLMT epP **pP** **22 07 23.3 +3.5**
REDW Red Top Meadow 91.79 43 eP **P 22 05 07.3 -1.2**
comp=Z,12nm,1.5s
S22A 4UR Ranch, Cre 91.80 50 P **P 22 05 09.8 +1.0**
baz=92,SNR=8.1
529A Stev Forest Ra 91.88 58 P **P 22 05 09.7 +0.6**
baz=92,SNR=6.2
LZH Lanzhou 92.07 308 eP **P 22 05 11.1 +1.2**
LZH pP **pP** **22 07 20.1 -1.6**
LZH sP **sP** **22 08 18.5 -3.6**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,88nm,4.0s
L19A Farson 92.13 45 P **P 22 05 11.1 +1.0**
baz=92,SNR=5.2
BW06 Boulder Array 92.33 44 eP **P 22 05 11.3 +0.2**
comp=Z,2.1nm,0.6s
PDAR Pinedale Array 92.33 44 P **P 22 05 11.3 +0.3**
PDAR pP **pP** **22 07 25.4 +2.6**
PDAR PKKPbc **PKKPdf** **22 22 20.5 -0.2**
PDAR Pinedale Array 92.33 44 P **P 22 05 11.3 +0.3**
comp=Z,2.4nm,0.7s,baz=205,slow=3.0,SNR=17
PDAR pP **pP** **22 07 25.4 +2.6**
comp=Z,0.4nm,0.4s,baz=235,slow=3.2,SNR=3.2
PDAR PKKPbc **PKKPdf** **22 22 20.5 -0.2**
comp=Z,0.6nm,0.5s,baz=72,slow=5.7,SNR=6.6
429A Davenport Ranc 92.35 58 P **P 22 05 11.5 +0.3**
baz=93,SNR=16
SMCO Snowmass 92.36 48 eP **P 22 05 11.4 0.0**
comp=Z,2.8nm,0.9s
W25A X Bar L Ranch, 92.37 53 P **P 22 05 11.5 +0.2**
baz=93,SNR=6.7
EGAK Eagle 92.39 16 eP **P 22 05 10.3 -0.2**
comp=Z,5.7nm,0.9s
V25A Rancho No Teng 92.53 52 P **P 22 05 12.7 +0.6**
baz=93,SNR=5.6
SDCO Great Sand Dun 92.74 50 eP **P 22 05 13.5 +0.4**
comp=Z,2.9nm,0.7s
631A Perdido Creek 92.88 59 P **P 22 05 14.4 +0.8**
baz=93,SNR=14
531A Rocksprings 93.21 59 P **P 22 05 15.7 +0.6**
baz=93,SNR=5.5
T25A Trinidad 93.25 51 P **P 22 05 15.7 +0.4**
baz=94,SNR=5.6
S25A Robets Cordova 93.46 51 P **P 22 05 16.7 +0.4**
baz=94,SNR=9.0
632A Uvalde 93.55 60 P **P 22 05 17.5 +0.8**
baz=94,SNR=6.5
ISCO Idaho Springs 93.58 48 eP **P 22 05 17.7 +0.8**
ISCO pmax pmax
comp=Z,26nm,2.5s
ISCO Idaho Springs 93.58 48 eP **P 22 05 17.7 +0.8**
comp=Z,26nm,2.5s
S26A Kim 94.13 51 P **P 22 05 20.1 +0.8**
baz=94,SNR=6.8
R26A Arlington 94.44 50 P **P 22 05 21.2 +0.5**
baz=95,SNR=7.7
LCO Las Campanas 95.31 124 P **P 22 05 26.1 +1.0**
baz=95,SNR=4.0
ULN Ulaanbaatar 95.35 320 eP **P 22 05 24.1 -0.5**
comp=Z,31nm,2.0s
R28A Tribune 95.62 51 P **P 22 05 26.9 +0.9**
baz=96,SNR=5.9
SONM Songino Array 95.73 320 P **P 22 05 26.1 -0.1**
SONM PKKPbc **PKKPbc** **22 22 13.1 -1.0**
SONM Songino Array 95.73 320 P **P 22 05 26.1 -0.1**
comp=Z,1.9nm,0.7s,baz=106,slow=9.2,SNR=4.3
SONM PKKPbc **PKKPbc** **22 22 13.1 -1.0**
comp=Z,1.3nm,0.6s,baz=238,slow=3.2,SNR=3.5
CFAA Coronel Fontan 95.85 128 P **P 22 05 27.4 +0.2**
CFAA Coronel Fontan 95.85 128 P **P 22 05 27.4 +0.2**
comp=Z,0.3nm,0.4s,baz=274,slow=5.6,SNR=5.5
GTA Gaotai 96.38 310 ⇑P **P 22 05 29.9 +0.5**
GTA pP **pP** **22 07 41.4 -0.1**
GTA sP **sP** **22 08 39.8 -2.1**
GTA PP **PP** **22 09 36.9 +2.7**
GTA S **S** **22 15 56.5 -1.3**
GTA sS sS 22 19 50.5 -5.5
GTA SS **SS** **22 22 52.4 +1.8**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,170nm,7.6s
INK Inuvik 97.07 16 P Pdif 22 05 30.6 -1.0
INK Inuvik 97.07 16 P Pdif 22 05 30.5 -1.0
comp=Z,2.0nm,0.8s,baz=39,slow=2.4,SNR=4.4
YKA Yellowknife Ar 99.59 26 PKKPbc PKKPbc 22 22 01.6 -2.2
YKA Yellowknife Ar 99.59 26 PKKPbc PKKPbc 22 22 01.6 -2.2
comp=Z,1.2nm,0.5s,baz=47,slow=2.3,SNR=6.8
LPAZ La Paz 103.56 114 Pdif **Pdif** **22 06 05.7 +3.2**
LPAZ La Paz 103.56 114 Pdiff **Pdif** **22 06 05.7 +3.2**
comp=Z,0.9nm,0.7s,baz=209,slow=6.4,SNR=3.9
CPUP Villa Florida 106.71 129 PKiKP **PKiKP** **22 10 21.2 -0.8**
CPUP Villa Florida 106.71 129 PKiKP **PKiKP** **22 10 21.2 -0.8**
comp=Z,0.5nm,0.4s,baz=343,slow=11,SNR=3.1
ZALV Zalesovo Beam 110.57 321 PKiKP **PKiKP** **22 10 27.1 -1.2**
ZALV Zalesovo Beam 110.57 321 PKiKP **PKiKP** **22 10 27.1 -1.2**
ZALV PKKPbc **PKKPbc** **22 21 29.8 -0.8**
ZALV PKKPab **PKKPab** **22 21 41.1 -0.2**
ZALV Zalesovo Beam 110.57 321 PKiKP **PKiKP** **22 10 27.0 -1.2**
comp=Z,3.1nm,0.6s,baz=141,slow=1.1,SNR=15
ZALV PKKPbc **PKKPbc** **22 21 29.8 -0.8**
comp=Z,0.9nm,0.5s,baz=304,slow=5.0,SNR=4.8
ZALV PKKPab **PKKPab** **22 21 41.1 -0.2**
comp=Z,0.7nm,0.6s,baz=325,slow=4.3,SNR=2.9
MK31 Makanchi Array 110.81 313 ePKiKP **PKiKP** **22 10 27.6 -1.4**
MK31 Makanchi Array 110.81 313 ePKPdf **PKiKP** **22 10 27.6 -1.4**
MKAR Makanchi Array 110.81 313c iPKiKP **PKiKP** **22 10 27.8 -1.2**
MKAR pmax pmax

comp=Z,2.0nm,0.6s
MKAR Makanchi Array 110.81 313 Pdif **Pdif** **22 06 34.5 +1.3**
MKAR PKiKP **PKiKP** **22 10 27.4 -1.6**
MKAR PP **PP** **22 11 21.4 +2.1**
MKAR SKP 22 13 06.3
MKAR PKKPbc **PKKPbc** **22 21 29.2 -0.5**
MKAR PKKPab **PKKPab** **22 21 41.5 +1.1**
MKAR Makanchi Array 110.81 313 Pdiff **Pdif** **22 06 34.5 +1.3**
comp=Z,0.8nm,0.6s,baz=90,slow=6.3,SNR=9.2
MKAR PKiKP **PKiKP** **22 10 27.4 -1.6**
comp=Z,2.3nm,0.6s,baz=235,slow=1.8,SNR=24
MKAR PP **PP** **22 11 21.4 +2.1**
comp=Z,1.1nm,0.8s,baz=94,slow=9.0,SNR=5.2
MKAR SKP 22 13 06.3
comp=Z,0.9nm,0.6s,baz=215,slow=1.4,SNR=4.4
MKAR PKKPbc **PKKPbc** **22 21 29.2 -0.5**
comp=Z,1.8nm,0.6s,baz=289,slow=3.7,SNR=15
MKAR PKKPab **PKKPab** **22 21 41.5 +1.1**
comp=Z,2.6nm,0.6s,baz=267,slow=4.3,SNR=11
NVS Novosibirsk 111.63 322 *e*PKiKP **PKiKP** **22 10 27.7 -2.6**
NVS *e* 22 16 13.7
KURK Kurchatov 113.84 317 PKiKP **PKiKP** **22 10 33.0 -1.6**
KURK 22 21 28.3
KURK Kurchatov 113.84 317 PKiKP **PKiKP** **22 10 33.0 -1.6**
KURK PP PP 22 11 32.4 -7.9
KURK SKP 22 13 12.4
KURK PKKPbc **PKKPbc** **22 21 19.1 -0.7**
KURK PKKPab **PKKPab** **22 21 28.3 +1.4**
KURBB Kurchatov Arra 113.88 317 PKiKP **PKiKP** **22 10 33.0 -1.7**
comp=Z,4.8nm,0.6s,baz=96,slow=1.8,SNR=58
KURBB PP PP 22 11 32.4 -8.3
comp=Z,2.6nm,1.0s,baz=101,slow=6.5,SNR=5.6
KURBB SKP 22 13 12.4
comp=Z,0.9nm,0.7s,baz=116,slow=1.3,SNR=4.8
KURBB PKKPbc **PKKPbc** **22 21 19.1 -0.5**
comp=Z,1.3nm,0.6s,baz=278,slow=4.2,SNR=9.2
KURBB PKKPab **PKKPab** **22 21 28.3 +1.6**
comp=Z,1.3nm,0.6s,baz=276,slow=5.2,SNR=6.4
KSH Kashi 114.01 304 PKP **PKiKP** **22 10 35.4 -0.1**
KSH sPKP 22 13 50.9
KSH SKS **SKSdf** **22 16 51.8 +1.1**
KSH AMB AMB
comp=Z,43nm,6.2s
AAK Ala-Archa 115.61 308 ⇓*i*PKIKP **PKPdf** **22 10 36.7 -1.8**
AAK pmax pmax
comp=Z,4.0nm,0.7s
OPO Ambohidratompo117.72 233 PKP **PKPdf** **22 10 43.0 -0.3**
OPO Ambohidratompo117.72 233 PKP **PKPdf** **22 10 43.0 -0.3**
comp=Z,6.9nm,0.6s,baz=141,slow=3.2,SNR=15
KBL Kabul 118.65 298 *e*PKIKP **PKPdf** **22 10 44.2 -0.5**
KBL Kabul 118.65 298 *e*PKPdf **PKPdf** **22 10 44.2 -0.5**
BRVK Borovoye 119.13 319 *e*PKIKP **PKPdf** **22 10 44.1 -0.7**
BRVK Borovoye 119.13 319 *e*PKPdf **PKPdf** **22 10 44.1 -0.7**
BDFB Brasilia 120.08 125 PKP **PKPdf** **22 10 47.5 -0.4**
BDFB PKKPbc **PKKPbc** **22 20 57.3 -0.9**
BDFB Brasilia 120.08 125 PKP **PKPdf** **22 10 47.5 -0.4**
comp=Z,5.8nm,0.6s,baz=270,slow=2.4,SNR=11
BDFB PKKPbc **PKKPbc** **22 20 57.3 -0.9**
comp=Z,1.6nm,0.6s,baz=335,slow=19,SNR=3.6
SUR Sutherland 121.48 201 PKP **PKPdf** **22 10 49.9 -0.4**
SUR *e*PKPdf **PKiKP** **22 10 50.1 -0.4**
SUR Sutherland 121.48 201 PKP **PKPdf** **22 10 49.9 -0.4**
comp=Z,15nm,0.6s,baz=136,slow=2.4,SNR=32
SCHQ Schefferville 121.99 39 PKP **PKPdf** **22 10 48.7 -1.5**
SCHQ PKKPbc **PKKPab** **22 20 50.2 -0.8**
SCHQ Schefferville 121.99 39 PKP **PKPdf** **22 10 48.7 -1.5**
comp=Z,3.0nm,0.6s,baz=348,slow=6.0,SNR=8.5
SCHQ PKKPbc **PKKPab** **22 20 50.2 -0.8**
comp=Z,3.0nm,0.7s,baz=94,slow=6.3,SNR=6.9
BOSA Boshof 123.15 207 PKP **PKPdf** **22 10 53.8 +0.2**
BOSA PKKPbc **PKKPbc** **22 20 46.6 -0.9**
BOSA Boshof 123.15 207 PKP **PKPdf** **22 10 53.8 +0.2**
comp=Z,6.1nm,0.6s,baz=32,slow=2.0,SNR=17
BOSA PKKPbc **PKKPbc** **22 20 46.6 -0.9**
comp=Z,1.7nm,0.7s,baz=346,slow=6.1,SNR=4.7
KBS Kingsbay 123.40 357 *e*P **PKPdf** **22 10 51.9 -0.4**
KBS Kingsbay 123.40 357 *d i*PKIKP **PKPdf** **22 10 52.3 0.0**
SPA0 Spitsbergen Ar 123.87 356 *e*P **PKPdf** **22 10 52.7 -0.5**
SVE Sverdlovsk 124.29 324 *e*PKIKP **PKPdf** **22 10 54.1 -0.4**
SVE pmax pmax
comp=Z,13nm,0.7s
DAG Danmarks Havn 125.15 5 ⇑*i*PKIKP **PKPdf** **22 10 54.4 -1.3**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 125.15 5 ⇑*i*P **PKPdf** **22 10 54.4 -1.3**
comp=Z,4.7nm,0.7s
ARU Arti 125.49 324 *i* PKIKP **PKPdf** **22 10 56.1 -0.7**
ARU 22 12 55.5
ARU 22 17 03.2
SUMG Summit 125.87 13 *i* P **PKPdf** **22 10 57.2 -0.5**
comp=Z,4.9nm,0.9s
LBTB Lobatse 126.11 210 PKP **PKPdf** **22 10 59.1 -0.2**
LBTB Lobatse 126.11 210 PKP **PKPdf** **22 10 59.1 -0.2**
comp=Z,3.6nm,0.5s,baz=139,slow=3.2,SNR=11
ARCES ARCESS Array B 130.57 348 PKPpre PKPpre 22 10 49.4
ARCES PKP **PKPdf** **22 11 05.3 -0.9**
ARCES SKPbc **SKPbc** **22 13 33.4 -0.6**
ARCES PKKPbc PKKPdf 22 20 19.7 -49
ARCES PKKP 22 21 05.3
ARCES ARCESS Array B 130.57 348 PKhKP PKPpre 22 10 49.4
comp=Z,0.9nm,0.9s,baz=64,slow=2.1,SNR=3.9
ARCES PKP **PKPdf** **22 11 05.3 -0.9**
comp=Z,15nm,0.7s,baz=48,slow=1.3,SNR=61
ARCES SKPbc **SKPbc** **22 13 33.4 -0.6**
comp=Z,15nm,1.0s,baz=35,slow=4.4,SNR=23
ARCES PKKPbc PKKPdf 22 20 19.7 -49
comp=Z,0.4nm,0.5s,baz=222,slow=1.6,SNR=6.5
ARCES PKKP 22 21 05.3
comp=Z,0.8nm,0.5s,baz=196,slow=1.6,SNR=12
ARE0 ARCESS Array S 130.57 348 *e*PKPdf **PKPdf** **22 11 05.6 -0.6**
KTK1 Kautokeino 131.44 349 *e*P **PKPdf** **22 11 06.8 -1.0**
KTK1 AMB AMB 22 11 07.4
comp=Z,36nm,0.8s
TRO Tromso 131.58 351 *e*P **PKPdf** **22 11 07.2 -0.9**
TRO *e*PP **PP** **22 13 37.6 +0.6**
LSZ Lusaka 132.79 220 PKP **PKPdf** **22 11 12.9 +0.7**
LSZ *e*PKPdf **PKiKP** **22 11 13.0 -0.4**
LSZ SKPab **SKPab** **22 13 44.8 -1.2**
LSZ Lusaka 132.79 220 PKP **PKPdf** **22 11 12.9 +0.7**
comp=Z,6.7nm,0.5s,baz=68,slow=4.3,SNR=26
LSZ SKPab **SKPab** **22 13 44.7 -1.2**
comp=Z,2.7nm,0.6s,baz=76,slow=3.9,SNR=6.0
TSUM Tsumeb 134.66 205 PKPpre PKPpre 22 11 02.9
TSUM PKP **PKiKP** **22 11 16.9 -0.2**
TSUM SKPbc **SKPbc** **22 13 49.0 -0.5**
TSUM Tsumeb 134.66 205 PKhKP PKPpre 22 11 02.9
comp=Z,1.4nm,0.6s,baz=24,slow=1.5,SNR=4.7
TSUM PKP **PKiKP** **22 11 16.9 -0.2**
comp=Z,6.5nm,0.7s,baz=162,slow=2.9,SNR=10
TSUM SKPbc **SKPbc** **22 13 49.1 -0.5**
comp=Z,6.2nm,0.8s,baz=123,slow=6.6,SNR=7.2
KMBO Kilima Mbogo 136.04 243 PKP **PKPdf** **22 11 19.6 +1.2**
KMBO SKP 22 13 56.5
KMBO Kilima Mbogo 136.04 243 PKP **PKPdf** **22 11 19.6 +1.2**
comp=Z,3.9nm,0.6s,baz=62,slow=4.1,SNR=12
KMBO SKP 22 13 56.5
comp=Z,3.4nm,0.9s,baz=60,slow=6.5,SNR=4.9
KAF Kangasniemi 136.48 342 *e*PKHKP PKPpre 22 11 06.1
KAF Kangasniemi 136.48 342 *e*pkp SKP 22 13 52.5
VRHR Novokhopersk 136.70 322 *e*PKIKP **PKPdf** **22 11 17.9 -0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
FINES FINESS Array B 137.08 341 PKPpre PKPpre 22 11 05.3
FINES PKP **PKPdf** **22 11 19.1 +0.6**
FINES SKPbc **SKPbc** **22 13 54.3 -0.8**
FINES PKKP **PKKPdf** **22 20 52.5 -3.5**
FINES FINESS Array B 137.08 341 PKhKP PKPpre 22 11 05.3
comp=E,1.4nm,0.6s,baz=318,slow=5.6,SNR=11
FINES PKP **PKPdf** **22 11 19.1 +0.6**
comp=E,6.8nm,0.6s,baz=67,slow=1.0,SNR=18
FINES SKPbc **SKPbc** **22 13 54.3 -0.8**
comp=E,15nm,0.8s,baz=64,slow=4.4,SNR=22
FINES PKKP **PKKPdf** **22 20 52.5 -3.5**
comp=E,0.5nm,0.7s,baz=267,slow=2.8,SNR=3.5
OBN Obninsk 137.37 329 ⇓*i*PKIKP **PKPdf** **22 11 20.7 +1.5**
OBN pmax pmax
comp=Z,11nm,0.6s
DUS Dusheti 137.58 308 P **PKPdf** **22 11 21.4 +1.2**
TBLG Delisi 137.63 308 P SKP 22 13 57.2
GUDG Gudauri 137.66 309 P **PKPdf** **22 11 22.4 +1.9**
GUDG Gudauri 137.66 309 P SKP 22 13 58.1
VSR Storozhevoye 138.03 323 *e*PKIKP **PKPdf** **22 11 21.6 +1.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,1.0s
ONI Oni 138.36 309 P SKP 22 13 59.9
KBZ Khabaz 138.46 311 PKIKP **PKPdf** **22 11 23.6 +2.0**
KBZ Khabaz 138.46 311 PKP **PKPdf** **22 11 23.6 +2.0**
KBZ Khabaz 138.46 311 PKP **PKPdf** **22 11 23.6 +2.0**
comp=E,3.0nm,0.8s,baz=138,slow=3.6,SNR=5.5
AKH Akhalkalaki 138.61 307 P SKP 22 14 00.7
NB2 NORSAR Subarra140.78 351 PKP PKPpre 22 11 19.0
comp=Z,1.8nm,0.5s,baz=16,slow=3.2
NB2 NORSAR Subarra140.78 351 PKP PKPpre 22 11 19.0
baz=16,slow=3.2
NOA NORSAR Array B140.78 351 PKPpre PKPpre 22 11 19.2
NOA PKP **PKPdf** **22 11 24.9 -0.4**
NOA SKPbc **SKPbc** **22 14 04.8 -0.5**
NOA SKPab **SKPab** **22 14 19.4 -0.3**
NOA NORSAR Array B140.78 351 PKhKP PKPpre 22 11 19.2
comp=Z,4.2nm,0.6s,baz=16,slow=4.7,SNR=45
NOA PKP **PKPdf** **22 11 24.9 -0.4**
comp=Z,4.6nm,0.6s,baz=13,slow=4.1,SNR=14
NOA SKPbc **SKPbc** **22 14 04.8 -0.5**
comp=Z,4.4nm,0.8s,baz=15,slow=4.2,SNR=12
NOA SKPab **SKPab** **22 14 19.4 -0.3**
comp=Z,2.3nm,0.8s,baz=15,slow=3.2,SNR=4.4
NC602 NORSAR Array S141.03 350 *e*P PKPdf 22 11 19.6 -6.2
SUE Sulen 141.47 356 *e*P **PKPdf** **22 11 22.1 -4.4**
MBAR Mbarara 141.56 237 PKPpre **PKPdf** **22 11 24.1 -4.3**
MBAR Mbarara 141.56 237 PKhKP **PKPdf** **22 11 24.1 -4.3**
comp=Z,4.0nm,0.4s,baz=153,slow=23,SNR=7.4
ASK Askoy 142.01 355 *e*P **PKPdf** **22 11 22.4 -5.0**
ASK AMB AMB 22 11 25.6
comp=Z,66nm,1.9s
RUND Rundenannen 142.06 355 *e*P **PKPdf** **22 11 22.9 -4.7**
RUND AMB AMB 22 11 27.5
comp=Z,86nm,1.8s
EGD Espegrend 142.22 355 *e*P **PKPdf** **22 11 22.9 -4.9**
KONO Kongsberg 142.35 351 *e*P **PKPdf** **22 11 24.2 -3.9**
KONO AMB AMB 22 11 26.1
comp=Z,32nm,0.9s
KONO Kongsberg 142.35 351 *e*PKHKP **PKPdf** **22 11 24.3 -3.9**
KONO Kongsberg 142.35 351 *e*PKPdf **PKPdf** **22 11 24.3 -3.9**
ODD1 Odda 142.45 354 *e*P **PKPdf** **22 11 25.0 -3.4**
BLS5 Blasjo 142.94 354 *e*P **PKPdf** **22 11 26.6 -2.7**
BLS5 AMB AMB 22 11 29.7
comp=Z,50nm,1.2s
AKASG Malin Array Be 143.58 328 PKIKP PKPbc 22 11 28.3 -1.3
AKASG Malin Array Be 143.58 328 PKP PKPbc 22 11 28.2 -1.3
AKASG SKPbc **SKPbc** **22 14 12.1 -0.3**
AKASG Malin Array Be 143.58 328 PKP PKPbc 22 11 28.3 -1.3
comp=Z,24nm,0.3s,baz=43,slow=4.7,SNR=144
AKASG SKPbc **SKPbc** **22 14 12.1 -0.3**
comp=Z,6.7nm,0.7s,baz=49,slow=3.0,SNR=10
HOMB Homborsund 143.84 352 *e*P PKPbc 22 11 29.6 -0.5
HOMB AMB AMB 22 11 30.8
comp=Z,82nm,0.9s
SUW Suwalki 143.88 336 *e*PKIKP PKPbc 22 11 29.8 -0.6
SUW Suwalki 143.88 336 *e*PKPdf PKPbc 22 11 29.8 -0.6
SIM Simferopol' 143.90 316 *d i*PKIKP PKPbc 22 11 29.9 -0.9
SIM pmax pmax
comp=Z,63nm,0.9s
SNART Snartemo 143.93 353 *e*P PKPbc 22 11 29.6 -0.8
SNART AMB AMB 22 11 34.8
comp=Z,57nm,1.9s
MUD Monsted U'grnd 145.49 350 *i* PKIKP **PKPdf** **22 11 33.9 +0.3**
MUD pmax pmax
comp=Z,20nm,0.7s
MUD Monsted U'grnd 145.49 350 *i* P **PKPdf** **22 11 33.9 +0.3**
comp=Z,20nm,0.7s
BSD Bornholm Skovb 145.57 344 *i* PKIKP **PKPdf** **22 11 34.4 +0.6**
BSD pmax pmax
comp=Z,53nm,0.8s
BSD Bornholm Skovb 145.57 344 *i* P **PKPdf** **22 11 34.4 +0.6**
comp=Z,53nm,0.7s
COP Copenhagen 145.62 347 ⇑*i*PKIKP **PKPbc** **22 11 35.3 -0.2**
COP pmax pmax
comp=Z,29nm,0.7s
COP Copenhagen 145.62 347 ⇑*i*P **PKPbc** **22 11 35.3 -0.2**
comp=Z,29nm,0.7s
HWQ Hawqa 145.90 298 *e*P **PKPbc** **22 11 36.8 -0.4**
KIS Kishinev 146.03 323 *e*P **PKPdf** **22 11 34.0 -0.9**
KIS Kishinev 146.03 323 *e*PKIKP **PKPdf** **22 11 34.0 -0.9**
KIS *e* 22 14 52.0
RCY Rachaya 146.12 297 *e*P **PKPbc** **22 11 38.5 +0.6**
BR131 Keskin Array S 146.28 308 *e*PKPdf **PKPdf** **22 11 34.8 -1.0**
BR131 *e*PKPbc **PKPbc** **22 11 37.7 -0.4**
BR131 *e*PKPab **PKPab** **22 11 41.1 +0.4**
BRTR Keskin Array B 146.28 308 PKP **PKPdf** **22 11 35.1 -0.6**
BRTR PKPbc **PKPbc** **22 11 37.7 -0.4**
BRTR PKPab **PKPab** **22 11 41.2 +0.4**
BRTR SKPbc **SKPbc** **22 14 18.9 -0.3**
BRTR Keskin Array B 146.28 308 PKP **PKPdf** **22 11 35.1 -0.6**
comp=Z,16nm,0.7s,baz=140,slow=5.3,SNR=43
BRTR PKPbc **PKPbc** **22 11 37.7 -0.4**
comp=Z,16nm,0.7s,baz=136,slow=4.3,SNR=56
BRTR PKPab **PKPab** **22 11 41.2 +0.4**
comp=Z,16nm,0.7s,baz=104,slow=4.2,SNR=38
BRTR SKPbc **SKPbc** **22 14 18.9 -0.3**
comp=Z,1.9nm,0.8s,baz=110,slow=2.2,SNR=4.0
BEL Belsk 146.48 336 *e*PKP **PKPbc** **22 11 37.8 -0.3**
GKP Gorka Klasztor 146.53 340 *e*PKP **PKPbc** **22 11 38.2 +0.1**
LVV L'vov 146.64 330 *e*PKIKP **PKPdf** **22 11 36.8 +1.0**
LVV *e* 22 11 41.6
ANTO Ankara 146.84 309 ⇑PKIKP **PKPdf** **22 11 37.1 +0.5**
ANTO Ankara 146.84 309 *e*PKPdf **PKPdf** **22 11 36.6 +0.1**
ANTO *e*PKPbc **PKPbc** **22 11 39.8 +0.2**
TLCR 147.05 320 ⇑PKP2 **PKPbc** **22 11 39.8 0.0**
TLCR 147.05 320 ⇑*i*P **PKPbc** **22 11 39.8 0.0**
ESK Eskdalemuir 147.37 3 *e*PKIKP **PKPbc** **22 11 39.9 -0.4**
ESK *e* 22 11 44.5
ESK Eskdalemuir 147.37 3 *e*PKPbc **PKPbc** **22 11 39.9 -0.4**
ESK *e*PKPab **PKPab** **22 11 44.5 +0.1**
KWP Kalwaria Pacla 147.37 331 *i*PKPdf **PKPbc** **22 11 40.6 +0.1**
CFR Carcaliu 147.45 321 ⇓PKP2 **PKPbc** **22 11 40.5 -0.3**
CFR Carcaliu 147.45 321 ⇓*i*P **PKPbc** **22 11 40.5 -0.3**
TESR Tescani 147.52 324 ⇑*i*P **PKPbc** **22 11 39.9 -1.1**
BUR08 Bucovina Ar. S 147.56 326 *e*PKPbc **PKPbc** **22 11 41.5 +0.3**
BURAR Bucovina Array 147.58 326 ⇓PKP2 **PKPbc** **22 11 41.1 -0.1**
BURAR Bucovina Array 147.58 326 ⇓*i*P **PKPbc** **22 11 41.1 -0.1**
TIRR Tirgusor 147.68 319 ⇑PKP2 **PKPbc** **22 11 41.5 0.0**
TIRR Tirgusor 147.68 319 ⇑*i*P **PKPbc** **22 11 41.5 0.0**
TIRR Tirgusor 147.68 319 *e*PKPbc **PKPbc** **22 11 41.4 0.0**
BSEG Bad Segeberg 147.69 348 *e*PKPbc **PKPbc** **22 11 41.2 +0.1**
BSEG Bad Segeberg 147.69 348 *e*PKP2 **PKPbc** **22 11 41.2 +0.1**
HARR Harsova 147.85 320 ⇓PKP2 **PKPbc** **22 11 42.1 +0.3**
HARR Harsova 147.85 320 ⇓*i*P **PKPbc** **22 11 42.1 +0.3**
CSS Prodhromos 147.87 300 *e*PKPbc **PKPbc** **22 11 41.8 -0.5**
KOLS Kolonicke sedl 148.08 331 *e*PKHKP **PKPdf** **22 11 38.3 +0.1**
KOLS Kolonicke sedl 148.08 331 *e*PKP **PKPdf** **22 11 38.3 +0.1**
OJC Ojcow 148.15 335 *e*PKHKP **PKPbc** **22 11 41.9 -0.5**
STHS Stebnicka Huta 148.17 332 *e*PKP2 **PKPbc** **22 11 42.7 +0.1**
STHS Stebnicka Huta 148.17 332 *e*PKP **PKPbc** **22 11 42.7 +0.1**
STHS *e* 22 14 03.6
PSN Preselentsi 148.24 318 *i* P **PKPbc** **22 11 43.3 +0.4**
PGOR Pogoanele 148.28 321 ⇓*i*P **PKPbc** **22 11 43.4 +0.5**
UZH Uzhgorod 148.29 330 ⇓*i*PKP2 **PKPbc** **22 11 43.1 +0.3**
CRVS Cervenica-Dubn 148.46 331 *e*PKP2 **PKPbc** **22 11 43.6 +0.3**
CRVS Cervenica-Dubn 148.46 331 *e*PKP **PKPbc** **22 11 43.6 +0.3**
CRVS *e* 22 14 04.6
MLR Muntele Rosu 148.53 323 ⇑*i*P **PKPbc** **22 11 42.1 -1.6**
TRPA Tarpa 148.53 329 ⇓*i*P **PKPbc** **22 11 43.3 -0.1**
TRPA Tarpa 148.53 329 ⇓*e* **PKPbc** **22 11 42.7 -0.7**
NIE Niedzica 148.56 333 *e*PKP2 **PKPbc** **22 11 45.5 +2.0**
SECR 148.73 322 ⇑*i*P **PKPbc** **22 11 44.1 0.0**
KSP Ksiaz 148.91 339 *e*PKHKP **PKPbc** **22 11 44.2 -0.1**
KSP *e* 22 11 51.1
KSP Ksiaz 148.91 339 *e*PKP **PKPbc** **22 11 44.2 -0.1**
MDB Medias 148.97 325 ⇓PKHKP **PKPbc** **22 11 44.8 +0.2**
MDB Medias 148.97 325 ⇓*i*P **PKPbc** **22 11 44.8 +0.2**
VOIR 149.06 323 ⇑PKHKP **PKPbc** **22 11 45.3 +0.4**
VOIR 149.06 323 ⇑*i*P **PKPbc** **22 11 45.3 +0.4**
OKC Ostrava-Krasne 149.09 336 *e*PKHKP **PKPbc** **22 11 45.0 +0.3**
OKC Ostrava-Krasne 149.09 336 ⇑*e*PKP **PKPbc** **22 11 45.0 +0.3**
NRDL Niedersach Rie 149.10 347 *e*PKPbc **PKPbc** **22 11 44.5 -0.1**
KECS Kecovo 149.20 332 *e*PKP2 **PKPbc** **22 11 46.1 +1.0**
KECS Kecovo 149.20 332 *e*PKP **PKPbc** **22 11 46.1 +1.0**
KECS *e* 22 14 08.4
KECS *e* 22 14 08.5
UPC Upice 149.29 339 *e*PKHKP **PKPbc** **22 11 45.1 -0.1**
UPC Upice 149.29 339 ⇑*e*PKP **PKPbc** **22 11 45.1 -0.1**
UPC *e*pPKP **pPKPdf** **22 14 06.8 +5.6**
DPC Dobruska-Polom 149.32 338 *e*PKHKP **PKPbc** **22 11 45.6 +0.2**
DPC *e* 22 11 53.4
DPC Dobruska-Polom 149.32 338 ⇑*e*PKP **PKPbc** **22 11 45.6 +0.2**
DPC *e*PKPAB **PKPab** **22 11 53.4 +0.7**
DPC *e*pPKP pPKPdf 22 14 09.0 +7.7
ARR Arges 149.33 324 ⇑*i*P **PKPbc** **22 11 46.8 +1.2**
MORC Moravsky Berou 149.37 336 *e*PKIKP **PKPdf** **22 11 40.0 -0.3**
MORC *e* 22 11 53.2
MORC Moravsky Berou 149.37 336 *e*PKPdf **PKPdf** **22 11 40.0 -0.3**
MORC *e*PKPbc **PKPbc** **22 11 45.4 -0.1**
MORC *e*PKPab **PKPab** **22 11 53.2 +0.3**
DRGR 149.39 327 ⇓PKHKP **PKPbc** **22 11 45.2 -0.5**
DRGR 149.39 327 ⇓*i*P **PKPbc** **22 11 45.2 -0.5**
CLL Collm 149.50 343 *e*PKPbc **PKPbc** **22 11 45.5 -0.2**
CLL Collm 149.50 343 ⇓*i*PKHKP **PKPbc** **22 11 45.5 -0.2**
CLL *i* 22 11 53.2
CLL pmax pmax
comp=Z,77nm,0.8s
CLL pmax pmax
comp=Z,17nm,0.7s
CLL Collm 149.50 343 ⇓*i*PKPbc **PKPbc** **22 11 45.5 -0.2**
comp=Z,77nm,0.8s
CLL *i* PKPab **PKPab** **22 11 53.2 -0.1**
comp=Z,17nm,0.7s
CLL *e*pPKPbc **pPKPbc** **22 14 05.0 -0.1**
CLL *e*SKPdf **SKPdf** **22 14 13.0 -4.1**
BRG Berggiesshubel 149.62 341 *e*PKP **PKPdf** **22 11 40.4 -0.2**
comp=Z,2.1nm,1.0s
BRG Berggiesshubel 149.62 341 *e*PKPbc **PKPbc** **22 11 46.0 0.0**
BRG *e*pPKPbc pPKPbc 22 14 13.8 +8.4
BRG Berggiesshubel 149.62 341 *e*PKIKP **PKPdf** **22 11 40.4 -0.2**
BRG *i* 22 11 52.9
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG pmax pmax
comp=Z,26nm,0.9s
HUMR Humele 149.66 322 ⇓*i*P **PKPbc** **22 11 45.3 -1.0**
IBBN Ibbenburen 149.72 350 *e*PKPbc **PKPbc** **22 11 45.6 -0.5**
PVCC Panska Ves 149.74 340 *e*PKHKP **PKPbc** **22 11 46.2 -0.1**
PVCC Panska Ves 149.74 340 ⇑*e*PKP **PKPbc** **22 11 46.2 -0.1**
PVCC *e*pPKP pPKPdf 22 14 11.4 +9.5
LOT Lotru 149.75 325 ⇑*i*P **PKPbc** **22 11 46.0 -0.6**
SZH Strazhica 149.84 319 *i* P **PKPbc** **22 11 47.5 +0.8**
PSZ Piszkesteto 149.89 332 *e*PKHKP **PKPbc** **22 11 45.9 -0.9**
PSZ Piszkesteto 149.89 332 ⇑*i*P **PKPbc** **22 11 46.2 -0.6**
PSZ Piszkesteto 149.89 332 *e*PKPbc **PKPbc** **22 11 45.9 -0.9**
PSZ Piszkesteto 149.89 332 ⇑*e* **PKPbc** **22 11 46.7 -0.1**
VYHS Vyhne 149.89 334 *e*PKHKP **PKPbc** **22 11 46.9 +0.2**
VYHS *e* 22 11 55.3
VYHS Vyhne 149.89 334 *e*PKP **PKPbc** **22 11 46.9 +0.2**
VYHS *e* 22 11 55.3
VYHS *e* 22 14 09.0
PRA Prague 150.18 340 ⇑PKP **PKPbc** **22 11 47.0 -0.3**
PRA PKPAB **PKPab** **22 11 58.0 +1.8**
PRA pPKP pPKPdf 22 14 10.0 +7.3
WTSB Winterswijk 150.20 351 *e*PKPbc **PKPbc** **22 11 46.7 -0.6**
comp=Z,102nm,0.7s
WTSB *e*pPKPbc **pPKPbc** **22 14 13.5 +6.6**
PRU Pruhonice 150.22 340 *e*PKIKP **PKPbc** **22 11 47.0 -0.4**
PRU *e* 22 11 57.0
PRU *e* 22 14 09.0
PRU Pruhonice 150.22 340 ⇑*e*PKP **PKPbc** **22 11 47.0 -0.4**
PRU *e*PKPAB **PKPab** **22 11 57.0 +0.7**
PRU *e*pPKP **pPKPdf** **22 14 09.0 +6.3**
PVL Pavlikeni 150.22 320 *i* P **PKPbc** **22 11 47.5 -0.1**
GZR Gura Zlata 150.31 325 ⇑PKIKP **PKPbc** **22 11 47.0 -0.9**
GZR Gura Zlata 150.31 325 ⇑*i*P **PKPbc** **22 11 47.0 -0.9**
SMOL Smolenice 150.44 335 *e*PKIKP **PKPbc** **22 11 47.4 -0.6**
SMOL *e* 22 11 57.0
SMOL Smolenice 150.44 335 *e*PKP **PKPbc** **22 11 47.4 -0.6**
SMOL *e* 22 11 57.0
SMOL *e* 22 14 14.4
TANN Tannenbergstha 150.45 343 *e*PKPbc **PKPbc** **22 11 47.9 -0.1**
MOX Moxa 150.47 344 *e*PKPbc **PKPbc** **22 11 47.8 -0.2**
MOX Moxa 150.47 344 *e*PKIKP **PKPbc** **22 11 47.8 -0.2**
TREC Trest 150.50 338 *e*PKIKP **PKPbc** **22 11 47.5 -0.6**
TREC Trest 150.50 338 ⇑*e*PKP **PKPbc** **22 11 47.5 -0.6**
NKC Novy Kostel 150.62 343 *e*PKIKP **PKPbc** **22 11 48.6 +0.2**
NKC *e* 22 11 58.3
NKC Novy Kostel 150.62 343 ⇑*e*PKP **PKPbc** **22 11 48.6 +0.2**
NKC *e*PKPAB **PKPab** **22 11 58.3 +0.2**
NKC *e*pPKP pPKPdf 22 14 12.2 +8.8
BUG Bochum--Univer 150.63 350 *e*PKPbc **PKPbc** **22 11 47.8 -0.5**
PKSN Nyarlorinc 150.67 330 ⇓*e* **PKPbc** **22 11 49.0 +0.5**
UBBA Unterbreizbach 150.69 346 *e*PKPbc **PKPbc** **22 11 48.0 +0.2**
BZS Buzias 150.75 327 ⇑PKIKP **PKPbc** **22 11 48.0 -0.8**
BZS Buzias 150.75 327 ⇑*i*P **PKPbc** **22 11 48.0 -0.8**
DIM Dimitrovgrad 150.76 317 *i* P **PKPbc** **22 11 48.5 -0.4**
PKSG 150.94 333 ⇑*e* **PKPbc** **22 11 48.8 -0.3**
CSKK Cs´ˇkako 151.02 333 ⇓*e*pg **PKPbc** **22 11 49.4 +0.1**
ROTZ Rotzenmuhle 151.11 342 *e*PKPbc **PKPbc** **22 11 49.4 -0.1**
PKST T¨'s 151.20 333 ⇑*e* **PKPbc** **22 11 49.2 -0.6**
RDO Rodhopi 151.24 316 *e*P **PKPbc** **22 11 49.2 -0.8**
KHC Kasperske Hory 151.27 340 *e*PKIKP **PKPdf** **22 11 43.2 0.0**
KHC *e* 22 12 01.3
KHC Kasperske Hory 151.27 340 *e*PKPDF **PKPdf** **22 11 43.2 0.0**
KHC ⇑*e*PKP **PKPbc** **22 11 49.4 -0.5**
KHC *e*PKPAB **PKPab** **22 12 01.3 +0.4**
KHC *e*pPKP pPKPdf 22 14 13.2 +8.7
KHC Kasperske Hory 151.27 340 *e*PKPdf **PKPdf** **22 11 43.3 0.0**
KHC *e*PKPbc **PKPbc** **22 11 49.7 -0.2**
KHC *e*PKPab **PKPab** **22 12 01.3 +0.4**
PKS2 Kecel 151.28 331 ⇑*e* **PKPbc** **22 11 50.1 +0.2**
GRF Grafenberg Arr 151.44 344 *e*PKPbc **PKPbc** **22 11 50.1 -0.1**
GRF Grafenberg Arr 151.44 344 *e*PKIKP **PKPbc** **22 11 50.1 -0.1**
GRFO Grafenberg 151.44 344 *e*PKIKP **PKPdf** **22 11 44.0 +0.6**
GRFO *e* 22 12 02.1
GRFO Grafenberg 151.44 344 *e*PKPdf **PKPdf** **22 11 44.0 +0.6**
GRFO *e*PKPbc **PKPbc** **22 11 50.2 0.0**
GRFO *e*PKPab **PKPab** **22 12 02.1 +0.5**
WET Wettzell 151.47 341 *e*PKPbc **PKPbc** **22 11 50.3 0.0**
WET Wettzell 151.47 341 *e*PKIKP **PKPbc** **22 11 50.3 0.0**
GEC2 GERESS Array S 151.48 340 *e*PKPbc **PKPbc** **22 11 50.1 -0.4**
GEC2 GERESS Array S 151.48 340 *e*PKIKP **PKPbc** **22 11 50.1 -0.4**
GERES GERESS Array B 151.48 340 PKP **PKPdf** **22 11 43.3 -0.3**
GERES PKPbc **PKPbc** **22 11 49.8 -0.7**
GERES PKPab **PKPab** **22 12 01.5 -0.4**
GERES SKP 22 14 16.4
GERES GERESS Array B 151.48 340 PKP **PKPdf** **22 11 43.3 -0.3**
comp=Z,0.7nm,0.7s,baz=70,slow=1.6,SNR=8.8
GERES PKPbc **PKPbc** **22 11 49.8 -0.7**
comp=Z,9.4nm,0.6s,baz=40,slow=2.0,SNR=71
GERES PKPab **PKPab** **22 12 01.5 -0.4**
comp=Z,1.8nm,0.6s,baz=19,slow=5.7,SNR=5.8
GERES SKP 22 14 16.4
comp=Z,2.1nm,0.8s,baz=64,slow=3.4,SNR=6.4
HGN Heimansgroeve 151.50 351 *e*PKPbc **PKPbc** **22 11 49.7 -0.6**
comp=Z,17nm,0.9s
HGN *e*PKPab **PKPab** **22 12 01.1 -0.6**
comp=Z,15nm,0.8s
HGN *e*pPKPbc pPKPbc 22 14 17.8 +7.7
CONA Conrad Observa 151.52 336 ⇓*i*PKPbc **PKPbc** **22 11 50.2 -0.4**
comp=Z,17nm,0.6s,SNR=18
ARG Arkhangelos 151.58 305 *e*P **PKPb

WLF	**Walferdange**	**152.53 350**	*e*PKIKP	**PKPbc**	**22 11 53.0**	**+0.4**
WLF			*e*		22 12 04.5	
WLF	**Walferdange**	**152.53 350**	*e*PKPbc	**PKPbc**	**22 11 53.0**	**+0.4**
WLF			*e*PKPab	**PKPab**	**22 12 04.5**	**-1.6**
RJOB	**Jochberg**	**152.75 340**	*e*PKPbc	**PKPbc**	**22 11 52.9**	**-0.3**
STU	**Stuttgart**	**152.80 345**	*e*PKPbc	**PKPbc**	**22 11 52.9**	**-0.3**
STU	**Stuttgart**	**152.80 345**	*e*PKIKP	**PKPdf**	**22 11 45.3**	**-0.1**
STU			*e*		22 12 07.3	
STU	**Stuttgart**	**152.80 345**	*e*PKPdf	**PKPdf**	**22 11 45.3**	**-0.1**
STU			*e*PKPbc	**PKPbc**	**22 11 53.2**	**0.0**
STU			*e*PKPab	**PKPab**	**22 12 07.3**	**0.0**
FUR	**Furstenfeldbru**	**152.82 342**	*e*PKPbc	**PKPbc**	**22 11 53.3**	**0.0**
FUR	**Furstenfeldbru**	**152.82 342**	*e*PKIKP	**PKPbc**	**22 11 53.3**	**0.0**
LANF	**Langenberg**	**152.90 348**	PKP	**PKPbc**	**22 11 54.0**	**+0.6**
PLG	**Polygyros**	**152.99 316**	*e*P	**PKPbc**	**22 11 52.5**	**-1.5**
PAIG	**Paliouri**	**153.08 315**	*e*P	**PKPbc**	**22 11 52.3**	**-1.8**
KBA	**Koelnbreinsper**	**153.14 338**	⇑*i*PKPbc	**PKPbc**	**22 11 53.4**	**-0.9**
	comp=Z,9.5nm,0.6s,SNR=4.3					
GRG	**Griva**	**153.31 318**	*e*P	**PKPbc**	**22 11 53.4**	**-1.2**
BFO	**Black Forest**	**153.41 346**	*e*PKPbc	**PKPbc**	**22 11 54.3**	**-0.3**
BFO	**Black Forest**	**153.41 346**	*e*PKIKP	**PKPdf**	**22 11 45.5**	**-0.9**
BFO			*e*		22 11 53.8	
BFO			*e*		22 12 09.4	
BFO	**Black Forest**	**153.41 346**	*e*PKPdf	**PKPdf**	**22 11 45.5**	**-0.9**
BFO			*e*PKPbc	**PKPbc**	**22 11 53.8**	**-0.7**
BFO			*e*PKPab	**PKPab**	**22 12 09.4**	**-0.6**
MYKA	**Terra Mystica**	**153.43 337**	⇓*i*PKPbc	**PKPbc**	**22 11 52.9**	**-1.8**
	comp=Z,6.6nm,0.5s					
WATA	**Walderalm**	**153.48 341**	⇑*i*PKPbc	**PKPbc**	**22 11 54.0**	**-0.9**
	comp=Z,13nm,0.9s,SNR=9.7					
WTTA	**Wattenberg**	**153.53 341**	⇑*i*PKPab	**PKPbc**	**22 11 54.1**	**-1.0**
	comp=Z,9.9nm,0.4s,SNR=15					
RETA	**Reutte**	**153.58 342**	⇑*i*PKPab	**PKPab**	**22 12 10.6**	**-0.2**
	comp=Z,12nm,0.7s,SNR=9.0					
ABTA	**Abfaltersbach**	**153.71 339**	⇑*i*PKPbc	**PKPbc**	**22 11 54.4**	**-0.9**
	comp=Z,10nm,0.6s,SNR=6.5					
NPS	**Neapolis**	**153.83 304**	*e*P	**PKPab**	**22 12 12.3**	**0.0**
PTL	**Penteli**	**153.92 312**	*e*P	**PKPbc**	**22 11 55.1**	**-0.9**
THEF	**They Montfort**	**153.96 350**	PKP	**PKPbc**	**22 11 56.4**	**+0.7**
DAVA	**Damuels**	**154.01 343**	⇓*i*PKPab	**PKPab**	**22 12 12.4**	**-0.3**
	comp=Z,21nm,0.8s,SNR=14					
FNA	**Florina**	**154.04 319**	*e*P	**PKPbc**	**22 11 55.0**	**-1.2**
KZN	**Kozani**	**154.08 318**	*e*P	**PKPab**	**22 12 12.8**	**-0.4**
MOF	**Molkenrain**	**154.11 348**	PKP	**PKPbc**	**22 11 55.3**	**-0.9**
LKR	**Lokris**	**154.20 313**	*e*P	**PKPdf**	**22 11 48.7**	**+1.0**
THL	**Klokotos Trika**	**154.36 316**	*e*P	**PKPbc**	**22 11 55.4**	**-1.4**
AGG	**Agios Georgios**	**154.45 315**	*e*P	**PKPbc**	**22 11 55.5**	**-1.6**
DAVOX	**Davos/Dischmat**	**154.47 343**	PKP	**PKPdf**	**22 11 47.3**	**-0.8**
DAVOX			PKPbc	**PKPbc**	**22 11 57.5**	**+0.4**
DAVOX			PKPab	**PKPab**	**22 12 15.0**	**+0.2**
DAVOX	**Davos/Dischmat**	**154.47 343**	PKP	**PKPdf**	**22 11 47.3**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=358,slow=15,SNR=6.0					
DAVOX			PKPbc	**PKPbc**	**22 11 57.4**	**+0.4**
	comp=Z,7.9nm,0.7s,baz=73,slow=3.1,SNR=15					
DAVOX			PKPab	**PKPab**	**22 12 15.0**	**+0.2**
	comp=Z,18nm,0.7s,baz=23,slow=2.6,SNR=19					
DID	**Didima**	**154.61 311**	*e*P	**PKPbc**	**22 11 55.3**	**-2.2**
LOMF	**Lomont**	**154.65 348**	PKP	**PKPbc**	**22 11 57.9**	**+0.6**
VAM	**Vamos**	**154.84 306**	*e*P	**PKPab**	**22 12 16.8**	**+0.2**
EVR	**Evrytania**	**154.85 315**	*e*P	**PKPbc**	**22 11 57.1**	**-0.9**
TUE	**Stuetta**	**154.90 343**	*e*PKPdf	**PKPdf**	**22 11 47.9**	**-0.8**
TRIZ	**Trizonia**	**154.97 314**	*e*P	**PKPbc**	**22 11 58.1**	**0.0**
GUR	**Goura**	**155.01 313**	*e*P	PKPdf	22 11 57.4	+8.4
JAN	**Janina**	**155.04 318**	*e*P	PKPdf	22 11 58.1	+9.2
EFP	**Efpalio**	**155.05 314**	*e*P	**PKPdf**	**22 11 53.7**	**+4.8**
KLV	**Kalavryta, Ach**	**155.09 313**	*e*P	PKPdf	22 11 57.4	+8.4
LAKA	**Lakka**	**155.10 314**	*e*P	PKPdf	22 11 58.4	+9.4
RLS	**Riolos of Patr**	**155.54 314**	*e*P	**PKPab**	**22 12 20.0**	**+0.5**
DYR	**Agios Nikonas**	**155.60 310**	*e*P	PKPdf	22 11 58.7	+9.0
AMT	**Artemida-Makis**	**155.65 312**	*e*P	PKPab	22 12 13.6	-6.4
LKD2	**Lefkada island**	**155.66 316**	*e*P	**PKPab**	**22 12 19.7**	**-0.3**
ITM	**Ithomi**	**155.68 312**	*e*P	PKPdf	22 11 58.7	+8.9
PYL	**PYLOS**	**155.95 311**	*e*P	PKPdf	22 11 58.9	+8.8
VLS	**Valsamata**	**156.05 315**	*e*P	**PKPab**	**22 12 21.3**	**-0.4**
AGO	**Saint Agoulin**	**156.48 353**	PKP	**PKPab**	**22 12 22.9**	**-0.3**
PYM	**Petit Puy Mans**	**156.79 353**	PKP	**PKPab**	**22 12 24.1**	**-0.6**
SSB	**Saint Sauveur**	**157.06 350**	PKIKP	**PKPdf**	**22 11 48.4**	**-2.9**
SSB	**Saint Sauveur**	**157.06 350**	PKPdf	**PKPdf**	**22 11 48.4**	**-2.9**
SSB			*e*PKPab	**PKPab**	**22 12 25.6**	**-0.1**
LBL	**Lubilhac**	**157.28 353**	PKP	**PKPab**	**22 12 26.4**	**-0.4**
SAOF	**Saorge**	**157.68 344**	PKP	**PKPab**	**22 12 27.9**	**-0.6**
REVF	**Revere**	**157.96 344**	PKP	**PKPab**	**22 12 30.6**	**+0.9**
ESDC	**Sonseca Array**	**162.86 8**	PKP	**PKPdf**	**22 11 58.3**	**+0.4**
ESDC			PKPab	**PKPab**	**22 12 50.8**	**-0.5**
ESDC	**Sonseca Array**	**162.86 8**	PKP	**PKPdf**	**22 11 58.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=21,slow=1.4,SNR=4.4					
ESDC			PKPab	**PKPab**	**22 12 50.8**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=346,slow=4.3,SNR=18					
LIC	**Lamto**	**163.12 165**	*e*PKP2	**PKPab**	**22 12 53.7**	**+0.8**
	comp=Z,61nm,0.6s					
KIC	**Kosan Boka**	**163.32 166**	*e*PKP2	**PKPab**	**22 12 54.6**	**+0.8**
	comp=Z,57nm,0.9s					
TIC	**Toumodi**	**163.53 165**	*e*PKP2	**PKPab**	**22 12 55.4**	**+0.6**
	comp=Z,141nm,1.7s					
DBIC	**Dimbokro**	**163.59 166**	PKP	**PKPdf**	**22 11 58.9**	**-0.3**
DBIC			PKPab	**PKPab**	**22 12 55.4**	**+0.4**
DBIC	**Dimbokro**	**163.59 166**	PKP	**PKPdf**	**22 11 58.9**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=123,slow=0.8,SNR=12					
DBIC			PKPab	**PKPab**	**22 12 55.4**	**+0.4**
	comp=Z,12nm,0.8s,baz=175,slow=4.6,SNR=7.1					
KEST	**Kesra**	**164.30 328**	PKP	**PKPdf**	**22 11 58.9**	**-0.5**
KEST			PKPab	**PKPab**	**22 12 58.2**	**+0.3**
KEST	**Kesra**	**164.30 328**	PKP	**PKPdf**	**22 11 58.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=159,slow=4.5,SNR=3.9					
KEST			PKPab	**PKPab**	**22 12 58.2**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=345,slow=5.1,SNR=5.6					
TORD	**Torodi Ar. Bea**	**170.22 194**	PKP	**PKPdf**	**22 12 02.6**	**-1.4**
TORD			PKPab	**PKPab**	**22 13 23.9**	**-0.3**
TORD			PP	**PP**	**22 17 15.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**170.22 194**	PKP	**PKPdf**	**22 12 02.6**	**-1.4**
	comp=Z,3.0nm,0.8s,baz=18,slow=0.2,SNR=14					
TORD			PKPab	**PKPab**	**22 13 23.9**	**-0.3**
	comp=Z,13nm,0.8s,baz=171,slow=2.3,SNR=38					
TORD			PP	**PP**	**22 17 15.2**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=155,slow=5.6,SNR=8.4					
TAM	**Tamanrasset**	**174.19 272**	*e*PKIKP	**PKPdf**	**22 12 06.0**	**+0.2**
TAM	**Tamanrasset**	**174.19 272**	*e*PKPdf	**PKPdf**	**22 12 06.0**	**+0.2**

ISCJB ***08*** *22:32:00.9±1.4, 1°.5N±0°.1×122°.18E±0°.06, h33km, mb3.1/3, MS3.6/1, Error ellipse: s-maj=16.7km s-min=8.6km az=2.6*
DJA ***08*** *22:32:00.7±0.7, 1°N±4°×12°2E±°, h10km, M4.2/6, mb4.2/1, mB5.1/1, MLv4.2/6, Mw(mB)4.4/1*
IDC ***08*** *22:32:05.5±1.7, 0°.76N×122°.93E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/15, Error ellipse: s-maj=140.4km s-min=25.3km az=65.0*

ISC 08 22:32:01.0±1.9, 1°.6N±0°.1×122°.16E±0°.07, h35km, n11, σ2s14/12, mb3.1/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.15**	**191**	P	**Pn**	**22 32 19.9**	**-0.8**
MRSI				S	**Sn**	**22 32 32.7**	**-2.5**
GTOI	**Gorontalo**	**1.29**	**139**	P	**Pn**	**22 32 20.3**	**-2.3**
GTOI				S	Sn	22 32 30.6	-8.1
TOLI	**Toli-Toli**	**1.45**	**250**	P	**Pn**	**22 32 25.5**	**+0.8**
TOLI				S	**Sn**	**22 32 42.6**	**0.0**
KMSI	**Cibinong**	**2.10**	**120**	P	**Pn**	**22 32 35.4**	**+1.8**
LUWI	**Luwuk**	**2.71**	**167**	P	**Pn**	**22 32 44.3**	**+2.2**
LUWI				S	**Sn**	**22 33 17.5**	**+3.8**
TTSI	**Tana Toraja**	**5.19**	**207**	P	**Pn**	**22 33 17.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.89**	**170**	P	**P**	**22 36 28.0**	**-1.6**
	0.2nm,0.3s,baz=9.5,slow=12,SNR=6.0						
PSI	**Prapat**	**23.25**	**273**	LR	LR	22 46 48.7	
	comp=Z,182nm,18.4s,baz=356,slow=37						
WRA	**Warramunga Arr**	**24.53**	**151**	P	**P**	**22 37 16.6**	**-0.9**
	0.5nm,0.9s,baz=328,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**27.61**	**156**	P	**P**	**22 37 44.7**	**-0.6**
	0.2nm,0.9s,baz=345,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**56.80**	**328**	P	P	22 41 59.6	+18
	0.7nm,0.9s,baz=127,slow=7.7,SNR=4.3						

ISCJB ***08*** *22:43:46.0±0.6, 6°.16S±0°.04×128°.83E±0°.07, h264km, mb3.2/1, Error ellipse: s-maj=10.1km s-min=5.0km az=22.5*
IDC ***08*** *22:43:46.1±5.8, 6°.17S×128°.73E, h250km×62km, mb2.9/1, mb1 3.3/5, mb1mx3.0/21, mbtmp3.1/5, Error ellipse: s-maj=57.4km s-min=21.0km az=51.0*
AUST ***08*** *22:43:47.1±0.0, 6°.21S×128°.91E, h252km, Error ellipse: s-maj=2.2km s-min=1.1km az=306.0*

ISC 08 22:43:46.2±0.8, 6°.21S±0°.06×128°.84E±0°.07, h264km, n13, σ1s48/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.71**	**46**	P	**Pn**	**22 44 59.6**	**+0.5**
	baz=4.7,SNR=28						
FAKI				S	**S**	**22 45 54.8**	**-2.5**
	baz=4.7,SNR=10						
SOEI	**Soe**	**5.74**	**232**	P	**Pn**	**22 45 13.0**	**+1.4**
	baz=5.8,SNR=12						
SWI	**Sorong**	**5.83**	**25**	P	**Pn**	**22 45 14.5**	**+1.9**
	baz=5.8,SNR=3.5						
SWI				S	**S**	**22 46 20.1**	**-1.9**
	baz=5.8,SNR=4.1						
BATI	**Baumata**	**6.48**	**232**	P	**Pn**	**22 45 21.1**	**+0.4**
	11nm,0.3s,baz=76,slow=2.6,SNR=10						
BATI				S	**S**	**22 46 34.3**	**-2.2**
	1.3nm,0.3s,baz=221,slow=20,SNR=3.1						
MTN	**Manton Dam**	**6.97**	**161**	S	**S**	**22 46 46.5**	**-1.2**
	baz=7.0,SNR=6.0						
KDU	**Kakadu**	**7.37**	**151**	P	**Pn**	**22 45 33.0**	**+1.3**
	baz=7.4,SNR=9.6						
WSI	**Waingapu**	**9.13**	**247**	S	S	22 47 54.4	+17
	baz=9.2,SNR=3.9						
KNRA	**Kununurra**	**9.41**	**180**	P	**Pn**	**22 45 57.9**	**+0.6**
	baz=9.5,SNR=5.8						
KNRA				S	**S**	**22 47 43.8**	**+0.1**
	baz=9.5,SNR=5.0						
FITZ	**Fitzroy Crossi**	**12.23**	**195**	P	**P**	**22 46 34.1**	**-0.5**
	0.5nm,0.3s,baz=30,slow=10,SNR=19						
FITZ				S	**S**	**22 48 46.5**	**-2.1**
	0.1nm,0.3s,baz=108,slow=20,SNR=2.8						
FITZ	**Fitzroy Crossi**	**12.23**	**195**	P	**P**	**22 46 36.2**	**+1.6**
	baz=12,SNR=9.7						
WRA	**Warramunga Arr**	**14.66**	**159**	P	**P**	**22 47 01.9**	**+0.2**
	0.1nm,0.3s,baz=335,slow=12,SNR=12						
WRA				S	**S**	**22 49 43.9**	**+0.3**
	0.1nm,0.3s,baz=338,slow=21,SNR=4.7						
ASAR	**Alice Springs**	**18.03**	**165**	P	**Pn**	**22 47 40.5**	**-1.1**
	0.5nm,0.3s,baz=346,slow=11,SNR=60						
MKAR	**Makanchi Array**	**66.94**	**327**	P	**P**	**22 54 10.8**	**+0.3**
	0.2nm,0.4s,baz=119,slow=8.4,SNR=5.1						

IDC ***08*** *22:52:34.5±0.9, 43°.31N×105°.18W, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.5/29, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=19.5km s-min=8.0km az=156.0*
NEIC ***08*** *22:52:35.6±1.1, 43°.49N×105°.19W, h0km, ML3.0, Error ellipse: s-maj=19.0km s-min=14.9km az=149.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] N of Douglas.
ISCJB ***08*** *22:52:36.7±0.2, 43°.69N±0°.01×105°.30W±0°.02, h0km, mb3.9/5, Error ellipse: s-maj=2.5km s-min=2.1km az=12.7*

ISC 08 22:52:36.6±0.6, 43°.68N±0°.02×105°.32W±0°.02, h0km, n124, σ0s71/151, mb4.0/5, 40C-32D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.30**	**340**	P	**Pb**	**22 52 44.1**	**-0.9**
	baz=0.5,SNR=66						
I23A				⇑S	**Sg**	**22 52 47.9**	**+1.6**
	baz=0.5						
I23A	**Meade Ranch, G**	**0.30**	**340**	P	**Pb**	**22 52 44.1**	**-0.9**
	baz=0.5,SNR=66						
I23A				⇑S	**Sg**	**22 52 47.9**	**+1.6**
	baz=0.5						
J23A	**Dilts Ranch, B**	**0.32**	**211**	P	**Pb**	**22 52 44.7**	**-0.6**
	baz=0.3,SNR=666						
J23A	**Dilts Ranch, B**	**0.32**	**211**	P	**Pb**	**22 52 44.7**	**-0.6**
	baz=0.3,SNR=666						
I24A	**Kuemmerle Ranc**	**0.54**	**70**	P	**Pb**	**22 52 48.1**	**-0.9**
	baz=0.5,SNR=204						
I24A	**Kuemmerle Ranc**	**0.54**	**70**	P	**Pb**	**22 52 48.1**	**-0.9**
	baz=0.5,SNR=204						
J24A	**Dixon Ranch, L**	**0.59**	**126**	P	**Pb**	**22 52 49.3**	**-0.7**
	baz=0.4,SNR=112						
J24A	**Dixon Ranch, L**	**0.59**	**126**	P	**Pb**	**22 52 49.3**	**-0.7**
	baz=0.4,SNR=112						
I22A	**9 Mile Ranch,**	**0.87**	**285**	P	**Pb**	**22 52 54.3**	**-0.3**
	baz=1.0,SNR=104						
I22A	**9 Mile Ranch,**	**0.87**	**285**	P	**Pb**	**22 52 54.3**	**-0.3**
	baz=1.0,SNR=104						
J22A	**Midwest**	**0.88**	**253**	P	**Pb**	**22 52 54.3**	**-0.5**
	baz=0.9,SNR=257						
J22A	**Midwest**	**0.88**	**253**	P	**Pb**	**22 52 54.3**	**-0.5**
	baz=0.9,SNR=257						
H23A	**Clabaugh Cattl**	**0.89**	**356**	P	**Pg**	**22 52 54.1**	**+0.6**
	baz=1.1,SNR=11						
H23A	**Clabaugh Cattl**	**0.89**	**356**	P	**Pg**	**22 52 54.1**	**+0.6**
	baz=1.1,SNR=11						
K23A	**Bowen Ranch, D**	**0.95**	**194**	⇑P	**Pb**	**22 52 55.7**	**-0.3**
	baz=0.8						
K23A				⇑S	**Sb**	**22 53 08.9**	**-0.2**
	baz=0.8						
K23A	**Bowen Ranch, D**	**0.95**	**194**	⇑P	**Pb**	**22 52 55.7**	**-0.3**
	baz=0.8						
K23A				⇑S	**Sb**	**22 53 08.9**	**-0.2**
	baz=0.8						
K24A	**Anderson Ranch**	**1.02**	**159**	⇓P	**Pb**	**22 52 57.2**	**-0.1**
	baz=0.8						
K24A	**Anderson Ranch**	**1.02**	**159**	⇓P	**Pb**	**22 52 57.2**	**-0.1**
	baz=0.8						
RSSD	**Black Hills**	**1.03**	**64**	*e*Pn	**Pg**	**22 52 56.6**	**+0.2**
J25A	**Sunshine Ranch**	**1.14**	**104**	P	**Pb**	**22 52 59.1**	**-0.1**
	baz=1.0,SNR=129						
J25A	**Sunshine Ranch**	**1.14**	**104**	P	**Pb**	**22 52 59.1**	**-0.1**
	baz=1.0,SNR=129						
H22A	**Clearmont**	**1.18**	**321**	⇓P	**Pb**	**22 52 59.9**	**0.0**
	baz=1.4,SNR=72						
H22A				⇑S	**Sn**	**22 53 16.8**	**-0.4**
	baz=1.4						
H22A	**Clearmont**	**1.18**	**321**	⇓P	**Pb**	**22 52 59.9**	**0.0**
	baz=1.4,SNR=72						
H22A				⇑S	**Sn**	**22 53 16.8**	**-0.4**
	baz=1.4						
I25A	**Rochford**	**1.20**	**73**	P	**Pb**	**22 52 59.9**	**-0.5**
	baz=1.2,SNR=82						
I25A	**Rochford**	**1.20**	**73**	P	**Pb**	**22 52 59.9**	**-0.5**
	baz=1.2,SNR=82						
H24A	**Dirks Ranch, A**	**1.20**	**27**	P	**Pg**	**22 52 59.5**	**-0.2**
	baz=1.3,SNR=123						
H24A	**Dirks Ranch, A**	**1.20**	**27**	P	**Pg**	**22 52 59.5**	**-0.2**
	baz=1.3,SNR=123						
K22A	**Casper**	**1.35**	**221**	Pb	**Pb**	**22 53 02.8**	**0.0**
	baz=1.3,SNR=124						
K22A				⇓Sn	**Sb**	**22 53 20.8**	**+0.1**
	baz=1.3						
K22A	**Casper**	**1.35**	**221**	Pb	**Pb**	**22 53 02.8**	**0.0**
	baz=1.3,SNR=124						
K22A				⇓Sn	**Sb**	**22 53 20.8**	**+0.1**
	baz=1.3						
I21A	**Big Trails, Te**	**1.43**	**276**	⇑Pn	**Pn**	**22 53 03.4**	**-0.6**
	baz=1.6,SNR=217						
I21A				⇓Sn	**Sg**	**22 53 22.7**	**+0.1**
	baz=1.6						
I21A	**Big Trails, Te**	**1.43**	**276**	⇑Pn	**Pn**	**22 53 03.4**	**-0.6**
	baz=1.6,SNR=217						
I21A				⇓Sn	**Sg**	**22 53 22.7**	**+0.1**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.51**	**135**	Pb	**Pg**	**22 53 06.3**	**+0.9**
	baz=1.3,SNR=50						
K25A	**Mack Ranch, Ha**	**1.51**	**135**	Pb	**Pg**	**22 53 06.3**	**+0.9**
	baz=1.3,SNR=50						
G23A	**Biddle**	**1.52**	**358**	Pb	**Pn**	**22 53 05.5**	**+0.3**
	baz=1.7,SNR=52						
G23A				⇑Sb	**Sg**	**22 53 26.1**	**+0.5**
	baz=1.7						
G23A	**Biddle**	**1.52**	**358**	Pb	**Pn**	**22 53 05.5**	**+0.3**
	baz=1.7,SNR=52						
G23A				⇑Sb	**Sg**	**22 53 26.1**	**+0.5**
	baz=1.7						
H21A	**Big Horn, Sher**	**1.56**	**308**	Pb	**Pg**	**22 53 06.6**	**+0.1**
	baz=1.8,SNR=52						
H21A				⇓Sb	**Sg**	**22 53 27.5**	**+0.8**
	baz=1.8						
H21A	**Big Horn, Sher**	**1.56**	**308**	Pb	**Pg**	**22 53 06.6**	**+0.1**
	baz=1.8,SNR=52						
H21A				⇓Sb	**Sg**	**22 53 27.5**	**+0.8**
	baz=1.8						
H25A	**Fruitdale**	**1.56**	**52**	⇑Pb	**Pb**	**22 53 06.3**	**-0.1**
	baz=1.6,SNR=37						
H25A	**Fruitdale**	**1.56**	**52**	⇑Pb	**Pb**	**22 53 06.3**	**-0.1**
	baz=1.6,SNR=37						
J21A	**Lysite**	**1.58**	**259**	Pb	**Pn**	**22 53 06.3**	**+0.3**
	baz=1.6,SNR=82						
J21A	**Lysite**	**1.58**	**259**	Pb	**Pn**	**22 53 06.3**	**+0.3**
	baz=1.6,SNR=82						
L23A	**Garrett**	**1.59**	**190**	Pb	**Pg**	**22 53 06.9**	**-0.1**
	baz=1.4,SNR=262						
L23A	**Garrett**	**1.59**	**190**	Pb	**Pg**	**22 53 06.9**	**-0.1**
	baz=1.4,SNR=262						
L24A	**Wheatland**	**1.66**	**170**	Pb	**Pg**	**22 53 08.3**	**-0.1**
	baz=1.5,SNR=32						
L24A	**Wheatland**	**1.66**	**170**	Pb	**Pg**	**22 53 08.3**	**-0.1**
	baz=1.5,SNR=32						
J26A	**Sides Ranch, S**	**1.68**	**102**	⇓Pb	**Pg**	**22 53 08.5**	**-0.3**
	baz=1.5,SNR=34						
J26A	**Sides Ranch, S**	**1.68**	**102**	⇓Pb	**Pg**	**22 53 08.5**	**-0.3**
	baz=1.5,SNR=34						
G22A	**Birney**	**1.69**	**336**	⇓Pb	**Pb**	**22 53 08.6**	**0.0**
	baz=1.9,SNR=57						
G22A	**Birney**	**1.69**	**336**	⇓Pb	**Pb**	**22 53 08.6**	**0.0**
	baz=1.9,SNR=57						
K21A	**Alcova**	**1.75**	**234**	Pb	**Pb**	**22 53 09.9**	**+0.1**
	baz=1.7,SNR=474						
K21A				⇑Sb	**Sg**	**22 53 33.3**	**+0.4**
	baz=1.7						
K21A	**Alcova**	**1.75**	**234**	Pb	**Pb**	**22 53 09.9**	**+0.1**
	baz=1.7,SNR=474						
K21A				⇑Sb	**Sg**	**22 53 33.3**	**+0.4**
	baz=1.7						
G24A	**Alzada**	**1.77**	**21**	⇑Pb	**Pb**	**22 53 09.8**	**-0.2**
	baz=1.9						
G24A	**Alzada**	**1.77**	**21**	⇑Pb	**Pb**	**22 53 09.8**	**-0.2**
	baz=1.9						
I26A	**New Underwood**	**1.82**	**78**	⇓Pb	**Pb**	**22 53 10.8**	**0.0**
	baz=1.8,SNR=24						
I26A	**New Underwood**	**1.82**	**78**	⇓Pb	**Pb**	**22 53 10.8**	**0.0**
	baz=1.8,SNR=24						
L25A	**Engebretsen Ra**	**1.82**	**146**	⇑Pb	**Pg**	**22 53 11.5**	**0.0**
	baz=1.6						
L25A	**Engebretsen Ra**	**1.82**	**146**	⇑Pb	**Pg**	**22 53 11.5**	**0.0**
	baz=1.6						
L22A	**Ellis Ranch, M**	**1.84**	**207**	Pb	**Pb**	**22 53 11.1**	**-0.1**
	baz=1.7,SNR=126						
L22A				⇑Sb	**Sg**	**22 53 35.9**	**+0.3**
	baz=1.7						
L22A	**Ellis Ranch, M**	**1.84**	**207**	Pb	**Pb**	**22 53 11.1**	**-0.1**
	baz=1.7,SNR=126						
L22A				⇑Sb	**Sg**	**22 53 35.9**	**+0.3**
	baz=1.7						
K26A	**Motz Farm, Whi**	**1.85**	**121**	⇓Pb	**Pb**	**22 53 11.4**	**+0.1**
	baz=1.7,SNR=18						
K26A	**Motz Farm, Whi**	**1.85**	**121**	⇓Pb	**Pb**	**22 53 11.4**	**+0.1**
	baz=1.7,SNR=18						
J20A	**Shoshoni**	**2.03**	**262**	⇓Pb	**Pg**	**22 53 15.3**	**-0.2**
	baz=2.1,SNR=10						
J20A	**Shoshoni**	**2.03**	**262**	⇓Pb	**Pg**	**22 53 15.3**	**-0.2**
	baz=2.1,SNR=10						
G25A	**Newell**	**2.04**	**41**	⇑Pb	**Pb**	**22 53 14.1**	**-0.5**
	baz=2.1,SNR=26						
G25A	**Newell**	**2.04**	**41**	⇑Pb	**Pb**	**22 53 14.1**	**-0.5**
	baz=2.1,SNR=26						
F23A	**Volborg**	**2.04**	**358**	⇓Pb	**Pn**	**22 53 13.3**	**+1.0**
	baz=2.2,SNR=18						
F23A				⇓Sb	**Sb**	**22 53 41.3**	**+0.6**
	baz=2.2						
F23A	**Volborg**	**2.04**	**358**	⇓Pb	**Pn**	**22 53 13.3**	**+1.0**
	baz=2.2,SNR=18						
F23A				⇓Sb	**Sb**	**22 53 41.3**	**+0.6**
	baz=2.2						
I20A	**Worland**	**2.05**	**279**	Pb	**Pb**	**22 53 14.2**	**-0.5**
	baz=2.2,SNR=180						
I20A				⇓Sb	**Sb**	**22 53 41.5**	**+0.8**
	baz=2.2						
I20A	**Worland**	**2.05**	**279**	Pb	**Pb**	**22 53 14.2**	**-0.5**
	baz=2.2,SNR=180						
I20A				⇓Sb	**Sb**	**22 53 41.5**	**+0.8**
	ba

ULM			Lg	Lg	22 57 24.0		
	0.3nm,0.3s,baz=133,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**14.38 174**	Pn	Pn	22 55 55.3	-6.1	
TXAR	**Lajitas Array**	**14.38 174**	Pn	Pn	22 55 55.3	-6.1	
	0.1nm,0.3s,baz=353,slow=14,SNR=3.7						
ARCES	**ARCESS Array B**	**61.49 18**	P	**P**	**23 02 54.2**	**-0.3**	
ARCES	**ARCESS Array B**	**61.49 18**	P	**P**	**23 02 54.2**	**-0.3**	
	0.9nm,0.6s,baz=328,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**68.10 23**	P	**P**	**23 03 37.1**	**-0.7**	
FINES	**FINESS Array B**	**68.10 23**	P	**P**	**23 03 37.1**	**-0.7**	
	0.4nm,0.6s,baz=347,slow=5.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**82.36 354**	P	**P**	**23 04 59.1**	**-0.9**	
ZALV	**Zalesovo Beam**	**82.36 354**	P	**P**	**23 04 59.1**	**-0.9**	
	0.5nm,0.4s,baz=358,slow=4.5,SNR=3.6						
BRTR	**Keskin Array B**	**89.08 30**	P	**P**	**23 05 33.4**	**-0.5**	
BRTR	**Keskin Array B**	**89.08 30**	P	**P**	**23 05 33.4**	**-0.5**	
	1.0nm,0.9s,baz=0.0,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**89.66 355**	P	**P**	**23 05 36.3**	**+0.1**	
MKAR	**Makanchi Array**	**89.66 355**	P	**P**	**23 05 36.3**	**+0.1**	
	0.2nm,0.6s,baz=340,slow=3.8,SNR=2.3						

*ISCJB **08** 23:01:15.4±0.7, 25°.08N±0°.06×122°.67E±0°.04, h191km±5km, mb3.3/3, Error ellipse: s-maj=10.2km s-min=5.3km az=177.3*
*TAP **08** 23:01:15.1, 25°.23N×122°.71E, h193km±1km, ML3.9, C*
*JMA **08** 23:01:16.9±0.4, 25°.42N×122°.73E, h166km, M3.1*
*IDC **08** 23:01:18.3±8.2, 25°.15N×122°.29E, h222km±88km, mb2.9/3, mb1 3.0/4, mb1mx2.7/27, mbtmp2.9/4, Error ellipse: s-maj=82.7km s-min=20.2km az=67.0*

ISC 08 23:01:14.9±0.8, 25°.15N±0°.08×122°.65E±0°.04, h196km±7km, n27, σ0°.73/47, mb3.2/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.76**	**154**	P	**Pn**	**23 01 43.2**	**+0.3**
NWF	**Wu-fen Shan**	**0.79**	**264**	P	**Pn**	**23 01 43.4**	**+0.3**
	baz=258						
NWF				*e*S	**Sn**	**23 02 04.6**	**-0.2**
	baz=258						
TWC	**Suao**	**0.90**	**234**	*e*P	**Pn**	**23 01 44.0**	**+0.3**
	baz=225						
TWC				*e*S	**Sn**	**23 02 05.2**	**-0.7**
	baz=225						
TWY	**Chenhua**	**0.95**	**278**	P	**Pn**	**23 01 44.5**	**+0.6**
	baz=274						
TWY				*e*S	**Sn**	**23 02 05.3**	**-1.1**
	baz=274						
TWA	**Mucha**	**0.98**	**260**	*e*P	**Pn**	**23 01 44.7**	**+0.6**
	baz=248						
TWA				*e*S	**Sn**	**23 02 06.6**	**-0.1**
	baz=248						
TWE	**Neicheng**	**0.98**	**245**	*e*P	**Pn**	**23 01 44.5**	**+0.3**
	baz=241						
TWE				*e*S	**Sn**	**23 02 07.0**	**+0.3**
	baz=241						
ENA	**Nanau**	**1.09**	**229**	P	**Pn**	**23 01 45.7**	**+0.7**
	baz=223						
ENA				*e*S	**Sn**	**23 02 08.1**	**-0.1**
	baz=223						
ENTT	**Nioudou**	**1.10**	**243**	P	**Pn**	**23 01 45.5**	**+0.5**
	baz=238						
ENTT				*e*S	**Sn**	**23 02 08.5**	**+0.1**
	baz=238						
TWS1	**Kuangyinshan**	**1.11**	**268**	P	**Pn**	**23 01 45.4**	**+0.3**
	baz=263						
TWS1				*e*S	**Sn**	**23 02 09.5**	**+1.1**
	baz=263						
NSK	**Sanguang**	**1.26**	**248**	*e*P	**Pn**	**23 01 46.5**	**+0.1**
	baz=238						
NSK				*e*S	**Sn**	**23 02 09.7**	**-1.0**
	baz=238						
IRIF	**Iriomote-Funau**	**1.28**	**129**	P	**Pn**	**23 01 46.8**	**+0.4**
IRIF				*e*S	**Sn**	**23 02 10.2**	**-0.5**
NNS	**Nan Shan**	**1.35**	**239**	P	**Pn**	**23 01 48.0**	**+0.8**
	baz=240						
NNS				*e*S	**Sn**	**23 02 11.9**	**-0.3**
	baz=240						
TWD	**Chiawan**	**1.43**	**222**	*i* P	**Pn**	**23 01 48.2**	**+0.5**
	baz=221						
TWD				S	**Sn**	**23 02 12.6**	**-0.5**
	baz=221						
JKRS	**Kuro-shima**	**1.54**	**126**	P	**Pn**	**23 01 49.7**	**+1.0**
JKRS				*e*S	**Sn**	**23 02 14.2**	**-0.6**
JIJ	**Ishigaki jima**	**1.57**	**120**	P	**Pn**	**23 01 49.4**	**+0.4**
JIJ				S	**Sn**	**23 02 13.9**	**-1.4**
NSTT	**Nanjuang**	**1.58**	**251**	*e*P	**Pn**	**23 01 49.1**	**0.0**
	baz=243						
NSTT				*e*S	**Sn**	**23 02 14.7**	**-0.8**
	baz=243						
WHF	**Hehuan Shan**	**1.60**	**232**	*e*P	**Pn**	**23 01 50.8**	**+1.0**
	baz=231						
WHF				*e*S	**Sn**	**23 02 15.5**	**-1.2**
	baz=231						
ESL	**Shilin**	**1.73**	**220**	*e*P	**Pn**	**23 01 50.8**	**+0.3**
	baz=220						
ESL				*e*S	**Sn**	**23 02 16.8**	**-1.3**
	baz=220						
JTJ	**Tarama**	**1.94**	**105**	*e*S	**Sn**	**23 02 20.9**	**-0.7**
SMLT	**Sun Moon Lake**	**2.03**	**232**	*e*P	**Pn**	**23 01 54.1**	**+0.5**
	baz=231						
SMLT				*e*S	**Sn**	**23 02 23.5**	**-0.2**
	baz=231						
EHY	**Hungye**	**2.03**	**217**	*e*P	**Pn**	**23 01 52.3**	**-1.3**
	baz=217						
EHY				*e*S	**Sn**	**23 02 23.3**	**-0.3**
	baz=217						
TWF1	**Yuli**	**2.17**	**215**	*e*P	**Pn**	**23 01 55.7**	**+0.7**
	baz=215						
TWF1				*e*S	**Sn**	**23 02 25.8**	**-0.4**
	baz=215						
JMJ	**Miyako jima 2**	**2.43**	**97**	*e*S	**Sn**	**23 02 30.2**	**-0.9**
KSRS	**Korea Array**	**13.07**	**19**	P	**P**	**23 04 16.8**	**+0.3**
	0.2nm,0.3s,baz=202,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**38.59**	**315**	P	**P**	**23 08 17.8**	**-1.1**
	0.2nm,0.3s,baz=102,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**46.24**	**165**	P	**P**	**23 09 22.1**	**+1.4**
	0.4nm,0.9s,baz=346,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**71.29**	**330**	P	**P**	**23 12 12.3**	**-0.4**
	0.3nm,0.3s,baz=54,slow=5.0,SNR=10						

IDC 08 23:42:57.7±2.7, 15°.48S×176°.58W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.7/4, MS3.6/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=177.2km s-min=30.2km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.37**	**193**	LR	LR	23 55 49.4	
	comp=Z,168nm,21.4s,baz=34,slow=33						
HNR	**Honiara**	**23.69**	**282**	LR	LR	23 55 31.1	
	comp=Z,77nm,20.6s,baz=315,slow=32						
ASAR	**Alice Springs**	**47.17**	**252**	P	P	23 51 32.1	-0.3
	1.3nm,0.7s,baz=87,slow=8.0,SNR=12						
VNDA	**Vanda**	**63.00**	**185**	LR	LR	00 16 14.9	
	comp=Z,68nm,20.4s,baz=246,slow=32						
MJAR	**Matsushiro Arr**	**67.06**	**322**	LR	LR	00 20 28.7	
	comp=Z,93nm,18.7s,baz=210,slow=34						
NVAR	**Mina Array Bea**	**76.46**	**43**	P	P	23 54 49.4	-0.4
	0.5nm,0.6s,baz=239,slow=8.1,SNR=3.7						
ILAR	**Eielson Array**	**83.15**	**12**	P	P	23 55 24.9	-0.2
	0.4nm,0.7s,baz=210,slow=5.0,SNR=4.1						
ILAR				LR	LR	00 25 47.6	
	comp=Z,28nm,20.3s,baz=273,slow=31						
PDAR	**Pinedale Array**	**84.39**	**43**	P	P	23 55 32.6	+0.2
	0.2nm,0.5s,baz=177,slow=3.6,SNR=2.6						
BRTR	**Keskin Array B**	**144.23**	**318**	PKP	PKPdf	00 02 37.0	+0.9
	1.6nm,1.1s,baz=348,slow=5.4,SNR=5.0						

*CSEM **08** 23:58:42.9, 37°.31N×24°.49W, h10km, ML2.5, After PDA*

PDA 08 23:58:42.9±0.9, 37°.31N×24°.49W, h10km, MD4.0, ML2.5, Error ellipse: s-maj=9.3km s-min=4.2km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.55**	**236**	*e*P	Pg	23 58 52.1	-1.5
PSMN				*e*S	Sg	23 58 58.5	-2.4
PSMN				A	A	23 59 00.8	
	35nm,0.2s						
PSMN	**Pico do Norte,**	**0.55**	**236**	*e*P	Pg	23 58 52.1	-1.5
PSMN				*e*S	Sg	23 58 58.5	-2.4
BART	**Pico Bartolome**	**0.71**	**311**	*e*P	Pg	23 58 54.3	-2.5
BART				*e*S	Sg	23 59 02.7	-3.5
BART				A	A	23 59 03.1	
	135nm,0.2s						
BART				*e*T	T	23 59 31.8	
BART	**Pico Bartolome**	**0.71**	**311**	*e*P	Pg	23 58 54.3	-2.5
BART				*e*S	Sg	23 59 02.7	-3.5
PSET	**Sete Cidades**	**1.10**	**298**	*e*P	Pb	23 58 59.6	-4.5
PSET				*e*S	Sg	23 59 12.3	-6.2
PSET				A	A	23 59 16.4	
	35nm,0.2s						
PSET	**Sete Cidades**	**1.10**	**298**	*e*P	Pb	23 58 59.6	-4.5
PSET				*e*S	Sg	23 59 12.3	-6.2
ROSA	**Rosais**	**3.28**	**297**	*e*P	Pn	23 59 30.0	-4.3
ROSA				*e*S	Sn	00 00 05.1	-8.3
ROSA				A	A	00 00 05.4	
	10nm,0.3s						
ROSA	**Rosais**	**3.28**	**297**	*e*P	Pn	23 59 30.0	-4.3
ROSA				*e*S	Sn	00 00 05.1	-8.3
PICO	**Pico**	**3.33**	**292**	*e*P	Pn	23 59 30.9	-4.2
PICO				*e*S	Sn	00 00 07.1	-7.7
PICO	**Pico**	**3.33**	**292**	*e*P	Pn	23 59 30.9	-4.2
PICO				*e*S	Sn	00 00 07.1	-7.7

NNC 09 00:02:13.1±8.2, 38°.69N×71°.93E, h0km, mb3.7, mpv3.5, 2C-2D, Error ellipse: s-maj=66.0km s-min=41.3km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.53**	**347**	P	Pn	00 03 22.4	-0.5
	14nm,0.7s,baz=166,slow=14,SNR=158						
KK31				⇓S	Sn	00 04 17.5	+1.1
	3.7nm,0.6s,baz=161,slow=24,SNR=7.0						
TKM2	**Tokmak 2**	**5.06**	**32**	⇑P	Pn	00 03 31.2	+0.8
	0.8nm,0.3s						
TKM2				⇓S	Sn	00 04 31.4	+1.6
	3.9nm,0.8s						
AB31	**Akbulak array**	**13.62**	**325**	⇑P	Pn	00 05 24.1	-3.3
	0.3nm,0.4s						

IDC 09 00:14:37.3±2.7, 53°.01N×87°.39E, h0km, mb3.7/1, mb1 3.3/3, mb1mx3.1/30, mbtmp3.3/3, ML3.0/2, 3D, Error ellipse: s-maj=32.0km s-min=16.0km az=88.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.80**	**303**	Pn	Pn	00 15 08.8	-0.7
	5.4nm,0.3s,baz=118,slow=13,SNR=78						
ZALV				Sn	Sn	00 15 32.2	-1.0
	6.3nm,0.3s,baz=123,slow=26,SNR=32						
KURBB	**Kurchatov Arra**	**5.99**	**250**	Pn	Pn	00 16 07.4	+0.3
	0.1nm,0.3s,baz=62,slow=14,SNR=3.5						
KURBB				Lg	Lg	00 17 47.4	
	0.1nm,0.3s,baz=66,slow=34,SNR=3.6						
MK31	**Makanchi Array**	**7.04**	**210**	⇓Pn	Pn	00 16 23.2	+1.7
	0.7nm,0.7s,baz=28,slow=14,SNR=9.9						
MK31				⇓Sn	Sn	00 17 42.1	-0.1
	1.1nm,0.7s,baz=28,slow=31,SNR=4.6						
MK31				⇓Lg	Lg	00 18 19.7	
	1.9nm,0.9s,baz=28,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**7.04**	**210**	Pn	Pn	00 16 22.1	+0.6
	0.3nm,0.3s,baz=30,slow=14,SNR=12						
MKAR				Sn	Sn	00 17 43.1	+1.0
	0.2nm,0.3s,baz=28,slow=26,SNR=6.7						
MKAR				Lg	Lg	00 18 21.1	
	0.1nm,0.3s,baz=25,slow=29,SNR=2.9						
BRTR	**Keskin Array B**	**38.48**	**272**	P	P	00 22 02.3	+1.3
	1.3nm,1.1s,baz=41,slow=9.5,SNR=3.5						

*TIR **09** 00:20:15.5±2.5, 41°.13N×19°.52E, h0km±8km, ML2.2*
*ATH **09** 00:20:17.3, 41°.26N×19°.49E, h31km±7km, MD3.5/6*
*ISCJB **09** 00:20:19.2±0.6, 41°.18N±0°.03×19°.53E±0°.05, h20km±5km, Error ellipse: s-maj=7.0km s-min=2.8km az=148.5*
*CSEM **09** 00:20:19.6±0.2, 41°.20N×19°.58E, h20km, ML2.2/11, Error ellipse: s-maj=7.5km s-min=3.4km az=59.0*
*PDG **09** 00:20:24.3±0.2, 41°.48N×19°.48E, h26km, ML2.2/11, Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*

ISC 09 00:20:18.4±1.2, 41°.20N±0°.02×19°.58E±0°.03, h10km±9km, n56, σ0°.78/93, 8C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.80**	**342**	⇓*i*Pg	**Pb**	**00 20 35.0**	**+0.5**
ULC				*e*Sg	**Sg**	**00 20 44.5**	**+0.2**
ULC	**Ulcinj**	**0.80**	**342**	⇓*i*Pg	**Pb**	**00 20 35.0**	**+0.5**
ULC				*e*Sg	**Sg**	**00 20 44.5**	**+0.2**
PHP	**Peshkopia**	**0.81**	**53**	*e*PG	**Pg**	**00 20 32.9**	**-1.0**
PHP				*i* SG	**Sn**	**00 20 48.4**	**+0.4**
PHP	**Peshkopia**	**0.81**	**53**	*e*Pg	**Pg**	**00 20 32.9**	**-1.0**
	SNR=9.0						
PHP				*i* Sg	**Sn**	**00 20 48.4**	**+0.4**
	SNR=9.0						
PUK	**Puka**	**0.87**	**15**	*e*PG	**Pg**	**00 20 35.7**	**+0.5**
PUK	**Puka**	**0.87**	**15**	*e*Pg	**Pg**	**00 20 35.7**	**+0.5**
	SNR=9.0						
DRME	**Dracevica, Mon**	**1.03**	**343**	⇑*i*Pg	**Pn**	**00 20 38.8**	**-0.1**
DRME				*e*Sg	**Sg**	**00 20 51.4**	**-0.1**
DRME	**Dracevica, Mon**	**1.03**	**343**	⇑*i*Pg	**Pn**	**00 20 38.8**	**-0.1**
DRME				*e*Sg	**Sg**	**00 20 51.4**	**-0.1**
KBN	**Korca**	**1.08**	**122**	*e*PG	**Pb**	**00 20 38.8**	**-0.4**
KBN				*i* SG	**Sn**	**00 20 55.5**	**+0.8**
KBN	**Korca**	**1.08**	**122**	*e*Pg	**Pb**	**00 20 38.8**	**-0.4**
	SNR=9.0						
KBN				*i* Sg	**Sn**	**00 20 55.5**	**+0.8**
	SNR=9.0						
BUM	**Brajici-Budva**	**1.21**	**335**	⇑*i*Pg	**Pn**	**00 20 41.6**	**+0.1**
BUM				*e*Sg	**Sb**	**00 20 57.2**	**-0.1**
BUM	**Brajici-Budva**	**1.21**	**335**	⇑*i*Pg	**Pn**	**00 20 41.6**	**+0.1**
BUM				*e*Sg	**Sb**	**00 20 57.2**	**-0.1**
BCI	**Bajram Curri**	**1.22**	**17**	*e*PN	**Pg**	**00 20 42.5**	**+0.7**
BCI				*i* SN	**Sn**	**00 21 02.6**	**+4.5**
BCI	**Bajram Curri**	**1.22**	**17**	*e*Pn	**Pg**	**00 20 42.5**	**+0.7**
PDG	**Podgorica**	**1.25**	**349**	⇓*i*Pg	**Pg**	**00 20 42.8**	**+0.4**
PDG				*e*Sg	**Sb**	**00 20 58.3**	**0.0**
TTG	**Podgorica**	**1.25**	**349**	⇓*i*Pg	**Pg**	**00 20 42.8**	**+0.4**
TTG				*e*Sg	**Sb**	**00 20 58.3**	**0.0**
BIA	**Bitola**	**1.33**	**97**	*i* Pg	**Pn**	**00 20 42.2**	**-0.9**
BIA				*e*Sg	**Sb**	**00 21 00.6**	**+0.1**
BIA	**Bitola**	**1.33**	**97**	*i* Pg	**Pn**	**00 20 42.1**	**-0.9**
BIA				*e*Sg	**Sb**	**00 21 00.6**	**+0.1**
SRN	**Sarande**	**1.36**	**166**	*e*PN	**Pb**	**00 20 43.6**	**-0.3**
SRN	**Sarande**	**1.36**	**166**	*e*Pn	**Pb**	**00 20 43.6**	**-0.3**
	SNR=4.0						
FNA	**Florina**	**1.42**	**106**	*e*PN	**Pn**	**00 20 44.0**	**-0.3**
FNA				*e*SN	**Sg**	**00 21 04.2**	**+0.2**
FNA	**Florina**	**1.42**	**106**	*e*Pn	**Pn**	**00 20 44.0**	**-0.3**
FNA				*e*Sn	**Sg**	**00 21 04.2**	**+0.2**
PVY	**Plav**	**1.42**	**11**	⇑*i*Pg	**Pg**	**00 20 46.1**	**+0.5**
PVY				*e*Sg	**Sn**	**00 21 03.1**	**-0.1**
PVY	**Plav**	**1.42**	**11**	⇑*i*Pg	**Pg**	**00 20 46.1**	**+0.5**
PVY				*e*Sg	**Sn**	**00 21 03.1**	**-0.1**
HCY	**Herceg Novi**	**1.49**	**327**	⇑*i*Pg	**Pb**	**00 20 46.0**	**-0.1**
HCY				*e*Sg	**Sn**	**00 21 04.4**	**-0.3**
HCY	**Herceg Novi**	**1.49**	**327**	⇑*i*Pg	**Pb**	**00 20 46.0**	**-0.1**
HCY				*e*Sg	**Sn**	**00 21 04.4**	**-0.3**
KEK	**Kerkira**	**1.50**	**174**	*e*PN	**Pn**	**00 20 44.9**	**-0.4**
KEK				*e*SN	**Sb**	**00 21 05.2**	**-0.1**
KEK	**Kerkira**	**1.50**	**174**	*e*Pn	**Pn**	**00 20 44.9**	**-0.4**
KEK				*e*Sn	**Sb**	**00 21 05.2**	**-0.1**
NKME	**Niksic**	**1.63**	**343**	⇓*i*Pg	**Pb**	**00 20 48.4**	**-0.2**
NKME				*e*Sg	**Sn**	**00 21 07.0**	**-1.4**
NKME	**Niksic**	**1.63**	**343**	⇓*i*Pg	**Pb**	**00 20 48.4**	**-0.2**
NKME				*e*Sg	**Sn**	**00 21 07.0**	**-1.4**
NKY	**Niksic**	**1.67**	**345**	⇓*i*Pg	**Pb**	**00 20 49.1**	**-0.2**
NKY				*e*Sg	**Sn**	**00 21 08.5**	**-0.9**
NKY	**Niksic**	**1.67**	**345**	⇓*i*Pg	**Pb**	**00 20 49.1**	**-0.2**
NKY				*e*Sg	**Sn**	**00 21 08.5**	**-0.9**
BEY	**Berane**	**1.69**	**8**	*e*Pg	**Pb**	**00 20 49.7**	**+0.2**
BEY				*e*Sg	**Sn**	**00 21 09.7**	**0.0**
IVA	**Berane**	**1.69**	**8**	*e*Pg	**Pb**	**00 20 49.7**	**+0.2**
IVA				*e*Sg	**Sn**	**00 21 09.7**	**0.0**
JAN	**Janina**	**1.82**	**147**	*e*PB	**Pn**	**00 20 50.0**	**+0.2**
JAN				*e*SN	**Sn**	**00 21 13.0**	**0.0**
JAN	**Janina**	**1.82**	**147**	*e*Pb	**Pn**	**00 20 50.0**	**+0.2**
JAN				*e*Sn	**Sn**	**00 21 13.0**	**0.0**
BRY	**Bratogost**	**1.87**	**336**	*e*Pn	**Pn**	**00 20 51.7**	**+1.1**
BRY				*e*Sn	**Sn**	**00 21 13.3**	**-1.0**
BRY	**Bratogost**	**1.87**	**336**	*e*Pn	**Pn**	**00 20 51.7**	**+1.1**
BRY				*e*Sn	**Sn**	**00 21 13.3**	**-1.0**
KZN	**Kozani**	**1.89**	**118**	*e*PN	**Pn**	**00 20 51.1**	**+0.3**
KZN				*e*SN	**Sn**	**00 21 15.5**	**+0.8**
KZN	**Kozani**	**1.89**	**118**	*e*Pn	**Pn**	**00 20 51.1**	**+0.3**
KZN				*e*Sn	**Sn**	**00 21 15.5**	**+0.8**
UPM	**Unac-Piva**	**2.06**	**346**	⇓*i*Pn	**Pn**	**00 20 54.6**	**+1.3**
UPM				*e*Sn	**Sn**	**00 21 17.8**	**-1.4**
UPM	**Unac-Piva**	**2.06**	**346**	⇓*i*Pn	**Pn**	**00 20 54.6**	**+1.3**
UPM				*e*Sn	**Sn**	**00 21 17.8**	**-1.4**
SJES	**Sjenica**	**2.08**	**8**	*e*Pn	**Pn**	**00 20 53.1**	**-0.3**
GRG	**Griva**	**2.14**	**96**	*e*PN	**Pn**	**00 20 54.1**	**-0.2**
GRG	**Griva**	**2.14**	**96**	*e*Pn	**Pn**	**00 20 54.1**	**-0.2**
STON	**Ston**	**2.18**	**321**	*e*Pn	**Pn**	**00 20 53.8**	**-0.9**
BARS	**Barje**	**2.32**	**45**	*e*Pn	**Pb**	**00 20 59.0**	**-1.3**
THL	**Klokotos Trika**	**2.47**	**131**	*e*PN	**Pn**	**00 20 59.3**	**+0.6**
THL	**Klokotos Trika**	**2.47**	**131**	*e*Pn	**Pn**	**00 20 59.3**	**+0.6**
EVR	**Evrytania**	**2.85**	**142**	*e*PN	**Pn**	**00 21 04.2**	**+0.2**
EVR	**Evrytania**	**2.85**	**142**	*e*Pn	**Pn**	**00 21 04.2**	**+0.2**
SOH	**Sokhos**	**2.88**	**96**	*e*PN	**Pn**	**00 21 04.2**	**-0.2**
SOH	**Sokhos**	**2.88**	**96**	*e*Pn	**Pn**	**00 21 04.2**	**-0.2**
DIVS	**Divibare**	**2.91**	**6**	*e*Pn	**Pn**	**00 21 03.9**	**-1.0**
AGG	**Agios Georgios**	**3.03**	**135**	*e*PN	**Pn**	**00 21 07.4**	**+1.0**
AGG	**Agios Georgios**	**3.03**	**135**	*e*Pn	**Pn**	**00 21 07.4**	**+1.0**

*IDC **09** 00:26:03.5±1.0, 56°.29N×162°.34E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/29, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=23.4km s-min=12.7km az=27.0*
*KRSC **09** 00:26:07.3±0.3, 56°.05N×162°.30E, h54km±54km, ML4.1*
*MOS **09** 00:26:07.7±1.4, 56°.14N×162°.36E, h55km, mb4.0/4, Error ellipse: s-maj=19.7km s-min=9.5km az=75.2*
*ISCJB **09** 00:26:08.3±0.4, 56°.06N±0°.03×162°.33E±0°.05, h62km±4km, mb3.7/7, Error ellipse: s-maj=5.4km s-min=4.4km az=156.5*

ISC 09 00:26:09.2±0.8, 56°.08N±0°.04×162°.31E±0°.03, h53km±7km, n45, σ1°.00/69, mb3.8/7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.28**	**51**	PN	**Pn**	**00 26 17.9**	**-0.5**
KBG				S	**Sn**	**00 26 26.0**	**+1.0**
KBG	**Krutoberegovo**	**0.28**	**51**	*e*P	**Pn**	**00 26 17.9**	**-0.5**
KBG				*i* S	**Sn**	**00 26 26.0**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**0.92**	**262**	*e*P	**Pn**	**00 26 25.0**	**-1.0**
BZGR				*i* S	**Sn**	**00 26 37.9**	**-0.4**
BZMR	**Bezymyannaya**	**1.03**	**263**	*e*P	**Pn**	**00 26 26.5**	**-1.1**
BZMR				*i* S	**Sn**	**00 26 40.8**	**-0.3**
KIRR	**Kirishev**	**1.11**	**264**	*e*P	**Pn**	**00 26 27.5**	**-1.2**
KIRR				*i* S	**Sn**	**00 26 42.7**	**-0.3**
KPT	**Kopyto**	**1.18**	**265**	*i* P	**Pn**	**00 26 28.7**	**-0.8**
KPT				*i* S	**Sn**	**00 26 44.8**	**+0.3**
KMNR	**Kamenistaya**	**1.21**	**255**	*e*P	**Pn**	**00 26 29.6**	**-0.3**
KMNR				*i* S	**Sn**	**00 26 45.8**	**+0.4**
KOZR	**Kozyr**	**1.35**	**270**	PN	**Pn**	**00 26 32.0**	**+0.2**
KOZR				S	**Sn**	**00 26 50.2**	**+1.5**
KOZ	**Kozyrevsk**	**1.37**	**270**	*i* P	**Pn**	**00 26 32.0**	**0.0**
KOZ				*i* S	**Sn**	**00 26 50.2**	**+1.2**
TUMR	**Tumrok**	**1.46**	**238**	*e*P	**Pn**	**00 26 33.6**	**+0.2**
TUMR				*i* S	**Sn**	**00 26 52.0**	**+0.5**
SRDR	**Sredinnyy**	**1.47**	**280**	*i* P	**Pn**	**00 26 33.1**	**-0.3**
SRDR				*i* S	**Sn**	**00 26 52.4**	**+0.9**
MKZ	**Mys Kozlova**	**1.56**	**193**	PN	**Pn**	**00 26 34.1**	**-0.5**
MKZ				S	**Sn**	**00 26 54.2**	**+0.6**
MKZ	**Mys Kozlova**	**1.56**	**193**	*e*P	**Pn**	**00 26 34.1**	**-0.5**
MKZ				*i* S	**Sn**	**00 26 54.2**	**+0.6**
BKI	**Bering**	**2.25**	**111**	PN	**Pn**	**00 26 44.0**	**0.0**
BKI				S	**Sn**	**00 27 11.2**	**+0.7**
BKI	**Bering**	**2.25**	**111**	*e*P	**Pn**	**00 26 44.0**	**0.0**
BKI				*i* S	**Sn**	**00 27 11.2**	**+0.7**
SPN	**Mys Shipunski**	**3.27**	**205**	PN	**Pn**	**00 26 57.2**	**-0.7**
SPN				S	**Sn**	**00 27 33.9**	**-1.7**
SPN	**Mys Shipunski**	**3.27**	**205**	*e*P	**Pn**	**00 26 57.2**	**-0.7**
SPN				*i* S	**Sn**	**00 27 33.9**	**-1.7**
NLC	**Nalytchevo**	**3.39**	**212**	PN	**Pn**	**00 26 59.9**	**+0.4**
NLC				S	**Sn**	**00 27 38.5**	**+0.1**
NLC	**Nalytchevo**	**3.39**	**212**	P	**Pn**	**00 26 59.9**	**+0.4**
NLC				*i* S	**Sn**	**00 27 38.5**	**+0.1**
SDLR	**Sedlovina**	**3.44**	**217**	*e*P	**Pn**	**00 27 01.2**	**+0.8**
KRER	**Koryakskii**	**3.46**	**218**	*e*P	**Pn**	**00 27 00.8**	**0.0**
GNL	**Ganaly**	**3.48**	**228**	*e*P	**Pn**	**00 27 01.2**	**+0.3**
SMAR	**Somma**	**3.48**	**217**	*e*P	**Pn**	**00 27 02.2**	**+1.2**
SMAR				*i* S	**Sn**	**00 27 40.9**	**-0.2**
AVH	**Avacha**	**3.50

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
KPT	**Kopyto**	**1.93**	**7**	*e*P	Pb	00 41 53.2	-0.8
APC	**Apacha**	**1.95**	**235**	*i* P	Pb	00 41 54.1	-0.2
APC				*i* S	Sg	00 42 20.3	-0.6
KOZ	**Kozyrevsk**	**2.00**	**1**	*e*P	Pb	00 41 54.1	-1.1
ASAK	**Asacha**	**2.04**	**215**	*e*P	Pb	00 41 55.2	-0.7
ASAK				*e*S	Sb	00 42 21.9	+0.4
SRDR	**Sredinnyy**	**2.26**	**359**	*e*P	Pn	00 41 57.4	+1.0
BDR	**Baidarnaya**	**2.64**	**17**	P	Pn	00 42 02.8	+1.2
SMKR	**Semkarok**	**2.70**	**20**	P	Pn	00 42 03.3	+0.8
SRKR	**Sorokina**	**2.71**	**16**	P	Pn	00 42 04.0	+1.4

IDC 09 00:50:36.0±4.2, 2°.07N×124°.58E, h62km±34km, mb3.5/8, mb1 3.7/8, mb1mx3.4/24, mbtmp3.5/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=113.7km s-min=13.4km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
FITZ	**Fitzroy Crossi**	**20.07**	**177**	P	P	00 55 02.6	-1.8
0.7nm,0.7s,baz=358,slow=9.7,SNR=5.3							
WRA	**Warramunga Arr**	**23.88**	**157**	P	P	00 55 43.6	-0.5
1.7nm,0.3s,baz=342,slow=10,SNR=42							
WRA				S	S	00 59 56.4	+0.4
1.4nm,0.7s,baz=338,slow=19,SNR=7.8							
ASAR	**Alice Springs**	**27.14**	**161**	P	P	00 56 13.9	+0.3
0.4nm,0.3s,baz=343,slow=7.6,SNR=6.9							
ASAR				PcP	PcP	00 59 32.6	-0.4
0.4nm,0.6s,baz=342,slow=2.0,SNR=5.2							
HNR	**Honiara**	**37.04**	**109**	LR	LR	01 11 23.7	
comp=Z,26nm,19.2s,baz=47,slow=34							
STKA	**Stephens Creek**	**37.43**	**156**	P	P	00 57 43.7	+0.4
1.0nm,0.3s,baz=124,slow=16,SNR=3.3							
MKAR	**Makanchi Array**	**57.72**	**327**	P	P	01 00 20.7	+0.2
0.6nm,0.3s,baz=118,slow=7.5,SNR=20							
MKAR				PcP	PcP	01 01 12.5	-0.3
0.2nm,0.4s,baz=124,slow=2.7,SNR=5.0							
VNDA	**Vanda**	**82.07**	**172**	P	P	01 02 51.0	+1.9
0.5nm,0.6s,baz=306,slow=7.2,SNR=3.5							
ARCES	**ARCESS Array B**	**91.25**	**340**	P	P	01 03 33.9	-0.3
0.3nm,0.4s,baz=79,slow=6.3,SNR=6.4							
FINES	**FINESS Array B**	**92.26**	**332**	P	P	01 03 37.0	-2.0
0.8nm,0.8s,baz=54,slow=5.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**121.36**	**287**	PKP	PKPdf	01 09 23.1	-0.2
0.3nm,0.7s,baz=86,slow=1.6,SNR=2.5							

IDC 09 00:56:21.9±0.9, 15°.40S×173°.37W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/22, mbtmp3.7/6, MS3.4/4, Ms1 3.4/4, ms1mx3.1/31, Error ellipse: s-maj=50.6km s-min=21.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
AFI	**Afiamalu**	**2.13**	**46**	Pn	Pn	00 56 54.3	-4.6
98nm,0.3s,baz=59,slow=1.8,SNR=80							
AFI				Sn	Sn	00 57 16.2	-10
225nm,0.3s,baz=132,slow=13,SNR=10.0							
PPT	**Papeete**	**22.91**	**99**	LR	LR	01 07 23.3	
comp=Z,53nm,21.9s,baz=262,slow=29							
URZ	**Urewera**	**24.28**	**198**	P	P	01 01 41.1	+0.2
2.7nm,0.6s,baz=20,slow=6.1,SNR=3.7							
PMG	**Port Moresby**	**38.97**	**274**	LR	LR	01 17 02.9	
comp=Z,32nm,18.6s,baz=352,slow=32							
WRA	**Warramunga Arr**	**49.88**	**257**	P	P	01 05 16.8	-0.7
0.6nm,0.9s,baz=93,slow=6.9,SNR=7.6							
ASAR	**Alice Springs**	**50.14**	**252**	P	P	01 05 19.4	-0.1
1.9nm,0.6s,baz=87,slow=8.2,SNR=30							
ASAR				LR	LR	01 24 53.8	
comp=Z,56nm,21.6s,baz=171,slow=34							
NVAR	**Mina Array Bea**	**74.30**	**42**	P	P	01 08 02.0	+0.4
0.2nm,0.5s,baz=245,slow=9.7,SNR=2.2							
KSRS	**Korea Array**	**76.18**	**316**	LR	LR	01 36 04.3	
comp=Z,85nm,21.2s,baz=38,slow=31							
TXAR	**Lajitas Array**	**80.58**	**56**	P	P	01 08 37.1	+0.3
0.6nm,1.1s,baz=207,slow=5.2,SNR=4.0							
PDAR	**Pinedale Array**	**82.24**	**42**	P	P	01 08 43.7	-1.8
0.4nm,0.8s,baz=240,slow=4.8,SNR=3.8							
GERES	**GERESS Array B**	**146.14**	**352**	PKPbc	PKPbc	01 16 04.1	-0.1
0.2nm,0.5s,baz=23,slow=3.2,SNR=3.3							
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	PKPbc	01 16 04.7	0.0
0.6nm,0.8s,baz=156,slow=3.9,SNR=3.7							

GUC 09 01:16:31.9±0.6, 21°.67S×68°.66W, h135km±4km, ML3.6, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PB09	**Plate Boundary**	**0.56**	**257**	⇑*i* P	Pn	01 16 52.3	+0.3
PB09				*i* S	Sn	01 17 07.9	+0.7
PB09				AML	AML	01 17 08.6	
comp=N,2μm,0.3s							
PB04	**Plate Boundary**	**0.97**	**233**	⇑*i* P	Pn	01 17 01.6	+6.7
PB04				*i* S	Sn	01 17 24.1	+12
PB04				AML	AML	01 17 26.5	
comp=N,437nm,0.1s							
PB01	**Plate Boundary**	**1.00**	**309**	⇑*i* P	Pn	01 16 55.8	+0.5
PB01				*i* S	Sn	01 17 14.2	+1.1
PB01				AML	AML	01 17 16.0	
comp=N,840nm,0.1s							
HMBC	**Humberstone**	**1.80**	**320**	⇑*i* P	Pn	01 17 04.6	+0.6
HMBC				*i* S	Sn	01 17 29.6	+1.1
HMBC				AML	AML	01 17 32.8	
comp=N,1μm,0.5s							
CEN1	**Los Morros**	**2.23**	**220**	*e*P	Pn	01 17 13.2	+4.2
CEN1				AML	AML	01 17 52.3	
comp=N,91nm,0.5s							
MNMC	**Minimini**	**2.68**	**341**	*e*P	Pn	01 17 16.0	+1.0
MNMC				*e*S	Sn	01 17 49.6	+1.5
MNMC				AML	AML	01 17 51.7	
comp=N,472nm,0.5s							

*IDC **09** 01:16:50.8±0.5, 55°.88N×163°.67E, h0km, mb3.7/18, mb1 4.0/21, mb1mx3.9/31, mbtmp3.8/21, ML4.1/3, Error ellipse: s-maj=14.2km s-min=9.6km az=11.0*
*KRSC **09** 01:16:52.5±0.2, 55°.76N×163°.93E, h15km±15km, ML4.5*
*ISCJB **09** 01:16:53.1±0.9, 55°.78N±0°.03×164°.01E±0°.04, h26km±7km, mb3.7/19, Error ellipse: s-maj=5.1km s-min=3.9km az=172.7*
*MOS **09** 01:16:53.6±1.3, 55°.88N×163°.80E, h34km, mb4.3/10, Error ellipse: s-maj=12.4km s-min=7.8km az=70.9*

ISC 09 01:16:53.2±1.9, 55°.82N±0°.06×163°.84E±0°.03, h17km±12km, n71, σ1°.26/92, mb3.8/19, 1C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
KBG	**Krutoberegovo**	**0.77**	**305**	PN	**Pb**	**01 17 07.4**	**-0.7**
KBG				S	**Sg**	**01 17 18.7**	**+0.3**
KBG	**Krutoberegovo**	**0.77**	**305**	*i* P	**Pb**	**01 17 07.4**	**-0.7**
KBG				*i* S	**Sg**	**01 17 18.7**	**+0.3**
BKI	**Bering**	**1.36**	**116**	PN	**Pn**	**01 17 17.0**	**-0.3**
BKI				S	**Sn**	**01 17 34.8**	**-0.1**
BKI	**Bering**	**1.36**	**116**	*i* P	**Pn**	**01 17 17.0**	**-0.3**
BKI				*i* S	**Sn**	**01 17 34.8**	**-0.1**
MKZ	**Mys Kozlova**	**1.75**	**224**	PN	**Pn**	**01 17 22.8**	**+0.1**
MKZ				S	**Sn**	**01 17 44.1**	**-0.5**
MKZ	**Mys Kozlova**	**1.75**	**224**	*e*P	**Pn**	**01 17 22.8**	**+0.1**
MKZ				*i* S	**Sn**	**01 17 44.1**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.77**	**275**	*e*P	**Pn**	**01 17 24.3**	**+1.2**
BZGR				*i* S	**Sb**	**01 17 47.5**	**+0.2**
BZMR	**Bezymyannaya**	**1.89**	**275**	*e*P	**Pn**	**01 17 26.0**	**+1.2**
BZMR				*i* S	**Sb**	**01 17 49.7**	**-0.9**
KIRR	**Kirishev**	**1.98**	**275**	*i* P	**Pn**	**01 17 27.2**	**+1.3**
KIRR				*i* S	**Sb**	**01 17 53.3**	**+0.3**
KMNR	**Kamenistaya**	**2.04**	**270**	*i* P	**Pn**	**01 17 28.2**	**+1.5**
KMNR				*i* S	**Sb**	**01 17 55.1**	**+0.3**
KPT	**Kopyto**	**2.04**	**276**	*i* P	**Pn**	**01 17 28.2**	**+1.4**
KPT				*i* S	**Sb**	**01 17 55.0**	**+0.1**
TUMR	**Tumrok**	**2.17**	**257**	*e*P	**Pn**	**01 17 30.4**	**+1.9**
TUMR				*i* S	**Sb**	**01 17 59.1**	**+0.6**
KOZR	**Kozyr**	**2.23**	**278**	PN	**Pb**	**01 17 31.4**	**-1.6**
KOZR				S	**Sb**	**01 18 00.9**	**+0.6**
KOZ	**Kozyrevsk**	**2.24**	**278**	*i* P	**Pn**	**01 17 31.4**	**+1.9**
KOZ				*i* S	**Sb**	**01 18 00.9**	**+0.2**
SRDR	**Sredinnyy**	**2.36**	**284**	*i* P	**Pn**	**01 17 33.2**	**+2.0**
SRDR				*i* S	**Sb**	**01 18 03.5**	**-0.7**
KII	**Karymskiy**	**3.10**	**237**	*e*P	**Pn**	**01 17 43.2**	**+1.9**
SPN	**Mys Shipunski**	**3.52**	**221**	PN	**Pn**	**01 17 46.7**	**-0.3**
SPN	**Mys Shipunski**	**3.52**	**221**	*e*P	**Pn**	**01 17 46.7**	**-0.3**
SPN				*i* S	**Sn**	**01 18 25.2**	**-3.0**
NLC	**Nalytchevo**	**3.73**	**226**	PN	**Pn**	**01 17 50.6**	**+0.7**
NLC				S	**Sn**	**01 18 33.7**	**+0.3**
NLC	**Nalytchevo**	**3.73**	**226**	*e*P	**Pn**	**01 17 50.6**	**+0.7**
NLC				*i* S	**Sn**	**01 18 33.7**	**+0.3**
SDLR	**Sedlovina**	**3.85**	**231**	*e*P	**Pn**	**01 17 53.4**	**+1.7**
SDLR				*i* S	**Sn**	**01 18 37.6**	**+1.1**
PALN	**Palana**	**3.89**	**329**	*e*P	Pn	01 17 55.1	+3.1
KRER	**Koryakskii**	**3.89**	**232**	*e*P	**Pn**	**01 17 54.3**	**+2.0**
SMAR	**Somma**	**3.90**	**231**	*e*P	**Pn**	**01 17 54.1**	**+1.7**
SMAR				*i* S	**Sn**	**01 18 39.0**	**+1.2**
AVH	**Avacha**	**3.92**	**231**	*e*P	**Pn**	**01 17 54.7**	**+2.1**
UGLR	**Uglovaya**	**3.92**	**230**	*e*P	**Pn**	**01 17 54.3**	**+1.6**
KOK	**Koryaka**	**3.95**	**232**	*e*P	**Pn**	**01 17 54.9**	**+1.9**
GNL	**Ganaly**	**4.03**	**240**	*e*P	**Pn**	**01 17 56.2**	**+2.1**
PET	**Petropavlovsk**	**4.13**	**229**	PN	**Pn**	**01 17 57.0**	**+1.7**
PET	**Petropavlovsk**	**4.13**	**229**	*e*P	**Pn**	**01 17 57.0**	**+1.7**
PETK	**Petropavlovsk-**	**4.50**	**235**	*e*PN	**Pn**	**01 18 02.5**	**+2.1**
PETK				pmax	pmax		
comp=Z,6.0nm,0.3s							
PETK	**Petropavlovsk-**	**4.50**	**235**	Pn	**Pn**	**01 18 00.3**	**-0.2**
comp=Z,5.5nm,0.3s,baz=69,slow=15,SNR=124							
PETK				Sn	Sn	01 18 58.7	+6.4
comp=Z,3.3nm,0.3s,baz=85,slow=20,SNR=5.9							
RUS	**Russkaya**	**4.62**	**225**	PN	**Pn**	**01 18 03.1**	**+1.0**
RUS	**Russkaya**	**4.62**	**225**	*e*P	**Pn**	**01 18 03.1**	**+1.0**
RUS				*i* S	**Sn**	**01 18 55.3**	**+0.1**
GRL	**Gorelyy**	**4.71**	**228**	*e*P	**Pn**	**01 18 06.5**	**+3.0**
MTVR	**Mutnovka**	**4.72**	**227**	*e*P	**Pn**	**01 18 05.3**	**+1.7**
MTVR				*i* S	**Sn**	**01 18 58.1**	**+0.2**
APC	**Apacha**	**4.87**	**236**	*e*P	Pn	01 18 09.0	+3.5
ASAK	**Asacha**	**4.91**	**228**	*i* P	**Pn**	**01 18 09.1**	**+3.0**
MIPR	**Malaya Ipel'ka**	**5.48**	**233**	*e*P	Pn	01 18 17.5	+3.6
FX1	**Attu Island--F**	**6.20**	**115**	**Pn**	**Pn**	**01 18 24.1**	**+0.3**
comp=Z,9.4nm,0.3s,baz=355,slow=4.5,SNR=18							
FX1				Sn	**Sn**	**01 19 34.1**	**0.0**
comp=Z,1.9nm,0.3s,baz=342,slow=20,SNR=2.6							
SKR	**Severo-Kuril's**	**6.92**	**225**	*e*P	**Pn**	**01 18 35.0**	**+1.3**
SEY	**Seymchan**	**9.21**	**325**	*de*PN	**Pn**	**01 19 06.1**	**+1.1**
YSS	**Yuzh-Sakhalins**	**15.82**	**245**	⇓*e*P	**Pn**	**01 20 32.7**	**-2.1**
ASAJ	**Asahikawa**	**17.91**	**238**	P	**P**	**01 21 01.8**	**0.0**
comp=Z,2.1nm,0.3s,baz=73,slow=7.8,SNR=25							
YAK	**Yakutsk**	**18.52**	**304**	*i* P	**P**	**01 21 06.2**	**-2.1**
ERM	**Erimo**	**19.27**	**233**	*ce*P	**P**	**01 21 16.5**	**-0.2**
ERM				pmax	pmax		
comp=Z,35nm,2.5s							
USRK	**Ussuriysk Arra**	**23.31**	**254**	P	**P**	**01 21 58.8**	**-1.2**
comp=Z,0.5nm,0.4s,baz=58,slow=9.2,SNR=4.4							
VLA	**Vladivostok**	**24.09**	**252**	*de*P	**P**	**01 22 06.4**	**-1.1**
VLA				*i* *PP	pP	01 22 23.9	+11
VLA				pmax	pmax		
comp=Z,7.0nm,0.3s							
ILAR	**Eielson Array**	**25.35**	**49**	P	**P**	**01 22 19.0**	**+0.2**
comp=Z,0.8nm,0.8s,baz=261,slow=8.4,SNR=9.8							
MJA0	**Matsu Arr-Jizo**	**25.93**	**233**	*e*P	**P**	**01 22 25.5**	**+1.1**
MJA0				pmax	pmax		
comp=Z,3.0nm,0.6s							
MAT	**Matsushiro**	**25.95**	**233**	P	**P**	**01 22 25.4**	**+0.9**
MJAR	**Matsushiro Arr**	**25.95**	**233**	P	**P**	**01 22 24.9**	**+0.4**
comp=Z,3.4nm,0.6s,baz=28,slow=8.0,SNR=13							
INK	**Inuvik**	**30.37**	**41**	P	**P**	**01 23 02.9**	**-0.7**
comp=Z,0.8nm,0.8s,baz=274,slow=7.7,SNR=2.7							
INK				PcP	**PcP**	**01 26 02.1**	**-0.7**
comp=Z,0.7nm,0.6s,baz=247,slow=2.5,SNR=3.0							
SONM	**Songino Array**	**35.45**	**282**	P	**P**	**01 23 48.7**	**+0.3**
comp=Z,1.1nm,0.6s,baz=56,slow=8.8,SNR=3.4							
YKA	**Yellowknife Ar**	**39.68**	**46**	P	**P**	**01 24 24.7**	**+1.0**
comp=Z,0.6nm,0.6s,baz=300,slow=8.3,SNR=2.8							
MKAR	**Makanchi Array**	**48.94**	**296**	*e*P	**P**	**01 25 36.8**	**-1.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**48.94**	**296**	P	**P**	**01 25 36.5**	**-1.6**
comp=Z,0.7nm,0.3s,baz=51,slow=6.6,SNR=20							
ARCES	**ARCESS Array B**	**51.35**	**343**	P	**P**	**01 25 55.4**	**-0.6**
comp=Z,1.0nm,0.8s,baz=13,slow=9.5,SNR=2.8							
NVAR	**Mina Array Bea**	**52.83**	**74**	P	**P**	**01 26 10.4**	**+2.7**
comp=Z,0.1nm,0.3s,baz=330,slow=4.6,SNR=3.6							
PDAR	**Pinedale Array**	**54.33**	**65**	P	**P**	**01 26 19.9**	**+1.3**
comp=Z,0.3nm,0.7s,baz=348,slow=4.0,SNR=2.7							
FINES	**FINESS Array B**	**58.45**	**338**	P	**P**	**01 26 47.3**	**-0.1**
comp=Z,0.9nm,0.7s,baz=35,slow=7.5,SNR=6.1							
NB2	**NORSAR Subarra**	**61.49**	**345**	P	**P**	**01 27 08.5**	**+0.1**
comp=Z,0.1nm,0.6s,baz=20,slow=6.9							
NOA	**NORSAR Array B**	**61.49**	**345**	P	**P**	**01 27 08.4**	**0.0**
comp=Z,1.4nm,0.8s,baz=19,slow=6.8,SNR=7.3							
TXAR	**Lajitas Array**	**67.61**	**71**	P	**P**	**01 27 50.0**	**+1.2**
comp=Z,0.4nm,0.6s,baz=301,slow=4.6,SNR=6.9							
KBZ	**Khabaz**	**69.00**	**318**	P	**P**	**01 27 57.3**	**+0.1**
KBZ				pmax	pmax		
comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**69.00**	**318**	P	**P**	**01 27 57.3**	**+0.1**
comp=Z,3.1nm,0.8s,baz=206,slow=3.1,SNR=4.7							
GERES	**GERESS Array B**	**72.75**	**340**	P	**P**	**01 28 18.5**	**-1.6**
comp=Z,0.1nm,0.5s,baz=358,slow=2.4,SNR=4.2							
BRTR	**Keskin Array B**	**75.84**	**323**	P	**P**	**01 28 38.6**	**+0.3**
comp=Z,0.7nm,0.7s,baz=42,slow=5.4,SNR=4.5							
WRA	**Warramunga Arr**	**79.50**	**208**	P	**P**	**01 28 58.0**	**-0.6**
comp=Z,0.5nm,0.8s,baz=20,slow=6.3,SNR=3.3							
ASAR	**Alice Springs**	**83.17**	**207**	P	**P**	**01 29 18.7**	**+0.7**
comp=Z,0.8nm,0.8s,baz=16,slow=3.9,SNR=7.0							
QSPA	**South Pole Qui**	**145.57**	**180**	PKPbc	**PKPdf**	**01 36 28.6**	**-0.2**
comp=Z,0.9nm,0.8s,baz=13,slow=2.9,SNR=5.0							

IDC 09 01:40:11.8±6.0, 21°.86N×143°.11E, h239km±57km, mb3.0/6, mb1 3.0/7, mb1mx2.9/28, mbtmp3.0/7, Error ellipse: s-maj=47.1km s-min=17.7km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
MJAR	**Matsushiro Arr**	**15.24**	**345**	P	P	01 43 32.8	-2.0
0.4nm,0.3s,baz=156,slow=10,SNR=5.4							
KSRS	**Korea Array**	**20.34**	**323**	P	P	01 44 32.2	+2.1
1.5nm,0.6s,baz=150,slow=8.7,SNR=8.0							
ASAJ	**Asahikawa**	**22.20**	**359**	P	P	01 44 48.0	-0.4
2.3nm,0.6s,baz=228,slow=7.7,SNR=5.1							
USRK	**Ussuriysk Arra**	**24.10**	**340**	P	P	01 45 04.9	-0.8
0.6nm,0.6s,baz=127,slow=11,SNR=3.9							
WRA	**Warramunga Arr**	**42.42**	**192**	P	P	01 47 42.8	-0.6
0.2nm,0.4s,baz=17,slow=9.0,SNR=9.9							
ZALV	**Zalesovo Beam**	**54.04**	**322**	P	P	01 49 10.9	-0.7
0.5nm,0.4s,baz=86,slow=7.4,SNR=3.1							
FINES	**FINESS Array B**	**83.01**	**334**	P	P	01 52 08.9	-1.1
0.2nm,0.4s,baz=57,slow=5.1,SNR=2.9							
PLCA	**Paso Flores**	**145.91**	**131**	PKPbc	PKPbc	01 59 23.8	+0.4
1.6nm,0.4s,baz=263,slow=5.9,SNR=6.0							
LPAZ	**La Paz**	**149.99**	**85**	PKPbc	PKPbc	01 59 35.6	+0.1
0.7nm,0.5s,baz=4.2,slow=3.5,SNR=4.1							
LPAZ				pPKPbc	pPKPbc	02 00 35.9	-0.3
1.2nm,0.3s,baz=253,slow=3.3,SNR=5.6							

WEL 09 01:54:01.5±0.3, 44°.57S×175°.55E, h33km, ML4.0/18, 3C-9D, Error ellipse: s-maj=2.6km s-min=2.0km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
MQZ	**McQueen's Vall**	**2.25**	**291**	PN	Pn	01 54 34.8	-1.7
MQZ				SN	Sn	01 55 00.1	-3.0
CRLZ	**Canterbury Las**	**2.33**	**294**	SN	Sn	01 55 02.3	-2.6
KHZ	**Kahutara**	**2.60**	**325**	PN	Pn	01 54 41.0	-0.2
KHZ				SN	Sn	01 55 10.9	-0.7
KHZ				AML	AML	01 55 14.4	
LTZ	**Lake Taylor**	**2.97**	**306**	PN	Pn	01 54 45.5	-0.9
LTZ				SN	Sn	01 55 19.3	-1.7
LTZ				AML	AML	01 55 19.5	
PLWZ	**Palliser**	**3.01**	**356**	PN	Pn	01 54 46.0	-0.8
BSWZ	**Blackbirch Sta**	**3.10**	**336**	PN	Pn	01 54 47.8	-0.4
BSWZ				SN	Sn	01 55 22.2	-2.0
BSWZ				AML	AML	01 55 26.8	
MSWZ	**Moikau Station**	**3.16**	**356**	PN	Pn	01 54 47.6	-1.3
MSWZ				AML	AML	01 55 23.1	
MSWZ				SN	Sn	01 55 23.2	-2.4
TRWZ	**Traveller**	**3.17**	**2**	PN	Pn	01 54 48.2	-0.9
TRWZ				SN	Sn	01 55 22.6	-3.1
PAWZ	**Paruwai Farm**	**3.19**	**358**	PN	Pn	01 54 48.2	-1.1
BHW	**Baring Head**	**3.20**	**351**	PN	Pn	01 54 48.6	-0.8
SNZO	**South Karori**	**3.32**	**349**	PN	Pn	01 54 50.4	-0.6
RPZ	**Rata Peaks**	**3.34**	**283**	PN	Pn	01 54 51.1	-0.3
RPZ				AML	AML	01 56 08.8	
RPZ				AML	AML	01 56 11.4	
TUWZ	**Tuamarina**	**3.35**	**339**	⇓PN	Pn	01 54 50.9	-0.6
THZ	**Tophouse**	**3.41**	**325**	⇑PN	Pn	01 54 52.3	-0.1
THZ				AML	AML	01 55 34.5	
THZ				AML	AML	01 55 35.0	
MTW	**Mount Morrison**	**3.41**	**359**	PN	Pn	01 54 50.9	-1.5
MTW				AML	AML	01 55 29.5	
MTW				AML	AML	01 55 31.7	
TMWZ	**Te Maipa**	**3.47**	**4**	PN	Pn	01 54 52.2	-1.0
CAW	**Cannon Point**	**3.48**	**354**	PN	Pn	01 54 52.7	-0.6
CAW				AML	AML	01 55 31.7	
CAW				AML	AML	01 55 32.3	
TCW	**Tory Channel**	**3.48**	**344**	PN	Pn	01 54 52.6	-0.7
TCW				AML	AML	01 55 32.4	
TCW				SN	Sn	01 55 32.4	-1.0
ODZ	**Otahua Downs**	**3.52**	**261**	⇑PN	Pn	01 54 52.9	-0.9
ODZ				SN	Sn	01 55 29.8	-4.6
HOWZ	**Holdsworth Sta**	**3.67**	**360**	PN	Pn	01 54 54.5	-1.4
NNZ	**Nelson**	**3.71**	**334**	PN	Pn	01 54 55.7	-0.7
KIW	**Kapiti Island**	**3.74**	**353**	PN	Pn	01 54 56.6	-0.3
OGWZ	**Otaki Gorge**	**3.76**	**356**	PN	Pn	01 54 56.5	-0.6
WVZ	**Waitaha Valley**	**3.79**	**292**	PN	Pn	01 54 57.1	-0.4
TIWZ	**Tintock**	**3.80**	**4**	⇓PN	Pn	01 54 56.6	-1.2
LBZ	**Lake Benmore**	**3.84**	**271**	⇓PN	Pn	01 54 57.9	-0.3
MRZ	**Mangatainoka R**	**3.91**	**0**	PN	Pn	01 54 58.0	-1.2
MRZ				AML	AML	01 55 42.3	
MRZ				AML	AML	01 55 43.3	
BFZ	**Birch Farm**	**3.92**	**8**	PN	Pn	01 54 58.2	-1.2
DUWZ	**D'Urville Isla**	**3.95**	**342**	PN	Pn	01 54 59.8	0.0
DUWZ				AML	AML	01 55 45.2	
POWZ	**Post Office Ro**	**4.18**	**2**	⇓PN	Pn	01 55 02.2	-0.7
DVHZ	**Dannevirke**	**4.29**	**6**	⇓PN	Pn	01 55 03.3	-1.2
FOZ	**Fox Glacier**	**4.34**	**281**	PN	Pn	01 55 05.1	+0.1
PRHZ	**Porangahau**	**4.38**	**11**	PN	Pn	01 55 04.2	-1.4
TUZ	**Tuapeka**	**4.40**	**250**	PN	Pn	01 55 05.2	-0.7
TUZ				AML	AML	01 55 55.6	
TUZ				AML	AML	01 55 56.2	
EAZ	**Earnscleugh**	**4.48**	**259**	⇓PN	Pn	01 55 07.1	+0.1
EAZ				AML	AML	01 55 08.3	
TSZ	**Takapari Road**	**4.52**	**4**	PN	Pn	01 55 06.4	-1.2
TSZ				AML	AML	01 55 07.2	
TSZ				AML	AML	01 55 07.4	
WPHZ	**Waipukurau**	**4.55**	**9**	⇓PN	Pn	01 55 07.0	-1.0
PXZ	**Pawanui**	**4.64**	**13**	⇑PN	Pn	01 55 07.7	-1.5
PXZ				AML	AML	01 56 01.8	
WKZ	**Wanaka**	**4.66**	**265**	⇓PN	Pn	01 55 10.0	+0.5
PNHZ	**Pukenui**	**4.68**	**6**	PN	Pn	01 55 08.8	-1.0
WAZ	**Wanganui**	**4.83**	**355**	PN	Pn	01 55 12.5	+0.7
KAHZ	**Kahuranaki**	**4.87**	**12**	PN	Pn	01 55 10.7	-1.8
JCZ	**Jackson Bay**	**4.90**	**273**	PN	Pn	01 55 12.5	-0.4
JCZ				AML	AML	01 55 15.0	
JCZ				AML	AML	01 55 16.4	
CKHZ	**Cape Kidnapper**	**5.04**	**14**	PN	Pn	01 55 12.7	-2.0
BHHZ	**Black Hill Sta**	**5.09**	**5**	PN	Pn	01 55 14.5	-1.1
MOVZ	**Moawhango**	**5.16**	**2**	PN	Pn	01 55 15.7	-0.8
MTVZ	**Mangateitei**	**5.18**	**359**	PN	Pn	01 55 16.6	-0.2
MCHZ	**McNeill Hill**	**5.19**	**10**	PN	Pn	01 55 15.9	-0.9
WNVZ	**Wahianoa**	**5.24**	**0**	PN	Pn	01 55 17.4	-0.3
WNVZ				AML	AML	01 56 26.2	
PKVZ	**Pokaka**	**5.28**	**358**	PN	Pn	01 55 18.1	0.0
MLZ	**Mavora Lakes**	**5.29**	**259**	PN	Pn	01 55 18.8	+0.5
OTVZ	**Oturere**	**5.40**	**1**	PN	Pn	01 55 19.5	-0.4
MSZ	**Milford Sound**	**5.44**	**266**	PN	Pn	01 55 20.2	0.0
MSZ				AML	AML	01 55 23.0	
MSZ				AML	AML	01 56 22.1	
BKZ	**Black Stump Fm**	**5.45**	**8**	⇓PN	Pn	01 55 18.9	-1.5
WHZ	**Wether Hill Ro**	**5.53**	**253**	PN	Pn	01 55 20.8	-0.6
NMHZ	**Naumai**	**5.55**	**10**	PN	Pn	01 55 20.7	-1.1
CTZ	**Chatham Island**	**5.70**	**84**	PN	Pn	01 55 19.9	-3.9
APZ	**The Paps**	**5.76**	**244**	PN	Pn	01 55 23.8	-0.8
KNZ	**Kokohu**	**5.77**	**17**	PN	Pn	01 55 22.3	-2.4
URZ	**Urewera**	**6.41**	**11**	PN	Pn	01 55 31.2	-2.4

*IDC **09** 02:37:53.0±0.6, 35°.61N×81°.80E, h0km, mb4.0/

EKS2 *e*Sn **Sn** **02 41 55.2 +3.5**
WMQ Urumqi 9.38 28 P **Pn** **02 40 12.0 +1.0**
WMQ sP 02 40 17.6
WMQ S **Sn** **02 41 56.5 +0.3**
WMQ LR LR
comp=N,4μm,18.0s
WMQ LR LR
comp=E,6μm,18.0s
WMQ LR LR
comp=Z,2μm,18.0s
RAMN Ramite 9.74 152 *e*P **Pn** **02 40 14.9 -1.2**
comp=Z,27nm,0.5s
TAPN Taplejung 9.85 146 *e*P **Pn** **02 40 16.4 -1.3**
comp=Z,47nm,1.1s
ODAN Odare 10.14 149 *e*P **Pn** **02 40 20.5 -1.1**
comp=Z,32nm,0.6s
KBL Kabul 10.31 267 *e*P **Pn** **02 40 24.4 +0.5**
KBL Kabul 10.31 267 *e*Pn **Pn** **02 40 24.4 +0.5**
MK31 Makanchi Array 11.09 3 P **Pn** **02 40 34.5 +0.2**
comp=Z,34nm,0.8s,baz=182,slow=12,SNR=199
MK31 Makanchi Array 11.09 3 *i* P **Pn** **02 40 34.5 +0.2**
MK31 pmax pmax
comp=Z,85nm,1.2s
MK31 Makanchi Array 11.09 3 *e*Pn **Pn** **02 40 34.5 +0.2**
MK31 *e*Sn **Sn** **02 42 38.2 +0.2**
MKAR Makanchi Array 11.09 3 *i* P **Pn** **02 40 33.5 -0.8**
MKAR pmax pmax
comp=Z,38nm,0.9s
MKAR Makanchi Array 11.09 3 Pn **Pn** **02 40 35.1 +0.8**
MKAR Sn **Sn** **02 42 37.0 -1.0**
MKAR Lg Lg 02 43 52.0
MKAR Makanchi Array 11.09 3 Pn **Pn** **02 40 35.1 +0.8**
comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=38
MKAR Sn **Sn** **02 42 37.0 -1.0**
comp=Z,0.6nm,0.3s,baz=187,slow=23,SNR=3.7
MKAR Lg Lg 02 43 52.0
baz=185,slow=26,SNR=1.9
KK31 Karatay Array 11.28 314 ⇑Pn **Pn** **02 40 37.8 +0.8**
comp=Z,1.0nm,0.5s,baz=141,slow=8.6,SNR=22
KK31 ⇑Pg 02 41 26.8
comp=Z,3.1nm,0.6s,baz=132,slow=13,SNR=7.5
KK31 ⇑Lg Lg 02 44 00.1
comp=Z,11nm,0.8s,baz=130,slow=15,SNR=4.1
KK31 Karatay Array 11.28 314 *i* P **Pn** **02 40 36.5 -0.4**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 11.28 314 *e*P **Pn** **02 40 36.9 0.0**
KKAR Karatay Array 11.28 314 *e*Pn **Pn** **02 40 36.9 0.0**
GTA Gaotai 14.95 70 P **P** **02 41 33.8 +1.1**
GTA pP pP 02 41 37.5
GTA sP 02 41 40.9
GTA S S 02 44 22.8 -7.7
GTA sS sS 02 44 28.3
GTA SS SnSn 02 44 40.4 +15
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,46nm,5.2s
GTA LR LR
comp=N,290nm,11.6s
GTA LR LR
comp=E,330nm,11.6s
GTA LR LR
comp=Z,480nm,10.4s
KURBB Kurchatov Arra 15.06 353 P **Pn** **02 41 26.4 -2.1**
comp=Z,9.5nm,1.1s
KURBB Kurchatov Arra 15.06 353 Pn **Pn** **02 41 26.9 -1.7**
comp=Z,0.0nm,0.3s,baz=171,slow=12,SNR=37
KURBB Lg Lg 02 45 59.0
comp=Z,0.0nm,0.3s,baz=176,slow=27,SNR=4.5
KURK Kurchatov 15.15 353 P **Pn** **02 41 26.9 -2.7**
KURK Kurchatov 15.15 353 Pn **Pn** **02 41 26.9 -2.7**
KURK Lg Lg 02 45 59.0
IMYA Miami 17.36 278 *e*P **Pn** **02 41 56.6 -1.6**
HVS Khovu-Aksy 17.73 26*c i*P **P** **02 42 03.8 +0.4**
HVS pmax pmax
comp=Z,54nm,1.2s
ISRO Mashad 17.87 278 *e*P **Pn** **02 42 02.2 -2.3**
IMOG Moghan 17.99 278 *e*P **Pn** **02 42 02.8 -3.4**
LZH Lanzhou 18.07 82 *e*P **P** **02 42 07.3 0.0**
LZH pP **pP** **02 42 11.0 -0.5**
LZH sP **sP** **02 42 13.8 +0.4**
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,98nm,4.5s
LZH LR LR
comp=N,640nm,12.4s
LZH LR LR
comp=E,370nm,13.1s
LZH LR LR
comp=Z,280nm,15.7s
IDAH Dahanechah 18.17 267 *e*P **Pn** **02 42 07.6 -0.7**
IPAY Payeh 18.24 279 *e*P **Pn** **02 42 08.2 -1.0**
ZAA0 Zalesovo Array 18.38 6 *e*P **P** **02 42 08.8 -1.7**
ZALV Zalesovo Beam 18.38 6 *i* P **P** **02 42 08.6 -1.8**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 18.38 6 P **P** **02 42 08.7 -1.8**
ZALV Zalesovo Beam 18.38 6 P **P** **02 42 08.7 -1.8**
comp=Z,0.1nm,0.3s,baz=188,slow=11,SNR=16
IAKL Akhelmad 18.42 279 *e*P **P** **02 42 07.2 -4.2**
VOSK Vostochnaya 18.58 340 ⇑P **P** **02 42 12.1 -0.6**
comp=Z,20nm,1.3s
VOSK Vostochnaya 18.58 340 P **P** **02 42 11.5 -1.2**
VOSK pmax pmax
comp=Z,20nm,1.3s
ISFR Sfrayin 19.00 281 *e*P **P** **02 42 17.4 -0.3**
BVA0 Borovoye Array 19.02 339 ⇑P **P** **02 42 17.4 -0.1**
comp=Z,16nm,1.0s,baz=148,slow=9.4,SNR=43
BVA0 Borovoye Array 19.02 339 *i* P **P** **02 42 18.1 +0.6**
BVA0 pmax pmax
comp=Z,16nm,1.0s
BVAR Borovoye Array 19.02 339 P **Pn** **02 42 18.4 +0.1**
BVAR MLR MLR
comp=Z,96nm,21.4s
BVAR Borovoye Array 19.02 339 P **Pn** **02 42 18.4 +0.1**
BVAR Borovoye Array 19.02 339 P **Pn** **02 42 18.4 +0.1**
comp=Z,0.4nm,0.3s,baz=150,slow=10,SNR=22
BVAR LR LR 02 50 06.3
comp=Z,96nm,21.4s,baz=141,slow=38
ITEG Tejag 19.04 268 *e*P **Pn** **02 42 18.9 +0.1**
BRVK Borovoye 19.08 339 P **P** **02 42 18.4 +0.3**
BRVK pmax pmax
comp=Z,36nm,1.0s
BRVK Borovoye 19.08 339 *e*P **P** **02 42 18.6 +0.5**
comp=Z,18nm,0.9s
CD2 Chengdu 19.16 98 *e*P **Pn** **02 42 21.1 +0.9**
CD2 pP **pP** **02 42 25.7 +2.3**
CD2 sP **sP** **02 42 29.1 +3.7**
CD2 PP **PnPn** **02 42 38.7 +5.8**
CD2 S **Sn** **02 45 51.6 -3.0**
CD2 sS **S** **02 45 56.5 +0.4**
CD2 SS **SnSn** **02 46 16.9 +8.3**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,100nm,4.2s
CD2 LR LR
comp=N,730nm,10.8s
CD2 LR LR
comp=Z,890nm,8.4s
NVS Novosibirsk 19.17 3 *e*P **P** **02 42 17.3 -1.8**
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=N,8.0nm,1.2s
AB31 Akbulak array 20.81 317 P **P** **02 42 37.5 +0.4**
comp=N,6.4nm,0.8s,baz=117,slow=10,SNR=42
AB31 Akbulak array 20.81 317 *i* P **P** **02 42 37.4 +0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 20.81 317 *e*P **P** **02 42 37.8 +0.8**
KMI Kunming 21.06 114 P **P** **02 42 40.5 +0.3**
KMI pmax pmax
comp=Z,10.0nm,0.9s
MOY Mondy 21.16 35 *e*P **P** **02 42 43.1 +2.2**
ZAK Zakamensk 21.51 40 *e*P **P** **02 42 45.1 +0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 22.03 49 P **P** **02 42 47.5 -2.9**
SONM Songino Array 22.03 49 P **P** **02 42 47.5 -2.9**
comp=Z,4.0nm,0.9s,baz=236,slow=10,SNR=2.8
SONM LR LR 02 52 06.1
comp=Z,193nm,18.4s,baz=20,slow=39

IGLO Ghologhah 22.38 280 *e*P **P** **02 42 57.5 +3.2**
ULN Ulaanbaatar 22.45 49 *e*P **P** **02 42 56.0 +1.1**
comp=Z,23nm,1.3s
AKTO Aktyubinsk 22.50 318 ⇓P **P** **02 42 54.6 -0.6**
comp=Z,11nm,0.8s
AKTO Aktyubinsk 22.50 318 P **P** **02 42 54.5 -0.6**
AKTO pmax pmax
comp=Z,11nm,0.8s
AKTO Aktyubinsk 22.50 318 P **P** **02 42 55.6 +0.5**
AKTO Aktyubinsk 22.50 318 P **P** **02 42 55.6 +0.5**
comp=Z,5.4nm,0.8s,baz=122,slow=9.3,SNR=21
AKTO LR LR 02 51 41.7
comp=Z,86nm,18.1s,baz=302,slow=36
XAN Xi'an 22.50 86 P **P** **02 42 55.9 +0.6**
XAN pmax pmax
comp=Z,2.0nm,1.2s
XAN pmax pmax
comp=Z,78nm,5.8s
CMAR Chiang Mai Arr 23.07 134 P **P** **02 42 58.3 -3.1**
CMAR Chiang Mai Arr 23.07 134 P **P** **02 42 58.3 -3.1**
comp=Z,0.6nm,0.3s,baz=323,slow=10,SNR=4.5
GYA Guiyang 23.35 106 *e*P **P** **02 43 04.8 +0.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 24.05 69 *e*P **P** **02 43 10.8 -0.2**
HHC PP **PnPn** **02 43 44.2 +4.4**
HHC PcP **PcP** **02 46 54.8 +2.4**
HHC S **S** **02 47 22.9 -4.9**
HHC SS **SnSn** **02 48 14.1 +5.6**
HHC ScP **ScP** **02 50 31.1 +0.8**
HHC PcS **PcS** **02 50 33.6 +1.5**
HHC ScS **ScS** **02 54 16.8 -0.7**
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,240nm,4.6s
HHC LR LR
comp=N,480nm,12.2s
HHC LR LR
comp=E,530nm,12.3s
HHC LR LR
comp=Z,430nm,12.8s
IZEF Zefreh 24.26 272 *e*P **P** **02 43 11.9 -1.3**
IPAR Pars 24.62 264 *e*P **P** **02 43 12.6 -3.9**
SVE Sverdlovsk 25.40 333⇓*e*P **P** **02 43 25.3 +2.4**
SVE pmax pmax
comp=Z,15nm,0.9s
ARU Arti 25.92 330*d i*P **P** **02 43 29.2 +1.5**
ARU 02 44 06.8
ARU PPP PPP 02 44 16.8
ARU S **S** **02 48 00.4 +3.3**
ARU SS **SnSn** **02 48 55.6 +1.8**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU MLR MLR
comp=Z,104nm,15.0s
BJI Beijing 27.57 71 P **P** **02 43 42.1 -0.6**
BJI S **S** **02 48 27.2 +3.8**
BJI pmax pmax
comp=Z,7.0nm,0.9s
QIZ Qiongzhong 29.98 116 P **P** **02 44 03.7 -0.6**
QIZ S **S** **02 49 02.4 +0.7**
QIZ LR LR
comp=Z,890nm,22.9s
KIV Kislovodsk 30.73 298 *e*P **P** **02 44 08.1 -2.7**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,49nm,15.0s
NJ2 Nanjing 31.07 86 *e*P **P** **02 44 14.1 +0.3**
NJ2 pmax pmax
comp=Z,30nm,1.2s
RAYN Ar Rayn 33.42 259 *e*P **P** **02 44 37.2 +2.6**
comp=Z,18nm,1.7s
OBN Obninsk 36.26 317⇓*e*P **P** **02 44 59.9 +1.2**
OBN 02 46 25.0
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
KSAR Wonju Array Be 36.97 73 P **P** **02 45 03.0 -1.9**
KSRS Korea Array 36.99 73 P **P** **02 45 03.0 -2.1**
comp=Z,0.9nm,0.7s,baz=254,slow=9.0,SNR=4.6
KSRS LR LR 03 01 17.1
comp=Z,143nm,21.4s,baz=196,slow=38
MDJ Mudanjiang 37.31 61 P **P** **02 45 07.4 -0.4**
MDJ pP **pP** **02 45 10.4 -2.0**
MDJ PP **PP** **02 46 32.8 -0.1**
MDJ PcP **PcP** **02 47 25.3 -1.6**
MDJ S **S** **02 50 54.2 -0.7**
MDJ ScP **ScP** **02 51 12.6 -1.0**
MDJ PcS **PcS** **02 51 14.4 -0.8**
MDJ ScS **ScS** **02 55 21.2 -0.2**
MDJ pmax pmax
comp=Z,3.0nm,0.4s
MDJ pmax pmax
comp=Z,120nm,6.6s
MDJ LR LR
comp=N,120nm,28.0s
MDJ LR LR
comp=E,390nm,24.7s
MDJ LR LR
comp=Z,65nm,32.9s
BR131 Keskin Array S 37.76 291 *e*P **P** **02 45 13.4 +1.6**
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 37.76 291 P **P** **02 45 12.4 +0.6**
BRTR Keskin Array B 37.76 291 P **P** **02 45 12.4 +0.6**
comp=Z,2.6nm,0.8s,baz=96,slow=7.6,SNR=14
TMCR Tamitsa 38.65 331 *e*P **P** **02 45 20.5 +1.7**
TMCR *e* 02 46 49.2
TMCR pmax pmax
comp=Z,22nm,1.0s
KLR Kul'dur 38.71 54 *e*P P 02 45 16.3 -3.3
CSS Prodhromos 39.02 283 *e*P P 02 45 25.8 +3.4
comp=Z,4.7nm,0.9s
USRK Ussuriysk Arra 39.07 62 P **P** **02 45 20.3 -2.3**
comp=Z,0.9nm,0.7s,baz=242,slow=11,SNR=2.2
EIL Elat 39.39 275 LR LR 03 04 15.3
comp=Z,90nm,18.1s,baz=86,slow=40
AKASG Malin Array Be 40.11 309 P **P** **02 45 32.7 +1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 40.11 309 P **P** **02 45 32.7 +1.5**
AKASG Malin Array Be 40.11 309 P **P** **02 45 32.7 +1.5**
comp=Z,1.8nm,0.4s,baz=76,slow=7.2,SNR=13
LVZ Lovozero 41.55 335*de*P **P** **02 45 43.9 +1.0**
LVZ pmax pmax
comp=Z,12nm,1.0s
VSU Vasula 42.20 320*de*P **P** **02 45 49.2 +1.0**
MLR Muntele Rosu 42.57 301 LR LR 03 05 49.3
comp=Z,28nm,19.9s,baz=256,slow=39
BUR08 Bucovina Ar. S 42.85 304 *e*P **P** **02 45 55.6 +1.6**
FINES FINESS Array B 43.01 325 P **P** **02 45 56.1 +1.3**
FINES FINESS Array B 43.01 325 P **P** **02 45 56.1 +1.3**
comp=Z,2.6nm,0.6s,baz=110,slow=11,SNR=13
FINES LR LR 03 04 32.2
comp=Z,96nm,18.5s,baz=274,slow=37
KAF Kangasniemi 43.03 326 *e*P **P** **02 45 56.7 +1.7**
KAF pmax pmax
comp=Z,3.0nm,0.9s
KAF Kangasniemi 43.03 326 *e*p **P** **02 45 56.7 +1.7**
comp=Z,2.8nm,0.9s
SUW Suwalki 43.86 314 *e*P **P** **02 46 03.1 +1.3**
KWP Kalwaria Pacla 44.33 307 *e*P **P** **02 46 07.5 +1.8**
KWP pmax pmax
comp=Z,10.0nm,1.2s
KWP Kalwaria Pacla 44.33 307 *e*P **P** **02 46 07.5 +1.8**
comp=Z,10nm,1.2s
KWP Kalwaria Pacla 44.33 307 *e*P **P** **02 46 07.3 +1.6**
KOLS Kolonicke sedl 44.68 306 *e*P **P** **02 46 10.0 +1.5**
KOLS pmax pmax
comp=Z,2.0nm,1.0s
KOLS Kolonicke sedl 44.68 306 *e*P **P** **02 46 10.0 +1.5**
MJAR Matsushiro Arr 45.20 71 P **P** **02 46 10.1 -2.7**
MJAR Matsushiro Arr 45.20 71 P **P** **02 46 10.1 -2.7**
comp=Z,2.8nm,1.0s,baz=286,slow=9.5,SNR=8.4
MJAR LR LR 03 06 50.8
comp=Z,77nm,19.3s,baz=255,slow=39
CRVS Cervenica-Dubn 45.22 306 *e*P **P** **02 46 13.8 +1.1**
CRVS pmax pmax
comp=Z,4.0nm,1.5s
CRVS Cervenica-Dubn 45.22 306 *e*P **P** **02 46 13.8 +1.1**
ARCES ARCESS Array B 45.26 336 P **P** **02 46 13.4 +0.6**
ARCES ARCESS Array B 45.26 336 P **P** **02 46 13.4 +0.6**
comp=Z,4.3nm,0.9s,baz=90,slow=5.5,SNR=15

ARCES LR LR 03 06 41.9
comp=Z,70nm,22.0s,baz=273,slow=38
STHS Stebnicka Huta 45.30 307 *e*P **P** **02 46 14.8 +1.4**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 45.30 307 *e*P **P** **02 46 14.8 +1.4**
KECS Kecovo 45.91 306 *e*P **P** **02 46 19.8 +1.6**
KECS pmax pmax
comp=Z,1.0nm,0.9s
KECS Kecovo 45.91 306 *e*P **P** **02 46 19.8 +1.6**
PSZ Piszkesteto 46.38 305 *e*P **P** **02 46 23.2 +1.2**
PSZ pmax pmax
comp=Z,2.0nm,0.8s
PSZ Piszkesteto 46.38 305 *e*P **P** **02 46 23.2 +1.2**
comp=Z,2.1nm,0.8s
VYHS Vyhne 46.99 306 *e*P **P** **02 46 28.8 +2.1**
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS Vyhne 46.99 306 *e*P **P** **02 46 28.8 +2.1**
OKC Ostrava-Krasne 47.25 308 *e*P **P** **02 46 30.8 +2.1**
OKC MLR MLR
comp=Z,100nm,15.8s
OKC Ostrava-Krasne 47.25 308 *e*P **P** **02 46 30.8 +2.1**
OKC *e*pP **pP** **02 46 33.3 0.0**
OKC AMS AMS 03 08 20.0
comp=Z,100nm,15.8s
MORC Moravsky Berou 47.65 308 *e*P **P** **02 46 32.6 +0.7**
MORC pmax pmax
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 47.65 308 *e*P **P** **02 46 32.6 +0.7**
comp=Z,7.5nm,1.2s
VRAC Vranov 48.33 307 LR LR 03 09 22.1
comp=Z,73nm,18.3s,baz=79,slow=39
DPC Dobruska-Polom 48.34 309 *e*P **P** **02 46 39.0 +1.8**
DPC Dobruska-Polom 48.34 309 *e*P **P** **02 46 39.0 +1.8**
DPC *e*pP **pP** **02 46 41.8 -0.1**
DPC AMS AMS 03 09 10.0
DPC Dobruska-Polom 48.34 309 *e*P **P** **02 46 39.2 +1.9**
comp=Z,38nm,1.2s
UPC Upice 48.52 309 *e*P **P** **02 46 39.7 +1.2**
UPC Upice 48.52 309 *e*P **P** **02 46 39.7 +1.2**
HFS Hagfors 48.96 322 LR LR 03 07 43.9
comp=Z,53nm,18.5s,baz=82,slow=36
TREC Trest 49.05 308 *e*P **P** **02 46 45.0 +2.4**
TREC MLR MLR
comp=Z,100nm,17.8s
TREC Trest 49.05 308 *e*P **P** **02 46 45.0 +2.4**
TREC AMS AMS 03 09 20.0
comp=Z,100nm,17.8s
PVCC Panska Ves 49.42 309 *e*P **P** **02 46 48.5 +3.1**
PVCC MLR MLR
comp=Z,100nm,14.5s
PVCC Panska Ves 49.42 309 *e*P **P** **02 46 48.5 +3.1**
PVCC AMS AMS 03 09 30.0
comp=Z,100nm,14.5s
PRU Pruhonice 49.53 309 *e*P **P** **02 46 47.4 +1.1**
PRU MLR MLR
comp=Z,100nm,24.0s
PRU Pruhonice 49.53 309 *e*P **P** **02 46 47.4 +1.1**
PRU *e*pP **pP** **02 46 50.4 -0.5**
PRU AMS AMS 03 08 20.0
comp=Z,100nm,24.0s
BRG Berggiesshubel 49.76 310 *e*P **P** **02 46 49.0 +1.0**
comp=Z,5.7nm,0.9s
BRG Berggiesshubel 49.76 310 *e*P **P** **02 46 49.0 +1.0**
BRG pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 50.14 323 P **P** **02 46 49.5 -1.3**
comp=Z,3.3nm,0.8s,baz=87,slow=7.9
NOA NORSAR Array B 50.14 323 P **P** **02 46 49.5 -1.3**
NOA NORSAR Array B 50.14 323 P **P** **02 46 49.5 -1.3**
comp=Z,2.3nm,0.9s,baz=87,slow=7.5,SNR=10
NOA LR LR 03 08 41.4
comp=Z,58nm,19.3s,baz=100,slow=37
CLL Collm 50.27 311 *i* P **P** **02 46 52.5 +0.7**
CLL pmax pmax
comp=Z,7.0nm,1.4s
CLL Collm 50.27 311 *i* P **P** **02 46 52.5 +0.7**
comp=Z,7.0nm,1.4s
CLL *i* pP **pP** **02 46 55.4 -1.1**
GERES GERESS Array B 50.28 307 P **P** **02 46 53.5 +1.4**
GERES GERESS Array B 50.28 307 P **P** **02 46 53.5 +1.4**
comp=Z,1.7nm,0.8s,baz=79,slow=7.2,SNR=18
GERES LR LR 03 11 28.0
comp=Z,52nm,18.3s,baz=89,slow=40
KHC Kasperske Hory 50.31 308 *e*P **P** **02 46 54.2 +2.0**
KHC MLR MLR
comp=Z,100nm,11.7s
KHC Kasperske Hory 50.31 308 *e*P **P** **02 46 54.2 +2.0**
KHC AMS AMS 03 10 10.0
comp=Z,100nm,11.7s
KHC Kasperske Hory 50.31 308 *e*P **P** **02 46 55.2 +3.0**
comp=Z,6.6nm,1.4s
NAO01 NORSAR Array S 50.31 323 *e*P **P** **02 46 53.8 +1.8**
comp=Z,1.3nm,0.6s
NKC Novy Kostel 50.81 309 AMS AMS 03 10 10.0
comp=Z,100nm,17.3s
GRF Grafenberg Arr 51.70 309 *e*P **P** **02 47 04.1 +1.4**
GRF pmax pmax
comp=Z,3.0nm,1.0s
GRFO Grafenberg 51.70 309 *e*P **P** **02 47 04.3 +1.6**
GRFO pmax pmax
comp=Z,18nm,1.5s
GRFO Grafenberg 51.70 309 *e*P **P** **02 47 04.2 +1.6**
comp=Z,18nm,1.5s
KAPI Kappang 54.08 130 LR LR 03 10 50.0
comp=Z,101nm,18.9s,baz=18,slow=37
CDF Champ du Feu 54.53 308 *e*P **P** **02 47 23.6 0.0**
comp=Z,5.2nm,0.8s
WLF Walferdange 54.90 310 *e*P **P** **02 47 27.4 +1.3**
WLF pmax pmax
comp=Z,5.0nm,0.7s
WLF Walferdange 54.90 310 *e*P **P** **02 47 27.4 +1.3**
comp=Z,4.7nm,0.7s
HINF Hinteralfeld 54.97 307 *e*P **P** **02 47 26.6 -0.1**
comp=Z,6.1nm,0.9s
HAU Haudompre 55.24 308 *e*P **P** **02 47 28.5 -0.2**
HAU *e*R
comp=Z,96nm,18.5s
PAGF Fort de Pagny 55.48 309 *e*P **P** **02 47 30.7 +0.3**
comp=Z,1.6nm,0.8s
GIVF Givet 55.60 311 *e*P **P** **02 47 31.6 +0.4**
LPG La Plagne 55.72 305 *e*P **P** **02 47 32.7 +0.2**
comp=Z,13nm,0.9s
LPL La Plagne 55.73 305 *e*P **P** **02 47 32.7 +0.2**
comp=Z,14nm,0.9s
MEZF Maizieres J'vi 55.92 309 *e*P **P** **02 47 33.8 +0.3**
comp=Z,6.4nm,0.7s
MBDF Montbardon 55.95 304 *e*P **P** **02 47 33.8 -0.2**
comp=Z,10.0nm,0.9s
BAIF Baives 55.99 311 *e*P **P** **02 47 34.7 +0.7**
SFTF Sexfontaines 56.02 308 *e*P **P** **02 47 34.1 -0.2**
FRF La Foret Royal 56.42 303 *e*P **P** **02 47 36.6 -0.6**
comp=Z,14nm,1.1s
LOR Lormes 57.06 308 *e*P **P** **02 47 40.9 -0.9**
comp=Z,8.5nm,1.1s
LOR *e*R
comp=Z,72nm,18.8s
SMF Signal de Mont 57.28 307 *e*P **P** **02 47 42.8 -0.5**
comp=Z,10nm,1.1s
KEST Kesra 57.30 293 LR LR 03 13 47.6
comp=Z,17nm,19.1s,baz=221,slow=38
VIVF Saint-Julien-l 57.32 305 *e*P **P** **02 47 43.2 -0.4**
comp=Z,9.8nm,1.3s
SSF Saint Saulge 57.36 307 *e*P **P** **02 47 43.3 -0.5**
comp=Z,7.3nm,0.9s
AVF Avril sur Loir 57.55 307 *e*P **P** **02 47 44.7 -0.4**
comp=Z,17nm,1.3s
HYF Humbligny 57.85 308 *e*P **P** **02 47 47.3 0.0**
LASF Ste Croix 58.14 304 *e*P **P** **02 47 49.3 -0.1**
comp=Z,17nm,1.2s
TCF Toulx Ste Croi 58.46 307 *e*P **P** **02 47 51.5 -0.1**
comp=Z,4.8nm,0.9s
CAF Calviac 59.03 305 *e*P **P** **02 47 55.7 +0.1**
comp=Z,3.7nm,0.8s
RJF Les Rejaudoux 59.26 306 *e*P **P** **02 47 57.4 +0.3**
comp=Z,7.2nm,1.0s
RJF *e*R
comp=Z,52nm,21.5s
FLN La Foliniere 59.31 310 *e*P **P** **02 47 56.8 -0.6**
FLN *e*R
comp=Z,77nm,19.8s
MTLF Montolieu 59.51 304 *e*P **P** **02 47 58.8 -0.1**
GRR Gorron 59.68 310 *e*P **P** **02 47 59.4 -0.5**
comp=Z,8.6nm,0.8s
MFF Saint Martin d 59.87 308 *e*P **P** **02 48 00.6 -0.7**

LFF	La Frestale	59.91 306	*e*P	P		02 48 01.7	+0.1
	comp=Z,8.5nm,0.9s						
SGMF	Saint Gilles	60.78 310	*e*P	P		02 48 07.2	-0.3
	comp=Z,45nm,1.1s						
ROSF	Rostrenen	61.19 311	*e*P	P		02 48 09.8	-0.5
	comp=Z,22nm,1.2s						
ESDC	Sonseca Array	65.25 302	P	P		02 48 38.3	+0.9
ESDC	Sonseca Array	65.25 302	P	P		02 48 38.3	+0.9
	comp=Z,0.7nm,0.8s,baz=57,slow=6.9,SNR=4.0						
COLA	College	72.58 20	*e*P	P		02 49 22.8	+0.3
COLA	College	72.58 20	*e*P	P		02 49 22.8	+0.3
	comp=Z,34nm,1.1s						
ILAR	Eielson Array	72.93 20	P	P		02 49 24.6	+0.1
ILAR	Eielson Array	72.93 20	P	P		02 49 24.6	+0.1
	comp=Z,1.6nm,0.8s,baz=308,slow=5.7,SNR=5.6						
INK	Inuvik	73.03 13	*e*P	P		02 49 25.1	0.0
	comp=Z,2.4nm,0.9s						
TOA0	Torodi Ar. Sit	74.28 275	*e*P	P		02 49 35.6	+2.3
TORD	Torodi Ar. Bea	74.28 275	P	P		02 49 33.5	+0.2
TORD	Torodi Ar. Bea	74.28 275	P	P		02 49 33.5	+0.2
	comp=Z,1.7nm,0.7s,baz=42,slow=4.8,SNR=14						
WRA	Warramunga Arr	74.58 129	P	P		02 49 31.2	-3.6
WRA	Warramunga Arr	74.58 129	P	P		02 49 31.2	-3.6
	comp=Z,2.3nm,1.1s,baz=326,slow=5.6,SNR=17						
WRAB	Tennant Creek	74.58 129	*e*P	P		02 49 35.7	+0.8
WRAB			pmax	pmax			
	comp=Z,3.0nm,0.8s						
WRAB	Tennant Creek	74.58 129	*e*P	P		02 49 35.7	+0.8
	comp=Z,2.8nm,0.8s						
ASAR	Alice Springs	77.07 132	P	P		02 49 47.6	-1.4
ASAR	Alice Springs	77.07 132	P	P		02 49 47.7	-1.4
	comp=Z,0.9nm,0.7s,baz=319,slow=5.8,SNR=11						
YKA	Yellowknife Ar	81.27 8	P	P		02 50 09.6	-1.9
YKA	Yellowknife Ar	81.27 8	P	P		02 50 09.6	-1.9
	comp=Z,1.0nm,0.8s,baz=340,slow=5.3,SNR=3.2						
CTA	Charters Tower	82.62 121	P	P		02 50 19.0	-0.2
CTA	Charters Tower	82.62 121	P	P		02 50 19.0	-0.2
	comp=Z,4.6nm,0.8s,baz=333,slow=4.5,SNR=4.2						
CTAO	Charters Tower	82.62 121	*e*P	P		02 50 19.6	+0.4
CTAO			pmax	pmax			
	comp=Z,7.0nm,0.9s						
CTAO	Charters Tower	82.62 121	*e*P	P		02 50 19.6	+0.4
	comp=Z,6.7nm,0.9s						
BOSA	Boshof	83.09 227	P	P		02 50 21.1	-0.5
BOSA	Boshof	83.09 227	P	P		02 50 21.1	-0.5
	comp=Z,2.1nm,1.0s,baz=32,slow=9.5,SNR=4.2						
DBIC	Dimbokro	83.24 273	LR	LR		03 30 57.9	
	comp=Z,60nm,19.9s,baz=260,slow=38						

IDC 09 02:41:39.8±1.9, 18°.85S×176°.10W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.8/7, MS4.0/1, Ms1 4.0/1, ms1mx2.5/29, Error ellipse: s-maj=113.8km s-min=22.7km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.12	243	P	P	02 49 19.1	+1.6
	4.3nm,1.2s,baz=95,slow=11,SNR=3.0						
WRA	Warramunga Arr	46.62	260	P	P	02 50 09.7	-0.5
	0.5nm,0.3s,baz=98,slow=7.5,SNR=21						
ASAR	Alice Springs	46.65	255	P	P	02 50 09.9	-0.5
	0.6nm,0.4s,baz=86,slow=8.6,SNR=14						
FITZ	Fitzroy Crossi	55.04	261	P	P	02 51 12.3	-1.3
	0.3nm,0.4s,baz=102,slow=14,SNR=5.9						
BATI	Baumata	58.71	269	LR	LR	03 13 15.7	
	comp=Z,120nm,18.2s,baz=356,slow=32						
TXAR	Lajitas Array	84.66	57	P	P	02 54 14.3	-1.6
	0.5nm,1.0s,baz=236,slow=6.4,SNR=4.1						
ILAR	Eielson Array	86.33	12	P	P	02 54 23.6	+0.4
	0.3nm,0.9s,baz=219,slow=13,SNR=4.8						
YKA	Yellowknife Ar	94.28	24	P	P	02 55 02.1	+1.5
	0.3nm,0.6s,baz=215,slow=4.6,SNR=2.6						

*ISCJB **09** 02:45:19.9±0.9, 56°.1S±0°.2×27°.5W±0°.5, h112km, mb3.8/5, Error ellipse: s-maj=39.1km s-min=16.3km az=156.0*
*IDC **09** 02:45:23.2±10.0, 56°.05S×27°.55W, h128km±89km, mb3.7/5, mb1 3.8/5, mb1mx3.5/16, mbtmp3.7/5, Error ellipse: s-maj=35.3km s-min=22.2km az=68.0*

ISC 09 02:45:21.3±0.9, 56°.05S±0°.2×27°.5W±0°.3, h112km, n12, σ0°.71/12, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	17.29	158	*e*P	P	02 49 14.4	-0.6
VNA2	Neumayer--Watz	17.29	158	*e*	Pn	02 49 16.2	+0.9
SNAA	Sanae	18.84	156	*e*P	P	02 49 30.7	-1.4
SNAA	Sanae	18.84	156	*e*	P	02 49 32.5	+0.4
MAW	Mawson	40.28	144	P	P	02 52 46.6	-0.1
	1.5nm,0.8s,baz=255,slow=10,SNR=4.2						
VNDA	Vanda	46.59	183	P	P	02 53 37.5	+0.3
	2.8nm,0.8s,baz=169,slow=5.2,SNR=18						
LPAZ	La Paz	50.20	306	P	P	02 54 06.4	+0.1
	0.8nm,0.5s,baz=135,slow=1.4,SNR=6.7						
TORD	Torodi Ar. Bea	73.13	30	P	P	02 56 39.8	+0.4
	0.8nm,0.8s,baz=197,slow=5.3,SNR=11						
ASAR	Alice Springs	99.07	163	P	Pdif	02 58 48.8	-0.8
	0.1nm,0.5s,baz=183,slow=3.9,SNR=4.5						
FINES	FINESS Array B	124.45	28	PKP	PKPdf	03 04 05.3	-0.3
	0.5nm,0.9s,baz=46,slow=4.0,SNR=3.8						
ILAR	Eielson Array	149.95	312	PKPbc	PKPbc	03 04 56.5	-0.4
	0.8nm,0.9s,baz=122,slow=1.4,SNR=8.5						
SONM	Songino Array	150.92	87	PKPbc	PKPbc	03 04 59.7	-0.2
	1.5nm,0.5s,baz=216,slow=4.3,SNR=6.6						

IDC 09 02:53:16.7±6.9, 17°.32S×176°.94W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.4/19, mbtmp3.3/2, Error ellipse: s-maj=346.5km s-min=54.4km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.12	259	P	P	03 01 42.8	-0.5
	0.4nm,1.1s,baz=96,slow=7.6,SNR=5.5						
ASAR	Alice Springs	46.30	254	P	P	03 01 44.9	+0.2
	0.2nm,0.3s,baz=86,slow=8.3,SNR=4.9						
GERES	GERESS Array B	147.39	347	PKPbc	PKPbc	03 13 01.8	-0.8
	0.3nm,0.6s,baz=21,slow=1.9,SNR=4.2						

TRN 09 03:38:16.5, 14°.98N×60°.94W, h163km, MD3.6, M3.4(FDF), 2C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	Fort de France	0.32	220	⇑*i*P	Pn	03 38 40.5	+1.8
FDF				*e*S	Sn	03 38 55.7	+0.1
SLW	Petit Monier	0.95	180	*e*P	Pn	03 38 43.5	+1.3
MGG	Marie-Galante	1.00	339	⇓*i*P	Pn	03 38 43.5	+1.0
TBG	Guadaloupe-3	1.10	322	*e*P	Pn	03 38 44.4	+1.1
PHG	Guadaloupe-2	1.23	327	*e*P	Pn	03 38 45.6	+0.9
DOG	Dongo Capester	1.23	328	*e*P	Pn	03 38 45.5	+0.9
HMG	Houelmont	1.24	324	*e*P	Pn	03 38 45.6	+1.0
MCLT	Moule a Chique	1.26	180	*e*P	Pn	03 38 46.2	+1.4
MCLT				*e*S	Sn	03 39 07.5	+0.9
SCG	Saint Claude	1.27	326	*e*P	Pn	03 38 45.9	+1.0
TAG	Tarade	1.27	327	*e*P	Pn	03 38 46.5	+1.5
BCG	Bois Riant Cap	1.28	329	*e*P	Pn	03 38 45.9	+0.9
FNG	Fond-Bernard	1.29	326	*e*P	Pn	03 38 46.2	+1.0
MLG	Mont-d'or	1.31	326	⇓*i*P	Pn	03 38 46.3	+1.0
DEG	La Desirade	1.33	355	*e*P	Pn	03 38 46.7	+1.2
LZG	Guadaloupe-1	1.41	325	*e*P	Pn	03 38 47.4	+1.2
SEG	Port Louis	1.52	339	*e*P	Pn	03 38 48.5	+1.2
SVB	Belmont	1.72	190	*e*P	Pn	03 38 51.0	+1.6
SVB	Belmont	1.72	190	⇑*i*P	Pn	03 38 51.3	+1.9
SVB				*e*S	Sn	03 39 14.9	+0.1
ANWB	Willy Bob	2.80	343	*e*P	Pn	03 39 01.9	0.0
ANWB				*e*S	Sn	03 39 34.3	-2.8
SKI	Saint Kitts	2.91	324	*e*P	Pn	03 39 03.7	+0.4
SKI				*e*S	Sn	03 39 39.9	+0.2
TOSP	Speyside	3.68	174	*e*S	Sn	03 39 55.6	-1.4

IDC 09 03:42:24.6±2.2, 7°.92S×127°.07E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, ML3.4/2, Error ellipse: s-maj=279.0km s-min=32.9km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.87	150	Pn	Pn	03 45 41.1	-1.6
	0.3nm,0.3s,baz=327,slow=14,SNR=21						
WRA				Sn	Sn	03 48 04.5	-13
	0.3nm,0.3s,baz=321,slow=29,SNR=6.0						
ASAR	Alice Springs	16.97	158	Pn	P	03 46 25.1	-0.6
	0.1nm,0.3s,baz=331,slow=9.2,SNR=6.2						
MKAR	Makanchi Array	67.44	328	P	P	03 53 22.2	0.0
	0.1nm,0.5s,baz=115,slow=6.0,SNR=4.2						

*LDG **09** 04:02:04.2±0.1, 35°.61N×81°.65E, h10km, Mb5.0/38, Ms4.2/11, Error ellipse: s-maj=8.1km s-min=4.1km az=66.0*
*ISCJB **09** 04:02:04.1±0.7, 35°.59N±0°.02×81°.60E±0°.02, h0km±4km, mb4.9/185, MS4.3/71, Error ellipse: s-maj=3.6km s-min=2.5km az=27.9*
*IDC **09** 04:02:05.2±0.4, 35°.59N×81°.68E, h0km, mb4.6/33, mb1 4.8/38, mb1mx4.7/42, mbtmp4.7/38, ML4.2/5, MS4.2/36, Ms1 4.2/36, ms1mx4.1/42, Error ellipse: s-maj=10.7km s-min=7.9km az=59.0*
*BJI **09** 04:02:05.2, 35°.54N×81°.70E, h10km, mB5.1/33, mb4.7/40, ML4.9/6, Ms4.8/39, Ms7 4.5/41*
*NEIC **09** 04:02:07.3±0.2, 35°.58N×81°.65E, h10km, mb4.9/60, Error ellipse: s-maj=5.5km s-min=4.0km az=206.0*
*NNC **09** 04:02:07.3±7.6, 35°.74N×81°.66E, h8km±28km, mb4.9, mpv4.8, Error ellipse: s-maj=51.0km s-min=21.4km az=152.0*
*TEH **09** 04:02:08.0, 35°.60N×81°.57E, h10km, ML5.0*
*MOS **09** 04:02:09.4±1.0, 35°.70N×81°.69E, h33km, mb5.0/86, MS4.4/43, Error ellipse: s-maj=6.7km s-min=3.5km az=121.3*
*SZGRF **09** 04:02:09.1, 36°.86N×82°.80E, h33km, mb4.7, MS4.6, Southern Xinjiang, China*
*GCMT **09** 04:02:11.4±0.2, 35°.76N×81°.58E, h18km±1km, MW5.1, Moment Tensor Solution. s28,c33; s67,c102; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.82±.19; $M_{\theta\theta}$-3.04±.14; $M_{\phi\phi}$3.86±.13; $M_{r\theta}$2.11±.47; $M_{\theta\phi}$0.24±.10; $M_{\phi r}$-2.85±.41; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s322.00000°, δ84.00000°, λ-133.00000°. NP2:ϕ_s226.00000°, δ43.00000°, λ-8.00000°. Principal axes: T 5.2700, Plg27.0000°, Azm84.0000°; N -0.5800, Plg43.0000°, Azm327.0000°; P -4.6900, Plg36.0000°, Azm196.0000°; Data Used: IU II IC G CN.*

ISC 09 04:02:08.3±0.5, 35°.63N±0°.03×81°.60E±0°.03, h15km±2km, h14km:pP-P, n503, σ1s62/578, mb4.9/183, MS4.4/72, 30C-33D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	DHARAMSHALA	5.54	234	*e*P	Pn	04 03 28.4	-2.1
DHRM				*ex*	Pg	04 03 53.2	-1.3
DHRM				AMB	AMB	04 03 54.0	
	comp=Z,361nm,1.0s						
SMLA	Simla	5.82	221	*e*P	Pn	04 03 34.5	+0.4
SMLA				AMB	AMB	04 03 36.7	
	comp=Z,64nm,0.3s						
SMLA				*e*S	Sn	04 04 42.4	+1.8
KSH	Kashi	5.92	313	Pn	Pn	04 03 36.2	+0.7
KSH				Sn	Sn	04 04 40.9	-2.3
KSH				smax	smax		
	comp=N,1μm,1.0s						
KSH				smax	smax		
	comp=E,2μm,1.0s						
CHCP	Chirah Chowk	7.14	256	P	Pn	04 03 52.3	0.0
DANN	Dangsing	7.49	165	*e*P	Pn	04 03 57.0	-0.3
	comp=E,80nm,0.5s						
PYUN	Piuthan	7.60	171	*e*P	Pn	04 03 56.6	-2.1
	comp=E,84nm,0.5s						
ULHL	Ulahol	7.81	329	*i*P	Pn	04 04 04.4	+2.8
ULHL	Ulahol	7.81	329	P	Pn	04 04 04.4	+2.8
	SNR=21						
NDI	New Delhi	7.86	209	*e*P	Pn	04 04 01.0	-1.1
KOLN	Koldanda	8.02	167	*e*P	Pn	04 04 03.1	-1.4
	comp=E,89nm,0.5s						
KZA	Kyzart	8.12	324	*i*P	Pn	04 04 08.9	+2.8
KZA	Kyzart	8.12	324	P	Pn	04 04 08.9	+2.8
	SNR=24						
KKN	Kakani	8.42	157	*e*P	Pn	04 04 10.9	+0.9
	comp=E,112nm,0.6s						
GUN	Gumba	8.51	153	*e*P	Pn	04 04 12.3	+0.9
	comp=E,188nm,0.7s						
DMN	Daman	8.54	159	*e*P	Pn	04 04 12.0	+0.4
	comp=E,144nm,0.7s						
UCH	Uchtor	8.59	322	P	Pn	04 04 16.5	+3.9
	SNR=8.0						
THW	Thamme Wali	8.64	254	P	Pn	04 04 13.4	+0.6
TKM2	Tokmak 2	8.64	329	⇑Pn	Pn	04 04 13.1	+0.2
	comp=E,27nm,1.1s						
TKM2				⇑Pg	Pg	04 04 43.3	-11
	comp=E,66nm,1.1s						
TKM2				⇓Lg	Lg	04 06 39.4	
	comp=E,160nm,1.1s						
TKM2	Tokmak 2	8.64	329	*i*P	Pn	04 04 14.6	+1.7
TKM2	Tokmak 2	8.64	329	P	Pn	04 04 14.7	+1.7
	SNR=18						
TKM2	Tokmak 2	8.64	329	*e*Pn	Pn	04 04 14.2	+1.3
TKM2				*e*Sn	Sn	04 05 47.9	-2.3
PKIN	Phulchoki	8.65	157	*e*P	Pn	04 04 14.7	+1.4
	comp=E,67nm,0.5s						
PKI	Pulchoki	8.66	157	*e*P	Pn	04 04 14.5	+1.0
	comp=E,82nm,0.5s						
JIRN	Jiri	8.85	153	*e*P	Pn	04 04 17.0	+0.9
	comp=E,179nm,0.5s						
AAK	Ala-Archa	8.91	324	P	Pn	04 04 18.3	+1.7
AAK						04 06 03.9	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK				smax	smax		
	comp=N,2.0nm,0.3s						
AAK	Ala-Archa	8.91	324	*e*Pn	Pn	04 04 17.8	+1.2
AAK				Pg	Pg	04 04 49.5	-9.2
AAK				Sn	Sn	04 06 03.9	+7.1
AAK				Lg	Lg	04 06 48.5	
AAK	Ala-Archa	8.91	324	Pn	Pn	04 04 18.3	+1.7
	comp=N,1.3nm,0.3s,baz=128,slow=11,SNR=11						
AAK				Pg	Pg	04 04 49.5	-9.2
	comp=N,5.6nm,0.3s,baz=159,slow=12,SNR=9.5						
AAK				Sn	Sn	04 06 03.9	+7.1
	comp=N,2.2nm,0.3s,baz=180,slow=20,SNR=1.6						
AAK				Lg	Lg	04 06 48.5	
	comp=N,5.7nm,0.3s,baz=349,slow=19,SNR=4.7						
AML	Almayashu	8.95	319	*i*P	Pn	04 04 18.9	+1.5
AML	Almayashu	8.95	319	P	Pn	04 04 18.9	+1.5
	SNR=6.6						
FRU	Bishkek	9.00	325	⇓*e*P	Pn	04 04 19.0	+1.2
FRU				*e*S	Sn	04 06 04.0	+5.1
FRU				pmax	pmax		
	comp=Z,190nm,1.9s						
FRU				MLR	MLR		
	comp=Z,25μm,14.0s						
CHMS	Chumysh	9.07	326	P	Pn	04 04 22.6	+4.0
	SNR=7.4						
EKS2	Erkin-Say	9.28	322	*e*P	Pn	04 04 23.5	+1.8
EKS2	Erkin-Say	9.28	322	P	Pn	04 04 23.4	+1.7
	SNR=23						
EKS2	Erkin-Say	9.28	322	*e*Pn	Pn	04 04 23.5	+1.8
WMQ	Urumqi	9.43	28	P	Pn	04 04 24.0	+0.3
WMQ				sP		04 04 29.7	
WMQ				S	Sn	04 06 12.0	+2.5
WMQ				sS		04 06 15.4	
WMQ				LR	LR		
	comp=N,22μm,24.0s						
WMQ				LR	LR		
	comp=E,34μm,24.0s						
WMQ				LR	LR		
	comp=Z,14μm,17.0s						
RAMN	Ramite	9.65	152	*e*P	Pn	04 04 25.7	-1.2
	comp=Z,106nm,0.8s						
TAPN	Taplejung	9.76	146	*e*P	Pn	04 04 28.6	+0.1
	comp=Z,135nm,1.2s						
LSA	Lhasa	9.98	124	P	Pn	04 04 34.0	+2.3
LSA				S	Sn	04 06 24.4	+0.7
LSA				LR	LR		
	comp=N,3μm,17.3s						
LSA				LR	LR		
	comp=E,3μm,19.4s						
LSA				LR	LR		
	comp=Z,1μm,15.9s						
LSA	Lhasa	9.98	124	*e*P	Pn	04 04 34.2	+2.5
LSA				pmax	pmax		
	comp=Z,29nm,1.0s						
LSA	Lhasa	9.98	124	*e*Pn	Pn	04 04 34.2	+2.5
	comp=Z,29nm,1.0s						
ODAN	Odare	10.05	149	*e*P	Pn	04 04 31.4	-0.9
	comp=Z,103nm,0.7s						
KBL	Kabul	10.35	268	*e*P	Pn	04 04 34.7	-1.7
KBL	Kabul	10.35	268	*e*Pn	Pn	04 04 34.7	-1.7
MK31	Makanchi Array	11.17	2	P	Pn	04 04 46.6	-0.8
	comp=Z,109nm,0.9s,baz=183,slow=11,SNR=472						
MK31	Makanchi Array	11.17	2	*e*P	Pn	04 04 46.7	-0.7
MK31				*e*		04 06 54.0	
MK31	Makanchi Array	11.17	2	*e*Pn	Pn	04 04 46.7	-0.7
MK31				*e*Sn	Sn	04 06 54.0	+2.1
MKAR	Makanchi Array	11.17	2	P	Pn	04 04 47.2	-0.2
MKAR						04 06 51.2	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MKAR				smax	smax		
	comp=N,1.0nm,0.3s						
MKAR	Makanchi Array	11.17	2	Pn	Pn	04 04 47.2	-0.2
MKAR				Sn	Sn	04 06 51.2	-0.8
MKAR				Lg	Lg	04 08 04.5	
MKAR	Makanchi Array	11.17	2	Pn	Pn	04 04 47.2	-0.2
	comp=N,6.0nm,0.3s,baz=184,slow=13,SNR=245						
MKAR				Sn	Sn	04 06 51.2	-0.8
	comp=N,1.2nm,0.3s,baz=183,slow=23,SNR=2.8						
MKAR				Lg	Lg	04 08 04.5	
	comp=N,0.1nm,0.3s,baz=175,slow=23,SNR=2.5						
KK31	Karatay Array	11.37	314	Pn	Pn	04 04 49.0	-1.1
	comp=N,5.8nm,0.6s,baz=124,slow=11,SNR=55						
KK31				⇑Pg		04 05 34.7	
	comp=N,11nm,0.7s,baz=132,slow=14,SNR=4.5						
KK31				⇑Lg	Lg	04 08 06.3	
	comp=N,69nm,1.2s,baz=132,slow=14,SNR=4.5						
KK31	Karatay Array	11.37	314	*i*P	Pn	04 04 49.0	-1.1
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	Karatay Array	11.37	314	*e*P	Pn	04 04 48.9	-1.2
KKAR	Karatay Array	11.37	314	*e*Pn	Pn	04 04 48.9	-1.2
BOK	Bokaro	12.37	161	*e*P	Pn	04 05 01.2	-2.6
BOK				AMB	AMB	04 05 20.5	
	comp=Z,23nm,0.9s						
JBP	Jabalpur	12.50	187	*ex*	Pn	04 05 03.3	-2.4
BHPL	Bhopal	12.87	197	*e*P	Pn	04 05 08.1	-2.7
BHPL				AMB	AMB	04 05 11.2	
	comp=Z,29nm,1.8s						
SHL	Shillong	13.37	136	*e*P	Pn	04 05 13.0	-4.8
SHL				*e*P	Pn	04 05 14.5	-3.2
SHL				AMB	AMB	04 05 16.4	
	comp=Z,16nm,1.1s						
NGP	Nagpur	14.60	189	*ex*	Pn	04 05 28.7	-5.7
	comp=Z,49nm,2.6s						
NGP				*e*S	Sn	04 07 49.2	-27
GTA	Gaotai	14.94	70	⇓P	Pn	04 05 38.3	-0.8
GTA				pP	P	04 05 41.8	-2.8
GTA				sP		04 05 45.3	
GTA				S	Sn	04 08 24.4	+0.1
GTA				sS	S	04 08 31.0	-11
GTA				SS	SnSn	04 08 42.9	+6.1
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,160nm,4.8s						
GTA				LR	LR		
	comp=N,2μm,12.1s						
GTA				LR	LR		
	comp=E,2μm,10.9s						
GTA				LR	LR		
	comp=Z,2μm,10.7s						
KURBB	Kurchatov Arra	15.15	353	⇓P	Pn	04 05 37.5	-4.1
	comp=Z,49nm,1.4s						
KURBB	Kurchatov Arra	15.15	353	Pn	Pn	04 05 38.5	-3.1
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=76						
KURBB				Lg	Lg	04 10 11.6	
	baz=178,slow=25,SNR=4.9						
KURK	Kurchatov	15.23	353	P	Pn	04 05 38.5	-4.2
KURK	Kurchatov	15.23	353	Pn	Pn	04 05 38.5	-4.2
KURK				Lg	Lg	04 10 11.6	
IMYA	Miami	17.41	279	*e*P	Pn	04 06 08.0	-2.9
HVS	Khovu-Aksy	17.78	26*c*	*i*P	Pn	04 06 15.3	0.0
HVS				pmax	pmax		
	comp=Z,164nm,1.2s						
ISRO	Mashad	17.93	279	*e*P	Pn	04 06 14.7	-2.4
LZH	Lanzhou	18.04	82	*e*P	Pn	04 06 18.8	+0.2
LZH				pP	pP	04 06 22.5	-0.6
LZH				sP	sP	04 06 24.7	-0.3
LZH				*e*S	Sn	04 09 37.0	-2.6
LZH				sS	S	04 09 42.0	-3.6
LZH				SS	SnSn	04 09 59.9	+6.8
LZH				pmax	pmax		
	comp=Z,88nm,1.3s						
LZH				pmax	pmax		
	comp=Z,360nm,4.6s						
LZH				LR	LR		
	comp=N,2μm,11.6s						
LZH				LR	LR		
	comp=E,1μm,10.2s						
LZH				LR	LR		
	comp=Z,2μm,10.3s						
IMOG	Moghan	18.05	278	*e*P	Pn	04 06 14.9	-3.9
IPAY	Payeh	18.30	279	*e*P	Pn	04 06 19.8	-2.0
POO	Poona	18.36	204	*e*P	Pn	04 06 22.0	-0.6
POO				AMB	AMB	04 06 26.3	
	comp=Z,64nm,1.1s						
ZAA0	Zalesovo Array	18.46	6	*e*P	P	04 06 20.1	-3.2
ZALV	Zalesovo Beam	18.46	6	P	P	04 06 21.1	-2.2
ZALV				S	S	04 09 52.2	-1.3
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	18.46	6	P	P	04 06 21.1	-2.2
ZALV				S	S	04 09 52.2	-1.3
ZALV				Lg	Lg	04 12 00.8	
ZALV	Zalesovo Beam	18.46	6	P	P	04 06 21.1	-2.2
	comp=Z,1.0nm,0.3s,baz=187,slow=11,SNR=29						
ZALV				S	S	04 09 52.2	-1.3
	comp=Z,0.2nm,0.3s,baz=191,slow=22,SNR=2.2						
ZALV				Lg	Lg	04 12 00.8	
	comp=Z,0.1nm,0.3s,baz=214,slow=31,SNR=2.4						
IAKL	Akhelmad	18.48	280	*e*P	P	04 06 21.6	-2.4
IEMG	Emamgholi	18.52	282	*e*P	P	04 06 20.0	-4.5
IKRD	Kardeh	18.66	280	*e*P	P	04 06 14.8	-11
VOSK	Vostochnaya	18.67	340	⇓P	P	04 06 24.3	-1.5
	comp=Z,66nm,1.4s						
VOSK	Vostochnaya	18.67	340	P	P	04 06 24.2	-1.5
VOSK				pmax	pmax		
	comp=Z,66nm,1.5s						
ISFR	Sfrayin	19.06	281	*e*P	P	04 06 29.0	-1.3
CD2	Chengdu	19.11	98	P	Pn	04 06 32.4	+0.9
CD2				pP	pP	04 06 36.2	+1.4
CD2				PP	PnPn	04 06 49.2	+5.1
CD2				S	Sn	04 10 02.5	-2.9
CD2				sS	S	04 10 07.5	+0.5
CD2				SS	SnSn	04 10 28.2	+8.9
CD2				pmax	pmax		
	comp=Z,40nm,1.2s						
CD2				pmax	pmax		
	comp=

BRVK	**Borovoye**	**19.17**	**339**	*e*P	**P**	**04 06 31.1**	**0.0**
	comp=Z,44nm,0.9s						
NVS	**Novosibirsk**	**19.25**	**3**⇑	*i*P	**P**	**04 06 29.2**	**-2.7**
NVS				*e*S	Sn	04 09 59.4	-8.8
NVS				pmax	pmax		
	comp=Z,37nm,1.2s						
NVS				pmax	pmax		
	comp=N,35nm,1.3s						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
NVS				smax	smax		
	comp=N,63nm,2.3s						
NVS				smax	smax		
	comp=E,29nm,1.7s						
ISHV	**Shirvan**	**19.28**	**283**	*e*P	**P**	**04 06 32.2**	**-0.5**
AB31	**Akbulak array**	**20.90**	**317**	P	**P**	**04 06 49.4**	**-0.6**
	comp=E,62nm,1.4s,baz=114,slow=11,SNR=107						
AB31	**Akbulak array**	**20.90**	**317**	*e*P	**P**	**04 06 49.3**	**-0.6**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ABKAR	**Akbulak array**	**20.90**	**317**	*e*P	**P**	**04 06 49.9**	**-0.1**
	comp=Z,51nm,1.1s						
KMI	**Kunming**	**20.99**	**114**	P	**P**	**04 06 50.5**	**-0.9**
KMI				pP	**pP**	**04 06 59.2**	**+3.6**
KMI				sP	sP	04 07 03.2	+5.7
KMI				S	**S**	**04 10 41.2**	**-3.8**
KMI				pmax	pmax		
	comp=Z,28nm,1.6s						
KMI				pmax	pmax		
	comp=Z,510nm,4.1s						
KMI				LR	LR		
	comp=N,1μm,13.2s						
KMI				LR	LR		
	comp=E,790nm,13.4s						
KMI				LR	LR		
	comp=Z,880nm,10.8s						
MOY	**Mondy**	**21.20**	**35**	*e*P	**P**	**04 06 54.9**	**+1.5**
MOY				pmax	pmax		
	comp=Z,85nm,1.6s						
ZAK	**Zakamensk**	**21.54**	**40**⇑	*i*P	**P**	**04 06 57.4**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,31nm,1.1s						
KRAR	**Krasnoyarsk**	**21.79**	**17**⇑	*e*P	**P**	**04 06 59.8**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,59nm,1.7s						
SONM	**Songino Array**	**22.05**	**49**	P	**P**	**04 07 01.8**	**-0.8**
SONM				S	Sn	04 11 21.4	+5.1
SONM	**Songino Array**	**22.05**	**49**	P	**P**	**04 07 01.8**	**-0.8**
	comp=Z,11nm,0.9s,baz=247,slow=7.6,SNR=31						
SONM				S	Sn	04 11 21.4	+5.1
	comp=Z,1.0nm,0.6s,baz=176,slow=20,SNR=1.7						
SONM				LR	LR	04 16 08.1	
	comp=Z,1μm,18.4s,baz=250,slow=38						
XAN	**Xi'an**	**22.46**	**86**	P	**P**	**04 07 07.0**	**0.0**
XAN				pP	**pP**	**04 07 10.5**	**-0.6**
XAN				S	S	04 11 00.0	-13
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN				LR	LR		
	comp=N,890nm,15.3s						
XAN				LR	LR		
	comp=E,390nm,16.5s						
XAN				LR	LR		
	comp=Z,390nm,15.3s						
ULN	**Ulaanbaatar**	**22.47**	**49**	*e*P	**P**	**04 07 07.7**	**+0.6**
	comp=Z,73nm,1.3s						
TLY	**Talaya**	**22.49**	**38**	*e*P	**P**	**04 07 07.6**	**+0.5**
TLY				*e*		04 07 35.3	
TLY				*e*SS	SS	04 11 47.9	
TLY				pmax	pmax		
	comp=Z,44nm,1.9s						
TLY				MLR	MLR		
	comp=Z,952nm,18.0s						
AKTO	**Aktyubinsk**	**22.58**	**318**	⇑P	**P**	**04 07 07.6**	**-0.5**
	comp=Z,32nm,1.0s						
AKTO	**Aktyubinsk**	**22.58**	**318**	P	**P**	**04 07 08.1**	**+0.1**
AKTO				S	**S**	**04 11 17.4**	**+2.4**
AKTO				pmax	pmax		
	comp=Z,12nm,0.6s						
AKTO				smax	smax		
	comp=N,1.0nm,0.7s						
AKTO				MLR	MLR		
	comp=Z,629nm,18.2s						
AKTO	**Aktyubinsk**	**22.58**	**318**	P	**P**	**04 07 08.1**	**+0.1**
AKTO				S	**S**	**04 11 17.4**	**+2.4**
AKTO	**Aktyubinsk**	**22.58**	**318**	P	**P**	**04 07 08.1**	**+0.1**
	comp=Z,12nm,0.6s,baz=113,slow=12,SNR=16						
AKTO				S	**S**	**04 11 17.4**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=301,slow=19,SNR=2.3						
AKTO				LR	LR	04 16 27.2	
	comp=Z,628nm,18.2s,baz=303,slow=38						
CHTO	**Chiang Mai**	**22.71**	**133**	*e*P	**P**	**04 07 11.6**	**+1.9**
CHTO				pmax	pmax		
	comp=Z,132nm,2.7s						
CHTO	**Chiang Mai**	**22.71**	**133**	*e*P	**P**	**04 07 11.6**	**+1.9**
	comp=Z,132nm,2.7s						
BTO	**Baotou**	**22.86**	**69**	*e*P	**P**	**04 07 11.8**	**+0.6**
ISHM	**Shahmirzad**	**22.95**	**279**	*e*P	**P**	**04 07 12.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**22.98**	**134**	P	**P**	**04 07 12.2**	**-0.3**
CMAR				PcP	**PcP**	**04 11 03.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**22.98**	**134**	P	**P**	**04 07 12.2**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=314,slow=10.0,SNR=8.5						
CMAR				PcP	**PcP**	**04 11 03.0**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=292,slow=3.1,SNR=8.5						
CMAR				LR	LR	04 16 21.8	
	comp=Z,496nm,20.0s,baz=319,slow=37						
GYA	**Guiyang**	**23.29**	**106**	P	**P**	**04 07 15.9**	**+0.2**
GYA				PP	**PnPn**	**04 07 45.5**	**+4.0**
GYA				PcP	**PcP**	**04 11 03.4**	**+0.4**
GYA				S	**S**	**04 11 22.2**	**-5.6**
GYA				SS	**SnSn**	**04 12 06.5**	**+4.4**
GYA				ScP	**ScP**	**04 14 41.8**	**+1.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,670nm,14.0s						
GYA				LR	LR		
	comp=E,550nm,15.4s						
GYA				LR	LR		
	comp=Z,570nm,14.7s						
ENH	**Enshi**	**23.96**	**95**	*e*P	**P**	**04 07 21.2**	**-0.9**
	comp=Z,15nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.04**	**68**	*e*P	**P**	**04 07 23.3**	**+0.4**
HHC				PP	**PnPn**	**04 07 57.8**	**+6.1**
HHC				PcP	**PcP**	**04 11 06.8**	**+2.5**
HHC				S	**S**	**04 11 37.1**	**-2.6**
HHC				SS	**SnSn**	**04 12 27.1**	**+6.9**
HHC				ScP	**ScP**	**04 14 43.8**	**+1.5**
HHC				PcS	**PcS**	**04 14 45.2**	**+1.1**
HHC				pmax	pmax		
	comp=Z,59nm,0.6s						
HHC				pmax	pmax		
	comp=Z,520nm,4.7s						
HHC				LR	LR		
	comp=N,2μm,12.9s						
HHC				LR	LR		
	comp=E,2μm,12.1s						
HHC				LR	LR		
	comp=Z,2μm,13.7s						
IZEF	**Zefreh**	**24.30**	**272**	*e*P	**P**	**04 07 25.0**	**-0.6**
SVE	**Sverdlovsk**	**25.49**	**333**⇓	*e*P	**P**	**04 07 37.1**	**+1.4**
SVE				pmax	pmax		
	comp=Z,53nm,1.2s						
SVE				MLR	MLR		
	comp=Z,372nm,13.0s						
IPIR	**Pirpir**	**25.53**	**272**	*e*P	**P**	**04 07 38.7**	**+2.0**
PBA	**Port Blair**	**25.92**	**154**	*e*P	P	04 07 36.1	-3.8
ARU	**Arti**	**26.01**	**330**	*d i*P	**P**	**04 07 41.0**	**+0.5**
ARU						04 08 18.8	
ARU				PPP	PPP	04 08 28.0	
ARU						04 11 08.4	
ARU				S	**S**	**04 12 11.1**	**+0.5**
ARU				SS	**SnSn**	**04 13 13.5**	**+5.5**
ARU				pmax	pmax		
	comp=Z,54nm,1.7s						
ARU				MLR	MLR		
	comp=Z,635nm,16.0s						
BJI	**Beijing**	**27.55**	**70**	P	**P**	**04 07 54.1**	**-0.4**
BJI				pmax	pmax		
	comp=Z,13nm,1.4s						
BJI				pmax	pmax		
	comp=Z,89nm,5.8s						
BJI				LR	LR		
	comp=N,980nm,25.5s						
BJI				LR	LR		
	comp=E,310nm,14.6s						
BJI				LR	LR		
	comp=Z,420nm,33.8s						
WHN	**Wuhan**	**27.83**	**91**	P	**P**	**04 07 57.8**	**+0.7**
WHN				S	**S**	**04 12 39.5**	**-0.2**
WHN				LR	LR		
	comp=Z,2μm,11.5s						
DGRG	**David-gareji**	**28.78**	**293**	P	**P**	**04 08 07.8**	**+2.2**
TBLG	**Delisi**	**29.25**	**293**	*e*P	P	04 08 15.1	+5.4
TBLG	**Delisi**	**29.25**	**293**	P	P	04 08 15.1	+5.4
MIB	**Mutribah**	**29.31**	**268**	*e*P	**P**	**04 08 10.2**	**-0.1**
MIB				AMb	AMB	04 08 15.5	
	comp=Z,31nm,1.6s						
RDF	**Al-Radifah**	**29.45**	**267**	*e*P	**P**	**04 08 11.0**	**-0.6**
RDF				AMb	AMB	04 08 21.2	
	comp=Z,37nm,1.3s						
GUDG	**Gudauri**	**29.45**	**295**	P	**P**	**04 08 13.2**	**+1.4**
NAY	**Al-Naaiem**	**29.58**	**267**	*e*P	**P**	**04 08 12.4**	**-0.4**
NAY				AMb	AMB	04 08 23.0	
	comp=Z,21nm,1.6s						
QIZ	**Qiongzhong**	**29.90**	**116**	P	**P**	**04 08 16.9**	**+1.3**
QIZ				S	**S**	**04 13 13.2**	**+0.7**
QIZ				LR	LR		
	comp=Z,730nm,20.3s						
AKH	**Akhalkalaki**	**30.19**	**293**	P	P	04 08 22.2	+4.0
ONI	**Oni**	**30.21**	**295**	P	**P**	**04 08 20.6**	**+2.4**
KBZ	**Khabaz**	**30.64**	**297**	LR	LR	04 22 07.6	
	comp=Z,307nm,20.1s,baz=264,slow=39						
KIV	**Kislovodsk**	**30.80**	**298**	*e*P	**P**	**04 08 22.3**	**-1.2**
KIV				*e*		04 11 18.6	
KIV				*e*S	**S**	**04 13 24.0**	**-2.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,263nm,16.0s						
NJ2	**Nanjing**	**31.03**	**86**	*e*P	**P**	**04 08 26.3**	**+0.8**
VRHR	**Novokhopersk**	**32.46**	**311**	*e*P	**P**	**04 08 37.8**	**0.0**
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s						
VRHR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,20nm,1.0s						
VRHR				MLR	MLR		
	comp=Z,680nm,14.0s						
VRHR				MLR	MLR		
	comp=N,90nm,12.0s						
VRHR				MLR	MLR		
	comp=E,310nm,12.0s						
RAYN	**Ar Rayn**	**33.45**	**259**	P	**P**	**04 08 46.5**	**-0.4**
	comp=E,74nm,0.8s,SNR=5.7						
RAYN	**Ar Rayn**	**33.45**	**259**	*e*P	**P**	**04 08 46.6**	**-0.2**
	comp=E,11nm,0.9s						
VORD	**Divnogorie**	**33.88**	**310**	*e*P	**P**	**04 08 49.7**	**-0.5**
VORD				pmax	pmax		
	comp=Z,70nm,1.3s						
VORD				pmax	pmax		
	comp=N,80nm,0.8s						
VORD				pmax	pmax		
	comp=E,160nm,0.6s						
VORD				MLR	MLR		
	comp=Z,890nm,14.0s						
VORD				MLR	MLR		
	comp=N,370nm,12.0s						
VORD				MLR	MLR		
	comp=E,2μm,18.0s						
VSR	**Storozhevoye**	**34.00**	**311**	*e*P	**P**	**04 08 51.3**	**0.0**
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VSR				pmax	pmax		
	comp=N,8.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,40nm,1.3s						
VSR				MLR	MLR		
	comp=Z,780nm,13.0s						
VSR				MLR	MLR		
	comp=N,210nm,14.0s						
VSR				MLR	MLR		
	comp=E,350nm,14.0s						
CN2	**Changchun**	**34.37**	**63**	*e*P	**P**	**04 08 56.9**	**+2.3**
CN2				*e*S	**S**	**04 14 23.6**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,300nm,4.1s						
CN2				LR	LR		
	comp=N,300nm,17.0s						
CN2				LR	LR		
	comp=E,500nm,17.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
ANN	**Anapa**	**34.58**	**299**	*e*P	P	04 08 52.6	-3.8
ANN				*e*S	**S**	**04 14 21.2**	**-3.8**
ANN				pmax	pmax		
	comp=Z,38nm,1.3s						
ANN				MLR	MLR		
	comp=Z,768nm,16.0s						
KULM	**Kulim**	**34.92**	**145**	*e*P	**P**	**04 09 00.9**	**+1.3**
	comp=Z,13nm,1.0s						
CLNS	**Chul'man**	**35.87**	**40**	*e*P	**P**	**04 09 07.0**	**-0.4**
CLNS				*e**PP	**pP**	**04 09 16.2**	**+4.3**
CLNS				*e*		04 10 28.8	
CLNS				*e*PPP	PPP	04 10 42.7	
CLNS				*e*		04 11 32.8	
CLNS				*e*S	**S**	**04 14 41.2**	**-3.4**
CLNS				*e*SSS	SSS	04 17 23.7	
CLNS				pmax	pmax		
	comp=Z,17nm,0.9s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,16nm,1.2s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,2.0nm,1.2s						
CLNS				smax	smax		
	comp=N,65nm,12.6s						
CLNS				smax	smax		
	comp=E,178nm,15.2s						
CLNS				MLR	MLR		
	comp=E,146nm,16.0s						
CLNS				MLR	MLR		
	comp=N,248nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,551nm,14.0s						
MOS	**Moscow**	**35.92**	**318**	*e*P	**P**	**04 09 07.6**	**-0.2**
MOS				*e*		04 10 30.7	
MOS				pmax	pmax		
	comp=Z,70nm,1.0s						
MOS				pmax	pmax		
	comp=E,100nm,1.0s						
MOS				pmax	pmax		
	comp=Z,200nm,2.0s						
MOS				MLR	MLR		
	comp=Z,600nm,17.0s						
OBN	**Obninsk**	**36.34**	**317**	*k e*P	**P**	**04 09 12.2**	**+0.8**
OBN				*e*		04 09 26.9	
OBN				*e*S	**S**	**04 14 55.2**	**+3.4**
OBN				pmax	pmax		
	comp=Z,65nm,1.7s						
OBN				MLR	MLR		
	comp=Z,600nm,17.0s						
PSI	**Prapat**	**36.40**	**150**	LR	LR	04 25 15.4	
	comp=Z,362nm,21.1s,baz=127,slow=38						
SIM	**Simferopol'**	**36.94**	**299**	*e*P	**P**	**04 09 17.2**	**+0.6**
SIM				pmax	pmax		
	comp=Z,63nm,1.1s						
SIM				MLR	MLR		
	comp=Z,420nm,18.5s						
KSAR	**Wonju Array Be**	**36.95**	**73**	P	**P**	**04 09 15.1**	**-1.7**
KSAR				PcP	**PcP**	**04 11 37.9**	**-0.1**
KSRS	**Korea Array**	**36.98**	**73**	P	**P**	**04 09 15.1**	**-1.9**
	comp=Z,2.8nm,0.9s,baz=265,slow=7.1,SNR=9.6						
KSRS				PcP	**PcP**	**04 11 37.9**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=272,slow=1.9,SNR=6.8						
KSRS				LR	LR	04 25 49.1	
	comp=Z,261nm,18.9s,baz=281,slow=39						
MDJ	**Mudanjiang**	**37.32**	**61**	P	**P**	**04 09 19.7**	**-0.2**
MDJ				pP	**pP**	**04 09 22.8**	**-1.6**
MDJ				sP	**sP**	**04 09 23.9**	**-2.3**
MDJ				PP	**PP**	**04 10 44.7**	**-0.2**
MDJ				PcP	**PcP**	**04 11 39.3**	**+0.4**
MDJ				S	**S**	**04 15 06.5**	**-0.4**
MDJ				ScP	**ScP**	**04 15 26.1**	**+0.5**
MDJ				PcS	**PcS**	**04 15 27.6**	**+0.4**
MDJ				ScS	**ScS**	**04 19 34.3**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,92nm,4.9s						
MDJ				LR	LR		
	comp=N,160nm,20.7s						
MDJ				LR	LR		
	comp=E,300nm,22.6s						
MDJ				LR	LR		
	comp=Z,340nm,16.9s						
MDJ	**Mudanjiang**	**37.32**	**61**	*e*P	**P**	**04 09 21.1**	**+1.2**
	comp=Z,33nm,1.3s						
BR131	**Keskin Array S**	**37.82**	**291**	*e*P	**P**	**04 09 23.9**	**-0.5**
	comp=Z,8.6nm,0.9s						
BRTR	**Keskin Array B**	**37.82**	**291**	P	**P**	**04 09 24.6**	**+0.2**
BRTR	**Keskin Array B**	**37.82**	**291**	P	**P**	**04 09 24.6**	**+0.2**
	comp=Z,7.3nm,0.8s,baz=100,slow=6.8,SNR=33						
MMAI	**Mount Meron Ar**	**37.97**	**280**	PcP	**PcP**	**04 11 42.5**	**+1.3**
MMAI	**Mount Meron Ar**	**37.97**	**280**	PcP	**PcP**	**04 11 42.5**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=68,slow=8.0,SNR=5.6						
MMAI				LR	LR	04 26 58.0	
	comp=Z,189nm,21.1s,baz=35,slow=39						
ANTO	**Ankara**	**38.44**	**291**	*e*P	**P**	**04 09 30.9**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,21nm,1.2s						
ANTO	**Ankara**	**38.44**	**291**	*e*P	**P**	**04 09 30.9**	**+1.3**
	comp=Z,21nm,1.2s						
KLR	**Kul'dur**	**38.73**	**54**	*e*P	P	04 09 28.1	-3.6
KLR				pmax	pmax		
	comp=E,28nm,1.4s						
KLR				pmax	pmax		
	comp=Z,36nm,1.4s						
KLR				MLR	MLR		
	comp=Z,800nm,9.0s						
TMCR	**Tamitsa**	**38.74**	**331**	*e*P	**P**	**04 09 32.6**	**+1.0**
TMCR				*e*		04 11 39.3	
TMCR				pmax	pmax		
	comp=Z,81nm,1.0s						
USRK	**Ussuriysk Arra**	**39.07**	**62**	P	**P**	**04 09 35.6**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=245,slow=5.5,SNR=8.0						
USRK				LR	LR	04 26 59.4	
	comp=Z,592nm,19.7s,baz=88,slow=38						
CSS	**Prodhromos**	**39.08**	**284**	*e*P	**P**	**04 09 35.4**	**+0.5**
	comp=Z,6.0nm,0.8s						
VLA	**Vladivostok**	**39.10**	**63**⇓	*i*P	**P**	**04 09 35.4**	**+0.5**
VLA				pmax	pmax		
	comp=Z,39nm,1.7s						
EIL	**Elat**	**39.44**	**275**	P	**P**	**04 09 38.6**	**+0.8**
EIL	**Elat**	**39.44**	**275**	P	**P**	**04 09 38.6**	**+0.8**
	comp=Z,6.2nm,0.7s,baz=100,slow=7.2,SNR=5.9						
EIL				LR	LR	04 28 18.3	
	comp=Z,482nm,18.7s,baz=70,slow=40						
YAK	**Yakutsk**	**39.82**	**33**	*e*P	**P**	**04 09 39.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,1.2s						
YAK				MLR	MLR		
	comp=Z,677nm,18.0s						
YAK				MLR	MLR		
	comp=N,238nm,18.0s						
YAK				MLR	MLR		
	comp=E,278nm,16.0s						
AKASG	**Malin Array Be**	**40.20**	**309**	P	**P**	**04 09 43.5**	**-0.4**
AKASG						04 11 18.8	
AKASG				pmax	pmax		
	comp=Z,13nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG				MLR	MLR		
	comp=Z,667nm,21.8s						
AKASG	**Malin Array Be**	**40.20**	**309**	P	**P**	**04 09 43.5**	**-0.4**
AKASG				PP	**PnPn**	**04 11 18.8**	**-1.1**
AKASG	**Malin Array Be**	**40.20**	**309**	P	**P**	**04 09 43.5**	**-0.4**
	comp=Z,15nm,0.3s,baz=76,slow=7.8,SNR=78						
AKASG				PP	**PnPn**	**04 11 18.8**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=84,slow=12,SNR=6.9						
AKASG				LR	LR	04 27 16.8	
	comp=Z,667nm,21.8s,baz=85,slow=38						
JNU	**Nakatsue**	**40.41**	**79**	LR	LR	04 28 07.6	
	comp=Z,391nm,18.0s,baz=114,slow=39						
KIS	**Kishinev**	**40.53**	**303**	*e*P	**P**	**04 09 47.0**	**+0.3**
KIS				LRM	MLR	04 29 44.0	
	comp=Z,500nm,16.0s						
KIS	**Kishinev**	**40.53**	**303**	*e*P	**P**	**04 09 47.0**	**+0.3**
KIS				*e*		04 11 26.0	
KIS				*e*		04 11 50.0	
KIS				*e*		04 16 00.0	
KIS				*e*		04 19 20.0	
KIS				MLR	MLR		
	comp=Z,600nm,12.0s						
KIS				MLR	MLR		
	comp=Z,500nm,16.0s						
HABR	**Khabarovsk**	**40.91**	**55**	*e*P	**P**	**04 09 47.8**	**-2.1**
HABR				*e*		04 11 48.3	
HABR				*e*S	**S**	**04 15 57.0**	**-3.9**
HABR				*e**SS	sS	04 16 13.7	+5.4
HABR				SS	**SS**	**04 19 00.1**	**-2.2**
HABR				pmax	pmax		
	comp=Z,27nm,1.7s						
HABR				pmax	pmax		
	comp=N,7.0nm,1.1s						
HABR				pmax	pmax		
	comp=E,22nm,1.7s						
HABR				MLR	MLR		
	comp=Z,430nm,17.0s						
CFR	**Carcaliu**	**41.15**	**300**	⇓P	**P**	**04 09 52.4**	**+0.6**
CFR	**Carcaliu**	**41.15**	**300**	⇓*i*P	**P**	**04 09 52.4**	**+0.6**
LVZ	**Lovozero**	**41.65**	**335**	*ce*P	**P**	**04 09 55.3**	**-0.4**
LVZ				pmax	pmax		
	comp=Z,44nm,1.0s						
TESR	**Tescani**	**42.05**	**302**	⇓*i*P	**P**	**04 09 59.8**	**+0.5**
VRI	**Vrincioaia**	**42.06**	**301**	⇑P	**P**	**04 10 01.0**	**+1.6**
VRI	**Vrincioaia**	**42.06**	**301**	⇑*i*P	**P**	**04 10 01.0**	**+1.6**
PLOR	**Plostina**	**42.12**	**301**	⇑P	**P**	**04 10 01.5**	**+1.6**
PLOR	**Plostina**	**42.12**	**301**	⇑*i*P	**P**	**04 10 01.5**	**+1.6**
VSU	**Vasula**	**42.28**	**320**	*d i*P	**P**	**04 10 01.2**	**+0.2**
ATD	**Arta Tunnel**	**42.45**	**245**	LR	LR	04 28 27.6	
	comp=Z,125nm,18.9s,baz=243,slow=37						
MLR	**Muntele Rosu**	**42.65**	**301**	⇑*i*P	**P**	**04 10 06.3**	**+2.0**
MLR	**Muntele Rosu**	**42.65**	**301**	P	**P**	**04 10 05.9**	**+1.6**
MLR				PP	**PP**	**04 11 45.1**	**+2.0**
MLR	**Muntele Rosu**	**42.65**	**301**	P	**P**	**04 10 05.9**	**+1.6**
	comp=Z,7.6nm,0.9s,baz=155,slow=3.7,SNR=44						
MLR				PP	**PP**	**04 11 45.1**	**+2.0**
	comp=Z,2.0nm,1.0s,baz=101,slow=5.4,SNR=6.1						
MLR				LR	LR	04 29 41.1	
	comp=Z,153nm,21.0s,baz=258,slow=39						
BURAR	**Bucovina Array**	**42.93**	**304**	⇓P	**P**	**04 10 07.0**	**+0.5**
BURAR	**Bucovina Array**	**42.93**	**304**	⇓*i*P	**P**	**04 10 07.0**	**+0.5**
BUR08	**Bucovina Ar. S**	**42.94**	**304**	*e*P	**P**	**04 10 06.5**	**0.0**
BUR08				*e*		04 11 47.9	
FIA1	**FINESS Array S**	**43.09**	**325**	*e*P	**P**	**04 10 07.6**	**+0.1**
FIA1				*e*PP	**PP**	**04 11 47.9**	**+0.4**
FINES	**FINESS Array B**	**43.10**	**325**	P	**P**	**04 10 07.7**	**+0.2**
FINES	**FINESS Array B**	**43.10**	**325**	P	**P**	**04 10 07.7**	**+0.2**
	comp=Z,12nm,0.8s,baz=101,slow=9.9,SNR=42						
FINES				LR	LR	04 28 45.0	
	comp=Z,640nm,19.7s,baz=103,slow=37						
KAF	**Kangasniemi**	**43.12**	**326**	*e*P	**P**	**04 10 07.7**	**0.0**
KAF				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KAF	**Kangasniemi**	**43.12**	**326**	*e*p	**P**	**04 10 07.7**	**0.0**
	comp=Z,10nm,1.1s						
VOIR		**43.28**	**301**	⇑P	**P**	**04 10 09.6**	**+0.2**
VOIR		**43.28**	**301**	⇑*i*P	**P**	**04 10 09.6**	**+0.2**
KKM	**Kota Kinabalu**	**43.33**	**125**	*e*P	**P**	**04 10 10.0**	**-0.1**
	comp=Z,28nm,1.1s						
LVV	**L'vov**	**43.54**	**307**	*e*P	**P**	**04 10 13.0**	**+1.7**
LVV				*e*S	**S**	**04 16 39.0**	**-0.7**
LVV				MLR	MLR		
	comp=Z,460nm,14.0s						
ARR	**Arges**	**43.58**	**301**	⇑*i*P	**P**	**04 10 12.8**	**+1.0**
SUW	**Suwalki**	**43.95**	**314**	*e*P	**P**	**04 10 15.2**	**+0.7**
SUW	**Suwalki**	**43.95**	**314**	*e*P	**P**	**04 10 15.2**	**+0.7**
	comp=Z,61nm,1.0s						
SUW	**Suwalki**	**43.95**	**314**	*e*P	**P**	**04 10 15.0**	**+0.5**
LOT	**Lotru**	**44.17**	**301**	⇓*i*P	**P**	**04 10 18.1**	**+1.5**
KWP	**Kalwaria Pacla**	**44.41**	**307**	*e*P	**P**	**04 10 18.8**	**+0.5**
KWP				pmax	pmax		

comp=Z,67nm,1.4s
KWP Kalwaria Pacla 44.41 307 ⇓*i*P P 04 10 19.2 +0.9
KWP Kalwaria Pacla 44.41 307 *e*P P 04 10 18.8 +0.5
comp=Z,67nm,1.4s
KWP Kalwaria Pacla 44.41 307 *e*P P 04 10 19.8 +1.5
TRPA Tarpa 44.67 305⇑*i*P P 04 10 22.3 +2.0
DRGR 44.72 303 ⇑P P 04 10 22.1 +1.2
DRGR 44.72 303⇑*i*P P 04 10 22.1 +1.2
KOLS Kolonicke sedl 44.76 306 *e*P P 04 10 22.5 +1.4
KOLS pmax pmax
comp=Z,10.0nm,1.2s
KOLS Kolonicke sedl 44.76 306 *e*P P 04 10 22.5 +1.4
UZH Uzhgorod 44.78 306⇓*i*P P 04 10 22.5 +1.3
UZH *e* 04 10 33.7
VTS Vitosha 45.06 297 ⇓P P 04 10 23.9 +0.1
VTS Vitosha 45.06 297⇓*i*P P 04 10 23.9 +0.1
MJAR Matsushiro Arr 45.18 71 P P 04 10 23.9 -0.7
MJAR Matsushiro Arr 45.18 71 P P 04 10 23.9 -0.7
comp=Z,8.2nm,0.9s,baz=284,slow=9.4,SNR=23
MJAR LR LR 04 33 12.0
comp=Z,84nm,20.4s,baz=175,slow=41
CRVS Cervenica-Dubn 45.30 306 *e*P P 04 10 27.8 +2.4
CRVS pmax pmax
comp=Z,9.0nm,1.3s
CRVS Cervenica-Dubn 45.30 306 *e*P P 04 10 27.8 +2.4
ARCES ARCESS Array B 45.35 336 P P 04 10 25.9 +0.4
ARCES ARCESS Array B 45.35 336 P P 04 10 25.9 +0.4
comp=Z,19nm,0.9s,baz=98,slow=5.9,SNR=46
ARCES LR LR 04 30 53.8
comp=Z,434nm,21.9s,baz=114,slow=38
ARE0 ARCESS Array S 45.35 336 *e*P P 04 10 26.1 +0.6
STHS Stebnicka Huta 45.38 307 *e*P P 04 10 26.4 +0.3
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 45.38 307 *e*P P 04 10 26.4 +0.3
BEL Belsk 45.46 311 *e*P P 04 10 28.1 +1.5
BZS Buzias 45.64 302 ⇓P P 04 10 30.0 +1.9
BZS Buzias 45.64 302⇓*i*P P 04 10 30.0 +1.9
NIE Niedzica 45.99 307 *e*P P 04 10 33.2 +2.3
NIE *e*S S 04 17 17.4 +2.1
KECS Kecovo 45.99 306 *e*P P 04 10 30.4 -0.4
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 45.99 306 *e*P P 04 10 30.4 -0.4
OJC Ojcow 46.23 308 *e*P P 04 10 33.3 +0.6
OJC pmax pmax
comp=Z,16nm,0.9s
OJC Ojcow 46.23 308 *e*P P 04 10 33.3 +0.6
comp=Z,16nm,0.9s
YSS Yuzh-Sakhalins 46.23 56⇑*e*P P 04 10 34.0 +1.2
YSS MLR MLR
comp=Z,500nm,16.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,400nm,14.0s
PSZ Piszkesteto 46.46 305 ⇓P P 04 10 35.1 +0.5
PSZ Piszkesteto 46.46 305⇓*i*P P 04 10 35.1 +0.5
PSZ Piszkesteto 46.46 305 *e*P P 04 10 35.4 +0.8
comp=E,19nm,1.4s
PSZ Piszkesteto 46.46 305⇑*e*P P 04 10 35.9 +1.3
ASAJ Asahikawa 46.62 60 *e*P P 04 10 34.8 -1.0
comp=E,4.4nm,1.1s
ASAJ Asahikawa 46.62 60 LR LR 04 31 33.1
comp=E,447nm,18.1s,baz=325,slow=38
VYHS Vyhne 47.07 306 *e*P P 04 10 40.9 +1.5
VYHS pmax pmax
comp=Z,22nm,1.7s
VYHS Vyhne 47.07 306 *e*P P 04 10 40.9 +1.5
OKC Ostrava-Krasne 47.33 308 *e*P P 04 10 42.5 +1.2
OKC *e* 04 20 59.0
OKC MLR MLR
comp=Z,300nm,13.9s
OKC Ostrava-Krasne 47.33 308 *e*P P 04 10 42.5 +1.2
OKC *e*SS SS 04 20 59.0 -2.6
OKC AMS AMS 04 33 20.0
comp=Z,300nm,13.9s
ERM Erimo 47.48 63⇑*i*P P 04 10 42.6 0.0
ERM pmax pmax
comp=Z,9.0nm,1.2s
GKP Gorka Klasztor 47.52 313 *e*P P 04 10 44.1 +1.4
PKSG 47.54 305⇑*e*P P 04 10 44.0 +1.0
PKSM Moragy 47.58 303 ⇓P P 04 10 44.2 +0.9
PKSM Moragy 47.58 303⇓*i*P P 04 10 44.2 +0.9
PKSM Moragy 47.58 303⇑*e*P P 04 10 44.4 +1.1
MORC Moravsky Berou 47.73 308 *e*P P 04 10 45.0 +0.5
MORC pmax pmax
comp=Z,20nm,1.1s
MORC Moravsky Berou 47.73 308 *e*P P 04 10 45.0 +0.5
comp=Z,20nm,1.1s
SMOL Smolenice 48.00 306 *e*P P 04 10 46.9 +0.4
SMOL Smolenice 48.00 306 *e*P P 04 10 46.9 +0.4
ZST Bratislava 48.26 306 *e*P P 04 10 49.3 +0.7
ZST Bratislava 48.26 306 *e*P P 04 10 49.3 +0.7
KSP Ksiaz 48.37 310 *e*P P 04 10 50.7 +1.3
KSP *e*SS SS 04 21 14.6 -3.8
KSP MLR MLR
comp=Z,2µm,16.8s
KSP Ksiaz 48.37 310 *e*P P 04 10 50.9 +1.5
VRAC Vranov 48.41 308 P P 04 10 50.5 +0.8
VRAC Vranov 48.41 308 P P 04 10 50.5 +0.8
comp=Z,10nm,0.9s,baz=80,slow=8.3,SNR=20
VRAC LR LR 04 33 34.6
comp=Z,308nm,19.4s,baz=78,slow=39
DPC Dobruska-Polom 48.43 309 *e*P P 04 10 50.9 +1.0
DPC pmax pmax
comp=Z,124nm,1.1s
DPC Dobruska-Polom 48.43 309 *e*P P 04 10 50.5 +0.6
DPC *e*SS SS 04 21 24.5 +5.1
DPC AMS AMS 04 33 30.0
DPC Dobruska-Polom 48.43 309 *e*P P 04 10 50.9 +1.0
comp=Z,124nm,1.1s
UPC Upice 48.60 309 *e*P P 04 10 52.1 +1.0
UPC Upice 48.60 309 *e*P P 04 10 52.1 +1.0
YUK Yuzh-Kuril'sk 48.94 60 P P 04 10 51.3 -2.5
YUK S S 04 17 52.4 -4.8
YUK MLR MLR
comp=N,95nm,18.0s
YUK MLR MLR
comp=Z,320nm,18.0s
HFS Hagfors 49.05 322 P P 04 10 54.9 +0.5
HFS Hagfors 49.05 322 P P 04 10 54.9 +0.5
comp=Z,8.9nm,0.8s,baz=90,slow=8.9,SNR=20
HFS LR LR 04 32 06.4
comp=Z,393nm,20.1s,baz=87,slow=37
TREC Trest 49.13 308 *e*P P 04 10 56.7 +1.4
TREC *e*S S 04 18 00.0 +0.1
TREC MLR MLR
comp=Z,400nm,14.3s
TREC Trest 49.13 308 *e*P P 04 10 56.7 +1.4
TREC *e*S S 04 18 00.0 +0.1
TREC *e*SS SS 04 21 33.8 +3.1
TREC AMS AMS 04 33 40.0
comp=Z,400nm,14.3s
CONA Conrad Observa 49.13 306⇑*i*P P 04 10 55.6 +0.2
comp=Z,28nm,1.2s,SNR=21
PVCC Panska Ves 49.51 309 AMS AMS 04 33 40.0
comp=Z,600nm,13.5s
PRU Pruhonice 49.61 309 *e*P P 04 11 00.6 +1.7
PRU *e*S S 04 18 08.4 +1.8
PRU MLR MLR
comp=Z,500nm,12.6s
PRU Pruhonice 49.61 309 *e*P P 04 11 00.6 +1.7
PRU *e*S S 04 18 08.4 +1.8
PRU AMS AMS 04 34 10.0
comp=Z,500nm,12.6s
BRG Berggiesshubel 49.84 310 *i*P P 04 11 01.2 +0.6
comp=Z,22nm,1.0s
BRG S S 04 18 13.0 +3.3
BRG SS SS 04 21 47.0 +5.0
BRG PKPPKP P'P'df 04 41 51.3 -10
comp=Z,2.3nm,0.9s
BRG
comp=N,256nm,14.9s
BRG
comp=E,636nm,16.3s
BRG
comp=Z,729nm,15.0s
BRG Berggiesshubel 49.84 310 *e*P P 04 11 01.3 +0.6
comp=Z,17nm,1.0s
BRG Berggiesshubel 49.84 310 *i*P P 04 11 01.2 +0.6
BRG S S 04 18 13.0 +3.3
BRG pmax pmax
comp=Z,22nm,1.0s
BRG MLR MLR
comp=N,256nm,14.9s
BRG MLR MLR
comp=E,636nm,16.3s
BRG MLR MLR
comp=Z,729nm,15.0s
PERS Pernice 49.89 304 *i*P P 04 11 01.3 +0.1
SOKA Soboth 49.94 304⇑*i*P P 04 11 01.8 +0.2
comp=Z,37nm,1.6s,SNR=25
BOJS Bojanci 50.05 303 *i*P P 04 11 05.1 +2.8
MOA Molln 50.20 306⇑*i*P P 04 11 03.5 +0.1
comp=Z,21nm,1.6s,SNR=10
NB2 NORSAR Subarra 50.23 323 P P 04 11 03.4 0.0
comp=Z,15nm,0.9s,baz=87,slow=7.9
NOA NORSAR Array B 50.23 323 P P 04 11 03.5 0.0
NOA NORSAR Array B 50.23 323 P P 04 11 03.5 0.0
comp=Z,7.5nm,0.8s,baz=87,slow=7.5,SNR=32
NOA LR LR 04 32 53.5
comp=Z,381nm,19.1s,baz=95,slow=37
VISS Visnje 50.26 303 *e*P P 04 11 03.7 -0.2
CLL Collm 50.35 311 *e*P P 04 11 04.7 +0.2
comp=Z,10.0nm,1.0s
CLL Collm 50.35 311⇓*i*P P 04 11 04.5 0.0
CLL *e*S S 04 18 18.0 +1.2
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 50.35 311⇓*i*P P 04 11 04.5 0.0
comp=Z,17nm,1.1s
CLL *i*pP pP 04 11 07.8 -1.3
CLL *e*PP PP 04 13 04.0 +4.2
CLL *e*S S 04 18 18.0 +1.2
CLL *e*(SSS) 04 23 00.0
GEC2 GERESS Array S 50.37 307 *e*P P 04 11 05.6 +0.8
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 50.37 307 *e*P P 04 11 05.6 +0.8
GEC2 pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 50.37 307 P P 04 11 05.2 +0.4
GERES GERESS Array B 50.37 307 P P 04 11 05.2 +0.4
comp=Z,3.5nm,0.7s,baz=79,slow=6.9,SNR=27
GERES LR LR 04 33 41.1
comp=Z,260nm,19.5s,baz=253,slow=38
SPITS Spitsbergen Ar 50.37 346 P P 04 11 05.1 +0.9
SPITS Spitsbergen Ar 50.37 346 P P 04 11 05.1 +0.9
comp=Z,7.7nm,1.1s,baz=108,slow=19,SNR=3.8
SPITS LR LR 04 36 17.5
comp=Z,344nm,18.4s,baz=110,slow=41
KHC Kasperske Hory 50.39 308 *e*P P 04 11 05.0 +0.1
KHC *e*S S 04 18 21.8 +4.3
KHC *e* 04 21 45.6
KHC MLR MLR
comp=Z,500nm,16.2s
KHC Kasperske Hory 50.39 308 *e*P P 04 11 05.0 +0.1
KHC *e*S S 04 18 21.8 +4.3
KHC *e*SS SS 04 21 45.6 -5.3
KHC AMS AMS 04 34 30.0
comp=Z,500nm,16.2s
KHC Kasperske Hory 50.39 308 *e*P P 04 11 05.5 +0.6
comp=Z,31nm,1.5s
NAO01 NORSAR Array S 50.40 323 *e*P P 04 11 04.7 -0.1
comp=Z,5.6nm,0.7s
TIP Timpagrande 50.65 295 *e*P P 04 11 08.5 +1.5
comp=Z,14nm,1.2s
JAVS Javornik 50.77 304 *i*P P 04 11 08.9 +1.0
WET Wettzell 50.84 308 *e*P P 04 11 09.0 +0.8
comp=Z,4.0nm,0.9s
WET Wettzell 50.84 308 *e*P P 04 11 09.0 +0.8
WET pmax pmax
comp=Z,4.0nm,0.9s
TANN Tannenbergstha 50.85 310 *e*P P 04 11 09.0 +0.6
comp=Z,9.0nm,1.1s
NKC Novy Kostel 50.89 309 *e*P P 04 11 10.2 +1.6
NKC MLR MLR
comp=Z,400nm,14.6s
NKC Novy Kostel 50.89 309 *e*P P 04 11 10.2 +1.6
NKC AMS AMS 04 34 40.0
comp=Z,400nm,14.6s
TRI Trieste 51.01 303 *e*P P 04 11 10.2 +0.6
TRI pmax pmax
comp=Z,18nm,0.7s
TRI Trieste 51.01 303 *e*P P 04 11 10.2 +0.6
comp=Z,18nm,0.7s
CUC Castrocucco 51.10 296 *e*P P 04 11 11.1 +0.7
comp=Z,22nm,1.3s
ROTZ Rotzenmuhle 51.14 309 *e*P P 04 11 11.7 +1.2
comp=Z,14nm,1.2s
RJOB Jochberg 51.19 306 *e*P P 04 11 12.4 +1.4
comp=Z,2.0nm,0.7s
MOX Moxa 51.34 310 *e*P P 04 11 12.5 +0.6
comp=Z,8.0nm,1.0s
MOX *e*L L 04 34 49.3
comp=Z,506nm,18.4s
MOX Moxa 51.34 310 *e*P P 04 11 12.5 +0.6
MOX pmax pmax
comp=Z,8.0nm,1.0s
MOX MLR MLR
comp=Z,500nm,18.4s
BSEG Bad Segeberg 51.52 314 *e*P P 04 11 14.3 +1.1
comp=Z,26nm,0.9s
BSEG Bad Segeberg 51.52 314 *e*P P 04 11 14.3 +1.1
BSEG pmax pmax
comp=Z,26nm,0.9s
CEL Celeste 51.58 294 *e*P P 04 11 13.3 -0.7
GRF Grafenberg Arr 51.78 309 *e*P P 04 11 16.6 +1.3
comp=Z,41nm,1.5s
GRF *e*L L 04 34 06.8
comp=Z,598nm,19.5s
GRF Grafenberg Arr 51.78 309 *e*P P 04 11 16.6 +1.3
GRF pmax pmax
comp=Z,41nm,1.5s
GRF MLR MLR
comp=Z,600nm,19.5s
GRFO Grafenberg 51.78 309 *e*P P 04 11 16.4 +1.1
GRFO pmax pmax
comp=Z,52nm,1.6s
GRFO Grafenberg 51.78 309 *e*P P 04 11 16.4 +1.1
comp=Z,52nm,1.6s
NRDL Niedersach Rie 51.90 313 *e*P P 04 11 17.1 +1.1
comp=Z,22nm,1.0s
FUR Furstenfeldbru 52.09 307 *e*P P 04 11 18.5 +0.9
comp=Z,18nm,0.8s
FUR Furstenfeldbru 52.09 307 *e*P P 04 11 18.5 +0.9
FUR pmax pmax
comp=Z,18nm,0.8s
AQU L'Aquila 52.15 299 *e*P P 04 11 18.6 +0.4
comp=Z,18nm,1.1s
UBBA Unterbreizbach 52.30 310 *e*P P 04 11 19.6 +0.6
comp=Z,44nm,1.8s
MOTA Moosalm 52.40 306 *i*P P 04 11 19.7 -0.4
comp=Z,7.2nm,0.7s,SNR=7.7
RETA Reutte 52.59 306⇓*i*P P 04 11 19.9 -1.5
comp=Z,21nm,1.5s,SNR=8.4
FETA Feichten 52.73 306⇓*i*P P 04 11 21.6 -0.9
comp=Z,9.7nm,0.9s,SNR=7.0
FUORN Ofenpass-Fuorn 53.14 305 *e*P P 04 11 26.2 +0.5
DAVA Damuels 53.22 306⇑*i*P P 04 11 25.4 -0.7
comp=Z,18nm,0.9s,SNR=12
STU Stuttgart 53.29 308 *e*P P 04 11 27.0 +0.6
comp=Z,10.0nm,1.0s
STU Stuttgart 53.29 308 *e*P P 04 11 27.4 +1.0
STU pmax pmax
comp=Z,19nm,1.1s
STU Stuttgart 53.29 308 *e*P P 04 11 27.4 +1.0
comp=Z,19nm,1.1s
IBBN Ibbenburen 53.35 313 *e*P P 04 11 27.4 +0.6
comp=Z,8.0nm,1.0s
DAVOX Davos/Dischmat 53.35 306 P P 04 11 26.7 -0.5
DAVOX Davos/Dischmat 53.35 306 P P 04 11 26.7 -0.5
comp=Z,6.5nm,0.7s,baz=115,slow=9.4,SNR=18
DAVOX LR LR 04 36 20.4
comp=Z,420nm,19.2s,baz=61,slow=38
TNS Taunus Mts 53.41 310 *e*P P 04 11 27.9 +0.5
comp=Z,3.0nm,0.7s
TNS Taunus Mts 53.41 310 *e*P P 04 11 27.9 +0.5
TNS pmax pmax
comp=Z,3.0nm,0.7s
TUE Stuetta 53.79 305 *e*P P 04 11 29.6 -0.9
comp=Z,5.6nm,0.7s
BUG Bochum--Univer 53.84 312 *e*P P 04 11 31.1 +0.7
comp=Z,16nm,1.2s
BFO Black Forest 53.95 308 *e*P P 04 11 33.2 +1.8
comp=Z,3.0nm,0.9s
BFO Black Forest 53.95 308 *e*P P 04 11 33.2 +1.8
BFO pmax pmax
comp=Z,3.0nm,0.9s
BFO Black Forest 53.95 308 *e*P P 04 11 34.4 +3.0
comp=Z,22nm,1.7s
LANF Langenberg 54.12 309 *e*P P 04 11 33.7 +1.1
PETK Petropavlovsk- 54.50 46 P P 04 11 35.0 -0.3
PETK pmax pmax
comp=Z,7.0nm,0.9s
PETK MLR MLR
comp=Z,153nm,19.6s
PETK Petropavlovsk- 54.50 46 P P 04 11 35.0 -0.3
PETK Petropavlovsk- 54.50 46 P P 04 11 35.0 -0.3
comp=Z,3.7nm,0.6s,baz=227,slow=9.3,SNR=4.4
PETK LR LR 04 36 11.9
comp=Z,153nm,19.6s,baz=285,slow=38
CDF Champ du Feu 54.61 308 *e*P P 04 11 35.9 -0.3
comp=Z,53nm,1.4s
MOF Molkenrain 54.86 307 *e*P P 04 11 38.9 +0.9
WLF Walferdange 54.98 310 *e*P P 04 11 39.5 +0.7
comp=Z,7.0nm,0.8s
WLF Walferdange 54.98 310 *e*P P 04 11 39.1 +0.3
WLF pmax pmax
comp=Z,12nm,1.0s
WLF Walferdange 54.98 310 *e*P P 04 11 39.1 +0.3
comp=Z,12nm,1.0s
HINF Hinteralfeld 55.05 308 *e*P P 04 11 38.9 -0.5
comp=Z,33nm,0.9s
PET Petropavlovsk 55.08 46⇓*e*P P 04 11 39.1 -0.3
SENIN Lac Senin/Sane 55.18 306 *e*P P 04 11 41.5 +1.0
comp=Z,66nm,2.2s
PGF Pioggiola 55.20 301 *e*P P 04 11 39.8 -0.8
comp=Z,8.5nm,0.8s
LOMF Lomont 55.20 307 *e*P P 04 11 39.1 -1.4
HAU Haudompre 55.32 308 *e*P P 04 11 40.9 -0.4
comp=Z,50nm,1.4s
HAU *e*R
comp=Z,430nm,18.5s
THEF They Montfort 55.49 308 *e*P P 04 11 43.2 +0.7
PAGF Fort de Pagny 55.56 309 *e*P P 04 11 43.1 +0.1
comp=Z,11nm,1.1s
OG01 Vacheresse 55.59 306 *e*P P 04 11 45.9 +2.5
GIVF Givet 55.69 311 *e*P P 04 11 44.2 +0.3
SAOF Saorge 55.73 303 *e*P P 04 11 42.2 -2.2
LPG La Plagne 55.80 305 *e*P P 04 11 45.1 0.0
comp=Z,52nm,0.8s
LPL La Plagne 55.81 305 *e*P P 04 11 45.0 -0.1
comp=Z,52nm,0.8s
AUTN L'Aution 55.82 303 *e*P P 04 11 46.2 +1.0
RSL Roselend 55.83 305 *e*P P 04 11 45.0 -0.2
SBF Sospel 55.86 303 *e*P P 04 11 44.9 -0.4
comp=Z,55nm,0.8s
CABF La Chapelle 55.90 306 *e*P P 04 11 45.0 -0.6
comp=Z,16nm,0.9s
LUCF Luceram 55.91 303 *e*P P 04 11 46.5 +0.8
TOUF Mont Tournerai 55.94 303 *e*P P 04 11 45.2 -0.8
BNI Bardonecchia 55.99 304 *e*P P 04 11 46.0 -0.3
BNI pmax pmax
comp=Z,15nm,1.2s
BNI Bardonecchia 55.99 304 *e*P P 04 11 46.0 -0.3
comp=Z,15nm,1.2s
MEZF Maizieres J'vi 56.00 309 *e*P P 04 11 46.2 +0.1
comp=Z,40nm,0.9s
MBDF Montbardon 56.03 304 *e*P P 04 11 46.2 -0.4
comp=Z,27nm,0.8s
MVIF Mont Vial 56.04 303 *e*P P 04 11 47.0 +0.3
BAIF Baives 56.08 311 *e*P P 04 11 46.8 +0.1
comp=Z,35nm,1.3s
SFTF Sexfontaines 56.10 308 *e*P P 04 11 46.5 -0.4
comp=Z,65nm,1.4s
FRF La Foret Royal 56.50 303 *e*P P 04 11 49.0 -0.8
comp=Z,18nm,0.9s
ORIF Oris-en-Rattie 56.57 304 *e*P P 04 11 49.4 -1.0
comp=Z,12nm,0.8s
ORIF *e*R
comp=Z,495nm,20.8s
JMIC Jan Mayen 56.81 337 P P 04 11 52.2 +0.7
JMIC Jan Mayen 56.81 337 P P 04 11 52.2 +0.7
comp=Z,16nm,0.5s,baz=108,slow=14,SNR=2.0
OG26 St.-Nazaire-De 57.07 304 *e*P P 04 11 53.2 -0.7
SMRF Simiane la Rot 57.09 303 *e*P P 04 11 53.5 -0.5
LOR Lormes 57.15 308 *e*P P 04 11 53.3 -1.0
comp=Z,16nm,0.9s
LOR *e*R
comp=Z,387nm,18.5s
SSB Saint Sauveur 57.35 305 *e*P P 04 11 55.0 -0.8
SSB pmax pmax
comp=Z,6.0nm,0.8s
SSB Saint Sauveur 57.35 305 *e*P P 04 11 55.0 -0.8
comp=Z,6.0nm,0.8s
SMF Signal de Mont 57.36 307 *e*P P 04 11 55.1 -0.7
comp=Z,28nm,0.8s
KEST Kesra 57.37 293 *e*P P 04 11 57.5 +1.3
KEST Kesra 57.37 293 P P 04 11 57.0 +0.8
comp=Z,1.3nm,1.1s,baz=326,slow=8.8,SNR=6.0
KEST LR LR 04 38 40.0
comp=Z,31nm,20.1s,baz=322,slow=38
VIVF Saint-Julien-l 57.40 305 *e*P P 04 11 55.7 -0.5
comp=Z,20nm,0.9s
SSF Saint Saulge 57.44 307 *e*P P 04 11 55.7 -0.7
comp=Z,27nm,0.9s
AVF Avril sur Loir 57.63 307 *e*P P 04 11 57.0 -0.7
comp=Z,51nm,1.2s
DAG Danmarks Havn 57.93 344 *i*P P 04 11 58.9 -0.5
DAG pmax pmax
comp=Z,5.0nm,1.1s
DAG Danmarks Havn 57.93 344 *i*P P 04 11 58.9 -0.5
comp=Z,4.1nm,1.1s
HYF Humbligny 57.93 308 *e*P P 04 11 59.6 -0.3
AGO Saint Agoulin 58.02 306 *e*P P 04 12 02.3 +1.8
BGF Bois d'Agland 58.04 307 *e*P P 04 11 59.9 -0.7
comp=Z,10nm,0.7s
LASF Ste Croix 58.22 304 *e*P P 04 12 01.6 -0.3
comp=Z,25nm,1.0s
LBL Lubilhac 58.22 306 *e*P P 04 12 04.0 +2.0
TCF Toulx Ste Croi 58.54 307 *e*P P 04 12 03.9 -0.3
comp=Z,32nm,0.9s
EKA Eskdalemuir Ar 58.77 318 P P 04 12 05.5 -0.1
EKA Eskdalemuir Ar 58.77 318 P P 04 12 05.5 -0.1
comp=Z,7.7nm,0.9s,baz=82,slow=8.0,SNR=13
ESK Eskdalemuir 58.80 318 *e*P P 04 12 06.5 +0.7
ESK pmax pmax
comp=Z,22nm,1.2s
ESK Eskdalemuir 58.80 318 *e*P P 04 12 06.5 +0.7
comp=Z,22nm,1.2s
CAF Calviac 59.12 306 *e*P P 04 12 07.9 -0.3
comp=Z,18nm,0.9s
RJF Les Rejaudoux 59.34 306 *e*P P 04 12 09.7 0.0
comp=Z,76nm,1.6s
RJF *e*R
comp=Z,238nm,21.2s
FLN La Foliniere 59.40 310 *e*P P 04 12 09.1 -0.9
comp=Z,14nm,0.8s
FLN *e*R
comp=Z,466nm,22.0s
MTLF Montolieu 59.59 304 *e*P P 04 12 11.0 -0.5
comp=Z,18nm,0.9s
GRR Gorron 59.76 310 *e*P P 04 12 11.7 -0.8
comp=Z,42nm,0.9s
MFF Saint Martin d 59.95 308 *e*P P 04 12 12.9 -1.0
comp=Z,32nm,1.2s
LFF La Frestale 59.99 306 *e*P P 04 12 14.0 -0.1
comp=Z,25nm,0.9s
MLS Moulis 60.50 304 *e*P P 04 12 16.8 -0.9
SGMF Saint Gilles 60.87 310 *e*P P 04 12 19.6 -0.5
comp=Z,49nm,1.2s
EPF Esparros 60.98 304 *e*P P 04 12 20.7 -0.3
comp=Z,4.7nm,0.7s
RESF Ens 61.07 304 *e*P P 04 12 22.6 +0.9
ROSF Rostrenen 61.28 311 *e*P P 04 12 22.3 -0.6
comp=Z,45nm,1.0s
QUIF Quistinic 61.37 310 *e*P P 04 12 22.8 -0.7
comp=Z,13nm,0.8s
ETSF Etsaut 61.64 304 *e*P P 04 12 25.2 -0.3
comp=Z,24nm,1.0s
FX1 Attu Island--F 63.40 43 P P 04 12 35.2 -1.8
FX1 Attu Island--F 63.40 43 P P 04 12 35.2 -1.8
baz=7.1,slow=8.1
FX1 LR LR 04 39 44.6
comp=Z,72nm,21.2s,baz=304,slow=36
SUMG Summit 64.53 343 *e*P P 04 12 45.9 +1.3
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 64.53 343 *i*P P 04 12 45.3 +0.7
comp=Z,16nm,1.0s
SUMG Summit 64.53 343 *e*P P 04 12 45.9 +1.3
comp=Z,22nm,1.0s
ESDC Sonseca Array 65.33 302 P P 04 12 49.0 -0.9
ESDC Sonseca Array 65.33 302 P P 04 12 49.0 -0.9
comp=Z,2.0nm,0.8s,baz=60,slow=6.4,SNR=11
ESDC LR LR 04 42 48.8

comp=Z,124nm,18.8s,baz=60,slow=37
TAM Tamanrasset 66.15 282 *e*P **P 04 12 57.2 +1.6**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 66.15 282 *e*P **P 04 12 57.2 +1.6**
comp=Z,2.7nm,1.0s
MBWA Marble Bar 67.05 141 *e*P **P 04 12 59.4 -1.6**
comp=Z,7.2nm,1.0s
IM04 Indian Mountai 70.15 21 *e*P **P 04 13 19.9 0.0**
COLD Coldfoot 70.24 19 *e*P **P 04 13 21.1 +0.7**
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 71.45 342 *i*P **P 04 13 27.3 -0.4**
comp=Z,11nm,0.9s
SFJD Kangerlussuaq 71.45 342 LR LR 04 45 38.4
comp=Z,105nm,21.0s,baz=276,slow=36
LSZ Lusaka 71.53 235 *e*P **P 04 13 28.3 -0.7**
comp=Z,5.7nm,1.3s
COLA College 72.64 20 *e*P **P 04 13 35.5 +0.7**
COLA College 72.64 20 *e*P **P 04 13 35.5 +0.7**
comp=Z,139nm,0.9s
ILAR Eielson Array 72.99 20 P **P 04 13 36.0 -1.0**
ILAR Eielson Array 72.99 20 P **P 04 13 36.0 -1.0**
comp=Z,15nm,0.9s,baz=316,slow=4.1,SNR=146
ILAR LR LR 04 51 05.9
comp=Z,244nm,18.4s,baz=128,slow=40
TRF Thorofare Moun 73.01 22 *e*P **P 04 13 36.5 -0.8**
comp=Z,6.9nm,0.9s
TRF *e*PcP **PcP 04 13 54.5 +0.4**
INK Inuvik 73.10 13 *e*P **P 04 13 37.6 +0.1**
comp=Z,25nm,1.1s
INK Inuvik 73.10 13 P **P 04 13 36.8 -0.7**
comp=Z,18nm,1.0s,baz=354,slow=7.3,SNR=30
MCK McKinley 73.20 21 *e*P **P 04 13 38.5 +0.2**
MCK pmax pmax
comp=Z,14nm,1.1s
MCK McKinley 73.20 21 *e*P **P 04 13 38.5 +0.2**
comp=Z,14nm,1.1s
TOA0 Torodi Ar. Sit 74.32 275 *e*P **P 04 13 45.5 -0.1**
TORD Torodi Ar. Bea 74.32 275 P **P 04 13 44.7 -0.9**
TORD Torodi Ar. Bea 74.32 275 P **P 04 13 44.7 -0.9**
comp=Z,5.1nm,0.6s,baz=45,slow=5.1,SNR=56
TORD LR LR 04 49 09.3
comp=Z,120nm,18.7s,baz=345,slow=38
RSO Redoubt South 74.43 25 *e*P **P 04 13 46.6 +0.9**
comp=Z,42nm,0.9s
EGAK Eagle 74.47 18 *e*P **P 04 13 46.0 +0.4**
comp=Z,26nm,1.1s
WRA Warramunga Arr 74.49 129 P **P 04 13 44.1 -2.3**
WRA Warramunga Arr 74.49 129 P **P 04 13 44.1 -2.3**
comp=Z,12nm,1.0s,baz=331,slow=5.9,SNR=34
WRAB Tennant Creek 74.49 129 P **P 04 13 46.6 +0.2**
comp=Z,98nm,1.2s,SNR=9.4
WRAB Tennant Creek 74.49 129 *e*P **P 04 13 45.8 -0.6**
WRAB pmax pmax
comp=Z,20nm,1.1s
WRAB Tennant Creek 74.49 129 *e*P **P 04 13 45.8 -0.6**
comp=Z,20nm,1.1s
PMR Palmer 74.77 23 *e*P **P 04 13 47.6 +0.2**
PMR pmax pmax
comp=Z,24nm,1.2s
PMR Palmer 74.77 23 *e*P **P 04 13 47.6 +0.2**
comp=Z,24nm,1.2s
PAX Paxson 74.79 20 *e*P **P 04 13 47.8 +0.1**
PAX pmax pmax
comp=Z,19nm,0.9s
PAX Paxson 74.79 20 *e*P **P 04 13 47.8 +0.1**
comp=Z,19nm,0.9s
SML Sawmill 74.85 22 *e*P **P 04 13 48.5 +0.6**
SML pmax pmax
comp=Z,13nm,0.9s
SML Sawmill 74.85 22 *e*P **P 04 13 48.5 +0.6**
comp=Z,13nm,0.9s
DAWY Dawson 75.49 17 *e*P **P 04 13 52.1 +0.4**
PMG Port Moresby 76.21 112 *e*P **P 04 13 56.5 +0.1**
comp=Z,36nm,1.1s
OHAK Old Harbor 76.60 27 *e*P **P 04 13 58.4 +0.4**
comp=Z,18nm,1.0s
AS31 Alice Springs 76.98 132 *e*P **P 04 13 59.4 -1.1**
ASAR Alice Springs 76.98 132 P **P 04 13 59.4 -1.2**
ASAR Alice Springs 76.98 132 P **P 04 13 59.4 -1.2**
comp=Z,3.5nm,0.8s,baz=318,slow=5.3,SNR=30
ASAR LR LR 04 53 59.4
comp=Z,83nm,19.4s,baz=152,slow=40
HYT Haines Junctio 78.71 18 *e*P **P 04 14 10.4 +0.6**
LBTB Lobatse 80.25 230 *e*P **P 04 14 17.4 -1.2**
comp=Z,6.9nm,0.8s
SKAG Skagway 80.44 18 *e*P **P 04 14 20.3 +1.2**
comp=Z,33nm,1.0s
YKW3 Yellowknife Ar 81.28 8 *e*P **P 04 14 23.3 -0.2**
YKA Yellowknife Ar 81.35 8 P **P 04 14 22.8 -1.0**
YKA Yellowknife Ar 81.35 8 P **P 04 14 22.8 -1.0**
comp=Z,9.5nm,0.8s,baz=342,slow=5.1,SNR=29
TSUM Tsumeb 81.51 239 *e*P **P 04 14 25.1 -0.4**
comp=Z,10.0nm,1.3s
CTAO Charters Tower 82.55 121 *e*P **P 04 14 30.8 0.0**
CTAO pmax pmax
comp=Z,18nm,1.0s
CTAO Charters Tower 82.55 121 *e*P **P 04 14 30.8 0.0**
comp=Z,18nm,1.0s
DLBC Dease Lake 82.62 16 *e*P **P 04 14 31.2 +0.5**
DLBC Dease Lake 82.62 16 P **P 04 14 31.3 +0.5**
comp=Z,7.4nm,1.0s,baz=352,slow=5.6,SNR=5.7
BOSA Boshof 83.07 227 *e*P **P 04 14 31.6 -1.8**
comp=Z,11nm,1.1s
BOSA Boshof 83.07 227 P **P 04 14 31.6 -1.9**
comp=Z,4.8nm,0.8s,baz=48,slow=4.1,SNR=8.0
BOSA LR LR 04 50 17.6
comp=Z,58nm,19.0s,baz=208,slow=35
DBIC Dimbokro 83.28 273 *e*P **P 04 14 33.7 -1.1**
comp=Z,7.5nm,0.8s
DBIC Dimbokro 83.28 273 P **P 04 14 32.6 -2.2**
comp=Z,6.7nm,0.9s,baz=21,slow=5.1,SNR=5.4
DBIC LR LR 04 55 00.6
comp=Z,248nm,19.2s,baz=33,slow=38
LIC Lamto 83.68 273 *e*P **P 04 14 36.3 -0.6**
LIC *e*R
comp=Z,268nm,19.2s
SCHQ Schefferville 85.90 342 LR LR 04 59 23.0
comp=Z,80nm,18.3s,baz=337,slow=40
STKA Stephens Creek 87.61 132 P **P 04 14 53.8 -2.1**
STKA Stephens Creek 87.61 132 P **P 04 14 53.8 -2.1**
comp=Z,5.3nm,1.1s,baz=280,slow=5.6,SNR=5.3
STKA LR LR 04 57 52.3
comp=Z,113nm,19.4s,baz=204,slow=38
FFC Flin Flon 89.96 2 *i*P **P 04 15 06.7 -0.1**
FFC Flin Flon 89.96 2 *e*P **P 04 15 06.3 -0.5**
comp=Z,11nm,1.1s
ULM Lac du Bonnet 94.46 358 *e*P **P 04 15 26.1 -1.6**
comp=Z,10nm,1.4s
NEW Newport 94.82 12 *e*P **P 04 15 28.6 -0.9**
comp=Z,2.9nm,1.0s
BOZ Bozeman (W) 98.22 9 *e*P **P 04 15 45.1 0.0**
BOZ pmax pmax
comp=Z,2.0nm,1.1s
BOZ Bozeman (W) 98.22 9 *e*P **P 04 15 45.1 0.0**
comp=Z,2.0nm,1.1s
ASCN Ascension 99.40 267 *e*P **Pdif 04 15 50.1 -0.6**
comp=Z,276nm,1.1s
YBH Yreka Blue Hor 99.85 18 P **Pdif 04 15 51.1 -1.3**
YBH Yreka Blue Hor 99.85 18 P **Pdif 04 15 51.1 -1.3**
comp=Z,1.5nm,0.7s,baz=68,slow=5.4,SNR=3.9
PDAR Pinedale Array 101.31 8 P **Pdif 04 15 57.5 -1.6**
PDAR Pinedale Array 101.31 8 P **Pdif 04 15 57.5 -1.6**
comp=Z,0.1nm,0.5s,baz=344,slow=4.5,SNR=2.8
SNAA Sanae 121.68 202 *e*PKPdf **PKPdf 04 20 60.0 -0.5**
SAML Samuel 138.35 301 *e*PKPpre PKPpre 04 21 26.8
SAML *e*PKPdf **PKPdf 04 21 33.8 +0.1**
CPUP Villa Florida 143.81 273 *e*PKPdf PKPab 04 21 39.7 -0.4
CPUP PKP PKPbc 04 21 40.2 -0.6
CPUP Villa Florida 143.81 273 PKP PKPab 04 21 40.2 +0.1
comp=Z,10nm,1.0s,baz=41,slow=4.4,SNR=10
LPAZ La Paz 146.86 298 *e*PKPbc **PKPdf 04 21 49.4 0.0**
LPAZ La Paz 146.86 298 PKPbc **PKPdf 04 21 49.6 +0.2**
comp=Z,5.5nm,1.1s,baz=20,slow=6.8,SNR=9.5
TRQA Tornquist 150.87 254 *e*PKPbc **PKPbc 04 21 59.6 -0.6**
TRQA *e*PKPab **PKPab 04 22 07.8 +0.3**
LVC Limon Verde 151.28 289 *e*PKPbc **PKPbc 04 22 02.3 +0.3**
LVC *e*PKPab **PKPab 04 22 09.8 -0.1**

*LDG **09** 04:14:01.1±0.2,35°.59N×81°.62E,h10km,Mb4.3/14,Error ellipse: s-maj=10.6km s-min=5.3km az=67.0*
*IDC **09** 04:14:01.6±0.7,35°.61N×81°.65E,h0km,mb3.8/18, mb1 4.0/23,mb1mx3.9/36,mbtmp3.8/23,ML3.6/5,Error ellipse: s-maj=19.9km s-min=13.4km az=37.0*

*ISCJB **09** 04:14:03.1±0.4,35°.76N±0°.05×81°.55E±0°.06,h15km, mb4.1/44,Error ellipse: s-maj=7.3km s-min=6.6km az=165.7*
*NEIC **09** 04:14:03.3±0.4,35°.63N×81°.64E,h10km,mb4.3/11,Error ellipse: s-maj=8.7km s-min=6.6km az=175.0*
*BJI **09** 04:14:05.1,35°.74N×81°.65E,h6km,mb4.2/5,ML3.9/4, Ms7 3.8/1*
*NNC **09** 04:14:12.4±7.8,36°.36N×81°.23E,h13km±31km,mb3.6, mpv4.0,Error ellipse: s-maj=55.3km s-min=28.0km az=160.0*

ISC 09 04:14:04.1±0.7,35°.61N±0°.08×81°.53E±0°.07,h15km,n100, σ1§16/101,mb4.1/44,12C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.89**	**313**	*e*Pn	**Pn**	**04 15 32.5**	**+1.6**
KSH				Sn	**Sn**	**04 16 36.8**	**-1.4**
KSH				smax	smax		
	comp=N,120nm,0.9s						
KSH				smax	smax		
	comp=E,150nm,0.8s						
TKM2	**Tokmak 2**	**8.63**	**330**	⇑Pg	Pn	04 16 34.8	+26
	comp=E,9.1nm,1.1s						
TKM2				⇑Lg	Lg	04 18 21.8	
	comp=E,30nm,1.4s						
AAK	**Ala-Archa**	**8.89**	**324**	Pn	**Pn**	**04 16 14.2**	**+2.1**
AAK				Pg		04 16 42.8	
AAK				Lg	Lg	04 18 42.3	
AAK	**Ala-Archa**	**8.89**	**324**	Pn	**Pn**	**04 16 14.2**	**+2.1**
	comp=E,0.4nm,0.3s,baz=180,slow=9.8,SNR=2.4						
AAK				Pg		04 16 42.8	
	comp=E,0.7nm,0.3s,baz=137,slow=15,SNR=4.0						
AAK				Lg	Lg	04 18 42.3	
	comp=E,1.4nm,0.3s,baz=305,slow=16,SNR=4.4						
WMQ	**Urumqi**	**9.47**	**28**	P	Pn	04 16 22.9	+2.9
WMQ				sP		04 16 28.8	
WMQ				S	**Sn**	**04 18 09.7**	**+3.5**
WMQ				sS		04 18 12.4	
WMQ				LR	LR		
	comp=Z,750nm,15.0s						
KBL	**Kabul**	**10.29**	**268**	*e*Pn	**Pn**	**04 16 31.9**	**+0.4**
	comp=Z,6.2nm,0.5s						
MK31	**Makanchi Array**	**11.19**	**3**	⇓P	**Pn**	**04 16 42.8**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=185,slow=11,SNR=20						
MK31	**Makanchi Array**	**11.19**	**3**	*e*Pn	**Pn**	**04 16 42.7**	**-0.7**
MKAR	**Makanchi Array**	**11.19**	**3**	Pn	**Pn**	**04 16 42.5**	**-1.0**
MKAR				Sn	**Sn**	**04 18 47.4**	**-0.8**
MKAR				Lg	Lg	04 20 05.2	
MKAR	**Makanchi Array**	**11.19**	**3**	Pn	**Pn**	**04 16 42.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=178,slow=12,SNR=14						
MKAR				Sn	**Sn**	**04 18 47.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=183,slow=22,SNR=4.1						
MKAR				Lg	Lg	04 20 05.2	
	comp=Z,0.1nm,0.3s,baz=176,slow=28,SNR=3.0						
KK31	**Karatay Array**	**11.34**	**315**	⇓Pn	**Pn**	**04 16 44.9**	**-0.6**
	comp=Z,2.0nm,1.0s						
KK31				⇓Pg		04 17 27.7	
	comp=Z,1.6nm,0.8s						
KK31				⇑Lg	Lg	04 19 52.7	
	comp=Z,8.6nm,1.2s						
KKAR	**Karatay Array**	**11.34**	**315**	*e*Pn	**Pn**	**04 16 45.5**	**-0.1**
GTA	**Gaotai**	**14.99**	**70**	*e*P	**P**	**04 17 41.3**	**+0.3**
GTA				pP	Pn	04 17 45.0	+9.4
GTA				sP		04 17 47.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
KURBB	**Kurchatov Arra**	**15.16**	**353**	Pn	**Pn**	**04 17 34.7**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=173,slow=11,SNR=5.1						
KURBB				Lg	Lg	04 22 13.7	
	comp=Z,0.0nm,0.3s,baz=180,slow=29,SNR=3.7						
KURK	**Kurchatov**	**15.24**	**353**	Pn	**Pn**	**04 17 34.7**	**-3.9**
KURK				Lg	Lg	04 22 13.7	
ZAA0	**Zalesovo Array**	**18.48**	**6**	*e*Pn	**P**	**04 18 18.5**	**-0.8**
ZALV	**Zalesovo Beam**	**18.48**	**6**	P	**P**	**04 18 17.3**	**-2.0**
ZALV	**Zalesovo Beam**	**18.48**	**6**	P	**P**	**04 18 17.3**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=187,slow=12,SNR=5.2						
BVA0	**Borovoye Array**	**19.11**	**339**	P	**P**	**04 18 24.5**	**-1.7**
	comp=Z,0.1nm,0.8s,baz=237,slow=37,SNR=12						
BVAR	**Borovoye Array**	**19.11**	**339**	P	**P**	**04 18 25.3**	**-0.9**
BVAR	**Borovoye Array**	**19.11**	**339**	P	**P**	**04 18 25.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=121,slow=14,SNR=7.9						
BRVK	**Borovoye**	**19.17**	**339**	*e*P	**P**	**04 18 26.5**	**-0.3**
	comp=Z,6.7nm,1.0s						
AB31	**Akbulak array**	**20.88**	**317**	*e*P	**P**	**04 18 46.5**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=116,slow=10.0,SNR=9.7						
ABKAR	**Akbulak array**	**20.88**	**317**	*e*P	**P**	**04 18 46.0**	**+0.5**
	comp=Z,0.9nm,0.5s						
SONM	**Songino Array**	**22.11**	**49**	P	**P**	**04 18 59.5**	**+0.7**
SONM	**Songino Array**	**22.11**	**49**	P	**P**	**04 18 59.6**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=239,slow=13,SNR=3.8						
ULN	**Ulaanbaatar**	**22.52**	**49**	*e*P	**P**	**04 19 03.6**	**+0.3**
	comp=Z,5.6nm,1.3s						
AKTO	**Aktyubinsk**	**22.56**	**318**	P	**P**	**04 19 05.6**	**+2.0**
AKTO	**Aktyubinsk**	**22.56**	**318**	P	**P**	**04 19 05.6**	**+2.0**
	comp=Z,0.7nm,0.4s,baz=115,slow=7.6,SNR=5.0						
BR131	**Keskin Array S**	**37.78**	**291**	*e*P	**P**	**04 21 19.9**	**+0.1**
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**37.78**	**291**	P	**P**	**04 21 19.8**	**0.0**
BRTR	**Keskin Array B**	**37.78**	**291**	P	**P**	**04 21 19.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=71,slow=8.2,SNR=4.9						
AKASG	**Malin Array Be**	**40.16**	**309**	P	**P**	**04 21 38.8**	**-0.6**
AKASG	**Malin Array Be**	**40.16**	**309**	P	**P**	**04 21 38.8**	**-0.6**
	comp=Z,15nm,0.3s,baz=76,slow=8.4,SNR=2.7						
MLR	**Muntele Rosu**	**42.61**	**301**	P	**P**	**04 22 00.5**	**+0.8**
MLR	**Muntele Rosu**	**42.61**	**301**	P	**P**	**04 22 00.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=150,slow=9.4,SNR=6.0						
BUR08	**Bucovina Ar. S**	**42.90**	**304**	*e*P	**P**	**04 22 02.0**	**-0.1**
FIA1	**FINESS Array S**	**43.08**	**325**	*e*P	**P**	**04 22 02.2**	**-1.0**
FINES	**FINESS Array B**	**43.08**	**325**	P	**P**	**04 22 02.7**	**-0.4**
FINES	**FINESS Array B**	**43.08**	**325**	P	**P**	**04 22 02.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=48,slow=5.7,SNR=7.4						
KWP	**Kalwaria Pacla**	**44.38**	**307**	*e*P	**P**	**04 22 14.6**	**+0.7**
	comp=Z,2.7nm,0.8s						
MJAR	**Matsushiro Arr**	**45.24**	**71**	P	**P**	**04 22 20.9**	**0.0**
MJAR	**Matsushiro Arr**	**45.24**	**71**	P	**P**	**04 22 20.9**	**0.0**
	comp=Z,1.6nm,1.0s,baz=289,slow=7.6,SNR=5.1						
ARCES	**ARCESS Array B**	**45.35**	**336**	P	**P**	**04 22 21.7**	**+0.5**
ARCES	**ARCESS Array B**	**45.35**	**336**	P	**P**	**04 22 21.7**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=105,slow=8.9,SNR=7.6						
MORC	**Moravsky Berou**	**47.70**	**308**	*e*P	**P**	**04 22 40.2**	**+0.2**
	comp=Z,1.6nm,0.9s						
HFS	**Hagfors**	**49.03**	**322**	P	**P**	**04 22 50.7**	**+0.7**
HFS	**Hagfors**	**49.03**	**322**	P	**P**	**04 22 50.7**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=96,slow=12,SNR=2.9						
NB2	**NORSAR Subarra**	**50.21**	**323**	P	**P**	**04 22 58.6**	**-0.5**
	comp=Z,0.1nm,0.7s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**50.21**	**323**	P	**P**	**04 22 59.7**	**+0.6**
NOA	**NORSAR Array B**	**50.21**	**323**	P	**P**	**04 22 59.7**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=87,slow=7.5,SNR=5.4						
GERES	**GERESS Array B**	**50.33**	**307**	P	**P**	**04 23 01.8**	**+1.5**
GERES	**GERESS Array B**	**50.33**	**307**	P	**P**	**04 23 01.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=78,slow=7.0,SNR=9.5						
KHC	**Kasperske Hory**	**50.36**	**308**	*e*P	**P**	**04 23 01.0**	**+0.6**
	comp=Z,2.2nm,1.0s						
DAVOX	**Davos/Dischmat**	**53.32**	**306**	P	**P**	**04 23 23.7**	**+1.0**
DAVOX	**Davos/Dischmat**	**53.32**	**306**	P	**P**	**04 23 23.7**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.8,SNR=4.0						
CDF	**Champ du Feu**	**54.58**	**308**	⇑*i*P	**P**	**04 23 32.7**	**+0.9**
	comp=Z,3.4nm,0.8s						
HINF	**Hinteralfeld**	**55.02**	**307**	⇑*i*P	**P**	**04 23 35.8**	**+0.9**
	comp=Z,2.3nm,0.7s						
HAU	**Haudompre**	**55.29**	**308**	*e*P	**P**	**04 23 37.5**	**+0.7**
PAGF	**Fort de Pagny**	**55.53**	**309**	*e*P	**P**	**04 23 40.0**	**+1.5**
	comp=Z,1.0nm,0.7s						
LPG	**La Plagne**	**55.77**	**305**	⇑*i*P	**P**	**04 23 41.9**	**+1.3**
	comp=Z,10nm,0.8s						
LPL	**La Plagne**	**55.78**	**305**	⇑*i*P	**P**	**04 23 41.9**	**+1.3**
	comp=Z,8.1nm,0.7s						
BNI	**Bardonecchia**	**55.96**	**304**	*e*P	**P**	**04 23 42.2**	**+0.4**
	comp=Z,2.3nm,0.9s						
MEZF	**Maizieres J'vi**	**55.97**	**309**	⇑*i*P	**P**	**04 23 43.0**	**+1.3**
	comp=Z,5.8nm,0.6s						
MBDF	**Montbardon**	**56.00**	**304**	⇑*i*P	**P**	**04 23 43.0**	**+0.9**
	comp=Z,7.2nm,0.9s						
FRF	**La Foret Royal**	**56.46**	**303**	*e*P	**P**	**04 23 45.8**	**+0.5**
	comp=Z,5.9nm,0.8s						
LOR	**Lormes**	**57.12**	**308**	⇑*i*P	**P**	**04 23 50.3**	**+0.4**
	comp=Z,1.1nm,0.5s						
SSB	**Saint Sauveur**	**57.31**	**305**	*e*P	**P**	**04 23 51.8**	**+0.5**
	comp=Z,8.4nm,1.4s						
KEST	**Kesra**	**57.33**	**293**	*e*P	**P**	**04 23 53.2**	**+1.6**
SMF	**Signal de Mont**	**57.33**	**307**	⇑*i*P	**P**	**04 23 51.9**	**+0.5**
	comp=Z,1.1nm,1.1s						
VIVF	**Saint-Julien-l**	**57.37**	**305**	*e*P	**P**	**04 23 52.5**	**+0.8**
	comp=Z,4.6nm,0.9s						
SSF	**Saint Saulge**	**57.41**	**307**	⇑*i*P	**P**	**04 23 52.5**	**+0.6**
	comp=Z,3.3nm,0.7s						
AVF	**Avril sur Loir**	**57.60**	**307**	*e*P	**P**	**04 23 53.8**	**+0.6**
	comp=Z,8.7nm,1.0s						
TCF	**Toulx Ste Croi**	**58.51**	**307**	*e*P	**P**	**04 24 00.7**	**+1.0**
EKA	**Eskdalemuir Ar**	**58.75**	**318**	P	**P**	**04 24 03.2**	**+2.1**
EKA	**Eskdalemuir Ar**	**58.75**	**318**	P	**P**	**04 24 03.2**	**+2.1**
	comp=Z,1.3nm,0.9s,baz=78,slow=8.8,SNR=3.7						
RJF	**Les Rejaudoux**	**59.31**	**306**	*e*P	**P**	**04 24 06.6**	**+1.4**
FLN	**La Foliniere**	**59.37**	**310**	*e*P	**P**	**04 24 06.1**	**+0.6**
GRR	**Gorron**	**59.73**	**310**	*e*P	**P**	**04 24 08.5**	**+0.4**
	comp=Z,7.0nm,0.8s						
MFF	**Saint Martin d**	**59.92**	**308**	*e*P	**P**	**04 24 09.9**	**+0.5**
COLD	**Coldfoot**	**70.27**	**19**	*e*P	**P**	**04 25 16.6**	**+0.3**
	comp=Z,5.3nm,1.2s						
COLA	**College**	**72.68**	**20**	*e*P	**P**	**04 25 30.8**	**0.0**
	comp=Z,13nm,0.9s						
ILAR	**Eielson Array**	**73.02**	**20**	P	**P**	**04 25 32.3**	**-0.6**
ILAR	**Eielson Array**	**73.02**	**20**	P	**P**	**04 25 32.3**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=305,slow=5.4,SNR=14						
INK	**Inuvik**	**73.13**	**13**	P	**P**	**04 25 33.1**	**-0.3**
INK	**Inuvik**	**73.13**	**13**	P	**P**	**04 25 33.1**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=30,slow=4.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**74.27**	**275**	P	**P**	**04 25 41.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**74.27**	**275**	P	**P**	**04 25 41.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=42,slow=4.5,SNR=9.0						
WRA	**Warramunga Arr**	**74.52**	**129**	P	**P**	**04 25 41.5**	**-0.8**
WRA	**Warramunga Arr**	**74.52**	**129**	P	**P**	**04 25 41.5**	**-0.8**
	comp=Z,2.5nm,1.0s,baz=323,slow=5.9,SNR=9.6						
SML	**Sawmill**	**74.89**	**22**	*e*P	**P**	**04 25 43.4**	**-0.5**
	comp=Z,1.8nm,1.1s						
DAWY	**Dawson**	**75.53**	**17**	*e*P	**P**	**04 25 46.9**	**-0.7**
OHAK	**Old Harbor**	**76.64**	**27**	*e*P	**P**	**04 25 51.1**	**-2.8**
	comp=Z,21nm,1.5s						
ASAR	**Alice Springs**	**77.01**	**132**	P	**P**	**04 25 56.1**	**-0.4**
ASAR	**Alice Springs**	**77.01**	**132**	P	**P**	**04 25 56.1**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=321,slow=5.7,SNR=8.2						
HYT	**Haines Junctio**	**78.74**	**18**	*e*P	**P**	**04 26 06.0**	**+0.2**
YKA	**Yellowknife Ar**	**81.37**	**8**	P	**P**	**04 26 18.6**	**-1.1**
YKA	**Yellowknife Ar**	**81.37**	**8**	P	**P**	**04 26 18.6**	**-1.1**
	comp=Z,1.6nm,1.1s,baz=347,slow=5.5,SNR=4.0						
TSUM	**Tsumeb**	**81.45**	**239**	*e*P	**P**	**04 26 21.6**	**+0.7**
	comp=Z,6.5nm,1.2s						
CPUP	**Villa Florida**	**143.75**	**273**	*e*PKPdf	PKPab	04 33 35.8	+0.2

*LDG **09** 04:21:35.5±0.1,35°.61N×81°.58E,h10km,Mb4.4/19,Error ellipse: s-maj=8.3km s-min=4.1km az=66.0*
*ISCJB **09** 04:21:37.8±0.2,35°.62N±0°.03×81°.61E±0°.03,h15km, mb4.3/77,MS3.6/5,Error ellipse: s-maj=4.8km s-min=3.3km az=37.1*
*IDC **09** 04:21:37.1±0.6,35°.63N×81°.68E,h0km,mb4.0/21, mb1 4.2/25,mb1mx4.1/34,mbtmp4.1/25,ML4.0/4,MS3.2/5, Ms1 3.2/5,ms1mx3.0/30,Error ellipse: s-maj=17.4km s-min=11.1km az=34.0*
*BJI **09** 04:21:38.6,35°.74N×81°.47E,h10km,mB5.0/14,mb4.4/23, ML4.4/5,Ms4.2/12,Ms7 3.9/13*
*NEIC **09** 04:21:39.1±0.3,35°.61N×81°.74E,h10km,mb4.4/26,Error ellipse: s-maj=7.7km s-min=5.7km az=23.0*
*MOS **09** 04:21:41.3±1.0,35°.73N×81°.73E,h33km,mb4.4/39,Error ellipse: s-maj=10.1km s-min=4.8km az=115.9*
*NNC **09** 04:21:43.6±3.8,35°.93N×81°.42E,h15km±15km,mb4.2, mpv4.2,Error ellipse: s-maj=25.5km s-min=15.1km az=133.0*

ISC 09 04:21:39.9±0.4,35°.63N±0°.05×81°.68E±0°.04,h15km,n202, σ1§50/222,mb4.3/77,MS3.7/5,9C-7D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.96**	**312**	*e*Pn	**Pn**	**04 23 07.5**	**-0.2**
KSH				Sn	**Sn**	**04 24 14.1**	**-1.7**
KSH				smax	smax		
	comp=N,510nm,1.1s						
KSH				smax	smax		
	comp=E,280nm,0.8s						
DANN	**Dangsing**	**7.47**	**166**	*e*P	**Pn**	**04 23 28.4**	**-0.3**
KOLN	**Koldanda**	**8.01**	**168**	*e*P	**Pn**	**04 23 35.2**	**-0.8**
	comp=E,23nm,0.5s						
GUN	**Gumba**	**8.49**	**154**	*e*P	**Pn**	**04 23 44.5**	**+1.8**
	comp=E,29nm,0.5s						
DMN	**Daman**	**8.52**	**159**	*e*P	**Pn**	**04 23 43.4**	**+0.4**
	comp=E,40nm,0.6s						
PKI	**Pulchoki**	**8.64**	**157**	*e*P	**Pn**	**04 23 46.2**	**+1.4**
	comp=E,45nm,0.6s						
TKM2	**Tokmak 2**	**8.67**	**329**	⇓Pn	**Pn**	**04 23 44.3**	**-0.7**
	comp=E,5.8nm,0.6s						
TKM2				⇓Pg		04 24 15.2	
	comp=E,12nm,0.8s						
TKM2				⇑Lg	Lg	04 26 06.2	
	comp=E,43nm,1.1s						
TKM2	**Tokmak 2**	**8.67**	**329**	*e*P	**Pn**	**04 23 47.1**	**+2.1**
TKM2	**Tokmak 2**	**8.67**	**329**	*e*Pn	**Pn**	**04 23 47.1**	**+2.1**
JIRN	**Jiri**	**8.83**	**153**	*e*P	**Pn**	**04 23 49.2**	**+1.8**
	comp=E,89nm,0.7s						
AAK	**Ala-Archa**	**8.94**	**324**	⇑*e*P	**Pn**	**04 23 48.7**	**0.0**
AAK	**Ala-Archa**	**8.94**	**324**	*e*Pn	**Pn**	**04 23 48.3**	**-0.4**
AAK				Pg		04 24 18.7	
AAK				Lg	Lg	04 26 20.0	
AAK	**Ala-Archa**	**8.94**	**324**	Pn	Pn	04 23 54.2	+5.6
	comp=E,0.5nm,0.3s,baz=152,slow=6.5,SNR=5.2						
AAK				Pg		04 24 18.7	
	comp=E,1.6nm,0.3s,baz=150,slow=16,SNR=7.6						
AAK				Lg	Lg	04 26 20.0	
	comp=E,1.9nm,0.3s,baz=247,slow=20,SNR=4.4						
AAK				LR	LR	04 27 30.6	
	comp=E,137nm,20.1s,baz=126,slow=40						
FRU	**Bishkek**	**9.04**	**325**	*e*P	**Pn**	**04 23 53.0**

GTA sP 04 25 23.1
GTA S S 04 28 05.2 -7.4
GTA sS sS 04 28 10.7
GTA pmax pmax
comp=Z,200nm,5.9s
GTA LR LR
comp=N,270nm,13.8s
GTA LR LR
comp=E,330nm,12.1s
GTA LR LR
comp=Z,290nm,11.4s
KURBB Kurchatov Arra 15.15 352 Pn **Pn 04 25 10.8 -2.5**
comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=20
KURBB Lg Lg 04 29 38.6
comp=Z,0.1nm,0.3s,baz=173,slow=26,SNR=3.3
KURK Kurchatov 15.24 353 P **Pn 04 25 10.8 -3.6**
KURK Kurchatov 15.24 353 Pn **Pn 04 25 10.8 -3.6**
KURK Lg Lg 04 29 38.6
LZH Lanzhou 17.98 82 *eP* **P 04 25 50.6 +0.7**
LZH pP **pP 04 25 53.9 -0.3**
LZH sP **sP 04 25 56.2 +0.1**
LZH pmax pmax
comp=Z,48nm,1.4s
LZH pmax pmax
comp=Z,130nm,4.0s
LZH LR LR
comp=N,560nm,11.0s
LZH LR LR
comp=E,330nm,10.3s
LZH LR LR
comp=Z,370nm,12.2s
ZAA0 Zalesovo Array 18.45 6 *eP* **P 04 25 54.0 -0.8**
ZALV Zalesovo Beam 18.45 6 *i* P **P 04 25 54.2 -0.6**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 18.45 6 P **P 04 25 52.8 -2.0**
ZALV Zalesovo Beam 18.45 6 P **P 04 25 52.8 -2.0**
comp=Z,0.9nm,0.3s,baz=187,slow=12,SNR=17
VOSK Vostochnaya 18.69 339 ⇓P **P 04 25 57.0 -0.5**
comp=Z,12nm,1.1s
VOSK Vostochnaya 18.69 339 P **P 04 25 57.0 -0.5**
VOSK pmax pmax
comp=Z,12nm,1.1s
CD2 Chengdu 19.05 98 *eP* **Pn 04 26 02.5 +0.1**
CD2 pP **pP 04 26 06.1 +0.3**
CD2 sP **sP 04 26 09.5 +1.7**
CD2 PP **PnPn 04 26 19.0 +4.1**
CD2 S **Sn 04 29 30.8 -4.7**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,100nm,5.6s
CD2 LR LR
comp=N,740nm,5.9s
CD2 LR LR
comp=Z,620nm,8.2s
BVA0 Borovoye Array 19.13 339 ⇑P **Pn 04 26 02.8 -0.4**
comp=Z,9.9nm,0.8s,baz=149,slow=12,SNR=38
BVA0 Borovoye Array 19.13 339 *i* P **Pn 04 26 03.1 -0.1**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s
BVAR Borovoye Array 19.13 339 P **P 04 26 02.5 +0.2**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 19.13 339 P **P 04 26 02.5 +0.2**
BVAR Borovoye Array 19.13 339 P **P 04 26 02.5 +0.2**
comp=Z,0.6nm,0.3s,baz=145,slow=11,SNR=23
BRVK Borovoye 19.19 339 P **Pn 04 26 04.0 +0.1**
BRVK pmax pmax
comp=Z,28nm,0.9s
BRVK Borovoye 19.19 339 *eP* **Pn 04 26 04.2 +0.3**
comp=Z,14nm,0.8s
NVS Novosibirsk 19.24 3 *eP* **P 04 26 01.0 -2.4**
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS pmax pmax
comp=N,7.0nm,1.0s
KMI Kunming 20.93 114 P **P 04 26 23.0 +0.6**
KMI pP **pP 04 26 27.4 +0.7**
KMI sP **sP 04 26 30.2 +1.6**
KMI pmax pmax
comp=Z,9.0nm,1.5s
AB31 Akbulak array 20.94 317 ⇑P **P 04 26 21.2 -0.8**
comp=Z,5.4nm,0.8s
AB31 Akbulak array 20.94 317 P **P 04 26 22.9 +0.9**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 20.94 317 *eP* **P 04 26 21.9 -0.1**
comp=Z,8.1nm,0.8s
MOY Mondy 21.16 35 *eP* **P 04 26 26.8 +2.3**
ZAK Zakamensk 21.50 40 *eP* **P 04 26 28.6 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 22.01 49 P **P 04 26 32.5 -1.1**
SONM Songino Array 22.01 49 P **P 04 26 32.5 -1.1**
comp=Z,3.7nm,0.9s,baz=225,slow=12,SNR=8.4
SONM LR LR 04 35 50.0
comp=Z,132nm,20.6s,baz=10,slow=39
ULN Ulaanbaatar 22.42 49 *eP* **P 04 26 39.6 +1.4**
comp=Z,16nm,1.2s
AKTO Aktyubinsk 22.62 318 ⇑P **P 04 26 39.7 -0.4**
comp=Z,8.4nm,0.8s
AKTO Aktyubinsk 22.62 318 P **P 04 26 39.5 -0.6**
AKTO pmax pmax
comp=Z,9.0nm,0.9s
AKTO Aktyubinsk 22.62 318 P **P 04 26 39.5 -0.6**
AKTO Aktyubinsk 22.62 318 P **P 04 26 39.5 -0.6**
comp=Z,8.7nm,0.9s,baz=126,slow=11,SNR=8.8
CMAR Chiang Mai Arr 22.94 134 P **P 04 26 41.9 -1.8**
CMAR Chiang Mai Arr 22.94 134 P **P 04 26 41.9 -1.8**
comp=Z,0.7nm,0.3s,baz=322,slow=10,SNR=3.1
GYA Guiyang 23.23 106 *eP* **P 04 26 45.7 -1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 23.98 68 *eP* **P 04 26 53.4 -0.5**
HHC PP **PnPn 04 27 27.0 +4.5**
HHC PcP **PcP 04 30 37.6 +1.8**
HHC S **S 04 31 05.8 -4.5**
HHC SS **SnSn 04 31 56.7 +6.3**
HHC ScP **ScP 04 34 13.9 +0.2**
HHC PcS **PcS 04 34 15.4 -0.1**
HHC ScS **ScS 04 37 59.6 -1.1**
HHC pmax pmax
comp=Z,46nm,0.6s
HHC pmax pmax
comp=Z,510nm,5.1s
HHC LR LR
comp=N,230nm,12.7s
HHC LR LR
comp=E,250nm,12.5s
HHC LR LR
comp=Z,190nm,12.0s
SVE Sverdlovsk 25.52 333⇓*eP* **P 04 27 08.9 +1.3**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 26.04 330*d i*P **P 04 27 12.9 +0.6**
ARU 04 27 50.2
ARU S **S 04 31 47.3 +4.7**
ARU SS **SnSn 04 32 43.9 +3.7**
ARU pmax pmax
comp=Z,9.0nm,0.8s
BJI Beijing 27.49 70 P **P 04 27 24.5 -1.1**
BJI pmax pmax
comp=Z,6.0nm,0.8s
WHN Wuhan 27.77 91 *eP* **P 04 27 30.0 +1.9**
KULM Kulim 34.89 146 *eP* **P 04 28 29.4 -1.5**
comp=Z,9.8nm,0.9s
OBN Obninsk 36.38 317⇓*eP* **P 04 28 43.6 +0.3**
OBN *e* 04 28 50.0
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,100nm,14.0s
KSAR Wonju Array Be 36.89 73 P **P 04 28 47.9 0.0**
KSRS Korea Array 36.91 73 P **P 04 28 47.9 -0.2**
comp=Z,0.4nm,0.4s,baz=298,slow=8.0,SNR=3.4
KSRS LR LR 04 45 31.5
comp=Z,46nm,20.1s,baz=245,slow=39
MDJ Mudanjiang 37.26 61 P **P 04 28 49.4 -1.6**
MDJ pmax pmax
comp=Z,3.0nm,0.7s
MDJ pmax pmax
comp=Z,160nm,6.7s
BR131 Keskin Array S 37.88 291 *eP* **P 04 28 56.9 +0.4**
comp=Z,3.3nm,0.9s
BRTR Keskin Array B 37.88 291 P **P 04 28 55.5 -1.0**
BRTR Keskin Array B 37.88 291 P **P 04 28 55.5 -1.0**
comp=Z,1.8nm,0.8s,baz=98,slow=8.4,SNR=8.9
ANTO Ankara 38.50 291 *eP* **P 04 29 03.6 +2.0**
ANTO pmax pmax
comp=Z,3.0nm,0.6s
ANTO Ankara 38.50 291 *eP* **P 04 29 03.6 +2.0**
comp=Z,3.3nm,0.6s
TMCR Tamitsa 38.77 331 *eP* **P 04 29 03.4 0.0**
TMCR *e* 04 30 31.3
CSS Prodhromos 39.14 284 *eP* **P 04 29 08.2 +1.2**
comp=Z,10nm,0.9s
AKASG Malin Array Be 40.24 309 P **P 04 29 15.9 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 40.24 309 P **P 04 29 15.9 0.0**
AKASG Malin Array Be 40.24 309 P **P 04 29 15.9 0.0**
comp=Z,2.4nm,0.5s,baz=74,slow=8.4,SNR=3.0
LVZ Lovozero 41.67 335⇑*eP* **P 04 29 26.7 -0.8**
LVZ pmax pmax
comp=Z,17nm,1.7s
VSU Vasula 42.32 320⇓*eP* **P 04 29 32.8 0.0**
VSU pmax pmax
comp=Z,22nm,1.0s
MLR Muntele Rosu 42.70 301 P **P 04 29 36.4 +0.1**
MLR Muntele Rosu 42.70 301 P **P 04 29 36.4 +0.1**
comp=Z,1.3nm,0.9s,baz=141,slow=4.2,SNR=8.9
BUR08 Bucovina Ar. S 42.98 304 *eP* **P 04 29 38.6 0.0**
FINES FINESS Array B 43.13 325 P **P 04 29 38.5 -0.9**
FINES FINESS Array B 43.13 325 P **P 04 29 38.5 -0.9**
comp=Z,2.0nm,0.8s,baz=111,slow=9.4,SNR=12
FINES LR LR 04 48 16.5
comp=Z,90nm,20.3s,baz=335,slow=37
SUW Suwalki 43.99 314 *eP* **P 04 29 47.0 +0.6**
SUW pmax pmax
comp=Z,15nm,0.9s
SUW Suwalki 43.99 314 *eP* **P 04 29 47.0 +0.6**
comp=Z,15nm,0.9s
KWP Kalwaria Pacla 44.46 307 *eP* **P 04 29 50.7 +0.4**
KWP pmax pmax
comp=Z,7.0nm,1.1s
KWP Kalwaria Pacla 44.46 307 *eP* **P 04 29 50.7 +0.4**
comp=Z,7.1nm,1.1s
KOLS Kolonicke sedl 44.81 306 *eP* **P 04 29 53.0 -0.1**
KOLS Kolonicke sedl 44.81 306 *eP* **P 04 29 53.0 -0.1**
MJAR Matsushiro Arr 45.12 71 P **P 04 29 55.8 +0.1**
MJAR Matsushiro Arr 45.12 71 P **P 04 29 55.8 +0.1**
comp=Z,1.8nm,0.9s,baz=293,slow=7.9,SNR=6.2
CRVS Cervenica-Dubn 45.34 306 *eP* **P 04 29 58.1 +0.8**
CRVS Cervenica-Dubn 45.34 306 *eP* **P 04 29 58.1 +0.8**
ARCES ARCESS Array B 45.38 336 P **P 04 29 56.3 -1.0**
ARCES ARCESS Array B 45.38 336 P **P 04 29 56.3 -1.0**
comp=Z,2.2nm,0.7s,baz=100,slow=5.4,SNR=14
ARE0 ARCESS Array S 45.38 336 *eP* **P 04 29 58.0 +0.7**
STHS Stebnicka Huta 45.43 307 *eP* **P 04 29 57.8 -0.2**
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 45.43 307 *eP* **P 04 29 57.8 -0.2**
STHS *e* 05 06 46.7
KECS Kecovo 46.04 306 *eP* **P 04 30 04.3 +1.5**
KECS pmax pmax
comp=Z,1.0nm,0.9s
KECS Kecovo 46.04 306 *eP* **P 04 30 04.3 +1.5**
ASAJ Asahikawa 46.57 60 *eP* **P 04 30 07.4 +0.4**
VYHS Vyhne 47.12 306 *eP* **P 04 30 12.7 +1.4**
VYHS pmax pmax
comp=Z,4.0nm,1.6s
VYHS Vyhne 47.12 306 *eP* **P 04 30 12.7 +1.4**
MORC Moravsky Berou 47.78 308 *eP* **P 04 30 17.5 +1.0**
MORC pmax pmax
comp=Z,9.0nm,1.6s
MORC Moravsky Berou 47.78 308 *eP* **P 04 30 17.5 +1.0**
comp=Z,9.2nm,1.6s
VRAC Vranov 48.46 308 P **P 04 30 23.4 +1.7**
VRAC Vranov 48.46 308 P **P 04 30 23.4 +1.7**
comp=Z,0.7nm,0.3s,baz=218,slow=3.0,SNR=4.6
DPC Dobruska-Polom 48.47 309 *eP* **P 04 30 23.0 +1.2**
DPC pmax pmax
comp=Z,10.0nm,0.7s
DPC Dobruska-Polom 48.47 309 *eP* **P 04 30 23.0 +1.2**
comp=Z,10nm,0.7s
HFS Hagfors 49.08 322 P **P 04 30 27.2 +0.9**
HFS Hagfors 49.08 322 P **P 04 30 27.2 +0.9**
comp=Z,1.3nm,0.6s,baz=111,slow=8.1,SNR=4.7
BRG Berggiesshubel 49.89 310 *eP* **P 04 30 31.1 -1.5**
comp=Z,1.6nm,0.7s
BRG Berggiesshubel 49.89 310 *eP* **P 04 30 31.1 -1.5**
BRG pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 50.26 323 P **P 04 30 35.1 -0.2**
comp=Z,1.6nm,0.8s,baz=89,slow=7.9
NOA NORSAR Array B 50.26 323 P **P 04 30 35.5 +0.1**
NOA NORSAR Array B 50.26 323 P **P 04 30 35.5 +0.1**
comp=Z,1.4nm,0.8s,baz=87,slow=7.5,SNR=8.3
CLL Collm 50.40 311 *eP* **P 04 30 38.0 +1.6**
CLL Collm 50.40 311 *eP* **P 04 30 38.0 +1.6**
GERES GERESS Array B 50.41 307 P **P 04 30 37.8 +1.0**
GERES GERESS Array B 50.41 307 P **P 04 30 37.8 +1.0**
comp=Z,1.3nm,0.8s,baz=72,slow=5.7,SNR=14
KHC Kasperske Hory 50.44 308 *eP* **P 04 30 38.1 +1.3**
KHC pmax pmax
comp=Z,4.0nm,1.3s
KHC Kasperske Hory 50.44 308 *eP* **P 04 30 38.1 +1.3**
comp=Z,4.0nm,1.3s
TIP Timpagrande 50.70 295 *eP* **P 04 30 40.1 +1.1**
comp=Z,4.3nm,1.0s
DAVOX Davos/Dischmat 53.40 306 P **P 04 30 58.1 -1.1**
DAVOX Davos/Dischmat 53.40 306 P **P 04 30 58.1 -1.1**
comp=Z,1.3nm,0.6s,baz=90,slow=7.1,SNR=4.4
TUE Stuetta 53.84 305 *eP* **P 04 31 02.5 +0.1**
comp=Z,2.2nm,0.9s
PETK Petropavlovsk- 54.45 46 P **P 04 31 05.7 -0.8**
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 54.45 46 P **P 04 31 05.7 -0.8**
PETK Petropavlovsk- 54.45 46 P **P 04 31 05.7 -0.8**
comp=Z,3.2nm,0.9s,baz=278,slow=13,SNR=2.8
CDF Champ du Feu 54.66 308 *eP* **P 04 31 07.4 -0.8**
comp=Z,1.7nm,0.6s
WLF Walferdange 55.03 310 *eP* **P 04 31 12.0 +1.3**
WLF pmax pmax
comp=Z,3.0nm,0.8s
WLF Walferdange 55.03 310 *eP* **P 04 31 12.0 +1.3**
comp=Z,3.3nm,0.8s
HINF Hinteralfeld 55.09 308 *eP* **P 04 31 09.7 -1.6**
comp=Z,5.3nm,0.9s
LPG La Plagne 55.85 305 *eP* **P 04 31 15.9 -1.2**
comp=Z,6.8nm,0.7s
LPL La Plagne 55.86 305 *eP* **P 04 31 15.9 -1.1**
comp=Z,16nm,0.9s
SBF Sospel 55.91 303 *eP* **P 04 31 15.7 -1.5**
CABF La Chapelle 55.95 306 *eP* **P 04 31 15.9 -1.6**
comp=Z,7.4nm,0.9s
BNI Bardonecchia 56.04 304 *eP* **P 04 31 19.1 +0.9**
BNI pmax pmax
comp=Z,5.0nm,1.2s
BNI Bardonecchia 56.04 304 *eP* **P 04 31 19.1 +0.9**
comp=Z,5.0nm,1.2s
MEZF Maizieres J'vi 56.05 309 *eP* **P 04 31 17.0 -1.1**
comp=Z,4.7nm,0.7s
MBDF Montbardon 56.08 304 *eP* **P 04 31 17.1 -1.5**
comp=Z,6.2nm,0.9s
BAIF Baives 56.12 311 *eP* **P 04 31 17.7 -0.9**
FRF La Foret Royal 56.55 303 *eP* **P 04 31 20.0 -1.7**
comp=Z,32nm,1.4s
ORIF Oris-en-Rattie 56.62 304 *eP* **P 04 31 20.3 -2.0**
comp=Z,7.5nm,1.0s
LOR Lormes 57.19 308 *eP* **P 04 31 24.2 -2.1**
SMF Signal de Mont 57.41 307 *eP* **P 04 31 26.0 -1.8**
VIVF Saint-Julien-l 57.45 305 *eP* **P 04 31 26.6 -1.5**
SSF Saint Sauige 57.49 307 *eP* **P 04 31 26.5 -1.8**
comp=Z,3.6nm,0.7s
AVF Avril sur Loir 57.68 307 *eP* **P 04 31 27.9 -1.7**
comp=Z,4.6nm,0.8s
LASF Ste Croix 58.27 304 *eP* **P 04 31 32.5 -1.4**
comp=Z,5.4nm,0.8s
TCF Toulx Ste Croi 58.59 307 *eP* **P 04 31 34.6 -1.5**
comp=Z,9.8nm,1.1s
EKA Eskdalemuir Ar 58.81 318 P **P 04 31 36.9 -0.5**
EKA Eskdalemuir Ar 58.81 318 P **P 04 31 36.9 -0.5**
comp=Z,4.0nm,1.1s,baz=81,slow=7.9,SNR=6.1
CAF Calviac 59.16 306 *eP* **P 04 31 38.7 -1.4**
RJF Les Rejaudoux 59.39 306 *eP* **P 04 31 40.6 -1.0**
MTLF Montolieu 59.64 304 *eP* **P 04 31 41.9 -1.5**
comp=Z,5.1nm,1.1s
GRR Gorron 59.81 310 *eP* **P 04 31 42.5 -1.9**
comp=Z,10.0nm,0.9s
LFF La Frestale 60.03 306 *eP* **P 04 31 44.7 -1.4**
EPF Esparros 61.03 304 *eP* **P 04 31 51.6 -1.4**
comp=Z,4.1nm,0.7s
ETSF Etsaut 61.69 304 *eP* **P 04 31 56.0 -1.4**
SUMG Summit 64.54 343 *eP* **P 04 32 17.2 +0.9**
SUMG pmax pmax
comp=Z,14nm,1.4s
SUMG Summit 64.54 343 *eP* **P 04 32 17.2 +0.9**
comp=Z,14nm,1.4s
ESDC Sonseca Array 65.38 302 P **P 04 32 21.9 0.0**
ESDC Sonseca Array 65.38 302 P **P 04 32 21.9 0.0**
comp=Z,0.4nm,0.7s,baz=56,slow=6.1,SNR=3.5
COLD Coldfoot 70.22 19 *eP* **P 04 32 52.2 +0.4**
comp=Z,6.1nm,1.0s
COLA College 72.62 20 *eP* **P 04 33 06.6 +0.3**
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 72.62 20 *eP* **P 04 33 06.5 +0.3**
comp=Z,14nm,0.8s
ILAR Eielson Array 72.96 20 P **P 04 33 07.5 -0.9**
ILAR Eielson Array 72.96 20 P **P 04 33 07.5 -0.9**
comp=Z,2.2nm,0.8s,baz=318,slow=4.8,SNR=27
INK Inuvik 73.09 13 *eP* **P 04 33 09.1 +0.1**
comp=Z,3.4nm,0.8s
TOA0 Torodi Ar. Sit 74.39 275 *eP* **P 04 33 20.5 +2.9**
TORD Torodi Ar. Bea 74.39 275 P **P 04 33 15.4 -2.2**
TORD Torodi Ar. Bea 74.39 275 P **P 04 33 15.4 -2.2**
comp=Z,1.2nm,0.8s,baz=45,slow=5.4,SNR=9.8
WRA Warramunga Arr 74.45 129 P **P 04 33 17.0 -0.7**
WRA Warramunga Arr 74.45 129 P **P 04 33 17.0 -0.7**
comp=Z,1.5nm,0.8s,baz=329,slow=5.9,SNR=9.4
WRAB Tennant Creek 74.45 129 *eP* **P 04 33 18.8 +1.1**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WRAB Tennant Creek 74.45 129 *eP* **P 04 33 18.8 +1.1**
comp=Z,7.2nm,1.3s
EGAK Eagle 74.45 18 *eP* **P 04 33 16.7 -0.4**
comp=Z,3.0nm,1.0s
PMR Palmer 74.74 23 *eP* **P 04 33 18.8 0.0**
PMR pmax pmax
comp=Z,5.0nm,1.0s
PMR Palmer 74.74 23 *eP* **P 04 33 18.8 0.0**
comp=Z,4.9nm,1.0s
SML Sawmill 74.82 22 *eP* **P 04 33 19.6 +0.2**
SML pmax pmax
comp=Z,1.0nm,1.0s
SML Sawmill 74.82 22 *eP* **P 04 33 19.6 +0.2**
comp=Z,1.4nm,1.0s
DAWY Dawson 75.47 17 *eP* **P 04 33 22.9 -0.2**
PMG Port Moresby 76.15 112 *eP* P 04 33 22.8 -4.8
comp=Z,67nm,1.4s
ASAR Alice Springs 76.94 132 P **P 04 33 33.3 +1.4**
ASAR Alice Springs 76.94 132 P **P 04 33 33.3 +1.4**
comp=Z,1.1nm,0.7s,baz=317,slow=5.6,SNR=15
LBTB Lobatse 80.30 230 *eP* **P 04 33 51.2 +0.7**
comp=Z,3.5nm,0.7s
SKAG Skagway 80.42 18 *eP* **P 04 33 51.5 +0.9**
comp=Z,5.7nm,1.0s
YKA Yellowknife Ar 81.34 8 P **P 04 33 54.5 -0.9**
YKA Yellowknife Ar 81.34 8 P **P 04 33 54.5 -0.9**
comp=Z,1.2nm,0.8s,baz=342,slow=4.9,SNR=4.5
TXAR Lajitas Array 115.18 5 PKP **PKPdf 04 40 19.2 -1.9**
TXAR Lajitas Array 115.18 5 PKP **PKPdf 04 40 19.2 -1.9**
comp=Z,0.1nm,0.5s,baz=349,slow=1.8,SNR=3.4
TRQA Tornquist 150.93 254 *e*PKPbc **PKPbc 04 41 32.3 +0.3**

IDC 09 04:24:39.3±11.0, 16°.99S×178°.72W, h459km±142km, mb3.2/7, mb1 3.5/7, mb1mx3.3/19, mbtmp3.2/7, Error ellipse: s-maj=92.9km s-min=33.4km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.82**	**240**	P	P	04 31 23.2	-0.3
	2.9nm,0.8s,baz=97,slow=4.0,SNR=5.0						
WRA	**Warramunga Arr**	**44.51**	**259**	P	P	04 32 08.9	-0.1
	1.4nm,0.7s,baz=96,slow=7.9,SNR=43						
ASAR	**Alice Springs**	**44.76**	**253**	P	P	04 32 10.8	-0.1
	4.4nm,0.5s,baz=87,slow=8.8,SNR=86						
NVAR	**Mina Array Bea**	**78.97**	**44**	P	P	04 35 54.5	-0.4
	0.6nm,0.7s,baz=225,slow=9.0,SNR=5.9						
ILAR	**Eielson Array**	**85.06**	**13**	P	P	04 36 25.2	+0.1
	0.3nm,0.4s,baz=225,slow=4.9,SNR=9.7						
TXAR	**Lajitas Array**	**85.76**	**58**	P	P	04 36 29.7	+0.3
	0.8nm,0.7s,baz=216,slow=7.4,SNR=9.6						
PDAR	**Pinedale Array B**	**86.89**	**44**	P	P	04 36 34.9	+0.1
	0.5nm,0.6s,baz=248,slow=2.4,SNR=5.5						
GERES	**GERESS Array B**	**146.65**	**345**	PKPbc	PKPbc	04 43 27.9	-0.9
	0.3nm,0.4s,baz=29,slow=3.0,SNR=7.6						

---

*TIR **09** 04:58:17.5±3.0, 40°.36N×20°.51E, h1km±10km, ML3.6*
*PDG **09** 04:58:20.1±0.4, 40°.22N×20°.48E, h11km±1km, ML3.0/11, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*
*THE **09** 04:58:20.5, 40°.46N×20°.41E, h0km±1km, ML2.9/14, Error ellipse: s-maj=1.4km s-min=0.5km az=298.0*
*ATH **09** 04:58:20.0, 40°.43N×20°.45E, h10km±1km, MD3.6/24, ML3.6*
*BEO **09** 04:58:21.1, 40°.07N×20°.57E, h22km, ML2.9/1*
*CSEM **09** 04:58:22.2±0.1, 40°.38N×20°.60E, h2km, ML2.9/14, Error ellipse: s-maj=3.8km s-min=2.2km az=65.0*

ISC 09 04:58:20.8±1.1, 40°.38N±0°.01×20°.49E±0°.01, h0km±9km, n222, σ1°18/323, 6C-6D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.33**	**43**	*e*PG	**Pg**	**04 58 27.5**	**+0.4**
KBN				*i* SG	**Sb**	**04 58 33.5**	**-2.0**
KBN	**Korca**	**0.33**	**43**	P	**Pg**	**04 58 27.6**	**+0.4**
KBN				S	**Sg**	**04 58 31.9**	**+0.4**
KBN	**Korca**	**0.33**	**43**	*e*Pg	**Pg**	**04 58 27.5**	**+0.4**
	SNR=9.0						
KBN				*i* Sg	**Sb**	**04 58 33.5**	**-2.0**
	SNR=9.0						
NEST	**Nestorio**	**0.43**	**85**	P	**Pg**	**04 58 29.2**	**+0.2**
NEST				S	**Sg**	**04 58 36.3**	**+1.8**
SRN	**Sarande**	**0.62**	**217**	*e*PG	**Pg**	**04 58 32.6**	**-0.1**
SRN				*i* SG	**Sb**	**04 58 42.3**	**-1.5**
SRN	**Sarande**	**0.62**	**217**	P	**Pg**	**04 58 32.1**	**-0.6**
SRN				S	**Sg**	**04 58 42.1**	**+1.3**
JAN	**Janina**	**0.77**	**159**	P	**Pg**	**04 58 34.4**	**-1.2**
JAN				S	**Sg**	**04 58 46.5**	**+0.9**
JAN	**Janina**	**0.77**	**159**	*e*PB	**Pg**	**04 58 34.7**	**-0.9**
JAN				*e*SB	**Sb**	**04 58 47.0**	**-1.1**
JAN	**Janina**	**0.77**	**159**	*e*Pb	**Pg**	**04 58 34.7**	**-0.9**
JAN				*e*Sb	**Sb**	**04 58 47.0**	**-1.1**
FNA	**Florina**	**0.79**	**59**	P	**Pg**	**04 58 35.5**	**-0.3**
FNA				S	**Sb**	**04 58 47.6**	**-0.9**
FNA	**Florina**	**0.79**	**59**	*e*PB	**Pg**	**04 58 35.6**	**-0.3**
FNA				*e*SB	**Sg**	**04 58 46.6**	**+0.6**
FNA	**Florina**	**0.79**	**59**	*e*Pb	**Pg**	**04 58 35.6**	**-0.3**
FNA				*e*Sb	**Sg**	**04 58 46.6**	**+0.6**
FNA				S	**Sb**	**04 58 47.6**	**-0.9**
KEK	**Kerkira**	**0.85**	**219**	P	**Pg**	**04 58 36.2**	**-0.9**
KEK				S	**Sb**	**04 58 50.3**	**-0.1**
KEK	**Kerkira**	**0.85**	**219**	*e*PB	**Pg**	**04 58 36.8**	**-0.3**
KEK				*e*SB	**Sg**	**04 58 48.8**	**+0.7**
IGT	**Igoumenitsa**	**0.85**	**188**	P	**Pg**	**04 58 36.1**	**-1.0**
IGT				S	**Sb**	**04 58 49.6**	**-0.8**
BIA	**Bitola**	**0.90**	**44**	P	**Pg**	**04 58 36.8**	**-1.2**
BIA				S	**Sb**	**04 58 51.0**	**-0.8**
BIA	**Bitola**	**0.90**	**44**	*e*Pg	**Pg**	**04 58 36.9**	**-1.2**
BIA	**Bitola**	**0.90**	**44**	*e*Pg	**Pg**	**04 58 36.8**	**-1.2**
BIA				S	**Sb**	**04 58 51.0**	**-0.8**
KZN	**Kozani**	**0.98**	**94**	P	**Pg**	**04 58 38.7**	**-0.9**
KZN				S	**Sb**	**04 58 54.9**	**+0.7**
KZN	**Kozani**	**0.98**	**94**	*e*PG	**Pg**	**04 58 38.9**	**-0.7**
KZN				*e*SB	**Sb**	**04 58 53.2**	**-1.0**
KZN	**Kozani**	**0.98**	**94**	*e*Pg	**Pg**	**04 58 38.9**	**-0.7**
KZN				*e*Sb	**Sb**	**04 58 53.2**	**-1.0**
KZN				S	**Sb**	**04 58 54.9**	**+0.7**
PHP	**Peshkopia**	**1.30**	**358**	*e*PN	**Pn**	**04 58 47.7**	**+1.4**
PHP				*i* SN	**Sn**	**04 59 06.7**	**+2.3**
PHP	**Peshkopia**	**1.30**	**358**	P	**Pg**	**04 58 44.1**	**-1.7**
PHP				S	**Sg**	**04 59 01.6**	**-1.1**
PHP	**Peshkopia**	**1.30**	**358**	*e*Pn	**Pn**	**04 58 47.7**	**+1.4**
	SNR=4.0						
PHP				S	**Sg**	**04 59 01.6**	**-1.1**
PHP				*i* Sn	**Sn**	**04 59 06.7**	**+2.3**
	SNR=4.0						

THL	Klokotos Trika	1.43	124	P	Pn	04 58 46.9	-1.0
THL	Klokotos Trika	1.43	124	ePG	Pn	04 58 47.2	-0.7
THL				eSB	Sn	04 59 08.3	+1.0
THL	Klokotos Trika	1.43	124	P	Pn	04 58 46.9	-1.0
THL	Klokotos Trika	1.43	124	ePg	Pn	04 58 47.2	-0.7
THL				eSb	Sn	04 59 08.3	+1.0
GRG	Griva	1.56	68	P	Pn	04 58 49.6	-0.2
GRG				S	Sg	04 59 11.0	0.0
GRG	Griva	1.56	68	ePB	Pn	04 58 49.9	+0.1
GRG	Griva	1.56	68	P	Pn	04 58 49.6	-0.2
GRG	Griva	1.56	68	ePb	Pn	04 58 49.9	+0.1
LKD2	Lefkada island	1.59	175	P	Pb	04 58 50.6	-0.5
LKD2				S	Sg	04 59 14.0	+2.0
LKD2	Lefkada island	1.59	175	ePB	Pb	04 58 50.9	-0.2
LKD2				eSB	Sg	04 59 13.9	+2.0
LKD2	Lefkada island	1.59	175	P	Pb	04 58 50.6	-0.5
LKD2	Lefkada island	1.59	175	ePb	Pb	04 58 50.9	-0.2
LKD2				eSb	Sg	04 59 13.9	+2.0
PUK	Puka	1.72	345	ePN	Pg	04 58 54.6	+0.8
PUK				*i* SN	Sg	04 59 20.0	+3.9
PUK	Puka SNR=4.0	1.72	345	ePn	Pg	04 58 54.6	+0.8
SKO	Skopje	1.75	24	ePn	Pg	04 58 55.4	+1.2
SKO	Skopje	1.75	24	ePn	Pb	04 58 53.4	-0.3
SKO				eSn	Sg	04 59 18.4	+1.6
SKO	Skopje	1.75	24	ePn	Pb	04 58 53.4	-0.3
SKO				eSn	Sg	04 59 18.4	+1.6
EVR	Evrytania	1.78	145	P	Pn	04 58 53.3	+0.5
EVR	Evrytania	1.78	145	ePN	Pb	04 58 53.9	-0.4
EVR				eSN	Sg	04 59 19.6	+1.6
EVR	Evrytania	1.78	145	P	Pn	04 58 53.3	+0.5
EVR	Evrytania	1.78	145	ePn	Pb	04 58 53.9	-0.4
EVR				eSn	Sg	04 59 19.6	+1.6
VAY	Valandovo	1.84	59	P	Pn	04 58 52.7	-0.8
VAY				S	Sn	04 59 17.8	+0.3
VAY	Valandovo	1.84	59	ePn	Pn	04 58 53.4	-0.1
VAY	Valandovo	1.84	59	ePn	Pb	04 58 53.3	-0.2
VAY				*i* Sn	Sn	04 59 17.7	+0.3
VAY	Valandovo	1.84	59	P	Pn	04 58 52.7	-0.8
VAY	Valandovo	1.84	59	ePn	Pn	04 58 53.3	-0.2
VAY				*i* Sn	Sn	04 59 17.7	+0.3
ULC	Ulcinj	1.84	330	⇑*i* Pn	Pb	04 58 54.4	-0.9
ULC				eSn	Sg	04 59 21.8	+1.8
ULC	Ulcinj	1.84	330	⇑*i* Pn	Pb	04 58 54.4	-0.9
ULC				eSn	Sg	04 59 21.8	+1.8
MAKR	Makrakomi, Fth	1.86	137	P	Pb	04 58 55.3	-0.3
MAKR	Makrakomi, Fth	1.86	137	P	Pb	04 58 55.3	-0.3
THE	Thessaloniki	1.90	82	P	Pn	04 58 53.8	-0.6
THE				S	Sb	04 59 19.7	-0.9
THE	Thessaloniki	1.90	82	P	Pn	04 58 53.8	-0.6
AGG	Agios Georgios	1.96	133	P	Pb	04 58 56.2	-1.1
AGG	Agios Georgios	1.96	133	ePN	Pb	04 58 56.3	-1.1
AGG				eSN	Sg	04 59 23.1	-0.7
AGG	Agios Georgios	1.96	133	P	Pb	04 58 56.2	-1.1
AGG				eSn	Sg	04 59 23.1	-0.7
KNT	Kendrikon	1.99	66	P	Pn	04 58 55.7	+0.1
KNT				S	Sb	04 59 22.2	-0.9
KNT	Kendrikon	1.99	66	P	Pn	04 58 55.7	+0.1
HORT	Hortiatis	2.00	83	P	Pn	04 58 55.3	-0.6
HORT	Hortiatis	2.00	83	P	Pn	04 58 55.3	-0.6
BCI	Bajram Curri	2.01	351	ePN	Pg	04 58 59.8	+0.5
BCI	Bajram Curri SNR=4.0	2.01	351	ePn	Pg	04 58 59.8	+0.5
DRME	Dracevica, Mon	2.06	332	ePn	Pb	04 58 57.8	-1.2
DRME				eSn	Sg	04 59 26.6	-0.3
DRME	Dracevica, Mon	2.06	332	ePn	Pb	04 58 57.8	-1.2
DRME				eSn	Sg	04 59 26.6	-0.3
VLS	Valsamata	2.20	178	P	Pn	04 58 58.5	0.0
VLS				S	Sb	04 59 29.2	0.0
VLS	Valsamata	2.20	178	ePB	Pn	04 58 58.7	+0.2
VLS				eSN	Sb	04 59 29.2	0.0
VLS	Valsamata	2.20	178	ePb	Pn	04 58 58.7	+0.2
VLS				S	Sb	04 59 29.2	0.0
SOH	Sokhos	2.22	78	P	Pn	04 58 58.7	-0.2
SOH				S	Sn	04 59 27.9	+0.9
SOH	Sokhos	2.22	78	ePN	Pn	04 58 59.3	+0.4
SOH				eSN	Sn	04 59 28.0	+0.9
SOH	Sokhos	2.22	78	P	Pn	04 58 58.7	-0.2
SOH	Sokhos	2.22	78	ePn	Pn	04 58 59.3	+0.4
SOH				eSn	Sn	04 59 28.0	+0.9
EFP	Efpalio	2.24	150	P	Pb	04 59 01.1	-0.9
EFP	Efpalio	2.24	150	ePG	Pb	04 59 02.1	+0.1
EFP				eSN	Sb	04 59 29.1	-1.1
EFP	Efpalio	2.24	150	P	Pb	04 59 01.1	-0.9
EFP	Efpalio	2.24	150	ePg	Pb	04 59 02.1	+0.1
EFP				eSn	Sb	04 59 29.1	-1.1
PVY	Plav	2.25	350	ePn	Pn	04 59 00.5	+1.2
PVY				eSn	Sg	04 59 32.3	-0.8
PVY	Plav	2.25	350	ePn	Pn	04 59 00.5	+1.2
PDG	Podgorica	2.25	336	ePn	Pb	04 59 02.2	0.0
PDG				eSn	Sg	04 59 32.2	-0.9
PDG				eSg	Sb	04 59 42.7	+12
PDG	Podgorica	2.25	336	⇓*i* Pn	Pb	04 59 00.8	-1.4
PDG				eSn	Sg	04 59 31.5	-1.6
TTG	Podgorica	2.25	336	⇓*i* Pn	Pb	04 59 00.8	-1.4
TTG				eSn	Sg	04 59 31.5	-1.6
PLG	Polygyros	2.26	89	P	Pn	04 58 59.1	-0.2
PLG				S	Sn	04 59 29.1	+1.2
PLG	Polygyros	2.26	89	ePB	Pn	04 58 58.9	-0.4
PLG				eSN	Sn	04 59 28.7	+0.8
PLG	Polygyros	2.26	89	P	Pn	04 58 59.1	-0.2
PLG				eSn	Sn	04 59 28.7	+0.8
BUM	Brajici-Budva	2.27	328	ePn	Pn	04 58 59.8	+0.3
BUM				eSn	Sb	04 59 31.5	+0.4
BUM	Brajici-Budva	2.27	328	ePn	Pn	04 58 59.8	+0.3
BUM				eSn	Sb	04 59 31.5	+0.4
KFL	Anninata	2.28	174	P	Pn	04 58 59.8	+0.2
KFL	Anninata	2.28	174	P	Pn	04 58 59.8	+0.2
XOR	Xorichti	2.31	115	P	Pn	04 59 00.3	+0.2
XOR	Xorichti	2.31	115	P	Pn	04 59 00.3	+0.2
PSA1	Psathopyrgos	2.32	152	ePG	Pb	04 59 03.8	+0.4
TRIZ	Trizonia	2.35	148	P	Pb	04 59 02.7	-1.3
TRIZ	Trizonia	2.35	148	ePn	Pb	04 59 02.8	-1.3
TRIZ	Trizonia	2.35	148	P	Pb	04 59 02.7	-1.3
KALE	Kalithea	2.36	147	P	Pn	04 59 03.2	-1.0
KALE	Kalithea	2.36	147	ePN	Pb	04 59 02.9	-1.3
KALE	Kalithea	2.36	147	ePn	Pb	04 59 02.9	-1.3
KALE	Kalithea	2.36	147	P	Pn	04 59 03.2	-1.0
NEO	Neokhori	2.36	116	P	Pn	04 59 00.6	-0.2
NEO	Neokhori	2.36	116	ePB	Pn	04 59 01.2	+0.4
NEO	Neokhori	2.36	116	P	Pn	04 59 00.6	-0.2
NEO	Neokhori	2.36	116	ePb	Pn	04 59 01.2	+0.4
LAKA	Lakka	2.43	151	P	Pb	04 59 03.5	-1.8
LAKA	Lakka	2.43	151	ePN	Pb	04 59 03.6	-1.8
LAKA	Lakka	2.43	151	P	Pb	04 59 03.5	-1.8
RLS	Riolos of Patr	2.44	162	P	Pn	04 59 02.6	+0.8
RLS	Riolos of Patr	2.44	162	ePN	Pn	04 59 02.6	+0.8
RLS	Riolos of Patr	2.44	162	P	Pn	04 59 02.6	+0.8
PAIG	Paliouri	2.48	99	P	Pn	04 59 02.1	-0.3
PAIG	Paliouri	2.48	99	ePB	Pn	04 59 02.4	0.0
PAIG	Paliouri	2.48	99	P	Pn	04 59 02.1	-0.3
PAIG	Paliouri	2.48	99	ePb	Pn	04 59 02.4	0.0
DSF	Desfina	2.52	141	P	Pn	04 59 04.6	+1.6
DSF	Desfina	2.52	141	P	Pn	04 59 04.6	+1.6
BEY	Berane	2.53	350	ePn	Pn	04 59 04.6	+1.4
BEY				eSn	Sb	04 59 38.5	-0.3
IVA	Berane	2.53	350	ePn	Pn	04 59 04.6	+1.4
IVA				eSn	Sb	04 59 38.5	-0.3
HCY	Herceg Novi	2.56	325	⇓*i* Pn	Pn	04 59 03.8	+0.4
HCY				eSn	Sb	04 59 39.0	-0.4
HCY	Herceg Novi	2.56	325	⇓*i* Pn	Pn	04 59 03.8	+0.4
HCY				eSn	Sb	04 59 39.0	-0.4
LKR	Lokris	2.60	131	ePB	Pn	04 59 04.5	+0.5
LKR	Lokris	2.60	131	ePb	Pn	04 59 04.5	+0.5
BARS	Barje	2.63	22	ePn	Pn	04 59 05.7	+1.2
BARS				eSn	Sb	04 59 40.2	-1.4
BARS	Barje	2.63	22	ePn	Pn	04 59 05.7	+1.2
BARS				eSn	Sb	04 59 40.2	-1.4
NKME	Niksic	2.65	335	⇑*i* Pn	Pn	04 59 06.6	+1.8
NKME				eSn	Sb	04 59 41.8	-0.4
NKME	Niksic	2.65	335	⇑*i* Pn	Pn	04 59 06.6	+1.8
NKME				eSn	Sb	04 59 41.8	-0.4
KLV	Kalavryta, Ach	2.67	151	P	Pn	04 59 06.6	+1.6
KLV	Kalavryta, Ach	2.67	151	ePN	Pn	04 59 06.7	+1.7
KLV	Kalavryta, Ach	2.67	151	P	Pn	04 59 06.6	+1.6
OUR	Ouranopolis	2.67	90	P	Pn	04 59 04.9	0.0
OUR				S	Sb	04 59 40.2	-2.4
OUR	Ouranopolis	2.67	90	P	Pn	04 59 04.9	0.0
NKY	Niksic	2.68	336	⇓*i* Pn	Pn	04 59 06.8	+1.6
NKY				eSn	Sb	04 59 42.0	-1.1
NKY	Niksic	2.68	336	⇓*i* Pn	Pn	04 59 06.8	+1.6
NKY				eSn	Sb	04 59 42.0	-1.1
NVR	Nevrokopi	2.73	68	P	Pn	04 59 06.2	+0.3
NVR				S	Sn	04 59 41.4	+1.7
NVR	Nevrokopi	2.73	68	ePB	Pn	04 59 06.1	+0.2
NVR	Nevrokopi	2.73	68	ePb	Pn	04 59 06.1	+0.2
GUR	Goura	2.83	149	P	Pn	04 59 08.1	+0.8
GUR	Goura	2.83	149	ePB	Pn	04 59 08.9	+1.6
GUR	Goura	2.83	149	P	Pn	04 59 08.1	+0.8
GUR	Goura	2.83	149	ePb	Pn	04 59 08.9	+1.6
AOS	Alonnisos	2.88	114	ePB	Pn	04 59 09.3	+1.5
AOS	Alonnisos	2.88	114	ePb	Pn	04 59 09.3	+1.5
SJES	Sjenica	2.91	353	ePn	Pn	04 59 10.2	+1.9
BRY	Bratogost	2.91	330	ePn	Pn	04 59 09.9	+1.4
BRY				eSn	Sb	04 59 47.1	-2.8
BRY	Bratogost	2.91	330	ePn	Pn	04 59 09.9	+1.4
BRY				eSn	Sb	04 59 47.1	-2.8
MRKA	Markates	2.92	124	P	Pn	04 59 08.9	+0.5
MRKA	Markates	2.92	124	P	Pn	04 59 08.9	+0.5
AMT	Artemida-Makis	3.00	161	P	Pn	04 59 10.9	+1.4
AMT	Artemida-Makis	3.00	161	ePN	Pn	04 59 10.8	+1.3
AMT	Artemida-Makis	3.00	161	P	Pn	04 59 10.9	+1.4
VTS	Vitosha	3.01	42	ePn	Pn	04 59 11.4	+1.6
VTS				eSn	Sn	04 59 47.2	+0.6
VTS	Vitosha	3.01	42	ePn	Pn	04 59 11.4	+1.6
VTS				eSn	Sn	04 59 47.2	+0.6
LTK	Loutraki	3.04	140	P	Pn	04 59 10.9	+0.8
LTK	Loutraki	3.04	140	ePB	Pn	04 59 12.0	+1.9
LTK	Loutraki	3.04	140	P	Pn	04 59 10.9	+0.8
LTK	Loutraki	3.04	140	ePb	Pn	04 59 12.0	+1.9
UPM	Unac-Piva	3.06	338	⇑*i* Pn	Pn	04 59 12.0	+1.5
UPM				eSn	Sb	04 59 51.5	-2.6
UPM	Unac-Piva	3.06	338	⇑*i* Pn	Pn	04 59 12.0	+1.5
UPM				eSn	Sb	04 59 51.5	-2.6
TIP	Timpagrande	3.12	249	P	Pn	04 59 10.3	-0.9
KAVA	Kavala	3.12	77	P	Pn	04 59 10.9	-0.3
KAVA	Kavala	3.12	77	P	Pn	04 59 10.9	-0.3
STON	Ston	3.25	321	ePn	Pn	04 59 13.0	0.0
STON				Sn	Sn	04 59 52.5	+0.2
STON	Ston	3.25	321	ePn	Pn	04 59 15.5	+2.5
STON	Ston	3.25	321	ePn	Pn	04 59 15.5	+2.5
STON				Sn	Sn	04 59 52.5	+0.2
ZAPS	Zavoj	3.31	28	ePn	Pn	04 59 15.7	+1.9
ITM	Ithomi	3.39	160	P	Pn	04 59 15.8	+0.9
ITM	Ithomi	3.39	160	ePN	Pn	04 59 15.7	+0.9
ITM	Ithomi	3.39	160	P	Pn	04 59 15.8	+0.9
ATH	Athens Observa	3.47	133	ePN	Pn	04 59 14.0	-2.0
ATH	Athens Observa	3.47	133	ePn	Pn	04 59 14.0	-2.0
PTL	Penteli	3.50	131	ePN	Pn	04 59 17.2	+0.7
PTL	Penteli	3.50	131	ePn	Pn	04 59 17.2	+0.7
NAIG	Nisos Aigina	3.51	137	ePN	Pn	04 59 17.8	+1.3
NAIG	Nisos Aigina	3.51	137	ePn	Pn	04 59 17.8	+1.3
GRUS	Gruza	3.51	3	ePn	Pn	04 59 17.8	+1.3
GRUS	Gruza	3.51	3	ePn	Pn	04 59 17.8	+1.3
ATHU	Athens Univers	3.52	132	P	Pn	04 59 17.7	+1.1
ATHU	Athens Univers	3.52	132	P	Pn	04 59 17.7	+1.1
BBLS	Lazići	3.58	347	ePn	Pn	04 59 19.9	+2.4
BBLS	Lazići	3.58	347	ePn	Pn	04 59 19.9	+2.4
DID	Didima	3.58	142	P	Pn	04 59 18.4	+0.9
DID	Didima	3.58	142	ePN	Pn	04 59 18.3	+0.8
DID	Didima	3.58	142	P	Pn	04 59 18.4	+0.9
PLD	Plovdiv	3.61	60	ePn	Pn	04 59 17.1	-0.8
PLD				eSn	Sn	05 00 00.7	-0.6
PLD	Plovdiv	3.61	60	ePn	Pn	04 59 17.1	-0.8
PLD				eSn	Sn	05 00 00.7	-0.6
PYL	PYLOS	3.61	164	P	Pn	04 59 17.9	-0.1
PYL	PYLOS	3.61	164	ePN	Pn	04 59 16.9	-1.1
PYL	PYLOS	3.61	164	ePn	Pn	04 59 16.9	-1.1
PYL	PYLOS	3.61	164	P	Pn	04 59 17.9	-0.1
DIVS	Divibare	3.73	354	ePn	Pn	04 59 21.7	+2.0
DIVS	Divibare	3.73	354	ePn	Pn	04 59 21.7	+2.0
DYR	Agios Nikonas	3.89	158	P	Pn	04 59 23.2	+1.4
DYR	Agios Nikonas	3.89	158	ePN	Pn	04 59 23.2	+1.4
DYR	Agios Nikonas	3.89	158	P	Pn	04 59 23.2	+1.4
VLI	Veliai	4.13	152	P	Pn	04 59 26.1	+1.0
VLI	Veliai	4.13	152	ePN	Pn	04 59 26.0	+1.0
VLI	Veliai	4.13	152	P	Pn	04 59 26.1	+1.0
KYTH	Kithira	4.55	153	P	Pn	04 59 32.8	+1.9
KYTH	Kithira	4.55	153	ePN	Pn	04 59 32.2	+1.3
KYTH	Kithira	4.55	153	ePn	Pn	04 59 32.2	+1.3
KYTH	Kithira	4.55	153	P	Pn	04 59 32.8	+1.9
ANKY	Antikythira Is	5.02	153	P	Pn	04 59 39.3	+2.0
ANKY	Antikythira Is	5.02	153	P	Pn	04 59 39.3	+2.0
UDBI	Udbina	5.42	321	ePn	Pn	04 59 44.0	+1.1
UDBI				Sn	Sn	05 00 45.0	-1.0
UDBI	Udbina	5.42	321	ePn	Pn	04 59 44.0	+1.1
UDBI				Sn	Sn	05 00 44.9	-1.0
NVLJ	Novalja	5.89	317	ePn	Pn	04 59 48.6	-0.7
NVLJ				Sn	Sn	05 00 55.4	-2.0
BOJS	Bojanci	6.40	325	*i* Pn	Pn	04 59 57.9	+1.6
BOJS				*i* Sn	Sn	05 01 10.8	+0.8
BOJS	Bojanci	6.40	325	Pn	Pn	04 59 57.9	+1.6
BOJS				*i* Sn	Sn	05 01 10.8	+0.8
VISS	Visnje	6.82	325	*i* Pn	Pn	05 00 03.2	+1.2
VISS				*i* Sn	Sn	05 01 20.5	+0.3
VISS	Visnje	6.82	325	*i* Pn	Pn	05 00 03.2	+1.2
VISS				*i* Sn	Sn	05 01 20.5	+0.3
JAVS	Javornik	7.24	322	*i* Pn	Pn	05 00 07.8	-0.1
JAVS	Javornik	7.24	322	*i* Pn	Pn	05 00 07.8	-0.1
PERS	Pernice	7.37	330	*i* Pn	Pn	05 00 11.1	+1.5
PERS				*i* Sn	Sn	05 01 31.0	-3.0
PERS	Pernice	7.37	330	*i* Pn	Pn	05 00 11.1	+1.5
KECS	Kecovo	8.10	360	ePN	Pn	05 00 21.7	+2.1
KECS	Kecovo	8.10	360	ePn	Pn	05 00 21.7	+2.1

DDA ***09*** *05:03:02.6, 35°.22N×28°.67E, h27km, MD3.8*
IDC ***09*** *05:03:03.9±0.8, 35°.39N×28°.52E, h0km, mb3.8/11, mb1 3.9/16, mb1mx3.8/30, mbtmp3.8/16, ML3.9/5, Error ellipse: s-maj=18.7km s-min=17.4km az=8.0*
ISK ***09*** *05:03:06.8, 35°.28N×28°.57E, h30km, MD3.8*
THE ***09*** *05:03:08.9, 35°.38N×28°.67E, h20km±4km, ML4.1/2, Error ellipse: s-maj=4.3km s-min=1.0km az=218.0*
CSEM ***09*** *05:03:09.5±0.1, 35°.35N×28°.60E, h60km, mb4.1/7, Ms2.6, Mw3.4, Error ellipse: s-maj=2.6km s-min=1.8km az=29.0*
ATH ***09*** *05:03:11.5, 35°.54N×28°.27E, h39km±1km, MD3.9/20*
NIC ***09*** *05:03:11.6±0.2, 35°.39N×28°.81E, h45km, mb4.1, ML3.6, MW3.4*
HLW ***09*** *05:03:18.5, 34°.78N×28°.56E, h33km±3km, Md3.6, Ml0.0*
ISC 09 05:03:07.8±1.1, 35°.35N±0°.03×28°.64E±0°.02, h32km±8km, n306, σ1§52/340, mb3.9/18, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.96	334	P	Pb	05 03 25.5	-0.5
ARG				S	Sn	05 03 38.8	+1.0
ARG	Arkhangelos	0.96	334	ePN	Pb	05 03 25.6	-0.5
ARG	Arkhangelos	0.96	334	ePn	Pb	05 03 25.6	-0.5
ARG				S	Sn	05 03 38.8	+1.0
AKAS	Kas	1.18	41	*i* P	Pb	05 03 30.2	+0.4
AKAS				eS	Sn	05 04 03.2	+20
AKAS	Kas	1.18	41	*i* P	Pb	05 03 30.2	+0.4
KARP	Karpathos	1.23	280	P	Pn	05 03 29.6	+0.8
KARP				S	Sb	05 03 44.8	-1.2
KARP	Karpathos	1.23	280	ePN	Pn	05 03 29.7	+0.9
KARP				eSN	Sb	05 03 41.6	-4.4
KARP	Karpathos	1.23	280	ePn	Pn	05 03 29.7	+0.9
KARP				S	Sb	05 03 44.8	-1.2
FETY	Fethiye	1.34	15	ePN	Pn	05 03 31.0	+0.7
FETY				eSN	Sb	05 03 48.7	-0.4
FETY	Fethiye	1.34	15	ePn	Pn	05 03 31.0	+0.7
FETY				eSn	Sb	05 03 48.7	-0.4
DALY	Dalyan (Mu¨la	1.47	0	ePN	Pn	05 03 32.7	+0.6
DALY	Dalyan (Mu¨la	1.47	0	ePn	Pn	05 03 32.7	+0.6
TURN	Turunc	1.52	359	*i* P	Pn	05 03 32.9	+0.1
TURN				*i* S	Sn	05 03 51.8	+0.2
TURN	Turunc	1.52	359	*i* P	Pn	05 03 32.9	+0.1
TURN				*i* S	Sn	05 03 51.8	+0.2
DAT	Datca	1.63	328	ePN	Pn	05 03 34.5	+0.1
DAT				eSN	Sn	05 03 54.6	+0.3
DAT	Datca	1.63	328	ePn	Pn	05 03 34.5	+0.1
DAT				eSn	Sn	05 03 54.6	+0.3
NIS1	Nisyros Isl.	1.73	317	P	Pn	05 03 35.6	-0.1
NIS1	Nisyros Isl.	1.73	317	P	Pn	05 03 35.6	-0.1
ELL	Elmali	1.74	36	ePN	Pn	05 03 36.9	+1.0
ELL	Elmali	1.74	36	ePn	Pn	05 03 36.9	+1.0
YER	Yerkesik	1.81	351	ePN	Pn	05 03 37.8	+1.0
YER	Yerkesik	1.81	351	ePn	Pn	05 03 37.8	+1.0
BDRM	Kayabasi	1.97	331	*i* P	Pn	05 03 39.8	+0.8
BDRM				eS	Sb	05 04 08.9	+1.6
BDRM	Kayabasi	1.97	331	*i* P	Pn	05 03 39.8	+0.8
ZKR	Zakros	2.00	264	P	Pn	05 03 40.3	+0.9
ZKR	Zakros	2.00	264	ePN	Pn	05 03 40.6	+1.2
ZKR	Zakros	2.00	264	P	Pn	05 03 40.3	+0.9
ZKR	Zakros	2.00	264	ePn	Pn	05 03 40.6	+1.2
BODT	Bodrum	2.02	328	ePN	Pn	05 03 39.9	+0.2
BODT	Bodrum	2.02	328	ePn	Pn	05 03 39.9	+0.2
GOLH	Golhisar	2.03	21	*i* P	Pb	05 03 42.6	-1.5
GOLH				eS	Sb	05 04 09.6	+0.6
GOLH	Golhisar	2.03	21	*i* P	Pb	05 03 42.6	-1.5
GOLH				eS	Sb	05 04 09.6	+0.6
MLSB	Milas	2.07	340	ePN	Pb	05 03 41.2	+0.8
MLSB	Milas	2.07	340	ePn	Pb	05 03 41.2	+0.8
DNZL	Cakiroluk	2.36	8	*i* P	Pn	05 03 45.8	+1.3
DNZL				*i* S	Sn	05 04 13.9	+1.4
DNZL	Cakiroluk	2.36	8	*i* P	Pn	05 03 45.8	+1.3
DNZL				*i* S	Sn	05 04 13.9	+1.4
AYDN	Tasoluk	2.39	345	*i* P	Pn	05 03 46.4	+1.6
AYDN				*i* S	Sn	05 04 14.1	+1.0
AYDN	Tasoluk	2.39	345	*i* P	Pn	05 03 46.4	+1.6
AYDN				*i* S	Sn	05 04 14.1	+1.0
NPS	Neapolis	2.48	269	P	Pn	05 03 47.8	+1.8
NPS	Neapolis	2.48	269	ePN	Pn	05 03 47.4	+1.4
NPS	Neapolis	2.48	269	ePn	Pn	05 03 47.4	+1.4
NPS	Neapolis	2.48	269	P	Pn	05 03 47.8	+1.8
LAST	Lasithi	2.60	267	P	Pn	05 03 49.4	+1.7
LAST	Lasithi	2.60	267	ePN	Pn	05 03 49.0	+1.3
LAST	Lasithi	2.60	267	ePn	Pn	05 03 49.0	+1.3
LAST	Lasithi	2.60	267	P	Pn	05 03 49.4	+1.7
BCK	Bucak	2.63	36	ePN	Pn	05 03 50.0	+1.9
BCK	Bucak	2.63	36	ePn	Pn	05 03 50.0	+1.9
SMG	Samos	2.77	329	P	Pn	05 03 50.4	+0.4
SMG	Samos	2.77	329	ePN	Pn	05 03 50.7	+0.7
SMG	Samos	2.77	329	P	Pn	05 03 50.4	+0.4
SMG	Samos	2.77	329	ePn	Pn	05 03 50.7	+0.7
SANT	Santorini	2.78	293	ePN	Pn	05 03 50.7	+0.5
SANT	Santorini	2.78	293	ePn	Pn	05 03 50.7	+0.5
THR1	Thera Island	2.78	293	P	Pn	05 03 50.2	0.0
THR1	Thera Island	2.78	293	P	Pn	05 03 50.2	0.0
THR3	Thira Island,	2.84	293	P	Pn	05 03 51.2	+0.3
THR3	Thira Island,	2.84	293	P	Pn	05 03 51.2	+0.3
SUTC	Sutluce-Ispart	2.85	41	ePN	Pn	05 03 52.8	+1.5
SUTC	Sutluce-Ispart	2.85	41	ePn	Pn	05 03 52.8	+1.5
AKMC	Akamas	3.04	95	P	Pn	05 03 55.8	+2.1
AKMC	Akamas	3.04	95	P	Pn	05 03 55.8	+2.1
APE	Apeiranthos	3.05	305	ePN	Pn	05 03 54.0	+0.2
APE	Apeiranthos	3.05	305	P	Pn	05 03 54.4	+0.6
APE	Apeiranthos	3.05	305	ePN	Pn	05 03 53.6	-0.2
APE				eSN	Sn	05 04 26.0	-3.3
APE	Apeiranthos	3.05	305	ePn	Pn	05 03 54.0	+0.2
APE	Apeiranthos	3.05	305	P	Pn	05 03 54.4	+0.6
KHL	Karahalli	3.06	13	ePN	Pn	05 03 55.5	+1.5
KHL	Karahalli	3.06	13	ePn	Pn	05 03 55.5	+1.5
IDI	Anoyia	3.07	270	P	Pn	05 03 55.1	+0.9
IDI	Anoyia	3.07	270	ePN	Pn	05 03 55.1	+0.9
IDI				eSN	Sn	05 04 27.3	-2.5
IDI	Anoyia	3.07	270	P	Pn	05 03 55.1	+0.

DID	Didima	4.86 298	P	Pn	05 04 19.4	+0.6
DID	Didima	4.86 298	*e*PN	Pn	05 04 19.4	+0.6
DID	Didima	4.86 298	*e*Pn	Pn	05 04 19.4	+0.6
LTBQ	Tobruq	5.12 232	*i* P	Pn	05 04 23.5	+1.2
	SNR=119					
LTBQ			*e*S	Sn	05 05 16.8	-3.6
	54nm,0.4s,SNR=119					
LTK	Loutraki	5.29 302	P	Pn	05 04 25.8	+1.2
LTK	Loutraki	5.29 302	*e*PN	Pn	05 04 25.9	+1.3
LTK	Loutraki	5.29 302	P	Pn	05 04 25.8	+1.2
ACOR	Acrocorinthos	5.29 300	P	Pn	05 04 26.2	+1.5
ACOR	Acrocorinthos	5.29 300	P	Pn	05 04 26.2	+1.5
DYR	Agios Nikonas	5.30 287	P	Pn	05 04 26.7	+1.9
DYR	Agios Nikonas	5.30 287	*e*PN	Pn	05 04 25.8	+1.0
DYR			*e*SN	Sn	05 05 19.5	-5.3
DYR	Agios Nikonas	5.30 287	*e*Pn	Pn	05 04 25.8	+1.0
DYR	Agios Nikonas	5.30 287	P	Pn	05 04 26.7	+1.9
GULE	Gulek	5.32 67	*i* P	Pn	05 04 29.1	+3.9
GULE			*i* S	Sn	05 05 25.8	+0.4
GULE	Gulek	5.32 67	*i* P	Pn	05 04 29.1	+3.9
GULE			*i* S	Sn	05 05 25.8	+0.4
VLX	Vlachokerasia	5.44 294	*e*PN	Pn	05 04 27.5	+0.7
VLX	Vlachokerasia	5.44 294	*e*Pn	Pn	05 04 27.5	+0.7
GUR	Goura	5.69 299	P	Pn	05 04 31.9	+1.7
GUR	Goura	5.69 299	*e*PN	Pn	05 04 31.6	+1.4
GUR	Goura	5.69 299	*e*Pn	Pn	05 04 31.6	+1.4
GUR	Goura	5.69 299	P	Pn	05 04 31.9	+1.7
ITM	Ithomi	5.73 291	P	Pn	05 04 32.4	+1.8
ITM	Ithomi	5.73 291	*e*PN	Pn	05 04 31.7	+1.1
ITM			*e*SN	Sn	05 05 30.3	-5.0
ITM	Ithomi	5.73 291	*e*Pn	Pn	05 04 31.7	+1.1
ITM	Ithomi	5.73 291	P	Pn	05 04 32.4	+1.8
PYL	PYLOS	5.80 287	P	Pn	05 04 31.9	+0.3
PYL	PYLOS	5.80 287	*e*PN	Pn	05 04 32.5	+0.9
PYL	PYLOS	5.80 287	P	Pn	05 04 31.9	+0.3
PYL	PYLOS	5.80 287	*e*Pn	Pn	05 04 32.5	+0.9
HMYD	Mayadein	5.83 161	P	Pn	05 04 33.9	+1.9
	baz=158					
HMYD	Mayadein	5.83 161	P	Pn	05 04 33.9	+1.9
KLV	Kalavryta, Ach	5.87 299	*e*PN	Pn	05 04 33.2	+0.6
KLV	Kalavryta, Ach	5.87 299	*e*Pn	Pn	05 04 33.2	+0.6
BRTR	Keskin Array B	5.91 41	Pn	Pn	05 04 36.0	+2.8
	0.3nm,0.3s,baz=223,slow=14,SNR=8.4					
BRTR			Pg	Pb	05 04 49.5	-0.6
	0.3nm,0.3s,baz=192,slow=15,SNR=4.8					
BRTR			Sn	Sn	05 05 42.7	+2.9
	0.4nm,0.3s,baz=209,slow=22,SNR=9.7					
HNAT	Natroun	5.94 163	P	Pn	05 04 34.8	+1.3
	baz=160					
HNAT	Natroun	5.94 163	P	Pn	05 04 34.8	+1.3
FYM	Al Fayyum	5.99 160	P	Pn	05 04 35.4	+1.1
	baz=156					
FYM	Al Fayyum	5.99 160	P	Pn	05 04 35.4	+1.1
AMT	Artemida-Makis	6.00 293	*e*PN	Pn	05 04 36.3	+1.9
AMT	Artemida-Makis	6.00 293	*e*Pn	Pn	05 04 36.3	+1.9
KOT	Kottamia	6.03 153	P	Pn	05 04 37.0	+2.2
	baz=149					
KOT			S	Sn	05 05 36.2	-6.7
	baz=149					
KOT	Kottamia	6.03 153	P	Pn	05 04 37.1	+2.2
KALE	Kalithea	6.03 302	*e*PN	Pn	05 04 36.7	+1.8
KALE	Kalithea	6.03 302	*e*Pn	Pn	05 04 36.7	+1.8
MMAI	Mount Meron Ar	6.07 111	Pn	Pn	05 04 37.0	+1.7
	3.5nm,0.3s,baz=319,slow=12,SNR=7.9					
MMAI			Sn	Sn	05 05 43.2	-0.5
	8.9nm,0.3s,baz=352,slow=12,SNR=7.1					
TRIZ	Trizonia	6.07 302	P	Pn	05 04 36.4	+1.1
TRIZ	Trizonia	6.07 302	*e*PN	Pn	05 04 36.4	+1.1
TRIZ	Trizonia	6.07 302	P	Pn	05 04 36.4	+1.1
LAKA	Lakka	6.08 300	*e*PN	Pn	05 04 36.0	+0.5
LAKA	Lakka	6.08 300	*e*Pn	Pn	05 04 36.0	+0.5
HHAG	Hagoal	6.12 151	P	Pn	05 04 37.5	+1.5
	baz=147					
HHAG	Hagoal	6.12 151	P	Pn	05 04 37.5	+1.5
EFP	Efpalio	6.21 302	*e*PN	Pn	05 04 39.1	+1.8
EFP	Efpalio	6.21 302	*e*Pn	Pn	05 04 39.1	+1.8
HSAF	As Saff	6.22 156	P	Pn	05 04 38.3	+0.9
	baz=152					
HSAF	As Saff	6.22 156	P	Pn	05 04 38.3	+0.9
AGG	Agios Georgios	6.23 308	*e*PN	Pn	05 04 38.7	+1.1
AGG	Agios Georgios	6.23 308	*e*Pn	Pn	05 04 38.7	+1.1
GLL	Jalalah	6.31 155	P	Pn	05 04 40.1	+1.5
	baz=151					
GLL	Jalalah	6.31 155	P	Pn	05 04 40.1	+1.5
RLS	Riolos of Patr	6.37 297	*e*PN	Pn	05 04 41.1	+1.7
RLS	Riolos of Patr	6.37 297	*e*Pn	Pn	05 04 41.1	+1.7
EVR	Evrytania	6.52 305	*e*PN	Pn	05 04 43.2	+1.6
EVR	Evrytania	6.52 305	*e*Pn	Pn	05 04 43.2	+1.6
SUZ		6.53 146	P	Pn	05 04 44.1	+2.5
	baz=142					
SUZ		6.53 146	P	Pn	05 04 44.1	+2.5
SWA2		6.66 205	P	Pn	05 04 43.8	+0.5
	baz=207					
SWA2			S	Sn	05 05 49.0	-9.2
	baz=207					
SWA2		6.66 205	P	Pn	05 04 43.8	+0.5
THL	Klokotos Trika	6.75 311	*e*PN	Pn	05 04 46.8	+2.2
THL	Klokotos Trika	6.75 311	*e*Pn	Pn	05 04 46.8	+2.2
ZAF		6.89 150	P	Pn	05 04 48.0	+1.4
	baz=147					
ZAF		6.89 150	P	Pn	05 04 48.0	+1.4
AWBH		7.01 178	P	Pn	05 04 47.8	-0.4
	baz=177					
AWBH		7.01 178	P	Pn	05 04 47.8	-0.4
VLS	Valsamata	7.05 296	*e*PN	Pn	05 04 49.9	+1.0
VLS	Valsamata	7.05 296	*e*Pn	Pn	05 04 49.9	+1.0
LKD2	Lefkada island	7.25 301	*e*PN	Pn	05 04 53.4	+1.9
LKD2	Lefkada island	7.25 301	*e*Pn	Pn	05 04 53.4	+1.9
EIL	Elat	7.77 135	Pn	Pn	05 05 00.1	+1.4
	1.5nm,0.3s,baz=292,slow=7.7,SNR=11					
EIL			Sn	Sn	05 06 21.7	-3.9
	2.8nm,0.3s,baz=6.7,slow=17,SNR=5.1					
GRB	Gharib	7.88 152	P	Pn	05 05 01.4	+1.1
	baz=149					
GRB	Gharib	7.88 152	P	Pn	05 05 01.4	+1.1
FNA	Florina	7.89 316	*e*PN	Pn	05 05 01.9	+1.5
FNA	Florina	7.89 316	*e*Pn	Pn	05 05 01.9	+1.5
HFRF	Wahat Farafira	8.18 182	P	Pn	05 05 04.4	+0.1
	baz=182					
HFRF	Wahat Farafira	8.18 182	P	Pn	05 05 04.4	+0.1
KEK	Kerkira	8.27 304	*e*PN	Pn	05 05 06.9	+1.4
KEK	Kerkira	8.27 304	*e*Pn	Pn	05 05 06.9	+1.4
HDHB	Dhahab	8.32 141	P	Pn	05 05 08.4	+2.1
	baz=137					
HDHB	Dhahab	8.32 141	P	Pn	05 05 08.4	+2.1
STON	Ston	11.34 315	*e*Pn	Pn	05 05 46.8	-0.8
STON			Sn	Sn	05 07 47.5	-5.5
STON	Ston	11.34 315	*e*Pn	Pn	05 05 46.7	-0.8
UDBI	Udbina	13.47 317	*e*PN	Pn	05 06 17.1	+0.4
UDBI	Udbina	13.47 317	*e*Pn	Pn	05 06 17.0	+0.4
VYHS	Vyhne	15.01 334	*e*PN	Pn	05 06 35.7	-1.9
VYHS	Vyhne	15.01 334	*e*Pn	Pn	05 06 35.7	-1.9
KEST	Kesra	15.72 277	Pn	P	05 06 51.4	+0.8
	0.1nm,0.3s,baz=78,slow=3.6,SNR=9.3					
VRAC	Vranov	16.52 331	Pn	Pn	05 06 58.9	+1.9
	0.4nm,0.3s,baz=150,slow=8.1,SNR=2.8					
PGF	Pioggiola	16.87 301	*e*P	Pn	05 06 55.7	-5.8
GERES	GERESS Array B	17.42 325	P	Pn	05 07 08.1	-0.3
	0.1nm,0.3s,baz=140,slow=11,SNR=12					
DPC	Dobruska-Polom	17.47 333	*e*P	Pn	05 07 09.9	+1.0
DPC	Dobruska-Polom	17.47 333	P	Pn	05 07 09.9	+1.0
KHC	Kasperske Hory	17.68 326	*e*P	P	05 07 15.7	+3.5
KHC	Kasperske Hory	17.68 326	P	Pn	05 07 10.2	-1.3
DAVOX	Davos/Dischmat	18.14 315	P	Pn	05 07 18.0	+0.7
	0.3nm,0.3s,baz=141,slow=12,SNR=4.1					
FRF	La Foret Royal	18.83 302	*e*P	P	05 07 22.4	-2.4
FRF	La Foret Royal	18.83 302	*e*P	P	05 07 22.4	-2.4
LMR	La Mourre	18.85 302	*e*P	P	05 07 22.1	-3.0
LMR	La Mourre	18.85 302	*e*P	P	05 07 22.1	-3.0
MBDF	Montbardon	19.14 306	*e*P	P	05 07 27.8	-0.6
	12nm,1.0s					
MBDF	Montbardon	19.14 306	*e*P	P	05 07 27.8	-0.6
	5.9nm,1.0s					
LPG	La Plagne	19.45 308	*e*P	P	05 07 32.1	+0.1
	12nm,1.0s					
LPG	La Plagne	19.45 308	*e*P	P	05 07 32.1	+0.1
	6.2nm,1.0s					
LPL	La Plagne	19.47 308	*e*P	P	05 07 32.7	+0.6
	9.1nm,0.8s					
LPL	La Plagne	19.47 308	*e*P	P	05 07 32.7	+0.6
	4.6nm,0.8s					
CLL	Collm	19.53 330	*e*(P)	P	05 07 34.0	+1.6
CLL			*e*		05 07 38.0	
SMRF	Simiane la Rot	19.69 303	*e*P	P	05 07 33.2	-1.2
SMRF	Simiane la Rot	19.69 303	*e*P	P	05 07 33.2	-1.2
ORIF	Oris-en-Rattie	19.80 306	*e*P	P	05 07 35.4	-0.2
ORIF			*e*R			
	60nm,21.8s					
ORIF	Oris-en-Rattie	19.80 306	*e*P	P	05 07 35.4	-0.2
CABF	La Chapelle	20.34 310	*e*P	P	05 07 42.0	+0.6
	11nm,0.8s					
CABF	La Chapelle	20.34 310	*e*P	P	05 07 42.0	+0.6
	5.3nm,0.8s					
HINF	Hinteralfeld	20.43 314	*e*P	P	05 07 43.3	+0.9
HINF	Hinteralfeld	20.43 314	*e*P	P	05 07 43.3	+0.9
CDF	Champ du Feu	20.49 316	*e*P	P	05 07 45.0	+1.9
	6.6nm,0.9s					
VIVF	Saint-Julien-l	20.59 305	*e*P	P	05 07 44.8	+0.7
	5.6nm,0.9s					
VIVF	Saint-Julien-l	20.59 305	*e*P	P	05 07 44.8	+0.7
	2.8nm,0.9s					
HAU	Haudompre	20.82 314	*e*P	P	05 07 48.6	+2.0
HAU			*e*R			
	55nm,20.0s					
SMF	Signal de Mont	21.77 309	*e*P	P	05 07 55.7	-1.0
	26nm,1.4s					
SMF	Signal de Mont	21.77 309	*e*P	P	05 07 55.7	-1.0
	13nm,1.4s					
MEZF	Maizieres J'vi	21.82 314	*e*P	P	05 07 59.2	+2.0
LOR	Lormes	22.00 310	*e*P	P	05 08 00.0	+0.8
	12nm,1.2s					
LOR			*e*R			
	60nm,20.8s					
LOR	Lormes	22.00 310	*e*P	P	05 08 00.0	+0.8
	6.1nm,1.2s					
AVF	Avril sur Loir	22.13 309	*e*P	P	05 07 58.5	-2.1
	14nm,1.3s					
AVF	Avril sur Loir	22.13 309	*e*P	P	05 07 58.5	-2.1
	7.2nm,1.3s					
SSF	Saint Saulge	22.14 310	*e*P	P	05 07 59.8	-0.9
	9.8nm,1.0s					
SSF	Saint Saulge	22.14 310	*e*P	P	05 07 59.8	-0.9
	4.9nm,1.0s					
BGF	Bois d'Agland	22.37 308	*e*P	P	05 08 03.3	+0.1
BGF	Bois d'Agland	22.37 308	*e*P	P	05 08 03.3	+0.1
RJF	Les Rejaudoux	22.85 304	*e*P	P	05 08 07.4	-0.9
RJF			*e*R			
	53nm,19.0s					
RJF	Les Rejaudoux	22.85 304	*e*P	P	05 08 07.4	-0.9
LFF	La Frestale	23.29 303	*e*P	P	05 08 11.2	-1.5
LFF	La Frestale	23.29 303	*e*P	P	05 08 11.2	-1.5
MFF	Saint Martin d	24.34 306	*e*P	P	05 08 19.5	-3.1
MFF	Saint Martin d	24.34 306	*e*P	P	05 08 19.5	-3.1
FLN	La Foliniere	25.26 311	*e*P	P	05 08 28.8	-2.2
	14nm,0.9s					
FLN			*e*R			
	30nm,19.0s					
FLN	La Foliniere	25.26 311	*e*P	P	05 08 28.8	-2.2
	7.1nm,0.9s					
GRR	Gorron	25.37 310	*e*P	P	05 08 30.1	-1.8
	11nm,0.6s					
GRR	Gorron	25.37 310	*e*P	P	05 08 30.1	-1.8
	5.7nm,0.6s					
AKTO	Aktyubinsk	26.06 46	P	P	05 08 39.5	+1.3
	1.8nm,0.7s,baz=262,slow=9.3,SNR=5.4					
ESDC	Sonseca Array	26.14 289	P	P	05 08 39.0	-0.1
	0.5nm,0.4s,baz=82,slow=9.9,SNR=13					
FINES	FINESS Array B	26.17 357	P	P	05 08 38.8	-0.3
	1.9nm,0.7s,baz=158,slow=12,SNR=9.0					
HFS	Hagfors	26.63 343	P	P	05 08 42.2	-1.0
	2.0nm,0.9s,baz=154,slow=11,SNR=5.9					
QUIF	Quistinic	26.69 308	*e*P	P	05 08 41.9	-1.9
	41nm,1.3s					
QUIF	Quistinic	26.69 308	*e*P	P	05 08 41.9	-1.9
	20nm,1.3s					
NOA	NORSAR Array B	28.03 342	P	P	05 08 57.4	+1.6
	1.2nm,0.9s,baz=157,slow=10.0,SNR=4.1					
TORD	Torodi Ar. Bea	32.85 234	P	P	05 09 39.3	+0.5
	1.1nm,0.7s,baz=36,slow=8.5,SNR=10					
ARCES	ARCESS Array B	34.29 358	P	P	05 09 50.2	-0.5
	0.7nm,0.7s,baz=173,slow=10,SNR=4.5					
MKAR	Makanchi Array	41.29 57	P	P	05 10 51.9	+1.8
	0.6nm,0.7s,baz=285,slow=5.6,SNR=6.4					
DBIC	Dimbokro	41.96 235	P	P	05 10 55.8	-0.2
	1.7nm,0.6s,baz=27,slow=11,SNR=3.0					
USRK	Ussuriysk Arra	74.68 47	P	P	05 14 45.7	+1.6
	1.8nm,0.8s,baz=299,slow=3.9,SNR=5.9					
YKA	Yellowknife Ar	78.11 344	P	P	05 15 02.1	-1.2
	0.6nm,0.7s,baz=30,slow=4.9,SNR=3.3					
ASAR	Alice Springs	115.29 102	PKP	PKPdf	05 21 47.6	+1.2
	0.1nm,0.4s,baz=310,slow=1.8,SNR=4.7					

*TEH **09** 05:23:36.3, 35°.17N×46°.80E, $h16^{km}$, ML3.6*
*CSEM **09** 05:23:39.2±0.7, 34°.93N×46°.75E, $h2^{km}$, ML3.6, Error ellipse: s-maj=18.1km s-min=16.0km az=174.0*
ISC 09 05:23:38.8±1.1, 35°.00N±0°.04×46°.76E±0°.04, $h10^{km}$±8km, n21, σ1°.42/27, 2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILIN	Lien	0.19	115	‖*e*Pg		Pg	Pg	05 23 42.3	-0.7
ILIN				*e*Sg		Sg	Sg	05 23 46.2	+0.4
ILIN				*e*				05 23 49.1	
	comp=Z,6μm,0.1s								
ILIN	Lien	0.19	115	‖*e*Pg		Pg	Pg	05 23 42.3	-0.7
ILIN				*e*Sg		Sg	Sg	05 23 46.2	+0.4
IDHR	Dehrash	0.43	226	*e*Pg		Pg	Pg	05 23 46.8	-0.5
IDHR				*e*Sg		Sg	Sb	05 23 55.0	-0.2
IDHR				*e*				05 23 55.8	
	comp=Z,94μm,0.1s								
IDHR	Dehrash	0.43	226	*e*Pg		Pg	Pg	05 23 46.8	-0.5
IDHR				*e*Sg		Sg	Sb	05 23 55.0	-0.2
IVIS	Veis	0.48	171	*e*Pg		Pg	Pg	05 23 48.0	-0.2
IVIS				*e*Sg		Sg	Sb	05 23 57.2	+0.7
IVIS				*e*				05 24 00.3	
	comp=Z,63μm,0.1s								
IVIS	Veis	0.48	171	*e*Pg		Pg	Pg	05 23 48.0	-0.2
IVIS				*e*Sg		Sg	Sb	05 23 57.2	+0.7
IKOM	Komasi	1.03	143	*e*Pn		Pg	Pg	05 23 58.0	-0.7
IKOM				*e*				05 24 20.4	
	comp=Z,25μm,0.3s								
IKOM	Komasi	1.03	143	*e*Pn		Pg	Pg	05 23 58.0	-0.7
IBDR	Badra	2.01	200	*e*Pn		Pn	Pn	05 24 10.0	-2.7
IBDR				*e*Sn		Sn	Sn	05 24 35.0	-2.9
ZNJK	Zanjan	2.29	43	*e*Pg		Pb	Pb	05 24 20.1	-0.3
ZNJK				*e*Sg		Sb	Sb	05 24 49.3	+0.5
BHD	Baghdad	2.62	229	*e*Pn		Pn	Pn	05 24 16.0	-5.2
BHD				*e*Sn		Sn	Sn	05 24 46.0	-7.0
BHD	Baghdad	2.62	229	*e*Pn		Pn	Pn	05 24 16.0	-5.2
ASAO	Ashtian	2.73	99	*e*Pn		Pb	Pb	05 24 27.8	-0.1
KHMZ	Khomeyn	2.93	114	*e*Pn		Pb	Pb	05 24 31.6	+0.3
GHVR	GHOM	3.77	97	*e*Pn		Pb	Pb	05 24 41.6	-4.0
GHVR				*e*Sg		Sg	Sg	05 25 38.6	-1.4
GRMI	Germi	3.91	13	*e*Pn		Pn	Pn	05 24 41.1	+2.0
MAKU	Maku	4.65	340	*e*Pn		Pn	Pn	05 24 51.4	+2.1
UMR	Umm Al-Rimmam	5.49	171	*e*P		Pn	Pn	05 25 02.9	+2.2
UMR				AML		AML	AML	05 26 04.0	
	comp=Z,15nm,0.5s								
NAY	Al-Naaiem	5.75	176	*e*P		Pn	Pn	05 25 06.0	+1.7
NAY				AML		AML	AML	05 26 11.4	
	comp=Z,5.5nm,0.7s								
KBD	Kabd	5.86	172	*e*P		Pn	Pn	05 25 07.4	+1.7
RDF	Al-Radifah	6.09	173	*e*P		Pn	Pn	05 25 11.3	+2.3
RDF				AML		AML	AML	05 26 14.5	
	comp=Z,13nm,0.4s								

IDC 09 05:33:34.7±5.3, 6°.32S×12°.97W, $h0^{km}$, mb3.8/5, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, MLJ3.4/1, MS3.6/15, Ms1 3.6/15, ms1mx3.4/31, Error ellipse: s-maj=172.1km s-min=78.9km az=149.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIC	Lamto	14.77	33	*e*P		P		05 37 13.2	+1.9
	23nm,0.6s								
KIC	Kosan Boka	15.04	33	*e*P		P		05 37 16.1	+1.8
	264nm,2.1s								
TIC	Toumodi	15.13	32	*e*P		P		05 37 15.3	0.0
	26nm,0.7s								
DBIC	Dimbokro	15.23	32	Pn		Pn		05 37 12.8	+1.5
	0.2nm,0.3s,baz=194,slow=12,SNR=2.2								
DBIC				LR		LR		05 41 44.2	
	comp=Z,220nm,20.9s,baz=245,slow=32								
TORD	Torodi Ar. Bea	24.21	37	P		P		05 38 53.0	-0.3
	5.0nm,0.8s,baz=216,slow=11,SNR=26								
TORD				LR		LR		05 47 16.9	
	comp=Z,165nm,19.1s,baz=210,slow=34								
TSUM	Tsumeb	32.36	116	LR		LR		05 49 52.5	
	comp=Z,156nm,21.1s,baz=180,slow=30								
SUR	Sutherland	40.77	134	LR		LR		05 55 07.4	
	comp=Z,98nm,19.1s,baz=236,slow=32								
LBTB	Lobatse	41.31	121	LR		LR		05 55 03.9	
	comp=Z,123nm,21.6s,baz=144,slow=31								
BOSA	Boshof	42.39	126	LR		LR		05 55 02.2	
	comp=Z,92nm,21.7s,baz=100,slow=30								
KEST	Kesra	46.80	25	LR		LR		06 02 06.8	
	comp=Z,51nm,19.2s,baz=3.5,slow=37								
KMBO	Kilima Mbogo	50.36	86	LR		LR		06 02 05.3	
	comp=Z,39nm,19.5s,baz=278,slow=34								
LPAZ	La Paz	54.84	255	LR		LR		06 06 09.6	
	comp=Z,41nm,20.0s,baz=166,slow=36								
GERES	GERESS Array B	59.69	20	P		P		05 43 40.8	-0.3
	0.3nm,0.5s,baz=223,slow=5.3,SNR=6.2								
GERES				LR		LR		06 08 42.5	
	comp=Z,46nm,21.7s,baz=119,slow=35								
ROSC	El Rosal	62.25	279	LR		LR		06 08 37.8	
	comp=Z,64nm,18.5s,baz=158,slow=34								
BRTR	Keskin Array B	62.80	39	P		P		05 44 03.0	+0.5
	0.6nm,0.8s,baz=232,slow=4.0,SNR=3.1								
AKASG	Malin Array Be	67.42	28	P		P		05 44 31.1	-0.9
	1.2nm,0.4s,baz=228,slow=6.5,SNR=3.3								
NOA	NORSAR Array B	69.77	12	LR		LR		06 13 42.4	
	comp=Z,16nm,19.5s,baz=40,slow=34								
FINES	FINESS Array B	74.04	18	P		P		05 45 12.7	+0.6
	0.5nm,0.6s,baz=238,slow=8.0,SNR=3.2								
FINES				LR		LR		06 18 02.6	
	comp=Z,28nm,20.5s,baz=29,slow=36								
ARCES	ARCESS Array B	80.14	13	P		P		05 45 46.9	+0.6
	0.9nm,0.8s,baz=202,slow=4.5,SNR=3.2								
AKTO	Aktyubinsk	82.93	38	LR		LR		06 26 49.8	
	comp=Z,21nm,19.1s,baz=34,slow=38								
PDAR	Pinedale Array	99.09	312	LR		LR		06 25 23.6	
	comp=Z,45nm,19.0s,baz=252,slow=31								

IDC 09 05:40:02.1±4.4, 4°.97S×153°.86E, $h0^{km}$, mb3.3/2, mb1 3.7/2, mb1mx3.3/18, mbtmp3.3/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/12, Error ellipse: s-maj=319.7km s-min=39.9km az=130.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.14	230	P		P		05 45 19.9	-0.2
	0.4nm,0.9s,baz=55,slow=9.9,SNR=2.7								
PSI	Prapat	55.43	277	LR		LR		06 16 59.8	
	comp=Z,98nm,18.8s,baz=57,slow=40								
ILAR	Eielson Array	81.92	22	P		P		05 52 22.9	-0.5
	0.6nm,1.1s,baz=240,slow=5.1,SNR=3.2								
TORD	Torodi Ar. Bea	151.37	288	PKPbc		PKPbc		05 59 59.4	+0.4
	0.3nm,0.7s,baz=71,slow=2.4,SNR=4.3								

IDC 09 06:20:35.2±0.9, 31°.60N×83°.38E, $h0^{km}$, mb3.6/6, mb1 3.7/8, mb1mx3.4/28, mbtmp3.5/8, ML2.9/1, Error ellipse: s-maj=40.6km s-min=19.3km az=58.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	15.20	357	Pn		Pn	Pn	06 24 08.8	-2.3
	0.1nm,0.3s,baz=173,slow=12,SNR=3.3								
KURBB	Kurchatov Arra	19.34	351	P		P		06 25 01.5	-0.6
	baz=170,slow=11,SNR=4.3								
ZALV	Zalesovo Beam	22.36	2	P		P		06 25 34.9	+0.2
	0.4nm,0.3s,baz=178,slow=10,SNR=2.9								
FINES	FINESS Array B	47.25	327	P		P		06 29 10.2	+0.4
	1.0nm,0.8s,baz=107,slow=6.4,SNR=6.4								
NB2	NORSAR Subarra	54.36	325	P		P		06 30 02.7	-0.7
	comp=Z,0.3nm,0.5s,baz=92,slow=7.9								
NOA	NORSAR Array B	54.36	325	P		P		06 30 03.2	-0.2
	comp=Z,0.7nm,0.8s,baz=89,slow=7.5,SNR=3.7								
WRA	Warramunga Arr	70.81	129	P		P		06 31 53.8	-0.1
	comp=Z,0.9nm,0.7s,baz=325,slow=6.1,SNR=15								
ASAR	Alice Springs	73.19	132	P		P		06 32 08.2	+0.1
	comp=Z,0.4nm,0.6s,baz=316,slow=6.0,SNR=6.5								
TORD	Torodi Ar. Bea	76.22	277	P		P		06 32 25.8	-0.1
	comp=Z,0.4nm,0.9s,baz=46,slow=6.2,SNR=2.9								

IDC 09 06:33:46.6±3.3, 5°.55S×147°.51E, $h165^{km}$±46^{km}, mb3.1/3, mb1 3.3/5, mb1mx3.1/18, mbtmp3.2/5, MS2.1/1, Ms1 2.1/1, ms1mx2.0/13, Error ellipse: s-maj=98.4km s-min=29.3km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.85	185	P		Pn		06 34 47.1	+1.7
	8.8nm,0.3s,baz=1.5,slow=5.6,SNR=19								
PMG				S		Sn		06 35 30.7	-0.5
	3.4nm,0.3s,baz=294,slow=19,SNR=7.0								
WRA	Warramunga Arr	19.20

Principal axes: T 1.9500, Plg39.0000°, Azm51.0000°; N -0.0600, Plg46.0000°, Azm197.0000°; P -1.9000, Plg17.0000°, Azm306.0000°; Data Used: II IU IC G CN. Surface waves: sta=106, comp=202, per= 50.

AUST ***09*** *07:09:03.5±0.2, 4°.58S×153°.13E, h77km Error ellipse: s-maj=1.0km s-min=0.7km az=41.0*

BKK ***09*** *07:09:05.2±0.4, 5°.5S±6°×15°.3E±°, h65km, M5.5/13, mB5.7/8, mb5.2/13, MLv6.0/1, Mw(mB)5.2/8*

DJA ***09*** *07:09:22.4±3.1, 5°.5S±13°×15°.2E±2°.7, h207km±14km, M5.2/24, mB5.5/17, mb5.1/24, MLv5.8/1, Mw(mB)5.0/17*

ISC 09 07:09:04.0±0.3, 4.72S±0.03×153.15E±0.04, h82km±2km, h82km:pP-P, n508, σ1§60/627, mb5.1/121, 23C-11D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.12**	**298**	P	Pn	07 09 20.6	-4.0
	baz=1.0,SNR=1000						
RABL				S	**Sn**	**07 09 39.2**	**-0.8**
	baz=1.0,SNR=10						
MANU	**Manus Island**	**6.36**	**295**	P	**Pn**	**07 10 36.0**	**+0.9**
	baz=6.3,SNR=16						
PMG	**Port Moresby**	**7.55**	**232**	Pn	**Pn**	**07 10 50.6**	**-0.7**
PMG				*e*Sn	**Sn**	**07 12 13.2**	**-2.2**
PMG				Sn	Sn	07 12 13.8	-1.7
PMG	**Port Moresby**	**7.55**	**232**	P	**Pn**	**07 10 53.4**	**+2.0**
	414nm,1.0s,12μm3.3nm						
PMG	**Port Moresby**	**7.55**	**232**	Pn	**Pn**	**07 10 50.6**	**-0.7**
	10nm,0.3s,baz=38,slow=11,SNR=20						
PMG				Sn	**Sn**	**07 12 13.8**	**-1.7**
	43nm,0.3s,baz=9.0,slow=19,SNR=12						
HNR	**Honiara**	**8.21**	**125**	Pn	**Pn**	**07 11 01.1**	**+0.6**
HNR				Sn	**Sn**	**07 12 33.2**	**+1.7**
HNR	**Honiara**	**8.21**	**125**	Pn	**Pn**	**07 11 01.0**	**+0.6**
	90nm,0.3s,baz=323,slow=14,SNR=15						
HNR				Sn	**Sn**	**07 12 33.2**	**+1.7**
	91nm,0.3s,baz=288,slow=20,SNR=3.3						
JAY	**Jayapura**	**12.61**	**280**	P	**P**	**07 12 07.4**	**-1.2**
	154nm,1.7s,5μm						
COEN	**Coen**	**13.45**	**226**	P	**P**	**07 12 19.4**	**+1.5**
	baz=14,SNR=4.0						
MTSU	**Mount Surprise**	**15.88**	**212**	P	**P**	**07 12 45.1**	**+0.2**
	baz=16,SNR=6.7						
CTA	**Charters Tower**	**16.68**	**203**	Pn	**Pn**	**07 12 52.1**	**-0.6**
CTA	**Charters Tower**	**16.68**	**203**	Pn	**Pn**	**07 12 52.1**	**-0.6**
	0.3nm,0.3s,baz=48,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**16.68**	**203**	*e*P	**Pn**	**07 12 52.8**	**+0.1**
CTAO				*e*S	**Sn**	**07 15 57.2**	**-0.5**
CTAO	**Charters Tower**	**16.68**	**203**	*e*Pn	**Pn**	**07 12 52.8**	**+0.1**
CTAO				*e*S	**Sn**	**07 15 57.2**	**-0.5**
RKPI	**Ransiki, Papua**	**19.21**	**279**	P	**Pn**	**07 13 22.6**	**-0.8**
	434nm,1.5s,7μm						
KWAJ	**Kwajalein Atol**	**19.71**	**47**	*e*P	**P**	**07 13 27.0**	**-0.1**
KWAJ				S	**S**	**07 17 03.6**	**-1.5**
KWAJ				pmax	pmax		
	comp=Z,292nm,1.2s						
KWAJ	**Kwajalein Atol**	**19.71**	**47**	*e*P	**P**	**07 13 26.9**	**-0.1**
	comp=Z,292nm,1.2s						
KWAJ				S	**S**	**07 17 03.6**	**-1.5**
GUMO	**Guam**	**19.96**	**336**	*e*P	**P**	**07 13 30.8**	**+1.0**
	comp=Z,481nm,1.0s						
TARA	**Tarawa**	**20.66**	**73**	*e*P	Pn	07 13 38.8	-1.6
	comp=Z,2μm,1.8s						
FAKI	**Fak Fak**	**20.93**	**274**	P	**P**	**07 13 40.0**	**-0.3**
	comp=Z,147nm,2.3s,comp=Z,4μm						
FAKI	**Fak Fak**	**20.93**	**274**	P	**P**	**07 13 39.5**	**-0.8**
	baz=21,SNR=6.8						
NOUC	**Port Laguerre**	**21.46**	**145**	*e*P	**P**	**07 13 47.7**	**+1.8**
DZM	**Mont Dzumac**	**21.52**	**144**	*e*P	**P**	**07 13 46.2**	**-0.4**
	comp=Z,355nm,1.1s						
DZM				*e*S	**S**	**07 17 41.6**	**+0.7**
	comp=Z,3μm,27.1s						
DZM				*e*LR	LR	07 19 00.0	
	comp=Z,8μm,23.1s						
DZM	**Mont Dzumac**	**21.52**	**144**	P	**P**	**07 13 46.0**	**-0.6**
DZM	**Mont Dzumac**	**21.52**	**144**	P	**P**	**07 13 46.0**	**-0.6**
	comp=Z,116nm,0.7s,baz=270,slow=20,SNR=176						
KDU	**Kakadu**	**21.90**	**247**	P	**P**	**07 13 48.7**	**-1.9**
	baz=22,SNR=160						
KDU				S	**S**	**07 17 48.2**	**+0.1**
	baz=22,SNR=3.9						
RMQ	**Roma**	**22.04**	**191**	P	**P**	**07 13 53.4**	**+1.3**
	baz=22,SNR=4.4						
PALU	**Palau**	**22.16**	**303**	P	**P**	**07 13 52.5**	**-0.9**
	baz=22,SNR=27						
SWI	**Sorong**	**22.19**	**279**	P	**P**	**07 13 52.6**	**-1.2**
	comp=Z,177nm,0.7s,comp=Z,3μm						
SWI	**Sorong**	**22.19**	**279**	P	**P**	**07 13 53.7**	**-0.1**
	baz=22,SNR=9.5						
MTN	**Manton Dam**	**23.19**	**248**	P	**P**	**07 14 03.2**	**-0.7**
	baz=23,SNR=40						
MTN				S	**S**	**07 18 11.6**	**+2.1**
	baz=23,SNR=6.2						
WRAB	**Tennant Creek**	**23.74**	**229**	P	**P**	**07 14 09.0**	**0.0**
	comp=Z,574nm,0.4s,SNR=26						
WRAB	**Tennant Creek**	**23.74**	**229**	*e*P	**P**	**07 14 07.9**	**-1.1**
WRAB				*e*S	**S**	**07 18 16.8**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,122nm,0.9s						
WRAB	**Tennant Creek**	**23.74**	**229**	*e*P	**P**	**07 14 07.9**	**-1.1**
	comp=Z,122nm,0.9s						
WRAB				*e*S	**S**	**07 18 16.8**	**-1.6**
WRA	**Warramunga Arr**	**23.75**	**229**	P	**P**	**07 14 08.1**	**-1.1**
WRA				S	**S**	**07 18 19.9**	**+1.3**
WRA				ScP	**ScP**	**07 21 25.9**	**+3.7**
WRA				PKiKP	**PKiKP**	**07 25 33.5**	**-0.9**
WRA	**Warramunga Arr**	**23.75**	**229**	P	**P**	**07 14 08.1**	**-1.1**
	comp=Z,21nm,0.6s,baz=53,slow=9.7,SNR=254						
WRA				S	**S**	**07 18 19.9**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=58,slow=15,SNR=4.2						
WRA				ScP	**ScP**	**07 21 25.9**	**+3.7**
	comp=Z,4.5nm,0.8s,baz=52,slow=3.5,SNR=6.0						
WRA				LR	LR	07 23 32.0	
	comp=Z,2μm,22.0s,baz=50,slow=37						
WRA				PKiKP	**PKiKP**	**07 25 33.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=318,slow=1.3,SNR=15						
ARMA	**Armidale**	**25.60**	**183**	P	**P**	**07 14 27.8**	**+2.0**
	baz=26,SNR=14						
LBMI	**Labuha**	**25.93**	**278**	P	**P**	**07 14 29.0**	**+0.1**
	comp=Z,240nm,1.2s,comp=Z,4μm						
KNRA	**Kununurra**	**26.32**	**244**	P	**P**	**07 14 30.9**	**-1.4**
	baz=26,SNR=76						
KNRA				S	S	07 19 10.6	+11
	baz=26,SNR=7.0						
TNTI	**Ternate**	**26.33**	**281**	P	**P**	**07 14 31.4**	**-1.1**
	comp=Z,130nm,1.5s						
AS31	**Alice Springs**	**26.44**	**223**	*e*P	**P**	**07 14 32.4**	**-1.0**
AS31				*e*S	S	07 19 09.3	+8.0
ASAR	**Alice Springs**	**26.44**	**223**	P	**P**	**07 14 32.6**	**-0.8**
ASAR				S	S	07 19 10.1	+8.8
ASAR				ScP	**ScP**	**07 21 36.1**	**+6.4**
ASAR	**Alice Springs**	**26.44**	**223**	P	**P**	**07 14 32.6**	**-0.8**
	comp=Z,4.6nm,0.5s,baz=54,slow=9.0,SNR=55						
ASAR				S	S	07 19 10.1	+8.8
	comp=Z,1.8nm,0.7s,baz=37,slow=14,SNR=2.4						
ASAR				ScP	**ScP**	**07 21 36.1**	**+6.4**
	comp=Z,3.0nm,0.8s,baz=56,slow=3.3,SNR=5.4						
ASAR				LR	LR	07 24 40.5	
	comp=Z,2μm,20.9s,baz=44,slow=36						
MSVF	**Nonsavu**	**27.58**	**120**	*e*P	**P**	**07 14 43.6**	**-0.1**
MSVF				pmax	pmax		
	comp=Z,38nm,1.2s						
MSVF	**Nonsavu**	**27.58**	**120**	*e*P	**P**	**07 14 43.6**	**-0.1**
	comp=Z,38nm,1.2s						
MGCD	**Mangrove Creek**	**28.40**	**184**	P	P	07 14 58.6	+7.9
	baz=29,SNR=5.1						
SOEI	**Soe**	**29.07**	**258**	P	P	07 15 07.9	+11
STKA	**Stephens Creek**	**29.11**	**201**	P	**P**	**07 14 56.4**	**-0.6**
	comp=Z,58nm,1.1s						
STKA				ScP	**ScP**	**07 21 42.8**	**+5.2**
STKA				PKiKP	**PKiKP**	**07 25 37.0**	**-0.3**
STKA	**Stephens Creek**	**29.11**	**201**	P	**P**	**07 14 56.4**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=354,slow=8.0,SNR=9.1						
STKA				ScP	**ScP**	**07 21 42.8**	**+5.2**
	comp=Z,3.8nm,0.9s,baz=48,slow=9.2,SNR=3.3						
STKA				PKiKP	**PKiKP**	**07 25 37.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=121,slow=5.9,SNR=4.0						
STKA				LR	LR	07 27 13.3	
	comp=Z,1μm,18.1s,baz=16,slow=38						
STKA	**Stephens Creek**	**29.11**	**201**	P	**P**	**07 14 57.0**	**0.0**
	baz=29,SNR=8.4						
KMSI	**Cibinong**	**29.61**	**279**	P	**P**	**07 15 02.2**	**+0.5**
	comp=Z,214nm,1.1s						
BATI	**Baumata**	**29.73**	**258**	P	**P**	**07 15 02.7**	**-0.1**
BATI	**Baumata**	**29.73**	**258**	P	**P**	**07 15 02.7**	**-0.1**
	comp=Z,37nm,0.5s,baz=158,slow=3.6,SNR=6.1						
DAV	**Davao City (W)**	**29.91**	**293**	LR	LR	07 26 57.8	
	comp=Z,1μm,18.5s,baz=114,slow=36						
FITZ	**Fitzroy Crossi**	**30.00**	**241**	P	**P**	**07 15 03.3**	**-1.8**
	baz=30,SNR=72						
LUWI	**Luwuk**	**30.55**	**276**	P	**P**	**07 15 08.3**	**-1.8**
	comp=Z,101nm,1.0s,comp=Z,1μm						
LUWI	**Luwuk**	**30.55**	**276**	S	S	07 20 29.4	+23
	baz=30,SNR=3.8						
GTOI	**Gorontalo**	**30.57**	**279**	P	**P**	**07 15 11.3**	**+1.0**
	comp=Z,111nm,0.9s,comp=Z,1μm						
CAN	**Canberra**	**30.69**	**187**	*e*P	**P**	**07 15 11.1**	**0.0**
CAN				pmax	pmax		
	comp=Z,54nm,1.3s						
CAN	**Canberra**	**30.69**	**187**	*e*P	**P**	**07 15 11.1**	**0.0**
	comp=Z,54nm,1.3s						
MRSI	**Marisa**	**31.60**	**279**	P	**P**	**07 15 19.8**	**+0.5**
	comp=Z,40nm,0.6s,comp=Z,614nm						
MILA	**Mila**	**32.38**	**186**	P	**P**	**07 15 29.0**	**+3.0**
	baz=33,SNR=7.6						
WSI	**Waingapu**	**32.95**	**260**	P	P	07 15 18.2	-13
KAPI	**Kappang**	**33.28**	**268**	P	**P**	**07 15 33.0**	**-1.0**
	comp=Z,1.6nm,1.2s						
KAPI	**Kappang**	**33.28**	**268**	P	**P**	**07 15 33.0**	**-1.0**
	comp=Z,10nm,0.5s,baz=115,slow=2.7,SNR=5.2						
SPSI	**Sidrap Palu**	**33.29**	**270**	P	**P**	**07 15 32.6**	**-1.5**
	comp=Z,28nm,1.3s						
TTSI	**Tana Toraja**	**33.29**	**272**	P	**P**	**07 15 32.8**	**-1.3**
	comp=Z,28nm,1.4s						
FORT	**Forrest**	**35.07**	**219**	P	**P**	**07 15 48.2**	**-1.0**
	baz=35,SNR=9.4						
FORT				S	S	07 21 44.1	+28
	baz=35,SNR=4.6						
AFI	**Afiamalu**	**35.75**	**107**	P	**P**	**07 15 53.3**	**-2.1**
AFI	**Afiamalu**	**35.75**	**107**	P	**P**	**07 15 53.3**	**-2.1**
	comp=Z,13nm,0.7s,baz=276,slow=19,SNR=3.4						
MYLDM	**Lahad Datu**	**35.98**	**285**	P	**P**	**07 15 58.3**	**+1.0**
MYLDM	**Lahad Datu**	**35.98**	**285**	P	**P**	**07 15 58.2**	**+1.0**
	comp=Z,71nm,1.3s,comp=Z,1μm						
MBWA	**Marble Bar**	**36.31**	**240**	*e*P	**P**	**07 15 58.4**	**-1.7**
	comp=Z,48nm,0.8s						
TSM	**Tawau**	**36.36**	**284**	P	**P**	**07 16 00.0**	**-0.5**
SDKM	**Sandakan**	**37.35**	**286**	P	**P**	**07 16 10.1**	**+1.1**
TAU	**Tasmania Unive**	**38.38**	**187**	*e*P	**P**	**07 16 17.6**	**+0.4**
TAU				*e*		07 18 30.8	
TAU				pmax	pmax		
	comp=Z,79nm,1.3s						
TAU	**Tasmania Unive**	**38.38**	**187**	*e*P	**P**	**07 16 17.6**	**+0.4**
	comp=Z,79nm,1.3s						
TAU				*e*PcP	**PcP**	**07 18 30.8**	**+1.5**
KKM	**Kota Kinabalu**	**38.40**	**286**	*e*P	**P**	**07 16 17.2**	**-0.7**
	comp=Z,53nm,1.1s						
KKM	**Kota Kinabalu**	**38.40**	**286**	P	**P**	**07 16 17.6**	**-0.3**
KKM	**Kota Kinabalu**	**38.40**	**286**	P	**P**	**07 16 17.5**	**-0.4**
	comp=Z,47nm,1.1s,comp=Z,691nm						
KKM	**Kota Kinabalu**	**38.40**	**286**	P	**P**	**07 16 18.4**	**+0.5**
	baz=38,SNR=5.2						
MEEK	**Meekatharra**	**39.52**	**233**	P	**P**	**07 16 25.9**	**-1.2**
	baz=40,SNR=101						
MEEK				S	**S**	**07 22 25.8**	**+2.0**
	baz=40,SNR=5.6						
JOW	**Kunigami**	**39.54**	**324**	*e*P	**P**	**07 16 26.6**	**-0.5**
	comp=Z,27nm,0.7s						
URZ	**Urewera**	**39.88**	**150**	*e*P	**P**	**07 16 29.7**	**0.0**
	comp=Z,127nm,1.3s						
URZ				S	**S**	**07 22 28.1**	**-0.4**
URZ	**Urewera**	**39.88**	**150**	P	**P**	**07 16 29.4**	**-0.4**
	comp=Z,13nm,0.4s,baz=319,slow=2.1,SNR=15						
URZ				S	**S**	**07 22 28.1**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=341,slow=18,SNR=1.7						
BTM	**Bintulu**	**40.80**	**280**	P	**P**	**07 16 38.3**	**+0.5**
SNZO	**South Karori**	**41.23**	**155**	*e*P	**P**	**07 16 40.7**	**-0.1**
	comp=Z,245nm,1.4s						
SBUM	**Sibu**	**41.51**	**279**	P	**P**	**07 16 44.4**	**+0.8**
SBUM	**Sibu**	**41.51**	**279**	P	**P**	**07 16 44.0**	**+0.4**
	comp=Z,37nm,1.5s,comp=Z,707nm						
KHZ	**Kahutara**	**41.69**	**157**	*e*P	**P**	**07 16 44.1**	**-0.5**
	comp=Z,103nm,0.9s						
PCJI	**Pacitan**	**41.83**	**263**	P	**P**	**07 16 43.5**	**-2.7**
	comp=Z,105nm,0.9s						
STKI	**Sintang**	**41.90**	**275**	P	**P**	**07 16 46.4**	**-0.3**
	comp=Z,69nm,1.3s,comp=Z,19μm						
RPZ	**Rata Peaks**	**41.93**	**161**	P	**P**	**07 16 47.6**	**+1.0**
	comp=Z,39nm,1.0s						
RPZ	**Rata Peaks**	**41.93**	**161**	P	**P**	**07 16 47.6**	**+1.0**
	comp=Z,45nm,0.5s,baz=319,slow=3.6,SNR=40						
NACB	**Ninganchiao**	**42.07**	**314**	*e*P	**P**	**07 16 47.8**	**-0.2**
	comp=Z,36nm,0.9s						
UGM	**Wanagama**	**42.47**	**263**	P	**P**	**07 16 51.2**	**-0.2**
	baz=42,SNR=4.1						
YHNB	**Yeheng**	**42.53**	**315**	P	**P**	**07 16 52.4**	**+0.5**
	comp=Z,85nm,1.1s						
KLBR	**Kellerberrin**	**42.61**	**227**	P	**P**	**07 16 51.0**	**-1.4**
	baz=43,SNR=6.0						
MORW	**Morawa**	**42.66**	**231**	P	**P**	**07 16 52.8**	**0.0**
	baz=43,SNR=15						
BLDU	**Ballidu**	**42.89**	**229**	P	P	07 16 58.0	+3.4
	baz=43,SNR=6.7						
ODZ	**Otahua Downs**	**42.98**	**162**	*e*P	**P**	**07 16 55.0**	**0.0**
	comp=Z,99nm,1.3s						
JNU	**Nakatsue**	**43.16**	**332**	*e*P	**P**	**07 16 55.6**	**-1.1**
	comp=Z,16nm,0.8s						
JNU	**Nakatsue**	**43.16**	**332**	P	**P**	**07 16 55.5**	**-1.1**
	comp=Z,30nm,0.7s,baz=92,slow=4.1,SNR=20						
KSM	**Kuching**	**43.24**	**277**	*e*P	**P**	**07 16 56.6**	**-1.0**
	comp=Z,46nm,0.9s						
KSM	**Kuching**	**43.24**	**277**	P	**P**	**07 16 57.4**	**-0.3**
KSM	**Kuching**	**43.24**	**277**	P	**P**	**07 16 57.1**	**-0.6**
	comp=Z,63nm,1.3s,comp=Z,718nm						
KSM	**Kuching**	**43.24**	**277**	P	**P**	**07 16 57.5**	**-0.1**
	baz=43,SNR=7.6						
MJAR	**Matsushiro Arr**	**43.37**	**342**	P	**P**	**07 16 56.4**	**-1.9**
MJAR				PcP	**PcP**	**07 18 45.5**	**-0.1**
MJAR				ScP	**ScP**	**07 22 34.1**	**+4.3**
MJAR	**Matsushiro Arr**	**43.37**	**342**	P	**P**	**07 16 56.4**	**-1.9**
	comp=Z,5.8nm,0.8s,baz=166,slow=8.1,SNR=18						
MJAR				PcP	**PcP**	**07 18 45.5**	**-0.1**
	comp=Z,10nm,0.8s,baz=166,slow=3.7,SNR=12						
MJAR				ScP	**ScP**	**07 22 34.1**	**+4.3**
	comp=Z,1.6nm,0.9s,baz=163,slow=4.2,SNR=4.0						
MJAR				LR	LR	07 32 51.3	
	comp=Z,822nm,20.8s,baz=170,slow=33						
MAT	**Matsushiro**	**43.37**	**342**	P	**P**	**07 16 56.8**	**-1.5**
MAT				S	S	07 23 13.2	-7.0
NWAO	**Narrogin (SRO)**	**43.69**	**226**	*e*P	**P**	**07 17 00.3**	**-0.6**
	comp=Z,24nm,1.2s						
CISI	**Cisompet, Garu**	**45.15**	**264**	P	**P**	**07 17 11.5**	**-1.4**
	comp=Z,165nm,0.5s,comp=Z,7μm						
LEM	**Lembang**	**45.34**	**265**	P	**P**	**07 17 12.8**	**-1.8**
	comp=Z,58nm,1.1s						
TPI	**Tanjungpandan**	**45.43**	**271**	P	**P**	**07 17 14.4**	**-0.8**
SSE	**Sheshan**	**46.90**	**322**	P	**P**	**07 17 27.7**	**+1.4**
SSE				pP	**pP**	**07 17 49.4**	**+3.0**
SSE				sP	**sP**	**07 17 58.9**	**+3.2**
SSE				S	**S**	**07 24 13.9**	**+2.6**
SSE				sS	sS	07 24 54.7	+9.1
SSE				pmax	pmax		
	comp=Z,39nm,1.0s						
SSE				pmax	pmax		
	comp=Z,280nm,4.3s						
SSE				LR	LR		
	comp=N,590nm,32.9s						
SSE				LR	LR		
	comp=E,570nm,32.9s						
SSE				LR	LR		
	comp=Z,950nm,29.8s						
KSRS	**Korea Array**	**48.09**	**333**	P	**P**	**07 17 34.8**	**-0.7**
	comp=Z,13nm,0.9s,baz=151,slow=7.7,SNR=35						
KSRS				ScP	**ScP**	**07 22 53.5**	**+4.2**
	comp=Z,3.6nm,1.1s,baz=136,slow=5.9,SNR=5.6						
KSRS				LR	LR	07 37 25.6	
	comp=Z,482nm,18.7s,baz=0.8,slow=36						
KSAR	**Wonju Array Be**	**48.10**	**333**	P	**P**	**07 17 34.8**	**-0.8**
KSAR				ScP	**ScP**	**07 22 53.5**	**+4.1**
INCN	**Inchon**	**48.71**	**332**	*e*P	**P**	**07 17 39.9**	**-0.3**
	comp=Z,96nm,0.9s						
QIZ	**Qiongzhong**	**48.73**	**300**	P	**P**	**07 17 40.8**	**+0.1**
QIZ				pP	**pP**	**07 18 00.2**	**-0.7**
QIZ				sP	**sP**	**07 18 09.8**	**-0.4**
QIZ				S	**S**	**07 24 36.9**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,290nm,4.1s						
QIZ				LR	LR		
	comp=Z,2μm,21.9s						
YUK	**Yuzh-Kuril'sk**	**48.98**	**353**	P	**P**	**07 17 41.5**	**-0.6**
YUK				S	**S**	**07 24 43.6**	**+3.4**
NJ2	**Nanjing**	**49.01**	**321**	*e*P	**P**	**07 17 43.4**	**+0.8**
NJ2				S	**S**	**07 24 45.0**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				LR	LR		
	comp=N,2μm,21.1s						
NJ2				LR	LR		
	comp=E,480nm,17.2s						
NJ2				LR	LR		
	comp=Z,1μm,22.4s						
ASAJ	**Asahikawa**	**49.54**	**350**	P	**P**	**07 17 45.9**	**-0.6**
	comp=Z,1.8nm,0.9s						
ASAJ	**Asahikawa**	**49.54**	**350**	P	**P**	**07 17 45.9**	**-0.6**
	comp=Z,18nm,0.7s,baz=216,slow=12,SNR=32						
MYKOM	**Kota Tinggi**	**49.68**	**276**	P	**P**	**07 17 48.6**	**+0.6**
KGM	**Kluang**	**50.23**	**277**	P	**P**	**07 17 52.4**	**+0.1**
KTGM	**Kuala Trenggan**	**50.94**	**281**	P	**P**	**07 17 58.0**	**+0.4**
WHN	**Wuhan**	**51.04**	**316**	P	**P**	**07 17 58.3**	**+0.3**
WHN				S	S	07 25 19.8	+10
WHN				LR	LR		
	comp=Z,3μm,16.0s						
FRIM	**Kepong**	**52.08**	**278**	P	**P**	**07 18 06.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**52.27**	**351**	*e*P	**P**	**07 18 06.0**	**-0.9**
YSS				*e*		07 18 21.1	
YSS				*e*		07 19 18.8	
YSS				*e*S	**S**	**07 25 24.0**	**-1.7**
YSS				*e*		07 27 54.0	
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
DL2	**Dalian**	**52.29**	**329**	P	**P**	**07 18 08.8**	**+1.7**
DL2				pP	**pP**	**07 18 30.5**	**+2.9**
DL2				sP	**sP**	**07 18 39.8**	**+3.0**
DL2				*e*S	**S**	**07 25 28.3**	**+2.0**
DL2				pmax	pmax		
	comp=Z,25nm,0.7s						
DL2				LR	LR		
	comp=N,510nm,18.1s						
DL2				LR	LR		
	comp=E,440nm,16.2s						
DL2				LR	LR		
	comp=Z,470nm,20.5s						
USRK	**Ussuriysk Arra**	**52.29**	**341**	P	**P**	**07 18 06.1**	**-0.9**
	comp=Z,15nm,0.7s,baz=174,slow=7.4,SNR=48						
USRK				ScP	**ScP**	**07 23 12.8**	**+5.7**
	comp=Z,2.9nm,0.9s,baz=172,slow=4.4,SNR=4.5						
USRK				LR	LR	07 39 50.8	
	comp=Z,314nm,19.6s,baz=150,slow=36						
KULM	**Kulim**	**53.37**	**280**	*e*P	**P**	**07 18 14.4**	**-1.2**
	comp=Z,11nm,0.7s						
MDJ	**Mudanjiang**	**53.47**	**339**	P	**P**	**07 18 15.1**	**-0.7**
MDJ				pP	**pP**	**07 18 35.0**	**-1.3**
MDJ				sP	**sP**	**07 18 44.2**	**-1.3**
MDJ				PcP	**PcP**	**07 19 21.2**	**-0.6**
MDJ				PP	**PP**	**07 20 15.9**	**-1.3**
MDJ				ScP	**ScP**	**07 23 11.6**	**-0.8**
MDJ				PcS	**PcS**	**07 23 20.4**	**-0.4**
MDJ				S	**S**	**07 25 41.5**	**-0.7**
MDJ				ScS	**ScS**	**07 27 56.7**	**-0.8**
MDJ				SS	**SS**	**07 29 22.9**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,11nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.0s						
MDJ				LR	LR		
	comp=N,500nm,25.6s						
MDJ				LR	LR		
	comp=E,480nm,23.8s						
MDJ				LR	LR		
	comp=Z,810nm,29.3s						
SNY	**Shenyang**	**53.59**	**333**	‖P	**sP**	**07 18 43.3**	**-3.1**
SNY				S	**S**	**07 25 45.5**	**+1.6**
SNY				pmax	pmax		
	comp=Z,13nm,0.4s						
SNY				LR	LR		
	comp=N,460nm,14.1s						
SNY				LR	LR		
	comp=E,560nm,15.0s						
SNY				LR	LR		
	comp=Z,700nm,19.5s						
CN2	**Changchun**	**54.37**	**336**	*e*P	**P**	**07 18 23.3**	**+0.9**
CN2				*e*pP	**pP**	**07 18 42.4**	**-0.5**
CN2				*e*sP	**sP**	**07 18 51.1**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=Z,800nm,17.0s						
GYA	**Guiyang**	**54.63**	**307**	*e*P	**P**	**07 18 25.3**	**+0.6**
GYA				pP	**pP**	**07 18 46.9**	**+1.6**
GYA				sP	**sP**	**07 18 58.0**	**+3.5**
GYA				PcP	**PcP**	**07 19 27.5**	**+0.7**
GYA				PP	**PP**	**07 20 31.0**	**+3.0**
GYA				ScP	**ScP**	**07 23 17.4**	**-0.7**
GYA				PcS	**PcS**	**07 23 26.9**	**+0.1**
GYA				S	**S**	**07 25 58.4**	**-0.3**
GYA				SS	**SS**	**07 29 42.0**	**-0.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=N,970nm,18.0s						
GYA				LR	LR		
	comp=E,750nm,19.4s						
GYA				LR	LR		
	comp=Z,870nm,17.7s						
HABR	**Khabarovsk**	**55.30**	**345**	*e*P	**P**	**07 18 27.7**	**-1.2**
HABR				*e*		07 19 27.2	
HABR						07

comp=E,890nm,22.5s
KMI LR LR
comp=Z,1μm,23.5s
PPT Papeete 57.42 108 P **P** **07 18 45.1 +0.5**
PPT Papeete 57.42 108 P **P** **07 18 45.1 +0.5**
comp=Z,39nm,0.9s,baz=202,slow=19,SNR=8.0
PPT LR LR 07 38 51.2
comp=Z,442nm,18.0s,baz=272,slow=31
PPT2 Papeete2 57.42 108 *e*P **P** **07 18 44.6 -0.1**
comp=Z,29nm,0.9s
PPT2 *e*S **S** **07 26 41.8 +5.9**
comp=Z,436nm,31.5s
PPT2 *e*LQ LQ 07 33 15.2
comp=Z,1μm,26.8s
PPT2 *e*LR LR 07 35 46.5
comp=Z,855nm,23.2s,baz=276
PAE Paea 57.42 108 *e*P **P** **07 18 44.4 -0.2**
comp=Z,5.9nm,0.8s
TIAR Tiarei 57.63 108 *e*P **P** **07 18 46.1 -0.1**
comp=Z,62nm,0.7s
PET Petropavlovsk 57.72 4 *e*P **P** **07 18 44.5 -1.5**
PET *e*S **S** **07 26 36.0 -2.4**
PET pmax pmax
comp=Z,18nm,0.8s
PETK Petropavlovsk- 57.74 3 P **P** **07 18 45.7 -0.5**
PETK Petropavlovsk- 57.74 3 P **P** **07 18 45.7 -0.5**
PETK Petropavlovsk- 57.74 3 P **P** **07 18 45.7 -0.5**
comp=Z,15nm,0.9s,baz=165,slow=7.9,SNR=11
PETK LR LR 07 39 14.2
comp=Z,325nm,20.7s,baz=179,slow=32
TVO Taravao 57.75 108 *e*P **P** **07 18 47.1 +0.1**
comp=Z,49nm,0.7s
CM31 Chiang Mai Arr 58.16 295 *e*P **P** **07 18 48.8 -1.0**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 58.16 295 P **P** **07 18 50.2 +0.4**
CMAR Chiang Mai Arr 58.16 295 P **P** **07 18 50.2 +0.4**
comp=Z,5.4nm,0.7s,baz=119,slow=5.8,SNR=16
CMAR LR LR 07 42 24.6
comp=Z,564nm,21.1s,baz=297,slow=34
CHTO Chiang Mai 58.27 295 *e*P **P** **07 18 51.0 +0.4**
CHTO pmax pmax
comp=Z,34nm,1.1s
CHTO Chiang Mai 58.27 295 *e*P **P** **07 18 51.0 +0.4**
comp=Z,34nm,1.1s
CHTO Chiang Mai 58.27 295 P pP 07 19 04.9 -6.4
TBI Tubuai 58.27 114 *e*S S 07 26 53.2 +6.4
comp=Z,399nm,36.0s
TBI *e*LQ LQ 07 33 36.0
comp=Z,998nm,37.8s
TBI *e*LR LR 07 36 00.9
comp=Z,3μm,32.5s,baz=275
PMOR Pomariorio Ree 58.82 105 *e*P **P** **07 18 54.3 -0.1**
comp=Z,149nm,1.1s
MEH Mehetia 58.88 108 *e*P **P** **07 18 54.6 -0.3**
comp=Z,83nm,1.0s
CD2 Chengdu 58.95 310 *e*P **P** **07 18 56.1 +0.9**
CD2 pP **pP** **07 19 18.2 +2.2**
CD2 sP **sP** **07 19 28.1 +3.0**
CD2 PcP **PcP** **07 19 44.2 +0.6**
CD2 PP **PP** **07 21 09.3 +2.9**
CD2 S **S** **07 26 54.1 -1.4**
CD2 sS **sS** **07 27 32.0 +1.1**
CD2 ScS **ScS** **07 28 33.8 -4.1**
CD2 pmax pmax
comp=Z,50nm,0.6s
CD2 pmax pmax
comp=Z,220nm,4.6s
CD2 LR LR
comp=N,1μm,25.0s
CD2 LR LR
comp=E,3μm,21.4s
CD2 LR LR
comp=Z,2μm,23.8s
HHC Hu-ho-hao-te 59.19 324 *e*P **P** **07 18 57.8 +1.1**
HHC PcP **PcP** **07 19 45.0 +0.6**
HHC PP **PP** **07 21 11.6 +3.2**
HHC ScP **ScP** **07 23 37.4 -0.4**
HHC PcS **PcS** **07 23 45.0 -1.4**
HHC S **S** **07 26 58.4 +0.1**
HHC sS **sS** **07 27 32.3 -1.5**
HHC ScS **ScS** **07 28 37.1 -2.3**
HHC SS **SS** **07 30 55.4 +1.3**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,260nm,6.5s
HHC LR LR
comp=N,990nm,16.3s
HHC LR LR
comp=E,1μm,16.2s
HHC LR LR
comp=Z,2μm,16.8s
FX1 Attu Island--F 59.84 14 *e*P **P** **07 19 00.3 -0.4**
LZH Lanzhou 61.42 316 *e*P **P** **07 19 13.2 +1.1**
LZH pP **pP** **07 19 33.1 +0.1**
LZH sP **sP** **07 19 44.0 +1.9**
LZH S **S** **07 27 33.0 +5.9**
LZH SS **SS** **07 31 34.0 +4.6**
LZH pmax pmax
comp=Z,110nm,1.7s
LZH pmax pmax
comp=Z,250nm,5.6s
LZH LR LR
comp=N,630nm,16.2s
LZH LR LR
comp=E,1μm,17.5s
LZH LR LR
comp=Z,1μm,18.8s
DRV Dumont d'Urvil 62.51 186 P P 07 18 59.0 -20
DRV S S 07 27 27.0 -12
DRV SS **SS** **07 31 42.0 -2.7**
DRV L L 07 34 00.0
DRV R 07 38 00.0
CLNS Chul'man 65.53 343 *e*P **P** **07 19 37.4 -1.2**
CLNS pmax pmax
comp=E,2.0nm,0.9s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 65.84 317 ‖P **P** **07 19 41.6 +0.5**
GTA S **S** **07 28 20.6 -1.2**
GTA pmax pmax
comp=Z,12nm,1.5s
GTA pmax pmax
comp=Z,98nm,4.5s
GTA LR LR
comp=N,390nm,18.3s
GTA LR LR
comp=E,460nm,17.8s
GTA LR LR
comp=Z,680nm,19.5s
ULN Ulaanbaatar 66.12 328 *e*P **P** **07 19 42.3 -0.4**
comp=Z,12nm,0.7s
SONM Songino Array 66.45 328 P **P** **07 19 45.2 +0.4**
SONM Songino Array 66.45 328 P **P** **07 19 45.2 +0.4**
comp=Z,5.0nm,0.6s,baz=149,slow=6.6,SNR=18
SONM LR LR 07 46 50.4
comp=Z,536nm,21.7s,baz=128,slow=34
SHL Shillong 66.57 300 *e*P **P** **07 19 46.0 -0.1**
CASY Casey 68.19 197 *e*P **P** **07 19 55.4 +0.1**
comp=Z,25nm,1.1s
LSA Lhasa 68.48 304 P **P** **07 19 59.1 +0.7**
YAK Yakutsk 68.97 348 *e*P **P** **07 20 02.8 +2.7**
YAK *e* 07 20 21.4
YAK *e* 07 22 36.6
YAK *e*PPP PPP 07 24 16.2
YAK *e*S **S** **07 29 00.5 +2.4**
YAK *e**SS **sS** **07 29 38.1 +3.6**
YAK *e* 07 29 58.4
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,17nm,1.5s
YAK pmax pmax
comp=Z,48nm,4.1s
YAK pmax pmax
comp=N,61nm,4.3s
YAK pmax pmax
comp=E,46nm,4.8s
YAK smax smax
comp=N,51nm,2.5s
YAK smax smax
comp=E,54nm,2.2s
ZAK Zakamensk 69.61 329 *e*P **P** **07 20 04.0 -0.5**
ZAK pmax pmax
comp=Z,13nm,1.4s
TLY Talaya 70.19 330 *e*P P 07 20 12.2 +4.3
TLY *e*SSS SSS 07 36 49.5
TLY pmax pmax
comp=Z,423nm,21.1s
TLY MLR MLR
comp=Z,424nm,21.0s
RKT Rikitea 71.50 113 *e*S S 07 29 35.8 +6.6
comp=Z,384nm,30.0s
RKT *e*LQ LQ 07 39 10.5
comp=Z,541nm,34.8s
RKT *e*LR LR 07 42 12.7
comp=Z,2μm,26.8s
RAMN Ramite 71.51 300 *e*P **P** **07 20 16.6 -0.1**
comp=Z,46nm,1.1s
MOY Mondy 71.53 329 *e*P **P** **07 20 17.9 +1.7**
JIRN Jiri 72.05 301 *e*P **P** **07 20 20.8 +0.7**
comp=Z,34nm,0.7s
GUN Gumba 72.38 301 *e*P **P** **07 20 23.1 +1.0**
comp=Z,68nm,0.9s
PKI Pulchoki 72.69 301 *e*P **P** **07 20 24.1 +0.2**
KKN Kakani 72.86 301 *e*P **P** **07 20 25.4 +0.6**
comp=Z,27nm,0.7s
VNDA Vanda 72.89 178 *e*P **P** **07 20 23.8 +0.1**
comp=Z,12nm,0.6s
VNDA Vanda 72.89 178 P **P** **07 20 24.2 +0.5**
comp=Z,15nm,0.6s,baz=328,slow=6.3,SNR=75
VNDA LR LR 07 49 20.1
comp=Z,195nm,21.9s,baz=345,slow=33
DMN Daman 72.96 301 *e*P **P** **07 20 25.9 +0.5**
comp=Z,149nm,1.1s
PALK Pallekele 73.27 279 *e*P **P** **07 20 26.6 -0.6**
comp=Z,9.9nm,0.9s
SBA Scott Base 73.43 177 *e*P **P** **07 20 28.5 +1.6**
SBA pmax pmax
comp=Z,17nm,0.9s
SBA Scott Base 73.43 177 *e*P **P** **07 20 28.5 +1.6**
comp=Z,16nm,0.9s
MIR Mirnyy 74.12 201 *e*P P 07 20 41.0 +10
MIR *i* 07 20 52.0
MIR pmax pmax
comp=Z,94nm,1.0s
KOLN Koldanda 74.30 300 *e*P **P** **07 20 32.8 -0.4**
comp=Z,30nm,0.7s
DANN Dangsing 74.30 301 *e*P **P** **07 20 33.4 +0.1**
comp=Z,68nm,1.0s
PYUN Piuthan 74.90 301 *e*P **P** **07 20 36.4 -0.3**
comp=Z,114nm,0.9s
WMQ Urumqi 75.92 317 P **P** **07 20 43.4 +1.4**
WMQ PcP **PcP** **07 20 56.5 +2.4**
WMQ pP **pP** **07 21 06.0 +2.3**
WMQ PP **PP** **07 23 36.6 +3.1**
WMQ S **S** **07 30 17.2 -1.2**
WMQ SKS **SKSac** **07 30 41.9 -3.6**
WMQ ScS **SKKSac** **07 30 47.5 +1.6**
WMQ SS **SS** **07 35 13.8 +1.2**
WMQ pmax pmax
comp=Z,30nm,1.2s
WMQ LR LR
comp=N,330nm,22.0s
WMQ LR LR
comp=E,350nm,27.0s
WMQ LR LR
comp=Z,460nm,30.0s
HYB Hyderabad 76.80 289 *i* P **P** **07 20 46.0 -1.4**
HYB *e*PcP **PcP** **07 21 00.0 +1.6**
PPLA Purkeypile 78.97 22 *e*P **P** **07 20 58.1 -0.6**
comp=Z,46nm,1.4s
PMR Palmer 79.47 24 *e*P **P** **07 20 59.5 -1.7**
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 79.47 24 *e*P **P** **07 20 59.5 -1.7**
comp=Z,8.2nm,0.8s
SML Sawmill 79.91 24 *e*P **P** **07 21 02.4 -1.3**
SML pmax pmax
comp=Z,10.0nm,0.9s
SML Sawmill 79.91 24 *e*P **P** **07 21 02.4 -1.3**
comp=Z,9.7nm,0.9s
TRF Thorofare Moun 80.00 22 *e*P **P** **07 21 01.2 -3.1**
comp=Z,10nm,0.7s
IM04 Indian Mountai 80.18 19 *e*P **P** **07 21 03.7 -1.3**
MK31 Makanchi Array 80.50 319 *e*P **P** **07 21 06.8 -0.4**
MK31 Makanchi Array 80.50 319 *e*P **P** **07 21 06.8 -0.4**
MKAR Makanchi Array 80.50 319 P **P** **07 21 06.8 -0.4**
MKAR 07 39 47.8
MKAR Makanchi Array 80.50 319 P **P** **07 21 06.8 -0.4**
MKAR PKKPbc **PKKPbc** **07 39 47.8 -2.2**
MKAR Makanchi Array 80.50 319 P **P** **07 21 06.8 -0.4**
comp=Z,12nm,0.8s,baz=101,slow=7.4,SNR=81
MKAR PKKPbc **PKKPbc** **07 39 47.8 -2.2**
comp=Z,0.5nm,0.7s,baz=336,slow=2.0,SNR=5.4
MKAR LR LR 07 56 48.1
comp=Z,411nm,21.1s,baz=120,slow=36
MCK McKinley 80.66 22 *e*P **P** **07 21 05.5 -2.2**
MCK pmax pmax
comp=Z,25nm,0.8s
MCK McKinley 80.66 22 *e*P **P** **07 21 05.5 -2.2**
comp=Z,25nm,0.8s
BMRM Bremner River 81.09 26 *e*P **P** **07 21 09.2 -0.8**
comp=Z,80nm,1.5s
ZAA0 Zalesovo Array 81.28 326 *e*P **P** **07 21 09.0 -2.1**
ZALV Zalesovo Beam 81.28 326 P **P** **07 21 09.8 -1.3**
ZALV Zalesovo Beam 81.28 326 P **P** **07 21 09.8 -1.3**
ZALV Zalesovo Beam 81.28 326 P **P** **07 21 09.8 -1.3**
comp=Z,9.8nm,0.7s,baz=110,slow=5.8,SNR=20
ZALV LR LR 07 55 33.4
comp=Z,435nm,20.3s,baz=249,slow=34
PAX Paxson 81.64 24 *e*P **P** **07 21 12.0 -1.0**
PAX pmax pmax
comp=Z,10.0nm,0.9s
PAX Paxson 81.64 24 *e*P **P** **07 21 12.0 -1.0**
comp=Z,9.8nm,0.9s
COLA College 81.65 22 *e*P **P** **07 21 11.1 -1.7**
COLA College 81.65 22 *e*P **P** **07 21 11.1 -1.7**
comp=Z,50nm,0.5s
ILAR Eielson Array 81.96 22 P **P** **07 21 11.9 -2.5**
ILAR PKKPbc **PKKPbc** **07 39 43.0 -4.4**
ILAR Eielson Array 81.96 22 P **P** **07 21 11.9 -2.5**
comp=Z,5.0nm,0.8s,baz=249,slow=5.5,SNR=55
ILAR PKKPbc **PKKPbc** **07 39 43.0 -4.4**
comp=Z,0.5nm,0.7s,baz=308,slow=0.8,SNR=8.2
ILAR LR LR 07 55 49.7
comp=Z,393nm,19.1s,baz=38,slow=34
MENT Mentasta 82.34 24 *e*P **P** **07 21 15.4 -1.1**
NVS Novosibirsk 82.46 327 *e*P **P** **07 21 16.7 -0.6**
NVS *e* 07 21 30.7
NVS *e*S **S** **07 31 28.7 +1.7**
NVS smax smax
comp=E,260nm,3.3s
KSH Kashi 83.15 311 P **P** **07 21 23.3 +1.9**
KSH sP **sP** **07 21 52.2 -0.1**
KSH PP **PP** **07 24 38.3 +4.6**
KSH S **S** **07 31 33.4 -1.7**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,72nm,6.5s
KSH LR LR
comp=N,77nm,7.4s
KSH LR LR
comp=E,470nm,17.5s
KSH LR LR
comp=Z,300nm,20.6s
ULHL Ulahol 83.52 313 P **P** **07 21 23.5 +0.1**
SNR=14
KURK Kurchatov 83.92 322 P **P** **07 21 24.1 -0.8**
KURK Kurchatov 83.92 322 P **P** **07 21 24.1 -0.8**
KURBB Kurchatov Arra 83.95 322 P **P** **07 21 24.1 -1.0**
comp=Z,11nm,0.7s,baz=111,slow=4.0,SNR=101
TKM2 Tokmak 2 84.13 314 P **P** **07 21 26.3 -0.2**
TKM2 pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 84.13 314 P **P** **07 21 26.5 0.0**
SNR=27
TKM2 Tokmak 2 84.13 314 *e*P **P** **07 21 26.3 -0.2**
comp=Z,18nm,0.7s
EGAK Eagle 84.15 23 *e*P **P** **07 21 25.0 -0.8**
comp=Z,10nm,0.8s
KZA Kyzart 84.21 313 P **P** **07 21 28.1 +0.9**
SNR=36
VIB Van Inlet 84.46 36 T T 08 54 44.0
SNR=15
DIB Dawson Inlet, 84.48 36 T T 08 54 45.7
SNR=56
KBK Karagaybulak 84.54 313 P **P** **07 21 29.1 +0.6**
SNR=13
DAWY Dawson 84.58 24 *e*P **P** **07 21 27.6 -0.4**
CHMS Chumysh 84.75 314 P **P** **07 21 29.4 0.0**
SNR=19
SKAG Skagway 84.78 29 *e*P **P** **07 21 28.1 -0.9**
comp=Z,9.5nm,1.2s
FRU Bishkek 84.82 314 *e*P **P** **07 21 29.0 -0.7**
FRU *e* 07 21 42.0
FRU *e* 07 31 46.0
FRU MLR MLR
comp=Z,300nm,20.0s
AAK Ala-Archa 84.87 313 P **P** **07 21 30.5 +0.3**
comp=Z,242nm,0.7s,SNR=11
AAK Ala-Archa 84.87 313 *e*P **P** **07 21 30.4 +0.3**
AAK pmax pmax
comp=Z,26nm,0.7s
AAK Ala-Archa 84.87 313 P **P** **07 21 30.5 +0.3**
SNR=20
AAK Ala-Archa 84.87 313 *e*P **P** **07 21 30.4 +0.3**
comp=Z,26nm,0.7s
AAK Ala-Archa 84.87 313 P **P** **07 21 30.4 +0.3**
comp=Z,26nm,0.7s,baz=129,slow=6.5,SNR=38
USP Ospenovka 84.98 314 P **P** **07 21 30.7 +0.2**
SNR=32
AML Almayashu 85.35 313 P **P** **07 21 33.5 +0.6**
SNR=65
EKS2 Erkin-Say 85.39 313 *e*P **P** **07 21 32.9 +0.2**
EKS2 pmax pmax
comp=Z,26nm,0.7s
EKS2 Erkin-Say 85.39 313 P **P** **07 21 33.1 +0.5**
SNR=33
EKS2 Erkin-Say 85.39 313 *e*P **P** **07 21 32.9 +0.2**
comp=Z,26nm,0.7s
MAW Mawson 85.77 203 P **P** **07 21 33.6 -0.2**
comp=Z,14nm,1.2s
MAW Mawson 85.77 203 P **P** **07 21 33.6 -0.2**
comp=Z,8.6nm,0.6s,baz=98,slow=7.2,SNR=30
MAW LR LR 07 56 05.6
comp=Z,436nm,20.7s,baz=89,slow=33
MAW Mawson 85.77 203 P **P** **07 21 33.6 -0.2**
baz=86,SNR=19
DLBC Dease Lake 87.14 31 *e*P **P** **07 21 40.5 -0.4**
KBL Kabul 87.80 305 *e*P **P** **07 21 43.9 -0.9**
KBL pmax pmax
comp=Z,6.0nm,0.5s
KBL Kabul 87.80 305 *e*P **P** **07 21 43.9 -0.9**
comp=Z,5.6nm,0.5s
KK31 Karatay Array 87.83 313 P **P** **07 21 43.7 -0.7**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 87.83 313 *e*P **P** **07 21 43.8 -0.7**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 87.83 313 *e*P **P** **07 21 43.8 -0.7**
comp=Z,7.3nm,0.8s
INK Inuvik 88.26 21 *e*P **P** **07 21 44.3 -1.5**
comp=Z,16nm,1.0s
INK Inuvik 88.26 21 LR LR 07 59 53.1
comp=Z,284nm,20.5s,baz=241,slow=35
VOSK Vostochnaya 88.99 323 P **P** **07 21 47.1 -2.5**
VOSK pmax pmax
comp=Z,30nm,0.7s
BVA0 Borovoye Array 89.39 323 *i* P **P** **07 21 50.1 -1.4**
BVAR Borovoye Array 89.39 323 P **P** **07 21 50.1 -1.4**
BVAR Borovoye Array 89.39 323 P **P** **07 21 50.1 -1.4**
BVAR Borovoye Array 89.39 323 P **P** **07 21 50.1 -1.4**
comp=Z,61nm,0.7s,baz=104,slow=5.8,SNR=196
BRVK Borovoye 89.46 323 P **P** **07 21 50.4 -1.3**
comp=Z,279nm,0.8s,SNR=22
BRVK Borovoye 89.46 323 *e*P **P** **07 21 50.5 -1.3**
BRVK pmax pmax
comp=Z,35nm,0.8s
BRVK Borovoye 89.46 323 *e*P **P** **07 21 50.5 -1.3**
comp=Z,35nm,0.8s
NVAR Mina Array Bea 91.77 52 P **P** **07 22 02.4 -0.8**
NVAR Mina Array Bea 91.77 52 P **P** **07 22 02.4 -0.8**
comp=Z,1.2nm,0.7s,baz=251,slow=5.7,SNR=10
NVAR LR LR 07 56 26.6
comp=Z,1μm,21.0s,baz=121,slow=31
NV11 Mina Array Sit 91.88 52 *e*P **P** **07 22 03.1 -0.5**
BMO Blue Mountains 92.97 45 *e*P **P** **07 22 06.9 -1.6**
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 92.97 45 *e*P **P** **07 22 06.8 -1.6**
comp=Z,5.5nm,0.9s
SYO Syowa Base 93.85 199‖*e*X P 07 22 08.0 -3.9
SHPR Sheep Range 94.14 54 *e*P **P** **07 22 13.7 -0.4**
comp=Z,16nm,1.3s
YKA Yellowknife Ar 95.20 28 P **P** **07 22 16.0 -2.1**
YKA Yellowknife Ar 95.20 28 P **P** **07 22 16.0 -2.1**
comp=Z,1.1nm,0.7s,baz=270,slow=4.8,SNR=8.8
SVE Sverdlovsk 95.30 327‖*e*P **P** **07 22 18.0 -0.7**
SVE *e*S **SKSac** **07 32 46.6 -0.5**
SVE pmax pmax
comp=Z,11nm,1.2s
SVE MLR MLR
comp=Z,858nm,25.0s
CCUT Cedar City 95.61 53 *e*P **P** **07 22 20.4 -0.6**
comp=Z,6.1nm,1.1s
AB31 Akbulak array 95.64 319 *i* P **P** **07 22 17.8 -2.7**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 95.64 319 *e*P **P** **07 22 18.0 -2.4**
comp=Z,6.7nm,0.8s
DLMT Dillon 96.32 45 *e*P **P** **07 22 22.7 -1.1**
comp=Z,7.9nm,1.3s
ARU Arti 96.45 326*d i*P **P** **07 22 21.8 -2.1**
ARU 07 26 13.7
ARU S **SKSac** **07 32 49.7 -3.5**
ARU PS **PS** **07 34 58.4 -10**
ARU pmax pmax
comp=Z,7.0nm,0.7s
PDAR Pinedale Array 98.54 48 P **P** **07 22 32.8 -1.2**
PDAR Pinedale Array 98.54 48 P **P** **07 22 32.8 -1.2**
comp=Z,0.4nm,0.6s,baz=207,slow=0.2,SNR=4.2
PDAR LR LR 08 01 47.3
comp=Z,459nm,19.6s,baz=266,slow=32
SNAA Sanae 102.15 188 *e*Pdif **Pdif** **07 22 49.6 +0.3**
TXAR Lajitas Array 103.79 61 PP PP 07 27 10.2 -5.2
TXAR PKKPbc **PKKPbc** **07 38 48.9 -0.1**
TXAR Lajitas Array 103.79 61 PP PP 07 27 10.2 -5.2
comp=Z,0.8nm,1.0s,baz=219,slow=9.6,SNR=4.0
TXAR PKKPbc **PKKPbc** **07 38 48.9 -0.1**
comp=Z,0.2nm,0.7s,baz=93,slow=5.4,SNR=2.6
ARCES ARCESS Array B 106.90 343 Pdif **Pdif** **07 23 08.0 -2.3**
ARCES PKiKP **PKiKP** **07 27 19.5 -0.2**
ARCES PKKPbc **PKKPbc** **07 38 37.5 -3.3**
ARCES ARCESS Array B 106.90 343 Pdiff **Pdif** **07 23 08.0 -2.3**
comp=Z,2.1nm,0.7s,baz=60,slow=7.2,SNR=11
ARCES PKiKP **PKiKP** **07 27 19.5 -0.2**
comp=Z,2.2nm,0.7s,baz=82,slow=1.8,SNR=9.9
ARCES PKKPbc **PKKPbc** **07 38 37.5 -3.3**
comp=Z,1.0nm,0.5s,baz=239,slow=2.1,SNR=15
OBN Obninsk 108.86 327 P **Pdif** **07 23 20.0 +0.7**
OBN *e*PS **PS** **07 37 12.5 -6.3**
OBN pmax pmax
comp=Z,9.0nm,1.4s
OBN MLR MLR
comp=Z,400nm,21.0s
FINES FINESS Array B 111.13 336 Pdif **Pdif** **07 23 27.2 -2.0**
FINES PKiKP **PKiKP** **07 27 26.4 -1.4**
FINES PKKPbc **PKKPbc** **07 38 23.9 -3.1**
FINES FINESS Array B 111.13 336 Pdiff **Pdif** **07 23 27.2 -2.0**
comp=Z,1.8nm,0.7s,baz=83,slow=6.3,SNR=7.8
FINES PKiKP **PKiKP** **07 27 26.4 -1.4**
comp=Z,1.2nm,0.5s,baz=72,slow=2.2,SNR=13
FINES PKKPbc **PKKPbc** **07 38 23.9 -3.1**
comp=Z,0.3nm,0.3s,baz=232,slow=2.6,SNR=8.7
MALT Malatya 112.23 309 *e*PKiKP **PKiKP** **07 27 30.3 -0.5**
MALT Malatya 112.23 309 *e*PKPdf **PKiKP** **07 27 30.3 -0.5**
AKASG Malin Array Be 114.64 325 PKiKP PKPdf 07 27 34.3 -0.5
AKASG Malin Array Be 114.64 325 PKP PKPdf 07 27 34.3 -0.5
AKASG Malin Array Be 114.64 325 PKP PKPdf 07 27 34.3 -0.5
comp=Z,2.3nm,0.4s,baz=56,slow=2.7,SNR=2.8
BR131 Keskin Array S 115.51 312 *e*PKPdf **PKPdf** **07 27 36.6 -0.4**
BRTR Keskin Array B 115.51 312 PKP **PKPdf** **07 27 36.5 -0.5**
BRTR Keskin Array B 115.51 312 PKP **PKPdf** **07 27 36.5 -0.5**
comp=Z,0.8nm,0.4s,baz=124,slow=5.1,SNR=6.1
NB2 NORSAR Subarra116.96 340 PKPdf **PKPdf** **07 27 38.0 -1.1**
comp=Z,2.9nm,0.7s,baz=45,slow=1.9
NOA NORSAR Array B116.96 340 PKP **PKPdf** **07 27 38.5 -0.6**
NOA PKKPbc **PKKPbc** **07 38 05.4 -1.8**
NOA NORSAR Array B116.96 340 PKP **PKPdf** **07 27 38.5 -0.6**
comp=Z,2.8nm,0.7s,baz=46,slow=1.9,SNR=24
NOA PKKPbc **PKKPbc** **07 38 05.4 -1.8**
comp=Z,0.5nm,0.7s,baz=43,slow=3.6,SNR=3.4
TLCR 117.09 319 ‖PKiKP **PKPdf** **07 27 40.0 +0.3**

TLCR 117.09 319⇑*i*P PKPdf 07 27 40.0 +0.3
BURAR Bucovina Array 118.34 323 ⇑PKIKP PKPdf 07 27 43.6 +1.4
BURAR Bucovina Array 118.34 323⇑*i*P PKPdf 07 27 43.6 +1.4
MLR Muntele Rosu 118.82 320⇓*i*P PKPdf 07 27 43.1 -0.2
KOLS Kolonicke sedl 119.45 325 *e*PKIKP PKPdf 07 27 44.8 +0.6
KOLS Kolonicke sedl 119.45 325 *e*PKP PKPdf 07 27 44.8 +0.6
UZH Uzhgorod 119.59 325 *e*PKIKP PKPdf 07 27 55.5 +11
UZH *e* 07 28 02.7
PLCA Paso Flores 119.63 143 PKP **PKPdf 07 27 45.3 +0.4**
PLCA PKKPbc **PKKPbc 07 37 54.5 -2.6**
PLCA Paso Flores 119.63 143 PKP **PKPdf 07 27 45.3 +0.4**
comp=Z,4.0nm,0.5s,baz=228,slow=1.2,SNR=19
PLCA PKKPbc **PKKPbc 07 37 54.5 -2.6**
comp=Z,1.3nm,0.7s,baz=249,slow=19,SNR=3.1
ARR Arges 119.70 321⇑*i*P PKPdf 07 27 42.7 -2.2
STHS Stebnicka Huta 119.78 326 *e*PKIKP PKPdf 07 27 45.5 +0.7
STHS Stebnicka Huta 119.78 326 *e*PKP PKPdf 07 27 45.5 +0.7
CRVS Cervenica-Dubn 119.92 325 *e*PKIKP PKPdf 07 27 45.1 0.0
CRVS Cervenica-Dubn 119.92 325 *e*PKP PKPdf 07 27 45.1 0.0
BOSA Boshof 119.95 233 *e*PKPdf PKPdf 07 27 46.2 +0.3
BOSA Boshof 119.95 233 PKP **PKPdf 07 27 46.3 +0.3**
comp=Z,2.5nm,0.6s,baz=130,slow=4.5,SNR=8.2
OJC Ojcow 120.14 327 *e*PKIKP PKPdf 07 27 45.7 +0.2
DRGR 120.24 323⇓*i*P PKPdf 07 27 45.3 -0.6
DRGR 120.24 323⇓*i*P PKPdf 07 27 45.3 -0.6
NIE Niedzica 120.30 326 *e*PKIKP PKPdf 07 27 49.1 +3.3
GZR Gura Zlata 120.86 321⇑PKIKP PKPdf 07 27 47.2 +0.1
GZR Gura Zlata 120.86 321⇑*i*P PKPdf 07 27 47.2 +0.1
LBTB Lobatse 121.11 237 *e*PKPdf PKPdf 07 27 48.1 -0.1
LBTB PKP **PKPdf 07 27 48.5 +0.2**
LBTB Lobatse 121.11 237 PKP **PKPdf 07 27 48.5 +0.2**
comp=Z,2.3nm,0.6s,baz=147,slow=5.0,SNR=2.7
OKC Ostrava-Krasne 121.24 328 *e*PKIKP PKPdf 07 27 48.1 +0.5
OKC *e* 07 28 02.9
OKC MLR MLR
comp=Z,300nm,24.6s
OKC Ostrava-Krasne 121.24 328 *e*PKPdf PKPdf 07 27 48.1 +0.5
OKC *e*pPKP pPKPdf 07 28 02.9 -7.8
OKC AMS AMS 08 20 40.0
comp=Z,300nm,24.6s
BZS Buzias 121.47 322⇑PKIKP PKPdf 07 27 48.0 -0.2
BZS Buzias 121.47 322⇑*i*P PKPdf 07 27 48.0 -0.2
MORC Moravsky Berou 121.60 328 *e*PKIKP PKPdf 07 27 48.8 +0.5
MORC Moravsky Berou 121.60 328 *e*PKPdf PKPdf 07 27 48.8 +0.5
VYHS Vyhne 121.62 326 *e*PKIKP PKPdf 07 27 48.6 +0.2
VYHS Vyhne 121.62 326 *e*PKP PKPdf 07 27 48.6 +0.2
VTS Vitosha 121.85 318⇓PKIKP PKPdf 07 27 49.0 -0.2
VTS Vitosha 121.85 318⇓*i*P PKPdf 07 27 49.0 -0.2
DPC Dobruska-Polom 121.90 329 *e*PKIKP PKPdf 07 27 49.8 +0.9
DPC Dobruska-Polom 121.90 329 *e*PKPdf PKPdf 07 27 49.8 +0.9
DPC AMS AMS 08 18 30.0
UPC Upice 121.97 329 *e*PKIKP PKPdf 07 27 49.5 +0.5
UPC Upice 121.97 329 *e*PKPdf PKPdf 07 27 49.5 +0.5
LSZ Lusaka 121.99 249 *e*PKPdf PKPdf 07 27 49.9 -0.2
LSZ PKP **PKPdf 07 27 51.3 +1.2**
LSZ Lusaka 121.99 249 PKP **PKPdf 07 27 51.3 +1.2**
comp=Z,1.1nm,0.4s,baz=61,slow=9.5,SNR=3.7
BSEG Bad Segeberg 122.38 335 *e*PKPdf PKPdf 07 27 50.3 +0.7
BSEG Bad Segeberg 122.38 335 *e*PKIKP PKPdf 07 27 50.3 +0.7
PVCC Panska Ves 122.68 330 *e*PKIKP PKPdf 07 27 51.1 +0.8
PVCC Panska Ves 122.68 330 *e*PKPdf PKPdf 07 27 51.1 +0.8
PVCC AMS AMS 08 19 30.0
comp=Z,400nm,26.8s
BRG Berggiesshubel 122.78 331 *i* PKP **PKPdf 07 27 51.0 +0.5**
comp=Z,8.7nm,0.8s
BRG *e* 07 41 19.6
comp=Z,2.3nm,1.0s
BRG SS SS 07 46 15.0 +10
BRG
comp=N,223nm,25.3s
BRG
comp=E,274nm,23.2s
BRG
comp=Z,404nm,23.0s
BRG Berggiesshubel 122.78 331 *e*PKPdf PKPdf 07 27 51.0 +0.5
BRG Berggiesshubel 122.78 331 *i* PKIKP **PKPdf 07 27 51.0 +0.5**
BRG SS SS 07 46 15.0 +10
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG MLR MLR
comp=N,223nm,25.3s
BRG MLR MLR
comp=E,274nm,23.2s
BRG MLR MLR
comp=Z,404nm,23.0s
CLL Collm 122.95 331 *e*PKPdf PKPdf 07 27 51.1 +0.2
CLL *e*pPKPdf pPKPdf 07 28 06.1 -7.9
CLL Collm 122.95 331⇑PKIKP PKPdf 07 27 51.0 +0.2
CLL *e* 07 28 06.0
CLL pmax pmax
comp=Z,13nm,0.7s
CLL Collm 122.95 331⇑PKPdf PKPdf 07 27 51.0 +0.2
comp=Z,13nm,0.7s
CLL *e*pPKPdf pPKPdf 07 28 06.0 -7.9
CLL *e*PSKS 07 39 24.0
CLL *e*PPS PPS 07 40 48.0
CLL *e*PPPrev 07 45 22.0
CLL *e*SS SS 07 46 13.0 +5.9
CLL *e*SSS SSS 07 50 46.0
CLL *e* 07 51 10.0
PKSM Moragy 122.96 324⇑PKIKP PKPdf 07 27 51.0 0.0
PKSM Moragy 122.96 324⇑*i*P PKPdf 07 27 51.0 0.0
TREC Trest 122.97 328 *e*PKIKP PKPdf 07 27 51.6 +0.6
TREC *e* 07 28 07.1
TREC MLR MLR
comp=Z,400nm,19.1s
TREC Trest 122.97 328 *e*PKPdf PKPdf 07 27 51.6 +0.6
TREC *e*pPKP **pPKPdf 07 28 07.1 -7.0**
TREC AMS AMS 08 25 50.0
comp=Z,400nm,19.1s
PRU Pruhonice 123.03 329 *e*PKIKP PKPdf 07 27 51.6 +0.6
PRU *e* 07 28 05.9
PRU *e* 07 39 22.6
PRU MLR MLR
comp=Z,400nm,21.1s
PRU Pruhonice 123.03 329 *e*PKPdf PKPdf 07 27 51.6 +0.6
PRU *e*pPKP pPKPdf 07 28 05.9 -8.2
PRU *e*SP SP 07 39 22.6 +5.1
PRU AMS AMS 08 20 00.0
comp=Z,400nm,21.1s
PRA Prague 123.03 330 PKPdf **PKPdf 07 27 52.0 +1.0**
NRDL Niedersach Rie 123.48 334 *e*PKPdf PKPdf 07 27 52.5 +0.8
CONA Conrad Observa 123.58 327⇑*i*PKIKP PKiKP 07 27 52.6 +0.1
comp=Z,7.8nm,1.2s,SNR=6.1
TANN Tannenbergstha 123.79 331 *e*PKPdf PKPdf 07 27 53.1 +0.5
NKC Novy Kostel 123.92 331 *e*PKIKP PKPdf 07 27 53.2 +0.4
NKC MLR MLR
comp=Z,200nm,23.2s
NKC Novy Kostel 123.92 331 *e*PKPdf PKPdf 07 27 53.2 +0.4
NKC AMS AMS 08 27 40.0
comp=Z,200nm,23.2s
MOX Moxa 124.05 331 *e*PKPdf PKPdf 07 27 53.4 +0.4
MOX Moxa 124.05 331 *e*PKIKP PKPdf 07 27 53.4 +0.4
KHC Kasperske Hory 124.06 329 *e*PKIKP PKPdf 07 27 53.0 -0.1
KHC Kasperske Hory 124.06 329 *e*PKPdf PKPdf 07 27 53.3 +0.2
KHC *e*pPKP pPKPdf 07 28 07.8 -8.4
KHC *e*SP SP 07 39 32.6 +6.0
KHC AMS AMS 08 22 10.0
comp=Z,400nm,23.0s
KHC Kasperske Hory 124.06 329 *e*PKPdf PKPdf 07 27 53.0 -0.1
GEC2 GERESS Array S 124.17 329 *e*PKPdf PKPdf 07 27 53.8 +0.4
GEC2 GERESS Array S 124.17 329 *e*PKIKP PKPdf 07 27 53.8 +0.4
GERES GERESS Array B 124.17 329 PKP **PKPdf 07 27 53.7 +0.4**
GERES GERESS Array B 124.17 329 PKP **PKPdf 07 27 53.7 +0.4**
comp=Z,4.5nm,0.5s,baz=63,slow=1.5,SNR=63
ROTZ Rotzenmuhle 124.34 330 *e*PKPdf PKPdf 07 27 54.1 +0.5
WET Wettzell 124.41 329 *e*PKPdf PKPdf 07 27 54.4 +0.7
WET Wettzell 124.41 329 *e*PKIKP PKPdf 07 27 54.4 +0.7
MOA Molln 124.49 327⇑*i*PKIKP PKPdf 07 27 53.9 -0.1
comp=Z,3.1nm,0.7s
IBBN Ibbenburen 124.63 335 *e*PKPdf PKPdf 07 27 54.6 +0.6
UBBA Unterbreizbach 124.69 332 *e*PKPdf PKPdf 07 27 54.4 +0.4
UBBA *e*pPKPdf pPKPdf 07 28 09.4 -7.8
SOKA Soboth 124.77 326⇑*i*PKIKP PKPdf 07 27 54.4 -0.2
comp=Z,13nm,1.1s,SNR=7.8
GRF Grafenberg Arr 124.87 331 *e*PKPdf PKPdf 07 27 55.0 +0.4
GRF Grafenberg Arr 124.87 331 *e*PKIKP PKPdf 07 27 55.0 +0.4
RJOB Jochberg 125.34 328 *e*PKPdf PKPdf 07 27 55.6 0.0
KBA Koelnbreinsper 125.45 327⇑*i*PKIKP PKPdf 07 27 55.4 -0.6
comp=Z,8.4nm,1.1s
BUG Bochum--Univer 125.47 334 *e*PKPdf PKPdf 07 27 56.1 +0.5
TNS Taunus Mts 125.82 333 *e*PKPdf PKPdf 07 27 57.0 +0.6
TNS Taunus Mts 125.82 333 *e*PKIKP PKPdf 07 27 57.0 +0.6

ABTA Abfaltersbach 126.11 327⇑*i*PKPdf PKPdf 07 27 56.3 -0.8
comp=Z,13nm,0.9s,SNR=7.2
WATA Walderalm 126.23 328⇑*i*PKiKP PKPdf 07 27 57.4 -0.1
comp=Z,6.6nm,0.5s
WTTA Wattenberg 126.24 328⇑*i*PKiKP PKPdf 07 27 57.8 +0.3
comp=Z,10nm,0.6s,SNR=13
TRQA Tornquist 126.39 146 *e*PKPdf PKPdf 07 27 58.0 +0.1
MOTA Moosalm 126.47 329⇑*i*PKiKP PKPdf 07 27 58.0 +0.1
comp=Z,9.7nm,0.6s,SNR=12
STU Stuttgart 126.47 331 *e*PKPdf PKPdf 07 27 58.3 +0.7
STU *ep*PKPdf pPKPdf 07 28 13.4 -7.4
STU Stuttgart 126.47 331 *e*PKIKP PKPdf 07 27 58.4 +0.7
STU Stuttgart 126.47 331 *e*PKPdf PKPdf 07 27 58.4 +0.7
CFAA Coronel Fontan 126.54 135 PKP **PKPdf 07 27 58.0 -0.4**
CFAA Coronel Fontan 126.54 135 PKP **PKPdf 07 27 58.0 -0.4**
comp=Z,0.9nm,0.5s,baz=236,slow=3.9
RETA Reutte 126.55 329⇑*i*PKiKP PKiKP 07 27 58.2 -0.2
comp=Z,4.4nm,0.5s,SNR=6.7
FETA Feichten 126.87 329⇓*i*PKiKP PKiKP 07 27 59.1 -0.1
comp=Z,17nm,1.0s,SNR=11
DAVA Damuels 127.14 329⇑*i*PKiKP PKPdf 07 27 59.4 +0.2
comp=Z,12nm,0.8s,SNR=9.6
BFO Black Forest 127.20 331 *e*PKPdf PKPdf 07 27 59.2 +0.1
BFO Black Forest 127.20 331 *e*PKIKP PKPdf 07 27 59.2 +0.1
BFO Black Forest 127.20 331 *e*PKPdf PKPdf 07 27 58.7 -0.4
WLF Walferdange 127.25 334 *e*PKPdf PKPdf 07 28 00.4 +1.3
WLF Walferdange 127.25 334 *e*PKIKP PKPdf 07 27 59.9 +0.8
WLF Walferdange 127.25 334 *e*PKPdf PKPdf 07 27 59.9 +0.8
DAVOX Davos/Dischmat 127.47 329 PKP **PKPdf 07 28 00.6 +0.7**
DAVOX Davos/Dischmat 127.47 329 PKP **PKPdf 07 28 00.6 +0.7**
comp=Z,8.9nm,0.6s,baz=70,slow=9.2,SNR=25
GIVF Givet 127.50 335 *e*PKIKP PKPdf 07 27 59.4 -0.2
comp=Z,20nm,0.8s
CDF Champ du Feu 127.64 332 *e*PKIKP PKPdf 07 27 59.3 -0.7
comp=Z,6.4nm,0.7s
TIP Timpagrande 127.76 317 *e*PKPdf PKPdf 07 28 00.5 0.0
BAIF Baives 127.79 335 *e*PKIKP PKPdf 07 28 00.0 -0.1
ECH Echery 127.83 332 *e*PKIKP PKPdf 07 28 00.6 +0.3
ECH Echery 127.83 332 *e*PKPdf PKPdf 07 28 00.6 +0.3
TUE Stuetta 127.95 329 *e*PKPdf PKPdf 07 28 00.4 -0.4
PAGF Fort de Pagny 128.25 333 *e*PKIKP PKPdf 07 28 00.8 -0.3
comp=Z,6.8nm,1.0s
HINF Hinteralfeld 128.26 332 *e*PKIKP PKPdf 07 28 00.6 -0.6
comp=Z,22nm,0.9s
HAU Haudompre 128.37 332 *e*PKIKP PKPdf 07 28 00.9 -0.4
comp=Z,10nm,0.5s
MEZF Maizieres J'vi 128.60 333 *e*PKIKP PKPdf 07 28 01.9 +0.2
comp=Z,20nm,0.7s
CEL Celeste 128.80 317 *e*PKPdf PKPdf 07 28 02.3 -0.2
SFTF Sexfontaines 128.82 333 *e*PKIKP PKPdf 07 28 02.0 -0.2
CABF La Chapelle 129.49 331 *e*PKIKP PKPdf 07 28 03.8 +0.2
comp=Z,14nm,0.7s
LPL La Plagne 129.94 330 *e*PKIKP PKPdf 07 28 04.8 +0.1
comp=Z,6.8nm,0.5s
LPG La Plagne 129.94 329 *e*PKIKP PKPdf 07 28 04.9 +0.1
comp=Z,14nm,0.6s
LOR Lormes 130.05 333 *e*PKIKP PKPdf 07 28 04.6 0.0
comp=Z,13nm,0.8s
TSUM Tsumeb 130.22 240 *e*PKPdf PKPdf 07 28 05.5 -0.4
TSUM PKP **PKPdf 07 28 06.6 +0.7**
TSUM SKPbc **SKPbc 07 31 25.5 +3.7**
TSUM Tsumeb 130.22 240 PKP **PKPdf 07 28 06.6 +0.7**
comp=Z,2.1nm,0.7s,baz=132,slow=8.1,SNR=8.1
TSUM SKPbc **SKPbc 07 31 25.5 +3.7**
comp=Z,3.6nm,1.1s,baz=145,slow=4.1,SNR=6.7
BNI Bardonecchia 130.29 329 *e*PKIKP PKPdf 07 28 05.2 -0.1
BNI Bardonecchia 130.29 329 *e*PKPdf PKPdf 07 28 05.2 -0.1
SSF Saint Saulge 130.37 333 *e*PKIKP PKPdf 07 28 05.2 +0.1
comp=Z,26nm,1.0s
MBDF Montbardon 130.46 329 *e*PKIKP PKPdf 07 28 06.4 +0.8
comp=Z,7.6nm,0.7s
SMF Signal de Mont 130.52 332 *e*PKIKP PKPdf 07 28 05.4 -0.1
comp=Z,8.9nm,0.5s
AVF Avril sur Loir 130.64 333 *e*PKIKP PKPdf 07 28 05.3 -0.3
comp=Z,7.5nm,0.8s
PGF Pioggiola 130.70 325 *e*PKIKP PKPdf 07 28 05.4 -0.7
comp=Z,13nm,0.4s
SBF Sospel 130.70 327 *e*PKIKP PKPdf 07 28 05.6 -0.4
comp=Z,37nm,1.0s
FLN La Foliniere 130.71 337 *e*PKIKP PKPdf 07 28 05.6 -0.1
comp=Z,42nm,1.0s
ORIF Oris-en-Rattie 130.79 330 *e*PKIKP PKPdf 07 28 06.2 +0.1
comp=Z,19nm,0.7s
BGF Bois d'Agland 131.04 333 *e*PKIKP PKPdf 07 28 06.6 +0.1
comp=Z,19nm,0.7s
GRR Gorron 131.16 337 *e*PKIKP PKPdf 07 28 06.6 0.0
comp=Z,21nm,0.8s
FRF La Foret Royal 131.33 328 *e*PKIKP PKPdf 07 28 07.0 -0.1
comp=Z,10nm,0.6s
VIVF Saint-Julien-l 131.43 330 *e*PKIKP PKPdf 07 28 07.5 +0.2
comp=Z,7.3nm,0.8s
TCF Toulx Ste Croi 131.53 333 *e*PKIKP PKPdf 07 28 07.7 +0.3
comp=Z,26nm,0.8s
LMR La Mourre 131.56 328 *e*PKIKP PKPdf 07 28 07.6 +0.1
comp=Z,20nm,0.9s
SMRF Simiane la Rot 131.60 329 *e*PKIKP PKPdf 07 28 07.5 -0.1
comp=Z,31nm,1.0s
SGMF Saint Gilles 131.91 338 *e*PKIKP PKPdf 07 28 07.9 -0.1
comp=Z,18nm,0.8s
ROSF Rostrenen 132.10 339 *e*PKIKP PKPdf 07 28 07.4 -1.0
comp=Z,23nm,1.0s
MFF Saint Martin d 132.31 335 *e*PKIKP PKPdf 07 28 08.9 +0.1
comp=Z,19nm,0.9s
LASF Ste Croix 132.40 330 *e*PKIKP PKPdf 07 28 09.6 +0.5
comp=Z,23nm,0.8s
QUIF Quistinic 132.41 339 *e*PKIKP PKPdf 07 28 08.7 -0.3
comp=Z,15nm,0.9s
RJF Les Rejaudoux 132.60 333 *e*PKIKP PKPdf 07 28 09.5 +0.1
comp=Z,9.8nm,0.9s
CAF Calviac 132.63 332 *e*PKIKP PKPdf 07 28 09.2 -0.4
comp=Z,12nm,1.0s
ROSC El Rosal 132.69 88 PKPpre PKPpre 07 28 07.5
ROSC El Rosal 132.69 88 PKhKP PKPpre 07 28 07.5
comp=Z,3.0nm,0.5s,baz=234,slow=11,SNR=4.6
LFF La Frestale 133.23 333 *e*PKIKP PKPdf 07 28 10.2 -0.4
MTLF Montolieu 133.75 331 *e*PKIKP PKPdf 07 28 12.1 +0.4
comp=Z,16nm,1.0s
LPAZ La Paz 134.15 118 *e*PKPdf PKPdf 07 28 13.3 -0.6
LPAZ PKP **PKPdf 07 28 15.0 +1.1**
LPAZ SKPbc **SKPab 07 31 41.3 +2.2**
LPAZ La Paz 134.15 118 PKP **PKPdf 07 28 15.0 +1.1**
comp=Z,4.1nm,0.7s,baz=219,slow=1.8,SNR=13
LPAZ SKPbc **SKPab 07 31 41.3 +2.2**
comp=Z,3.4nm,1.1s,baz=287,slow=3.3,SNR=4.6
KEST Kesra 134.58 318 PKP **PKPdf 07 28 14.4 +0.9**
KEST SKPbc **SKPab 07 31 40.5 +0.7**
KEST Kesra 134.58 318 PKP **PKPdf 07 28 14.4 +0.9**
comp=Z,1.5nm,0.6s,baz=115,slow=3.1,SNR=9.1
KEST SKPbc **SKPab 07 31 40.5 +0.7**
comp=Z,2.6nm,1.0s,baz=34,slow=3.6,SNR=6.2
EPF Esparros 134.88 332 *e*PKIKP PKPdf 07 28 13.5 -0.4
comp=Z,3.2nm,0.5s
ETSF Etsaut 135.41 332 *e*PKIKP PKPdf 07 28 15.5 +0.6
comp=Z,12nm,0.6s
PGAV Gavieira, Arco 139.38 339 *e*PKPdf PKPdf 07 28 25.5 +3.2
PGAV Gavieira, Arco 139.38 339 *e*LQ LQ 08 07 38.7
PGAV *e*LR LR 08 14 19.5
comp=Z,38nm,16.4s
ESDC Sonseca Array 139.52 332 PKPpre PKPpre 07 28 15.7
ESDC PKP **PKPdf 07 28 22.7 +0.1**
ESDC SKPbc **SKiKP 07 31 56.4 +2.5**
ESDC Sonseca Array 139.52 332 PKhKP PKPpre 07 28 15.7
comp=Z,0.5nm,0.6s,baz=9.2,slow=2.8,SNR=4.6
ESDC PKP **PKPdf 07 28 22.7 +0.1**
comp=Z,0.8nm,0.5s,baz=24,slow=2.6,SNR=8.3
ESDC SKPbc **SKiKP 07 31 56.4 +2.5**
comp=Z,0.4nm,0.7s,baz=50,slow=2.0,SNR=3.7
ESLA Sonseca Array 139.52 332 *e*PKPdf PKPdf 07 28 21.7 -0.9
MVO Moncorvo 139.60 337 *e*LQ LQ 08 07 39.8
MVO *e*LR LR 08 15 26.1
comp=Z,30nm,15.3s
POLO Lamas de Olo 139.72 338 *e*PKPdf PKPdf 07 28 23.8 +0.9
SIV San Ignacio 140.37 122 PKPpre PKPpre 07 28 20.5
SIV PKP **PKPdf 07 28 25.4 +0.7**
SIV SKPbc **SKiKP 07 31 59.0 +2.7**
SIV San Ignacio 140.37 122 PKhKP PKPpre 07 28 20.5
comp=Z,1.4nm,0.6s,baz=291,slow=2.6,SNR=5.3
SIV PKP **PKPdf 07 28 25.4 +0.7**
comp=Z,2.3nm,0.6s,baz=250,slow=2.7,SNR=10
SIV SKPbc **SKiKP 07 31 59.0 +2.7**
comp=Z,3.2nm,0.8s,baz=288,slow=1.1,SNR=5.3
MTE Manteigas 140.46 337 *e*LQ LQ 08 07 46.3
MTE *e*LR LR 08 15 02.6
comp=Z,22nm,14.6s
PCBR Castelo Branco 140.91 336 *e*PKPdf PKPdf 07 28 22.9 -2.0
PMRV Marv??o 141.22 336 *e*PKPdf PKPdf 07 28 26.8 +1.2

PMRV Marv??o 141.22 336 *e*LR LR 08 14 33.1
comp=Z,35nm,15.5s
SAML Samuel 141.32 111 PKPdf **PKPdf 07 28 25.7 -0.7**
PTOM Tomar 141.47 337 *e*PKPdf PKPdf 07 28 21.3 -4.7
PMTG Montargil 141.87 336 *e*PKPdf PKPdf 07 28 27.4 +0.7
PBAR Barrancos 142.13 334 *e*PKPdf PKPdf 07 28 27.2 0.0
EVO Evora 142.24 336 *e*PKPdf PKPdf 07 28 31.4 +4.0
PACT Alcochete 142.37 337 *e*PKPdf PKPdf 07 28 19.9 -7.7
PBEJ Beja 142.60 335 *e*PKPdf PKPdf 07 28 24.3 -3.8
PVAQ Vaqueiros 143.06 334 *e*PKPdf PKPbc 07 28 26.4 +0.5
PVAQ Vaqueiros 143.06 334 *e*LQ LQ 08 08 07.9
PVAQ *e*LR LR 08 15 07.9
comp=Z,31nm,17.5s
PTEO Sao Teotonio 143.37 336 *e*PKPdf PKPab 07 28 24.5 -1.0
TAM Tamanrasset 143.93 303 *e*PKIKP PKPdf 07 28 30.6 -0.4
TAM Tamanrasset 143.93 303 *e*PKPdf PKPdf 07 28 30.6 -0.4
CMLA Cha da Macela 147.09 358 *e*PKIKP PKPdf 07 28 34.7 -1.1
CMLA Cha da Macela 147.09 358 *e*PKPdf PKPdf 07 28 34.7 -1.1
PMPS Porto Santo 150.15 342 *e*PKPbc PKPbc 07 28 45.4 -0.6
TOA0 Torodi Ar. Sit 150.61 288 *e*PKPbc PKPbc 07 28 47.0 -0.6
TORD Torodi Ar. Bea 150.61 288 PKP **PKPdf 07 28 42.1 0.0**
TORD PKPbc **PKPbc 07 28 46.8 -0.8**
TORD Torodi Ar. Bea 150.61 288 PKP **PKPdf 07 28 42.1 0.0**
comp=Z,25nm,0.7s,baz=110,slow=0.4,SNR=29
TORD PKPbc **PKPbc 07 28 46.8 -0.8**
comp=Z,26nm,0.7s,baz=76,slow=1.8,SNR=109
PMAR Madeira 150.64 343 *e*PKPbc PKPbc 07 28 48.5 +1.1
PMAR Madeira 150.64 343 *e*T T 08 10 24.8
FUL Funchal 150.70 343 *e*PKPbc PKPbc 07 28 48.5 +1.2
FUL Funchal 150.70 343 *e*T T 08 10 23.9
BDFB Brasilia 150.87 134 PKP **PKPdf 07 28 44.0 +1.4**
BDFB PKPbc **PKPbc 07 28 47.8 -0.5**
BDFB Brasilia 150.87 134 PKP **PKPdf 07 28 44.0 +1.4**
comp=Z,12nm,0.4s,baz=169,slow=1.5,SNR=14
BDFB PKPbc **PKPbc 07 28 47.8 -0.5**
comp=Z,21nm,0.6s,baz=243,slow=2.1,SNR=36
KIC Kosan Boka 157.93 275 *e*P PKPab 07 29 27.4 +1.6
comp=Z,102nm,1.2s
DBIC Dimbokro 158.03 276 *e*PKPab PKPab 07 29 25.2 -1.0
DBIC Dimbokro 158.03 276 PKPbc PKPdf 07 29 06.9 +14
comp=Z,2.2nm,0.6s,baz=133,slow=8.3,SNR=3.2
DBIC PKPab **PKPab 07 29 26.5 +0.3**
comp=Z,6.2nm,0.7s,baz=95,slow=3.8,SNR=5.8
TIC Toumodi 158.19 276 *e*P PKPab 07 29 28.7 +1.7
comp=Z,72nm,1.0s
LIC Lamto 158.23 275 *e*PKIKP PKPdf 07 28 52.7 0.0
comp=Z,14nm,1.0s
LIC Lamto 158.23 275 *e*P PKPab 07 29 28.8 +1.7
comp=Z,41nm,0.7s

---

*BJI **09** 07:31:07.8, 3°.80N×32°.10W, h10km, mB5.7/3, Ms5.4/2, Ms7 5.0/2*
*IDC **09** 07:31:07.3±0.5, 3°.81N×32°.29W, h0km, mb4.1/23, mb1 4.2/24, mb1mx4.2/30, mbtmp4.1/24, ML4.4/1, MS4.1/13, Ms1 4.2/13, ms1mx4.0/27, Error ellipse: s-maj=18.7km s-min=11.9km az=143.0*
*ISCJB **09** 07:31:08.7±0.3, 3°.74N±0°.06×32°.20W±0°.05, h18km, mb4.4/59, MS4.2/13, Error ellipse: s-maj=9.1km s-min=6.6km az=164.7*
*NEIC **09** 07:31:09.0±0.3, 3°.75N×32°.19W, h10km, mb4.7/35, Error ellipse: s-maj=7.7km s-min=5.9km az=153.0*
*GCMT **09** 07:31:13.1±0.4, 3°.95N×32°.34W, h22km±1km, MW4.9, Moment Tensor Solution. s17,c19; s67,c86; Moment tensor: Scale 10^16^Nm; M_{rr}-0.33±.15; $M_{\theta\theta}$0.24±.12; $M_{\phi\phi}$0.10±.12; $M_{r\theta}$0.15±.20; $M_{\theta\phi}$-2.67±.14; $M_{\phi r}$0.23±.23; Best double couple: $M_0$2.70000×10^16^ NP1:ϕ_s179.00000°, δ86.00000°, λ-6.00000°. NP2:ϕ_s269.00000°, δ84.00000°, λ-176.00000°. Principal axes: T 2.8400, Plg1.0000°, Azm224.0000°; N -0.3000, Plg83.0000°, Azm323.0000°; P -2.5400, Plg7.0000°, Azm134.0000°; Data Used: IU IC G II CN.*

ISC 09 07:31:10.0±0.4, 3°.80N±0°.07×32°.24W±0°.08, h18km, n121, σ1°.38/114, mb4.5/59, MS4.1/13, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.24**	**201**	*e*Pn	**Pn**	**07 33 35.0**	**-1.3**
SACV	**Santiago Islan**	**13.98**	**37**	*e*Pn	**Pn**	**07 34 24.4**	**-3.0**
85nm,0.6s							
BBTS	**Babate**	**18.87**	**54**	P	**Pn**	**07 35 30.7**	**+0.6**
BBTS	**Babate**	**18.87**	**54**	P	**Pn**	**07 35 30.7**	**+0.6**
1.1nm,0.3s,baz=257,slow=1.9,SNR=2.4							
BBTS				LR	LR	07 40 58.0	
comp=Z,442nm,21.0s,baz=333,slow=31							
ASCN	**Ascension**	**21.31**	**123**	*e*P	**P**	**07 35 53.8**	**-2.3**
BDFB	**Brasilia**	**24.84**	**219**	P	**P**	**07 36 31.8**	**0.0**
BDFB	**Brasilia**	**24.84**	**219**	P	**P**	**07 36 31.8**	**0.0**
3.9nm,0.6s,baz=54,slow=13,SNR=6.9							
BDFB				LR	LR	07 45 12.6	
comp=Z,487nm,19.8s,baz=212,slow=34							
LIC	**Lamto**	**27.21**	**84**	*e*P	**P**	**07 36 54.0**	**+0.8**
31nm,0.9s							
TIC	**Toumodi**	**27.25**	**83**	*e*P	P	07 36 58.7	+5.2
221nm,2.2s							
DBIC	**Dimbokro**	**27.41**	**83**	P	**P**	**07 36 54.8**	**-0.1**
8.6nm,1.1s							
DBIC	**Dimbokro**	**27.41**	**83**	P	**P**	**07 36 54.8**	**-0.1**
8.5nm,0.8s,baz=229,slow=8.1,SNR=5.7							
DBIC				LR	LR	07 44 59.8	
comp=Z,260nm,19.6s,baz=247,slow=30							
KIC	**Kosan Boka**	**27.51**	**84**	*e*P	**P**	**07 36 57.7**	**+1.9**
155nm,1.8s							
SAML	**Samuel**	**33.35**	**248**	*e*P	**P**	**07 37 47.5**	**+0.1**
7.2nm,1.1s							
SIV	**San Ignacio**	**34.64**	**235**	P	**P**	**07 37 59.5**	**+0.8**
SIV	**San Ignacio**	**34.64**	**235**	P	**P**	**07 37 59.5**	**+0.8**
5.6nm,1.0s,baz=94,slow=10,SNR=11							
SIV				LR	LR	07 51 42.3	
comp=Z,818nm,18.3s,slow=36							
TOA0	**Torodi Ar. Sit**	**34.78**	**72**	*e*P	**P**	**07 38 00.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**34.78**	**72**	P	**P**	**07 38 00.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**34.78**	**72**	P	**P**	**07 38 00.1**	**+0.2**
6.8nm,0.8s,baz=261,slow=8.4,SNR=26							
TORD				LR	LR	07 49 48.1	
comp=Z,318nm,20.6s,baz=265,slow=32							
PVAQ	**Vaqueiros**	**40.29**	**31**	*e*LR	LR	07 49 54.3	
204nm,20.0s							
LPAZ	**La Paz**	**40.71**	**240**	*e*P	**P**	**07 38 50.8**	**0.0**
5.6nm,1.0s							
LPAZ	**La Paz**	**40.71**	**240**	P	**P**	**07 38 50.2**	**-0.5**
3.9nm,1.0s,baz=55,slow=7.6,SNR=7.5							
LPAZ				LR	LR	07 55 01.1	
comp=Z,248nm,19.1s,baz=315,slow=35							
ROSC	**El Rosal**	**41.98**	**273**	P	**P**	**07 39 01.5**	**+0.5**
ROSC	**El Rosal**	**41.98**	**273**	P	**P**	**07 39 01.5**	**+0.5**
5.3nm,0.9s,baz=105,slow=19,SNR=4.8							
PMRV	**Marv??o**	**42.02**	**29**	*e*LR	LR	07 50 35.3	
171nm,22.0s							
MTE	**Manteigas**	**42.70**	**28**	*e*LR	LR	07 50 41.9	
233nm,22.0s							
MVO	**Moncorvo**	**43.55**	**28**	*e*LR	LR	07 51 24.2	
220nm,18.0s							
PGAV	**Gavieira, Arco**	**43.62**	**26**	*e*LR	LR	07 51 17.2	
216nm,22.0s							
ESDC	**Sonseca Array**	**43.94**	**32**	P	**P**	**07 39 17.2**	**+1.

LRAL	Lakeview Retre	58.71	307	*e*P		P	07 41 07.1 +0.2
	9.5nm,1.0s						
GERES	GERESS Array B	59.48	33	P		P	07 41 12.3 +0.1
GERES	GERESS Array B	59.48	33	P		P	07 41 12.3 +0.1
	1.0nm,0.9s,baz=231,slow=6.4,SNR=7.2						
KHC	Kasperske Hory	59.57	33	*e*P		P	07 41 22.0 +9.3
KHC	Kasperske Hory	59.57	33	*e*P		P	07 41 12.0 -0.7
	2.9nm,0.9s						
PLAL	Pickwick Lake	60.15	308	*e*P		P	07 41 16.0 -0.8
	18nm,1.5s						
WVT	Waverly	60.32	310	*e*P		P	07 41 17.5 -0.5
	9.1nm,1.2s						
BORG	Borgarnes	61.33	5	P		P	07 41 25.3 +1.0
BORG	Borgarnes	61.33	5	P		P	07 41 25.3 +1.0
	4.2nm,0.7s,baz=135,slow=1.4,SNR=2.2						
DPC	Dobruska-Polom	61.73	33	*e*P		P	07 41 36.7 +9.3
	57nm,1.7s						
SIUC	Southern Illin	61.88	311	*e*P		P	07 41 30.5 +2.0
	6.3nm,0.8s						
PSZ	Piszkesteto	62.56	37	*e*P		P	07 41 35.0 +1.9
	6.6nm,0.9s						
UALR	University of	63.46	307	*e*P		P	07 41 39.4 +0.2
	21nm,1.3s						
OJC	Ojcow	63.59	34	*e*P		P	07 41 40.7 +0.9
BOSA	Boshof	63.90	124	P		P	07 41 43.2 +0.9
BOSA	Boshof	63.90	124	P		P	07 41 43.2 +0.9
	3.7nm,0.9s,baz=203,slow=2.5,SNR=7.6						
NB2	NORSAR Subarra	65.79	22	P		P	07 41 54.0 +0.1
	comp=Z,17nm,0.8s,baz=228,slow=6.5						
NOA	NORSAR Array B	65.79	22	P		P	07 41 54.1 +0.1
NOA	NORSAR Array B	65.79	22	P		P	07 41 54.1 +0.1
	comp=Z,0.8nm,0.7s,baz=226,slow=7.0,SNR=2.7						
KSU1	Kansas State U	67.84	311	*e*P		P	07 42 06.5 -0.9
	comp=Z,6.6nm,0.6s						
JCT	Junction City	68.77	301	*e*P		P	07 42 13.6 +0.1
	comp=Z,17nm,1.4s						
SUMG	Summit	68.80	358	*e*P		P	07 42 15.1 +1.9
	comp=Z,11nm,1.3s						
BRTR	Keskin Array B	69.12	49	P		P	07 42 15.9 +0.4
BRTR	Keskin Array B	69.12	49	P		P	07 42 15.9 +0.4
	comp=Z,2.3nm,0.8s,baz=235,slow=4.4,SNR=8.0						
BRTR				LR		LR	08 12 10.3
	comp=Z,47nm,21.9s,baz=180,slow=36						
TXAR	Lajitas Array	71.96	299	P		P	07 42 33.0 0.0
TXAR	Lajitas Array	71.96	299	P		P	07 42 33.0 0.0
	comp=Z,0.4nm,0.6s,baz=108,slow=8.0,SNR=5.4						
FINES	FINESS Array B	71.97	25	P		P	07 42 32.5 +0.2
FINES	FINESS Array B	71.97	25	P		P	07 42 32.5 +0.2
	comp=Z,1.1nm,0.7s,baz=278,slow=5.6,SNR=6.1						
MNTX	Cornudas Mount	73.67	302	*e*P		P	07 42 42.6 -0.5
	comp=Z,3.1nm,1.3s						
SDCO	Great Sand Dun	74.45	308	*e*P		P	07 42 48.8 +0.9
	comp=Z,4.3nm,1.1s						
ISCO	Idaho Springs	74.81	310	*e*P		P	07 42 52.0 +2.0
	comp=Z,14nm,1.4s						
ANMO	Albuquerque	74.90	305	*e*P		P	07 42 51.0 +0.6
	comp=Z,54nm,2.8s						
LPM	Los Pinos Moun	74.98	304	*e*P		P	07 42 52.2 +1.3
	comp=Z,2.5nm,0.7s						
DGMT	Dagmar	75.23	319	*e*P		P	07 42 52.4 +0.5
	comp=Z,13nm,0.8s						
LAZ	Ladron	75.40	304	*e*P		P	07 42 54.2 +0.8
	comp=Z,3.9nm,1.3s						
ARCES	ARCESS Array B	75.58	18	P		P	07 42 52.2 -1.2
ARCES	ARCESS Array B	75.58	18	P		P	07 42 52.2 -1.2
	comp=Z,1.2nm,0.7s,baz=250,slow=3.6,SNR=6.1						
SMCO	Snowmass	75.78	309	*e*P		P	07 42 56.6 +1.0
	comp=Z,5.6nm,1.1s						
VNA2	Neumayer--Watz	76.38	172	*e*P		P	07 42 59.7 +1.8
VNA2	Neumayer--Watz	76.38	172	*e*		P	07 43 02.5 +4.6
SNAA	Sanae	77.73	171	*e*P		P	07 43 06.7 +1.2
SNAA	Sanae	77.73	171	*e*		P	07 43 09.7 +4.2
SNAA	Sanae	77.73	171	*e*P		P	07 43 06.8 +1.3
BW06	Boulder Array	78.12	313	*e*P		P	07 43 08.9 +0.4
	comp=Z,3.0nm,1.2s						
PDAR	Pinedale Array	78.12	313	P		P	07 43 07.9 -0.6
PDAR	Pinedale Array	78.12	313	P		P	07 43 07.9 -0.6
	comp=Z,0.5nm,0.6s,baz=100,slow=7.8,SNR=5.6						
TUC	Tucson	78.30	302	*e*P		P	07 43 10.2 +0.6
	comp=Z,12nm,0.8s						
SRU	San Rafael	78.52	309	*e*P		P	07 43 12.0 +1.2
	comp=Z,2.2nm,0.8s						
WUAZ	Wupatki	78.95	305	*e*P		P	07 43 14.4 +1.1
	comp=Z,6.0nm,0.9s						
LOHW	Long Hollow	78.96	314	*e*P		P	07 43 13.3 +0.1
FLWY	Flagg Ranch	79.07	314	*e*P		P	07 43 16.0 +2.3
MOOW	Moose Ponds	79.08	314	*e*P		P	07 43 14.3 +0.5
REDW	Red Top Meadow	79.12	313	*e*P		P	07 43 15.0 +1.0
DAU	Daniels Canyon	79.18	310	*e*P		P	07 43 16.6 +2.1
IMW	Indian Meadow	79.23	314	*e*P		P	07 43 16.5 +1.8
	comp=Z,4.4nm,1.0s						
JLU	Jordanelle	79.34	310	*e*P		P	07 43 15.9 +0.6
	comp=Z,3.8nm,1.0s						
RRI2	Red Ridge	79.46	313	*e*P		P	07 43 16.9 +0.9
	comp=Z,3.7nm,1.0s						
HWUT	Hardware Ranch	79.50	311	*e*P		P	07 43 16.4 +0.3
	comp=Z,9.5nm,0.8s						
CTU	Camp Tracy	79.58	311	*e*P		P	07 43 18.0 +1.5
	comp=Z,3.8nm,0.7s						
MSU	Marysvale	79.77	308	*e*P		P	07 43 18.7 +1.0
MVU	Marysvale	79.79	308	*e*P		P	07 43 19.1 +1.3
	comp=Z,5.0nm,1.0s						
DUG	Dugway	80.35	310	*e*P		P	07 43 24.0 +3.3
CCUT	Cedar City	80.65	307	*e*P		P	07 43 23.4 +0.9
YKA	Yellowknife Ar	83.11	332	P		P	07 43 33.9 -0.6
YKA	Yellowknife Ar	83.11	332	P		P	07 43 33.9 -0.6
	comp=Z,1.3nm,0.8s,baz=91,slow=5.3,SNR=7.6						
BMO	Blue Mountains	83.84	315	*e*P		P	07 43 40.1 +1.3
	comp=Z,4.4nm,1.1s						
NVAR	Mina Array Bea	84.57	308	P		P	07 43 42.6 -0.3
NVAR	Mina Array Bea	84.57	308	P		P	07 43 42.6 -0.3
	comp=Z,0.3nm,0.6s,baz=121,slow=3.5,SNR=3.8						
NVAR				LR		LR	08 16 19.0
	comp=Z,254nm,20.1s,baz=292,slow=32						
YBH	Yreka Blue Hor	87.85	311	LR		LR	08 17 11.4
	comp=Z,193nm,19.8s,baz=346,slow=32						
ILAR	Eielson Array	96.82	337	P		P	07 44 39.8 +0.1
ILAR	Eielson Array	96.82	337	P		P	07 44 39.8 +0.1
	comp=Z,0.5nm,0.8s,baz=55,slow=3.6,SNR=8.7						
ILAR				LR		LR	08 25 19.7
	comp=Z,111nm,19.7s,baz=41,slow=34						
GTA	Gaotai	118.43	41	PKP		PKPdf	07 49 50.6 -6.6
GTA				sPKP			07 50 04.9
LZH	Lanzhou	122.93	42	*e*PKP		PKPdf	07 50 02.0 -4.0
LZH				sPKP			07 50 07.5
HHC	Hu-ho-hao-te	124.61	33	*e*PKP		PKPdf	07 50 04.1 -4.9
HHC				PP		PP	07 51 54.2 -0.8
HHC				PKS		PKSdf	07 53 39.2 -6.5
HHC				SKS		SKSdf	07 57 14.4 -6.0
HHC				SKKS		SKKSac	07 58 46.5 -7.3
HHC				SS		SS	08 08 43.9 -3.7
HHC				AMB		AMB	
	comp=Z,220nm,9.5s						
HHC				LR		LR	
	comp=N,230nm,20.9s						
HHC				LR		LR	
	comp=E,230nm,20.9s						
HHC				LR		LR	
	comp=Z,190nm,20.8s						
CD2	Chengdu	125.68	47	*e*PKP		PKPdf	07 50 10.4 -0.9
KMI	Kunming	127.70	54	PKP		PKPdf	07 50 15.2 -0.3
CN2	Changchun	128.53	21	*e*PKP		PKPdf	07 50 18.0 +1.7
GYA	Guiyang	130.16	50	*e*Pdif		Pdif	07 47 07.6 -1.5
GYA				PKP		PKPdf	07 50 18.9 -1.1
GYA				PP		PP	07 52 35.0 +2.6
GYA				AMB		AMB	
	comp=Z,80nm,7.8s						
STKA	Stephens Creek	151.48	169	PKPbc		PKPbc	07 51 02.2 -1.5
STKA				PKPab		PKPab	07 51 11.8 0.0
STKA	Stephens Creek	151.48	169	PKPbc		PKPbc	07 51 02.2 -1.5
	comp=Z,1.3nm,0.3s,baz=225,slow=1.4,SNR=2.2						
STKA				PKPab		PKPab	07 51 11.8 0.0
	comp=Z,1.1nm,0.3s,baz=129,slow=6.5,SNR=4.0						

*IDC **09** 07:41:04.4±2.9, 0.°01S×133.°47E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=150.5km s-min=26.0km az=75.0*
*AUST **09** 07:41:10.8, 0.°49S×132.°50E, h25km*
*DJA **09** 07:41:12.5±0.9, 0.°S±7.°×13.°2E±.°, h10km, M3.9/3, MLv3.9/3*
*ISCJB **09** 07:41:13.4±1.3, 0.°76S±0.°09×132.°09E±0.°10, h31km, mb3.5/2, Error ellipse: s-maj=14.3km s-min=12.3km az=152.6*
ISC 09 07:41:12.7±1.2, **0.°57S**±0.°08×**132.°18E**±0.°05, **h31**km, **n13, σ2°38**/19, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	0.97	252	P	Pn	07 41 29.8	-0.4
SWI				S	Sb	07 41 48.6	+5.2
SWI	Sorong	0.97	252	P	Pb	07 41 30.1	-0.9
	baz=1.3,SNR=7.1						
RKPI	Ransiki, Papua	2.21	115	P	Pn	07 41 49.5	+2.2
RKPI				S	Sb	07 42 20.7	+1.7
FAKI	Fak Fak	2.34	178	P	Pb	07 41 52.6	-1.7
FAKI				S	Sb	07 42 23.9	+1.1
FAKI	Fak Fak	2.34	178	P	Pn	07 41 51.6	+2.5
	baz=2.4,SNR=15						
KDU	Kakadu	12.05	179	P	Pn	07 44 02.2	-0.2
	baz=12,SNR=8.4						
KDU				S	Sn	07 46 14.0	-1.7
	baz=12,SNR=3.5						
MTN	Manton Dam	12.24	185	P	Pn	07 44 05.4	+0.3
	baz=12,SNR=17						
MTN				S	Sn	07 46 22.3	+1.8
	baz=12,SNR=8.6						
WSI	Waingapu	14.88	232	P	P	07 44 50.0	+3.5
	baz=15,SNR=4.2						
KNRA	Kununurra	15.39	192	P	Pn	07 44 47.2	-0.6
	baz=16,SNR=5.8						
FITZ	Fitzroy Crossi	18.57	200	P	P	07 45 26.7	-0.7
	baz=19,SNR=3.7						
WRA	Warramunga Arr	19.37	174	P	Pn	07 45 37.2	-0.2
	0.2nm,0.3s,baz=357,slow=11,SNR=15						
WRA				S	S	07 49 08.0	-5.7
	0.1nm,0.3s,baz=349,slow=21,SNR=5.7						
ASAR	Alice Springs	23.02	176	P	P	07 46 16.1	+0.7
	1.1nm,0.7s,baz=0.7,slow=10,SNR=12						
ASAR				S	S	07 50 25.5	+1.3
	0.1nm,0.6s,baz=358,slow=27,SNR=2.7						
MKAR	Makanchi Array	64.18	324	P	P	07 51 43.0	-1.6
	0.4nm,0.5s,baz=116,slow=7.5,SNR=2.8						

*JMA **09** 07:42:20.9±0.8, 46.°57N×153.°31E, h30km, M4.2*
*IDC **09** 07:42:20.4±0.7, 46.°51N×153.°18E, h0km, mb3.7/16, mb1 4.0/21, mb1mx3.9/30, mbtmp3.8/21, ML3.4/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/43, Error ellipse: s-maj=19.5km s-min=12.9km az=152.0*
*ISCJB **09** 07:42:23.6±0.6, 46.°23N±0.°08×153.°08E±0.°10, h40km, mb3.9/18, MS3.2/1, Error ellipse: s-maj=14.7km s-min=4.4km az=141.9*
*MOS **09** 07:42:23.3±1.1, 46.°43N×153.°22E, h34km, mb4.3/11, Error ellipse: s-maj=13.8km s-min=8.8km az=56.1*
ISC 09 07:42:24.8±0.8, **46.°1N**±0.°1×**153.°20E**±0.°09, **h40**km, **n52, σ1°76**/50, **mb3.8**/18, **2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.84	259	*d* iPN	Pn	07 43 23.9	+2.5
KUR				*i* S	Sn	07 44 09.0	+3.8
KUR				pmax	pmax		
	comp=Z,149nm,0.5s						
KUR				pmax	pmax		
	comp=E,14nm,0.3s						
KUR				pmax	pmax		
	comp=N,48nm,0.3s						
KUR				smax	smax		
	comp=N,65nm,0.5s						
KUR				smax	smax		
	comp=E,36nm,0.5s						
SKR	Severo-Kuril's	4.97	22	*e*PN	Pn	07 43 29.9	-6.9
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
YUK	Yuzh-Kuril'sk	5.60	251	*c* iPN	Pn	07 43 47.8	+2.3
YUK				pmax	pmax		
	comp=N,18nm,0.2s						
YUK				pmax	pmax		
	comp=E,26nm,0.2s						
YUK				pmax	pmax		
	comp=Z,58nm,0.3s						
NEM2	Nemuro 2	5.98	245	P	Pn	07 43 50.4	-0.3
NEM2				*e*S	Sn	07 44 55.8	-2.1
JRA	Rausu	6.13	252	P	Pn	07 43 54.8	+2.1
JAK	Akkeshi	6.83	246	P	Pn	07 44 01.8	-0.6
JAK				*e*S	Sn	07 45 17.8	-1.0
JTKR	Abashiri--Toko	6.92	255	P	Pn	07 44 05.0	+1.3
YSS	Yuzh-Sakhalins	7.26	280	*e*PN	Pn	07 44 12.0	+3.8
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
JMP	Maruseppu	7.28	257	P	Pn	07 44 11.2	+2.6
JAR	Ashorobuto	7.29	251	P	Pn	07 44 09.8	+1.1
JAR				*e*S	Sn	07 45 30.3	+0.2
JOB	Onbets	7.43	248	*e*S	Sn	07 45 31.5	-1.9
PETK	Petropavlovsk-	7.58	21	*e*PN	Pn	07 44 11.8	-0.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	7.58	21	Pn	Pn	07 44 08.7	-4.1
	comp=Z,0.7nm,0.3s,baz=182,slow=14,SNR=13						
PETK				Sn	Sn	07 45 39.9	+2.6
	baz=242,slow=22,SNR=2.0						
JKK2	Kamakawa 2	7.74	257	P	Pn	07 44 17.2	+2.3
ASAJ	Asahikawa	7.76	259	P	Pn	07 44 17.9	+2.7
ASAJ	Asahikawa	7.76	259	Pn	Pn	07 44 17.6	+2.4
	comp=Z,1.3nm,0.3s,baz=86,slow=15,SNR=13						
ASAJ				LR	LR	07 46 40.0	
	comp=Z,300nm,20.1s,baz=180,slow=33						
JCH	Churui	7.87	247	P	Pn	07 44 16.3	-0.4
JCH				*e*S	Sn	07 45 41.0	-3.4
ERM	Erimo	8.31	244	*i* iPN	Pn	07 44 26.1	+3.4
ERM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JNBK	Urakawa-nobuka	8.43	247	*e*S	Sn	07 45 56.1	-2.0
JKB	Kayabe	9.73	249	P	Pn	07 44 40.5	-1.6
JKB				*e*S	Sn	07 46 25.8	-4.3
JANG	Nango	10.27	240	*e*S	Sn	07 46 35.6	-7.8
JOSM	Okushiri--Mats	10.66	253	P	Pn	07 44 54.9	0.0
FX1	Attu Island--F	14.60	55	Pn	Pn	07 45 42.6	-6.0
	comp=Z,0.7nm,0.3s,baz=229,slow=4.5,SNR=5.3						
FX1				Sn	Sn	07 48 10.1	-19
	comp=Z,0.2nm,0.3s,baz=283,slow=18,SNR=3.3						
MJA0	Matsu Arr-Jizo	14.73	235	*e*P	Pn	07 45 53.1	+2.7
MJAR	Matsushiro Arr	14.75	235	Pn	Pn	07 45 51.4	+0.7
	comp=Z,0.2nm,0.3s,baz=34,slow=12,SNR=4.8						
USRK	Ussuriysk Arra	15.08	270	Pn	Pn	07 45 55.4	+0.5
	comp=Z,0.3nm,0.3s,baz=82,slow=12,SNR=4.8						
KSRS	Korea Array	20.68	254	P	Pn	07 47 03.9	+0.2
	comp=Z,1.8nm,0.6s,baz=55,slow=11,SNR=8.5						
SONM	Songino Array	31.61	290	P	P	07 48 44.1	+0.3
	comp=Z,0.4nm,0.4s,baz=66,slow=8.1,SNR=2.7						
ILAR	Eielson Array	37.01	38	P	P	07 49 29.1	-1.0
	comp=Z,0.3nm,0.6s,baz=257,slow=7.6,SNR=8.1						
INK	Inuvik	42.16	32	P	P	07 50 11.7	-1.1
	comp=Z,1.1nm,0.6s,baz=294,slow=8.2,SNR=7.6						
ZALV	Zalesovo Beam	43.04	306	P	P	07 50 18.2	-2.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	43.04	306	P	P	07 50 18.2	-2.0
	comp=Z,0.5nm,0.3s,baz=69,slow=7.9,SNR=3.5						
MKAR	Makanchi Array	47.29	298	*e*P	P	07 50 53.3	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	47.29	298	P	P	07 50 53.1	-1.0
	comp=Z,1.2nm,0.6s,baz=68,slow=7.8,SNR=16						
YKA	Yellowknife Ar	51.40	36	P	P	07 51 24.6	-0.5
	comp=Z,0.8nm,0.8s,baz=295,slow=8.0,SNR=3.2						
ARCES	ARCESS Array B	58.47	341	P	P	07 52 15.0	-1.2
	comp=Z,1.0nm,0.7s,baz=25,slow=7.2,SNR=10						
NVAR	Mina Array Bea	62.67	62	P	P	07 52 46.7	+1.1
	comp=Z,0.5nm,0.8s,baz=291,slow=6.2,SNR=4.1						
FINES	FINESS Array B	64.64	335	P	P	07 52 56.9	-0.9
	comp=Z,1.7nm,0.4s,baz=38,slow=6.7,SNR=35						
PDAR	Pinedale Array	65.07	54	P	P	07 53 01.5	+0.2
	comp=Z,0.2nm,0.6s,baz=48,slow=1.3,SNR=3.0						
WRA	Warramunga Arr	67.93	199	P	P	07 53 24.2	+4.9
	comp=Z,0.5nm,1.0s,baz=17,slow=7.1,SNR=3.1						
NB2	NORSAR Subarra	68.85	341	P	P	07 53 23.5	-1.2
	comp=Z,1.2nm,0.5s,baz=26,slow=6.5						
NOA	NORSAR Array B	68.85	341	P	P	07 53 24.0	-0.7
	comp=Z,0.9nm,0.4s,baz=28,slow=6.4,SNR=14						
ASAR	Alice Springs	71.62	199	P	P	07 53 44.6	+2.6
	comp=Z,0.3nm,0.7s,baz=7.0,slow=5.4,SNR=2.8						
AKASG	Malin Array Be	72.11	326	P	P	07 53 44.0	-0.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	Malin Array Be	72.11	326	P	P	07 53 44.0	-0.7
	comp=Z,13nm,0.3s,baz=33,slow=7.3,SNR=4.0						
CLL	Collm	77.07	336	*i* P	P	07 54 13.7	+0.3
CLL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	Collm	77.07	336	*i* P	P	07 54 13.7	+0.3
	comp=Z,3.0nm,0.6s						
BRG	Berggiesshubel	77.18	335	*e*P	P	07 54 14.5	+0.4
	comp=Z,2.4nm,0.2s						
BRG	Berggiesshubel	77.18	335	*e*P	P	07 54 14.5	+0.4
BRG				pmax	pmax		
	comp=Z,2.0nm,0.2s						
LPIG	La Paz	77.30	69	LR	LR	08 20 11.7	
	comp=Z,14nm,21.7s,baz=33,slow=29						
TXAR	Lajitas Array	77.75	60	P	P	07 54 18.1	+0.3
	comp=Z,0.6nm,0.5s,baz=302,slow=4.3,SNR=13						
GERES	GERESS Array B	79.06	334	P	P	07 54 24.3	-0.3
	comp=Z,0.5nm,0.5s,baz=42,slow=6.2,SNR=6.4						

MEX 09 08:05:43.5±0.8, **18.°86N**×**102.°71W**, **h76**km±15km, **MD3.7, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.83	227	*e*P	Pn	08 05 58.8	-1.5
MMIG				*i* S	Sn	08 06 11.1	-1.7
EZ5V		1.04	306	*i* P	Pn	08 06 01.2	-2.1
EZ5V				*i* S	Sn	08 06 15.8	-2.2
R15V		1.24	285	*e*P	Pn	08 06 04.6	-0.9
R15V				*i* S	Sn	08 06 20.9	-1.1
SFJM	Santa Fe	1.65	349	*i* P	Pn	08 06 08.7	-2.2
SFJM				*i* S	Sn	08 06 29.4	-2.2
MOIG	Morelia	1.65	60	*i* P	Pn	08 06 10.1	-0.9
MOIG				*i* S	Sn	08 06 30.5	-1.3
ZIIG	Zihuatanejo	1.72	136	*e*P	Pn	08 06 09.3	-2.3
ZIIG				*i* S	Sn	08 06 30.4	-2.5
IGIG	Irapuato, Guan	2.29	34	*i* P	Pn	08 06 17.8	-1.6
IGIG				*i* S	Sn	08 06 45.7	-1.3
ARIG	Puente Sto Nin	2.31	104	*e*P	Pn	08 06 18.1	-1.5
ARIG				*i* S	Sn	08 06 45.1	-2.1

*ISCJB **09** 08:29:51.6±0.5, 6.°22S±0.°04×146.°66E±0.°06, h110km, mb3.9/15, Error ellipse: s-maj=9.1km s-min=6.1km az=12.4*
*AUST **09** 08:29:53.8, 6.°26S×146.°61E, h100km*
*IDC **09** 08:29:53.1±0.7, 6.°26S×146.°78E, h108km±6km, mb3.7/15, mb1 3.9/17, mb1mx3.8/22, mbtmp3.8/17, Error ellipse: s-maj=16.9km s-min=7.6km az=89.0*
ISC 09 08:29:53.5±0.6, **6.°31S**±0.°06×**146.°69E**±0.°08, **h110**km, **n32, σ1°93**/40, **mb4.1**/15, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.11	171	P	Pn	08 30 40.5	-0.5
	48nm,0.3s,baz=42,slow=5.5,SNR=110						
PMG				S	Sn	08 31 17.0	-0.6
	64nm,0.3s,baz=305,slow=19,SNR=9.9						
COEN	Coen	8.35	204	P	Pn	08 31 52.4	+0.6
	baz=8.4,SNR=167						
COEN				S	Sn	08 33 21.8	-2.5
	baz=8.4,SNR=4.7						
MTSU	Mount Surprise	11.98	191	P	Pn	08 32 41.9	+1.2
	baz=12,SNR=34						
CTA	Charters Tower	13.70	182	P	P	08 33 06.7	-1.4
	3.0nm,0.3s,baz=356,slow=14,SNR=14						
FAKI	Fak Fak	14.78	283	P	P	08 33 21.9	+1.8
	baz=15,SNR=4.7						
KDU	Kakadu	15.38	245	P	Pn	08 33 24.6	0.0
	baz=15,SNR=7.9						
KDU				S	Sn	08 36 10.8	-4.0
	baz=15,SNR=3.3						
SWI	Sorong	16.31	289	P	P	08 33 39.5	+2.4
	baz=16,SNR=3.2						
MTN	Manton Dam	16.65	246	P	P	08 33 45.1	+4.3
	baz=17,SNR=13						
WRA	Warramunga Arr	18.10	220	P	P	08 33 57.0	+0.2
	1.4nm,0.3s,baz=42,slow=12,SNR=76						
WRA				S	S	08 37 12.5	-6.3
	0.2nm,0.3s,baz=43,slow=22,SNR=3.6						
KNRA	Kununurra	19.89	241	P	P	08 34 16.0	-0.3
	baz=20,SNR=11						
KNRA				S	S	08 37 55.5	+1.2
	baz=20,SNR=3.8						
RMQ	Roma	20.16	175	P	Pn	08 34 24.1	+2.1
	baz=20,SNR=7.8						
ASAR	Alice Springs	21.19	214	P	P	08 34 31.2	+0.9
	3.4nm,0.3s,baz=53,slow=9.0,SNR=125						
ASAR				S	S	08 38 23.0	+3.1
	1.2nm,0.7s,baz=34,slow=17,SNR=4.9						
FITZ	Fitzroy Crossi	23.64	238	P	P	08 34 55.4	+0.5
	3.0nm,0.4s,baz=63,slow=8.2,SNR=31						
FITZ				S	Sn	08 39 20.7	-12
	5.7nm,1.1s,baz=142,slow=12,SNR=4.2						
FITZ	Fitzroy Crossi	23.64	238	P	P	08 34 55.4	+0.5
	baz=24,SNR=19						
FITZ				S	Sn	08 39 23.2	-10
	baz=24,SNR=5.1						
DZM	Mont Dzumac	24.69	131	P	P	08 35 04.8	+0.3
	6.7nm,1.0s,baz=311,slow=20,SNR=2.6						
STKA	Stephens Creek	25.88	190	P	P	08 35 15.5	+0.5
	2.7nm,0.6s,baz=15,slow=8.7,SNR=11						
STKA	Stephens Creek	25.88	190	P	P	08 35 15.8	+0.8
	baz=26,SNR=6.6						
MEEK	Meekatharra	33.52	230	P	P	08 36 23.9	+1.1
	baz=34,SNR=5.5						
MORW	Morawa	36.73	228	P	P	08 36 51.4	+1.1
	baz=37,SNR=4.1						
PMBI	Palembang	41.90	273	P	P	08 37 31.9	-1.6

	baz=249						
TWC	**Suao**	**0.98**	**217**	*e*P	**Pn**	**08 35 54.1**	**+0.4**
	baz=222						
TWC				*e*S	**S**	**08 36 20.4**	**-0.3**
	baz=222						
TWE	**Neicheng**	**1.01**	**228**	*e*P	**Pn**	**08 35 54.7**	**+0.8**
	baz=233						
TWE				*e*S	**S**	**08 36 21.2**	**+0.3**
	baz=233						
TWS1	**Kuangyinshan**	**1.02**	**253**	P	**Pn**	**08 35 54.7**	**+0.8**
	baz=258						
TWS1				*e*S	**S**	**08 36 20.7**	**-0.1**
	baz=258						
YOJ	**Yonaguni jima**	**1.05**	**153**	P	**Pn**	**08 35 54.7**	**+0.5**
ENTT	**Nioudou**	**1.13**	**228**	*e*P	**Pn**	**08 35 55.6**	**+0.9**
	baz=233						
ENTT				*e*S	**S**	**08 36 21.5**	**-0.8**
	baz=233						
ENA	**Nanau**	**1.19**	**215**	*e*P	**Pn**	**08 35 55.9**	**+0.9**
	baz=220						
ENA				*e*S	**S**	**08 36 22.2**	**-0.7**
	baz=220						
NSK	**Sanguang**	**1.26**	**235**	*e*P	**Pn**	**08 35 55.9**	**+0.4**
	baz=239						
NSK				*e*S	**S**	**08 36 22.7**	**-1.1**
	baz=239						
NNS	**Nan Shan**	**1.40**	**227**	P	**Pn**	**08 35 57.5**	**+0.9**
	baz=230						
NNS				*e*S	**S**	**08 36 24.9**	**-0.8**
	baz=230						
TWD	**Chiawan**	**1.55**	**212**	P	**Pn**	**08 35 58.0**	**+0.3**
	baz=215						
TWD				S	**S**	**08 36 26.0**	**-1.5**
	baz=215						
IRIF	**Iriomote-Funau**	**1.55**	**133**	P	**Pn**	**08 35 58.4**	**+0.8**
IRIF				*e*S	**S**	**08 36 25.7**	**-1.8**
NSTT	**Nanjuang**	**1.56**	**241**	*e*P	**Pn**	**08 35 59.2**	**+1.6**
	baz=244						
NSTT				*e*S	**S**	**08 36 27.1**	**-0.4**
	baz=244						
HWA	**Hwalien**	**1.63**	**210**	*e*P	**Pn**	**08 35 58.3**	**0.0**
	baz=213						
HWA				*e*S	**S**	**08 36 27.2**	**-1.6**
	baz=213						
WHF	**Hehuan Shan**	**1.68**	**222**	P	**Pn**	**08 36 00.3**	**+1.2**
	baz=225						
WHF				*e*S	**S**	**08 36 29.5**	**-0.7**
	baz=225						
JKRS	**Kuro-shima**	**1.80**	**130**	P	**Pn**	**08 36 01.1**	**+1.4**
JKRS				*e*S	**S**	**08 36 30.3**	**-0.9**
JIJ	**Ishigaki jima**	**1.82**	**124**	P	**Pn**	**08 36 00.6**	**+0.7**
JIJ				*e*S	**S**	**08 36 29.6**	**-1.9**
ESL	**Shilin**	**1.85**	**212**	*e*P	**Pn**	**08 35 59.9**	**-0.2**
	baz=214						
ESL				*e*S	**S**	**08 36 31.2**	**-0.9**
	baz=214						
SMLT	**Sun Moon Lake**	**2.09**	**224**	*e*P	**Pn**	**08 36 03.3**	**+0.8**
	baz=226						
TYC	**Yuchr**	**2.11**	**225**	*e*P	**Pn**	**08 36 02.9**	**+0.5**
	baz=227						
TYC				*e*S	**S**	**08 36 35.3**	**-0.9**
	baz=227						
JTJ	**Tarama**	**2.15**	**110**	P	**Pn**	**08 36 04.5**	**+1.7**
JTJ				*e*S	**S**	**08 36 35.7**	**-1.1**
EHY	**Hungye**	**2.17**	**210**	*e*P	**Pn**	**08 36 01.4**	**-1.7**
	baz=212						
EHY				*e*S	**S**	**08 36 38.0**	**+0.7**
	baz=212						
TWF1	**Yuli**	**2.31**	**208**	*e*P	**Pn**	**08 36 05.1**	**+0.6**
	baz=210						
TWF1				*e*S	**S**	**08 36 38.4**	**-1.5**
	baz=210						
JMJ	**Miyako jima 2**	**2.61**	**102**	P	**Pn**	**08 36 09.1**	**+1.7**
JMJ				*e*S	**S**	**08 36 44.4**	**-0.7**
JOGS	**Gusukube**	**2.72**	**103**	*e*S	**S**	**08 36 47.2**	**0.0**
JKE	**Kume jima 2**	**3.98**	**76**	P	**Pn**	**08 36 23.8**	**+1.1**
JAGN	**Aguni-jima**	**4.44**	**74**	P	**Pn**	**08 36 28.2**	**0.0**
JJT2	**Tamagusuku 2**	**4.80**	**80**	P	**Pn**	**08 36 33.0**	**+0.4**
JIH	**Iheya**	**5.18**	**71**	P	**Pn**	**08 36 37.3**	**0.0**
JOW	**Kunigami**	**5.39**	**73**	P	**Pn**	**08 36 39.0**	**-0.9**
ZALV	**Zalesovo Beam**	**39.89**	**326**	P	**P**	**08 42 28.3**	**-1.4**
	0.6nm,0.3s,baz=117,slow=8.3,SNR=2.7						
WRA	**Warramunga Arr**	**46.52**	**165**	P	**P**	**08 43 23.8**	**+0.8**
	0.3nm,0.5s,baz=347,slow=8.8,SNR=9.1						
ASAR	**Alice Springs**	**50.02**	**166**	P	**P**	**08 43 51.2**	**+1.6**
	0.4nm,0.8s,baz=353,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**71.00**	**330**	P	**P**	**08 46 10.7**	**+0.1**
	0.7nm,0.9s,baz=57,slow=7.0,SNR=4.8						

KRSC 09 08:57:44.7±0.5, 49°.69N×156°.94E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.13**	**332**	P	Pn	08 58 07.4	+0.3
SKR				*i* S	Sn	08 58 23.0	+0.1
PAU	**Pauzhetka**	**1.78**	**357**	P	Pn	08 58 16.8	+0.7
PAU				*i* S	Sb	08 58 40.8	+0.4
ASAK	**Asacha**	**2.76**	**12**	P	Pn	08 58 31.4	+1.6
MTVR	**Mutnovka**	**2.91**	**15**	P	Pn	08 58 33.5	+1.7
MTVR				*i* S	Sn	08 59 09.4	+2.2
RUS	**Russkaya**	**2.92**	**19**	P	Pn	08 58 33.0	+1.2
RUS				*i* S	Sn	08 59 08.8	+1.6
SPN	**Mys Shipunski**	**3.92**	**28**	P	Pn	08 58 47.9	+2.4
SPN				*i* S	Sn	08 59 33.5	+1.6
GNL	**Ganaly**	**4.06**	**8**	P	Pn	08 58 47.5	-0.1

IDC 09 09:12:51.0±9.5, 16°.20S×174°.76W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/19, mbtmp3.6/2, Error ellipse: s-maj=415.1km s-min=66.9km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.39**	**258**	P	P	09 21 34.7	-0.6
	0.5nm,1.1s,baz=93,slow=6.8,SNR=5.1						
ASAR	**Alice Springs**	**48.62**	**253**	P	P	09 21 37.1	+0.1
	0.6nm,0.5s,baz=88,slow=8.0,SNR=12						
BRTR	**Keskin Array B**	**145.93**	**319**	PKPbc	PKPdf	09 32 32.3	-0.1
	1.1nm,1.0s,baz=22,slow=4.7,SNR=3.6						

IDC 09 09:29:06.4±8.4, 8°.41N×93°.76E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/26, mbtmp3.2/3, MS3.9/1, Ms1 3.9/1, ms1mx3.2/9, Error ellipse: s-maj=445.9km s-min=27.4km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.48**	**348**	P	P	09 36 38.5	-0.2
	0.2nm,0.7s,baz=153,slow=7.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**45.98**	**353**	LR	LR	09 57 54.7	
	comp=Z,128nm,20.1s,baz=69,slow=38						
WRA	**Warramunga Arr**	**48.88**	**126**	P	P	09 37 54.3	-0.1
	0.4nm,0.9s,baz=305,slow=9.0,SNR=3.6						
ASAR	**Alice Springs**	**50.55**	**130**	P	P	09 38 06.9	-0.2
	0.3nm,0.9s,baz=305,slow=8.1,SNR=3.2						

*IDC **09** 09:48:17.0±0.8, 17°.68S×167°.86E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/21, mbtmp4.1/12, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=25.7km s-min=19.7km az=108.0*
*ISCJB **09** 09:48:20.1±0.7, 17°.74S±0°.04×167°.7E±0°.1, h27km, mb4.0/14, Error ellipse: s-maj=18.6km s-min=5.2km az=3.7*
*NOU **09** 09:48:20.7±1.4, 17°.90S×168°.95E, h30km, MD2.9, ML2.8*
*NEIC **09** 09:48:22.8±0.6, 17°.66S×167°.73E, h35km, mb4.3/5, Error ellipse: s-maj=19.0km s-min=13.7km az=93.0*

ISC 09 09:48:21.5±0.6, 17°.70S±0°.06×167°.8E±0°.1, h27km, n49, σ1°29/54, mb4.1/13, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.51**	**191**	*e*S	**Sn**	**09 50 18.1**	**-1.6**
DZM	**Mont Dzumac**	**4.53**	**196**	*e*Pn	**Pn**	**09 49 27.7**	**-0.7**
DZM				*e*Sn	**Sn**	**09 50 18.8**	**-1.5**
DZM	**Mont Dzumac**	**4.53**	**196**	Pn	**Pn**	**09 49 27.4**	**-1.0**
	5.4nm,0.3s,baz=90,slow=23,SNR=83						
DZM				LR	LR	09 50 17.1	
	comp=Z,702nm,19.3s,baz=179,slow=26						
DZM				Sn	**Sn**	**09 50 18.8**	**-1.5**
	12nm,0.3s,baz=84,slow=16,SNR=6.5						
NOUC	**Port Laguerre**	**4.60**	**198**	*e*S	**Sn**	**09 50 23.6**	**+1.8**
NOUC				AMP		09 50 31.5	
	comp=Z,31nm,0.8s						
NORM	**Noumea**	**4.67**	**195**	*e*P	**Pn**	**09 49 30.8**	**+0.5**
NORM				*e*S	**Sn**	**09 50 21.6**	**-1.9**
NORM				AMP		09 50 25.6	
	comp=Z,110nm,0.8s						
MVNO	**Noumea**	**4.72**	**195**	*e*P	**Pn**	**09 49 32.0**	**+1.1**
MVNO				*e*S	**Sn**	**09 50 24.5**	**-0.4**
MVNO				AMP		09 50 30.6	
	comp=Z,8.7nm,1.9s						
PMG	**Port Moresby**	**21.67**	**290**	P	**P**	**09 53 10.5**	**+0.3**
PMG	**Port Moresby**	**21.67**	**290**	P	**P**	**09 53 10.5**	**+0.3**
	comp=Z,18nm,0.9s,baz=190,slow=12,SNR=2.3						
URZ	**Urewera**	**22.05**	**160**	*e*P	**P**	**09 53 17.1**	**+3.1**
	comp=Z,12nm,0.9s						
URZ	**Urewera**	**22.05**	**160**	P	**P**	**09 53 14.2**	**+0.1**
	comp=Z,8.1nm,0.8s,baz=254,slow=18,SNR=2.7						
STKA	**Stephens Creek**	**27.57**	**234**	*e*P	**P**	**09 54 08.2**	**+1.9**
	comp=Z,8.8nm,1.8s						
STKA	**Stephens Creek**	**27.57**	**234**	P	**P**	**09 54 06.9**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=61,slow=10,SNR=9.3						
WRAB	**Tennant Creek**	**31.71**	**261**	*e*P	P	09 54 48.9	+5.7
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**31.72**	**261**	P	**P**	**09 54 41.8**	**-1.5**
WRA				PcP	**PcP**	**09 57 35.0**	**+0.3**
WRA	**Warramunga Arr**	**31.72**	**261**	P	**P**	**09 54 41.8**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=87,slow=8.8,SNR=6.9						
WRA				PcP	**PcP**	**09 57 35.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=86,slow=2.8,SNR=4.8						
AS31	**Alice Springs**	**32.20**	**254**	*e*P	**P**	**09 54 46.9**	**-0.7**
ASAR	**Alice Springs**	**32.20**	**254**	P	**P**	**09 54 47.0**	**-0.5**
ASAR	**Alice Springs**	**32.20**	**254**	P	**P**	**09 54 47.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=79,slow=8.6,SNR=24						
MJAR	**Matsushiro Arr**	**60.76**	**333**	P	**P**	**09 58 30.1**	**-0.8**
MJAR	**Matsushiro Arr**	**60.76**	**333**	P	**P**	**09 58 30.1**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=168,slow=8.8,SNR=4.2						
ASAJ	**Asahikawa**	**65.69**	**340**	*e*P	**P**	**09 59 04.1**	**+0.6**
	comp=Z,0.8nm,0.5s						
PETK	**Petropavlovsk-**	**71.05**	**354**	P	**P**	**09 59 37.0**	**+0.2**
PETK	**Petropavlovsk-**	**71.05**	**354**	P	**P**	**09 59 37.0**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=145,slow=8.8,SNR=3.6						
QSPA	**South Pole Qui**	**72.34**	**180**	*e*P	**P**	**09 59 46.1**	**+1.4**
	comp=Z,2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.62**	**295**	P	**P**	**10 00 11.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**76.62**	**295**	P	**P**	**10 00 11.6**	**+1.3**
	comp=Z,2.1nm,0.8s,baz=133,slow=4.9,SNR=7.6						
SONM	**Songino Array**	**85.17**	**324**	P	**P**	**10 00 56.0**	**+0.6**
SONM	**Songino Array**	**85.17**	**324**	P	**P**	**10 00 56.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=156,slow=6.6,SNR=3.1						
ILAR	**Eielson Array**	**89.18**	**18**	P	**P**	**10 01 12.6**	**-1.7**
ILAR	**Eielson Array**	**89.18**	**18**	P	**P**	**10 01 12.6**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=235,slow=4.9,SNR=18						
MKAR	**Makanchi Array**	**99.68**	**316**	P	**Pdif**	**10 02 04.1**	**+1.3**
MKAR	**Makanchi Array**	**99.68**	**316**	P	**Pdif**	**10 02 04.1**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=83,slow=6.0,SNR=2.3						
ARCES	**ARCESS Array B**	**123.24**	**345**	PKP	**PKPdf**	**10 07 15.3**	**+0.1**
ARCES	**ARCESS Array B**	**123.24**	**345**	PKP	**PKPdf**	**10 07 15.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=48,slow=1.8,SNR=12						
NOA	**NORSAR Array B**	**133.60**	**345**	PKP	**PKPdf**	**10 07 36.1**	**+0.9**
NOA	**NORSAR Array B**	**133.60**	**345**	PKP	**PKPdf**	**10 07 36.1**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=30,slow=2.0,SNR=4.0						
GERES	**GERESS Array B**	**142.49**	**332**	PKP	**PKPdf**	**10 07 49.3**	**-2.7**
GERES	**GERESS Array B**	**142.49**	**332**	PKP	**PKPdf**	**10 07 49.3**	**-2.7**
	comp=Z,0.4nm,0.6s,baz=44,slow=4.1,SNR=4.1						
ABTA	**Abfaltersbach**	**144.57**	**330**	↑*i* PKPdf	**PKPab**	**10 07 54.2**	**+0.1**
	comp=Z,4.3nm,0.6s						
WLF	**Walferdange**	**144.84**	**339**	*e*PKPdf	**PKPdf**	**10 07 56.2**	**+0.3**
BFO	**Black Forest**	**145.16**	**336**	*e*PKPdf	**PKPdf**	**10 07 56.7**	**+0.2**
FETA	**Feichten**	**145.19**	**332**	*i* PKPdf	**PKPdf**	**10 07 57.3**	**+0.5**
	comp=Z,6.9nm,0.5s,SNR=14						
DAVA	**Damuels**	**145.35**	**333**	⇓*i* PKPdf	**PKPab**	**10 07 57.8**	**+0.7**
	comp=Z,8.2nm,0.5s,SNR=10						
TUE	**Stuetta**	**146.22**	**333**	*e*PKPbc	**PKPab**	**10 08 00.3**	**-0.1**
BNI	**Bardonecchia**	**148.48**	**334**	*e*PKPbc	**PKPbc**	**10 08 06.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**165.86**	**253**	PKP	**PKPdf**	**10 08 23.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**165.86**	**253**	PKP	**PKPdf**	**10 08 23.3**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=131,slow=4.0,SNR=2.5						
DBIC	**Dimbokro**	**166.90**	**214**	PKP	**PKPdf**	**10 08 23.4**	**-2.2**
DBIC	**Dimbokro**	**166.90**	**214**	PKP	**PKPdf**	**10 08 23.4**	**-2.2**
	comp=Z,8.4nm,1.1s,baz=69,slow=8.6,SNR=3.4						

*CSEM **09** 09:54:00.6, 12°.03N×43°.96E, h3km, ML3.6, After DHMR*

DHMR 09 09:54:00.6±1.2, 12°.03N×43°.96E, h3km±8km, ML3.6, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.21**	**7**	⇓*i* P	Pg	09 54 23.9	-0.2
TRBA				*i* S	Sb	09 54 40.4	-0.3
TRBA				AML	AML	09 54 44.8	
	comp=E,1μm,0.3s						
UDYN	**Al 'Udayn**	**1.93**	**0**	*i* P	Pn	09 54 34.8	+0.2
UDYN				*i* S	Sg	09 55 02.7	-0.4
UDYN				AML	AML	09 55 08.4	
	comp=E,756nm,0.5s						
UDYN	**Al 'Udayn**	**1.93**	**0**	*i* P	Pn	09 54 34.8	+0.2
UDYN				*i* S	Sg	09 55 02.7	-0.4
	comp=E,378nm,0.5s						
LBOS		**2.23**	**34**	*i* P	Pn	09 54 40.3	+1.5
LBOS				*i* S	Sb	09 55 11.4	+1.3
BDHA	**Al Bayda'**	**2.49**	**39**	*i* P	Pn	09 54 44.2	+1.8
BDHA				*i* S	Sb	09 55 18.4	+0.6
BDHA				AML	AML	09 55 32.0	
	comp=N,462nm,1.0s						
BDHA	**Al Bayda'**	**2.49**	**39**	*i* P	Pn	09 54 44.2	+1.8
BDHA				*i* S	Sb	09 55 18.4	+0.7
	comp=N,231nm,1.0s						

*CSEM **09** 09:59:42.2, 12°.08N×43°.89E, h2km, ML3.5, After DHMR*

DHMR 09 09:59:42.2±1.2, 12°.08N×43°.89E, h3km±7km, ML3.5, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.17**	**11**	⇓*i* P	Pg	10 00 04.7	-0.2
TRBA				*i* S	Sg	10 00 20.6	+0.3
TRBA				AML	AML	10 00 25.6	
	comp=E,839nm,0.5s						
UDYN	**Al 'Udayn**	**1.88**	**2**	*i* P	Pn	10 00 15.9	+0.4
UDYN				*i* S	Sg	10 00 42.4	-0.6
UDYN				AML	AML	10 00 48.7	
	comp=E,479nm,0.4s						
UDYN	**Al 'Udayn**	**1.88**	**2**	*i* P	Pn	10 00 15.9	+0.4
UDYN				*i* S	Sg	10 00 42.4	-0.7
LBOS		**2.22**	**36**	*i* P	Pb	10 00 22.0	-1.4
LBOS				*i* S	Sb	10 00 52.7	+1.1
BDHA	**Al Bayda'**	**2.49**	**41**	*i* P	Pn	10 00 25.3	+1.3
BDHA				*i* S	Sb	10 01 00.2	+0.8
BDHA				AML	AML	10 01 13.6	
	comp=E,401nm,0.5s						
BDHA	**Al Bayda'**	**2.49**	**41**	*i* P	Pn	10 00 25.3	+1.2
BDHA				*i* S	Sb	10 01 00.2	+0.8
DHBB	**Dhamar BB**	**2.53**	**11**	*i* P	Pn	10 00 26.6	+2.0
DHBB				*i* S	Sb	10 01 01.7	+1.2
DHBB	**Dhamar BB**	**2.53**	**11**	*i* P	Pn	10 00 26.6	+2.0
DHBB				*i* S	Sb	10 01 01.7	+1.3

MEX 09 10:02:31.0±0.6, 17°.89N×100°.06W, h59km±5km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.42**	**86**	*i* P	Pn	10 02 40.5	-1.7
MEIG				*i* S	Sn	10 02 48.4	-1.9
ARIG	**Puente Sto Nin**	**0.47**	**325**	*i* P	Pn	10 02 41.2	-1.4
ARIG				*i* S	Sn	10 02 49.4	-1.7
PLIG	**Platanillo**	**0.73**	**47**	*e*P	Pn	10 02 44.4	-1.3
PLIG				*i* S	Sn	10 02 54.9	-1.5
CAIG	**El Cayaco**	**0.86**	**193**	*i* P	Pn	10 02 45.5	-1.8
CAIG				*i* S	Sn	10 02 57.5	-1.7
ACP2	**Acapulco**	**1.03**	**171**	*i* P	Pn	10 02 48.6	-0.8
ACP2				*i* S	Sn	10 03 00.7	-2.3
ACX	**Acapulco**	**1.04**	**169**	*i* P	Pn	10 02 46.3	-3.2
ACX				*i* S	Sn	10 03 00.3	-3.0
MAVM	**Malinalco, Edo**	**1.19**	**27**	*e*P	Pn	10 02 50.2	-1.6
MAVM				*i* S	Sn	10 03 04.9	-2.4
YAIG	**Yautepec**	**1.35**	**44**	*i* P	Pn	10 02 52.3	-1.6
YAIG				*i* S	Sn	10 03 08.4	-2.6
ZIIG	**Zihuatanejo**	**1.37**	**258**	*e*P	Pn	10 02 52.3	-1.6
ZIIG				*i* S	Sn	10 03 09.0	-2.0
MZVM		**1.51**	**31**	*e*P	Pn	10 02 55.3	-0.6
MZVM				*i* S	Sn	10 03 13.2	-1.3
AMVM	**AMECAMECA**	**1.73**	**44**	*i* P	Pn	10 02 58.1	-1.1
MOIG	**Morelia**	**2.07**	**329**	*i* P	Pn	10 03 01.6	-2.1
MOIG				*i* S	Sn	10 03 25.8	-3.0
IIO	**Organos**	**2.11**	**37**	*e*P	Pn	10 03 03.6	-0.9
IIO				*i* S	Sn	10 03 27.7	-2.3
PNIG	**Pinotepa**	**2.38**	**129**	*i* P	Pn	10 03 06.9	-0.8
PNIG				*i* S	Sn	10 03 33.8	-1.9
TPIG	**Tehuac#an**	**2.62**	**78**	*i* P	Pn	10 03 10.5	-0.6
TPIG				*i* S	Sn	10 03 39.8	-2.2

IDC 09 10:35:29.4±3.7, 2°.08S×140°.01E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=136.6km s-min=28.6km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.60**	**197**	P	P	10 39 47.3	-1.1
	0.2nm,0.3s,baz=18,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.26**	**195**	P	P	10 40 28.2	0.0
	0.4nm,0.8s,baz=26,slow=12,SNR=7.9						
MKAR	**Makanchi Array**	**70.10**	**322**	P	P	10 46 44.0	+0.3
	0.2nm,0.8s,baz=97,slow=7.4,SNR=2.5						

*IDC **09** 10:40:49.6±3.0, 55°.53N×152°.33W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.5/28, mbtmp3.5/7, ML3.7/2, Error ellipse: s-maj=67.0km s-min=36.5km az=151.0*
*ISCJB **09** 10:40:57.1±0.9, 56°.37N±0°.08×152°.10W±0°.07, h33km, mb3.5/4, Error ellipse: s-maj=11.4km s-min=4.9km az=165.9*
*NEIC **09** 10:40:58.1, 56°.34N×152°.35W, h10km, ML3.1 (AEIC), After AEIC.*

ISC 09 10:40:59.6±1.4, 56°.4N±0°.1×152°.25W±0°.06, h35km, n41, σ1°11/48, mb3.6/4, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.00**	**326**	P	**Pn**	**10 41 15.5**	**-1.7**
KABR	**Katmai Barrier**	**2.28**	**321**	P	**Pn**	**10 41 34.5**	**-0.2**
CAHL	**Cahill**	**2.34**	**316**	P	**Pn**	**10 41 35.6**	**-0.1**
KAKN	**Katmai Knife C**	**2.44**	**322**	P	**Pn**	**10 41 37.5**	**+0.5**
KJL	**Kejulik**	**2.45**	**314**	P	**Pn**	**10 41 36.3**	**-0.8**
KAPH	**Katmai Pasha**	**2.48**	**334**	P	**Pn**	**10 41 38.3**	**+0.8**
MCNL	**McNeil River**	**3.01**	**339**	P	**Pn**	**10 41 45.4**	**+0.7**
AUW	**Augustine West**	**3.05**	**348**	P	**Pn**	**10 41 46.5**	**+1.2**
ANPK	**Aniakchak Peak**	**3.28**	**280**	P	**Pn**	**10 41 47.3**	**-1.2**
OPT	**Oil Point**	**3.30**	**351**	P	**Pn**	**10 41 49.7**	**+0.9**
RSO	**Redoubt South**	**4.08**	**356**	*e*Pn	**Pn**	**10 41 59.1**	**-0.6**
SVW2	**Sparrevohn**	**5.02**	**341**	P	**Pn**	**10 42 12.3**	**-0.1**
STLK	**Strandline Lak**	**5.12**	**2**	P	**Pn**	**10 42 13.6**	**-0.1**
SUA	**Susitna One**	**5.14**	**8**	P	**Pn**	**10 42 13.8**	**-0.2**
FID	**Port Fidalgo**	**5.30**	**32**	P	**Pn**	**10 42 14.1**	**-2.1**
EYAK	**Cordova Ski Ar**	**5.38**	**37**	P	**Pn**	**10 42 16.2**	**-0.9**
PMR	**Palmer**	**5.45**	**16**	P	**Pn**	**10 42 18.1**	**-0.1**
JPK	**Jack Peak**	**5.51**	**30**	P	**Pn**	**10 42 17.6**	**-1.6**
SGAM	**Sherman Glacie**	**5.53**	**39**	P	**Pn**	**10 42 18.4**	**-0.9**
RAGM	**Ragged Mountai**	**5.64**	**42**	P	**Pn**	**10 42 20.4**	**-0.5**
RAGM				S	**Sn**	**10 43 25.6**	**+1.3**
GOAT	**Goat Mountain**	**5.75**	**40**	P	**Pn**	**10 42 21.4**	**-1.0**
GOAT				S	**Sn**	**10 43 28.3**	**+1.2**
NICHA	**Nichawak Mount**	**5.81**	**45**	P	**Pn**	**10 42 22.2**	**-1.0**
NICHA				S	**Sn**	**10 43 29.0**	**+0.4**
SCM	**Sheep Creek Mo**	**6.00**	**23**	P	**Pn**	**10 42 25.2**	**-0.7**
SCM				S	**Sn**	**10 43 34.2**	**+0.8**
KLU	**Klutina**	**6.06**	**30**	P	**Pn**	**10 42 26.1**	**-0.7**
KLU				S	**Sn**	**10 43 35.5**	**+0.7**
BMRM	**Bremner River**	**6.07**	**38**	P	**Pn**	**10 42 25.9**	**-0.9**
BARK	**Barkley Ridge**	**6.51**	**48**	P	**Pn**	**10 42 32.6**	**-0.3**
BARK				S	**Sn**	**10 43 46.5**	**+0.7**
BAGL	**Bagley Icefiel**	**6.72**	**48**	P	**Pn**	**10 42 36.3**	**+0.7**
TT01	**Tatalina**	**6.80**	**345**	P	**Pn**	**10 42 36.2**	**-0.5**
KIAG	**Kiagna River**	**6.86**	**45**	P	**Pn**	**10 42 37.2**	**-0.6**
BALM	**Baldy**	**6.94**	**44**	P	**Pn**	**10 42 39.1**	**+0.4**
PTPK	**Patty Peak**	**6.99**	**43**	P	**Pn**	**10 42 40.0**	**+0.5**
GRNC	**Granite Creek**	**6.99**	**47**	P	**Pn**	**10 42 39.5**	**-0.1**
IL1	**Eielson Array**	**8.80**	**15**	P	**Pn**	**10 43 03.9**	**-0.3**
ILAR	**Eielson Array**	**8.80**	**15**	Pn	**Pn**	**10 43 04.4**	**+0.3**
	0.8nm,0.3s,baz=201,slow=14,SNR=57						
ILAR				Sn	**Sn**	**10 44 37.4**	**-4.5**
	0.1nm,0.3s,baz=208,slow=19,SNR=3.1						
INK	**Inuvik**	**14.67**	**28**	Pn	**P**	**10 44 29.8**	**-0.2**
	0.4nm,0.6s,baz=266,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**19.85**	**57**	P	**Pn**	**10 45 27.6**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=351,slow=6.

ISC 09 10:51:31.1±0.9,38.37N±0.02×21.76E±0.02,h10km±5km, n63,σ0.46/105,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA1	**Psathopyrgos**	**0.11**	**115**	*e*PG	**Pg**	**10 51 33.4**	**-0.5**
PSA1				*e*SG	**Sg**	**10 51 36.1**	**+0.3**
EFP	**Efpalio**	**0.13**	**64**	P	**Pg**	**10 51 34.1**	**-0.1**
EFP				S	**Sg**	**10 51 36.1**	**-0.2**
EFP	**Efpalio**	**0.13**	**64**	*e*PG	**Pg**	**10 51 33.9**	**-0.3**
EFP				*e*SG	**Sg**	**10 51 36.6**	**+0.3**
EFP	**Efpalio**	**0.13**	**64**	*e*Pg	**Pg**	**10 51 33.9**	**-0.3**
EFP				S	**Sg**	**10 51 36.1**	**-0.2**
LAKA	**Lakka**	**0.22**	**127**	P	**Pg**	**10 51 35.7**	**0.0**
LAKA				S	**Sg**	**10 51 39.1**	**+0.3**
LAKA	**Lakka**	**0.22**	**127**	*e*PG	**Pg**	**10 51 35.3**	**-0.4**
LAKA				*e*SG	**Sg**	**10 51 39.0**	**+0.3**
LAKA	**Lakka**	**0.22**	**127**	*e*Pg	**Pg**	**10 51 35.3**	**-0.4**
LAKA	**Lakka**	**0.22**	**127**	P	**Pg**	**10 51 35.7**	**0.0**
LAKA				S	**Sg**	**10 51 39.1**	**+0.3**
TRIZ	**Trizonia**	**0.25**	**91**	P	**Pg**	**10 51 36.1**	**-0.1**
TRIZ				S	**Sg**	**10 51 40.1**	**+0.5**
TRIZ	**Trizonia**	**0.25**	**91**	*e*PG	**Pg**	**10 51 36.3**	**+0.1**
TRIZ				*e*SG	**Sg**	**10 51 40.3**	**+0.7**
TRIZ	**Trizonia**	**0.25**	**91**	P	**Pg**	**10 51 36.1**	**-0.1**
TRIZ				S	**Sg**	**10 51 40.1**	**+0.5**
KALE	**Kalithea**	**0.30**	**86**	P	**Pg**	**10 51 37.1**	**-0.1**
KALE				S	**Sg**	**10 51 41.8**	**+0.5**
KALE	**Kalithea**	**0.30**	**86**	*e*PB	**Pg**	**10 51 37.2**	**0.0**
KALE				*e*SB	**Sg**	**10 51 41.6**	**+0.3**
KALE	**Kalithea**	**0.30**	**86**	P	**Pg**	**10 51 37.1**	**-0.1**
KALE				S	**Sg**	**10 51 41.8**	**+0.5**
AXS	**Araxos**	**0.35**	**240**	P	**Pg**	**10 51 37.5**	**-0.5**
AXS				S	**Sg**	**10 51 43.4**	**+0.7**
AXS	**Araxos**	**0.35**	**240**	P	**Pg**	**10 51 37.5**	**-0.5**
AXS				S	**Sg**	**10 51 43.4**	**+0.7**
RLS	**Riolos of Patr**	**0.39**	**216**	P	**Pg**	**10 51 39.1**	**+0.3**
RLS				S	**Sb**	**10 51 45.4**	**-0.6**
RLS	**Riolos of Patr**	**0.39**	**216**	*e*PB	**Pg**	**10 51 38.8**	**0.0**
RLS				*e*SB	**Sg**	**10 51 44.2**	**+0.3**
RLS	**Riolos of Patr**	**0.39**	**216**	*e*Pb	**Pg**	**10 51 38.8**	**0.0**
RLS	**Riolos of Patr**	**0.39**	**216**	P	**Pg**	**10 51 39.1**	**+0.3**
RLS				*e*Sb	**Sg**	**10 51 44.2**	**+0.3**
RLS				S	**Sb**	**10 51 45.4**	**-0.6**
KLV	**Kalavryta, Ach**	**0.45**	**136**	P	**Pg**	**10 51 39.7**	**-0.3**
KLV	**Kalavryta, Ach**	**0.45**	**136**	*e*PB	**Pg**	**10 51 39.6**	**-0.4**
KLV				*e*SB	**Sg**	**10 51 46.5**	**+0.6**
KLV	**Kalavryta, Ach**	**0.45**	**136**	P	**Pg**	**10 51 39.7**	**-0.3**
KLV				*e*Sb	**Sg**	**10 51 46.5**	**+0.6**
EVR	**Evrytania**	**0.55**	**4**	P	**Pg**	**10 51 41.6**	**-0.2**
EVR				S	**Sg**	**10 51 49.7**	**+0.7**
EVR	**Evrytania**	**0.55**	**4**	*e*PB	**Pg**	**10 51 41.3**	**-0.5**
EVR				*e*SB	**Sb**	**10 51 50.2**	**-0.6**
EVR	**Evrytania**	**0.55**	**4**	*e*Pb	**Pg**	**10 51 41.3**	**-0.5**
EVR	**Evrytania**	**0.55**	**4**	P	**Pg**	**10 51 41.6**	**-0.2**
EVR				S	**Sg**	**10 51 49.7**	**+0.7**
EVR				*e*Sb	**Sb**	**10 51 50.2**	**-0.6**
DSF	**Desfina**	**0.61**	**86**	P	**Pg**	**10 51 42.1**	**-0.8**
DSF				S	**Sb**	**10 51 52.0**	**-0.4**
DSF	**Desfina**	**0.61**	**86**	P	**Pg**	**10 51 42.1**	**-0.8**
DSF				S	**Sb**	**10 51 52.0**	**-0.4**
GUR	**Goura**	**0.63**	**133**	P	**Pg**	**10 51 42.9**	**-0.5**
GUR				S	**Sg**	**10 51 51.9**	**+0.2**
GUR	**Goura**	**0.63**	**133**	*e*PB	**Pg**	**10 51 42.7**	**-0.7**
GUR				*e*SB	**Sg**	**10 51 51.9**	**+0.2**
GUR	**Goura**	**0.63**	**133**	P	**Pg**	**10 51 42.9**	**-0.5**
GUR				S	**Sg**	**10 51 51.9**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.70**	**24**	P	**Pg**	**10 51 44.5**	**-0.3**
MAKR				S	**Sb**	**10 51 55.1**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.70**	**24**	P	**Pg**	**10 51 44.5**	**-0.3**
MAKR				S	**Sb**	**10 51 55.1**	**-0.2**
AGG	**Agios Georgios**	**0.79**	**34**	P	**Pg**	**10 51 45.6**	**-0.8**
AGG				S	**Sb**	**10 51 58.1**	**+0.4**
AGG	**Agios Georgios**	**0.79**	**34**	*e*PG	**Pg**	**10 51 45.9**	**-0.5**
AGG	**Agios Georgios**	**0.79**	**34**	P	**Pg**	**10 51 45.6**	**-0.8**
AGG	**Agios Georgios**	**0.79**	**34**	*e*Pg	**Pg**	**10 51 45.9**	**-0.5**
AGG				S	**Sb**	**10 51 58.1**	**+0.4**
KFL	**Anninata**	**0.81**	**251**	P	**Pb**	**10 51 47.0**	**-0.2**
KFL	**Anninata**	**0.81**	**251**	P	**Pb**	**10 51 47.0**	**-0.2**
AMT	**Artemida-Makis**	**0.84**	**183**	P	**Pb**	**10 51 47.8**	**+0.1**
AMT	**Artemida-Makis**	**0.84**	**183**	*e*PB	**Pb**	**10 51 47.6**	**-0.1**
AMT				*e*SB	**Sg**	**10 51 57.6**	**-0.6**
AMT	**Artemida-Makis**	**0.84**	**183**	*e*Pb	**Pb**	**10 51 47.6**	**-0.1**
AMT				*e*Sb	**Sg**	**10 51 57.6**	**-0.6**
LKD2	**Lefkada island**	**0.96**	**296**	P	**Pg**	**10 51 49.3**	**-0.3**
LKD2	**Lefkada island**	**0.96**	**296**	*e*PG	**Pg**	**10 51 48.9**	**-0.7**
LKD2	**Lefkada island**	**0.96**	**296**	*e*Pg	**Pg**	**10 51 48.9**	**-0.7**
LKD2	**Lefkada island**	**0.96**	**296**	P	**Pg**	**10 51 49.3**	**-0.3**
LKR	**Lokris**	**1.01**	**74**	*e*PG	**Pg**	**10 51 50.1**	**-0.5**
LKR				*e*SB	**Sn**	**10 52 05.1**	**-0.5**
LKR	**Lokris**	**1.01**	**74**	*e*Pg	**Pg**	**10 51 50.1**	**-0.5**
LKR				*e*Sb	**Sn**	**10 52 05.1**	**-0.5**
LTK	**Loutraki**	**1.01**	**110**	*e*PN	**Pb**	**10 51 50.9**	**+0.2**
LTK	**Loutraki**	**1.01**	**110**	*e*Pn	**Pb**	**10 51 50.9**	**+0.2**
ITM	**Ithomi**	**1.20**	**174**	P	**Pb**	**10 51 53.6**	**-0.3**
ITM				S	**Sn**	**10 52 11.4**	**+1.2**
ITM	**Ithomi**	**1.20**	**174**	*e*PB	**Pb**	**10 51 53.9**	**0.0**
ITM	**Ithomi**	**1.20**	**174**	P	**Pb**	**10 51 53.6**	**-0.3**
ITM	**Ithomi**	**1.20**	**174**	*e*Pb	**Pb**	**10 51 53.9**	**0.0**
ITM				S	**Sn**	**10 52 11.4**	**+1.2**
THL	**Klokotos Trika**	**1.21**	**9**	*e*PB	**Pg**	**10 51 55.0**	**+0.7**
THL				*e*SB	**Sn**	**10 52 10.4**	**0.0**
THL	**Klokotos Trika**	**1.21**	**9**	*e*Pb	**Pg**	**10 51 55.0**	**+0.7**
THL				*e*Sb	**Sn**	**10 52 10.4**	**0.0**
DID	**Didima**	**1.45**	**126**	*e*PB	**Pb**	**10 51 58.5**	**+0.3**
DID	**Didima**	**1.45**	**126**	*e*Pb	**Pb**	**10 51 58.5**	**+0.3**
PYL	**PYLOS**	**1.47**	**180**	*e*PB	**Pb**	**10 51 58.9**	**+0.3**
PYL	**PYLOS**	**1.47**	**180**	*e*Pb	**Pb**	**10 51 58.9**	**+0.3**
DYR	**Agios Nikonas**	**1.67**	**164**	*e*PG	**Pb**	**10 52 02.1**	**+0.2**
DYR	**Agios Nikonas**	**1.67**	**164**	*e*Pg	**Pb**	**10 52 02.1**	**+0.2**

SZGRF ***09*** *10:55:13.7,31.°97N×139.°72E,h320km,mb6.9,Southeast of Honshu, Japan*

BKK ***09*** *10:55:24.7±0.4,33°N±5°×13°8E±°,h10km,M7.4/55, mb7.0/55,mB7.4/54,Mw(mB)7.4/54,Mwp7.1/38*

JMA ***09*** *10:55:52.1±0.4,33.°13N×138.°40E,h333km±5km,M6.8 JMA Felt IV J1.*

MOS ***09*** *10:55:54.3±0.9,33.°14N×138.°18E,h299km,mb6.7/125, MS7.0/20,Error ellipse: s-maj=8.1km s-min=5.2km az=107.0*

BGS ***09*** *10:55:54.9±1.2,32.°58N×136.°92E,h300km,mb6.1*

BJI ***09*** *10:55:54.0,33.°12N×138.°02E,h299km,mB7.1/51, mb6.9/72*

ISCJB ***09*** *10:55:55.2±0.1,33.°14N±0.°01×138.°11E±0.°02, h303km±1km,mb6.4/502,Error ellipse: s-maj=2.4km s-min=1.8km az=139.3*

NEIC ***09*** *10:55:55.1±0.1,33.°17N×137.°94E,h292km,mb6.5/255, ME6.8,MW7.1,MW7.1,MW7.1(NIED),Error ellipse: s-maj=3.3km s-min=2.5km az=159.0,Moment Tensor Solution. s128 Moment tensor: Scale 10^19Nm; Mrr=0.25; Mθθ0.28; Mφφ=0.03; Mrθ=0.81; Mθφ=1.03; Mφr=4.70; Best double couple: M0=4.90000×10^19 NP1: φs=188.00000°,δ90.00000°,λ79.00000°. NP2:φs=97.00000°, δ11.00000°,λ180.00000°. Principal axes: T 4.5700, Plg43.0000°, Azm86.0000°; N 0.5800, Plg11.0000°, Azm187.0000°; P -5.1500, Plg43.0000°, Azm288.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [V] at Narita; [IV] at Akiruno, Atsugi, Ayase, Chiba, Ebina, Fussa, Hamura, Sagamihara, Tokyo, Yokohama, Yokosuka and Zushi; [III] at Fuchu, Fujisawa, Hachioji, Kawasaki, Musashimurayama, Musashino, Nagoya, Osaka, Tachikawa, Tsukuba, Yamato and Zama; [II] at Misawa. Widely felt throughout central and southern Honshu. Recorded [4 JMA] in Chiba, Fukushima, Ibaraki, Miyagi, Saitama, Tochigi and Tokyo; [3 JMA] in Gumma, Iwate, Kanagawa, Nagano, Niigata, Shizuoka, Yamagata and Yamanashi; [2 JMA] in Aichi, Akita, Aomori, Fukui, Gifu, Hyogo, Ishikawa, Mie, Nara, Osaka, Shiga, Toyama and Wakayama; [1 JMA] in Hiroshima, Kyoto, Okayama, Tottori and Yamaguchi. Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in southern Hokkaido. Recorded [2 JMA] in Kagawa and [1 JMA] in Kochi and Tokushima, Shikoku. Recorded [3 JMA] on Hachijo-jima and [2 JMA] on Aogo-shima, Kozu-shima, Mikura-jima, Miyake-jima, Nii-jima, O-shima, Shikine-jima and To-shima. Recorded [2 JMA] in the Chichijima-retto and Hahajima-retto.

IDC ***09*** *10:55:56.6±0.7,33.°12N×138.°04E,h305km±6km,mb6.0/36, mb1 6.1/39,mb1mx6.1/40,mbtmp6.0/39 Error ellipse: s-maj=7.3km s-min=5.1km az=102.0*

TEH ***09*** *10:55:56.0,33.°14N×138.°04E,h303km,ML7.1*

GCMT ***09*** *10:55:58.8±0.1,33.°05N×138.°19E,h302km,MW7.1, Moment Tensor Solution. s120,c327; s99,c278; Moment tensor: Scale 10^19Nm; Mrr0.34±.02; Mθθ0.16±.02; Mφφ-0.50±.02; Mrθ-0.77±.02; Mθφ-1.58±.02; Mφr-4.57±.02; Best double couple: M0=4.90000×10^19 NP1:φs=187.00000°, δ86.00000°,λ73.00000°. NP2:φs=86.00000°,δ17.00000°, λ168.00000°. Principal axes: T 4.5700, Plg46.0000°, Azm80.0000°; N 0.6300, Plg17.0000°, Azm188.0000°; P -5.2000, Plg39.0000°, Azm293.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 109 sta.*

NIED ***09*** *10:56:00,33.°10N×138.°50E,h320km,Mw7.1 Best double couple: M0=5.46000×10^19 NP1:φs=4.00000°, δ86.00000°,λ-60.00000°. NP2:φs=101.00000°,δ30.00000°, λ-172.00000°.*

DJA ***09*** *10:56:00.7±2.1,33°N±17°×13°8E±1°1,h343km±18km, M6.6/42,mb6.4/42,mB6.7/42,Mw(mB)6.6/42,Mwp6.6/32*

NEIC ***09*** *10:56:11.7±0.0,33.°38N×138.°17E,h294km,Moment Tensor Solution. s150 Moment tensor: Scale 10^19Nm; Mrr0.38; Mθθ0.32; Mφφ-0.69; Mrθ-0.77; Mθφ-1.53; Mφr-4.46; Best double couple: M0=4.80000×10^19 NP1:φs=187.00000°, δ86.00000°,λ74.00000°. NP2:φs=83.00000°,δ17.00000°, λ165.00000°. Principal axes: T 4.3800, Plg46.0000°, Azm80.0000°; N 0.7700, Plg16.0000°, Azm188.0000°; P -5.1500, Plg38.0000°, Azm291.0000°;*

ISC 09 10:55:56.3±0.2,33.°15N±0.°02×138.°06E±0.°02,h302km±1km, h302km:pP-P,n2616,σ1.44/3292,mb6.5/502,318C-493D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.84**	**343**	P	**Pn**	**10 56 36.0**	**+0.1**
TTO3	**TONANKAI O.B.S**	**0.90**	**322**	↑P	**Pn**	**10 56 36.7**	**+0.5**
TTO3				S	**S**	**10 57 08.3**	**+0.3**
TTO4	**TONANKAI O.B.S**	**0.96**	**333**	↑P	**Pn**	**10 56 36.5**	**+0.2**
TK03	**Tokai 3**	**1.02**	**356**	P	**Pn**	**10 56 37.2**	**+0.5**
TTO2	**TONANKAI O.B.S**	**1.04**	**304**	↑P	**Pn**	**10 56 37.6**	**+0.9**
TTO5	**TONANKAI O.B.S**	**1.14**	**346**	↑P	**Pn**	**10 56 37.5**	**+0.2**
TTO1	**TONANKAI O.B.S**	**1.17**	**294**	↑P	**Pn**	**10 56 38.2**	**+0.9**
TK04	**Tokai 4**	**1.24**	**353**	P	**Pn**	**10 56 38.2**	**+0.3**
JKO	**Kozu shima**	**1.37**	**41**	↓P	**Pn**	**10 56 37.5**	**-1.3**
JKO				*e*S	S	10 57 24.0	+11
JHCJ	**Hachijojimakas**	**1.46**	**92**	P	**Pn**	**10 56 36.3**	**-3.1**
JHCJ				S	**S**	**10 57 12.9**	**-0.8**
JHJ2	**Mitsune**	**1.48**	**91**	↓P	**Pn**	**10 56 37.0**	**-2.5**
JHJ2				S	**S**	**10 57 16.2**	**+2.4**
JMY	**Miyakejima3**	**1.52**	**52**	P	**Pn**	**10 56 37.5**	**-2.3**
JMY				S	**S**	**10 57 13.2**	**-1.2**
JSG	**Sagara**	**1.53**	**4**	P	**Pn**	**10 56 39.7**	**0.0**
JAA	**Atsumi**	**1.67**	**333**	↑P	**Pn**	**10 56 40.8**	**+0.1**
JIE	**Ise**	**1.68**	**318**	↑P	**Pn**	**10 56 41.2**	**+0.4**
JIE				S	**S**	**10 57 16.5**	**+0.3**
JIZS	**Izushimoda**	**1.71**	**23**	↓P	**Pn**	**10 56 39.9**	**-1.1**
JIZS				S	**S**	**10 57 16.2**	**-0.4**
HMMJ	**Hamamatsu 2**	**1.73**	**351**	↑P	**Pn**	**10 56 40.8**	**-0.3**
JKN2	**Miekihoku**	**1.84**	**307**	↑P	**Pn**	**10 56 42.9**	**+0.9**
JYZW	**Yoshizawa**	**1.86**	**352**	P	**Pn**	**10 56 41.6**	**-0.5**
SHZ3	**Shizuoka 3**	**1.92**	**4**	↓P	**Pn**	**10 56 41.4**	**-1.2**
SHZ3				S	**S**	**10 57 21.9**	**+2.4**
JIM2	**Oshima 3**	**1.94**	**36**	↓P	**Pn**	**10 56 39.6**	**-3.1**
JIM2				*e*S	**S**	**10 57 19.8**	**+0.1**
JWZ	**Kozaga**	**2.00**	**282**	↑P	**Pn**	**10 56 42.5**	**-0.7**
TSUJ	**Tsu 2**	**2.07**	**319**	↑P	**Pn**	**10 56 44.7**	**+1.0**
AJI	**Ajiro2**	**2.08**	**24**	↓P	**Pn**	**10 56 42.2**	**-1.6**
JNY	**Yasuok**	**2.21**	**356**	P	**Pn**	**10 56 44.9**	**-0.1**
JAO	**Obara**	**2.22**	**343**	↑P	**Pn**	**10 56 45.0**	**0.0**
JWY	**Kouya**	**2.32**	**298**	↑P	**Pn**	**10 56 47.1**	**+1.2**
JWM	**Minabe**	**2.37**	**288**	↑P	**Pn**	**10 56 47.1**	**+0.9**
JYN	**Shimob**	**2.38**	**10**	↓P	**Pn**	**10 56 45.9**	**-0.5**
JYN				S	**S**	**10 57 27.9**	**+1.5**
JEG	**Eigenji**	**2.42**	**326**	↑P	**Pn**	**10 56 47.3**	**+0.6**
JHE	**Heguri**	**2.48**	**308**	P	**Pn**	**10 56 47.8**	**+0.6**
BSO3	**Boso 3**	**2.62**	**50**	↓P	Pn	10 56 44.4	-3.8
JNT	**Takato**	**2.72**	**1**	P	**Pn**	**10 56 49.2**	**-0.4**
JGM	**Miyama**	**2.78**	**337**	P	**Pn**	**10 56 50.1**	**+0.1**
BSO1	**Boso 1**	**2.85**	**57**	P	Pn	10 56 45.9	-4.2
JFM	**Mihama**	**2.93**	**325**	P	**Pn**	**10 56 52.0**	**+0.6**
JAJ2	**Tsuna**	**2.93**	**297**	P	**Pn**	**10 56 52.2**	**+0.7**
JRY	**Ryogami san**	**2.94**	**13**	P	**Pn**	**10 56 50.3**	**-1.3**
JAI	**Aioi**	**3.08**	**283**	P	**Pn**	**10 56 53.8**	**+0.8**
JGN	**Niukaw**	**3.13**	**349**	P	**Pn**	**10 56 53.0**	**-0.5**
JNG	**Nsakai**	**3.25**	**1**	P	**Pn**	**10 56 53.9**	**-0.8**
MRT2	**Murotomisaki 2**	**3.29**	**275**	P	**Pn**	**10 56 56.0**	**+0.9**
MAT	**Matsushiro**	**3.39**	**2**	P	**Pn**	**10 56 55.2**	**-0.8**
MAT				S	**S**	**10 57 43.9**	**0.0**
MAT	**Matsushiro**	**3.39**	**2**	P	**Pn**	**10 56 54.9**	**-1.1**
MJAR	**Matsushiro Arr**	**3.39**	**2**	P	**Pn**	**10 56 54.2**	**-1.8**
MJAR				*e*		11 34 37.1	
MJAR				P4KP		11 41 51.4	
MJAR	**Matsushiro Arr**	**3.39**	**2**	P	**Pn**	**10 56 54.2**	**-1.8**
	4μm,0.3s,baz=171,slow=11,SNR=7543						
MJAR				P3KPbc		11 34 37.1	
	baz=218,slow=2.1,SNR=8.7						
MJAR				P4KP		11 41 51.4	
	0.1nm,0.3s,baz=175,slow=2.4,SNR=7.5						
JKG	**Kaga**	**3.43**	**336**	P	**Pn**	**10 56 56.4**	**0.0**
JGK	**Kuni**	**3.44**	**8**	P	**Pn**	**10 56 55.2**	**-1.4**
JAG	**Ashikaga**	**3.46**	**19**	P	**Pn**	**10 56 53.7**	**-3.1**
JKY	**Yasaka**	**3.48**	**316**	P	**Pn**	**10 56 57.3**	**+0.3**
JMN	**Monobe**	**3.54**	**281**	P	**Pn**	**10 56 59.1**	**+1.4**
JJS	**Sakaide**	**3.65**	**291**	P	**Pn**	**10 56 59.5**	**+0.7**
JAD	**Aida**	**3.69**	**300**	P	**Pn**	**10 56 59.8**	**+0.6**
JKT	**Katashina**	**3.74**	**15**	P	**Pn**	**10 56 57.0**	**-2.8**
JJH	**Hakui**	**3.91**	**345**	P	**Pn**	**10 57 01.6**	**+0.1**
JJN	**Nakama**	**3.95**	**1**	P	**Pn**	**10 57 01.1**	**-0.8**
JHO	**Hitachi**	**4.02**	**30**	P	Pn	10 56 58.5	-4.3
JSB	**Shiboa**	**4.11**	**21**	P	**Pn**	**10 57 00.6**	**-3.1**
JKR	**Kurayoshi**	**4.16**	**304**	P	**Pn**	**10 57 05.0**	**+0.7**
JHK	**Hiroka**	**4.17**	**11**	P	**Pn**	**10 57 01.9**	**-2.4**
JKU	**Kubokawa**	**4.19**	**274**	P	**Pn**	**10 57 06.0**	**+1.3**
JSZ	**Suzu**	**4.33**	**353**	P	**Pn**	**10 57 05.4**	**-0.7**
JJG	**Jouge**	**4.34**	**291**	P	**Pn**	**10 57 07.7**	**+1.3**
JIZZ	**Izumozaki**	**4.41**	**7**	P	**Pn**	**10 57 05.4**	**-1.6**
JTO	**Tosashimizu**	**4.43**	**268**	P	**Pn**	**10 57 08.4**	**+1.1**
JFY	**Yanaizu**	**4.46**	**17**	P	**Pn**	**10 57 04.6**	**-3.0**
JHS	**Saijyo**	**4.50**	**296**	P	**Pn**	**10 57 09.6**	**+1.5**
ONAJ	**Iwakimizuishiy**	**4.54**	**29**	P	Pn	10 57 04.3	-4.3
UWA2	**Uwa jima 2**	**4.56**	**272**	P	**Pn**	**10 57 10.2**	**+1.4**
JNA	**Nagahama**	**4.69**	**277**	P	**Pn**	**10 57 11.9**	**+1.6**
JHM	**Kurahashi**	**4.72**	**284**	P	**Pn**	**10 57 12.0**	**+1.4**
JFT	**Otama**	**4.74**	**22**	P	Pn	10 57 07.4	-3.4
JNS	**Sasagawa**	**4.77**	**12**	P	**Pn**	**10 57 08.3**	**-2.9**
JHG	**Hegura jima**	**4.78**	**349**	P	**Pn**	**10 57 10.6**	**-0.6**
JFK	**Kawauchi**	**4.80**	**28**	P	Pn	10 57 07.5	-4.0
JSD	**Sado**	**4.88**	**2**	P	**Pn**	**10 57 10.0**	**-2.4**
JHT	**Toyohira**	**4.93**	**289**	P	**Pn**	**10 57 14.1**	**+1.1**
JMM	**Marumori**	**5.21**	**25**	P	Pn	10 57 12.5	-3.7
JHIK	**Hikimi**	**5.29**	**287**	P	**Pn**	**10 57 18.5**	**+1.3**
JUS	**Usuki**	**5.29**	**271**	↑P	**Pn**	**10 57 18.9**	**+1.6**
JYS	**Shirataka**	**5.32**	**17**	P	**Pn**	**10 57 14.7**	**-2.8**
JAW	**Awa shima**	**5.38**	**10**	P	**Pn**	**10 57 15.6**	**-2.6**
OIT2	**Oita 2**	**5.54**	**273**	P	**Pn**	**10 57 22.5**	**+2.3**
JKIT	**Kitakata**	**5.58**	**266**	↑P	**Pn**	**10 57 22.9**	**+2.2**
JYA	**Atsumi**	**5.60**	**13**	↓P	**Pn**	**10 57 18.2**	**-2.6**
JTSN	**Tsuno**	**5.60**	**263**	P	**Pn**	**10 57 22.7**	**+1.8**
JOU	**Okura**	**5.62**	**21**	P	**Pn**	**10 57 17.9**	**-3.2**
JIO	**Ouri**	**5.93**	**26**	P	Pn	10 57 20.3	-4.4
JTY	**Toyota**	**5.94**	**283**	↑P	**Pn**	**10 57 26.3**	**+1.5**
JTZ	**Takazaki**	**6.02**	**260**	↑P	**Pn**	**10 57 27.9**	**+2.0**
JNU	**Nakatsue**	**6.02**	**272**	*e*Pn	**Pn**	**10 57 27.6**	**+1.6**
JNU	**Nakatsue**	**6.02**	**272**	P	**Pn**	**10 57 27.8**	**+1.8**
JNU	**Nakatsue**	**6.02**	**272**	P	**Pn**	**10 57 27.8**	**+1.8**
	114nm,0.3s,baz=82,slow=7.3,SNR=616						
JYK	**Kaneyama**	**6.05**	**17**	P	**Pn**	**10 57 23.1**	**-3.1**
JFA	**Akaike**	**6.10**	**277**	↑P	**Pn**	**10 57 28.2**	**+1.4**
JIU2	**Izumi 2**	**6.13**	**266**	P	**Pn**	**10 57 29.3**	**+2.1**
JTB	**Tobi-shima**	**6.16**	**11**	P	**Pn**	**10 57 24.5**	**-2.9**
JMK	**Ichinoseki**	**6.33**	**23**	P	Pn	10 57 25.6	-3.9
JTSR	**Tashiro 2**	**6.37**	**254**	P	**Pn**	**10 57 32.2**	**+2.1**
JFI	**Itaya**	**6.43**	**275**	P	**Pn**	**10 57 32.7**	**+1.9**
JRG	**Rokugo**	**6.57**	**18**	P	**Pn**	**10 57 29.3**	**-3.1**
OFUJ	**Ofunato**	**6.60**	**25**	P	Pn	10 57 28.7	-4.0
JYW	**Yuwa**	**6.61**	**15**	P	**Pn**	**10 57 30.2**	**-2.6**
JSU	**Suzuyama**	**6.64**	**258**	P	**Pn**	**10 57 35.1**	**+1.7**
JHD	**Hondo**	**6.71**	**266**	P	**Pn**	**10 57 35.8**	**+1.7**
JUR	**Ureshino**	**6.80**	**272**	P	**Pn**	**10 57 36.9**	**+1.6**
JOM	**Ohasama**	**6.83**	**22**	P	Pn	10 57 31.9	-3.6
JOG2	**Oga 2**	**6.90**	**11**	P	**Pn**	**10 57 33.5**	**-2.8**
MIYJ	**Miyakonagasawa**	**7.10**	**24**	P	Pn	10 57 34.5	-4.2
JSJ	**Shimokoshiki**	**7.21**	**261**	P	**Pn**	**10 57 42.0**	**+1.8**
JKZ	**Kuzumaki**	**7.31**	**20**	P	Pn	10 57 37.8	-3.6
JAH	**Hinai**	**7.33**	**16**	P	**Pn**	**10 57 38.4**	**-3.1**
JTH	**Tanohata**	**7.44**	**23**	P	Pn	10 57 38.8	-4.1
JIW	**Iwasaki**	**7.59**	**11**	P	**Pn**	**10 57 41.9**	**-2.9**
JANG	**Nango**	**7.73**	**20**	P	Pn	10 57 42.5	-3.9
JTM	**Tenmabayashi**	**8.00**	**17**	P	Pn	10 57 46.4	-3.3
JSI2	**Shiura 2**	**8.12**	**13**	P	**Pn**	**10 57 48.0**	**-3.1**
JOT	**Ohata**	**8.56**	**15**	P	Pn	10 57 53.2	-3.3
JSR	**Shiriuchi**	**8.57**	**12**	P	**Pn**	**10 57 54.0**	**-2.7**
JOSM	**Okushiri--Mats**	**8.99**	**7**	P	**Pn**	**10 57 59.3**	**-2.5**
JKB	**Kayabe**	**9.04**	**14**	P	Pn	10 57 59.0	-3.4
JYM2	**Yakumo 2**	**9.14**	**11**	P	**Pn**	**10 58 01.2**	**-2.5**
KSRS	**Korea Array**	**9.33**	**300**	P	**Pn**	**10 58 08.2**	**+2.2**
	473nm,0.3s,baz=114,slow=12,SNR=2844						
KSRS				ScP	**ScP**	**11 06 57.5**	**+0.6**
	5.1nm,0.3s,baz=121,slow=1.1,SNR=21						
KSRS				PKiKP	**PKiKP**	**11 11 53.7**	**-0.2**
	0.6nm,0.3s,baz=54,slow=1.0,SNR=7.1						
KSRS				P3KPbc		11 34 37.2	
	0.1nm,0.3s,baz=34,slow=3.0,SNR=4.7						
KSRS				P4KP		11 42 24.5	
	0.1nm,0.3s,baz=86,slow=3.3,SNR=4.5						
KSAR	**Wonju Array Be**	**9.35**	**300**	P	**Pn**	**10 58 08.2**	**+1.9**
KSAR				ScP	**ScP**	**11 06 57.5**	**+0.5**
KSAR				PKiKP	**PKiKP**	**11 11 53.7**	**-0.2**
KSAR				*e*		11 34 37.2	
KSAR				P4KP		11 42 24.5	
JMZ	**Minamidaito 2**	**9.42**	**221**	P	**Pn**	**10 58 08.6**	**+1.2**
ERM	**Erimo**	**9.73**	**23**	Pn	**Pn**	**10 58 07.8**	**-3.1**
	95μm,0.7s						
ERM	**Erimo**	**9.73**	**23**	*c iP*	Pn	10 58 07.3	-3.6
ERM	**Erimo**	**9.73**	**23**	*e*Pn	Pn	10 58 07.1	-3.8
ERM				*e*Sn	S	10 59 51.1	-10
JEW	**Eniwo**	**10.04**	**14**	P	Pn	10 58 11.2	-3.5
JBT2	**Biratori 2**	**10.20**	**18**	P	Pn	10 58 12.9	-3.7
INCN	**Inchon**	**10.29**	**298**	P	**P**	**10 58 20.1**	**-0.9**
SNR=1510							
INCN	**Inchon**	**10.29**	**298**	*e*Pn	**P**	**10 58 19.8**	**-1.2**
INCN				*e*S	**S**	**11 00 16.8**	**+3.2**
INCN				*e*ScP	**ScP**	**11 06 58.3**	**+0.2**
JCH	**Churui**	**10.34**	**22**	P	Pn	10 58 14.3	-4.0
JOW	**Kunigami**	**10.56**	**236**	*e*Pn	**Pn**	**10 58 21.9**	**+0.

HATJ	**Hateruma jima**	**15.44 238**	P	**Pn**	**10 59 19.8**	**0.0**
HABR	**Khabarovsk**	**15.48 352**	*d iP*	**P**	**10 59 18.0**	**-0.2**
HABR			*i* S	**S**	**11 02 01.7**	**-4.1**
HABR			pmax	pmax		
	comp=Z,3μm,2.9s					
HABR			pmax	pmax		
	comp=E,3μm,1.9s					
HABR			pmax	pmax		
	comp=N,19μm,2.9s					
UGL	**Uglegorsk**	**16.20 9⇑**	*iP*	**Pn**	**10 59 27.5**	**-0.8**
UGL			*e*S	**S**	**11 02 23.0**	**+2.8**
UGL			pmax	pmax		
	comp=N,2μm,0.9s					
UGL			pmax	pmax		
	comp=E,3μm,0.9s					
UGL			pmax	pmax		
	comp=Z,5μm,0.9s					
UGL			pmax	pmax		
	comp=N,45μm,2.0s					
UGL			pmax	pmax		
	comp=E,49μm,2.0s					
UGL			pmax	pmax		
	comp=Z,54μm,2.0s					
UGL			smax	smax		
	comp=N,40μm,2.2s					
UGL			smax	smax		
	comp=E,60μm,2.2s					
UGL			MLR	MLR		
	comp=E,105μm,18.0s					
NJ2	**Nanjing**	**16.23 271**	*e*P	**P**	**10 59 26.4**	**-0.2**
NJ2			sP	sP	11 00 40.0	-10
NJ2			S	**S**	**11 02 23.0**	**+1.7**
NJ2			ScP	**ScP**	**11 07 09.2**	**+1.4**
NJ2			ScS	**ScS**	**11 10 47.0**	**-0.1**
NJ2			pmax	pmax		
	comp=Z,4μm,1.0s					
NJ2			pmax	pmax		
	comp=Z,128μm,10.0s					
NJ2			LR	LR		
	comp=N,67μm,8.7s					
NJ2			LR	LR		
	comp=E,52μm,8.7s					
NJ2			LR	LR		
	comp=Z,59μm,11.4s					
TATO	**Taipei**	**16.61 245**	P	**P**	**10 59 31.4**	**+0.6**
	SNR=23					
TATO	**Taipei**	**16.61 245**	*e*P	**P**	**10 59 30.8**	**-0.1**
	comp=Z,6μm,2.4s					
KLR	**Kul'dur**	**16.74 346⇑**	*iP*	P	10 59 26.7	-5.3
KLR			pmax	pmax		
	comp=Z,59μm,11.5s					
YHNB	**Yeheng**	**16.86 244**	*e*P	**P**	**10 59 32.8**	**-0.8**
	comp=Z,2μm,0.9s					
YHNB			*e*ScP	**ScP**	**11 07 09.6**	**+0.3**
NACB	**Ninganchiao**	**16.98 242**	*e*P	**P**	**10 59 33.6**	**-1.2**
	comp=Z,1μm,0.9s					
NACB			*e*ScP	**ScP**	**11 07 10.8**	**+1.4**
TIA	**Tai'an**	**17.49 286**	⇓P	**P**	**10 59 40.9**	**+0.6**
TIA			sP	sP	11 00 58.7	-5.4
TIA			pmax	pmax		
	comp=Z,4μm,1.6s					
TIA			pmax	pmax		
	comp=Z,175μm,11.0s					
TIA			LR	LR		
	comp=N,132μm,17.8s					
TIA			LR	LR		
	comp=E,92μm,16.7s					
TIA			LR	LR		
	comp=Z,118μm,20.2s					
YULB	**Yu-li**	**17.66 241**	*e*P	**P**	**10 59 40.3**	**-1.9**
	comp=Z,789nm,0.6s					
SSLB	**Suanglung**	**17.68 243**	*e*P	**P**	**10 59 41.4**	**-1.1**
	comp=Z,1μm,0.8s					
SSLB			*e*S	**S**	**11 02 47.2**	**-3.0**
SSLB			*e*ScP	**ScP**	**11 07 11.5**	**+0.5**
BJI	**Beijing**	**18.85 298**	P	**P**	**10 59 53.9**	**-0.8**
BJI			sP	**sP**	**11 01 21.0**	**+1.9**
BJI			S	**S**	**11 03 10.3**	**-2.3**
BJI			pmax	pmax		
	comp=Z,7μm,1.3s					
BJI			pmax	pmax		
	comp=Z,120μm,7.9s					
BJT	**Baijiatuau**	**18.85 298**	*e*P	**P**	**10 59 53.8**	**-1.0**
	comp=Z,3μm,0.4s					
BJT			*e*S	S	11 03 20.6	+7.9
BJT			*e*ScP	**ScP**	**11 07 13.2**	**0.0**
QZH	**Quanzhou**	**18.86 249**	⇓*iP*	**P**	**10 59 52.6**	**-2.5**
QZH			sP	**sP**	**11 01 16.3**	**-3.0**
QZH			S	**S**	**11 03 08.0**	**-5.2**
QZH			ScP	**ScP**	**11 07 13.0**	**-0.5**
QZH			ScS	**ScS**	**11 10 55.4**	**+0.1**
QZH			pmax	pmax		
	comp=Z,2μm,0.8s					
QZH			pmax	pmax		
	comp=Z,65μm,6.8s					
QZH			LR	LR		
	comp=N,67μm,11.4s					
QZH			LR	LR		
	comp=E,171μm,10.7s					
QZH			LR	LR		
	comp=Z,150μm,14.8s					
WHN	**Wuhan**	**20.30 269**	⇓*iP*	**P**	**11 00 09.7**	**-0.4**
WHN			sP	**sP**	**11 01 37.1**	**+1.9**
WHN			S	**S**	**11 03 38.6**	**-0.7**
WHN			LR	LR		
	comp=N,111μm,11.1s					
WHN			LR	LR		
	comp=E,204μm,11.4s					
WHN			LR	LR		
	comp=Z,217μm,13.9s					
GUMO	**Guam**	**20.44 161**	*e*P	**P**	**11 00 11.1**	**-0.5**
	comp=Z,299nm,1.1s					
GUMO			*e*S	**S**	**11 03 44.2**	**+2.5**
SGCP	**Mt. Cagua**	**20.66 228**	*e*P	**P**	**11 00 12.8**	**-1.0**
HIA	**Hailar**	**21.11 325**	*e*P	**P**	**11 00 16.4**	**-1.4**
	comp=Z,10μm,0.9s					
HIA			*e*S	**S**	**11 03 56.5**	**+4.5**
CVP	**Callao Caves**	**21.20 227**	⇓*e*P	**P**	**11 00 17.1**	**-1.9**
PALP	**Palanan**	**21.33 225**	*e*P	**P**	**11 00 19.2**	**-0.9**
TIY	**Taiyuan**	**21.35 290**	*e*P	**P**	**11 00 19.3**	**-0.9**
TIY			PcP	**PcP**	**11 04 08.0**	**-3.6**
TIY			pmax	pmax		
	comp=Z,2μm,1.3s					
TIY			pmax	pmax		
	comp=Z,71μm,5.5s					
TIY			LR	LR		
	comp=N,41μm,12.1s					
TIY			LR	LR		
	comp=E,117μm,13.7s					
TIY			LR	LR		
	comp=Z,135μm,15.1s					
APYP	**Conner**	**21.45 229**	*e*P	**P**	**11 00 19.0**	**-2.2**
CAUP	**Cauayan**	**21.78 226**	*e*P	**P**	**11 00 24.2**	**0.0**
SIPP	**Brgy, Tapao**	**21.91 231**	⇓*e*P	**P**	**11 00 23.9**	**-1.4**
ABRA	**Dolores**	**21.94 230**	*e*P	**P**	**11 00 24.1**	**-1.6**
SKR	**Severo-Kuril's**	**21.98 32**	*α iP*	P	11 00 18.9	-6.8
SKR			*i* S	**S**	**11 03 59.0**	**-6.9**
SKR			pmax	pmax		
	comp=N,33μm,2.0s					
SKR			pmax	pmax		
	comp=E,27μm,2.0s					
SKR			pmax	pmax		
	comp=Z,37μm,2.0s					
SKR			pmax	pmax		
	comp=N,43μm,12.0s					
SKR			pmax	pmax		
	comp=E,54μm,12.0s					
SKR			pmax	pmax		
	comp=Z,60μm,12.0s					
SKR			smax	smax		
	comp=N,2μm,1.5s					
SKR			smax	smax		
	comp=E,17μm,3.0s					
SKR			smax	smax		
	comp=N,66μm,14.0s					
SKR			smax	smax		
	comp=E,212μm,14.0s					
SKR			MLR	MLR		
	comp=N,35μm,18.0s					
SKR			MLR	MLR		
	comp=E,85μm,18.0s					
SKR			MLR	MLR		
	comp=Z,63μm,18.0s					
HHC	**Hu-ho-hao-te**	**22.46 298**	*i* P	**P**	**11 00 30.3**	**0.0**
HHC			sP	**sP**	**11 02 03.5**	**+4.7**
HHC			PcP	**PcP**	**11 04 15.3**	**+1.5**
HHC			ScP	**ScP**	**11 07 20.2**	**-1.9**
HHC			PcS	**PcS**	**11 07 52.8**	**-0.1**
HHC			pmax	pmax		
	comp=Z,7μm,1.2s					
HHC			pmax	pmax		
	comp=Z,140μm,5.2s					
HHC			LR	LR		
	comp=N,110μm,13.2s					
HHC			LR	LR		
	comp=E,151μm,13.5s					
HHC			LR	LR		
	comp=Z,189μm,13.2s					
BALP	**Baler**	**22.87 225**	*e*P	**P**	**11 00 33.0**	**-1.2**
BCPH	**Baguio City Da**	**22.98 228**	⇑*iP*	**P**	**11 00 31.8**	**-3.5**
BCPH			*i* S	S	11 04 14.9	-8.0
BTO	**Baotou**	**23.57 296**	*e*P	**P**	**11 00 40.6**	**+0.2**
BTO			LR	LR		
	comp=N,46μm,17.6s					
BTO			LR	LR		
	comp=E,31μm,16.7s					
GZH	**Guangzhou**	**23.94 252**	P	P	11 00 38.4	-5.4
GZH			S	S	11 04 29.2	-8.5
GZH			pmax	pmax		
	comp=Z,81μm,10.9s					
GZH			LR	LR		
	comp=N,174μm,20.0s					
GZH			LR	LR		
	comp=E,68μm,20.4s					
GZH			LR	LR		
	comp=Z,146μm,13.7s					
XAN	**Xi'an**	**24.26 280**	P	**P**	**11 00 46.4**	**-0.2**
XAN			pP	**pP**	**11 01 42.7**	**+3.1**
XAN			sP	**sP**	**11 02 14.2**	**-3.8**
XAN			S	**S**	**11 04 48.5**	**+5.8**
XAN			pmax	pmax		
	comp=Z,3μm,1.1s					
XAN			LR	LR		
	comp=N,36μm,14.8s					
XAN			LR	LR		
	comp=E,16μm,13.1s					
XAN			LR	LR		
	comp=Z,13μm,14.4s					
PEA0B	**Petropavlovsk-**	**24.42 29**	*e*P	**P**	**11 00 47.2**	**-0.6**
PETK	**Petropavlovsk-**	**24.42 29**	P	**P**	**11 00 47.1**	**-0.7**
PETK			pmax	pmax		
	comp=Z,135nm,0.5s					
PETK			pmax	pmax		
	comp=N,116nm,0.9s					
PETK	**Petropavlovsk-**	**24.42 29**	P	**P**	**11 00 47.1**	**-0.7**
PETK			ScP	**ScP**	**11 07 26.8**	**-0.3**
PETK			PKiKP	**PKiKP**	**11 11 59.0**	**-0.2**
PETK			*e*		11 33 52.8	
PETK	**Petropavlovsk-**	**24.42 29**	P	**P**	**11 00 47.1**	**-0.7**
	comp=N,135nm,0.5s,baz=231,slow=6.3,SNR=242					
PETK			ScP	**ScP**	**11 07 26.8**	**-0.3**
	comp=N,116nm,0.9s,baz=180,slow=4.0,SNR=5.8					
PETK			PKiKP	**PKiKP**	**11 11 59.0**	**-0.2**
	comp=N,11nm,0.9s,baz=122,slow=4.4,SNR=5.9					
PETK			P3KPbc		11 33 52.8	
	comp=N,8.3nm,1.0s,baz=329,slow=1.9,SNR=4.9					
ENH	**Enshi**	**24.45 271**	*e*P	**P**	**11 00 48.1**	**-0.2**
	comp=N,176nm,0.3s					
ENH			*e*S	**S**	**11 04 45.3**	**-0.4**
ENH			*e*ScP	**ScP**	**11 07 28.4**	**+0.8**
TGY	**Tagaytay City**	**24.54 223**	P	**P**	**11 00 49.3**	**0.0**
TGY	**Tagaytay City**	**24.54 223**	P	**P**	**11 00 49.3**	**0.0**
	comp=N,857nm,0.6s,baz=197,slow=3.1,SNR=23					
PET	**Petropavlovsk**	**24.76 30**	⇑*iP*	**P**	**11 00 50.2**	**-0.6**
PET			*i* S	**S**	**11 04 49.1**	**-0.8**
PET			*e*		11 11 15.3	
PET			pmax	pmax		
	comp=Z,1μm,1.2s					
PET			pmax	pmax		
	comp=Z,37μm,6.6s					
PET			pmax	pmax		
	comp=Z,47μm,14.5s					
PET			MLR	MLR		
	comp=Z,92μm,20.0s					
PET			MLR	MLR		
	comp=Z,65μm,18.0s					
PLP	**Palo**	**24.96 212**	⇓*iP*	**P**	**11 00 52.3**	**-0.7**
CLNS	**Chul'man**	**25.36 343**	*e*P	**P**	**11 00 57.3**	**+1.1**
CLNS			*e*		11 01 53.4	
CLNS			*e*		11 04 21.4	
CLNS			*e*S	**S**	**11 04 59.8**	**+0.2**
CLNS			pmax	pmax		
	comp=E,649nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,3μm,1.1s					
CLNS			pmax	pmax		
	comp=N,2μm,0.8s					
CLNS			smax	smax		
	comp=E,117μm,12.8s					
CLNS			smax	smax		
	comp=N,58μm,12.8s					
CIT	**Chita**	**25.90 324**	*e*P	**P**	**11 01 01.9**	**+0.8**
CIT			*e*		11 02 00.6	
CIT			*e*		11 02 34.0	
CIT			*e*		11 11 20.9	
CIT			pmax	pmax		
	comp=Z,11μm,2.3s					
LLP	**Lapu-Lapu**	**26.16 213**	⇓*e*P	**P**	**11 01 02.4**	**-1.4**
LLP			*e*S	**S**	**11 05 10.0**	**-3.0**
CGP	**Cagayan de Oro**	**27.51 210**	*e*P	**P**	**11 01 13.2**	**-2.5**
ULN	**Ulaanbaatar**	**27.56 311**	P	**P**	**11 01 17.2**	**+1.2**
	SNR=3618					
ULN	**Ulaanbaatar**	**27.56 311**	*e*P	**P**	**11 01 17.0**	**+1.0**
	comp=Z,4μm,0.9s					
ULN			*e*ScP	**ScP**	**11 07 36.1**	**-0.5**
ULN	**Ulaanbaatar**	**27.56 311**	P	**P**	**11 01 16.7**	**+0.7**
SONM	**Songino Array**	**27.96 311**	P	**P**	**11 01 20.6**	**+1.1**
SONM			ScP	**ScP**	**11 07 41.0**	**+3.2**
SONM			ScS	**ScS**	**11 11 35.2**	**+4.4**
SONM			*e*		11 33 36.8	
SONM			P'P'ab	P'P'ab	11 37 44.9	+5.5
SONM	**Songino Array**	**27.96 311**	P	**P**	**11 01 20.6**	**+1.1**
	comp=Z,4μm,0.8s,baz=126,slow=6.0,SNR=2283					
SONM			ScP	**ScP**	**11 07 41.0**	**+3.2**
	comp=Z,187nm,0.8s,baz=141,slow=2.8,SNR=10					
SONM			ScS	**ScS**	**11 11 35.2**	**+4.4**
	comp=Z,37nm,1.1s,baz=168,slow=15,SNR=5.2					
SONM			P3KPbc		11 33 36.8	
	comp=Z,9.7nm,0.9s,baz=271,slow=3.4,SNR=7.7					
SONM			PKP2ab		11 37 44.9	
	comp=Z,4.6nm,1.2s,baz=199,slow=3.1,SNR=3.5					
DCPH	**Dipolog City**	**27.97 212**	⇑*e*P	**P**	**11 01 18.4**	**-1.5**
GYA	**Guiyang**	**27.98 265**	⇓*iP*	**P**	**11 01 19.0**	**-1.0**
GYA			pP	**pP**	**11 02 19.4**	**+1.9**
GYA			PP	**PnPn**	**11 02 26.8**	**+0.9**
GYA			sP	**sP**	**11 02 53.0**	**+0.2**
GYA			PcP	**PcP**	**11 04 23.9**	**-2.7**
GYA			S	**S**	**11 05 40.3**	**-1.2**
GYA			sS	**sS**	**11 07 24.3**	**-2.4**
GYA			SS	**ScP**	**11 07 33.4**	**-4.8**
GYA			ScP	**ScP**	**11 07 38.9**	**+0.7**
GYA			PcS	**PcS**	**11 08 08.0**	**-1.3**
GYA			ScS	**ScS**	**11 11 30.2**	**-1.3**
GYA			pmax	pmax		
	comp=Z,2μm,1.0s					
GYA			LR	LR		
	comp=N,15μm,16.8s					
GYA			LR	LR		
	comp=E,11μm,17.4s					
GYA			LR	LR		
	comp=Z,13μm,16.7s					
LZH	**Lanzhou**	**28.23 286**	⇓P	**P**	**11 01 21.8**	**-0.3**
LZH			pP	**pP**	**11 02 20.2**	**+0.5**
LZH			sP	**sP**	**11 02 59.0**	**+4.0**
LZH			S	**S**	**11 05 41.0**	**-4.4**
LZH			sS	**sS**	**11 07 26.0**	**-4.5**
LZH			ScP	**ScP**	**11 07 35.0**	**-3.9**
LZH			pmax	pmax		
	comp=Z,3μm,1.0s					
LZH			pmax	pmax		
	comp=Z,40μm,7.7s					
LZH			LR	LR		
	comp=N,52μm,13.2s					
LZH			LR	LR		
	comp=E,62μm,12.2s					
LZH			LR	LR		
	comp=Z,78μm,14.3s					
DAV	**Davao City (W)**	**28.42 207**	⇓*e*P	**P**	**11 01 23.2**	**-0.5**
DAV	**Davao City (W)**	**28.42 207**	*e*P	**P**	**11 01 23.1**	**-0.7**
	comp=Z,1μm,0.8s					
DAV	**Davao City (W)**	**28.42 207**	P	**P**	**11 01 24.9**	**+1.1**
	comp=Z,1μm,1.0s,comp=Z,30μmcomp=Z,206μm					
DAV	**Davao City (W)**	**28.42 207**	P	**P**	**11 01 23.4**	**-0.4**
	comp=Z,1μm,0.7s,baz=50,slow=4.8,SNR=13					
DMPH	**Davao City--Mi**	**28.43 207**	⇑*e*P	**P**	**11 01 23.3**	**-0.6**
CTBH	**Cotabato--PC H**	**28.81 209**	⇓*e*P	**P**	**11 01 26.6**	**-0.6**
QIZ	**Qiongzhong**	**28.87 248**	P	**P**	**11 01 28.2**	**+0.5**
QIZ			sP	**sP**	**11 03 01.8**	**+1.2**
QIZ			S	**S**	**11 05 55.6**	**+0.2**
QIZ			sS	**sS**	**11 07 40.7**	**+0.1**
QIZ	**Qiongzhong**	**28.87 248**	*e*P	**P**	**11 01 28.3**	**+0.5**
	comp=Z,790nm,1.2s					
QIZ			*e*		11 02 25.2	
QIZ			*e*ScP	**ScP**	**11 07 41.2**	**+0.3**
WAKE	**Wake Island**	**29.02 111**	*e*P	**P**	**11 01 27.8**	**-1.2**
	comp=Z,4μm,1.1s					
CD2	**Chengdu**	**29.09 275**	⇓*iP*	**P**	**11 01 29.2**	**-0.5**
CD2			pP	**pP**	**11 02 26.9**	**-0.6**
CD2			sP	**sP**	**11 03 03.5**	**+0.8**
CD2			PcP	**PcP**	**11 04 30.7**	**+1.4**
CD2			S	**S**	**11 05 55.6**	**-3.2**
CD2			sS	**ScP**	**11 07 41.9**	**+0.3**
CD2			ScS	**ScS**	**11 11 35.1**	**-1.3**
CD2			pmax	pmax		
	comp=Z,16μm,0.8s					
CD2			pmax	pmax		
	comp=Z,50μm,8.3s					
CD2			LR	LR		
	comp=N,115μm,14.3s					
CD2			LR	LR		
	comp=E,206μm,14.2s					
CD2			LR	LR		
	comp=Z,175μm,12.5s					
YAK	**Yakutsk**	**29.40 352**	*d iP*	**P**	**11 01 31.5**	**-0.3**
YAK			*e*PP	**pP**	**11 02 29.8**	**+0.1**
YAK			*e*		11 04 29.0	
YAK			*e*S	**S**	**11 06 03.0**	**+0.4**
YAK			*e*SS	**ScP**	**11 07 43.9**	**+2.1**
YAK			*e*		11 11 31.4	
YAK			pmax	pmax		
	comp=Z,2μm,0.9s					
YAK			pmax	pmax		
	comp=N,891nm,1.0s					
YAK			pmax	pmax		
	comp=E,225nm,1.0s					
YAK			smax	smax		
	comp=N,26μm,2.0s					
YAK			smax	smax		
	comp=E,4μm,1.6s					
GSPH	**General Santos**	**29.56 207**	*e*P	**P**	**11 01 33.6**	**-0.3**
ZAK	**Zakamensk**	**30.77 314**	⇑*iP*	**P**	**11 01 45.0**	**+0.8**
ZAK			*e*		11 11 44.0	
ZAK			pmax	pmax		
	comp=Z,1μm,1.6s					
IRK	**Irkutsk**	**30.92 318**	⇓*iP*	**P**	**11 01 45.7**	**+0.3**
IRK			*e*		11 11 37.8	
IRK			pmax	pmax		
	comp=Z,4μm,2.0s					
TLY	**Talaya**	**31.04 317**	*d iP*	**P**	**11 01 47.8**	**+1.3**
TLY			*e*		11 03 05.1	
TLY			*e*S	**S**	**11 06 32.1**	**+3.4**
TLY			*e*SS	SS	11 08 38.9	-13
TLY			pmax	pmax		
	comp=Z,3μm,1.1s					
TLY			MLR	MLR		
	comp=Z,95μm,15.0s					
TLY	**Talaya**	**31.04 317**	P	**P**	**11 01 47.3**	**+0.8**
	comp=Z,16μm,0.9s					
GTA	**Gaotai**	**31.29 293**	⇓P	**P**	**11 01 48.7**	**-0.2**
GTA			pP	**pP**	**11 02 49.2**	**+2.0**
GTA			PP	**PP**	**11 03 09.0**	**+2.4**
GTA			sP	**sP**	**11 03 26.1**	**+3.9**
GTA			PcP	**PcP**	**11 04 36.5**	**+1.5**
GTA			S	**S**	**11 06 31.2**	**-1.8**
GTA			ScP	**ScP**	**11 07 48.0**	**-0.8**
GTA			PcS	**PcS**	**11 08 19.7**	**-0.1**
GTA			sS	**sS**	**11 08 20.7**	**+2.1**
GTA			SS	**SS**	**11 08 49.3**	**-8.8**
GTA			ScS	**ScS**	**11 11 44.8**	**-2.2**
GTA			pmax	pmax		
	comp=Z,2μm,1.6s					
GTA			pmax	pmax		
	comp=Z,48μm,12.0s					
GTA			LR	LR		
	comp=N,64μm,15.7s					
GTA			LR	LR		
	comp=E,86μm,16.2s					
GTA			LR	LR		
	comp=Z,90μm,15.9s					
KMI	**Kunming**	**31.75 265**	P	**P**	**11 01 52.6**	**-0.6**
KMI			pP	**pP**	**11 02 53.0**	**+1.4**
KMI			PP	**PP**	**11 03 13.0**	**+1.0**
KMI			S	**S**	**11 06 39.3**	**-1.4**
KMI			ScP	**ScP**	**11 07 51.5**	**+0.8**
KMI			sS	**sS**	**11 08 29.3**	**+2.8**
KMI			ScS	**ScS**	**11 11 51.1**	**+1.1**
KMI			pmax	pmax		
	comp=Z,2μm,0.8s					
KMI			pmax	pmax		
	comp=Z,30μm,11.3s					
KMI			LR	LR		
	comp=N,52μm,17.0s					
KMI			LR	LR		
	comp=E,75μm,14.6s					
KMI			LR	LR		
	comp=Z,81μm,16.1s					
FX1	**Attu Island--F**	**31.91 41**	*e*P	**P**	**11 01 54.9**	**+0.8**
FX1			*e*ScP	**ScP**	**11 07 49.7**	**-0.7**
FX1	**Attu Island--F**	**31.91 41**	P	**P**	**11 01 54.8**	**+0.8**
	comp=Z,2μm,0.8s,baz=269,slow=3.5,SNR=232					
SMY	**Shemya**	**32.37 42**	*e*P	**P**	**11 01 58.8**	**+0.9**
SMY			*e*PP	**PP**	**11 03 17.1**	**-1.1**
SMY			*e*S	**S**	**11 06 53.0**	**+3.9**
SMY	**Shemya**	**32.37 42**	*e*P	**P**	**11 01 58.8**	**+0.9**
	comp=Z,12μm,1.9s					
SMY			*e*pP	**PP**	**11 03 17.1**	**-1.1**
SMY			*e*S	**S**	**11 06 53.0**	**+3.9**
SMY			*e*ScP	**ScP**	**11 07 54.8**	**+2.8**
MOY	**Mondy**	**32.57 316**	*e*P	**P**	**11 02 00.5**	**+0.6**
MOY			pmax	pmax		
	comp=Z,3μm,2.1s					
KDM	**Kudat**	**32.70 222**	P	**P**	**11 02 02.0**	**+0.8**
MYLDM	**Lahad Datu**	**33.26 217**	P	**P**	**11 02 08.2**	**+2.1**
MYLDM	**Lahad Datu**	**33.26 217**	P	**P**	**11 02 07.5**	**+1.4**
	comp=Z,3μm,1.1s,comp=Z,41μmcomp=Z,283μm					
SDKM	**Sandakan**	**33.56 220**	P	**P**	**11 02 08.7**	**0.0**
TNTI	**Ternate**	**33.74 200**	P	**S**	**11 07 09.8**	**-1.0**
	comp=Z,3μm,1.6s,comp=Z,50μm					
TNTI	**Ternate**	**33.74 200**	P	**P**	**11 02 10.0**	**-0.1**
	comp=Z,3μm,1.4s,comp=Z,39μmcomp=Z,109μm					
KKM	**Kota Kinabalu**	**33.76 222**	*e*P	**P**	**11 02 09.9**	**-0.6**
	comp=Z,1μm,1.1s					
KKM	**Kota Kinabalu**	**33.76 222**	P	**P**	**11 02 11.2**	**+0.7**
KKM	**Kota Kinabalu**	**33.76 222**	P	**P**	**11 02 10.6**	**+0.1**
	comp=Z,1μm,1.2s,comp=Z,28μmcomp=Z,233μm					
PANO	**Nakornpanom**	**34.03 250**	P	**P**	**11 02 13.0**	**+0.4**
	comp=Z,1μm,1.8s,comp=Z,48μm					
BAKI	**Biak**	**34.20 183**	P	**ScP**	**11 08 00.8**	**+1.8**
	comp=Z,521nm,1.1s					
BAKI	**Biak**	**34.20 183**	P	**P**	**11 02 13.7**	**-0.4**
	comp=Z,556nm,1.1s,comp=Z,21μm					
TSM	**Tawau**	**34.34 218**	P	**P**	**11 02 15.5**	**+0.2**
SWI	**Sorong**	**34.43 192**	P	**P**	**11 02 15.3**	**-0.7**
	comp=Z,854nm,0.9s,comp=Z,14μmcomp=Z,111μm					
UBPT	**Khong Chiam**	**34.44 247**	P	**P**	**11 02 16.5**	**+0.4**
	comp=Z,2μm,1.1s,comp=Z,42μm					
RKPI	**Ransiki, Papua**	**34.67 187**	P	**S**	**11 07 26.3**	**+1.3**
RKPI	**Ransiki, Papua**	**34.67 187**	P	**P**	**11 02 17.6**	**-0.4**
	comp=Z,419nm,0.9s,comp=Z,14μm					
SRPI	**Serui, Papua**	**34.87 183**	P	**ScP**	**11 08 02.2**	**+0.8**
	comp=Z,985nm,1.1s,comp=Z,17μm					
AMKA	**Amchitka**	**34.97 46**	*e*P	**P**	**11 02 20.9**	**+0.7**
	comp=Z,2μm,0.7s					
AMKA			*e*S	**S**	**11 07 31.2**	**+2.3**
KMSI	**Cibinong**	**35.00 205**	P	**S**	**11 07 29.6**	**-0.6**
	comp=Z,9μm,1.6s,comp=Z,117μm					
KMSI	**Cibinong**	**35.00 205**	P	**P**	**11 02 20.3**	**-0.6**
	comp=Z,9μm,0.9s,comp=Z,59μmcomp=Z,108μm					
LBMI	**Labuha**	**35.05 199**	P	**S**	**11 07 30.7**	**-0.2**
	comp=Z,1μm,1.7s,comp=Z,28μm					
LBMI	**Labuha**	**35.05 199**	P	**P**	**11 02 20.9**	**-0.4**
	comp=Z,2μm,1.0s,comp=Z,26μmcomp=Z,68μm					
GTOI	**Gorontalo**	**35.30 207**	P	**S**	**11 07 30.3**	**-4.4**
	comp=Z,1μm,2.3s,comp=Z,39μm					
GTOI	**Gorontalo**	**35.30 207**	P	**P**	**11 02 22.4**	**-1.0**
	comp=Z,6μm,0.8s,comp=Z,51μmcomp=Z,181μm					

JAY	**Jayapura**	**35.56 175**	P	**P**	**11 02 26.6**	**+1.0**
TOLI	**Toli-Toli**	**35.75 211**	P	**P**	**11 02 26.9**	**-0.3**
	comp=Z,2μm,1.1s,comp=Z,21μmcomp=Z,136μm					
MRSI	**Marisa**	**35.86 208**	P	S	11 07 31.7	-12
MRSI	**Marisa**	**35.86 208**	P	**P**	**11 02 29.1**	**+0.9**
	comp=Z,3μm,1.4s,comp=Z,41μmcomp=Z,104μm					
FAKI	**Fak Fak**	**36.29 190**	P	**ScP**	**11 08 08.0**	**+1.4**
	comp=Z,473nm,1.0s					
FAKI	**Fak Fak**	**36.29 190**	P	**P**	**11 02 30.9**	**-0.9**
	comp=Z,914nm,1.4s,comp=Z,13μmcomp=Z,68μm					
KWAJ	**Kwajalein Atol**	**36.48 125**	*e*P	**P**	**11 02 32.9**	**-0.5**
KWAJ			pmax	pmax		
	comp=Z,1μm,0.9s					
KWAJ	**Kwajalein Atol**	**36.48 125**	*e*P	**P**	**11 02 32.9**	**-0.5**
	comp=Z,1μm,0.9s					
LUWI	**Luwuk**	**36.94 206**	P	**S**	**11 07 54.2**	**-5.2**
	comp=Z,4μm,1.3s,comp=Z,41μm					
LUWI	**Luwuk**	**36.94 206**	P	**P**	**11 02 34.9**	**-2.3**
	comp=Z,3μm,1.4s,comp=Z,28μmcomp=Z,128μm					
CMAI	**Chiengmai2**	**37.09 259**	P	**P**	**11 02 38.7**	**0.0**
	comp=Z,2μm,2.1s,comp=Z,58μm					
PBKT	**Sadao Pong**	**37.25 253**	P	**P**	**11 02 39.4**	**-0.4**
	comp=Z,3μm,1.6s,comp=Z,47μm					
LAMP	**Lampang**	**37.30 257**	P	**P**	**11 02 40.6**	**+0.3**
	comp=Z,820nm,0.6s,comp=Z,7μm					
MSAI	**Masohi**	**37.31 195**	P	**P**	**11 02 41.1**	**+0.8**
	comp=Z,350nm,0.8s,comp=Z,7μm					
ADK	**Adak**	**37.52 46**	*e*P	**P**	**11 02 41.0**	**-0.7**
ADK			*e*		11 08 08.7	
ADK			*e*		11 12 22.7	
ADK	**Adak**	**37.52 46**	*e*P	**P**	**11 02 41.0**	**-0.7**
	comp=Z,6μm,1.7s					
ADK			*e*ScP	**S**	**11 08 08.7**	**+1.2**
ADK			*e*		11 12 22.7	
CMMT	**Chiang Mai**	**37.72 258**	P	**P**	**11 02 42.9**	**-0.9**
	comp=Z,1μm,1.9s,comp=Z,39μm					
CHTO	**Chiang Mai**	**37.72 258**	*e*P	**P**	**11 02 43.4**	**-0.4**
CHTO			*e*S	**S**	**11 08 12.5**	**+1.3**
CHTO			pmax	pmax		
	comp=Z,4μm,1.6s					
CHTO	**Chiang Mai**	**37.72 258**	P	**P**	**11 02 44.0**	**+0.2**
	SNR=363					
CHTO	**Chiang Mai**	**37.72 258**	*e*P	**P**	**11 02 43.4**	**-0.4**
	comp=Z,989nm,1.6s					
CHTO			*e*S	**S**	**11 08 12.5**	**+1.3**
CHTO	**Chiang Mai**	**37.72 258**	P	**P**	**11 02 43.2**	**-0.6**
CHTO	**Chiang Mai**	**37.72 258**	P	**P**	**11 02 43.2**	**-0.6**
	comp=Z,2μm,1.9s,comp=Z,45μm					
AAI	**Ambon**	**37.81 196**	P	S	11 08 01.9	-11
	comp=Z,908nm,1.2s,comp=Z,20μm					
AAI	**Ambon**	**37.81 196**	P	**P**	**11 02 44.8**	**+0.3**
	comp=Z,4μm,0.8s,comp=Z,37μmcomp=Z,92μm					
BTM	**Bintulu**	**37.86 223**	P	**P**	**11 02 45.7**	**+0.7**
CM31	**Chiang Mai Arr**	**37.90 257**	*e*P	**P**	**11 02 45.7**	**+0.4**
	comp=Z,692nm,0.6s					
CM31			*e*ScP	**S**	**11 08 15.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**37.90 257**	P	**P**	**11 02 45.2**	**0.0**
CMAR			ScP	**S**	**11 08 15.5**	**+1.5**
CMAR			PKiKP	**PKiKP**	**11 12 10.0**	**+0.7**
CMAR			*e*		11 32 54.8	
CMAR			PKKKP		11 34 40.1	
CMAR			P'P'		11 35 13.8	
CMAR	**Chiang Mai Arr**	**37.90 257**	P	**P**	**11 02 45.2**	**0.0**
	comp=Z,520nm,0.7s,baz=52,slow=8.0,SNR=405					
CMAR			ScP	**S**	**11 08 15.5**	**+1.5**
	comp=Z,276nm,1.0s,baz=32,slow=3.2,SNR=12					
CMAR			PKiKP	**PKiKP**	**11 12 10.0**	**+0.7**
	comp=Z,11nm,0.9s,baz=291,slow=0.7,SNR=4.4					
CMAR			P3KPbc		11 32 54.8	
	comp=Z,4.0nm,0.8s,baz=244,slow=4.9,SNR=15					
CMAR			P3KP		11 34 40.1	
	comp=Z,3.6nm,1.1s,baz=285,slow=3.5,SNR=4.7					
CMAR			PKPPKP	P'P'df	11 35 13.8	-6.2
	comp=Z,5.9nm,1.0s,baz=267,slow=4.0,SNR=5.3					
GSTR	**Great Sitkin T**	**37.94 46**	*e*P	**P**	**11 02 45.5**	**+0.3**
BNDI	**Bandanaira**	**38.25 193**	P	**ScP**	**11 08 13.4**	**-0.6**
	comp=Z,3μm,1.4s,comp=Z,35μm					
BNDI	**Bandanaira**	**38.25 193**	P	**P**	**11 02 48.0**	**-0.1**
	comp=Z,4μm,1.0s,comp=Z,40μmcomp=Z,55μm					
MIDW	**Midway**	**38.43 85**	*e*P	**P**	**11 02 49.1**	**-0.4**
	comp=Z,7μm,1.3s					
KRAR	**Krasnoyarsk**	**38.52 320**	*d i*P	**P**	**11 02 51.8**	**+1.9**
KRAR			pmax	pmax		
	comp=Z,6μm,1.5s					
SGKI	**Sangatta, Kali**	**38.65 214**	P	P	11 02 45.6	-5.9
SKSI	**Soroako, Sulaw**	**38.85 207**	P	**ScP**	**11 08 13.0**	**-3.4**
	comp=Z,504nm,1.4s,comp=Z,11μm					
SKSI	**Soroako, Sulaw**	**38.85 207**	P	**P**	**11 02 52.3**	**-0.9**
TIXI	**Tiksi**	**38.88 355**	*d i*P	**P**	**11 02 52.1**	**-0.5**
TIXI			pmax	pmax		
	comp=Z,1μm,1.2s					
SBUM	**Sibu**	**38.97 224**	P	**P**	**11 02 55.2**	**+1.1**
SBUM	**Sibu**	**38.97 224**	P	**P**	**11 02 54.6**	**+0.5**
	comp=Z,1μm,1.2s,comp=Z,25μmcomp=Z,170μm					
ATKA	**Atka Island**	**39.09 46**	*e*P	**P**	**11 02 53.7**	**-0.9**
	comp=Z,2μm,1.0s					
ATKA			*e*ScP	**ScP**	**11 08 15.9**	**-0.8**
BKB	**Balikpapan**	**39.62 214**	P	S	11 08 49.8	+10
BKB	**Balikpapan**	**39.62 214**	P	**P**	**11 03 00.0**	**+0.6**
	comp=Z,7μm,1.2s,comp=Z,73μmcomp=Z,208μm					
TTSI	**Tana Toraja**	**39.92 209**	P	**ScP**	**11 08 23.6**	**+3.2**
TTSI	**Tana Toraja**	**39.92 209**	P	**P**	**11 03 01.1**	**-0.8**
	comp=Z,695nm,1.1s,comp=Z,12μmcomp=Z,69μm					
LSA	**Lhasa**	**39.92 278**	P	**P**	**11 03 03.2**	**+0.9**
LSA			pmax	pmax		
	comp=Z,2μm,1.6s					
LSA			LR	LR		
	comp=N,41μm,16.7s					
LSA			LR	LR		
	comp=E,40μm,37.6s					
LSA			LR	LR		
	comp=Z,122μm,27.0s					
LSA	**Lhasa**	**39.92 278**	*e*P	**P**	**11 03 03.3**	**+0.9**
LSA			*e**PP	**PP**	**11 04 41.2**	**0.0**
LSA			pmax	pmax		
	comp=Z,3μm,0.8s					
LSA	**Lhasa**	**39.92 278**	*e*P	**P**	**11 03 03.3**	**+0.9**
	comp=Z,3μm,0.8s					
LSA			*e*pP	**PP**	**11 04 41.2**	**0.0**
LSA			*e*ScP	**ScP**	**11 08 22.7**	**+1.7**
MMSI	**Mamuju**	**39.98 211**	P	**P**	**11 03 01.5**	**-0.9**
	comp=Z,3μm,1.2s,comp=Z,36μmcomp=Z,91μm					
WMQ	**Urumqi**	**40.28 300**	‖ *i*P	**P**	**11 03 05.3**	**+0.6**
WMQ			pP	**pP**	**11 04 06.8**	**+1.5**
WMQ			PP	**PP**	**11 04 47.7**	**+3.3**
WMQ			PcP	**PcP**	**11 05 02.3**	**+0.6**
WMQ			ScP	**ScP**	**11 08 21.9**	**+0.3**
WMQ			S	**S**	**11 08 49.9**	**+0.9**
WMQ			SS	SS	11 11 53.6	-7.3
WMQ			ScS	**ScS**	**11 12 37.3**	**+0.8**
WMQ			pmax	pmax		
	comp=Z,3μm,1.2s					
WMQ			pmax	pmax		
	comp=Z,50μm,3.7s					
WMQ			LR	LR		
	comp=N,50μm,15.0s					
WMQ			LR	LR		
	comp=E,28μm,16.0s					
WMQ			LR	LR		
	comp=Z,38μm,18.0s					
MTKI	**Muara Teweh, K**	**40.33 217**	P	**P**	**11 03 05.7**	**+0.4**
PHET	**Kaeng Krachan**	**40.39 249**	P	**P**	**11 03 06.6**	**+0.8**
	comp=Z,9μm,1.0s,comp=Z,70μm					
SHL	**Shillong**	**40.69 272**	*e*P	**P**	**11 03 07.9**	**-0.4**
SHL			AMB	AMB	11 03 12.3	
	comp=Z,2μm,6.2s					
SHL			*ex*	x	11 08 27.0	
SPSI	**Sidrap Palu**	**40.77 209**	P	**P**	**11 03 07.9**	**-0.9**
	comp=Z,1μm,1.3s,comp=Z,16μm					
KSM	**Kuching**	**40.88 225**	*e*P	**P**	**11 03 10.1**	**+0.4**
	comp=Z,4μm,1.4s					
KSM	**Kuching**	**40.88 225**	P	**P**	**11 03 10.6**	**+0.9**
KSM	**Kuching**	**40.88 225**	P	**P**	**11 03 10.3**	**+0.6**
	comp=Z,2μm,1.4s,comp=Z,50μmcomp=Z,156μm					
BNSI	**Bone**	**41.04 208**	P	**P**	**11 03 13.2**	**+2.3**
BBSI	**Bau Bau**	**41.14 204**	P	**P**	**11 03 12.9**	**+1.1**
STKI	**Sintang**	**41.33 223**	P	**P**	**11 03 13.3**	**-0.1**
KAPI	**Kappang**	**41.74 208**	P	**P**	**11 03 15.1**	**-1.5**
	comp=Z,23μm,1.4s					
KAPI	**Kappang**	**41.74 208**	P	**P**	**11 03 15.8**	**-0.8**
	SNR=306					
KAPI	**Kappang**	**41.74 208**	*e*P	**P**	**11 03 15.3**	**-1.3**
	comp=Z,2μm,1.3s					
KAPI			*e*PcP	**PcP**	**11 05 09.3**	**+2.5**
KAPI			*e*ScP	**ScP**	**11 08 29.0**	**+1.4**
KAPI			*e*S	**S**	**11 09 09.4**	**-1.2**
KAPI	**Kappang**	**41.74 208**	P	**ScP**	**11 08 29.9**	**+2.3**
KAPI	**Kappang**	**41.74 208**	P	**P**	**11 03 15.3**	**-1.3**
	comp=Z,4μm,1.4s,comp=Z,49μmcomp=Z,82μm					
KAPI	**Kappang**	**41.74 208**	ScP	**ScP**	**11 08 29.1**	**+1.4**
	comp=Z,595nm,1.2s,baz=30,slow=3.9,SNR=8.0					
BKSI	**Bulukumba**	**41.87 207**	P	**ScP**	**11 08 29.8**	**+1.6**
BKSI	**Bulukumba**	**41.87 207**	P	**P**	**11 03 16.9**	**-0.8**
	comp=Z,1μm,1.0s,comp=Z,16μmcomp=Z,63μm					
SPIA	**Saint Paul Isl**	**42.30 39**	*e*P	**P**	**11 03 20.9**	**+0.3**
	comp=Z,5μm,1.4s					
BSSI	**Bau Bau, Buton**	**42.49 206**	P	**P**	**11 03 21.7**	**-0.9**
	comp=Z,1μm,1.4s,comp=Z,18μm					
ZAA0	**Zalesovo Array**	**42.63 316**	*e*P	**P**	**11 03 23.1**	**-0.2**
ZAA0			*e*PcP	**PcP**	**11 05 09.3**	**+0.1**
ZAA0			*e*ScP	**ScP**	**11 08 30.5**	**-0.2**
ZALV	**Zalesovo Beam**	**42.63 316**	P	**P**	**11 03 23.2**	**-0.2**
ZALV					11 05 09.5	
ZALV					11 12 50.6	
ZALV	**Zalesovo Beam**	**42.63 316**	P	**P**	**11 03 23.1**	**-0.2**
ZALV			PcP	**PcP**	**11 05 09.5**	**+0.3**
ZALV			ScP	**ScP**	**11 08 31.4**	**+0.8**
ZALV			ScS	**ScS**	**11 12 50.5**	**+0.2**
ZALV			PKKKP		11 34 15.5	
ZALV			P'P'		11 35 06.1	
ZALV			*e*		11 41 17.3	
ZALV	**Zalesovo Beam**	**42.63 316**	P	**P**	**11 03 23.1**	**-0.2**
	comp=Z,1μm,0.7s,baz=101,slow=7.6,SNR=2574					
ZALV			PcP	**PcP**	**11 05 09.5**	**+0.3**
	comp=Z,505nm,0.5s,baz=91,slow=2.3,SNR=9.9					
ZALV			ScP	**ScP**	**11 08 31.4**	**+0.8**
	comp=Z,389nm,0.7s,baz=116,slow=3.2,SNR=9.8					
ZALV			ScS	**ScS**	**11 12 50.5**	**+0.2**
	comp=Z,104nm,1.1s,baz=116,slow=5.4,SNR=7.5					
ZALV			P3KP		11 34 15.5	
	comp=Z,3.7nm,0.8s,baz=298,slow=3.2,SNR=4.6					
ZALV			PKPPKP	P'P'df	11 35 06.1	-17
	comp=Z,9.2nm,1.0s,baz=277,slow=1.6,SNR=4.3					
ZALV			P4KPbc		11 41 17.3	
	comp=Z,2.0nm,0.6s,baz=111,slow=2.9,SNR=5.5					
KTGM	**Kuala Trenggan**	**42.68 237**	P	**P**	**11 03 25.7**	**+1.4**
PMG	**Port Moresby**	**43.20 167**	*e*P	**P**	**11 03 27.6**	**-0.6**
	comp=Z,291nm,0.7s					
PMG			*e*ScP	**ScP**	**11 08 33.9**	**+0.5**
PMG			*e*S	**S**	**11 09 30.7**	**-1.1**
PMG	**Port Moresby**	**43.20 167**	P	**P**	**11 03 27.2**	**-1.0**
	comp=Z,2μm,0.8s,comp=Z,19μmcomp=Z,81μm					
TAPN	**Taplejung**	**43.54 276**	*e*P	**P**	**11 03 31.6**	**+0.3**
	comp=Z,8μm,0.9s					
NVS	**Novosibirsk**	**43.66 317**	‖ *i*P	**P**	**11 03 31.5**	**0.0**
NVS			*i* PPP	PPP	11 05 21.4	
NVS			*e*S	**S**	**11 09 32.6**	**-5.0**
NVS			*e*SSS	SSS	11 12 52.2	
NVS			pmax	pmax		
	comp=N,1μm,0.9s					
NVS			pmax	pmax		
	comp=Z,4μm,0.9s					
NVS			pmax	pmax		
	comp=E,4μm,1.0s					
NVS			smax	smax		
	comp=N,563nm,1.7s					
NVS			smax	smax		
	comp=E,2μm,1.9s					
MK31	**Makanchi Array**	**43.97 305**	P	**P**	**11 03 34.2**	**0.0**
MK31			pmax	pmax		
	comp=Z,890nm,0.5s					
MK31	**Makanchi Array**	**43.97 305**	*e*P	**P**	**11 03 34.4**	**+0.3**
MK31			*e*ScP	**ScP**	**11 08 36.7**	**+0.3**
MKAR	**Makanchi Array**	**43.97 305**	*e*P	**P**	**11 03 34.6**	**+0.4**
MKAR	**Makanchi Array**	**43.97 305**	*e*P	**P**	**11 03 34.5**	**+0.4**
MKAR			ScP	**ScP**	**11 08 36.9**	**+0.6**
MKAR			PKiKP	**PKiKP**	**11 12 13.1**	**-0.9**
MKAR			*e*		11 32 30.0	
MKAR			PKKKP		11 34 30.7	
MKAR			P'P'		11 35 07.2	
MKAR			*e*		11 41 23.1	
MKAR	**Makanchi Array**	**43.97 305**	P	**P**	**11 03 35.5**	**+1.3**
	comp=Z,3μm,0.9s,baz=90,slow=9.7,SNR=3358					
MKAR			ScP	**ScP**	**11 08 36.9**	**+0.6**
	comp=Z,351nm,0.7s,baz=81,slow=5.3,SNR=13					
MKAR			PKiKP	**PKiKP**	**11 12 13.1**	**-0.9**
	comp=Z,19nm,0.9s,baz=281,slow=1.1,SNR=5.2					
MKAR			P3KPbc		11 32 30.0	
	comp=Z,2.4nm,0.8s,baz=259,slow=4.4,SNR=8.5					
MKAR			P3KP		11 34 30.7	
	comp=Z,1.5nm,0.9s,baz=273,slow=2.1,SNR=3.7					
MKAR			PKPPKP	P'P'df	11 35 07.2	-12
	comp=Z,3.4nm,0.9s,baz=236,slow=1.3,SNR=3.8					
MKAR			P4KPbc		11 41 23.1	
	comp=Z,3.7nm,0.6s,baz=81,slow=4.9,SNR=14					
ODAN	**Odare**	**43.98 276**	*e*P	**P**	**11 03 35.0**	**+0.3**
	comp=Z,9μm,0.8s					
MMRI	**Maumere**	**44.20 203**	P	**P**	**11 03 36.2**	**0.0**
	comp=Z,2μm,1.3s,comp=Z,28μmcomp=Z,102μm					
AKUT	**Akutan**	**44.37 44**	*e*P	**P**	**11 03 35.0**	**-2.0**
	comp=Z,509nm,0.7s					
AKUT			*e*ScP	**ScP**	**11 08 37.5**	**-0.2**
AKUT			*e*		11 13 02.1	
PKDT	**Phuket**	**44.48 245**	P	**P**	**11 03 39.0**	**+0.5**
	comp=Z,4μm,1.0s,comp=Z,70μm					
KULM	**Kulim**	**44.49 240**	*e*P	**P**	**11 03 38.9**	**+0.4**
	comp=Z,3μm,1.3s					
KULM	**Kulim**	**44.49 240**	P	**P**	**11 03 39.3**	**+0.8**
KULM	**Kulim**	**44.49 240**	P	**P**	**11 03 38.8**	**+0.3**
	comp=Z,2μm,1.9s,comp=Z,45μmcomp=Z,170μm					
RAMN	**Ramite**	**44.61 276**	*e*P	**P**	**11 03 40.1**	**+0.4**
	comp=Z,21μm,0.9s					
JIRN	**Jiri**	**44.70 277**	*e*P	**P**	**11 03 41.2**	**+0.6**
	comp=Z,17μm,0.7s					
MYKOM	**Kota Tinggi**	**44.74 233**	P	**P**	**11 03 41.3**	**+0.8**
IPM	**Ipoh**	**44.77 238**	*e*P	**P**	**11 03 40.6**	**-0.2**
	comp=Z,6μm,1.4s					
IPM	**Ipoh**	**44.77 238**	P	**P**	**11 03 41.4**	**+0.6**
LBFI	**Labuhan Bajo,**	**44.86 206**	P	**P**	**11 03 39.7**	**-1.7**
	comp=Z,2μm,1.3s,comp=Z,26μm					
GUN	**Gumba**	**44.87 278**	*e*P	**P**	**11 03 42.4**	**+0.5**
	comp=Z,16μm,1.0s					
KGM	**Kluang**	**44.93 234**	P	**P**	**11 03 43.3**	**+1.3**
FRIM	**Kepong**	**45.22 237**	P	**P**	**11 03 45.0**	**+0.7**
BATI	**Baumata**	**45.24 200**	P	**P**	**11 03 44.0**	**-0.4**
	comp=Z,983nm,1.0s,comp=Z,16μmcomp=Z,4μm					
BATI	**Baumata**	**45.24 200**	S	**S**	**11 09 55.6**	**-5.6**
	comp=Z,689nm,1.0s,baz=103,slow=21,SNR=13					
BMNI	**Bima**	**45.37 207**	P	**P**	**11 03 47.2**	**+1.8**
PKI	**Pulchoki**	**45.38 278**	*e*P	**P**	**11 03 45.7**	**-0.1**
	comp=Z,9μm,0.9s					
KKN	**Kakani**	**45.41 278**	*e*P	**P**	**11 03 46.2**	**+0.3**
	comp=Z,12μm,0.9s					
TARA	**Tarawa**	**45.50 127**	*e*P	**P**	**11 03 46.4**	**-0.1**
	comp=Z,453nm,0.8s					
TNA	**Tin City**	**45.58 28**	*e*P	**P**	**11 03 46.8**	**+0.5**
	comp=Z,320nm,0.7s					
DGPR	**DIGLIPUR**	**45.59 255**	*e*P	**P**	**11 03 46.1**	**-1.1**
DGPR			AMB	AMB	11 03 49.3	
	comp=Z,6μm,1.5s					
DMN	**Daman**	**45.62 278**	*e*P	**P**	**11 03 48.0**	**+0.4**
	comp=Z,8μm,1.0s					
FALS	**False Pass**	**45.79 43**	*e*P	**P**	**11 03 46.5**	**-1.6**
	comp=Z,485nm,0.7s					
FALS			*e*ScP	**ScP**	**11 08 43.5**	**-0.2**
FALS			*e*		11 13 16.0	
WSI	**Waingapu**	**45.82 205**	P	**P**	**11 03 46.0**	**-2.8**
TPI	**Tanjungpandan**	**45.84 225**	P	**P**	**11 03 49.5**	**+0.5**
	comp=Z,994nm,1.4s,comp=Z,20μm					
KMMI	**Kalianget**	**46.07 214**	P	**P**	**11 03 50.6**	**-0.2**
	comp=Z,3μm,1.1s,comp=Z,33μmcomp=Z,117μm					
BASI	**Baing, Sumba**	**46.23 204**	P	**P**	**11 03 49.8**	**-2.2**
PPBI	**Pangkal Pinang**	**46.28 227**	P	**P**	**11 03 52.4**	**-0.1**
KURBB	**Kurchatov Arra**	**46.33 311**	P3KPbc		11 32 19.9	
	comp=Z,1.5nm,0.9s,baz=258,slow=4.9,SNR=4.4					
KURBB			PKPPKP	P'P'df	11 35 03.0	-14
	comp=Z,4.0nm,1.0s,baz=244,slow=2.1,SNR=7.5					
KURBB			PKP2ab		11 36 10.7	
	comp=Z,1.9nm,0.9s,baz=282,slow=1.9,SNR=4.0					
KURBB			P4KPbc		11 41 34.2	
	comp=Z,1.6nm,0.6s,baz=93,slow=4.4,SNR=6.9					
BOK	**Bokaro**	**46.40 272**	*e*P	**P**	**11 03 53.1**	**-0.3**
SRBI	**Singaraja**	**46.41 212**	P	**P**	**11 03 52.9**	**-0.5**
DANN	**Dangsing**	**46.48 279**	*e*P	**P**	**11 03 54.7**	**+0.4**
	comp=Z,18μm,0.8s					
MTNI	**Mataram**	**46.48 211**	P	**P**	**11 03 53.3**	**-0.7**
	comp=Z,6μm,1.3s,comp=Z,68μmcomp=Z,83μm					
PBA	**Port Blair**	**46.59 253**	*e*P	P	11 03 54.8	-0.2
PBA			AMB	AMB	11 04 01.8	
	comp=Z,2μm,1.3s					
KOLN	**Koldanda**	**46.81 279**	*e*P	**P**	**11 03 57.0**	**+0.2**
	comp=Z,8μm,1.0s					
BLJI	**Banyuglugur**	**46.85 214**	P	**P**	**11 03 56.1**	**-0.7**
IGBI	**Denpasar**	**47.09 212**	P	**P**	**11 03 57.1**	**-1.6**
	comp=Z,1μm,1.5s,comp=Z,21μmcomp=Z,40μm					
HNR	**Honiara**	**47.20 150**	*e*P	**P**	**11 03 59.1**	**-0.3**
	comp=Z,83nm,0.9s					
PYUN	**Piuthan**	**47.21 279**	*e*P	**P**	**11 04 00.3**	**+0.5**
	comp=Z,10μm,0.5s					
TSI	**Tuntungan**	**47.22 240**	P	**P**	**11 03 59.7**	**0.0**
	comp=Z,3μm,1.0s,comp=Z,40μmcomp=Z,199μm					
LHMI	**Lhok Sumawe**	**47.25 243**	P	**P**	**11 04 01.6**	**+1.6**
	comp=Z,4μm,1.6s,comp=Z,76μmcomp=Z,241μm					
SDPT	**Sand Point**	**47.50 43**	*e*P	**P**	**11 04 00.0**	**-1.3**
	comp=Z,3μm,0.6s					
SDPT			*e*ScP	**ScP**	**11 08 50.9**	**+0.2**
SDPT			*e*S	**S**	**11 10 30.9**	**-1.4**
SDPT			*e*		11 13 23.3	
BKNI	**Bangkinang**	**47.71 234**	P	**P**	**11 04 03.5**	**0.0**
PMBI	**Palembang**	**47.72 228**	P	**P**	**11 04 04.9**	**+1.4**
KRKI	**Karangkates**	**47.76 215**	P	**P**	**11 04 02.0**	**-1.8**
AAA	**Alma-Ata**	**48.11 301**	*i* P	**P**	**11 04 07.8**	**+1.5**
AAA			*e*S	**S**	**11 10 43.5**	**+2.2**
AAA			pmax	pmax		
	comp=Z,46μm,14.7s					
AAA			smax	smax		
	comp=E,46μm,17.4s					
AAA			MLR	MLR		
	comp=Z,67μm,20.0s					
BSI	**Banda Aceh**	**48.33 245**	P	**P**	**11 04 07.2**	**-1.0**
	comp=Z,1μm,1.2s,comp=Z,33μm					
CMBY	**CAMPBELL BAY**	**48.42 248**	*e*P	**P**	**11 04 09.2**	**+0.3**
CMBY			AMB	AMB	11 04 15.4	
	comp=Z,6μm,4.2s					
UGM	**Wanagama**	**48.51 218**	*e*P	**P**	**11 04 08.1**	**-1.5**
	comp=Z,11μm,1.3s					
UGM	**Wanagama**	**48.51 218**	P	**P**	**11 04 08.9**	**-0.7**
	comp=Z,6μm,1.2s,comp=Z,60μmcomp=Z,124μm					
CHGN	**Chignik**	**48.68 42**	*e*P	**P**	**11 04 09.1**	**-1.1**
CHGN			*e*ScP	**ScP**	**11 08 54.3**	**-1.5**
CHGN			*e*S	**S**	**11 10 46.9**	**-1.7**
PPI	**Padang Panjang**	**48.72 234**	P	**P**	**11 04 11.6**	**+0.5**
ULHL	**Ulahol**	**48.80 300**	*i* P	**P**	**11 04 12.3**	**+0.6**
ULHL	**Ulahol**	**48.80 300**	P	**P**	**11 04 12.3**	**+0.6**
	SNR=170					
PTH	**Pithoragarh**	**49.00 282**	*e*P	P	11 04 06.0	-7.3
PTH			*e*S	**S**	**11 10 49.4**	**-4.9**
TKM2	**Tokmak 2**	**49.14 301**	P	**P**	**11 04 13.8**	**-0.5**
TKM2			pmax	pmax		
	comp=Z,3μm,1.4s					
TKM2	**Tokmak 2**	**49.14 301**	P	**P**	**11 04 15.0**	**+0.7**
	SNR=1040					
TKM2	**Tokmak 2**	**49.14 301**	*e*P	**P**	**11 04 15.0**	**+0.7**
	comp=Z,5μm,1.5s					
KZA	**Kyzart**	**49.55 300**	*i* P	**P**	**11 04 18.9**	**+1.2**
KZA	**Kyzart**	**49.55 300**	P	**P**	**11 04 18.9**	**+1.2**
	SNR=1126					
KSH	**Kashi**	**49.56 296**	‖ *i*P	P	11 04 21.0	+3.7
KSH			pP	PcP	11 05 28.1	-6.0
KSH			PP	PP	11 06 21.2	+6.4
KSH			S	**S**	**11 11 04.9**	**+3.2**
KSH			sS	sS	11 13 02.2	+7.9
KSH			SS	**SS**	**11 14 41.2**	**+3.5**
KSH			pmax	pmax		
	comp=Z,1μm,0.8s					
KSH			pmax	pmax		
	comp=Z,12μm,8.3s					
KSH			LR	LR		
	comp=N,35μm,13.1s					
KSH			LR	LR		
	comp=E,119μm,16.9s					
KSH			LR	LR		
	comp=Z,40μm,21.0s					
KBK	**Karagaybulak**	**49.66 300**	*i* P	**P**	**11 04 19.6**	**+1.5**
KBK	**Karagaybulak**	**49.66 300**	P	**P**	**11 04 19.6**	**+1.5**
	SNR=24					
CHMS	**Chumysh**	**49.74 301**	*i* P	**P**	**11 04 19.6**	**+1.0**
CHMS	**Chumysh**	**49.74 301**	P	**P**	**11 04 19.6**	**+1.0**
	SNR=36					
FRU	**Bishkek**	**49.87 301**	‖ *i*P	**P**	**11 04 19.5**	**0.0**
FRU			*i* *PP	**pP**	**11 05 20.0**	**-2.9**
FRU			*i*		11 05 59.5	
FRU			*i* S	**S**	**11 11 09.0**	**+3.3**
FRU			pmax	pmax		
	comp=Z,2μm,1.8s					
FRU			pmax	pmax		
	comp=Z,31μm,12.0s					
FRU			smax	smax		
	comp=E,29μm,16.0s					
FRU			MLR	MLR		
	comp=E,66μm,15.0s					
FRU			MLR	MLR		
	comp=Z,53μm,16.0s					
USP	**Ospenovka**	**49.87 301**	*i* P	**P**	**11 04 20.5**	**+1.0**
USP	**Ospenovka**	**49.87 301**	P	**P**	**11 04 20.5**	**+1.0**
	SNR=36					
AAK	**Ala-Archa**	**49.99 300**	P	**P**	**11 04 20.0**	**-0.6**
	comp=Z,6μm,0.9s					
AAK	**Ala-Archa**	**49.99 300**	*e*P	**P**	**11 04 20.7**	**+0.1**
AAK			*e*		11 05 35.9	
AAK			pmax	pmax		
	comp=Z,963nm,0.9s					
AAK	**Ala-Archa**	**49.99 300**	P	**P**	**11 04 21.0**	**+0.3**
	SNR=660

comp=Z,8.4nm,0.6s,baz=95,slow=5.2,SNR=36
BRVK Borovoye 51.29 314 P **P 11 04 29.8 0.0**
comp=Z,13μm,0.9s
BRVK Borovoye 51.29 314 *e*P **P 11 04 29.8 0.0**
BRVK pmax pmax
comp=Z,6μm,1.5s
BRVK Borovoye 51.29 314 P **P 11 04 30.1 +0.3**
SNR=1646
BRVK Borovoye 51.29 314 *e*P **P 11 04 29.8 0.0**
comp=Z,6μm,1.5s
BRVK *e*ScP **ScP 11 09 06.8 -0.3**
DHRM DHARAMSHALA 51.29 287 *e*P **P 11 04 30.5 0.0**
DHRM AMB AMB 11 04 36.4
comp=Z,5μm,1.4s
DLH Dalhousie 51.46 287 *e*P **P 11 04 32.0 +0.3**
DLH *e*x x 11 05 24.0
BHK Bhakra 51.47 286 *e*P **P 11 04 31.8 +0.3**
BHK *e*x x 11 07 31.0
OHAK Old Harbor 51.48 40 *e*P **P 11 04 30.4 -0.7**
comp=Z,5μm,1.6s
OHAK *e*PcP **PcP 11 05 42.7 +2.0**
OHAK *e*ScP **ScP 11 09 07.6 -0.2**
OHAK *e*S **S 11 11 27.5 +0.3**
JBP Jabalpur 51.60 275⇓ *i*P **P 11 04 33.3 +0.7**
JBP *i* x x 11 04 33.4
comp=Z,6μm,1.5s
JBP *e*x x 11 07 12.7
KDAK Kodiak Island 51.83 40 P **P 11 04 32.0 -1.7**
comp=Z,19μm,0.7s
PPLA Purkeypile 51.92 33 *e*P **P 11 04 35.5 +1.0**
comp=Z,1μm,0.7s
SPU Mount Spurr 51.99 35 *e*P **P 11 04 35.6 +0.7**
JMU Jammu 52.26 288 *e*P **P 11 04 37.0 -0.3**
JMU *e*x x 11 04 42.5
FITZ Fitzroy Crossi 52.33 195 S **S 11 11 37.3 -2.1**
comp=Z,64nm,0.9s,baz=191,slow=16,SNR=4.0
FITZ PKPPKP P'P'df 11 34 40.6 -20
comp=Z,41nm,1.0s,baz=179,slow=3.9,SNR=14
KK31 Karatay Array 52.76 302 *i* P **P 11 04 40.7 -0.1**
KK31 pmax pmax
comp=Z,3μm,0.7s
KKAR Karatay Array 52.76 302 *e*P **P 11 04 40.9 +0.1**
KKAR *e* 11 05 45.7
KKAR pmax pmax
comp=Z,4μm,0.8s
KKAR Karatay Array 52.76 302 *e*P **P 11 04 40.9 +0.1**
comp=Z,4μm,0.8s
KKAR *e*PcP **PcP 11 05 45.7 -0.2**
TRF Thorofare Moun 52.78 32 *e*P **P 11 04 40.3 -0.6**
comp=Z,337nm,0.6s
COLD Coldfoot 52.87 28 *e*P **P 11 04 41.7 +0.5**
comp=Z,2μm,1.9s
COLD *e*ScP **ScP 11 09 15.5 +1.8**
WRAB Tennant Creek 52.90 184 P **P 11 04 41.0 -1.0**
comp=Z,13μm,1.1s
WRAB Tennant Creek 52.90 184 *e*P **P 11 04 41.0 -1.0**
WRAB *e*S **S 11 11 46.2 -1.0**
WRAB pmax pmax
comp=Z,2μm,0.9s
WRAB Tennant Creek 52.90 184 *e*P **P 11 04 41.0 -1.0**
comp=Z,2μm,0.9s
WRAB *e*S **S 11 11 46.2 -1.0**
WRA Warramunga Arr 52.91 184 P **P 11 04 40.5 -1.5**
WRA PcP **PcP 11 05 47.6 +1.0**
WRA S **S 11 11 45.9 -1.5**
WRA PKKKP 11 34 03.2
WRA P'P' 11 34 55.0
WRA *e* 11 42 01.4
WRA Warramunga Arr 52.91 184 P **P 11 04 40.5 -1.5**
comp=Z,499nm,0.4s,baz=0.0,slow=7.6,SNR=983
WRA PcP **PcP 11 05 47.6 +1.0**
comp=Z,426nm,0.8s,baz=3.1,slow=8.2,SNR=8.3
WRA S **S 11 11 45.9 -1.5**
comp=Z,190nm,1.0s,baz=6.5,slow=14,SNR=11
WRA P3KP 11 34 03.2
comp=Z,1.5nm,1.1s,baz=359,slow=7.5,SNR=6.6
WRA PKPPKP **P'P'df 11 34 55.0 -5.0**
comp=Z,9.6nm,1.1s,baz=176,slow=1.8,SNR=6.5
WRA P4KPbc 11 42 01.4
comp=Z,6.7nm,1.0s,baz=1.7,slow=5.0,SNR=20
NGP Nagpur 53.24 273 *e*x P 11 04 40.1 -4.5
NGP AMB AMB 11 04 41.5
comp=Z,5μm,2.2s
NGP ⇓*e*x **S 11 11 49.6 -2.4**
PMR Palmer 53.38 35 *e*P **P 11 04 44.2 -0.7**
PMR *e* 11 05 48.4
PMR *e*S **S 11 11 52.1 -0.5**
PMR pmax pmax
comp=Z,1μm,1.0s
PMR Palmer 53.38 35 *e*P **P 11 04 44.1 -0.7**
comp=Z,1μm,1.0s
PMR *e*PcP **PcP 11 05 48.4 +0.6**
PMR *e*ScP **ScP 11 09 16.4 +0.4**
PMR *e*S **S 11 11 52.1 -0.5**
MCK McKinley 53.38 32 *e*P **P 11 04 44.9 -0.1**
MCK *e* 11 05 49.2
MCK pmax pmax
comp=Z,3μm,1.4s
MCK McKinley 53.38 32 *e*P **P 11 04 44.9 -0.1**
comp=Z,3μm,1.4s
MCK *e*PcP **pP 11 05 49.1 -0.1**
CTA Charters Tower 53.51 170 S **S 11 11 52.8 -2.6**
comp=Z,47nm,1.2s,baz=149,slow=18,SNR=8.7
CTAO Charters Tower 53.51 170 *e*P **P 11 04 45.9 -0.5**
CTAO *e* 11 05 48.8
CTAO *e*S **S 11 11 55.2 -0.2**
CTAO pmax pmax
comp=Z,497nm,0.8s
CTAO Charters Tower 53.51 170 *e*P **P 11 04 45.9 -0.5**
comp=Z,496nm,0.8s
CTAO *e*PcP **PcP 11 05 48.8 -0.2**
CTAO *e*ScP **ScP 11 09 20.4 +3.3**
CTAO *e*S **S 11 11 55.2 -0.2**
BHPL Bhopal 53.70 276 *e*P **P 11 04 47.8 -0.2**
SML Sawmill 53.74 34 *e*P **P 11 04 47.6 0.0**
SML pmax pmax
comp=Z,406nm,0.8s
SML Sawmill 53.74 34 *e*P **P 11 04 47.6 0.0**
comp=Z,406nm,0.8s
COLA College 53.82 31 *e*P **P 11 04 48.1 +0.1**
COLA *e*S **S 11 12 00.4 +2.0**
COLA pmax pmax
comp=Z,3μm,0.8s
COLA College 53.82 31 *e*P **P 11 04 48.1 +0.1**
comp=Z,819nm,0.8s
COLA *e*S **S 11 12 00.4 +2.0**
ILAR Eielson Array 54.24 31 P **P 11 04 50.4 -0.7**
ILAR S **S 11 12 02.6 -1.5**
ILAR P'P' 11 34 44.7
ILAR P'P'ab P'P'ab 11 35 40.2 -6.6
ILAR *e* 11 42 07.8
ILAR Eielson Array 54.24 31 P **P 11 04 50.4 -0.7**
comp=Z,378nm,0.7s,baz=279,slow=5.0,SNR=1325
ILAR S **S 11 12 02.6 -1.5**
comp=Z,3.8nm,0.8s,baz=245,slow=9.8,SNR=3.1
ILAR PKPPKP P'P'df 11 34 44.7 -24
comp=Z,4.3nm,1.0s,baz=179,slow=4.1,SNR=6.4
ILAR PKP2ab 11 35 40.2
comp=Z,6.1nm,1.0s,baz=66,slow=2.5,SNR=4.6
ILAR P4KPbc 11 42 07.8
comp=Z,1.7nm,0.7s,baz=269,slow=3.9,SNR=18
MID Middleton Isla 54.94 37 *e*P **P 11 04 56.8 +0.6**
MID *e*S **S 11 12 16.0 +2.5**
MID pmax pmax
comp=Z,7μm,1.8s
MID Middleton Isla 54.94 37 *e*P **P 11 04 56.8 +0.6**
comp=Z,7μm,1.8s
MID *e*S **S 11 12 16.0 +2.5**
PAX Paxson 54.99 33 *e*P **P 11 04 56.5 -0.1**
PAX *e* 11 05 56.4
PAX *e* 11 07 04.4
PAX pmax pmax
comp=Z,788nm,0.8s
PAX Paxson 54.99 33 *e*P **P 11 04 56.5 -0.1**
comp=Z,788nm,0.8s
PAX *e*PcP **PcP 11 05 56.4 +2.2**
PAX *e*PP **PP 11 07 04.4 +1.5**
HYB Hyderabad 55.37 269 *i* P **P 11 04 58.5 -1.4**
comp=Z,2μm,1.0s
HYB *e*PcP **PcP 11 05 58.0 +1.7**
HYB *e*pP **pP 11 06 04.0 -0.7**
HYB *e*PP **PP 11 07 08.0 +0.8**
HYB *e*ScP **ScP 11 09 25.0 -0.6**
HYB *e*PcS **PcS 11 09 58.0 +0.9**

HYB *e*S **S 11 12 20.0 -0.4**
HYB *e*ScS **ScS 11 14 15.0 -2.8**
HYB LR LR 11 23 48.0
comp=Z,39nm,24.0s
HYB Hyderabad 55.37 269 *e*P **P 11 05 00.3 +0.4**
BMRM Bremner River 55.61 35 *e*P **P 11 05 01.5 +0.5**
comp=Z,2μm,0.8s
RAGM Ragged Mountai 55.65 36 *e*P **P 11 05 02.0 +0.7**
comp=Z,1μm,0.9s
MENT Mentasta 55.79 33 *e*P **P 11 05 02.9 +0.7**
MENT *e*S **S 11 12 28.5 +3.8**
KBL Kabul 56.28 292 *e*P **P 11 05 06.0 -0.3**
KBL *e* 11 07 15.5
KBL *e*S **S 11 12 33.5 +1.1**
KBL pmax pmax
comp=Z,2μm,0.9s
KBL Kabul 56.28 292 *e*P **P 11 05 06.0 -0.3**
comp=Z,2μm,0.9s
KBL *e*PP **PP 11 07 15.5 +0.3**
KBL *e*ScP **ScP 11 09 30.4 +0.8**
KBL *e*S **S 11 12 33.5 +1.1**
SVE Sverdlovsk 56.29 320*c i*P **P 11 05 06.2 +0.5**
SVE *e* 11 06 03.4
SVE *e* 11 06 42.2
SVE *e* 11 07 13.8
SVE *e* 11 08 46.0
SVE *i* S **S 11 12 30.1 -1.2**
SVE *e* 11 14 18.0
SVE pmax pmax
comp=Z,5μm,1.0s
SVE pmax pmax
comp=Z,17μm,11.6s
SVE smax smax
comp=E,37μm,14.9s
SVE smax smax
comp=N,42μm,14.6s
SVE MLR MLR
comp=E,30μm,15.0s
SVE MLR MLR
comp=Z,45μm,14.0s
LATR Latur 56.57 271 *e*P **P 11 05 07.6 -0.7**
LATR *e*P **P 11 05 07.9 -0.3**
LATR *e*P **P 11 05 07.9 -0.3**
LATR AMB AMB 11 05 09.1
comp=Z,4μm,1.6s
LATR *e*x x 11 05 10.9
comp=Z,7μm,1.8s
AS31 Alice Springs 56.63 185 *e*P **P 11 05 07.8 -0.8**
AS31 *e*S **S 11 12 36.2 -0.4**
ASAR Alice Springs 56.64 185 P **P 11 05 07.8 -0.7**
ASAR ScP **ScP 11 09 32.4 +1.6**
ASAR S **S 11 12 36.4 -0.3**
ASAR PKKKP 11 33 53.1
ASAR P'P' 11 34 59.2
ASAR *e* 11 42 19.6
ASAR Alice Springs 56.64 185 P **P 11 05 07.8 -0.7**
comp=Z,490nm,0.6s,baz=19,slow=11,SNR=2043
ASAR ScP **ScP 11 09 32.4 +1.6**
comp=Z,104nm,1.0s,baz=8.4,slow=4.0,SNR=4.9
ASAR S **S 11 12 36.4 -0.3**
comp=Z,84nm,0.7s,baz=19,slow=18,SNR=18
ASAR P3KP 11 33 53.1
comp=Z,1.0nm,0.8s,baz=256,slow=1.7,SNR=5.3
ASAR PKPPKP **P'P'df 11 34 59.2 +4.6**
comp=Z,8.8nm,1.0s,baz=169,slow=2.3,SNR=7.1
ASAR P4KPbc 11 42 19.6
comp=Z,1.8nm,0.8s,baz=354,slow=4.5,SNR=9.4
EGAK Eagle 56.68 30 *e*P **P 11 05 08.2 -0.2**
comp=Z,819nm,0.6s
EGAK *e*S **S 11 12 37.0 +0.8**
MBWA Marble Bar 56.77 201 P **P 11 05 09.0 -0.4**
SNR=173
MBWA Marble Bar 56.77 201 *e*P **P 11 05 08.9 -0.6**
comp=Z,913nm,0.7s
MBWA *e*ScP **ScP 11 09 32.1 +0.8**
MBWA *e*S **S 11 12 35.5 -2.9**
FUNA Funafuti 56.99 129 *e*P **P 11 05 10.9 -0.3**
comp=Z,2μm,1.0s
KIP Kipapa 57.24 84 *e*P **P 11 05 13.6 +0.7**
KIP pmax pmax
comp=Z,5μm,1.1s
KIP Kipapa 57.24 84 *e*P **P 11 05 13.6 +0.7**
comp=Z,5μm,1.1s
HON Honolulu 57.29 85 *e*P **P 11 05 13.9 +0.6**
HON Honolulu 57.29 85 *e*P **P 11 05 13.9 +0.6**
ARU Arti 57.49 320*d i*P **P 11 05 13.9 -0.2**
ARU 11 06 01.4
ARU *PP **pP 11 06 18.3 -1.2**
ARU *SP **sP 11 06 50.0 -2.7**
ARU 11 07 22.0
ARU *e*S **S 11 12 47.0 0.0**
ARU 11 14 27.6
ARU SSS SSS 11 19 18.1
ARU pmax pmax
comp=Z,5μm,1.0s
ARU pmax pmax
comp=Z,24μm,14.8s
ARU smax smax
comp=N,18μm,7.9s
ARU MLR MLR
comp=Z,36μm,16.0s
ARU Arti 57.49 320 P **P 11 05 14.3 +0.2**
comp=Z,24μm,0.6s
DAWY Dawson 57.55 31 *e*P **P 11 05 14.8 +0.3**
comp=Z,435nm,0.5s
SOKR Solikamsk 57.77 324*d i*P **P 11 05 16.1 +0.2**
SOKR *PP **pP 11 06 21.0 -0.4**
SOKR 11 06 58.1
SOKR PPP PPP 11 08 59.8
SOKR S **S 11 12 51.5 +1.1**
SOKR SSS SSS 11 19 19.1
SOKR pmax pmax
comp=Z,2μm,1.0s
SOKR MLR MLR
comp=Z,100μm,21.0s
YKU2 Yakutat 58.28 36 *e*P **P 11 05 21.4 +1.9**
AB31 Akbulak array 58.38 311 *i* P **P 11 05 20.3 -0.1**
AB31 pmax pmax
comp=Z,542nm,0.5s
ABKAR Akbulak array 58.38 311 *e*P **P 11 05 20.2 -0.2**
comp=Z,769nm,0.6s
ABKAR *e*pP **pP 11 06 25.8 -0.1**
POO Poona 58.79 273⇓ *i*P **P 11 05 23.0 -0.7**
comp=Z,2μm,1.2s
POO *e*P **P 11 05 24.1 +0.3**
POO AMB AMB 11 05 24.9
comp=Z,4μm,0.0s
PALK Pallekele 58.84 257 P **P 11 05 24.2 +0.1**
comp=Z,11μm,0.9s
PALK Pallekele 58.84 257 P **P 11 05 25.2 +1.0**
SNR=157
PALK Pallekele 58.84 257 *e*P **P 11 05 24.6 +0.5**
comp=Z,3μm,1.5s
HKL Haleakala 59.02 84 *e*P **P 11 05 26.6 +0.9**
HKL Haleakala 59.02 84 *e*P **P 11 05 26.6 +0.9**
HYT Haines Junctio 59.05 35 *e*P **P 11 05 26.0 +1.0**
HYT *e*pP **pP 11 06 33.5 +2.7**
INK Inuvik 59.08 26 *e*P **P 11 05 24.8 -0.1**
comp=Z,43nm,0.6s
INK *e*S **S 11 13 06.8 -0.3**
INK Inuvik 59.08 26 P **P 11 05 24.9 +0.1**
comp=Z,208nm,0.4s,baz=289,slow=6.3,SNR=504
INK S **S 11 13 08.3 +1.2**
comp=Z,9.3nm,0.8s,baz=183,slow=31,SNR=20
INK PKPPKP P'P'df 11 34 36.8 -25
comp=Z,11nm,1.2s,baz=99,slow=2.4,SNR=5.4
INK P4KPbc 11 42 27.9
comp=Z,7.0nm,1.0s,baz=278,slow=6.5,SNR=7.7
AKTO Aktyubinsk 59.26 313 P4KPbc 11 42 29.3
comp=Z,9.6nm,0.8s,baz=78,slow=4.5,SNR=24
COCO West Island 59.82 228 P **P 11 05 31.7 +1.1**
comp=Z,13μm,1.4s,SNR=28
COCO West Island 59.82 228 *i* P **P 11 05 31.2 +0.6**
COCO West Island 59.82 228 P **P 11 05 31.6 +1.1**
SNR=31
COCO West Island 59.82 228 *e*P **P 11 05 31.1 +0.6**
comp=Z,3μm,1.1s
POHA Pohakuloa 60.06 85 *e*P **P 11 05 33.3 +0.7**
comp=Z,7μm,0.9s
BHJ Bhuj 60.16 280 *e*P **P 11 05 33.7 +0.8**
GOA Goa 60.26 270 *e*P **P 11 05 34.5 +0.8**
HPO Honuapo 60.35 86 *e*P **P 11 05 35.8 +1.6**
SKAG Skagway 60.45 36 *e*P **P 11 05 35.1 +0.9**
comp=Z,1μm,0.9s
SKAG *e*S **S 11 13 28.9 +4.2**

PUH Pauahi 60.50 85 *e*P **P 11 05 35.8 +0.4**
comp=Z,5μm,0.8s
STCH Steam Cracks 60.57 85 *e*P **P 11 05 36.8 +0.9**
comp=Z,4μm,0.8s
SIT Sitka 61.13 39 *e*P **P 11 05 39.4 +0.6**
SIT pmax pmax
comp=Z,2μm,1.6s
SIT Sitka 61.13 39 *e*P **P 11 05 39.4 +0.6**
comp=Z,2μm,1.6s
NOUC Port Laguerre 61.20 150 *e*P **P 11 05 42.7 +3.0**
DZM Mont Dzumac 61.23 150⇑ *i*P **P 11 05 41.2 +1.2**
comp=Z,2μm,1.1s
DZM *e*S **S 11 13 31.7 -3.9**
comp=Z,56μm,28.4s
DZM Mont Dzumac 61.23 150 *e*P **P 11 05 40.6 +0.6**
comp=Z,603nm,0.9s
DZM S **S 11 13 37.4 +1.9**
DZM Mont Dzumac 61.23 150 S **S 11 13 37.4 +1.9**
comp=Z,13nm,1.0s,baz=100,slow=22,SNR=5.9
TRD Trivandrum 61.25 261 *e*P **P 11 05 40.7 +0.4**
TRD AMB AMB 11 05 45.3
comp=Z,2μm,0.9s
NORM Noumea 61.38 150 *e*P **P 11 05 40.7 -0.3**
BAYA Yate Dam 61.49 149 *e*P **P 11 05 43.0 +1.4**
PLUM Mont Dore 61.49 150 *e*P **P 11 05 41.6 0.0**
IMYA Miami 62.46 297 *e*P **P 11 05 49.2 +0.9**
CRAG Craig 62.79 40 *e*P **P 11 05 50.5 +0.7**
comp=Z,476nm,0.8s
WRAK Wrangell Islan 62.89 39 *e*P **P 11 05 51.0 +0.6**
comp=Z,2μm,1.7s
ISRO Mashad 62.94 297 *e*P **P 11 05 52.2 +0.8**
IMOG Moghan 63.12 297 *e*P **P 11 05 53.9 +1.2**
IEMG Emamgholi 63.12 299 *e*P **P 11 05 53.8 +1.0**
IPAY Payeh 63.24 298 *e*P **P 11 05 54.2 +0.7**
IAKL Akhelmad 63.36 298 *e*P **P 11 05 55.0 +0.7**
DLBC Dease Lake 63.38 36 *e*P **P 11 05 54.8 +1.0**
comp=Z,93nm,0.4s
DLBC *e*S **S 11 14 01.4 -0.1**
DLBC S S 11 14 04.4 +3.0
DLBC Dease Lake 63.38 36 P **P 11 05 54.7 +1.0**
comp=Z,246nm,0.7s,baz=293,slow=6.0,SNR=294
DLBC S **S 11 14 04.4 +3.0**
comp=Z,24nm,1.1s,baz=158,slow=25,SNR=7.9
MSVF Nonsavu 63.40 137 P **P 11 05 56.0 +1.6**
comp=Z,4μm,0.9s,SNR=75
MSVF Nonsavu 63.40 137 *e*P **P 11 05 55.1 +0.7**
MSVF pmax pmax
comp=Z,792nm,1.0s
MSVF Nonsavu 63.40 137 *e*P **P 11 05 55.1 +0.7**
comp=Z,898nm,1.0s
IKRD Kardeh 63.47 298 *e*P P 11 05 51.5 -3.5
ISFR Sfrayin 63.74 299 *e*P **P 11 05 57.8 +1.0**
ISHV Shirvan 63.78 299 *e*P **P 11 05 58.1 +1.2**
SPA0 Spitsbergen Ar 63.79 349 *i* P **P 11 05 56.3 +0.2**
SPA0 *e*S **S 11 14 06.9 +1.0**
SPITS Spitsbergen Ar 63.79 349 PKPPKP P'P'df 11 34 45.5 -9.4
comp=Z,25nm,1.0s,baz=220,slow=3.8,SNR=5.4
VIB Van Inlet 63.88 42 P **P 11 05 57.2 +0.1**
SNR=368
DIB Dawson Inlet, 63.93 42 P **P 11 05 57.0 -0.3**
SNR=4332
KBS Kingsbay 64.00 350⇓ *i*P **P 11 05 58.1 +0.7**
KBS AMB AMB 11 06 00.8
comp=Z,989nm,1.3s
KBS *e*S **S 11 14 08.0 -0.3**
KBS Kingsbay 64.00 350 *e*P **P 11 05 58.0 +0.6**
KBS pmax pmax
comp=Z,464nm,1.0s
KBS Kingsbay 64.00 350 *e*P **P 11 05 58.0 +0.6**
comp=Z,119nm,1.0s
IDAH Dahanechah 64.05 293 *e*P **P 11 05 59.6 +0.8**
ALE Alert 64.14 3 P **P 11 05 58.0 -0.2**
comp=Z,2μm,0.8s
LVZ Lovozero 64.52 336*d i*P **P 11 06 00.5 -0.5**
LVZ pmax pmax
comp=Z,2μm,1.1s
HSP Hornsund 64.65 348 *e*P **P 11 06 02.2 +0.6**
STKA Stephens Creek 64.76 177 *e*P **P 11 06 02.8 -0.1**
comp=Z,142nm,0.8s
STKA *e*pP **pP 11 07 11.7 +1.6**
STKA *e*S **S 11 14 16.4 -2.3**
STKA S S 11 14 17.5 -1.2
STKA P'P' 11 34 39.4
STKA Stephens Creek 64.76 177 P **P 11 06 02.8 -0.1**
comp=Z,792nm,0.8s,baz=345,slow=7.0,SNR=126
STKA S **S 11 14 17.5 -1.2**
comp=Z,42nm,1.0s,baz=113,slow=21,SNR=6.3
STKA PKPPKP **P'P'df 11 34 39.4 -2.5**
comp=Z,9.3nm,1.1s,baz=161,slow=1.2,SNR=3.1
TMCR Tamitsa 64.84 332 *e*P **P 11 06 03.4 +0.5**
TMCR *e* 11 06 31.9
TMCR *e*S **S 11 14 19.2 +0.4**
TMCR pmax pmax
comp=Z,6μm,1.4s
IKOO Kooshah 64.84 293 *e*P **P 11 06 04.7 +0.8**
ITEG Tejag 64.84 294 *e*P **P 11 06 04.5 +0.7**
APA Apatity 65.10 336⇑ *i*P **P 11 06 04.6 0.0**
APA *i* 11 06 32.0
APA *i* *PP **pP 11 07 10.0 -1.7**
APA *i* 11 08 32.0
APA *i* S **S 11 14 22.0 +0.1**
APA *i* 11 15 25.0
APA pmax pmax
comp=Z,70nm,0.7s
BJO Bjornoya 65.46 345⇓ *i*P **P 11 06 05.5 -1.3**
IMND Minoodasht 65.56 300 *e*P **P 11 06 09.9 +1.8**
ARCES ARCESS Array B 66.65 339 P **P 11 06 14.7 +0.2**
ARCES S **S 11 14 43.6 +2.9**
ARCES P'P' 11 34 32.0
ARCES *e* 11 43 04.8
ARCES ARCESS Array B 66.65 339 P **P 11 06 14.7 +0.2**
comp=Z,1μm,1.0s,baz=68,slow=6.1,SNR=884
ARCES S **S 11 14 43.6 +2.9**
comp=Z,20nm,1.0s,baz=110,slow=10,SNR=4.5
ARCES PKPPKP P'P'df 11 34 32.0 -18
comp=Z,5.6nm,0.9s,baz=254,slow=4.5,SNR=7.9
ARCES P4KPbc 11 43 04.8
comp=Z,3.3nm,1.0s,baz=61,slow=6.3,SNR=5.9
ARE0 ARCESS Array S 66.65 339⇓ *i*P **P 11 06 14.7 +0.2**
ARE0 *e*S **S 11 14 40.5 -0.1**
ARE0 *e*SKS **SKSac 11 15 37.6 -3.1**
ARE0 ARCESS Array S 66.65 339 *e*P **P 11 06 14.8 +0.4**
ARE0 *e*PP **PP 11 08 44.3 -0.7**
ARE0 *e*S **S 11 14 42.4 +1.7**
BBB Bella Bella 66.77 42 P **P 11 06 15.3 -0.1**
BBB PcP **PcP 11 06 41.1 -0.7**
BBB Bella Bella 66.77 42 P **P 11 06 15.3 -0.1**
comp=Z,148nm,0.7s,baz=291,slow=5.9,SNR=63
BBB PcP **PcP 11 06 41.1 -0.7**
comp=Z,88nm,0.8s,baz=123,slow=5.2,SNR=3.8
AFI Afiamalu 66.93 126 *e*P **P 11 06 16.9 -0.2**
comp=Z,92nm,0.8s
IGLO Ghaloghah 67.03 299 *e*P **P 11 06 18.4 +0.8**
IKIA Kiasar 67.26 299 *e*P **P 11 06 19.9 +0.8**
IKIA *e*P **P 11 06 20.2 +1.1**
IANJ Anjilo 67.40 298 *e*P **P 11 06 21.1 +1.1**
KTK1 Kautokeino 67.62 339⇓ *i*P **P 11 06 18.5 -1.9**
XMAS Kiritimati 67.65 103 *e*P **P 11 06 21.8 +0.2**
comp=Z,2μm,0.8s
ISHM Shahmirzad 67.72 299 *e*P **P 11 06 23.4 +1.4**
IALA Alasht 67.95 299 *e*P **P 11 06 24.1 +0.6**
ILAS Lasjerd 68.14 299 *e*P **P 11 06 25.7 +1.0**
IFIR Firoozkooh 68.18 299 *e*P **P 11 06 26.0 +1.1**
IPRN Peran 68.23 300 *e*P **P 11 06 25.5 +0.5**
TRO Tromso 68.48 341⇓ *i*P **P 11 06 25.9 +0.2**
TRO AMB AMB 11 06 28.3
comp=Z,2μm,1.2s
TRO *e*pP **pP 11 07 32.5 -1.1**
TRO *e*S **S 11 15 02.4 +0.2**
YKW3 Yellowknife Ar 68.50 28 *e*P **P 11 06 25.7 -0.3**
comp=Z,3.4nm,0.6s
YKA Yellowknife Ar 68.53 28 P **P 11 06 25.8 -0.4**
YKA P'P' 11 34 30.2
YKA *e* 11 43 11.8
YKA Yellowknife Ar 68.53 28 P **P 11 06 25.8 -0.4**
comp=Z,115nm,0.4s,baz=301,slow=6.2,SNR=366
YKA PKPPKP P'P'df 11 34 30.2 -15
comp=Z,5.5nm,1.0s,baz=144,slow=2.3,SNR=6.8
YKA P4KPbc 11 43 11.8
comp=Z,2.3nm,0.9s,baz=297,slow=4.5,SNR=8.9
NWAO Narrogin (SRO) 68.59 199 P **P 11 06 26.7 -0.1**
SNR=54
NWAO Narrogin (SRO) 68.59 199 *e*P **P 11 06 26.3 -0.5**
comp=Z,2μm,1.7s

NWAO			*e*pP	**pP**	**11 07 34.3**	**-0.6**
NWAO			S	**S**	**11 15 03.0**	**-1.3**
NWAO			*e*S	**S**	**11 15 05.3**	**+1.0**
NWAO			⇑*e*		11 34 40.4	
NWAO	**Narrogin (SRO)**	**68.59 199**	P	**P**	**11 06 26.4**	**-0.5**
	comp=Z,421nm,0.5s,baz=24,slow=6.6,SNR=215					
NWAO			S	**S**	**11 15 03.0**	**-1.3**
	comp=Z,63nm,1.1s,baz=128,slow=22,SNR=13					
NWAO			PKP2bc		11 34 40.4	
	comp=Z,33nm,1.1s,baz=214,slow=4.4,SNR=9.1					
MAK	**Makhachkala**	**68.68 308**	*d iP*	**P**	**11 06 27.8**	**+0.4**
MAK			*e*		11 06 50.8	
MAK			*e**PP	**pP**	**11 07 37.7**	**+2.3**
MAK			*e**SP	**sP**	**11 08 09.9**	**+2.0**
MAK			*e*		11 09 03.9	
MAK			*e*PPP	PPP	11 10 48.8	
MAK			*e*S	**S**	**11 15 04.9**	**-0.5**
MAK			MLR	MLR		
	comp=E,125μm,14.0s					
MAK			MLR	MLR		
	comp=N,89μm,18.0s					
MAK			MLR	MLR		
	comp=Z,170μm,19.0s					
VRHR	**Novokhopersk**	**68.71 318**	*e*P	**P**	**11 06 26.9**	**-0.6**
VRHR			*e**PP	**pP**	**11 07 33.4**	**-2.0**
VRHR			*e*S	**S**	**11 15 00.0**	**-5.5**
VRHR			pmax	pmax		
	comp=Z,900nm,0.5s					
VRHR			pmax	pmax		
	comp=N,710nm,0.8s					
VRHR			pmax	pmax		
	comp=E,820nm,0.9s					
VRHR			pmax	pmax		
	comp=Z,7μm,1.9s					
VRHR			pmax	pmax		
	comp=N,3μm,2.1s					
VRHR			pmax	pmax		
	comp=E,2μm,0.7s					
VRHR			smax	smax		
	comp=E,35μm,8.7s					
VRHR			smax	smax		
	comp=Z,9μm,7.7s					
VRHR			smax	smax		
	comp=N,5μm,4.2s					
MOS	**Moscow**	**68.72 323**κ	*i* P	**P**	**11 06 27.4**	**-0.1**
MOS			*e*		11 06 50.0	
MOS			*i* *PP	**pP**	**11 07 34.9**	**-0.5**
MOS			*e**SP	**sP**	**11 08 07.4**	**-0.5**
MOS			*e*		11 09 02.6	
MOS			*e*PPP	PPP	11 10 46.0	
MOS			*i* S	**S**	**11 15 04.8**	**-0.6**
MOS			*e*		11 15 56.7	
MOS			pmax	pmax		
	comp=Z,14μm,2.2s					
MOS			pmax	pmax		
	comp=N,4μm,2.3s					
MOS			pmax	pmax		
	comp=E,4μm,2.1s					
MOS			pmax	pmax		
	comp=Z,6μm,1.4s					
MOS			pmax	pmax		
	comp=N,2μm,1.2s					
MOS			pmax	pmax		
	comp=E,1μm,1.2s					
MOS			smax	smax		
	comp=N,18μm,4.4s					
MOS			smax	smax		
	comp=E,24μm,4.2s					
MOS			MLR	MLR		
	comp=Z,65μm,15.0s					
MOS			MLR	MLR		
	comp=E,51μm,14.0s					
IDMV	**Damavand**	**68.74 299**	*e*P	**P**	**11 06 29.3**	**+0.9**
CAN	**Canberra**	**68.88 170**	*e*P	**P**	**11 06 29.3**	**+0.6**
CAN			pmax	pmax		
	comp=Z,861nm,1.1s					
CAN	**Canberra**	**68.88 170**	*e*P	**P**	**11 06 29.3**	**+0.6**
	comp=Z,861nm,1.1s					
IBND	**Bandar-abas**	**68.93 290**	*e*P	**P**	**11 06 29.4**	**+0.1**
IBND			*e*P	**P**	**11 06 29.8**	**+0.5**
ISFB	**Sefidab**	**69.13 298**	*e*P	**P**	**11 06 30.8**	**+0.3**
IVRN	**Varamin**	**69.22 299**	*e*P	**P**	**11 06 31.5**	**+0.5**
WBK	**Wadi Bani Khal**	**69.22 284**	P	**P**	**11 06 32.1**	**+0.9**
	SNR=191					
DAG	**Danmarks Havn**	**69.38 354**⇓	*i P*	**P**	**11 06 31.7**	**+0.5**
DAG			*i* *PP	**pP**	**11 07 39.5**	**+0.2**
DAG			*i* S	**S**	**11 15 14.9**	**+2.4**
DAG			pmax	pmax		
	comp=Z,500nm,0.8s					
DAG	**Danmarks Havn**	**69.38 354**⇓	*i P*	**P**	**11 06 31.7**	**+0.5**
	comp=Z,667nm,0.8s					
DAG			*i* pP	**pP**	**11 07 39.5**	**+0.2**
DAG			*i* S	**S**	**11 15 14.9**	**+2.4**
IR3	**Iran Long-Peri**	**69.52 300**	*e*P	**P**	**11 06 33.7**	**+0.8**
OBN	**Obninsk**	**69.55 323**κ	*i* P	**P**	**11 06 32.4**	**-0.1**
OBN					11 06 52.0	
OBN			*i* *PP	**pP**	**11 07 39.8**	**-0.8**
OBN			*i*		11 09 10.0	
OBN			*i* PPP	PPP	11 10 53.6	
OBN			*i* S	**S**	**11 15 12.3**	**-2.8**
OBN			*i*		11 15 59.9	
OBN			SS	**SS**	**11 19 52.0**	**+3.4**
OBN			pmax	pmax		
	comp=Z,5μm,1.6s					
OBN			MLR	MLR		
	comp=Z,57μm,19.0s					
OBN	**Obninsk**	**69.55 323**	P	**P**	**11 06 32.8**	**+0.3**
	comp=Z,14μm,1.1s					
IMHD	**Mahdasht**	**69.69 300**	*e*P	**P**	**11 06 34.7**	**+0.8**
IGZV	**Ghazvin**	**69.70 301**	*e*P	**P**	**11 06 35.2**	**+1.1**
IZEF	**Zefreh**	**69.71 297**	*e*P	**P**	**11 06 34.9**	**+0.6**
SMDO	**Samad**	**69.76 285**	P	**P**	**11 06 35.0**	**+0.5**
	SNR=228					
VOR	**Voronezh**	**69.77 319**⇓	*i P*	**P**	**11 06 32.0**	**-1.9**
VOR			*e*S	**S**	**11 15 16.0**	**-1.8**
VOR			pmax	pmax		
	comp=Z,5μm,1.2s					
BANOM	**Banah**	**69.82 288**	P	**P**	**11 06 35.7**	**+0.9**
	SNR=165					
VSR	**Storozhevoye**	**70.03 319**	*e*P	**P**	**11 06 35.0**	**-0.5**
VSR			*e**PP	**pP**	**11 07 42.4**	**-1.3**
VSR			*e*PPP	PPP	11 10 55.6	
VSR			*e*S	S	11 15 12.5	-8.3
VSR			pmax	pmax		
	comp=Z,3μm,1.2s					
VSR			pmax	pmax		
	comp=N,2μm,1.0s					
VSR			pmax	pmax		
	comp=E,2μm,1.0s					
VSR			pmax	pmax		
	comp=Z,4μm,1.3s					
VSR			smax	smax		
	comp=N,32μm,12.3s					
VSR			smax	smax		
	comp=Z,13μm,11.8s					
VSR			smax	smax		
	comp=E,30μm,9.7s					
JMDO	**Jabal Madar**	**70.04 284**	P	**P**	**11 06 36.6**	**+0.4**
	SNR=134					
VORD	**Divnogorie**	**70.08 318**	*e*P	**P**	**11 06 35.7**	**-0.1**
VORD			*e**PP	**pP**	**11 07 42.7**	**-1.3**
VORD			*e*S	S	11 15 15.3	-6.1
VORD			pmax	pmax		
	comp=N,390nm,0.8s					
VORD			pmax	pmax		
	comp=Z,1μm,0.8s					
VORD			pmax	pmax		
	comp=E,1μm,0.9s					
VORD			pmax	pmax		
	comp=Z,3μm,1.6s					
VORD			smax	smax		
	comp=E,40μm,10.6s					
VORD			smax	smax		
	comp=Z,12μm,13.6s					
VORD			smax	smax		
	comp=N,19μm,6.1s					
IKLH	**Kolahrood**	**70.08 297**	*e*P	**P**	**11 06 37.3**	**+0.8**
HOQ	**Hoqain**	**70.11 286**	P	**P**	**11 06 37.0**	**+0.5**
	SNR=488					
PUL	**Pulkovo**	**70.12 329**	*d iP*	**P**	**11 06 36.2**	**+0.3**
PUL			pmax	pmax		
	comp=Z,4μm,0.8s					
IGAR	**Gharneh**	**70.15 296**	*e*P	**P**	**11 06 37.4**	**+0.5**
IRAZ	**Razeghan**	**70.35 300**	*e*P	**P**	**11 06 38.6**	**+0.5**
UOSS	**Wadi Hilu**	**70.36 287**	P	**P**	**11 06 37.0**	**-1.0**
	comp=Z,7μm,0.9s					
HATD	**Hatta, Dubai**	**70.47 287**	P	**P**	**11 06 39.0**	**+0.3**
	SNR=316					
KAF	**Kangasniemi**	**70.48 332**	*e*P	**P**	**11 06 38.0**	**0.0**
KAF			pmax	pmax		
	comp=Z,2μm,0.6s					
KAF	**Kangasniemi**	**70.48 332**	*e*p	**P**	**11 06 38.0**	**0.0**
	comp=Z,2μm,0.6s					
IPAR	**Pars**	**70.56 293**	*e*P	**P**	**11 06 39.7**	**+0.2**
BSY	**Bisya**	**70.60 285**	P	**P**	**11 06 40.1**	**+0.6**
	SNR=335					
ASHO	**Ashiyiah**	**70.60 287**	P	**P**	**11 06 40.0**	**+0.5**
	SNR=341					
STEI	**Steigen**	**70.61 340**⇓	*i P*	**P**	**11 06 38.8**	**+0.1**
STEI			AMB	AMB	11 06 41.4	
	comp=Z,2μm,1.4s					
STEI			*e*S	**S**	**11 15 27.8**	**+0.9**
ISRV	**Sarvestan**	**70.72 293**	*e*P	**P**	**11 06 40.9**	**+0.4**
NAZ	**Nazwa, Dubai**	**70.77 288**	P	**P**	**11 06 40.8**	**+0.3**
	SNR=147					
DGRG	**David-gareji**	**70.77 307**	P	**P**	**11 06 40.9**	**+0.6**
ARQ	**Araqi**	**70.86 286**	P	**P**	**11 06 41.8**	**+0.7**
	SNR=476					
IPIR	**Pirpir**	**70.89 297**	*e*P	**P**	**11 06 42.8**	**+1.4**
GUDG	**Gudauri**	**70.89 309**	P	**P**	**11 06 41.0**	**-0.2**
DUS	**Dusheti**	**70.92 308**	P	**P**	**11 06 42.4**	**+1.2**
FIA1	**FINESS Array S**	**70.95 332**	*e*P	**P**	**11 06 40.6**	**-0.2**
FIA1			*e*pP	**pP**	**11 07 49.2**	**-0.1**
FIA1			*e*PP	**PP**	**11 09 21.3**	**-0.8**
FIA1			*e*S	**S**	**11 15 30.4**	**-0.6**
FINES	**FINESS Array B**	**70.95 332**	P	**P**	**11 06 40.7**	**-0.1**
FINES			S	**S**	**11 15 30.4**	**-0.7**
FINES			P'P'		11 34 23.6	
FINES			*e*		11 43 21.8	
FINES	**FINESS Array B**	**70.95 332**	P	**P**	**11 06 40.7**	**-0.1**
	comp=Z,3μm,0.9s,baz=69,slow=4.8,SNR=3083					
FINES			S	**S**	**11 15 30.4**	**-0.7**
	comp=Z,109nm,0.9s,baz=64,slow=13,SNR=14					
FINES			PKPPKP	P'P'df	11 34 23.6	-18
	comp=Z,3.0nm,0.8s,baz=228,slow=2.3,SNR=4.8					
FINES			P4KPbc		11 43 21.8	
	comp=Z,1.3nm,0.7s,baz=85,slow=2.1,SNR=4.8					
PGC	**Sidney**	**71.02 44**	*e*P	**P**	**11 06 42.1**	**+0.6**
	comp=Z,2μm,1.4s					
TBLG	**Delisi**	**71.06 308**	*i* P	**P**	**11 06 42.5**	**+0.5**
TBLG	**Delisi**	**71.06 308**	P	**P**	**11 06 42.5**	**+0.5**
ZEI	**Tsey**	**71.12 309**	*e*P	**P**	**11 06 42.0**	**-0.5**
ZEI			*e**PP	**pP**	**11 07 49.8**	**-1.2**
ZEI			*e*PPP	PPP	11 11 03.9	
ZEI			*e*S	**S**	**11 15 28.4**	**-5.8**
ZEI			*e*		11 16 13.6	
ZEI			pmax	pmax		
	comp=Z,685nm,0.8s					
ZEI			pmax	pmax		
	comp=N,414nm,0.6s					
ZEI			pmax	pmax		
	comp=E,882nm,0.9s					
ZEI			pmax	pmax		
	comp=Z,9μm,8.9s					
ASUD	**Al Ashush, Dub**	**71.21 288**	P	**P**	**11 06 43.9**	**+0.8**
	SNR=136					
KIV	**Kislovodsk**	**71.36 311**	*d iP*	**P**	**11 06 44.2**	**+0.5**
KIV			*e**PP	**pP**	**11 07 52.3**	**0.0**
KIV			*e*		11 09 28.6	
KIV			*e*PPP	PPP	11 11 10.3	
KIV			*e*S	**S**	**11 15 36.7**	**+0.2**
KIV			pmax	pmax		
	comp=Z,2μm,0.8s					
KIV			pmax	pmax		
	comp=Z,4μm,3.4s					
KIV			MLR	MLR		
	comp=Z,47μm,19.0s					
KIV	**Kislovodsk**	**71.36 311**	P	**P**	**11 06 44.3**	**+0.5**
	comp=Z,14μm,0.7s					
NLWA	**Neilton Lookou**	**71.38 45**	*e*P	**P**	**11 06 44.9**	**+1.1**
	comp=Z,3μm,1.4s					
NLWA			*e*S	**S**	**11 15 38.7**	**+2.1**
ONI	**Oni**	**71.51 309**	P	**P**	**11 06 45.6**	**+0.9**
GNI	**Garni**	**71.80 306**	*e*P	**P**	**11 06 47.0**	**+0.4**
GNI	**Garni**	**71.80 306**	P	**P**	**11 06 47.9**	**+1.3**
	SNR=374					
GNI	**Garni**	**71.80 306**	*e*P	**P**	**11 06 47.7**	**+1.1**
	comp=Z,2μm,0.9s					
MOR8	**Moi Rana**	**72.03 339**⇓	*i P*	**P**	**11 06 46.1**	**-1.2**
MOR8			AMB	AMB	11 06 48.5	
	comp=Z,3μm,1.1s					
AKH	**Akhalkalaki**	**72.04 308**	P	**P**	**11 06 49.0**	**+1.0**
KONS	**Konsvik**	**72.19 340**⇓	*i P*	**P**	**11 06 47.9**	**-0.2**
KONS			AMB	AMB	11 06 50.6	
	comp=Z,1μm,1.4s					
FLOS	**Flostrand**	**72.23 340**⇓	*i P*	**P**	**11 06 48.2**	**-0.2**
FLOS			AMB	AMB	11 06 50.7	
	comp=Z,2μm,1.3s					
FLOS			*e*S	**S**	**11 15 46.0**	**+0.6**
STOK	**Stokkvaagen**	**72.33 340**⇑	*i P*	**P**	**11 06 48.8**	**-0.2**
STOK			*e*S	**S**	**11 15 47.4**	**+0.8**
VSU	**Vasula**	**72.39 329**	*d iP*	**P**	**11 06 49.4**	**0.0**
DIGO	**Kars**	**72.59 307**	*i P*	**P**	**11 06 52.3**	**+0.9**
KARS	**Kars**	**72.69 307**	*e*P	**P**	**11 06 53.3**	**+1.6**
CLDR	**Caldiran**	**72.84 306**	*e*P	**P**	**11 06 54.0**	**+1.2**
LON	**Longmire**	**72.92 45**	*e*P	**P**	**11 06 53.1**	**+0.2**
LON			pmax	pmax		
	comp=Z,619nm,1.3s					
LON	**Longmire**	**72.92 45**	*e*P	**P**	**11 06 53.1**	**+0.2**
	comp=Z,619nm,1.3s					
COR	**Corvallis**	**73.10 48**	*e*P	**P**	**11 06 54.7**	**+0.8**
COR			pmax	pmax		
	comp=Z,4μm,1.2s					
COR	**Corvallis**	**73.10 48**	*e*P	**P**	**11 06 54.7**	**+0.8**
	comp=Z,649nm,1.2s					
ARTV	**Artvin**	**73.18 308**	*i* P	**P**	**11 06 54.9**	**+0.2**
DAGI	**Agillar**	**73.24 308**	*i* P	**P**	**11 06 55.4**	**+0.5**
BCA	**Borcka**	**73.25 309**	*e*P	**P**	**11 06 55.4**	**+0.6**
AGRB	**Hanur-Agry**	**73.26 306**	*e*P	**P**	**11 06 56.3**	**+1.2**
DBOC	**Borcka**	**73.27 309**	*i* P	**P**	**11 06 55.5**	**+0.5**
KEBM	**Edson Butte**	**73.30 50**	*e*P	**P**	**11 06 56.4**	**+1.2**
	comp=Z,5μm,1.0s					
KEBM			*e*PP	**PP**	**11 09 43.5**	**+0.9**
DBAD	**Bademkaya**	**73.42 308**	*i* P	**P**	**11 06 56.6**	**+0.6**
SOC	**Sochi**	**73.42 311**	*d iP*	**P**	**11 06 55.7**	**0.0**
SOC			*e*		11 07 08.6	
SOC			*i* *PP	**pP**	**11 08 03.8**	**-0.8**
SOC			*e**SP	**sP**	**11 08 36.5**	**-0.4**
SOC			*i*		11 09 41.3	
SOC			*e*PPP	PPP	11 11 27.1	
SOC			*i* S	**S**	**11 15 58.3**	**-1.3**
SOC			*e*		11 16 24.4	
SOC			*e*SS	**SS**	**11 20 46.5**	**-1.6**
SOC			*e*SSS	SSS	11 24 11.0	
SOC			pmax	pmax		
	comp=Z,3μm,1.4s					
SOC			pmax	pmax		
	comp=Z,1μm,0.7s					
JMIC	**Jan Mayen**	**73.46 349**⇓	*i P*	**P**	**11 06 56.9**	**+1.4**
JMIC			AMB	AMB	11 06 59.5	
	comp=Z,2μm,1.4s					
TUTA	**Tutak**	**73.46 306**	*i* P	**P**	**11 06 57.5**	**+1.1**
KBO	**Bosley Butte**	**73.70 50**	*e*P	**P**	**11 06 58.7**	**+1.1**
	comp=Z,3μm,1.2s					
KBO			*e*PP	**PP**	**11 09 46.2**	**+0.2**
HAKT	**HAKKARI**	**73.75 304**	*i* P	**P**	**11 06 58.5**	**+0.3**
HOMI	**Horasan**	**73.76 307**	*i* P	**P**	**11 06 59.1**	**+1.0**
GEVA	**Gevas**	**73.83 305**	*i* P	**P**	**11 06 59.3**	**+0.8**
PZAR	**Pazar-Rize**	**73.86 309**	*e*P	**P**	**11 06 59.1**	**+0.8**
NSS	**Namsos**	**73.92 339**⇓	*i P*	**P**	**11 06 58.0**	**-0.2**
NSS			AMB	AMB	11 07 00.4	
	comp=Z,506nm,1.2s					
CUKT	**Cukurca**	**73.98 304**	*e*P	**P**	**11 06 59.6**	**+0.4**
DGAR	**Diego Garcia**	**74.11 250**	P	**P**	**11 07 00.0**	**-0.2**
	comp=Z,11μm,0.8s,SNR=11					
DGAR	**Diego Garcia**	**74.11 250**	*e*P	**P**	**11 06 59.9**	**-0.2**
DGAR			pmax	pmax		
	comp=Z,5μm,1.4s					
DGAR	**Diego Garcia**	**74.11 250**	P	**P**	**11 07 00.7**	**+0.6**
	SNR=14					
DGAR	**Diego Garcia**	**74.11 250**	*e*P	**P**	**11 06 59.9**	**-0.2**
	comp=Z,5μm,1.4s					
MICGM	**Minsk**	**74.14 325**⇓	*i P*	**P**	**11 06 58.0**	**-1.7**
MNK	**Minsk**	**74.17 325**	*d iP*	**P**	**11 06 58.0**	**-1.8**
MNK			*e**PP	**pP**	**11 08 06.0**	**-2.9**
MNK			*e*SP		11 08 40.0	
MNK			*e*		11 09 46.0	
MNK			*e*S	**S**	**11 16 03.0**	**-4.5**
MNK			*e*SS	**SS**	**11 21 02.0**	**+3.2**
MNK			pmax	pmax		
	comp=Z,2μm,1.2s					
MNK			pmax	pmax		
	comp=E,3μm,1.4s					
MNK			pmax	pmax		
	comp=N,4μm,1.4s					
MNK			pmax	pmax		
	comp=Z,60μm,10.0s					
MNK			smax	smax		
	comp=N,49μm,12.0s					
MNK			smax	smax		
	comp=E,133μm,14.0s					
MNK			MLR	MLR		
	comp=E,83μm,14.0s					
MNK			MLR	MLR		
	comp=N,47μm,14.0s					
MNK			MLR	MLR		
	comp=Z,153μm,14.0s					
ERZM	**Erzurum**	**74.19 307**	*i* P	**P**	**11 07 01.8**	**+1.1**
EZM	**Erzurum**	**74.19 307**	*e*P	**P**	**11 07 02.3**	**+1.7**
ANN	**Anapa**	**74.21 313**	*d iP*	**P**	**11 07 00.1**	**-0.2**
ANN			*i* *PP	**pP**	**11 08 08.4**	**-0.9**
ANN			*e*		11 09 50.9	
ANN			*e*PPP	PPP	11 11 35.4	
ANN			*i* S	**S**	**11 16 05.9**	**-2.5**
ANN			*i*		11 16 41.1	
ANN			pmax	pmax		
	comp=N,397nm,0.8s					
ANN			pmax	pmax		
	comp=E,306nm,0.8s					
ANN			pmax	pmax		
	comp=Z,2μm,0.8s					
ANN			pmax	pmax		
	comp=N,8μm,14.1s					
ANN			pmax	pmax		
	comp=Z,24μm,14.1s					
ANN			pmax	pmax		
	comp=E,2μm,7.1s					
ANN			smax	smax		
	comp=E,21μm,9.0s					
ANN			smax	smax		
	comp=Z,7μm,9.0s					
ANN			smax	smax		
	comp=N,1μm,4.5s					
KRMB	**Red Mountain**	**74.25 51**	*e*P	**P**	**11 07 01.8**	**+1.0**
	comp=N,6μm,2.3s					
KRMB			*e*PP	**PP**	**11 09 50.4**	**-0.4**
TATV	**Tatvan**	**74.28 306**	*i* P	**P**	**11 07 02.1**	**+1.0**
HUMO	**Hull Mountain**	**74.31 49**	*e*P	**P**	**11 07 01.8**	**+0.8**
	comp=N,3μm,1.8s					
HUMO			*e*PP	**PP**	**11 09 48.8**	**-2.3**
HUMO			*e*S	**S**	**11 16 11.5**	**+1.8**
IBDR	**Badra**	**74.35 299**	*e*P	P	11 06 53.0	-8.3
IBDR			*i* pP	pP	11 08 07.0	-3.4
IBDR			*i* PP	**PP**	**11 09 51.0**	**-0.7**
IBDR			*i* S	**SKiKP**	**11 16 02.0**	**+6.2**
IBDR			*i* ScS	**SKSac**	**11 16 35.0**	**-5.0**
NACGM	**Naroch**	**74.43 326**	*e*P	**P**	**11 06 59.0**	**-2.3**
SUMG	**Summit**	**74.53 359**	*e*P	**P**	**11 07 03.5**	**+1.3**
SUMG			*e**PP	**pP**	**11 08 11.8**	**+0.5**
SUMG			*e*S	**S**	**11 16 09.1**	**-2.7**
SUMG			pmax	pmax		
	comp=Z,2μm,1.1s					
SUMG	**Summit**	**74.53 359**⇓	*i P*	**P**	**11 07 03.8**	**+1.6**
	comp=Z,1μm,1.0s					
SUMG			*i* pP	**pP**	**11 08 11.6**	**+0.3**
SUMG			*i* S	**S**	**11 16 14.4**	**+2.5**
SUMG						
	comp=Z,12μm,19.0s					
SUMG	**Summit**	**74.53 359**	*i* P	**PKKPbc**	**11 26 25.7**	**-1.4**
	comp=Z,8.2nm,0.8s					
SUMG	**Summit**	**74.53 359**	*e*P	**P**	**11 07 03.5**	**+1.3**
	comp=Z,2μm,1.1s					
SUMG			*e*pP	**pP**	**11 08 11.8**	**+0.5**
SUMG			*e*S	**S**	**11 16 09.1**	**-2.7**
SIRT	**Sirnak**	**74.66 305**	*e*P	**P**	**11 07 03.8**	**+0.6**
SIRN	**S¨–rnak**	**74.68 305**	*i* P	**P**	**11 07 03.6**	**+0.4**
KHMM	**Horse Mountain**	**74.70 51**	*e*P	**P**	**11 07 04.5**	**+1.1**
	comp=Z,2μm,1.0s					
KHMM			*e*PP	**PP**	**11 09 54.6**	**+0.1**
KOPT	**Kop Dagi**	**74.70 308**	*i* P	**P**	**11 07 04.6**	**+1.0**
MACK	**Trabzon**	**74.72 309**	*i* P	**P**	**11 07 03.7**	**+0.4**
BAYT	**Ayd¨–ntepe-Bay**	**74.75 308**	*e*P	**P**	**11 07 04.8**	**+1.1**
UMR	**Umm Al-Rimmam**	**74.77 295**	*e*P	**P**	**11 07 03.4**	**-0.4**
UMR			AMb	AMB	11 07 05.4	
	comp=Z,6μm,0.9s					
RAO	**Raoul Island**	**74.78 141**	*e*P	**P**	**11 07 03.6**	**0.0**
	comp=Z,4μm,0.8s					
BNGL	**BINGOL**	**74.81 307**	*i* P	**P**	**11 07 05.3**	**+1.2**
NEW	**Newport**	**74.84 42**	*e*P	**P**	**11 07 04.0**	**+0.1**
	comp=Z,703nm,1.1s					
NEW			*e*pP	**pP**	**11 08 12.7**	**-0.4**
NEW			*e*S	**S**	**11 16 15.1**	**-0.2**
NEW	**Newport**	**74.84 42**	P	**P**	**11 07 04.0**	**+0.1**
	comp=Z,366nm,0.9s,baz=303,slow=4.9,SNR=333					
NEW	**Newport**	**74.84 42**	⇓P	**P**	**11 07 04.0**	**+0.1**
	baz=75,SNR=647					
NEW			⇑S	**S**	**11 16 13.1**	**-2.3**
	baz=75					
NEW			⇑S	**S**	**11 16 13.1**	**-2.3**
	baz=75					
NEW			⇑S	**S**	**11 16 13.1**	**-2.3**
	baz=75					
NEW			⇑S	**S**	**11 16 13.1**	**-2.3**
	baz=75					
YBH	**Yreka Blue Hor**	**74.92 50**	*e*P	**P**	**11 07 05.4**	**+0.9**
	comp=Z,1μm,1.1s					
YBH	**Yreka Blue Hor**	**74.92 50**	P	**P**	**11 07 05.1**	**+0.5**
	comp=Z,1μm,0.9s,baz=345,slow=2.2,SNR=417					
MIB	**Mutribah**	**74.93 296**	*e*P	**P**	**11 07 04.5**	**-0.2**
MIB			AMb	AMB	11 07 06.2	
	comp=Z,9μm,0.9s					
KBD	**Kabd**	**74.97 295**	*e*P	**P**	**11 07 04.9**	**0.0**
KBD			AMb	AMB	11 07 06.7	
	comp=Z,6μm,0.9s					
BNGB	**Bing ¶‖**	**75.11 307**	*e*P	**P**	**11 07 06.7**	**+1.0**
GUMT	**Gumushane**	**75.15 309**	*e*P	**P**	**11 07 06.9**	**+1.0**
RDF	**Al-Radifah**	**75.21 295**	*e*P	**P**	**11 07 06.3**	**0.0**
RDF			AMb	AMB	11 07 08.3	
	comp=Z,13μm,0.8s					
BEST	**Besiri**	**75.26 306**	*i* P	**P**	**11 07 07.4**	**+0.8**
NAY	**Al-Naaiem**	**75.28 295**	*e*P	**P**	**11 07 06.4**	**-0.3**
NAY			AMb	AMB	11 07 08.3	
	comp=Z,7μm,0.9s					
TBLU	**Trondheim**	**75.36 338**⇓	*i P*	**P**	**11 07 05.6**	**-0.9**
TBLU			AMB	AMB	11 07 08.4	
	comp=Z,3μm,1.5s					
EUZM	**Uzumlu**	**75.39 308**	*i* P	**P**	**11 07 08.5**	**+1.2**
BHD	**Baghdad**	**75.40 300**	*i* P	P	11 07 01.0	-6.3
BHD			*i* pP	pP	11 08 16.0	-0.6
BHD			*i* PP	**PP**	**11 10 01.0**	**+0.5**
BHD			*i* PPP	PPP	11 11 40.0	
BHD			*i* S	S	11 16 12.0	-10
BHD			*i* ScS	**SKSac**	**11 16 46.0**	**-1.7**
BHD			*i* sPP		11 17 48.0	
BHD			*i* sS	sS	11 18 21.0	-3.2
BHD			*i* SS	**SS**	**11 21 24.0**	**+5.3**
KCPM	**Cahto Peak**	**75.40 52**	*e*P	**P**	**11 07 08.1**	**+0.7**
	comp=Z,2μm,1.3s					
KCPM			*e*PP	**PP**	**11 09 58.3**	**-2.2**
ESPY	**Espiye-Giresun**	**75.41 309**	*e*P	**P**	**11 07 07.0**	**-0.2**
KIPM	**Iron Peak**	**75.41 52**	*e*P	**P**	**11 07 07.6**	**+0.2**
	comp=Z,60nm,0.9s					
ERZN	**Erzincan**	**75.44 308**	*e*P	**P**	**11 07 08.8**	**+1.2**
KELT	**Kelkit**	**75.46 309**	*i* P	**P**	**11 07 08.7**	**+0.9**
EZC	**Erzincan**	**75.60 308**	*e*P	**P**	**11 07 09.9**	**+1.4**
RBK	**Rabkut**	**75.62 282**	P	**P**	**11 07 08.8**	**0.0**
	SNR=100					
WDC	**Whiskeytown Da**	**75.62 51**	*e*P	**P**	**11 07 08.8**	**+0.3**
WDC			*e**PP	**pP**	**11 08 17.7**	**0.0**
WDC			*e*		11 10 01.8	
WDC			pmax	pmax		
	comp=Z,1μm,1.2s					
WDC	**Whiskeytown Da**	**75.62 51**	*e*P	**P**	**11 07 08.8**	**+0.3**
	comp=Z,1μm,1.2s					
WDC			*e*pP	**pP**	**11 08 17.7**	**0.0**
WDC			*e*PP	**PP**	**11 10 01.8**	**-0.3**
AKASG	**Malin Array Be**	**75.65 322**	P	**P**	**11 07 08.

```
AKASG                                  S      S     11 16 21.1 -2.9
     comp=N,17nm,0.9s,baz=50,slow=11,SNR=7.3
SCO  Scoresbysund      75.66 353⇓iP     P     11 07 09.5 +1.4
SCO                                *iP   pP     11 08 18.6 +1.2
SCO                                iS    S      11 16 26.7 +3.3
SCO                                pmax  pmax
     comp=Z,560nm,1.0s
SCO  Scoresbysund      75.66 353⇓iP     P     11 07 09.5 +1.4
     comp=Z,559nm,1.0s
SCO                                iP    pP     11 08 18.6 +1.2
SCO                                iS    S      11 16 26.7 +3.3
SCO                                i     11 18 28.5
SCO
     comp=Z,10µm,18.0s
GRSN GIRESUNGRSN       75.70 310 iP     P     11 07 08.7 -0.2
OUZ  Omahuta           75.73 151 eP     P     11 07 11.3 +2.5
     comp=Z,88nm,1.0s
OUZ                                ePP   pP     11 08 18.3 0.0
MARD Mardin            75.89 305 iP     P     11 07 10.9 +0.8
DIY  Diyarbakir        75.97 306 eP     P     11 07 12.2 +1.7
PTK  Pertek            76.02 307 eP     P     11 07 12.0 +1.1
DIYA Diyarbakir        76.03 306 iP     P     11 07 11.8 +1.0
MAZI Mazidag           76.05 306 eP     P     11 07 11.8 +0.8
HOPS Hopland           76.10 52  eP     P     11 07 11.6 +0.4
     comp=Z,308nm,1.3s
HOPS                               ePP   PP    11 10 05.4 -0.7
SUSE Susehri           76.11 309 iP     P     11 07 12.6 +1.2
SIM  Simferopol'       76.14 315d iP    P     11 07 10.6 -0.6
SIM                                e*PP  pP     11 08 20.0 -0.7
SIM                                e     11 10 08.0
SIM                                ePPP  PPP    11 11 55.0
SIM                                iS    S      11 16 27.8 -1.7
TAU  Tasmania Unive    76.16 173 P      P     11 07 12.0 +1.0
     comp=Z,3µm,1.2s,SNR=31
TAU  Tasmania Unive    76.16 173 eP     P     11 07 12.1 +1.0
TAU                                pmax  pmax
     comp=Z,672nm,1.1s
TAU  Tasmania Unive    76.16 173 eP     P     11 07 12.1 +1.0
     comp=Z,675nm,1.1s
WALA Waterton Lakes    76.17 40  eP     P     11 07 11.8 +0.3
     comp=Z,49nm,2.8s
ILIC ilic-Erzincan     76.27 308 eP     P     11 07 13.5 +1.2
BSMT Bassoo Peak       76.37 41  eP     P     11 07 13.3 +0.5
BSMT                               ePP   PP    11 10 13.2 +4.9
KEMA Kemaliye          76.42 308 iP     P     11 07 14.0 +0.9
ABTO Aybut             76.44 282 P      P     11 07 13.2 -0.2
     SNR=156
HFS  Hagfors           76.46 335 S      S     11 16 31.5 -0.9
     comp=Z,113nm,1.1s,baz=68,slow=13,SNR=6.8
A14A Double T Ranch    76.48 40  ⇓P     P     11 07 13.6 +0.3
     baz=76,SNR=719
BLMT Blacktail Moun    76.52 41  eP     P     11 07 14.2 +0.6
BLMT                               ePP   PP    11 10 13.7 +4.1
RSDY Resadiye-TOKAT    76.58 310 eP     P     11 07 14.7 +0.8
BMO  Blue Mountains    76.60 45  eP     P     11 07 14.8 +0.9
     comp=Z,427nm,0.8s
DOMB Dombas            76.63 338⇓iP     P     11 07 13.9 +0.2
SUW  Suwalki           76.64 327 eP     P     11 07 13.6 -0.3
SUW                                pmax  pmax
     comp=Z,4µm,1.2s
SUW  Suwalki           76.64 327 eP     P     11 07 13.6 -0.3
     comp=Z,4µm,1.2s
SUW  Suwalki           76.64 327 eP     P     11 07 13.5 -0.3
SUW                                ePcP  PcP    11 07 18.3 -5.6
SUW                                epP   pP     11 08 23.1 -0.3
SUW                                ePP   PP    11 10 11.0 +0.8
SUW                                eS    S      11 16 33.4 -1.2
SUW                                esS   sS     11 18 34.8 -2.5
SUW                                eSS   SS     11 21 36.4 +0.3
SUW                                e     11 27 23.5
SUW                                LMZ   LR     11 44 56.7
MCCM Marconi Confer    76.67 53  eP     P     11 07 14.1 -0.2
     comp=Z,2µm,1.0s
NB2  NORSAR Subarra    76.67 336 P      P     11 07 14.3 +0.3
     comp=Z,1µm,0.7s,baz=44,slow=5.6
NB2  NORSAR Subarra    76.67 336 P      P     11 07 14.3 +0.3
     baz=44,slow=5.6
NOA  NORSAR Array B    76.67 336 P      P     11 07 13.7 -0.3
NOA                                PP    PP    11 10 07.9 -2.4
NOA                                S     S      11 16 34.7 0.0
NOA                                P'P'  11 34 21.3
NOA  NORSAR Array B    76.67 336 P      P     11 07 13.7 -0.3
     comp=Z,795nm,0.7s,baz=47,slow=5.9,SNR=2886
NOA                                PP    PP    11 10 07.9 -2.4
     comp=Z,142nm,0.8s,baz=47,slow=8.6,SNR=6.0
NOA                                S     S      11 16 34.7 0.0
     comp=Z,39nm,0.9s,baz=48,slow=12,SNR=4.9
NOA                                PKPPKP P'P'df 11 34 21.3 -10
     comp=Z,5.6nm,1.0s,baz=211,slow=1.9,SNR=5.7
MOL  Molde             76.70 339⇓iP     P     11 07 14.6 +0.6
MOL                                AMB   AMB    11 07 17.0
     comp=Z,2µm,1.4s
MOL                                eS    S      11 16 35.8 +0.8
JTMT Jette             76.71 41  eP     P     11 07 15.0 +0.4
JTMT                               epP   pP     11 08 30.6 +6.5
JTMT                               ePP   PP    11 10 17.2 +6.0
YBMT Yellow Bay        76.80 41  eP     P     11 07 15.8 +0.7
     comp=Z,814nm,1.4s
A15A Johnson Ranch,    76.85 40  ⇓P     P     11 07 15.3 0.0
     baz=77,SNR=1000
B14A Marquette Ranc    76.91 40  ⇓P     P     11 07 16.4 +0.7
     baz=77,SNR=796
NAO01 NORSAR Array S   76.92 336 eP     P     11 07 14.9 -0.4
     comp=Z,138nm,1.2s
NAO01                              ePP   PP    11 10 09.7 -2.6
NAO01                              eS    S      11 16 38.8 +1.4
MYA  Malataya          76.96 307 eP     P     11 07 18.1 +2.1
OHCM Honcut            76.97 52  eP     P     11 07 15.8 -0.1
SCER sogukcermik       77.00 309 iP     P     11 07 16.9 +0.6
SWMT Swartz Lake       77.00 41  eP     P     11 07 16.2 +0.1
SVSK Karacayir         77.05 309 eP     P     11 07 17.7 +1.3
WVOR Wild Horse Val    77.12 48  eP     P     11 07 17.3 +0.4
WVOR                               eS    S      11 16 40.4 0.0
WVOR                               pmax  pmax
     comp=Z,4µm,1.5s
WVOR Wild Horse Val    77.12 48  eP     P     11 07 17.3 +0.4
     comp=Z,4µm,1.5s
WVOR                               eS    S      11 16 40.4 0.0
TOKT Tokat             77.13 310 eP     P     11 07 18.4 +1.4
URFA Urfa              77.16 306 eP     P     11 07 18.2 +1.0
TOKA Tokat             77.17 310 iP     P     11 07 17.9 +0.7
DIKM Dikmen            77.23 311 eP     P     11 07 18.3 +0.9
HAVZ Havza             77.25 311 iP     P     11 07 18.1 +0.6
SAC  San Andreas       77.28 53  eP     P     11 07 17.4 -0.3
SAC                                pmax  pmax
     comp=Z,2µm,1.3s
SAC  San Andreas       77.28 53  eP     P     11 07 17.4 -0.3
     comp=Z,2µm,1.3s
B15A Bradely Ranch,    77.33 40  ⇑P     P     11 07 18.2 +0.3
     baz=77,SNR=1000
BEKR Beckworth         77.42 51  eP     P     11 07 18.9 +0.2
     comp=Z,7µm,1.5s
MSO  Missoula          77.43 42  eP     P     11 07 18.3 -0.2
     comp=Z,699nm,1.3s
MSO  Missoula          77.43 42  ⇑P     P     11 07 18.3 -0.2
     baz=77,SNR=651
SLMT Seeley Lake       77.44 41  eP     P     11 07 18.6 -0.1
SLMT                               eS    S      11 16 46.9 +3.1
DARE Darende-Malaty    77.45 308 eP     P     11 07 20.3 +1.5
A16A West Butte Ran    77.47 39  ⇑P     P     11 07 18.9 +0.2
     baz=77
ATAB Bozova            77.50 307 iP     P     11 07 20.0 +1.0
BOYT Boyabat           77.58 311 iP     P     11 07 21.1 +1.7
C15A Salmond Ranch,    77.62 41  ⇑P     P     11 07 20.1 +0.5
     baz=77,SNR=1000
BYBT Boyabat           77.64 312 eP     P     11 07 21.0 +1.4
OSL  Oslo              77.64 336⇓iP     P     11 07 18.9 -0.4
B16A M & M Farms, S    77.73 40  ⇓P     P     11 07 20.5 +0.4
     baz=78
CHMT Chamberlain Mo    77.76 42  eP     P     11 07 20.1 -0.4
BZK  Bozkurt           77.84 312 eP     P     11 07 21.4 +0.7
A17A Triple J Farms    77.95 39  ⇓P     P     11 07 21.4 +0.1
     baz=78,SNR=1000
KIS  Kishinev          78.02 319⇓iP     P     11 07 20.0 -1.6
     comp=Z,3µm,1.6s
KIS  Kishinev          78.02 319 iPcP   PcP    11 07 36.0 +5.9
KIS                                iP    pP     11 08 30.0 -1.4
KIS  Kishinev          78.02 319 iPP    PP     11 10 23.0 +1.1
     comp=Z,11µm,12.0s
KIS  Kishinev          78.02 319κ iP    P     11 07 20.0 -1.6
KIS                                i     11 07 36.0
KIS                                i*PP  pP     11 08 30.0 -1.4
KIS                                i     11 08 58.0
KIS                                i     11 10 23.0
KIS                                iS    S      11 16 47.0 -2.6
KIS                                pmax  pmax
     comp=Z,3µm,1.6s
KIS                                pmax  pmax
     comp=N,800nm,1.8s
KIS                                pmax  pmax
     comp=E,1µm,2.0s
KIS                                pmax  pmax
     comp=Z,19µm,11.0s
KIS                                pmax  pmax
     comp=N,7µm,16.0s
KIS                                pmax  pmax
     comp=E,7µm,12.0s
KIS                                pmax  pmax
     comp=Z,20µm,16.0s
KIS                                smax  smax
     comp=E,17µm,15.0s
KIS                                smax  smax
     comp=E,58µm,20.0s
KIS                                MLR   MLR
     comp=Z,65µm,14.0s
KIS                                MLR   MLR
     comp=N,30µm,15.0s
KIS                                MLR   MLR
     comp=E,43µm,15.0s
KIS                                MLR   MLR
     comp=Z,60µm,16.0s
KIS  Kishinev          78.02 319⇑iP     P     11 07 21.3 -0.3
GZT  Gaziantep         78.05 307 iP     P     11 07 23.2 +1.0
C16A Fuhringer Ranc    78.07 40  ⇓P     P     11 07 22.2 +0.2
     baz=78,SNR=533
CTKT Corum             78.09 311 iP     P     11 07 23.1 +0.8
PINB Pinarbasi         78.11 308 iP     P     11 07 23.6 +1.0
PAHR Pah Rah Range     78.14 50  eP     P     11 07 22.8 +0.2
     comp=Z,2µm,0.9s
HYA  Hoyanger          78.20 338⇓iP     P     11 07 22.3 +0.1
HYA                                AMB   AMB    11 07 24.9
     comp=Z,2µm,1.2s
KONO Kongsberg         78.24 336⇓iP     P     11 07 22.4 -0.1
KONO                               AMB   AMB    11 07 25.0
     comp=Z,768nm,1.4s
KONO                               ePP   PP    11 10 22.7 -0.6
KONO                               eS    S      11 16 50.4 -1.0
KONO Kongsberg         78.24 336 eP     P     11 07 22.1 -0.4
KONO                               e     11 10 25.0
KONO                               pmax  pmax
     comp=Z,468nm,0.8s
KONO Kongsberg         78.24 336 eP     P     11 07 22.1 -0.4
     comp=Z,112nm,0.8s
KONO                               ePP   PP    11 10 25.0 +1.8
MFID Camas Ranch       78.28 46  eP     P     11 07 23.7 +0.4
     comp=Z,3µm,1.5s
MFID Camas Ranch       78.28 46  ⇑P     P     11 07 24.2 +0.9
     baz=78
B17A L&G Farms, Che    78.29 40  ⇓P     P     11 07 23.5 +0.3
     baz=78,SNR=1000
YOZ  Yozgat            78.29 310 eP     P     11 07 24.5 +1.1
TOS  Tosya             78.35 311 eP     P     11 07 25.2 +1.5
SAO  San Andreas Ge    78.37 54  eP     P     11 07 23.8 +0.1
SAO                                pmax  pmax
     comp=Z,795nm,1.0s
SAO  San Andreas Ge    78.37 54  eP     P     11 07 23.8 +0.1
     comp=Z,202nm,1.0s
BNN  Bunyan            78.38 309 eP     P     11 07 24.8 +0.9
CMB  Columbia Colle    78.39 52  eP     P     11 07 24.0 +0.1
CMB                                e     11 10 24.9
CMB                                eS    S      11 16 55.6 +1.6
CMB                                pmax  pmax
     comp=Z,1µm,0.9s
CMB  Columbia Colle    78.39 52  eP     P     11 07 24.0 +0.1
     comp=Z,1µm,0.9s
CMB                                ePP   PP    11 10 24.9 -0.4
CMB                                eS    S      11 16 55.6 +1.6
CMB                                ePKKPbc PKKPbc 11 26 18.3 +0.9
A18A Metzger Ranch,    78.41 39  ⇑P     P     11 07 23.9 +0.1
     baz=78,SNR=1000
KMRS Kahramanmaras     78.42 307 eP     P     11 07 24.9 +0.9
CORM Corum             78.44 310 eP     P     11 07 25.2 +1.0
FFC  Flin Flon         78.45 31  P      P     11 07 23.5 -0.3
     comp=Z,5µm,0.9s
FFC  Flin Flon         78.45 31  iP     P     11 07 23.5 -0.3
FFC  Flin Flon         78.45 31  eP     P     11 07 23.2 -0.6
     comp=Z,311nm,0.9s
AYKD Aykdinkavak       78.53 307 iP     P     11 07 25.3 +0.7
IAS  Iasi              78.60 319 ⇓P     P     11 07 24.9 +0.2
IAS  Iasi              78.60 319⇓iP     P     11 07 24.9 +0.2
LEOM Leova             78.65 318 ⇓P     P     11 07 25.0 0.0
LEOM Leova             78.65 318⇓iP     P     11 07 25.0 0.0
HRY  Holter Researc    78.67 41  eP     P     11 07 25.6 +0.3
FCC  Fort Churchill    78.69 25  eP     P     11 07 24.7 -0.3
FCC                                eS    S      11 16 53.5 -2.7
FCC  Fort Churchill    78.69 25  eP     P     11 07 24.7 -0.3
     comp=Z,794nm,1.3s
FCC                                eS    S      11 16 53.5 -2.7
KUZU Kuzuini           78.69 307 iP     P     11 07 26.4 +0.9
C17A Wharram Farm,     78.70 40  ⇑P     P     11 07 25.3 -0.2
     baz=78,SNR=960
SUE  Sulen             78.72 339⇓iP     P     11 07 25.6 +0.5
SUE                                AMB   AMB    11 07 28.1
     comp=Z,1µm,1.5s
WAKR Walker            78.76 51  eP     P     11 07 26.6 +0.5
WAKR                               ePP   PP    11 10 29.2 +0.6
WAKR                               eS    S      11 17 02.1 +3.9
B18A Beardsley Farm    78.77 39  ⇓P     P     11 07 26.1 +0.4
     baz=79,SNR=1000
CANT Cankiri           78.84 311 eP     P     11 07 27.2 +0.9
LVV  L'vov             78.85 323⇑iP     P     11 07 26.0 -0.1
LVV                                e     11 08 37.4
LVV                                e     11 10 26.8
LVV                                iS    S      11 16 57.4 -0.9
LVV                                eSS   SS     11 22 07.4 -2.0
LVV                                pmax  pmax
     comp=N,2µm,3.8s
LVV                                pmax  pmax
     comp=E,2µm,3.8s
LVV                                pmax  pmax
     comp=Z,6µm,3.8s
LVV                                MLR   MLR
     comp=Z,41µm,16.0s
LVV                                MLR   MLR
     comp=N,24µm,15.0s
LVV                                MLR   MLR
     comp=E,32µm,17.0s
LRM  Limekiln Ridge    78.86 42  eP     P     11 07 26.5 -0.1
LRM                                eS    S      11 16 58.4 -0.6
CDAG Cicekdag          78.91 310 iP     P     11 07 27.4 +0.7
A19A Klindworth Far    78.98 38  ⇑P     P     11 07 27.2 +0.3
     baz=79,SNR=665
EGMT Eagleton          79.01 39  eP     P     11 07 27.2 +0.2
     comp=E,2µm,1.2s
EGMT                               eS    S      11 16 59.8 -0.4
EGMT Eagleton          79.01 39  ⇑P     P     11 07 27.3 +0.2
     baz=79,SNR=539
ODD1 Odda              79.03 337⇓iP     P     11 07 26.9 0.0
ODD1                               AMB   AMB    11 07 29.6
     comp=Z,1µm,1.4s
ELDT Eldivan           79.03 311 iP     P     11 07 28.1 +0.7
ASK  Askoy             79.03 338 eP     P     11 07 26.4 -0.4
ASK                                AMB   AMB    11 07 27.6
     comp=Z,2µm,1.3s
D17A Six Diamond Ra    79.03 40  ⇑P     P     11 07 27.5 +0.2
     baz=79,SNR=1000
RUND Rundenannen       79.04 338 iP     P     11 07 26.5 -0.4
HLID Hailey            79.04 45  eP     P     11 07 28.2 +0.7
     comp=Z,927nm,1.0s
HLID                               eS    S      11 17 02.6 +1.6
HLID Hailey            79.04 45  ⇓P     P     11 07 28.1 +0.7
     baz=79,SNR=1000
DLMT Dillon            79.04 43  eP     P     11 07 27.6 +0.2
     comp=Z,2µm,1.2s
DLMT                               eS    S      11 17 01.7 +0.8
AVNT Avonos            79.07 309 iP     P     11 07 28.2 +0.5
SAFT Safranbolu        79.07 312 eP     P     11 07 28.4 +1.0
BER  Bergen            79.07 338⇓iP     P     11 07 25.9 -1.1
BER                                epP   pP     11 08 35.7 -1.3
BER                                eS    S      11 16 58.6 -1.5
BER                                eSS   SS     11 22 13.3 +1.4
TLCR                   79.09 317 ⇑P     P     11 07 27.9 +0.5
TLCR                   79.09 317⇑iP     P     11 07 27.9 +0.5
BMN  Battle Mountai    79.11 49  eP     P     11 07 28.6 +0.7
BMN                                eS    S      11 17 01.2 -0.6
BMN                                pmax  pmax
     comp=Z,2µm,1.0s
BMN  Battle Mountai    79.11 49  eP     P     11 07 28.6 +0.7
     comp=Z,2µm,1.0s
BMN                                eS    S      11 17 01.2 -0.6
KOZT Kozan             79.14 308 eP     P     11 07 29.7 +1.8
BEL  Belsk             79.14 326 eP     P     11 07 28.1 +0.5
BEL                                ePcP  PcP    11 07 33.5 -1.4
BEL                                epP   pP     11 08 39.2 +1.6
BEL                                ePP   PP    11 10 32.0 +1.0
BEL                                eS    S      11 17 01.9 +0.6
BEL                                esS   sS     11 19 05.8 +1.0
BEL                                eSS   SS     11 22 15.4 +1.8
BEL                                e     11 28 02.1
BEL                                LMZ   LR     11 47 20.8
B19A Brinkman Farms    79.17 39  ⇑P     P     11 07 28.2 +0.3
     baz=79,SNR=927
EGD  Espegrend         79.19 338⇓iP     P     11 07 27.3 -0.3
MCMT McKenzie Canyo    79.22 43  eP     P     11 07 28.2 -0.2
     comp=Z,7µm,1.2s
BR131 Keskin Array S   79.32 311 eP     P     11 07 29.4 +0.4
     comp=Z,14nm,0.4s
BR131                              epP   pP     11 08 39.4 +0.4
BRTR Keskin Array B    79.32 311 P      P     11 07 29.1 0.0
BRTR                               P'P'  11 34 15.8
BRTR                               e     11 44 01.4
BRTR Keskin Array B    79.32 311 P      P     11 07 29.1 0.0
     comp=Z,812nm,0.8s,baz=111,slow=2.8,SNR=1236
BRTR                               PKPPKP P'P'df 11 34 15.8 -8.4
     comp=Z,2.9nm,1.0s,baz=226,slow=4.6,SNR=4.1
BRTR                               P4KPbc 11 44 01.4
     comp=Z,1.8nm,0.9s,baz=87,slow=2.6,SNR=5.8
E17A Martinsdale       79.36 41  ⇓P     P     11 07 29.8 +0.6
     baz=79,SNR=1000
COBT Iskenderun        79.39 307 iP     P     11 07 30.1 +0.6
I14A Mackay            79.40 44  ⇑P     P     11 07 30.2 +0.8
     baz=79,SNR=1000
BOZ  Bozeman (W)       79.42 42  eP     P     11 07 29.7 +0.2
BOZ                                eS    S      11 17 06.2 +1.4
BOZ                                pmax  pmax
     comp=Z,1µm,0.4s
BOZ  Bozeman (W)       79.42 42  eP     P     11 07 29.7 +0.2
     comp=Z,1µm,0.4s
BOZ                                eS    S      11 17 06.2 +1.4
A20A Cobblestone Ra    79.43 38  ⇓P     P     11 07 29.4 +0.1
     baz=79,SNR=530
CEYT Ceyhan            79.45 307 eP     P     11 07 30.7 +1.1
BLS5 Blasjo            79.46 337 iP     P     11 07 29.4 +0.2
BLS5                               AMB   AMB    11 07 35.4
     comp=Z,1µm,1.5s
CFR  Carcaliu          79.48 317 ⇓P     P     11 07 29.3 -0.2
CFR  Carcaliu          79.48 317⇓iP     P     11 07 29.3 -0.2
D18A Linhart Farms,    79.49 40  ⇑P     P     11 07 30.2 +0.5
     baz=79,SNR=750
TESR Tescani           79.51 319⇑iP     P     11 07 29.6 -0.1
BSD  Bornholm Skovb    79.52 331⇓iP     P     11 07 28.8 -0.7
BSD                                i*PP  pP     11 08 38.1 -1.5
BSD                                iS    S      11 17 01.1 -3.9
BSD                                pmax  pmax
     comp=Z,690nm,0.9s
BSD                                MLR   MLR
     comp=Z,9µm,15.0s
BSD  Bornholm Skovb    79.52 331⇓iP     P     11 07 28.8 -0.7
     comp=Z,688nm,0.8s
BSD                                iPP   pP     11 08 38.1 -1.5
BSD                                iS    S      11 17 01.1 -3.9
BSD                                i     11 19 04.9
BSD
     comp=Z,19µm,14.0s
RAYN Ar Rayn           79.53 291 P      P     11 07 30.0 -0.3
     comp=Z,28µm,0.8s
RAYN Ar Rayn           79.53 291 eP     P     11 07 30.8 +0.5
     comp=Z,4µm,0.8s
NVAR Mina Array Bea    79.54 51  P      P     11 07 30.6 +0.3
NVAR                               P'P'  11 34 11.6
NVAR                               e     11 44 02.2
NVAR Mina Array Bea    79.54 51  P      P     11 07 30.6 +0.3
     comp=Z,755nm,0.8s,baz=292,slow=4.7,SNR=2429
NVAR                               PKPPKP P'P'df 11 34 11.6 -12
     comp=Z,3.6nm,1.0s,baz=139,slow=3.6,SNR=4.3
NVAR                               P4KPbc 11 44 02.2
     comp=Z,1.9nm,1.0s,baz=296,slow=3.6,SNR=7.8
C19A Slack Wire Ran    79.56 39  ⇓P     P     11 07 30.6 +0.6
     baz=79,SNR=1000
NIG  Nigde             79.60 309 eP     P     11 07 32.5 +1.8
BURAR Bucovina Array   79.61 321 ⇓P     P     11 07 30.6 +0.3
BURAR Bucovina Array   79.61 321⇓iP     P     11 07 30.6 +0.3
YURE YUREGIR           79.63 307 iP     P     11 07 31.6 +1.0
KWP  Kalwaria Pacla    79.64 323 ⇓P     P     11 07 30.9 +0.6
KWP  Kalwaria Pacla    79.64 323⇓iP     P     11 07 30.9 +0.6
KWP  Kalwaria Pacla    79.64 323 eP     P     11 07 30.9 +0.6
     comp=Z,4µm,1.1s
KWP  Kalwaria Pacla    79.64 323 eP     P     11 07 30.8 +0.5
KWP                                ePcP  PcP    11 07 36.1 -1.0
KWP                                ePP   PP    11 10 33.2 -1.9
KWP                                eS    S      11 17 06.5 -0.1
KWP                                esS   sS     11 19 13.5 +3.2
KWP                                e     11 28 26.8
KWP                                LMZ   LR     11 47 08.9
NV11 Mina Array Sit    79.64 51  eP     P     11 07 30.9 +0.2
NV11                               eS    S      11 17 08.0 +0.7
MLAC Mammoth Lakes     79.64 52  ⇓P     P     11 07 31.4 +0.5
     baz=80,SNR=488
HOMB Homborsund        79.65 336⇓iP     P     11 07 29.7 -0.5
HOMB                               AMB   AMB    11 07 32.4
     comp=Z,724nm,1.5s
B20A Solberg Farm,     79.66 38  ⇑P     P     11 07 30.6 +0.1
     baz=79,SNR=89
PETR Petresti          79.67 318⇓iP     P     11 07 31.9 +1.4
HTY  Hatay             79.68 306 eP     P     11 07 32.2 +1.4
YAYL Yayladag          79.75 306 iP     P     11 07 31.8 +0.4
BBAL Bala              79.75 311 iP     P     11 07 31.8 +0.5
TIRR Tirgusor          79.75 317 ⇓P     P     11 07 31.0 0.0
TIRR Tirgusor          79.75 317⇓iP     P     11 07 31.0 0.0
TIRR Tirgusor          79.75 317 eP     P     11 07 31.0 0.0
     comp=Z,940nm,1.3s
TIRR                               ePP   PP    11 10 34.3 -2.0
ANTO Ankara            79.78 311 eP     P     11 07 31.6 +0.2
ANTO Ankara            79.78 311 ⇓P     P     11 07 31.8 +0.4
ANTO Ankara            79.78 311 P      P     11 07 32.1 +0.8
     SNR=210
ANTO Ankara            79.78 311⇓iP     P     11 07 31.8 +0.4
ANTO Ankara            79.78 311 eP     P     11 07 31.8 +0.4
     comp=Z,915nm,0.8s
ANTO                               eS    S      11 17 08.0 -0.6
KARA Karaisali         79.78 308 eP     P     11 07 32.1 +0.8
LOD  Lodumlu           79.78 311 eP     P     11 07 32.0 +0.6
URZ  Urewera           79.79 150 eP     P     11 07 30.0 -1.1
     comp=Z,315nm,0.8s
URZ                                epP   pP     11 08 38.9 -2.3
URZ                                S     S      11 17 09.1 +1.0
URZ                                eS    S      11 17 10.3 +2.3
URZ                                P'P'  11 34 20.5
URZ  Urewera           79.79 150 P      P     11 07 29.9 -1.2
     comp=Z,242nm,0.7s,baz=340,slow=5.4,SNR=7.4
URZ                                S     S      11 17 09.1 +1.0
     comp=Z,39nm,1.0s,baz=173,slow=22,SNR=7.8
URZ                                PKPPKP P'P'df 11 34 20.5 +4.6
     comp=Z,26nm,1.2s,baz=1.1,slow=6.6,SNR=3.3
KDZE Karadeniz Ereo    79.79 313 eP     P     11 07 31.1 -0.2
F17A Fitzpatrick Pl    79.81 41  ⇑P     P     11 07 32.0 +0.5
     baz=80,SNR=710
GKP  Gorka Klasztor    79.81 328 eP     P     11 07 31.2 +0.1
GKP                                ePcP  PcP    11 07 36.5 -1.2
GKP                                ePP   PP    11 10 38.8 +2.4
GKP                                eS    S      11 17 06.9 -1.2
GKP                                esS   sS     11 19 14.3 +2.4
GKP                                eSS   SS     11 22 24.1 +0.7
GKP                                e     11 28 25.8
GKP                                LMZ   LR     11 48 15.9
PTRM Twissleman Ran    79.81 54  eP     P     11 07 32.0 +0.5
E18A Harlowton         79.81 41  ⇓P     P     11 07 32.2 +0.7
     baz=80,SNR=952
AFSR Af´ar-Bala (A     79.84 311 eP     P     11 07 32.3 +0.6
VRI  Vrincioaia        79.86 319 ⇑P     P     11 07 32.0 +0.4
VRI  Vrincioaia        79.86 319⇑iP     P     11 07 32.0 +0.4
A21A Bergtoll Ranch    79.87 37  ⇑P     P     11 07 31.9 +0.3
     baz=80,SNR=1000
HARR Harsova           79.89 317 ⇓P     P     11 07 32.0 +0.3
HARR Harsova           79.89 317⇓iP     P     11 07 32.0 +0.3
PLOR Plostina          79.91 319 ⇑P     P     11 07 32.3 +0.4
PLOR Plostina          79.91 319⇑iP     P     11 07 32.3 +0.4
GULE Gulek             79.95 308 iP     P     11 07 33.2 +0.7
SFJD Kangerlussuaq     79.95 3⇓iP       P     11 07 32.1 +0.5
     comp=Z,269nm,0.8s
SFJD                               iPP   pP     11 08 40.0 -1.7
SFJD
```

comp=Z,11µm,22.0s
SFJD Kangerlussuaq 79.95 3 *i* P **PKKPbc 11 26 13.3 -1.6**
comp=Z,6.3nm,1.0s
SFJD Kangerlussuaq 79.95 3 *e*P **P 11 07 32.1 +0.5**
comp=Z,428nm,0.9s
SFJD S **S 11 17 09.6 +0.5**
SFJD *e*S **S 11 17 10.3 +1.2**
SFJD Kangerlussuaq 79.95 3 S **S 11 17 09.6 +0.5**
comp=Z,5.3nm,0.4s,baz=257,slow=23,SNR=23
MTUM Tungsten Hills 79.97 52 *e*P **P 11 07 32.6 0.0**
D19A Cripps Ranch, 80.00 40 ⇓P **P 11 07 32.8 +0.4**
baz=80,SNR=1000
GRER 80.02 318 ⇓*i*P **P 11 07 34.5 +2.1**
QLMT Earthquake Lak 80.03 43 *e*P **P 11 07 33.3 +0.5**
QLMT *e*S **S 11 17 15.8 +4.6**
MANR Mangalia 80.03 316 ⇑*i*P **P 11 07 33.4 +0.9**
SNART Snartemo 80.04 336 ⇓*i*P **P 11 07 32.2 0.0**
SNART AMB AMB 11 07 34.8
comp=Z,758nm,1.5s
CVD Cernavoda 80.06 317 ⇑P **P 11 07 33.5 +0.9**
CVD Cernavoda 80.06 317 ⇑*i*P **P 11 07 33.5 +0.9**
RCTC Rector, Farmer 80.10 53 ⇓P **P 11 07 32.7 -0.3**
baz=80,SNR=274
COP Copenhagen 80.11 332 ⇓*i*P **P 11 07 32.8 +0.2**
COP *i* *PP **pP 11 08 42.3 -0.5**
COP *i* S **S 11 17 06.6 -4.5**
COP pmax pmax
comp=Z,630nm,0.8s
COP Copenhagen 80.11 332 ⇓*i*P **P 11 07 32.8 +0.2**
comp=Z,630nm,0.8s
COP *i* pP **pP 11 08 42.3 -0.5**
COP *i* S **S 11 17 06.6 -4.5**
COP *i* 11 19 13.0
COP
comp=Z,13µm,15.0s
G17A Pierce Place, 80.12 42 ⇓P **P 11 07 33.9 +0.7**
baz=80,SNR=546
C20A Veseth Ranch, 80.12 39 ⇓P **P 11 07 33.5 +0.5**
baz=80,SNR=673
SMMC Simmler 80.14 54 ⇓P **P 11 07 33.9 +0.6**
baz=80,SNR=119
B21A Ellsworth Farm 80.19 38 ⇑P **P 11 07 33.4 +0.1**
baz=80,SNR=653
H16A Russell Place, 80.20 43 ⇑P **P 11 07 34.4 +0.7**
baz=80,SNR=709
RAR Rarotonga 80.23 123 *e*P **P 11 07 34.9 +1.2**
comp=Z,504nm,2.3s
AMRR Amara 80.28 317 ⇑P **P 11 07 34.9 +1.1**
AMRR Amara 80.28 317 ⇑*i*P **P 11 07 34.9 +1.1**
PGOR Pogoanele 80.30 318 ⇓*i*P **P 11 07 35.2 +1.3**
KOLS Kolonicke sedl 80.30 323 *e*P **P 11 07 34.1 +0.2**
KOLS pmax pmax
comp=Z,432nm,1.1s
KOLS Kolonicke sedl 80.30 323 *e*P **P 11 07 34.1 +0.2**
KOLS *e*sP **sP 11 09 11.7 -4.3**
KOLS *e*PP **PP 11 10 41.0 +0.4**
KOLS *e*S **S 11 17 08.0 -5.5**
KOLS *e*sS **sS 11 19 13.9 -3.5**
KOLS *e* 11 37 14.6
F18A Big Timber 80.33 41 ⇓P **P 11 07 34.8 +0.5**
baz=80,SNR=1000
PSN Preselentsi 80.35 316 *i* P **P 11 07 35.1 +0.9**
TIN Tinemaha 80.36 52 ⇓P **P 11 07 35.0 +0.5**
baz=80,SNR=249
A22A Carney Farms, 80.38 37 ⇑P **P 11 07 34.2 -0.2**
baz=80,SNR=944
YMR Madison River 80.39 43 *e*P **P 11 07 35.5 +0.8**
comp=Z,1µm,0.4s
YMR *e*S **S 11 17 19.1 +4.1**
ISR Istrita 80.42 318 ⇓P **P 11 07 35.6 +0.9**
ISR Istrita 80.42 318 ⇓*i*P **P 11 07 35.5 +0.9**
GCMT Greycliff 80.42 41 *e*P **P 11 07 35.9 +1.1**
comp=Z,2µm,1.8s
MDUB Mudurnu 80.43 312 *e*P **P 11 07 35.2 +0.4**
D20A Manuel Ranch, 80.44 39 ⇑P **P 11 07 35.3 +0.5**
baz=80,SNR=1000
LLD Lille Linde 80.45 332 *i* P **P 11 07 34.6 +0.1**
LLD *i* *PP **pP 11 08 43.7 -1.0**
LLD pmax pmax
comp=Z,620nm,0.8s
LLD Lille Linde 80.45 332 *i* P **P 11 07 34.6 +0.1**
comp=Z,624nm,0.7s
LLD *i* pP **pP 11 08 43.7 -1.0**
VES Vestal, Richgr 80.47 53 ⇓P **P 11 07 34.5 -0.5**
baz=80,SNR=351
UZH Uzhgorod 80.49 323 ⇓*i*P **P 11 07 34.1 -0.7**
UZH *e**PP **pP 11 08 42.1 -2.9**
UZH *e**SP **sP 11 09 16.1 -0.9**
UZH *e* 11 10 40.4
UZH *e*S **S 11 17 13.1 -2.2**
UZH *e*PS PnS 11 18 27.1 -18
UZH *e*SS **SS 11 22 40.1 +6.4**
UZH *e*SSS SSS 11 26 07.9
UZH MLR MLR
comp=N,19µm,16.0s
UZH MLR MLR
comp=E,27µm,16.0s
UZH MLR MLR
comp=Z,18µm,16.0s
E19A Rath Farm, Rou 80.49 40 ⇑P **P 11 07 35.6 +0.6**
baz=80,SNR=1000
PKM Peak Mountain 80.50 55 ⇓P **P 11 07 35.9 +0.5**
baz=80,SNR=180
STHS Stebnicka Huta 80.50 324 *e*P **P 11 07 35.6 +0.6**
STHS pmax pmax
comp=Z,527nm,1.2s
STHS Stebnicka Huta 80.50 324 *e*P **P 11 07 35.6 +0.6**
YNR Norris Junctio 80.52 42 *e*P **P 11 07 36.6 +1.2**
comp=Z,2µm,1.4s
YNR *e*S **S 11 17 20.4 +3.9**
MLR Muntele Rosu 80.52 319 ⇓*i*P **P 11 07 35.4 +0.1**
MLR Muntele Rosu 80.52 319 S **S 11 17 18.3 +2.1**
comp=Z,5.8nm,1.1s,baz=267,slow=23,SNR=7.5
MLR PKPPKP **P'P'df 11 34 18.8 -4.1**
comp=Z,1.9nm,0.9s,baz=229,slow=0.8,SNR=7.4
C21A Desert Coulee 80.53 38 ⇑P **P 11 07 35.4 +0.2**
baz=80,SNR=578
DOPR Dopca 80.53 319 ⇑*i*P P 11 07 46.0 +11
I16A Newdale 80.57 43 ⇓P **P 11 07 36.9 +1.3**
baz=80,SNR=1000
RGN Rugen 80.57 331 *e*P **P 11 07 35.4 +0.3**
comp=Z,2µm,1.2s
RGN *e*pP **pP 11 08 45.6 +0.3**
RGN *e*PP **PP 11 10 43.1 +0.5**
YFT Old Faithful 80.59 43 *e*P **P 11 07 37.9 +2.1**
comp=Z,8µm,1.2s
ZALF Zalf 80.61 303 *e*P **P 11 07 36.6 +0.8**
OJC Ojcow 80.68 325 ⇓*i*P **P 11 07 36.0 +0.1**
OJC *e**PP **pP 11 08 46.0 -0.1**
OJC *e* 11 10 44.2
OJC *e*S **S 11 17 16.3 -1.1**
OJC *e*SS **SS 11 22 39.1 +2.5**
OJC Ojcow 80.68 325 *e*P **P 11 07 35.9 +0.1**
comp=Z,2µm,0.9s
TRPA Tarpa 80.68 322 ⇓*i*P **P 11 07 36.4 +0.5**
TRPA Tarpa 80.68 322 ⇓*e* **P 11 07 36.9 +1.0**
CRVS Cervenica-Dubn 80.73 323 *e*P **P 11 07 36.4 +0.2**
CRVS pmax pmax
comp=Z,3µm,2.1s
CRVS Cervenica-Dubn 80.73 323 *e*P **P 11 07 36.4 +0.2**
CRVS *e*pP **pP 11 08 46.5 +0.1**
CRVS *e*S **S 11 17 15.0 -2.9**
CRVS *e*sS **sS 11 19 22.4 +0.4**
CRVS *e* 11 37 13.0
SECR 80.73 318 ⇓*i*P **P 11 07 37.0 +0.8**
LKWY Lake 80.77 42 *e*P **P 11 07 38.8 +2.0**
LKWY pmax pmax
comp=Z,2µm,1.1s
LKWY Lake 80.77 42 *e*P **P 11 07 38.8 +2.0**
comp=Z,2µm,1.1s
H17A Grant Village 80.77 43 ⇓P **P 11 07 39.1 +2.3**
baz=81,SNR=1000
G18A Lazy EL Ranch, 80.78 41 ⇑P **P 11 07 36.6 -0.1**
baz=81,SNR=121
MUD Monsted U'grnd 80.78 334 ⇓*i*P **P 11 07 36.2 0.0**
MUD *i* *PP **pP 11 08 47.4 +1.0**
MUD *i* S **S 11 17 16.7 -1.3**
MUD pmax pmax
comp=Z,490nm,0.9s
MUD MLR MLR
comp=Z,10µm,15.0s
MUD Monsted U'grnd 80.78 334 ⇓*i*P **P 11 07 36.2 0.0**
comp=Z,488nm,0.9s
MUD *i* pP **pP 11 08 47.4 +1.0**
MUD *i* S **S 11 17 13.9 -4.1**
MUD *i* S **S 11 17 16.7 -1.3**
MUD *e* 11 19 21.8
MUD
comp=Z,20µm,15.0s
F19A Roth Farm, Mol 80.78 41 ⇓P **P 11 07 36.9 +0.2**
baz=81,SNR=629
B22A Reddig Ranch S 80.79 37 ⇑P **P 11 07 36.5 -0.1**
baz=81,SNR=624
CWC Cottonwood Cre 80.81 52 ⇓P **P 11 07 37.0 0.0**
baz=81,SNR=155
E20A Meyer Farm, Mu 80.82 40 ⇑P **P 11 07 37.2 +0.5**
baz=81,SNR=1000
SBC Santa Barbara 80.82 55 ⇓P **P 11 07 37.5 +0.6**
baz=81,SNR=71
SVRH Sivrihisar-ESK 80.82 311 *e*P **P 11 07 36.9 0.0**
HWQ Hawqa 80.83 305 *e*P **P 11 07 37.0 -0.1**
SULR 80.85 318 ⇓*i*P **P 11 07 36.9 +0.1**
SPNC Sapanca-Adapaz 80.86 313 *e*P **P 11 07 37.1 +0.1**
IMW Indian Meadow 80.87 43 *e*P **P 11 07 38.5 +1.1**
comp=Z,1µm,1.1s
IMW *e*pP **pP 11 08 47.4 -0.3**
IMW *e*S **S 11 17 24.4 +4.2**
IMW *e*PKKPbc **PKKPbc 11 26 13.8 +1.3**
GULT Gulveren 80.88 313 *e*P **P 11 07 37.6 +0.4**
FLWY Flagg Ranch 80.89 43 *e*P **P 11 07 38.8 +1.4**
comp=Z,3µm,1.3s
FLWY *e*S **S 11 17 25.4 +5.1**
KIZT Kizilcal 80.92 311 *e*P **P 11 07 37.5 0.0**
A23A Redstone 80.93 36 ⇑P **P 11 07 37.2 -0.1**
baz=81,SNR=190
GRAC Grapevine Rang 80.96 52 ⇑P **P 11 07 38.1 +0.5**
baz=81,SNR=757
NIE Niedzica 80.96 324 ⇓*i*P **P 11 07 40.0 +2.6**
NIE *e**PP **pP 11 08 50.7 +3.0**
NIE *e* 11 10 49.2
NIE *e*S **S 11 17 22.7 +2.4**
NIE *e*SS **SS 11 22 45.9 +5.1**
MDB Medias 80.97 320 ⇑P **P 11 07 38.7 +1.2**
MDB Medias 80.97 320 ⇑*i*P **P 11 07 38.7 +1.2**
ISA Isabella 80.98 53 *e*P **P 11 07 36.9 -0.9**
ISA *e* 11 10 45.4
ISA pmax pmax
comp=Z,484nm,1.0s
ISA Isabella 80.98 53 *e*P **P 11 07 36.9 -0.9**
comp=Z,117nm,1.0s
ISA *e*PP **PP 11 10 45.4 -1.3**
ISA Isabella 80.98 53 ⇓P **P 11 07 37.0 -0.9**
baz=81,SNR=384
KDHN Kadinhani 80.98 310 *i* P **P 11 07 37.9 +0.1**
RRI2 Red Ridge 80.98 44 *e*P **P 11 07 38.8 +0.9**
comp=Z,962nm,1.0s
RRI2 *e*S **S 11 17 21.2 -0.1**
SILT Sile 80.99 313 *e*P **P 11 07 38.3 +0.7**
SOFL Sornfelli, Far 81.00 344 ⇓*i*P **P 11 07 38.0 +0.7**
SOFL AMB AMB 11 07 39.2
comp=Z,1µm,1.5s
LADK Ladik-KONYA 81.00 310 *e*P **P 11 07 38.0 +0.1**
TOTH TOTAH 81.01 304 *e*P **P 11 07 38.5 +0.6**
QASN Qassioun 81.02 304 *e*P **P 11 07 38.2 +0.1**
ARVC Arvin 81.04 54 ⇓P **P 11 07 37.8 -0.2**
baz=81,SNR=190
VOIR 81.05 319 ⇑P **P 11 07 38.2 +0.2**
VOIR 81.05 319 ⇑*i*P **P 11 07 38.2 +0.2**
RLMT Red Lodge 81.06 41 *e*P **P 11 07 38.8 +0.5**
comp=Z,2µm,1.8s
RLMT *e*S S 11 17 29.3 +7.4
I17A Pilgrim Ck. 81.06 43 ⇑P **P 11 07 40.0 +1.7**
baz=81,SNR=489
D21A La Casta Ranch 81.06 39 ⇓P **P 11 07 38.3 +0.3**
baz=81,SNR=713
HVU Hansel Valley 81.07 46 *e*P **P 11 07 39.1 +0.8**
HVU pmax pmax
comp=Z,1µm,0.9s
HVU Hansel Valley 81.07 46 *e*P **P 11 07 39.1 +0.8**
comp=Z,1µm,0.9s
HVU *e*S S 11 17 30.6 +8.6
MOOW Moose Ponds 81.07 43 *e*P **P 11 07 39.2 +0.9**
comp=Z,913nm,1.2s
MOOW *e*S **S 11 17 26.0 +3.9**
MOOW *e*PKKPbc **PKKPbc 11 26 13.8 +1.9**
GPA Golpazari 81.09 312 *e*P **P 11 07 37.4 -0.8**
BORG Borgarnes 81.10 351 P **P 11 07 40.0 +2.3**
comp=Z,4µm,1.0s,SNR=46
BORG Borgarnes 81.10 351 S **S 11 17 25.4 +4.3**
comp=Z,19nm,1.2s,baz=242,slow=21,SNR=8.2
PRD Provadia 81.10 316 *i* P **P 11 07 38.7 +0.6**
TPAW Teton Pass 81.11 43 *e*P **P 11 07 39.5 +0.9**
comp=Z,1µm,1.1s
TPAW *e*S **S 11 17 27.4 +4.7**
TPAW *e*PKKPdf **PKKPdf 11 25 58.4 -2.0**
TPAW *e*PKKPbc **PKKPbc 11 26 13.2 +1.2**
H18A Shoshone NF, C 81.11 42 ⇑P **P 11 07 39.3 +0.7**
baz=81,SNR=585
SALA Sala 81.15 303 *e*P **P 11 07 39.4 +0.5**
KONT Konya--Tatoy 81.15 310 *e*P **P 11 07 38.9 +0.3**
HRT Hereke 81.17 313 *e*P **P 11 07 38.9 +0.3**
MTUR Matau 81.17 319 ⇓P **P 11 07 38.7 +0.1**
MTUR Matau 81.17 319 ⇓*i*P **P 11 07 38.7 +0.1**
ROIA ROIAK 81.17 316 *i* P **P 11 07 40.0 +1.4**
LRW Lerwick 81.19 341 ⇓*e*P **P 11 07 38.2 -0.1**
LRW AMB AMB 11 07 39.7
comp=Z,1µm,1.4s
LRW *e* 11 08 48.5
B23A Brockton 81.19 37 ⇓P **P 11 07 38.8 +0.1**
baz=81,SNR=654
CIOR Ciorogarla 81.20 318 ⇑*i*P **P 11 07 38.9 +0.2**
SEYT Eskypehyr 81.20 312 *i* P **P 11 07 39.5 +0.5**
C22A Vida 81.21 38 ⇓P **P 11 07 38.4 -0.4**
baz=81,SNR=259
LOHW Long Hollow 81.24 43 *e*P **P 11 07 39.8 +0.6**
comp=Z,577nm,1.1s
LOHW *e*S **S 11 17 21.0 -2.8**
LOHW *e*PKKPbc **PKKPbc 11 26 12.2 +0.7**
BORA Eskisehir 81.24 312 *i* P **P 11 07 39.1 0.0**
BHL Bhannes 81.24 305 *e*P **P 11 07 39.2 0.0**
SNOW Snow King Moun 81.24 43 *e*P **P 11 07 40.1 +0.9**
comp=Z,1µm,1.3s
SNOW *e*S **S 11 17 23.5 -0.4**
SNOW *e*PKKPbc **PKKPbc 11 26 12.8 +1.2**
REDW Red Top Meadow 81.25 44 *e*P **P 11 07 40.0 +0.7**
comp=Z,984nm,1.1s
F20A Billings 81.25 40 ⇑P **P 11 07 39.1 0.0**
baz=81,SNR=35
IKL Isikli 81.26 308 *e*P **P 11 07 39.1 -0.1**
KLYT Kilyos 81.29 314 *e*P **P 11 07 39.6 +0.4**
BRBR Barbar 81.31 304 *e*P **P 11 07 40.5 +0.7**
ARR Arges 81.32 319 ⇑*i*P **P 11 07 40.2 +0.8**
R11A Troy Canyon, C 81.34 50 ⇑P **P 11 07 40.1 +0.3**
baz=81,SNR=1000
RCY Rachaya 81.34 304 *e*P **P 11 07 40.1 +0.2**
ADVT Abdulvahap 81.36 313 *e*P **P 11 07 39.8 +0.2**
E21A Keefer Ranch, 81.36 39 ⇑P **P 11 07 39.8 +0.3**
baz=81,SNR=174
A24A Westby 81.38 36 ⇓P **P 11 07 39.6 0.0**
baz=81,SNR=210
ISK Istanbul-Kandi 81.39 314 *e*P **P 11 07 39.9 +0.2**
OSI Osito Adit 81.40 54 *e*P **P 11 07 40.4 +0.4**
comp=Z,166nm,0.8s
OSI Osito Adit 81.40 54 ⇑P **P 11 07 40.3 +0.4**
baz=81,SNR=28
MPMC Manual Prospec 81.41 53 ⇓P **P 11 07 40.3 +0.1**
baz=81,SNR=913
SNZO South Karori 81.42 153 *e*P **P 11 07 38.5 -1.0**
comp=Z,203nm,0.9s
SNZO *e*pP **pP 11 08 48.5 -1.6**
SNZO *e*S **S 11 17 22.7 -2.0**
CAVI Cavuskoy 81.43 313 *e*P **P 11 07 40.4 +0.4**
MUKL Al Mukalla 81.43 282 ⇓*e*P **P 11 07 41.1 +0.8**
D22A Cohagen 81.44 38 ⇑P **P 11 07 40.2 +0.3**
baz=81,SNR=597
BLG Laguna Peak 81.45 55 ⇑P **P 11 07 40.1 -0.2**
baz=81,SNR=55
DRGR 81.45 321 ⇓P **P 11 07 40.2 +0.1**
DRGR 81.45 321 ⇓*i*P **P 11 07 40.2 +0.1**
BUY Buyukada 81.49 313 *i* P **P 11 07 40.3 +0.1**
KECS Kecovo 81.49 323 *e*P **P 11 07 40.4 +0.3**
KECS pmax pmax
comp=Z,234nm,1.0s
KECS Kecovo 81.49 323 *e*P **P 11 07 40.4 +0.3**
KECS *e*PP **PP 11 10 50.1 -0.3**
KECS *e* 11 37 11.5
H19A Powell 81.50 42 ⇑P **P 11 07 41.3 +0.9**
baz=81,SNR=558
BGKT Bogazkoy 81.50 314 *e*P **P 11 07 40.5 +0.2**
YLV Yalova 81.50 313 *e*P **P 11 07 39.9 -0.6**
C23A Lambert 81.53 37 ⇓P **P 11 07 40.6 +0.2**
baz=81,SNR=262
RAC Raciborz 81.54 326 *e*P **P 11 07 41.0 +0.7**
RAC *e**PP **pP 11 08 52.2 +1.5**
RAC *e*S **S 11 17 26.8 +0.7**
RAC MLR MLR
comp=N,49µm,15.7s
RAC MLR MLR
comp=E,38µm,19.5s
RAC MLR MLR
comp=Z,63µm,16.7s
ERMK Ermenek 81.54 308 *i* P **P 11 07 40.7 -0.2**
G20A Bridger 81.58 41 ⇑P **P 11 07 40.7 -0.1**
baz=81,SNR=506
DGMT Dagmar 81.59 37 *e*P **P 11 07 39.9 -0.8**
comp=Z,815nm,1.0s
DGMT Dagmar 81.59 37 ⇓P **P 11 07 40.5 -0.2**
baz=81,SNR=202
FURC Furnace Creek, 81.60 52 ⇑P **P 11 07 41.3 +0.4**
baz=81,SNR=1000
BOLV Bolvadin 81.61 311 *i* P **P 11 07 41.4 +0.3**
LRMC Laurel Mountai 81.61 53 ⇓P **P 11 07 41.1 0.0**
baz=82,SNR=581
CTYL Yal??k??y-??at 81.61 314 *e*P **P 11 07 41.3 +0.4**
CTKS Kestanelik-??a 81.63 314 *e*P **P 11 07 41.5 +0.6**
I18A Diamond G Ranc 81.63 43 ⇓P **P 11 07 42.1 +0.9**
baz=81,SNR=419
HUMR Humele 81.66 318 ⇓*i*P **P 11 07 40.3 -0.7**
TCHB Talchebab 81.71 304 *e*P **P 11 07 42.6 +1.0**
ELBA Catalca 81.73 314 *i* P **P 11 07 41.6 +0.1**
OKC Ostrava-Krasne 81.73 325 ⇓*i*P **P 11 07 41.6 +0.3**
OKC *e* 11 10 53.9
OKC *e*S **S 11 17 27.8 -0.3**
OKC MLR MLR
comp=Z,51µm,15.5s
OKC Ostrava-Krasne 81.73 325 ⇓*i*P **P 11 07 41.6 +0.3**
OKC *e*PCP **PcP 11 07 45.6 -0.6**
OKC *e*PP **PP 11 10 53.9 +1.7**
OKC *e*S **S 11 17 27.8 -0.3**
OKC *e*XS **sS 11 19 37.5 +5.0**
OKC *e*PKKP **PKKPbc 11 26 11.3 +0.9**
OKC *e*PKPPKP P'P'df 11 34 14.0 -7.2
OKC *e*x x 11 37 08.7
OKC AMS AMS 11 48 40.0
comp=Z,51µm,15.5s
PHNC Paralimni 81.73 306 P **P 11 07 42.7 +1.1**
comp=Z,12nm,0.7s
LOT Lotru 81.74 320 ⇓*i*P **P 11 07 41.9 +0.3**
EDW2 Edwards Air Fo 81.75 54 ⇑P **P 11 07 42.1 +0.3**
baz=82,SNR=712
F21A Absaloka Mine, 81.79 40 ⇑P **P 11 07 41.9 +0.1**
baz=82,SNR=51
SLVT Silivri 81.81 314 *e*P **P 11 07 42.7 +0.8**
A25A Svangstu Ranch 81.81 36 ⇑P **P 11 07 42.1 +0.3**
baz=82,SNR=147
ARMT Armutlu 81.81 313 *e*P **P 11 07 42.0 0.0**
DECC Green Verdugo 81.87 54 ⇑P **P 11 07 42.3 -0.1**
baz=82,SNR=211
I19A Meeteetse 81.89 42 ⇓P **P 11 07 43.3 +0.7**
baz=82,SNR=557
HWUT Hardware Ranch 81.90 45 *e*P **P 11 07 43.2 +0.5**
comp=Z,451nm,0.8s
HWUT *e*S **S 11 17 34.0 +3.5**
HWUT *e*PKKPbc **PKKPbc 11 26 12.2 +2.2**
ULDT Uludag 81.90 313 *i* P **P 11 07 43.0 +0.4**
SZH Strazhica 81.90 317 *i* P **P 11 07 42.6 +0.2**
KSP Ksiaz 81.90 327 ⇓*e*P **P 11 07 42.5 +0.3**
KSP *e**PP **pP 11 08 53.2 +0.5**
KSP *e* 11 10 53.0
KSP *e*S **S 11 17 27.1 -2.7**
KSP Ksiaz 81.90 327 *e*P **P 11 07 42.5 +0.3**
KSP *e*PcP **PcP 11 07 47.4 +0.4**
KSP *e*pP **pP 11 08 54.1 +1.4**
KSP *e*PP **PP 11 10 52.6 -1.0**
KSP *e*S **S 11 17 28.9 -0.9**
KSP *e*sS **sS 11 19 34.4 +0.1**
KSP *e*SS **SS 11 22 51.6 -3.0**
KSP *e* 11 29 07.7
KSP LMZ LR 11 48 41.6
LFK Lefkose 81.91 307 *e*P **P 11 07 42.8 +0.2**
MDNY Mudanya-Bursa 81.92 313 *e*P **P 11 07 42.9 +0.4**
D23A Lindsay 81.93 38 ⇓P **P 11 07 43.0 +0.5**
baz=82,SNR=467
DEV Deva 81.93 320 ⇑P **P 11 07 43.0 +0.5**
DEV Deva 81.93 320 ⇑*i*P **P 11 07 43.0 +0.5**
ALT Altintas 81.94 312 *e*P **P 11 07 42.2 -0.6**
KHZ Kahutara 81.94 154 *e*P **P 11 07 41.4 -0.8**
comp=Z,368nm,0.9s
SHUT Suhut-Afyon 81.96 311 *e*P **P 11 07 43.4 +0.5**
PHSR Pinarhisar 81.98 315 *e*P **P 11 07 43.6 +0.8**
DUG Dugway 81.99 47 *e*P **P 11 07 43.8 +0.7**
DUG pmax pmax
comp=Z,2µm,1.0s
DUG Dugway 81.99 47 *e*P **P 11 07 43.8 +0.7**
comp=Z,2µm,1.0s
DUG Dugway 81.99 47 ⇑P **P 11 07 43.9 +0.7**
baz=82,SNR=1000
PASC Pasadena Art C 82.02 54 *e*P **P 11 07 42.5 -0.7**
comp=Z,1µm,1.5s
PASC *e*S **S 11 17 30.1 -1.5**
PASC *e*PKKPbc **PKKPbc 11 26 11.8 +2.6**
E22A Miles City 82.02 39 ⇑P **P 11 07 43.1 +0.1**
baz=82,SNR=422
JMB Yambol 82.02 316 P **P 11 07 44.0 +1.0**
JMB Yambol 82.02 316 P **P 11 07 44.0 +1.0**
JMB Yambol 82.02 316 P **P 11 07 44.0 +1.0**
JMB Yambol 82.02 316 *i* P **P 11 07 44.3 +1.3**
JMB Yambol 82.02 316 P **P 11 07 44.0 +1.0**
MORC Moravsky Berou 82.06 326 *e*P **P 11 07 43.5 +0.4**
MORC *e**PP **pP 11 08 53.3 -0.3**
MORC pmax pmax
comp=Z,1µm,1.0s
MORC Moravsky Berou 82.06 326 *e*P **P 11 07 43.5 +0.4**
comp=Z,1µm,1.0s
MORC *e*pP **pP 11 08 53.3 -0.3**
MORC *e*PKKPbc **PKKPbc 11 26 09.7 0.0**
MWC Mount Wilson 82.07 54 *e*P **P 11 07 43.3 -0.4**
MWC *e**PP **pP 11 08 56.5 +2.3**
MWC *e* 11 10 54.0
MWC pmax pmax
comp=Z,2µm,1.5s
MWC Mount Wilson 82.07 54 *e*P **P 11 07 43.3 -0.4**
comp=Z,2µm,1.5s
MWC *e*pP **pP 11 08 56.5 +2.3**
MWC *e*PP **PP 11 10 54.0 -1.9**
C24A Savage 82.09 37 ⇓P **P 11 07 43.4 0.0**
baz=82,SNR=236
ORLT Orhaneli 82.10 313 *e*P **P 11 07 44.1 +0.5**
G21A Lodge Grass 82.13 40 ⇓P **P 11 07 43.6 0.0**
baz=82,SNR=267
H20A Greybull 82.16 41 ⇓P **P 11 07 44.0 +0.2**
baz=82,SNR=1000
PSZ Piszkesteto 82.17 323 ⇓P **P 11 07 44.0 +0.3**
PSZ Piszkesteto 82.17 323 ⇓*i*P **P 11 07 44.0 +0.3**
PSZ Piszkesteto 82.17 323 *e*P **P 11 07 44.1 +0.3**
comp=Z,1µm,1.0s
PSZ *e*S **S 11 17 33.4 +0.6**
PSZ Piszkesteto 82.17 323 ⇓*e*P **P 11 07 44.3 +0.6**
GAZI Gazipasa 82.17 308 *i* P **P 11 07 43.3 -0.6**
MAMC Mammari 82.18 307 P **P 11 07 44.1 +0.1**
FMP Fort Macarthur 82.20 55 ⇑P **P 11 07 44.2 +0.1**
baz=82,SNR=26
RPZ Rata Peaks 82.22 157 *e*P **P 11 07 43.4 -0.4**
comp=Z,210nm,0.8s
RPZ *e*pP **pP 11 08 54.4 0.0**
RPZ *e*sP sP 11 09 16.8 -9.2
RPZ Rata Peaks 82.22 157 P **P 11 07 43.3 -0.4**
comp=Z,106nm,0.7s,baz=79,slow=1.7,SNR=32
CSS Prodhromos 82.23 307 P **P 11 07 44.2 0.0**
comp=Z,14nm,1.1s
CSS Prodhromos 82.23 307 *e*P **P 11 07 44.4 +0.1**
CSS Prodhromos 82.23 307 P **P 11 07 44.0 -0.2**
CSS Prodhromos 82.23 307 P **P 11 07 44.0 -0.2**
CSS Prodhromos 82.23 307 *e*P **P 11 07 44.0 -0.2**
comp=Z,2µm,1.7s
CSS *e*S **S 11 17 35.6 +1.9**
BSEG Bad Segeberg 82.23 332 *e*P **P 11 07 43.7 -0.1**
comp=Z,2µm,1.0s
BSEG Bad Segeberg 82.23 332 *e*P **P 11 07 43.7 -0.1**
BSEG pmax pmax
comp=Z,2µm,1.0s
DPC Dobruska-Polom 82.23 327 ⇓*i*P **P 11 07 44.5 +0.5**

DPC e*PP pP 11 08 55.4 +0.9
DPC e 11 10 59.6
DPC eS S 11 17 34.1 +0.8
DPC Dobruska-Polom 82.23 327 ⇓iP P 11 07 44.5 +0.5
DPC ePCP PcP 11 07 48.1 -0.4
DPC epP pP 11 08 55.4 +0.9
DPC ePP PP 11 10 59.6 +3.2
DPC ex x 11 12 33.1
DPC eS S 11 17 34.1 +0.8
DPC eXS sS 11 19 39.2 +1.4
DPC ePKKP PKKPbc 11 26 11.5 +2.1
DPC ePKPPKP P'P'df 11 34 09.9 -11
DPC ex x 11 37 05.3
DPC AMS AMS 11 49 30.0
DPC Dobruska-Polom 82.23 327 eP P 11 07 44.6 +0.5
comp=Z,6μm,0.8s
B25A Knox Farm, Ray 82.23 36 ⇓P P 11 07 44.4 +0.3
baz=82,SNR=103
UPC Upice 82.27 327 ⇓iP P 11 07 44.5 +0.4
UPC Upice 82.27 327 ⇓iP P 11 07 44.5 +0.4
UPC ePKPPKP P'P'df 11 34 12.3 -8.0
PVL Pavlikeni 82.28 317 iP P 11 07 45.3 +1.0
F22A Rosebud 82.28 40 ⇓P P 11 07 44.3 -0.1
baz=82,SNR=250
CIS Catalina Islan 82.30 55 ⇑P P 11 07 44.4 -0.2
baz=82,SNR=92
GSC Goldstone 82.30 53 eP P 11 07 44.7 0.0
GSC e 11 10 55.0
GSC eS S 11 17 35.0 +0.3
GSC pmax pmax
comp=Z,1μm,1.3s
GSC Goldstone 82.30 53 eP P 11 07 44.7 0.0
comp=Z,341nm,1.3s
GSC ePP PP 11 10 55.0 -2.6
GSC eS S 11 17 35.0 +0.3
GSC ePKKPbc PKKPbc 11 26 11.0 +2.3
GSC Goldstone 82.30 53 ⇑P P 11 07 44.8 +0.1
baz=82,SNR=791
KCTX Karacabey (Bur 82.30 313 eP P 11 07 44.8 +0.3
SUTC Sutluce-Ispart 82.30 310 eP P 11 07 44.4 -0.3
VYHS Vyhne 82.31 324 eP P 11 07 44.6 +0.2
VYHS pmax pmax
comp=Z,850nm,1.1s
VYHS Vyhne 82.31 324 eP P 11 07 44.6 +0.2
VYHS epP pP 11 08 54.3 -0.6
VYHS ePP PP 11 10 54.8 -2.2
VYHS eS S 11 17 30.4 -3.6
VYHS esS sS 11 19 38.8 +0.2
VYHS eSS SS 11 23 00.2 -0.5
VYHS e 11 37 07.2
EDRB Edirne 82.31 315 eP P 11 07 45.1 +0.6
SHOC Shoshone 82.31 52 ⇓P P 11 07 44.7 +0.1
baz=82,SNR=436
GDZ Gediz 82.31 312 iP P 11 07 44.7 0.0
E23A Ismay 82.32 39 ⇑P P 11 07 44.9 +0.4
baz=82,SNR=579
BFSC Mount Baldy Ra 82.34 54 ⇑P P 11 07 44.5 -0.5
baz=82,SNR=405
J19A Crowheart 82.34 43 ⇑P P 11 07 45.5 +0.7
baz=82,SNR=1000
CTU Camp Tracy 82.34 46 eP P 11 07 45.4 +0.5
comp=Z,2μm,1.3s
BW06 Boulder Array 82.36 43 eP P 11 07 45.0 -0.1
comp=Z,390nm,2.8s
PDAR Pinedale Array 82.36 43 P P 11 07 44.9 -0.2
PDAR P'P' 11 34 09.6
PDAR Pinedale Array 82.36 43 P P 11 07 44.9 -0.2
comp=Z,352nm,0.9s,baz=274,slow=2.3,SNR=1290
PDAR PKPPKP P'P'df 11 34 09.6 -10
comp=Z,2.3nm,1.0s,baz=112,slow=1.6,SNR=4.1
TKR Tekirdag 82.36 314 eP P 11 07 45.9 +1.1
A26A Wade Farm, Ken 82.36 35 ⇑P P 11 07 44.7 +0.1
baz=82,SNR=255
ISP Isparta 82.41 310 eP P 11 07 43.9 -1.3
ISP Isparta 82.41 310 P P 11 07 44.5 -0.7
ISP Isparta 82.41 310 P P 11 07 44.5 -0.7
ISP Isparta 82.41 310 ⇓P P 11 07 44.6 -0.7
ISP Isparta 82.41 310 ⇓iP P 11 07 44.6 -0.7
ISP Isparta 82.41 310 eP P 11 07 44.5 -0.7
comp=Z,808nm,0.8s
ISP eS S 11 17 35.4 -0.2
RRX Edison Barstow 82.42 53 ⇑P P 11 07 45.6 +0.3
baz=82,SNR=98
D24A Glendive 82.42 38 ⇑P P 11 07 45.4 +0.4
baz=82,SNR=596
I20A Worland 82.43 42 ⇑P P 11 07 45.8 +0.6
baz=82,SNR=713
LEF Lefka 82.43 307 eP P 11 07 45.1 -0.1
SCI San Clemente I 82.44 56 ⇑P P 11 07 45.3 -0.1
baz=82,SNR=61
M17A Scullys Gap (B 82.51 45 ⇓P P 11 07 46.0 +0.1
baz=82,SNR=863
BNT Bandirma 82.51 314 eP P 11 07 46.9 +1.3
DST Dursunbey 82.54 313 eP P 11 07 45.5 -0.3
C25A Freed Ranch, W 82.56 37 ⇓P P 11 07 46.0 +0.3
baz=82,SNR=225
BCK Bucak 82.58 310 eP P 11 07 45.3 -0.8
JLU Jordanelle 82.58 46 eP P 11 07 46.8 +0.5
comp=Z,3μm,1.5s
NLU North Lily Min 82.59 47 eP P 11 07 46.8 +0.6
comp=Z,1μm,1.0s
H21A Big Horn, Sher 82.60 41 ⇑P P 11 07 46.4 +0.3
baz=82,SNR=441
ALFC Alevga 82.60 307 P P 11 07 45.6 -0.6
L18A Fontenelle, Gr 82.61 44 ⇑P P 11 07 46.7 +0.4
baz=82,SNR=706
B26A Jensen Ranch, 82.62 36 ⇑P P 11 07 46.4 +0.3
baz=82,SNR=31
G22A Birney 82.63 40 ⇓P P 11 07 46.2 0.0
baz=82,SNR=290
DURS Dursunbey 82.63 313 iP P 11 07 46.0 -0.3
MFT Murefte 82.64 314 eP P 11 07 46.0 -0.3
SHPR Sheep Range 82.69 51 eP P 11 07 47.0 +0.2
SHPR eS S 11 17 43.5 +4.8
K19A Absolon Red Bu 82.73 43 ⇓P P 11 07 46.5 -0.4
baz=82,SNR=761
KHAL Karahalli 82.74 311 iP P 11 07 46.8 -0.1
KHL Karahalli 82.74 311 eP P 11 07 47.7 +0.8
F23A Volborg 82.77 39 ⇓P P 11 07 47.0 +0.1
baz=83,SNR=780
BZS Buzias 82.79 321 ⇓P P 11 07 46.6 -0.3
BZS Buzias 82.79 321 ⇓iP P 11 07 46.6 -0.3
E24A Baker 82.80 38 ⇑P P 11 07 47.2 +0.2
baz=83,SNR=218
DAU Daniels Canyon 82.81 46 eP P 11 07 48.1 +0.6
DAU e*PP pP 11 09 02.2 +4.1
DAU e 11 11 02.7
DAU Daniels Canyon 82.81 46 eP P 11 07 48.1 +0.6
DAU epP pP 11 09 02.2 +4.1
DAU ePP PP 11 11 02.6 +0.9
TUQ Turquoise Moun 82.81 52 ⇓P P 11 07 47.5 +0.1
baz=83,SNR=1000
DEMI Demirci 82.82 312 iP P 11 07 47.2 -0.1
MPU Maple Canyon 82.82 47 eP P 11 07 48.0 +0.5
comp=Z,2μm,1.0s
BBRC Big Bear Solar 82.82 54 ⇓P P 11 07 47.3 -0.2
baz=83,SNR=399
J20A Shoshoni 82.83 42 ⇓P P 11 07 47.7 +0.3
baz=83,SNR=931
RMGR Halanga-Turnu 82.83 319 ⇓iP P 11 07 48.0 +0.9
GONE Gonen-Balikesi 82.84 314 eP P 11 07 47.5 +0.2
AKMC Akamas 82.86 307 P P 11 07 46.9 -0.6
PKSN Nyarlorinc 82.86 322 ⇑eP P 11 07 48.4 +1.2
KRBG Karabiga-Canak 82.87 314 eP P 11 07 47.7 +0.4
L19A Farson 82.89 44 ⇓P P 11 07 48.0 +0.3
baz=83,SNR=1000
BUD Budapest 82.89 323 ⇓eP P 11 07 47.8 +0.5
HEC Hector,Ludlow 82.89 53 ⇓P P 11 07 47.8 +0.1
baz=83,SNR=858
PVCC Panska Ves 82.91 328 ⇓iP P 11 07 47.8 +0.4
PVCC e 11 11 04.2
PVCC eS S 11 17 37.7 -2.2
PVCC MLR MLR
comp=Z,31μm,16.3s
PVCC Panska Ves 82.91 328 ⇓iP P 11 07 47.8 +0.4
PVCC ePCP PcP 11 07 51.5 +0.1
PVCC ePP PP 11 11 04.2 +2.4
PVCC ex x 11 12 44.6
PVCC eS S 11 17 37.7 -2.2
PVCC ePKKP PKKPbc 11 26 09.3 +1.5
PVCC ex x 11 37 06.3
PVCC AMS AMS 11 48 00.0
comp=Z,31μm,16.3s
D25A Fairfield 82.91 37 ⇓P P 11 07 47.9 +0.3
baz=83,SNR=112
TIM Timisoara 82.92 321 ⇓P P 11 07 48.4 +0.9
TIM Timisoara 82.92 321 ⇓iP P 11 07 48.3 +0.8
PPCY Paphos 82.93 307 P P 11 07 47.4 -0.4
BRG Berggiesshubel 82.94 328 iP P 11 07 47.6 +0.1
comp=Z,1μm,1.3s
BRG i 11 07 51.0
comp=Z,815nm,0.9s
BRG pP pP 11 08 57.0 -1.2
BRG sP sP 11 09 29.0 -1.0
BRG PP PP 11 11 03.1 +1.0
comp=Z,765nm,1.8s
BRG S SKSac 11 17 40.0 +0.3
BRG SS SS 11 23 11.0 +1.2
BRG PKPPKP P'P'df 11 34 10.9 -8.3
comp=Z,39nm,1.9s
BRG
comp=N,21μm,14.2s
BRG
comp=E,30μm,14.2s
BRG
comp=Z,32μm,12.5s
BRG Berggiesshubel 82.94 328 eP P 11 07 47.4 -0.1
comp=Z,1μm,1.3s
BRG Berggiesshubel 82.94 328 iP P 11 07 47.6 +0.1
BRG *PP pP 11 08 57.0 -1.2
BRG *SP sP 11 09 29.0 -1.0
BRG 11 11 03.1
BRG S SKSac 11 17 40.0 +0.3
BRG SS SS 11 23 11.0 +1.2
BRG pmax pmax
comp=Z,1μm,1.3s
BRG MLR MLR
comp=N,21μm,14.2s
BRG MLR MLR
comp=E,30μm,14.2s
BRG MLR MLR
comp=Z,32μm,12.5s
BALB Balikesir 82.97 313 eP P 11 07 48.2 +0.2
SMOL Smolenice 82.98 325 eP P 11 07 48.2 +0.4
SMOL Smolenice 82.98 325 eP P 11 07 48.2 +0.4
I21A Big Trails, Te 82.98 42 ⇓P P 11 07 48.2 +0.1
baz=83,SNR=473
H22A Clearmont 83.00 40 ⇑P P 11 07 48.1 -0.1
baz=83,SNR=169
KORT Korkueli 83.00 310 iP P 11 07 47.7 -0.6
MURC Murrieta 83.02 54 ⇑P P 11 07 48.1 -0.2
baz=83,SNR=317
CLL Collm 83.04 329 eP P 11 07 47.6 -0.4
comp=Z,2μm,0.9s
CLL Collm 83.04 329 ⇓iP P 11 07 48.0 0.0
CLL e*PP pP 11 08 58.0 -0.7
CLL eS S 11 17 41.0 -0.2
CLL pmax pmax
comp=Z,2μm,1.0s
ARUT Antelope Range 83.04 49 eP P 11 07 49.8 +1.2
ARUT Antelope Range 83.04 49 eP P 11 07 49.8 +1.2
comp=Z,83nm,0.2s
C26A Wahner Farm, P 83.06 36 ⇑P P 11 07 48.6 +0.3
baz=83,SNR=67
BALY Balya 83.07 313 iP P 11 07 48.7 +0.2
B27A Peters Farms, 83.08 35 ⇓P P 11 07 48.5 +0.2
baz=83
MPEP Malo Peshtene 83.09 318 iP P 11 07 49.0 +0.5
PKS7 Kunszentmiklos 83.12 323 ⇑eP P 11 07 49.4 +0.9
G23A Biddle 83.12 40 ⇓P P 11 07 48.5 -0.2
baz=83,SNR=343
K20A Yellowstone Ra 83.13 43 ⇓P P 11 07 48.5 -0.4
baz=83,SNR=524
KULA Kula-Manisa 83.17 312 eP P 11 07 47.0 -2.1
J21A Lysite 83.20 42 ⇑P P 11 07 49.4 +0.1
baz=83,SNR=986
F24A Ekalaka 83.20 39 ⇓P P 11 07 49.1 0.0
baz=83,SNR=499
LPK Lapseki 83.20 314 eP P 11 07 49.7 +0.6
KDZ Kurdzhali 83.21 316 iP P 11 07 49.7 +0.6
CCUT Cedar City 83.23 49 eP P 11 07 50.1 +0.5
comp=Z,977nm,1.2s
CCUT eS S 11 17 51.2 +7.0
ODZ Otahua Downs 83.26 157 eP P 11 07 49.3 +0.4
comp=Z,256nm,1.2s
ODZ epP pP 11 08 58.5 -1.3
PKSG 83.27 324 ⇑eP P 11 07 50.0 +0.7
PRA Prague 83.29 327 ⇓P P 11 07 50.0 +0.7
PRA pP pP 11 09 01.0 +0.9
PRA PP PP 11 11 08.0 +3.1
PRA S S 11 17 42.0 -1.8
E25A Miller Ranch, 83.30 38 ⇑P P 11 07 49.8 +0.2
baz=83,SNR=299
PRU Pruhonice 83.30 327 ⇓iP P 11 07 49.4 0.0
PRU e*PP pP 11 09 00.7 +0.6
PRU e 11 11 07.6
PRU eS S 11 17 40.6 -3.3
PRU MLR MLR
comp=Z,30μm,14.7s
PRU Pruhonice 83.30 327 ⇓iP P 11 07 49.4 0.0
PRU ePCP PcP 11 07 53.6 +0.5
PRU epP pP 11 09 00.7 +0.6
PRU ePP PP 11 11 07.6 +2.6
PRU ex x 11 12 44.6
PRU eS S 11 17 40.6 -3.3
PRU eXS sS 11 19 52.3 +3.5
PRU ePKKP PKKPbc 11 26 09.6 +2.7
PRU ePKPPKP P'P'df 11 34 08.1 -10
PRU ex x 11 37 03.5
PRU AMS AMS 11 50 00.0
comp=Z,30μm,14.7s
ALN Alexandroupoli 83.31 315 P P 11 07 49.5 -0.1
ALN Alexandroupoli 83.31 315 P P 11 07 49.5 -0.1
ALN Alexandroupoli 83.31 315 P P 11 07 49.5 -0.1
ALN Alexandroupoli 83.31 315 eP P 11 07 50.2 +0.6
ALN Alexandroupoli 83.31 315 P P 11 07 49.5 -0.1
PLD Plovdiv 83.34 317 P P 11 07 49.7 0.0
PLD Plovdiv 83.34 317 P P 11 07 49.7 0.0
PLD Plovdiv 83.34 317 P P 11 07 49.7 0.0
PLD Plovdiv 83.34 317 P P 11 07 49.7 0.0
ENEZ Enez 83.34 315 eP P 11 07 50.1 +0.3
ZST Bratislava 83.35 325 eP P 11 07 49.4 -0.3
ZST e 11 09 04.2
ZST e 11 11 03.1
ZST eS S 11 17 38.7 -5.8
ZST Bratislava 83.35 325 eP P 11 07 49.4 -0.3
ZST epP pP 11 09 04.2 +3.8
ZST ePP PP 11 11 03.1 -2.4
ZST eS S 11 17 38.7 -5.8
ZST esS sS 11 19 49.2 -0.2
CSKK Cs¯‡kako 83.36 324 ⇓eP P 11 07 51.1 +1.4
TREC Trest 83.36 326 ⇓iP P 11 07 49.8 +0.1
TREC e*PP pP 11 09 02.2 +1.7
TREC eS S 11 17 45.4 +0.8
TREC MLR MLR
comp=Z,45μm,15.5s
TREC Trest 83.36 326 ⇓iP P 11 07 49.8 +0.1
TREC ePCP PcP 11 07 54.5 +1.1
TREC epP pP 11 09 02.2 +1.7
TREC eS S 11 17 45.4 +0.8
TREC eXS sS 11 19 55.3 +5.8
TREC ePKKP PKKPbc 11 26 06.7 -0.1
TREC ex x 11 37 02.9
TREC AMS AMS 11 48 30.0
comp=Z,45μm,15.5s
GELI Tayfur-Gelibol 83.36 314 eP P 11 07 50.1 +0.2
PGB Panagyurishte 83.36 317 iP P 11 07 50.5 +0.6
GOLH Golhisar 83.37 310 iP P 11 07 49.8 -0.4
GMRC Granite Mounta 83.37 53 ⇓P P 11 07 50.3 +0.1
baz=83,SNR=1000
I22A 9 Mile Ranch, 83.38 41 ⇑P P 11 07 50.3 +0.2
baz=83,SNR=499
M19A Rock Springs 83.38 44 ⇑P P 11 07 50.4 +0.1
baz=83
MVU Marysvale 83.38 48 eP P 11 07 51.1 +0.8
comp=Z,1μm,1.0s
MVU eS S 11 17 52.5 +6.8
NRDL Niedersach Rie 83.39 331 eP P 11 07 49.4 -0.3
comp=Z,1μm,1.3s
MSU Marysvale 83.40 48 eP P 11 07 51.4 +1.0
MSU Marysvale 83.40 48 eP P 11 07 51.4 +1.0
DNZL Cakiroluk 83.42 311 iP P 11 07 50.8 +0.3
C27A Sayler Ranch, 83.43 36 ⇑P P 11 07 50.4 +0.3
baz=83,SNR=80
D26A Manning 83.44 37 ⇓P P 11 07 50.3 +0.1
baz=83,SNR=77
ELL Elmali 83.44 310 eP P 11 07 50.6 +0.1
PKS2 Kecel 83.47 322 ⇓eP P 11 07 50.1 -0.2
AKHS Akhisar 83.48 313 iP P 11 07 50.3 -0.2
109C Camp Elliot, M 83.49 55 ⇑P P 11 07 50.6 -0.1
baz=83,SNR=235
PFO Pinyon Flat Ob 83.52 54 P P 11 07 50.0 -1.0
comp=Z,8μm,1.1s
PFO Pinyon Flat Ob 83.52 54 eP P 11 07 50.5 -0.5
comp=Z,1μm,0.9s
PFO epP pP 11 09 03.4 +1.6
PFO ePP PP 11 11 08.1 +0.6
PFO eS S 11 17 46.1 -0.8
PFO Pinyon Flat Ob 83.52 54 ⇓P P 11 07 50.8 -0.2
baz=83,SNR=1000
TMUT Trail Mountain 83.52 47 eP P 11 07 51.6 +0.5
comp=Z,2μm,1.5s
H23A Clabaugh Cattl 83.53 40 ⇑P P 11 07 50.6 -0.2
baz=83,SNR=20
L20A Wamsutter 83.54 43 ⇓P P 11 07 51.3 +0.3
baz=83,SNR=755
G24A Alzada 83.56 39 ⇑P P 11 07 50.5 -0.4
baz=83,SNR=346
LDFC Landfair 83.56 52 eP P 11 07 51.2 0.0
comp=Z,3μm,1.3s
RZN Rozhen 83.59 316 iP P 11 07 51.5 +0.2
BELC Belle Mtn. Jos 83.60 53 ⇓P P 11 07 51.1 -0.3
baz=84,SNR=636
F25A Bowman 83.66 38 ⇓P P 11 07 51.6 +0.2
baz=83,SNR=212
J22A Midwest 83.69 41 ⇑P P 11 07 51.6 -0.1
baz=84,SNR=570
K21A Alcova 83.76 42 ⇑P P 11 07 52.4 +0.2
baz=84,SNR=688
Q16A Castle Valley 83.78 47 ⇓P P 11 07 53.0 +0.7
baz=84,SNR=1000
E26A Carlson Angus 83.80 37 ⇑P P 11 07 52.4 +0.3
baz=84
EZN Ezine 83.80 314 eP P 11 07 52.2 +0.1
D27A Center 83.84 36 ⇓P P 11 07 52.6 +0.4
baz=84,SNR=107
H24A Dirks Ranch, A 83.87 40 ⇑P P 11 07 52.1 -0.4
baz=84,SNR=421
PKS9 Tamasi 83.88 323 ⇑eP P 11 07 52.6 +0.3
SMTH Samothraki Isl 83.88 315 P P 11 07 51.7 -0.8
SMTH Samothraki Isl 83.88 315 P P 11 07 51.7 -0.8
SMTH Samothraki Isl 83.88 315 eP P 11 07 52.4 -0.1
SMTH Samothraki Isl 83.88 315 P P 11 07 51.7 -0.8
VTS Vitosha 83.88 318 P P 11 07 52.7 0.0
VTS Vitosha 83.88 318 P P 11 07 52.7 0.0
VTS Vitosha 83.88 318 ⇑P P 11 07 52.6 -0.1
VTS Vitosha 83.88 318 iP P 11 07 53.6 +0.9
VTS Vitosha 83.88 318 ⇑iP P 11 07 52.6 -0.1
VTS Vitosha 83.88 318 P P 11 07 52.7 0.0
I23A Meade Ranch, G 83.89 41 ⇑P P 11 07 52.5 -0.3
baz=84
MVH1 Achvaich 83.89 341 ⇓iP P 11 07 51.9 -0.3
AYVA Ayvalik 83.90 313 iP P 11 07 52.4 -0.3
BAR Barrett 83.91 55 eP P 11 07 52.6 -0.2
comp=Z,252nm,1.0s
BAR ePP PP 11 11 09.8 -0.8
BAR eS S 11 17 48.4 -2.3
TANN Tannenbergstha 83.92 328 eP P 11 07 52.4 -0.2
comp=Z,859nm,1.4s
MCD Coleburn Disti 83.93 340 ⇓iP P 11 07 52.0 -0.4
AKAS Kas 83.94 310 iP P 11 07 52.0 -1.1
PKSM Moragy 83.95 323 ⇓P P 11 07 51.8 -0.9
PKSM Moragy 83.95 323 ⇓iP P 11 07 51.8 -0.9
PKSM Moragy 83.95 323 ⇓eP P 11 07 52.5 -0.2
M20A Sweetwater, Wa 83.95 44 ⇓P P 11 07 53.8 +0.7
baz=84,SNR=652
MONP Monument Peak 83.96 55 ⇑P P 11 07 53.2 -0.2
baz=84,SNR=481
FETY Fethiye 84.03 310 eP P 11 07 53.1 -0.3
SRU San Rafael 84.05 47 eP P 11 07 54.1 +0.4
SRU eS S 11 17 54.7 +2.5
SRU pmax pmax
comp=Z,3μm,0.8s
SRU San Rafael 84.05 47 eP P 11 07 54.1 +0.4
comp=Z,3μm,0.8s
SRU eS S 11 17 54.7 +2.5
NKC Novy Kostel 84.06 328 ⇓AMS AMS 11 50 30.0
comp=Z,22μm,13.9s
NEE2 Needles Airpor 84.07 52 ⇓P P 11 07 53.5 -0.1
baz=84,SNR=93
MME1 Meikle Cairn 84.07 340 ⇓iP P 11 07 52.5 -0.7
IRM Iron Mountain 84.08 53 ⇓P P 11 07 53.9 +0.2
baz=84,SNR=808
F26A Lodgepole 84.11 38 ⇑P P 11 07 53.8 +0.1
baz=84,SNR=299
EIL Elat 84.12 302 PKPPKP 11 34 07.3
comp=Z,5.0nm,0.8s,baz=107,slow=0.8,SNR=5.6
L21A Rawlins 84.12 43 ⇓P P 11 07 54.1 +0.1
baz=84,SNR=1000
MOX Moxa 84.12 329 eP P 11 07 53.3 -0.2
comp=Z,1μm,1.4s
MOX Moxa 84.12 329 eP P 11 07 53.3 -0.2
MOX pmax pmax
comp=Z,1μm,1.4s
CONA Conrad Observa 84.14 325 iPcP P 11 07 54.1 +0.4
comp=Z,11μm,4.7s,SNR=494
KAVA Kavala 84.15 316 P P 11 07 53.4 -0.4
KAVA Kavala 84.15 316 P P 11 07 53.4 -0.4
KAVA Kavala 84.15 316 P P 11 07 53.4 -0.4
O19A Miners Draw (B 84.16 45 ⇓P P 11 07 54.0 -0.1
baz=84,SNR=1000
K22A Casper 84.16 42 ⇑P P 11 07 54.0 -0.1
baz=84,SNR=98
BC3 Big Chuckawall 84.17 54 ⇓P P 11 07 54.3 0.0
baz=84,SNR=716
G25A Newell 84.17 39 ⇑P P 11 07 53.7 -0.3
baz=84,SNR=342
AYDN Tasoluk 84.18 312 iP P 11 07 54.8 +0.7
PRK Paraskevi 84.20 314 P P 11 07 53.8 -0.3
PRK Paraskevi 84.20 314 P P 11 07 53.8 -0.3
PRK Paraskevi 84.20 314 P P 11 07 53.8 -0.3
PRK Paraskevi 84.20 314 eP P 11 07 54.2 +0.1
PRK Paraskevi 84.20 314 P P 11 07 53.8 -0.3
TURN Turunc 84.20 311 iP P 11 07 55.8 +1.6
DALY Dalyan (Mu¯la 84.20 310 eP P 11 07 54.2 0.0
J23A Dilts Ranch, B 84.21 41 ⇓P P 11 07 54.0 -0.3
baz=84,SNR=43
MMB Musomiste 84.23 317 iP P 11 07 54.1 -0.2
YER Yerkesik 84.24 311 eP P 11 07 54.9 +0.4
ULM Lac du Bonnet 84.25 31 P P 11 07 53.5 -0.6
ULM SKKPbc SKKPbc 11 29 15.2 +5.8
ULM P'P' 11 34 09.3
ULM Lac du Bonnet 84.25 31 P P 11 07 53.5 -0.6
comp=Z,502nm,1.0s,baz=319,slow=5.9,SNR=137
ULM SKKPbc SKKPbc 11 29 15.2 +5.8
comp=Z,7.9nm,1.0s,baz=34,slow=1.4,SNR=2.9
ULM PKPPKP P'P'df 11 34 09.3 -7.5
comp=Z,7.8nm,0.9s,baz=152,slow=2.5,SNR=7.5
MDND Maddock 84.26 35 ⇓P P 11 07 54.5 +0.2
baz=84,SNR=239
DRUM Mains of Drumt 84.28 339 ⇓iP P 11 07 53.7 -0.5
DRUM AMB AMB 11 07 55.1
comp=Z,726nm,1.5s
E27A Carson 84.28 37 ⇓P P 11 07 54.6 +0.1
baz=84,SNR=406
NVR Nevrokopi 84.30 316 P P 11 07 54.1 -0.6
NVR Nevrokopi 84.30 316 P P 11 07 54.1 -0.6
NVR Nevrokopi 84.30 316 eP P 11 07 54.7 0.0
NVR Nevrokopi 84.30 316 P P 11 07 54.1 -0.6
DVTC Desert V Tower 84.31 55 ⇓P P 11 07 55.1 +0.1
baz=84,SNR=291
N20A Spence Gulch, 84.33 44 ⇓P P 11 07 55.8 +0.7
baz=84,SNR=1000
KHC Kasperske Hory 84.35 327 ⇓iP P 11 07 54.6 -0.1
KHC e*PP pP 11 09 05.6 -0.1
KHC e 11 11 13.9
KHC eS S 11 17 47.6 -6.9
KHC MLR MLR
comp=Z,45μm,14.8s
KHC Kasperske Hory 84.35 327 ⇓iP P 11 07 54.6 -0.1
KHC ePCP PcP 11 07 58.5 +0.7
KHC epP pP 11 09 05.6 -0.1
KHC ePP PP 11 11 13.9 +0.3
KHC ex x 11 12 49.2
KHC eS S 11 17 47.6 -6.9
KHC eXS sS 11 20 03.4 +3.7
KHC ePKKP PKKPbc 11 26 06.5 +2.0
KHC ePKPPKP P'P'df 11 34 07.8 -8.7
KHC ex x 11 36 57.4
KHC AMS AMS 11 51 10.0
comp=Z,45μm,14.8s

KHC Kasperske Hory 84.35 327 *eP* **P 11 07 54.6 -0.1**
comp=Z,4μm,2.0s
KHC *epP* **pP 11 09 04.7 -1.0**
KHC *ePP* **PP 11 11 13.4 -0.2**
SWSC Sam W. Stewart 84.36 54 ⇑P **P 11 07 54.9 -0.1**
baz=84,SNR=237
M21A Separation Pea 84.36 43 ⇑P **P 11 07 55.3 +0.1**
baz=84,SNR=776
W13A Hualapai Mount 84.36 52 ⇑P **P 11 07 55.4 +0.1**
baz=84,SNR=494
MDO Dochfour 84.36 341 ⇓*iP* **P 11 07 53.9 -0.7**
RWWY Rawlins 84.39 43 *eP* **P 11 07 55.4 0.0**
comp=Z,2μm,0.9s
RWWY *epP* **pP 11 09 04.9 -1.4**
RWWY *ePP* **PP 11 11 15.6 +1.1**
RWWY *eS* **S 11 17 55.1 -0.5**
I24A Kuemmerle Ranc 84.42 40 ⇓P **P 11 07 54.7 -0.6**
baz=84,SNR=81
KKB Krupnik 84.42 317 *i P* **P 11 07 55.1 -0.1**
F27A Lemmon 84.43 37 ⇑P **P 11 07 55.3 +0.1**
baz=84,SNR=264
LIA Limnos Island 84.44 315 P **P 11 07 54.4 -0.9**
LIA Limnos Island 84.44 315 P **P 11 07 54.4 -0.9**
LIA Limnos Island 84.44 315 *eP* **P 11 07 55.0 -0.3**
LIA Limnos Island 84.44 315 P **P 11 07 54.4 -0.9**
H25A Fruitdale 84.46 39 ⇓P **P 11 07 55.3 -0.1**
baz=84,SNR=349
MLSB Milas 84.47 311 *eP* **P 11 07 55.9 +0.4**
IBBN Ibbenburen 84.47 332 *eP* **P 11 07 54.7 -0.5**
comp=Z,2μm,0.9s
SIGR SIGRI 84.47 314 P **P 11 07 55.1 -0.4**
SIGR SIGRI 84.47 314 P **P 11 07 55.1 -0.4**
SIGR SIGRI 84.47 314 P **P 11 07 55.1 -0.4**
GEC2 GERESS Array S 84.50 327 *eP* **P 11 07 55.0 -0.6**
comp=Z,693nm,1.3s
GEC2 GERESS Array S 84.50 327 *eP* **P 11 07 55.0 -0.6**
GEC2 pmax pmax
comp=Z,693nm,1.3s
GERES GERESS Array B 84.50 327 P **P 11 07 55.0 -0.6**
GERES PKKP **PKKPbc 11 25 59.7 -4.5**
GERES SKKPbc SKKPbc 11 29 16.4 +7.5
GERES P'P' 11 34 05.1
GERES GERESS Array B 84.50 327 P **P 11 07 55.0 -0.6**
comp=Z,194nm,0.6s,baz=46,slow=5.8,SNR=844
GERES PKKP **PKKPbc 11 25 59.7 -4.5**
comp=Z,3.3nm,0.8s,baz=204,slow=2.9,SNR=6.0
GERES SKKPbc SKKPbc 11 29 16.4 +7.5
comp=Z,0.9nm,0.6s,baz=222,slow=1.8,SNR=3.9
GERES PKPPKP P'P'df 11 34 05.1 -11
comp=Z,2.1nm,0.9s,baz=222,slow=1.8,SNR=3.6
ROTZ Rotzenmuhle 84.51 328 *eP* **P 11 07 55.7 +0.2**
comp=Z,2μm,1.5s
G26A Maurine 84.53 38 ⇓P **P 11 07 55.8 +0.1**
baz=84,SNR=230
URLA Izmir 84.55 313 *i P* **P 11 07 55.3 -0.6**
GCAM G?zelcaml? 84.56 312 *i P* **P 11 07 56.2 +0.3**
RSSD Black Hills 84.56 40 *eP* **P 11 07 55.7 -0.4**
RSSD *eS* **S 11 17 51.6 -5.5**
RSSD pmax pmax
comp=Z,3μm,2.0s
RSSD Black Hills 84.56 40 *eP* **P 11 07 55.7 -0.4**
comp=Z,644nm,2.0s
RSSD *eS* **S 11 17 51.6 -5.5**
RSSD *e*PKKPbc **PKKPbc 11 26 04.1 0.0**
KAC Achnashellach 84.57 341 ⇓*iP* **P 11 07 55.6 0.0**
U15A North Rim 84.59 50 ⇓P **P 11 07 57.1 +0.5**
baz=84,SNR=1000
K23A Bowen Ranch, D 84.60 42 ⇑P **P 11 07 55.9 -0.4**
baz=84,SNR=55
SRS Serrai 84.61 316 P **P 11 07 55.1 -1.0**
SRS Serrai 84.61 316 P **P 11 07 55.1 -1.0**
SRS Serrai 84.61 316 P **P 11 07 55.1 -1.0**
SRS Serrai 84.61 316 P **P 11 07 55.1 -1.0**
L22A Ellis Ranch, M 84.61 42 ⇓P **P 11 07 56.9 +0.5**
baz=84,SNR=429
P19A Cripple Cowboy 84.66 46 ⇑P **P 11 07 57.3 +0.5**
baz=84
WET Wettzell 84.66 327 *eP* **P 11 07 56.1 -0.2**
comp=Z,723nm,1.5s
WET Wettzell 84.66 327 *eP* **P 11 07 56.1 -0.2**
WET pmax pmax
comp=Z,723nm,1.5s
DIVS Divibare 84.66 320 P **P 11 07 55.8 -0.7**
DIVS Divibare 84.66 320 P **P 11 07 55.8 -0.7**
PDMCI Parker Dam,Lak 84.67 52 ⇑P **P 11 07 56.7 +0.1**
baz=84,SNR=402
UBBA Unterbreizbach 84.68 330 *eP* **P 11 07 55.9 -0.3**
comp=Z,984nm,1.6s
BEHE Becsehely 84.71 324 ⇓*eP* **P 11 07 56.5 0.0**
Y12C Blythe 84.74 53 ⇑P **P 11 07 57.1 +0.2**
baz=85,SNR=477
J24A Dixon Ranch, L 84.75 41 ⇓P **P 11 07 56.5 -0.4**
baz=84,SNR=110
ARSA Arzberg 84.78 325 *i* PcP **P 11 07 56.6 -0.3**
comp=Z,5μm,4.0s,SNR=292
O20A White River Ci 84.78 45 ⇑P **P 11 07 57.5 +0.2**
baz=85,SNR=924
I25A Rochford 84.79 40 ⇑P **P 11 07 57.1 -0.2**
baz=85,SNR=464
SMG Samos 84.80 312 P **P 11 07 56.2 -1.0**
SMG Samos 84.80 312 P **P 11 07 56.2 -1.0**
SMG Samos 84.80 312 *eP* **P 11 07 56.7 -0.5**
SMG Samos 84.80 312 P **P 11 07 56.2 -1.0**
KPL Plockton 84.80 341 ⇓*iP* **P 11 07 56.7 0.0**
KPL AMB AMB 11 07 58.1
comp=Z,2μm,1.4s
KPL *e* 11 09 09.0
N21A Black Mountain 84.81 44 ⇑P **P 11 07 57.9 +0.5**
baz=85,SNR=864
G27A Dupree 84.82 38 ⇑P **P 11 07 57.2 +0.1**
baz=85,SNR=734
BDRM Kayabasi 84.82 311 *i P* **P 11 07 56.7 -0.5**
KSB Sheil Bridge 84.85 341 ⇓*iP* **P 11 07 56.8 -0.1**
LBOS 84.85 283 ⇓*eP* **P 11 07 58.9 +0.7**
LBOS AMb AMB 11 08 00.7
comp=Z,17μm,1.5s
CHOS Chios island 84.86 313 P **P 11 07 56.7 -0.9**
CHOS Chios island 84.86 313 P **P 11 07 56.7 -0.9**
CHOS Chios island 84.86 313 *eP* **P 11 07 57.3 -0.3**
CHOS Chios island 84.86 313 P **P 11 07 56.7 -0.9**
OUR Ouranopolis 84.88 316 P **P 11 07 56.7 -0.8**
OUR Ouranopolis 84.88 316 P **P 11 07 56.7 -0.8**
OUR Ouranopolis 84.88 316 P **P 11 07 56.7 -0.8**
OUR Ouranopolis 84.88 316 P **P 11 07 56.7 -0.8**
SANA San'a 84.89 285 ⇓*eP* **P 11 07 59.0 +0.7**
H26A Fairpoint 84.90 39 ⇓P **P 11 07 57.7 +0.1**
baz=85,SNR=613
ARG Arkhangelos 84.90 310 P **P 11 07 57.1 -0.6**
ARG Arkhangelos 84.90 310 P **P 11 07 57.1 -0.6**
ARG Arkhangelos 84.90 310 P **P 11 07 57.1 -0.6**
ARG Arkhangelos 84.90 310 *eP* **P 11 07 57.7 0.0**
ARG Arkhangelos 84.90 310 P **P 11 07 57.1 -0.6**
BODT Bodrum 84.90 311 *eP* **P 11 07 57.4 -0.3**
M22A Cedar Creek Ra 84.93 43 ⇑P **P 11 07 58.4 +0.3**
baz=85,SNR=260
SOH Sokhos 84.94 316 P **P 11 07 56.8 -1.0**
SOH Sokhos 84.94 316 P **P 11 07 56.8 -1.0**
SOH Sokhos 84.94 316 P **P 11 07 56.8 -1.0**
SOH Sokhos 84.94 316 *eP* **P 11 07 57.8 0.0**
SOH Sokhos 84.94 316 P **P 11 07 56.8 -1.0**
DAT Datca 84.94 311 *eP* **P 11 07 57.1 -0.9**
GLA Glamis 84.95 54 *eP* **P 11 07 58.3 +0.3**
GLA *e* 11 11 18.4
GLA pmax pmax
comp=Z,1μm,1.0s
GLA Glamis 84.95 54 *eP* **P 11 07 58.2 +0.3**
comp=Z,310nm,1.0s
GLA *ePP* **PP 11 11 18.4 -0.6**
GLA Glamis 84.95 54 ⇑P **P 11 07 58.4 +0.3**
baz=85,SNR=358
MOA Molln 84.95 326 *i* PcP **P 11 07 57.6 -0.1**
comp=Z,7μm,4.6s,SNR=360
L23A Garrett 84.97 42 ⇓P **P 11 07 57.9 -0.3**
baz=85,SNR=1000
KNT Kendrikon 84.98 317 P **P 11 07 57.2 -0.8**
KNT Kendrikon 84.98 317 P **P 11 07 57.2 -0.8**
KNT Kendrikon 84.98 317 P **P 11 07 57.2 -0.8**
KNT Kendrikon 84.98 317 P **P 11 07 57.2 -0.8**
KOGS Kog 84.98 324 *i P* **P 11 07 56.9 -1.0**
GRF Grafenberg Arr 85.00 329 *eP* **P 11 07 58.0 +0.1**
comp=Z,2μm,1.5s
GRF Grafenberg Arr 85.00 329 *eP* **P 11 07 58.0 +0.1**
GRF pmax pmax
comp=Z,2μm,1.5s
GRFO Grafenberg 85.00 329 *eP* **P 11 07 58.0 +0.1**
GRFO *e*PP **pP 11 09 08.8 -0.1**
GRFO *e* 11 11 20.2
GRFO pmax pmax
comp=Z,3μm,1.7s
GRFO Grafenberg 85.00 329 *eP* **P 11 07 58.0 +0.1**
comp=Z,3μm,1.7s
GRFO *epP* **pP 11 09 08.8 -0.1**
GRFO *ePP* **PP 11 11 20.1 +1.4**
ELO Logie Almond 85.01 340 ⇓*iP* **P 11 07 57.4 -0.5**
VAY Valandovo 85.06 317 P **P 11 07 56.8 -1.6**
VAY Valandovo 85.06 317 P **P 11 07 56.8 -1.6**
VAY Valandovo 85.06 317 P **P 11 07 56.8 -1.6**
VAY Valandovo 85.06 317 ⇓*iP* **P 11 07 57.4 -0.9**
VAY *eS* **SKSac 11 17 49.2 -4.5**
VAY Valandovo 85.06 317 P **P 11 07 56.8 -1.6**
K24A Anderson Ranch 85.07 41 ⇓P **P 11 07 58.1 -0.5**
baz=85,SNR=77
P20A De Beque 85.10 45 ⇑P **P 11 07 59.0 +0.1**
baz=85,SNR=495
WTSB Winterswijk 85.11 332 *eP* **P 11 07 57.6 -0.7**
comp=Z,2μm,1.3s
WTSB *epP* **pP 11 09 09.8 +0.4**
WTSB *ePP* **PP 11 11 18.8 -0.7**
WTSB *eSKS* **SKSac 11 17 49.9 -3.6**
WTSB *eSKSP* 11 18 45.8
ESY Stoneypath 85.16 339 ⇓*iP* **P 11 07 58.1 -0.4**
PLG Polygyros 85.17 316 P **P 11 07 58.0 -1.0**
PLG Polygyros 85.17 316 P **P 11 07 58.0 -1.0**
PLG Polygyros 85.17 316 P **P 11 07 58.0 -1.0**
PLG Polygyros 85.17 316 *eP* **P 11 07 58.5 -0.5**
PLG Polygyros 85.17 316 P **P 11 07 58.0 -1.0**
J25A Sunshine Ranch 85.17 40 ⇑P **P 11 07 58.6 -0.4**
baz=85,SNR=191
DHBB Dhamar BB 85.18 284 ⇓*eP* **P 11 08 00.5 +0.8**
DHBB AMb AMB 11 08 03.3
comp=Z,6μm,1.5s
O21A Pagoda 85.19 44 ⇓P **P 11 07 59.6 +0.3**
baz=85,SNR=218
HORT Hortiatis 85.23 316 P **P 11 07 58.0 -1.3**
HORT Hortiatis 85.23 316 P **P 11 07 58.0 -1.3**
HORT Hortiatis 85.23 316 P **P 11 07 58.0 -1.3**
PMOR Pomariorio Ree 85.25 111 ⇑*iP* **P 11 08 00.6 +1.0**
comp=Z,1μm,1.2s
PMOR *epP* **pP 11 09 08.9 -1.8**
comp=Z,553nm,1.2s
I26A New Underwood 85.25 39 ⇑P **P 11 07 59.6 +0.3**
baz=85,SNR=317
H27A Howes 85.25 38 ⇑P **P 11 07 59.5 +0.2**
baz=85,SNR=674
NIS1 Nisyros Isl. 85.27 311 P **P 11 07 58.1 -1.4**
NIS1 Nisyros Isl. 85.27 311 P **P 11 07 58.1 -1.4**
NIS1 Nisyros Isl. 85.27 311 P **P 11 07 58.1 -1.4**
SKO Skopje 85.28 318 P **P 11 07 59.6 +0.2**
SKO Skopje 85.28 318 P **P 11 07 59.6 +0.2**
SKO Skopje 85.28 318 P **P 11 07 59.6 +0.2**
SKO Skopje 85.28 318 ⇓*iP* **P 11 08 00.5 +1.0**
SKO *eS* S 11 17 54.0 -10
SKO Skopje 85.28 318 P **P 11 07 59.6 +0.2**
THE Thessaloniki 85.28 316 P **P 11 07 58.0 -1.4**
THE Thessaloniki 85.28 316 P **P 11 07 58.0 -1.4**
THE Thessaloniki 85.28 316 P **P 11 07 58.0 -1.4**
THE Thessaloniki 85.28 316 P **P 11 07 58.0 -1.4**
PAIG Paliouri 85.32 315 P **P 11 07 58.5 -1.2**
PAIG Paliouri 85.32 315 P **P 11 07 58.5 -1.2**
PAIG Paliouri 85.32 315 P **P 11 07 58.5 -1.2**
PAIG Paliouri 85.32 315 *eP* **P 11 07 58.9 -0.8**
PAIG Paliouri 85.32 315 P **P 11 07 58.5 -1.2**
EDI Edinburgh 85.32 339 AMB AMB 11 07 58.7
comp=Z,485nm,2.6s
EDI *e* 11 09 03.9
BUG Bochum--Univer 85.33 332 *eP* **P 11 07 58.7 -0.7**
comp=Z,1μm,1.2s
M23A Laramie 85.38 43 ⇓P **P 11 08 00.5 +0.2**
baz=85
GRG Griva 85.40 317 P **P 11 07 58.9 -1.2**
GRG Griva 85.40 317 P **P 11 07 58.9 -1.2**
GRG Griva 85.40 317 P **P 11 07 58.9 -1.2**
GRG Griva 85.40 317 *eP* **P 11 07 59.4 -0.7**
GRG Griva 85.40 317 P **P 11 07 58.9 -1.2**
N22A Wattenberg Ran 85.40 43 ⇓P **P 11 08 01.1 +0.6**
baz=85,SNR=661
EBL Broad Law 85.41 339 ⇓*iP* **P 11 07 59.6 -0.1**
PERS Pernice 85.41 325 *e*SKSac **SKSac 11 17 51.8 -4.0**
PV10 Paradox Valley 85.42 47 *eP* **P 11 08 01.6 +1.0**
comp=Z,15μm,0.7s
PV10 *epP* **pP 11 09 11.2 -0.4**
SOKA Soboth 85.42 325 *i* PcP **P 11 07 59.6 -0.5**
comp=Z,6μm,4.2s,SNR=693
EAB Aberfoyle 85.43 340 ⇓*iP* **P 11 07 59.8 -0.1**
L24A Wheatland 85.45 42 ⇓P **P 11 08 00.9 +0.4**
baz=85,SNR=204
PPT Papeete 85.46 114 P **P 11 08 02.0 +1.4**
PPT Papeete 85.46 114 P **P 11 08 02.0 +1.4**
comp=Z,233nm,0.8s,baz=349,slow=3.3,SNR=34
EAU Auchinoon 85.47 339 ⇓*iP* **P 11 07 60.0 -0.1**
PPT2 Papeete2 85.47 114 ⇑*iP* **P 11 08 02.0 +1.3**
comp=Z,346nm,1.3s
PPT2 *epP* **pP 11 09 10.3 -1.6**
comp=Z,148nm,1.1s
PPT2 *eS* **S 11 18 02.7 -3.6**
comp=Z,60μm,24.5s
PV04 Paradox Valley 85.49 46 *eP* **P 11 08 01.2 +0.4**
PV04 *eS* S 11 18 00.1 -6.2
PLE Pljevlja 85.50 320 ⇓*iP* **P 11 08 00.5 -0.2**
Q20A Ridgley Place, 85.50 46 ⇑P **P 11 08 01.4 +0.5**
baz=85,SNR=1000
PAE Paea 85.51 114 ⇑*iP* **P 11 08 01.8 +1.0**
PAE *epP* **pP 11 09 10.2 -1.8**
comp=Z,38nm,1.2s
IVA Berane 85.54 319 ⇓*iP* **P 11 08 00.5 -0.3**
G28A Parade 85.55 38 ⇑P **P 11 08 01.0 +0.2**
baz=85,SNR=416
J26A Sides Ranch, S 85.62 40 ⇓P **P 11 08 01.4 +0.2**
baz=85,SNR=696
TIAR Tiarei 85.63 114 ⇑*iP* **P 11 08 02.5 +1.1**
comp=Z,727nm,0.9s
TIAR *epP* **pP 11 09 11.0 -1.6**
comp=Z,341nm,1.0s
N23A Red Feather La 85.63 43 ⇑P **P 11 08 02.2 +0.7**
baz=85,SNR=1000
Y14A Wickenburg 85.64 52 ⇑P **P 11 08 01.4 0.0**
baz=86,SNR=756
PHWY Pilot Hill 85.64 43 *eP* **P 11 08 01.7 +0.1**
comp=Z,1μm,1.3s
P21A Newcastle 85.64 45 ⇓P **P 11 08 02.0 +0.5**
baz=86,SNR=780
I27A Quinn 85.65 39 ⇓P **P 11 08 01.6 +0.3**
baz=85,SNR=647
K25A Mack Ranch, Ha 85.66 41 ⇓P **P 11 08 01.7 +0.2**
baz=85,SNR=122
AOS Alonnisos 85.69 315 P **P 11 07 59.2 -2.3**
AOS Alonnisos 85.69 315 P **P 11 07 59.2 -2.3**
AOS Alonnisos 85.69 315 *eP* **P 11 08 00.5 -1.0**
AOS Alonnisos 85.69 315 P **P 11 07 59.2 -2.3**
AGMN Agassiz Nation 85.69 33 *eP* **P 11 08 00.4 -0.9**
comp=Z,3μm,0.5s
AGMN *ePP* **PP 11 11 27.0 +2.7**
PVY Plav 85.69 319 ⇓*iP* **P 11 08 00.8 -0.8**
RJOB Jochberg 85.72 326 *eP* **P 11 08 01.2 -0.4**
comp=Z,629nm,1.3s
WUAZ Wupatki 85.74 50 *eP* **P 11 08 02.4 +0.3**
comp=Z,223nm,2.1s
WUAZ *ePP* **PP 11 11 23.0 -2.4**
WUAZ Wupatki 85.74 50 ⇓P **P 11 08 02.4 +0.3**
baz=86,SNR=819
O22A Kremmling 85.76 44 ⇑P **P 11 08 02.4 +0.2**
baz=86,SNR=1000
H28A Mission Ridge 85.77 38 ⇑P **P 11 08 02.0 +0.1**
baz=86,SNR=516
OBKA Obir 85.78 325 *i P* **P 11 08 01.0 -0.9**
comp=Z,4μm,4.1s,SNR=93
BCI Bajram Curri 85.78 319 *eP* **P 11 08 01.0 -0.9**
TNS Taunus Mts 85.78 330 *eP* **P 11 08 01.4 -0.4**
comp=Z,1μm,1.8s
TNS Taunus Mts 85.78 330 *eP* **P 11 08 01.4 -0.4**
TNS pmax pmax
comp=Z,1μm,1.8s
PGBU Glenifferbraes 85.80 340 ⇓*iP* **P 11 08 01.7 0.0**
PGBU AMB AMB 11 08 02.9
comp=Z,2μm,1.4s
PGBU *e* 11 09 12.9
EKA Eskdalemuir Ar 85.82 339 SKKPbc SKKPbc 11 29 12.0 +6.1
comp=Z,2.7nm,0.7s,baz=266,slow=1.7,SNR=6.1
EKA PKPPKP P'P'df 11 34 05.3 -9.2
comp=Z,3.2nm,0.9s,baz=236,slow=3.9,SNR=3.7
113A Mohawk Valley, 85.83 53 ⇓P **P 11 08 02.3 0.0**
baz=86,SNR=530
TVO Taravao 85.83 114 ⇑*iP* **P 11 08 03.8 +1.3**
comp=Z,638nm,0.8s
TVO *epP* **pP 11 09 12.3 -1.4**
comp=Z,297nm,1.1s
ESK Eskdalemuir 85.84 339 P **P 11 08 01.7 -0.2**
comp=Z,2μm,0.8s
ESK Eskdalemuir 85.84 339 ⇓*iP* **P 11 08 01.6 -0.3**
ESK AMB AMB 11 08 02.9
comp=Z,658nm,1.4s
ESK *e* 11 09 13.6
ESK Eskdalemuir 85.84 339 *i P* **P 11 08 01.8 -0.2**
ESK Eskdalemuir 85.84 339 *eP* **P 11 08 01.6 -0.2**
comp=Z,100nm,0.9s
ESK *ePP* **PP 11 11 24.6 -0.7**
ESK *eS* **S 11 18 09.7 +1.0**
UDYN Al 'Udayn 85.85 284 ⇓*eP* **P 11 08 03.5 +0.6**
UPM Unac-Piva 85.85 320 *eP* **P 11 08 01.3 -1.2**
PV01 Paradox Valley 85.86 47 *eP* **P 11 08 03.1 +0.4**
comp=Z,187nm,0.5s
PDKS Podkum 85.88 324 *i P* **P 11 08 01.6 -0.8**
PDKS *ePP* **PP 11 11 27.9 +2.0**
M24A Cheyenne 85.89 42 ⇓P **P 11 08 03.5 +0.8**
baz=86,SNR=697
LIT Litokhoron 85.90 316 P **P 11 08 01.0 -1.6**
LIT Litokhoron 85.90 316 P **P 11 08 01.0 -1.6**
LIT Litokhoron 85.90 316 P **P 11 08 01.0 -1.6**
LIT Litokhoron 85.90 316 P **P 11 08 01.0 -1.6**
L25A Engebretsen Ra 85.91 41 ⇑P **P 11 08 03.2 +0.4**
baz=86,SNR=170
XAL Allendale 85.93 338 ⇓*iP* **P 11 08 01.7 -0.6**
KARP Karpathos 85.93 310 P **P 11 08 01.9 -0.9**
KARP Karpathos 85.93 310 P **P 11 08 01.9 -0.9**
KARP Karpathos 85.93 310 *eP* **P 11 08 02.5 -0.3**
KARP Karpathos 85.93 310 P **P 11 08 01.9 -0.9**
SKIA Skiathos 85.93 315 P **P 11 08 01.4 -1.3**
SKIA Skiathos 85.93 315 P **P 11 08 01.4 -1.3**
ECK Cauldkaine Hil 85.94 339 ⇓*iP* **P 11 08 01.9 -0.5**
R20A Redvale 85.94 46 ⇓P **P 11 08 03.5 +0.4**
baz=86,SNR=1000
KBA Koelnbreinsper 85.94 326 *i* PcP **P 11 08 01.9 -0.9**
comp=Z,3μm,4.5s,SNR=216
XOR Xorichti 85.97 315 P **P 11 08 01.3 -1.6**
XOR Xorichti 85.97 315 P **P 11 08 01.3 -1.6**
XOR Xorichti 85.97 315 P **P 11 08 01.3 -1.6**
BIA Bitola 85.97 317 P **P 11 08 00.7 -2.2**
BIA Bitola 85.97 317 P **P 11 08 00.7 -2.2**
BIA Bitola 85.97 317 ⇓*iP* **P 11 08 01.2 -1.7**
BIA Bitola 85.97 317 P **P 11 08 00.7 -2.2**
K26A Motz Farm, Whi 85.98 40 ⇓P **P 11 08 02.9 -0.1**
baz=86,SNR=149
NEO Neokhori 85.99 315 P **P 11 08 01.1 -1.9**
NEO Neokhori 85.99 315 P **P 11 08 01.1 -1.9**
NEO Neokhori 85.99 315 *eP* **P 11 08 02.2 -0.8**
NEO Neokhori 85.99 315 P **P 11 08 01.1 -1.9**
P22A Eagle 86.00 45 ⇑P **P 11 08 04.1 +0.7**
baz=86,SNR=1000
Q21A Lamborn Mesa, 86.01 45 ⇑P **P 11 08 04.0 +0.7**
baz=86,SNR=954
APE Apeiranthos 86.01 312 *eP* P 11 07 58.1 -5.1
APE Apeiranthos 86.01 312 P **P 11 08 00.9 -2.3**
APE Apeiranthos 86.01 312 P **P 11 08 00.9 -2.3**
APE Apeiranthos 86.01 312 ⇓P **P 11 08 01.4 -1.8**
APE Apeiranthos 86.01 312 *eP* **P 11 08 01.7 -1.5**
APE Apeiranthos 86.01 312 ⇓*iP* **P 11 08 01.4 -1.8**
APE Apeiranthos 86.01 312 P **P 11 08 00.9 -2.3**
Z14A Wintersburg 86.02 52 ⇑P **P 11 08 03.4 +0.1**
baz=86,SNR=91
PHP Peshkopia 86.03 318 *eP* **P 11 08 01.2 -2.0**
PHP Peshkopia 86.03 318 P **P 11 08 01.9 -1.3**
PHP Peshkopia 86.03 318 P **P 11 08 01.9 -1.3**
PHP Peshkopia 86.03 318 P **P 11 08 01.9 -1.3**
PHP Peshkopia 86.03 318 P **P 11 08 01.9 -1.3**
BHH Howats Hill 86.04 339 ⇓*iP* **P 11 08 02.8 -0.1**
NKY Niksic 86.07 320 ⇓*iP* **P 11 08 02.7 -0.7**
PUK Puka 86.09 319 *eP* **P 11 08 01.2 -2.3**
MRMA Marmari 86.09 314 P **P 11 08 02.2 -1.3**
MRMA Marmari 86.09 314 P **P 11 08 02.2 -1.3**
O23A Lake Granby, G 86.09 44 ⇓P **P 11 08 04.5 +0.7**
baz=86,SNR=327
FNA Florina 86.10 317 P **P 11 08 01.9 -1.6**
FNA Florina 86.10 317 P **P 11 08 01.9 -1.6**
FNA Florina 86.10 317 P **P 11 08 01.9 -1.6**
FNA Florina 86.10 317 *eP* **P 11 08 03.0 -0.5**
FNA Florina 86.10 317 P **P 11 08 01.9 -1.6**
BWH Wardlaw 86.10 339 ⇓*iP* **P 11 08 03.0 -0.2**
FUR Furstenfeldbru 86.10 327 *eP* **P 11 08 03.0 -0.4**
comp=Z,1μm,1.4s
FUR Furstenfeldbru 86.10 327 *eP* **P 11 08 03.0 -0.4**
FUR pmax pmax
comp=Z,1μm,1.4s
LJU Ljubljana 86.12 324 *i P* **P 11 08 02.5 -0.9**
LJU *i* PcP **PcP 11 08 06.0 +0.4**
LJU *i pP* **pP 11 09 14.6 -0.1**
LJU *eS* **sP 11 09 47.9 +1.5**
LJU *i PP* **PP 11 11 29.8 +2.0**
LJU *e*PKiKP **PKiKP 11 13 06.3 -3.1**
LJU *e*SKSac **SKSac 11 17 55.7 -4.4**
LJU *eS* **SKKSac 11 18 09.4 +0.8**
LJU *eSP* **SPn 11 19 05.4 -4.7**
LJU *eS* **sS 11 20 18.6 +1.1**
LJU *eSS* **SS 11 23 52.1 -4.5**
LJU *e* 11 30 51.7
NKME Niksic 86.12 320 ⇓*iP* **P 11 08 02.9 -0.7**
MYKA Terra Mystica 86.12 325 *i P* **P 11 08 02.2 -1.3**
comp=Z,1μm,2.1s,SNR=144
TRBA At Turbah 86.12 283 ⇓*eP* **P 11 08 05.0 +0.7**
BOJS Bojanci 86.14 324 *i P* **P 11 08 02.9 -0.7**
BOJS *i* PcP **PcP 11 08 06.5 +0.8**
BOJS *epP* **pP 11 09 15.4 +0.6**
BOJS *eS* **sP 11 09 48.1 +1.6**
BOJS *ePP* **PP 11 11 29.5 +1.4**
BOJS *eSKSac* **SKSac 11 17 58.1 -2.1**
SMCO Snowmass 86.15 45 *eP* **P 11 08 04.7 +0.4**
comp=Z,1μm,1.0s
SMCO *eS* S 11 18 03.4 -10
MRKA Markates 86.16 314 P **P 11 08 02.1 -1.7**
MRKA Markates 86.16 314 P **P 11 08 02.1 -1.7**
I28A Midland 86.16 38 ⇑P **P 11 08 03.8 +0.1**
baz=86,SNR=703
S20A Disappointment 86.18 47 ⇑P **P 11 08 04.5 +0.2**
baz=86,SNR=522
PDG Podgorica 86.18 319 P **P 11 08 03.0 -0.8**
PDG Podgorica 86.18 319 P **P 11 08 03.0 -0.8**
TTG Podgorica 86.18 319 ⇓*iP* **P 11 08 03.1 -0.8**
TTG Podgorica 86.18 319 P **P 11 08 03.0 -0.8**
TTG Podgorica 86.18 319 P **P 11 08 03.0 -0.8**
KZN Kozani 86.19 317 P **P 11 08 02.2 -1.8**
KZN Kozani 86.19 317 P **P 11 08 02.2 -1.8**
KZN Kozani 86.19 317 P **P 11 08 02.2 -1.8**
KZN Kozani 86.19 317 *eP* **P 11 08 02.9 -1.1**
KZN Kozani 86.19 317 P **P 11 08 02.2 -1.8**
ERET Eretria 86.19 314 P **P 11 08 02.3 -1.8**
ERET Eretria 86.19 314 P **P 11 08 02.3 -1.8**
BRY Bratogost 86.25 320 *eP* **P 11 08 03.3 -1.1**
SMIA Simia 86.27 315 P **P 11 08 02.9 -1.5**
SMIA Simia 86.27 315 P **P 11 08 02.9 -1.5**
N24A Carr 86.28 43 ⇑P **P 11 08 05.3 +0.7**
baz=86,SNR=336
R21A Cimarron 86.33 46 ⇓P **P 11 08 05.6 +0.7**
baz=86,SNR=1000
MSEY Mahe Island 86.33 262 P **P 11 08 05.0 -0.1**
comp=Z,4μm,1.3s,SNR=16
MSEY Mahe Island 86.33 262 P **P 11 08 06.0 +1.0**
SNR=23
MSEY Mahe Island 86.33 262 *eP* **P 11 08 05.5 +0.4**
comp=Z,2μm,1.4s
MSEY *ePP* **PP 11 11 30.4 -0.7**
M25A Palm-Egli Farm 86.34 42 ⇑P **P 11 08 05.4 +0.6**
baz=86,SNR=140
BBO1 Bothel 86.35 339 ⇓*iP* **P 11 08 04.3 -0.1**
X16A Lo Mia Camp, P 86.37 51 ⇑P **P 11 08 05.6 +0.4**
baz=86,SNR=868
DRME Dracevica, Mon 86.39 319 ⇓*iP* **P 11 08 04.2 -0.6**
HGN Heimansgroeve 86.39 332 *eP* **P 11 08 03.8 -0.8**
comp=Z,2μm,1.6s
HGN *epP* **pP 11 09 15.0 -0.9**
HGN *ePP* **PP 11 11 27.8 -2.0**
HGN *eSKS* **SKSac 11 17 59.3 -2.2**
comp=Z,1μm,4.3s

HGN eSKSP SP 11 19 07.2 -7.7
Q22A Crested Butte, 86.39 45 ⇓P P 11 08 06.0 +0.7
baz=86,SNR=1000
PTL Penteli 86.41 314 P **P 11 08 03.2 -1.9**
PTL Penteli 86.41 314 P **P 11 08 03.2 -1.9**
PTL Penteli 86.41 314 eP **P 11 08 03.3 -1.9**
PTL Penteli 86.41 314 P **P 11 08 03.2 -1.9**
KESW Keswick, Cumbr 86.43 339 ⇓iP **P 11 08 04.4 -0.4**
KESW AMB AMB 11 08 06.0
comp=Z,1μm,1.6s
KESW e 11 09 16.5
VOY Vojsko 86.44 325 ⇓iP **P 11 08 03.3 -1.8**
VOY epP PcP 11 08 15.5 +8.4
JAVS Javornik 86.45 325 iP **P 11 08 03.7 -1.5**
JAVS ipP **pP 11 09 16.1 -0.3**
JAVS ePP **PP 11 11 31.8 +1.2**
JAVS eSKSac **SKSac 11 17 58.1 -4.2**
GCD Castle Douglas 86.45 339 ⇓iP **P 11 08 04.3 -0.6**
BEBN Eben Emael 86.46 332 P **P 11 08 04.4 -0.5**
comp=Z,290nm,1.4s
BEBN AP **pP 11 09 16.7 +0.4**
BEBN PP **PP 11 11 27.2 -3.2**
BUM Brajici-Budva 86.47 320 ⇓iP **P 11 08 04.6 -0.7**
MEM Membach 86.48 332 P **P 11 08 04.3 -0.8**
MEM AP **pP 11 09 17.4 +1.0**
L26A Underwood Farm 86.48 41 ⇓P **P 11 08 05.7 +0.3**
baz=86,SNR=40
K27A Flueckinger Fa 86.48 40 ⇑P **P 11 08 05.4 0.0**
baz=86,SNR=435
MVCO Mesa Verde 86.49 47 eP **P 11 08 05.8 0.0**
comp=Z,717nm,1.1s
MVCO Mesa Verde 86.49 47 ⇓P **P 11 08 05.9 +0.2**
baz=86,SNR=464
SANT Santorini 86.50 312 P **P 11 08 03.0 -2.5**
SANT Santorini 86.50 312 P **P 11 08 03.0 -2.5**
SANT Santorini 86.50 312 eP **P 11 08 03.5 -2.1**
comp=Z,991nm,1.4s
THR1 Thera Island 86.50 312 P **P 11 08 03.7 -1.8**
THR1 Thera Island 86.50 312 P **P 11 08 03.7 -1.8**
LMK Market Rasen 86.50 337 ⇓iP **P 11 08 04.8 -0.3**
LMK AMB AMB 11 08 06.0
comp=Z,2μm,1.4s
HPK Haverah Park 86.50 337 iP **P 11 08 05.0 -0.2**
HPK AMB AMB 11 08 06.2
comp=Z,1μm,1.4s
HPK e 11 09 16.0
ATAL Atalanti 86.50 315 P **P 11 08 02.5 -3.0**
ATAL Atalanti 86.50 315 P **P 11 08 02.5 -3.0**
ATAL Atalanti 86.50 315 P **P 11 08 02.5 -3.0**
ULC Ulcinj 86.50 319 ⇓iP **P 11 08 04.3 -1.1**
THR3 Thira Island, 86.51 312 P **P 11 08 03.3 -2.2**
THR3 Thira Island, 86.51 312 P **P 11 08 03.3 -2.2**
THR3 Thira Island, 86.51 312 P **P 11 08 03.3 -2.2**
ATHU Athens Univers 86.51 314 P **P 11 08 03.2 -2.3**
ATHU Athens Univers 86.51 314 P **P 11 08 03.2 -2.3**
ATHU Athens Univers 86.51 314 P **P 11 08 03.2 -2.3**
J28A Allard Ranch, 86.52 39 ⇑P **P 11 08 05.9 +0.3**
baz=86,SNR=471
NEST Nestorio 86.53 317 P **P 11 08 04.2 -1.5**
NEST Nestorio 86.53 317 P **P 11 08 04.2 -1.5**
THL Klokotos Trika 86.53 316 P **P 11 08 03.7 -1.8**
THL Klokotos Trika 86.53 316 P **P 11 08 03.7 -1.8**
THL Klokotos Trika 86.53 316 eP **P 11 08 03.8 -1.8**
KBN Korca 86.54 317 eP P 11 08 01.9 -3.8
KBN Korca 86.54 317 P **P 11 08 04.4 -1.3**
KBN Korca 86.54 317 P **P 11 08 04.4 -1.3**
KBN Korca 86.54 317 P **P 11 08 04.4 -1.3**
KBN Korca 86.54 317 P **P 11 08 04.4 -1.3**
ISCO Idaho Springs 86.54 44 eP **P 11 08 06.6 +0.5**
ISCO eS **S 11 18 17.1 +0.5**
ISCO pmax pmax
comp=Z,947nm,1.3s
ISCO Idaho Springs 86.54 44 eP **P 11 08 06.6 +0.5**
comp=Z,947nm,1.3s
ISCO eS **S 11 18 17.1 +0.5**
ISCO Idaho Springs 86.54 44 ⇑P **P 11 08 06.6 +0.5**
baz=86,SNR=513
THR6 Thira Island, 86.54 312 P **P 11 08 03.8 -1.9**
THR6 Thira Island, 86.54 312 P **P 11 08 03.8 -1.9**
THR6 Thira Island, 86.54 312 P **P 11 08 03.8 -1.9**
LKR Lokris 86.55 315 eP **P 11 08 03.9 -1.8**
ATH Athens Observa 86.55 314 P **P 11 08 03.5 -2.2**
ATH Athens Observa 86.55 314 P **P 11 08 03.5 -2.2**
ATH Athens Observa 86.55 314 P **P 11 08 03.5 -2.2**
ATH Athens Observa 86.55 314 eP **P 11 08 04.8 -0.9**
ATH Athens Observa 86.55 314 P **P 11 08 03.5 -2.2**
STU Stuttgart 86.57 329 eP **P 11 08 04.9 -0.6**
comp=Z,688nm,1.5s
STU Stuttgart 86.57 329 eP **P 11 08 05.0 -0.6**
STU e*PP **pP 11 09 17.8 +0.9**
STU pmax pmax
comp=Z,912nm,1.6s
STU Stuttgart 86.57 329 eP **P 11 08 05.0 -0.6**
comp=Z,912nm,1.6s
STU epP **pP 11 09 17.8 +0.9**
STU ePP **PP 11 11 26.5 -4.8**
TIR Tirane 86.58 318 eP **P 11 08 03.4 -2.4**
TIR Tirane 86.58 318 P **P 11 08 04.9 -0.8**
TIR Tirane 86.58 318 P **P 11 08 04.9 -0.8**
TIR Tirane 86.58 318 eP **P 11 08 05.0 -0.8**
TIR eS **S 11 18 17.6 +1.4**
TIR pmax pmax
comp=Z,331nm,0.9s
TIR Tirane 86.58 318 eP **P 11 08 05.0 -0.7**
comp=Z,331nm,0.9s
TIR eS **S 11 18 17.6 +1.4**
TIR ePKKPbc **PKKPbc 11 25 59.2 +0.2**
UDBI Udbina 86.58 323 P **P 11 08 04.5 -1.2**
ABTA Abfaltersbach 86.58 326 iP **P 11 08 04.1 -1.7**
comp=Z,1μm,2.7s,SNR=333
WATA Walderalm 86.58 327 ⇓iPcP **P 11 08 04.9 -1.0**
comp=Z,214nm,1.3s,SNR=98
HCY Herceg Novi 86.58 320 ⇓iP **P 11 08 04.7 -1.1**
WTTA Wattenberg 86.61 327 iPcP **P 11 08 05.2 -0.8**
comp=Z,5μm,4.6s,SNR=265
S21A Coal Bank Pass 86.63 47 ⇓P **P 11 08 07.1 +0.5**
baz=86,SNR=787
O24A Longmont 86.64 43 ⇓P **P 11 08 07.1 +0.8**
baz=86,SNR=310
AEU East Anglia Un 86.65 335 ⇓eP **P 11 08 04.8 -1.0**
VIL2 Platees 86.67 314 P **P 11 08 03.9 -2.4**
VIL2 Platees 86.67 314 P **P 11 08 03.9 -2.4**
AXAR Agios Charalam 86.67 315 P **P 11 08 04.3 -2.0**
AXAR Agios Charalam 86.67 315 P **P 11 08 04.3 -2.0**
AXAR Agios Charalam 86.67 315 P **P 11 08 04.3 -2.0**
GAL1 Galloway 86.68 339 ⇓iP **P 11 08 05.6 -0.4**
GAL1 AMB AMB 11 08 10.8
comp=Z,974nm,1.1s
GAL1 e 11 09 17.9
P23A Jefferson 86.69 44 ⇓P **P 11 08 07.8 +1.0**
baz=86,SNR=711
AGG Agios Georgios 86.70 315 P **P 11 08 03.9 -2.5**
AGG Agios Georgios 86.70 315 P **P 11 08 03.9 -2.5**
AGG Agios Georgios 86.70 315 P **P 11 08 03.9 -2.5**
AGG Agios Georgios 86.70 315 eP **P 11 08 04.6 -1.9**
AGG Agios Georgios 86.70 315 P **P 11 08 03.9 -2.5**
STON Ston 86.72 321 P **P 11 08 04.0 -2.4**
TRI Trieste 86.73 325 eP **P 11 08 04.8 -1.6**
TRI e*PP **pP 11 09 18.1 +0.4**
TRI e 11 11 33.6
TRI pmax pmax
comp=Z,2μm,1.9s
TRI Trieste 86.73 325 eP **P 11 08 04.8 -1.6**
comp=Z,2μm,1.9s
TRI epP **pP 11 09 18.1 +0.4**
TRI ePP **PP 11 11 33.6 +0.9**
N25A Grover 86.74 42 ⇑P **P 11 08 07.3 +0.5**
baz=86,SNR=54
MOTA Moosalm 86.79 327 ⇓iPcP **P 11 08 05.8 -1.0**
comp=Z,479nm,1.2s,SNR=186
MEH Mehetia 86.80 114 ⇑iP **P 11 08 08.4 +1.3**
comp=Z,548nm,1.2s
MEH epP **pP 11 09 16.9 -1.6**
comp=Z,302nm,1.2s
ZKR Zakros 86.80 310 P **P 11 08 06.1 -0.9**
ZKR Zakros 86.80 310 P **P 11 08 06.1 -0.9**
ZKR Zakros 86.80 310 eP **P 11 08 07.0 0.0**
ZKR Zakros 86.80 310 P **P 11 08 06.1 -0.9**
MAKR Makrakomi, Fth 86.82 315 P **P 11 08 05.0 -2.0**
MAKR Makrakomi, Fth 86.82 315 P **P 11 08 05.0 -2.0**
MAKR Makrakomi, Fth 86.82 315 P **P 11 08 05.0 -2.0**
NAIG Nisos Aigina 86.83 314 eP **P 11 08 04.4 -2.6**
M26A McRoberts Ranc 86.83 41 ⇓P **P 11 08 07.8 +0.7**
baz=87,SNR=58
RETA Reutte 86.84 327 iPcP **P 11 08 06.4 -0.6**
comp=Z,5μm,4.8s,SNR=317
R22A Saguache, Gunn 86.89 46 ⇓P **P 11 08 08.8 +1.0**
baz=87,SNR=1000
K28A Ten Mile Ranch 86.94 39 ⇓P **P 11 08 07.7 +0.1**
baz=87,SNR=481
214A Organ Pipe Nat 86.97 54 ⇑P **P 11 08 07.9 +0.1**
baz=87,SNR=249
LTK Loutraki 86.97 314 P **P 11 08 04.6 -3.1**
LTK Loutraki 86.97 314 P **P 11 08 04.6 -3.1**
LTK Loutraki 86.97 314 eP **P 11 08 05.1 -2.6**
LTK Loutraki 86.97 314 P **P 11 08 04.6 -3.1**
UCC Uccle 86.97 333 P **P 11 08 06.8 -0.6**
UCC AP **pP 11 09 21.9 +3.1**
UCC PP **PP 11 11 32.8 -1.7**
DSF Desfina 86.98 315 P **P 11 08 05.1 -2.7**
DSF Desfina 86.98 315 P **P 11 08 05.1 -2.7**
DSF Desfina 86.98 315 P **P 11 08 05.1 -2.7**
BRSD Miller 86.98 37 ⇑P **P 11 08 07.6 -0.1**
baz=87,SNR=178
Q23A Hartsel 87.00 45 ⇑P **P 11 08 08.9 +0.6**
baz=87,SNR=48
NVLJ Novalja 87.00 323 P **P 11 08 05.9 -1.8**
LANF Langenberg 87.00 330 eP **P 11 08 06.8 -0.9**
U20A Newcomb 87.00 48 ⇓P **P 11 08 08.3 +0.2**
baz=87,SNR=88
W18A Petrified Fore 87.03 49 ⇑P **P 11 08 08.7 +0.4**
baz=87,SNR=46
KBI1 Birley Grange 87.06 337 ⇓iP **P 11 08 07.2 -0.6**
EVR Evrytania 87.08 316 P **P 11 08 06.1 -2.2**
EVR Evrytania 87.08 316 P **P 11 08 06.1 -2.2**
EVR Evrytania 87.08 316 eP **P 11 08 06.8 -1.5**
EVR Evrytania 87.08 316 P **P 11 08 06.1 -2.2**
NPS Neapolis 87.10 311 P **P 11 08 06.9 -1.5**
NPS Neapolis 87.10 311 P **P 11 08 06.9 -1.5**
NPS Neapolis 87.10 311 P **P 11 08 06.9 -1.5**
NPS Neapolis 87.10 311 eP **P 11 08 07.5 -0.9**
NPS Neapolis 87.10 311 P **P 11 08 06.9 -1.5**
ACOR Acrocorinthos 87.11 314 P **P 11 08 05.5 -2.9**
ACOR Acrocorinthos 87.11 314 P **P 11 08 05.5 -2.9**
P24A Kohler Place, 87.14 44 ⇓P **P 11 08 09.4 +0.6**
baz=87,SNR=330
DID Didima 87.14 314 P P 11 08 04.8 -3.8
DID Didima 87.14 314 P P 11 08 04.8 -3.8
DID Didima 87.14 314 eP **P 11 08 05.8 -2.8**
DID Didima 87.14 314 P P 11 08 04.8 -3.8
JAN Janina 87.14 317 P **P 11 08 07.5 -1.1**
JAN Janina 87.14 317 P **P 11 08 07.5 -1.1**
JAN Janina 87.14 317 P **P 11 08 07.5 -1.1**
JAN Janina 87.14 317 eP **P 11 08 08.0 -0.6**
JAN Janina 87.14 317 P **P 11 08 07.5 -1.1**
WLF Walferdange 87.16 331 P **P 11 08 08.0 -0.3**
comp=Z,472nm,2.3s
WLF AP **pP 11 09 21.8 +2.0**
WLF PP PP 11 11 27.0 -9.0
WLF Walferdange 87.16 331 PKKPbc PKKPbc 11 25 57.7 -0.3
WLF Walferdange 87.16 331 SKKPbc SKKPbc 11 29 09.7 +6.7
WLF Walferdange 87.16 331 eP **P 11 08 08.3 -0.1**
comp=Z,832nm,1.6s
WLF epP **pP 11 09 23.3 +3.5**
WLF Walferdange 87.16 331 eP **P 11 08 08.2 -0.1**
WLF e*PP **pP 11 09 22.2 +2.4**
WLF e 11 11 37.5
WLF pmax pmax
comp=Z,277nm,0.9s
WLF Walferdange 87.16 331 eP **P 11 08 08.2 -0.2**
comp=Z,277nm,0.9s
WLF epP **pP 11 09 22.2 +2.4**
WLF ePP **PP 11 11 37.5 +1.5**
WLF eS **SP 11 19 14.1 -9.5**
S22A 4UR Ranch, Cre 87.16 46 ⇑P **P 11 08 09.6 +0.6**
baz=87,SNR=920
DIDY Didyma 87.18 314 P P 11 08 05.6 -3.2
DIDY Didyma 87.18 314 P P 11 08 05.6 -3.2
O25A Wiggins 87.19 43 ⇓P **P 11 08 09.3 +0.4**
baz=87,SNR=615
FETA Feichten 87.20 327 iPcP **P 11 08 07.9 -0.9**
comp=Z,2μm,2.8s,SNR=211
M27A Reverse DX Ran 87.20 41 ⇓P **P 11 08 09.2 +0.3**
baz=87,SNR=88
N26A Koester Ranch, 87.22 42 ⇑P **P 11 08 09.1 +0.1**
baz=87,SNR=62
T21A Navajo Lake 87.22 47 ⇓P **P 11 08 09.6 +0.4**
baz=87,SNR=135
KALE Kalithea 87.22 315 P **P 11 08 06.7 -2.3**
KALE Kalithea 87.22 315 P **P 11 08 06.7 -2.3**
KALE Kalithea 87.22 315 eP **P 11 08 07.1 -1.9**
KALE Kalithea 87.22 315 P **P 11 08 06.7 -2.3**
SNF Seneffe 87.23 333 P **P 11 08 08.2 -0.5**
SNF AP Px 11 08 21.0
SNF PP **PP 11 11 35.3 -1.3**
LAST Lasithi 87.25 311 P **P 11 08 08.4 -0.8**
LAST Lasithi 87.25 311 P **P 11 08 08.4 -0.8**
LAST Lasithi 87.25 311 eP **P 11 08 08.7 -0.5**
LAST Lasithi 87.25 311 P **P 11 08 08.4 -0.8**
X18A Snowflake 87.27 50 ⇓P **P 11 08 09.6 +0.2**
baz=87,SNR=177
BFO Black Forest 87.28 329 P **P 11 08 08.4 -0.6**
comp=Z,2μm,0.7s
BFO Black Forest 87.28 329 eP **P 11 08 08.2 -0.8**
comp=Z,546nm,1.4s
BFO Black Forest 87.28 329 eP **P 11 08 08.1 -0.9**
BFO e*PP **pP 11 09 15.7 -4.7**
BFO eS **S 11 18 22.6 -0.2**
BFO pmax pmax
comp=Z,344nm,1.0s
BFO Black Forest 87.28 329 eP **P 11 08 08.1 -0.9**
comp=Z,344nm,1.0s
BFO epP **pP 11 09 15.7 -4.7**
BFO eS **S 11 18 22.6 -0.2**
TRIZ Trizonia 87.28 315 P **P 11 08 07.0 -2.2**
TRIZ Trizonia 87.28 315 P **P 11 08 07.0 -2.2**
TRIZ Trizonia 87.28 315 eP **P 11 08 07.5 -1.7**
EFP Efpalio 87.34 315 P **P 11 08 07.7 -1.7**
EFP Efpalio 87.34 315 P **P 11 08 07.7 -1.7**
EFP Efpalio 87.34 315 eP **P 11 08 08.4 -1.0**
GIVF Givet 87.35 332 ⇓iP **P 11 08 08.2 -1.0**
comp=Z,239nm,0.7s
GIVF epP **pP 11 09 22.5 +1.8**
L28A Connealy Angus 87.35 40 ⇓P **P 11 08 09.7 +0.1**
baz=87
Q24A Divide 87.36 44 ⇑P **P 11 08 10.2 +0.3**
baz=87,SNR=166
DAVA Damuels 87.39 328 iPcP **P 11 08 09.1 -0.6**
comp=Z,2μm,2.0s,SNR=336
GUR Goura 87.40 315 P **P 11 08 07.5 -2.4**
GUR Goura 87.40 315 P **P 11 08 07.5 -2.4**
GUR Goura 87.40 315 eP **P 11 08 08.2 -1.7**
GUR Goura 87.40 315 P **P 11 08 07.5 -2.4**
V20A Brimhall 87.41 48 ⇓P **P 11 08 10.2 +0.1**
baz=87,SNR=236
LAKA Lakka 87.42 315 P **P 11 08 08.1 -1.8**
LAKA Lakka 87.42 315 P **P 11 08 08.1 -1.8**
LAKA Lakka 87.42 315 eP **P 11 08 08.4 -1.5**
LAKA Lakka 87.42 315 P **P 11 08 08.1 -1.8**
STNC Stoke 87.42 337 ⇓iP **P 11 08 09.4 -0.1**
STNC AMB AMB 11 08 15.5
comp=Z,703nm,2.0s
DOU Dourbes 87.44 332 P **P 11 08 08.8 -0.9**
comp=Z,213nm,2.1s
DOU AP **pP 11 09 23.7 +2.5**
DOU PP **PP 11 11 38.3 +0.1**
DOU Dourbes 87.44 332 PKKPbc PKKPbc 11 25 55.7 -1.6
DOU Dourbes 87.44 332 SKKPbc SKKPbc 11 29 09.0 +6.7
KLV Kalavryta, Ach 87.45 315 P **P 11 08 07.9 -2.2**
KLV Kalavryta, Ach 87.45 315 P **P 11 08 07.9 -2.2**
KLV Kalavryta, Ach 87.45 315 eP **P 11 08 08.2 -1.9**
KLV Kalavryta, Ach 87.45 315 P **P 11 08 07.9 -2.2**
K29A Lazy Trails An 87.47 39 ⇑P **P 11 08 10.3 +0.2**
baz=87,SNR=173
R23A Moffat 87.47 45 ⇑P **P 11 08 11.3 +0.8**
baz=87,SNR=1000
SRN Sarande 87.48 317 P **P 11 08 08.6 -1.5**
SRN Sarande 87.48 317 P **P 11 08 08.6 -1.5**
SRN Sarande 87.48 317 P **P 11 08 08.6 -1.5**
U21A Nageezi 87.51 47 ⇓P **P 11 08 10.9 +0.3**
baz=87,SNR=409
IGT Igoumenitsa 87.53 317 P **P 11 08 08.7 -1.6**
IGT Igoumenitsa 87.53 317 P **P 11 08 08.7 -1.6**
IGT Igoumenitsa 87.53 317 P **P 11 08 08.7 -1.6**
IGT Igoumenitsa 87.53 317 P **P 11 08 08.7 -1.6**
IDI Anoyia 87.54 311 P **P 11 08 08.6 -1.9**
IDI Anoyia 87.54 311 P **P 11 08 08.6 -1.9**
IDI Anoyia 87.54 311 eP **P 11 08 09.3 -1.2**
IDI Anoyia 87.54 311 eP **P 11 08 08.8 -1.7**
comp=Z,732nm,1.1s
IDI ePP **PP 11 11 36.6 -3.1**
IDI eS **SKSac 11 18 02.5 -6.7**
IDI ePKKPbc **PKKPbc 11 25 58.0 +1.4**
O26A Horse Wrangler 87.56 42 ⇓P **P 11 08 10.6 -0.1**
baz=87,SNR=264
P25A Willow Gulch B 87.57 43 ⇑P **P 11 08 11.2 +0.5**
baz=87,SNR=474
GMM Mts of Mourne 87.58 340 ⇓iP **P 11 08 09.3 -1.0**
T22A Edith 87.59 47 ⇓P **P 11 08 11.7 +0.7**
baz=87,SNR=615
N27A Anderson Farm, 87.61 41 ⇑P **P 11 08 11.1 +0.2**
baz=87,SNR=185
BAIF Baives 87.62 332 ⇓iP **P 11 08 09.5 -1.0**
comp=Z,393nm,1.1s
CDF Champ du Feu 87.67 330 ⇓iP **P 11 08 09.9 -1.0**
comp=Z,1μm,1.6s
CDF epP **pP 11 09 24.4 +2.0**
S23A Nye Farm, Mont 87.69 46 ⇑P **P 11 08 12.4 +1.0**
baz=88,SNR=140
KEK Kerkira 87.71 317 P **P 11 08 09.8 -1.4**
KEK Kerkira 87.71 317 P **P 11 08 09.8 -1.4**
KEK Kerkira 87.71 317 eP **P 11 08 10.4 -0.8**
KEK Kerkira 87.71 317 P **P 11 08 09.8 -1.4**
FUORN Ofenpass-Fuorn 87.71 327 eP **P 11 08 11.1 -0.3**
comp=Z,834nm,0.7s
VLX Vlachokerasia 87.75 314 P **P 11 08 09.5 -2.0**
VLX Vlachokerasia 87.75 314 P **P 11 08 09.5 -2.0**
VLX Vlachokerasia 87.75 314 eP **P 11 08 09.7 -1.8**
VLX Vlachokerasia 87.75 314 P **P 11 08 09.5 -2.0**
SIVA Sivas 87.76 311 P **P 11 08 10.8 -0.7**
SIVA Sivas 87.76 311 P **P 11 08 10.8 -0.7**
SIVA Sivas 87.76 311 eP **P 11 08 11.4 -0.1**
SIVA Sivas 87.76 311 P **P 11 08 10.8 -0.7**
DAVOX Davos/Dischmat 87.77 327 SKKPbc SKKPbc 11 29 08.3 +6.4
comp=Z,9.6nm,0.8s,baz=214,slow=3.6,SNR=6.2
DAVOX PKPPKP P'P'df 11 34 02.7 -7.6
comp=Z,1.7nm,0.5s,baz=49,slow=0.6,SNR=4.7
OGNE Ogallala 87.80 41 eP **P 11 08 11.7 0.0**
comp=Z,788nm,0.9s
OGNE Ogallala 87.80 41 ⇑P **P 11 08 11.7 0.0**
baz=88,SNR=46
AXS Araxos 87.81 315 P **P 11 08 10.4 -1.2**
AXS Araxos 87.81 315 P **P 11 08 10.4 -1.2**
W20A Ramah 87.81 49 ⇓P **P 11 08 12.0 -0.1**
baz=88,SNR=320
WPM1 Penmaenmawr 87.82 338 ⇓iP **P 11 08 11.1 -0.4**
WME Myndd Eilian 87.82 339 ⇓iP **P 11 08 11.1 -0.3**
LKD2 Lefkada island 87.83 316 P **P 11 08 10.3 -1.5**
LKD2 Lefkada island 87.83 316 P **P 11 08 10.3 -1.5**
LKD2 Lefkada island 87.83 316 eP **P 11 08 10.9 -0.9**
LKD2 Lefkada island 87.83 316 P **P 11 08 10.3 -1.5**
VLI Veliai 87.83 313 P **P 11 08 09.1 -2.7**
VLI Veliai 87.83 313 P **P 11 08 09.1 -2.7**
VLI Veliai 87.83 313 eP **P 11 08 09.6 -2.2**
VLI Veliai 87.83 313 P **P 11 08 09.1 -2.7**
RLS Riolos of Patr 87.84 315 P **P 11 08 10.8 -1.0**
RLS Riolos of Patr 87.84 315 P **P 11 08 10.8 -1.0**
RLS Riolos of Patr 87.84 315 eP **P 11 08 11.1 -0.7**
RLS Riolos of Patr 87.84 315 P **P 11 08 10.8 -1.0**
M28A Bar X Bar Ranc 87.85 40 ⇓P **P 11 08 12.0 0.0**
baz=88,SNR=27
ECH Echery 87.87 330 eP **P 11 08 10.6 -1.2**
ECH e*PP **pP 11 09 23.5 +0.1**
ECH eS **S 11 18 25.9 -2.4**
ECH pmax pmax
comp=Z,231nm,1.2s
ECH Echery 87.87 330 eP **P 11 08 10.6 -1.2**
comp=Z,231nm,1.2s
ECH epP **pP 11 09 23.5 +0.1**
ECH eS **S 11 18 25.9 -2.4**
ECH ePKKPbc **PKKPbc 11 25 55.7 -0.6**
ECH Echery 87.87 330 eP **P 11 08 10.4 -1.4**
L29A Maesberg Ranch 87.87 39 ⇑P **P 11 08 11.8 -0.2**
baz=88,SNR=54
R24A Sanders Place, 87.87 45 ⇓P **P 11 08 13.0 +0.7**
baz=88,SNR=807
EYMN Ely 87.88 31 eP **P 11 08 11.8 -0.1**
comp=Z,867nm,1.0s
EYMN eS **S 11 18 26.6 -1.8**
EYMN ePKKPbc **PKKPbc 11 25 55.4 -0.8**
ELSH Elham, Standar 87.90 335 ⇓iP **P 11 08 11.0 -0.8**
ELSH AMB AMB 11 08 16.5
comp=Z,1μm,1.3s
ELSH e 11 09 22.1
VAM Vamos 87.90 312 P **P 11 08 11.1 -1.0**
VAM Vamos 87.90 312 P **P 11 08 11.1 -1.0**
VAM Vamos 87.90 312 P **P 11 08 11.1 -1.0**
VAM Vamos 87.90 312 eP **P 11 08 11.7 -0.4**
VAM Vamos 87.90 312 P **P 11 08 11.1 -1.0**
FOEL Foel Wylfa 87.91 338 ⇓iP **P 11 08 11.7 -0.2**
FOEL AMB AMB 11 08 13.0
comp=Z,864nm,1.4s
FOEL e 11 09 23.7
V21A Milan 87.92 48 ⇑P **P 11 08 12.8 +0.2**
baz=88,SNR=164
Q25A Bedland, Calha 87.92 44 ⇑P **P 11 08 12.7 +0.2**
baz=88,SNR=508
WLF1 Llynfaes 87.94 339 ⇓iP **P 11 08 11.6 -0.4**
WLF1 AMB AMB 11 08 12.9
comp=Z,750nm,1.6s
SDCO Great Sand Dun 87.96 45 eP **P 11 08 13.2 +0.4**
comp=Z,7μm,1.5s
TAOE Nuku Hiva Isla 87.99 102 ⇑iP **P 11 08 13.9 +1.0**
comp=Z,3μm,0.9s
YLL Llanberis 88.00 338 ⇓iP **P 11 08 11.8 -0.4**
P26A Davis Ranch, A 88.00 43 ⇓P **P 11 08 12.9 +0.1**
baz=88,SNR=322
YRC Rhoscolyn 88.03 339 ⇓iP **P 11 08 11.6 -0.7**
U22A Llaves 88.03 47 ⇓P **P 11 08 13.7 +0.7**
baz=88,SNR=330
AMT Artemida-Makis 88.05 315 P **P 11 08 11.3 -1.5**
AMT Artemida-Makis 88.05 315 P **P 11 08 11.3 -1.5**
AMT Artemida-Makis 88.05 315 eP **P 11 08 11.8 -1.0**
KYTH Kithira 88.06 313 P **P 11 08 11.2 -1.7**
KYTH Kithira 88.06 313 P **P 11 08 11.2 -1.7**
KYTH Kithira 88.06 313 eP **P 11 08 11.3 -1.7**
KYTH Kithira 88.06 313 P **P 11 08 11.2 -1.7**
O27A Beecher Island 88.07 42 ⇑P **P 11 08 13.0 0.0**
baz=88,SNR=147
T23A Casias Ranch, 88.10 46 ⇓P **P 11 08 14.3 +0.9**
baz=88,SNR=704
TUC Tucson 88.10 52 eP **P 11 08 13.3 0.0**
TUC e 11 11 40.9
TUC eS **SKSac 11 18 15.3 +2.5**
TUC pmax pmax
comp=Z,6μm,2.1s
TUC Tucson 88.10 52 eP **P 11 08 13.3 0.0**
comp=Z,6μm,2.1s
TUC ePP **PP 11 11 40.9 -3.4**
TUC eS **SKSac 11 18 15.3 +2.5**
SKP1 Kophill 88.11 336 ⇓iP **P 11 08 11.7 -1.1**
HLM1 Long Mynd 88.12 337 ⇓iP **P 11 08 12.4 -0.5**
HLM1 AMB AMB 11 08 14.6
comp=Z,392nm,1.8s
ITM Ithomi 88.15 314 P **P 11 08 11.7 -1.6**
ITM Ithomi 88.15 314 P **P 11 08 11.7 -1.6**
ITM Ithomi 88.15 314 eP **P 11 08 11.8 -1.6**
ITM Ithomi 88.15 314 P **P 11 08 11.7 -1.6**
MOF Molkenrain 88.16 329 eP **P 11 08 12.3 -1.0**
ANKY Antikythira Is 88.16 312 P **P 11 08 11.6 -1.8**
ANKY Antikythira Is 88.16 312 P **P 11 08 11.6 -1.8**
ANKY Antikythira Is 88.16 312 eP **P 11 08 12.1 -1.3**
ANKY Antikythira Is 88.16 312 P **P 11 08 11.6 -1.8**
DYR Agios Nikonas 88.17 314 P **P 11 08 11.6 -1.8**
DYR Agios Nikonas 88.17 314 P **P 11 08 11.6 -1.8**
DYR Agios Nikonas 88.17 314 eP **P 11 08 12.2 -1.2**
X20A Quemado 88.19 49 ⇓P **P 11 08 14.8 +0.9**
baz=88
M29A Burnside Ranch 88.19 40 ⇑P **P 11 08 13.3 -0.2**
baz=88
S24A Houchin Ranch, 88.20 45 ⇑P **P 11 08 14.7 +0.8**
baz=88,SNR=584
PAGF Fort de Pagny 88.20 331 ⇓iP **P 11 08 12.7 -0.6**
comp=Z,250nm,1.1s,baz=53
PAGF epP **pP 11 09 27.2 +2.3**
KFL Anninata 88.21 315 P **P 11 08 12.2 -1.4**
KFL Anninata 88.21 315 P **P 11 08 12.2 -1.4**
YRE Yr Eifl 88.22 338 ⇓iP **P 11 08 12.8 -0.4**
TUE Stuetta 88.24 327 eP **P 11 08 13.0 -0.8**

comp=Z,800nm,1.2s
TUE *e*pP **pP** 11 09 25.6 +0.1
TUE *e*PP **PP** 11 11 45.5 +0.5
TUE *e*S **S** 11 18 31.2 -1.1
TUE *e*PKKPdf **PKKPdf** 11 25 49.1 +0.6
TUE *e*PKKPbc **PKKPbc** 11 25 55.8 +0.3
N28A Pribbeno Ranch 88.25 41 ⇑P **P** 11 08 13.7 -0.1
baz=88,SNR=139
SSW Stow on the Wo 88.25 337 ⇓*i*P **P** 11 08 13.0 -0.4
VLS Valsamata 88.28 316 P **P** 11 08 12.3 -1.6
VLS Valsamata 88.28 316 P **P** 11 08 12.3 -1.6
VLS Valsamata 88.28 316 P **P** 11 08 12.3 -1.6
VLS Valsamata 88.28 316 P **P** 11 08 12.3 -1.6
V22A San Miguel Ran 88.30 47 ⇑P **P** 11 08 14.7 +0.3
baz=88,SNR=275
HINF Hinteralfeld 88.31 330 ⇓*i*P **P** 11 08 12.5 -1.4
comp=Z,288nm,0.9s
Q26A Hugo 88.33 43 ⇓P **P** 11 08 14.5 +0.2
baz=88,SNR=312
THEF They Montfort 88.35 330 *e*P **P** 11 08 13.0 -1.0
W21A San Fidel 88.36 48 ⇑P **P** 11 08 15.0 +0.4
baz=88,SNR=67
HAU Haudompre 88.37 330 ⇓*i*P **P** 11 08 12.9 -1.3
comp=Z,362nm,1.1s
HAU *e*R 11 09 25.2
comp=Z,36µm,18.0s
R25A Fountain Ranch 88.41 44 ⇑P **P** 11 08 14.7 0.0
baz=88,SNR=727
HMNX Herstmonceux 88.41 335 ⇓*i*P **P** 11 08 14.1 -0.1
HMNX AMB AMB 11 08 20.2
comp=Z,1µm,2.4s
HMNX *e* 11 09 25.2
P27A Ficken Ranch, 88.44 42 ⇑P **P** 11 08 14.7 -0.1
baz=88,SNR=343
PYL PYLOS 88.44 314 P **P** 11 08 12.6 -2.1
PYL PYLOS 88.44 314 P **P** 11 08 12.6 -2.1
PYL PYLOS 88.44 314 *e*P **P** 11 08 12.9 -1.8
PYL PYLOS 88.44 314 P **P** 11 08 12.6 -2.1
U23A El Rito 88.47 47 ⇓P **P** 11 08 15.9 +0.8
baz=88,SNR=1000
O28A Krutsinger Ran 88.50 42 ⇑P **P** 11 08 14.9 -0.1
baz=88,SNR=336
MEZF Maizieres J'vi 88.52 331 ⇓*i*P **P** 11 08 14.1 -0.7
comp=Z,1µm,1.5s,baz=34
MEZF *e*pP **pP** 11 09 28.7 +2.2
M30A Dale-Ortello V 88.56 40 ⇓P **P** 11 08 15.0 -0.3
baz=88,SNR=71
WOL Wolverton 88.59 336 ⇓*i*P **P** 11 08 14.2 -0.8
WOL AMB AMB 11 08 20.4
comp=Z,745nm,2.4s
WOL *e* 11 09 25.9
MCH1 Michaelchurch 88.61 337 ⇓*i*P **P** 11 08 13.6 -1.5
MCH1 AMB AMB 11 08 18.9
comp=Z,677nm,1.7s
MCH1 *e* 11 09 25.9
SWN1 Swindon 88.62 336 ⇓*i*P **P** 11 08 14.8 -0.4
SWN1 AMB AMB 11 08 21.1
comp=Z,2µm,1.8s
SWN1 *e* 11 09 26.4
SFD Strofades 88.64 315 P **P** 11 08 14.1 -1.5
SFD Strofades 88.64 315 P **P** 11 08 14.1 -1.5
S25A Robets Cordova 88.65 45 ⇑P **P** 11 08 15.7 -0.2
baz=88,SNR=215
N29A Votaw Ranch, W 88.66 40 ⇑P **P** 11 08 15.5 -0.2
baz=88,SNR=101
Y20A Horse Springs, 88.67 50 ⇑P **P** 11 08 16.9 +0.7
baz=88,SNR=444
ECSD EROS Data Cent 88.67 36 *e*P **P** 11 08 15.2 -0.4
comp=Z,557nm,0.9s
T24A Torres, Weston 88.67 46 ⇓P **P** 11 08 17.3 +1.2
baz=88
LOMF Lomont 88.68 329 *e*P **P** 11 08 14.7 -1.0
X21A Alamocita Cree 88.70 49 ⇓P **P** 11 08 16.8 +0.6
baz=88,SNR=308
SFTF Sexfontaines 88.76 331 ⇓*i*P **P** 11 08 15.1 -0.8
comp=Z,1µm,1.2s,baz=47
KSCO Kaye Shedlock' 88.79 43 ⇑P **P** 11 08 16.6 +0.1
baz=89,SNR=215
R26A Arlington 88.80 44 ⇑P **P** 11 08 16.6 +0.1
baz=89,SNR=534
LPW Lampeter 88.85 338 ⇓*i*P **P** 11 08 15.8 -0.5
LPW AMB AMB 11 08 17.0
comp=Z,3µm,1.4s
V23A Ortiz Mt. (NFS 88.86 47 ⇓P **P** 11 08 18.1 +1.2
baz=89,SNR=246
W22A Albuquerque 88.87 48 ⇓P **P** 11 08 17.8 +0.8
baz=89,SNR=92
P28A Saint Francis 88.89 42 ⇑P **P** 11 08 16.9 0.0
baz=89,SNR=412
N30A Hueftle Ranch, 88.96 40 ⇑P **P** 11 08 16.9 -0.2
baz=89,SNR=9.4
U24A Moreno Valley 88.97 46 ⇑P **P** 11 08 18.5 +1.0
baz=89
TBI Tubuai 88.99 119 ⇑*i*P **P** 11 08 18.9 +1.6
comp=Z,168nm,0.7s
TBI *e*SKSac **SKSac** 11 18 16.3 -1.3
comp=Z,31µm,26.3s
TBI *e*S **SKKSac** 11 18 33.9 +3.4
comp=Z,43µm,29.8s
T25A Trinidad 89.01 45 ⇓P **P** 11 08 18.0 +0.4
baz=89,SNR=503
Z20A Nine Sixteen R 89.03 50 ⇑P **P** 11 08 18.3 +0.6
baz=89,SNR=1000
O29A 4D Ranch, Culb 89.05 41 ⇑P **P** 11 08 17.4 -0.2
baz=89,SNR=174
Y21A Point of Rocks 89.05 49 ⇑P **P** 11 08 18.6 +0.7
baz=89,SNR=350
LAZ Ladron 89.14 49 *e*P **P** 11 08 18.5 +0.2
comp=Z,4µm,1.2s
LAZ *e*PP **PP** 11 11 50.1 -2.4
X22A Bernardo 89.15 49 ⇑P **P** 11 08 19.3 +1.0
baz=89,SNR=70
R27A Eads 89.18 43 ⇑P **P** 11 08 18.3 0.0
baz=89,SNR=383
Q28A Sharon Springs 89.20 42 ⇑P **P** 11 08 18.2 -0.1
baz=89,SNR=248
ANMO Albuquerque 89.21 48 *e*P **P** 11 08 18.8 +0.2
comp=Z,325nm,0.9s
SENIN Lac Senin/Sane 89.24 328 *e*P **P** 11 08 17.4 -1.1
comp=Z,226nm,1.0s
S26A Kim 89.24 44 ⇑P **P** 11 08 18.4 -0.2
baz=89,SNR=141
W23A Werner Place, 89.26 48 ⇑P **P** 11 08 19.6 +0.7
baz=89,SNR=263
AQU L'Aquila 89.33 322 *e*P **P** 11 08 18.6 -0.2
comp=Z,996nm,0.8s
AQU *e*PKKPbc **PKKPbc** 11 25 52.9 +0.4
P29A Atwood 89.33 41 ⇓P **P** 11 08 18.8 -0.1
baz=89
120A U Bar Ranch, L 89.37 51 ⇑P **P** 11 08 19.9 +0.6
baz=89,SNR=151
SPMN St. Paul 89.38 33 ⇑P **P** 11 08 19.0 +0.1
baz=89,SNR=336
LENM Lemitar 89.39 49 *e*P **P** 11 08 19.8 +0.4
O30A MW Ranch, Wils 89.41 41 ⇑P **P** 11 08 18.8 -0.4
baz=89,SNR=83
V24A Rampart Ranch, 89.43 47 ⇑P **P** 11 08 20.7 +1.1
baz=89,SNR=664
T26A Comanche Natio 89.47 45 ⇓P **P** 11 08 19.7 0.0
baz=89,SNR=479
Y22D IRIS PASSCAL I 89.48 49 ⇑P **P** 11 08 20.6 +0.8
baz=89,SNR=22
VLC Villacollemand 89.50 325 *e*P **P** 11 08 18.3 -1.2
comp=Z,340nm,1.1s
Z21A St. Cloud Mine 89.50 50 ⇓P **P** 11 08 20.7 +0.7
baz=89,SNR=584
U25A Circle Dot Ran 89.50 46 ⇑P **P** 11 08 20.5 +0.6
baz=89,SNR=1000
LPM Los Pinos Moun 89.51 48 *e*P **P** 11 08 20.2 +0.2
S27A Las Animas 89.53 44 ⇓P **P** 11 08 20.0 +0.1
baz=89,SNR=13
OG01 Vacheresse 89.53 329 *e*P **P** 11 08 19.0 -0.7
Y22A Socorro 89.55 49 ⇓P **P** 11 08 20.5 +0.3
baz=89,SNR=228
BGNE Belgrade 89.56 39 ⇑P **P** 11 08 19.5 -0.4
baz=89,SNR=64
CABF La Chapelle 89.57 329 ⇓*i*P **P** 11 08 18.9 -1.0
comp=Z,965nm,1.4s
CABF *e*pP **pP** 11 09 33.7 +2.0
X23A Hourglass Bar 89.61 48 ⇓P **P** 11 08 20.9 +0.4
baz=89,SNR=13
BNM Barren Site 89.62 49 *e*P **P** 11 08 21.1 +0.5
comp=Z,373nm,0.5s
BNM *e*PP **PP** 11 11 55.8 -0.6
HEX Exmoor 89.66 337 ⇓*i*P **P** 11 08 19.5 -0.6
319A Douglas 89.68 52 ⇑P **P** 11 08 21.1 +0.4

baz=90,SNR=177
W24A Lazy 6 Ranch, 89.69 47 ⇓P **P** 11 08 21.7 +0.9
baz=90,SNR=625
R28A Tribune 89.71 43 ⇑P **P** 11 08 20.5 -0.2
baz=90,SNR=374
CUC Castrocucco 89.74 319 *e*P **P** 11 08 19.0 -1.7
comp=Z,114nm,1.0s
CUC *e*PP **PP** 11 11 58.4 +1.5
CUC *e*PKKPbc **PKKPbc** 11 25 49.5 -1.9
V25A Rancho No Teng 89.75 46 ⇑P **P** 11 08 21.9 +0.8
baz=90,SNR=1000
P30A Selden 89.75 41 ⇑P **P** 11 08 20.6 -0.3
baz=90,SNR=100
TIP Timpagrande 89.79 318 P **P** 11 08 20.1 -0.9
TIP Timpagrande 89.79 318 P **P** 11 08 20.1 -0.9
TIP Timpagrande 89.79 318 *e*P **P** 11 08 20.3 -0.7
comp=Z,944nm,2.4s
TIP *e*PP **PP** 11 11 56.1 -1.2
TIP *e*S **SKSac** 11 18 18.9 -3.4
SCHQ Schefferville 89.79 14 *e*P **P** 11 08 21.8 +1.2
comp=Z,184nm,1.2s
SCHQ *e*pP **pP** 11 09 33.0 +0.6
SCHQ *e*S **S** 11 18 47.9 +2.1
SCHQ *e*PKKPbc **PKKPbc** 11 25 51.3 -0.6
SCHQ SKKPbc **SKKPbc** 11 29 02.8 +5.8
SCHQ P'P' 11 33 58.3
SCHQ Schefferville 89.79 14 P **P** 11 08 20.7 +0.1
comp=Z,83nm,1.0s,baz=348,slow=4.8,SNR=41
SCHQ SKKPbc SKKPbc 11 29 02.8 +5.8
comp=Z,20nm,1.0s,baz=116,slow=2.7,SNR=6.8
SCHQ PKPPKP P'P'df 11 33 58.3 -9.1
comp=Z,8.5nm,0.9s,baz=220,slow=8.5,SNR=4.2
Q29A Oakley 89.80 42 ⇑P **P** 11 08 20.9 -0.2
baz=90,SNR=88
220A Playas Peak, P 89.85 51 ⇓P **P** 11 08 21.9 +0.3
baz=90,SNR=404
U26A Atchley Ranch, 89.90 45 ⇑P **P** 11 08 22.3 +0.5
baz=90,SNR=620
121A Cookes Peak, D 89.93 50 ⇑P **P** 11 08 22.6 +0.7
baz=90,SNR=382
HTL Hartland 89.95 337 ⇓*i*P **P** 11 08 21.1 -0.3
HTL AMB AMB 11 08 22.5
comp=Z,456nm,1.7s
HTL *e* 11 09 32.7
Z22A Elephant Butte 89.99 49 ⇑P **P** 11 08 22.6 +0.5
baz=90,SNR=421
LOR Lormes 89.99 331 ⇓*i*P **P** 11 08 20.7 -1.0
comp=Z,833nm,1.2s,baz=48
LOR *e*pP **pP** 11 09 35.1 +1.6
LOR *e*R
comp=Z,26µm,17.2s
R29A Marienthal 90.03 42 ⇓P **P** 11 08 22.2 0.0
baz=90,SNR=242
RSL Roselend 90.06 328 *e*P **P** 11 08 21.4 -0.8
T27A Campo 90.06 44 ⇑P **P** 11 08 22.5 +0.1
baz=90,SNR=181
X24A Lazy VL Ranch, 90.09 48 ⇑P **P** 11 08 23.2 +0.5
baz=90,SNR=35
Y23A Lovelace Mesa, 90.12 48 ⇑P **P** 11 08 23.2 +0.4
baz=90,SNR=305
LPL La Plagne 90.14 328 ⇓*i*P **P** 11 08 21.9 -0.8
comp=Z,2µm,1.2s
LPG La Plagne 90.15 328 ⇓*i*P **P** 11 08 22.0 -0.8
comp=Z,2µm,1.2s
LPG *e*pP **pP** 11 09 36.2 +1.6
Q30A Quinter 90.17 42 ⇓P **P** 11 08 22.5 -0.3
baz=90,SNR=72
S28A Manter 90.18 43 ⇑P **P** 11 08 23.0 +0.1
baz=90,SNR=442
320A Kipp Ranch, An 90.21 52 ⇑P **P** 11 08 23.5 +0.3
baz=90,SNR=154
DYA Yadsworthy 90.25 337 ⇓*i*P **P** 11 08 21.9 -0.9
DYA AMB AMB 11 08 23.4
comp=Z,455nm,1.5s
DYA *e* 11 09 33.8
P31A Stockton 90.25 41 ⇓P **P** 11 08 22.9 -0.2
baz=90
W25A X Bar L Ranch, 90.26 47 ⇑P **P** 11 08 23.9 +0.5
baz=90,SNR=548
221A Mesquite Ranch 90.27 51 ⇓P **P** 11 08 24.0 +0.5
baz=90,SNR=48
V26A Tequesquite Ra 90.28 46 ⇓P **P** 11 08 23.7 +0.3
baz=90,SNR=613
SSF Saint Saulge 90.30 331 ⇓*i*P **P** 11 08 22.3 -0.8
comp=Z,495nm,0.9s
122A Conniff Cattle 90.33 50 ⇑P **P** 11 08 24.4 +0.7
baz=90,SNR=93
T28A Walsh 90.37 44 ⇓P **P** 11 08 23.6 -0.2
baz=90,SNR=128
U27A Thompson Grove 90.43 45 ⇑P **P** 11 08 24.3 +0.1
baz=90,SNR=348
Z23A Rita Site, Whi 90.45 49 ⇑P **P** 11 08 24.6 +0.3
baz=90,SNR=119
FLN La Foliniere 90.46 334 ⇓*i*P **P** 11 08 22.9 -0.9
comp=Z,1µm,1.5s,baz=30
FLN *e*pP **pP** 11 09 37.3 +1.7
FLN *e*R
comp=Z,30µm,21.0s
HYF Humbligny 90.48 331 ⇓*i*P **P** 11 08 23.7 -0.3
SMF Signal de Mont 90.49 330 ⇓*i*P **P** 11 08 23.1 -1.0
comp=Z,1µm,1.2s
Y24A Capitan 90.51 48 ⇑P **P** 11 08 24.6 -0.1
baz=90,SNR=250
BNI Bardonecchia 90.53 328 *e*P **P** 11 08 23.5 -0.9
BNI *e* 11 12 03.2
BNI *e*S **S** 11 18 51.9 -1.3
BNI pmax pmax
comp=Z,483nm,1.1s
BNI Bardonecchia 90.53 328 *e*P **P** 11 08 23.5 -0.9
comp=Z,483nm,1.1s
BNI *e*PP **PP** 11 12 03.2 +0.2
BNI *e*S **S** 11 18 51.9 -1.3
BNI *e*PKKPbc **PKKPbc** 11 25 50.7 +0.8
AVF Avril sur Loir 90.58 331 ⇓*i*P **P** 11 08 23.6 -0.8
comp=Z,2µm,1.2s
AVF *e*pP **pP** 11 09 38.0 +1.8
X25A Clemmons Ranch 90.60 47 ⇓P **P** 11 08 25.5 +0.5
baz=90,SNR=438
Q31A Ellis 90.60 41 ⇓P **P** 11 08 24.1 -0.7
baz=90,SNR=46
S29A Ulysses 90.60 43 ⇓P **P** 11 08 24.9 +0.1
baz=90,SNR=142
R30A Dighton 90.62 42 ⇓P **P** 11 08 24.7 -0.2
baz=90,SNR=194
222A Williams Famil 90.64 50 ⇑P **P** 11 08 25.6 +0.4
baz=90,SNR=132
GDM Grand'Maison 90.66 328 *e*P **P** 11 08 24.6 -0.4
JSA Saint Aubin 90.71 335 ⇓*i*P **P** 11 08 23.8 -1.2
JSA AMB AMB 11 08 29.6
comp=Z,695nm,1.3s
MBDF Montbardon 90.74 328 ⇓*i*P **P** 11 08 23.8 -1.6
comp=Z,426nm,0.9s
W26A Owens Ranch, T 90.77 46 ⇑P **P** 11 08 26.3 +0.6
baz=91,SNR=104
GRN Grenoble 90.79 329 *e*P **P** 11 08 25.3 -0.3
U28A Mallet 90.81 45 ⇓P **P** 11 08 25.8 -0.1
baz=91,SNR=14
T29A Hugoton 90.82 43 ⇓P **P** 11 08 25.9 0.0
baz=91,SNR=90
123A Bell Site, Whi 90.84 50 ⇓P **P** 11 08 26.4 +0.4
baz=91,SNR=71
V27A Dan Oppiter Fa 90.88 45 ⇑P **P** 11 08 26.4 +0.2
baz=91,SNR=344
GRR Gorron 90.91 334 ⇓*i*P **P** 11 08 25.2 -0.7
comp=Z,1µm,1.1s
SURF Saint Ours 90.91 327 *e*P **P** 11 08 25.6 -0.7
CEL Celeste 90.92 318 *e*P **P** 11 08 24.8 -1.4
CEL *e*PP **PP** 11 12 09.7 +3.5
CEL *e*PKKPbc **PKKPbc** 11 25 48.7 +0.2
Z24A Sheeppen Canyo 90.95 48 ⇑P **P** 11 08 26.9 +0.2
baz=91,SNR=266
SAOF Saorge 90.96 327 *e*P **P** 11 08 24.6 -1.7
S30A Montezuma 90.96 43 ⇓P **P** 11 08 26.6 +0.1
baz=91,SNR=215
BGF Bois d'Agland 90.97 331 ⇓*i*P **P** 11 08 25.5 -0.8
comp=Z,614nm,1.0s
BGF *e*pP **pP** 11 09 40.0 +1.9
Y25A Mesa, Roswell 90.98 48 ⇓P **P** 11 08 26.6 -0.1
baz=91,SNR=394
ORIF Oris-en-Rattie 90.99 328 ⇓*i*P **P** 11 08 25.5 -1.0
comp=Z,266nm,0.7s
ORIF *e*pP **pP** 11 09 40.1 +1.8
ORIF *e*R
comp=Z,48µm,17.8s
AUTN L'Aution 91.01 327 *e*P **P** 11 08 24.9 -1.9
R31A Burdett 91.03 42 ⇑P **P** 11 08 26.2 -0.6

baz=91,SNR=217
TOUF Mont Tournerai 91.08 327 *e*P **P** 11 08 25.5 -1.5
X26A CR and CF Fran 91.10 47 ⇓P **P** 11 08 27.5 +0.2
baz=91,SNR=348
SBF Sospel 91.11 327 ⇓*i*P **P** 11 08 25.3 -1.7
comp=Z,746nm,1.1s
LUCF Luceram 91.12 327 *e*P **P** 11 08 25.6 -1.5
PLDF La Plantade 91.13 330 *e*P **P** 11 08 26.8 -0.3
223A Chaparral, Ant 91.14 50 ⇑P **P** 11 08 27.8 +0.3
baz=91,SNR=68
MVIF Mont Vial 91.21 327 *e*P **P** 11 08 25.9 -1.7
W27A Bowe Ranch, En 91.21 46 ⇓P **P** 11 08 28.7 +0.9
baz=91
REVF Revere 91.23 327 *e*P **P** 11 08 25.6 -2.0
V28A Channing 91.25 45 ⇑P **P** 11 08 28.1 +0.2
baz=91,SNR=98
AGO Saint Agoulin 91.26 330 *e*P **P** 11 08 27.4 -0.2
SSB Saint Sauveur 91.29 329 *e*P **P** 11 08 27.2 -0.6
SSB *e* 11 12 09.6
SSB pmax pmax
comp=Z,262nm,0.8s
SSB Saint Sauveur 91.29 329 *e*P **P** 11 08 27.2 -0.6
comp=Z,262nm,0.8s
SSB *e*PP **PP** 11 12 09.6 +0.8
SSB Saint Sauveur 91.29 329 *e*P **P** 11 08 27.2 -0.6
124A Stringfield Ra 91.31 49 ⇓P **P** 11 08 28.6 +0.2
baz=91,SNR=500
U29A Oasis Ranch, S 91.32 44 ⇓P **P** 11 08 28.2 +0.1
baz=91,SNR=14
T30A Plains 91.33 43 ⇑P **P** 11 08 28.3 +0.1
baz=91,SNR=59
PGF Piggiola 91.37 325 ⇓*i*P **P** 11 08 26.7 -1.6
comp=Z,362nm,1.0s
Z25A Roswell 91.39 48 ⇓P **P** 11 08 29.1 +0.4
baz=91,SNR=742
CALN Calern 91.44 327 *e*P **P** 11 08 27.3 -1.4
TCF Toulx Ste Croi 91.45 331 ⇓*i*P **P** 11 08 27.9 -0.6
comp=Z,1µm,1.1s
TCF *e*pP **pP** 11 09 42.4 +2.0
X27A F and S Farms, 91.47 46 ⇑P **P** 11 08 29.3 +0.3
baz=91,SNR=347
OG26 St.-Nazaire-De 91.51 328 *e*P **P** 11 08 28.4 -0.5
Y26A Elida 91.52 47 ⇓P **P** 11 08 29.3 0.0
baz=91,SNR=87
S31A Mullinville 91.53 42 ⇓P **P** 11 08 29.0 -0.1
baz=91,SNR=164
PYM Petit Puy Mans 91.56 330 *e*P **P** 11 08 28.7 -0.4
VIVF Saint-Julien-l 91.57 329 ⇓*i*P **P** 11 08 28.2 -0.9
comp=Z,1µm,1.2s
VIVF *e*pP **pP** 11 09 43.0 +2.0
V29A Stinnett 91.58 44 ⇑P **P** 11 08 29.4 0.0
baz=91,SNR=69
W28A Vega 91.59 45 ⇓P **P** 11 08 29.9 +0.4
baz=91,SNR=103
U30A WK&E Inc. Balk 91.63 44 ⇑P **P** 11 08 29.5 -0.1
baz=91,SNR=78
SGMF Saint Gilles 91.63 335 ⇓*i*P **P** 11 08 28.7 -0.6
comp=Z,1µm,1.2s
224A Cornudas Mount 91.68 50 ⇑P **P** 11 08 30.6 +0.6
baz=92
FRF La Foret Royal 91.70 327 ⇓*i*P **P** 11 08 28.0 -1.7
comp=Z,396nm,1.0s
T31A Randall Ranch, 91.79 43 ⇑P **P** 11 08 30.3 0.0
baz=92,SNR=161
ROSF Rostrenen 91.82 335 ⇓*i*P **P** 11 08 29.7 -0.4
comp=Z,2µm,1.2s
125A Gardner Draw, 91.84 49 ⇓P **P** 11 08 30.9 +0.1
baz=92,SNR=761
Z26A Caprock 91.86 48 ⇑P **P** 11 08 30.8 0.0
baz=92,SNR=772
SMRF Simiane la Rot 91.86 328 ⇓*i*P **P** 11 08 29.4 -1.1
comp=Z,284nm,0.9s
LBL Lubilhac 91.88 330 *e*P **P** 11 08 30.5 -0.1
LMR La Mourre 91.94 327 ⇓*i*P **P** 11 08 29.3 -1.5
comp=Z,1µm,1.3s
LMR *e*pP **pP** 11 09 44.0 +1.3
Y27A Causey 91.95 47 ⇓P **P** 11 08 31.2 0.0
baz=92,SNR=320
MNTX Cornudas Mount 92.02 50 *e*P **P** 11 08 31.5 +0.1
comp=Z,4.0nm,2.0s
W29A Amrarillo 92.02 45 ⇓P **P** 11 08 31.6 +0.1
baz=92,SNR=71
KSU1 Kansas State U 92.04 39 *e*P **P** 11 08 31.0 -0.4
comp=Z,738nm,0.9s
225A Deer Hill, Car 92.10 49 ⇓P **P** 11 08 32.1 +0.1
baz=92,SNR=170
X28A Dimmitt 92.10 46 ⇓P **P** 11 08 32.0 +0.2
baz=92,SNR=158
324A Moseley Ranch, 92.12 50 ⇑P **P** 11 08 32.0 -0.1
baz=92,SNR=474
MFF Saint Martin d 92.12 333 ⇓*i*P **P** 11 08 31.1 -0.5
comp=Z,2µm,1.2s
MSTX Muleshoe 92.13 47 ⇑P **P** 11 08 31.8 -0.2
baz=92,SNR=143
QUIF Quistinic 92.14 335 ⇓*i*P **P** 11 08 30.8 -0.8
comp=Z,934nm,1.2s
QUIF *e*pP **pP** 11 09 45.3 +1.8
V30A Spur Ranch, Mi 92.14 44 ⇑P **P** 11 08 32.2 +0.2
baz=92,SNR=26
AMTX Amarillo 92.16 45 *e*P **P** 11 08 32.2 +0.1
comp=Z,1µm,1.0s
U31A Nine Bar Ranch 92.20 43 ⇓P **P** 11 08 32.9 +0.7
baz=92
126A Clayton Basin, 92.25 48 ⇓P **P** 11 08 32.4 -0.1
baz=92,SNR=149
Z27A Tatum 92.30 47 ⇑P **P** 11 08 32.8 0.0
baz=92,SNR=870
GDL2 Guadalupe Moun 92.33 49 *e*P **P** 11 08 33.3 +0.3
X29A Tulia 92.45 46 ⇑P **P** 11 08 33.7 +0.3
baz=92,SNR=335
Y28A McKinney Farm, 92.49 46 ⇓P **P** 11 08 33.6 -0.1
baz=92,SNR=200
325A Bean Ranch, Si 92.49 50 ⇓P **P** 11 08 33.9 +0.1
baz=92,SNR=684
RJF Les Rejaudoux 92.53 331 ⇓*i*P **P** 11 08 33.1 -0.4
comp=Z,2µm,1.1s
RJF *e*R
comp=Z,26µm,18.2s
226B Tecolote Peak, 92.54 49 ⇓P **P** 11 08 34.0 +0.1
baz=92,SNR=461
LASF Ste Croix 92.54 329 ⇓*i*P **P** 11 08 32.9 -0.7
comp=Z,848nm,1.2s
CLNB Carlsbad 92.59 48 *e*P **P** 11 08 34.9 +0.8
comp=Z,54nm,0.8s
W30A Crocket Farms 92.61 44 ⇑P **P** 11 08 34.6 +0.5
baz=92,SNR=11
CAF Calviac 92.62 330 ⇓*i*P **P** 11 08 33.7 -0.2
comp=Z,2µm,1.3s
V31A Spring Creek L 92.62 44 ⇑P **P** 11 08 34.7 +0.5
baz=92,SNR=181
127A Arkansas Junct 92.64 48 ⇑P **P** 11 08 34.1 -0.3
baz=92,SNR=79
Z28A Tucker Farm, M 92.83 47 ⇓P **P** 11 08 35.2 -0.1
baz=93,SNR=324
Y29A Porterfield Fa 92.87 46 ⇓P **P** 11 08 35.6 +0.2
baz=93,SNR=133
425A Indio Mountain 92.87 50 ⇓P **P** 11 08 35.8 +0.3
baz=93,SNR=972
X30A Coker Ranch, T 92.94 45 ⇑P **P** 11 08 35.6 -0.1
baz=93,SNR=47
W31A Holland Ranch, 92.98 44 ⇑P **P** 11 08 36.0 +0.2
baz=93,SNR=180
227A Bennet, Jal 93.13 48 ⇓P **P** 11 08 36.8 +0.2
baz=93,SNR=160
LFF La Frestale 93.15 331 ⇓*i*P **P** 11 08 36.0 -0.3
comp=Z,719nm,0.7s
326A Caldwell Ranch 93.16 49 ⇓P **P** 11 08 36.8 0.0
baz=93,SNR=565
128A Castleberry Fa 93.22 47 ⇑P **P** 11 08 37.0 0.0
baz=93,SNR=200
GLMI Grayling 93.24 29 *e*P **P** 11 08 37.7 +0.9
comp=Z,1µm,0.9s
Z29A Hungry Hill Ra 93.26 46 ⇓P **P** 11 08 37.3 +0.1
baz=93,SNR=355
Y30A Stafford Catti 93.32 46 ⇓P **P** 11 08 37.6 +0.2
baz=93,SNR=121
X31A McDonald Ranch 93.34 44 ⇓P **P** 11 08 37.6 +0.1
baz=93,SNR=265
MRIV Mauritius Mete 93.36 248 *e*P **P** 11 08 38.1 +0.5
MRIV *e*pP **pP** 11 09 48.1 -1.5
MRIV *e*PP **PP** 11 12 29.1 +2.6
WDD Wield Dalam 93.38 317 *e*P **P** 11 08 37.1 -0.4
comp=Z,501nm,1.0s
WDD *e*PKKPbc **PKKPbc** 11 25 42.9 +0.7
327A Balmorhea Ranc 93.44 49 ⇓P **P** 11 08 38.9 +0.9
baz=93
VSL Villasalto 93.49 323 *e*P **P** 11 08 36.6 -1.4

comp=Z,132nm,0.9s
VSL *e*PP **PP** **11 12 28.1 +2.0**
VSL *e*PKKPbc **PKKPbc** **11 25 43.5 +1.5**
228A UT Block 9, Go 93.50 48 ⇓P **P** **11 08 38.3 0.0**
baz=93,SNR=118
426A McDonald Obser 93.56 50 ⇑P **P** **11 08 38.7 -0.1**
baz=93,SNR=638
Z30A Sanderson Ranc 93.59 46 ⇓P **P** **11 08 38.6 -0.1**
baz=93,SNR=246
129A Stewart Farms, 93.59 47 ⇑P **P** **11 08 38.5 -0.2**
baz=93,SNR=58
Y31A Rekieta Farm, 93.64 45 ⇑P **P** **11 08 38.9 0.0**
baz=94,SNR=224
MTLF Montolieu 93.84 329 ⇓*i*P **P** **11 08 38.8 -0.7**
comp=Z,612nm,1.4s
MTLF *e*pP **pP** **11 09 53.4 +1.9**
427A Hayter Ranch, 93.84 49 ⇑P **P** **11 08 40.0 +0.1**
baz=94,SNR=573
328A Wristen Ranch, 93.86 48 ⇑P **P** **11 08 40.0 +0.1**
baz=94,SNR=354
526A Mary Lane Ranc 93.93 50 ⇑P **P** **11 08 40.8 +0.4**
baz=94,SNR=790
WMOK Wichita Mounta 93.97 44 *e*P **P** **11 08 39.9 -0.4**
WMOK pmax pmax
comp=Z,212nm,1.8s
WMOK Wichita Mounta 93.97 44 *e*P **P** **11 08 39.9 -0.4**
comp=Z,212nm,1.8s
WNDE Wendo Genet 93.99 281 *i*P **P** **11 08 41.7 +0.7**
WNDE *i*S **SKSac** **11 18 50.2 +3.4**
LRDF Laroque-de-Fa 94.03 329 *e*P **P** **11 08 40.0 -0.4**
229A Bryant Ranch, 94.08 47 ⇑P **P** **11 08 41.0 0.0**
baz=94,SNR=122
Y32A R-V Farms, Ver 94.10 45 ⇑P **P** **11 08 40.9 0.0**
baz=94,SNR=142
Z31A Sharp Cattle R 94.16 46 ⇓P **P** **11 08 41.2 -0.1**
baz=94,SNR=205
130A Snyder 94.17 47 ⇓P **P** **11 08 41.1 -0.2**
baz=94,SNR=97
527A Woodward Ranch 94.18 50 ⇓P **P** **11 08 41.6 0.0**
baz=94,SNR=307
626A Big Bend Ranch 94.24 51 ⇑P **P** **11 08 41.9 +0.1**
baz=94,SNR=556
SJAF Saint Jean de 94.24 328 *e*P **P** **11 08 40.2 -1.2**
329A Wagon Wheel Ra 94.31 48 ⇓P **P** **11 08 42.1 +0.1**
baz=94,SNR=448
FILF Fillols 94.32 329 *e*P **P** **11 08 41.0 -0.8**
428A Kincaid Ranch, 94.38 49 ⇑P **P** **11 08 42.8 +0.4**
baz=94,SNR=590
CARF Carcanieres 94.39 329 *e*P **P** **11 08 41.4 -0.8**
131A Roby 94.47 46 ⇑P **P** **11 08 42.7 0.0**
baz=94,SNR=154
230A Sterling City 94.57 47 ⇓P **P** **11 08 43.0 -0.1**
baz=94,SNR=112
Z32A Haskell 94.57 45 ⇑P **P** **11 08 43.0 0.0**
baz=94,SNR=491
MLS Moulis 94.63 330 *e*P **P** **11 08 42.6 -0.5**
TXAR Lajitas Array 94.69 50 P **P** **11 08 44.0 +0.2**
TXAR PP **PP** **11 12 40.8 +4.9**
TXAR P'P' 11 33 48.6
TXAR Lajitas Array 94.69 50 P **P** **11 08 44.0 +0.2**
comp=Z,409nm,0.8s,baz=293,slow=2.8,SNR=2091
TXAR PP **PP** **11 12 40.8 +4.9**
comp=Z,83nm,1.0s,baz=289,slow=3.8,SNR=4.6
TXAR PKPPKP P'P'df 11 33 48.6 -6.6
comp=Z,8.1nm,1.3s,baz=110,slow=1.9,SNR=5.9
528A Cox Ranch, San 94.70 49 ⇑P **P** **11 08 44.1 +0.2**
baz=94,SNR=723
627A Terlingua Ranc 94.79 50 ⇓P **P** **11 08 44.4 +0.2**
baz=95,SNR=662
TUL1 Tulsa 94.81 41 ⇓P **P** **11 08 43.9 -0.2**
baz=95,SNR=139
MELF Melles 94.84 330 *e*P **P** **11 08 43.2 -1.0**
330A Mertzon 94.86 48 ⇓P **P** **11 08 44.1 -0.4**
baz=95,SNR=177
EPF Esparros 94.88 330 ⇓*i*P **P** **11 08 43.2 -1.2**
comp=Z,449nm,1.4s
EPF *e*pP **pP** **11 09 57.7 +1.4**
429A Davenport Ranc 94.95 49 ⇓P **P** **11 08 44.6 -0.3**
baz=95,SNR=175
ABTX Abilene, Hawle 94.95 46 ⇑P **P** **11 08 44.9 0.0**
baz=95,SNR=100
LABF Labassere 94.98 330 *e*P **P** **11 08 43.9 -0.9**
231A Bronte 95.02 47 ⇑P **P** **11 08 44.9 -0.3**
baz=95,SNR=124
231A ⇓SKSac **SKSac** **11 18 49.9 -1.6**
baz=95
231A ⇓SKSac **SKSac** **11 18 49.9 -1.6**
baz=95
RESF Ens 95.07 330 *e*P **P** **11 08 45.5 +0.2**
529A Stev Forest Ra 95.08 49 ⇑P **P** **11 08 45.5 0.0**
baz=95,SNR=204
628A Black Gap, Mar 95.09 50 ⇑P **P** **11 08 45.6 +0.1**
baz=95,SNR=230
VIEF Viey 95.13 330 *e*P **P** **11 08 45.8 +0.2**
REYF Montagne du Re 95.15 331 *e*P **P** **11 08 44.6 -1.0**
RER Riviere de l'E 95.20 248 *e*P **P** **11 08 46.3 +0.2**
comp=Z,116nm,0.7s
430A Baggett Ranch, 95.25 48 ⇓P **P** **11 08 45.8 -0.5**
baz=95,SNR=146
ORDF Ordiarp 95.25 331 *e*P **P** **11 08 44.8 -1.2**
OSSF Osses 95.35 331 *e*P **P** **11 08 45.5 -0.9**
ETSF Etsaut 95.36 331 ⇓*i*P **P** **11 08 46.4 -0.2**
comp=Z,247nm,0.8s
331A San Angelo 95.39 47 ⇑P **P** **11 08 46.4 -0.5**
baz=95,SNR=139
LARF Larrau 95.42 331 *e*P **P** **11 08 46.5 -0.3**
232A Coleman 95.46 46 ⇓P **P** **11 08 47.0 -0.2**
baz=95,SNR=72
530A J-C Ranch, Com 95.62 49 ⇓P **P** **11 08 48.0 0.0**
baz=96,SNR=396
SLM Saint Louis 95.67 36 *e*P **P** **11 08 47.3 -0.6**
SLM Saint Louis 95.67 36 *e*P **P** **11 08 47.3 -0.6**
431A Sonora 95.71 48 ⇑P **P** **11 08 48.0 -0.4**
baz=96,SNR=101
332A Millersview 95.76 47 ⇑P **P** **11 08 48.4 -0.1**
baz=96,SNR=301
SFIN Scholer Farm 95.78 33 ⇑P **P** **11 08 48.2 -0.2**
baz=96,SNR=58
432A Menard 96.08 47 ⇓P **P** **11 08 49.6 -0.4**
baz=96,SNR=114
531A Rocksprings 96.11 48 ⇑P **P** **11 08 49.9 -0.3**
baz=96,SNR=118
KEST Kesra 96.34 320 *e*P **P** **11 08 50.6 -0.6**
KEST P'P' 11 33 50.3
KEST Kesra 96.34 320 P **P** **11 08 50.4 -0.8**
comp=Z,23nm,0.7s,baz=314,slow=1.6,SNR=70
KEST PKPPKP **P'P'df** **11 33 50.3 -2.8**
comp=Z,1.3nm,0.9s,baz=259,slow=6.9,SNR=4.1
JCT Junction City 96.35 47 *e*P **P** **11 08 50.8 -0.5**
JCT *e* 11 12 47.6
JCT pmax pmax
comp=Z,1µm,1.7s
JCT Junction City 96.35 47 *e*P **P** **11 08 50.8 -0.5**
comp=Z,1µm,1.7s
JCT *e*PP **PP** **11 12 47.6 -0.9**
JCT Junction City 96.35 47 ⇑P **P** **11 08 50.9 -0.3**
baz=96,SNR=101
532A Rocksprings 96.53 48 ⇑P **P** **11 08 51.8 -0.3**
baz=96,SNR=161
631A Perdido Creek 96.61 49 ⇑P **P** **11 08 52.2 -0.2**
baz=96,SNR=213
MSNY Massena 96.67 23 *e*P **P** **11 08 53.1 +0.8**
comp=Z,734nm,0.8s
CMAH Djebel Manchou 96.68 322 P **P** **11 08 51.1 -1.5**
WHTX Lake Whitney 96.70 45 ⇑P **P** **11 08 52.7 0.0**
baz=96,SNR=50
CAEH 'Ain El Ouahch 96.85 323 P **P** **11 08 53.0 -0.4**
SIUC Southern Illin 96.89 36 *e*P **P** **11 08 53.2 -0.3**
comp=Z,267nm,1.0s
ABSA Djebel Ababsia 96.92 322 P **P** **11 08 52.4 -1.4**
BLO Bloomington 97.01 33 *e*P **P** **11 08 53.9 -0.1**
BLO pmax pmax
comp=Z,101nm,0.9s
BLO Bloomington 97.01 33 *e*P **P** **11 08 53.9 -0.1**
comp=Z,90nm,0.9s
BLO *e*PKKPbc **PKKPbc** **11 25 32.3 -0.5**
632A Uvalde 97.04 48 ⇓P **P** **11 08 54.3 0.0**
baz=97,SNR=44
LONY Lake Ozonia 97.10 23 *e*P Pdif 11 08 54.5 +0.1
comp=Z,81nm,1.3s
PQI Presque Isle 97.14 18 *e*P Pdif 11 08 55.2 +0.8
comp=Z,524nm,1.0s
PQI *e*pP pP 11 10 05.0 -1.5
CKFL Kef-Lekhel 97.21 322 P **P** **11 08 53.6 -1.5**
CASM Ain Smara 97.44 322 P **P** **11 08 55.3 -0.7**
PARMO Parma 97.44 37 *e*P Pdif 11 08 56.5 +0.5

USIN University of 97.44 35 *e*P **P** **11 08 55.5 -0.4**
comp=Z,189nm,1.4s
USIN *e*PP **PP** **11 12 55.5 -0.9**
732A Laxson Ranch, 97.46 49 ⇓P Pdif 11 08 56.3 0.0
baz=97,SNR=121
DFRA Djebel Bou Aff 97.53 323 P **P** **11 08 55.6 -0.9**
UALR University of 97.54 40 *e*P **P** **11 08 55.8 -0.7**
comp=Z,140nm,1.5s
CTEI Djebel Teioual 97.63 322 P **P** **11 08 56.6 -0.4**
ALLY Alegheny Colle 97.69 28 *e*P Pdif 11 08 57.6 +0.6
comp=Z,197nm,1.2s
ALLY *e*PP **PP** **11 12 58.0 -0.2**
NCB Newcomb 97.79 23 *e*P Pdif 11 08 57.9 +0.5
comp=Z,1µm,3.3s
HBAR Harrisburg 97.83 38 *e*P Pdif 11 08 58.2 +0.4
WCI Wyandotte Cave 97.88 34 *e*P **P** **11 08 57.8 -0.1**
WCI pmax pmax
comp=Z,92nm,0.7s
WCI Wyandotte Cave 97.88 34 *e*P **P** **11 08 57.8 -0.1**
comp=Z,92nm,0.7s
WCI *e*PKKPbc **PKKPbc** **11 25 30.2 -0.3**
GLAT Glass 97.98 37 *e*P Pdif 11 08 58.7 +0.3
SET Setif 98.04 323 P Pdif 11 08 59.0 +0.2
CKHR Kef el Ahmar 98.12 323 P **P** **11 08 59.1 -0.1**
HALT Halls 98.23 37 *e*P Pdif 11 09 00.0 +0.5
LBNH Lisbon 98.27 21 *e*P Pdif 11 09 01.3 +1.7
LBNH pmax pmax
comp=Z,48nm,0.4s
LBNH Lisbon 98.27 21 *e*P Pdif 11 09 01.3 +1.7
comp=Z,48nm,0.4s
ACCN Adirondack Com 98.50 23 *e*P **P** **11 09 01.3 +0.7**
comp=Z,104nm,1.4s
ACCN *e*pP **pP** **11 10 11.2 -1.5**
WVL Waterville 98.64 20 *e*P **P** **11 09 02.9 +1.8**
comp=Z,57nm,0.9s
HNH Hanover 98.65 22 *e*P **P** **11 09 02.9 +1.7**
PBRG Braganca 98.69 334 *e*P Pdif 11 09 00.6 -0.9
comp=Z,116nm,1.7s
PBRG Braganca 98.69 334 *e*PP PP 11 13 04.4 -1.4
PBRG Braganca 98.69 334 *e*PKKPbc PKKPbc 11 25 28.5 0.0
BINY Binghamton 98.76 25 *e*P **P** **11 09 02.8 +1.0**
comp=Z,174nm,1.4s
FFD Franklin Falls 99.06 21 *e*P **Pdif** **11 09 05.0 +2.0**
comp=Z,62nm,0.9s
PGAV Gavieira, Arco 99.10 335 *e*P **Pdif** **11 09 02.6 -0.8**
comp=Z,113nm,1.4s
PGAV Gavieira, Arco 99.10 335 *e*PP PP 11 13 05.8 -3.1
PGAV *e*S **SKSac** **11 19 11.3 -0.8**
PGAV Gavieira, Arco 99.10 335 *e*PKKPbc PKKPbc 11 25 28.2 +0.8
EMMW East Machias 99.11 18 *e*P **Pdif** **11 09 04.7 +1.5**
comp=Z,99nm,1.2s
EMMW *e*pP **pP** **11 10 11.6 -3.8**
EMMW *e*PP **PP** **11 13 07.9 -0.8**
EMHD Djebel Mahouad 99.25 325 P **Pdif** **11 09 03.7 -0.5**
OXF Oxford 99.29 38 *e*P **Pdif** **11 09 04.1 -0.1**
OXF *e* 11 13 11.3
OXF pmax pmax
comp=Z,388nm,2.8s
OXF Oxford 99.29 38 *e*P **Pdif** **11 09 04.1 -0.1**
comp=Z,388nm,2.8s
OXF *e*PP **PP** **11 13 11.3 +0.7**
MVO Moncorvo 99.36 334 *e*P **Pdif** **11 09 03.6 -0.9**
comp=Z,93nm,1.3s
MVO Moncorvo 99.36 334 *e*PP PP 11 13 09.2 -1.7
MVO *e*S **SKSac** **11 19 11.7 -1.7**
MVO Moncorvo 99.36 334 *e*PKKPbc PKKPbc 11 25 26.0 -0.6
POLO Lamas de Olo 99.45 335 *e*P **Pdif** **11 09 04.0 -1.0**
comp=Z,55nm,1.4s
POLO Lamas de Olo 99.45 335 *e*PP PP 11 13 07.4 -4.2
POLO Lamas de Olo 99.45 335 *e*PKKPbc PKKPbc 11 25 26.3 -0.1
ESDC Sonseca Array 99.46 331 P **Pdif** **11 09 04.2 -0.8**
ESDC PP PP 11 13 04.8 -6.9
ESDC SKKPbc SKKPbc 11 28 38.5 +4.5
ESDC P'P' 11 33 41.7
ESDC Sonseca Array 99.46 331 P **Pdif** **11 09 04.2 -0.8**
comp=Z,23nm,0.9s,baz=22,slow=4.3,SNR=61
ESDC PP PP 11 13 04.8 -6.9
comp=Z,114nm,0.9s,baz=27,slow=7.1,SNR=11
ESDC SKKPbc SKKPbc 11 28 38.5 +4.5
comp=Z,4.7nm,0.8s,baz=225,slow=1.9,SNR=9.4
ESDC PKPPKP P'P'df 11 33 41.7 -6.3
comp=Z,0.6nm,0.7s,baz=190,slow=1.1,SNR=4.3
ESLA Sonseca Array 99.46 331 *e*P **Pdif** **11 09 04.2 -0.8**
comp=Z,1µm,3.8s
DRV Dumont d'Urvil 99.51 179 Pdif **Pdif** **11 08 58.0 -6.2**
DRV Dumont d'Urvil 99.51 179 PP PP 11 13 23.0 +10
DRV SKKS SKKSac 11 19 28.0 -18
DRV SS SS 11 26 24.0 -44
PVRL Vila Real 99.51 335 *e*P **Pdif** **11 09 05.3 +0.1**
comp=Z,91nm,1.4s
PVRL Vila Real 99.51 335 *e*PP PP 11 13 08.2 -3.8
PVRL Vila Real 99.51 335 *e*PKKPbc PKKPbc 11 25 27.2 +1.0
KVTX Kingsville 99.60 48 *e*P **Pdif** **11 09 07.3 +1.6**
comp=Z,201nm,1.2s
KVTX *e*PP **PP** **11 13 13.2 0.0**
KMBO Kilima Mbogo 99.67 275 Pdiff **Pdif** **11 09 06.6 0.0**
SNR=24
KMBO Kilima Mbogo 99.67 275 *e*P **Pdif** **11 09 06.5 -0.1**
comp=Z,22nm,1.1s
KMBO PP PP 11 13 06.2 -8.8
KMBO *e*PKKPdf **PKKPdf** **11 25 29.1 -0.1**
KMBO P'P' 11 33 46.1
KMBO Kilima Mbogo 99.67 275 P **Pdif** **11 09 06.5 0.0**
comp=Z,38nm,0.9s,baz=37,slow=7.1,SNR=67
KMBO PP PP 11 13 06.2 -8.8
comp=Z,52nm,1.1s,baz=46,slow=10,SNR=4.2
KMBO PKPPKP **P'P'df** **11 33 46.1 +3.6**
comp=Z,1.3nm,0.7s,baz=221,slow=12,SNR=3.9
PAB San Pablo 99.72 331 *e*P **Pdif** **11 09 05.8 -0.4**
PAB pmax pmax
comp=Z,15nm,0.7s
PAB San Pablo 99.72 331 *e*P **Pdif** **11 09 05.8 -0.4**
comp=Z,2.4nm,0.7s
EBNR Beni Rached 99.86 326 P **Pdif** **11 09 07.0 +0.2**
RKT Rikitea 99.88 111 *e*P **Pdif** **11 09 09.5 +2.6**
comp=Z,44nm,1.1s
RKT Rikitea 99.88 111 *e*SKSac **SKSac** **11 19 17.5 +1.5**
comp=Z,32µm,27.8s
RKT Rikitea 99.88 111 *e*PS PS 11 22 17.0 -5.8
comp=Z,22µm,31.8s
PTO Porto 99.95 335 *e*P **Pdif** **11 09 07.1 +0.1**
comp=Z,85nm,1.2s
HRV Adam Dziewonsk 99.96 22 *e*P **Pdif** **11 09 08.2 +1.1**
HRV *e* 11 10 18.1
HRV *e* 11 13 15.8
HRV pmax pmax
comp=Z,44nm,1.1s
HRV Adam Dziewonsk 99.96 22 *e*Pdif **Pdif** **11 09 08.2 +1.1**
comp=Z,44nm,1.1s
HRV *e* **pP** **11 10 18.1 -1.2**
HRV *e*PP **PP** **11 13 15.8 +0.6**
PVIS Viseu 100.06 334 *e*P **Pdif** **11 09 07.2 -0.5**
comp=Z,83nm,1.5s
PVIS Viseu 100.06 334 *e*PP PP 11 13 15.9 -0.3
PVIS Viseu 100.06 334 *e*PKKPbc PKKPbc 11 25 24.0 -0.6
WES Weston 100.14 22 *e*P **Pdif** **11 09 09.0 +1.2**
WES pmax pmax
comp=Z,48nm,0.9s
WES Weston 100.14 22 *e*Pdif **Pdif** **11 09 09.0 +1.2**
comp=Z,38nm,0.9s
MTE Manteigas 100.21 334 *e*P **Pdif** **11 09 08.0 -0.3**
comp=Z,94nm,1.0s
MTE Manteigas 100.21 334 *e*PP PP 11 13 16.4 -0.9
MTE *e*S **SKSac** **11 19 19.8 +2.2**
MTE Manteigas 100.21 334 *e*PKKPbc PKKPbc 11 25 24.5 +0.3
MTE Manteigas 100.21 334 *e*Pdif **Pdif** **11 09 08.0 -0.3**
comp=Z,76nm,1.3s
EANR 'Ain N'Sour 100.34 326 P **Pdif** **11 09 08.6 -0.4**
VBMS Vicksburg 100.47 40 *e*Pdif **Pdif** **11 09 11.0 +1.5**
comp=Z,73nm,1.0s
SWET Sewanee 100.47 35 *e*Pdif **Pdif** **11 09 09.4 -0.2**
BRYW Bryant College 100.50 22 *e*Pdif **Pdif** **11 09 10.9 +1.4**
comp=Z,31nm,1.1s
TZTN Tazewell 100.52 33 *e*Pdif **Pdif** **11 09 09.9 +0.2**
PAL Palisades 100.54 24 *e*P **Pdif** **11 09 11.6 +1.9**
PAL Palisades 100.54 24 *e*Pdif **Pdif** **11 09 11.6 +1.9**
MVL Millersville 100.56 26 *e*Pdif **Pdif** **11 09 10.4 +0.6**
BRNJ Basking Ridge 100.60 25 *e*Pdif **Pdif** **11 09 12.2 +2.3**
comp=Z,161nm,0.9s
OPO Ambohidratompo 100.62 255 PP PP 11 13 16.2 -6.0
OPO Ambohidratompo 100.62 255 PP PP 11 13 16.2 -6.0
comp=Z,25nm,0.9s,baz=56,slow=6.0,SNR=5.3
PCBR Castelo Branco 100.68 334 *e*P **Pdif** **11 09 09.6 -0.7**
comp=Z,67nm,1.3s
PCBR Castelo Branco 100.68 334 *e*PP PP 11 13 18.4 -2.3

PCBR Castelo Branco 100.68 334 *e*PKKPbc PKKPbc 11 25 22.7 -0.1
ETRT Tiaret 100.69 325 P **Pdif** **11 09 09.6 -1.1**
CPNY Central Park 100.71 24 *e*Pdif **Pdif** **11 09 11.9 +1.4**
CPNY *e*PP **PP** **11 13 21.4 +0.5**
ABPO Ambohimpanom 100.82 254 *e*P **Pdif** **11 09 11.3 -0.1**
ABPO *e* 11 13 27.2
ABPO pmax pmax
comp=Z,181nm,1.3s
ABPO Ambohimpanom 100.82 254 *e*Pdif **Pdif** **11 09 11.3 -0.1**
comp=Z,181nm,1.3s
ABPO *e*PP **PP** **11 13 27.2 +3.4**
PCAS Casmilo, Conde 100.87 334 *e*P **Pdif** **11 09 10.4 -0.8**
comp=Z,98nm,1.5s
PCAS Casmilo, Conde 100.87 334 *e*PP PP 11 13 17.8 -4.3
SDMD Soldier's Deli 100.89 27 *e*Pdif **Pdif** **11 09 12.8 +1.5**
SDMD *e*PP **PP** **11 13 24.7 +2.4**
CPCT Cooper Cave 100.96 34 *e*Pdif **Pdif** **11 09 12.1 +0.4**
CPCT *e*PP **PP** **11 13 24.2 +1.1**
PMRV Marv??o 101.01 333 *e*P **Pdif** **11 09 11.1 -0.7**
comp=Z,88nm,1.5s
PMRV Marv??o 101.01 333 *e*PP PP 11 13 22.4 -0.8
PMRV *e*S **SKSac** **11 19 21.7 +0.4**
PMRV Marv??o 101.01 333 *e*PKKPbc PKKPbc 11 25 22.2 +0.3
TKL Tuckaleechee C 101.14 34 *e*Pdif **Pdif** **11 09 12.6 +0.1**
TKL *e*PP **PP** **11 13 22.2 -2.2**
PTOM Tomar 101.22 334 *e*P **Pdif** **11 09 12.8 +0.1**
comp=Z,74nm,1.2s
PTOM Tomar 101.22 334 *e*PP PP 11 13 22.1 -2.6
PTOM Tomar 101.22 334 *e*PKKPbc PKKPbc 11 25 22.7 +1.4
BLA Blacksburg 101.34 30 *e*P **Pdif** **11 09 14.0 +0.6**
BLA *e* 11 13 26.0
BLA pmax pmax
comp=Z,58nm,1.1s
BLA Blacksburg 101.34 30 *e*Pdif **Pdif** **11 09 14.0 +0.6**
comp=Z,58nm,1.1s
BLA *e*PP **PP** **11 13 26.0 +0.2**
CASY Casey 101.34 191 *e*Pdif **Pdif** **11 09 13.7 +1.3**
CASY *e*PP **PP** **11 13 26.7 +0.2**
VWCC Virginia Weste 101.50 30 *e*Pdif **Pdif** **11 09 14.7 +0.7**
PESTR Estremoz 101.57 333 *e*P **Pdif** **11 09 12.6 -1.8**
comp=Z,63nm,1.4s
PESTR Estremoz 101.57 333 *e*PP PP 11 13 28.4 +0.9
PESTR Estremoz 101.57 333 *e*PKKPbc PKKPbc 11 25 23.1 +2.8
PMTG Montargil 101.63 334 *e*P **Pdif** **11 09 14.0 -0.6**
comp=Z,58nm,1.4s
PMTG Montargil 101.63 334 *e*PP PP 11 13 25.9 -2.0
PMTG Montargil 101.63 334 *e*PKKPbc PKKPbc 11 25 20.8 +0.7
LRAL Lakeview Retre 101.69 37 *e*Pdif **Pdif** **11 09 13.8 -1.1**
comp=Z,244nm,2.2s
CBN Corbin 101.73 28 *e*Pdif **Pdif** **11 09 15.6 +0.6**
comp=Z,66nm,1.1s
PBAR Barrancos 101.97 333 *e*P **Pdif** **11 09 15.0 -1.1**
comp=Z,58nm,1.8s
PBAR Barrancos 101.97 333 *e*PP PP 11 13 31.4 +1.0
PBAR Barrancos 101.97 333 *e*PKKPbc PKKPbc 11 25 18.9 -0.2
JSRW J. Sargeant Re 101.97 28 *e*Pdif **Pdif** **11 09 16.2 +0.1**
EVO Evora 102.02 333 ⇑*i*P **Pdif** **11 09 14.9 -1.4**
comp=Z,116nm,1.3s
EVO *e*R
comp=Z,20µm,17.0s
EVO Evora 102.02 333 *e*P **Pdif** **11 09 15.3 -1.0**
comp=Z,62nm,1.6s
EVO Evora 102.02 333 *e*PP PP 11 13 28.5 -2.3
EVO Evora 102.02 333 *e*PKKPbc PKKPbc 11 25 20.7 +1.8
PMAFR Mafra 102.12 335 *e*P **Pdif** **11 09 16.2 -0.6**
comp=Z,174nm,1.4s
PMAFR Mafra 102.12 335 *e*PP PP 11 13 28.9 -2.6
PACT Alcochete 102.12 334 *e*P **Pdif** **11 09 16.2 -0.5**
comp=Z,192nm,1.4s
PACT Alcochete 102.12 334 *e*PP PP 11 13 32.6 +1.1
PMST Lisbon--Monsan 102.28 334 *e*P **Pdif** **11 09 17.0 -0.5**
comp=Z,133nm,1.2s
PMST Lisbon--Monsan 102.28 334 *e*PP PP 11 13 30.4 -2.2
LIS Lisbon 102.28 334 *e*P **Pdif** **11 09 16.9 -0.6**
LIS *e*PP **PP** **11 13 32.9 +0.3**
LIS *e*S **SKSac** **11 19 26.0 -1.3**
LIS AMS AMS 12 03 06.0
comp=E,19µm,21.8s
LIS Lisbon 102.28 334 *e*P **Pdif** **11 09 16.9 -0.6**
LIS *e* 11 13 32.9
LIS *e*S **SKSac** **11 19 26.0 -1.3**
PBEJ Beja 102.41 333 *e*P **Pdif** **11 09 17.7 -0.4**
comp=E,41nm,1.3s
PBEJ Beja 102.41 333 *e*PP PP 11 13 29.4 -4.3
PBEJ Beja 102.41 333 *e*PKKPbc PKKPbc 11 25 17.6 -0.2
PNCL Nicolau / Gran 102.59 334 *e*P **Pdif** **11 09 18.5 -0.3**
comp=E,61nm,1.4s
PNCL Nicolau / Gran 102.59 334 *e*PP PP 11 13 34.7 -0.3
PNCL Nicolau / Gran 102.59 334 *e*PKKPbc PKKPbc 11 25 17.5 +0.2
KMSC Kings Mountain 102.68 32 ⇓Pdiff **Pdif** **11 09 19.1 -0.3**
baz=102
KMSC Kings Mountain 102.68 32 ⇓Pdiff **Pdif** **11 09 19.1 -0.3**
baz=102
PCVE Castro Verde 102.82 333 *e*P **Pdif** **11 09 19.3 -0.6**
comp=E,49nm,1.2s
PCVE Castro Verde 102.82 333 *e*PP PP 11 13 35.5 -1.3
PCVE Castro Verde 102.82 333 *e*PKKPbc PKKPbc 11 25 15.6 -1.0
PVAQ Vaqueiros 102.90 333 *e*P **Pdif** **11 09 19.7 -0.6**
comp=E,41nm,1.3s
PVAQ Vaqueiros 102.90 333 *e*PP PP 11 13 36.3 -1.0
PVAQ *e*S **SKSac** **11 19 31.3 +1.0**
PVAQ Vaqueiros 102.90 333 *e*PKKPbc PKKPbc 11 25 17.0 +0.6
PBDV Barranco-do-Ve 103.12 333 *e*P **Pdif** **11 09 21.2 -0.1**
comp=E,47nm,1.4s
PBDV Barranco-do-Ve 103.12 333 *e*PP PP 11 13 36.3 -2.7
PBDV Barranco-do-Ve 103.12 333 *e*PKKPbc PKKPbc 11 25 17.8 +2.0
BRAL Brewton 103.25 39 *e*Pdif **Pdif** **11 09 22.4 +0.4**
comp=E,61nm,0.8s
MORF Marmelete 103.34 333 *e*P **Pdif** **11 09 21.9 -0.4**
comp=E,47nm,1.6s
MORF Marmelete 103.34 333 *e*PP PP 11 13 37.6 -3.1
MORF Marmelete 103.34 333 *e*PKKPbc PKKPbc 11 25 16.9 +1.7
MORF Marmelete 103.34 333 *e*P **Pdif** **11 09 21.8 -0.5**
MORF *e* 11 13 40.8
MORF *e*S **SKSac** **11 19 31.1 -1.4**
CNNC Cliffs of the 104.08 30 *e*Pdif **Pdif** **11 09 26.6 +1.0**
comp=E,10nm,0.4s
TIGA Tifton 104.68 36 ⇑Pdiff **Pdif** **11 09 28.6 +0.3**
baz=104
TIGA Tifton 104.68 36 ⇑Pdiff **Pdif** **11 09 28.6 +0.3**
baz=104
MIR Mirnyy 105.16 197 *e*P **Pdif** **11 09 31.0 +1.7**
MIR *e*PPP PPP 11 13 56.0
MIR *e*S **SKSac** **11 19 42.0 +3.4**
MIR *e*PS **Sdif** **11 20 56.0 -0.2**
MIR pmax pmax
comp=Z,56nm,1.5s
RTC Rabat Centre 105.52 330 *e*PKPdf **PKiKP** **11 13 40.4 -3.3**
PGRA Graciosa 107.03 349 *e*Pdif **Pdif** **11 09 36.8 -1.8**
PGRA Graciosa 107.03 349 *e*PP PP 11 14 07.9 +0.5
PGRA Graciosa 107.03 349 *e*SS SS 11 28 55.7 +6.5
ROSA Rosais 107.37 349 *e*Pdif **Pdif** **11 09 36.8 -3.3**
ROSA Rosais 107.37 349 *e*PP PP 11 14 08.8 -1.1
ROSA Rosais 107.37 349 *e*SS SS 11 28 54.9 +1.0
PSET Sete Cidades 107.79 347 *e*Pdif **Pdif** **11 09 40.5 -1.6**
PSET Sete Cidades 107.79 347 *e*PP PP 11 14 13.7 +0.7
PSET Sete Cidades 107.79 347 *e*SS SS 11 29 03.4 +3.7
CMLA Cha da Macela 107.81 346 *e*PP PP 11 14 14.3 +1.1
TAM Tamanrasset 108.29 314 *e*P **Pdif** **11 09 44.7 0.0**
TAM pmax pmax
comp=Z,11nm,1.1s
TAM Tamanrasset 108.29 314 *e*Pdif **Pdif** **11 09 44.7 0.0**
comp=Z,11nm,1.1s
PSMN Pico do Norte, 108.45 346 *e*Pdif **Pdif** **11 09 46.7 +1.7**
PSMN Pico do Norte, 108.45 346 *e*PP PP 11 14 16.4 -1.4
PSMN Pico do Norte, 108.45 346 *e*SS SS 11 29 08.9 +0.4
DWPF Disney 108.47 36 *e*PP PP 11 14 17.6 -0.8
PMPST Porto Santo, M 109.85 337 *e*PP PP 11 14 29.6 +1.6
PMPS Porto Santo 109.87 337 *e*PP PP 11 14 29.8 +1.7
PMAR Madeira 110.36 338 *e*PP PP 11 14 33.6 +1.7
FUL Funchal 110.43 338 *e*PP PP 11 14 33.9 +1.8
TEIG Tepich 110.91 47 PP PP 11 14 32.6 -3.7
TEIG Tepich 110.91 47 PP PP 11 14 32.7 -3.7
comp=Z,37nm,1.0s,baz=317,slow=9.4,SNR=11
VNDA Vanda 111.36 175 PKiKP **PKiKP** **11 13 53.9 +0.7**
VNDA Vanda 111.36 175 PKiKP **PKiKP** **11 13 53.9 +0.7**
comp=Z,15nm,0.6s,baz=4.0,slow=3.3,SNR=16
SBA Scott Base 112.09 174 *e*PKiKP **PKiKP** **11 13 55.2 +0.6**
SBA Scott Base 112.09 174 *e*PKPdf **PKiKP** **11 13 55.2 +0.6**
LSZ Lusaka 114.69 267 P PKPdf 11 14 03.1 +1.6
SNR=10.0
LSZ Lusaka 114.69 267 *e*Pdif **Pdif** **11 10 12.8 -0.3**
LSZ *e*PKPdf **PKiKP** **11 14 02.1 +0.6**

LSZ				PP	**PP**	11 15 01.5	-2.8	
LSZ				*e*PP	PP	11 15 02.6	-1.7	
LSZ				*e*SKPdf	**SKiK**	11 17 08.5	+0.8	
LSZ				*e*PKKPbc	**PKKPbc**	11 24 41.4	+2.5	
LSZ				*e*PKKPab	**PKKPab**	11 24 49.3	+3.0	
LSZ	**Lusaka**	**114.69 267**		PKP	PKPdf	11 14 02.2	+0.7	
comp=Z,34nm,0.7s,baz=31,slow=4.7,SNR=5.8								
LSZ				PP	**PP**	11 15 01.5	-2.8	
comp=Z,147nm,1.1s,baz=47,slow=11,SNR=19								
MAW	**Mawson**	**114.87 204**		*e*PKPdf	PKPdf	11 14 00.4	+0.3	
MAW				PP	**PP**	11 15 01.1	-3.3	
MAW				*e*PP	PP	11 15 02.8	-1.6	
MAW				*e*SKPdf	**SKiK**	11 17 07.2	+0.9	
MAW				PKKPab	**PKKPbc**	11 24 40.2	+0.4	
MAW	**Mawson**	**114.87 204**		PKP	PKPdf	11 14 00.5	+0.4	
comp=Z,23nm,0.5s,baz=338,slow=1.8,SNR=33								
MAW				PP	**PP**	11 15 01.1	-3.3	
comp=Z,62nm,0.8s,baz=60,slow=8.0,SNR=9.3								
MAW				PKKPab	**PKKPbc**	11 24 40.2	+0.4	
comp=Z,19nm,0.8s,baz=246,slow=3.9,SNR=8.5								
TOA0	**Torodi Ar. Sit**	**117.94 310**		*e*PKPdf	**PKPdf**	11 14 07.1	-0.6	
TOA0				*e*PP	**PP**	11 15 24.1	-1.7	
TOA0				*e*PKKPbc	**PKKPbc**	11 24 25.3	-2.3	
TOA0				*e*PKKPab	**PKKPab**	11 24 33.6	-0.9	
TORD	**Torodi Ar. Bea**	**117.94 310**		PKP	**PKPdf**	11 14 07.1	-0.6	
TORD				PP	**PP**	11 15 20.9	-4.8	
TORD	**Torodi Ar. Bea**	**117.94 310**		PKP	**PKPdf**	11 14 07.1	-0.6	
comp=Z,67nm,0.6s,baz=15,slow=1.5,SNR=126								
TORD				PP	**PP**	11 15 20.9	-4.8	
comp=Z,48nm,0.7s,baz=34,slow=6.2,SNR=6.9								
GTBY	**Guantanamo Bay**	**118.44 36**		*e*PKPdf	**PKPdf**	11 14 08.7	+0.1	
GRTK	**Grand Turk**	**118.92 31**		*e*PKPdf	**PKPdf**	11 14 08.0	-1.5	
JTS	**JuntasAbangare**	**120.47 51**		PKP	**PKPdf**	11 14 11.8	-0.9	
JTS	**JuntasAbangare**	**120.47 51**		PKP	**PKPdf**	11 14 11.8	-0.9	
comp=Z,29nm,0.4s,baz=353,slow=7.8,SNR=23								
SDDR	**Presa de Saban**	**121.07 33**		*e*PKPdf	**PKPdf**	11 14 13.6	-0.2	
SDDR				*e*PKKPab	**PKKPab**	11 24 20.7	-0.7	
LBTB	**Lobatse**	**121.31 259**		PKP	**PKPdf**	11 14 13.7	-0.3	
LBTB				*e*PKPdf	**PKiK**	11 14 14.3	+0.2	
LBTB				PP	**PP**	11 15 48.0	-1.8	
LBTB				*e*SKPdf	**SKiK**	11 17 20.9	+0.3	
LBTB				*e*PKKPbc	**PKKPab**	11 24 16.2	-0.5	
LBTB	**Lobatse**	**121.31 259**		PKP	**PKPdf**	11 14 13.7	-0.3	
comp=Z,107nm,0.7s,baz=110,slow=1.4,SNR=38								
LBTB				PP	**PP**	11 15 48.0	-1.8	
comp=Z,84nm,0.9s,baz=81,slow=5.7,SNR=6.5								
RPN	**Rapa Nui**	**122.29 103**		PKP	**PKPdf**	11 14 15.0	-0.7	
RPN				*e*PKPdf	**PKiK**	11 14 16.1	+0.2	
RPN	**Rapa Nui**	**122.29 103**		PKP	**PKPdf**	11 14 15.0	-0.7	
comp=Z,0.6nm,0.4s,baz=332,slow=17,SNR=3.7								
QSPA	**South Pole Qui**	**122.90 180**		PKP	**PKPdf**	11 14 14.3	-1.5	
QSPA				*e*PKPdf	**PKiK**	11 14 15.4	-0.6	
QSPA				*ep*PKPdf	**pPKPdf**	11 15 34.4	+3.0	
QSPA	**South Pole Qui**	**122.90 180**		PKP	**PKPdf**	11 14 14.3	-1.5	
comp=Z,237nm,0.9s,baz=318,slow=1.1,SNR=47								
BOSA	**Boshof**	**123.03 255**		PKP	**PKPdf**	11 14 17.1	-0.1	
BOSA				*e*PKPdf	**PKiK**	11 14 17.8	+0.3	
BOSA				PP	PP	11 15 54.8	-6.6	
BOSA				PKKPab	**PKKPab**	11 24 09.9	+0.9	
BOSA				PKKP	**PKKPdf**	11 24 51.2	+5.0	
BOSA	**Boshof**	**123.03 255**		PKP	**PKPdf**	11 14 17.1	-0.1	
comp=Z,58nm,0.6s,baz=30,slow=1.0,SNR=26								
BOSA				PP	PP	11 15 54.8	-6.6	
comp=Z,38nm,0.7s,baz=29,slow=5.8,SNR=4.0								
BOSA				PKKPab	**PKKPab**	11 24 09.9	+0.9	
comp=Z,48nm,1.1s,baz=243,slow=3.5,SNR=14								
BOSA				PKKP	**PKKPdf**	11 24 51.2	+5.0	
comp=Z,6.6nm,0.6s,baz=9.9,slow=4.2,SNR=3.5								
SYO	**Syowa Base**	**123.52 205**	⇓	*e*X	**PKPdf**	11 14 14.8	-1.9	
SYO	**Syowa Base**	**123.52 205**	⇓	*i*PKiKP	**PKPdf**	11 14 16.3	-0.4	
LRS	**Lares**	**123.59 29**		*e*PKPdf	**PKPdf**	11 14 17.5	-1.0	
LSP	**Las Mesas**	**123.59 29**		*e*PKPdf	**PKPdf**	11 14 17.9	-0.7	
CRPR	**Cabo Rojo, PR**	**123.73 29**		*e*PKPdf	**PKPdf**	11 14 18.2	-0.5	
CRPR				*e*PP	**PP**	11 16 05.7	+1.3	
CELP	**Cerrillos**	**123.89 29**		*e*PKPdf	**PKPdf**	11 14 18.8	-0.3	
OBIP	**Obispado Ponce**	**123.91 29**		*e*PKPdf	**PKPdf**	11 14 19.2	+0.1	
CBYP	**Canovanas**	**124.00 28**		*e*PKPdf	**PKPdf**	11 14 17.3	-2.0	
MTP	**Monte Pirata**	**124.27 27**		*e*PKPdf	**PKPdf**	11 14 19.2	-0.6	
MTP				*ep*PKPdf	**pPKPdf**	11 15 34.2	-1.3	
BCIP	**Isla Barro Col**	**124.58 47**		*e*PKPdf	**PKPdf**	11 14 20.0	-0.5	
BCIP				*e*PP	**PP**	11 16 08.8	-1.9	
BCIP				*e*SKPdf	**SKPdf**	11 17 25.9	-0.7	
CDVI	**St. Croix**	**124.89 27**		*e*PKPdf	**PKPdf**	11 14 22.0	+1.1	
TSUM	**Tsumeb**	**125.45 269**		*e*PKPdf	**PKPdf**	11 14 22.4	+0.3	
TSUM				*ep*PKPdf	**pPKPdf**	11 15 39.4	+1.5	
TSUM				*e*PP	**PP**	11 16 15.4	-2.1	
TSUM				SKKPbc	SKKPbc	11 27 18.9	-1.1	
TSUM	**Tsumeb**	**125.45 269**		SKKPbc	SKKPbc	11 27 18.9	-1.1	
comp=Z,8.5nm,1.0s,baz=250,slow=13,SNR=3.2								
SKI	**Saint Kitts**	**126.01 25**		*e*P	pPKPdf	11 15 39.8	+0.9	
BBTS	**Babate**	**126.62 329**		PP	PP	11 16 18.4	-5.2	
BBTS	**Babate**	**126.62 329**		PP	PP	11 16 18.4	-5.2	
comp=Z,530nm,1.0s,baz=341,slow=1.9,SNR=14								
DBIC	**Dimbokro**	**127.01 311**		PKP	**PKPdf**	11 14 24.2	-0.9	
DBIC				*e*PKPdf	**PKiK**	11 14 25.1	-0.6	
DBIC				PP	**PP**	11 16 22.4	-4.4	
DBIC	**Dimbokro**	**127.01 311**		PKP	**PKPdf**	11 14 24.2	-0.9	
comp=Z,65nm,0.4s,baz=32,slow=2.4,SNR=63								
DBIC				PP	**PP**	11 16 22.4	-4.4	
comp=Z,161nm,1.0s,baz=22,slow=8.7,SNR=3.9								
TIC	**Toumodi**	**127.14 312**		*e*P	**PKPdf**	11 14 24.5	-0.9	
comp=Z,171nm,0.3s								
KIC	**Kosan Boka**	**127.18 311**		*e*P	**PKPdf**	11 14 24.3	-1.2	
comp=Z,318nm,0.7s								
SEG	**Port Louis**	**127.30 24**	⇑	*i*P	**PKPdf**	11 14 25.5	-0.1	
LIC	**Lamto**	**127.46 311**		*e*PKIKP	**PKPdf**	11 14 25.9	-0.1	
LIC				*e*R				
comp=Z,15μm,23.0s								
LIC	**Lamto**	**127.46 311**		*e*P	**PKPdf**	11 14 26.2	+0.2	
comp=Z,283nm,0.5s								
CRG	**Carmichael**	**127.57 24**		*e*P	**PKPdf**	11 14 29.6	+3.3	
LKG	**Breislack**	**127.58 24**		*e*P	**PKPdf**	11 14 30.4	+4.0	
TAG	**Tarade**	**127.58 24**		*e*P	**PKPdf**	11 14 27.9	+1.5	
ECG	**Echelle**	**127.59 24**		*e*P	**PKPdf**	11 14 28.7	+2.3	
DOG	**Dongo Capester**	**127.61 24**		*e*P	**PKPdf**	11 14 26.1	-0.1	
PHG	**Guadaloupe-2**	**127.61 24**		*e*P	**PKPdf**	11 14 25.4	-0.9	
HMG	**Houelmont**	**127.62 24**		*e*P	**PKPdf**	11 14 26.3	0.0	
TBG	**Guadaloupe-3**	**127.77 24**		*e*P	**PKPdf**	11 14 27.4	+0.9	
MGG	**Marie-Galante**	**127.82 24**		*e*P	**PKPdf**	11 14 26.5	-0.1	
SUR	**Sutherland**	**127.96 253**		P	**PKPdf**	11 14 28.6	+1.9	
SNR=14								
SUR	**Sutherland**	**127.96 253**		PKPpre	PKPpre	11 14 20.7		
SUR				PKP	**PKPdf**	11 14 26.1	-0.5	
SUR				*e*PKPdf	**PKiK**	11 14 27.4	+0.1	
SUR				PP	**PP**	11 16 31.4	-2.6	
SUR				*e*PP	PP	11 16 31.9	-2.2	
SUR	**Sutherland**	**127.96 253**		PKhKP	PKPpre	11 14 20.7		
comp=Z,9.7nm,0.7s,baz=112,slow=4.2,SNR=7.7								
SUR				PKP	**PKPdf**	11 14 26.1	-0.5	
comp=Z,216nm,1.3s,baz=53,slow=2.3,SNR=12								
SUR				PP	**PP**	11 16 31.4	-2.6	
comp=Z,159nm,1.0s,baz=75,slow=5.0,SNR=6.4								
FDF	**Fort de France**	**128.97 24**		*e*PKIKP	**PKPdf**	11 14 27.7	-1.2	
FDF	**Fort de France**	**128.97 24**		*e*PKPdf	**PKPdf**	11 14 27.7	-1.2	
FDF	**Fort de France**	**128.97 24**	⇑	*i*P	**PKPdf**	11 14 29.2	+0.2	
SACV	**Santiago Islan**	**129.05 337**		*e*PKPdf	**PKPdf**	11 14 28.7	-0.3	
SACV				*e*PP	**PP**	11 16 39.0	-0.3	
SACV				*e*SKP		11 17 21.0		
SLB	**Belfond**	**129.85 24**		*e*P	SKPbc	11 17 25.8	+1.7	
MCLT	**Moule a Chique**	**130.00 24**		*e*P	**PP**	11 16 47.0	+1.5	
SDV	**Santo Domingo**	**130.07 38**		*e*PKPdf	**PKPdf**	11 14 31.1	-0.2	
SDV				*ep*PKPdf	**pPKPdf**	11 15 44.3	-2.6	
SDV				*e*SKPbc	**SKPbc**	11 17 24.8	-0.3	
SVB	**Belmont**	**130.29 25**		*e*P	pPKPdf	11 15 47.9	+0.8	
BHS	**Barnard House**	**130.32 25**		*e*P	**SKPbc**	11 17 27.0	+1.2	
ROSC	**El Rosal**	**131.31 45**		*e*PKPpre	PKPpre	11 14 26.8		
ROSC				PKP	**PKPdf**	11 14 34.2	+0.4	
ROSC				*e*PKPdf	**PKiK**	11 14 35.4	+0.5	
ROSC				*ep*PKPdf	pPKPdf	11 15 52.6	+3.0	
ROSC				*e*PP	**PP**	11 16 58.9	+3.9	
ROSC				*e*SKPbc	**SKPbc**	11 17 28.9	-1.1	
ROSC				SKPbc	**SKPbc**	11 17 29.8	-0.2	
ROSC	**El Rosal**	**131.31 45**		PKP	**PKPdf**	11 14 34.2	+0.4	
comp=Z,108nm,0.9s,baz=111,slow=5.4,SNR=29								
ROSC				SKPbc	**SKPbc**	11 17 29.8	-0.2	
comp=Z,58nm,0.9s,baz=170,slow=4.0,SNR=4.6								
TOSP	**Speyside**	**132.38 25**	⇑	*i*P	**PKPdf**	11 14 37.0	+1.7	
TOSP	**Speyside**	**132.38 25**		*e*P	pPKPdf	11 15 53.5	+2.5	
TPR	**Prospect**	**132.39 25**		*e*P	**SKPbc**	11 17 33.6	+0.3	
TCE	**Chacachacare**	**132.48 27**		*e*P	**SKPbc**	11 17 31.9	-1.7	
TRN	**Trinidad (W)**	**132.66 26**		*e*P	**SKPbc**	11 17 32.9	-1.3	
MAIT	**Maitri**	**132.70 201**		*e*P	**SKPbc**	11 17 31.1	-1.4	
TBH	**Brigand Hill**	**132.94 26**		*e*P	**SKPbc**	11 17 34.6	-0.5	
TPP	**Pointe-a-Pierr**	**132.95 27**		*e*P	**SKPbc**	11 17 34.1	-1.1	
SNAA	**Sanae**	**136.24 197**		*e*P	PKPpre	11 14 27.3		
SNAA	**Sanae**	**136.24 197**		*ep*PKiKP	pPKiKP	11 16 00.3	+2.0	
SNAA	**Sanae**	**136.24 197**		*e*SKiKP	**SKPbc**	11 17 45.9	+2.0	
SNAA	**Sanae**	**136.24 197**		PKPpre	PKPpre	11 14 27.3		
SNAA				SKPbc	**SKPbc**	11 17 43.5	-0.4	
SNAA				SKKPbc	**SKKPbc**	11 26 44.8	-0.1	
SNAA	**Sanae**	**136.24 197**		PKhKP	PKPpre	11 14 27.3		
comp=Z,7.5nm,0.4s,baz=182,slow=4.4,SNR=81								
SNAA				SKPbc	**SKPbc**	11 17 43.5	-0.4	
comp=Z,373nm,1.0s,baz=113,slow=3.8,SNR=18								
SNAA				SKKPbc	**SKKPbc**	11 26 44.8	-0.1	
comp=Z,13nm,1.1s,baz=320,slow=3.1,SNR=5.7								
ATAH	**Atahualpa**	**137.46 61**		PKPpre	PKPpre	11 14 36.5		
ATAH				SKKPbc	SKKPbc	11 26 46.3	+10	
ATAH	**Atahualpa**	**137.46 61**		PKhKP	PKPpre	11 14 36.5		
comp=Z,33nm,0.8s,baz=138,slow=7.1,SNR=12								
ATAH				SKKPbc	SKKPbc	11 26 46.3	+10	
comp=Z,12nm,1.0s,baz=121,slow=7.1,SNR=3.9								
VNA2	**Neumayer--Watz**	**137.83 196**		*e*P	PKPpre	11 14 32.7		
VNA2	**Neumayer--Watz**	**137.83 196**		*ep*PKiKP	pPKiKP	11 15 58.5	-2.9	
VNA2	**Neumayer--Watz**	**137.83 196**		*e*SKiKP	**SKPbc**	11 17 50.0	+1.5	
VNA1	**Neumayer--Stat**	**138.23 196**		*e*P	PKPdf	11 14 33.4	-11	
VNA1	**Neumayer--Stat**	**138.23 196**		*e*SKiKP	**SKiKP**	11 17 52.1	-1.2	
NNA	**Nana**	**141.77 65**		*e*PKP	PKPdf	11 14 47.2	-5.5	
NNA				PKPpre	PKPpre	11 14 47.8		
NNA				SKPbc	**SKPbc**	11 17 59.1	-1.7	
NNA				SKKPbc	**SKKPab**	11 26 29.1	+6.9	
NNA	**Nana**	**141.77 65**		PKhKP	PKPpre	11 14 47.8		
comp=Z,125nm,0.6s,baz=310,slow=4.1,SNR=32								
NNA				SKPbc	**SKPbc**	11 17 59.1	-1.7	
comp=Z,325nm,1.0s,baz=317,slow=5.0,SNR=12								
NNA				SKKPbc	**SKKPab**	11 26 29.1	+6.9	
comp=Z,17nm,0.8s,baz=179,slow=6.1,SNR=4.7								
SHEL	**Horse Pasture**	**143.13 289**		*e*PKiKP	PKPbc	11 14 52.3	-0.5	
SHEL	**Horse Pasture**	**143.13 289**		*e*PKPdf	PKPbc	11 14 52.3	-0.5	
ASCN	**Ascension**	**144.21 308**		*e*PKPdf	**PKPdf**	11 14 56.6	-0.3	
ASCN				*e*SKPbc	**SKPbc**	11 18 06.8	+0.1	
PMSA	**Palmer Station**	**145.57 163**		*e*PKPbc	**PKPbc**	11 14 58.2	-0.3	
PMSA				SKKPbc	SKKPbc	11 26 07.5	+0.1	
PMSA	**Palmer Station**	**145.57 163**		PKPbc	**PKPab**	11 14 59.2	-0.1	
comp=Z,301nm,0.9s,baz=172,slow=3.8,SNR=43								
PMSA				SKKPbc	SKKPbc	11 26 07.5	+0.1	
comp=Z,67nm,1.0s,baz=30,slow=1.6,SNR=6.7								
SAML	**Samuel**	**148.94 44**		*e*PKPdf	**PKPdf**	11 15 04.9	+0.1	
SAML				*e*PKPbc	**PKPbc**	11 15 09.4	+0.2	
SAML				*ep*PKPdf	**pPKPdf**	11 16 22.9	+2.1	
LPAZ	**La Paz**	**151.01 61**		PKP	**PKPdf**	11 15 09.6	+0.8	
LPAZ				*e*PKPdf	**PKPbc**	11 15 10.4	-4.4	
LPAZ				PKPbc	**PKPbc**	11 15 14.4	-0.4	
LPAZ				*e*PKPbc	PKPab	11 15 15.8	-7.7	
LPAZ				*ep*PKPdf	**pPKPdf**	11 16 24.6	-0.1	
LPAZ	**La Paz**	**151.01 61**		PKP	**PKPdf**	11 15 09.6	+0.8	
comp=Z,42nm,1.1s,baz=352,slow=5.4,SNR=22								
LPAZ				PKPbc	**PKPbc**	11 15 14.4	-0.4	
comp=Z,119nm,1.1s,baz=358,slow=3.9,SNR=27								
USHA	**Ushuaia**	**151.44 147**		PKP	**PKPdf**	11 15 08.1	+0.7	
USHA				PKPbc	**PKiKP**	11 15 14.8	+0.6	
USHA	**Ushuaia**	**151.44 147**		PKP	**PKPdf**	11 15 08.1	+0.7	
comp=Z,98nm,1.0s,baz=312,slow=1.2,SNR=22								
USHA				PKPbc	**PKiKP**	11 15 14.8	+0.6	
comp=Z,1μm,0.9s,baz=265,slow=3.1,SNR=60								
RCBR	**Riachuelo**	**152.24 347**		*e*PKPdf	**PKPdf**	11 15 10.7	+0.7	
CEN1	**Los Morros**	**153.35 76**		*e*P	**PKPdf**	11 15 14.0	+2.6	
CEN1	**Los Morros**	**153.35 76**		*e*P	**PKPdf**	11 15 14.0	+2.6	
COYC	**Coyhaique**	**153.76 127**		*e*P	**PKPdf**	11 15 12.7	+1.6	
COYC	**Coyhaique**	**153.76 127**		*e*P	**PKPdf**	11 15 12.7	+1.6	
LVC	**Limon Verde**	**154.02 73**		*e*PKPdf	**PKPdf**	11 15 13.7	+1.1	
LVC				*e*PKPbc	**PKiKP**	11 15 22.9	+1.9	
LVC				*e*PP	**PP**	11 19 12.5	+0.5	
LCO	**Las Campanas**	**155.06 88**		*e*PKPdf	**PKPdf**	11 15 14.3	+0.4	
TLL	**Tololo Astrono**	**155.28 91**		*e*PKIKP	**PKPdf**	11 15 16.7	+2.6	
TLL	**Tololo Astrono**	**155.28 91**		*e*P	**PKPdf**	11 15 16.7	+2.6	
TLL	**Tololo Astrono**	**155.28 91**		*e*P	**PKPdf**	11 15 16.7	+2.6	
SIV	**San Ignacio**	**155.69 50**		PKP	**PKPdf**	11 15 14.5	-0.2	
SIV				PKPab	**PKPab**	11 15 40.8	-1.8	
SIV	**San Ignacio**	**155.69 50**		PKP	**PKPdf**	11 15 14.5	-0.2	
comp=Z,52nm,0.8s,baz=164,slow=0.1,SNR=64								
SIV				PKPab	**PKPab**	11 15 40.8	-1.8	
comp=Z,163nm,0.9s,baz=337,slow=1.9,SNR=16								
PLCA	**Paso Flores**	**155.99 117**		*e*PKPdf	**PKPdf**	11 15 14.9	+0.4	
PLCA				PKKP		11 23 36.6		
PLCA	**Paso Flores**	**155.99 117**		PKP	**PKPdf**	11 15 14.9	+0.4	
comp=Z,12nm,1.0s,baz=241,slow=1.8,SNR=14								
PLCA				PKKP		11 23 36.6		
comp=Z,9.1nm,1.1s,baz=359,slow=3.0,SNR=3.1								
CLCH	**Cerro Calan**	**156.12 99**	⇑	*e*P	**PKPdf**	11 15 13.3	-1.6	
CFAA	**Coronel Fontan**	**157.75 93**		PKP	**PKPdf**	11 15 17.4	+0.5	
CFAA				PKPab	**PKPab**	11 15 52.0	+0.7	
CFAA	**Coronel Fontan**	**157.75 93**		PKP	**PKPdf**	11 15 17.4	+0.5	
comp=Z,7.3nm,0.9s,baz=276,slow=2.4,SNR=27								
CFAA				PKPab	**PKPab**	11 15 52.0	+0.7	
comp=Z,100nm,0.8s,baz=276,slow=4.0,SNR=56								
EFI	**East Falkland**	**158.08 152**		*e*PKIKP	**PKPdf**	11 15 15.9	-0.7	
EFI				*e*		11 15 52.6		
EFI	**East Falkland**	**158.08 152**		*e*PKPdf	**PKPdf**	11 15 15.9	-0.7	
EFI				*e*PKPab	**PKPab**	11 15 52.6	+0.7	
BDFB	**Brasilia**	**161.72 19**		PKP	**PKPdf**	11 15 23.0	+1.1	
BDFB				PKPab	**PKPab**	11 16 10.6	+1.8	
BDFB	**Brasilia**	**161.72 19**		PKP	**PKPdf**	11 15 23.0	+1.1	
comp=Z,137nm,1.0s,baz=358,slow=1.2,SNR=63								
BDFB				PKPab	**PKPab**	11 16 10.6	+1.8	
comp=Z,152nm,0.9s,baz=346,slow=4.5,SNR=16								
TRQA	**Tornquist**	**162.99 112**		*e*PKPdf	**PKPdf**	11 15 21.8	-0.6	
TRQA				*e*PKPab	**PKPab**	11 16 14.6	+0.6	
LPA	**La Plata**	**166.62 102**		PKP	**PKPab**	11 16 33.0	+2.9	
LPA				PPS	PPS	11 34 09.0		
LPA				SS	SS	11 40 35.0	-1.4	

JMA 09 10:56:42.8, 32.88N×132.47E, h30km, M0.9, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTO	**Tosashimizu**	**0.28**	**94**	P	Pb	10 56 49.8	-0.2
JTO				S	Sb	10 56 54.9	0.0
UWA2	**Uwa jima 2**	**0.36**	**21**	*e*S	Sb	10 56 56.5	-0.3
JUS	**Usuki**	**0.63**	**287**	P	Pb	10 56 54.9	-0.5
JUS				*e*S	Sb	10 57 03.7	-0.3
JNA	**Nagahama**	**0.68**	**1**	*e*S	Sb	10 57 05.4	+0.1

WEL 09 11:03:34.2±0.1, 41.07S×174.03E, h60km±1km, ML3.5/15, 3C-10D, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.24**	**128**	PN	Pn	11 03 43.7	-0.2
TCW				SN	Sn	11 03 50.6	-0.4
TCW				AML	AML	11 03 51.2	
DUWZ	**D'Urville Isla**	**0.28**	**343**	⇓PN	Pn	11 03 43.9	-0.3
DUWZ				SN	Sn	11 03 51.4	-0.1
TUWZ	**Tuamarina**	**0.37**	**190**	⇓PN	Pn	11 03 44.5	-0.4
TUWZ				SN	Sn	11 03 51.6	-1.1
TUWZ				AML	AML	11 03 51.7	
NNZ	**Nelson**	**0.51**	**253**	⇓PN	Pn	11 03 45.8	-0.5
SNZO	**South Karori**	**0.57**	**116**	PN	Pn	11 03 46.9	0.0
SNZO				SN	Sn	11 03 56.5	+0.4
SNZO				AML	AML	11 03 58.1	
SNZO				AML	AML	11 03 58.1	
SNZO				AML	AML	11 03 58.4	
WEL	**Wellington**	**0.60**	**112**	PN	Pn	11 03 47.4	+0.1
WEL				SN	Sn	11 03 56.8	-0.1
BSWZ	**Blackbirch Sta**	**0.66**	**190**	PN	Pn	11 03 48.0	0.0
BSWZ				AML	AML	11 03 59.5	
BSWZ				AML	AML	11 03 59.9	
CMWZ	**Cape Campbell**	**0.70**	**168**	PN	Pn	11 03 49.0	+0.6
CMWZ				AML	AML	11 04 05.8	
CMWZ				AML	AML	11 04 08.0	
KIW	**Kapiti Island**	**0.70**	**73**	PN	Pn	11 03 49.0	+0.5
KIW				AML	AML	11 04 01.4	
KIW				AML	AML	11 04 01.8	
BHW	**Baring Head**	**0.72**	**118**	⇑PN	Pn	11 03 48.5	-0.2
BHW				AML	AML	11 04 04.1	
BHW				AML	AML	11 04 04.1	
CAW	**Cannon Point**	**0.79**	**93**	PN	Pn	11 03 49.6	0.0
CAW				AML	AML	11 04 02.8	
CAW				AML	AML	11 04 03.2	
OGWZ	**Otaki Gorge**	**0.90**	**74**	PN	Pn	11 03 51.5	+0.5
MSWZ	**Moikau Station**	**0.98**	**111**	PN	Pn	11 03 51.8	-0.3
MSWZ				AML	AML	11 04 11.7	
MSWZ				AML	AML	11 04 12.7	
PLWZ	**Palliser**	**1.05**	**119**	PN	Pn	11 03 52.4	-0.7
THZ	**Tophouse**	**1.09**	**230**	⇓PN	Pn	11 03 53.3	-0.3
PAWZ	**Paruwai Farm**	**1.10**	**107**	PN	Pn	11 03 53.1	-0.5
PAWZ				AML	AML	11 04 12.9	
PAWZ				AML	AML	11 04 13.4	
MTW	**Mount Morrison**	**1.12**	**95**	PN	Pn	11 03 53.8	0.0
MTW				AML	AML	11 04 13.5	
MTW				AML	AML	11 04 15.8	
HOWZ	**Holdsworth Sta**	**1.14**	**82**	PN	Pn	11 03 53.9	-0.2
MRZ	**Mangatainoka R**	**1.25**	**72**	⇓PN	Pn	11 03 55.3	-0.2
MRZ				AML	AML	11 04 16.7	
MRZ				AML	AML	11 04 17.7	
TRWZ	**Traveller**	**1.30**	**105**	PN	Pn	11 03 55.8	-0.4
TRWZ				AML	AML	11 04 20.8	
TRWZ				AML	AML	11 04 23.1	
KHZ	**Kahutara**	**1.40**	**195**	PN	Pn	11 03 57.3	-0.2
KHZ				AML	AML	11 04 19.4	
KHZ				AML	AML	11 04 20.3	
TMWZ	**Te Maipa**	**1.41**	**92**	PN	Pn	11 04 00.2	+2.4
TIWZ	**Tintock**	**1.44**	**79**	PN	Pn	11 03 57.5	-0.6
POWZ	**Post Office Ro**	**1.48**	**64**	PN	Pn	11 03 58.3	-0.5
WAZ	**Wanganui**	**1.50**	**29**	⇑PN	Pn	11 04 00.6	+1.6
BFZ	**Birch Farm**	**1.73**	**78**	PN	Pn	11 04 00.9	-1.1
TSZ	**Takapari Road**	**1.78**	**56**	PN	Pn	11 04 02.3	-0.6
TSZ				AML	AML	11 04 34.3	
TSZ				AML	AML	11 04 35.3	
DVHZ	**Dannevirke**	**1.80**	**65**	PN	Pn	11 04 01.9	-1.1
DREZ	**Durham Road**	**1.88**	**4

ISRV	Sarvestan	1.65	360	*e*Pn		Pb	11 44 27.3 +0.2
ISRV				*e*Sg		Sb	11 44 49.0 +1.1
IPAR	Pars	2.11	358	*e*Pn		Pb	11 44 33.7 -1.2
IPAR				*e*			11 45 16.9
	comp=Z,5μm,0.4s						
IPAR	Pars	2.11	358	Pn		Pb	11 44 34.0 -0.9
IPAR	Pars	2.11	358	*e*Pn		Pb	11 44 33.7 -1.2
BNDS	Bandar-Abbas	2.72	96	*e*Pn		Pn	11 44 42.1 +1.9
BNDS				AML		AML	11 45 43.9
	comp=E,697nm,0.5s						
BNDS				AML		AML	11 45 45.2
	comp=N,765nm,0.6s						
BNDS	Bandar-Abbas	2.72	96	Pn		Pn	11 44 42.0 +1.9
BNDS	Bandar-Abbas	2.72	96	*e*Pn		Pn	11 44 42.1 +1.9
IBND	Bandar-abas	3.04	94	*e*Pn		Pb	11 44 51.1 +0.4
IBND				*e*			11 46 00.7
	comp=Z,46μm,0.5s						
IBND	Bandar-abas	3.04	94	Pn		Pb	11 44 51.0 +0.4
IBND	Bandar-abas	3.04	94	*e*Pn		Pb	11 44 51.1 +0.4
BANOM	Banah	3.35	122	Pn		Pn	11 44 50.2 +1.4
	SNR=28						
NAZ	Nazwa, Dubai	3.55	140	Pn		Pn	11 44 52.3 +0.9
ASUD	Al Ashush, Dub	3.67	147	Pn		Pn	11 44 54.1 +1.1
FAQ	Al Faqa, Dubai	3.70	143	Pn		Pn	11 44 54.2 +0.7
IMEH	Mehriz	3.87	19	*e*Pn		Pn	11 44 58.4 +2.3
IMEH				*e*			11 46 08.4
	comp=Z,2μm,0.4s						
IMEH	Mehriz	3.87	19	Pn		Pn	11 44 58.3 +2.2
IMEH	Mehriz	3.87	19	*e*Pn		Pn	11 44 58.4 +2.3
KRBR	Kerman	3.90	54	*e*Pn		Pn	11 44 57.2 +0.7
KRBR				AML		AML	11 46 02.9
	comp=E,283nm,0.6s						
KRBR				AML		AML	11 46 09.7
	comp=N,300nm,0.7s						
KRBR	Kerman	3.90	54	Pn		Pn	11 44 57.0 +0.5
KRBR	Kerman	3.90	54	*e*Pn		Pn	11 44 57.2 +0.7
HATD	Hatta, Dubai	3.95	136	Pn		Pn	11 44 56.9 -0.1
ASHO	Ashiyiah	4.01	138	Pn		Pn	11 44 58.2 +0.4
	SNR=12						
ISAD	Sadrabad	4.20	6	*e*Pn		Pn	11 45 03.0 +2.3
ISAD				*e*			11 46 31.4
	comp=Z,1μm,0.3s						
ISAD	Sadrabad	4.20	6	Pn		Pn	11 45 02.9 +2.3
ISAD	Sadrabad	4.20	6	*e*Pn		Pn	11 45 03.0 +2.3
IBAF	Bafgh	4.40	28	*e*			11 45 18.6
	comp=Z,2μm,0.6s						
IBAF				*e*Pn		Pn	11 45 03.7 +0.5
IBAF	Bafgh	4.40	28	Pn		Pn	11 45 04.1 +0.9
ICHK	Chekchek	4.64	14	*e*			11 45 25.8
	comp=Z,2μm,0.5s						
ICHK				*e*Pn		Pn	11 45 08.5 +1.9
IGAR	Gharneh	4.75	349	*e*Pn		Pn	11 45 09.5 +1.3
IGAR				*e*			11 46 08.5
	comp=Z,509nm,0.2s						
RDF	Al-Radifah	5.06	285	*e*P		Pn	11 45 14.0 +1.8
RDF				AML		AML	11 45 48.4
	comp=Z,28nm,0.6s						
RDF	Al-Radifah	5.06	285	*e*P		Pn	11 45 14.0 +1.8
NASN	Na'in	5.06	357	*e*Pn		Pn	11 45 13.2 +0.7
NASN	Na'in	5.06	357	Pn		Pn	11 45 13.0 +0.5
NASN	Na'in	5.06	357	*e*Pn		Pn	11 45 13.2 +0.7
UMR	Umm Al-Rimmam	5.09	292	*e*P		Pn	11 45 14.2 +1.6
UMR	Umm Al-Rimmam	5.09	292	*e*P		Pn	11 45 14.2 +1.6
IZEF	Zefreh	5.20	353	*e*Pn		Pn	11 45 14.8 +0.5
IZEF				*e*			11 45 38.8
	comp=Z,499nm,0.5s						
IZEF	Zefreh	5.20	353	Pn		Pn	11 45 14.8 +0.5
IZEF	Zefreh	5.20	353	*e*Pn		Pn	11 45 14.8 +0.5
IPIR	Pirpir	5.31	339	*e*Pn		Pn	11 45 16.6 +0.8
IPIR	Pirpir	5.31	339	Pn		Pn	11 45 16.7 +0.8
IPIR	Pirpir	5.31	339	*e*Pn		Pn	11 45 16.6 +0.8
NAY	Al-Naaiem	5.40	288	*e*P		Pn	11 45 18.9 +2.1
NAY				AML		AML	11 45 59.5
	comp=Z,19nm,0.6s						
NAY	Al-Naaiem	5.40	288	*e*P		Pn	11 45 18.9 +2.1
IKLH	Kolahrood	5.73	347	*e*Pn		Pn	11 45 22.9 +1.2
IKLH				*e*			11 46 59.0
	comp=N,401nm,0.4s						
IKLH	Kolahrood	5.73	347	*e*Pn		Pn	11 45 22.9 +1.2
TABS	Tabas	6.83	29	*e*Pn		Pn	11 45 36.9 +0.3
TABS	Tabas	6.83	29	*e*Pn		Pn	11 45 36.9 +0.3
KBL	Kabul	15.22	60	*e*P		Pn	11 47 32.9 +1.5
	comp=N,11nm,1.1s						
KBZ	Khabaz	17.97	335	P		P	11 48 08.9 +2.4
KBZ	Khabaz	17.97	335	P		P	11 48 08.9 +2.4
	comp=N,0.2nm,0.3s,baz=143,slow=10,SNR=2.8						
KBZ	Khabaz	17.97	335	P		P	11 48 08.9 +2.4
BRTR	Keskin Array B	20.10	312	P		Pn	11 48 31.4 -0.6
BRTR	Keskin Array B	20.10	312	P		Pn	11 48 31.4 -0.6
	comp=N,0.8nm,0.5s,baz=136,slow=13,SNR=6.3						
BRTR	Keskin Array B	20.10	312	P		Pn	11 48 31.4 -0.6
KKAR	Karatay Array	20.82	38	*e*P		P	11 48 36.7 -1.1
	comp=N,17nm,0.9s						
KKAR	Karatay Array	20.82	38	*e*P		P	11 48 36.7 -1.1
	comp=N,17nm,0.9s						
ABKAR	Akbulak array	22.13	12	*e*P		P	11 48 51.8 +0.1
	comp=N,3.2nm,0.7s						
ABKAR	Akbulak array	22.13	12	*e*P		P	11 48 51.8 +0.1
	comp=N,3.2nm,0.7s						
EKS2	Erkin-Say	22.43	43	*e*P		P	11 48 55.6 +0.4
	comp=N,11nm,1.1s						
EKS2	Erkin-Say	22.43	43	*e*P		P	11 48 55.6 +0.4
	comp=N,11nm,1.1s						
AAK	Ala-Archa	22.85	44	*e*P		P	11 48 59.5 -0.2
	comp=N,6.3nm,0.8s						
AAK	Ala-Archa	22.85	44	P		P	11 49 02.8 +3.1
	comp=N,2.5nm,0.5s,baz=243,slow=4.5,SNR=3.1						
AAK	Ala-Archa	22.85	44	*e*P		P	11 48 59.5 -0.2
	comp=N,6.3nm,0.8s						
AKTO	Aktyubinsk	22.98	8	P		P	11 49 02.0 +1.2
AKTO	Aktyubinsk	22.98	8	P		P	11 49 02.0 +1.2
	comp=N,2.4nm,0.5s,baz=177,slow=11,SNR=5.2						
AKTO	Aktyubinsk	22.98	8	P		P	11 49 02.0 +1.2
TKM2	Tokmak 2	23.68	44	*e*P		P	11 49 06.9 -1.3
	comp=N,3.6nm,0.8s						
TKM2	Tokmak 2	23.68	44	*e*P		P	11 49 06.9 -1.3
	comp=N,3.6nm,0.8s						
BVAR	Borovoye Array	28.34	22	P		P	11 49 50.4 +0.4
BVAR	Borovoye Array	28.34	22	P		P	11 49 50.4 +0.4
	comp=N,5.3nm,1.0s,baz=202,slow=7.5,SNR=12						
BVAR	Borovoye Array	28.34	22	P		P	11 49 50.4 +0.4
AKASG	Malin Array Be	29.25	328	P		P	11 49 58.4 +0.2
AKASG	Malin Array Be	29.25	328	P		P	11 49 58.4 +0.2
	comp=N,15nm,0.3s,baz=113,slow=7.1,SNR=2.9						
AKASG	Malin Array Be	29.25	328	P		P	11 49 58.3 +0.2
MK31	Makanchi Array	29.76	42	*e*P		P	11 50 02.2 -0.6
MK31	Makanchi Array	29.76	42	*e*P		P	11 50 02.2 -0.6
MKAR	Makanchi Array	29.76	42	P		P	11 50 02.3 -0.5
MKAR	Makanchi Array	29.76	42	P		P	11 50 02.3 -0.5
	comp=N,1.3nm,0.5s,baz=230,slow=9.0,SNR=12						
MKAR	Makanchi Array	29.76	42	P		P	11 50 02.3 -0.5
KURBB	Kurchatov Arra	29.91	33	P		P	11 50 03.6 -0.4
	comp=N,0.7nm,0.6s,baz=234,slow=9.0,SNR=7.3						
KURK	Kurchatov	30.01	33	P		P	11 50 03.6 -1.3
KURK	Kurchatov	30.01	33	P		P	11 50 03.6 -1.3
ZALV	Zalesovo Beam	35.00	33	P		P	11 50 47.5 -1.0
ZALV	Zalesovo Beam	35.00	33	P		P	11 50 47.5 -1.0
	comp=N,2.6nm,0.7s,baz=232,slow=7.3,SNR=7.3						
ZALV	Zalesovo Beam	35.00	33	P		P	11 50 47.5 -1.0
FINES	FINESS Array B	38.26	339	P		P	11 51 15.9 -0.3
FINES	FINESS Array B	38.26	339	P		P	11 51 15.9 -0.3
	comp=N,2.1nm,0.5s,baz=144,slow=9.5,SNR=21						
FINES	FINESS Array B	38.26	339	P		P	11 51 15.9 -0.3
GTA	Gaotai	40.20	61	*e*P		P	11 51 33.0 +0.1
GTA				pP		pP	11 51 36.8 -0.5
GTA				sP		sP	11 51 39.1 +0.1
GTA				pmax		pmax	
	comp=Z,6.0nm,1.6s						
HFS	Hagfors	41.98	332	P		P	11 51 46.3 -0.8
HFS	Hagfors	41.98	332	P		P	11 51 46.3 -0.8
	comp=Z,0.8nm,0.4s,baz=146,slow=8.2,SNR=9.4						
HFS	Hagfors	41.98	332	P		P	11 51 46.3 -0.8
CMAR	Chiang Mai Arr	42.94	92	P		P	11 51 53.4 -2.1
CMAR	Chiang Mai Arr	42.94	92	P		P	11 51 53.4 -2.1
	comp=Z,0.8nm,0.3s,baz=297,slow=8.0,SNR=4.9						
CMAR	Chiang Mai Arr	42.94	92	P		P	11 51 53.3 -2.1
NOA	NORSAR Array B	43.50	332	P		P	11 51 58.9 -0.7
NOA	NORSAR Array B	43.50	332	P		P	11 51 58.9 -0.7
	comp=Z,0.7nm,0.8s,baz=121,slow=7.5,SNR=3.6						
NOA	NORSAR Array B	43.50	332	P		P	11 51 58.8 -0.7
ARCES	ARCESS Array B	44.81	347	P		P	11 52 07.7 -2.1
ARCES	ARCESS Array B	44.81	347	P		P	11 52 07.7 -2.1
	comp=Z,1.5nm,1.0s,baz=150,slow=8.8,SNR=8.0						
ARCES	ARCESS Array B	44.81	347	P		P	11 52 07.7 -2.1
SONM	Songino Array	45.64	49	P		P	11 52 16.5 -0.4
SONM	Songino Array	45.64	49	P		P	11 52 16.5 -0.4
	comp=Z,2.8nm,0.8s,baz=266,slow=8.6,SNR=11						
SONM	Songino Array	45.64	49	P		P	11 52 16.5 -0.4
ESDC	Sonseca Array	48.24	300	P		P	11 52 36.6 -0.6
ESDC	Sonseca Array	48.24	300	P		P	11 52 36.6 -0.6
	comp=Z,0.8nm,0.9s,baz=82,slow=11,SNR=4.6						
ESDC	Sonseca Array	48.24	300	P		P	11 52 36.7 -0.6
LSZ	Lusaka	49.11	213	*e*P		P	11 52 44.7 +0.5
	comp=Z,8.0nm,1.3s						
LSZ	Lusaka	49.11	213	P		P	11 52 43.7 -0.4
	comp=Z,2.2nm,0.8s,baz=83,slow=8.1,SNR=3.4						
LSZ	Lusaka	49.11	213	*e*P		P	11 52 44.7 +0.5
	comp=Z,8.0nm,1.3s						
TORD	Torodi Ar. Bea	49.99	264	P		P	11 52 50.6 -0.2
TORD	Torodi Ar. Bea	49.99	264	P		P	11 52 50.6 -0.2
	comp=Z,0.8nm,0.5s,baz=58,slow=8.2,SNR=8.7						
TORD	Torodi Ar. Bea	49.99	264	P		P	11 52 50.7 -0.2
LBTB	Lobatse	58.76	209	*e*P		P	11 53 56.4 +1.8
LBTB	Lobatse	58.76	209	P		P	11 53 55.7 +1.2
	comp=Z,2.8nm,0.4s,baz=28,slow=7.7,SNR=11						
LBTB	Lobatse	58.76	209	*e*P		P	11 53 56.3 +1.8
KSAR	Wonju Array Be	62.24	60	P		P	11 54 17.4 -0.7
KSAR	Wonju Array Be	62.24	60	P		P	11 54 17.5 -0.7
KSRS	Korea Array	62.27	60	P		P	11 54 17.4 -0.9
	comp=Z,1.1nm,0.8s,baz=282,slow=7.6,SNR=5.5						
FITZ	Fitzroy Crossi	83.66	114	P		P	11 56 25.3 0.0
FITZ	Fitzroy Crossi	83.66	114	P		P	11 56 25.3 0.0
	comp=Z,2.8nm,0.9s,baz=8.0,slow=2.8,SNR=4.9						
FITZ	Fitzroy Crossi	83.66	114	P		P	11 56 25.3 0.0

IDC ***09*** *11:47:09.2±1.0, 6°.44S×104°.32E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/28, mbtmp4.2/17, ML5.4/1, MS5.4/1, Ms1 5.4/1, ms1mx4.5/44, Error ellipse: s-maj=39.6km s-min=13.2km az=48.0*

AUST ***09*** *11:47:11.4±2.4, 6°.89S×104°.26E, h0km, Error ellipse: s-maj=1.4km s-min=1.0km az=237.0*

NEIC ***09*** *11:47:14.3±0.5, 6°.46S×104°.38E, h35km, mb4.4/7, Error ellipse: s-maj=24.0km s-min=6.2km az=46.0*

DJA ***09*** *11:47:15.4±1.1, 7°.S±3°×10°.4E±°, h6km±9km, M4.5/11, MLv4.5/11*

ISC 09 11:47:11.9±1.8, 6°.72S±0°.04×104°.10E±0°.07, h25km±13km, n67, σ1°.33/68, mb4.4/21, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.25	18	P	Pn	11 47 33.1	-0.7
KASI				S	Sn	11 47 46.7	-3.1
LWLI	Liwa	1.69	359	P	Pn	11 47 42.1	+2.2
LWLI				S	Sb	11 48 04.0	+0.7
BLSI	Bandar Lampung	1.76	40	P	Pn	11 47 39.4	-1.4
BLSI				S	Sn	11 47 59.0	-3.4
KLSI		2.11	17	P	Pn	11 47 46.9	+1.3
SKJI	Sukabumi	2.45	97	P	Pn	11 47 51.6	+1.2
MNAI	Manna	2.60	334	P	Pb	11 47 57.5	-0.4
	baz=2.8,SNR=7.7						
DBJI	Dramaga	2.64	87	P	Pn	11 47 53.0	+0.1
CBJI	Citeko	2.75	84	P	Pn	11 47 56.7	+2.3
CBJI				S	Sn	11 48 26.8	0.0
KSI	Kapahiang	3.40	334	P	Pn	11 48 08.1	+4.7
LEM	Lembang	3.49	92	P	Pn	11 48 06.4	+1.6
LEM	Lembang	3.49	92	P	Pn	11 48 07.5	+2.6
	baz=3.3,SNR=5.5						
CISI	Cisompet, Garu	3.78	103	P	Pn	11 48 10.0	+1.3
CISI	Cisompet, Garu	3.78	103	P	Pn	11 48 06.3	-2.4
	baz=3.6,SNR=6.7						
MASI	Maura Aman, Be	4.01	332	P	Pn	11 48 17.2	+5.4
XMI	Christmas Isla	4.03	157	P	Pn	11 48 11.6	-0.4
	baz=3.8,SNR=7.2						
XMI				S	Sn	11 48 55.6	-2.8
	baz=3.8,SNR=3.4						
XMIS	Christmas Isla	4.04	158	P	Pn	11 48 11.5	-0.8
	baz=3.9,SNR=27						
PPBI	Pangkal Pinang	4.96	24	P	Pn	11 48 25.6	+0.8
UGM	Wanagama	6.48	101	P	Pn	11 48 48.1	+2.3
	baz=6.3,SNR=4.1						
BATI	Baumata	19.66	102	P	P	11 51 38.6	-0.5
BATI	Baumata	19.66	102	P	P	11 51 38.6	-0.5
	11nm,0.3s,baz=281,slow=6.0,SNR=13						
MBWA	Marble Bar	20.86	135	*e*P	Pn	11 51 59.3	+4.6
	2.9nm,0.7s						
FITZ	Fitzroy Crossi	23.85	120	P	P	11 52 24.0	+0.6
FITZ	Fitzroy Crossi	23.85	120	P	P	11 52 24.0	+0.6
	1.7nm,0.7s,baz=229,slow=4.5,SNR=8.9						
FITZ	Fitzroy Crossi	23.85	120	P	P	11 52 24.2	+0.8
	baz=24,SNR=4.7						
CMAR	Chiang Mai Arr	25.53	349	P	P	11 52 37.7	-1.0
CMAR	Chiang Mai Arr	25.53	349	P	P	11 52 37.7	-1.0
	1.0nm,0.4s,baz=182,slow=9.6,SNR=6.3						
KNRA	Kununurra	25.75	112	P	P	11 52 41.8	+1.0
	baz=26,SNR=14						
MTN	Manton Dam	27.31	105	P	P	11 52 57.7	+2.8
	baz=27,SNR=7.0						
KDU	Kakadu	28.57	104	P	P	11 53 09.1	+3.0
	baz=28,SNR=4.2						
WRA	Warramunga Arr	32.15	117	P	P	11 53 37.5	-0.3
WRA	Warramunga Arr	32.15	117	P	P	11 53 37.5	-0.3
	0.4nm,0.3s,baz=303,slow=8.9,SNR=16						
WRAB	Tennant Creek	32.16	117	*e*P	P	11 53 37.2	-0.7
	2.2nm,0.6s						
ASAR	Alice Springs	33.22	124	P	P	11 53 47.6	+0.5
ASAR	Alice Springs	33.22	124	P	P	11 53 47.6	+0.5
	0.3nm,0.5s,baz=303,slow=8.2,SNR=11						
CTAO	Charters Tower	42.97	112	*e*P	P	11 55 07.7	-1.7
	44nm,1.2s						
STKA	Stephens Creek	42.99	131	*e*P	P	11 55 11.0	+1.7
	0.5nm,0.7s						
STKA	Stephens Creek	42.99	131	P	P	11 55 10.9	+1.5
	1.1nm,0.4s,baz=267,slow=6.0,SNR=9.0						
STKA	Stephens Creek	42.99	131	P	P	11 55 11.0	+1.7
	baz=43,SNR=7.1						
KSAR	Wonju Array Be	49.23	25	P	P	11 55 57.6	-0.7
KSRS	Korea Array	49.25	25	P	P	11 55 57.6	-0.9
	1.2nm,0.6s,baz=221,slow=6.8,SNR=6.1						
SONM	Songino Array	54.35	2	P	P	11 56 36.3	-0.3
SONM				PcP	PcP	11 57 40.6	+0.3
SONM	Songino Array	54.35	2	P	P	11 56 36.3	-0.3
	0.6nm,0.4s,baz=176,slow=7.9,SNR=5.7						
SONM				PcP	PcP	11 57 40.6	+0.3
	1.4nm,0.5s,baz=179,slow=3.7,SNR=10						
TKM2	Tokmak 2	55.78	335	*e*P	P	11 56 47.3	+0.2
	3.4nm,0.6s						
EKS2	Erkin-Say	56.36	333	*e*P	P	11 56 51.6	+0.5
	3.5nm,0.8s						
OPO	Ambohidratompo	56.56	252	LR	LR	12 15 41.4	
	comp=Z,3μm,18.8s,baz=232,slow=30						
USRK	Ussuriysk Arra	56.59	24	P	P	11 56 50.7	-1.8
	5.0nm,0.6s,baz=220,slow=6.6,SNR=16						
MK31	Makanchi Array	56.69	342	*e*P	P	11 56 53.0	-0.2
MKAR	Makanchi Array	56.69	342	P	P	11 56 53.0	-0.2
MKAR	Makanchi Array	56.69	342	P	P	11 56 53.0	-0.2
	3.4nm,0.6s,baz=144,slow=7.7,SNR=30						
KURBB	Kurchatov Arra	61.24	342	P	P	11 57 24.5	-0.2
	2.8nm,0.7s,baz=152,slow=6.6,SNR=13						
KURK	Kurchatov	61.29	342	P	P	11 57 24.5	-0.6
ZALV	Zalesovo Beam	62.58	347	P	P	11 57 33.0	-0.7
ZALV	Zalesovo Beam	62.58	347	P	P	11 57 33.0	-0.7
	4.6nm,0.3s,baz=162,slow=5.3,SNR=22						
BVAR	Borovoye Array	66.02	338	P	P	11 57 55.5	-0.8
BVAR	Borovoye Array	66.02	338	P	P	11 57 55.5	-0.8
	1.0nm,0.3s,baz=127,slow=7.4,SNR=9.1						
MAW	Mawson	66.82	196	P	P	11 58 08.2	+7.0
	baz=67,SNR=18						
ABKAR	Akbulak array	67.72	330	*e*P	P	11 58 07.5	+0.3
	5.8nm,0.7s						
AKTO	Aktyubinsk	69.44	331	P	P	11 58 18.2	+0.3
AKTO	Aktyubinsk	69.44	331	P	P	11 58 18.2	+0.3
	1.1nm,0.3s,baz=91,slow=3.9,SNR=5.0						
BRTR	Keskin Array B	79.50	312	P	P	11 59 18.7	+1.9
BRTR	Keskin Array B	79.50	312	P	P	11 59 18.7	+1.9
	1.6nm,0.6s,baz=142,slow=6.4,SNR=7.2						
FINES	FINESS Array B	90.16	332	P	P	12 00 11.3	+1.5
FINES	FINESS Array B	90.16	332	P	P	12 00 11.3	+1.5
	0.7nm,0.6s,baz=108,slow=6.2,SNR=4.7						
ARCES	ARCESS Array B	92.27	340	P	P	12 00 19.4	-0.1
ARCES	ARCESS Array B	92.27	340	P	P	12 00 19.4	-0.1
	1.5nm,1.0s,baz=85,slow=5.1,SNR=4.3						
TXAR	Lajitas Array	145.49	46	PKPbc	PKPab	12 06 49.4	+0.4
TXAR	Lajitas Array	145.49	46	PKPbc	PKPab	12 06 49.4	+0.4
	1.4nm,0.6s,baz=290,slow=1.1,SNR=25						

BJI ***09*** *11:47:11.5, 35°.83N×139°.01E, h131km, mB5.0/2, mb4.6/10*

MOS ***09*** *11:47:14.9±0.9, 36°.39N×138°.72E, h142km, mb4.2/36, Error ellipse: s-maj=10.0km s-min=7.1km az=85.0*

ISCJB ***09*** *11:47:15.0±0.3, 36°.32N±0°.05×138°.69E±0°.05, h143km±2km, mb4.2/72, Error ellipse: s-maj=9.1km s-min=5.4km az=155.1*

IDC ***09*** *11:47:14.8±0.6, 36°.06N×138°.61E, h141km±3km, mb3.8/26, mb1 4.0/27, mb1mx3.9/34, mbtmp3.8/27, Error ellipse: s-maj=13.1km s-min=11.9km az=2.0*

JMA ***09*** *11:47:15.4±0.1, 36°.13N×138°.78E, h143km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ±93.00000°, δ53.00000°, λ-75.00000°. NP2:φ±248.00000°, δ39.00000°, λ-109.00000°. Principal axes: T Plg7.0000°, Azm172.0000°; N Plg12.0000°, Azm263.0000°; P Plg76.0000°, Azm52.0000°;*

NEIC ***09*** *11:47:15.3±0.7, 36°.10N×138°.72E, h142km±5km, mb4.2/31 Error ellipse: s-maj=8.6km s-min=5.6km az=159.0*

NEIC Felt [II] at Tokyo. Also felt at Ayase, Matsubushi and Narita.

ISC 09 11:47:15.4±0.5, 36°.22N±0°.06×138°.74E±0°.05, h141km±3km, n199, σ1°.17/224, mb4.2/72, 7C-16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	Ryogami san	0.25	147	⇓P	Pn	11 47 35.1	+0.4
JRY				S	Sn	11 47 50.0	+0.7
MJAR	Matsushiro Arr	0.53	307	P	Pn	11 47 36.6	+0.8
MJAR				S	Sn	11 47 52.4	+1.0
MJAR	Matsushiro Arr	0.53	307	P	Pn	11 47 36.6	+0.8
	1μm,0.3s,baz=153,slow=5.5						
MJAR				S	Sn	11 47 52.4	+1.0
	262nm,0.3s,baz=154,slow=12,SNR=31						
MAT	Matsushiro	0.53	307	P	Pn	11 47 36.8	+0.9
MAT				S	Sn	11 47 52.7	+1.4
MAT	Matsushiro	0.53	307	P	Pn	11 47 36.7	+0.9
MAT				S	Sn	11 47 52.8	+1.4
JAG	Ashikaga	0.61	71	⇓P	Pn	11 47 36.6	+0.3
JAG				S	Sn	11 47 52.7	+0.5
JKT	Katashina	0.68	37	⇓P	Pn	11 47 37.9	+1.1
JKT				S	Sn	11 47 54.7	+1.5
JYN	Shimob	0.74	192	⇓P	Pn	11 47 36.8	-0.5
JYN				S	Sn	11 47 53.7	-0.1
ERM	Erimo	6.73	29	*e*P	Pn	11 48 50.2	-1.4
ERM				*e*		11 50 03.8	
ERM	Erimo	6.73	29	*e*Pn	Pn	11 48 50.2	-1.4
ERM				*e*Sn	Sn	11 50 03.8	-3.2
JNU	Nakatsue	7.17	247	*e*Pn	Pn	11 48 58.1	+0.3
	8.2nm,0.8s						
JNU	Nakatsue	7.17	247	P	Pn	11 48 58.5	+0.8
	2.1nm,0.3s,baz=52,slow=2.8,SNR=21						
ASAJ	Asahikawa	8.42	19	*e*Pn	Pn	11 49 12.9	-1.4
ASAJ				*e*Sn	Sn	11 50 47.2	-0.5
ASAJ	Asahikawa	8.42	19	P	Pn	11 49 12.8	-1.5
	8.6nm,0.3s,baz=229,slow=9.9,SNR=51						
KSRS	Korea Array	8.76	281	P	Pn	11 49 21.6	+2.7
	0.2nm,0.3s,baz=94,slow=13,SNR=11						
KSAR	Wonju Array Be	8.79	281	P	Pn	11 49 21.6	+2.3
USRK	Ussuriysk Arra	9.49	329	P	Pn	11 49 31.0	+2.4
	0.3nm,0.3s,baz=146,slow=13,SNR=17						
YUK	Yuzh-Kuril'sk	9.52	33	*e*P	Pn	11 49 26.6	-2.3
YUK				*i* S	Sn	11 51 05.9	-8.3
YUK				pmax	pmax		
	comp=N,32nm,0.4s						
YUK				pmax	pmax		
	comp=E,36nm,0.2s						
YUK				pmax	pmax		
	comp=Z,64nm,0.5s						
MDJ	Mudanjiang	10.90	323	*e*Pn	Pn	11 49 50.4	+3.1
	comp=Z,6.0nm,0.6s						
YSS	Yuzh-Sakhalins	11.13	14	*e*P	Pn	11 49 49.9	-0.5
KUR	Kuril'sk	11.35	35	⇓*i*P	Pn	11 49 51.9	-1.4
KUR				*i* S	Sn	11 51 52.5	-5.9
KUR				pmax	pmax		
	comp=Z,21nm,0.4s						
KUR				pmax	pmax		
	comp=E,6.0nm,0.1s						
KUR				pmax	pmax		
	comp=N,6.0nm,0.4s						
WHN	Wuhan	21.11	261	⇑P	P	11 51 48.8	-0.1
PETK	Petropavlovsk-	21.50	32	P	P	11 51 54.7	+1.8
PETK				pmax	p

BVAR Borovoye Array 49.53 312 P P 11 55 52.1 +0.6
BVAR 11 57 10.7
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 49.53 312 P P 11 55 52.1 +0.6
BVAR PcP PcP 11 57 10.7 -0.5
BVAR Borovoye Array 49.53 312 P P 11 55 52.1 +0.6
comp=Z,0.6nm,0.4s,baz=113,slow=9.0,SNR=5.5
BVAR PcP PcP 11 57 10.7 -0.5
comp=Z,1.1nm,0.5s,baz=65,slow=3.9,SNR=3.5
MCK McKinley 50.50 33 *eP* **P 11 55 59.6 +0.9**
MCK pmax pmax
comp=Z,3.0nm,0.7s
MCK McKinley 50.50 33 *eP* **P 11 55 59.6 +0.9**
comp=Z,3.5nm,0.7s
PMR Palmer 50.55 36 *eP* **P 11 55 59.0 -0.1**
PMR pmax pmax
comp=Z,3.0nm,0.6s
PMR Palmer 50.55 36 *eP* **P 11 55 59.0 -0.1**
comp=Z,3.0nm,0.6s
COLA College 50.91 32 *eP* **P 11 56 03.1 +1.4**
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 50.91 32 *eP* **P 11 56 03.1 +1.4**
comp=Z,14nm,0.8s
SML Sawmill 50.91 36 *eP* **P 11 56 02.6 +0.7**
SML pmax pmax
comp=Z,1.0nm,0.6s
SML Sawmill 50.91 36 *eP* **P 11 56 02.6 +0.7**
comp=Z,1.3nm,0.6s
ILAR Eielson Array 51.33 32 P P 11 56 05.2 +0.3
ILAR Eielson Array 51.33 32 P P 11 56 05.2 +0.3
comp=Z,3.2nm,0.8s,baz=272,slow=5.2,SNR=59
KKAR Karatay Array 51.66 300 *eP* **P 11 56 08.1 +0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 51.66 300 *eP* **P 11 56 08.1 +0.4**
comp=Z,0.6nm,0.4s
MENT Mentasta 52.92 34 *eP* **P 11 56 17.9 +1.2**
EGAK Eagle 53.76 32 *eP* **P 11 56 23.6 +0.9**
comp=Z,11nm,1.5s
ARU Arti 55.54 318*diP* **P 11 56 35.2 -0.5**
ARU S S 12 04 18.1 +8.2
ARU pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 56.00 185 *eP* **P 11 56 37.0 -2.4**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 56.00 185 *eP* **P 11 56 37.0 -2.4**
comp=Z,7.1nm,0.9s
WRA Warramunga Arr 56.01 185 P P 11 56 37.2 -2.3
WRA Warramunga Arr 56.01 185 P P 11 56 37.2 -2.3
comp=Z,2.8nm,0.4s,baz=0.3,slow=7.6,SNR=46
INK Inuvik 56.08 27 *eP* **P 11 56 40.3 +1.0**
comp=Z,4.5nm,0.6s
INK Inuvik 56.08 27 *eP* **P 11 56 40.0 +0.6**
comp=Z,4.5nm,0.6s,baz=302,slow=5.1,SNR=28
HYT Haines Junctio 56.22 36 *eP* **P 11 56 42.5 +1.9**
ABKAR Abkulak array 56.81 310 *eP* **P 11 56 44.4 -0.4**
AKTO Aktyubinsk 57.61 312 P P 11 56 50.3 -0.2
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 57.61 312 P P 11 56 50.2 -0.2
AKTO Aktyubinsk 57.61 312 P P 11 56 50.2 -0.2
comp=Z,1.1nm,0.5s,baz=77,slow=16,SNR=4.1
ASAR Alice Springs 59.74 185 P P 11 57 03.6 -1.8
ASAR Alice Springs 59.74 185 P P 11 57 03.6 -1.8
comp=Z,0.7nm,0.4s,baz=86,slow=9.7,SNR=8.0
ARCES ARCESS Array B 63.99 339 P P 11 57 33.3 +0.1
ARCES ARCESS Array B 63.99 339 P P 11 57 33.3 +0.1
comp=Z,0.7nm,0.5s,baz=54,slow=7.1,SNR=11
YKA Yellowknife Ar 65.58 29 P P 11 57 44.0 +0.4
YKA Yellowknife Ar 65.58 29 P P 11 57 44.0 +0.4
comp=Z,1.0nm,0.5s,baz=308,slow=4.7,SNR=14
FINES FINESS Array B 68.51 332 P P 11 58 01.9 -0.3
FINES FINESS Array B 68.51 332 P P 11 58 01.9 -0.3
comp=Z,3.7nm,0.6s,baz=72,slow=6.0,SNR=27
KIV Kislovodsk 69.79 310 *eP* **P 11 58 11.0 +0.5**
KIV pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 71.48 359 *eP* **P 11 58 21.1 +0.5**
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 71.48 359 *eP* **P 11 58 21.1 +0.5**
comp=Z,7.3nm,0.7s
NEW Newport 72.20 43 *eP* **P 11 58 25.3 +0.5**
comp=Z,1.4nm,0.7s
YBH Yreka Blue Hor 72.53 51 P P 11 58 28.2 +1.2
YBH Yreka Blue Hor 72.53 51 P P 11 58 28.2 +1.2
comp=Z,1.9nm,0.6s,baz=23,slow=4.0,SNR=6.1
AKASG Malin Array Be 73.60 321*ceP* **P 11 58 32.9 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 73.60 321 P P 11 58 32.5 -0.6
AKASG Malin Array Be 73.60 321 P P 11 58 32.5 -0.6
comp=Z,2.4nm,0.5s,baz=48,slow=5.7,SNR=4.8
A14A Double T Ranch 73.78 41 ⇓P **P 11 58 34.5 +0.2**
baz=74
HFS Hagfors 73.92 335 P P 11 58 34.2 -0.5
HFS Hagfors 73.92 335 P P 11 58 34.2 -0.5
comp=Z,1.6nm,0.3s,baz=75,slow=1.7,SNR=21
BMO Blue Mountains 74.05 46 *eP* **P 11 58 36.5 +0.6**
comp=Z,1.5nm,0.6s
NB2 NORSAR Subarra 74.08 336 P P 11 58 35.0 -0.7
comp=Z,1.6nm,0.5s,baz=42,slow=5.9
NOA NORSAR Array B 74.08 336 P P 11 58 35.3 -0.4
NOA NORSAR Array B 74.08 336 P P 11 58 35.3 -0.4
comp=Z,2.3nm,0.7s,baz=42,slow=5.8,SNR=16
A15A Johnson Ranch, 74.14 40 ⇓P **P 11 58 36.7 +0.3**
baz=74
SWMT Swartz Lake 74.35 42 *eP* **P 11 58 38.2 +0.6**
comp=Z,1.0nm,0.6s
B15A Bradely Ranch, 74.63 41 ⇓P **P 11 58 39.8 +0.6**
baz=74,SNR=6.8
SLMT Seeley Lake 74.78 42 *eP* **P 11 58 40.6 +0.5**
MSO Missoula 74.79 43 ⇓P **P 11 58 40.4 +0.2**
baz=75
C15A Salmond Ranch, 74.94 41 ⇑P **P 11 58 42.0 +1.0**
baz=75,SNR=7.2
A17A Triple J Farms 75.22 40 ⇓P **P 11 58 43.1 +0.6**
baz=75
C16A Fuhringer Ranc 75.38 41 ⇓P **P 11 58 44.1 +0.6**
baz=75
B17A L&G Farms, Che 75.58 40 ⇑P **P 11 58 45.5 +1.0**
baz=75,SNR=5.3
A18A Metzger Ranch, 75.67 39 P **P 11 58 45.7 +0.6**
baz=76,SNR=5.9
C17A Wharram Farm, 76.01 41 ⇓P **P 11 58 47.2 +0.2**
baz=76
HRY Holter Researc 76.01 42 *eP* **P 11 58 47.5 +0.4**
comp=Z,1.9nm,0.5s
B18A Beardsley Farm 76.04 40 ⇑P **P 11 58 48.0 +0.8**
baz=76
CMB Columbia Colle 76.08 53 *eP* **P 11 58 48.2 +0.6**
CMB pmax pmax
comp=Z,2.0nm,0.5s
CMB Columbia Colle 76.08 53 *eP* **P 11 58 48.2 +0.6**
comp=Z,2.4nm,0.5s
LRM Limekiln Ridge 76.22 43 *eP* **P 11 58 49.2 +0.7**
EGMT Eagleton 76.29 40 ⇑P **P 11 58 49.2 +0.6**
baz=76
D17A Six Diamond Ra 76.35 41 ⇑P **P 11 58 49.6 +0.5**
baz=76
B19A Brinkman Farms 76.43 39 ⇓P **P 11 58 50.2 +0.8**
baz=76
HLID Hailey 76.49 46 *eP* **P 11 58 50.9 +1.0**
comp=Z,0.9nm,0.6s
A20A Cobblestone Ra 76.68 39 ⇓P **P 11 58 51.7 +0.9**
baz=76
E17A Martinsdale 76.69 42 P P 11 58 52.4 +1.4
baz=76,SNR=6.8
I14A Mackay 76.82 45 P P 11 58 53.4 +1.6
baz=77,SNR=8.3
NVAR Mina Array Bea 77.19 52 P P 11 58 55.0 +0.9
NVAR Mina Array Bea 77.19 52 P P 11 58 55.0 +0.9
comp=Z,3.6nm,0.7s,baz=297,slow=5.6,SNR=20
F18A Big Timber 77.66 42 P P 11 58 57.4 +1.1
baz=78,SNR=7.0
BRTR Keskin Array B 77.75 310 P P 11 58 57.0 0.0
BRTR Keskin Array B 77.75 310 P P 11 58 57.0 0.0
comp=Z,1.3nm,0.7s,baz=115,slow=4.0,SNR=7.2
E19A Rath Farm, Rou 77.79 41 P P 11 58 58.1 +1.1
baz=78,SNR=9.5
I16A Newdale 77.97 44 P P 11 59 00.1 +1.9
baz=78,SNR=7.8
E20A Meyer Farm, Mu 78.11 40 P P 11 59 00.1 +1.3
baz=78,SNR=5.8
R11A Troy Canyon, C 78.95 50 P P 11 59 04.6 +0.9
baz=79,SNR=6.4
MPMC Manual Prospec 79.12 53 P P 11 59 05.1 +0.4
baz=79,SNR=5.3
FURC Furnace Creek, 79.28 53 P **P 11 59 06.2 +1.0**
baz=79,SNR=7.1
HWUT Hardware Ranch 79.35 46 *eP* **P 11 59 06.6 +0.8**
comp=Z,3.1nm,1.0s
DUG Dugway 79.50 48 *eP* **P 11 59 07.9 +1.3**
DUG pmax pmax
comp=Z,74nm,2.8s
DUG Dugway 79.50 48 *eP* **P 11 59 07.9 +1.3**
comp=Z,74nm,2.8s
BW06 Boulder Array 79.76 44 *eP* **P 11 59 08.1 +0.1**
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 79.76 44 P P 11 59 08.4 +0.4
PDAR Pinedale Array 79.76 44 P P 11 59 08.4 +0.4
comp=Z,1.3nm,0.8s,baz=291,slow=2.5,SNR=12
MORC Moravsky Berou 79.84 326 *eP* **P 11 59 08.3 +0.2**
MORC pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 79.84 326 *eP* **P 11 59 08.3 +0.2**
comp=Z,2.3nm,0.8s
PSZ Piszkesteto 80.04 323 *eP* **P 11 59 09.4 +0.1**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 80.04 323 *eP* **P 11 59 09.4 +0.1**
comp=Z,3.5nm,0.8s
SHPR Sheep Range 80.34 52 *eP* **P 11 59 12.3 +1.1**
comp=Z,8.9nm,1.3s
TUQ Turquoise Moun 80.51 53 P P 11 59 12.9 +0.8
baz=80,SNR=6.5
CLL Collm 80.70 329 *eP* **P 11 59 12.0 -0.6**
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL Collm 80.70 329 *eP* **P 11 59 12.0 -0.6**
comp=Z,5.0nm,0.6s
GMRC Granite Mounta 81.08 53 P P 11 59 15.8 +0.7
baz=81,SNR=8.9
BELC Belle Mtn. Jos 81.34 54 P P 11 59 16.9 +0.4
baz=81,SNR=5.2
ULM Lac du Bonnet 81.35 32 P P 11 59 16.8 +0.7
ULM Lac du Bonnet 81.35 32 P P 11 59 16.8 +0.7
comp=Z,1.4nm,0.5s,baz=314,slow=9.4,SNR=3.1
SRU San Rafael 81.56 47 *eP* **P 11 59 18.2 +0.6**
SRU pmax pmax
comp=Z,3.0nm,0.5s
SRU San Rafael 81.56 47 *eP* **P 11 59 18.2 +0.6**
comp=Z,2.9nm,0.5s
P19A Cripple Cowboy 82.12 46 P P 11 59 21.6 +1.0
baz=82,SNR=5.4
U15A North Rim 82.19 50 P P 11 59 22.4 +1.2
baz=82,SNR=5.9
GERES GERESS Array B 82.24 327 P P 11 59 20.4 -0.5
GERES GERESS Array B 82.24 327 P P 11 59 20.4 -0.5
comp=Z,0.8nm,0.4s,baz=40,slow=6.0,SNR=17
PV10 Paradox Valley 82.91 47 *eP* **P 11 59 25.8 +1.0**
comp=Z,211nm,0.8s
WUAZ Wupatki 83.35 51 *eP* **P 11 59 27.8 +0.8**
comp=Z,5.1nm,0.9s
WUAZ Wupatki 83.35 51 P P 11 59 28.2 +1.2
baz=83,SNR=5.7
PV01 Paradox Valley 83.35 47 *eP* **P 11 59 27.5 +0.5**
comp=Z,307nm,1.0s
R20A Redvale 83.43 47 P P 11 59 28.4 +0.9
baz=83,SNR=7.1
P22A Eagle 83.43 45 P P 11 59 28.4 +1.0
baz=83,SNR=6.5
Q22A Crested Butte, 83.84 46 P **P 11 59 30.8 +1.1**
baz=84,SNR=5.4
ISCO Idaho Springs 83.95 44 *eP* **P 11 59 31.1 +1.0**
ISCO pmax pmax
comp=Z,1.0nm,0.6s
ISCO Idaho Springs 83.95 44 *eP* **P 11 59 31.1 +1.0**
comp=Z,1.3nm,0.6s
MVCO Mesa Verde 84.00 48 *eP* **P 11 59 30.9 +0.5**
comp=Z,4.4nm,1.2s
X16A Lo Mia Camp, P 84.01 51 P P 11 59 31.7 +1.3
baz=84,SNR=5.5
S22A 4UR Ranch, Cre 84.64 46 P P 11 59 35.1 +1.4
baz=84,SNR=5.0
T22A Edith 85.08 47 P P 11 59 37.1 +1.3
baz=85,SNR=5.5
CDF Champ du Feu 85.29 330 *eP* **P 11 59 35.3 -1.1**
comp=Z,5.6nm,0.8s
R24A Sanders Place, 85.30 45 P **P 11 59 38.1 +1.3**
baz=85,SNR=5.9
SDCO Great Sand Dun 85.41 46 *eP* **P 11 59 37.9 +0.4**
comp=Z,2.0nm,0.7s
DAVOX Davos/Dischmat 85.48 328 P P 11 59 37.3 -0.2
DAVOX Davos/Dischmat 85.48 328 P P 11 59 37.3 -0.2
comp=Z,1.1nm,0.5s,baz=329,slow=15,SNR=3.7
T23A Casias Ranch, 85.58 47 P **P 11 59 39.4 +1.1**
baz=85,SNR=6.3
PAGF Fort de Pagny 85.80 331 *eP* **P 11 59 38.0 -0.8**
comp=Z,3.1nm,0.6s
U23A El Rito 85.97 47 P P 11 59 41.6 +1.5
baz=86,SNR=7.5
MEZF Maizieres J'vi 86.11 331 *eP* **P 11 59 39.4 -0.9**
comp=Z,9.5nm,0.8s
SFTF Sexfontaines 86.35 331 *eP* **P 11 59 40.4 -1.1**
comp=Z,11nm,0.8s
SCHQ Schefferville 86.68 14 *eP* **P 11 59 43.1 +0.1**
comp=Z,3.8nm,0.8s
SCHQ Schefferville 86.68 14 P P 11 59 42.9 -0.2
comp=Z,3.9nm,0.8s,baz=3.6,slow=3.4,SNR=3.9
CABF La Chapelle 87.22 329 *eP* **P 11 59 44.7 -1.2**
LOR Lormes 87.58 331 *eP* **P 11 59 46.1 -1.4**
LPG La Plagne 87.83 328 *eP* **P 11 59 47.8 -1.3**
comp=Z,4.2nm,0.7s
SSF Saint Saulge 87.89 331 *eP* **P 11 59 47.6 -1.3**
AVF Avril sur Loir 88.17 331 *eP* **P 11 59 49.0 -1.3**
comp=Z,4.8nm,0.6s
ORIF Oris-en-Rattie 88.67 329 *eP* **P 11 59 51.4 -1.4**
comp=Z,2.8nm,0.6s
TXAR Lajitas Array 92.31 51 P P 12 00 10.5 +0.5
TXAR Lajitas Array 92.31 51 P P 12 00 10.5 +0.5
comp=Z,1.1nm,0.4s,baz=295,slow=2.7,SNR=13
TORD Torodi Ar. Bea 116.33 312 PKP PKPdf 12 05 41.0 -1.7
TORD Torodi Ar. Bea 116.33 312 PKP PKPdf 12 05 41.1 -1.7
comp=Z,0.3nm,0.6s,baz=358,slow=3.0,SNR=3.2
QSPA South Pole Qui 125.97 180 *e*PKPdf **PKPdf 12 05 57.8 -1.9**
LPAZ La Paz 148.95 57 *e*PKPbc **PKPbc 12 06 47.5 -0.4**
LPAZ La Paz 148.95 57 PKPbc **PKPbc 12 06 47.5 -0.4**
comp=Z,2.1nm,0.8s,baz=306,slow=3.0,SNR=8.9

AUST ***09*** *11:49:21.6, 19°.34S×176°.87E, h35km*
IDC ***09*** *11:50:06.1±0.8, 20°.15S×170°.08E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML3.9/1, MS4.8/2, Ms1 4.8/2, ms1mx4.2/37, Error ellipse: s-maj=21.1km s-min=19.4km az=99.0*
NOU ***09*** *11:50:08.1±1.4, 20°.88S×170°.80E, h10km, MD3.3, ML3.5*
ISCJB ***09*** *11:50:09.5±0.5, 20°.09S±0°.08×170°.03E±0°.06, h30km, mb4.2/16, Error ellipse: s-maj=12.6km s-min=5.8km az=149.7*
NEIC ***09*** *11:50:11.9±1.3, 20°.06S×169°.94E, h36km±12km, mb4.6/6, Error ellipse: s-maj=13.0km s-min=9.7km az=165.0*
ISC 09 11:50:11.1±0.5, 20°.07S±0°.09×170°.01E±0°.07, h30km, n50, σ1°23/48, mb4.2/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.58	234	*e*S	Sn	11 51 46.6	+0.7
DZM	Mont Dzumac	3.88	238	*e*Pn	Pn	11 51 07.2	-1.6
DZM				*e*Sn	Sn	11 51 54.2	+0.7
DZM	Mont Dzumac	3.88	238	Pn	Pn	11 51 07.8	-1.1
	8.8nm,0.3s,baz=65,slow=18,SNR=214						
DZM				Sn	Sn	11 51 52.2	-1.3
	15nm,0.3s,baz=43,slow=23,SNR=4.1						
DZM				LR	LR	11 52 06.9	
	comp=Z,8μm,19.0s,baz=178,slow=31						
NORM	Noumea	3.93	236	*e*P	Pn	11 51 08.5	-0.9
NORM				*e*S	Sn	11 51 54.6	0.0
NORM				AMP		11 51 55.8	
	comp=Z,338nm,0.6s						
NOUC	Port Laguerre	4.01	239	*e*P	Pn	11 51 13.4	+2.9
NOUC				*e*S	Sn	11 51 59.8	+3.4
NOUC				AMP		11 52 13.6	
	comp=Z,132nm,0.7s						
MSVF	Nonsavu	7.96	74	*e*Pn	Pn	11 52 06.3	+1.4
	comp=Z,80nm,1.3s						
AFI	Afiamalu	18.46	73	LR	LR	11 59 02.7	
	comp=Z,5μm,20.9s,baz=230,slow=29						

URZ Urewera 19.15 163 *e*P **Pn 11 54 33.1 +0.1**
comp=Z,30nm,1.0s
URZ Urewera 19.15 163 P Pn 11 54 34.7 +1.7
comp=Z,0.4nm,0.3s,baz=28,slow=6.1,SNR=5.0
ARMA Armidale 19.53 235 P Pn 11 54 44.9 +7.1
baz=25,SNR=4.6
RMQ Roma 20.52 248 P Pn 11 54 54.2 +4.8
baz=27,SNR=6.8
CTA Charters Tower 22.31 266 P P 11 55 07.2 +0.8
CTA Charters Tower 22.31 266 P P 11 55 07.2 +0.8
comp=Z,3.6nm,0.8s,baz=98,slow=14,SNR=4.2
RABL Rabaul 23.48 310 P P 11 55 11.2 -7.3
baz=28,SNR=3.5
MTSU Mount Surprise 24.34 270 P P 11 55 37.5 +11
baz=31,SNR=5.3
PMG Port Moresby 24.47 292 P P 11 55 27.3 -0.5
PMG Port Moresby 24.47 292 P P 11 55 27.3 -0.5
comp=Z,18nm,0.9s,baz=166,slow=8.3,SNR=4.0
STKA Stephens Creek 28.03 239 *e*P **P 11 56 00.4 +0.6**
comp=Z,0.8nm,0.7s
STKA Stephens Creek 28.03 239 P P 11 55 59.9 +0.1
comp=Z,1.4nm,0.6s,baz=100,slow=11,SNR=1.8
ASAR Alice Springs 33.64 257 P P 11 56 48.1 -1.3
ASAR Alice Springs 33.64 257 P P 11 56 48.1 -1.3
comp=Z,7.6nm,0.6s,baz=86,slow=9.1,SNR=106
MTN Manton Dam 37.90 275 S S 12 03 56.4 +41
baz=44,SNR=6.7
FITZ Fitzroy Crossi 41.88 265 P P 11 57 57.7 -1.3
FITZ Fitzroy Crossi 41.88 265 P P 11 57 57.7 -1.3
comp=Z,2.5nm,0.7s,baz=104,slow=9.0,SNR=4.5
FITZ Fitzroy Crossi 41.88 265 P P 11 57 58.7 -0.4
baz=48,SNR=4.2
MBWA Marble Bar 46.91 259 *e*P **P 11 58 38.6 -0.6**
comp=Z,6.2nm,0.8s
MEEK Meekatharra 47.38 252 P P 11 58 45.3 +2.4
baz=54,SNR=4.1
VNDA Vanda 57.63 182 *e*P **P 11 59 57.7 -0.3**
comp=Z,4.4nm,1.2s
VNDA Vanda 57.63 182 P P 11 59 56.9 -1.1
comp=Z,2.0nm,0.8s,baz=358,slow=7.9,SNR=9.2
SBA Scott Base 57.85 181 *e*P **P 12 00 00.1 +0.6**
comp=Z,18nm,1.1s
QSPA South Pole Qui 69.99 180 *e*P **P 12 01 19.1 -0.6**
comp=Z,14nm,1.1s
QSPA South Pole Qui 69.99 180 P P 12 01 19.3 -0.4
baz=11,slow=3.8
USRK Ussurisk Arra 72.80 332 P P 12 01 37.7 +1.0
comp=Z,0.9nm,0.8s,baz=151,slow=3.3,SNR=3.6
MAW Mawson 77.94 202 *e*P **P 12 02 06.2 +0.3**
comp=Z,5.6nm,2.0s
MAW Mawson 77.94 202 P P 12 02 06.0 0.0
comp=Z,3.0nm,0.9s,baz=90,slow=7.4,SNR=5.4
CMAR Chiang Mai Arr 79.50 294 P P 12 02 16.2 +0.8
CMAR Chiang Mai Arr 79.50 294 P P 12 02 16.2 +0.8
comp=Z,2.3nm,0.8s,baz=130,slow=4.0,SNR=9.6
SONM Songino Array 88.31 323 P P 12 03 00.7 +0.8
SONM Songino Array 88.31 323 P P 12 03 00.7 +0.8
comp=Z,1.2nm,1.0s,baz=135,slow=7.2,SNR=7.8
SNAA Sanae 88.37 182 P P 12 02 58.4 -1.5
SNAA Sanae 88.37 182 P P 12 02 58.4 -1.5
comp=Z,0.6nm,0.8s,baz=210,slow=5.1,SNR=13
NVAR Mina Array Bea 88.81 48 P P 12 03 03.0 +0.4
NVAR Mina Array Bea 88.81 48 P P 12 03 03.0 +0.4
comp=Z,0.2nm,0.3s,baz=276,slow=2.6,SNR=3.5
ILAR Eielson Array 90.80 17 P P 12 03 09.5 -1.5
ILAR Eielson Array 90.80 17 P P 12 03 09.5 -1.5
comp=Z,0.7nm,1.0s,baz=230,slow=5.1,SNR=6.6
KHC Kasperske Hory 145.40 332 *e*PKPdf **PKPab 12 09 47.0 +0.8**
GERES GERESS Array B 145.56 332 PKPbc **PKPdf 12 09 46.1 -0.4**
GERES GERESS Array B 145.56 332 PKPbc **PKPdf 12 09 46.1 -0.4**
comp=Z,2.9nm,0.8s,baz=282,slow=1.2,SNR=9.7
BFO Black Forest 148.16 337 *e*PKPdf **PKPdf 12 09 49.1 -1.6**
TUE Stuetta 149.26 333 *e*PKPbc **PKPbc 12 09 55.8 -1.4**

JMA ***09*** *11:56:39.3±0.3, 33°.17N×138°.39E, h331km, M2.9*
ISCJB ***09*** *11:56:41.3±0.8, 33°.21N±0°.08×138°.6E±0°.2, h300km, mb2.8/3, Error ellipse: s-maj=19.3km s-min=11.3km az=5.0*
IDC ***09*** *11:56:42.0±1.9, 33°.34N×138°.39E, h303km±68km, mb2.7/3, mb1 2.9/4, mb1mx2.7/27, mbtmp2.6/4, Error ellipse: s-maj=169.7km s-min=22.1km az=62.0*
ISC 09 11:56:42.0±1.2, 33°.3N±0°.1×138°.5E±0°.1, h300km, n13, σ1°12/15, mb2.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.91	316	P	Pn	11 57 22.9	+1.2
TTO4	TONANKAI O.B.S	1.09	311	P	Pn	11 57 23.4	+1.0
TTO5	TONANKAI O.B.S	1.17	325	P	Pn	11 57 24.2	+1.2
TTO1	TONANKAI O.B.S	1.49	283	P	Pn	11 57 25.3	+0.6
HMMJ	Hamamatsu 2	1.69	337	P	Pn	11 57 27.2	+0.8
JIE	Ise	1.86	306	P	Pn	11 57 27.9	+0.2
JIE				S	S	11 58 05.3	+1.2
JRY	Ryogami san	2.73	6	P	Pn	11 57 37.1	+2.0
JAG	Ashikaga	3.21	14	P	Pn	11 57 40.4	+0.6
MJAR	Matsushiro Arr	3.25	356	P	Pn	11 57 41.4	+1.1
	0.4nm,0.3s,baz=172,slow=12,SNR=6.8						
MJAR				S	S	11 58 25.6	-1.1
	0.0nm,0.3s,baz=214,slow=15,SNR=2.8						
JHO	Hitachi	3.71	26	P	Pn	11 57 45.2	+0.2
MKAR	Makanchi Array	44.20	305	P	P	12 04 20.6	-1.4
	0.1nm,0.4s,baz=96,slow=7.4,SNR=2.4						
WRA	Warramunga Arr	53.09	185	P	P	12 05 29.1	-0.3
	0.4nm,0.3s,baz=360,slow=7.5,SNR=16						
ASAR	Alice Springs	56.82	185	P	P	12 05 55.8	0.0
	0.2nm,0.5s,baz=1.3,slow=6.7,SNR=7.1						

WEL 09 12:00:17.6±0.2, 37°.82S×177°.72E, h86km±2km, ML3.7/7, 6C-15D, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.49	121	PN	Pn	12 00 31.6	-0.3
PUZ				SN	Sn	12 00 42.0	-0.5
PUZ				AML	AML	12 00 42.1	
MXZ	Matakaoa Point	0.53	61	AML	AML	12 00 44.8	
MWZ	Matawai	0.53	197	⇑PN	Pn	12 00 32.2	-0.1
MWZ				SN	Sn	12 00 43.3	+0.1
MWZ				AML	AML	12 00 45.4	
URZ	Urewera	0.65	228	⇓PN	Pn	12 00 32.9	-0.4
URZ				SN	Sn	12 00 44.3	-0.6
URZ				AML	AML	12 00 44.5	
CNGZ	Carnagh Statio	0.76	150	⇑PN	Pn	12 00 34.7	+0.3
EDRZ	Edgecumbe	0.83	250	PN	Pn	12 00 35.0	-0.2
EDRZ				SN	Sn	12 00 48.2	-0.1
MARZ	Manawahe	0.84	259	PN	Pn	12 00 34.9	-0.4
OPRZ	Ohinepanea	0.93	268	PN	Pn	12 00 35.7	-0.4
TARZ	Mount Tarawera	1.04	246	PN	Pn	12 00 37.9	+0.2
LIRZ	Lichensteins R	1.07	260	PN	Pn	12 00 38.0	+0.1
RRRZ	Republican Roa	1.08	241	⇓PN	Pn	12 00 38.0	-0.1
PRGZ	Paritu Road	1.11	173	PN	Pn	12 00 37.9	-0.4
TGRZ	Tauranga	1.16	274	⇓PN	Pn	12 00 38.7	-0.3
KARZ	Kaharoa	1.19	260	⇓PN	Pn	12 00 39.2	-0.1
KNZ	Kokohu	1.20	182	PN	Pn	12 00 38.6	-0.7
RAHZ	Arahi	1.20	204	⇑PN	Pn	12 00 39.6	+0.1
PRRZ	Plateau Road	1.25	237	⇓PN	Pn	12 00 39.9	-0.1
HRRZ	Handcock Road	1.27	243	PN	Pn	12 00 40.3	0.0
ALRZ	Allen Road	1.31	235	PN	Pn	12 00 40.7	-0.1
MHGZ	Mahia Peninsul	1.34	174	⇓PN	Pn	12 00 40.9	-0.2
NMHZ	Naumai	1.46	209	⇓PN	Pn	12 00 42.9	+0.1
BKZ	Black Stump Fm	1.65	215	⇓PN	Pn	12 00 44.7	-0.5
BKZ				AML	AML	12 01 06.5	
BKZ				AML	AML	12 01 08.3	
TOZ	Tahuroa Road	1.76	272	⇓PN	Pn	12 00 46.6	+0.2
MCHZ	McNeill Hill	1.81	206	PN	Pn	12 00 46.6	-0.5
RITZ	Rihia Road	1.86	231	⇑PN	Pn	12 00 48.2	+0.2
CKHZ	Cape Kidnapper	1.90	195	PN	Pn	12 00 47.2	-1.2
KUZ	Kuaotunu	1.93	303	⇓PN	Pn	12 00 48.4	-0.2
KAHZ	Kahuranaki	2.08	198	PN	Pn	12 00 49.8	-1.0
OTVZ	Oturere	2.10	230	⇓PN	Pn	12 00 50.8	-0.3
BHHZ	Black Hill Sta	2.11	217	PN	Pn	12 00 50.5	-0.7
NGZ	Ngauruhoe	2.14	230	PN	Pn	12 00 51.5	-0.2
MKAZ	Moumakai	2.15	288	⇓PN	Pn	12 00 52.0	+0.4
MOVZ	Moawhango	2.21	224	PN	Pn	12 00 51.7	-0.9
WNVZ	Wahianoa	2.24	227	⇑PN	Pn	12 00 52.5	-0.5
PXZ	Pawanui	2.31	197	⇓PN	Pn	12 00 51.7	-2.0
PXZ				AML	AML	12 01 20.3	
PXZ				AML	AML	12 01 20.3	
MTVZ	Mangateitei	2.36	228	PN	Pn	12 00 53.8	-0.6
HIZ	Hauiti	2.36	252	⇓PN	Pn	12 00 55.3	+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**2.37 231**		PN	Pn	12 00 54.5	-0.1
PNHZ	**Pukenui**	**2.40 209**		PN	Pn	12 00 53.1	-2.0
PRHZ	**Porangahau**	**2.58 199**		PN	Pn	12 00 55.1	-2.3
TSZ	**Takapari Road**	**2.62 211**		PN	Pn	12 00 56.0	-1.9
VRZ	**Vera Road**	**2.67 240**	⇓	PN	Pn	12 00 58.8	+0.3
DVHZ	**Dannevirke**	**2.75 206**		PN	Pn	12 00 57.2	-2.6
WAZ	**Wanganui**	**2.88 227**		PN	Pn	12 01 01.0	-0.4
BFZ	**Birch Farm**	**3.08 201**		PN	Pn	12 01 01.4	-2.7
TIWZ	**Tintock**	**3.28 205**		PN	Pn	12 01 04.0	-2.8
MRZ	**Mangatainoka R**	**3.29 210**	⇑	PN	Pn	12 01 03.8	-3.1
MRZ				AML	AML	12 01 42.8	
MRZ				AML	AML	12 01 46.5	
OGWZ	**Otaki Gorge**	**3.59 213**		PN	Pn	12 01 08.0	-2.9
KIWZ	**Kapiti Island**	**3.74 215**		PN	Pn	12 01 09.9	-3.1
CAWZ	**Cannon Point**	**3.87 211**		PN	Pn	12 01 11.1	-3.7
PLWZ	**Palliser**	**4.20 206**		PN	Pn	12 01 14.9	-4.4
TCWZ	**Tory Channel**	**4.31 217**		PN	Pn	12 01 16.7	-4.0
TUWZ	**Tuamarina**	**4.64 218**		PN	Pn	12 01 21.3	-3.9
THZ	**Tophouse**	**5.41 222**		PN	Pn	12 01 31.5	-4.3

IDC 09 12:03:44.2±6.9, 4°.61S×152°.23E, h98km±48km, mb3.4/5, mb1 3.6/6, mb1mx3.3/21, mbtmp3.5/6, Error ellipse: s-maj=82.0km s-min=31.7km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.93 226**		P	Pn	12 05 23.5	+0.3
	1.2nm,0.3s,baz=39,slow=15,SNR=4.3						
PMG				S	Sn	12 06 41.3	+0.7
	1.1nm,0.3s,baz=342,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**23.15 227**		P	P	12 08 42.3	-0.1
	2.3nm,0.9s,baz=52,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**25.91 221**		P	P	12 09 07.0	-0.4
	0.4nm,0.5s,baz=57,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**29.25 241**		P	P	12 09 38.3	+1.0
	2.4nm,0.7s,baz=94,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**79.81 319**		P	P	12 15 41.7	-0.3
	0.2nm,0.7s,baz=122,slow=5.4,SNR=2.1						
BVAR	**Borovoye Array**	**88.75 323**		P	P	12 16 26.4	-0.6
	0.5nm,0.5s,baz=104,slow=6.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.71 288**		PKPbc	PKPbc	12 23 23.5	-0.3
	0.2nm,0.4s,baz=82,slow=2.5,SNR=2.9						

MAN 09 12:06:12, 10°.33N×125°.23E, h0km, mb4.5, ML3.3, MS3.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.41 242**		*e*P	Pb	12 06 21.3	-0.8
MSLP				*e*S	Sb	12 06 28.2	-0.7
PLP	**Palo**	**0.87 344**	⇑	*e*P	Pg	12 06 29.1	+0.4
PLP				*e*S	Sg	12 06 40.5	+0.5
OCLP	**Ormoc**	**0.94 320**		*e*P	Pb	12 06 30.7	-0.5
OCLP				*e*S	Sn	12 06 47.4	+0.7
CNP	**Catarman**	**2.24 346**		*e*P	Pn	12 06 50.9	+0.5
GUIM	**Jordan**	**2.61 277**		*e*P	Pn	12 06 56.0	+0.5
PVCP	**Virac**	**3.41 342**		*e*P	Pn	12 07 09.4	+2.8

*IDC **09** 12:09:40.5±1.6, 1°.59N×121°.71E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=70.4km s-min=25.5km az=68.0*
*ISCJB **09** 12:09:45.5±1.2, 1°.36N±0°.07×120°.18E±0°.07, h10km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=9.5km az=145.9*
*DJA **09** 12:09:51.6±0.8, 1°N±5°×12°0E±°, h10km, M4.1/7, mb4.2/1, MLv4.1/7*

ISC 09 12:09:46.6±1.4, 1°.41N±0°.09×120°.28E±0°.07, h10km, n13, σ0°.98/13, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.59 119**		P	**Pg**	**12 09 58.5**	**+0.5**
MRSI	**Marisa**	**1.90 119**		P	**Pn**	**12 10 19.7**	**+0.6**
MRSI				S	**Sb**	**12 10 45.5**	**+0.2**
GTOI	**Gorontalo**	**2.84 106**		P	**Pn**	**12 10 33.0**	**+1.0**
LUWI	**Luwuk**	**3.48 134**		P	**Pn**	**12 10 41.9**	**+1.0**
LUWI				S	**Sn**	**12 11 21.8**	**-0.4**
KMSI	**Cibinong**	**3.79 103**		P	**Pb**	**12 10 52.9**	**-0.8**
SKSI	**Soroako, Sulaw**	**4.05 165**		P	**Pn**	**12 10 49.3**	**+0.6**
SKSI				S	**Sn**	**12 11 34.4**	**-1.9**
TTSI	**Tana Toraja**	**4.45 186**		P	**Pn**	**12 10 54.8**	**+0.7**
TTSI				S	**Sn**	**12 11 45.8**	**-0.1**
SPSI	**Sidrap Palu**	**5.36 185**		P	Pn	12 11 10.6	+3.9
KAPI	**Kappang**	**6.40 185**		Pn	**Pn**	**12 11 22.2**	**+1.2**
	0.6nm,0.3s,baz=38,slow=17,SNR=2.5						
FITZ	**Fitzroy Crossi**	**20.09 165**		P	P	12 14 13.4	-7.1
	0.2nm,0.3s,baz=358,slow=8.7,SNR=8.6						
WRA	**Warramunga Arr**	**25.31 148**		P	P	12 15 03.2	-10
	1.0nm,0.6s,baz=332,slow=9.7,SNR=14						
ASAR	**Alice Springs**	**28.23 153**		P	P	12 15 32.4	-7.6
	0.5nm,0.5s,baz=323,slow=8.1,SNR=8.9						
MKAR	**Makanchi Array**	**56.01 329**		P	**P**	**12 19 25.0**	**-0.4**
	0.6nm,0.8s,baz=132,slow=8.6,SNR=3.7						

*IDC **09** 12:17:44.7±0.5, 8°.38N×126°.01E, h0km, mb4.2/23, mb1 4.4/25, mb1mx4.3/33, mbtmp4.3/25, ML4.2/2, Error ellipse: s-maj=22.7km s-min=9.7km az=84.0*
*ISCJB **09** 12:17:47.3±0.9, 8°.41N±0°.02×126°.13E±0°.04, h22km±6km, mb4.4/43, MS5.1/2, Error ellipse: s-maj=7.3km s-min=3.7km az=165.7*
*BJI **09** 12:17:48.8, 8°.30N×126°.20E, h45km, mB5.7/10, mb4.6/31, Ms5.3/7, Ms7 5.1/8*
*MAN **09** 12:17:48, 8°.43N×125°.80E, h11km, mb5.3, ML4.2, MS4.5*
*NEIC **09** 12:17:52.3±1.4, 8°.29N×126°.06E, h56km±14km, mb4.5/14, Error ellipse: s-maj=13.3km s-min=6.7km az=81.0*
NEIC Felt [III PIVS] at Patin-ay and Prosperidad.
*AUST **09** 12:18:00.3±1.8, 7°.63N×126°.00E, h70km, Error ellipse: s-maj=2.8km s-min=1.2km az=21.0*
*DJA **09** 12:18:06.6±1.3, 7°N±13°×12°6E±°, h10km, M5.2/14, mB5.7/3, mb4.9/14, MLv5.3/2, Mw(mB)5.2/3*

ISC 09 12:17:51.8±0.8, 8°.39N±0°.03×125°.96E±0°.06, h44km±7km, n134, σ1°.61/127, mb4.4/43, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.67 330**		*e*P	Pn	12 18 00.0	-5.0
BUTP				*e*S	**Sn**	**12 18 12.2**	**-2.2**
BUKP	**Musuan**	**1.02 240**		*e*P	Pn	12 18 05.5	-4.3
CGP	**Cagayan de Oro**	**1.25 273**		*e*P	Pn	12 18 08.3	-4.6
CGP				*i* S	**Sn**	**12 18 24.6**	**-3.9**
DAV	**Davao City (W)**	**1.36 196**		*e*Pn	**Pn**	**12 18 13.5**	**-0.9**
DAV				Sn	**Sn**	**12 18 33.6**	**+2.4**
DAV	**Davao City (W)**	**1.36 196**		P	**Pn**	**12 18 12.3**	**-2.1**
DAV	**Davao City (W)**	**1.36 196**		Pn	**Pn**	**12 18 13.0**	**-1.4**
	632nm,0.3s,baz=331,slow=1.6,SNR=50						
DAV				Sn	**Sn**	**12 18 33.6**	**+2.4**
	314nm,0.3s,baz=231,slow=19,SNR=6.3						
DMPH	**Davao City--Mi**	**1.37 199**	⇑	*e*P	**Pn**	**12 18 13.5**	**-1.1**
MATI	**Mati**	**1.46 168**		*e*P	**Pn**	**12 18 13.4**	**-2.4**
KCP	**Kidapawan**	**1.62 212**		*e*P	**Pn**	**12 18 15.3**	**-2.7**
KCP				*i* S	**Sn**	**12 18 41.3**	**+3.6**
CTBH	**Cotabato--PC H**	**2.06 236**	⇑	*e*P	**Pn**	**12 18 21.8**	**-2.1**
GSPH	**General Santos**	**2.50 204**		*e*P	**Pn**	**12 18 28.1**	**-2.0**
DCPH	**Dipolog City**	**2.59 275**	⇓	*e*P	**Pn**	**12 18 28.8**	**-2.4**
PAGZ	**Pagadian**	**2.61 258**		*e*P	**Pn**	**12 18 32.8**	**+1.3**
LLP	**Lapu-Lapu**	**2.75 314**	⇓	*e*P	**Pn**	**12 18 31.4**	**-2.0**
LLP				*e*S	**Sn**	**12 19 06.0**	**+0.5**
PLP	**Palo**	**2.92 341**	⇓	*e*P	**Pn**	**12 18 34.0**	**-1.9**
PLP				*e*S	Sn	12 19 16.2	+6.4
IPIL	**Ipil**	**3.41 260**		*e*P	Pn	12 18 45.3	+2.8
PVCP	**Virac**	**5.47 341**		*e*P	**Pn**	**12 19 11.5**	**+0.6**
TNTI	**Ternate**	**7.69 169**		P	**Pn**	**12 19 39.3**	**-2.1**
	307nm,1.0s,3μm0.9nm						
KMSI	**Cibinong**	**8.01 194**		P	Pn	12 19 47.3	+1.6
	247nm,0.9s,1.2nm						
GTOI	**Gorontalo**	**8.24 201**		P	**Pn**	**12 19 45.8**	**-3.1**
MRSI	**Marisa**	**8.82 207**		P	**Pn**	**12 19 57.2**	**+0.4**
	89nm,1.1s						
LBMI	**Labuha**	**9.10 170**		P	**Pn**	**12 20 01.0**	**+0.4**
	160nm,1.1s						
LUWI	**Luwuk**	**9.89 199**		P	**Pn**	**12 20 12.7**	**+1.2**
	183nm,1.1s						
LUWI	**Luwuk**	**9.89 199**		P	Pn	12 20 13.3	+1.8
	baz=9.3,SNR=5.3						
SWI	**Sorong**	**10.60 150**		P	**Pn**	**12 20 20.5**	**-0.7**
	77nm,0.9s						
SWI	**Sorong**	**10.60 150**		P	**Pn**	**12 20 22.1**	**+0.9**
	baz=10.0,SNR=3.4						
RKPI	**Ransiki, Papua**	**12.80 140**		P	Pn	12 20 56.0	+4.7
	49nm,1.9s,7μm						
FAKI	**Fak Fak**	**12.86 151**		P	**Pn**	**12 20 53.5**	**+1.3**
	48nm,0.9s						
FAKI	**Fak Fak**	**12.86 151**		P	**Pn**	**12 20 52.6**	**+0.4**
	baz=12,SNR=7.1						
TTSI	**Tana Toraja**	**12.90 209**		P	Pn	12 20 54.5	+1.8
	38nm,1.2s						
SPSI	**Sidrap Palu**	**13.73 207**		P	P	12 21 07.6	-4.1
	23nm,1.1s						
KAPI	**Kappang**	**14.68 205**		*e*Pn	**Pn**	**12 21 15.8**	**-1.0**
	37nm,1.3s						
KAPI	**Kappang**	**14.68 205**		Pn	**Pn**	**12 21 14.7**	**-2.2**
	0.3nm,0.3s,baz=52,slow=17,SNR=3.1						
SBUM	**Sibu**	**14.89 247**		P	P	12 21 30.9	+6.3
	22nm,1.0s						
BBKI	**Banjar Baru**	**16.17 224**		P	P	12 21 53.6	+15
KSM	**Kuching**	**17.03 247**		*e*P	**P**	**12 21 49.6**	**+1.3**
	9.6nm,1.0s						
JOW	**Kunigami**	**18.48 7**		*e*P	**Pn**	**12 22 05.8**	**+1.1**
	19nm,1.1s						
BATI	**Baumata**	**18.61 187**		P	**P**	**12 22 04.2**	**-1.6**
BATI	**Baumata**	**18.61 187**		P	**Pn**	**12 22 06.7**	**+0.3**
	53nm,1.2s						
BATI	**Baumata**	**18.61 187**		P	**P**	**12 22 04.2**	**-1.6**
	3.1nm,0.3s,baz=95,slow=1.7,SNR=6.6						
MTNI	**Mataram**	**19.52 210**		P	Pn	12 22 23.4	+6.1
MTN	**Manton Dam**	**21.71 166**		P	**P**	**12 22 40.7**	**+1.3**
	baz=21,SNR=5.3						
MTN				S	Sn	12 26 52.3	+4.1
	baz=21,SNR=5.4						
KDU	**Kakadu**	**21.91 163**		P	**P**	**12 22 41.4**	**-0.2**
	baz=21,SNR=10						
KNRA	**Kununurra**	**24.07 173**		P	**P**	**12 23 01.7**	**-1.6**
	baz=24,SNR=15						
NJ2	**Nanjing**	**24.46 345**		*e*P	**P**	**12 23 08.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLSI		**24.84 239**		P	P	12 23 17.2	+6.8
JNU	**Nakatsue**	**25.03 10**		P	**P**	**12 23 10.1**	**-1.8**
JNU	**Nakatsue**	**25.03 10**		P	**P**	**12 23 10.1**	**-1.8**
	comp=Z,9.8nm,0.9s,baz=151,slow=3.2,SNR=3.8						
GYA	**Guiyang**	**25.66 317**		*e*P	**P**	**12 23 21.0**	**+3.1**
GYA				pP	pP	12 23 31.8	+2.3
GYA				PP	PnPn	12 24 02.6	+6.9
GYA				PcP	**PcP**	**12 26 50.3**	**+2.5**
GYA				S	**S**	**12 27 46.5**	**+2.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.32 181**		P	**P**	**12 23 21.4**	**-2.3**
FITZ	**Fitzroy Crossi**	**26.32 181**		P	**P**	**12 23 21.4**	**-2.3**
	comp=Z,14nm,0.8s,baz=22,slow=7.8,SNR=20						
FITZ	**Fitzroy Crossi**	**26.32 181**		P	**P**	**12 23 21.7**	**-2.0**
	baz=26,SNR=32						
KMI	**Kunming**	**27.69 310**		P	**P**	**12 23 36.0**	**-0.3**
KMI				pP	pP	12 23 50.2	+2.2
KMI				sP	sP	12 23 58.4	+5.2
KMI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
COEN	**Coen**	**28.01 142**		P	**P**	**12 23 40.4**	**+1.5**
	baz=28,SNR=7.3						
CMAR	**Chiang Mai Arr**	**28.08 294**		P	**P**	**12 23 39.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**28.08 294**		P	**P**	**12 23 39.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=102,slow=6.3,SNR=3.6						
RABL	**Rabaul**	**28.97 115**		P	Px	12 24 08.6	
	baz=29,SNR=4.2						
RABL				S	S	12 28 34.1	-1.7
	baz=29,SNR=4.4						
KSAR	**Wonju Array Be**	**28.98 3**		P	**P**	**12 23 47.4**	**0.0**
KSRS	**Korea Array**	**28.99 3**		P	**P**	**12 23 47.4**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=186,slow=10,SNR=13						
GSI	**Gunungsitoli**	**29.12 258**		P	P	12 23 56.5	+7.5
	baz=29,SNR=50						
GSI				S	**S**	**12 28 40.5**	**+2.3**
	baz=29,SNR=7.0						
WRAB	**Tennant Creek**	**29.33 164**		*e*P	P	12 23 48.0	-2.7
	comp=Z,6.2nm,1.3s						
WRA	**Warramunga Arr**	**29.34 164**		P	**P**	**12 23 48.8**	**-1.9**
WRA	**Warramunga Arr**	**29.34 164**		P	**P**	**12 23 48.8**	**-1.9**
	comp=Z,2.4nm,0.8s,baz=343,slow=9.1,SNR=16						
MBWA	**Marble Bar**	**29.99 192**		*e*P	**P**	**12 23 54.8**	**-1.7**
	comp=Z,4.0nm,0.7s						
CD2	**Chengdu**	**30.52 320**		*e*P	P	12 24 03.8	+2.6
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,1μm,6.3s						
MTSU	**Mount Surprise**	**31.98 146**		P	**P**	**12 24 13.9**	**-0.2**
	baz=32,SNR=5.3						
BJI	**Beijing**	**32.71 346**		P	**P**	**12 24 21.3**	**+1.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AS31	**Alice Springs**	**32.79 166**		*e*P	**P**	**12 24 19.6**	**-1.6**
ASAR	**Alice Springs**	**32.79 166**		P	**P**	**12 24 19.5**	**-1.6**
ASAR	**Alice Springs**	**32.79 166**		P	**P**	**12 24 19.5**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=344,slow=7.1,SNR=33						
LZH	**Lanzhou**	**34.16 327**		*e*P	P	12 24 37.5	+4.4
LZH				pP	pP	12 24 50.5	+5.6
LZH				sP	sP	12 24 55.1	+4.9
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**34.77 341**		*e*P	**P**	**12 24 39.4**	**+1.1**
HHC				PP	**PP**	**12 25 59.0**	**+1.3**
HHC				PcP	**PcP**	**12 27 10.7**	**-0.4**
HHC				S	**S**	**12 30 07.8**	**+1.9**
HHC				ScP	**ScP**	**12 30 51.8**	**-1.4**
HHC				PcS	**PcS**	**12 30 56.9**	**-0.9**
HHC				SS	**SnSn**	**12 32 24.3**	**+2.1**
HHC				ScS	**ScS**	**12 34 54.2**	**-2.3**
HHC				pmax	pmax		
	comp=Z,58nm,0.7s						
HHC				LR	LR		
	comp=N,2μm,14.8s						
HHC				LR	LR		
	comp=E,2μm,13.2s						
HHC				LR	LR		
	comp=Z,3μm,13.2s						
CN2	**Changchun**	**35.28 359**		*e*P	P	12 24 46.0	+3.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MEEK	**Meekatharra**	**35.54 191**		P	P	12 24 48.8	+3.9
	baz=35,SNR=3.2						
USRK	**Ussuriysk Arra**	**36.06 7**		P	**P**	**12 24 48.3**	**-0.9**
	comp=Z,20nm,0.9s,baz=195,slow=7.5,SNR=21						
MDJ	**Mudanjiang**	**36.23 4**		P	**P**	**12 24 50.8**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,14nm,0.7s						
MDJ	**Mudanjiang**	**36.23 4**		*e*P	**P**	**12 24 50.8**	**+0.2**
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**38.43 19**		*e*P	**P**	**12 25 10.8**	**+1.5**
	comp=Z,2.7nm,0.8s						
ASAJ	**Asahikawa**	**38.43 19**		P	**P**	**12 25 08.9**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=252,slow=3.2,SNR=2.8						
GTA	**Gaotai**	**38.77 327**		P	**P**	**12 25 12.9**	**+0.6**
GTA				pP	pP	12 25 29.3	+5.0
GTA				sP	sP	12 25 35.0	+5.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TAPN	**Taplejung**	**40.77 303**		*e*P	P	12 25 33.9	+4.5
	comp=Z,23nm,0.8s						
ODAN	**Odare**	**40.87 302**		*e*P	**P**	**12 25 31.5**	**+1.4**
	comp=Z,34nm,0.8s						
RAMN	**Ramite**	**41.56 301**		*e*P	**P**	**12 25 36.9**	**+1.0**
NWAO	**Narrogin (SRO)**	**41.92 191**		P	**P**	**12 25 35.8**	**-2.5**
NWAO	**Narrogin (SRO)**	**41.92 191**		P	**P**	**12 25 35.8**	**-2.5**
	comp=Z,8.3nm,0.8s,baz=295,slow=9.1,SNR=3.1						
BBOO	**Buckleboo**	**42.08 167**		P	**P**	**12 25 39.2**	**-0.4**
	baz=42,SNR=13						
SONM	**Songino Array**	**42.67 341**		P	**P**	**12 25 43.5**	**-1.0**
SONM	**Songino Array**	**42.67 341**		P	**P**	**12 25 43.5**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=159,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**42.74 160**		*e*P	**P**	**12 25 44.7**	**-0.3**
	comp=Z,2.1nm,0.9s						
STKA	**Stephens Creek**	**42.74 160**		P	**P**	**12 25 44.4**	**-0.5**
	comp=Z,7.8nm,0.9s,baz=349,slow=5.4,SNR=9.6						
STKA	**Stephens Creek**	**42.74 160**		P	**P**	**12 25 44.6**	**-0.3**
	baz=42,SNR=5.8						
KKN	**Kakani**	**42.95 302**		*e*P	P	12 25 50.2	+3.1
DMN	**Daman**	**43.03 302**		*e*P	**P**	**12 25 49.8**	**+2.0**
KOLN	**Koldanda**	**44.35 301**		*e*P	**P**	**12 25 58.9**	**+0.5**
	comp=Z,23nm,0.8s						
DANN	**Dangsing**	**44.40 302**		*e*P	P	12 26 02.2	+3.4
PYUN	**Piuthan**	**44.97 302**		*e*P	**P**	**12 26 04.8**	**+1.5**
	comp=Z,64nm,1.0s						
WMQ	**Urumqi**	**48.52 323**		*e*P	**P**	**12 26 33.2**	**+2.5**
PETK	**Petropavlovsk-**	**51.47 24**		P	**P**	**12 26 52.5**	**-0.3**
PETK	**Petropavlovsk-**	**51.47 24**		P	**P**	**12 26 52.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=210,slow=6.5,SNR=3.8						
MK31	**Makanchi Array**	**53.34 324**		*e*P	**P**	**12 27 06.6**	**-0.2**
MKAR	**Makanchi Array**	**53.34 324**		*e*P	**P**	**12 27 07.1**	**+0.3**
MKAR				PcP	**PcP**	**12 28 13.9**	**+0.1**
MKAR	**Makanchi Array**	**53.34 324**		P	**P**	**12 27 06.2**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=123,slow=7.7,SNR=15						
MKAR				PcP	**PcP**	**12 28 13.9**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=108,slow=4.0,SNR=4.9						
KSH	**Kashi**	**54.27 313**		P	**P**	**12 27 14.6**	**+0.7**
KSH				sP	sP	12 27 37.6	+6.3
KSH				PP	**PP**	**12 29 18.6**	**+2.6**
KSH				S	**S**	**12 34 45.4**	**-3.2**
KSH				sS	sS	12 35 12.4	+3.1
KSH				SS	**SS**	**12 38 28.5**	**-2.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH				LR	LR		
	comp=N,570nm,11.9s						
KSH				LR	LR		
	comp=E,1μm,13.6s						
KSH				LR	LR		
	comp=Z,1μm,16.9s						
TKM2	**Tokmak 2**	**55.81 317**		*e*P	**P**	**12 27 26.5**	**+1.5**
	comp=Z,8.7nm,1.2s						
ZALV	**Zalesovo Beam**	**56.13 332**		P	**P**	**12 27 25.5**	**-1.3**
ZALV	**Zalesovo Beam**	**56.13 332**		P	**P**	**12 27 25.5**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=121,slow=7.1,SNR=9.4						
EKS2	**Erkin-Say**	**56.95 316**		*e*P	**P**	**12 27 33.3**	**+0.3**
	comp=Z,7.8nm,0.9s						
KURK	**Kurchatov**	**57.45 326**		P	**P**	**12 27 35.1**	**-1.1**
KURBB	**Kurchatov Arra**	**57.45 326**		P	**P**	**12 27 35.1**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=122,slow=7.6,SNR=9.4						
KBL	**Kabul**	**58.15 305**		*e*P	P	12 27 45.7	+3.9
	comp=Z,13nm,1.0s						
KKAR	**Karatay Array**	**59.36 315**		*e*P	**P**	**12 27 49.8**	**0.0**
	comp=Z,9.5nm,0.9s						
BVAR	**Borovoye Array**	**63.04 326**		P	**P**	**12 28 13.3**	**-1.1**
BVAR	**Borovoye Array**	**63.04 326**		P	**P**	**12 28 13.3**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=133,slow=11,SNR=10						
BRVK	**Borovoye**	**63.11 326**		*e*P	**P**	**12 28 16.3**	**+1.4**
	comp=Z,8.9nm,1.0s						
RPZ	**Rata Peaks**	**66.00 146**		P	P	12 28 32.0	-1.9
RPZ	**Rata Peaks**	**66.00 146**		P	P	12 28 32.0	-1.9
	comp=Z,6.2nm,0.6s,baz=54,slow=16,SNR=5.9						
ABKAR	**Akbulak array**	**68.10 320**		*e*P	**P**	**12 28 48.4**	**+1.2**
	comp=Z,3.8nm,0.8s						
MCK	**McKinley**	**80.37 27**		*e*P	**P**	**12 29 57.6**	**-0.9**
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**81.26 26**		P	**P**	**12 30 03.1**	**0.0**
ILAR	**Eielson Array**	**81.26 26**		P	**P**	**12 30 03.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=242,slow=4.7,SNR=7.1						
MENT	**Mentasta**	**82.74 27**		*e*P	**P**	**12 30 11.5**	**+0.5**
ARCES	**ARCESS Array B**	**85.84 340**		P	**P**	**12 30 26.6**	**0.0**
ARCES	**ARCESS Array B**	**85.84 340**		P	**P**	**12 30 26.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=98,slow=6.2,SNR=5.3						
FINES	**FINESS Array B**	**87.39 332**		P	**P**	**12 30 33.2**	**-1.0**
FINES	**FINESS Array B**	**87.39 332**		P	**P**	**12 30 33.2**	**-1.0**
	comp=Z,2.5nm,1.0s,baz=318,slow=28,SNR=12						
VNDA	**Vanda**	**88.11 173**		P	**P**	**12 30 37.6**	**+0.3**
VNDA	**Vanda**	**88.11 173**		P	**P**	**12 30 37.6**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=315,slow=6.5,SNR=8.1						
CRVS	**Cervenica-Dubn**	**93.13 320**		*e*P	**P**	**12 31 03.7**	**+2.3**
NOA	**NORSAR Array B**	**94.30 334**		P	**P**	**12 31 04.2**	**-2.4**
NOA	**NORSAR Array B**	**94.30 334**		P	**P**	**12 31 04.2**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=58,slow=6.9,SNR=2.6						
YKA	**Yellowknife Ar**	**95.59 24**		P	P	12 31 09.7	-2.7
YKA	**Yellowknife Ar**	**95.59 24**		P	P	12 31 09.6	-2.7
	comp=Z,0.6nm,0.9s,baz=293,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**120.66 291**		PKP	**PKPdf**	**12 36 38.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**120.66 291**		PKP	**PKPdf**	**12 36 38.8**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=46,slow=1.4,SNR=6.4						

*ISCJB **09** 12:21:51.5±0.7, 33°.02N±0°.07×138°.3E±0°.1, h300km, mb3.4/5, Error ellipse: s-maj=16.0km s-min=9.2km az=179.9*
*IDC **09** 12:21:51.3±1.3, 32°.99N×138°.22E, h292km±16km, mb3.3/5, mb1 3.4/9, mb1mx3.1/31, mbtmp3.3/9, Error ellipse: s-maj=27.9km s-min=16.2km az=72.0*
*JMA **09** 12:21:52.1±0.4, 33°.13N×138°.30E, h305km±4km, M3.6*

ISC 09 12:21:52.1±1.0, 33°.07N±0°.10×138°.3E±0°.1, h300km, n19, σ0°.79/22, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.97 334**		P	**Pn**	**12 22 33.0**	**+1.0**
TTO3	**TONANKAI O.B.S**	**1.07 318**		P	**Pn**	**12 22 33.6**	**+1.0**
TTO4	**TONANKAI O.B.S**	**1.11 327**		P	**Pn**	**12 22 33.5**	**+0.8**
TTO5	**TONANKAI O.B.S**	**1.26 339**

comp=Z,1.2nm,0.8s,baz=244,slow=33,SNR=5.3
ILAR Eielson Array 34.48 40 P P 12 41 50.2 +1.9
comp=Z,0.4nm,0.9s,baz=278,slow=7.5,SNR=4.2
MKAR Makanchi Array 47.41 297 P P 12 43 35.9 +1.0
MKAR Makanchi Array 47.41 297 P P 12 43 35.9 +1.0
comp=Z,0.3nm,0.7s,baz=69,slow=7.9,SNR=2.9
PDAR Pinedale Array 62.74 56 P P 12 45 26.9 +1.1
comp=Z,0.6nm,0.9s,baz=15,slow=3.7,SNR=3.4
WRA Warramunga Arr 70.45 201 P P 12 46 14.2 -0.6
comp=Z,0.6nm,0.7s,baz=14,slow=6.5,SNR=4.7
FITZ Fitzroy Crossi 71.17 210 P P 12 46 18.7 -0.4
comp=Z,0.6nm,0.6s,baz=58,slow=9.5,SNR=2.7
ASAR Alice Springs 74.14 200 P P 12 46 36.7 -0.1
comp=Z,0.7nm,1.0s,baz=1.0,slow=7.5,SNR=4.3
TXAR Lajitas Array 75.56 62 P P 12 46 45.8 +0.6
comp=Z,0.6nm,0.7s,baz=296,slow=4.4,SNR=10

---

*IDC **09** 12:35:11.3±0.6, 48°.27N×154°.87E, $h0^{km}$, mb3.9/14, mb1 4.1/17, mb1mx3.9/31, mbtmp3.9/17, ML3.5/3, Error ellipse: s-maj=21.6km s-min=12.6km az=143.0*
*MOS **09** 12:35:13.8±1.1, 48°.29N×155°.07E, $h30^{km}$, mb4.2/12, Error ellipse: s-maj=18.8km s-min=8.6km az=60.4*
*ISCJB **09** 12:35:14.4±0.4, 48°.29N±0°.08×155°.08E±0°.10, $h33^{km}$, mb3.9/19, Error ellipse: s-maj=13.4km s-min=5.3km az=140.3*
*NEIC **09** 12:35:15.3±2.0, 48°.24N×154°.96E, $h27^{km}$±14^{km}, mb4.3/4, Error ellipse: s-maj=11.8km s-min=5.4km az=138.0*
ISC 09 12:35:16.0±0.7,**48°.1N**±0°.1×**155°.20E**±0°.09,**h33^{km}, n53,** σ1°**23**/51,**mb4.0**/19,**1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**13**	*e*PN	Pn	12 35 51.0	-4.9
PEA0B	**Petropavlovsk-**	**5.22**	**17**	*e*Pn	**Pn**	**12 36 31.1**	**-0.6**
PETK	**Petropavlovsk-**	**5.22**	**17**	PN	**Pn**	**12 36 32.0**	**+0.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.22**	**17**	Pn	**Pn**	**12 36 31.9**	**+0.2**
PETK	**Petropavlovsk-**	**5.22**	**17**	Pn	**Pn**	**12 36 31.9**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=175,slow=15,SNR=25						
PET	**Petropavlovsk**	**5.36**	**23**	*e*PN	**Pn**	**12 36 31.9**	**-1.7**
PET				*e*S	**Sn**	**12 37 37.4**	**+3.2**
PET				smax	smax		
	comp=N,177nm,0.6s						
KUR	**Kuril'sk**	**5.82**	**243***c*	*i*PN	**Pn**	**12 36 43.0**	**+3.1**
KUR				*e*S	**Sn**	**12 37 47.9**	**+2.4**
KUR				pmax	pmax		
	comp=Z,50nm,0.6s						
KUR				pmax	pmax		
	comp=N,18nm,0.6s						
KUR				pmax	pmax		
	comp=E,8.0nm,0.3s						
KUR				smax	smax		
	comp=N,21nm,0.4s						
KUR				smax	smax		
	comp=E,38nm,0.9s						
YSS	**Yuzh-Sakhalins**	**8.50**	**267**	*e*PN	Pn	12 37 21.9	+5.2
ASAJ	**Asahikawa**	**9.63**	**250**	Pn	**Pn**	**12 37 34.6**	**+2.5**
	comp=E,0.9nm,0.3s,baz=88,slow=16,SNR=16						
ERM	**Erimo**	**10.48**	**239**	*e*PN	**Pn**	**12 37 43.1**	**-0.7**
ERM				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ERM	**Erimo**	**10.48**	**239**	*e*Pn	**Pn**	**12 37 43.1**	**-0.7**
	comp=Z,6.8nm,0.5s						
FX1	**Attu Island--F**	**12.37**	**61**	Pn	**Pn**	**12 38 09.8**	**+0.2**
FX1				Sn	Sn	12 40 16.5	-10
FX1	**Attu Island--F**	**12.37**	**61**	Pn	**Pn**	**12 38 09.8**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=335,slow=18,SNR=7.1						
FX1				Sn	Sn	12 40 16.5	-10
	comp=Z,2.5nm,0.3s,baz=79,slow=15,SNR=5.4						
USRK	**Ussuriysk Arra**	**16.53**	**265**	Pn	**Pn**	**12 39 05.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=56,slow=12,SNR=7.9						
MJAR	**Matsushiro Arr**	**17.05**	**233**	Pn	**Pn**	**12 39 09.5**	**-2.2**
MJAR	**Matsushiro Arr**	**17.05**	**233**	Pn	**Pn**	**12 39 09.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=7.0						
KSRS	**Korea Array**	**22.57**	**252**	P	**P**	**12 40 12.7**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=49,slow=9.8,SNR=8.1						
KSAR	**Wonju Array Be**	**22.60**	**252**	P	**P**	**12 40 12.7**	**-1.0**
ILAR	**Eielson Array**	**34.58**	**40**	P	**P**	**12 42 01.1**	**-0.1**
ILAR	**Eielson Array**	**34.58**	**40**	P	**P**	**12 42 01.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=266,slow=7.7,SNR=8.9						
INK	**Inuvik**	**39.72**	**33**	P	**P**	**12 42 44.6**	**-0.1**
INK	**Inuvik**	**39.72**	**33**	P	**P**	**12 42 44.6**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=251,slow=5.0,SNR=4.3						
MKAR	**Makanchi Array**	**47.56**	**297**	*e*P	P	12 43 47.6	-0.6
MKAR	**Makanchi Array**	**47.56**	**297**	P	P	12 43 45.3	-2.9
MKAR	**Makanchi Array**	**47.56**	**297**	P	P	12 43 45.3	-2.9
	comp=Z,0.5nm,0.6s,baz=68,slow=7.9,SNR=8.0						
KURK	**Kurchatov**	**47.78**	**303**	P	**P**	**12 43 48.2**	**-1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.78**	**303**	P	**P**	**12 43 48.1**	**-1.5**
KURBB	**Kurchatov Arra**	**47.87**	**303**	P	**P**	**12 43 48.1**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=66,slow=8.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**54.07**	**257**	P	**P**	**12 44 37.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**54.07**	**257**	P	**P**	**12 44 37.9**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=34,slow=6.6,SNR=5.0						
BW06	**Boulder Array**	**62.79**	**56**	*e*P	**P**	**12 45 39.0**	**+0.8**
	comp=Z,2.7nm,1.2s						
PDAR	**Pinedale Array**	**62.79**	**56**	P	**P**	**12 45 39.1**	**+0.9**
PDAR	**Pinedale Array**	**62.79**	**56**	P	**P**	**12 45 39.1**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=318,slow=2.0,SNR=9.1						
FINES	**FINESS Array B**	**63.38**	**335**	P	**P**	**12 45 41.0**	**-0.5**
FINES	**FINESS Array B**	**63.38**	**335**	P	**P**	**12 45 41.0**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=34,slow=7.4,SNR=5.3						
RSSD	**Black Hills**	**64.85**	**51**	*e*P	**P**	**12 45 52.0**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RSSD	**Black Hills**	**64.85**	**51**	*e*P	**P**	**12 45 52.0**	**+0.2**
	comp=Z,2.6nm,0.9s						
ISCO	**Idaho Springs**	**66.98**	**56**	*e*P	**P**	**12 46 06.8**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ISCO	**Idaho Springs**	**66.98**	**56**	*e*P	**P**	**12 46 06.8**	**+1.1**
	comp=Z,2.5nm,1.0s						
WRAB	**Tennant Creek**	**70.29**	**201**	*e*P	**P**	**12 46 26.7**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WRAB	**Tennant Creek**	**70.29**	**201**	*e*P	**P**	**12 46 26.7**	**+0.7**
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**70.30**	**201**	P	**P**	**12 46 26.5**	**+0.4**
WRA	**Warramunga Arr**	**70.30**	**201**	P	**P**	**12 46 26.5**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=13,slow=6.3,SNR=12						
FITZ	**Fitzroy Crossi**	**71.04**	**210**	P	**P**	**12 46 30.6**	**0.0**
FITZ	**Fitzroy Crossi**	**71.04**	**210**	P	**P**	**12 46 30.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=187,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	**73.99**	**200**	P	**P**	**12 46 49.0**	**+0.9**
ASAR	**Alice Springs**	**73.99**	**200**	P	**P**	**12 46 49.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=13,slow=5.6,SNR=8.3						
TXAR	**Lajitas Array**	**75.58**	**62**	P	**P**	**12 46 58.1**	**+0.6**
TXAR	**Lajitas Array**	**75.58**	**62**	P	**P**	**12 46 58.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=300,slow=4.2,SNR=26						
GERES	**GERESS Array B**	**77.81**	**335**	P	**P**	**12 47 08.4**	**-1.4**
GERES	**GERESS Array B**	**77.81**	**335**	P	**P**	**12 47 08.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=18,slow=4.8,SNR=5.0						
BRTR	**Keskin Array B**	**78.33**	**318**	P	**P**	**12 47 11.9**	**-0.9**
BRTR	**Keskin Array B**	**78.33**	**318**	P	**P**	**12 47 11.9**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=248,slow=9.2,SNR=4.4						

IDC 09 12:38:58.3±7.2,**6°.07S**×**146°.90E**,**h132^{km}**±76^{km}, **mb2.9**/3, **mb1 3.1**/5, **mb1mx2.9**/19, **mbtmp2.8**/5, **Error ellipse: s-maj=86.4km s-min=27.5km az=141.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**176**	P	Pn	12 39 49.6	+0.3
	1.5nm,0.3s,baz=95,slow=4.8,SNR=7.8						
PMG				S	Sn	12 40 29.1	+0.4
	4.5nm,0.3s,baz=176,slow=22,SNR=13						
WRA	**Warramunga Arr**	**18.41**	**220**	P	P	12 43 03.0	-0.6
	0.1nm,0.3s,baz=38,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**21.50**	**214**	P	P	12 43 37.1	+0.2
	0.4nm,0.4s,baz=49,slow=8.6,SNR=13						
FITZ	**Fitzroy Crossi**	**23.94**	**238**	P	P	12 44 00.5	0.0
	1.0nm,0.8s,baz=49,slow=11,SNR=4.6						
ILAR	**Eielson Array**	**85.58**	**23**	P	P	12 51 21.6	0.0
	0.1nm,0.6s,baz=238,slow=3.1,SNR=4.0						

---

*ISCJB **09** 12:45:21.1±0.3, 35°.32N±0°.03×28°.58E±0°.03, $h76^{km}$±16^{km}, Error ellipse: s-maj=5.6km s-min=4.2km az=160.6*
*ISK **09** 12:45:22.0, 35°.59N×28°.41E, $h8^{km}$, MD3.3*
*CSEM **09** 12:45:22.6±0.2, 35°.33N×28°.57E, $h40^{km}$, MD3.5, Error ellipse: s-maj=4.8km s-min=3.8km az=63.0*
*HLW **09** 12:45:26.6, 35°.16N×28°.67E, $h32^{km}$±3^{km}, Md3.6, Ml0.0*
*DDA **09** 12:45:29.0, 35°.97N×28°.72E, $h35^{km}$, MD3.4*
*ATH **09** 12:45:28.6, 35°.80N×28°.04E, $h37^{km}$±2^{km}, MD3.5/14*
ISC 09 12:45:22.2±1.1,**35°.33N**±0°.04×**28°.50E**±0°.03,**h47**^{km}±41^{km}, **n92**, σ1°**30**/106, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.94**	**341**	*e*PB	**Pn**	**12 45 39.2**	**+0.2**
ARG				*e*SB	Sn	12 45 45.6	-5.8
ARG	**Arkhangelos**	**0.94**	**341**	*e*Pb	**Pn**	**12 45 39.2**	**+0.2**
ARG				*e*Sb	Sn	12 45 45.6	-5.8
KARP	**Karpathos**	**1.11**	**282**	*e*PN	**Pn**	**12 45 43.3**	**+1.9**
KARP				*e*SN	**Sn**	**12 45 54.9**	**-0.7**
KARP	**Karpathos**	**1.11**	**282**	*e*Pn	**Pn**	**12 45 43.3**	**+1.9**
KARP				*e*Sn	**Sn**	**12 45 54.9**	**-0.7**
KSL	**Kastellorizon**	**1.21**	**47**	*e*PN	Pn	12 45 51.9	+9.2
AKAS	**Kas**	**1.28**	**45**	*i* P	**Pn**	**12 45 43.8**	**0.0**
AKAS				*i* S	**Sn**	**12 46 00.0**	**+0.1**
AKAS	**Kas**	**1.28**	**45**	*i* P	**Pn**	**12 45 43.8**	**0.0**
AKAS				*i* S	**Sn**	**12 46 00.0**	**+0.1**
FETY	**Fethiye**	**1.39**	**20**	*e*PN	**Pn**	**12 45 44.6**	**-0.6**
FETY				*e*SN	**Sn**	**12 46 01.4**	**-1.0**
FETY	**Fethiye**	**1.39**	**20**	*e*Pn	**Pn**	**12 45 44.7**	**-0.6**
FETY				*e*Sn	**Sn**	**12 46 01.4**	**-1.0**
DALY	**Dalyan (Mu¨la**	**1.49**	**5**	*e*PN	**Pn**	**12 45 46.8**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.49**	**5**	*e*Pn	**Pn**	**12 45 46.8**	**+0.2**
TURN	**Turunc**	**1.54**	**3**	*i* P	**Pn**	**12 45 46.7**	**-0.6**
TURN				*i* S	**Sn**	**12 46 06.4**	**+0.2**
TURN	**Turunc**	**1.54**	**3**	*i* P	**Pn**	**12 45 46.7**	**-0.6**
TURN				*i* S	**Sn**	**12 46 06.4**	**+0.2**
DAT	**Datca**	**1.58**	**332**	*e*PN	**Pn**	**12 45 48.2**	**+0.3**
DAT				*e*SN	**Sn**	**12 46 06.0**	**-1.4**
DAT	**Datca**	**1.58**	**332**	*e*Pn	**Pn**	**12 45 48.3**	**+0.3**
DAT				*e*Sn	**Sn**	**12 46 06.0**	**-1.4**
YER	**Yerkesik**	**1.81**	**355**	*e*PN	**Pn**	**12 45 49.9**	**-1.2**
YER	**Yerkesik**	**1.81**	**355**	*e*Pn	**Pn**	**12 45 49.9**	**-1.2**
ELL	**Elmali**	**1.82**	**39**	*e*PN	**Pn**	**12 45 52.5**	**+1.3**
ELL	**Elmali**	**1.82**	**39**	*e*Pn	**Pn**	**12 45 52.5**	**+1.3**
ZKR	**Zakros**	**1.88**	**264**	*e*PN	Pn	12 45 56.3	+4.4
ZKR	**Zakros**	**1.88**	**264**	*e*Pn	Pn	12 45 56.3	+4.4
BDRM	**Kayabasi**	**1.93**	**334**	*i* P	**Pn**	**12 45 52.7**	**+0.1**
BDRM				*i* S	**Sn**	**12 46 15.1**	**-0.7**
BDRM	**Kayabasi**	**1.93**	**334**	*i* P	**Pn**	**12 45 52.7**	**+0.1**
BDRM				*i* S	**Sn**	**12 46 15.1**	**-0.7**
BODT	**Bodrum**	**1.98**	**331**	*e*PN	**Pn**	**12 45 52.2**	**-1.0**
BODT	**Bodrum**	**1.98**	**331**	*e*Pn	**Pn**	**12 45 52.3**	**-1.0**
MLSB	**Milas**	**2.05**	**344**	*e*PN	**Pn**	**12 45 53.8**	**-0.4**
MLSB	**Milas**	**2.05**	**344**	*e*Pn	**Pn**	**12 45 53.8**	**-0.4**
GOLH	**Golhisar**	**2.09**	**24**	*i* P	**Pn**	**12 45 56.5**	**+1.6**
GOLH				*i* S	**Sn**	**12 46 22.9**	**+3.1**
GOLH	**Golhisar**	**2.09**	**24**	*i* P	**Pn**	**12 45 56.5**	**+1.6**
GOLH				*i* S	**Sn**	**12 46 22.9**	**+3.1**
KORT	**Korkueli**	**2.25**	**41**	*i* P	**Pn**	**12 45 58.3**	**+1.2**
KORT				*i* S	**Sn**	**12 46 26.3**	**+2.7**
KORT	**Korkueli**	**2.25**	**41**	*i* P	**Pn**	**12 45 58.3**	**+1.2**
KORT				*i* S	**Sn**	**12 46 26.3**	**+2.7**
XRY	**Khrisi**	**2.34**	**260**	*e*PN	Pn	12 46 04.3	+6.1
NPS	**Neapolis**	**2.36**	**269**	*e*PN	Pn	12 46 01.4	+2.9
NPS	**Neapolis**	**2.36**	**269**	*e*Pn	Pn	12 46 01.4	+2.9
AYDN	**Tasoluk**	**2.38**	**348**	*i* P	**Pn**	**12 45 59.6**	**+0.8**
AYDN				*i* S	**Sn**	**12 46 25.5**	**-1.4**
AYDN	**Tasoluk**	**2.38**	**348**	*i* P	**Pn**	**12 45 59.6**	**+0.8**
AYDN				*i* S	**Sn**	**12 46 25.5**	**-1.4**
DNZL	**Cakiroluk**	**2.40**	**11**	*i* P	**Pn**	**12 45 59.4**	**+0.2**
DNZL				*i* S	**Sn**	**12 46 27.6**	**+0.1**
DNZL	**Cakiroluk**	**2.40**	**11**	*i* P	**Pn**	**12 45 59.4**	**+0.2**
DNZL				*i* S	**Sn**	**12 46 27.6**	**+0.1**
LAST	**Lasithi**	**2.47**	**267**	*e*PN	Pn	12 46 02.9	+2.8
LAST				*e*SN	**Sn**	**12 46 30.1**	**+0.9**
LAST	**Lasithi**	**2.47**	**267**	*e*Pn	Pn	12 46 02.9	+2.8
LAST				*e*Sn	**Sn**	**12 46 30.1**	**+0.9**
BCK	**Bucak**	**2.72**	**38**	*e*PN	**Pn**	**12 46 04.8**	**+1.3**
BCK	**Bucak**	**2.72**	**38**	*e*Pn	**Pn**	**12 46 04.8**	**+1.3**
SMG	**Samos**	**2.73**	**331**	*e*PN	**Pn**	**12 46 03.8**	**+0.3**
SMG				*e*SN	Sn	12 46 29.8	-5.5
SMG	**Samos**	**2.73**	**331**	*e*Pn	**Pn**	**12 46 03.8**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.95**	**43**	*e*PN	**Pn**	**12 46 08.8**	**+2.1**
SUTC	**Sutluce-Ispart**	**2.95**	**43**	*e*Pn	**Pn**	**12 46 08.8**	**+2.1**
IDI	**Anoyia**	**2.95**	**270**	*e*PN	Pn	12 46 09.9	+3.3
IDI	**Anoyia**	**2.95**	**270**	*e*Pn	Pn	12 46 09.9	+3.3
APE	**Apeiranthos**	**2.96**	**307**	*e*PN	**Pn**	**12 46 07.6**	**+0.7**
APE	**Apeiranthos**	**2.96**	**307**	*e*PN	**Pn**	**12 46 07.5**	**+0.7**
APE	**Apeiranthos**	**2.96**	**307**	*e*Pn	**Pn**	**12 46 07.5**	**+0.7**
SIVA	**Sivas**	**3.03**	**265**	*e*PN	Pn	12 46 11.5	+3.8
KHL	**Karahalli**	**3.10**	**15**	*e*PN	**Pn**	**12 46 09.6**	**+0.8**
KHL	**Karahalli**	**3.10**	**15**	*e*Pn	**Pn**	**12 46 09.6**	**+0.8**
KHAL	**Karahalli**	**3.14**	**14**	*i* P	**Pn**	**12 46 08.9**	**-0.4**
KHAL				*i* S	**Sn**	**12 46 43.7**	**-1.9**
KHAL	**Karahalli**	**3.14**	**14**	*i* P	**Pn**	**12 46 08.9**	**-0.4**
KHAL				*i* S	**Sn**	**12 46 43.7**	**-1.9**
KULA	**Kula-Manisa**	**3.18**	**2**	*e*PN	**Pn**	**12 46 09.6**	**-0.3**
KULA	**Kula-Manisa**	**3.18**	**2**	*e*Pn	**Pn**	**12 46 09.6**	**-0.3**
GAZI	**Gazipasa**	**3.24**	**73**	*i* P	**Pn**	**12 46 10.3**	**-0.2**
GAZI				*i* S	**Sn**	**12 46 45.3**	**-2.5**
GAZI	**Gazipasa**	**3.24**	**73**	*i* P	**Pn**	**12 46 10.3**	**-0.2**
GAZI				*i* S	**Sn**	**12 46 45.3**	**-2.5**
VAM	**Vamos**	**3.51**	**273**	*e*PN	Pn	12 46 18.6	+4.3
ERMK	**Ermenek**	**3.81**	**69**	*i* P	**Pn**	**12 46 21.2**	**+2.6**
ERMK				*i* S	**Sn**	**12 47 04.7**	**+2.3**
ERMK	**Ermenek**	**3.81**	**69**	*i* P	**Pn**	**12 46 21.2**	**+2.6**
ERMK				*i* S	**Sn**	**12 47 04.7**	**+2.3**
KONT	**Konya--Tatoy**	**4.06**	**49**	*e*PN	Pn	12 46 25.0	+3.2
KONT	**Konya--Tatoy**	**4.06**	**49**	*e*Pn	Pn	12 46 25.0	+3.2
KDHN	**Kadinhani**	**4.31**	**41**	*i* P	**Pn**	**12 46 26.2**	**+0.9**
KDHN				*i* S	**Sn**	**12 47 12.8**	**-1.6**
KDHN	**Kadinhani**	**4.31**	**41**	*i* P	**Pn**	**12 46 26.2**	**+0.9**
KDHN				*i* S	**Sn**	**12 47 12.8**	**-1.6**
KYTH	**Kithira**	**4.54**	**284**	*e*PN	Pn	12 46 31.3	+2.9
KYTH	**Kithira**	**4.54**	**284**	*e*Pn	Pn	12 46 31.3	+2.9
VLI	**Veliai**	**4.71**	**289**	*e*PN	**Pn**	**12 46 32.2**	**+1.4**
VLI	**Veliai**	**4.71**	**289**	*e*Pn	**Pn**	**12 46 32.2**	**+1.4**
HBRG	**Burj al 'Arab**	**4.87**	**166**	P	**Pn**	**12 46 33.3**	**+0.3**
	baz=167						
HBRG	**Burj al 'Arab**	**4.87**	**166**	P	**Pn**	**12 46 33.3**	**+0.3**
HBRG				S	Sn	12 47 22.9	-5.2
GULE	**Gulek**	**5.44**	**67**	*i* P	Pn	12 46 43.8	+3.0
GULE				*i* S	**Sn**	**12 47 39.2**	**-3.0**
GULE	**Gulek**	**5.44**	**67**	*i* P	Pn	12 46 43.8	+3.0
GULE				*i* S	**Sn**	**12 47 39.2**	**-3.0**
HNAT	**Natroun**	**5.95**	**162**	P	**Pn**	**12 46 47.6**	**-0.3**
	baz=162						
HNAT	**Natroun**	**5.95**	**162**	P	**Pn**	**12 46 47.6**	**-0.3**
AMAG	**Maghara**	**6.12**	**138**	P	**Pn**	**12 46 49.1**	**-1.1**
	baz=138						
AMAG	**Maghara**	**6.12**	**138**	P	**Pn**	**12 46 49.1**	**-1.1**
RSH		**6.18**	**133**	P	**Pn**	**12 46 49.9**	**-1.1**
	baz=133						
RSH		**6.18**	**133**	P	**Pn**	**12 46 49.8**	**-1.1**
SWA2		**6.59**	**204**	P	**Pn**	**12 46 57.0**	**+0.5**
	baz=206						
SWA2		**6.59**	**204**	P	**Pn**	**12 46 57.0**	**+0.5**
DSI	**Dead Sea**	**6.87**	**121**	Pn	**Pn**	**12 47 00.4**	**+0.1**
MZDA	**Masada**	**7.01**	**123**	Pn	**Pn**	**12 47 02.2**	**0.0**
KRMI	**Paran Flat**	**7.38**	**133**	Pn	**Pn**	**12 47 06.6**	**-0.9**
PRNI	**Paran**	**7.39**	**130**	Pn	**Pn**	**12 47 07.2**	**-0.3**
HRFI	**Mount Harif**	**7.63**	**132**	Pn	**Pn**	**12 47 10.2**	**-0.6**
MBRI	**Mt Berech**	**7.73**	**134**	Pn	**Pn**	**12 47 11.4**	**-0.9**
EIL	**Elat**	**7.84**	**134**	Pn	**Pn**	**12 47 12.7**	**-1.1**
HFRF	**Wahat Farafira**	**8.15**	**181**	P	**Pn**	**12 47 17.5**	**-0.5**
	baz=183						
HFRF	**Wahat Farafira**	**8.15**	**181**	P	**Pn**	**12 47 17.5**	**-0.5**

---

*IDC **09** 12:47:42.8±1.4, 2°.41S×128°.58E, $h0^{km}$, mb3.6/4, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=97.6km s-min=19.0km az=69.0*
*DJA **09** 12:47:48.9±1.8, 3°.5±8°.5×12°.8E±1°.6, $h10^{km}$±25^{km}, M3.7/3, MLv3.7/3*
ISC 09 12:47:48.0±1.3,**2°.6S**±0°.1×**128°.4E**±0°.3,**h35^{km}, n8,** σ0°**77**/8, **mb3.5**/4, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.15**	**190**	P	**Pn**	**12 48 07.5**	**-0.1**
AAI				S	**Sn**	**12 48 22.6**	**+0.6**
LBMI	**Labuha**	**2.10**	**335**	P	Pn	12 48 24.8	+4.1
FITZ	**Fitzroy Crossi**	**15.69**	**190**	Pn	**P**	**12 51 29.3**	**-0.9**
	0.0nm,0.3s,baz=28,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**18.23**	**162**	P	**P**	**12 51 57.5**	**-0.9**
	0.2nm,0.3s,baz=340,slow=12,SNR=10						
ASAR	**Alice Springs**	**21.66**	**166**	P	**P**	**12 52 35.1**	**-0.5**
	1.7nm,0.8s,baz=350,slow=11,SNR=15						
STKA	**Stephens Creek**	**31.71**	**158**	P	**P**	**12 54 09.3**	**+0.8**
	2.0nm,1.0s,baz=318,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**63.66**	**326**	P	**P**	**12 58 16.1**	**+0.4**
	0.3nm,0.8s,baz=121,slow=8.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**67.91**	**328**	P	**P**	**12 58 42.8**	**-0.2**
	0.4nm,0.8s,baz=126,slow=6.1,SNR=3.8						

---

*IDC **09** 12:56:53.3±1.6, 17°.28S×167°.90E, $h0^{km}$, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML3.6/1, MS4.2/2, Ms1 4.2/2, ms1mx3.9/32, Error ellipse: s-maj=50.7km s-min=25.0km az=131.0*
*ISCJB **09** 12:56:56.5±1.0, 17°.45S±0°.06×167°.8E±0°.2, $h27^{km}$, mb3.9/8, MS4.3/1, Error ellipse: s-maj=25.2km s-min=7.8km az=5.8*
*NEIC **09** 12:56:58.8±0.7, 17°.37S×167°.85E, $h35^{km}$, mb4.3/2, Error ellipse: s-maj=20.0km s-min=13.0km az=109.0*
ISC 09 12:56:57.5±1.1,**17°.42S**±0°.09×**167°.9E**±0°.2,**h27^{km}, n23,** σ1°**08**/25,**mb4.0**/8,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.83**	**196**	*e*P	**Pn**	**12 58 09.0**	**+0.4**
DZM				*e*S	**Sn**	**12 59 01.7**	**-2.0**
DZM	**Mont Dzumac**	**4.83**	**196**	*e*Pn	**Pn**	**12 58 09.0**	**+0.4**
DZM				*e*Sn	**Sn**	**12 59 04.6**	**+0.9**
DZM	**Mont Dzumac**	**4.83**	**196**	Pn	**Pn**	**12 58 09.2**	**+0.6**
	2.2nm,0.3s,baz=42,slow=19,SNR=45						
DZM				Sn	**Sn**	**12 59 01.8**	**-1.9**
	7.1nm,0.3s,baz=118,slow=22,SNR=17						
DZM				LR	LR	12 59 34.3	
	comp=Z,1μm,19.4s,baz=325,slow=32						
NOUC	**Port Laguerre**	**4.90**	**198**	*e*S	**Sn**	**12 59 06.6**	**+1.4**
NORM	**Noumea**	**4.97**	**195**	*e*S	**Sn**	**12 59 04.6**	**-2.4**
STKA	**Stephens Creek**	**27.81**	**234**	P	**P**	**13 02 45.8**	**+1.1**
STKA	**Stephens Creek**	**27.81**	**234**	P	**P**	**13 02 45.8**	**+1.1**
	1.4nm,0.8s,baz=49,slow=11,SNR=3.6						
RAR	**Rarotonga**	**30.71**	**102**	LR	LR	13 12 13.1	
	comp=Z,817nm,21.5s,baz=135,slow=30						
WRA	**Warramunga Arr**	**31.86**	**260**	P	**P**	**13 03 19.9**	**-0.8**
WRA	**Warramunga Arr**	**31.86**	**260**	P	**P**	**13 03 19.9**	**-0.8**
	0.7nm,0.8s,baz=89,slow=9.5,SNR=6.8						
AS31	**Alice Springs**	**32.38**	**253**	*e*P	**P**	**13 03 24.8**	**-0.4**
ASAR	**Alice Springs**	**32.38**	**253**	P	**P**	**13 03 24.7**	**-0.5**
ASAR	**Alice Springs**	**32.38**	**253**	P	**P**	**13 03 24.7**	**-0.5**

MEX 09 13:55:56.2±0.7, 17°13′N×101°12′W, h16km±11km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.58**	**325**	*eP*	Pg	13 56 05.5	-2.1
ZIIG				*i* S	Sg	13 56 13.3	-2.0
CAIG	**El Cayaco**	**0.82**	**96**	*i* P	Pb	13 56 08.9	-3.1
CAIG				*i* S	Sb	13 56 19.4	-3.5
ARIG	**Puente Sto Nin**	**1.36**	**33**	*i* P	Pn	13 56 17.3	-3.2
ARIG				*i* S	Sn	13 56 32.6	-5.6
PLIG	**Platanillo**	**1.98**	**51**	*i* P	Pn	13 56 26.9	-2.4
PLIG				*i* S	Sn	13 56 49.1	-4.7
YAIG	**Yautepec**	**2.60**	**48**	*i* P	Pn	13 56 35.8	-2.1
YAIG				*i* S	Sn	13 57 05.0	-4.3

MEX 09 14:00:37.9±0.9, 17°54N×94°00W, h10km±9km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.64**	**321**	*i* P	Pg	14 00 48.0	-2.2
TUIG				*i* S	Sg	14 00 57.7	-1.0
TGIG		**1.13**	**132**	*eP*	Pb	14 00 56.6	-3.0
TGIG				*eS*	Sb	14 01 10.0	-4.4
CCIG	**Comitan**	**2.18**	**125**	*eP*	Pn	14 01 10.4	-4.0
CCIG				*i* S	Sn	14 01 37.1	-4.5
VHO	**Vista Hermosa**	**2.65**	**260**	*i* P	Pn	14 01 17.4	-3.6
VHO				*i* S	Sn	14 01 49.6	-3.7
HUIG	**Huatulco**	**2.68**	**229**	*i* P	Pn	14 01 18.3	-2.8
HUIG				*i* S	Sn	14 01 49.0	-4.6
TPIG	**Tehuac#an**	**3.32**	**286**	*i* P	Pn	14 01 28.1	-2.0
TPIG				*i* S	Sn	14 02 05.6	-4.1
PNIG	**Pinotepa**	**4.11**	**254**	*i* P	Pn	14 01 38.1	-2.7
PNIG				*i* S	Sn	14 02 24.7	-4.3

*IDC **09** 14:15:21.8±0.8, 45°39S×166°63E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/16, mbtmp4.2/7, ML4.5/1, MS4.1/1, Ms1 4.1/1, ms1mx3.3/22, Error ellipse: s-maj=28.5km s-min=21.4km az=22.0*
*AUST **09** 14:15:22.3±0.8, 45°90S×166°46E, h0km, Error ellipse: s-maj=1.1km s-min=0.7km az=11.0*
*ISCJB **09** 14:15:23.3±0.8, 45°50S±0°04×166°59E±0°03, h17km±6km, mb4.1/7, MS4.0/1, Error ellipse: s-maj=7.2km s-min=4.1km az=0.6*
*NEIC **09** 14:15:23.4, 45°50S×166°59E, h12km, mb4.2/2, ML4.7(WEL), After WEL.*
*WEL **09** 14:15:24.2±0.2, 45°54S×166°63E, h23km, ML4.8/22, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0*

ISC 09 14:15:23.7±1.5, 45°54S±0°04×166°64E±0°04, h14km±9km, n83, σ1§10/93, mb4.2/7, 3C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**81**	P*	**Pb**	**14 15 32.2**	**+0.2**
DCZ				S*	**Sb**	**14 15 37.1**	**-0.4**
DCZ				AML	AML	14 15 38.2	
DCZ	**Deep Cove**	**0.37**	**81**	P*	**Pb**	**14 15 32.2**	**+0.2**
DCZ				S*	**Sb**	**14 15 37.1**	**-0.4**
WHZ	**Wether Hill Ro**	**0.98**	**112**	PN	**Pg**	**14 15 42.0**	**-0.7**
WHZ				SN	**Sn**	**14 15 56.2**	**-0.5**
WHZ				AML	AML	14 16 03.9	
WHZ	**Wether Hill Ro**	**0.98**	**112**	P*	**Pg**	**14 15 42.0**	**-0.7**
MLZ	**Mavora Lakes**	**1.10**	**81**	⇓PN	**Pb**	**14 15 43.4**	**-1.0**
MLZ				SN	**Sb**	**14 15 57.5**	**-1.0**
MLZ				AML	AML	14 16 05.9	
MLZ	**Mavora Lakes**	**1.10**	**81**	P*	**Pb**	**14 15 43.4**	**-1.0**
MLZ				S*	**Sb**	**14 15 57.5**	**-1.0**
MSZ	**Milford Sound**	**1.25**	**47**	⇓PN	**Pn**	**14 15 45.7**	**-1.0**
MSZ				SN	**Sg**	**14 16 06.7**	**+2.5**
MSZ				AML	AML	14 16 12.4	
MSZ				AML	AML	14 16 15.0	
MSZ				AML	AML	14 16 15.1	
MSZ	**Milford Sound**	**1.25**	**47**	P*	**Pn**	**14 15 45.8**	**-1.0**
APZ	**The Paps**	**1.60**	**145**	⇑PN	**Pn**	**14 15 51.8**	**+0.2**
APZ				SN	**Sb**	**14 16 12.6**	**-0.6**
APZ	**The Paps**	**1.60**	**145**	Pn	**Pn**	**14 15 51.8**	**+0.2**
APZ				Sn	**Sb**	**14 16 12.6**	**-0.6**
WKZ	**Wanaka**	**1.82**	**68**	⇑PN	**Pb**	**14 15 56.2**	**-0.7**
WKZ				AML	AML	14 16 26.2	
WKZ				AML	AML	14 16 26.3	
WKZ				AML	AML	14 16 28.1	
WKZ				AML	AML	14 16 28.2	
WKZ	**Wanaka**	**1.82**	**68**	Pn	**Pb**	**14 15 56.2**	**-0.7**
EAZ	**Earnscleugh**	**1.91**	**82**	PN	**Pb**	**14 15 57.5**	**-0.7**
EAZ				AML	AML	14 16 25.3	
EAZ				AML	AML	14 16 25.5	
EAZ				AML	AML	14 16 25.6	
EAZ				AML	AML	14 16 35.6	
EAZ	**Earnscleugh**	**1.91**	**82**	Pn	**Pb**	**14 15 57.5**	**-0.7**
EAZ				Sn	**Sb**	**14 16 21.9**	**+0.1**
JCZ	**Jackson Bay**	**2.10**	**47**	⇑PN	**Pb**	**14 16 01.2**	**-0.4**
JCZ				AML	AML	14 16 38.5	
JCZ				AML	AML	14 16 40.1	
JCZ	**Jackson Bay**	**2.10**	**47**	Pn	**Pb**	**14 16 01.2**	**-0.4**
TUZ	**Tuapeka**	**2.14**	**102**	PN	**Pb**	**14 16 00.9**	**-1.2**
TUZ				AML	AML	14 16 31.6	
TUZ				AML	AML	14 16 33.0	
TUZ	**Tuapeka**	**2.14**	**102**	Pn	**Pb**	**14 16 00.9**	**-1.2**
LBZ	**Lake Benmore**	**2.77**	**67**	PN	**Pn**	**14 16 08.8**	**+1.2**
LBZ				AML	AML	14 16 44.6	
LBZ				AML	AML	14 16 44.6	
LBZ				AML	AML	14 16 55.0	
LBZ				AML	AML	14 16 55.1	
LBZ	**Lake Benmore**	**2.77**	**67**	Pn	**Pn**	**14 16 08.8**	**+1.2**
LBZ				Sn	**Sb**	**14 16 44.0**	**-2.6**
ODZ	**Otahua Downs**	**2.87**	**82**	PN	**Pn**	**14 16 09.5**	**+0.5**
ODZ	**Otahua Downs**	**2.87**	**82**	Pn	**Pn**	**14 16 09.5**	**+0.5**
ODZ				Sn	**Sn**	**14 16 45.1**	**+1.9**
FOZ	**Fox Glacier**	**2.94**	**49**	PN	**Pb**	**14 16 12.9**	**-2.8**
FOZ				AML	AML	14 17 04.2	
FOZ				AML	AML	14 17 04.3	
FOZ				AML	AML	14 17 12.5	
FOZ				AML	AML	14 17 12.6	
FOZ	**Fox Glacier**	**2.94**	**49**	Pn	**Pb**	**14 16 12.9**	**-2.8**
RPZ	**Rata Peaks**	**3.64**	**62**	PN	**Pn**	**14 16 20.1**	**+0.5**
RPZ				AML	AML	14 17 06.4	
RPZ				AML	AML	14 17 07.1	
RPZ	**Rata Peaks**	**3.64**	**62**	*e*Pn	**Pn**	**14 16 20.6**	**+1.0**
RPZ				Sn	**Sn**	**14 17 02.5**	**+0.2**
RPZ				Sn	Sb	14 17 04.9	-6.8
RPZ	**Rata Peaks**	**3.64**	**62**	Pn	**Pn**	**14 16 20.1**	**+0.5**
RPZ	40nm,0.3s,baz=202,slow=4.0,SNR=133			Sn	**Sn**	**14 17 02.5**	**+0.2**
	24nm,0.3s,baz=90,slow=18,SNR=3.2						
WVZ	**Waitaha Valley**	**3.83**	**52**	PN	**Pn**	**14 16 24.1**	**+1.9**
WVZ				AML	AML	14 17 20.4	
WVZ				AML	AML	14 17 22.1	
WVZ	**Waitaha Valley**	**3.83**	**52**	Pn	**Pn**	**14 16 24.1**	**+1.9**
MQZ	**McQueen's Vall**	**4.67**	**69**	PN	**Pn**	**14 16 34.2**	**+0.6**
MQZ	**McQueen's Vall**	**4.67**	**69**	Pn	**Pn**	**14 16 34.2**	**+0.6**
MQZ				Sn	**Sn**	**14 17 26.9**	**-0.6**
CRLZ	**Canterbury Las**	**4.70**	**68**	PN	**Pn**	**14 16 35.3**	**+1.1**
CRLZ				AML	AML	14 18 10.6	
CRLZ				AML	AML	14 18 28.6	
CRLZ	**Canterbury Las**	**4.70**	**68**	Pn	**Pn**	**14 16 35.3**	**+1.1**
LTZ	**Lake Taylor**	**4.90**	**58**	PN	**Pn**	**14 16 38.1**	**+1.2**
LTZ				AML	AML	14 17 39.2	
LTZ				AML	AML	14 18 21.6	
LTZ	**Lake Taylor**	**4.90**	**58**	Pn	**Pn**	**14 16 38.1**	**+1.2**
LTZ				Sn	**Sn**	**14 17 34.9**	**+1.6**
KHZ	**Kahutara**	**5.87**	**60**	PN	**Pn**	**14 16 51.3**	**+1.1**
KHZ	**Kahutara**	**5.87**	**60**	Pn	**Pn**	**14 16 51.3**	**+1.1**
THZ	**Tophouse**	**5.90**	**53**	PN	**Pn**	**14 16 51.6**	**+0.8**
THZ				AML	AML	14 18 14.2	
THZ				AML	AML	14 18 16.9	
THZ	**Tophouse**	**5.90**	**53**	Pn	**Pn**	**14 16 51.6**	**+0.8**
THZ				Sn	**Sn**	**14 17 59.0**	**+0.8**
NNZ	**Nelson**	**6.54**	**51**	AML	AML	14 18 22.6	
TAU	**Tasmania Unive**	**14.10**	**274**	*e*Pn	Pn	14 18 39.7	-3.2
MOO	**Moorlands**	**14.34**	**276**	P	**Pn**	**14 18 46.9**	**+0.8**
	baz=14,SNR=6.9						
MILA	**Mila**	**15.61**	**297**	P	**Pn**	**14 19 02.1**	**-1.2**
	baz=16,SNR=19						
CNB	**Canberra Magne**	**16.62**	**302**	P	**Pn**	**14 19 16.2**	**0.0**
	baz=17,SNR=4.7						
CAN	**Canberra**	**16.83**	**301**	*eP*	**Pn**	**14 19 18.7**	**-0.2**
	22nm,1.3s						
TOO	**Toolangi**	**17.68**	**289**	P	**P**	**14 19 30.5**	**+0.2**
	baz=18,SNR=13						
YNG	**Young**	**17.89**	**302**	P	**P**	**14 19 33.4**	**+0.7**
	baz=18,SNR=4.8						
CMSA	**Cobar Meteorol**	**21.45**	**303**	P	P	14 20 17.1	+5.6
	baz=22,SNR=5.9						
STKA	**Stephens Creek**	**23.71**	**296**	*eP*	**P**	**14 20 36.8**	**+1.7**
STKA	**Stephens Creek**	**23.71**	**296**	P	**P**	**14 20 35.6**	**+0.5**
	4.9nm,1.0s,baz=126,slow=9.9,SNR=7.6						
RMQ	**Roma**	**23.79**	**317**	P	**P**	**14 20 38.2**	**+2.4**
	baz=24,SNR=8.7						
ASAR	**Alice Springs**	**34.31**	**298**	P	**P**	**14 22 09.7**	**0.0**
ASAR	**Alice Springs**	**34.31**	**298**	P	**P**	**14 22 09.7**	**0.0**
	3.1nm,1.0s,baz=145,slow=8.2,SNR=17						
AFI	**Afiamalu**	**36.43**	**37**	LR	LR	14 34 25.6	
	comp=Z,269nm,18.6s,baz=223,slow=32						
WRA	**Warramunga Arr**	**36.86**	**303**	P	**P**	**14 22 30.9**	**-0.7**
WRA	**Warramunga Arr**	**36.86**	**303**	P	**P**	**14 22 30.9**	**-0.7**
	4.9nm,1.1s,baz=140,slow=8.7,SNR=17						
WRAB	**Tennant Creek**	**36.86**	**303**	*eP*	**P**	**14 22 31.0**	**-0.6**
	4.7nm,1.0s						
KNRA	**Kununurra**	**43.49**	**301**	P	P	14 23 30.3	+3.7
	baz=44,SNR=12						
FITZ	**Fitzroy Crossi**	**43.60**	**295**	P	**P**	**14 23 26.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**43.60**	**295**	P	**P**	**14 23 26.7**	**-0.7**
	2.8nm,1.0s,baz=160,slow=6.0,SNR=4.8						
QSPA	**South Pole Qui**	**44.59**	**180**	P	**P**	**14 23 37.0**	**+1.9**
QSPA	**South Pole Qui**	**44.59**	**180**	P	**P**	**14 23 36.9**	**+1.9**
	1.5nm,0.7s,baz=353,slow=3.9,SNR=8.0						
LUWI	**Luwuk**	**58.70**	**306**	P	P	14 25 03.9	-17
	baz=59,SNR=11						
CMAR	**Chiang Mai Arr**	**88.32**	**299**	P	**P**	**14 28 15.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**88.32**	**299**	P	**P**	**14 28 15.6**	**+0.7**
	1.7nm,0.9s,baz=145,slow=2.9,SNR=6.6						
MKAR	**Makanchi Array**	**117.99**	**309**	PKP	**PKPdf**	**14 34 08.1**	**-1.2**
MKAR	**Makanchi Array**	**117.99**	**309**	PKP	**PKPdf**	**14 34 08.1**	**-1.2**
	0.5nm,0.9s,baz=151,slow=2.8,SNR=4.2						
BVAR	**Borovoye Array**	**127.81**	**311**	PKP	**PKPdf**	**14 34 26.4**	**-1.4**
BVAR	**Borovoye Array**	**127.81**	**311**	PKP	**PKPdf**	**14 34 26.4**	**-1.4**
	0.2nm,0.5s,baz=96,slow=4.3,SNR=2.9						
SPITS	**Spitsbergen Ar**	**145.28**	**350**	PKPbc	**PKPab**	**14 34 59.3**	**0.0**
SPITS	**Spitsbergen Ar**	**145.28**	**350**	PKPbc	**PKPab**	**14 34 59.3**	**0.0**
	2.8nm,0.8s,baz=38,slow=7.4,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**145.28**	**206**	*e*PKP	**PKPbc**	**14 35 00.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**145.28**	**206**	PKPbc	**PKPbc**	**14 35 00.9**	**0.0**
TORD	**Torodi Ar. Bea**	**145.28**	**206**	PKPbc	**PKPbc**	**14 35 00.9**	**0.0**
	3.7nm,0.7s,baz=161,slow=2.2,SNR=25						
BR131	**Keskin Array S**	**145.34**	**277**	*e*PKP	**PKPbc**	**14 35 00.4**	**-0.2**
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPab**	**14 35 01.2**	**+0.4**
BRTR	**Keskin Array B**	**145.34**	**277**	PKPbc	**PKPab**	**14 35 01.2**	**+0.4**
	3.2nm,0.9s,baz=123,slow=4.6,SNR=12						
ARCES	**ARCESS Array B**	**149.13**	**335**	PKPbc	**PKPbc**	**14 35 08.6**	**-1.6**
ARCES	**ARCESS Array B**	**149.13**	**335**	PKPbc	**PKPbc**	**14 35 08.6**	**-1.6**
	1.5nm,0.7s,baz=54,slow=3.1,SNR=7.9						
FINES	**FINESS Array B**	**152.21**	**319**	PKPbc	**PKPbc**	**14 35 18.0**	**+0.4**
FINES	**FINESS Array B**	**152.21**	**319**	PKPbc	**PKPbc**	**14 35 18.0**	**+0.4**
	1.3nm,0.5s,baz=84,slow=3.0,SNR=13						
GERES	**GERESS Array B**	**161.35**	**290**	PKPab	**PKPab**	**14 36 06.9**	**-0.6**
GERES	**GERESS Array B**	**161.35**	**290**	PKPab	**PKPab**	**14 36 06.9**	**-0.6**
	1.0nm,1.0s,baz=104,slow=4.5,SNR=5.9						

*IDC **09** 14:18:32.5±0.5, 29°31S×75°41W, h0km, mb4.2/9, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.4/3, Error ellipse: s-maj=21.9km s-min=17.8km az=73.0*
*ISCJB **09** 14:18:35.9±0.6, 29°22S±0°06×75°00W±0°07, h33km, mb4.3/10, Error ellipse: s-maj=10.3km s-min=6.4km az=138.0*
*GUC **09** 14:18:38.3±0.7, 29°18S×74°61W, h25km±37km, ML4.6*

ISC 09 14:18:38.1±0.6, 29°14S±0°07×74°93W±0°08, h35km, n33, σ1§41/37, mb4.3/10, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**3.74**	**107**	⇑*i*P	**Pn**	**14 19 35.8**	**+2.3**
TLL				*i* S	**Sn**	**14 20 17.4**	**+0.9**
TLL				AML	AML	14 20 24.3	
	comp=N,962nm,0.6s						
CMCH	**Combarbala**	**3.96**	**122**	⇓*i*P	**Pn**	**14 19 35.5**	**-1.1**
CMCH				*i* S	**Sn**	**14 20 18.3**	**-3.5**
CDCH	**Caldera**	**4.18**	**61**	*eP*	**Pn**	**14 19 38.5**	**-0.9**
CDCH				*eS*	**Sn**	**14 20 23.9**	**-3.0**
JACH	**Jahuel**	**5.14**	**135**	*eP*	**Pn**	**14 19 52.2**	**-0.5**
PEL	**Peldehue**	**5.40**	**139**	⇓*i*P	**Pn**	**14 19 55.5**	**-0.8**
CLCH	**Cerro Calan**	**5.67**	**140**	⇓*i*P	**Pn**	**14 19 59.6**	**-0.4**
ANTU	**Antumapu**	**5.75**	**141**	*eP*	**Pn**	**14 20 00.6**	**-0.4**
PCH	**Pirque**	**5.85**	**141**	*eP*	**Pn**	**14 20 02.2**	**-0.3**
CHCH	**Chadas Angostu**	**6.02**	**144**	*eP*	**Pn**	**14 20 04.5**	**-0.2**
CACH	**El Canelo**	**6.19**	**144**	*eP*	**Pn**	**14 20 07.5**	**+0.4**
LMEL	**Las Melosas**	**6.19**	**140**	⇑*i*P	**Pn**	**14 20 07.0**	**-0.2**
CFAA	**Coronel Fontan**	**6.29**	**115**	Pn	**Pn**	**14 20 10.7**	**+2.3**
	comp=N,1.4nm,0.3s,baz=299,slow=12,SNR=79						
CFAA				Sn	**Sn**	**14 21 20.3**	**+1.3**
	comp=N,3.0nm,0.3s,baz=84,slow=11,SNR=17						
PLCA	**Paso Flores**	**12.11**	**164**	Pn	**Pn**	**14 21 26.5**	**-1.7**
	comp=N,0.9nm,0.3s,baz=340,slow=14,SNR=19						
LPAZ	**La Paz**	**14.24**	**28**	Pn	**Pn**	**14 21 59.4**	**+1.5**
	comp=N,0.9nm,0.3s,baz=191,slow=5.0,SNR=24						
SIV	**San Ignacio**	**18.28**	**47**	Pn	**P**	**14 22 46.8**	**-2.3**
	comp=N,1.6nm,0.3s,baz=244,slow=12,SNR=20						
BDFB	**Brasilia**	**28.20**	**67**	P	P	14 24 33.0	+5.2
	comp=N,3.6nm,0.7s,baz=238,slow=12,SNR=3.5						
QSPA	**South Pole Qui**	**61.08**	**180**	P	**P**	**14 28 48.1**	**-0.2**
	comp=N,2.0nm,0.6s,baz=178,slow=4.0,SNR=17						
TXAR	**Lajitas Array**	**64.30**	**332**	P	**P**	**14 29 10.5**	**+0.3**
	comp=N,1.3nm,0.6s,baz=154,slow=8.4,SNR=18						
RAR	**Rarotonga**	**75.66**	**254**	P	P	14 30 16.2	-3.9
	comp=N,13nm,0.3s,baz=50,slow=0.0,SNR=7.2						
DBIC	**Dimbokro**	**76.10**	**74**	P	**P**	**14 30 23.8**	**+1.1**
	comp=N,3.5nm,0.6s,baz=214,slow=8.5,SNR=3.7						
PDAR	**Pinedale Array**	**78.32**	**335**	P	**P**	**14 30 34.4**	**-0.4**
	comp=N,0.3nm,0.4s,baz=142,slow=4.6,SNR=3.4						
NVAR	**Mina Array Bea**	**78.49**	**327**	P	**P**	**14 30 36.3**	**+0.5**
	comp=N,0.6nm,0.9s,baz=153,slow=5.5,SNR=5.8						
MAW	**Mawson**	**78.52**	**165**	P	**P**	**14 30 35.6**	**+0.3**
	comp=N,2.8nm,0.8s,baz=255,slow=3.8,SNR=8.2						
ULM	**Lac du Bonnet**	**81.19**	**347**	P	**P**	**14 30 49.4**	**-0.5**
	comp=N,2.2nm,0.7s,baz=247,slow=3.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**84.98**	**72**	P	**P**	**14 31 11.1**	**+0.9**
	comp=N,5.1nm,0.9s,baz=281,slow=6.2,SNR=15						
ASAR	**Alice Springs**	**120.61**	**211**	PKP	**PKPdf**	**14 37 24.4**	**-2.4**
	comp=N,0.2nm,0.6s,baz=118,slow=2.5,SNR=4.8						
WRA	**Warramunga Arr**	**123.62**	**214**	PKP	**PKPdf**	**14 37 30.1**	**-2.5**
	comp=N,0.4nm,0.6s,baz=153,slow=1.7,SNR=9.8						
BVAR	**Borovoye Array**	**145.15**	**37**	PKPbc	**PKPdf**	**14 38 12.1**	**+0.6**
	comp=N,1.0nm,0.5s,baz=264,slow=2.8,SNR=11						
ASAJ	**Asahikawa**	**146.69**	**307**	PKPbc	**PKPdf**	**14 38 14.9**	**+0.5**
	comp=N,2.8nm,0.8s,baz=288,slow=8.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**150.69**	**36**	PKP	**PKPdf**	**14 38 21.9**	**+1.2**
	comp=N,0.7nm,0.3s,baz=62,slow=6.7,SNR=4.1						
KURBB				PKPbc	**PKiKP**	**14 38 26.8**	**0.0**
	comp=N,3.4nm,0.7s,baz=305,slow=3.0,SNR=18						
ZALV	**Zalesovo Beam**	**151.15**	**25**	PKP	**PKPdf**	**14 38 21.4**	**+0.2**
	comp=N,0.9nm,0.6s,baz=304,slow=1.1,SNR=3.6						
ZALV				PKPbc	**PKPbc**	**14 38 27.4**	**+0.2**
	comp=N,9.9nm,0.6s,baz=301,slow=3.1,SNR=36						
MKAR	**Makanchi Array**	**154.98**	**39**	PKPbc	PKPdf	14 38 35.5	+8.4
	comp=N,0.3nm,0.8s,baz=90,slow=0.5,SNR=4.1						
MKAR				PKPab	**PKPab**	**14 38 52.1**	**+0.7**
	comp=N,0.3nm,0.6s,baz=292,slow=3.3,SNR=3.7						
SONM	**Songino Array**	**161.31**	**357**	PKPab	**PKPab**	**14 39 19.8**	**+1.0**
	comp=N,1.0nm,0.8s,baz=345,slow=2.8,SNR=5.7						

*IDC **09** 14:52:23.2±1.7, 16°90N×123°33E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/25, mbtmp3.3/3, ML4.7/1, Error ellipse: s-maj=58.7km s-min=26.0km az=66.0*
*MAN **09** 14:52:27, 16°56N×122°57E, h38km, mb4.5, ML3.3, MS3.2*
*ISCJB **09** 14:52:28.1±1.0, 16°50N±0°06×122°60E±0°08, h37km±13km, mb3.1/3, Error ellipse: s-maj=12.7km s-min=10.3km az=151.9*

ISC 09 14:52:29.3±1.3, 16°58N±0°04×122°51E±0°06, h32km±11km, n11, σ1§62/16, mb3.3/3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.49**	**350**	*eP*	**Pb**	**14 52 39.5**	**-0.2**
PALP				*eS*	**Sn**	**14 52 49.2**	**+1.7**
PALP	**Palanan**	**0.49**	**350**	⇓*eP*	**Pb**	**14 52 40.2**	**+0.5**
PALP				*i* S	**Sn**	**14 52 49.1**	**+1.5**
CAUP	**Cauayan**	**0.76**	**299**	*eP*	**Pn**	**14 52 42.3**	**-1.4**
CAUP				*eS*	**Sn**	**14 52 55.5**	**+1.5**
BALP	**Baler**	**1.22**	**227**	*eP*	**Pn**	**14 52 48.4**	**-1.8**
BCPH	**Baguio City Da**	**1.86**	**264**	⇑*i*P	**Pn**	**14 52 58.9**	**-0.2**
BCPH				*i* S	**Sb**	**14 53 23.8**	**-2.0**
TGY	**Tagaytay City**	**2.89**	**212**	Pn	**Pb**	**14 53 20.7**	**+0.4**
	66nm,0.3s,baz=44,slow=2.6,SNR=6.8						
TGY				Sn	**Sb**	**14 53 58.2**	**+3.0**
	60nm,0.3s,baz=14,slow=17,SNR=2.7						
PVCP	**Virac**	**3.36**	**152**	*eP*	**Pn**	**14 53 18.6**	**-1.0**
PVCP	**Virac**	**3.36**	**152**	*eP*	**Pn**	**14 53 18.6**	**-1.0**
WRA	**Warramunga Arr**	**38.10**	**162**	P	**P**	**14 59 43.5**	**-1.9**
	0.7nm,0.8s,baz=342,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**41.52**	**164**	P	**P**	**15 00 14.1**	**+0.3**
	0.2nm,0.9s,baz=347,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**44.84**	**321**	P	**P**	**15 00 41.0**	**+0.5**
	0.3nm,0.7s,baz=123,slow=7.9,SNR=3.4						

*THE **09** 15:05:19.0, 35°17N×23°20E, h0km±3km, ML2.8/1, Error ellipse: s-maj=4.3km s-min=1.3km az=213.0*
*CSEM **09** 15:05:24.2±0.5, 35°65N×23°68E, h2km, MD3.5, Error ellipse: s-maj=18.4km s-min=4.7km az=37.0*
*ATH **09** 15:05:24.6, 35°74N×23°74E, h5km±3km, MD3.5/22*
*ISCJB **09** 15:05:26.6±0.8, 35°62N±0°09×23°76E±0°08, h24km, Error ellipse: s-maj=14.7km s-min=4.2km az=34.1*

ISC 09 15:05:24.4±0.8, 35°64N±0°05×23°65E±0°04, h24km, n58, σ1§30/63, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.36**	**309**	P	**Pb**	**15 05 32.5**	**+0.2**
ANKY				S	**Sn**	**15 05 42.9**	**+2.4**
ANKY	**Antikythira Is**	**0.36**	**309**	*e*PB	**Pb**	**15 05 32.2**	**-0.1**
ANKY				*e*SB	**Sb**	**15 05 38.1**	**+0.4**
ANKY	**Antikythira Is**	**0.36**	**309**	*e*Pb	**Pb**	**15 05 32.2**	**-0.1**
ANKY	**Antikythira Is**	**0.36**	**309**	P	**Pb**	**15 05 32.5**	**+0.2**
ANKY				S	**Sn**	**15 05 42.9**	**+2.4**
VAM	**Vamos**	**0.51**	**117**	P	**Pn**	**15 05 35.4**	**-0.8**
VAM				S	**Sn**	**15 05 47.8**	**+3.7**
VAM	**Vamos**	**0.51**	**117**	*e*PB	**Pn**	**15 05 35.4**	**-0.8**
VAM				*e*SB	**Sn**	**15 05 42.4**	**-1.7**
VAM	**Vamos**	**0.51**	**117**	P	**Pn**	**15 05 35.4**	**-0.8**
VAM				*e*Sb	**Sn**	**15 05 42.4**	**-1.7**
VAM				S	**Sn**	**15 05 47.8**	**+3.7**
KYTH	**Kithira**	**0.81**	**322**	P	**Pb**	**15 05 39.6**	**-0.2**
KYTH	**Kithira**	**0.81**	**322**	*e*PB	**Pb**	**15 05 39.8**	**0.0**
KYTH	**Kithira**	**0.81**	**322**	P	**Pb**	**15 05 39.6**	**-0.2**
IDI	**Anoyia**	**1.07**	**109**	P	**Pn**	**15 05 43.8**	**-0.2**
IDI	**Anoyia**	**1.07**	**109**	*e*PG	**Pb**	**15 05 43.9**	**-0.4**
IDI	**Anoyia**	**1.07**	**109**	P	**Pn**	**15 05 43.8**	**-0.2**
SIVA	**Sivas**	**1.14**	**123**	P	**Pb**	**15 05 44.9**	**-0.4**
SIVA	**Sivas**	**1.14**	**123**	*e*PG	**Pb**	**15 05 45.3**	**0.0**
SIVA	**Sivas**	**1.14**	**123**	P	**Pb**	**15 05 44.9**	**-0.4**
SIVA	**Sivas**	**1.14**	**123**	*e*Pg	**Pb**	**15 05 45.3**	**0.0**
VLI	**Veliai**	**1.22**	**332**	P	**Pb**	**15 05 47.7**	**+0.9**
VLI				S	Sb	15 06 09.5	+7.4
VLI	**Veliai**	**1.22**	**332**	*e*PB	**Pb**	**15 05 47.2**	**+0.4**
VLI	**Veliai**	**1.22**	**332**	*e*Pb	**Pb**	**15 05 47.2**	**+0.4**
VLI	**Veliai**	**1.22**	**332**	P	**Pb**	**15 05 47.7**	**+0.9**
VLI				S	Sb	15 06 09.5	+7.4
DYR	**Agios Nikonas**	**1.54**	**317**	*e*PG	**Pb**	**15 05 52.9**	**+0.6**
DYR	**Agios Nikonas**	**1.54**	**317**	*e*Pg	**Pb**	**15 05 52.9**	**+0.6**
LAST	**Lasithi**	**1.57**	**107**	P	**

ISC 09 15:35:55.2±0.7, 25°.20S±0°.05×69°.67W±0°.09, h90km±7km, n19, σ1960/28, mb4.1/5, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.66**	**336**	⇓*iP*	**Pn**	**15 36 23.6**	**+0.6**
ANCH				*i*S	**Sn**	**15 36 42.5**	**-1.5**
ANCH				AML	AML	15 36 51.7	
	comp=E,3μm,0.6s						
PB10	**Plate Boundary**	**1.86**	**334**	⇓*iP*	**Pn**	**15 36 26.2**	**+0.5**
PB10				*i*S	**Sn**	**15 36 47.8**	**-1.0**
PB10				AML	AML	15 36 50.6	
	comp=N,8μm,0.4s						
CEN1	**Los Morros**	**1.87**	**345**	⇑*iP*	**Pn**	**15 36 25.2**	**-0.6**
CEN1				*i*S	**Sn**	**15 36 45.6**	**-3.4**
CEN1				AML	AML	15 36 53.0	
	comp=E,2μm,0.5s						
SPCH	**San Pedro de A**	**2.65**	**31**	*e*P	**Pn**	**15 36 37.6**	**+1.3**
SPCH				*i*S	**Sn**	**15 37 07.8**	**0.0**
PB04	**Plate Boundary**	**2.93**	**3**	⇓*iP*	**Pn**	**15 36 38.6**	**-1.1**
PB04				*i*S	**Sn**	**15 37 11.8**	**-2.2**
PB04				AML	AML	15 37 39.1	
	comp=N,2μm,0.4s						
CFAA	**Coronel Fontan**	**6.50**	**169**	P	**Pn**	**15 37 28.7**	**+0.4**
	comp=N,1.3nm,0.3s,baz=349,slow=13,SNR=122						
CFAA				S	**Sn**	**15 38 37.5**	**-3.5**
	comp=N,0.6nm,0.3s,baz=254,slow=7.7,SNR=1.9						
LPAZ	**La Paz**	**8.98**	**10**	P	**Pn**	**15 38 01.7**	**-1.0**
	comp=N,3.2nm,0.3s,baz=181,slow=7.0,SNR=69						
SIV	**San Ignacio**	**12.19**	**43**	P	Pn	15 38 39.7	-6.0
	comp=N,5.2nm,0.3s,baz=234,slow=12,SNR=64						
SIV				S	Sn	15 40 46.7	-13
	comp=N,0.5nm,0.3s,baz=159,slow=18,SNR=4.4						
PLCA	**Paso Flores**	**15.51**	**183**	P	**Pn**	**15 39 27.2**	**-1.5**
	comp=N,0.1nm,0.3s,baz=358,slow=14,SNR=3.4						
BDFB	**Brasilia**	**22.39**	**69**	P	**P**	**15 40 43.4**	**-2.9**
	comp=N,3.9nm,0.4s,baz=216,slow=13,SNR=8.6						
TXAR	**Lajitas Array**	**63.29**	**327**	P	**P**	**15 46 15.9**	**+1.3**
	comp=N,0.3nm,0.7s,baz=164,slow=7.0,SNR=3.3						
DBIC	**Dimbokro**	**70.48**	**72**	P	**P**	**15 47 00.2**	**-0.3**
	comp=N,3.4nm,0.8s,baz=203,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**79.26**	**70**	P	**P**	**15 47 50.6**	**-0.5**
	comp=N,0.9nm,0.5s,baz=258,slow=5.3,SNR=17						
TORD				pP	**pP**	**15 48 16.3**	**+1.6**
	comp=N,2.6nm,0.6s,baz=255,slow=5.6,SNR=5.5						
MAW	**Mawson**	**81.00**	**163**	P	**P**	**15 48 00.2**	**+0.7**
	comp=N,1.7nm,0.7s,baz=221,slow=4.4,SNR=12						
ASAR	**Alice Springs**	**126.32**	**207**	PKP	**PKPdf**	**15 54 48.5**	**+0.4**
	comp=N,0.3nm,0.6s,baz=137,slow=1.6,SNR=12						
ASAR				pPKP	**pPKPdf**	**15 55 14.6**	**+1.4**
	comp=N,0.2nm,0.4s,baz=127,slow=1.7,SNR=2.5						
WRA	**Warramunga Arr**	**129.41**	**210**	PKP	**PKPdf**	**15 54 54.6**	**+0.6**
	comp=N,0.6nm,0.7s,baz=150,slow=1.5,SNR=7.1						
WRA				pPKP	**pPKPdf**	**15 55 20.7**	**+1.6**
	comp=N,0.2nm,0.6s,baz=150,slow=1.9,SNR=2.2						
ZALV	**Zalesovo Beam**	**145.57**	**27**	PKPbc	**PKPab**	**15 55 23.9**	**+0.7**
	comp=N,2.5nm,0.7s,baz=316,slow=4.1,SNR=7.5						
ZALV				pPKPbc	pPKPbc	15 55 49.6	+2.0
	comp=N,4.1nm,0.6s,baz=300,slow=3.7,SNR=7.2						
MKAR	**Makanchi Array**	**148.99**	**39**	PKPbc	**PKPbc**	**15 55 33.1**	**+0.5**
	comp=N,0.7nm,0.7s,baz=319,slow=2.2,SNR=7.6						
MKAR				pPKPbc	**pPKPbc**	**15 55 58.1**	**+0.6**
	comp=N,1.0nm,0.6s,baz=310,slow=2.8,SNR=7.7						
SONM	**Songino Array**	**157.20**	**7**	PKP	**PKPdf**	**15 55 41.9**	**+1.5**
	comp=N,0.5nm,1.1s,baz=19,slow=9.4,SNR=3.6						

WEL 09 15:48:21.7±0.1, 37°.72S×176°.88E, h5km, ML3.7/10, 8C-2D, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.29**	**243**	⇑PG	Pg	15 48 27.6	+0.3
OPRZ				SG	Sg	15 48 31.3	+0.1
WIZ	**White Island**	**0.31**	**53**	⇑PG	Pg	15 48 28.2	+0.5
WIZ				SG	Sg	15 48 32.4	+0.6
MARZ	**Manawahe**	**0.32**	**211**	⇑PG	Pg	15 48 28.1	+0.2
MARZ				SG	Sg	15 48 32.6	+0.4
EDRZ	**Edgecumbe**	**0.41**	**196**	PG	Pg	15 48 29.9	+0.2
EDRZ				AML	AML	15 48 37.7	
EDRZ				AML	AML	15 48 39.1	
LIRZ	**Lichensteins R**	**0.49**	**234**	PG	Pg	15 48 31.8	+0.6
TGRZ	**Tauranga**	**0.49**	**268**	⇑PG	Pg	15 48 31.8	+0.6
TGRZ				AML	AML	15 48 39.9	
TGRZ				AML	AML	15 48 41.0	
MKRZ	**Makatiti**	**0.54**	**218**	PG	Pb	15 48 32.9	-0.8
MKRZ				AML	AML	15 48 36.6	
MKRZ				AML	AML	15 48 47.7	
OMRZ	**Omania**	**0.56**	**226**	⇑PG	Pg	15 48 32.9	+0.3
URZ	**Urewera**	**0.57**	**162**	PG	Pg	15 48 32.3	-0.5
URZ				AML	AML	15 48 42.7	
URZ				AML	AML	15 48 42.7	
KARZ	**Kaharoa**	**0.59**	**239**	⇓PG	Pg	15 48 33.7	+0.5
TARZ	**Mount Tarawera**	**0.60**	**210**	PG	Pg	15 48 33.9	+0.6
MYRZ	**Mayor Island**	**0.67**	**310**	P*	Pg	15 48 34.8	+0.2
RRRZ	**Republican Roa**	**0.69**	**205**	P*	Pg	15 48 35.2	+0.2
MWZ	**Matawai**	**0.80**	**141**	P*	Pg	15 48 36.4	-0.8
MWZ				AML	AML	15 48 50.6	
MWZ				AML	AML	15 48 50.6	
MWZ				AML	AML	15 49 00.3	
HRRZ	**Handcock Road**	**0.82**	**215**	P*	Pb	15 48 38.1	-0.5
PRRZ	**Plateau Road**	**0.87**	**206**	P*	Pg	15 48 38.3	-0.2
ALRZ	**Allen Road**	**0.95**	**206**	⇓P	Pg	15 48 39.7	-0.2
TOZ	**Tahuroa Road**	**1.09**	**269**	P*	Pg	15 48 40.9	-1.8
PUZ	**Puketiti**	**1.15**	**109**	P*	Pg	15 48 43.2	-0.6
PUZ				AML	AML	15 49 04.4	
PUZ				AML	AML	15 49 05.9	
KUZ	**Kuaotunu**	**1.34**	**316**	⇑P*	Pn	15 48 43.7	-3.4
KUZ				AML	AML	15 49 11.2	
KUZ				AML	AML	15 49 11.2	
KUZ				AML	AML	15 49 11.8	
KUZ				AML	AML	15 49 11.8	
KNZ	**Kokohu**	**1.44**	**155**	PN	Pn	15 48 47.8	-0.7
BKZ	**Black Stump Fm**	**1.48**	**192**	P*	Pn	15 48 47.0	-2.2
BKZ				AML	AML	15 49 15.6	
BKZ				AML	AML	15 49 15.8	
MKAZ	**Moumakai**	**1.49**	**293**	⇑PN	Pn	15 48 46.5	-2.7
MKAZ				AML	AML	15 49 09.8	
MKAZ				AML	AML	15 49 16.9	
MCHZ	**McNeill Hill**	**1.73**	**185**	PN	Pn	15 48 52.7	+0.2
PXZ	**Pawanui**	**2.31**	**180**	PN	Pn	15 48 59.1	-1.4
WCZ	**Waipu Caves**	**2.70**	**310**	⇑PN	Pn	15 49 03.5	-2.3
WCZ				AML	AML	15 49 16.5	

KRSC 09 15:48:51.2±0.1, 49°.89N×156°.75E, h3km±2km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.89**	**333**	*e*P	Pb	15 49 09.4	+0.1
SKR				*i*S	Sn	15 49 23.3	-0.7
PAU	**Pauzhetka**	**1.58**	**1**	*e*P	Pn	15 49 20.5	+0.4
PAU				*i*S	Sg	15 49 42.6	+0.6
MIPR	**Malaya Ipel'ka**	**2.39**	**0**	*e*P	Pn	15 49 32.8	+1.5
MIPR				*i*S	Sn	15 50 02.5	+1.4
ASAK	**Asacha**	**2.60**	**16**	*e*P	Pn	15 49 35.4	+1.2
ASAK				*i*S	Sn	15 50 07.7	+1.3
MTVR	**Mutnovka**	**2.75**	**19**	*e*P	Pn	15 49 38.0	+1.6
MTVR				*i*S	Sn	15 50 10.9	+0.7
RUS	**Russkaya**	**2.78**	**23**	*e*P	Pn	15 49 36.9	+0.4
RUS				*i*S	Sn	15 50 11.5	+1.0
APC	**Apacha**	**3.05**	**5**	*e*P	Pn	15 49 41.5	+1.2
PET	**Petropavlovsk**	**3.36**	**20**	*e*P	Pn	15 49 46.8	+2.3
AVH	**Avacha**	**3.60**	**19**	*e*P	Pn	15 49 50.6	+2.6
SDLR	**Sedlovina**	**3.65**	**21**	P	Pn	15 49 50.9	+2.3
SPN	**Mys Shipunski**	**3.81**	**31**	*e*P	Pn	15 49 52.8	+2.1
SPN				*i*S	Sn	15 50 36.6	+0.6
GNL	**Ganaly**	**3.88**	**11**	*e*P	Pn	15 49 53.8	+1.9

IDC 09 15:48:51.0±5.6, 30°.66S×178°.28W, h120km±34km, mb3.3/2, mb1 3.6/2, mb1mx3.2/17, mbtmp3.3/2, Error ellipse: s-maj=95.5km s-min=37.1km az=145.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.43**	**13**	P	Pn	15 49 17.2	-0.5
	142nm,0.3s,baz=91,slow=10,SNR=14						
RAO				S	Sn	15 49 38.0	+0.1
	156nm,0.3s,baz=46,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**42.85**	**267**	P	P	15 56 37.5	-0.1
	0.3nm,0.5s,baz=106,slow=7.2,SNR=13						
WRA	**Warramunga Arr**	**43.86**	**273**	P	P	15 56 45.5	-0.2
	0.7nm,0.3s,baz=110,slow=8.2,SNR=32						
FINES	**FINESS Array B**	**145.30**	**340**	PKPbc	PKPdf	16 08 13.1	-0.8
	1.7nm,0.7s,baz=50,slow=4.0,SNR=11						

*BKK **09** 16:00:53.9±0.9, 33°N±9°×13°9E±1°4, h10km, M5.3/18, mB5.7/6, mb5.3/18, Mw(mB)5.3/6*
*MOS **09** 16:01:24.9±0.9, 33°.00N×138°.10E, h301km, mb4.4/49, Error ellipse: s-maj=9.3km s-min=5.7km az=108.7*
*JMA **09** 16:01:24.7±0.3, 33°.14N×138°.43E, h316km±3km, M4.8*
JMA Felt I J1.
*ISCJB **09** 16:01:25.7±0.2, 33°.02N±0°.03×138°.13E±0°.03, h305km±1km, mb4.5/134, Error ellipse: s-maj=4.4km s-min=3.5km az=148.4*
*IDC **09** 16:01:26.6±0.5, 33°.05N×138°.14E, h304km±4km, mb4.1/26, mb1 4.3/30, mb1mx4.1/37, mbtmp4.1/30, Error ellipse: s-maj=9.0km s-min=6.9km az=83.0*
*BJI **09** 16:01:26.1, 33°.23N×138°.14E, h314km, mB4.8/22, mb4.7/50*
*NEIC **09** 16:01:26.8±0.1, 33°.00N×138°.09E, mb4.5/60, MW4.8(NIED), Error ellipse: s-maj=4.1km s-min=3.3km az=150.0*
NEIC Recorded [1 JMA] in Fukushima, Tochigi and Tokyo, Honshu.
*DJA **09** 16:01:36.1±3.7, 33°N±12°×13°9E±3°0, h489km±65km, M4.7/14, mB5.2/8, mb4.8/14, Mw(mB)4.6/8*
*NIED **09** 16:02:00, 33°.10N×138°.50E, h290km, Mw4.8 Best double couple: $M_0$1.78000×10^{16} NP1:φ$_0$245.00000°, δ68.00000°, λ124.00000°. NP2:φ$_0$3.00000°, δ40.00000°, λ35.00000°.*

ISC 09 16:01:26.8±0.3, 33°.10N±0°.04×138°.22E±0°.04, h309km±2km, h309km: pP-P, n357, σ1935/442, mb4.4/143, 44C-36D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.85**	**322**	P	**Pn**	**16 02 06.6**	**-0.5**
TK01				*e*S	**S**	**16 02 39.1**	**-0.2**
TK02	**Tokai 2**	**0.93**	**335**	P	**Pn**	**16 02 07.2**	**-0.3**
TTO3	**TONANKAI O.B.S**	**1.03**	**318**	⇑P	**Pn**	**16 02 07.8**	**-0.3**
TTO3				*e*S	**S**	**16 02 41.4**	**+0.4**
TK03	**Tokai 3**	**1.09**	**349**	P	**Pn**	**16 02 07.5**	**-0.8**
TK03				*e*S	**S**	**16 02 40.5**	**-1.0**
TTO5	**TONANKAI O.B.S**	**1.23**	**340**	⇑P	**Pn**	**16 02 08.7**	**-0.3**
TTO1	**TONANKAI O.B.S**	**1.31**	**294**	⇑P	**Pn**	**16 02 09.3**	**-0.1**
JHCJ	**Hachijojimakas**	**1.32**	**91**	P	**Pn**	**16 02 08.0**	**-1.8**
JHCJ				*e*S	**S**	**16 02 40.1**	**-4.0**
JKO	**Kozu shima**	**1.33**	**35**	P	**Pn**	**16 02 08.5**	**-1.3**
JHJ2	**Mitsune**	**1.34**	**89**	P	**Pn**	**16 02 07.4**	**-2.5**
JMY	**Miyakejima3**	**1.45**	**48**	P	Pn	16 02 06.5	-4.1
JIE	**Ise**	**1.81**	**316**	⇑P	**Pn**	**16 02 12.4**	**-0.5**
JIE				*e*S	**S**	**16 02 47.8**	**-1.9**
JWZ	**Kozaga**	**2.15**	**282**	⇑P	**Pn**	**16 02 14.5**	**-1.0**
JWZ				S	**S**	**16 02 52.4**	**-2.0**
JYN	**Shimob**	**2.41**	**6**	⇑P	**Pn**	**16 02 17.0**	**-0.7**
JWY	**Kouya**	**2.46**	**298**	⇑P	**Pn**	**16 02 18.1**	**-0.2**
JWY				*e*S	**S**	**16 02 57.8**	**-1.6**
BSO1	**Boso 1**	**2.77**	**55**	⇑P	Pn	16 02 16.9	-3.4
JGM	**Miyama**	**2.88**	**335**	⇑P	**Pn**	**16 02 21.7**	**-0.3**
JGM				*e*S	**S**	**16 03 04.0**	**-2.1**
JRY	**Ryogami san**	**2.96**	**11**	⇑P	**Pn**	**16 02 21.7**	**-1.1**
JRY				*e*S	**S**	**16 03 04.5**	**-3.1**
JWT	**Wachi**	**3.20**	**314**	⇓P	**Pn**	**16 02 24.8**	**-0.2**
JWT				*e*S	**S**	**16 03 10.0**	**-1.7**
JAI	**Aioi**	**3.23**	**283**	P	**Pn**	**16 02 24.9**	**-0.5**
JAI				S	**S**	**16 03 11.0**	**-1.3**
MJAR	**Matsushiro Arr**	**3.44**	**360**	P	**Pn**	**16 02 26.2**	**-1.2**
MJAR				S	**S**	**16 03 14.3**	**-1.8**
MJAR	**Matsushiro Arr**	**3.44**	**360**	P	**Pn**	**16 02 26.2**	**-1.2**
	94nm,0.3s,baz=172,slow=12,SNR=2086						
MJAR				S	**S**	**16 03 14.3**	**-1.8**
	5.5nm,0.3s,baz=172,slow=18,SNR=4.8						
MAT	**Matsushiro**	**3.44**	**360**	P	**Pn**	**16 02 26.6**	**-0.9**
MAT				S	**S**	**16 03 14.7**	**-1.4**
MAT	**Matsushiro**	**3.44**	**360**	P	**Pn**	**16 02 26.4**	**-1.1**
MAT				*e*S	**S**	**16 03 14.4**	**-1.7**
JAG	**Ashikaga**	**3.47**	**17**	⇑P	**Pn**	**16 02 25.1**	**-2.7**
JAG				*e*S	**S**	**16 03 11.5**	**-5.2**
JKG	**Kaga**	**3.53**	**334**	P	**Pn**	**16 02 28.1**	**-0.3**
JKG				*e*S	**S**	**16 03 16.7**	**-1.1**
JTO	**Tosashimizu**	**4.56**	**268**	P	**Pn**	**16 02 39.4**	**-0.3**
JHS	**Saijyo**	**4.64**	**295**	⇓P	**Pn**	**16 02 40.8**	**+0.2**
JHS				*e*S	**S**	**16 03 39.2**	**-0.7**
JNU	**Nakatsue**	**6.16**	**272**	*e*Pn	**Pn**	**16 02 58.3**	**0.0**
JNU				S	**S**	**16 04 09.2**	**-3.0**
JNU				*e*S	S	16 04 13.0	+0.7
JNU	**Nakatsue**	**6.16**	**272**	P	**Pn**	**16 02 58.6**	**+0.3**
	3.1nm,0.3s,baz=81,slow=6.7,SNR=32						
JNU				S	**S**	**16 04 09.2**	**-3.0**
	1.2nm,0.3s,baz=166,slow=19,SNR=3.1						
KSRS	**Korea Array**	**9.47**	**300**	P	**Pn**	**16 03 39.5**	**+1.1**
	12nm,0.3s,baz=111,slow=13,SNR=491						
KSRS				ScP	**ScP**	**16 12 27.1**	**+1.1**
	0.2nm,0.3s,baz=131,slow=1.2,SNR=8.0						
KSAR	**Wonju Array Be**	**9.50**	**300**	P	**Pn**	**16 03 39.5**	**+0.8**
KSAR				ScP	**ScP**	**16 12 27.1**	**+1.1**
ERM	**Erimo**	**9.72**	**22**	*ce*P	**Pn**	**16 03 38.8**	**-2.5**
ERM				pmax	pmax		
	comp=Z,105nm,0.7s						
ERM	**Erimo**	**9.72**	**22**	*e*Pn	**Pn**	**16 03 38.6**	**-2.7**
ERM				*e*S	S	16 05 23.3	-7.8
INCN	**Inchon**	**10.43**	**298**	*e*Pn	**Pn**	**16 03 51.0**	**+0.9**
JOW	**Kunigami**	**10.65**	**237**	*e*Pn	**Pn**	**16 03 52.5**	**-0.3**
VLA	**Vladivostok**	**11.18**	**335**	*d*P	**Pn**	**16 03 58.1**	**-0.9**
ASAJ	**Asahikawa**	**11.52**	**16**	*e*Pn	**Pn**	**16 04 00.8**	**-2.4**
ASAJ				*e*S	S	16 06 02.1	-10
ASAJ				S	S	16 06 03.3	-8.4
ASAJ	**Asahikawa**	**11.52**	**16**	P	**Pn**	**16 04 00.7**	**-2.4**
	comp=Z,5.5nm,0.3s,baz=225,slow=16,SNR=55						
ASAJ				S	S	16 06 03.3	-8.3
	comp=Z,4.0nm,0.3s,baz=18,slow=29,SNR=7.4						
USRK	**Ussuriysk Arra**	**12.10**	**338**	P	**Pn**	**16 04 09.2**	**-1.0**
	comp=Z,11nm,0.3s,baz=156,slow=11,SNR=95						
YUK	**Yuzh-Kuril'sk**	**12.44**	**26**	*d*P	**P**	**16 04 14.7**	**-0.2**
YUK				*i*S	S	16 06 23.8	-8.4
YUK				pmax	pmax		
	comp=N,70nm,0.5s						
YUK				pmax	pmax		
	comp=E,36nm,0.5s						
YUK				pmax	pmax		
	comp=Z,83nm,0.5s						
MDJ	**Mudanjiang**	**13.31**	**332**	P	**P**	**16 04 24.5**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,240nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.2s						
MDJ	**Mudanjiang**	**13.31**	**332**	*e*P	**P**	**16 04 24.1**	**-0.5**
	comp=Z,227nm,0.9s						
KUR	**Kuril'sk**	**14.23**	**29**	*d*P	**Pn**	**16 04 37.1**	**+1.5**
KUR				*i*S	**S**	**16 07 10.5**	**-0.2**
KUR				pmax	pmax		
	comp=N,7.0nm,0.6s						
KUR				pmax	pmax		
	comp=Z,38nm,1.2s						
KUR				pmax	pmax		
	comp=Z,212nm,1.5s						
KUR				pmax	pmax		
	comp=E,9.0nm,1.2s						
YSS	**Yuzh-Sakhalins**	**14.26**	**13**	*e*P	**Pn**	**16 04 36.7**	**+0.7**
YSS				*e*S	**S**	**16 07 06.3**	**-5.1**
YSS				pmax	pmax		
	comp=N,220nm,0.9s						
YSS				pmax	pmax		
	comp=Z,220nm,0.9s						
YSS				smax	smax		
	comp=E,110nm,0.9s						
SNY	**Shenyang**	**14.52**	**311**	⇓P	**P**	**16 04 37.4**	**-0.5**
SNY				pmax	pmax		
	comp=Z,78nm,1.1s						
CN2	**Changchun**	**14.62**	**321**	*e*P	**P**	**16 04 38.7**	**-0.4**
CN2				*e*S	**S**	**16 07 17.8**	**-0.9**
CN2				pmax	pmax		
	comp=Z,30nm,1.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s						
CN2				LR	LR		
	comp=E,200nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
DL2	**Dalian**	**14.62**	**298**	P	**Pn**	**16 04 42.4**	**+2.0**
DL2				pmax	pmax		
	comp=Z,68nm,1.1s						
HABR	**Khabarovsk**	**15.54**	**352**	*ce*P	**P**	**16 04 47.9**	**-1.2**
HABR				*e*S	**S**	**16 07 37.3**	**+0.4**
HABR				pmax	pmax		
	comp=N,61nm,1.6s						
HABR				pmax	pmax		
	comp=Z,98nm,1.6s						
HABR				pmax	pmax		
	comp=E,12nm,1.0s						
NJ2	**Nanjing**	**16.36**	**272**	*e*P	**P**	**16 04 57.6**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,50nm,0.9s						
KLR	**Kul'dur**	**16.83**	**345**	*e*P	**P**	**16 04 58.5**	**-4.5**
KLR				*e*		16 07 59.3	
BJI	**Beijing**	**18.99**	**298**	P	**P**	**16 05 25.1**	**-1.2**
BJI				pmax	pmax		
	comp=Z,77nm,1.3s						
BJT	**Baijiatuau**	**18.99**	**298**	*e*P	**P**	**16 05 25.6**	**-0.8**
	comp=Z,63nm,0.8s						
WHN	**Wuhan**	**20.44**	**269**	⇓P	**P**	**16 05 42.6**	**+1.1**
HIA	**Hailar**	**21.23**	**325**	*e*P	**P**	**16 05 47.2**	**-1.7**
	comp=Z,164nm,1.3s						
HHC	**Hu-ho-hao-te**	**22.60**	**298**	*e*P	**P**	**16 06 01.0**	**-0.5**
HHC				sP	**sP**	**16 07 33.8**	**+1.6**
HHC				S	**S**	**16 09 41.9**	**-3.9**
HHC				PcP	**PcP**	**16 09 45.3**	**+1.5**
HHC				ScP	**ScP**	**16 12 51.5**	**0.0**
HHC				PcS	**PcS**	**16 13 22.4**	**-0.5**
HHC				pmax	pmax		
	comp=Z,100nm,1.0s						
HHC				pmax	pmax		
	comp=Z,520nm,5.4s						
HHC				LR	LR		
	comp=N,390nm,11.1s						
HHC				LR	LR		
	comp=E,530nm,11.8s						
HHC				LR	LR		
	comp=Z,370nm,12.6s						
BTO	**Baotou**	**23.71**	**297**	*e*P	**P**	**16 06 10.6**	**-1.0**
XAN	**Xi'an**	**24.40**	**280**	P	**P**	**16 06 17.1**	**-0.8**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,36nm,3.7s						
ENH	**Enshi**	**24.58**	**271**	*e*P	**P**	**16 06 19.0**	**-0.5**
	comp=Z,27nm,0.8s						
CLNS	**Chul'man**	**25.45**	**343**	*e*P	**P**	**16 06 28.3**	**+1.4**
CLNS				pmax	pmax		
	comp=Z,26nm,0.8s						
CLNS				pmax	pmax		
	comp=N,19nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.69**	**311**	*e*P	**P**	**16 06 48.0**	**+0.8**
	comp=E,26nm,0.8s						
ULN	**Ulaanbaatar**	**27.69**	**311**	P	**P**	**16 06 48.0**	**+0.8**
	comp=E,40nm,0.8s,comp=E,443nm						
SONM	**Songino Array**	**28.10**	**311**	P	**P**	**16 06 51.5**	**+0.8**
SONM				PcP	**PcP**	**16 09 56.4**	**+0.2**
SONM				ScP	**ScP**	**16 13 07.7**	**+0.5**
SONM	**Songino Array**	**28.10**	**311**	P	**P**	**16 06 51.5**	**+0.8**
	comp=E,31nm,0.8s,baz=118,slow=8.6,SNR=72						
SONM				PcP	**PcP**	**16 09 56.4**	**+0.2**
	comp=E,1.2nm,0.6s,baz=156,slow=3.1,SNR=4.1						
SONM				ScP	**ScP**	**16 13 07.7**	**+0.5**
	comp=E,0.8nm,0.8s,baz=156,slow=3.4,SNR=5.2						
GYA	**Guiyang**	**28.11**	**265**	*e*P	**P**	**16 06 51.2**	**+0.2**
GYA				pP	**pP**	**16 07 52.4**	**+2.6**
GYA				sP	**sP**	**16 08 29.3**	**+3.4**
GYA				PcP	**PcP**	**16 09 58.5**	**+1.9**
GYA				S	**S**	**16 11 10.3**	**-2.7**
GYA				sS	**sS**	**16 12 58.6**	**-1.8**
GYA				ScP	**ScP**	**16 13 07.0**	**-0.6**
GYA				PcS	**PcS**	**16 13 37.4**	**-2.0**
GYA				ScS	**ScS**	**16 16 58.0**	**-3.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**28.37**	**286**	*e*P	**P**	**16 06 52.9**	**-0.4**
LZH				pmax	pmax		
	comp=Z,36nm,1.4s						
LZH				pmax	pmax		
	comp=Z,200nm,4.0s						
CD2	**Chengdu**	**29.23**	**275**	*e*P	**P**	**16 07 00.9**	**+0.1**
CD2				pP	**pP**	**16 08 02.0**	**+2.2**
CD2				sP	**sP**	**16 08 38.9**	**+3.0**
CD2				S	**S**	**16 11 27.1**	**-3.3**
CD2				sS	**sS**	**16 13 16.2**	**-1.7**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
CD2				pmax	pmax		
	comp=Z,180nm,4.8s						
YAK	**Yakutsk**	**29.46**	**352**	*e*P	**P**	**16 07 02.0**	**-0.3**
YAK				*e**PP	**pP**	**16 07 59.1**	**-2.3**
YAK				*e*		16 09 58.2	
YAK				*e*S	**S**	**16 11 34.6**	**+1.6**
YAK				*e**SS	**sS**	**16 13 21.7**	**+1.1**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				smax	smax		
	comp=N,36nm,1.7s						
YAK				smax	smax		
	comp=E,24nm,1.3s						
ZAK	**Zakamensk**	**30.90**	**314**	*e*P	**P**	**16 07 15.8**	**+0.5**
ZAK				*e*		16 08 26.0	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TLY	**Talaya**	**31.17**	**317**	*e*P	**P**	**16 07 19.1**	**+1.6**
TLY				pmax	pmax		
	comp=Z,25nm,2.0s						
GTA	**Gaotai**	**31.43**	**293**	P	**P**	**16 07 19.9**	**-0.2**
GTA				pP	**pP**	**16 08 20.6**	**+1.1**
G

TIXI pmax pmax
comp=Z,13nm,1.0s
SBUM Sibu 39.03 224 P **P** **16 08 23.8 -0.7**
SBUM Sibu 39.03 224 P **P** **16 08 24.1 -0.4**
comp=Z,27nm,1.1s,comp=Z,2µm
MMSI Mamuju 40.01 211 P **P** **16 08 30.8 -1.7**
comp=Z,75nm,0.9s
WMQ Urumqi 40.43 300 P **P** **16 08 36.9 +1.2**
WMQ pmax pmax
comp=Z,10.0nm,1.2s
WMQ pmax pmax
comp=Z,160nm,5.2s
PHET Kaeng Krachan 40.50 249 P **P** **16 08 38.0 +1.4**
comp=Z,1µm,1.0s,comp=Z,21µm
SPSI Sidrap Palu 40.80 209 P **P** **16 08 37.7 -1.2**
comp=Z,32nm,1.3s
KSM Kuching 40.94 226 *eP* **P** **16 08 39.9 -0.3**
comp=Z,77nm,1.4s
KSM Kuching 40.94 226 P **P** **16 08 37.2 -2.9**
KSM Kuching 40.94 226 P **P** **16 08 40.2 +0.1**
comp=Z,44nm,1.3s,comp=Z,530nm
STKI Sintang 41.39 223 P **P** **16 08 44.0 +0.3**
comp=Z,28nm,0.8s,comp=Z,6µm
KAPI Kappang 41.76 208 *eP* **P** **16 08 45.1 -1.6**
comp=Z,112nm,1.2s
KAPI Kappang 41.76 208 P **P** **16 08 44.8 -1.8**
comp=Z,80nm,1.1s,comp=Z,898nm
ZAA0 Zalesovo Array 42.76 316 *eP* **P** **16 08 53.7 -0.5**
ZALV Zalesovo Beam 42.76 316 P **P** **16 08 54.0 -0.2**
ZALV 16 10 39.2
ZALV pmax pmax
comp=Z,8.0nm,0.5s
ZALV Zalesovo Beam 42.76 316 P **P** **16 08 54.0 -0.2**
ZALV PcP **PcP** **16 10 39.1 -0.2**
ZALV ScP **ScP** **16 14 00.4 +0.2**
ZALV Zalesovo Beam 42.76 316 P **P** **16 08 54.0 -0.2**
comp=Z,7.6nm,0.5s,baz=92,slow=7.9,SNR=40
ZALV PcP **PcP** **16 10 39.1 -0.2**
comp=Z,4.3nm,0.6s,baz=109,slow=3.4,SNR=8.0
ZALV ScP **ScP** **16 14 00.4 +0.2**
comp=Z,4.4nm,0.9s,baz=100,slow=3.3,SNR=8.2
PMG Port Moresby 43.12 167 P **P** **16 08 56.8 -0.7**
PMG Port Moresby 43.12 167 P **P** **16 08 56.8 -0.7**
comp=Z,29nm,0.6s,baz=57,slow=3.5,SNR=20
TAPN Taplejung 43.69 276 *eP* **P** **16 09 02.1 -0.2**
comp=Z,9.6nm,0.4s
NVS Novosibirsk 43.79 317 ⇓*iP* **P** **16 09 02.0 -0.3**
NVS *e**PP **pP** **16 10 01.0 -4.2**
NVS *e* 16 10 41.5
NVS *e*S S 16 15 01.9 -6.9
NVS pmax pmax
comp=E,15nm,0.9s
NVS pmax pmax
comp=Z,23nm,0.9s
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS smax smax
comp=E,24nm,2.3s
MK31 Makanchi Array 44.11 305 *eP* **P** **16 09 05.2 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MK31 Makanchi Array 44.11 305 *eP* **P** **16 09 05.1 -0.1**
MKAR Makanchi Array 44.11 305 *eP* **P** **16 09 05.4 +0.3**
MKAR S **S** **16 15 14.9 +1.0**
MKAR Makanchi Array 44.11 305 *eP* **P** **16 09 05.4 +0.3**
MKAR ScP **ScP** **16 14 05.9 0.0**
MKAR S **S** **16 15 14.8 +1.0**
MKAR Makanchi Array 44.11 305 P **P** **16 09 05.2 +0.1**
comp=Z,5.1nm,0.5s,baz=88,slow=9.3,SNR=68
MKAR ScP **ScP** **16 14 05.9 0.0**
comp=Z,1.5nm,0.6s,baz=80,slow=6.9,SNR=7.2
MKAR S **S** **16 15 14.8 +1.0**
comp=Z,1.4nm,1.2s,baz=99,slow=15,SNR=3.9
ODAN Odare 44.12 276 *eP* **P** **16 09 05.4 -0.3**
comp=Z,18nm,0.5s
RAMN Ramite 44.75 276 *eP* **P** **16 09 10.8 +0.1**
comp=Z,49nm,0.6s
JIRN Jiri 44.84 277 *eP* **P** **16 09 11.9 +0.4**
comp=Z,49nm,0.5s
IPM Ipoh 44.86 239 *eP* **P** **16 09 09.7 -1.7**
comp=Z,29nm,0.7s
IPM Ipoh 44.86 239 P P 16 09 07.7 -3.7
IPM Ipoh 44.86 239 P **P** **16 09 11.0 -0.4**
PKI Pulchoki 45.52 278 *eP* **P** **16 09 16.4 -0.4**
comp=Z,13nm,0.6s
PKIN Phulchoki 45.53 278 *eP* **P** **16 09 17.2 +0.4**
comp=Z,8.5nm,0.6s
KKN Kakani 45.56 278 *eP* **P** **16 09 16.7 -0.2**
DMN Daman 45.76 278 *eP* **P** **16 09 18.9 +0.3**
DANN Dangsing 46.63 279 *eP* **P** **16 09 25.5 +0.2**
comp=Z,48nm,0.4s
KOLN Koldanda 46.96 279 *eP* **P** **16 09 27.8 +0.1**
comp=Z,12nm,0.6s
PYUN Piuthan 47.35 279 *eP* **P** **16 09 30.9 +0.2**
comp=Z,48nm,0.4s
PSI Prapat 47.53 239 P **P** **16 09 31.6 -0.5**
PSI Prapat 47.53 239 P **P** **16 09 31.6 -0.5**
comp=Z,19nm,0.9s,baz=47,slow=2.9,SNR=8.7
UGM Wanagama 48.56 218 *eP* **P** **16 09 38.1 -1.7**
comp=Z,183nm,1.2s
TKM2 Tokmak 2 49.29 301 *eP* **P** **16 09 45.7 +0.5**
TKM2 pmax pmax
comp=Z,13nm,1.4s
TKM2 Tokmak 2 49.29 301 *eP* **P** **16 09 45.7 +0.5**
comp=Z,13nm,1.4s
KSH Kashi 49.70 296 P P 16 09 52.0 +3.7
KSH sP sP 16 11 34.0 +6.6
KSH PP PP 16 11 52.0 +6.0
KSH S **S** **16 16 34.0 +1.1**
KSH sS sS 16 18 33.4 +5.4
KSH SS **SS** **16 20 12.1 +2.7**
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH LR LR
comp=N,110nm,8.8s
KSH LR LR
comp=E,100nm,6.9s
KSH LR LR
comp=Z,52nm,5.8s
AAK Ala-Archa 50.14 300 *d iP* **P** **16 09 51.5 0.0**
AAK pmax pmax
comp=Z,14nm,1.2s
VOSK Vostochnaya 51.03 314 P **P** **16 09 56.5 -1.3**
VOSK pmax pmax
comp=Z,18nm,1.2s
BVA0 Borovoye Array 51.36 314 P **P** **16 09 59.9 -0.3**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 51.42 314 *eP* **P** **16 10 00.7 +0.1**
BRVK pmax pmax
comp=Z,18nm,1.3s
BRVK Borovoye 51.42 314 *eP* **P** **16 10 00.7 +0.1**
comp=Z,18nm,1.3s
RSO Redoubt South 51.61 36 *eP* **P** **16 10 03.7 +1.6**
comp=Z,14nm,0.8s
FITZ Fitzroy Crossi 52.31 195 P **P** **16 10 07.0 -0.5**
FITZ Fitzroy Crossi 52.31 195 P **P** **16 10 07.0 -0.5**
comp=Z,9.3nm,0.5s,baz=18,slow=6.9,SNR=74
WRAB Tennant Creek 52.86 185 *eP* **P** **16 10 10.5 -1.0**
WRAB pmax pmax
comp=Z,43nm,0.8s
WRAB Tennant Creek 52.86 185 *eP* **P** **16 10 10.5 -1.0**
comp=Z,43nm,0.8s
WRA Warramunga Arr 52.87 185 P **P** **16 10 10.6 -1.0**
WRA PcP **PcP** **16 11 16.6 +0.4**
WRA Warramunga Arr 52.87 185 P **P** **16 10 10.6 -1.0**
comp=Z,26nm,0.3s,baz=360,slow=7.6,SNR=630
WRA PcP **PcP** **16 11 16.6 +0.4**
comp=Z,6.4nm,0.8s,baz=354,slow=3.8,SNR=6.0
KK31 Karatay Array 52.90 302 *i P* **P** **16 10 11.4 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 52.90 302 *eP* **P** **16 10 11.7 0.0**
KKAR Karatay Array 52.90 302 *eP* **P** **16 10 11.7 0.0**
PMR Palmer 53.34 35 *eP* **P** **16 10 15.4 +0.9**
PMR pmax pmax
comp=Z,4.0nm,1.0s
PMR Palmer 53.34 35 *eP* **P** **16 10 15.4 +0.9**
comp=Z,4.2nm,1.0s
CTA Charters Tower 53.44 171 P **P** **16 10 15.4 -0.3**
CTA Charters Tower 53.44 171 P **P** **16 10 15.4 -0.3**
comp=Z,13nm,0.7s,baz=326,slow=6.3,SNR=12
CTAO Charters Tower 53.44 171 *eP* **P** **16 10 15.4 -0.3**
CTAO pmax pmax
comp=Z,15nm,0.8s
CTAO Charters Tower 53.44 171 *eP* **P** **16 10 15.4 -0.3**
comp=Z,15nm,0.8s
SML Sawmill 53.71 34 *eP* **P** **16 10 18.2 +1.0**
SML pmax pmax
comp=Z,2.0nm,1.0s
SML Sawmill 53.71 34 *eP* **P** **16 10 18.2 +1.0**
comp=Z,1.8nm,1.0s
ILAR Eielson Array 54.21 31 P **P** **16 10 21.1 +0.5**
ILAR pP **pP** **16 11 26.3 -0.3**
ILAR Eielson Array 54.21 31 P **P** **16 10 21.1 +0.5**
comp=Z,1.4nm,0.9s,baz=281,slow=5.7,SNR=18
ILAR pP **pP** **16 11 26.3 -0.3**
comp=Z,2.0nm,0.9s,baz=272,slow=5.7,SNR=4.9
HYB Hyderabad 55.50 269 *i* P **P** **16 10 30.0 -0.7**
BMRM Bremner River 55.57 35 *eP* **P** **16 10 32.0 +1.5**
comp=Z,7.3nm,1.0s
MENT Mentasta 55.75 33 *eP* **P** **16 10 33.3 +1.5**
SVE Sverdlovsk 56.41 320 ⇓*eP* **P** **16 10 37.2 +0.8**
SVE pmax pmax
comp=Z,12nm,1.5s
AS31 Alice Springs 56.60 185 *eP* **P** **16 10 37.2 -0.9**
ASAR Alice Springs 56.60 185 P **P** **16 10 37.5 -0.7**
ASAR Alice Springs 56.60 185 P **P** **16 10 37.5 -0.7**
comp=Z,19nm,0.5s,baz=14,slow=10,SNR=308
MBWA Marble Bar 56.77 201 *eP* **P** **16 10 38.6 -0.7**
comp=Z,31nm,0.5s
ARU Arti 57.62 320 *d iP* **P** **16 10 44.7 -0.1**
ARU 16 11 32.6
ARU *PP **pP** **16 11 49.4 -2.2**
ARU 16 12 54.4
ARU S **S** **16 18 20.2 +2.4**
ARU 16 19 55.5
ARU SS **SS** **16 22 10.8 -2.1**
ARU pmax pmax
comp=Z,13nm,1.0s
AB31 Akbulak array 58.51 311 P **P** **16 10 50.4 -0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 58.51 311 *eP* **P** **16 10 51.0 -0.1**
comp=Z,5.0nm,0.4s
KBS Kingsbay 64.07 350 ⇑*eP* **P** **16 11 28.6 +1.0**
KBS pmax pmax
comp=Z,11nm,1.9s
STKA Stephens Creek 64.70 177 *eP* **P** **16 11 32.5 +0.2**
STKA Stephens Creek 64.70 177 P **P** **16 11 32.4 +0.1**
comp=Z,12nm,0.6s,baz=349,slow=6.3,SNR=37
TMCR Tamitsa 64.94 332 *eP* **P** **16 11 33.6 +0.2**
TMCR *e* 16 13 58.8
TMCR pmax pmax
comp=Z,27nm,1.5s
ARCES ARCESS Array B 66.75 339 P **P** **16 11 45.5 +0.7**
ARCES ARCESS Array B 66.75 339 P **P** **16 11 45.5 +0.7**
comp=Z,4.3nm,0.5s,baz=67,slow=8.5,SNR=72
NWAO Narrogin (SRO) 68.59 199 *eP* **P** **16 11 56.0 -0.6**
comp=Z,50nm,1.2s
OBN Obninsk 69.67 323 ⇑*eP* **P** **16 12 03.1 +0.1**
OBN pmax pmax
comp=Z,8.0nm,1.1s
KAF Kangasniemi 70.59 332 *eP* **P** **16 12 08.6 +0.1**
KAF pmax pmax
comp=Z,9.0nm,0.4s
KAF Kangasniemi 70.59 332 *ep* **P** **16 12 08.6 +0.1**
comp=Z,8.8nm,0.4s
FINES FINESS Array B 71.06 332 P **P** **16 12 11.5 +0.2**
FINES pP **pP** **16 13 20.7 -0.5**
FINES FINESS Array B 71.06 332 P **P** **16 12 11.5 +0.2**
comp=Z,4.6nm,0.4s,baz=46,slow=7.0,SNR=71
FINES pP **pP** **16 13 20.7 -0.5**
comp=Z,4.0nm,0.9s,baz=64,slow=8.7,SNR=3.8
NLWA Neilton Lookou 71.32 45 *eP* **P** **16 12 15.6 +2.4**
comp=Z,16nm,1.2s
KBZ Khabaz 71.47 310 P **P** **16 12 14.9 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 71.47 310 P **P** **16 12 14.9 +0.9**
KBZ Khabaz 71.47 310 P **P** **16 12 14.9 +0.9**
comp=Z,3.8nm,0.8s,baz=171,slow=2.3,SNR=5.8
KIV Kislovodsk 71.49 311 *eP* **P** **16 12 14.3 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KEBM Edson Butte 73.23 50 *eP* **P** **16 12 26.9 +2.4**
ANN Anapa 74.35 313 *eP* P 16 12 25.3 -5.5
ANN pmax pmax
comp=Z,38nm,1.1s
NEW Newport 74.78 42 *eP* **P** **16 12 34.7 +1.3**
NEW Newport 74.78 42 P **P** **16 12 34.6 +1.3**
comp=Z,2.9nm,0.8s,baz=314,slow=5.9,SNR=7.7
NEW Newport 74.78 42 ⇓P **P** **16 12 34.8 +1.5**
baz=75
YBH Yreka Blue Hor 74.84 50 *eP* **P** **16 12 34.8 +0.9**
comp=Z,8.6nm,1.2s
YBH Yreka Blue Hor 74.84 50 P **P** **16 12 35.8 +1.9**
comp=Z,4.5nm,0.8s,baz=18,slow=3.2,SNR=6.2
UMR Umm Al-Rimmam 74.92 296 *eP* **P** **16 12 34.3 -0.1**
UMR AMb AMB 16 12 35.6
comp=Z,14nm,0.6s
RDF Al-Radifah 75.35 295 *eP* **P** **16 12 36.9 0.0**
RDF AMb AMB 16 12 38.2
comp=Z,40nm,1.2s
NAY Al-Naaiem 75.43 295 *eP* **P** **16 12 36.8 -0.5**
NAY AMb AMB 16 12 38.2
comp=Z,21nm,1.2s
AKASG Malin Array Be 75.78 322 P **P** **16 12 38.2 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 75.78 322 P **P** **16 12 38.2 -0.6**
AKASG Malin Array Be 75.78 322 P **P** **16 12 38.2 -0.6**
comp=Z,2.6nm,0.4s,baz=52,slow=5.2,SNR=3.9
BSMT Basso Peak 76.32 42 *eP* **P** **16 12 43.9 +1.7**
A14A Double T Ranch 76.43 40 ⇓P **P** **16 12 44.0 +1.3**
baz=76
BMO Blue Mountains 76.54 45 *eP* **P** **16 12 44.7 +1.3**
comp=Z,7.9nm,1.0s
JTMT Jette 76.66 41 *eP* **P** **16 12 45.4 +1.4**
NB2 NORSAR Subarra 76.77 336 P **P** **16 12 44.3 0.0**
comp=Z,2.3nm,0.5s,baz=44,slow=5.3
NOA NORSAR Array B 76.77 336 P **P** **16 12 43.5 -0.7**
NOA pP **pP** **16 13 55.3 0.0**
NOA PP **PP** **16 15 39.0 -2.0**
NOA NORSAR Array B 76.77 336 P **P** **16 12 43.5 -0.7**
comp=Z,1.6nm,0.4s,baz=44,slow=5.6,SNR=24
NOA pP **pP** **16 13 55.3 0.0**
comp=Z,2.4nm,1.0s,baz=48,slow=5.3,SNR=4.3
NOA PP **PP** **16 15 39.0 -2.0**
comp=Z,0.7nm,0.7s,baz=45,slow=8.2,SNR=3.3
A15A Johnson Ranch, 76.80 40 P **P** **16 12 46.0 +1.2**
baz=77,SNR=7.2
B14A Marquette Ranc 76.86 40 ⇓P **P** **16 12 47.0 +1.8**
baz=77
SWMT Swrtz Lake 76.95 42 *eP* **P** **16 12 46.9 +1.3**
WVOR Wild Horse Val 77.05 48 *eP* **P** **16 12 47.5 +1.2**
WVOR pmax pmax
comp=Z,18nm,1.5s
WVOR Wild Horse Val 77.05 48 *eP* **P** **16 12 47.5 +1.2**
comp=Z,18nm,1.5s
B15A Bradely Ranch, 77.28 40 P **P** **16 12 48.8 +1.4**
baz=77,SNR=9.7
BEKR Beckworth 77.34 51 *eP* **P** **16 12 49.1 +1.0**
comp=Z,5.9nm,0.8s
MSO Missoula 77.37 42 ⇑P **P** **16 12 48.9 +1.0**
baz=77
SLMT Seeley Lake 77.39 42 *eP* **P** **16 12 49.2 +1.1**
A16A West Butte Ran 77.42 39 ⇓P **P** **16 12 49.4 +1.2**
baz=77
C15A Salmond Ranch, 77.56 41 P **P** **16 12 50.9 +1.8**
baz=78,SNR=8.1
B16A M & M Farms, S 77.68 40 ⇑P **P** **16 12 50.8 +1.3**
baz=78
CHMT Chamberlain Mo 77.71 42 *eP* **P** **16 12 50.4 +0.5**
A17A Triple J Farms 77.90 39 P **P** **16 12 52.1 +1.3**
baz=78,SNR=8.0
PAHR Pah Rah Range 78.06 50 *eP* **P** **16 12 53.1 +1.2**
comp=Z,9.9nm,0.8s
MFID Camas Ranch 78.22 46 ⇑P **P** **16 12 54.4 +1.7**
baz=78
B17A L&G Farms, Che 78.24 40 ⇓P **P** **16 12 54.1 +1.5**
baz=78,SNR=12
CMB Columbia Colle 78.31 52 *eP* **P** **16 12 54.3 +1.1**
CMB pmax pmax
comp=Z,12nm,1.4s
CMB Columbia Colle 78.31 52 *eP* **P** **16 12 54.3 +1.1**
comp=Z,12nm,1.4s
A18A Metzger Ranch, 78.36 39 ⇓P **P** **16 12 54.5 +1.2**
baz=78,SNR=7.2
HRY Holter Researc 78.62 41 *eP* **P** **16 12 56.3 +1.5**
C17A Wharram Farm, 78.65 40 ⇓P **P** **16 12 55.6 +0.7**
baz=78
B18A Beardsley Farm 78.72 39 ⇑P **P** **16 12 56.3 +1.1**
baz=79
LRM Limekiln Ridge 78.80 42 *eP* **P** **16 12 56.9 +0.9**
A19A Klindworth Far 78.93 38 ⇑P **P** **16 12 57.6 +1.2**
baz=79
EGMT Eagleton 78.96 39 *eP* **P** **16 12 58.2 +1.6**
comp=Z,11nm,1.1s
EGMT Eagleton 78.96 39 ⇑P **P** **16 12 57.7 +1.2**
baz=79
HLID Hailey 78.98 45 *eP* **P** **16 12 58.5 +1.6**
comp=Z,4.1nm,0.8s
HLID Hailey 78.98 45 ⇑P **P** **16 12 58.5 +1.6**
baz=79
D17A Six Diamond Ra 78.98 40 ⇑P **P** **16 12 58.0 +1.2**
baz=79,SNR=6.9
DLMT Dillon 78.99 43 *eP* **P** **16 12 58.3 +1.5**
comp=Z,8.6nm,0.9s
B19A Brinkman Farms 79.12 39 ⇓P **P** **16 12 58.8 +1.4**
baz=79,SNR=5.7
E17A Martinsdale 79.31 41 ⇓P **P** **16 13 00.4 +1.8**
baz=79,SNR=6.6
I14A Mackay 79.33 44 ⇑P **P** **16 13 00.9 +2.1**
baz=79
BOZ Bozeman (W) 79.36 42 *eP* **P** **16 13 00.3 +1.4**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 79.36 42 *eP* **P** **16 13 00.3 +1.4**
comp=Z,2.9nm,0.8s
BRTR Keskin Array B 79.46 311 P **P** **16 13 00.2 +0.7**
BRTR pP **pP** **16 14 12.1 +1.1**
BRTR Keskin Array B 79.46 311 P **P** **16 13 00.2 +0.7**
comp=Z,1.9nm,0.7s,baz=106,slow=4.4,SNR=12
BRTR pP **pP** **16 14 12.1 +1.1**
comp=Z,1.5nm,0.9s,baz=95,slow=4.8,SNR=3.6
NVAR Mina Array Bea 79.47 51 P **P** **16 13 01.1 +1.5**
NVAR pP **pP** **16 14 11.9 +0.7**
NVAR Mina Array Bea 79.47 51 P **P** **16 13 01.1 +1.5**
comp=Z,4.6nm,0.8s,baz=284,slow=5.5,SNR=36
NVAR pP **pP** **16 14 11.9 +0.7**
comp=Z,1.1nm,0.7s,baz=284,slow=5.7,SNR=4.1
C19A Slack Wire Ran 79.51 39 ⇑P **P** **16 13 00.6 +1.1**
baz=79,SNR=5.8
RAYN Ar Rayn 79.68 291 *eP* **P** **16 13 01.6 +0.8**
comp=Z,9.9nm,0.6s
BUR08 Bucovina Ar. S 79.72 321 *eP* **P** **16 12 59.8 -0.9**
D19A Cripps Ranch, 79.95 40 ⇓P **P** **16 13 03.3 +1.4**
baz=80,SNR=9.5
C20A Veseth Ranch, 80.08 39 ⇓P **P** **16 13 03.8 +1.3**
baz=80,SNR=5.3
B21A Ellsworth Farm 80.14 38 ⇑P **P** **16 13 03.8 +1.0**
baz=80,SNR=10.0
F18A Big Timber 80.28 41 ⇑P **P** **16 13 04.9 +1.2**
baz=80,SNR=6.9
E19A Rath Farm, Rou 80.44 40 ⇓P **P** **16 13 06.1 +1.6**
baz=80,SNR=16
STHS Stebnicka Huta 80.62 324 *eP* **P** **16 13 07.7 +2.4**
STHS Stebnicka Huta 80.62 324 *eP* **P** **16 13 07.7 +2.4**
E20A Meyer Farm, Mu 80.77 40 ⇓P **P** **16 13 07.7 +1.5**
baz=81,SNR=9.1
IMW Indian Meadow 80.81 43 *eP* **P** **16 13 07.8 +1.0**
comp=Z,5.7nm,0.9s
FLWY Flagg Ranch 80.84 43 *eP* **P** **16 13 09.4 +2.6**
comp=Z,8.4nm,0.9s
CRVS Cervenica-Dubn 80.85 323 *eP* **P** **16 13 07.3 +0.8**
CRVS pmax pmax
comp=Z,8.0nm,1.8s
CRVS Cervenica-Dubn 80.85 323 *eP* **P** **16 13 07.3 +0.8**
RRI2 Red Ridge 80.92 44 *eP* **P** **16 13 09.6 +2.2**
comp=Z,4.5nm,0.9s
HVU Hansel Valley 81.00 46 *eP* **P** **16 13 09.3 +1.6**
HVU pmax pmax
comp=Z,10.0nm,0.8s
HVU Hansel Valley 81.00 46 *eP* **P** **16 13 09.3 +1.6**
comp=Z,9.9nm,0.8s
RLMT Red Lodge 81.01 41 *eP* **P** **16 13 09.1 +1.4**
MOOW Moose Ponds 81.01 43 *eP* **P** **16 13 09.7 +1.9**
comp=Z,3.1nm,0.9s
TPAW Teton Pass 81.05 44 *eP* **P** **16 13 09.9 +1.9**
comp=Z,5.6nm,0.8s
LOHW Long Hollow 81.18 43 *eP* **P** **16 13 10.3 +1.7**
comp=Z,3.4nm,0.9s
REDW Red Top Meadow 81.19 44 *eP* **P** **16 13 10.4 +1.7**
comp=Z,8.4nm,1.4s
KECS Kecovo 81.62 323 *eP* P 16 13 13.9 +3.4
KECS Kecovo 81.62 323 *eP* P 16 13 13.9 +3.4
HWUT Hardware Ranch 81.83 45 *eP* **P** **16 13 13.3 +1.3**
comp=Z,7.4nm,0.8s
DUG Dugway 81.93 47 *eP* **P** **16 13 14.0 +1.5**
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway 81.93 47 *eP* **P** **16 13 14.0 +1.5**
comp=Z,8.7nm,0.8s
KSP Ksiaz 82.02 327 *eP* **P** **16 13 13.6 +1.1**
GSC Goldstone 82.22 53 *eP* **P** **16 13 14.8 +0.8**
GSC pmax pmax
comp=Z,7.0nm,1.1s
GSC Goldstone 82.22 53 *eP* **P** **16 13 14.8 +0.8**
comp=Z,7.0nm,1.1s
J19A Crowheart 82.28 43 ⇑P **P** **16 13 16.0 +1.7**
baz=82,SNR=6.8
BW06 Boulder Array 82.30 43 *eP* **P** **16 13 15.1 +0.6**
comp=Z,5.8nm,1.0s
PDAR Pinedale Array 82.30 43 P **P** **16 13 15.7 +1.2**
PDAR Pinedale Array 82.30 43 P **P** **16 13 15.7 +1.2**
comp=Z,2.8nm,0.7s,baz=285,slow=2.3,SNR=22
DPC Dobruska-Polom 82.35 327 *eP* **P** **16 13 15.6 +1.3**
DPC Dobruska-Polom 82.35 327 *eP* **P** **16 13 15.6 +1.3**
comp=Z,18nm,0.6s
I20A Worland 82.37 42 ⇑P **P** **16 13 16.3 +1.6**
baz=82,SNR=5.9
VYHS Vyhne 82.42 324 *eP* **P** **16 13 15.8 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,1.4s
VYHS Vyhne 82.42 324 *eP* **P** **16 13 15.8 +1.1**
M17A Scullys Gap (B 82.45 45 ⇑P **P** **16 13 16.5 +1.3**
baz=82,SNR=6.9
JLU Jordanelle 82.51 46 *eP* **P** **16 13 17.6 +2.0**
comp=Z,9.4nm,1.3s
NLU North Lily Min 82.52 47 *eP* **P** **16 13 17.1 +1.5**
comp=Z,8.0nm,1.0s
L18A Fontenelle, Gr 82.54 44 ⇓P **P** **16 13 17.0 +1.3**
baz=82,SNR=5.3
SHPR Sheep Range 82.61 51 *eP* **P** **16 13 17.4 +1.3**
comp=Z,2.4nm,1.0s
K19A Absolon Red Bu 82.67 43 ⇓P **P** **16 13 17.0 +0.7**
baz=83,SNR=5.7
DAU Daniels Canyon 82.74 46 *eP* **P** **16 13 18.7 +1.8**
DAU Daniels Canyon 82.74 46 *eP* **P** **16 13 18.7 +1.8**
MPU Maple Canyon 82.76 47 *eP* **P** **16 13 18.5 +1.7**
comp=Z,13nm,0.9s
J20A Shoshoni 82.78 42 P **P** **16 13 18.2 +1.5**
baz=83,SNR=9.1
L19A Farson 82.83 44 P **P** **16 13 18.5 +1.3**
baz=83,SNR=12
J21A Lysite 83.14 42 ⇓P **P** **16 13 19.7 +1.0**
baz=83,SNR=6.3
CLL Collm 83.15 329 *i* P **P** **16 13 19.0 +0.7**
CLL *PP **pP** **16 14 30.0 -0.6**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 83.15 329 *i* P **P** **16 13 19.0 +0.7**
comp=Z,7.0nm,1.1s
CLL *e* 16 13 26.0
CLL *ep*P **pP** **16 14 30.0 -0.6**
CCUT Cedar City 83.16 49 *eP* **P** **16 13 20.4 +1.5**
comp=Z,3.6nm,0.9s
MVU Marysvale 83.31 48 *eP* **P** **16 13 21.4 +1.7**
comp=Z,6.8nm,1.0s
MSU Marysvale 83.33 48 *eP* **P** **16 13 21.6 +1.8**
MSU Marysvale 83.33 48 *eP* **P** **16 13 21.6 +1.8**
PFO Pinyon Flat Ob 83.43 54 *eP* **P** **16 13 21.0 +0.7**
comp=Z,8.0nm,0.9s
J22A Midwest 83.64 42 ⇑P **P** **16 13 22.2 +1.0**
baz=84,SNR=14
K21A Alcova 83.70 42 ⇓P **P** **16 13 22.8 +1.2**
baz=84,SNR=14
SRU San Rafael 83.99 47 *eP* **P** **16 13 24.5 +1.4**
SRU pmax pmax
comp=Z,18nm,0.7s
SRU San Rafael 83.99 47 *eP* **P** **16 13 24.5 +1.4**
comp=Z,18nm,0.7s
L21A Rawlins 84.07 43 ⇑P **P** **16 13 24.6 +1.2**
baz=84,SNR=7.5
K22A Casper 84.11 42 ⇓P **P** **16 13 24.7 +1.2**
baz=84,SNR=5.1
ULM Lac du Bonnet 84.22 32 P **P** **16 13 24.2 +0.5**
ULM Lac du Bonnet 84.22 32 P **P** **16 13 24.2 +0.5**

comp=Z,1.6nm,0.4s,baz=287,slow=6.0,SNR=3.0
N20A **Spence Gulch,** 84.27 44 ⇓P P 16 13 26.2 +1.8
baz=84,SNR=14
RWWY **Rawlins** 84.33 43 *e*P P 16 13 26.3 +1.5
comp=Z,14nm,1.0s
RSSD **Black Hills** 84.51 40 *e*P P 16 13 26.8 +1.2
RSSD **Black Hills** 84.51 40 *e*P P 16 13 26.8 +1.2
P19A **Cripple Cowboy** 84.60 46 ⇑P P 16 13 27.6 +1.4
baz=84,SNR=24
GERES **GERESS Array B** 84.62 327 P P 16 13 26.2 +0.4
GERES pP pP 16 14 40.0 +1.6
GERES **GERESS Array B** 84.62 327 P P 16 13 26.2 +0.4
comp=Z,0.5nm,0.5s,baz=33,slow=5.2,SNR=9.3
GERES pP pP 16 14 40.0 +1.6
comp=Z,0.6nm,0.7s,baz=35,slow=4.9,SNR=3.4
O20A **White River Ci** 84.72 45 ⇑P P 16 13 27.8 +1.1
baz=85,SNR=5.1
N21A **Black Mountain** 84.75 44 ⇑P P 16 13 27.8 +0.9
baz=85,SNR=6.6
L23A **Garrett** 84.92 42 ⇓P P 16 13 28.6 +0.9
baz=85,SNR=6.5
PV04 **Paradox Valley** 85.42 47 *e*P P 16 13 31.8 +1.6
Q20A **Ridgley Place,** 85.44 46 ⇑P P 16 13 31.6 +1.4
baz=85,SNR=10
N23A **Red Feather La** 85.57 43 ⇑P P 16 13 32.6 +1.6
baz=86,SNR=5.2
WUAZ **Wupatki** 85.66 50 *e*P P 16 13 32.3 +0.9
comp=Z,7.4nm,1.3s
O22A **Kremmling** 85.70 44 ⇑P P 16 13 32.8 +1.1
baz=86,SNR=8.6
PV01 **Paradox Valley** 85.79 47 *e*P P 16 13 33.5 +1.4
comp=Z,592nm,1.0s
R20A **Redvale** 85.87 46 ⇑P P 16 13 34.1 +1.6
baz=86,SNR=9.4
P22A **Eagle** 85.94 45 ⇓P P 16 13 34.7 +2.0
baz=86,SNR=11
O23A **Lake Granby, G** 86.03 44 ⇑P P 16 13 35.1 +1.8
baz=86,SNR=5.5
SMCO **Snowmass** 86.09 45 *e*P P 16 13 35.0 +1.4
comp=Z,4.6nm,0.9s
R21A **Cimarron** 86.26 46 ⇑P P 16 13 36.1 +1.7
baz=86,SNR=5.6
Q22A **Crested Butte,** 86.33 45 ⇑P P 16 13 36.6 +1.8
baz=86,SNR=8.8
ISCO **Idaho Springs** 86.48 44 *e*P P 16 13 36.7 +1.2
ISCO pmax pmax
comp=Z,38nm,2.5s
ISCO **Idaho Springs** 86.48 44 *e*P P 16 13 36.7 +1.2
comp=Z,38nm,2.5s
S22A **4UR Ranch, Cre** 87.10 46 ⇑P P 16 13 40.3 +1.8
baz=87,SNR=5.9
FUORN **Ofenpass-Fuorn** 87.83 327 *e*P P 16 13 42.3 +0.6
comp=Z,3.9nm,0.5s
SDCO **Great Sand Dun** 87.89 45 *e*P P 16 13 43.4 +1.2
comp=Z,2.8nm,1.3s
U23A **El Rito** 88.40 47 ⇓P P 16 13 46.3 +1.8
baz=88,SNR=7.9
ECSD **EROS Data Cent** 88.62 36 *e*P P 16 13 45.6 +0.4
comp=Z,3.1nm,0.8s
ANMO **Albuquerque** 89.14 48 *e*P P 16 13 49.7 +1.7
ANMO **Albuquerque** 89.14 48 P P 16 13 49.5 +1.6
comp=Z,1.3nm,0.6s,baz=27,slow=2.4,SNR=7.0
U25A **Circle Dot Ran** 89.44 46 ⇓P P 16 13 50.9 +1.6
baz=89,SNR=5.8
V25A **Rancho No Teng** 89.69 46 ⇓P P 16 13 51.8 +1.3
baz=90,SNR=6.1
TXAR **Lajitas Array** 94.61 51 P P 16 14 14.4 +1.3
TXAR pP pP 16 15 26.7 0.0
TXAR **Lajitas Array** 94.61 51 P P 16 14 14.4 +1.3
comp=Z,3.5nm,0.7s,baz=294,slow=3.0,SNR=42
TXAR pP pP 16 15 26.7 0.0
comp=Z,1.1nm,0.8s,baz=284,slow=3.8,SNR=5.3
TORD **Torodi Ar. Bea** 118.07 311 PKP PKPdf 16 19 37.1 -0.5
TORD SKP 16 22 42.7
TORD **Torodi Ar. Bea** 118.07 311 PKP PKPdf 16 19 37.1 -0.5
comp=Z,1.0nm,0.5s,baz=5.7,slow=1.4,SNR=17
TORD SKP 16 22 42.7
comp=Z,0.4nm,0.5s,baz=357,slow=1.5,SNR=4.4
BOSA **Boshof** 123.16 255 PKP PKPdf 16 19 47.3 +0.2
BOSA **Boshof** 123.16 255 PKP PKPdf 16 19 47.3 +0.2
comp=Z,2.0nm,0.9s,baz=223,slow=0.3,SNR=4.7
SYO **Syowa Base** 123.53 205⇑*e*PKPdf PKPdf 16 19 45.6 -0.8
SAML **Samuel** 148.88 44 *e*PKPbc PKPbc 16 20 38.9 +0.2
LPAZ **La Paz** 150.91 61 *e*PKPbc PKPbc 16 20 44.9 +0.6

*JMA **09** 16:11:24.9±0.3, 32°.67N×138°.55E, h370km, M3.4*
*ISCJB **09** 16:11:32.3±0.7, 32°.99N±0°.07×138°.6E±0°.1, h300km, mb3.0/4, Error ellipse: s-maj=14.6km s-min=8.8km az=11.0*
*IDC **09** 16:11:33.4±1.4, 33°.09N×138°.44E, h301km±18km, mb2.9/4, mb1 3.1/6, mb1mx2.8/28, mbtmp2.9/6, Error ellipse: s-maj=45.9km s-min=17.9km az=72.0*
ISC 09 16:11:33.3±1.1, 33°.09N±0°.10×138°.6E±0°.1, h300km, n19, σ1§10/23, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	1.09	322	P	Pn	16 12 15.0	+1.2
HMMJ	**Hamamatsu 2**	1.90	338	P	Pn	16 12 20.0	+0.8
JNY	**Yasuok**	2.34	346	P	Pn	16 12 24.2	+1.3
BSO3	**Boso 3**	2.35	43	P	Pn	16 12 23.6	+1.0
JYN	**Shimob**	2.40	360	P	Pn	16 12 25.0	+1.6
BSO1	**Boso 1**	2.54	51	P	Pn	16 12 25.1	+1.1
JHU	**Hanno**	2.82	12	P	Pn	16 12 28.1	+0.9
JHU				*e*S	S	16 13 10.5	+0.3
JRY	**Ryogami san**	2.93	5	P	Pn	16 12 29.9	+1.6
JNG	**Nsakai**	3.33	353	P	Pn	16 12 33.8	+1.4
JYT	**Yasato**	3.40	23	P	Pn	16 12 32.4	-0.6
JYT				*e*S	S	16 13 18.7	-2.1
JAG	**Ashikaga**	3.41	12	P	Pn	16 12 33.3	+0.2
MJAR	**Matsushiro Arr**	3.46	355	P	Pn	16 12 34.3	+0.7
	1.9nm,0.3s,baz=172,slow=12,SNR=39						
MJAR				S	S	16 13 21.7	-0.2
	baz=193,slow=10.0,SNR=3.0						
MAT	**Matsushiro**	3.46	355	P	Pn	16 12 34.5	+0.9
MAT				S	S	16 13 23.4	+1.5
JHO	**Hitachi**	3.88	25	P	Pn	16 12 37.9	-0.2
KSRS	**Korea Array**	9.73	300	P	Pn	16 13 47.6	-0.4
	0.2nm,0.3s,baz=110,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	44.35	305	P	P	16 19 13.4	-1.0
	0.1nm,0.4s,baz=82,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	52.89	185	P	P	16 20 18.6	-0.5
	0.3nm,0.3s,baz=0.1,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	56.62	185	P	P	16 20 45.6	0.0
	0.2nm,0.5s,baz=16,slow=10.0,SNR=5.4						
FINES	**FINESS Array B**	71.20	332	P	P	16 22 19.5	-0.1
	2.4nm,1.1s,baz=36,slow=12,SNR=3.5						

IDC 09 16:19:00.2±2.1, 0°.73N×127°.01E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=167.6km s-min=26.0km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	21.76	161	P	P	16 23 53.9	+0.2
	0.7nm,0.6s,baz=340,slow=11,SNR=9.0						
ASAR	**Alice Springs**	25.16	165	P	P	16 24 27.3	-0.1
	0.7nm,0.8s,baz=346,slow=9.7,SNR=10.0						
MKAR	**Makanchi Array**	60.17	326	P	P	16 29 09.9	0.0
	0.4nm,0.9s,baz=129,slow=6.5,SNR=5.6						

*NIED **09** 16:30:00, 24°.20N×125°.20E, h38km, Mw4.0 Best double couple: M0 1.23000×1015 NP1:φ=192.00000°, δ=83.00000°, λ=-50.00000°. NP2:φ=290.00000°, δ=40.00000°, λ=-170.00000°.*
*IDC **09** 16:30:34.6±1.1, 23°.77N×124°.23E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/27, mbtmp3.7/9, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=36.3km s-min=23.9km az=60.0*
*JMA **09** 16:30:37.3±0.3, 24°.18N×125°.18E, h0km, M3.9*
*ISCJB **09** 16:30:39.0±0.9, 24°.3N±0°.1×125°.20E±0°.07, h52km±6km, mb3.5/8, MS3.1/2, Error ellipse: s-maj=19.0km s-min=6.4km az=153.1*
ISC 09 16:30:39.9±1.5, 24°.3N±0°.1×125°.16E±0°.07, h42km±12km, n23, σ1§16/22, mb3.5/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	0.48	28	P	Pn	16 30 49.8	-0.6
JOGS				*e*S	Sn	16 30 58.9	+1.1
JMJ	**Miyako jima 2**	0.49	14	P	Pn	16 30 50.1	-0.5
JMJ				*e*S	Sn	16 30 59.2	+1.1
JTJ	**Tarama**	0.51	306	P	Pn	16 30 50.0	-0.9
JTJ				*e*S	Sn	16 30 58.8	+0.1
JIJ	**Ishigaki jima**	0.93	272	P	Pn	16 30 55.9	-0.6
JIJ				*e*S	Sn	16 31 08.7	+0.1
JKRS	**Kuro-shima**	1.05	265	P	Pn	16 30 57.5	-0.7
HATJ	**Hateruma jima**	1.27	257	P	Pn	16 31 02.3	+1.2
HATJ				*e*S	Sn	16 31 19.2	+2.3
IRIF	**Iriomote-Funau**	1.30	270	P	Pn	16 31 03.1	+1.5
IRIF				*e*S	Sn	16 31 22.3	+4.5
YOJ	**Yonaguni jima**	1.96	274	P	Pn	16 31 10.3	-0.3
JKE	**Kume jima 2**	2.47	36	P	Pn	16 31 17.5	-0.1
JIH	**Iheya**	3.69	43	P	Pn	16 31 41.9	+7.5
JOW	**Kunigami**	3.75	48	P	Pn	16 31 36.8	+1.5
MJAR	**Matsushiro Arr**	16.55	40	P	P	16 34 40.7	+10
	0.2nm,0.3s,baz=225,slow=11,SNR=9.8						
CMAR	**Chiang Mai Arr**	25.08	262	LR	LR	16 47 15.5	
	comp=Z,31nm,18.9s,baz=185,slow=41						
MKAR	**Makanchi Array**	40.79	314	P	P	16 38 17.4	+0.4
	0.5nm,0.4s,baz=100,slow=8.8,SNR=17						
ZALV	**Zalesovo Beam**	42.14	325	P	P	16 38 26.8	-1.2
	0.3nm,0.4s,baz=111,slow=7.9,SNR=2.5						
KURBB	**Kurchatov Arra**	44.36	319	P	P	16 38 45.7	-0.2
	0.2nm,0.3s,baz=111,slow=8.9,SNR=4.9						
WRA	**Warramunga Arr**	44.91	168	P	P	16 38 48.4	-2.3
	0.9nm,0.6s,baz=348,slow=8.8,SNR=8.0						
BVAR	**Borovoye Array**	49.88	320	P	P	16 39 29.3	+0.4
	0.2nm,0.3s,baz=101,slow=8.3,SNR=3.7						
ILAR	**Eielson Array**	67.40	28	P	P	16 41 37.9	+7.3
	0.3nm,0.9s,baz=261,slow=5.2,SNR=2.6						
KBZ	**Khabaz**	68.20	309	LR	LR	17 12 31.4	
	comp=Z,19nm,21.3s,baz=348,slow=37						
FINES	**FINESS Array B**	73.13	330	P	P	16 42 06.5	+0.8
	0.8nm,0.8s,baz=47,slow=6.1,SNR=3.2						
NB2	**NORSAR Subarra**	79.76	333	P	P	16 42 52.9	+10
	comp=Z,0.1nm,0.6s,baz=94,slow=5.1						
NOA	**NORSAR Array B**	79.76	333	P	P	16 42 44.3	+1.0
	comp=Z,0.4nm,0.7s,baz=56,slow=5.3,SNR=2.3						

*IDC **09** 16:30:51.1±0.7, 3°.07N×94°.76E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/30, mbtmp4.1/14, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=28.7km s-min=14.9km az=55.0*
*ISCJB **09** 16:30:54.4±0.7, 3°.08N±0°.09×94°.88E±0°.06, h33km, mb4.1/12, Error ellipse: s-maj=14.1km s-min=7.2km az=20.1*
ISC 09 16:30:56.5±0.8, 3°.1N±0°.1×94°.87E±0°.09, h35km, n22, σ0§59/23, mb4.2/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	4.06	94	Pn	Pn	16 31 57.6	+1.2
	7.8nm,0.3s,baz=306,slow=6.7,SNR=27						
PSI				Sn	Sn	16 32 42.3	-0.5
	4.9nm,0.3s,baz=130,slow=15,SNR=3.6						
PSI				LR	LR	16 33 06.1	
	comp=Z,128nm,18.8s,baz=267,slow=32						
KULM	**Kulim**	6.17	69	P	Pn	16 32 25.5	+0.3
IPM	**Ipoh**	6.30	77	P	Pn	16 32 27.7	+0.6
FRIM	**Kepong**	6.75	89	P	Pn	16 32 33.6	+0.3
KTGM	**Kuala Trengganu**	8.54	75	P	Pn	16 32 57.2	-0.6
MYKOM	**Kota Tinggi**	9.07	98	P	Pn	16 33 04.8	-0.3
CMAR	**Chiang Mai Arr**	15.79	14	Pn	Pn	16 34 36.0	-0.3
	0.4nm,0.3s,baz=209,slow=11,SNR=35						
SHL	**Shillong**	22.53	353	*e*P	P	16 35 55.2	+1.5
MKAR	**Makanchi Array**	44.88	348	P	P	16 39 07.4	-0.2
	2.5nm,0.6s,baz=165,slow=8.2,SNR=22						
WRA	**Warramunga Arr**	45.01	122	P	P	16 39 09.2	+0.1
	1.4nm,1.1s,baz=299,slow=9.1,SNR=7.3						
SONM	**Songino Array**	45.67	11	P	P	16 39 13.8	-0.2
	0.8nm,0.5s,baz=188,slow=9.2,SNR=8.6						
ASAR	**Alice Springs**	46.39	127	P	P	16 39 20.0	0.0
	0.7nm,0.6s,baz=299,slow=7.9,SNR=18						
ASAR				PcP	PcP	16 40 54.8	+0.1
	0.5nm,0.6s,baz=307,slow=3.3,SNR=5.2						
KURBB	**Kurchatov Arra**	49.33	346	P	P	16 39 42.0	-0.2
	1.5nm,0.5s,baz=170,slow=6.9,SNR=16						
ZALV	**Zalesovo Beam**	51.36	352	P	P	16 39 57.4	-0.2
	1.6nm,0.6s,baz=180,slow=6.7,SNR=8.6						
BVAR	**Borovoye Array**	53.73	342	P	P	16 40 14.5	-0.6
	2.0nm,0.6s,baz=143,slow=9.1,SNR=14						
STKA	**Stephens Creek**	56.35	132	P	P	16 40 34.2	-0.2
	1.3nm,0.7s,baz=322,slow=7.8,SNR=4.5						
BOSA	**Boshof**	73.72	239	P	P	16 42 27.4	-0.2
	2.4nm,0.7s,baz=202,slow=5.4,SNR=6.1						
FINES	**FINESS Array B**	77.26	333	P	P	16 42 46.1	-0.9
	2.4nm,0.7s,baz=95,slow=5.5,SNR=14						
ARCES	**ARCESS Array B**	79.98	340	P	P	16 43 01.9	-0.1
	1.6nm,0.7s,baz=76,slow=4.8,SNR=14						
GERES	**GERESS Array B**	81.86	319	P	P	16 43 12.7	+0.2
	2.0nm,0.9s,baz=112,slow=5.5,SNR=14						
NVAR	**Mina Array Bea**	128.56	33	PKP	PKPdf	16 50 01.4	+0.7
	0.1nm,0.5s,baz=228,slow=2.6,SNR=3.6						
TXAR	**Lajitas Array**	143.19	28	PKhKP	PKPpre	16 50 25.0	
	0.3nm,0.6s,baz=228,slow=1.3,SNR=5.1						

*ISCJB **09** 16:36:07.4±0.7, 56°.38N±0°.05×152°.08W±0°.06, h18km, mb3.7/9, Error ellipse: s-maj=7.3km s-min=5.0km az=12.3*
*NEIC **09** 16:36:10.7, 56°.31N×152°.27W, h21km, ML3.1(AEIC), After AEIC.*
*IDC **09** 16:36:15.0±6.1, 56°.69N×151°.91W, h57km±51km, mb3.4/9, mb1 3.6/10, mb1mx3.4/27, mbtmp3.4/10, ML4.1/1, Error ellipse: s-maj=43.4km s-min=18.5km az=45.0*
ISC 09 16:36:09.2±0.9, 56°.43N±0°.08×152°.14W±0°.05, h18km, n64, σ1§32/70, mb3.9/9, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	1.02	322	P	Pb	16 36 27.6	-0.7
KABR	**Katmai Barrier**	2.30	319	P	Pn	16 36 47.1	+0.9
CAHL	**Cahill**	2.37	315	P	Pn	16 36 47.7	+0.5
KAKN	**Katmai Knife C**	2.45	321	P	Pn	16 36 49.5	+1.2
KAPH	**Katmai Pasha**	2.48	332	P	Pn	16 36 50.3	+1.6
KAPH				S	Sn	16 37 20.0	+1.5
KELA	**Mount Kelaz**	2.80	318	P	Pn	16 36 53.8	+0.6
AUI	**Augustine Isla**	3.00	347	P	Pn	16 36 57.6	+1.9
AUI				S	Sn	16 37 32.2	+1.1
AUW	**Augustine West**	3.04	347	P	Pn	16 36 58.5	+2.2
OPT	**Oil Point**	3.29	350	P	Pn	16 37 01.7	+2.0
ANPK	**Aniakchak Peak**	3.33	280	P	Pn	16 36 59.3	-1.2
ILW	**Iliamna West**	3.68	352	P	Pn	16 37 06.7	+1.4
RDWB	**Redoubt West**	4.09	355	P	Pn	16 37 12.1	+1.2
NCT	**North Crescent**	4.17	355	P	Pn	16 37 12.8	+0.8
SLKM	**Skilak Lake**	4.21	13	P	Pn	16 37 11.6	-0.9
LTI	**Latouche**	4.27	30	P	Pn	16 37 12.9	-0.4
MID	**Middleton Isla**	4.31	43	P	Pn	16 37 13.3	-0.5
SPU	**Mount Spurr**	4.77	0	P	Pn	16 37 21.0	+0.8
SPU				S	Sn	16 38 16.9	+1.9
SVW2	**Sparrevohn**	5.01	341	P	Pn	16 37 24.3	+0.8
SVW2				S	Sn	16 38 21.6	+0.7
STLK	**Strandline Lak**	5.09	2	P	Pn	16 37 25.7	+1.1
SUA	**Susitna One**	5.10	8	P	Pn	16 37 24.8	0.0
GLI	**Glacier Island**	5.18	28	P	Pn	16 37 25.5	-0.3
FID	**Port Fidalgo**	5.25	32	P	Pn	16 37 27.3	+0.6
PMR	**Palmer**	5.41	15	P	Pn	16 37 29.9	+1.1
SGAM	**Sherman Glacie**	5.47	39	P	Pn	16 37 30.4	+0.7
RAGM	**Ragged Mountai**	5.58	42	P	Pn	16 37 32.4	+1.2
GOAT	**Goat Mountain**	5.69	40	P	Pn	16 37 33.5	+0.7
GOAT				S	Sn	16 38 40.8	+3.1
SML	**Sawmill**	5.74	18	P	Pn	16 37 33.9	+0.4
SCM	**Sheep Creek Mo**	5.96	23	P	Pn	16 37 37.3	+0.8
BMRM	**Bremner River**	6.01	38	P	Pn	16 37 37.6	+0.4
KLU	**Klutina**	6.01	30	P	Pn	16 37 38.0	+0.8
KULT	**Kultieth River**	6.26	48	P	Pn	16 37 42.0	+1.3
BARK	**Barkley Ridge**	6.45	48	P	Pn	16 37 44.6	+1.4
VRDI	**Verde Repeater**	6.59	40	P	Pn	16 37 45.7	+0.5
ISLE	**Juniper Island**	6.62	47	P	Pn	16 37 46.9	+1.2
TT01	**Tatalina**	6.79	345	P	Pn	16 37 47.9	+0.1
KIAG	**Kiagna River**	6.80	44	P	Pn	16 37 50.1	+1.9
BALM	**Baldy**	6.88	44	P	Pn	16 37 50.1	+1.0
PTPK	**Patty Peak**	6.93	42	P	Pn	16 37 50.9	+1.0
GRNC	**Granite Creek**	6.93	47	P	Pn	16 37 51.1	+1.1
BARN	**Barnard Glacie**	7.16	45	P	Pn	16 37 53.9	+0.9
IL1	**Eielson Array**	8.76	15	P	Pn	16 38 15.7	+0.9
ILAR	**Eielson Array**	8.76	15	P	Pn	16 38 15.6	+0.8
ILAR				S	Sn	16 39 49.0	-3.9
ILAR	**Eielson Array**	8.76	15	P	Pn	16 38 15.6	+0.8
	1.0nm,0.3s,baz=201,slow=14,SNR=50						
ILAR				S	Sn	16 39 49.0	-3.9
	0.1nm,0.3s,baz=203,slow=20,SNR=3.2						
IM3	**Indian Mountai**	9.62	356	P	Pn	16 38 27.1	+0.5
NVAR	**Mina Array Bea**	28.70	114	P	P	16 42 05.5	+0.2
NVAR	**Mina Array Bea**	28.70	114	P	P	16 42 05.5	+0.2
	0.4nm,0.7s,baz=293,slow=11,SNR=3.2						
PDAR	**Pinedale Array**	30.26	99	P	P	16 42 21.1	+2.0
PDAR	**Pinedale Array**	30.26	99	P	P	16 42 21.1	+2.0
	0.2nm,0.5s,baz=286,slow=4.6,SNR=2.4						
ARCES	**ARCESS Array B**	54.33	1	P	P	16 45 32.1	-1.8
ARCES	**ARCESS Array B**	54.33	1	P	P	16 45 32.1	-1.8
	1.6nm,0.8s,baz=0.7,slow=7.2,SNR=3.4						
SONM	**Songino Array**	57.31	308	P	P	16 45 56.3	+0.5
SONM	**Songino Array**	57.31	308	P	P	16 45 56.3	+0.5
	0.7nm,0.7s,baz=48,slow=6.5,SNR=5.9						
ZALV	**Zalesovo Beam**	60.55	325	P	P	16 46 18.6	+0.7
ZALV	**Zalesovo Beam**	60.55	325	P	P	16 46 18.6	+0.7
	0.5nm,0.5s,baz=357,slow=7.4,SNR=4.0						
NB2	**NORSAR Subarra**	62.14	9	P	P	16 46 30.1	+1.5
	comp=Z,0.6nm,0.6s,baz=348,slow=6.9						
NOA	**NORSAR Array B**	62.14	9	P	P	16 46 27.9	-0.7
NOA	**NORSAR Array B**	62.14	9	P	P	16 46 27.9	-0.7
	comp=Z,0.8nm,0.7s,baz=349,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	62.46	1	P	P	16 46 30.1	-0.6
FINES	**FINESS Array B**	62.46	1	P	P	16 46 30.1	-0.6
	comp=Z,1.2nm,0.8s,baz=10,slow=12,SNR=4.2						
KURK	**Kurchatov**	65.27	327	P	P	16 46 43.7	-5.6
BVAR	**Borovoye Array**	65.46	333	P	P	16 46 50.4	-0.1
BVAR	**Borovoye Array**	65.46	333	P	P	16 46 50.4	-0.1
	comp=Z,0.8nm,0.8s,baz=28,slow=7.6,SNR=5.7						
MKAR	**Makanchi Array**	67.54	323	P	P	16 47 03.8	-0.1
MKAR	**Makanchi Array**	67.54	323	P	P	16 47 03.8	-0.1
	comp=Z,0.4nm,0.8s,baz=46,slow=8.3,SNR=3.8						

IDC 09 16:37:04.0±1.0, 51°.21N×174°.17E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/31, mbtmp3.6/8, ML3.8/1, Error ellipse: s-maj=24.2km s-min=14.3km az=75.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	1.78	340	Pn	Pn	16 37 35.0	-1.1
	4.5nm,0.3s,baz=348,slow=22,SNR=61						
FX1				Sn	Sn	16 37 55.6	-3.8
	24nm,0.3s,baz=60,slow=23,SNR=27						
PETK	**Petropavlovsk-**	10.30	287	Pn	Pn	16 39 34.1	+1.3
	0.8nm,0.3s,baz=236,slow=21,SNR=3.6						
ILAR	**Eielson Array**	24.21	41	P	P	16 42 20.8	-1.2
	0.3nm,0.5s,baz=252,slow=7.3,SNR=4.5						
KURBB	**Kurchatov Arra**	55.95	310	P	P	16 46 43.7	+0.2
	1.6nm,0.7s,baz=52,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	56.59	305	P	P	16 46 47.5	-0.7
	0.5nm,0.7s,baz=47,slow=7.0,SNR=6.0						
BVAR	**Borovoye Array**	58.06	316	P	P	16 46 58.7	+0.2
	1.0nm,0.6s,baz=69,slow=6.1,SNR=6.6						
TXAR	**Lajitas Array**	63.01	76	P	P	16 47 33.7	+0.9
	0.2nm,0.4s,baz=302,slow=5.7,SNR=4.0						
WRA	**Warramunga Arr**	79.00	218	P	P	16 49 08.9	-0.7
	0.3nm,0.8s,baz=28,slow=6.1,SNR=3.0						
ASAR	**Alice Springs**	82.55	217	P	P	16 49 28.4	-0.1
	0.4nm,0.8s,baz=16,slow=3.9,SNR=4.4						

DJA 09 16:55:44.4±0.8, 4°S±3°×12°1E±°, h10km, M3.5/5, MLv3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNSI	**Bone**	0.67	216	S	Sb	16 56 07.1	-0.6
SPSI	**Sidrap Palu**	0.74	261	P	Pg	16 55 57.8	-0.9
TTSI	**Tana Toraja**	1.05	320	P	Pg	16 56 02.5	-2.1
KKSI	**Kolaka, Sulawe**	1.19	106	P	Pb	16 56 06.3	-0.8
KKSI				S	Sn	16 56 23.6	+0.2
KAPI	**Kappang**	1.38	213	P	Pn	16 56 08.0	-1.7
SKSI	**Soroako, Sulaw**	1.56	32	P	Pn	16 56 12.8	+0.5
SKSI				S	Sb	16 56 33.4	+0.2
MMSI	**Mamuju**	1.96	306	P	Pb	16 56 19.6	-0.7
MMSI				S	Sb	16 56 45.6	+0.8
BSSI	**Bau Bau, Buton**	2.28	180	P	Pb	16 56 26.6	+0.9

IGQ 09 17:03:40.7, 2°.28S×79°.53W, h89km±27km, Mb4.0, Ms3.8, 3C-8D, Error ellipse: s-maj=2.7km s-min=1.4km az=9.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	1.19	48	S	Sn	17 04 20.7	+0.4
IGUA	**Igualata**	1.19	48	P	Pn	17 04 03.5	+0.2
ARRY	**Arrayan**	1.32	54	⇓S	Sn	17 04 21.0	-1.7
ARRY	**Arrayan**	1.32	54	⇓P	Pn	17 04 04.6	-0.1
PAT1	**Patacocha**	1.33	55	P	Pn	17 04 05.2	+0.2
JUI6	**Juive**	1.36	51	P	Pn	17 04 05.6	+0.6
RETU	**Refugio**	1.36	53	P	Pn	17 04 05.5	+0.1
ARNL	**Arenillas**	1.37	203	⇓S	Sn	17 04 23.6	+0.7
ARNL	**Arenillas**	1.37	203	⇓P	Pn	17 04 04.7	-0.1
ULBA	**Ulba**	1.39	54	P	Pn	17 04 06.3	+0.7
RUN5	**Runtun**	1.40	52	P	Pn	17 04 07.5	+1.9
PECV	**Mancha de Ca P**	1.58	341	⇑P	Pn	17 04 10.0	+2.4
PISA	**Pisayambo**	1.67	43	P	Pn	17 04 09.8	+0.6
CATE	**Catamayo**	1.68	175	⇓S	Sn	17 04 29.2	-1.1
CATE	**Catamayo**	1.68	175	⇓P	Pn	17 04 09.1	+0.2
CHIS	**Cerro-Ch

CAIG	**El Cayaco**	**0.21 144**	*e*P	Pn	17 11 50.3	-1.7
CAIG			*e*S	Sn	17 11 56.2	-1.5
ACX	**Acapulco**	**0.62 124**	*i* P	Pn	17 11 53.9	-2.8
ACX			*i* S	Sn	17 12 02.5	-3.3
MEIG	**Mezcala**	**1.02 46**	*i* P	Pn	17 12 00.6	-1.6
MEIG			*i* S	Sn	17 12 13.1	-2.3
ARIG	**Puente Sto Nin**	**1.05 3**	*i* P	Pn	17 12 00.2	-2.3
ARIG			*i* S	Sn	17 12 13.7	-2.4
ZIIG	**Zihuatanejo**	**1.09 291**	*i* P	Pn	17 12 01.4	-1.5
ZIIG			*i* S	Sn	17 12 15.0	-1.9
PLIG	**Platanillo**	**1.44 36**	*e*P	Pn	17 12 06.5	-1.4
PLIG			*i* S	Sn	17 12 23.7	-2.1
YAIG	**Yautepec**	**2.06 38**	*i* P	Pn	17 12 15.2	-1.3
YAIG			*i* S	Sn	17 12 39.7	-1.5
PNIG	**Pinotepa**	**2.32 110**	*i* P	Pn	17 12 18.7	-1.2
PNIG			*i* S	Sn	17 12 45.9	-1.5

WEL 09 17:24:52.0±0.5, 46°.23S×166°.07E, h33km, ML3.9/14, 1C, Error ellipse: s-maj=6.5km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.06**	**46**	PN	Pn	17 25 10.1	-0.4
DCZ				AML	AML	17 25 25.4	
DCZ				AML	AML	17 25 26.1	
DCZ				AML	AML	17 25 27.4	
APZ	**The Paps**	**1.45**	**115**	PN	Pn	17 25 16.1	+0.1
MLZ	**Mavora Lakes**	**1.71**	**60**	PN	Pn	17 25 21.2	+1.6
MLZ				*e*SN	Sb	17 25 43.5	-0.6
MLZ				AML	AML	17 25 51.0	
MSZ	**Milford Sound**	**2.03**	**41**	PN	Pn	17 25 25.9	+2.1
MSZ				SN	Sb	17 25 56.2	+3.1
MSZ				AML	AML	17 26 04.2	
MSZ				AML	AML	17 26 04.2	
MSZ				AML	AML	17 26 04.3	
EAZ	**Earnscleugh**	**2.48**	**67**	⇑PN	Pn	17 25 32.4	+2.4
EAZ				AML	AML	17 26 07.5	
EAZ				AML	AML	17 26 18.5	
EAZ				AML	AML	17 26 18.5	
TUZ	**Tuapeka**	**2.49**	**85**	PN	Pn	17 25 31.7	+1.5
TUZ				SN	Sn	17 26 02.8	+3.4
TUZ				AML	AML	17 26 05.3	
WKZ	**Wanaka**	**2.50**	**57**	PN	Pb	17 25 33.5	-2.7
WKZ				AML	AML	17 26 11.8	
WKZ				AML	AML	17 26 12.6	
JCZ	**Jackson Bay**	**2.87**	**42**	PN	Pn	17 25 38.4	+2.9
JCZ				AML	AML	17 26 31.6	
JCZ				AML	AML	17 26 32.5	
LBZ	**Lake Benmore**	**3.44**	**59**	PN	Pn	17 25 44.8	+1.6
LBZ				AML	AML	17 26 29.1	
LBZ				AML	AML	17 26 29.1	
FOZ	**Fox Glacier**	**3.70**	**45**	PN	Pn	17 25 51.3	+4.6
RPZ	**Rata Peaks**	**4.34**	**56**	PN	Pn	17 25 56.3	+0.7

*ISCJB **09** 17:44:42.7±0.2, 44°.05N±0°.02×105°.43W±0°.02, h0km, Error ellipse: s-maj=2.5km s-min=2.1km az=154.7*
*NEIC **09** 17:44:42.4±0.8, 44°.13N×105°.44W, h10km, ML3.2, Error ellipse: s-maj=15.9km s-min=9.7km az=167.0, Suspected Mining explosion.*
NEIC 20 km [10 miles] SSE of Gillette.
*IDC **09** 17:44:42.2±1.8, 44°.13N×105°.60W, h0km, mb1 3.6/3, mb1mx3.3/28, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=72.5km s-min=8.3km az=147.0*
ISC 09 17:44:42.1±0.7, 44°.05N±0°.02×105°.45W±0°.01, h0km, n111, σ0s89/149, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.10**	**187**	P	**Pg**	**17 44 45.5**	**+1.6**
	baz=0.2,SNR=1000						
I23A	**Meade Ranch, G**	**0.10**	**187**	P	**Pg**	**17 44 45.5**	**+1.6**
	baz=0.2,SNR=1000						
H23A	**Clabaugh Cattl**	**0.51**	**4**	P	**Pb**	**17 44 53.9**	**-0.1**
	baz=0.4,SNR=24						
H23A	**Clabaugh Cattl**	**0.51**	**4**	P	**Pb**	**17 44 53.9**	**-0.1**
	baz=0.4,SNR=24						
I24A	**Kuemmerle Ranc**	**0.62**	**108**	P	**Pg**	**17 44 54.9**	**+0.8**
	baz=0.6,SNR=115						
I24A	**Kuemmerle Ranc**	**0.62**	**108**	P	**Pg**	**17 44 54.9**	**+0.8**
	baz=0.6,SNR=115						
J23A	**Dilts Ranch, B**	**0.66**	**187**	P	**Pb**	**17 44 56.0**	**-0.4**
	baz=0.7,SNR=42						
J23A				S	**Sg**	**17 45 04.2**	**+1.1**
	baz=0.7						
J23A	**Dilts Ranch, B**	**0.66**	**187**	P	**Pb**	**17 44 56.0**	**-0.4**
	baz=0.7,SNR=42						
J23A				S	**Sg**	**17 45 04.2**	**+1.1**
	baz=0.7						
I22A	**9 Mile Ranch,**	**0.77**	**258**	P	**Pb**	**17 44 58.4**	**0.0**
	baz=0.8,SNR=134						
I22A				S	**Sb**	**17 45 08.5**	**-0.9**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.77**	**258**	P	**Pb**	**17 44 58.4**	**0.0**
	baz=0.8,SNR=134						
I22A				S	**Sb**	**17 45 08.5**	**-0.9**
	baz=0.8						
H22A	**Clearmont**	**0.84**	**310**	P	**Pb**	**17 44 59.8**	**+0.1**
	baz=0.8,SNR=36						
H22A	**Clearmont**	**0.84**	**310**	P	**Pb**	**17 44 59.8**	**+0.1**
	baz=0.8,SNR=36						
J24A	**Dixon Ranch, L**	**0.92**	**142**	P	**Pg**	**17 44 59.6**	**-0.1**
	baz=1.0,SNR=182						
J24A				S	**Sb**	**17 45 14.3**	**+0.5**
	baz=1.0						
J24A	**Dixon Ranch, L**	**0.92**	**142**	P	**Pg**	**17 44 59.6**	**-0.1**
	baz=1.0,SNR=182						
J24A				S	**Sb**	**17 45 14.3**	**+0.5**
	baz=1.0						
H24A	**Dirks Ranch, A**	**0.94**	**42**	P	**Pg**	**17 45 00.3**	**+0.1**
	baz=0.9,SNR=137						
H24A	**Dirks Ranch, A**	**0.94**	**42**	P	**Pg**	**17 45 00.3**	**+0.1**
	baz=0.9,SNR=137						
J22A	**Midwest**	**0.99**	**230**	P	**Pb**	**17 45 01.7**	**-0.4**
	baz=1.0,SNR=451						
J22A				S	**Sb**	**17 45 16.6**	**+0.9**
	baz=1.0						
J22A	**Midwest**	**0.99**	**230**	P	**Pb**	**17 45 01.7**	**-0.4**
	baz=1.0,SNR=451						
J22A				S	**Sb**	**17 45 16.6**	**+0.9**
	baz=1.0						
RSSD	**Black Hills**	**1.02**	**86**	*e*Pg	**Pg**	**17 45 01.2**	**-0.5**
RSSD				*e*Sg	**Sb**	**17 45 16.2**	**-0.6**
G23A	**Biddle**	**1.15**	**2**	P	**Pn**	**17 45 05.5**	**0.0**
	baz=1.1,SNR=141						
G23A				S	**Sn**	**17 45 22.1**	**+0.1**
	baz=1.1						
G23A	**Biddle**	**1.15**	**2**	P	**Pn**	**17 45 05.5**	**0.0**
	baz=1.1,SNR=141						
G23A				S	**Sn**	**17 45 22.1**	**+0.1**
	baz=1.1						
I25A	**Rochford**	**1.24**	**91**	P	**Pg**	**17 45 05.4**	**-0.4**
	baz=1.2,SNR=265						
I25A	**Rochford**	**1.24**	**91**	P	**Pg**	**17 45 05.4**	**-0.4**
	baz=1.2,SNR=265						
H21A	**Big Horn, Sher**	**1.28**	**297**	P	**Pn**	**17 45 07.5**	**+0.1**
	baz=1.2,SNR=63						
H21A	**Big Horn, Sher**	**1.28**	**297**	P	**Pn**	**17 45 07.5**	**+0.1**
	baz=1.2,SNR=63						
K23A	**Bowen Ranch, D**	**1.31**	**186**	P	**Pb**	**17 45 07.6**	**0.0**
	baz=1.4,SNR=30						
K23A	**Bowen Ranch, D**	**1.31**	**186**	P	**Pb**	**17 45 07.6**	**0.0**
	baz=1.4,SNR=30						
G22A	**Birney**	**1.31**	**333**	P	**Pn**	**17 45 08.6**	**+0.8**
	baz=1.2,SNR=101						
G22A	**Birney**	**1.31**	**333**	P	**Pn**	**17 45 08.6**	**+0.8**
	baz=1.2,SNR=101						
I21A	**Big Trails, Te**	**1.35**	**260**	P	**Pg**	**17 45 08.2**	**+0.2**
	baz=1.4,SNR=179						
I21A	**Big Trails, Te**	**1.35**	**260**	P	**Pg**	**17 45 08.2**	**+0.2**
	baz=1.4,SNR=179						
J25A	**Sunshine Ranch**	**1.36**	**119**	P	**Pg**	**17 45 07.5**	**-0.7**
	baz=1.4						
J25A				S	**Sb**	**17 45 26.3**	**-0.3**
	baz=1.4						
J25A	**Sunshine Ranch**	**1.36**	**119**	P	**Pg**	**17 45 07.5**	**-0.7**
	baz=1.4						
J25A				S	**Sb**	**17 45 26.3**	**-0.3**
	baz=1.4						
K24A	**Anderson Ranch**	**1.41**	**161**	P	**Pn**	**17 45 09.0**	**-0.2**
	baz=1.5,SNR=41						
K24A				S	**Sn**	**17 45 29.2**	**+0.7**
	baz=1.5						
K24A	**Anderson Ranch**	**1.41**	**161**	P	**Pn**	**17 45 09.0**	**-0.2**
	baz=1.5,SNR=41						
K24A				S	**Sn**	**17 45 29.2**	**+0.7**
	baz=1.5						
H25A	**Fruitdale**	**1.44**	**66**	P	**Pn**	**17 45 09.6**	**0.0**
	baz=1.4,SNR=32						
H25A				S	**Sn**	**17 45 29.8**	**+0.5**
	baz=1.4						
H25A	**Fruitdale**	**1.44**	**66**	P	**Pn**	**17 45 09.6**	**0.0**
	baz=1.4,SNR=32						
H25A				S	**Sn**	**17 45 29.8**	**+0.5**
	baz=1.4						
G24A	**Alzada**	**1.47**	**30**	P	**Pg**	**17 45 10.3**	**0.0**
	baz=1.4,SNR=52						
G24A	**Alzada**	**1.47**	**30**	P	**Pg**	**17 45 10.3**	**0.0**
	baz=1.4,SNR=52						
K22A	**Casper**	**1.61**	**210**	P	**Pn**	**17 45 12.2**	**+0.3**
	baz=1.7,SNR=124						
K22A				Sb	**Sg**	**17 45 34.7**	**+1.0**
	baz=1.7						
K22A	**Casper**	**1.61**	**210**	P	**Pn**	**17 45 12.2**	**+0.3**
	baz=1.7,SNR=124						
K22A				Sb	**Sg**	**17 45 34.7**	**+1.0**
	baz=1.7						
J21A	**Lysite**	**1.61**	**245**	P	**Pn**	**17 45 12.4**	**+0.4**
	baz=1.6,SNR=124						
J21A				Sb	**Sg**	**17 45 35.5**	**+1.6**
	baz=1.6						
J21A	**Lysite**	**1.61**	**245**	P	**Pn**	**17 45 12.4**	**+0.4**
	baz=1.6,SNR=124						
J21A				Sb	**Sg**	**17 45 35.5**	**+1.6**
	baz=1.6						
F23A	**Volborg**	**1.67**	**1**	P	**Pb**	**17 45 13.5**	**-0.2**
	baz=1.6,SNR=273						
F23A	**Volborg**	**1.67**	**1**	P	**Pb**	**17 45 13.5**	**-0.2**
	baz=1.6,SNR=273						
G21A	**Lodge Grass**	**1.72**	**314**	Pb	**Pg**	**17 45 15.7**	**+0.7**
	baz=1.7,SNR=26						
G21A	**Lodge Grass**	**1.72**	**314**	Pb	**Pg**	**17 45 15.7**	**+0.7**
	baz=1.7,SNR=26						
F22A	**Rosebud**	**1.82**	**342**	Pb	**Pg**	**17 45 17.1**	**+0.1**
	baz=1.8,SNR=237						
F22A	**Rosebud**	**1.82**	**342**	Pb	**Pg**	**17 45 17.1**	**+0.1**
	baz=1.8,SNR=237						
G25A	**Newell**	**1.84**	**51**	Pb	**Pb**	**17 45 17.0**	**+0.3**
	baz=1.8,SNR=24						
G25A				Sb	**Sg**	**17 45 42.5**	**+1.2**
	baz=1.8						
G25A	**Newell**	**1.84**	**51**	Pb	**Pb**	**17 45 17.0**	**+0.3**
	baz=1.8,SNR=24						
G25A				Sb	**Sg**	**17 45 42.5**	**+1.2**
	baz=1.8						
K25A	**Mack Ranch, Ha**	**1.84**	**141**	Pb	**Pb**	**17 45 16.7**	**-0.1**
	baz=1.9,SNR=36						
K25A				Sb	**Sg**	**17 45 41.4**	**+0.1**
	baz=1.9						
K25A	**Mack Ranch, Ha**	**1.84**	**141**	Pb	**Pb**	**17 45 16.7**	**-0.1**
	baz=1.9,SNR=36						
K25A				Sb	**Sg**	**17 45 41.4**	**+0.1**
	baz=1.9						
I26A	**New Underwood**	**1.86**	**90**	Pb	**Pb**	**17 45 17.3**	**+0.2**
	baz=1.9,SNR=35						
I26A	**New Underwood**	**1.86**	**90**	Pb	**Pb**	**17 45 17.3**	**+0.2**
	baz=1.9,SNR=35						
J26A	**Sides Ranch, S**	**1.87**	**112**	Pn	**Pn**	**17 45 15.8**	**+0.4**
	baz=1.9,SNR=72						
J26A	**Sides Ranch, S**	**1.87**	**112**	Pn	**Pn**	**17 45 15.8**	**+0.4**
	baz=1.9,SNR=72						
H20A	**Greybull**	**1.88**	**284**	Pb	**Pb**	**17 45 17.9**	**+0.5**
	baz=1.9,SNR=52						
H20A	**Greybull**	**1.88**	**284**	Pb	**Pb**	**17 45 17.9**	**+0.5**
	baz=1.9,SNR=52						
F24A	**Ekalaka**	**1.93**	**21**	Pn	**Pn**	**17 45 17.1**	**+0.9**
	baz=1.9,SNR=70						
F24A	**Ekalaka**	**1.93**	**21**	Pn	**Pn**	**17 45 17.1**	**+0.9**
	baz=1.9,SNR=70						
K21A	**Alcova**	**1.94**	**223**	Pb	**Pb**	**17 45 18.3**	**-0.1**
	baz=2.0,SNR=99						
K21A				Sb	**Sg**	**17 45 44.7**	**+0.4**
	baz=2.0						
K21A	**Alcova**	**1.94**	**223**	Pb	**Pb**	**17 45 18.3**	**-0.1**
	baz=2.0,SNR=99						
K21A				Sb	**Sg**	**17 45 44.7**	**+0.4**
	baz=2.0						
I20A	**Worland**	**1.94**	**268**	Pb	**Pb**	**17 45 18.8**	**+0.4**
	baz=1.9,SNR=174						
I20A				Sb	**Sg**	**17 45 45.4**	**+1.1**
	baz=1.9						
I20A	**Worland**	**1.94**	**268**	Pb	**Pb**	**17 45 18.8**	**+0.4**
	baz=1.9,SNR=174						
I20A				Sb	**Sg**	**17 45 45.4**	**+1.1**
	baz=1.9						
L23A	**Garrett**	**1.95**	**186**	Pb	**Pb**	**17 45 18.2**	**-0.4**
	baz=2.0,SNR=82						
L23A	**Garrett**	**1.95**	**186**	Pb	**Pb**	**17 45 18.2**	**-0.4**
	baz=2.0,SNR=82						
H26A	**Fairpoint**	**2.00**	**73**	Pb	**Pb**	**17 45 19.6**	**+0.3**
	baz=2.0,SNR=21						
H26A				Sb	**Sg**	**17 45 46.6**	**+0.3**
	baz=2.0						
H26A	**Fairpoint**	**2.00**	**73**	Pb	**Pb**	**17 45 19.6**	**+0.3**
	baz=2.0,SNR=21						
H26A				Sb	**Sg**	**17 45 46.6**	**+0.3**
	baz=2.0						
J20A	**Shoshoni**	**2.04**	**251**	Pb	**Pg**	**17 45 20.9**	**-0.2**
	baz=2.1,SNR=47						
J20A				Sb	**Sg**	**17 45 48.3**	**+0.8**
	baz=2.1						
J20A	**Shoshoni**	**2.04**	**251**	Pb	**Pg**	**17 45 20.9**	**-0.2**
	baz=2.1,SNR=47						
J20A				Sb	**Sg**	**17 45 48.3**	**+0.8**
	baz=2.1						
L24A	**Wheatland**	**2.04**	**169**	Pb	**Pb**	**17 45 19.5**	**-0.7**
	baz=2.1,SNR=8.5						
L24A	**Wheatland**	**2.04**	**169**	Pb	**Pb**	**17 45 19.5**	**-0.7**
	baz=2.1,SNR=8.5						
G20A	**Bridger**	**2.29**	**302**	Pn	**Pn**	**17 45 22.4**	**+1.1**
	baz=2.3,SNR=79						
G20A	**Bridger**	**2.29**	**302**	Pn	**Pn**	**17 45 22.4**	**+1.1**
	baz=2.3,SNR=79						
E22A	**Miles City**	**2.41**	**352**	Pn	**Pn**	**17 45 24.1**	**+1.2**
	baz=2.3,SNR=35						
E22A	**Miles City**	**2.41**	**352**	Pn	**Pn**	**17 45 24.1**	**+1.2**
	baz=2.3,SNR=35						
E23A	**Ismay**	**2.45**	**2**	Pn	**Pn**	**17 45 24.3**	**+1.0**
	baz=2.4,SNR=36						
E23A	**Ismay**	**2.45**	**2**	Pn	**Pn**	**17 45 24.3**	**+1.0**
	baz=2.4,SNR=36						
I27A	**Quinn**	**2.45**	**88**	Pb	**Pb**	**17 45 27.1**	**+0.1**
	baz=2.4						
I27A	**Quinn**	**2.45**	**88**	Pb	**Pb**	**17 45 27.1**	**+0.1**
	baz=2.4						
L21A	**Rawlins**	**2.52**	**215**	Pb	**Pb**	**17 45 28.1**	**-0.2**
	baz=2.6,SNR=9.5						
L21A	**Rawlins**	**2.52**	**215**	Pb	**Pb**	**17 45 28.1**	**-0.2**
	baz=2.6,SNR=9.5						
K20A	**Yellowstone Ra**	**2.53**	**238**	Pb	**Pb**	**17 45 28.2**	**-0.3**
	baz=2.6,SNR=36						
K20A	**Yellowstone Ra**	**2.53**	**238**	Pb	**Pb**	**17 45 28.2**	**-0.3**
	baz=2.6,SNR=36						
K19A	**Absolon Red Bu**	**2.77**	**245**	Pb	**Pb**	**17 45 33.0**	**+0.5**
	baz=2.8						
K19A	**Absolon Red Bu**	**2.77**	**245**	Pb	**Pb**	**17 45 33.0**	**+0.5**
	baz=2.8						
G27A	**Dupree**	**2.83**	**61**	Pb	**Pb**	**17 45 34.3**	**+0.7**
	baz=2.8						
G27A	**Dupree**	**2.83**	**61**	Pb	**Pb**	**17 45 34.3**	**+0.7**
	baz=2.8						
RLMT	**Red Lodge**	**2.93**	**293**	*e*Pn	**Pn**	**17 45 28.4**	**-1.8**
RLMT				*e*Sn	**Sn**	**17 46 02.3**	**-3.9**
D21A	**La Casta Ranch**	**3.20**	**341**	Pb	**Pb**	**17 45 40.9**	**+1.0**
	baz=3.1						
D21A	**La Casta Ranch**	**3.20**	**341**	Pb	**Pb**	**17 45 40.9**	**+1.0**
	baz=3.1						
PDAR	**Pinedale Array**	**3.26**	**248**	Pn	**Pn**	**17 45 37.4**	**+2.7**
PDAR				Pg	**Pb**	**17 45 41.4**	**+0.4**
PDAR				Lg	Lg	17 46 23.8	
PDAR	**Pinedale Array**	**3.26**	**248**	Pn	**Pn**	**17 45 37.4**	**+2.7**
	0.8nm,0.3s,baz=72,slow=13,SNR=19						
PDAR				Pg	**Pb**	**17 45 41.4**	**+0.4**
	4.7nm,0.3s,baz=67,slow=18,SNR=65						
PDAR				Lg	Lg	17 46 23.8	
	9.8nm,0.3s,baz=55,slow=32,SNR=19						
N22A	**Wattenberg Ran**	**3.33**	**193**	Pb	**Pb**	**17 45 42.2**	**-0.1**
	baz=3.4						
N22A	**Wattenberg Ran**	**3.33**	**193**	Pb	**Pb**	**17 45 42.2**	**-0.1**
	baz=3.4						
G28A	**Parade**	**3.40**	**71**	Pb	**Pb**	**17 45 43.4**	**+0.2**
	baz=3.4						
G28A	**Parade**	**3.40**	**71**	Pb	**Pb**	**17 45 43.4**	**+0.2**
	baz=3.4						
M19A	**Rock Springs**	**3.73**	**228**	Pb	**Pb**	**17 45 49.4**	**+0.4**
	baz=3.8						
M19A	**Rock Springs**	**3.73**	**228**	Pb	**Pb**	**17 45 49.4**	**+0.4**
	baz=3.8						
SNOW	**Snow King Moun**	**3.89**	**263**	*e*Pn	**Pn**	**17 45 42.8**	**-0.6**
IMW	**Indian Meadow**	**3.97**	**270**	*e*Pn	**Pn**	**17 45 42.6**	**-1.8**
REDW	**Red Top Meadow**	**3.98**	**262**	*e*Pn	**Pn**	**17 45 42.7**	**-1.8**
TPAW	**Teton Pass**	**4.03**	**264**	*e*Pn	**Pn**	**17 45 45.0**	**-0.3**
TPAW				*e*Sn	**Sn**	**17 46 31.5**	**-1.7**
RRI2	**Red Ridge**	**4.32**	**263**	*e*Pn	**Pn**	**17 45 47.0**	**-2.3**
DGMT	**Dagmar**	**4.50**	**11**	*e*Pn	**Pn**	**17 45 50.9**	**-0.7**
DGMT				*e*Sn	**Sn**	**17 46 41.6**	**-3.0**
SMCO	**Snowmass**	**5.00**	**194**	*e*Pn	**Pn**	**17 45 59.4**	**+0.5**
	3.5nm,0.4s						
HWUT	**Hardware Ranch**	**5.12**	**244**	*e*Pn	**Pn**	**17 45 59.2**	**-1.0**
	6.1nm,0.4s						
ULM	**Lac du Bonnet**	**8.99**	**43**	Pn	**Pn**	**17 46 51.9**	**-1.2**
ULM	**Lac du Bonnet**	**8.99**	**43**	Pn	**Pn**	**17 46 51.9**	**-1.2**
	0.6nm,0.3s,baz=225,slow=13,SNR=4.5						
ULM				Lg	Lg	17 49 20.1	
	0.2nm,0.3s,baz=321,slow=18,SNR=3.3						
NVAR	**Mina Array Bea**	**11.19**	**244**	Pn	**Pn**	**17 47 25.6**	**+2.2**
	0.0nm,0.3s,baz=64,slow=10,SNR=3.0						

IDC 09 18:08:15.9±6.5, 30°.92N×83°.63E, h43km±63km, mb3.5/11, mb1 3.6/13, mb1mx3.4/32, mbtmp3.5/13, ML3.3/2, Error ellipse: s-maj=34.8km s-min=16.2km az=49.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.89**	**357**	P	Pn	18 11 55.9	-0.6
	0.2nm,0.3s,baz=184,slow=12,SNR=13						
CMAR	**Chiang Mai Arr**	**18.61**	**128**	P	Pn	18 12 31.1	+0.7
	0.0nm,0.3s,baz=315,slow=10,SNR=5.9						
KURBB	**Kurchatov Arra**	**20.05**	**350**	P	P	18 12 44.0	-1.3
	2.4nm,0.8s,baz=171,slow=10,SNR=23						
ZALV	**Zalesovo Beam**	**23.04**	**2**	P	P	18 13 16.6	-0.6
	0.8nm,0.6s,baz=179,slow=11,SNR=6.2						
BVAR	**Borovoye Array**	**24.11**	**340**	P	P	18 13 27.4	0.0
	0.3nm,0.5s,baz=152,slow=13,SNR=4.0						
SONM	**Songino Array**	**24.26**	**39**	P	P	18 13 29.4	+0.4
	1.8nm,0.8s,baz=230,slow=10.0,SNR=18						
AKTO	**Aktyubinsk**	**27.30**	**323**	P	P	18 13 58.1	+1.8
	1.4nm,0.5s,baz=115,slow=9.7,SNR=3.6						
FINES	**FINESS Array B**	**47.94**	**327**	P	P	18 16 49.2	-0.6
	1.4nm,0.7s,baz=114,slow=8.5,SNR=8.7						
ARCES	**ARCESS Array B**	**50.34**	**337**	P	P	18 17 08.9	+0.8
	1.7nm,0.9s,baz=93,slow=6.6,SNR=4.8						
NB2	**NORSAR Subarra**	**55.04**	**326**	P	P	18 17 41.4	-1.6
	comp=Z,1.1nm,0.8s,baz=90,slow=6.9						
NOA	**NORSAR Array B**	**55.04**	**326**	P	P	18 17 41.8	-1.2
	comp=Z,0.6nm,0.6s,baz=89,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**70.20**	**129**	P	P	18 19 24.4	-0.1
	comp=Z,0.9nm,0.6s,baz=323,slow=6.2,SNR=16						
ASAR	**Alice Springs**	**72.57**	**132**	P	P	18 19 38.4	-0.4
	comp=Z,0.3nm,0.6s,baz=315,slow=5.9,SNR=8.6						
BOSA	**Boshof**	**81.22**	**229**	P	P	18 20 27.4	-0.1
	comp=Z,0.8nm,0.5s,baz=45,slow=5.7,SNR=3.8						

NNC 09 18:09:40.1±14.0, 36°.27N×69°.60E, h0km, mb3.7, mpv3.6, 3C, Error ellipse: s-maj=131.7km s-min=110.6km az=17.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.86**	**6**	⇑P	Pn	18 11 23.4	+1.5
	1.7nm,0.3s,baz=190,slow=14,SNR=5.0						
KK31				⇑S	Sn	18 12 41.7	+0.9
	2.5nm,0.8s,baz=190,slow=23,SNR=4.4						
TKM2	**Tokmak 2**	**8.09**	**33**	⇑P	Pn	18 11 35.6	-3.5
	3.5nm,1.3s						
AB31	**Akbulak array**	**14.77**	**334**	P	P	18 13 13.6	-2.8
	0.2nm,0.3s,baz=154,slow=12,SNR=14						

*NIED **09** 18:26:00, 39°.50N×141°.80E, h89km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φs205.00000°, δ49.00000°, λ-102.00000°. NP2:φs43.00000°, δ43.00000°, λ-76.00000°.*
*ISCJB **09** 18:26:30.3±0.4, 39°.54N±0°.03×141°.88E±0°.06, h101km±2km, mb3.9/18, Error ellipse: s-maj=7.7km s-min=4.7km az=13.8*
*MOS **09** 18:26:30.9±1.4, 39°.58N×141°.89E, h104km, mb4.0/11, Error ellipse: s-maj=12.5km s-min=7.6km az=88.0*
*IDC **09** 18:26:30.9±0.5, 39°.49N×141°.82E, h91km±4km, mb3.6/13, mb1 3.8/17, mb1mx3.7/28, mbtmp3.6/17, Error ellipse: s-maj=15.0km s-min=11.7km az=77.0*
*JMA **09** 18:26:31.5±0.1, 39°.51N×141°.84E, h95km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs202.00000°, δ54.00000°, λ-104.00000°. NP2: φs45.00000°, δ38.00000°, λ-72.00000°. Principal axes: T Plg8.0000°, Azm302.0000°; N Plg11.0000°, Azm210.0000°; P Plg76.0000°, Azm68.0000°;*
JMA Felt II J1.
*BJI **09** 18:26:31.8, 39°.80N×142°.00E, h118km, mB4.9/7, mb4.6/11*
ISC 09 18:26:30.8±0.5, 39°.53N±0°.04×141°.93E±0°.05, h94km±3km, h93km: pP-P, n50, σ0s95/75, mb3.9/17, 4C-11D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.10**	**298**	⇓P	**Pn**	**18 26 45.1**	**+1.1**
MIYJ				S	**Sn**	**18 26 55.0**	**+1.3**
JTH	**Tanohata**	**0.41**	**352**	⇓P	**Pn**	**18 26 46.2**	**+0.9**
JTH				*e*S	**Sn**	**18 26 57.1**	**+1.0**
OFUJ	**Ofunato**	**0.49**	**205**	⇓P	**Pn**	**18 26 46.7**	**+0.8**
OFUJ				S	**Sn**	**18 26 57.6**	**+0.5**
JOM	**Ohasama**	**0.50**	**264**	⇓P	**Pn**	**18 26 46.3**	**+0.4**
JOM				S	**Sn**	**18 26 57.5**	**+0.3**
JMK	**Ichinoseki**	**0.80**	**224**	⇓P	**Pn**	**18 26 48.7**	**+0.1**
JMK

YSS	**Yuzh-Sakhalins**	**7.45**	**4**	*e*P	**Pn**	**18 28 17.2**	**+0.6**
YSS				*e*S	**Sn**	**18 29 38.0**	**-1.4**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
VLA	**Vladivostok**	**8.36**	**299**	*e*P	**Pn**	**18 28 29.9**	**+0.8**
USRK	**Ussuriysk Arra**	**8.76**	**305**	P	**Pn**	**18 28 35.8**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=115,slow=14,SNR=20						
HABR	**Khabarovsk**	**10.22**	**333**	*ce*P	**Pn**	**18 28 54.0**	**-0.4**
HABR				*e*S	**Sn**	**18 30 46.2**	**-0.7**
HABR				pmax	pmax		
	comp=Z,12nm,1.1s						
HABR				pmax	pmax		
	comp=N,7.0nm,1.0s						
HABR				pmax	pmax		
	comp=E,6.0nm,0.6s						
MDJ	**Mudanjiang**	**10.48**	**303**	P	**Pn**	**18 28 58.2**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,89nm,6.2s						
KSRS	**Korea Array**	**11.18**	**264**	P	**Pn**	**18 29 08.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=82,slow=14,SNR=12						
KLR	**Kul'dur**	**12.12**	**326**	*e*P	**Pn**	**18 29 21.2**	**+1.2**
YAK	**Yakutsk**	**23.74**	**346**	*e*P	**P**	**18 31 34.9**	**+0.8**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**26.82**	**300**	P	**P**	**18 32 02.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=110,slow=9.7,SNR=5.9						
ZAK	**Zakamensk**	**29.11**	**305**	*e*P	**P**	**18 32 21.6**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZALV	**Zalesovo Beam**	**40.58**	**310**	*e*P	**P**	**18 34 03.6**	**+2.7**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.58**	**310**	P	**P**	**18 34 01.2**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=86,slow=7.9,SNR=18						
ZALV				pP	**pP**	**18 34 22.2**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=88,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**43.19**	**300**	P	**P**	**18 34 22.0**	**-0.2**
MKAR				*PP	**pP**	**18 34 43.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.19**	**300**	P	**P**	**18 34 22.0**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=84,slow=9.4,SNR=13						
MKAR				pP	**pP**	**18 34 43.9**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=85,slow=9.8,SNR=2.4						
ILAR	**Eielson Array**	**47.18**	**34**	P	**P**	**18 34 54.8**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=272,slow=6.3,SNR=16						
BVAR	**Borovoye Array**	**49.23**	**311**	P	**P**	**18 35 09.7**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVAR	**Borovoye Array**	**49.23**	**311**	P	**P**	**18 35 09.7**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=89,slow=7.8,SNR=4.2						
ARU	**Arti**	**54.78**	**318**	P	P	18 35 55.5	+4.9
WRA	**Warramunga Arr**	**59.59**	**188**	P	**P**	**18 36 24.0**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=7.5,slow=6.9,SNR=17						
WRA				pP	**pP**	**18 36 47.5**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=6.7,slow=7.3,SNR=6.6						
WRA				sP	**sP**	**18 36 57.3**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=6.5,slow=7.2,SNR=2.6						
ASAR	**Alice Springs**	**63.31**	**188**	P	**P**	**18 36 49.6**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=2.2,slow=5.4,SNR=12						
ASAR				pP	**pP**	**18 37 13.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=5.8,SNR=6.3						
ASAR				sP	**sP**	**18 37 23.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=2.1,slow=6.5,SNR=2.1						
KAF	**Kangasniemi**	**66.28**	**332**	*e*p	pP	18 37 27.1	-5.2
	comp=Z,1.7nm,0.4s						
FINES	**FINESS Array B**	**66.80**	**332**	P	**P**	**18 37 11.5**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=46,slow=11,SNR=5.1						
FINES				sP	**sP**	**18 37 46.7**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=39,slow=10.0,SNR=2.8						
KIV	**Kislovodsk**	**69.59**	**310**	*e*P	P	18 37 26.4	-3.4
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NB2	**NORSAR Subarra**	**72.05**	**337**	P	**P**	**18 37 44.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**72.05**	**337**	P	**P**	**18 37 44.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=38,slow=6.1,SNR=3.8						
NOA				pP	**pP**	**18 38 07.0**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=39,slow=6.1,SNR=3.5						
AKASG	**Malin Array Be**	**72.58**	**322**	P	**P**	**18 37 47.1**	**-0.5**
AKASG				*PP	**pP**	**18 38 11.4**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.58**	**322**	P	**P**	**18 37 47.1**	**-0.5**
	comp=Z,15nm,0.3s,baz=45,slow=6.4,SNR=1.4						
AKASG				pP	**pP**	**18 38 11.4**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=44,slow=7.2,SNR=1.9						
NVAR	**Mina Array Bea**	**73.18**	**54**	P	**P**	**18 37 53.6**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=286,slow=6.2,SNR=8.9						
PDAR	**Pinedale Array**	**75.64**	**46**	P	**P**	**18 38 07.0**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=251,slow=1.9,SNR=9.3						
GERES	**GERESS Array B**	**80.81**	**328**	P	**P**	**18 38 34.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=52,slow=6.4,SNR=3.7						
GERES				pP	**pP**	**18 38 56.6**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=30,slow=6.5,SNR=2.5						
TXAR	**Lajitas Array**	**88.28**	**53**	P	**P**	**18 39 13.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=311,slow=2.6,SNR=6.0						
LPAZ	**La Paz**	**145.04**	**57**	PKPbc	**PKPdf**	**18 45 58.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=297,slow=2.3,SNR=4.5						

IDC 09 18:36:26.5±1.6, 32°40S×178°15W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/26, Error ellipse: s-maj=54.6km s-min=29.6km az=135.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.01**	**212**	Pn	Pn	18 38 10.5	0.0
	0.8nm,0.3s,baz=261,slow=13,SNR=8.5						
URZ				Sn	Sn	18 39 30.5	-0.5
	2.2nm,0.3s,baz=153,slow=23,SNR=8.4						
DZM	**Mont Dzumac**	**17.11**	**303**	LR	LR	18 45 49.5	
	comp=Z,170nm,18.8s,baz=357,slow=33						
ASAR	**Alice Springs**	**42.91**	**269**	P	P	18 44 27.4	+0.1
	0.9nm,0.6s,baz=111,slow=7.7,SNR=23						
WRA	**Warramunga Arr**	**44.08**	**274**	P	P	18 44 36.3	-0.3
	1.1nm,0.4s,baz=111,slow=8.2,SNR=54						
TXAR	**Lajitas Array**	**93.57**	**57**	LR	LR	19 26 28.9	
	comp=Z,34nm,19.2s,baz=185,slow=32						
KURBB	**Kurchatov Arra**	**122.36**	**313**	PKP	PKPdf	18 55 22.5	-0.7
	0.2nm,0.5s,baz=120,slow=2.6,SNR=4.2						
BVAR	**Borovoye Array**	**127.73**	**315**	PKP	PKPdf	18 55 33.8	+0.4
	0.2nm,0.4s,baz=82,slow=3.1,SNR=3.3						
FINES	**FINESS Array B**	**146.96**	**339**	PKPbc	PKPbc	18 56 09.9	-0.4
	1.5nm,0.5s,baz=47,slow=4.1,SNR=20						
NOA	**NORSAR Array B**	**150.70**	**351**	PKPbc	PKPbc	18 56 18.9	-1.0
	0.4nm,0.6s,baz=16,slow=4.2,SNR=2.7						

IDC 09 18:39:08.8±18.0, 17°25S×178°90W, h577km±192km, mb2.9/4, mb1 3.0/4, mbmx2.7/19, mbtmp2.9/4, Error ellipse: s-maj=143.8km s-min=51.0km az=109.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.55**	**240**	P	P	18 45 42.5	-0.6
	0.8nm,0.5s,baz=80,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**44.30**	**259**	P	P	18 46 28.8	+0.1
	0.2nm,0.3s,baz=91,slow=8.0,SNR=5.0						
ASAR	**Alice Springs**	**44.53**	**254**	P	P	18 46 30.4	0.0
	2.0nm,0.5s,baz=88,slow=8.4,SNR=31						
PETK	**Petropavlovsk-**	**72.93**	**345**	P	P	18 49 40.1	+0.1
	1.7nm,0.5s,baz=144,slow=8.3,SNR=5.5						
GERES	**GERESS Array B**	**146.86**	**345**	PKPbc	PKPbc	18 57 46.3	-0.8
	0.4nm,0.5s,baz=29,slow=3.0,SNR=5.6						

WEL 09 18:48:08.0±0.4, 37°45S×175°81E, h260km±6km, ML3.5/3, 1C, Error ellipse: s-maj=10.4km s-min=7.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.31**	**129**	PN	Pn	18 48 46.0	+0.2
URZ				SN	S	18 49 15.3	-0.4
MWZ	**Matawai**	**1.62**	**124**	PN	Pn	18 48 48.1	0.0
MWZ				SN	S	18 49 18.9	-1.0
RAHZ	**Arahi**	**1.77**	**146**	PN	Pn	18 48 49.3	0.0
RAHZ				SN	S	18 49 21.7	-0.4
BKZ	**Black Stump Fm**	**1.79**	**163**	⇑PN	Pn	18 48 49.3	-0.2
BKZ				SN	S	18 49 21.7	-0.8
BKZ				AML	AML	18 49 22.0	
NMHZ	**Naumai**	**1.82**	**155**	PN	Pn	18 48 50.2	+0.4
MTVZ	**Mangateitei**	**1.95**	**188**	PN	Pn	18 48 51.3	+0.5
MOVZ	**Moawhango**	**1.95**	**181**	PN	Pn	18 48 50.7	-0.2
BHHZ	**Black Hill Sta**	**2.04**	**175**	PN	Pn	18 48 51.4	-0.3
KNZ	**Kokohu**	**2.15**	**137**	*e*PN	Pn	18 48 51.3	-1.2
PNHZ	**Pukenui**	**2.48**	**173**	PN	Pn	18 48 54.5	-1.2

*AUST **09** 18:51:22.2, 45°94S×165°76E, h0km*
*IDC **09** 18:51:22.4±1.4, 45°78S×165°89E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, ML3.9/1, MS3.4/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=56.0km s-min=24.7km az=1.0*
*ISCJB **09** 18:51:23.7±1.2, 45°72S±0°06×165°81E±0°04, h19km±10km, mb3.7/3, MS3.3/2, Error ellipse: s-maj=9.8km s-min=4.7km az=178.6*
*WEL **09** 18:51:24.7±0.7, 45°75S×165°81E, h12km, ML4.2/20, Error ellipse: s-maj=5.9km s-min=3.2km az=90.0*

ISC 09 18:51:24.3±2.3, 45°77S±0°07×165°89E±0°05, h14km±15km, n34, σ0°98/43, mb3.7/3, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.93**	**73**	P*	**Pb**	**18 51 42.0**	**-0.2**
DCZ				S*	**Sb**	**18 51 54.2**	**-0.3**
DCZ				AML	AML	18 51 57.2	
WHZ	**Wether Hill Ro**	**1.45**	**96**	PN	**Pn**	**18 51 50.3**	**+0.2**
WHZ				SN	**Sg**	**18 52 11.4**	**+0.6**
WHZ				AML	AML	18 52 25.0	
MLZ	**Mavora Lakes**	**1.66**	**76**	PN	**Pn**	**18 51 53.3**	**+0.3**
MLZ				SN	**Sb**	**18 52 15.3**	**-0.1**
MLZ				AML	AML	18 52 34.4	
APZ	**The Paps**	**1.81**	**127**	⇑PN	**Pn**	**18 51 55.0**	**0.0**
APZ				SN	**Sn**	**18 52 17.1**	**-0.7**
MSZ	**Milford Sound**	**1.81**	**54**	PN	**Pn**	**18 51 55.1**	**+0.1**
MSZ				AML	AML	18 52 25.3	
MSZ				AML	AML	18 52 25.9	
WKZ	**Wanaka**	**2.40**	**68**	PN	**Pn**	**18 52 05.4**	**+2.2**
WKZ				SN	**Sb**	**18 52 35.6**	**-1.1**
WKZ				AML	AML	18 52 39.0	
EAZ	**Earnscleugh**	**2.46**	**79**	PN	**Pn**	**18 52 05.6**	**+1.6**
EAZ				AML	AML	18 52 42.0	
EAZ				AML	AML	18 52 43.2	
EAZ				AML	AML	18 52 43.3	
EAZ				AML	AML	18 52 43.3	
TUZ	**Tuapeka**	**2.62**	**95**	PN	**Pn**	**18 52 07.3**	**+1.1**
TUZ				AML	AML	18 52 37.5	
TUZ				AML	AML	18 52 39.7	
JCZ	**Jackson Bay**	**2.65**	**51**	PN	**Pn**	**18 52 07.0**	**+0.3**
JCZ				SN	**Sn**	**18 52 38.6**	**-0.1**
JCZ				AML	AML	18 52 42.0	
LBZ	**Lake Benmore**	**3.34**	**67**	PN	**Pn**	**18 52 16.7**	**+0.6**
LBZ				SN	**Sn**	**18 52 55.4**	**-0.2**
LBZ				AML	AML	18 53 12.2	
ODZ	**Otahua Downs**	**3.43**	**80**	⇓PN	**Pn**	**18 52 17.3**	**0.0**
ODZ				SN	**Sn**	**18 52 56.4**	**-1.3**
FOZ	**Fox Glacier**	**3.49**	**52**	PN	**Pn**	**18 52 19.1**	**+0.9**
FOZ				SN	**Sn**	**18 53 00.5**	**+1.3**
FOZ				AML	AML	18 53 30.0	
RPZ	**Rata Peaks**	**4.21**	**63**	PN	**Pn**	**18 52 28.0**	**-0.1**
RPZ				SN	**Sn**	**18 53 16.4**	**-0.7**
RPZ				AML	AML	18 53 34.6	
RPZ	**Rata Peaks**	**4.21**	**63**	Pn	**Pn**	**18 52 28.6**	**+0.5**
	7.1nm,0.3s,baz=231,slow=4.5,SNR=32						
RPZ				Sn	**Sn**	**18 53 17.1**	**0.0**
	16nm,0.3s,baz=333,slow=20,SNR=10						
WVZ	**Waitaha Valley**	**4.39**	**54**	PN	**Pn**	**18 52 30.1**	**-0.5**
WVZ				AML	AML	18 53 20.7	
WVZ				AML	AML	18 53 29.3	
LTZ	**Lake Taylor**	**5.47**	**59**	AML	AML	18 53 47.1	
LTZ				AML	AML	18 53 50.9	
THZ	**Tophouse**	**6.46**	**54**	PN	**Pn**	**18 52 58.7**	**-0.4**
THZ				AML	AML	18 54 14.0	
THZ				AML	AML	18 54 49.0	
NNZ	**Nelson**	**7.09**	**53**	PN	**Pn**	**18 53 07.8**	**+0.1**
NNZ				SN	**Sn**	**18 54 25.7**	**-2.3**
MOO	**Moorlands**	**13.84**	**277**	P	**Pn**	**18 54 38.1**	**-1.9**
	baz=14,SNR=3.6						
MILA	**Mila**	**15.25**	**299**	P	**Pn**	**18 54 57.0**	**-2.3**
	baz=15,SNR=17						
MILA				S	Sn	18 57 35.2	-13
	baz=15,SNR=6.4						
TOO	**Toolangi**	**17.27**	**291**	P	**Pn**	**18 55 24.9**	**0.0**
	baz=17,SNR=16						
YNG	**Young**	**17.58**	**305**	P	**Pn**	**18 55 28.8**	**-0.1**
	baz=18,SNR=5.9						
CMSA	**Cobar Meteorol**	**21.15**	**305**	P	**P**	**18 56 10.1**	**+1.3**
	baz=21,SNR=5.6						
STKA	**Stephens Creek**	**23.35**	**298**	P	**P**	**18 56 33.6**	**+1.5**
	1.5nm,0.7s,baz=120,slow=14,SNR=4.3						
STKA				LR	LR	19 03 04.0	
	comp=Z,69nm,21.2s,baz=209,slow=30						
ASAR	**Alice Springs**	**33.96**	**300**	P	**P**	**18 58 07.2**	**-0.1**
	0.5nm,0.5s,baz=131,slow=8.6,SNR=20						
ASAR				LR	LR	19 11 27.9	
	comp=Z,82nm,18.7s,baz=179,slow=36						
WRA	**Warramunga Arr**	**36.55**	**304**	P	**P**	**18 58 29.2**	**-0.4**
	0.9nm,0.8s,baz=138,slow=8.0,SNR=18						
KNRA	**Kununurra**	**43.16**	**302**	P	**P**	**18 59 25.9**	**+1.3**
	baz=43,SNR=4.2						
FITZ	**Fitzroy Cossi**	**43.22**	**296**	P	**P**	**18 59 25.1**	**+0.1**
	baz=43,SNR=3.6						
KDU	**Kakadu**	**43.44**	**309**	P	P	18 59 22.6	-4.2
	baz=44,SNR=5.0						
TORD	**Torodi Ar. Bea**	**144.84**	**207**	PKP	PKPbc	19 11 00.6	+0.5
	2.2nm,0.7s,baz=165,slow=1.9,SNR=16						
BRTR	**Keskin Array B**	**144.84**	**278**	PKP	**PKPab**	**19 10 59.8**	**+0.2**
	2.2nm,0.9s,baz=126,slow=3.3,SNR=9.2						
ARCES	**ARCESS Array B**	**149.11**	**334**	PKPbc	**PKPbc**	**19 11 11.1**	**+0.3**
	1.7nm,0.6s,baz=72,slow=4.0,SNR=14						
AKASG	**Malin Array Be**	**151.03**	**296**	PKPbc	**PKPbc**	**19 11 16.2**	**+0.2**
	1.1nm,0.6s,baz=90,slow=2.4,SNR=6.1						
FINES	**FINESS Array B**	**152.04**	**319**	PKPbc	**PKPbc**	**19 11 18.6**	**+0.7**
	0.9nm,0.5s,baz=104,slow=6.1,SNR=8.7						

IDC 09 18:52:44.1±1.5, 13°82N×120°83E, h112km±16km, mb3.4/6, mb1 3.5/6, mb1mx3.2/25, mbtmp3.4/6, MS3.4/1, Ms1 3.4/1, ms1mx2.3/18, 2C, Error ellipse: s-maj=115.4km s-min=14.9km az=68.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.30**	**20**	⇑*e*P	Pn	18 53 00.8	+0.7
TGY				*i* S	Sn	18 53 13.6	+1.4
TGY	**Tagaytay City**	**0.30**	**20**	P	Pn	18 53 01.0	+0.8
	717nm,0.3s,baz=207,slow=14,SNR=70						
TGY				S	Sn	18 53 13.9	+1.7
	2μm,0.3s,baz=340,slow=22,SNR=54						
PGP	**Puerto Galera**	**0.34**	**160**	⇑*e*P	Pn	18 52 59.9	-0.4
SONM	**Songino Array**	**35.98**	**343**	P	P	18 59 34.6	+0.3
	1.1nm,0.4s,baz=162,slow=10,SNR=14						
WRA	**Warramunga Arr**	**36.09**	**158**	P	P	18 59 35.0	-0.3
	0.3nm,0.4s,baz=330,slow=10.0,SNR=9.5						
ASAR	**Alice Springs**	**39.39**	**161**	P	P	19 00 03.2	+0.2
	0.3nm,0.5s,baz=335,slow=7.2,SNR=11						
MKAR	**Makanchi Array**	**46.01**	**323**	P	P	19 00 56.4	0.0
	0.2nm,0.3s,baz=110,slow=8.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**49.01**	**333**	P	P	19 01 18.9	-0.4
	0.9nm,0.3s,baz=120,slow=7.0,SNR=6.6						
ZALV				LR	LR	19 24 45.0	
	comp=Z,45nm,21.6s,baz=70,slow=39						
ARCES	**ARCESS Array B**	**79.02**	**339**	P	P	19 04 35.2	-0.3
	1.2nm,0.8s,baz=70,slow=5.3,SNR=5.8						

*KRSC **09** 19:43:16.6±0.0, 55°33N×162°92E, h50km±50km, ML4.7*
*IDC **09** 19:43:17.3±0.5, 55°38N×162°45E, h0km, mb4.0/25, mb1 4.2/28, mb1mx4.1/34, mbtmp4.0/28, ML3.4/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/36, Error ellipse: s-maj=13.2km s-min=9.8km az=173.0*
*ISCJB **09** 19:43:18.1±0.6, 55°29N±0°02×162°71E±0°03, h15km±4km, mb4.4/82, MS3.5/11, Error ellipse: s-maj=3.4km s-min=2.5km az=135.9*
*NEIC **09** 19:43:20.6±0.7, 55°37N×162°47E, h22km±5km, mb4.7/30, Error ellipse: s-maj=8.3km s-min=4.3km az=163.0*
*BJI **09** 19:43:20.9, 55°58N×161°97E, h24km, mB4.9/14, mb4.6/24, Ms4.6/10, Ms7 4.4/12*
*MOS **09** 19:43:21.0±1.2, 55°28N×162°55E, h45km, mb4.5/37, Error ellipse: s-maj=9.6km s-min=5.9km az=74.3*
*SZGRF **09** 19:43:27.0, 56°40N×167°73E, h33km, mb4.6, Komandorsky Islands, Russia, region*

ISC 09 19:43:20.1±0.5, 55°32N±0°02×162°65E±0°03, h19km±1km, h19km:pP-P, n231, σ1°35/261, mb4.5/83, MS3.5/12, 3C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.93**	**215**	PN	**Pb**	**19 43 35.0**	**-2.6**
MKZ				S	**Sb**	**19 43 48.3**	**-1.2**
MKZ	**Mys Kozlova**	**0.93**	**215**	*i* P	**Pb**	**19 43 35.0**	**-2.6**
MKZ				*i* S	**Sb**	**19 43 48.3**	**-1.2**
KBG	**Krutoberegovo**	**0.94**	**2**	PN	**Pb**	**19 43 35.0**	**-2.7**
KBG				S	**Sb**	**19 43 47.9**	**-1.9**
KBG	**Krutoberegovo**	**0.94**	**2**	*i* P	**Pb**	**19 43 35.0**	**-2.7**
KBG				*i* S	**Sb**	**19 43 47.9**	**-1.9**
ZLN	**Zelenaya**	**1.26**	**305**	*e*P	**Pn**	**19 43 41.2**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**1.27**	**300**	*e*P	**Pn**	**19 43 41.9**	**-1.0**
CIRR	**Tsirk**	**1.34**	**307**	*e*P	**Pn**	**19 43 42.7**	**-1.2**
LGNR	**Loginova**	**1.35**	**305**	*e*P	**Pn**	**19 43 43.7**	**-0.4**
LGNR				*i* S	**Sb**	**19 44 02.6**	**+0.8**
BZMR	**Bezymyannaya**	**1.37**	**298**	*e*P	**Pn**	**19 43 43.4**	**-0.9**
SMKR	**Semkarok**	**1.43**	**333**	*e*P	**Pn**	**19 43 43.4**	**-1.7**
SMKR				*i* S	**Sn**	**19 44 02.8**	**-0.6**
TUMR	**Tumrok**	**1.43**	**270**	*e*P	**Pn**	**19 43 43.9**	**-1.2**
TUMR				*i* S	**Sn**	**19 44 03.2**	**-0.2**
KMNR	**Kamenistaya**	**1.44**	**289**	*e*P	**Pn**	**19 43 44.4**	**-0.8**
KMNR				*i* S	**Sn**	**19 44 04.2**	**+0.6**
KIRR	**Kirishev**	**1.45**	**297**	*e*P	**Pn**	**19 43 44.4**	**-1.1**
KRSR	**Krestovskiy**	**1.48**	**308**	*e*P	**Pn**	**19 43 44.2**	**-1.6**
BDR	**Baidarnaya**	**1.49**	**328**	*e*P	**Pn**	**19 43 44.3**	**-1.6**
BDR				*i* S	**Sn**	**19 44 04.1**	**-0.8**
KLY	**Klyuchi**	**1.50**	**312**	PN	**Pn**	**19 43 43.2**	**-2.8**
KLY				S	**Sn**	**19 44 02.4**	**-2.6**
KLY	**Klyuchi**	**1.50**	**312**	*e*P	**Pn**	**19 43 43.2**	**-2.8**
KLY				*i* S	**Sn**	**19 44 02.4**	**-2.6**
KPT	**Kopyto**	**1.52**	**296**	*e*P	**Pn**	**19 43 45.7**	**-0.6**
KPT				*i* S	**Sn**	**19 44 06.1**	**+0.5**
SRKR	**Sorokina**	**1.57**	**329**	*e*P	**Pn**	**19 43 45.7**	**-1.4**
SRKR				*i* S	**Sn**	**19 44 06.9**	**0.0**
KOZR	**Kozyr**	**1.73**	**297**	PN	**Pn**	**19 43 49.2**	**+0.1**
KOZR				S	**Sb**	**19 44 12.5**	**0.0**
KOZ	**Kozyrevsk**	**1.74**	**296**	*e*P	**Pn**	**19 43 49.2**	**0.0**
KOZ				*i* S	**Sb**	**19 44 12.5**	**-0.3**
BKI	**Bering**	**1.91**	**92**	PN	**Pn**	**19 43 49.6**	**-1.9**
BKI				S	**Sn**	**19 44 13.7**	**-1.3**
BKI	**Bering**	**1.91**	**92**	*e*P	**Pn**	**19 43 49.6**	**-1.9**
BKI				*i* S	**Sn**	**19 44 13.7**	**-1.3**
SRDR	**Sredinnyy**	**1.93**	**302**	*e*P	**Pn**	**19 43 52.1**	**+0.1**
SRDR				*i* S	**Sb**	**19 44 17.5**	**-0.9**
KII	**Karymskiy**	**2.26**	**237**	*e*P	**Pn**	**19 43 56.3**	**-0.2**
KII				*i* S	**Sn**	**19 44 24.6**	**+0.8**
ESO	**Esso**	**2.32**	**287**	PN	**Pn**	**19 43 57.2**	**0.0**
ESO				S	**Sn**	**19 44 25.7**	**+0.5**
ESO	**Esso**	**2.32**	**287**	*e*P	**Pn**	**19 43 57.2**	**0.0**
ESO				*i* S	**Sn**	**19 44 25.7**	**+0.5**
SPN	**Mys Shipunski**	**2.71**	**216**	PN	**Pn**	**19 43 59.7**	**-2.9**
SPN				S	**Sn**	**19 44 30.9**	**-3.8**
SPN	**Mys Shipunski**	**2.71**	**216**	*e*P	**Pn**	**19 43 59.7**	**-2.9**
SPN				*i* S	**Sn**	**19 44 30.9**	**-3.8**
NLC	**Nalytchevo**	**2.90**	**223**	PN	**Pn**	**19 44 03.9**	**-1.2**
NLC				S	**Sn**	**19 44 38.1**	**-1.3**
NLC	**Nalytchevo**	**2.90**	**223**	*e*P	**Pn**	**19 44 03.9**	**-1.2**
NLC				*i* S	**Sn**	**19 44 38.1**	**-1.3**
SDLR	**Sedlovina**	**3.01**	**229**	*e*P	**Pn**	**19 44 05.5**	**-1.3**
KRER	**Koryakskii**	**3.05**	**230**	*e*P	**Pn**	**19 44 07.5**	**+0.1**
SMAR	**Somma**	**3.05**	**229**	*e*P	**Pn**	**19 44 06.8**	**-0.7**
AVH	**Avacha**	**3.08**	**230**	*e*P	**Pn**	**19 44 07.4**	**-0.4**
AVH				*i* S	**Sn**	**19 44 43.7**	**-0.4**
UGLR	**Uglovaya**	**3.08**	**228**	*e*P	**Pn**	**19 44 07.5**	**-0.3**
KOK	**Koryaka**	**3.11**	**231**	*e*P	**Pn**	**19 44 08.3**	**+0.2**
GNL	**Ganaly**	**3.19**	**241**	*e*P	**Pn**	**19 44 09.2**	**-0.1**
PET	**Petropavlovsk**	**3.29**	**227**	*e*PN	**Pn**	**19 44 10.2**	**-0.3**
PET				*e*S	**Sn**	**19 44 52.3**	**+3.3**
PET				smax	smax		
	comp=N,606nm,0.9s						
PET				MLR	MLR		
	comp=Z,1μm,8.0s						
PET				MLR	MLR		
	comp=Z,2μm,6.0s						
PET	**Petropavlovsk**	**3.29**	**227**	*e*P	**Pn**	**19 44 09.9**	**-0.6**
PET				*i* S	**Sn**

comp=Z,31nm,1.4s
USRK Ussuriysk Arra 22.52 253 LR LR 19 57 39.2
comp=Z,132nm,19.0s,baz=243,slow=38
MDJ Mudanjiang 23.58 257 P **P** **19 48 27.4 -1.9**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,160nm,5.6s
RSO Redoubt South 23.88 59 *e*P **P** **19 48 31.8 -0.5**
PPLA Purkeypile 23.94 53 *e*P **P** **19 48 32.5 -0.3**
comp=Z,54nm,1.8s
COLD Coldfoot 24.89 43 *e*P **P** **19 48 41.5 +0.3**
comp=Z,31nm,0.9s
MJAR Matsushiro Arr 25.11 232 P **P** **19 48 43.3 -0.2**
MJAR Matsushiro Arr 25.11 232 P **P** **19 48 43.3 -0.2**
comp=Z,5.2nm,0.7s,baz=22,slow=7.3,SNR=15
MAT Matsushiro 25.11 232 P **P** **19 48 43.1 -0.4**
MCK McKinley 25.36 51 *e*P **P** **19 48 45.6 0.0**
MCK pmax pmax
comp=Z,24nm,1.4s
MCK McKinley 25.36 51 *e*P **P** **19 48 45.6 0.0**
comp=Z,24nm,1.4s
COLA College 25.78 48 *i*P **P** **19 48 49.3 0.0**
SML Sawmill 25.83 55 *e*P **P** **19 48 49.7 -0.1**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 25.83 55 *e*P **P** **19 48 49.7 -0.1**
comp=Z,2.7nm,0.9s
ILAR Eielson Array 26.20 48 P **P** **19 48 53.1 0.0**
ILAR Eielson Array 26.20 48 P **P** **19 48 53.1 0.0**
comp=Z,5.0nm,0.9s,baz=266,slow=8.9,SNR=22
ILAR LR LR 19 59 33.6
comp=Z,38nm,19.0s,baz=177,slow=37
CN2 Changchun 26.41 260 *e*P **P** **19 48 55.3 +0.1**
PAX Paxson 26.99 52 *e*P **P** **19 49 00.8 +0.4**
PAX pmax pmax
comp=Z,5.0nm,1.2s
PAX Paxson 26.99 52 *e*P **P** **19 49 00.8 +0.4**
comp=Z,5.4nm,1.2s
BMRM Bremner River 27.74 57 *e*P **P** **19 49 07.2 +0.1**
comp=Z,14nm,1.0s
RAGM Ragged Mountai 27.83 58 *e*P **P** **19 49 09.1 +1.1**
comp=Z,30nm,1.6s
EGAK Eagle 28.64 48 *e*P **P** **19 49 13.6 -1.4**
comp=Z,13nm,0.9s
KSRS Korea Array 29.45 247 P **P** **19 49 21.7 -0.7**
comp=Z,0.2nm,0.3s,baz=55,slow=7.7,SNR=2.6
KSRS LR LR 20 01 06.8
comp=Z,39nm,19.5s,baz=45,slow=36
KSAR Wonju Array Be 29.48 247 P **P** **19 49 21.7 -1.0**
HYT Haines Junctio 31.13 55 *e*P **P** **19 49 38.7 +1.4**
INK Inuvik 31.19 40 P **P** **19 49 38.1 +0.6**
INK Inuvik 31.19 40 P **P** **19 49 38.1 +0.6**
comp=Z,2.4nm,0.8s,baz=270,slow=5.1,SNR=2.6
BJI Beijing 34.10 263 P P 19 49 59.8 -3.5
BJI pmax pmax
comp=Z,6.0nm,0.5s
SONM Songino Array 34.89 282 P **P** **19 50 10.8 +0.7**
SONM Songino Array 34.89 282 P **P** **19 50 10.8 +0.7**
comp=Z,0.5nm,0.7s,baz=53,slow=8.5,SNR=4.6
SONM LR LR 20 05 16.8
comp=Z,77nm,18.7s,baz=43,slow=38
DLBC Dease Lake 35.53 57 *e*P **P** **19 50 15.6 +0.1**
HHC Hu-ho-hao-te 36.19 268 *e*P **P** **19 50 21.5 +0.1**
HHC PP **PnPn** **19 51 43.2 +0.3**
HHC PcP **PcP** **19 52 47.9 +1.4**
HHC S **S** **19 55 58.5 -1.9**
HHC ScP **ScP** **19 56 32.4 +0.9**
HHC PcS **PcS** **19 56 33.8 -0.3**
HHC SS **SnSn** **19 58 20.8 -5.7**
HHC ScS **ScS** **20 00 35.9 -1.5**
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,180nm,6.1s
HHC LR LR
comp=N,490nm,14.9s
HHC LR LR
comp=E,400nm,14.8s
HHC LR LR
comp=Z,480nm,14.4s
NJ2 Nanjing 38.40 251 *e*P **P** **19 50 38.2 -1.8**
NJ2 pmax pmax
comp=Z,40nm,0.8s
YKA Yellowknife Ar 40.52 45 P **P** **19 50 58.0 +0.7**
YKA Yellowknife Ar 40.52 45 P **P** **19 50 58.0 +0.7**
comp=Z,1.1nm,0.6s,baz=297,slow=8.2,SNR=2.8
WHN Wuhan 42.01 254 *e*P **P** **19 51 09.8 -0.2**
ZALV Zalesovo Beam 42.85 302 P **P** **19 51 14.6 -2.0**
ZALV MLR MLR
comp=Z,69nm,18.3s
ZALV Zalesovo Beam 42.85 302 P **P** **19 51 14.6 -2.0**
ZALV Zalesovo Beam 42.85 302 P **P** **19 51 14.6 -2.0**
comp=Z,0.3nm,0.3s,baz=74,slow=6.2,SNR=2.7
ZALV LR LR 20 10 25.4
comp=Z,69nm,18.2s,baz=70,slow=38
NVS Novosibirsk 43.11 304 *e*P **P** **19 51 18.4 -0.2**
GTA Gaotai 43.86 276 *e*P P 19 51 27.1 +2.0
GTA pP pP 19 51 33.1 +2.1
GTA sP sP 19 51 36.0 +2.7
GTA pmax pmax
comp=Z,2.0nm,1.4s
LZH Lanzhou 43.86 269 *e*P **P** **19 51 24.9 -0.2**
LZH pP **pP** **19 51 30.1 -1.0**
LZH sP **sP** **19 51 32.5 -0.9**
LZH pmax pmax
comp=Z,14nm,1.0s
KBS Kingsbay 44.87 352 *i*P P 19 51 39.5 +7.0
SPITS Spitsbergen Ar 45.18 351 P **P** **19 51 35.0 0.0**
SPITS Spitsbergen Ar 45.18 351 P **P** **19 51 35.0 0.0**
comp=Z,2.3nm,0.6s,baz=27,slow=10.0,SNR=2.1
SPITS LR LR 20 11 59.1
comp=Z,29nm,20.1s,baz=150,slow=38
WMQ Urumqi 47.66 289 P **P** **19 51 56.5 +1.6**
WMQ sP **sP** **19 52 07.7 +4.5**
WMQ PP **PP** **19 53 48.0 +1.7**
WMQ S **S** **19 58 49.5 0.0**
WMQ sS **sS** **19 58 59.4 +0.1**
WMQ ScS **ScS** **20 01 45.8 -1.4**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,140nm,5.0s
WMQ LR LR
comp=N,97nm,19.0s
WMQ LR LR
comp=E,41nm,21.0s
WMQ LR LR
comp=Z,90nm,26.0s
CD2 Chengdu 47.68 264 *e*P **P** **19 51 55.1 -0.1**
CD2 pP **pP** **19 52 01.5 +0.3**
CD2 sP **sP** **19 52 04.6 +1.1**
CD2 PP **PP** **19 53 46.0 -0.7**
CD2 S **S** **19 58 47.8 -2.3**
CD2 sS **sS** **19 58 58.5 -1.4**
CD2 SS SS 20 02 09.5 -8.5
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,120nm,6.2s
CD2 LR LR
comp=N,650nm,13.2s
CD2 LR LR
comp=Z,250nm,8.4s
KURK Kurchatov 47.84 301 P **P** **19 51 54.4 -1.7**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 47.84 301 P **P** **19 51 54.4 -1.7**
KURBB Kurchatov Arra 47.94 301 P **P** **19 51 54.4 -2.5**
comp=Z,1.5nm,0.5s,baz=57,slow=8.1,SNR=12
MK31 Makanchi Array 48.55 295 *e*P P 19 51 58.0 -3.7
MK31 Makanchi Array 48.55 295 *e*P P 19 51 58.0 -3.7
MKAR Makanchi Array 48.55 295 *e*P **P** **19 52 00.1 -1.6**
MKAR Makanchi Array 48.55 295 *e*P **P** **19 52 00.1 -1.6**
MKAR Makanchi Array 48.55 295 P **P** **19 52 01.2 -0.5**
comp=Z,0.9nm,0.7s,baz=60,slow=6.9,SNR=8.4
MKAR LR LR 20 13 23.3
comp=Z,105nm,18.0s,baz=111,slow=37
GYA Guiyang 49.44 258 *e*P **P** **19 52 08.6 -0.3**
GYA pP **pP** **19 52 15.0 +0.1**
GYA PcP **PcP** **19 53 32.4 +1.5**
GYA PP **PP** **19 54 02.3 -0.6**
GYA ScP **ScP** **19 57 23.8 -1.1**
GYA S **S** **19 59 12.0 -3.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 50.18 308 P **P** **19 52 11.8 -2.2**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 50.18 308 P **P** **19 52 11.8 -2.2**
BVAR Borovoye Array 50.18 308 P **P** **19 52 11.8 -2.2**
comp=Z,2.0nm,0.5s,baz=60,slow=8.8,SNR=8.2
BRVK Borovoye 50.21 308 *e*P **P** **19 52 11.9 -2.3**
BRVK Borovoye 50.21 308 *e*P **P** **19 52 12.1 -2.1**
comp=Z,2.9nm,0.6s
LVZ Lovozero 51.22 338⇑ *i*P P 19 52 24.1 +2.4
LVZ pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 51.63 342 P **P** **19 52 24.4 -0.3**
ARCES ARCESS Array B 51.63 342 P **P** **19 52 24.4 -0.3**
comp=Z,1.2nm,0.7s,baz=19,slow=8.6,SNR=2.7
KMI Kunming 52.68 260 P **P** **19 52 33.0 -0.4**
KMI pP **pP** **19 52 40.1 +0.7**
KMI sP **sP** **19 52 42.4 +0.7**
KMI pmax pmax
comp=Z,4.0nm,0.8s
KMI LR LR
comp=Z,38nm,16.4s
ARU Arti 52.77 317 *c i*P P 19 52 37.5 +4.1
ARU 19 54 33.4
ARU S **S** **20 00 03.8 +3.6**
ARU SS SS 20 03 28.3 -10
ARU pmax pmax
comp=Z,3.0nm,1.0s
NVAR Mina Array Bea 53.62 73 P **P** **19 52 41.3 +1.2**
NVAR Mina Array Bea 53.62 73 P **P** **19 52 41.3 +1.2**
comp=Z,1.6nm,0.8s,baz=298,slow=7.8,SNR=9.8
DGMT Dagmar 53.74 55 *e*P **P** **19 52 41.1 +0.5**
comp=Z,22nm,0.4s
RRI2 Red Ridge 53.84 64 *e*P **P** **19 52 42.9 +1.1**
comp=Z,24nm,2.3s
TPAW Teton Pass 53.93 64 *e*P **P** **19 52 43.9 +1.5**
comp=Z,30nm,2.5s
PDAR Pinedale Array 55.16 64 P **P** **19 52 52.7 +1.4**
PDAR Pinedale Array 55.16 64 P **P** **19 52 52.7 +1.4**
comp=Z,1.2nm,0.8s,baz=326,slow=2.9,SNR=10
DUG Dugway 55.31 68 *e*P **P** **19 52 54.3 +2.0**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway 55.31 68 *e*P **P** **19 52 54.3 +2.0**
comp=Z,4.1nm,0.9s
AAK Ala-Archa 55.44 296 *i*P P 19 52 57.0 +3.8
AAK pmax pmax
comp=Z,9.0nm,1.1s
ULM Lac du Bonnet 56.21 49 P **P** **19 52 59.7 +1.3**
ULM Lac du Bonnet 56.21 49 P **P** **19 52 59.7 +1.3**
comp=Z,1.5nm,0.5s,baz=270,slow=2.0,SNR=2.6
TMUT Trail Mountain 56.81 68 *e*P **P** **19 53 04.3 +1.1**
comp=Z,9.2nm,1.0s
CCUT Cedar City 56.94 71 *e*P **P** **19 53 05.2 +1.2**
comp=Z,20nm,2.2s
RSSD Black Hills 56.95 59 *e*P **P** **19 53 05.4 +1.3**
RSSD pmax pmax
comp=Z,4.0nm,1.1s
RSSD Black Hills 56.95 59 *e*P **P** **19 53 05.4 +1.3**
comp=Z,4.3nm,1.1s
KKAR Karatay Array 57.11 299 *e*P **P** **19 53 05.0 +0.1**
KKAR Karatay Array 57.11 299 *e*P **P** **19 53 05.1 +0.1**
SRU San Rafael 57.31 67 *e*P **P** **19 53 07.7 +1.1**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael 57.31 67 *e*P **P** **19 53 07.7 +1.1**
comp=Z,8.8nm,0.8s
ABKAR Akbulak array 57.48 311 *e*P **P** **19 53 07.8 +0.3**
KAF Kangasniemi 58.01 337 *e*P P 19 53 16.6 +5.6
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 58.01 337 *e*p P 19 53 16.6 +5.6
comp=Z,2.4nm,0.5s
FINES FINESS Array B 58.66 337 P **P** **19 53 14.6 -0.8**
FINES FINESS Array B 58.66 337 P **P** **19 53 14.6 -0.8**
comp=Z,1.7nm,0.6s,baz=27,slow=6.5,SNR=12
PV04 Paradox Valley 58.69 67 *e*P **P** **19 53 17.2 +0.9**
SMCO Snowmass 59.12 65 *e*P **P** **19 53 20.4 +0.8**
comp=Z,3.5nm,0.9s
ISCO Idaho Springs 59.35 64 *e*P **P** **19 53 22.4 +1.3**
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 59.35 64 *e*P **P** **19 53 22.4 +1.3**
comp=Z,5.7nm,0.9s
CMAR Chiang Mai Arr 60.09 259 P **P** **19 53 26.2 +0.2**
CMAR Chiang Mai Arr 60.09 259 P **P** **19 53 26.2 +0.2**
comp=Z,1.0nm,0.7s,baz=27,slow=7.7,SNR=4.1
ECSD EROS Data Cent 60.79 55 *e*P **P** **19 53 31.4 +1.0**
comp=Z,3.0nm,0.8s
OBN Obninsk 61.43 328 P P 19 53 38.0 +3.4
OBN pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 61.80 345 P **P** **19 53 36.8 -0.3**
comp=Z,3.1nm,0.7s,baz=19,slow=6.9
NOA NORSAR Array B 61.80 345 P **P** **19 53 38.0 +0.9**
NOA NORSAR Array B 61.80 345 P **P** **19 53 38.1 +0.9**
comp=Z,1.9nm,1.0s,baz=19,slow=6.8,SNR=5.9
ANMO Albuquerque 62.58 68 *e*P **P** **19 53 42.5 -0.4**
comp=Z,40nm,3.0s
SCHQ Schefferville 62.97 30 P **P** **19 53 45.0 +0.1**
SCHQ Schefferville 62.97 30 P **P** **19 53 45.1 +0.1**
comp=Z,3.4nm,0.8s,baz=323,slow=7.7,SNR=4.5
MNTX Cornudas Mount 65.65 69 *e*P **P** **19 54 03.4 +0.6**
comp=Z,3.2nm,1.0s
AKASG Malin Array Be 67.45 330 P **P** **19 54 13.4 -0.6**
AKASG Malin Array Be 67.45 330 P **P** **19 54 13.4 -0.6**
AKASG Malin Array Be 67.45 330 P **P** **19 54 13.4 -0.6**
comp=Z,0.4nm,0.4s,baz=26,slow=6.4,SNR=5.3
KSM Kuching 68.28 238 *e*pP pP 19 54 27.0 +1.1
TXAR Lajitas Array 68.42 70 P **P** **19 54 22.0 +1.4**
TXAR Lajitas Array 68.42 70 P **P** **19 54 22.0 +1.4**
comp=Z,2.0nm,0.7s,baz=300,slow=4.6,SNR=33
KBZ Khabaz 68.92 318 LR LR 20 28 02.4
comp=Z,28nm,18.6s,baz=118,slow=39
JCT Junction City 69.56 66 *e*P **P** **19 54 28.7 +1.1**
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 69.56 66 *e*P **P** **19 54 28.7 +1.1**
comp=Z,6.4nm,0.9s
WCI Wyandotte Cave 69.89 52 *e*P **P** **19 54 29.4 -0.1**
WCI pmax pmax
comp=Z,5.0nm,0.8s
WCI Wyandotte Cave 69.89 52 *e*P **P** **19 54 29.4 -0.1**
comp=Z,4.6nm,0.8s
KWP Kalwaria Pacla 70.19 334 *e*P P 19 54 35.0 +3.9
KWP *e* 19 54 38.1
OJC Ojcow 70.35 336 *e*P **P** **19 54 32.1 0.0**
OJC pmax pmax
comp=Z,10.0nm,1.2s
OJC Ojcow 70.35 336 *e*P **P** **19 54 32.1 0.0**
comp=Z,9.8nm,1.2s
STHS Stebnicka Huta 70.75 334 *e*P P 19 54 41.6 +7.0
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 70.75 334 *e*P P 19 54 41.6 +7.0
CLL Collm 70.78 340 *i*P P 19 54 37.6 +2.9
CLL *e* 19 54 52.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 70.78 340 *e*P **P** **19 54 34.0 -0.7**
CLL *i*Pmax 19 54 37.6
comp=Z,5.0nm,1.0s
CLL *i*pP **pP** **19 54 41.0 +0.1**
CLL *e* 19 54 52.0
UPC Upice 70.93 338 *e*P P 19 54 39.4 +3.8
UPC Upice 70.93 338 *e*P P 19 54 39.4 +3.8
KOLS Kolonicke sedl 70.94 334 *e*P P 19 54 41.6 +5.9
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 70.94 334 *e*P P 19 54 41.6 +5.9
BRG Berggiesshubel 71.01 340 *e*P P 19 54 42.7 +6.6
comp=Z,2.8nm,0.8s
BRG Berggiesshubel 71.01 340 *e*P P 19 54 42.7 +6.6
BRG pmax pmax
comp=Z,3.0nm,0.8s
DPC Dobruska-Polom 71.01 338 *e*P **P** **19 54 35.8 -0.4**
DPC Dobruska-Polom 71.01 338 *e*P **P** **19 54 35.8 -0.4**
DPC *e*pP **pP** **19 54 40.1 -2.3**
DPC Dobruska-Polom 71.01 338 *e*P **P** **19 54 37.0 +0.8**
comp=Z,40nm,1.1s
OKC Ostrava-Krasne 71.09 337 *e*P P 19 54 41.2 +4.6
OKC Ostrava-Krasne 71.09 337 *e*P P 19 54 41.2 +4.6
MORC Moravsky Berou 71.29 337 *e*P **P** **19 54 38.3 +0.4**
MORC pmax pmax
comp=Z,6.0nm,1.2s
MORC Moravsky Berou 71.29 337 *e*P **P** **19 54 38.3 +0.4**
comp=Z,6.0nm,1.2s
PRU Pruhonice 71.73 339 *e*P P 19 54 43.1 +2.6
PRU Pruhonice 71.73 339 *e*P P 19 54 43.1 +2.6
PLAL Pickwick Lake 71.74 55 *e*P **P** **19 54 41.1 +0.3**
comp=Z,11nm,0.7s
KECS Kecovo 71.81 335 *e*P **P** **19 54 41.3 +0.4**
KECS pmax pmax
comp=Z,2.0nm,1.3s
KECS Kecovo 71.81 335 *e*P **P** **19 54 41.3 +0.4**
VYHS Vyhne 72.19 336 *e*P P 19 54 47.0 +3.7
VYHS pmax pmax
comp=Z,1.0nm,1.2s
VYHS Vyhne 72.19 336 *e*P P 19 54 47.0 +3.7
SWET Sewanee 72.53 53 *e*P **P** **19 54 45.6 0.0**
comp=Z,8.5nm,0.6s
GRF Grafenberg Arr 72.66 341 *e*P P 19 54 52.7 +6.6
comp=Z,4.0nm,1.0s
GRF Grafenberg Arr 72.66 341 *e*P P 19 54 52.7 +6.6
GRF pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 72.74 339 *e*P **P** **19 54 46.7 +0.1**
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 72.74 339 *e*P P 19 54 50.7 +4.1
KHC Kasperske Hory 72.74 339 *e*P **P** **19 54 46.7 +0.1**
comp=Z,4.4nm,1.1s
CPCT Cooper Cave 72.98 52 *e*P **P** **19 54 48.3 +0.1**
GERES GERESS Array B 72.99 339 P **P** **19 54 47.4 -0.8**
GERES GERESS Array B 72.99 339 P **P** **19 54 47.4 -0.8**
comp=Z,0.3nm,0.8s,baz=32,slow=9.5,SNR=2.3
BRTR Keskin Array B 75.83 322 P **P** **19 55 04.1 -0.7**
BRTR Keskin Array B 75.83 322 P **P** **19 55 04.1 -0.7**
comp=Z,0.7nm,0.7s,baz=12,slow=9.1,SNR=3.1
LPL La Plagne 77.49 343 *e*P P 19 55 16.7 +2.5
comp=Z,13nm,1.0s
LPG La Plagne 77.51 343 *e*P P 19 55 17.0 +2.6
comp=Z,11nm,1.0s
ORIF Oris-en-Rattie 78.21 343 *e*P **P** **19 55 19.8 +1.7**
comp=Z,8.3nm,1.1s
WRA Warramunga Arr 78.74 207 P **P** **19 55 21.3 +0.3**
WRA Warramunga Arr 78.74 207 P **P** **19 55 21.3 +0.3**
comp=Z,2.1nm,1.0s,baz=18,slow=5.5,SNR=7.0
FITZ Fitzroy Crossi 79.59 216 P **P** **19 55 26.3 +0.6**
FITZ Fitzroy Crossi 79.59 216 P **P** **19 55 26.3 +0.6**
comp=Z,2.6nm,1.0s,baz=0.0,slow=10,SNR=3.7
ASAR Alice Springs 82.42 206 P **P** **19 55 41.0 +0.4**
ASAR Alice Springs 82.42 206 P **P** **19 55 41.0 +0.4**
comp=Z,2.1nm,0.9s,baz=14,slow=5.4,SNR=15
QSPA South Pole Qui 145.07 180 *e*PKPdf **PKPbc** **20 02 53.0 -1.1**
QSPA PKPbc **PKPbc** **20 02 53.4 -0.8**
QSPA South Pole Qui 145.07 180 PKPbc **PKPbc** **20 02 53.3 -0.8**
comp=Z,5.7nm,1.0s,baz=318,slow=1.9,SNR=9.8

---

*IDC **09** 19:44:03.3±21.0, 32°.32N×138°.60E, h283km±82km, mb2.6/2, mb1 2.8/4, mb1mx2.6/26, mbtmp2.7/4, Error ellipse: s-maj=308.5km s-min=68.7km az=165.0*
*JMA **09** 19:44:11.4±0.3, 33°.26N×138°.85E, h31^{km}±3^{km}, M3.6*
ISC 09 19:44:11.9±1.9, 33°.4N±0°.2×138°.6E±0°.2, h322km±13km, n13, σ0=93/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK03	**Tokai 3**	**0.96**	**325**	P	**Pn**	**19 44 54.8**	**+0.6**
BSO1	**Boso 1**	**2.33**	**56**	P	**Pn**	**19 45 02.4**	**-0.1**
JHU	**Hanno**	**2.52**	**12**	P	**Pn**	**19 45 05.0**	**+0.2**
JHU				*e*S	**S**	**19 45 46.7**	**-0.4**
JRY	**Ryogami san**	**2.64**	**5**	P	**Pn**	**19 45 06.8**	**+1.0**
JRY				S	**S**	**19 45 50.2**	**+1.2**
JAG	**Ashikaga**	**3.11**	**12**	P	**Pn**	**19 45 10.4**	**+0.3**
JAG				S	**S**	**19 45 55.6**	**-1.3**
JYT	**Yasato**	**3.12**	**24**	P	**Pn**	**19 45 11.0**	**+0.8**
JYT				*e*S	**S**	**19 45 55.6**	**-1.4**
MJAR	**Matsushiro Arr**	**3.17**	**354**	P	**Pn**	**19 45 11.0**	**+0.3**
	0.9nm,0.3s,baz=174,slow=12,SNR=22						
MAT	**Matsushiro**	**3.17**	**354**	P	**Pn**	**19 45 11.0**	**+0.2**
MAT				*e*S	**S**	**19 45 58.3**	**+0.3**
MAT	**Matsushiro**	**3.17**	**354**	P	**Pn**	**19 45 11.0**	**+0.2**
JHO	**Hitachi**	**3.60**	**26**	P	**Pn**	**19 45 15.2**	**+0.3**
JHO				*e*S	**S**	**19 46 05.0**	**-0.6**
KSRS	**Korea Array**	**9.63**	**298**	P	**Pn**	**19 46 23.4**	**-1.9**
	0.4nm,0.3s,baz=110,slow=13,SNR=8.0						
SONM	**Songino Array**	**28.17**	**310**	P	**P**	**19 49 36.4**	**+1.0**
	0.3nm,0.6s,baz=105,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**44.23**	**305**	P	**P**	**19 51 49.3**	**-0.7**
	0.1nm,0.4s,baz=81,slow=9.3,SNR=5.9						

GUC 09 19:51:51.6±0.9, 31°.71S×71°.69W, h29km±4km, MD3.9, ML3.2, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.79**	**48**⇑	*i*P	Pb	19 52 04.1	-2.9
CMCH				*i* S	Sb	19 52 14.7	-2.7
CMCH				AML	AML	19 52 17.0	
	comp=N,3μm,0.6s						
PTCH	**Petorca**	**0.85**	**131**⇑	*i*P	Pn	19 52 06.5	-1.2
PTCH				*i* S	Sb	19 52 18.6	-0.4
JACH	**Jahuel**	**1.34**	**137**	*e*P	Pb	19 52 15.6	-0.7
PEL	**Peldehue**	**1.67**	**150**⇑	*i*P	Pn	19 52 19.9	+0.9
PEL				*i* S	Sb	19 52 41.6	-0.7
PEL				AML	AML	19 52 44.4	
	comp=N,593nm,0.4s						
TLL	**Tololo Astrono**	**1.71**	**27**	*e*P	Pb	19 52 21.4	-1.4
TLL				*i* S	Sb	19 52 43.7	-0.5
TLL				AML	AML	19 52 54.1	
	comp=E,318nm,0.5s						
CLCH	**Cerro Calan**	**1.95**	**150**⇑	*i*P	Pn	19 52 23.9	+1.1
CLCH				*e*S	Sb	19 52 48.9	-1.5
CLCH				AML	AML	19 52 56.8	
	comp=N,402nm,0.4s						
FCH	**Farellones**	**2.00**	**144**	*e*P	Pn	19 52 24.2	+0.3
FCH				*i* S	Sn	19 52 50.4	+2.1
FCH				AML	AML	19 52 52.8	
	comp=E,220nm,0.2s						
ANTU	**Antumapu**	**2.06**	**155**	*e*S	Sb	19 52 51.5	-2.2
ANTU				AML	AML	19 53 03.2	
	comp=E,194nm,0.6s						
PCH	**Pirque**	**2.15**	**153**	*e*P	Pn	19 52 26.9	+1.2
PCH				*e*S	Sb	19 52 54.4	-2.0
LMEL	**Las Melosas**	**2.48**	**150**	*e*P	Pn	19 52 31.8	+1.5
LMEL				*i* S	Sn	19 53 02.0	+2.3
LMEL				AML	AML	19 53 14.5	
	comp=N,185nm,0.4s						
CACH	**El Canelo**	**2.57**	**159**	*e*P	Pn	19 52 33.6	+2.1
CACH				*e*S	Sb	19 53 05.4	-3.2

IDC 09 20:00:17.1±6.3, 6°.44S×150°.71E, h57km±52km, mb3.2/5, mb1 3.5/6, mb1mx3.3/18, mbtmp3.3/6, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/7, Error ellipse: s-maj=52.8km s-min=31.1km az=106.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**230**	P	Pn	20 01 24.6	+0.6
	3.3nm,0.3s,baz=29,slow=8.7,SNR=10						
PMG				S	Sn	20 02 16.0	-0.1
	7.2nm,0.3s,baz=74,slow=13,SNR=6.6						
HNR	**Honiara**	**9.62**	**109**	LR	LR	20 05 41.9	
	comp=Z,64nm,20.2s,baz=238,slow=34						
WRA	**Warramunga Arr**	**20.80**	**228**	P	P	20 04 53.9	-0.1
	1.2nm,0.4s,baz=50,slow=10,SNR=22						
ASAR	**Alice Springs**	**23.55**	**222**	P	P	20 05 23.1	+0.5
	0.3nm,0.4s,baz=53,slow=9.1,SNR=14						
STKA	**Stephens Creek**	**26.70**	**197**	P	P	20 05 51.8	+0.7
	1.6nm,0.7s,baz=52,slow=9.8,SNR=2.5						
MKAR	**Makanchi Array**	**80.20**	**320**	P	P	20 12 23.1	+1.5
	0.1nm,0.5s,baz=113,slow=3.6,SNR=3.4						
ILAR	**Eielson Array**	**84.46**	**22**	P	P	20 12 42.7	-0.6
	0.1nm,0.5s,baz=244,slow=3.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.77**	**285**	PKPbc	PKPdf	20 19 57.0	+1.6
	0.8nm,0.4s,baz=94,slow=2.3,SNR=21						

IDC 09 20:02:11.2±1.3, 57°.34N×32°.84W, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/33, mbtmp3.5/6, ML3.1/3, MS3.2/9, Ms1 3.2/9, ms1mx2.8/37, Error ellipse: s-maj=35.0km s-min=26.0km az=26.0, Reykjanes Ridge

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

BORG	Borgarnes	9.28	32	Pn	Pn	20 04 27.8	+1.8
	0.4nm,0.3s,baz=236,slow=15,SNR=3.7						
SFJD	Kangerlussuaq	12.70	327	LR	LR	20 09 14.5	
	comp=Z,68nm,19.9s,baz=125,slow=33						
EKA	Eskdalemuir Ar	16.52	84	Pn	Pn	20 06 04.0	+0.1
	baz=276,slow=6.9,SNR=2.5						
SCHQ	Schefferville	19.02	277	P	Pn	20 06 35.1	+0.2
	0.2nm,0.3s,baz=52,slow=9.1,SNR=5.5						
SCHQ				LR	LR	20 12 43.6	
	comp=Z,77nm,19.4s,baz=73,slow=33						
NOA	NORSAR Array B	22.53	62	LR	LR	20 14 23.4	
	comp=Z,25nm,21.7s,baz=280,slow=32						
ESDC	Sonseca Array	25.75	121	LR	LR	20 15 30.2	
	comp=Z,34nm,20.6s,baz=275,slow=31						
DAVOX	Davos/Dischmat	27.85	94	LR	LR	20 18 52.9	
	comp=Z,45nm,18.1s,baz=267,slow=36						
VRAC	Vranov	30.00	84	LR	LR	20 19 03.0	
	comp=Z,40nm,21.8s,baz=240,slow=34						
ULM	Lac du Bonnet	36.67	287	LR	LR	20 22 13.3	
	comp=Z,38nm,18.9s,baz=344,slow=33						
ILAR	Eielson Array	48.36	328	P	P	20 10 53.3	-0.7
	0.4nm,0.9s,baz=34,slow=6.6,SNR=4.7						
NEW	Newport	48.61	298	LR	LR	20 30 30.2	
	comp=Z,35nm,19.1s,baz=275,slow=35						
TORD	Torodi Ar. Bea	51.32	135	P	P	20 11 17.0	-0.1
	0.5nm,0.9s,baz=338,slow=8.8,SNR=3.3						
ANMO	Albuquerque	52.79	278	LR	LR	20 33 05.7	
	comp=Z,43nm,18.3s,baz=179,slow=35						
MKAR	Makanchi Array	63.11	44	P	P	20 12 39.7	-0.4
	0.2nm,0.5s,baz=329,slow=6.6,SNR=4.8						
ASAR	Alice Springs	145.01	22	PKPbc	PKPbc	20 21 48.5	-0.9
	0.5nm,0.8s,baz=328,slow=2.0,SNR=7.5						

GUC 09 20:11:06.1±0.7, 31°.62S×71°.69W, h29km±3km, MD3.9, ML3.5, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.74	53	⇑iP	Pb	20 11 20.0	-0.5
CMCH				*i* S	Sb	20 11 30.4	0.0
CMCH				AML	AML	20 11 33.4	
	comp=N,6μm,0.6s						
PTCH	Petorca	0.91	135	*e*P	Pn	20 11 22.7	-0.4
PTCH				*i* S	Sn	20 11 34.6	-0.7
PTCH				AML	AML	20 11 35.2	
	comp=N,2μm,0.2s						
JACH	Jahuel	1.41	139	*e*P	Pb	20 11 31.3	-0.7
JACH				*i* S	Sb	20 11 49.6	-0.2
TLL	Tololo Astrono	1.63	28	⇓iP	Pb	20 11 37.4	+1.5
TLL				*i* S	Sb	20 11 59.4	+3.0
TLL				AML	AML	20 12 03.4	
	comp=N,532nm,0.4s						
PEL	Peldehue	1.74	151	⇓*i*P	Pn	20 11 35.7	+1.3
PEL				*i* S	Sb	20 11 58.5	-0.6
PEL				AML	AML	20 12 00.3	
	comp=N,966nm,0.3s						
CLCH	Cerro Calan	2.02	151	⇑*i*P	Pn	20 11 39.8	+1.4
CLCH				*i* S	Sb	20 12 05.4	-1.8
CLCH				AML	AML	20 12 09.2	
	comp=E,494nm,0.6s						
TACH	Talagante	2.13	163	⇑*i*P	Pn	20 11 40.9	+1.1
ANTU	Antumapu	2.14	156	*e*P	Pn	20 11 41.3	+1.3
ANTU				*i* S	Sn	20 12 07.9	+2.3
ANTU				AML	AML	20 12 17.8	
	comp=E,346nm,0.5s						
PCH	Pirque	2.23	154	⇑*i*P	Pn	20 11 42.6	+1.3
PCH				*i* S	Sb	20 12 10.6	-2.6
LMEL	Las Melosas	2.55	151	⇑*i*P	Pn	20 11 47.5	+1.8
LMEL				*i* S	Sn	20 12 18.5	+2.5
LMEL				AML	AML	20 12 25.9	
	comp=N,317nm,0.1s						
CACH	El Canelo	2.66	160	*e*P	Pn	20 11 49.0	+1.9

MAN 09 20:22:08, 8°.68N×122°.68E, h4km, mb3.6, ML2.4, MS1.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.67	98	*e*P	Pg	20 22 20.8	-0.1
IPIL	Ipil	0.89	187	*e*P	Pb	20 22 26.3	+0.2
IPIL				*e*S	Sg	20 22 32.9	-3.8
PAGZ	Pagadian	1.08	140	*e*P	Pb	20 22 29.5	+0.2
PAGZ				*e*S	Sg	20 22 38.3	-4.4

IDC 09 20:40:27.8±2.3, 4°.79S×101°.83E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, MS3.1/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=76.5km s-min=17.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	8.07	339	LR	LR	20 46 13.5	
	comp=Z,119nm,18.1s,baz=253,slow=43						
BATI	Baumata	22.30	105	P	P	20 45 27.3	+0.2
	9.4nm,0.6s,baz=297,slow=2.3,SNR=3.0						
CMAR	Chiang Mai Arr	23.27	353	P	P	20 45 37.4	+0.2
	0.5nm,0.6s,baz=177,slow=9.1,SNR=3.8						
WRA	Warramunga Arr	35.05	118	P	P	20 47 22.4	-0.3
	0.3nm,0.6s,baz=300,slow=8.9,SNR=4.5						
ASAR	Alice Springs	36.17	124	P	P	20 47 32.0	-0.3
	0.4nm,0.7s,baz=295,slow=7.9,SNR=3.6						
SONM	Songino Array	52.55	4	P	P	20 49 42.5	-0.6
	1.1nm,0.6s,baz=184,slow=10,SNR=10						
MKAR	Makanchi Array	54.19	344	P	P	20 49 54.9	-0.2
	0.4nm,0.5s,baz=155,slow=9.1,SNR=12						
USRK	Ussuriysk Arra	55.80	26	P	P	20 50 06.6	0.0
	3.6nm,0.6s,baz=212,slow=5.5,SNR=16						
ZALV	Zalesovo Beam	60.23	349	P	P	20 50 37.6	0.0
	0.9nm,0.4s,baz=158,slow=3.8,SNR=6.3						
TXAR	Lajitas Array	145.67	42	PKPbc	PKPbc	21 00 09.3	-0.1
	0.6nm,0.8s,baz=321,slow=2.0,SNR=7.6						

*CSEM **09** 20:47:44.6, 37°.99N×26°.38W, h6km, ML3.0, After PDA*
PDA 09 20:47:44.6±1.2, 37°.99N×26°.38W, h6km±6km, MD3.7, ML3.0, Error ellipse: s-maj=7.4km s-min=1.5km az=30.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	Sete Cidades	0.55	108	*e*P	Pg	20 47 53.6	-1.7
PSET				*e*S	Sg	20 48 01.3	-1.2
PSET				A	A	20 48 03.9	
	678nm,0.3s						
PSET	Sete Cidades	0.55	108	*e*P	Pg	20 47 53.6	-1.7
PSET				*e*S	Sg	20 48 01.3	-1.2
PDA	Ponta Delgada	0.62	113	*e*P	Pg	20 47 54.7	-1.8
PDA				*e*S	Sg	20 48 02.8	-1.8
PDA				A	A	20 48 03.8	
	278nm,0.3s						
PDA	Ponta Delgada	0.62	113	*e*P	Pg	20 47 54.7	-1.8
PDA				*e*S	Sg	20 48 02.8	-1.8
GRON	Grota Negra	0.71	108	*i* P	Pg	20 47 57.6	-0.7
GRON				*e*S	Sg	20 48 08.0	+0.4
GRON				A	A	20 48 12.7	
	79nm,0.1s						
ADH	Angra Heroismo	0.94	315	*e*P	Pg	20 47 59.1	-3.6
ADH				*e*S	Sg	20 48 10.6	-4.3
ADH				A	A	20 48 12.4	
	168nm,0.5s						
ADH	Angra Heroismo	0.94	315	*e*P	Pg	20 47 59.1	-3.6
ADH				*e*S	Sg	20 48 10.6	-4.3
BART	Pico Bartolome	0.98	102	*e*P	Pg	20 47 59.8	-3.8
BART				*e*S	Sg	20 48 12.1	-4.4
BART				A	A	20 48 15.3	
	139nm,0.3s						
BART	Pico Bartolome	0.98	102	*e*P	Pg	20 47 59.8	-3.8
BART				*e*S	Sg	20 48 12.1	-4.4
PID	Ribeirinha	1.44	289	*e*P	Pn	20 48 07.0	-4.3
PID				*e*S	Sb	20 48 22.9	-7.6
PID	Ribeirinha	1.44	289	*e*P	Pn	20 48 07.0	-4.3
PID				*e*S	Sb	20 48 22.9	-7.6
PSMN	Pico do Norte,	1.44	133	*e*P	Pn	20 48 06.3	-4.9
PSMN				*e*S	Sb	20 48 22.6	-7.8
PSMN				A	A	20 48 24.9	
	20nm,0.4s						
PSMN	Pico do Norte,	1.44	133	*e*P	Pn	20 48 06.3	-4.9
PSMN				*e*S	Sb	20 48 22.6	-7.8
PMAN	Manadas	1.49	296	*e*P	Pn	20 48 07.4	-4.5
PMAN				*e*S	Sn	20 48 24.0	-7.6
PMAN				A	A	20 48 24.9	
	79nm,0.3s						
PMAN	Manadas	1.49	296	*e*P	Pn	20 48 07.4	-4.5
PMAN				*e*S	Sn	20 48 24.0	-7.6
PGRA	Graciosa	1.63	310	*e*P	Pn	20 48 09.0	-4.8
PGRA				*e*S	Sn	20 48 27.2	-7.9
PGRA				A	A	20 48 36.4	
	34nm,0.4s						
PGRA	Graciosa	1.63	310	*e*P	Pn	20 48 09.0	-4.8
PGRA				*e*S	Sn	20 48 27.2	-7.9
ROSA	Rosais	1.63	297	*e*P	Pn	20 48 09.2	-4.7
ROSA				*e*S	Sn	20 48 27.1	-8.1
ROSA				A	A	20 48 29.1	
	55nm,0.1s						
ROSA	Rosais	1.63	297	*e*P	Pn	20 48 09.2	-4.7
ROSA				*e*S	Sn	20 48 27.1	-8.1
PICO	Pico	1.69	288	*e*P	Pn	20 48 10.0	-4.7
PICO				*e*S	Sn	20 48 28.9	-7.8
PICO	Pico	1.69	288	*e*P	Pn	20 48 10.0	-4.7
PICO				*e*S	Sn	20 48 28.9	-7.8
PCAN	Candelaria	1.72	286	*e*P	Pn	20 48 10.9	-4.2
PCAN				*e*S	Sn	20 48 29.7	-7.8
PCAN				A	A	20 48 31.3	
	75nm,0.2s						
PCAN	Candelaria	1.72	286	*e*P	Pn	20 48 10.9	-4.2
PCAN				*e*S	Sn	20 48 29.7	-7.8
CALA	Caldeira	1.92	289	*e*P	Pn	20 48 13.1	-4.8
CALA				*e*S	Sn	20 48 34.6	-7.8
CALA	Caldeira	1.92	289	*e*P	Pn	20 48 13.1	-4.8
CALA				*e*S	Sn	20 48 34.6	-7.8
PCED	Cedros	1.93	290	*e*S	Sn	20 48 34.1	-8.5
PCED				A	A	20 48 36.9	
	33nm,0.3s						
PCED	Cedros	1.93	290	*e*S	Sn	20 48 34.1	-8.5

IDC 09 21:04:43.0±1.5, 3°.24N×78°.65W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.7/23, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=53.4km s-min=24.1km az=9.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	4.60	69	Pn	Pn	21 05 56.3	+2.0
	15nm,0.3s,baz=322,slow=3.2,SNR=10						
ROSC				Sn	Sn	21 06 50.3	+1.5
	1.1nm,0.3s,baz=90,slow=20,SNR=2.6						
TXAR	Lajitas Array	35.18	320	P	P	21 11 39.9	+0.8
	0.7nm,0.9s,baz=122,slow=11,SNR=5.7						
TXAR				PcP	PcP	21 14 11.2	+0.8
	0.4nm,0.9s,baz=146,slow=6.6,SNR=4.0						
PDAR	Pinedale Array	48.02	329	P	P	21 13 24.1	-0.3
	0.4nm,0.6s,baz=116,slow=10,SNR=4.5						
ESDC	Sonseca Array	76.16	50	P	P	21 16 32.9	-0.4
	0.6nm,0.6s,baz=259,slow=6.4,SNR=4.2						
ILAR	Eielson Array	77.91	336	P	P	21 16 41.5	-1.1
	0.5nm,0.9s,baz=128,slow=5.8,SNR=4.1						
TORD	Torodi Ar. Bea	79.87	77	P	P	21 16 53.7	-0.6
	0.3nm,0.7s,baz=283,slow=7.0,SNR=6.2						
GERES	GERESS Array B	89.13	41	P	P	21 17 40.4	-0.3
	0.2nm,0.5s,baz=254,slow=12,SNR=5.1						
MKAR	Makanchi Array	127.41	16	PKP	PKPdf	21 23 50.0	-0.2
	0.2nm,0.7s,baz=326,slow=4.4,SNR=2.5						
SONM	Songino Array	128.94	356	PKP	PKPdf	21 23 53.3	+0.1
	0.3nm,0.8s,baz=337,slow=3.3,SNR=3.3						
ASAR	Alice Springs	142.56	234	PKP	PKPdf	21 24 17.9	-1.1
	0.3nm,0.6s,baz=128,slow=3.3,SNR=4.5						
WRA	Warramunga Arr	143.79	240	PKP	PKPdf	21 24 21.2	0.0
	0.8nm,0.7s,baz=109,slow=3.1,SNR=12						

*ISCJB **09** 21:18:49.0±0.7, 33°.09N±0°.07×138°.5E±0°.1, h300km, mb2.9/4, Error ellipse: s-maj=13.1km s-min=8.8km az=23.9*
*JMA **09** 21:18:49.1±0.3, 33°.13N×138°.59E, h309km, M3.2*
*IDC **09** 21:18:49.7±1.3, 33°.47N×139°.25E, h328km±27km, mb2.7/4, mb1 2.9/5, mb1mx2.7/26, mbtmp2.7/5, Error ellipse: s-maj=92.3km s-min=19.6km az=62.0*
ISC 09 21:18:50.1±1.0, 33°.17N±0°.09×138°.49E±0°.09, h300km, n14, σ0s88/18, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.98	322	P	Pn	21 19 31.2	+1.2
TTO5	TONANKAI O.B.S	1.25	329	P	Pn	21 19 32.7	+1.2
TTO1	TONANKAI O.B.S	1.49	288	P	Pn	21 19 33.5	+0.7
BSO1	Boso 1	2.54	54	P	Pn	21 19 41.0	+0.2
BSO1				S	S	21 20 21.9	+0.6
JWY	Kouya	2.63	294	P	Pn	21 19 42.3	0.0
JRY	Ryogami san	2.86	7	P	Pn	21 19 45.7	+1.3
JRY				S	S	21 20 28.8	+1.1
JWT	Wachi	3.31	310	P	Pn	21 19 49.3	+0.4
JAG	Ashikaga	3.34	14	P	Pn	21 19 49.0	-0.2
JAG				S	S	21 20 34.9	-1.5
MJAR	Matsushiro Arr	3.37	356	P	Pn	21 19 48.9	-0.5
	0.7nm,0.3s,baz=173,slow=11,SNR=12						
MJAR				S	S	21 20 36.9	-0.1
	baz=156,slow=18,SNR=3.7						
MAT	Matsushiro	3.37	356	P	Pn	21 19 50.6	+1.1
SONM	Songino Array	28.22	311	P	P	21 24 16.2	+0.4
	0.6nm,0.7s,baz=98,slow=7.4,SNR=5.3						
MKAR	Makanchi Array	44.25	305	P	P	21 26 29.6	-0.7
	0.1nm,0.3s,baz=86,slow=9.1,SNR=4.0						
WRA	Warramunga Arr	52.97	185	P	P	21 27 35.9	-0.6
	0.3nm,0.3s,baz=360,slow=7.5,SNR=15						
ASAR	Alice Springs	56.69	185	P	P	21 28 02.6	-0.3
	0.2nm,0.5s,baz=354,slow=6.2,SNR=5.3						

IDC 09 21:41:44.8±1.1, 7°.12N×93°.71E, h0km, mb3.5/9, mb1 3.7/10, mb1mx3.6/26, mbtmp3.5/10, ML4.0/1, Error ellipse: s-maj=40.9km s-min=19.7km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.37	24	Pn	Pn	21 44 41.4	-1.0
	0.3nm,0.3s,baz=213,slow=15,SNR=5.7						
MKAR	Makanchi Array	40.73	348	P	P	21 49 25.5	-1.9
	0.6nm,0.9s,baz=161,slow=7.7,SNR=4.4						
SONM	Songino Array	41.99	13	P	P	21 49 39.3	+1.4
	0.5nm,0.7s,baz=191,slow=9.1,SNR=3.8						
ZALV	Zalesovo Beam	47.24	353	P	P	21 50 19.2	-0.4
	0.3nm,0.4s,baz=165,slow=6.0,SNR=3.3						
WRA	Warramunga Arr	48.18	125	P	P	21 50 27.9	+0.5
	0.6nm,1.1s,baz=304,slow=8.5,SNR=4.1						
ASAR	Alice Springs	49.77	129	P	P	21 50 38.6	-1.0
	0.1nm,0.4s,baz=304,slow=7.8,SNR=2.8						
BRTR	Keskin Array B	62.59	311	P	P	21 52 11.3	+0.1
	0.6nm,0.8s,baz=111,slow=7.9,SNR=3.2						
FINES	FINESS Array B	73.17	332	P	P	21 53 16.8	-0.5
	1.3nm,0.8s,baz=57,slow=7.0,SNR=4.3						
GERES	GERESS Array B	78.10	318	P	P	21 53 47.1	+1.2
	0.3nm,0.6s,baz=98,slow=4.0,SNR=4.1						
NOA	NORSAR Array B	80.17	331	P	P	21 53 56.8	-0.1
	0.5nm,0.8s,baz=98,slow=6.9,SNR=3.2						

*CSEM **09** 21:55:57.6±0.6, 41°.38N×22°.71E, h12km, MD2.9, Error ellipse: s-maj=13.9km s-min=7.7km az=168.0*
ATH 09 21:55:59.2, 41°.29N×22°.71E, h22km±1km, MD2.9/5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	Griva	0.41	215	*e*PB	Pb	21 56 08.1	+0.3
GRG				*e*SB	Sb	21 56 14.0	+0.4
GRG	Griva	0.41	215	*e*Pb	Pb	21 56 08.1	+0.3
GRG				*e*Sb	Sb	21 56 14.0	+0.4
SOH	Sokhos	0.68	134	*e*PN	Pb	21 56 12.7	+0.3
SOH				*e*SB	Sb	21 56 22.2	+0.8
SOH	Sokhos	0.68	134	*e*Pn	Pb	21 56 12.7	+0.3
SOH				*e*Sb	Sb	21 56 22.2	+0.8
NVR	Nevrokopi	0.87	86	*e*PN	Pn	21 56 16.0	-0.2
NVR				*e*SN	Sn	21 56 28.0	-0.2
NVR	Nevrokopi	0.87	86	*e*Pn	Pn	21 56 16.0	-0.2
NVR				*e*Sn	Sn	21 56 28.0	-0.2
PLG	Polygyros	1.07	148	*e*PN	Pn	21 56 19.0	0.0
PLG				*e*SN	Sn	21 56 34.5	+1.3
PLG	Polygyros	1.07	148	*e*Pn	Pn	21 56 19.0	0.0
PLG				*e*Sn	Sn	21 56 34.5	+1.3
PAIG	Paliouri	1.55	151	*e*PN	Pb	21 56 27.7	+0.5
PAIG				*e*SN	Sb	21 56 48.2	+1.9
PAIG	Paliouri	1.55	151	*e*Pn	Pb	21 56 27.7	+0.5
PAIG				*e*Sn	Sb	21 56 48.2	+1.9

*CASC **09** 21:57:32.7±4.1, 8°.83N×83°.13W, h0km±10km, MD4.2*
*IDC **09** 21:57:33.8±5.7, 8°.63N×83°.16W, h33km±43km, mb3.9/18, mb1 4.1/19, mb1mx4.0/29, mbtmp3.9/19, ML4.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/35, Error ellipse: s-maj=21.5km s-min=14.8km az=74.0*
*NEIC **09** 21:57:34.6±1.1, 8°.59N×83°.21W, h41km±9km, mb4.3/10, Error ellipse: s-maj=10.5km s-min=7.5km az=48.0*
ISC 09 21:57:32.2±0.9, 8°.61N±0°.07×83°.16W±0°.04, h23km±5km, n85, σ1s20/98, mb4.2/27, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.05	345	⇑*i*P	Pb	21 57 35.8	-0.6
ACR				*e*S	Sb	21 57 39.6	+0.4
TBS2		0.53	69	*e*P	Pn	21 57 44.2	-0.3
TBS2				*e*S	Sn	21 57 51.9	-0.9
BUS	Buena Vista	1.11	328	⇓*i*P	Pn	21 57 51.3	-1.5
QCR	Quepos	1.28	309	⇓*i*P	Pn	21 57 53.3	-1.5
QCR				*e*S	Sn	21 58 08.0	-3.3
URSC	Urasca	1.36	333	⇓*i*P	Pn	21 57 55.0	-1.0
SJS	Escuela Geolog	1.59	326	⇓*i*P	Pn	21 57 58.7	-0.4
SJS				*e*S	Sn	21 58 18.7	-0.4
CGA2	Cerro Gallo 2	1.91	317	⇑*i*P	Pn	21 58 03.3	-0.1
JCR	Jicaral	2.29	303	*e*P	Pn	21 58 08.2	-0.5
CEDE	Laguna Cede˜–o	2.41	321	*i* P	Pn	21 58 12.5	+2.1
CEDE				*i* S	Sb	21 58 45.3	+1.0
JTS	JuntasAbangare	2.44	313	Pn	Pn	21 58 11.2	+0.5
JTS				Sn	Sn	21 58 40.9	+1.2
JTS	JuntasAbangare	2.44	313	Pn	Pn	21 58 11.2	+0.5
	138nm,0.3s,baz=114,slow=4.5,SNR=213						
JTS				Sn	Sn	21 58 40.9	+1.2
	133nm,0.3s,baz=336,slow=20,SNR=7.8						
JTS				LR	LR	21 59 13.5	
	comp=Z,390nm,18.2s,baz=108,slow=41						
CHPA	Chiripa	2.51	317	*i* P	Pn	21 58 14.0	+2.2
CHPA				*i* S	Sb	21 58 48.7	+1.4
AMAS	Alto Masis	2.69	318	*i* P	Pn	21 58 16.7	+2.5
PTEN	Parque Tenorio	2.76	319	*i* P	Pn	21 58 17.7	+2.5
PTEN				*i* S	Sb	21 58 54.3	-0.2
VCR	Vista de Mar	2.87	302	*e*P	Pn	21 58 16.8	+0.1
COLC	Colonia	2.87	316	*i* P	Pn	21 58 20.3	+3.7
MESS	Mesas	2.92	317	*i* P	Pn	21 58 19.6	+2.2
LIM1	Limonal	2.93	315	*i* P	Pn	21 58 19.3	+1.8
LAPC	Finca la Perla	3.10	314	*i* P	Pn	21 58 21.8	+1.9
GB1A	Borinquen Arri	3.12	315	*i* P	Pn	21 58 22.8	+2.7
GBS2	Las Lilas	3.17	315	*i* P	Pn	21 58 23.5	+2.8
ZANG	Zanguenga, Cho	3.27	84	*e*P	Pb	21 58 26.6	-3.0
ZANG				*e*S	Sb	21 59 05.9	-3.1
BCIP	Isla Barro Col	3.33	80	*e*P	Pn	21 58 24.7	+1.8
BCIP				*e*S	Sb	21 59 10.9	+0.3
BCIP	Isla Barro Col	3.33	80	*e*Pn	Pn	21 58 24.6	+1.8
BCIP				*e*Sn	Sn	21 59 03.4	+1.7
TEIG	Tepich	12.57	337	LR	LR	22 05 26.4	
	comp=Z,140nm,18.6s,baz=328,slow=38						
LRAL	Lakeview Retre	24.57	352	*e*P	P	22 02 50.9	+0.5
	12nm,1.2s						
GOGA	Godfrey	24.68	359	*e*P	P	22 02 52.9	+1.4
	11nm,0.9s						
SWET	Sewanee	26.61	355	*e*P	P	22 03 10.7	+1.8
	7.1nm,1.2s						
CPCT	Cooper Cave	26.75	358	*e*P	P	22 03 12.2	+2.1
TKL	Tuckaleechee C	26.93	359	P	P	22 03 12.7	+0.9
TKL	Tuckaleechee C	26.93	359	P	P	22 03 12.7	+0.9
	2.7nm,0.9s,baz=187,slow=9.1,SNR=3.7						
MIAR	Mount Ida	27.53	341	*e*P	P	22 03 17.4	+0.1
	4.6nm,0.9s						
TXAR	Lajitas Array	28.21	320	P	P	22 03 23.4	-0.1
TXAR	Lajitas Array	28.21	320	P	P	22 03 23.4	-0.1
	0.4nm,0.7s,baz=132,slow=7.7,SNR=3.3						
JSRW	J. Sargeant Re	29.35	9	*e*P	P	22 03 35.1	+1.8
SIV	San Ignacio	32.80	138	P	P	22 04 04.4	+0.3
SIV	San Ignacio	32.80	138	P	P	22 04 04.4	+0.3
	2.8nm,0.9s,baz=314,slow=11,SNR=8.9						
SADO	Sadowa	36.19	5	P	P	22 04 33.2	+0.1
SADO	Sadowa	36.19	5	P	P	22 04 33.2	+0.1
	4.0nm,0.8s,baz=174,slow=5.8,SNR=3.6						
ECSD	EROS Data Cent	36.91	344	*e*P	P	22 04 38.5	-0.8
	6.7nm,1.3s						
GLA	Glamis	38.04	314	*e*P	P	22 04 49.6	+0.6
	15nm,1.4s						
GSC	Goldstone	40.64	316	*e*P	P	22 05 10.9	+0.2
	1.2nm,0.6s						
PDAR	Pinedale Array	41.16	330	P	P	22 05 14.8	-0.4
PDAR	Pinedale Array	41.16	330	P	P	22 05 14.8	-0.4
	0.2nm,0.3s,baz=143,slow=9.1,SNR=3.2						
ULM	Lac du Bonnet	42.84	348	*e*P	P	22 05 27.2	-1.2
	3.8nm,0.8s						
ULM	Lac du Bonnet	42.84	348	P	P	22 05 27.0	-1.4
	3.4nm,0.5s,baz=154,slow=6.9,SNR=6.9						
ULM				LR	LR	22 25 31.3	
	comp=Z,36nm,21.4s,baz=282,slow=39						
NVAR	Mina Array Bea	43.36	319	P	P	22 05 34.5	+1.4
NVAR				PcP	PcP	22 07 21.8	+0.2
NVAR	Mina Array Bea	43.36	319	P	P	22 05 34.5	+1.4
	1.0nm,0.6s,baz=133,slow=6.3,SNR=9.6						
NVAR				PcP	PcP	22 07 21.8	+0.2
	0.3nm,0.6s,baz=142,slow=3.4,SNR=2.9						
RPN	Rapa Nui	43.66	215	P	P	22 05 34.9	-0.4
RPN	Rapa Nui	43.66	215	P	P	22 05 34.9	-0.4
	1.2nm,0.4s,baz=297,slow=4.5,SNR=13						
WVOR	Wild Horse Val	45.88	323	*e*P	P	22 05 52.4	-0.7
	4.6nm,0.9s						
SCHQ	Schefferville	47.91	13	P	P	22 06 08.1	-0.4
SCHQ	Schefferville	47.91	13	P	P	22 06 08.1	-0.4
	2.6nm,0.6s,baz=214,slow=6.4,SNR=5.2						
PLCA	Paso Flores	50.45	168	P	P	22 06 29

IDC 09 22:10:11.6±61.0, 15°21'S×172°99'W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=1171.0km s-min=194.0km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.47**	**240**	P	P	22 18 24.8	-0.1
	1.4nm,0.8s,baz=83,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	22 19 09.6	-0.6
	0.3nm,0.7s,baz=87,slow=7.9,SNR=4.8						
ASAR	**Alice Springs**	**50.54**	**252**	P	P	22 19 12.4	+0.2
	1.9nm,0.5s,baz=88,slow=8.2,SNR=27						

*AUST **09** 22:17:30.7, 8°95S×113°41E, h200km*
*IDC **09** 22:17:31.3±3.4, 4°56S×106°99E, h608km±38km, mb2.8/8, mb1 3.0/9, mb1mx2.8/24, mbtmp2.9/9, Error ellipse: s-maj=61.9km s-min=11.6km az=56.0*

ISC 09 22:17:30.6±0.7, 4°5S±0°1×107°0E±0°1, h600km, n16, σ1°11/18, mb3.5/8, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**3.17**	**165**	P	**P**	**22 18 50.4**	**-0.4**
	baz=5.7,SNR=17						
CISI				S	**S**	**22 19 59.0**	**+2.9**
	baz=5.7,SNR=4.6						
MNAI	**Manna**	**4.04**	**271**	P	**S**	**22 20 05.9**	**-0.3**
	baz=11,SNR=7.6						
UGM	**Wanagama**	**4.89**	**135**	S	**P**	**22 19 02.2**	**-0.5**
	baz=3.0,SNR=5.9						
XMI	**Christmas Isla**	**6.08**	**192**	P	P	22 19 23.7	+11
	baz=7.8,SNR=3.6						
XMIS	**Christmas Isla**	**6.12**	**193**	P	P	22 19 20.4	+7.6
	baz=7.8,SNR=15						
PPI	**Padang Panjang**	**7.71**	**301**	P	**S**	**22 21 01.6**	**-1.1**
	baz=16,SNR=37						
KAPI	**Kappang**	**12.72**	**93**	P	**P**	**22 20 15.8**	**-0.8**
	1.5nm,0.3s,baz=255,slow=16,SNR=2.6						
CMAR	**Chiang Mai Arr**	**24.13**	**341**	P	**P**	**22 22 03.2**	**+2.0**
	1.0nm,0.4s,baz=176,slow=9.1,SNR=6.7						
WRA	**Warramunga Arr**	**30.75**	**122**	P	**P**	**22 22 58.2**	**-0.7**
	0.4nm,0.3s,baz=300,slow=11,SNR=15						
WRA				PcP	**PcP**	**22 25 37.2**	**-0.1**
	0.5nm,0.3s,baz=314,slow=2.1,SNR=14						
ASAR	**Alice Springs**	**32.21**	**129**	P	**P**	**22 23 11.4**	**+0.1**
	0.6nm,0.4s,baz=304,slow=7.8,SNR=8.9						
ASAR				PcP	**PcP**	**22 25 41.4**	**0.0**
	0.5nm,0.6s,baz=307,slow=2.3,SNR=6.2						
STKA	**Stephens Creek**	**42.36**	**134**	P	**P**	**22 24 33.7**	**0.0**
	1.2nm,0.4s,baz=308,slow=14,SNR=4.5						
SONM	**Songino Array**	**52.09**	**359**	P	**P**	**22 25 47.3**	**+1.1**
	0.8nm,0.6s,baz=176,slow=7.5,SNR=8.9						
SONM				PcP	**PcP**	**22 26 47.6**	**-0.2**
	0.5nm,0.3s,baz=178,slow=4.6,SNR=9.7						
MKAR	**Makanchi Array**	**55.53**	**340**	P	**P**	**22 26 10.7**	**+0.4**
	2.0nm,0.5s,baz=152,slow=8.0,SNR=40						
ZALV	**Zalesovo Beam**	**61.10**	**345**	P	**P**	**22 26 47.2**	**-0.3**
	0.5nm,0.4s,baz=163,slow=5.6,SNR=3.9						
BRTR	**Keskin Array B**	**80.16**	**311**	P	**P**	**22 28 39.4**	**-0.5**
	0.4nm,0.8s,baz=139,slow=9.0,SNR=4.1						
TXAR	**Lajitas Array**	**141.86**	**46**	PKP	**PKPdf**	**22 35 54.5**	**-1.3**
	0.3nm,0.7s,baz=269,slow=3.6,SNR=3.7						

*IDC **09** 23:38:21.1±1.9, 6°89S×129°13E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=88.3km s-min=24.3km az=79.0*
*AUST **09** 23:38:34.7±0.0, 7°46S×129°08E, h170km, Error ellipse: s-maj=1.4km s-min=1.0km az=250.0*

ISC 09 23:38:20.7±0.8, 6°86S±0°05×129°10E±0°09, h10km, n15, σ2°38/13, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.02**	**39**	P	**Pg**	**23 39 55.4**	**-1.5**
	baz=5.5,SNR=3.1						
SOEI	**Soe**	**5.58**	**239**	P	Pn	23 39 51.1	+7.2
	baz=5.3,SNR=3.7						
MTN	**Manton Dam**	**6.28**	**162**	P	Pn	23 39 59.7	+6.3
	baz=5.8,SNR=4.8						
MTN				S	**Sn**	**23 41 02.0**	**-3.2**
	baz=5.8,SNR=6.9						
SWI	**Sorong**	**6.34**	**20**	S	**Sg**	**23 41 45.0**	**+0.7**
	baz=6.9,SNR=76						
KDU	**Kakadu**	**6.68**	**150**	P	Pn	23 40 05.5	+6.6
	baz=6.2,SNR=24						
KDU				S	**Sn**	**23 41 13.1**	**-2.0**
	baz=6.2,SNR=10.0						
LUWI	**Luwuk**	**8.55**	**312**	S	**Sn**	**23 41 57.6**	**-3.7**
	baz=9.0,SNR=4.3						
KNRA	**Kununurra**	**8.77**	**182**	S	Sn	23 41 56.5	-10
	baz=8.2,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.67**	**196**	Pn	**Pn**	**23 41 06.6**	**-0.8**
	0.3nm,0.3s,baz=19,slow=13,SNR=14						
FITZ				Sn	Sn	23 43 00.8	-17
	0.9nm,0.3s,baz=296,slow=19,SNR=8.8						
WRA	**Warramunga Arr**	**13.96**	**159**	Pn	**Pn**	**23 41 38.8**	**0.0**
	0.2nm,0.3s,baz=338,slow=13,SNR=13						
WRA				Sn	Sn	23 44 00.3	-14
	0.5nm,0.3s,baz=337,slow=22,SNR=8.3						
PALU	**Palau**	**15.10**	**21**	P	Pn	23 41 47.8	-6.4
	baz=16,SNR=10						
PALU				S	**Sn**	**23 44 39.7**	**-1.9**
	baz=16,SNR=5.6						
ASAR	**Alice Springs**	**17.34**	**165**	P	**P**	**23 42 23.8**	**-0.5**
	0.1nm,0.3s,baz=338,slow=9.4,SNR=3.0						
MANU	**Manus Island**	**18.83**	**76**	P	**Pn**	**23 42 43.1**	**+1.8**
	baz=19,SNR=3.9						
MKAR	**Makanchi Array**	**67.62**	**327**	P	**P**	**23 49 20.0**	**+2.2**
	0.2nm,0.4s,baz=138,slow=6.7,SNR=4.5						
KURBB	**Kurchatov Arra**	**71.92**	**329**	P	**P**	**23 49 46.1**	**+2.0**
	0.2nm,0.7s,baz=123,slow=5.1,SNR=2.9						
MAW	**Mawson**	**74.75**	**201**	P	**P**	**23 50 03.6**	**+3.0**
	0.4nm,0.3s,baz=63,slow=9.0,SNR=5.0						

IDC 09 23:49:10.5±3.3, 7°36S×146°33E, h197km±54km, mb3.1/2, mb1 2.9/4, mb1mx2.7/18, mbtmp2.9/4, Error ellipse: s-maj=92.8km s-min=48.7km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.19**	**158**	P	Pn	23 49 51.6	+0.9
	5.5nm,0.3s,baz=330,slow=8.7,SNR=10						
PMG				S	Sn	23 50 22.4	+0.2
	2.2nm,0.3s,baz=0.0,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**17.07**	**222**	P	P	23 52 56.6	0.0
	0.1nm,0.3s,baz=41,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**78.12**	**321**	P	P	00 00 47.7	-0.2
	0.3nm,0.7s,baz=101,slow=6.3,SNR=4.4						
KURBB	**Kurchatov Arra**	**81.92**	**323**	P	P	00 01 08.0	0.0
	0.2nm,0.3s,baz=103,slow=4.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**144.75**	**282**	PKP	PKPbc	00 08 24.6	+0.2
	0.3nm,0.5s,baz=87,slow=2.4,SNR=5.9						

*IDC **10** 00:09:53.9±0.6, 12°31N×89°44W, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.3/28, mbtmp4.2/22, ML4.2/2, MS3.5/15, Ms1 3.5/15, ms1mx3.4/29, Error ellipse: s-maj=24.2km s-min=11.7km az=61.0*
*ISCJB **10** 00:09:58.4±0.6, 12°22N±0°03×89°56W±0°04, h44km±4km, mb4.5/64, MS3.4/14, Error ellipse: s-maj=7.3km s-min=3.4km az=137.9*
*CASC **10** 00:09:58.4±2.2, 12°22N×89°60W, h36km±16km, MD4.0, ML3.7, mb4.6(NEIC)*
*NEIC **10** 00:10:02.0±0.8, 12°35N×89°28W, h59km±7km, mb4.6/47, Error ellipse: s-maj=10.4km s-min=5.8km az=58.0*

ISC 10 00:09:59.5±0.5, 12°23N±0°05×89°58W±0°07, h39km±5km, n396, σ1°26/406, mb4.5/65, MS3.4/14, 137C-112D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.47**	**20**	*eP*	**Pn**	**00 10 22.4**	**-1.3**
LFRS				*eS*	**Sn**	**00 10 42.0**	**+0.3**
SNET	**Serv Nac Est T**	**1.48**	**13**	*eP*	**Pn**	**00 10 22.1**	**-1.7**
SNET				AML	AML	00 10 54.7	
	comp=Z,1μm,0.4s						
BOQS	**Boqueron**	**1.52**	**11**	*eP*	**Pn**	**00 10 23.4**	**-1.1**
BOQS				*eS*	**Sn**	**00 10 43.5**	**+0.4**
SNVI	**San Vicente**	**1.55**	**28**	*eP*	**Pn**	**00 10 23.6**	**-1.1**
LFU	**La Fuente**	**1.57**	**17**	*eP*	**Pn**	**00 10 24.4**	**-0.6**
LBRS	**Las Brisas**	**1.58**	**19**	*eP*	**Pn**	**00 10 24.2**	**-0.9**
SNJE	**San Jose**	**1.63**	**359**	*eP*	**Pn**	**00 10 24.9**	**-1.0**
RTR	**El Retiro**	**1.66**	**358**	*eP*	**Pn**	**00 10 25.3**	**-1.0**
RTR				*eS*	**Sn**	**00 10 46.0**	**-0.4**
VSM	**San Miguel**	**1.74**	**47**	*eP*	**Pn**	**00 10 26.8**	**-0.6**
BLLM	**Bellamira**	**1.77**	**47**	*eP*	**Pn**	**00 10 27.5**	**-0.3**
BLLM				*eS*	**Sn**	**00 10 49.9**	**+0.8**
RBDL	**Robledal**	**1.87**	**357**	*eP*	**Pn**	**00 10 28.6**	**-0.6**
RBDL				*eS*	**Sn**	**00 10 51.5**	**-0.2**
CNCH	**Conchagua**	**1.99**	**58**	*eP*	**Pn**	**00 10 30.3**	**-0.5**
CNCH				*eS*	**Sn**	**00 10 55.9**	**+1.4**
CAHU	**Cacacuatique**	**2.03**	**41**	*eP*	**Pn**	**00 10 31.3**	**0.0**
CAHU				*eS*	**Sn**	**00 10 57.1**	**+1.5**
IXG	**Ixpaco**	**2.11**	**336**	*eP*	**Pn**	**00 10 31.5**	**-1.0**
PCG	**Pacaya**	**2.37**	**335**	*eP*	**Pn**	**00 10 36.3**	**+0.2**
NBG	**Las Nubes**	**2.46**	**342**	*eP*	**Pn**	**00 10 38.5**	**+1.2**
FUG	**Fuego 3**	**2.52**	**331**	*eP*	**Pn**	**00 10 37.0**	**-1.2**
MRL	**Marmol**	**2.82**	**358**	*eP*	**Pn**	**00 10 43.6**	**+1.4**
JAT	**Jato**	**2.89**	**316**	*eP*	**Pn**	**00 10 41.8**	**-1.2**
COPN	**Copaltepe**	**2.92**	**91**	*eP*	**Pn**	**00 10 41.8**	**-1.6**
COPN				*eS*	**Sn**	**00 11 17.6**	**+0.3**
HUEN		**3.33**	**88**	*eP*	**Pn**	**00 10 47.8**	**-1.2**
HUEN				*eS*	**Sn**	**00 11 27.6**	**+0.2**
VCR	**Vista de Mar**	**4.40**	**118**	*eP*	**Pn**	**00 11 03.8**	**-0.1**
VCR				*eS*	**Sn**	**00 11 51.8**	**-2.2**
JTS	**JuntasAbangare**	**4.93**	**113**	Pn	**Pn**	**00 11 09.7**	**-1.4**
JTS				Sn	**Sn**	**00 12 09.0**	**+2.2**
JTS	**JuntasAbangare**	**4.93**	**113**	Pn	**Pn**	**00 11 09.7**	**-1.4**
	comp=Z,7.2nm,0.3s,baz=327,slow=12,SNR=39						
JTS				Sn	**Sn**	**00 12 09.0**	**+2.2**
	comp=Z,14nm,0.3s,baz=278,slow=19,SNR=7.1						
JTS				LR	LR	00 12 50.5	
	comp=Z,198nm,21.7s,baz=131,slow=36						
JCR	**Jicaral**	**4.98**	**118**	*eP*	**Pn**	**00 11 11.5**	**-0.3**
JCR				*eS*	**Sn**	**00 12 08.9**	**+0.7**
CGA2	**Cerro Gallo 2**	**5.48**	**113**	*eP*	**Pn**	**00 11 20.4**	**+1.6**
QCR	**Quepos**	**6.00**	**117**	*eP*	**Pn**	**00 11 27.8**	**+2.0**
QCR				*eS*	**Sn**	**00 12 31.4**	**-1.9**
URSC	**Urasca**	**6.17**	**112**	*eP*	Pn	00 11 31.9	+3.6
BUS	**Buena Vista**	**6.30**	**114**	*eP*	**Pn**	**00 11 32.5**	**+2.2**
ACR	**Cerro Adams**	**7.24**	**119**	*eP*	**Pn**	**00 11 44.5**	**+1.7**
TEIG	**Tepich**	**8.05**	**9**	*ePn*	**Pn**	**00 11 55.5**	**+1.6**
TEIG	**Tepich**	**8.05**	**9**	Pn	**Pn**	**00 11 52.5**	**-1.4**
	comp=Z,4.5nm,0.3s,baz=215,slow=4.8,SNR=36						
TEIG				LR	LR	00 15 32.3	
	comp=Z,411nm,19.9s,baz=95,slow=43						
OTAV	**Otavalo**	**16.24**	**136**	*ePn*	**P**	**00 13 50.2**	**+2.1**
	comp=Z,9.8nm,1.1s						
732A	**Laxson Ranch,**	**19.07**	**331**	⇓P	**P**	**00 14 18.7**	**+0.1**
	baz=19						
632A	**Uvalde**	**19.64**	**333**	⇓P	**P**	**00 14 25.1**	**+0.2**
	baz=20,SNR=14						
TIGA	**Tifton**	**19.90**	**15**	⇑P	**P**	**00 14 28.6**	**+0.9**
	baz=20,SNR=9.0						
VBMS	**Vicksburg**	**19.91**	**358**	*eP*	**P**	**00 14 28.7**	**+0.9**
631A	**Perdido Creek**	**19.92**	**331**	⇑P	**P**	**00 14 27.6**	**-0.4**
	baz=20						
532A	**Rocksprings**	**20.22**	**333**	⇑P	**P**	**00 14 31.4**	**0.0**
	baz=20,SNR=12						
JCT	**Junction City**	**20.48**	**334**	*eP*	**P**	**00 14 34.2**	**+0.1**
	comp=Z,16nm,1.2s						
JCT	**Junction City**	**20.48**	**334**	⇓P	**P**	**00 14 33.6**	**-0.5**
	baz=21						
531A	**Rocksprings**	**20.54**	**332**	⇓P	**P**	**00 14 35.2**	**+0.4**
	baz=21						
432A	**Menard**	**20.82**	**335**	⇑P	**P**	**00 14 37.1**	**-0.7**
	baz=21,SNR=8.4						
LRAL	**Lakeview Retre**	**20.84**	**6**	*eP*	**P**	**00 14 38.8**	**+0.9**
530A	**J-C Ranch, Com**	**20.90**	**330**	⇑P	**P**	**00 14 39.4**	**+0.8**
	baz=21,SNR=7.0						
WHTX	**Lake Whitney**	**20.96**	**341**	⇓P	**P**	**00 14 38.5**	**-0.8**
	baz=21,SNR=9.5						
431A	**Sonora**	**21.01**	**333**	⇑P	**P**	**00 14 39.8**	**0.0**
	baz=21,SNR=13						
628A	**Black Gap, Mar**	**21.17**	**326**	⇑P	**P**	**00 14 42.3**	**+0.8**
	baz=21,SNR=11						
332A	**Millersview**	**21.24**	**335**	⇑P	**P**	**00 14 41.7**	**-0.6**
	baz=21,SNR=14						
529A	**Stev Forest Ra**	**21.32**	**329**	⇓P	**P**	**00 14 43.8**	**+0.6**
	baz=21						
430A	**Baggett Ranch,**	**21.39**	**332**	⇑P	**P**	**00 14 44.4**	**+0.5**
	baz=22						
627A	**Terlingua Ranc**	**21.42**	**325**	⇑P	**P**	**00 14 45.7**	**+1.4**
	baz=22						
331A	**San Angelo**	**21.46**	**334**	⇓P	**P**	**00 14 44.3**	**-0.4**
	baz=22,SNR=7.2						
TXAR	**Lajitas Array**	**21.48**	**325**	P	**P**	**00 14 45.4**	**+0.4**
TXAR	**Lajitas Array**	**21.48**	**325**	P	**P**	**00 14 45.4**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=146,slow=9.4,SNR=51						
429A	**Davenport Ranc**	**21.57**	**330**	⇓P	**P**	**00 14 46.1**	**+0.3**
	baz=22,SNR=6.9						
528A	**Cox Ranch, San**	**21.64**	**328**	⇑P	**P**	**00 14 47.3**	**+0.6**
	baz=22						
232A	**Coleman**	**21.65**	**336**	⇓P	**P**	**00 14 45.9**	**-0.7**
	baz=22,SNR=12						
GOGA	**Godfrey**	**21.81**	**14**	*ePn*	**P**	**00 14 48.5**	**+0.2**
	comp=Z,28nm,1.3s						
330A	**Mertzon**	**21.88**	**333**	⇓P	**P**	**00 14 49.3**	**+0.2**
	baz=22						
626A	**Big Bend Ranch**	**21.91**	**324**	⇑P	**P**	**00 14 51.1**	**+1.5**
	baz=22,SNR=7.4						
231A	**Bronte**	**21.96**	**335**	⇑P	**P**	**00 14 50.0**	**0.0**
	baz=22						
428A	**Kincaid Ranch,**	**22.04**	**329**	⇓P	**P**	**00 14 52.3**	**+1.3**
	baz=22						
527A	**Woodward Ranch**	**22.07**	**326**	⇑P	**P**	**00 14 52.1**	**+0.7**
	baz=22						
OXF	**Oxford**	**22.18**	**0**	*eP*	**P**	**00 14 52.6**	**+0.3**
	comp=Z,184nm,1.0s						
ATAH	**Atahualpa**	**22.22**	**149**	P	**P**	**00 14 53.6**	**+0.3**
ATAH	**Atahualpa**	**22.22**	**149**	P	**P**	**00 14 53.6**	**+0.3**
	comp=Z,8.5nm,0.8s,baz=26,slow=8.2,SNR=4.9						
ATAH				LR	LR	00 22 20.5	
	comp=Z,108nm,21.7s,baz=333,slow=34						
230A	**Sterling City**	**22.26**	**333**	⇓P	**P**	**00 14 53.8**	**+0.6**
	baz=22						
526A	**Mary Lane Ranc**	**22.27**	**325**	⇑P	**P**	**00 14 54.6**	**+1.1**
	baz=22						
ABTX	**Abilene, Hawle**	**22.30**	**337**	⇓P	**P**	**00 14 53.0**	**-0.6**
	baz=22						
329A	**Wagon Wheel Ra**	**22.32**	**331**	⇑P	**P**	**00 14 53.6**	**-0.3**
	baz=22						
427A	**Hayter Ranch,**	**22.51**	**328**	⇓P	**P**	**00 14 55.7**	**-0.3**
	baz=23						
UALR	**University of**	**22.58**	**354**	*eP*	**P**	**00 14 56.3**	**-0.3**
	comp=Z,64nm,0.9s						
328A	**Wristen Ranch,**	**22.63**	**329**	⇑P	**P**	**00 14 57.1**	**-0.1**
	baz=23						
131A	**Roby**	**22.64**	**336**	⇑P	**P**	**00 14 56.7**	**-0.5**
	baz=23						
229A	**Bryant Ranch,**	**22.64**	**332**	⇑P	**P**	**00 14 57.5**	**+0.2**
	baz=23						
PLAL	**Pickwick Lake**	**22.69**	**3**	*eP*	**P**	**00 14 53.7**	**-4.0**
	comp=Z,8.2nm,0.8s						
426A	**McDonald Obser**	**22.70**	**326**	⇓P	**P**	**00 14 58.4**	**+0.2**
	baz=23						
130A	**Snyder**	**22.81**	**335**	⇑P	**P**	**00 14 58.8**	**-0.3**
	baz=23						
Z32A	**Haskell**	**22.85**	**338**	⇓P	**P**	**00 14 58.5**	**-1.0**
	baz=23,SNR=10.0						
LPIG	**La Paz**	**22.93**	**304**	LR	LR	00 25 13.2	
	comp=Z,7.7nm,18.3s,baz=235,slow=40						
Z31A	**Sharp Cattle R**	**23.11**	**337**	⇑P	**P**	**00 15 00.9**	**-1.2**
	baz=23,SNR=7.4						
SWET	**Sewanee**	**23.12**	**8**	*eP*	**P**	**00 15 00.9**	**-1.3**
	comp=Z,7.6nm,0.8s						
228A	**UT Block 9, Go**	**23.13**	**331**	⇑P	**P**	**00 15 02.3**	**-0.1**
	baz=23						
129A	**Stewart Farms,**	**23.23**	**333**	⇓P	**P**	**00 15 02.4**	**-0.9**
	baz=23,SNR=6.1						
HBAR	**Harrisburg**	**23.24**	**358**	*eP*	**P**	**00 15 03.3**	**0.0**
425A	**Indio Mountain**	**23.33**	**325**	⇑P	**P**	**00 15 05.9**	**+1.5**
	baz=24,SNR=5.8						
Y32A	**R-V Farms, Ver**	**23.47**	**339**	⇓P	**P**	**00 15 05.1**	**-0.5**
	baz=24						
Z30A	**Sanderson Ranc**	**23.47**	**335**	⇑P	**P**	**00 15 04.6**	**-1.1**
	baz=24						
128A	**Castleberry Fa**	**23.50**	**332**	⇓P	**P**	**00 15 05.6**	**-0.4**
	baz=24						
CPCT	**Cooper Cave**	**23.56**	**10**	*eP*	**P**	**00 15 05.1**	**-1.4**
HALT	**Halls**	**23.58**	**0**	*eP*	**P**	**00 15 05.3**	**-1.3**
Z29A	**Hungry Hill Ra**	**23.69**	**334**	⇑P	**P**	**00 15 07.8**	**0.0**
	baz=24						
Y31A	**Rekieta Farm,**	**23.73**	**337**	⇑P	**P**	**00 15 07.1**	**-1.0**
	baz=24,SNR=12						
325A	**Bean Ranch, Si**	**23.76**	**326**	⇓P	**P**	**00 15 08.8**	**+0.2**
	baz=24,SNR=6.4						
WVT	**Waverly**	**23.85**	**3**	*eP*	**P**	**00 15 08.1**	**-1.0**
	comp=Z,6.9nm,0.6s						
226B	**Tecolote Peak,**	**23.88**	**328**	⇓P	**P**	**00 15 10.0**	**+0.4**
	baz=24						
Y30A	**Stafford Cattl**	**23.89**	**336**	⇑P	**P**	**00 15 09.6**	**-0.1**
	baz=24						
TKL	**Tuckaleechee C**	**23.91**	**12**	*eP*	**P**	**00 15 09.0**	**-0.7**
TKL	**Tuckaleechee C**	**23.91**	**12**	P	**P**	**00 15 09.0**	**-0.7**
	comp=Z,16nm,0.9s,baz=191,slow=11,SNR=24						
TKL				LR	LR	00 25 09.1	
	comp=Z,74nm,19.6s,baz=9.9,slow=38						
WMOK	**Wichita Mounta**	**23.92**	**341**	*eP*	**P**	**00 15 08.0**	**-1.8**
	comp=Z,14nm,0.8s						
KMSC	**Kings Mountain**	**24.00**	**17**	*eP*	**P**	**00 15 10.3**	**-0.3**
	comp=Z,18nm,0.9s						
KMSC	**Kings Mountain**	**24.00**	**17**	⇓P	**P**	**00 15 10.1**	**-0.5**
	baz=24,SNR=11						
Z28A	**Tucker Farm, M**	**24.01**	**333**	⇑P	**P**	**00 15 10.7**	**-0.2**
	baz=24						
324A	**Moseley Ranch,**	**24.10**	**325**	⇑P	**P**	**00 15 12.7**	**+0.9**
	baz=24						
Y29A	**Porterfield Fa**	**24.19**	**335**	⇑P	**P**	**00 15 12.3**	**-0.2**
	baz=24						
X31A	**McDonald Ranch**	**24.22**	**339**	⇑P	**P**	**00 15 12.5**	**-0.2**
	baz=24						
TUL1	**Tulsa**	**24.23**	**348**	*eP*	**P**	**00 15 12.0**	**-0.7**
	comp=Z,16nm,0.8s						
TUL1	**Tulsa**	**24.23**	**348**	⇓P	**P**	**00 15 12.1**	**-0.7**
	baz=24						
MNTX	**Cornudas Mount**	**24.24**	**326**	*eP*	**P**	**00 15 13.3**	**+0.5**
	comp=Z,5.9nm,1.0s						
225A	**Deer Hill, Car**	**24.25**	**327**	⇑P	**P**	**00 15 13.8**	**+0.7**
	baz=24						
X30A	**Coker Ranch, T**	**24.39**	**337**	⇓P	**P**	**00 15 14.2**	**0.0**
	baz=24,SNR=17						
Y28A	**McKinney Farm,**	**24.48**	**334**	⇑P	**P**	**00 15 15.1**	**0.0**
	baz=25						
125A	**Gardner Draw,**	**24.59**	**328**	⇓P	**P**	**00 15 16.8**	**+0.6**
	baz=25						
224A	**Cornudas Mount**	**24.60**	**326**	⇑P	**P**	**00 15 17.0**	**+0.7**
	baz=25						
W31A	**Holland Ranch,**	**24.71**	**339**	⇑P	**P**	**00 15 16.9**	**-0.2**
	baz=25						
X29A	**Tulia**	**24.71**	**335**	⇓P	**P**	**00 15 17.6**	**+0.4**
	baz=25						
Z26A	**Caprock**	**24.74**	**330**	⇑P	**P**	**00 15 17.8**	**+0.3**
	baz=25						
TZTN	**Tazewell**	**24.81**	**12**	*eP*	**P**	**00 15 16.6**	**-1.3**
	comp=Z,6.2nm,0.8s						
Y27A	**Causey**	**24.86**	**332**	⇑P	**P**	**00 15 18.2**	**-0.4**
	baz=25						
124A	**Stringfield Ra**	**25.04**	**327**	⇑P	**P**	**00 15 22.4**	**+2.0**
	baz=25,SNR=5.6						
AMTX	**Amarillo**	**25.09**	**336**	*eP*	**P**	**00 15 20.9**	**+0.4**
	comp=Z,27nm,1.1s						
Z25A	**Roswell**	**25.11**	**329**	⇓P	**P**	**00 15 22.5**	**+1.6**
	baz=25						
V31A	**Spring Creek L**	**25.21**	**340**	⇑P	**P**	**00 15 21.9**	**+0.2**
	baz=25,SNR=8.9						
SIUC	**Southern Illin**	**25.38**	**1**	*eP*	**P**	**00 15 23.5**	**+0.4**
	comp=Z,31nm,0.7s						
Z24A	**Sheeppen Canyo**	**25.49**	**328**	⇑P	**P**	**00 15 25.6**	**+1.2**
	baz=26						
Y25A	**Mesa, Roswell**	**25.62**	**330**	⇑P	**P**	**00 15 27.1**	**+1.6**
	baz=26						
USIN	**University of**	**25.68**	**3**	*eP*	**P**	**00 15 25.3**	**-0.5**
	comp=Z,20nm,0.9s						
X26A	**CR and CF Fran**	**25.71**	**332**	⇓P	**P**	**00 15 27.9**	**+1.5**
	baz=26						
W27A	**Bowe Ranch, En**	**25.81**	**334**	⇑P	**P**	**00 15 28.4**	**+1.2**
	baz=26						
Y24A	**Capitan**	**25.99**	**329**	⇑P	**P**	**00 15 30.1**	**+1.2**
	baz=26						
WCI	**Wyandotte Cave**	**26.05**	**6**	*eP*	**P**	**00 15 28.3**	**-1.0**
	comp=Z,21nm,0.7s						
V28A	**Channing**	**26.06**	**336**	⇑P	**P**	**00 15 30.6**	**+1.1**
	baz=26						
X25A	**Clemmons Ranch**	**26.09**	**331**	⇑P	**P**	**00 15 30.6**	**+0.8**
	baz=26						
U30A	**WK&E Inc. Balk**	**26.17**	**339**	⇓P	**P**	**00 15 30.6**	**+0.2**
	baz=26,SNR=6.3						
BLA	**Blacksburg**	**26.20**	**17**	*eP*	**P**	**00 15 28.5**	**-2.1**
	comp=Z,14nm,0.9s						
121A	**Cookes Peak, D**	**26.22**	**323**	⇓P	**P**	**00 15 32.8**	**+1.8**
	baz=26,SNR=11						
220A	**Playas Peak, P**	**26.22**	**321**	⇑P	**P**	**00 15 33.4**	**+2.5**
	baz=26						
SLM	**Saint Louis**	**26.30**	**359**	*eP*	**P**	**00 15 31.8**	**+0.4**
	comp=Z,46nm,0.8s						
Y23A	**

S24A	Houchin Ranch,	28.91	334	⇓P	P	00 15 55.1 -0.2
	baz=29					
214A	Organ Pipe Nat	29.02	316	⇓P	P	00 15 57.0 +1.1
	baz=29					
U21A	Nageezi	29.08	329	⇑P	P	00 15 58.3 +1.7
	baz=29					
T22A	Edith	29.17	331	⇑P	P	00 15 57.9 +0.4
	baz=29					
P28A	Saint Francis	29.29	341	⇓P	P	00 15 57.8 -0.5
	baz=29					
Q25A	Bedland, Calha	29.60	336	⇓P	P	00 16 01.8 +0.6
	baz=30					
X16A	Lo Mia Camp, P	29.72	322	⇓P	P	00 16 04.2 +1.9
	baz=30					
S22A	4UR Ranch, Cre	29.73	332	⇓P	P	00 16 03.0 +0.5
	baz=30					
S21A	Coal Bank Pass	30.11	330	⇑P	P	00 16 06.9 +1.0
	baz=30					
Y14A	Wickenburg	30.38	319	⇑P	P	00 16 09.7 +1.8
	baz=30					
WUAZ	Wupatki	30.43	323	⇑P	P	00 16 10.0 +1.4
	baz=31					
S20A	Disappointment	30.52	330	⇑P	P	00 16 11.2 +1.8
	baz=31					
GLA	Glamis	31.04	316	⇓P	P	00 16 16.5 +2.7
	baz=31					
PV04	Paradox Valley	31.23	330	eP	P	00 16 17.8 +2.2
Y12C	Blythe	31.25	317	⇓P	P	00 16 18.4 +2.9
	baz=31					
PV10	Paradox Valley	31.28	330	eP	P	00 16 16.2 +0.1
PDMCI	Parker Dam,Lak	31.34	319	⇓P	P	00 16 18.9 +2.6
	baz=32					
O23A	Lake Granby, G	31.38	336	⇓P	P	00 16 17.4 +0.4
	baz=32					
SWSC	Sam W. Stewart	31.64	315	⇓P	P	00 16 22.8 +3.8
	baz=32					
W13A	Hualapai Mount	31.68	320	⇑P	P	00 16 22.3 +2.7
	baz=32					
BC3	Big Chuckawall	31.81	316	⇑P	P	00 16 22.8 +2.1
	baz=32					
K29A	Lazy Trails An	31.82	345	⇑P	P	00 16 21.9 +1.3
	baz=32					
IRM	Iron Mountain	31.91	317	⇓P	P	00 16 24.5 +3.0
	baz=32					
ECSD	EROS Data Cent	31.97	350	eP	P	00 16 20.4 -1.4
	comp=Z,7.3nm,0.9s					
PHWY	Pilot Hill	32.13	337	eP	P	00 16 24.8 +1.2
	comp=Z,11nm,1.4s					
O20A	White River Ci	32.30	333	⇓P	P	00 16 26.5 +1.5
	baz=32					
BELC	Belle Mtn. Jos	32.38	316	⇓P	P	00 16 27.9 +2.2
	baz=32					
LDFC	Landfair	32.44	319	eP	P	00 16 28.7 +2.5
	comp=Z,10.0nm,0.8s					
N21A	Black Mountain	32.50	334	⇑P	P	00 16 28.3 +1.6
	baz=33					
GMRC	Granite Mounta	32.62	318	⇓P	P	00 16 30.5 +2.8
	baz=33					
J28A	Allard Ranch,	32.67	344	⇓P	P	00 16 28.4 +0.4
	baz=33					
Q16A	Castle Valley	32.78	328	⇓P	P	00 16 30.8 +1.6
	baz=33					
O19A	Miners Draw (B	32.84	332	⇑P	P	00 16 29.9 +0.2
	baz=33					
N20A	Spence Gulch,	32.88	333	⇑P	P	00 16 30.6 +0.5
	baz=33					
L23A	Garrett	32.92	338	⇑P	P	00 16 30.8 +0.4
	baz=33					
CCUT	Cedar City	32.99	324	eP	P	00 16 33.4 +2.3
	comp=Z,48nm,3.0s					
SPMN	St. Paul	32.99	356	eP	P	00 16 29.4 -1.3
	comp=Z,14nm,1.0s					
SPMN	St. Paul	32.99	356	⇑P	P	00 16 29.4 -1.3
	baz=33					
BRSD	Miller	33.09	348	eP	P	00 16 30.6 -1.0
BRSD				epP	pP	00 16 41.1 -1.5
BRSD	Miller	33.09	348	⇑P	P	00 16 31.6 0.0
	baz=33					
J26A	Sides Ranch, S	33.10	342	⇑P	P	00 16 32.7 +1.0
	baz=33					
TUQ	Turquoise Moun	33.19	319	⇑P	P	00 16 35.4 +2.6
	baz=33					
I28A	Midland	33.19	345	⇓P	P	00 16 33.8 +1.3
	baz=33					
ARUT	Antelope Range	33.20	324	eP	P	00 16 36.0 +3.1
	comp=Z,4.1nm,1.0s					
J25A	Sunshine Ranch	33.40	341	⇓P	P	00 16 35.0 +0.6
	baz=34					
L21A	Rawlins	33.44	336	⇑P	P	00 16 35.0 0.0
	baz=34					
SAML	Samuel	33.63	128	eP	P	00 16 36.0 -0.6
	comp=Z,8.4nm,0.9s					
SADO	Sadowa	33.63	13	P	P	00 16 34.3 -2.0
SADO	Sadowa	33.63	13	P	P	00 16 34.3 -2.0
	comp=Z,8.8nm,0.8s,baz=226,slow=7.9,SNR=7.3					
COWI	Conover	33.76	1	eP	P	00 16 36.2 -1.2
	comp=Z,16nm,0.8s					
H28A	Mission Ridge	33.79	345	⇓P	P	00 16 38.4 +0.7
	baz=34					
MWC	Mount Wilson	33.92	315	epP	pP	00 16 55.8 +5.7
I25A	Rochford	33.94	342	⇑P	P	00 16 39.0 -0.3
	baz=34					
I24A	Kuemmerle Ranc	34.08	340	⇑P	P	00 16 41.0 +0.6
	baz=34					
G28A	Parade	34.14	346	⇑P	P	00 16 41.3 +0.5
	baz=34					
EDW2	Edwards Air Fo	34.23	316	⇑P	P	00 16 44.9 +3.1
	baz=34					
J22A	Midwest	34.33	338	⇑P	P	00 16 42.9 +0.3
	baz=34					
LRMC	Laurel Mountai	34.37	317	⇑P	P	00 16 45.2 +2.2
	baz=34					
FURC	Furnace Creek,	34.42	319	⇓P	P	00 16 46.1 +2.9
	baz=35					
H25A	Fruitdale	34.44	342	⇑P	P	00 16 44.3 +0.9
	baz=34					
M17A	Scullys Gap (B	34.48	331	⇓P	P	00 16 45.5 +1.5
	baz=35					
L18A	Fontenelle, Gr	34.55	333	⇓P	P	00 16 46.8 +2.2
	baz=35					
PTN	Potsdam (NY)	34.57	19	eP	P	00 16 43.3 -1.1
	comp=Z,12nm,0.8s					
DUG	Dugway	34.57	328	⇑P	P	00 16 47.2 +2.5
	baz=35					
MPMC	Manual Prospec	34.58	318	⇑P	P	00 16 46.8 +1.9
	baz=35,SNR=5.5					
J21A	Lysite	34.64	337	⇑P	P	00 16 46.3 +1.0
	baz=35					
G27A	Dupree	34.68	345	⇑P	P	00 16 46.2 +0.8
	baz=35					
LONY	Lake Ozonia	34.74	19	eP	P	00 16 45.2 -0.8
	comp=Z,6.1nm,0.9s					
I22A	9 Mile Ranch,	34.75	338	⇓P	P	00 16 47.7 +1.6
	baz=35					
R11A	Troy Canyon, C	34.83	323	⇓P	P	00 16 49.8 +2.8
	baz=35					
J20A	Shoshoni	34.90	336	⇓P	P	00 16 48.0 +0.6
	baz=35					
ISA	Isabella	35.00	317	⇓P	P	00 16 51.3 +2.9
	baz=35					
PDAR	Pinedale Array	35.02	334	P	P	00 16 49.1 +0.5
PDAR				PcP	PcP	00 19 20.7 +0.5
PDAR	Pinedale Array	35.02	334	P	P	00 16 49.1 +0.5
	comp=Z,0.5nm,0.4s,baz=131,slow=4.2,SNR=5.2					
PDAR				PcP	PcP	00 19 20.7 +0.5
	comp=Z,0.3nm,0.4s,baz=123,slow=5.5,SNR=3.6					
PDAR				LR	LR	00 34 21.0
	comp=Z,40nm,18.7s,baz=169,slow=42					
F27A	Lemmon	35.16	345	⇓P	P	00 16 50.8 +1.2
	baz=35					
J19A	Crowheart	35.21	335	⇓P	P	00 16 51.1 +0.9
	baz=35					
F26A	Lodgepole	35.31	344	⇑P	P	00 16 51.5 +0.6
	baz=35					
H22A	Clearmont	35.31	339	⇓P	P	00 16 52.4 +1.4
	baz=35					
G24A	Alzada	35.33	342	⇑P	P	00 16 52.0 +0.9
	baz=35					
LPAZ	La Paz	35.40	143	eP	P	00 16 53.0 +0.5
	comp=Z,20nm,2.1s					
LPAZ	La Paz	35.40	143	P	P	00 16 52.9 +0.4
	comp=Z,2.1nm,0.7s,baz=318,slow=6.7,SNR=9.0					
I20A	Worland	35.41	337	⇑P	P	00 16 53.0 +1.1
	baz=36					
PKM	Peak Mountain	35.50	315	⇓P	P	00 16 53.6 +0.8
	baz=36					
VES	Vestal, Richgr	35.51	316	⇑P	P	00 16 54.3 +1.6
	baz=36					
G23A	Biddle	35.52	341	⇑P	P	00 16 53.1 +0.4
	baz=36					
E27A	Carson	35.56	346	⇓P	P	00 16 54.4 +1.3
	baz=36					
H21A	Big Horn, Sher	35.59	338	⇑P	P	00 16 54.1 +0.8
	baz=36					
F25A	Bowman	35.59	343	⇓P	P	00 16 54.4 +1.1
	baz=36					
F24A	Ekalaka	35.81	342	⇓P	P	00 16 55.3 +0.1
	baz=36,SNR=6.1					
H20A	Greybull	35.82	337	⇑P	P	00 16 56.2 +0.9
	baz=36					
E26A	Carlson Angus	35.83	345	⇓P	P	00 16 56.5 +1.2
	baz=36					
I19A	Meeteetse	35.83	336	⇑P	P	00 16 56.7 +1.2
	baz=36					
G22A	Birney	35.84	340	⇑P	P	00 16 56.3 +0.9
	baz=36					
F23A	Volborg	35.99	341	⇑P	P	00 16 58.3 +1.6
	baz=36					
REDW	Red Top Meadow	36.06	333	eP	P	00 16 58.0 +0.5
	comp=Z,7.9nm,0.7s					
SNOW	Snow King Moun	36.10	333	eP	P	00 17 00.4 +2.5
	comp=Z,6.8nm,0.6s					
E25A	Miller Ranch,	36.10	344	⇓P	P	00 16 59.4 +1.8
	baz=36					
LOHW	Long Hollow	36.15	334	eP	P	00 16 58.3 -0.1
	comp=Z,2.8nm,0.9s					
G21A	Lodge Grass	36.16	339	⇑P	P	00 16 59.0 +0.8
	baz=36					
D27A	Center	36.19	346	⇓P	P	00 16 59.9 +1.5
	baz=36					
TPAW	Teton Pass	36.20	333	eP	P	00 17 01.4 +2.6
	comp=Z,5.9nm,1.1s					
RRI2	Red Ridge	36.26	333	eP	P	00 17 01.7 +2.4
	comp=Z,11nm,1.6s					
F22A	Rosebud	36.32	340	⇓P	P	00 17 00.6 +1.0
	baz=36					
AGMN	Agassiz Nation	36.34	353	eP	P	00 16 58.2 -1.3
	comp=Z,8.2nm,0.8s					
D26A	Manning	36.34	345	⇑P	P	00 17 00.3 +0.6
	baz=36					
E24A	Baker	36.41	343	⇑P	P	00 17 00.6 +0.3
	baz=36,SNR=5.1					
NV11	Mina Array Sit	36.44	321	eP	P	00 17 02.5 +1.7
MDND	Maddock	36.48	349	eP	P	00 17 00.4 -0.4
	comp=Z,62nm,0.9s					
MDND	Maddock	36.48	349	⇑P	P	00 17 00.7 -0.2
	baz=36,SNR=14					
G20A	Bridger	36.52	338	⇑P	P	00 17 01.6 +0.2
	baz=37					
NVAR	Mina Array Bea	36.52	321	P	P	00 17 02.8 +1.2
NVAR				PcP	PcP	00 19 26.1 +1.4
NVAR	Mina Array Bea	36.52	321	P	P	00 17 02.8 +1.2
	comp=Z,6.4nm,0.9s,baz=137,slow=7.8,SNR=32					
NVAR				PcP	PcP	00 19 26.1 +1.4
	comp=Z,0.7nm,0.7s,baz=127,slow=3.9,SNR=4.0					
NVAR				LR	LR	00 33 58.5
	comp=Z,53nm,19.4s,baz=357,slow=40					
H18A	Shoshone NF, C	36.63	336	⇑P	P	00 17 03.1 +0.7
	baz=37,SNR=6.6					
E23A	Ismay	36.66	342	⇓P	P	00 17 02.9 +0.5
	baz=37,SNR=7.9					
D25A	Fairfield	36.68	344	⇑P	P	00 17 03.1 +0.5
	baz=37					
C27A	Sayler Ranch,	36.76	347	⇓P	P	00 17 03.8 +0.6
	baz=37					
D24A	Glendive	36.92	343	⇑P	P	00 17 06.2 +1.6
	baz=37,SNR=6.9					
C26A	Wahner Farm, P	37.00	346	⇓P	P	00 17 06.0 +0.7
	baz=37,SNR=6.0					
G18A	Lazy EL Ranch,	37.12	336	⇓P	P	00 17 07.6 +1.1
	baz=37					
C25A	Freed Ranch, W	37.18	345	⇓P	P	00 17 08.7 +1.9
	baz=37					
D23A	Lindsay	37.23	342	⇓P	P	00 17 09.1 +1.8
	baz=37					
E21A	Keefer Ranch,	37.26	340	⇑P	P	00 17 09.1 +1.6
	baz=37					
H16A	Russell Place,	37.30	334	⇓P	P	00 17 10.0 +1.8
	baz=37					
C24A	Savage	37.33	343	⇑P	P	00 17 09.3 +1.2
	baz=37					
F19A	Roth Farm, Mol	37.33	338	⇓P	P	00 17 08.7 +0.5
	baz=37					
B27A	Peters Farms,	37.35	347	⇓P	P	00 17 09.6 +1.3
	baz=37					
D22A	Cohagen	37.51	341	⇓P	P	00 17 10.9 +1.2
	baz=38,SNR=11					
E20A	Meyer Farm, Mu	37.59	339	⇑P	P	00 17 11.6 +1.2
	baz=38,SNR=6.4					
F18A	Big Timber	37.67	337	⇑P	P	00 17 11.5 +0.4
	baz=38					
B25A	Knox Farm, Ray	37.68	345	⇑P	P	00 17 12.7 +1.7
	baz=38					
I14A	Mackay	37.68	331	⇑P	P	00 17 13.3 +2.0
	baz=38					
D21A	La Casta Ranch	37.69	340	⇑P	P	00 17 12.1 +0.9
	baz=38					
E19A	Rath Farm, Rou	37.79	338	⇑P	P	00 17 13.1 +1.0
	baz=38,SNR=5.4					
C23A	Lambert	37.79	343	⇓P	P	00 17 12.6 +0.6
	baz=38,SNR=7.4					
HLID	Hailey	37.87	330	⇑P	P	00 17 14.7 +1.8
	baz=38					
C22A	Vida	37.95	342	⇑P	P	00 17 14.5 +1.2
	baz=38,SNR=9.5					
A26A	Wade Farm, Ken	37.99	347	⇑P	P	00 17 13.9 +0.3
	baz=38					
F17A	Fitzpatrick Pl	38.04	336	⇑P	P	00 17 15.1 +0.8
	baz=38					
MCMT	McKenzie Canyo	38.10	333	eP	P	00 17 16.1 +1.3
D20A	Manuel Ranch,	38.10	339	⇓P	P	00 17 15.1 +0.5
	baz=38,SNR=9.1					
DGMT	Dagmar	38.13	344	eP	P	00 17 16.2 +1.4
	comp=Z,35nm,0.7s					
DGMT	Dagmar	38.13	344	⇑P	P	00 17 16.0 +1.2
	baz=38,SNR=6.7					
ULM	Lac du Bonnet	38.26	353	eP	P	00 17 14.8 -1.0
	comp=Z,14nm,1.6s					
ULM	Lac du Bonnet	38.26	353	P	P	00 17 14.1 -1.7
	comp=Z,3.3nm,0.7s,baz=185,slow=6.6,SNR=6.9					
ULM				LR	LR	00 35 17.3
	comp=Z,100nm,20.3s,baz=295,slow=40					
A25A	Svangstu Ranch	38.28	346	⇑P	P	00 17 17.8 +1.7
	baz=38					
E18A	Harlowton	38.30	337	⇓P	P	00 17 17.2 +0.8
	baz=38					
B23A	Brockton	38.34	343	⇑P	P	00 17 16.8 +0.2
	baz=38,SNR=7.0					
C21A	Desert Coulee	38.40	341	⇑P	P	00 17 18.3 +1.2
	baz=38					
DLMT	Dillon	38.41	344	eP	P	00 17 22.6 +5.2
	comp=Z,3.4nm,0.9s					
D19A	Cripps Ranch,	38.42	339	⇑P	P	00 17 18.4 +1.0
	baz=38					
B22A	Reddig Ranch S	38.48	342	⇓P	P	00 17 19.3 +1.5
	baz=39					
A24A	Westby	38.49	345	⇓P	P	00 17 19.2 +1.4
	baz=39					
E17A	Martinsdale	38.57	336	⇑P	P	00 17 20.6 +1.8
	baz=39					
C20A	Veseth Ranch,	38.59	340	⇑P	P	00 17 20.5 +1.8
	baz=39,SNR=6.1					
BEKR	Beckworth	38.67	321	eP	P	00 17 21.6 +2.0
	comp=Z,2.6nm,0.9s					
LRM	Limekiln Ridge	38.71	334	eP	P	00 17 23.7 +3.8
D18A	Linhart Farms,	38.78	338	⇓P	P	00 17 21.9 +1.4
	baz=39					
C19A	Slack Wire Ran	38.97	339	⇑P	P	00 17 22.9 +0.9
	baz=39					
A22A	Carney Farms,	39.08	343	⇓P	P	00 17 24.0 +1.2
	baz=39,SNR=5.1					
D17A	Six Diamond Ra	39.08	337	⇑P	P	00 17 23.9 +0.9
	baz=39					
WVOR	Wild Horse Val	39.27	325	eP	P	00 17 26.2 +1.6
	comp=Z,2.9nm,1.0s					
A21A	Bergtoll Ranch	39.37	342	⇓P	P	00 17 26.1 +0.9
	baz=40					
EGMT	Eagleton	39.47	339	eP	P	00 17 25.2 -0.9
	comp=Z,18nm,1.4s					
EGMT	Eagleton	39.47	339	⇓P	P	00 17 26.7 +0.7
	baz=40					
C17A	Wharram Farm,	39.51	337	⇓P	P	00 17 27.3 +0.9
	baz=40					
B19A	Brinkman Farms	39.55	340	⇓P	P	00 17 27.7 +0.9
	baz=40					
A20A	Cobblestone Ra	39.59	341	⇑P	P	00 17 28.3 +1.3
	baz=40					
B18A	Beardsley Farm	39.79	339	⇓P	P	00 17 29.8 +1.1
	baz=40					
A19A	Klindworth Far	39.89	340	⇑P	P	00 17 30.7 +1.0
	baz=40					
C16A	Fuhringer Ranc	40.02	337	⇑P	P	00 17 32.0 +1.3
	baz=40					
MSO	Missoula	40.14	334	eP	P	00 17 36.0 +4.2
	comp=Z,14nm,1.8s					
MSO	Missoula	40.14	334	⇑P	P	00 17 32.6 +0.8
	baz=40					
A18A	Metzger Ranch,	40.26	339	⇓P	P	00 17 33.6 +1.0
	baz=40					
C15A	Salmond Ranch,	40.34	336	⇑P	P	00 17 34.2 +0.8
	baz=40					
A17A	Triple J Farms	40.58	339	⇓P	P	00 17 36.7 +1.4
	baz=41					
B15A	Bradely Ranch,	40.75	336	⇓P	P	00 17 38.1 +1.3
	baz=41					
A16A	West Butte Ran	40.91	338	⇓P	P	00 17 40.2 +2.1
	baz=41					
B14A	Marquette Ranc	41.07	336	⇓P	P	00 17 41.8 +2.3
	baz=41					
A15A	Johnson Ranch,	41.36	337	⇑P	P	00 17 42.4 +0.6
	baz=42					
A14A	Double T Ranch	41.62	336	⇓P	P	00 17 45.3 +1.4
	baz=42,SNR=7.0					
SCHQ	Schefferville	46.10	18	eP	P	00 18 18.1 -1.6
	comp=Z,15nm,0.9s					
SCHQ	Schefferville	46.10	18	P	P	00 18 17.3 -2.4
	comp=Z,11nm,0.9s,baz=220,slow=6.8,SNR=11					
SCHQ				LR	LR	00 37 51.2
	comp=Z,46nm,19.9s,baz=257,slow=36					
CPUP	Villa Florida	49.52	141	P	P	00 18 45.2 -1.3
CPUP	Villa Florida	49.52	141	P	P	00 18 45.2 -1.3
	comp=Z,2.3nm,0.8s,baz=275,slow=9.7,SNR=4.3					
BDFB	Brasília	49.58	123	P	P	00 18 45.9 -1.4
BDFB	Brasília	49.58	123	P	P	00 18 45.9 -1.4
	comp=Z,1.8nm,0.7s,baz=324,slow=15,SNR=3.1					
BDFB				LR	LR	00 42 06.6
	comp=Z,86nm,19.1s,baz=327,slow=39					
YKA	Yellowknife Ar	53.29	346	P	P	00 19 12.8 -1.4
YKA	Yellowknife Ar	53.29	346	P	P	00 19 12.8 -1.4
	comp=Z,1.6nm,0.7s,baz=138,slow=8.3,SNR=8.3					
DLBC	Dease Lake	55.23	335	eP	P	00 19 31.6 +3.1
PLCA	Paso Flores	55.56	163	P	P	00 19 30.6 -0.5
PLCA	Paso Flores	55.56	163	P	P	00 19 30.6 -0.5
	comp=Z,3.2nm,0.9s,baz=340,slow=11,SNR=4.8					
ILAR	Eielson Array	65.39	337	P	P	00 20 37.4 -0.4
ILAR	Eielson Array	65.39	337	P	P	00 20 37.4 -0.4
	comp=Z,1.8nm,1.0s,baz=134,slow=5.7,SNR=16					
PPT	Papeete	66.23	245	LR	LR	00 43 03.3
	comp=Z,86nm,18.1s,baz=354,slow=30					
ESDC	Sonseca Array	78.95	52	P	P	00 22 00.1 +0.7
ESDC	Sonseca Array	78.95	52	P	P	00 22 00.1 +0.7
	comp=Z,0.1nm,0.3s,baz=292,slow=6.7,SNR=4.1					
TIC	Toumodi	83.32	85	eP	P	00 22 24.7 +1.6
	comp=Z,34nm,1.0s					
LIC	Lamto	83.39	85	eP	P	00 22 25.3 +1.9
	comp=Z,45nm,0.9s					
DBIC	Dimbokro	83.47	85	P	P	00 22 24.8 +1.0
DBIC	Dimbokro	83.47	85	P	P	00 22 24.8 +1.0
	comp=Z,8.5nm,0.9s,baz=268,slow=7.3,SNR=6.1					
DBIC				LR	LR	00 56 33.6
	comp=Z,55nm,18.6s,baz=123,slow=34					
KIC	Kosan Boka	83.65	85	eP	P	00 22 26.5 +1.8
	comp=Z,29nm,0.9s					
NOA	NORSAR Array B	84.56	29	P	P	00 22 28.8 +0.3
NOA	NORSAR Array B	84.56	29	P	P	00 22 28.8 +0.3
	comp=Z,0.8nm,0.9s,baz=288,slow=5.0,SNR=3.7					
NOA				LR	LR	00 58 07.7
	comp=Z,15nm,18.6s,baz=270,slow=34					
ARCES	ARCESS Array B	87.06	19	P	P	00 22 40.0 -0.7
ARCES	ARCESS Array B	87.06	19	P	P	00 22 40.0 -0.7
	comp=Z,1.7nm,1.0s,baz=316,slow=6.8,SNR=4.3					
ARCES				LR	LR	01 02 32.9
	comp=Z,21nm,18.6s,baz=280,slow=36					
TORD	Torodi Ar. Bea	88.48	77	P	P	00 22 48.1 -0.5
TORD	Torodi Ar. Bea	88.48	77	P	P	00 22 48.1 -0.5
	comp=Z,0.9nm,0.7s,baz=290,slow=5.3,SNR=13					
FINES	FINESS Array B	91.07	26	LR	LR	01 06 22.5
	comp=Z,33nm,19.1s,baz=184,slow=37					
MKAR	Makanchi Array	120.79	6	PKP	PKPdf	00 28 47.7 0.0
MKAR	Makanchi Array	120.79	6	PKP	PKPdf	00 28 47.7 0.0
	comp=Z,0.4nm,0.9s,baz=324,slow=3.9,SNR=3.2					
WRA	Warramunga Arr	137.22	254	PKP	PKPdf	00 29 20.1 +0.6
WRA	Warramunga Arr	137.22	254	PKP	PKPdf	00 29 20.1 +0.6
	comp=Z,1.8nm,1.0s,baz=101,slow=1.7,SNR=10					
ASAR	Alice Springs	137.26	248	PKP	PKPdf	00 29 19.4 -0.2
ASAR	Alice Springs	137.26	248	PKP	PKPdf	00 29 19.4 -0.2
	comp=Z,4.6nm,0.3s,baz=86,slow=2.0,SNR=6.7					
FITZ	Fitzroy Crossi	145.56	256	PKPbc	PKPdf	00 29 33.9 -0.5
FITZ	Fitzroy Crossi	145.56	256	PKPbc	PKPdf	00 29 33.9 -0.5
	comp=Z,7.4nm,0.9s,baz=59,slow=0.2,SNR=11					
CMAR	Chiang Mai Arr	148.37	344	PKPbc	PKPbc	00 29 43.5 +0.9
CMAR	Chiang Mai Arr	148.37	344	PKPbc	PKPbc	00 29 43.5 +0.9
	comp=Z,3.0nm,0.7s,baz=340,slow=2.7,SNR=14					

*JMA **10** 00:18:33.9±0.3, 33°.01N×138°.55E, h298km, M3.7*
*ISCJB **10** 00:18:34.1±0.9, 33°.1N±0°.1×138°.5E±0°.1, h300km, mb2.8/2, Error ellipse: s-maj=15.9km s-min=12.8km az=43.8*
*IDC **10** 00:18:34.8±2.9, 33°.14N×138°.34E, h288km±77km, mb2.8/2, mb1 2.9/3, mb1mx2.7/27, mbtmp2.7/3, Error ellipse: s-maj=180.7km s-min=26.5km az=62.0*

ISC 10 00:18:35.1±1.2, 33°.2N±0°.1×138°.5E±0°.1, h300km, n12, σ0°58/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMMJ	Hamamatsu 2	1.77	339	eS	S	00 19 55.2	-0.7
JKN2	Miekihoku	2.13	300	P	Pn	00 19 22.7	-0.1
JNY	Yasuok	2.21	346	P	Pn	00 19 24.5	+0.9
JYN	Shimob	2.29	1	P	Pn	00 19 25.3	+1.1
BSO3	Boso 3	2.30	46	P	Pn	00 19 23.9	-0.1
BSO3				eS	S	00 20 03.1	+0.1
BSO4	Boso 4	2.34	40	P	Pn	00 19 24.7	+0.2
BSO1	Boso 1	2.51	54	P	Pn	00 19 25.3	-0.2
JHU	Hanno	2.72	13	P	Pn	00 19 28.2	+0.2
JHU				eS	S	00 20 09.8	-0.5
JRY	Ryogami san	2.82	6	P	Pn	00 19 29.9	+0.8
MJAR	Matsushiro Arr	3.34	356	P	Pn	00 19 33.7	-0.5
	0.6nm,0.3s,baz=173,slow=12,SNR=5.8						
MKAR	Makanchi Array	44.25	305	P	P	00 26 15.2	-0.1
	0.3nm,0.6s,baz=86,slow=9.7,SNR=7.5						
WRA	Warramunga Arr	53.00	185	P	P	00 27 21.9	+0.2
	0.2nm,0.3s,baz=360,slow=7.6,SNR=6.1						

IDC 10 00:20:44.6±6.0, 5°.67S×146°.10E, h100km±64km, mb3.3/3, mb1 3.5/5, mb1mx3.2/19, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=51.6km s-min=30.6km az=144.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.86	164	P	Pn	00 21

0.1nm,0.3s,baz=102,slow=20,SNR=3.7
WRA Warramunga Arr 14.61 145 Pn Pn 00 45 26.9 +0.5
0.2nm,0.3s,baz=318,slow=13,SNR=11
WRA Sn Sn 00 48 01.6 -7.6
0.0nm,0.3s,baz=313,slow=26,SNR=3.2
ASAR Alice Springs 17.52 154 P Pn 00 46 04.4 +0.4
0.1nm,0.3s,baz=326,slow=9.9,SNR=8.6
SONM Songino Array 58.12 345 P P 00 51 53.9 +0.3
0.2nm,0.3s,baz=157,slow=7.8,SNR=4.2
MKAR Makanchi Array 66.72 329 P P 00 52 50.8 -0.3
0.2nm,0.6s,baz=124,slow=7.2,SNR=2.1

IDC 10 00:41:59.3±6.0, 28°.28S×177°.92W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/17, mbtmp3.8/2, Error ellipse: s-maj=253.1km s-min=94.8km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.34**	**265**	P	P	00 50 03.0	-0.4
0.9nm,0.5s,baz=103,slow=7.2,SNR=13							
WRA	**Warramunga Arr**	**44.13**	**270**	P	P	00 50 09.9	+0.1
0.7nm,0.5s,baz=110,slow=7.7,SNR=13							
FINES	**FINESS Array B**	**143.18**	**341**	PKP	PKPdf	01 01 34.4	-0.3
0.8nm,0.5s,baz=47,slow=3.9,SNR=13							

IDC 10 01:06:52.7±1.4, 8°.88S×122°.76E, h155km±10km, mb2.9/1, mb1 3.0/4, mb1mx2.9/21, mbtmp2.9/4, Error ellipse: s-maj=103.1km s-min=15.3km az=57.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.59**	**146**	P	Pn	01 07 25.0	+1.4
1.6nm,0.3s,baz=61,slow=19,SNR=3.7							
BATI				S	Sn	01 07 47.0	-0.4
16nm,0.3s,baz=283,slow=22,SNR=7.8							
FITZ	**Fitzroy Crossi**	**9.58**	**163**	P	Pn	01 09 07.0	-0.1
0.1nm,0.3s,baz=353,slow=11,SNR=7.1							
FITZ				S	Sn	01 10 47.2	-6.2
0.6nm,0.3s,baz=259,slow=24,SNR=17							
WRA	**Warramunga Arr**	**15.69**	**136**	P	P	01 10 26.4	+0.1
0.2nm,0.3s,baz=314,slow=11,SNR=14							
WRA				S	Sn	01 13 13.6	-6.9
0.2nm,0.3s,baz=307,slow=25,SNR=7.3							
ASAR	**Alice Springs**	**18.16**	**145**	P	Pn	01 10 55.0	-0.2
0.2nm,0.3s,baz=329,slow=13,SNR=6.7							
ASAR				S	S	01 14 13.7	+0.2
0.1nm,0.3s,baz=319,slow=22,SNR=4.0							
MKAR	**Makanchi Array**	**66.11**	**331**	P	P	01 17 22.8	-0.4
0.2nm,0.4s,baz=128,slow=8.7,SNR=3.5							

---

*JMA **10** 01:14:33.9±0.6, 33°.75N×142°.04E, h6km, M3.5*
*ISCJB **10** 01:14:39.3±1.1, 33°.93N±0°.06×141°.87E±0°.10, h21km, mb3.4/3, Error ellipse: s-maj=12.3km s-min=8.3km az=153.3*
*IDC **10** 01:14:44.9±3.7, 33°.29N×140°.29E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=144.9km s-min=21.7km az=70.0*
ISC 10 01:14:41.2±1.4, 33°.98N±0°.07×141°.9E±0°.1, h21km, n13, σ1§81/16, mb3.4/3, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.00**	**312**	P	Pb	01 14 57.5	-2.0
BSO2	**Boso 2**	**1.20**	**310**	*e*S	Sn	01 15 20.6	+2.6
BSO3	**Boso 3**	**1.39**	**306**	P	Pn	01 15 03.5	-1.7
BSO3				*e*S	Sb	01 15 24.8	+1.3
BSO4	**Boso 4**	**1.62**	**309**	P	Pn	01 15 07.4	-1.0
JHJ2	**Mitsune**	**1.92**	**244**	*e*S	Sn	01 15 34.0	-2.3
JYN	**Shimob**	**3.13**	**300**	S	Sn	01 16 06.2	+0.1
JAG	**Ashikaga**	**3.14**	**322**	P	Pn	01 15 28.6	-0.9
JRY	**Ryogami san**	**3.17**	**311**	P	Pn	01 15 29.4	-0.5
JFT	**Otama**	**3.74**	**341**	P	Pn	01 15 37.4	-0.4
JFT				S	Sn	01 16 17.7	-3.5
MJAR	**Matsushiro Arr**	**3.94**	**311**	Pn	Pn	01 15 40.4	0.0
2.9nm,0.3s,baz=151,slow=10.0,SNR=17							
MJAR				Sn	Sn	01 16 26.7	+0.7
0.3nm,0.3s,baz=180,slow=18,SNR=3.0							
MKAR	**Makanchi Array**	**46.11**	**305**	P	P	01 23 06.4	+2.5
0.3nm,0.7s,baz=78,slow=9.0,SNR=3.2							
WRA	**Warramunga Arr**	**54.10**	**189**	P	P	01 24 04.4	-0.2
0.2nm,0.4s,baz=2.1,slow=7.7,SNR=9.5							
ASAR	**Alice Springs**	**57.83**	**189**	P	P	01 24 32.4	+1.2
0.2nm,0.6s,baz=3.5,slow=6.0,SNR=3.2							

IDC 10 01:40:11.0±1.8, 16°.52S×178°.32W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/19, mbtmp4.2/4, Error ellipse: s-maj=156.7km s-min=31.8km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.38**	**240**	P	P	01 47 42.6	0.0
1.8nm,0.5s,baz=85,slow=12,SNR=6.6							
WRA	**Warramunga Arr**	**44.98**	**258**	P	P	01 48 28.3	-0.1
0.8nm,0.3s,baz=91,slow=8.1,SNR=41							
ASAR	**Alice Springs**	**45.26**	**253**	P	P	01 48 30.3	-0.3
10nm,0.6s,baz=88,slow=8.4,SNR=129							
TXAR	**Lajitas Array**	**85.19**	**58**	P	P	01 52 49.8	0.0
0.1nm,0.4s,baz=228,slow=4.9,SNR=3.9							

IDC 10 01:55:57.9±3.2, 4°.02S×152°.54E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=105.9km s-min=32.4km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**227**	P	P	02 01 12.9	+0.5
0.5nm,0.3s,baz=51,slow=9.8,SNR=16							
ASAR	**Alice Springs**	**26.56**	**221**	P	P	02 01 38.3	+0.5
0.1nm,0.3s,baz=42,slow=13,SNR=2.6							
FITZ	**Fitzroy Crossi**	**29.82**	**240**	P	P	02 02 06.8	-0.1
0.4nm,0.3s,baz=63,slow=9.0,SNR=9.9							
MKAR	**Makanchi Array**	**79.57**	**319**	P	P	02 08 08.0	+1.1
0.4nm,0.5s,baz=91,slow=6.3,SNR=4.7							
TORD	**Torodi Ar. Bea**	**149.81**	**289**	PKPbc	PKPbc	02 15 49.0	-2.1
0.6nm,0.6s,baz=87,slow=1.9,SNR=7.9							

---

*IDC **10** 02:06:39.9±0.9, 16°.44S×177°.51E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/19, mbtmp4.1/11, MS4.1/20, Ms1 4.1/20, ms1mx3.9/36, Error ellipse: s-maj=46.1km s-min=18.8km az=147.0*
*ISCJB **10** 02:06:42.3±0.5, 16°.41S±0°.07×177°.40E±0°.09, h24km, mb4.3/16, MS4.1/17, Error ellipse: s-maj=13.5km s-min=8.9km az=158.7*
*GCMT **10** 02:06:45.1±0.3, 16°.27S×177°.44E, h16km±1km, MW4.9, Moment Tensor Solution. s20,c24; s73,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.22±.12; M_{tt}=0.06±.13; M_{pp}=0.16±.12; M_{rt}=1.55±.42; M_{rp}=2.83±.11; M_{tp}=-0.22±.32; Best double couple: M_0=3.20000×10^{16} NP1:φs=268.00000°, δ85.00000°, λ-29.00000°. NP2:φs=1.00000°, δ61.00000°, λ-175.00000°. Principal axes: T 3.2100, Plg16.0000°, Azm318.0000°; N 0.0500, Plg61.0000°, Azm80.0000°; P -3.2700, Plg23.0000°, Azm221.0000°; Data Used: IU II G IC CN.*
*NEIC **10** 02:06:45.1±0.4, 16°.53S×177°.52E, h35km, mb4.6/7 Error ellipse: s-maj=14.6km s-min=12.0km az=117.0*
ISC 10 02:06:43.5±0.6, 16°.44S±0°.09×177°.5E±0°.1, h24km, n49, σ0§97/34, mb4.2/16, MS4.2/17, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.38**	**159**	*e*Pn	Pn	02 07 05.3	-2.1
MSVF				*e*S	Sb	02 07 27.2	+1.2
AFI	**Afiamalu**	**10.63**	**78**	LR	LR	02 12 31.6	
comp=Z,541nm,18.9s,baz=251,slow=33							
DZM	**Mont Dzumac**	**11.86**	**240**	*e*LR	LR	02 12 05.2	
2μm,26.1s							
RAO	**Raoul Island**	**13.42**	**163**	LR	LR	02 13 29.6	
comp=Z,1μm,18.5s,baz=162,slow=30							
HNR	**Honiara**	**18.48**	**290**	LR	LR	02 17 08.6	
comp=Z,305nm,18.5s,baz=124,slow=34							
URZ	**Urewera**	**21.74**	**181**	LR	LR	02 19 13.8	
comp=Z,295nm,18.4s,baz=189,slow=35							
RAR	**Rarotonga**	**22.00**	**106**	LR	LR	02 18 11.1	
comp=Z,340nm,18.6s,baz=135,slow=31							
PMG	**Port Moresby**	**30.38**	**280**	LR	LR	02 22 42.7	
comp=Z,236nm,19.7s,baz=100,slow=32							
PPT2	**Papeete2**	**31.46**	**97**	*e*LQ	LQ	02 20 00.2	
1μm,28.0s							
PPT2				*e*LR	LR	02 21 22.4	
629nm,29.8s							
PPT	**Papeete**	**31.46**	**97**	LR	LR	02 22 52.5	
comp=Z,158nm,18.4s,baz=267,slow=31							
TBI	**Tubuai**	**31.75**	**108**	*e*LQ	LQ	02 20 10.0	
1μm,27.2s							
TBI				*e*LR	LR	02 21 26.5	
857nm,31.5s							
STKA	**Stephens Creek**	**36.01**	**238**	*e*P	P	02 13 43.7	+0.8
2.1nm,1.1s							
STKA	**Stephens Creek**	**36.01**	**238**	P	P	02 13 44.4	+1.5
5.3nm,0.9s,baz=48,slow=8.9,SNR=8.6							
STKA				LR	LR	02 26 36.2	
comp=Z,387nm,20.5s,baz=44,slow=33							
WRA	**Warramunga Arr**	**41.09**	**258**	P	P	02 14 24.8	-1.0
WRA	**Warramunga Arr**	**41.09**	**258**	P	P	02 14 24.8	-1.0
1.6nm,0.9s,baz=90,slow=9.0,SNR=9.5							
ASAR	**Alice Springs**	**41.47**	**253**	P	P	02 14 28.6	-0.3
ASAR	**Alice Springs**	**41.47**	**253**	P	P	02 14 28.6	-0.3
4.6nm,0.8s,baz=82,slow=8.9,SNR=29							
ASAR				LR	LR	02 30 21.2	
comp=Z,181nm,18.3s,baz=86,slow=34							
RKT	**Rikitea**	**45.04**	**106**	*e*LQ	LQ	02 25 04.1	
348nm,34.8s							
RKT				*e*LR	LR	02 27 42.9	
483nm,28.5s,baz=276							
FITZ	**Fitzroy Crossi**	**49.44**	**260**	P	P	02 15 30.9	-1.2
FITZ	**Fitzroy Crossi**	**49.44**	**260**	P	P	02 15 30.9	-1.2
9.1nm,1.1s,baz=122,slow=11,SNR=8.9							
DAV	**Davao City (W)**	**56.44**	**290**	LR	LR	02 36 29.0	
comp=Z,195nm,21.3s,baz=169,slow=32							
NWAO	**Narrogin (SRO)**	**56.48**	**241**	LR	LR	02 38 33.3	
comp=Z,405nm,21.2s,baz=69,slow=34							
SBA	**Scott Base**	**61.67**	**183**	*e*P	P	02 17 00.0	+1.0
16nm,1.3s							
KSRS	**Korea Array**	**71.06**	**320**	LR	LR	02 43 02.5	
comp=Z,137nm,19.5s,baz=121,slow=31							
PETK	**Petropavlovsk-**	**71.35**	**348**	LR	LR	02 42 58.8	
comp=Z,66nm,21.4s,baz=34,slow=30							
QSPA	**South Pole Qui**	**73.60**	**180**	*e*P	P	02 18 15.3	+0.6
12nm,1.1s							
NVAR	**Mina Array Bea**	**81.13**	**46**	P	P	02 18 57.8	+0.4
NVAR	**Mina Array Bea**	**81.13**	**46**	P	P	02 18 57.8	+0.4
0.7nm,1.0s,baz=227,slow=7.9,SNR=3.8							
NVAR				LR	LR	02 46 24.4	
comp=Z,214nm,21.3s,baz=99,slow=29							
MAW	**Mawson**	**83.89**	**201**	P	P	02 19 10.1	-0.9
0.6nm,1.0s							
MAW	**Mawson**	**83.89**	**201**	P	P	02 19 10.5	-0.5
1.5nm,0.9s,baz=129,slow=6.5,SNR=3.5							
CMAR	**Chiang Mai Arr**	**84.73**	**291**	P	P	02 19 17.7	+1.5
CMAR	**Chiang Mai Arr**	**84.73**	**291**	P	P	02 19 17.7	+1.5
1.3nm,0.4s,baz=138,slow=4.7,SNR=5.8							
CMAR				LR	LR	02 55 44.4	
comp=Z,55nm,19.7s,baz=336,slow=35							
COLA	**College**	**85.25**	**14**	P	P	02 19 17.4	-0.3
21nm,1.0s							
ILAR	**Eielson Array**	**85.39**	**14**	P	P	02 19 17.9	-0.5
ILAR	**Eielson Array**	**85.39**	**14**	P	P	02 19 17.9	-0.5
1.0nm,0.8s,baz=232,slow=6.2,SNR=17							
ILAR				LR	LR	02 50 05.3	
comp=Z,70nm,20.0s,baz=229,slow=30							
DLMT	**Dillon**	**88.10**	**41**	*e*P	P	02 19 32.5	+0.2
4.6nm,1.0s							
TXAR	**Lajitas Array**	**88.54**	**59**	P	P	02 19 35.8	+1.0
TXAR	**Lajitas Array**	**88.54**	**59**	P	P	02 19 35.8	+1.0
0.4nm,0.8s,baz=212,slow=4.4,SNR=4.7							
TXAR				LR	LR	02 50 16.6	
comp=Z,140nm,21.5s,baz=0.0,slow=30							
IMW	**Indian Meadow**	**88.55**	**43**	*e*P	P	02 19 35.6	+0.9
1.9nm,0.9s							
PDAR	**Pinedale Array**	**89.01**	**45**	P	P	02 19 36.5	-0.3
PDAR	**Pinedale Array**	**89.01**	**45**	P	P	02 19 36.5	-0.3
0.5nm,0.9s,baz=199,slow=3.1,SNR=4.1							
PDAR				LR	LR	02 52 57.9	
comp=Z,86nm,19.8s,baz=248,slow=31							
SONM	**Songino Array**	**89.92**	**320**	P	P	02 19 40.5	-0.4
SONM	**Songino Array**	**89.92**	**320**	P	P	02 19 40.5	-0.4
0.7nm,0.8s,baz=131,slow=4.5,SNR=4.4							
SONM				LR	LR	02 55 14.3	
comp=Z,95nm,19.9s,baz=170,slow=32							
PLCA	**Paso Flores**	**95.14**	**135**	LR	LR	02 56 07.1	
comp=Z,160nm,18.1s,baz=316,slow=31							
GERES	**GERESS Array B**	**145.08**	**341**	PKPbc	PKPdf	02 26 19.5	+0.5
GERES	**GERESS Array B**	**145.08**	**341**	PKPbc	PKPdf	02 26 19.5	+0.5
0.5nm,0.7s,baz=41,slow=4.3,SNR=4.8							
BFO	**Black Forest**	**146.98**	**347**	*e*PKPbc	PKPbc	02 26 24.0	-0.2
TUE	**Stuetta**	**148.48**	**344**	*e*PKPbc	PKPab	02 26 30.4	-1.5
BNI	**Bardonecchia**	**150.45**	**347**	*e*PKPbc	PKPbc	02 26 32.1	-1.3

---

*MDD **10** 02:09:11.5±0.7, 36°.96N×4°.20E, h0km, mb3.6/10, Error ellipse: s-maj=8.2km s-min=5.7km az=79.0, PRXIMO*
*CSEM **10** 02:09:11.6±0.4, 36°.90N×4°.11E, h10km, mb3.6/10, Error ellipse: s-maj=9.1km s-min=7.2km az=88.0*
*CRAAG **10** 02:09:12.2, 36°.81N×3°.94E, Ml3.3*
ISC 10 02:09:10.1±1.1, 36°.92N±0°.04×4°.20E±0°.05, h13km, n43, σ1§96/61, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.91**	**197**	P	Pn	02 09 30.3	+1.6
AKET	**Djebel Ketaf**	**0.91**	**197**	P	Pn	02 09 30.3	+1.6
AKET	**Djebel Ketaf**	**0.91**	**197**	P	Pn	02 09 30.3	+1.6
ABA	**Alger-Bouzarea**	**0.94**	**263**	P	Pn	02 09 29.2	+0.1
ABA	**Alger-Bouzarea**	**0.94**	**263**	P	Pn	02 09 29.2	+0.1
ABA	**Alger-Bouzarea**	**0.94**	**263**	P	Pn	02 09 29.2	+0.1
ADJB	**Djebel Djouab**	**0.98**	**219**	P	Pb	02 09 29.7	+0.8
ADJB	**Djebel Djouab**	**0.98**	**219**	P	Pb	02 09 29.7	+0.8
ADJB	**Djebel Djouab**	**0.98**	**219**	P	Pb	02 09 29.7	+0.8
SET	**Setif**	**1.20**	**126**	P	Pn	02 09 33.0	+0.3
SET	**Setif**	**1.20**	**126**	P	Pn	02 09 33.0	+0.3
SET	**Setif**	**1.20**	**126**	P	Pn	02 09 33.0	+0.3
EMHD	**Djebel Mahouad**	**1.23**	**235**	P	Pn	02 09 33.3	+0.1
EMHD	**Djebel Mahouad**	**1.23**	**235**	P	Pn	02 09 33.3	+0.1
EMHD	**Djebel Mahouad**	**1.23**	**235**	P	Pn	02 09 33.3	+0.1
ETOS	**Mallorca**	**3.05**	**339**	P	Pn	02 09 59.7	+1.6
0.7nm,0.1s,SNR=11							
ETOS				S	Sn	02 10 32.9	-1.5
1.2nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**3.05**	**339**	P	Pn	02 09 59.7	+1.6
0.7nm,0.1s,SNR=11							
ETOS				S	Sn	02 10 32.9	-1.5
1.2nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**3.93**	**298**	P	Pn	02 10 11.4	+1.2
0.1nm,0.2s,SNR=7.9							
EBEN				S	Sn	02 10 55.0	-1.3
0.5nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**3.93**	**298**	P	Pn	02 10 11.4	+1.2
0.1nm,0.2s,SNR=7.9							
EBEN				S	Sn	02 10 55.0	-1.3
0.5nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.87**	**292**	P	Pn	02 10 25.1	+2.0
0.3nm,0.1s,SNR=20							
ETOB				S	Sn	02 11 17.2	-2.2
0.6nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.87**	**292**	P	Pn	02 10 25.1	+2.0
0.3nm,0.1s,SNR=20							
ETOB				S	Sn	02 11 17.2	-2.2
0.6nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.02**	**315**	P	Pn	02 10 26.4	+1.1
0.7nm,0.2s,SNR=7.9							
EMOS				S	Sn	02 11 20.9	-2.4
0.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**5.02**	**315**	P	Pn	02 10 26.4	+1.1
0.7nm,0.2s,SNR=7.9							
EMOS				S	Sn	02 11 20.9	-2.4
0.4nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.03**	**345**	P	Pn	02 10 26.9	+1.6
3.5nm,0.2s,SNR=14							
CFON				S	Sn	02 11 20.2	-3.1
1.1nm,0.2s,SNR=6.4							
CFON	**Fontmartina**	**5.03**	**345**	P	Pn	02 10 26.9	+1.6
3.5nm,0.2s,SNR=14							
CFON				S	Sn	02 11 20.2	-3.1
1.1nm,0.2s,SNR=6.4							
EPOB	**Poblet**	**5.05**	**332**	P	Pn	02 10 27.5	+1.9
0.2nm,0.1s,SNR=7.9							
EPOB				S	Sn	02 11 20.3	-3.5
1.8nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.05**	**332**	P	Pn	02 10 27.5	+1.9
0.2nm,0.1s,SNR=7.9							
EPOB				S	Sn	02 11 20.3	-3.5
1.8nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**5.40**	**338**	P	Pn	02 10 33.0	+2.6
0.8nm,0.1s,SNR=8.1							
EMIR				S	Sn	02 11 30.2	-2.3
1.9nm,0.3s							
EMIR	**Miracle**	**5.40**	**338**	P	Pn	02 10 33.0	+2.6
0.8nm,0.1s,SNR=8.1							
EMIR				S	Sn	02 11 30.2	-2.3
1.9nm,0.3s							
EJON	**La Jonquera**	**5.62**	**350**	P	Pn	02 10 35.3	+2.0
1.7nm,0.1s,SNR=7.9							
EJON	**La Jonquera**	**5.62**	**350**	P	Pn	02 10 35.3	+2.0
1.7nm,0.1s,SNR=7.9							
EQES	**Quesada**	**5.86**	**281**	P	Pn	02 10 39.0	+2.2
0.1nm,0.1s,SNR=7.9							
EQES				S	Sn	02 11 42.1	-1.8
0.3nm,0.2s,SNR=5.0							
EQES	**Quesada**	**5.86**	**281**	P	Pn	02 10 39.0	+2.2
0.1nm,0.1s,SNR=7.9							
EQES				S	Sn	02 11 42.1	-1.8
0.3nm,0.2s,SNR=5.0							
CSOR	**Sort**	**5.94**	**337**	P	Pn	02 10 40.8	+2.9
0.3nm,0.1s,SNR=7.9							
CSOR				S	Sn	02 11 43.2	-2.7
0.8nm,0.3s,SNR=5.0							
CSOR	**Sort**	**5.94**	**337**	P	Pn	02 10 40.8	+2.9
0.3nm,0.1s,SNR=7.9							
CSOR				S	Sn	02 11 43.2	-2.7
0.8nm,0.3s,SNR=5.0							
EGUA	**Guajares**	**6.23**	**272**	S	Sn	02 11 51.3	-1.4
1.8nm,0.1s,SNR=4.0							
EGUA	**Guajares**	**6.23**	**272**	S	Sn	02 11 51.3	-1.4
1.8nm,0.1s,SNR=4.0							
ERON	**Agron**	**6.41**	**273**	S	Sn	02 11 55.5	-2.0
0.6nm,0.2s,SNR=5.0							
ERON	**Agron**	**6.41**	**273**	S	Sn	02 11 55.5	-2.0
0.6nm,0.2s,SNR=5.0							
ELOJ	**Sierra Loja**	**6.69**	**274**	S	Sn	02 12 02.1	-2.1
7.0nm,0.8s,SNR=5.0							
ELOJ	**Sierra Loja**	**6.69**	**274**	S	Sn	02 12 02.1	-2.1
7.0nm,0.8s,SNR=5.0							
IEPA	**Eparoz**	**7.21**	**326**	P	Pn	02 10 57.3	+2.1
0.2nm,0.2s,SNR=4.0							
IEPA	**Eparoz**	**7.21**	**326**	P	Pn	02 10 57.3	+2.1
0.2nm,0.2s,SNR=4.0							

IDC 10 02:20:30.6±1.7, 3°.25N×126°.81E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, MS3.6/2, Ms1 3.7/2, ms1mx3.2/23, Error ellipse: s-maj=147.2km s-min=27.1km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.20**	**162**	P	P	02 25 48.6	-0.5
2.2nm,0.7s,baz=342,slow=10,SNR=17							
ASAR	**Alice Springs**	**27.63**	**166**	P	P	02 26 20.6	+0.5
0.4nm,0.5s,baz=342,slow=6.7,SNR=5.3							
SONM	**Songino Array**	**47.78**	**341**	P	P	02 29 09.6	-0.2
0.2nm,0.4s,baz=168,slow=7.4,SNR=3.6							
FX1	**Attu Island--F**	**62.46**	**30**	LR	LR	02 54 04.1	
comp=Z,40nm,19.9s,baz=210,slow=32							
NOA	**NORSAR Array B**	**99.25**	**334**	LR	LR	03 23 27.2	
comp=Z,36nm,19.7s,baz=50,slow=38							

IDC 10 02:22:18.3±83.0, 19°.11S×169°.66E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=1395.0km s-min=120.4km az=74.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.25**	**238**	P	P	02 28 12.9	-0.4
1.1nm,0.5s,baz=74,slow=7.4,SNR=2.9							
WRA	**Warramunga Arr**	**33.27**	**263**	P	P	02 28 57.5	-0.3
0.5nm,0.8s,baz=92,slow=9.2,SNR=4.4							
ASAR	**Alice Springs**	**33.55**	**256**	P	P	02 29 00.7	+0.5
1.0nm,0.7s,baz=81,slow=9.0,SNR=9.1							

IDC 10 02:38:43.3±1.2, 31°.12N×41°.18W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/29, mbtmp3.7/4, Error ellipse: s-maj=41.8km s-min=30.0km az=40.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**43.24**	**105**	P	P	02 46 46.2	-0.4
0.7nm,0.8s,baz=311,slow=7.6,SNR=4.5							
LPAZ	**La Paz**	**53.79**	**213**	P	P	02 48 08.7	+0.1
0.8nm,0.8s,baz=39,slow=6.4,SNR=4.3							
PDAR	**Pinedale Array**	**54.50**	**303**	P	P	02 48 12.2	-0.9
0.8nm,0.8s,baz=79,slow=7.7,SNR=6.6							
ILAR	**Eielson Array**	**68.58**	**334**	P	P	02 49 48.1	+0.6
1.0nm,0.9s,baz=54,slow=4.5,SNR=9.1							

---

*ISCJB **10** 02:42:33.8±0.6, 0°.14S±0°.06×123°.56E±0°.06, h157km, mb3.6/6, Error ellipse: s-maj=9.8km s-min=7.7km az=37.7*
*IDC **10** 02:42:34.4±5.5, 0°.17S×123°.61E, h141km±59km, mb3.3/6, mb1 3.4/7, mb1mx3.3/23, mbtmp3.3/7, Error ellipse: s-maj=47.7km s-min=17.9km az=59.0*
*DJA **10** 02:42:36.4±0.7, 0°.S±4°.×12°.4E±°, h108km±7km, M4.3/7, MLv4.3/7*
ISC 10 02:42:35.1±0.8, 0°.12S±0°.07×123°.61E±0°.07, h157km, n14, σ1§92/16, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.78**	**28**	P	Pn	02 42 57.1	-1.8
KMSI				S	Sn	02 43 13.5	-3.7
LUWI	**Luwuk**	**1.24**	**222**	P	Pn	02 42 58.7	-4.0
LUWI				S	Sn	02 43 16.3	-7.5
MRSI	**Marisa**	**1.77**	**290**	P	Pn	02 43 06.8	-1.3
MRSI				S	Sn	02 43 31.4	-2.0
SKSI	**Soroako, Sulaw**	**3.30**	**224**	P

KOZ				*i* S	Sg	03 01 07.9	-0.1
BKI	**Bering**	**1.92**	**92**	P	Pn	03 00 45.8	+0.1
BKI				*i* S	Sn	03 01 09.7	-0.5
SRDR	**Sredinnyy**	**1.92**	**303**	P	Pb	03 00 47.1	-1.0
SRDR				*i* S	Sb	03 01 11.9	-0.5
SPN	**Mys Shipunski**	**2.69**	**216**	P	Pn	03 00 56.6	+0.3
SPN				*i* S	Sn	03 01 29.1	-0.1
NLC	**Nalytchevo**	**2.88**	**223**	P	Pn	03 01 00.1	+1.2
NLC				*i* S	Sn	03 01 35.5	+1.7
SDLR	**Sedlovina**	**2.99**	**229**	P	Pn	03 01 00.9	+0.3
SDLR				*i* S	Sn	03 01 36.8	-0.1
KRER	**Koryakskii**	**3.03**	**230**	P	Pn	03 01 03.3	+2.0
AVH	**Avacha**	**3.06**	**230**	P	Pn	03 01 02.7	+1.2
UGLR	**Uglovaya**	**3.06**	**228**	P	Pn	03 01 03.3	+1.7
GNL	**Ganaly**	**3.17**	**241**	P	Pn	03 01 04.4	+1.3
RUS	**Russkaya**	**3.77**	**222**	P	Pn	03 01 12.4	+1.3
MTVR	**Mutnovka**	**3.86**	**225**	P	Pn	03 01 14.1	+1.5
ASAK	**Asacha**	**4.05**	**226**	P	Pn	03 01 17.1	+2.0

KRSC 10 03:05:34.3±1.1, 52°.08N×160°.91E, h5km±5km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**332**	P	Pg	03 05 56.4	-0.1
SPN				S	Sb	03 06 12.5	+0.5
RUS	**Russkaya**	**1.52**	**284**	P	Pn	03 06 02.2	+0.2
RUS				S	Sb	03 06 22.4	0.0
SDLR	**Sedlovina**	**1.72**	**315**	S	Sn	03 06 27.5	0.0
MTVR	**Mutnovka**	**1.72**	**285**	P	Pn	03 06 05.3	+0.2
MTVR				S	Sn	03 06 28.1	+0.5
AVH	**Avacha**	**1.78**	**313**	S	Sb	03 06 29.6	-0.5
KRER	**Koryakskii**	**1.80**	**314**	P	Pn	03 06 06.5	+0.3
KRER				S	Sn	03 06 29.9	+0.3
KOK	**Koryaka**	**1.84**	**312**	P	Pn	03 06 07.5	+0.8
KOK				S	Sb	03 06 31.6	-0.4
ASAK	**Asacha**	**1.88**	**280**	P	Pn	03 06 07.8	+0.7
ASAK				S	Sn	03 06 32.1	+0.8
GNL	**Ganaly**	**2.42**	**313**	P	Pn	03 06 15.4	+0.7
GNL				S	Sn	03 06 45.5	+0.8

*IDC **10** 03:07:07.5±4.6, 24°.90N×141°.18E, h157km±42km, mb3.2/5, mb1 3.4/7, mb1mx3.1/25, mbtmp3.2/7, Error ellipse: s-maj=35.9km s-min=15.7km az=87.0*
*JMA **10** 03:07:07.3±0.2, 25°.17N×140°.44E, h54km, M4.4*
*ISCJB **10** 03:07:09.5±1.3, 25°.3N±0°.1×141°.4E±0°.1, h181km, mb3.6/6, Error ellipse: s-maj=18.0km s-min=13.6km az=23.8*

ISC 10 03:07:12.1±1.4, 25°.5N±0°.1×141°.4E±0°.2, h181km, n15, σ1§67/17, mb3.4/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.36**	**31**	P	**Pn**	**03 07 41.4**	**-1.4**
JHHJ				*eS*	**Sn**	**03 08 07.1**	**+0.3**
CBIJ	**Chichi jima**	**1.78**	**23**	P	**Pn**	**03 07 46.2**	**-0.7**
CBIJ				*eS*	**Sn**	**03 08 15.4**	**+1.4**
BSO4	**Boso 4**	**9.54**	**355**	P	**Pn**	**03 09 28.1**	**+2.6**
JRY	**Ryogami san**	**10.74**	**349**	P	**Pn**	**03 09 42.0**	**+0.8**
JAG	**Ashikaga**	**11.06**	**352**	P	**Pn**	**03 09 44.9**	**-0.4**
JAG				*eS*	**Sn**	**03 11 49.3**	**+1.1**
JHO	**Hitachi**	**11.14**	**357**	P	**Pn**	**03 09 46.3**	**0.0**
JHO				*eS*	**Sn**	**03 11 46.4**	**-3.7**
MJAR	**Matsushiro Arr**	**11.38**	**347**	P	**Pn**	**03 09 50.7**	**+1.2**
	0.7nm,0.3s,baz=161,slow=11,SNR=4.3						
KSRS	**Korea Array**	**16.57**	**319**	P	**Pn**	**03 10 55.7**	**+1.7**
	0.1nm,0.3s,baz=142,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**45.65**	**189**	P	P	03 15 07.6	-7.1
	4.8nm,0.3s,baz=7.6,slow=8.6,SNR=152						
ASAR	**Alice Springs**	**49.37**	**189**	P	P	03 15 36.9	-6.5
	0.5nm,0.7s,baz=17,slow=13,SNR=5.4						
MKAR	**Makanchi Array**	**50.98**	**311**	P	**P**	**03 15 54.8**	**-0.5**
	0.2nm,0.3s,baz=88,slow=8.9,SNR=4.0						
ILAR	**Eielson Array**	**59.48**	**28**	P	**P**	**03 16 58.0**	**+2.3**
	0.4nm,0.8s,baz=269,slow=5.0,SNR=6.2						
ARCES	**ARCESS Array B**	**74.85**	**341**	P	**P**	**03 18 33.0**	**+0.7**
	1.7nm,1.0s,baz=63,slow=8.3,SNR=7.8						
FINES	**FINESS Array B**	**79.10**	**334**	P	**P**	**03 18 55.9**	**-0.2**
	0.5nm,0.4s,baz=82,slow=4.6,SNR=8.5						
LPAZ	**La Paz**	**150.99**	**77**	PKPbc	**PKPbc**	**03 26 43.9**	**-1.1**
	0.6nm,0.5s,baz=214,slow=11,SNR=5.5						

IDC 10 03:24:07.9±1.5, 14°.54S×66°.10E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/25, mbtmp3.9/5, MS3.7/3, Ms1 3.7/3, ms1mx3.0/39, Error ellipse: s-maj=61.5km s-min=26.2km az=41.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**36.80**	**65**	LR	LR	03 42 30.8	
	comp=Z,146nm,18.5s,baz=166,slow=30						
CMAR	**Chiang Mai Arr**	**46.07**	**46**	LR	LR	03 48 08.6	
	comp=Z,43nm,18.5s,baz=210,slow=31						
FITZ	**Fitzroy Crossi**	**57.05**	**102**	LR	LR	03 53 36.6	
	comp=Z,66nm,18.8s,baz=318,slow=31						
MKAR	**Makanchi Array**	**62.76**	**12**	P	P	03 34 34.5	-0.5
	0.8nm,1.0s,baz=224,slow=6.8,SNR=4.2						
ASAR	**Alice Springs**	**64.21**	**109**	P	P	03 34 44.7	-0.5
	1.2nm,0.8s,baz=268,slow=5.5,SNR=12						
WRA	**Warramunga Arr**	**65.02**	**105**	P	P	03 34 50.8	+0.4
	2.0nm,0.9s,baz=271,slow=5.8,SNR=13						
SONM	**Songino Array**	**71.74**	**27**	P	P	03 35 32.2	+0.1
	1.1nm,0.9s,baz=207,slow=7.0,SNR=5.9						
ESDC	**Sonseca Array**	**84.48**	**313**	P	P	03 36 42.6	-0.3
	0.9nm,0.7s,baz=99,slow=3.5,SNR=5.1						
PDAR	**Pinedale Array**	**151.62**	**353**	PKPbc	PKPbc	03 44 04.8	0.0
	1.3nm,0.7s,baz=93,slow=2.6,SNR=12						
NVAR	**Mina Array Bea**	**155.89**	**8**	PKPab	PKPab	03 44 31.6	+0.2
	0.6nm,0.7s,baz=14,slow=1.8,SNR=4.4						
TXAR	**Lajitas Array**	**162.50**	**329**	PKPab	PKPab	03 44 59.9	-0.3
	0.3nm,0.8s,baz=22,slow=1.3,SNR=3.9						

*ISCJB **10** 03:27:16.6±1.0, 52°.38N±0°.04×160°.94E±0°.05, h16km±7km, mb3.5/2, Error ellipse: s-maj=6.8km s-min=4.7km az=158.4*
*IDC **10** 03:27:16.8±2.3, 52°.62N×160°.75E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.3/28, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=77.0km s-min=15.6km az=8.0*
*MOS **10** 03:27:16.3±2.0, 52°.25N×160°.88E, h29km, mb4.1/1, Error ellipse: s-maj=15.6km s-min=11.3km az=100.0*
*KRSC **10** 03:27:17.3±0.1, 52°.44N×160°.88E, h23km±22km, ML4.2*

ISC 10 03:27:15.9±1.7, 52°.40N±0°.05×160°.93E±0°.04, h6km±10km, n39, σ1§19/60, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.89**	**322**	PN	**Pg**	**03 27 33.2**	**+0.2**
SPN				S	**Sg**	**03 27 45.1**	**+0.5**
SPN	**Mys Shipunski**	**0.89**	**322**	*i* P	**Pg**	**03 27 33.2**	**+0.2**
SPN				*i* S	**Sg**	**03 27 45.1**	**+0.5**
NLC	**Nalytchevo**	**1.23**	**309**	PN	**Pg**	**03 27 38.6**	**-1.0**
NLC				S	**Sg**	**03 27 54.4**	**-1.2**
NLC	**Nalytchevo**	**1.23**	**309**	*eP*	**Pg**	**03 27 38.6**	**-1.0**
NLC				*i* S	**Sg**	**03 27 54.4**	**-1.2**
RUS	**Russkaya**	**1.48**	**272**	PN	**Pn**	**03 27 42.7**	**-0.4**
RUS				S	**Sn**	**03 28 01.2**	**-1.6**
RUS	**Russkaya**	**1.48**	**272**	*eP*	**Pn**	**03 27 42.7**	**-0.4**
RUS				*i* S	**Sn**	**03 28 01.2**	**-1.6**
UGLR	**Uglovaya**	**1.51**	**303**	*eP*	**Pn**	**03 27 43.8**	**+0.1**
UGLR				*i* S	**Sn**	**03 28 03.3**	**-0.5**
PET	**Petropavlovsk**	**1.52**	**295**	PN	**Pn**	**03 27 43.3**	**-0.4**
PET				S	**Sn**	**03 28 02.7**	**-1.1**
PET	**Petropavlovsk**	**1.52**	**295**	*i* P	**Pn**	**03 27 43.3**	**-0.4**
PET				*i* S	**Sn**	**03 28 02.7**	**-1.1**
SDLR	**Sedlovina**	**1.52**	**306**	*eP*	**Pn**	**03 27 43.7**	**-0.1**
SDLR				*i* S	**Sn**	**03 28 03.3**	**-0.7**
SMAR	**Somma**	**1.56**	**305**	*eP*	**Pn**	**03 27 44.1**	**-0.3**
AVH	**Avacha**	**1.59**	**304**	*eP*	**Pn**	**03 27 44.7**	**0.0**
AVH				*i* S	**Sn**	**03 28 05.4**	**-0.2**
KRER	**Koryakskii**	**1.60**	**305**	*eP*	**Pn**	**03 27 45.1**	**+0.1**
KOK	**Koryaka**	**1.65**	**304**	*eP*	**Pn**	**03 27 45.6**	**0.0**
MTVR	**Mutnovka**	**1.69**	**274**	*eP*	**Pn**	**03 27 45.8**	**-0.3**
MTVR				*i* S	**Sn**	**03 28 06.6**	**-1.5**
GRL	**Gorelyy**	**1.76**	**276**	*eP*	**Pn**	**03 27 47.0**	**0.0**
GRL				*i* S	**Sn**	**03 28 09.5**	**-0.3**
ASAK	**Asacha**	**1.86**	**271**	*i* P	**Pn**	**03 27 48.6**	**+0.2**
ASAK				*i* S	**Sn**	**03 28 11.5**	**-0.7**
KII	**Karymskiy**	**1.86**	**332**	*eP*	**Pn**	**03 27 49.0**	**+0.5**
KII				*i* S	**Sn**	**03 28 12.5**	**+0.1**
PETK	**Petropavlovsk-**	**2.09**	**291**	PN	**Pn**	**03 27 51.6**	**+0.1**
PETK						03 28 17.8	
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				smax	smax		
	comp=N,13nm,0.3s						
PETK	**Petropavlovsk-**	**2.09**	**291**	Pn	**Pn**	**03 27 51.5**	**+0.1**
	comp=N,8.5nm,0.3s,baz=107,slow=18,SNR=20						
PETK				Sn	**Sn**	**03 28 17.8**	**0.0**
	comp=N,13nm,0.3s,baz=96,slow=39,SNR=9.2						
MKZ	**Mys Kozlova**	**2.21**	**12**	PN	**Pn**	**03 27 53.3**	**+0.2**
MKZ				S	**Sn**	**03 28 19.8**	**-0.9**
MKZ	**Mys Kozlova**	**2.21**	**12**	*eP*	**Pn**	**03 27 53.3**	**+0.2**
MKZ				*i* S	**Sn**	**03 28 19.8**	**-0.9**
GNL	**Ganaly**	**2.22**	**307**	*i* P	**Pn**	**03 27 54.4**	**+1.0**
GNL				*i* S	**Sn**	**03 28 22.0**	**+0.7**
MIPR	**Malaya Ipel'ka**	**2.56**	**269**	*eP*	**Pn**	**03 27 58.8**	**+0.8**
MIPR				*i* S	**Sn**	**03 28 29.4**	**-0.1**
PAU	**Pauzhetka**	**2.72**	**251**	PN	**Pn**	**03 28 00.6**	**+0.5**
PAU	**Pauzhetka**	**2.72**	**251**	*eP*	**Pn**	**03 28 00.6**	**+0.5**
TUMR	**Tumrok**	**2.92**	**351**	*eP*	**Pn**	**03 28 04.6**	**+1.5**
TUMR				*i* S	**Sn**	**03 28 39.3**	**+0.7**
KMNR	**Kamenistaya**	**3.39**	**353**	*eP*	**Pn**	**03 28 10.6**	**+1.2**
KMNR				*i* S	**Sn**	**03 28 49.4**	**-0.5**
SKR	**Severo-Kuril's**	**3.46**	**242**	*e*PN	Pn	03 28 04.0	-6.4
SKR	**Severo-Kuril's**	**3.46**	**242**	*eP*	**Pn**	**03 28 11.2**	**+0.8**
KPT	**Kopyto**	**3.60**	**354**	*eP*	Pn	03 28 14.6	+2.3
KOZ	**Kozyrevsk**	**3.72**	**351**	*eP*	Pn	03 28 15.6	+1.7
KOZR	**Kozyr**	**3.72**	**351**	PN	**Pn**	**03 28 15.6**	**+1.7**
SRDR	**Sredinnyy**	**3.99**	**350**	*eP*	**Pn**	**03 28 19.2**	**+1.6**
BKI	**Bering**	**4.10**	**45**	PN	**Pn**	**03 28 19.6**	**+0.5**
BKI	**Bering**	**4.10**	**45**	*eP*	**Pn**	**03 28 19.6**	**+0.5**
BKI				*i* S	**Sn**	**03 29 03.2**	**-4.1**
FX1	**Attu Island--F**	**7.46**	**81**	Pn	**Pn**	**03 29 07.2**	**+2.0**
	comp=N,6.9nm,0.3s,baz=301,slow=4.1,SNR=76						
FX1				Sn	**Sn**	**03 30 25.2**	**-4.9**
	comp=N,1.7nm,0.3s,baz=101,slow=16,SNR=4.0						
FINES	**FINESS Array B**	**60.96**	**337**	P	**P**	**03 37 28.9**	**-0.4**
	comp=N,0.5nm,0.4s,baz=30,slow=8.8,SNR=5.3						
TXAR	**Lajitas Array**	**70.44**	**67**	P	**P**	**03 38 32.1**	**+1.0**
	comp=N,0.1nm,0.4s,baz=295,slow=5.5,SNR=6.3						

WEL 10 03:31:42.8±0.5, 37°.61S×176°.05E, h184km±7km, ML3.5/9, 2C-2D, Error ellipse: s-maj=10.7km s-min=5.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.06**	**128**	⇓PN	Pn	03 32 11.6	+0.3
URZ				SN	Sn	03 32 33.3	-0.1
URZ				AML	AML	03 32 36.2	
MWZ	**Matawai**	**1.37**	**122**	PN	Pn	03 32 14.0	0.0
MWZ				SN	Sn	03 32 38.1	0.0
MWZ				AML	AML	03 32 41.0	
BKZ	**Black Stump Fm**	**1.59**	**168**	⇑PN	Pn	03 32 15.9	-0.1
BKZ				SN	Sn	03 32 40.7	-1.3
NMHZ	**Naumai**	**1.60**	**159**	PN	Pn	03 32 16.8	+0.7
NMHZ				SN	Sn	03 32 42.4	+0.2
WNVZ	**Wahianoa**	**1.75**	**192**	PN	Pn	03 32 18.3	+0.5
PUZ	**Puketiti**	**1.81**	**106**	AML	AML	03 32 45.4	
MOVZ	**Moawhango**	**1.81**	**187**	PN	Pn	03 32 18.2	0.0
BHHZ	**Black Hill Sta**	**1.88**	**180**	PN	Pn	03 32 18.6	-0.3
KNZ	**Kokohu**	**1.90**	**138**	PN	Pn	03 32 18.6	-0.4
MCHZ	**McNeill Hill**	**1.90**	**165**	PN	Pn	03 32 19.4	+0.3
CKHZ	**Cape Kidnapper**	**2.20**	**159**	PN	Pn	03 32 22.0	-0.2
KAHZ	**Kahuranaki**	**2.28**	**164**	PN	Pn	03 32 22.5	-0.7
PNHZ	**Pukenui**	**2.31**	**177**	PN	Pn	03 32 22.7	-0.8
DVHZ	**Dannevirke**	**2.69**	**178**	PN	Pn	03 32 26.4	-1.5
BFZ	**Birch Farm**	**3.07**	**177**	PN	Pn	03 32 30.4	-2.0
MRZ	**Mangatainoka R**	**3.07**	**187**	⇑PN	Pn	03 32 30.2	-2.2
TIWZ	**Tintock**	**3.17**	**182**	PN	Pn	03 32 31.5	-2.1
OGWZ	**Otaki Gorge**	**3.28**	**192**	⇓PN	Pn	03 32 32.9	-2.1
HOWZ	**Holdsworth Sta**	**3.31**	**187**	PN	Pn	03 32 32.7	-2.7
KIW	**Kapiti Island**	**3.37**	**195**	PN	Pn	03 32 33.6	-2.5
CAW	**Cannon Point**	**3.58**	**192**	PN	Pn	03 32 36.0	-2.7
MSWZ	**Moikau Station**	**3.85**	**189**	PN	Pn	03 32 38.8	-3.3
TCW	**Tory Channel**	**3.85**	**200**	PN	Pn	03 32 39.4	-2.7
PLWZ	**Palliser**	**4.00**	**189**	PN	Pn	03 32 40.5	-3.6

IDC 10 03:47:01.7±1.0, 12°.39N×142°.43E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.9/25, mbtmp3.8/10, Error ellipse: s-maj=33.1km s-min=20.1km az=91.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**24.35**	**352**	P	P	03 52 19.9	-1.5
	2.6nm,0.6s,baz=174,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**33.10**	**194**	P	P	03 53 39.2	-0.4
	0.4nm,0.4s,baz=17,slow=9.5,SNR=9.2						
ASAR	**Alice Springs**	**36.79**	**193**	P	P	03 54 11.2	-0.2
	0.2nm,0.3s,baz=21,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**42.28**	**284**	P	P	03 54 57.5	+0.1
	0.7nm,0.3s,baz=85,slow=5.7,SNR=4.2						
SONM	**Songino Array**	**46.39**	**327**	P	P	03 55 30.4	+0.3
	0.5nm,0.5s,baz=144,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**60.72**	**317**	P	P	03 57 16.5	+1.3
	1.3nm,0.6s,baz=100,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**61.23**	**325**	P	P	03 57 17.7	-0.8
	0.8nm,0.5s,baz=102,slow=3.2,SNR=4.3						
ILAR	**Eielson Array**	**70.66**	**25**	P	P	03 58 19.2	+0.2
	0.2nm,0.4s,baz=248,slow=6.0,SNR=6.7						
NVAR	**Mina Array Bea**	**89.52**	**51**	P	P	04 00 02.6	+1.0
	0.5nm,0.5s,baz=278,slow=5.2,SNR=6.5						
FINES	**FINESS Array B**	**91.23**	**334**	P	P	04 00 06.7	-2.0
	0.4nm,0.5s,baz=83,slow=4.4,SNR=4.3						

IDC 10 03:47:49.8±1.0, 16°.44S×177°.43E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, MS3.5/5, Ms1 3.5/5, ms1mx3.4/30, Error ellipse: s-maj=42.6km s-min=24.7km az=156.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.72**	**78**	LR	LR	03 52 57.9	
	comp=Z,86nm,18.3s,baz=255,slow=29						
DZM	**Mont Dzumac**	**11.79**	**240**	LR	LR	03 54 05.9	
	comp=Z,232nm,18.5s,baz=180,slow=32						
HNR	**Honiara**	**18.40**	**290**	LR	LR	03 58 09.1	
	comp=Z,129nm,18.1s,baz=122,slow=34						
URZ	**Urewera**	**21.74**	**181**	LR	LR	03 58 59.4	
	comp=Z,326nm,20.7s,baz=7.3,slow=31						
RAR	**Rarotonga**	**22.09**	**106**	LR	LR	03 59 24.2	
	comp=Z,166nm,20.0s,baz=135,slow=31						
PPT2	**Papeete2**	**31.55**	**97**	*e*LQ	LQ	04 01 10.5	
	208nm,24.5s						
PPT2				*e*LR	LR	04 02 29.6	
	293nm,28.8s						
TBI	**Tubuai**	**31.83**	**108**	*e*LR	LR	04 02 38.2	
	399nm,31.0s						
STKA	**Stephens Creek**	**35.94**	**238**	P	P	03 54 52.4	+0.2
	2.9nm,0.9s,baz=39,slow=4.8,SNR=4.3						
WRA	**Warramunga Arr**	**41.01**	**258**	P	P	03 55 33.4	-1.6
	1.3nm,1.1s,baz=89,slow=8.5,SNR=4.3						
ASAR	**Alice Springs**	**41.39**	**253**	P	P	03 55 38.2	0.0
	1.5nm,0.8s,baz=80,slow=8.6,SNR=12						
RKT	**Rikitea**	**45.12**	**106**	*e*LR	LR	04 08 48.4	
	371nm,31.2s						
QSPA	**South Pole Qui**	**73.61**	**180**	P	P	03 59 25.1	+0.2
	6.4nm,1.0s,baz=40,slow=3.9,SNR=9.8						
CMAR	**Chiang Mai Arr**	**84.65**	**291**	P	P	04 00 27.4	+1.5
	1.0nm,0.3s,baz=90,slow=2.1,SNR=5.9						
TXAR	**Lajitas Array**	**88.61**	**59**	P	P	04 00 45.7	+0.4
	0.3nm,0.9s,baz=185,slow=5.4,SNR=4.7						
PDAR	**Pinedale Array**	**89.07**	**45**	P	P	04 00 46.3	-1.0
	0.3nm,0.8s,baz=239,slow=3.0,SNR=3.4						
SNAA	**Sanae**	**92.11**	**180**	*e*P	P	04 01 14.0	+13
VNA2	**Neumayer--Watz**	**92.80**	**178**	*e*P	P	04 01 03.7	-0.2

JMA 10 03:51:21.0±0.1, 33°.39N×138°.19E, h297km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.20**	**282**	P	Pn	03 52 02.4	+0.8
JHJ2	**Mitsune**	**1.39**	**101**	P	Pn	03 52 04.0	+0.8
BSO3	**Boso 3**	**2.38**	**53**	P	Pn	03 52 09.9	-0.4
BSO3				*e*S	S	03 52 50.0	+0.3
BSO4	**Boso 4**	**2.39**	**48**	P	Pn	03 52 10.7	+0.1
BSO4				*e*S	S	03 52 51.1	+1.0
JHU	**Hanno**	**2.62**	**20**	P	Pn	03 52 13.0	+0.2
JHU				*e*S	S	03 52 55.5	+1.4
BSO1	**Boso 1**	**2.64**	**61**	P	Pn	03 52 13.8	+1.5
BSO1				*e*S	S	03 52 53.1	-0.1
JRY	**Ryogami san**	**2.69**	**12**	P	Pn	03 52 15.4	+1.9
JAG	**Ashikaga**	**3.20**	**19**	P	Pn	03 52 19.6	+1.1
JAG				*e*S	S	03 53 03.9	-0.5
JYT	**Yasato**	**3.28**	**30**	P	Pn	03 52 19.7	+0.5
JYT				*e*S	S	03 53 05.1	-0.7

*IDC **10** 04:06:24.9±0.3, 11°.52S×166°.26E, h0km, mb5.6/27, mb1 5.7/30, mb1mx5.7/30, mbtmp5.6/30, ML4.4/2, MS6.1/25, Ms1 6.1/25, ms1mx6.0/28, Error ellipse: s-maj=12.0km s-min=11.2km az=71.0*
*ISCJB **10** 04:06:27.6±0.9, 11°.55S±0°.03×166°.15E±0°.02, h20km±6km, mb5.8/301, MS6.3/255, Error ellipse: s-maj=4.3km s-min=3.2km az=168.1*
*BKK **10** 04:06:28.5±0.3, 12°.S±5°.×16°.6E±°, h10km, M6.5/42, mb6.2/42, mB6.6/40, Mw(mB)6.4/40, Mwp6.7/22*
*BJI **10** 04:06:29.2, 11°.07S×166°.56E, h34km, mB6.4/53, mb5.8/67, Ms6.3/73, Ms7 6.2/65*
*MOS **10** 04:06:29.8±1.4, 11°.48S×166°.03E, h33km, mb6.0/74, MS6.3/70, Error ellipse: s-maj=6.5km s-min=6.1km az=87.4*
*AUST **10** 04:06:30.8±1.8, 11°.74S×166°.11E, h21km, Error ellipse: s-maj=0.7km s-min=0.7km az=33.0*
*DJA **10** 04:06:30.8±1.6, 12°.S±6°.×16°.6E±°, h23km±12km, M6.5/79, mb6.2/79, mB6.6/74, Mw(mB)6.5/74, Mwp6.5/36*
*NEIC **10** 04:06:31.0±0.2, 11°.61S×166°.09E, h35km, mb5.8/164, ME5.8, MS6.3/149, MW6.6, MWE6.6, Error ellipse: s-maj=6.2km s-min=4.9km az=147.0, Moment Tensor Solution. s43 Moment tensor: Scale 10^18Nm; Mrr9.41; Mθθ-2.26; Mφφ-7.15; Mrθ0.98; Mθφ0.26; Mφr-0.43; Best double couple: M0=8.60000×10^18 NP1:φs1.00000°, δ44.00000°, λ97.00000°. NP2:φs172.00000°, δ47.00000°, λ84.00000°. Principal axes: T 9.5000, Plg85.0000°, Azm16.0000°; N -2.3200, Plg4.0000°, Azm176.0000°; P -7.1800, Plg1.0000°, Azm266.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*TEH **10** 04:06:32.0, 11°.60S×166°.09E, h43km, ML6.6*
*GCMT **10** 04:06:39.7±0.1, 11°.60S×165°.93E, h44km, MW6.5, Moment Tensor Solution. s118,c299; s99,c229; Moment tensor: Scale 10^18Nm; Mrr8.18±.04; Mθθ-0.34±.03; Mφφ-7.83±.03; Mrθ-0.03±.04; Mθφ2.35±.03; Mφr0.30±.04; Best double couple: M0=8.40000×10^18 NP1:φs344.00000°, δ46.00000°, λ90.00000°. NP2: φs164.00000°, δ44.00000°, λ89.00000°. Principal axes: T 8.1900, Plg89.0000°, Azm273.0000°; N 0.3300, Plg0.0000°, Azm164.0000°; P -8.5100, Plg1.0000°, Azm74.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 108 sta. Surface waves: sta=119, comp=266, per= 50.*
*NEIC **10** 04:06:50.2±0.0, 11°.50S×165°.77E, h46km, Moment Tensor Solution. s146 Moment Tensor: Scale 10^18Nm; Mrr9.68; Mθθ-1.02; Mφφ-8.67; Mrθ-0.10; Mθφ1.99; Mφr0.39; Best double couple: M0=9.40000×10^18 NP1:φs166.00000°, δ44.00000°, λ90.00000°. NP2:φs346.00000°, δ46.00000°, λ90.00000°. Principal axes: T 9.6900, Plg88.0000°, Azm253.0000°; N -0.5300, Plg0.0000°, Azm346.0000°; P -9.1700, Plg1.0000°, Azm76.0000°;*

ISC 10 04:06:31.2±0.3, 11°.60S±0°.03×166°.23E±0°.03, h40km±1km, h40km:pP-P, n1671, σ1§77/1687, mb5.9/309, MS6.3/256, 332C-290D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.54**	**289**	*e*Pn	**Pn**	**04 08 04.7**	**-0.3**
HNR				*e*Sn	Sn	04 09 26.2	+7.8
HNR	**Honiara**	**6.54**	**289**	Pn	**Pn**	**04 08 02.9**	**-2.1**
	348nm,0.3s,baz=152,slow=4.7,SNR=30						
HNR				Sn	**Sn**	**04 09 15.1**	**-3.3**
	baz=88,slow=18,SNR=1.8						
DZM	**Mont Dzumac**	**10.41**	**179**	*e*P	**Pn**	**04 08 58.8**	**+0.7**
	579nm,0.9s						
DZM				*e*LR	LR	04 11 14.1	
	304μm,26.4s						
DZM	**Mont Dzumac**	**10.41**	**179**	Pn	**Pn**	**04 08 58.0**	**-0.1**
DZM				Sn	Sn	04 11 10.5	+17
DZM	**Mont Dzumac**	**10.41**	**179**	Pn	**Pn**	**04 08 58.0**	**-0.1**
	15nm,0.3s,baz=27,slow=17,SNR=85						
DZM				Sn	Sn	04 11 10.5	+17
	16nm,0.3s,baz=54,slow=19,SNR=3.0						
NOUC	**Port Laguerre**	**10.44**	**180**	*e*P	**Pn**	**04 08 59.9**	**+1.5**
BAYA	**Yate Dam**	**10.51**

URZ **Urewera** 28.27 162 *e*P P 04 12 21.1 +0.4
comp=Z,274nm,1.5s
URZ *e*S S 04 17 06.5 +2.3
URZ **Urewera** 28.27 162 P P 04 12 21.0 +0.3
comp=Z,46nm,0.6s,baz=48,slow=2.8,SNR=13
URZ LR LR 04 21 59.5
comp=Z,61μm,21.8s,baz=344,slow=33
CAN **Canberra** 28.32 211 *e*P P 04 12 22.2 +0.9
CAN pmax pmax
comp=Z,150nm,1.1s
CAN MLR MLR
comp=Z,27μm,22.0s
CAN **Canberra** 28.32 211 *e*P P 04 12 22.2 +0.9
comp=Z,150nm,1.1s
CAN LR LR
comp=Z,27μm,22.0s
MILA **Mila** 29.63 208 P P 04 12 34.1 +1.2
baz=30,SNR=21
STKA **Stephens Creek** 30.37 225 *e*P P 04 12 39.6 +0.1
comp=Z,28nm,0.9s
STKA *e*PcP PcP 04 15 40.6 +1.8
STKA S S 04 17 38.0 +0.6
STKA *e*ScP ScP 04 19 12.2 +1.0
STKA **Stephens Creek** 30.37 225 P P 04 12 39.0 -0.4
comp=Z,91nm,1.0s,baz=34,slow=8.0,SNR=68
STKA PcP PcP 04 15 38.8 -0.1
comp=Z,101nm,0.9s,baz=18,slow=4.6,SNR=5.8
STKA S S 04 17 38.0 +0.6
comp=Z,11nm,1.0s,baz=165,slow=20,SNR=1.8
STKA ScP ScP 04 19 20.3 +2.1
comp=Z,14nm,0.8s,baz=300,slow=22,SNR=3.6
STKA LR LR 04 24 15.2
comp=Z,54μm,19.8s,baz=46,slow=35
STKA **Stephens Creek** 30.37 225 P P 04 12 40.0 +0.5
baz=30,SNR=49
SNZO **South Karori** 30.52 167 *e*P P 04 12 39.9 -0.7
comp=Z,136nm,0.9s
SNZO LR LR
comp=Z,59μm,20.0s
WAKE **Wake Island** 30.69 1 *e*P P 04 12 42.8 +0.5
comp=Z,137nm,0.9s
WAKE LR LR
comp=Z,50μm,22.0s
KHZ **Kahutara** 31.36 170 *e*P P 04 12 47.4 -0.5
comp=Z,180nm,0.9s
BAKI **Biak** 31.63 287 P P 04 12 52.5 +1.8
comp=Z,240nm,1.5s,comp=Z,5μm
WRAB **Tennant Creek** 31.73 251 P P 04 12 50.8 -0.8
comp=Z,1μm,1.3s,SNR=70
WRAB **Tennant Creek** 31.73 251 *e*P P 04 12 50.0 -1.6
WRAB *e* 04 15 43.8
WRAB pmax pmax
comp=Z,365nm,1.3s
WRAB MLR MLR
comp=Z,32μm,20.0s
WRAB **Tennant Creek** 31.73 251 *e*P P 04 12 50.0 -1.6
comp=Z,365nm,1.3s
WRAB *e*PcP PcP 04 15 43.8 +1.1
WRAB LR LR
comp=Z,32μm,20.0s
WRA **Warramunga Arr** 31.74 251 P P 04 12 50.4 -1.4
WRA PcP PcP 04 15 42.6 -0.1
WRA S S 04 17 54.5 -4.6
WRA ScP ScP 04 19 25.8 +2.8
WRA PKiKP PKiKP 04 23 12.1 +0.4
WRA *e* 04 44 26.5
WRA **Warramunga Arr** 31.74 251 P P 04 12 50.4 -1.4
comp=Z,176nm,1.1s,baz=82,slow=9.3,SNR=180
WRA PcP PcP 04 15 42.6 -0.1
comp=Z,58nm,0.8s,baz=81,slow=3.1,SNR=9.9
WRA S S 04 17 54.5 -4.6
comp=Z,6.0nm,1.0s,baz=81,slow=25,SNR=2.9
WRA ScP ScP 04 19 25.8 +2.8
comp=Z,6.9nm,0.8s,baz=72,slow=4.0,SNR=5.3
WRA PKiKP PKiKP 04 23 12.1 +0.4
comp=Z,1.5nm,0.5s,baz=4.6,slow=0.7,SNR=14
WRA LR LR 04 24 27.9
comp=Z,32μm,21.1s,baz=75,slow=34
WRA P3KPbc 04 44 26.5
comp=Z,0.7nm,0.6s,baz=260,slow=2.6,SNR=9.3
TOO **Toolangi** 31.85 212 P P 04 12 53.7 +1.3
baz=32,SNR=58
RPZ **Rata Peaks** 32.27 173 *e*P P 04 12 55.3 -0.7
comp=Z,379nm,1.1s
RPZ **Rata Peaks** 32.27 173 P P 04 12 55.9 -0.1
comp=Z,132nm,0.5s,baz=301,slow=1.7,SNR=28
GUMO **Guam** 32.79 319 *e*P P 04 13 01.6 +0.7
comp=Z,234nm,1.2s
GUMO LR LR
comp=Z,21μm,19.0s
ASAR **Alice Springs** 32.97 244 P P 04 13 00.8 -1.7
ASAR PcP PcP 04 15 45.9 -0.2
ASAR S S 04 18 13.6 -4.7
ASAR ScP ScP 04 19 30.9 +3.7
ASAR PKiKP PKiKP 04 23 13.3 +0.8
ASAR *e* 04 44 23.9
ASAR **Alice Springs** 32.97 244 P P 04 13 00.8 -1.7
comp=Z,120nm,0.8s,baz=74,slow=9.3,SNR=462
ASAR PcP PcP 04 15 45.9 -0.2
comp=Z,71nm,0.9s,baz=80,slow=3.7,SNR=11
ASAR S S 04 18 13.6 -4.7
comp=Z,1.9nm,1.0s,baz=68,slow=17,SNR=2.4
ASAR ScP ScP 04 19 30.9 +3.7
comp=Z,18nm,1.0s,baz=81,slow=3.3,SNR=7.1
ASAR PKiKP PKiKP 04 23 13.3 +0.8
comp=Z,0.7nm,0.5s,baz=100,slow=1.3,SNR=6.2
ASAR LR LR 04 25 30.7
comp=Z,45μm,20.7s,baz=71,slow=35
ASAR P3KPbc 04 44 23.9
comp=Z,0.9nm,0.5s,baz=246,slow=4.0,SNR=17
KDU **Kakadu** 33.01 265 P P 04 13 02.5 -0.3
baz=33,SNR=45
ARPS **Mount Arapiles** 33.32 217 P P 04 13 05.8 +0.6
baz=33,SNR=52
RKPI **Ransiki, Papua** 33.34 285 P P 04 13 07.5 +1.8
comp=Z,168nm,1.0s,comp=Z,15μm
ODZ **Otahua Downs** 33.54 174 *e*P P 04 13 06.8 -0.3
comp=Z,157nm,1.1s
ODZ *e* 04 13 17.5
RAR **Rarotonga** 33.92 111 PFAKE 04 13 20.0 +9.3
RAR LR LR
comp=Z,58μm,22.0s
MTN **Manton Dam** 34.31 264 P P 04 13 13.5 -0.6
baz=34,SNR=14
FAKI **Fak Fak** 34.76 282 P P 04 13 18.8 +0.7
comp=Z,80nm,2.3s,comp=Z,4μmcomp=Z,68μm
FAKI **Fak Fak** 34.76 282 P P 04 13 18.2 +0.1
baz=35,SNR=4.2
BBOO **Buckleboo** 34.80 228 P P 04 13 18.3 +0.1
baz=35,SNR=32
MOO **Moorlands** 34.92 205 P P 04 13 20.5 +1.5
baz=35,SNR=13
TAU **Tasmania Unive** 35.26 204 P P 04 13 23.6 +1.6
comp=Z,1μm,1.3s,SNR=11
TAU **Tasmania Unive** 35.26 204 *e*P P 04 13 22.6 +0.6
TAU pmax pmax
comp=Z,374nm,1.4s
TAU MLR MLR
comp=Z,12μm,22.0s
TAU **Tasmania Unive** 35.26 204 *e*P P 04 13 22.6 +0.6
comp=Z,374nm,1.4s
TAU LR LR
comp=Z,12μm,22.0s
SWI **Sorong** 36.31 285 P P 04 13 31.4 0.0
comp=Z,194nm,1.1s,comp=Z,4μmcomp=Z,78μm
SWI **Sorong** 36.31 285 P P 04 13 33.4 +2.0
baz=36,SNR=4.8
KNRA **Kununurra** 36.60 259 P P 04 13 33.5 -0.4
baz=36,SNR=30
BNDI **Bandanaira** 36.62 278 P P 04 13 35.0 +1.0
comp=Z,2μm,1.5s,comp=Z,24μmcomp=Z,78μm
BNDI **Bandanaira** 36.62 278 P P 04 13 35.2 +1.2
baz=36,SNR=9.8
BNDI S S 04 19 18.4 +3.9
baz=36,SNR=5.4
PALU **Palau** 36.77 299 P P 04 13 37.4 +2.1
baz=37,SNR=9.6
MSAI **Masohi** 37.84 280 P P 04 13 54.1 +10
AAI **Ambon** 38.47 279 P P 04 13 50.8 +1.1
comp=Z,199nm,1.2s,comp=Z,6μm
XMAS **Kiritimati** 38.57 72 *e*P P 04 13 51.1 +0.6
comp=Z,185nm,1.0s
XMAS *e*PP PnPn 04 15 26.4 +4.8
XMAS LR LR
comp=Z,38μm,21.0s
NLAI **Namlea** 39.64 279 P P 04 14 00.9 +1.4
comp=Z,749nm,1.3s,comp=Z,8μmcomp=Z,88μm

FITZ **Fitzroy Crossi** 39.70 256 P P 04 13 59.4 -0.5
baz=40,SNR=146
LBMI **Labuha** 39.95 283 P P 04 14 03.8 +1.7
comp=Z,869nm,1.3s,comp=Z,13μm
FORT **Forrest** 40.12 236 P P 04 14 03.3 0.0
baz=40,SNR=44
TNTI **Ternate** 40.52 285 P P 04 14 09.0 +2.2
comp=Z,411nm,1.5s,comp=Z,7μmcomp=Z,67μm
SOEI **Soe** 41.25 268 P P 04 14 13.8 +0.8
comp=Z,424nm,1.1s,comp=Z,8μmcomp=Z,86μm
SOEI **Soe** 41.25 268 P P 04 14 14.0 +1.0
baz=41,SNR=29
BATI **Baumata** 41.79 268 P P 04 14 17.4 +0.1
BATI **Baumata** 41.79 268 P P 04 14 19.5 +2.2
comp=Z,387nm,1.1s,comp=Z,6μmcomp=Z,3μm
BATI **Baumata** 41.79 268 P P 04 14 17.4 +0.1
comp=Z,803nm,1.1s,baz=137,slow=2.1,SNR=51
MIDW **Midway** 42.65 22 PFAKE 04 14 40.0 +16
MIDW LR LR
comp=Z,44μm,21.0s
PAE **Paea** 43.10 103 *e*P P 04 14 28.3 +0.4
comp=Z,12nm,1.0s
PPT **Papeete** 43.11 103 P P 04 14 28.8 +0.9
PPT **Papeete** 43.11 103 P P 04 14 28.8 +0.9
comp=Z,69nm,0.8s,baz=27,slow=4.5,SNR=8.5
PPT LR LR 04 29 11.6
comp=Z,23μm,19.2s,baz=266,slow=32
PPT2 **Papeete2** 43.11 103 *e*P P 04 14 28.6 +0.6
comp=Z,74nm,1.0s
PPT2 *e*S S 04 20 54.2 +2.4
comp=Z,29μm,27.8s
PPT2 *e*LQ LQ 04 24 35.3
comp=Z,103μm,32.2s
PPT2 *e*LR LR 04 26 23.6
comp=Z,142μm,28.8s,baz=278
TIAR **Tiarei** 43.33 103 *e*P P 04 14 31.0 +1.3
comp=Z,115nm,0.7s
MMRI **Maumere** 43.38 270 P P 04 14 30.7 +0.6
comp=Z,820nm,1.2s,comp=Z,8μmcomp=Z,63μm
TVO **Taravao** 43.42 104 *e*P P 04 14 31.1 +0.6
comp=Z,82nm,0.9s
BBSI **Bau Bau** 43.56 274 P P 04 14 34.3 +2.7
comp=Z,816nm,1.4s,comp=Z,13μmcomp=Z,43μm
KMSI **Cibinong** 43.67 283 P P 04 14 33.1 +0.6
comp=Z,2μm,1.0s,comp=Z,17μm
TBI **Tubuai** 43.69 112 *e*S S 04 21 02.8 +2.8
comp=Z,19μm,28.8s
TBI *e*LQ LQ 04 24 48.8
comp=Z,80μm,31.5s
TBI *e*LR LR 04 26 38.9
comp=Z,147μm,28.2s,baz=285
LUWI **Luwuk** 44.38 280 P P 04 14 39.9 +1.7
comp=Z,894nm,1.2s,comp=Z,11μmcomp=Z,66μm
LUWI **Luwuk** 44.38 280 P P 04 14 39.9 +1.7
baz=44,SNR=7.3
DAV **Davao City (W)** 44.49 293⇑ *i*P P 04 14 38.0 -1.0
DAV **Davao City (W)** 44.49 293 LR LR 04 33 23.4
comp=Z,12μm,18.3s,baz=263,slow=36
MEH **Mehetia** 44.55 104 *e*P P 04 14 40.2 +0.6
comp=Z,194nm,1.0s
GTOI **Gorontalo** 44.62 283 P P 04 14 41.1 +1.0
comp=Z,479nm,0.8s,comp=Z,8μmcomp=Z,72μm
PMOR **Pomariorio Ree** 44.72 100 *e*P P 04 14 42.2 +1.4
comp=Z,161nm,1.0s
BASI **Baing, Sumba** 44.81 267 P P 04 14 43.3 +1.7
comp=Z,562nm,1.2s,comp=Z,10μm
WSI **Waingapu** 45.15 268 S S 04 21 23.8 +2.4
baz=45,SNR=5.1
SKSI **Soroako, Sulaw** 45.39 278 P P 04 14 48.8 +2.4
comp=Z,306nm,1.3s,comp=Z,5μm
MBWA **Marble Bar** 45.47 252 P P 04 14 47.6 +0.8
SNR=35
MBWA **Marble Bar** 45.47 252 *e*P P 04 14 46.7 -0.1
comp=Z,424nm,1.2s
MBWA LR LR
comp=Z,23μm,19.0s
BSSI **Bau Bau, Buton** 45.47 273 P P 04 14 48.3 +1.4
comp=Z,491nm,1.7s,comp=Z,8μm
MRSI **Marisa** 45.59 282 P P 04 14 48.4 +0.5
comp=Z,156nm,1.1s,comp=Z,4μmcomp=Z,38μm
LBFI **Labuhan Bajo,** 45.70 269 P P 04 14 48.7 0.0
comp=Z,740nm,1.4s,comp=Z,8μm
CTBH **Cotabato--PC H** 45.76 292 *i*P P 04 14 51.0 +1.8
BKSI **Bulukumba** 45.98 274 P P 04 14 51.8 +0.9
comp=Z,146nm,1.4s,comp=Z,4μm
KAPI **Kappang** 46.41 274 P P 04 14 54.9 +0.6
comp=Z,971nm,1.1s,SNR=20
KAPI **Kappang** 46.41 274 P P 04 14 54.3 +0.1
SNR=26
KAPI **Kappang** 46.41 274 *e*P P 04 14 54.3 +0.1
comp=Z,634nm,1.5s
KAPI *e* 04 15 07.6
KAPI *e*PcP PcP 04 16 29.2 +0.4
KAPI PcP PcP 04 16 29.5 +0.7
KAPI LR LR
comp=Z,13μm,22.0s
KAPI **Kappang** 46.41 274 P P 04 14 54.9 +0.6
comp=Z,283nm,1.7s,comp=Z,7μmcomp=Z,44μm
KAPI **Kappang** 46.41 274 P P 04 14 54.4 +0.1
comp=Z,78nm,1.0s,baz=118,slow=5.3,SNR=36
KAPI PcP PcP 04 16 29.5 +0.7
comp=Z,121nm,0.9s,baz=158,slow=6.7,SNR=5.1
MSLP **Maasin** 46.44 296 *e*P P 04 14 56.2 +1.7
SPSI **Sidrap Palu** 46.60 276 P P 04 14 56.1 +0.3
comp=Z,159nm,1.2s,comp=Z,5μm
TTSI **Tana Toraja** 46.75 277 P P 04 14 58.1 +1.2
comp=Z,182nm,1.2s,comp=Z,5μmcomp=Z,42μm
PLP **Palo** 46.80 297‖ *e*P P 04 14 53.6 -3.7
MEEK **Meekatharra** 47.13 244 P P 04 14 59.8 -0.1
baz=47,SNR=255
MEEK S S 04 21 54.8 +5.0
baz=47,SNR=5.4
CNP **Catarman** 47.71 299 *e*P P 04 15 04.7 +0.3
MMSI **Mamuju** 47.71 277 P P 04 15 05.8 +1.3
comp=Z,113nm,1.1s,comp=Z,7μm
KIP **Kipapa** 48.06 47 *e*P P 04 15 09.4 +2.4
KIP pmax pmax
comp=Z,143nm,0.8s
KIP MLR MLR
comp=Z,24μm,21.0s
KIP **Kipapa** 48.06 47 *e*P P 04 15 09.4 +2.4
comp=Z,142nm,0.8s
KIP LR LR
comp=Z,24μm,21.0s
PVCP **Virac** 48.66 300‖ *e*P P 04 15 13.2 +1.5
KLBR **Kellerberrin** 48.81 238 P P 04 15 12.6 -0.2
baz=49,SNR=54
RCP **Roxas** 48.94 297‖ *e*P P 04 15 15.6 +1.8
MTNI **Mataram** 49.32 269 P P 04 15 17.9 +1.1
comp=Z,203nm,1.0s,comp=Z,5μm
BLDU **Ballidu** 49.49 240 P P 04 15 18.6 +0.7
baz=49,SNR=14
NWAO **Narrogin (SRO)** 49.55 237 P P 04 15 19.8 +1.4
SNR=7.6
NWAO **Narrogin (SRO)** 49.55 237 *e*P P 04 15 18.9 +0.6
comp=Z,174nm,1.0s
NWAO LR LR
comp=Z,45μm,20.0s
MORW **Morawa** 49.77 242 P P 04 15 20.1 0.0
baz=50,SNR=28
MORW S S 04 22 31.9 +5.0
baz=50,SNR=5.3
AUQP **San Andres** 49.80 299 *e*P P 04 15 23.9 +3.5
OTRP **Odiongan** 49.93 297 *e*P P 04 15 21.4 0.0
BKB **Balikpapan** 50.00 278 P P 04 15 25.8 +3.8
comp=Z,287nm,1.3s,comp=Z,9μmcomp=Z,70μm
RKGY **Rocky Gully** 50.17 234 P P 04 15 24.4 +1.3
baz=50,SNR=7.5
IGBI **Denpasar** 50.30 268 P P 04 15 25.1 +0.8
comp=Z,601nm,1.2s,comp=Z,9μmcomp=Z,26μm
MYLDM **Lahad Datu** 50.32 287 P P 04 15 26.0 +1.6
MYLDM **Lahad Datu** 50.32 287 P P 04 15 27.6 +3.2
comp=Z,490nm,1.5s,comp=Z,10μmcomp=Z,85μm
SRBI **Singaraja** 50.34 269 P P 04 15 25.7 +1.1
comp=Z,310nm,1.1s,comp=Z,7μm
TSM **Tawau** 50.62 285 P P 04 15 28.0 +1.3
LQP **Lukban** 51.14 299‖ *e*P P 04 15 32.3 +1.5
SDKM **Sandakan** 51.70 287 P P 04 15 35.2 +0.4
KMMI **Kalianget** 51.71 270 P P 04 15 37.2 +2.3
comp=Z,216nm,1.2s,comp=Z,5μm
BLJI **Banyuglugur** 51.97 269 P P 04 15 37.7 +0.9
comp=Z,299nm,1.0s,comp=Z,6μm
GMJI **Gumukmas** 52.04 269 P P 04 15 37.6 +0.2
comp=Z,208nm,1.1s,comp=Z,5μm
KDM **Kudat** 52.47 288 P P 04 15 42.5 +2.0
KKM **Kota Kinabalu** 52.75 287 *e*P P 04 15 42.8 +0.1
comp=Z,481nm,1.1s

KKM LR LR
comp=Z,8μm,22.0s
KKM **Kota Kinabalu** 52.75 287 P P 04 15 43.2 +0.4
KKM **Kota Kinabalu** 52.75 287 P P 04 15 44.4 +1.7
comp=Z,480nm,1.2s,comp=Z,8μm
KKM **Kota Kinabalu** 52.75 287 P P 04 15 43.5 +0.7
baz=53,SNR=59
KKM S S 04 23 09.6 +1.0
baz=53,SNR=3.6
KRKI **Karangkates** 53.03 268 P P 04 15 46.0 +1.3
comp=Z,914nm,1.3s,comp=Z,22μm
JOW **Kunigami** 53.08 317 *e*P P 04 15 45.3 +0.5
comp=Z,74nm,0.9s
SJI **Sawahan** 53.76 269 P P 04 15 51.7 +1.5
comp=Z,680nm,1.5s,comp=Z,12μm
PCJI **Pacitan** 54.27 268 P P 04 15 55.4 +1.6
comp=Z,924nm,1.4s,comp=Z,14μm
MJAR **Matsushiro Arr** 54.68 332 P P 04 15 54.4 -2.0
MJAR **Matsushiro Arr** 54.68 332 P P 04 15 54.4 -2.0
comp=Z,52nm,0.8s,baz=167,slow=8.5,SNR=61
MJAR LR LR 04 37 05.1
comp=Z,14μm,22.0s,baz=150,slow=34
MAT **Matsushiro** 54.68 332 P P 04 15 54.4 -1.9
MAT S S 04 23 32.2 -1.6
BTM **Bintulu** 54.85 282 P P 04 15 59.4 +1.4
UGM **Wanagama** 54.95 268 P P 04 16 00.2 +1.4
comp=Z,439nm,1.1s,comp=Z,8μm
UGM **Wanagama** 54.95 268 P P 04 15 59.4 +0.6
baz=55,SNR=12
YOGI **Yogyakarta** 55.19 269 P P 04 16 02.3 +1.8
comp=Z,1μm,1.1s,comp=Z,16μm
SBUM **Sibu** 55.47 281 P P 04 16 03.7 +1.2
SBUM **Sibu** 55.47 281 P P 04 16 04.5 +2.0
comp=Z,117nm,1.1s,comp=Z,5μmcomp=Z,59μm
STKI **Sintang** 55.58 278 P P 04 16 05.7 +2.4
comp=Z,198nm,1.3s
JNU **Nakatsue** 55.81 324 *e*P P 04 16 04.1 -0.5
comp=Z,66nm,1.0s
JNU **Nakatsue** 55.81 324 P P 04 16 03.5 -1.1
comp=Z,106nm,0.9s,baz=98,slow=4.2,SNR=30
JNU LR LR 04 38 15.4
comp=Z,9μm,20.7s,baz=139,slow=34
YULB **Yu-li** 56.05 309 *e*P P 04 16 06.5 0.0
comp=Z,122nm,1.0s
NACB **Ninganchiao** 56.26 309 *e*P P 04 16 07.5 -0.4
comp=Z,164nm,0.9s
CLJI **Cilicap** 56.46 268 P P 04 16 08.9 -0.7
comp=Z,106nm,1.3s,comp=Z,13μm
SSLB **Suanglung** 56.53 309 *e*P P 04 16 10.3 +0.4
comp=Z,97nm,0.8s
YHNB **Yeheng** 56.70 310 *e*P P 04 16 11.0 -0.1
comp=Z,202nm,0.8s
YHNB LR LR
comp=Z,23μm,22.0s
TATO **Taipei** 56.79 310 *e*P P 04 16 11.2 -0.5
comp=Z,504nm,1.4s
TATO LR LR
comp=Z,18μm,21.0s
RKT **Rikitea** 56.95 110 *e*S S 04 24 06.6 +2.0
comp=Z,5μm,28.2s
RKT *e*SS SS 04 27 56.5 +3.0
comp=Z,10μm,35.5s
RKT *e*LQ LQ 04 30 23.7
comp=Z,29μm,34.5s
RKT *e*LR LR 04 32 48.0
comp=Z,130μm,27.0s,baz=278
KSM **Kuching** 57.06 279 *e*P P 04 16 14.4 +0.6
comp=Z,240nm,1.2s
KSM LR LR
comp=Z,5μm,20.0s
KSM **Kuching** 57.06 279 P P 04 16 14.7 +0.9
KSM **Kuching** 57.06 279 P P 04 16 15.7 +1.9
comp=Z,182nm,1.2s,comp=Z,4μmcomp=Z,57μm
KSM **Kuching** 57.06 279 P P 04 16 15.2 +1.4
baz=57,SNR=24
ERM **Erimo** 57.42 340 *e*P P 04 16 16.2 +0.5
ERM pmax pmax
comp=Z,139nm,1.4s
ERM MLR MLR
comp=Z,36μm,22.0s
ERM **Erimo** 57.42 340 *e*P P 04 16 16.2 +0.5
comp=Z,139nm,1.4s
ERM LR LR
comp=Z,36μm,22.0s
CISI **Cisompet, Garu** 57.66 268 P P 04 16 18.3 +0.1
comp=Z,494nm,1.6s,comp=Z,7μmcomp=Z,54μm
CISI **Cisompet, Garu** 57.66 268 P P 04 16 18.2 +0.1
baz=58,SNR=12
DRV **Dumont d'Urvil** 57.76 192 PP PP 04 18 16.0 -10
DRV S S 04 24 00.0 -14
DRV SS SS 04 27 51.0 -14
DRV L L 04 30 00.0
DRV R 04 33 00.0
LEM **Lembang** 57.97 269 P P 04 16 21.9 +1.5
comp=Z,552nm,1.1s,comp=Z,11μm
LEM **Lembang** 57.97 269 P P 04 16 22.4 +2.0
baz=58,SNR=4.4
YUK **Yuzh-Kuril'sk** 58.39 343*c* *i*P P 04 16 21.4 -1.1
YUK *i* 04 18 30.1
YUK *i*S S 04 24 21.6 -0.9
YUK *i*SSS SSS 04 30 40.7
YUK pmax pmax
comp=N,169nm,1.2s
YUK pmax pmax
comp=Z,463nm,1.4s
YUK pmax pmax
comp=E,126nm,1.2s
YUK pmax pmax
comp=Z,212nm,1.2s
TPI **Tanjungpandan** 58.68 274 P P 04 16 26.8 +1.6
comp=Z,71nm,1.5s,comp=Z,3μmcomp=Z,41μm
DBJI **Dramaga** 58.87 269 P P 04 16 27.4 +0.9
comp=Z,338nm,1.4s,comp=Z,10μm
KUR **Kuril'sk** 58.95 345*d* *i*P P 04 16 17.0 -9.4
KUR *i*S S 04 24 29.4 -0.4
KUR pmax pmax
comp=Z,720nm,2.0s
KUR pmax pmax
comp=N,104nm,1.1s
KUR pmax pmax
comp=Z,249nm,1.1s
KUR pmax pmax
comp=E,62nm,1.3s
KUR MLR MLR
comp=N,13μm,20.0s
KUR MLR MLR
comp=E,4μm,20.0s
KUR MLR MLR
comp=Z,12μm,20.0s
QZH **Quanzhou** 58.97 308⇑ *i*P P 04 16 26.0 -0.9
QZH S S 04 24 22.8 -7.9
QZH LR LR
comp=N,14μm,20.7s
QZH LR LR
comp=E,24μm,22.5s
QZH LR LR
comp=Z,22μm,22.6s
SKJI **Sukabumi** 58.98 269 P P 04 16 27.0 -0.3
comp=Z,488nm,1.5s,comp=Z,9μmcomp=Z,31μm
XMIS **Christmas Isla** 59.37 265 P P 04 16 32.1 +2.2
baz=59,SNR=3.6
ASAJ **Asahikawa** 59.47 340 *e*P P 04 16 29.4 -0.7
comp=Z,27nm,0.8s
ASAJ *e* 04 16 44.6
ASAJ **Asahikawa** 59.47 340 P P 04 16 29.9 -0.2
comp=Z,82nm,0.9s,baz=224,slow=13,SNR=48
ASAJ LR LR 04 37 45.8
comp=Z,30μm,21.7s,baz=235,slow=32
PPBI **Pangkal Pinang** 60.28 274 P P 04 16 37.8 +1.5
comp=Z,99nm,1.7s,comp=Z,9μm
SSE **Sheshan** 60.58 316 P P 04 16 39.0 +1.1
SSE sP sP 04 16 55.7 +1.3
SSE S S 04 24 53.6 +2.3
SSE pmax pmax
comp=Z,120nm,0.8s
SSE pmax pmax
comp=Z,1μm,5.7s
SSE LR LR
comp=N,10μm,28.4s
SSE LR LR
comp=E,6μm,28.4s
SSE LR LR
comp=Z,16μm,26.1s
KSRS **Korea Array** 60.60 326 P P 04 16 37.5 -0.4
comp=Z,20nm,0.8s,baz=138,slow=7.2,SNR=41
KSRS LR LR 04 40 54.4
comp=Z,6μm,20.4s,baz=140,slow=34

KSAR	**Wonju Array Be**	**60.61 325**	P	**P**	**04 16 37.5 -0.5**
KLSI		**61.17 271**	P	**P**	**04 16 44.5 +2.2**
	comp=Z,42nm,1.8s,comp=Z,2μmcomp=Z,31μm				
KASI	**Kota Agung**	**61.25 270**	P	**P**	**04 16 42.6 -0.2**
	comp=Z,171nm,0.8s,comp=Z,4μmcomp=Z,37μm				
INCN	**Inchon**	**61.34 325**	P	**P**	**04 16 45.1 +2.0**
	SNR=6.2				
INCN	**Inchon**	**61.34 325**	*e*P	**P**	**04 16 43.5 +0.5**
	comp=Z,106nm,1.2s				
INCN			LR	LR	
	comp=Z,13μm,22.0s				
LWLI	**Liwa**	**61.77 271**	P	**P**	**04 16 46.5 0.0**
	comp=Z,212nm,1.3s				
YSS	**Yuzh-Sakhalins**	**61.96 342**α	*i*P	**P**	**04 16 48.0 +1.1**
YSS			*e*		04 17 24.0
YSS			*e*S	**S**	**04 25 08.0 -0.2**
YSS			*e*PS	**PnS**	**04 25 26.0 -1.4**
YSS			pmax	pmax	
	comp=E,50nm,1.0s				
YSS			pmax	pmax	
	comp=Z,90nm,1.0s				
YSS			pmax	pmax	
	comp=N,2μm,8.0s				
YSS			pmax	pmax	
	comp=Z,2μm,8.0s				
GZH	**Guangzhou**	**62.19 304**	P	**P**	**04 16 50.6 +1.7**
GZH			S	**S**	**04 25 13.3 +1.3**
GZH			LR	LR	
	comp=N,10μm,22.3s				
GZH			LR	LR	
	comp=E,9μm,21.8s				
GZH			LR	LR	
	comp=Z,18μm,24.0s				
SKR	**Severo-Kuril's**	**62.65 353**	*e*P	P	04 16 44.0 -7.4
SKR			*e*		04 17 28.0
SKR			*e*S	**S**	**04 25 12.0 -4.7**
SKR			*e*		04 26 38.0
SKR			*e*SSS	SSS	04 31 59.0
SKR			pmax	pmax	
	comp=Z,220nm,1.0s				
SKR			pmax	pmax	
	comp=N,2μm,16.0s				
SKR			pmax	pmax	
	comp=E,1μm,16.0s				
SKR			pmax	pmax	
	comp=Z,4μm,16.0s				
SKR			MLR	MLR	
	comp=N,5μm,18.0s				
SKR			MLR	MLR	
	comp=E,2μm,18.0s				
SKR			MLR	MLR	
	comp=Z,8μm,18.0s				
NJ2	**Nanjing**	**62.75 315**	*e*P	**P**	**04 16 52.9 +0.4**
NJ2			pP	**pP**	**04 17 05.0 +0.6**
NJ2			sP	**sP**	**04 17 10.0 +1.0**
NJ2			PP	**PP**	**04 19 12.0 +1.0**
NJ2			S	**S**	**04 25 19.0 +0.3**
NJ2			sS	**sS**	**04 25 39.0 +0.6**
NJ2			pmax	pmax	
	comp=Z,110nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,1μm,5.7s				
NJ2			LR	LR	
	comp=N,13μm,19.3s				
NJ2			LR	LR	
	comp=E,13μm,26.0s				
NJ2			LR	LR	
	comp=Z,22μm,22.8s				
VLA	**Vladivostok**	**62.85 332***c*	*i*P	**P**	**04 16 53.2 +0.2**
VLA			pmax	pmax	
	comp=Z,111nm,1.2s				
QIZ	**Qiongzhong**	**63.36 298**	P	**P**	**04 16 57.6 +0.8**
QIZ			pP	**pP**	**04 17 08.7 0.0**
QIZ			sP	**sP**	**04 17 13.2 -0.2**
QIZ			S	**S**	**04 25 26.6 -0.2**
QIZ			pmax	pmax	
	comp=Z,99nm,1.1s				
QIZ			LR	LR	
	comp=N,7μm,22.6s				
QIZ			LR	LR	
	comp=E,6μm,23.1s				
QIZ			LR	LR	
	comp=Z,21μm,23.1s				
QIZ	**Qiongzhong**	**63.36 298**	*e*P	**P**	**04 16 57.7 +0.8**
	comp=Z,182nm,1.0s				
QIZ			LR	LR	
	comp=Z,17μm,22.0s				
MYKOM	**Kota Tinggi**	**63.39 278**	P	**P**	**04 16 59.0 +1.7**
MYKOM	**Kota Tinggi**	**63.39 278**	P	**P**	**04 16 58.9 +1.7**
	comp=Z,124nm,1.2s,comp=Z,4μmcomp=Z,57μm				
KSI	**Kapahiang**	**63.46 272**	P	**P**	**04 16 58.0 +0.3**
	comp=Z,244nm,0.9s,comp=Z,7μm				
USRK	**Ussuriysk Arra**	**63.66 333**	P	**P**	**04 16 58.2 -0.1**
	comp=Z,84nm,1.0s,baz=140,slow=5.6,SNR=92				
USRK			LR	LR	04 41 23.7
	comp=Z,7μm,20.7s,baz=304,slow=33				
MASI	**Maura Aman, Be**	**63.90 272**	P	**P**	**04 17 01.6 +1.0**
	comp=Z,373nm,1.1s,comp=Z,5μm				
KGM	**Kluang**	**63.96 278**	P	**P**	**04 17 02.7 +1.7**
RGRI	**Rengat**	**64.38 275**	P	**P**	**04 17 06.5 +2.8**
	comp=Z,609nm,1.1s,comp=Z,84μm				
SMY	**Shemya**	**64.43 5**	*e*P	**P**	**04 17 03.3 +0.2**
SMY			*e*		04 17 19.3
SMY			pmax	pmax	
	comp=Z,130nm,0.8s				
SMY	**Shemya**	**64.43 5**	*e*P	**P**	**04 17 03.3 +0.2**
	comp=Z,130nm,0.8s				
SMY			*e*		04 17 19.2
FX1	**Attu Island--F**	**64.50 5**	*e*P	**P**	**04 17 03.0 -0.7**
PET	**Petropavlovsk**	**64.69 355***c*	*i*P	**P**	**04 17 03.9 -1.0**
PET			*i*S	**S**	**04 25 42.4 +0.3**
PET			*e*SS	**SS**	**04 30 00.4 +6.5**
PET			pmax	pmax	
	comp=Z,47nm,1.2s				
PET			pmax	pmax	
	comp=Z,3μm,9.1s				
PET			pmax	pmax	
	comp=Z,6μm,18.9s				
PET			MLR	MLR	
	comp=Z,6μm,20.0s				
PET			MLR	MLR	
	comp=Z,5μm,16.0s				
PEA0B	**Petropavlovsk-**	**64.86 354**	*e*P	**P**	**04 17 04.8 -1.2**
PEA0B			*e*		04 17 23.6
PETK	**Petropavlovsk-**	**64.86 354**	P	**P**	**04 17 05.2 -0.8**
PETK			S	**S**	**04 25 46.0 +1.7**
PETK	**Petropavlovsk-**	**64.86 354**	P	**P**	**04 17 05.2 -0.8**
PETK			S	**S**	**04 25 46.0 +1.7**
PETK	**Petropavlovsk-**	**64.86 354**	P	**P**	**04 17 05.2 -0.8**
	comp=Z,25nm,1.0s,baz=145,slow=5.4,SNR=20				
PETK			S	**S**	**04 25 46.0 +1.7**
	comp=Z,0.7nm,0.4s,baz=145,slow=23,SNR=3.2				
PETK			LR	LR	04 40 03.6
	comp=Z,14μm,21.3s,baz=168,slow=31				
ADK	**Adak**	**64.93 12**	*e*P	**P**	**04 17 08.3 +1.8**
ADK			pmax	pmax	
	comp=Z,393nm,1.3s				
ADK			MLR	MLR	
	comp=Z,31μm,22.0s				
ADK	**Adak**	**64.93 12**	*e*P	**P**	**04 17 08.3 +1.8**
	comp=Z,393nm,1.3s				
ADK			LR	LR	
	comp=Z,31μm,22.0s				
KTGM	**Kuala Trenggan**	**64.97 281**	P	**P**	**04 17 09.0 +1.5**
MDJ	**Mudanjiang**	**65.06 332**	P	**P**	**04 17 07.2 -0.3**
MDJ			pP	**pP**	**04 17 19.0 -0.4**
MDJ			sP	**sP**	**04 17 23.9 -0.2**
MDJ			S	**S**	**04 25 51.1 +4.1**
MDJ			pmax	pmax	
	comp=Z,78nm,1.3s				
MDJ			pmax	pmax	
	comp=Z,4μm,8.7s				
MDJ			LR	LR	
	comp=N,10μm,34.7s				
MDJ			LR	LR	
	comp=E,8μm,34.7s				
MDJ			LR	LR	
	comp=Z,17μm,29.6s				
MDJ	**Mudanjiang**	**65.06 332**	*e*P	**P**	**04 17 07.0 -0.5**
	comp=Z,136nm,1.3s				
MDJ			*e*		04 17 21.5
MDJ			LR	LR	
	comp=Z,10μm,20.0s				
WHN	**Wuhan**	**65.11 312**	P	**P**	**04 17 08.2 +0.1**
WHN			S	**S**	**04 25 49.7 +1.5**
WHN			pmax	pmax	
	comp=Z,140nm,1.2s				
WHN			pmax	pmax	
	comp=Z,11μm,8.5s				
WHN			LR	LR	
	comp=N,36μm,22.3s				
WHN			LR	LR	
	comp=E,15μm,20.1s				
WHN			LR	LR	
	comp=Z,73μm,30.0s				
DL2	**Dalian**	**65.21 323**	P	**P**	**04 17 08.3 -0.2**
DL2			S	**S**	**04 25 46.9 -2.1**
DL2			pmax	pmax	
	comp=Z,180nm,1.3s				
DL2			pmax	pmax	
	comp=Z,3μm,8.8s				
DL2			LR	LR	
	comp=N,5μm,18.6s				
DL2			LR	LR	
	comp=E,4μm,23.5s				
DL2			LR	LR	
	comp=Z,8μm,23.0s				
BKNI	**Bangkinang**	**65.79 276**	P	**P**	**04 17 14.9 +2.0**
	comp=Z,612nm,1.2s,comp=Z,9μmcomp=Z,56μm				
BKNI	**Bangkinang**	**65.79 276**	P	P	04 17 04.9 -8.0
	baz=66,SNR=4.3				
UBPT	**Khong Chiam**	**65.82 293**	P	**P**	**04 17 14.6 +1.6**
	comp=Z,179nm,1.4s,comp=Z,4μm				
HABR	**Khabarovsk**	**65.88 338***c*	*e*P	**P**	**04 17 11.8 -0.8**
HABR			*e**PP	**pP**	**04 17 20.8 -3.8**
HABR			*e**SP	**sP**	**04 17 25.5 -3.7**
HABR			*e*		04 17 41.6
HABR			*e*S	**S**	**04 25 57.0 +0.3**
HABR			*e*		04 27 03.7
HABR			SS	**SS**	**04 30 10.9 -1.6**
HABR			pmax	pmax	
	comp=N,33nm,1.1s				
HABR			pmax	pmax	
	comp=Z,125nm,1.1s				
HABR			pmax	pmax	
	comp=E,44nm,1.1s				
HABR			pmax	pmax	
	comp=Z,723nm,3.1s				
HABR			MLR	MLR	
	comp=Z,4μm,18.0s				
FRIM	**Kepong**	**65.90 279**	P	**P**	**04 17 14.2 +0.7**
VNDA	**Vanda**	**65.95 181**	*e*P	**P**	**04 17 12.2 -0.6**
	comp=Z,311nm,1.3s				
VNDA	**Vanda**	**65.95 181**	P	**P**	**04 17 12.3 -0.4**
	comp=Z,170nm,1.1s,baz=359,slow=7.1,SNR=75				
VNDA			LR	LR	04 42 10.1
	comp=Z,10μm,21.2s,baz=21,slow=32				
CASY	**Casey**	**66.04 201**	*e*P	**P**	**04 17 12.8 -0.7**
	comp=Z,471nm,1.2s				
CASY			LR	LR	
	comp=Z,11μm,21.0s				
SNY	**Shenyang**	**66.06 326**	⇑P	**P**	**04 17 11.8 -2.1**
SNY			S	**S**	**04 25 56.4 -2.8**
SNY			pmax	pmax	
	comp=Z,50nm,1.3s				
SNY			pmax	pmax	
	comp=Z,4μm,10.8s				
SNY			LR	LR	
	comp=E,8μm,24.0s				
SNY			LR	LR	
	comp=Z,13μm,27.5s				
SBA	**Scott Base**	**66.25 180**	*e*P	**P**	**04 17 15.0 +0.4**
SBA			pmax	pmax	
	comp=Z,233nm,1.1s				
SBA			MLR	MLR	
	comp=Z,10μm,21.0s				
SBA	**Scott Base**	**66.25 180**	*e*P	**P**	**04 17 15.0 +0.4**
	comp=Z,233nm,1.1s				
SBA			LR	LR	
	comp=Z,10μm,21.0s				
PPI	**Padang Panjang**	**66.25 275**	P	**P**	**04 17 17.1 +1.3**
	comp=Z,185nm,1.2s,comp=Z,4μmcomp=Z,65μm				
PPI	**Padang Panjang**	**66.25 275**	P	**P**	**04 17 17.6 +1.8**
	baz=66,SNR=3.8				
TIA	**Tai'an**	**66.34 318**	⇑P	P	04 17 26.6 +11
TIA			PP	PP	04 19 49.0 +6.4
TIA			ScS	ScS	04 26 48.0 -22
TIA	**Tai'an**	**66.34 318**	SS	SS	04 30 22.2 +1.8
TIA			pmax	pmax	
	comp=Z,4μm,11.0s				
TIA			LR	LR	
	comp=N,17μm,28.5s				
TIA			LR	LR	
	comp=E,22μm,27.4s				
TIA			LR	LR	
	comp=Z,32μm,27.4s				
CN2	**Changchun**	**66.46 329**	⇑*i*P	**P**	**04 17 16.1 -0.4**
CN2			*e*pP	**pP**	**04 17 31.0 +2.5**
CN2			*e*S	**S**	**04 26 02.4 -1.7**
CN2			pmax	pmax	
	comp=Z,150nm,1.0s				
CN2			pmax	pmax	
	comp=Z,5μm,10.0s				
CN2			LR	LR	
	comp=N,12μm,20.0s				
CN2			LR	LR	
	comp=E,10μm,20.0s				
CN2			LR	LR	
	comp=Z,14μm,22.0s				
IPM	**Ipoh**	**66.78 280**	*e*P	**P**	**04 17 20.0 +0.8**
	comp=Z,425nm,1.3s				
IPM	**Ipoh**	**66.78 280**	P	**P**	**04 17 21.0 +1.7**
IPM	**Ipoh**	**66.78 280**	P	**P**	**04 17 21.1 +1.9**
	comp=Z,270nm,1.6s,comp=Z,6μmcomp=Z,51μm				
PANO	**Nakornpanom**	**67.25 294**	P	**P**	**04 17 22.8 +0.8**
	comp=Z,310nm,1.1s				
KULM	**Kulim**	**67.35 281**	*e*P	**P**	**04 17 23.6 +0.8**
	comp=Z,168nm,1.3s				
KULM			LR	LR	
	comp=Z,6μm,21.0s				
KULM	**Kulim**	**67.35 281**	P	**P**	**04 17 23.6 +0.8**
KULM	**Kulim**	**67.35 281**	P	**P**	**04 17 24.7 +1.9**
KULM	**Kulim**	**67.35 281**	P	**P**	**04 17 24.3 +1.5**
	comp=Z,104nm,2.0s,comp=Z,4μm				
COCO	**West Island**	**67.72 261**	PFAKE		04 17 40.0 +15
COCO			LR	LR	
	comp=Z,11μm,21.0s				
KLR	**Kul'dur**	**67.75 336**	*e*P	P	04 17 20.7 -3.9
KLR			*e*S	**S**	**04 26 15.0 -4.5**
KLR			pmax	pmax	
	comp=Z,140nm,1.6s				
KLR			pmax	pmax	
	comp=N,2μm,12.0s				
KLR			pmax	pmax	
	comp=E,1μm,12.0s				
KLR			pmax	pmax	
	comp=Z,4μm,12.0s				
KLR			smax	smax	
	comp=N,1μm,18.0s				
KLR			smax	smax	
	comp=E,2μm,18.0s				
KLR			MLR	MLR	
	comp=Z,5μm,16.0s				
PSI	**Prapat**	**68.41 278**	P	**P**	**04 17 30.1 +0.4**
	baz=68,SNR=24				
ENH	**Enshi**	**68.61 309**	*e*P	**P**	**04 17 29.8 -0.7**
	comp=Z,177nm,1.0s				
ENH			LR	LR	
	comp=Z,52nm,20.0s				
TSI	**Tuntungan**	**68.93 278**	P	**P**	**04 17 33.2 +0.5**
	comp=Z,403nm,0.9s				
GYA	**Guiyang**	**69.12 304**	⇑*i*P	**P**	**04 17 35.0 +1.2**
GYA			pP	**pP**	**04 17 47.6 +1.8**
GYA			sP	**sP**	**04 17 53.0 +2.5**
GYA			PcP	**PcP**	**04 17 58.9 +1.3**
GYA			PP	**PP**	**04 20 10.2 +3.2**
GYA			ScP		04 21 58.0
GYA			PcS		04 22 04.3
GYA			S	**S**	**04 26 36.5 -0.4**
GYA			sS	**sS**	**04 26 57.0 +0.2**
GYA			SKS	**SKSac**	**04 27 28.4 -2.6**
GYA			SS	**SS**	**04 31 02.5 -1.4**
GYA			pmax	pmax	
	comp=Z,90nm,1.0s				
GYA			pmax	pmax	
	comp=Z,12μm,6.1s				
GYA			LR	LR	
	comp=N,9μm,18.4s				
GYA			LR	LR	
	comp=E,6μm,19.0s				
GYA			LR	LR	
	comp=Z,10μm,18.6s				
CHAI	**Chaiyaphum**	**69.19 292**	P	**P**	**04 17 34.1 -0.1**
	comp=Z,58nm,1.0s,comp=Z,502nm				
BJT	**Baijiatuau**	**69.20 321**	*e*P	**P**	**04 17 33.6 -0.2**
	comp=Z,176nm,0.9s				
BJT			LR	LR	
	comp=Z,14μm,20.0s				
BJI	**Beijing**	**69.21 321**	P	**P**	**04 17 33.7 -0.2**
BJI			pP	**pP**	**04 17 47.3 +1.4**
BJI			S	**S**	**04 26 39.5 +2.4**
BJI			pmax	pmax	
	comp=Z,120nm,0.9s				
BJI			pmax	pmax	
	comp=Z,4μm,8.6s				
BJI			LR	LR	
	comp=N,12μm,27.6s				
BJI			LR	LR	
	comp=E,10μm,29.3s				
BJI			LR	LR	
	comp=Z,29μm,29.7s				
AKUT	**Akutan**	**69.66 17**	*e*P	**P**	**04 17 35.5 -0.9**
	comp=Z,47nm,0.6s				
KCSI	**Kotacane, Aceh**	**69.70 278**	P	**P**	**04 17 37.3 -0.2**
	comp=Z,182nm,0.9s,comp=Z,3μm				
TIY	**Taiyuan**	**70.29 317**	*e*P	**P**	**04 17 40.6 -0.1**
TIY			pP	**pP**	**04 17 52.2 -0.6**
TIY			sP	**sP**	**04 17 57.6 +0.2**
TIY			S	S	04 26 40.2 -10
TIY			sS	**sS**	**04 27 08.4 -1.7**
TIY			pmax	pmax	
	comp=Z,470nm,1.6s				
TIY			pmax	pmax	
	comp=Z,3μm,9.2s				
TIY			LR	LR	
	comp=N,6μm,18.4s				
TIY			LR	LR	
	comp=E,9μm,18.7s				
TIY			LR	LR	
	comp=Z,16μm,22.5s				
PBKT	**Sadao Pong**	**70.33 292**	P	P	04 17 46.7 +5.5
	comp=Z,185nm,1.4s,comp=Z,5μm				
LOEI	**Loei**	**70.37 293**	P	**P**	**04 17 39.8 -1.7**
	comp=Z,296nm,1.4s,comp=Z,5μm				
PHET	**Kaeng Krachan**	**70.42 288**	P	**P**	**04 17 44.3 +2.4**
	comp=Z,400nm,0.9s,comp=Z,3μm				
XAN	**Xi'an**	**70.84 312**	P	**P**	**04 17 44.0 -0.2**
XAN			pP	**pP**	**04 17 57.1 +0.9**
XAN			sP	**sP**	**04 18 02.4 +1.6**
XAN			PP	**PP**	**04 20 24.3 +2.6**
XAN			S	**S**	**04 26 56.7 0.0**
XAN			sS	**sS**	**04 27 18.4 +1.7**
XAN			SS	**SS**	**04 31 32.8 +2.7**
XAN			pmax	pmax	
	comp=Z,1μm,9.7s				
XAN			LR	LR	
	comp=N,7μm,22.6s				
XAN			LR	LR	
	comp=E,6μm,23.0s				
XAN			LR	LR	
	comp=Z,8μm,23.0s				
NANT	**Nan**	**71.31 294**	P	**P**	**04 17 48.0 +0.8**
	comp=Z,526nm,1.1s,comp=Z,4μm				
KMI	**Kunming**	**71.81 301**	P	**P**	**04 17 51.6 +1.2**
KMI			pP	**pP**	**04 18 04.8 +2.3**
KMI			PP	**PP**	**04 20 31.5 +1.1**
KMI			S	**S**	**04 27 09.8 +1.2**
KMI			SS	**SS**	**04 31 48.9 +3.3**
KMI			pmax	pmax	
	comp=Z,310nm,1.5s				
KMI			pmax	pmax	
	comp=Z,4μm,7.2s				
KMI			LR	LR	
	comp=N,4μm,22.5s				
KMI			LR	LR	
	comp=E,12μm,23.6s				
KMI			LR	LR	
	comp=Z,17μm,25.9s				
SDPT	**Sand Point**	**72.32 19**	*e*P	**P**	**04 17 53.8 +1.4**
	comp=Z,76nm,0.7s				
SDPT			*e*		04 18 06.6
HHC	**Hu-ho-hao-te**	**72.56 320**	*e*P	**P**	**04 17 54.8 +0.4**
HHC			PcP	**PcP**	**04 18 12.1 +0.2**
HHC			PP	**PP**	**04 20 38.6 +2.3**
HHC			S	**S**	**04 27 15.2 -1.1**
HHC			sS	**sS**	**04 27 37.1 +0.7**
HHC			SKS	**SKSac**	**04 27 51.3 -5.1**
HHC			ScS	**SKKSac**	**04 27 54.4 -2.1**
HHC			SS	**SS**	**04 31 57.6 +1.4**
HHC			pmax	pmax	
	comp=Z,180nm,1.0s				
HHC			pmax	pmax	
	comp=Z,9μm,6.5s				
HHC			LR	LR	
	comp=N,24μm,17.9s				
HHC			LR	LR	
	comp=E,37μm,17.5s				
HHC			LR	LR	
	comp=Z,70μm,17.8s				
BSI	**Banda Aceh**	**72.56 280**	P	**P**	**04 17 55.8 +0.9**
	comp=Z,210nm,1.6s,comp=Z,4μm				
MIR	**Mirnyy**	**72.76 204**	⇑*i*P	**P**	**04 17 56.0 +1.0**
MIR			pmax	pmax	
	comp=Z,186nm,1.3s				
MIR			pmax	pmax	
	comp=Z,5μm,12.0s				
CMAR	**Chiang Mai Arr**	**72.77 294**	P	**P**	**04 17 57.0 +1.1**
CMAR	**Chiang Mai Arr**	**72.77 294**	P	**P**	**04 17 57.0 +1.1**
	comp=Z,137nm,0.9s,baz=118,slow=4.3,SNR=88				
CMAR			LR	LR	04 47 40.3
	comp=Z,7μm,20.7s,baz=253,slow=34				
CMMT	**Chiang Mai**	**72.88 294**	P	**P**	**04 17 57.1 +0.5**
	comp=Z,266nm,1.3s,comp=Z,5μm				
CHTO	**Chiang Mai**	**72.88 294**	*e*P	**P**	**04 17 57.1 +0.5**
CHTO			pmax	pmax	
	comp=Z,343nm,1.3s				
CHTO			MLR	MLR	
	comp=Z,7μm,21.0s				
CHTO	**Chiang Mai**	**72.88 294**	P	**P**	**04 17 57.8 +1.2**
	SNR=38				
CHTO	**Chiang Mai**	**72.88 294**	*e*P	**P**	**04 17 57.1 +0.5**
	comp=Z,343nm,1.3s				
CHTO			LR	LR	
	comp=Z,7μm,21.0s				
CHTO	**Chiang Mai**	**72.88 294**	P	**P**	**04 17 58.1 +1.5**
	comp=Z,294nm,1.4s,comp=Z,5μmcomp=Z,36μm				
CHTO	**Chiang Mai**	**72.88 294**	P	**P**	**04 17 57.5 +0.9**
	comp=Z,294nm,1.4s,comp=Z,5μm				
HIA	**Hailar**	**73.08 330**	*e*P	**P**	**04 17 56.9 -0.3**
	comp=Z,187nm,1.1s				
HIA			LR	LR	
	comp=Z,13μm,20.0s				
CMAI	**Chiengmai2**	**73.16 295**	P	**P**	**04 17 59.4 +1.0**
	comp=Z,326nm,1.3s,comp=Z,6μm				
CD2	**Chengdu**	**73.31 307**	P	**P**	**04 17 59.4 +0.4**
CD2			pP	**pP**	**04 18 12.5 +1.4**
CD2			PcP	**PcP**	**04 18 16.1 +0.9**
CD2			sP	**sP**	**04 18 19.2 +3.5**
CD2			PP	**PP**	**04 20 45.8 +2.9**
CD2			S	**S**	**04 27 24.2 -1.0**
CD2			sS	**sS**	**04 27 45.5 +0.2**
CD2			ScS	**SKSac**	**04 28 01.2 -1.2**
CD2			SS	**SS**	**04 32 09.0 +1.0**
CD2			pmax	pmax	
	comp=Z,310nm,1.2s				
CD2			pmax	pmax	
	comp=Z,5μm,8.2s				
CD2			LR	LR	
	comp=N,8μm,23.8s				
CD2			LR	LR	
	comp=E,20μm,23.8s				
CD2			LR	LR	
	comp=Z,22μm,25.0s				
CMBY	**CAMPBELL BAY**	**74.25 281**	*e*P	**P**	**04 18 05.1 +0.4**
CMBY			AMB	AMB	04 18 35.1
	comp=Z,217nm,2.4s				
LZH	**Lanzhou**	**75.48 312**	⇑P	**P**	**04 18 12.8 +1.1**
LZH			pP	**PcP**	**04 18 24.6 0.0**
LZH			sP	**sP**	**04 18 28.7 +0.3**
LZH			S	**S**	**04 27 51.0 +1.5**
LZH			sS	**sS**	**04 28 09.2 -0.4**
LZH			SS	**SS**	**04 32 41.5 +0.5**
LZH			pmax	pmax	
	comp=Z,560nm,1.0s				
LZH			pmax	pmax	
	comp=Z,2μm,4.0s				
LZH			LR	LR	
	comp=N,14μm,19.2s				

LZH LR LR
comp=E,14μm,19.8s
LZH LR LR
comp=Z,30μm,19.9s
OHAK Old Harbor 76.25 21 *e*P **P 04 18 13.8 -1.5**
comp=Z,62nm,1.0s
CLNS Chul'man 76.27 338 *e*P **P 04 18 15.7 +0.2**
CLNS *e**PP **PcP 04 18 22.8 -4.5**
CLNS *e* 04 18 28.4
CLNS *e* 04 21 05.7
CLNS *e*PPP PPP 04 22 53.5
CLNS *e*S **S 04 27 55.4 -1.6**
CLNS *e* 04 28 31.1
CLNS *e*SS **SS 04 32 54.3 +2.5**
CLNS *e*SSS SSS 04 36 00.6
CLNS pmax pmax
comp=Z,84nm,1.2s
CLNS pmax pmax
comp=N,35nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS pmax pmax
comp=Z,14nm,1.4s
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS smax smax
comp=E,3μm,11.2s
CLNS smax smax
comp=N,3μm,13.5s
PBA Port Blair 76.54 285 *e*P P 04 18 17.1 -0.8
PBA AMB AMB 04 18 20.8
comp=Z,180nm,3.7s
DGPR DIGLIPUR 76.76 287 *e*P **P 04 18 20.1 +1.0**
DGPR AMB AMB 04 18 23.0
comp=Z,293nm,0.7s
KDAK Kodiak Island 76.92 21 P **P 04 18 19.0 -0.1**
comp=Z,209nm,1.0s,SNR=6.4
CIT Chita 77.88 330 *e*P **P 04 18 25.0 +0.3**
CIT *e* 04 18 39.9
CIT pmax pmax
comp=Z,605nm,1.3s
QSPA South Pole Qui 78.41 180 *e*P **P 04 18 26.7 -0.8**
comp=Z,877nm,1.1s
QSPA LR LR
comp=Z,7μm,22.0s
YAK Yakutsk 78.76 343*c i*P **P 04 18 28.1 -1.1**
YAK *e* 04 18 36.8
YAK *e**PP **PcP 04 18 38.9 +1.0**
YAK *e*S **S 04 28 22.0 -1.7**
YAK *e**SS **SKSac 04 28 38.4 -2.6**
YAK *e* 04 28 47.2
YAK pmax pmax
comp=Z,129nm,1.1s
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,31nm,1.3s
YAK smax smax
comp=E,1μm,8.8s
YAK smax smax
comp=N,914nm,9.4s
YAK MLR MLR
comp=Z,15μm,19.0s
YAK MLR MLR
comp=E,9μm,20.0s
YAK MLR MLR
comp=N,10μm,18.0s
RSO Redoubt South 78.89 19 *e*P **P 04 18 28.6 -1.6**
comp=N,134nm,0.8s
ULN Ulaanbaatar 79.03 324 P **P 04 18 31.8 +0.5**
SNR=154
ULN Ulaanbaatar 79.03 324 *e*P **P 04 18 31.1 -0.1**
comp=N,270nm,1.0s
ULN LR LR
comp=Z,6μm,20.0s
ULN Ulaanbaatar 79.03 324 P **P 04 18 31.9 +0.6**
comp=Z,303nm,1.2s,comp=Z,5μmcomp=Z,31μm
SONM Songino Array 79.39 324 P **P 04 18 33.0 -0.2**
SONM PKKPbc **PKKPbc 04 37 23.0 -2.1**
SONM P'P' 04 45 27.7
SONM Songino Array 79.39 324 P **P 04 18 33.0 -0.2**
comp=Z,100nm,1.1s,baz=134,slow=5.2,SNR=128
SONM PKKPbc **PKKPbc 04 37 23.0 -2.1**
comp=Z,0.6nm,0.8s,baz=280,slow=8.9,SNR=3.7
SONM PKPPKP **P'P'df 04 45 27.7 +2.8**
comp=Z,0.6nm,0.8s,baz=346,slow=4.9,SNR=3.5
SONM LR LR 04 54 05.0
comp=Z,7μm,20.3s,baz=118,slow=36
GTA Gaotai 79.78 314 ⇑P **P 04 18 37.5 +2.0**
GTA pP **pP 04 18 51.9 +4.1**
GTA S **S 04 28 40.3 +4.5**
GTA pmax pmax
comp=Z,79nm,1.1s
GTA pmax pmax
comp=Z,5μm,8.5s
GTA LR LR
comp=N,9μm,21.9s
GTA LR LR
comp=E,12μm,22.8s
GTA LR LR
comp=Z,18μm,21.9s
RPN Rapa Nui 79.91 116 PFAKE 04 18 50.0 +14
RPN LR LR
comp=Z,14μm,20.0s
MID Middleton Isla 80.38 22 *e*P **P 04 18 40.1 +2.0**
MID pmax pmax
comp=Z,64nm,1.0s
MID Middleton Isla 80.38 22 *e*P **P 04 18 40.1 +2.0**
comp=Z,64nm,1.0s
PPLA Purkeypile 80.91 18 *e*P **P 04 18 41.3 +0.2**
comp=Z,87nm,0.3s
PMR Palmer 80.91 20 *e*P **P 04 18 39.3 -1.6**
PMR pmax pmax
comp=Z,39nm,0.7s
PMR Palmer 80.91 20 *e*P **P 04 18 39.3 -1.6**
comp=Z,40nm,0.7s
SHL Shillong 81.20 298 *e*P **P 04 18 43.8 +0.3**
SHL AMB AMB 04 18 47.7
comp=Z,328nm,1.2s
SHL *i* x x 04 28 53.0
SML Sawmill 81.33 20 *e*P **P 04 18 41.8 -1.4**
SML pmax pmax
comp=Z,25nm,1.1s
SML Sawmill 81.33 20 *e*P **P 04 18 41.8 -1.4**
comp=Z,25nm,1.1s
TRF Thorofare Moun 81.90 18 *e*P **P 04 18 44.0 -2.4**
comp=Z,32nm,0.7s
BMRM Bremner River 82.06 22 *e*P **P 04 18 46.3 -0.8**
comp=Z,131nm,1.2s
BMRM *e*PcP **PcP 04 18 53.9 +1.4**
ZAK Zakamensk 82.43 325⇑*e*P **P 04 18 48.9 -0.4**
ZAK *e* 04 29 08.0
ZAK pmax pmax
comp=Z,93nm,1.2s
MCK McKinley 82.52 18 *e*P **P 04 18 47.3 -2.1**
MCK pmax pmax
comp=Z,203nm,1.4s
MCK McKinley 82.52 18 *e*P **P 04 18 47.3 -2.1**
comp=Z,203nm,1.4s
MCCM Marconi Confer 82.53 49 *e*P **P 04 18 52.6 +2.6**
comp=Z,112nm,0.8s
KCPM Cahto Peak 82.58 47 *e*P **P 04 18 53.3 +3.0**
comp=Z,79nm,0.8s
HOPS Hopland 82.69 48 *e*P **P 04 18 52.5 +1.7**
comp=Z,226nm,1.4s
KIPM Iron Peak 82.70 47 *e*P P 04 18 54.2 +3.2
comp=Z,85nm,0.7s
IRK Irkutsk 82.78 327 *e*P **P 04 18 49.7 -1.3**
IRK pmax pmax
comp=Z,179nm,1.3s
IM04 Indian Mountai 82.82 15 *e*P **P 04 18 49.8 -1.1**
TLY Talaya 82.85 326*c i*P **P 04 18 50.8 -0.6**
TLY *e* 04 22 00.7
TLY *e*S **S 04 29 10.6 +3.8**
TLY *e*PPS PPS 04 30 05.8
TLY pmax pmax
comp=Z,107nm,1.0s
TLY MLR MLR
comp=Z,5μm,20.0s
TLY Talaya 82.85 326 P **P 04 18 51.9 +0.5**
comp=Z,618nm,0.8s,SNR=37
VIB Van Inlet 82.90 32 T T 05 50 17.0
SNR=2.9
DIB Dawson Inlet, 82.91 32 T T 05 50 18.1
SNR=12
KHMM Horse Mountain 82.91 46 *e*P **P 04 18 55.1 +3.0**
comp=Z,61nm,0.6s
KRMB Red Mountain 83.03 45 *e*P **P 04 18 54.9 +2.2**
comp=Z,14nm,0.6s
LSA Lhasa 83.05 302 P **P 04 18 53.9 +0.4**
LSA sP **sP 04 19 06.9 -3.4**
LSA PP **PP 04 22 08.9 +4.0**
LSA S S 04 28 58.3 -12
LSA LR LR
comp=E,9μm,23.0s
LSA LR LR
comp=Z,13μm,23.0s
LSA Lhasa 83.05 302 *e*P **P 04 18 54.6 +1.1**
LSA pmax pmax
comp=Z,179nm,1.0s
LSA MLR MLR
comp=Z,9μm,21.0s
LSA Lhasa 83.05 302 *e*P **P 04 18 54.6 +1.1**
comp=Z,179nm,1.0s
LSA LR LR
comp=Z,9μm,21.0s
KBO Bosley Butte 83.07 45 *e*P P 04 18 56.0 +3.2
comp=Z,95nm,1.2s
SAO San Andreas Ge 83.12 50 *e*P **P 04 18 54.4 +1.3**
SAO pmax pmax
comp=Z,25nm,0.8s
SAO San Andreas Ge 83.12 50 *e*P **P 04 18 54.4 +1.3**
comp=Z,25nm,0.8s
KEBM Edson Butte 83.25 44 *e*P **P 04 18 56.3 +2.6**
comp=Z,66nm,1.1s
SIT Sitka 83.52 28 *e*P **P 04 18 54.9 +0.3**
SIT pmax pmax
comp=Z,22nm,1.0s
SIT Sitka 83.52 28 *e*P **P 04 18 54.9 +0.3**
comp=Z,22nm,1.0s
WDC Whiskeytown Da 83.65 47 *e*P **P 04 18 58.0 +2.3**
WDC pmax pmax
comp=Z,35nm,0.9s
WDC Whiskeytown Da 83.65 47 *e*P **P 04 18 58.0 +2.3**
comp=Z,36nm,0.9s
COLA College 83.67 18 *e*P **P 04 18 53.2 -2.0**
COLA pmax pmax
comp=Z,373nm,0.8s
COLA MLR MLR
comp=Z,22μm,21.0s
COLA College 83.67 18 *e*P **P 04 18 53.2 -2.0**
comp=Z,373nm,0.8s
COLA LR LR
comp=Z,22μm,21.0s
SBC Santa Barbara 83.69 53 ⇓P **P 04 18 56.1 +0.1**
baz=84
SMMC Simmler 83.74 52 ⇓P **P 04 18 55.6 -0.8**
baz=84,SNR=5.8
SMMC ⇑S **S 04 29 18.6 +1.9**
baz=84
SMMC ⇑S **S 04 29 18.6 +1.9**
baz=84
SMMC ⇑S **S 04 29 18.6 +1.9**
baz=84
PKM Peak Mountain 83.75 53 ⇑P **P 04 18 55.7 -1.0**
baz=84,SNR=15
ILAR Eielson Array 83.89 18 P **P 04 18 54.2 -2.2**
ILAR PKKP **PKKPbc 04 37 11.8 -3.5**
ILAR ⇑*e* 04 45 03.2
ILAR Eielson Array 83.89 18 P **P 04 18 54.2 -2.2**
comp=Z,24nm,1.0s,baz=226,slow=6.0,SNR=70
ILAR PKKP **PKKPbc 04 37 11.8 -3.5**
comp=Z,1.3nm,0.8s,baz=284,slow=1.5,SNR=5.6
ILAR PKP2bc 04 45 03.2
comp=Z,0.5nm,0.9s,baz=84,slow=1.5,SNR=4.5
ILAR LR LR 04 57 21.7
comp=Z,10μm,18.8s,baz=229,slow=36
YBH Yreka Blue Hor 83.94 45 *e*P **P 04 18 57.1 -0.2**
comp=Z,27nm,0.7s
HUMO Hull Mountain 84.09 45 *e*P **P 04 18 58.7 +0.7**
comp=Z,25nm,0.7s
BLG Laguna Peak 84.09 54 ⇓P **P 04 18 56.1 -2.1**
baz=84
SCI San Clemente I 84.16 55 ⇓P **P 04 18 57.6 -0.9**
baz=84
MOY Mondy 84.30 325 *e*P **P 04 18 58.8 -0.2**
MOY pmax pmax
comp=Z,212nm,2.7s
CMB Columbia Colle 84.34 49 *e*P **P 04 18 59.6 +0.2**
CMB pmax pmax
comp=Z,40nm,0.9s
CMB Columbia Colle 84.34 49 *e*P **P 04 18 59.6 +0.2**
comp=Z,40nm,0.9s
MAW Mawson 84.39 202 *e*P **P 04 18 58.3 -0.6**
comp=Z,49nm,1.2s
MAW Mawson 84.39 202 P **P 04 18 58.5 -0.5**
comp=Z,121nm,1.1s,baz=105,slow=5.7,SNR=83
MAW LR LR 04 51 06.1
comp=Z,9μm,21.9s,baz=94,slow=32
MAW Mawson 84.39 202 P **P 04 18 58.5 -0.5**
baz=84,SNR=80
CIS Catalina Islan 84.40 54 ⇑P **P 04 18 58.8 -1.0**
baz=85
OSI Osito Adit 84.52 53 ⇑P **P 04 18 59.5 -0.9**
baz=85
FMP Fort Macarthur 84.58 54 ⇓P **P 04 18 59.2 -1.4**
baz=85
WRAK Wrangell Islan 84.59 29 *e*P **P 04 18 59.5 -0.6**
comp=Z,67nm,1.0s
WRAK LR LR
comp=Z,14μm,20.0s
COR Corvallis 84.59 43 *e*P **P 04 19 02.6 +2.2**
COR pmax pmax
comp=Z,39nm,0.8s
COR Corvallis 84.59 43 *e*P **P 04 19 02.6 +2.2**
comp=Z,39nm,0.8s
ARVC Arvin 84.59 53 ⇓P **P 04 18 59.3 -1.4**
baz=85
VES Vestal, Richgr 84.62 52 ⇑P **P 04 18 58.8 -2.0**
baz=85,SNR=12
RCTC Rector, Farmer 84.65 51 ⇑P **P 04 18 59.8 -1.0**
baz=85
HYT Haines Junctio 84.70 24 *e*P **P 04 19 00.1 -0.6**
COLD Coldfoot 84.70 16 *e*P **P 04 19 00.4 -0.1**
comp=Z,62nm,1.2s
DECC Green Verdugo 84.72 54 ⇓P **P 04 18 59.1 -2.3**
baz=85
PASC Pasadena Art C 84.81 54 *e*P **P 04 19 04.2 +2.4**
comp=Z,91nm,1.4s
SKAG Skagway 84.83 26 *e*P **P 04 19 00.7 -0.6**
comp=Z,98nm,1.2s
MWC Mount Wilson 84.92 54 *e*P **P 04 19 03.8 +1.2**
MWC pmax pmax
comp=Z,59nm,0.8s
MWC Mount Wilson 84.92 54 *e*P **P 04 19 03.8 +1.2**
comp=Z,59nm,0.8s
BEKR Beckworth 84.97 48 *e*P **P 04 19 03.1 +0.4**
comp=Z,27nm,0.6s
ISA Isabella 85.04 52 *e*P **P 04 19 05.9 +2.9**
ISA pmax pmax
comp=Z,32nm,0.9s
ISA Isabella 85.04 52 *e*P **P 04 19 05.9 +2.9**
comp=Z,32nm,0.9s
ISA Isabella 85.04 52 ⇓P **P 04 19 01.5 -1.5**
baz=85,SNR=22
EDW2 Edwards Air Fo 85.17 53 ⇓P **P 04 19 02.8 -0.9**
baz=85,SNR=39
PAF Port-aux-Franc 85.18 221 *e*P **P 04 19 04.2 +0.8**
PAF pmax pmax
comp=Z,563nm,1.1s
PAF MLR MLR
comp=Z,13μm,20.0s
PAF Port-aux-Franc 85.18 221 *e*P **P 04 19 04.2 +0.8**
comp=Z,563nm,1.1s
PAF LR LR
comp=Z,13μm,20.0s
BFSC Mount Baldy Ra 85.24 54 ⇑P **P 04 19 02.5 -1.6**
baz=86,SNR=38
TAPN Taplejung 85.29 299 *e*Pn **P 04 19 04.9 +0.2**
comp=Z,1μm,1.2s
NLWA Neilton Lookou 85.29 40 *e*P **P 04 19 05.7 +1.8**
comp=Z,13nm,0.6s
NLWA LR LR
comp=Z,20μm,20.0s
109C Camp Elliot, M 85.29 55 ⇑P **P 04 19 03.0 -1.2**
baz=86
MLAC Mammoth Lakes 85.37 50 ⇓P **P 04 19 04.1 -0.7**
baz=86
ODAN Odare 85.43 298 *e*Pn **P 04 19 05.6 +0.2**
comp=Z,1μm,1.1s
BAR Barrett 85.58 56 *e*P **P 04 19 07.7 +2.0**
comp=Z,27nm,0.8s
CWC Cottonwood Cre 85.58 52 ⇑P **P 04 19 04.2 -1.6**
baz=86,SNR=32
LRMC Laurel Mountai 85.59 53 ⇑P **P 04 19 05.2 -0.6**
baz=86,SNR=24
PAHR Pah Rah Range 85.62 48 *e*P **P 04 19 06.6 +0.6**
comp=Z,185nm,1.4s
PAHR *e*PP **PP 04 22 27.0 +1.6**
TIN Tinemaha 85.65 51 ⇓P **P 04 19 05.2 -0.9**
baz=86
EGAK Eagle 85.73 20 *e*P **P 04 19 04.8 -0.9**
comp=Z,89nm,0.8s
EGAK LR LR
comp=Z,14μm,21.0s
BBRC Big Bear Solar 85.83 54 ⇑P **P 04 19 05.5 -1.7**
baz=86
MONP Monument Peak 85.84 55 ⇑P **P 04 19 07.0 -0.2**
baz=86
DAWY Dawson 85.90 21 *e*P **P 04 19 05.4 -1.2**
MPMC Manual Prospec 85.92 52 ⇑P **P 04 19 05.8 -1.7**
baz=86,SNR=59
RRX Edison Barstow 85.95 53 ⇑P **P 04 19 06.3 -1.2**
baz=86
BOK Bokaro 85.96 295 *e*P **P 04 19 08.5 +0.7**
BOK AMB AMB 04 19 11.5
comp=Z,226nm,1.0s
PFO Pinyon Flat Ob 86.02 55 P **P 04 19 09.4 +1.4**
comp=Z,203nm,0.6s,SNR=12
PFO Pinyon Flat Ob 86.02 55 *e*P **P 04 19 09.4 +1.4**
comp=Z,25nm,0.8s
PFO LR LR
comp=Z,26μm,21.0s
PFO Pinyon Flat Ob 86.02 55 ⇑P **P 04 19 07.3 -0.7**
baz=86
NVAR Mina Array Bea 86.02 50 P **P 04 19 07.3 -0.7**
NVAR PKKP **PKKPbc 04 37 08.7 -0.5**
NVAR ⇑*e* 04 44 58.3
NVAR P'P' 04 45 17.1
NVAR Mina Array Bea 86.02 50 P **P 04 19 07.3 -0.7**
comp=Z,21nm,0.8s,baz=233,slow=8.0,SNR=55
NVAR PKKP **PKKPbc 04 37 08.7 -0.5**
comp=Z,2.0nm,0.8s,baz=87,slow=4.0,SNR=9.0
NVAR PKP2bc 04 44 58.3
comp=Z,0.7nm,0.9s,baz=73,slow=3.5,SNR=3.6
NVAR PKPPKP **P'P'df 04 45 17.1 +3.0**
comp=Z,3.4nm,0.8s,baz=87,slow=2.0,SNR=9.8
NVAR LR LR 04 49 22.8
comp=Z,47μm,21.8s,baz=83,slow=30
PGC Sidney 86.03 39 *e*P **P 04 19 10.0 +2.5**
comp=Z,16nm,1.8s
DVTC Desert V Tower 86.03 56 ⇓P **P 04 19 06.0 -2.0**
baz=86
NV11 Mina Array Sit 86.13 50 *e*P **P 04 19 06.4 -2.1**
RAMN Ramite 86.14 298 *e*Pn **P 04 19 09.0 +0.1**
comp=Z,954nm,1.2s
GSC Goldstone 86.23 53 *e*P P 04 19 12.3 +3.4
GSC pmax pmax
comp=Z,95nm,1.6s
GSC Goldstone 86.23 53 *e*P P 04 19 12.3 +3.4
comp=Z,96nm,1.6s
GSC Goldstone 86.23 53 ⇑P **P 04 19 06.7 -2.2**
baz=86,SNR=17
GRAC Grapevine Rang 86.29 51 ⇑P **P 04 19 07.0 -2.1**
baz=86
LON Longmire 86.36 41 *e*P **P 04 19 11.1 +1.8**
LON pmax pmax
comp=Z,14nm,0.7s
LON Longmire 86.36 41 *e*P **P 04 19 11.1 +1.8**
comp=Z,14nm,0.7s
SWSC Sam W. Stewart 86.36 55 ⇓P **P 04 19 07.6 -1.9**
baz=87
HEC Hector,Ludlow 86.47 54 ⇓P **P 04 19 08.5 -1.6**
baz=87,SNR=38
BELC Belle Mtn. Jos 86.49 54 ⇑P **P 04 19 09.0 -1.4**
baz=87,SNR=73
FURC Furnace Creek, 86.53 52 ⇓P **P 04 19 08.5 -1.7**
baz=87
JIRN Jiri 86.67 299 *e*Pn **P 04 19 11.8 +0.2**
comp=Z,691nm,1.2s
DLBC Dease Lake 86.67 28 *e*P **P 04 19 09.7 -0.8**
TPH Tonopah 86.72 50 PFAKE 04 19 20.0 +8.5
TPH LR LR
comp=Z,42μm,22.0s
TIXI Tiksi 86.72 349*ce*P **P 04 19 09.2 -1.2**
TIXI pmax pmax
comp=Z,80nm,1.7s
SHOC Shoshone 86.81 53 ⇓P **P 04 19 10.9 -0.8**
baz=87,SNR=15
BC3 Big Chuckawall 86.83 55 ⇑P **P 04 19 10.9 -1.1**
baz=87,SNR=43
VIS Vishakhapatnam 86.85 289 *e*P **P 04 19 13.5 +1.3**
VIS AMB AMB 04 19 14.7
comp=Z,183nm,4.0s
TUQ Turquoise Moun 86.96 53 ⇓P **P 04 19 10.9 -1.7**
baz=87,SNR=37
GMRC Granite Mounta 86.98 54 ⇓P **P 04 19 11.3 -1.4**
baz=87,SNR=41
GUN Gumba 87.00 299 *e*Pn **P 04 19 13.1 -0.1**
comp=Z,602nm,1.1s
WVOR Wild Horse Val 87.03 46 *e*P **P 04 19 13.5 +0.7**
WVOR pmax pmax
comp=Z,75nm,1.3s
WVOR MLR MLR
comp=Z,15μm,20.0s
WVOR Wild Horse Val 87.03 46 *e*P **P 04 19 13.5 +0.7**
comp=Z,75nm,1.3s
WVOR LR LR
comp=Z,15μm,20.0s
PALK Pallekele 87.09 278 P **P 04 19 15.6 +2.0**
comp=Z,935nm,0.9s,SNR=9.3
PALK Pallekele 87.09 278 P **P 04 19 16.4 +2.9**
SNR=8.4
PALK Pallekele 87.09 278 *e*P **P 04 19 15.3 +1.8**
comp=Z,292nm,1.2s
PALK Pallekele 87.09 278 P **P 04 19 15.7 +2.1**
GLA Glamis 87.17 56 *e*P **P 04 19 15.6 +2.1**
GLA pmax pmax
comp=Z,77nm,0.8s
GLA Glamis 87.17 56 *e*P **P 04 19 15.6 +2.1**
comp=Z,76nm,0.8s
GLA Glamis 87.17 56 ⇓P **P 04 19 11.9 -1.6**
baz=87
IRM Iron Mountain 87.21 54 ⇓P **P 04 19 12.5 -1.3**
baz=87,SNR=58
PKI Pulchoki 87.32 299 *e*Pn **P 04 19 14.5 -0.2**
comp=Z,1μm,1.2s
BMN Battle Mountai 87.43 48 *e*P **P 04 19 14.8 0.0**
BMN *e* 04 22 40.8
BMN pmax pmax
comp=Z,17nm,0.7s
BMN MLR MLR
comp=Z,15μm,21.0s
BMN Battle Mountai 87.43 48 *e*P **P 04 19 14.8 0.0**
comp=Z,17nm,0.7s
BMN *e*PP **PP 04 22 40.8 +0.9**
BMN LR LR
comp=Z,15μm,21.0s
KKN Kakani 87.48 299 *e*Pn **P 04 19 15.1 -0.3**
comp=Z,535nm,1.0s
LDFC Landfair 87.50 54 *e*P **P 04 19 16.3 +1.1**
comp=Z,165nm,1.0s
DMN Daman 87.59 299 *e*Pn **P 04 19 16.0 0.0**
comp=Z,1μm,1.0s
Y12C Blythe 87.60 55 ⇓P **P 04 19 14.6 -0.9**
baz=88,SNR=23
NEE2 Needles Airpor 87.80 54 ⇓P **P 04 19 15.0 -1.5**
baz=88
SHPR Sheep Range 87.85 52 *e*P **P 04 19 16.5 -0.4**
comp=Z,155nm,1.6s
113A Mohawk Valley, 87.96 56 ⇑P **P 04 19 16.2 -1.0**
baz=88
R11A Troy Canyon, C 88.04 50 ⇑P **P 04 19 16.1 -1.7**
baz=88
PDMCI Parker Dam,Lak 88.06 55 ⇓P **P 04 19 15.8 -1.9**
baz=88,SNR=20
HVS Khovu-Aksy 88.27 323*c i*P **P 04 19 17.8 -0.6**
HVS pmax pmax
comp=Z,641nm,1.1s
HVS MLR MLR
comp=Z,26μm,18.0s
W13A Hualapai Mount 88.47 54 ⇓P **P 04 19 18.4 -1.5**
baz=89,SNR=49
214A Organ Pipe Nat 88.53 57 ⇑P **P 04 19 19.3 -0.8**
baz=89
BMO Blue Mountains 88.70 44 *e*P **P 04 19 19.3 -1.3**
BMO pmax pmax
comp=Z,165nm,1.8s

BMO MLR MLR
comp=Z,22µm,22.0s
BMO Blue Mountains 88.70 44 *e*P **P 04 19 19.3 -1.3**
comp=Z,165nm,1.8s
BMO LR LR
comp=Z,22µm,22.0s
Z14A Wintersburg 88.78 56 ⇑P **P 04 19 20.5 -0.7**
baz=89,SNR=21
Y14A Wickenburg 88.87 55 ⇑P **P 04 19 19.3 -2.3**
baz=89,SNR=25
DANN Dangsing 88.92 299 *e*Pn **P 04 19 21.5 -0.8**
comp=Z,667nm,0.9s
KOLN Koldanda 88.92 298 *e*Pn **P 04 19 21.4 -0.8**
comp=Z,318nm,0.9s
MFID Camas Ranch 89.30 45 *e*P **P 04 19 22.9 -0.6**
comp=Z,18nm,0.8s
MFID Camas Ranch 89.30 45 ⇓P **P 04 19 22.0 -1.5**
baz=90
CCUT Cedar City 89.51 52 *e*P **P 04 19 24.4 -0.4**
comp=Z,103nm,1.4s
ARUT Antelope Range 89.52 51 *e*P **P 04 19 24.4 -0.3**
ARUT pmax pmax
comp=Z,29nm,0.8s
ARUT Antelope Range 89.52 51 *e*P **P 04 19 24.4 -0.3**
comp=Z,29nm,0.8s
WMQ Urumqi 89.82 315 P **P 04 19 25.6 -0.3**
WMQ sP **sP 04 19 43.7 +0.9**
WMQ PP **PP 04 29 00.3 +1.4**
WMQ SKS **SKSac 04 29 50.8 -2.7**
WMQ S **S 04 30 11.8 -3.4**
WMQ sS **sS 04 30 33.3 -2.6**
WMQ SS **SS 04 36 12.6 -0.8**
WMQ pmax pmax
comp=Z,170nm,1.4s
WMQ pmax pmax
comp=Z,2µm,3.6s
WMQ LR LR
comp=N,5µm,21.0s
WMQ LR LR
comp=E,9µm,25.0s
WMQ LR LR
comp=Z,17µm,26.0s
NEW Newport 89.86 41 *e*P **P 04 19 25.1 -0.7**
comp=Z,26nm,0.6s
NEW LR LR
comp=Z,16µm,21.0s
NEW Newport 89.86 41 ⇓P **P 04 19 24.5 -1.4**
baz=90
U15A North Rim 90.06 53 ⇓P **P 04 19 26.4 -1.0**
baz=90
X16A Lo Mia Camp, P 90.25 55 ⇑P **P 04 19 26.7 -1.6**
baz=90,SNR=69
INK Inuvik 90.27 19 *e*P **P 04 19 28.5 +1.2**
comp=Z,12nm,0.9s
TUC Tucson 90.29 57 *e*P **P 04 19 29.7 +1.4**
TUC pmax pmax
comp=Z,24nm,0.8s
TUC MLR MLR
comp=Z,38µm,20.0s
TUC Tucson 90.29 57 *e*P **P 04 19 29.7 +1.4**
comp=Z,24nm,0.8s
TUC LR LR
comp=Z,38µm,20.0s
HLID Hailey 90.33 46 *e*P **P 04 19 27.9 -0.4**
comp=Z,21nm,0.6s
HLID LR LR
comp=Z,10µm,22.0s
HLID Hailey 90.33 46 ⇑P **P 04 19 28.1 -0.3**
baz=90
WUAZ Wupatki 90.56 54 *e*P **P 04 19 30.8 +1.1**
comp=Z,120nm,1.3s
WUAZ LR LR
comp=Z,21µm,22.0s
WUAZ Wupatki 90.56 54 ⇑P **P 04 19 28.8 -0.9**
baz=91,SNR=22
DUG Dugway 90.60 49 *e*P **P 04 19 30.7 +1.0**
DUG pmax pmax
comp=Z,23nm,0.7s
DUG MLR MLR
comp=Z,26µm,21.0s
DUG Dugway 90.60 49 *e*P **P 04 19 30.7 +1.0**
comp=Z,23nm,0.7s
DUG LR LR
comp=Z,26µm,21.0s
DUG Dugway 90.60 49 ⇓P **P 04 19 28.1 -1.6**
baz=91
MVU Marysvale 90.63 51 *e*P **P 04 19 30.2 +0.2**
comp=Z,76nm,1.2s
MVU LR LR
comp=Z,47µm,22.0s
MSU Marysvale 90.66 51 *e*P **P 04 19 30.4 +0.3**
MSU pmax pmax
comp=Z,154nm,1.6s
MSU Marysvale 90.66 51 *e*P **P 04 19 30.4 +0.3**
comp=Z,154nm,1.6s
TRD Trivandrum 90.97 278 *e*P **P 04 19 31.5 -0.3**
TRD AMB AMB 04 19 35.3
comp=Z,94nm,3.4s
HVU Hansel Valley 91.03 48 *e*P **P 04 19 32.5 +0.8**
HVU pmax pmax
comp=Z,37nm,0.7s
HVU Hansel Valley 91.03 48 *e*P **P 04 19 32.5 +0.8**
comp=Z,37nm,0.7s
NLU North Lily Min 91.09 50 *e*P **P 04 19 33.0 +0.9**
comp=Z,45nm,1.1s
I14A Mackay 91.09 45 ⇓P **P 04 19 31.3 -0.6**
baz=91
JBP Jabalpur 91.09 293⇑ *e*P **P 04 19 31.5 -0.6**
JBP *ex* x 04 23 06.2
HYB Hyderabad 91.23 287 *i* P **P 04 19 32.0 -1.0**
comp=Z,310nm,1.0s
HYB *e*pP **pP 04 19 43.0 -2.4**
HYB *e*sP **sP 04 19 47.0 -2.9**
HYB *e*PP **PP 04 23 10.0 -0.6**
HYB *e*SKS **SKSac 04 30 04.0 +1.3**
HYB *e*S **ScS 04 30 32.0 -0.1**
HYB *e*SP **SPn 04 31 44.0 +6.1**
HYB *e* 04 32 08.0
HYB Hyderabad 91.23 287 *e*P **P 04 19 32.6 -0.4**
BSMT Bassoo Peak 91.24 41 *e*P **P 04 19 31.6 -1.0**
comp=Z,61nm,0.6s
319A Douglas 91.32 58 ⇓P **P 04 19 31.9 -1.3**
baz=92,SNR=25
SYO Syowa Base 91.39 197⇑ *e*P **P 04 19 30.2 -2.4**
SYO Syowa Base 91.39 197 ⇓ *i*PcP **P 04 19 32.6 0.0**
SYO Syowa Base 91.39 197 *e*SH 04 30 23.0
MPU Maple Canyon 91.44 50 *e*P **P 04 19 36.1 +2.4**
comp=Z,127nm,1.7s
X18A Snowflake 91.47 55 ⇑P **P 04 19 33.3 -0.6**
baz=92,SNR=15
CTU Camp Tracy 91.51 49 *e*P **P 04 19 34.9 +0.9**
comp=Z,67nm,1.1s
MSO Missoula 91.52 43 ⇓P **P 04 19 32.0 -1.7**
baz=92,SNR=17
Q16A Castle Valley 91.52 51 ⇓P **P 04 19 33.6 -0.5**
baz=92
NGP Nagpur 91.53 291 *ex* P 04 19 29.6 -4.7
NGP AMB AMB 04 19 31.8
comp=Z,140nm,3.7s
NGP *ex* x 04 30 00.3
JTMT Jette 91.54 42 *e*P **P 04 19 33.2 -0.7**
comp=Z,14nm,0.6s
BLMT Blacktail Moun 91.56 41 *e*P **P 04 19 34.9 +0.9**
comp=Z,19nm,0.7s
TMUT Trail Mountain 91.58 50 *e*P **P 04 19 37.5 +3.0**
comp=Z,32nm,1.0s
SWMT Swartz Lake 91.66 42 *e*P **P 04 19 34.0 -0.4**
comp=Z,22nm,1.0s
JLU Jordanelle 91.71 49 *e*P **P 04 19 37.2 +2.3**
comp=Z,26nm,1.0s
MCMT McKenzie Canyo 91.74 45 *e*P **P 04 19 36.7 +1.7**
comp=Z,7.2nm,0.7s
YBMT Yellow Bay 91.74 42 *e*P **P 04 19 36.6 +1.9**
comp=Z,7.4nm,0.6s
W18A Petrified Fore 91.78 55 ⇑P **P 04 19 33.5 -1.9**
baz=92
DAU Daniels Canyon 91.81 49 *e*P **P 04 19 38.5 +3.0**
DAU *e* 04 23 16.7
DAU pmax pmax
comp=Z,134nm,1.7s
DAU Daniels Canyon 91.81 49 *e*P **P 04 19 38.5 +3.0**
comp=Z,134nm,1.7s
DAU *e*PP **PP 04 23 16.7 +1.7**
HWUT Hardware Ranch 91.86 48 *e*P **P 04 19 37.1 +1.6**
comp=Z,22nm,1.0s
HWUT LR LR
comp=Z,13µm,20.0s

SLMT Seeley Lake 91.92 42 *e*P **P 04 19 36.6 +0.9**
comp=Z,27nm,1.1s
320A Kipp Ranch, An 91.94 59 ⇑P **P 04 19 35.1 -1.0**
baz=92,SNR=24
CHMT Chamberlain Mo 92.00 43 *e*P **P 04 19 35.5 -0.6**
comp=Z,9.5nm,0.6s
DLMT Dillon 92.05 44 *e*P **P 04 19 35.9 -0.4**
comp=Z,89nm,1.2s
SRU San Rafael 92.06 51 *e*P **P 04 19 39.1 +2.6**
SRU pmax pmax
comp=Z,35nm,1.2s
SRU San Rafael 92.06 51 *e*P **P 04 19 39.1 +2.6**
comp=Z,35nm,1.2s
220A Playas Peak, P 92.06 58 ⇑P **P 04 19 35.7 -1.0**
baz=92,SNR=11
120A U Bar Ranch, L 92.11 57 ⇑P **P 04 19 35.3 -1.6**
baz=92,SNR=14
WALA Waterton Lakes 92.12 40 *e*P **P 04 19 38.5 +2.0**
comp=Z,3.7nm,1.4s
DGAR Diego Garcia 92.20 262 PFAKE 04 19 50.0 +13
DGAR LR LR
comp=Z,9µm,22.0s
LRM Limekiln Ridge 92.26 44 *e*P **P 04 19 39.2 +1.8**
comp=Z,231nm,0.9s
Z20A Nine Sixteen R 92.27 57 ⇑P **P 04 19 36.6 -1.0**
baz=92,SNR=18
B14A Marquette Ranc 92.35 41 ⇑P **P 04 19 35.2 -2.4**
baz=93,SNR=50
A14A Double T Ranch 92.41 41 ⇓P **P 04 19 35.7 -2.2**
baz=93,SNR=8.7
RRI2 Red Ridge 92.45 46 *e*P **P 04 19 39.0 +0.7**
comp=Z,61nm,1.3s
I16A Newdale 92.46 46 ⇑P **P 04 19 37.0 -1.3**
baz=93
M17A Scullys Gap (B 92.49 48 ⇓P **P 04 19 37.1 -1.4**
baz=93
Y20A Horse Springs, 92.61 56 ⇓P **P 04 19 37.0 -2.3**
baz=93,SNR=18
C15A Salmond Ranch, 92.64 42 ⇓P **P 04 19 37.2 -1.8**
baz=93,SNR=76
221A Mesquite Ranch 92.71 58 ⇑P **P 04 19 38.0 -1.6**
baz=93,SNR=9.7
QLMT Earthquake Lak 92.72 45 *e*P P 04 19 42.9 +3.4
comp=Z,1.1nm,0.6s
TPAW Teton Pass 92.75 46 *e*P **P 04 19 39.7 0.0**
comp=Z,100nm,1.8s
W20A Ramah 92.77 55 ⇑P **P 04 19 38.9 -1.0**
baz=93,SNR=16
BOZ Bozeman (W) 92.78 44 *e*P **P 04 19 39.4 -0.3**
BOZ pmax pmax
comp=Z,33nm,1.1s
BOZ MLR MLR
comp=Z,17µm,22.0s
BOZ Bozeman (W) 92.78 44 *e*P **P 04 19 39.4 -0.3**
comp=Z,33nm,1.1s
BOZ LR LR
comp=Z,17µm,22.0s
REDW Red Top Meadow 92.79 46 *e*P **P 04 19 42.9 +3.0**
comp=Z,136nm,1.9s
B15A Bradely Ranch, 92.80 41 ⇑P **P 04 19 37.4 -2.2**
baz=93,SNR=50
121A Cookes Peak, D 92.81 58 ⇓P **P 04 19 39.4 -0.7**
baz=93,SNR=24
H16A Russell Place, 92.82 45 ⇑P **P 04 19 38.3 -1.7**
baz=93,SNR=27
IMW Indian Meadow 92.85 46 *e*P **P 04 19 40.8 +0.6**
comp=Z,39nm,1.3s
A15A Johnson Ranch, 92.85 41 ⇓P **P 04 19 37.2 -2.7**
baz=93,SNR=23
SNOW Snow King Moun 92.88 46 *e*P **P 04 19 42.6 +2.3**
comp=Z,59nm,1.4s
HRY Holter Researc 92.89 43 *e*P **P 04 19 42.9 +2.8**
comp=Z,30nm,0.6s
V20A Brimhall 92.93 54 ⇑P **P 04 19 39.6 -1.0**
baz=93
MOOW Moose Ponds 92.95 46 *e*P **P 04 19 42.5 +1.9**
comp=Z,36nm,1.5s
YMR Madison River 93.01 45 *e*P P 04 19 44.5 +3.6
comp=Z,14nm,0.6s
U20A Newcomb 93.01 54 ⇓P **P 04 19 39.7 -1.3**
baz=93
LOHW Long Hollow 93.02 46 *e*P **P 04 19 42.7 +1.7**
comp=Z,22nm,1.3s
PV10 Paradox Valley 93.03 52 *e*P **P 04 19 43.7 +2.5**
comp=Z,453nm,0.9s
YFT Old Faithful 93.05 45 *e*P **P 04 19 42.9 +1.8**
comp=Z,31nm,1.1s
L18A Fontenelle, Gr 93.05 48 ⇑P **P 04 19 39.1 -2.0**
baz=93
Z21A St. Cloud Mine 93.06 57 ⇓P P 04 19 38.0 -3.3
baz=93,SNR=24
I17A Pilgrim Ck. 93.11 46 ⇑P **P 04 19 39.1 -2.2**
baz=93
PV04 Paradox Valley 93.14 52 *e*P **P 04 19 43.1 +1.5**
X21A Alamocita Cree 93.20 56 ⇓P **P 04 19 40.3 -1.7**
baz=93
MVCO Mesa Verde 93.20 53 PFAKE 04 19 50.0 +8.1
MVCO LR LR
comp=Z,13µm,20.0s
MVCO Mesa Verde 93.20 53 ⇓P **P 04 19 40.6 -1.3**
baz=93,SNR=14
Y21A Point of Rocks 93.20 56 ⇑P **P 04 19 39.0 -3.0**
baz=93,SNR=14
C16A Fuhringer Ranc 93.21 42 ⇓P **P 04 19 39.1 -2.4**
baz=93,SNR=19
H17A Grant Village 93.22 45 ⇑P **P 04 19 41.4 -0.5**
baz=93,SNR=7.8
YNR Norris Junctio 93.22 45 *e*P **P 04 19 43.1 +1.3**
comp=Z,7.6nm,0.7s
LATR Latur 93.29 288 *e*P **P 04 19 40.0 -2.4**
LATR AMB AMB 04 19 44.0
comp=Z,227nm,1.2s
222A Williams Famil 93.29 58 ⇓P **P 04 19 40.4 -1.9**
baz=94
G17A Pierce Place, 93.31 45 ⇓P **P 04 19 41.5 -0.6**
baz=94,SNR=14
P19A Cripple Cowboy 93.34 50 ⇑P **P 04 19 40.6 -1.9**
baz=94
PV01 Paradox Valley 93.34 52 *e*P **P 04 19 45.1 +2.5**
comp=Z,1µm,0.8s
O19A Miners Draw (B 93.37 50 ⇓P **P 04 19 40.8 -1.7**
baz=94
B16A M & M Farms, S 93.38 41 ⇑P P 04 19 38.9 -3.3
baz=94,SNR=20
LKWY Lake 93.38 45 *e*P **P 04 19 44.0 +1.4**
LKWY pmax pmax
comp=Z,10.0nm,0.9s
LKWY MLR MLR
comp=Z,15µm,21.0s
LKWY Lake 93.38 45 *e*P **P 04 19 44.0 +1.4**
comp=Z,9.9nm,0.9s
LKWY LR LR
comp=Z,15µm,21.0s
BHPL Bhopal 93.42 293 *e*P **P 04 19 42.1 -0.9**
BHPL AMB AMB 04 19 45.6
comp=Z,94nm,1.5s
S20A Disappointment 93.44 52 ⇓P **P 04 19 41.4 -1.6**
baz=94,SNR=13
W21A San Fidel 93.45 55 ⇑P **P 04 19 40.9 -2.2**
baz=94
E17A Martinsdale 93.49 43 ⇓P **P 04 19 40.9 -2.1**
baz=94
122A Conniff Cattle 93.49 57 ⇑P **P 04 19 40.3 -2.9**
baz=94,SNR=10
F17A Fitzpatrick Pl 93.50 44 ⇓P **P 04 19 40.8 -2.2**
baz=94,SNR=26
R20A Redvale 93.50 52 ⇑P **P 04 19 40.7 -2.5**
baz=94
A16A West Butte Ran 93.57 41 ⇓P **P 04 19 41.1 -2.1**
baz=94
BW06 Boulder Array 93.58 47 *e*P **P 04 19 45.8 +2.3**
comp=Z,35nm,1.4s
BW06 LR LR
comp=Z,12µm,20.0s
PDAR Pinedale Array 93.58 47 P **P 04 19 43.6 +0.1**
PDAR PP PP 04 23 36.5 +7.8
PDAR PKKP **PKKPdf 04 36 47.8 -1.7**
PDAR P'P' 04 44 57.5
PDAR Pinedale Array 93.58 47 P **P 04 19 43.6 +0.1**
comp=Z,6.0nm,0.7s,baz=229,slow=3.3,SNR=40
PDAR PP PP 04 23 36.5 +7.8
comp=Z,7.0nm,1.2s,baz=270,slow=3.0,SNR=3.8
PDAR PKKP **PKKPdf 04 36 47.8 -1.7**
comp=Z,8.0nm,0.8s,baz=94,slow=4.0,SNR=21
PDAR PKPPKP **P'P'df 04 44 57.5 -2.4**
comp=Z,2.8nm,1.1s,baz=100,slow=3.7,SNR=8.2
PDAR LR LR 04 57 30.6
comp=Z,10µm,19.9s,baz=237,slow=33

L19A Farson 93.58 48 ⇑P **P 04 19 41.8 -1.7**
baz=94
V21A Milan 93.59 54 ⇑P **P 04 19 41.5 -2.2**
baz=94
I18A Diamond G Ranc 93.60 46 ⇑P **P 04 19 41.8 -1.8**
baz=94,SNR=7.3
M19A Rock Springs 93.60 49 ⇓P **P 04 19 41.3 -2.3**
baz=94
Z22A Elephant Butte 93.63 57 ⇓P **P 04 19 42.9 -1.0**
baz=94,SNR=9.7
U21A Nageezi 93.70 54 ⇑P **P 04 19 42.9 -1.3**
baz=94,SNR=78
LAZ Ladron 93.72 56 *e*P **P 04 19 47.0 +2.7**
comp=Z,7.0nm,1.3s
Q20A Ridgley Place, 93.72 51 ⇑P **P 04 19 42.7 -1.5**
baz=94,SNR=22
D17A Six Diamond Ra 93.76 43 ⇓P **P 04 19 42.9 -1.2**
baz=94,SNR=13
P20A De Beque 93.76 51 ⇓P **P 04 19 42.2 -2.1**
baz=94,SNR=46
Y22A Socorro 93.76 56 ⇓P **P 04 19 42.3 -2.2**
baz=94
C17A Wharram Farm, 93.81 42 ⇑P **P 04 19 41.6 -2.7**
baz=94,SNR=83
Y22D IRIS PASSCAL I 93.83 56 ⇑P **P 04 19 42.9 -1.9**
baz=94
223A Chaparral, Ant 93.83 58 ⇓P **P 04 19 42.9 -1.9**
baz=94
X22A Bernardo 93.84 56 ⇑P **P 04 19 43.2 -1.6**
baz=94
S21A Coal Bank Pass 93.84 53 ⇑P **P 04 19 43.6 -1.4**
baz=94,SNR=20
T21A Navajo Lake 93.91 53 ⇑P **P 04 19 43.6 -1.6**
baz=94
H18A Shoshone NF, C 93.91 45 ⇓P **P 04 19 43.9 -1.1**
baz=94
B17A L&G Farms, Che 93.94 42 ⇑P **P 04 19 42.6 -2.2**
baz=94
O20A White River Ci 94.00 50 ⇓P **P 04 19 43.3 -2.2**
baz=94,SNR=16
J19A Crowheart 94.05 47 ⇑P **P 04 19 43.6 -2.0**
baz=94,SNR=5.6
W22A Albuquerque 94.06 55 ⇑P **P 04 19 43.7 -2.2**
baz=94
BNM Barren Site 94.08 56 *e*P **P 04 19 47.3 +1.2**
comp=Z,13nm,1.0s
123A Bell Site, Whi 94.09 58 ⇑P **P 04 19 43.8 -2.2**
baz=94
K19A Absolon Red Bu 94.10 47 ⇑P **P 04 19 43.4 -2.5**
baz=94
LPM Los Pinos Moun 94.11 56 *e*P **P 04 19 47.9 +1.8**
comp=Z,9.5nm,1.1s
G18A Lazy EL Ranch, 94.12 45 ⇓P **P 04 19 43.7 -2.1**
baz=94
N20A Spence Gulch, 94.12 49 ⇑P **P 04 19 44.9 -1.2**
baz=94,SNR=7.7
F18A Big Timber 94.14 44 ⇓P **P 04 19 43.8 -2.1**
baz=94
E18A Harlowton 94.15 43 ⇑P **P 04 19 44.4 -1.5**
baz=94
A17A Triple J Farms 94.15 41 ⇑P **P 04 19 44.1 -1.7**
baz=94,SNR=47
R21A Cimarron 94.17 52 ⇑P **P 04 19 44.8 -1.6**
baz=94,SNR=27
V22A San Miguel Ran 94.19 54 ⇑P **P 04 19 44.2 -2.4**
baz=94
DDI Dehra Dun 94.21 300 *e*P **P 04 19 45.8 -0.6**
Z23A Rita Site, Whi 94.23 57 ⇓P **P 04 19 44.4 -2.2**
baz=94
Q21A Lamborn Mesa, 94.25 51 ⇑P **P 04 19 43.5 -3.2**
baz=94,SNR=18
I19A Meeteetse 94.25 46 ⇑P **P 04 19 44.2 -2.4**
baz=94,SNR=6.0
MK31 Makanchi Array 94.25 317 *i* P **P 04 19 45.5 -0.8**
MK31 pmax pmax
comp=Z,254nm,0.9s
MKAR Makanchi Array 94.25 317 P **P 04 19 45.5 -0.8**
MKAR Makanchi Array 94.25 317 P **P 04 19 45.5 -0.8**
MKAR PKKP **PKKPdf 04 36 44.4 -3.8**
MKAR Makanchi Array 94.25 317 P **P 04 19 45.5 -0.8**
comp=Z,160nm,0.8s,baz=100,slow=6.2,SNR=310
MKAR PKKP **PKKPdf 04 36 44.4 -3.8**
comp=Z,1.7nm,0.6s,baz=276,slow=3.2,SNR=11
MKAR LR LR 05 05 09.5
comp=Z,4µm,20.1s,baz=100,slow=37
ZAA0 Zalesovo Array 94.28 324 *e*P **P 04 19 44.3 -1.9**
ZALV Zalesovo Beam 94.28 324 *i* P **P 04 19 44.5 -1.7**
ZALV pmax pmax
comp=Z,79nm,0.9s
ZALV Zalesovo Beam 94.28 324 P **P 04 19 44.5 -1.7**
ZALV Zalesovo Beam 94.28 324 P **P 04 19 44.5 -1.7**
comp=Z,79nm,0.9s,baz=108,slow=4.8,SNR=85
ZALV LR LR 04 59 41.9
comp=Z,8µm,21.8s,baz=74,slow=34
RLMT Red Lodge 94.28 45 *e*P **P 04 19 49.3 +2.6**
comp=Z,30nm,1.4s
RLMT LR LR
comp=Z,15µm,20.0s
L20A Wamsutter 94.31 48 ⇑P **P 04 19 45.1 -1.8**
baz=94
M20A Sweetwater, Wa 94.31 49 ⇓P **P 04 19 44.0 -2.9**
baz=94
U22A Llaves 94.33 54 ⇑P **P 04 19 44.3 -2.8**
baz=94
D18A Linhart Farms, 94.36 43 ⇓P **P 04 19 45.4 -1.4**
baz=95
ANMO Albuquerque 94.37 55 *e*P **P 04 19 50.0 +2.7**
comp=Z,6.8nm,0.8s
ANMO LR LR
comp=Z,17µm,21.0s
H19A Powell 94.39 45 ⇓P **P 04 19 45.2 -1.9**
baz=95
T22A Edith 94.41 53 ⇑P **P 04 19 45.5 -2.0**
baz=95,SNR=6.4
K20A Yellowstone Ra 94.43 48 ⇑P P 04 19 44.0 -3.4
baz=95
P21A Newcastle 94.48 51 ⇑P **P 04 19 47.1 -0.6**
baz=95,SNR=7.4
Y23A Lovelace Mesa, 94.51 56 ⇑P **P 04 19 45.6 -2.4**
baz=95,SNR=9.2
324A Moseley Ranch, 94.52 59 ⇑P **P 04 19 45.9 -2.1**
baz=95,SNR=13
X23A Hourglass Bar 94.52 56 ⇓P **P 04 19 45.7 -2.4**
baz=95,SNR=9.0
EGMT Eagleton 94.56 42 *e*P **P 04 19 49.6 +1.9**
comp=Z,24nm,0.6s
EGMT LR LR
comp=Z,11µm,21.0s
EGMT Eagleton 94.56 42 ⇓P P 04 19 44.3 -3.4
baz=95,SNR=16
O21A Pagoda 94.59 50 ⇑P **P 04 19 46.1 -2.2**
baz=95
224A Cornudas Mount 94.60 58 ⇓P **P 04 19 45.7 -2.7**
baz=95,SNR=30
S22A 4UR Ranch, Cre 94.61 53 ⇑P **P 04 19 46.4 -2.1**
baz=95,SNR=19
NDI New Delhi 94.62 298 *e*P **P 04 19 46.0 -2.3**
NDI *ex* x 04 20 07.3
B18A Beardsley Farm 94.62 42 ⇓P **P 04 19 46.9 -1.1**
baz=95,SNR=19
MNTX Cornudas Mount 94.65 59 *e*P **P 04 19 50.2 +1.8**
comp=Z,7.9nm,0.9s
MNTX LR LR
comp=Z,22µm,21.0s
F19A Roth Farm, Mol 94.66 44 ⇑P **P 04 19 46.5 -1.8**
baz=95
W23A Werner Place, 94.66 55 ⇓P **P 04 19 46.0 -2.7**
baz=95
N21A Black Mountain 94.66 50 ⇑P **P 04 19 47.3 -1.3**
baz=95,SNR=17
A18A Metzger Ranch, 94.69 41 ⇑P **P 04 19 46.5 -1.7**
baz=95,SNR=14
V23A Ortiz Mt. (NFS 94.74 55 ⇑P **P 04 19 47.9 -1.1**
baz=95
J20A Shoshoni 94.76 47 ⇓P **P 04 19 47.7 -1.1**
baz=95
R22A Saguache, Gunn 94.76 52 ⇓P **P 04 19 48.1 -1.1**
baz=95,SNR=11
Q22A Crested Butte, 94.76 51 ⇓P **P 04 19 48.1 -1.1**
baz=95,SNR=30
124A Stringfield Ra 94.77 58 ⇑P **P 04 19 48.1 -1.2**
baz=95,SNR=13
SMCO Snowmass 94.77 51 *e*P **P 04 19 51.9 +2.5**
comp=Z,17nm,1.2s
425A Indio Mountain 94.81 60 ⇓P **P 04 19 47.0 -2.4**
baz=95,SNR=21
I20A Worland 94.84 46 ⇑P **P 04 19 47.6 -1.6**
baz=95

U23A	El Rito	94.84	54	⇑P	P	04 19 47.8	-1.7
	baz=95,SNR=8.5						
E19A	Rath Farm, Rou	94.89	44	⇑P	P	04 19 48.9	-0.4
	baz=95						
325A	Bean Ranch, Si	94.93	59	⇑P	P	04 19 47.9	-2.1
	baz=95,SNR=9.4						
M21A	Separation Pea	94.94	49	⇑P	P	04 19 48.3	-1.6
	baz=95						
Z24A	Sheeppen Canyo	94.96	57	⇓P	P	04 19 48.6	-1.5
	baz=95						
D19A	Cripps Ranch,	94.97	43	⇓P	P	04 19 48.7	-0.9
	baz=95,SNR=20						
C19A	Slack Wire Ran	94.97	42	⇓P	P	04 19 47.8	-1.8
	baz=95						
L21A	Rawlins	95.01	48	⇑P	P	04 19 48.0	-2.1
	baz=95						
Y24A	Capitan	95.01	57	⇑P	P	04 19 47.9	-2.4
	baz=95,SNR=23						
P22A	Eagle	95.01	51	⇓P	P	04 19 48.3	-1.9
	baz=95,SNR=14						
G20A	Bridger	95.03	45	⇑P	P	04 19 48.7	-1.3
	baz=95						
PMSA	Palmer Station	95.04	161	PFAKE		04 20 00.0	+11
PMSA				LR	LR		
	comp=Z,6μm,21.0s						
H20A	Greybull	95.04	46	⇑P	P	04 19 48.5	-1.6
	baz=95						
T23A	Casias Ranch,	95.10	53	⇓P	P	04 19 48.6	-2.1
	baz=95,SNR=8.0						
SMLA	Simla	95.11	301	eP	P	04 19 49.1	-1.4
SMLA				AMB	AMB	04 19 54.5	
	comp=Z,194nm,1.8s						
X24A	Lazy VL Ranch,	95.13	56	⇑P	P	04 19 48.8	-2.0
	baz=95						
B19A	Brinkman Farms	95.18	42	⇑P	P	04 19 49.4	-1.1
	baz=95,SNR=12						
225A	Deer Hill, Car	95.19	58	⇑P	P	04 19 49.0	-2.1
	baz=95,SNR=8.0						
F20A	Billings	95.19	44	⇑P	P	04 19 49.7	-1.0
	baz=95						
J21A	Lysite	95.21	47	⇓P	P	04 19 49.2	-1.8
	baz=95,SNR=11						
K21A	Alcova	95.22	48	⇓P	P	04 19 49.3	-1.8
	baz=95						
S23A	Nye Farm, Mont	95.25	53	⇓P	P	04 19 49.9	-1.4
	baz=95						
YKA	Yellowknife Ar	95.25	27	P	P	04 19 48.9	-1.5
YKA	Yellowknife Ar	95.25	27	P	P	04 19 48.8	-1.5
	comp=Z,5.1nm,0.6s,baz=258,slow=4.8,SNR=24						
YKW3	Yellowknife Ar	95.26	27	eP	P	04 19 53.1	+2.7
	comp=Z,0.1nm,0.4s						
W24A	Lazy 6 Ranch,	95.27	55	⇓P	P	04 19 49.4	-2.1
	baz=96,SNR=13						
O22A	Kremmling	95.28	50	⇑P	P	04 19 50.1	-1.4
	baz=96,SNR=26						
626A	Big Bend Ranch	95.32	61	⇓P	P	04 19 50.8	-0.8
	baz=96,SNR=15						
E20A	Meyer Farm, Mu	95.34	44	⇓P	P	04 19 50.4	-0.9
	baz=96,SNR=8.1						
A19A	Klindworth Far	95.41	41	⇓P	P	04 19 50.7	-0.8
	baz=96,SNR=8.0						
I21A	Big Trails, Te	95.41	47	⇓P	P	04 19 50.7	-1.1
	baz=96,SNR=13						
125A	Gardner Draw,	95.42	58	⇓P	P	04 19 50.4	-1.7
	baz=96						
526A	Mary Lane Ranc	95.44	61	⇓P	P	04 19 50.5	-1.8
	baz=96						
D20A	Manuel Ranch,	95.45	43	⇑P	P	04 19 51.2	-0.6
	baz=96,SNR=13						
N22A	Wattenberg Ran	95.47	50	⇑P	P	04 19 51.2	-1.1
	baz=96						
V24A	Rampart Ranch,	95.47	55	⇓P	P	04 19 50.6	-1.8
	baz=96,SNR=11						
M22A	Cedar Creek Ra	95.47	49	⇓P	P	04 19 50.7	-1.6
	baz=96						
R23A	Moffat	95.47	52	⇓P	P	04 19 50.4	-2.0
	baz=96,SNR=15						
Z25A	Roswell	95.48	57	⇑P	P	04 19 51.5	-0.8
	baz=96						
U24A	Moreno Valley	95.58	54	⇓P	P	04 19 52.5	-0.4
	baz=96						
Q23A	Hartsel	95.59	52	⇓P	P	04 19 51.8	-1.2
	baz=96						
426A	McDonald Obser	95.60	60	⇑P	P	04 19 51.2	-1.9
	baz=96,SNR=14						
Y25A	Mesa, Roswell	95.62	57	⇓P	P	04 19 51.3	-1.7
	baz=96						
SDCO	Great Sand Dun	95.64	53	eP	P	04 19 55.1	+1.9
	comp=Z,24nm,1.7s						
SDCO				LR	LR		
	comp=Z,21μm,22.0s						
C20A	Veseth Ranch,	95.66	43	⇑P	P	04 19 50.1	-2.5
	baz=96,SNR=8.6						
P23A	Jefferson	95.67	51	⇓P	P	04 19 53.3	-0.1
	baz=96,SNR=6.9						
TXAR	Lajitas Array	95.68	61	P	P	04 19 53.3	0.0
TXAR				PP	PP	04 23 48.4	+3.1
TXAR				PKKPbc	PKKPbc	04 36 43.6	-0.5
TXAR				P'P'		04 44 56.1	
TXAR	Lajitas Array	95.68	61	P	P	04 19 53.3	0.0
	comp=Z,8.4nm,0.8s,baz=210,slow=7.6,SNR=31						
TXAR				PP	PP	04 23 48.4	+3.1
	comp=Z,2.9nm,0.9s,baz=243,slow=5.5,SNR=5.3						
TXAR				PKKPbc	PKKPbc	04 36 43.6	-0.5
	comp=Z,3.5nm,0.9s,baz=110,slow=3.2,SNR=11						
TXAR				PKPPKP	P'P'df	04 44 56.1	-0.8
	comp=Z,1.9nm,1.0s,baz=103,slow=4.0,SNR=6.8						
TXAR				LR	LR	04 55 21.6	
	comp=Z,20μm,20.6s,baz=25,slow=31						
L22A	Ellis Ranch, M	95.70	48	⇓P	P	04 19 51.4	-1.8
	baz=96,SNR=10						
G21A	Lodge Grass	95.73	45	⇑P	P	04 19 52.4	-0.7
	baz=96						
226B	Tecolote Peak,	95.73	59	⇑P	P	04 19 50.7	-2.8
	baz=96,SNR=9.4						
H21A	Big Horn, Sher	95.74	46	⇑P	P	04 19 52.2	-1.1
	baz=96						
K22A	Casper	95.75	48	⇓P	P	04 19 52.2	-1.2
	baz=96						
X25A	Clemmons Ranch	95.75	56	⇓P	P	04 19 51.3	-2.3
	baz=96						
326A	Caldwell Ranch	95.76	59	⇓P	P	04 19 52.2	-1.4
	baz=96						
O23A	Lake Granby, G	95.76	50	⇓P	P	04 19 52.8	-0.9
	baz=96,SNR=16						
B20A	Solberg Farm,	95.78	42	⇑P	P	04 19 51.3	-2.0
	baz=96						
POO	Poona	95.84	288	eP	P	04 19 53.8	-0.4
S24A	Houchin Ranch,	95.85	53	⇓P	P	04 19 53.8	-0.4
	baz=96,SNR=8.6						
N23A	Red Feather La	95.86	50	⇑P	P	04 19 53.0	-1.1
	baz=96,SNR=5.9						
527A	Woodward Ranch	95.87	61	⇓P	P	04 19 52.9	-1.3
	baz=96,SNR=18						
F21A	Absaloka Mine,	95.90	45	⇓P	P	04 19 52.6	-1.3
	baz=96						
J22A	Midwest	95.92	47	⇓P	P	04 19 52.7	-1.4
	baz=96						
ISCO	Idaho Springs	95.92	51	eP	P	04 19 56.5	+2.1
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ISCO				MLR	MLR		
	comp=Z,40μm,22.0s						
ISCO	Idaho Springs	95.92	51	eP	P	04 19 56.5	+2.1
	comp=Z,5.5nm,0.7s						
ISCO				LR	LR		
	comp=Z,40μm,22.0s						
ISCO	Idaho Springs	95.92	51	⇑P	P	04 19 53.2	-1.2
	baz=96,SNR=13						
A20A	Cobblestone Ra	95.92	41	⇑P	P	04 19 52.8	-1.1
	baz=96						
627A	Terlingua Ranc	95.94	61	⇓P	P	04 19 53.0	-1.5
	baz=96						
126A	Clayton Basin,	95.95	58	⇓P	P	04 19 51.9	-2.5
	baz=96						
I22A	9 Mile Ranch,	96.00	47	⇓P	P	04 19 53.4	-1.1
	baz=96						
V25A	Rancho No Teng	96.01	55	⇑P	P	04 19 53.1	-1.7
	baz=96						
W25A	X Bar L Ranch,	96.03	55	⇑P	P	04 19 52.6	-2.2
	baz=96						
DHRM	DHARAMSHALA	96.03	302	eP	P	04 19 53.9	-1.1
R24A	Sanders Place,	96.04	52	⇑P	P	04 19 53.8	-1.1
	baz=96						
E21A	Keefer Ranch,	96.06	44	⇓P	P	04 19 53.1	-1.5
	baz=96						
Z26A	Caprock	96.09	57	⇑P	P	04 19 52.3	-2.8
	baz=96,SNR=15						
M23A	Laramie	96.13	49	⇑P	P	04 19 53.6	-1.6
	baz=96						
Q24A	Divide	96.13	52	⇓P	P	04 19 54.2	-1.2
	baz=96						
427A	Hayter Ranch,	96.17	60	⇓P	P	04 19 54.8	-0.6
	baz=96						
327A	Balmorhea Ranc	96.18	59	⇑P	P	04 19 53.5	-2.0
	baz=96						
D21A	La Casta Ranch	96.21	43	⇓P	P	04 19 53.8	-1.5
	baz=96						
H22A	Clearmont	96.22	46	⇑P	P	04 19 54.1	-1.4
	baz=96						
L23A	Garrett	96.25	48	⇑P	P	04 19 53.9	-1.9
	baz=96						
U25A	Circle Dot Ran	96.27	54	⇑P	P	04 19 54.3	-1.7
	baz=96						
C21A	Desert Coulee	96.28	43	⇓P	P	04 19 54.3	-1.2
	baz=96						
PHWY	Pilot Hill	96.30	49	eP	P	04 19 58.1	+2.0
	comp=Z,3.2nm,0.6s						
Y26A	Elida	96.33	57	⇓P	P	04 19 53.9	-2.3
	baz=96						
G22A	Birney	96.37	45	⇑P	P	04 19 54.7	-1.3
	baz=97						
628A	Black Gap, Mar	96.37	61	⇑P	P	04 19 55.8	-0.6
	baz=97,SNR=8.8						
O24A	Longmont	96.38	50	⇓P	P	04 19 55.3	-1.0
	baz=97						
T25A	Trinidad	96.39	54	⇑P	P	04 19 54.5	-2.0
	baz=97						
P24A	Kohler Place,	96.41	51	⇓P	P	04 19 56.0	-0.5
	baz=97						
K23A	Bowen Ranch, D	96.42	48	⇑P	P	04 19 54.7	-1.8
	baz=97						
B21A	Ellsworth Farm	96.44	42	⇑P	P	04 19 55.1	-1.1
	baz=97						
X26A	CR and CF Fran	96.45	56	⇓P	P	04 19 55.0	-1.7
	baz=97						
227A	Bennet, Jal	96.45	59	⇓P	P	04 19 54.7	-2.0
	baz=97						
S25A	Robets Cordova	96.46	53	⇓P	P	04 19 55.7	-1.1
	baz=97,SNR=11						
F22A	Rosebud	96.49	45	⇑P	P	04 19 55.3	-1.3
	baz=97						
127A	Arkansas Junct	96.51	58	⇑P	P	04 19 53.9	-3.1
	baz=97,SNR=6.6						
W26A	Owens Ranch, T	96.57	56	⇑P	P	04 19 54.7	-2.5
	baz=97						
528A	Cox Ranch, San	96.57	61	⇓P	P	04 19 55.5	-1.8
	baz=97,SNR=11						
J23A	Dilts Ranch, B	96.58	47	⇓P	P	04 19 55.4	-1.7
	baz=97						
A21A	Bergtoll Ranch	96.59	41	⇓P	P	04 19 54.6	-2.3
	baz=97						
SNAA	Sanae	96.59	183	eP	P	04 19 55.2	-1.4
SNAA	Sanae	96.59	183	epP	pP	04 20 06.2	-2.8
SNAA	Sanae	96.59	183	ePP	PP	04 23 58.9	+8.3
SNAA	Sanae	96.59	183	ePKiKP	PKiKP	04 24 32.6	-0.9
SNAA	Sanae	96.59	183	eP	P	04 19 54.7	-1.9
	comp=Z,40nm,1.1s						
N24A	Carr	96.64	50	⇑P	P	04 19 55.4	-2.1
	baz=97,SNR=9.4						
R25A	Fountain Ranch	96.66	53	⇓P	P	04 19 55.7	-1.9
	baz=97						
V26A	Tequesquite Ra	96.67	55	⇓P	P	04 19 55.5	-2.2
	baz=97						
Z27A	Tatum	96.73	57	⇓P	P	04 19 55.4	-2.6
	baz=97						
I23A	Meade Ranch, G	96.74	47	⇑P	P	04 19 55.5	-2.3
	baz=97						
428A	Kincaid Ranch,	96.75	60	⇑P	P	04 19 56.9	-1.2
	baz=97						
328A	Wristen Ranch,	96.75	59	⇓P	P	04 19 55.2	-2.9
	baz=97						
D22A	Cohagen	96.77	43	⇓P	P	04 19 56.0	-1.8
	baz=97						
M24A	Cheyenne	96.79	49	⇑P	P	04 19 57.2	-1.0
	baz=97						
U26A	Atchley Ranch,	96.80	54	⇑P	P	04 19 56.9	-1.5
	baz=97						
L24A	Wheatland	96.81	49	⇓P	P	04 19 56.7	-1.5
	baz=97						
E22A	Miles City	96.81	44	⇓P	P	04 19 56.4	-1.5
	baz=97						
Q25A	Bedland, Calha	96.81	52	⇑P	P	04 19 56.7	-1.7
	baz=97						
Y27A	Causey	96.86	57	⇓P	P	04 19 55.5	-3.1
	baz=97						
H23A	Clabaugh Cattl	96.88	46	⇑P	P	04 19 56.7	-1.7
	baz=97						
P25A	Willow Gulch B	96.97	51	⇓P	P	04 19 57.7	-1.4
	baz=97						
G23A	Biddle	96.99	45	⇑P	P	04 19 57.8	-1.1
	baz=97						
K24A	Anderson Ranch	97.00	48	⇓P	P	04 19 57.8	-1.2
	baz=97						
X27A	F and S Farms,	97.04	56	⇓P	P	04 19 57.7	-1.7
	baz=97						
T26A	Comanche Natio	97.05	54	⇑P	P	04 19 57.4	-2.0
	baz=97						
529A	Stev Forest Ra	97.05	61	⇑P	P	04 19 57.4	-2.1
	baz=97,SNR=8.2						
228A	UT Block 9, Go	97.06	59	⇑P	P	04 19 58.0	-1.5
	baz=97						
F23A	Volborg	97.07	45	⇑P	P	04 19 57.9	-1.3
	baz=97						
C22A	Vida	97.07	43	⇓P	P	04 19 57.3	-1.8
	baz=97						
B22A	Reddig Ranch S	97.08	42	⇓P	P	04 19 57.7	-1.5
	baz=97						
O25A	Wiggins	97.10	51	⇑P	P	04 19 57.4	-2.1
	baz=97						
W27A	Bowe Ranch, En	97.14	56	⇑P	P	04 19 58.4	-1.4
	baz=97						
MSTX	Muleshoe	97.20	57	⇓P	P	04 19 58.4	-1.7
	baz=97						
J24A	Dixon Ranch, L	97.21	47	⇓P	P	04 19 58.2	-1.7
	baz=97						
S26A	Kim	97.21	53	⇑P	P	04 19 58.5	-1.7
	baz=97						
128A	Castleberry Fa	97.22	58	⇑P	P	04 19 58.8	-1.5
	baz=97						
N25A	Grover	97.24	50	⇑P	P	04 19 59.2	-1.0
	baz=97						
A22A	Carney Farms,	97.25	42	⇑P	P	04 19 59.3	-0.7
	baz=97						
I24A	Kuemmerle Ranc	97.32	47	⇑P	P	04 19 59.0	-1.5
	baz=98						
AAA	Alma-Ata	97.33	313	eP	Pdif	04 20 03.0	+2.5
AAA				e		04 30 35.5	
AAA				eS	S	04 31 23.7	+2.1
AAA				pmax	pmax		
	comp=Z,2μm,17.8s						
AAA				smax	smax		
	comp=N,1μm,11.0s						
AAA				MLR	MLR		
	comp=Z,9μm,23.0s						
R26A	Arlington	97.34	52	⇑P	P	04 19 59.9	-0.8
	baz=98						
KURK	Kurchatov	97.37	320	PKKPbc	PKKPbc	04 36 36.1	-4.1
Q26A	Hugo	97.38	52	⇓P	P	04 19 58.9	-1.9
	baz=98						
429A	Davenport Ranc	97.41	60	⇓P	P	04 19 59.3	-1.8
	baz=98,SNR=18						
KURBB	Kurchatov Arra	97.41	320	PKKPbc	PKKPbc	04 36 36.1	-4.0
	comp=Z,1.6nm,0.9s,baz=283,slow=2.8,SNR=9.4						
Z28A	Tucker Farm, M	97.41	58	⇓P	P	04 19 58.8	-2.3
	baz=98						
V27A	Dan Oppiter Fa	97.43	55	⇑P	P	04 19 60.0	-1.1
	baz=98						
D23A	Lindsay	97.43	43	⇑P	P	04 19 57.3	-3.5
	baz=98						
329A	Wagon Wheel Ra	97.47	59	⇑P	P	04 19 58.4	-2.9
	baz=98						
KSH	Kashi	97.47	309	P	Pdif	04 20 02.7	+1.4
KSH				sP	sP	04 20 17.6	-0.6
KSH				PP	PP	04 24 03.6	+4.7
KSH				S	S	04 31 19.1	-4.1
KSH				SS	SS	04 38 03.2	+0.2
KSH				pmax	pmax		
	comp=Z,16nm,0.9s						
KSH				pmax	pmax		
	comp=Z,470nm,9.3s						
KSH				LR	LR		
	comp=N,5μm,20.3s						
KSH				LR	LR		
	comp=E,7μm,20.5s						
KSH				LR	LR		
	comp=Z,6μm,25.3s						
H24A	Dirks Ranch, A	97.51	46	⇑P	P	04 19 59.8	-1.4
	baz=98						
L25A	Engebretsen Ra	97.53	49	⇓P	P	04 19 59.7	-1.8
	baz=98						
U27A	Thompson Grove	97.54	54	⇓P	P	04 20 00.2	-1.4
	baz=98,SNR=10						
C23A	Lambert	97.54	43	⇓P	P	04 19 59.4	-1.8
	baz=98						
VNA2	Neumayer--Watz	97.55	182	eP	P	04 19 59.4	-1.4
VNA2	Neumayer--Watz	97.55	182	epP	pP	04 20 10.0	-3.3
VNA2	Neumayer--Watz	97.55	182	esP	sP	04 20 14.7	-3.1
VNA2	Neumayer--Watz	97.55	182	ePP	PP	04 23 59.1	+1.3
VNA2	Neumayer--Watz	97.55	182	ePKiKP	PKiKP	04 24 33.7	-1.4
VNA2	Neumayer--Watz	97.55	182	epPKiKP	pPKiKP	04 24 46.1	-1.8
P26A	Davis Ranch, A	97.61	51	⇓P	P	04 20 00.2	-1.6
	baz=98						
Y28A	McKinney Farm,	97.62	57	⇑P	P	04 19 59.4	-2.6
	baz=98						
S27A	Las Animas	97.67	53	⇑P	P	04 20 00.8	-1.4
	baz=98						
K25A	Mack Ranch, Ha	97.67	48	⇓P	P	04 20 00.6	-1.5
	baz=98						
229A	Bryant Ranch,	97.69	59	⇓P	P	04 20 00.5	-1.8
	baz=98						
G24A	Alzada	97.69	45	⇓P	P	04 20 00.6	-1.4
	baz=98						
T27A	Campo	97.72	54	⇑P	P	04 20 01.0	-1.4
	baz=98						
O26A	Horse Wrangler	97.73	51	⇑P	P	04 20 01.6	-0.8
	baz=98						
129A	Stewart Farms,	97.74	58	⇓P	P	04 20 01.1	-1.5
	baz=98						
F24A	Ekalaka	97.75	45	⇑P	P	04 20 00.1	-2.2
	baz=98						
X28A	Dimmitt	97.75	56	⇓P	P	04 20 00.6	-2.0
	baz=98						
B23A	Brockton	97.77	42	⇑P	P	04 20 00.7	-1.5
	baz=98						
RSSD	Black Hills	97.78	47	eP	Pdif	04 20 07.4	+4.7
RSSD				pmax	pmax		
	comp=Z,25nm,1.5s						
RSSD	Black Hills	97.78	47	eP	Pdif	04 20 07.3	+4.7
	comp=Z,25nm,1.5s						
530A	J-C Ranch, Com	97.81	61	⇓P	P	04 20 00.2	-2.6
	baz=98						
J25A	Sunshine Ranch	97.84	47	⇑P	P	04 20 01.3	-1.5
	baz=98						
R27A	Eads	97.84	53	⇓P	P	04 20 01.5	-1.4
	baz=98						
VNA1	Neumayer--Stat	97.86	182	eP	P	04 20 02.0	-0.2
W28A	Vega	97.86	56	⇓P	P	04 20 01.0	-2.0
	baz=98						
N26A	Koester Ranch,	97.89	50	⇑P	P	04 20 02.1	-1.0
	baz=98						
V28A	Channing	97.92	55	⇓P	P	04 20 01.6	-1.7
	baz=98						
A23A	Redstone	97.92	42	⇑P	P	04 20 01.1	-1.8
	baz=98						
E24A	Baker	97.95	44	⇑P	P	04 20 02.1	-1.1
	baz=98						
Z29A	Hungry Hill Ra	97.97	58	⇓P	P	04 20 01.8	-1.8
	baz=98						
I25A	Rochford	97.98	47	⇓P	P	04 20 02.2	-1.3
	baz=98						
430A	Baggett Ranch,	97.99	60	⇓P	P	04 20 01.6	-2.1
	baz=98						
U28A	Mallet	98.01	55	⇑P	P	04 20 01.7	-2.0
	baz=98						
C24A	Savage	98.01	43	⇑P	P	04 20 02.1	-1.3
	baz=98						
D24A	Glendive	98.02	44	⇓P	P	04 20 02.7	-0.7
	baz=98						
M26A	McRoberts Ranc	98.04	49	⇓P	P	04 20 01.9	-1.9
	baz=98						
KSCO	Kaye Shedlock'	98.08	52	⇓P	P	04 20 03.2	-0.8
	baz=98						
Y29A	Porterfield Fa	98.09	57	⇓P	P	04 20 02.9	-1.2
	baz=98						
330A	Mertzon	98.14	60	⇑P	P	04 20 02.3	-2.1
	baz=98						
X29A	Tulia	98.15	57	⇓P	P	04 20 02.0	-2.3
	baz=98						
H25A	Fruitdale	98.16	46	⇓P	P	04 20 02.5	-1.7
	baz=98						
L26A	Underwood Farm	98.17	49	⇓P	P	04 20 02.2	-2.1
	baz=98						
K26A	Motz Farm, Whi	98.19	48	⇑Pdiff	P	04 20 02.6	-1.8
	baz=98						
K26A	Motz Farm, Whi	98.19	48	⇑Pdiff	P	04 20 02.6	-1.8
	baz=98						
P27A	Ficken Ranch,	98.19	51	⇑P	P	04 20 02.8	-1.6
	baz=98						
T28A	Walsh	98.21	54	⇑Pdiff	P	04 20 02.6	-2.0
	baz=98						
T28A	Walsh	98.21	54	⇑Pdiff	P	04 20 02.6	-2.0
	baz=98						
AMTX	Amarillo	98.23	56	eP	Pdif	04 20 06.3	+1.5
	comp=Z,8.4nm,0.7s						
AMTX				LR	LR		
	comp=Z,20μm,20.0s						
TKM2	Tokmak 2	98.25	312	i P	P	04 20 04.0	-0.8
TKM2	Tokmak 2	98.25	312	P	P	04 20 04.0	-0.8
	SNR=21						
TKM2	Tokmak 2	98.25	312	eP	P	04 20 03.9	-0.9
	comp=Z,16nm,0.8s						
TKM2				LR	LR		
	comp=Z,4μm,20.0s						
230A	Sterling City	98.26	59	⇓Pdiff	P	04 20 02.5	-2.4
	baz=98						
230A	Sterling City	98.26	59	⇓Pdiff	P	04 20 02.5	-2.4
	baz=98						
W29A	Amraillo	98.29	56	⇑Pdiff	P	04 20 02.7	-2.3
	baz=98						
W29A	Amraillo	98.29	56	⇑Pdiff	P	04 20 02.7	-2.3
	baz=98						
DGMT	Dagmar	98.30	42	eP	Pdif	04 20 06.8	+2.1
	comp=Z,13nm,0.6s						
DGMT				LR	LR		
	comp=Z,11μm,21.0s						
DGMT	Dagmar	98.30	42	⇑Pdiff	P	04 20 02.8	-1.8
	baz=98						
DGMT	Dagmar	98.30	42	⇑Pdiff	P	04 20 02.8	-1.8
	baz=98						
J26A	Sides Ranch, S	98.35	48	⇑Pdiff	P	04 20 03.3	-1.8
	baz=98						
J26A	Sides Ranch, S	98.35	48	⇑Pdiff	P	04 20 03.3	-1.8
	baz=98						
631A	Perdido Creek	98.35	62	⇑Pdiff	P	04 20 02.9	-2.4
	baz=98						
631A	Perdido Creek	98.35	62	⇑Pdiff	P	04 20 02.9	-2.4
	baz=98						
O27A	Beecher Island	98.36	51	⇓Pdiff	P	04 20 03.0	-2.2
	baz=98						
O27A	Beecher Island	98.36	51	⇓Pdiff	P	04 20 03.0	-2.2
	baz=98						
G25A	Newell	98.37	46	⇓Pdiff	P	04 20 03.1	-2.0
	baz=99						
G25A	Newell	98.37	46	⇓Pdiff	P	04 20 03.1	-2.0
	baz=99						
KZA	Kyzart	98.39	311	P	P	04 20 05.5	-0.1
	SNR=7.8						
N27A	Anderson Farm,	98.40	50	⇑Pdiff	P	04 20 03.8	-1.6
	baz=99						
N27A	Anderson Farm,	98.40	50	⇑Pdiff	P	04 20 03.8	-1.6
	baz=99						
S28A	Manter	98.44	53	⇑Pdiff	P	04 20 03.9	-1.7
	baz=99						
S28A	Manter	98.44	53	⇑Pdiff	P	04 20 03.9	-1.7
	baz=99						
F25A	Bowman	98.44	45	⇓Pdi

531A	Rocksprings	98.49	61	⇓Pdiff	P	04 20 04.1	-1.8
	baz=99						
V29A	Stinnett	98.50	55	⇑Pdiff	P	04 20 04.2	-1.7
	baz=99						
V29A	Stinnett	98.50	55	⇑Pdiff	P	04 20 04.2	-1.7
	baz=99						
431A	Sonora	98.51	60	⇓Pdiff	P	04 20 04.2	-1.8
	baz=99						
431A	Sonora	98.51	60	⇓Pdiff	P	04 20 04.2	-1.8
	baz=99						
E25A	Miller Ranch,	98.56	44	⇑Pdiff	P	04 20 04.5	-1.4
	baz=99						
E25A	Miller Ranch,	98.56	44	⇑Pdiff	P	04 20 04.5	-1.4
	baz=99						
I26A	New Underwood	98.61	47	⇓Pdiff	P	04 20 03.8	-2.3
	baz=99						
I26A	New Underwood	98.61	47	⇓Pdiff	P	04 20 03.8	-2.3
	baz=99						
M27A	Reverse DX Ran	98.61	49	⇓Pdiff	P	04 20 04.7	-1.6
	baz=99						
M27A	Reverse DX Ran	98.61	49	⇓Pdiff	P	04 20 04.7	-1.6
	baz=99						
R28A	Tribune	98.62	53	⇓Pdiff	P	04 20 04.7	-1.7
	baz=99						
R28A	Tribune	98.62	53	⇓Pdiff	P	04 20 04.7	-1.7
	baz=99						
Q28A	Sharon Springs	98.70	52	⇑Pdiff	P	04 20 04.8	-1.9
	baz=99						
Q28A	Sharon Springs	98.70	52	⇑Pdiff	P	04 20 04.8	-1.9
	baz=99						
D25A	Fairfield	98.70	44	⇑Pdiff	P	04 20 04.8	-1.6
	baz=99						
D25A	Fairfield	98.70	44	⇑Pdiff	P	04 20 04.8	-1.6
	baz=99						
Y30A	Stafford Cattl	98.73	57	⇑Pdiff	P	04 20 04.9	-2.0
	baz=99						
Y30A	Stafford Cattl	98.73	57	⇑Pdiff	P	04 20 04.9	-2.0
	baz=99						
L27A	T5 Ranch, Ells	98.74	49	⇓Pdiff	P	04 20 05.0	-1.9
	baz=99						
L27A	T5 Ranch, Ells	98.74	49	⇓Pdiff	P	04 20 05.0	-1.9
	baz=99						
H26A	Fairpoint	98.75	46	⇑Pdiff	P	04 20 05.6	-1.2
	baz=99						
H26A	Fairpoint	98.75	46	⇑Pdiff	P	04 20 05.6	-1.2
	baz=99						
331A	San Angelo	98.76	60	⇓Pdiff	P	04 20 03.6	-3.5
	baz=99						
331A	San Angelo	98.76	60	⇓Pdiff	P	04 20 03.6	-3.5
	baz=99						
732A	Laxson Ranch,	98.78	62	⇑Pdiff	P	04 20 05.3	-1.8
	baz=99						
732A	Laxson Ranch,	98.78	62	⇑Pdiff	P	04 20 05.3	-1.8
	baz=99						
U29A	Oasis Ranch, S	98.78	55	⇓Pdiff	P	04 20 04.6	-2.5
	baz=99						
U29A	Oasis Ranch, S	98.78	55	⇓Pdiff	P	04 20 04.6	-2.5
	baz=99						
OGNE	Ogallala	98.80	50	PFAKE		04 20 20.0	+13
OGNE				LR	LR		
	comp=Z,36μm,20.0s						
OGNE	Ogallala	98.80	50	⇑Pdiff	P	04 20 04.7	-2.4
	baz=99						
OGNE	Ogallala	98.80	50	⇑Pdiff	P	04 20 04.7	-2.4
	baz=99						
C25A	Freed Ranch, W	98.82	43	⇑Pdiff	P	04 20 05.9	-1.0
	baz=99						
C25A	Freed Ranch, W	98.82	43	⇑Pdiff	P	04 20 05.9	-1.0
	baz=99						
P28A	Saint Francis	98.83	51	⇓Pdiff	P	04 20 05.4	-1.9
	baz=99						
P28A	Saint Francis	98.83	51	⇓Pdiff	P	04 20 05.4	-1.9
	baz=99						
X30A	Coker Ranch, T	98.83	57	⇓Pdiff	P	04 20 05.3	-2.0
	baz=99						
X30A	Coker Ranch, T	98.83	57	⇓Pdiff	P	04 20 05.3	-2.0
	baz=99						
T29A	Hugoton	98.86	54	⇓Pdiff	P	04 20 06.1	-1.4
	baz=99						
T29A	Hugoton	98.86	54	⇓Pdiff	P	04 20 06.1	-1.4
	baz=99						
CHMS	Chumysh	98.88	312	P	P	04 20 06.9	-0.5
	SNR=14						
K27A	Flueckinger Fa	98.88	48	⇑Pdiff	P	04 20 05.9	-1.5
	baz=99						
K27A	Flueckinger Fa	98.88	48	⇑Pdiff	P	04 20 05.9	-1.5
	baz=99						
O28A	Krutsinger Ran	98.89	51	⇑Pdiff	P	04 20 05.6	-1.9
	baz=99						
O28A	Krutsinger Ran	98.89	51	⇑Pdiff	P	04 20 05.6	-1.9
	baz=99						
231A	Bronte	98.94	59	⇑Pdiff	P	04 20 05.2	-2.6
	baz=99						
231A	Bronte	98.94	59	⇑Pdiff	P	04 20 05.2	-2.6
	baz=99						
FRU	Bishkek	98.95	312	*e*P	Pdif	04 20 08.0	+0.3
FRU				*e*		04 24 12.0	
FRU				*e*		04 30 44.0	
FRU				*e*PS	PS	04 33 10.0	+3.5
FRU				pmax	pmax		
	comp=Z,80nm,2.0s						
B25A	Knox Farm, Ray	98.95	43	⇓Pdiff	P	04 20 06.5	-1.0
	baz=99						
B25A	Knox Farm, Ray	98.95	43	⇓Pdiff	P	04 20 06.5	-1.0
	baz=99						
G26A	Maurine	98.96	46	⇑Pdiff	P	04 20 06.0	-1.7
	baz=99						
G26A	Maurine	98.96	46	⇑Pdiff	P	04 20 06.0	-1.7
	baz=99						
F26A	Lodgepole	98.98	45	⇓Pdiff	P	04 20 06.1	-1.7
	baz=99						
F26A	Lodgepole	98.98	45	⇓Pdiff	P	04 20 06.1	-1.7
	baz=99						
131A	Roby	98.98	58	⇓Pdiff	P	04 20 05.4	-2.6
	baz=99						
131A	Roby	98.98	58	⇓Pdiff	P	04 20 05.4	-2.6
	baz=99						
AAK	Ala-Archa	99.02	312	*e*P	Pdif	04 20 07.4	-0.8
AAK				pmax	pmax		
	comp=Z,18nm,0.8s						
AAK	Ala-Archa	99.02	312	Pdiff	Pdif	04 20 07.9	-0.2
	SNR=10						
AAK	Ala-Archa	99.02	312	P	Pdif	04 20 07.4	-0.8
	SNR=9.7						
AAK	Ala-Archa	99.02	312	*e*P	Pdif	04 20 07.4	-0.8
	comp=Z,18nm,0.8s						
AAK	Ala-Archa	99.02	312	LR	LR	05 01 49.9	
	comp=Z,5μm,21.9s,baz=64,slow=34						
532A	Rocksprings	99.03	61	⇓Pdiff	Pdif	04 20 06.5	-1.9
	baz=99						
532A	Rocksprings	99.03	61	⇓Pdiff	Pdif	04 20 06.5	-1.9
	baz=99						
632A	Uvalde	99.05	62	⇑Pdiff	Pdif	04 20 06.0	-2.4
	baz=99						
632A	Uvalde	99.05	62	⇑Pdiff	Pdif	04 20 06.0	-2.4
	baz=99						
S29A	Ulysses	99.06	53	⇓Pdiff	Pdif	04 20 06.4	-2.0
	baz=99						
S29A	Ulysses	99.06	53	⇓Pdiff	Pdif	04 20 06.4	-2.0
	baz=99						
A25A	Svangstu Ranch	99.07	42	⇑Pdiff	Pdif	04 20 07.0	-1.0
	baz=99						
A25A	Svangstu Ranch	99.07	42	⇑Pdiff	Pdif	04 20 07.0	-1.0
	baz=99						
USP	Ospenovka	99.09	312	P	Pdif	04 20 07.3	-1.0
	SNR=18						
N28A	Pribbeno Ranch	99.14	50	⇑Pdiff	Pdif	04 20 07.9	-0.8
	baz=99						
N28A	Pribbeno Ranch	99.14	50	⇑Pdiff	Pdif	04 20 07.9	-0.8
	baz=99						
R29A	Marienthal	99.15	53	⇓Pdiff	Pdif	04 20 07.3	-1.4
	baz=99						
R29A	Marienthal	99.15	53	⇓Pdiff	Pdif	04 20 07.3	-1.4
	baz=99						
V30A	Spur Ranch, Mi	99.16	55	⇑Pdiff	Pdif	04 20 07.4	-1.5
	baz=99						
V30A	Spur Ranch, Mi	99.16	55	⇑Pdiff	Pdif	04 20 07.4	-1.5
	baz=99						
W30A	Crocket Farms	99.17	56	⇓Pdiff	Pdif	04 20 08.0	-0.9
	baz=99						
W30A	Crocket Farms	99.17	56	⇓Pdiff	Pdif	04 20 08.0	-0.9
	baz=99						
JCT	Junction City	99.17	61	*e*P	Pdif	04 20 10.1	+1.1
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JCT				MLR	MLR		
	comp=Z,26μm,20.0s						
JCT	Junction City	99.17	61	*e*P	Pdif	04 20 10.1	+1.1
	comp=Z,8.9nm,0.8s						
JCT				LR	LR		
	comp=Z,26μm,20.0s						
JCT	Junction City	99.17	61	⇓Pdiff	Pdif	04 20 07.1	-1.9
	baz=99						
JCT	Junction City	99.17	61	⇓Pdiff	Pdif	04 20 07.1	-1.9
	baz=99						
I27A	Quinn	99.19	47	⇑Pdiff	Pdif	04 20 07.5	-1.2
	baz=99						
I27A	Quinn	99.19	47	⇑Pdiff	Pdif	04 20 07.5	-1.2
	baz=99						
E26A	Carlson Angus	99.20	44	⇓Pdiff	Pdif	04 20 07.9	-0.8
	baz=99						
E26A	Carlson Angus	99.20	44	⇓Pdiff	Pdif	04 20 07.9	-0.8
	baz=99						
432A	Menard	99.23	60	⇓Pdiff	Pdif	04 20 07.7	-1.6
	baz=99						
432A	Menard	99.23	60	⇓Pdiff	Pdif	04 20 07.7	-1.6
	baz=99						
H27A	Howes	99.24	46	⇑Pdiff	Pdif	04 20 07.5	-1.4
	baz=99						
H27A	Howes	99.24	46	⇑Pdiff	Pdif	04 20 07.5	-1.4
	baz=99						
Y31A	Rekieta Farm,	99.26	57	⇓Pdiff	Pdif	04 20 07.8	-1.5
	baz=99						
Y31A	Rekieta Farm,	99.26	57	⇓Pdiff	Pdif	04 20 07.8	-1.5
	baz=99						
Z31A	Sharp Cattle R	99.27	58	⇑Pdiff	Pdif	04 20 07.6	-1.8
	baz=100						
Z31A	Sharp Cattle R	99.27	58	⇑Pdiff	Pdif	04 20 07.6	-1.8
	baz=100						
D26A	Manning	99.29	44	⇓Pdiff	Pdif	04 20 07.7	-1.4
	baz=100						
D26A	Manning	99.29	44	⇓Pdiff	Pdif	04 20 07.7	-1.4
	baz=100						
U30A	WK&E Inc. Balk	99.29	55	⇑Pdiff	Pdif	04 20 07.7	-1.7
	baz=100						
U30A	WK&E Inc. Balk	99.29	55	⇑Pdiff	Pdif	04 20 07.7	-1.7
	baz=100						
L28A	Connealy Angus	99.32	49	⇓Pdiff	Pdif	04 20 08.7	-0.8
	baz=100						
L28A	Connealy Angus	99.32	49	⇓Pdiff	Pdif	04 20 08.7	-0.8
	baz=100						
Q29A	Oakley	99.33	52	⇑Pdiff	Pdif	04 20 07.6	-1.9
	baz=100						
Q29A	Oakley	99.33	52	⇑Pdiff	Pdif	04 20 07.6	-1.9
	baz=100						
332A	Millersview	99.35	60	⇓Pdiff	Pdif	04 20 07.6	-2.1
	baz=100						
332A	Millersview	99.35	60	⇓Pdiff	Pdif	04 20 07.6	-2.1
	baz=100						
M28A	Bar X Bar Ranc	99.35	50	⇑Pdiff	Pdif	04 20 08.0	-1.6
	baz=100						
M28A	Bar X Bar Ranc	99.35	50	⇑Pdiff	Pdif	04 20 08.0	-1.6
	baz=100						
F27A	Lemmon	99.43	45	⇓Pdiff	Pdif	04 20 08.3	-1.4
	baz=100						
F27A	Lemmon	99.43	45	⇓Pdiff	Pdif	04 20 08.3	-1.4
	baz=100						
G27A	Dupree	99.44	46	⇑Pdiff	Pdif	04 20 08.4	-1.4
	baz=100						
G27A	Dupree	99.44	46	⇑Pdiff	Pdif	04 20 08.4	-1.4
	baz=100						
T30A	Plains	99.45	54	⇑Pdiff	Pdif	04 20 07.8	-2.3
	baz=100						
T30A	Plains	99.45	54	⇑Pdiff	Pdif	04 20 07.8	-2.3
	baz=100						
232A	Coleman	99.50	59	⇑Pdiff	Pdif	04 20 07.7	-2.7
	baz=100						
232A	Coleman	99.50	59	⇑Pdiff	Pdif	04 20 07.7	-2.7
	baz=100						
K28A	Ten Mile Ranch	99.52	48	⇑Pdiff	Pdif	04 20 09.0	-1.3
	baz=100						
K28A	Ten Mile Ranch	99.52	48	⇑Pdiff	Pdif	04 20 09.0	-1.3
	baz=100						
AML	Almayashu	99.54	311	P	Pdif	04 20 10.6	-0.2
	SNR=33						
EKS2	Erkin-Say	99.55	312	*e*P	Pdif	04 20 09.5	-0.9
EKS2				pmax	pmax		
	comp=Z,22nm,1.2s						
EKS2				MLR	MLR		
	comp=Z,8μm,22.0s						
EKS2	Erkin-Say	99.55	312	P	Pdif	04 20 09.7	-0.8
	SNR=15						
EKS2	Erkin-Say	99.55	312	*e*P	Pdif	04 20 09.5	-0.9
	comp=Z,22nm,1.2s						
EKS2				LR	LR		
	comp=Z,8μm,22.0s						
S30A	Montezuma	99.58	53	⇑Pdiff	Pdif	04 20 09.5	-1.1
	baz=100						
S30A	Montezuma	99.58	53	⇑Pdiff	Pdif	04 20 09.5	-1.1
	baz=100						
B26A	Jensen Ranch,	99.58	43	⇓Pdiff	Pdif	04 20 09.0	-1.3
	baz=100						
B26A	Jensen Ranch,	99.58	43	⇓Pdiff	Pdif	04 20 09.0	-1.3
	baz=100						
X31A	McDonald Ranch	99.58	57	⇓Pdiff	Pdif	04 20 08.7	-2.0
	baz=100						
X31A	McDonald Ranch	99.58	57	⇓Pdiff	Pdif	04 20 08.7	-2.0
	baz=100						
ABTX	Abilene, Hawle	99.60	59	⇑Pdiff	Pdif	04 20 08.7	-2.1
	baz=100						
ABTX	Abilene, Hawle	99.60	59	⇑Pdiff	Pdif	04 20 08.7	-2.1
	baz=100						
C26A	Wahner Farm, P	99.61	43	⇑Pdiff	Pdif	04 20 09.7	-0.8
	baz=100						
C26A	Wahner Farm, P	99.61	43	⇑Pdiff	Pdif	04 20 09.7	-0.8
	baz=100						
O29A	4D Ranch, Culb	99.63	51	⇓Pdiff	Pdif	04 20 09.5	-1.3
	baz=100						
O29A	4D Ranch, Culb	99.63	51	⇓Pdiff	Pdif	04 20 09.5	-1.3
	baz=100						
W31A	Holland Ranch,	99.68	56	⇓Pdiff	Pdif	04 20 09.7	-1.4
	baz=100						
W31A	Holland Ranch,	99.68	56	⇓Pdiff	Pdif	04 20 09.7	-1.4
	baz=100						
J28A	Allard Ranch,	99.70	48	⇑Pdiff	Pdif	04 20 09.5	-1.5
	baz=100						
J28A	Allard Ranch,	99.70	48	⇑Pdiff	Pdif	04 20 09.5	-1.5
	baz=100						
A26A	Wade Farm, Ken	99.77	42	⇑Pdiff	Pdif	04 20 10.4	-0.7
	baz=100						
A26A	Wade Farm, Ken	99.77	42	⇑Pdiff	Pdif	04 20 10.4	-0.7
	baz=100						
R30A	Dighton	99.81	53	⇓Pdiff	Pdif	04 20 09.1	-2.5
	baz=100						
R30A	Dighton	99.81	53	⇓Pdiff	Pdif	04 20 09.1	-2.5
	baz=100						
E27A	Carson	99.81	45	⇑Pdiff	Pdif	04 20 09.5	-2.0
	baz=100						
E27A	Carson	99.81	45	⇑Pdiff	Pdif	04 20 09.5	-2.0
	baz=100						
I28A	Midland	99.81	47	⇑Pdiff	Pdif	04 20 09.5	-2.0
	baz=100						
I28A	Midland	99.81	47	⇑Pdiff	Pdif	04 20 09.5	-2.0
	baz=100						
Z32A	Haskell	99.83	58	⇓Pdiff	Pdif	04 20 08.9	-2.9
	baz=100						
Z32A	Haskell	99.83	58	⇓Pdiff	Pdif	04 20 08.9	-2.9
	baz=100						
V31A	Spring Creek L	99.84	55	⇑Pdiff	Pdif	04 20 10.4	-1.4
	baz=100						
V31A	Spring Creek L	99.84	55	⇑Pdiff	Pdif	04 20 10.4	-1.4
	baz=100						
N29A	Votaw Ranch, W	99.84	50	⇓Pdiff	Pdif	04 20 09.6	-2.2
	baz=100						
N29A	Votaw Ranch, W	99.84	50	⇓Pdiff	Pdif	04 20 09.6	-2.2
	baz=100						
M29A	Burnside Ranch	99.87	50	⇓Pdiff	Pdif	04 20 10.0	-1.9
	baz=100						
M29A	Burnside Ranch	99.87	50	⇓Pdiff	Pdif	04 20 10.0	-1.9
	baz=100						
U31A	Nine Bar Ranch	99.91	55	⇑Pdiff	Pdif	04 20 10.7	-1.4
	baz=100						
U31A	Nine Bar Ranch	99.91	55	⇑Pdiff	Pdif	04 20 10.7	-1.4
	baz=100						
D27A	Center	99.91	44	⇑Pdiff	Pdif	04 20 11.3	-0.5
	baz=100						
D27A	Center	99.91	44	⇑Pdiff	Pdif	04 20 11.3	-0.5
	baz=100						
Q30A	Quinter	99.93	52	⇑Pdiff	Pdif	04 20 10.0	-2.2
	baz=100						
Q30A	Quinter	99.93	52	⇑Pdiff	Pdif	04 20 10.0	-2.2
	baz=100						
Y32A	R-V Farms, Ver	99.94	57	⇓Pdiff	Pdif	04 20 10.3	-2.0
	baz=100						
Y32A	R-V Farms, Ver	99.94	57	⇓Pdiff	Pdif	04 20 10.3	-2.0
	baz=100						
P30A	Selden	99.98	52	⇑Pdiff	Pdif	04 20 10.5	-1.9
	baz=100						
P30A	Selden	99.98	52	⇑Pdiff	Pdif	04 20 10.5	-1.9
	baz=100						
C27A	Sayler Ranch,	100.00	43	⇑Pdiff	Pdif	04 20 10.8	-1.3
	baz=100						
C27A	Sayler Ranch,	100.00	43	⇑Pdiff	Pdif	04 20 10.8	-1.3
	baz=100						
H28A	Mission Ridge	100.00	46	⇓Pdiff	Pdif	04 20 10.6	-1.7
	baz=100						
H28A	Mission Ridge	100.00	46	⇓Pdiff	Pdif	04 20 10.6	-1.7
	baz=100						
L29A	Maesberg Ranch	100.10	49	⇑Pdiff	Pdif	04 20 12.1	-0.7
	baz=100						
L29A	Maesberg Ranch	100.10	49	⇑Pdiff	Pdif	04 20 12.1	-0.7
	baz=100						
G28A	Parade	100.11	46	⇑Pdiff	Pdif	04 20 11.9	-0.9
	baz=100						
G28A	Parade	100.11	46	⇑Pdiff	Pdif	04 20 11.9	-0.9
	baz=100						
T31A	Randall Ranch,	100.13	54	⇑Pdiff	Pdif	04 20 11.7	-1.4
	baz=100						
T31A	Randall Ranch,	100.13	54	⇑Pdiff	Pdif	04 20 11.7	-1.4
	baz=100						
O30A	MW Ranch, Wils	100.20	51	⇑Pdiff	Pdif	04 20 10.9	-2.4
	baz=100						
O30A	MW Ranch, Wils	100.20	51	⇑Pdiff	Pdif	04 20 10.9	-2.4
	baz=100						
N30A	Hueftle Ranch,	100.23	50	⇑Pdiff	Pdif	04 20 12.4	-1.0
	baz=100						
N30A	Hueftle Ranch,	100.23	50	⇑Pdiff	Pdif	04 20 12.4	-1.0
	baz=100						
K29A	Lazy Trails An	100.29	48	⇑Pdiff	Pdif	04 20 12.4	-1.3
	baz=100						
K29A	Lazy Trails An	100.29	48	⇑Pdiff	Pdif	04 20 12.4	-1.3
	baz=100						
S31A	Mullinville	100.35	54	⇑Pdiff	Pdif	04 20 12.6	-1.4
	baz=100						
S31A	Mullinville	100.35	54	⇑Pdiff	Pdif	04 20 12.6	-1.4
	baz=100						
KVTX	Kingsville	100.43	64	PFAKE		04 20 30.0	+15
KVTX				LR	LR		
	comp=Z,7μm,22.0s						
M30A	Dale-Ortello V	100.49	50	⇓Pdiff	Pdif	04 20 13.0	-1.6
	baz=101						
M30A	Dale-Ortello V	100.49	50	⇓Pdiff	Pdif	04 20 13.0	-1.6
	baz=101						
Q31A	Ellis	100.57	52	⇓Pdiff	Pdif	04 20 13.4	-1.6
	baz=101						
Q31A	Ellis	100.57	52	⇓Pdiff	Pdif	04 20 13.4	-1.6
	baz=101						
WMOK	Wichita Mounta	100.58	57	PFAKE		04 20 30.0	+15
WMOK				LR	LR		
	comp=Z,28μm,20.0s						
P31A	Stockton	100.64	52	⇓Pdiff	Pdif	04 20 14.5	-0.8
	baz=101						
P31A	Stockton	100.64	52	⇓Pdiff	Pdif	04 20 14.5	-0.8
	baz=101						
MDND	Maddock	101.28	43	⇑Pdiff	Pdif	04 20 17.1	-0.8
	baz=102						
MDND	Maddock	101.28	43	⇑Pdiff	Pdif	04 20 17.1	-0.8
	baz=102						
WHTX	Lake Whitney	101.36	59	⇓Pdiff	Pdif	04 20 16.2	-2.3
	baz=102						
WHTX	Lake Whitney	101.36	59	⇓Pdiff	Pdif	04 20 16.2	-2.3
	baz=102						
BRSD	Miller	101.44	47	⇑Pdiff	Pdif	04 20 16.7	-2.0
	baz=102						
BRSD	Miller	101.44	47	⇑Pdiff	Pdif	04 20 16.7	-2.0
	baz=102						
BGNE	Belgrade	101.76	50	⇓Pdiff	Pdif	04 20 18.1	-2.1
	baz=102						
BGNE	Belgrade	101.76	50	⇓Pdiff	Pdif	04 20 18.1	-2.1
	baz=102						
KK31	Karatay Array	101.98	312	*i* P	Pdif	04 20 20.1	-1.0
KK31				pmax	pmax		
	comp=Z,13nm,0.9s						
KKAR	Karatay Array	101.98	312	*e*P	Pdif	04 20 20.2	-0.9
KKAR				pmax	pmax		
	comp=Z,19nm,0.9s						
KKAR	Karatay Array	101.98	312	*e*Pdif	Pdif	04 20 20.2	-0.9
	comp=Z,19nm,0.9s						
VOSK	Vostochnaya	102.31	322	P	Pdif	04 20 19.8	-2.5
VOSK				pmax	pmax		
	comp=Z,23nm,1.2s						
KBL	Kabul	102.35	303	*e*P	Pdif	04 20 22.3	-0.9
KBL				pmax	pmax		
	comp=Z,20nm,1.0s						
KBL	Kabul	102.35	303	*e*Pdif	Pdif	04 20 22.3	-0.9
	comp=Z,20nm,1.0s						
KSU1	Kansas State U	102.74	52	PFAKE		04 20 40.0	+15
KSU1				LR	LR		
	comp=Z,19μm,21.0s						
BRVK	Borovoye	102.74	322	*e*P	Pdif	04 20 23.1	-1.1
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,10μm,20.0s						
BRVK	Borovoye	102.74	322	Pdiff	Pdif	04 20 23.1	-1.1
	SNR=14						
BRVK	Borovoye	102.74	322	*e*Pdif	Pdif	04 20 23.1	-1.1
	comp=Z,16nm,0.9s						
BRVK				LR	LR		
	comp=Z,10μm,20.0s						
ECSD	EROS Data Cent	103.07	48	PFAKE		04 20 40.0	+14
ECSD				LR	LR		
	comp=Z,11μm,20.0s						
PAYG	Puerto Ayora	103.07	93	PFAKE		04 20 40.0	+13
PAYG				LR	LR		
	comp=Z,5μm,19.0s						
TUL1	Tulsa	103.13	56	⇓Pdiff	Pdif	04 20 24.9	-1.4
	baz=103						
TUL1	Tulsa	103.13	56	⇓Pdiff	Pdif	04 20 24.9	-1.4
	baz=103						
AGMN	Agassiz Nation	103.81	43	PFAKE		04 20 40.0	+11
AGMN				LR	LR		
	comp=Z,8μm,22.0s						
ULM	Lac du Bonnet	103.86	41	Pdif	Pdif	04 20 31.1	+1.8
ULM				PKKPbc	PKKPbc	04 36 19.0	-2.5
ULM				P'P'		04 44 36.3	
ULM	Lac du Bonnet	103.86	41	Pdiff	Pdif	04 20 31.1	+1.8
	comp=Z,2.8nm,0.6s,baz=282,slow=4.5,SNR=4.6						
ULM				PKKPbc	PKKPbc	04 36 19.0	-2.5
	comp=Z,1.6nm,0.6s,baz=64,slow=4.4,SNR=3.2						
ULM				PKPPKP	P'P'df	04 44 36.3	-3.3
	comp=Z,1.8nm,0.6s,baz=168,slow=4.2,SNR=3.1						
RER	Riviere de l'E	104.38	245	PFAKE		04 20 40.0	+7.6
RER				LR	LR		
	comp=Z,6μm,19.0s						
SPMN	St. Paul	105.85	46	⇑Pdiff	Pdif	04 20 37.6	-0.7
	baz=106						
SPMN	St. Paul	105.85	46	⇑Pdiff	Pdif	04 20 37.6	-0.7
	baz=106						
EFI	East Falkland	106.28	153	PFAKE		04 25 00.0	
EFI				LR	LR		
	comp=Z,3μm,21.0s			

baz=110
SFIN Scholer Farm 110.10 51 ⇓Pdiff **Pdif 04 20 55.0 -2.3**
baz=110
BRAL Brewton 110.14 61 PFAKE 04 25 10.0
BRAL LR LR
comp=Z,11μm,22.0s
LRAL Lakeview Retre 110.24 59 *e*PKPdf **PKiKP 04 25 00.1 +0.8**
LRAL LR LR
comp=Z,24μm,20.0s
IKOO Kooshah 110.61 300 *e*P **PKiKP 04 24 58.6 -1.8**
KBS Kingsbay 111.51 355 *e* Pdif 04 20 51.8 -11
KBS *e*PP **PP 04 25 41.6 -0.1**
KBS *e*SS SS 04 41 17.4 +4.5
KBS AMS AMS 05 05 58.6
comp=Z,6μm,24.0s
KBS Kingsbay 111.51 355 PFAKE 04 25 10.0
KBS LR LR
comp=Z,6μm,22.0s
SPA0 Spitsbergen Ar 111.73 354 *e* **Pdif 04 21 04.8 +1.1**
SPA0 *e*PP **PP 04 25 40.9 -2.5**
LCO Las Campanas 111.83 128 PFAKE 04 25 20.0
LCO LR LR
comp=Z,8μm,22.0s
CFAA Coronel Fontan 112.44 131 PKKPbc PKKPbc 04 35 52.5 -1.3
CFAA Coronel Fontan 112.44 131 PKKPbc PKKPbc 04 35 52.5 -1.3
comp=Z,0.5nm,0.8s,baz=45,slow=8.2,SNR=6.4
ABPO Ambohimpanom 112.63 244 PFAKE 04 25 20.0
ABPO LR LR
comp=Z,7μm,20.0s
TKL Tuckaleechee C 112.88 56 *e*PKPdf **PKiKP 04 25 04.9 +0.6**
TIGA Tifton 113.12 61 ⇓Pdif **Pdif 04 21 06.0 -4.9**
baz=113
TIGA Tifton 113.12 61 ⇓Pdiff **Pdif 04 21 06.0 -4.9**
baz=113
TRQA Tornquist 113.13 140 PFAKE 04 25 20.0
TRQA LR LR
comp=Z,6μm,21.0s
IBAF Bafgh 113.53 299 *e*P **PKiKP 04 25 05.2 -0.6**
IMEH Mehriz 114.35 299 *e*P PKPdf 04 25 08.3 +0.8
BJO Bjornoya 114.42 351 AMS AMS 04 59 35.9
comp=Z,6μm,29.8s
IANJ Anjilo 114.78 304 *e*P PKPdf 04 25 07.9 -0.3
DAG Danmarks Havn 114.79 1 ⇑*i*P **PP 04 26 04.9 -0.1**
DAG *i* 04 35 37.4
DAG *i* 04 35 47.6
DAG
comp=Z,12μm,24.0s
OTAV Otavalo 114.83 95 PFAKE 04 25 20.0 +11
OTAV LR LR
comp=Z,5μm,22.0s
KMSC Kings Mountain 114.90 57 ⇑Pdiff **Pdif 04 21 17.8 -0.9**
baz=115
KMSC Kings Mountain 114.90 57 ⇑Pdiff **Pdif 04 21 17.8 -0.9**
baz=115
BCIP Isla Barro Col 115.09 85 PFAKE 04 25 20.0 +11
BCIP LR LR
comp=Z,5μm,22.0s
ISAD Sadrabad 115.12 300 *e*P **PKPdf 04 25 10.6 +1.6**
ISHM Shahmirzad 115.26 304 *e*P **PKPdf 04 25 08.1 -1.1**
BLA Blacksburg 115.49 54 *e*PKIKP **PKPdf 04 25 11.1 +1.8**
BLA MLR MLR
comp=Z,22μm,22.0s
BLA Blacksburg 115.49 54 *e*PKPdf **PKPdf 04 25 11.1 +1.8**
BLA LR LR
comp=Z,22μm,22.0s
LVZ Lovozero 115.53 342 *c i*PKIKP **PKPdf 04 25 09.4 +1.0**
LVZ pmax pmax
comp=Z,17nm,1.2s
LVZ MLR MLR
comp=Z,19μm,23.0s
ILAS Lasjerd 115.56 304 *e*P **PKPdf 04 25 10.7 +1.0**
IPAR Pars 115.72 298 *e*P **PKPdf 04 25 08.3 -2.0**
APA Apatity 116.11 342 *i* PKIKP **PKPdf 04 25 10.4 +0.9**
APA *i* 04 26 20.0
APA *i* 04 31 50.0
APA *i* PS **PS 04 35 56.0 -0.7**
APA *i* PPS PPS 04 37 16.0
APA *i* SS SS 04 42 10.0 -3.9
APA MLR MLR
comp=Z,18μm,22.0s
LVC Limon Verde 116.17 122 PFAKE 04 25 20.0 +8.7
LVC LR LR
comp=Z,9μm,20.0s
ISFB Sefidab 116.22 303 *e*P **PKPdf 04 25 10.2 -0.6**
IVRN Varamin 116.60 303 *e*P **PKPdf 04 25 11.3 -0.2**
IKLH Kolahrood 116.83 301 *e*P **PKPdf 04 25 11.3 -1.0**
ARCES ARCESS Array B 116.99 346 PKP **PKPdf 04 25 09.7 -1.4**
ARCES PKKPbc **PKKPbc 04 35 35.6 -3.6**
ARCES ARCESS Array B 116.99 346 PKP **PKPdf 04 25 09.7 -1.4**
comp=Z,13nm,0.7s,baz=66,slow=1.5,SNR=23
ARCES PKKPbc **PKKPbc 04 35 35.6 -3.6**
comp=Z,2.7nm,0.9s,baz=204,slow=2.7,SNR=5.6
ARE0 ARCESS Array S 116.99 346 *e* **Pdif 04 21 21.7 -5.5**
ARE0 *e*PP **PP 04 26 20.4 -0.2**
ARE0 ARCESS Array S 116.99 346 *e*PKPdf **PKPdf 04 25 09.9 -1.3**
SUMG Summit 117.31 8 *e*PKIKP **PKPdf 04 25 14.4 +2.2**
SUMG Summit 117.31 8 *i* P **PP 04 26 21.0 -2.2**
SUMG *i* 04 36 10.5
SUMG
comp=Z,8μm,28.0s
SUMG Summit 117.31 8 *e*PKPdf **PKPdf 04 25 14.3 +2.2**
IPIR Pirpir 117.45 301 *e*P **PKPdf 04 25 14.5 +1.0**
CNNC Cliffs of the 117.70 56 PFAKE 04 25 30.0 +17
CNNC LR LR
comp=Z,22μm,22.0s
CBN Corbin 117.79 53 PFAKE 04 25 30.0 +16
CBN LR LR
comp=Z,40μm,21.0s
KTK1 Kautokeino 117.92 346 *e* 04 36 11.2
IRAZ Razeghan 118.03 304 *e*P **PKPdf 04 25 14.4 0.0**
SDMD Soldier's Deli 118.04 51 *e*PKPdf **PKPdf 04 25 16.5 +2.4**
BINY Binghamton 118.24 48 PFAKE 04 25 30.0 +16
BINY LR LR
comp=Z,18μm,21.0s
TRO Tromso 118.41 348 *e* **Pdif 04 21 31.6 -2.0**
TRO *e*PP **PP 04 26 28.3 -2.1**
TRO AMS AMS 05 07 23.8
comp=Z,9μm,28.7s
LONY Lake Ozonia 118.76 45 PFAKE 04 25 30.0 +15
LONY LR LR
comp=Z,14μm,22.0s
MAK Makhachkala 118.78 313 *i* P **Pdif 04 21 33.1 -2.6**
MAK *i* 04 25 17.4
MAK *e* 04 26 37.7
MAK *e*SS SS 04 42 50.7 +0.6
MAK pmax pmax
comp=Z,189nm,1.7s
MAK MLR MLR
comp=Z,10μm,23.0s
NCB Newcomb 119.15 46 *e*PKPdf **PKPdf 04 25 17.7 +1.6**
NCB LR LR
comp=Z,7μm,21.0s
SFJD Kangerlussuaq 119.47 16 ⇑*i*P **PP 04 26 37.6 -0.1**
SFJD
comp=Z,13μm,19.0s
SFJD Kangerlussuaq 119.47 16 PFAKE 04 25 30.0 +14
SFJD LR LR
comp=Z,18μm,20.0s
LPAZ La Paz 119.51 116 *e*PKPdf **PKPdf 04 25 16.7 -1.6**
LPAZ PKKPbc **PKKPbc 04 35 29.9 +0.3**
LPAZ SKKPbc SKKPbc 04 39 27.3 +14
LPAZ La Paz 119.51 116 PKP **PKPdf 04 25 16.6 -1.6**
comp=Z,5.6nm,0.8s,baz=5.3,slow=1.6,SNR=17
LPAZ PKKPbc **PKKPbc 04 35 29.9 +0.3**
comp=Z,10nm,1.0s,baz=53,slow=4.9,SNR=18
LPAZ SKKPbc SKKPbc 04 39 27.3 +14
comp=Z,5.5nm,0.9s,baz=81,slow=5.4,SNR=7.1
ISRB Sarab 119.54 307 *e*P **PKPdf 04 25 16.2 -1.1**
ROSC El Rosal 119.78 91 PKP **PKPdf 04 25 19.1 +0.5**
ROSC *e*PKPdf **PKiKP 04 25 19.4 +0.7**
ROSC PKKPbc **PKKPbc 04 35 29.1 +1.1**
ROSC El Rosal 119.78 91 PKP **PKPdf 04 25 19.1 +0.5**
comp=Z,7.7nm,0.5s,baz=73,slow=6.9,SNR=13
ROSC PKKPbc **PKKPbc 04 35 29.1 +1.1**
comp=Z,12nm,0.8s,baz=96,slow=16,SNR=13
IHRS Heris 119.95 308 *e*P **PKPdf 04 25 17.1 -1.0**
SCHQ Schefferville 120.24 32 PKP **PKPdf 04 25 19.1 +1.3**
SCHQ PKKPbc **PKKPbc 04 35 27.9 +0.8**
SCHQ Schefferville 120.24 32 PKP **PKPdf 04 25 19.1 +1.3**
comp=Z,2.4nm,0.4s,baz=242,slow=3.5,SNR=9.2
SCHQ PKKPbc **PKKPbc 04 35 27.9 +0.8**
comp=Z,9.3nm,0.8s,baz=115,slow=2.6,SNR=9.3
UMR Umm Al-Rimmam 120.37 297 *e*P **PKPdf 04 25 15.2 -3.6**
UMR AMb AMB 04 25 22.2
comp=Z,89nm,1.1s
VRHR Novokhopersk 120.40 323 *e*PKIKP **PKPdf 04 25 19.2 +1.0**
VRHR *e* 04 26 42.6
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,420nm,4.7s
VRHR pmax pmax
comp=N,80nm,2.5s
VRHR pmax pmax
comp=E,120nm,2.2s
VRHR MLR MLR
comp=Z,8μm,25.0s
VRHR MLR MLR
comp=N,730nm,23.0s
VRHR MLR MLR
comp=E,5μm,23.0s
KBD Kabd 120.41 297 *e*P **PKPdf 04 25 15.5 -3.4**
KBD AMb AMB 04 25 21.4
comp=Z,30nm,0.9s
RDF Al-Radifah 120.55 297 *e*P **PKPdf 04 25 15.7 -3.5**
RDF AMb AMB 04 25 25.6
comp=Z,86nm,1.3s
JMIC Jan Mayen 120.57 358 *e* **Pdif 04 21 45.2 +2.1**
JMIC *e*PP **PP 04 26 44.6 -0.5**
DGRG David-gareji 120.63 311 P **PKPdf 04 25 20.3 +1.3**
GTBY Guantanamo Bay 120.65 74 PFAKE 04 25 30.0 +10
GTBY LR LR
comp=Z,4μm,22.0s
LBNH Lisbon 120.70 45 *e*PKIKP **PKPdf 04 25 21.1 +2.1**
LBNH MLR MLR
comp=Z,16μm,22.0s
LBNH Lisbon 120.70 45 *e*PKPdf **PKPdf 04 25 21.1 +2.1**
LBNH LR LR
comp=Z,16μm,22.0s
MOS Moscow 120.70 329 *e*PKIKP **PKPdf 04 25 16.0 -2.6**
MOS *e* 04 32 09.6
MOS *e*SS SS 04 43 11.0 -2.8
MOS pmax pmax
comp=Z,56nm,0.7s
NAY Al-Naaiem 120.80 297 *e*P **PKPdf 04 25 16.4 -3.3**
NAY AMb AMB 04 25 23.3
comp=Z,31nm,1.7s
TBLG Delisi 121.04 312 *e*PKIKP **PKPdf 04 25 21.9 +2.1**
TBLG Delisi 121.04 312 P **PKPdf 04 25 21.9 +2.1**
ISHB Shabestar 121.06 308 *e*P **PKPdf 04 25 19.4 -0.8**
GNI Garni 121.37 310 PFAKE 04 25 30.0 +9.3
GNI LR LR
comp=Z,5μm,22.0s
ZEI Tsey 121.40 313 *i* PKIKP **PKPdf 04 25 20.4 -0.3**
ZEI pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 121.52 329 ⇑*i*PKIKP **PKPdf 04 25 21.2 +1.0**
OBN *e* 04 25 37.1
OBN *e* 04 26 51.9
OBN *e* 04 32 31.5
OBN *e*SS SS 04 43 26.9 +2.6
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,10μm,21.0s
BRYW Bryant College 121.54 48 *e*PKPdf **PKPdf 04 25 22.1 +1.3**
IBDR Badra 121.57 302 *i* PKP **PKPdf 04 25 17.0 -4.0**
IBDR *i* PP **PP 04 26 57.0 +3.5**
IBDR *i* SKS **SKSac 04 32 13.0 -4.3**
IBDR *i* SKKS **SKKSac 04 33 52.0 +2.1**
ONI Oni 121.77 313 P **PKPdf 04 25 22.8 +1.6**
VSR Storozhevoye 121.79 324 *e*PKIKP **PKPdf 04 25 22.1 +1.2**
VSR *e* 04 26 53.1
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=Z,580nm,5.8s
VSR pmax pmax
comp=N,290nm,8.4s
VSR pmax pmax
comp=E,230nm,4.8s
VSR MLR MLR
comp=E,3μm,23.0s
VSR MLR MLR
comp=Z,9μm,23.0s
VSR MLR MLR
comp=N,2μm,19.0s
VORD Divnogorie 121.81 324 *e*PKIKP **PKPdf 04 25 22.5 +1.6**
VORD *e* 04 26 52.1
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=Z,230nm,3.7s
VORD pmax pmax
comp=N,160nm,4.3s
VORD pmax pmax
comp=E,230nm,7.7s
VORD MLR MLR
comp=Z,10μm,24.0s
VORD MLR MLR
comp=N,6μm,25.0s
VORD MLR MLR
comp=E,8μm,25.0s
KBZ Khabaz 121.87 315 PKIKP **PKPdf 04 25 22.1 +0.9**
KBZ Khabaz 121.87 315 PKP **PKPdf 04 25 22.1 +0.9**
KBZ Khabaz 121.87 315 PKP **PKPdf 04 25 22.1 +0.9**
comp=E,6.7nm,0.8s,baz=98,slow=3.2,SNR=8.3
KAF Kangasniemi 121.93 339 *e*PKIKP **PKPdf 04 25 18.4 -2.4**
KAF pmax pmax
comp=Z,5.0nm,0.4s
KAF Kangasniemi 121.93 339 *e*p **PKPdf 04 25 18.4 -2.4**
comp=Z,4.7nm,0.4s
KIV Kislovodsk 121.95 315 *e*P **Pdif 04 21 49.1 -0.9**
KIV *i* 04 25 21.9
KIV *e* 04 26 55.1
KIV *e*PS **PS 04 36 49.0 -1.5**
KIV *e*SS SS 04 43 30.8 -0.3
KIV pmax pmax
comp=Z,15nm,1.0s
AKH Akhalkalaki 122.02 312 P **PKPdf 04 25 23.3 +1.4**
FIA1 FINESS Array S 122.46 339 *e*PKPdf **PKPdf 04 25 20.5 -1.3**
FINES FINESS Array B 122.46 339 PKP **PKPdf 04 25 20.6 -1.2**
FINES PKKPbc **PKKPab 04 35 15.6 -0.8**
FINES FINESS Array B 122.46 339 PKP **PKPdf 04 25 20.6 -1.2**
comp=Z,20nm,0.9s,baz=63,slow=5.1,SNR=18
FINES PKKPbc **PKKPab 04 35 15.6 -0.8**
comp=Z,2.0nm,0.9s,baz=178,slow=6.4,SNR=4.5
BHD Baghdad 122.84 302 *i* PKP **PKPdf 04 25 22.0 -1.4**
BHD *i* PP **PP 04 27 00.0 -2.1**
BHD *i* SKS **SKSac 04 32 16.0 -5.5**
BHD *i* SKKS **SKKSac 04 33 57.0 -1.1**
CPUP Villa Florida 123.30 132 PKP **PKPdf 04 25 23.8 -0.8**
CPUP *e*PKPdf **PKiKP 04 25 25.2 +0.4**
CPUP PKKPbc **PKKPbc 04 35 13.9 -0.8**
CPUP Villa Florida 123.30 132 PKP **PKPdf 04 25 23.8 -0.8**
comp=Z,6.4nm,0.8s,baz=266,slow=2.2,SNR=13
CPUP PKKPbc **PKKPbc 04 35 13.9 -0.8**
comp=Z,9.2nm,1.1s,baz=54,slow=6.0,SNR=6.5
SDV Santo Domingo 124.05 87 *e*PKPdf **PKPdf 04 25 28.1 +1.5**
SDV LR LR
comp=Z,572nm,20.0s
SOC Sochi 124.12 315 *e*P Pdif 04 22 11.8 +12
SOC *i* 04 25 22.4
SOC *e* 04 27 08.7
SOC *e*PPP PPP 04 29 54.0
SOC *e*PS **PS 04 37 06.1 -3.3**
SOC MLR MLR
comp=Z,7μm,22.0s
VSU Vasula 124.17 336 *i* PKIKP **PKPdf 04 25 24.1 -1.1**
VSU MLR MLR
comp=Z,30μm,22.0s
SDDR Presa de Saban 124.23 75 PFAKE 04 25 40.0 +13
SDDR LR LR
comp=Z,11μm,21.0s
GRTK Grand Turk 124.40 72 PFAKE 04 25 40.0 +13
GRTK LR LR
comp=Z,5μm,20.0s
BOSA Boshof 125.03 223 *e*PKPdf **PKPdf 04 25 27.7 -0.3**
BOSA Boshof 125.03 223 PKP **PKPdf 04 25 27.7 -0.3**
comp=Z,70nm,0.9s,baz=121,slow=1.9,SNR=40
SUR Sutherland 125.17 216 PKP **PKPdf 04 25 28.5 +0.2**
SUR *e*PKPdf **PKiKP 04 25 28.8 +0.1**
SUR LR LR
comp=Z,7μm,21.0s
SUR Sutherland 125.17 216 PKP **PKPdf 04 25 28.5 +0.2**
comp=Z,80nm,1.0s,baz=159,slow=0.8,SNR=8.7
ANN Anapa 125.27 317 *i* PKIKP PKPdf 04 25 19.8 -7.9
ANN *e* 04 25 30.2
ANN pmax pmax
comp=Z,69nm,1.1s
TBLU Trondheim 125.67 347 *e*PP PP 04 27 20.8 +1.1
SIV San Ignacio 125.76 119 PKKPbc PKKPbc 04 35 04.5 -0.4
comp=Z,1.5nm,0.9s,baz=91,slow=11,SNR=3.6
MICGM Minsk 126.11 331 *e*PKP **PKPdf 04 25 27.0 -2.1**
MNK Minsk 126.13 331 *e*PKIKP **PKPdf 04 25 27.0 -2.1**
MNK *e* 04 27 20.0
MNK *e*PPP PPP 04 30 07.0
MNK MLR MLR
comp=N,12μm,24.0s
MNK MLR MLR
comp=E,18μm,22.0s
MNK MLR MLR
comp=Z,32μm,23.0s
NACGM Naroch 126.38 332 *e*PKP **PKPdf 04 25 27.0 -2.6**
MALT Malatya 126.57 309 PFAKE 04 25 40.0 +9.4
MALT LR LR
comp=Z,4μm,21.0s
BORG Borgarnes 126.67 4 PFAKE 04 25 40.0 +10
BORG LR LR
comp=Z,6μm,21.0s
SAML Samuel 126.80 110 *e*PKPdf **PKPdf 04 25 29.4 -2.2**
SAML LR LR
comp=Z,7μm,21.0s
LBTB Lobatse 127.10 226 *e*PKPdf **PKPdf 04 25 31.5 -0.5**
LBTB PKP **PKPdf 04 25 31.9 -0.2**
LBTB Lobatse 127.10 226 PKP **PKPdf 04 25 31.9 -0.2**
comp=Z,80nm,0.9s,baz=139,slow=4.1,SNR=7.3
NB2 NORSAR Subarra 127.36 345 PKPdf **PKPdf 04 25 29.4 -1.9**
comp=Z,11nm,1.0s,baz=31,slow=1.9
NB2 NORSAR Subarra 127.36 345 PKPdf **PKPdf 04 25 29.4 -1.9**
baz=31,slow=1.9
NOA NORSAR Array B 127.36 345 PKP **PKPdf 04 25 29.9 -1.4**
NOA NORSAR Array B 127.36 345 PKP **PKPdf 04 25 29.9 -1.4**
comp=Z,9.6nm,0.8s,baz=35,slow=2.0,SNR=34
SIM Simferopol' 127.39 318 *i* PKIKP **PKPdf 04 25 34.7 +2.9**
SIM *i* 04 27 35.0
SIM *e*PPP PPP 04 30 11.0
SIM *e*PS SKKPdf 04 39 09.0 -9.2
SIM *e*SS **SS 04 44 34.0 -5.1**
SIM pmax pmax
comp=Z,610nm,9.6s
NC602 NORSAR Array S 127.53 345 *e* **Pdif 04 22 17.2 +2.9**
NC602 *e*PP **PP 04 27 32.0 0.0**
AKASG Malin Array Be 127.58 327 PKIKP **PKPdf 04 25 31.6 -0.4**
AKASG Malin Array Be 127.58 327 PKP **PKPdf 04 25 31.6 -0.4**
AKASG Malin Array Be 127.58 327 PKP **PKPdf 04 25 31.6 -0.4**
comp=Z,13nm,0.9s,baz=39,slow=4.2,SNR=8.0
NAO01 NORSAR Array S 127.61 345 *e*PKPdf **PKPdf 04 25 33.7 +1.9**
KMBO Kilima Mbogo 127.75 259 PKPpre PKPpre 04 25 27.4
KMBO PKP **PKPdf 04 25 33.6 -0.1**
KMBO *e*PKPdf **PKiKP 04 25 33.8 -0.5**
KMBO LR LR
comp=Z,5μm,20.0s
KMBO Kilima Mbogo 127.75 259 PKhKP PKPpre 04 25 27.4
comp=Z,4.3nm,0.8s,baz=236,slow=23,SNR=6.6
KMBO PKP **PKPdf 04 25 33.6 -0.1**
comp=Z,24nm,0.9s,baz=43,slow=3.6,SNR=20
HYA Hoyanger 128.41 348 *e*P **PKPdf 04 25 34.6 +1.4**
HYA *e*PP **PP 04 27 37.1 -0.6**
SUW Suwalki 128.57 333 *e*PKIKP **PKPdf 04 25 34.3 +0.5**
SUW Suwalki 128.57 333 *e*PKPdf **PKPdf 04 25 34.2 +0.5**
SUW Suwalki 128.57 333 *e*PKPdf **PKPdf 04 25 32.5 -1.3**
SUW *e*PKiKP **PKiKP 04 25 35.7 +1.3**
SUW *e*SKSac **SKSac 04 32 35.4 -2.9**
SUW LMZ LR 05 20 36.9
SUE Sulen 128.79 349 *e* **Pdif 04 22 26.8 +7.0**
SUE *e*PP **PP 04 27 42.4 +2.3**
KONO Kongsberg 128.97 345 *e* **Pdif 04 22 26.5 +5.8**
KONO *e*PP **PP 04 27 40.8 -0.6**
KONO AMS AMS 05 17 37.2
comp=Z,11μm,24.8s
KONO Kongsberg 128.97 345 PFAKE 04 25 50.0 +16
KONO LR LR
comp=Z,8μm,21.0s
BBSR BB Station 128.99 58 PFAKE 04 25 50.0 +15
BBSR LR LR
comp=Z,9μm,21.0s
BER Bergen 129.29 348 *e* **Pdif 04 22 21.8 -0.3**
BER *e*PP **PP 04 27 42.8 -0.7**
BER AMS AMS 05 22 24.2
comp=Z,6μm,21.3s
SOFL Sornfelli, Far 129.38 356 AMS AMS 05 17 38.5
comp=Z,8μm,21.5s
BR131 Keskin Array S 129.69 312 *e*PKPdf **PKPdf 04 25 37.7 +1.1**
BRTR Keskin Array B 129.69 312 PKPpre PKPpre 04 25 28.9
BRTR PKP **PKPdf 04 25 35.2 -1.3**
BRTR PP **PP 04 27 45.5 -1.9**
BRTR SKPbc **SKiKP 04 29 04.6 -5.7**
BRTR Keskin Array B 129.69 312 PKhKP PKPpre 04 25 28.9
comp=Z,1.1nm,0.8s,baz=141,slow=4.1,SNR=3.6
BRTR PKP **PKPdf 04 25 35.2 -1.3**
comp=Z,9.3nm,1.1s,baz=138,slow=3.2,SNR=12
BRTR PP **PP 04 27 45.5 -1.9**
comp=Z,7.1nm,1.0s,baz=97,slow=6.3,SNR=4.6
BRTR SKPbc **SKiKP 04 29 04.6 -5.7**
comp=Z,6.9nm,0.8s,baz=48,slow=1.8,SNR=5.7
KIS Kishinev 129.75 323 *e*PKP **PKPdf 04 25 36.0 -0.2**
KIS Kishinev 129.75 323 *e*PP PP 04 27 48.0 +0.8
KIS Kishinev 129.75 323 *i* PKS **SKPdf 04 29 02.0 -6.5**
KIS Kishinev 129.75 323 *e*PPS PPS 04 39 30.0
KIS LRM MLR 05 20 40.0
comp=Z,11μm,24.0s
KIS Kishinev 129.75 323 *e*PKIKP **PKPdf 04 25 36.0 -0.2**
KIS *e* 04 27 48.0
KIS *e* 04 30 38.0
KIS *e* KIS 04 32 40.0
KIS *e*PS **PS 04 37 50.0 -8.4**
KIS *e*PPS PPS 04 39 30.0
KIS MLR MLR
comp=N,7μm,22.0s
KIS MLR MLR
comp=Z,4μm,22.0s
KIS MLR MLR
comp=E,3μm,20.0s
KIS MLR MLR
comp=Z,11μm,24.0s
ANTO Ankara 130.25 313 *e*PKIKP **PKPdf 04 25 39.5 +2.0**
ANTO MLR MLR
comp=Z,4μm,22.0s
ANTO Ankara 130.25 313 P **PKPdf 04 25 41.4 +3.8**
SNR=7.6
ANTO Ankara 130.25 313 ⇓*i*P **PKPdf 04 25 35.5 -2.0**
ANTO Ankara 130.25 313 *e*PKPdf **PKPdf 04 25 39.5 +2.0**
ANTO LR LR
comp=Z,4μm,22.0s
MMAI Mount Meron Ar 130.28 304 SKPbc **SKPbc 04 29 01.4 +3.5**
comp=Z,17nm,0.8s,baz=54,slow=6.3,SNR=5.0
HOMB Homborsund 130.45 345 *e*P **PKPdf 04 25 37.3 +0.1**
HOMB *e*PP **PP 04 27 50.2 -0.8**
LSZ Lusaka 130.61 238 PKPdf **PKPdf 04 25 39.6 +0.7**
SNR=18
LSZ Lusaka 130.61 238 *e*PKPdf **PKPdf 04 25 39.0 0.0**
LSZ SKPbc **SKPab 04 29 03.6 +3.9**
LSZ LR LR
comp=Z,10μm,19.0s
LSZ Lusaka 130.61 238 PKP **PKPdf 04 25 38.9 0.0**
baz=47,slow=9.0
LSZ SKPbc **SKPab 04 29 03.6 +3.9**
comp=Z,13nm,1.1s,baz=61,slow=14,SNR=5.4
TLCR 130.65 321 ⇑PKIKP **PKPdf 04 25 39.0 +1.0**
TLCR 130.65 321 ⇑*i*P **PKPdf 04 25 39.0 +1.0**
LRW Lerwick 130.66 352 AMS AMS 05 18 57.2
comp=Z,6μm,24.2s
LVV L'vov 130.82 328 *e*PKIKP **PKPdf 04 25 38.2 0.0**
LVV *e*SS SS 04 45 15.2 -5.5
LVV MLR MLR
comp=Z,8μm,23.0s
LVV MLR MLR
comp=N,5μm,22.0s
LVV MLR MLR
comp=E,4μm,22.0s

CFR	Carcaliu	131.07 321	⇓PKIKP	PKPdf	04 25 39.7	+0.9
CFR	Carcaliu	131.07 321	⇓*i*P	PKPdf	04 25 39.7	+0.9
BEL	Belsk	131.10 332	*e*PKPdf	PKPdf	04 25 39.9	+1.3
BEL			*e*PKiKP	PKiKP	04 25 42.5	+2.9
BEL			*e*SKSac	SKSac	04 32 42.6	-3.0
BEL			LMZ	LR	05 18 58.8	
BSD	Bornholm Skovb	131.10 339	*e*PKiKP	PKPdf	04 25 37.9	-0.6
BSD			*i*		04 27 57.6	
BSD			MLR	MLR		
comp=Z,1μm,21.0s						
BSD	Bornholm Skovb	131.10 339	*i* P	PKPdf	04 25 37.9	-0.6
BSD			*i* PP	PP	04 27 57.6	+2.2
BSD						
comp=Z,11μm,21.0s						
TIRR	Tirgusor	131.25 320	⇑PKIKP	PKPdf	04 25 43.3	+4.1
TIRR	Tirgusor	131.25 320	⇑*i*P	PKPdf	04 25 43.3	+4.1
TESR	Tescani	131.28 323	⇓*i*P	PKPdf	04 25 42.8	+3.6
EIL	Elat	131.38 299	SKPbc	SKPab	04 29 05.7	+3.3
EIL	Elat	131.38 299	SKPbc	SKPab	04 29 05.7	+3.3
comp=Z,19nm,0.9s,baz=75,slow=3.5,SNR=6.6						
CSS	Prodhromos	131.44 307	*e*PKPdf	PKPdf	04 25 41.3	+1.5
CSS			*e*SKPbc	SKPab	04 29 02.9	+0.4
CSS			LR	LR		
comp=Z,5μm,21.0s						
BURAR	Bucovina Array	131.49 325	⇑PKIKP	PKPdf	04 25 40.6	+0.9
BURAR	Bucovina Array	131.49 325	⇑*i*P	PKPdf	04 25 40.6	+0.9
COP	Copenhagen	131.50 340	*e*PKIKP	PKPdf	04 25 39.5	+0.3
COP			*i*		04 28 00.9	
COP			MLR	MLR		
comp=Z,4μm,22.0s						
COP	Copenhagen	131.50 340	*i* P	PKPdf	04 25 39.5	+0.3
COP			*i* PP	PP	04 28 00.9	+3.0
COP						
comp=Z,4μm,21.0s						
TRIS	Tristan da Cun	131.57 182	PFAKE		04 25 50.0	+10
TRIS			LR	LR		
comp=Z,9μm,19.0s						
VRI	Vrincioaia	131.57 323	⇑PKIKP	PKPdf	04 25 41.0	+1.2
VRI	Vrincioaia	131.57 323	⇑*i*P	PKPdf	04 25 41.0	+1.2
KWP	Kalwaria Pacla	131.61 329	*e*PKIKP	PKPdf	04 25 41.6	+1.9
KWP			MLR	MLR		
comp=Z,9μm,21.0s						
KWP	Kalwaria Pacla	131.61 329	⇓*i*P	PKPdf	04 25 42.8	+3.1
KWP	Kalwaria Pacla	131.61 329	*e*PKPdf	PKPdf	04 25 41.6	+1.9
KWP			LR	LR		
comp=Z,9μm,21.0s						
KWP	Kalwaria Pacla	131.61 329	*e*PKPdf	PKPdf	04 25 38.7	-1.0
KWP			*e*PKiKP	PKPdf	04 25 41.6	+1.9
KWP			*e*SKSac	SKSac	04 32 44.3	-2.9
KWP			LMZ	LR	05 23 01.7	
GKP	Gorka Klasztor	131.62 336	*e*PKiKP	PKiKP	04 25 43.1	+2.5
GKP			LMZ	LR	05 17 02.3	
MUD	Monsted U'grnd	131.85 343	*e*PKIKP	PKPdf	04 25 38.6	-1.3
MUD			*i*		04 28 03.7	
MUD			MLR	MLR		
comp=Z,2μm,24.0s						
MUD	Monsted U'grnd	131.85 343	*i* P	PKPdf	04 25 38.6	-1.3
MUD			*i* PP	PP	04 28 03.7	+3.6
MUD						
comp=Z,12μm,24.0s						
MLR	Muntele Rosu	132.24 323	⇑*i*P	PKPdf	04 25 44.3	+3.1
KOLS	Kolonicke sedl	132.27 328	*e*PKIKP	PKPdf	04 25 42.5	+1.5
KOLS			*e*		04 28 04.8	
KOLS			*e*SS	SS	04 45 45.3	+6.8
KOLS			MLR	MLR		
comp=Z,5μm,23.9s						
KOLS	Kolonicke sedl	132.27 328	*e*PKP	PKPdf	04 25 42.5	+1.5
KOLS			*e*PP	PP	04 28 04.8	+1.5
KOLS			*e*SKPDF		04 29 13.4	
KOLS			*e*SS	SS	04 45 45.3	+6.8
UZH	Uzhgorod	132.45 328	*e*PKIKP	PKPdf	04 25 42.2	+0.9
UZH			*e*		04 28 06.0	
UZH			*e*PPP	PPP	04 31 05.0	
UZH			*e*PS	PS	04 38 21.0	-0.6
UZH			MLR	MLR		
comp=Z,2μm,22.0s						
STHS	Stebnicka Huta	132.49 329	*e*PKIKP	PKPdf	04 25 42.5	+1.1
STHS			*e*		04 28 06.6	
STHS	Stebnicka Huta	132.49 329	*e*PKP	PKPdf	04 25 42.5	+1.1
STHS			*e*PP	PP	04 28 06.6	+1.9
STHS			*e*SKPDF		04 29 09.9	
TRPA	Tarpa	132.63 327	⇑*i*P	PKPdf	04 25 40.1	-1.5
TRPA	Tarpa	132.63 327	⇓*e*PKPdf	PKPdf	04 25 40.9	-0.7
ISP	Isparta	132.64 311	*e*PKIKP	PKPdf	04 25 41.6	-0.6
ISP			MLR	MLR		
comp=Z,5μm,22.0s						
ISP	Isparta	132.64 311	*e*PKPdf	PKPdf	04 25 41.6	-0.6
ISP			LR	LR		
comp=Z,5μm,22.0s						
OJC	Ojcow	132.66 331	*e*PKIKP	PKPdf	04 25 40.8	-0.9
OJC			*e*		04 25 57.0	
OJC			*e*		04 28 04.2	
OJC			*e*SP	SP	04 38 14.6	-2.5
OJC			*e*SS	SS	04 45 41.6	-1.3
CRVS	Cervenica-Dubn	132.71 329	*e*PKIKP	PKPdf	04 25 42.9	+1.1
CRVS			*e*		04 28 09.5	
CRVS			*e*SS	SS	04 45 41.0	-2.7
CRVS	Cervenica-Dubn	132.71 329	*e*PKP	PKPdf	04 25 42.9	+1.1
CRVS			*e*PP	PP	04 28 09.5	+3.4
CRVS			*e*SKPDF		04 29 10.8	
CRVS			*e*SS	SS	04 45 41.0	-2.7
CRVS			*e*pP		05 05 20.9	
VOIR		132.80 323	⇓PKIKP	PKPdf	04 25 48.9	+6.7
VOIR		132.80 323	⇓*i*P	PKPdf	04 25 48.9	+6.7
NIE	Niedzica	132.94 330	*i* PKIKP	PKPdf	04 25 44.1	+1.8
NIE			*e*		04 28 08.5	
NIE			*e*SS	SS	04 45 47.0	+0.5
ARR	Arges	133.08 323	⇑*i*P	PKPdf	04 25 46.0	+3.3
GRGR	Grenville	133.19 84	PFAKE		04 26 00.0	+16
GRGR			LR	LR		
comp=Z,5μm,22.0s						
MVH1	Achvaich	133.20 353	*e*P	PKPdf	04 25 41.3	-1.1
ANWB	Willy Bob	133.25 77	PFAKE		04 26 00.0	+16
ANWB			LR	LR		
comp=Z,6μm,21.0s						
SZH	Strazhica	133.40 320	*i* P	PKPdf	04 25 41.6	-1.7
MCD	Coleburn Disti	133.41 352	*e*P	PKPdf	04 25 42.2	-0.7
KECS	Kecovo	133.47 329	*e*PKIKP	PKPdf	04 25 46.1	+2.8
KECS	Kecovo	133.47 329	*e*PKP	PKPdf	04 25 46.1	+2.8
KECS			*e*SKPDF		04 29 14.3	
KECS			*e*pP		05 05 23.1	
BSEG	Bad Segeberg	133.63 341	*e*PKPbc	PKPpre	04 25 24.7	
BSEG	Bad Segeberg	133.63 341	*e*PKHKP	PKPpre	04 25 24.7	
MME1	Meikle Cairn	133.63 352	*e*P	PKPdf	04 25 41.7	-1.6
OKC	Ostrava-Krasne	133.69 332	*e*PKIKP	PKPdf	04 25 44.1	+0.5
OKC			*e*		04 40 06.5	
OKC			MLR	MLR		
comp=Z,15μm,26.0s						
OKC	Ostrava-Krasne	133.69 332	*e*PKPdf	PKPdf	04 25 44.1	+0.5
OKC			*e*PP	PP	04 28 07.3	-5.0
OKC			*e*SKP		04 29 14.0	
OKC			*e*x	x	04 40 06.5	
OKC			AMS	AMS	05 20 10.0	
comp=Z,15μm,26.0s						
MDO	Dochfour	133.69 353	*e*P	PKPdf	04 25 42.3	-1.1
KAC	Achnashellach	133.74 354	*e*P	PKPdf	04 25 42.6	-0.9
KSP	Ksiaz	133.80 334	*e*PKIKP	PKPdf	04 25 43.0	-0.8
KSP			*e*		04 25 59.4	
KSP			*e*		04 28 09.1	
KSP			MLR	MLR		
comp=Z,30μm,23.1s						
KSP	Ksiaz	133.80 334	*e*PKPdf	PKPdf	04 25 44.1	+0.3
KSP			*e*PKiKP	PKiKP	04 25 45.9	+0.8
KSP			*e*SKSac	SKSac	04 32 48.8	-4.1
KSP			LMZ	LR	05 23 34.6	
PVL	Pavlikeni	133.80 320	*i* P	PKPdf	04 25 43.7	-0.3
FDF	Fort de France	133.82 81	PFAKE		04 26 00.0	+15
FDF			LR	LR		
comp=Z,7μm,21.0s						
KPL	Plockton	133.94 354	*e*P	PKPdf	04 25 41.7	-2.1
KPL			AMS	AMS	05 22 33.1	
comp=Z,6μm,23.0s						
DRUM	Mains of Drumt	133.96 351	*e*P	PKPdf	04 25 44.1	+0.2
DRUM			AMS	AMS	05 26 01.1	
comp=Z,4μm,21.2s						
MORC	Moravsky Berou	134.01 332	*e*PKPdf	PKPdf	04 25 44.1	-0.2
MORC	Moravsky Berou	134.01 332	*e*PKPdf	PKPdf	04 25 44.1	-0.2
PSZ	Piszkesteto	134.14 329	*e*PKIKP	PKPdf	04 25 45.2	+0.6
PSZ			MLR	MLR		
comp=Z,8μm,22.0s						
PSZ	Piszkesteto	134.14 329	⇑*i*P	PKPdf	04 25 47.2	+2.6
PSZ	Piszkesteto	134.14 329	*e*PKPdf	PKPdf	04 25 45.2	+0.6
PSZ			LR	LR		
comp=Z,8μm,22.0s						
PSZ	Piszkesteto	134.14 329	⇓*e*PKPdf	PKPdf	04 25 44.5	-0.1
DPC	Dobruska-Polom	134.15 333	*e*PKIKP	PKPdf	04 25 44.6	+0.1
DPC			*e*		04 28 11.9	
DPC			*e*		04 40 09.0	
DPC	Dobruska-Polom	134.15 333	*e*PKPdf	PKPdf	04 25 44.6	+0.1
DPC			*e*PP	PP	04 28 11.9	-3.3
DPC			*e*SKP		04 29 15.8	
DPC			*e*x	x	04 40 09.0	
DPC			AMS	AMS	05 24 10.0	
MBAR	Mbarara	134.16 258	PKP	PKPdf	04 25 45.6	-0.2
MBAR			LR	LR		
comp=Z,833nm,21.0s						
MBAR	Mbarara	134.16 258	PKP	PKPdf	04 25 45.6	-0.2
comp=Z,23nm,0.8s,baz=112,slow=6.8,SNR=12						
UPC	Upice	134.17 334	*e*PKIKP	PKPdf	04 25 45.6	+1.1
UPC			*e*		04 25 51.9	
UPC	Upice	134.17 334	*e*PKPdf	PKPdf	04 25 45.6	+1.1
UPC			*e*x	x	04 25 51.9	
UPC			*e*SKP		04 29 15.3	
VYHS	Vyhne	134.29 330	*e*PKIKP	PKPdf	04 25 46.5	+1.7
VYHS			*e*		04 28 17.7	
VYHS			*e*SS	SS	04 46 05.9	+3.2
VYHS	Vyhne	134.29 330	*e*PKP	PKPdf	04 25 46.5	+1.7
VYHS			*e*PP	PP	04 28 17.7	+1.6
VYHS			*e*SS	SS	04 46 05.9	+3.2
VYHS			*e*pP		05 05 29.0	
KDZ	Kurdzhali	134.54 318	*i* P	PKPdf	04 25 42.9	-2.6
BZS	Buzias	134.67 325	⇓PKIKP	PKPdf	04 25 48.0	+2.4
BZS	Buzias	134.67 325	⇓*i*P	PKPdf	04 25 48.0	+2.4
RDO	Rodhopi	134.71 318	*e*P	PKPdf	04 25 54.4	+8.6
MPEP	Malo Peshtene	134.72 321	*i* P	PKPdf	04 25 45.0	-0.8
BRG	Berggiesshubel	134.76 335	PDIFF	Pdif	04 22 47.0	+0.3
BRG	Berggiesshubel	134.76 335	*i* PKP	PKPpre	04 25 31.3	
comp=Z,1.9nm,0.7s						
BRG			*i*		04 25 44.7	
comp=Z,19nm,1.1s						
BRG			PP	PP	04 28 11.0	-7.9
BRG			*i*		04 29 16.5	
comp=Z,37nm,1.3s						
BRG			SS	SS	04 46 16.0	+7.9
BRG						
comp=N,11μm,21.7s						
BRG						
comp=E,4μm,22.6s						
BRG						
comp=Z,11μm,22.0s						
BRG	Berggiesshubel	134.76 335	*e*PKPbc	PKPpre	04 25 25.4	
BRG	Berggiesshubel	134.76 335	*i* PKHKP	PKPpre	04 25 31.3	
BRG			*i*		04 25 44.7	
BRG			pmax	pmax		
comp=Z,2.0nm,0.7s						
BRG			pmax	pmax		
comp=Z,19nm,1.1s						
BRG			MLR	MLR		
comp=N,11μm,21.7s						
BRG			MLR	MLR		
comp=E,4μm,22.6s						
BRG			MLR	MLR		
comp=Z,11μm,22.0s						
PVCC	Panska Ves	134.77 335	*e*PKIKP	PKPdf	04 25 46.8	+1.2
PVCC			*e*		04 25 53.3	
PVCC			*e*		04 28 15.4	
PVCC			*e*		04 40 17.9	
PVCC			MLR	MLR		
comp=Z,16μm,26.7s						
PVCC	Panska Ves	134.77 335	*e*PKPdf	PKPdf	04 25 46.8	+1.2
PVCC			*e*x	x	04 25 53.3	
PVCC			*e*PP	PP	04 28 15.4	-3.6
PVCC			*e*SKP		04 29 16.4	
PVCC			*e*x	x	04 40 17.9	
PVCC			AMS	AMS	05 18 40.0	
comp=Z,16μm,26.7s						
CLL	Collm	134.80 337	*e*PKPbc	PKPpre	04 25 26.2	
CLL	Collm	134.80 337	⇓*e*PKHKP	PKPpre	04 25 36.0	
CLL			*i*		04 25 45.9	
CLL			*i*		04 25 52.7	
CLL			MLR	MLR		
comp=Z,10μm,19.8s						
CLL	Collm	134.80 337	*e*Pdif	Pdif	04 22 47.0	+0.1
CLL			*e*PKPpre	PKPpre	04 25 36.0	
comp=Z,7.0nm,1.0s						
CLL			⇓*i*PKPdf	PKPdf	04 25 45.9	+0.3
CLL			⇑*i*PKiKP	PKiKP	04 25 47.4	+0.3
comp=Z,17nm,1.0s						
CLL			*i*		04 25 52.7	
CLL			*i* sPKiKP	sPKiKP	04 26 04.7	+0.4
CLL			*e*PP	PP	04 28 19.0	-0.1
CLL			*e*PPIp		04 28 20.0	
comp=Z,3μm,25.4s						
CLL			*i* pPP		04 28 27.5	
comp=Z,23nm,1.3s						
CLL			*i* PKSdf	PKSdf	04 29 21.7	-0.1
CLL			*i* pSKPbc		04 29 24.7	
CLL			*e*PPP	PPP	04 31 06.0	
CLL			*e*		04 37 49.0	
CLL			*e*PS	PS	04 38 39.0	-2.4
CLL			*e*		04 39 57.0	
CLL			*e*PPS	PPS	04 40 26.0	
CLL			*e*PPPrev		04 41 42.0	
CLL			*e*		04 45 40.0	
CLL			*e*SS	SS	04 46 24.0	+16
CLL			*e*		04 47 42.0	
CLL			*e*SSS	SSS	04 51 18.0	
CLL			*e*		04 52 06.0	
CLL			*e*SSSS		04 54 54.0	
CLL			LmV		05 29 00.0	
comp=Z,10μm,19.8s						
BUD	Budapest	134.87 329	⇓*e*PKPdf	PKPdf	04 25 48.6	+2.7
PGB	Panagyurishte	134.88 320	*i* P	PKPdf	04 25 43.9	-2.3
NRDL	Niedersach Rie	134.90 340	*e*PKPbc	PKPpre	04 25 28.4	
EAB	Aberfoyle	134.91 353	*e*P	PKPdf	04 25 44.7	-1.0
ESY	Stoneypath	134.94 351	*e*P	PKPdf	04 25 45.2	-0.6
SMOL	Smolenice	134.95 331	*e*PKIKP	PKPdf	04 25 46.4	+0.4
SMOL	Smolenice	134.95 331	*e*PKP	PKPdf	04 25 46.4	+0.4
EDI	Edinburgh	135.02 352	AMS	AMS	05 24 09.2	
comp=Z,5μm,22.1s						
PRA	Prague	135.17 334	PKPdf	PKPdf	04 25 48.0	+1.6
PRA			PP	PP	04 28 19.0	-2.5
PRA			AMS	AMS	05 25 00.0	
PRU	Pruhonice	135.19 334	*e*PKIKP	PKPdf	04 25 47.4	+1.0
PRU			*e*		04 28 18.8	
PRU			*e*		04 40 19.0	
PRU			MLR	MLR		
comp=Z,14μm,23.5s						
PRU	Pruhonice	135.19 334	*e*PKPdf	PKPdf	04 25 47.4	+1.0
PRU			*e*PP	PP	04 28 18.8	-2.9
PRU			*e*SKP		04 29 18.5	
PRU			*e*SKKP		04 38 14.7	
PRU			*e*x	x	04 40 19.0	
PRU			AMS	AMS	05 24 00.0	
comp=Z,14μm,23.5s						
TREC	Trest	135.29 333	*e*PKIKP	PKPdf	04 25 46.3	-0.4
TREC			*e*		04 25 54.1	
TREC			*e*		04 28 18.9	
TREC			*e*		04 40 15.8	
TREC			MLR	MLR		
comp=Z,19μm,22.2s						
TREC	Trest	135.29 333	*e*PKPdf	PKPdf	04 25 46.3	-0.4
TREC			*e*x	x	04 25 54.1	
TREC			*e*PP	PP	04 28 18.9	-3.5
TREC			*e*SKP		04 29 18.0	
TREC			*e*x	x	04 40 15.8	
TREC			AMS	AMS	05 25 30.0	
comp=Z,19μm,22.2s						
BBGH	Gun Hill	135.29 83	PFAKE		04 26 00.0	+12
BBGH			LR	LR		
comp=Z,11μm,21.0s						
PGBU	Glenifferbraes	135.30 353	AMS	AMS	05 19 07.9	
comp=Z,5μm,24.3s						
ZST	Bratislava	135.33 331	*e*PKIKP	PKPdf	04 25 48.9	+2.2
ZST			*e*		04 28 23.9	
ZST	Bratislava	135.33 331	*e*PKP	PKPdf	04 25 48.9	+2.2
ZST			*e*PP	PP	04 28 23.9	+1.2
VTS	Vitosha	135.46 321	⇑PKIKP	PKPdf	04 25 45.9	-1.4
VTS	Vitosha	135.46 321	*i* P	PKPdf	04 25 46.0	-1.4
VTS	Vitosha	135.46 321	⇑*i*P	PKPdf	04 25 45.9	-1.4
ESK	Eskdalemuir	135.61 351	AMS	AMS	05 28 19.9	
comp=Z,6μm,20.7s						
ESK	Eskdalemuir	135.61 351	PFAKE		04 26 00.0	+13
ESK			LR	LR		
comp=Z,7μm,21.0s						
MMB	Musomiste	135.66 319	*i* P	PKPdf	04 25 46.0	-1.6
NVR	Nevrokopi	135.70 319	*e*P	PKPdf	04 25 47.3	-0.4
TANN	Tannenbergstha	135.72 336	*e*PKPbc	PKPpre	04 25 28.8	
IBBN	Ibbenburen	135.84 341	*e*PKPbc	PKPpre	04 25 30.4	
MOX	Moxa	135.86 337	*e*PKPbc	PKPpre	04 25 30.2	
MOX			*e*L	L	05 26 58.5	
comp=Z,8μm,21.6s						
MOX	Moxa	135.86 337	*e*PKHKP	PKPpre	04 25 30.2	
MOX			MLR	MLR		
comp=Z,8μm,21.6s						
NKC	Novy Kostel	135.86 336	*e*PKIKP	PKPdf	04 25 48.9	+1.2
NKC			*e*		04 28 21.9	
NKC			*e*		04 40 31.2	
NKC			MLR	MLR		
comp=Z,7μm,20.4s						
NKC	Novy Kostel	135.86 336	*e*PKPdf	PKPdf	04 25 48.9	+1.2
NKC			*e*PP	PP	04 28 21.9	-4.0
NKC			*e*SKP		04 29 20.6	
NKC			*e*x	x	04 38 28.4	
NKC			*e*x	x	04 40 31.2	
NKC			AMS	AMS	05 30 00.0	
comp=Z,7μm,20.4s						
PKSM	Moragy	135.91 328	⇑PKIKP	PKPdf	04 25 46.8	-1.1
PKSM	Moragy	135.91 328	⇑*i*P	PKPdf	04 25 46.8	-1.1
PKSM	Moragy	135.91 328	⇓*e*PKPdf	PKPdf	04 25 48.2	+0.3
KKB	Krupnik	135.93 320	*i* P	PKPdf	04 25 47.0	-1.1
CONA	Conrad Observa	136.11 331	⇓*i*PKiKP	PKiKP	04 25 49.3	-0.6
comp=Z,18nm,0.8s						
KHC	Kasperske Hory	136.25 334	*e*PKHKP	PKPpre	04 25 38.2	
KHC			*e*		04 25 49.6	
KHC			*e*		04 25 55.4	
KHC			*e*		04 28 30.3	
KHC			*e*		04 40 36.3	
KHC			MLR	MLR		
comp=Z,22μm,24.7s						
KHC	Kasperske Hory	136.25 334	*e*PKPpre	PKPpre	04 25 38.2	
KHC			*e*PKPdf	PKiKP	04 25 49.6	-0.6
KHC			*e*x	x	04 25 55.4	
KHC			*e*PP	PP	04 28 30.3	+1.9
KHC			*e*SKP		04 29 22.6	
KHC			*e*x	x	04 40 36.3	
KHC			AMS	AMS	05 24 50.0	
comp=Z,22μm,24.7s						
GAL1	Galloway	136.25 352	AMS	AMS	05 25 10.7	
comp=Z,5μm,23.3s						
KESW	Keswick, Cumbr	136.30 351	AMS	AMS	05 22 09.0	
comp=Z,5μm,23.6s						
ROTZ	Rotzenmuhle	136.32 336	*e*PKPbc	PKPpre	04 25 33.9	
UBBA	Unterbreizbach	136.32 338	*e*PKPbc	PKPpre	04 25 30.9	
GEC2	GERESS Array S	136.41 334	*e*PKPbc	PKPpre	04 25 33.5	
GEC2	GERESS Array S	136.41 334	*e*PKHKP	PKPpre	04 25 33.5	
GERES	GERESS Array B	136.41 334	PKPpre	PKPpre	04 25 36.6	
GERES			PKP	PKPdf	04 25 48.3	-0.6
GERES			SKPbc	SKiKP	04 29 22.7	-1.0
GERES	GERESS Array B	136.41 334	PKhKP	PKPpre	04 25 36.6	
comp=Z,3.0nm,1.0s,baz=48,slow=2.0,SNR=11						
GERES			PKP	PKPdf	04 25 48.3	-0.6
comp=Z,6.5nm,0.8s,baz=48,slow=2.0,SNR=18						
GERES			SKPbc	SKiKP	04 29 22.7	-1.0
comp=Z,3.6nm,0.8s,baz=72,slow=4.2,SNR=3.3						
WTSB	Winterswijk	136.43 342	*e*PKP	PKPdf	04 25 50.5	+1.8
comp=Z,26nm,0.9s						
TSUM	Tsumeb	136.50 226	PKPpre	PKPpre	04 25 41.7	
TSUM			*e*PKP	PKPdf	04 25 42.7	-7.3
TSUM			PKP	PKiKP	04 25 51.5	-0.2
TSUM			LR	LR		
comp=Z,9μm,20.0s						
TSUM	Tsumeb	136.50 226	PKhKP	PKPpre	04 25 41.7	
comp=Z,10nm,0.9s,baz=140,slow=2.3,SNR=11						
TSUM			PKP	PKiKP	04 25 51.5	-0.2
comp=Z,38nm,0.8s,baz=142,slow=3.8,SNR=16						
WET	Wettzell	136.53 335	*e*PKPbc	PKPpre	04 25 34.6	
WET	Wettzell	136.53 335	*e*PKHKP	PKPpre	04 25 34.6	
VAV	Valandovo	136.54 320	*e*P	PKPdf	04 25 51.4	+2.2
BDFB	Brasilia	136.62 128	PKP	PKPdf	04 25 49.9	-0.3
BDFB			SKPbc	SKPab	04 29 25.5	-0.2
BDFB	Brasilia	136.62 128	PKP	PKPdf	04 25 49.9	-0.3
comp=Z,15nm,0.9s,baz=183,slow=3.5,SNR=12						
BDFB			SKPbc	SKPab	04 29 25.5	-0.2
comp=Z,24nm,1.0s,baz=225,slow=0.8,SNR=8.2						
HPK	Haverah Park	136.66 350	AMS	AMS	05 26 20.3	
comp=Z,7μm,23.3s						
BEHE	Becsehely	136.69 329	⇓*e*PKPdf	PKPdf	04 25 49.6	+0.3
BUG	Bochum--Univer	136.74 341	*e*PKPbc	PKPpre	04 25 33.8	
GRF	Grafenberg Arr	136.78 336	*e*PKPbc	PKPpre	04 25 32.9	
GRF			*e*L	L	05 30 07.6	
comp=Z,9μm,20.3s						
GRF	Grafenberg Arr	136.78 336	*e*PKHKP	PKPpre	04 25 32.9	
GRG	Griva	136.85 319	*e*P	PKPdf	04 25 50.3	+0.5
SKO	Skopje	136.90 321	*e*P	PKPdf	04 25 48.9	-1.0
SANT	Santorini	136.93 312	PFAKE		04 26 00.0	+10
SANT			LR	LR		
comp=Z,3μm,20.0s						
NPS	Neapolis	137.27 310	*e*P	PKPpre	04 25 37.2	
TNS	Taunus Mts	137.38 339	*e*PKPbc	PKPpre	04 25 35.9	
TNS	Taunus Mts	137.38 339	*e*PKHKP	PKPpre	04 25 35.9	
PERS	Pernice	137.39 331	*i* PKPdf	PKPpre	04 25 39.8	
PERS			*e*		04 25 52.0	
PERS			*e*PP	PP	04 28 34.7	-1.0
STNC	Stoke	137.59 350	AMS	AMS	05 26 58.8	
comp=Z,10μm,22.6s						
FNA	Florina	137.59 320	*e*P	PKPdf	04 25 46.9	-4.4
LKR	Lokris	137.63 316	*e*P	PKPdf	04 25 45.6	-5.7
RJOB	Jochberg	137.65 333	*e*PKPbc	PKPpre	04 25 38.7	
HGN	Heimansgroeve	137.75 341	*e*PKP	PKPdf	04 25 52.8	+1.7
comp=Z,67nm,1.9s						
WLF1	Llynfaes	137.75 352	AMS	AMS	05 24 14.3	
comp=Z,5μm,26.5s						
BEBN	Eben Emael	137.80 342	PKP	PKPdf	04 25 50.3	-0.9
BEBN			PP	PP	04 28 41.3	+3.5
THL	Klokotos Trika	137.83 318	*e*P	PKPdf	04 25 46.6	-5.0
MEM	Membach	137.86 341	PKP	PKPdf	04 25 51.5	+0.2
MEM			PP	PP	04 28 37.6	-0.6
KBA	Koelnbreinsper	137.90 332	⇓*i*PKiKP	PKPdf	04 25 52.7	+0.9
comp=Z,20nm,0.9s						
AGG	Agios Georgios	137.90 317	*e*P	PKPdf	04 25 54.5	+2.6
FOEL	Foel Wylfa	137.95 350	AMS	AMS	05 22 56.2	
comp=Z,6μm,23.5s						
LTK	Loutraki	137.96 315	*e*P	PKPpre	04 25 43.5	
FUR	Furstenfeldbru	137.96 335	*e*PKPbc	PKPpre	04 25 39.6	
FUR	Furstenfeldbru	137.96 335	*e*PKHKP	PKPpre	04 25 39.6	
DID	Didima	138.02 314	*e*P	PKPpre	04 25 40.3	
BOJS	Bojanci	138.12 329	*i* PKPdf	PKPpre	04 25 44.4	
BOJS			*i*		04 25 52.3	
BOJS			*e*PP	PP	04 28 34.8	-5.4
TIR	Tirane	138.22 321	*e*PKIKP	PKPdf	04 25 52.2	-0.1
TIR			MLR	MLR		
comp=Z,1μm,21.0s						
TIR	Tirane	138.22 321	*e*PKPdf	PKPdf	04 25 52.2	-0.1
TIR			LR	LR

RLS	**Riolos of Patr**	**138.97 316**	*e*P	PKPpre	04 25 40.5	
BFO	**Black Forest**	**138.99 338**	*e*PKHKP	PKPpre	04 25 45.7	
BFO			MLR	MLR		
comp=Z,7μm,21.0s						
BFO	**Black Forest**	**138.99 338**	*e*PKP	PKPpre	04 25 45.7	
BFO			LR	LR		
comp=Z,7μm,21.0s						
DYR	**Agios Nikonas**	**139.01 314**	*e*P	PKPpre	04 25 46.0	
SWN1	**Swindon**	**139.02 349**	AMS	AMS	05 30 22.0	
comp=Z,9μm,21.6s						
AMT	**Artemida-Makis**	**139.07 315**	*e*P	**PKPdf**	**04 25 53.0**	**-1.0**
ITM	**Ithomi**	**139.09 315**	*e*P	PKPpre	04 25 41.4	
WOL	**Wolverton**	**139.10 348**	AMS	AMS	05 27 46.9	
comp=Z,12μm,22.6s						
HMNX	**Herstmonceux**	**139.18 346**	AMS	AMS	05 27 21.8	
comp=Z,12μm,23.2s						
KEK	**Kerkira**	**139.19 319**	*e*P	PKPpre	04 25 46.4	
DAVA	**Damuels**	**139.24 335**	⇓*i*PKPdf	**PKPdf**	**04 25 53.7**	**-0.5**
comp=Z,32nm,1.1s,SNR=7.3						
PYL	**PYLOS**	**139.36 314**	*e*P	PKPpre	04 25 45.3	
VLS	**Valsamata**	**139.50 317**	*e*P	PKPpre	04 25 46.5	
ECH	**Echery**	**139.52 338**	*e*PKIKP	**PKPdf**	**04 25 55.0**	**+0.5**
ECH			MLR	MLR		
comp=Z,8μm,20.0s						
ECH	**Echery**	**139.52 338**	*e*PKPdf	**PKPdf**	**04 25 55.0**	**+0.5**
ECH			LR	LR		
comp=Z,8μm,20.0s						
DAVOX	**Davos/Dischmat**	**139.64 335**	SKPbc	**SKiKP**	**04 29 33.5**	**+3.1**
DAVOX	**Davos/Dischmat**	**139.64 335**	SKPbc	**SKiKP**	**04 29 33.5**	**+3.1**
comp=Z,9.7nm,0.9s,baz=63,slow=2.3,SNR=3.3						
MOF	**Molkenrain**	**139.84 338**	PKP	PKPdf	04 25 49.3	-5.9
HTL	**Hartland**	**139.99 351**	AMS	AMS	05 28 34.0	
comp=Z,7μm,23.9s						
TUE	**Stuetta**	**140.11 335**	*e*PKP	PKPdf	04 25 50.2	-5.7
TUE			LR	LR		
comp=Z,11μm,20.0s						
LOMF	**Lomont**	**140.37 338**	PKP	**PKPdf**	**04 25 51.2**	**-5.0**
DYA	**Yadsworthy**	**140.44 350**	AMS	AMS	05 29 18.2	
comp=Z,7μm,21.7s						
AQU	**L'Aquila**	**141.28 327**	PFAKE		04 26 10.0	+12
AQU			LR	LR		
comp=Z,14μm,21.0s						
JSA	**Saint Aubin**	**141.31 348**	AMS	AMS	05 28 54.2	
comp=Z,8μm,21.9s						
VLC	**Villacollemand**	**141.46 332**	*e*PKPdf	**PKPdf**	**04 26 01.0**	**+2.9**
VLC			LR	LR		
comp=Z,12μm,22.0s						
CUC	**Castrocucco**	**141.49 322**	*e*PKP	PKPdf	04 25 51.5	-6.9
CUC			LR	LR		
comp=Z,10μm,22.0s						
RSL	**Roselend**	**141.84 337**	PKP	PKPdf	04 25 52.5	-6.5
BNI	**Bardonecchia**	**142.35 336**	*e*PKHKP	PKPpre	04 25 54.9	
BNI			MLR	MLR		
comp=Z,10μm,20.0s						
BNI	**Bardonecchia**	**142.35 336**	*e*PKP	PKPpre	04 25 54.9	
BNI			LR	LR		
comp=Z,10μm,20.0s						
CEL	**Celeste**	**142.51 320**	*e*PKPdf	**PKPdf**	**04 25 59.1**	**-1.2**
CEL			LR	LR		
comp=Z,6μm,22.0s						
GRN	**Grenoble**	**142.55 337**	PKP	**PKPdf**	**04 25 56.0**	**-4.2**
SURF	**Saint Ours**	**142.76 335**	PKP	**PKPdf**	**04 25 56.2**	**-4.5**
AGO	**Saint Agoulin**	**142.78 340**	PKP	**PKPdf**	**04 25 58.1**	**-2.3**
SSB	**Saint Sauveur**	**142.97 338**	*e*PKIKP	**PKPdf**	**04 25 57.2**	**-3.6**
SSB			MLR	MLR		
comp=Z,8μm,20.0s						
SSB	**Saint Sauveur**	**142.97 338**	*e*PKPdf	**PKPdf**	**04 25 57.2**	**-3.6**
SSB			LR	LR		
comp=Z,8μm,20.0s						
SSB	**Saint Sauveur**	**142.97 338**	PKP	PKPdf	04 25 54.7	-6.1
PYM	**Petit Puy Mans**	**143.08 340**	PKP	PKPbc	04 25 58.7	+0.8
OG26	**St.-Nazaire-De**	**143.28 337**	PKP	PKPab	04 25 57.7	+0.4
LBL	**Lubilhac**	**143.46 340**	PKP	PKPbc	04 25 58.7	-0.3
OSPF	**L'Ospedale**	**143.93 330**	PKP	PKPab	04 25 59.5	-0.4
WDD	**Wield Dalam**	**144.82 318**	*e*PKPdf	**PKPab**	**04 26 02.1**	**-1.1**
WDD			LR	LR		
comp=Z,5μm,22.0s						
BESB	**Sao Joao Dos P**	**145.26 120**	⇑*i*P	**PKPdf**	**04 26 05.5**	**-0.2**
BESB			*i*		04 26 07.1	
BESB			*i*		04 26 08.6	
BESB			*i*		04 26 12.4	
BESB			*i*		04 26 14.8	
BESB			*i*		04 26 20.7	
BESB			*i*		04 26 29.2	
BESB			*i*		04 26 36.2	
BESB			*i*		04 26 38.6	
BESB			*i*		04 26 39.7	
BESB			*i*		04 26 45.5	
BESB			*i*		04 26 47.4	
BESB			*i*		04 26 51.7	
VSL	**Villasalto**	**145.46 328**	*e*PKPdf	**PKPdf**	**04 26 04.3**	**-1.0**
VSL			LR	LR		
comp=Z,6μm,22.0s						
LRDF	**Laroque-de-Fa**	**145.71 339**	PKP	**PKPdf**	**04 26 05.0**	**-0.6**
SJAF	**Saint Jean de**	**145.98 338**	PKP	**PKPdf**	**04 26 05.5**	**-0.6**
FILF	**Fillols**	**146.03 338**	PKP	**PKPdf**	**04 26 05.8**	**-0.5**
CARF	**Carcanieres**	**146.06 339**	PKP	**PKPdf**	**04 26 06.0**	**-0.4**
MLS	**Moulis**	**146.19 340**	PKP	**PKPdf**	**04 26 06.5**	**0.0**
MELF	**Melles**	**146.38 341**	PKP	**PKPbc**	**04 26 08.0**	**-0.1**
LABF	**Labassere**	**146.44 341**	PKP	**PKPbc**	**04 26 07.6**	**-0.7**
REYF	**Montagne du Re**	**146.56 342**	PKP	**PKPbc**	**04 26 07.9**	**-0.8**
RESF	**Ens**	**146.57 341**	PKP	**PKPbc**	**04 26 08.8**	**0.0**
ORDF	**Ordiarp**	**146.59 343**	PKP	**PKPdf**	**04 26 07.5**	**+0.4**
VIEF	**Viey**	**146.61 341**	PKP	**PKPbc**	**04 26 08.5**	**-0.3**
OSSF	**Osses**	**146.65 343**	PKP	**PKPdf**	**04 26 06.0**	**-1.2**
OSSF	**Osses**	**146.65 343**	PKP	**PKPdf**	**04 26 06.0**	**-1.2**
LARF	**Larrau**	**146.77 343**	PKP	**PKPbc**	**04 26 08.7**	**-0.5**
KEST	**Kesra**	**148.14 323**	*e*PKPbc	**PKPbc**	**04 26 12.8**	**-0.4**
KEST	**Kesra**	**148.14 323**	PKPbc	**PKPbc**	**04 26 13.0**	**-0.3**
comp=Z,56nm,0.9s,baz=299,slow=2.1,SNR=45						
CMAH	**Djebel Manchou**	**148.61 326**	P	**PKPdf**	**04 26 12.0**	**+1.2**
ABSA	**Djebel Ababsia**	**148.83 326**	P	**PKPdf**	**04 26 13.0**	**+1.8**
CKFL	**Kef-Lekhel**	**149.16 327**	P	**PKPdf**	**04 26 13.0**	**+1.3**
PBRG	**Braganca**	**149.29 350**	*e*PKPdf	**PKPdf**	**04 26 10.6**	**-1.1**
PBRG	**Braganca**	**149.29 350**	*e*PP	PP	04 29 54.0	+7.2
PBRG	**Braganca**	**149.29 350**	*e*SKS	x	04 55 19.3	
PBRG	**Braganca**	**149.29 350**	*e*LR	LR	05 17 55.1	
comp=Z,9μm,20.6s						
PGAV	**Gavieira, Arco**	**149.37 352**	*e*PKPdf	**PKPdf**	**04 26 11.0**	**-0.9**
PGAV	**Gavieira, Arco**	**149.37 352**	*e*PP	PP	04 29 48.9	+1.6
PGAV	**Gavieira, Arco**	**149.37 352**	*e*SKS	x	04 55 01.9	
PGAV	**Gavieira, Arco**	**149.37 352**	*e*LR	LR	05 18 34.4	
comp=Z,14μm,20.0s						
CASM	**Ain Smara**	**149.38 327**	P	**PKPbc**	**04 26 15.0**	**-1.4**
DFRA	**Djebel Bou Aff**	**149.49 328**	P	**PKPbc**	**04 26 16.5**	**-0.2**
CTEI	**Djebel Teioual**	**149.57 327**	P	**PKPbc**	**04 26 16.0**	**-1.0**
POLO	**Lamas de Olo**	**149.88 351**	*e*PKPdf	**PKPdf**	**04 26 12.7**	**0.0**
POLO	**Lamas de Olo**	**149.88 351**	*e*PP	PP	04 29 56.9	+6.7
POLO	**Lamas de Olo**	**149.88 351**	*e*SKS	x	04 55 10.9	
PGRA	**Graciosa**	**149.90 22**	*e*PKP	**PKPdf**	**04 26 12.2**	**-0.4**
PGRA	**Graciosa**	**149.90 22**	*e*LR	LR	05 15 20.6	
comp=Z,1μm,22.6s						
MVO	**Moncorvo**	**149.96 350**	*e*PKPdf	**PKPdf**	**04 26 11.3**	**-1.5**
MVO	**Moncorvo**	**149.96 350**	*e*PP	PP	04 29 52.9	+2.2
MVO	**Moncorvo**	**149.96 350**	*e*SKS	x	04 54 52.4	
MVO	**Moncorvo**	**149.96 350**	*e*LR	LR	05 21 35.8	
comp=Z,11μm,20.0s						
PVRL	**Vila Real**	**149.97 351**	*e*PKPbc	**PKPbc**	**04 26 17.4**	**-0.3**
PCED	**Cedros**	**149.97 24**	*e*PKP	**PKPdf**	**04 26 11.9**	**-0.9**
SET	**Setif**	**150.01 328**	P	**PKPbc**	**04 26 18.0**	**0.0**
ROSA	**Rosais**	**150.07 23**	*e*PKP	**PKPdf**	**04 26 12.7**	**-0.2**
ROSA	**Rosais**	**150.07 23**	*e*LR	LR	05 16 04.6	
comp=Z,532nm,19.1s						
CKHR	**Kef el Ahmar**	**150.09 328**	P	**PKPbc**	**04 26 18.0**	**-0.2**
PCAN	**Candelaria**	**150.20 24**	*e*PKP	**PKPdf**	**04 26 12.8**	**-0.4**
PMAN	**Manadas**	**150.21 23**	*e*PKP	**PKPdf**	**04 26 12.7**	**-0.4**
PTO	**Porto**	**150.23 352**	*e*PKPbc	**PKPbc**	**04 26 19.4**	**+1.2**
ADH	**Angra Heroismo**	**150.50 22**	*e*PKP	**PKPdf**	**04 26 13.1**	**-0.5**
PVIS	**Viseu**	**150.54 351**	*e*PKPbc	**PKPbc**	**04 26 20.0**	**+0.9**
ESDC	**Sonseca Array**	**150.72 344**	PKPbc	**PKPbc**	**04 26 17.5**	**-2.0**
ESDC	**Sonseca Array**	**150.72 344**	PKPbc	**PKPbc**	**04 26 17.5**	**-2.0**
comp=Z,20nm,0.9s,baz=17,slow=2.6,SNR=31						
ESLA	**Sonseca Array**	**150.72 344**	*e*PKPbc	**PKPbc**	**04 26 18.6**	**-0.9**
MTE	**Manteigas**	**150.79 350**	*e*PKPbc	**PKPbc**	**04 26 19.3**	**-0.4**
MTE	**Manteigas**	**150.79 350**	*e*PP	PP	04 29 55.9	+0.4
MTE	**Manteigas**	**150.79 350**	*e*SKS	x	04 55 28.0	
MTE	**Manteigas**	**150.79 350**	*e*LR	LR	05 20 40.1	
comp=Z,10μm,20.0s						
MTE	**Manteigas**	**150.79 350**	*e*PKPbc	**PKPbc**	**04 26 18.0**	**-1.7**
MTE			LR	LR		
comp=Z,10μm,20.0s						
PAB	**San Pablo**	**150.94 345**	*e*PKIKP	**PKPbc**	**04 26 19.1**	**-1.0**
PAB			MLR	MLR		
comp=Z,10μm,21.0s						
PAB	**San Pablo**	**150.94 345**	*e*PKPbc	**PKPbc**	**04 26 19.1**	**-1.0**
PAB			LR	LR		
comp=Z,10μm,21.0s						
EMHD	**Djebel Mahouad**	**151.22 331**	P	**PKPbc**	**04 26 23.0**	**+2.1**
PCAS	**Casmilo, Conde**	**151.28 352**	*e*PKPdf	**PKPdf**	**04 26 13.4**	**-1.4**
PCAS	**Casmilo, Conde**	**151.28 352**	*e*PP	PP	04 30 00.7	+2.5
PCAS	**Casmilo, Conde**	**151.28 352**	*e*SKS	x	04 55 34.8	
PCBR	**Castelo Branco**	**151.33 350**	*e*PKPdf	**PKPdf**	**04 26 16.6**	**+1.8**
SHEL	**Horse Pasture**	**151.49 196**	*e*PKIKP	**PKPbc**	**04 26 22.4**	**+0.5**
SHEL			MLR	MLR		
comp=Z,5μm,22.0s						
SHEL	**Horse Pasture**	**151.49 196**	*e*PKPbc	**PKPbc**	**04 26 22.4**	**+0.5**
SHEL			LR	LR		
comp=Z,5μm,22.0s						
PTOM	**Tomar**	**151.69 351**	*e*PKPbc	**PKPbc**	**04 26 21.2**	**-0.5**
PMRV	**Marv??o**	**151.71 350**	*e*PKPdf	**PKPdf**	**04 26 13.4**	**-2.1**
PMRV	**Marv??o**	**151.71 350**	*e*PP	PP	04 30 00.8	+0.1
PMRV	**Marv??o**	**151.71 350**	*e*SKS	x	04 55 15.0	
PMRV	**Marv??o**	**151.71 350**	*e*LR	LR	05 22 42.2	
comp=Z,10μm,22.0s						
PSET	**Sete Cidades**	**151.78 20**	*e*PKP	**PKPdf**	**04 26 14.9**	**-0.7**
PSET	**Sete Cidades**	**151.78 20**	*e*LR	LR	05 17 02.7	
comp=Z,533nm,21.0s						
EBNR	**Beni Rached**	**151.80 333**	P	**PKPbc**	**04 26 21.0**	**-1.1**
PDA	**Ponta Delgada**	**151.87 20**	*e*PKP	**PKPdf**	**04 26 15.2**	**-0.5**
CMLA	**Cha da Macela**	**151.90 20**	*e*PKIKP	**PKPbc**	**04 26 23.5**	**+1.3**
CMLA			MLR	MLR		
comp=Z,7μm,20.0s						
CMLA	**Cha da Macela**	**151.90 20**	*e*PKPbc	**PKPbc**	**04 26 23.5**	**+1.3**
CMLA			LR	LR		
comp=Z,7μm,20.0s						
RCBR	**Riachuelo**	**151.99 127**	*e*PKPbc	**PKPbc**	**04 26 23.5**	**+0.3**
RCBR			LR	LR		
comp=Z,6μm,20.0s						
ECHA	**Ech Chlef**	**151.99 333**	P	**PKPbc**	**04 26 20.8**	**-1.7**
BART	**Pico Bartolome**	**152.00 19**	*e*PKP	**PKPdf**	**04 26 15.6**	**-0.4**
ALMR	**Almeirim**	**152.17 351**	*e*P	**PKPdf**	**04 26 15.6**	**-0.5**
ALMR	**Almeirim**	**152.17 351**	*e*PKIKP	**PKPdf**	**04 26 15.6**	**-0.5**
PMTG	**Montargil**	**152.20 351**	*e*PKPdf	**PKPdf**	**04 26 15.1**	**-1.1**
PMTG	**Montargil**	**152.20 351**	*e*PP	PP	04 30 06.0	+2.6
PMTG	**Montargil**	**152.20 351**	*e*SKS	x	04 55 28.0	
PMTG	**Montargil**	**152.20 351**	*e*LR	LR	05 19 45.2	
comp=Z,12μm,15.7s						
EANR	**'Ain N'Sour**	**152.28 333**	P	**PKPbc**	**04 26 20.4**	**-2.8**
PESTR	**Estremoz**	**152.29 350**	*e*PKPdf	**PKPdf**	**04 26 15.9**	**-0.5**
PESTR	**Estremoz**	**152.29 350**	*e*PP	PP	04 30 04.7	+0.7
PESTR	**Estremoz**	**152.29 350**	*e*SKS	x	04 55 42.1	
PESTR	**Estremoz**	**152.29 350**	*e*LR	LR	05 21 49.4	
comp=Z,12μm,19.5s						
PMAFR	**Mafra**	**152.47 352**	*e*PKPbc	**PKPbc**	**04 26 20.9**	**-2.6**
PMAFR	**Mafra**	**152.47 352**	*e*PP	PP	04 30 05.8	+0.9
PMAFR	**Mafra**	**152.47 352**	*e*SKS	x	04 55 18.9	
PACT	**Alcochete**	**152.59 352**	*e*PKPbc	**PKPbc**	**04 26 22.7**	**-1.0**
ETRT	**Tiaret**	**152.65 332**	P	**PKPdf**	**04 26 18.9**	**+1.8**
PMST	**Lisbon--Monsan**	**152.67 352**	*e*PKPdf	**PKPdf**	**04 26 14.9**	**-2.0**
PMST	**Lisbon--Monsan**	**152.67 352**	*e*PP	PP	04 30 10.7	+4.7
LIS	**Lisbon**	**152.69 352**	*e*P	**PKPdf**	**04 26 16.6**	**-0.3**
LIS			*e*PP	**PP**	**04 30 07.6**	**+1.5**
LIS			AMS	AMS	05 35 24.7	
comp=E,9μm,18.7s						
LIS	**Lisbon**	**152.69 352**	*e*PKIKP	**PKPdf**	**04 26 16.6**	**-0.3**
LIS			*e*		04 30 07.6	
EVO	**Evora**	**152.69 350**	*e*PKPdf	**PKPdf**	**04 26 15.8**	**-1.1**
EVO	**Evora**	**152.69 350**	*e*PP	PP	04 30 09.2	+3.0
PSMN	**Pico do Norte,**	**152.74 20**	*e*PKP	**PKPdf**	**04 26 16.5**	**-0.6**
PBAR	**Barrancos**	**152.86 348**	*e*SKS	x	04 55 29.5	
PBEJ	**Beja**	**153.16 350**	*e*PKPbc	**PKPbc**	**04 26 23.3**	**-1.7**
PNCL	**Nicolau / Gran**	**153.19 351**	*e*PKPdf	**PKPdf**	**04 26 15.6**	**-2.0**
PNCL	**Nicolau / Gran**	**153.19 351**	*e*PP	PP	04 30 10.8	+1.8
PNCL	**Nicolau / Gran**	**153.19 351**	*e*SKS	x	04 55 37.6	
PVAQ	**Vaqueiros**	**153.74 349**	*e*PKPdf	**PKPdf**	**04 26 17.5**	**-1.0**
PVAQ	**Vaqueiros**	**153.74 349**	*e*PP	PP	04 30 14.2	+2.1
PVAQ	**Vaqueiros**	**153.74 349**	*e*SKS	x	04 55 47.0	
PVAQ	**Vaqueiros**	**153.74 349**	*e*LR	LR	05 20 26.4	
comp=E,17μm,20.0s						
PTEO	**Sao Teotonio**	**153.77 351**	*e*PKPbc	**PKPbc**	**04 26 24.1**	**-2.3**
PBDV	**Barranco-do-Ve**	**153.93 349**	*e*PKPbc	**PKPbc**	**04 26 24.1**	**-2.7**
PBDV	**Barranco-do-Ve**	**153.93 349**	*e*PP	PP	04 30 16.8	+3.5
PBDV	**Barranco-do-Ve**	**153.93 349**	*e*SKS	x	04 55 40.6	
PBDV	**Barranco-do-Ve**	**153.93 349**	*e*LR	LR	05 21 09.6	
comp=E,14μm,18.1s						
MORF	**Marmelete**	**154.00 351**	*e*PKPdf	**PKPdf**	**04 26 20.3**	**+1.4**
MORF	**Marmelete**	**154.00 351**	*e*PP	PP	04 30 15.6	+2.0
MORF	**Marmelete**	**154.00 351**	*e*SKS	x	04 56 25.2	
MORF	**Marmelete**	**154.00 351**	*e*LR	LR	05 24 14.7	
comp=E,6μm,16.6s						
MORF	**Marmelete**	**154.00 351**	*e*PKIKP	**PKPdf**	**04 26 18.7**	**-0.2**
MORF			*e*		04 30 15.0	
RTC	**Rabat Centre**	**156.84 345**	PFAKE		04 26 30.0	+7.3
RTC			LR	LR		
comp=Z,10μm,21.0s						
TAM	**Tamanrasset**	**158.50 304**	*e*PKIKP	**PKPdf**	**04 26 25.5**	**+0.1**
TAM			MLR	MLR		
comp=Z,9μm,21.0s						
TAM	**Tamanrasset**	**158.50 304**	*e*PKPdf	**PKPdf**	**04 26 25.5**	**+0.1**
TAM			LR	LR		
comp=Z,9μm,21.0s						
ASCN	**Ascension**	**160.59 178**	PFAKE		04 26 40.0	+12
ASCN			LR	LR		
comp=Z,2μm,21.0s						
TOA0	**Torodi Ar. Sit**	**164.81 277**	*e*PKPdf	**PKPdf**	**04 26 31.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.81 277**	PKP	**PKPdf**	**04 26 30.4**	**-1.5**
TORD			PKPab	**PKPab**	**04 27 29.0**	**+1.1**
TORD			PP	PP	04 30 55.0	-20
TORD	**Torodi Ar. Bea**	**164.81 277**	PKP	**PKPdf**	**04 26 30.4**	**-1.5**
comp=Z,21nm,1.1s,baz=359,slow=1.0,SNR=32						
TORD			PKPab	**PKPab**	**04 27 29.0**	**+1.1**
comp=Z,43nm,0.9s,baz=73,slow=3.0,SNR=12						
TORD			PP	PP	04 30 55.1	-20
comp=Z,9.6nm,1.0s,baz=100,slow=6.0,SNR=4.7						
KIC	**Kosan Boka**	**169.67 240**	*e*P	**PKPdf**	**04 26 34.8**	**-0.7**
comp=Z,297nm,1.9s						
LIC	**Lamto**	**169.84 239**	*e*P	**PKPdf**	**04 26 36.7**	**+1.1**
comp=Z,68nm,1.3s						
SACV	**Santiago Islan**	**169.86 70**	PFAKE		04 26 50.0	+14
SACV			LR	LR		
comp=Z,6μm,20.0s						
DBIC	**Dimbokro**	**169.93 242**	PKP	**PKPdf**	**04 26 34.6**	**-1.0**
DBIC			PKPab	**PKPab**	**04 27 51.2**	**+0.7**
DBIC	**Dimbokro**	**169.93 242**	PKP	**PKPdf**	**04 26 34.6**	**-1.0**
comp=Z,10nm,0.9s,baz=102,slow=3.5,SNR=7.4						
DBIC			PKPab	**PKPab**	**04 27 51.2**	**+0.7**
comp=Z,58nm,0.9s,baz=108,slow=5.2,SNR=12						
TIC	**Toumodi**	**170.06 241**	*e*P	**PKPdf**	**04 26 36.3**	**+0.6**
comp=Z,108nm,1.3s						

IDC 10 04:17:42.7±3.4, 11°.88S×166°.35E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/19, mbtmp4.2/6, Error ellipse: s-maj=113.0km s-min=30.7km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.77**	**251**	P	P	04 24 08.9	0.0
2.9nm,0.9s,baz=84,slow=9.3,SNR=5.5							
ASAR	**Alice Springs**	**32.96**	**245**	P	P	04 24 19.4	-0.1
2.9nm,0.8s,baz=67,slow=9.9,SNR=12							
CMAR	**Chiang Mai Arr**	**72.98**	**294**	P	P	04 29 15.3	+0.6
0.9nm,0.3s,baz=99,slow=3.3,SNR=4.8							
SONM	**Songino Array**	**79.68**	**324**	P	P	04 29 52.4	0.0
1.1nm,1.0s,baz=108,slow=4.7,SNR=2.6							
ILAR	**Eielson Array**	**84.11**	**18**	P	P	04 30 15.4	+0.3
0.5nm,0.8s,baz=226,slow=4.7,SNR=5.4							
MKAR	**Makanchi Array**	**94.53**	**317**	P	P	04 31 04.3	-0.9
1.8nm,0.7s,baz=91,slow=3.2,SNR=9.7							

IDC 10 04:29:19.4±9.0, 12°.10S×166°.92E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, Error ellipse: s-maj=272.0km s-min=56.7km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.23**	**252**	P	P	04 35 49.4	-0.4
1.4nm,0.9s,baz=84,slow=9.1,SNR=6.6							
ASAR	**Alice Springs**	**33.38**	**245**	P	P	04 36 00.1	+0.2
1.4nm,0.7s,baz=70,slow=9.6,SNR=15							
MKAR	**Makanchi Array**	**95.07**	**317**	P	P	04 42 44.2	-0.2
0.3nm,0.6s,baz=104,slow=6.1,SNR=4.0							

IDC 10 04:33:44.6±0.8, 3°.73N×126°.70E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/24, mbtmp3.7/7, Error ellipse: s-maj=78.3km s-min=16.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.69**	**163**	P	P	04 39 07.4	-0.1
1.1nm,0.8s,baz=342,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**28.12**	**166**	P	P	04 39 37.8	-0.7
0.3nm,0.9s,baz=354,slow=7.5,SNR=2.8							
STKA	**Stephens Creek**	**38.14**	**159**	P	P	04 41 06.4	+0.8
1.0nm,0.3s,baz=333,slow=9.0,SNR=2.6							
SONM	**Songino Array**	**47.29**	**341**	P	P	04 42 21.0	+1.0
0.3nm,0.5s,baz=154,slow=7.9,SNR=4.0							
SONM				PcP	PcP	04 43 51.4	+0.2
0.9nm,0.8s,baz=169,slow=5.0,SNR=4.3							
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	04 43 35.7	-0.3
0.5nm,0.4s,baz=116,slow=8.5,SNR=8.5							
KURBB	**Kurchatov Arra**	**61.73**	**327**	P	P	04 44 04.1	-0.6
0.5nm,0.4s,baz=126,slow=6.2,SNR=9.4							
ILAR	**Eielson Array**	**85.12**	**25**	P	P	04 46 21.5	-0.8
0.4nm,0.8s,baz=260,slow=5.1,SNR=4.4							

IDC 10 04:38:44.3±1.6, 7°.53N×93°.80E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/28, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=61.4km s-min=19.6km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.96**	**24**	Pn	Pn	04 41 36.6	+0.4
0.4nm,0.3s,baz=209,slow=16,SNR=2.6							
MKAR	**Makanchi Array**	**40.35**	**348**	P	P	04 46 23.3	-0.4
1.6nm,0.7s,baz=167,slow=8.5,SNR=14							
SONM	**Songino Array**	**41.57**	**13**	P	P	04 46 33.2	-0.8
0.5nm,0.6s,baz=199,slow=7.5,SNR=2.7							
KURBB	**Kurchatov Arra**	**44.80**	**346**	P	P	04 47 00.0	+0.3
2.4nm,0.7s,baz=168,slow=6.9,SNR=26							
ZALV	**Zalesovo Beam**	**46.85**	**353**	P	P	04 47 16.4	+0.4
1.7nm,0.4s,baz=182,slow=7.1,SNR=6.9							
WRA	**Warramunga Arr**	**48.34**	**125**	P	P	04 47 28.6	+0.5
0.6nm,1.0s,baz=306,slow=8.3,SNR=3.3							
ASAR	**Alice Springs**	**49.96**	**130**	P	P	04 47 39.9	-0.6
0.1nm,0.3s,baz=297,slow=7.3,SNR=3.0							
FINES	**FINESS Array B**	**72.85**	**332**	P	P	04 50 14.6	-0.3
1.0nm,0.7s,baz=90,slow=15,SNR=3.9							

BJI ***10*** *04:52:19.7, 5°.74S×101°.83E, h30km, mB5.3/2, mb4.8/20, Ms5.3/1, Ms7 5.0/1*
AUST ***10*** *04:52:24.6, 5°.32S×101°.43E, h35km*
DJA ***10*** *04:52:29.3±0.7, 5°.S±5°.×10°.2E±°, h48km±13km, M4.8/13, mb4.9/6, mB5.3/2, MLv4.8/13, Mw(mB)4.8/2*
NEIC ***10*** *04:52:31.3±1.4, 4°.89S×101°.75E, h58km±11km, mb4.6/5, Error ellipse: s-maj=14.7km s-min=6.5km az=51.0*
IDC ***10*** *04:52:34.9±0.7, 4°.91S×101°.74E, h92km±4km, mb4.1/23, mb1 4.2/24, mb1mx4.1/31, mbtmp4.1/24, Error ellipse: s-maj=19.2km s-min=9.6km az=55.0*

ISC 10 04:52:34.1±0.7, 4°.95±0°.07×101°.84E±0°.07, h84km±4km, h84km:pP-P, n136, σ1°.31/142, mb4.7/37, 18C-17D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.26**	**62**	P	Pn	04 52 52.4	-4.2
MNAI				S	**Sn**	**04 53 12.6**	**-0.9**
MNAI	**Manna**	**1.26**	**62**	P	Pn	04 52 52.3	-4.3
baz=1.8,SNR=140							
KSI	**Kapahiang**	**1.50**	**30**	P	Pn	04 52 54.4	-5.2

comp=Z,60nm,0.8s
BJI Beijing 46.68 15 P **P 05 00 53.4 -1.0**
BJI pmax pmax
comp=Z,24nm,0.6s
KSAR Wonju Array Be 48.66 28 P **P 05 01 10.1 +0.3**
KSAR pP **pP 05 01 33.1 +2.8**
KSRS Korea Array 48.69 28 P **P 05 01 10.1 +0.1**
comp=Z,7.2nm,0.8s,baz=219,slow=7.3,SNR=20
KSRS pP **pP 05 01 33.1 +2.6**
comp=Z,7.0nm,0.7s,baz=216,slow=7.6,SNR=8.9
WMQ Urumqi 50.20 347 P **P 05 01 22.2 +0.7**
WMQ pmax pmax
comp=Z,18nm,1.0s
KSH Kashi 50.27 334 P **P 05 01 20.5 -1.7**
KSH pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 52.72 4 P **P 05 01 40.8 +0.6**
SONM pP **pP 05 02 03.9 +2.8**
SONM Songino Array 52.72 4 P **P 05 01 40.8 +0.6**
comp=Z,14nm,0.8s,baz=185,slow=9.7,SNR=82
SONM pP **pP 05 02 03.9 +2.8**
comp=Z,15nm,0.8s,baz=184,slow=9.0,SNR=10
AAK Ala-Archa 53.47 335 P **P 05 01 44.9 -1.1**
AAK Ala-Archa 53.47 335 P **P 05 01 44.9 -1.1**
comp=Z,1.4nm,0.5s,baz=198,slow=13,SNR=3.1
MJAR Matsushiro Arr 53.47 36 P **P 05 01 44.8 -1.1**
MJAR pP **pP 05 02 08.0 +1.2**
MJAR Matsushiro Arr 53.47 36 P **P 05 01 44.8 -1.1**
comp=Z,6.5nm,0.8s,baz=220,slow=7.9,SNR=16
MJAR pP **pP 05 02 08.0 +1.2**
comp=Z,6.1nm,0.8s,baz=220,slow=8.3,SNR=6.1
EKS2 Erkin-Say 53.80 335 *eP* **P 05 01 48.1 -0.2**
comp=Z,10nm,0.7s
MKAR Makanchi Array 54.35 344 P **P 05 01 51.5 -0.6**
MKAR pP **pP 05 02 13.8 +0.7**
MKAR Makanchi Array 54.35 344 P **P 05 01 51.5 -0.6**
comp=Z,3.6nm,0.5s,baz=153,slow=8.8,SNR=44
MKAR pP **pP 05 02 13.8 +0.7**
comp=Z,6.6nm,0.7s,baz=152,slow=8.1,SNR=5.9
KKAR Karatay Array 55.60 333 *eP* **P 05 02 00.2 -1.0**
comp=Z,2.8nm,0.7s
USRK Ussuriysk Arra 55.94 26 P **P 05 02 03.6 +0.1**
comp=Z,29nm,0.7s,baz=220,slow=6.0,SNR=77
USRK pP **pP 05 02 26.7 +2.1**
comp=Z,33nm,0.7s,baz=219,slow=6.8,SNR=17
KURBB Kurchatov Arra 58.89 343 P **P 05 02 23.5 -0.6**
comp=Z,2.7nm,0.8s,baz=161,slow=6.7,SNR=21
KURK Kurchatov 58.94 343 P **P 05 02 23.5 -1.0**
ZALV Zalesovo Beam 60.40 349 P **P 05 02 33.8 -0.7**
ZALV pP **pP 05 02 56.2 +0.5**
ZALV Zalesovo Beam 60.40 349 P **P 05 02 33.8 -0.7**
comp=Z,6.7nm,0.4s,baz=170,slow=4.7,SNR=44
ZALV pP **pP 05 02 56.2 +0.5**
comp=Z,7.2nm,0.4s,baz=172,slow=4.3,SNR=8.1
BVAR Borovoye Array 63.57 339 P **P 05 02 54.7 -1.0**
BVAR pP **pP 05 03 17.1 -0.1**
BVAR Borovoye Array 63.57 339 P **P 05 02 54.7 -1.0**
comp=Z,4.2nm,0.7s,baz=143,slow=8.8,SNR=20
BVAR pP **pP 05 03 17.1 -0.1**
comp=Z,4.7nm,0.8s,baz=144,slow=8.5,SNR=6.7
ABKAR Akbulak array 65.09 331 *eP* **P 05 03 04.8 -1.0**
comp=Z,11nm,0.8s
AKTO Aktyubinsk 66.81 331 P **P 05 03 15.4 -1.4**
AKTO Aktyubinsk 66.81 331 P **P 05 03 15.4 -1.4**
comp=Z,1.9nm,0.9s,baz=106,slow=15,SNR=5.2
MAW Mawson 67.91 195 P **P 05 03 23.6 +0.2**
MAW Mawson 67.91 195 P **P 05 03 23.6 +0.2**
comp=Z,2.1nm,0.8s,baz=360,slow=4.7,SNR=6.9
KBZ Khabaz 71.73 319 P **P 05 03 46.1 -1.1**
KBZ Khabaz 71.73 319 P **P 05 03 46.1 -1.1**
comp=Z,2.1nm,0.8s,baz=118,slow=6.0,SNR=4.5
PETK Petropavlovsk- 74.42 31 P **P 05 04 02.5 -0.5**
PETK Petropavlovsk- 74.42 31 P **P 05 04 02.5 -0.5**
comp=Z,0.5nm,0.3s,baz=178,slow=5.5,SNR=4.7
BRTR Keskin Array B 76.66 313 P **P 05 04 15.1 -1.2**
BRTR Keskin Array B 76.66 313 P **P 05 04 15.1 -1.2**
comp=Z,0.9nm,0.5s,baz=133,slow=7.7,SNR=5.5
KOLS Kolonicke sedl 86.87 319 *eP* **P 05 05 10.6 +1.0**
KOLS *e*pP PcP 05 05 19.3 +7.6
FINES FINESS Array B 87.56 332 P **P 05 05 13.0 +0.4**
FINES FINESS Array B 87.56 332 P **P 05 05 13.0 +0.4**
comp=Z,1.8nm,0.7s,baz=146,slow=3.7,SNR=5.4
STHS Stebnicka Huta 87.63 320 *eP* **P 05 05 13.0 -0.2**
ARCES ARCESS Array B 89.86 340 P **P 05 05 24.1 +0.8**
ARCES ARCESS Array B 89.86 340 P **P 05 05 24.1 +0.8**
comp=Z,2.4nm,0.8s,baz=92,slow=7.3,SNR=9.6
NVAR Mina Array Bea 130.64 42 PKP **PKPdf 05 11 37.7 +1.6**
NVAR Mina Array Bea 130.64 42 PKP **PKPdf 05 11 37.7 +1.6**
comp=Z,0.3nm,0.6s,baz=248,slow=1.6,SNR=3.5
ULM Lac du Bonnet 132.46 15 PKP **PKPdf 05 11 39.3 +0.4**
ULM Lac du Bonnet 132.46 15 PKP **PKPdf 05 11 39.3 +0.4**
comp=Z,1.8nm,0.5s,baz=14,slow=5.0,SNR=3.3
325A Bean Ranch, Si 143.61 41 ⇓P **PKPdf 05 12 01.9 +1.7**
baz=144
425A Indio Mountain 143.98 41 ⇑P **PKPdf 05 12 00.9 +0.1**
baz=144
Z29A Hungry Hill Ra 144.30 35 ⇓P **PKPdf 05 12 01.0 -0.2**
baz=144
327A Balmorhea Ranc 144.56 39 ⇑P **PKPdf 05 12 01.8 +0.2**
baz=144
Z30A Sanderson Ranc 144.61 34 ⇓P **PKPdf 05 12 01.5 -0.2**
baz=144
129A Stewart Farms, 144.67 36 ⇓P **PKPdf 05 12 03.0 +1.2**
baz=145
427A Hayter Ranch, 144.97 40 ⇑P **PKPdf 05 12 02.6 +0.2**
baz=145
328A Wristen Ranch, 144.98 38 ⇓P **PKPdf 05 12 03.6 +1.2**
baz=145
526A Mary Lane Ranc 145.04 41 ⇑P **PKPdf 05 12 03.5 +0.8**
baz=145
Z31A Sharp Cattle R 145.13 33 ⇑P **PKPdf 05 12 03.2 +0.6**
baz=145
527A Woodward Ranch 145.30 41 ⇓P **PKPab 05 12 04.1 +0.9**
baz=145,SNR=9.7
626A Big Bend Ranch 145.34 42 ⇑P **PKPab 05 12 04.6 +1.3**
baz=145,SNR=10.0
329A Wagon Wheel Ra 145.41 37 ⇑P **PKPab 05 12 04.3 +0.9**
baz=145
131A Roby 145.48 34 ⇓P **PKPab 05 12 05.2 +1.6**
baz=145
428A Kincaid Ranch, 145.50 39 ⇓P **PKPab 05 12 05.4 +1.6**
baz=145
230A Sterling City 145.64 36 ⇓P **PKPab 05 12 05.9 +1.6**
baz=146
TXAR Lajitas Array 145.79 42 PKPbc **PKPab 05 12 05.2 +0.3**
TXAR pPKPbc pPKPbc 05 12 29.2 +1.5
TXAR Lajitas Array 145.79 42 PKPbc **PKPab 05 12 05.2 +0.3**
comp=Z,5.3nm,0.8s,baz=289,slow=1.7,SNR=66
TXAR pPKPbc pPKPbc 05 12 29.2 +1.5
comp=Z,6.6nm,0.9s,baz=293,slow=1.5,SNR=8.4
528A Cox Ranch, San 145.82 40 ⇑P **PKPab 05 12 05.9 +0.8**
baz=146,SNR=6.7
627A Terlingua Ranc 145.90 42 ⇓P **PKPab 05 12 05.8 +0.5**
baz=146,SNR=16
330A Mertzon 145.95 37 ⇑P **PKPab 05 12 06.3 +0.8**
baz=146
429A Davenport Ranc 146.07 38 ⇑P **PKPab 05 12 07.4 +1.5**
baz=146
231A Bronte 146.07 35 ⇓P **PKPab 05 12 08.0 +2.1**
baz=146
628A Black Gap, Mar 146.20 41 ⇓P **PKPab 05 12 06.8 +0.4**
baz=146,SNR=6.9
529A Stev Forest Ra 146.21 39 ⇓P **PKPab 05 12 07.1 +0.6**
baz=146
430A Baggett Ranch, 146.36 38 ⇑P **PKPbc 05 12 06.0 -0.1**
baz=146
331A San Angelo 146.46 36 ⇑P **PKPab 05 12 07.2 -0.1**
baz=146
232A Coleman 146.48 34 ⇓P **PKPab 05 12 07.8 +0.4**
baz=146
530A J-C Ranch, Com 146.74 38 ⇓P **PKPab 05 12 08.2 -0.3**
baz=147,SNR=8.1
332A Millersview 146.81 35 ⇓P **PKPab 05 12 08.8 +0.1**
baz=147
431A Sonora 146.81 37 ⇑P **PKPab 05 12 08.8 0.0**
baz=147
432A Menard 147.15 36 ⇑P **PKPab 05 12 10.4 +0.3**
baz=147
531A Rocksprings 147.22 38 ⇑P **PKPbc 05 12 09.4 +0.8**
baz=147
JCT Junction City 147.43 36 ⇑P **PKPab 05 12 10.4 -0.8**
baz=147
532A Rocksprings 147.63 37 ⇑P **PKPbc 05 12 10.9 +1.2**
baz=148
631A Perdido Creek 147.73 39 ⇓P **PKPab 05 12 11.6 -0.7**
baz=148
632A Uvalde 148.15 37 ⇑P **PKPab 05 12 13.4 -0.6**
baz=148

---

*IDC **10** 05:04:28.8±1.8, 53°.52N×170°.18E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/28, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=44.1km s-min=17.6km az=27.0*
*ISCJB **10** 05:04:30.4±0.5, 53°.2N±0°.1×170°.06E±0°.06, h33km, mb3.6/3, Error ellipse: s-maj=16.0km s-min=5.2km az=7.2*
*KRSC **10** 05:04:37.3±0.3, 53°.04N×169°.04E, h30km±30km, ML4.3*
ISC 10 05:04:31.4±1.1, 53°.0N±0°.2×169°.91E±0°.06, h35km, n18, σ2§72/24, mb3.6/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.97**	**93**	Pn	Pn	05 05 00.8	-1.4
	65nm,0.3s,baz=324,slow=5.8,SNR=212						
FX1				Sn	**Sn**	**05 05 24.2**	**-1.5**
	29nm,0.3s,baz=325,slow=20,SNR=5.7						
BKI	**Bering**	**3.19**	**315**	*eP*	Pn	05 05 22.5	+3.6
BKI				*i* S	**Sn**	**05 05 54.4**	**-1.2**
MKZ	**Mys Kozlova**	**5.09**	**291**	*eP*	**Pn**	**05 05 48.1**	**+3.1**
MKZ				*i* S	**Sn**	**05 06 38.1**	**-4.4**
SPN	**Mys Shipunski**	**5.97**	**275**	*eP*	**Pn**	**05 05 59.3**	**+2.2**
SPN				*i* S	**Sn**	**05 07 00.8**	**-3.3**
KMNR	**Kamenistaya**	**6.28**	**300**	*eP*	Pn	05 06 04.9	+3.4
SDLR	**Sedlovina**	**6.64**	**277**	*eP*	**Pn**	**05 06 09.6**	**+3.1**
UGLR	**Uglovaya**	**6.68**	**276**	*eP*	**Pn**	**05 06 09.7**	**+2.7**
KRER	**Koryakskii**	**6.72**	**277**	*eP*	**Pn**	**05 06 10.3**	**+2.7**
AVH	**Avacha**	**6.73**	**277**	*eP*	**Pn**	**05 06 09.8**	**+2.2**
AVH				*i* S	**Sn**	**05 07 19.8**	**-3.2**
KOK	**Koryaka**	**6.79**	**277**	*eP*	**Pn**	**05 06 10.9**	**+2.4**
RUS	**Russkaya**	**6.95**	**270**	*eP*	**Pn**	**05 06 13.4**	**+2.8**
RUS				*i* S	**Sn**	**05 07 25.2**	**-3.1**
MTVR	**Mutnovka**	**7.14**	**270**	*eP*	**Pn**	**05 06 16.0**	**+2.6**
MTVR				*i* S	**Sn**	**05 07 30.5**	**-2.8**
GNL	**Ganaly**	**7.20**	**280**	*eP*	Pn	05 06 17.5	+3.4
GNL				*i* S	**Sn**	**05 07 32.4**	**-2.2**
ASAK	**Asacha**	**7.33**	**270**	*eP*	**Pn**	**05 06 18.9**	**+3.0**
ASAK				*i* S	**Sn**	**05 07 35.6**	**-2.2**
PETK	**Petropavlovsk-**	**7.36**	**276**	Pn	**Pn**	**05 06 19.1**	**+2.8**
	1.3nm,0.3s,baz=96,slow=19,SNR=10						
PETK				Sn	**Sn**	**05 07 39.0**	**+0.4**
	1.8nm,0.3s,baz=98,slow=31,SNR=5.0						
ILAR	**Eielson Array**	**24.67**	**45**	P	**P**	**05 09 46.9**	**-1.6**
	0.9nm,0.6s,baz=250,slow=7.7,SNR=13						
PDAR	**Pinedale Array**	**52.24**	**67**	P	**P**	**05 13 38.6**	**-0.3**
	0.5nm,0.6s,baz=298,slow=1.9,SNR=5.1						
TXAR	**Lajitas Array**	**65.08**	**74**	P	**P**	**05 15 09.1**	**+0.8**
	0.6nm,0.5s,baz=306,slow=5.0,SNR=8.9						

---

*ISCJB **10** 05:05:39.2±0.9, 21°.66S±0°.04×68°.7W±0°.2, h128km±10km, mb3.7/1, Error ellipse: s-maj=23.4km s-min=6.6km az=3.6*
*GUC **10** 05:05:39.2±0.6, 21°.65S×68°.70W, h122km±3km, ML3.9*
*IDC **10** 05:05:43.8±8.1, 21°.30S×68°.13W, h128km±67km, mb3.6/1, mb1 3.6/2, mb1mx3.2/16, mbtmp3.5/2, Error ellipse: s-maj=74.0km s-min=63.5km az=130.0*
ISC 10 05:05:40.2±1.0, 21°.60S±0°.04×68°.6W±0°.1, h115km±9km, n14, σ1§61/25, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.63**	**252**	*eP*	**Pn**	**05 05 58.1**	**-0.6**
PB09				*i* S	**Sn**	**05 06 12.3**	**-0.3**
PB09				AML	AML	05 06 14.9	
	comp=N,14μm,0.5s						
PB01	**Plate Boundary**	**1.00**	**303**	⇑*iP*	**Pn**	**05 06 01.8**	**0.0**
PB01				*i* S	**Sn**	**05 06 18.6**	**+0.5**
PB01				AML	AML	05 06 21.0	
	comp=N,1μm,0.2s						
PB07	**Plate Boundary**	**1.21**	**264**	*eP*	**Pn**	**05 06 03.1**	**-1.0**
PB07				*i* S	**Sn**	**05 06 21.6**	**-0.6**
PB07				AML	AML	05 06 22.4	
	comp=N,4μm,0.4s						
PB06	**Plate Boundary**	**1.43**	**219**	*eP*	**Pn**	**05 06 05.5**	**-1.0**
PB06				*i* S	**Sn**	**05 06 25.7**	**-1.0**
PB06				AML	AML	05 06 29.6	
	comp=N,1μm,0.2s						
HMBC	**Humberstone**	**1.78**	**317**	*eP*	**Pn**	**05 06 10.5**	**-0.3**
HMBC				*i* S	**Sn**	**05 06 34.6**	**+0.5**
CEN1	**Los Morros**	**2.32**	**219**	*eP*	**Pn**	**05 06 19.9**	**+2.4**
CEN1				*i* S	**Sn**	**05 06 49.7**	**+3.5**
CEN1				AML	AML	05 06 58.3	
	comp=N,225nm,0.3s						
PSGC	**Pisagua**	**2.45**	**324**	*eP*	**Pn**	**05 06 18.6**	**-0.7**
PSGC				*i* S	**Sn**	**05 06 49.2**	**0.0**
MNMC	**Minimini**	**2.63**	**339**	⇑*iP*	**Pn**	**05 06 22.4**	**+0.6**
MNMC				*i* S	**Sn**	**05 06 55.2**	**+1.7**
PB10	**Plate Boundary**	**2.63**	**223**	*eP*	**Pn**	**05 06 20.3**	**-1.1**
PB10				*i* S	**Sn**	**05 06 51.6**	**-1.6**
PB10				AML	AML	05 07 14.0	
	comp=N,839nm,0.4s						
ANCH	**Antofagasta**	**2.67**	**219**	⇑*iP*	**Pn**	**05 06 20.8**	**-1.1**
LPAZ	**La Paz**	**5.30**	**5**	P	**Pn**	**05 06 59.1**	**+1.4**
	comp=N,2.7nm,0.3s,baz=163,slow=17,SNR=100						
LPAZ				S	**Sn**	**05 07 53.6**	**-4.3**
	comp=N,0.3nm,0.3s,baz=217,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**	**05 17 20.6**	**-1.0**
	comp=N,0.7nm,0.4s,baz=254,slow=5.4,SNR=19						
TORD				pP	**pP**	**05 17 51.6**	**+1.1**
	comp=N,1.4nm,0.7s,baz=252,slow=5.7,SNR=5.9						
WRA	**Warramunga Arr**	**133.02**	**210**	PKP	**PKPdf**	**05 24 43.4**	**+0.5**
	comp=N,0.6nm,0.7s,baz=154,slow=1.7,SNR=5.2						
MKAR	**Makanchi Array**	**145.54**	**36**	PKPbc	**PKPab**	**05 25 06.3**	**+0.7**
	comp=N,0.3nm,0.5s,baz=310,slow=4.5,SNR=4.9						
MKAR				pPKPbc	pPKPbc	05 25 38.0	+2.1
	comp=N,0.8nm,0.8s,baz=321,slow=1.6,SNR=6.9						

---

*IDC **10** 05:28:08.7±0.4, 11°.53S×166°.42E, h0km, mb4.8/29, mb1 4.9/32, mb1mx4.9/33, mbtmp4.8/32, ML4.1/2, MS4.6/7, Ms1 4.6/7, ms1mx4.3/30, Error ellipse: s-maj=13.2km s-min=11.7km az=101.0*
*BKK **10** 05:28:13.0±0.4, 12°.S±6°.×16°.6E±°., h10km, M5.3/15, mb5.3/15*
*MOS **10** 05:28:13.3±1.0, 11°.45S×166°.15E, h33km, mb5.4/12, Error ellipse: s-maj=11.0km s-min=8.4km az=7.0*
*BJI **10** 05:28:14.6, 11°.18S×166°.74E, h51km, mB5.3/17, mb5.1/40, Ms5.2/18, Ms7 4.9/18*
*ISCJB **10** 05:28:15.9±1.2, 11°.51S±0°.04×166°.20E±0°.04, h55km±11km, mb5.0/63, MS4.7/12, Error ellipse: s-maj=6.7km s-min=5.8km az=5.7*
*NEIC **10** 05:28:16.3±0.2, 11°.55S×166°.22E, mb5.0/20, Error ellipse: s-maj=7.1km s-min=5.7km az=147.0*
*DJA **10** 05:28:20.0±1.6, 12°.S±8°.×16°.6E±°., h75km±17km, M5.2/12, mb5.2/12*
*AUST **10** 05:28:24.2±0.0, 11°.66S×165°.90E, h90km, Error ellipse: s-maj=1.9km s-min=1.0km az=32.0*
ISC 10 05:28:16.4±0.3, 11°.55S±0°.04×166°.23E±0°.05, h50km±2km, h49km: pP-P, n234, σ1§40/302, mb5.0/63, MS4.7/13, 3C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.53**	**288**	*e*Pn	**Pn**	**05 29 48.1**	**-1.8**
HNR				*e*Sn	**Sn**	**05 31 05.4**	**+2.2**
HNR	**Honiara**	**6.53**	**288**	Pn	**Pn**	**05 29 47.5**	**-2.5**
	8.4nm,0.3s,baz=9.0,slow=5.1,SNR=3.5						
DZM	**Mont Dzumac**	**10.46**	**179**	*eP*	**Pn**	**05 30 46.0**	**+2.1**
DZM	**Mont Dzumac**	**10.46**	**179**	Pn	**Pn**	**05 30 41.1**	**-2.9**
DZM	**Mont Dzumac**	**10.46**	**179**	Pn	**Pn**	**05 30 41.1**	**-2.9**
	baz=270,slow=20,SNR=1.9						
NOUC	**Port Laguerre**	**10.49**	**180**	*eP*	**Pn**	**05 30 46.5**	**+2.3**
NOUC				*e*S	**Sn**	**05 32 38.8**	**-1.6**
MSVF	**Nonsavu**	**12.98**	**120**	Pn	P	05 31 32.0	+4.5
	489nm,1.0s,SNR=6.3						
MSVF	**Nonsavu**	**12.98**	**120**	*eP*	**Pn**	**05 31 20.5**	**+2.1**
MSVF				*e*		05 33 45.8	
MSVF	**Nonsavu**	**12.98**	**120**	*e*Pn	**Pn**	**05 31 20.5**	**+2.1**
MSVF				*e*Sn	**Sn**	**05 33 45.8**	**+4.4**
TARA	**Tarawa**	**14.44**	**28**	*e*Pn	**Pn**	**05 31 40.0**	**+1.9**
PMG	**Port Moresby**	**18.88**	**275**	*eP*	**P**	**05 32 33.4**	**+0.6**
PMG	**Port Moresby**	**18.88**	**275**	P	**P**	**05 32 32.3**	**-0.5**
	0.9nm,0.3s,baz=255,slow=1.4,SNR=4.0						
CTA	**Charters Tower**	**20.99**	**244**	P	**P**	**05 32 56.5**	**+0.7**
CTA	**Charters Tower**	**20.99**	**244**	P	**P**	**05 32 56.5**	**+0.7**
	23nm,0.8s,baz=82,slow=12,SNR=15						
CTA				LR	LR	05 40 07.3	
	comp=Z,2μm,20.0s,baz=257,slow=34						
CTAO	**Charters Tower**	**20.99**	**244**	*eP*	**P**	**05 32 56.6**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,624nm,2.9s						
CTAO	**Charters Tower**	**20.99**	**244**	*eP*	**P**	**05 32 56.6**	**+0.7**
	comp=Z,624nm,2.9s						
AFI	**Afiamalu**	**21.58**	**99**	*eP*	**P**	**05 33 04.9**	**+2.7**
AFI	**Afiamalu**	**21.58**	**99**	P	**P**	**05 32 58.9**	**-3.3**
	comp=Z,6.0nm,0.5s,baz=121,slow=19,SNR=2.0						
AFI				LR	LR	05 38 43.9	
	comp=Z,571nm,21.2s,baz=96,slow=30						
MTSU	**Mount Surprise**	**22.16**	**250**	P	**P**	**05 33 10.8**	**+2.4**
	baz=22,SNR=21						
RMQ	**Roma**	**22.18**	**225**	P	**P**	**05 33 10.8**	**+2.3**
	baz=22,SNR=11						
COEN	**Coen**	**22.61**	**261**	P	**P**	**05 33 14.7**	**+1.4**
	baz=22,SNR=7.5						
ARMA	**Armidale**	**23.16**	**214**	P	**P**	**05 33 20.5**	**+1.7**
	baz=23,SNR=32						
CMSA	**Cobar Meteorol**	**27.48**	**220**	P	**P**	**05 33 58.9**	**+0.8**
	baz=27,SNR=19						
YNG	**Young**	**27.88**	**213**	P	**P**	**05 34 03.5**	**+1.8**
	baz=28,SNR=6.8						
CNB	**Canberra Magne**	**28.18**	**210**	P	**P**	**05 34 06.0**	**+1.6**
	baz=28,SNR=9.6						
URZ	**Urewera**	**28.32**	**162**	P	**P**	**05 34 05.1**	**-0.4**
URZ	**Urewera**	**28.32**	**162**	P	**P**	**05 34 05.1**	**-0.4**
	comp=Z,10nm,0.6s,baz=32,slow=5.6,SNR=7.1						
MILA	**Mila**	**29.68**	**208**	P	**P**	**05 34 19.1**	**+1.4**
	baz=30,SNR=5.1						
STKA	**Stephens Creek**	**30.41**	**224**	*eP*	**P**	**05 34 25.8**	**+1.6**
STKA				PcP	**PcP**	**05 37 22.9**	**-0.1**
STKA				ScP	**ScP**	**05 41 05.8**	**+4.3**
STKA	**Stephens Creek**	**30.41**	**224**	P	**P**	**05 34 24.4**	**+0.3**
	comp=Z,30nm,0.7s,baz=41,slow=8.6,SNR=48						
STKA				PcP	**PcP**	**05 37 22.9**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=43,slow=2.7,SNR=5.6						
STKA				ScP	**ScP**	**05 41 05.8**	**+4.3**
	comp=Z,2.5nm,0.6s,baz=41,slow=3.4,SNR=7.1						
STKA				LR	LR	05 46 34.0	
	comp=Z,1μm,19.9s,baz=53,slow=36						
STKA	**Stephens Creek**	**30.41**	**224**	P	**P**	**05 34 25.7**	**+1.6**
	baz=30,SNR=18						
WRAB	**Tennant Creek**	**31.75**	**251**	P	**P**	**05 34 36.5**	**+0.4**
	comp=Z,151nm,0.8s,SNR=8						
WRAB	**Tennant Creek**	**31.75**	**251**	*eP*	**P**	**05 34 36.0**	**-0.1**
WRAB				*e*		05 37 27.0	
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**31.75**	**251**	*eP*	**P**	**05 34 36.0**	**-0.1**
	comp=Z,14nm,0.8s						
WRAB				*e*PcP	**PcP**	**05 37 27.0**	**+0.2**
WRA	**Warramunga Arr**	**31.76**	**251**	P	**P**	**05 34 36.3**	**0.0**
WRA				PcP	**PcP**	**05 37 27.0**	**+0.2**
WRA				ScP	**ScP**	**05 41 09.0**	**+2.8**
WRA	**Warramunga Arr**	**31.76**	**251**	P	**P**	**05 34 36.3**	**0.0**
	comp=Z,20nm,0.8s,baz=84,slow=8.9,SNR=91						
WRA				PcP	**PcP**	**05 37 27.0**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=80,slow=3.0,SNR=14						
WRA				ScP	**ScP**	**05 41 09.0**	**+2.8**
	comp=Z,1.2nm,0.8s,baz=85,slow=3.5,SNR=6.0						
WRA				LR	LR	05 46 21.3	
	comp=Z,1μm,20.8s,baz=80,slow=34						
TOO	**Toolangi**	**31.90**	**212**	P	**P**	**05 34 38.5**	**+1.3**
	baz=32,SNR=6.3						
RPZ	**Rata Peaks**	**32.32**	**173**	*eP*	**P**	**05 34 40.8**	**0.0**
RPZ	**Rata Peaks**	**32.32**	**173**	P	**P**	**05 34 40.1**	**-0.7**
	comp=Z,27nm,0.5s,baz=145,slow=2.5,SNR=13						
AS31	**Alice Springs**	**33.00**	**244**	*eP*	**P**	**05 34 46.9**	**-0.2**
ASAR	**Alice Springs**	**33.00**	**244**	P	**P**	**05 34 46.8**	**-0.3**
ASAR				PcP	**PcP**	**05 37 30.1**	**-0.2**
ASAR				ScP	**ScP**	**05 41 13.9**	**+3.4**
ASAR	**Alice Springs**	**33.00**	**244**	P	**P**	**05 34 46.8**	**-0.3**
	comp=Z,19nm,0.7s,baz=73,slow=9.5,SNR=188						
ASAR				PcP	**PcP**	**05 37 30.1**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=69,slow=2.3,SNR=12						
ASAR				ScP	**ScP**	**05 41 13.9**	**+3.4**
	comp=Z,1.7nm,0.8s,baz=66,slow=2.9,SNR=4.3						
ASAR				LR	LR	05 47 42.9	
	comp=Z,927nm,19.8s,baz=156,slow=35						
KDU	**Kakadu**	**33.01**	**264**	P	**P**	**05 34 47.6**	**+0.4**
	baz=33,SNR=16						
ARPS	**Mount Arapiles**	**33.36**	**217**	P	**P**	**05 34 51.5**	**+1.6**
	baz=33,SNR=9.5						
MTN	**Manton Dam**	**34.32**	**264**	P	**P**	**05 34 59.9**	**+1.4**
	baz=34,SNR=3.9						
BBOO	**Buckleboo**	**34.84**	**228**	P	**P**	**05 35 03.8**	**+0.9**
	baz=35,SNR=8.4						
MOO	**Moorlands**	**34.97**	**205**	P	**P**	**05 35 05.2**	**+1.4**
	baz=35,SNR=5.2						
KNRA	**Kununurra**	**36.61**	**259**	P	**P**	**05 35 18.8**	**+0.6**
	baz=36,SNR=12						
PALU	**Palau**	**36.75**	**299**	P	pP	05 35 39.0	+6.5
	baz=37,SNR=3.5						
FITZ	**Fitzroy Crossi**	**39.71**	**256**	P	**P**	**05 35 44.8**	**+0.4**
FITZ				PcP	**PcP**	**05 37 51.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**39.71**	**256**	P	**P**	**05 35 44.8**	**+0.4**
	comp=Z,34nm,0.8s,baz=86,slow=6.2,SNR=85						
FITZ				PcP	**PcP**	**05 37 51.2**	**+0.8**
	comp=Z,7.5nm,0.7s,baz=176,slow=5.9,SNR=3.6						
FITZ				LR	LR	05 52 01.0	
	comp=Z,838nm,19.4s,baz=4.9,slow=36						
FITZ	**Fitzroy Crossi**	**39.71**	**256**	P	**P**	**05 35 44.7**	**+0.3**
	baz=39,SNR=50						
BATI	**Baumata**	**41.80**	**268**	LR	LR	05 52 26.1	
	comp=Z,939nm,20.2s,baz=206,slow=35						
LUWI	**Luwuk**	**44.37**	**280**	S	**S**	**05 42 48.2**	**-5.6**
	baz=44,SNR=3.2						
MBWA	**Marble Bar**	**45.49**	**252**	*eP*	**P**	**05 36 32.4**	**+1.1**
	comp=Z,41nm,0.8s						
MBWA				*e*pP	**pP**	**05 36 44.7**	**+0.1**
MBWA				*e*PcP	**PcP**	**05 38 09.5**	**-0.1**
KAPI	**Kappang**	**46.40**	**274**	P	**P**	**05 36 38.9**	**+0.4**
KAPI	**Kappang**	**46.40**	**274**	P	**P**	**05 36 38.9**	**+0.4**
	comp=Z,5.4nm,0.5s,baz=187,slow=17,SNR=4.0						
MEEK	**Meekatharra**	**47.16**	**244**	P	**P**	**05 36 45.3**	**+1.0**
	baz=47,SNR=56						
KLBR	**Kellerberrin**	**48.84**	**238**	P	**P**	**05 36 57.5**	**+0.3**
	baz=48,SNR=16						
BLDU	**Ballidu**	**49.51**	**240**	P	**P**	**05 37 03.0**	**+0.7**
	baz=49,SNR=5.1						
NWAO	**Narrogin (SRO)**	**49.58**	**236**	P	**P**	**05 37 03.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**49.58**	**236**	P	**P**	**05 37 03.8**	**+1.0**

MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,220nm,7.6s
MDJ LR LR
comp=N,510nm,24.4s
MDJ LR LR
comp=E,460nm,26.8s
MDJ LR LR
comp=Z,550nm,21.9s
VNDA Vanda 66.00 181 *e*P **P 05 38 56.8 -0.5**
comp=Z,40nm,1.8s
VNDA Vanda 66.00 181 P **P 05 38 57.3 0.0**
comp=Z,4.7nm,0.7s,baz=342,slow=5.8,SNR=11
CASY Casey 66.08 201 *e*P **P 05 38 57.5 -0.5**
comp=Z,14nm,0.8s
CASY *e*pP **pP 05 39 10.0 -2.1**
SBA Scott Base 66.30 180 *e*P **P 05 39 00.1 +0.9**
SBA pmax pmax
comp=Z,13nm,1.0s
SBA Scott Base 66.30 180 *e*P **P 05 39 00.1 +0.9**
comp=Z,13nm,1.0s
CN2 Changchun 66.42 329 *e*P **P 05 39 00.5 +0.1**
CN2 *e*pP **pP 05 39 15.0 +0.5**
CN2 *e*S **S 05 47 46.2 -0.8**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=N,500nm,20.0s
CN2 LR LR
comp=E,490nm,20.0s
CN2 LR LR
comp=Z,660nm,22.0s
IPM Ipoh 66.78 280 *e*P **P 05 39 04.6 +1.2**
comp=Z,38nm,1.1s
IPM *e*pP **pP 05 39 16.6 -0.8**
IPM Ipoh 66.78 280 P **P 05 39 04.1 +0.7**
comp=Z,38nm,1.1s
PANO Nakornpanom 67.23 294 P **P 05 39 09.3 +3.2**
comp=Z,237nm,1.4s
KLR Kul'dur 67.71 336 *e*P P 05 39 03.7 -4.8
PSI Prapat 68.41 278 P **P 05 39 13.5 -0.3**
PSI Prapat 68.41 278 P **P 05 39 13.5 -0.3**
comp=Z,17nm,0.8s,baz=151,slow=4.7,SNR=13
PSI Prapat 68.41 278 P **P 05 39 13.5 -0.3**
baz=68,SNR=7.4
ENH Enshi 68.58 309 *e*P **P 05 39 14.4 -0.1**
comp=Z,10nm,0.8s
ENH *e*pP **pP 05 39 29.2 +0.6**
GYA Guiyang 69.09 304⇑*e*P **P 05 39 20.0 +2.2**
GYA pP **pP 05 39 33.2 +1.2**
GYA sP **sP 05 39 38.8 +1.2**
GYA PcP **PcP 05 39 44.0 +2.4**
GYA PP **PP 05 41 55.2 +4.1**
GYA ScP 05 43 41.9
GYA PcS 05 43 47.5
GYA S **S 05 48 20.2 +0.2**
GYA sS **sS 05 48 42.1 -1.5**
GYA SKS **SKSac 05 49 12.0 -2.1**
GYA SS **SS 05 52 47.7 +0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.1s
GYA LR LR
comp=N,540nm,18.6s
GYA LR LR
comp=E,490nm,19.2s
GYA LR LR
comp=Z,530nm,18.7s
BJI Beijing 69.17 321 P **P 05 39 17.8 0.0**
BJI pmax pmax
comp=Z,19nm,0.9s
XAN Xi'an 70.81 312 P **P 05 39 28.2 +0.1**
XAN pmax pmax
comp=Z,7.0nm,0.8s
KMI Kunming 71.79 301 P **P 05 39 35.6 +1.1**
KMI pP **PcP 05 39 51.5 -1.7**
KMI pmax pmax
comp=Z,16nm,1.4s
HHC Hu-ho-hao-te 72.52 320 *e*P **P 05 39 39.5 +1.1**
HHC PcP **PcP 05 39 57.2 +1.4**
HHC PP **PP 05 42 23.2 +2.9**
HHC S **S 05 49 00.2 +1.0**
HHC sS **sS 05 49 22.3 -0.8**
HHC SKS **SKSac 05 49 36.3 -3.0**
HHC ScS **SKKSac 05 49 39.2 -0.3**
HHC SS **SS 05 53 42.4 +3.1**
HHC pmax pmax
comp=Z,34nm,0.7s
HHC pmax pmax
comp=Z,540nm,5.9s
HHC LR LR
comp=N,1μm,16.9s
HHC LR LR
comp=E,1μm,16.8s
HHC LR LR
comp=Z,780nm,16.7s
CMAR Chiang Mai Arr 72.75 294 P **P 05 39 41.5 +1.5**
CMAR Chiang Mai Arr 72.75 294 P **P 05 39 41.5 +1.5**
comp=Z,20nm,0.8s,baz=120,slow=4.4,SNR=74
CMMT Chiang Mai 72.86 294 P **P 05 39 41.5 +0.8**
comp=Z,30nm,1.0s
CHTO Chiang Mai 72.86 294 *e*P **P 05 39 41.3 +0.6**
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 72.86 294 *e*P **P 05 39 41.3 +0.6**
comp=Z,14nm,0.9s
CHTO Chiang Mai 72.86 294 P **P 05 39 41.7 +1.0**
comp=Z,22nm,0.9s
CHTO Chiang Mai 72.86 294 P **P 05 39 41.8 +1.0**
comp=Z,28nm,1.9s
CD2 Chengdu 73.29 307 *e*P **P 05 39 43.9 +0.9**
CD2 pP **pP 05 39 56.8 -0.5**
CD2 sP **sP 05 40 02.8 -0.1**
CD2 PP **PP 05 42 29.8 +2.8**
CD2 S **S 05 49 08.0 -0.2**
CD2 sS **sS 05 49 30.5 -1.6**
CD2 SS **SS 05 53 52.9 +1.7**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 LR LR
comp=N,1μm,26.2s
CD2 LR LR
comp=Z,660nm,19.0s
LZH Lanzhou 75.45 312 ⇓P **P 05 39 57.3 +1.7**
LZH pP **pP 05 40 10.5 +0.6**
LZH sP **sP 05 40 15.3 -0.2**
LZH pmax pmax
comp=Z,42nm,1.0s
LZH pmax pmax
comp=Z,230nm,6.9s
LZH LR LR
comp=N,420nm,13.6s
LZH LR LR
comp=E,1μm,19.6s
LZH LR LR
comp=Z,760nm,17.3s
QSPA South Pole Qui 78.46 180 *e*P **P 05 40 11.2 -0.9**
comp=Z,26nm,0.8s
RSO Redoubt South 78.84 19 *e*P **P 05 40 16.2 +2.1**
ULN Ulaanbaatar 78.99 324 *e*P **P 05 40 15.7 +0.5**
comp=Z,17nm,0.9s
ULN Ulaanbaatar 78.99 324 P **P 05 40 15.7 +0.5**
SONM Songino Array 79.35 324 P **P 05 40 17.6 +0.4**
SONM Songino Array 79.35 324 P **P 05 40 17.6 +0.4**
comp=Z,6.5nm,0.9s,baz=137,slow=5.7,SNR=24
GTA Gaotai 79.75 314 ⇑P **P 05 40 20.7 +1.2**
GTA pP **pP 05 40 33.6 -0.3**
GTA sP **sP 05 40 39.8 +0.3**
GTA pmax pmax
comp=Z,25nm,0.8s
SHL Shillong 81.17 298 *ex* **P 05 40 28.0 +0.5**
TRF Thorofare Moun 81.85 18 *e*pP pP 05 40 44.2 -0.5
ZAK Zakamensk 82.39 325 *e*P **P 05 40 32.8 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
TLY Talaya 82.81 326 *e*P **P 05 40 35.0 -0.3**
TLY pmax pmax
comp=Z,11nm,0.9s
COLA College 83.61 18 *e*P **P 05 40 37.6 -1.5**
COLA *e*PP **pP 05 40 53.6 0.0**
COLA College 83.61 18 *e*P **P 05 40 37.6 -1.5**
COLA *e*pP **pP 05 40 53.6 0.0**
MENT Mentasta 83.63 21 *e*P **P 05 40 38.8 -0.6**

ILAR Eielson Array 83.84 18 P **P 05 40 38.2 -2.1**
ILAR Eielson Array 83.84 18 P **P 05 40 38.2 -2.1**
comp=Z,2.4nm,0.8s,baz=221,slow=6.2,SNR=23
MAW Mawson 84.44 202 P **P 05 40 42.8 -0.6**
MAW Mawson 84.44 202 P **P 05 40 42.8 -0.6**
comp=Z,4.7nm,1.0s,baz=113,slow=8.6,SNR=4.4
MAW Mawson 84.44 202 P **P 05 40 43.3 0.0**
baz=84,SNR=5.1
HYT Haines Junctio 84.65 24 *e*P **P 05 40 44.4 -0.3**
HYT *e*pP **pP 05 40 59.2 0.0**
COLD Coldfoot 84.65 16 *e*pP pP 05 41 05.8 +6.9
BEKR Beckworth 84.93 48 *e*P **P 05 40 47.0 +0.3**
comp=Z,1.7nm,0.6s
WAKR Walker 85.16 49 *e*P **P 05 40 47.0 -0.9**
comp=Z,23nm,1.7s
TAPN Taplejung 85.27 299 *e*P **P 05 40 49.3 +0.6**
comp=Z,29nm,0.8s
ODAN Odare 85.41 298 *e*P **P 05 40 50.0 +0.6**
comp=Z,59nm,0.7s
MTUM Tungsten Hills 85.45 51 *e*P **P 05 40 50.7 +1.4**
EGAK Eagle 85.69 20 *e*P **P 05 40 48.6 -1.0**
comp=Z,8.3nm,0.7s
EGAK *e*pP **pP 05 41 04.5 +0.4**
DAWY Dawson 85.85 21 *e*P **P 05 40 50.0 -0.6**
DAWY *e*pP **pP 05 41 05.4 +0.3**
NVAR Mina Array Bea 85.98 50 P **P 05 40 50.9 -1.1**
NVAR Mina Array Bea 85.98 50 P **P 05 40 50.9 -1.1**
comp=Z,2.0nm,0.7s,baz=233,slow=7.8,SNR=16
RAMN Ramite 86.11 298 *e*P **P 05 40 53.0 +0.1**
JIRN Jiri 86.65 299 *e*P **P 05 40 56.1 +0.4**
comp=Z,44nm,1.0s
GUN Gumba 86.98 299 *e*P **P 05 40 57.7 +0.5**
PKI Pulchoki 87.30 299 *e*P **P 05 40 58.7 -0.1**
comp=Z,34nm,0.8s
KKN Kakani 87.46 299 *e*P **P 05 40 59.6 +0.2**
comp=Z,36nm,0.9s
DMN Daman 87.57 299 *e*P **P 05 41 00.3 +0.3**
comp=Z,72nm,0.8s
SHPR Sheep Range 87.81 52 *e*P **P 05 41 01.5 +0.6**
SHPR *e*pP **pP 05 41 16.2 +0.8**
DANN Dangsing 88.90 299 *e*P **P 05 41 05.6 -0.7**
comp=Z,52nm,0.7s
KOLN Koldanda 88.90 298 *e*P **P 05 41 05.6 -0.6**
MFID Camas Ranch 89.26 45 *e*P **P 05 41 06.9 -0.6**
comp=Z,1.8nm,0.6s
CCUT Cedar City 89.48 52 *e*P **P 05 41 09.6 +0.8**
PYUN Piuthan 89.50 299 *e*P **P 05 41 08.3 -0.8**
comp=Z,71nm,0.9s
WMQ Urumqi 89.79 315 P **P 05 41 09.8 0.0**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,57nm,6.0s
NEW Newport 89.81 41 *e*P **P 05 41 10.9 +1.0**
TUC Tucson 90.25 57 *e*P **P 05 41 13.7 +1.4**
TUC Tucson 90.25 57 *e*P **P 05 41 13.7 +1.4**
HLID Hailey 90.29 46 *e*P **P 05 41 11.9 -0.5**
comp=Z,1.8nm,0.6s
HLID *e*pP **pP 05 41 27.8 +0.9**
KRAR Krasnoyarsk 90.40 327⇓*e*P **P 05 41 12.5 +0.2**
KRAR pmax pmax
comp=Z,46nm,0.7s
MSU Marysvale 90.63 51 *e*P **P 05 41 14.8 +0.7**
MSU Marysvale 90.63 51 *e*P **P 05 41 14.8 +0.7**
BSMT Bassoo Peak 91.20 41 *e*P **P 05 41 15.9 -0.6**
HYB Hyderabad 91.22 287 *i* P **P 05 41 16.0 -1.0**
HYB *e*pP **pP 05 41 30.0 -1.6**
SYO Syowa Base 91.44 197⇑*e*X **P 05 41 14.4 -2.6**
SYO Syowa Base 91.44 197⇓*e*pP pP 05 41 28.8 -2.8
MCMT McKenzie Canyo 91.70 45 *e*P **P 05 41 18.9 -0.1**
comp=Z,0.7nm,0.6s
SLMT Seeley Lake 91.88 42 *e*P **P 05 41 18.9 -0.7**
SLMT *e*pP **pP 05 41 33.1 -1.2**
DLMT Dillon 92.01 44 *e*P **P 05 41 20.1 -0.2**
HRY Holter Researc 92.85 43 *e*P **P 05 41 24.2 +0.2**
PDAR Pinedale Array 93.54 47 P **P 05 41 26.6 -0.9**
PDAR PKKPbc **PKKPdf 05 58 32.3 -1.3**
PDAR Pinedale Array 93.54 47 P **P 05 41 26.6 -0.9**
comp=Z,0.5nm,0.7s,baz=247,slow=2.3,SNR=7.1
PDAR PKKPbc **PKKPdf 05 58 32.3 -1.3**
comp=Z,0.9nm,0.7s,baz=96,slow=5.7,SNR=11
MK31 Makanchi Array 94.21 317 *i* P **P 05 41 29.8 -0.4**
MK31 pmax pmax
comp=Z,24nm,0.9s
MKAR Makanchi Array 94.21 317 *i* P **P 05 41 29.8 -0.4**
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 94.21 317 P **P 05 41 29.9 -0.3**
MKAR PKKPbc **PKKPdf 05 58 28.4 -3.8**
MKAR Makanchi Array 94.21 317 P **P 05 41 29.9 -0.3**
comp=Z,23nm,0.8s,baz=99,slow=6.1,SNR=187
MKAR PKKPbc **PKKPdf 05 58 28.4 -3.8**
comp=Z,0.4nm,0.8s,baz=273,slow=3.1,SNR=3.7
ZALV Zalesovo Beam 94.24 324 *i* P **P 05 41 29.5 -0.6**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
ZALV Zalesovo Beam 94.24 324 P **P 05 41 29.4 -0.6**
ZALV Zalesovo Beam 94.24 324 P **P 05 41 29.4 -0.6**
comp=Z,4.3nm,0.3s,baz=108,slow=4.8,SNR=7.9
YKA Yellowknife Ar 95.20 27 P **P 05 41 33.5 -0.7**
YKA Yellowknife Ar 95.20 27 P **P 05 41 33.5 -0.7**
comp=Z,0.7nm,0.7s,baz=208,slow=9.2,SNR=2.8
TXAR Lajitas Array 95.65 61 P **P 05 41 37.7 +0.4**
TXAR PKKPbc **PKKPbc 05 58 28.6 +0.3**
TXAR Lajitas Array 95.65 61 P **P 05 41 37.7 +0.4**
comp=Z,0.6nm,0.7s,baz=220,slow=6.0,SNR=11
TXAR PKKPbc **PKKPbc 05 58 28.6 +0.3**
comp=Z,0.1nm,0.6s,baz=73,slow=2.8,SNR=3.9
POO Poona 95.83 288 *ex* **P 05 41 38.0 -0.2**
SNAA Sanae 96.64 183 *e*P P 05 41 45.4 +4.5
VNA2 Neumayer--Watz 97.60 182 *e*P P 05 41 39.6 -5.6
AAK Ala-Archa 98.98 312⇓*e*P **P 05 41 51.9 -0.2**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 98.98 312 P **P 05 41 51.5 -0.6**
AAK Ala-Archa 98.98 312 P **P 05 41 51.5 -0.6**
comp=Z,1.1nm,0.4s,baz=210,slow=3.8,SNR=3.6
KKAR Karatay Array 101.95 312 *e*P **Pdif 05 42 04.5 -0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 101.95 312 *e*Pdif **Pdif 05 42 04.5 -0.6**
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 102.64 322 P **Pdif 05 42 07.3 -0.6**
BVAR Borovoye Array 102.64 322 P **Pdif 05 42 07.3 -0.6**
BVAR Borovoye Array 102.64 322 P **Pdif 05 42 07.3 -0.6**
comp=Z,2.1nm,0.8s,baz=95,slow=4.9,SNR=8.1
ARCES ARCESS Array B 116.94 346 PKP **PKPdf 05 46 53.1 -2.0**
ARCES ARCESS Array B 116.94 346 PKP **PKPdf 05 46 53.1 -2.0**
comp=Z,1.4nm,0.7s,baz=64,slow=2.8,SNR=7.0
LPAZ La Paz 119.53 116 PKP **PKPdf 05 47 00.4 -2.0**
LPAZ La Paz 119.53 116 PKP **PKPdf 05 47 00.4 -2.0**
comp=Z,0.8nm,0.8s,baz=210,slow=8.1,SNR=4.7
FINES FINESS Array B 122.41 339 PKP **PKPdf 05 47 03.8 -2.0**
FINES FINESS Array B 122.41 339 PKP **PKPdf 05 47 03.8 -2.0**
comp=Z,0.8nm,0.7s,baz=213,slow=9.9,SNR=3.8
CPUP Villa Florida 123.34 132 PKP **PKPdf 05 47 05.9 -2.8**
CPUP Villa Florida 123.34 132 PKP **PKPdf 05 47 05.9 -2.8**
comp=Z,0.9nm,0.6s,baz=136,slow=20,SNR=3.3
BOSA Boshof 125.07 223 PKP **PKPdf 05 47 11.4 -0.7**
BOSA Boshof 125.07 223 PKP **PKPdf 05 47 11.4 -0.7**
comp=Z,6.1nm,0.8s,baz=129,slow=5.1,SNR=9.6
NB2 NORSAR Subarra127.31 345 PKPdf **PKPdf 05 47 14.3 -1.1**
comp=Z,0.7nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B127.31 345 PKP **PKPdf 05 47 14.2 -1.1**
NOA NORSAR Array B127.31 345 PKP **PKPdf 05 47 14.2 -1.1**
comp=Z,1.2nm,0.8s,baz=34,slow=1.9,SNR=6.3
KOLS Kolonicke sedl 132.23 328 *e*PKIKP **PKPdf 05 47 25.9 +0.9**
KOLS Kolonicke sedl 132.23 328 *e*PKP **PKPdf 05 47 25.9 +0.9**
STHS Stebnicka Huta 132.44 329 *e*PKIKP **PKPdf 05 47 25.8 +0.4**
STHS Stebnicka Huta 132.44 329 *e*PKP **PKPdf 05 47 25.8 +0.4**
KECS Kecovo 133.43 329 *e*PKIKP **PKPdf 05 47 26.6 -0.6**
KECS Kecovo 133.43 329 *e*PKP **PKPdf 05 47 26.6 -0.6**
KECS *e* 05 47 27.7
EKA Eskdalemuir Ar 135.53 351 SKPbc **SKPab 05 51 02.0 -0.6**
EKA Eskdalemuir Ar 135.53 351 SKPbc **SKPab 05 51 02.0 -0.6**
comp=Z,0.4nm,0.5s,baz=338,slow=2.0,SNR=3.8
GERES GERESS Array B 136.37 334 PKP **PKPdf 05 47 33.3 +0.5**
GERES SKPbc **SKPab 05 51 04.5 -2.1**
GERES GERESS Array B 136.37 334 PKP **PKPdf 05 47 33.3 +0.5**
comp=Z,0.4nm,0.4s,baz=60,slow=3.2,SNR=5.3
GERES SKPbc **SKPab 05 51 04.5 -2.1**
comp=Z,0.4nm,0.3s,baz=48,slow=2.0,SNR=6.4
BDFB Brasilia 136.65 128 PKP **PKPdf 05 47 34.0 -0.3**
BDFB SKPbc **SKiKP 05 51 05.9 -2.4**

BDFB Brasilia 136.65 128 PKP **PKPdf 05 47 34.0 -0.3**
comp=Z,2.3nm,0.8s,baz=205,slow=5.4,SNR=3.2
BDFB SKPbc **SKiKP 05 51 05.9 -2.4**
comp=Z,2.2nm,0.9s,baz=122,slow=15,SNR=3.4
DAVOX Davos/Dischmat 139.59 335 PKP **PKPdf 05 47 38.3 -0.7**
DAVOX Davos/Dischmat 139.59 335 PKP **PKPdf 05 47 38.3 -0.7**
comp=Z,1.3nm,0.4s,baz=288,slow=2.2,SNR=4.2
WDD Wield Dalam 144.78 318 *e*PKPdf **PKPab 05 47 46.9 -0.4**
KEST Kesra 148.10 323 PKPbc **PKPbc 05 47 56.9 -0.4**
KEST Kesra 148.10 323 PKPbc **PKPbc 05 47 56.9 -0.4**
comp=Z,3.4nm,0.8s,baz=354,slow=1.4,SNR=12
ESDC Sonseca Array 150.67 344 PKPbc **PKPbc 05 48 02.5 -1.0**
ESDC Sonseca Array 150.67 344 PKPbc **PKPbc 05 48 02.5 -1.0**
comp=Z,1.4nm,0.7s,baz=21,slow=2.5,SNR=7.5
TORD Torodi Ar. Bea 164.81 278 PKP **PKPdf 05 48 15.0 -0.9**
TORD PKPab **PKPab 05 49 11.9 -0.2**
TORD PP PP 05 53 05.2 +6.4
TORD Torodi Ar. Bea 164.81 278 PKP **PKPdf 05 48 15.0 -0.9**
comp=Z,1.1nm,0.9s,baz=219,slow=2.2,SNR=5.0
TORD PKPab **PKPab 05 49 11.9 -0.2**
comp=Z,4.5nm,0.9s,baz=71,slow=4.8,SNR=11
TORD PP PP 05 53 05.2 +6.4
comp=Z,1.5nm,0.9s,baz=85,slow=4.6,SNR=5.3
KIC Kosan Boka 169.70 241 *e*P **PKPab 05 49 33.9 +0.3**
comp=Z,162nm,1.9s
LIC Lamto 169.87 239 *e*P **PKPab 05 49 34.6 +0.2**
comp=Z,34nm,1.0s
DBIC Dimbokro 169.95 242 PKPab **PKPab 05 49 34.4 -0.3**
DBIC Dimbokro 169.95 242 PKPab **PKPab 05 49 34.4 -0.3**
comp=Z,5.7nm,0.7s,baz=108,slow=5.0,SNR=6.0
TIC Toumodi 170.08 241 *e*P **PKPab 05 49 35.6 +0.3**
comp=Z,54nm,1.2s

IDC 10 05:37:40.1±43.0, 18°.40S×167°.60E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, MS3.5/1, Ms1 3.5/1, ms1mx3.4/29, Error ellipse: s-maj=742.6km s-min=109.6km az=76.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**196**	LR	LR	05 39 43.3	
comp=Z,566nm,19.3s,baz=258,slow=32							
STKA	**Stephens Creek**	**27.01**	**235**	P	P	05 43 24.4	+0.4
2.0nm,0.7s,baz=75,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**31.42**	**262**	P	P	05 44 02.1	-1.2
0.6nm,1.0s,baz=101,slow=7.4,SNR=3.0							
ASAR	**Alice Springs**	**31.83**	**255**	P	P	05 44 07.8	+0.8
2.4nm,0.9s,baz=80,slow=9.3,SNR=9.3							
FITZ	**Fitzroy Crossi**	**39.78**	**264**	P	P	05 45 15.1	-0.1
4.0nm,1.0s,baz=126,slow=11,SNR=5.5							

CSEM 10 05:44:34.2, 42°.68N×12°.98E, h10km, MD1.8/4, After ROM
ROM 10 05:44:34.2±0.1, 42°.68N×12°.98E, h10km±1km, Md1.8/4, Ml1.0/1, Error ellipse: s-maj=3.2km s-min=0.8km az=103.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.09**	**148**	Pg	Pg	05 44 37.1	+0.3
LNSS				Sg	Sg	05 44 39.1	+0.5
255nm,0.2s							
LNSS	**Leonessa**	**0.09**	**148**	Pg	Pg	05 44 37.1	+0.3
LNSS				Sg	Sg	05 44 39.1	+0.5
255nm,0.2s							
NRCA	**Norcia**	**0.18**	**34**	Pg	Pg	05 44 38.8	+0.5
NRCA				Sg	Sg	05 44 42.1	+1.0
37nm,0.2s							
NRCA	**Norcia**	**0.18**	**34**	Pg	Pg	05 44 38.8	+0.5
NRCA				Sg	Sg	05 44 42.1	+1.0
37nm,0.2s							
CESI	**CESI - Serrava**	**0.33**	**351**	Pg	Pg	05 44 41.4	+0.5
CESI				Sg	Sb	05 44 47.0	-0.8
14nm,0.2s							
CESI	**CESI - Serrava**	**0.33**	**351**	Pg	Pg	05 44 41.4	+0.5
CESI				Sg	Sb	05 44 47.0	-0.8
14nm,0.2s							
FDMO	**Fiordimonte**	**0.37**	**13**	Pg	Pg	05 44 42.0	+0.5
FDMO				Sg	Sb	05 44 47.9	-0.9
FDMO	**Fiordimonte**	**0.37**	**13**	Pg	Pg	05 44 42.0	+0.5
FDMO				Sg	Sb	05 44 47.9	-0.9

IDC 10 05:46:30.8±2.2, 19°.51S×169°.30E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=73.4km s-min=25.0km az=140.0
NOU 10 05:46:33.1±0.9, 19°.18S×169°.14E, h10km, MD3.4, ML3.2
NEIC 10 05:46:34.9±0.8, 19°.35S×168°.96E, h10km, mb4.2/2, Error ellipse: s-maj=27.8km s-min=12.0km az=160.0
ISCJB 10 05:46:35.7±1.8, 19°.6S±0°.2×169°.2E±0°.1, h39km±22km, mb4.0/8, Error ellipse: s-maj=33.6km s-min=6.9km az=152.4
ISC 10 05:46:37.0±5.1, 19°.5S±0°.3×169°.1E±0°.2, h34km±14km, n26, σ0=89/32, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.36**	**218**	*e*P	**Pn**	**05 47 26.1**	**-0.9**
BAYA				*e*S	**Sn**	**05 48 05.2**	**-0.6**
BAYA				AMP		05 48 08.4	
comp=Z,25nm,7.8s							
DZM	**Mont Dzumac**	**3.57**	**224**	*e*P	**Pn**	**05 47 28.3**	**-1.8**
DZM				*e*S	**Sn**	**05 48 10.9**	**-0.3**
DZM				AMP		05 48 23.8	
comp=Z,3μm,7.9s							
DZM	**Mont Dzumac**	**3.57**	**224**	Pn	**Pn**	**05 47 29.3**	**-0.8**
DZM				Sn	**Sn**	**05 48 11.5**	**+0.4**
DZM	**Mont Dzumac**	**3.57**	**224**	Pn	**Pn**	**05 47 29.3**	**-0.8**
comp=Z,18nm,0.3s,baz=56,slow=17,SNR=232							
DZM				Sn	**Sn**	**05 48 11.5**	**+0.4**
comp=Z,41nm,0.3s,baz=163,slow=22,SNR=11							
PLUM	**Mont Dore**	**3.60**	**220**	*e*P	**Pn**	**05 47 30.0**	**-0.3**
PLUM				*e*S	**Sn**	**05 48 10.7**	**-0.9**
PLUM				AMP		05 48 18.9	
comp=Z,287nm,6.3s							
NOUC	**Port Laguerre**	**3.69**	**225**	*e*P	**Pn**	**05 47 31.0**	**-0.5**
NOUC				*e*S	**Sn**	**05 48 13.6**	**-0.2**
NOUC				AMP		05 48 26.9	
comp=Z,106nm,0.6s							
MSVF	**Nonsavu**	**8.66**	**80**	*e*Pn	Pn	05 48 43.2	+3.3
comp=Z,314nm,1.5s							
MSVF				*e*Sn	**Sn**	**05 50 17.1**	**+0.6**
CTA	**Charters Tower**	**21.51**	**265**	P	**P**	**05 51 22.8**	**-0.4**
CTA	**Charters Tower**	**21.51**	**265**	P	**P**	**05 51 22.8**	**-0.4**
comp=Z,1.4nm,0.2s,baz=104,slow=8.3,SNR=2.2							
CTAO	**Charters Tower**	**21.51**	**265**	*e*P	**P**	**05 51 25.0**	**+1.9**
comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**27.60**	**238**	*e*P	**P**	**05 52 22.9**	**+1.7**
STKA	**Stephens Creek**	**27.60**	**238**	P	**P**	**05 52 21.6**	**+0.4**
comp=Z,2.5nm,0.8s,baz=76,slow=7.9,SNR=4.4							
WRAB	**Tennant Creek**	**32.69**	**263**	*e*P	**P**	**05 53 06.7**	**+0.3**
comp=Z,2.3nm,0.9s							
WRA	**Warramunga Arr**	**32.70**	**263**	P	**P**	**05 53 06.2**	**-0.3**
WRA	**Warramunga Arr**	**32.70**	**263**	P	**P**	**05 53 06.2**	**-0.3**
comp=Z,1.3nm,1.0s,baz=94,slow=8.0,SNR=8.2							
AS31	**Alice Springs**	**32.95**	**256**	*e*P	**P**	**05 53 09.0**	**+0.4**
ASAR	**Alice Springs**	**32.95**	**256**	P	**P**	**05 53 08.8**	**+0.2**
ASAR	**Alice Springs**	**32.95**	**256**	P	**P**	**05 53 08.8**	**+0.2**
comp=Z,3.1nm,0.8s,baz=83,slow=9.0,SNR=31							
FITZ	**Fitzroy Crossi**	**41.09**	**265**	P	**P**	**05 54 19.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**41.09**	**265**	P	**P**	**05 54 19.1**	**+1.3**
comp=Z,2.7nm,0.7s,baz=155,slow=7.3,SNR=10.0							
SONM	**Songino Array**	**87.36**	**323**	P	**P**	**05 59 20.5**	**-0.1**
SONM	**Songino Array**	**87.36**	**323**	P	**P**	**05 59 20.5**	**-0.1**
comp=Z,0.6nm,0.5s,baz=157,slow=7.8,SNR=3.9							
ILAR	**Eielson Array**	**90.52**	**17**	P	**P**	**05 59 34.2**	**-0.6**
ILAR	**Eielson Array**	**90.52**	**17**	P	**P**	**05 59 34.2**	**-0.6**
comp=Z,0.3nm,0.8s,baz=224,slow=5.7,SNR=2.7							
GERES	**GERESS Array B**	**144.66**	**332**	PKP	**PKPab**	**06 06 07.6**	**-1.2**
GERES	**GERESS Array B**	**144.66**	**332**	PKP	**PKPab**	**06 06 07.6**	**-1.2**
comp=Z,0.3nm,0.2s,baz=57,slow=3.6,SNR=2.9							

IDC 10 05:54:05.2±11.0, 36°.27S×96°.80W, h0km, mb4.0/4, mb1 4.4/4, mb1mx4.0/17, mbtmp4.0/4, Error ellipse: s-maj=301.3km s-min=47.9km az=8.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**32.32**	**60**	P	P	06 00 36.9	+0.1
2.2nm,1.1s,baz=207,slow=8.1,SNR=4.4							
TXAR	**Lajitas Array**	**65.58**	**353**	P	P	06 04 50.6	-0.1
0.5nm,0.8s,baz=171,slow=8.6,SNR=9.3							

NVAR	Mina Array Bea	76.94	343	P	P	06 06 00.0	+0.5
	2.1nm,0.8s,baz=179,slow=7.1,SNR=17						
PDAR	Pinedale Array	79.52	350	P	P	06 06 13.4	-0.3
	1.9nm,0.8s,baz=159,slow=5.9,SNR=18						

IDC 10 05:56:05.9±4.9, 35°.16S×97°.02W, h0km, mb3.7/4, mb1 4.2/4, mb1mx3.9/17, mbtmp3.7/4, Error ellipse: s-maj=137.5km s-min=41.9km az=3.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	31.93	61	P	P	06 02 34.1	-0.1
	0.9nm,0.8s,baz=240,slow=11,SNR=3.5						
TXAR	Lajitas Array	64.46	354	P	P	06 06 43.4	-0.8
	0.4nm,0.9s,baz=165,slow=5.2,SNR=3.6						
NVAR	Mina Array Bea	75.83	343	P	P	06 07 54.7	+0.7
	1.0nm,0.7s,baz=178,slow=8.1,SNR=6.7						
PDAR	Pinedale Array	78.40	351	P	P	06 08 08.7	+0.3
	1.1nm,0.9s,baz=167,slow=7.3,SNR=5.7						
SONM	Songino Array	158.47	313	PKPab	PKPab	06 16 39.0	-0.8
	0.2nm,0.4s,baz=72,slow=4.8,SNR=4.3						

IDC 10 06:03:06.6±2.6, 11°.72S×169°.82E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=123.7km s-min=28.8km az=135.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	32.84	228	P	P	06 09 42.4	+0.3
	0.7nm,0.3s,baz=54,slow=8.7,SNR=4.7						
WRA	Warramunga Arr	35.05	252	P	P	06 10 01.5	0.0
	1.0nm,0.3s,baz=85,slow=8.7,SNR=31						
ASAR	Alice Springs	36.12	246	P	P	06 10 10.3	-0.4
	2.1nm,0.5s,baz=74,slow=9.7,SNR=36						
ILAR	Eielson Array	82.92	17	P	P	06 15 33.0	0.0
	0.4nm,0.5s,baz=232,slow=4.4,SNR=8.8						

*IDC **10** 06:46:10.1±0.7, 55°.71S×29°.81W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/18, mbtmp4.3/8, ML3.4/1, MS3.9/5, Ms1 3.9/5, ms1mx3.7/29, Error ellipse: s-maj=34.5km s-min=16.3km az=68.0*
*NEIC **10** 06:46:11.5±0.4, 55.59S×29°.68W, h10km, mb4.7/4, Error ellipse: s-maj=23.7km s-min=9.5km az=66.0*
*ISCJB **10** 06:46:12.8±0.7, 55°.7S±0°.1×29°.8W±0°.4, h28km, mb4.4/10, MS3.9/4, Error ellipse: s-maj=31.4km s-min=11.0km az=155.5*

ISC 10 06:46:14.5±0.5, 55°.7S±0°.1×29°.8W±0°.2, h28km, n39, σ1§12/36, mb4.5/10, MS4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.74	156	ePn	P	06 50 22.9	+3.3
VNA2	Neumayer--Watz	18.14	156	ePn	P	06 50 28.5	+4.5
SNAA	Sanae	19.72	155	ePn	Pn	06 50 43.1	+0.1
SNAA	Sanae	19.72	155	eP	Pn	06 50 42.0	-1.0
SNAA	Sanae	19.72	155	P	P	06 50 41.2	-0.3
	0.1nm,0.3s,baz=311,slow=14,SNR=12						
SNAA				LR	LR	06 55 43.8	
	comp=Z,217nm,20.1s,baz=184,slow=29						
USHA	Ushuaia	21.83	256	LR	LR	06 57 06.4	
	comp=Z,957nm,21.4s,baz=124,slow=30						
PLCA	Paso Flores	30.46	282	LR	LR	07 04 03.3	
	comp=Z,537nm,20.4s,baz=136,slow=35						
QSPA	South Pole Qui	34.59	180	eP	P	06 53 01.7	+1.1
QSPA	South Pole Qui	34.59	180	P	P	06 52 59.8	-0.8
	6.4nm,0.5s,baz=197,slow=4.1,SNR=89						
CPUP	Villa Florida	35.45	314	eP	P	06 53 07.8	-0.4
CPUP	Villa Florida	35.45	314	P	P	06 53 07.2	-1.0
	4.2nm,0.9s,baz=126,slow=9.5,SNR=4.5						
CPUP				LR	LR	07 05 56.3	
	comp=Z,222nm,19.1s,baz=119,slow=33						
CFAA	Coronel Fontan	36.04	296	LR	LR	07 07 17.5	
	comp=Z,36nm,21.9s,baz=132,slow=35						
MAW	Mawson	41.34	145	P	P	06 53 56.5	-0.7
MAW	Mawson	41.34	145	P	P	06 53 56.5	-0.7
	4.8nm,0.9s,baz=242,slow=5.9,SNR=10						
BDFB	Brasilia	42.31	333	P	P	06 54 06.6	+0.8
BDFB	Brasilia	42.31	333	P	P	06 54 06.6	+0.8
	2.1nm,0.8s,baz=112,slow=12,SNR=5.5						
SBA	Scott Base	46.35	185	eP	P	06 54 38.8	+1.5
	26nm,1.4s						
VNDA	Vanda	46.88	183	P	P	06 54 41.3	-0.2
VNDA	Vanda	46.88	183	P	P	06 54 41.3	-0.2
	6.5nm,0.7s,baz=189,slow=6.9,SNR=14						
LPAZ	La Paz	48.94	308	eP	P	06 54 59.0	+0.2
	7.1nm,0.8s						
LPAZ	La Paz	48.94	308	P	P	06 54 59.4	+0.6
	1.8nm,0.5s,baz=134,slow=7.5,SNR=11						
SAML	Samuel	53.48	317	eP	P	06 55 32.3	+0.1
	3.5nm,1.0s						
CASY	Casey	54.77	162	eP	P	06 55 40.8	-0.1
	7.0nm,0.8s						
TORD	Torodi Ar. Bea	73.48	32	P	P	06 57 45.0	+0.8
TORD	Torodi Ar. Bea	73.48	32	P	P	06 57 45.0	+0.8
	1.6nm,0.7s,baz=198,slow=6.0,SNR=8.8						
KECS	Kecovo	111.99	34	PDIF	Pdif	07 00 52.8	+3.5
CMAR	Chiang Mai Arr	126.60	113	PKP	PKPdf	07 05 13.9	-0.9
CMAR	Chiang Mai Arr	126.60	113	PKP	PKPdf	07 05 13.9	-0.9
	0.7nm,0.3s,baz=232,slow=4.4,SNR=4.8						
ARCES	ARCESS Array B	131.14	23	PKP	PKPdf	07 05 22.2	+0.3
ARCES	ARCESS Array B	131.14	23	PKP	PKPdf	07 05 22.2	+0.3
	1.1nm,0.8s,baz=321,slow=1.2,SNR=2.8						
BVAR	Borovoye Array	135.84	59	PKP	PKPdf	07 05 30.2	-1.0
BVAR	Borovoye Array	135.84	59	PKP	PKPdf	07 05 30.2	-1.0
	0.4nm,0.5s,baz=255,slow=5.7,SNR=4.1						
INK	Inuvik	144.56	321	PKP	PKPbc	07 05 45.1	-0.2
INK				ePKPdf	PKPdf	07 05 45.6	-0.9
INK	Inuvik	144.56	321	PKP	PKPbc	07 05 45.1	-0.2
	4.8nm,1.1s,baz=134,slow=3.9,SNR=4.4						
DAWY	Dawson	145.43	313	ePKPdf	PKPdf	07 05 47.6	-0.6
EGAK	Eagle	146.38	314	ePKPbc	PKPbc	07 05 50.9	-0.2
COLD	Coldfoot	150.51	317	ePKPdf	PKPdf	07 05 54.8	-1.6
COLD				ePKPbc	PKiKP	07 06 02.3	-0.2
COLD				ePKPab	PKPab	07 06 09.1	+0.4
SONM	Songino Array	152.20	88	PKPbc	PKPbc	07 06 05.9	-0.6
SONM	Songino Array	152.20	88	PKPbc	PKPbc	07 06 05.9	-0.6
	2.0nm,0.7s,baz=208,slow=3.0,SNR=10						

*CSEM **10** 06:53:05.8, 37°.25N×25°.60W, h14km, ML1.8, After PDA*

PDA 10 06:53:05.8±0.3, 37°.25N×25°.60W, h14km±5km, MD3.5, ML1.8, Error ellipse: s-maj=2.4km s-min=2.1km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.49	354	eP	Pg	06 53 13.9	-1.7
PDA				eS	Sg	06 53 19.9	-2.4
PDA				A	A	06 53 21.6	
	26nm,0.1s						
PDA	Ponta Delgada	0.49	354	eP	Pg	06 53 13.9	-1.7
PDA				eS	Sg	06 53 19.9	-2.4
PSMN	Pico do Norte,	0.50	120	eP	Pg	06 53 13.9	-1.8
PSMN				eS	Sg	06 53 20.1	-2.2
PSMN				A	A	06 53 21.2	
	21nm,0.1s						
PSMN	Pico do Norte,	0.50	120	eP	Pg	06 53 13.9	-1.8
PSMN				eS	Sg	06 53 20.1	-2.2
GRON	Grota Negra	0.52	6	eP	Pg	06 53 14.7	-1.4
GRON				eS	Sg	06 53 21.3	-1.8
GRON				A	A	06 53 22.5	
	13nm,0.2s						
PSET	Sete Cidades	0.58	351	eS	Sg	06 53 22.1	-2.9
PSET				A	A	06 53 22.7	
	20nm,0.2s						
PSET	Sete Cidades	0.58	351	eS	Sg	06 53 22.1	-2.9
BART	Pico Bartolome	0.63	33	eP	Pg	06 53 15.8	-2.4
BART				eS	Sg	06 53 23.3	-3.4
BART				A	A	06 53 25.3	
	54nm,0.2s						
BART	Pico Bartolome	0.63	33	eP	Pg	06 53 15.8	-2.4
BART				eS	Sg	06 53 23.3	-3.4

IDC 10 07:04:33.7±20.0, 37°.24S×96°.20W, h0km, mb3.7/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.7/3, Error ellipse: s-maj=624.8km s-min=312.1km az=126.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	66.59	353	P	P	07 15 25.7	-0.1
	0.6nm,1.0s,baz=174,slow=9.1,SNR=4.9						
NVAR	Mina Array Bea	78.01	342	P	P	07 16 34.1	+0.1
	0.7nm,0.7s,baz=176,slow=6.0,SNR=8.4						
PDAR	Pinedale Array	80.55	350	P	P	07 16 47.8	0.0
	0.6nm,0.7s,baz=160,slow=6.5,SNR=7.6						

IDC 10 07:05:56.0±9.2, 35°.71S×137°.51E, h0km, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=107.2km s-min=39.7km az=162.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	5.12	43	Pn	Pn	07 07 14.1	+0.2
	0.5nm,0.3s,baz=222,slow=14,SNR=7.8						
STKA				Lg	Lg	07 08 39.0	
	0.8nm,0.3s,baz=298,slow=22,SNR=6.1						
ASAR	Alice Springs	12.40	344	Pn	Pn	07 08 53.6	-0.3
	0.1nm,0.3s,baz=162,slow=11,SNR=2.8						
WRA	Warramunga Arr	15.95	349	Pn	Pn	07 09 42.0	0.0
	0.1nm,0.3s,baz=165,slow=11,SNR=6.6						

IDC 10 07:14:52.6±12.0, 37°.43S×97°.28W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/16, mbtmp3.8/4, Error ellipse: s-maj=342.7km s-min=46.0km az=7.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	33.24	59	P	P	07 21 32.2	-0.1
	0.9nm,0.8s,baz=214,slow=11,SNR=2.9						
TXAR	Lajitas Array	66.68	354	P	P	07 25 45.2	-0.1
	0.4nm,0.8s,baz=181,slow=8.8,SNR=5.1						
NVAR	Mina Array Bea	77.94	343	P	P	07 26 52.9	+0.5
	1.1nm,0.8s,baz=178,slow=6.9,SNR=10						
PDAR	Pinedale Array	80.60	351	P	P	07 27 06.5	-0.4
	0.9nm,0.8s,baz=152,slow=5.9,SNR=8.2						

KRSC 10 07:33:43.5±0.7, 55°.81N×163°.83E, h5km±5km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	Krutoberegovo	0.77	306	P	Pg	07 33 58.4	+0.1
KBG				S	Sb	07 34 09.6	-0.6
BKI	Bering	1.36	116	P	Pn	07 34 08.3	-0.8
BKI				S	Sb	07 34 26.3	-0.8
SMKR	Semkarok	1.53	301	P	Pn	07 34 11.4	-0.2
SMKR				S	Sn	07 34 31.9	0.0
BDR	Baidarnaya	1.65	298	P	Pn	07 34 13.3	+0.1
BDR				S	Sn	07 34 35.3	+0.4
SRKR	Sorokina	1.71	301	P	Pn	07 34 14.5	+0.5
SRKR				S	Sb	07 34 37.3	-0.1
MKZ	Mys Kozlova	1.74	225	P	Pn	07 34 14.1	-0.2
MKZ				S	Sn	07 34 36.1	-0.7
KLY	Klyuchi	1.85	287	P	Pn	07 34 14.9	-1.0
KLY				S	Sn	07 34 37.8	-1.8
BZMR	Bezymyannaya	1.89	275	S	Sg	07 34 44.1	-0.4
KIRR	Kirishev	1.97	276	P	Pn	07 34 17.5	-0.2
KIRR				S	Sn	07 34 42.5	-0.4
KMNR	Kamenistaya	2.03	270	P	Pn	07 34 19.7	+1.2
KMNR				S	Sb	07 34 46.3	-0.3
KPT	Kopyto	2.04	276	P	Pn	07 34 19.7	+1.1
KPT				S	Sb	07 34 46.8	-0.1
TUMR	Tumrok	2.16	257	P	Pb	07 34 21.8	-1.4
TUMR				S	Sb	07 34 49.4	-1.0
KOZ	Kozyrevsk	2.24	278	P	Pb	07 34 23.1	-1.4
KOZ				S	Sb	07 34 52.3	-0.2
SRDR	Sredinnyy	2.36	284	P	Pn	07 34 24.2	+1.2
SRDR				S	Sb	07 34 54.5	-1.6
SPN	Mys Shipunski	3.51	221	P	Pn	07 34 38.6	-0.1
SPN				S	Sn	07 35 17.6	-2.9
NLC	Nalytchevo	3.72	227	S	Sn	07 35 26.1	+0.5
SDLR	Sedlovina	3.84	231	P	Pn	07 34 44.7	+1.4
SDLR				S	Sn	07 35 29.9	+1.0
KRER	Koryakskii	3.88	232	P	Pn	07 34 46.2	+2.2
SMAR	Somma	3.88	231	P	Pn	07 34 45.1	+1.0
AVH	Avacha	3.91	231	P	Pn	07 34 47.2	+2.9
UGLR	Uglovaya	3.91	230	P	Pn	07 34 45.6	+1.3
GNL	Ganaly	4.02	241	P	Pn	07 34 46.5	+0.7
RUS	Russkaya	4.61	225	P	Pn	07 34 55.0	+1.3
MTVR	Mutnovka	4.70	227	P	Pn	07 34 57.5	+2.2
MTVR				S	Sn	07 35 50.6	+0.3
ASAK	Asacha	4.89	228	P	Pn	07 35 00.7	+2.9

*NEIC **10** 07:49:06.5, 19°.03N×65°.39W, h20km, MD2.9(RSPR), After RSPR.*

RSPR 10 07:49:06.5, 19°.03N×65°.39W, h20km±18km, 9C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.88	211	eP	Pb	07 49 20.6	-2.5
CBYP	Canovanas	0.88	211	eS	Sb	07 49 32.0	-2.4
CBYP	Canovanas	0.88	211	eP	Pb	07 49 20.6	-2.5
CBYP				eS	Sb	07 49 32.0	-2.4
CBYP	Canovanas	0.88	211	eP	Pb	07 49 20.6	-2.5
CBYP				eS	Sb	07 49 32.1	-2.3
MTP	Monte Pirata	0.94	190	eP	Pb	07 49 22.1	-2.0
MTP	Monte Pirata	0.94	190	eS	Sb	07 49 33.5	-2.6
MTP	Monte Pirata	0.94	190	eP	Pb	07 49 22.1	-2.0
MTP				eS	Sb	07 49 33.5	-2.6
MTP	Monte Pirata	0.94	190	eP	Pb	07 49 22.8	-1.3
MTP				eS	Sb	07 49 33.5	-2.6
HUMP	Col San Antoni	0.98	207	eP	Pb	07 49 22.4	-2.5
HUMP	Col San Antoni	0.98	207	eS	Sb	07 49 35.1	-2.4
HUMP	Col San Antoni	0.98	207	eP	Pb	07 49 22.4	-2.5
HUMP				eS	Sb	07 49 35.1	-2.4
HUMP	Col San Antoni	0.98	207	eP	Pb	07 49 22.4	-2.5
HUMP				eS	Sb	07 49 35.7	-1.7
CPD	Cerro la Pandu	1.11	207	eS	Sb	07 49 38.0	-3.1
CPD	Cerro la Pandu	1.11	207	eS	Sb	07 49 38.0	-3.1
ANWB	Willy Bob	3.68	111	ePn	Pn	07 50 03.8	+1.5

*NEIC **10** 07:50:25.1, 18°.92N×64°.74W, h8km, MD2.9(RSPR), After RSPR.*

RSPR 10 07:50:25.1, 18°.92N×64°.74W, h8km±18km, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	1.12	223	eP	Pg	07 50 43.5	-3.2
MTP	Monte Pirata	1.12	223	eP	Pg	07 50 43.5	-3.2
MTP				eS	Sg	07 50 58.6	-2.6
MTP	Monte Pirata	1.12	223	eS	Sg	07 50 58.6	-2.6
CBYP	Canovanas	1.24	239	eP	Pn	07 50 45.1	-3.6
CBYP	Canovanas	1.24	239	eP	Pn	07 50 45.1	-3.6
HUMP	Col San Antoni	1.30	234	eP	Pn	07 50 47.0	-2.7
HUMP	Col San Antoni	1.30	234	eP	Pn	07 50 47.0	-2.7
HUMP				eS	Sb	07 51 02.9	-3.8
HUMP	Col San Antoni	1.30	234	eS	Sb	07 51 02.9	-3.8
CPD	Cerro la Pandu	1.42	232	eP	Pn	07 50 48.2	-3.0
CPD	Cerro la Pandu	1.42	232	eP	Pn	07 50 48.2	-3.0
CPD				eS	Sb	07 51 05.9	-4.2
CPD	Cerro la Pandu	1.42	232	eS	Sb	07 51 05.9	-4.2

*IDC **10** 08:07:29.8±1.1, 33°.42S×178°.77W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/21, mbtmp4.2/6, ML4.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/29, Error ellipse: s-maj=33.5km s-min=27.4km az=41.0*
*NEIC **10** 08:07:34.5±0.7, 33°.59S×178°.72W, h35km, mb4.4/1, Error ellipse: s-maj=19.0km s-min=15.5km az=125.0*

ISC 10 08:07:36.8±1.0, 33°.6S±0°.1×178°.9W±0°.2, h48km, n27, σ0§87/25, mb4.2/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.64	214	ePn	Pn	08 08 57.2	-0.7
URZ				Sn	Sn	08 10 01.0	-0.3
URZ				eSn	Sn	08 10 03.2	+1.8
URZ	Urewera	5.64	214	Pn	Pn	08 08 57.1	-0.9
	27nm,0.3s,baz=322,slow=1.5,SNR=232						
URZ				Sn	Sn	08 10 01.0	-0.3
	12nm,0.3s,baz=178,slow=23,SNR=3.8						
RPZ	Rata Peaks	12.75	215	Pn	Pn	08 10 27.4	-8.0
RPZ				Sn	Sn	08 12 43.0	-13
RPZ	Rata Peaks	12.75	215	Pn	Pn	08 10 27.4	-8.0
	0.6nm,0.3s,baz=78,slow=14,SNR=2.8						
RPZ				Sn	Sn	08 12 43.0	-13
	1.2nm,0.3s,baz=15,slow=14,SNR=4.4						
CTA	Charters Tower	33.70	285	P	P	08 14 14.6	+1.1
CTA	Charters Tower	33.70	285	P	P	08 14 14.6	+1.1
	2.4nm,0.5s,baz=131,slow=14,SNR=4.6						
PMG	Port Moresby	39.41	300	LR	LR	08 28 39.0	
	comp=Z,88nm,21.6s,baz=183,slow=32						
ASAR	Alice Springs	42.27	271	P	P	08 15 25.9	+0.1
ASAR	Alice Springs	42.27	271	P	P	08 15 25.9	+0.1
	1.0nm,0.4s,baz=108,slow=7.2,SNR=27						
WRAB	Tennant Creek	43.55	276	eP	P	08 15 36.5	+0.5
	2.5nm,0.4s						
WRA	Warramunga Arr	43.55	276	P	P	08 15 36.1	0.0
WRA	Warramunga Arr	43.55	276	P	P	08 15 36.1	0.0
	2.1nm,0.3s,baz=117,slow=7.7,SNR=68						
FITZ	Fitzroy Crossi	51.66	273	P	P	08 16 39.0	0.0
FITZ	Fitzroy Crossi	51.66	273	P	P	08 16 39.0	0.0
	0.9nm,0.6s,baz=349,slow=11,SNR=5.9						
QSPA	South Pole Qui	56.49	180	P	P	08 17 18.0	+4.2
QSPA	South Pole Qui	56.49	180	P	P	08 17 15.9	+2.2
	1.3nm,1.0s,baz=172,slow=0.7,SNR=5.4						
ARCES	ARCESS Array B	141.55	346	PKP	PKPdf	08 26 59.8	-1.8
ARCES	ARCESS Array B	141.55	346	PKP	PKPdf	08 26 59.8	-1.8
	1.6nm,1.0s,baz=27,slow=3.0,SNR=3.5						
FINES	FINESS Array B	147.86	338	PKPbc	PKPbc	08 27 15.4	-0.3
FINES	FINESS Array B	147.86	338	PKPbc	PKPbc	08 27 15.4	-0.3
	3.8nm,0.7s,baz=225,slow=1.9,SNR=13						
NB2	NORSAR Subarra	151.80	350	PKP	PKPbc	08 27 25.0	-0.4
	comp=Z,1.0nm,0.5s,baz=14,slow=2.5						
NOA	NORSAR Array B	151.80	350	PKPbc	PKPbc	08 27 24.9	-0.6
NOA	NORSAR Array B	151.80	350	PKPbc	PKPbc	08 27 24.9	-0.6
	comp=Z,1.6nm,0.6s,baz=14,slow=4.1,SNR=9.2						
BRTR	Keskin Array B	153.28	293	PKPbc	PKPbc	08 27 29.4	-0.2
BRTR	Keskin Array B	153.28	293	PKPbc	PKPbc	08 27 29.4	-0.2
	comp=Z,0.9nm,0.5s,baz=124,slow=3.4,SNR=4.6						
TORD	Torodi Ar. Bea	159.61	182	PKPab	PKPab	08 28 09.0	0.0
TORD	Torodi Ar. Bea	159.61	182	PKPab	PKPab	08 28 09.0	0.0
	comp=Z,0.3nm,0.6s,baz=167,slow=3.6,SNR=2.5						

*NEIC **10** 08:14:42.4, 19°.04N×65°.54W, h10km, MD3.0(RSPR), After RSPR.*

RSPR 10 08:14:42.4, 19°.04N×65°.54W, h10km±5km, 12C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.82	201	eP	Pg	08 14 56.5	-1.9
CBYP	Canovanas	0.82	201	eS	Sg	08 15 08.0	-1.2
CBYP	Canovanas	0.82	201	eP	Pg	08 14 56.5	-1.9
CBYP				eS	Sg	08 15 08.0	-1.2
CBYP	Canovanas	0.82	201	eP	Pg	08 14 56.5	-1.9
CBYP				eS	Sg	08 15 08.0	-1.2
MTP	Monte Pirata	0.94	181	eP	Pg	08 14 58.4	-2.1
MTP	Monte Pirata	0.94	181	eS	Sg	08 15 10.8	-1.9
MTP	Monte Pirata	0.94	181	eP	Pg	08 14 58.4	-2.1
MTP				eS	Sg	08 15 10.8	-1.9
MTP	Monte Pirata	0.94	181	eP	Pg	08 14 58.4	-2.1
MTP				eS	Sg	08 15 10.8	-1.9
HUMP	Col San Antoni	0.94	198	eP	Pg	08 14 58.4	-2.1
HUMP	Col San Antoni	0.94	198	eP	Pg	08 14 58.4	-2.1
HUMP	Col San Antoni	0.94	198	eP	Pg	08 14 58.4	-2.1
AOPR	Arecibo Observ	1.34	239	eP	Pn	08 15 04.1	-3.2
AOPR	Arecibo Observ	1.34	239	eP	Pn	08 15 04.1	-3.2
AOPR	Arecibo Observ	1.34	239	eP	Pn	08 15 04.6	-2.6

RSPR 10 08:15:55.3, 19°.01N×65°.61W, h17km±18km, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.77	198	eS	Sb	08 16 18.6	-2.0
CBYP	Canovanas	0.77	198	eP	Pb	08 16 08.0	-2.3
CBYP	Canovanas	0.77	198	eP	Pb	08 16 08.4	-2.0
CBYP				eS	Sb	08 16 18.6	-2.0
HUMP	Col San Antoni	0.89	195	eS	Sb	08 16 21.5	-2.5
HUMP	Col San Antoni	0.89	195	eS	Sb	08 16 21.5	-2.5
MTP	Monte Pirata	0.91	177	eP	Pb	08 16 10.3	-2.4
MTP	Monte Pirata	0.91	177	eS	Sb	08 16 22.5	-1.9
MTP	Monte Pirata	0.91	177	eP	Pb	08 16 10.3	-2.4
MTP				eS	Sb	08 16 22.5	-1.9
AOPR	Arecibo Observ	1.27	239	eP	Pn	08 16 15.9	-2.5
AOPR	Arecibo Observ	1.27	239	eP	Pn	08 16 15.9	-2.5

MAN 10 09:15:00, 15°.24N×120°.38E, h25km, mb4.5, ML3.3, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	2.40	123	eP	Pn	09 15 20.6	-17
GQP				eS	Sb	09 16 13.0	+1.2

*ISCJB **10** 09:40:36.8±0.7, 6°.07S±0°.09×149°.1E±0°.1, h60km, mb3.9/7, MS4.3/1, Error ellipse: s-maj=20.7km s-min=9.2km az=25.6*
*IDC **10** 09:40:37.4±0.8, 6°.08S×149°.14E, h52km±7km, mb3.8/7, mb1 4.1/9, mb1mx3.7/20, mbtmp3.9/9, MS3.9/2, Ms1 3.9/2, ms1mx2.9/27, Error ellipse: s-maj=22.8km s-min=10.4km az=117.0*
*NEIC **10** 09:40:40.3±2.2, 6°.18S×149°.15E, h82km±20km, mb4.5/1, Error ellipse: s-maj=18.9km s-min=16.4km az=124.0*

ISC 10 09:40:37.8±0.6, 6°.09S±0°.08×149°.2E±0°.1, h60km, n25, σ1§09/40, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.84	211	P	Pn	09 41 35.8	+1.4
PMG				S	Sn	09 42 18.4	+0.1
PMG	Port Moresby	3.84	211	P	Pn	09 41 35.8	+1.4
	37nm,0.3s,baz=34,slow=5.5,SNR=50						
PMG				S	Sn	09 42 18.4	+0.1
	52nm,0.3s,baz=67,slow=19,SNR=14						
PMG				LR	LR	09 43 25.1	
	comp=Z,408nm,18.4s,baz=169,slow=44						
CTAO	Charters Tower	14.20	191	Pn	Pn	09 43 55.8	-0.1
WRAB	Tennant Creek	19.90	225	eP	Pn	09 45 05.4	-1.3
	14nm,0.6s						
WRA	Warramunga Arr	19.92	225	P	Pn	09 45 05.6	-1.3
WRA				pP

PETK pP **pP** **09 50 48.5 -1.6**
1.9nm,0.6s,baz=166,slow=7.1,SNR=4.0
ZALV Zalesovo Beam 80.23 327 P **P** **09 52 41.7 -0.1**
ZALV Zalesovo Beam 80.23 327 P **P** **09 52 41.7 -0.1**
0.4nm,0.4s,baz=114,slow=7.0,SNR=2.7
ILAR Eielson Array 84.73 23 P **P** **09 53 05.0 -0.1**
ILAR pP **pP** **09 53 20.1 -1.9**
ILAR Eielson Array 84.73 23 P **P** **09 53 05.0 -0.1**
0.5nm,0.8s,baz=245,slow=5.0,SNR=6.4
ILAR pP **pP** **09 53 20.1 -1.9**
0.5nm,0.8s,baz=236,slow=6.6,SNR=4.8
TORD Torodi Ar. Bea 147.18 285 PKPbc **PKPdf** **10 00 13.8 +0.7**
TORD Torodi Ar. Bea 147.18 285 PKPbc **PKPdf** **10 00 13.8 +0.7**
0.4nm,0.5s,baz=71,slow=3.5,SNR=5.3
BDFB Brasilia 152.52 142 PKPbc **PKPbc** **10 00 28.7 +0.1**
BDFB Brasilia 152.52 142 PKPbc **PKPbc** **10 00 28.7 +0.1**
4.2nm,0.9s,baz=243,slow=2.3,SNR=4.9

IDC 10 09:43:56.1±2.2, 28°.91N×113°.22W, h0km, mb3.9/1, mb1 3.6/6, mb1mx3.4/29, mbtmp3.2/6, ML3.2/5, MS3.0/3, Ms1 3.0/3, ms1mx2.6/37, Error ellipse: s-maj=32.1km s-min=13.2km az=32.0, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**5.46**	**151**	Pn	Pn	09 45 16.6	-2.1
	0.2nm,0.3s,baz=0.0,slow=10,SNR=2.8						
ANMO	**Albuquerque**	**8.32**	**42**	Pn	Pn	09 45 57.8	-0.5
	0.1nm,0.3s,baz=233,slow=17,SNR=4.1						
ANMO				Lg	Lg	09 48 16.4	
	0.3nm,0.3s,baz=343,slow=19,SNR=3.2						
ANMO				LR	LR	09 48 50.7	
	comp=Z,106nm,18.2s,baz=112,slow=35						
TXAR	**Lajitas Array**	**8.37**	**85**	Pn	Pn	09 45 59.8	+0.9
	0.5nm,0.3s,baz=259,slow=15,SNR=43						
TXAR				Sn	Sn	09 47 33.2	-1.0
	baz=275,slow=22,SNR=2.3						
TXAR				Lg	Lg	09 48 16.5	
	0.2nm,0.3s,baz=276,slow=27,SNR=3.6						
TXAR				LR	LR	09 49 17.2	
	comp=Z,81nm,21.3s,baz=55,slow=38						
NVAR	**Mina Array Bea**	**10.39**	**337**	Pn	Pn	09 46 28.1	+1.4
	0.0nm,0.3s,baz=156,slow=12,SNR=3.6						
NVAR				LR	LR	09 50 22.2	
	comp=Z,66nm,18.2s,baz=127,slow=37						
PDAR	**Pinedale Array**	**14.14**	**11**	Pn	Pn	09 47 20.6	+2.6
	0.0nm,0.3s,baz=174,slow=10,SNR=2.2						
TKL	**Tuckaleechee C**	**25.73**	**67**	P	P	09 49 30.1	+1.8
	1.7nm,0.7s,baz=246,slow=11,SNR=2.7						

---

*IDC **10** 10:05:04.4±2.6, 31°.43N×139°.06E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=246.6km s-min=33.0km az=87.0*
*JMA **10** 10:05:22.4±0.3, 33°.03N×138°.63E, h303km, M2.9*
*ISCJB **10** 10:05:23.2±0.8, 33°.13N±0°.08×138°.6E±0°.2, h300km, mb2.8/2, Error ellipse: s-maj=18.4km s-min=9.7km az=22.8*
ISC 10 10:05:24.2±1.2, 33°.2N±0°.1×138°.5E±0°.2, h300km, n14, σ0°65/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO4	**TONANKAI O.B.S**	**1.12**	**314**	P	**Pn**	**10 06 05.4**	**+0.6**
TTO5	**TONANKAI O.B.S**	**1.21**	**327**	P	**Pn**	**10 06 06.3**	**+0.9**
TTO2	**TONANKAI O.B.S**	**1.33**	**293**	P	**Pn**	**10 06 06.7**	**+0.7**
TTO1	**TONANKAI O.B.S**	**1.49**	**286**	P	**Pn**	**10 06 07.5**	**+0.5**
HMMJ	**Hamamatsu 2**	**1.75**	**338**	P	**Pn**	**10 06 09.6**	**+0.6**
JNY	**Yasuok**	**2.19**	**346**	P	**Pn**	**10 06 13.3**	**+0.7**
JYN	**Shimob**	**2.26**	**1**	P	**Pn**	**10 06 14.0**	**+0.8**
BSO3	**Boso 3**	**2.29**	**46**	S	**S**	**10 06 51.9**	**0.0**
JWY	**Kouya**	**2.62**	**293**	P	**Pn**	**10 06 16.5**	**+0.1**
JHU	**Hanno**	**2.69**	**14**	P	**Pn**	**10 06 17.2**	**+0.3**
JHU				S	**S**	**10 06 58.5**	**-0.5**
JRY	**Ryogami san**	**2.80**	**7**	P	**Pn**	**10 06 18.7**	**+0.7**
JRY				S	**S**	**10 07 00.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.31**	**356**	Pn	**Pn**	**10 06 22.7**	**-0.4**
	0.4nm,0.3s,baz=166,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**53.02**	**185**	P	**P**	**10 14 10.0**	**-1.0**
	0.2nm,0.3s,baz=360,slow=7.5,SNR=7.7						
ASAR	**Alice Springs**	**56.75**	**185**	P	**P**	**10 14 37.6**	**+0.1**
	0.3nm,0.9s,baz=9.2,slow=12,SNR=4.9						

IDC 10 10:14:24.1±8.1, 15°.39S×173°.07W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.4/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/14, Error ellipse: s-maj=382.6km s-min=24.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.93**	**41**	Pn	Pn	10 14 57.1	-1.3
	176nm,0.3s,baz=275,slow=20,SNR=193						
AFI				Sn	Sn	10 15 15.1	-8.3
	181nm,0.3s,baz=162,slow=18,SNR=16						
PPT2	**Papeete2**	**22.63**	**99**	eLR	LR	10 26 29.3	
	157nm,25.8s						
URZ	**Urewera**	**24.37**	**199**	LR	LR	10 28 00.7	
	comp=Z,111nm,20.1s,baz=233,slow=34						
WRA	**Warramunga Arr**	**50.15**	**257**	P	P	10 23 21.3	-0.5
	0.1nm,0.6s,baz=90,slow=7.6,SNR=2.9						
ASAR	**Alice Springs**	**50.41**	**252**	P	P	10 23 22.9	-0.9
	0.8nm,0.8s,baz=86,slow=8.1,SNR=6.6						
ILAR	**Eielson Array**	**82.38**	**11**	P	P	10 26 47.5	0.0
	0.3nm,0.6s,baz=229,slow=6.5,SNR=5.6						
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	PKPab	10 34 08.6	+0.4
	0.5nm,0.8s,baz=113,slow=3.3,SNR=2.7						

IDC 10 10:20:25.4±1.1, 30°.17S×177°.61W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, ML3.2/1, Error ellipse: s-maj=29.9km s-min=21.6km az=110.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**344**	Pn	Pn	10 20 45.6	-0.4
	494nm,0.3s,baz=95,slow=10,SNR=30						
RAO				Sn	Sg	10 20 55.4	-0.7
	3μm,0.3s,baz=106,slow=20,SNR=29						
URZ	**Urewera**	**9.18**	**207**	Pn	Pn	10 22 39.2	+0.2
	0.2nm,0.3s,baz=90,slow=13,SNR=5.0						
URZ				Sn	Sn	10 24 20.6	-2.4
	0.8nm,0.3s,baz=230,slow=21,SNR=12						
STKA	**Stephens Creek**	**34.86**	**257**	P	P	10 27 20.2	+1.8
	2.1nm,0.5s,baz=90,slow=5.1,SNR=4.6						
ASAR	**Alice Springs**	**43.46**	**267**	P	P	10 28 29.8	-0.7
	1.0nm,0.6s,baz=102,slow=7.3,SNR=26						
WRA	**Warramunga Arr**	**44.42**	**272**	P	P	10 28 38.1	-0.2
	2.7nm,0.5s,baz=110,slow=8.1,SNR=60						
NVAR	**Mina Array Bea**	**87.84**	**43**	P	P	10 33 18.2	+1.3
	0.3nm,0.7s,baz=235,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**145.04**	**340**	PKPbc	PKPbc	10 40 01.9	-1.5
	1.7nm,0.3s,baz=61,slow=3.6,SNR=13						
NOA	**NORSAR Array B**	**148.57**	**352**	PKPbc	PKPbc	10 40 13.0	-0.7
	0.4nm,0.5s,baz=6.8,slow=3.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**163.05**	**178**	PKPab	PKPab	10 41 18.2	-1.7
	0.2nm,0.5s,baz=101,slow=2.9,SNR=2.1						

IDC 10 10:34:42.3±1.7, 16°.50S×177°.25E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, MS3.8/11, Ms1 3.8/11, ms1mx3.6/28, Error ellipse: s-maj=104.6km s-min=25.7km az=149.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.61**	**240**	eLR	LR	10 40 08.1	
	846nm,26.6s						
HNR	**Honiara**	**18.25**	**290**	LR	LR	10 45 08.5	
	comp=Z,205nm,19.3s,baz=116,slow=34						
URZ	**Urewera**	**21.68**	**180**	LR	LR	10 46 34.9	
	comp=Z,156nm,18.7s,baz=8.2,slow=33						
PMG	**Port Moresby**	**30.13**	**280**	LR	LR	10 51 04.0	
	comp=Z,122nm,19.4s,baz=94,slow=33						
PPT2	**Papeete2**	**31.72**	**97**	eLR	LR	10 49 32.5	
	395nm,27.8s						
TBI	**Tubuai**	**31.98**	**108**	eLR	LR	10 49 42.1	
	386nm,29.5s						
STKA	**Stephens Creek**	**35.76**	**238**	P	P	10 41 44.5	+1.3
	2.0nm,0.8s,baz=111,slow=8.6,SNR=2.8						
STKA				LR	LR	10 54 35.9	
	comp=Z,111nm,20.2s,baz=23,slow=33						
WRA	**Warramunga Arr**	**40.82**	**258**	P	P	10 42 24.6	-1.4
	0.5nm,0.7s,baz=94,slow=8.8,SNR=5.1						

ASAR	**Alice Springs**	**41.20**	**253**	P	P	10 42 29.1	-0.1
	1.3nm,1.0s,baz=82,slow=8.9,SNR=14						
ASAR				LR	LR	10 58 20.9	
	comp=Z,224nm,19.0s,baz=146,slow=34						
RKT	**Rikitea**	**45.28**	**106**	eLR	LR	10 55 53.1	
	314nm,27.5s						
LPIG	**La Paz**	**81.38**	**62**	LR	LR	11 15 07.3	
	comp=Z,8.5nm,18.9s,baz=208,slow=30						
BBB	**Bella Bella**	**83.14**	**30**	LR	LR	11 20 45.9	
	comp=Z,48nm,18.0s,baz=248,slow=33						
CMAR	**Chiang Mai Arr**	**84.50**	**291**	LR	LR	11 20 14.2	
	comp=Z,88nm,19.2s,baz=331,slow=32						
ILAR	**Eielson Array**	**85.51**	**15**	P	P	10 47 22.2	+0.4
	0.4nm,0.9s,baz=224,slow=6.3,SNR=5.1						
ANMO	**Albuquerque**	**88.52**	**53**	LR	LR	11 17 11.2	
	comp=Z,43nm,21.6s,baz=204,slow=29						
TXAR	**Lajitas Array**	**88.79**	**59**	P	P	10 47 38.2	-0.4
	0.3nm,0.8s,baz=214,slow=7.5,SNR=3.4						
TXAR				LR	LR	11 18 32.7	
	comp=Z,76nm,20.4s,baz=190,slow=30						
SONM	**Songino Array**	**89.80**	**320**	LR	LR	11 22 58.6	
	comp=Z,163nm,20.3s,baz=149,slow=32						

IDC 10 10:49:06.9±1.5, 16°.32S×175°.64E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/18, mbtmp3.9/6, MS3.5/5, Ms1 3.5/5, ms1mx3.3/25, Error ellipse: s-maj=151.3km s-min=21.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.40**	**235**	eLR	LR	10 53 45.4	
	291nm,27.0s						
DZM	**Mont Dzumac**	**10.40**	**235**	LR	LR	10 55 00.2	
	comp=Z,310nm,18.6s,baz=19,slow=34						
AFI	**Afiamalu**	**12.38**	**81**	LR	LR	10 55 52.8	
	comp=Z,152nm,20.1s,baz=233,slow=33						
HNR	**Honiara**	**16.76**	**292**	LR	LR	10 58 29.0	
	comp=Z,156nm,18.6s,baz=51,slow=34						
PPT2	**Papeete2**	**33.27**	**97**	eLR	LR	11 03 53.8	
	155nm,26.2s						
STKA	**Stephens Creek**	**34.55**	**237**	P	P	10 55 57.3	0.0
	3.3nm,1.0s,baz=61,slow=3.4,SNR=3.3						
STKA				LR	LR	11 07 30.4	
	comp=Z,68nm,18.2s,baz=27,slow=32						
WRA	**Warramunga Arr**	**39.35**	**258**	P	P	10 56 38.5	+0.1
	0.7nm,0.8s,baz=91,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**	**39.79**	**253**	P	P	10 56 41.6	-0.3
	1.8nm,0.8s,baz=83,slow=9.0,SNR=16						
ASAR				LR	LR	11 12 14.9	
	comp=Z,87nm,19.0s,baz=177,slow=35						
NVAR	**Mina Array Bea**	**82.34**	**46**	P	P	11 01 31.2	+0.2
	0.4nm,0.8s,baz=212,slow=8.5,SNR=4.8						
TXAR	**Lajitas Array**	**90.03**	**60**	P	P	11 02 09.0	0.0
	0.8nm,0.9s,baz=220,slow=6.9,SNR=7.6						
PDAR	**Pinedale Array**	**90.20**	**45**	P	P	11 02 09.4	-0.3
	0.5nm,1.1s,baz=212,slow=3.2,SNR=4.7						
GERES	**GERESS Array B**	**144.36**	**339**	PKP	PKPdf	11 08 44.4	-0.8
	0.3nm,0.2s,baz=14,slow=2.0,SNR=5.6						

MEX 10 11:02:01.3±1.0, 17°.15N×95°.05W, h144km±16km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.61**	**267**	*e*P	Pn	11 02 30.8	-1.1
VHO				*i* S	Sn	11 02 53.5	-1.7
HUIG	**Huatulco**	**1.71**	**217**	*i* P	Pn	11 02 31.1	-1.7
HUIG				*i* S	Sn	11 02 55.2	-1.6
TGIG		**1.88**	**101**	*i* P	Pn	11 02 33.7	-1.1
TGIG				*i* S	Sn	11 02 57.6	-2.8
TPIG	**Tehuac#an**	**2.54**	**300**	*i* P	Pn	11 02 40.8	-2.0
TPIG				*i* S	Sn	11 03 13.2	-1.6
CCIG	**Comitan**	**2.92**	**107**	*i* P	Pn	11 02 47.1	-0.6
CCIG				*i* S	Sn	11 03 21.4	-2.1
PNIG	**Pinotepa**	**3.04**	**256**	*i* P	Pn	11 02 46.7	-2.3
PNIG				*i* S	Sn	11 03 22.8	-3.1

IDC 10 11:04:54.7±3.4, 7°.70S×68°.77E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=115.7km s-min=32.4km az=60.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**50.37**	**5**	LR	LR	11 33 21.8	
	comp=Z,87nm,19.3s,baz=181,slow=34						
MKAR	**Makanchi Array**	**55.58**	**11**	P	P	11 14 31.4	-0.6
	0.3nm,0.6s,baz=196,slow=9.0,SNR=4.1						
ASAR	**Alice Springs**	**64.20**	**112**	P	P	11 15 31.5	-0.4
	0.2nm,0.7s,baz=276,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**64.49**	**108**	P	P	11 15 34.1	+0.3
	0.4nm,0.9s,baz=284,slow=6.5,SNR=3.4						
SONM	**Songino Array**	**64.50**	**27**	P	P	11 15 33.9	+0.5
	0.7nm,0.7s,baz=215,slow=5.5,SNR=4.0						
PDAR	**Pinedale Array**	**145.05**	**358**	PKPbc	PKPbc	11 24 33.3	-0.8
	0.2nm,0.5s,baz=86,slow=1.2,SNR=2.9						

---

*ISCJB **10** 11:20:17.0±0.6, 30°.88N±0°.09×83°.6E±0°.1, h11km, mb3.7/10, MS3.4/2, Error ellipse: s-maj=15.2km s-min=11.6km az=152.1*
*IDC **10** 11:20:16.2±1.1, 30°.78N×83°.41E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/30, mbtmp3.8/13, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=42.1km s-min=16.3km az=59.0*
ISC 10 11:20:18.9±0.8, 30°.9N±0°.1×83°.6E±0°.1, h11km, n17, σ0°77/15, mb3.8/10, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**5.98**	**250**	*e*P	**Pn**	**11 21 48.0**	**+0.7**
SHL	**Shillong**	**9.05**	**124**	*ex*	**Pn**	**11 22 30.0**	**+0.3**
MKAR	**Makanchi Array**	**15.88**	**357**	Pn	**Pn**	**11 24 02.9**	**+0.6**
	0.2nm,0.3s,baz=184,slow=13,SNR=21						
CMAR	**Chiang Mai Arr**	**18.64**	**128**	P	**Pn**	**11 24 37.5**	**+0.5**
	0.3nm,0.3s,baz=307,slow=12,SNR=4.2						
KURBB	**Kurchatov Arra**	**20.04**	**351**	P	**P**	**11 24 51.4**	**-0.4**
	3.4nm,0.7s,baz=172,slow=10,SNR=21						
ZALV	**Zalesovo Beam**	**23.02**	**2**	P	**P**	**11 25 24.4**	**+0.7**
	1.2nm,0.6s,baz=182,slow=10,SNR=6.2						
BVAR	**Borovoye Array**	**24.09**	**340**	P	**P**	**11 25 34.5**	**+0.3**
	0.3nm,0.4s,baz=140,slow=11,SNR=2.6						
SONM	**Songino Array**	**24.27**	**35**	P	**P**	**11 25 37.1**	**+1.0**
	2.7nm,0.9s,baz=233,slow=10,SNR=14						
KSRS	**Korea Array**	**36.98**	**68**	LR	LR	11 44 13.3	
	comp=Z,18nm,21.4s,baz=95,slow=39						
FINES	**FINESS Array B**	**47.91**	**327**	P	**P**	**11 28 56.8**	**-0.1**
	1.3nm,0.7s,baz=106,slow=12,SNR=4.1						
ARCES	**ARCESS Array B**	**50.32**	**337**	P	**P**	**11 29 15.3**	**0.0**
	1.8nm,0.8s,baz=358,slow=7.3,SNR=5.8						
NOA	**NORSAR Array B**	**55.02**	**326**	P	**P**	**11 29 48.9**	**-1.2**
	0.3nm,0.6s,baz=103,slow=7.9,SNR=4.0						
WRA	**Warramunga Arr**	**70.23**	**129**	P	**P**	**11 31 31.4**	**-0.8**
	0.7nm,0.6s,baz=323,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**72.60**	**132**	P	**P**	**11 31 45.7**	**-0.8**
	0.6nm,0.9s,baz=309,slow=5.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**76.50**	**277**	LR	LR	12 11 19.8	
	comp=Z,54nm,18.7s,baz=135,slow=40						
ILAR	**Eielson Array**	**76.84**	**20**	P	**P**	**11 32 10.8**	**+0.3**
	0.6nm,0.7s,baz=313,slow=5.4,SNR=9.0						
YKA	**Yellowknife Ar**	**85.76**	**8**	P	**P**	**11 32 56.6**	**-1.2**
	0.8nm,0.7s,baz=341,slow=5.2,SNR=3.2						

---

*ISCJB **10** 11:29:46.8±1.4, 52°.36N±0°.05×160°.99E±0°.06, h7km±10km, mb3.2/3, MS3.4/2, Error ellipse: s-maj=7.8km s-min=5.7km az=174.7*
*KRSC **10** 11:29:46.6±0.2, 52°.44N×160°.95E, h5km±5km, ML4.0*
*MOS **10** 11:29:46.8±1.5, 52°.34N×160°.94E, h15km, mb4.1/1, Error ellipse: s-maj=15.7km s-min=11.4km az=103.8*
*IDC **10** 11:29:47.7±1.1, 52°.32N×160°.75E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/29, mbtmp3.4/5, ML3.4/1, MS3.3/2, Ms1 3.4/2, ms1mx2.7/19, Error ellipse: s-maj=33.6km s-min=14.8km az=172.0*
ISC 10 11:29:45.7±1.6, 52°.44N±0°.05×160°.98E±0°.04, h2km±11km, n37, σ1°19/50, mb3.4/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.88**	**319**	PN	**Pn**	**11 30 04.5**	**-0.6**
SPN				S	**Sn**	**11 30 17.0**	**-1.5**
SPN	**Mys Shipunski**	**0.88**	**319**	P	**Pn**	**11 30 04.5**	**-0.6**
SPN				*i* S	**Sn**	**11 30 17.0**	**-1.5**
NLC	**Nalytchevo**	**1.23**	**307**	PN	**Pn**	**11 30 09.9**	**-0.1**
NLC				S	**Sn**	**11 30 26.6**	**-0.6**
NLC	**Nalytchevo**	**1.23**	**307**	P	**Pn**	**11 30 09.9**	**-0.1**
NLC				*i* S	**Sn**	**11 30 26.6**	**-0.6**
RUS	**Russkaya**	**1.51**	**271**	PN	**Pb**	**11 30 14.1**	**-0.4**
RUS				S	**Sb**	**11 30 33.4**	**-0.7**
RUS	**Russkaya**	**1.51**	**271**	P	**Pb**	**11 30 14.1**	**-0.4**
RUS				*i* S	**Sb**	**11 30 33.4**	**-0.7**
UGLR	**Uglovaya**	**1.52**	**301**	P	**Pg**	**11 30 15.6**	**+0.8**
UGLR				*i* S	**Sg**	**11 30 36.4**	**+1.9**
SDLR	**Sedlovina**	**1.52**	**304**	P	**Pg**	**11 30 14.9**	**0.0**
PET	**Petropavlovsk**	**1.53**	**293**	PN	**Pg**	**11 30 14.9**	**-0.1**
PET				S	**Sg**	**11 30 35.1**	**+0.2**
PET	**Petropavlovsk**	**1.53**	**293**	P	**Pg**	**11 30 14.9**	**-0.1**
PET				*i* S	**Sg**	**11 30 35.1**	**+0.2**
SMAR	**Somma**	**1.56**	**303**	P	**Pg**	**11 30 16.0**	**+0.5**
AVH	**Avacha**	**1.59**	**302**	P	**Pg**	**11 30 16.8**	**+0.6**
KRER	**Koryakskii**	**1.60**	**303**	P	**Pg**	**11 30 17.5**	**+1.0**
KOK	**Koryaka**	**1.66**	**302**	P	**Pg**	**11 30 17.5**	**0.0**
MTVR	**Mutnovka**	**1.71**	**272**	P	**Pn**	**11 30 16.7**	**0.0**
MTVR				*i* S	**Sn**	**11 30 38.4**	**-0.9**
GRL	**Gorelyy**	**1.78**	**275**	P	**Pg**	**11 30 20.0**	**+0.2**
ASAK	**Asacha**	**1.89**	**269**	P	**Pb**	**11 30 20.2**	**-0.8**
ASAK				*i* S	**Sg**	**11 30 45.6**	**-0.8**
PETK	**Petropavlovsk-**	**2.10**	**290**	PN	**Pb**	**11 30 23.4**	**-1.2**
PETK						11 30 49.5	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,6.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.10**	**290**	Pn	**Pb**	**11 30 23.4**	**-1.2**
	comp=N,3.4nm,0.3s,baz=108,slow=17,SNR=60						
PETK				Sn	**Sb**	**11 30 49.5**	**-1.7**
	comp=N,5.8nm,0.3s,baz=113,slow=28,SNR=11						
MKZ	**Mys Kozlova**	**2.16**	**12**	PN	**Pb**	**11 30 24.7**	**-0.9**
MKZ				S	**Sb**	**11 30 52.7**	**-0.2**
MKZ	**Mys Kozlova**	**2.16**	**12**	P	**Pb**	**11 30 24.7**	**-0.9**
MKZ				*i* S	**Sb**	**11 30 52.7**	**-0.2**
GNL	**Ganaly**	**2.22**	**306**	P	**Pb**	**11 30 26.0**	**-0.7**
GNL				*i* S	**Sb**	**11 30 55.4**	**+0.7**
APC	**Apacha**	**2.38**	**283**	P	**Pb**	**11 30 27.9**	**-1.3**
APC				*i* S	**Sb**	**11 30 58.7**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.60**	**268**	P	**Pn**	**11 30 30.2**	**+1.5**
TUMR	**Tumrok**	**2.89**	**350**	P	**Pb**	**11 30 36.7**	**-1.3**
KMNR	**Kamenistaya**	**3.35**	**353**	P	**Pb**	**11 30 43.1**	**-2.8**
SKR	**Severo-Kuril's**	**3.51**	**242**	*e*PN	**Pn**	**11 30 38.9**	**-2.4**
ESO	**Esso**	**3.74**	**340**	PN	Pn	11 30 48.3	+3.9
ESO	**Esso**	**3.74**	**340**	P	Pn	11 30 48.3	+3.9
BKI	**Bering**	**4.05**	**45**	PN	**Pn**	**11 30 49.0**	**+0.3**
BKI	**Bering**	**4.05**	**45**	P	**Pn**	**11 30 49.0**	**+0.3**
BKI				*i* S	**Sn**	**11 31 35.4**	**-1.2**
FX1	**Attu Island--F**	**7.42**	**82**	Pn	Pn	11 31 38.5	+3.5
	comp=N,2.1nm,0.3s,baz=281,slow=5.2,SNR=18						
FX1				Sn	**Sn**	**11 32 56.4**	**-3.3**
	comp=N,5.9nm,0.3s,baz=251,slow=23,SNR=9.1						
MJAR	**Matsushiro Arr**	**22.58**	**234**	P	**P**	**11 34 48.2**	**+0.8**
	comp=N,1.2nm,0.7s,baz=41,slow=8.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**58.58**	**259**	LR	LR	12 09 15.5	
	comp=N,17nm,18.9s,baz=270,slow=40						
ULM	**Lac du Bonnet**	**58.87**	**47**	LR	LR	12 05 56.3	
	comp=N,41nm,20.4s,baz=27,slow=37						
TXAR	**Lajitas Array**	**70.39**	**67**	P	**P**	**11 41 04.2**	**+2.9**
	comp=N,0.1nm,0.5s,baz=310,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**79.39**	**205**	P	**P**	**11 41 54.0**	**+0.9**
	comp=N,0.3nm,0.8s,baz=16,slow=5.0,SNR=4.6						

DJA 10 12:19:55.5±1.4, 0°.S±6°.×127°.7E±°, h13km±21km, M3.8/4, MLv3.8/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.68**	**129**	P	Pg	12 20 08.0	-0.8
LBMI				S	Sb	12 20 18.4	-0.2
TNTI	**Ternate**	**1.05**	**22**	P	Pb	12 20 14.0	-1.6
TNTI				S	Sb	12 20 29.0	-0.3
KMSI	**Cibinong**	**3.09**	**285**	P	Pn	12 20 44.0	0.0
KMSI				S	Sn	12 21 22.2	+1.4
GTOI	**Gorontalo**	**4.05**	**282**	P	Pn	12 20 59.6	+2.4
GTOI				S	Sn	12 21 48.0	+3.5
SPSI	**Sidrap Palu**	**8.10**	**243**	P	Pn	12 21 53.5	+0.5

IDC 10 12:21:39.7±1.3, 31°.97N×104°.91E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/28, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=43.9km s-min=24.9km az=60.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**15.89**	**4**	Pn	Pn	12 25 25.8	+1.0
	0.1nm,0.3s,baz=186,slow=12,SNR=2.7						
**KSR

VLA	**Vladivostok**	**0.96 115**	*i* P	**P**	**12 44 01.4**	**-0.4**
VLA			*i* S	**S**	**12 44 56.0**	**-1.7**
VLA	**Vladivostok**	**0.96 115**	*i* P	**P**	**12 44 01.4**	**-0.4**
VLA			*i* S	**S**	**12 44 56.0**	**-1.7**
USRK	**Ussuriysk Arra**	**1.16 54**	P	**P**	**12 44 02.3**	**+0.1**
	120nm,0.3s,baz=279,slow=1.5,SNR=1969					
USRK			S	**S**	**12 44 57.5**	**-1.1**
	11nm,0.3s,baz=255,slow=5.7,SNR=11					
MDJ	**Mudanjiang**	**1.34 324**	P	**P**	**12 44 03.5**	**+0.9**
MDJ			S	**S**	**12 44 59.9**	**+0.3**
MDJ			ScP	**ScP**	**12 52 54.4**	**+0.4**
MDJ			PcS	**PcS**	**12 53 50.6**	**+1.6**
MDJ			ScS	**ScS**	**12 56 25.1**	**-0.9**
MDJ	**Mudanjiang**	**1.34 324**	*eP*	**P**	**12 44 03.6**	**+0.9**
MDJ			*e*S	**S**	**12 44 59.6**	**0.0**
MDJ	**Mudanjiang**	**1.34 324**	*eP*	**P**	**12 44 03.6**	**+1.0**
MDJ			*e*S	**S**	**12 44 59.6**	**0.0**
CN2	**Changchun**	**3.81 276**	⇑*i*P	**P**	**12 44 15.7**	**+0.3**
CN2			*e*S	**S**	**12 45 22.1**	**-0.5**
TEY	**Ternei**	**4.51 68**	⇓*i*P	**P**	**12 44 20.8**	**+0.4**
TEY			AMB	AMB	12 44 21.1	
	156nm,0.8s					
TEY			*e*rx	rx	12 45 27.3	
TEY			*i* S	**S**	**12 45 31.6**	**-0.2**
TEY			A	A	12 45 32.5	
	4μm,4.0s					
TEY			A	A	12 45 32.5	
	3μm,4.0s					
TEY			A	A	12 45 32.5	
	860nm,1.0s					
TEY			A	A	12 45 32.5	
	430nm,1.0s					
SNY	**Shenyang**	**5.51 254**	⇑P	**P**	**12 44 29.9**	**+1.2**
SNY			S	**S**	**12 45 48.9**	**+2.1**
SNY			pmax	pmax		
	comp=Z,860nm,0.5s					
KLR	**Kul'dur**	**5.75 7**	⇑*i*P	**P**	**12 44 28.0**	**-2.5**
KLR			*e*S	**S**	**12 45 47.1**	**-3.4**
KLR			pmax	pmax		
	comp=N,100nm,1.0s					
KLR			pmax	pmax		
	comp=E,130nm,1.0s					
KLR			pmax	pmax		
	comp=Z,600nm,1.0s					
KLR			smax	smax		
	comp=N,650nm,1.6s					
KLR			smax	smax		
	comp=E,530nm,1.6s					
KLR			smax	smax		
	comp=N,2μm,5.5s					
KLR			smax	smax		
	comp=E,2μm,5.5s					
KLR	**Kul'dur**	**5.75 7**	⇑*i*P	**P**	**12 44 28.0**	**-2.5**
KLR			AMB	AMB	12 44 29.0	
	comp=E,100nm,1.0s					
KLR			AMB	AMB	12 44 29.0	
	comp=E,130nm,1.0s					
KLR			AMB	AMB	12 44 29.0	
	comp=E,600nm,1.0s					
KLR			*e*S	**S**	**12 45 47.1**	**-3.4**
KLR			A	A	12 45 49.0	
	comp=E,650nm,1.6s					
KLR			A	A	12 45 49.0	
	comp=E,530nm,1.6s					
KLR			A	A	12 45 49.8	
	comp=E,2μm,5.5s					
KLR			A	A	12 45 49.8	
	comp=E,2μm,5.5s					
HABR	**Khabarovsk**	**5.80 30**	*c i*P	**P**	**12 44 32.0**	**+1.0**
HABR			*e*S	**S**	**12 45 50.9**	**-0.4**
HABR			pmax	pmax		
	comp=Z,596nm,1.2s					
HABR			pmax	pmax		
	comp=E,159nm,0.8s					
HABR			pmax	pmax		
	comp=N,172nm,1.2s					
HABR	**Khabarovsk**	**5.80 30**	⇑*i*P	**P**	**12 44 32.0**	**+1.0**
HABR			AMB	AMB	12 44 32.9	
	comp=N,596nm,1.2s					
HABR			*e*S	**S**	**12 45 50.9**	**-0.4**
KSRS	**Korea Array**	**6.42 200**	P	**P**	**12 44 37.8**	**+0.9**
KSRS	**Korea Array**	**6.42 200**	P	**P**	**12 44 37.8**	**+0.9**
	comp=N,86nm,0.3s,baz=18,slow=8.8,SNR=1783					
KSRS			S	**S**	**12 46 03.5**	**+1.9**
	baz=16,slow=15,SNR=8.3					
KSRS			ScP	**ScP**	**12 52 55.9**	**-0.7**
	comp=N,0.1nm,0.3s,baz=319,slow=1.6,SNR=8.4					
KSAR	**Wonju Array Be**	**6.44 200**	P	**P**	**12 44 37.8**	**+0.7**
KSAR			S	**S**	**12 46 03.6**	**+1.6**
KSAR	**Wonju Array Be**	**6.44 200**	P	**P**	**12 44 37.8**	**+0.7**
KSAR			S	**S**	**12 46 03.5**	**+1.6**
KSAR			ScP	**ScP**	**12 52 55.9**	**-0.7**
JOSM	**Okushiri--Mats**	**6.62 100**	P	**P**	**12 44 36.7**	**-1.8**
JOSM			S	**S**	**12 46 01.3**	**-3.6**
INCN	**Inchon**	**6.78 208**	P	**P**	**12 44 41.4**	**+1.2**
	SNR=14					
INCN	**Inchon**	**6.78 208**	*e*P	**P**	**12 44 41.1**	**+0.9**
INCN	**Inchon**	**6.78 208**	*e*P	**P**	**12 44 41.1**	**+0.9**
INCN			*e*S	**S**	**12 46 08.8**	**+1.0**
JSK	**Shakotan**	**7.13 88**	P	**P**	**12 44 41.7**	**-1.5**
JHG	**Hegura jima**	**7.39 138**	P	**P**	**12 44 45.4**	**-0.4**
JIW	**Iwasaki**	**7.53 110**	P	**P**	**12 44 45.1**	**-2.0**
SAI	**Saigo**	**7.60 164**	P	**P**	**12 44 47.4**	**-0.4**
JSI2	**Shiura 2**	**7.62 106**	P	**P**	**12 44 46.0**	**-1.9**
JOG2	**Oga 2**	**7.71 115**	P	**P**	**12 44 47.1**	**-1.7**
JKB	**Kayabe**	**7.79 99**	P	**P**	**12 44 47.2**	**-2.3**
JKB			S	S	12 46 18.9	-6.1
JSD	**Sado**	**7.94 131**	P	**P**	**12 44 49.1**	**-2.0**
JOT	**Ohata**	**7.96 102**	P	**P**	**12 44 48.4**	**-2.7**
JOT			*e*S	**S**	**12 46 22.0**	**-5.9**
JHR	**Hokuryu**	**8.01 85**	P	**P**	**12 44 50.5**	**-1.1**
JWK2	**Keihoku**	**8.22 74**	P	**P**	**12 44 53.2**	**-0.4**
JNM	**Ikuma**	**8.22 167**	P	**P**	**12 44 53.7**	**-0.2**
GRNR	**Gornyy**	**8.23 26**	⇑*i*P	**P**	**12 44 53.8**	**+0.2**
GRNR			AMB	AMB	12 44 55.0	
	comp=N,170nm,0.6s					
GRNR			*i* S	**S**	**12 46 31.1**	**-1.4**
GRNR			A	A	12 46 34.4	
	comp=N,340nm,1.0s					
DL2	**Dalian**	**8.24 239**	⇑*i*P	**P**	**12 44 54.4**	**+0.4**
DL2			sP	**S**	**12 46 29.7**	**-3.3**
DL2			S	S	12 46 32.8	-0.2
DL2			pmax	pmax		
	comp=Z,560nm,1.0s					
JYA	**Atsumi**	**8.41 123**	P	**P**	**12 44 53.1**	**-2.5**
JRG	**Rokugo**	**8.53 116**	P	**P**	**12 44 54.1**	**-2.7**
JKY	**Yasaka**	**8.59 155**	P	**P**	**12 44 56.7**	**-0.8**
JYK	**Kaneyama**	**8.62 119**	P	**P**	**12 44 55.2**	**-2.5**
ASAJ	**Asahikawa**	**8.63 82**	*eP*	**P**	**12 44 56.5**	**-1.1**
ASAJ			S	**S**	**12 46 35.0**	**-4.9**
ASAJ			*e*S	S	12 46 38.1	-1.8
ASAJ	**Asahikawa**	**8.63 82**	P	**P**	**12 44 56.5**	**-1.1**
	comp=Z,14nm,0.3s,baz=269,slow=11,SNR=120					
ASAJ			S	**S**	**12 46 35.0**	**-4.9**
	baz=130,slow=32,SNR=13					
JKA	**Kamikawa-asahi**	**8.63 82**	P	**P**	**12 44 56.6**	**-1.1**
JHS	**Saijyo**	**8.72 167**	P	**P**	**12 44 58.5**	**-0.3**
JKK2	**Kamakawa 2**	**8.75 84**	P	**P**	**12 44 57.7**	**-1.1**
JHT	**Toyohira**	**8.96 171**	P	**P**	**12 45 00.3**	**-0.8**
JWT	**Wachi**	**9.01 155**	P	**P**	**12 45 00.9**	**-0.7**
JTU	**Tsushima**	**9.05 187**	P	**P**	**12 45 02.1**	**+0.1**
MAT	**Matsushiro**	**9.05 138**	P	**P**	**12 44 59.4**	**-2.6**
MAT			S	**S**	**12 46 43.2**	**-4.5**
MAT	**Matsushiro**	**9.05 138**	P	**P**	**12 44 59.6**	**-2.4**
MJAR	**Matsushiro Arr**	**9.05 138**	P	**P**	**12 44 59.8**	**-2.2**
MJAR	**Matsushiro Arr**	**9.05 138**	P	**P**	**12 44 59.8**	**-2.2**
MJAR			S	**S**	**12 46 43.4**	**-4.3**
MJAR	**Matsushiro Arr**	**9.05 138**	P	**P**	**12 44 59.8**	**-2.2**
	comp=Z,14nm,0.3s,baz=322,slow=10,SNR=330					
MJAR			S	**S**	**12 46 43.4**	**-4.3**
	baz=320,slow=18,SNR=2.3					
JKS	**Kasai**	**9.12 158**	P	**P**	**12 45 02.2**	**-0.5**
JMK	**Ichinoseki**	**9.15 116**	P	**P**	12 44 59.6	-3.3
JMK			S	S	12 46 41.4	-8.1
YSS	**Yuzh-Sakhalins**	**9.18 64**	⇑*i*P	**P**	**12 45 03.0**	**0.0**
YSS			*i* S	**S**	**12 46 47.0**	**-2.7**
YSS			pmax	pmax		
	comp=Z,90nm,0.7s					
YSS			smax	smax		
	comp=N,280nm,1.0s					
YSS			smax	smax		
	comp=E,190nm,1.0s					
YSS	**Yuzh-Sakhalins**	**9.18 64**	⇑*i*P	**P**	**12 45 03.0**	**0.0**
YSS			AMB	AMB	12 45 04.3	
	comp=E,90nm,0.7s					
YSS			*e*rx	rx	12 45 35.3	
YSS			*e*rx	rx	12 46 12.0	
YSS			*i* S	**S**	**12 46 47.0**	**-2.7**
YSS			A	A	12 46 51.0	
	comp=E,280nm,1.0s					
YSS			A	A	12 46 51.0	
	comp=E,190nm,1.0s					
ERM	**Erimo**	**9.30 95**	*c i*P	**P**	**12 45 02.6**	**-1.7**
ERM	**Erimo**	**9.30 95**	⇑*i*P	**P**	**12 45 02.6**	**-1.7**
ERM	**Erimo**	**9.30 95**	*eP*	**P**	**12 45 02.5**	**-1.8**
ERM			*e*S	S	12 46 43.3	-8.7
JCH	**Churui**	**9.32 91**	P	P	12 45 00.1	-4.4
JCH			S	S	12 46 44.2	-8.3
HIA	**Hailar**	**9.49 311**	*eP*	**P**	**12 45 06.9**	**+0.8**
	comp=E,1μm,1.1s					
JIO	**Ouri**	**9.52 119**	P	P	12 45 02.7	-3.9
JTKR	**Abashiri--Toko**	**9.58 83**	P	**P**	**12 45 06.0**	**-1.1**
UGL	**Uglegorsk**	**9.63 51**	⇑*i*P	**P**	**12 45 07.4**	**0.0**
UGL			⇑*i*P	**P**	**12 45 07.4**	**0.0**
UGL			AMB	AMB	12 45 08.0	
	comp=E,270nm,0.5s					
UGL			*e*rx	rx	12 45 21.0	
UGL			*e*S	**S**	**12 46 55.0**	**-2.9**
UGL			A	A	12 47 00.0	
	comp=E,1μm,6.0s					
JAJ2	**Tsuna**	**9.66 159**	P	**P**	**12 45 06.7**	**-1.4**
EKMR	**Ekimchan**	**9.66 8**	⇓*i*P	**P**	**12 45 06.9**	**-0.9**
EKMR			AMB	AMB	12 45 07.5	
	comp=E,110nm,0.5s					
EKMR			*i* S	**S**	**12 46 56.0**	**-2.5**
EKMR			A	A	12 46 58.0	
	comp=E,315nm,1.0s					
JII	**Iki**	**9.75 185**	P	**P**	**12 45 09.3**	**+0.3**
JRY	**Ryogami san**	**9.81 137**	P	**P**	**12 45 06.6**	**-3.0**
JRY			S	S	12 46 54.5	-7.1
JMN	**Monobe**	**10.10 165**	P	**P**	**12 45 11.6**	**-1.0**
JIE	**Ise**	**10.25 151**	P	**P**	**12 45 12.2**	**-1.8**
JIE			S	S	12 47 03.5	-6.3
JWM	**Minabe**	**10.33 158**	P	**P**	**12 45 12.5**	**-2.3**
JNU	**Nakatsue**	**10.39 179**	*eP*	**P**	**12 45 15.5**	**0.0**
JNU			S	**S**	**12 47 13.2**	**+0.7**
JNU	**Nakatsue**	**10.39 179**	P	**P**	**12 45 15.4**	**-0.1**
JNU	**Nakatsue**	**10.39 179**	P	**P**	**12 45 15.2**	**-0.3**
	comp=E,4.5nm,0.3s,baz=17,slow=5.9,SNR=52					
JNU			S	**S**	**12 47 13.2**	**+0.7**
	comp=E,0.3nm,0.3s,baz=74,slow=17,SNR=4.2					
ZEA	**Zeya**	**10.47 349**	⇓*i*P	**P**	**12 45 16.1**	**+0.3**
ZEA			⇓*i*P	**P**	**12 45 16.1**	**+0.3**
ZEA			AMB	AMB	12 45 17.1	
	comp=E,260nm,0.8s					
ZEA			AMB	AMB	12 45 17.1	
	comp=E,480nm,0.8s					
ZEA			AMB	AMB	12 45 20.0	
	comp=E,400nm,1.5s					
ZEA			*e*rx	rx	12 47 08.0	
ZEA			*i* S	**S**	**12 47 11.5**	**-1.7**
ZEA			A	A	12 47 14.0	
	comp=E,300nm,1.2s					
ZEA			A	A	12 47 14.0	
	comp=E,450nm,1.2s					
ZEA			A	A	12 47 16.0	
	comp=E,2μm,5.0s					
JWZ	**Kozaga**	**10.73 157**	P	**P**	**12 45 16.5**	**-2.4**
JTO	**Tosashimizu**	**10.78 170**	P	**P**	**12 45 18.0**	**-1.4**
TYV	**Tymovskoe**	**10.95 44**	⇓*i*P	**P**	**12 45 21.8**	**+1.1**
TYV			AMB	AMB	12 45 23.0	
	comp=E,44nm,0.8s					
TYV			AMB	AMB	12 45 23.0	
	comp=E,246nm,0.8s					
TYV			*e*S	**S**	**12 47 20.7**	**-1.5**
TYV			A	A	12 47 33.8	
	comp=E,168nm,1.1s					
TYV			A	A	12 47 33.8	
	comp=E,70nm,1.1s					
NEM2	**Nemuro 2**	**10.95 86**	P	**P**	**12 45 18.6**	**-2.3**
TTO1	**TONANKAI O.B.S**	**10.98 152**	P	**P**	**12 45 19.3**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**10.99 82**	*c i*P	**P**	**12 45 20.8**	**-0.4**
YUK			*i* S	**S**	**12 47 18.9**	**-4.2**
YUK			pmax	pmax		
	comp=Z,85nm,0.7s					
YUK			pmax	pmax		
	comp=N,37nm,0.6s					
YUK			pmax	pmax		
	comp=E,53nm,0.6s					
YUK	**Yuzh-Kuril'sk**	**10.99 82**	⇑*i*P	**P**	**12 45 20.9**	**-0.3**
YUK			AMB	AMB	12 45 30.3	
	comp=E,37nm,0.6s					
YUK			AMB	AMB	12 45 30.3	
	comp=E,53nm,0.6s					
YUK			AMB	AMB	12 45 30.3	
	comp=E,85nm,0.7s					
YUK			*e*rx	rx	12 46 58.2	
YUK			*i* S	**S**	**12 47 18.9**	**-4.2**
BJI	**Beijing**	**11.38 257**	P	**P**	**12 45 25.4**	**0.0**
BJI			S	**S**	**12 47 30.3**	**-0.3**
BJI			pmax	pmax		
	comp=Z,240nm,1.0s					
BJI			pmax	pmax		
	comp=Z,410nm,3.5s					
BJT	**Baijiatuau**	**11.40 257**	⇑*eP*	**P**	**12 45 25.2**	**-0.3**
BJT	**Baijiatuau**	**11.40 257**	*eP*	**P**	**12 45 25.2**	**-0.3**
	comp=Z,155nm,0.6s					
NKL	**Nikolayevsk**	**11.69 31**	*i* P	**P**	**12 45 27.0**	**-1.2**
NKL			AMB	AMB	12 45 27.5	
	comp=Z,37nm,0.6s					
NKL			AMB	AMB	12 45 27.5	
	comp=Z,50nm,0.6s					
NKL			AMB	AMB	12 45 27.5	
	comp=Z,110nm,0.6s					
NKL			AMB	AMB	12 45 28.0	
	comp=Z,400nm,4.0s					
NKL			*e*S	**S**	**12 47 32.0**	**-3.8**
NKL			A	A	12 47 40.0	
	comp=Z,1μm,6.0s					
NKL			A	A	12 47 42.0	
	comp=Z,110nm,1.1s					
JSJ	**Shimokoshiki**	**11.86 184**	P	**P**	**12 45 29.6**	**-0.8**
BSO1	**Boso 1**	**11.93 135**	P	**P**	**12 45 27.7**	**-2.7**
KUR	**Kuril'sk**	**12.41 76**	⇓*i*P	**P**	**12 45 34.9**	**-0.9**
KUR			*i* S	**S**	**12 47 48.3**	**-1.4**
KUR			pmax	pmax		
	comp=Z,11nm,0.5s					
KUR			pmax	pmax		
	comp=Z,53nm,0.5s					
KUR			pmax	pmax		
	comp=N,16nm,0.4s					
KUR			smax	smax		
	comp=N,935nm,3.6s					
KUR			smax	smax		
	comp=E,410nm,1.4s					
KUR	**Kuril'sk**	**12.41 76**	⇓*i*P	**P**	**12 45 34.9**	**-0.9**
KUR			AMB	AMB	12 45 36.7	
	comp=E,380nm,1.0s					
KUR			*i* S	**S**	**12 47 48.4**	**-1.3**
KUR			A	A	12 47 53.0	
	comp=E,5μm,5.0s					
KUR			A	A	12 47 56.0	
	comp=E,340nm,1.0s					
KUR			A	A	12 47 56.0	
	comp=E,490nm,1.0s					
JHJ2	**Mitsune**	**12.62 142**	P	**P**	**12 45 36.2**	**-2.0**
TIA	**Tai'an**	**12.72 239**	⇑P	**P**	**12 45 38.8**	**-0.3**
TIA			pmax	pmax		
	comp=Z,170nm,0.9s					
OKH	**Okha**	**12.88 35**	*eP*	**P**	**12 45 40.2**	**-0.2**
OKH			*i* S	**S**	**12 48 04.0**	**+5.9**
OKH			pmax	pmax		
	comp=Z,1μm,3.0s					
OKH			smax	smax		
	comp=N,3μm,6.0s					
OKH	**Okha**	**12.88 35**	*eP*	**P**	**12 45 40.2**	**-0.2**
OKH			⇑*i*P	P	12 45 40.7	+0.3
OKH			AMB	AMB	12 45 41.0	
	comp=N,300nm,0.9s					
OKH			AMB	AMB	12 45 41.6	
	comp=N,1μm,3.0s					
CLNS	**Chul'man**	**13.82 347**	*eP*	**P**	**12 45 48.2**	**-1.9**
CLNS			*e*S	**S**	**12 48 12.3**	**-3.2**
CLNS			pmax	pmax		
	comp=N,46nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,92nm,0.8s					
CLNS			pmax	pmax		
	comp=E,21nm,0.8s					
CLNS			smax	smax		
	comp=E,52nm,0.7s					
CLNS			smax	smax		
	comp=N,184nm,1.6s					
CLNS	**Chul'man**	**13.82 347**	*eP*	**P**	**12 45 48.2**	**-1.9**
CIT	**Chita**	**14.29 312**	*eP*	**P**	**12 45 54.5**	**-0.4**
CIT			*e*		12 48 19.9	
CIT			pmax	pmax		
	comp=Z,838nm,1.2s					
CIT	**Chita**	**14.29 312**	*eP*	**P**	**12 45 54.5**	**-0.4**
HHC	**Hu-ho-hao-te**	**14.43 266**	*eP*	**P**	**12 45 56.5**	**0.0**
HHC			sP	sP	12 47 54.5	
HHC			S	**S**	**12 48 23.2**	**-3.8**
HHC			PcP	PcP	12 50 33.0	+5.5
HHC			pmax	pmax		
	comp=Z,93nm,0.8s					
HHC			pmax	pmax		
	comp=Z,270nm,4.8s					
SSE	**Sheshan**	**14.52 214**	P	**P**	**12 45 57.8**	**+0.4**
SSE			S	**S**	**12 48 26.5**	**-2.0**
SSE			pmax	pmax		
	comp=Z,150nm,0.7s					
SSE			pmax	pmax		
	comp=Z,400nm,3.9s					
NJ2	**Nanjing**	**14.77 223**	*eP*	**P**	**12 45 59.2**	**-0.7**
NJ2			S	**S**	**12 48 32.0**	**-1.0**
NJ2			pmax	pmax		
	comp=Z,60nm,1.0s					
JOW	**Kunigami**	**16.77 187**	*eP*	**P**	**12 46 17.9**	**-0.8**
	comp=Z,276nm,2.8s					
JOW	**Kunigami**	**16.77 187**	P	**P**	**12 46 18.0**	**-0.8**
JOW			*e*S	**S**	**12 48 59.3**	**-6.9**
ULN	**Ulaanbaatar**	**17.05 293**	P	**P**	**12 46 22.2**	**+1.1**
	SNR=161					
ULN	**Ulaanbaatar**	**17.05 293**	*eP*	**P**	**12 46 22.1**	**+0.9**
	comp=Z,348nm,1.2s					
ULN	**Ulaanbaatar**	**17.05 293**	P	**P**	**12 46 21.6**	**+0.5**
	comp=Z,250nm,1.2s,comp=Z,3μm					
SONM	**Songino Array**	**17.49 293**	P	**P**	**12 46 26.0**	**+0.9**
SONM			ScP	**ScP**	**12 53 12.1**	**-1.0**
SONM	**Songino Array**	**17.49 293**	P	**P**	**12 46 26.0**	**+0.9**
	comp=Z,23nm,0.3s,baz=99,slow=9.4,SNR=266					
SONM			ScP	**ScP**	**12 53 12.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=127,slow=2.0,SNR=7.1					
WHN	**Wuhan**	**18.34 230**	⇑*i*P	**P**	**12 46 33.4**	**+0.4**
WHN			S	**S**	**12 49 37.8**	**+6.2**
YAK	**Yakutsk**	**18.54 359**	*d i*P	**P**	**12 46 33.8**	**-0.5**
YAK			*e*S	**S**	**12 49 30.8**	**-3.1**
YAK			pmax	pmax		
	comp=Z,289nm,1.0s					
YAK			pmax	pmax		
	comp=N,105nm,0.9s					
YAK			pmax	pmax		
	comp=E,18nm,0.9s					
YAK			smax	smax		
	comp=E,767nm,1.5s					
YAK			smax	smax		
	comp=N,228nm,1.2s					
YAK	**Yakutsk**	**18.54 359**	⇓*i*P	**P**	**12 46 33.8**	**-0.5**
SKR	**Severo-Kuril's**	**18.67 59**	*eP*	P	12 46 29.0	-6.6
SKR			pmax	pmax		
	comp=N,220nm,1.0s					
SKR			pmax	pmax		
	comp=E,180nm,1.0s					
SKR			pmax	pmax		
	comp=Z,270nm,1.0s					
SKR	**Severo-Kuril's**	**18.67 59**	*eP*	P	12 46 29.0	-6.6
SKR			AMB	AMB	12 46 31.0	
	comp=Z,220nm,1.0s					
SKR			AMB	AMB	12 46 31.0	
	comp=Z,180nm,1.0s					
SKR			AMB	AMB	12 46 31.0	
	comp=Z,270nm,1.0s					
XAN	**Xi'an**	**19.39 248**	P	**P**	**12 46 42.6**	**+0.1**
XAN			pmax	pmax		
	comp=Z,18nm,3.5s					
IRK	**Irkutsk**	**19.65 306**	*eP*	**P**	**12 46 44.6**	**0.0**
IRK			pmax	pmax		
	comp=Z,127nm,1.5s					
IRK	**Irkutsk**	**19.65 306**	*eP*	**P**	**12 46 44.6**	**0.0**
ZAK	**Zakamensk**	**19.85 300**	⇑*i*P	**P**	**12 46 46.9**	**+0.4**
ZAK			pmax	pmax		
	comp=Z,114nm,1.0s					
ZAK	**Zakamensk**	**19.85 300**	⇑*i*P	**P**	**12 46 46.9**	**+0.4**
TLY	**Talaya**	**19.89 304**	*d i*P	**P**	**12 46 47.3**	**+0.6**
TLY			pmax	pmax		
	comp=Z,163nm,1.3s					
PEA0B	**Petropavlovsk-**	**20.25 52**	*eP*	**P**	**12 46 49.8**	**-0.1**
PETK	**Petropavlovsk-**	**20.25 52**	P	**P**	**12 46 49.8**	**-0.1**
PETK			pmax	pmax		
	comp=Z,22nm,0.7s					
PETK	**Petropavlovsk-**	**20.25 52**	P	**P**	**12 46 49.8**	**-0.1**
PETK	**Petropavlovsk-**	**20.25 52**	P	**P**	**12 46 49.8**	**-0.1**
	comp=Z,14nm,0.6s,baz=233,slow=5.9,SNR=37					
YHNB	**Yeheng**	**20.31 205**	*eP*	**P**	**12 46 51.4**	**+0.5**
	comp=Z,31nm,0.6s					
PET	**Petropavlovsk**	**20.77 53**	*eP*	**P**	**12 46 54.2**	**-0.4**
PET			*e*S	**PcP**	**12 50 38.3**	**+0.5**
PET			pmax	pmax		
	comp=Z,170nm,1.2s					
PET			pmax	pmax		
	comp=Z,100nm,15.7s					
PET	**Petropavlovsk**	**20.77 53**	*eP*	**P**	**12 46 54.2**	**-0.4**
ENH	**Enshi**	**21.43 239**	*eP*	**P**	**12 47 00.4**	**-0.5**
	comp=Z,21nm,0.4s					
MOY	**Mondy**	**21.50 303**	*eP*	**P**	**12 47 01.0**	**-0.3**
MOY			pmax	pmax		
	comp=Z,73nm,2.1s					
MOY	**Mondy**	**21.50 303**	*eP*	**P**	**12 47 01.0**	**-0.3**
LZH	**Lanzhou**	**21.86 259**	*eP*	**P**	**12 47 06.0**	**+1.2**
LZH			sP	**sP**	**12 49 31.0**	**-3.7**
LZH			S	**S**	**12 50 27.1**	**-0.5**
LZH			pmax	pmax		
	comp=Z,29nm,1.0s					
LZH			pmax	pmax		
	comp=Z,190nm,5.0s					
GTA	**Gaotai**	**23.43 271**	⇓P	**P**	**12 47 19.8**	**+1.1**
GTA			S	**S**	**12 50 52.6**	**+0.5**
GTA			ScP	**ScP**	**12 53 30.7**	**+2.9**
GTA			ScS	**ScS**	**12 57 14.8**	**-0.4**
GTA			pmax	pmax		
	comp=Z,29nm,0.6s					
GTA			pmax	pmax		
	comp=Z,180nm,3.8s					
CD2	**Chengdu**	**24.75 248**	*eP*	**P**	**12 47 30.9**	**+0.5**
CD2			sP	**sP**	**12 50 05.0**	**-1.0**
CD2			PcP	**PcP**	**12 50 48.7**	**+1.9**
CD2			S	**S**	**12 51 13.5**	**+0.5**
CD2			ScS	**ScS**	**12 57 21.5**	**+0.7**
CD2			pmax	pmax		
	comp=Z,60nm,0.8s					
CD2			pmax	pmax		
	comp=Z,240nm,4.8s					
GYA	**Guiyang**	**25.89 237**	P	**P**	**12 47 40.8**	**+0.2**
GYA			sP	**sP**	**12 50 15.4**	**-2.8**
GYA			PcP	**PcP**	**12 50 51.2**	**+1.6**
GYA			S	**S**	**12 51 30.9**	**-0.1**
GYA			ScP	**ScP**	**12 53 37.4**	**+2.4**
GYA			PcS	**PcS**	**12 54 30.6**	**-0.7**
GYA			ScS	**ScS**	**12 57 26.0**	**+0.1**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
GYA			pmax	pmax		
	comp=Z,120nm,4.6s					
KRAR	**Krasnoyarsk**	**27.06 311**	⇑*eP*	**P**	**12 47 52.1**	**+1.8**
KRAR			pmax	pmax		
	comp=Z,109nm,1.6s					
TIXI	**Tiksi**	**28.21 359**	*d i*P	**P**	**12 47 59.5**	**-0.6**
TIXI			pmax	pmax		
	comp=Z,26nm,0.5s					
TIXI	**Tiksi**	**28.21 359**	⇓*i*P	**P**	**12 47 59.5**	**-0.6**
KMI	**Kunming**	**29.29 240**	⇓P	**P**	**12 48 10.3**	**0.0**
KMI			pmax	pmax		
	comp=Z,35nm,0.6s					
FX1	**Attu Island--F**	**29.42 56**	*eP*	**P**	**12 48 11.8**	**+0.9**
FX1			ScP	**ScP**	**12 53 45.1**	**-0.2**
FX1	**Attu Island--F**	**29.42 56**	P	**P**	**12 48 11.5**	**+0.6**
	comp=Z,14nm,0.2s,baz=297,slow=2.9,SNR=200					
FX1			ScP	**ScP**	**12 53 45.1**	**-0.2**
	comp=Z,11nm,0.7s,baz=119,slow=3.5,SNR=6.0					
SMY	**

comp=Z,258nm,0.8s
QIZ Qiongzhong 30.07 222 P P 12 48 17.3 +0.5
QIZ sP **sP** 12 50 54.2 -2.3
QIZ S **S** 12 52 36.5 +0.8
QIZ pmax pmax
comp=Z,14nm,1.0s
QIZ pmax pmax
comp=Z,150nm,5.1s
WMQ Urumqi 30.84 286 P P 12 48 24.0 +0.7
WMQ sP **sP** 12 50 59.9 -3.6
WMQ PcP **PcP** 12 51 04.2 +2.4
WMQ S **S** 12 52 48.5 +1.3
WMQ ScP **ScP** 12 53 52.4 +2.1
WMQ PcS **PcS** 12 54 49.4 +2.7
WMQ ScS **ScS** 12 57 51.1 +2.4
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,230nm,3.0s
ZAA0 Zalesovo Array 31.47 306 *e*P **P 12 48 28.0 -0.3**
ZALV Zalesovo Beam 31.47 306 P **P 12 48 28.2 -0.2**
ZALV 12 51 03.0
ZALV pmax pmax
comp=Z,19nm,0.3s
ZALV Zalesovo Beam 31.47 306 P **P 12 48 28.2 -0.2**
ZALV PcP **PcP** 12 51 03.0 -0.3
ZALV ScP **ScP** 12 53 50.6 -1.5
ZALV Zalesovo Beam 31.47 306 P **P 12 48 28.2 -0.2**
comp=Z,20nm,0.3s,baz=86,slow=7.6,SNR=99
ZALV PcP **PcP** 12 51 03.0 -0.3
comp=Z,3.6nm,0.6s,baz=78,slow=2.5,SNR=4.0
ZALV ScP **ScP** 12 53 50.6 -1.5
comp=Z,15nm,0.8s,baz=90,slow=3.2,SNR=23
NVS Novosibirsk 32.40 307 ||*i*P **P 12 48 36.0 -0.2**
NVS *e*S **S** 12 53 09.3 -1.2
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,62nm,1.3s
NVS pmax pmax
comp=Z,91nm,1.3s
NVS smax smax
comp=N,6.0nm,1.6s
NVS smax smax
comp=E,16nm,1.4s
NVS Novosibirsk 32.40 307 ||*i*P **P 12 48 36.0 -0.2**
AMKA Amchitka 33.26 59 *e*P **P 12 48 44.0 +0.4**
comp=E,251nm,0.7s
MK31 Makanchi Array 33.85 293 *i* P **P 12 48 48.8 +0.1**
MK31 pmax pmax
comp=Z,35nm,0.6s
MK31 Makanchi Array 33.85 293 *e*P **P 12 48 48.8 +0.1**
MKAR Makanchi Array 33.85 293 *e*P **P 12 48 49.1 +0.4**
MKAR 12 51 10.3
MKAR Makanchi Array 33.85 293 *e*P **P 12 48 49.1 +0.4**
MKAR Makanchi Array 33.85 293 *e*P **P 12 48 49.0 +0.4**
MKAR PcP **PcP** 12 51 10.3 0.0
MKAR ScP **ScP** 12 53 59.1 -1.7
MKAR *e* 13 19 40.6
MKAR Makanchi Array 33.85 293 P **P 12 48 49.0 +0.4**
comp=Z,35nm,0.8s,baz=83,slow=9.9,SNR=216
MKAR PcP **PcP** 12 51 10.3 0.0
comp=Z,1.9nm,0.4s,baz=73,slow=2.1,SNR=4.4
MKAR ScP **ScP** 12 53 59.1 -1.7
comp=Z,3.2nm,0.8s,baz=69,slow=6.6,SNR=5.3
MKAR P3KPbc 13 19 40.6
comp=Z,0.4nm,0.6s,baz=260,slow=3.6,SNR=5.5
LSA Lhasa 34.28 260 P **P 12 48 53.2 +0.3**
LSA Lhasa 34.28 260 *e*P **P 12 48 53.7 +0.8**
LSA pmax pmax
comp=Z,12nm,0.7s
LSA Lhasa 34.28 260 *e*P **P 12 48 53.6 +0.8**
comp=Z,12nm,0.7s
PANO Nakornpanom 34.34 228 P **P 12 48 54.2 +1.2**
comp=Z,580nm,1.9s
CMAI Chiengmai2 35.40 238 P **P 12 49 02.4 +0.4**
comp=Z,49nm,0.9s
UBPT Khong Chiam 35.44 225 P **P 12 49 03.5 +1.4**
comp=Z,57nm,0.9s
KURK Kurchatov 35.51 300 P **P 12 49 02.9 +0.6**
KURK *PP **pP** 12 50 40.9 +2.3
KURK 12 51 15.0
KURK 12 54 05.1
KURK pmax pmax
comp=Z,86nm,0.5s
KURK Kurchatov 35.51 300 P **P 12 49 02.9 +0.6**
KURK pP **pP** 12 50 40.9 +2.3
KURK PcP **PcP** 12 51 15.0 -0.1
KURK ScP **ScP** 12 54 05.1 -1.5
KURBB Kurchatov Arra 35.58 300 P **P 12 49 02.9 0.0**
comp=Z,86nm,0.5s,baz=82,slow=8.4,SNR=676
KURBB pP **pP** 12 50 40.9 +1.7
comp=Z,6.1nm,0.8s,baz=79,slow=8.7,SNR=2.4
KURBB PcP **PcP** 12 51 15.0 -0.3
comp=Z,3.4nm,0.4s,baz=87,slow=2.7,SNR=4.8
KURBB ScP **ScP** 12 54 05.1 -1.8
comp=Z,3.6nm,0.8s,baz=73,slow=3.9,SNR=6.8
ADK Adak 35.69 58 *e*P **P 12 49 03.3 -0.4**
ADK pmax pmax
comp=Z,130nm,0.6s
ADK Adak 35.69 58 *e*P **P 12 49 03.3 -0.4**
comp=Z,130nm,0.6s
LOEI Loei 35.93 233 P **P 12 49 04.3 -1.9**
comp=Z,48nm,1.1s,comp=Z,882nm
LAMP Lampang 36.11 236 P **P 12 49 08.3 +0.6**
comp=Z,31nm,0.8s,comp=Z,234nm
SHL Shillong 36.24 253 *ex* **P 12 49 10.0 +1.1**
CMMT Chiang Mai 36.30 237 P **P 12 49 09.2 -0.1**
comp=Z,40nm,0.9s,comp=Z,477nm
CHTO Chiang Mai 36.30 237 *e*P **P 12 49 09.4 +0.2**
CHTO pmax pmax
comp=Z,44nm,1.1s
CHTO Chiang Mai 36.30 237 P **P 12 49 09.9 +0.6**
SNR=8.9
CHTO Chiang Mai 36.30 237 *e*P **P 12 49 09.4 +0.2**
comp=Z,44nm,1.1s
CHTO Chiang Mai 36.30 237 P **P 12 49 08.9 -0.4**
comp=Z,44nm,0.9s
CHTO Chiang Mai 36.30 237 P **P 12 49 09.5 +0.2**
comp=Z,44nm,0.9s
CM31 Chiang Mai Arr 36.58 237 *e*P **P 12 49 11.8 +0.3**
comp=Z,9.2nm,0.8s
CMAR Chiang Mai Arr 36.58 237 P **P 12 49 12.0 +0.5**
CMAR Chiang Mai Arr 36.58 237 P **P 12 49 12.0 +0.5**
CMAR pP **pP** 12 50 49.6 +1.1
CMAR ScP **ScP** 12 54 11.1 -0.1
CMAR Chiang Mai Arr 36.58 237 P **P 12 49 12.0 +0.5**
comp=Z,14nm,0.9s,baz=30,slow=7.5,SNR=48
CMAR pP **pP** 12 50 49.6 +1.1
comp=Z,2.5nm,0.8s,baz=31,slow=8.9,SNR=4.3
CMAR ScP **ScP** 12 54 11.1 -0.1
comp=Z,1.5nm,0.5s,baz=17,slow=3.4,SNR=7.4
CHAI Chaiyaphum 36.80 230 P **P 12 49 13.6 +0.3**
comp=Z,9.0nm,0.7s,comp=Z,106nm
TAPN Taplejung 38.10 259 *e*P **P 12 49 24.9 +0.7**
comp=Z,49nm,0.4s
KDM Kudat 38.45 202 P **P 12 49 27.7 +1.0**
ODAN Odare 38.62 259 *e*P **P 12 49 28.8 +0.5**
SPIA Saint Paul Isl 38.81 48 *e*P **P 12 49 30.6 +1.5**
comp=Z,334nm,1.4s
JIRN Jiri 39.01 261 *e*P **P 12 49 32.2 +0.6**
comp=Z,19nm,0.2s
GUN Gumba 39.08 262 *e*P **P 12 49 32.4 +0.2**
comp=Z,62nm,0.4s
RAMN Ramite 39.13 260 *e*P **P 12 49 32.4 0.0**
ULHL Ulahol 39.31 288 *i* P **P 12 49 34.2 +0.6**
ULHL Ulahol 39.31 288 P **P 12 49 34.2 +0.6**
SNR=16
KKM Kota Kinabalu 39.45 203 *e*P **P 12 49 35.9 +0.9**
KKM Kota Kinabalu 39.45 203 P P 12 49 29.5 -5.4
KKM Kota Kinabalu 39.45 203 P **P 12 49 35.2 +0.3**
KKM Kota Kinabalu 39.45 203 P **P 12 49 35.8 +0.9**
comp=Z,56nm,0.7s
TKM2 Tokmak 2 39.52 289 P **P 12 49 36.3 +1.0**
TKM2 pmax pmax
comp=Z,99nm,0.7s
TKM2 Tokmak 2 39.52 289 P **P 12 49 36.4 +1.1**
SNR=41
TKM2 Tokmak 2 39.52 289 *e*P **P 12 49 36.4 +1.1**
comp=Z,106nm,0.8s
SDKM Sandakan 39.57 201 P **P 12 49 36.5 +0.7**
KKN Kakani 39.59 262 *e*P **P 12 49 36.3 +0.3**
comp=Z,64nm,0.5s
PKI Pulchoki 39.62 262 *e*P **P 12 49 36.6 +0.1**
PKIN Phulchoki 39.63 262 *e*P **P 12 49 36.9 +0.5**
comp=Z,16nm,0.2s
TNA Tin City 39.74 35 *e*P **P 12 49 37.2 +0.8**
comp=Z,95nm,1.0s
DMN Daman 39.82 262 *e*P **P 12 49 38.2 +0.3**
comp=Z,28nm,0.4s
VOSK Vostochnaya 39.84 305 P **P 12 49 37.3 -0.1**
VOSK pmax pmax
comp=Z,113nm,0.8s
KBK Karagaybulak 40.06 289 *i* P **P 12 49 40.6 +1.0**
KBK Karagaybulak 40.06 289 P **P 12 49 40.6 +1.0**
SNR=66
KZA Kyzart 40.06 288 *i* P **P 12 49 41.4 +1.5**
KZA Kyzart 40.06 288 P **P 12 49 41.4 +1.5**
SNR=31
CHMS Chumysh 40.07 289 *i* P **P 12 49 39.8 +0.3**
CHMS Chumysh 40.07 289 P **P 12 49 39.8 +0.3**
SNR=9.8
BVAR Borovoye Array 40.13 306 P **P 12 49 39.8 +0.1**
BVAR *PP **pP** 12 51 19.8 +0.8
BVAR 12 51 29.8
BVAR pmax pmax
comp=Z,45nm,0.5s
BVAR Borovoye Array 40.13 306 P **P 12 49 39.8 +0.1**
BVAR pP **pP** 12 51 19.8 +0.8
BVAR PcP **PcP** 12 51 29.8 +0.2
BVAR ScP **ScP** 12 54 23.1 -1.2
BVAR Borovoye Array 40.13 306 P **P 12 49 39.8 +0.1**
comp=Z,45nm,0.5s,baz=81,slow=8.5,SNR=168
BVAR pP **pP** 12 51 19.8 +0.8
comp=Z,3.1nm,0.5s,baz=124,slow=18,SNR=1.7
BVAR PcP **PcP** 12 51 29.8 +0.2
comp=Z,5.7nm,0.5s,baz=121,slow=1.2,SNR=5.2
BVAR ScP **ScP** 12 54 23.1 -1.2
comp=Z,13nm,0.8s,baz=90,slow=4.4,SNR=15
USP Ospenovka 40.15 290 *i* P **P 12 49 40.6 +0.4**
USP Ospenovka 40.15 290 P **P 12 49 40.6 +0.4**
SNR=22
BRVK Borovoye 40.18 306 *e*P **P 12 49 40.5 +0.3**
BRVK pmax pmax
comp=Z,63nm,0.9s
BRVK Borovoye 40.18 306 *e*P **P 12 49 40.5 +0.3**
BRVK Borovoye 40.18 306 *e*P **P 12 49 40.5 +0.3**
comp=Z,63nm,0.9s
FRU Bishkek 40.22 289 *e*P **P 12 49 40.0 -0.7**
FRU *e* 12 51 20.0
FRU pmax pmax
comp=Z,150nm,2.0s
FRU Bishkek 40.22 289 *e*P **P 12 49 40.0 -0.7**
DANN Dangsing 40.36 264 *e*P **P 12 49 43.2 +0.9**
AAK Ala-Archa 40.38 289 P **P 12 49 42.5 +0.4**
AAK *PP **pP** 12 51 23.0 +1.3
AAK pmax pmax
comp=Z,30nm,0.3s
AAK Ala-Archa 40.38 289 P **P 12 49 42.9 +0.7**
SNR=21
AAK Ala-Archa 40.38 289 P **P 12 49 42.8 +0.7**
SNR=9.2
AAK Ala-Archa 40.38 289 P **P 12 49 42.5 +0.4**
AAK Ala-Archa 40.38 289 *e*P **P 12 49 42.1 0.0**
comp=Z,67nm,1.1s
AAK pP **pP** 12 51 23.0 +1.3
AAK Ala-Archa 40.38 289 P **P 12 49 42.5 +0.4**
comp=Z,30nm,0.3s,baz=104,slow=4.4,SNR=46
AAK pP **pP** 12 51 23.0 +1.3
comp=Z,5.3nm,0.5s,baz=32,slow=6.9,SNR=3.5
KSH Kashi 40.54 284 P P 12 49 47.6 +4.2
KSH PP **PP** 12 51 35.7 +3.0
KSH S S 12 55 18.8 +6.9
KSH SS **SS** 12 58 37.2 +1.0
KSH pmax pmax
comp=Z,30nm,1.2s
KSH pmax pmax
comp=Z,110nm,3.1s
TSM Tawau 40.69 200 P **P 12 49 44.9 +0.2**
KOLN Koldanda 40.81 263 *e*P **P 12 49 46.3 +0.5**
comp=Z,23nm,0.3s
EKS2 Erkin-Say 40.86 289 *e*P **P 12 49 46.3 +0.4**
EKS2 pmax pmax
comp=Z,26nm,0.6s
EKS2 Erkin-Say 40.86 289 P **P 12 49 46.3 +0.4**
SNR=6.9
EKS2 Erkin-Say 40.86 289 *e*P **P 12 49 46.3 +0.4**
comp=Z,26nm,0.6s
PYUN Piuthan 41.06 264 *e*P **P 12 49 48.5 +0.7**
AML Almayashu 41.12 288 *i* P **P 12 49 49.1 +0.8**
AML Almayashu 41.12 288 P **P 12 49 49.1 +0.8**
SNR=20
KK31 Karatay Array 42.93 291 *e*P **P 12 50 01.9 -0.1**
KK31 pmax pmax
comp=Z,85nm,0.8s
KKAR Karatay Array 42.93 291 *e*P **P 12 50 02.0 0.0**
KKAR Karatay Array 42.93 291 *e*P **P 12 50 02.0 0.0**
SBUM Sibu 44.08 207 P **P 12 50 10.6 -0.5**
SBUM Sibu 44.08 207 P **P 12 50 12.4 +1.2**
comp=Z,95nm,1.1s,comp=Z,849nm
SVE Sverdlovsk 44.79 313*c i*P **P 12 50 16.6 +0.5**
SVE pmax pmax
comp=Z,294nm,0.9s
SVE Sverdlovsk 44.79 313 ||*i*P **P 12 50 16.6 +0.5**
NDI New Delhi 44.92 269 *e*P **P 12 50 17.0 -0.5**
IM04 Indian Mountai 45.53 34 *e*P **P 12 50 22.6 +1.0**
KSM Kuching 45.65 209 *e*P **P 12 50 23.7 +0.6**
comp=Z,46nm,0.9s
KSM Kuching 45.65 209 P **P 12 50 22.8 -0.3**
KSM Kuching 45.65 209 P **P 12 50 23.5 +0.4**
comp=Z,64nm,0.9s,comp=Z,520nm
SVW2 Sparrevohn 45.66 41 *e*P **P 12 50 24.3 +1.6**
comp=Z,43nm,0.9s
ARU Arti 46.00 313*c i*P **P 12 50 25.0 -0.3**
ARU *e* 12 51 48.8
ARU *PP **pP** 12 52 05.9 -2.7
ARU 12 52 17.4
ARU S **S** 12 56 28.1 -0.5
ARU 12 59 11.5
ARU pmax pmax
comp=Z,350nm,1.0s
ARU Arti 46.00 313 ||*i*P **P 12 50 25.0 -0.3**
SOKR Solikamsk 46.09 317*d i*P **P 12 50 26.1 +0.2**
SOKR pmax pmax
comp=Z,190nm,1.1s
KULM Kulim 46.38 224 *e*P **P 12 50 29.3 +0.6**
comp=Z,11nm,0.6s
KULM Kulim 46.38 224 P **P 12 50 29.8 +1.0**
KULM Kulim 46.38 224 P **P 12 50 29.4 +0.7**
comp=Z,32nm,0.7s,comp=Z,748nm
STKI Sintang 46.56 207 P **P 12 50 32.1 +2.0**
comp=Z,53nm,0.7s,comp=Z,7μm
COLD Coldfoot 46.71 32 *e*P **P 12 50 31.6 +1.1**
comp=Z,48nm,1.0s
PPLA Purkeypile 46.82 38 *e*P **P 12 50 33.2 +1.7**
comp=Z,248nm,1.8s
IPM Ipoh 46.89 223 *e*P **P 12 50 31.8 -0.8**
RSO Redoubt South 47.16 41 *e*P **P 12 50 35.4 +1.2**
MMSI Mamuju 47.22 196 P **P 12 50 33.5 -1.5**
comp=Z,45nm,0.8s
SPU Mount Spurr 47.31 40 *e*P **P 12 50 36.5 +1.3**
AB31 Akbulak array 47.50 303 *e*P **P 12 50 36.6 -0.1**
AB31 pmax pmax
comp=Z,93nm,0.3s
ABKAR Akbulak array 47.50 303 *e*P **P 12 50 36.7 +0.1**
comp=Z,102nm,0.3s
TRF Thorofare Moun 47.52 37 *e*P **P 12 50 37.5 +0.7**
comp=Z,35nm,1.1s
KBL Kabul 47.74 281 *e*P **P 12 50 38.7 -0.3**
KBL pmax pmax
comp=Z,76nm,1.1s
KBL Kabul 47.74 281 *e*P **P 12 50 38.7 -0.3**
comp=Z,76nm,1.1s
OHAK Old Harbor 47.82 45 *e*P **P 12 50 39.3 +0.4**
comp=Z,108nm,1.0s
KGM Kluang 47.97 218 P **P 12 50 40.2 -0.4**
MCK McKinley 48.03 36 *e*P **P 12 50 41.5 +1.1**
MCK pmax pmax
comp=Z,61nm,0.9s
MCK McKinley 48.03 36 *e*P **P 12 50 41.5 +1.1**
MCK McKinley 48.03 36 *e*P **P 12 50 41.5 +1.1**
comp=Z,61nm,0.9s
COLA College 48.19 35 *e*P **P 12 50 42.9 +1.4**
COLA College 48.19 35 *e*P **P 12 50 42.9 +1.4**
COLA College 48.19 35 *e*P **P 12 50 42.9 +1.4**
comp=Z,751nm,0.7s
AKTO Aktyubinsk 48.23 305 P **P 12 50 41.8 -0.3**
AKTO S **S** 12 56 58.0 -1.5
AKTO pmax pmax
comp=Z,41nm,0.7s
AKTO pmax pmax
comp=N,4.0nm,0.8s
AKTO smax smax
comp=N,1.0nm,0.4s
AKTO Aktyubinsk 48.23 305 P **P 12 50 41.8 -0.3**
AKTO ScP **ScP** 12 54 55.7 -2.1
AKTO S **S** 12 56 58.0 -1.5
AKTO Aktyubinsk 48.23 305 P **P 12 50 41.8 -0.3**
comp=N,41nm,0.7s,baz=77,slow=7.9,SNR=95
AKTO ScP **ScP** 12 54 55.7 -2.1
comp=N,4.1nm,0.8s,baz=92,slow=6.2,SNR=3.7
AKTO S **S** 12 56 58.0 -1.5
comp=N,0.5nm,0.4s,baz=330,slow=20,SNR=6.5
PMR Palmer 48.54 39 *e*P **P 12 50 44.6 +0.4**
PMR pmax pmax
comp=Z,79nm,1.0s
PMR Palmer 48.54 39 *e*P **P 12 50 44.5 +0.4**
comp=Z,79nm,1.0s
ILAR Eielson Array 48.61 34 P **P 12 50 45.0 +0.3**
ILAR Eielson Array 48.61 34 P **P 12 50 45.0 +0.3**
ILAR pP **pP** 12 52 31.3 +1.5
ILAR ScP **ScP** 12 54 57.5 -1.6
ILAR S **S** 12 57 04.5 +0.2
ILAR Eielson Array 48.61 34 P **P 12 50 45.0 +0.3**
comp=Z,55nm,0.7s,baz=282,slow=6.6,SNR=486
ILAR pP **pP** 12 52 31.3 +1.5
comp=Z,4.1nm,0.8s,baz=283,slow=6.2,SNR=4.1
ILAR ScP **ScP** 12 54 57.5 -1.6
comp=Z,3.8nm,1.0s,baz=286,slow=4.6,SNR=6.0
ILAR S **S** 12 57 04.5 +0.2
comp=Z,1.9nm,1.0s,baz=289,slow=14,SNR=8.6
SML Sawmill 48.84 39 *e*P **P 12 50 47.3 +0.8**
SML pmax pmax
comp=Z,22nm,0.8s
SML Sawmill 48.84 39 *e*P **P 12 50 47.3 +0.8**
SML Sawmill 48.84 39 *e*P **P 12 50 47.3 +0.8**
comp=Z,22nm,0.8s
BBKI Banjar Baru 48.91 201 P **P 12 50 49.2 +1.6**
PSI Prapat 49.38 224 P **P 12 50 51.1 -0.2**
PSI Prapat 49.38 224 P **P 12 50 51.1 -0.2**
comp=Z,11nm,0.6s,baz=17,slow=6.0,SNR=10.0
PAX Paxson 49.75 37 *e*P **P 12 50 53.7 +0.5**
PAX pmax pmax
comp=Z,29nm,1.1s
PAX Paxson 49.75 37 *e*P **P 12 50 53.6 +0.5**
comp=Z,29nm,1.1s
MENT Mentasta 50.52 36 *e*P **P 12 50 59.8 +1.0**
MID Middleton Isla 50.55 41 *e*P **P 12 50 59.9 +0.9**
MID Middleton Isla 50.55 41 *e*P **P 12 50 59.9 +0.9**
BMRM Bremner River 50.81 39 *e*P **P 12 51 02.1 +1.1**
comp=Z,73nm,0.8s
EGAK Eagle 50.94 33 *e*P **P 12 51 02.4 +0.7**
comp=Z,67nm,0.7s
RAGM Ragged Mountai 50.99 40 *e*P **P 12 51 04.0 +1.7**
comp=Z,97nm,0.7s
INK Inuvik 52.42 28 P **P 12 51 13.2 +0.9**
INK Inuvik 52.42 28 P **P 12 51 13.2 +0.9**
INK ScP **ScP** 12 55 15.0 -0.5
INK Inuvik 52.42 28 P **P 12 51 13.2 +0.9**
comp=Z,15nm,0.4s,baz=303,slow=7.6,SNR=92
INK ScP **ScP** 12 55 15.0 -0.5
comp=Z,9.7nm,0.8s,baz=283,slow=5.4,SNR=9.1
SPA0 Spitsbergen Ar 52.43 346 *e*P **P 12 51 12.4 +0.2**
SPITS Spitsbergen Ar 52.43 346 P **P 12 51 12.4 +0.2**
SPITS ScP **ScP** 12 55 14.8 -0.6
SPITS Spitsbergen Ar 52.43 346 P **P 12 51 12.4 +0.2**
comp=Z,21nm,0.7s,baz=84,slow=7.6,SNR=50
SPITS ScP **ScP** 12 55 14.8 -0.6
comp=Z,6.9nm,0.8s,baz=28,slow=6.5,SNR=4.2
LVZ Lovozero 52.68 332 *e*P **P 12 51 14.0 -0.2**
LVZ pmax pmax
comp=Z,28nm,1.2s
KBS Kingsbay 52.72 348 ||*i*P **P 12 51 14.9 +0.6**
KBS AMB AMB 12 51 15.7
comp=Z,50nm,0.9s
KBS Kingsbay 52.72 348 *e*P **P 12 51 14.9 +0.6**
KBS pmax pmax
comp=Z,19nm,0.6s
KBS Kingsbay 52.72 348 *e*P **P 12 51 14.9 +0.6**
KBS Kingsbay 52.72 348 *e*P **P 12 51 14.9 +0.6**
comp=Z,19nm,0.6s
TMCR Tamitsa 52.98 327 *e*P **P 12 51 16.1 -0.1**
TMCR *e* 12 52 16.4
TMCR pmax pmax
comp=Z,104nm,1.3s
APA Apatity 53.25 332 ||*i*P **P 12 51 18.0 -0.1**
APA *i* 12 53 25.6
APA pmax pmax
comp=Z,36nm,0.7s
HYT Haines Junctio 54.05 37 *e*P **P 12 51 25.9 +1.8**
UGM Wanagama 54.38 205 *e*P **P 12 51 26.1 -0.8**
comp=Z,119nm,1.1s
ARCES ARCESS Array B 54.87 335 P **P 12 51 29.4 -0.1**
ARCES ARCESS Array B 54.87 335 P **P 12 51 29.4 -0.1**
ARCES PP **PP** 12 53 37.0 -3.6
ARCES ScP **ScP** 12 55 23.5 -2.7
ARCES ARCESS Array B 54.87 335 P **P 12 51 29.4 -0.1**
comp=Z,29nm,0.5s,baz=59,slow=9.0,SNR=262
ARCES PP **PP** 12 53 37.0 -3.6
comp=Z,11nm,0.9s,baz=61,slow=7.5,SNR=7.6
ARCES ScP **ScP** 12 55 23.5 -2.7
comp=Z,3.2nm,0.7s,baz=68,slow=6.7,SNR=4.4
ARE0 ARCESS Array S 54.87 335 *e*P **P 12 51 29.2 -0.3**
SKAG Skagway 55.65 38 *e*P **P 12 51 36.8 +1.7**
comp=Z,32nm,1.0s
TRO Tromso 56.74 337 *e*P **P 12 51 42.1 -0.2**
TRO AMB AMB 12 51 42.8
comp=Z,85nm,0.9s
SIT Sitka 56.83 41 *e*P **P 12 51 45.2 +2.0**
SIT pmax pmax
comp=Z,48nm,0.9s
SIT Sitka 56.83 41 *e*P **P 12 51 45.2 +2.0**
SIT Sitka 56.83 41 *e*P **P 12 51 45.2 +2.0**
comp=Z,48nm,0.9s
MOS Moscow 57.04 318 *e*P **P 12 51 43.9 -0.8**
MOS *e* 12 52 31.3
MOS *e*S **S** 12 58 53.7 -2.1
MOS pmax pmax
comp=Z,200nm,1.0s
MOS pmax pmax
comp=Z,230nm,0.9s
MOS smax smax
comp=E,300nm,1.6s
MOS smax smax
comp=N,100nm,1.0s
VRHR Novokhopersk 57.31 311 *e*P **P 12 51 44.8 -1.8**
VRHR pmax pmax
comp=Z,120nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.6s
OBN Obninsk 57.88 317*d i*P **P 12 51 50.0 -0.3**
OBN *e* 12 52 33.7
OBN *e**PP **pP** 12 53 41.8 +0.7
OBN *e* 12 54 07.0
OBN *i* S **S** 12 59 05.7 -0.8
OBN pmax pmax
comp=Z,120nm,1.0s
OBN Obninsk 57.88 317 ||*i*P **P 12 51 50.0 -0.3**
PUL Pulkovo 58.29 324 ||*e*P **P 12 51 53.2 +0.2**
PUL pmax pmax
comp=Z,136nm,0.7s
PUL Pulkovo 58.29 324 *e*P **P 12 51 53.2 +0.2**
DAG Danmarks Havn 58.42 352 *i* P **P 12 51 53.9 +0.2**
DAG Danmarks Havn 58.42 352 *i* P **P 12 51 53.9 +0.2**
DBC Dubki 58.42 301 ||*i*P **P 12 51 53.5 -0.9**
DLBC Dease Lake 58.54 37 *e*P **P 12 51 56.5 +1.7**
WRAK Wrangell Islan 58.56 40 *e*P **P 12 51 56.6 +1.7**
comp=Z,45nm,0.9s
VSR Storozhevoye 58.57 313 *e*P **P 12 51 54.1 -1.0**
VSR pmax pmax
comp=E,90nm,0.9s
VSR pmax pmax
comp=Z,120nm,0.9s
VSR pmax pmax
comp=N,70nm,0.8s
KAF Kangasniemi 58.62 328 *e*P **P 12 51 54.4 -0.8**
KAF pmax pmax
comp=Z,9.0nm,0.3s
VORD Divnogorie 58.64 312 *e*P **P 12 51 54.6 -0.9**
VORD pmax pmax
comp=Z,110nm,1.5s
VORD pmax pmax
comp=N,40nm,0.9s

VORD pmax pmax
comp=E,60nm,0.9s
CRAG Craig 58.70 41 *e*P **P 12 51 57.6 +1.7**
comp=E,167nm,1.4s
FIA1 FINESS Array S 59.09 327 *e*P **P 12 51 57.8 -0.5**
FINES FINESS Array B 59.09 327 P **P 12 51 58.0 -0.4**
FINES PcP **PcP 12 52 38.6 -0.9**
FINES S **S 12 59 20.4 -1.1**
FINES FINESS Array B 59.09 327 P **P 12 51 58.0 -0.4**
comp=E,52nm,0.5s,baz=74,slow=6.2,SNR=284
FINES PcP **PcP 12 52 38.6 -0.9**
comp=E,13nm,0.4s,baz=61,slow=4.7,SNR=9.4
FINES S **S 12 59 20.4 -1.1**
comp=E,3.9nm,1.0s,baz=101,slow=12,SNR=5.1
DGRG David-gareji 60.18 300 P **P 12 52 05.8 -0.2**
GUDG Gudauri 60.19 302 P **P 12 52 05.2 -1.1**
MOR8 Moi Rana 60.24 335 *e*P **P 12 52 04.4 -1.6**
MOR8 AMB AMB 12 52 05.8
comp=Z,119nm,0.7s
DUS Dusheti 60.25 301 P **P 12 52 04.8 -1.8**
ZEI Tsey 60.36 302 *e*P **P 12 52 05.2 -2.3**
ZEI pmax pmax
comp=Z,31nm,0.9s
TBLG Delisi 60.43 301 P **P 12 52 07.3 -0.4**
TBLG Delisi 60.43 301 P **P 12 52 07.3 -0.4**
KBZ Khabaz 60.46 304 P **P 12 52 07.6 -0.2**
KBZ pmax pmax
comp=Z,14nm,0.4s
KBZ Khabaz 60.46 304 P **P 12 52 07.6 -0.2**
KBZ Khabaz 60.46 304 P **P 12 52 07.6 -0.2**
comp=Z,14nm,0.4s,baz=49,slow=1.8,SNR=40
KIV Kislovodsk 60.46 304 *e*P **P 12 52 07.9 0.0**
KIV *e* 12 52 47.2
KIV *e**PP **pP 12 53 59.3 -0.9**
KIV *e*S **S 12 59 39.3 -0.2**
KIV *e*SS **SS 13 03 53.5 +3.1**
KIV pmax pmax
comp=Z,232nm,1.0s
KIV Kislovodsk 60.46 304 *e*P **P 12 52 07.9 0.0**
VSU Vasula 60.55 324*d i*P **P 12 52 07.9 -0.2**
ONI Oni 60.75 302 P **P 12 52 09.5 -0.3**
GNI Garni 61.30 299 *e*P **P 12 52 13.7 +0.1**
comp=Z,65nm,1.1s
YKA Yellowknife Ar 62.18 28 P **P 12 52 19.1 +0.4**
YKA Yellowknife Ar 62.18 28 P **P 12 52 19.1 +0.4**
YKA Yellowknife Ar 62.18 28 P **P 12 52 19.0 +0.4**
comp=Z,12nm,0.3s,baz=312,slow=6.4,SNR=122
HOQ Hoqain 62.36 277 P **P 12 52 21.3 +0.7**
SNR=5.6
MICGM Minsk 62.39 320 *e*P **P 12 52 20.0 -0.2**
MNK Minsk 62.41 320 *e*P **P 12 52 20.0 -0.3**
MNK pmax pmax
comp=Z,280nm,1.0s
SOC Sochi 62.45 305*d i*P **P 12 52 20.1 -0.7**
SOC *e**PP **pP 12 54 16.4 +2.4**
SOC *e* 12 54 46.4
SOC *e*S **S 13 00 01.7 -2.0**
SOC *e*SS **SS 13 04 26.5 +5.5**
SOC pmax pmax
comp=Z,74nm,0.6s
SOC Sochi 62.45 305⇓*i*P **P 12 52 20.1 -0.7**
NACGM Naroch 62.66 321 *e*P **P 12 52 19.0 -2.9**
BSY Bisya 62.96 276 P **P 12 52 25.5 +1.1**
SNR=6.6
ANN Anapa 63.09 307 *e*P P 12 52 21.6 -3.2
WRAB Tennant Creek 63.24 176 *e*P **P 12 52 25.5 -0.5**
WRAB pmax pmax
comp=Z,19nm,1.0s
WRAB Tennant Creek 63.24 176 *e*P **P 12 52 25.4 -0.5**
comp=Z,19nm,1.0s
WRA Warramunga Arr 63.25 176 P **P 12 52 25.6 -0.5**
WRA Warramunga Arr 63.25 176 P **P 12 52 25.6 -0.5**
comp=Z,6.3nm,0.4s,baz=353,slow=7.0,SNR=139
SUMG Summit 63.95 356 *e*P **P 12 52 30.6 +0.3**
SUMG pmax pmax
comp=Z,31nm,0.7s
SUMG Summit 63.95 356⇓*i*P **P 12 52 30.9 +0.6**
comp=Z,35nm,0.7s
SUMG Summit 63.95 356 *e*P **P 12 52 30.6 +0.3**
comp=Z,31nm,0.7s
AKASG Malin Array Be 64.04 316 *i*P **P 12 52 28.7 -2.1**
AKASG pmax pmax
comp=Z,19nm,0.3s
AKASG Malin Array Be 64.04 316 P **P 12 52 29.8 -1.0**
AKASG Malin Array Be 64.04 316 P **P 12 52 29.8 -1.0**
comp=Z,15nm,0.3s,baz=47,slow=6.8,SNR=43
SCO Scoresbysund 64.58 350 *i*P **P 12 52 33.9 +0.1**
SCO pmax pmax
comp=Z,11nm,0.7s
SCO Scoresbysund 64.58 350 *i*P **P 12 52 33.9 +0.1**
comp=Z,11nm,0.7s
NB2 NORSAR Subarra 64.83 332 P **P 12 52 35.0 -0.6**
comp=Z,28nm,0.6s,baz=41,slow=6.5
NB2 NORSAR Subarra 64.83 332 P **P 12 52 35.0 -0.6**
baz=41,slow=6.5
NOA NORSAR Array B 64.83 332 P **P 12 52 35.0 -0.6**
NOA pP **pP 12 54 30.6 +0.5**
NOA PP **PP 12 55 03.2 -4.4**
NOA NORSAR Array B 64.83 332 P **P 12 52 35.0 -0.6**
comp=Z,30nm,0.7s,baz=42,slow=6.1,SNR=133
NOA pP **pP 12 54 30.6 +0.5**
comp=Z,2.2nm,0.8s,baz=45,slow=6.6,SNR=4.5
NOA PP **PP 12 55 03.2 -4.4**
comp=Z,4.9nm,0.7s,baz=47,slow=8.5,SNR=8.3
SUW Suwalki 64.86 322 *e*P **P 12 52 35.7 -0.2**
MOL Molde 64.91 335 *e*P **P 12 52 36.2 +0.2**
MOL AMB AMB 12 52 36.8
comp=Z,44nm,0.7s
SIM Simferopol' 64.91 309*de*P **P 12 52 35.0 -1.4**
SIM pmax pmax
comp=Z,109nm,0.9s
NC602 NORSAR Array S 64.93 332⇓*i*P **P 12 52 35.2 -1.1**
NAO01 NORSAR Array S 65.08 332 *e*P **P 12 52 35.7 -1.5**
comp=Z,3.0nm,0.3s
UMR Umm Al-Rimmam 65.53 288 *e*P **P 12 52 39.5 -1.0**
UMR AMb AMB 12 52 40.4
comp=Z,106nm,0.4s
KBD Kabd 65.77 288 *e*P **P 12 52 41.0 -1.0**
RDF Al-Radifah 66.02 288 *e*P **P 12 52 42.8 -0.8**
RDF AMb AMB 12 52 44.2
comp=Z,85nm,0.7s
NAY Al-Naaiem 66.04 288 *e*P **P 12 52 42.4 -1.3**
NAY AMb AMB 12 52 43.6
comp=Z,41nm,0.4s
MALT Malatya 66.35 301⇓P **P 12 52 48.4 +2.8**
MALT Malatya 66.35 301⇓*i*P **P 12 52 48.4 +2.8**
HYA Hoyanger 66.39 334 *e*P **P 12 52 45.2 0.0**
HYA AMB AMB 12 52 46.9
comp=Z,43nm,1.0s
KONO Kongsberg 66.39 332⇓*i*P **P 12 52 45.0 -0.4**
KONO AMB AMB 12 52 46.5
comp=Z,24nm,0.9s
SUE Sulen 66.92 335 *e*P **P 12 52 48.8 +0.3**
SUE AMB AMB 12 52 49.4
comp=Z,27nm,0.8s
AS31 Alice Springs 66.93 177 *e*P **P 12 52 49.0 -0.1**
ASAR Alice Springs 66.93 177 P **P 12 52 49.2 +0.1**
ASAR pP **pP 12 54 44.6 -0.2**
ASAR Alice Springs 66.93 177 P **P 12 52 49.2 +0.1**
comp=Z,17nm,0.8s,baz=355,slow=6.8,SNR=197
ASAR pP **pP 12 54 44.6 -0.2**
comp=Z,1.0nm,0.9s,baz=4.5,slow=5.9,SNR=2.7
LVV L'vov 67.18 318 *e*P **P 12 52 49.2 -1.2**
ODD1 Odda 67.20 333 *e*P **P 12 52 50.4 0.0**
ODD1 AMB AMB 12 52 52.2
comp=Z,34nm,1.1s
RUND Rundenannen 67.22 334 *e*P **P 12 52 49.6 -0.8**
RUND AMB AMB 12 52 51.0
comp=Z,68nm,1.5s
ASK Askoy 67.22 334 *e*P **P 12 52 49.5 -0.9**
ASK AMB AMB 12 52 51.5
comp=Z,75nm,1.2s
BER Bergen 67.26 334 *e*P **P 12 52 49.6 -1.0**
BER AMB AMB 12 52 51.5
comp=Z,42nm,1.2s
EGD Espegrend 67.38 334 *e*P **P 12 52 50.6 -0.7**
BEL Belsk 67.38 321 *e*P **P 12 52 51.8 +0.3**
PGC Sidney 67.55 44 *e*P **P 12 52 53.7 +1.0**
comp=Z,8.9nm,2.0s
BLS5 Blasjo 67.63 333⇓*i*P **P 12 52 53.0 0.0**
BLS5 AMB AMB 12 52 55.0
comp=Z,33nm,1.2s
BSD Bornholm Skovb 67.67 326⇓*i*P **P 12 52 52.5 -0.7**
BSD pmax pmax
comp=Z,63nm,0.8s

TLCR 67.70 312⇓P **P 12 52 53.6 0.0**
TLCR 67.70 312⇓*i*P **P 12 52 53.6 0.0**
KWP Kalwaria Pacla 67.95 318⇑P **P 12 52 55.8 +0.7**
KWP Kalwaria Pacla 67.95 318⇑*i*P **P 12 52 55.8 +0.7**
KWP Kalwaria Pacla 67.95 318 *e*P **P 12 52 55.0 -0.1**
comp=Z,37nm,0.4s
KWP Kalwaria Pacla 67.95 318 *e*P **P 12 52 55.4 +0.3**
GKP Gorka Klasztor 67.98 324 *e*P **P 12 52 55.5 +0.3**
TESR Tescani 68.01 314⇓*i*P **P 12 52 55.0 -0.5**
BURAR Bucovina Array 68.03 315⇓P **P 12 52 55.5 -0.2**
BURAR Bucovina Array 68.03 315⇓*i*P **P 12 52 55.5 -0.2**
CFR Carcaliu 68.08 312⇑P **P 12 52 55.5 -0.4**
CFR Carcaliu 68.08 312⇑*i*P **P 12 52 55.5 -0.4**
SNART Snartemo 68.20 332⇓*i*P **P 12 52 56.4 0.0**
SNART AMB AMB 12 52 58.3
comp=Z,23nm,1.1s
COP Copenhagen 68.25 328 *i*P **P 12 52 56.6 -0.1**
COP pmax pmax
comp=Z,34nm,1.0s
VRI Vrincioaia 68.39 313⇓P **P 12 52 58.5 +0.7**
VRI Vrincioaia 68.39 313⇓*i*P **P 12 52 58.5 +0.7**
VRI Vrincioaia 68.39 313 P **P 12 52 58.5 +0.7**
TIRR Tirgusor 68.39 311⇑P **P 12 52 57.7 -0.1**
TIRR Tirgusor 68.39 311⇑*i*P **P 12 52 57.7 -0.1**
TIRR Tirgusor 68.39 311 *e*P **P 12 52 57.1 -0.7**
BR131 Keskin Array S 68.41 305 *e*P **P 12 52 57.5 -0.7**
comp=Z,11nm,0.7s
BRTR Keskin Array B 68.41 305 P **P 12 52 57.7 -0.5**
BRTR pP **pP 12 54 54.9 +0.5**
BRTR Keskin Array B 68.41 305 P **P 12 52 57.7 -0.5**
comp=Z,14nm,0.7s,baz=64,slow=5.6,SNR=57
BRTR pP **pP 12 54 54.9 +0.5**
comp=Z,4.2nm,0.8s,baz=77,slow=4.7,SNR=9.5
PLOR Plostina 68.44 313⇑P **P 12 52 58.1 -0.1**
PLOR Plostina 68.44 313⇑*i*P **P 12 52 58.0 -0.1**
KOLS Kolonicke sedl 68.63 318 *e*P **P 12 52 59.1 -0.1**
KOLS pmax pmax
comp=Z,14nm,0.7s
KOLS Kolonicke sedl 68.63 318 *e*P **P 12 52 59.1 -0.1**
KOLS *e*PP **PP 12 55 42.4 +2.0**
STHS Stebnicka Huta 68.80 319 *e*P **P 12 53 00.7 +0.5**
STHS pmax pmax
comp=Z,16nm,0.7s
STHS Stebnicka Huta 68.80 319 *e*P **P 12 53 00.7 +0.5**
STHS *e*PP **PP 12 55 40.8 -1.1**
ANTO Ankara 68.82 305⇓P **P 12 53 00.5 -0.1**
ANTO Ankara 68.82 305 P **P 12 53 00.9 +0.3**
SNR=11
ANTO Ankara 68.82 305⇓*i*P **P 12 53 00.5 -0.1**
ANTO Ankara 68.82 305 *e*P **P 12 53 00.5 -0.1**
comp=Z,44nm,0.9s
UZH Uzhgorod 68.82 318 *e*P **P 12 53 00.2 -0.1**
UZH *e* 12 53 28.6
MUD Monsted U'grnd 68.92 330 *i*P **P 12 53 00.6 -0.1**
MUD pmax pmax
comp=Z,32nm,0.8s
OJC Ojcow 68.94 320 *e*P **P 12 53 01.3 +0.2**
OJC pmax pmax
comp=Z,87nm,0.6s
OJC Ojcow 68.94 320 *e*P **P 12 53 01.2 +0.2**
comp=Z,87nm,0.6s
ISR Istrita 68.97 313⇓P **P 12 53 02.5 +1.1**
ISR Istrita 68.97 313⇓*i*P **P 12 53 02.5 +1.1**
DOPR Dopca 69.03 314⇑*i*P **P 12 53 02.8 +1.1**
CRVS Cervenica-Dubn 69.05 318 *e*P **P 12 53 01.7 0.0**
CRVS pmax pmax
comp=Z,19nm,1.2s
CRVS Cervenica-Dubn 69.05 318 *e*P **P 12 53 01.7 0.0**
CRVS *e*PP **PP 12 55 43.7 -0.2**
NIE Niedzica 69.25 319 *e*P **P 12 53 05.4 +2.5**
VOIR 69.56 314⇓P **P 12 53 05.4 +0.5**
VOIR 69.56 314⇓*i*P **P 12 53 05.4 +0.5**
LON Longmire 69.64 44 *e*P **P 12 53 06.4 +1.0**
LON pmax pmax
comp=Z,17nm,0.9s
LON Longmire 69.64 44 *e*P **P 12 53 06.4 +1.0**
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 69.80 1⇓*i*P **P 12 53 05.5 -0.3**
comp=Z,14nm,0.9s
KECS Kecovo 69.80 318 *e*P **P 12 53 06.4 +0.2**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 69.80 318 *e*P **P 12 53 06.4 +0.2**
KECS *e*PP **PP 12 55 52.0 +1.6**
ARR Arges 69.82 314⇓*i*P **P 12 53 07.7 +1.2**
OKC Ostrava-Krasne 69.97 320 *e*P **P 12 53 07.4 +0.2**
OKC Ostrava-Krasne 69.97 320⇓*e*P **P 12 53 07.4 +0.2**
KSP Ksiaz 70.11 322⇓*e*P **P 12 53 08.2 +0.2**
KSP *e* 12 55 51.3
KSP Ksiaz 70.11 322 *e*P **P 12 53 08.2 +0.2**
KSP Ksiaz 70.11 322 *e*P **P 12 53 08.2 +0.2**
LOT Lotru 70.22 314⇑*i*P **P 12 53 09.0 +0.1**
MORC Moravsky Berou 70.29 321 *e*P **P 12 53 09.5 +0.3**
MORC pmax pmax
comp=Z,29nm,0.6s
MORC Moravsky Berou 70.29 321 *e*P **P 12 53 09.5 +0.3**
comp=Z,29nm,0.6s
COR Corvallis 70.32 47 *e*P **P 12 53 11.4 +2.1**
COR pmax pmax
comp=Z,74nm,1.0s
COR Corvallis 70.32 47 *e*P **P 12 53 11.4 +2.1**
comp=Z,74nm,1.0s
BSEG Bad Segeberg 70.36 327 *e*P **P 12 53 10.0 +0.6**
comp=Z,71nm,0.9s
BSEG Bad Segeberg 70.36 327 *e*P **P 12 53 10.0 +0.6**
BSEG pmax pmax
comp=Z,71nm,0.9s
DPC Dobruska-Polom 70.44 322⇓*i*P **P 12 53 10.7 +0.7**
DPC *e**PP **pP 12 55 08.1 +0.9**
DPC *e* 12 55 55.4
DPC Dobruska-Polom 70.44 322⇓*i*P **P 12 53 10.7 +0.7**
DPC *e*pP **pP 12 55 08.1 +0.9**
DPC *e*x x 12 55 44.7
DPC *e*PP **PP 12 55 55.4 -0.4**
DPC Dobruska-Polom 70.44 322 *e*P **P 12 53 10.4 +0.4**
comp=Z,424nm,1.2s
UPC Upice 70.47 322⇓*i*P **P 12 53 10.6 +0.5**
UPC Upice 70.47 322⇓*i*P **P 12 53 10.6 +0.5**
UPC *e*x x 12 53 17.7
PSZ Piszkesteto 70.48 318 *e*P **P 12 53 10.7 +0.4**
PSZ pmax pmax
comp=Z,34nm,0.9s
PSZ Piszkesteto 70.48 318 *e*P **P 12 53 10.7 +0.4**
comp=Z,34nm,0.9s
VYHS Vyhne 70.59 319 *e*P **P 12 53 11.4 +0.5**
VYHS *e* 12 55 56.6
VYHS pmax pmax
comp=Z,16nm,1.4s
VYHS Vyhne 70.59 319 *e*P **P 12 53 11.4 +0.5**
VYHS *e* 12 55 44.1
VYHS *e*PP **PP 12 55 56.6 -0.4**
GZR Gura Zlata 70.77 315⇑P **P 12 53 12.0 -0.1**
GZR Gura Zlata 70.77 315⇑*i*P **P 12 53 12.0 -0.1**
KEBM Edson Butte 70.91 49 *e*P **P 12 53 14.4 +1.5**
comp=Z,53nm,1.0s
NEW Newport 70.91 41 *e*P **P 12 53 13.9 +1.0**
comp=Z,19nm,0.9s
NEW Newport 70.91 41⇑P **P 12 53 13.8 +1.0**
baz=71,SNR=24
PVCC Panska Ves 71.10 323 *e*P **P 12 53 14.4 +0.6**
PVCC Panska Ves 71.10 323⇓*e*P **P 12 53 14.4 +0.6**
PVCC *e*x x 12 53 21.7
BRG Berggiesshubel 71.12 323 *e*P **P 12 53 14.3 +0.4**
comp=Z,15nm,0.7s
BRG Berggiesshubel 71.12 323 *i*P **P 12 53 14.0 +0.1**
BRG *i* 12 53 26.5
BRG 12 56 00.8
BRG *e* 13 01 42.9
BRG pmax pmax
comp=Z,27nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 71.12 323 *i*P **P 12 53 14.0 +0.1**
CLL Collm 71.21 324 *e*P **P 12 53 14.5 +0.1**
comp=Z,38nm,0.8s
CLL Collm 71.21 324⇓*i*P **P 12 53 14.2 -0.2**
CLL *i* 12 56 03.9
CLL *e*S **S 13 01 43.0 -2.9**
CLL pmax pmax
comp=Z,58nm,0.8s
CLL Collm 71.21 324⇓*i*P **P 12 53 14.2 -0.2**
BZS Buzias 71.21 316⇓P **P 12 53 14.2 -0.4**
BZS Buzias 71.21 316⇓*i*P **P 12 53 14.2 -0.4**

KBO Bosley Butte 71.41 49 *e*P **P 12 53 16.4 +0.5**
PRU Pruhonice 71.50 322 *e*P **P 12 53 16.6 +0.4**
PRU Pruhonice 71.50 322⇓*e*P **P 12 53 16.6 +0.4**
NRDL Niedersach Rie 71.53 326 *e*P **P 12 53 16.6 +0.4**
comp=Z,20nm,0.8s
TREC Trest 71.58 321⇓*i*P **P 12 53 17.0 +0.3**
TREC Trest 71.58 321⇓*i*P **P 12 53 17.0 +0.3**
ZST Bratislava 71.62 320 *e*P **P 12 53 17.1 +0.2**
ZST *e* 12 56 04.9
ZST Bratislava 71.62 320 *e*P **P 12 53 17.1 +0.2**
ZST *e*PP **PP 12 56 04.9 -0.7**
CSS Prodhromos 71.64 301 *e*P **P 12 53 16.5 -0.7**
comp=Z,38nm,0.8s
HUMO Hull Mountain 71.84 48 *e*P **P 12 53 19.8 +1.5**
comp=Z,185nm,2.8s
WALA Waterton Lakes 71.84 39 *e*P **P 12 53 19.1 +0.8**
comp=Z,0.4nm,0.6s
PKST T''s 71.84 319⇓*e* **P 12 53 18.1 -0.1**
KRMB Red Mountain 72.05 50 *e*P **P 12 53 20.9 +1.3**
comp=Z,47nm,1.4s
TANN Tannenbergstha 72.10 324 *e*P **P 12 53 20.1 +0.4**
comp=Z,10.0nm,0.9s
A14A Double T Ranch 72.12 39⇓P **P 12 53 20.9 +1.0**
baz=72,SNR=42
RDO Rodhopi 72.17 310 *e*P **P 12 53 20.3 +0.2**
NKC Novy Kostel 72.24 324 *e*P **P 12 53 20.9 +0.4**
NKC Novy Kostel 72.24 324⇓*e*P **P 12 53 20.9 +0.4**
PKSM Moragy 72.29 317⇓P **P 12 53 20.2 -0.5**
PKSM Moragy 72.29 317⇓*i*P **P 12 53 20.2 -0.5**
PKSM Moragy 72.29 317⇓*e* **P 12 53 20.3 -0.5**
MOX Moxa 72.29 324 *e*P **P 12 53 21.2 +0.5**
comp=Z,11nm,0.8s
MOX Moxa 72.29 324 *e*P **P 12 53 21.2 +0.5**
MOX pmax pmax
comp=Z,11nm,0.8s
BSMT Bassoo Peak 72.31 40 *e*P **P 12 53 22.7 +1.6**
BLMT Blacktail Moun 72.39 40 *e*P **P 12 53 23.3 +1.7**
CONA Conrad Observa 72.39 320 *i*P **P 12 53 22.2 +0.7**
comp=Z,31nm,0.8s,SNR=27
A15A Johnson Ranch, 72.43 38⇑P **P 12 53 22.1 +0.4**
baz=72,SNR=36
A15A ⇓S **S 13 01 59.5 -0.4**
baz=72
VTS Vitosha 72.46 312⇓P **P 12 53 22.1 +0.1**
VTS Vitosha 72.46 312⇓*i*P **P 12 53 22.1 +0.1**
KHC Kasperske Hory 72.56 322⇓*i*P **P 12 53 22.6 +0.3**
KHC *e**PP **pP 12 55 21.1 +0.6**
KHC *e* 12 56 13.1
KHC Kasperske Hory 72.56 322⇓*i*P **P 12 53 22.6 +0.3**
KHC *e*pP **pP 12 55 21.1 +0.6**
KHC *e*x x 12 55 55.8
KHC *e*x x 12 56 04.2
KHC *e*PP **PP 12 56 13.1 -0.4**
KHC Kasperske Hory 72.56 322⇓*i*P **P 12 53 22.6 +0.3**
KHC Kasperske Hory 72.56 322 *e*P **P 12 53 22.7 +0.3**
comp=Z,30nm,0.8s
YBH Yreka Blue Hor 72.57 49 *e*P **P 12 53 23.4 +0.8**
comp=Z,7.4nm,0.8s
KHMM Horse Mountain 72.59 50 *e*P **P 12 53 23.8 +1.0**
IBBN Ibbenburen 72.61 327 *e*P **P 12 53 22.4 -0.1**
comp=Z,23nm,0.8s
JTMT Jette 72.62 40 *e*P **P 12 53 24.4 +1.6**
B14A Marquette Ranc 72.64 39⇓P **P 12 53 24.2 +1.2**
baz=72,SNR=15
YBMT Yellow Bay 72.66 40 *e*P **P 12 53 24.4 +1.3**
comp=Z,24nm,1.0s
ROTZ Rotzenmuhle 72.69 323 *e*P **P 12 53 24.0 +1.0**
comp=Z,17nm,0.8s
GEC2 GERESS Array S 72.71 322 *e*P **P 12 53 23.6 +0.3**
comp=Z,15nm,1.0s
GEC2 GERESS Array S 72.71 322 *e*P **P 12 53 23.6 +0.3**
GEC2 pmax pmax
comp=Z,15nm,1.0s
GERES GERESS Array B 72.71 322 P **P 12 53 23.1 -0.2**
GERES PP PP 12 56 05.5 -9.4
GERES GERESS Array B 72.71 322 P **P 12 53 23.1 -0.2**
comp=Z,9.0nm,0.8s,baz=38,slow=5.0,SNR=65
GERES PP PP 12 56 05.5 -9.4
comp=Z,2.6nm,0.8s,baz=46,slow=9.5,SNR=4.7
UBBA Unterbreizbach 72.84 325 *e*P **P 12 53 24.0 +0.3**
comp=Z,7.0nm,0.8s
WET Wettzell 72.86 323 *e*P **P 12 53 24.7 +0.7**
comp=Z,13nm,0.8s
WET Wettzell 72.86 323 *e*P **P 12 53 24.7 +0.7**
WET pmax pmax
comp=Z,13nm,0.8s
SWMT Swartz Lake 72.92 40 *e*P **P 12 53 25.8 +1.3**
NVR Nevrokopi 72.95 311 *e*P **P 12 53 24.6 -0.1**
B15A Bradely Ranch, 73.00 39⇓P **P 12 53 25.7 +0.8**
baz=73,SNR=66
ARSA Arzberg 73.04 320⇓*i*P **P 12 53 25.5 +0.3**
comp=Z,18nm,0.8s,SNR=10
KSL Kastellorizon 73.16 304 *e*P P 12 53 20.6 -5.4
GRF Grafenberg Arr 73.17 324 *e*P **P 12 53 26.8 +1.0**
comp=Z,68nm,0.8s
GRF Grafenberg Arr 73.17 324 *e*P **P 12 53 26.8 +1.0**
GRF pmax pmax
comp=Z,68nm,0.8s
GRFO Grafenberg 73.17 324 *e*P **P 12 53 26.0 +0.2**
GRFO pmax pmax
comp=Z,86nm,0.9s
GRFO Grafenberg 73.17 324 *e*P **P 12 53 26.0 +0.2**
comp=Z,86nm,0.9s
MOA Molln 73.19 321⇓*i*P **P 12 53 26.1 +0.2**
comp=Z,14nm,1.1s,SNR=8.2
BMO Blue Mountains 73.23 44 *e*P **P 12 53 27.1 +0.8**
comp=Z,27nm,0.9s
B16A M & M Farms, S 73.31 38⇑P **P 12 53 27.2 +0.5**
baz=73,SNR=15
SLMT Seeley Lake 73.35 40 *e*P **P 12 53 28.3 +1.2**
A17A Triple J Farms 73.36 37⇓P **P 12 53 27.6 +0.6**
baz=73,SNR=27
C15A Salmond Ranch, 73.37 39⇑P **P 12 53 28.6 +1.5**
baz=73,SNR=94
MSO Missoula 73.44 40 *e*P **P 12 53 28.5 +0.9**
comp=Z,28nm,1.0s
MSO Missoula 73.44 40⇓P **P 12 53 28.4 +0.9**
baz=73,SNR=24
WDC Whiskeytown Da 73.45 50 *e*P **P 12 53 28.3 +0.8**
WDC pmax pmax
comp=Z,30nm,1.2s
WDC Whiskeytown Da 73.45 50 *e*P **P 12 53 28.3 +0.8**
comp=Z,30nm,1.2s
BUG Bochum--Univer 73.47 327 *e*P **P 12 53 27.5 +0.1**
comp=Z,25nm,0.8s
SOKA Soboth 73.69 320⇓*i*P **P 12 53 29.1 +0.2**
comp=Z,73nm,1.0s,SNR=36
CHMT Chamberlain Mo 73.70 40 *e*P **P 12 53 29.9 +0.7**
CHOS Chios island 73.74 308 *e*P **P 12 53 28.7 -0.6**
C16A Fuhringer Ranc 73.74 39⇑P **P 12 53 29.9 +0.7**
baz=74,SNR=35
A18A Metzger Ranch, 73.75 37⇓P **P 12 53 29.6 +0.5**
baz=74,SNR=23
B17A L&G Farms, Che 73.80 38⇓P **P 12 53 30.4 +0.9**
baz=74,SNR=31
PLG Polygyros 73.85 311 *e*P **P 12 53 29.4 -0.5**
TNS Taunus Mts 73.93 326 *e*P **P 12 53 30.6 +0.4**
comp=Z,16nm,0.9s
TNS Taunus Mts 73.93 326 *e*P **P 12 53 30.6 +0.4**
TNS pmax pmax
comp=Z,16nm,0.9s
RJOB Jochberg 73.94 322 *e*P **P 12 53 31.2 +0.9**
comp=Z,23nm,0.9s
ARG Arkhangelos 73.99 305 *e*P **P 12 53 30.6 -0.1**
OBKA Obir 74.04 320⇓*i*P **P 12 53 30.8 -0.1**
comp=Z,20nm,0.8s,SNR=10
ESK Eskdalemuir 74.05 335 *i*P **P 12 53 31.4 +0.8**
ESK Eskdalemuir 74.05 335 *e*P **P 12 53 30.3 -0.3**
comp=Z,47nm,1.1s
B18A Beardsley Farm 74.18 37⇓P **P 12 53 32.5 +0.9**
baz=74,SNR=32
KBA Koelnbreinsper 74.18 321⇓*i*P **P 12 53 31.9 +0.1**
comp=Z,45nm,1.1s,SNR=29
A19A Klindworth Far 74.22 36⇓P **P 12 53 32.7 +0.8**
baz=74,SNR=14
WVOR Wild Horse Val 74.26 46 *e*P **P 12 53 33.0 +0.7**
WVOR Wild Horse Val 74.26 46 *e*P **P 12 53 33.0 +0.7**
FUR Furstenfeldbru 74.30 323 *e*P **P 12 53 32.9 +0.7**
comp=Z,37nm,0.8s
FUR Furstenfeldbru 74.30 323 *e*P **P 12 53 32.9 +0.7**
FUR pmax pmax
comp=Z,37nm,0.8s
C17A Wharram Farm, 74.31 38⇓P **P 12 53 32.7 +0.3**
baz=74,SNR=25
MYKA Terra Mystica 74.37 320⇓*i*P **P 12 53 32.4 -0.3**

comp=Z,26nm,0.9s,SNR=13
EGMT Eagleton 74.47 37 eP P 12 53 34.1 +0.8
comp=Z,43nm,0.9s
EGMT Eagleton 74.47 37 ⇑P P 12 53 34.0 +0.8
baz=74,SNR=22
B19A Brinkman Farms 74.49 37 ⇑P P 12 53 34.1 +0.7
baz=74,SNR=6.4
A20A Cobblestone Ra 74.61 36 ⇑P P 12 53 34.5 +0.5
baz=74,SNR=9.5
D17A Six Diamond Ra 74.70 38 ⇑P P 12 53 35.4 +0.7
baz=74,SNR=15
STU Stuttgart 74.73 324 eP P 12 53 34.1 -0.5
comp=Z,23nm,0.8s
STU Stuttgart 74.73 324 eP P 12 53 34.8 +0.2
STU pmax pmax
comp=Z,41nm,0.9s
STU Stuttgart 74.73 324 eP P 12 53 34.8 +0.2
comp=Z,41nm,0.9s
WATA Walderalm 74.79 322⇓iP P 12 53 35.2 0.0
comp=Z,5.8nm,0.5s
ABTA Abfaltersbach 74.81 321⇓iP P 12 53 34.2 -1.0
comp=Z,6.7nm,0.6s,SNR=6.8
WTTA Wattenberg 74.81 322 iP P 12 53 35.4 +0.1
comp=Z,28nm,1.0s,SNR=9.2
MSVF Nonsavu 74.82 133 eP P 12 53 37.8 +2.2
MSVF pmax pmax
comp=Z,24nm,0.9s
MSVF Nonsavu 74.82 133 eP P 12 53 37.8 +2.2
comp=Z,24nm,0.9s
LRM Limekiln Ridge 74.88 40 eP P 12 53 37.0 +1.2
OHCM Honcut 74.90 50 eP P 12 53 36.3 +0.7
B20A Solberg Farm, 74.90 36 ⇑P P 12 53 36.1 +0.4
baz=75
A21A Bergtoll Ranch 74.94 35 ⇓P P 12 53 36.7 +0.9
baz=75,SNR=11
MOTA Moosalm 74.99 322⇓iP P 12 53 36.1 -0.2
comp=Z,50nm,1.2s,SNR=9.2
C19A Slack Wire Ran 75.00 37 ⇑P P 12 53 37.2 +1.0
baz=75,SNR=13
MFID Camas Ranch 75.00 44 eP P 12 53 37.9 +1.5
comp=Z,76nm,0.9s
MFID Camas Ranch 75.00 44 ⇓P P 12 53 37.9 +1.5
baz=75,SNR=86
KARP Karpathos 75.02 305 eP P 12 53 35.5 -1.0
RETA Reutte 75.03 323⇓iP P 12 53 36.7 +0.3
comp=Z,56nm,1.1s,SNR=20
D18A Linhart Farms, 75.07 38 ⇑P P 12 53 37.7 +1.0
baz=75,SNR=19
BEKR Beckworth 75.15 49 eP P 12 53 38.0 +0.6
comp=Z,15nm,0.9s
E17A Martinsdale 75.15 39 ⇓P P 12 53 38.7 +1.5
baz=75,SNR=52
DLMT Dillon 75.16 41 eP P 12 53 38.8 +1.5
comp=Z,50nm,0.7s
LANF Langenberg 75.16 325 eP P 12 53 37.1 +0.1
THL Klokotos Trika 75.20 311 eP P 12 53 36.1 -1.3
LKR Lokris 75.30 310 eP P 12 53 36.7 -1.2
WLF Walferdange 75.30 326 eP P 12 53 37.5 -0.3
comp=Z,8.0nm,0.9s
B21A Ellsworth Farm 75.34 36 ⇓P P 12 53 38.7 +0.6
baz=75
A22A Carney Farms, 75.36 35 ⇑P P 12 53 38.6 +0.4
baz=75,SNR=20
BOZ Bozeman (W) 75.40 40 eP P 12 53 39.7 +1.1
BOZ pmax pmax
comp=Z,21nm,1.0s
BOZ Bozeman (W) 75.40 40 eP P 12 53 39.7 +1.1
comp=Z,21nm,1.0s
FETA Feichten 75.40 322⇓iP P 12 53 38.5 -0.1
comp=Z,15nm,1.2s,SNR=9.7
AGG Agios Georgios 75.41 310 eP P 12 53 37.4 -1.2
MCMT McKenzie Canyo 75.43 41 eP P 12 53 39.8 +0.9
comp=Z,8.4nm,0.8s
BFO Black Forest 75.44 324 eP P 12 53 39.0 +0.4
comp=Z,37nm,0.8s
BFO Black Forest 75.44 324 eP P 12 53 39.0 +0.4
BFO pmax pmax
comp=Z,37nm,0.8s
BFO Black Forest 75.44 324 eP P 12 53 38.7 +0.1
comp=Z,29nm,0.5s
C20A Veseth Ranch, 75.47 37 ⇑P P 12 53 39.6 +0.8
baz=75,SNR=26
GIVF Givet 75.48 327⇓iP P 12 53 38.3 -0.5
comp=Z,35nm,0.9s
E18A Harlowton 75.50 38 ⇓P P 12 53 40.2 +1.1
baz=75,SNR=8.9
D19A Cripps Ranch, 75.50 37 ⇓P P 12 53 40.0 +0.9
baz=75,SNR=30
DAVA Damuels 75.58 323⇓iP P 12 53 39.7 +0.1
comp=Z,73nm,1.1s,SNR=23
DOU Dourbes 75.58 327 P P 12 53 39.2 -0.1
comp=Z,9.9nm,1.4s
HLID Hailey 75.60 43 eP P 12 53 41.5 +1.7
comp=Z,20nm,0.7s
HLID Hailey 75.60 43 ⇑P P 12 53 41.4 +1.7
baz=75,SNR=57
F17A Fitzpatrick Pl 75.66 39 ⇑P P 12 53 41.2 +1.2
baz=75,SNR=28
STKA Stephens Creek 75.70 170 eP P 12 53 40.7 +0.6
STKA Stephens Creek 75.70 170 P P 12 53 40.5 +0.4
comp=Z,5.2nm,0.6s,baz=347,slow=4.7,SNR=14
BAIF Baives 75.76 328⇓iP P 12 53 39.8 -0.5
comp=Z,23nm,0.9s
C21A Desert Coulee 75.77 36 ⇓P P 12 53 41.0 +0.5
baz=76,SNR=6.6
PAHR Pah Rah Range 75.79 48 eP P 12 53 41.8 +0.9
I14A Mackay 75.80 42 ⇑P P 12 53 42.1 +1.1
baz=76,SNR=19
A23A Redstone 75.81 34 ⇓P P 12 53 41.2 +0.5
baz=76
CDF Champ du Feu 75.82 325⇓iP P 12 53 40.6 -0.2
comp=Z,31nm,0.8s
B22A Reddig Ranch S 75.87 35 ⇑P P 12 53 41.6 +0.6
baz=76,SNR=13
ZKR Zakros 75.88 305 eP P 12 53 41.2 0.0
D20A Manuel Ranch, 75.89 37 ⇓P P 12 53 42.1 +1.0
baz=76,SNR=13
FUORN Ofenpass-Fuorn 75.92 322 eP P 12 53 41.9 +0.3
KALE Kalithea 75.96 310 eP P 12 53 40.0 -1.7
DID Didima 75.96 309 eP P 12 53 37.9 -3.8
TRIZ Trizonia 76.01 310 eP P 12 53 40.5 -1.4
ECH Echery 76.03 325 eP P 12 53 41.6 -0.2
ECH pmax pmax
comp=Z,31nm,1.0s
ECH Echery 76.03 325 eP P 12 53 41.6 -0.2
comp=Z,31nm,1.0s
ECH Echery 76.03 325 eP P 12 53 41.3 -0.5
G17A Pierce Place, 76.06 40 ⇓P P 12 53 43.6 +1.4
baz=76,SNR=12
EFP Efpalio 76.06 310 eP P 12 53 41.2 -1.0
E19A Rath Farm, Rou 76.08 38 ⇓P P 12 53 43.3 +1.0
baz=76,SNR=35
F18A Big Timber 76.09 39 ⇓P P 12 53 43.5 +1.2
baz=76,SNR=28
QLMT Earthquake Lak 76.10 40 eP P 12 53 43.9 +1.4
NPS Neapolis 76.14 306 eP P 12 53 41.2 -1.5
LAKA Lakka 76.15 310 eP P 12 53 41.5 -1.2
B23A Brockton 76.16 34 ⇑P P 12 53 43.0 +0.4
baz=76,SNR=12
GUR Goura 76.16 309 eP P 12 53 41.4 -1.5
KLV Kalavryta, Ach 76.20 310 eP P 12 53 41.2 -1.8
H16A Russell Place, 76.28 40 ⇑P P 12 53 45.0 +1.4
baz=76,SNR=44
LAST Lasithi 76.28 306 eP P 12 53 43.1 -0.5
KEK Kerkira 76.31 312 eP P 12 53 42.9 -0.6
MOF Molkenrain 76.32 325 eP P 12 53 43.2 -0.3
E20A Meyer Farm, Mu 76.34 37 ⇓P P 12 53 44.7 +1.1
baz=76,SNR=29
C22A Vida 76.35 35 ⇓P P 12 53 43.9 +0.3
baz=76,SNR=11
PAGF Fort de Pagny 76.35 326⇓iP P 12 53 43.6 0.0
comp=Z,24nm,1.1s
XRY Khrisi 76.35 305 eP P 12 53 43.5 -0.3
D21A La Casta Ranch 76.40 36 ⇓P P 12 53 44.4 +0.4
baz=76,SNR=10
CMB Columbia Colle 76.42 50 eP P 12 53 45.4 +1.2
CMB pmax pmax
comp=Z,37nm,0.9s
CMB Columbia Colle 76.42 50 eP P 12 53 45.4 +1.2
comp=Z,37nm,0.9s
BMN Battle Mountai 76.43 47 eP P 12 53 45.9 +1.5
BMN pmax pmax
comp=Z,37nm,1.1s
BMN Battle Mountai 76.43 47 eP P 12 53 45.9 +1.5
comp=Z,37nm,1.1s
TUE Stuetta 76.44 323 eP P 12 53 44.2 -0.1
comp=Z,26nm,0.9s
HINF Hinteralfeld 76.47 325⇓iP P 12 53 43.7 -0.6
comp=Z,26nm,0.9s
F19A Roth Farm, Mol 76.47 38 ⇑P P 12 53 45.4 +1.0
baz=76,SNR=24
DGMT Dagmar 76.48 34 eP P 12 53 45.1 +0.8
comp=Z,46nm,0.9s
DGMT Dagmar 76.48 34 ⇓P P 12 53 44.9 +0.6
baz=76,SNR=9.2
LKD2 Lefkada island 76.50 311 eP P 12 53 43.7 -0.9
THEF They Montfort 76.50 326 eP P 12 53 43.7 -0.7
HAU Haudompre 76.53 325⇓iP P 12 53 44.2 -0.4
comp=Z,22nm,0.8s
VLX Vlachokerasia 76.54 309 eP P 12 53 43.3 -1.7
A25A Svangstu Ranch 76.54 33 ⇑P P 12 53 45.3 +0.7
baz=76,SNR=7.0
IDI Anoyia 76.54 306 eP P 12 53 43.1 -1.8
comp=Z,59nm,0.8s
RLS Riolos of Patr 76.57 310 eP P 12 53 44.3 -0.6
C23A Lambert 76.60 35 ⇑P P 12 53 45.8 +0.7
baz=76,SNR=9.8
G18A Lazy EL Ranch, 76.60 39 ⇓P P 12 53 45.8 +0.5
baz=76
WAKR Walker 76.61 49 eP P 12 53 46.9 +1.4
MEZF Maizieres J'vi 76.67 326 eP P 12 53 45.5 +0.2
YFT Old Faithful 76.67 40 eP P 12 53 48.2 +2.5
comp=Z,22nm,1.0s
D22A Cohagen 76.69 36 ⇓P P 12 53 46.2 +0.6
baz=76,SNR=11
E21A Keefer Ranch, 76.78 37 ⇓P P 12 53 46.9 +0.9
baz=76
SIVA Sivas 76.78 306 eP P 12 53 45.8 -0.3
LKWY Lake 76.79 40 eP P 12 53 48.5 +2.1
LKWY pmax pmax
comp=Z,29nm,1.1s
LKWY Lake 76.79 40 eP P 12 53 48.5 +2.1
comp=Z,29nm,1.1s
I16A Newdale 76.79 41 ⇓P P 12 53 48.2 +1.9
baz=77,SNR=51
AMT Artemida-Makis 76.80 309 eP P 12 53 43.4 -2.9
H17A Grant Village 76.83 40 ⇑P P 12 53 49.6 +2.9
baz=77
LOMF Lomont 76.84 325 eP P 12 53 46.0 -0.4
VAM Vamos 76.87 306 eP P 12 53 46.2 -0.4
F20A Billings 76.87 38 ⇓P P 12 53 47.5 +0.9
baz=77
RLMT Red Lodge 76.89 39 eP P 12 53 47.8 +1.0
comp=Z,34nm,1.1s
SFTF Sexfontaines 76.91 326⇓iP P 12 53 46.4 -0.2
comp=Z,119nm,1.1s
ITM Ithomi 76.93 309 eP P 12 53 45.3 -1.7
KYTH Kithira 76.93 308 eP P 12 53 44.4 -2.6
DYR Agios Nikonas 77.00 309 eP P 12 53 45.9 -1.4
A26A Wade Farm, Ken 77.00 33 ⇓P P 12 53 47.6 +0.5
baz=77,SNR=7.5
FLWY Flagg Ranch 77.01 40 eP P 12 53 47.8 +0.2
comp=Z,35nm,1.1s
IMW Indian Meadow 77.04 41 eP P 12 53 49.6 +1.8
H18A Shoshone NF, C 77.04 40 ⇓P P 12 53 48.7 +0.9
baz=77,SNR=10
B25A Knox Farm, Ray 77.06 34 ⇑P P 12 53 48.6 +1.1
baz=77,SNR=7.6
D23A Lindsay 77.08 35 ⇑P P 12 53 48.8 +1.1
baz=77,SNR=11
C24A Savage 77.13 35 ⇑P P 12 53 48.6 +0.7
baz=77
I17A Pilgrim Ck. 77.19 41 ⇑P P 12 53 50.8 +2.2
baz=77,SNR=11
PYL PYLOS 77.24 309 eP P 12 53 46.8 -1.8
MOOW Moose Ponds 77.24 41 eP P 12 53 50.6 +1.8
comp=Z,18nm,0.7s
RRI2 Red Ridge 77.27 41 eP P 12 53 50.8 +1.8
comp=Z,18nm,0.7s
G20A Bridger 77.29 38 ⇓P P 12 53 49.1 +0.1
baz=77,SNR=11
NVAR Mina Array Bea 77.29 49 P P 12 53 50.6 +1.5
NVAR Mina Array Bea 77.29 49 P P 12 53 50.6 +1.5
comp=Z,35nm,0.8s,baz=290,slow=5.0,SNR=271
TPAW Teton Pass 77.34 41 eP P 12 53 51.3 +1.9
comp=Z,16nm,0.9s
B26A Jensen Ranch, 77.34 33 ⇓P P 12 53 50.0 +0.9
baz=77
E22A Miles City 77.34 36 ⇓P P 12 53 49.6 +0.5
baz=77,SNR=5.6
H19A Powell 77.36 39 ⇑P P 12 53 50.4 +1.1
baz=77,SNR=7.9
NV11 Mina Array Sit 77.37 49 eP P 12 53 50.5 +1.0
LOHW Long Hollow 77.41 41 eP P 12 53 51.4 +1.7
comp=Z,12nm,0.8s
SENIN Lac Senin/Sane 77.41 324 eP P 12 53 49.2 -0.4
SNOW Snow King Moun 77.45 41 eP P 12 53 51.9 +1.8
comp=Z,18nm,1.1s
C25A Freed Ranch, W 77.46 34 ⇑P P 12 53 50.6 +0.9
baz=77
REDW Red Top Meadow 77.48 41 eP P 12 53 51.8 +1.6
comp=Z,19nm,0.9s
D24A Glendive 77.50 35 ⇓P P 12 53 50.7 +0.8
baz=77,SNR=7.2
MLAC Mammoth Lakes 77.57 50 ⇑P P 12 53 52.5 +1.8
baz=77,SNR=9.4
AQU L'Aquila 77.67 318 eP P 12 53 51.2 +0.2
comp=Z,79nm,0.9s
I18A Diamond G Ranc 77.72 40 ⇓P P 12 53 52.8 +1.3
baz=78,SNR=8.1
F22A Rosebud 77.73 37 ⇓P P 12 53 51.8 +0.6
baz=78,SNR=15
HVU Hansel Valley 77.73 43 eP P 12 53 52.7 +1.3
HVU Hansel Valley 77.73 43 eP P 12 53 52.7 +1.3
CABF La Chapelle 77.74 324 eP P 12 53 50.9 -0.4
comp=Z,16nm,0.9s
G21A Lodge Grass 77.74 38 ⇓P P 12 53 51.8 +0.5
baz=78
VLC Villacollemand 77.74 321 eP P 12 53 51.1 -0.1
C26A Wahner Farm, P 77.84 33 ⇓P P 12 53 52.3 +0.6
baz=78
I19A Meeteetse 77.84 40 ⇑P P 12 53 53.2 +1.2
baz=78,SNR=16
D25A Fairfield 77.89 34 ⇓P P 12 53 53.0 +1.0
baz=78
MTUM Tungsten Hills 77.92 50 eP P 12 53 54.0 +1.4
E24A Baker 77.95 35 ⇓P P 12 53 53.0 +0.6
baz=78,SNR=5.2
H20A Greybull 77.95 39 ⇓P P 12 53 53.0 +0.5
baz=78,SNR=12
LOR Lormes 78.13 326⇓iP P 12 53 52.7 -0.6
comp=Z,102nm,1.0s
F23A Volborg 78.14 36 ⇑P P 12 53 53.9 +0.5
baz=78,SNR=13
G22A Birney 78.15 37 ⇑P P 12 53 54.0 +0.5
baz=78,SNR=7.9
ULM Lac du Bonnet 78.16 28 eP P 12 53 52.3 -1.0
comp=Z,22nm,1.0s
ULM Lac du Bonnet 78.16 28 P P 12 53 52.6 -0.7
comp=Z,18nm,0.9s,baz=328,slow=6.0,SNR=20
C27A Sayler Ranch, 78.17 33 ⇑P P 12 53 54.1 +0.7
baz=78,SNR=5.2
PTRM Twissleman Ran 78.20 52 eP P 12 53 55.7 +1.8
CUC Castrocucco 78.21 315 eP P 12 53 52.8 -1.1
comp=Z,15nm,1.0s
H21A Big Horn, Sher 78.28 38 ⇑P P 12 53 54.6 +0.4
baz=78,SNR=7.9
RCTC Rector, Farmer 78.29 51 ⇑P P 12 53 55.0 +0.7
baz=78
I20A Worland 78.31 39 ⇓P P 12 53 55.8 +1.3
baz=78,SNR=38
TIN Tinemaha 78.32 50 ⇓P P 12 53 56.0 +1.4
baz=78,SNR=10.0
LPL La Plagne 78.32 323⇓iP P 12 53 54.5 -0.1
comp=Z,57nm,0.8s
LPG La Plagne 78.33 323⇓iP P 12 53 54.7 0.0
comp=Z,70nm,0.8s
E25A Miller Ranch, 78.37 35 ⇑P P 12 53 55.5 +0.9
baz=78
J19A Crowheart 78.41 40 ⇓P P 12 53 56.0 +1.0
baz=78,SNR=25
SSF Saint Saulge 78.44 326⇓iP P 12 53 54.4 -0.5
comp=Z,55nm,0.9s
F24A Ekalaka 78.45 36 ⇑P P 12 53 55.6 +0.5
baz=78,SNR=14
HWUT Hardware Ranch 78.46 43 eP P 12 53 56.5 +1.2
comp=Z,45nm,0.9s
BW06 Boulder Array 78.55 41 eP P 12 53 56.5 +0.6
comp=Z,28nm,0.9s
PDAR Pinedale Array 78.55 41 P P 12 53 56.4 +0.5
PDAR pP pP 12 55 58.1 +1.5
PDAR Pinedale Array 78.55 41 P P 12 53 56.4 +0.5
comp=Z,23nm,0.8s,baz=343,slow=1.3,SNR=209
PDAR pP pP 12 55 58.1 +1.5
comp=Z,1.7nm,0.8s,baz=296,slow=2.1,SNR=5.0
G23A Biddle 78.56 37 ⇑P P 12 53 56.0 +0.3
baz=78,SNR=9.5
SMMC Simmler 78.57 52 ⇓P P 12 53 57.2 +1.3
baz=78,SNR=7.0
FLN La Foliniere 78.59 329⇓iP P 12 53 54.8 -0.9
comp=Z,22nm,0.5s
FLN epP pP 12 55 57.4 +1.0
H22A Clearmont 78.61 38 ⇑P P 12 53 56.5 +0.5
baz=78,SNR=7.2
SMF Signal de Mont 78.64 326⇓iP P 12 53 55.5 -0.5
comp=Z,54nm,0.9s
D27A Center 78.65 33 ⇑P P 12 53 56.8 +0.7
baz=78
VES Vestal, Richgr 78.71 51 ⇓P P 12 53 56.8 +0.2
baz=78,SNR=9.7
BNI Bardonecchia 78.71 323 eP P 12 53 56.3 -0.2
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 78.71 323 eP P 12 53 56.3 -0.2
comp=Z,10nm,0.8s
AVF Avril sur Loir 78.72 326⇓iP P 12 53 56.1 -0.3
comp=Z,107nm,0.9s
E26A Carlson Angus 78.78 34 ⇓P P 12 53 57.1 +0.3
baz=78,SNR=6.3
J20A Shoshoni 78.79 39 ⇑P P 12 53 57.9 +0.8
baz=79,SNR=7.8
I21A Big Trails, Te 78.80 39 ⇑P P 12 53 57.7 +0.6
baz=79,SNR=36
MDND Maddock 78.80 32 ⇓P P 12 53 57.3 +0.5
baz=78
F25A Bowman 78.81 35 ⇑P P 12 53 57.6 +0.6
baz=79,SNR=5.5
R11A Troy Canyon, C 78.82 47 ⇑P P 12 53 58.4 +1.1
baz=79,SNR=24
GRAC Grapevine Rang 78.83 49 ⇑P P 12 53 59.0 +1.7
baz=79,SNR=6.3
K19A Absolon Red Bu 78.84 40 ⇓P P 12 53 57.2 -0.1
baz=79,SNR=8.5
CWC Cottonwood Cre 78.84 50 ⇑P P 12 53 58.3 +0.8
baz=79,SNR=5.0
G24A Alzada 78.88 36 ⇑P P 12 53 57.4 0.0
baz=79,SNR=6.9
DUG Dugway 78.89 44 eP P 12 53 59.2 +1.5
DUG pmax pmax
comp=Z,28nm,1.3s
DUG Dugway 78.89 44 eP P 12 53 59.2 +1.5
comp=Z,28nm,1.3s
DUG Dugway 78.89 44 ⇑P P 12 53 58.9 +1.3
baz=79,SNR=21
MBDF Montbardon 78.93 323⇓iP P 12 53 56.9 -0.8
comp=Z,35nm,0.7s
L18A Fontenelle, Gr 78.97 42 ⇑P P 12 53 58.9 +0.9
baz=79,SNR=24
PKM Peak Mountain 78.97 52 ⇓P P 12 53 59.7 +1.5
baz=79,SNR=8.0
M17A Scullys Gap (B 79.00 42 ⇑P P 12 53 59.1 +0.8
baz=79,SNR=11
GRR Gorron 79.05 329⇓iP P 12 53 57.4 -0.7
comp=Z,21nm,0.4s
CTU Camp Tracy 79.06 43 eP P 12 54 00.1 +1.6
comp=Z,20nm,1.1s
H23A Clabaugh Cattl 79.06 37 ⇑P P 12 53 58.9 +0.5
baz=79
J21A Lysite 79.09 39 ⇑P P 12 53 59.3 +0.6
baz=79,SNR=29
I22A 9 Mile Ranch, 79.10 38 ⇓P P 12 53 59.2 +0.6
baz=79,SNR=6.6
BGF Bois d'Agland 79.12 326 eP P 12 53 58.1 -0.4
comp=Z,26nm,0.8s
L19A Farson 79.16 41 ⇓P P 12 53 59.8 +0.8
baz=79,SNR=26
SAOF Saorge 79.16 322 eP P 12 53 56.6 -2.2
ORIF Oris-en-Rattie 79.17 324⇓iP P 12 53 58.7 -0.2
comp=Z,26nm,0.7s
E27A Carson 79.18 34 ⇓P P 12 53 59.7 +0.8
baz=79
ISA Isabella 79.18 51 eP P 12 53 59.4 +0.2
ISA pmax pmax
comp=Z,11nm,0.8s
ISA Isabella 79.18 51 eP P 12 53 59.4 +0.2
comp=Z,11nm,0.8s
ISA Isabella 79.18 51 ⇑P P 12 53 59.2 +0.1
baz=79,SNR=15
F26A Lodgepole 79.20 35 ⇓P P 12 53 59.5 +0.4
baz=79
K20A Yellowstone Ra 79.21 40 ⇓P P 12 53 59.2 -0.1
baz=79,SNR=7.2
AUTN L'Aution 79.21 322 eP P 12 53 58.1 -1.2
JLU Jordanelle 79.28 43 eP P 12 54 01.2 +1.4
comp=Z,10.0nm,0.6s
H24A Dirks Ranch, A 79.28 37 ⇑P P 12 53 59.5 0.0
baz=79,SNR=5.4
TOUF Mont Tournerai 79.28 322 eP P 12 53 57.8 -1.9
SBF Sospel 79.31 322⇓iP P 12 53 58.8 -0.9
comp=Z,67nm,0.9s
LUCF Luceram 79.33 322 eP P 12 53 58.9 -0.9
SBC Santa Barbara 79.35 52 ⇑P P 12 54 01.0 +1.1
baz=79
ARVC Arvin 79.37 51 ⇑P P 12 54 00.6 +0.6
baz=79
AGO Saint Agoulin 79.41 326 eP P 12 53 59.9 -0.2
G25A Newell 79.41 36 ⇑P P 12 54 00.5 +0.3
baz=79,SNR=7.1
MVIF Mont Vial 79.42 322 eP P 12 53 58.7 -1.6
REVF Revere 79.44 322 eP P 12 53 58.9 -1.4
F27A Lemmon 79.45 34 ⇓P P 12 54 00.6 +0.2
baz=79,SNR=6.8
MPMC Manual Prospec 79.45 50 ⇓P P 12 54 01.7 +1.0
baz=79,SNR=26
NLU North Lily Min 79.45 44 eP P 12 54 01.4 +0.7
SSB Saint Sauveur 79.45 325 eP P 12 53 59.9 -0.4
CEL Celeste 79.45 313 eP P 12 53 60.0 -0.5
comp=Z,47nm,0.8s
FURC Furnace Creek, 79.50 49 ⇑P P 12 54 02.1 +1.4
baz=79,SNR=34
DAU Daniels Canyon 79.52 43 eP P 12 54 02.6 +1.5
DAU Daniels Canyon 79.52 43 eP P 12 54 02.5 +1.5
TCF Toulx Ste Croi 79.59 326⇓iP P 12 54 00.9 -0.1
comp=Z,63nm,1.0s
TCF epP pP 12 56 03.9 +1.7
MPU Maple Canyon 79.63 44 eP P 12 54 02.6 +1.0
comp=Z,23nm,1.0s
PGF Pioggiola 79.63 320⇓iP P 12 54 00.8 -0.6
comp=Z,35nm,1.1s
CALN Calern 79.65 322 eP P 12 53 59.9 -1.6
G26A Maurine 79.67 35 ⇑P P 12 54 02.0 +0.4
baz=79,SNR=8.0
OG26 St.-Nazaire-De 79.69 324 eP P 12 54 01.3 -0.3
PYM Petit Puy Mans 79.71 326 eP P 12 54 01.6 -0.1
M19A Rock Springs 79.71 41 ⇓P P 12 54 02.6 +0.6
baz=80,SNR=6.7
L20A Wamsutter 79.71 41 ⇑P P 12 54 02.7 +0.8
baz=80,SNR=26
VIVF Saint-Julien-I 79.73 324⇓iP P 12 54 01.6 -0.2
comp=Z,48nm,0.6s
K21A Alcova 79.73 39 ⇓P P 12 54 02.5 +0.4
baz=80,SNR=38
LRMC Laurel Mountai 79.76 50 ⇑P P 12 54 03.3 +1.1
baz=80,SNR=25
SGMF Saint Gilles 79.78 330⇓iP P 12 54 01.6 -0.3
comp=Z,64nm,1.0s
OSI Osito Adit 79.80 52 ⇑P P 12 54 03.3 +1.0
baz=80
AGMN Agassiz Nation 79.81 30 eP P 12 54 01.9 -0.3
comp=Z,17nm,0.9s
G27A Dupree 79.88 35 ⇑P P 12 54 02.9 +0.3
baz=80,SNR=6.5
J23A Dilts Ranch, B 79.90 38 ⇓P P 12 54 02.9 0.0
baz=80
FRF La Foret Royal 79.91 322⇓iP P 12 54 01.8 -0.9
comp=Z,35nm,1.0s
I24A Kuemmerle Ranc 79.95 37 ⇑P P 12 54 03.4 +0.3
baz=80,SNR=13
ROSF Rostrenen 79.96 331⇓iP P 12 54 02.7 -0.2
comp=Z,138nm,1.0s
BLG Laguna Peak 79.97 52 ⇓P P 12 54 03.8 +0.5
baz=80
RSSD Black Hills 80.00 37 eP P 12 54 03.8 +0.3
RSSD pmax pmax
comp=Z,31nm,1.2s
RSSD Black Hills 80.00 37 eP P 12 54 03.8 +0.3
comp=Z,32nm,1.2s
EDW2 Edwards Air Fo 80.02 51 ⇓P P 12 54 04.6 +1.1
baz=80,SNR=25
LBL Lubilhac 80.03 325 eP P 12 54 03.8 +0.4
SMRF Simiane la Rot 80.05 323⇓iP P 12 54 03.1 -0.4

comp=Z,24nm,1.0s
K22A Casper 80.06 39 ⇓P P 12 54 03.9 +0.1
baz=80,SNR=8.5
LMR La Mourre 80.15 322 ⇓iP P 12 54 03.3 -0.6
comp=Z,58nm,1.0s
H26A Fairpoint 80.15 36 ⇓P P 12 54 04.7 +0.7
baz=80
M20A Sweetwater, Wa 80.18 41 ⇑P P 12 54 05.6 +1.2
baz=80,SNR=15
L21A Rawlins 80.20 40 ⇓P P 12 54 04.9 +0.4
baz=80,SNR=13
I25A Rochford 80.22 37 ⇑P P 12 54 05.1 +0.6
baz=80,SNR=24
OSPF L'Ospedale 80.22 320 eP P 12 54 04.1 -0.4
SHOC Shoshone 80.23 49 ⇓P P 12 54 05.7 +1.1
baz=80,SNR=16
MFF Saint Martin d 80.26 328 ⇓iP P 12 54 04.4 -0.1
comp=Z,47nm,0.8s
QUIF Quistinic 80.28 331 ⇓iP P 12 54 04.1 -0.4
comp=Z,43nm,0.8s
DECC Green Verdugo 80.28 52 ⇑P P 12 54 05.8 +0.9
baz=80
J24A Dixon Ranch, L 80.36 38 ⇓P P 12 54 05.5 +0.3
baz=80,SNR=5.9
ARUT Antelope Range 80.37 46 eP P 12 54 06.7 +1.2
ARUT pmax pmax
comp=Z,16nm,0.9s
ARUT Antelope Range 80.37 46 eP P 12 54 06.7 +1.2
comp=Z,16nm,0.9s
GSC Goldstone 80.38 50 eP P 12 54 06.6 +1.1
GSC Goldstone 80.38 50 eP P 12 54 06.6 +1.1
GSC Goldstone 80.38 50 ⇓P P 12 54 06.5 +1.1
baz=80,SNR=29
K23A Bowen Ranch, D 80.38 38 ⇑P P 12 54 05.4 0.0
baz=80
TMUT Trail Mountain 80.38 44 eP P 12 54 01.8 -3.8
SHPR Sheep Range 80.40 48 eP P 12 54 07.2 +1.5
PASC Pasadena Art C 80.42 52 eP P 12 54 06.0 +0.4
comp=Z,32nm,1.1s
H27A Howes 80.43 35 ⇑P P 12 54 06.0 +0.6
baz=80,SNR=11
MWC Mount Wilson 80.46 52 eP P 12 54 06.8 +0.8
MWC pmax pmax
comp=Z,51nm,1.4s
MWC Mount Wilson 80.46 52 eP P 12 54 06.8 +0.8
comp=Z,51nm,1.4s
MVU Marysvale 80.47 45 eP P 12 54 07.6 +1.6
comp=Z,23nm,0.9s
M21A Separation Pea 80.48 40 ⇓P P 12 54 06.5 +0.4
baz=80,SNR=16
MSU Marysvale 80.48 45 eP P 12 54 08.2 +2.1
MSU Marysvale 80.48 45 eP P 12 54 08.2 +2.1
RWWY Rawlins 80.49 40 eP P 12 54 07.0 +0.9
G28A Parade 80.55 34 ⇑P P 12 54 06.5 +0.4
baz=80,SNR=5.4
RRX Edison Barstow 80.58 50 ⇑P P 12 54 07.8 +1.4
baz=80
I26A New Underwood 80.58 36 ⇓P P 12 54 07.2 +0.8
baz=80
L22A Ellis Ranch, M 80.58 39 ⇓P P 12 54 07.3 +0.8
baz=80,SNR=7.6
CCUT Cedar City 80.59 46 eP P 12 54 07.0 +0.4
comp=Z,11nm,1.0s
O19A Miners Draw (B 80.65 42 ⇑P P 12 54 07.4 +0.6
baz=80,SNR=12
N20A Spence Gulch, 80.66 41 ⇑P P 12 54 08.4 +1.4
baz=80,SNR=45
BFSC Mount Baldy Ra 80.67 51 ⇓P P 12 54 07.7 +0.7
baz=80,SNR=16
RJF Les Rejaudoux 80.68 326 ⇓iP P 12 54 06.6 -0.1
J25A Sunshine Ranch 80.69 37 ⇓P P 12 54 07.3 +0.3
baz=80
Q16A Castle Valley 80.69 44 ⇑P P 12 54 08.3 +1.2
baz=80
FMP Fort Macarthur 80.69 52 ⇓P P 12 54 07.6 +0.6
baz=80
LASF Ste Croix 80.71 324 ⇓iP P 12 54 06.9 0.0
comp=Z,41nm,0.9s
LASF epP pP 12 56 09.7 +1.3
CAF Calviac 80.76 326 ⇓iP P 12 54 07.5 +0.3
comp=Z,94nm,1.1s
CAF epP pP 12 56 10.4 +1.6
TUQ Turquoise Moun 80.77 49 ⇑P P 12 54 08.8 +1.3
baz=81,SNR=35
H28A Mission Ridge 80.83 35 ⇑P P 12 54 08.1 +0.6
baz=81,SNR=20
CIS Catalina Islan 80.85 52 ⇑P P 12 54 08.1 +0.2
baz=81,SNR=7.9
L23A Garrett 80.85 39 ⇓P P 12 54 07.9 0.0
baz=81,SNR=12
SRU San Rafael 80.87 44 eP P 12 54 09.1 +1.1
SRU San Rafael 80.87 44 eP P 12 54 09.1 +1.1
SCHQ Schefferville 80.88 10 P P 12 54 07.8 +0.2
SCHQ Schefferville 80.88 10 P P 12 54 07.8 +0.2
comp=Z,2.8nm,0.5s,baz=342,slow=4.2,SNR=9.2
I27A Quinn 80.89 36 ⇑P P 12 54 08.9 +1.0
baz=81,SNR=12
HEC Hector,Ludlow 80.99 50 ⇑P P 12 54 09.8 +1.2
baz=81,SNR=17
M22A Cedar Creek Ra 81.00 40 ⇓P P 12 54 09.4 +0.6
baz=81,SNR=10
J26A Sides Ranch, S 81.07 37 ⇑P P 12 54 09.9 +1.1
baz=81,SNR=32
N21A Black Mountain 81.07 41 ⇓P P 12 54 10.1 +1.0
baz=81,SNR=6.3
BBRC Big Bear Solar 81.08 51 ⇓P P 12 54 10.1 +0.9
baz=81,SNR=9.1
SCI San Clemente I 81.08 53 ⇓P P 12 54 09.6 +0.7
baz=81
O20A White River Ci 81.21 42 ⇓P P 12 54 10.5 +0.7
baz=81,SNR=12
P19A Cripple Cowboy 81.23 42 ⇑P P 12 54 10.9 +0.9
baz=81,SNR=71
L24A Wheatland 81.26 38 ⇓P P 12 54 10.8 +0.8
baz=81
K25A Mack Ranch, Ha 81.28 37 ⇑P P 12 54 10.8 +0.8
baz=81
LFF La Frestale 81.29 327 ⇓iP P 12 54 10.2 +0.4
comp=Z,82nm,0.8s
M23A Laramie 81.35 39 ⇓P P 12 54 11.3 +0.7
baz=81,SNR=19
GMRC Granite Mounta 81.40 50 ⇓P P 12 54 11.9 +1.1
baz=81,SNR=33
LDFC Landfair 81.48 49 eP P 12 54 12.7 +1.5
comp=Z,38nm,1.0s
K26A Motz Farm, Whi 81.51 37 ⇓P P 12 54 11.6 +0.5
baz=81,SNR=6.6
O21A Pagoda 81.52 41 ⇓P P 12 54 12.4 +1.0
baz=81,SNR=6.9
N22A Wattenberg Ran 81.54 40 ⇑P P 12 54 12.6 +1.0
baz=81,SNR=14
L25A Engebretsen Ra 81.60 38 ⇑P P 12 54 12.7 +1.0
baz=81
PHWY Pilot Hill 81.61 39 eP P 12 54 12.9 +1.0
comp=Z,30nm,1.0s
EYMN Ely 81.62 27 eP P 12 54 11.2 -0.2
P20A De Beque 81.63 42 ⇑P P 12 54 12.7 +0.8
baz=81
N23A Red Feather La 81.70 40 ⇓P P 12 54 13.5 +1.1
baz=82,SNR=24
J28A Allard Ranch, 81.76 35 ⇑P P 12 54 13.3 +1.0
baz=82,SNR=10
M24A Cheyenne 81.77 39 ⇓P P 12 54 14.0 +1.4
baz=82,SNR=12
BELC Belle Mtn. Jos 81.79 50 ⇓P P 12 54 13.5 +0.7
baz=82,SNR=26
PFO Pinyon Flat Ob 81.82 51 eP P 12 54 13.7 +0.7
comp=Z,33nm,1.0s
PFO Pinyon Flat Ob 81.82 51 ⇑P P 12 54 13.6 +0.7
baz=82,SNR=24
VSL Villasalto 81.82 318 eP P 12 54 11.7 -0.9
comp=Z,44nm,1.0s
BRSD Miller 81.86 33 ⇑P P 12 54 12.9 +0.1
baz=82,SNR=8.0
K27A Flueckinger Fa 81.92 36 ⇑P P 12 54 13.7 +0.4
baz=82,SNR=6.7
109C Camp Elliot, M 81.97 52 ⇑P P 12 54 14.2 +0.7
baz=82
NEE2 Needles Airpor 81.98 49 ⇓P P 12 54 14.6 +1.0
baz=82
U15A North Rim 82.00 47 ⇓P P 12 54 15.8 +1.8
baz=82,SNR=62
MTLF Montolieu 82.00 325 ⇓iP P 12 54 13.5 0.0
comp=Z,18nm,0.9s
O22A Kremmling 82.00 41 ⇓P P 12 54 14.9 +0.9
baz=82,SNR=11
P21A Newcastle 82.06 42 ⇓P P 12 54 15.2 +1.1
baz=82,SNR=23

Q20A Ridgley Place, 82.10 42 ⇑P P 12 54 15.0 +0.8
baz=82,SNR=22
W13A Hualapai Mount 82.14 48 ⇓P P 12 54 15.9 +1.2
baz=82,SNR=6.8
IRM Iron Mountain 82.14 50 ⇑P P 12 54 15.8 +1.4
baz=82,SNR=35
PV04 Paradox Valley 82.23 43 eP P 12 54 16.6 +1.7
N24A Carr 82.25 39 ⇑P P 12 54 16.2 +1.2
baz=82,SNR=5.8
O23A Lake Granby, G 82.25 40 ⇓P P 12 54 16.6 +1.4
baz=82,SNR=29
K28A Ten Mile Ranch 82.29 36 ⇑P P 12 54 16.0 +1.0
baz=82,SNR=9.2
P22A Eagle 82.34 41 ⇑P P 12 54 16.8 +1.2
baz=82,SNR=18
BC3 Big Chuckawall 82.35 50 ⇓P P 12 54 16.7 +1.1
baz=82,SNR=28
MONP Monument Peak 82.36 51 ⇑P P 12 54 16.7 +0.9
baz=82,SNR=11
BAR Barrett 82.38 52 eP P 12 54 16.5 +0.9
comp=Z,15nm,0.7s
L27A T5 Ranch, Ells 82.39 37 ⇑P P 12 54 16.3 +0.7
baz=82
M26A McRoberts Ranc 82.52 38 ⇑P P 12 54 17.6 +1.3
baz=82
Q21A Lamborn Mesa, 82.54 42 ⇓P P 12 54 17.7 +1.1
baz=82,SNR=7.1
SMCO Snowmass 82.56 41 eP P 12 54 18.1 +1.1
comp=Z,30nm,0.9s
PDMCI Parker Dam,Lak 82.60 49 ⇑P P 12 54 17.6 +1.0
baz=82,SNR=12
PV01 Paradox Valley 82.60 43 eP P 12 54 17.6 +0.7
comp=Z,2μm,0.9s
N25A Grover 82.62 39 ⇑P P 12 54 18.1 +1.2
baz=82,SNR=13
R20A Redvale 82.65 43 ⇓P P 12 54 18.4 +1.2
baz=82
SWSC Sam W. Stewart 82.68 51 ⇑P P 12 54 18.1 +1.0
baz=82
K29A Lazy Trails An 82.69 35 ⇑P P 12 54 18.0 +0.9
baz=82,SNR=6.3
DVTC Desert V Tower 82.72 51 ⇓P P 12 54 18.5 +1.1
baz=83,SNR=7.9
O24A Longmont 82.72 40 ⇓P P 12 54 18.6 +1.3
baz=82
ISCO Idaho Springs 82.72 40 eP P 12 54 19.0 +1.4
ISCO pmax pmax
comp=Z,18nm,0.8s
ISCO Idaho Springs 82.72 40 eP P 12 54 19.0 +1.4
comp=Z,18nm,0.8s
ISCO Idaho Springs 82.72 40 ⇑P P 12 54 18.9 +1.4
baz=82,SNR=28
MLS Moulis 82.78 325 eP P 12 54 16.9 -0.5
Y12C Blythe 82.79 50 ⇓P P 12 54 19.0 +1.4
baz=83,SNR=14
L28A Connealy Angus 82.80 36 ⇑P P 12 54 18.5 +0.9
baz=83
Q22A Crested Butte, 82.84 42 ⇓P P 12 54 19.6 +1.4
baz=83,SNR=22
R21A Cimarron 82.92 42 ⇑P P 12 54 19.9 +1.4
baz=83,SNR=19
S20A Disappointment 82.94 43 ⇓P P 12 54 19.8 +1.1
baz=83,SNR=32
P23A Jefferson 82.95 41 ⇓P P 12 54 20.2 +1.4
baz=83,SNR=24
N26A Koester Ranch, 83.00 38 ⇑P P 12 54 19.5 +0.8
baz=83,SNR=12
EPF Esparros 83.03 326 ⇓iP P 12 54 18.2 -0.5
comp=Z,28nm,0.8s
GLA Glamis 83.14 50 eP P 12 54 20.3 +0.8
GLA pmax pmax
comp=Z,22nm,0.8s
GLA Glamis 83.14 50 eP P 12 54 20.3 +0.8
comp=Z,22nm,0.8s
GLA Glamis 83.14 50 ⇓P P 12 54 20.7 +1.2
baz=83,SNR=16
O25A Wiggins 83.17 39 ⇑P P 12 54 20.4 +0.8
baz=83,SNR=6.8
WUAZ Wupatki 83.17 47 eP P 12 54 21.4 +1.7
comp=Z,23nm,1.0s
WUAZ Wupatki 83.17 47 ⇑P P 12 54 21.4 +1.7
baz=83,SNR=17
L29A Maesberg Ranch 83.20 36 ⇑P P 12 54 20.3 +0.7
baz=83
P24A Kohler Place, 83.28 40 ⇓P P 12 54 21.3 +1.1
baz=83
N27A Anderson Farm, 83.33 38 ⇓P P 12 54 21.3 +1.0
baz=83,SNR=11
Q23A Hartsel 83.33 41 ⇑P P 12 54 21.7 +1.0
baz=83
MVCO Mesa Verde 83.35 44 eP P 12 54 21.9 +1.2
comp=Z,31nm,1.0s
MVCO Mesa Verde 83.35 44 ⇓P P 12 54 21.9 +1.2
baz=83,SNR=24
S21A Coal Bank Pass 83.35 43 ⇓P P 12 54 22.4 +1.7
baz=83,SNR=81
ECSD EROS Data Cent 83.38 32 eP P 12 54 20.6 +0.2
comp=Z,16nm,0.7s
R22A Saguache, Gunn 83.42 42 ⇓P P 12 54 22.8 +1.7
baz=83,SNR=13
O26A Horse Wrangler 83.43 39 ⇓P P 12 54 21.7 +0.8
baz=83,SNR=6.8
OGNE Ogallala 83.44 37 eP P 12 54 20.9 0.0
comp=Z,15nm,0.7s
OGNE Ogallala 83.44 37 ⇑P P 12 54 21.6 +0.8
baz=83,SNR=5.9
Y14A Wickenburg 83.49 49 ⇓P P 12 54 22.5 +1.3
baz=83,SNR=20
ETSF Etsaut 83.51 326 ⇓iP P 12 54 21.6 +0.5
comp=Z,34nm,0.8s
ETSF epP pP 12 56 25.1 +1.3
SPMN St. Paul 83.53 29 ⇓P P 12 54 21.3 +0.2
baz=83
LARF Larrau 83.56 327 eP P 12 54 21.5 +0.1
Q24A Divide 83.60 40 ⇑P P 12 54 22.8 +0.8
baz=83,SNR=12
P25A Willow Gulch B 83.63 40 ⇑P P 12 54 22.9 +1.0
baz=83,SNR=10
S22A 4UR Ranch, Cre 83.76 42 ⇑P P 12 54 24.1 +1.3
baz=84,SNR=24
O27A Beecher Island 83.85 38 ⇑P P 12 54 23.5 +0.5
baz=84,SNR=7.4
N28A Pribbeno Ranch 83.86 37 ⇓P P 12 54 23.2 +0.3
baz=84
M30A Dale-Ortello V 83.89 36 ⇓P P 12 54 23.7 +0.7
baz=84
R23A Moffat 83.89 41 ⇑P P 12 54 24.7 +1.3
baz=84,SNR=8.8
113A Mohawk Valley, 83.95 50 ⇓P P 12 54 24.3 +0.9
baz=84,SNR=5.5
Z14A Wintersburg 83.95 49 ⇑P P 12 54 24.6 +1.2
baz=84
P26A Davis Ranch, A 83.97 39 ⇓P P 12 54 24.1 +0.6
baz=84,SNR=8.5
X16A Lo Mia Camp, P 83.97 47 ⇓P P 12 54 25.5 +1.7
baz=84,SNR=29
U20A Newcomb 83.99 44 ⇑P P 12 54 24.7 +0.9
baz=84,SNR=8.8
T21A Navajo Lake 84.00 43 ⇑P P 12 54 25.5 +1.6
baz=84
Q25A Bedland, Calha 84.07 40 ⇑P P 12 54 24.8 +0.7
baz=84
N29A Votaw Ranch, W 84.15 37 ⇓P P 12 54 25.2 +0.8
baz=84
S23A Nye Farm, Mont 84.19 42 ⇓P P 12 54 26.4 +1.5
baz=84
R24A Sanders Place, 84.21 41 ⇓P P 12 54 26.0 +1.2
baz=84,SNR=20
O28A Krutsinger Ran 84.22 38 ⇓P P 12 54 25.4 +0.7
baz=84
T22A Edith 84.30 43 ⇓P P 12 54 27.0 +1.6
baz=84,SNR=35
P27A Ficken Ranch, 84.32 39 ⇓P P 12 54 25.9 +0.6
baz=84
W18A Petrified Fore 84.33 46 ⇓P P 12 54 27.0 +1.5
baz=84
U21A Nageezi 84.38 44 ⇑P P 12 54 27.1 +1.3
baz=84,SNR=27
Q26A Hugo 84.40 39 ⇑P P 12 54 26.4 +0.7
baz=84
N30A Hueftle Ranch, 84.40 36 ⇓P P 12 54 26.2 +0.6
baz=84
SDCO Great Sand Dun 84.40 41 eP P 12 54 26.4 +0.5
comp=Z,9.3nm,0.8s
V20A Brimhall 84.46 45 ⇓P P 12 54 27.1 +1.0
baz=84,SNR=6.9
S24A Houchin Ranch, 84.63 41 ⇓P P 12 54 28.1 +1.1
baz=84,SNR=14

O29A 4D Ranch, Culb 84.65 37 ⇓P P 12 54 27.5 +0.7
baz=84
R25A Fountain Ranch 84.66 40 ⇓P P 12 54 27.5 +0.5
baz=84,SNR=7.1
P28A Saint Francis 84.67 38 ⇑P P 12 54 27.6 +0.7
baz=84
X18A Snowflake 84.67 46 ⇑P P 12 54 28.5 +1.3
baz=84,SNR=8.9
T23A Casias Ranch, 84.70 42 ⇑P P 12 54 28.7 +1.3
baz=84,SNR=9.5
BGNE Belgrade 84.72 35 ⇓P P 12 54 27.6 +0.5
baz=84
KSCO Kaye Shedlock' 84.74 39 ⇑P P 12 54 28.1 +0.7
baz=84
KEST Kesra 84.77 316 eP P 12 54 26.8 -0.6
KEST Kesra 84.77 316 P P 12 54 27.1 -0.3
comp=Z,1.2nm,0.5s,baz=153,slow=4.1,SNR=5.4
U22A Llaves 84.82 43 ⇑P P 12 54 29.3 +1.4
baz=85
V21A Milan 84.88 44 ⇓P P 12 54 29.2 +1.0
baz=85,SNR=8.2
O30A MW Ranch, Wils 84.93 37 ⇓P P 12 54 28.6 +0.4
baz=85
R26A Arlington 84.93 40 ⇓P P 12 54 29.0 +0.8
baz=85,SNR=32
W20A Ramah 84.97 45 ⇓P P 12 54 29.8 +1.1
baz=85,SNR=20
S25A Robets Cordova 84.98 41 ⇓P P 12 54 28.8 +0.2
baz=85,SNR=13
Q28A Sharon Springs 85.06 38 ⇓P P 12 54 29.5 +0.7
baz=85
214A Organ Pipe Nat 85.09 50 ⇑P P 12 54 30.0 +0.9
baz=85,SNR=6.4
V22A San Miguel Ran 85.16 43 ⇑P P 12 54 30.9 +1.4
baz=85,SNR=17
U23A El Rito 85.19 43 ⇓P P 12 54 31.1 +1.4
baz=85,SNR=16
R27A Eads 85.25 39 ⇓P P 12 54 30.5 +0.7
baz=85,SNR=12
P30A Selden 85.37 37 ⇑P P 12 54 30.9 +0.6
baz=85
T25A Trinidad 85.41 41 ⇑P P 12 54 31.4 +0.7
baz=85,SNR=27
W21A San Fidel 85.41 44 ⇑P P 12 54 32.0 +1.2
baz=85,SNR=9.3
S26A Kim 85.47 40 ⇑P P 12 54 31.2 +0.3
baz=85,SNR=16
U24A Moreno Valley 85.57 42 ⇓P P 12 54 32.9 +1.3
baz=85,SNR=5.5
R28A Tribune 85.65 39 ⇓P P 12 54 32.5 +0.8
baz=85
V23A Ortiz Mt. (NFS 85.65 43 ⇓P P 12 54 33.6 +1.7
baz=85,SNR=10
S27A Las Animas 85.69 40 ⇓P P 12 54 32.6 +0.7
baz=86
P31A Stockton 85.76 36 ⇓P P 12 54 32.5 +0.4
baz=86
T26A Comanche Natio 85.77 41 ⇑P P 12 54 32.8 +0.4
baz=86,SNR=18
W22A Albuquerque 85.84 44 ⇑P P 12 54 33.3 +0.5
baz=86
Q30A Quinter 85.84 37 ⇑P P 12 54 33.4 +0.8
baz=86
X21A Alamocita Cree 85.86 45 ⇓P P 12 54 34.7 +1.7
baz=86,SNR=16
R29A Marienthal 85.89 38 ⇑P P 12 54 33.3 +0.5
baz=86
TUC Tucson 85.93 48 eP P 12 54 34.0 +0.9
TUC pmax pmax
comp=Z,9.0nm,1.4s
TUC Tucson 85.93 48 eP P 12 54 34.0 +0.9
comp=Z,8.7nm,1.4s
Y20A Horse Springs, 85.98 46 ⇓P P 12 54 35.2 +1.7
baz=86,SNR=17
U25A Circle Dot Ran 86.00 42 ⇓P P 12 54 34.1 +0.5
baz=86,SNR=19
V24A Rampart Ranch, 86.12 43 ⇓P P 12 54 35.8 +1.6
baz=86,SNR=14
W23A Werner Place, 86.13 43 ⇑P P 12 54 35.9 +1.7
baz=86,SNR=7.9
ANMO Albuquerque 86.15 44 eP P 12 54 35.7 +1.4
ANMO Albuquerque 86.15 44 P P 12 54 35.2 +1.0
comp=Z,6.7nm,1.1s,baz=313,slow=6.2,SNR=18
Q31A Ellis 86.18 37 ⇑P P 12 54 34.7 +0.6
baz=86
S28A Manter 86.22 39 ⇓P P 12 54 35.2 +0.8
baz=86,SNR=7.1
LAZ Ladron 86.23 45 eP P 12 54 36.0 +1.4
comp=Z,6.8nm,1.3s
Y21A Point of Rocks 86.26 45 ⇓P P 12 54 36.8 +2.0
baz=86,SNR=19
T27A Campo 86.27 40 ⇑P P 12 54 35.5 +0.8
baz=86
U26A Atchley Ranch, 86.33 41 ⇓P P 12 54 36.1 +1.0
baz=86,SNR=8.7
V25A Rancho No Teng 86.35 42 ⇑P P 12 54 36.4 +1.2
baz=86,SNR=21
R30A Dighton 86.39 38 ⇑P P 12 54 35.6 +0.5
baz=86
W24A Lazy 6 Ranch, 86.46 43 ⇓P P 12 54 37.7 +1.9
baz=86,SNR=12
Z20A Nine Sixteen R 86.48 46 ⇑P P 12 54 37.6 +1.8
baz=86,SNR=26
T28A Walsh 86.51 40 ⇓P P 12 54 36.5 +0.7
baz=86
S29A Ulysses 86.56 39 ⇓P P 12 54 37.0 +1.1
baz=86
X23A Hourglass Bar 86.57 44 ⇓P P 12 54 37.5 +1.2
baz=86
Y22D IRIS PASSCAL I 86.60 45 ⇓P P 12 54 37.7 +1.3
baz=86
Y22A Socorro 86.68 45 ⇑P P 12 54 38.4 +1.6
baz=86,SNR=5.4
BNM Barren Site 86.69 44 eP P 12 54 38.1 +1.2
comp=Z,15nm,1.4s
U27A Thompson Grove 86.74 41 ⇓P P 12 54 37.8 +0.9
baz=86,SNR=16
V26A Tequesquite Ra 86.79 42 ⇑P P 12 54 37.7 +0.5
baz=87,SNR=11
Z21A St. Cloud Mine 86.81 46 ⇓P P 12 54 39.1 +1.6
baz=87,SNR=11
S30A Montezuma 86.84 38 ⇓P P 12 54 38.1 +0.9
baz=87,SNR=13
T29A Hugoton 86.86 39 ⇑P P 12 54 38.2 +0.9
baz=87
120A U Bar Ranch, L 86.90 47 ⇓P P 12 54 39.3 +1.5
baz=87,SNR=5.2
W25A X Bar L Ranch, 86.92 42 ⇓P P 12 54 39.0 +1.2
baz=87,SNR=14
X24A Lazy VL Ranch, 86.96 43 ⇑P P 12 54 39.4 +1.3
baz=87
U28A Mallet 87.06 40 ⇓P P 12 54 39.0 +0.6
baz=87
Y23A Lovelace Mesa, 87.15 44 ⇑P P 12 54 40.6 +1.6
baz=87,SNR=11
Z22A Elephant Butte 87.22 45 ⇑P P 12 54 40.8 +1.6
baz=87,SNR=18
V27A Dan Oppiter Fa 87.27 41 ⇓P P 12 54 40.3 +0.9
baz=87,SNR=6.2
KSU1 Kansas State U 87.29 35 eP P 12 54 39.8 +0.5
comp=Z,22nm,0.7s
T30A Plains 87.29 39 ⇑P P 12 54 40.6 +1.2
baz=87
S31A Mullinville 87.29 38 ⇓P P 12 54 40.3 +0.9
baz=87
121A Cookes Peak, D 87.36 46 ⇓P P 12 54 41.5 +1.5
baz=87,SNR=5.6
W26A Owens Ranch, T 87.36 42 ⇓P P 12 54 41.4 +1.5
baz=87
X25A Clemmons Ranch 87.38 43 ⇑P P 12 54 41.5 +1.6
baz=87
U29A Oasis Ranch, S 87.44 39 ⇑P P 12 54 40.8 +0.6
baz=87
220A Playas Peak, P 87.46 47 ⇓P P 12 54 42.0 +1.7
baz=87
319A Douglas 87.47 48 ⇓P P 12 54 41.6 +1.2
baz=87,SNR=5.9
Y24A Capitan 87.47 44 ⇑P P 12 54 41.5 +1.0
baz=87
V28A Channing 87.57 41 ⇑P P 12 54 41.6 +0.8
baz=87
Z23A Rita Site, Whi 87.59 45 ⇑P P 12 54 42.0 +1.0
baz=87
ESDC Sonseca Array 87.60 327 P P 12 54 40.2 -0.6
ESDC PP PP 12 58 01.8 -14
ESDC Sonseca Array 87.60 327 P P 12 54 40.2 -0.6
comp=Z,5.6nm,0.7s,baz=21,slow=4.6,SNR=22
ESDC PP PP 12 58 01.8 -14

comp=Z,1.6nm,0.8s,baz=32,slow=7,1,SNR=5.8
T31A Randall Ranch, 87.64 38 ⇑P P 12 54 42.1 +1.1
baz=87,SNR=7.3
122A Conniff Cattle 87.64 45 ⇑P P 12 54 43.1 +1.9
baz=87
U30A WK&E Inc. Balk 87.66 39 ⇓P P 12 54 42.2 +1.1
baz=87,SNR=7.1
W27A Bowe Ranch, En 87.72 41 ⇑P P 12 54 42.7 +1.2
baz=88
221A Mesquite Ranch 87.77 46 ⇑P P 12 54 43.1 +1.2
baz=88
X26A CR and CF Fran 87.78 42 ⇑P P 12 54 42.9 +1.1
baz=88,SNR=6.6
320A Kipp Ranch, An 87.90 47 ⇑P P 12 54 44.2 +1.7
baz=88
W28A Vega 87.98 41 ⇓P P 12 54 43.9 +1.1
baz=88
Z24A Sheeppen Canyo 87.98 44 ⇓P P 12 54 44.2 +1.4
baz=88,SNR=8.7
X27A F and S Farms, 88.05 42 ⇓P P 12 54 44.5 +1.4
baz=88
222A Williams Famil 88.05 46 ⇓P P 12 54 44.6 +1.5
baz=88
123A Bell Site, Whi 88.07 45 ⇓P P 12 54 45.0 +1.8
baz=88
U31A Nine Bar Ranch 88.16 39 ⇓P P 12 54 45.2 +1.7
baz=88
Z25A Roswell 88.34 44 ⇑P P 12 54 46.0 +1.5
baz=88,SNR=15
W29A Amraillo 88.35 40 ⇓P P 12 54 45.6 +1.2
baz=88
124A Stringfield Ra 88.43 44 ⇓P P 12 54 46.5 +1.4
baz=88,SNR=15
AMTX Amarillo 88.53 41 *eP* **P 12 54 46.1 +0.9**
comp=Z,22nm,0.9s
X28A Dimmitt 88.58 41 ⇑P P 12 54 46.5 +1.0
baz=88
Y27A Causey 88.63 42 ⇓P P 12 54 46.8 +1.0
baz=88
V31A Spring Creek L 88.66 39 ⇑P P 12 54 47.9 +2.1
baz=88
Z26A Caprock 88.72 43 ⇑P P 12 54 46.7 +0.5
baz=88,SNR=12
MSTX Muleshoe 88.75 42 ⇓P P 12 54 47.1 +0.7
baz=88
W30A Crocket Farms 88.81 40 ⇓P P 12 54 48.0 +1.5
baz=89
125A Gardner Draw, 88.87 44 ⇑P P 12 54 48.3 +1.4
baz=89,SNR=11
X29A Tulia 88.88 41 ⇑P P 12 54 48.1 +1.2
baz=89
224A Cornudas Mount 88.89 45 ⇓P P 12 54 48.6 +1.5
baz=89,SNR=17
Y28A McKinney Farm, 89.05 42 ⇑P P 12 54 48.9 +1.2
baz=89
Z27A Tatum 89.06 43 ⇓P P 12 54 48.6 +0.8
baz=89,SNR=13
W31A Holland Ranch, 89.09 39 ⇑P P 12 54 49.0 +1.2
baz=89
126A Clayton Basin, 89.20 44 ⇑P P 12 54 49.4 +1.0
baz=89
225A Deer Hill, Car 89.22 44 ⇓P P 12 54 50.3 +1.6
baz=89,SNR=13
MNTX Cornudas Mount 89.27 45 *eP* **P 12 54 49.8 +1.1**
comp=Z,15nm,1.8s
X30A Coker Ranch, T 89.27 40 ⇓P P 12 54 49.6 +0.9
baz=89
Y29A Porterfield Fa 89.37 41 ⇑P P 12 54 50.3 +1.1
baz=89
324A Moseley Ranch, 89.42 45 ⇓P P 12 54 50.7 +1.2
baz=89
Z28A Tucker Farm, M 89.49 42 ⇑P P 12 54 50.7 +0.9
baz=89
127A Arkansas Junct 89.51 43 ⇓P P 12 54 50.8 +0.9
baz=89
X31A McDonald Ranch 89.54 40 ⇓P P 12 54 50.9 +1.0
baz=89,SNR=8.2
226B Tecolote Peak, 89.58 44 ⇓P P 12 54 51.3 +1.1
baz=89
Y30A Stafford Cattl 89.73 41 ⇑P P 12 54 51.9 +1.1
baz=90
325A Bean Ranch, Si 89.74 45 ⇑P P 12 54 52.4 +1.3
baz=90,SNR=18
SFIN Scholer Farm 89.78 28 ⇑P P 12 54 51.4 +0.6
baz=90
Z29A Hungry Hill Ra 89.84 42 ⇑P P 12 54 52.4 +1.1
baz=90,SNR=16
Y31A Rekieta Farm, 89.96 40 ⇑P P 12 54 52.8 +0.9
baz=90
128A Castleberry Fa 89.98 42 ⇑P P 12 54 53.0 +0.9
baz=90
WMOK Wichita Mounta 90.00 39 *eP* **P 12 54 52.8 +0.8**
WMOK pmax pmax
comp=Z,21nm,1.1s
WMOK Wichita Mounta 90.00 39 *eP* **P 12 54 52.8 +0.8**
comp=Z,21nm,1.1s
227A Bennet, Jal 90.08 43 ⇓P P 12 54 53.5 +1.1
baz=90
Z30A Sanderson Ranc 90.10 41 ⇓P P 12 54 53.3 +0.8
baz=90,SNR=11
425A Indio Mountain 90.20 45 ⇑P P 12 54 54.7 +1.6
baz=90,SNR=18
129A Stewart Farms, 90.28 42 ⇑P P 12 54 54.1 +0.8
baz=90
326A Caldwell Ranch 90.29 44 ⇓P P 12 54 54.7 +1.3
baz=90,SNR=14
Y32A R-V Farms, Ver 90.30 40 ⇑P P 12 54 54.4 +1.0
baz=90
TUL1 Tulsa 90.33 36 ⇑P P 12 54 54.5 +1.1
baz=90
228A UT Block 9, Go 90.34 43 ⇓P P 12 54 54.5 +0.9
baz=90
327A Balmorhea Ranc 90.49 44 ⇓P P 12 54 56.0 +1.7
baz=90
Z31A Sharp Cattle R 90.54 40 ⇓P P 12 54 55.2 +0.7
baz=90
426A McDonald Obser 90.78 45 ⇓P P 12 54 56.8 +0.9
baz=91,SNR=16
ALLY Alegheny Colle 90.78 23 P P 12 54 57.4 +1.9
comp=Z,103nm,0.5s
328A Wristen Ranch, 90.83 43 ⇑P P 12 54 57.1 +1.2
baz=91
229A Bryant Ranch, 90.84 42 ⇑P P 12 54 57.0 +1.0
baz=91
Z32A Haskell 90.86 40 ⇑P P 12 54 56.7 +0.7
baz=91,SNR=7.9
131A Roby 90.95 41 ⇓P P 12 54 57.4 +1.0
baz=91
427A Hayter Ranch, 90.96 44 ⇓P P 12 54 57.9 +1.3
baz=91,SNR=16
329A Wagon Wheel Ra 91.15 43 ⇑P P 12 54 58.4 +1.0
baz=91,SNR=10
526A Mary Lane Ranc 91.24 45 ⇓P P 12 54 59.5 +1.5
baz=91,SNR=13
230A Sterling City 91.25 42 ⇑P P 12 54 58.8 +1.0
baz=91
ABTX Abilene, Hawle 91.35 41 ⇑P P 12 54 59.0 +0.8
baz=91
527A Woodward Ranch 91.42 45 ⇑P P 12 54 59.9 +1.2
baz=91,SNR=8.4
428A Kincaid Ranch, 91.42 44 ⇓P P 12 55 00.6 +1.9
baz=91,SNR=47
231A Bronte 91.60 41 ⇓P P 12 54 59.9 +0.5
baz=91
330A Mertzon 91.61 42 ⇑P P 12 54 60.0 +0.4
baz=91,SNR=8.7
626A Big Bend Ranch 91.62 45 ⇑P P 12 55 00.9 +1.2
baz=91,SNR=11
528A Cox Ranch, San 91.82 44 ⇓P P 12 55 02.2 +1.6
baz=92,SNR=16
429A Davenport Ranc 91.90 43 ⇑P P 12 55 01.4 +0.6
baz=92,SNR=10
232A Coleman 91.96 41 ⇑P P 12 55 01.6 +0.5
baz=92,SNR=6.3
TXAR Lajitas Array 92.04 45 P P 12 55 02.8 +1.2
TXAR pP **pP 12 57 09.4 +2.7**
TXAR PP **PP 12 58 53.5 +2.7**
TXAR Lajitas Array 92.04 45 P P 12 55 02.8 +1.2
comp=Z,5.5nm,0.8s,baz=285,slow=3.7,SNR=53
TXAR pP **pP 12 57 09.4 +2.7**
comp=Z,0.8nm,1.0s,baz=270,slow=3.3,SNR=2.7
TXAR PP **PP 12 58 53.5 +2.7**
comp=Z,1.0nm,0.8s,baz=317,slow=5.1,SNR=4.2
331A San Angelo 92.06 42 ⇑P P 12 55 02.2 +0.6
baz=92
627A Terlingua Ranc 92.09 45 ⇑P P 12 55 02.8 +0.9
baz=92,SNR=12
430A Baggett Ranch, 92.09 43 ⇑P P 12 55 02.3 +0.5
baz=92,SNR=14
529A Stev Forest Ra 92.14 44 ⇓P P 12 55 02.9 +0.9
baz=92,SNR=13
628A Black Gap, Mar 92.32 45 ⇑P P 12 55 03.8 +1.0
baz=92
332A Millersview 92.33 41 ⇓P P 12 55 03.6 +0.9
baz=92,SNR=8.8
MIAR Mount Ida 92.44 35 *eP* **P 12 55 03.7 +0.5**
MIAR pmax pmax
comp=Z,9.0nm,1.0s
MIAR Mount Ida 92.44 35 *eP* **P 12 55 03.7 +0.5**
comp=Z,8.6nm,1.0s
431A Sonora 92.48 42 ⇑P P 12 55 04.3 +0.8
baz=92
530A J-C Ranch, Com 92.56 43 ⇑P P 12 55 04.9 +1.0
baz=92,SNR=18
432A Menard 92.72 42 ⇑P P 12 55 05.4 +0.7
baz=92
WHTX Lake Whitney 92.90 39 ⇑P P 12 55 06.1 +0.8
baz=93
531A Rocksprings 92.94 43 ⇑P P 12 55 06.4 +0.8
baz=93
JCT Junction City 93.04 42 *eP* **P 12 55 06.2 +0.1**
JCT pmax pmax
comp=Z,4.0nm,0.6s
JCT Junction City 93.04 42 *eP* **P 12 55 06.2 +0.1**
comp=Z,4.0nm,0.6s
JCT Junction City 93.04 42 ⇓P P 12 55 06.8 +0.7
baz=93
KMBO Kilima Mbogo 93.27 272 P **P 12 55 07.8 +0.2**
KMBO Kilima Mbogo 93.27 272 P **P 12 55 07.8 +0.2**
comp=Z,0.9nm,0.3s,baz=42,slow=14,SNR=5.8
532A Rocksprings 93.28 42 ⇓P P 12 55 07.7 +0.5
baz=93,SNR=8.3
631A Perdido Creek 93.54 43 ⇑P P 12 55 09.1 +0.7
baz=93,SNR=8.9
632A Uvalde 93.85 42 ⇑P P 12 55 10.6 +0.8
baz=94
732A Laxson Ranch, 94.40 43 ⇑P P 12 55 13.3 +1.1
baz=94
TORD Torodi Ar. Bea 106.90 308 PKiKP **PKiKP 13 00 13.2 -1.1**
TORD PP PP 13 00 35.9 -6.0
TORD PKKPbc **PKKPbc 13 11 32.6 +0.7**
TORD PKKPab **PKKPab 13 11 50.5 -1.6**
TORD Torodi Ar. Bea 106.90 308 PKiKP **PKiKP 13 00 13.2 -1.1**
comp=Z,0.5nm,0.8s,baz=54,slow=1.6,SNR=5.8
TORD PP PP 13 00 35.9 -6.0
comp=Z,4.7nm,1.0s,baz=42,slow=6.4,SNR=12
TORD PKKPbc **PKKPbc 13 11 32.6 +0.7**
comp=Z,0.9nm,0.8s,baz=260,slow=1.5,SNR=5.1
TORD PKKPab **PKKPab 13 11 50.5 -1.6**
comp=Z,0.8nm,0.8s,baz=218,slow=4.8,SNR=3.7
VNDA Vanda 122.31 172 PKP **PKPdf 13 00 40.6 -1.2**
VNDA Vanda 122.31 172 PKP **PKPdf 13 00 40.6 -1.2**
comp=Z,1.4nm,0.7s,baz=349,slow=4.5,SNR=4.0
QSPA South Pole Qui 133.27 180 PKP **PKPdf 13 01 02.6 -0.4**
QSPA SKPbc **SKPbc 13 03 36.2 -1.5**
QSPA South Pole Qui 133.27 180 PKP **PKPdf 13 01 02.6 -0.4**
comp=Z,3.4nm,0.9s,baz=15,slow=2.9
QSPA SKPbc **SKPbc 13 03 36.2 -1.5**
comp=Z,16nm,1.0s,baz=324,slow=2.3,SNR=18
ATAH Atahualpa 135.68 44 SKPbc **SKPbc 13 03 48.1 +0.7**
ATAH Atahualpa 135.68 44 SKPbc **SKPbc 13 03 48.1 +0.7**
comp=Z,30nm,0.8s,baz=343,slow=2.4,SNR=19
SAML Samuel 143.48 23 *e*PKPdf PKPab 13 01 21.2 -0.6
SNAA Sanae 144.05 203 PKP PKPbc 13 01 21.5 -0.6
SNAA SKPbc **SKPbc 13 04 05.8 -1.6**
SNAA Sanae 144.05 203 PKP PKPbc 13 01 21.5 -0.6
comp=Z,4.3nm,1.0s,baz=158,slow=2.2,SNR=23
SNAA SKPbc **SKPbc 13 04 05.8 -1.6**
comp=Z,1.4nm,0.7s,baz=84,slow=0.9,SNR=6.6
LPAZ La Paz 148.48 36 *e*PKPbc **PKPbc 13 01 35.9 -0.8**
LPAZ *e*PKPab **PKPab 13 01 41.0 -1.2**
LPAZ La Paz 148.48 36 PKPbc **PKPbc 13 01 36.4 -0.2**
comp=Z,6.1nm,0.8s,baz=348,slow=3.3,SNR=19
SIV San Ignacio 150.78 24 PKPbc **PKPbc 13 01 40.8 -0.5**
SIV PKPab **PKPab 13 01 50.2 -0.9**
SIV San Ignacio 150.78 24 PKPbc **PKPbc 13 01 40.8 -0.5**
comp=Z,5.7nm,0.7s,baz=272,slow=22,SNR=3.6
SIV PKPab **PKPab 13 01 50.2 -0.9**
comp=Z,4.5nm,0.7s,baz=30,slow=1.2,SNR=9.8
BDFB Brasilia 152.18 357 PKPbc **PKPbc 13 01 44.2 -0.4**
BDFB Brasilia 152.18 357 PKPbc **PKPbc 13 01 44.2 -0.4**
comp=Z,3.4nm,0.6s,baz=244,slow=4.8,SNR=3.9
CFAA Coronel Fontan 160.90 58 PKPab **PKPab 13 02 35.4 +0.8**
CFAA Coronel Fontan 160.90 58 PKPab **PKPab 13 02 35.4 +0.8**
comp=Z,2.2nm,0.8s,baz=306,slow=4.0,SNR=28
CPUP Villa Florida 161.64 23 PKPab **PKPab 13 02 37.5 -0.2**
CPUP Villa Florida 161.64 23 PKPab **PKPab 13 02 37.5 -0.2**
comp=Z,0.5nm,0.5s,baz=219,slow=16,SNR=3.2
PLCA Paso Flores 164.00 87 PKPab **PKPab 13 02 48.9 +0.8**
PLCA Paso Flores 164.00 87 PKPab **PKPab 13 02 48.9 +0.8**
comp=Z,5.3nm,0.9s,baz=245,slow=6.1,SNR=5.7

JMA 10 12:43:02.9,32°.03N×130°.20E,h11km,M2.1,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.36**	**72**	P	Pg	12 43 10.1	0.0
JZO				S	Sg	12 43 15.0	+0.1
JHD	**Hondo**	**0.44**	**353**	P	Pg	12 43 11.6	+0.1
JHD				S	Sg	12 43 17.8	+0.5
JSJ	**Shimokoshiki**	**0.54**	**230**	P	Pg	12 43 13.3	-0.2
JSJ				S	Sg	12 43 20.6	-0.1
JSU	**Suzuyama**	**0.57**	**157**	P	Pg	12 43 13.6	-0.4
JSU				S	Sg	12 43 21.6	+0.1
JIU2	**Izumi 2**	**0.73**	**45**	S	Sg	12 43 26.7	0.0
JTA	**Tamana**	**0.97**	**17**	S	Sg	12 43 33.6	-0.8

GUC 10 13:03:15.3±0.7,21°.16S×70°.21W,h43km±2km,ML3.5,
2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.64**	**152**	*e*P	Pn	13 03 28.3	+0.1
PB07				*i* S	Sn	13 03 38.4	+0.9
PB07				AML	AML	13 03 39.0	
comp=E,2μm,0.2s							
PB01	**Plate Boundary**	**0.68**	**80**	*e*P	Pn	13 03 29.0	+0.3
PB01				*i* S	Sn	13 03 38.7	+0.4
PB01				AML	AML	13 03 39.7	
comp=E,3μm,0.2s							
HMBC	**Humberstone**	**0.93**	**19**	*e*P	Pn	13 03 32.5	+0.4
HMBC				*i* S	Sn	13 03 45.6	+1.3
PB09	**Plate Boundary**	**1.10**	**125**	⇓*i*P	Pn	13 03 36.2	+1.8
PB09				*i* S	Sn	13 03 51.3	+2.6
PB09				AML	AML	13 03 56.8	
comp=N,3μm,0.4s							
PSGC	**Pisagua**	**1.56**	**3**	*e*P	Pn	13 03 41.9	+1.2
PSGC				*i* S	Sn	13 04 01.9	+2.1
PB06	**Plate Boundary**	**1.65**	**159**	⇑*i*P	Pn	13 03 43.0	+1.0
PB06				*i* S	Sn	13 04 04.6	+2.5
PB06				AML	AML	13 04 07.7	
comp=E,697nm,0.3s							
MNMC	**Minimini**	**2.10**	**16**	⇑*i*P	Pn	13 03 49.9	+1.5
MNMC				*i* S	Sn	13 04 16.2	+2.7
CEN1	**Los Morros**	**2.22**	**180**	*e*P	Pn	13 03 52.3	+2.5
CEN1				*i* S	Sn	13 04 25.6	+10
PB10	**Plate Boundary**	**2.36**	**188**	*e*P	Pn	13 03 52.6	+0.9
PB10				AML	AML	13 04 33.5	
comp=N,579nm,0.5s							
ANCH	**Antofagasta**	**2.52**	**184**	*e*P	Pn	13 03 56.2	+2.5
ANCH				*i* S	Sn	13 04 26.8	+3.7

*ISCJB **10** 13:05:39.9±0.5, 14°.00S±0°.06×75°.97W±0°.10, h49km, mb4.2/20, MS3.8/4, Error ellipse: s-maj=15.2km s-min=6.1km az=150.4*
*NEIC **10** 13:05:41.7±0.4, 13°.89S×75°.90W, mb4.5/8, Error ellipse: s-maj=13.7km s-min=7.3km az=55.0*
NEIC Felt [IV] at Ica and Pisco.
*IDC **10** 13:05:42.0±0.6, 13°.89S×75°.81W, h52km±5km, mb4.0/16, mb1 4.1/20, mb1mx4.0/27, mbtmp4.0/20, MS3.7/7, Ms1 3.6/7, ms1mx3.3/29, Error ellipse: s-maj=24.4km s-min=11.8km az=66.0*

ISC 10 13:05:41.7±0.5,13°.97S±0°.08×75°.9W±0°.1,h49km,n58,
σ1§11/60,mb4.3/20,MS3.8/4,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**7.22**	**340**	P	**Pn**	**13 07 26.4**	**+1.4**
ATAH				S	**Sn**	**13 08 48.4**	**+2.4**

ATAH Atahualpa 7.22 340 P Pn 13 07 26.4 +1.4
3.5nm,0.3s,baz=168,slow=6.4,SNR=14
ATAH S **Sn 13 08 48.4 +2.4**
2.1nm,0.3s,baz=83,slow=6.7,SNR=3.9
ATAH LR LR 13 10 23.0
comp=Z,186nm,19.1s,baz=6.6,slow=39
LPAZ La Paz 7.84 108 *e*P Pn 13 07 37.3 +3.5
30nm,0.8s
LPAZ S Sn 13 09 10.6 +9.0
LPAZ La Paz 7.84 108 P Pn 13 07 36.8 +2.9
2.1nm,0.3s,baz=297,slow=10,SNR=25
LPAZ S Sn 13 09 10.6 +9.0
baz=343,slow=19,SNR=3.5
LPAZ LR LR 13 11 11.4
comp=Z,226nm,19.0s,baz=125,slow=42
LVC Limon Verde 10.86 143 *e*P **Pn 13 08 16.6 +1.9**
20nm,0.6s
SAML Samuel 13.42 70 *e*P Pn 13 08 47.0 -2.6
27nm,0.7s
SIV San Ignacio 14.46 100 P Pn 13 09 04.5 +0.9
SIV Lg Lg 13 13 02.7
SIV San Ignacio 14.46 100 P Pn 13 09 04.5 +0.9
0.8nm,0.3s,baz=298,slow=11,SNR=15
SIV Lg Lg 13 13 02.7
0.2nm,0.3s,baz=29,slow=17,SNR=3.6
SIV LR LR 13 15 06.5
comp=Z,400nm,20.5s,slow=39
ROSC El Rosal 18.77 5 P P 13 09 58.1 +0.8
ROSC El Rosal 18.77 5 P P 13 09 58.1 +0.8
1.7nm,0.3s,baz=267,slow=19,SNR=6.1
CFAA Coronel Fontan 18.91 159 P Pn 13 09 59.9 +0.5
CFAA Coronel Fontan 18.91 159 P Pn 13 09 59.9 +0.5
0.1nm,0.3s,baz=327,slow=13,SNR=13
CFAA LR LR 13 16 07.5
comp=Z,15nm,19.9s,baz=344,slow=33
CPUP Villa Florida 21.30 128 *e*P **P 13 10 23.5 -0.8**
14nm,0.8s
CPUP Villa Florida 21.30 128 P P 13 10 24.0 -0.3
3.1nm,0.8s,baz=303,slow=10,SNR=5.7
SDV Santo Domingo 23.30 13 *e*P **P 13 10 45.5 -0.1**
27nm,0.6s
BDFB Brasilia 27.00 97 LR LR 13 23 12.8
comp=Z,158nm,21.2s,baz=210,slow=39
PLCA Paso Flores 27.07 171 P P 13 11 19.4 -0.4
PLCA Paso Flores 27.07 171 P P 13 11 19.4 -0.4
3.0nm,0.9s,baz=344,slow=12,SNR=3.2
PLCA LR LR 13 19 50.8
comp=Z,92nm,19.8s,baz=317,slow=31
TEIG Tepich 36.09 340 P P 13 12 39.3 +0.3
TEIG Tepich 36.09 340 P P 13 12 39.3 +0.3
6.6nm,0.6s,baz=157,slow=18,SNR=5.4
TXAR Lajitas Array 50.72 328 P P 13 14 36.8 0.0
TXAR Lajitas Array 50.72 328 P P 13 14 36.8 0.0
1.6nm,0.9s,baz=152,slow=8.8,SNR=11
MIAR Mount Ida 51.09 341 *e*P **P 13 14 38.7 -0.7**
4.8nm,1.0s
SDCO Great Sand Dun 58.47 333 *e*P **P 13 15 32.3 -0.9**
2.7nm,1.0s
SADO Sadowa 58.53 357 P P 13 15 30.7 -2.3
SADO Sadowa 58.53 357 P P 13 15 30.7 -2.3
4.3nm,0.7s,baz=210,slow=9.6,SNR=4.4
DUG Dugway 63.87 329 *e*P **P 13 16 10.2 +0.7**
5.5nm,1.1s
PDAR Pinedale Array 64.36 333 P P 13 16 13.4 +0.7
PDAR pP **pP 13 16 26.1 -0.4**
PDAR Pinedale Array 64.36 333 P P 13 16 13.4 +0.7
0.3nm,0.6s,baz=140,slow=9.5,SNR=3.6
PDAR pP **pP 13 16 26.1 -0.4**
1.1nm,0.9s,baz=145,slow=8.7,SNR=6.5
NVAR Mina Array Bea 65.51 324 P P 13 16 20.9 +0.6
NVAR pP **pP 13 16 34.8 +0.6**
NVAR Mina Array Bea 65.51 324 P P 13 16 20.9 +0.6
0.3nm,0.6s,baz=151,slow=5.5,SNR=4.2
NVAR pP **pP 13 16 34.8 +0.6**
1.6nm,0.7s,baz=142,slow=6.7,SNR=9.9
ULM Lac du Bonnet 66.31 346 *e*P **P 13 16 23.1 -1.7**
3.7nm,0.7s
ULM Lac du Bonnet 66.31 346 P P 13 16 23.2 -1.7
3.7nm,0.5s,baz=156,slow=5.6,SNR=7.6
HLID Hailey 67.20 331 *e*P **P 13 16 31.2 +0.2**
0.8nm,0.8s
SNAA Sanae 71.52 161 *e*P **P 13 16 57.2 +0.1**
6.1nm,1.0s
SNAA Sanae 71.52 161 P P 13 16 57.2 +0.1
0.7nm,0.8s,baz=262,slow=6.9,SNR=6.7
DBIC Dimbokro 73.40 79 *e*P **P 13 17 08.4 -0.8**
DBIC Dimbokro 73.40 79 P P 13 17 08.3 -1.0
5.2nm,0.6s,baz=238,slow=8.5,SNR=10.0
DBIC LR LR 13 46 19.2
comp=Z,72nm,18.5s,baz=206,slow=33
QSPA South Pole Qui 76.18 180 P P 13 17 25.3 +0.7
QSPA pP **pP 13 17 40.5 +1.8**
QSPA South Pole Qui 76.18 180 P P 13 17 25.3 +0.7
3.3nm,1.1s,baz=117,slow=4.2,SNR=10
QSPA pP **pP 13 17 40.5 +1.8**
4.7nm,1.0s,baz=109,slow=3.5,SNR=6.8
TOA0 Torodi Ar. Sit 81.43 74 *e*P **P 13 17 53.6 -0.6**
TORD Torodi Ar Bea 81.43 74 P P 13 17 53.7 -0.4
TORD Torodi Ar. Bea 81.43 74 P P 13 17 53.7 -0.4
10.0nm,0.7s,baz=259,slow=5.0,SNR=48
YKA Yellowknife Ar 81.99 343 pP pP 13 18 08.1 -2.3
YKA Yellowknife Ar 81.99 343 pP pP 13 18 08.0 -2.3
1.2nm,0.8s,baz=134,slow=5.2,SNR=3.7
ESDC Sonseca Array 85.42 47 P P 13 18 14.5 +0.3
ESDC Sonseca Array 85.42 47 P P 13 18 14.5 +0.3
0.5nm,0.5s,baz=262,slow=4.9,SNR=4.2
BOSA Boshof 92.91 120 LR LR 13 55 26.5
comp=Z,91nm,19.4s,baz=61,slow=32
ILAR Eielson Array 94.66 336 P P 13 18 56.1 -0.9
ILAR Eielson Array 94.66 336 P P 13 18 56.1 -0.9
0.2nm,0.7s,baz=141,slow=1.4,SNR=4.2
DAVOX Davos/Dischmat 97.18 44 P P 13 19 08.4 -0.9
DAVOX Davos/Dischmat 97.18 44 P P 13 19 08.4 -0.9
0.7nm,0.3s,baz=255,slow=12,SNR=3.8
GERES GERESS Array B 100.11 42 P Pdif 13 19 21.2 -1.0
GERES GERESS Array B 100.11 42 P Pdif 13 19 21.2 -1.0
0.4nm,0.2s,baz=318,slow=3.6,SNR=4.0
SONM Songino Array 146.18 357 PKPbc **PKPbc 13 25 16.7 -0.1**
SONM pPKPbc pPKPbc 13 25 31.1 -0.5
SONM Songino Array 146.18 357 PKPbc PKPbc 13 25 16.7 -0.1
1.8nm,0.8s,baz=337,slow=1.9,SNR=5.4
SONM pPKPbc pPKPbc 13 25 31.1 -0.5
2.9nm,0.8s,baz=352,slow=3.4,SNR=6.7
KSRS Korea Array 148.43 322 PKPbc **PKPbc 13 25 22.2 -1.0**
0.4nm,0.5s,baz=67,slow=3.5,SNR=2.7
KSAR Wonju Array Be 148.46 322 PKPbc **PKPbc 13 25 22.2 -1.1**

*BKK **10** 13:12:45.0±0.4, 10°.5±5°.5×12°.3E±°.5, h10km, M5.3/12, mB5.5/5, mb5.1/12, MLv5.5/3, Mw(mB)5.0/5*
*BJI **10** 13:12:49.0, 9°.20S×123°.00E, h93km, mB5.1/20, mb4.7/33*
*AUST **10** 13:12:49.5, 9°.50S×123°.00E, h60km*
*IDC **10** 13:12:49.6±0.9, 9°.04S×123°.01E, h85km±8km, mb4.2/22, mb1 4.2/22, mb1mx4.2/27, mbtmp4.2/22, MS3.6/11, Ms1 3.6/11, ms1mx3.3/37, Error ellipse: s-maj=16.7km s-min=9.1km az=72.0*
*NEIC **10** 13:12:49.2±0.3, 9°.14S×123°.09E, mb4.5/10, Error ellipse: s-maj=11.5km s-min=6.6km az=62.0*
*ISCJB **10** 13:12:50.4±0.3, 9°.21S±0°.03×123°.06E±0°.03, h107km±3km, mb4.5/40, Error ellipse: s-maj=4.7km s-min=4.0km az=140.8*
*DJA **10** 13:12:53.3±0.3, 9°.3S±3°.×12°.3E±°.5, h53km±7km, M5.0/17, mB5.3/14, mb5.2/17, MLv5.3/16, Mw(mB)4.8/14*

ISC 10 13:12:51.1±0.3,9°.25S±0°.03×123°.02E±0°.04,h94km±2km,
h93km:pP-P,n168,σ1§83/202,mb4.6/40,1D,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.98**	**308**	P	**Pn**	**13 13 09.0**	**-1.9**
MMRI				S	**Sn**	**13 13 24.0**	**-1.7**
BATI	**Baumata**	**1.14**	**146**	P	**Pn**	**13 13 13.2**	**+0.5**
BATI				S	**Sn**	**13 13 30.6**	**+1.5**
BATI	**Baumata**	**1.14**	**146**	P	**Pn**	**13 13 13.6**	**+0.9**
BATI				S	**Sn**	**13 13 31.7**	**+2.7**
BATI	**Baumata**	**1.14**	**146**	P	**Pn**	**13 13 13.2**	**+0.5**
2μm,0.3s,baz=343,slow=1.7,SNR=2204							
BATI				S	**Sn**	**13 13 30.6**	**+1.5**
3μm,0.3s,baz=225,slow=20,SNR=34							
SOEI	**Soe**	**1.33**	**112**	P	**Pn**	**13 13 15.1**	**+0.1**
SOEI	**Soe**	**1.33**	**112**	P	**Pn**	**13 13 15.1**	**+0.1**
baz=1.3,SNR=1000							
BASI	**Baing, Sumba**	**2.59**	**248**	P	**Pn**	**13 13 31.6**	**+0.3**
BASI				S	**Sn**	**13 14 04.3**	**+2.1**
WSI	**Waingapu**	**2.72**	**261**	P	**Pn**	**13 13 33.4**	**+0.5**

WSI S **Sn** **13 14 07.1 +2.0**
WSI Waingapu 2.72 261 P **Pn** **13 13 33.2 +0.3**
baz=2.7,SNR=12
WSI S Sn 13 14 12.3 +7.2
baz=2.7,SNR=10
LBFI Labuhan Bajo, 3.19 284 P **Pn** **13 13 40.6 +1.4**
LBFI S **Sn** **13 14 21.1 +4.7**
BBSI Bau Bau 3.76 353 P **Pn** **13 13 47.5 +0.5**
BSSI Bau Bau, Buton 3.98 321 P **Pn** **13 13 49.6 -0.3**
BKSI Bulukumba 4.84 323 P **Pn** **13 14 01.3 -0.4**
KAPI Kappang 5.31 322 *e*Pn **Pn** **13 14 07.5 -0.5**
494nm,0.6s
KAPI Kappang 5.31 322 P **Pn** **13 14 07.6 -0.5**
71nm,0.3s,baz=143,slow=11,SNR=167
KAPI LR LR 13 16 20.2
comp=Z,858nm,21.0s,baz=171,slow=41
SPSI Sidrap Palu 6.16 328 P **Pn** **13 14 20.6 +1.0**
175nm,1.4s,1μm0.6nm
MTNI Mataram 6.80 275 P **Pn** **13 14 29.7 +1.5**
158nm,0.9s,2μm1.2nm
SKSI Soroako, Sulaw 6.88 346 P **Pn** **13 14 30.6 +1.1**
128nm,0.8s,0.4nm
TTSI Tana Toraja 6.94 332 P **Pn** **13 14 32.1 +2.0**
227nm,0.9s,2μm0.7nm
AAI Ambon 7.54 43 P **Pn** **13 14 40.1 +1.7**
154nm,1.3s,2μm
AAI Ambon 7.54 43 P Pn 13 14 41.2 +2.8
baz=7.8,SNR=4.9
MMSI Mamuju 7.69 328 P **Pn** **13 14 42.5 +2.1**
113nm,0.8s,1μm0.4nm
IGBI Denpasar 7.79 273 P **Pn** **13 14 41.5 -0.3**
237nm,0.9s,5μm2.2nm
LUWI Luwuk 8.15 358 P **Pn** **13 14 47.2 +0.4**
274nm,1.2s,2μm
LUWI Luwuk 8.15 358 P **Pn** **13 14 47.1 +0.3**
baz=8.5,SNR=9.5
BNDI Bandanaira 8.29 56 P **Pn** **13 14 49.3 +0.8**
532nm,1.3s,5μm
BNDI Bandanaira 8.29 56 P **Pn** **13 14 49.4 +0.8**
baz=8.5,SNR=14
MSAI Masohi 8.30 45 P **Pn** **13 14 50.3 +1.6**
68nm,1.1s,2μm
KNRA Kununurra 8.50 139 P Pn 13 14 47.3 -4.1
baz=8.4,SNR=958
KNRA S Sn 13 16 17.8 -7.9
baz=8.4,SNR=12
MTN Manton Dam 8.73 115 P Pn 13 14 51.2 -3.4
baz=8.6,SNR=311
MTN S Sn 13 16 22.1 -9.1
baz=8.6,SNR=9.6
KBKI Kotabaru 9.02 311 P **Pn** **13 14 59.7 +1.2**
88nm,0.9s
FITZ Fitzroy Crossi 9.16 164 P Pn 13 14 57.5 -2.9
FITZ S Sn 13 16 32.4 -9.4
FITZ Fitzroy Crossi 9.16 164 P Pn 13 14 57.5 -2.9
8.8nm,0.3s,baz=359,slow=8.4,SNR=482
FITZ S Sn 13 16 32.4 -9.4
26nm,0.3s,baz=85,slow=20,SNR=28
FITZ LR LR 13 19 27.6
comp=Z,320nm,18.1s,baz=343,slow=42
FITZ Fitzroy Crossi 9.16 164 P Pn 13 14 57.1 -3.3
baz=9.0,SNR=457
FITZ S Sn 13 16 33.7 -8.1
baz=9.0,SNR=6.2
GMJI Gumukmas 9.52 275 P Pn 13 15 14.1 +8.8
LBMI Labuha 9.64 28 P **Pn** **13 15 08.7 +1.6**
197nm,0.9s,2μm
MRSI Marisa 9.72 354 P **Pn** **13 15 10.2 +2.1**
84nm,1.0s,805nm
GTOI Gorontalo 9.82 360 P Pn 13 15 13.7 +4.3
61nm,0.9s
KDU Kakadu 9.89 111 P Pn 13 15 06.7 -3.6
baz=9.8,SNR=174
KDU S Sn 13 16 52.5 -7.1
baz=9.8,SNR=4.3
BBKI Banjar Baru 9.95 305 P **Pn** **13 15 13.9 +2.6**
249nm,1.0s,3μm
TNTI Ternate 10.85 24 P **Pn** **13 15 25.1 +1.6**
FAKI Fak Fak 11.12 56 P **Pn** **13 15 25.9 -1.3**
baz=11,SNR=32
SWI Sorong 11.69 45 P **Pn** **13 15 34.0 -0.8**
baz=12,SNR=16
MBWA Marble Bar 12.26 195 *e*P **Pn** **13 15 41.6 -0.8**
MBWA *e*Sn **Sn** **13 17 52.3 -4.9**
UGM Wanagama 12.43 275 *e*Pn **Pn** **13 15 44.1 -0.7**
UGM Wanagama 12.43 275 P **Pn** **13 15 43.7 -1.0**
baz=12,SNR=5.7
UGM S **Sn** **13 17 58.9 -2.6**
baz=12,SNR=3.6
CISI Cisompet, Garu 15.14 275 P **Pn** **13 16 18.3 -1.7**
baz=15,SNR=4.9
CISI S **Sn** **13 19 07.8 +0.6**
baz=15,SNR=3.3
WRA Warramunga Arr 15.25 135 P Pn 13 16 15.3 -6.1
WRA S Sn 13 18 55.7 -14
WRA Warramunga Arr 15.25 135 P Pn 13 16 15.3 -6.1
3.0nm,0.3s,baz=315,slow=12,SNR=120
WRA S Sn 13 18 55.7 -14
5.7nm,0.3s,baz=316,slow=26,SNR=10
WRA LR LR 13 23 06.2
comp=Z,256nm,21.5s,baz=325,slow=40
WRAB Tennant Creek 15.26 135 *e*Pn Pn 13 16 15.9 -5.6
146nm,0.8s
WRAB *e*Sn Sn 13 18 58.6 -11
CTBH Cotabato--PC H 16.41 4 *jj/P* **Pn** **13 16 35.1 -0.7**
KSM Kuching 16.55 309 *e*P **P** **13 16 39.1 +0.5**
19nm,1.0s
KSM Kuching 16.55 309 P **P** **13 16 40.9 +2.4**
baz=17,SNR=3.8
KKM Kota Kinabalu 16.64 336 *e*P **P** **13 16 41.0 +1.4**
KKM Kota Kinabalu 16.64 336 P **P** **13 16 43.8 +4.1**
baz=17,SNR=5.4
AS31 Alice Springs 17.72 145 *e*Pn **P** **13 16 49.0 -2.5**
AS31 *e*Sn Sn 13 19 58.2 -11
ASAR Alice Springs 17.72 145 P **P** **13 16 49.4 -2.1**
ASAR S Sn 13 19 53.5 -16
ASAR Alice Springs 17.72 145 P **P** **13 16 49.4 -2.1**
4.1nm,0.3s,baz=324,slow=10,SNR=320
ASAR S Sn 13 19 53.5 -16
1.3nm,0.3s,baz=319,slow=26,SNR=6.7
ASAR LR LR 13 23 56.1
comp=Z,177nm,19.6s,baz=320,slow=37
MEEK Meekatharra 17.79 193 P **Pn** **13 16 54.2 +1.5**
baz=18,SNR=13
MEEK S Sn 13 20 00.7 -10
baz=18,SNR=7.6
PALU Palau 20.05 35 P **P** **13 17 15.3 -1.6**
baz=20,SNR=5.9
COEN Coen 20.28 105 P **P** **13 17 19.0 -0.5**
baz=20,SNR=34
COEN S S 13 20 50.6 -11
baz=20,SNR=4.2
MNAI Manna 20.50 282 P **P** **13 17 21.3 -0.5**
baz=20,SNR=3.7
MORW Morawa 20.78 197 P **P** **13 17 24.9 +0.2**
baz=21,SNR=27
MORW S **S** **13 21 09.6 -1.8**
baz=21,SNR=7.3
FORT Forrest 21.93 168 P **P** **13 17 36.8 -0.2**
baz=22,SNR=68
BLDU Ballidu 22.06 195 P **P** **13 17 38.5 +0.2**
baz=22,SNR=28
MTSU Mount Surprise 22.48 115 P **P** **13 17 43.2 +0.3**
baz=22,SNR=14
MTSU S **S** **13 21 49.1 +5.8**
baz=22,SNR=5.0
KLBR Kellerberrin 22.77 192 P **P** **13 17 45.8 +0.1**
baz=23,SNR=16
KLBR S S 13 21 56.5 +9.0
baz=23,SNR=5.0
TGY Tagaytay City 23.29 355 P **P** **13 17 48.6 -2.4**
TGY Tagaytay City 23.29 355 P **P** **13 17 48.6 -2.4**
162nm,0.4s,baz=237,slow=1.3,SNR=5.0
PMG Port Moresby 23.82 92 P **P** **13 17 55.0 -0.7**
PMG S S 13 22 17.2 +12
PMG Port Moresby 23.82 92 P **P** **13 17 55.2 -0.5**
13nm,0.6s,baz=260,slow=13,SNR=5.1
PMG S S 13 22 17.2 +12
12nm,0.7s,baz=156,slow=21,SNR=6.0
NWAO Narrogin (SRO) 24.16 192 P **P** **13 17 59.0 +0.4**
NWAO S S 13 22 23.9 +14
NWAO Narrogin (SRO) 24.16 192 P **P** **13 17 59.0 +0.4**
12nm,0.5s,baz=17,slow=9.5,SNR=22
NWAO S S 13 22 23.9 +14
16nm,0.8s,baz=77,slow=19,SNR=2.5
NWAO LR LR 13 27 52.2
comp=Z,136nm,20.1s,baz=18,slow=37

CTA Charters Tower 24.89 118 P **P** **13 18 06.0 +0.6**
CTA pP **pP** **13 18 23.1 -3.2**
CTA Charters Tower 24.89 118 P **P** **13 18 06.0 +0.6**
9.3nm,1.0s,baz=285,slow=11,SNR=6.2
CTA pP **pP** **13 18 23.1 -3.2**
35nm,1.0s,baz=300,slow=13,SNR=13
CTAO Charters Tower 24.89 118 *e*P **P** **13 18 06.1 +0.7**
44nm,1.0s
RKGY Rocky Gully 25.84 191 P **P** **13 18 15.7 +1.8**
baz=26,SNR=9.7
BBOO Buckleboo 26.36 155 P **P** **13 18 18.6 0.0**
baz=26,SNR=17
KULM Kulim 26.57 302 *e*P **P** **13 18 20.9 +0.3**
PSI Prapat 26.83 295 LR LR 13 30 25.9
comp=Z,207nm,19.1s,baz=23,slow=40
STKA Stephens Creek 28.36 145 *e*P **P** **13 18 37.0 +0.6**
STKA Stephens Creek 28.36 145 P **P** **13 18 36.4 0.0**
7.4nm,0.6s,baz=314,slow=10,SNR=27
STKA LR LR 13 31 40.7
comp=Z,124nm,18.0s,baz=17,slow=40
STKA Stephens Creek 28.36 145 P **P** **13 18 37.0 +0.6**
baz=28,SNR=14
RMQ Roma 29.80 128 P **P** **13 18 51.0 +1.7**
baz=30,SNR=13
CMSA Cobar Meteorol 30.59 140 P **P** **13 18 57.4 +1.3**
baz=30,SNR=13
QIZ Qiongzhong 30.96 335 P **P** **13 19 01.5 +2.0**
QIZ pP **pP** **13 19 22.0 +1.3**
QIZ sP **sP** **13 19 32.4 +0.8**
QIZ S **S** **13 24 01.2 +3.8**
QIZ pmax pmax
comp=Z,14nm,1.5s
QIZ pmax pmax
comp=Z,100nm,6.3s
ARPS Mount Arapiles 32.28 151 P **P** **13 19 12.6 +1.7**
baz=32,SNR=11
ARMA Armidale 34.00 132 P **P** **13 19 28.6 +2.4**
baz=34,SNR=3.9
YNG Young 34.11 141 P **P** **13 19 28.7 +1.7**
baz=34,SNR=12
TOO Toolangi 34.74 148 P P 13 19 36.5 +4.1
baz=35,SNR=5.0
CMAR Chiang Mai Arr 36.37 319 P **P** **13 19 45.9 -0.6**
CMAR ScP **ScP** **13 25 46.1 -1.4**
CMAR Chiang Mai Arr 36.37 319 P **P** **13 19 45.9 -0.6**
comp=Z,2.1nm,0.7s,baz=143,slow=6.6,SNR=13
CMAR ScP **ScP** **13 25 46.1 -1.4**
comp=Z,2.7nm,1.0s,baz=170,slow=4.0,SNR=8.0
CMAR LR LR 13 35 13.3
comp=Z,59nm,21.6s,baz=160,slow=37
HNR Honiara 36.43 93 P **P** **13 19 47.1 +0.1**
HNR Honiara 36.43 93 P **P** **13 19 47.1 +0.1**
comp=Z,31nm,0.7s,baz=170,slow=6.1,SNR=3.1
GYA Guiyang 38.89 336 *e*P **P** **13 20 10.0 +2.3**
GYA pP **pP** **13 20 32.4 +2.9**
GYA sP **sP** **13 20 43.6 +3.4**
GYA PP **PnPn** **13 21 45.2 +3.2**
GYA PcP **PcP** **13 22 18.6 +1.6**
GYA ScP **S** **13 25 58.0 -1.3**
GYA S **ScP** **13 26 02.2 +5.2**
GYA sS **sS** **13 26 40.7 +3.9**
GYA ScS **ScS** **13 30 07.0 -1.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
NJ2 Nanjing 41.26 355 *e*P **P** **13 20 29.6 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
JNU Nakatsue 42.79 10 P **P** **13 20 39.8 +0.2**
JNU Nakatsue 42.79 10 P **P** **13 20 39.8 +0.2**
comp=Z,11nm,1.0s,baz=64,slow=2.6,SNR=3.6
CD2 Chengdu 44.00 336 *e*P **P** **13 20 50.0 +0.6**
CD2 pP **pP** **13 21 14.1 +2.5**
CD2 sP **sP** **13 21 24.9 +2.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,140nm,5.2s
KSAR Wonju Array Be 46.67 5 P **P** **13 21 08.2 -2.0**
KSRS Korea Array 46.68 5 P **P** **13 21 08.2 -2.1**
comp=Z,2.5nm,1.0s,baz=184,slow=9.0,SNR=6.7
MJAR Matsushiro Arr 47.73 17 P P 13 21 15.1 -3.5
MJAR Matsushiro Arr 47.73 17 P P 13 21 15.1 -3.5
comp=Z,4.6nm,0.6s,baz=194,slow=9.0,SNR=16
LSA Lhasa 49.41 323 *e*P **P** **13 21 32.8 +0.7**
comp=Z,4.9nm,0.6s
BJI Beijing 49.45 353 P **P** **13 21 30.6 -1.0**
BJI pmax pmax
comp=Z,12nm,0.7s
HHC Hu-ho-hao-te 50.95 349 *e*P P 13 21 47.1 +3.9
HHC sP sP 13 22 21.6 +5.2
HHC PcP **PcP** **13 23 01.0 +2.8**
HHC ScP **ScP** **13 26 46.4 +0.2**
HHC PcS **PcS** **13 26 57.2 +1.3**
HHC S **S** **13 28 56.4 +3.3**
HHC ScS **ScS** **13 31 24.4 -0.5**
HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,270nm,5.5s
HHC LR LR
comp=N,310nm,15.2s
HHC LR LR
comp=E,310nm,15.4s
HHC LR LR
comp=Z,210nm,15.7s
CN2 Changchun 52.84 2 *e*P P 13 22 01.5 +4.5
GTA Gaotai 52.99 338 *e*P **P** **13 21 57.9 -0.5**
GTA pP **pP** **13 22 20.6 -0.6**
GTA sP **sP** **13 22 30.7 -1.0**
GTA ScP **ScP** **13 26 52.9 -2.2**
GTA S **S** **13 29 23.4 +2.3**
GTA pmax pmax
comp=Z,3.0nm,0.5s
USRK Ussuriysk Arra 53.81 8 P **P** **13 22 01.5 -2.6**
comp=Z,6.0nm,0.5s,baz=190,slow=6.7,SNR=24
USRK ScP **ScP** **13 26 56.4 -1.9**
comp=Z,0.6nm,0.6s,baz=208,slow=6.5,SNR=4.4
MDJ Mudanjiang 53.94 6 P **P** **13 22 03.0 -2.0**
MDJ pP **pP** **13 22 25.0 -2.9**
MDJ sP **sP** **13 22 35.5 -2.9**
MDJ ScP **ScP** **13 26 57.5 -1.4**
MDJ S **S** **13 29 29.5 -3.9**
MDJ ScS **ScS** **13 31 42.0 -3.3**
MDJ SS **SKiKP** **13 33 11.4 +2.6**
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,120nm,5.5s
MDJ LR LR
comp=N,50nm,28.3s
MDJ LR LR
comp=E,110nm,30.8s
MDJ LR LR
comp=Z,54nm,20.6s
ASAJ Asahikawa 56.00 17 *e*P **P** **13 22 17.4 -2.5**
comp=Z,7.9nm,0.9s
ASAJ Asahikawa 56.00 17 P **P** **13 22 17.9 -2.0**
comp=Z,17nm,0.9s,baz=224,slow=11,SNR=19
ASAJ LR LR 13 43 42.3
comp=Z,33nm,20.4s,baz=160,slow=33
ULN Ulaanbaatar 58.60 347 P **P** **13 22 36.1 -2.2**
comp=Z,6.0nm,1.0s
SONM Songino Array 58.71 347 P **P** **13 22 37.4 -1.7**
SONM Songino Array 58.71 347 P **P** **13 22 37.4 -1.7**
comp=Z,1.6nm,0.5s,baz=162,slow=8.5,SNR=13
WMQ Urumqi 61.78 332 *e*P **P** **13 23 02.5 +2.5**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,57nm,3.8s
WMQ LR LR
comp=Z,31nm,34.0s
KSH Kashi 65.22 321 *e*P **P** **13 23 22.2 -0.7**
KSH sP **sP** **13 23 58.2 +1.5**
KSH PP **PP** **13 25 50.2 +2.6**
KSH S S 13 31 52.0 -7.1
KSH sS **sS** **13 32 35.8 -3.7**
KSH SS **SS** **13 36 09.2 -4.5**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,99nm,7.1s
KSH LR LR
comp=N,120nm,5.8s
KSH LR LR
comp=E,50nm,3.7s
KSH LR LR
comp=Z,69nm,10.2s
MK31 Makanchi Array 66.55 331 *e*P **P** **13 23 29.6 -1.5**
MKAR Makanchi Array 66.55 331 P **P** **13 23 29.5 -1.6**
MKAR Makanchi Array 66.55 331 P **P** **13 23 29.5 -1.6**
comp=Z,6.8nm,0.6s,baz=137,slow=6.8,SNR=43
TKM2 Tokmak 2 67.53 324 *e*P **P** **13 23 36.2 -1.4**
comp=Z,2.5nm,0.6s
AAK Ala-Archa 67.99 323 *e*P **P** **13 23 39.9 -0.6**
comp=Z,4.3nm,0.6s
PETK Petropavlovsk- 68.77 22 P **P** **13 23 43.5 -1.4**
PETK Petropavlovsk- 68.77 22 P **P** **13 23 43.5 -1.4**
comp=Z,5.2nm,0.7s,baz=180,slow=5.3,SNR=6.7
MAW Mawson 70.38 201 P **P** **13 23 55.4 +0.8**
MAW Mawson 70.38 201 P **P** **13 23 55.4 +0.8**
comp=Z,2.4nm,0.7s,baz=81,slow=11,SNR=7.1
KKAR Karatay Array 70.65 322 *e*P **P** **13 23 56.8 +0.1**
comp=Z,1.6nm,0.6s
ZAA0 Zalesovo Array 70.75 337 *e*P **P** **13 23 54.2 -2.8**
ZALV Zalesovo Beam 70.75 337 P **P** **13 23 54.2 -2.8**
ZALV Zalesovo Beam 70.75 337 P **P** **13 23 54.2 -2.8**
comp=Z,6.2nm,0.6s,baz=131,slow=4.3,SNR=31
KURBB Kurchatov Arra 71.00 332 P **P** **13 23 56.6 -2.0**
comp=Z,4.7nm,0.7s,baz=143,slow=5.3,SNR=27
KURK Kurchatov 71.03 332 P **P** **13 23 56.6 -2.1**
VNDA Vanda 71.15 172 P **P** **13 23 59.7 +0.6**
VNDA Vanda 71.15 172 P **P** **13 23 59.7 +0.6**
comp=Z,2.2nm,0.6s,baz=320,slow=6.4,SNR=7.0
FX1 Attu Island--F 75.14 29 P **P** **13 24 21.7 -1.3**
FX1 Attu Island--F 75.14 29 P **P** **13 24 21.7 -1.3**
comp=Z,14nm,1.0s,baz=243,slow=4.5,SNR=3.6
BVAR Borovoye Array 76.43 330 P **P** **13 24 28.8 -1.6**
BVAR Borovoye Array 76.43 330 P **P** **13 24 28.8 -1.6**
comp=Z,1.4nm,0.7s,baz=126,slow=7.5,SNR=8.7
BVAR LR LR 14 03 27.7
comp=Z,31nm,19.2s,baz=270,slow=40
ABKAR Akbulak array 80.08 324 *e*P **P** **13 24 52.5 +2.0**
comp=Z,1.1nm,0.5s
AKTO Aktyubinsk 81.72 324 P **P** **13 24 57.4 -1.8**
AKTO Aktyubinsk 81.72 324 P **P** **13 24 57.4 -1.8**
comp=Z,2.9nm,0.7s,baz=111,slow=5.4,SNR=9.2
SNAA Sanae 91.81 195 P **P** **13 25 49.0 +0.8**
SNAA pP **pP** **13 26 12.1 -1.0**
SNAA Sanae 91.81 195 P **P** **13 25 49.0 +0.8**
comp=Z,0.8nm,0.8s,baz=230,slow=0.5,SNR=6.6
SNAA pP **pP** **13 26 12.1 -1.0**
comp=Z,0.5nm,0.7s,baz=170,slow=6.5,SNR=3.3
BRTR Keskin Array B 95.36 309 pP pP 13 26 27.7 -2.5
BRTR Keskin Array B 95.36 309 pP **pP** **13 26 27.7 -2.5**
comp=Z,0.8nm,0.8s,baz=91,slow=5.2,SNR=2.7
BRTR LR LR 14 20 00.8
comp=Z,16nm,19.2s,baz=282,slow=42
ILAR Eielson Array 98.33 26 P P 13 26 14.5 -3.5
ILAR Eielson Array 98.33 26 P P 13 26 14.5 -3.5
comp=Z,0.2nm,0.6s,baz=275,slow=4.6,SNR=4.3
NVAR Mina Array Bea 118.09 51 PKP **PKPdf** **13 31 28.3 +0.5**
NVAR Mina Array Bea 118.09 51 PKP **PKPdf** **13 31 28.3 +0.5**
comp=Z,0.4nm,0.5s,baz=253,slow=4.1,SNR=5.6
BSMT Bassoo Peak 118.18 40 *e*PKPdf **PKPdf** **13 31 26.3 -1.3**
HLID Hailey 119.73 45 *e*PKPdf **PKPdf** **13 31 31.3 +0.5**
EGMT Eagleton 121.28 39 *e*PKPdf **PKPdf** **13 31 32.8 -0.6**
TPAW Teton Pass 122.14 44 *e*PKPdf **PKPdf** **13 31 35.9 +0.3**
REDW Red Top Meadow 122.26 44 *e*PKPdf **PKPdf** **13 31 36.1 +0.4**
LOHW Long Hollow 122.34 44 *e*PKPdf **PKPdf** **13 31 36.1 +0.3**
TORD Torodi Ar. Bea 122.42 280 PKP **PKPdf** **13 31 36.1 -0.4**
TORD Torodi Ar. Bea 122.42 280 PKP **PKPdf** **13 31 36.1 -0.4**
comp=Z,1.1nm,0.7s,baz=41,slow=2.0,SNR=11
PDAR Pinedale Array 123.35 44 PKP **PKPdf** **13 31 37.5 -0.3**
PDAR Pinedale Array 123.35 44 PKP **PKPdf** **13 31 37.5 -0.3**
comp=Z,0.7nm,0.7s,baz=230,slow=0.7,SNR=7.0
RWWY Rawlins 125.36 45 *e*PKPdf **PKPdf** **13 31 41.9 +0.1**
MNTX Cornudas Mount 129.95 56 *e*PKPdf **PKPdf** **13 31 51.8 +1.3**
TXAR Lajitas Array 132.00 59 PKP **PKPdf** **13 31 54.8 +0.2**
TXAR SKPbc **SKPbc** **13 35 12.0 -0.5**
TXAR Lajitas Array 132.00 59 PKP **PKPdf** **13 31 54.8 +0.2**
comp=Z,0.6nm,0.8s,baz=222,slow=1.7,SNR=5.4
TXAR SKPbc **SKPbc** **13 35 12.0 -0.5**
comp=Z,1.7nm,0.7s,baz=260,slow=2.4,SNR=18
JCT Junction City 134.88 56 *e*PKPdf **PKPdf** **13 32 01.3 +1.5**
CPUP Villa Florida 144.63 179 PKP **PKPdf** **13 32 17.4 -0.2**
CPUP Villa Florida 144.63 179 PKP **PKPdf** **13 32 17.4 -0.2**
comp=Z,6.6nm,0.7s,baz=154,slow=3.4,SNR=16
LPAZ La Paz 152.33 156 *e*PKPbc **PKPbc** **13 32 38.8 +0.9**
LPAZ PKPab **PKPab** **13 32 46.7 -1.3**
LPAZ La Paz 152.33 156 PKPbc **PKPbc** **13 32 39.2 +1.3**
comp=Z,1.7nm,0.7s,baz=172,slow=4.4,SNR=7.3
LPAZ PKPab **PKPab** **13 32 46.7 -1.3**
comp=Z,4.5nm,0.7s,baz=163,slow=4.3,SNR=13

AUST ***10*** *13:25:28.0,2°.38S×146°.52E, h0km*
IDC ***10*** *13:25:39.5±0.8,3°.36S×145°.78E, h0km, mb4.0/13, mb1 4.3/17, mb1mx4.2/23, mbtmp4.2/17, ML4.1/4, MS3.6/9, Ms1 3.6/9, ms1mx3.3/26, Error ellipse: s-maj=26.3km s-min=13.9km az=98.0*
ISCJB ***10*** *13:25:41.9±0.5,3°.33S±0°.06×145°.67E±0°.05, h25km, mb4.0/13, MS3.6/7, Error ellipse: s-maj=8.3km s-min=7.6km az=164.3*
ISC 10 13:25:43.8±0.6, 3°.32S±0°.08×145°.60E±0°.07, h25km, n31, σ1.50/27, mb4.0/13, MS3.5/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**166**	Pn	Pn	13 27 10.4	-4.1
3.6nm,0.3s,baz=235,slow=17,SNR=10.0							
PMG				LR	LR	13 29 19.3	
comp=Z,244nm,21.3s,baz=3.6,slow=36							
RABL	**Rabaul**	**6.61**	**98**	S	**Sn**	**13 28 34.5**	**+0.4**
baz=5.9,SNR=3.9							
COEN	**Coen**	**10.84**	**193**	P	**Pn**	**13 28 18.3**	**+0.8**
baz=12,SNR=7.4							
FAKI	**Fak Fak**	**13.34**	**271**	P	**Pn**	**13 28 50.3**	**-1.4**
baz=14,SNR=51							
MTSU	**Mount Surprise**	**14.78**	**185**	P	**Pn**	**13 29 11.9**	**+0.5**
baz=16,SNR=6.6							
HNR	**Honiara**	**15.49**	**114**	Pn	**Pn**	**13 29 18.8**	**-2.1**
2.6nm,0.3s,baz=315,slow=1.4,SNR=3.3							
HNR				LR	LR	13 34 25.3	
comp=Z,102nm,18.2s,baz=358,slow=34							
KDU	**Kakadu**	**15.98**	**234**	P	**Pn**	**13 29 28.1**	**+1.0**
baz=17,SNR=7.9							
CTA	**Charters Tower**	**16.68**	**178**	Pn	**Pn**	**13 29 35.3**	**-0.7**
0.3nm,0.3s,baz=357,slow=12,SNR=4.1							
MTN	**Manton Dam**	**17.15**	**236**	P	**P**	**13 29 43.9**	**+0.4**
baz=18,SNR=4.1							
MTN				S	S	13 33 15.9	+15
baz=18,SNR=5.2							
WRA	**Warramunga Arr**	**19.84**	**213**	P	**P**	**13 30 12.3**	**-0.8**
1.5nm,0.3s,baz=37,slow=12,SNR=66							
KNRA	**Kununurra**	**20.63**	**232**	P	**P**	**13 30 22.2**	**+0.7**
baz=22,SNR=24							
KNRA				S	Sn	13 34 30.4	+14
baz=22,SNR=4.9							
BATI	**Baumata**	**22.82**	**251**	P	**P**	**13 30 47.5**	**+2.3**
18nm,0.7s,baz=126,slow=19,SNR=3.0							
ASAR	**Alice Springs**	**23.18**	**208**	P	**P**	**13 30 47.6**	**-1.1**
10nm,0.9s,baz=40,slow=8.5,SNR=58							
ASAR				LR	LR	13 41 05.6	
comp=Z,117nm,18.2s,baz=31,slow=40							
FITZ	**Fitzroy Crossi**	**24.46**	**232**	P	**P**	**13 31 00.8**	**-0.2**
17nm,0.7s,baz=54,slow=8.1,SNR=71							
FITZ				LR	LR	13 42 05.3	
comp=Z,95nm,20.3s,baz=54,slow=40							
FITZ	**Fitzroy Crossi**	**24.46**	**232**	P	**P**	**13 31 00.8**	**-0.2**
baz=26,SNR=23							
WSI	**Waingapu**	**25.91**	**255**	S	**S**	**13 35 38.4**	**-4.7**
baz=27,SNR=3.8							
DZM	**Mont Dzumac**	**27.51**	**134**	LR	LR	13 39 52.6	
comp=Z,259nm,20.4s,baz=359,slow=31							
STKA	**Stephens Creek**	**28.66**	**187**	P	**P**	**13 31 38.8**	**+0.1**
3.4nm,0.7s,baz=6.5,slow=11,SNR=7.7							
STKA				LR	LR	13 44 31.0	
comp=Z,114nm,18.8s,baz=22,slow=40							
STKA	**Stephens Creek**	**28.66**	**187**	P	**P**	**13 31 41.3**	**+2.6**
baz=30,SNR=6.3							
KSRS	**Korea Array**	**43.77**	**340**	P	**P**	**13 33 47.0**	**-0.4**
2.3nm,0.9s,baz=155,slow=9.1,SNR=10.0							
KSRS				LR	LR	13 52 13.7	
comp=Z,47nm,18.0s,baz=189,slow=36							
URZ	**Urewera**	**45.13**	**145**	LR	LR	13 50 19.8	
comp=Z,185nm,19.3s,baz=244,slow=33							
USRK	**Ussuriysk Arra**	**48.85**	**347**	P	**P**	**13 34 26.9**	**-0.3**
1.5nm,0.7s,baz=167,slow=6.4,SNR=7.2							

LHMI	Lhok Sumawe	49.33 280	S	S	13 41 44.2	+7.1
	baz=50,SNR=5.2					
CMAR	Chiang Mai Arr	50.78 297	P	P	13 34 44.5	+2.1
	1.0nm,0.7s,baz=117,slow=5.6,SNR=5.6					
PETK	Petropavlovsk-	57.13 9	P	P	13 35 28.0	-0.3
	1.8nm,0.8s,baz=160,slow=9.0,SNR=2.4					
SONM	Songino Array	61.40 331	P	P	13 35 58.2	+0.2
	0.2nm,0.3s,baz=150,slow=6.0,SNR=3.4					
MKAR	Makanchi Array	74.55 320	P	P	13 37 21.1	+0.4
	0.4nm,0.7s,baz=107,slow=8.1,SNR=3.6					
ZALV	Zalesovo Beam	76.01 328	P	P	13 37 30.0	+1.2
	0.3nm,0.3s,baz=94,slow=5.8,SNR=2.2					
ZALV			LR	LR	14 09 33.3	
	comp=Z,56nm,19.3s,baz=69,slow=35					
ILAR	Eielson Array	83.59 23	P	P	13 38 10.0	+0.3
	0.8nm,0.8s,baz=260,slow=5.5,SNR=11					
BVAR	Borovoye Array	83.79 324	P	P	13 38 10.4	-0.6
	0.2nm,0.4s,baz=150,slow=6.1,SNR=2.9					
TORD	Torodi Ar. Bea	143.02 287	PKP	PKPdf	13 45 15.3	-1.3
	0.3nm,0.6s,baz=106,slow=2.1,SNR=2.4					

DJA 10 13:28:16.1±0.7, 1°S±6°×13°3E±°, h40km, M3.6/3, MLv3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.19	126	P	Pn	13 28 34.8	-1.5
RKPI				S	Sn	13 28 53.5	+2.2
SWI	Sorong	1.95	268	P	Pn	13 28 45.7	-1.0
SWI				S	Sn	13 29 12.6	+2.6
SWI	Sorong	1.95	268	P	Pn	13 28 46.1	-0.6
	baz=15,SNR=24						
FAKI	Fak Fak	2.31	205	P	Pn	13 28 51.0	-0.6
FAKI				S	Sn	13 29 19.5	+0.7

IDC 10 13:58:07.5±3.2, 19°12S×177°80W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/29, Error ellipse: s-maj=176.6km s-min=28.5km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	10.08	181	LR	LR	14 03 19.6	
	comp=Z,455nm,21.8s,baz=104,slow=31						
WRA	Warramunga Arr	44.99	261	P	P	14 06 25.0	0.0
	0.2nm,0.4s,baz=97,slow=7.8,SNR=9.1						
ASAR	Alice Springs	45.03	255	P	P	14 06 25.1	-0.3
	0.6nm,0.5s,baz=91,slow=7.8,SNR=20						
ILAR	Eielson Array	86.94	13	P	P	14 10 54.0	0.0
	0.3nm,0.5s,baz=214,slow=5.8,SNR=4.9						
PDAR	Pinedale Array	87.83	43	P	P	14 10 59.0	-0.1
	0.2nm,0.6s,baz=202,slow=4.6,SNR=2.6						

*IDC **10** 14:10:04.9±0.6, 26°71S×114°33W, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/21, mbtmp4.4/17, MS4.8/22, Ms1 4.7/22, ms1mx4.6/27, Error ellipse: s-maj=21.1km s-min=17.2km az=4.0*

*ISCJB **10** 14:10:05.5±0.5, 26°56S±0°07×114°31W±0°09, h10km, mb4.7/70, MS4.8/26, Error ellipse: s-maj=13.2km s-min=9.2km az=145.2*

*NEIC **10** 14:10:07.0±0.4, 26°64S×114°30W, h10km, mb4.9/54, Error ellipse: s-maj=12.5km s-min=9.2km az=63.0*

*GCMT **10** 14:10:11.7±0.1, 26°86S×114°24W, h19km, MW5.4, Moment Tensor Solution. s70,c108; s95,c186; Moment tensor: Scale 10^{17}Nm; M_{rr}=0.27±.03; $M_{\theta\theta}$=0.86±.03; $M_{\phi\phi}$=1.13±.03; $M_{r\theta}$=0.08±.05; $M_{\theta\phi}$=-1.13±.02; $M_{\phi r}$=0.15±.05; Best double couple: M_0=1.50000×10^{17} NP1:ϕ_s=291.00000°, δ87.00000°, λ176.00000°. NP2:ϕ_s=21.00000°, δ86.00000°, λ3.00000°. Principal axes: T 1.6600, Plg5.0000°, Azm246.0000°; N -0.2900, Plg85.0000°, Azm73.0000°; P -1.3700, Plg1.0000°, Azm336.0000°; Data Used: II IU IC G CN.*

*BJI **10** 14:10:11.1, 26°60S×114°10W, h10km, mB5.3/8, Ms5.3/7, Ms7 5.1/7*

ISC 10 14:10:07.0±0.4, 26°6S±0°1×114°26W±0°09, h10km, n421, σ0°99/419, mb4.9/68, MS4.8/26, 129C-136D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	19.11	276	eLQ	LQ	14 18 05.7	
	9μm,28.5s						
RKT				eLR	LR	14 18 53.6	
	5μm,28.8s						
TBI	Tubuai	32.01	268	eLQ	LQ	14 23 37.7	
	3μm,33.2s						
TBI				eLR	LR	14 24 46.0	
	3μm,29.2s						
PPT2	Papeete2	33.84	278	eS	S	14 22 05.9	-8.3
	296nm,25.5s						
PPT2				eLQ	LQ	14 24 33.3	
	2μm,30.0s						
PPT2				eLR	LR	14 25 38.2	
	5μm,26.2s						
PPT	Papeete	33.85	278	LR	LR	14 26 49.7	
	comp=Z,853nm,19.2s,baz=282,slow=30						
PLCA	Paso Flores	38.60	123	eP	P	14 17 31.2	+0.9
PLCA	Paso Flores	38.60	123	P	P	14 17 29.2	-1.1
	11nm,1.1s,baz=281,slow=9.9,SNR=7.3						
PLCA				LR	LR	14 29 06.7	
	comp=Z,905nm,21.2s,baz=133,slow=30						
ATAH	Atahualpa	39.21	67	P	P	14 17 37.3	+1.2
ATAH	Atahualpa	39.21	67	P	P	14 17 37.3	+1.2
	15nm,1.0s,baz=244,slow=3.3,SNR=6.4						
LVC	Limon Verde	41.26	95	eP	P	14 17 53.1	+0.2
	22nm,1.1s						
OTAV	Otavalo	43.61	58	eP	P	14 18 13.0	+0.7
	8.0nm,0.9s						
LPAZ	La Paz	43.94	86	eP	P	14 18 14.7	-0.5
	11nm,1.0s						
LPAZ	La Paz	43.94	86	P	P	14 18 15.0	-0.2
	3.2nm,1.0s,baz=283,slow=7.3,SNR=8.3						
LPAZ				LR	LR	14 32 23.9	
	comp=Z,1μm,20.8s,baz=247,slow=30						
TRQA	Tornquist	45.09	118	P	P	14 18 25.4	+1.9
	155nm,1.6s						
JTS	JuntasAbangare	46.45	42	P	P	14 18 34.4	+0.1
JTS	JuntasAbangare	46.45	42	P	P	14 18 34.4	+0.1
	14nm,1.0s,baz=234,slow=2.2,SNR=4.8						
ROSC	El Rosal	49.73	57	P	P	14 19 01.6	+1.4
ROSC	El Rosal	49.73	57	P	P	14 19 01.6	+1.4
	5.5nm,0.4s,baz=279,slow=18,SNR=4.2						
ROSC				LR	LR	14 36 28.5	
	comp=Z,1μm,18.0s,baz=204,slow=32						
CPUP	Villa Florida	50.58	103	P	P	14 19 05.2	-0.8
CPUP	Villa Florida	50.58	103	P	P	14 19 05.2	-0.8
	5.7nm,0.9s,baz=242,slow=8.7,SNR=9.4						
CPUP				LR	LR	14 36 50.1	
	comp=Z,993nm,19.5s,baz=242,slow=32						
AFI	Afiamalu	55.02	271	LR	LR	14 37 55.8	
	comp=Z,449nm,19.3s,baz=311,slow=30						
RAO	Raoul Island	55.67	251	LR	LR	14 38 09.2	
	comp=Z,681nm,20.1s,baz=132,slow=30						
TXAR	Lajitas Array	56.57	11	P	P	14 19 51.0	+1.1
TXAR	Lajitas Array	56.57	11	P	P	14 19 51.0	+1.1
	1.4nm,0.8s,baz=186,slow=10,SNR=11						
TXAR				LR	LR	14 39 10.6	
	comp=Z,189nm,20.4s,baz=95,slow=31						
626A	Big Bend Ranch	56.71	11	⇑P	P	14 19 51.5	+0.6
	baz=57,SNR=7.2						
732A	Laxson Ranch,	56.73	15	⇓P	P	14 19 51.3	+0.3
	baz=57						
627A	Terlingua Ranc	56.74	11	⇑P	P	14 19 51.0	-0.1
	baz=57,SNR=9.1						
628A	Black Gap, Mar	56.86	12	⇑P	P	14 19 51.6	-0.4
	baz=57,SNR=5.7						
526A	Mary Lane Ranc	57.21	10	⇓P	P	14 19 54.4	-0.2
	baz=58						
631A	Perdido Creek	57.26	14	⇓P	P	14 19 54.5	-0.2
	baz=58						
527A	Woodward Ranch	57.38	11	⇑P	P	14 19 55.4	-0.3
	baz=58,SNR=7.0						
632A	Uvalde	57.52	15	⇑P	P	14 19 55.9	-0.7
	baz=58						
528A	Cox Ranch, San	57.54	12	⇑P	P	14 19 56.7	-0.1
	baz=58,SNR=6.6						
529A	Stev Forest Ra	57.61	12	⇓P	P	14 19 57.2	-0.1
	baz=58,SNR=13						
425A	Indio Mountain	57.79	9	⇓P	P	14 19 58.1	-0.5
	baz=58						
530A	J-C Ranch, Com	57.81	13	⇓P	P	14 19 58.7	+0.1
	baz=58,SNR=15						
426A	McDonald Obser	57.82	10	⇑P	P	14 19 58.5	-0.4
	baz=58						
URZ	Urewera	57.88	240	LR	LR	14 39 26.5	
	comp=Z,2μm,19.5s,baz=87,slow=30						
319A	Douglas	57.88	5	⇑P	P	14 19 58.6	-0.6
	baz=58						
320A	Kipp Ranch, An	57.91	6	⇓P	P	14 19 59.2	-0.3
	baz=58						
531A	Rocksprings	57.99	14	⇓P	P	14 19 58.8	-1.1
	baz=58,SNR=6.1						
532A	Rocksprings	58.09	15	⇑P	P	14 19 59.9	-0.8
	baz=58,SNR=8.7						
427A	Hayter Ranch,	58.10	11	⇓P	P	14 19 59.8	-1.0
	baz=58						
429A	Davenport Ranc	58.16	13	⇓P	P	14 20 00.8	-0.2
	baz=58,SNR=7.8						
214A	Orzan Pipe Nat	58.28	1	⇑P	P	14 20 00.9	-1.0
	baz=59						
324A	Moseley Ranch,	58.36	9	⇓P	P	14 20 01.3	-1.3
	baz=59						
325A	Bean Ranch, Si	58.36	9	⇓P	P	14 20 01.5	-1.2
	baz=59						
430A	Baggett Ranch,	58.44	13	⇓P	P	14 20 01.5	-1.6
	baz=59						
JCT	Junction City	58.46	15	P	P	14 20 02.0	-1.2
JCT	Junction City	58.46	15	⇑P	P	14 20 02.7	-0.4
	baz=59,SNR=6.3						
326A	Caldwell Ranch	58.46	10	⇑P	P	14 20 02.5	-0.8
	baz=59						
220A	Playas Peak, P	58.47	6	⇓P	P	14 20 03.4	+0.1
	baz=59						
431A	Sonora	58.47	14	⇓P	P	14 20 02.9	-0.4
	baz=59,SNR=18						
MNTX	Cornudas Mount	58.63	9	eP	P	14 20 02.7	-1.6
	5.8nm,1.1s						
221A	Mesquite Ranch	58.65	6	⇓P	P	14 20 03.3	-1.3
	baz=59						
TUC	Tucson	58.71	3	P	P	14 20 05.0	0.0
	197nm,2.2s						
328A	Wristen Ranch,	58.72	11	⇓P	P	14 20 04.8	-0.2
	baz=59						
222A	Williams Famil	58.81	7	⇓P	P	14 20 05.5	-0.3
	baz=59						
432A	Menard	58.84	15	⇑P	P	14 20 04.2	-1.6
	baz=59						
329A	Wagon Wheel Ra	58.98	12	⇓P	P	14 20 05.7	-1.1
	baz=59						
224A	Cornudas Mount	58.98	9	⇑P	P	14 20 06.3	-0.6
	baz=59,SNR=17						
DVTC	Desert V Tower	58.99	358	⇓P	P	14 20 05.5	-1.4
	baz=59						
BAR	Barrett	59.03	358	eP	P	14 20 07.9	+0.7
	14nm,1.3s						
330A	Mertzon	59.06	13	⇓P	P	14 20 06.8	-0.6
	baz=59,SNR=7.2						
113A	Mohawk Valley,	59.08	0	⇓P	P	14 20 06.8	-0.6
	baz=59						
120A	U Bar Ranch, L	59.10	6	⇓P	P	14 20 06.8	-1.0
	baz=59						
225A	Deer Hill, Car	59.11	9	⇑P	P	14 20 06.3	-1.5
	baz=59						
331A	San Angelo	59.12	14	⇑P	P	14 20 06.7	-1.1
	baz=59						
121A	Cookes Peak, D	59.16	6	⇓P	P	14 20 06.9	-1.3
	baz=60						
226B	Tecolote Peak,	59.18	10	⇓P	P	14 20 07.8	-0.4
	baz=60						
MONP	Monument Peak	59.23	358	⇓P	P	14 20 08.4	-0.4
	baz=60						
332A	Millersview	59.34	14	⇓P	P	14 20 09.1	-0.2
	baz=60,SNR=7.0						
SCI	San Clemente I	59.43	356	⇑P	P	14 20 10.2	+0.4
	baz=60						
229A	Bryant Ranch,	59.48	12	⇓P	P	14 20 10.2	-0.1
	baz=60						
228A	UT Block 9, Go	59.48	11	⇑P	P	14 20 09.4	-0.9
	baz=60						
230A	Sterling City	59.54	13	⇓P	P	14 20 10.1	-0.6
	baz=60						
124A	Stringfield Ra	59.60	9	⇓P	P	14 20 10.7	-0.6
	baz=60						
Z20A	Nine Sixteen R	59.67	6	⇑P	P	14 20 11.0	-0.6
	baz=60						
125A	Gardner Draw,	59.67	9	⇑P	P	14 20 10.9	-0.8
	baz=60,SNR=14						
232A	Coleman	59.85	14	⇓P	P	14 20 12.5	-0.2
	baz=60,SNR=5.0						
Z21A	St. Cloud Mine	59.95	6	⇑P	P	14 20 13.8	+0.2
	baz=60,SNR=7.8						
PFO	Pinyon Flat Ob	59.95	358	⇑P	P	14 20 13.3	-0.2
	baz=60						
Z22A	Elephant Butte	59.97	7	⇓P	P	14 20 13.1	-0.6
	baz=60						
BC3	Big Chuckawall	59.97	359	⇑P	P	14 20 13.1	-0.6
	baz=60						
128A	Castleberry Fa	59.99	11	⇑P	P	14 20 13.6	-0.2
	baz=60,SNR=6.0						
Y12C	Blythe	60.06	360	⇑P	P	14 20 14.2	+0.1
	baz=60						
Z23A	Rita Site, Whi	60.06	8	⇑P	P	14 20 14.6	+0.3
	baz=60						
129A	Stewart Farms,	60.11	12	⇓P	P	14 20 14.6	-0.1
	baz=60						
BELC	Belle Mtn. Jos	60.33	358	⇓P	P	14 20 15.6	-0.6
	baz=61						
Z26A	Caprock	60.38	10	⇑P	P	14 20 15.9	-0.6
	baz=61						
131A	Roby	60.44	13	⇓P	P	14 20 16.0	-0.9
	baz=61						
WHTX	Lake Whitney	60.47	16	⇓P	P	14 20 16.1	-0.9
	baz=61						
IRM	Iron Mountain	60.47	359	⇓P	P	14 20 16.5	-0.5
	baz=61,SNR=8.1						
Y20A	Horse Springs,	60.47	6	⇑P	P	14 20 16.4	-0.9
	baz=61						
Z27A	Tatum	60.54	11	⇓P	P	14 20 17.3	-0.3
	baz=61,SNR=7.1						
ABTX	Abilene, Hawle	60.55	14	⇓P	P	14 20 17.2	-0.4
	baz=61						
PDMCI	Parker Dam,Lak	60.60	0	⇓P	P	14 20 17.3	-0.5
	baz=61						
BFSC	Mount Baldy Ra	60.63	357	⇑P	P	14 20 18.4	+0.2
	baz=61						
Y21A	Point of Rocks	60.64	6	⇓P	P	14 20 18.7	+0.3
	baz=61						
Y22A	Socorro	60.64	7	⇑P	P	14 20 18.7	+0.4
	baz=61						
Y23A	Lovelace Mesa,	60.74	8	⇓P	P	14 20 19.7	+0.7
	baz=61						
Z29A	Hungry Hill Ra	60.75	12	⇓P	P	14 20 18.9	-0.1
	baz=61,SNR=5.9						
Y24A	Capitan	60.81	8	⇓P	P	14 20 19.7	+0.2
	baz=61						
LENM	Lemitar	60.87	7	eP	P	14 20 20.9	+1.0
BNM	Barren Site	60.89	7	P	P	14 20 20.4	+0.3
	2.6nm,0.8s						
Z30A	Sanderson Ranc	60.89	13	⇑P	P	14 20 19.9	0.0
	baz=61						
X18A	Snowflake	60.97	4	⇑P	P	14 20 20.3	-0.3
	baz=61						
X21A	Alamocita Cree	61.06	6	⇓P	P	14 20 20.7	-0.5
	baz=61,SNR=8.0						
LAZ	Ladron	61.08	7	eP	P	14 20 22.5	+1.1
	5.9nm,1.4s						
GMRC	Granite Mounta	61.10	359	⇓P	P	14 20 21.3	0.0
	baz=61						
Y27A	Causey	61.10	11	⇑P	P	14 20 21.0	-0.4
	baz=61,SNR=8.5						
Z31A	Sharp Cattle R	61.12	13	⇑P	P	14 20 21.4	0.0
	baz=61,SNR=6.6						
HEC	Hector,Ludlow	61.16	358	⇓P	P	14 20 21.1	-0.7
	baz=62						
X22A	Bernardo	61.20	7	⇓P	P	14 20 22.2	+0.1
	baz=62						
Z32A	Haskell	61.25	14	⇑P	P	14 20 22.6	+0.3
	baz=62,SNR=6.7						
MSTX	Muleshoe	61.25	11	⇑P	P	14 20 22.7	+0.3
	baz=62						
Y28A	McKinney Farm,	61.28	11	⇓P	P	14 20 22.6	-0.1
	baz=62						
EDW2	Edwards Air Fo	61.29	357	⇓P	P	14 20 22.6	0.0
	baz=62						
Y29A	Porterfield Fa	61.34	12	⇓P	P	14 20 22.6	-0.4
	baz=62						
LDFC	Landfair	61.39	359	eP	P	14 20 22.0	-1.3
	31nm,1.1s						
W13A	Hualapai Mount	61.40	0	⇓P	P	14 20 23.4	-0.2
	baz=62						
RPZ	Rata Peaks	61.41	233	LR	LR	14 43 14.2	
	comp=Z,1μm,18.5s,baz=91,slow=32						
X25A	Clemmons Ranch	61.51	9	⇓P	P	14 20 24.1	-0.1
	baz=62						
GSC	Goldstone	61.65	358	eP	P	14 20 24.9	-0.1
	6.9nm,0.8s						
GSC	Goldstone	61.65	358	⇑P	P	14 20 24.7	-0.4
	baz=62						
X26A	CR and CF Fran	61.66	10	⇓P	P	14 20 24.6	-0.6
	baz=62						
ANMO	Albuquerque	61.69	7	eP	P	14 20 26.4	+0.9
	7.1nm,1.2s						
Y31A	Rekieta Farm,	61.72	13	⇑P	P	14 20 25.6	+0.2
	baz=62,SNR=5.7						
TUQ	Turquoise Moun	61.76	358	⇓P	P	14 20 25.1	-0.8
	baz=62						
W22A	Albuquerque	61.77	7	⇑P	P	14 20 25.7	-0.3
	baz=62						
LRMC	Laurel Mountai	61.87	357	⇓P	P	14 20 25.8	-0.8
	baz=62						
WUAZ	Wupatki	61.88	3	eP	P	14 20 27.4	+0.7
	22nm,1.4s						
WUAZ	Wupatki	61.88	3	⇑P	P	14 20 26.3	-0.4
	baz=62						
X28A	Dimmitt	61.89	11	⇑P	P	14 20 26.3	-0.4
	baz=62						
Y32A	R-V Farms, Ver	61.93	14	⇓P	P	14 20 26.7	-0.2
	baz=62						
W23A	Werner Place,	61.94	8	⇓P	P	14 20 27.2	0.0
	baz=62						
W24A	Lazy 6 Ranch,	62.08	8	⇑P	P	14 20 28.3	+0.2
	baz=62,SNR=11						
ISA	Isabella	62.09	356	eP	P	14 20 28.1	0.0
	15nm,1.6s						
ISA	Isabella	62.09	356	⇑P	P	14 20 28.0	0.0
	baz=62						
BDFB	Brasilia	62.17	94	P	P	14 20 30.0	+0.9
BDFB	Brasilia	62.17	94	P	P	14 20 30.0	+0.9
	3.8nm,0.8s,baz=241,slow=16,SNR=2.6						
BDFB				LR	LR	14 43 58.1	
	comp=Z,796nm,21.0s,baz=12,slow=33						
W26A	Owens Ranch, T	62.19	10	⇓P	P	14 20 27.8	-0.9
	baz=62						
W25A	X Bar L Ranch,	62.22	9	⇑P	P	14 20 27.8	-1.1
	baz=62						
SHOC	Shoshone	62.23	358	⇓P	P	14 20 28.2	-0.6
	baz=63						
W27A	Bowe Ranch, En	62.28	10	⇑P	P	14 20 28.9	-0.4
	baz=63						
V20A	Brimhall	62.34	5	⇑P	P	14 20 29.7	-0.1
	baz=63						
V21A	Milan	62.42	6	⇓P	P	14 20 30.1	-0.3
	baz=63						
MPMC	Manual Prospec	62.44	357	⇑P	P	14 20 30.3	-0.2
	baz=63						
W29A	Amraillo	62.57	12	⇑P	P	14 20 31.6	+0.3
	baz=63						
V22A	San Miguel Ran	62.60	7	⇑P	P	14 20 31.6	0.0
	baz=63						
U15A	North Rim	62.76	2	⇓P	P	14 20 32.3	-0.4
	baz=63,SNR=9.0						
V25A	Rancho No Teng	62.80	9	⇑P	P	14 20 31.7	-1.2
	baz=63						
SHPR	Sheep Range	62.81	359	eP	P	14 20 33.7	+0.8
CWC	Cottonwood Cre	62.84	357	⇓P	P	14 20 32.0	-1.1
	baz=63						
V26A	Tequesquite Ra	62.88	10	⇓P	P	14 20 32.6	-0.8
	baz=63						
W31A	Holland Ranch,	62.96	13	⇓P	P	14 20 33.3	-0.5
	baz=63						
V27A	Dan Oppiter Fa	62.99	10	⇓P	P	14 20 33.7	-0.4
	baz=63						
U21A	Nageezi	63.04	6	⇑P	P	14 20 34.3	-0.2
	baz=63,SNR=5.8						
U22A	Llaves	63.07	7	⇑P	P	14 20 34.0	-0.7
	baz=63						
U23A	El Rito	63.09	7	⇓P	P	14 20 34.5	-0.3
	baz=63						
GRAC	Grapevine Rang	63.37	357	⇓P	P	14 20 36.6	+0.2
	baz=64						
U25A	Circle Dot Ran	63.38	9	⇓P	P	14 20 37.3	+0.5
	baz=64						
QSPA	South Pole Qui	63.53	180	LR	LR	14 44 18.7	
	comp=Z,568nm,19.0s,baz=103,slow=32						
T21A	Navajo Lake	63.61	6	⇑P	P	14 20 37.4	-0.8
	baz=64						
T22A	Edith	63.69	7	⇓P	P	14 20 38.8	0.0
	baz=64,SNR=8.9						
MVCO	Mesa Verde	63.74	5	⇑P	P	14 20 39.5	+0.3
	baz=64						
CCUT	Cedar City	63.85	1	eP	P	14 20 40.7	+0.8
	9.4nm,1.0s						
MIAR	Mount Ida	63.93	19	eP	P	14 20 40.6	+0.4
	11nm,1.2s						
T24A	Torres, Weston	63.96	8	⇑P	P	14 20 41.3	+0.6
	baz=64						
ARUT	Antelope Range	64.09	1	P	P	14 20 43.0	+1.6
	11nm,1.1s						
U30A	WK&E Inc. Balk	64.13	12	⇑P	P	14 20 41.7	+0.1
	baz=64						
S21A	Coal Bank Pass	64.25	6	⇓P	P	14 20 42.0	-0.6
	baz=65,SNR=7.5						
T26A	Comanche Natio	64.26	9	⇑P	P	14 20 40.7	-1.9
	baz=65						
S20A	Disappointment	64.37	5	⇓P	P	14 20 41.9	-1.4
	baz=65						
S22A	4UR Ranch, Cre	64.42	7	⇑P	P	14 20 42.6	-1.1
	baz=65						
T28A	Walsh	64.44	11	⇑P	P	14 20 42.7	-0.9
	baz=65						
S24A	Houchin Ranch,	64.50	8	⇑P	P	14 20 43.3	-1.0
	baz=65						
SDCO	Great Sand Dun	64.57	8	eP	P	14 20 43.5	-1.2
	7.9nm,1.1s						
CMB	Columbia Colle	64.59	355	eP	P	14 20 45.9	+1.4
S25A	Robets Cordova	64.62	9	⇓P	P	14 20 43.2	-1.7
	baz=65						
R11A	Troy Canyon, C	64.66	359	⇑P	P	14 20 44.6	-0.5
	baz=65,SNR=13						
S26A	Kim	64.72	9	⇑P	P	14 20 44.0	-1.4
	baz=65						
R20A	Redvale	64.72	5	⇑P	P	14 20 44.7	-0.8
	baz=65						
LRAL	Lakeview Retre	64.76	25	eP	P	14 20 45.0	-0.6
	9.6nm,0.2s						
MVU	Marysvale	64.83	2	P	P	14 20 46.6	+0.3
NV11	Mina Array Sit	64.83	357	eP	P	14 20 46.5	+0.3
NVAR	Mina Array Bea	64.84	356	P	P	14 20 46.8	+0.5
NVAR	Mina Array Bea	64.84	356	P	P	14 20 46.8	+0.5
	4.1nm,0.8s,baz=186,slow=7.5,SNR=16						
NVAR				LR	LR	14 43 08.4	
	comp=Z,793nm,18.1s,baz=13,slow=31						
MSU	Marysvale	64.84	2	eP	P	14 20 47.4	+1.1
T31A	Randall Ranch,	64.86	13	⇓P	P	14 20 46.0	-0.3
	baz=65						
PV04	Paradox Valley	64.89	5	eP	P	14 20 44.3	-2.3
R22A	Saguache, Gunn	64.91	7	⇓P	P	14 20 46.1	-0.8
	baz=65						
R21A	Cimarron	64.97	6	⇑P	P	14 20 46.5	-0.7
	baz=65						
R23A	Moffat	64.97	7	⇓P	P	14 20 46.2	-1.1
	baz=65						
R24A	Sanders Place,	65.10	8	⇑P	P	14 20 47.0	-1.0
	baz=65						
R25A	Fount

baz=66
P23A Jefferson 66.14 7 ⇓P P 14 20 54.2 -0.7
baz=66
P22A Eagle 66.26 6 ⇓P P 14 20 55.7 +0.2
baz=67
P25A Willow Gulch B 66.48 9 ⇑P P 14 20 56.5 -0.3
baz=67
DUG Dugway 66.50 1 ⇑P P 14 20 57.4 +0.5
baz=67
GOGA Godfrey 66.50 28 *eP* **P 14 20 58.9 +2.1**
6.7nm,0.8s
Q30A Quinter 66.58 12 ⇑P P 14 20 57.2 -0.2
baz=67
ISCO Idaho Springs 66.58 7 ⇓P P 14 20 57.2 -0.4
baz=67
P26A Davis Ranch, A 66.64 9 ⇑P P 14 20 57.6 -0.3
baz=67
O19A Miners Draw (B 66.76 4 ⇓P P 14 20 58.5 -0.1
baz=67
DAU Daniels Canyon 66.77 2 *eP* **P 14 20 58.1 -0.7**
BMN Battle Mountai 66.78 358 P **P 14 20 58.6 -0.1**
24nm,1.4s
O22A Kremmling 66.84 6 ⇑P P 14 20 59.0 -0.3
baz=67
P28A Saint Francis 66.89 10 ⇑P P 14 20 59.4 0.0
baz=67
JLU Jordanelle 66.95 2 *eP* **P 14 20 59.9 0.0**
41nm,1.9s
SWET Sewanee 67.10 25 *eP* **P 14 20 59.3 -1.5**
9.7nm,0.8s
P30A Selden 67.13 12 ⇑P P 14 21 01.0 +0.2
baz=68
WVT Waverly 67.23 23 *eP* **P 14 20 60.0 -1.5**
11nm,0.8s
P31A Stockton 67.27 12 ⇓P P 14 21 02.4 +0.7
baz=68
O26A Horse Wrangler 67.31 9 ⇑P P 14 21 02.5 +0.4
baz=68
WDC Whiskeytown Da 67.32 353 P **P 14 21 02.3 +0.4**
6.1nm,1.0s
N21A Black Mountain 67.35 6 ⇑P P 14 21 02.6 +0.2
baz=68
N20A Spence Gulch, 67.36 5 ⇓P P 14 21 02.7 +0.2
baz=68
O27A Beecher Island 67.38 10 ⇑P P 14 21 03.1 +0.6
baz=68
KSU1 Kansas State U 67.45 15 P **P 14 21 03.5 +0.7**
16nm,0.7s
N22A Wattenberg Ran 67.49 6 ⇓P P 14 21 03.3 0.0
baz=68
N23A Red Feather La 67.63 7 ⇑P P 14 21 04.0 -0.2
baz=68
N25A Grover 67.77 8 ⇑P P 14 21 04.2 -0.8
baz=68
O30A MW Ranch, Wils 67.78 12 ⇓P P 14 21 04.2 -0.7
baz=68
M17A Scullys Gap (B 67.85 3 ⇑P P 14 21 04.7 -0.8
baz=68
CPCT Cooper Cave 67.85 26 *eP* **P 14 21 07.9 +2.5**
HWUT Hardware Ranch 67.95 2 P **P 14 21 06.8 +0.7**
2.2nm,0.7s
M20A Sweetwater, Wa 68.02 5 ⇓P P 14 21 06.1 -0.5
baz=68
SIUC Southern Illin 68.20 21 *eP* **P 14 21 07.2 -0.3**
26nm,0.9s
M21A Separation Pea 68.20 6 ⇑P P 14 21 06.9 -0.9
baz=68
M24A Cheyenne 68.32 8 ⇓P P 14 21 08.9 +0.4
baz=69
TKL Tuckaleechee C 68.33 26 *eP* **P 14 21 09.8 +1.4**
YBH Yreka Blue Hor 68.47 353 *eP* **P 14 21 11.0 +1.7**
L20A Wamsutter 68.52 5 ⇑P P 14 21 08.7 -1.0
baz=69
L19A Farson 68.54 4 ⇓P P 14 21 08.9 -1.0
baz=69
L21A Rawlins 68.55 6 ⇑P P 14 21 08.9 -1.0
baz=69
L22A Ellis Ranch, M 68.71 6 ⇑P P 14 21 10.6 -0.3
baz=69
WVOR Wild Horse Val 68.84 357 *eP* **P 14 21 11.8 +0.2**
14nm,1.0s
L25A Engebretsen Ra 69.11 8 ⇓P P 14 21 13.4 +0.1
baz=70
K20A Yellowstone Ra 69.17 5 ⇓P P 14 21 12.9 -0.8
baz=70
TZTN Tazewell 69.19 26 *eP* **P 14 21 12.5 -1.2**
BW06 Boulder Array 69.19 4 *eP* **P 14 21 12.3 -1.6**
12nm,1.2s
PDAR Pinedale Array 69.19 4 P **P 14 21 12.6 -1.4**
PDAR Pinedale Array 69.19 4 P **P 14 21 12.6 -1.4**
2.9nm,0.9s,baz=179,slow=5.8,SNR=15
PDAR LR LR 14 46 08.6
comp=Z,350nm,21.3s,baz=202,slow=31
K21A Alcova 69.23 6 ⇓P P 14 21 13.1 -1.0
baz=70
L27A T5 Ranch, Ells 69.26 9 ⇑P P 14 21 13.5 -0.7
baz=70
K22A Casper 69.31 6 ⇓P P 14 21 14.2 -0.4
baz=70
HUMO Hull Mountain 69.36 353 *eP* **P 14 21 14.8 +0.1**
6.9nm,0.9s
K23A Bowen Ranch, D 69.50 7 ⇓P P 14 21 16.0 +0.3
baz=70
RRI2 Red Ridge 69.69 2 *eP* **P 14 21 17.3 +0.2**
7.2nm,0.8s
J19A Crowheart 69.72 4 ⇑P P 14 21 16.5 -0.6
baz=70
MFID Camas Ranch 69.72 359 *eP* **P 14 21 17.6 +0.6**
9.2nm,1.4s
MFID Camas Ranch 69.72 359 ⇑P P 14 21 16.5 -0.6
baz=70
REDW Red Top Meadow 69.72 3 *eP* **P 14 21 14.5 -2.7**
K26A Motz Farm, Whi 69.75 9 ⇓P P 14 21 17.0 -0.2
baz=70
TPAW Teton Pass 69.85 3 *eP* **P 14 21 17.1 -1.0**
11nm,1.1s
HLID Hailey 69.86 360 *eP* **P 14 21 17.9 -0.1**
16nm,1.0s
HLID Hailey 69.86 360 ⇑P P 14 21 17.8 -0.1
baz=70
J20A Shoshoni 69.88 5 ⇑P P 14 21 18.1 +0.1
baz=70
J21A Lysite 69.92 5 ⇓P P 14 21 18.1 -0.3
baz=70
LOHW Long Hollow 69.98 3 *eP* **P 14 21 16.9 -1.9**
6.6nm,0.9s
I18A Diamond G Ranc 70.11 3 ⇑P P 14 21 19.2 -0.4
baz=70
MOOW Moose Ponds 70.11 3 *eP* **P 14 21 18.4 -1.2**
11nm,1.4s
I14A Mackay 70.22 1 ⇓P P 14 21 20.1 -0.1
baz=71
IMW Indian Meadow 70.25 3 *eP* **P 14 21 19.8 -0.8**
7.5nm,0.8s
J25A Sunshine Ranch 70.34 8 ⇓P P 14 21 20.8 0.0
baz=71
I21A Big Trails, Te 70.39 5 ⇑P P 14 21 20.3 -1.0
baz=71
I20A Worland 70.47 5 ⇓P P 14 21 20.7 -0.9
baz=71
I19A Meeteetse 70.49 4 ⇓P P 14 21 21.2 -0.7
baz=71
I22A 9 Mile Ranch, 70.55 6 ⇑P P 14 21 20.2 -2.0
baz=71
I24A Kuemmerle Ranc 70.71 7 ⇑P P 14 21 22.3 -0.7
baz=71
I23A Meade Ranch, G 70.72 7 ⇓P P 14 21 22.0 -1.1
baz=71
J28A Allard Ranch, 70.74 10 ⇓P P 14 21 23.2 0.0
baz=71
I25A Rochford 70.97 8 ⇑P P 14 21 24.6 -0.1
baz=71
RSSD Black Hills 71.03 8 *eP* **P 14 21 26.6 +1.4**
7.3nm,1.0s
H16A Russell Place, 71.05 2 ⇑P P 14 21 24.9 -0.3
baz=71
H18A Shoshone NF, C 71.09 3 ⇓P P 14 21 25.2 -0.4
baz=71
I26A New Underwood 71.10 9 ⇑P P 14 21 25.0 -0.4
baz=71
MCMT McKenzie Canyo 71.13 1 *eP* **P 14 21 25.3 -0.5**
4.6nm,1.2s
QLMT Earthquake Lak 71.17 2 P **P 14 21 26.8 +0.8**
BMO Blue Mountains 71.20 358 *eP* **P 14 21 24.1 -1.9**
8.5nm,1.3s
H22A Clearmont 71.25 6 ⇓P P 14 21 26.3 0.0
baz=72
DZM Mont Dzumac 71.29 254 *e*LR LR 14 43 14.2
2μm,26.9s
DZM Mont Dzumac 71.29 254 P **P 14 21 26.3 -0.9**
DZM Mont Dzumac 71.29 254 P **P 14 21 26.3 -0.9**
5.4nm,0.9s,baz=117,slow=7.7,SNR=23
DZM LR LR 14 45 17.8
comp=Z,860nm,18.1s,baz=0.0,slow=30
SNAA Sanae 71.36 162 *eP* **P 14 21 25.7 -1.1**
RLMT Red Lodge 71.56 4 *eP* **P 14 21 29.7 +1.3**
6.9nm,1.0s
H24A Dirks Ranch, A 71.59 7 ⇑P P 14 21 27.8 -0.5
baz=72
H26A Fairpoint 71.68 9 ⇑P P 14 21 28.4 -0.5
baz=72
G20A Bridger 71.72 4 ⇓P P 14 21 28.8 -0.4
baz=72
G18A Lazy EL Ranch, 71.74 3 ⇑P P 14 21 28.9 -0.5
baz=72
G21A Lodge Grass 71.81 5 ⇓P P 14 21 29.5 -0.2
baz=72
ECSD EROS Data Cent 71.88 13 *eP* **P 14 21 31.2 +1.2**
10.0nm,1.0s
G22A Birney 71.88 6 ⇓P P 14 21 29.7 -0.4
baz=72
G23A Biddle 71.95 7 ⇑P P 14 21 29.6 -0.9
baz=72
BOZ Bozeman (W) 71.98 2 *eP* **P 14 21 30.0 -0.8**
5.1nm,1.3s
H28A Mission Ridge 71.99 10 ⇓P P 14 21 30.2 -0.5
baz=72
F17A Fitzpatrick Pl 72.27 3 ⇓P P 14 21 31.6 -0.9
baz=73
F19A Roth Farm, Mol 72.31 4 ⇑P P 14 21 32.3 -0.4
baz=73
F18A Big Timber 72.31 3 ⇑P P 14 21 32.5 -0.2
baz=73
G26A Maurine 72.37 9 ⇓P P 14 21 33.2 +0.2
baz=73
G28A Parade 72.40 10 ⇑P P 14 21 33.0 -0.2
baz=73
F23A Volborg 72.46 6 ⇓P P 14 21 33.2 -0.3
baz=73
F24A Ekalaka 72.69 7 ⇑P P 14 21 35.1 +0.1
baz=73
E17A Martinsdale 72.82 2 ⇓P P 14 21 35.8 0.0
baz=73
E19A Rath Farm, Rou 72.92 4 ⇑P P 14 21 35.9 -0.4
baz=73
E18A Harlowton 72.97 3 ⇓P P 14 21 36.5 -0.1
baz=73
F27A Lemmon 73.02 9 ⇓P P 14 21 36.5 -0.3
baz=73
HRY Holter Researc 73.04 2 P **P 14 21 35.5 -1.5**
MSO Missoula 73.12 0 *eP* **P 14 21 39.0 +1.5**
10nm,1.0s
MSO Missoula 73.12 0 ⇓P P 14 21 37.1 -0.4
baz=74
CHMT Chamberlain Mo 73.21 1 *eP* **P 14 21 37.8 -0.4**
LON Longmire 73.36 355 *eP* **P 14 21 40.4 +1.6**
E25A Miller Ranch, 73.46 8 ⇓P P 14 21 39.4 0.0
baz=74
D17A Six Diamond Ra 73.52 3 ⇓P P 14 21 39.6 -0.3
baz=74
SLMT Seeley Lake 73.54 1 *eP* **P 14 21 39.5 -0.5**
E26A Carlson Angus 73.55 8 ⇓P P 14 21 39.8 -0.2
baz=74
D19A Cripps Ranch, 73.62 4 ⇑P P 14 21 39.2 -1.2
baz=74
D21A La Casta Ranch 73.65 5 ⇓P P 14 21 40.2 -0.4
baz=74
D22A Cohagen 73.80 6 ⇓P P 14 21 41.4 0.0
baz=74
D23A Lindsay 73.92 6 ⇑P P 14 21 41.8 -0.4
baz=74
D24A Glendive 73.95 7 ⇓P P 14 21 41.5 -0.9
baz=74
C17A Wharram Farm, 73.99 2 ⇑P P 14 21 41.9 -0.7
baz=74
JTMT Jette 74.04 360 *eP* **P 14 21 42.3 -0.6**
C15A Salmond Ranch, 74.08 1 ⇓P P 14 21 42.4 -0.8
baz=74
D25A Fairfield 74.11 8 ⇑P P 14 21 42.7 -0.5
baz=74
C16A Fuhringer Ranc 74.13 2 ⇓P P 14 21 42.6 -0.8
baz=74
BSMT Bassoo Peak 74.14 360 *eP* **P 14 21 43.1 -0.5**
YBMT Yellow Bay 74.16 0 *eP* **P 14 21 42.0 -1.6**
7.2nm,1.0s
C19A Slack Wire Ran 74.18 4 ⇑P P 14 21 42.6 -1.0
baz=74
NLWA Neilton Lookou 74.19 353 *eP* **P 14 21 45.5 +1.8**
20nm,1.2s
C20A Veseth Ranch, 74.22 4 ⇑P P 14 21 42.8 -1.0
baz=75
D27A Center 74.30 9 ⇑P P 14 21 43.3 -1.0
baz=75
C24A Savage 74.35 7 ⇓P P 14 21 43.6 -1.0
baz=75
C21A Desert Coulee 74.40 5 ⇓P P 14 21 44.2 -0.7
baz=75
C22A Vida 74.42 6 ⇑P P 14 21 44.9 -0.2
baz=75
EGMT Eagleton 74.43 3 *eP* **P 14 21 46.5 +1.4**
11nm,1.0s
EGMT Eagleton 74.43 3 ⇑P P 14 21 45.1 0.0
baz=75
C23A Lambert 74.55 6 ⇑P P 14 21 45.4 -0.3
baz=75
NEW Newport 74.60 358 *eP* **P 14 21 45.7 -0.4**
13nm,1.1s
NEW Newport 74.60 358 ⇓P P 14 21 46.0 0.0
baz=75
B15A Bradely Ranch, 74.62 1 ⇑P P 14 21 46.2 -0.1
baz=75
B17A L&G Farms, Che 74.65 2 ⇓P P 14 21 46.3 0.0
baz=75
B14A Marquette Ranc 74.66 1 ⇑P P 14 21 46.2 -0.3
baz=75
B16A M & M Farms, S 74.74 2 ⇑P P 14 21 47.2 +0.3
baz=75
B18A Beardsley Farm 74.80 3 ⇑P P 14 21 47.4 +0.1
baz=75
B20A Solberg Farm, 74.94 4 ⇑P P 14 21 47.7 -0.3
baz=75
A14A Double T Ranch 75.27 1 ⇓P P 14 21 50.2 +0.2
baz=76
A16A West Butte Ran 75.28 2 ⇑P P 14 21 50.5 +0.4
baz=76
A15A Johnson Ranch, 75.28 1 ⇑P P 14 21 50.3 +0.3
baz=76
A17A Triple J Farms 75.31 2 ⇑P P 14 21 50.5 +0.3
baz=76
DGMT Dagmar 75.31 7 P **P 14 21 52.1 +2.0**
18nm,0.9s
DGMT Dagmar 75.31 7 ⇑P P 14 21 51.0 +0.9
baz=76
A18A Metzger Ranch, 75.32 3 ⇑P P 14 21 51.2 +1.0
baz=76
A20A Cobblestone Ra 75.39 4 ⇓P P 14 21 51.6 +1.0
baz=76
A21A Bergtoll Ranch 75.57 5 ⇑P P 14 21 52.5 +0.9
baz=76
A22A Carney Farms, 75.66 6 ⇓P P 14 21 52.6 +0.5
baz=76
A26A Wade Farm, Ken 75.98 8 ⇓P P 14 21 54.3 +0.3
baz=76
EYMN Ely 77.01 15 *eP* **P 14 21 59.0 -0.8**
8.6nm,0.8s
ULM Lac du Bonnet 78.27 12 *eP* **P 14 22 08.1 +1.4**
ULM Lac du Bonnet 78.27 12 P **P 14 22 07.9 +1.2**
4.1nm,0.8s,baz=206,slow=8.4,SNR=4.7
ULM LR LR 14 52 07.2
comp=Z,222nm,21.6s,baz=181,slow=32
SYO Syowa Base 82.73 171 ⇓*eP* **P 14 22 33.6 +3.0**
SYO Syowa Base 82.73 171 ⇓*ep*P pP 14 22 34.2 +0.2
DLBC Dease Lake 85.77 352 *eP* **P 14 22 45.7 -0.3**
MAW Mawson 86.02 179 LR LR 15 02 45.5
comp=Z,366nm,18.3s,baz=174,slow=37
STKA Stephens Creek 87.23 236 LR LR 14 55 50.1
comp=Z,617nm,19.1s,baz=294,slow=32
YKA Yellowknife Ar 88.82 360 P **P 14 23 01.1 +0.5**
YKA Yellowknife Ar 88.82 360 P **P 14 23 01.1 +0.5**
2.1nm,0.8s,baz=171,slow=4.5,SNR=7.4
SCHQ Schefferville 90.77 25 P **P 14 23 08.9 -1.0**
SCHQ Schefferville 90.77 25 P **P 14 23 08.9 -1.0**
4.3nm,0.9s,baz=255,slow=16,SNR=2.9
SCHQ LR LR 15 02 50.1
comp=Z,194nm,18.8s,baz=251,slow=35
SML Sawmill 92.31 345 *eP* **P 14 23 17.8 +0.8**
1.9nm,0.8s
ILAR Eielson Array 94.58 347 P **P 14 23 25.3 -2.0**
ILAR Eielson Array 94.58 347 P **P 14 23 25.3 -2.0**
0.3nm,0.8s,baz=178,slow=4.1,SNR=4.2
ILAR LR LR 14 57 22.3
comp=Z,291nm,19.4s,baz=291,slow=30
ASAR Alice Springs 97.31 239 P Pdif 14 23 41.1 +0.1
ASAR Alice Springs 97.31 239 P Pdif 14 23 41.1 +0.1
0.6nm,1.1s,baz=116,slow=4.2,SNR=3.6
ASAR LR LR 15 02 07.0
comp=Z,1μm,19.6s,baz=128,slow=32
WRA Warramunga Arr 98.98 242 P Pdif 14 23 49.1 +0.6
WRA Warramunga Arr 98.98 242 P Pdif 14 23 49.1 +0.6
1.0nm,1.0s,baz=123,slow=4.3,SNR=3.3
WRA LR LR 15 08 10.3
comp=Z,340nm,18.3s,baz=120,slow=35
TORD Torodi Ar. Bea 118.84 89 PKP **PKPdf 14 28 54.5 -1.9**
TORD Torodi Ar. Bea 118.84 89 PKP **PKPdf 14 28 54.5 -1.9**
0.8nm,0.9s,baz=274,slow=1.7,SNR=2.7
CN2 Changchun 129.38 306 *eP* **PKPdf 14 29 13.6 -2.1**
CLL Collm 133.42 43 *e*SS SS 14 49 42.0 +6.0
CLL *e*PSS PSS 14 50 11.0
CLL *e*SSSS 14 58 42.0
CLL *e* 15 04 48.0
CLL LmV 15 24 00.0
comp=Z,200nm,21.1s
HHC Hu-ho-hao-te 139.79 303 *e*PKP **PKPdf 14 29 36.1 +0.6**
HHC PP **PP 14 32 36.0 +4.3**
HHC PKS **PKSdf 14 33 10.2 -1.3**
HHC SKS **SKSdf 14 36 44.5 -1.6**
HHC SKKS **SKKSac 14 39 26.7 +1.1**
HHC SS **SS 14 50 55.3 +2.3**
HHC AMB AMB
comp=Z,140nm,8.9s
HHC LR LR
comp=N,270nm,20.5s
HHC LR LR
comp=E,350nm,20.7s
HHC LR LR
comp=Z,330nm,20.9s
SONM Songino Array 141.91 315 PKPpre PKPpre 14 29 33.1
SONM PKP **PKPdf 14 29 39.3 +0.2**
SONM Songino Array 141.91 315 PKPKP PKPpre 14 29 33.1
comp=Z,0.3nm,0.6s,baz=349,slow=0.7,SNR=2.1
SONM PKP **PKPdf 14 29 39.3 +0.2**
comp=Z,2.9nm,1.0s,baz=131,slow=1.3,SNR=7.4
MLR Muntele Rosu 143.20 49 PKP **PKPdf 14 29 40.0 -1.4**
MLR Muntele Rosu 143.20 49 PKP **PKPdf 14 29 40.0 -1.4**
comp=Z,0.3nm,0.3s,baz=195,slow=8.8,SNR=4.9
GYA Guiyang 143.50 279 *e*PKP **PKPdf 14 29 43.0 +0.4**
GYA PP **PP 14 32 57.8 +3.0**
GYA AMB AMB
comp=Z,90nm,7.9s
KIS Kishinev 144.58 45 *e* PKPab 14 29 36.0 -6.1
TIRR Tirgusor 145.18 50 *e*P **PKPdf 14 29 44.5 -0.2**
LZH Lanzhou 146.31 296 *e*PKPbc **PKPdf 14 29 43.8 -3.4**
LZH PKPbc **PKPbc 14 29 47.6 -0.8**
LZH pPKP **PKPab 14 29 49.0 -0.2**
LZH sPKP 14 29 50.5
LZH LR LR
comp=N,440nm,17.4s
LZH LR LR
comp=E,350nm,16.9s
LZH LR LR
comp=Z,250nm,17.4s
CD2 Chengdu 146.51 286 *e*PKPbc **PKPdf 14 29 46.9 -0.6**
CD2 sPKP 14 30 01.2
CD2 PP **PP 14 33 14.9 +2.4**
CD2 SKS **SKSdf 14 36 53.0 -3.7**
CD2 SKKS **SKKSac 14 40 03.2 -1.4**
CD2 AMB AMB
comp=Z,210nm,10.2s
CD2 LR LR
comp=N,160nm,18.2s
CD2 LR LR
comp=Z,140nm,20.0s
CMAR Chiang Mai Arr 148.34 262 PKPbc **PKPbc 14 29 54.4 +0.1**
CMAR Chiang Mai Arr 148.34 262 PKPbc **PKPbc 14 29 54.4 +0.1**
comp=Z,3.0nm,0.8s,baz=117,slow=0.9,SNR=7.2
CHTO Chiang Mai 148.47 263 *e*PKPdf **PKPbc 14 29 53.1 -1.5**
GTA Gaotai 148.91 303 PKPbc **PKPbc 14 29 55.8 +0.5**
GTA pPKP **PKPab 14 30 00.0 +0.7**
GTA sPKP 14 30 03.1
GTA PP PP 14 33 38.7 +12
GTA SKS **SKSdf 14 37 03.7 +3.9**
GTA AMB AMB
comp=Z,83nm,6.7s
GTA LR LR
comp=N,150nm,20.4s
GTA LR LR
comp=E,290nm,22.8s
GTA LR LR
comp=Z,330nm,21.4s
ZAA0 Zalesovo Array 149.28 338 PKPdf **PKPbc 14 29 53.3 -2.2**
ZALV Zalesovo Beam 149.28 338 PKPbc **PKPbc 14 29 54.7 -0.9**
ZALV Zalesovo Beam 149.28 338 PKPbc **PKPbc 14 29 54.7 -0.9**
comp=Z,2.8nm,0.7s,baz=52,slow=2.3,SNR=7.4
BR131 Keskin Array S 150.30 56 PKPdf **PKPbc 14 29 57.1 -1.7**
BRTR Keskin Array B 150.30 56 PKPbc **PKPbc 14 29 57.8 -1.0**
BRTR Keskin Array B 150.30 56 PKPbc **PKPbc 14 29 57.8 -1.0**
comp=Z,4.3nm,0.9s,baz=214,slow=3.7,SNR=14
CSS Prodhromos 151.05 65 *e*PKPbc **PKPbc 14 30 03.6 +3.1**
BVAR Borovoye Array 153.42 354 PKPbc **PKPbc 14 30 03.5 -1.7**
BVAR PKPab **PKPab 14 30 16.7 -0.6**
BVAR Borovoye Array 153.42 354 PKPbc **PKPbc 14 30 03.5 -1.7**
comp=Z,1.2nm,0.6s,baz=50,slow=2.3,SNR=7.1
BVAR PKPab **PKPab 14 30 16.7 -0.6**
comp=Z,1.3nm,0.6s,baz=72,slow=4.7,SNR=4.9
KBZ Khabaz 154.84 41 PKPbc **PKPbc 14 30 08.2 -0.4**
KBZ PKPab **PKPab 14 30 23.9 +0.2**
KBZ Khabaz 154.84 41 PKPbc **PKPbc 14 30 08.2 -0.4**
comp=Z,3.8nm,1.1s,baz=220,slow=6.9,SNR=3.8
KBZ PKPab **PKPab 14 30 23.9 +0.2**
comp=Z,3.8nm,0.8s,baz=69,slow=4.0,SNR=5.2
AKTO Aktyubinsk 155.51 12 PKPbc PKPdf 14 30 07.8 +7.2
AKTO Aktyubinsk 155.51 12 PKPbc PKPdf 14 30 07.8 +7.2
comp=Z,0.4nm,0.5s,baz=0.0,slow=2.0,SNR=2.7
MK31 Makanchi Array 156.00 331 *e*PKPdf **PKPdf 14 30 02.2 +0.8**
MKAR Makanchi Array 156.00 331 PKP **PKPdf 14 30 02.4 +1.0**
MKAR PKPab **PKPab 14 30 26.6 -2.0**
MKAR Makanchi Array 156.00 331 PKP **PKPdf 14 30 02.4 +1.0**
comp=Z,0.4nm,0.8s,baz=343,slow=1.3,SNR=3.6
MKAR PKPab **PKPab 14 30 26.6 -2.0**
comp=Z,0.6nm,0.8s,baz=81,slow=1.2,SNR=2.8

BJI ***10*** *14:23:05.3, 32°.20S×179°.40W, h15km, mB5.4/14, mb5.2/18, Ms5.3/14, Ms7 4.9/15*
ISCJB ***10*** *14:23:09.4±0.3, 32°.48S±0°.04×179°.14W±0°.06, h61km, mb5.1/38, Error ellipse: s-maj=7.9km s-min=5.2km az=35.2*
AUST ***10*** *14:23:12.3±0.0, 32°.69S×178°.67W, h85km, Error ellipse: s-maj=1.7km s-min=0.7km az=290.0*
IDC ***10*** *14:23:16.7±1.5, 32°.48S×179°.02W, h124km±12km, mb4.6/17, mb1 4.6/21, mb1mx4.6/24, mbtmp4.6/21, MS4.0/9, Ms1 4.0/9, ms1mx3.7/35, Error ellipse: s-maj=14.6km s-min=11.5km az=149.0*
NEIC ***10*** *14:23:18.8±1.1, 32°.32S×179°.10W, h137km±9km, mb5.2/8, Error ellipse: s-maj=10.7km s-min=8.0km az=152.0*
MOS ***10*** *14:23:18.8±1.1, 32°.15S×179°.16W, h141km, mb5.5/6, Error ellipse: s-maj=12.7km s-min=10.9km az=73.5*
GCMT ***10*** *14:23:19.7±0.2, 32°.28S×179°.11W, h124km±1km, MW5.3, Moment Tensor Solution. s69,c108; s90,c162; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_0=2.00000°, δ76.00000°, λ112.00000°. NP2:ϕ_0=124.00000°, δ26.00000°, λ34.00000°. Principal axes: T 1.1100, Plg54.0000°, Azm299.0000°; N -0.0600, Plg21.0000°, Azm177.0000°; P -1.0500, Plg27.0000°, Azm75.0000°; Data Used: IU II IC G CN.*
DJA ***10*** *14:23:36.1±4.3, 32°S±14°×18°0W±2°3, h281km±43km, M5.0/10, mB5.5/6, mb5.0/10, Mw(mB)5.0/6*
ISC 10 14:23:09.9±0.3, 32°.50S±0°.05×178°.85W±0°.06, h61km, n224, σ1§87/241, mb5.3/38, 5C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.33**	**14**	*e*P	Pn	14 24 06.0	+6.5
RAO				*e*Sn	**Sn**	**14 24 36.2**	**-1.7**
RAO				S		14 24 42.1	

RAO	**Raoul Island**	**3.33**	**14**	P	Pn	14 24 06.1	+6.6
	372nm,0.3s,baz=232,slow=19,SNR=13						
RAO				S	**Sn**	**14 24 42.1**	**+4.3**
	2µm,0.3s,baz=240,slow=20,SNR=11						
URZ	**Urewera**	**6.63**	**209**	*e*P	Pn	14 24 48.5	+3.8
URZ				*e*Sn	**Sn**	**14 25 60.0**	**+1.2**
URZ				S		14 26 00.9	
URZ	**Urewera**	**6.63**	**209**	P	Pn	14 24 49.2	+4.5
	33nm,0.3s,baz=347,slow=1.3,SNR=452						
URZ				S	**Sn**	**14 26 00.9**	**+2.1**
	98nm,0.3s,baz=356,slow=19,SNR=12						
URZ				LR	LR	14 27 01.6	
	comp=Z,455nm,19.9s,baz=27,slow=34						
OUZ	**Omahuta**	**6.85**	**245**	*e*P	Pn	14 24 55.7	+8.0
KHZ	**Kahutara**	**11.60**	**209**	*e*Pn	**Pn**	**14 25 50.7**	**-1.8**
RPZ	**Rata Peaks**	**13.72**	**212**	P	Pn	14 26 18.7	-2.8
RPZ				S	Sn	14 28 40.4	-12
RPZ	**Rata Peaks**	**13.72**	**212**	P	Pn	14 26 18.7	-2.8
	5.7nm,0.3s,baz=68,slow=5.6,SNR=12						
RPZ				S	Sn	14 28 40.4	-12
	8.4nm,0.3s,baz=72,slow=20,SNR=6.6						
RPZ				LR	LR	14 31 43.1	
	comp=Z,749nm,21.7s,baz=32,slow=37						
ODZ	**Otahua Downs**	**14.96**	**210**	*e*P	Pn	14 26 34.3	-3.3
ODZ				*e*Sn	Sn	14 29 13.6	-8.4
MSVF	**Nonsavu**	**14.97**	**348**	Pn	Pn	14 26 32.3	-5.7
	187nm,0.6s,SNR=16						
MSVF	**Nonsavu**	**14.97**	**348**	*e*P	Pn	14 26 32.8	-5.2
MSVF	**Nonsavu**	**14.97**	**348**	*e*Pn	Pn	14 26 32.8	-5.2
NIUE	**Niue**	**15.58**	**33**	P	**P**	**14 26 48.6**	**-0.3**
	baz=16,SNR=7.5						
NIUE				S	Sn	14 29 27.0	-10
	baz=16,SNR=13						
DZM	**Mont Dzumac**	**16.68**	**305**	*e*LR	LR	14 30 42.0	
	2µm,29.2s						
DZM	**Mont Dzumac**	**16.68**	**305**	*e*P	**P**	**14 27 02.7**	**+1.5**
DZM	**Mont Dzumac**	**16.68**	**305**	*e*P	**P**	**14 27 03.9**	**+2.7**
DZM	**Mont Dzumac**	**16.68**	**305**	P	**P**	**14 27 03.3**	**+2.1**
	1.9nm,0.3s,baz=126,slow=13,SNR=32						
NOUC	**Port Laguerre**	**16.76**	**304**	*e*P	**P**	**14 27 01.5**	**-0.4**
AFI	**Afiamalu**	**19.60**	**21**	P	**Pn**	**14 27 34.9**	**-0.2**
AFI				S	S	14 30 53.2	-18
AFI	**Afiamalu**	**19.60**	**21**	P	**Pn**	**14 27 34.9**	**-0.2**
	2.5nm,0.3s,baz=208,slow=17,SNR=6.3						
AFI				S	S	14 30 53.2	-18
	4.7nm,0.3s,baz=229,slow=20,SNR=4.3						
RAR	**Rarotonga**	**20.36**	**61**	*e*P	Pn	14 27 46.6	+2.7
RAR				S	**S**	**14 31 24.4**	**-1.8**
RAR	**Rarotonga**	**20.36**	**61**	P	Pn	14 27 46.0	+2.1
	190nm,1.1s,baz=244,slow=0.0,SNR=10						
RAR				S	**S**	**14 31 24.4**	**-1.8**
	94nm,1.0s,baz=229,slow=20,SNR=2.6						
MGCD	**Mangrove Creek**	**25.21**	**260**	P	**P**	**14 28 33.0**	**+3.1**
	baz=25,SNR=9.4						
ARMA	**Armidale**	**25.24**	**267**	P	**P**	**14 28 33.4**	**+3.0**
	baz=25,SNR=11						
CNB	**Canberra Magne**	**26.48**	**255**	P	**P**	**14 28 44.3**	**+2.8**
	baz=26,SNR=14						
YNG	**Young**	**27.35**	**257**	P	**P**	**14 28 52.2**	**+3.0**
	baz=27,SNR=6.3						
TBI	**Tubuai**	**27.44**	**78**	*e*LQ	LQ	14 35 00.8	
	784nm,36.2s						
TBI				*e*LR	LR	14 36 07.1	
	1µm,36.8s						
RMQ	**Roma**	**28.76**	**274**	P	**P**	**14 29 04.2**	**+2.3**
	baz=29,SNR=12						
TOO	**Toolangi**	**29.52**	**250**	P	**P**	**14 29 11.6**	**+3.0**
	baz=30,SNR=7.6						
CMSA	**Cobar Meteorol**	**30.00**	**262**	P	**P**	**14 29 14.1**	**+1.3**
	baz=30,SNR=93						
CMSA				S	**S**	**14 34 00.8**	**-5.8**
	baz=30,SNR=5.0						
HNR	**Honiara**	**30.19**	**315**	P	**P**	**14 29 13.5**	**-1.0**
HNR	**Honiara**	**30.19**	**315**	P	**P**	**14 29 13.5**	**-1.0**
	22nm,0.3s,baz=133,slow=4.3,SNR=4.6						
PPT2	**Papeete2**	**30.26**	**68**	*e*LQ	LQ	14 36 14.2	
	1µm,38.9s						
PPT2				*e*LR	LR	14 37 23.2	
	1µm,30.2s						
PPT	**Papeete**	**30.27**	**68**	P	P	14 29 19.6	+4.3
PPT	**Papeete**	**30.27**	**68**	P	P	14 29 19.6	+4.3
	14nm,0.5s,baz=204,slow=20,SNR=6.1						
PPT				LR	LR	14 38 29.5	
	comp=Z,262nm,18.4s,baz=53,slow=30						
ARPS	**Mount Arapiles**	**32.47**	**251**	P	**P**	**14 29 36.2**	**+1.7**
	baz=32,SNR=7.8						
STKA	**Stephens Creek**	**33.36**	**260**	*e*P	**P**	**14 29 43.2**	**+0.9**
	8.0nm,0.9s						
STKA	**Stephens Creek**	**33.36**	**260**	P	**P**	**14 29 43.4**	**+1.2**
	25nm,0.8s,baz=99,slow=10.0,SNR=39						
STKA	**Stephens Creek**	**33.36**	**260**	P	**P**	**14 29 43.2**	**+0.9**
	baz=33,SNR=35						
CTA	**Charters Tower**	**33.49**	**283**	P	**P**	**14 29 44.5**	**+0.9**
CTA	**Charters Tower**	**33.49**	**283**	P	**P**	**14 29 44.5**	**+0.9**
	54nm,0.7s,baz=108,slow=10,SNR=83						
CTAO	**Charters Tower**	**33.49**	**283**	*e*P	**P**	**14 29 44.5**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,366nm,1.7s						
CTAO	**Charters Tower**	**33.49**	**283**	*e*P	**P**	**14 29 44.5**	**+0.9**
	comp=Z,366nm,1.7s						
MTSU	**Mount Surprise**	**36.05**	**284**	P	**P**	**14 30 06.5**	**+0.9**
	baz=36,SNR=19						
BBOO	**Buckleboo**	**37.75**	**257**	P	**P**	**14 30 19.7**	**-0.2**
	baz=38,SNR=67						
PMG	**Port Moresby**	**38.91**	**299**	*e*P	**P**	**14 30 30.4**	**+0.6**
PMG	**Port Moresby**	**38.91**	**299**	P	**P**	**14 30 29.4**	**-0.4**
	comp=Z,92nm,1.1s,comp=Z,862nm						
PMG	**Port Moresby**	**38.91**	**299**	P	**P**	**14 30 30.2**	**+0.4**
	comp=Z,50nm,0.8s,baz=99,slow=4.9,SNR=12						
RABL	**Rabaul**	**39.10**	**310**	P	**P**	**14 30 32.0**	**+0.6**
	baz=39,SNR=3.0						
COEN	**Coen**	**39.21**	**289**	P	**P**	**14 30 32.9**	**+0.6**
	baz=39,SNR=32						
RKT	**Rikitea**	**39.68**	**88**	*e*LR	LR	14 41 33.7	
	comp=Z,912nm,36.0s						
DRV	**Dumont d'Urvil**	**41.93**	**203**	S	S	14 37 01.0	-6.8
DRV				L	L	14 40 00.0	
DRV				R		14 44 00.0	
AS31	**Alice Springs**	**42.32**	**270**	*e*P	**P**	**14 30 57.3**	**-0.7**
ASAR	**Alice Springs**	**42.32**	**270**	P	**P**	**14 30 57.4**	**-0.6**
ASAR				S	S	14 37 04.2	-11
ASAR				PKiKP	**PKiKP**	**14 39 53.4**	**-2.5**
ASAR	**Alice Springs**	**42.32**	**270**	P	**P**	**14 30 57.4**	**-0.6**
	comp=Z,112nm,0.8s,baz=109,slow=7.6,SNR=1258						
ASAR				S	S	14 37 04.2	-11
	comp=Z,1.8nm,0.9s,baz=116,slow=16,SNR=5.9						
ASAR				PKiKP	**PKiKP**	**14 39 53.4**	**-2.5**
	comp=Z,0.3nm,0.9s,baz=108,slow=1.7,SNR=4.1						
WRAB	**Tennant Creek**	**43.50**	**275**	P	**P**	**14 31 06.0**	**-1.5**
	comp=Z,1µm,0.8s						
WRAB	**Tennant Creek**	**43.50**	**275**	*e*P	**P**	**14 31 06.7**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,203nm,0.8s						
WRAB	**Tennant Creek**	**43.50**	**275**	*e*P	**P**	**14 31 06.7**	**-0.8**
	comp=Z,203nm,0.8s						
WRA	**Warramunga Arr**	**43.50**	**275**	P	**P**	**14 31 06.6**	**-0.9**
WRA				ScP	ScP	14 36 31.1	-10
WRA				S	S	14 37 19.9	-12
WRA				PKiKP	**PKiKP**	**14 39 54.8**	**-2.3**
WRA	**Warramunga Arr**	**43.50**	**275**	P	**P**	**14 31 06.6**	**-0.9**
	comp=Z,115nm,0.3s,baz=114,slow=8.2,SNR=1471						
WRA				ScP	ScP	14 36 31.1	-10
	comp=Z,2.6nm,1.0s,baz=108,slow=5.4,SNR=3.3						
WRA				S	S	14 37 19.9	-12
	comp=Z,3.2nm,0.9s,baz=116,slow=13,SNR=5.4						
WRA				PKiKP	**PKiKP**	**14 39 54.8**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=101,slow=0.3,SNR=4.6						
MANU	**Manus Island**	**43.88**	**307**	P	P	14 31 17.1	+6.5
	baz=44,SNR=11						
FORT	**Forrest**	**44.85**	**257**	P	**P**	**14 31 17.4**	**-0.8**
	baz=45,SNR=78						
SBA	**Scott Base**	**45.90**	**184**	*e*P	P	14 31 31.5	+5.7
SBA				pmax	pmax		
	comp=Z,59nm,1.4s						
SBA	**Scott Base**	**45.90**	**184**	*e*P	P	14 31 31.5	+5.7
	comp=Z,60nm,1.4s						
VNDA	**Vanda**	**45.94**	**186**	*e*P	P	14 31 30.1	+3.9
VNDA				ScP	ScP	14 36 41.8	-8.0
VNDA	**Vanda**	**45.94**	**186**	P	P	14 31 29.9	+3.8
	comp=Z,1.4nm,0.5s,baz=356,slow=7.5,SNR=6.3						
VNDA				ScP	ScP	14 36 41.8	-8.0
	comp=Z,3.6nm,0.9s,baz=355,slow=4.0,SNR=5.1						
JAY	**Jayapura**	**48.26**	**300**	P	**P**	**14 31 44.5**	**-0.5**
	comp=Z,71nm,1.6s,comp=Z,2µm						
KDU	**Kakadu**	**48.61**	**282**	P	**P**	**14 31 46.5**	**-1.2**
	baz=49,SNR=53						
MTN	**Manton Dam**	**49.64**	**281**	P	**P**	**14 31 54.5**	**-1.1**
	baz=50,SNR=56						
KNRA	**Kununurra**	**50.18**	**277**	P	**P**	**14 31 58.9**	**-0.8**
	baz=50,SNR=23						
FITZ	**Fitzroy Crossi**	**51.67**	**272**	P	**P**	**14 32 09.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**51.67**	**272**	P	**P**	**14 32 09.9**	**-1.0**
	comp=Z,30nm,0.8s,baz=140,slow=6.7,SNR=141						
FITZ	**Fitzroy Crossi**	**51.67**	**272**	P	**P**	**14 32 09.8**	**-1.0**
	baz=52,SNR=54						
CASY	**Casey**	**52.96**	**209**	*e*P	**P**	**14 32 20.1**	**+0.4**
	comp=Z,21nm,0.7s						
NWAO	**Narrogin (SRO)**	**53.01**	**251**	P	**P**	**14 32 19.0**	**-1.6**
NWAO	**Narrogin (SRO)**	**53.01**	**251**	P	**P**	**14 32 19.0**	**-1.6**
	comp=Z,7.5nm,0.8s,baz=107,slow=11,SNR=9.1						
KLBR	**Kellerberrin**	**53.01**	**253**	P	**P**	**14 32 19.0**	**-1.7**
	baz=53,SNR=12						
MEEK	**Meekatharra**	**54.04**	**259**	P	**P**	**14 32 26.4**	**-1.9**
	baz=54,SNR=24						
BLDU	**Ballidu**	**54.18**	**254**	P	**P**	**14 32 28.4**	**-0.8**
	baz=54,SNR=5.8						
FAKI	**Fak Fak**	**54.42**	**292**	P	**P**	**14 32 30.5**	**-0.7**
	baz=55,SNR=3.1						
MORW	**Morawa**	**55.27**	**255**	P	**P**	**14 32 35.4**	**-1.7**
	baz=55,SNR=17						
MBWA	**Marble Bar**	**55.31**	**265**	*e*P	**P**	**14 32 35.1**	**-2.4**
	comp=Z,77nm,1.3s						
SOEI	**Soe**	**56.97**	**280**	P	**P**	**14 32 51.3**	**+1.7**
	baz=57,SNR=6.1						
BATI	**Baumata**	**57.24**	**279**	P	**P**	**14 32 50.4**	**-0.9**
BATI	**Baumata**	**57.24**	**279**	P	**P**	**14 32 50.4**	**-0.9**
	comp=Z,46nm,0.7s,baz=66,slow=0.9,SNR=9.2						
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**14 32 56.6**	**+3.2**
QSPA				S	**S**	**14 40 49.5**	**+2.7**
QSPA	**South Pole Qui**	**57.62**	**180**	P	**P**	**14 32 56.6**	**+3.2**
	comp=Z,40nm,0.6s,baz=33,slow=1.5,SNR=61						
QSPA				S	**S**	**14 40 49.5**	**+2.7**
	comp=Z,1.9nm,1.0s,baz=81,slow=8.6,SNR=4.8						
MIR	**Mirnyy**	**59.93**	**208**	*e*P	**P**	**14 33 12.0**	**+2.8**
MIR				pmax	pmax		
	comp=Z,81nm,1.5s						
LUWI	**Luwuk**	**63.09**	**287**	P	**P**	**14 33 28.7**	**-2.6**
	baz=63,SNR=3.3						
KAPI	**Kappang**	**63.30**	**282**	P	**P**	**14 33 31.1**	**-1.6**
KAPI	**Kappang**	**63.30**	**282**	P	**P**	**14 33 31.1**	**-1.6**
	comp=Z,4.4nm,0.3s,baz=120,slow=12,SNR=3.4						
MAW	**Mawson**	**70.10**	**201**	P	**P**	**14 34 15.6**	**+0.5**
MAW	**Mawson**	**70.10**	**201**	P	**P**	**14 34 15.6**	**+0.5**
	comp=Z,7.8nm,0.9s,baz=114,slow=9.3,SNR=22						
MAW	**Mawson**	**70.10**	**201**	P	**P**	**14 34 16.0**	**+0.9**
	baz=70,SNR=10.0						
SBUM	**Sibu**	**73.69**	**284**	P	**P**	**14 34 36.1**	**-1.5**
	comp=Z,18nm,1.9s,comp=Z,361nm						
USHA	**Ushuaia**	**74.60**	**146**	LR	LR	15 01 11.7	
	comp=Z,155nm,21.2s,baz=215,slow=30						
SYO	**Syowa Base**	**74.91**	**193**	‖*e*X	**P**	**14 34 42.6**	**-1.1**
SYO	**Syowa Base**	**74.91**	**193**	‖*i*X	**P**	**14 34 44.4**	**+0.7**
SNAA	**Sanae**	**76.08**	**179**	*e*P	**P**	**14 34 52.2**	**+1.7**
	comp=Z,75nm,1.3s						
MAIT	**Maitri**	**76.74**	**184**	*e*P	**P**	**14 34 53.7**	**-0.5**
MJAR	**Matsushiro Arr**	**79.56**	**326**	P	**P**	**14 35 08.8**	**-1.4**
MJAR	**Matsushiro Arr**	**79.56**	**326**	P	**P**	**14 35 08.8**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=162,slow=7.1,SNR=5.1						
PLCA	**Paso Flores**	**81.61**	**133**	P	**P**	**14 35 24.6**	**+3.2**
PLCA	**Paso Flores**	**81.61**	**133**	P	**P**	**14 35 24.6**	**+3.2**
	comp=Z,2.0nm,0.7s,baz=232,slow=6.8,SNR=3.0						
ASAJ	**Asahikawa**	**83.97**	**333**	*e*P	**P**	**14 35 34.8**	**+1.7**
	comp=Z,12nm,1.5s						
PSI	**Prapat**	**84.94**	**277**	P	**P**	**14 35 36.3**	**-2.7**
	baz=85,SNR=4.3						
QIZ	**Qiongzhong**	**85.25**	**296**	P	**P**	**14 35 39.5**	**-0.7**
QIZ				S	**S**	**14 46 09.2**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,190nm,5.4s						
QIZ				LR	LR		
	comp=Z,260nm,4.2s						
KSRS	**Korea Array**	**85.48**	**320**	P	**P**	**14 35 38.8**	**-2.1**
	comp=Z,1.6nm,0.7s,baz=137,slow=6.0,SNR=7.4						
KSAR	**Wonju Array Be**	**85.50**	**320**	P	**P**	**14 35 38.8**	**-2.2**
LPIG	**La Paz**	**86.25**	**58**	LR	LR	15 03 32.1	
	comp=Z,15nm,20.9s,baz=59,slow=28						
YSS	**Yuzh-Sakhalins**	**86.32**	**335**	*e*P	**P**	**14 35 47.3**	**+2.5**
YSS				*e*		14 36 25.0	
NJ2	**Nanjing**	**87.07**	**311**	*e*P	P	14 35 56.1	+7.3
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
PEA0B	**Petropavlovsk-**	**87.66**	**346**	*e*P	**P**	**14 35 51.0**	**-0.2**
PETK	**Petropavlovsk-**	**87.66**	**346**	P	**P**	**14 35 50.6**	**-0.6**
PETK	**Petropavlovsk-**	**87.66**	**346**	P	**P**	**14 35 50.5**	**-0.6**
PETK	**Petropavlovsk-**	**87.66**	**346**	P	**P**	**14 35 50.6**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=127,slow=8.2,SNR=18						
USRK	**Ussuriysk Arra**	**88.51**	**327**	P	**P**	**14 35 54.9**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=183,slow=3.8,SNR=17						
MDJ	**Mudanjiang**	**89.95**	**326**	P	**P**	**14 36 03.2**	**+1.0**
MDJ				pP	**PcP**	**14 36 06.5**	**+3.1**
MDJ				PP	**PP**	**14 39 33.5**	**-2.7**
MDJ				S	**S**	**14 46 51.6**	**+1.8**
MDJ				SS	**SS**	**14 52 49.9**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,8.0nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,86nm,5.0s						
MDJ				LR	LR		
	comp=N,110nm,6.6s						
MDJ				LR	LR		
	comp=E,150nm,21.5s						
MDJ				LR	LR		
	comp=Z,200nm,14.5s						
CHGN	**Chignik**	**90.14**	**11**	*e*P	**P**	**14 36 02.1**	**-0.6**
NVAR	**Mina Array Bea**	**90.26**	**43**	P	**P**	**14 36 05.0**	**+0.9**
NVAR	**Mina Array Bea**	**90.26**	**43**	P	**P**	**14 36 05.0**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=220,slow=8.1,SNR=8.6						
NVAR				LR	LR	15 07 39.1	
	comp=Z,87nm,21.7s,baz=290,slow=29						
HABR	**Khabarovsk**	**90.53**	**331**	*e*P	**P**	**14 36 04.8**	**+0.1**
HABR				*e*PPP	PPP	14 41 34.5	
HABR				*e*S	**SKSac**	**14 46 34.3**	**+3.8**
HABR				*e*PS	**PS**	**14 48 05.5**	**-4.6**
HABR				*e*SS	**SS**	**14 52 58.4**	**+0.5**
HABR				MLR	MLR		
	comp=Z,125nm,16.0s						
CN2	**Changchun**	**91.38**	**323**	*e*P	**P**	**14 36 09.1**	**+0.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA	**Guiyang**	**91.97**	**300**	P	**P**	**14 36 15.0**	**+2.8**
GYA				PP	**PP**	**14 39 55.4**	**+2.7**
GYA				SKS	**SKSac**	**14 46 45.0**	**+4.9**
GYA				S	**ScS**	**14 47 11.9**	**+0.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
GYA				LR	LR		
	comp=N,580nm,20.4s						
GYA				LR	LR		
	comp=E,520nm,21.2s						
GYA				LR	LR		
	comp=Z,570nm,20.9s						
CMAR	**Chiang Mai Arr**	**93.42**	**290**	P	**P**	**14 36 16.6**	**-2.2**
CMAR				PP	**PP**	**14 40 01.0**	**-3.0**
CMAR	**Chiang Mai Arr**	**93.42**	**290**	P	**P**	**14 36 16.6**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=167,slow=5.5,SNR=3.2						
CMAR				PP	**PP**	**14 40 01.0**	**-3.0**
	comp=Z,4.5nm,1.1s,baz=143,slow=6.8,SNR=13						
BJI	**Beijing**	**93.91**	**316**	P	**P**	**14 36 23.3**	**+2.7**
BJI				S	**S**	**14 47 21.6**	**-4.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI				LR	LR		
	comp=N,140nm,21.9s						
BJI				LR	LR		
	comp=E,240nm,24.4s						
BJI				LR	LR		
	comp=Z,150nm,23.1s						
TXAR	**Lajitas Array**	**94.12**	**58**	P	**P**	**14 36 23.1**	**+1.1**
TXAR	**Lajitas Array**	**94.12**	**58**	P	**P**	**14 36 23.1**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=235,slow=9.5,SNR=2.0						
TXAR				LR	LR	15 12 01.9	
	comp=Z,74nm,18.4s,baz=5.0,slow=31						
RSO	**Redoubt South**	**95.07**	**13**	*e*P	**P**	**14 36 28.8**	**+3.1**
CD2	**Chengdu**	**96.59**	**302**	*e*P	**P**	**14 36 35.6**	**+2.4**
CD2				pP	PcP	14 36 40.5	+7.2
CD2				sP	sP	14 36 42.4	-15
CD2				PP	**PP**	**14 40 31.1**	**+2.5**
CD2				SKS	**SKSac**	**14 47 10.2**	**+5.4**
CD2				S	**ScS**	**14 47 51.3**	**+1.4**
CD2				sS	S	14 47 59.2	+10
CD2				SS	**SS**	**14 54 27.1**	**+1.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,50nm,6.0s						
CD2				LR	LR		
	comp=N,540nm,13.2s						
CD2				LR	LR		
	comp=Z,250nm,16.7s						
HHC	**Hu-ho-hao-te**	**97.17**	**314**	*e*P	Pdif	14 36 36.9	+1.2
HHC				sP	sP	14 36 43.0	-17
HHC				PP	**PP**	**14 40 34.9**	**+1.9**
HHC				SKS	**SKSac**	**14 47 12.1**	**+4.7**
HHC				S	**ScS**	**14 47 55.1**	**+0.7**
HHC				sS	S	14 48 02.6	+8.5
HHC				SS	**SS**	**14 54 35.2**	**+1.8**
HHC				pmax	pmax		
	comp=Z,48nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,6.5s						
HHC				LR	LR		
	comp=N,310nm,17.4s						
HHC				LR	LR		
	comp=E,440nm,17.2s						
HHC				LR	LR		
	comp=Z,370nm,17.9s						
PDAR	**Pinedale Array**	**98.14**	**44**	LR	LR	15 10 43.4	
	comp=Z,78nm,20.6s,baz=152,slow=29						
CPUP	**Villa Florida**	**99.24**	**129**	LR	LR	15 16 37.6	
	comp=Z,138nm,18.2s,baz=45,slow=32						
ILAR	**Eielson Array**	**100.13**	**13**	P	**Pdif**	**14 36 48.5**	**+0.3**
ILAR				PKiKP	**PKiKP**	**14 41 14.0**	**-1.3**
ILAR	**Eielson Array**	**100.13**	**13**	P	**Pdif**	**14 36 48.5**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=212,slow=6.6,SNR=8.4						
ILAR				PKiKP	**PKiKP**	**14 41 14.0**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=205,slow=1.9,SNR=4.0						
SONM	**Songino Array**	**104.21**	**318**	PKKPbc	PKKPbc	14 52 56.2	+0.6
SONM				PKKP	**PKKPdf**	**14 53 02.4**	**-2.9**
SONM	**Songino Array**	**104.21**	**318**	PKKPbc	PKKPbc	14 52 56.2	+0.6
	comp=Z,0.1nm,0.3s,baz=339,slow=7.7,SNR=2.2						
SONM				PKKP	**PKKPdf**	**14 53 02.4**	**-2.9**
	comp=Z,1.0nm,0.8s,baz=260,slow=1.5,SNR=7.8						
WMQ	**Urumqi**	**113.94**	**308**	*e*PKP	**PKiKP**	**14 41 45.7**	**+4.0**
WMQ				PP	**PP**	**14 42 40.7**	**+3.9**
WMQ				PKS	**PKSdf**	**14 45 21.1**	**+2.7**
WMQ				SKS	**SKSdf**	**14 48 53.9**	**+5.4**
WMQ				SKKS	**SKKSac**	**14 49 31.8**	**-0.7**
WMQ				SS	**SS**	**14 58 23.4**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,19nm,11.0s						
WMQ				LR	LR		
	comp=N,210nm,23.0s						
WMQ				LR	LR		
	comp=E,170nm,24.0s						
WMQ				LR	LR		
	comp=Z,250nm,22.0s						
BOSA	**Boshof**	**115.05**	**203**	PKP	**PKPdf**	**14 41 43.8**	**-0.8**
BOSA	**Boshof**	**115.05**	**203**	PKP	**PKPdf**	**14 41 43.8**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=129,slow=4.4,SNR=5.7						
LBTB	**Lobatse**	**118.24**	**205**	PKP	**PKPdf**	**14 41 49.8**	**-1.0**
LBTB	**Lobatse**	**118.24**	**205**	PKP	**PKPdf**	**14 41 49.8**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=134,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**118.55**	**309**	PKiKP	**PKPdf**	**14 41 48.3**	**-2.1**
MKAR	**Makanchi Array**	**118.55**	**309**	PKP	**PKPdf**	**14 41 48.3**	**-2.1**
MKAR				PP	PP	14 43 02.6	-6.3
MKAR				PKKPbc	PKKPab	14 52 13.8	+5.5
MKAR	**Makanchi Array**	**118.55**	**309**	PKP	**PKPdf**	**14 41 48.3**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=139,slow=0.7,SNR=14						
MKAR				PP	PP	14 43 02.6	-6.3
	comp=Z,0.7nm,0.7s,baz=133,slow=5.1,SNR=3.6						
MKAR				PKKPbc	PKKPab	14 52 13.8	+5.5
	comp=Z,0.3nm,0.4s,baz=306,slow=2.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**119.11**	**318**	PKiKP	**PKPdf**	**14 41 48.7**	**-2.5**
ZALV	**Zalesovo Beam**	**119.11**	**318**	PKP	**PKPdf**	**14 41 48.7**	**-2.5**
ZALV	**Zalesovo Beam**	**119.11**	**318**	PKP	**PKPdf**	**14 41 48.7**	**-2.5**
	comp=Z,1.4nm,0.4s,baz=172,slow=2.2,SNR=7.7						
AAK	**Ala-Archa**	**122.66**	**303**	PKiKP	**PKPdf**	**14 41 58.6**	**-0.1**
AAK	**Ala-Archa**	**122.66**	**303**	PKP	**PKPdf**	**14 41 58.6**	**-0.1**
AAK	**Ala-Archa**	**122.66**	**303**	PKP	**PKPdf**	**14 41 58.6**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=189,slow=19,SNR=2.5						
KKAR	**Karatay Array**	**125.61**	**303**	*e*PKiKP	**PKPdf**	**14 42 03.7**	**-0.4**
KKAR	**Karatay Array**	**125.61**	**303**	*e*PKPdf	**PKPdf**	**14 42 03.7**	**-0.4**
LSZ	**Lusaka**	**125.91**	**213**	*e*PKPdf	**PKPdf**	**14 42 06.1**	**+0.4**
TSUM	**Tsumeb**	**126.24**	**199**	PKP	**PKPdf**	**14 42 04.9**	**-1.4**
TSUM	**T

comp=Z,0.2nm,0.3s,baz=135,slow=4.3,SNR=4.7
KOLS Kolonicke sedl 157.19 322 *e*PKP2 **PKPab 14 43 29.5 +0.1**
KOLS Kolonicke sedl 157.19 322 *e* PKPdf 14 43 08.3 +10
KOLS Kolonicke sedl 157.19 322 *e*PKP **PKPab 14 43 29.5 +0.1**
UZH Uzhgorod 157.37 322 *e*PKIKP PKPdf 14 43 05.4 +6.9
UZH *e* 14 43 20.8
KECS Kecovo 158.39 323 *e*PKP2 **PKPab 14 43 34.4 -0.2**
KECS Kecovo 158.39 323 *e*PKP **PKPab 14 43 34.4 -0.2**
OKC Ostrava-Krasne 158.55 329 *e*PKP2 **PKPab 14 43 35.0 -0.3**
OKC Ostrava-Krasne 158.55 329⇑ *e*PKPAB **PKPab 14 43 35.0 -0.3**
UPC Upice 158.91 333 *e*PKP2 PKPab 14 43 43.9 +7.1
UPC Upice 158.91 333⇑ *e*PKPBC PKPab 14 43 43.9 +7.1
DPC Dobruska-Polom 158.92 332 *i* PKP2 **PKPab 14 43 36.7 -0.2**
DPC Dobruska-Polom 158.92 332 *i* PKPAB **PKPab 14 43 36.7 -0.2**
DPC *ex* x 14 43 45.9
VYHS Vyhne 159.20 325 *e*PKP2 **PKPab 14 43 37.8 -0.3**
VYHS Vyhne 159.20 325 *e*PKP **PKPab 14 43 37.8 -0.3**
CLL Collm 159.29 339 *e*PKP2 **PKPab 14 43 38.0 -0.4**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 159.29 339 *e*PKPab **PKPab 14 43 38.0 -0.4**
comp=Z,10.0nm,1.2s
CLL *e*PP **PP 14 47 18.0 -1.3**
BRG Berggiesshubel 159.36 337 *e*PKP **PKPab 14 43 37.9 -0.8**
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 159.36 337 *e*PKP2 **PKPab 14 43 37.9 -0.8**
BRG pmax pmax
comp=Z,4.0nm,1.0s
PRU Pruhonice 159.89 334 *e*PKP2 **PKPab 14 43 41.1 +0.1**
PRU Pruhonice 159.89 334⇑ *e*PKPAB **PKPab 14 43 41.1 +0.1**
PRU *ex* x 14 50 13.8
TOA0 Torodi Ar. Sit 160.73 182 *e*PKPdf **PKPdf 14 43 04.3 +0.8**
TORD Torodi Ar. Bea 160.73 182 PKP **PKPdf 14 43 01.9 -1.6**
TORD PKPab **PKPab 14 43 44.5 -0.9**
TORD Torodi Ar. Bea 160.73 182 PKP **PKPdf 14 43 01.9 -1.6**
comp=Z,3.0nm,1.0s,baz=242,slow=0.8,SNR=10.0
TORD PKPab **PKPab 14 43 44.5 -0.9**
comp=Z,9.7nm,0.8s,baz=169,slow=4.1,SNR=22
KHC Kasperske Hory 160.95 334⇑ *i*PKP2 **PKPab 14 43 46.0 +0.2**
KHC Kasperske Hory 160.95 334⇑ *i*PKPAB **PKPab 14 43 46.0 +0.2**
KHC *es*PKP 14 43 54.4
KHC *ex* x 14 50 06.2
GERES GERESS Array B 161.14 334 PKPab **PKPab 14 43 45.5 -1.2**
GERES GERESS Array B 161.14 334 PKPab **PKPab 14 43 45.5 -1.2**
comp=Z,1.0nm,0.7s,baz=57,slow=4.9,SNR=6.3
ESDC Sonseca Array 171.73 29 PKP **PKPdf 14 43 10.2 -1.3**
ESDC PKPab **PKPab 14 44 34.2 +0.6**
ESDC Sonseca Array 171.73 29 PKP **PKPdf 14 43 10.2 -1.3**
comp=Z,0.2nm,0.3s,baz=350,slow=1.8,SNR=4.6
ESDC PKPab **PKPab 14 44 34.2 +0.6**
comp=Z,0.2nm,0.2s,baz=15,slow=5.3,SNR=3.6

---

*KNET **10** 14:26:21.6, 42°.79N×75°.90E, h10km, ml1.1*
*NNC **10** 14:26:21.5±1.5, 43°.09N×75°.90E, h0km, mb2.8, mpv2.3, Error ellipse: s-maj=40.6km s-min=8.3km az=141.0*
ISC 10 14:26:21.4±1.6, 42°.79N±0°.07×75°.82E±0°.08, h16km, n8, σ0°90/9, 1C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.21**	**309**	⇓P	**Pb**	**14 26 27.0**	**0.0**
TKM2	2.3nm,0.1s						
				⇓S	**Sb**	**14 26 30.9**	**+0.1**
	9.7nm,0.3s						
TKM2	**Tokmak 2**	**0.21**	**309**	P	**Pb**	**14 26 27.1**	**0.0**
	SNR=39						
ULHL	**Ulahol**	**0.63**	**150**	P	**Pg**	**14 26 33.6**	**-0.1**
	SNR=29						
KBK	**Karagaybulak**	**0.66**	**259**	P	**Pb**	**14 26 35.0**	**+0.5**
	SNR=6.5						
KZA	**Kyzart**	**0.83**	**211**	P	**Pg**	**14 26 37.6**	**+0.1**
	SNR=8.5						
USP	**Ospenovka**	**1.08**	**297**	P	**Pg**	**14 26 43.1**	**+0.9**
	SNR=9.5						
EKS2	**Erkin-Say**	**1.51**	**266**	P	**Pg**	**14 26 50.8**	**+0.4**
	SNR=6.3						
KK31	**Karatay Array**	**3.91**	**276**	⇓Pg	**Pg**	**14 27 34.3**	**-1.9**
	0.5nm,0.6s,baz=92,slow=16,SNR=4.0						
KK31				⇑Lg	Lg	14 28 23.5	
	0.3nm,0.4s,baz=88,slow=27,SNR=5.0						

---

*KRSC **10** 14:45:47.6±2.4, 51°.07N×153°.74E, h567km±66km, ML4.6*
*MOS **10** 14:45:53.7±0.8, 51°.84N×153°.04E, h489km, mb3.9/6, Error ellipse: s-maj=24.2km s-min=13.9km az=48.6*
*ISCJB **10** 14:45:54.7±0.3, 51°.96N±0°.08×152°.6E±0°.1, h463km±5km, mb3.5/16, Error ellipse: s-maj=15.5km s-min=6.8km az=135.5*
*IDC **10** 14:45:55.1±1.3, 52°.16N×152°.40E, h451km±16km, mb3.1/15, mb1 3.3/19, mb1mx3.2/30, mbtmp3.1/19, Error ellipse: s-maj=16.0km s-min=9.2km az=142.0*
ISC 10 14:45:55.5±0.6, 51°.97N±0°.09×152°.76E±0°.09, h464km±9km, n54, σ1°68/67, mb3.5/16, 1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.47**	**120**	*e*PN	P	14 46 53.5	-6.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.47**	**120**	P	**P**	**14 46 59.5**	**-0.4**
SKR				S	**S**	**14 47 52.1**	**-0.2**
MIPR	**Malaya Ipel'ka**	**2.49**	**81**	P	**P**	**14 46 59.9**	**-0.1**
PAU	**Pauzhetka**	**2.57**	**100**	PN	**P**	**14 47 00.8**	**+0.3**
PAU	**Pauzhetka**	**2.57**	**100**	P	**P**	**14 47 00.8**	**+0.3**
ASAK	**Asacha**	**3.19**	**80**	P	**P**	**14 47 05.7**	**+0.7**
ASAK				S	**S**	**14 48 03.3**	**+1.7**
PETK	**Petropavlovsk-**	**3.23**	**67**	PN	**P**	**14 47 05.1**	**-0.1**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.23**	**67**	P	**P**	**14 47 05.0**	**-0.1**
	comp=Z,9.4nm,0.3s,baz=213,slow=6.8,SNR=79						
MTVR	**Mutnovka**	**3.38**	**79**	P	**P**	**14 47 07.2**	**+0.7**
RUS	**Russkaya**	**3.57**	**80**	PN	**P**	**14 47 08.0**	**+0.2**
RUS				S	**S**	**14 48 06.2**	**-0.6**
RUS	**Russkaya**	**3.57**	**80**	P	**P**	**14 47 08.0**	**+0.2**
RUS				S	**S**	**14 48 06.2**	**-0.6**
PET	**Petropavlovsk**	**3.76**	**71**	*e*PN	**P**	**14 47 09.6**	**+0.3**
PET				*e*S	**S**	**14 48 11.9**	**+2.4**
PET				pmax	pmax		
	comp=Z,123nm,0.5s						
PET				smax	smax		
	comp=E,38nm,0.5s						
PET				smax	smax		
	comp=N,36nm,0.6s						
PET	**Petropavlovsk**	**3.76**	**71**	P	**P**	**14 47 10.0**	**+0.7**
KOK	**Koryaka**	**3.82**	**67**	P	**P**	**14 47 11.1**	**+1.1**
AVH	**Avacha**	**3.87**	**68**	P	**P**	**14 47 11.4**	**+1.0**
KRER	**Koryakskii**	**3.89**	**67**	P	**P**	**14 47 11.8**	**+1.1**
UGLR	**Uglovaya**	**3.90**	**69**	P	**P**	**14 47 11.8**	**+1.1**
SMAR	**Somma**	**3.91**	**68**	P	**P**	**14 47 11.5**	**+0.7**
SDLR	**Sedlovina**	**3.96**	**68**	P	**P**	**14 47 11.7**	**+0.6**
SDLR				S	**S**	**14 48 13.6**	**+0.7**
NLC	**Nalytchevo**	**4.20**	**71**	PN	**P**	**14 47 12.3**	**-0.7**
NLC				S	**S**	**14 48 14.7**	**-1.6**
NLC	**Nalytchevo**	**4.20**	**71**	P	**P**	**14 47 12.3**	**-0.7**
NLC				S	**S**	**14 48 14.7**	**-1.6**
SPN	**Mys Shipunski**	**4.58**	**73**	PN	**P**	**14 47 15.5**	**-1.0**
SPN				S	**S**	**14 48 18.8**	**-3.8**
SPN	**Mys Shipunski**	**4.58**	**73**	P	**P**	**14 47 15.5**	**-1.0**
SPN				S	**S**	**14 48 18.8**	**-3.8**
TUMR	**Tumrok**	**5.51**	**50**	P	**P**	**14 47 26.8**	**+1.4**
TUMR				S	**S**	**14 48 39.8**	**+0.9**
KMNR	**Kamenistaya**	**5.83**	**46**	P	**P**	**14 47 30.6**	**+2.1**
KMNR				S	**S**	**14 48 46.3**	**+1.6**
SRDR	**Sredinnyy**	**5.98**	**40**	P	**P**	**14 47 31.6**	**+1.7**
MKZ	**Mys Kozlova**	**5.98**	**61**	PN	**P**	**14 47 29.2**	**-0.7**
MKZ				S	**S**	**14 48 42.3**	**-4.8**
MKZ	**Mys Kozlova**	**5.98**	**61**	P	**P**	**14 47 29.2**	**-0.7**
MKZ				S	**S**	**14 48 42.3**	**-4.8**
KLY	**Klyuchi**	**6.36**	**44**	S	**S**	**14 48 57.0**	**+2.8**
KBG	**Krutoberegovo**	**7.25**	**50**	S	**S**	**14 49 07.1**	**-4.1**
KUR	**Kuril'sk**	**7.47**	**208**	*i* PN	**P**	**14 47 44.7**	**-0.8**
KUR				pmax	pmax		
	comp=N,5.0nm,0.3s						
KUR				pmax	pmax		
	comp=Z,13nm,0.4s						
KUR				pmax	pmax		
	comp=E,4.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.22**	**236**	*e*PN	**P**	**14 47 55.0**	**+1.6**
ASAJ	**Asahikawa**	**10.38**	**225**	P	**P**	**14 48 15.3**	**-1.4**
	comp=E,0.2nm,0.3s,baz=85,slow=11,SNR=5.5						

ERM	**Erimo**	**11.91**	**217⇓**	*e*PN	**P**	**14 48 31.9**	**-1.3**
FX1	**Attu Island--F**	**12.49**	**78**	P	**P**	**14 48 40.5**	**+1.2**
	comp=E,2.2nm,0.3s,baz=188,slow=7.2,SNR=12						
FX1				S	S	14 51 13.7	+19
	comp=E,1.2nm,0.3s,baz=215,slow=13,SNR=4.4						
MJA0	**Matsu Arr-Jizo**	**18.54**	**219**	*e*P	**P**	**14 49 44.9**	**+2.2**
MJAR	**Matsushiro Arr**	**18.55**	**219**	P	**P**	**14 49 42.5**	**-0.4**
	comp=E,0.2nm,0.3s,baz=17,slow=9.7,SNR=6.1						
KSRS	**Korea Array**	**22.70**	**240**	P	**P**	**14 50 20.4**	**+0.1**
	comp=E,1.0nm,0.4s,baz=42,slow=9.8,SNR=6.7						
SONM	**Songino Array**	**29.75**	**281**	P	**P**	**14 51 21.7**	**-1.1**
	comp=E,0.2nm,0.4s,baz=74,slow=9.6,SNR=3.6						
ILAR	**Eielson Array**	**32.76**	**44**	P	**P**	**14 51 48.8**	**+0.6**
	comp=E,1.6nm,0.7s,baz=277,slow=10,SNR=26						
HVS	**Khovu-Aksy**	**35.85**	**293**	*i* P	**P**	**14 52 14.6**	**0.0**
HVS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MKAR	**Makanchi Array**	**44.52**	**293**	P	**P**	**14 53 23.1**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.52**	**293**	P	**P**	**14 53 23.1**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=62,slow=6.7,SNR=18						
YKA	**Yellowknife Ar**	**46.95**	**39**	P	**P**	**14 53 43.4**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=304,slow=7.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**53.56**	**252**	P	**P**	**14 54 31.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=11,slow=9.4,SNR=5.1						
FINES	**FINESS Array B**	**59.24**	**333**	P	**P**	**14 55 08.9**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=33,slow=7.3,SNR=3.4						
NVAR	**Mina Array Bea**	**60.31**	**65**	P	**P**	**14 55 20.5**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=305,slow=7.2,SNR=6.7						
PDAR	**Pinedale Array**	**61.93**	**56**	P	**P**	**14 55 29.8**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=356,slow=1.7,SNR=12						
SCHQ	**Schefferville**	**68.60**	**23**	P	**P**	**14 56 09.5**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=7.1,slow=17,SNR=4.2						
WRA	**Warramunga Arr**	**73.39**	**198**	P	**P**	**14 56 40.1**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=12,slow=5.9,SNR=14						
FITZ	**Fitzroy Crossi**	**73.67**	**207**	P	**P**	**14 56 42.0**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=22,slow=5.4,SNR=6.4						
BRTR	**Keskin Array B**	**74.46**	**316**	P	**P**	**14 56 43.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=322,slow=4.2,SNR=1.5						
TXAR	**Lajitas Array**	**75.16**	**61**	P	**P**	**14 56 51.3**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=299,slow=4.2,SNR=9.2						
ASAR	**Alice Springs**	**77.10**	**198**	P	**P**	**14 57 01.8**	**+1.8**
	comp=Z,1.1nm,0.4s,baz=13,slow=5.0,SNR=43						

IDC 10 14:52:33.8±57.0, 22°.50S×178°.13W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=1033.0km s-min=160.1km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.85**	**247**	P	P	14 59 44.3	+0.4
	0.8nm,0.4s,baz=84,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**43.98**	**259**	P	P	15 00 42.8	-0.4
	1.1nm,0.4s,baz=97,slow=7.8,SNR=56						
WRA	**Warramunga Arr**	**44.24**	**264**	P	P	15 00 45.0	-0.2
	1.3nm,0.3s,baz=103,slow=8.4,SNR=49						

---

*IDC **10** 15:02:28.8±2.4, 6°.97S×129°.18E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=198.5km s-min=31.6km az=67.0*
*ISCJB **10** 15:02:46.9±1.1, 7°.86S±0°.07×128°.91E±0°.07, h131km, mb3.3/1, Error ellipse: s-maj=10.6km s-min=8.5km az=42.4*
*AUST **10** 15:02:49.8±6.9, 8°.05S×128°.92E, h199km±1km, Error ellipse: s-maj=3.3km s-min=1.8km az=297.0*
ISC 10 15:02:43.6±1.5, 7°.7S±0°.1×128°.94E±0°.09, h131km, n9, σ2°56/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.07**	**245**	S	**Sn**	**15 04 57.9**	**+2.3**
	baz=4.9,SNR=5.1						
MTN	**Manton Dam**	**5.59**	**158**	P	**Pn**	**15 04 07.5**	**+2.8**
	baz=5.3,SNR=20						
MTN				S	**Sn**	**15 05 10.0**	**+1.9**
	baz=5.3,SNR=6.4						
KDU	**Kakadu**	**6.09**	**146**	P	**Pn**	**15 04 13.6**	**+2.1**
	baz=5.8,SNR=20						
KDU				S	**Sn**	**15 05 20.4**	**+0.4**
	baz=5.8,SNR=5.4						
KNRA	**Kununurra**	**7.98**	**181**	P	**Pn**	**15 04 38.5**	**+1.7**
	baz=7.6,SNR=15						
KNRA				S	**Sn**	**15 06 04.9**	**-0.8**
	baz=7.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**10.88**	**197**	P	**Pn**	**15 05 15.3**	**-0.4**
	baz=10,SNR=19						
WRA	**Warramunga Arr**	**13.29**	**157**	Pn	**Pn**	**15 05 45.9**	**-1.5**
	0.2nm,0.3s,baz=333,slow=15,SNR=16						
WRA				Sn	**Sn**	**15 08 09.6**	**-4.6**
	0.6nm,0.3s,baz=336,slow=22,SNR=9.3						
PALU	**Palau**	**15.88**	**20**	P	P	15 06 27.5	+6.5
	baz=16,SNR=3.5						
ASAR	**Alice Springs**	**16.62**	**164**	P	**P**	**15 06 31.2**	**+2.0**
	0.1nm,0.3s,baz=339,slow=10.0,SNR=17						
ASAR				S	**Sn**	**15 09 31.0**	**-3.4**
	0.2nm,0.3s,baz=337,slow=18,SNR=7.0						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**15 13 28.4**	**-1.6**
	0.3nm,0.4s,baz=121,slow=7.8,SNR=6.1						

---

*IDC **10** 15:06:10.6±0.9, 27°.55N×53°.21E, h0km, mb3.9/18, mb1 4.1/20, mb1mx4.0/32, mbtmp3.9/20, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/38, Error ellipse: s-maj=22.5km s-min=15.3km az=171.0*
*ISCJB **10** 15:06:12.9±0.5, 27°.63N±0°.04×53°.16E±0°.04, h20km, mb3.9/25, Error ellipse: s-maj=6.4km s-min=4.8km az=8.0*
*THR **10** 15:06:12.7±0.4, 27°.67N×53°.10E, h20km±5km, ML3.8*
*TEH **10** 15:06:13.5, 27°.46N×53°.23E, h17km, ML4.0*
*MOS **10** 15:06:13.6±0.9, 27°.51N×53°.15E, h33km, mb4.2/18, Error ellipse: s-maj=14.2km s-min=7.9km az=104.8*
*CSEM **10** 15:06:14.6±0.3, 27°.62N×53°.25E, h20km, mb4.0/19, Error ellipse: s-maj=9.0km s-min=6.4km az=3.0*
*KISR **10** 15:06:16.8±0.8, 28°.03N×52°.91E, h12km±999km, ML3.7*
ISC 10 15:06:14.5±0.5, 27°.69N±0°.05×53°.20E±0°.04, h20km, n127, σ1°34/138, mb4.0/25, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.62**	**343**	*e*Pg	**Pb**	**15 06 24.9**	**-1.8**
GHIR				*e*Sg	**Sb**	**15 06 33.6**	**-1.5**
GHIR	**Ghir-Karzin**	**0.62**	**343**	*e*Pg	**Pb**	**15 06 24.9**	**-1.8**
GHIR				*e*Sg	**Sb**	**15 06 33.6**	**-1.5**
ISRV	**Sarvestan**	**1.68**	**358**	*e*Pn	**Pb**	**15 06 45.5**	**+0.5**
ISRV				*e*Sn	**Sb**	**15 07 09.3**	**+3.4**
ISRV				*e*		15 07 20.5	
	comp=Z,40μm,0.4s						
ISRV	**Sarvestan**	**1.68**	**358**	*e*Pn	**Pb**	**15 06 45.5**	**+0.5**
SHI	**Shiraz**	**2.03**	**343**	*e*Pn	**Pb**	**15 06 50.5**	**-0.3**
SHI				*e*Sg	Sb	15 07 24.4	+8.6
SHI				*e*		15 07 36.1	
	comp=E,11μm,0.3s						
SHI	**Shiraz**	**2.03**	**343**	*e*Pn	**Pb**	**15 06 50.5**	**-0.3**
IPAR	**Pars**	**2.14**	**357**	*e*Pn	**Pb**	**15 06 52.1**	**-0.7**
IPAR				*e*		15 07 28.0	
	comp=Z,10μm,0.5s						
IPAR	**Pars**	**2.14**	**357**	*e*Pn	**Pb**	**15 06 52.1**	**-0.7**
BNDS	**Bandar-Abbas**	**2.66**	**96**	*e*Pn	**Pn**	**15 06 57.8**	**+1.5**
BNDS	**Bandar-Abbas**	**2.66**	**96**	*e*Pn	**Pn**	**15 06 57.8**	**+1.5**
KRBR	**Kerman**	**3.87**	**53**	*e*Pn	**Pn**	**15 07 14.9**	**+1.8**
KRBR				AML	AML	15 08 22.9	
	comp=N,89nm,0.6s						
KRBR				AML	AML	15 08 32.6	
	comp=E,87nm,0.6s						
KRBR	**Kerman**	**3.87**	**53**	*e*Pn	**Pn**	**15 07 14.9**	**+1.8**
IMEH	**Mehriz**	**3.88**	**18**	*e*Pn	**Pn**	**15 07 15.4**	**+2.1**
IMEH				*e*		15 08 27.2	
	comp=Z,1μm,0.5s						
IMEH	**Mehriz**	**3.88**	**18**	*e*Pn	**Pn**	**15 07 15.4**	**+2.1**
ISAD	**Sadrabad**	**4.23**	**6**	*e*Pn	**Pn**	**15 07 19.9**	**+1.9**
ISAD				*e*		15 08 47.7	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**4.23**	**6**	*e*Pn	**Pn**	**15 07 19.9**	**+1.9**
IBAF	**Bafgh**	**4.40**	**27**	*e*Pn	**Pn**	**15 07 21.9**	**+1.6**
IBAF				*e*		15 07 24.9	
	comp=Z,876nm,0.2s						
IBAF	**Bafgh**	**4.40**	**27**	*e*Pn	**Pn**	**15 07 21.9**	**+1.6**
ICHK	**Chekchek**	**4.66**	**13**	*e*Pn	**Pn**	**15 07 25.8**	**+1.9**
ICHK				*e*		15 07 42.0	
	comp=Z,1μm,0.5s						

ICHK	**Chekchek**	**4.66**	**13**	*e*Pn	**Pn**	**15 07 25.8**	**+1.9**
IGAR	**Gharneh**	**4.80**	**348**	*e*Pn	**Pn**	**15 07 28.0**	**+2.1**
IGAR				*e*		15 08 25.3	
	comp=Z,763nm,0.3s						
KBD	**Kabd**	**5.07**	**288**	*e*P	**Pn**	**15 07 32.4**	**+3.1**
KBD				*e*S	**Sn**	**15 08 28.2**	**+1.0**
KBD				AML	AML	15 08 35.4	
	comp=Z,39nm,0.5s						
KBD	**Kabd**	**5.07**	**288**	*e*P	**Pn**	**15 07 32.4**	**+3.1**
KBD				*e*S	**Sn**	**15 08 28.2**	**+1.0**
	comp=Z,39nm,0.5s						
NASN	**Na'in**	**5.10**	**356**	*e*Pn	**Pn**	**15 07 30.8**	**+0.7**
NASN				AML	AML	15 08 30.8	
	comp=E,58nm,0.4s						
NASN				AML	AML	15 08 31.9	
	comp=N,84nm,0.6s						
NASN	**Na'in**	**5.10**	**356**	*e*Pn	**Pn**	**15 07 30.8**	**+0.7**
RDF	**Al-Radifah**	**5.13**	**285**	*e*P	**Pn**	**15 07 32.9**	**+2.7**
RDF				*e*S	**Sn**	**15 08 30.1**	**+1.3**
RDF				AML	AML	15 08 48.1	
	comp=Z,57nm,0.5s						
RDF	**Al-Radifah**	**5.13**	**285**	*e*P	**Pn**	**15 07 32.9**	**+2.7**
RDF				*e*S	**Sn**	**15 08 30.1**	**+1.3**
	comp=Z,57nm,0.5s						
UMR	**Umm Al-Rimmam**	**5.16**	**292**	*e*P	**Pn**	**15 07 32.9**	**+2.3**
UMR				AML	AML	15 08 35.6	
	comp=Z,84nm,0.4s						
UMR	**Umm Al-Rimmam**	**5.16**	**292**	*e*P	**Pn**	**15 07 32.9**	**+2.3**
IZEF	**Zefreh**	**5.24**	**352**	*e*Pn	**Pn**	**15 07 32.5**	**+0.6**
IZEF				*e*		15 08 35.5	
	comp=Z,588nm,0.3s						
IZEF	**Zefreh**	**5.24**	**352**	*e*Pn	**Pn**	**15 07 32.5**	**+0.6**
IPIR	**Pirpir**	**5.36**	**339**	*e*Pn	**Pn**	**15 07 35.4**	**+1.8**
IPIR				*e*Sn	**Sn**	**15 08 36.3**	**+1.4**
IPIR				*e*		15 08 37.4	
	comp=Z,2μm,0.3s						
IPIR	**Pirpir**	**5.36**	**339**	*e*Pn	**Pn**	**15 07 35.4**	**+1.8**
IPIR				*e*Sn	**Sn**	**15 08 36.3**	**+1.4**
NAY	**Al-Naaiem**	**5.47**	**288**	*e*P	**Pn**	**15 07 37.3**	**+2.5**
NAY				AML	AML	15 08 44.4	
	comp=Z,36nm,0.6s						
NAY	**Al-Naaiem**	**5.47**	**288**	*e*P	**Pn**	**15 07 37.3**	**+2.5**
IKLH	**Kolahrood**	**5.78**	**346**	*e*Pn	**Pn**	**15 07 40.9**	**+1.6**
IKLH				*e*		15 08 56.4	
	comp=Z,468nm,0.2s						
IKLH	**Kolahrood**	**5.78**	**346**	*e*Pn	**Pn**	**15 07 40.9**	**+1.6**
ISFB	**Sefidab**	**6.69**	**353**	*e*Pn	**Pn**	**15 07 51.9**	**+0.2**
ISFB				*e*		15 09 27.2	
	comp=Z,303nm,0.5s						
ISFB	**Sefidab**	**6.69**	**353**	*e*Pn	**Pn**	**15 07 51.9**	**+0.2**
GHVR	**GHOM**	**6.96**	**347**	*e*Pn	**Pn**	**15 07 56.3**	**+0.9**
GHVR	**GHOM**	**6.96**	**347**	*e*Pn	**Pn**	**15 07 56.3**	**+0.9**
IVRN	**Varamin**	**7.39**	**351**	*e*		15 08 03.1	
	comp=Z,321nm,0.2s						
IVRN				*e*Pn	**Pn**	**15 08 01.6**	**+0.4**
IANJ	**Anjilo**	**7.77**	**4**	*e*		15 08 10.9	
	comp=Z,416nm,0.3s						
IANJ				*e*Pn	**Pn**	**15 08 07.8**	**+1.1**
IDMV	**Damavand**	**7.92**	**353**	*e*Pn	**Pn**	**15 08 10.0**	**+1.2**
IDMV				*e*		15 09 40.3	
	comp=Z,140nm,0.3s						
IDMV	**Damavand**	**7.92**	**353**	*e*Pn	**Pn**	**15 08 10.0**	**+1.2**
DAMV	**Damavand**	**7.98**	**353**	*e*Pn	**Pn**	**15 08 10.3**	**+0.8**
DAMV	**Damavand**	**7.98**	**353**	*e*Pn	**Pn**	**15 08 10.3**	**+0.8**
IRAZ	**Razeghan**	**8.18**	**341**	*e*		15 09 59.6	
	comp=Z,303nm,0.3s						
IBDR	**Badra**	**8.28**	**312**	*e*Pn	**Pn**	**15 08 12.0**	**-1.4**
IBDR				*i* Sn	**Sn**	**15 09 43.0**	**-3.3**
BHD	**Baghdad**	**9.42**	**308**	*e*Pn	Pn	15 08 26.0	-3.0
BHD				*e*Pg		15 09 10.0	
BHD				*i* Sn	Sn	15 10 06.0	-8.3
MMAI	**Mount Meron Ar**	**16.24**	**293**	Pn	**Pn**	**15 09 59.6**	**-2.0**
	baz=148,slow=14,SNR=2.3						
ZEI	**Tsey**	**16.83**	**336**	*e*P	**P**	**15 10 10.6**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,26nm,1.5s						
ZEI	**Tsey**	**16.83**	**336**	*e*P	**P**	**15 10 10.6**	**-0.6**
	comp=Z,26nm,1.5s						
KBZ	**Khabaz**	**18.03**	**335**	P	**P**	**15 10 26.0**	**+1.9**
KBZ	**Khabaz**	**18.03**	**335**	P	**P**	**15 10 26.0**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=134,slow=6.1,SNR=7.1						
KBZ	**Khabaz**	**18.03**	**335**	P	**P**	**15 10 26.0**	**+1.9**
KIV	**Kislovodsk**	**18.30**	**335**	*e*P	**P**	**15 10 29.3**	**+2.0**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV	**Kislovodsk**	**18.30**	**335**	*e*P	**P**	**15 10 29.3**	**+2.0**
	comp=Z,17nm,1.0s						
ATD	**Arta Tunnel**	**18.79**	**213**	LR	LR	15 18 10.3	
	comp=Z,67nm,20.3s,baz=5.7,slow=39						
BRTR	**Keskin Array B**	**20.17**	**312**	P	**P**	**15 10 48.5**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=130,slow=12,SNR=6.6						
BRTR	**Keskin Array B**	**20.17**	**312**	P

VSU	Vasula	35.85	336	*i* P		P	15 13 13.5 +0.9
VSU	Vasula	35.85	336	*i* P		P	15 13 13.5 +0.9
KHC	Kasperske Hory	37.13	316	*e*P		P	15 13 23.0 -0.7
KHC	Kasperske Hory	37.13	316	*e*P		P	15 13 23.0 -0.7
KHC	Kasperske Hory	37.13	316	*e*P		P	15 13 23.0 -0.7
FINES	FINESS Array B	38.31	339	P		P	15 13 33.5 +0.1
	comp=Z,2.9nm,0.5s,baz=143,slow=9.9,SNR=22						
FINES	FINESS Array B	38.31	339	P		P	15 13 33.5 +0.1
	comp=Z,3.0nm,0.5s						
KAF	Kangasniemi	38.75	340	*e*P		P	15 13 37.4 +0.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	Kangasniemi	38.75	340	*e*p		P	15 13 37.4 +0.3
	comp=Z,0.7nm,0.4s						
KAF	Kangasniemi	38.75	340	*e*P		P	15 13 37.4 +0.3
	comp=Z,1.0nm,0.4s						
GTA	Gaotai	40.17	61	P		P	15 13 50.8 +1.3
GTA				pP		**pP**	15 13 55.0 -0.7
GTA				sP		**sP**	15 13 58.2 0.0
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR	Chiang Mai Arr	42.88	92	P		P	15 14 10.8 -1.0
	comp=Z,0.4nm,0.4s,baz=286,slow=10,SNR=5.7						
CMAR	Chiang Mai Arr	42.88	92	P		P	15 14 10.8 -1.0
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	43.56	332	P		P	15 14 15.9 -0.9
	comp=Z,1.4nm,0.7s,baz=118,slow=8.6						
NB2	NORSAR Subarra	43.56	332	P		P	15 14 15.9 -0.9
	comp=Z,1.4nm,0.7s,SNR=4.7						
NOA	NORSAR Array B	43.56	332	P		P	15 14 16.2 -0.6
	comp=Z,0.9nm,0.6s,baz=120,slow=8.0,SNR=5.0						
NOA	NORSAR Array B	43.56	332	P		P	15 14 16.2 -0.6
	comp=Z,1.0nm,0.6s						
ZAK	Zakamensk	43.99	45	*e*P		P	15 14 21.1 +0.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK	Zakamensk	43.99	45	*e*P		P	15 14 21.1 +0.6
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	44.85	347	P		P	15 14 26.9 -0.1
	comp=Z,1.1nm,0.7s,baz=151,slow=7.6,SNR=11						
ARCES	ARCESS Array B	44.85	347	P		P	15 14 26.9 -0.1
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	45.61	49	P		P	15 14 33.9 +0.4
	comp=Z,1.2nm,0.6s,baz=266,slow=9.0,SNR=9.0						
SONM	Songino Array	45.61	49	P		P	15 14 33.9 +0.4
	comp=Z,1.0nm,0.6s						
ESDC	Sonseca Array	48.31	300	P		P	15 14 54.2 -0.3
	comp=Z,0.5nm,0.4s,baz=74,slow=7.6,SNR=4.5						
ESK	Eskdalemuir	48.72	321	*i* P		P	15 14 55.1 -2.3
TORD	Torodi Ar. Bea	50.05	264	P		P	15 15 07.9 -0.2
	comp=Z,2.1nm,0.7s,baz=62,slow=8.3,SNR=12						
DBIC	Dimbokro	58.71	261	P		P	15 16 11.1 0.0
	comp=Z,3.5nm,0.7s,baz=50,slow=8.9,SNR=4.2						
DBIC	Dimbokro	58.71	261	P		P	15 16 11.1 0.0
	comp=Z,4.0nm,0.7s						
ILAR	Eielson Array	86.52	8	P		P	15 18 55.0 -0.6
	comp=Z,0.3nm,0.7s,baz=315,slow=3.9,SNR=5.4						
ILAR	Eielson Array	86.52	8	P		P	15 18 55.1 -0.6
YKA	Yellowknife Ar	89.60	354	P		P	15 19 10.6 +0.2
	comp=Z,1.0nm,0.7s,baz=7,slow=5.6,SNR=3.6						
YKA	Yellowknife Ar	89.60	354	P		P	15 19 10.6 +0.2
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	93.05	115	P		P	15 19 25.7 -1.4
	comp=Z,0.2nm,0.8s,baz=308,slow=5.2,SNR=4.2						
ASAR	Alice Springs	93.05	115	P		P	15 19 25.7 -1.4

CASC 10 15:15:01.8±1.7, 13°.13N×89°.22W, h40km±44km, MD3.6, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.51	18	‖	*i* P	Pn	15 15 12.9	0.0
SNET	Serv Nac Est T	0.55	359		*e*P	Pn	15 15 13.3	0.0
SNET					*e*S	Sn	15 15 21.9	+0.4
BOQS	Boqueron	0.60	354		*e*P	Pn	15 15 14.2	0.0
BOQS					*e*S	Sn	15 15 24.3	+1.2
SNVI	San Vicente	0.60	38		*e*P	Pn	15 15 14.0	-0.2
SNVI					*e*S	Sn	15 15 23.2	+0.2
LFU	La Fuente	0.62	10		*e*P	Pn	15 15 14.5	+0.2
LFU					*e*S	Sn	15 15 24.6	+1.4
LBRS	Las Brisas	0.63	16		*e*P	Pn	15 15 14.5	+0.1
SNJE	San Jose	0.82	333		*e*P	Pn	15 15 17.0	-0.2
RTR	El Retiro	0.86	331		*e*P	Pn	15 15 17.7	-0.1
VSM	San Miguel	0.97	72		*e*P	Pn	15 15 19.1	-0.2
CAHU	Cacacuatique	1.17	57		*e*P	Pn	15 15 21.2	-0.8
CNCH	Conchagua	1.36	84		*e*P	Pn	15 15 24.1	-0.3
IXG	Ixpaco	1.58	311		*e*P	Pn	15 15 27.8	+0.1
IXG					*e*S	Sn	15 15 45.4	-1.7
NBG	Las Nubes	1.81	323		*e*P	Pn	15 15 31.9	+1.0
MRL	Marmol	1.98	347		*e*P	Pn	15 15 33.8	+0.8
FUG	Fuego 3	2.05	310		*e*P	Pn	15 15 34.7	+0.7
JAT	Jato	2.63	297		*e*P	Pn	15 15 42.4	+0.6

MEX 10 15:33:20.0±1.2, 16°.55N×94°.36W, h119km±20km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGIG		1.21	79	*i* P		Pn	15 33 42.8	-1.3
TGIG				*i* S		Sn	15 34 00.3	-2.1
HUIG	Huatulco	1.85	246	*e*P		Pn	15 33 49.4	-2.1
HUIG				*i* S		Sn	15 34 14.8	-0.8
CCIG	Comitan	2.15	97	*i* P		Pn	15 33 55.0	-0.5
CCIG				*i* S		Sn	15 34 21.7	-1.0
VHO	Vista Hermosa	2.33	283	*e*P		Pn	15 33 57.1	-0.7
VHO				*i* S		Sn	15 34 25.8	-1.1
TPIG	Tehuac#an	3.42	303	*i* P		Pn	15 34 11.2	-0.8
TPIG				*i* S		Sn	15 34 50.0	-2.2
PNIG	Pinotepa	3.62	268	*e*P		Pn	15 34 12.0	-2.4
PNIG				*i* S		Sn	15 34 55.2	-1.4
YAIG	Yautepec	5.04	298	*i* P		Pn	15 34 32.4	-1.4

*ISCJB **10** 15:41:22.2±0.7, 34°.61N±0°.09×139°.6E±0°.1, h120km±7km, mb3.4/2, Error ellipse: s-maj=19.1km s-min=9.1km az=44.1*
*JMA **10** 15:41:23.8±0.2, 34°.66N×139°.68E, h107km±2km, M2.4*
*IDC **10** 15:41:23.3±7.2, 34°.33N×139°.02E, h93km±105km, mb2.9/2, mb1 3.1/3, mb1mx2.8/26, mbtmp2.8/3, Error ellipse: s-maj=80.7km s-min=63.1km az=171.0*
ISC 10 15:41:23.3±1.2, 34°.62N±0°.09×139°.63E±0°.08, h113km±8km, n12, σ0°.63/17, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.19	301		P	Pn	15 41 38.7	-0.3
JIM2					S	Sn	15 41 50.2	-0.7
TATJ	Tateyama 2	0.46	27		P	Pn	15 41 40.4	+0.2
TATJ					S	Sn	15 41 53.2	+0.3
JIZS	Izushimoda	0.63	279		P	Pn	15 41 41.7	+0.4
BSO3	Boso 3	0.75	76		P	Pn	15 41 42.6	+0.6
BSO1	Boso 1	1.11	88		P	Pn	15 41 45.7	+0.5
JYN	Shimob	1.25	315		P	Pn	15 41 47.8	+0.4
JYN					S	Sn	15 42 05.8	+0.1
SHZ3	Shizuoka 3	1.25	291		P	Pn	15 41 48.6	+1.2
JRY	Ryogami san	1.52	337		P	Pn	15 41 50.8	+0.3
MJAR	Matsushiro Arr	2.24	329		P	Pn	15 41 59.4	0.0
	1.2nm,0.3s,baz=161,slow=10,SNR=17							
MJAR					S	Sn	15 42 27.6	+0.4
	1.4nm,0.3s,baz=163,slow=27,SNR=8.5							
MAT	Matsushiro	2.24	329		P	Pn	15 41 59.8	+0.3
MAT					S	Sn	15 42 26.0	-1.2
WRA	Warrumunga Arr	54.49	186		P	P	15 50 38.8	-0.6
	0.2nm,0.3s,baz=1.3,slow=7.5,SNR=8.8							
ASAR	Alice Springs	58.22	186		P	P	15 51 05.8	0.0
	0.2nm,0.9s,baz=7.8,slow=7.5,SNR=4.1							

*IDC **10** 16:19:15.0±0.8, 0°.65N×125°.90E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=56.6km s-min=15.4km az=72.0*
*ISCJB **10** 16:19:19.4±0.6, 0°.82N±0°.07×126°.22E±0°.05, h39km, mb4.0/7, Error ellipse: s-maj=10.6km s-min=7.0km az=177.7*
*DJA **10** 16:19:20.3±1.3, 1°.N±12°×12°6E±°, h23km±23km, M4.2/6, mb4.5/3, MLv4.1/6*
ISC 10 16:19:21.0±0.8, 0°.77N±0°.09×126°.27E±0°.06, h39km, n16, σ1°.42/18, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.10	90	P		Pn	16 19 39.5	-0.4
TNTI				S		Sn	16 19 55.6	+1.8
LBMI	Labuha	1.86	139	P		Pn	16 19 50.8	+0.4
GTOI	Gorontalo	3.26	268	P		Pn	16 20 11.0	+1.4
LUWI	Luwuk	3.93	243	P		Pn	16 20 20.8	+1.9
AAI	Ambon	4.83	157	P		Pn	16 20 33.6	+2.4
TTSI	Tana Toraja	7.48	240	P		Pn	16 21 08.2	+0.6
	26nm,0.9s,0.1nm							
SPSI	Sidrap Palu	8.02	234	P		Pn	16 21 16.2	+1.2
	21nm,0.5s							
BKSI	Bulukumba	8.62	225	P		Pn	16 21 24.4	+1.1
FITZ	Fitzroy Crossi	18.76	182	P		P	16 23 34.3	-2.6
	0.1nm,0.3s,baz=8.7,slow=11,SNR=3.1							
WRA	Warramunga Arr	22.05	159	P		P	16 24 11.7	-0.9
	5.3nm,0.7s,baz=336,slow=11,SNR=58							
ASAR	Alice Springs	25.40	163	P		P	16 24 44.5	-0.5
	1.1nm,0.3s,baz=344,slow=9.5,SNR=54							
STKA	Stephens Creek	35.57	157	P		P	16 26 14.2	-0.5
	2.0nm,0.6s,baz=326,slow=7.5,SNR=6.8							
SONM	Songino Array	49.95	343	P		P	16 28 11.2	0.0
	0.4nm,0.7s,baz=165,slow=7.2,SNR=2.9							
PETK	Petropavlovsk-	58.33	22	P		P	16 29 13.4	+1.4
	0.9nm,0.7s,baz=195,slow=4.5,SNR=4.4							
MKAR	Makanchi Array	59.73	326	P		P	16 29 20.8	-1.1
	0.9nm,0.4s,baz=121,slow=7.4,SNR=34							
MKAR				PcP		PcP	16 30 07.9	-0.6
	0.9nm,0.7s,baz=126,slow=5.5,SNR=4.4							
ZALV	Zalesovo Beam	63.02	334	P		P	16 29 43.0	-0.9
	0.4nm,0.4s,baz=133,slow=8.5,SNR=2.9							

IDC 10 16:26:36.5±1.2, 21°.20N×122°.90E, h0km, mb3.4/7, mb1 3.5/7, mb1mx3.4/24, mbtmp3.4/7, Error ellipse: s-maj=48.4km s-min=19.1km az=65.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	22.69	267		P	P	16 31 40.0	+0.1
	0.3nm,0.4s,baz=66,slow=9.0,SNR=3.0							
SONM	Songino Array	29.72	337		P	P	16 32 45.9	+1.4
	0.3nm,0.6s,baz=138,slow=10.0,SNR=2.3							
MKAR	Makanchi Array	41.58	318		P	P	16 34 26.0	-0.1
	1.1nm,0.6s,baz=114,slow=8.8,SNR=17							
WRA	Warramunga Arr	42.40	164		P	P	16 34 32.7	-0.2
	0.1nm,0.5s,baz=344,slow=9.0,SNR=3.4							
ZALV	Zalesovo Beam	43.60	328		P	P	16 34 42.3	0.0
	0.4nm,0.4s,baz=141,slow=9.3,SNR=2.2							
ASAR	Alice Springs	45.87	166		P	P	16 35 01.1	+0.3
	0.2nm,0.9s,baz=348,slow=6.9,SNR=4.9							
FINES	FINESS Array B	74.81	330		P	P	16 38 16.5	-1.9
	0.9nm,0.7s,baz=46,slow=6.2,SNR=3.8							

*ISCJB **10** 16:46:04.5±0.6, 17°.5S±0°.1×178°.8W±0°.1, h547km, mb3.6/9, Error ellipse: s-maj=21.3km s-min=9.7km az=149.5*
*IDC **10** 16:46:05.2±1.9, 17°.63S×178°.67W, h546km±24km, mb3.1/8, mb1 3.3/10, mb1mx3.1/21, mbtmp3.1/10, Error ellipse: s-maj=34.5km s-min=13.4km az=148.0*
*AUST **10** 16:46:06.4±0.0, 17°.79S×178°.38W, h578km, Error ellipse: s-maj=3.5km s-min=1.9km az=332.0*
ISC 10 16:46:05.3±0.8, 17°.65±0°.2×178°.7W±0°.1, h547km, n27, σ0°.72/25, mb3.4/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.62	62	P		P	16 47 59.3	0.0
	3.0nm,0.3s,baz=57,slow=23,SNR=7.2							
DZM	Mont Dzumac	14.66	250	P		P	16 49 11.4	-0.1
	1.6nm,0.3s,baz=329,slow=23,SNR=9.5							
RMQ	Roma	31.35	248	P		P	16 51 42.5	+0.8
	baz=32,SNR=8.8							
CNB	Canberra Magne	33.39	232	P		P	16 51 59.6	+0.7
	baz=34,SNR=12							
CMSA	Cobar Meteorol	35.05	240	P		P	16 52 12.9	+0.1
	baz=35,SNR=16							
MANU	Manus Island	36.72	291	S		S	16 57 31.9	-0.1
	baz=37,SNR=3.6							
TOO	Toolangi	37.14	230	P		P	16 52 30.7	+0.7
	baz=37,SNR=4.2							
STKA	Stephens Creek	38.53	241	P		P	16 52 41.9	+0.6
	4.4nm,0.4s,baz=92,slow=11,SNR=14							
STKA	Stephens Creek	38.53	241	P		P	16 52 42.0	+0.6
	baz=39,SNR=13							
MMPI	Merauke	40.80	277	P		P	16 53 03.8	+4.0
	baz=41,SNR=4.2							
BBOO	Buckleboo	43.30	241	P		P	16 53 19.3	0.0
	baz=44,SNR=21							
WRA	Warramunga Arr	44.41	259	P		P	16 53 27.0	-1.0
	2.3nm,0.5s,baz=90,slow=6.9,SNR=83							
ASAR	Alice Springs	44.60	254	P		P	16 53 29.2	-0.2
	20nm,0.4s,baz=90,slow=7.7,SNR=1210							
KDU	Kakadu	47.28	269	P		P	16 53 49.6	-0.2
	baz=48,SNR=6.2							
MTN	Manton Dam	48.52	268	P		P	16 53 58.5	-0.6
	baz=49,SNR=5.8							
KNRA	Kununurra	50.24	264	P		P	16 54 11.3	-0.5
	baz=50,SNR=13							
FITZ	Fitzroy Crossi	52.80	260	P		P	16 54 30.3	+0.1
	baz=53,SNR=11							
SOEI	Soe	55.79	270	P		P	16 54 52.5	+1.1
	baz=56,SNR=3.6							
MEEK	Meekatharra	58.27	249	P		P	16 55 07.1	-1.1
	baz=58,SNR=5.3							
MJAR	Matsushiro Arr	67.49	323	P		P	16 56 06.9	-0.3
	0.7nm,0.7s,baz=155,slow=6.6,SNR=4.1							
ASAJ	Asahikawa	70.88	332	P		P	16 56 27.9	+0.7
	0.5nm,0.4s,baz=198,slow=6.4,SNR=3.7							
PETK	Petropavlovsk-	73.31	345	P		P	16 56 41.6	+0.4
	1.8nm,1.0s,baz=190,slow=7.3,SNR=4.3							
NVAR	Mina Array Bea	79.40	44	P		P	16 57 13.4	-1.8
	0.3nm,0.6s,baz=202,slow=6.8,SNR=2.4							
TXAR	Lajitas Array	86.07	58	P		P	16 57 49.8	+0.9
	0.4nm,0.7s,baz=224,slow=5.2,SNR=5.7							
PDAR	Pinedale Array	87.33	44	P		P	16 57 54.6	0.0
	0.2nm,0.4s,baz=240,slow=6.8,SNR=2.7							
BRTR	Keskin Array B	144.37	315	PKP		PKPbc	17 04 38.9	-0.9
	0.8nm,0.9s,baz=93,slow=2.5,SNR=3.9							
GERES	GERESS Array B	147.25	345	PKPbc		**PKPbc**	17 04 47.5	-0.1
	0.2nm,0.4s,baz=34,slow=0.4,SNR=2.7							

IDC 10 17:12:01.1±1.5, 0°.66N×97°.32E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/26, mbtmp3.5/8, ML2.8/1, Error ellipse: s-maj=40.2km s-min=19.3km az=74.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.66	37		Pn	Pn	17 12 45.6	+0.2
	1.7nm,0.3s,baz=209,slow=14,SNR=4.1							
PSI					Sn	Sn	17 13 15.8	-2.8
	3.3nm,0.3s,baz=48,slow=21,SNR=5.8							
CMAR	Chiang Mai Arr	17.76	5	P		Pn	17 16 08.8	-1.2
	baz=197,slow=11,SNR=4.5							
WRA	Warramunga Arr	41.65	122	P		P	17 19 51.2	-0.4
	0.4nm,0.5s,baz=304,slow=8.4,SNR=5.3							
ASAR	Alice Springs	42.98	127	P		P	17 20 02.2	-0.2
	0.5nm,0.6s,baz=294,slow=7.5,SNR=15							
ASAR				PcP		PcP	17 21 52.6	-0.5
	0.5nm,1.0s,baz=321,slow=3.3,SNR=4.9							
KSRS	Korea Array	46.22	34	P		P	17 20 27.8	-0.2
	1.2nm,0.7s,baz=223,slow=8.7,SNR=6.0							
MKAR	Makanchi Array	47.79	346	P		P	17 20 40.6	+0.3
	0.2nm,0.5s,baz=160,slow=8.2,SNR=4.7							
STKA	Stephens Creek	52.91	132	P		P	17 21 19.6	+0.3
	1.2nm,0.7s,baz=318,slow=12,SNR=3.8							
ZALV	Zalesovo Beam	54.10	351	P		P	17 21 27.3	-0.4
	0.3nm,0.4s,baz=165,slow=6.0,SNR=2.3							

IDC 10 17:22:01.6±2.2, 16°.85S×175°.44W, h242km±23km, mb3.5/4, mb1 3.7/5, mb1mx3.2/20, mbtmp3.5/5, Error ellipse: s-maj=139.2km s-min=17.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.58	51	P		Pn	17 23 14.1	+1.8
	3.3nm,0.3s,baz=224,slow=21,SNR=12							
AFI				S		S	17 24 07.6	-0.6
	32nm,0.3s,baz=20,slow=20,SNR=17							
STKA	Stephens Creek	41.62	241	P		P	17 29 26.6	+0.2
	1.0nm,0.5s,baz=94,slow=10,SNR=3.5							
WRA	Warramunga Arr	47.62	258	P		P	17 30 13.3	-0.6
	1.4nm,0.5s,baz=94,slow=7.1,SNR=31							
ASAR	Alice Springs	47.81	253	P		P	17 30 15.1	-0.1
	8.4nm,0.6s,baz=88,slow=8.6,SNR=203							

ILAR	Eielson Array	84.25	12	P		P	17 34 05.8 +0.2
	0.3nm,0.5s,baz=222,slow=5.9,SNR=6.6						
ARCES	ARCESS Array B	125.75	351	PKP		PKPdf	17 40 31.7 -2.0
	0.6nm,0.8s,baz=347,slow=3.7,SNR=3.5						
BRTR	Keskin Array B	145.98	318	PKPbc		PKPbc	17 41 13.5 +0.2
	0.7nm,0.9s,baz=2.9,slow=2.9,SNR=3.6						
GERES	GERESS Array B	147.23	349	PKPbc		PKPbc	17 41 16.2 -0.2
	0.4nm,0.6s,baz=47,slow=3.3,SNR=3.4						

*ISCJB **10** 17:46:21.8±0.7, 3°.06S±0°.02×143°.29E±0°.02, h7km±4km, mb5.7/220, MS5.0/57, Error ellipse: s-maj=3.6km s-min=3.2km az=136.9*
*IDC **10** 17:46:22.2±0.3, 3°.13S×143°.15E, h0km, mb5.3/34, mb1 5.3/38, mb1mx5.3/38, mbtmp5.3/38, ML4.9/3, MS5.1/20, Ms1 5.1/20, ms1mx4.8/32, Error ellipse: s-maj=7.8km s-min=5.7km az=83.0*
*SZGRF **10** 17:46:23.4, 2°.40S×143°.82E, h33km, mb5.1, Ninigo Islands, Papua New Guinea, region*
*NEIC **10** 17:46:23.6±0.1, 3°.13S×143°.20E, h10km, mb5.9/118, MW5.6, Error ellipse: s-maj=3.3km s-min=3.0km az=68.0*
*BJI **10** 17:46:23.8, 3°.26S×143°.69E, h40km, mB5.9/47, mb5.4/61, Ms5.2/60, Ms7 4.9/56*
*AUST **10** 17:46:23.7±1.1, 3°.25S×143°.23E, h0km, Error ellipse: s-maj=1.0km s-min=0.5km az=38.0*
*BKK **10** 17:46:26.7±0.2, 3°.S±4°×14°.3E±°, h10km, M5.8/47, mb5.7/47, mB6.2/40, MLv5.9/1, Mw(mB)5.8/40, Mwp5.5/3*
*MOS **10** 17:46:26.2±1.1, 3°.03S×143°.24E, h33km, mb6.1/57, MS5.0/19, Error ellipse: s-maj=7.8km s-min=4.8km az=110.1*
*GCMT **10** 17:46:27.8±0.1, 3°.01S×143°.13E, h12km, MW5.7, Moment Tensor Solution. s95,c173; s59,c70; Moment tensor: Scale 10^{17}Nm; M_{rr}3.59±.04; $M_{\theta\theta}$-3.60±.04; $M_{\phi\phi}$0.02±.04; $M_{r\theta}$-0.83±.11; $M_{r\phi}$1.70±.03; $M_{\theta r}$-0.15±.12; Best double couple: $M_0$4.00000×10^{17} NP1:ϕ_s284.00000°, δ51.00000°, λ79.00000°. NP2:ϕ_s120.00000°, δ40.00000°, λ103.00000°. Principal axes: T 3.7200, Plg80.0000°, Azm143.0000°; N 0.6300, Plg8.0000°, Azm290.0000°; P -4.3400, Plg5.0000°, Azm21.0000°; Data Used: II IU CN IC G. Surface waves: sta=116, comp=251, per= 50.*
*DJA **10** 17:46:28.8±1.1, 3°.S±4°×14°.3E±°, h29km±8km, M5.9/59, mb5.8/59, mB6.2/57, MLv5.9/5, Mw(mB)5.9/57, Mwp5.7/7*
*NEIC **10** 17:46:32.7±0.0, 2°.88S×143°.06E, h10km, Moment Tensor Solution. s130 Moment tensor: Scale 10^{17}Nm; M_{rr}2.98; $M_{\theta\theta}$-2.78; $M_{\phi\phi}$-0.20; $M_{r\theta}$-1.41; $M_{r\phi}$1.22; $M_{\theta r}$-1.52; Best double couple: $M_0$3.70000×10^{17} NP1:ϕ_s266.00000°, δ58.00000°, λ59.00000°. NP2:ϕ_s135.00000°, δ44.00000°, λ130.00000°. Principal axes: T 4.0500, Plg62.0000°, Azm122.0000°; N -0.6800, Plg26.0000°, Azm283.0000°; P -3.3700, Plg7.0000°, Azm17.0000°;*
ISC 10 17:46:26.9±0.3, 3°.15S±0°.02×143°.23E±0°.03, h31km±1km, h30km:pP-P, n1686, σ1°.29/1885, mb5.9/230, MS5.0/61, 431C-423D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.60	284		P	Pn	17 47 05.1	-1.8
MANU	Manus Island	4.27	75		P	Pn	17 47 29.1	-0.8
	baz=4.3,SNR=51							
MMPI	Merauke	6.00	208		P	Pn	17 47 56.5	+2.9
	3μm,1.8s,64μm127μm35nm							
MMPI	Merauke	6.00	208		P	Pn	17 47 56.2	+2.7
	baz=5.9,SNR=16							
SRPI	Serui, Papua	7.10	280		P	Pn	17 48 08.1	-0.6
	598nm,0.9s,7μm1.9nm							
PMG	Port Moresby	7.34	148		Pn	Pn	17 48 13.0	+0.9
PMG					Sn	Sn	17 49 38.7	+4.3
PMG	Port Moresby	7.34	148		P	Pn	17 48 13.0	+0.9
	728nm,1.2s,10μm17μm3.3nm							
PMG	Port Moresby	7.34	148		Pn	Pn	17 48 13.0	+0.9
	5.1nm,0.3s,baz=337,slow=8.7,SNR=34							
PMG					Sn	Sn	17 49 38.7	+4.3
	7.7nm,0.3s,baz=313,slow=19,SNR=2.3							
BAKI	Biak	7.38	285		P	Pn	17 48 13.5	+0.9
RABL	Rabaul	8.97	97		P	Pn	17 48 46.8	+12
	baz=9.0,SNR=5.4							
RKPI	Ransiki, Papua	9.19	280		P	Pn	17 48 39.1	+1.6
	314nm,1.1s,4μm							
COEN	Coen	10.74	180		P	Pn	17 49 02.5	+3.8
	baz=11,SNR=25							
FAKI	Fak Fak	10.97	271		P	Pn	17 49 13.7	+12
FAKI	Fak Fak	10.97	271		P	Pn	17 49 06.1	+4.3
	baz=11,SNR=11							
SWI	Sorong	12.18	280		P	Pn	17 49 21.4	+3.0
	194nm,1.0s,3μm							
SWI	Sorong	12.18	280		P	Pn	17 49 21.1	+2.7
	baz=12,SNR=6.4							
BNDI	Bandanaira	13.37	264		P	P	17 49 50.0	+6.2
PALU	Palau	13.60	320		P	Pn	17 49 38.7	+0.8
	baz=14,SNR=9.6							
KDU	Kakadu	14.25	228		P	Pn	17 49 44.3	-2.4
	baz=14,SNR=56							
MSAI	Masohi	14.28	269		P	P	17 49 53.1	-0.9
MTSU	Mount Surprise	14.93	176		P	P	17 49 59.1	-2.2
	baz=15,SNR=20							
AAI	Ambon	15.02	268		P	P	17 50 00.1	-2.1
	335nm,0.7s,5μm							
AAI	Ambon	15.02	268		P

DAV	**Davao City (W)**	**20.33 300**	P	**P**	**17 51 00.8**	**-0.1**
	comp=Z,104nm,0.4s,baz=58,slow=10.0,SNR=7.3					
DAV			S	Sn	17 54 56.1	+4.7
	comp=Z,344nm,0.4s,baz=156,slow=19,SNR=6.2					
DAV			LR	LR	17 59 18.1	
	comp=Z,2µm,19.6s,baz=111,slow=38					
LUWI	**Luwuk**	**20.55 275**	P	Pn	17 51 05.0	-0.5
	comp=Z,1µm,1.6s,comp=Z,17µm					
LUWI	**Luwuk**	**20.55 275**	P	Pn	17 51 04.5	-1.0
	baz=21,SNR=10					
GTOI	**Gorontalo**	**20.56 280**	P	Pn	17 51 05.4	-0.2
	comp=Z,3µm,1.3s,comp=Z,25µm					
BATI	**Baumata**	**20.65 249**	P	**P**	**17 51 03.2**	**-1.1**
BATI			S	Sn	17 54 56.7	-2.4
BATI	**Baumata**	**20.65 249**	P	**P**	**17 51 04.8**	**+0.5**
	comp=Z,999nm,0.9s,comp=Z,12µm			comp=Z,697nm		
BATI	**Baumata**	**20.65 249**	P	**P**	**17 51 03.2**	**-1.1**
	comp=Z,631nm,0.9s,baz=99,slow=9.6,SNR=54					
BATI			S	Sn	17 54 56.7	-2.4
	comp=Z,48nm,0.9s,baz=232,slow=19,SNR=2.4					
BBSI	**Bau Bau**	**20.73 263**	P	Pn	17 51 09.7	+2.0
	comp=Z,879nm,1.3s,comp=Z,15µm					
BUKP	**Musuan**	**21.18 301**	*e*P	**P**	**17 51 09.6**	**-0.4**
KKSI	**Kolaka, Sulawe**	**21.56 267**	P	**P**	**17 51 18.4**	**+4.3**
	comp=Z,593nm,1.1s,comp=Z,7µm					
CTBH	**Cotabato--PC H**	**21.57 299**‖	*e*P	**P**	**17 51 13.4**	**-0.7**
MMRI	**Maumere**	**21.57 254**	P	**P**	**17 51 13.2**	**-1.0**
	comp=Z,324nm,1.8s,comp=Z,6µm					
MRSI	**Marisa**	**21.58 279**	P	**P**	**17 51 16.0**	**+1.7**
	comp=Z,511nm,1.5s,comp=Z,6µm					
ASAR	**Alice Springs**	**22.30 203**	P	**P**	**17 51 21.1**	**-1.0**
ASAR			S	**S**	**17 55 24.8**	**-1.0**
ASAR			PKiKP	**PKiKP**	**18 03 02.4**	**-0.7**
ASAR			*e*		18 25 04.4	
ASAR			PKKKP		18 25 52.0	
ASAR			P'P'		18 26 37.1	
ASAR	**Alice Springs**	**22.30 203**	P	**P**	**17 51 21.1**	**-1.0**
	comp=Z,24nm,0.7s,baz=31,slow=11,SNR=156					
ASAR			S	**S**	**17 55 24.8**	**-1.0**
	comp=Z,7.1nm,0.9s,baz=27,slow=18,SNR=4.5					
ASAR			LR	LR	18 00 26.8	
	comp=Z,14µm,18.9s,baz=31,slow=38					
ASAR			PKiKP	**PKiKP**	**18 03 02.4**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=64,slow=2.2,SNR=5.0					
ASAR			P3KPbc		18 25 04.4	
	comp=Z,1.6nm,1.0s,baz=198,slow=4.5,SNR=7.2					
ASAR			P3KP		18 25 52.0	
	comp=Z,0.8nm,0.9s,baz=234,slow=0.8,SNR=4.2					
ASAR			PKPPKP	**P'P'df**	**18 26 37.1**	**-2.0**
	comp=Z,0.2nm,0.9s,baz=193,slow=3.7,SNR=3.6					
PAGZ	**Pagadian**	**22.61 299**	*e*P	**P**	**17 51 25.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.76 228**	P	**P**	**17 51 26.1**	**-0.8**
FITZ			S	**S**	**17 55 32.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**22.76 228**	P	**P**	**17 51 26.1**	**-0.8**
	comp=Z,176nm,0.9s,baz=47,slow=10,SNR=98					
FITZ			S	**S**	**17 55 32.5**	**-1.5**
	comp=Z,77nm,1.2s,baz=2.8,slow=18,SNR=2.8					
FITZ	**Fitzroy Crossi**	**22.76 228**	P	**P**	**17 51 24.6**	**-2.3**
	baz=23,SNR=251					
TOLI	**Toli-Toli**	**22.82 280**	P	**P**	**17 51 29.7**	**+2.1**
	comp=Z,480nm,1.1s,comp=Z,9µm			comp=Z,8µm		
BSSI	**Bau Bau, Buton**	**22.86 262**	P	**P**	**17 51 30.5**	**+2.5**
	comp=Z,870nm,1.4s,comp=Z,12µm					
PLP	**Palo**	**23.06 308**‖	*e*P	**P**	**17 51 25.9**	**-4.1**
BKSI	**Bulukumba**	**23.14 264**	P	**P**	**17 51 31.0**	**+0.1**
	comp=Z,292nm,1.3s,comp=Z,4µm			comp=Z,5µm		
IPIL	**Ipil**	**23.30 298**	*e*P	**P**	**17 51 33.6**	**+1.2**
TTSI	**Tana Toraja**	**23.38 270**	P	**P**	**17 51 36.4**	**+3.2**
	comp=Z,440nm,1.4s,comp=Z,9µm					
KAPI	**Kappang**	**23.49 265**	P	**P**	**17 51 34.8**	**+0.4**
	SNR=37					
KAPI	**Kappang**	**23.49 265**	*e*P	**P**	**17 51 33.4**	**-0.9**
	comp=Z,672nm,1.5s					
KAPI	**Kappang**	**23.49 265**	P	**P**	**17 51 34.4**	**+0.1**
	comp=Z,282nm,1.5s,comp=Z,7µm					
KAPI	**Kappang**	**23.49 265**	P	**P**	**17 51 34.0**	**-0.3**
	comp=Z,57nm,0.9s,baz=114,slow=8.7,SNR=16					
KAPI			S	**S**	**17 55 46.4**	**+0.1**
	comp=Z,5.0nm,0.9s,baz=128,slow=19,SNR=1.8					
BASI	**Baing, Sumba**	**23.56 252**	P	**P**	**17 51 36.1**	**+1.1**
	comp=Z,2µm,1.4s,comp=Z,18µm					
WSI	**Waingapu**	**23.68 253**	P	**P**	**17 51 36.5**	**+0.4**
	comp=Z,515nm,1.4s,comp=Z,10µm					
RMQ	**Roma**	**23.80 168**	P	**P**	**17 51 39.2**	**+2.0**
	baz=24,SNR=215					
LBFI	**Labuhan Bajo,**	**23.81 256**	P	P	17 51 48.5	+11
MMSI	**Mamuju**	**24.29 270**	P	**P**	**17 51 42.8**	**+0.9**
	comp=Z,647nm,1.4s,comp=Z,12µm			comp=Z,14µm		
RCP	**Roxas**	**25.07 306**‖	*e*P	**P**	**17 51 49.6**	**+0.7**
SGKI	**Sangatta, Kali**	**25.74 275**	P	P	17 52 05.6	+11
MYLDM	**Lahad Datu**	**26.05 288**	P	**P**	**17 51 59.0**	**+1.2**
MYLDM	**Lahad Datu**	**26.05 288**	P	**P**	**17 51 59.7**	**+1.9**
	comp=Z,360nm,1.7s,comp=Z,7µm					
BKB	**Balikpapan**	**26.38 273**	P	P	17 52 07.9	+7.1
TSM	**Tawau**	**26.39 286**	P	**P**	**17 52 01.2**	**+0.3**
KBKI	**Kotabaru**	**27.02 269**	P	**P**	**17 52 08.4**	**+1.8**
	comp=Z,203nm,1.0s,comp=Z,2µm					
KWAJ	**Kwajalein Atol**	**27.05 64**	*e*P	**P**	**17 52 08.0**	**+1.1**
KWAJ	**Kwajalein Atol**	**27.05 64**	*e*P	**P**	**17 52 08.0**	**+1.1**
SDKM	**Sandakan**	**27.43 289**	P	**P**	**17 52 10.6**	**+0.3**
MTNI	**Mataram**	**27.45 257**	P	**P**	**17 52 14.2**	**+3.7**
	comp=Z,131nm,1.5s,comp=Z,2µm					
TGY	**Tagaytay City**	**27.97 308**	P	**P**	**17 52 15.2**	**+0.1**
TGY	**Tagaytay City**	**27.97 308**	P	**P**	**17 52 15.2**	**+0.1**
	comp=Z,168nm,0.3s,baz=124,slow=6.6,SNR=5.5					
KDM	**Kudat**	**28.18 291**	P	**P**	**17 52 17.1**	**+0.1**
ARMA	**Armidale**	**28.27 165**	P	**P**	**17 52 18.6**	**+1.0**
	baz=28,SNR=8.1					
CMSA	**Cobar Meteorol**	**28.34 176**	P	**P**	**17 52 19.3**	**+1.1**
	baz=28,SNR=30					
CMSA			S	S	17 57 11.9	+9.1
	baz=28,SNR=4.7					
BBKI	**Banjar Baru**	**28.34 269**	P	**P**	**17 52 19.9**	**+1.4**
	comp=Z,544nm,1.2s,comp=Z,7µm					
IGBI	**Denpasar**	**28.48 257**	P	P	17 52 26.9	+7.2
KKM	**Kota Kinabalu**	**28.48 289**	*e*P	**P**	**17 52 18.8**	**-1.0**
	comp=Z,198nm,1.0s					
KKM	**Kota Kinabalu**	**28.48 289**	P	**P**	**17 52 19.5**	**-0.3**
KKM	**Kota Kinabalu**	**28.48 289**	P	**P**	**17 52 20.1**	**+0.3**
	comp=Z,191nm,1.1s,comp=Z,2µm					
KKM	**Kota Kinabalu**	**28.48 289**	P	**P**	**17 52 19.4**	**-0.3**
	baz=28,SNR=6.3					
STKA	**Stephens Creek**	**28.62 183**	*e*P	**P**	**17 52 20.7**	**0.0**
	comp=Z,0.6nm,1.8s					
STKA			S	**S**	**17 57 12.1**	**+4.7**
STKA	**Stephens Creek**	**28.62 183**	P	**P**	**17 52 21.0**	**+0.3**
	comp=Z,31nm,0.7s,baz=357,slow=8.3,SNR=33					
STKA			S	**S**	**17 57 12.1**	**+4.7**
	comp=Z,12nm,1.0s,baz=12,slow=19,SNR=3.3					
STKA			LR	LR	18 05 11.6	
	comp=Z,8µm,18.1s,baz=1.9,slow=40					
STKA	**Stephens Creek**	**28.62 183**	P	**P**	**17 52 21.1**	**+0.4**
	baz=29,SNR=38					
MBWA	**Marble Bar**	**29.04 230**	P	**P**	**17 52 24.9**	**+0.4**
	SNR=15					
MBWA	**Marble Bar**	**29.04 230**	*e*P	**P**	**17 52 24.1**	**-0.4**
	comp=Z,11nm,1.5s					
BYJI	**Banyuwangi**	**29.16 259**	P	P	17 52 32.4	+6.7
DZM	**Mont Dzumac**	**29.36 132**	*e*P	**P**	**17 52 26.0**	**-1.4**
	comp=Z,120nm,1.2s					
DZM			*e*S	**S**	**17 57 22.5**	**+3.2**
	comp=Z,1µm,29.3s					
DZM			*e*LR	LR	18 00 20.4	
	comp=Z,6µm,25.6s					
DZM	**Mont Dzumac**	**29.36 132**	P	**P**	**17 52 27.4**	**0.0**
DZM	**Mont Dzumac**	**29.36 132**	P	**P**	**17 52 27.4**	**0.0**
	comp=Z,23nm,1.1s,baz=310,slow=11,SNR=7.7					
KMMI	**Kalianget**	**29.40 261**	P	P	17 52 40.4	+13
GMJI	**Gumukmas**	**30.06 259**	P	P	17 52 45.1	+11
BBOO	**Buckleboo**	**30.27 192**	P	**P**	**17 52 35.8**	**+0.5**
	baz=30,SNR=167					
BBOO			S	**S**	**17 57 32.2**	**-1.0**
	baz=30,SNR=5.0					
BTM	**Bintulu**	**30.79 282**	P	**P**	**17 52 40.7**	**+0.6**
FORT	**Forrest**	**31.00 206**	P	**P**	**17 52 42.5**	**+0.8**
	baz=31,SNR=93					
YNG	**Young**	**31.36 172**	P	**P**	**17 52 46.4**	**+1.4**
	baz=31,SNR=33					
SBUM	**Sibu**	**31.49 280**	P	**P**	**17 52 47.3**	**+1.0**
SBUM	**Sibu**	**31.49 280**	P	**P**	**17 52 47.0**	**+0.7**
	comp=Z,205nm,1.6s,comp=Z,3µm					
PBKI	**Pangkalan Bun**	**31.52 270**	P	P	17 52 53.3	+6.7
PWJI	**Pagerwojo**	**31.64 260**	P	**P**	**17 52 46.1**	**-1.5**
	comp=Z,84nm,1.2s,comp=Z,2µm					
SJI	**Sawahan**	**31.64 260**	P	**P**	**17 52 49.2**	**+1.4**
	comp=Z,73nm,0.9s,comp=Z,2µm					
STKI	**Sintang**	**31.90 275**	P	**P**	**17 52 51.1**	**+1.2**
	comp=Z,173nm,1.4s,comp=Z,3µm					
PCJI	**Pacitan**	**32.28 260**	P	**P**	**17 52 54.4**	**+1.2**
	comp=Z,118nm,1.4s					
CNB	**Canberra Magne**	**32.51 171**	P	**P**	**17 52 56.5**	**+1.5**
	baz=33,SNR=11					
UGM	**Wanagama**	**32.89 260**	P	P	17 53 11.3	+13
UGM	**Wanagama**	**32.89 260**	S	**S**	**17 58 09.9**	**-4.8**
	baz=33,SNR=4.1					
JOW	**Kunigami**	**33.12 335**	*e*P	**P**	**17 53 00.1**	**-0.3**
	comp=Z,388nm,2.0s					
MEEK	**Meekatharra**	**33.19 223**	P	**P**	**17 53 00.9**	**-0.2**
	baz=33,SNR=26					
KSM	**Kuching**	**33.23 277**	*e*P	**P**	**17 53 01.4**	**-0.2**
	comp=Z,612nm,1.3s					
KSM	**Kuching**	**33.23 277**	P	**P**	**17 53 01.9**	**+0.3**
KSM	**Kuching**	**33.23 277**	P	**P**	**17 53 02.3**	**+0.7**
	comp=Z,428nm,1.5s,comp=Z,5µm					
KSM	**Kuching**	**33.23 277**	P	**P**	**17 53 02.1**	**+0.5**
	baz=33,SNR=10					
ARPS	**Mount Arapiles**	**33.48 182**	P	**P**	**17 53 04.9**	**+1.4**
	baz=34,SNR=29					
MILA	**Mila**	**34.18 172**	P	**P**	**17 53 10.9**	**+1.2**
	baz=34,SNR=25					
MILA			S	S	17 58 21.8	-13
	baz=34,SNR=15					
TOO	**Toolangi**	**34.32 177**	P	**P**	**17 53 12.6**	**+1.8**
	baz=34,SNR=9.7					
NACB	**Ninganchiao**	**34.36 323**	*e*P	**P**	**17 53 10.6**	**-0.6**
	comp=Z,155nm,1.2s					
YHNB	**Yeheng**	**34.86 324**	*e*P	**P**	**17 53 16.6**	**+0.9**
	comp=Z,245nm,1.4s					
TATO	**Taipei**	**35.03 324**	*e*P	**P**	**17 53 16.9**	**-0.1**
	comp=Z,488nm,1.8s					
CISI	**Cisompet, Garu**	**35.52 261**	P	**P**	**17 53 20.9**	**-0.6**
	comp=Z,208nm,1.8s,comp=Z,3µm					
CISI	**Cisompet, Garu**	**35.52 261**	P	**P**	**17 53 19.4**	**-2.1**
	baz=36,SNR=5.5					
TPI	**Tanjungpandan**	**35.53 270**	P	P	17 53 25.3	+3.8
	comp=Z,223nm,1.3s,comp=Z,3µm					
LEM	**Lembang**	**35.66 263**	P	**P**	**17 53 24.9**	**+2.1**
	comp=Z,133nm,1.8s,comp=Z,3µm					
FUNA	**Funafuti**	**36.16 100**	*e*P	**P**	**17 53 26.5**	**-0.4**
	comp=Z,242nm,1.2s					
CBJI	**Citeko**	**36.39 263**	P	**P**	**17 53 31.3**	**+2.4**
	comp=Z,390nm,1.2s,comp=Z,7µm					
MORW	**Morawa**	**36.50 222**	P	**P**	**17 53 29.8**	**+0.1**
	baz=36,SNR=27					
DBJI	**Dramaga**	**36.50 263**	P	**P**	**17 53 31.1**	**+1.3**
	comp=Z,156nm,1.5s,comp=Z,2µm					
SKJI	**Sukabumi**	**36.72 263**	P	**P**	**17 53 34.9**	**+3.2**
	comp=Z,157nm,1.1s,comp=Z,3µm					
QZH	**Quanzhou**	**36.77 321**‖	*i*P	**P**	**17 53 30.9**	**-1.0**
QZH			S	**S**	**17 59 11.1**	**-3.0**
QZH			pmax	pmax		
	comp=Z,320nm,1.2s					
QZH			pmax	pmax		
	comp=Z,3µm,5.0s					
BLDU	**Ballidu**	**37.07 220**	P	**P**	**17 53 34.3**	**-0.2**
	baz=37,SNR=21					
MSVF	**Nonsavu**	**37.08 116**	*e*P	**P**	**17 53 35.2**	**+0.4**
MSVF			pmax	pmax		
	comp=Z,149nm,1.4s					
MSVF	**Nonsavu**	**37.08 116**	*e*P	**P**	**17 53 35.2**	**+0.4**
	comp=Z,149nm,1.4s					
KLBR	**Kellerberrin**	**37.09 217**	P	**P**	**17 53 34.2**	**-0.4**
	baz=37,SNR=12					
JNU	**Nakatsue**	**37.92 343**	*e*P	**P**	**17 53 41.3**	**-0.2**
	comp=Z,199nm,1.8s					
JNU			PcP	**PcP**	**17 55 57.3**	**-0.1**
JNU			S	**S**	**17 59 32.0**	**+0.5**
JNU	**Nakatsue**	**37.92 343**	P	**P**	**17 53 41.4**	**-0.2**
	comp=Z,17nm,1.0s,baz=133,slow=4.2,SNR=4.8					
JNU			PcP	**PcP**	**17 55 57.3**	**-0.1**
	comp=Z,33nm,1.0s,baz=115,slow=3.0,SNR=5.6					
JNU			S	**S**	**17 59 32.0**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=187,slow=16,SNR=2.7					
JNU			LR	LR	18 08 06.4	
	comp=Z,1µm,18.9s,baz=159,slow=34					
BLSI	**Bandar Lampung**	**37.94 265**	P	P	17 53 48.8	+6.7
NWAO	**Narrogin (SRO)**	**38.34 216**	*e*P	**P**	**17 53 45.3**	**+0.1**
	comp=Z,396nm,1.9s					
NWAO			S	**S**	**17 59 38.8**	**+0.9**
NWAO	**Narrogin (SRO)**	**38.34 216**	P	**P**	**17 53 45.2**	**+0.1**
	comp=Z,43nm,0.8s,baz=72,slow=8.5,SNR=12					
NWAO			S	**S**	**17 59 38.8**	**+0.9**
	comp=Z,18nm,1.1s,baz=95,slow=13,SNR=2.1					
PMBI	**Palembang**	**38.40 269**	P	P	17 53 50.6	+4.6
	comp=Z,765nm,1.2s,comp=Z,7µm					
KLSI		**38.44 266**	P	**P**	**17 53 48.5**	**+2.2**
	comp=Z,106nm,1.3s,comp=Z,2µm					
KASI	**Kota Agung**	**38.69 265**	P	**P**	**17 53 47.8**	**-0.6**
	comp=Z,366nm,1.0s,comp=Z,3µm					
LWLI	**Liwa**	**39.11 266**	P	**P**	**17 53 54.2**	**+2.1**
	comp=Z,407nm,1.7s,comp=Z,4µm					
MOO	**Moorlands**	**39.28 175**	P	**P**	**17 53 55.3**	**+2.4**
	baz=39,SNR=15					
QIZ	**Qiongzhong**	**39.55 305**	P	**P**	**17 53 54.9**	**-0.6**
QIZ			S	**S**	**17 59 56.1**	**-0.4**
QIZ			pmax	pmax		
	comp=Z,500nm,5.4s					
QIZ			LR	LR		
	comp=N,1µm,23.9s					
QIZ			LR	LR		
	comp=E,380nm,16.2s					
QIZ			LR	LR		
	comp=Z,1µm,22.1s					
QIZ	**Qiongzhong**	**39.55 305**	*e*P	**P**	**17 53 54.6**	**-0.9**
	comp=Z,160nm,1.2s					
MYKOM	**Kota Tinggi**	**39.67 277**	P	**P**	**17 53 56.7**	**+0.1**
MYKOM	**Kota Tinggi**	**39.67 277**	P	**P**	**17 53 56.5**	**-0.1**
	comp=Z,214nm,1.4s,comp=Z,4µm					
RKGY	**Rocky Gully**	**39.69 215**	P	P	17 54 03.5	+7.0
	baz=40,SNR=5.2					
BTDF	**Bukit Timah Da**	**39.70 276**	P	**P**	**17 53 56.8**	**0.0**
	baz=40,SNR=4.4					
BTDF			P	**P**	**17 53 56.8**	**0.0**
	baz=40,SNR=4.4					
TAU	**Tasmania Unive**	**39.76 175**	*e*P	**P**	**17 53 58.2**	**+1.3**
TAU			pmax	pmax		
	comp=Z,527nm,1.4s					
TAU	**Tasmania Unive**	**39.76 175**	*e*P	**P**	**17 53 58.2**	**+1.3**
	comp=Z,527nm,1.4s					
MJAR	**Matsushiro Arr**	**39.76 354**	P	**P**	**17 53 55.6**	**-1.4**
MJAR			PcP	**PcP**	**17 56 03.0**	**0.0**
MJAR			S	**S**	**18 00 02.8**	**+3.7**
MJAR	**Matsushiro Arr**	**39.76 354**	P	**P**	**17 53 55.6**	**-1.4**
	comp=Z,36nm,1.3s,baz=168,slow=7.7,SNR=19					
MJAR			PcP	**PcP**	**17 56 03.0**	**0.0**
	comp=Z,15nm,1.1s,baz=199,slow=3.6,SNR=5.3					
MJAR			S	**S**	**18 00 02.8**	**+3.7**
	comp=Z,1.1nm,0.9s,baz=182,slow=3.7,SNR=2.5					
MJAR			LR	LR	18 08 24.6	
	comp=Z,1µm,21.9s,baz=155,slow=33					
MAT	**Matsushiro**	**39.76 354**	P	**P**	**17 53 54.0**	**-3.0**
MAT			S	S	17 59 41.8	-17
SSE	**Sheshan**	**40.01 330**	P	**P**	**17 54 00.0**	**+0.9**
SSE			pP	**pP**	**17 54 11.0**	**+2.8**
SSE			PP	**PP**	**17 55 32.9**	**+1.4**
SSE			S	**S**	**18 00 04.4**	**+1.4**
SSE			pmax	pmax		
	comp=Z,65nm,0.8s					
SSE			pmax	pmax		
	comp=Z,800nm,4.6s					
SSE			LR	LR		
	comp=N,910nm,29.2s					
SSE			LR	LR		
	comp=E,1µm,29.2s					
SSE			LR	LR		
	comp=Z,1µm,31.7s					
KGM	**Kluang**	**40.23 277**	P	**P**	**17 54 01.6**	**+0.5**
KSI	**Kapahiang**	**40.57 268**	P	P	17 54 11.4	+7.3
KTGM	**Kuala Trenggan**	**40.93 282**	P	**P**	**17 54 07.2**	**+0.2**
RGRI	**Rengat**	**40.97 273**	P	**P**	**17 54 08.0**	**+0.7**
	comp=Z,770nm,1.2s,comp=Z,15µm					
UBPT	**Khong Chiam**	**41.62 297**	P	**P**	**17 54 14.2**	**+1.6**
	comp=Z,54nm,0.9s,comp=Z,2µm					
NJ2	**Nanjing**	**41.97 328**	*e*P	**P**	**17 54 15.7**	**+0.5**
NJ2			sP	**sP**	**17 54 30.0**	**+2.0**
NJ2			S	**S**	**18 00 35.0**	**+2.9**
NJ2			pmax	pmax		
	comp=Z,60nm,1.0s					
NJ2			LR	LR		
	comp=N,1µm,23.4s					
NJ2			LR	LR		
	comp=E,1µm,23.1s					
NJ2			LR	LR		
	comp=Z,3µm,25.2s					
FRIM	**Kepong**	**42.06 278**	P	**P**	**17 54 16.6**	**+0.3**
BKNI	**Bangkinang**	**42.31 274**	P	**P**	**17 54 18.4**	**0.0**
	comp=Z,1µm,1.2s,comp=Z,13µm					
BKNI	**Bangkinang**	**42.31 274**	P	P	17 54 25.0	+6.7
	baz=42,SNR=11					
OUZ	**Omahuta**	**42.55 142**	*e*P	**P**	**17 54 22.1**	**+2.1**
	comp=Z,292nm,1.3s					
KSRS	**Korea Array**	**42.83 342**	P	**P**	**17 54 21.7**	**-0.4**
	comp=Z,19nm,1.0s,baz=160,slow=9.5,SNR=48					
KSRS			PcP	**PcP**	**17 56 13.1**	**+0.1**
	comp=Z,24nm,1.1s,baz=163,slow=4.6,SNR=11					
KSRS			S	**S**	**18 00 48.0**	**+3.4**
	comp=Z,0.8nm,0.9s,baz=83,slow=28,SNR=2.4					
KSRS			LR	LR	18 10 46.1	
	comp=Z,1µm,18.3s,baz=150,slow=34					
KSAR	**Wonju Array Be**	**42.83 342**	P	**P**	**17 54 21.7**	**-0.4**
KSAR			PcP	**PcP**	**17 56 13.1**	**+0.1**
KSAR			S	**S**	**18 00 48.0**	**+3.4**
IPM	**Ipoh**	**42.85 280**	*e*P	**P**	**17 54 21.3**	**-1.4**
	comp=Z,164nm,1.3s					
IPM	**Ipoh**	**42.85 280**	P	**P**	**17 54 22.2**	**-0.5**
IPM	**Ipoh**	**42.85 280**	P	**P**	**17 54 22.4**	**-0.3**
	comp=Z,130nm,1.4s,comp=Z,3µm					
PPI	**Padang Panjang**	**42.89 273**	P	**P**	**17 54 21.9**	**-1.2**
	comp=Z,769nm,1.0s,comp=Z,7µm					
PPI	**Padang Panjang**	**42.89 273**	P	**P**	**17 54 22.3**	**-0.8**
	baz=43,SNR=13					
PANO	**Nakornpanom**	**43.12 299**	P	**P**	**17 54 25.3**	**+0.5**
	comp=Z,323nm,1.3s					
INCN	**Inchon**	**43.27 341**	P	**P**	**17 54 27.0**	**+1.2**
	SNR=5.6					
INCN	**Inchon**	**43.27 341**	*e*P	**P**	**17 54 26.4**	**+0.7**
	comp=Z,365nm,1.6s					
KULM	**Kulim**	**43.35 281**	*e*P	**P**	**17 54 25.4**	**-1.4**
	comp=Z,198nm,1.3s					
KULM	**Kulim**	**43.35 281**	P	**P**	**17 54 26.2**	**-0.5**
KULM	**Kulim**	**43.35 281**	P	**P**	**17 54 26.5**	**-0.3**
	comp=Z,150nm,1.2s,comp=Z,2µm					
WHN	**Wuhan**	**43.39 323**	P	**P**	**17 54 28.5**	**+1.7**
WHN			S	**S**	**18 00 58.6**	**+5.6**
WHN			SS	**SS**	**18 04 03.9**	**-3.8**
WHN			pmax	pmax		
	comp=Z,490nm,2.0s					
WHN			LR	LR		
	comp=Z,1µm,14.6s					
PSI	**Prapat**	**44.68 277**	P	**P**	**17 54 36.6**	**-1.0**
	baz=45,SNR=41					
ERM	**Erimo**	**44.95 360**	*e*P	**P**	**17 54 38.6**	**-0.5**
ERM			pmax	pmax		
	comp=Z,78nm,1.4s					
ERM	**Erimo**	**44.95 360**	*e*P	**P**	**17 54 38.6**	**-0.5**
	comp=Z,78nm,1.4s					
CHAI	**Chaiyaphum**	**44.96 296**	P	**P**	**17 54 39.7**	**+0.1**
	comp=Z,13nm,0.9s,comp=Z,112nm					
TSI	**Tuntungan**	**45.13 278**	P	**P**	**17 54 41.6**	**+0.6**
	comp=Z,405nm,1.0s,comp=Z,6µm					
AFI	**Afiamalu**	**45.67 106**	*e*P	**P**	**17 54 45.8**	**+0.3**
	comp=Z,427nm,1.4s					
AFI	**Afiamalu**	**45.67 106**	P	**P**	**17 54 46.0**	**+0.6**
	comp=Z,190nm,1.2s,baz=282,slow=9.3,SNR=16					
AFI			LR	LR	18 12 01.0	
	comp=Z,1µm,20.4s,baz=272,slow=34					
GYA	**Guiyang**	**45.99 312**‖	*i*P	**P**	**17 54 49.8**	**+2.0**
GYA			pP	**pP**	**17 55 01.2**	**+4.2**
GYA			sP	sP	17 55 06.9	+6.3
GYA			PcP	**PcP**	**17 56 26.0**	**+1.7**
GYA			PP	**PP**	**17 56 37.5**	**+1.5**
GYA			ScP	**ScP**	**18 00 15.9**	**+0.4**
GYA			S	**S**	**18 01 32.4**	**+1.2**
GYA			sS	**sS**	**18 01 48.6**	**+2.3**
GYA			SS	**SS**	**18 04 50.0**	**-6.6**
GYA			pmax	pmax		
	comp=Z,70nm,0.8s					
GYA			pmax	pmax		
	comp=Z,10µm,8.2s					
GYA			LR	LR		
	comp=N,12µm,17.3s					
GYA			LR	LR		
	comp=E,10µm,18.0s					
PKDT	**Phuket**	**46.11 284**	P	**P**	**17 54 51.3**	**+2.5**
	comp=E,153nm,1.0s,comp=E,2µm					
PBKT	**Sadao Pong**	**46.11 297**	P	**P**	**17 54 49.4**	**+0.7**
	comp=E,24nm,2.2s,comp=E,1µm					
PHET	**Kaeng Krachan**	**46.14 291**	P	**P**	**17 54 49.9**	**+0.9**
	comp=E,316nm,1.0s,comp=E,3µm					
LOEI	**Loei**	**46.20 298**	P	**P**	**17 54 46.7**	**-2.7**
	comp=E,103nm,1.2s,comp=E,9µm					
ENH	**Enshi**	**46.30 318**	*e*P	**P**	**17 54 50.1**	**+0.1**
	comp=E,38nm,0.8s					
DL2	**Dalian**	**46.35 337**	P	**P**	**17 54 50.9**	**+0.7**
DL2			S	**S**	**18 01 37.2**	**+1.5**
DL2			pmax	pmax		
	comp=Z,58nm,1.5s					
DL2			pmax	pmax		
	comp=Z,140nm,7.1s					
DL2			LR	LR		
	comp=E,830nm,14.7s					
DL2			LR	LR		
	comp=Z,750nm,28.0s					
URZ	**Urewera**	**46.67 143**	*e*P	**P**	**17 54 50.6**	**-2.2**
	comp=Z,151nm,1.3s					
URZ			S	**S**	**18 01 44.2**	**+3.9**
URZ	**Urewera**	**46.67 143**	P	**P**	**17 54 53.1**	**+0.4**
	comp=Z,64nm,1.1s,baz=315,slow

KMI				LR	LR	
	comp=N,700nm,21.6s					
KMI				LR	LR	
	comp=E,490nm,17.0s					
KMI				LR	LR	
	comp=Z,800nm,23.3s					
KUR	**Kuril'sk**	**48.34**	**4***d*	*i*P	**P**	**17 55 03.5 -2.1**
KUR				*i* S	**S**	**18 02 02.4 -1.4**
KUR				pmax	pmax	
	comp=Z,390nm,1.5s					
KUR				pmax	pmax	
	comp=N,85nm,1.5s					
KUR				pmax	pmax	
	comp=E,76nm,1.5s					
KUR				pmax	pmax	
	comp=Z,1μm,2.6s					
KUR				smax	smax	
	comp=N,574nm,18.0s					
KUR				smax	smax	
	comp=E,399nm,18.0s					
KUR				smax	smax	
	comp=Z,717nm,18.0s					
CMAR	**Chiang Mai Arr**	**48.60 298**		P	**P**	**17 55 08.6 +0.5**
CMAR				S	**S**	**18 02 12.6 +4.3**
CMAR				P'P'		18 26 08.7
CMAR	**Chiang Mai Arr**	**48.60 298**		P	**P**	**17 55 08.6 +0.5**
	comp=Z,7.7nm,0.8s,baz=119,slow=5.7,SNR=37					
CMAR				S	**S**	**18 02 12.6 +4.3**
	comp=Z,0.5nm,0.8s,baz=209,slow=22,SNR=2.2					
CMAR				PKPPKP	P'P'df	18 26 08.7 -5.8
	comp=Z,0.6nm,0.4s,baz=280,slow=5.4,SNR=7.0					
BSI	**Banda Aceh**	**48.64 280**		P	P	17 55 12.8 +4.3
	comp=Z,135nm,1.0s,comp=Z,2μm					
CMMT	**Chiang Mai**	**48.73 298**		P	**P**	**17 55 09.3 +0.2**
	comp=Z,44nm,1.5s,comp=Z,1μm					
CHTO	**Chiang Mai**	**48.73 298**		*e*P	**P**	**17 55 09.3 +0.2**
CHTO				pmax	pmax	
	comp=Z,82nm,1.4s					
CHTO	**Chiang Mai**	**48.73 298**		P	**P**	**17 55 10.3 +1.1**
	SNR=15					
CHTO	**Chiang Mai**	**48.73 298**		*e*P	**P**	**17 55 09.3 +0.2**
	comp=Z,82nm,1.4s					
CHTO	**Chiang Mai**	**48.73 298**		P	**P**	**17 55 09.6 +0.5**
	comp=Z,37nm,2.2s,comp=Z,1μm					
CHTO	**Chiang Mai**	**48.73 298**		P	**P**	**17 55 09.6 +0.5**
	comp=Z,37nm,2.2s,comp=Z,1μm					
MIDW	**Midway**	**49.06**	**48**	*e*P	P	17 55 17.2 +5.7
	comp=Z,426nm,1.6s					
CMAI	**Chiengmai2**	**49.07 300**		P	**P**	**17 55 12.5 +0.6**
	comp=Z,69nm,1.9s,comp=Z,5μm					
MDJ	**Mudanjiang**	**49.09 347**		P	**P**	**17 55 11.4 0.0**
MDJ				pP	**pP**	**17 55 20.2 -0.4**
MDJ				sP	**sP**	**17 55 23.8 -0.5**
MDJ				PcP	**PcP**	**17 56 32.4 -2.3**
MDJ				PP	**PP**	**17 57 05.9 +0.6**
MDJ				S	**S**	**18 02 18.0 +3.5**
MDJ				ScS	**ScS**	**18 05 00.6 -0.8**
MDJ				pmax	pmax	
	comp=Z,57nm,1.2s					
MDJ				pmax	pmax	
	comp=Z,760nm,8.8s					
MDJ				LR	LR	
	comp=N,2μm,33.0s					
MDJ				LR	LR	
	comp=E,630nm,15.5s					
MDJ				LR	LR	
	comp=Z,3μm,38.5s					
MDJ	**Mudanjiang**	**49.09 347**		*e*P	**P**	**17 55 10.6 -0.8**
	comp=Z,75nm,1.1s					
XAN	**Xi'an**	**49.12 322**		P	**P**	**17 55 11.3 -0.6**
XAN				pP	**pP**	**17 55 21.3 +0.2**
XAN				sP	**sP**	**17 55 25.1 +0.3**
XAN				S	**S**	**18 02 13.8 -1.5**
XAN				SS	**SS**	**18 05 40.8 -6.1**
XAN				pmax	pmax	
	comp=Z,23nm,1.5s					
XAN				pmax	pmax	
	comp=Z,200nm,5.9s					
XAN				LR	LR	
	comp=N,500nm,17.9s					
XAN				LR	LR	
	comp=E,190nm,15.9s					
XAN				LR	LR	
	comp=Z,270nm,17.2s					
CN2	**Changchun**	**49.40 343**		⇓*i*P	**P**	**17 55 14.0 +0.2**
CN2				*e*pP	**pP**	**17 55 20.5 -2.5**
CN2				*e*S	**S**	**18 02 19.3 +0.6**
CN2				pmax	pmax	
	comp=Z,60nm,1.2s					
CN2				pmax	pmax	
	comp=Z,950nm,7.0s					
CN2				LR	LR	
	comp=N,1μm,16.0s					
CN2				LR	LR	
	comp=E,2μm,16.0s					
CN2				LR	LR	
	comp=Z,2μm,24.0s					
BJT	**Baijiatuau**	**49.61 333**		*e*P	**P**	**17 55 14.9 -0.6**
	comp=Z,357nm,1.6s					
BJI	**Beijing**	**49.63 333**		P	**P**	**17 55 15.8 +0.2**
BJI				PP	**PP**	**17 57 12.9 +2.6**
BJI				S	**S**	**18 02 22.5 +0.4**
BJI				SS	**SS**	**18 05 55.4 +0.6**
BJI				pmax	pmax	
	comp=Z,61nm,1.5s					
BJI				pmax	pmax	
	comp=Z,920nm,5.9s					
BJI				LR	LR	
	comp=N,940nm,22.9s					
BJI				LR	LR	
	comp=E,2μm,19.8s					
BJI				LR	LR	
	comp=Z,1μm,35.1s					
YSS	**Yuzh-Sakhalins**	**49.89 360**		⇑*e*P	**P**	**17 55 17.3 -0.1**
YSS				*e*		17 55 23.5
YSS				*e*		17 56 38.0
YSS				*e*S	**S**	**18 02 24.0 -1.5**
YSS				pmax	pmax	
	comp=E,500nm,12.0s					
CD2	**Chengdu**	**50.61 315**		⇓*i*P	**P**	**17 55 24.6 +1.3**
CD2				pP	**pP**	**17 55 34.9 +2.4**
CD2				sP	**sP**	**17 55 39.2 +3.0**
CD2				PcP	**PcP**	**17 56 42.2 +1.5**
CD2				PP	**PP**	**17 57 21.5 +2.0**
CD2				S	**S**	**18 02 35.8 -0.4**
CD2				sS	**sS**	**18 02 53.2 +1.7**
CD2				ScS	**ScS**	**18 05 09.4 -3.0**
CD2				SS	**SS**	**18 06 07.8 -3.1**
CD2				pmax	pmax	
	comp=Z,130nm,1.3s					
CD2				pmax	pmax	
	comp=Z,990nm,6.0s					
CD2				LR	LR	
	comp=N,2μm,13.2s					
CD2				LR	LR	
	comp=E,1μm,16.6s					
CD2				LR	LR	
	comp=Z,960nm,15.6s					
HABR	**Khabarovsk**	**51.90 353**		*de*P	**P**	**17 55 30.7 -1.8**
HABR				*e**PP	**pP**	**17 55 40.6 -1.2**
HABR				*e**SP	**sP**	**17 55 44.8 -0.6**
HABR				*e*		17 56 42.6
HABR				*e*		17 57 29.0
HABR				*e*PPP	PPP	17 58 30.6
HABR				*e*S	**S**	**18 02 52.9 -0.4**
HABR				*e*		18 05 18.0
HABR				*e*SS	**SS**	**18 06 30.8 +0.2**
HABR				*e*SSS	SSS	18 08 12.3
HABR				pmax	pmax	
	comp=Z,246nm,2.0s					
HABR				pmax	pmax	
	comp=Z,138nm,1.1s					
HABR				MLR	MLR	
	comp=Z,497nm,18.0s					
HHC	**Hu-ho-hao-te**	**52.47 330**		*e*P	**P**	**17 55 37.0 -0.1**
HHC				PcP	**PcP**	**17 56 47.3 -0.2**
HHC				PP	**PP**	**17 57 37.0 +0.8**
HHC				ScP	**ScP**	**18 00 40.2 -2.5**
HHC				PcS	**PcS**	**18 00 44.8 -1.2**
HHC				S	**S**	**18 02 59.9 -1.8**
HHC				ScS	**ScS**	**18 05 21.1 -3.9**
HHC				SS	**SS**	**18 06 37.8 -2.4**
HHC				pmax	pmax	
	comp=Z,94nm,1.3s					
HHC				pmax	pmax	
	comp=Z,2μm,6.7s					
HHC				LR	LR	
	comp=N,2μm,16.6s					
HHC				LR	LR	
	comp=E,1μm,16.7s					
HHC				LR	LR	
	comp=Z,3μm,16.3s					
BTO	**Baotou**	**53.08 329**		*e*P	**P**	**17 55 41.7 +0.1**
KLR	**Kul'dur**	**53.11 351**		*e*P	P	17 55 37.2 -4.3
KLR				*e*		17 57 42.0
KLR				*e*S	**S**	**18 03 10.5 +0.6**
KLR				*e*		18 05 28.0
KLR				pmax	pmax	
	comp=N,70nm,1.8s					
KLR				pmax	pmax	
	comp=Z,270nm,1.8s					
KLR				pmax	pmax	
	comp=N,700nm,8.5s					
KLR				pmax	pmax	
	comp=Z,2μm,8.5s					
LZH	**Lanzhou**	**53.62 320**		⇑P	**P**	**17 55 46.6 +0.8**
LZH				pP	**pP**	**17 55 57.2 +2.1**
LZH				sP	**sP**	**17 56 01.0 +2.3**
LZH				S	**S**	**18 03 18.8 +1.2**
LZH				sS	**sS**	**18 03 33.0 +0.1**
LZH				SS	**SS**	**18 06 54.5 -4.1**
LZH				pmax	pmax	
	comp=Z,650nm,1.8s					
LZH				pmax	pmax	
	comp=Z,1μm,4.0s					
LZH				LR	LR	
	comp=N,510nm,15.2s					
LZH				LR	LR	
	comp=E,650nm,14.7s					
LZH				LR	LR	
	comp=Z,990nm,17.1s					
SKR	**Severo-Kuril's**	**54.75**	**10**	*e*P	P	17 55 47.5 -5.9
SKR				*e*		17 57 52.0
SKR				*e*S	**S**	**18 03 30.0 -1.9**
SKR				*e*PS	**PnS**	**18 03 38.0 -6.4**
SKR				*e*SS	**SS**	**18 07 14.0 -1.5**
SKR				*e*SSS	SSS	18 09 15.0
SKR				pmax	pmax	
	comp=N,1μm,4.0s					
SKR				pmax	pmax	
	comp=E,1μm,4.0s					
SKR				pmax	pmax	
	comp=Z,2μm,4.0s					
SKR				pmax	pmax	
	comp=E,640nm,1.5s					
SKR				pmax	pmax	
	comp=Z,960nm,1.5s					
SKR				smax	smax	
	comp=N,2μm,6.0s					
SKR				smax	smax	
	comp=E,2μm,6.0s					
SKR				MLR	MLR	
	comp=N,1μm,18.0s					
SKR				MLR	MLR	
	comp=E,1μm,18.0s					
SKR				MLR	MLR	
	comp=Z,1μm,18.0s					
HIA	**Hailar**	**56.04 342**		*e*P	**P**	**17 56 02.5 -0.3**
	comp=Z,153nm,1.2s					
SHL	**Shillong**	**57.32 303**		*e*P	**P**	**17 56 13.9 +1.3**
SHL				⇑*i*P	**P**	**17 56 14.0 +1.3**
PEA0B	**Petropavlovsk-**	**57.36**	**10**	*e*P	**P**	**17 56 12.5 +0.4**
PETK	**Petropavlovsk-**	**57.36**	**10**	P	**P**	**17 56 12.1 0.0**
PETK				S	**S**	**18 04 10.9 +4.3**
PETK	**Petropavlovsk-**	**57.36**	**10**	P	**P**	**17 56 12.1 0.0**
PETK				S	**S**	**18 04 10.9 +4.3**
PETK				⇑*e*		18 26 12.7
PETK	**Petropavlovsk-**	**57.36**	**10**	P	**P**	**17 56 12.1 0.0**
	comp=Z,60nm,1.0s,baz=167,slow=6.9,SNR=74					
PETK				S	**S**	**18 04 10.9 +4.3**
	comp=Z,2.0nm,1.0s,baz=99,slow=19,SNR=2.8					
PETK				LR	LR	18 15 43.7
	comp=Z,994nm,21.4s,baz=197,slow=31					
PETK				PKP2bc		18 26 12.7
	comp=Z,1.4nm,0.9s,baz=64,slow=3.4,SNR=3.1					
PET	**Petropavlovsk**	**57.45**	**11***c*	*i*P	**P**	**17 56 12.5 -0.2**
PET				*e*		17 58 16.5
PET				*e*S	**S**	**18 04 10.3 +2.5**
PET				*e*SS	**SS**	**18 07 55.8 -2.2**
PET				pmax	pmax	
	comp=Z,700nm,4.3s					
PET				pmax	pmax	
	comp=Z,600nm,8.0s					
PET				pmax	pmax	
	comp=Z,112nm,1.2s					
PET				pmax	pmax	
	comp=Z,34nm,1.2s					
PET				MLR	MLR	
	comp=Z,400nm,21.0s					
GTA	**Gaotai**	**58.17 321**		⇑P	**P**	**17 56 18.9 +0.7**
GTA				pP	**pP**	**17 56 26.2 -1.4**
GTA				PcP	**PcP**	**17 57 10.6 +1.0**
GTA				PP	**PP**	**17 58 30.5 +3.1**
GTA				PcS	**PcS**	**18 01 09.8 -1.3**
GTA				S	**S**	**18 04 18.9 +0.9**
GTA				SS	**SS**	**18 08 13.6 +3.5**
GTA				pmax	pmax	
	comp=Z,69nm,1.7s					
GTA				pmax	pmax	
	comp=Z,860nm,5.4s					
GTA				LR	LR	
	comp=N,560nm,15.7s					
GTA				LR	LR	
	comp=E,520nm,12.8s					
GTA				LR	LR	
	comp=Z,580nm,21.8s					
RAR	**Rarotonga**	**58.19 113**		P	**P**	**17 56 18.9 +0.4**
RAR	**Rarotonga**	**58.19 113**		P	**P**	**17 56 18.9 +0.4**
	comp=Z,36nm,0.9s,baz=270,slow=5.8,SNR=3.7					
RAR				LR	LR	18 18 29.3
	comp=Z,440nm,19.3s,baz=271,slow=33					
XMAS	**Kiritimati**	**59.52**	**86**	*e*P	**P**	**17 56 28.6 +0.6**
	comp=Z,108nm,1.2s					
LSA	**Lhasa**	**59.53 307**		P	**P**	**17 56 29.3 +1.0**
LSA				S	**S**	**18 04 36.4 -0.4**
LSA				pmax	pmax	
	comp=Z,50nm,1.7s					
LSA				pmax	pmax	
	comp=Z,690nm,5.4s					
LSA				LR	LR	
	comp=N,260nm,32.5s					
LSA				LR	LR	
	comp=E,720nm,32.5s					
LSA				LR	LR	
	comp=Z,640nm,28.4s					
LSA	**Lhasa**	**59.53 307**		*e*P	**P**	**17 56 29.1 +0.8**
LSA				pmax	pmax	
	comp=Z,123nm,0.9s					
LSA	**Lhasa**	**59.53 307**		*e*P	**P**	**17 56 29.1 +0.8**
	comp=Z,123nm,0.9s					
ULN	**Ulaanbaatar**	**59.84 333**		P	**P**	**17 56 30.6 +0.9**
	SNR=45					
ULN	**Ulaanbaatar**	**59.84 333**		*e*P	**P**	**17 56 30.1 +0.4**
	comp=Z,97nm,1.5s					
ULN	**Ulaanbaatar**	**59.84 333**		P	**P**	**17 56 30.3 +0.6**
SONM	**Songino Array**	**60.12 332**		P	**P**	**17 56 31.6 0.0**
SONM				PcP	**PcP**	**17 57 17.5 +0.4**
SONM				S	**S**	**18 04 47.4 +4.4**
SONM				P'P'		18 25 46.7
SONM				⇑*e*		18 26 02.2
SONM	**Songino Array**	**60.12 332**		P	**P**	**17 56 31.6 0.0**
	comp=Z,5.1nm,0.8s,baz=148,slow=7.5,SNR=40					
SONM				PcP	**PcP**	**17 57 17.5 +0.4**
	comp=Z,8.4nm,1.0s,baz=162,slow=3.7,SNR=5.3					
SONM				S	**S**	**18 04 47.4 +4.4**
	comp=Z,0.3nm,0.8s,baz=126,slow=22,SNR=2.4					
SONM				PKPPKP	P'P'df	18 25 46.7 -8.7
	comp=Z,1.0nm,1.1s,baz=328,slow=2.6,SNR=4.2					
SONM				PKP2bc		18 26 02.2
	comp=Z,10nm,1.3s,baz=300,slow=2.7,SNR=12					
CIT	**Chita**	**60.45 339**		*e*P	**P**	**17 56 33.6 -0.1**
CIT				*e*		17 56 41.3
CIT				*e*		17 56 50.9
CIT				*e*		17 57 19.6
CIT				pmax	pmax	
	comp=Z,339nm,2.6s					
FX1	**Attu Island--F**	**61.25**	**20**	*e*P	**P**	**17 56 39.4 +0.4**
FX1				S	**S**	**18 05 01.9 +5.0**
FX1	**Attu Island--F**	**61.25**	**20**	P	**P**	**17 56 39.1 +0.1**
	comp=Z,75nm,1.0s,baz=275,slow=8.1,SNR=15					
FX1				S	**S**	**18 05 01.9 +5.0**
	comp=Z,4.2nm,0.7s,baz=218,slow=14,SNR=2.6					
FX1				LR	LR	18 19 26.5
	comp=Z,2μm,20.4s,baz=205,slow=32					
SMY	**Shemya**	**61.45**	**21**	*e*P	**P**	**17 56 40.9 +0.6**
SMY				pmax	pmax	
	comp=Z,418nm,1.3s					
SMY	**Shemya**	**61.45**	**21**	*e*P	**P**	**17 56 40.9 +0.6**
	comp=Z,418nm,1.3s					
TAPN	**Taplejung**	**61.45 303**		*e*P	**P**	**17 56 42.2 +0.9**
	comp=Z,535nm,1.3s					
ODAN	**Odare**	**61.55 303**		*e*P	**P**	**17 56 42.4 +0.5**
	comp=Z,464nm,1.0s					
BOK	**Bokaro**	**61.86 299**		*e*P	**P**	**17 56 44.7 +1.0**
BOK				AMB	AMB	17 56 54.5
	comp=Z,106nm,2.1s					
RAMN	**Ramite**	**62.25 303**		*e*P	**P**	**17 56 47.3 +0.7**
	comp=Z,263nm,1.0s					
AMKA	**Amchitka**	**62.40**	**25**	*e*P	**P**	**17 56 46.9 +0.2**
	comp=Z,111nm,1.0s					
KIP	**Kipapa**	**62.43**	**64**	*e*P	**P**	**17 56 48.4 +0.8**
KIP				pmax	pmax	
	comp=Z,552nm,1.6s					
KIP	**Kipapa**	**62.43**	**64**	*e*P	**P**	**17 56 48.4 +0.8**
	comp=Z,552nm,1.6s					
VIS	**Vishakhapatnam**	**62.56 292**		*e*P	**P**	**17 56 46.7 -1.8**
VIS				AMB	AMB	17 57 00.1
	comp=Z,121nm,0.8s					
JIRN	**Jiri**	**62.83 303**		*e*P	**P**	**17 56 51.3 +0.7**
	comp=Z,625nm,1.5s					
GUN	**Gumba**	**63.17 303**		*e*P	**P**	**17 56 53.7 +0.9**
	comp=Z,518nm,0.9s					
PALK	**Pallekele**	**63.25 280**		*e*P	**P**	**17 56 52.2 -1.0**
	comp=Z,314nm,1.7s					
PALK	**Pallekele**	**63.25 280**		P	P	17 57 00.7 +7.5
ZAK	**Zakamensk**	**63.37 333**		⇓*i*P	**P**	**17 56 52.6 -0.8**
ZAK				pmax	pmax	
	comp=Z,45nm,1.3s					
DRV	**Dumont d'Urvil**	**63.44 181**		PP	PP	17 59 09.0 -4.1
DRV				S	S	18 05 10.0 -14
DRV				SS	SS	18 09 19.0 -12
DRV				L	L	18 12 00.0
DRV				R		18 16 00.0
PKI	**Pulchoki**	**63.45 303**		*e*P	**P**	**17 56 54.8 +0.1**
	comp=Z,249nm,1.1s					
PKIN	**Phulchoki**	**63.47 303**		*e*P	**P**	**17 56 55.8 +1.1**
	comp=Z,226nm,1.3s					
KKN	**Kakani**	**63.63 303**		*e*P	**P**	**17 56 56.2 +0.5**
	comp=Z,364nm,0.8s					
DMN	**Daman**	**63.72 303**		*e*P	**P**	**17 56 57.0 +0.6**
	comp=Z,433nm,0.9s					
TLY	**Talaya**	**64.12 334***c*		*i*P	**P**	**17 56 58.6 +0.4**
TLY				*e*		17 57 33.1
TLY				*e*S	**S**	**18 05 34.8 +1.6**
TLY				*e*SS	**SS**	**18 09 42.7 -0.1**
TLY				pmax	pmax	
	comp=Z,95nm,1.8s					
TLY	**Talaya**	**64.12 334**		P	**P**	**17 56 59.4 +1.2**
	comp=Z,209nm,1.3s,SNR=19					
IRK	**Irkutsk**	**64.25 335**		⇑*i*P	**P**	**17 56 58.7 -0.4**
IRK				pmax	pmax	
	comp=Z,158nm,3.1s					
ADK	**Adak**	**64.49**	**26**	*e*P	**P**	**17 57 00.5 -0.1**
ADK				pmax	pmax	
	comp=Z,1μm,1.4s					
ADK	**Adak**	**64.49**	**26**	*e*P	**P**	**17 57 00.5 -0.1**
	comp=Z,1μm,1.4s					
KOLN	**Koldanda**	**65.04 303**		*e*P	**P**	**17 57 05.6 +0.7**
	comp=Z,283nm,0.7s					
DANN	**Dangsing**	**65.08 303**		*e*P	**P**	**17 57 05.7 +0.4**
	comp=Z,355nm,0.7s					
MOY	**Mondy**	**65.31 333**		*e*P	**P**	**17 57 06.5 +0.4**
MOY				pmax	pmax	
	comp=Z,305nm,3.1s					
PYUN	**Piuthan**	**65.65 303**		*e*P	**P**	**17 57 09.2 +0.3**
	comp=Z,652nm,0.8s					
YAK	**Yakutsk**	**65.82 353***c*		*i*P	**P**	**17 57 08.5 -0.5**
YAK				*e**PP	**pP**	**17 57 20.5 +2.0**
YAK				*e*		17 57 38.3
YAK				*e*		17 59 29.4
YAK				*e*PPP	PPP	18 01 11.4
YAK				*e*S	**S**	**18 05 53.4 -0.1**
YAK				*e**SS	**sS**	**18 06 09.4 +0.2**
YAK				*e*		18 07 05.1
YAK				pmax	pmax	
	comp=Z,65nm,1.2s					
YAK				pmax	pmax	
	comp=N,51nm,1.4s					
YAK				pmax	pmax	
	comp=E,12nm,1.4s					
YAK				pmax	pmax	
	comp=N,92nm,2.1s					
YAK				pmax	pmax	
	comp=Z,178nm,2.8s					
YAK				pmax	pmax	
	comp=E,47nm,1.4s					
YAK				smax	smax	
	comp=E,669nm,7.4s					
YAK				smax	smax	
	comp=N,488nm,6.4s					
YAK				MLR	MLR	
	comp=Z,430nm,19.0s					
YAK				MLR	MLR	
	comp=N,362nm,23.0s					
YAK				MLR	MLR	
	comp=E,249nm,22.0s					
JBP	**Jabalpur**	**66.90 297**		⇑*i*P	**P**	**17 57 17.3 +0.6**
JBP				*i* x	x	17 57 29.3
	comp=Z,227nm,1.5s					
JBP				*e*S	**S**	**18 06 09.1 +1.0**
HYB	**Hyderabad**	**66.95 290**		*i* P	**P**	**17 57 16.5 -0.7**
HYB				*e*		17 57 23.0
HYB	**Hyderabad**	**66.95 290**		*e*P	**P**	**17 57 17.8 +0.6**
HYB				AMB	AMB	17 57 19.1
	comp=Z,70nm,0.7s					
CASY	**Casey**	**67.06 194**		*e*P	**P**	**17 57 16.5 -0.4**
	comp=Z,152nm,1.2s					
NGP	**Nagpur**	**67.27 294**		*e*x	P	17 57 15.1 -4.0
NGP				AMB	AMB	17 57 17.4
	comp=Z,96nm,1.0s					
NGP				*e*S	**S**	**18 06 11.8 -0.9**
PPT	**Papeete**	**67.32 108**		P	**P**	**17 57 20.3 +0.8**
PPT	**Papeete**	**67.32 108**		P	**P**	**17 57 20.3 +0.8**
	comp=Z,20nm,0.5s,baz=53,slow=20,SNR=4.3					
PPT				LR	LR	18 22 30.1
	comp=Z,1μm,18.3s,baz=281,slow=32					
PPT2	**Papeete2**	**67.32 108**		*e*P	**P**	**17 57 19.4 -0.2**
	comp=Z,85nm,1.4s					
PPT2				*e*S	**S**	**18 06 17.6 +4.1**
	comp=Z,228nm,23.8s					
PPT2				*e*LQ	LQ	18 14 57.6
	comp=Z,2μm,30.8s					
PPT2				*e*LR	LR	18 17 45.0
	comp=Z,1μm,24.5s					
PAE	**Paea**	**67.32 108**		*e*P	**P**	**17 57 19.1 -0.4**
	comp=Z,22nm,1.4s					
TIAR	**Tiarei**	**67.54 108**		*e*P	**P**	**17 57 20.1 -0.8**
	comp=Z,218nm,1.3s					
TVO	**Taravao**	**67.64 108**		*e*P	**P**	**17 57 20.7 -0.9**
	comp=Z,205nm,1.5s					
TBI	**Tubuai**	**67.94 114**		*e*P	**P**	**17 57 22.3 -1.0**
	comp=Z,319nm,1.1s					
TBI	**Tubuai**	**67.94 114**		*e*LQ	LQ	18 15 14.3
	comp=Z,2μm,34.0s					
TBI				*e*LR	LR	18 18 06.7
	comp=Z,2μm,25.0s					
WMQ	**Urumqi**	**68.20 320**		⇑*i*P	**P**	**17 57 25.3 +0.7**
WMQ				pP	**pP**	**17 57 37.8 +3.6**
WMQ				PP	**PP**	**17 59 57.5 +2.1**
WMQ				ScP		18 01 51.1
WMQ				PcS		18 01 54.9
WMQ				S	**S**	**18 06 21.4 -1.7**
WMQ				sS	**sS**	**18 06 38.7 -0.2**
WMQ				ScS	**SKiKP**	**18 07 18.4 +0.6**
WMQ				SS	**SS**	**18 10 46.8 +0.3**
WMQ				pmax	pmax	
	comp=Z,230nm,1.2s					
WMQ				pmax	pmax	
	comp=Z,1μm,4.7s					
WMQ				LR	LR	
	comp=N,370nm,24.0s					
WMQ				LR	LR	
	comp=E,360nm,25.0s					
WMQ				LR	LR	
	comp=Z,390nm,21.0s					
MEH	**Mehetia**	**68.78 108**		*e*P	**P**	**17 57 28.0 -0.7**

comp=Z,144nm,1.2s
PMOR Pomariorio Ree 68.79 105 *e*P **P 17 57 27.8 -0.9**
comp=Z,399nm,1.4s
BHPL Bhopal 69.21 296 *e*P **P 17 57 31.8 +0.5**
BHPL AMB AMB 17 57 39.1
comp=Z,89nm,1.3s
KAAM Kaadhehdhoo 70.30 272 P P 17 57 50.9 +13
baz=70,SNR=3.1
DDI Dehra Dun 70.42 304 *e*P **P 17 57 40.3 +1.7**
DDI AMB AMB 17 57 50.2
comp=Z,525nm,0.9s
NDI New Delhi 70.69 302 *e*P **P 17 57 40.0 -0.3**
AKUT Akutan 70.99 29 *e*P **P 17 57 41.3 -0.2**
comp=Z,825nm,1.8s
GOA Goa 71.09 287 *e*P **P 17 57 42.4 -0.5**
SMLA Simla 71.38 304 *e*P **P 17 57 44.6 +0.3**
SMLA AMB AMB 17 57 56.8
comp=Z,151nm,2.6s
POO Poona 71.56 291 *e*P **P 17 57 45.0 -0.7**
POO *e*P pP 17 57 46.1 -9.2
POO AMB AMB 17 57 53.6
comp=Z,122nm,0.5s
KRAR Krasnoyarsk 71.78 333 *i*P **P 17 57 47.4 +1.2**
KRAR pmax pmax
comp=Z,64nm,1.5s
MIR Mirnyy 72.20 199⇑*i*P **P 17 57 50.0 +1.4**
MIR pmax pmax
comp=Z,264nm,1.5s
MIR pmax pmax
comp=Z,1µm,2.0s
DHRM DHARAMSHALA 72.39 305 *e*P **P 17 57 50.5 -0.3**
DHRM AMB AMB 17 58 01.5
comp=Z,166nm,3.3s
FALS False Pass 72.54 29 *e*P **P 17 57 50.7 -0.1**
comp=Z,824nm,1.6s
MK31 Makanchi Array 72.93 321 *i*P **P 17 57 53.6 +0.2**
MK31 pmax pmax
comp=Z,193nm,1.1s
MKAR Makanchi Array 72.93 321 P **P 17 57 53.5 +0.1**
MKAR S **S 18 07 20.9 +2.9**
MKAR Makanchi Array 72.93 321 P **P 17 57 53.5 +0.1**
MKAR S **S 18 07 20.9 +2.9**
MKAR P'P' 18 25 31.7
MKAR Makanchi Array 72.93 321 P **P 17 57 53.5 +0.1**
comp=Z,44nm,1.0s,baz=110,slow=6.6,SNR=211
MKAR S **S 18 07 20.9 +2.9**
comp=Z,0.5nm,1.0s,baz=116,slow=6.6,SNR=2.3
MKAR PKPPKP **P'P'df 18 25 31.7 -3.0**
comp=Z,0.9nm,1.0s,baz=318,slow=1.6,SNR=5.0
SDPT Sand Point 74.23 30 *e*P **P 17 57 59.7 -1.1**
comp=Z,439nm,1.1s
ZAA0 Zalesovo Array 74.62 329 *e*P **P 17 58 02.0 -1.1**
ZALV Zalesovo Beam 74.62 329 *i*P **P 17 58 02.2 -0.9**
ZALV pmax pmax
comp=Z,36nm,0.9s
ZALV Zalesovo Beam 74.62 329 P **P 17 58 02.7 -0.4**
ZALV S **S 18 07 36.7 0.0**
ZALV P'P' 18 25 21.5
ZALV Zalesovo Beam 74.62 329 P **P 17 58 02.7 -0.4**
comp=Z,36nm,0.9s,baz=110,slow=5.4,SNR=116
ZALV S **S 18 07 36.7 0.0**
comp=Z,0.2nm,0.3s,baz=146,slow=8.0,SNR=2.1
ZALV PKPPKP P'P'df 18 25 21.5 -10
comp=Z,0.9nm,0.8s,baz=303,slow=2.9,SNR=3.0
ZALV LR LR 18 32 26.6
comp=Z,731nm,20.9s,baz=249,slow=37
KSH Kashi 74.69 312 P **P 17 58 05.5 +1.5**
KSH sP **sP 17 58 19.4 +2.2**
KSH PP **PP 18 00 54.4 +3.1**
KSH S **S 18 07 36.0 -2.4**
KSH pmax pmax
comp=Z,87nm,1.3s
KSH pmax pmax
comp=Z,940nm,6.1s
KSH LR LR
comp=N,310nm,12.9s
KSH LR LR
comp=E,170nm,7.2s
KSH LR LR
comp=Z,450nm,15.0s
VNDA Vanda 74.98 176 *e*P **P 17 58 04.8 0.0**
comp=Z,68nm,1.1s
VNDA S **S 18 07 44.4 +4.3**
VNDA Vanda 74.98 176 P **P 17 58 05.2 +0.4**
comp=Z,24nm,1.1s,baz=327,slow=5.7,SNR=40
VNDA S **S 18 07 44.4 +4.3**
comp=Z,0.5nm,0.6s,baz=89,slow=18,SNR=4.6
VNDA LR LR 18 30 55.5
comp=Z,2µm,18.3s,baz=352,slow=36
ULHL Ulahol 75.33 315 *i*P **P 17 58 08.4 +0.7**
ULHL Ulahol 75.33 315 P **P 17 58 08.4 +0.7**
SNR=27
SBA Scott Base 75.69 175 *e*P **P 17 58 09.9 +1.1**
SBA pmax pmax
comp=Z,159nm,1.5s
SBA Scott Base 75.69 175 *e*P **P 17 58 09.9 +1.1**
comp=Z,159nm,1.5s
CHGN Chignik 75.72 29 *e*P **P 17 58 08.9 -0.4**
NVS Novosibirsk 75.86 329⇑*i*P **P 17 58 09.7 -0.5**
NVS *i* 17 58 17.2
NVS *e* 18 01 01.0
NVS *i*S **S 18 07 50.4 0.0**
NVS *i* 18 08 23.9
NVS pmax pmax
comp=Z,317nm,1.7s
NVS pmax pmax
comp=N,106nm,1.6s
NVS pmax pmax
comp=E,153nm,1.5s
NVS pmax pmax
comp=N,57nm,2.2s
NVS pmax pmax
comp=Z,84nm,2.2s
NVS pmax pmax
comp=E,36nm,2.8s
NVS smax smax
comp=N,76nm,4.0s
NVS smax smax
comp=E,335nm,4.2s
KZA Kyzart 75.98 315 *i*P **P 17 58 12.9 +1.2**
KZA Kyzart 75.98 315 P **P 17 58 12.9 +1.2**
SNR=56
TKM2 Tokmak 2 75.99 316 *i*P **P 17 58 11.8 +0.3**
TKM2 Tokmak 2 75.99 316 P **P 17 58 11.8 +0.3**
SNR=34
TKM2 Tokmak 2 75.99 316 *e*P **P 17 58 11.5 0.0**
comp=E,175nm,1.3s
BHJ Bhuj 76.22 295 *e*P **P 17 58 12.8 -0.1**
BHJ AMB AMB 17 58 23.0
comp=Z,160nm,2.2s
KBK Karagaybulak 76.36 315 *i*P **P 17 58 14.1 +0.5**
KBK Karagaybulak 76.36 315 P **P 17 58 14.1 +0.5**
SNR=26
UCH Uchtor 76.55 315 *i*P **P 17 58 15.7 +0.7**
UCH Uchtor 76.55 315 P **P 17 58 15.7 +0.7**
SNR=11
CHMS Chumysh 76.60 315 *i*P **P 17 58 15.1 +0.3**
CHMS Chumysh 76.60 315 P **P 17 58 15.1 +0.3**
SNR=22
FRU Bishkek 76.65 315⇑*i*P **P 17 58 14.0 -1.0**
FRU pmax pmax
comp=Z,240nm,2.0s
AAK Ala-Archa 76.68 315*c i*P **P 17 58 15.7 +0.3**
AAK pmax pmax
comp=Z,175nm,1.7s
AAK MLR MLR
comp=Z,520nm,17.0s
AAK Ala-Archa 76.68 315 P **P 17 58 16.1 +0.7**
SNR=45
AAK Ala-Archa 76.68 315 P **P 17 58 16.1 +0.7**
SNR=12
AAK Ala-Archa 76.68 315 *e*P **P 17 58 15.9 +0.5**
comp=Z,56nm,0.9s
AAK S **S 18 08 03.3 +2.9**
AAK Ala-Archa 76.68 315 P **P 17 58 15.9 +0.5**
comp=Z,13nm,0.8s,baz=110,slow=4.9,SNR=53
AAK S **S 18 08 03.3 +2.9**
comp=Z,1.1nm,0.4s,baz=121,slow=12,SNR=2.2
KURK Kurchatov 76.70 324 P **P 17 58 15.3 +0.3**
KURK S **S 18 07 58.8 -1.1**
KURK Kurchatov 76.70 324 P **P 17 58 15.3 +0.3**
KURK S **S 18 07 58.8 -1.1**
KURBB Kurchatov Arra 76.72 324 P **P 17 58 15.3 +0.2**
comp=Z,25nm,1.0s,baz=115,slow=4.9,SNR=134
KURBB S **S 18 07 58.8 -1.3**
comp=Z,0.1nm,0.3s,baz=113,slow=7.1,SNR=3.2

USP Ospenovka 76.86 316 *i*P **P 17 58 16.6 +0.4**
USP Ospenovka 76.86 316 P **P 17 58 16.6 +0.4**
SNR=31
AML Almayashu 77.10 314 *i*P **P 17 58 18.6 +0.6**
AML Almayashu 77.10 314 P **P 17 58 18.6 +0.6**
SNR=21
EKS2 Erkin-Say 77.19 315 *e*P **P 17 58 18.3 +0.1**
EKS2 pmax pmax
comp=Z,141nm,1.0s
EKS2 Erkin-Say 77.19 315 P **P 17 58 18.8 +0.6**
SNR=67
EKS2 Erkin-Say 77.19 315 *e*P **P 17 58 18.3 +0.1**
comp=Z,141nm,1.0s
OHAK Old Harbor 78.65 30 *e*P **P 17 58 26.0 +0.2**
comp=Z,338nm,1.2s
KBL Kabul 78.82 306 P P 17 58 34.3 +6.7
baz=79,SNR=4.9
KDAK Kodiak Island 79.23 29 P **P 17 58 28.8 -0.1**
comp=Z,1µm,1.2s,SNR=25
KK31 Karatay Array 79.62 315 *i*P **P 17 58 30.8 -0.7**
KK31 pmax pmax
comp=Z,113nm,1.1s
KKAR Karatay Array 79.62 315 *e*P **P 17 58 31.5 0.0**
KKAR pmax pmax
comp=Z,101nm,1.1s
KKAR Karatay Array 79.62 315 *e*P **P 17 58 31.5 0.0**
comp=Z,100nm,1.1s
RSO Redoubt South 80.25 27 *e*P **P 17 58 33.7 -1.0**
comp=Z,292nm,1.2s
RKT Rikitea 81.23 113 *e*P **P 17 58 38.3 -2.2**
comp=Z,171nm,1.4s
RKT Rikitea 81.23 113 *e*LR LR 18 24 20.2
comp=Z,971nm,24.5s
VOSK Vostochnaya 81.84 324 P **P 17 58 42.8 -0.3**
VOSK pmax pmax
comp=Z,77nm,1.1s
IM04 Indian Mountai 82.19 22 *e*P **P 17 58 44.4 -0.3**
BVA0 Borovoye Array 82.27 324 P **P 17 58 45.5 +0.1**
BVA0 pmax pmax
comp=Z,218nm,1.5s
BVAR Borovoye Array 82.27 324 P **P 17 58 45.5 +0.2**
BVAR S **S 18 08 58.8 -0.1**
BVAR Borovoye Array 82.27 324 P **P 17 58 45.5 +0.2**
BVAR S **S 18 08 58.8 -0.1**
BVAR Borovoye Array 82.27 324 P **P 17 58 45.5 +0.2**
comp=Z,37nm,0.7s,baz=111,slow=7.0,SNR=227
BVAR S **S 18 08 58.8 -0.1**
comp=Z,0.2nm,0.4s,baz=96,slow=15,SNR=2.7
PMR Palmer 82.31 27 *e*P **P 17 58 44.1 -1.2**
PMR pmax pmax
comp=Z,345nm,1.4s
PMR Palmer 82.31 27 *e*P **P 17 58 44.1 -1.2**
comp=Z,345nm,1.4s
BRVK Borovoye 82.34 324 *e*P **P 17 58 45.9 +0.2**
BRVK pmax pmax
comp=Z,115nm,1.0s
BRVK Borovoye 82.34 324 P **P 17 58 46.3 +0.6**
SNR=103
BRVK Borovoye 82.34 324 *e*P **P 17 58 45.9 +0.2**
comp=Z,115nm,1.0s
MID Middleton Isla 82.87 29 *e*P **P 17 58 48.8 +0.5**
MID pmax pmax
comp=Z,289nm,1.4s
MID Middleton Isla 82.87 29 *e*P **P 17 58 48.8 +0.5**
comp=Z,289nm,1.4s
MAW Mawson 83.43 202 P **P 17 58 50.6 -0.5**
MAW S **S 18 09 09.0 -1.0**
MAW Mawson 83.43 202 P **P 17 58 50.6 -0.5**
comp=Z,50nm,1.0s,baz=81,slow=6.8,SNR=61
MAW S **S 18 09 09.0 -1.0**
comp=Z,0.9nm,0.9s,baz=132,slow=12,SNR=2.1
MAW LR LR 18 35 39.5
comp=Z,2µm,19.4s,baz=74,slow=36
MAW Mawson 83.43 202 P **P 17 58 51.9 +0.9**
baz=83,SNR=56
COLA College 84.03 24 *e*P **P 17 58 52.7 -1.4**
COLA College 84.03 24 *e*P **P 17 58 52.7 -1.4**
comp=Z,946nm,1.3s
ILAR Eielson Array 84.38 24 P **P 17 58 54.7 -1.3**
ILAR PP **PP 18 02 09.8 -1.4**
ILAR S **S 18 09 16.9 -2.8**
ILAR PKKPbc **PKKPbc 18 17 10.8 -0.1**
ILAR P'P' 18 25 13.3
ILAR Eielson Array 84.38 24 P **P 17 58 54.7 -1.3**
comp=Z,88nm,0.9s,baz=255,slow=4.4,SNR=512
ILAR PP **PP 18 02 09.8 -1.4**
comp=Z,3.3nm,1.0s,baz=262,slow=6.3,SNR=4.6
ILAR S **S 18 09 16.9 -2.8**
comp=Z,0.2nm,0.6s,baz=195,slow=6.5,SNR=2.4
ILAR PKKPbc **PKKPbc 18 17 10.8 -0.1**
comp=Z,0.7nm,1.1s,baz=88,slow=3.1,SNR=2.7
ILAR PKPPKP **P'P'df 18 25 13.3 +0.2**
comp=Z,0.4nm,0.9s,baz=74,slow=1.3,SNR=3.2
ILAR LR LR 18 34 47.3
comp=Z,885nm,19.4s,baz=238,slow=34
MRIV Mauritius Mete 84.92 250 *e*P **P 17 59 00.5 +0.8**
MENT Mentasta 85.14 26 *e*P **P 17 58 59.6 -0.3**
WBK Wadi Bani Khal 85.90 293 P **P 17 59 05.7 +1.1**
SNR=5.5
EGAK Eagle 86.73 25 *e*P **P 17 59 07.3 -0.3**
comp=Z,266nm,1.4s
QSPA South Pole Qui 86.80 180 PKKPbc PKKPbc 18 17 02.5 -3.2
QSPA South Pole Qui 86.80 180 PKKPbc PKKPbc 18 17 02.5 -3.2
comp=Z,3.4nm,1.0s,baz=263,slow=4.8,SNR=7.7
QSPA LR LR 18 38 50.2
comp=Z,4µm,18.7s,baz=17,slow=36
HYT Haines Junctio 87.50 29 *e*P **P 17 59 12.0 +0.3**
SIT Sitka 87.97 33 *e*P **P 17 59 13.8 +0.1**
SIT pmax pmax
comp=Z,428nm,1.8s
SIT Sitka 87.97 33 *e*P **P 17 59 13.8 +0.1**
comp=Z,428nm,1.8s
AB31 Akbulak array 87.98 319 *i*P **P 17 59 12.8 -1.2**
AB31 pmax pmax
comp=Z,49nm,0.8s
ABKAR Akbulak array 87.98 319 *e*P **P 17 59 12.8 -1.2**
comp=Z,47nm,0.8s
SKAG Skagway 88.34 30 *e*P **P 17 59 15.2 -0.3**
comp=Z,358nm,1.3s
SVE Sverdlovsk 88.56 327⇓*e*P **P 17 59 15.3 -1.3**
SVE *e* 18 02 44.9
SVE *e*PPP PPP 18 04 46.7
SVE *e*S **SKSac 18 09 43.2 -0.3**
SVE *e* 18 10 59.1
SVE pmax pmax
comp=Z,254nm,11.3s
SVE pmax pmax
comp=Z,82nm,1.9s
SVE MLR MLR
comp=Z,761nm,21.0s
CRAG Craig 88.96 34 *e*P **P 17 59 19.2 +0.8**
comp=Z,256nm,1.5s
AKTO Aktyubinsk 89.35 320 P **P 17 59 19.0 -1.5**
AKTO pmax pmax
comp=Z,97nm,1.0s
AKTO Aktyubinsk 89.35 320 P **P 17 59 19.9 -0.5**
AKTO Aktyubinsk 89.35 320 P **P 17 59 19.9 -0.5**
comp=Z,27nm,1.0s,baz=88,slow=5.7,SNR=75
WRAK Wrangell Islan 89.51 34 *e*P **P 17 59 21.3 +0.3**
comp=Z,276nm,1.4s
ARU Arti 89.64 326*c i*P **P 17 59 20.1 -1.6**
ARU 18 02 51.3
ARU PPP PPP 18 04 49.1
ARU S **SKSac 18 09 47.1 -2.8**
ARU PS **PnS 18 11 13.6 -6.1**
ARU SSS SSS 18 19 35.7
ARU pmax pmax
comp=Z,77nm,1.7s
ARU MLR MLR
comp=Z,582nm,24.0s
ARU Arti 89.64 326 P **P 17 59 20.7 -1.0**
comp=Z,266nm,1.2s,SNR=16
INK Inuvik 90.40 22 P **P 17 59 24.2 -0.7**
INK S **SKSac 18 09 57.2 +3.4**
INK Inuvik 90.40 22 P **P 17 59 24.2 -0.7**
comp=Z,8.9nm,0.5s,baz=262,slow=5.5,SNR=28
INK S **SKSac 18 09 57.2 +3.4**
comp=Z,1.5nm,0.8s,baz=270,slow=3.0,SNR=4.2
SOKR Solikamsk 90.88 329*c i*P **P 17 59 25.9 -1.4**
SOKR 17 59 33.7
SOKR S **SKSac 18 09 59.9 +3.0**
SOKR pmax pmax
comp=Z,40nm,0.9s
DLBC Dease Lake 90.95 32 *e*P **P 17 59 28.1 +0.2**
SYO Syowa Base 91.95 201⇑*e*P **P 17 59 30.2 -1.9**
KEBM Edson Butte 93.91 47 *e*P **P 17 59 43.0 +1.2**

comp=Z,122nm,1.6s
KBO Bosley Butte 93.98 48 *e*P **P 17 59 42.6 +0.4**
comp=Z,173nm,1.4s
KRMB Red Mountain 94.21 49 *e*P **P 17 59 44.1 +0.7**
comp=Z,85nm,1.5s
NLWA Neilton Lookou 94.26 43 *e*P **P 17 59 43.9 +0.6**
comp=Z,155nm,1.5s
KHMM Horse Mountain 94.34 49 *e*P **P 17 59 44.9 +0.9**
comp=Z,130nm,1.3s
KCPM Cahto Peak 94.45 51 *e*P **P 17 59 45.1 +0.6**
comp=Z,68nm,1.4s
KIPM Iron Peak 94.53 50 *e*P **P 17 59 45.1 +0.2**
comp=Z,166nm,1.5s
KIPM *e* 17 59 56.0
PGC Sidney 94.54 42 *e*P **P 17 59 45.6 +1.1**
comp=Z,1.8nm,1.0s
HUMO Hull Mountain 94.92 48 *e*P **P 17 59 46.8 +0.3**
comp=Z,94nm,1.2s
HUMO *e* 17 59 57.0
YBH Yreka Blue Hor 95.11 49 *e*P **P 17 59 48.0 +0.6**
comp=Z,103nm,1.4s
YBH *e* 17 59 56.8
WDC Whiskeytown Da 95.25 50 *e*P **P 17 59 47.9 -0.1**
WDC pmax pmax
comp=Z,131nm,1.7s
WDC Whiskeytown Da 95.25 50 *e*P **P 17 59 47.9 -0.1**
comp=Z,131nm,1.7s
LON Longmire 95.68 44 *e*P **P 17 59 50.0 +0.1**
LON pmax pmax
comp=Z,35nm,1.3s
LON Longmire 95.68 44 *e*P **P 17 59 50.0 +0.1**
comp=Z,35nm,1.3s
MAK Makhachkala 96.32 313 *e*P **P 17 59 52.0 -0.8**
MAK *e* 18 03 45.4
MAK *e*PPP PPP 18 05 48.3
MAK *e*S **SKSac 18 10 25.9 -1.5**
MAK *e*SS **SS 18 17 44.4 +0.6**
MAK pmax pmax
comp=Z,84nm,1.8s
KBD Kabd 96.36 299 *e*P **P 17 59 50.6 -2.6**
MIB Mutribah 96.67 299 *e*P **P 17 59 52.6 -2.1**
MIB AMb AMB 18 00 00.9
comp=Z,30nm,1.1s
NAY Al-Naaiem 96.75 299 *e*P **P 17 59 52.8 -2.3**
NAY AMb AMB 18 00 03.4
comp=Z,27nm,1.4s
BEKR Beckworth 96.93 50 *e*P **P 17 59 55.3 -0.6**
comp=Z,50nm,1.9s
CMB Columbia Colle 96.96 52 *e*P **P 17 59 55.8 -0.1**
CMB *e* 18 00 06.4
CMB pmax pmax
comp=Z,30nm,1.5s
CMB Columbia Colle 96.96 52 *e*P **P 17 59 55.8 -0.1**
comp=Z,30nm,1.5s
CMB *e* 18 00 06.4
SMMC Simmler 97.33 55⇑P Pdif 17 59 57.9 +0.2
baz=97
PKM Peak Mountain 97.49 55⇑P **P 17 59 58.5 -0.1**
baz=98
SBC Santa Barbara 97.59 56⇑P **P 17 59 58.7 0.0**
baz=98
BSC Santa Cruz Isl 97.67 56⇓P **P 17 59 59.1 0.0**
baz=98
PAHR Pah Rah Range 97.68 51 *e*P **P 17 59 59.0 -0.3**
comp=Z,96nm,2.0s
IBDR Badra 97.83 303 *i*P P 17 59 51.0 -8.8
IBDR *i*SKS **SKSac 18 10 35.0 -0.6**
IBDR *e*S SKKSac 18 11 13.0 +8.9
RCTC Rector, Farmer 97.92 54⇑P **P 17 59 59.9 -0.3**
baz=98
DGRG David-gareji 97.97 311 P **P 17 59 58.6 -1.8**
DGRG S PP 18 04 07.1 +7.8
VES Vestal, Richgr 98.06 54⇓P **P 18 00 00.2 -0.6**
baz=98
WVOR Wild Horse Val 98.12 48 *e*P **P 18 00 01.0 -0.1**
WVOR pmax pmax
comp=Z,179nm,1.6s
WVOR Wild Horse Val 98.12 48 *e*P **P 18 00 01.0 -0.1**
comp=Z,179nm,1.6s
BLG Laguna Peak 98.14 56⇑P **P 18 00 00.7 -0.5**
baz=98
MLAC Mammoth Lakes 98.20 53⇓P **P 18 00 01.4 -0.3**
baz=98
ARVC Arvin 98.30 55⇑P **P 18 00 01.7 -0.2**
baz=98
YKW3 Yellowknife Ar 98.38 27 *e*P **P 18 00 01.5 -0.1**
comp=Z,1.5nm,1.8s
YKA Yellowknife Ar 98.39 27 P **P 18 00 01.3 -0.4**
YKA PP **PP 18 03 59.9 -1.9**
YKA P'P' 18 24 48.0
YKA Yellowknife Ar 98.39 27 P **P 18 00 01.3 -0.4**
comp=Z,7.0nm,0.8s,baz=279,slow=4.6,SNR=20
YKA PP **PP 18 03 59.9 -1.9**
comp=Z,2.1nm,0.9s,baz=277,slow=6.9,SNR=3.6
YKA PKPPKP **P'P'df 18 24 48.0 +0.8**
comp=Z,0.3nm,0.4s,baz=89,slow=3.2,SNR=2.7
OSI Osito Adit 98.40 56⇓Pdiff **P 18 00 02.2 -0.2**
baz=98
OSI Osito Adit 98.40 56⇓Pdiff **P 18 00 02.2 -0.2**
baz=98
TBLG Delisi 98.43 312 *e*P **P 18 00 00.1 -2.3**
TBLG *e*S **PP 18 04 02.2 -0.6**
TBLG Delisi 98.43 312 P **P 18 00 00.6 -1.8**
TBLG S **PP 18 04 02.2 -0.6**
ISA Isabella 98.57 55 *e*P **P 18 00 02.7 -0.6**
ISA *e* 18 04 03.0
ISA pmax pmax
comp=Z,19nm,1.3s
ISA Isabella 98.57 55 *e*P **P 18 00 02.7 -0.6**
comp=Z,19nm,1.3s
ISA *e*PP **PP 18 04 03.0 -1.2**
ISA Isabella 98.57 55⇑Pdiff **P 18 00 02.6 -0.6**
baz=99
ISA Isabella 98.57 55⇑Pdiff **P 18 00 02.6 -0.6**
baz=99
GUDG Gudauri 98.58 312 P Pdif 18 00 08.7 +5.4
NVAR Mina Array Bea 98.58 52 P Pdif 18 00 03.5 0.0
NVAR PP **PP 18 04 02.5 -1.8**
NVAR PKKPbc **PKKPbc 18 16 34.5 +0.7**
NVAR Mina Array Bea 98.58 52 P Pdif 18 00 03.5 0.0
comp=Z,3.7nm,0.7s,baz=264,slow=5.6,SNR=30
NVAR PP **PP 18 04 02.6 -1.8**
comp=Z,3.5nm,1.1s,baz=243,slow=7.6,SNR=5.0
NVAR PKKPbc **PKKPbc 18 16 34.5 +0.7**
comp=Z,0.6nm,0.7s,baz=102,slow=3.0,SNR=3.4
NVAR LR LR 18 36 52.0
comp=Z,1µm,20.9s,baz=102,slow=31
SCI San Clemente I 98.60 57⇓Pdiff **P 18 00 03.1 -0.3**
baz=99
SCI San Clemente I 98.60 57⇓Pdiff **P 18 00 03.1 -0.3**
baz=99
NV11 Mina Array Sit 98.70 52 *e*P **P 18 00 03.6 -0.2**
TIN Tinemaha 98.71 53⇓Pdiff **P 18 00 03.6 -0.2**
baz=99
TIN Tinemaha 98.71 53⇓Pdiff **P 18 00 03.6 -0.2**
baz=99
CIS Catalina Islan 98.71 57⇑Pdiff **P 18 00 03.3 -0.5**
baz=99
CIS Catalina Islan 98.71 57⇑Pdiff **P 18 00 03.3 -0.5**
baz=99
DECC Green Verdugo 98.74 56⇓Pdiff **P 18 00 03.1 -0.9**
baz=99
DECC Green Verdugo 98.74 56⇓Pdiff **P 18 00 03.1 -0.9**
baz=99
NEW Newport 98.76 42 *e*P **P 18 00 03.2 -0.6**
comp=Z,23nm,1.3s
NEW Newport 98.76 42⇑Pdiff **P 18 00 03.4 -0.4**
baz=99
NEW Newport 98.76 42⇑Pdiff **P 18 00 03.4 -0.4**
baz=99
FMP Fort Macarthur 98.79 57⇑Pdiff **P 18 00 03.9 -0.2**
baz=99
FMP Fort Macarthur 98.79 57⇑Pdiff **P 18 00 03.9 -0.2**
baz=99
CWC Cottonwood Cre 98.85 54⇑Pdiff **P 18 00 04.1 -0.5**
baz=99
CWC Cottonwood Cre 98.85 54⇑Pdiff **P 18 00 04.1 -0.5**
baz=99
PASC Pasadena Art C 98.86 56 *e*P **P 18 00 03.9 -0.6**
BMO Blue Mountains 98.92 45 *e*P **P 18 00 04.4 -0.3**
BMO pmax pmax
comp=Z,125nm,1.8s
BMO Blue Mountains 98.92 45 *e*P **P 18 00 04.3 -0.3**
comp=Z,125nm,1.8s
BMO *e*PP **PP 18 04 01.5 -5.1**
MWC Mount Wilson 98.97 56 *e*P **P 18 00 04.6 -0.6**

MWC				*e*		18 00 14.8	
MWC				pmax	pmax		
	comp=Z,50nm,1.3s						
MWC	**Mount Wilson**	**98.97**	**56**	*e*P	**P**	**18 00 04.6**	**-0.6**
	comp=Z,50nm,1.3s						
MWC				*e*		18 00 14.8	
ZEI	**Tsey**	**98.98**	**313**	*e*P	**P**	**18 00 03.2**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,24nm,1.4s						
EDW2	**Edwards Air Fo**	**98.99**	**55**	⇓Pdiff	**P**	**18 00 04.9**	**-0.2**
	baz=99						
EDW2	**Edwards Air Fo**	**98.99**	**55**	⇓Pdiff	**P**	**18 00 04.9**	**-0.2**
	baz=99						
BHD	**Baghdad**	**99.12**	**303**	*e*PP	PP	18 04 01.0	-7.3
BHD				*e*SKS	**SKSac**	**18 10 47.0**	**+4.8**
BHD				*e*S	SKKSac	18 11 22.0	+8.6
LRMC	**Laurel Mountai**	**99.21**	**55**	⇓Pdiff	**Pdif**	**18 00 05.8**	**-0.4**
	baz=99						
LRMC	**Laurel Mountai**	**99.21**	**55**	⇓Pdiff	**Pdif**	**18 00 05.8**	**-0.4**
	baz=99						
BFSC	**Mount Baldy Ra**	**99.30**	**56**	⇑Pdiff	**Pdif**	**18 00 06.0**	**-0.6**
	baz=99						
BFSC	**Mount Baldy Ra**	**99.30**	**56**	⇑Pdiff	**Pdif**	**18 00 06.0**	**-0.6**
	baz=99						
BMN	**Battle Mountai**	**99.30**	**50**	*e*P	**Pdif**	**18 00 05.3**	**-1.2**
BMN				pmax	pmax		
	comp=Z,22nm,1.2s						
BMN	**Battle Mountai**	**99.30**	**50**	*e*P	**Pdif**	**18 00 05.3**	**-1.2**
	comp=Z,22nm,1.2s						
ONI	**Oni**	**99.32**	**312**	P	**Pdif**	**18 00 04.7**	**-1.8**
ONI				S	**PP**	**18 04 09.6**	**-0.1**
MPMC	**Manual Prospec**	**99.35**	**54**	⇓Pdiff	**Pdif**	**18 00 06.6**	**-0.3**
	baz=99						
MPMC	**Manual Prospec**	**99.35**	**54**	⇓Pdiff	**Pdif**	**18 00 06.6**	**-0.3**
	baz=99						
AKH	**Akhalkalaki**	**99.38**	**311**	P	**Pdif**	**18 00 05.5**	**-1.4**
AKH				S	**PP**	**18 04 12.0**	**+1.7**
GRAC	**Grapevine Rang**	**99.39**	**53**	⇑Pdiff	**Pdif**	**18 00 06.7**	**-0.2**
	baz=99						
GRAC	**Grapevine Rang**	**99.39**	**53**	⇑Pdiff	**Pdif**	**18 00 06.7**	**-0.2**
	baz=99						
TMCR	**Tamitsa**	**99.42**	**335**	*i* P	**Pdif**	**18 00 05.0**	**-1.2**
TMCR				pmax	pmax		
	comp=Z,83nm,1.4s						
KBZ	**Khabaz**	**99.64**	**314**	P	**Pdif**	**18 00 06.4**	**-1.3**
KBZ	**Khabaz**	**99.64**	**314**	P	**Pdif**	**18 00 06.4**	**-1.3**
KBZ	**Khabaz**	**99.64**	**314**	P	**Pdif**	**18 00 06.4**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=70,slow=4.8,SNR=6.2						
MAIT	**Maitri**	**99.65**	**195**	*e*P	**Pdif**	**18 00 05.0**	**-2.1**
VRHR	**Novokhopersk**	**99.73**	**321**	*e*P	**Pdif**	**18 00 05.9**	**-2.0**
VRHR				*e**PP	**pP**	**18 00 13.1**	**-4.7**
VRHR				pmax	pmax		
	comp=Z,50nm,1.0s						
VRHR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,20nm,0.8s						
VRHR				MLR	MLR		
	comp=Z,380nm,18.0s						
VRHR				MLR	MLR		
	comp=N,110nm,19.0s						
VRHR				MLR	MLR		
	comp=E,270nm,17.0s						
KIV	**Kislovodsk**	**99.77**	**314**	*e*P	**Pdif**	**18 00 07.0**	**-1.4**
KIV				*e*		18 04 10.0	
KIV				*e*		18 10 42.7	
KIV				*e*SS	SS	18 18 30.8	-1.7
KIV				pmax	pmax		
	comp=Z,33nm,2.8s						
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RRX	**Edison Barstow**	**99.81**	**55**	⇑Pdiff	**Pdif**	**18 00 08.6**	**-0.2**
	baz=100						
RRX	**Edison Barstow**	**99.81**	**55**	⇑Pdiff	**Pdif**	**18 00 08.6**	**-0.2**
	baz=100						
109C	**Camp Elliot, M**	**99.82**	**57**	⇑Pdiff	**Pdif**	**18 00 08.3**	**-0.4**
	baz=100						
109C	**Camp Elliot, M**	**99.82**	**57**	⇑Pdiff	**Pdif**	**18 00 08.3**	**-0.4**
	baz=100						
FURC	**Furnace Creek,**	**99.83**	**54**	⇓Pdiff	**Pdif**	**18 00 08.6**	**-0.1**
	baz=100						
FURC	**Furnace Creek,**	**99.83**	**54**	⇓Pdiff	**Pdif**	**18 00 08.6**	**-0.1**
	baz=100						
LVZ	**Lovozero**	**99.84**	**339**	*c i*P	**Pdif**	**18 00 05.9**	**-2.2**
LVZ				pmax	pmax		
	comp=Z,20nm,1.0s						
BBRC	**Big Bear Solar**	**99.91**	**56**	⇓Pdiff	**Pdif**	**18 00 08.6**	**-0.8**
	baz=100						
BBRC	**Big Bear Solar**	**99.91**	**56**	⇓Pdiff	**Pdif**	**18 00 08.6**	**-0.8**
	baz=100						
GSC	**Goldstone**	**99.94**	**55**	*e*P	**Pdif**	**18 00 08.4**	**-1.0**
GSC				*e*		18 04 11.2	
GSC				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GSC	**Goldstone**	**99.94**	**55**	*e*P	**Pdif**	**18 00 08.3**	**-1.0**
	comp=Z,3.6nm,0.3s						
GSC				*e*PP	**PP**	**18 04 11.2**	**-3.4**
GSC	**Goldstone**	**99.94**	**55**	⇑Pdiff	**Pdif**	**18 00 08.7**	**-0.7**
	baz=100						
GSC	**Goldstone**	**99.94**	**55**	⇑Pdiff	**Pdif**	**18 00 08.7**	**-0.7**
	baz=100						
MFID	**Camas Ranch**	**100.11**	**47**	⇑Pdiff	**Pdif**	**18 00 10.3**	**+0.4**
	baz=100						
MFID	**Camas Ranch**	**100.11**	**47**	⇑Pdiff	**Pdif**	**18 00 10.3**	**+0.4**
	baz=100						
SPITS	**Spitsbergen Ar**	**100.19**	**350**	P	**Pdif**	**18 00 08.1**	**-1.4**
SPITS	**Spitsbergen Ar**	**100.19**	**350**	P	**Pdif**	**18 00 08.1**	**-1.4**
	comp=Z,5.5nm,0.9s,baz=293,slow=4.1,SNR=6.2						
BAR	**Barrett**	**100.19**	**58**	*e*Pdif	**Pdif**	**18 00 10.2**	**-0.3**
	comp=Z,20nm,1.4s						
PFO	**Pinyon Flat Ob**	**100.33**	**57**	*e*Pdif	**Pdif**	**18 00 10.8**	**-0.4**
	comp=Z,10nm,1.2s						
PFO	**Pinyon Flat Ob**	**100.33**	**57**	⇑Pdiff	**Pdif**	**18 00 10.8**	**-0.4**
	baz=100						
PFO	**Pinyon Flat Ob**	**100.33**	**57**	⇑Pdiff	**Pdif**	**18 00 10.8**	**-0.4**
	baz=100						
SHOC	**Shoshone**	**100.34**	**54**	⇑Pdiff	**Pdif**	**18 00 10.7**	**-0.3**
	baz=100						
SHOC	**Shoshone**	**100.34**	**54**	⇑Pdiff	**Pdif**	**18 00 10.7**	**-0.3**
	baz=100						
HEC	**Hector,Ludlow**	**100.36**	**55**	⇑Pdiff	**Pdif**	**18 00 10.4**	**-0.8**
	baz=100						
HEC	**Hector,Ludlow**	**100.36**	**55**	⇑Pdiff	**Pdif**	**18 00 10.4**	**-0.8**
	baz=100						
BSMT	**Bassoo Peak**	**100.37**	**42**	*e*Pdif	**Pdif**	**18 00 10.7**	**-0.5**
	comp=Z,9.5nm,1.1s						
APA	**Apatity**	**100.39**	**338**	⇑*i*P	**Pdif**	**18 00 09.2**	**-1.3**
APA				*i*		18 04 18.0	
APA				*i*		18 10 48.0	
APA				*i* S	**Sdif**	**18 11 36.0**	**-8.3**
APA				*i* PS	**PS**	**18 13 24.0**	**+6.6**
APA				*i* SS	SS	18 18 50.0	+11
APA				pmax	pmax		
	comp=Z,26nm,10.0s						
APA				MLR	MLR		
	comp=Z,700nm,19.0s						
MONP	**Monument Peak**	**100.39**	**57**	⇑Pdiff	**Pdif**	**18 00 11.4**	**-0.2**
	baz=100						
MONP	**Monument Peak**	**100.39**	**57**	⇑Pdiff	**Pdif**	**18 00 11.4**	**-0.2**
	baz=100						
TUQ	**Turquoise Moun**	**100.66**	**55**	⇓Pdiff	**Pdif**	**18 00 12.2**	**-0.4**
	baz=101						
TUQ	**Turquoise Moun**	**100.66**	**55**	⇓Pdiff	**Pdif**	**18 00 12.2**	**-0.4**
	baz=101						
DVTC	**Desert V Tower**	**100.67**	**58**	⇑Pdiff	**Pdif**	**18 00 12.1**	**-0.6**
	baz=101						
DVTC	**Desert V Tower**	**100.67**	**58**	⇑Pdiff	**Pdif**	**18 00 12.1**	**-0.6**
	baz=101						
BELC	**Belle Mtn. Jos**	**100.68**	**56**	⇑Pdiff	**Pdif**	**18 00 12.3**	**-0.5**
	baz=101						
BELC	**Belle Mtn. Jos**	**100.68**	**56**	⇑Pdiff	**Pdif**	**18 00 12.3**	**-0.5**
	baz=101						
R11A	**Troy Canyon, C**	**100.72**	**52**	⇑Pdiff	**Pdif**	**18 00 12.9**	**0.0**
	baz=101						
R11A	**Troy Canyon, C**	**100.72**	**52**	⇑Pdiff	**Pdif**	**18 00 12.9**	**0.0**
	baz=101						
GMRC	**Granite Mounta**	**100.91**	**55**	⇓Pdiff	**Pdif**	**18 00 13.4**	**-0.3**
	baz=101						
GMRC	**Granite Mounta**	**100.91**	**55**	⇓Pdiff	**Pdif**	**18 00 13.4**	**-0.3**
	baz=101						
SWSC	**Sam W. Stewart**	**100.91**	**57**	⇓Pdiff	**Pdif**	**18 00 12.9**	**-0.7**
	baz=101						
SWSC	**Sam W. Stewart**	**100.91**	**57**	⇓Pdiff	**Pdif**	**18 00 12.9**	**-0.7**
	baz=101						
SWMT	**Swartz Lake**	**100.94**	**42**	*e*Pdif	**Pdif**	**18 00 13.6**	**0.0**
	comp=Z,13nm,1.4s						
MSO	**Missoula**	**101.06**	**43**	⇓Pdiff	**Pdif**	**18 00 13.6**	**-0.5**
	baz=101						
MSO	**Missoula**	**101.06**	**43**	⇓Pdiff	**Pdif**	**18 00 13.6**	**-0.5**
	baz=101						
HLID	**Hailey**	**101.11**	**46**	*e*Pdif	**Pdif**	**18 00 14.8**	**+0.3**
	comp=Z,80nm,1.8s						
HLID				*e*PP	**PP**	**18 04 21.6**	**-1.8**
HLID	**Hailey**	**101.11**	**46**	⇑Pdiff	**Pdif**	**18 00 14.8**	**+0.3**
	baz=101						
HLID	**Hailey**	**101.11**	**46**	⇑Pdiff	**Pdif**	**18 00 14.8**	**+0.3**
	baz=101						
A14A	**Double T Ranch**	**101.12**	**41**	⇑Pdiff	**Pdif**	**18 00 14.8**	**+0.5**
	baz=101						
A14A	**Double T Ranch**	**101.12**	**41**	⇑Pdiff	**Pdif**	**18 00 14.8**	**+0.5**
	baz=101						
BC3	**Big Chuckawall**	**101.16**	**56**	⇓Pdiff	**Pdif**	**18 00 14.8**	**0.0**
	baz=101						
BC3	**Big Chuckawall**	**101.16**	**56**	⇓Pdiff	**Pdif**	**18 00 14.8**	**0.0**
	baz=101						
SHPR	**Sheep Range**	**101.20**	**54**	*e*Pdif	**Pdif**	**18 00 14.7**	**-0.4**
	comp=Z,27nm,1.7s						
SHPR				*e*PP	**PP**	**18 04 24.1**	**0.0**
VORD	**Divnogorie**	**101.20**	**321**	*e*P	**Pdif**	**18 00 13.0**	**-1.5**
VORD				pmax	pmax		
	comp=Z,30nm,1.4s						
VORD				pmax	pmax		
	comp=N,7.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD				MLR	MLR		
	comp=Z,440nm,20.0s						
VORD				MLR	MLR		
	comp=N,180nm,18.0s						
VORD				MLR	MLR		
	comp=E,600nm,19.0s						
VSR	**Storozhevoye**	**101.25**	**322**	*e*P	**Pdif**	**18 00 12.7**	**-2.0**
VSR				pmax	pmax		
	comp=Z,40nm,1.4s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,20nm,1.0s						
VSR				MLR	MLR		
	comp=Z,610nm,19.0s						
VSR				MLR	MLR		
	comp=N,150nm,16.0s						
VSR				MLR	MLR		
	comp=E,240nm,21.0s						
B14A	**Marquette Ranc**	**101.31**	**41**	⇓Pdiff	**Pdif**	**18 00 14.8**	**-0.4**
	baz=101						
B14A	**Marquette Ranc**	**101.31**	**41**	⇓Pdiff	**Pdif**	**18 00 14.8**	**-0.4**
	baz=101						
LDFC	**Landfair**	**101.34**	**55**	*e*Pdif	**Pdif**	**18 00 15.9**	**+0.2**
	comp=E,42nm,1.2s						
MOS	**Moscow**	**101.36**	**326**	*e*P	**Pdif**	**18 00 12.1**	**-2.9**
MOS				*e*		18 04 22.8	
MOS				pmax	pmax		
	comp=Z,200nm,2.3s						
IRM	**Iron Mountain**	**101.38**	**56**	⇑Pdiff	**Pdif**	**18 00 15.4**	**-0.3**
	baz=101						
IRM	**Iron Mountain**	**101.38**	**56**	⇑Pdiff	**Pdif**	**18 00 15.4**	**-0.3**
	baz=101						
CHMT	**Chamberlain Mo**	**101.52**	**43**	*e*Pdif	**Pdif**	**18 00 16.4**	**+0.1**
	comp=Z,25nm,1.5s						
A15A	**Johnson Ranch,**	**101.57**	**41**	⇑Pdiff	**Pdif**	**18 00 16.4**	**+0.1**
	baz=102						
A15A	**Johnson Ranch,**	**101.57**	**41**	⇑Pdiff	**Pdif**	**18 00 16.4**	**+0.1**
	baz=102						
GLA	**Glamis**	**101.72**	**57**	*e*PP	PP	18 04 24.7	-3.4
	comp=Z,38nm,1.4s						
GLA	**Glamis**	**101.72**	**57**	⇑Pdiff	**Pdif**	**18 00 17.3**	**0.0**
	baz=102						
GLA	**Glamis**	**101.72**	**57**	⇑Pdiff	**Pdif**	**18 00 17.3**	**0.0**
	baz=102						
I14A	**Mackay**	**101.76**	**46**	⇓Pdiff	**Pdif**	**18 00 18.1**	**+0.7**
	baz=102						
I14A	**Mackay**	**101.76**	**46**	⇓Pdiff	**Pdif**	**18 00 18.1**	**+0.7**
	baz=102						
NEE2	**Needles Airpor**	**101.77**	**55**	⇓Pdiff	**Pdif**	**18 00 16.9**	**-0.5**
	baz=102						
NEE2	**Needles Airpor**	**101.77**	**55**	⇓Pdiff	**Pdif**	**18 00 16.9**	**-0.5**
	baz=102						
B15A	**Bradely Ranch,**	**101.78**	**41**	⇑Pdiff	**Pdif**	**18 00 16.8**	**-0.5**
	baz=102						
B15A	**Bradely Ranch,**	**101.78**	**41**	⇑Pdiff	**Pdif**	**18 00 16.8**	**-0.5**
	baz=102						
C15A	**Salmond Ranch,**	**101.83**	**42**	⇑Pdiff	**Pdif**	**18 00 17.4**	**-0.2**
	baz=102						
C15A	**Salmond Ranch,**	**101.83**	**42**	⇑Pdiff	**Pdif**	**18 00 17.4**	**-0.2**
	baz=102						
Y12C	**Blythe**	**101.92**	**56**	⇓Pdiff	**Pdif**	**18 00 18.0**	**-0.1**
	baz=102						
Y12C	**Blythe**	**101.92**	**56**	⇓Pdiff	**Pdif**	**18 00 18.0**	**-0.1**
	baz=102						
SOC	**Sochi**	**101.95**	**314**	*e*P	**Pdif**	**18 00 10.9**	**-7.1**
SOC				*i*		18 04 35.6	
SOC				*e*		18 10 57.5	
SOC				*e*PS	**PS**	**18 13 25.3**	**-10**
SOC				MLR	MLR		
	comp=Z,543nm,22.0s						
OBN	**Obninsk**	**102.07**	**326**	*c i*P	**Pdif**	**18 00 16.5**	**-1.7**
OBN				*e*		18 04 34.3	
OBN				*e*PS	**PS**	**18 13 37.0**	**+1.3**
OBN				pmax	pmax		
	comp=Z,57nm,2.0s						
OBN				MLR	MLR		
	comp=Z,700nm,21.0s						
MCMT	**McKenzie Canyo**	**102.08**	**45**	*e*Pdif	**Pdif**	**18 00 19.4**	**+0.5**
	comp=Z,4.5nm,1.3s						
MCMT				*e*PP	**PP**	**18 04 33.1**	**+2.5**
SNAA	**Sanae**	**102.14**	**190**	*e*Pdif	**Pdif**	**18 00 18.3**	**-0.1**
	comp=Z,27nm,1.3s						
DLMT	**Dillon**	**102.18**	**44**	*e*Pdif	**Pdif**	**18 00 19.7**	**+0.5**
	comp=Z,13nm,1.4s						
DLMT				*e*PP	**PP**	**18 04 34.0**	**+2.7**
PDMCI	**Parker Dam,Lak**	**102.20**	**56**	⇑Pdiff	**Pdif**	**18 00 18.9**	**-0.4**
	baz=102						
PDMCI	**Parker Dam,Lak**	**102.20**	**56**	⇑Pdiff	**Pdif**	**18 00 18.9**	**-0.4**
	baz=102						
LRM	**Limekiln Ridge**	**102.22**	**44**	*e*Pdif	**Pdif**	**18 00 19.2**	**-0.2**
	comp=Z,110nm,1.2s						
A16A	**West Butte Ran**	**102.31**	**41**	⇓Pdiff	**Pdif**	**18 00 19.5**	**-0.1**
	baz=102						
A16A	**West Butte Ran**	**102.31**	**41**	⇓Pdiff	**Pdif**	**18 00 19.5**	**-0.1**
	baz=102						
B16A	**M & M Farms, S**	**102.33**	**41**	⇑Pdiff	**Pdif**	**18 00 19.3**	**-0.4**
	baz=102						
B16A	**M & M Farms, S**	**102.33**	**41**	⇑Pdiff	**Pdif**	**18 00 19.3**	**-0.4**
	baz=102						
W13A	**Hualapai Mount**	**102.34**	**55**	⇑Pdiff	**Pdif**	**18 00 20.2**	**-0.1**
	baz=102						
W13A	**Hualapai Mount**	**102.34**	**55**	⇑Pdiff	**Pdif**	**18 00 20.2**	**-0.1**
	baz=102						
ARCES	**ARCESS Array B**	**102.38**	**341**	P	**Pdif**	**18 00 18.7**	**-0.7**
ARCES				PP	**PP**	**18 04 33.4**	**+1.6**
ARCES				PKiKP	**PKiKP**	**18 04 41.1**	**+0.3**
ARCES				PKKPbc	**PKKPbc**	**18 16 26.7**	**+3.1**
ARCES	**ARCESS Array B**	**102.38**	**341**	P	**Pdif**	**18 00 18.7**	**-0.7**
	comp=Z,8.6nm,0.9s,baz=67,slow=6.9,SNR=23						
ARCES				PP	**PP**	**18 04 33.4**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=92,slow=9.9,SNR=2.3						
ARCES				PKiKP	**PKiKP**	**18 04 41.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=90,slow=1.2,SNR=5.9						
ARCES				PKKPbc	**PKKPbc**	**18 16 26.7**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=129,slow=1.7,SNR=3.6						
ARE0	**ARCESS Array S**	**102.38**	**341**	*e*Pdif	**Pdif**	**18 00 18.1**	**-1.3**
C16A	**Fuhringer Ranc**	**102.40**	**42**	⇑Pdiff	**Pdif**	**18 00 19.7**	**-0.4**
	baz=102						
C16A	**Fuhringer Ranc**	**102.40**	**42**	⇑Pdiff	**Pdif**	**18 00 19.7**	**-0.4**
	baz=102						
HVU	**Hansel Valley**	**102.52**	**48**	*e*P	**Pdif**	**18 00 21.3**	**+0.5**
HVU				pmax	pmax		
	comp=Z,66nm,1.6s						
HVU	**Hansel Valley**	**102.52**	**48**	*e*Pdif	**Pdif**	**18 00 21.3**	**+0.5**
	comp=Z,66nm,1.6s						
CCUT	**Cedar City**	**102.54**	**52**	*e*Pdif	**Pdif**	**18 00 20.9**	**-0.2**
	comp=Z,11nm,1.3s						
113A	**Mohawk Valley,**	**102.63**	**57**	⇓Pdiff	**Pdif**	**18 00 21.2**	**0.0**
	baz=103						
113A	**Mohawk Valley,**	**102.63**	**57**	⇓Pdiff	**Pdif**	**18 00 21.2**	**0.0**
	baz=103						
DUG	**Dugway**	**102.68**	**50**	*e*P	**Pdif**	**18 00 21.3**	**-0.2**
DUG				pmax	pmax		
	comp=Z,15nm,1.3s						
DUG	**Dugway**	**102.68**	**50**	*e*Pdif	**Pdif**	**18 00 21.3**	**-0.2**
	comp=Z,15nm,1.3s						
DUG	**Dugway**	**102.68**	**50**	⇓Pdiff	**Pdif**	**18 00 21.6**	**+0.1**
	baz=103						
DUG	**Dugway**	**102.68**	**50**	⇓Pdiff	**Pdif**	**18 00 21.6**	**+0.1**
	baz=103						
BOZ	**Bozeman (W)**	**102.81**	**44**	*e*P	**Pdif**	**18 00 22.1**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,16nm,1.3s						
BOZ	**Bozeman (W)**	**102.81**	**44**	*e*Pdif	**Pdif**	**18 00 22.1**	**+0.1**
	comp=Z,16nm,1.3s						
A17A	**Triple J Farms**	**102.90**	**41**	⇓Pdiff	**Pdif**	**18 00 22.2**	**0.0**
	baz=103						
A17A	**Triple J Farms**	**102.90**	**41**	⇓Pdiff	**Pdif**	**18 00 22.2**	**0.0**
	baz=103						
B17A	**L&G Farms, Che**	**102.95**	**41**	⇓Pdiff	**Pdif**	**18 00 21.8**	**-0.6**
	baz=103						
B17A	**L&G Farms, Che**	**102.95**	**41**	⇓Pdiff	**Pdif**	**18 00 21.8**	**-0.6**
	baz=103						
QLMT	**Earthquake Lak**	**103.08**	**45**	*e*Pdif	**Pdif**	**18 00 24.9**	**+1.6**
	comp=Z,0.7nm,0.7s						
C17A	**Wharram Farm,**	**103.08**	**42**	⇓Pdiff	**Pdif**	**18 00 22.6**	**-0.5**
	baz=103						
C17A	**Wharram Farm,**	**103.08**	**42**	⇓Pdiff	**Pdif**	**18 00 22.6**	**-0.5**
	baz=103						
Y14A	**Wickenburg**	**103.17**	**56**	⇑Pdiff	**Pdif**	**18 00 23.2**	**-0.5**
	baz=103						
Y14A	**Wickenburg**	**103.17**	**56**	⇑Pdiff	**Pdif**	**18 00 23.2**	**-0.5**
	baz=103						
I16A	**Newdale**	**103.18**	**46**	⇓Pdiff	**Pdif**	**18 00 23.8**	**+0.1**
	baz=103						
I16A	**Newdale**	**103.18**	**46**	⇓Pdiff	**Pdif**	**18 00 23.8**	**+0.1**
	baz=103						
D17A	**Six Diamond Ra**	**103.22**	**42**	⇑Pdiff	**Pdif**	**18 00 23.9**	**+0.1**
	baz=103						
D17A	**Six Diamond Ra**	**103.22**	**42**	⇑Pdiff	**Pdif**	**18 00 23.9**	**+0.1**
	baz=103						
E17A	**Martinsdale**	**103.22**	**43**	⇓Pdiff	**Pdif**	**18 00 23.9**	**0.0**
	baz=103						
E17A	**Martinsdale**	**103.22**	**43**	⇓Pdiff	**Pdif**	**18 00 23.9**	**0.0**
	baz=103						
H16A	**Russell Place,**	**103.22**	**45**	⇑Pdiff	**Pdif**	**18 00 24.9**	**+0.9**
	baz=103						
H16A	**Russell Place,**	**103.22**	**45**	⇑Pdiff	**Pdif**	**18 00 24.9**	**+0.9**
	baz=103						
Z14A	**Wintersburg**	**103.27**	**57**	⇓Pdiff	**Pdif**	**18 00 24.0**	**-0.1**
	baz=103						
Z14A	**Wintersburg**	**103.27**	**57**	⇓Pdiff	**Pdif**	**18 00 24.0**	**-0.1**
	baz=103						
NLU	**North Lily Min**	**103.27**	**50**	*e*Pdif	**Pdif**	**18 00 24.1**	**-0.1**
	comp=Z,4.8nm,0.9s						
MVU	**Marysvale**	**103.34**	**51**	*e*Pdif	**Pdif**	**18 00 24.6**	**0.0**
	comp=Z,6.1nm,1.3s						
MVU				*e*PP	**PP**	**18 04 35.5**	**-4.8**
MSU	**Marysvale**	**103.37**	**51**	*e*P	**Pdif**	**18 00 24.4**	**-0.3**
MSU				*e*		18 04 36.4	
MSU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MSU	**Marysvale**	**103.37**	**51**	*e*Pdif	**Pdif**	**18 00 24.4**	**-0.3**
	comp=Z,7.4nm,0.6s						
MSU				*e*PP	**PP**	**18 04 36.4**	**-4.1**
RRI2	**Red Ridge**	**103.38**	**46**	*e*Pdif	**Pdif**	**18 00 25.3**	**+0.6**
	comp=Z,35nm,1.6s						
HWUT	**Hardware Ranch**	**103.44**	**48**	*e*Pdif	**Pdif**	**18 00 24.5**	**-0.4**
	comp=Z,8.4nm,1.2s						
F17A	**Fitzpatrick Pl**	**103.44**	**44**	⇑Pdiff	**Pdif**	**18 00 25.3**	**+0.5**
	baz=103						
F17A	**Fitzpatrick Pl**	**103.44**	**44**	⇑Pdiff	**Pdif**	**18 00 25.3**	**+0.5**
	baz=103						
A18A	**Metzger Ranch,**	**103.46**	**40**	⇑Pdiff	**Pdif**	**18 00 24.4**	**-0.2**
	baz=103						
A18A	**Metzger Ranch,**	**103.46**	**40**	⇑Pdiff	**Pdif**	**18 00 24.4**	**-0.2**
	baz=103						
G17A	**Pierce Place,**	**103.48**	**44**	⇑Pdiff	**Pdif**	**18 00 25.7**	**+0.7**
	baz=104						
G17A	**Pierce Place,**	**103.48**	**44**	⇑Pdiff	**Pdif**	**18 00 25.7**	**+0.7**
	baz=104						
214A	**Organ Pipe Nat**	**103.50**	**58**	⇓Pdiff	**Pdif**	**18 00 25.2**	**0.0**
	baz=104						
214A	**Organ Pipe Nat**	**103.50**	**58**	⇓Pdiff	**Pdif**	**18 00 25.2**	**0.0**
	baz=104						
U15A	**North Rim**	**103.51**	**53**	⇑Pdiff	**Pdif**	**18 00 25.6**	**+0.2**
	baz=104						
U15A	**North Rim**	**103.51**	**53**	⇑Pdiff	**Pdif**	**18 00 25.6**	**+0.2**
	baz=104						
IMW	**Indian Meadow**	**103.57**	**46**	*e*Pdif	**Pdif**	**18 00 26.2**	**+0.6**
	comp=Z,27nm,1.8s						
B18A	**Beardsley Farm**	**103.60**	**41**	⇓Pdiff	**Pdif**	**18 00 25.1**	**-0.2**
	baz=104						
B18A	**Beardsley Farm**	**103.60**	**41**	⇓Pdiff	**Pdif**	**18 00 25.1**	**-0.2**
	baz=104						
TPAW	**Teton Pass**	**103.62**	**46**	*e*Pdif	**Pdif**	**18 00 26.3**	**+0.5**
	comp=Z,12nm,1.3s						
JLU	**Jordanelle**	**103.66**	**49**	*e*Pdif	**Pdif**	**18 00 25.9**	**-0.1**
	comp=Z,10nm,1.1s						
EGMT	**Eagleton**	**103.68**	**41**	*e*P	**Pdif**	**18 00 25.7**	**-0.1**
	comp=Z,22nm,1.4s						
EGMT	**Eagleton**	**103.68**	**41**	⇑Pdiff	**Pdif**	**18 00 25.6**	**-0.1**
	baz=104						
EGMT	**Eagleton**	**103.

L18A	Fontenelle, Gr	104.53	48	⇓Pdiff	Pdif	18 00 29.8	0.0
	baz=104						
L18A	Fontenelle, Gr	104.53	48	⇓Pdiff	Pdif	18 00 29.8	0.0
	baz=104						
SRU	San Rafael	104.57	51	eP	Pdif	18 00 30.1	+0.1
SRU				pmax	pmax		
	comp=Z,22nm,1.6s						
SRU	San Rafael	104.57	51	eP	Pdif	18 00 30.1	+0.1
	comp=Z,22nm,1.6s						
E19A	Rath Farm, Rou	104.63	43	⇓Pdiff	Pdif	18 00 30.0	+0.1
	baz=105						
E19A	Rath Farm, Rou	104.63	43	⇓Pdiff	Pdif	18 00 30.0	+0.1
	baz=105						
F19A	Roth Farm, Mol	104.63	43	⇓Pdiff	Pdif	18 00 30.1	+0.1
	baz=105						
F19A	Roth Farm, Mol	104.63	43	⇓Pdiff	Pdif	18 00 30.1	+0.1
	baz=105						
A20A	Cobblestone Ra	104.71	40	⇓Pdiff	Pdif	18 00 30.0	-0.2
	baz=105						
A20A	Cobblestone Ra	104.71	40	⇓Pdiff	Pdif	18 00 30.0	-0.2
	baz=105						
B20A	Solberg Farm,	104.74	41	⇑Pdiff	Pdif	18 00 30.2	-0.2
	baz=105						
B20A	Solberg Farm,	104.74	41	⇑Pdiff	Pdif	18 00 30.2	-0.2
	baz=105						
BW06	Boulder Array	104.74	47	eP	Pdif	18 00 30.4	-0.3
	comp=Z,19nm,1.6s						
PDAR	Pinedale Array	104.74	47	Pdif	Pdif	18 00 30.3	-0.4
PDAR				PKiKP	PKiKP	18 04 46.6	+0.4
PDAR				PKKPbc	PKKPbc	18 16 11.3	-4.7
PDAR	Pinedale Array	104.74	47	Pdif	Pdif	18 00 30.3	-0.4
	comp=Z,6.7nm,1.2s,baz=270,slow=3.0,SNR=18						
PDAR				PKiKP	PKiKP	18 04 46.6	+0.4
	comp=Z,1.3nm,1.0s,baz=256,slow=3.6,SNR=5.9						
PDAR				PKKPbc	PKKPbc	18 16 11.3	-4.7
	comp=Z,0.6nm,0.9s,baz=95,slow=10,SNR=3.8						
H19A	Powell	104.82	45	⇓Pdiff	Pdif	18 00 30.2	-0.8
	baz=105						
H19A	Powell	104.82	45	⇓Pdiff	Pdif	18 00 30.2	-0.8
	baz=105						
C20A	Veseth Ranch,	104.90	41	⇓Pdiff	Pdif	18 00 30.9	-0.2
	baz=105						
C20A	Veseth Ranch,	104.90	41	⇓Pdiff	Pdif	18 00 30.9	-0.2
	baz=105						
I19A	Meeteetse	104.93	45	⇓Pdiff	Pdif	18 00 31.7	+0.1
	baz=105						
I19A	Meeteetse	104.93	45	⇓Pdiff	Pdif	18 00 31.7	+0.1
	baz=105						
D20A	Manuel Ranch,	104.94	42	⇓Pdiff	Pdif	18 00 31.3	0.0
	baz=105						
D20A	Manuel Ranch,	104.94	42	⇓Pdiff	Pdif	18 00 31.3	0.0
	baz=105						
L19A	Farson	105.00	47	⇓Pdiff	Pdif	18 00 31.6	-0.3
	baz=105						
L19A	Farson	105.00	47	⇓Pdiff	Pdif	18 00 31.6	-0.3
	baz=105						
J19A	Crowheart	105.02	46	⇓Pdiff	Pdif	18 00 32.0	+0.1
	baz=105						
J19A	Crowheart	105.02	46	⇓Pdiff	Pdif	18 00 32.0	+0.1
	baz=105						
E20A	Meyer Farm, Mu	105.06	43	⇑Pdiff	Pdif	18 00 31.7	-0.2
	baz=105						
E20A	Meyer Farm, Mu	105.06	43	⇑Pdiff	Pdif	18 00 31.7	-0.2
	baz=105						
KAF	Kangasniemi	105.11	334	eP	Pdif	18 00 21.9	-10
KAF	Kangasniemi	105.11	334	ep	Pdif	18 00 21.9	-10
	comp=Z,0.4nm,0.3s						
F20A	Billings	105.19	43	⇑Pdiff	Pdif	18 00 32.4	-0.1
	baz=105						
F20A	Billings	105.19	43	⇑Pdiff	Pdif	18 00 32.4	-0.1
	baz=105						
M19A	Rock Springs	105.24	48	⇓Pdiff	Pdif	18 00 32.5	-0.5
	baz=105						
M19A	Rock Springs	105.24	48	⇓Pdiff	Pdif	18 00 32.5	-0.5
	baz=105						
K19A	Absolon Red Bu	105.25	47	⇑Pdiff	Pdif	18 00 32.5	-0.4
	baz=105						
K19A	Absolon Red Bu	105.25	47	⇑Pdiff	Pdif	18 00 32.5	-0.4
	baz=105						
G20A	Bridger	105.26	44	⇑Pdiff	Pdif	18 00 33.0	+0.1
	baz=105						
G20A	Bridger	105.26	44	⇑Pdiff	Pdif	18 00 33.0	+0.1
	baz=105						
A21A	Bergtoll Ranch	105.33	40	⇓Pdiff	Pdif	18 00 32.7	-0.3
	baz=105						
A21A	Bergtoll Ranch	105.33	40	⇓Pdiff	Pdif	18 00 32.7	-0.3
	baz=105						
B21A	Ellsworth Farm	105.39	41	⇓Pdiff	Pdif	18 00 33.2	0.0
	baz=105						
B21A	Ellsworth Farm	105.39	41	⇓Pdiff	Pdif	18 00 33.2	0.0
	baz=105						
O19A	Miners Draw (B	105.46	49	⇓Pdiff	Pdif	18 00 33.0	-0.9
	baz=106						
O19A	Miners Draw (B	105.46	49	⇓Pdiff	Pdif	18 00 33.0	-0.9
	baz=106						
FIA1	FINESS Array S	105.47	334	eP	Pdif	18 00 32.4	-0.9
FINES	FINESS Array B	105.47	334	Pdif	Pdif	18 00 32.4	-0.8
FINES				PKiKP	PKiKP	18 04 46.4	-0.3
FINES	FINESS Array B	105.47	334	Pdiff	Pdif	18 00 32.4	-0.8
	comp=Z,4.0nm,0.7s,baz=98,slow=5.8,SNR=15						
FINES				PKiKP	PKiKP	18 04 46.3	-0.3
	comp=Z,1.5nm,0.7s,baz=126,slow=2.6,SNR=4.2						
C21A	Desert Coulee	105.47	41	⇓Pdiff	Pdif	18 00 33.3	-0.4
	baz=106						
C21A	Desert Coulee	105.47	41	⇓Pdiff	Pdif	18 00 33.3	-0.4
	baz=106						
H20A	Greybull	105.55	45	⇓Pdiff	Pdif	18 00 33.8	-0.4
	baz=106						
H20A	Greybull	105.55	45	⇓Pdiff	Pdif	18 00 33.8	-0.4
	baz=106						
I20A	Worland	105.56	45	⇓Pdiff	Pdif	18 00 34.5	+0.3
	baz=106						
I20A	Worland	105.56	45	⇓Pdiff	Pdif	18 00 34.5	+0.3
	baz=106						
X18A	Snowflake	105.62	55	⇑Pdiff	Pdif	18 00 34.8	0.0
	baz=106						
X18A	Snowflake	105.62	55	⇑Pdiff	Pdif	18 00 34.8	0.0
	baz=106						
K20A	Yellowstone Ra	105.64	47	⇑Pdiff	Pdif	18 00 34.6	-0.1
	baz=106						
K20A	Yellowstone Ra	105.64	47	⇑Pdiff	Pdif	18 00 34.6	-0.1
	baz=106						
P19A	Cripple Cowboy	105.68	50	⇓Pdiff	Pdif	18 00 34.8	-0.2
	baz=106						
P19A	Cripple Cowboy	105.68	50	⇓Pdiff	Pdif	18 00 34.8	-0.2
	baz=106						
SIM	Simferopol'	105.70	316	eP	Pdif	18 00 34.8	+0.2
SIM				i		18 04 55.0	
SIM				e		18 11 58.0	
SIM				ePS	PS	18 14 15.0	+0.7
SIM				pmax	pmax		
	comp=Z,290nm,5.8s						
SIM				MLR	MLR		
	comp=E,140nm,17.8s						
J20A	Shoshoni	105.70	46	⇓Pdiff	Pdif	18 00 35.0	+0.1
	baz=106						
J20A	Shoshoni	105.70	46	⇓Pdiff	Pdif	18 00 35.0	+0.1
	baz=106						
D21A	La Casta Ranch	105.71	42	⇑Pdiff	Pdif	18 00 34.7	0.0
	baz=106						
D21A	La Casta Ranch	105.71	42	⇑Pdiff	Pdif	18 00 34.7	0.0
	baz=106						
W18A	Petrified Fore	105.72	55	⇑Pdiff	Pdif	18 00 35.5	+0.2
	baz=106						
W18A	Petrified Fore	105.72	55	⇑Pdiff	Pdif	18 00 35.5	+0.2
	baz=106						
L20A	Wamsutter	105.76	47	⇑Pdiff	Pdif	18 00 35.3	0.0
	baz=106						
L20A	Wamsutter	105.76	47	⇑Pdiff	Pdif	18 00 35.3	0.0
	baz=106						
E21A	Keefer Ranch,	105.77	42	⇓Pdiff	Pdif	18 00 35.3	+0.3
	baz=106						
E21A	Keefer Ranch,	105.77	42	⇓Pdiff	Pdif	18 00 35.3	+0.3
	baz=106						
F21A	Absaloka Mine,	105.89	43	⇓Pdiff	Pdif	18 00 35.3	-0.2
	baz=106						
F21A	Absaloka Mine,	105.89	43	⇓Pdiff	Pdif	18 00 35.3	-0.2
	baz=106						
PV04	Paradox Valley	105.93	51	ePdif	Pdif	18 00 36.4	+0.3
G21A	Lodge Grass	105.95	44	⇑Pdiff	Pdif	18 00 35.1	-0.8
	baz=106						
G21A	Lodge Grass	105.95	44	⇑Pdiff	Pdif	18 00 35.1	-0.8
	baz=106						
M20A	Sweetwater, Wa	105.97	48	⇓Pdiff	Pdif	18 00 35.9	-0.3
	baz=106						
M20A	Sweetwater, Wa	105.97	48	⇓Pdiff	Pdif	18 00 35.9	-0.3
	baz=106						
A22A	Carney Farms,	105.97	40	⇓Pdiff	Pdif	18 00 35.2	-0.7
	baz=106						
A22A	Carney Farms,	105.97	40	⇓Pdiff	Pdif	18 00 35.2	-0.7
	baz=106						
N20A	Spence Gulch,	106.02	48	⇑Pdiff	Pdif	18 00 36.4	-0.1
	baz=106						
N20A	Spence Gulch,	106.02	48	⇑Pdiff	Pdif	18 00 36.4	-0.1
	baz=106						
B22A	Reddig Ranch S	106.08	41	⇑Pdiff	Pdif	18 00 36.2	-0.2
	baz=106						
B22A	Reddig Ranch S	106.08	41	⇑Pdiff	Pdif	18 00 36.2	-0.2
	baz=106						
P20A	De Beque	106.15	50	⇓Pdiff	Pdif	18 00 36.5	-0.5
	baz=106						
P20A	De Beque	106.15	50	⇓Pdiff	Pdif	18 00 36.5	-0.5
	baz=106						
O20A	White River Ci	106.16	49	⇓Pdiff	Pdif	18 00 36.9	-0.1
	baz=106						
O20A	White River Ci	106.16	49	⇓Pdiff	Pdif	18 00 36.9	-0.1
	baz=106						
J21A	Lysite	106.16	46	⇑Pdiff	Pdif	18 00 37.0	0.0
	baz=106						
J21A	Lysite	106.16	46	⇑Pdiff	Pdif	18 00 37.0	0.0
	baz=106						
I21A	Big Trails, Te	106.18	45	⇑Pdiff	Pdif	18 00 37.0	0.0
	baz=106						
I21A	Big Trails, Te	106.18	45	⇑Pdiff	Pdif	18 00 37.0	0.0
	baz=106						
H21A	Big Horn, Sher	106.19	44	⇓Pdiff	Pdif	18 00 37.4	+0.4
	baz=106						
H21A	Big Horn, Sher	106.19	44	⇓Pdiff	Pdif	18 00 37.4	+0.4
	baz=106						
PV01	Paradox Valley	106.23	51	ePdif	Pdif	18 00 37.1	-0.4
	comp=E,1μm,1.4s						
D22A	Cohagen	106.23	42	⇑Pdiff	Pdif	18 00 37.0	0.0
	baz=106						
D22A	Cohagen	106.23	42	⇑Pdiff	Pdif	18 00 37.0	0.0
	baz=106						
C22A	Vida	106.29	41	⇓Pdiff	Pdif	18 00 37.4	+0.1
	baz=106						
C22A	Vida	106.29	41	⇓Pdiff	Pdif	18 00 37.4	+0.1
	baz=106						
Q20A	Ridgley Place,	106.31	50	⇑Pdiff	Pdif	18 00 37.6	-0.1
	baz=106						
Q20A	Ridgley Place,	106.31	50	⇑Pdiff	Pdif	18 00 37.6	-0.1
	baz=106						
MVCO	Mesa Verde	106.42	52	ePdif	Pdif	18 00 39.2	+0.8
	comp=E,9.5nm,0.8s						
MVCO	Mesa Verde	106.42	52	⇓Pdiff	Pdif	18 00 38.3	-0.1
	baz=106						
MVCO	Mesa Verde	106.42	52	⇓Pdiff	Pdif	18 00 38.3	-0.1
	baz=106						
K21A	Alcova	106.44	46	⇓Pdiff	Pdif	18 00 38.0	-0.3
	baz=106						
K21A	Alcova	106.44	46	⇓Pdiff	Pdif	18 00 38.0	-0.3
	baz=106						
S20A	Disappointment	106.44	52	⇓Pdiff	Pdif	18 00 38.0	-0.4
	baz=106						
S20A	Disappointment	106.44	52	⇓Pdiff	Pdif	18 00 38.0	-0.4
	baz=106						
L21A	Rawlins	106.48	47	⇑Pdiff	Pdif	18 00 38.3	-0.2
	baz=106						
L21A	Rawlins	106.48	47	⇑Pdiff	Pdif	18 00 38.3	-0.2
	baz=106						
F22A	Rosebud	106.49	43	⇓Pdiff	Pdif	18 00 38.4	+0.1
	baz=106						
F22A	Rosebud	106.49	43	⇓Pdiff	Pdif	18 00 38.4	+0.1
	baz=106						
U20A	Newcomb	106.53	53	⇑Pdiff	Pdif	18 00 38.5	-0.2
	baz=106						
U20A	Newcomb	106.53	53	⇑Pdiff	Pdif	18 00 38.5	-0.2
	baz=106						
E22A	Miles City	106.55	42	⇑Pdiff	Pdif	18 00 38.4	-0.1
	baz=106						
E22A	Miles City	106.55	42	⇑Pdiff	Pdif	18 00 38.4	-0.1
	baz=106						
M21A	Separation Pea	106.55	48	⇓Pdiff	Pdif	18 00 38.6	-0.3
	baz=106						
M21A	Separation Pea	106.55	48	⇓Pdiff	Pdif	18 00 38.6	-0.3
	baz=106						
319A	Douglas	106.55	58	⇓Pdiff	Pdif	18 00 38.7	-0.3
	baz=107						
319A	Douglas	106.55	58	⇓Pdiff	Pdif	18 00 38.7	-0.3
	baz=107						
G22A	Birney	106.59	44	⇑Pdiff	Pdif	18 00 38.6	-0.1
	baz=107						
G22A	Birney	106.59	44	⇑Pdiff	Pdif	18 00 38.6	-0.1
	baz=107						
N21A	Black Mountain	106.59	48	⇑Pdiff	Pdif	18 00 38.3	-0.7
	baz=107						
N21A	Black Mountain	106.59	48	⇑Pdiff	Pdif	18 00 38.3	-0.7
	baz=107						
A23A	Redstone	106.64	40	⇑Pdiff	Pdif	18 00 38.6	-0.2
	baz=107						
A23A	Redstone	106.64	40	⇑Pdiff	Pdif	18 00 38.6	-0.2
	baz=107						
RWWY	Rawlins	106.65	47	ePdif	Pdif	18 00 39.4	+0.1
	comp=E,20nm,1.4s						
V20A	Brimhall	106.66	54	⇓Pdiff	Pdif	18 00 39.0	-0.4
	baz=107						
V20A	Brimhall	106.66	54	⇓Pdiff	Pdif	18 00 39.0	-0.4
	baz=107						
H22A	Clearmont	106.68	44	⇓Pdiff	Pdif	18 00 39.0	-0.2
	baz=107						
H22A	Clearmont	106.68	44	⇓Pdiff	Pdif	18 00 39.0	-0.2
	baz=107						
B23A	Brockton	106.69	40	⇑Pdiff	Pdif	18 00 39.1	+0.1
	baz=107						
B23A	Brockton	106.69	40	⇑Pdiff	Pdif	18 00 39.1	+0.1
	baz=107						
O21A	Pagoda	106.72	49	⇑Pdiff	Pdif	18 00 39.2	-0.5
	baz=107						
O21A	Pagoda	106.72	49	⇑Pdiff	Pdif	18 00 39.2	-0.5
	baz=107						
W20A	Ramah	106.73	54	⇑Pdiff	Pdif	18 00 39.6	-0.1
	baz=107						
W20A	Ramah	106.73	54	⇑Pdiff	Pdif	18 00 39.6	-0.1
	baz=107						
C23A	Lambert	106.73	41	⇓Pdiff	Pdif	18 00 39.3	+0.1
	baz=107						
C23A	Lambert	106.73	41	⇓Pdiff	Pdif	18 00 39.3	+0.1
	baz=107						
I22A	9 Mile Ranch,	106.73	45	⇑Pdiff	Pdif	18 00 39.6	+0.2
	baz=107						
I22A	9 Mile Ranch,	106.73	45	⇑Pdiff	Pdif	18 00 39.6	+0.2
	baz=107						
P21A	Newcastle	106.86	50	⇓Pdiff	Pdif	18 00 40.0	-0.3
	baz=107						
P21A	Newcastle	106.86	50	⇓Pdiff	Pdif	18 00 40.0	-0.3
	baz=107						
Q21A	Lamborn Mesa,	106.89	50	⇓Pdiff	Pdif	18 00 40.4	+0.1
	baz=107						
Q21A	Lamborn Mesa,	106.89	50	⇓Pdiff	Pdif	18 00 40.4	+0.1
	baz=107						
S21A	Coal Bank Pass	106.91	52	⇑Pdiff	Pdif	18 00 40.5	-0.2
	baz=107						
S21A	Coal Bank Pass	106.91	52	⇑Pdiff	Pdif	18 00 40.5	-0.2
	baz=107						
Z20A	Nine Sixteen R	106.92	56	⇑Pdiff	Pdif	18 00 40.5	-0.1
	baz=107						
Z20A	Nine Sixteen R	106.92	56	⇑Pdiff	Pdif	18 00 40.5	-0.1
	baz=107						
120A	U Bar Ranch, L	106.96	57	⇓Pdiff	Pdif	18 00 41.1	+0.4
	baz=107						
120A	U Bar Ranch, L	106.96	57	⇓Pdiff	Pdif	18 00 41.1	+0.4
	baz=107						
K22A	Casper	106.96	46	⇑Pdiff	Pdif	18 00 40.6	+0.1
	baz=107						
K22A	Casper	106.96	46	⇑Pdiff	Pdif	18 00 40.6	+0.1
	baz=107						
E23A	Ismay	106.97	42	⇑Pdiff	Pdif	18 00 40.7	+0.4
	baz=107						
E23A	Ismay	106.97	42	⇑Pdiff	Pdif	18 00 40.7	+0.4
	baz=107						
R21A	Cimarron	106.98	51	⇑Pdiff	Pdif	18 00 41.1	+0.2
	baz=107						
R21A	Cimarron	106.98	51	⇑Pdiff	Pdif	18 00 41.1	+0.2
	baz=107						
Y20A	Horse Springs,	107.00	56	⇑Pdiff	Pdif	18 00 41.4	+0.4
	baz=107						
Y20A	Horse Springs,	107.00	56	⇑Pdiff	Pdif	18 00 41.4	+0.4
	baz=107						
BR131	Keskin Array S	107.03	311	ePKiKP	PKiKP	18 04 51.0	+0.6
BRTR	Keskin Array B	107.03	311	Pdif	Pdif	18 00 40.2	-0.6
BRTR				PKiKP	PKiKP	18 04 50.5	+0.1
BRTR	Keskin Array B	107.03	311	Pdiff	Pdif	18 00 40.2	-0.6
	comp=E,0.4nm,0.6s,baz=72,slow=4.0,SNR=3.7						
BRTR				PKiKP	PKiKP	18 04 50.5	+0.1
	comp=E,4.5nm,1.0s,baz=34,slow=3.6,SNR=4.5						
F23A	Volborg	107.08	43	⇓Pdiff	Pdif	18 00 41.0	+0.1
	baz=107						
F23A	Volborg	107.08	43	⇓Pdiff	Pdif	18 00 41.0	+0.1
	baz=107						
MNK	Minsk	107.10	327	eP	Pdif	18 00 39.0	-1.6
220A	Playas Peak, P	107.13	58	⇑Pdiff	Pdif	18 00 41.6	+0.1
	baz=107						
220A	Playas Peak, P	107.13	58	⇑Pdiff	Pdif	18 00 41.6	+0.1
	baz=107						
L22A	Ellis Ranch, M	107.15	47	⇑Pdiff	Pdif	18 00 41.7	+0.3
	baz=107						
L22A	Ellis Ranch, M	107.15	47	⇑Pdiff	Pdif	18 00 41.7	+0.3
	baz=107						
M22A	Cedar Creek Ra	107.16	48	⇓Pdiff	Pdif	18 00 41.5	0.0
	baz=107						
M22A	Cedar Creek Ra	107.16	48	⇓Pdiff	Pdif	18 00 41.5	0.0
	baz=107						
320A	Kipp Ranch, An	107.20	58	⇓Pdiff	Pdif	18 00 42.4	+0.6
	baz=107						
320A	Kipp Ranch, An	107.20	58	⇓Pdiff	Pdif	18 00 42.4	+0.6
	baz=107						
DGMT	Dagmar	107.20	40	⇑Pdiff	Pdif	18 00 40.8	-0.5
	baz=107						
DGMT	Dagmar	107.20	40	⇑Pdiff	Pdif	18 00 40.8	-0.5
	baz=107						
G23A	Biddle	107.21	44	⇓Pdiff	Pdif	18 00 41.7	+0.2
	baz=107						
G23A	Biddle	107.21	44	⇓Pdiff	Pdif	18 00 41.7	+0.2
	baz=107						
U21A	Nageezi	107.21	53	⇓Pdiff	Pdif	18 00 42.1	+0.2
	baz=107						
U21A	Nageezi	107.21	53	⇓Pdiff	Pdif	18 00 42.1	+0.2
	baz=107						
T21A	Navajo Lake	107.22	52	⇓Pdiff	Pdif	18 00 42.1	+0.2
	baz=107						
T21A	Navajo Lake	107.22	52	⇓Pdiff	Pdif	18 00 42.1	+0.2
	baz=107						
SMCO	Snowmass	107.29	50	ePdif	Pdif	18 00 43.0	+0.6
	comp=E,18nm,1.4s						
C24A	Savage	107.30	41	⇓Pdiff	Pdif	18 00 42.3	+0.6
	baz=107						
C24A	Savage	107.30	41	⇓Pdiff	Pdif	18 00 42.3	+0.6
	baz=107						
V21A	Milan	107.32	54	⇑Pdiff	Pdif	18 00 42.2	-0.1
	baz=107						
V21A	Milan	107.32	54	⇑Pdiff	Pdif	18 00 42.2	-0.1
	baz=107						
H23A	Clabaugh Cattl	107.35	44	⇓Pdiff	Pdif	18 00 42.2	+0.1
	baz=107						
H23A	Clabaugh Cattl	107.35	44	⇓Pdiff	Pdif	18 00 42.2	+0.1
	baz=107						
P22A	Eagle	107.38	50	⇓Pdiff	Pdif	18 00 42.7	+0.1
	baz=107						
P22A	Eagle	107.38	50	⇓Pdiff	Pdif	18 00 42.7	+0.1
	baz=107						
N22A	Wattenberg Ran	107.38	48	⇓Pdiff	Pdif	18 00 42.6	+0.1
	baz=107						
N22A	Wattenberg Ran	107.38	48	⇓Pdiff	Pdif	18 00 42.6	+0.1
	baz=107						
Q22A	Crested Butte,	107.39	50	⇑Pdiff	Pdif	18 00 42.8	0.0
	baz=107						
Q22A	Crested Butte,	107.39	50	⇑Pdiff	Pdif	18 00 42.8	0.0
	baz=107						
X21A	Alamocita Cree	107.41	55	⇓Pdiff	Pdif	18 00 43.1	+0.3
	baz=107						
X21A	Alamocita Cree	107.41	55	⇓Pdiff	Pdif	18 00 43.1	+0.3
	baz=107						
W21A	San Fidel	107.42	54	⇑Pdiff	Pdif	18 00 43.5	+0.6
	baz=107						
W21A	San Fidel	107.42	54	⇑Pdiff	Pdif	18 00 43.5	+0.6
	baz=107						
O22A	Kremmling	107.43	49	⇓Pdiff	Pdif	18 00 42.6	-0.2
	baz=107						
O22A	Kremmling	107.43	49	⇓Pdiff	Pdif	18 00 42.6	-0.2
	baz=107						
I23A	Meade Ranch, G	107.44	45	⇑Pdiff	Pdif	18 00 42.2	-0.4
	baz=107						
I23A	Meade Ranch, G	107.44	45	⇑Pdiff	Pdif	18 00 42.2	-0.4
	baz=107						
D24A	Glendive	107.47	41	⇓Pdiff	Pdif	18 00 42.5	0.0
	baz=107						
D24A	Glendive	107.47	41	⇓Pdiff	Pdif	18 00 42.5	0.0
	baz=107						
AKASG	Malin Array Be	107.48	322	PKKPbc	PKKPbc	18 16 11.2	+3.6
	comp=E,1.1nm,0.4s,baz=260,slow=3.8,SNR=4.1						
J23A	Dilts Ranch, B	107.50	45	⇑Pdiff	Pdif	18 00 43.1	+0.2
	baz=108						
J23A	Dilts Ranch, B	107.50	45	⇑Pdiff	Pdif	18 00 43.1	+0.2
	baz=108						
NACGM	Naroch	107.54	327	e	Pdif	18 00 40.0	-2.6
Y21A	Point of Rocks	107.56	55	⇓Pdiff	Pdif	18 00 43.5	0.0
	baz=108						
Y21A	Point of Rocks	107.56	55	⇓Pdiff	Pdif	18 00 43.5	0.0
	baz=108						
K23A	Bowen Ranch, D	107.59	46	⇑Pdiff	Pdif	18 00 43.6	+0.3
	baz=108						
K23A	Bowen Ranch, D	107.59	46	⇑Pdiff	Pdif	18 00 43.6	+0.3
	baz=108						
E24A	Baker	107.62	42	⇓Pdiff	Pdif	18 00 43.6	+0.3
	baz=108						
E24A	Baker	107.62	42	⇓Pdiff	Pdif	18 00 43.6	+0.3
	baz=108						
R22A	Saguache, Gunn	107.62	51	⇑Pdiff	Pdif	18 00 44.0	+0.3
	baz=108						
R22A	Saguache, Gunn	107.62	51	⇑Pdiff	Pdif	18 00 44.0	+0.3
	baz=108						
S22A	4UR Ranch, Cre	107.65	51	⇑Pdiff	Pdif	18 00 44.2	+0.3
	baz=108						
S22A	4UR Ranch, Cre	107.65	51	⇑Pdiff	Pdif	18 00 44.2	+0.3
	baz=108						
Z21A	St. Cloud Mine	107.66	56	⇓Pdiff	Pdif	18 00 44.5	+0.6
	baz=108						
Z21A	St. Cloud Mine	107.66	56	⇓Pdiff	Pdif	18 00 44.5	+0

B25A	Knox Farm, Ray	107.92	40	⇓Pdiff	Pdif	18 00 44.8	+0.2
	baz=108						
LAZ	Ladron	107.94	55	*e*Pdif	Pdif	18 00 46.1	+0.9
	comp=E,5.7nm,1.4s						
C25A	Freed Ranch, W	108.01	41	⇓Pdiff	Pdif	18 00 45.5	+0.6
	baz=108						
C25A	Freed Ranch, W	108.01	41	⇓Pdiff	Pdif	18 00 45.5	+0.6
	baz=108						
W22A	Albuquerque	108.06	54	⇓Pdiff	Pdif	18 00 46.1	+0.5
	baz=108						
W22A	Albuquerque	108.06	54	⇓Pdiff	Pdif	18 00 46.1	+0.5
	baz=108						
P23A	Jefferson	108.12	50	⇑Pdiff	Pdif	18 00 46.9	+0.9
	baz=108						
P23A	Jefferson	108.12	50	⇑Pdiff	Pdif	18 00 46.9	+0.9
	baz=108						
D25A	Fairfield	108.12	41	⇑Pdiff	Pdif	18 00 46.1	+0.6
	baz=108						
D25A	Fairfield	108.12	41	⇑Pdiff	Pdif	18 00 46.1	+0.6
	baz=108						
J24A	Dixon Ranch, L	108.15	45	⇓Pdiff	Pdif	18 00 46.2	+0.4
	baz=108						
J24A	Dixon Ranch, L	108.15	45	⇓Pdiff	Pdif	18 00 46.2	+0.4
	baz=108						
K24A	Anderson Ranch	108.18	46	⇓Pdiff	Pdif	18 00 46.3	+0.4
	baz=108						
K24A	Anderson Ranch	108.18	46	⇓Pdiff	Pdif	18 00 46.3	+0.4
	baz=108						
ISCO	Idaho Springs	108.20	49	*e*P	Pdif	18 00 46.4	+0.1
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ISCO	Idaho Springs	108.20	49	*e*Pdif	Pdif	18 00 46.4	+0.1
	comp=Z,3.8nm,1.1s						
ISCO	Idaho Springs	108.20	49	⇓Pdiff	Pdif	18 00 46.5	+0.2
	baz=108						
ISCO	Idaho Springs	108.20	49	⇓Pdiff	Pdif	18 00 46.5	+0.2
	baz=108						
Q23A	Hartsel	108.21	50	⇓Pdiff	Pdif	18 00 46.4	0.0
	baz=108						
Q23A	Hartsel	108.21	50	⇓Pdiff	Pdif	18 00 46.4	0.0
	baz=108						
Z22A	Elephant Butte	108.25	56	⇑Pdiff	Pdif	18 00 47.3	+0.8
	baz=108						
Z22A	Elephant Butte	108.25	56	⇑Pdiff	Pdif	18 00 47.3	+0.8
	baz=108						
S23A	Nye Farm, Mont	108.30	51	⇓Pdiff	Pdif	18 00 47.1	+0.3
	baz=108						
S23A	Nye Farm, Mont	108.30	51	⇓Pdiff	Pdif	18 00 47.1	+0.3
	baz=108						
222A	Williams Famil	108.30	57	⇓Pdiff	Pdif	18 00 47.2	+0.4
	baz=108						
222A	Williams Famil	108.30	57	⇓Pdiff	Pdif	18 00 47.2	+0.4
	baz=108						
122A	Conniff Cattle	108.31	57	⇑Pdiff	Pdif	18 00 47.3	+0.6
	baz=108						
122A	Conniff Cattle	108.31	57	⇑Pdiff	Pdif	18 00 47.3	+0.6
	baz=108						
R23A	Moffat	108.35	51	⇓Pdiff	Pdif	18 00 47.2	+0.3
	baz=108						
R23A	Moffat	108.35	51	⇓Pdiff	Pdif	18 00 47.2	+0.3
	baz=108						
F25A	Bowman	108.35	42	⇓Pdiff	Pdif	18 00 46.9	+0.4
	baz=108						
F25A	Bowman	108.35	42	⇓Pdiff	Pdif	18 00 46.9	+0.4
	baz=108						
T23A	Casias Ranch,	108.39	52	⇑Pdiff	Pdif	18 00 47.6	+0.4
	baz=108						
T23A	Casias Ranch,	108.39	52	⇑Pdiff	Pdif	18 00 47.6	+0.4
	baz=108						
U23A	El Rito	108.39	53	⇓Pdiff	Pdif	18 00 47.7	+0.6
	baz=108						
U23A	El Rito	108.39	53	⇓Pdiff	Pdif	18 00 47.7	+0.6
	baz=108						
M24A	Cheyenne	108.45	47	⇓Pdiff	Pdif	18 00 47.9	+0.7
	baz=108						
M24A	Cheyenne	108.45	47	⇓Pdiff	Pdif	18 00 47.9	+0.7
	baz=108						
A26A	Wade Farm, Ken	108.46	39	⇑Pdiff	Pdif	18 00 47.9	+1.0
	baz=108						
A26A	Wade Farm, Ken	108.46	39	⇑Pdiff	Pdif	18 00 47.9	+1.0
	baz=108						
B26A	Jensen Ranch,	108.49	40	⇓Pdiff	Pdif	18 00 47.6	+0.6
	baz=108						
B26A	Jensen Ranch,	108.49	40	⇓Pdiff	Pdif	18 00 47.6	+0.6
	baz=108						
V23A	Ortiz Mt. (NFS	108.50	53	⇑Pdiff	Pdif	18 00 48.1	+0.4
	baz=108						
V23A	Ortiz Mt. (NFS	108.50	53	⇑Pdiff	Pdif	18 00 48.1	+0.4
	baz=108						
N24A	Carr	108.54	48	⇓Pdiff	Pdif	18 00 48.4	+0.8
	baz=108						
N24A	Carr	108.54	48	⇓Pdiff	Pdif	18 00 48.4	+0.8
	baz=108						
O24A	Longmont	108.55	49	⇑Pdiff	Pdif	18 00 48.3	+0.7
	baz=108						
O24A	Longmont	108.55	49	⇑Pdiff	Pdif	18 00 48.3	+0.7
	baz=108						
G25A	Newell	108.57	43	⇓Pdiff	Pdif	18 00 48.1	+0.6
	baz=108						
G25A	Newell	108.57	43	⇓Pdiff	Pdif	18 00 48.1	+0.6
	baz=108						
W23A	Werner Place,	108.62	54	⇑Pdiff	Pdif	18 00 48.8	+0.6
	baz=109						
W23A	Werner Place,	108.62	54	⇑Pdiff	Pdif	18 00 48.8	+0.6
	baz=109						
I25A	Rochford	108.64	44	⇑Pdiff	Pdif	18 00 48.3	+0.3
	baz=109						
I25A	Rochford	108.64	44	⇑Pdiff	Pdif	18 00 48.3	+0.3
	baz=109						
SDCO	Great Sand Dun	108.69	51	*e*Pdif	Pdif	18 00 48.2	-0.3
	comp=Z,17nm,1.8s						
X23A	Hourglass Bar	108.69	55	⇑Pdiff	Pdif	18 00 49.0	+0.5
	baz=109						
X23A	Hourglass Bar	108.69	55	⇑Pdiff	Pdif	18 00 49.0	+0.5
	baz=109						
Q24A	Divide	108.72	50	⇑Pdiff	Pdif	18 00 48.7	+0.1
	baz=109						
Q24A	Divide	108.72	50	⇑Pdiff	Pdif	18 00 48.7	+0.1
	baz=109						
C26A	Wahner Farm, P	108.73	40	⇑Pdiff	Pdif	18 00 48.5	+0.4
	baz=109						
C26A	Wahner Farm, P	108.73	40	⇑Pdiff	Pdif	18 00 48.5	+0.4
	baz=109						
J25A	Sunshine Ranch	108.75	45	⇓Pdiff	Pdif	18 00 48.7	+0.3
	baz=109						
J25A	Sunshine Ranch	108.75	45	⇓Pdiff	Pdif	18 00 48.7	+0.3
	baz=109						
P24A	Kohler Place,	108.79	49	⇓Pdiff	Pdif	18 00 49.1	+0.3
	baz=109						
P24A	Kohler Place,	108.79	49	⇓Pdiff	Pdif	18 00 49.1	+0.3
	baz=109						
KIS	Kishinev	108.80	319	*e*PKP	PP	18 05 10.0	-10
KIS	Kishinev	108.80	319	*e*PP	PP	18 05 20.0	+0.2
KIS	Kishinev	108.80	319	*e*PS	PS	18 14 22.0	-24
KIS				LRM	MLR	18 53 28.0	
	comp=Z,700nm,24.0s						
Z23A	Rita Site, Whi	108.86	56	⇑Pdiff	Pdif	18 00 49.5	+0.4
	baz=109						
Z23A	Rita Site, Whi	108.86	56	⇑Pdiff	Pdif	18 00 49.5	+0.4
	baz=109						
E26A	Carlson Angus	108.87	42	⇑Pdiff	Pdif	18 00 49.3	+0.5
	baz=109						
E26A	Carlson Angus	108.87	42	⇑Pdiff	Pdif	18 00 49.3	+0.5
	baz=109						
K25A	Mack Ranch, Ha	108.88	46	⇑Pdiff	Pdif	18 00 49.6	+0.5
	baz=109						
K25A	Mack Ranch, Ha	108.88	46	⇑Pdiff	Pdif	18 00 49.6	+0.5
	baz=109						
223A	Chaparral, Ant	108.88	57	⇑Pdiff	Pdif	18 00 48.6	-0.6
	baz=109						
223A	Chaparral, Ant	108.88	57	⇑Pdiff	Pdif	18 00 48.6	-0.6
	baz=109						
R24A	Sanders Place,	108.90	51	⇑Pdiff	Pdif	18 00 49.1	-0.2
	baz=109						
R24A	Sanders Place,	108.90	51	⇑Pdiff	Pdif	18 00 49.1	-0.2
	baz=109						
Y23A	Lovelace Mesa,	108.90	55	⇑Pdiff	Pdif	18 00 49.5	+0.1
	baz=109						
Y23A	Lovelace Mesa,	108.90	55	⇑Pdiff	Pdif	18 00 49.5	+0.1
	baz=109						
F26A	Lodgepole	108.90	42	⇓Pdiff	Pdif	18 00 49.1	+0.2
	baz=109						
F26A	Lodgepole	108.90	42	⇓Pdiff	Pdif	18 00 49.1	+0.2
	baz=109						
L25A	Engebretsen Ra	108.92	46	⇓Pdiff	Pdif	18 00 49.6	+0.4
	baz=109						
L25A	Engebretsen Ra	108.92	46	⇓Pdiff	Pdif	18 00 49.6	+0.4
	baz=109						
S24A	Houchin Ranch,	108.93	51	⇑Pdiff	Pdif	18 00 49.7	+0.2
	baz=109						
S24A	Houchin Ranch,	108.93	51	⇑Pdiff	Pdif	18 00 49.7	+0.2
	baz=109						
123A	Bell Site, Whi	108.93	57	⇑Pdiff	Pdif	18 00 49.9	+0.4
	baz=109						
123A	Bell Site, Whi	108.93	57	⇑Pdiff	Pdif	18 00 49.9	+0.4
	baz=109						
M25A	Palm-Egli Farm	109.02	47	⇓Pdiff	Pdif	18 00 50.2	+0.5
	baz=109						
M25A	Palm-Egli Farm	109.02	47	⇓Pdiff	Pdif	18 00 50.2	+0.5
	baz=109						
G26A	Maurine	109.10	43	⇑Pdiff	Pdif	18 00 50.0	+0.2
	baz=109						
G26A	Maurine	109.10	43	⇑Pdiff	Pdif	18 00 50.0	+0.2
	baz=109						
U24A	Moreno Valley	109.11	53	⇓Pdiff	Pdif	18 00 50.5	+0.1
	baz=109						
U24A	Moreno Valley	109.11	53	⇓Pdiff	Pdif	18 00 50.5	+0.1
	baz=109						
N25A	Grover	109.13	48	⇑Pdiff	Pdif	18 00 50.7	+0.5
	baz=109						
N25A	Grover	109.13	48	⇑Pdiff	Pdif	18 00 50.7	+0.5
	baz=109						
C27A	Sayler Ranch,	109.15	40	⇑Pdiff	Pdif	18 00 50.8	+0.8
	baz=109						
C27A	Sayler Ranch,	109.15	40	⇑Pdiff	Pdif	18 00 50.8	+0.8
	baz=109						
H26A	Fairpoint	109.16	44	⇑Pdiff	Pdif	18 00 50.5	+0.4
	baz=109						
H26A	Fairpoint	109.16	44	⇑Pdiff	Pdif	18 00 50.5	+0.4
	baz=109						
T24A	Torres, Weston	109.16	52	⇓Pdiff	Pdif	18 00 51.2	+0.6
	baz=109						
T24A	Torres, Weston	109.16	52	⇓Pdiff	Pdif	18 00 51.2	+0.6
	baz=109						
W24A	Lazy 6 Ranch,	109.22	54	⇑Pdiff	Pdif	18 00 51.2	+0.4
	baz=109						
W24A	Lazy 6 Ranch,	109.22	54	⇑Pdiff	Pdif	18 00 51.2	+0.4
	baz=109						
V24A	Rampart Ranch,	109.23	53	⇑Pdiff	Pdif	18 00 51.3	+0.4
	baz=109						
V24A	Rampart Ranch,	109.23	53	⇑Pdiff	Pdif	18 00 51.3	+0.4
	baz=109						
I26A	New Underwood	109.25	44	⇑Pdiff	Pdif	18 00 51.0	+0.4
	baz=109						
I26A	New Underwood	109.25	44	⇑Pdiff	Pdif	18 00 51.0	+0.4
	baz=109						
O25A	Wiggins	109.26	49	⇑Pdiff	Pdif	18 00 51.2	+0.4
	baz=109						
O25A	Wiggins	109.26	49	⇑Pdiff	Pdif	18 00 51.2	+0.4
	baz=109						
J26A	Sides Ranch, S	109.28	45	⇓Pdiff	Pdif	18 00 51.0	+0.3
	baz=109						
J26A	Sides Ranch, S	109.28	45	⇓Pdiff	Pdif	18 00 51.0	+0.3
	baz=109						
X24A	Lazy VL Ranch,	109.30	55	⇑Pdiff	Pdif	18 00 51.2	0.0
	baz=109						
X24A	Lazy VL Ranch,	109.30	55	⇑Pdiff	Pdif	18 00 51.2	0.0
	baz=109						
D27A	Center	109.31	41	⇓Pdiff	Pdif	18 00 51.0	+0.3
	baz=109						
D27A	Center	109.31	41	⇓Pdiff	Pdif	18 00 51.0	+0.3
	baz=109						
F27A	Lemmon	109.33	42	⇑Pdiff	Pdif	18 00 51.1	+0.2
	baz=109						
F27A	Lemmon	109.33	42	⇑Pdiff	Pdif	18 00 51.1	+0.2
	baz=109						
K26A	Motz Farm, Whi	109.36	46	⇓Pdiff	Pdif	18 00 51.4	+0.3
	baz=109						
K26A	Motz Farm, Whi	109.36	46	⇓Pdiff	Pdif	18 00 51.4	+0.3
	baz=109						
P25A	Willow Gulch B	109.36	49	⇑Pdiff	Pdif	18 00 51.5	+0.3
	baz=109						
P25A	Willow Gulch B	109.36	49	⇑Pdiff	Pdif	18 00 51.5	+0.3
	baz=109						
Y24A	Capitan	109.41	55	⇓Pdiff	Pdif	18 00 51.7	0.0
	baz=109						
Y24A	Capitan	109.41	55	⇓Pdiff	Pdif	18 00 51.7	0.0
	baz=109						
Q25A	Bedland, Calha	109.42	50	⇓Pdiff	Pdif	18 00 51.7	+0.1
	baz=109						
Q25A	Bedland, Calha	109.42	50	⇓Pdiff	Pdif	18 00 51.7	+0.1
	baz=109						
E27A	Carson	109.48	42	⇓Pdiff	Pdif	18 00 51.1	-0.3
	baz=110						
E27A	Carson	109.48	42	⇓Pdiff	Pdif	18 00 51.1	-0.3
	baz=110						
G27A	Dupree	109.53	43	⇑Pdiff	Pdif	18 00 51.9	+0.2
	baz=110						
G27A	Dupree	109.53	43	⇑Pdiff	Pdif	18 00 51.9	+0.2
	baz=110						
S25A	Robets Cordova	109.53	51	⇑Pdiff	Pdif	18 00 52.3	+0.2
	baz=110						
S25A	Robets Cordova	109.53	51	⇑Pdiff	Pdif	18 00 52.3	+0.2
	baz=110						
R25A	Fountain Ranch	109.55	51	⇑Pdiff	Pdif	18 00 52.3	+0.2
	baz=110						
R25A	Fountain Ranch	109.55	51	⇑Pdiff	Pdif	18 00 52.3	+0.2
	baz=110						
Z24A	Sheeppen Canyo	109.57	56	⇓Pdiff	Pdif	18 00 52.5	+0.1
	baz=110						
Z24A	Sheeppen Canyo	109.57	56	⇓Pdiff	Pdif	18 00 52.5	+0.1
	baz=110						
124A	Stringfield Ra	109.59	56	⇓Pdiff	Pdif	18 00 52.6	0.0
	baz=110						
124A	Stringfield Ra	109.59	56	⇓Pdiff	Pdif	18 00 52.6	0.0
	baz=110						
H27A	Howes	109.63	44	⇑Pdiff	Pdif	18 00 52.3	+0.1
	baz=110						
H27A	Howes	109.63	44	⇑Pdiff	Pdif	18 00 52.3	+0.1
	baz=110						
224A	Cornudas Mount	109.63	57	⇓Pdiff	Pdif	18 00 52.8	+0.1
	baz=110						
224A	Cornudas Mount	109.63	57	⇓Pdiff	Pdif	18 00 52.8	+0.1
	baz=110						
T25A	Trinidad	109.65	52	⇓Pdiff	Pdif	18 00 52.9	+0.2
	baz=110						
T25A	Trinidad	109.65	52	⇓Pdiff	Pdif	18 00 52.9	+0.2
	baz=110						
M26A	McRoberts Ranc	109.68	47	⇓Pdiff	Pdif	18 00 53.1	+0.5
	baz=110						
M26A	McRoberts Ranc	109.68	47	⇓Pdiff	Pdif	18 00 53.1	+0.5
	baz=110						
V25A	Rancho No Teng	109.74	53	⇓Pdiff	Pdif	18 00 53.5	+0.4
	baz=110						
V25A	Rancho No Teng	109.74	53	⇓Pdiff	Pdif	18 00 53.5	+0.4
	baz=110						
324A	Moseley Ranch,	109.76	58	⇓Pdiff	Pdif	18 00 53.6	+0.4
	baz=110						
324A	Moseley Ranch,	109.76	58	⇓Pdiff	Pdif	18 00 53.6	+0.4
	baz=110						
N26A	Koester Ranch,	109.77	48	⇑Pdiff	Pdif	18 00 53.5	+0.5
	baz=110						
N26A	Koester Ranch,	109.77	48	⇑Pdiff	Pdif	18 00 53.5	+0.5
	baz=110						
U25A	Circle Dot Ran	109.80	52	⇑Pdiff	Pdif	18 00 53.8	+0.4
	baz=110						
U25A	Circle Dot Ran	109.80	52	⇑Pdiff	Pdif	18 00 53.8	+0.4
	baz=110						
I27A	Quinn	109.80	44	⇑Pdiff	Pdif	18 00 53.4	+0.4
	baz=110						
I27A	Quinn	109.80	44	⇑Pdiff	Pdif	18 00 53.4	+0.4
	baz=110						
MNTX	Cornudas Mount	109.81	58	*e*Pdif	Pdif	18 00 54.8	+1.5
SUW	Suwalki	109.82	327	*e*P	Pdif	18 00 52.6	-0.1
SUW	Suwalki	109.82	327	*e*Pdif	Pdif	18 00 52.6	-0.1
SUW	Suwalki	109.82	327	*e*P	Pdif	18 00 52.6	-0.1
O26A	Horse Wrangler	109.84	48	⇓Pdiff	Pdif	18 00 53.9	+0.5
	baz=110						
O26A	Horse Wrangler	109.84	48	⇓Pdiff	Pdif	18 00 53.9	+0.5
	baz=110						
X25A	Clemmons Ranch	109.94	54	⇓Pdiff	Pdif	18 00 54.2	+0.2
	baz=110						
X25A	Clemmons Ranch	109.94	54	⇓Pdiff	Pdif	18 00 54.2	+0.2
	baz=110						
P26A	Davis Ranch, A	109.96	49	⇑Pdiff	Pdif	18 00 54.5	+0.6
	baz=110						
P26A	Davis Ranch, A	109.96	49	⇑Pdiff	Pdif	18 00 54.5	+0.6
	baz=110						
Q26A	Hugo	109.97	50	⇓Pdiff	Pdif	18 00 54.5	+0.5
	baz=110						
Q26A	Hugo	109.97	50	⇓Pdiff	Pdif	18 00 54.5	+0.5
	baz=110						
W25A	X Bar L Ranch,	109.98	54	⇓Pdiff	Pdif	18 00 54.6	+0.5
	baz=110						
W25A	X Bar L Ranch,	109.98	54	⇓Pdiff	Pdif	18 00 54.6	+0.5
	baz=110						
K27A	Flueckinger Fa	110.03	46	⇓Pdiff	Pdif	18 00 54.5	+0.4
	baz=110						
K27A	Flueckinger Fa	110.03	46	⇓Pdiff	Pdif	18 00 54.5	+0.4
	baz=110						
Z25A	Roswell	110.11	56	⇓Pdiff	Pdif	18 00 55.2	+0.5
	baz=110						
Z25A	Roswell	110.11	56	⇓Pdiff	Pdif	18 00 55.2	+0.5
	baz=110						
L27A	T5 Ranch, Ells	110.13	46	⇓Pdiff	Pdif	18 00 54.4	-0.1
	baz=110						
L27A	T5 Ranch, Ells	110.13	46	⇓Pdiff	Pdif	18 00 54.4	-0.1
	baz=110						
R26A	Arlington	110.16	50	⇓Pdiff	Pdif	18 00 55.2	+0.4
	baz=110						
R26A	Arlington	110.16	50	⇓Pdiff	Pdif	18 00 55.2	+0.4
	baz=110						
325A	Bean Ranch, Si	110.21	58	⇓Pdiff	Pdif	18 00 55.6	+0.3
	baz=110						
325A	Bean Ranch, Si	110.21	58	⇓Pdiff	Pdif	18 00 55.6	+0.3
	baz=110						
M27A	Reverse DX Ran	110.21	47	⇑Pdiff	Pdif	18 00 55.3	+0.4
	baz=110						
M27A	Reverse DX Ran	110.21	47	⇑Pdiff	Pdif	18 00 55.3	+0.4
	baz=110						
225A	Deer Hill, Car	110.22	57	⇓Pdiff	Pdif	18 00 55.2	-0.1
	baz=110						
225A	Deer Hill, Car	110.22	57	⇓Pdiff	Pdif	18 00 55.2	-0.1
	baz=110						
125A	Gardner Draw,	110.26	56	⇑Pdiff	Pdif	18 00 55.6	+0.2
	baz=110						
125A	Gardner Draw,	110.26	56	⇑Pdiff	Pdif	18 00 55.6	+0.2
	baz=110						
N27A	Anderson Farm,	110.28	48	⇓Pdiff	Pdif	18 00 55.9	+0.7
	baz=110						
N27A	Anderson Farm,	110.28	48	⇓Pdiff	Pdif	18 00 55.9	+0.7
	baz=110						
425A	Indio Mountain	110.28	58	⇑Pdiff	Pdif	18 00 56.2	+0.6
	baz=110						
425A	Indio Mountain	110.28	58	⇑Pdiff	Pdif	18 00 56.2	+0.6
	baz=110						
T26A	Comanche Natio	110.28	52	⇓Pdiff	Pdif	18 00 55.6	+0.1
	baz=110						
T26A	Comanche Natio	110.28	52	⇓Pdiff	Pdif	18 00 55.6	+0.1
	baz=110						
S26A	Kim	110.29	51	⇑Pdiff	Pdif	18 00 55.6	+0.2
	baz=110						
S26A	Kim	110.29	51	⇑Pdiff	Pdif	18 00 55.6	+0.2
	baz=110						
G28A	Parade	110.30	43	⇑Pdiff	Pdif	18 00 56.0	+0.9
	baz=110						
G28A	Parade	110.30	43	⇑Pdiff	Pdif	18 00 56.0	+0.9
	baz=110						
U26A	Atchley Ranch,	110.32	52	⇑Pdiff	Pdif	18 00 56.3	+0.6
	baz=110						
U26A	Atchley Ranch,	110.32	52	⇑Pdiff	Pdif	18 00 56.3	+0.6
	baz=110						
MDND	Maddock	110.33	40	⇓Pdiff	Pdif	18 00 56.5	+1.4
	baz=110						
MDND	Maddock	110.33	40	⇓Pdiff	Pdif	18 00 56.5	+1.4
	baz=110						
H28A	Mission Ridge	110.35	43	⇑Pdiff	Pdif	18 00 56.4	+1.0
	baz=110						
H28A	Mission Ridge	110.35	43	⇑Pdiff	Pdif	18 00 56.4	+1.0
	baz=110						
V26A	Tequesquite Ra	110.41	53	⇑Pdiff	Pdif	18 00 56.3	+0.3
	baz=110						
V26A	Tequesquite Ra	110.41	53	⇑Pdiff	Pdif	18 00 56.3	+0.3
	baz=110						
O27A	Beecher Island	110.47	48	⇓Pdiff	Pdif	18 00 56.5	+0.4
	baz=110						
O27A	Beecher Island	110.47	48	⇓Pdiff	Pdif	18 00 56.5	+0.4
	baz=110						
P27A	Ficken Ranch,	110.54	49	⇓Pdiff	Pdif	18 00 57.0	+0.6
	baz=110						
P27A	Ficken Ranch,	110.54	49	⇓Pdiff	Pdif	18 00 57.0	+0.6
	baz=110						
J28A	Allard Ranch,	110.54	45	⇑Pdiff	Pdif	18 00 56.6	+0.2
	baz=110						
J28A	Allard Ranch,	110.54	45	⇑Pdiff	Pdif	18 00 56.6	+0.2
	baz=110						
W26A	Owens Ranch, T	110.56	54	⇑Pdiff	Pdif	18 00 57.1	+0.4
	baz=111						
W26A	Owens Ranch, T	110.56	54	⇑Pdiff	Pdif	18 00 57.1	+0.4
	baz=111						
OGNE	Ogallala	110.62	47	⇓Pdiff	Pdif	18 00 57.2	+0.4
	baz=111						
OGNE	Ogallala	110.62	47	⇓Pdiff	Pdif	18 00 57.2	+0.4
	baz=111						
X26A	CR and CF Fran	110.63	54	⇓Pdiff	Pdif	18 00 57.2	+0.2
	baz=111						
X26A	CR and CF Fran	110.63	54	⇓Pdiff	Pdif	18 00 57.2	+0.2
	baz=111						
KSCO	Kaye Shedlock'	110.63	49	⇓Pdiff	Pdif	18 00 57.2	+0.3
	baz=111						
KSCO	Kaye Shedlock'	110.63	49	⇓Pdiff	Pdif	18 00 57.2	+0.3
	baz=111						
K28A	Ten Mile Ranch	110.64	45	⇓Pdiff	Pdif	18 00 57.4	+0.6
	baz=111						
K28A	Ten Mile Ranch	110.64	45	⇓Pdiff	Pdif	18 00 57.4	+0.6
	baz=111						
SUMG	Summit	110.65	1	*i* P	PP	18 05 42.6	+10
SUMG				*i* S	PS	18 15 04.9	+0.9
SUMG							
	comp=Z,490nm,21.0s						
R27A	Eads	110.66	50	⇑Pdiff	Pdif	18 00 57.3	+0.3
	baz=111						
R27A	Eads	110.66	50	⇑Pdiff	Pdif	18 00 57.3	+0.3
	baz=111						
S27A	Las Animas	110.72	51	⇓Pdiff	Pdif	18 00 57.5	+0.1
	baz=111						
S27A	Las Animas	110.72	51	⇓Pdiff	Pdif	18 00 57.5	+0.1
	baz=111						
L28A	Connealy Angus	110.72	46	⇑Pdiff	Pdif	18 00 57.4	+0.2
	baz=111						
L28A	Connealy Angus	110.72	46	⇑Pdiff	Pdif	18 00 57

X27A	**F and S Farms,**	111.19	54	⇓Pdiff		**Pdif**	18 00 59.7	+0.3
	baz=111							
626A	**Big Bend Ranch**	111.20	60	⇑Pdiff		**Pdif**	18 00 59.7	+0.1
	baz=111							
626A	**Big Bend Ranch**	111.20	60	⇑Pdiff		**Pdif**	18 00 59.7	+0.1
	baz=111							
Q28A	**Sharon Springs**	111.22	49	⇓Pdiff		**Pdif**	18 00 59.5	0.0
	baz=111							
Q28A	**Sharon Springs**	111.22	49	⇓Pdiff		**Pdif**	18 00 59.5	0.0
	baz=111							
Y27A	**Causey**	111.28	55	⇑Pdiff		**Pdif**	18 00 60.0	+0.1
	baz=111							
Y27A	**Causey**	111.28	55	⇑Pdiff		**Pdif**	18 00 60.0	+0.1
	baz=111							
127A	**Arkansas Junct**	111.34	56	⇓Pdiff		**Pdif**	18 01 00.0	-0.2
	baz=111							
127A	**Arkansas Junct**	111.34	56	⇓Pdiff		**Pdif**	18 01 00.0	-0.2
	baz=111							
Z27A	**Tatum**	111.34	55	⇓Pdiff		**Pdif**	18 00 59.8	-0.4
	baz=111							
Z27A	**Tatum**	111.34	55	⇓Pdiff		**Pdif**	18 00 59.8	-0.4
	baz=111							
K29A	**Lazy Trails An**	111.37	45	⇓Pdiff		**Pdif**	18 01 00.0	0.0
	baz=111							
K29A	**Lazy Trails An**	111.37	45	⇓Pdiff		**Pdif**	18 01 00.0	0.0
	baz=111							
R28A	**Tribune**	111.41	50	⇓Pdiff		**Pdif**	18 01 00.9	+0.5
	baz=111							
R28A	**Tribune**	111.41	50	⇓Pdiff		**Pdif**	18 01 00.9	+0.5
	baz=111							
HFS	**Hagfors**	111.43	336	PKiKP		**PKiKP**	18 04 57.6	-0.3
HFS				PKKPbc		**PKKPab**	18 15 59.4	-3.6
HFS	**Hagfors**	111.43	336	PKiKP		**PKiKP**	18 04 57.6	-0.3
	comp=Z,2.2nm,0.8s,baz=64,slow=6.7,SNR=3.8							
HFS				PKKPbc		**PKKPab**	18 15 59.4	-3.6
	comp=Z,3.4nm,1.0s,baz=253,slow=1.5,SNR=3.8							
T28A	**Walsh**	111.45	51	⇑Pdiff		**Pdif**	18 01 00.7	+0.1
	baz=111							
T28A	**Walsh**	111.45	51	⇑Pdiff		**Pdif**	18 01 00.7	+0.1
	baz=111							
L29A	**Maesberg Ranch**	111.45	46	⇑Pdiff		**Pdif**	18 01 00.5	+0.1
	baz=111							
L29A	**Maesberg Ranch**	111.45	46	⇑Pdiff		**Pdif**	18 01 00.5	+0.1
	baz=111							
327A	**Balmorhea Ranc**	111.45	58	⇑Pdiff		**Pdif**	18 01 00.6	0.0
	baz=112							
327A	**Balmorhea Ranc**	111.45	58	⇑Pdiff		**Pdif**	18 01 00.6	0.0
	baz=112							
227A	**Bennet, Jal**	111.51	57	⇑Pdiff		**Pdif**	18 01 01.1	+0.3
	baz=112							
227A	**Bennet, Jal**	111.51	57	⇑Pdiff		**Pdif**	18 01 01.1	+0.3
	baz=112							
S28A	**Manter**	111.51	51	⇑Pdiff		**Pdif**	18 01 01.2	+0.4
	baz=112							
S28A	**Manter**	111.51	51	⇑Pdiff		**Pdif**	18 01 01.2	+0.4
	baz=112							
U28A	**Mallet**	111.53	52	⇑Pdiff		**Pdif**	18 01 01.2	+0.3
	baz=112							
U28A	**Mallet**	111.53	52	⇑Pdiff		**Pdif**	18 01 01.2	+0.3
	baz=112							
527A	**Woodward Ranch**	111.55	59	⇓Pdiff		**Pdif**	18 01 01.4	+0.2
	baz=112							
527A	**Woodward Ranch**	111.55	59	⇓Pdiff		**Pdif**	18 01 01.4	+0.2
	baz=112							
MSTX	**Muleshoe**	111.58	55	⇓Pdiff		**Pdif**	18 01 01.4	+0.2
	baz=112							
MSTX	**Muleshoe**	111.58	55	⇓Pdiff		**Pdif**	18 01 01.4	+0.2
	baz=112							
427A	**Hayter Ranch,**	111.62	58	⇓Pdiff		**Pdif**	18 01 01.5	+0.1
	baz=112							
427A	**Hayter Ranch,**	111.62	58	⇓Pdiff		**Pdif**	18 01 01.5	+0.1
	baz=112							
TXAR	**Lajitas Array**	111.63	60	PKiKP		**PKiKP**	18 04 59.4	+0.1
TXAR				PP		**PP**	18 05 38.9	-2.3
TXAR				PKKPab		**PKKPab**	18 16 01.8	-0.7
TXAR				PKKP		**PKKPdf**	18 16 10.4	-2.2
TXAR	**Lajitas Array**	111.63	60	PKiKP		**PKiKP**	18 04 59.4	+0.1
	comp=Z,1.0nm,0.8s,baz=331,slow=1.7,SNR=8.8							
TXAR				PP		**PP**	18 05 38.9	-2.3
	comp=Z,1.8nm,0.9s,baz=241,slow=2.3,SNR=5.6							
TXAR				PKKPab		**PKKPab**	18 16 01.8	-0.7
	comp=Z,4.0nm,1.0s,baz=123,slow=4.8,SNR=16							
TXAR				PKKP		**PKKPdf**	18 16 10.4	-2.2
	comp=Z,8.0nm,1.0s,baz=112,slow=6.9,SNR=22							
V28A	**Channing**	111.66	53	⇑Pdiff		**Pdif**	18 01 01.9	+0.4
	baz=112							
V28A	**Channing**	111.66	53	⇑Pdiff		**Pdif**	18 01 01.9	+0.4
	baz=112							
N29A	**Votaw Ranch, W**	111.68	47	⇓Pdiff		**Pdif**	18 01 01.6	+0.2
	baz=112							
N29A	**Votaw Ranch, W**	111.68	47	⇓Pdiff		**Pdif**	18 01 01.6	+0.2
	baz=112							
VOIR		111.76	318	⇓PKIKP		**PKiKP**	18 05 00.3	+1.3
VOIR		111.76	318	⇓*i*P		**PKiKP**	18 05 00.3	+1.3
P29A	**Atwood**	111.77	48	⇑Pdiff		**Pdif**	18 01 01.9	+0.1
	baz=112							
P29A	**Atwood**	111.77	48	⇑Pdiff		**Pdif**	18 01 01.9	+0.1
	baz=112							
ULM	**Lac du Bonnet**	111.77	36	*e*PKiKP		**PKiKP**	18 04 58.2	-0.6
W28A	**Vega**	111.78	53	⇓Pdiff		**Pdif**	18 01 02.0	-0.1
	baz=112							
W28A	**Vega**	111.78	53	⇓Pdiff		**Pdif**	18 01 02.0	-0.1
	baz=112							
BRSD	**Miller**	111.83	43	⇑Pdiff		**Pdif**	18 01 02.1	+0.2
	baz=112							
BRSD	**Miller**	111.83	43	⇑Pdiff		**Pdif**	18 01 02.1	+0.2
	baz=112							
627A	**Terlingua Ranc**	111.86	60	⇑Pdiff		**Pdif**	18 01 02.5	0.0
	baz=112							
627A	**Terlingua Ranc**	111.86	60	⇑Pdiff		**Pdif**	18 01 02.5	0.0
	baz=112							
NB2	**NORSAR Subarra**	111.90	337	PKPdf		**PKiKP**	18 04 58.4	-0.4
	comp=Z,1.0nm,0.7s,baz=44,slow=1.9							
NOA	**NORSAR Array B**	111.90	337	PKiKP		**PKiKP**	18 04 58.9	+0.1
NOA				PKKPbc		**PKKPbc**	18 15 52.3	-1.4
NOA				PKKPab		**PKKPab**	18 16 00.8	-0.1
NOA	**NORSAR Array B**	111.90	337	PKiKP		**PKiKP**	18 04 58.9	+0.1
	comp=Z,2.1nm,0.9s,baz=49,slow=2.2,SNR=4.7							
NOA				PKKPbc		**PKKPbc**	18 15 52.3	-1.4
	comp=Z,0.4nm,0.7s,baz=222,slow=3.5,SNR=2.3							
NOA				PKKPab		**PKKPab**	18 16 00.8	-0.1
	comp=Z,3.2nm,1.0s,baz=232,slow=4.1,SNR=4.6							
R29A	**Marienthal**	111.90	50	⇑Pdiff		**Pdif**	18 01 02.5	0.0
	baz=112							
R29A	**Marienthal**	111.90	50	⇑Pdiff		**Pdif**	18 01 02.5	0.0
	baz=112							
X28A	**Dimmitt**	111.94	54	⇓Pdiff		**Pdif**	18 01 02.7	-0.1
	baz=112							
X28A	**Dimmitt**	111.94	54	⇓Pdiff		**Pdif**	18 01 02.7	-0.1
	baz=112							
Y28A	**McKinney Farm,**	112.02	55	⇓Pdiff		**Pdif**	18 01 03.3	+0.2
	baz=112							
Y28A	**McKinney Farm,**	112.02	55	⇓Pdiff		**Pdif**	18 01 03.3	+0.2
	baz=112							
328A	**Wristen Ranch,**	112.03	57	⇑Pdiff		**Pdif**	18 01 03.6	+0.4
	baz=112							
328A	**Wristen Ranch,**	112.03	57	⇑Pdiff		**Pdif**	18 01 03.6	+0.4
	baz=112							
M30A	**Dale-Ortello V**	112.03	46	⇓Pdiff		**Pdif**	18 01 03.0	0.0
	baz=112							
M30A	**Dale-Ortello V**	112.03	46	⇓Pdiff		**Pdif**	18 01 03.0	0.0
	baz=112							
N30A	**Hueftle Ranch,**	112.07	47	⇑Pdiff		**Pdif**	18 01 03.5	+0.4
	baz=112							
N30A	**Hueftle Ranch,**	112.07	47	⇑Pdiff		**Pdif**	18 01 03.5	+0.4
	baz=112							
SCO	**Scoresbysund**	112.07	355	*i* P		**PP**	18 05 42.2	-0.3
SCO				*i* S		**SP**	18 15 16.3	+4.9
128A	**Castleberry Fa**	112.07	56	⇑Pdiff		**Pdif**	18 01 03.8	+0.4
	baz=112							
128A	**Castleberry Fa**	112.07	56	⇑Pdiff		**Pdif**	18 01 03.8	+0.4
	baz=112							
228A	**UT Block 9, Go**	112.08	57	⇑Pdiff		**Pdif**	18 01 03.7	+0.2
	baz=112							
228A	**UT Block 9, Go**	112.08	57	⇑Pdiff		**Pdif**	18 01 03.7	+0.2
	baz=112							
T29A	**Hugoton**	112.08	51	⇓Pdiff		**Pdif**	18 01 03.6	+0.3
	baz=112							
T29A	**Hugoton**	112.08	51	⇓Pdiff		**Pdif**	18 01 03.6	+0.3
	baz=112							
S29A	**Ulysses**	112.11	51	⇓Pdiff		**Pdif**	18 01 04.0	+0.5
	baz=112							
S29A	**Ulysses**	112.11	51	⇓Pdiff		**Pdif**	18 01 04.0	+0.5
	baz=112							
V29A	**Stinnett**	112.19	53	⇓Pdiff		**Pdif**	18 01 04.3	+0.4
	baz=112							
V29A	**Stinnett**	112.19	53	⇓Pdiff		**Pdif**	18 01 04.3	+0.4
	baz=112							
W29A	**Amraillo**	112.25	53	⇑Pdiff		**Pdif**	18 01 04.3	+0.1
	baz=112							
W29A	**Amraillo**	112.25	53	⇑Pdiff		**Pdif**	18 01 04.3	+0.1
	baz=112							
528A	**Cox Ranch, San**	112.26	59	⇑Pdiff		**Pdif**	18 01 04.3	0.0
	baz=112							
528A	**Cox Ranch, San**	112.26	59	⇑Pdiff		**Pdif**	18 01 04.3	0.0
	baz=112							
U29A	**Oasis Ranch, S**	112.26	52	⇓Pdiff		**Pdif**	18 01 04.3	+0.2
	baz=112							
U29A	**Oasis Ranch, S**	112.26	52	⇓Pdiff		**Pdif**	18 01 04.3	+0.2
	baz=112							
O30A	**MW Ranch, Wils**	112.27	48	⇑Pdiff		**Pdif**	18 01 04.3	+0.2
	baz=112							
O30A	**MW Ranch, Wils**	112.27	48	⇑Pdiff		**Pdif**	18 01 04.3	+0.2
	baz=112							
628A	**Black Gap, Mar**	112.28	59	⇑Pdiff		**Pdif**	18 01 04.5	+0.1
	baz=112							
628A	**Black Gap, Mar**	112.28	59	⇑Pdiff		**Pdif**	18 01 04.5	+0.1
	baz=112							
P30A	**Selden**	112.29	48	⇓Pdiff		**Pdif**	18 01 04.6	+0.5
	baz=112							
P30A	**Selden**	112.29	48	⇓Pdiff		**Pdif**	18 01 04.6	+0.5
	baz=112							
KOLS	**Kolonicke sedl**	112.32	322	*e*P		**Pdif**	18 01 04.9	+0.9
KOLS				*e*			18 05 00.4	
KOLS	**Kolonicke sedl**	112.32	322	PDIF		**Pdif**	18 01 04.9	+0.9
KOLS	**Kolonicke sedl**	112.32	322	*e*PKP		**PKiKP**	18 05 00.3	+0.4
X29A	**Tulia**	112.36	54	⇑Pdiff		**Pdif**	18 01 04.6	0.0
	baz=112							
X29A	**Tulia**	112.36	54	⇑Pdiff		**Pdif**	18 01 04.6	0.0
	baz=112							
UZH	**Uzhgorod**	112.42	322	*e*P		**Pdif**	18 01 05.0	+0.6
UZH				*e*			18 05 00.4	
UZH				*e*			18 05 13.6	
UZH				*e*			18 11 44.6	
Q30A	**Quinter**	112.46	49	⇑Pdiff		**Pdif**	18 01 05.2	+0.3
	baz=112							
Q30A	**Quinter**	112.46	49	⇑Pdiff		**Pdif**	18 01 05.2	+0.3
	baz=112							
Y29A	**Porterfield Fa**	112.50	55	⇑Pdiff		**Pdif**	18 01 05.4	+0.1
	baz=112							
Y29A	**Porterfield Fa**	112.50	55	⇑Pdiff		**Pdif**	18 01 05.4	+0.1
	baz=112							
129A	**Stewart Farms,**	112.58	56	⇑Pdiff		**Pdif**	18 01 05.9	+0.3
	baz=113							
129A	**Stewart Farms,**	112.58	56	⇑Pdiff		**Pdif**	18 01 05.9	+0.3
	baz=113							
R30A	**Dighton**	112.59	50	⇑Pdiff		**Pdif**	18 01 05.9	+0.4
	baz=113							
R30A	**Dighton**	112.59	50	⇑Pdiff		**Pdif**	18 01 05.9	+0.4
	baz=113							
Z29A	**Hungry Hill Ra**	112.59	55	⇑Pdiff		**Pdif**	18 01 05.8	+0.1
	baz=113							
Z29A	**Hungry Hill Ra**	112.59	55	⇑Pdiff		**Pdif**	18 01 05.8	+0.1
	baz=113							
S30A	**Montezuma**	112.61	50	⇑Pdiff		**Pdif**	18 01 05.9	+0.3
	baz=113							
S30A	**Montezuma**	112.61	50	⇑Pdiff		**Pdif**	18 01 05.9	+0.3
	baz=113							
BOSA	**Boshof**	112.69	237	PKiKP		**PKiKP**	18 05 01.9	+0.5
BOSA	**Boshof**	112.69	237	PKiKP		**PKiKP**	18 05 01.9	+0.5
	comp=Z,2.8nm,0.9s,baz=69,slow=2.2,SNR=5.1							
T30A	**Plains**	112.70	51	⇑Pdiff		**Pdif**	18 01 06.7	+0.6
	baz=113							
T30A	**Plains**	112.70	51	⇑Pdiff		**Pdif**	18 01 06.7	+0.6
	baz=113							
U30A	**WK&E Inc. Balk**	112.73	52	⇑Pdiff		**Pdif**	18 01 06.8	+0.6
	baz=113							
U30A	**WK&E Inc. Balk**	112.73	52	⇑Pdiff		**Pdif**	18 01 06.8	+0.6
	baz=113							
529A	**Stev Forest Ra**	112.75	59	⇓Pdiff		**Pdif**	18 01 06.8	+0.4
	baz=113							
529A	**Stev Forest Ra**	112.75	59	⇓Pdiff		**Pdif**	18 01 06.8	+0.4
	baz=113							
STHS	**Stebnicka Huta**	112.75	323	*e*PKIKP		**PKiKP**	18 05 02.2	+1.5
STHS	**Stebnicka Huta**	112.75	323	*e*PKP		**PKiKP**	18 05 02.2	+1.5
229A	**Bryant Ranch,**	112.76	57	⇑Pdiff		**Pdif**	18 01 06.6	+0.2
	baz=113							
229A	**Bryant Ranch,**	112.76	57	⇑Pdiff		**Pdif**	18 01 06.6	+0.2
	baz=113							
CRVS	**Cervenica-Dubn**	112.82	323	*e*P		**Pdif**	18 01 06.5	+0.2
CRVS				*e*			18 04 59.9	
CRVS	**Cervenica-Dubn**	112.82	323	PDIF		**Pdif**	18 01 06.5	+0.2
CRVS	**Cervenica-Dubn**	112.82	323	*e*PKP		**PKiKP**	18 04 59.8	-1.1
DRGR		112.83	320	⇓PKIKP		**PKiKP**	18 05 01.0	0.0
DRGR		112.83	320	⇓*i*P		**PKiKP**	18 05 01.0	0.0
V30A	**Spur Ranch, Mi**	112.88	52	⇑Pdiff		**Pdif**	18 01 07.3	+0.4
	baz=113							
V30A	**Spur Ranch, Mi**	112.88	52	⇑Pdiff		**Pdif**	18 01 07.3	+0.4
	baz=113							
429A	**Davenport Ranc**	112.94	58	⇓Pdiff		**Pdif**	18 01 07.6	+0.4
	baz=113							
429A	**Davenport Ranc**	112.94	58	⇓Pdiff		**Pdif**	18 01 07.6	+0.4
	baz=113							
P31A	**Stockton**	112.95	48	⇑Pdiff		**Pdif**	18 01 07.2	+0.1
	baz=113							
P31A	**Stockton**	112.95	48	⇑Pdiff		**Pdif**	18 01 07.2	+0.1
	baz=113							
X30A	**Coker Ranch, T**	113.02	54	⇓Pdiff		**Pdif**	18 01 07.8	+0.2
	baz=113							
X30A	**Coker Ranch, T**	113.02	54	⇓Pdiff		**Pdif**	18 01 07.8	+0.2
	baz=113							
Z30A	**Sanderson Ranc**	113.06	55	⇑Pdiff		**Pdif**	18 01 07.8	0.0
	baz=113							
Z30A	**Sanderson Ranc**	113.06	55	⇑Pdiff		**Pdif**	18 01 07.8	0.0
	baz=113							
Q31A	**Ellis**	113.07	49	⇑Pdiff		**Pdif**	18 01 08.2	+0.6
	baz=113							
Q31A	**Ellis**	113.07	49	⇑Pdiff		**Pdif**	18 01 08.2	+0.6
	baz=113							
W30A	**Crocket Farms**	113.10	53	⇑Pdiff		**Pdif**	18 01 07.9	0.0
	baz=113							
W30A	**Crocket Farms**	113.10	53	⇑Pdiff		**Pdif**	18 01 07.9	0.0
	baz=113							
Y30A	**Stafford Cattl**	113.13	54	⇑Pdiff		**Pdif**	18 01 08.0	-0.1
	baz=113							
Y30A	**Stafford Cattl**	113.13	54	⇑Pdiff		**Pdif**	18 01 08.0	-0.1
	baz=113							
LSZ	**Lusaka**	113.18	252	PKiKP		**PKiKP**	18 05 02.9	+0.3
LSZ	**Lusaka**	113.18	252	PKiKP		**PKiKP**	18 05 02.9	+0.3
	comp=Z,5.6nm,1.0s,baz=47,slow=6.9,SNR=9.4							
OJC	**Ojcow**	113.28	324	*e*P		**Pdif**	18 01 08.0	-0.2
NIE	**Niedzica**	113.31	323	*e*P		**Pdif**	18 01 08.5	+0.1
130A	**Snyder**	113.34	56	⇑Pdiff		**Pdif**	18 01 09.1	+0.1
	baz=113							
130A	**Snyder**	113.34	56	⇑Pdiff		**Pdif**	18 01 09.1	+0.1
	baz=113							
T31A	**Randall Ranch,**	113.35	51	⇑Pdiff		**Pdif**	18 01 09.3	+0.4
	baz=113							
T31A	**Randall Ranch,**	113.35	51	⇑Pdiff		**Pdif**	18 01 09.3	+0.4
	baz=113							
230A	**Sterling City**	113.36	57	⇓Pdiff		**Pdif**	18 01 09.0	-0.1
	baz=113							
230A	**Sterling City**	113.36	57	⇓Pdiff		**Pdif**	18 01 09.0	-0.1
	baz=113							
S31A	**Mullinville**	113.37	50	⇑Pdiff		**Pdif**	18 01 09.1	+0.2
	baz=113							
S31A	**Mullinville**	113.37	50	⇑Pdiff		**Pdif**	18 01 09.1	+0.2
	baz=113							
330A	**Mertzon**	113.40	57	⇑Pdiff		**Pdif**	18 01 09.2	-0.1
	baz=113							
330A	**Mertzon**	113.40	57	⇑Pdiff		**Pdif**	18 01 09.2	-0.1
	baz=113							
LBTB	**Lobatse**	113.41	241	PKiKP		**PKiKP**	18 05 02.0	-0.8
LBTB	**Lobatse**	113.41	241	PKiKP		**PKiKP**	18 05 02.0	-0.8
	baz=226,slow=2.1							
430A	**Baggett Ranch,**	113.46	58	⇓Pdiff		**Pdif**	18 01 09.8	+0.2
	baz=114							
430A	**Baggett Ranch,**	113.46	58	⇓Pdiff		**Pdif**	18 01 09.8	+0.2
	baz=114							
530A	**J-C Ranch, Com**	113.50	59	⇑Pdiff		**Pdif**	18 01 09.8	+0.1
	baz=114							
530A	**J-C Ranch, Com**	113.50	59	⇑Pdiff		**Pdif**	18 01 09.8	+0.1
	baz=114							
V31A	**Spring Creek L**	113.54	52	⇓Pdiff		**Pdif**	18 01 10.1	+0.3
	baz=114							
V31A	**Spring Creek L**	113.54	52	⇓Pdiff		**Pdif**	18 01 10.1	+0.3
	baz=114							
KECS	**Kecovo**	113.58	322	*e*PKIKP		**PKiKP**	18 05 02.8	+0.5
KECS	**Kecovo**	113.58	322	*e*PKP		**PKiKP**	18 05 02.8	+0.5
BSD	**Bornholm Skovb**	113.60	331	*i* P		**PP**	18 05 53.9	0.0
BSD				*i* S		**Sdif**	18 13 42.1	+7.1
BSD				*i*			18 15 27.8	
BSD								
	comp=Z,560nm,23.0s							
W31A	**Holland Ranch,**	113.60	53	⇓Pdiff		**Pdif**	18 01 10.3	+0.2
	baz=114							
W31A	**Holland Ranch,**	113.60	53	⇓Pdiff		**Pdif**	18 01 10.3	+0.2
	baz=114							
Y31A	**Rekieta Farm,**	113.62	54	⇑Pdiff		**Pdif**	18 01 10.5	+0.3
	baz=114							
Y31A	**Rekieta Farm,**	113.62	54	⇑Pdiff		**Pdif**	18 01 10.5	+0.3
	baz=114							
X31A	**McDonald Ranch**	113.70	54	⇑Pdiff		**Pdif**	18 01 10.8	+0.3
	baz=114							
X31A	**McDonald Ranch**	113.70	54	⇑Pdiff		**Pdif**	18 01 10.8	+0.3
	baz=114							
131A	**Roby**	113.80	56	⇓Pdiff		**Pdif**	18 01 11.0	0.0
	baz=114							
131A	**Roby**	113.80	56	⇓Pdiff		**Pdif**	18 01 11.0	0.0
	baz=114							
Z31A	**Sharp Cattle R**	113.86	55	⇓Pdiff		**Pdif**	18 01 11.4	+0.1
	baz=114							
Z31A	**Sharp Cattle R**	113.86	55	⇓Pdiff		**Pdif**	18 01 11.4	+0.1
	baz=114							
VTS	**Vitosha**	113.94	316	⇑PKIKP		**PKiKP**	18 05 00.9	-2.5
VTS	**Vitosha**	113.94	316	⇑*i*P		**PKiKP**	18 05 00.9	-2.5
BZS	**Buzias**	113.97	319	⇓PKIKP		**PKiKP**	18 05 03.8	+0.7
BZS	**Buzias**	113.97	319	⇓*i*P		**PKiKP**	18 05 03.8	+0.7
231A	**Bronte**	114.01	56	⇑Pdiff		**Pdif**	18 01 11.9	-0.1
	baz=114							
231A	**Bronte**	114.01	56	⇑Pdiff		**Pdif**	18 01 11.9	-0.1
	baz=114							
431A	**Sonora**	114.01	58	⇓Pdiff		**Pdif**	18 01 12.5	+0.4
	baz=114							
431A	**Sonora**	114.01	58	⇓Pdiff		**Pdif**	18 01 12.5	+0.4
	baz=114							
PSZ	**Piszkesteto**	114.17	322	*e*PKIKP		PKPdf	18 05 04.4	+0.8
PSZ	**Piszkesteto**	114.17	322	⇓*i*P		PKPdf	18 05 04.9	+1.3
PSZ	**Piszkesteto**	114.17	322	*e*PKiKP		**PKiKP**	18 05 04.4	+0.8
PSZ	**Piszkesteto**	114.17	322	⇑*e*PKPdf		PKPdf	18 05 03.3	-0.3
OKC	**Ostrava-Krasne**	114.40	324	*e*PKIKP		PKPdf	18 05 03.7	-0.1
OKC				*e*			18 05 11.4	
OKC				*e*			18 06 02.6	
OKC				*e*			18 11 52.9	
OKC				*e*			18 15 31.7	
OKC				MLR		MLR		
	comp=Z,500nm,21.6s							
OKC	**Ostrava-Krasne**	114.40	324	⇓*e*PKP		PKPdf	18 05 03.7	-0.1
OKC				*ex*		x	18 05 11.4	
OKC				*e*PP		**PP**	18 06 02.6	+2.8
OKC				*e*SKS		**SKSac**	18 11 52.9	+4.1
OKC				*e*SDIF		**Sdif**	18 13 48.9	+6.9
OKC				*ex*		x	18 15 31.7	
OKC				AMS		AMS	18 54 50.0	
	comp=Z,500nm,21.6s							
COP	**Copenhagen**	114.48	332	*i* P		**PP**	18 05 58.5	-1.6
COP				*i*			18 15 38.0	
COP								
	comp=Z,260nm,22.0s							
VYHS	**Vyhne**	114.58	323	*e*P		**Pdif**	18 01 14.2	+0.1
VYHS	**Vyhne**	114.58	323	PDIF		**Pdif**	18 01 14.2	+0.1
VYHS	**Vyhne**	114.58	323	*e*PKP		PKPdf	18 05 02.8	-1.4
WMOK	**Wichita Mounta**	114.64	53	*e*PKiKP		PKPdf	18 05 04.1	-0.7
WMOK	**Wichita Mounta**	114.64	53	*e*PKiKP		PKPdf	18 05 04.1	-0.7
JCT	**Junction City**	114.73	58	*e*PKiKP		PKPdf	18 05 05.5	+0.4
JCT	**Junction City**	114.73	58	*e*PKiKP		**PKiKP**	18 05 05.5	+0.4
MORC	**Moravsky Berou**	114.78	325	*e*PKiKP		PKPdf	18 05 04.8	+0.2
M

CLL				pmax	pmax		
	comp=Z,36nm,1.6s						
CLL				MLR	MLR		
	comp=Z,600nm,21.9s						
CLL	**Collm**	**116.57**	**328**	⇓*i*PKiKP	**PKPdf**	**18 05 08.3**	**+0.4**
	comp=Z,36nm,1.6s						
CLL				*i* pPKiKP	**pPKiKP**	**18 05 14.6**	**-3.4**
	comp=Z,17nm,1.1s						
CLL				*i* (sPKiKP)		18 05 19.1	
CLL				*e*PP	**PP**	**18 06 18.0**	**+3.1**
CLL				*e*PPP	PPP	18 08 45.0	
CLL				*e*SKSac	**SKSac**	**18 11 58.0**	**+1.1**
CLL				*e*Sdif	**Sdif**	**18 14 03.0**	**+3.0**
CLL				*e*PKKPab	**PKKPab**	**18 15 41.0**	**+0.7**
	comp=Z,6.0nm,1.1s						
CLL				*e*pPKKPab		18 15 48.0	
	comp=Z,9.0nm,1.3s						
CLL				*e*PS	**PS**	**18 15 56.0**	**-2.1**
CLL				*e*PPS	PPS	18 17 06.0	
CLL				*e*SS	**SS**	**18 22 18.0**	**-0.1**
CLL				*e*SKKSacr	eSKKSdf	18 23 00.0	-14
CLL				*e*		18 26 06.0	
CLL				*e*		18 27 42.0	
CLL				Lm	MLR	18 56 00.0	
	comp=Z,600nm,21.9s						
CONA	**Conrad Observa**	**116.61**	**323**	⇑*i*PKiKP	**PKPdf**	**18 05 07.7**	**-0.6**
	comp=Z,19nm,1.9s,SNR=6.5						
BEHE	**Becsehely**	**116.71**	**322**	*e*PKPdf	**PKPdf**	**18 05 08.8**	**+0.4**
TANN	**Tannenbergstha**	**117.33**	**327**	*e*PKPdf	**PKPdf**	**18 05 10.1**	**+0.6**
KHC	**Kasperske Hory**	**117.36**	**325**	⇓*i*PKiKP	**PKPdf**	**18 05 10.2**	**+0.6**
KHC				*e*		18 05 17.1	
KHC				*e*		18 06 20.5	
KHC				*e*		18 08 48.6	
KHC				*e*		18 11 59.0	
KHC				MLR	MLR		
	comp=Z,700nm,20.7s						
KHC	**Kasperske Hory**	**117.36**	**325**	⇓*i*PKP	**PKPdf**	**18 05 10.2**	**+0.6**
KHC				*e*x	x	18 05 17.1	
KHC				*e*PP	**PP**	**18 06 20.5**	**-0.1**
KHC				*e*SKP		18 08 48.6	
KHC				*e*SKS	**SKSac**	**18 11 59.0**	**-1.1**
KHC				*e*SDIF	**Sdif**	**18 14 12.4**	**+5.5**
KHC				*e*x	x	18 15 47.5	
KHC				AMS	AMS	18 56 50.0	
	comp=Z,700nm,20.7s						
KHC	**Kasperske Hory**	**117.36**	**325**	*e*PKPdf	**PKPdf**	**18 05 09.4**	**-0.2**
NRDL	**Niedersach Rie**	**117.42**	**330**	*e*PKPdf	**PKPdf**	**18 05 10.2**	**+0.8**
GEC2	**GERESS Array S**	**117.44**	**325**	*e*PKPdf	**PKPdf**	**18 05 10.1**	**+0.2**
GEC2	**GERESS Array S**	**117.44**	**325**	*e*PKIKP	**PKPdf**	**18 05 10.1**	**+0.2**
GERES	**GERESS Array B**	**117.44**	**325**	Pdif	**Pdif**	**18 01 26.2**	**-0.7**
GERES				PKP	**PKPdf**	**18 05 10.1**	**+0.2**
GERES				PKKPbc	**PKKPbc**	**18 15 29.8**	**-4.6**
GERES	**GERESS Array B**	**117.44**	**325**	Pdiff	**Pdif**	**18 01 26.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=41,slow=3.1,SNR=3.8						
GERES				PKP	**PKPdf**	**18 05 10.1**	**+0.2**
	comp=Z,6.3nm,1.1s,baz=80,slow=1.5,SNR=25						
GERES				PKKPbc	**PKKPbc**	**18 15 29.8**	**-4.6**
	comp=Z,0.2nm,0.4s,baz=262,slow=2.0,SNR=4.3						
COWI	**Conover**	**117.61**	**38**	*e*PKPdf	**PKPdf**	**18 05 09.1**	**-1.0**
MOX	**Moxa**	**117.66**	**327**	*e*PKPdf	**PKPdf**	**18 05 10.6**	**+0.5**
MOX				*e*L	L	18 57 33.3	
	comp=Z,553nm,21.6s						
MOX	**Moxa**	**117.66**	**327**	*e*PKIKP	**PKPdf**	**18 05 10.6**	**+0.5**
MOX				MLR	MLR		
	comp=Z,600nm,21.6s						
SOKA	**Soboth**	**117.69**	**322**	⇑*i*PKiKP	**PKPdf**	**18 05 09.9**	**-0.5**
	comp=Z,14nm,1.0s,SNR=9.9						
WET	**Wettzell**	**117.75**	**326**	*e*PKPdf	**PKPdf**	**18 05 10.8**	**+0.4**
WET	**Wettzell**	**117.75**	**326**	*e*PKIKP	**PKPdf**	**18 05 10.8**	**+0.4**
ROTZ	**Rotzenmuhle**	**117.81**	**326**	*e*PKPdf	**PKPdf**	**18 05 10.9**	**+0.5**
JFWS	**Jewell Farm**	**118.27**	**42**	*e*PKIKP	**PKPdf**	**18 05 10.7**	**-0.8**
JFWS	**Jewell Farm**	**118.27**	**42**	*e*PKPdf	**PKPdf**	**18 05 10.7**	**-0.8**
GRF	**Grafenberg Arr**	**118.39**	**327**	*e*PKPdf	**PKPdf**	**18 05 12.0**	**+0.5**
GRF				*e*L	L	19 02 47.0	
	comp=Z,440nm,19.3s						
GRF	**Grafenberg Arr**	**118.39**	**327**	*e*PKIKP	**PKPdf**	**18 05 12.0**	**+0.5**
GRF				MLR	MLR		
	comp=Z,400nm,19.3s						
UBBA	**Unterbreizbach**	**118.42**	**328**	*e*PKPdf	**PKPdf**	**18 05 10.9**	**-0.5**
RJOB	**Jochberg**	**118.51**	**324**	*e*PKPdf	**PKPdf**	**18 05 12.5**	**+0.6**
ABTA	**Abfaltersbach**	**119.18**	**323**	⇑*i*PKPdf	**PKPdf**	**18 05 12.3**	**-0.9**
	comp=Z,26nm,0.9s,SNR=11						
WATA	**Walderalm**	**119.43**	**324**	⇓*i*PKPdf	**PKPdf**	**18 05 12.9**	**-0.9**
	comp=Z,15nm,0.7s						
WTTA	**Wattenberg**	**119.43**	**324**	⇓*i*PKiKP	**PKPdf**	**18 05 13.1**	**-0.8**
	comp=Z,49nm,0.9s,SNR=16						
BUG	**Bochum--Univer**	**119.46**	**330**	*e*PKPdf	**PKPdf**	**18 05 13.9**	**+0.4**
TNS	**Taunus Mts**	**119.58**	**328**	*e*PKPdf	**PKPdf**	**18 05 14.3**	**+0.4**
TNS	**Taunus Mts**	**119.58**	**328**	*e*PKIKP	**PKPdf**	**18 05 14.3**	**+0.4**
MOTA	**Moosalm**	**119.70**	**325**	⇑*i*PKPdf	**PKPdf**	**18 05 13.6**	**-0.7**
	comp=Z,31nm,0.8s,SNR=12						
RETA	**Reutte**	**119.82**	**325**	⇑*i*PKiKP	**PKPdf**	**18 05 14.2**	**-0.2**
	comp=Z,11nm,0.9s						
STU	**Stuttgart**	**120.00**	**327**	*e*PKPdf	**PKPdf**	**18 05 15.0**	**+0.3**
STU	**Stuttgart**	**120.00**	**327**	*e*PKIKP	**PKPdf**	**18 05 14.5**	**-0.2**
STU	**Stuttgart**	**120.00**	**327**	*e*PKPdf	**PKPdf**	**18 05 14.4**	**-0.2**
FETA	**Feichten**	**120.09**	**324**	⇑*i*PKiKP	**PKPdf**	**18 05 14.5**	**-0.6**
	comp=Z,32nm,1.0s,SNR=11						
DAVA	**Damuels**	**120.44**	**325**	⇑*i*PKiKP	**PKPdf**	**18 05 15.4**	**-0.3**
	comp=Z,29nm,0.8s,SNR=7.2						
MEM	**Membach**	**120.60**	**330**	PKP	**PKPdf**	**18 05 16.5**	**+0.7**
MEM				APKP	**pPKPdf**	**18 05 23.0**	**-2.8**
LANF	**Langenberg**	**120.64**	**327**	PKP	**PKPdf**	**18 05 16.2**	**+0.3**
CEL	**Celeste**	**120.69**	**313**	*e*PKPdf	**PKPdf**	**18 05 16.4**	**+0.1**
AQU	**L'Aquila**	**120.71**	**319**	*e*PKPdf	**PKPdf**	**18 05 20.9**	**+4.6**
BFO	**Black Forest**	**120.73**	**327**	*e*PKPdf	**PKPdf**	**18 05 16.9**	**+0.8**
BFO	**Black Forest**	**120.73**	**327**	*e*PKIKP	**PKPdf**	**18 05 15.3**	**-0.8**
BFO	**Black Forest**	**120.73**	**327**	*e*PKPdf	**PKPdf**	**18 05 15.3**	**-0.8**
SIUC	**Southern Illin**	**121.05**	**47**	*e*PKPdf	**PKPdf**	**18 05 15.9**	**-1.1**
WLF	**Walferdange**	**121.10**	**329**	*e*PKPdf	**PKPdf**	**18 05 17.9**	**+1.2**
WLF	**Walferdange**	**121.10**	**329**	*e*PKIKP	**PKPdf**	**18 05 17.4**	**+0.6**
WLF	**Walferdange**	**121.10**	**329**	*e*PKPdf	**PKPdf**	**18 05 17.4**	**+0.6**
TUE	**Stuetta**	**121.18**	**324**	*e*PKPdf	**PKPdf**	**18 05 16.8**	**-0.4**
CDF	**Champ du Feu**	**121.25**	**327**	*e*PKIKP	**PKPdf**	**18 05 16.5**	**-0.7**
	comp=Z,36nm,1.2s						
ECH	**Echery**	**121.43**	**327**	PKP	**PKPdf**	**18 05 16.9**	**-0.6**
GIVF	**Givet**	**121.51**	**330**	*e*PKIKP	**PKPdf**	**18 05 17.4**	**-0.1**
	comp=Z,72nm,1.1s						
DOU	**Dourbes**	**121.62**	**330**	PKP	**PKPdf**	**18 05 17.8**	**0.0**
DOU				APKP	**pPKPdf**	**18 05 25.1**	**-2.7**
MOF	**Molkenrain**	**121.66**	**327**	PKP	**PKPdf**	**18 05 17.3**	**-0.7**
HINF	**Hinteralfeld**	**121.83**	**327**	*e*PKIKP	**PKPdf**	**18 05 17.6**	**-0.7**
	comp=Z,77nm,1.0s						
BAIF	**Baives**	**121.84**	**330**	*e*PKIKP	**PKPdf**	**18 05 18.0**	**-0.1**
	comp=Z,26nm,1.0s						
HAU	**Haudompre**	**122.00**	**327**	*e*PKIKP	**PKPdf**	**18 05 18.0**	**-0.6**
	comp=Z,71nm,1.0s						
HAU				*e*R			
	comp=Z,824nm,22.5s						
PAGF	**Fort de Pagny**	**122.00**	**328**	*e*PKIKP	**PKPdf**	**18 05 18.3**	**-0.2**
	comp=Z,9.5nm,1.1s						
THEF	**They Montfort**	**122.06**	**328**	PKP	**PKPdf**	**18 05 18.5**	**-0.1**
LOMF	**Lomont**	**122.12**	**326**	PKP	**PKPdf**	**18 05 18.5**	**-0.4**
TSUM	**Tsumeb**	**122.15**	**245**	*e*PKPdf	**PKPdf**	**18 05 19.3**	**-0.5**
TSUM				PKP	**PKPdf**	**18 05 20.1**	**+0.3**
TSUM	**Tsumeb**	**122.15**	**245**	PKP	**PKPdf**	**18 05 20.1**	**+0.3**
	comp=Z,9.2nm,1.1s,baz=75,slow=1.3,SNR=4.5						
MEZF	**Maizieres J'vi**	**122.39**	**328**	*e*PKIKP	**PKPdf**	**18 05 19.3**	**+0.1**
BLO	**Bloomington**	**122.40**	**45**	*e*PKIKP	**PKPdf**	**18 05 19.9**	**+0.3**
BLO	**Bloomington**	**122.40**	**45**	*e*PKPdf	**PKPdf**	**18 05 19.9**	**+0.3**
SFTF	**Sexfontaines**	**122.58**	**328**	*e*PKIKP	**PKPdf**	**18 05 19.4**	**-0.2**
WVT	**Waverly**	**122.69**	**48**	*e*PKIKP	**PKPdf**	**18 05 18.4**	**-1.8**
WVT	**Waverly**	**122.69**	**48**	*e*PKPdf	**PKPdf**	**18 05 18.4**	**-1.8**
OG01	**Vacheresse**	**122.79**	**325**	PKP	**PKPdf**	**18 05 20.2**	**0.0**
WCI	**Wyandotte Cave**	**122.96**	**46**	*e*PKIKP	**PKPdf**	**18 05 19.8**	**-0.9**
WCI	**Wyandotte Cave**	**122.96**	**46**	*e*PKPdf	**PKPdf**	**18 05 19.8**	**-0.9**
CABF	**La Chapelle**	**122.96**	**326**	*e*PKIKP	**PKPdf**	**18 05 20.6**	**+0.1**
	comp=Z,83nm,0.9s						
SCHQ	**Schefferville**	**122.99**	**20**	PKP	**PKPdf**	**18 05 20.2**	**0.0**
SCHQ	**Schefferville**	**122.99**	**20**	PKP	**PKPdf**	**18 05 20.2**	**0.0**
	comp=Z,6.5nm,0.8s,baz=340,slow=4.8,SNR=5.3						
LPG	**La Plagne**	**123.23**	**325**	*e*PKIKP	**PKPdf**	**18 05 21.1**	**-0.2**
	comp=Z,37nm,0.8s						
LPL	**La Plagne**	**123.23**	**325**	*e*PKIKP	**PKPdf**	**18 05 21.0**	**-0.3**
	comp=Z,34nm,0.8s						
PGF	**Pioggiola**	**123.47**	**321**	*e*PKIKP	**PKPdf**	**18 05 21.1**	**-0.5**
	comp=Z,128nm,1.0s						
BNI	**Bardonecchia**	**123.53**	**324**	*e*PKIKP	**PKPdf**	**18 05 21.8**	**+0.1**
BNI	**Bardonecchia**	**123.53**	**324**	*e*PKPdf	**PKPdf**	**18 05 21.8**	**+0.1**
SAOF	**Saorge**	**123.60**	**323**	PKP	**PKPdf**	**18 05 21.4**	**-0.4**
MBDF	**Montbardon**	**123.66**	**324**	*e*PKIKP	**PKPdf**	**18 05 21.4**	**-0.6**
	comp=Z,26nm,0.8s						
AUTN	**L'Aution**	**123.67**	**323**	PKP	**PKPdf**	**18 05 21.7**	**-0.5**
SBF	**Sospel**	**123.74**	**323**	*e*PKIKP	**PKPdf**	**18 05 21.4**	**-0.7**
	comp=Z,91nm,1.0s						
TOUF	**Mont Tournerai**	**123.77**	**323**	PKP	**PKPdf**	**18 05 21.9**	**-0.4**
LUCF	**Luceram**	**123.78**	**323**	PKP	**PKPdf**	**18 05 21.9**	**-0.3**
LOR	**Lormes**	**123.78**	**328**	*e*PKIKP	**PKPdf**	**18 05 21.8**	**-0.2**
	comp=Z,138nm,1.6s						
LOR				*e*R			
	comp=Z,808nm,23.0s						
OSPF	**L'Ospedale**	**123.79**	**320**	PKP	**PKPdf**	**18 05 22.2**	**-0.1**
REVF	**Revere**	**123.85**	**323**	PKP	**PKPdf**	**18 05 22.1**	**-0.2**
MVIF	**Mont Vial**	**123.89**	**323**	PKP	**PKPdf**	**18 05 22.3**	**-0.2**
ORIF	**Oris-en-Rattie**	**124.07**	**324**	*e*PKIKP	**PKPdf**	**18 05 22.3**	**-0.4**
	comp=Z,51nm,0.9s						
ORIF				*e*R			
	comp=Z,457nm,20.2s						
SSF	**Saint Saulge**	**124.10**	**328**	*e*PKIKP	**PKPdf**	**18 05 22.5**	**-0.1**
	comp=Z,64nm,1.0s						
CALN	**Calern**	**124.13**	**323**	PKP	**PKPdf**	**18 05 22.8**	**-0.1**
SMF	**Signal de Mont**	**124.18**	**327**	*e*PKIKP	**PKPdf**	**18 05 22.4**	**-0.4**
	comp=Z,89nm,1.0s						
AVF	**Avril sur Loir**	**124.35**	**328**	*e*PKIKP	**PKPdf**	**18 05 22.6**	**-0.4**
	comp=Z,81nm,1.5s						
FRF	**La Foret Royal**	**124.38**	**323**	*e*PKIKP	**PKPdf**	**18 05 22.8**	**-0.4**
	comp=Z,94nm,1.0s						
HYF	**Humbligny**	**124.42**	**328**	*e*PKIKP	**PKPdf**	**18 05 23.5**	**+0.3**
SWET	**Sewanee**	**124.47**	**49**	*e*PKPdf	**PKPdf**	**18 05 21.9**	**-1.8**
LRAL	**Lakeview Retre**	**124.48**	**52**	*e*PKPdf	**PKPdf**	**18 05 23.4**	**-0.3**
LMR	**La Mourre**	**124.59**	**323**	*e*PKIKP	**PKPdf**	**18 05 23.3**	**-0.3**
	comp=Z,88nm,1.0s						
OG26	**St.-Nazaire-De**	**124.60**	**324**	PKP	**PKPdf**	**18 05 23.8**	**+0.1**
SSB	**Saint Sauveur**	**124.62**	**326**	PKP	**PKPdf**	**18 05 23.8**	**+0.1**
VSL	**Villasalto**	**124.74**	**311**	*e*PKPdf	**PKPdf**	**18 05 24.6**	**+0.5**
BGF	**Bois d'Agland**	**124.77**	**328**	*e*PKIKP	**PKPdf**	**18 05 23.8**	**-0.1**
	comp=Z,71nm,0.9s						
SMRF	**Simiane la Rot**	**124.79**	**324**	*e*PKIKP	**PKPdf**	**18 05 24.2**	**+0.1**
	comp=Z,94nm,0.9s						
VIVF	**Saint-Julien-l**	**124.80**	**325**	*e*PKIKP	**PKPdf**	**18 05 23.8**	**-0.2**
	comp=Z,72nm,1.0s						
AGO	**Saint Agoulin**	**124.93**	**327**	PKP	**PKPdf**	**18 05 24.0**	**-0.2**
LDF	**La Druitiere**	**124.94**	**331**	*e*PKIKP	**PKPdf**	**18 05 23.7**	**-0.4**
	comp=Z,87nm,1.3s						
FLN	**La Foliniere**	**124.99**	**331**	*e*PKIKP	**PKPdf**	**18 05 23.8**	**-0.4**
FLN				*e*R			
	comp=Z,730nm,20.5s						
BRAL	**Brewton**	**125.15**	**54**	*e*PKPdf	**PKPdf**	**18 05 25.7**	**+0.6**
PYM	**Petit Puy Mans**	**125.19**	**327**	PKP	**PKPdf**	**18 05 24.9**	**+0.1**
TCF	**Toulx Ste Croi**	**125.28**	**328**	*e*PKIKP	**PKPdf**	**18 05 24.8**	**-0.1**
	comp=Z,106nm,1.0s						
LBL	**Lubilhac**	**125.38**	**326**	PKP	**PKPdf**	**18 05 25.5**	**+0.3**
CPCT	**Cooper Cave**	**125.42**	**48**	*e*PKPdf	**PKPdf**	**18 05 24.1**	**-1.4**
GRR	**Gorron**	**125.43**	**331**	*e*PKIKP	**PKPdf**	**18 05 24.8**	**-0.3**
	comp=Z,107nm,1.3s						
TZTN	**Tazewell**	**125.66**	**46**	*e*PKPdf	**PKPdf**	**18 05 25.8**	**-0.1**
LASF	**Ste Croix**	**125.73**	**325**	*e*PKIKP	**PKPdf**	**18 05 25.8**	**0.0**
	comp=Z,78nm,1.0s						
TKL	**Tuckaleechee C**	**125.89**	**47**	*e*PKPdf	**PKPdf**	**18 05 25.7**	**-0.7**
CAF	**Calviac**	**126.22**	**326**	*e*PKIKP	**PKPdf**	**18 05 27.0**	**+0.2**
	comp=Z,58nm,1.1s						
RJF	**Les Rejaudoux**	**126.28**	**327**	*e*PKIKP	**PKPdf**	**18 05 26.9**	**+0.1**
	comp=Z,50nm,1.1s						
RJF				*e*R			
	comp=Z,770nm,22.2s						
MFF	**Saint Martin d**	**126.30**	**329**	*e*PKIKP	**PKPdf**	**18 05 26.6**	**-0.2**
	comp=Z,59nm,1.1s						
SGMF	**Saint Gilles**	**126.33**	**332**	*e*PKIKP	**PKPdf**	**18 05 26.3**	**-0.5**
	comp=Z,130nm,1.2s						
KEST	**Kesra**	**126.50**	**313**	PKP	**PKPdf**	**18 05 28.4**	**+0.7**
KEST	**Kesra**	**126.50**	**313**	PKP	**PKPdf**	**18 05 28.4**	**+0.7**
	comp=Z,7.5nm,1.1s,baz=45,slow=1.1,SNR=16						
PLCA	**Paso Flores**	**126.53**	**148**	PKP	**PKPdf**	**18 05 28.1**	**+0.6**
PLCA	**Paso Flores**	**126.53**	**148**	PKP	**PKPdf**	**18 05 28.1**	**+0.6**
	comp=Z,17nm,0.9s,baz=235,slow=3.1,SNR=12						
QUIF	**Quistinic**	**126.86**	**332**	*e*PKIKP	**PKPdf**	**18 05 27.2**	**-0.6**
	comp=Z,186nm,1.9s						
LFF	**La Freslate**	**126.94**	**327**	*e*PKIKP	**PKPdf**	**18 05 28.2**	**+0.1**
	comp=Z,62nm,1.0s						
LONY	**Lake Ozonia**	**126.98**	**33**	*e*PKPdf	**PKPdf**	**18 05 28.1**	**0.0**
TEIG	**Tepich**	**127.04**	**67**	*e*PKPdf	**PKPdf**	**18 05 28.8**	**-0.1**
MTLF	**Montolieu**	**127.12**	**325**	*e*PKIKP	**PKPdf**	**18 05 28.4**	**-0.1**
	comp=Z,42nm,1.0s						
LRDF	**Laroque-de-Fa**	**127.19**	**324**	PKP	**PKPdf**	**18 05 28.6**	**0.0**
FRNY	**Flat Rock**	**127.38**	**32**	*e*PKPdf	**PKPdf**	**18 05 28.4**	**-0.6**
FILF	**Fillols**	**127.40**	**324**	PKP	**PKPdf**	**18 05 26.3**	**-2.8**
CMAH	**Djebel Manchou**	**127.47**	**315**	P	**PKPdf**	**18 05 30.0**	**+0.6**
BLA	**Blacksburg**	**127.56**	**44**	*e*PKIKP	**PKPdf**	**18 05 28.6**	**-1.0**
BLA	**Blacksburg**	**127.56**	**44**	*e*PKPdf	**PKPdf**	**18 05 28.6**	**-1.0**
CARF	**Carcanieres**	**127.57**	**324**	PKP	**PKPdf**	**18 05 29.3**	**-0.2**
NCB	**Newcomb**	**127.59**	**34**	*e*PKPdf	**PKPdf**	**18 05 28.3**	**-1.1**
ABSA	**Djebel Ababsia**	**127.60**	**315**	P	**PKPdf**	**18 05 30.3**	**+0.6**
BINY	**Binghamton**	**127.69**	**36**	*e*PKPdf	**PKPdf**	**18 05 29.1**	**-0.5**
MLS	**Moulis**	**128.01**	**325**	PKP	**PKPdf**	**18 05 30.4**	**+0.2**
CKFL	**Kef-Lekhel**	**128.07**	**315**	P	**PKPdf**	**18 05 31.4**	**+0.7**
ACCN	**Adirondack Com**	**128.28**	**34**	*e*PKPdf	**PKPdf**	**18 05 30.6**	**-0.1**
CASM	**Ain Smara**	**128.30**	**315**	P	**PKPdf**	**18 05 31.6**	**+0.6**
EPF	**Esparros**	**128.39**	**326**	*e*PKIKP	**PKPdf**	**18 05 31.0**	**0.0**
	comp=Z,67nm,1.4s						
LABF	**Labassere**	**128.53**	**326**	PKP	**PKPdf**	**18 05 31.8**	**+0.6**
RESF	**Ens**	**128.53**	**325**	PKP	**PKPdf**	**18 05 31.9**	**+0.5**
RESF	**Ens**	**128.53**	**325**	PKP	**PKPdf**	**18 05 32.4**	**+1.0**
DFRA	**Djebel Bou Aff**	**128.59**	**316**	P	**PKPdf**	**18 05 33.0**	**+1.3**
LBNH	**Lisbon**	**128.66**	**32**	*e*PKIKP	**PKPdf**	**18 05 30.7**	**-0.7**
LBNH	**Lisbon**	**128.66**	**32**	*e*PKPdf	**PKPdf**	**18 05 30.7**	**-0.7**
VIEF	**Viey**	**128.66**	**326**	PKP	**PKPdf**	**18 05 32.2**	**+0.7**
SDMD	**Soldier's Deli**	**128.79**	**40**	*e*PKPdf	**PKPdf**	**18 05 31.2**	**-0.6**
HNH	**Hanover**	**128.83**	**33**	*e*PKPdf	**PKPdf**	**18 05 30.9**	**-0.8**
PQI	**Presque Isle**	**128.86**	**27**	*e*PKPdf	**PKPdf**	**18 05 30.5**	**-1.1**
ETSF	**Etsaut**	**128.98**	**326**	*e*PKIKP	**PKPdf**	**18 05 32.8**	**+0.7**
	comp=Z,177nm,1.5s						
SET	**Setif**	**129.10**	**316**	P	**PKPdf**	**18 05 35.0**	**+2.4**
LARF	**Larrau**	**129.12**	**326**	PKP	**PKPdf**	**18 05 33.3**	**+0.9**
WES	**Weston**	**130.23**	**33**	*e*PKIKP	**PKPdf**	**18 05 35.0**	**+0.6**
WES	**Weston**	**130.23**	**33**	*e*PKPdf	**PKPdf**	**18 05 35.0**	**+0.6**
ESDC	**Sonseca Array**	**133.03**	**325**	PKPpre	PKPpre	18 05 32.6	
ESDC				PKP	**PKPdf**	**18 05 40.2**	**+0.3**
ESDC				PP	**PP**	**18 08 06.0**	**+0.7**
ESDC	**Sonseca Array**	**133.03**	**325**	PKhKP	PKPpre	18 05 32.6	
	comp=Z,0.1nm,0.3s,baz=64,slow=3.0,SNR=3.7						
ESDC				PKP	**PKPdf**	**18 05 40.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=2.8,SNR=6.5						
ESDC				PP	**PP**	**18 08 06.0**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=36,slow=8.1,SNR=4.7						
PBRG	**Braganca**	**133.04**	**329**	*e*PKPdf	**PKPdf**	**18 05 40.0**	**+0.2**
PAB	**San Pablo**	**133.34**	**325**	*e*PKIKP	**PKPdf**	**18 05 41.2**	**+0.7**
PAB	**San Pablo**	**133.34**	**325**	*e*PKPdf	**PKPdf**	**18 05 41.2**	**+0.7**
MVO	**Moncorvo**	**133.66**	**329**	*e*PKPdf	**PKPdf**	**18 05 40.5**	**-0.5**
MVO	**Moncorvo**	**133.66**	**329**	*e*LR	LR	18 51 40.4	
	comp=Z,341nm,20.0s						
PGAV	**Gavieira, Arco**	**133.69**	**331**	*e*PKPdf	**PKPdf**	**18 05 42.2**	**+1.1**
PGAV	**Gavieira, Arco**	**133.69**	**331**	*e*LR	LR	18 51 15.3	
	comp=Z,339nm,20.0s						
POLO	**Lamas de Olo**	**133.90**	**330**	*e*PKPdf	**PKPdf**	**18 05 42.9**	**+1.4**
CFAA	**Coronel Fontan**	**134.29**	**142**	PKPpre	PKPpre	18 05 36.0	
CFAA				PKP	**PKPdf**	**18 05 42.5**	**+0.1**
CFAA				PP	**PP**	**18 08 11.1**	**-2.2**
CFAA	**Coronel Fontan**	**134.29**	**142**	PKhKP	PKPpre	18 05 36.0	
	comp=Z,0.5nm,0.8s,baz=231,slow=3.3,SNR=4.5						
CFAA				PKP	**PKPdf**	**18 05 42.5**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=321,slow=2.1,SNR=12						
CFAA				PP	**PP**	**18 08 11.1**	**-2.2**
	comp=Z,0.4nm,1.0s,baz=240,slow=1.8,SNR=5.9						
LCO	**Las Campanas**	**134.38**	**137**	*e*PKPdf	**PKPdf**	**18 05 42.8**	**-0.2**
MTE	**Manteigas**	**134.48**	**328**	*e*PKPdf	**PKPdf**	**18 05 43.7**	**+1.1**
MTE	**Manteigas**	**134.48**	**328**	*e*S	x	18 34 50.5	
MTE	**Manteigas**	**134.48**	**328**	*e*LR	LR	18 51 36.0	
	comp=Z,405nm,22.0s						
PCBR	**Castelo Branco**	**134.85**	**328**	*e*PKPdf	**PKPdf**	**18 05 44.2**	**+1.0**
PMRV	**Marv??o**	**135.10**	**327**	*e*PKPdf	**PKPdf**	**18 05 44.6**	**+0.9**
PMRV	**Marv??o**	**135.10**	**327**	*i* P	x	18 53 10.7	
PMRV				*e*P	x	19 00 03.3	
PCAS	**Casmilo, Conde**	**135.23**	**329**	*e*PKPdf	**PKPdf**	**18 05 43.6**	**-0.3**
PTOM	**Tomar**	**135.51**	**328**	*e*PKPdf	**PKPdf**	**18 05 45.7**	**+1.3**
PESTR	**Estremoz**	**135.62**	**327**	*e*PKPdf	**PKPdf**	**18 05 45.2**	**+0.5**
PBAR	**Barrancos**	**135.80**	**326**	*e*PKPdf	**PKPdf**	**18 05 45.6**	**+0.6**
PMTG	**Montargil**	**135.81**	**328**	*e*PKPdf	**PKPdf**	**18 05 45.3**	**+0.3**
EVO	**Evora**	**136.09**	**327**	*e*PKIKP	**PKPdf**	**18 05 43.1**	**-2.5**
	comp=Z,109nm,1.3s						
EVO				*e*R			
	comp=Z,617nm,21.8s						
EVO	**Evora**	**136.09**	**327**	*e*PKPdf	**PKPdf**	**18 05 46.2**	**+0.6**
PBEJ	**Beja**	**136.37**	**326**	*e*PKPdf	**PKPdf**	**18 05 47.8**	**+1.7**
LIS	**Lisbon**	**136.56**	**328**	*e*P	**PKPdf**	**18 05 45.7**	**-0.7**
LIS				*e*PP	**PP**	**18 08 28.5**	**+1.1**
LIS				AMS	AMS	19 01 20.1	
	comp=E,1μm,21.5s						
LIS	**Lisbon**	**136.56**	**328**	*e*PKIKP	**PKPdf**	**18 05 45.7**	**-0.7**
LIS				*e*		18 08 28.5	
PNCL	**Nicolau / Gran**	**136.67**	**327**	*e*PKPdf	**PKPdf**	**18 05 47.7**	**+1.1**
PVAQ	**Vaqueiros**	**136.73**	**326**	*e*PKPdf	**PKPdf**	**18 05 47.4**	**+0.6**
PVAQ	**Vaqueiros**	**136.73**	**326**	*e*LR	LR	18 56 18.8	
	comp=E,470nm,20.0s						
PBDV	**Barranco-do-Ve**	**136.96**	**326**	*e*PKPdf	**PKPdf**	**18 05 48.7**	**+1.4**
ATAH	**Atahualpa**	**137.22**	**104**	PKP	**PKPdf**	**18 05 48.5**	**-0.4**
ATAH	**Atahualpa**	**137.22**	**104**	PKP	**PKPdf**	**18 05 48.5**	**-0.4**
	comp=E,29nm,1.0s,baz=218,slow=2.8,SNR=11						
MORF	**Marmelete**	**137.32**	**326**	*e*PKPdf	**PKPdf**	**18 05 47.8**	**-0.2**
MORF	**Marmelete**	**137.32**	**326**	*e*PKI

VLX	Vlachokerasia	1.49	325	eP		Pn	18 13 54.8 +0.3
VLX				eS		Sn	18 14 13.2 +0.2
VLX	Vlachokerasia	1.49	325	eP		Pn	18 13 54.8 +0.3
VLX				S		Sn	18 14 13.1 +0.1
PYL	PYLOS	1.57	299	eP		Pn	18 13 54.0 -1.5
PYL	PYLOS	1.57	299	eP		Pn	18 13 54.0 -1.5
SIVA	Sivas	1.58	136	P		Pn	18 13 55.2 -0.4
SIVA	Sivas	1.58	136	P		Pn	18 13 55.2 -0.4
NAIG	Nisos Aigina	1.60	1	eP		Pn	18 13 55.7 -0.2
NAIG	Nisos Aigina	1.60	1	eP		Pn	18 13 55.7 -0.2
ITM	Ithomi	1.60	310	P		Pn	18 13 55.7 -0.2
ITM				S		Sn	18 14 15.8 +0.3
ITM	Ithomi	1.60	310	eP		Pn	18 13 55.5 -0.4
ITM				eS		Sn	18 14 15.1 -0.4
ITM	Ithomi	1.60	310	P		Pn	18 13 55.7 -0.2
ITM				S		Sn	18 14 15.8 +0.3
ACOR	Acrocorinthos	1.80	345	P		Pn	18 13 58.5 -0.1
ACOR				S		Sn	18 14 20.5 +0.3
ACOR	Acrocorinthos	1.80	345	P		Pn	18 13 58.5 -0.1
ACOR				S		Sn	18 14 20.5 +0.3
ATH	Athens Observa	1.82	6	P		Pn	18 13 58.6 -0.3
ATH				S		Sn	18 14 20.7 -0.2
ATH	Athens Observa	1.82	6	eP		Pn	18 13 58.6 -0.3
ATH				eS		Sn	18 14 20.9 0.0
ATH	Athens Observa	1.82	6	eP		Pn	18 13 58.6 -0.3
ATH				S		Sn	18 14 20.7 -0.2
APE	Apeiranthos	1.90	61	eP		Pn	18 14 00.8 +0.8
APE				eS		Sn	18 14 23.1 +0.3
APE	Apeiranthos	1.90	61	eP		Pn	18 14 00.8 +0.8
APE				eS		Sn	18 14 23.1 +0.3
LTK	Loutraki	1.91	348	P		Pn	18 14 00.0 -0.1
LTK				S		Sn	18 14 23.0 +0.1
LTK	Loutraki	1.91	348	eP		Pn	18 14 00.3 +0.2
LTK				eS		Sn	18 14 23.0 +0.1
LTK	Loutraki	1.91	348	P		Pn	18 14 00.0 -0.1
LTK				eS		Sn	18 14 23.0 +0.1
PTL	Penteli	1.92	10	P		Pn	18 13 59.8 -0.4
PTL				S		Sn	18 14 22.9 -0.3
PTL	Penteli	1.92	10	eP		Pn	18 13 59.9 -0.3
PTL				eS		Sn	18 14 22.4 -0.8
PTL	Penteli	1.92	10	eP		Pn	18 13 59.9 -0.3
PTL				S		Sn	18 14 22.9 -0.3
LAST	Lasithi	1.92	121	P		Pn	18 14 00.2 -0.1
LAST				S		Sn	18 14 22.8 -0.5
LAST	Lasithi	1.92	121	eP		Pn	18 14 00.4 +0.1
LAST				eS		Sn	18 14 22.9 -0.4
LAST	Lasithi	1.92	121	P		Pn	18 14 00.2 -0.1
LAST				eS		Sn	18 14 22.9 -0.4
NPS	Neapolis	1.96	116	P		Pn	18 14 00.7 -0.1
NPS				S		Sn	18 14 24.4 +0.1
NPS	Neapolis	1.96	116	eP		Pn	18 14 00.8 -0.1
NPS				eS		Sn	18 14 23.3 -1.0
NPS	Neapolis	1.96	116	P		Pn	18 14 00.7 -0.1
NPS				S		Sn	18 14 24.4 +0.1
AMT	Artemida-Makis	1.97	315	eP		Pn	18 14 00.5 -0.4
AMT	Artemida-Makis	1.97	315	eP		Pn	18 14 00.5 -0.4
THAL	Thalero	1.98	341	P		Pn	18 14 00.8 -0.3
THAL				S		Sn	18 14 24.7 -0.1
THAL	Thalero	1.98	341	P		Pn	18 14 00.8 -0.3
THAL				S		Sn	18 14 24.7 -0.1
GUR	Goura	1.99	334	P		Pn	18 14 01.2 -0.1
GUR				S		Sn	18 14 25.2 +0.1
GUR	Goura	1.99	334	eP		Pn	18 14 01.4 +0.1
GUR				eS		Sn	18 14 25.0 -0.1
GUR	Goura	1.99	334	eP		Pn	18 14 01.4 +0.1
GUR				eS		Sn	18 14 25.0 -0.1
KLV	Kalavryta, Ach	2.16	331	P		Pn	18 14 03.8 +0.3
KLV				S		Sn	18 14 29.1 0.0
KLV	Kalavryta, Ach	2.16	331	eP		Pn	18 14 03.8 +0.3
KLV				eS		Sn	18 14 28.9 -0.2
KLV	Kalavryta, Ach	2.16	331	eP		Pn	18 14 03.8 +0.3
KLV				S		Sn	18 14 29.1 0.0
ERET	Eretria	2.30	7	P		Pn	18 14 05.4 -0.1
ERET				S		Sn	18 14 32.9 +0.3
ERET	Eretria	2.30	7	P		Pn	18 14 05.4 -0.1
ERET				S		Sn	18 14 32.9 +0.3
DSF	Desfina	2.37	342	P		Pn	18 14 06.4 -0.1
DSF				S		Sn	18 14 34.8 +0.4
DSF	Desfina	2.37	342	P		Pn	18 14 06.4 -0.1
DSF				S		Sn	18 14 34.8 +0.4
LAKA	Lakka	2.40	331	P		Pn	18 14 07.0 +0.2
LAKA				S		Sn	18 14 35.0 +0.1
LAKA	Lakka	2.40	331	eP		Pn	18 14 07.6 +0.8
LAKA				eS		Sn	18 14 35.5 +0.6
LAKA	Lakka	2.40	331	P		Pn	18 14 07.0 +0.2
LAKA				S		Sn	18 14 35.0 +0.1
KALE	Kalithea	2.47	335	P		Pn	18 14 07.5 -0.3
KALE				S		Sn	18 14 37.1 +0.3
KALE	Kalithea	2.47	335	eP		Pn	18 14 08.1 +0.3
KALE	Kalithea	2.47	335	eP		Pn	18 14 08.1 +0.3
KALE				S		Sn	18 14 37.1 +0.3
TRIZ	Trizonia	2.47	334	eP		Pn	18 14 08.1 +0.4
TRIZ				eS		Sn	18 14 36.2 -0.5
TRIZ	Trizonia	2.47	334	eP		Pn	18 14 08.1 +0.4
TRIZ				eS		Sn	18 14 36.2 -0.5
RLS	Riolos of Patr	2.48	321	eP		Pn	18 14 07.9 0.0
RLS	Riolos of Patr	2.48	321	eP		Pn	18 14 07.9 0.0
LKR	Lokris	2.52	352	eP		Pn	18 14 08.3 -0.1
LKR				eS		Sn	18 14 37.6 -0.3
LKR	Lokris	2.52	352	eP		Pn	18 14 08.3 -0.1
LKR				eS		Sn	18 14 37.6 -0.3
MRKA	Markates	2.55	2	P		Pn	18 14 08.7 -0.1
MRKA				S		Sn	18 14 38.6 -0.1
MRKA	Markates	2.55	2	P		Pn	18 14 08.7 -0.1
MRKA				S		Sn	18 14 38.6 -0.1
EFP	Efpalio	2.58	332	eP		Pn	18 14 10.3 +1.0
EFP	Efpalio	2.58	332	eP		Pn	18 14 10.3 +1.0
SMIA	Simia	2.73	356	P		Pn	18 14 11.6 +0.3
SMIA				S		Sn	18 14 43.3 +0.3
SMIA	Simia	2.73	356	P		Pn	18 14 11.6 +0.3
SMIA				S		Sn	18 14 43.3 +0.3
AGG	Agios Georgios	3.00	343	P		Pn	18 14 15.4 +0.4
AGG				S		Sn	18 14 50.3 +0.5
AGG	Agios Georgios	3.00	343	eP		Pn	18 14 16.4 +1.4
AGG	Agios Georgios	3.00	343	P		Pn	18 14 15.4 +0.4
AGG				S		Sn	18 14 50.3 +0.5
AOS	Alonnisos	3.03	6	eP		Pn	18 14 15.1 -0.3
AOS				eS		Sn	18 14 49.3 -1.1
AOS	Alonnisos	3.03	6	eP		Pn	18 14 15.1 -0.3
AOS				eS		Sn	18 14 49.3 -1.1
CHOS	Chios island	3.04	42	eP		Pn	18 14 15.6 0.0
CHOS				eS		Sn	18 14 50.5 -0.3
CHOS	Chios island	3.04	42	eP		Pn	18 14 15.6 0.0
CHOS				eS		Sn	18 14 50.5 -0.3
EVR	Evrytania	3.05	335	eP		Pn	18 14 16.6 +0.8
EVR	Evrytania	3.05	335	eP		Pn	18 14 16.6 +0.8
VLS	Valsamata	3.06	312	eP		Pn	18 14 16.1 +0.3
VLS	Valsamata	3.06	312	eP		Pn	18 14 16.1 +0.3
KARP	Karpathos	3.06	100	eP		Pn	18 14 16.1 +0.2
KARP				eS		Sn	18 14 51.6 +0.2
KARP	Karpathos	3.06	100	eP		Pn	18 14 16.1 +0.2
KARP				eS		Sn	18 14 51.6 +0.2
NEO	Neokhori	3.15	357	eP		Pn	18 14 17.2 +0.1
NEO	Neokhori	3.15	357	eP		Pn	18 14 17.2 +0.1
THL	Klokotos Trika	3.59	342	eP		Pn	18 14 24.3 +1.2
THL	Klokotos Trika	3.59	342	eP		Pn	18 14 24.3 +1.2
PAIG	Paliouri	3.77	3	eP		Pn	18 14 25.3 -0.2
PAIG	Paliouri	3.77	3	eP		Pn	18 14 25.3 -0.2
KEK	Kerkira	4.58	322	eP		Pn	18 14 36.1 -0.6
KEK	Kerkira	4.58	322	eP		Pn	18 14 36.1 -0.6

MEX 10 18:18:14.3±0.6, 15°.48N×93°.52W, h61km±18km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.34	115	i P		Pn	18 18 34.6 -2.2
THIG				i S		Sn	18 18 52.0 -1.7
TGIG		1.35	16	eP		Pn	18 18 35.7 -1.4
TGIG				i S		Sn	18 18 52.1 -2.1
CCIG	Comitan	1.55	59	i P		Pn	18 18 38.3 -1.7
CCIG				i S		Sn	18 18 56.7 -2.6
HUIG	Huatulco	2.51	277	eP		Pn	18 18 51.8 -0.9
HUIG				i S		Sn	18 19 19.8 -2.5
PNIG	Pinotepa	4.53	282	i P		Pn	18 19 20.1 -0.3
PNIG				i S		Sn	18 20 10.4 -1.3

AUST ***10*** *18:29:28.3±3.0, 32°.28S×177°.59W, h0km±1km, Error ellipse: s-maj=3.1km s-min=1.1km az=283.0*
IDC ***10*** *18:29:29.5±0.7, 32°.32S×178°.14W, h0km, mb4.5/8, mb1 4.6/12, mb1mx4.3/24, mbtmp4.5/12, ML3.4/3, MS4.0/3, Ms1 4.0/3, ms1mx3.4/29, Error ellipse: s-maj=19.9km s-min=15.5km az=133.0*
ISCJB ***10*** *18:29:30.6±0.6, 32°.37S±0°.05×178°.0W±0°.1, h20km, mb4.5/10, MS3.9/2, Error ellipse: s-maj=13.1km s-min=6.1km az=20.4*
NEIC ***10*** *18:29:32.4±2.4, 32°.31S×178°.01W, h20km±16km, mb4.8/3, Error ellipse: s-maj=11.5km s-min=7.7km az=114.0*
ISC 10 18:29:32.1±0.6, 32°.35S±0°.06×177°.92W±0°.09, h20km, n69, σ1§01/75, mb4.6/10, 2C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.08	0	Pn	Pn	18 30 19.0	-0.7
RAO				Sn	Sn	18 30 56.2	+0.2
RAO	Raoul Island	3.08	0	Pn	Pn	18 30 19.0	-0.7
	189nm,0.3s,baz=128,slow=19,SNR=7.6						
RAO				Sn	Sn	18 30 56.2	+0.2
	195nm,0.3s,baz=80,slow=22,SNR=4.2						
URZ	Urewera	7.16	213	eP	Pn	18 31 15.3	-0.3
	126nm,1.1s						
URZ				Sn	Sn	18 32 35.8	-0.7
URZ	Urewera	7.16	213	Pn	Pn	18 31 14.8	-0.9
	2.4nm,0.3s,baz=16,slow=19,SNR=24						
URZ				Sn	Sn	18 32 35.8	-0.7
	4.9nm,0.3s,baz=165,slow=17,SNR=8.9						
OUZ	Omahuta	7.62	246	eP	Pn	18 31 24.3	+2.3
	67nm,0.9s						
DZM	Mont Dzumac	17.25	303	P	Pn	18 33 31.6	-0.4
DZM	Mont Dzumac	17.25	303	P	Pn	18 33 31.6	-0.4
	0.1nm,0.3s,baz=121,slow=12,SNR=2.0						
DZM				LR	LR	18 38 34.2	
	comp=Z,636nm,19.2s,baz=0.0,slow=32						
AFI	Afiamalu	19.19	18	P	Pn	18 33 54.9	-0.8
AFI	Afiamalu	19.19	18	P	Pn	18 33 54.9	-0.8
	2.2nm,0.3s,baz=139,slow=12,SNR=4.6						
CNB	Canberra Magne	27.27	255	P	P	18 35 18.3	+3.1
	baz=28,SNR=6.9						
PPT	Papete	29.50	67	LR	LR	18 45 25.3	
	comp=Z,261nm,19.0s,baz=154,slow=32						
RMQ	Roma	29.53	273	P	P	18 35 38.0	+2.6
	baz=30,SNR=5.0						
CMSA	Cobar Meteorol	30.80	262	P	P	18 35 48.1	+1.6
	baz=31,SNR=62						
ARPS	Mount Arapiles	33.26	251	P	P	18 36 09.5	+1.4
	baz=34,SNR=4.7						
STKA	Stephens Creek	34.15	260	P	P	18 36 15.8	-0.1
STKA	Stephens Creek	34.15	260	P	P	18 36 15.8	-0.1
	3.6nm,0.9s,baz=90,slow=11,SNR=12						
STKA				LR	LR	18 49 34.0	
	comp=Z,202nm,19.2s,baz=25,slow=36						
STKA	Stephens Creek	34.15	260	P	P	18 36 18.0	+2.1
	baz=34,SNR=6.1						
CTA	Charters Tower	34.22	282	P	P	18 36 16.8	+0.1
CTA	Charters Tower	34.22	282	P	P	18 36 16.8	+0.1
	6.3nm,0.6s,baz=99,slow=11,SNR=14						
CTAO	Charters Tower	34.22	282	eP	P	18 36 17.2	+0.6
	11nm,0.8s						
MTSU	Mount Surprise	36.77	283	P	P	18 36 39.6	+1.1
	baz=37,SNR=4.7						
BBOO	Buckleboo	38.54	257	P	P	18 36 52.9	-0.5
	baz=39,SNR=5.3						
COEN	Coen	39.90	288	P	P	18 37 05.8	+0.9
	baz=40,SNR=4.9						
AS31	Alice Springs	43.10	269	eP	P	18 37 30.4	-0.8
ASAR	Alice Springs	43.11	269	P	P	18 37 30.5	-0.7
ASAR				S	S	18 43 54.6	-1.9
ASAR	Alice Springs	43.11	269	P	P	18 37 30.5	-0.7
	6.7nm,0.8s,baz=107,slow=7.4,SNR=59						
ASAR				S	S	18 43 54.6	-1.9
	1.0nm,0.9s,baz=107,slow=15,SNR=5.8						
WRAB	Tennant Creek	44.26	274	eP	P	18 37 39.6	-1.0
	21nm,1.0s						
WRA	Warramunga Arr	44.27	274	P	P	18 37 39.9	-0.7
WRA	Warramunga Arr	44.27	274	P	P	18 37 39.9	-0.7
	6.4nm,0.4s,baz=112,slow=8.1,SNR=113						
FORT	Forrest	45.64	257	P	P	18 37 50.4	-0.9
	baz=46,SNR=19						
KDU	Kakadu	49.34	282	P	P	18 38 20.0	-0.3
	baz=50,SNR=4.7						
MTN	Manton Dam	50.38	280	P	P	18 38 28.1	0.0
	baz=51,SNR=3.4						
KNRA	Kununurra	50.94	276	P	P	18 38 31.9	-0.5
	baz=51,SNR=5.5						
KLBR	Kellerberrin	53.80	252	P	P	18 38 51.8	-1.7
	baz=54,SNR=9.1						
QSPA	South Pole Qui	57.77	180	P	P	18 39 22.4	+0.8
QSPA	South Pole Qui	57.77	180	P	P	18 39 22.4	+0.8
	1.7nm,0.8s,baz=273,slow=0.8,SNR=13						
UGM	Wanagama	70.24	273	P	P	18 40 53.8	+10
	baz=70,SNR=3.4						
SYO	Syowa Base	75.24	193⇑	eP	P	18 41 11.0	-2.0
SYO	Syowa Base	75.24	193⇑	eP	P	18 41 13.5	+0.5
SNAA	Sanae	76.21	178	eP	P	18 41 20.3	+1.7
	12nm,1.1s						
PETK	Petropavlovsk-	87.71	346	P	P	18 42 19.2	+0.4
PETK	Petropavlovsk-	87.71	346	P	P	18 42 19.2	+0.4
	5.1nm,0.8s,baz=146,slow=8.0,SNR=8.1						
USRK	Ussurlysk Arra	88.81	327	P	P	18 42 24.7	+0.4
	1.8nm,0.8s,baz=124,slow=4.4,SNR=7.0						
NVAR	Mina Array Bea	89.62	43	P	P	18 42 29.6	+1.1
NVAR	Mina Array Bea	89.62	43	P	P	18 42 29.6	+1.1
	1.1nm,0.8s,baz=225,slow=7.5,SNR=7.3						
MKAR	Makanchi Array	119.06	309	PKP	PKPdf	18 48 19.3	+0.1
MKAR	Makanchi Array	119.06	309	PKP	PKPdf	18 48 19.3	+0.1
	1.1nm,0.9s,baz=128,slow=1.4,SNR=7.1						
ZALV	Zalesovo Beam	119.52	318	PKP	PKPdf	18 48 19.5	-0.3
ZALV	Zalesovo Beam	119.52	318	PKP	PKPdf	18 48 19.5	-0.3
	0.3nm,0.3s,baz=95,slow=3.6,SNR=3.2						
ARCES	ARCESS Array B	140.50	347	PKP	PKPdf	18 48 56.8	-2.2
ARCES	ARCESS Array B	140.50	347	PKP	PKPdf	18 48 56.8	-2.2
	1.0nm,0.8s,baz=45,slow=2.8,SNR=4.9						
KBZ	Khabaz	146.22	302	PKPbc	PKPbc	18 49 10.9	+0.1
KBZ	Khabaz	146.22	302	PKPbc	PKPbc	18 49 10.9	+0.1
	4.3nm,0.9s,baz=187,slow=4.2,SNR=7.1						
KAF	Kangasniemi	146.40	340	ep	PKPbc	18 49 10.3	-0.5
	1.3nm,0.3s						
FINES	FINESS Array B	146.99	339	PKPbc	PKPbc	18 49 12.3	-0.2
FINES	FINESS Array B	146.99	339	PKPbc	PKPbc	18 49 12.3	-0.2
	12nm,0.7s,baz=45,slow=4.0,SNR=75						
NB2	NORSAR Subarra	150.68	351	PKP	PKPbc	18 49 22.1	+0.1
	comp=Z,4.0nm,0.9s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.68	351	PKPbc	PKPbc	18 49 22.2	+0.1
NOA	NORSAR Array B	150.68	351	PKPbc	PKPbc	18 49 22.2	+0.1
	comp=Z,1.7nm,0.6s,baz=14,slow=4.2,SNR=11						
AKASG	Malin Array Be	152.86	320	PKPbc	PKPbc	18 49 27.6	+0.3
AKASG				PKPab	PKPab	18 49 38.5	+0.1
AKASG	Malin Array Be	152.86	320	PKPbc	PKPbc	18 49 27.6	+0.3
	comp=Z,1.7nm,0.4s,baz=55,slow=2.4,SNR=4.0						
AKASG				PKPab	PKPab	18 49 38.5	+0.1
	comp=Z,1.8nm,0.4s,baz=51,slow=3.7,SNR=6.2						
BRTR	Keskin Array B	153.53	295	PKPbc	PKPbc	18 49 29.6	+0.3
BRTR	Keskin Array B	153.53	295	PKPbc	PKPbc	18 49 29.6	+0.3
	comp=Z,3.4nm,0.9s,baz=123,slow=4.1,SNR=14						
CLL	Collm	159.42	340	i PKPab	PKPab	18 50 06.3	-0.2
	comp=Z,7.0nm,0.9s						
CLL				e		18 50 19.0	
BRG	Berggiesshubel	159.52	338	i PKP	PKPab	18 50 07.2	+0.3
	comp=Z,3.8nm,0.8s						
TORD	Torodi Ar. Bea	160.89	179	PKPab	PKPab	18 50 13.7	0.0
TORD	Torodi Ar. Bea	160.89	179	PKPab	PKPab	18 50 13.7	0.0
	comp=Z,0.8nm,0.7s,baz=181,slow=2.8,SNR=8.5						
GERES	GERESS Array B	161.34	335	PKPab	PKPab	18 50 15.0	-0.1
GERES	GERESS Array B	161.34	335	PKPab	PKPab	18 50 15.0	-0.1
	comp=Z,1.2nm,0.8s,baz=35,slow=4.9,SNR=8.7						

KRSC 10 18:34:36.2±0.2, 52°.82N×157°.48E, h241km±31km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	Asacha	0.51	149	eP	Pn	18 35 10.1	+1.9
ASAK				i S	S	18 35 34.0	+0.7
MTVR	Mutnovka	0.55	128	eP	Pn	18 35 08.5	+0.1
MTVR				i S	S	18 35 32.9	-0.7
MIPR	Malaya Ipel'ka	0.70	219	eP	Pn	18 35 10.1	+1.3
RUS	Russkaya	0.74	121	eP	Pn	18 35 10.3	+1.4
RUS				i S	S	18 35 35.2	+0.7
AVH	Avacha	0.88	59	P	Pn	18 35 11.5	+1.8
GNL	Ganaly	0.92	17	eP	Pn	18 35 11.0	+1.1
SPN	Mys Shipunski	1.56	79	i P	Pn	18 35 15.8	+1.7
SPN				i S	S	18 35 43.6	-0.2
KII	Karymskiy	1.69	43	eP	Pn	18 35 17.7	+2.5
SKR	Severo-Kuril's	2.30	202	eP	Pn	18 35 22.1	+1.3
SKR				i S	S	18 35 55.6	-0.2
TUMR	Tumrok	2.93	31	eP	Pn	18 35 29.3	+1.9
MKZ	Mys Kozlova	3.07	54	i P	Pn	18 35 30.1	+1.4
MKZ				i S	S	18 36 08.8	-1.4

ISCJB ***10*** *18:37:56.8±0.8, 33°.1N±0°.1×138°.6E±0°.1, h309km±8km, mb2.8/4, Error ellipse: s-maj=17.9km s-min=15.0km az=38.2*
JMA ***10*** *18:37:57.1±0.5, 32°.97N×138°.59E, h296km, M3.1*
IDC ***10*** *18:37:57.5±2.2, 32°.97N×138°.10E, h287km±32km, mb2.7/4, mb1 2.8/5, mb1mx2.7/27, mbtmp2.6/5, Error ellipse: s-maj=87.8km s-min=21.0km az=73.0*
ISC 10 18:37:57.9±1.1, 33°.2N±0°.1×138°.6E±0°.1, h303km±10km, n17, σ1§20/22, mb2.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	1.04	320	P	Pn	18 38 39.0	+0.6
HMMJ	Hamamatsu 2	1.84	338	P	Pn	18 38 44.2	+0.6
JKN2	Miekihoku	2.19	300	P	Pn	18 38 45.9	-0.4
JNY	Yasuok	2.28	346	P	Pn	18 38 48.2	+1.0
BSO3	Boso 3	2.32	44	eS	S	18 39 27.0	+0.5
BSO4	Boso 4	2.36	38	S	S	18 39 28.0	+0.6
JWY	Kouya	2.69	294	P	Pn	18 38 50.5	-0.4
JHU	Hanno	2.76	12	P	Pn	18 38 51.9	+0.5
JHU				eS	S	18 39 33.6	-0.7
JRY	Ryogami san	2.88	6	P	Pn	18 38 53.8	+1.2
JRY				eS	S	18 39 36.1	-0.2
JAG	Ashikaga	3.35	13	P	Pn	18 38 57.1	-0.2
JAG				eS	S	18 39 42.8	-2.0
JYT	Yasato	3.36	23	P	Pn	18 38 57.3	0.0
JYT				eS	S	18 39 41.2	-3.6
MJAR	Matsushiro Arr	3.40	355	P	Pn	18 38 58.1	+0.3
	1.1nm,0.3s,baz=186,slow=8.3,SNR=18						
MAT	Matsushiro	3.40	355	P	Pn	18 38 58.3	+0.5
MAT				eS	S	18 39 46.9	+1.2
MKAR	Makanchi Array	44.31	305	P	P	18 45 38.0	-0.3
	0.1nm,0.4s,baz=90,slow=11,SNR=3.6						
WRA	Warramunga Arr	52.95	185	P	P	18 46 43.8	0.0
	0.3nm,0.5s,baz=0.5,slow=7.6,SNR=4.7						
ASAR	Alice Springs	56.67	185	P	P	18 47 09.5	-0.8
	0.1nm,0.5s,baz=2.3,slow=6.1,SNR=4.8						
FINES	FINESS Array B	71.14	332	P	P	18 48 44.6	+1.1
	0.3nm,0.4s,baz=46,slow=5.5,SNR=5.1						

IDC ***10*** *18:39:45.8±1.1, 32°.33S×178°.13W, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.1/21, mbtmp4.3/7, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=34.0km s-min=22.0km az=127.0*
ISCJB ***10*** *18:39:47.1±1.9, 32°.4S±0°.1×178°.1W±0°.3, h24km, mb4.3/7, Error ellipse: s-maj=41.0km s-min=9.1km az=20.1*
NEIC ***10*** *18:39:48.4±3.4, 32°.31S×178°.16W, h18km±20km, mb4.6/2, Error ellipse: s-maj=15.3km s-min=8.7km az=116.0*
ISC 10 18:39:49.4±1.0, 32°.22S±0°.09×178°.2W±0°.2, h24km, n32, σ1§11/39, mb4.5/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.97	5	Pn	Pn	18 40 35.9	+0.8
RAO				Sn	Sn	18 41 06.3	-3.6
RAO	Raoul Island	2.97	5	Pn	Pn	18 40 35.9	+0.8
	6.4nm,0.3s,baz=41,slow=20,SNR=2.3						
RAO				Sn	Sn	18 41 06.3	-3.6
	75nm,0.3s,baz=90,slow=20,SNR=2.8						
RAO				LR	LR	18 41 14.3	
	comp=Z,448nm,19.2s,baz=156,slow=29						
URZ	Urewera	7.14	211	Pn	Pn	18 41 31.1	-1.2
URZ				Sn	Sn	18 42 50.8	-1.8
URZ	Urewera	7.14	211	Pn	Pn	18 41 31.1	-1.2
	2.1nm,0.3s,baz=57,slow=11,SNR=4.5						
URZ				Sn	Sn	18 42 50.8	-1.8
	5.9nm,0.3s,baz=256,slow=18,SNR=9.7						
STKA	Stephens Creek	33.93	260	P	P	18 46 31.5	+0.7
STKA	Stephens Creek	33.93	260	P	P	18 46 31.5	+0.7
	1.9nm,0.8s,baz=124,slow=5.9,SNR=5.8						
CTA	Charters Tower	33.95	282	P	P	18 46 32.3	+1.2
CTA	Charters Tower	33.95	282	P	P	18 46 32.3	+1.2
	3.8nm,0.6s,baz=106,slow=10,SNR=8.3						
CTAO	Charters Tower	33.95	282	eP	P	18 46 31.7	+0.6
AS31	Alice Springs	42.86	269	eP	P	18 47 45.9	-0.1
ASAR	Alice Springs	42.86	269	P	P	18 47 46.3	+0.3
ASAR	Alice Springs	42.86	269	P	P	18 47 46.3	+0.3
	3.2nm,0.8s,baz=106,slow=7.2,SNR=27						
WRAB	Tennant Creek	44.01	274	eP	P	18 47 54.7	-0.5
	12nm,1.1s						
WRA	Warramunga Arr	44.02	274	P	P	18 47 55.4	0.0
WRA	Warramunga Arr	44.02	274	P	P	18 47 55.4	0.0
	3.5nm,0.5s,baz=113,slow=8.0,SNR=26						
SNAA	Sanae

NOA	**NORSAR Array B**	**150.51**	**351**	PKPbc	PKPbc	19 52 45.5	-0.6
	0.5nm,0.5s,baz=20,slow=4.2,SNR=3.5						
HFS	**Hagfors**	**150.98**	**348**	PKPbc	PKPbc	19 52 47.0	-0.1
	1.2nm,0.7s,baz=17,slow=10,SNR=4.2						

*SKO **10** 19:34:08.8, 41°.32N×22°.64E, h12km, M0.3, ML0.9*
*CSEM **10** 19:34:09.6±0.4, 41°.31N×22°.66E, h0km±2km, ML1.1/2, Error ellipse: s-maj=7.2km s-min=2.6km az=22.0*
THE 10 19:34:09.6, 41°.31N×22°.65E, h2km±14km, ML1.1/2, Error ellipse: s-maj=14.7km s-min=0.4km az=341.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.07**	**282**	P	Pg	19 34 10.7	-0.2
VAY				S	Sg	19 34 12.1	+0.3
VAY	**Valandovo**	**0.07**	**282**	*i* Pg	Pg	19 34 11.2	+0.3
VAY				*e*Lg	Lg	19 34 12.8	
	comp=N,94nm,0.4s						
VAY				*i* Sg	Sg	19 34 12.8	+1.0
VAY				*e*Lg	Lg	19 34 12.8	
	comp=E,104nm,0.2s						
VAY	**Valandovo**	**0.07**	**282**	P	Pg	19 34 10.7	-0.2
VAY	**Valandovo**	**0.07**	**282**	*i* Pg	Pg	19 34 11.2	+0.3
VAY				S	Sg	19 34 12.1	+0.3
VAY				*e*Lg	Lg	19 34 12.8	
	comp=E,104nm,0.2s						
KNT	**Kendrikon**	**0.23**	**128**	P	Pg	19 34 14.1	-0.1
KNT				S	Sg	19 34 17.6	+0.4
KNT	**Kendrikon**	**0.23**	**128**	P	Pg	19 34 14.1	-0.1
KNT				S	Sg	19 34 17.6	+0.4
GRG	**Griva**	**0.40**	**209**	P	Pg	19 34 17.2	-0.1
GRG				S	Sg	19 34 23.0	+0.4
GRG	**Griva**	**0.40**	**209**	P	Pg	19 34 17.2	-0.1
GRG				S	Sg	19 34 23.0	+0.4

DJA 10 19:36:55.6±1.7, 9°.S±9°.×11°.3E±°, h32km±20km, M3.5/6, MLv3.5/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.05**	**319**	P	Pn	19 37 14.1	0.0
PWJI				S	Sn	19 37 27.7	0.0
GMJI	**Gumukmas**	**1.08**	**60**	P	Pn	19 37 13.9	-0.6
GMJI				S	Sb	19 37 29.0	-0.6
SJI	**Sawahan**	**1.30**	**326**	P	Pn	19 37 17.8	+0.1
SJI				S	Sn	19 37 34.4	+0.4
PCJI	**Pacitan**	**1.45**	**295**	P	Pn	19 37 20.6	+1.0
BLJI	**Banyuglugur**	**1.52**	**45**	P	Pn	19 37 20.9	+0.3
UGM	**Wanagama**	**2.15**	**295**	P	Pn	19 37 29.6	+0.2
KMMI	**Kalianget**	**2.28**	**40**	P	Pn	19 37 30.7	-0.4

*ISCJB **10** 19:44:05.8±0.4, 38°.14N±0°.02×22°.65E±0°.03, h10km±5km, Error ellipse: s-maj=4.8km s-min=3.1km az=136.0*
*CSEM **10** 19:44:05.7±0.1, 38°.14N×22°.66E, h10km, ML1.6/3, Error ellipse: s-maj=2.3km s-min=1.6km az=38.0*
*THE **10** 19:44:06.1, 38°.14N×22°.65E, h11km±1km, ML1.6/3, Error ellipse: s-maj=1.8km s-min=0.4km az=177.0*
*ATH **10** 19:44:06.1, 38°.13N×22°.65E, h4km, MD2.8/12*
ISC 10 19:44:06.2±1.0, 38°.14N±0°.02×22°.65E±0°.02, h11km±7km, n40, σ0°.48/71, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.10**	**175**	P	Pg	19 44 08.7	-0.1
THAL				S	Sg	19 44 10.8	+0.1
THAL	**Thalero**	**0.10**	**175**	P	Pg	19 44 08.7	-0.1
THAL				S	Sg	19 44 10.8	+0.1
LTK	**Loutraki**	**0.27**	**114**	P	Pg	19 44 11.3	-0.5
LTK				S	Sg	19 44 15.9	+0.4
LTK	**Loutraki**	**0.27**	**114**	*e*PG	Pg	19 44 11.4	-0.4
LTK				*e*SG	Sg	19 44 15.6	+0.1
LTK	**Loutraki**	**0.27**	**114**	*e*Pg	Pg	19 44 11.4	-0.4
LTK				S	Sg	19 44 15.9	+0.4
DSF	**Desfina**	**0.29**	**340**	P	Pg	19 44 11.8	-0.3
DSF				S	Sg	19 44 16.4	+0.3
DSF	**Desfina**	**0.29**	**340**	P	Pg	19 44 11.8	-0.3
DSF				S	Sg	19 44 16.4	+0.3
ACOR	**Acrocorinthos**	**0.30**	**145**	P	Pg	19 44 11.8	-0.4
ACOR				S	Sg	19 44 17.0	+0.7
ACOR	**Acrocorinthos**	**0.30**	**145**	P	Pg	19 44 11.8	-0.4
ACOR				S	Sg	19 44 17.0	+0.7
GUR	**Goura**	**0.32**	**231**	P	Pg	19 44 12.3	-0.3
GUR				S	Sg	19 44 16.6	-0.3
GUR	**Goura**	**0.32**	**231**	*e*PG	Pg	19 44 12.3	-0.3
GUR				*e*SG	Sg	19 44 16.5	-0.3
GUR	**Goura**	**0.32**	**231**	P	Pg	19 44 12.3	-0.3
GUR				S	Sg	19 44 16.6	-0.2
KLV	**Kalavryta, Ach**	**0.41**	**257**	P	Pg	19 44 13.8	-0.4
KLV				S	Sg	19 44 19.9	+0.3
KLV	**Kalavryta, Ach**	**0.41**	**257**	*e*PG	Pg	19 44 13.8	-0.4
KLV				*e*SG	Sg	19 44 19.0	-0.6
KLV	**Kalavryta, Ach**	**0.41**	**257**	P	Pg	19 44 13.8	-0.4
KLV				*e*Sg	Sg	19 44 19.0	-0.6
KLV				S	Sg	19 44 19.9	+0.3
KALE	**Kalithea**	**0.48**	**302**	P	Pg	19 44 14.8	-0.7
KALE				S	Sg	19 44 22.8	+0.9
KALE	**Kalithea**	**0.48**	**302**	*e*PG	Pg	19 44 15.7	+0.2
KALE				*e*SG	Sg	19 44 22.4	+0.5
KALE	**Kalithea**	**0.48**	**302**	P	Pg	19 44 14.8	-0.7
KALE	**Kalithea**	**0.48**	**302**	*e*Pg	Pg	19 44 15.7	+0.2
KALE				*e*Sg	Sg	19 44 22.4	+0.5
KALE				S	Sg	19 44 22.8	+0.9
TRIZ	**Trizonia**	**0.51**	**297**	P	Pg	19 44 16.2	+0.1
TRIZ				S	Sg	19 44 23.1	+0.2
TRIZ	**Trizonia**	**0.51**	**297**	*e*PG	Pg	19 44 16.3	+0.1
TRIZ				*e*SG	Sg	19 44 23.2	+0.3
TRIZ	**Trizonia**	**0.51**	**297**	P	Pg	19 44 16.2	+0.1
TRIZ				S	Sg	19 44 23.1	+0.2
LAKA	**Lakka**	**0.54**	**281**	P	Pg	19 44 16.4	-0.3
LAKA				S	Sg	19 44 24.5	+0.6
LAKA	**Lakka**	**0.54**	**281**	*e*PG	Pg	19 44 16.5	-0.3
LAKA				*e*SG	Sg	19 44 23.6	-0.3
LAKA	**Lakka**	**0.54**	**281**	*e*Pg	Pg	19 44 16.5	-0.3
LAKA				*e*Sg	Sg	19 44 23.6	-0.3
LAKA				S	Sg	19 44 24.5	+0.6
LKR	**Lokris**	**0.58**	**28**	*e*PG	Pg	19 44 16.4	-1.1
LKR	**Lokris**	**0.58**	**28**	*e*Pg	Pg	19 44 16.4	-1.1
AXAR	**Agios Charalam**	**0.63**	**1**	P	Pg	19 44 17.7	-0.7
AXAR				S	Sg	19 44 27.4	+0.7
AXAR	**Agios Charalam**	**0.63**	**1**	P	Pg	19 44 17.7	-0.7
AXAR				S	Sg	19 44 27.4	+0.7
EFP	**Efpalio**	**0.66**	**297**	*e*PB	Pg	19 44 19.0	+0.1
EFP	**Efpalio**	**0.66**	**297**	*e*Pb	Pg	19 44 19.0	+0.1
NAIG	**Nisos Aigina**	**0.76**	**119**	*e*PB	Pg	19 44 21.0	+0.1
NAIG	**Nisos Aigina**	**0.76**	**119**	*e*Pb	Pg	19 44 21.0	+0.1
DID	**Didima**	**0.78**	**143**	P	Pg	19 44 20.7	-0.5
DID				S	Sb	19 44 32.9	+0.5
DID	**Didima**	**0.78**	**143**	*e*PG	Pg	19 44 20.8	-0.5
DID	**Didima**	**0.78**	**143**	P	Pg	19 44 20.7	-0.6
DID				S	Sb	19 44 32.9	+0.5
VLX	**Vlachokerasia**	**0.79**	**196**	*e*PG	Pg	19 44 21.1	-0.4
VLX	**Vlachokerasia**	**0.79**	**196**	*e*Pg	Pg	19 44 21.1	-0.4
AGG	**Agios Georgios**	**0.92**	**344**	*e*PG	Pb	19 44 24.1	-0.1
AGG	**Agios Georgios**	**0.92**	**344**	*e*Pg	Pb	19 44 24.1	-0.1

*CSEM **10** 19:44:55.9, 38°.13N×22°.63E, h4km, MD2.5, After ATH*
ATH 10 19:44:55.9, 38°.13N×22°.63E, h4km, MD2.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.29**	**112**	*e*PG	Pg	19 45 01.3	-0.2
LTK				*e*SG	Sg	19 45 05.6	+0.3
LTK	**Loutraki**	**0.29**	**112**	*e*Pg	Pg	19 45 01.3	-0.2
LTK				*e*Sg	Sg	19 45 05.6	+0.3
GUR	**Goura**	**0.30**	**230**	*e*PG	Pg	19 45 02.2	+0.4
GUR				*e*SG	Sg	19 45 06.0	+0.1
GUR	**Goura**	**0.30**	**230**	*e*Pg	Pg	19 45 02.2	+0.4
GUR				*e*Sg	Sg	19 45 06.0	+0.1
KLV	**Kalavryta, Ach**	**0.39**	**257**	*e*PG	Pg	19 45 03.6	+0.1
KLV				*e*SG	Sg	19 45 08.8	+0.1
KLV	**Kalavryta, Ach**	**0.39**	**257**	*e*Pg	Pg	19 45 03.6	+0.1
KLV				*e*Sg	Sg	19 45 08.8	+0.1
DID	**Didima**	**0.79**	**142**	*e*PB	Pg	19 45 10.9	-0.2
DID	**Didima**	**0.79**	**142**	*e*Pb	Pg	19 45 10.9	-0.2

*ISCJB **10** 19:48:45.6±0.5, 67°.09N±0°.03×20°.8E±0°.1, h0km, Error ellipse: s-maj=7.0km s-min=3.9km az=8.4*
*CSEM **10** 19:48:46.3±0.3, 67°.18N×20°.73E, h1km, ML2.1, Error ellipse: s-maj=7.0km s-min=3.9km az=112.0, Mining explosion.*
*NAO **10** 19:48:47.2±1.0, 67°.09N×21°.60E, ML2.3*
*HEL **10** 19:48:48.6±0.1, 67°.15N×21°.18E, h0km, Explosion*
*IDC **10** 19:48:48.1±0.9, 67°.09N×21°.49E, h0km, mb1 2.7/4, mb1mx2.6/29, mbtmp2.6/4, ML2.1/4, Error ellipse: s-maj=18.9km s-min=7.8km az=112.0*
*BER **10** 19:48:49.2±3.2, 67°.11N×21°.18E, h0km, ML2.1, ML2.3(NAO), Suspected explosion*
ISC 10 19:48:46.8±0.8, 67°.12N±0°.03×21°.26E±0°.04, h0km, n44, σ1°.81/62, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.98**	**16**	*e*P	**Pg**	**19 49 05.5**	**0.0**
LANU				*e*S	**Sg**	**19 49 18.6**	**+0.4**
LANU	**Lannavaara**	**0.98**	**16**	P	**Pg**	**19 49 05.5**	**0.0**
LANU				S	**Sg**	**19 49 18.6**	**+0.4**
HEF	**Hetta**	**1.59**	**34**	*e*P	**Pn**	**19 49 16.6**	**+0.5**
HEF				*e*S	**Sn**	**19 49 37.3**	**-0.1**
HEF	**Hetta**	**1.59**	**34**	P	**Pn**	**19 49 16.6**	**+0.5**
HEF				S	**Sn**	**19 49 37.2**	**-0.1**
KIF	**Kilpisjarvi**	**1.91**	**355**	*e*P	**Pn**	**19 49 22.1**	**+1.7**
KIF				*e*S	**Sb**	**19 49 46.7**	**0.0**
RNF	**Rovaniemi**	**1.95**	**103**	*e*P	**Pb**	**19 49 23.2**	**+0.2**
RNF	**Rovaniemi**	**1.95**	**103**	P	**Pb**	**19 49 23.2**	**+0.2**
KTK1	**Kautokeino**	**2.04**	**20**	*e*P	**Pb**	**19 49 25.1**	**+0.3**
KTK1				AML	AML	19 50 21.5	
	comp=Z,49nm,0.3s						
KTK1	**Kautokeino**	**2.04**	**20**	*e*P	**Pb**	**19 49 25.1**	**+0.3**
	SNR=50						
SGF	**Sodankyl**	**2.07**	**78**	*e*P	**Pb**	**19 49 25.0**	**-0.2**
SGF	**Sodankyl**	**2.07**	**78**	P	**Pb**	**19 49 25.0**	**-0.2**
OUL	**Oulu**	**2.78**	**135**	*e*P	**Pn**	**19 49 34.9**	**+2.5**
OUL				*e*S	**Sn**	**19 50 08.2**	**+1.6**
OUL	**Oulu**	**2.78**	**135**	P	**Pn**	**19 49 34.9**	**+2.5**
OUL				S	**Sn**	**19 50 08.2**	**+1.6**
MOR8	**Moi Rana**	**2.88**	**254**	*e*Sg	**Sn**	**19 50 12.5**	**+3.4**
MOR8				AML	AML	19 50 16.6	
	comp=Z,8.4nm,0.6s						
MOR8	**Moi Rana**	**2.88**	**254**	*e*Sg	**Sn**	**19 50 12.5**	**+3.4**
	comp=Z,8.4nm,0.6s,SNR=90						
ARA0	**ARCESS Array S**	**2.90**	**31**	Pn	**Pn**	**19 49 35.0**	**+0.9**
	baz=208,slow=16						
ARA0				Sn	**Sn**	**19 50 07.7**	**-1.9**
ARA0	**ARCESS Array S**	**2.90**	**31**	Pn	**Pn**	**19 49 35.0**	**+0.9**
	baz=208,slow=16						
ARA0				Sn	**Sn**	**19 50 07.7**	**-1.9**
ARA0	**ARCESS Array S**	**2.90**	**31**	Pn	**Pn**	**19 49 35.0**	**+0.9**
	baz=208,slow=14,SNR=50						
ARA0				Sn	**Sn**	**19 50 07.7**	**-1.9**
	SNR=50						
ARCES	**ARCESS Array B**	**2.90**	**31**	Pn	**Pn**	**19 49 35.5**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=210,slow=12,SNR=16						
ARCES				Lg	Lg	19 50 18.2	
	comp=Z,1.2nm,0.3s,baz=210,slow=27,SNR=7.8						
VRF	**Varrio**	**3.28**	**75**	*e*P	**Pn**	**19 49 41.5**	**+2.1**
VRF	**Varrio**	**3.28**	**75**	P	**Pn**	**19 49 41.5**	**+2.1**
MSF	**Maaselka**	**3.34**	**108**	*e*P	**Pn**	**19 49 42.1**	**+1.9**
MSF	**Maaselka**	**3.34**	**108**	P	**Pn**	**19 49 42.1**	**+1.9**
KU6	**Riekki**	**3.62**	**104**	*e*P	**Pn**	**19 49 46.2**	**+2.2**
KU6	**Riekki**	**3.62**	**104**	P	**Pn**	**19 49 46.2**	**+2.2**
KJN	**Kajaani**	**4.05**	**136**	*e*P	**Pn**	**19 49 52.2**	**+2.3**
KJN	**Kajaani**	**4.05**	**136**	P	**Pn**	**19 49 52.2**	**+2.3**
VAF	**Ylistaro**	**4.13**	**171**	*e*P	**Pn**	**19 49 53.7**	**+2.6**
VAF				*e*S	**Sn**	**19 50 41.0**	**+1.0**
VAF	**Ylistaro**	**4.13**	**171**	P	**Pn**	**19 49 53.6**	**+2.6**
VAF				S	**Sn**	**19 50 41.0**	**+1.0**
SUF	**Sumiainen**	**4.88**	**152**	*e*P	**Pn**	**19 50 04.2**	**+2.8**
SUF	**Sumiainen**	**4.88**	**152**	P	**Pn**	**19 50 04.1**	**+2.8**
KEF	**Keuruu**	**5.20**	**161**	*e*P	**Pn**	**19 50 08.3**	**+2.5**
KEF	**Keuruu**	**5.20**	**161**	P	**Pn**	**19 50 08.2**	**+2.5**
FIA0	**FINESS Array S**	**6.07**	**158**	Pn	**Pn**	**19 50 18.2**	**+0.6**
	baz=358,slow=12						
FIA0				Sn	**Sn**	**19 51 24.6**	**-3.0**
	baz=342,slow=18						
FIA0	**FINESS Array S**	**6.07**	**158**	Pn	**Pn**	**19 50 18.2**	**+0.6**
	baz=358,slow=12						
FIA0				Sn	**Sn**	**19 51 24.6**	**-3.0**
	baz=342,slow=18						
FIA0	**FINESS Array S**	**6.07**	**158**	Pn	**Pn**	**19 50 18.2**	**+0.6**
	baz=358,slow=12,SNR=50						
FINES	**FINESS Array B**	**6.07**	**158**	Pn	**Pn**	**19 50 18.4**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=349,slow=14,SNR=4.6						
FINES				Sn	**Sn**	**19 51 28.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=343,slow=22,SNR=6.4						
NB2	**NORSAR Subarra**	**7.51**	**220**	Pn	**Pn**	**19 50 38.0**	**+0.5**
	baz=33,slow=16						
NB2	**NORSAR Subarra**	**7.51**	**220**	Pn	**Pn**	**19 50 38.0**	**+0.5**
	baz=33,slow=16						
NOA	**NORSAR Array B**	**7.51**	**220**	Pn	**Pn**	**19 50 38.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=2.5						
HFS	**Hagfors**	**7.77**	**209**	Pn	**Pn**	**19 50 39.3**	**-1.6**
	baz=22,slow=12						
HFS				Sn	**Sn**	**19 52 06.5**	**-2.9**
	baz=15,slow=22						
HFS	**Hagfors**	**7.77**	**209**	Pn	**Pn**	**19 50 39.3**	**-1.6**
	baz=22,slow=12						
HFS				Sn	**Sn**	**19 52 06.5**	**-2.9**
	baz=15,slow=22						
HFS	**Hagfors**	**7.77**	**209**	Pn	**Pn**	**19 50 40.2**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=5.1						
HFS	**Hagfors**	**7.77**	**209**	Pn	**Pn**	**19 50 39.3**	**-1.6**
	baz=22,slow=12,SNR=50						
HFS				Sn	**Sn**	**19 52 06.6**	**-2.9**
	baz=15,slow=22,SNR=50						

IDC 10 19:49:09.7±0.9, 67°.10N×21°.34E, h0km, mb1 3.0/4, mb1mx2.8/29, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=18.0km s-min=7.4km az=114.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**2.90**	**30**	Pn	Pn	19 49 57.7	+0.7
	0.6nm,0.3s,baz=214,slow=14,SNR=12						
ARCES				Lg	Lg	19 50 40.0	
	1.6nm,0.3s,baz=211,slow=28,SNR=5.8						
FINES	**FINESS Array B**	**6.04**	**158**	Pn	Pn	19 50 41.3	+1.2
	0.1nm,0.3s,baz=347,slow=13,SNR=8.3						
FINES				Sn	Sn	19 51 48.3	-1.5
	0.2nm,0.3s,baz=342,slow=22,SNR=2.8						
NOA	**NORSAR Array B**	**7.52**	**221**	Pn	Pn	19 50 57.8	-2.7
	0.1nm,0.3s,baz=24,slow=19,SNR=4.4						
HFS	**Hagfors**	**7.77**	**210**	Pn	Pn	19 51 02.5	-1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=6.1						
HFS				Sn	Sn	19 52 27.8	-4.6
	0.1nm,0.3s,baz=26,slow=18,SNR=3.6						

*IDC **10** 19:55:34.5±0.3, 14°.08N×92°.88E, h0km, mb5.9/38, mb1 6.0/40, mb1mx6.0/40, mbtmp5.9/40, ML5.1/2, MS7.5/39, Ms1 7.5/39, ms1mx7.4/50, Error ellipse: s-maj=11.5km s-min=10.3km az=35.0*
*SZGRF **10** 19:55:36.6, 13°.02N×92°.55E, h33km, mb6.4, MS7.7, Andaman Islands, India, region*
*MOS **10** 19:55:37.7±1.1, 14°.04N×92°.98E, h33km, mb6.7/80, MS7.5/95, Error ellipse: s-maj=6.0km s-min=3.5km az=119.9*
*BGS **10** 19:55:37.1±1.7, 14°.18N×92°.83E, h10km, mb6.2, MS7.7*
*NEIC **10** 19:55:38.7±0.1, 14°.10N×92°.90E, h24km, mb6.9/97, ME7.5, MS7.6/146, MW7.5, MW7.5(USGS), Error ellipse: s-maj=4.6km s-min=3.7km az=211.0, Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least one large event about 20 seconds later. Depth from synthetics of broadband displacement seismograms based on the first large event. Energy computed from CMT mechanism.*
NEIC Felt [V] at Porur, [IV] at Bamboo Flat, Contai, Port Blair and Raurkela and [III] along much of the east coast of India, including Calcutta and Madras. Felt in large parts of eastern and southern India and as far as Delhi. Felt [IV] at Chittagong and [III] at Dhaka, Bangladesh. Felt [III] at Rangoon, Burma and at Kuala Lumpur, Malaysia and [II] at Male, Maldives; Kathmandu, Nepal; Bangkok and Chiang Mai, Thailand. Felt strongly at Banda Aceh, Indonesia and as far as Padang and Jakarta. Also felt in parts of Bhutan, Cambodia, Laos, Singapore, Sri Lanka and Vietnam and in Hainan, China.
*BJI **10** 19:55:38.6, 14°.22N×92°.78E, h25km, mB7.1/50, mb6.3/39, Ms7.7/78, MS7 7.5/69*
*ISCJB **10** 19:55:38.1±0.1, 14°.12N±0°.02×92°.93E±0°.01, h30km, mb6.6/350, MS7.5/290, Error ellipse: s-maj=2.7km s-min=1.8km az=22.9*
*BKK **10** 19:55:38.3±0.2, 14°.N±.2°×.9°.3E±°, h10km, M7.8/56, mb6.4/56, mB7.5/56, MLv7.2/11, Mw(mB)7.5/56, Mwp7.8/50*
*NEIC **10** 19:55:39.0±0.0, 14°.01N×92°.92E, h33km*
*TEH **10** 19:55:39.0, 14°.01N×92°.92E, h33km, ML7.6*
*DJA **10** 19:55:47.5±0.6, 14°.N±.5°×.9°.3E±°, h92km±7km, M7.4/24, mb6.4/24, mB7.4/24, MLv7.5/1, Mw(mB)7.4/24, Mwp7.2/24*
*GCMT **10** 19:56:05.0±0.1, 14°.16N×92°.94E, h22km, MW7.5, Moment Tensor Solution. s108,c244; s99,c256; Moment tensor: Scale 10^{20}Nm; M_{rr}-1.51±.01; $M_{\theta\theta}$0.49±.01; $M_{\phi\phi}$1.03±.01; $M_{r\theta}$0.38±.05; $M_{\theta\phi}$1.43; $M_{\phi r}$0.43±.04; Best double couple: $M_0$2.00000×10^{20} NP1:ϕ_s220.00000°, δ54.00000°, λ-89.00000°. NP2:ϕ_s39.00000°, δ36.00000°, λ-92.00000°. Principal axes: T 2.3000, Plg9.0000°, Azm310.0000°; N -0.7000, Plg1.0000°, Azm40.0000°; P -1.6000, Plg81.0000°, Azm136.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 110 sta. Surface waves: sta=110, comp=241, per= 50.*
*NEIC **10** 19:56:14.5±0.0, 13°.90N×92°.71E, h21km, Moment Tensor Solution. s129 Moment tensor: Scale 10^{20}Nm; M_{rr}-1.44; $M_{\theta\theta}$0.42; $M_{\phi\phi}$1.02; $M_{r\theta}$-1.06; $M_{\theta\phi}$1.30; $M_{\phi r}$-0.34; Best double couple: $M_0$2.10000×10^{20} NP1:ϕ_s193.00000°, δ36.00000°, λ-130.00000°. NP2:ϕ_s60.00000°, δ63.00000°, λ-63.00000°. Principal axes: T 2.3000, Plg14.0000°, Azm131.0000°; N -0.3500, Plg22.0000°, Azm227.0000°; P -1.9400, Plg62.0000°, Azm11.0000°;*
ISC 10 19:55:39.8±0.3, 14°.05N±0°.03×92°.87E±0°.03, h31km±1km, h30km: pP-P, n2576, σ1°.35/2618, mb6.7/347, MS7.6/291, 529C-536D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.87**	**176**	*e*P	**Pn**	**19 55 55.6**	**-0.4**
DGPR				AMB	AMB	19 56 17.1	
	comp=Z,2369μm,1.4s						
PBA	**Port Blair**	**2.38**	**183**	*e*P	Pn	19 56 15.7	-1.1
PBA				*e*P	Pb	19 56 24.3	+2.2
PHET	**Kaeng Krachan**	**6.67**	**99**	P	**Pn**	**19 57 15.2**	**-0.6**
	comp=Z,41μm,0.8s,comp=Z,553μmcomp=Z,259nm						
CMBY	**CAMPBELL BAY**	**7.07**	**171**	*e*P	**Pn**	**19 57 20.5**	**-0.9**
CMBY				AMB	AMB	19 57 37.7	
	comp=Z,16μm,1.0s						
CMAR	**Chiang Mai Arr**	**7.29**	**52**	Pn	**Pn**	**19 57 22.3**	**-2.1**
CMAR				Sn	**Sn**	**19 58 50.5**	**+4.3**
CMAR	**Chiang Mai Arr**	**7.29**	**52**	Pn	**Pn**	**19 57 22.3**	**-2.1**
	comp=Z,12nm,0.3s,baz=241,slow=15,SNR=131						
CMAR				Sn	**Sn**	**19 58 50.5**	**+4.3**
	comp=Z,230nm,0.3s,baz=238,slow=19,SNR=3.0						
CMAR				LR	LR	20 00 57.0	
	comp=Z,4214μm,21.4s,baz=238,slow=44						
CHTO	**Chiang Mai**	**7.51**	**50**	*e*P	**Pn**	**19 57 24.5**	**-2.8**
CHTO	**Chiang Mai**	**7.51**	**50**	P	**Pn**	**19 57 26.4**	**-0.9**
	SNR=232						
CHTO	**Chiang Mai**	**7.51**	**50**	*e*Pn	**Pn**	**19 57 24.5**	**-2.8**
CHTO	**Chiang Mai**	**7.51**	**50**	P	Pn	19 57 34.5	+7.2
	comp=Z,6μm,0.8s,comp=Z,198μmcomp=Z,104nm						
CHTO	**Chiang Mai**	**7.51**	**50**	P	**Pn**	**19 57 25.5**	**-1.8**
	comp=Z,138nm,0.6s,comp=Z,141μmcomp=Z,93nm						
CMMT	**Chiang Mai**	**7.51**	**50**	P	**Pn**	**19 57 25.2**	**-2.2**
	comp=Z,3μm,1.4s,comp=Z,154μmcomp=Z,86nm						
LAMP	**Lampang**	**7.87**	**55**	P	**Pn**	**19 57 30.2**	**-2.1**
	comp=Z,1μm,1.0s,comp=Z,29μmcomp=Z,26nm						
PKDT	**Phuket**	**8.14**	**138**	P	**Pn**	**19 57 38.8**	**+2.8**
	comp=Z,4μm,1.0s,comp=Z,187μmcomp=Z,27nm						
PBKT	**Sadao Pong**	**8.21**	**71**	P	**Pn**	**19 57 35.9**	**-1.0**
	comp=Z,4μm,1.1s,comp=Z,168μmcomp=Z,42nm						
CMAI	**Chiengmai2**	**8.31**	**44**	P	**Pn**	**19 57 37.1**	**-1.4**
	comp=Z,3μm,0.6s,comp=Z,189μmcomp=Z,90nm						
PAYA	**Payao**	**8.53**	**51**	P	Px	19 57 52.8	
LOEI	**Loei**	**8.78**	**66**	P	Pn	19 57 48.4	+3.6
	comp=Z,2μm,0.7s,comp=Z,135μmcomp=Z,28nm						
BSI	**Banda Aceh**	**8.83**	**164**	P	**Pn**	**19 57 47.0**	**+1.5**
	comp=Z,8μm,1.2s,comp=Z,415μm						
CHAI	**Chaiyaphum**	**9.00**	**77**	P	**Pn**	**19 57 48.0**	**+0.2**
	comp=Z,367nm,0.9s,comp=Z,18μmcomp=Z,6.2nm						
LHMI	**Lhok Sumawe**	**9.64**	**155**	P	Pn	19 58 01.0	+4.4
VIS	**Vishakhapatnam**	**9.88**	**293**	*e*P	**Pn**	**19 58 00.0**	**+0.3**
VIS				AMB	AMB	19 58 25.0	
	comp=Z,36μm,0.3s						
VIS				*ex*	x	19 59 44.8	
SHL	**Shillong**	**11.49**	**356**	*e*P	**Pn**	**19 58 18.9**	**-3.1**
SHL				AMB	AMB	19 58 54.1	
	comp=Z,8μm,2.5s						
SHL				*ex*	x	20 00 21.0	
KULM	**Kulim**	**11.60**	**138**	*e*Pn	**Pn**	**19 58 24.1**	**+0.6**
KULM	**Kulim**	**11.60**	**138**	P	**Pn**	**19 58 25.3**	**+1.9**
KULM	**Kulim**	**11.60**	**138**	P	**Pn**	**19 58 26.4**	**+3.0**
	comp=Z,9μm,1.1s,comp=Z,239μm						
BOK	**Bokaro**	**11.72**	**327**	*e*P	**Pn**	**19 58 25.1**	**0.0**
BOK				AMB	AMB	19

LSA LR LR
comp=N,1460µm,26.3s
LSA LR LR
comp=E,2610µm,26.3s
LSA LR LR
comp=Z,3090µm,21.4s
LSA Lhasa 15.65 354 *e*P **Pn 19 59 14.0 -4.7**
LSA pmax pmax
comp=Z,1µm,0.6s
LSA Lhasa 15.65 354 *e*P **Pn 19 59 14.0 -4.7**
comp=Z,1µm,0.6s
KGM Kluang 15.80 138 P **Pn 19 59 21.1 +0.8**
BKNI Bangkinang 15.86 149 P **Pn 19 59 21.0 0.0**
KOLN Koldanda 16.15 329 *e*P **Pn 19 59 20.4 -4.5**
comp=Z,32µm,0.8s
PPI Padang Panjang 16.23 152 P **Pn 19 59 24.4 -1.3**
LATR Latur 16.25 288 *e*P **Pn 19 59 24.4 -1.6**
LATR AMB AMB 19 59 32.9
comp=Z,3µm,1.7s
LATR Latur 16.25 288 *e*S Sn 20 02 15.2 -10
MYKOM Kota Tinggi 16.32 137 P **Pn 19 59 27.8 +0.9**
MYKOM Kota Tinggi 16.32 137 P **Pn 19 59 27.8 +0.9**
TRD Trivandrum 16.54 252 *e*P **Pn 19 59 30.2 +0.5**
TRD AMB AMB 20 00 00.6
comp=Z,7µm,0.3s
TRD *ex* x 20 02 29.6
DANN Dangsing 16.56 331 *e*P Pn 19 59 25.3 -4.8
comp=Z,23µm,0.8s
PYUN Piuthan 16.73 328 *e*P **Pn 19 59 28.8 -3.4**
comp=Z,31µm,0.8s
QIZ Qiongzhong 17.01 71 P **P 19 59 37.1 -0.1**
QIZ S **Sn 20 02 42.5 -1.3**
QIZ pmax pmax
comp=Z,54µm,11.6s
QIZ LR LR
comp=N,682µm,17.3s
QIZ LR LR
comp=E,790µm,19.7s
QIZ LR LR
comp=Z,1763µm,18.2s
QIZ Qiongzhong 17.01 71 *e*P **Pn 19 59 35.6 0.0**
comp=Z,2µm,0.9s
BHPL Bhopal 17.24 304 *e*P **Pn 19 59 38.6 +0.1**
BHPL AMB AMB 19 59 50.0
comp=Z,6µm,1.1s
GYA Guiyang 17.86 44⇓*i*P **Pn 19 59 46.3 0.0**
GYA pP **pP 19 59 54.0 -0.9**
GYA sP **sP 19 59 59.8 +1.0**
GYA PP **PnPn 20 00 02.4 +5.0**
GYA S **Sn 20 03 01.7 -3.0**
GYA sS **S 20 03 15.0 +4.4**
GYA SS **SnSn 20 03 25.4 +6.8**
GYA pmax pmax
comp=Z,9µm,1.2s
GYA pmax pmax
comp=Z,32µm,10.8s
GYA LR LR
comp=N,1000µm,15.0s
GYA LR LR
comp=E,889µm,17.0s
GYA LR LR
comp=Z,972µm,16.0s
GOA Goa 18.47 277 *e*P **P 19 59 53.0 -0.3**
POO Poona 18.79 286 *e*P **Pn 19 59 58.0 +0.5**
PTH Pithoragarh 19.36 325 *ex* P 19 59 57.4 -5.8
MASI Maura Aman, Be 19.45 151 P **P 20 00 03.4 -0.7**
comp=Z,18µm,1.0s,comp=Z,345µm
CD2 Chengdu 19.54 29⇓*i*P **P 20 00 04.6 -0.4**
CD2 pP **pP 20 00 13.2 0.0**
CD2 sP **sP 20 00 20.2 +3.0**
CD2 PP **PnPn 20 00 23.6 +3.3**
CD2 S **S 20 03 41.2 -3.0**
CD2 SS **SnSn 20 04 05.0 +5.4**
CD2 pmax pmax
comp=Z,226µm,6.4s
CD2 LR LR
comp=N,1854µm,17.2s
CD2 LR LR
comp=E,1645µm,16.2s
CD2 LR LR
comp=Z,1761µm,15.4s
KSI Kapahiang 20.06 151 P **P 20 00 09.6 -1.2**
comp=Z,4µm,1.0s,comp=Z,232µm
NDI New Delhi 20.57 318 *e*P **P 20 00 17.0 +0.8**
NDI *ex* x 20 08 00.0
PMBI Palembang 20.59 144 P **P 20 00 16.6 +0.1**
comp=Z,11µm,1.1s,comp=Z,311µm
HMDM Hanimaadhoo 20.66 252 P Pn 20 00 21.4 +1.7
comp=Z,5µm,1.6s,comp=Z,344µm
PPBI Pangkal Pinang 20.80 140 P **P 20 00 17.9 -0.9**
comp=Z,3µm,1.3s,comp=Z,168µm
MNAI Manna 20.85 151 P Pn 20 00 21.4 -0.6
comp=Z,6µm,0.9s,comp=Z,285µm
AJM Ajmer 21.07 309 *e*P **P 20 00 20.9 -0.7**
AJM AMb AMB 20 00 40.6
comp=Z,11µm,1.6s
AJM *ex* x 20 04 09.3
DDI Dehra Dun 21.18 322 *e*P **P 20 00 20.7 -2.2**
DDI AMB AMB 20 01 12.4
comp=Z,86µm,3.5s
DDI *ex* x 20 04 23.0
KSM Kuching 21.30 124 *e*P **P 20 00 22.2 -2.0**
comp=Z,4µm,0.9s
KSM LR LR
comp=Z,880µm,21.0s
KSM Kuching 21.30 124 P **P 20 00 24.1 -0.1**
KSM Kuching 21.30 124 P **P 20 00 23.4 -0.8**
comp=Z,528nm,1.0s,comp=Z,104µm
GZH Guangzhou 21.37 62 P P 20 00 30.7 +5.9
GZH PP **PnPn 20 00 47.1 +1.8**
GZH LR LR
comp=N,500µm,14.6s
GZH LR LR
comp=E,835µm,16.3s
GZH LR LR
comp=Z,1068µm,15.5s
LWLI Liwa 21.96 149 P **P 20 00 29.8 -1.6**
comp=Z,3µm,0.8s,comp=Z,147µm
KLSI 22.03 147 P **P 20 00 29.0 -3.0**
comp=Z,749nm,1.1s,comp=Z,74µm
TPI Tanjungpandan 22.22 138 P **P 20 00 33.5 -0.6**
comp=Z,325nm,1.3s,comp=Z,66µm
ENH Enshi 22.25 41 *e*P **P 20 00 32.8 -1.6**
comp=Z,7.0nm,0.2s
ENH LR LR
comp=Z,9µm,21.0s
SMLA Simla 22.29 322 *e*P **P 20 00 35.4 +0.7**
SMLA AMB AMB 20 01 00.7
comp=Z,11µm,1.7s
SMLA *ex* x 20 04 44.1
SBUM Sibu 22.32 119 P **P 20 00 34.9 -0.3**
SBUM Sibu 22.32 119 P **P 20 00 33.7 -1.5**
comp=Z,456nm,1.3s,comp=Z,115µm
KASI Kota Agung 22.61 149 P **P 20 00 34.2 -4.1**
comp=Z,1µm,1.0s,comp=Z,94µm
BTM Bintulu 22.68 117 P **P 20 00 39.8 +0.8**
BLSI Bandar Lampung 22.87 147 P **P 20 00 42.2 +1.2**
comp=Z,1µm,1.0s,comp=Z,77µm
BHK Bhakra 22.95 322 *ex* **P 20 00 43.2 +1.5**
BHK *ex* Sn 20 05 04.4 -2.4
STKI Sintang 23.07 125 P **P 20 00 41.6 -1.5**
comp=Z,3µm,1.3s,comp=Z,151µm
DHRM DHARAMSHALA 23.61 323 *e*P **P 20 00 48.4 -0.1**
DHRM AMB AMB 20 01 14.0
comp=Z,17µm,4.1s
BHJ Bhuj 23.79 296 *e*P **P 20 00 50.5 +0.4**
BHJ AMB AMB 20 01 17.8
comp=Z,5µm,2.7s
KAAM Kaadhehdhoo 23.84 237 P **P 20 00 55.1 +4.6**
comp=Z,3µm,2.5s,comp=Z,199µm
SBJI Serang 23.98 146 P P 20 01 01.0 +9.2
DLH Dalhousie 24.02 323 *e*P **P 20 00 51.0 -1.3**
DLH *ex* x 20 05 48.0
LZH Lanzhou 24.05 22⇓P **P 20 00 52.3 -0.2**
LZH pP **pP 20 01 02.0 +0.6**
LZH sP **sP 20 01 06.2 +1.0**
LZH S **S 20 05 08.0 -0.1**
LZH sS **sS 20 05 23.0 +0.3**
LZH pmax pmax
comp=Z,2µm,1.2s
LZH pmax pmax
comp=Z,8µm,5.9s
LZH LR LR
comp=N,978µm,14.4s
LZH LR LR
comp=E,861µm,14.5s
LZH LR LR
comp=Z,2774µm,19.8s
KKM Kota Kinabalu 24.31 107 *e*P **P 20 00 52.5 -2.6**
comp=Z,6µm,1.6s
KKM LR LR
comp=Z,392µm,20.0s
KKM Kota Kinabalu 24.31 107 P **P 20 00 54.4 -0.7**
KKM Kota Kinabalu 24.31 107 P **P 20 00 54.2 -0.8**
comp=Z,181nm,1.9s,comp=Z,93µm
KDM Kudat 24.59 104 P **P 20 00 58.0 +0.5**
XAN Xi'an 24.65 33 P **P 20 00 56.4 -1.5**
XAN pP **pP 20 01 05.8 -1.0**
XAN LR LR
comp=N,806µm,25.9s
XAN LR LR
comp=E,509µm,25.9s
XAN LR LR
comp=Z,282µm,21.7s
DBJI Dramaga 24.68 145 P **P 20 00 56.0 -2.2**
comp=Z,1µm,1.3s,comp=Z,133µmcomp=Z,956µm
SKJI Sukabumi 24.94 146 P **P 20 00 58.1 -2.6**
comp=Z,1µm,1.0s,comp=Z,105µmcomp=Z,748µm
BATP Bataraza 24.98 99 *e*P **P 20 00 58.5 -2.5**
SDKM Sandakan 25.36 107 P **P 20 01 05.7 +1.2**
LEM Lembang 25.39 144 P **P 20 01 03.6 -1.3**
comp=Z,588nm,1.1s,comp=Z,102µm
WHN Wuhan 25.70 47⇓P **P 20 01 06.8 -0.6**
WHN pP **pP 20 01 14.7 -1.5**
WHN sP **sP 20 01 20.9 +0.9**
WHN S **S 20 05 40.3 +6.1**
WHN LR LR
comp=N,883µm,13.8s
WHN LR LR
comp=E,2059µm,17.8s
WHN LR LR
comp=Z,3433µm,17.9s
GTA Gaotai 25.99 12⇑P **P 20 01 09.8 -0.3**
GTA pP **pP 20 01 19.8 +0.8**
GTA sP **sP 20 01 23.6 +0.9**
GTA S **S 20 05 40.6 +1.6**
GTA pmax pmax
comp=Z,490nm,1.2s
GTA pmax pmax
comp=Z,19µm,6.5s
GTA LR LR
comp=N,893µm,20.0s
GTA LR LR
comp=E,696µm,18.5s
GTA LR LR
comp=Z,1159µm,17.6s
ENPP El Nido 26.06 93 *e*P **P 20 01 11.3 +0.5**
CISI Cisompet, Garu 26.09 144 P **P 20 01 08.0 -3.2**
COCO West Island 26.37 171 *e*P **P 20 01 13.2 -0.3**
COCO pmax pmax
comp=Z,3µm,1.4s
COCO MLR MLR
comp=Z,693µm,19.0s
COCO West Island 26.37 171 *e*P **P 20 01 13.2 -0.3**
comp=Z,3µm,1.4s
COCO LR LR
comp=Z,693µm,19.0s
TSM Tawau 26.49 109 P **P 20 01 16.0 +1.3**
QZH Quanzhou 26.51 62 P **P 20 01 14.4 -0.4**
QZH S **S 20 05 45.0 -2.1**
QZH pmax pmax
comp=Z,5µm,1.2s
QZH pmax pmax
comp=Z,81µm,7.6s
QZH LR LR
comp=N,336µm,11.0s
QZH LR LR
comp=E,631µm,14.0s
QZH LR LR
comp=Z,1222µm,20.7s
BUSP Coron 26.70 91 *e*P **P 20 01 16.7 +0.1**
MYLDM Lahad Datu 26.74 107 P **P 20 01 16.4 -0.6**
MYLDM Lahad Datu 26.74 107 P **P 20 01 17.1 +0.2**
SIPP Brgy, Tapao 26.79 78⇑*e*P **P 20 01 17.7 +0.3**
PIP Pasuquin 26.97 77⇓*e*P P 20 01 26.8 +7.8
TGY Tagaytay City 27.22 86 P **P 20 01 21.2 -0.2**
TGY Tagaytay City 27.22 86 P **P 20 01 21.2 -0.2**
comp=Z,431nm,0.8s,baz=207,slow=8.1,SNR=16
TGY LR LR 20 11 25.5
comp=Z,2µm,21.8s,baz=116,slow=35
SJMP San Jose 27.54 90 *e*P **P 20 01 24.7 +0.5**
CUYO Cuyo Island 27.66 93 *e*P **P 20 01 25.0 -0.3**
LQP Lukban 27.80 86⇓*e*P **P 20 01 27.2 +0.4**
UGM Wanagama 27.99 140 *e*P **P 20 01 25.4 -2.7**
comp=Z,3µm,0.9s
CVP Callao Caves 28.07 79⇓*e*P **P 20 01 28.8 -0.1**
SSLB Suanglung 28.23 66 *e*P **P 20 01 30.7 +0.4**
comp=Z,3µm,1.2s
YULB Yu-li 28.43 67 *e*P **P 20 01 32.4 +0.3**
comp=Z,2µm,1.0s
GQP Guinayangan 28.69 87⇓*e*P **P 20 01 34.1 -0.3**
YHNB Yeheng 28.84 64 *e*P **P 20 01 35.7 0.0**
comp=Z,3µm,1.2s
YHNB LR LR
comp=Z,609µm,19.0s
NACB Ninganchiao 28.89 65 *e*P **P 20 01 36.6 +0.5**
comp=Z,1µm,0.9s
TATO Taipei 29.02 64 *e*P **P 20 01 36.8 -0.4**
TATO LR LR
comp=Z,571µm,19.0s
GUIM Jordan 29.22 93 *e*P **P 20 01 38.4 -0.8**
RCP Roxas 29.23 91⇑*e*P **P 20 01 39.2 0.0**
TIY Taiyuan 29.29 33 *e*P **P 20 01 38.6 -1.0**
TIY pP **pP 20 01 48.6 +0.1**
TIY sP **sP 20 01 52.3 0.0**
TIY PP **PnPn 20 02 39.4 +5.9**
TIY S **S 20 06 36.7 +5.8**
TIY pmax pmax
comp=Z,13µm,3.5s
TIY LR LR
comp=N,567µm,14.8s
TIY LR LR
comp=E,183µm,12.9s
TIY LR LR
comp=Z,637µm,19.1s
KSH Kashi 29.40 333⇑*i*P **P 20 01 39.2 -1.5**
KSH pP **pP 20 01 49.4 -0.2**
KSH sP **sP 20 01 53.2 -0.1**
KSH PP **PnPn 20 02 35.2 +0.1**
KSH S **S 20 06 27.3 -5.4**
KSH sS **sS 20 06 43.3 -4.2**
KSH SS **SnSn 20 08 00.1 -0.7**
KSH pmax pmax
comp=Z,440nm,1.2s
KSH pmax pmax
comp=Z,2µm,3.5s
KSH LR LR
comp=N,676µm,19.2s
KSH LR LR
comp=E,1461µm,20.6s
KSH LR LR
comp=Z,1246µm,20.8s
DGAR Diego Garcia 29.42 225 *i* P **P 20 01 43.3 +2.5**
DGAR Diego Garcia 29.42 225 *e*P **P 20 01 43.1 +2.3**
comp=Z,10µm,1.9s
DGAR LR LR
comp=Z,852µm,21.0s
ZMPH Zamboanga City 29.54 101⇑*e*P P 20 01 37.7 -4.3
KBL Kabul 29.66 318 *e*P **P 20 01 43.1 0.0**
KBL pmax pmax
comp=Z,1µm,0.9s
KBL Kabul 29.66 318 *e*P **P 20 01 43.1 0.0**
comp=Z,1µm,0.9s
NJ2 Nanjing 29.75 49 *e*P **P 20 01 43.7 0.0**
NJ2 pP **pP 20 01 51.8 -0.8**
NJ2 sP **sP 20 01 55.7 -0.6**
NJ2 S S 20 06 45.0 +6.9
NJ2 pmax pmax
comp=Z,130nm,1.0s
NJ2 LR LR
comp=N,1156µm,19.5s
NJ2 LR LR
comp=E,1087µm,16.8s
NJ2 LR LR
comp=Z,1135µm,23.0s
IPIL Ipil 29.80 99 *e*P **P 20 01 43.7 -0.6**
WMQ Urumqi 30.00 352 P **P 20 01 47.1 +1.3**
WMQ pP **pP 20 01 56.9 +2.2**
WMQ PP **PnPn 20 02 45.3 +2.2**
WMQ PcP **PcP 20 04 48.9 +1.3**
WMQ S **S 20 06 41.7 -0.1**
WMQ sS **sS 20 06 57.0 +0.4**
WMQ SS **SnSn 20 08 19.1 +4.0**
WMQ ScS **ScS 20 12 21.2 -1.9**
WMQ pmax pmax
comp=Z,35µm,6.0s
WMQ LR LR
comp=N,1356µm,18.0s
WMQ LR LR
comp=E,435µm,24.0s
WMQ LR LR
comp=Z,1454µm,18.0s
SNPH Sibulan 30.09 96⇓*e*P P 20 01 38.1 -8.8
DCPH Dipolog City 30.36 97⇓*e*P **P 20 01 50.7 +1.4**
BTO Baotou 30.41 26 *e*P **P 20 01 48.1 -1.4**
BTO LR LR
comp=N,354µm,15.7s
BTO LR LR
comp=E,192µm,17.6s
PAGZ Pagadian 30.56 98 *e*P P 20 01 59.2 +8.2
LLP Lapu-Lapu 30.61 93⇑*e*P **P 20 01 51.5 0.0**
LLP *e*S S 20 07 03.7 +12
TIA Tai'an 30.97 40⇓P **P 20 01 54.2 -0.2**
TIA pmax pmax
comp=Z,230nm,0.8s
TIA LR LR
comp=N,997µm,20.2s
TIA LR LR
comp=E,1028µm,21.4s
TIA LR LR
comp=Z,1598µm,19.0s
SSE Sheshan 31.03 52 P **P 20 01 53.7 -1.3**
SSE sP **sP 20 02 05.4 -2.3**
SSE S **S 20 06 58.1 -0.1**
SSE sS **sS 20 07 13.1 +0.1**
SSE LR LR
comp=N,630µm,16.6s
SSE LR LR
comp=E,505µm,16.6s
SSE LR LR
comp=Z,875µm,21.8s
OCLP Ormoc 31.11 92 *e*P **P 20 01 57.6 +1.7**
HHC Hu-ho-hao-te 31.29 28 *e*P **P 20 01 56.8 -0.5**
HHC PP **PnPn 20 03 01.0 +0.9**
HHC PcP **PcP 20 04 50.4 -0.7**
HHC S **S 20 07 01.7 -0.6**
HHC ScP **ScP 20 08 29.4 -2.7**
HHC PcS **PcS 20 08 33.3 -2.1**
HHC SS **SnSn 20 08 49.1 +2.4**
HHC ScS **ScS 20 12 24.9 -4.7**
HHC pmax pmax
comp=Z,750nm,1.1s
HHC pmax pmax
comp=Z,12µm,5.6s
HHC LR LR
comp=N,1215µm,15.6s
HHC LR LR
comp=E,848µm,15.3s
HHC LR LR
comp=Z,1108µm,15.4s
PLP Palo 31.45 92⇓*e*P P 20 02 04.8 +5.9
MSLP Maasin 31.51 93 *e*P **P 20 02 00.0 +0.7**
CTBH Cotabato--PC H 31.55 99⇑*e*P **P 20 01 58.7 -1.0**
ULHL Ulahol 31.56 336 *i* P **P 20 02 01.2 +1.4**
ULHL Ulahol 31.56 336 P **P 20 02 01.2 +1.4**
SNR=126
CGP Cagayan de Oro 31.68 97 *e*P **P 20 02 01.7 +0.8**
KZA Kyzart 31.82 335 *i* P **P 20 02 04.0 +1.7**
KZA Kyzart 31.82 335 P **P 20 02 04.0 +1.7**
SNR=159
BUKP Musuan 32.17 98 *e*P **P 20 02 06.2 +1.0**
AAA Alma-Ata 32.17 338 *i* P **P 20 02 07.7 +2.7**
AAA *e*S **S 20 07 18.4 +2.5**
AAA pmax pmax
comp=Z,77µm,3.7s
AAA MLR MLR
comp=Z,1134µm,21.0s
UCH Uchtor 32.26 334 *i* P **P 20 02 08.3 +2.1**
UCH Uchtor 32.26 334 P **P 20 02 08.3 +2.1**
SNR=28
TKM2 Tokmak 2 32.39 336 *i* P **P 20 02 07.7 +0.7**
TKM2 pmax pmax
comp=Z,2µm,1.4s
TKM2 Tokmak 2 32.39 336 P **P 20 02 08.1 +1.1**
SNR=154
TKM2 Tokmak 2 32.39 336 *e*P **P 20 02 07.2 +0.1**
comp=Z,1µm,1.0s
TKM2 LR LR
comp=Z,1128µm,21.0s
KBK Karagaybulak 32.43 335 *i* P **P 20 02 10.0 +2.7**
KBK Karagaybulak 32.43 335 P **P 20 02 10.0 +2.7**
SNR=99
BUTP Butuan 32.47 95 *e*P P 20 02 15.7 +7.9
AML Almayashu 32.53 333 *i* P **P 20 02 10.4 +1.9**
AML Almayashu 32.53 333 P **P 20 02 10.4 +1.9**
SNR=265
AAK Ala-Archa 32.60 334 *de*P **P 20 02 09.2 +0.4**
AAK pmax pmax
comp=Z,1µm,1.2s
AAK MLR MLR
comp=Z,5989µm,19.0s
AAK Ala-Archa 32.60 334 P **P 20 02 09.5 +0.6**
SNR=437
AAK Ala-Archa 32.60 334 P **P 20 02 10.9 +2.1**
SNR=148
AAK Ala-Archa 32.60 334 *e*P **P 20 02 08.9 +0.1**
comp=Z,5µm,1.8s
AAK Ala-Archa 32.60 334 LR LR 20 17 18.4
comp=Z,2731µm,21.7s,baz=110,slow=40
FRU Bishkek 32.71 335⇓*i*P **P 20 02 11.0 +1.3**
FRU pmax pmax
comp=Z,2µm,2.0s
KAPI Kappang 32.72 124 P **P 20 02 08.1 -1.9**
SNR=96
KAPI Kappang 32.72 124 *e*P **P 20 02 07.6 -2.4**
KAPI S S 20 07 33.6 +8.8
KAPI Kappang 32.72 124 S S 20 07 33.6 +8.8
comp=Z,32nm,0.9s,baz=97,slow=19,SNR=3.2
KAPI LR LR 20 17 58.4
comp=Z,356µm,19.0s,baz=254,slow=41
CHMS Chumysh 32.79 335 *i* P **P 20 02 11.8 +1.4**
CHMS Chumysh 32.79 335 P **P 20 02 11.8 +1.4**
SNR=216
DMPH Davao City--Mi 32.80 99⇑*e*P P 20 02 19.7 +9.0
DAV Davao City (W) 32.87 99 P **P 20 02 12.2 +0.9**
SNR=51
DAV Davao City (W) 32.87 99⇑*e*P **P 20 02 11.4 +0.1**
DAV Davao City (W) 32.87 99 PFAKE 20 02 20.0 +8.7
DAV LR LR
comp=Z,321µm,20.0s
EKS2 Erkin-Say 32.92 334 *e*P **P 20 02 12.4 +0.8**
EKS2 MLR MLR
comp=Z,2463µm,22.0s
EKS2 Erkin-Say 32.92 334 P **P 20 02 12.1 +0.4**
SNR=256
EKS2 Erkin-Say 32.92 334 *e*P **P 20 02 12.4 +0.8**
comp=Z,13µm,2.3s
EKS2 LR LR
comp=Z,2463µm,22.0s
BJT Baijiatuau 32.96 34 *e*P **P 20 02 11.4 -0.4**
comp=Z,2µm,0.8s
BJT LR LR
comp=Z,1022µm,20.0s
BJI Beijing 32.98 34 P **P 20 02 12.5 +0.5**
BJI S **S 20 07 31.4 +3.0**
BJI LR LR
comp=N,971µm,25.2s
BJI LR LR
comp=E,1243µm,24.2s
BJI LR LR
comp=Z,897µm,20.3s
USP Ospenovka 33.12 335 *i* P **P 20 02 13.2 0.0**
USP Ospenovka 33.12 335 P **P 20 02 13.2 0.0**
SNR=426
WBK Wadi Bani Khal 33.22 290 P P 20 02 18.7 +4.3
SNR=34
MATI Mati 33.55 99 *e*P **P 20 02 18.4 +1.1**
MK31 Makanchi Array 33.82 347 *i* P **P 20 02 18.4 -0.9**
MK31 pmax pmax
comp=Z,8µm,1.5s
MKAR Makanchi Array 33.82 347 P **P 20 02 18.6 -0.7**
MKAR pmax pmax
comp=Z,475nm,1.0s
MKAR MLR MLR
comp=Z,927µm,20.2s

MKAR	**Makanchi Array**	**33.82 347**	*e*P	**P**	**20 02 18.6**	**-0.7**
MKAR			*e*		20 33 33.6	
MKAR	**Makanchi Array**	**33.82 347**	P	**P**	**20 02 18.6**	**-0.7**
	comp=Z,474nm,1.0s,baz=156,slow=6.2,SNR=444					
MKAR			LR	LR	20 20 01.4	
	comp=Z,927μm,20.1s,baz=160,slow=43					
MKAR			P3KPbc		20 33 33.6	
	comp=Z,1.7nm,0.7s,baz=17,slow=4.5,SNR=4.6					
JMDO	**Jabal Madar**	**33.98 289**	P	P	20 02 24.7	+3.7
	SNR=27					
SMDO	**Samad**	**34.13 290**	P	**P**	**20 02 25.0**	**+2.7**
	SNR=83					
KK31	**Karatay Array**	**34.75 331**	*i* P	**P**	**20 02 27.6**	**+0.2**
KK31			pmax	pmax		
	comp=Z,3μm,1.2s					
KKAR	**Karatay Array**	**34.75 331**	*e*P	**P**	**20 02 27.1**	**-0.3**
KKAR	**Karatay Array**	**34.75 331**	*e*P	**P**	**20 02 27.1**	**-0.3**
BSY	**Bisya**	**34.86 290**	P	P	20 02 31.9	+3.3
	SNR=82					
HOQ	**Hoqain**	**34.88 291**	P	**P**	**20 02 31.3**	**+2.5**
	SNR=61					
IDAH	**Dahanechah**	**35.33 307**	*e*P	**P**	**20 02 34.3**	**+1.5**
JOW	**Kunigami**	**35.40 63**	*e*P	**P**	**20 02 33.5**	**+0.3**
	comp=Z,529nm,0.7s					
DL2	**Dalian**	**35.44 40**	P	**P**	**20 02 34.1**	**+0.7**
DL2			S	**S**	**20 08 09.2**	**+2.8**
DL2			pmax	pmax		
	comp=Z,650nm,1.3s					
DL2			pmax	pmax		
	comp=Z,46μm,3.9s					
DL2			LR	LR		
	comp=N,334μm,18.2s					
DL2			LR	LR		
	comp=E,208μm,23.1s					
DL2			LR	LR		
	comp=Z,421μm,20.8s					
SONM	**Songino Array**	**35.51 16**	P	**P**	**20 02 33.2**	**-0.8**
SONM			*e*		20 33 35.7	
SONM	**Songino Array**	**35.51 16**	P	**P**	**20 02 33.2**	**-0.8**
	comp=Z,414nm,1.1s,baz=199,slow=7.5,SNR=360					
SONM			P3KPbc		20 33 35.7	
	comp=Z,1.3nm,0.6s,baz=10,slow=2.4,SNR=6.6					
ARQ	**Araqi**	**35.56 290**	P	P	20 02 38.5	+3.8
	SNR=67					
IMON	**Monand**	**35.67 308**	*e*P	**P**	**20 02 36.3**	**+0.6**
ULN	**Ulaanbaatar**	**35.72 16**	P	**P**	**20 02 35.3**	**-0.5**
	SNR=333					
ULN	**Ulaanbaatar**	**35.72 16**	*e*P	**P**	**20 02 33.8**	**-2.0**
	comp=Z,2μm,1.1s					
ULN			LR	LR		
	comp=Z,946μm,20.0s					
IKOO	**Kooshah**	**35.88 306**	*e*P	**P**	**20 02 37.7**	**+0.2**
UOSS	**Wadi Hilu**	**36.11 293**	P	**P**	**20 02 42.0**	**+2.7**
	comp=Z,2μm,1.4s,SNR=61					
HATD	**Hatta, Dubai**	**36.16 293**	P	**P**	**20 02 42.8**	**+3.1**
	SNR=160					
ASHO	**Ashiyiah**	**36.20 293**	P	**P**	**20 02 43.0**	**+2.9**
	SNR=124					
BANOM	**Banah**	**36.22 295**	P	P	20 02 44.0	+3.8
	SNR=24					
ITEG	**Tejag**	**36.26 307**	*e*P	**P**	**20 02 42.4**	**+1.7**
IBND	**Bandar-abas**	**36.35 297**	*e*P	**P**	**20 02 44.3**	**+3.0**
IBND			*e*P	P	20 02 44.5	+3.2
NAZ	**Nazwa, Dubai**	**36.60 293**	P	**P**	**20 02 45.6**	**+2.0**
	SNR=51					
ASUD	**Al Ashush, Dub**	**36.84 292**	P	**P**	**20 02 48.3**	**+2.8**
	SNR=91					
HVS	**Khovu-Aksy**	**36.99 1***c*	*i* P	**P**	**20 02 45.7**	**-0.9**
HVS			pmax	pmax		
	comp=Z,4μm,1.3s					
HVS			MLR	MLR		
	comp=Z,3313μm,23.0s					
ZAK	**Zakamensk**	**37.21 11**	*e*P	**P**	**20 02 48.4**	**0.0**
ZAK			pmax	pmax		
	comp=Z,690nm,1.4s					
RBK	**Rabkut**	**37.32 280**	P	P	20 02 53.8	+4.0
	SNR=12					
INCN	**Inchon**	**38.00 46**	P	P	20 03 03.6	+8.3
	SNR=28					
INCN	**Inchon**	**38.00 46**	*e*P	**P**	**20 02 54.8**	**-0.5**
	comp=Z,1μm,1.8s					
INCN			LR	LR		
	comp=Z,1250μm,19.0s					
MOY	**Mondy**	**38.09 8**	*e*P	**P**	**20 02 56.1**	**+0.3**
MOY			pmax	pmax		
	comp=Z,4μm,3.7s					
ABTO	**Aybut**	**38.19 280**	P	P	20 03 00.3	+3.2
	SNR=19					
KURBB	**Kurchatov Arra**	**38.29 345**	P3KPbc		20 33 18.2	
	comp=Z,1.1nm,0.2s,baz=315,slow=4.1,SNR=5.6					
SNY	**Shenyang**	**38.38 38**	‖P	**P**	**20 02 58.4**	**+0.1**
SNY			S	**S**	**20 08 56.1**	**+4.9**
SNY			pmax	pmax		
	comp=Z,3μm,4.2s					
SNY			LR	LR		
	comp=E,1132μm,17.6s					
SNY			LR	LR		
	comp=Z,1181μm,19.0s					
TLY	**Talaya**	**38.52 11***d*	*i*P	**P**	**20 03 00.2**	**+0.8**
TLY			*e*		20 04 59.0	
TLY			*e*PPP	PPP	20 05 18.3	
TLY			*e*		20 08 42.9	
TLY			pmax	pmax		
	comp=Z,2μm,2.0s					
TLY			MLR	MLR		
	comp=Z,1022μm,18.0s					
TLY	**Talaya**	**38.52 11**	P	**P**	**20 03 00.6**	**+1.2**
	comp=Z,1μm,0.8s,SNR=78					
KSAR	**Wonju Array Be**	**38.86 47**	P	**P**	**20 03 01.9**	**-0.5**
KSAR			P'P'		20 35 34.8	
KSRS	**Korea Array**	**38.89 47**	P	**P**	**20 03 01.9**	**-0.7**
	comp=Z,50nm,1.0s,baz=244,slow=9.3,SNR=115					
KSRS			LR	LR	20 22 05.1	
	comp=Z,1562μm,18.2s,baz=247,slow=41					
KSRS			PKPPKP	P'P'df	20 35 34.8	-6.0
	comp=Z,4.8nm,0.9s,baz=348,slow=2.7,SNR=5.3					
BATI	**Baumata**	**38.91 127**	S	**S**	**20 09 01.7**	**+2.0**
	comp=Z,209nm,0.8s,baz=219,slow=18,SNR=3.3					
IRK	**Irkutsk**	**39.18 11**	*e*P	**P**	**20 03 05.2**	**+0.3**
IRK			*e*		20 03 23.3	
IRK			pmax	pmax		
	comp=Z,575nm,1.9s					
JNU	**Nakatsue**	**39.39 55**	*e*P	**P**	**20 03 07.4**	**+0.4**
	comp=Z,3μm,2.0s					
JNU	**Nakatsue**	**39.39 55**	P	**P**	**20 03 07.0**	**+0.1**
	comp=Z,56nm,0.8s,baz=239,slow=6.4					
JNU			LR	LR	20 21 01.9	
	comp=Z,683μm,19.4s,baz=250,slow=39					
ISRV	**Sarvestan**	**39.74 299**	*e*P	P	20 03 16.2	+5.9
IPAR	**Pars**	**39.91 300**	*e*P	**P**	**20 03 12.4**	**+0.7**
ZAA0	**Zalesovo Array**	**40.31 353**	*e*P	**P**	**20 03 12.7**	**-1.5**
ZALV	**Zalesovo Beam**	**40.31 353**	P	**P**	**20 03 13.0**	**-1.2**
ZALV			pmax	pmax		
	comp=Z,381nm,1.0s					
ZALV			MLR	MLR		
	comp=Z,769μm,20.6s					
ZALV	**Zalesovo Beam**	**40.31 353**	P	**P**	**20 03 13.0**	**-1.2**
ZALV			*e*		20 33 20.2	
ZALV			PKKKP		20 34 45.5	
ZALV			P'P'		20 35 42.5	
ZALV	**Zalesovo Beam**	**40.31 353**	P	**P**	**20 03 13.0**	**-1.2**
	comp=Z,380nm,1.0s,baz=175,slow=7.6,SNR=298					
ZALV			LR	LR	20 22 44.7	
	comp=Z,769μm,20.6s,baz=164,slow=40					
ZALV			P3KPbc		20 33 20.2	
	comp=Z,4.3nm,0.8s,baz=341,slow=2.3,SNR=3.5					
ZALV			P3KP		20 34 45.5	
	comp=Z,6.0nm,1.1s,baz=298,slow=3.2,SNR=4.4					
ZALV			PKPPKP	**P'P'df**	**20 35 42.5**	**+4.2**
	comp=Z,13nm,0.9s,baz=320,slow=3.9,SNR=4.5					
CN2	**Changchun**	**40.67 37**	*e*P	**P**	**20 03 16.6**	**-0.7**
CN2			*e*sP	**sP**	**20 03 29.4**	**-0.8**
CN2			*e*PP	**PnPn**	**20 04 53.9**	**-1.6**
CN2			*e*S	**S**	**20 09 26.2**	**+0.8**
CN2			pmax	pmax		
	comp=Z,2μm,1.2s					
CN2			pmax	pmax		
	comp=Z,50μm,6.0s					
IANJ	**Anjilo**	**40.94 308**	*e*P	**P**	**20 03 22.2**	**+2.2**
IZEF	**Zefreh**	**41.33 304**	*e*P	**P**	**20 03 24.3**	**+1.0**
CIT	**Chita**	**41.35 19**	*e*P	**P**	**20 03 22.8**	**-0.1**
CIT			*e*		20 05 37.3	
CIT			*e*		20 09 33.3	
CIT			pmax	pmax		
	comp=Z,8μm,2.3s					
IGLO	**Ghaloghah**	**41.39 310**	*e*P	**P**	**20 03 25.7**	**+2.0**
NVS	**Novosibirsk**	**41.39 352**⇑	*i*P	**P**	**20 03 22.0**	**-1.1**
NVS			*i* S	**S**	**20 09 32.2**	**-3.6**
IGAR	**Gharneh**	**41.42 303**	*e*P	**P**	**20 03 25.7**	**+1.7**
HIA	**Hailar**	**41.47 27**	*e*P	**P**	**20 03 23.3**	**-0.5**
	comp=Z,11μm,2.1s					
HIA			LR	LR		
	comp=Z,788μm,20.0s					
MSEY	**Mahe Island**	**41.50 246**	P	P	20 03 28.7	+4.1
	SNR=12					
MSEY	**Mahe Island**	**41.50 246**	*e*P	P	20 03 28.6	+4.1
	comp=Z,1μm,1.2s					
MSEY			LR	LR		
	comp=Z,979μm,20.0s					
ISHM	**Shahmirzad**	**41.53 309**	*e*P	**P**	**20 03 26.9**	**+1.9**
ILAS	**Lasjerd**	**41.64 308**	*e*P	**P**	**20 03 26.7**	**+0.9**
KRAR	**Krasnoyarsk**	**41.87 0***d*	*i*P	**P**	**20 03 28.5**	**+1.5**
KRAR			pmax	pmax		
	comp=Z,831nm,1.3s					
KRAR			MLR	MLR		
	comp=Z,422μm,22.0s					
IALA	**Alasht**	**42.00 309**	*e*P	**P**	**20 03 30.4**	**+1.6**
IKLH	**Kolahrood**	**42.06 304**	*e*P	**P**	**20 03 30.9**	**+1.6**
MUKL	**Al Mukalla**	**42.44 276**‖	*e*P	**P**	**20 03 34.0**	**+1.8**
BVAR	**Borovoye Array**	**42.78 340**	P	**P**	**20 03 33.4**	**-1.2**
BVAR			pmax	pmax		
	comp=Z,219nm,1.0s					
BVAR	**Borovoye Array**	**42.78 340**	P	**P**	**20 03 33.4**	**-1.2**
BVAR			*e*		20 33 07.3	
BVAR			P'P'		20 35 37.0	
BVAR	**Borovoye Array**	**42.78 340**	P	**P**	**20 03 33.4**	**-1.2**
	comp=Z,219nm,1.0s,baz=139,slow=7.9,SNR=324					
BVAR			P3KPbc		20 33 07.3	
	comp=Z,2.4nm,0.7s,baz=336,slow=5.3,SNR=8.5					
BVAR			PKPPKP	**P'P'df**	**20 35 37.0**	**+1.4**
	comp=Z,6.8nm,1.1s,baz=254,slow=1.1,SNR=3.7					
BRVK	**Borovoye**	**42.84 340**	*e*P	**P**	**20 03 33.9**	**-1.1**
BRVK			pmax	pmax		
	comp=Z,941nm,0.8s					
BRVK			MLR	MLR		
	comp=Z,790μm,20.0s					
BRVK	**Borovoye**	**42.84 340**	P	**P**	**20 03 34.6**	**-0.4**
	SNR=237					
BRVK	**Borovoye**	**42.84 340**	*e*P	**P**	**20 03 33.9**	**-1.1**
	comp=Z,941nm,0.8s					
BRVK			LR	LR		
	comp=Z,790μm,20.0s					
MDJ	**Mudanjiang**	**43.58 38**	P	**P**	**20 03 41.6**	**+0.5**
MDJ			pP	**pP**	**20 03 50.4**	**+0.1**
MDJ			sP	**sP**	**20 03 54.0**	**0.0**
MDJ			pmax	pmax		
	comp=Z,750nm,1.9s					
MDJ			pmax	pmax		
	comp=Z,33μm,10.9s					
MDJ			LR	LR		
	comp=N,549μm,33.9s					
MDJ			LR	LR		
	comp=E,341μm,29.1s					
MDJ			LR	LR		
	comp=Z,724μm,21.8s					
MDJ	**Mudanjiang**	**43.58 38**	*e*P	**P**	**20 03 40.9**	**-0.2**
	comp=Z,2μm,1.5s					
MDJ			LR	LR		
	comp=Z,687μm,19.0s					
MBWA	**Marble Bar**	**43.82 142**	P	**P**	**20 03 41.8**	**-1.5**
	SNR=88					
MBWA	**Marble Bar**	**43.82 142**	*e*P	**P**	**20 03 40.6**	**-2.7**
	comp=Z,2μm,1.1s					
MBWA			LR	LR		
	comp=Z,322μm,21.0s					
VLA	**Vladivostok**	**44.24 41***d*	*i*P	**P**	**20 03 46.3**	**-0.1**
VLA			pmax	pmax		
	comp=Z,282nm,1.3s					
VLA			MLR	MLR		
	comp=Z,983μm,19.0s					
AB31	**Akbulak array**	**44.28 329**	*i* P	**P**	**20 03 46.4**	**-0.2**
AB31			pmax	pmax		
	comp=Z,4μm,1.1s					
KBD	**Kabd**	**44.33 297**	*e*P	**P**	**20 03 48.3**	**+0.9**
KBD			AMb	AMB	20 04 12.3	
	comp=Z,2μm,1.0s					
UMR	**Umm Al-Rimmam**	**44.38 298**	*e*P	**P**	**20 03 48.6**	**+0.9**
UMR			AMb	AMB	20 04 12.4	
	comp=Z,2μm,1.2s					
RDF	**Al-Radifah**	**44.41 297**	*e*P	**P**	**20 03 49.2**	**+1.2**
RDF			AMb	AMB	20 04 13.0	
	comp=Z,4μm,1.0s					
NAY	**Al-Naaiem**	**44.73 297**	*e*P	**P**	**20 03 51.4**	**+0.8**
NAY			AMb	AMB	20 04 15.2	
	comp=Z,2μm,1.0s					
USRK	**Ussuriysk Arra**	**44.83 40**	P	**P**	**20 03 50.1**	**-1.0**
	comp=Z,85nm,1.1s,baz=247,slow=8.0,SNR=118					
USRK			LR	LR	20 25 27.6	
	comp=Z,603μm,19.2s,baz=87,slow=40					
USRK			PKPPKP	**P'P'df**	**20 35 30.1**	**-3.6**
	comp=Z,7.7nm,0.9s,baz=338,slow=3.1,SNR=6.9					
FITZ	**Fitzroy Crossi**	**45.44 134**	S	S	20 10 43.1	+7.1
	comp=Z,55nm,0.9s,baz=180,slow=19,SNR=2.2					
FITZ			PKPPKP	**P'P'df**	**20 35 25.6**	**-2.9**
	comp=Z,10nm,1.0s,baz=140,slow=4.0,SNR=5.7					
IKOM	**Komasi**	**45.55 304**	*e*P	**P**	**20 03 58.0**	**+0.8**
RAYN	**Ar Rayn**	**45.65 289**	*e*P	**P**	**20 03 58.1**	**+0.1**
	comp=Z,16μm,3.0s					
BDHA	**Al Bayda'**	**45.83 276**⇑	*e*P	**P**	**20 04 01.6**	**+1.8**
AKTO	**Aktyubinsk**	**45.99 329**	*i* P	**P**	**20 03 59.3**	**-0.9**
AKTO			pmax	pmax		
	comp=Z,2μm,0.9s					
AKTO	**Aktyubinsk**	**45.99 329**	P	**P**	**20 03 59.5**	**-0.7**
AKTO	**Aktyubinsk**	**45.99 329**	P	**P**	**20 03 59.5**	**-0.7**
	comp=Z,213nm,0.9s,baz=123,slow=8.4,SNR=248					
AKTO			LR	LR	20 25 17.6	
	comp=Z,699μm,21.8s,baz=343,slow=39					
LBOS		**46.15 276**‖	*e*P	**P**	**20 04 04.2**	**+1.8**
LBOS			AMb	AMB	20 04 07.3	
	comp=Z,4μm,1.3s					
IVIS	**Veis**	**46.17 305**	*e*P	**P**	**20 04 02.7**	**+0.7**
ILIN	**Lien**	**46.18 305**	*e*P	**P**	**20 04 02.2**	**-0.1**
MAT	**Matsushiro**	**46.18 53**	P	**P**	**20 04 01.1**	**-0.9**
MJAR	**Matsushiro Arr**	**46.18 53**	P	**P**	**20 04 01.7**	**-0.3**
MJAR			PcP	**PcP**	**20 05 38.2**	**+0.6**
MJAR			P'P'		20 35 29.9	
MJAR	**Matsushiro Arr**	**46.18 53**	P	**P**	**20 04 01.7**	**-0.3**
	comp=Z,53nm,0.9s,baz=265,slow=8.9,SNR=133					
MJAR			PcP	**PcP**	**20 05 38.2**	**+0.6**
	comp=Z,48nm,0.8s,baz=222,slow=5.2,SNR=2.5					
MJAR			LR	LR	20 25 37.1	
	comp=Z,717μm,19.9s,baz=255,slow=39					
MJAR			PKPPKP	**P'P'df**	**20 35 29.9**	**-2.4**
	comp=Z,13nm,1.1s,baz=314,slow=0.8,SNR=5.6					
IGHG	**Ghaleghazi**	**46.35 304**	*e*P	**P**	**20 04 03.9**	**+0.3**
IDHR	**Dehrash**	**46.58 305**	*e*P	**P**	**20 04 05.8**	**+0.4**
IBDR	**Badra**	**46.58 302**	*i* P	**P**	**20 04 06.0**	**+0.8**
IBDR			*i* PP	PP	20 06 06.0	+11
IBDR			*i* S	S	20 11 07.0	+15
IBDR			*i* SS	SnSn	20 14 44.0	-12
DHBB	**Dhamar BB**	**46.91 277**⇑	*e*P	**P**	**20 04 10.1**	**+1.8**
TRBA	**At Turbah**	**47.32 275**	*e*P	**P**	**20 04 13.3**	**+1.9**
KLR	**Kul'dur**	**47.36 34**	*e*P	P	20 04 05.7	-5.2
KLR			*e*		20 04 23.2	
KLR			pmax	pmax		
	comp=N,70nm,1.8s					
KLR			pmax	pmax		
	comp=E,200nm,1.8s					
KLR			pmax	pmax		
	comp=Z,350nm,1.8s					
UDYN	**Al 'Udayn**	**47.38 276**⇑	*e*P	**P**	**20 04 13.4**	**+1.6**
BHD	**Baghdad**	**47.89 302**	*i* P	**P**	**20 04 16.0**	**+0.7**
MAK	**Makhachkala**	**48.37 316***d*	*i*P	**P**	**20 04 20.4**	**+1.6**
MAK			*e*		20 05 41.6	
MAK			*e*		20 06 09.2	
MAK			*e*PPP	PPP	20 07 00.7	
MAK			*e*S	S	20 11 23.9	+6.7
MAK			*e*SS	**SS**	**20 14 47.6**	**+0.5**
MAK			*e*SSS	SSS	20 15 58.3	
MAK			MLR	MLR		
	comp=E,317μm,18.0s					
MAK			MLR	MLR		
	comp=Z,313μm,20.0s					
MAK			MLR	MLR		
	comp=N,293μm,17.0s					
MRIV	**Mauritius Mete**	**48.73 226**	*e*P	**P**	**20 04 24.5**	**+2.6**
ATD	**Arta Tunnel**	**48.77 273**	LR	LR	20 23 47.8	
	comp=N,221μm,18.7s,baz=161,slow=35					
HABR	**Khabarovsk**	**48.80 36***d*	*i*P	**P**	**20 04 21.0**	**-1.1**
HABR			*e*PP	**pP**	**20 04 29.0**	**-2.4**
HABR			*e*SP	**sP**	**20 04 33.2**	**-1.8**
HABR					20 06 13.0	
HABR			*e*PPP	PPP	20 07 03.1	
HABR			*e*SS	**sS**	**20 11 37.0**	**-1.5**
HABR					20 14 09.2	
HABR			*e*SS	**SS**	**20 14 52.2**	**-1.7**
HABR			*e*SSS	SSS	20 16 07.1	
HABR			pmax	pmax		
	comp=N,74nm,1.4s					
HABR			pmax	pmax		
	comp=Z,414nm,1.4s					
HABR			pmax	pmax		
	comp=E,283nm,2.1s					
HABR			pmax	pmax		
	comp=Z,19μm,3.8s					
HABR			MLR	MLR		
	comp=N,631μm,22.0s					
HABR			MLR	MLR		
	comp=Z,727μm,19.0s					
HABR			MLR	MLR		
	comp=E,607μm,17.0s					
SVE	**Sverdlovsk**	**49.24 337***c*	*e*P	**P**	**20 04 24.9**	**-0.5**
SVE			*e*		20 06 19.5	
SVE			*e*S	**S**	**20 11 25.8**	**-3.4**
SVE			pmax	pmax		
	comp=Z,6μm,1.6s					
SVE			pmax	pmax		
	comp=Z,60μm,21.5s					
DGRG	**David-gareji**	**49.31 313**	P	**P**	**20 04 29.0**	**+2.8**
GNI	**Garni**	**49.35 311**	*e*P	P	20 04 30.0	+3.3
GNI	**Garni**	**49.35 311**	P	**P**	**20 04 28.8**	**+2.1**
	SNR=244					
GNI	**Garni**	**49.35 311**	*e*P	**P**	**20 04 27.8**	**+1.1**
	comp=Z,9μm,1.2s					
GNI			LR	LR		
	comp=Z,675μm,20.0s					
CUKT	**Cukurca**	**49.40 307**	*e*P	**P**	**20 04 28.0**	**+0.9**
HAKT	**HAKKARI**	**49.40 308**	*i* Pn	**P**	**20 04 28.6**	**+1.4**
CLDR	**Caldiran**	**49.66 310**	*e*P	**P**	**20 04 29.6**	**+0.5**
ARU	**Arti**	**49.76 336***d*	*i*P	**P**	**20 04 28.2**	**-1.1**
ARU					20 05 46.6	
ARU					20 06 18.5	
ARU			S	**S**	**20 11 36.0**	**-0.5**
ARU			pmax	pmax		
	comp=Z,876nm,1.2s					
ARU			MLR	MLR		
	comp=Z,1224μm,23.0s					
ARU	**Arti**	**49.76 336**	P	**P**	**20 04 28.2**	**-1.1**
	comp=Z,3μm,1.0s					
TBLG	**Delisi**	**49.85 313**	*e*P	**P**	**20 04 32.2**	**+1.9**
TBLG	**Delisi**	**49.85 313**	P	**P**	**20 04 32.2**	**+1.9**
KZR	**Kazreti**	**49.97 313**	P	**P**	**20 04 33.2**	**+2.0**
DUS	**Dusheti**	**49.99 314**	P	P	20 04 44.7	+13
GEVA	**Gevas**	**50.09 308**	*i* Pn	**P**	**20 04 34.0**	**+1.6**
GUDG	**Gudauri**	**50.27 314**	P	**P**	**20 04 35.1**	**+1.3**
SIRT	**Sirnak**	**50.36 307**	*e*P	**P**	**20 04 34.7**	**+0.4**
SIRN	**S¨–rnak**	**50.38 307**	*e*Pn	**P**	**20 04 34.3**	**-0.1**
GUMO	**Guam**	**50.41 84**	*e*P	**P**	**20 04 33.3**	**-1.6**
	comp=Z,100nm,1.4s					
GUMO			LR	LR		
	comp=Z,16μm,21.0s					
DIGO	**Kars**	**50.42 311**	*i* Pn	**P**	**20 04 37.1**	**+2.1**
RER	**Riviere de l'E**	**50.53 227**	PFAKE		20 04 50.0	+14
RER			LR	LR		
	comp=Z,216μm,21.0s					
TUTA	**Tutak**	**50.56 310**	*i* Pn	**P**	**20 04 38.0**	**+2.1**
AKH	**Akhalkalaki**	**50.63 312**	P	**P**	**20 04 38.7**	**+2.3**
TATV	**Tatvan**	**50.74 308**	*i* Pn	**P**	**20 04 39.1**	**+1.8**
ZEI	**Tsey**	**50.78 314**	*e*P	**P**	**20 04 35.5**	**-2.0**
ZEI			*e*S	**S**	**20 11 49.5**	**-2.0**
ZEI			pmax	pmax		
	comp=Z,936nm,1.2s					
ZEI			pmax	pmax		
	comp=N,1μm,1.1s					
ZEI			pmax	pmax		
	comp=E,704nm,0.8s					
ZEI			MLR	MLR		
	comp=Z,228μm,17.0s					
ONI	**Oni**	**51.03 314**	P	**P**	**20 04 41.5**	**+2.2**
BEST	**Besiri**	**51.35 307**	*e*Pn	**P**	**20 04 43.7**	**+1.9**
HOMI	**Horasan**	**51.40 310**	*i* Pn	**P**	**20 04 44.6**	**+2.3**
ERM	**Erimo**	**51.47 47***c*	*i*P	**P**	**20 04 43.2**	**+0.8**
ERM			MLR	MLR		
	comp=Z,658μm,22.0s					
ERM	**Erimo**	**51.47 47**	*e*P	**P**	**20 04 42.7**	**+0.2**
	comp=Z,4μm,1.7s					
ERM			LR	LR		
	comp=Z,571μm,20.0s					
MARD	**Mardin**	**51.61 307**	*i* Pn	**P**	**20 04 44.7**	**+0.9**
DAGI	**Agillar**	**51.68 312**	*i* Pn	**P**	**20 04 46.5**	**+2.3**
BNGL	**BINGOL**	**51.69 309**	*i* Pn	**P**	**20 04 46.4**	**+2.0**
ARTV	**Artvin**	**51.70 312**	*i* Pn	**P**	**20 04 46.3**	**+1.8**
ASAJ	**Asahikawa**	**51.74 44**	*e*P	**P**	**20 04 43.8**	**-0.6**
	comp=Z,1μm,1.1s					
ASAJ			P'P'		20 35 13.0	
ASAJ	**Asahikawa**	**51.74 44**	P	**P**	**20 04 42.6**	**-1.9**
	comp=Z,153nm,1.1s,baz=260,slow=8.9,SNR=68					
ASAJ			LR	LR	20 28 33.2	
	comp=Z,560μm,20.6s,baz=95,slow=38					
ASAJ			PKPPKP	P'P'df	20 35 13.0	-12
	comp=Z,7.6nm,0.8s,baz=300,slow=18,SNR=3.9					
ERZM	**Erzurum**	**51.77 310**	*e*P	**P**	**20 04 47.1**	**+2.1**
EZM	**Erzurum**	**51.77 310**	*e*P	**P**	**20 04 48.1**	**+3.0**
KBZ	**Khabaz**	**51.78 315**	P	**P**	**20 04 43.7**	**-1.0**
KBZ			pmax	pmax		
	comp=Z,173nm,1.0s					
KBZ			MLR	MLR		
	comp=Z,630μm,20.4s					
KBZ	**Khabaz**	**51.78 315**	P	**P**	**20 04 43.7**	**-1.0**
KBZ			⇑*e*		20 35 32.5	
KBZ	**Khabaz**	**51.78 315**	P	**P**	**20 04 43.7**	**-1.0**
	comp=Z,173nm,1.0s,baz=104,slow=6.2,SNR=118					
KBZ			LR	LR	20 31 23.5	
	comp=Z,630μm,20.4s,baz=109,slow=42					
KBZ			PKP2bc		20 35 32.5	
	comp=Z,1.8nm,0.8s,baz=246,slow=7.0,SNR=4.2					
DBAD	**Bademkaya**	**51.82 311**	*i* Pn	**P**	**20 04 47.4**	**+2.1**
DBOC	**Borcka**	**51.93 312**	*i* Pn	**P**	**20 04 47.6**	**+1.6**
BCA	**Borcka**	**51.99 312**	*e*P	**P**	**20 04 47.5**	**+1.1**
KIV	**Kislovodsk**	**52.00 315**	*e*P	**P**	**20 04 46.6**	**+0.1**
KIV			*e*		20 06 51.1	
KIV			*e*S	**S**	**20 12 09.0**	**+0.9**
KIV			pmax	pmax		
	comp=Z,1μm,1.1s					
KIV			pmax	pmax		
	comp=Z,2μm,5.7s					
KIV			MLR	MLR		
	comp=Z,598μm,17.0s					
KIV	**Kislovodsk**	**52.00 315**	P	**P**	**20 04 47.4**	**+0.9**
	comp=Z,6μm,1.1s					
BNGB	**Bing¶l**	**52.06 309**	*e*P	**P**	**20 04 47.9**	**+0.8**
DIY	**Diyarbakir**	**52.16 307**	*e*P	**P**	**20 04 50.6**	**+2.8**
NWAO	**Narrogin (SRO)**	**52.20 154**	P	**P**	**20 04 48.1**	**+0.2**
	SNR=57					
NWAO	**Narrogin (SRO)**	**52.20 154**	*e*P	**P**	**20 04 45.9**	**-2.0**
	comp=Z,2μm,0.9s					
NWAO			S	S	20 12 17.0	+6.3
NWAO	**Narrogin (SRO)**	**52.20 154**	S	S	20 12 17.0	+6.3
	comp=Z,36nm,0.8s,baz=358,slow=22,SNR=4.1					
NWAO			LR	LR	20 29 09.2	
	comp=Z,322μm,18.8s,baz=331,slow=39					
**DIYA

YSS pmax pmax
comp=N,1μm,4.0s
YSS pmax pmax
comp=E,1μm,4.0s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS MLR MLR
comp=E,349μm,18.0s
YSS MLR MLR
comp=Z,216μm,18.0s
YSS MLR MLR
comp=N,260μm,16.0s
ERZN Erzincan 52.92 309 *e*P **P 20 04 53.3 -0.2**
WRA Warramunga Arr 52.97 129 P **P 20 04 51.2 -2.7**
WRA S **S 20 12 16.6 -5.0**
WRA PKKP **PKKPdf 20 27 00.4 -0.1**
WRA P'P' 20 35 10.4
WRA ⇑*e* 20 35 34.0
WRA Warramunga Arr 52.97 129 P **P 20 04 51.2 -2.7**
comp=N,192nm,1.0s,baz=322,slow=6.1,SNR=162
WRA S **S 20 12 16.6 -5.0**
comp=N,103nm,1.2s,baz=302,slow=14,SNR=5.5
WRA PKKP **PKKPdf 20 27 00.4 -0.1**
comp=N,1.9nm,0.5s,baz=326,slow=2.8,SNR=6.8
WRA PKPPKP P'P'df 20 35 10.4 -8.5
comp=N,9.5nm,0.9s,baz=178,slow=2.0,SNR=7.2
WRA PKP2bc 20 35 34.0
comp=N,30nm,1.0s,baz=184,slow=2.4,SNR=5.4
WRAB Tennant Creek 52.97 129 *e*P **P 20 04 50.9 -3.0**
WRAB MLR MLR
comp=Z,199μm,21.0s
WRAB Tennant Creek 52.97 129 *e*P **P 20 04 50.9 -3.0**
comp=Z,24nm,3.5s
WRAB LR LR
comp=Z,199μm,21.0s
SVRC Sivrice-ELAZID 52.97 308 *e*P **P 20 04 54.6 +0.7**
PTK Pertek 53.02 308 *e*P **P 20 04 55.5 +1.2**
URFA Urfa 53.16 306 *e*P **P 20 04 56.7 +1.5**
MACK Trabzon 53.21 311 *i* Pn **P 20 04 57.0 +1.6**
EZC Erzincan 53.23 309 *e*P **P 20 04 56.8 +1.0**
GUMT Gumushane 53.30 310 *e*P **P 20 04 58.7 +2.4**
KELT Kelkit 53.40 310 *i* Pn **P 20 04 59.1 +2.0**
ATAB Bozova 53.58 306 *i* Pn **P 20 04 59.3 +1.1**
MALT Malatya 53.64 307 PFAKE 20 05 10.0 +11
MALT LR LR
comp=Z,858μm,21.0s
MYA Malataya 53.64 307 *e*P **P 20 05 00.9 +2.1**
WNDE Wendo Genet 53.66 269 *e*P **P 20 05 01.7 +2.3**
WNDE *e*S S 20 12 00.3 -32
ILIC ilic-Erzincan 53.76 309 *e*P **P 20 04 58.7 -0.9**
KEMA Kemaliye 53.78 309 *i* Pn **P 20 05 01.6 +1.8**
SOC Sochi 53.94 314*d* *i*P **P 20 05 01.0 +0.3**
SOC *e**SP **sP 20 05 12.8 -0.9**
SOC *e* 20 06 04.9
SOC *e* 20 07 00.7
SOC *e*PPP PPP 20 08 07.9
SOC *e*S **S 20 12 36.7 +2.4**
SOC *e**SS sS 20 12 57.3 +7.6
SOC *e* 20 14 49.1
SOC *e*SS **SKiKP 20 16 13.2 +1.4**
SOC *e*SSS SSS 20 18 12.3
SOC pmax pmax
comp=Z,574nm,1.0s
SOC pmax pmax
comp=Z,3μm,3.3s
SOC MLR MLR
comp=E,111μm,20.0s
SOC MLR MLR
comp=Z,322μm,20.0s
SOC MLR MLR
comp=N,299μm,20.0s
YUK Yuzh-Kuril'sk 53.95 45*d* *i*P **P 20 05 01.3 +0.5**
YUK *i* S **S 20 12 35.9 +1.4**
YUK pmax pmax
comp=Z,20μm,2.5s
YUK pmax pmax
comp=E,3μm,1.5s
YUK pmax pmax
comp=Z,6μm,1.4s
YUK pmax pmax
comp=N,3μm,1.5s
YUK MLR MLR
comp=N,38μm,20.0s
YUK MLR MLR
comp=E,551μm,20.0s
YUK MLR MLR
comp=Z,703μm,20.0s
ASF Jabal al Asfar 53.96 300 LR LR 20 32 09.5
comp=Z,224μm,18.0s,baz=249,slow=41
ASF PKP2bc 20 35 33.7
comp=Z,7.5nm,1.1s,baz=311,slow=8.9,SNR=3.6
ESPY Espiye-Giresun 53.97 311 *e*P **P 20 05 02.4 +1.4**
SUSE Susehri 54.20 310 *i* Pn **P 20 05 04.7 +1.8**
DARE Darende-Malaty 54.41 308 *e*P **P 20 05 05.5 +1.1**
KUZU Kuzuini 54.42 305 *i* Pn **P 20 05 04.8 +0.4**
FKH Fakeheh 54.59 302 *e*P **P 20 05 07.4 +1.6**
YAK Yakutsk 54.62 20*d* *i*P **P 20 05 03.9 -1.4**
YAK *e**PP **pP 20 05 13.1 -1.5**
YAK *e* 20 06 02.9
YAK *e* 20 07 08.4
YAK *e*S **S 20 12 47.8 +5.0**
YAK *e*SS **SS 20 16 22.5 -3.2**
YAK pmax pmax
comp=Z,442nm,1.1s
YAK pmax pmax
comp=N,170nm,1.1s
YAK pmax pmax
comp=E,242nm,1.2s
YAK pmax pmax
comp=N,269nm,1.0s
YAK pmax pmax
comp=Z,2μm,3.0s
YAK pmax pmax
comp=E,639nm,1.2s
YAK smax smax
comp=E,3μm,3.3s
YAK smax smax
comp=N,3μm,2.2s
YAK MLR MLR
comp=Z,387μm,18.0s
YAK MLR MLR
comp=E,148μm,15.0s
YAK MLR MLR
comp=N,344μm,18.0s
KMRS Kahramanmaras 54.68 306 *e*P **P 20 05 07.4 +1.1**
AYKD Aykdinkavak 54.73 306 *i* Pn **P 20 05 07.7 +1.0**
RSDY Resadiye-TOKAT 54.89 310 *e*P **P 20 05 09.3 +1.5**
ASAR Alice Springs 54.91 133 P **P 20 05 05.5 -2.5**
ASAR S S 20 12 40.5 -7.4
ASAR P'P' 20 35 11.1
ASAR ⇑*e* 20 35 38.8
ASAR *e* 20 42 47.6
ASAR Alice Springs 54.91 133 P **P 20 05 05.5 -2.5**
comp=N,116nm,0.6s,baz=307,slow=6.7,SNR=253
ASAR S S 20 12 40.5 -7.4
comp=N,153nm,1.1s,baz=304,slow=12,SNR=12
ASAR LR LR 20 30 34.3
comp=N,257μm,21.8s,baz=297,slow=38
ASAR PKPPKP **P'P'df 20 35 11.1 -4.7**
comp=N,16nm,1.1s,baz=147,slow=2.8,SNR=7.8
ASAR PKP2bc 20 35 38.8
comp=N,32nm,1.1s,baz=139,slow=2.3,SNR=8.5
ASAR P4KPbc 20 42 47.6
comp=N,5.1nm,1.0s,baz=310,slow=4.6,SNR=9.4
SCER sogukcermik 54.93 309 *i* Pn **P 20 05 09.5 +1.3**
HWQ Hawqa 54.98 302 *e*P **P 20 05 09.8 +1.2**
SVSK Karacayir 55.04 309 *e*P **P 20 05 09.2 +0.4**
HTY Hatay 55.06 304 *e*P **P 20 05 10.7 +1.7**
YAYL Yayladag 55.08 304 *i* Pn **P 20 05 10.7 +1.4**
BHL Bhannes 55.18 302 *e*P **P 20 05 10.2 +0.2**
VRHR Novokhopersk 55.23 323 *e*P **P 20 05 10.1 +0.2**
VRHR *e* 20 05 22.2
VRHR *e*S S 20 13 05.9 +15
VRHR pmax pmax
comp=Z,730nm,1.0s
VRHR pmax pmax
comp=N,270nm,1.2s
VRHR pmax pmax
comp=E,920nm,1.1s
VRHR MLR MLR
comp=Z,36μm,21.0s
VRHR MLR MLR
comp=N,64μm,17.0s
VRHR MLR MLR
comp=E,34μm,20.0s

PINB Pinarbasi 55.26 307 *i* Pn **P 20 05 11.7 +0.9**
MMAI Mount Meron Ar 55.30 300 LR LR 20 32 27.7
comp=E,630μm,20.6s,baz=105,slow=40
MMAI PKP2bc 20 35 39.1
comp=E,14nm,1.2s,baz=46,slow=2.4,SNR=3.5
ERBA Erbaa 55.38 310 *i* Pn **P 20 05 12.4 +1.1**
EIL Elat 55.43 296 *e*P **P 20 05 12.4 +0.7**
TOKT Tokat 55.46 309 *e*P **P 20 05 13.7 +1.8**
OPO Ambohidratompo 55.48 235 LR LR 20 25 35.3
comp=E,870μm,19.1s,baz=55,slow=32
OPO PKPPKP **P'P'df 20 35 15.8 -0.2**
comp=E,4.7nm,0.8s,baz=309,slow=8.8,SNR=3.0
OPO PKP2bc 20 35 27.7
comp=E,13nm,1.1s,baz=318,slow=4.8,SNR=6.0
CEYT Ceyhan 55.51 305 *e*P **P 20 05 13.8 +1.6**
TOKA Tokat 55.51 309 *i* Pn **P 20 05 13.7 +1.4**
KOZT Kozan 55.52 306 *e*P **P 20 05 14.4 +2.1**
ABPO Ambohimpanom 55.68 235 *e*P **P 20 05 14.5 +0.7**
ABPO pmax pmax
comp=Z,1μm,1.2s
ABPO MLR MLR
comp=Z,551μm,20.0s
ABPO Ambohimpanom 55.68 235 *e*P **P 20 05 14.5 +0.7**
comp=Z,1μm,1.2s
ABPO LR LR
comp=Z,551μm,20.0s
BNN Bunyan 55.72 308 *e*P **P 20 05 14.7 +0.8**
ANN Anapa 55.85 315*c* *i*P P 20 05 10.5 -4.0
ANN *e**PP pP 20 05 21.0 -2.8
ANN *e* 20 06 10.6
ANN *i* S **S 20 12 55.0 -4.8**
ANN *e*SS **SS 20 16 40.5 -5.2**
ANN pmax pmax
comp=Z,304nm,1.2s
ANN pmax pmax
comp=N,65nm,1.3s
ANN pmax pmax
comp=E,68nm,1.3s
ANN pmax pmax
comp=N,1μm,4.2s
ANN pmax pmax
comp=E,1μm,4.2s
ANN pmax pmax
comp=Z,3μm,4.2s
ANN smax smax
comp=N,36μm,15.9s
ANN smax smax
comp=E,57μm,15.9s
ANN MLR MLR
comp=N,220μm,20.0s
ANN MLR MLR
comp=E,591μm,20.0s
ANN MLR MLR
comp=Z,515μm,20.0s
KVT Kavak 55.98 310 *e*P **P 20 05 16.9 +1.3**
KARA Karaisali 56.09 306 *e*P **P 20 05 17.5 +1.1**
HAVZ Havza 56.23 310 *i* Pn **P 20 05 18.3 +1.0**
YOZ Yozgat 56.26 308 *e*P **P 20 05 19.1 +1.3**
GULE Gulek 56.31 306 *i* Pn **P 20 05 19.4 +1.2**
AVNT Avonos 56.48 307 *e*Pn **P 20 05 19.1 -0.2**
VORD Divnogorie 56.55 322 *e*P **P 20 05 18.9 -0.4**
VORD *e* 20 05 31.5
VORD *e*S S 20 13 19.4 +10
VORD pmax pmax
comp=Z,530nm,1.2s
VORD pmax pmax
comp=N,380nm,1.1s
VORD pmax pmax
comp=E,540nm,1.0s
NIG Nigde 56.56 306 *e*P **P 20 05 21.6 +1.6**
EREN Erenkoy 56.58 303 *e*P **P 20 05 21.9 +2.0**
PHNC Paralimni 56.63 303 P **P 20 05 21.9 +1.6**
comp=E,23nm,1.0s
DIKM Dikmen 56.68 311 *e*P **P 20 05 20.8 +0.3**
VSR Storozhevoye 56.71 323 *e*P **P 20 05 20.3 -0.2**
VSR *e* 20 05 31.8
VSR *e*S S 20 13 21.3 +10
VSR pmax pmax
comp=Z,540nm,1.3s
VSR pmax pmax
comp=N,110nm,1.1s
VSR pmax pmax
comp=E,510nm,1.1s
VSR MLR MLR
comp=E,412μm,18.0s
VSR MLR MLR
comp=Z,597μm,18.0s
VSR MLR MLR
comp=N,35μm,15.0s
CORM Corum 56.88 309 *e*P **P 20 05 23.0 +0.9**
CDAG Cicekdag 56.98 308 *e*Pn **P 20 05 22.1 -0.7**
BYBT Boyabat 57.01 310 *e*P **P 20 05 24.8 +2.0**
IKL Isikli 57.05 304 *e*P **P 20 05 24.4 +1.2**
LFK Lefkose 57.07 303 *e*P **P 20 05 24.2 +0.8**
KMBO Kilima Mbogo 57.10 259 *e*P **P 20 05 26.6 +2.4**
KMBO Kilima Mbogo 57.10 259 P **P 20 05 25.9 +1.7**
SNR=77
KMBO Kilima Mbogo 57.10 259 *e*P **P 20 05 24.6 +0.5**
comp=N,173nm,1.2s
KMBO ⇑*e* 20 35 30.2
KMBO Kilima Mbogo 57.10 259 P **P 20 05 24.6 +0.5**
comp=N,79nm,1.0s,baz=53,slow=8.9,SNR=74
KMBO LR LR 20 29 16.5
comp=N,536μm,19.1s,baz=72,slow=35
KMBO PKP2bc 20 35 30.2
comp=N,3.8nm,0.9s,baz=226,slow=22,SNR=3.6
CSS Prodhromos 57.20 303 P **P 20 05 24.9 +0.6**
comp=N,30nm,1.1s
CSS Prodhromos 57.20 303 *e*P **P 20 05 24.1 -0.2**
CSS Prodhromos 57.20 303 P **P 20 05 22.8 -1.5**
CSS Prodhromos 57.20 303 *e*P **P 20 05 23.6 -0.7**
comp=N,295nm,1.0s
CSS LR LR
comp=Z,157μm,19.0s
MAMC Mammari 57.31 303 P **P 20 05 26.3 +1.2**
TOS Tosya 57.48 310 *e*P **P 20 05 26.6 +0.2**
SZAC Souni-Zanaja 57.55 302 P **P 20 05 27.6 +0.8**
BR131 Keskin Array S 57.55 308 *e*P **P 20 05 25.5 -1.4**
comp=Z,2μm,0.9s
BRTR Keskin Array B 57.55 308 P **P 20 05 25.7 -1.2**
BRTR P'P' 20 35 12.3
BRTR ⇑*e* 20 35 22.1
BRTR *e* 20 43 00.9
BRTR Keskin Array B 57.55 308 P **P 20 05 25.7 -1.2**
comp=Z,318nm,0.9s,baz=121,slow=6.1,SNR=320
BRTR LR LR 20 33 58.9
comp=Z,551μm,20.0s,baz=105,slow=40
BRTR PKPPKP **P'P'df 20 35 12.3 -4.0**
comp=Z,3.7nm,1.1s,baz=179,slow=1.9,SNR=4.0
BRTR PKP2bc 20 35 22.1
comp=Z,2.1nm,0.9s,baz=255,slow=2.4,SNR=3.8
BRTR P4KPbc 20 43 00.9
comp=Z,4.5nm,1.1s,baz=131,slow=6.7,SNR=5.2
LEF Lefka 57.57 303 *e*P **P 20 05 27.7 +0.8**
BZK Bozkurt 57.66 311 *e*P P 20 05 33.9 +6.5
CANT Cankiri 57.71 309 *e*P **P 20 05 28.9 +1.1**
ERMK Ermenek 57.71 305 *i* Pn **P 20 05 28.7 +0.5**
ALFC Alevga 57.81 303 P **P 20 05 27.7 -1.0**
comp=Z,51nm,0.8s
ELDT Eldivan 57.84 309 *e*Pn **P 20 05 29.2 +0.3**
BBAL Bala 57.92 308 *i* Pn **P 20 05 30.0 +0.5**
AFSR Af'ar-Bala (A 57.95 308 *e*P **P 20 05 30.0 +0.4**
PPCY Paphos 58.00 302 P **P 20 05 30.1 +0.2**
AKMC Akamas 58.02 303 P **P 20 05 30.2 +0.1**
GAZI Gazipasa 58.15 304 *i* Pn **P 20 05 31.0 0.0**
SIM Simferopol' 58.17 314*d* *i*P **P 20 05 30.6 -0.4**
SIM *e*S S 20 13 39.7 +9.1
SIM pmax pmax
comp=Z,5μm,2.3s
SIM MLR MLR
comp=Z,354μm,22.5s
ANTO Ankara 58.22 308 *e*P **P 20 05 31.6 +0.2**
ANTO Ankara 58.22 308 *e*P **P 20 05 30.6 -0.9**
ANTO pmax pmax
comp=Z,2μm,1.0s
ANTO MLR MLR
comp=Z,488μm,20.0s
ANTO Ankara 58.22 308 P **P 20 05 31.2 -0.3**
SNR=174
ANTO Ankara 58.22 308 ⇓*i*P **P 20 05 31.7 +0.2**
ANTO Ankara 58.22 308 *e*P **P 20 05 30.6 -0.9**
comp=Z,2μm,1.0s
ANTO LR LR
comp=Z,488μm,20.0s
LOD Lodumlu 58.25 308 *e*P **P 20 05 32.0 +0.3**

KONT Konya--Tatoy 58.30 306 *e*P **P 20 05 32.6 +0.5**
LADK Ladik-KONYA 58.33 306 *e*P **P 20 05 32.4 +0.1**
SAFT Safranbolu 58.51 310 *e*P **P 20 05 34.7 +1.3**
PMG Port Moresby 58.69 110 *e*P **P 20 05 33.7 -1.2**
comp=Z,713nm,0.7s
PMG P'P' 20 35 11.2
PMG LR LR
comp=Z,151μm,20.0s
PMG Port Moresby 58.69 110 PKPPKP 20 35 11.2
comp=Z,22nm,1.0s,baz=251,slow=7.4,SNR=3.2
KIZT Kizilcal 58.79 307 *e*P **P 20 05 35.6 +0.1**
SVRH Sivrihisar-ESK 59.13 308 *e*P **P 20 05 38.0 +0.1**
MOS Moscow 59.21 327κ *i*P **P 20 05 37.9 -0.1**
MOS *e* 20 06 25.3
MOS *e* 20 07 52.3
MOS *e*PPP PPP 20 09 11.6
MOS *e*S S 20 13 51.4 +7.7
MOS pmax pmax
comp=Z,3μm,2.0s
MOS pmax pmax
comp=E,900nm,1.8s
MOS pmax pmax
comp=Z,974nm,1.3s
MOS smax smax
comp=N,11μm,5.8s
MOS smax smax
comp=E,18μm,8.1s
MOS MLR MLR
comp=E,443μm,20.0s
MOS MLR MLR
comp=Z,694μm,19.0s
SUTC Sutluce-Ispart 59.32 305 *e*P **P 20 05 39.4 +0.1**
KDZE Karadeniz Ereo 59.45 310 *e*P **P 20 05 38.9 -1.0**
MDUB Mudurnu 59.52 309 *e*P **P 20 05 40.8 +0.3**
OBN Obninsk 59.55 326κ *i*P **P 20 05 39.8 -0.5**
OBN *e**PP **pP 20 05 51.3 +1.6**
OBN *e* 20 06 27.1
OBN *e* 20 07 56.5
OBN *e*S **S 20 13 48.0 0.0**
OBN *e*SS **SS 20 17 47.4 +3.9**
OBN pmax pmax
comp=Z,1μm,1.7s
OBN MLR MLR
comp=Z,559μm,18.0s
OBN Obninsk 59.55 326 P **P 20 05 40.2 -0.1**
comp=Z,3μm,1.3s,SNR=61
BCK Bucak 59.65 305 *e*P **P 20 05 42.5 +1.1**
ESKT Eskisehir 59.66 308 *e*P **P 20 05 41.9 +0.3**
ISP Isparta 59.73 306 *e*P **P 20 05 41.5 -0.5**
ISP Isparta 59.73 306 P **P 20 05 39.9 -2.2**
ISP Isparta 59.73 306 *e*P **P 20 05 41.6 -0.5**
ISP pmax pmax
comp=Z,2μm,1.1s
ISP MLR MLR
comp=Z,535μm,20.0s
ISP Isparta 59.73 306 ⇓*i*P **P 20 05 41.7 -0.4**
ISP Isparta 59.73 306 *e*P **P 20 05 41.6 -0.4**
comp=Z,2μm,1.1s
ISP LR LR
comp=Z,535μm,20.0s
SHUT Suhut-Afyon 59.78 307 *e*P **P 20 05 42.4 0.0**
BORA Eskisehir 60.01 308 *i* Pn **P 20 05 43.5 -0.4**
GULT Gulveren 60.03 309 *e*P **P 20 05 44.2 +0.2**
ELL Elmali 60.13 304 *e*P **P 20 05 45.4 +0.6**
GPA Golpazari 60.16 309 *e*P **P 20 05 45.0 +0.1**
ALT Altintas 60.18 307 *e*P **P 20 05 44.0 -1.2**
SPNC Sapanca-Adapaz 60.21 309 *e*P **P 20 05 46.7 +1.5**
AKAS Kas 60.33 304 *i* Pn **P 20 05 45.4 -0.8**
GOLH Golhisar 60.44 305 *i* Pn **P 20 05 46.7 -0.3**
CAVI Cavuskoy 60.51 308 *e*P **P 20 05 47.5 +0.3**
KHL Karahalli 60.57 306 *e*P **P 20 05 47.9 +0.1**
ADVT Abdulvahap 60.62 309 *e*P **P 20 05 48.2 +0.3**
GDZ Gediz 60.67 307 *i* Pn **P 20 05 48.3 -0.2**
HRT Hereke 60.71 309 *e*P **P 20 05 48.9 +0.2**
SILT Sile 60.77 309 *e*P **P 20 05 50.7 +1.7**
DNZL Cakiroluk 60.89 305 *i* Pn **P 20 05 49.6 -0.5**
YLV Yalova 60.91 309 *e*P **P 20 05 50.5 +0.5**
DALY Dalyan (Mu¨la 61.14 304 *e*P **P 20 05 51.7 +0.2**
TURN Turunc 61.18 304 *i* Pn **P 20 05 54.1 +2.3**
ISK Istanbul-Kandi 61.20 309 *e*P **P 20 05 52.1 +0.2**
KLYT Kilyos 61.23 309 *e*P **P 20 05 53.7 +1.6**
KULA Kula-Manisa 61.26 306 *e*P **P 20 05 52.7 +0.2**
MDNY Mudanya-Bursa 61.26 308 *e*P **P 20 05 52.9 +0.6**
DEMI Demirci 61.26 307 *i* Pn **P 20 05 52.3 -0.2**
ARMT Armutlu 61.29 309 *e*P **P 20 05 52.5 0.0**
DST Dursunbey 61.38 308 *e*P P 20 05 49.8 -3.5
BGKT Bogazkoy 61.43 309 *e*P **P 20 05 53.8 +0.4**
YER Yerkesik 61.45 305 *e*P **P 20 05 54.4 +0.6**
ARG Arkhangelos 61.52 304 P **P 20 05 53.6 -0.6**
CTKS Kestanelik-??a 61.63 309 *e*P **P 20 05 53.3 -1.5**
KCTX Karacabey (Bur 61.65 308 *e*P **P 20 05 55.2 +0.2**
ELBA Catalca 61.68 309 *i* Pn **P 20 05 55.2 +0.1**
AYDN Tasoluk 61.81 305 *i* Pn **P 20 05 56.5 +0.4**
CTYL Yal??k??y-??at 61.82 310 *e*P **P 20 05 56.5 +0.5**
SLVT Silivri 61.85 309 *e*P **P 20 05 57.9 +1.6**
MLSB Milas 61.87 305 *e*P **P 20 05 55.5 -1.0**
MANR Mangalia 61.88 312 ⇓*i*P **P 20 05 57.8 +1.4**
EFOR EFORIE 61.88 313 ⇑*i*P **P 20 05 58.6 +2.2**
TLCR 61.91 314 ⇓P **P 20 05 56.2 -0.4**
TLCR 61.91 314 ⇓*i*P **P 20 05 56.2 -0.4**
AKHS Akhisar 61.95 307 *i* Pn **P 20 05 57.2 +0.2**
BALB Balikesir 61.96 308 *e*P **P 20 05 57.4 +0.4**
BNT Bandirma 61.99 308 *e*P **P 20 05 57.4 +0.2**
DAT Datca 61.99 304 *e*P **P 20 05 56.9 -0.5**
TIRR Tirgusor 62.09 313 *e*P **P 20 05 56.1 -1.7**
TIRR pmax pmax
comp=Z,2μm,1.0s
TIRR Tirgusor 62.09 313 ⇓*i*P **P 20 05 57.0 -0.8**
TIRR Tirgusor 62.09 313 *e*P **P 20 05 56.1 -1.7**
comp=Z,2μm,1.0s
GONE Gonen-Balikesi 62.14 308 *e*P **P 20 05 58.5 +0.3**
PSN Preselentsi 62.15 312 *i* P **P 20 05 59.5 +1.2**
BALY Balya 62.16 308 *i* Pn **P 20 05 58.5 0.0**
KIS Kishinev 62.19 316 ⇓*i*P **P 20 05 58.0 -0.4**
comp=Z,4μm,6.0s
KIS Kishinev 62.19 316 *i* PcP **PcP 20 06 36.0 -2.3**
KIS Kishinev 62.19 316 *i* PP PP 20 07 55.0 -20
KIS Kishinev 62.19 316κ *i*P **P 20 05 58.0 -0.4**
KIS *i* 20 06 36.0
KIS *i* PPP PPP 20 09 42.0
KIS *i* S **S 20 14 23.0 +1.0**
KIS pmax pmax
comp=E,700nm,2.0s
KIS pmax pmax
comp=Z,1μm,2.0s
KIS pmax pmax
comp=Z,4μm,6.0s
KIS pmax pmax
comp=E,2μm,4.0s
KIS MLR MLR
comp=Z,209μm,17.0s
KIS MLR MLR
comp=N,220μm,22.0s
KIS Kishinev 62.19 316 ⇓*i*P **P 20 05 59.2 +0.8**
BODT Bodrum 62.23 305 *e*P **P 20 05 57.9 -1.0**
KARP Karpathos 62.27 303 P **P 20 05 58.6 -0.7**
KARP Karpathos 62.27 303 *e*P **P 20 05 59.0 -0.3**
GCAM G?zelcaml? 62.32 305 *i* Pn **P 20 05 60.0 +0.5**
TKR Tekirdag 62.34 309 *e*P **P 20 06 01.3 +1.7**
IZM Izmir 62.34 306 *e*P **P 20 05 59.4 -0.3**
SKR Severo-Kuril's 62.35 40*d* *i*P P 20 05 52.0 -7.4
SKR *i* 20 06 04.2
SKR *e* 20 08 21.0
SKR *i* S **S 20 14 18.0 -5.9**
SKR *i* 20 15 44.0
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=N,8μm,14.0s
SKR pmax pmax
comp=E,12μm,14.0s
SKR pmax pmax
comp=Z,14μm,14.0s
SKR smax smax
comp=N,57μm,20.0s
SKR smax smax
comp=E,54μm,14.0s
SKR MLR MLR
comp=N,137μm,20.0s
SKR MLR MLR
comp=E,262μm,20.0s

SKR MLR MLR
comp=Z,298µm,20.0s
CFR Carcaliu 62.38 314 ⇓*i*P **P 20 06 00.2 +0.5**
CFR Carcaliu 62.38 314 ⇓*i*P **P 20 06 00.2 +0.5**
PHSR Pinarhisar 62.41 310 *e*P **P 20 06 00.2 +0.2**
HARR Harsova 62.46 313 ⇓P **P 20 06 01.2 +0.9**
HARR Harsova 62.46 313 ⇓*i*P **P 20 06 01.2 +0.9**
KRBG Karabiga-Canak 62.47 308 *e*P **P 20 06 01.8 +1.4**
LEOM Leova 62.49 315 ⇓P **P 20 06 00.9 +0.4**
LEOM Leova 62.49 315 ⇓*i*P **P 20 06 00.9 +0.4**
TMCR Tamitsa 62.50 336 *e*P **P 20 06 00.6 +0.5**
TMCR *e* 20 06 36.4
TMCR pmax pmax
comp=Z,2µm,1.3s
CTA Charters Tower 62.51 122 PKPPKP 20 35 04.8
comp=Z,11nm,1.1s,baz=205,slow=2.7,SNR=4.1
CTA PKP2bc 20 35 16.3
comp=Z,19nm,1.0s,baz=131,slow=4.8,SNR=5.9
CTAO Charters Tower 62.51 122 *e*P **P 20 05 59.0 -2.0**
CTAO pmax pmax
comp=Z,1µm,1.1s
CTAO MLR MLR
comp=Z,182µm,21.0s
CTAO Charters Tower 62.51 122 *e*P **P 20 05 59.0 -2.0**
comp=Z,1µm,1.1s
CTAO LR LR
comp=Z,182µm,21.0s
MFT Murefte 62.51 309 *e*P **P 20 05 60.0 -0.8**
AKASG Malin Array Be 62.60 320 P **P 20 06 00.4 -0.7**
AKASG pmax pmax
comp=Z,184nm,0.9s
AKASG MLR MLR
comp=Z,673µm,20.5s
AKASG Malin Array Be 62.60 320 P **P 20 06 00.4 -0.7**
AKASG Malin Array Be 62.60 320 P **P 20 06 00.4 -0.7**
comp=Z,184nm,0.9s,baz=83,slow=5.3,SNR=187
AKASG LR LR 20 37 05.7
comp=Z,673µm,20.5s,baz=105,slow=40
SMG Samos 62.64 305 P **P 20 06 01.2 -0.4**
SMG Samos 62.64 305 *e*P **P 20 06 02.2 +0.6**
PRD Provadia 62.66 312 *i*P **P 20 06 02.3 +0.6**
URLA Izmir 62.86 306 *i*Pn **P 20 06 03.8 +0.6**
LPK Lapseki 62.87 308 *e*P **P 20 06 04.8 +1.7**
AMRR Amara 62.87 313 ⇑P **P 20 06 05.2 +2.2**
AMRR Amara 62.87 313 ⇑*i*P **P 20 06 05.2 +2.2**
EDRB Edirne 63.01 313 *e*P **P 20 06 04.2 +0.2**
ZKR Zakros 63.03 302 P **P 20 06 05.4 +1.1**
ZKR Zakros 63.03 302 *e*P **P 20 06 04.9 +0.6**
IAS Iasi 63.07 316 ⇓P **P 20 06 05.1 +0.8**
IAS Iasi 63.07 316 ⇓*i*P **P 20 06 05.1 +0.8**
PETR Petresti 63.09 314 ⇑*i*P **P 20 06 06.3 +1.9**
GELI Tayfur-Gelibol 63.09 308 *e*P **P 20 06 03.8 -0.8**
PGOR Pogoanele 63.16 313 ⇑*i*P P 20 06 08.2 +3.3
PRK Paraskevi 63.17 307 P **P 20 06 05.1 0.0**
PRK Paraskevi 63.17 307 *e*P **P 20 06 06.2 +1.1**
MBAR Mbarara 63.19 262 *e*P **P 20 06 07.7 +1.9**
MBAR Mbarara 63.19 262 PFAKE 20 06 20.0 +14
MBAR LR LR
comp=Z,443nm,19.0s
JMB Yambol 63.19 311 P **P 20 06 05.8 +0.6**
GRER 63.22 314 ⇓*i*P P 20 06 09.0 +3.6
CHOS Chios island 63.29 306 P **P 20 06 05.4 -0.6**
CHOS Chios island 63.29 306 *e*P **P 20 06 07.1 +1.1**
BOZC Bozcaada 63.38 308 *i*Pn **P 20 06 05.5 -1.0**
ALN Alexandroupoli 63.45 309 P **P 20 06 07.0 0.0**
ALN Alexandroupoli 63.45 309 *e*P **P 20 06 08.4 +1.4**
VRI Vrincioaia 63.46 314 ⇓P **P 20 06 08.0 +1.1**
VRI Vrincioaia 63.46 314 ⇓*i*P **P 20 06 08.0 +1.1**
SIGR SIGRI 63.49 307 P **P 20 06 06.5 -0.7**
ISR Istrita 63.49 314 ⇑P **P 20 06 09.0 +1.8**
ISR Istrita 63.49 314 ⇑*i*P **P 20 06 09.0 +1.8**
PLOR Plostina 63.51 314 ⇓P **P 20 06 08.8 +1.5**
PLOR Plostina 63.51 314 ⇓*i*P **P 20 06 08.8 +1.5**
NPS Neapolis 63.53 303 P **P 20 06 08.1 +0.5**
NPS Neapolis 63.53 303 *e*P **P 20 06 07.8 +0.2**
TESR Tescani 63.59 315 ⇓*i*P **P 20 06 07.0 -0.8**
LAST Lasithi 63.64 302 P **P 20 06 07.6 -0.8**
LAST Lasithi 63.64 302 *e*P **P 20 06 08.9 +0.5**
APE Apeiranthos 63.65 305 ⇓P **P 20 06 08.9 +0.5**
APE Apeiranthos 63.65 305 *e*P **P 20 06 08.5 +0.1**
APE Apeiranthos 63.65 305 ⇓*i*P **P 20 06 08.9 +0.5**
SULR 63.65 313 ⇓*i*P **P 20 06 09.6 +1.4**
SANT Santorini 63.68 304 P **P 20 06 07.4 -1.2**
SANT Santorini 63.68 304 *e*P **P 20 06 08.8 +0.2**
SANT Santorini 63.68 304 *e*P **P 20 06 08.2 -0.4**
comp=Z,5µm,1.3s
SANT LR LR
comp=Z,205µm,20.0s
SZH Strazhica 63.74 311 *i*P **P 20 06 06.9 -1.9**
PEA0B Petropavlovsk- 63.81 37 *e*P **P 20 06 07.8 -1.3**
PETK Petropavlovsk- 63.81 37 P **P 20 06 07.2 -1.9**
PETK MLR MLR
comp=Z,375µm,18.6s
PETK Petropavlovsk- 63.81 37 P **P 20 06 07.2 -1.9**
PETK ⇑*e* 20 35 05.2
PETK Petropavlovsk- 63.81 37 P **P 20 06 07.2 -1.9**
comp=Z,32nm,1.0s,baz=207,slow=4.5,SNR=27
PETK PKP2bc 20 35 05.2
comp=Z,8.6nm,1.0s,baz=68,slow=8.2,SNR=4.7
PETK LR LR 20 38 43.8
comp=Z,375µm,18.6s,baz=132,slow=41
SMTH Samothraki Isl 63.82 308 P **P 20 06 08.9 -0.5**
SMTH Samothraki Isl 63.82 308 *e*P **P 20 06 09.8 +0.4**
SECR 63.82 313 ⇓*i*P **P 20 06 11.8 +2.5**
RDO Rodhopi 63.86 309 P **P 20 06 09.2 -0.4**
RDO Rodhopi 63.86 309 *e*P **P 20 06 09.9 +0.3**
CIOR Ciorogarla 63.89 313 ⇓*i*P **P 20 06 11.9 +2.1**
DIM Dimitrovgrad 63.93 310 *i*P **P 20 06 10.5 +0.4**
MLR Muntele Rosu 63.96 314 ⇓*i*P **P 20 06 10.4 0.0**
MLR Muntele Rosu 63.96 314 P **P 20 06 09.6 -0.8**
MLR Muntele Rosu 63.96 314 P **P 20 06 09.6 -0.8**
comp=Z,135nm,1.0s
PRAR RASCA 63.99 316 ⇑*i*P **P 20 06 10.7 +0.3**
LIA Limnos Island 64.05 308 P **P 20 06 10.3 -0.6**
LIA Limnos Island 64.05 308 *e*P **P 20 06 10.6 -0.3**
IDI Anoyia 64.12 303 P **P 20 06 10.8 -0.8**
IDI Anoyia 64.12 303 *e*P **P 20 06 11.6 0.0**
IDI Anoyia 64.12 303 *e*P **P 20 06 12.1 +0.5**
comp=Z,1µm,1.0s
PVL Pavlikeni 64.17 311 *i*P **P 20 06 13.4 +1.8**
ZIMR 64.18 312 ⇓P **P 20 06 13.5 +1.8**
ZIMR 64.18 312 ⇓*i*P **P 20 06 13.5 +1.8**
SIVA Sivas 64.19 302 P **P 20 06 11.1 -0.8**
SIVA Sivas 64.19 302 *e*P **P 20 06 12.8 +0.9**
MICGM Minsk 64.19 324 ⇓*e*P **P 20 06 10.0 -1.6**
KIG Kigali 64.21 261 *e*P **P 20 06 15.8 +3.2**
KIG AMB AMB 20 06 37.6
comp=Z,411nm,1.5s
MNK Minsk 64.22 324*d i*P **P 20 06 10.0 -1.8**
MNK *e* 20 08 32.0
MNK *e*S S 20 14 40.0 -7.2
MNK *e*PS **PnS 20 15 06.0 -1.2**
MNK *e*SS **SS 20 18 50.0 -6.7**
MNK pmax pmax
comp=Z,7µm,4.0s
MNK pmax pmax
comp=N,290nm,0.8s
MNK pmax pmax
comp=Z,2µm,0.8s
MNK pmax pmax
comp=E,2µm,1.0s
MNK smax smax
comp=E,63µm,13.0s
PUL Pulkovo 64.25 330*d i*P **P 20 06 13.1 +1.3**
PUL pmax pmax
comp=Z,984nm,1.2s
PET Petropavlovsk 64.36 38*d i*P **P 20 06 10.9 -1.8**
PET *e*S S 20 14 58.7 +10
PET *e*SS **SS 20 18 58.1 -0.7**
PET pmax pmax
comp=Z,111nm,1.2s
PET pmax pmax
comp=Z,13µm,7.9s
PET pmax pmax
comp=Z,12µm,8.0s
PET MLR MLR
comp=Z,564µm,18.0s
PET MLR MLR
comp=Z,532µm,18.0s
DOPR Dopca 64.40 314 ⇓*i*P **P 20 06 14.5 +1.4**
RZN Rozhen 64.51 310 *i*P **P 20 06 14.9 +0.7**
HUMR Humele 64.54 313 ⇓*i*P **P 20 06 14.6 +0.6**
MTUR Matau 64.55 314 ⇓P **P 20 06 15.2 +1.0**
MTUR Matau 64.55 314 ⇓*i*P **P 20 06 15.2 +1.0**
PLD Plovdiv 64.55 310 P **P 20 06 13.9 -0.2**
VOIR 64.58 314 ⇑P **P 20 06 15.3 +0.9**
VOIR 64.58 314 ⇑*i*P **P 20 06 15.3 +0.9**
GOLR 64.58 313 ⇓*i*P **P 20 06 16.3 +2.0**
KAVA Kavala 64.62 309 P **P 20 06 13.9 -0.7**
VAM Vamos 64.69 303 P **P 20 06 14.8 -0.4**
VAM Vamos 64.69 303 *e*P **P 20 06 16.0 +0.8**
BURAR Bucovina Array 64.70 316 ⇓P **P 20 06 14.7 -0.5**
BURAR Bucovina Array 64.70 316 ⇓*i*P **P 20 06 14.7 -0.5**
ARR Arges 64.86 314 ⇓*i*P **P 20 06 17.5 +1.3**
NACGM Naroch 64.90 324 *e*P **P 20 06 13.0 -3.2**
PGB Panagyurishte 64.97 311 *i*P **P 20 06 17.7 +0.7**
OUR Ouranopolis 64.99 308 P **P 20 06 16.2 -0.8**
PTL Penteli 65.00 306 P **P 20 06 15.8 -1.4**
PTL Penteli 65.00 306 *e*P **P 20 06 17.1 -0.1**
AOS Alonnisos 65.02 307 P **P 20 06 16.3 -1.0**
AOS Alonnisos 65.02 307 *e*P **P 20 06 16.1 -1.2**
ERET Eretria 65.06 306 P **P 20 06 15.5 -2.1**
ATHU Athens Univers 65.06 305 P **P 20 06 16.3 -1.3**
MDB Medias 65.11 315 ⇑P **P 20 06 20.1 +2.3**
MDB Medias 65.11 315 ⇑*i*P **P 20 06 20.1 +2.3**
ATH Athens Observa 65.12 305 P **P 20 06 16.5 -1.4**
ATH Athens Observa 65.12 305 *e*P **P 20 06 18.5 +0.6**
NVR Nevrokopi 65.13 309 P **P 20 06 16.9 -1.1**
NVR Nevrokopi 65.13 309 *e*P **P 20 06 16.9 -1.1**
PAIG Paliouri 65.20 308 P **P 20 06 17.8 -0.7**
PAIG Paliouri 65.20 308 *e*P **P 20 06 17.7 -0.7**
MRKA Markates 65.24 306 P **P 20 06 17.2 -1.5**
MMB Musomiste 65.24 309 *i*P **P 20 06 18.7 0.0**
STKA Stephens Creek 65.30 135 P **P 20 06 18.4 -0.7**
STKA S **S 20 15 05.0 +3.9**
STKA PKKP PKKPdf 20 26 39.7 -5.3
STKA P'P' 20 35 01.2
STKA Stephens Creek 65.30 135 P **P 20 06 18.4 -0.7**
comp=Z,79nm,0.8s,baz=311,slow=6.5,SNR=63
STKA S **S 20 15 05.0 +3.9**
comp=Z,77nm,1.2s,baz=71,slow=15,SNR=4.2
STKA PKKP PKKPdf 20 26 39.7 -5.3
comp=Z,6.1nm,0.9s,baz=0.2,slow=1.7,SNR=3.2
STKA PKPPKP **P'P'df 20 35 01.2 +2.0**
comp=Z,12nm,0.9s,baz=41,slow=1.7,SNR=6.7
STKA LR LR 20 36 33.4
comp=Z,370µm,21.8s,baz=298,slow=38
SRS Serrai 65.32 309 P **P 20 06 17.8 -1.4**
MPEP Malo Peshtene 65.34 311 *i*P **P 20 06 20.3 +1.0**
SKIA Skiathos 65.34 307 P **P 20 06 18.2 -1.2**
LVZ Lovozero 65.37 339*d i*P **P 20 06 18.6 -0.5**
LVZ pmax pmax
comp=Z,474nm,1.2s
LVZ MLR MLR
comp=Z,709µm,17.0s
LVZ Lovozero 65.37 339 P **P 20 06 19.4 +0.3**
comp=Z,2µm,1.1s,SNR=32
PLG Polygyros 65.40 308 P **P 20 06 19.0 -0.8**
PLG Polygyros 65.40 308 *e*P **P 20 06 19.8 0.0**
ANKY Antikythira Is 65.42 303 P **P 20 06 17.9 -2.0**
ANKY Antikythira Is 65.42 303 *e*P **P 20 06 20.4 +0.5**
DID Didima 65.49 305 P **P 20 06 18.5 -1.9**
DID Didima 65.49 305 *e*P **P 20 06 18.4 -1.9**
SOH Sokhos 65.49 309 P **P 20 06 19.6 -0.8**
SOH Sokhos 65.49 309 *e*P **P 20 06 20.2 -0.2**
DIDY Didyma 65.51 305 P **P 20 06 18.1 -2.5**
NEO Neokhori 65.54 307 P **P 20 06 19.1 -1.6**
SMIA Simia 65.54 306 P **P 20 06 19.6 -1.1**
XOR Xorichti 65.56 307 P **P 20 06 19.3 -1.5**
KYTH Kithira 65.64 304 P **P 20 06 20.1 -1.3**
APA Apatity 65.67 339 ⇓*i*P **P 20 06 21.8 +0.9**
APA *i* 20 06 40.0
APA *i*S **S 20 15 05.0 +0.5**
APA *i*PS PnS 20 15 39.0 +12
APA pmax pmax
comp=Z,410nm,1.0s
APA MLR MLR
comp=Z,938µm,26.0s
HORT Hortiatis 65.67 308 P **P 20 06 20.3 -1.3**
ATAL Atalanti 65.68 306 P P 20 06 18.3 -3.3
VTS Vitosha 65.68 311 P **P 20 06 20.4 -1.3**
VTS Vitosha 65.68 311 ⇓P **P 20 06 21.9 +0.2**
VTS Vitosha 65.68 311 *i*P **P 20 06 22.3 +0.6**
VTS Vitosha 65.68 311 ⇓*i*P **P 20 06 21.9 +0.2**
VSU Vasula 65.69 328*d i*P **P 20 06 20.9 -0.3**
VSU pmax pmax
comp=Z,1µm,1.1s
VSU MLR MLR
comp=Z,1088µm,20.0s
CJR Cluj-Napoca 65.70 315 ⇓*i*P **P 20 06 23.0 +1.3**
LTK Loutraki 65.71 306 P **P 20 06 19.0 -2.8**
LTK Loutraki 65.71 306 *e*P **P 20 06 20.8 -1.0**
VLI Veliai 65.72 304 P **P 20 06 20.4 -1.5**
VLI Veliai 65.72 304 *e*P **P 20 06 21.5 -0.4**
KKB Krupnik 65.74 310 *i*P **P 20 06 22.1 +0.2**
LVV L'vov 65.75 319 *e*P **P 20 06 21.4 -0.4**
LVV *e*PPP PPP 20 10 25.0
LVV *e*S **S 20 15 06.0 -0.1**
LVV *e*SS **SS 20 19 25.0 +4.3**
LVV MLR MLR
comp=Z,237µm,19.0s
THE Thessaloniki 65.78 308 P **P 20 06 20.4 -1.7**
ACOR Acrocorinthos 65.78 305 P **P 20 06 19.8 -2.5**
KNT Kendrikon 65.85 309 P **P 20 06 21.4 -1.2**
AXAR Agios Charalam 65.96 306 P **P 20 06 21.6 -1.8**
DSF Desfina 66.06 306 P P 20 06 20.7 -3.4
VAY Valandovo 66.10 309 P **P 20 06 22.4 -1.8**
VAY Valandovo 66.10 309 *e*P **P 20 06 23.4 -0.8**
VAY *i* 20 06 34.4
DEV Deva 66.12 314 ⇑P **P 20 06 25.7 +1.5**
DEV Deva 66.12 314 ⇑*i*P **P 20 06 25.7 +1.5**
LIT Litokhoron 66.12 308 P **P 20 06 23.3 -1.1**
LIT Litokhoron 66.12 308 *e*P **P 20 06 23.9 -0.5**
ZAPS Zavoj 66.14 311 *e*P **P 20 06 25.7 +1.2**
GZR Gura Zlata 66.17 314 ⇓P **P 20 06 25.1 +0.4**
GZR Gura Zlata 66.17 314 ⇓*i*P **P 20 06 25.1 +0.4**
VLX Vlachokerasia 66.17 305 P **P 20 06 21.9 -3.0**
VLX Vlachokerasia 66.17 305 *e*P **P 20 06 24.5 -0.4**
GUR Goura 66.20 305 P **P 20 06 22.3 -2.8**
GUR Goura 66.20 305 *e*P **P 20 06 22.6 -2.5**
DYR Agios Nikonas 66.20 304 P **P 20 06 23.7 -1.3**
DYR Agios Nikonas 66.20 304 *e*P **P 20 06 24.7 -0.3**
GRG Griva 66.22 309 P **P 20 06 23.8 -1.2**
GRG Griva 66.22 309 *e*P **P 20 06 23.3 -1.7**
AGG Agios Georgios 66.22 307 P P 20 06 21.1 -4.0
AGG Agios Georgios 66.22 307 *e*P **P 20 06 22.6 -2.5**
PAF Port-aux-Franc 66.23 196 PFAKE 20 06 30.0 +5.3
PAF LR LR
comp=Z,442µm,22.0s
DJES Djerdap 66.30 313 *e*P **P 20 06 25.0 -0.5**
DRGR 66.32 315 ⇑P **P 20 06 26.9 +1.3**
DRGR 66.32 315 ⇑*i*P **P 20 06 26.9 +1.3**
KLV Kalavryta, Ach 66.35 306 P **P 20 06 23.9 -2.1**
KLV Kalavryta, Ach 66.35 306 *e*P **P 20 06 23.9 -2.1**
KALE Kalithea 66.36 306 P **P 20 06 23.1 -3.0**
KALE Kalithea 66.36 306 *e*P **P 20 06 24.1 -2.0**
MAKR Makrakomi, Fth 66.38 307 P **P 20 06 24.1 -2.0**
TRIZ Trizonia 66.42 306 P **P 20 06 23.1 -3.2**
TRIZ Trizonia 66.42 306 *e*P **P 20 06 23.4 -2.9**
THL Klokotos Trika 66.48 307 P **P 20 06 24.9 -1.8**
THL Klokotos Trika 66.48 307 *e*P **P 20 06 24.5 -2.2**
LAKA Lakka 66.49 306 P **P 20 06 24.9 -1.9**
LAKA Lakka 66.49 306 *e*P **P 20 06 26.0 -0.8**
ITM Ithomi 66.53 305 P **P 20 06 25.6 -1.5**
ITM Ithomi 66.53 305 *e*P **P 20 06 26.2 -0.9**
EFP Efpalio 66.55 306 *e*P **P 20 06 26.3 -0.8**
PSA1 Psathopyrgos 66.57 306 *e*P **P 20 06 27.7 +0.5**
KWP Kalwaria Pacla 66.58 318 *e*P **P 20 06 26.3 -0.9**
KWP pmax pmax
comp=Z,4µm,0.9s
KWP MLR MLR
comp=Z,279µm,21.0s
KWP Kalwaria Pacla 66.58 318 ⇓*i*P **P 20 06 27.9 +0.7**
KWP Kalwaria Pacla 66.58 318 *e*P **P 20 06 26.3 -0.9**
comp=Z,4µm,0.9s
KWP LR LR
comp=Z,279µm,21.0s
KWP Kalwaria Pacla 66.58 318 *e*P **P 20 06 26.5 -0.7**
KWP *e*pP **pP 20 06 35.6 -1.1**
KWP *e*sP **sP 20 06 40.3 0.0**
KWP *e*S **S 20 15 16.6 +0.3**
EVR Evrytania 66.63 307 P **P 20 06 25.9 -1.9**
EVR Evrytania 66.63 307 *e*P **P 20 06 26.8 -1.0**
BOLS Boljevac 66.66 312 *e*P **P 20 06 26.9 -0.9**
KZN Kozani 66.68 308 P **P 20 06 26.7 -1.4**
KZN Kozani 66.68 308 *e*P **P 20 06 27.5 -0.6**
PYL PYLOS 66.68 304 *e*P **P 20 06 26.6 -1.4**
AMT Artemida-Makis 66.70 305 *e*P **P 20 06 27.7 -0.5**
FIA1 FINESS Array S 66.71 331 *e*P **P 20 06 26.2 -1.5**
FINES FINESS Array B 66.71 331 P **P 20 06 26.3 -1.4**
FINES PKKP PKKPdf 20 26 33.5 -7.7
FINES P'P' 20 34 58.0
FINES FINESS Array B 66.71 331 P **P 20 06 26.3 -1.4**
comp=Z,217nm,0.8s,baz=101,slow=9.9,SNR=194
FINES PKKP PKKPdf 20 26 33.5 -7.7
comp=Z,4.2nm,0.7s,baz=342,slow=1.6,SNR=3.3
FINES PKPPKP **P'P'df 20 34 58.0 -2.7**
comp=Z,5.3nm,0.9s,baz=201,slow=3.3,SNR=4.2
FINES LR LR 20 40 46.3
comp=Z,697µm,19.8s,baz=106,slow=41
BARS Barje 66.72 311 *e*P **P 20 06 27.7 -0.5**
UZH Uzhgorod 66.76 317 *e*P **P 20 06 28.1 -0.2**
UZH *e* 20 06 40.5
UZH *i* 20 06 57.7
UZH *e*S **S 20 15 15.1 -3.3**
UZH MLR MLR
comp=N,85µm,19.0s
UZH MLR MLR
comp=E,240µm,19.0s
UZH MLR MLR
comp=Z,115µm,19.0s
KAF Kangasniemi 66.77 332 *e*P **P 20 06 26.5 -1.6**
KAF Kangasniemi 66.77 332 *e*p **P 20 06 26.5 -1.6**
comp=Z,20nm,0.3s
KOLS Kolonicke sedl 66.80 317 *e*P **P 20 06 28.2 -0.4**
KOLS pmax pmax
comp=Z,159nm,1.2s
KOLS Kolonicke sedl 66.80 317 *e*P **P 20 06 28.2 -0.4**
KOLS *e*S **S 20 15 18.3 -0.6**
KOLS *e*SS SS 20 19 58.5 +21
SUW Suwalki 66.82 323 *e*P **P 20 06 27.3 -1.3**
SUW Suwalki 66.82 323 *e*P **P 20 06 27.3 -1.3**
SUW Suwalki 66.82 323 *e*P **P 20 06 27.3 -1.3**
SUW *e*pP **pP 20 06 36.0 -2.1**
SUW *e*sP **sP 20 06 40.3 -1.4**
SUW *e*S **S 20 15 17.7 -1.3**
RLS Riolos of Patr 66.89 306 P **P 20 06 27.1 -2.2**
RLS Riolos of Patr 66.89 306 *e*P **P 20 06 29.5 +0.2**
AXS Araxos 66.97 306 P **P 20 06 28.2 -1.6**
SKO Skopje 66.97 310 P **P 20 06 29.0 -0.8**
SKO Skopje 66.97 310 *e*P **P 20 06 30.2 +0.4**
SKO *i* 20 06 40.8
FNA Florina 66.99 309 P **P 20 06 27.9 -2.0**
FNA Florina 66.99 309 *e*P **P 20 06 28.0 -2.0**
BZS Buzias 67.00 314 ⇓P **P 20 06 30.3 +0.4**
BZS Buzias 67.00 314 ⇓*i*P **P 20 06 30.3 +0.4**
BIA Bitola 67.03 309 P **P 20 06 28.6 -1.7**
BIA Bitola 67.03 309 *e*P **P 20 06 28.5 -1.8**
BIA *i* 20 06 39.2
SVIS Svilajnac 67.21 312 *e*P **P 20 06 31.1 -0.2**
NEST Nestorio 67.23 308 P **P 20 06 29.2 -2.4**
SELS Selova 67.24 311 *e*P **P 20 06 31.5 0.0**
TIM Timisoara 67.28 314 ⇑P **P 20 06 33.5 +1.9**
TIM Timisoara 67.28 314 ⇑*i*P **P 20 06 33.5 +1.9**
CRVS Cervenica-Dubn 67.33 317 *e*P **P 20 06 31.8 -0.1**
CRVS pmax pmax
comp=Z,753nm,1.2s
CRVS Cervenica-Dubn 67.33 317 *e*P **P 20 06 31.8 -0.1**
CRVS *e*S S 20 15 34.5 +9.2
CRVS *e*SS SS 20 20 20.3 +35
JAN Janina 67.38 307 P **P 20 06 30.8 -1.7**
JAN Janina 67.38 307 *e*P **P 20 06 33.0 +0.5**
KBN Korca 67.43 308 *e*PN **P 20 06 30.4 -2.4**
KBN Korca 67.43 308 P **P 20 06 30.9 -1.9**
STHS Stebnicka Huta 67.51 318 *e*P **P 20 06 32.4 -0.7**
STHS pmax pmax
comp=Z,120nm,0.9s
STHS Stebnicka Huta 67.51 318 *e*P **P 20 06 32.4 -0.7**
LKD2 Lefkada island 67.53 306 P **P 20 06 32.3 -1.1**
LKD2 Lefkada island 67.53 306 *e*P **P 20 06 31.5 -1.9**
GRUS Gruza 67.56 312 *e*P **P 20 06 34.3 +0.8**
VLS Valsamata 67.58 306 P **P 20 06 32.4 -1.4**
VLS Valsamata 67.58 306 *e*P **P 20 06 32.4 -1.4**
PHP Peshkopia 67.71 309 *e*PN **P 20 06 31.8 -2.7**
PHP *i*SN x 20 06 59.6
PHP Peshkopia 67.71 309 P **P 20 06 32.4 -2.1**
BEO Beograd 67.77 313 *e*P **P 20 06 34.1 -0.6**
IGT Igoumenitsa 67.78 307 P **P 20 06 31.9 -3.1**
KECS Kecovo 67.94 317 *e*P **P 20 06 35.1 -0.8**
KECS pmax pmax
comp=Z,133nm,1.0s
KECS Kecovo 67.94 317 *e*P **P 20 06 35.0 -0.8**
BCI Bajram Curri 68.00 310 *e*PN P 20 06 33.1 -3.2
BEL Belsk 68.00 320 *e*P **P 20 06 36.3 +0.2**
BEL *e*pP **pP 20 06 44.3 -1.4**
BEL *e*sP **sP 20 06 48.7 -0.6**
BEL *e*S S 20 15 42.3 +9.0
SRN Sarande 68.03 308 *e*PN **P 20 06 34.2 -2.3**
SRN *i*SN x 20 06 56.6
SRN Sarande 68.03 308 P **P 20 06 34.9 -1.6**
PVY Plav 68.08 310 *e*P **P 20 06 35.8 -1.2**
SJES Sjenica 68.08 311 *e*P **P 20 06 36.5 -0.4**
DIVS Divibare 68.09 312 P **P 20 06 36.3 -0.6**
NIE Niedzica 68.12 318 ⇓*i*P **P 20 06 38.5 +1.6**
NIE *e*PP **pP 20 06 45.8 -0.7**
NIE *e* 20 07 04.0
NIE *e*S **S 20 15 39.7 +4.9**
PUK Puka 68.12 310 *e*PN **P 20 06 35.8 -1.4**
PUK *i*SN x 20 06 58.8
IVA Berane 68.13 311 ⇓*i*P **P 20 06 36.3 -0.9**
TIR Tirane 68.14 309 *e*PN **P 20 06 34.5 -2.7**
TIR *i*SN x 20 07 06.7
TIR Tirane 68.14 309 P **P 20 06 35.1 -2.1**
TIR Tirane 68.14 309 *e*P **P 20 06 36.5 -0.7**
TIR pmax pmax
comp=Z,2µm,1.0s
TIR MLR MLR
comp=Z,271µm,20.0s
TIR Tirane 68.14 309 *e*P **P 20 06 36.5 -0.7**
comp=Z,2µm,1.0s
TIR LR LR
comp=Z,271µm,20.0s
KEK Kerkira 68.19 307 P **P 20 06 36.1 -1.4**
KEK Kerkira 68.19 307 *e*P **P 20 06 36.5 -1.0**
FRGS Fruska Gora 68.25 313 *e*P **P 20 06 37.3 -0.5**
PKSN Nyarlorinc 68.27 315 ⇓*e*P **P 20 06 39.5 +1.6**
PSZ Piszkesteto 68.31 316 *e*P **P 20 06 36.5 -1.7**
PSZ pmax pmax
comp=Z,1µm,1.0s
PSZ MLR MLR
comp=Z,305µm,22.0s
PSZ Piszkesteto 68.31 316 ⇑*i*P **P 20 06 38.5 +0.3**
PSZ Piszkesteto 68.31 316 *e*P **P 20 06 36.5 -1.7**
comp=Z,1µm,1.0s
PSZ LR LR
comp=Z,305µm,22.0s
PSZ Piszkesteto 68.31 316 ⇓*e*P **P 20 06 38.5 +0.3**
TEKS Tekeris 68.43 313 *e*P **P 20 06 38.9 -0.1**
OJC Ojcow 68.50 319 ⇓*i*P **P 20 06 38.3 -1.0**
OJC *e*PP **pP 20 06 45.4 -3.5**
OJC *e* 20 07 03.1
OJC Ojcow 68.50 319 *e*P **P 20 06 38.4 -0.9**
BBLS Lazići 68.51 312 *e*P **P 20 06 39.7 +0.2**
TTG Podgorica 68.60 310 ⇓*i*P **P 20 06 39.2 -0.8**
ULC Ulcinj 68.61 310 ⇓*i*P **P 20 06 38.9 -1.2**
DRME Dracevica, Mon 68.65 310 ⇓*i*P **P 20 06 39.5 -0.9**
PKS2 Kecel 68.71 315 ⇓*e*P **P 20 06 41.1 +0.5**
PKS7 Kunszentmiklos 68.76 315 ⇓*e*P **P 20 06 42.3 +1.4**
NKY Niksic 68.80 311 ⇓*i*P **P 20 06 40.4 -1.0**
NKME Niksic 68.82 311 ⇓*i*P **P 20 06 40.6 -0.9**
UPM Unac-Piva 68.86 311 ⇓*i*P **P 20 06 41.2 -0.7**
BUM Brajici-Budva 68.87 310 ⇓*i*P **P 20 06 41.3 -0.5**
BUD Budapest 68.87 316 ⇓*e*P **P 20 06 42.9 +1.3**
VYHS Vyhne 69.04 317 *e*P **P 20 06 41.7 -1.0**
VYHS pmax pmax
comp=Z,155nm,1.2s
VYHS Vyhne 69.04 317 *e*P **P 20 06 41.7 -1.0**
VYHS *e*S S 20 15 52.0 +6.2
VYHS *e*SS **SS 20 20 09.0 -2.7**
ARCES ARCESS Array B 69.07 340 P **P 20 06 41.8 -0.7**
ARCES PKKP PKKPdf 20 26 29.6 -8.3
ARCES P'P' 20 35 02.8
ARCES ARCESS Array B 69.07 340 P **P 20 06 41.8 -0.7**
comp=Z,125nm,0.9s,baz=91,slow=4.9,SNR=166
ARCES PKKP PKKPdf 20 26 29.6 -8.3
comp=Z,3.2nm,0.7s,baz=333,slow=1.0,SNR=3.6

ARCES PKPPKP P'P'df 20 35 02.8 +6.2
comp=Z,14nm,1.1s,baz=298,slow=2.6,SNR=8.7
ARCES LR LR 20 40 39.0
comp=Z,936μm,19.1s,baz=110,slow=39
ARE0 ARCESS Array S 69.07 340 *e*P **P** **20 06 42.7 +0.2**
ARE0 *e*S **S** **20 15 47.0 +1.6**
ARE0 ARCESS Array S 69.07 340 *e*P **P** **20 06 41.6 -0.9**
PKSM Moragy 69.10 314 ||P **P** **20 06 43.3 +0.3**
PKSM Moragy 69.10 314 ||*i*P **P** **20 06 43.3 +0.3**
PKSM Moragy 69.10 314 ||*e*P **P** **20 06 43.1 +0.1**
BRY Bratogost 69.13 311 ||*i*P **P** **20 06 42.5 -1.0**
HCY Herceg Novi 69.16 310 *e*P **P** **20 06 42.8 -0.8**
PKSG 69.30 316 ||*e*P **P** **20 06 44.9 +0.6**
CSKK Cs˘‡kako 69.39 316 ||*e*P **P** **20 06 45.9 +1.1**
HEF Hetta 69.41 338 *e*P **P** **20 06 44.1 -0.5**
RAC Raciborz 69.53 318 *e*P **P** **20 06 46.5 +0.9**
RAC *e*S S 20 15 57.6 +6.2
RAC MLR MLR
comp=N,510μm,23.2s
RAC MLR MLR
comp=E,350μm,23.1s
RAC MLR MLR
comp=Z,470μm,20.7s
PKST T˘s 69.54 315 ||*e*P **P** **20 06 45.9 +0.1**
OKC Ostrava-Krasne 69.55 318 *e*P **P** **20 06 44.8 -1.0**
OKC *e* 20 06 54.9
OKC *e* 20 07 06.4
OKC *e* 20 20 20.8
OKC MLR MLR
comp=Z,174μm,22.3s
OKC Ostrava-Krasne 69.55 318 *e*P **P** **20 06 44.8 -1.0**
OKC *e*x x 20 06 54.9
OKC *e*PCP **PcP** **20 07 06.4 -2.4**
OKC *e*x x 20 11 41.1
OKC *e*S S 20 16 00.7 +9.0
OKC *e*SS **SS** **20 20 20.8 +1.4**
OKC *e*PKPPKP **P'P'df** **20 34 54.1 -2.2**
OKC AMS AMS 20 41 00.0
comp=Z,174μm,22.3s
KTK1 Kautokeino 69.71 339 *e*P **P** **20 06 45.4 -1.0**
KTK1 *e*S **S** **20 15 58.8 +5.8**
KTK1 AMS AMS 20 39 26.4
comp=Z,1982μm,23.1s
STON Ston 69.75 311 *i*P **P** **20 06 45.6 -1.5**
MORC Moravsky Berou 69.94 318 *e*P **P** **20 06 47.0 -1.2**
MORC pmax pmax
comp=Z,2μm,1.0s
MORC Moravsky Berou 69.94 318 *e*P **P** **20 06 47.0 -1.2**
comp=Z,2μm,1.0s
SMOL Smolenice 69.97 317 *e*P **P** **20 06 48.1 -0.4**
SMOL Smolenice 69.97 317 *e*P **P** **20 06 48.0 -0.4**
ZST Bratislava 70.19 316 *e*P **P** **20 06 49.1 -0.6**
ZST Bratislava 70.19 316 *e*P **P** **20 06 49.1 -0.6**
ZST *e*S S 20 16 08.4 +9.2
GKP Gorka Klasztor 70.27 322 *e*P **P** **20 06 49.9 -0.2**
GKP *e*pP **pP** **20 06 58.2 -1.5**
GKP *e*sP **sP** **20 07 01.9 -1.4**
GKP *e*S **S** **20 15 59.4 -0.6**
LSZ Lusaka 70.28 248 *e*P **P** **20 06 53.3 +2.3**
LSZ AMB AMB 20 06 54.8
comp=Z,29μm,1.8s
LSZ Lusaka 70.28 248 P **P** **20 06 52.3 +1.3**
SNR=184
LSZ Lusaka 70.28 248 *e*P **P** **20 06 51.3 +0.4**
comp=Z,2μm,1.1s
LSZ LR LR
comp=Z,1063μm,20.0s
BEHE Becsehely 70.39 315 ||*e*P **P** **20 06 52.0 +1.0**
WAKE Wake Island 70.42 74 *e*P **P** **20 06 53.0 +1.4**
WAKE *e*pP **pP** **20 07 00.7 -0.5**
WAKE LR LR
comp=Z,143μm,21.0s
HNR Honiara 70.51 105 *e*P **P** **20 06 51.9 -0.4**
comp=Z,59nm,0.8s
HNR LR LR
comp=Z,7μm,21.0s
VRAC Vranov 70.54 318 P **P** **20 06 52.3 +0.4**
VRAC Vranov 70.54 318 P **P** **20 06 52.3 +0.4**
comp=Z,68nm,0.9s,baz=103,slow=6.2,SNR=101
DPC Dobruska-Polom 70.74 319 *e*P **P** **20 06 52.7 -0.4**
DPC *e* 20 07 02.6
DPC *e* 20 07 14.2
DPC *e* 20 09 31.2
DPC *e*S **S** **20 16 08.8 +3.1**
DPC Dobruska-Polom 70.74 319 *e*P **P** **20 06 52.7 -0.4**
DPC *e*x x 20 07 02.6
DPC *e*PCP **PcP** **20 07 14.2 +0.3**
DPC *e*PP **PP** **20 09 31.2 +1.3**
DPC *e*x x 20 11 42.3
DPC *e*S **S** **20 16 08.8 +3.1**
DPC *e*PKPPKP **P'P'df** **20 34 50.0 -4.3**
DPC *e*x x 20 38 52.9
DPC AMS AMS 20 41 20.0
DPC Dobruska-Polom 70.74 319 *e*P **P** **20 06 52.9 -0.2**
comp=Z,5μm,0.9s
KSP Ksiaz 70.77 319 ||*e*P **P** **20 06 52.6 -0.6**
KSP *e**PP **pP** **20 07 01.9 -0.9**
KSP *e* 20 07 13.3
KSP *e*S **S** **20 16 10.4 +4.5**
KSP Ksiaz 70.77 319 *e*P **P** **20 06 52.6 -0.6**
KSP *e*pP **pP** **20 07 02.0 -0.9**
KSP *e*sP **sP** **20 07 05.7 -0.7**
KSP *e*S **S** **20 16 10.6 +4.7**
UPC Upice 70.94 319 *e*P **P** **20 06 53.8 -0.5**
UPC *e* 20 07 03.4
UPC *e* 20 07 15.1
UPC Upice 70.94 319 *e*P **P** **20 06 53.8 -0.5**
UPC *e*x x 20 07 03.4
UPC *e*PCP **PcP** **20 07 15.1 +0.4**
UPC *e*PKPPKP **P'P'df** **20 34 58.3 +4.4**
CONA Conrad Observa 71.02 316 ||*i*P **P** **20 06 53.9 -1.0**
comp=Z,15μm,3.6s,SNR=184
UDBI Udbina 71.12 313 *i*P **P** **20 06 54.8 -0.9**
CUC Castrocucco 71.25 308 *e*P **P** **20 06 55.4 -1.0**
comp=Z,1μm,1.2s
CUC LR LR
comp=Z,188μm,20.0s
ARSA Arzberg 71.25 315 *i*pP **P** **20 06 56.6 +0.3**
comp=Z,12μm,2.7s,SNR=159
TREC Trest 71.27 318 *e*P **P** **20 06 54.2 -2.1**
TREC *e* 20 07 04.3
TREC *e* 20 07 16.8
TREC *e* 20 09 35.4
TREC *e*S S 20 16 18.1 +6.3
TREC MLR MLR
comp=Z,318μm,19.4s
TREC Trest 71.27 318 *e*P **P** **20 06 54.2 -2.1**
TREC *e*x x 20 07 04.3
TREC *e*PCP **PcP** **20 07 16.8 +0.7**
TREC *e*PP **PP** **20 09 35.4 +1.0**
TREC *e*S S 20 16 18.1 +6.3
TREC *e*PKPPKP **P'P'df** **20 34 48.9 -4.5**
TREC *e*x x 20 38 48.0
TREC AMS AMS 20 44 00.0
comp=Z,318μm,19.4s
CEL Celeste 71.28 306 *e*P **P** **20 06 56.2 -0.5**
comp=Z,5μm,1.0s
CEL LR LR
comp=Z,351μm,22.0s
TRO Tromso 71.34 339 *e*P **P** **20 06 55.1 -1.1**
TRO AMB AMB 20 07 20.2
comp=Z,2μm,1.4s
TRO AMS AMS 20 40 16.3
comp=Z,919μm,22.8s
BOJS Bojanci 71.47 314 *i*P **P** **20 06 57.8 +0.2**
BOJS *i*pP **pP** **20 07 08.2 +1.0**
BOJS *i*PcP **PcP** **20 07 20.3 +3.4**
BOJS *e*S **SKiKP** **20 16 30.1 -5.2**
BOJS *e*SKSac ScS 20 17 16.5 +16
PERS Pernice 71.54 315 *i*P **P** **20 06 58.5 +0.4**
PERS *e*pP **pP** **20 07 08.8 +1.2**
PERS *e*PcP **PcP** **20 07 21.1 +3.7**
PERS *e*S **S** **20 16 15.4 +0.3**
SOKA Soboth 71.59 315 *i*P **P** **20 06 58.1 -0.3**
comp=Z,8μm,2.0s,SNR=205
BSD Bornholm Skovb 71.71 324 *i*P **P** **20 06 58.0 -0.8**
BSD pmax pmax
comp=Z,990nm,0.9s
BSD MLR MLR
comp=Z,420μm,20.0s
BSD Bornholm Skovb 71.71 324 *i*P **P** **20 06 58.0 -0.8**
comp=Z,986nm,0.9s
BSD
comp=Z,417μm,19.0s
NVLJ Novalja 71.76 313 *i*P **P** **20 06 57.9 -1.4**
PVCC Panska Ves 71.86 319 *e*P **P** **20 06 58.0 -1.8**
PVCC *e* 20 07 08.9
PVCC *e* 20 07 20.6
PVCC *e* 20 09 38.8
PVCC *e*S **S** **20 16 23.6 +5.0**
PVCC *e* 20 20 53.2
PVCC MLR MLR
comp=Z,517μm,22.0s
PVCC Panska Ves 71.86 319 *e*P **P** **20 06 58.0 -1.8**
PVCC *e*x x 20 07 08.9
PVCC *e*PCP **PcP** **20 07 20.6 +2.0**
PVCC *e*PP **PP** **20 09 38.8 -0.6**
PVCC *e*S **S** **20 16 23.6 +5.0**
PVCC *e*SS **SS** **20 20 53.2 -1.7**
PVCC *e*PKPPKP **P'P'df** **20 34 47.8 -4.5**
PVCC AMS AMS 20 42 20.0
comp=Z,517μm,22.0s
PRU Pruhonice 71.88 318 *e*P P 20 06 56.4 -3.6
PRU *e* 20 07 08.2
PRU *e* 20 07 20.7
PRU *e* 20 09 38.8
PRU *e*S **S** **20 16 23.9 +5.1**
PRU MLR MLR
comp=Z,279μm,17.6s
PRU Pruhonice 71.88 318 *e*P P 20 06 56.4 -3.6
PRU *e*x x 20 07 08.2
PRU *e*PCP **PcP** **20 07 20.7 +2.1**
PRU *e*PP **PP** **20 09 38.8 -0.8**
PRU *e*x x 20 11 52.5
PRU *e*S **S** **20 16 23.9 +5.1**
PRU *e*x x 20 34 40.8
PRU AMS AMS 20 44 40.0
comp=Z,279μm,17.6s
OBKA Obir 71.93 315 ||*i*P **P** **20 06 59.6 -0.8**
comp=Z,21μm,4.0s,SNR=120
PRA Prague 71.95 318 P P 20 06 57.0 -3.4
PRA PP **PP** **20 09 40.0 -0.2**
PRA AMS AMS 20 45 30.0
LJU Ljubljana 71.96 314 *i*P **P** **20 07 01.2 +0.7**
LJU *i*pP **pP** **20 07 11.5 +1.3**
LJU *e*PcP **PcP** **20 07 23.6 +4.5**
LJU *e*S **SKiKP** **20 16 31.2 -4.7**
LJU *e*SKSac ScS 20 17 13.2 +8.8
LJU *e*SS SS 20 21 51.9 +55
MOA Molln 72.09 316 ||*i*P **P** **20 07 00.2 -1.1**
comp=Z,11μm,3.1s,SNR=206
BJO Bjornoya 72.20 344 AMS AMS 20 34 42.9
comp=Z,638μm,23.2s
BRG Berggiesshubel 72.25 319 *i*P **P** **20 07 02.8 +0.6**
comp=Z,485nm,1.1s
BRG *i* 20 07 13.6
comp=Z,909nm,1.0s
BRG *i*PCP **PcP** **20 07 21.7 +1.5**
comp=Z,2μm,1.0s
BRG PP PP 20 10 01.0 +18
BRG S **S** **20 16 29.0 +5.9**
BRG SS **SS** **20 20 55.0 -5.9**
BRG PKPPKP **P'P'df** **20 34 47.1 -4.4**
comp=Z,51nm,2.0s
BRG
comp=N,99μm,18.9s
BRG
comp=E,387μm,19.8s
BRG
comp=Z,451μm,19.0s
BRG Berggiesshubel 72.25 319 *e*P **P** **20 07 02.7 +0.6**
comp=Z,484nm,1.1s
BRG Berggiesshubel 72.25 319 *i*P **P** **20 07 02.8 +0.6**
BRG *i* 20 07 13.6
BRG *i* 20 07 21.7
BRG S **S** **20 16 29.0 +5.9**
BRG SS **SS** **20 20 55.0 -5.9**
BRG pmax pmax
comp=Z,485nm,1.1s
BRG MLR MLR
comp=N,99μm,18.9s
BRG MLR MLR
comp=E,387μm,19.8s
BRG MLR MLR
comp=Z,451μm,19.0s
JAVS Javornik 72.28 314 *i*P **P** **20 07 02.4 -0.2**
JAVS *i*pP **pP** **20 07 12.7 +0.5**
JAVS *e*PcP **PcP** **20 07 25.1 +4.5**
JAVS *e*S **SKiKP** **20 16 31.4 -5.1**
CAN Canberra 72.34 135 PFAKE 20 07 10.0 +7.0
CAN LR LR
comp=Z,291μm,21.0s
VOY Vojsko 72.40 314 ||*i*P **P** **20 07 02.0 -1.3**
VOY *e* 20 07 02.3
VOY *e* 20 07 03.7
STEI Steigen 72.42 337 *e*P **P** **20 07 02.1 -0.8**
STEI AMS AMS 20 41 50.7
comp=Z,619μm,20.6s
GEC2 GERESS Array S 72.44 317 *e*P **P** **20 07 03.8 +0.3**
comp=Z,543nm,1.0s
GEC2 GERESS Array S 72.44 317 *e*P **P** **20 07 03.8 +0.3**
GEC2 pmax pmax
comp=Z,543nm,1.0s
GERES GERESS Array B 72.44 317 P **P** **20 07 02.8 -0.8**
GERES PKKPbc PKKPbc 20 26 55.7 +6.9
GERES P'P' 20 34 49.9
GERES GERESS Array B 72.44 317 P **P** **20 07 02.8 -0.8**
comp=Z,234nm,0.9s,baz=90,slow=6.7,SNR=326
GERES PKKPbc PKKPbc 20 26 55.7 +6.9
comp=Z,3.3nm,0.9s,baz=294,slow=1.3,SNR=4.3
GERES PKPPKP **P'P'df** **20 34 49.9 -1.6**
comp=Z,1.1nm,0.9s,baz=183,slow=2.4,SNR=3.7
GERES LR LR 20 45 25.7
comp=Z,301μm,19.1s,baz=73,slow=41
TRI Trieste 72.50 314 *e*P **P** **20 07 03.7 -0.1**
TRI pmax pmax
comp=Z,663nm,0.8s
TRI Trieste 72.50 314 *e*P **P** **20 07 03.7 -0.1**
comp=Z,663nm,0.8s
KHC Kasperske Hory 72.52 317 *i*P **P** **20 07 02.9 -1.0**
KHC *e* 20 07 12.7
KHC *e* 20 07 24.3
KHC *e* 20 09 43.9
KHC *e*S **SKiKP** **20 16 32.1 -4.6**
KHC *e* 20 21 12.2
KHC MLR MLR
comp=Z,275μm,19.0s
KHC Kasperske Hory 72.52 317 *i*P **P** **20 07 02.9 -1.0**
KHC *e*x x 20 07 12.7
KHC *e*PCP **PcP** **20 07 24.3 +2.8**
KHC *e*PP **PP** **20 09 43.9 -1.3**
KHC *e*S **SKiKP** **20 16 32.1 -4.6**
KHC *e*SS **SS** **20 21 12.2 +7.0**
KHC *e*PKPPKP P'P'df 20 34 44.3 -6.9
KHC *e*x x 20 38 45.1
KHC AMS AMS 20 44 10.0
comp=Z,275μm,19.0s
KHC Kasperske Hory 72.52 317 *e*P **P** **20 07 03.1 -0.8**
WDD Wield Dalam 72.54 303 *e*P **P** **20 07 04.2 0.0**
comp=Z,2μm,1.1s
WDD LR LR
comp=Z,224μm,19.0s
MYKA Terra Mystica 72.55 315 *i*pP **P** **20 07 04.2 0.0**
comp=Z,11μm,3.1s,SNR=68
MOR8 Moi Rana 72.57 335 *e*P **P** **20 07 02.0 -1.8**
RGN Rugen 72.62 323 *e*P **P** **20 07 05.1 +0.9**
comp=Z,2μm,1.0s
KBA Koelnbreinsper 72.74 315 ||*i*P **P** **20 07 04.0 -1.4**
comp=Z,12μm,3.8s,SNR=85
CLL Collm 72.84 320 *e*P **P** **20 07 05.7 0.0**
comp=Z,400nm,1.2s
CLL Collm 72.84 320 *e*P **P** **20 07 05.0 -0.7**
CLL *e* 20 07 13.0
CLL *i* 20 07 17.7
CLL *i* 20 07 25.5
CLL *e*S **SKiKP** **20 16 35.0 -2.1**
CLL pmax pmax
comp=Z,400nm,1.2s
CLL Collm 72.84 320 *e*P **P** **20 07 05.0 -0.7**
comp=Z,400nm,1.2s
CLL *e*Pmax 20 07 07.0
CLL *e* 20 07 13.0
CLL *i* 20 07 17.7
comp=Z,968nm,1.3s
CLL *i* Pmax 20 07 25.5
comp=Z,5μm,2.3s
CLL *e*Plp 20 07 27.0
comp=Z,47μm,24.4s
CLL *i* 20 07 28.8
comp=Z,1μm,1.1s
CLL *e* 20 07 37.0
CLL *e* 20 07 48.0
CLL *e*PPmax 20 10 22.0
CLL *e* 20 12 20.0
CLL *e* 20 16 00.0
CLL *e*S **SKiKP** **20 16 35.0 -2.1**
CLL *e*Smax 20 17 17.0
comp=N,41μm,27.6s
CLL *e*Smax 20 17 17.0
comp=E,270μm,50.6s
CLL *e*SSmax 20 21 54.0
CLL *e* 20 22 54.0
CLL *e*SSSmax 20 26 00.0
CLL *e*PKPPKPdf P'P'df 20 34 44.0 -6.5
CLL *e*SKPPKPdf 20 38 39.0
CLL Lm MLR 20 43 00.0
comp=N,333μm,21.5s
CLL Lm MLR 20 43 00.0
comp=E,284μm,21.3s
CLL Lm MLR 20 43 00.0
comp=Z,461μm,21.3s
AQU L'Aquila 72.94 310 *e*P **P** **20 07 05.2 -1.3**
comp=Z,816nm,1.1s
AQU LR LR
comp=Z,394μm,21.0s
WET Wettzell 72.98 317 *e*P **P** **20 07 06.7 +0.1**
comp=Z,521nm,1.2s
WET Wettzell 72.98 317 *e*P **P** **20 07 06.7 +0.1**
WET pmax pmax
comp=Z,521nm,1.2s
FLOS Flostrand 73.02 335 *e*P **P** **20 07 06.2 -0.2**
FX1 Attu Island--F 73.08 39 *e*P **P** **20 07 06.4 -0.6**
RJOB Jochberg 73.08 316 *e*P **P** **20 07 07.0 -0.3**
comp=Z,290nm,1.2s
KONS Konsvik 73.12 336 *e*P **P** **20 07 06.9 -0.1**
KONS AMS AMS 20 45 48.6
comp=Z,458μm,21.1s
COP Copenhagen 73.13 324 *i*P **P** **20 07 08.6 +1.3**
COP pmax pmax
comp=Z,390nm,0.9s
COP MLR MLR
comp=Z,140μm,20.0s
COP Copenhagen 73.13 324 *i*P **P** **20 07 08.6 +1.3**
comp=Z,388nm,0.8s
COP
comp=Z,141μm,19.0s
STOK Stokkvaagen 73.16 335 *e*P **P** **20 07 07.6 +0.4**
KWAJ Kwajalein Atol 73.20 85 *e*P **P** **20 07 08.3 -0.1**
KWAJ pmax pmax
comp=Z,1μm,1.1s
KWAJ Kwajalein Atol 73.20 85 *e*P **P** **20 07 08.3 -0.1**
comp=Z,1μm,1.1s
TANN Tannenbergstha 73.21 319 *e*P **P** **20 07 08.3 +0.3**
comp=Z,359nm,1.2s
NKC Novy Kostel 73.22 319 *e*PP PP 20 09 46.5 -4.6
NKC *e*S **SKiKP** **20 16 37.1 -0.6**
NKC *e*x x 20 21 02.3
NKC *e*PKPPKP **P'P'df** **20 34 54.0 +4.1**
NKC *e*x x 20 38 49.4
NKC AMS AMS 20 44 40.0
comp=Z,255μm,19.9s
LLD Lille Linde 73.26 324 *i*P **P** **20 07 08.2 +0.2**
LLD pmax pmax
comp=Z,1μm,1.0s
LLD MLR MLR
comp=Z,100μm,18.0s
LLD Lille Linde 73.26 324 *i*P **P** **20 07 08.2 +0.2**
comp=Z,1μm,0.9s
LLD
comp=Z,101μm,17.0s
ABTA Abfaltersbach 73.32 315 ||*i*P **P** **20 07 08.0 -0.7**
comp=Z,13μm,4.4s,SNR=95
ROTZ Rotzenmuhle 73.39 318 *e*P **P** **20 07 09.9 +0.9**
comp=Z,704nm,1.2s
NSS Namsos 73.51 334 *e*P **P** **20 07 08.2 -1.1**
NSS AMS AMS 20 44 06.1
comp=Z,124μm,18.1s
HSP Hornsund 73.55 347 *i*P **P** **20 07 09.2 -0.2**
SPA0 Spitsbergen Ar 73.57 348 *e*P **P** **20 07 08.5 -1.0**
NC602 NORSAR Array S 73.62 330 *e*P **P** **20 07 08.9 -1.2**
SMY Shemya 73.65 39 *e*P **P** **20 07 09.8 -0.6**
SMY Shemya 73.65 39 *e*P **P** **20 07 09.8 -0.6**
MOX Moxa 73.74 319 *e*P **P** **20 07 11.4 +0.4**
comp=Z,392nm,1.1s
MOX *e*L L 20 43 51.0
comp=Z,525μm,21.9s
MOX Moxa 73.74 319 *e*P **P** **20 07 11.4 +0.4**
MOX pmax pmax
comp=Z,392nm,1.1s
MOX MLR MLR
comp=Z,526μm,21.9s
NB2 NORSAR Subarra 73.78 330 P **P** **20 07 09.8 -1.3**
comp=Z,614nm,0.8s,baz=89,slow=6.2
NB2 NORSAR Subarra 73.78 330 P **P** **20 07 09.8 -1.3**
baz=89,slow=6.2
NOA NORSAR Array B 73.78 330 P **P** **20 07 09.2 -1.9**
NOA PP **PP** **20 09 55.6 0.0**
NOA P'P' 20 34 49.2
NOA NORSAR Array B 73.78 330 P **P** **20 07 09.2 -1.9**
comp=Z,140nm,0.9s,baz=90,slow=5.8,SNR=198
NOA PP **PP** **20 09 55.6 0.0**
comp=Z,49nm,0.8s,baz=92,slow=9.3,SNR=3.5
NOA PKPPKP **P'P'df** **20 34 49.2 +0.6**
comp=Z,1.8nm,0.9s,baz=245,slow=1.8,SNR=4.8
NOA LR LR 20 44 53.5
comp=Z,338μm,18.1s,baz=90,slow=40
WTTA Wattenberg 73.89 316 ⇑*i*P **P** **20 07 10.3 -2.0**
comp=Z,12μm,4.6s,SNR=185
WATA Walderalm 73.93 316 ⇑*i*P **P** **20 07 10.4 -2.0**
comp=Z,877nm,1.2s,SNR=68
NAO01 NORSAR Array S 73.94 330 *e*P **P** **20 07 10.0 -2.0**
comp=Z,1μm,0.8s
OSL Oslo 74.02 329 *e*P **P** **20 07 12.0 -0.4**
GRF Grafenberg Arr 74.04 318 *e*P **P** **20 07 13.6 +0.8**
comp=Z,651nm,1.2s
GRF *e*L L 20 45 35.1
comp=Z,365μm,21.0s
GRF Grafenberg Arr 74.04 318 *e*P **P** **20 07 13.6 +0.8**
GRF pmax pmax
comp=Z,651nm,1.2s
GRF MLR MLR
comp=Z,365μm,21.0s
GRFO Grafenberg 74.04 318 *e*P **P** **20 07 12.8 0.0**
GRFO Grafenberg 74.04 318 *e*P **P** **20 07 12.8 0.0**
FUR Furstenfeldbru 74.08 316 *e*P **P** **20 07 13.1 0.0**
comp=Z,486nm,1.2s
FUR Furstenfeldbru 74.08 316 *e*P **P** **20 07 13.1 0.0**
FUR pmax pmax
comp=Z,486nm,1.2s
TBLU Trondheim 74.24 332 *e*P **P** **20 07 12.8 -0.9**
TBLU AMB AMB 20 07 37.5
comp=Z,2μm,2.2s
TBLU AMS AMS 20 43 42.8
comp=Z,621μm,19.6s
SLR Silverton 74.25 238 *e*P **P** **20 07 16.2 +1.6**
SLR AMB AMB 20 07 37.2
comp=Z,1μm,1.3s
MOTA Moosalm 74.25 316 ⇑*i*P **P** **20 07 12.5 -1.8**
comp=Z,1μm,1.0s,SNR=125
BSEG Bad Segeberg 74.40 323 *e*P **P** **20 07 15.3 +0.6**
comp=Z,1μm,1.1s
BSEG Bad Segeberg 74.40 323 *e*P **P** **20 07 15.3 +0.6**
BSEG pmax pmax
comp=Z,1μm,1.1s
RETA Reutte 74.47 316 *i*P **P** **20 07 14.0 -1.5**
comp=Z,13μm,3.7s,SNR=223
FETA Feichten 74.53 315 *i*P **P** **20 07 14.5 -1.4**
comp=Z,16μm,4.3s,SNR=188
ERPM east rand prop 74.53 237 *e*P **P** **20 07 16.9 +0.6**
ERPM AMB AMB 20 07 30.3
comp=Z,720nm,2.9s
KBS Kingsbay 74.56 349 *e*P **P** **20 07 13.3 -1.9**
KBS AMB AMB 20 07 39.7
comp=Z,1μm,2.7s
KBS AMS AMS 20 47 56.5
comp=Z,686μm,17.2s
KBS Kingsbay 74.56 349 *e*P **P** **20 07 15.1 -0.2**
KBS MLR MLR
comp=Z,796μm,19.0s
KBS Kingsbay 74.56 349 *e*P **P** **20 07 15.1 -0.2**
KBS LR LR
comp=Z,796μm,19.0s
NRDL Niedersach Rie 74.59 321 *e*P **P** **20 07 16.6 +0.8**

comp=Z,753nm,1.3s
KONO Kongsberg 74.60 328 *e*P P 20 07 15.5 -0.3
KONO AMB AMB 20 07 38.4
comp=Z,2μm,1.6s
KONO AMS AMS 20 44 24.5
comp=Z,486μm,18.9s
KONO Kongsberg 74.60 328 *e*P P 20 07 15.1 -0.7
KONO pmax pmax
comp=Z,517nm,1.0s
KONO MLR MLR
comp=Z,622μm,20.0s
KONO Kongsberg 74.60 328 *e*P P 20 07 15.1 -0.7
comp=Z,124nm,1.0s
KONO LR LR
comp=Z,622μm,20.0s
UBBA Unterbreizbach 74.75 319 *e*P P 20 07 17.2 +0.4
comp=Z,324nm,1.6s
DOMB Dombas 74.80 331 *e*P P 20 07 17.4 +0.4
FUORN Ofenpass-Fuorn 74.88 315 *e*P P 20 07 17.2 -0.8
MUD Monsted U'grnd 74.94 325 *i* P P 20 07 19.0 +1.2
MUD pmax pmax
comp=Z,960nm,0.9s
MUD MLR MLR
comp=Z,370μm,19.0s
MUD Monsted U'grnd 74.94 325 *i* P P 20 07 19.0 +1.2
comp=Z,958nm,0.9s
MUD
comp=Z,371μm,19.0s
VLC Villacollemand 75.00 312 *e*P P 20 07 17.1 -1.4
VLC LR LR
comp=Z,301μm,22.0s
KLOF Kloof 75.05 238 *e*P P 20 07 20.0 +0.7
KLOF AMB AMB 20 07 29.4
comp=Z,1μm,1.4s
DAVA Damuels 75.08 316 *i* P P 20 07 18.0 -1.1
comp=Z,5μm,1.4s,SNR=246
DAVOX Davos/Dischmat 75.13 315 P P 20 07 18.6 -0.8
DAVOX Davos/Dischmat 75.13 315 P P 20 07 18.6 -0.8
comp=Z,179nm,0.9s,baz=102,slow=4.0,SNR=165
HOMB Homborsund 75.21 327 *e*P P 20 07 18.6 -0.8
HOMB AMS AMS 20 43 29.9
comp=Z,332μm,20.2s
KSD Kokstad 75.39 233⇓ *i*P P 20 07 22.9 +1.8
KSD AMB AMB 20 07 35.8
comp=Z,833nm,3.3s
STU Stuttgart 75.42 317 *e*P P 20 07 21.0 +0.2
comp=Z,585nm,1.7s
STU Stuttgart 75.42 317 *e*P P 20 07 20.1 -0.7
STU pmax pmax
comp=Z,641nm,0.9s
STU Stuttgart 75.42 317 *e*P P 20 07 20.1 -0.7
comp=Z,641nm,0.9s
KSR Koster 75.44 238 *e*P P 20 07 23.3 +1.8
KSR AMB AMB 20 07 44.4
comp=Z,320nm,1.2s
TAU Tasmania Unive 75.47 142 *e*P P 20 07 21.5 +0.5
TAU MLR MLR
comp=Z,234μm,20.0s
TAU Tasmania Unive 75.47 142 *e*P P 20 07 21.5 +0.5
TAU LR LR
comp=Z,234μm,20.0s
MOL Molde 75.49 332 *e*P P 20 07 19.9 -0.9
MOL AMS AMS 20 43 53.5
comp=Z,587μm,20.0s
PRYS Parys 75.49 237 *e*P P 20 07 22.7 +1.0
PRYS AMB AMB 20 07 44.2
comp=Z,2μm,1.2s
TUE Stuetta 75.52 315 *e*P P 20 07 20.7 -1.0
TUE LR LR
comp=Z,359μm,22.0s
TNS Taunus Mts 75.79 319 *e*P P 20 07 23.2 +0.3
comp=Z,319nm,1.1s
TNS Taunus Mts 75.79 319 *e*P P 20 07 23.2 +0.3
TNS pmax pmax
comp=Z,319nm,1.1s
SEK Senekal 75.85 236 *e*P P 20 07 25.8 +2.0
SEK AMB AMB 20 07 37.4
comp=Z,653nm,1.2s
SNART Snartemo 75.89 327 *e*P P 20 07 22.0 -1.2
SNART AMB AMB 20 07 47.8
comp=Z,1μm,3.4s
SNART AMS AMS 20 43 50.9
comp=Z,316μm,22.5s
BFO Black Forest 76.03 317 *e*P P 20 07 23.5 -0.9
comp=Z,262nm,1.3s
BFO Black Forest 76.03 317 *e*P P 20 07 23.0 -1.4
BFO MLR MLR
comp=Z,279μm,19.0s
BFO Black Forest 76.03 317 *e*P P 20 07 22.9 -1.4
comp=Z,14nm,2.7s
BFO LR LR
comp=Z,279μm,19.0s
IBBN Ibbenburen 76.04 321 *e*P P 20 07 24.6 +0.4
comp=Z,826nm,1.2s
ODD1 Odda 76.09 329 *e*P P 20 07 24.4 0.0
ODD1 AMS AMS 20 44 51.0
comp=Z,594μm,22.1s
OSPF L'Ospedale 76.12 310 *e*P P 20 07 23.5 -1.6
PGF Pioggiola 76.16 311 *e*P P 20 07 24.0 -1.3
comp=Z,1μm,0.9s
LBTB Lobatse 76.19 240 *e*P P 20 07 27.4 +1.7
LBTB AMB AMB 20 07 39.6
comp=Z,836nm,1.4s
LBTB Lobatse 76.19 240 *e*P P 20 07 25.9 +0.3
comp=Z,74nm,0.4s
LBTB P'P'
LBTB Lobatse 76.19 240 PKPPKP P'P'df 20 34 51.2 +9.0
comp=Z,7.4nm,1.0s,baz=268,slow=6.2,SNR=3.8
BLS5 Blasjo 76.21 328 *e*P P 20 07 24.0 -1.1
BLS5 AMS AMS 20 45 15.5
comp=Z,455μm,18.4s
HYA Hoyanger 76.22 330 *e*P P 20 07 24.4 -0.6
HYA AMS AMS 20 43 27.9
comp=Z,336μm,24.8s
VSL Villasalto 76.23 308 *e*P P 20 07 24.8 -0.8
comp=Z,812nm,1.0s
VSL LR LR
comp=Z,117μm,21.0s
LANF Langenberg 76.32 318 *e*P P 20 07 25.3 -0.6
BUG Bochum--Univer 76.42 320 *e*P P 20 07 26.7 +0.3
comp=Z,646nm,1.2s
WIT Witteveen 76.66 322 *e*P P 20 07 28.6 +0.9
comp=Z,12μm,1.8s
WTSB Winterswijk 76.66 321 *e*P P 20 07 27.8 +0.1
comp=Z,3μm,1.6s
RUND Rundenannen 76.67 329 *e*P P 20 07 26.7 -1.0
BER Bergen 76.69 329 *e*P P 20 07 25.8 -1.9
BER *e*SKS **SKSac 20 17 38.5 +1.2**
BER AMS AMS 20 47 04.1
comp=Z,531μm,21.0s
CDF Champ du Feu 76.73 317 *e*P P 20 07 27.0 -1.4
comp=Z,2μm,1.1s
KEST Kesra 76.74 304 *e*P P 20 07 27.6 -1.0
KEST Kesra 76.74 304 P P 20 07 27.7 -1.0
comp=Z,136nm,1.0s,baz=23,slow=0.8,SNR=168
KEST LR LR 20 48 08.4
comp=Z,127μm,20.2s,baz=38,slow=41
ASK Askoy 76.75 329 *e*P P 20 07 27.3 -0.8
ASK AMB AMB 20 07 41.0
comp=Z,1μm,1.7s
EGD Espegrend 76.76 329 *e*P P 20 07 27.7 -0.4
ECH Echery 76.83 317 PFAKE 20 07 40.0 +11
ECH LR LR
comp=Z,237μm,19.0s
ECH Echery 76.83 317 *e*P P 20 07 28.2 -0.6
MOF Molkenrain 76.88 316 *e*P P 20 07 28.3 -1.0
SUE Sulen 76.92 330 *e*P P 20 07 28.3 -0.7
SUE AMS AMS 20 46 43.0
comp=Z,422μm,17.7s
SENIN Lac Senin/Sane 76.94 315 *e*P P 20 07 28.7 -1.1
AMKA Amchitka 76.95 40 *e*P P 20 07 28.1 -1.3
comp=Z,1μm,0.8s
SAOF Saorge 77.04 312 *e*P P 20 07 29.7 -0.5
HINF Hinteralfeld 77.07 316 *e*P P 20 07 28.8 -1.5
comp=Z,1μm,1.3s
AUTN L'Aution 77.13 312 *e*P P 20 07 30.6 -0.3
SBF Sospel 77.14 312 *e*P P 20 07 29.5 -1.3
comp=Z,5μm,1.1s
LOMF Lomont 77.15 316 *e*P P 20 07 29.7 -1.0
LUCF Luceram 77.20 312 *e*P P 20 07 30.6 -0.6
REVF Revere 77.21 312 *e*P P 20 07 30.2 -0.9
SWZ Schweizer 77.25 238 *e*P P 20 07 33.7 +2.0
SWZ AMB AMB 20 07 35.2
comp=Z,1μm,1.6s
TOUF Mont Tournerai 77.26 312 *e*P P 20 07 30.7 -0.9
MEM Membach 77.30 319 P **P 20 07 31.9 +0.5**
comp=Z,530nm,1.9s
MEM AP **pP 20 07 39.5 -1.6**
WLF Walferdange 77.32 318 *e*P P 20 07 32.0 +0.5
comp=Z,487nm,1.5s
WLF Walferdange 77.32 318 *e*P P 20 07 31.7 +0.2
WLF pmax pmax
comp=Z,2μm,1.5s
WLF MLR MLR
comp=Z,381μm,20.0s
WLF Walferdange 77.32 318 *e*P P 20 07 31.7 +0.2
comp=Z,2μm,1.5s
WLF LR LR
comp=Z,381μm,20.0s
HGN Heimansgroeve 77.33 319 *e*P P 20 07 31.5 0.0
comp=Z,1μm,1.8s
HGN *e*PP PP 20 10 56.4 +31
HGN *e*PPP PPP 20 12 53.4
HGN *e*S S 20 17 30.6 +11
HGN *e*P x 20 19 39.5
comp=Z,449nm,1.4s
HGN *e*SS SS 20 22 50.1 +32
OG01 Vacheresse 77.37 315 *e*P P 20 07 31.6 -0.4
HAU Haudompre 77.39 317 *e*P P 20 07 30.6 -1.4
comp=Z,3μm,1.1s
HAU *e*R
comp=Z,387μm,19.2s
LPG La Plagne 77.42 314 *e*P P 20 07 31.7 -0.9
comp=Z,5μm,0.9s
LPL La Plagne 77.44 314 *e*P P 20 07 31.7 -0.9
comp=Z,5μm,0.9s
BEBN Eben Emael 77.49 320 P **P 20 07 33.6 +1.2**
comp=Z,302nm,2.3s
RSL Roselend 77.49 314 *e*P P 20 07 31.6 -1.2
MBDF Montbardon 77.51 313 *e*P P 20 07 31.1 -1.8
comp=Z,2μm,0.9s
BNI Bardonecchia 77.53 314 *e*P P 20 07 31.8 -1.2
BNI MLR MLR
comp=Z,209μm,22.0s
BNI Bardonecchia 77.53 314 *e*P P 20 07 31.8 -1.2
BNI LR LR
comp=Z,209μm,22.0s
CALN Calern 77.55 312 *e*P P 20 07 32.5 -0.7
THEF They Montfort 77.60 317 *e*P P 20 07 32.0 -1.2
PAGF Fort de Pagny 77.73 317 *e*P P 20 07 32.8 -1.1
comp=Z,424nm,1.2s,baz=86
CABF La Chapelle 77.74 315 *e*P P 20 07 33.1 -1.0
comp=Z,3μm,1.2s
FRF La Foret Royal 77.75 312 *e*P P 20 07 33.1 -1.0
comp=Z,5μm,1.1s
BOSA Boshof 77.88 236 *e*P P 20 07 36.4 +1.3
BOSA AMB AMB 20 07 38.5
comp=Z,1μm,1.8s
BOSA Boshof 77.88 236 P **P 20 07 35.2 +0.1**
BOSA P'P' 20 34 41.9
BOSA Boshof 77.88 236 P **P 20 07 35.2 +0.1**
comp=Z,296nm,0.7s,baz=70,slow=4.5,SNR=213
BOSA PKPPKP **P'P'df 20 34 41.9 +3.0**
comp=Z,12nm,1.1s,baz=280,slow=1.4,SNR=4.2
BOSA LR LR 20 39 39.0
comp=Z,177μm,19.8s,baz=65,slow=34
LMR La Mourre 77.88 312 *e*P P 20 07 33.8 -1.0
comp=Z,2μm,1.0s
ORIF Oris-en-Rattie 78.11 314 *e*P P 20 07 35.2 -1.0
comp=Z,2μm,1.1s
ORIF *e*R
comp=Z,448μm,22.5s
GIVF Givet 78.12 319 *e*P P 20 07 35.0 -1.0
comp=Z,4μm,1.6s
CMAH Djebel Manchou 78.16 305 P **P 20 07 36.2 -0.4**
ABSA Djebel Ababsia 78.16 305 P **P 20 07 36.1 -0.6**
MEZF Maizieres J'vi 78.18 317 *e*P P 20 07 35.3 -1.1
comp=Z,3μm,1.2s,baz=93
SFTF Sexfontaines 78.23 317 *e*P P 20 07 35.4 -1.3
comp=Z,4μm,1.2s
DOU Dourbes 78.26 319 P **P 20 07 36.9 +0.1**
comp=Z,478nm,2.0s
DOU AP **PcP 20 07 45.1 -1.0**
SNF Seneffe 78.41 319 P **P 20 07 38.1 +0.6**
SMRF Simiane la Rot 78.46 313 *e*P P 20 07 37.5 -0.6
comp=Z,4μm,1.1s
HVD Gariep Dam 78.48 234⇓ *i*P P 20 07 40.5 +2.0
HVD AMB AMB 20 08 01.4
comp=Z,1μm,1.3s
BAIF Baives 78.52 319 *e*P P 20 07 37.3 -0.9
comp=Z,3μm,1.1s
OG26 St.-Nazaire-De 78.57 313 *e*P P 20 07 38.5 -0.2
CKFL Kef-Lekhel 78.75 305 P **P 20 07 39.0 -0.9**
RUDU RUNDU 78.81 248 *e*P P 20 07 42.9 +2.4
RUDU AMB AMB 20 08 03.9
comp=Z,2μm,1.2s
GRM Grahamstown 78.82 231 *e*P P 20 07 42.4 +2.3
GRM AMB AMB 20 07 54.9
comp=Z,752nm,2.9s
CASM Ain Smara 78.95 305 P **P 20 07 41.1 +0.1**
VIVF Saint-Julien-l 78.97 314 *e*P P 20 07 39.8 -1.0
comp=Z,3μm,1.1s
SSB Saint Sauveur 79.00 314 PFAKE 20 07 50.0 +9.0
SSB LR LR
comp=Z,183μm,19.0s
SSB Saint Sauveur 79.00 314 *e*P P 20 07 39.8 -1.2
CTEI Djebel Teioual 79.05 305 P **P 20 07 42.3 +0.7**
LOR Lormes 79.16 316 *e*P P 20 07 40.4 -1.4
comp=Z,3μm,1.2s,baz=83
LOR *e*R
comp=Z,395μm,22.8s
SMF Signal de Mont 79.27 315 *e*P P 20 07 41.0 -1.4
comp=Z,2μm,0.9s
SOE Somerset East 79.29 232⇑ *i*P P 20 07 45.3 +2.6
SOE AMB AMB 20 08 09.6
comp=Z,1μm,1.5s
ADK Adak 79.36 39 *e*P P 20 07 41.0 -1.8
ADK pmax pmax
comp=Z,2μm,0.9s
ADK MLR MLR
comp=Z,227μm,22.0s
ADK Adak 79.36 39 *e*P P 20 07 41.0 -1.8
comp=Z,447nm,0.9s
ADK LR LR
comp=Z,227μm,22.0s
DFRA Djebel Bou Aff 79.39 305 P **P 20 07 44.1 +0.7**
SSF Saint Saulge 79.43 316 *e*P P 20 07 42.0 -1.3
comp=Z,2μm,1.1s
AVF Avril sur Loir 79.58 316 *e*P P 20 07 42.7 -1.4
comp=Z,2μm,1.0s
LASF Ste Croix 79.67 313 *e*P P 20 07 44.0 -0.7
comp=Z,5μm,1.2s
CKHR Kef el Ahmar 79.77 305 P **P 20 07 46.4 +0.9**
SET Setif 79.83 305 P **P 20 07 47.0 +1.2**
AGO Saint Agoulin 79.85 315 *e*P P 20 07 45.0 -0.6
LBL Lubilhac 79.91 314 *e*P P 20 07 45.2 -0.8
LRW Lerwick 79.94 330 *e*P P 20 07 45.1 -0.6
LRW AMB AMB 20 07 47.7
comp=Z,236nm,1.4s
LRW *e* 20 10 58.2
LRW AMS AMS 20 49 22.6
comp=Z,391μm,18.2s
BGF Bois d'Agland 79.96 316 *e*P P 20 07 45.1 -1.1
comp=Z,3μm,1.2s
HYF Humbligny 79.98 316 *e*P P 20 07 45.5 -0.8
MSKU Masuku 79.98 266 PFAKE 20 08 00.0 +13
MSKU LR LR
comp=Z,2.0nm,21.0s
PYM Petit Puy Mans 79.98 315 *e*P P 20 07 45.2 -1.2
TARA Tarawa 80.02 91 *e*P P 20 07 48.3 +1.2
comp=Z,272nm,1.0s
TARA LR LR
comp=Z,61μm,22.0s
ELSH Elham, Standar 80.28 320 *e*P P 20 07 48.2 +0.5
ELSH AMB AMB 20 07 49.7
comp=Z,700nm,1.1s
ELSH *e* 20 11 04.0
ELSH AMS AMS 20 48 15.9
comp=Z,286μm,20.0s
MIR Mirnyy 80.37 180 *e*P P 20 07 50.0 +2.3
MIR pmax pmax
comp=Z,513nm,1.5s
MIR pmax pmax
comp=Z,4μm,2.5s
TCF Toulx Ste Croi 80.44 315 *e*P P 20 07 47.9 -0.9
comp=Z,3μm,1.1s
JNW Jan Mayen West 80.45 341 *e*P P 20 07 51.0 +2.7
JMIC Jan Mayen 80.49 341 *e*P P 20 07 48.6 +0.1
JMIC AMS AMS 20 45 04.7
comp=Z,246μm,25.9s
BUFB Buffelsbos 80.50 231 *i* P P 20 07 50.5 +1.3
BUFB AMB AMB 20 07 52.1
comp=Z,261nm,1.5s
DZM Mont Dzumac 80.54 116 *e*P P 20 07 51.2 +1.4
comp=Z,2μm,1.3s
DZM Mont Dzumac 80.54 116 *e*PP PP 20 10 54.7 +1.1
comp=Z,19μm,29.6s
DZM *e*S **S 20 17 52.3 -2.7**
comp=Z,176μm,32.8s
DZM *e*SS **SS 20 23 07.8 -0.3**
comp=Z,178μm,32.9s
DZM *e*LR LR 20 32 49.7
comp=Z,270μm,25.3s
DZM Mont Dzumac 80.54 116 *e*P P 20 07 49.8 +0.1
comp=Z,1μm,1.4s
SJAF Saint Jean de 80.65 311 *e*P P 20 07 49.6 -0.4
LMK Market Rasen 80.73 323 *e*P P 20 07 50.8 +0.7
LMK AMB AMB 20 07 53.2
comp=Z,597nm,2.6s
CAF Calviac 80.78 314 *e*P P 20 07 49.9 -0.8
comp=Z,2μm,1.1s
LRDF Laroque-de-Fa 80.81 312 *e*P P 20 07 50.8 0.0
HMNX Herstmonceux 80.82 320 *e*P P 20 07 51.3 +0.6
HMNX AMB AMB 20 07 52.8
comp=Z,605nm,1.3s
HMNX *e* 20 11 08.2
HMNX AMS AMS 20 48 45.0
comp=Z,340μm,20.5s
FILF Fillols 80.87 312 *e*P P 20 07 50.9 -0.3
MTLF Montolieu 80.97 312 *e*P P 20 07 50.8 -0.9
comp=Z,3μm,1.1s
RJF Les Rejaudoux 81.10 314 *e*P P 20 07 51.6 -0.7
comp=Z,4μm,1.2s
RJF *e*R
comp=Z,392μm,22.0s
TSUM Tsumeb 81.14 248⇑ *i*P P 20 07 55.2 +2.2
TSUM Tsumeb 81.14 248 *e*PKPdf P 20 07 53.3 +0.2
comp=Z,794nm,1.1s
TSUM Tsumeb 81.14 248 LR LR 20 40 39.8
comp=Z,564μm,20.5s,baz=68,slow=33
CARF Carcanieres 81.17 312 *e*P P 20 07 52.1 -0.8
CASY Casey 81.17 173 *e*P P 20 07 51.0 -1.1
comp=Z,1μm,1.1s
CASY LR LR
comp=Z,241μm,19.0s
DAG Danmarks Havn 81.21 347 *i* P P 20 07 51.1 -1.2
DAG pmax pmax
comp=Z,150nm,0.9s
DAG MLR MLR
comp=Z,650μm,22.0s
DAG Danmarks Havn 81.21 347 *i* P P 20 07 51.1 -1.2
comp=Z,180nm,0.9s
DAG
comp=Z,582μm,21.0s
DRUM Mains of Drumt 81.25 326 *e*P P 20 07 53.6 +0.7
DRUM AMB AMB 20 07 54.9
comp=Z,372nm,1.5s
DRUM AMS AMS 20 50 07.5
comp=Z,352μm,19.9s
SKP1 Kophill 81.36 321 *e*P P 20 07 53.8 +0.3
HPK Haverah Park 81.39 323 *e*P P 20 07 54.1 +0.5
HPK AMB AMB 20 07 55.8
comp=Z,414nm,1.5s
HPK *e* 20 11 08.1
HPK AMS AMS 20 49 23.4
comp=Z,289μm,20.0s
MME1 Meikle Cairn 81.42 327 *e*P P 20 07 53.6 -0.2
KBI1 Birley Grange 81.48 323 *e*P P 20 07 54.2 +0.1
MCD Coleburn Disti 81.52 327 *e*P P 20 07 54.8 +0.5
ESY Stoneypath 81.53 325 *e*P P 20 07 53.7 -0.7
XAL Allendale 81.54 324 *e*P P 20 07 54.0 -0.4
LDF La Druitiere 81.56 318 *e*P P 20 07 53.3 -1.4
comp=Z,2μm,1.1s
WOL Wolverton 81.70 321 *e*P P 20 07 54.5 -0.8
WOL AMB AMB 20 07 57.5
comp=Z,766nm,1.4s
WOL *e* 20 11 14.2
WOL AMS AMS 20 51 13.9
comp=Z,302μm,19.2s
LFF La Frestale 81.71 314 *e*P P 20 07 54.8 -0.7
comp=Z,2μm,1.2s
FLN La Foliniere 81.76 318 *e*P P 20 07 54.4 -1.3
comp=Z,3μm,1.1s,baz=76
FLN *e*R
comp=Z,668μm,23.0s
EMHD Djebel Mahouad 81.78 305 P **P 20 07 56.9 +0.7**
EBL Broad Law 81.80 325 *e*P P 20 07 56.2 +0.4
EDI Edinburgh 81.85 326 AMS AMS 20 49 45.8
comp=Z,280μm,19.5s
MLS Moulis 81.85 312 *e*P P 20 07 55.1 -1.2
STNC Stoke 81.91 323 *e*P P 20 07 55.9 -0.5
STNC AMB AMB 20 07 58.8
comp=Z,442nm,1.7s
STNC *e* 20 11 07.3
STNC AMS AMS 20 48 14.8
comp=Z,338μm,23.0s
MVH1 Achvaich 81.92 328 *e*P P 20 07 55.4 -1.0
SSW Stow on the Wo 81.94 321 *e*P P 20 07 55.8 -0.8
EKA Eskdalemuir Ar 81.97 325 P **P 20 07 56.0 -0.7**
EKA Eskdalemuir Ar 81.97 325 P **P 20 07 56.0 -0.7**
comp=Z,131nm,0.9s,baz=87,slow=5.4,SNR=120
MFF Saint Martin d 81.98 316 *e*P P 20 07 55.6 -1.3
comp=Z,3μm,1.1s
ECK Cauldkaine Hil 81.98 325 *e*P P 20 07 55.5 -1.2
ESK Eskdalemuir 81.99 325 *e*P P 20 07 56.9 +0.1
ESK AMB AMB 20 07 58.8
comp=Z,298nm,1.3s
ESK *e* 20 11 27.1
ESK AMS AMS 20 52 56.8
comp=Z,207μm,16.6s
ESK Eskdalemuir 81.99 325 *i* P P 20 07 56.2 -0.6
ESK Eskdalemuir 81.99 325 *e*P P 20 07 56.7 -0.1
comp=Z,286nm,1.1s
ESK LR LR
comp=Z,251μm,20.0s
EAU Auchinoon 82.01 326 *e*P P 20 07 56.7 -0.2
ELO Logie Almond 82.01 326 *e*P P 20 07 57.2 +0.3
SWN1 Swindon 82.01 321 *e*P P 20 07 57.6 +0.6
SWN1 AMB AMB 20 07 60.0
comp=Z,634nm,1.8s
SWN1 *e* 20 11 16.8
SWN1 AMS AMS 20 52 12.6
comp=Z,185μm,18.4s
GRR Gorron 82.08 318 *e*P P 20 07 56.2 -1.2
comp=Z,3μm,1.6s
KESW Keswick, Cumbr 82.10 324 *e*P P 20 07 57.2 -0.2
KESW AMB AMB 20 07 59.5
comp=Z,292nm,1.5s
KESW *e* 20 11 16.1
KESW AMS AMS 20 49 04.5
comp=Z,208μm,19.5s
MELF Melles 82.11 312 *e*P P 20 07 58.0 +0.2
MDO Dochfour 82.13 327 *e*P P 20 07 57.9 +0.4
SOFL Sornfelli, Far 82.25 332 *e*P P 20 07 58.7 +0.6
SOFL AMB AMB 20 08 08.2
comp=Z,300nm,3.9s
SOFL AMS AMS 20 49 33.7
comp=Z,513μm,19.1s
TAM Tamanrasset 82.28 292 PFAKE 20 08 10.0 +11
TAM LR LR
comp=Z,553μm,20.0s
EPF Esparros 82.38 312 *e*P P 20 07 57.4 -1.8
comp=Z,2μm,1.7s
EAB Aberfoyle 82.42 326 *e*P P 20 07 59.1 +0.1
RESF Ens 82.42 312 *e*P P 20 07 59.1 -0.4
HLM1 Long Mynd 82.44 322 *e*P P 20 07 58.5 -0.7
HLM1 AMB AMB 20 08 01.3
comp=Z,256nm,1.6s
GCD Castle Douglas 82.51 325 *e*P P 20 08 00.1 +0.6
FOEL Foel Wylfa 82.54 323 *e*P P 20 08 00.4 +0.7
FOEL AMB AMB 20 08 01.9
comp=Z,290nm,2.0s
FOEL *e* 20 11 17.0
FOEL AMS AMS 20 50 07.1
comp=Z,362μm,19.8s
LABF Labassere 82.56 312 *e*P P 20 08 00.4 +0.3
PGBU Glenifferbraes 82.58 326 *e*P P 20 08 00.7 +0.8
PGBU AMB AMB 20 08 02.2
comp=Z,409nm,1.3s
PGBU *e* 20 11 17.8
PGBU AMS AMS 20 50 15.2
comp=Z,226μm,19.2s
KAC Achnashellach 82.61 327 *e*P P 20 08 00.4 +0.4
WIN Windhoek 82.62 245 *e*P P 20 08 03.5 +2.6
WIN AMB AMB 20 08 29.6
comp=Z,674nm,1.2s
MCH1 Michaelchurch 82.63 322 *e*P P 20 07 59.5 -0.7

MCH1 AMB AMB 20 08 00.7
comp=Z,256nm,2.8s
MCH1 e 20 11 20.3
MCH1 AMS AMS 20 51 06.9
comp=Z,237µm,19.4s
VIEF Viey 82.64 312 eP **P 20 08 01.7 +1.2**
KSB Sheil Bridge 82.75 327 eP **P 20 08 00.4 -0.3**
JSA Saint Aubin 82.75 319 eP **P 20 08 01.2 +0.4**
JSA AMB AMB 20 08 02.5
comp=Z,351nm,1.1s
JSA e 20 11 20.1
JSA AMS AMS 20 51 20.2
comp=Z,220µm,19.3s
KPL Plockton 82.83 327 eP **P 20 08 01.1 0.0**
KPL AMB AMB 20 08 03.4
comp=Z,229nm,1.6s
KPL e 20 11 21.6
KPL AMS AMS 20 48 49.3
comp=Z,307µm,19.6s
SUR Sutherland 82.86 234 eP **P 20 08 04.6 +2.7**
SUR AMB AMB 20 08 29.1
comp=Z,846nm,1.6s
SUR Sutherland 82.86 234 P **P 20 08 04.9 +2.9**
SNR=16
SUR Sutherland 82.86 234 eP **P 20 08 04.1 +2.2**
comp=Z,525nm,1.4s
SUR LR LR
comp=Z,288µm,20.0s
WPM1 Penmaenmawr 82.87 323 eP **P 20 08 01.2 -0.2**
EBNR Beni Rached 82.88 306 P **P 20 08 02.5 +0.6**
REYF Montagne du Re 82.89 312 eP **P 20 08 03.4 +1.5**
ALE Alert 82.91 357 P **P 20 08 00.0 -1.1**
comp=Z,2µm,0.9s,SNR=40
GAL1 Galloway 82.94 325 eP **P 20 08 02.5 +0.8**
GAL1 AMB AMB 20 08 03.9
comp=Z,274nm,1.4s
GAL1 e 20 11 25.7
GAL1 AMS AMS 20 53 57.4
comp=Z,251µm,17.1s
ECHA Ech Chlef 83.04 305 P P 20 08 07.0 +4.3
ETSF Etsaut 83.05 312 eP **P 20 08 02.0 -0.7**
comp=Z,2µm,1.1s
YLL Llanberis 83.05 323 eP **P 20 08 02.3 0.0**
WME Myndd Eilian 83.07 323 eP **P 20 08 02.9 +0.5**
WLF1 Llynfaes 83.15 323 eP **P 20 08 02.2 -0.6**
WLF1 AMB AMB 20 08 05.2
comp=Z,325nm,1.5s
WLF1 e 20 11 18.5
WLF1 AMS AMS 20 51 11.4
comp=Z,307µm,20.1s
SGMF Saint Gilles 83.21 318 eP **P 20 08 02.2 -1.1**
comp=Z,3µm,1.2s
YRE Yr Eifl 83.24 323 eP **P 20 08 02.8 -0.6**
LPW Lampeter 83.24 322 eP **P 20 08 03.0 -0.3**
LPW AMB AMB 20 08 05.5
comp=Z,2µm,1.9s
LPW e 20 11 25.4
LPW AMS AMS 20 50 23.8
comp=Z,3471µm,19.9s
ORDF Ordiarp 83.25 313 eP **P 20 08 02.5 -1.1**
ETRT Tiaret 83.26 305 P **P 20 08 05.5 +1.5**
YRC Rhoscolyn 83.26 323 eP **P 20 08 03.9 +0.5**
MIDW Midway 83.28 63 PFAKE 20 08 10.0 +6.0
MIDW LR LR
comp=Z,76µm,22.0s
EANR `Ain N'Sour 83.30 305 P **P 20 08 04.5 +0.4**
LARF Larrau 83.33 313 eP **P 20 08 03.6 -0.5**
HEX Exmoor 83.34 321 eP **P 20 08 03.7 -0.1**
CVNA Calvinia 83.36 235 eP **P 20 08 06.4 +1.9**
CVNA AMB AMB 20 08 19.3
comp=Z,909nm,3.6s
OSSF Osses 83.47 313 eP **P 20 08 03.5 -1.2**
SJPF Ste Jean 83.48 313 eP **P 20 08 04.2 -0.6**
comp=Z,2µm,1.2s
DYA Yadsworthy 83.57 320 eP **P 20 08 04.3 -0.8**
DYA AMB AMB 20 08 07.0
comp=Z,361nm,1.5s
DYA e 20 11 26.8
DYA AMS AMS 20 50 29.4
comp=Z,329µm,20.3s
ROSF Rostrenen 83.66 318 eP **P 20 08 04.5 -1.1**
comp=Z,2µm,1.2s
OJGS Djebel Guires 83.67 305 P **P 20 08 08.0 +1.9**
QUIF Quistinic 83.69 318 eP **P 20 08 04.3 -1.4**
comp=Z,2µm,1.3s
HTL Hartland 83.77 321 eP **P 20 08 06.8 +0.8**
HTL AMB AMB 20 08 08.3
comp=Z,341nm,1.4s
HTL e 20 11 23.3
HTL AMS AMS 20 52 07.6
comp=Z,286µm,19.1s
GMM Mts of Mourne 83.80 324 eP **P 20 08 06.7 +0.5**
OJBR Djebel Berber 83.98 305 P **P 20 08 10.0 +2.4**
MAW Mawson 84.31 191 P **P 20 08 07.0 -1.2**
MAW PKKPbc **PKKPbc 20 26 28.5 +4.2**
MAW P'P' 20 34 30.0
MAW Mawson 84.31 191 P **P 20 08 07.0 -1.2**
comp=Z,101nm,0.9s,baz=34,slow=5.7,SNR=74
MAW PKKPbc **PKKPbc 20 26 28.5 +4.2**
comp=Z,12nm,0.7s,baz=268,slow=4.2,SNR=6.6
MAW PKPPKP P'P'df 20 34 30.0 +6.4
comp=Z,18nm,1.2s,baz=186,slow=3.5,SNR=6.9
MAW LR LR 20 39 13.0
comp=Z,124µm,21.3s,baz=29,slow=31
ODJA Bouhanifia 84.43 305 P **P 20 08 07.0 -2.9**
ELIM Elim 84.49 232 eP **P 20 08 12.4 +2.3**
ELIM AMB AMB 20 08 24.6
comp=Z,999nm,3.0s
KOMG Komaggas 84.63 238 eP **P 20 08 12.5 +1.7**
KOMG AMB AMB 20 08 21.1
comp=Z,677nm,1.5s
SCO Scoresbysund 84.82 342 i P **P 20 08 12.0 +1.0**
SCO pmax pmax
comp=Z,200nm,1.0s
SCO MLR MLR
comp=Z,290µm,23.0s
SCO Scoresbysund 84.82 342 i P **P 20 08 12.0 +1.0**
comp=Z,202nm,1.0s
SCO
comp=Z,291µm,23.0s
AKUT Akutan 85.26 35 eP **P 20 08 12.2 -1.3**
comp=Z,562nm,1.1s
OLHC Oulhaca 85.46 305 P P 20 08 07.5 -7.5
ESDC Sonseca Array 86.31 310 P **P 20 08 18.1 -1.1**
ESDC PKKPbc **PKKPbc 20 26 22.4 +4.8**
ESDC P'P' 20 34 26.3
ESDC Sonseca Array 86.31 310 P **P 20 08 18.1 -1.1**
comp=Z,79nm,0.9s,baz=59,slow=4.8,SNR=169
ESDC PKKPbc **PKKPbc 20 26 22.4 +4.8**
comp=Z,2.5nm,0.8s,baz=268,slow=2.7,SNR=5.1
ESDC PKPPKP **P'P'df 20 34 26.3 -0.1**
comp=Z,0.7nm,0.7s,baz=268,slow=2.3,SNR=4.4
ESDC LR LR 20 52 23.0
comp=Z,121µm,21.1s,baz=85,slow=40
ESLA Sonseca Array 86.31 310 eP **P 20 08 19.5 +0.3**
comp=Z,131nm,1.0s
FALS False Pass 86.34 34 eP **P 20 08 21.7 +2.8**
comp=Z,358nm,0.8s
IM04 Indian Mountai 86.41 22 eP **P 20 08 17.6 -1.5**
PAB San Pablo 86.63 310 PFAKE 20 08 30.0 +9.2
PAB LR LR
comp=Z,114µm,20.0s
BORG Borgarnes 87.29 337 eP **P 20 08 25.2 +1.9**
comp=Z,1µm,1.4s
BORG LR LR
comp=Z,453µm,20.0s
BORG Borgarnes 87.29 337 P **P 20 08 25.0 +1.7**
comp=Z,118nm,1.1s,baz=78,slow=3.6,SNR=37
DRV Dumont d'Urvil 87.61 163 P P 20 08 18.0 -6.6
DRV Dumont d'Urvil 87.61 163 PP PP 20 11 35.0 -15
DRV S SKSac 20 18 35.0 -15
DRV SS SS 20 24 14.0 -37
DRV L L 20 31 00.0
DRV R 20 37 00.0
SDPT Sand Point 87.75 33 eP **P 20 08 23.8 -1.9**
comp=Z,762nm,0.9s
PBRG Braganca 87.76 312 eP **P 20 08 26.5 +0.3**
comp=Z,680nm,1.9s
PBRG Braganca 87.76 312 ePP PP 20 12 12.7 +21
SUMG Summit 87.88 347 eP **P 20 08 25.2 -1.4**
SUMG pmax pmax
comp=Z,2µm,1.3s
SUMG Summit 87.88 347 i P **P 20 08 26.8 +0.3**
comp=Z,1µm,0.9s
SUMG
comp=Z,360µm,23.0s
SUMG Summit 87.88 347 eP **P 20 08 25.2 -1.4**
comp=Z,2µm,1.3s
TOA0 Torodi Ar. Sit 87.98 283 eP **P 20 08 27.1 -0.6**
TORD Torodi Ar. Bea 87.98 283 P **P 20 08 27.1 -0.6**
TORD PP PP 20 12 01.1 +6.8
TORD PKKPbc PKKPbc 20 26 23.8 +11
TORD P'P' 20 34 43.4
TORD e 20 44 23.9
TORD Torodi Ar. Bea 87.98 283 P **P 20 08 27.1 -0.6**
comp=Z,227nm,1.0s,baz=82,slow=2.9,SNR=315
TORD PP PP 20 12 01.1 +6.8
comp=Z,35nm,0.8s,baz=65,slow=5.1,SNR=3.3
TORD PKKPbc PKKPbc 20 26 23.8 +11
comp=Z,3.3nm,0.6s,baz=301,slow=1.8,SNR=5.9
TORD PKPPKP P'P'df 20 34 43.4 +20
comp=Z,4.6nm,0.9s,baz=272,slow=1.7,SNR=4.0
TORD P4KPbc 20 44 23.9
comp=Z,1.2nm,1.0s,baz=68,slow=3.4,SNR=4.5
TORD LR LR 20 49 07.6
comp=Z,223µm,21.5s,baz=70,slow=36
MVO Moncorvo 88.15 312 eP **P 20 08 28.1 0.0**
comp=Z,991nm,1.7s
MVO Moncorvo 88.15 312 ePP PP 20 12 07.5 +13
MVO Moncorvo 88.15 312 eLR LR 20 38 41.6
comp=Z,29µm,19.4s
CHGN Chignik 88.47 32 eP **P 20 08 27.4 -1.7**
FUNA Funafuti 88.51 99 eP **P 20 08 30.1 -0.1**
comp=Z,10µm,2.6s
FUNA LR LR
comp=Z,49µm,21.0s
PVRL Vila Real 88.61 312 eP **P 20 08 30.9 +0.7**
comp=Z,896nm,1.6s
POLO Lamas de Olo 88.64 312 eP **P 20 08 30.7 +0.3**
comp=Z,571nm,1.4s
POLO Lamas de Olo 88.64 312 ePP PP 20 12 16.3 +17
POLO Lamas de Olo 88.64 312 eLR LR 20 38 37.7
comp=Z,16µm,18.8s
PCAB Cabril 88.71 313 eP **P 20 08 31.1 +0.5**
comp=Z,1µm,1.1s
MTE Manteigas 88.75 311 eP **P 20 08 31.6 +0.7**
comp=Z,2µm,1.4s
MTE Manteigas 88.75 311 ePP PP 20 12 16.9 +17
MTE Manteigas 88.75 311 eLR LR 20 38 55.6
comp=Z,41µm,23.8s
MTE Manteigas 88.75 311 eP **P 20 08 31.9 +1.0**
comp=Z,1µm,1.1s
MTE LR LR
comp=Z,189µm,19.0s
PGAV Gavieira, Arco 88.80 313 eP **P 20 08 32.3 +1.1**
comp=Z,1µm,1.9s
PGAV Gavieira, Arco 88.80 313 ePP PP 20 12 11.4 +11
PGAV Gavieira, Arco 88.80 313 eLR LR 20 38 35.7
comp=Z,58µm,22.1s
PCBR Castelo Branco 88.87 311 eP **P 20 08 31.6 +0.2**
comp=Z,1µm,1.5s
PVIS Viseu 88.91 312 eP **P 20 08 32.3 +0.7**
comp=Z,1µm,1.6s
PMRV Marv??o 88.93 310 eP **P 20 08 32.0 +0.3**
comp=Z,753nm,1.4s
PMRV Marv??o 88.93 310 ePP PP 20 12 15.5 +14
PMRV Marv??o 88.93 310 eLR LR 20 39 09.5
comp=Z,55µm,19.6s
PBAR Barrancos 89.03 309 eP **P 20 08 32.8 +0.6**
comp=Z,2µm,1.7s
PBAR Barrancos 89.03 309 ePP PP 20 12 16.1 +14
COLA College 89.11 22 eP **P 20 08 31.4 -0.6**
COLA MLR MLR
comp=Z,232µm,20.0s
COLA College 89.11 22 eP **P 20 08 31.4 -0.6**
comp=Z,3µm,1.9s
COLA LR LR
comp=Z,232µm,20.0s
PESTR Estremoz 89.24 310 eP **P 20 08 33.8 +0.6**
comp=Z,622nm,1.8s
PESTR Estremoz 89.24 310 ePP PP 20 12 18.3 +15
PTO Porto 89.29 312 eP **P 20 08 35.2 +1.9**
comp=Z,2µm,1.4s
RSO Redoubt South 89.36 27 eP **P 20 08 32.5 -1.0**
comp=Z,672nm,0.9s
ILAR Eielson Array 89.51 22 P **P 20 08 31.5 -2.4**
ILAR PP PP 20 12 21.6 +17
ILAR PKKP PKKPdf 20 25 53.0 -12
ILAR PKKPbc PKKPbc 20 26 22.2 +12
ILAR P'P' 20 34 16.6
ILAR e 20 44 25.3
ILAR Eielson Array 89.51 22 P **P 20 08 31.5 -2.4**
comp=Z,52nm,0.9s,baz=294,slow=4.2,SNR=108
ILAR PP PP 20 12 21.6 +17
comp=Z,99nm,0.9s,baz=295,slow=6.8,SNR=5.7
ILAR PKKP PKKPdf 20 25 53.0 -12
comp=Z,3.6nm,0.8s,baz=165,slow=2.0,SNR=4.9
ILAR PKKPbc PKKPbc 20 26 22.2 +12
comp=Z,3.6nm,0.7s,baz=160,slow=1.6,SNR=6.2
ILAR PKPPKP **P'P'df 20 34 16.6 -3.0**
comp=Z,3.4nm,1.1s,baz=226,slow=2.8,SNR=4.1
ILAR P4KPbc 20 44 25.3
comp=Z,0.5nm,0.8s,baz=295,slow=3.8,SNR=5.0
ILAR LR LR 20 54 41.8
comp=Z,196µm,21.3s,baz=131,slow=40
PCAS Casmilo, Conde 89.55 311 eP **P 20 08 34.6 0.0**
comp=Z,733nm,1.7s
PCAS Casmilo, Conde 89.55 311 ePP PP 20 12 20.1 +14
PTOM Tomar 89.62 311 eP **P 20 08 36.1 +1.2**
comp=Z,3µm,1.5s
PTOM Tomar 89.62 311 ePP PP 20 12 24.4 +18
PMTG Montargil 89.65 310 eP **P 20 08 35.3 +0.2**
comp=Z,1µm,1.5s
PMTG Montargil 89.65 310 ePP PP 20 12 20.0 +13
EVO Evora 89.66 310 eP **P 20 08 35.2 +0.1**
comp=Z,2µm,1.6s
EVO eR
comp=Z,193µm,20.2s
EVO Evora 89.66 310 eP **P 20 08 35.5 +0.4**
comp=Z,744nm,1.6s
EVO Evora 89.66 310 ePP PP 20 12 24.7 +18
PBEJ Beja 89.70 309 eP **P 20 08 36.1 +0.8**
comp=Z,941nm,1.5s
MSVF Nonsavu 89.73 108 eP **P 20 08 37.6 +1.7**
MSVF pmax pmax
comp=Z,562nm,1.3s
MSVF MLR MLR
comp=Z,89µm,21.0s
MSVF Nonsavu 89.73 108 eP **P 20 08 37.6 +1.7**
comp=Z,637nm,1.3s
MSVF LR LR
comp=Z,99µm,21.0s
PVAQ Vaqueiros 89.77 308 eP **P 20 08 36.1 +0.4**
comp=Z,2µm,1.4s
PVAQ Vaqueiros 89.77 308 ePP PP 20 12 25.1 +17
PVAQ Vaqueiros 89.77 308 eLR LR 20 39 33.3
comp=Z,30µm,18.8s
ALMR Almeirim 89.89 310 eP **P 20 08 35.1 -1.1**
ALMR AMb AMB 20 09 01.8
comp=Z,8µm,1.4s
ALMR Almeirim 89.89 310 eP **P 20 08 35.1 -1.1**
PBDV Barranco-do-Ve 89.98 308 eP **P 20 08 37.7 +1.0**
comp=Z,2µm,1.8s
PBDV Barranco-do-Ve 89.98 308 ePP PP 20 12 23.3 +14
RTC Rabat Centre 90.11 305 eP **P 20 08 38.6 +1.3**
comp=Z,148nm,0.8s
RTC LR LR
comp=Z,141µm,19.0s
PNCL Nicolau / Gran 90.17 309 eP **P 20 08 38.5 +1.0**
comp=Z,988nm,1.3s
PNCL Nicolau / Gran 90.17 309 ePP PP 20 12 23.9 +13
PNCL Nicolau / Gran 90.17 309 eLR LR 20 37 40.0
comp=Z,20µm,17.9s
PACT Alcochete 90.19 310 eP **P 20 08 38.9 +1.3**
comp=Z,3µm,1.7s
PACT Alcochete 90.19 310 ePP PP 20 12 21.2 +10
PMR Palmer 90.34 25 eP **P 20 08 37.7 -0.1**
PMR Palmer 90.34 25 eP **P 20 08 37.7 -0.1**
comp=Z,2µm,1.2s
LIS Lisbon 90.45 310 eP **P 20 08 37.6 -1.1**
LIS AMb AMB 20 09 05.4
comp=Z,2µm,1.1s
LIS eS **SKSac 20 19 05.0 -3.3**
LIS Lisbon 90.45 310 eP **P 20 08 37.7 -1.1**
LIS eS **SKSac 20 19 05.0 -3.3**
PMST Lisbon--Monsan 90.47 310 eP **P 20 08 40.6 +1.7**
comp=Z,2µm,1.4s
PMST Lisbon--Monsan 90.47 310 ePP PP 20 12 21.8 +8.4
PMAFR Mafra 90.47 310 eP **P 20 08 39.5 +0.6**
comp=Z,2µm,1.6s
PMAFR Mafra 90.47 310 ePP PP 20 12 17.0 +3.6
PTEO Sao Teotonio 90.49 309 eP **P 20 08 39.4 +0.4**
comp=Z,2µm,1.5s
PTEO Sao Teotonio 90.49 309 ePP PP 20 12 23.2 +10
MORF Marmelete 90.51 309 eP **P 20 08 40.4 +1.2**
comp=Z,1µm,1.4s
MORF Marmelete 90.51 309 ePP PP 20 12 18.1 +4.2
MORF Marmelete 90.51 309 eP **P 20 08 38.2 -1.0**
MORF e 20 12 12.3
MORF eS **SKSac 20 19 05.3 -3.6**
OUZ Omahuta 90.60 126 eP **P 20 08 39.8 +0.3**
comp=Z,61nm,0.9s
OHAK Old Harbor 90.63 30 eP **P 20 08 37.9 -1.3**
comp=Z,4µm,1.7s
KDAK Kodiak Island 90.70 29 P **P 20 08 39.8 +0.3**
comp=Z,2µm,1.0s,SNR=17
SYO Syowa Base 90.92 197⇑ i P **P 20 08 39.2 -0.9**
RPZ Rata Peaks 91.27 135 eP **P 20 08 41.7 -0.7**
comp=Z,1µm,1.6s
RPZ PP PP 20 12 25.4 +5.4
ODZ Otahua Downs 91.40 136 eP **P 20 08 44.7 +1.7**
comp=Z,949nm,1.9s
INK Inuvik 91.43 16 P **P 20 08 43.4 +0.7**
INK PKKPbc PKKPbc 20 26 13.6 +7.8
INK Inuvik 91.43 16 P **P 20 08 43.4 +0.7**
comp=Z,136nm,1.1s,baz=295,slow=3.9,SNR=1.2
INK PKKPbc PKKPbc 20 26 13.6 +7.8
comp=Z,4.8nm,0.8s,baz=296,slow=6.5,SNR=3.6
INK LR LR 20 56 34.7
comp=Z,204µm,21.4s,baz=294,slow=40
EGAK Eagle 91.50 20 eP **P 20 08 42.2 -1.0**
comp=Z,7µm,1.5s
EGAK LR LR
comp=Z,284µm,20.0s
MENT Mentasta 91.71 22 eP **P 20 08 45.0 +0.8**
KHZ Kahutara 92.62 133 eP **P 20 08 47.4 -1.2**
comp=Z,481nm,1.2s
MID Middleton Isla 92.67 26 eP **P 20 08 49.7 +1.1**
MID pmax pmax
comp=Z,1µm,1.2s
MID Middleton Isla 92.67 26 eP **P 20 08 49.7 +1.1**
comp=Z,1µm,1.2s
SNZO South Karori 93.14 132 eP **P 20 08 52.3 +1.3**
comp=Z,254nm,1.0s
SNZO LR LR
comp=Z,182µm,21.0s
URZ Urewera 94.14 128 eP **P 20 08 53.6 -2.2**
comp=Z,507nm,0.9s
SFJD Kangerlussuaq 94.86 346 i P **P 20 08 58.9 +0.4**
comp=Z,139nm,1.0s
SFJD
comp=Z,224µm,21.0s
SFJD Kangerlussuaq 94.86 346 P **P 20 08 59.0 +0.4**
SFJD PKKPbc PKKPbc 20 26 09.2 +12
SFJD LR LR
comp=Z,308µm,22.0s
SFJD Kangerlussuaq 94.86 346 P **P 20 08 59.0 +0.4**
comp=Z,58nm,1.1s,baz=48,slow=6.1,SNR=19
SFJD PKKPbc PKKPbc 20 26 09.2 +12
comp=Z,8.3nm,0.5s,baz=185,slow=3.4,SNR=4.2
HYT Haines Junctio 95.33 22 eP **P 20 09 00.9 -0.1**
comp=Z,113nm,0.5s
KIC Kosan Boka 95.81 278 eP **P 20 09 02.9 -1.1**
comp=Z,2µm,1.3s
DBIC Dimbokro 95.84 278 ‖ i P **P 20 09 05.2 +1.0**
DBIC Dimbokro 95.84 278 P **P 20 09 05.2 +1.0**
DBIC PKKPbc **PKKPdf 20 25 58.0 +4.3**
DBIC Dimbokro 95.84 278 P **P 20 09 05.2 +1.0**
comp=Z,106nm,1.2s,baz=67,slow=5.5,SNR=33
DBIC PKKPbc **PKKPdf 20 25 58.0 +4.3**
comp=Z,10nm,0.9s,baz=185,slow=3.9,SNR=4.7
DBIC LR LR 20 53 36.0
comp=Z,203µm,20.6s,baz=53,slow=36
TIC Toumodi 96.00 278 eP **P 20 09 04.3 -0.6**
comp=Z,2µm,1.3s
RAO Raoul Island 96.06 119 PFAKE 20 09 10.0 +5.2
RAO LR LR
comp=Z,99µm,19.0s
LIC Lamto 96.12 278 eP **P 20 09 05.6 +0.2**
comp=Z,682nm,1.3s,baz=66
LIC eR
comp=Z,253µm,18.8s
LIC Lamto 96.12 278 eP **P 20 09 05.1 -0.3**
comp=Z,693nm,1.3s
SKAG Skagway 97.06 23 eP Pdif 20 09 09.6 +0.8
comp=Z,625nm,1.1s
PMPST Porto Santo, M 97.87 307 eP Pdif 20 09 24.9 +12
comp=Z,312nm,1.5s
PMPST Porto Santo, M 97.87 307 ePP PP 20 12 58.7 -13
PMPS Porto Santo 97.88 307 eP Pdif 20 09 24.8 +12
comp=Z,436nm,1.9s
AFI Afiamalu 98.37 102 PFAKE 20 09 30.0 +14
AFI LR LR
comp=Z,31µm,21.0s
PMAR Madeira 98.46 307 eP Pdif 20 09 25.2 +9.3
comp=Z,410nm,1.5s
PMAR Madeira 98.46 307 ePP PP 20 13 05.4 -11
FUL Funchal 98.47 307 ePP PP 20 13 04.5 -11
SIT Sitka 98.71 24 eP **P 20 09 15.6 -0.5**
SIT pmax pmax
comp=Z,334nm,1.1s
SIT Sitka 98.71 24 eP **P 20 09 15.6 -0.5**
comp=Z,334nm,1.1s
VNDA Vanda 99.19 168 eP **Pdif 20 09 17.7 -0.1**
comp=Z,39nm,0.6s
VNDA P'P' 20 34 03.0
VNDA Vanda 99.19 168 P **Pdif 20 09 18.3 +0.5**
comp=Z,1.6nm,0.8s,baz=306,slow=6.0,SNR=12
VNDA PKPPKP P'P'df 20 34 03.0 +6.9
comp=Z,1.6nm,0.6s,baz=260,slow=20,SNR=9.6
VNDA LR LR 20 52 06.7
comp=Z,184µm,18.7s,baz=304,slow=34
DLBC Dease Lake 99.72 21 P **Pdif 20 09 20.5 -0.3**
DLBC PKKP PKKPdf 20 25 52.9 +6.0
DLBC Dease Lake 99.72 21 P **Pdif 20 09 20.5 -0.3**
comp=Z,37nm,1.1s,baz=320,slow=5.2,SNR=30
DLBC PKKP PKKPdf 20 25 52.9 +6.0
comp=Z,4.7nm,0.5s,baz=138,slow=4.3,SNR=3.1
DLBC LR LR 21 01 59.8
comp=Z,374µm,19.7s,baz=324,slow=40
MAIT Maitri 100.26 199 eP **Pdif 20 09 23.3 +0.6**
MAIT e 20 09 37.0
MAIT Maitri 100.26 199 eP **PKKPdf 20 25 45.5 -2.2**
SBA Scott Base 100.30 168 eP **Pdif 20 09 23.3 +0.6**
SBA pmax pmax
comp=Z,543nm,1.5s
SBA MLR MLR
comp=Z,116µm,19.0s
SBA Scott Base 100.30 168 ePdif **Pdif 20 09 23.3 +0.6**
comp=Z,543nm,1.5s
SBA LR LR
comp=Z,116µm,19.0s
WRAK Wrangell Islan 100.33 24 PFAKE 20 09 30.0 +6.6
WRAK LR LR
comp=Z,259µm,21.0s
YKW3 Yellowknife Ar 100.66 13 ePdif **Pdif 20 09 23.4 -1.3**
comp=Z,2.2nm,1.1s
CRAG Craig 100.70 25 ePdif **Pdif 20 09 25.5 +0.5**
comp=Z,217nm,1.3s
YKA Yellowknife Ar 100.72 13 P **Pdif 20 09 24.8 -0.2**
YKA PP PP 20 13 37.7 +5.9
YKA Yellowknife Ar 100.72 13 P **Pdif 20 09 24.8 -0.2**
comp=Z,11nm,0.9s,baz=330,slow=4.9,SNR=18
YKA PP PP 20 13 37.7 +5.9
comp=Z,67nm,1.2s,baz=337,slow=6.8,SNR=5.2
FRB Frobisher Bay 101.13 352 P **Pdif 20 09 24.4 -2.4**
FRB PKiKP **PKiKP 20 13 51.2 -0.4**
FRB PKKP **PKKPdf 20 25 44.3 0.0**
FRB Frobisher Bay 101.13 352 P **Pdif 20 09 24.4 -2.4**
comp=Z,2.4nm,0.5s,baz=180,slow=0.0
FRB PKiKP **PKiKP 20 13 51.2 -0.4**
comp=Z,56nm,1.0s,baz=24,slow=8.8,SNR=3.5
FRB PKKP **PKKPdf 20 25 44.3 0.0**
comp=Z,14nm,1.1s,baz=82,slow=9.5,SNR=3.6
SHEL Horse Pasture 101.87 256 PFAKE 20 09 40.0 +8.9
SHEL LR LR
comp=Z,141µm,20.0s
KIP Kipapa 102.04 64 PFAKE 20 09 40.0 +8.3
KIP LR LR
comp=Z,88µm,22.0s
CMLA Cha da Macela 102.63 314 eP Pdif 20 09 46.5 +12
comp=Z,74nm,1.5s
CMLA Cha da Macela 102.63 314 eLR LR 20 44 18.7
comp=Z,14µm,19.6s
CMLA Cha da Macela 102.63 314 PFAKE 20 09 40.0 +5.9
CMLA LR LR
comp=Z,365µm,21.0s

PSMN Pico do Norte, 102.67 314 *e*P Pdif 20 09 49.9 +16
comp=Z,147nm,1.5s
PSMN Pico do Norte, 102.67 314 *e*LR LR 20 44 15.2
comp=Z,20µm,20.7s
PDA Ponta Delgada 102.73 314 *e*P Pdif 20 09 49.9 +15
comp=Z,197nm,1.5s
PSET Sete Cidades 102.73 315 *e*P Pdif 20 09 48.2 +14
comp=Z,144nm,1.4s
PSET Sete Cidades 102.73 315 *e*LR LR 20 44 10.1
comp=Z,15µm,16.8s
ADH Angra Heroismo 103.36 316 *e*P Pdif 20 09 52.0 +15
comp=Z,49nm,1.0s
PGRA Graciosa 103.67 317 *e*P Pdif 20 09 52.8 +14
comp=Z,144nm,1.9s
PGRA Graciosa 103.67 317 *e*LR LR 20 44 13.5
comp=Z,25µm,17.7s
QSPA South Pole Qui 103.92 180 PFAKE 20 09 50.0 +11
QSPA LR LR
comp=Z,266µm,22.0s
QSPA South Pole Qui 103.92 180 Pdiff **Pdif 20 09 44.6 +5.4**
comp=Z,13nm,1.0s,baz=182,slow=0.4,SNR=7.4
QSPA PP PP 20 14 04.5 +8.0
comp=Z,129nm,1.1s,baz=338,slow=4.6,SNR=5.9
QSPA PKKP **PKKPbc 20 25 36.2 +3.8**
comp=Z,14nm,0.7s,baz=210,slow=5.2,SNR=5.8
QSPA PKPPKP P'P'df 20 33 57.3 +10
comp=Z,15nm,1.1s,baz=333,slow=4.6,SNR=3.9
ROSA Rosais 104.00 316 *e*P Pdif 20 09 54.9 +15
comp=Z,101nm,1.6s
ROSA Rosais 104.00 316 *e*LR LR 20 44 01.4
comp=Z,22µm,20.4s
PCAN Candelaria 104.30 316 *e*P Pdif 20 09 53.7 +12
comp=Z,70nm,1.5s
PCED Cedros 104.36 316 *e*P **Pdif 20 09 49.5 +7.8**
comp=Z,45nm,1.6s
SNAA Sanae 105.03 199 *e*P **Pdif 20 09 49.5 +5.5**
SNAA Sanae 105.03 199 *e*Pdif **Pdif 20 09 45.5 +1.5**
comp=Z,72nm,0.9s
SNAA PP **PP 20 14 09.0 +4.3**
SNAA Sanae 105.03 199 Pdiff **Pdif 20 09 48.3 +4.3**
comp=Z,3.3nm,1.2s,baz=84,slow=11,SNR=3.5
SNAA PP **PP 20 14 09.0 +4.3**
comp=Z,8.2nm,0.9s,baz=146,slow=6.0,SNR=13
BBB Bella Bella 105.13 25 Pdiff Pdif 20 10 01.6 +17
comp=Z,19nm,1.0s,baz=235,slow=8.6,SNR=2.5
BBB PP PP 20 14 10.8 +5.8
comp=Z,39nm,1.2s,baz=4.6,slow=1.9,SNR=3.1
ASCN Ascension 108.53 266 PFAKE 20 14 20.0
ASCN LR LR
comp=Z,227µm,21.0s
XMAS Kiritimati 108.55 83 PFAKE 20 14 20.0
XMAS LR LR
comp=Z,64µm,22.0s
SCHQ Schefferville 109.26 348 PKKPbc PKKPbc 20 25 15.4 +0.6
SCHQ PKKP **PKKPdf 20 25 30.6 +1.3**
SCHQ Schefferville 109.26 348 Pdiff Pdif 20 10 16.7 +13
comp=Z,4.9nm,0.8s,baz=43,slow=7.0,SNR=4.8
SCHQ PKKPbc **PKKPbc 20 25 15.4 +0.6**
comp=Z,13nm,0.6s,baz=237,slow=4.3,SNR=7.9
SCHQ PKKP **PKKPdf 20 25 30.6 +1.3**
comp=Z,32nm,0.6s,baz=211,slow=2.6,SNR=11
TRIS Tristan da Cun 110.37 235 PFAKE 20 14 20.0
TRIS LR LR
comp=Z,122µm,19.0s
NLWA Neilton Lookou 110.57 26 PFAKE 20 14 20.0
NLWA LR LR
comp=Z,190µm,20.0s
SACV Santiago Islan 110.87 292 PFAKE 20 14 20.0
SACV LR LR
comp=Z,145µm,20.0s
RAR Rarotonga 110.91 108 PFAKE 20 14 20.0
RAR LR LR
comp=Z,43µm,20.0s
NEW Newport 112.46 21 PKiKP **PKiKP 20 14 12.7 -0.4**
NEW LR LR
comp=Z,252µm,20.0s
NEW Newport 112.46 21 Pdiff **Pdif 20 10 22.6 +4.9**
comp=Z,2.4nm,0.8s,baz=273,slow=17,SNR=3.1
NEW PKiKP **PKiKP 20 14 12.7 -0.4**
comp=Z,14nm,0.9s,baz=316,slow=5.5,SNR=2.8
NEW Newport 112.46 21 ⇑PKiKP **PKiKP 20 14 11.2 -2.0**
baz=112
NEW Newport 112.46 21 ⇑PKiKP **PKiKP 20 14 11.2 -2.0**
baz=112
A14A Double T Ranch 113.07 18 ⇓PKiKP **PKiKP 20 14 13.2 -1.2**
baz=113
A14A Double T Ranch 113.07 18 ⇓PKiKP **PKiKP 20 14 13.2 -1.2**
baz=113
A15A Johnson Ranch, 113.27 18 ⇑PKiKP **PKiKP 20 14 13.3 -1.4**
baz=113
A15A Johnson Ranch, 113.27 18 ⇑PKiKP **PKiKP 20 14 13.3 -1.4**
baz=113
BSMT Bassoo Peak 113.62 20 *e*PKiKP **PKiKP 20 14 16.0 +0.4**
A16A West Butte Ran 113.64 17 ⇑PKiKP **PKiKP 20 14 14.1 -1.4**
baz=113
A16A West Butte Ran 113.64 17 ⇑PKiKP **PKiKP 20 14 14.1 -1.4**
baz=113
B14A Marquette Ranc 113.66 19 ⇑PKiKP **PKiKP 20 14 13.9 -1.6**
baz=113
B14A Marquette Ranc 113.66 19 ⇑PKiKP **PKiKP 20 14 13.9 -1.6**
baz=113
JTMT Jette 113.87 20 *e*PKiKP **PKiKP 20 14 11.8 -4.2**
A17A Triple J Farms 113.89 17 ⇓PKiKP **PKiKP 20 14 14.5 -1.4**
baz=114
A17A Triple J Farms 113.89 17 ⇓PKiKP **PKiKP 20 14 14.5 -1.4**
baz=114
B15A Bradely Ranch, 113.92 18 ⇓PKiKP **PKiKP 20 14 14.3 -1.7**
baz=114
B15A Bradely Ranch, 113.92 18 ⇓PKiKP **PKiKP 20 14 14.3 -1.7**
baz=114
B16A M & M Farms, S 114.08 18 ⇑PKiKP **PKiKP 20 14 15.5 -0.8**
baz=114
B16A M & M Farms, S 114.08 18 ⇑PKiKP **PKiKP 20 14 15.5 -0.8**
baz=114
A18A Metzger Ranch, 114.15 16 ⇑PKiKP **PKiKP 20 14 15.4 -1.0**
baz=114
A18A Metzger Ranch, 114.15 16 ⇑PKiKP **PKiKP 20 14 15.4 -1.0**
baz=114
C15A Salmond Ranch, 114.38 19 ⇓PKiKP **PKiKP 20 14 16.1 -0.9**
baz=114
C15A Salmond Ranch, 114.38 19 ⇓PKiKP **PKiKP 20 14 16.1 -0.9**
baz=114
KBO Bosley Butte 114.43 29 *e*PKPdf PKPdf 20 14 17.1 0.0
A19A Klindworth Far 114.44 15 ⇑PKiKP **PKiKP 20 14 16.2 -0.7**
baz=114
A19A Klindworth Far 114.44 15 ⇑PKiKP **PKiKP 20 14 16.2 -0.7**
baz=114
B17A L&G Farms, Che 114.46 17 ⇓PKiKP **PKiKP 20 14 16.1 -0.9**
baz=114
B17A L&G Farms, Che 114.46 17 ⇓PKiKP **PKiKP 20 14 16.1 -0.9**
baz=114
C16A Fuhringer Ranc 114.62 18 ⇑PKiKP **PKiKP 20 14 16.0 -1.4**
baz=114
C16A Fuhringer Ranc 114.62 18 ⇑PKiKP **PKiKP 20 14 16.0 -1.4**
baz=114
B18A Beardsley Farm 114.65 16 ⇑PKiKP **PKiKP 20 14 16.4 -1.0**
baz=114
B18A Beardsley Farm 114.65 16 ⇑PKiKP **PKiKP 20 14 16.4 -1.0**
baz=114
A20A Cobblestone Ra 114.69 15 ⇓PKiKP **PKiKP 20 14 16.9 -0.5**
baz=114
A20A Cobblestone Ra 114.69 15 ⇓PKiKP **PKiKP 20 14 16.9 -0.5**
baz=114
MSO Missoula 114.79 20 ⇑PKiKP **PKiKP 20 14 17.5 -0.3**
baz=114
MSO Missoula 114.79 20 ⇑PKiKP **PKiKP 20 14 17.5 -0.3**
baz=114
B19A Brinkman Farms 114.82 16 ⇑PKiKP **PKiKP 20 14 17.3 -0.4**
baz=114
B19A Brinkman Farms 114.82 16 ⇑PKiKP **PKiKP 20 14 17.3 -0.4**
baz=114
A21A Bergtoll Ranch 114.83 14 ⇓PKiKP PKPdf 20 14 17.7 0.0
baz=114
A21A Bergtoll Ranch 114.83 14 ⇓PKiKP PKPdf 20 14 17.7 0.0
baz=114
CHMT Chamberlain Mo 114.94 19 *e*PKPdf PKPdf 20 14 18.2 0.0
EGMT Eagleton 114.99 17 *e*PKPdf PKPdf 20 14 19.1 +1.1
EGMT LR LR
comp=Z,175µm,20.0s
EGMT Eagleton 114.99 17 ⇑PKiKP **PKiKP 20 14 17.6 -0.5**
baz=115
EGMT Eagleton 114.99 17 ⇑PKiKP **PKiKP 20 14 17.6 -0.5**
baz=115
A22A Carney Farms, 115.06 14 ⇑PKiKP **PKPdf 20 14 18.2 +0.1**
baz=115
A22A Carney Farms, 115.06 14 ⇑PKiKP **PKPdf 20 14 18.2 +0.1**
baz=115
C17A Wharram Farm, 115.06 17 ⇓PKiKP **PKiKP 20 14 17.6 -0.6**
baz=115
C17A Wharram Farm, 115.06 17 ⇓PKiKP **PKiKP 20 14 17.6 -0.6**
baz=115
B20A Solberg Farm, 115.07 15 ⇓PKiKP **PKiKP 20 14 17.8 -0.4**
baz=115
B20A Solberg Farm, 115.07 15 ⇓PKiKP **PKiKP 20 14 17.8 -0.4**
baz=115
KRMB Red Mountain 115.11 30 *e*PKPdf **PKPdf 20 14 18.5 0.0**
BMO Blue Mountains 115.29 23 *e*PKIKP **PKPdf 20 14 18.8 +0.1**
BMO MLR MLR
comp=Z,144µm,22.0s
BMO Blue Mountains 115.29 23 *e*PKiKP **PKPdf 20 14 18.8 +0.1**
BMO LR LR
comp=Z,144µm,22.0s
A23A Redstone 115.32 13 ⇑PKiKP **PKPdf 20 14 18.8 +0.2**
baz=115
A23A Redstone 115.32 13 ⇑PKiKP **PKPdf 20 14 18.8 +0.2**
baz=115
B21A Ellsworth Farm 115.33 15 ⇑PKiKP **PKiKP 20 14 18.4 -0.3**
baz=115
B21A Ellsworth Farm 115.33 15 ⇑PKiKP **PKiKP 20 14 18.4 -0.3**
baz=115
C19A Slack Wire Ran 115.45 16 ⇑PKiKP **PKiKP 20 14 18.6 -0.3**
baz=115
C19A Slack Wire Ran 115.45 16 ⇑PKiKP **PKiKP 20 14 18.6 -0.3**
baz=115
YBH Yreka Blue Hor 115.52 29 PKP **PKPdf 20 14 18.9 -0.3**
YBH Yreka Blue Hor 115.52 29 Pdiff Pdif 20 10 50.7 +19
comp=Z,0.8nm,0.4s,baz=26,slow=7.6,SNR=3.6
YBH PKP **PKPdf 20 14 19.0 -0.3**
comp=Z,2.8nm,0.8s,baz=39,slow=2.8,SNR=3.4
ULM Lac du Bonnet 115.52 6 PKP **PKPdf 20 14 17.9 -1.0**
ULM PKKPbc **PKKPbc 20 24 53.9 +0.1**
ULM PKKP **PKKPdf 20 25 15.4 -2.1**
ULM Lac du Bonnet 115.52 6 Pdiff Pdif 20 10 43.0 +12
comp=Z,2.1nm,0.5s,baz=257,slow=9.5,SNR=3.7
ULM PKP **PKPdf 20 14 17.9 -1.0**
comp=Z,15nm,0.8s,baz=18,slow=4.0,SNR=5.5
ULM PKKPbc **PKKPbc 20 24 53.9 +0.1**
comp=Z,20nm,0.8s,baz=131,slow=2.6,SNR=5.6
ULM PKKP **PKKPdf 20 25 15.4 -2.1**
comp=Z,78nm,0.8s,baz=168,slow=4.7,SNR=7.4
D17A Six Diamond Ra 115.52 18 ⇓PKiKP **PKiKP 20 14 18.7 -0.5**
baz=115
D17A Six Diamond Ra 115.52 18 ⇓PKiKP **PKiKP 20 14 18.7 -0.5**
baz=115
A24A Westby 115.54 12 ⇑PKiKP **PKiKP 20 14 18.4 -0.6**
baz=115
A24A Westby 115.54 12 ⇑PKiKP **PKiKP 20 14 18.4 -0.6**
baz=115
HRY Holter Researc 115.57 19 *e*PKPdf **PKPdf 20 14 20.2 +1.0**
KHMM Horse Mountain 115.69 30 *e*P **PKPdf 20 14 20.5 +0.8**
B22A Reddig Ranch S 115.69 14 ⇑PKiKP **PKiKP 20 14 18.5 -0.9**
baz=115
B22A Reddig Ranch S 115.69 14 ⇑PKiKP **PKiKP 20 14 18.5 -0.9**
baz=115
A25A Svangstu Ranch 115.71 12 ⇑PKiKP **PKiKP 20 14 18.9 -0.5**
baz=115
A25A Svangstu Ranch 115.71 12 ⇑PKiKP **PKiKP 20 14 18.9 -0.5**
baz=115
D18A Linhart Farms, 115.73 17 ⇑PKiKP **PKiKP 20 14 18.5 -1.1**
baz=115
D18A Linhart Farms, 115.73 17 ⇑PKiKP **PKiKP 20 14 18.5 -1.1**
baz=115
C20A Veseth Ranch, 115.75 15 ⇓PKiKP **PKiKP 20 14 18.8 -0.7**
baz=115
C20A Veseth Ranch, 115.75 15 ⇓PKiKP **PKiKP 20 14 18.8 -0.7**
baz=115
B23A Brockton 115.77 13 ⇑PKiKP **PKiKP 20 14 19.4 -0.1**
baz=115
B23A Brockton 115.77 13 ⇑PKiKP **PKiKP 20 14 19.4 -0.1**
baz=115
C21A Desert Coulee 115.87 15 ⇑PKiKP **PKiKP 20 14 19.4 -0.3**
baz=116
C21A Desert Coulee 115.87 15 ⇑PKiKP **PKiKP 20 14 19.4 -0.3**
baz=116
DGMT Dagmar 115.93 13 *e*PKPdf **PKPdf 20 14 20.3 +0.5**
DGMT LR LR
comp=Z,216µm,21.0s
DGMT Dagmar 115.93 13 ⇑PKiKP **PKiKP 20 14 19.3 -0.5**
baz=116
DGMT Dagmar 115.93 13 ⇑PKiKP **PKiKP 20 14 19.3 -0.5**
baz=116
A26A Wade Farm, Ken 115.95 11 ⇓PKiKP **PKiKP 20 14 19.4 -0.4**
baz=116
A26A Wade Farm, Ken 115.95 11 ⇓PKiKP **PKiKP 20 14 19.4 -0.4**
baz=116
D19A Cripps Ranch, 116.02 16 ⇓PKiKP **PKiKP 20 14 19.4 -0.7**
baz=116
D19A Cripps Ranch, 116.02 16 ⇓PKiKP **PKiKP 20 14 19.4 -0.7**
baz=116
E17A Martinsdale 116.09 18 ⇓PKiKP **PKiKP 20 14 19.8 -0.5**
baz=116
E17A Martinsdale 116.09 18 ⇓PKiKP **PKiKP 20 14 19.8 -0.5**
baz=116
LRM Limekiln Ridge 116.17 19 *e*PKPdf **PKPdf 20 14 21.3 +0.7**
C22A Vida 116.24 14 ⇑PKiKP **PKiKP 20 14 20.1 -0.3**
baz=116
C22A Vida 116.24 14 ⇑PKiKP **PKiKP 20 14 20.1 -0.3**
baz=116
E18A Harlowton 116.28 17 ⇑PKiKP **PKiKP 20 14 20.6 0.0**
baz=116
E18A Harlowton 116.28 17 ⇑PKiKP **PKiKP 20 14 20.6 0.0**
baz=116
D20A Manuel Ranch, 116.29 16 ⇑PKiKP **PKiKP 20 14 20.4 -0.2**
baz=116
D20A Manuel Ranch, 116.29 16 ⇑PKiKP **PKiKP 20 14 20.4 -0.2**
baz=116
B25A Knox Farm, Ray 116.33 12 ⇑PKiKP **PKiKP 20 14 20.4 -0.2**
baz=116
B25A Knox Farm, Ray 116.33 12 ⇑PKiKP **PKiKP 20 14 20.4 -0.2**
baz=116
C23A Lambert 116.35 13 ⇑PKiKP **PKPdf 20 14 20.6 0.0**
baz=116
C23A Lambert 116.35 13 ⇑PKiKP **PKPdf 20 14 20.6 0.0**
baz=116
B26A Jensen Ranch, 116.41 11 ⇑PKiKP **PKPdf 20 14 20.7 0.0**
baz=116
B26A Jensen Ranch, 116.41 11 ⇑PKiKP **PKPdf 20 14 20.7 0.0**
baz=116
WDC Whiskeytown Da 116.49 30 *e*PKIKP **PKPdf 20 14 20.9 -0.2**
WDC Whiskeytown Da 116.49 30 *e*PKPdf **PKPdf 20 14 20.9 -0.2**
DLMT Dillon 116.53 20 *e*PKPdf **PKPdf 20 14 22.0 +0.8**
B27A Peters Farms, 116.56 10 ⇑PKiKP **PKPdf 20 14 21.0 0.0**
baz=116
B27A Peters Farms, 116.56 10 ⇑PKiKP **PKPdf 20 14 21.0 0.0**
baz=116
BOZ Bozeman (W) 116.58 19 PFAKE 20 14 30.0 +8.7
BOZ LR LR
comp=Z,185µm,19.0s
D21A La Casta Ranch 116.61 15 ⇓PKiKP **PKPdf 20 14 21.1 -0.1**
baz=116
D21A La Casta Ranch 116.61 15 ⇓PKiKP **PKPdf 20 14 21.1 -0.1**
baz=116
KIPM Iron Peak 116.63 31 *e*PKPdf **PKPdf 20 14 22.8 +1.3**
F17A Fitzpatrick Pl 116.65 18 ⇑PKiKP **PKPdf 20 14 21.1 -0.4**
baz=116
F17A Fitzpatrick Pl 116.65 18 ⇑PKiKP **PKPdf 20 14 21.1 -0.4**
baz=116
KCPM Cahto Peak 116.67 31 *e*PKPdf **PKPdf 20 14 21.3 -0.3**
E19A Rath Farm, Rou 116.69 17 ⇑PKiKP **PKPdf 20 14 21.0 -0.4**
baz=116
E19A Rath Farm, Rou 116.69 17 ⇑PKiKP **PKPdf 20 14 21.0 -0.4**
baz=116
D22A Cohagen 116.73 14 ⇓PKiKP **PKiKP 20 14 21.6 +0.2**
baz=116
D22A Cohagen 116.73 14 ⇓PKiKP **PKiKP 20 14 21.6 +0.2**
baz=116
WVOR Wild Horse Val 116.77 26 PFAKE 20 14 30.0 +8.3
WVOR LR LR
comp=Z,145µm,20.0s
C24A Savage 116.78 13 ⇓PKiKP **PKiKP 20 14 21.5 0.0**
baz=116
C24A Savage 116.78 13 ⇓PKiKP **PKiKP 20 14 21.5 0.0**
baz=116
E20A Meyer Farm, Mu 116.83 16 ⇓PKiKP **PKPdf 20 14 21.4 -0.3**
baz=116
E20A Meyer Farm, Mu 116.83 16 ⇓PKiKP **PKPdf 20 14 21.4 -0.3**
baz=116
C25A Freed Ranch, W 116.85 12 ⇓PKiKP **PKPdf 20 14 21.4 -0.1**
baz=116
C25A Freed Ranch, W 116.85 12 ⇓PKiKP **PKPdf 20 14 21.4 -0.1**
baz=116
F18A Big Timber 116.93 18 ⇑PKiKP **PKPdf 20 14 21.7 -0.2**
baz=117
F18A Big Timber 116.93 18 ⇑PKiKP **PKPdf 20 14 21.7 -0.2**
baz=117
D23A Lindsay 116.94 14 ⇓PKiKP **PKiKP 20 14 22.2 +0.4**
baz=117
D23A Lindsay 116.94 14 ⇓PKiKP **PKiKP 20 14 22.2 +0.4**
baz=117
C26A Wahner Farm, P 116.97 11 ⇓PKiKP **PKiKP 20 14 22.2 +0.4**
baz=117
C26A Wahner Farm, P 116.97 11 ⇓PKiKP **PKiKP 20 14 22.2 +0.4**
baz=117
GCMT Greycliff 117.05 18 *e*PKPdf **PKPdf 20 14 20.3 -1.9**
MFID Camas Ranch 117.07 23 ⇑PKiKP **PKiKP 20 14 22.3 0.0**
baz=117
MFID Camas Ranch 117.07 23 ⇑PKiKP **PKiKP 20 14 22.3 0.0**
baz=117
E21A Keefer Ranch, 117.07 15 ⇓PKiKP **PKPdf 20 14 21.9 -0.2**
baz=117
E21A Keefer Ranch, 117.07 15 ⇓PKiKP **PKPdf 20 14 21.9 -0.2**
baz=117
G17A Pierce Place, 117.15 19 ⇓PKiKP **PKPdf 20 14 22.3 -0.1**
baz=117
G17A Pierce Place, 117.15 19 ⇓PKiKP **PKPdf 20 14 22.3 -0.1**
baz=117
C27A Sayler Ranch, 117.19 11 ⇓PKiKP **PKPdf 20 14 22.1 -0.1**
baz=117
C27A Sayler Ranch, 117.19 11 ⇓PKiKP **PKPdf 20 14 22.1 -0.1**
baz=117
D24A Glendive 117.19 13 ⇑PKiKP **PKPdf 20 14 22.1 -0.2**
baz=117
D24A Glendive 117.19 13 ⇑PKiKP **PKPdf 20 14 22.1 -0.2**
baz=117
F19A Roth Farm, Mol 117.20 17 ⇑PKiKP **PKPdf 20 14 22.0 -0.5**
baz=117
F19A Roth Farm, Mol 117.20 17 ⇑PKiKP **PKPdf 20 14 22.0 -0.5**
baz=117
D25A Fairfield 117.37 12 ⇓PKiKP **PKPdf 20 14 22.3 -0.3**
baz=117
D25A Fairfield 117.37 12 ⇓PKiKP **PKPdf 20 14 22.3 -0.3**
baz=117
QLMT Earthquake Lak 117.38 19 *e*PKPdf **PKPdf 20 14 24.0 +1.1**
MDND Maddock 117.38 9 ⇓PKiKP **PKPdf 20 14 22.5 -0.1**
baz=117
MDND Maddock 117.38 9 ⇓PKiKP **PKPdf 20 14 22.5 -0.1**
baz=117
AGMN Agassiz Nation 117.45 7 PFAKE 20 14 30.0 +7.3
AGMN LR LR
comp=Z,280µm,20.0s
E22A Miles City 117.45 15 ⇑PKiKP **PKPdf 20 14 22.7 -0.1**
baz=117
E22A Miles City 117.45 15 ⇑PKiKP **PKPdf 20 14 22.7 -0.1**
baz=117
HOPS Hopland 117.46 31 *e*PKPdf **PKPdf 20 14 22.4 -0.5**
HLID Hailey 117.47 22 PFAKE 20 14 30.0 +6.9
HLID LR LR
comp=Z,237µm,21.0s
HLID Hailey 117.47 22 ⇑PKiKP **PKiKP 20 14 23.3 +0.2**
baz=117
HLID Hailey 117.47 22 ⇑PKiKP **PKiKP 20 14 23.3 +0.2**
baz=117
F20A Billings 117.47 16 ⇓PKiKP **PKPdf 20 14 22.8 -0.2**
baz=117
F20A Billings 117.47 16 ⇓PKiKP **PKPdf 20 14 22.8 -0.2**
baz=117
I14A Mackay 117.50 21 ⇑PKiKP **PKPdf 20 14 23.1 -0.1**
baz=117
I14A Mackay 117.50 21 ⇑PKiKP **PKPdf 20 14 23.1 -0.1**
baz=117
G18A Lazy EL Ranch, 117.51 18 ⇓PKiKP **PKiKP 20 14 23.4 +0.3**
baz=117
G18A Lazy EL Ranch, 117.51 18 ⇓PKiKP **PKiKP 20 14 23.4 +0.3**
baz=117
H16A Russell Place, 117.55 19 ⇓PKiKP **PKiKP 20 14 23.5 +0.2**
baz=117
H16A Russell Place, 117.55 19 ⇓PKiKP **PKiKP 20 14 23.5 +0.2**
baz=117
E23A Ismay 117.55 14 ⇓PKiKP **PKiKP 20 14 23.5 +0.5**
baz=117
E23A Ismay 117.55 14 ⇓PKiKP **PKiKP 20 14 23.5 +0.5**
baz=117
D26A Manning 117.67 12 ⇓PKiKP **PKiKP 20 14 23.4 +0.2**
baz=117
D26A Manning 117.67 12 ⇓PKiKP **PKiKP 20 14 23.4 +0.2**
baz=117
YMR Madison River 117.67 19 *e*PKPdf **PKPdf 20 14 24.7 +1.2**
YNR Norris Junctio 117.72 19 *e*PKPdf **PKPdf 20 14 25.5 +1.9**
E24A Baker 117.72 13 ⇑PKiKP **PKiKP 20 14 23.7 +0.3**
baz=117
E24A Baker 117.72 13 ⇑PKiKP **PKiKP 20 14 23.7 +0.3**
baz=117
F21A Absaloka Mine, 117.73 16 ⇑PKiKP **PKiKP 20 14 23.8 +0.4**
baz=117
F21A Absaloka Mine, 117.73 16 ⇑PKiKP **PKiKP 20 14 23.8 +0.4**
baz=117
D27A Center 117.77 11 ⇓PKiKP **PKiKP 20 14 23.5 +0.1**
baz=117
D27A Center 117.77 11 ⇓PKiKP **PKiKP 20 14 23.5 +0.1**
baz=117
RLMT Red Lodge 117.78 18 PFAKE 20 14 30.0 +6.3
RLMT LR LR
comp=Z,243µm,20.0s
YFT Old Faithful 117.91 19 *e*PKPdf **PKPdf 20 14 22.9 -1.0**
LKWY Lake 117.94 19 *e*PKIKP **PKPdf 20 14 26.7 +2.6**
LKWY MLR MLR
comp=Z,297µm,19.0s
LKWY Lake 117.94 19 *e*PKPdf **PKPdf 20 14 26.7 +2.6**
LKWY LR LR
comp=Z,297µm,19.0s
E25A Miller Ranch, 117.97 13 ⇓PKiKP **PKiKP 20 14 24.1 +0.2**
baz=118
E25A Miller Ranch, 117.97 13 ⇓PKiKP **PKiKP 20 14 24.1 +0.2**
baz=118
G20A Bridger 117.99 17 ⇓PKiKP **PKPdf 20 14 23.9 -0.1**
baz=118
G20A Bridger 117.99 17 ⇓PKiKP **PKPdf 20 14 23.9 -0.1**
baz=118
F22A Rosebud 117.99 15 ⇑PKiKP **PKPdf 20 14 23.7 -0.2**
baz=118
F22A Rosebud 117.99 15 ⇑PKiKP **PKPdf 20 14 23.7 -0.2**
baz=118
H17A Grant Village 118.04 19 ⇑PKiKP **PKPdf 20 14 24.0 -0.3**
baz=118
H17A Grant Village 118.04 19 ⇑PKiKP **PKPdf 20 14 24.0 -0.3**
baz=118
H18A Shoshone NF, C 118.06 18 ⇑PKiKP **PKPdf 20 14 23.9 -0.4**
baz=118
H18A Shoshone NF, C 118.06 18 ⇑PKiKP **PKPdf 20 14 23.9 -0.4**
baz=118
EYMN Ely 118.16 3 *e*P **PKPdf 20 14 23.0 -1.0**
EYMN LR LR
comp=Z,399µm,22.0s
E26A Carlson Angus 118.20 12 ⇑PKiKP **PKiKP 20 14 24.4 +0.1**
baz=118
E26A Carlson Angus 118.20 12 ⇑PKiKP **PKiKP 20 14 24.4 +0.1**
baz=118
MCCM Marconi Confer 118.20 32 *e*PKPdf **PKPdf 20 14 25.3 +0.9**
I16A Newdale 118.21 20 ⇓PKiKP **PKPdf 20 14 24.3 -0.2**
baz=118
I16A Newdale 118.21 20 ⇓PKiKP **PKPdf 20 14 24.3 -0.2**
baz=118
F23A Volborg 118.25 14 ⇑PKiKP **PKPdf 20 14 24.4 0.0**
baz=118
F23A Volborg 118.25 14 ⇑PKiKP **PKPdf 20 14 24.4 0.0**
baz=118
G21A Lodge Grass 118.26 16 ⇑PKiKP **PKiKP 20 14 24.6 +0.1**
baz=118
G21A Lodge Grass 118.26 16 ⇑PKiKP **PKiKP 20 14 24.6 +0.1**
baz=118
H19A Powell 118.27 18 ⇓PKiKP **PKiKP 20 14 24.6 +0.1**
baz=118
H19A Powell 118.27 18 ⇓PKiKP **PKiKP 20 14 24.6 +0.1**
baz=118
F24A Ekalaka 118.36 14 ⇑PKiKP **PKiKP 20 14 24.8 +0.1**
baz=118
F24A Ekalaka 118.36 14 ⇑PKiKP **PKiKP 20 14 24.8 +0.1**
baz=118
E27A Carson 118.41 11 ⇓PKiKP **PKiKP 20 14 24.9 +0.2**
baz=118
E27A Carson 118.41 11 ⇓PKiKP **PKiKP 20 14 24.9 +0.2**
baz=118
I17A Pilgrim Ck. 118.46 19 ⇑PKiKP **PKPdf 20 14 24.8 -0.3**
baz=118
I17A Pilgrim Ck. 118.46 19 ⇑PKiKP **PKPdf 20 14 24.8 -0.3**
baz=118
G22A Birney 118.50 15 ⇓PKiKP **PKPdf 20 14 24.9 -0.1**
baz=118
G22A Birney 118.50 15 ⇓PKiKP **PKPdf 20 14 24.9 -0.1**
baz=118
F25A Bowman 118.51 13 ⇑PKiKP **PKPdf 20 14 24.5 -0.4**
baz=118

F25A	Bowman	118.51	13	⇑PKiKP	PKPdf	20 14 24.5	-0.4		
	baz=118								
MOOW	Moose Ponds	118.56	19	*e*PKPdf	PKPdf	20 14 25.4	+0.1		
PAHR	Pah Rah Range	118.66	28	*e*PKPdf	PKPdf	20 14 25.5	0.0		
H20A	Greybull	118.72	17	⇓PKiKP	PKPdf	20 14 25.1	-0.2		
	baz=118								
H20A	Greybull	118.72	17	⇓PKiKP	PKPdf	20 14 25.1	-0.2		
	baz=118								
TPAW	Teton Pass	118.73	20	*e*PKPdf	PKPdf	20 14 26.3	+0.7		
LOHW	Long Hollow	118.73	19	*e*PKPdf	PKPdf	20 14 25.4	-0.2		
F26A	Lodgepole	118.75	12	⇑PKiKP	PKPdf	20 14 24.8	-0.5		
	baz=118								
F26A	Lodgepole	118.75	12	⇑PKiKP	PKPdf	20 14 24.8	-0.5		
	baz=118								
G23A	Biddle	118.75	15	⇓PKiKP	PKPdf	20 14 24.6	-0.7		
	baz=118								
G23A	Biddle	118.75	15	⇓PKiKP	PKPdf	20 14 24.6	-0.7		
	baz=118								
SNOW	Snow King Moun	118.82	19	*e*PKPdf	PKPdf	20 14 26.1	+0.3		
I19A	Meeteetse	118.85	18	⇓PKiKP	PKPdf	20 14 25.5	-0.2		
	baz=118								
I19A	Meeteetse	118.85	18	⇓PKiKP	PKPdf	20 14 25.5	-0.2		
	baz=118								
H21A	Big Horn, Sher	118.86	16	⇓PKiKP	PKPdf	20 14 25.3	-0.3		
	baz=118								
H21A	Big Horn, Sher	118.86	16	⇓PKiKP	PKPdf	20 14 25.3	-0.3		
	baz=118								
F27A	Lemmon	118.86	12	⇑PKiKP	PKPdf	20 14 25.3	-0.3		
	baz=118								
F27A	Lemmon	118.86	12	⇑PKiKP	PKPdf	20 14 25.3	-0.3		
	baz=118								
G24A	Alzada	118.86	14	⇑PKiKP	PKPdf	20 14 25.3	-0.3		
	baz=118								
G24A	Alzada	118.86	14	⇑PKiKP	PKPdf	20 14 25.3	-0.3		
	baz=118								
REDW	Red Top Meadow	118.88	20	*e*PKPdf	PKPdf	20 14 26.3	+0.4		
I18A	Diamond G Ranc	118.90	19	⇑PKiKP	PKPdf	20 14 25.6	-0.3		
	baz=119								
I18A	Diamond G Ranc	118.90	19	⇑PKiKP	PKPdf	20 14 25.6	-0.3		
	baz=119								
BMN	Battle Mountai	119.02	26	*e*PKiKP	PKPdf	20 14 27.6	+1.5		
BMN				MLR	MLR				
	comp=Z,111μm,20.0s								
BMN	Battle Mountai	119.02	26	*e*PKPdf	PKPdf	20 14 27.6	+1.5		
BMN				LR	LR				
	comp=Z,111μm,20.0s								
H22A	Clearmont	119.07	16	⇓PKiKP	PKiKP	20 14 26.1	0.0		
	baz=119								
H22A	Clearmont	119.07	16	⇓PKiKP	PKiKP	20 14 26.1	0.0		
	baz=119								
I20A	Worland	119.18	17	⇓PKiKP	PKPdf	20 14 25.6	-0.7		
	baz=119								
I20A	Worland	119.18	17	⇓PKiKP	PKPdf	20 14 25.6	-0.7		
	baz=119								
G25A	Newell	119.21	13	⇓PKiKP	PKPdf	20 14 26.0	-0.3		
	baz=119								
G25A	Newell	119.21	13	⇓PKiKP	PKPdf	20 14 26.0	-0.3		
	baz=119								
G26A	Maurine	119.29	12	⇓PKiKP	PKPdf	20 14 25.9	-0.5		
	baz=119								
G26A	Maurine	119.29	12	⇓PKiKP	PKPdf	20 14 25.9	-0.5		
	baz=119								
H23A	Clabaugh Cattl	119.34	15	⇓PKiKP	PKPdf	20 14 25.9	-0.7		
	baz=119								
H23A	Clabaugh Cattl	119.34	15	⇓PKiKP	PKPdf	20 14 25.9	-0.7		
	baz=119								
G27A	Dupree	119.35	12	⇑PKiKP	PKPdf	20 14 26.4	-0.1		
	baz=119								
G27A	Dupree	119.35	12	⇑PKiKP	PKPdf	20 14 26.4	-0.1		
	baz=119								
H24A	Dirks Ranch, A	119.38	14	⇑PKiKP	PKPdf	20 14 26.3	-0.4		
	baz=119								
H24A	Dirks Ranch, A	119.38	14	⇑PKiKP	PKPdf	20 14 26.3	-0.4		
	baz=119								
CMB	Columbia Colle	119.52	30	*e*PKiKP	PKPdf	20 14 27.2	+0.1		
CMB	Columbia Colle	119.52	30	*e*PKPdf	PKPdf	20 14 27.1	+0.1		
J19A	Crowheart	119.53	18	⇓PKiKP	PKPdf	20 14 26.8	-0.2		
	baz=119								
J19A	Crowheart	119.53	18	⇓PKiKP	PKPdf	20 14 26.8	-0.2		
	baz=119								
WVL	Waterville	119.53	346	*e*PKPdf	PKPdf	20 14 26.0	-0.8		
I21A	Big Trails, Te	119.54	17	⇑PKiKP	PKPdf	20 14 26.4	-0.6		
	baz=119								
I21A	Big Trails, Te	119.54	17	⇑PKiKP	PKPdf	20 14 26.4	-0.6		
	baz=119								
WAKR	Walker	119.60	29	*e*PKPdf	PKPdf	20 14 28.1	+0.8		
HVU	Hansel Valley	119.62	22	*e*PKiKP	PKPdf	20 14 28.3	+1.1		
HVU	Hansel Valley	119.62	22	*e*PKPdf	PKPdf	20 14 28.3	+1.1		
I22A	9 Mile Ranch,	119.69	16	⇓PKiKP	PKPdf	20 14 26.9	-0.4		
	baz=119								
I22A	9 Mile Ranch,	119.69	16	⇓PKiKP	PKPdf	20 14 26.9	-0.4		
	baz=119								
H25A	Fruitdale	119.72	13	⇑PKiKP	PKPdf	20 14 26.6	-0.6		
	baz=119								
H25A	Fruitdale	119.72	13	⇑PKiKP	PKPdf	20 14 26.6	-0.6		
	baz=119								
J20A	Shoshoni	119.74	17	⇑PKiKP	PKPdf	20 14 26.8	-0.6		
	baz=119								
J20A	Shoshoni	119.74	17	⇑PKiKP	PKPdf	20 14 26.8	-0.6		
	baz=119								
BW06	Boulder Array	119.83	19	*e*PKPdf	PKPdf	20 14 27.2	-0.5		
BW06				LR	LR				
	comp=Z,220μm,21.0s								
PDAR	Pinedale Array	119.83	19	PKP	PKPdf	20 14 27.4	-0.3		
PDAR				PKKPbc	PKKPbc	20 24 38.6	0.0		
PDAR				PKKP	PKKPdf	20 25 02.5	-7.0		
PDAR				SKKPbc	SKKPbc	20 28 01.3	-22		
PDAR	Pinedale Array	119.83	19	PKP	PKPdf	20 14 27.4	-0.3		
	comp=Z,23nm,0.8s,baz=72,slow=0.3,SNR=18								
PDAR				PKKPbc	PKKPbc	20 24 38.6	0.0		
	comp=Z,8.3nm,1.1s,baz=131,slow=4.9,SNR=3.8								
PDAR				PKKP	PKKPdf	20 25 02.5	-7.0		
	comp=Z,13nm,0.7s,baz=170,slow=4.9,SNR=9.8								
PDAR				SKKPbc	SKKPbc	20 28 01.3	-22		
	comp=Z,12nm,1.0s,baz=132,slow=3.9,SNR=3.9								
G28A	Parade	119.84	11	⇓PKiKP	PKPdf	20 14 27.3	-0.1		
	baz=120								
G28A	Parade	119.84	11	⇓PKiKP	PKPdf	20 14 27.3	-0.1		
	baz=120								
I23A	Meade Ranch, G	119.89	15	⇓PKiKP	PKPdf	20 14 27.3	-0.4		
	baz=120								
I23A	Meade Ranch, G	119.89	15	⇓PKiKP	PKPdf	20 14 27.3	-0.4		
	baz=120								
H26A	Fairpoint	119.90	13	⇑PKiKP	PKPdf	20 14 27.1	-0.5		
	baz=120								
H26A	Fairpoint	119.90	13	⇑PKiKP	PKPdf	20 14 27.1	-0.5		
	baz=120								
J21A	Lysite	119.93	17	⇑PKiKP	PKPdf	20 14 27.3	-0.5		
	baz=120								
J21A	Lysite	119.93	17	⇑PKiKP	PKPdf	20 14 27.3	-0.5		
	baz=120								
SAO	San Andreas Ge	119.99	32	*e*PKIKP	PKPdf	20 14 28.5	+0.6		
SAO	San Andreas Ge	119.99	32	*e*PKPdf	PKPdf	20 14 28.5	+0.6		
K19A	Absolon Red Bu	119.99	18	⇑PKiKP	PKPdf	20 14 27.0	-1.0		
	baz=120								
K19A	Absolon Red Bu	119.99	18	⇑PKiKP	PKPdf	20 14 27.0	-1.0		
	baz=120								
H27A	Howes	120.03	12	⇑PKiKP	PKPdf	20 14 26.8	-1.0		
	baz=120								
H27A	Howes	120.03	12	⇑PKiKP	PKPdf	20 14 26.8	-1.0		
	baz=120								
PPT2	Papeete2	120.05	102	*e*PKiKP	PKiKP	20 14 28.9	+0.3		
	comp=Z,195nm,1.3s								
PPT2	Papeete2	120.05	102	*e*PP	PP	20 15 50.7	-2.8		
	comp=Z,15μm,26.5s								
PPT2	Papeete2	120.05	102	*e*SS	SS	20 32 12.0	-6.9		
	comp=Z,212μm,35.2s								
PPT2	Papeete2	120.05	102	*e*LQ	LQ	20 46 03.1			
	comp=Z,180μm,35.5s								
PPT2				*e*LR	LR	20 51 05.3			
	comp=Z,94μm,22.8s								
PAE	Paea	120.05	102	*e*PKiKP	PKiKP	20 14 28.5	0.0		
	comp=Z,46nm,1.3s								
COWI	Conover	120.10	2	*e*PKPdf	PKPdf	20 14 27.4	-0.5		
COWI				LR	LR				
	comp=Z,399μm,22.0s								
FRNY	Flat Rock	120.11	349	*e*PKPdf	PKPdf	20 14 26.9	-1.0		
J22A	Midwest	120.13	16	⇑PKiKP	PKPdf	20 14 27.1	-1.1		
	baz=120								
J22A	Midwest	120.13	16	⇑PKiKP	PKPdf	20 14 27.1	-1.1		
	baz=120								
MSNY	Massena	120.18	350	*e*PKPdf	PKPdf	20 14 26.9	-1.0		
NVAR	Mina Array Bea	120.19	28	PKP	PKPdf	20 14 29.6	+1.0		
NVAR				PKKPab	PKKPab	20 24 47.8	+8.4		
NVAR				PKKP	PKKPdf	20 25 10.8	+2.0		
NVAR	Mina Array Bea	120.19	28	Pdiff	Pdif	20 11 09.0	+17		
	comp=Z,0.8nm,0.8s,baz=45,slow=2.3,SNR=3.9								
NVAR				PKP	PKPdf	20 14 29.6	+1.0		
	comp=Z,30nm,0.8s,baz=291,slow=1.8,SNR=24								
NVAR				PKKPab	PKKPab	20 24 47.8	+8.4		
	comp=Z,5.7nm,0.8s,baz=120,slow=2.5,SNR=6.6								
NVAR				PKKP	PKKPdf	20 25 10.8	+2.0		
	comp=Z,15nm,0.8s,baz=154,slow=4.6,SNR=6.3								
I24A	Kuemmerle Ranc	120.19	15	⇑PKiKP	PKPdf	20 14 27.7	-0.6		
	baz=120								
I24A	Kuemmerle Ranc	120.19	15	⇑PKiKP	PKPdf	20 14 27.7	-0.6		
	baz=120								
HWUT	Hardware Ranch	120.20	21	*e*PKPdf	PKPdf	20 14 27.7	-0.7		
HWUT				LR	LR				
	comp=Z,166μm,20.0s								
H28A	Mission Ridge	120.20	11	⇓PKiKP	PKPdf	20 14 27.4	-0.7		
	baz=120								
H28A	Mission Ridge	120.20	11	⇓PKiKP	PKPdf	20 14 27.4	-0.7		
	baz=120								
I25A	Rochford	120.25	14	⇑PKiKP	PKPdf	20 14 27.8	-0.7		
	baz=120								
I25A	Rochford	120.25	14	⇑PKiKP	PKPdf	20 14 27.8	-0.7		
	baz=120								
TIAR	Tiarei	120.26	102	*e*PKiKP	PKiKP	20 14 29.9	+1.0		
	comp=Z,148nm,0.9s								
K20A	Yellowstone Ra	120.30	18	⇓PKiKP	PKPdf	20 14 27.7	-0.8		
	baz=120								
K20A	Yellowstone Ra	120.30	18	⇓PKiKP	PKPdf	20 14 27.7	-0.8		
	baz=120								
LBNH	Lisbon	120.36	347	*e*PKIKP	PKPdf	20 14 27.3	-1.1		
LBNH				MLR	MLR				
	comp=Z,472μm,22.0s								
LBNH	Lisbon	120.36	347	*e*PKPdf	PKPdf	20 14 27.3	-1.1		
LBNH				LR	LR				
	comp=Z,472μm,22.0s								
TVO	Taravao	120.37	103	*e*PKiKP	PKiKP	20 14 29.5	+0.3		
	comp=Z,299nm,1.2s								
J23A	Dilts Ranch, B	120.39	15	⇑PKiKP	PKPdf	20 14 28.2	-0.5		
	baz=120								
J23A	Dilts Ranch, B	120.39	15	⇑PKiKP	PKPdf	20 14 28.2	-0.5		
	baz=120								
L18A	Fontenelle, Gr	120.43	20	⇓PKiKP	PKPdf	20 14 28.3	-0.6		
	baz=120								
L18A	Fontenelle, Gr	120.43	20	⇓PKiKP	PKPdf	20 14 28.3	-0.6		
	baz=120								
I26A	New Underwood	120.44	13	⇓PKiKP	PKPdf	20 14 28.2	-0.5		
	baz=120								
I26A	New Underwood	120.44	13	⇓PKiKP	PKPdf	20 14 28.2	-0.5		
	baz=120								
L19A	Farson	120.49	19	⇑PKiKP	PKPdf	20 14 28.8	-0.2		
	baz=120								
L19A	Farson	120.49	19	⇑PKiKP	PKPdf	20 14 28.8	-0.2		
	baz=120								
LONY	Lake Ozonia	120.50	350	*e*PKPdf	PKPdf	20 14 28.9	+0.3		
LONY				LR	LR				
	comp=Z,202μm,20.0s								
I27A	Quinn	120.58	12	⇑PKiKP	PKPdf	20 14 28.6	-0.3		
	baz=120								
I27A	Quinn	120.58	12	⇑PKiKP	PKPdf	20 14 28.6	-0.3		
	baz=120								
MLAC	Mammoth Lakes	120.58	29	⇑PKiKP	PKPdf	20 14 29.0	-0.3		
	baz=120								
MLAC	Mammoth Lakes	120.58	29	⇑PKiKP	PKPdf	20 14 29.0	-0.3		
	baz=120								
TBI	Tubuai	120.62	109	*e*PKiKP	PKiKP	20 14 30.7	+1.3		
	comp=Z,806nm,1.1s								
TBI	Tubuai	120.62	109	*e*PP	PP	20 15 54.5	-2.7		
	comp=Z,13μm,28.0s								
TBI	Tubuai	120.62	109	*e*SS	SS	20 32 21.9	-3.9		
	comp=Z,85μm,34.8s								
TBI	Tubuai	120.62	109	*e*LQ	LQ	20 46 19.2			
	comp=Z,80μm,42.2s								
TBI				*e*LR	LR	20 51 22.6			
	comp=Z,136μm,22.5s								
M17A	Scullys Gap (B	120.62	20	⇑PKiKP	PKPdf	20 14 28.7	-0.6		
	baz=120								
M17A	Scullys Gap (B	120.62	20	⇑PKiKP	PKPdf	20 14 28.7	-0.6		
	baz=120								
K21A	Alcova	120.64	17	⇓PKiKP	PKPdf	20 14 28.8	-0.4		
	baz=120								
K21A	Alcova	120.64	17	⇓PKiKP	PKPdf	20 14 28.8	-0.4		
	baz=120								
J24A	Dixon Ranch, L	120.68	15	⇓PKiKP	PKPdf	20 14 29.1	-0.2		
	baz=120								
J24A	Dixon Ranch, L	120.68	15	⇓PKiKP	PKPdf	20 14 29.1	-0.2		
	baz=120								
SPMN	St. Paul	120.78	5	⇓PKiKP	PKPdf	20 14 29.0	-0.2		
	baz=120								
SPMN	St. Paul	120.78	5	⇓PKiKP	PKPdf	20 14 29.0	-0.2		
	baz=120								
BRSD	Miller	120.80	10	⇓PKiKP	PKPdf	20 14 28.8	-0.5		
	baz=120								
BRSD	Miller	120.80	10	⇓PKiKP	PKPdf	20 14 28.8	-0.5		
	baz=120								
I28A	Midland	120.83	12	⇓PKiKP	PKPdf	20 14 29.0	-0.3		
	baz=120								
I28A	Midland	120.83	12	⇓PKiKP	PKPdf	20 14 29.0	-0.3		
	baz=120								
K22A	Casper	120.83	17	⇓PKiKP	PKPdf	20 14 29.1	-0.5		
	baz=120								
K22A	Casper	120.83	17	⇓PKiKP	PKPdf	20 14 29.1	-0.5		
	baz=120								
J25A	Sunshine Ranch	120.83	14	⇑PKiKP	PKPdf	20 14 29.2	-0.3		
	baz=120								
J25A	Sunshine Ranch	120.83	14	⇑PKiKP	PKPdf	20 14 29.2	-0.3		
	baz=120								
L20A	Wamsutter	120.89	18	⇓PKiKP	PKPdf	20 14 29.4	-0.3		
	baz=121								
L20A	Wamsutter	120.89	18	⇓PKiKP	PKPdf	20 14 29.4	-0.3		
	baz=121								
CTU	Camp Tracy	120.94	22	*e*PKPdf	PKPdf	20 14 29.7	-0.2		
HNH	Hanover	120.94	347	*e*PKPdf	PKPdf	20 14 30.4	+0.9		
TPH	Tonopah	120.96	27	PFAKE		20 14 40.0	+10		
TPH				LR	LR				
	comp=Z,148μm,19.0s								
K23A	Bowen Ranch, D	120.97	16	⇑PKiKP	PKPdf	20 14 29.2	-0.7		
	baz=121								
K23A	Bowen Ranch, D	120.97	16	⇑PKiKP	PKPdf	20 14 29.2	-0.7		
	baz=121								
DUG	Dugway	120.98	23	*e*PKIKP	PKPdf	20 14 30.6	+0.7		
DUG				MLR	MLR				
	comp=Z,163μm,21.0s								
DUG	Dugway	120.98	23	*e*PKPdf	PKPdf	20 14 30.6	+0.7		
DUG				LR	LR				
	comp=Z,163μm,21.0s								
DUG	Dugway	120.98	23	⇓PKiKP	PKPdf	20 14 29.9	0.0		
	baz=121								
DUG	Dugway	120.98	23	⇓PKiKP	PKPdf	20 14 29.9	0.0		
	baz=121								
SADO	Sadowa	121.01	353	PKP	PKPdf	20 14 28.9	-0.7		
SADO				PKKPbc	PKKPab	20 24 43.6	+8.0		
SADO	Sadowa	121.01	353	PKP	PKPdf	20 14 28.9	-0.7		
	comp=Z,7.8nm,0.7s,baz=336,slow=2.1,SNR=4.5								
SADO				PKKPbc	PKKPab	20 24 43.6	+8.0		
	comp=Z,22nm,1.0s,baz=325,slow=10,SNR=3.8								
FFD	Franklin Falls	121.03	347	*e*PKPdf	PKPdf	20 14 27.3	-2.4		
NCB	Newcomb	121.07	349	*e*PKPdf	PKPdf	20 14 29.3	-0.5		
NCB				LR	LR				
	comp=Z,295μm,19.0s								
J26A	Sides Ranch, S	121.08	14	⇑PKiKP	PKPdf	20 14 30.0	0.0		
	baz=121								
J26A	Sides Ranch, S	121.08	14	⇑PKiKP	PKPdf	20 14 30.0	0.0		
	baz=121								
M19A	Rock Springs	121.09	19	⇑PKiKP	PKPdf	20 14 29.8	-0.3		
	baz=121								
M19A	Rock Springs	121.09	19	⇑PKiKP	PKPdf	20 14 29.8	-0.3		
	baz=121								
JLU	Jordanelle	121.13	21	*e*PKPdf	PKPdf	20 14 29.1	-1.2		
K24A	Anderson Ranch	121.22	15	⇑PKiKP	PKPdf	20 14 29.9	-0.4		
	baz=121								
K24A	Anderson Ranch	121.22	15	⇑PKiKP	PKPdf	20 14 29.9	-0.4		
	baz=121								
L21A	Rawlins	121.22	18	⇓PKiKP	PKPdf	20 14 30.1	-0.3		
	baz=121								
L21A	Rawlins	121.22	18	⇓PKiKP	PKPdf	20 14 30.1	-0.3		
	baz=121								
TIN	Tinemaha	121.33	29	⇓PKiKP	PKPdf	20 14 30.7	0.0		
	baz=121								
TIN	Tinemaha	121.33	29	⇓PKiKP	PKPdf	20 14 30.7	0.0		
	baz=121								
PMOR	Pomariorio Ree	121.34	99	*e*PKiKP	PKiKP	20 14 31.7	+0.7		
	comp=Z,426nm,0.9s								
J28A	Allard Ranch,	121.36	12	⇑PKiKP	PKPdf	20 14 30.2	-0.2		
	baz=121								
J28A	Allard Ranch,	121.36	12	⇑PKiKP	PKPdf	20 14 30.2	-0.2		
	baz=121								
M20A	Sweetwater, Wa	121.41	18	⇓PKiKP	PKPdf	20 14 30.7	-0.1		
	baz=121								
M20A	Sweetwater, Wa	121.41	18	⇓PKiKP	PKPdf	20 14 30.7	-0.1		
	baz=121								
L22A	Ellis Ranch, M	121.43	17	⇑PKiKP	PKPdf	20 14 30.6	-0.2		
	baz=121								
L22A	Ellis Ranch, M	121.43	17	⇑PKiKP	PKPdf	20 14 30.6	-0.2		
	baz=121								
RCTC	Rector, Farmer	121.45	30	⇑PKiKP	PKPdf	20 14 30.5	-0.2		
	baz=121								
RCTC	Rector, Farmer	121.45	30	⇑PKiKP	PKPdf	20 14 30.5	-0.2		
	baz=121								
R11A	Troy Canyon, C	121.45	26	⇓PKiKP	PKPdf	20 14 31.0	0.0		
	baz=121								
R11A	Troy Canyon, C	121.45	26	⇓PKiKP	PKPdf	20 14 31.0	0.0		
	baz=121								
NLU	North Lily Min	121.47	22	*e*PKPdf	PKPdf	20 14 31.0	0.0		
MEH	Mehetia	121.51	102	*e*PKiKP	PKiKP	20 14 32.0	+0.6		
	comp=Z,219nm,1.1s								
RWWY	Rawlins	121.52	18	*e*PKPdf	PKPdf	20 14 29.3	-1.8		
ACCN	Adirondack Com	121.53	349	*e*PKPdf	PKPdf	20 14 31.0	+0.3		
M21A	Separation Pea	121.55	18	⇑PKiKP	PKPdf	20 14 30.4	-0.7		
	baz=121								
M21A	Separation Pea	121.55	18	⇑PKiKP	PKPdf	20 14 30.4	-0.7		
	baz=121								
L23A	Garrett	121.55	16	⇑PKiKP	PKPdf	20 14 30.7	-0.3		
	baz=121								
L23A	Garrett	121.55	16	⇑PKiKP	PKPdf	20 14 30.7	-0.3		
	baz=121								
K25A	Mack Ranch, Ha	121.55	14	⇑PKiKP	PKPdf	20 14 30.6	-0.4		
	baz=121								
K25A	Mack Ranch, Ha	121.55	14	⇑PKiKP	PKPdf	20 14 30.6	-0.4		
	baz=121								
MPU	Maple Canyon	121.58	22	*e*PKPdf	PKPdf	20 14 31.2	+0.1		
K26A	Motz Farm, Whi	121.63	14	⇓PKiKP	PKPdf	20 14 30.6	-0.4		
	baz=121								
K26A	Motz Farm, Whi	121.63	14	⇓PKiKP	PKPdf	20 14 30.6	-0.4		
	baz=121								
GRAC	Grapevine Rang	121.78	28	⇑PKiKP	PKPdf	20 14 31.5	+0.1		
	baz=122								
GRAC	Grapevine Rang	121.78	28	⇑PKiKP	PKPdf	20 14 31.5	+0.1		
	baz=122								
L24A	Wheatland	121.82	16	⇓PKiKP	PKPdf	20 14 31.4	-0.1		
	baz=122								
L24A	Wheatland	121.82	16	⇓PKiKP	PKPdf	20 14 31.4	-0.1		
	baz=122								
K27A	Flueckinger Fa	121.84	13	⇓PKiKP	PKPdf	20 14 31.1	-0.3		
	baz=122								
K27A	Flueckinger Fa	121.84	13	⇓PKiKP	PKPdf	20 14 31.1	-0.3		
	baz=122								
ECSD	EROS Data Cent	121.85	8	*e*PKPdf	PKPdf	20 14 30.8	-0.5		
ECSD				LR	LR				
	comp=Z,284μm,21.0s								
SMMC	Simmler	121.86	32	⇓PKiKP	PKiKP	20 14 32.0	+0.3		
	baz=122								
SMMC	Simmler	121.86	32	⇓PKiKP	PKiKP	20 14 32.0	+0.3		
	baz=122								
VES	Vestal, Richgr	121.90	30	⇑PKiKP	PKiKP	20 14 31.8	+0.1		
	baz=122								
VES	Vestal, Richgr	121.90	30	⇑PKiKP	PKiKP	20 14 31.8	+0.1		
	baz=122								
CWC	Cottonwood Cre	121.90	29	⇑PKiKP	PKiKP	20 14 32.0	0.0		
	baz=122								
CWC	Cottonwood Cre	121.90	29	⇑PKiKP	PKiKP	20 14 32.0	0.0		
	baz=122								
HRV	Adam Dziewonsk	121.93	346	*e*PKIKP	PKPdf	20 14 31.8	+0.3		
HRV	Adam Dziewonsk	121.93	346	*e*PKPdf	PKPdf	20 14 31.8	+0.3		
L25A	Engebretsen Ra	121.96	15	⇑PKiKP	PKPdf	20 14 31.6	-0.1		
	baz=122								
L25A	Engebretsen Ra	121.96	15	⇑PKiKP	PKPdf	20 14 31.6	-0.1		
	baz=122								
M22A	Cedar Creek Ra	121.96	17	⇑PKiKP	PKPdf	20 14 31.6	-0.3		
	baz=122								
M22A	Cedar Creek Ra	121.96	17	⇑PKiKP	PKPdf	20 14 31.6	-0.3		
	baz=122								
N20A	Spence Gulch,	121.98	19	⇓PKiKP	PKPdf	20 14 31.8	-0.1		
	baz=122								
N20A	Spence Gulch,	121.98	19	⇓PKiKP	PKPdf	20 14 31.8

	baz=122						
O21A	Pagoda	122.80	18	⇑PKiKP	PKPdf	20 14 33.4	-0.2
	baz=122						
O21A	Pagoda	122.80	18	⇑PKiKP	PKPdf	20 14 33.4	-0.2
	baz=122						
M26A	McRoberts Ranc	122.81	14	⇓PKiKP	PKPdf	20 14 32.7	-0.7
	baz=122						
M26A	McRoberts Ranc	122.81	14	⇓PKiKP	PKPdf	20 14 32.7	-0.7
	baz=122						
ARUT	Antelope Range	122.82	25	ePKIKP	PKPdf	20 14 35.4	+1.9
ARUT	Antelope Range	122.82	25	ePKPdf	PKPdf	20 14 35.4	+1.9
L29A	Maesberg Ranch	122.82	12	⇑PKiKP	PKPdf	20 14 33.0	-0.3
	baz=122						
L29A	Maesberg Ranch	122.82	12	⇑PKiKP	PKPdf	20 14 33.0	-0.3
	baz=122						
P19A	Cripple Cowboy	122.84	20	⇓PKiKP	PKPdf	20 14 32.9	-0.7
	baz=122						
P19A	Cripple Cowboy	122.84	20	⇓PKiKP	PKPdf	20 14 32.9	-0.7
	baz=122						
LRMC	Laurel Mountai	122.86	30	⇓PKiKP	PKPdf	20 14 33.5	-0.1
	baz=123						
LRMC	Laurel Mountai	122.86	30	⇓PKiKP	PKPdf	20 14 33.5	-0.1
	baz=123						
M27A	Reverse DX Ran	122.93	14	⇓PKiKP	PKPdf	20 14 33.3	-0.2
	baz=123						
M27A	Reverse DX Ran	122.93	14	⇓PKiKP	PKPdf	20 14 33.3	-0.2
	baz=123						
N24A	Carr	122.97	16	⇑PKiKP	PKPdf	20 14 33.1	-0.6
	baz=123						
N24A	Carr	122.97	16	⇑PKiKP	PKPdf	20 14 33.1	-0.6
	baz=123						
OSI	Osito Adit	123.05	31	⇑PKiKP	PKPdf	20 14 33.6	-0.3
	baz=123						
OSI	Osito Adit	123.05	31	⇑PKiKP	PKPdf	20 14 33.6	-0.3
	baz=123						
CCUT	Cedar City	123.06	25	ePKPdf	PKPdf	20 14 35.1	+1.0
BSC	Santa Cruz Isl	123.07	32	⇑PKiKP	PKiKP	20 14 34.1	-0.1
	baz=123						
BSC	Santa Cruz Isl	123.07	32	⇑PKiKP	PKiKP	20 14 34.1	-0.1
	baz=123						
BINY	Binghamton	123.09	350	ePKPdf	PKPdf	20 14 33.5	-0.3
BINY				LR	LR		
	comp=Z,209μm,20.0s						
O22A	Kremmling	123.12	18	⇓PKiKP	PKPdf	20 14 33.6	-0.7
	baz=123						
O22A	Kremmling	123.12	18	⇓PKiKP	PKPdf	20 14 33.6	-0.7
	baz=123						
P20A	De Beque	123.16	20	⇑PKiKP	PKPdf	20 14 33.6	-0.5
	baz=123						
P20A	De Beque	123.16	20	⇑PKiKP	PKPdf	20 14 33.6	-0.5
	baz=123						
SHOC	Shoshone	123.18	28	⇓PKiKP	PKiKP	20 14 34.4	+0.1
	baz=123						
SHOC	Shoshone	123.18	28	⇓PKiKP	PKiKP	20 14 34.4	+0.1
	baz=123						
SHPR	Sheep Range	123.18	27	ePKPdf	PKPdf	20 14 34.5	+0.2
N25A	Grover	123.19	15	⇑PKiKP	PKPdf	20 14 34.1	0.0
	baz=123						
N25A	Grover	123.19	15	⇑PKiKP	PKPdf	20 14 34.1	0.0
	baz=123						
EDW2	Edwards Air Fo	123.20	30	⇓PKiKP	PKiKP	20 14 34.7	+0.3
	baz=123						
EDW2	Edwards Air Fo	123.20	30	⇓PKiKP	PKiKP	20 14 34.7	+0.3
	baz=123						
JFWS	Jewell Farm	123.24	3	PFAKE		20 14 40.0	+6.0
JFWS				LR	LR		
	comp=Z,371μm,21.0s						
O23A	Lake Granby, G	123.26	17	⇓PKiKP	PKPdf	20 14 34.0	-0.5
	baz=123						
O23A	Lake Granby, G	123.26	17	⇓PKiKP	PKPdf	20 14 34.0	-0.5
	baz=123						
BLG	Laguna Peak	123.28	32	⇓PKiKP	PKPdf	20 14 33.9	-0.4
	baz=123						
BLG	Laguna Peak	123.28	32	⇓PKiKP	PKPdf	20 14 33.9	-0.4
	baz=123						
M28A	Bar X Bar Ranc	123.28	13	⇑PKiKP	PKPdf	20 14 33.7	-0.5
	baz=123						
M28A	Bar X Bar Ranc	123.28	13	⇑PKiKP	PKPdf	20 14 33.7	-0.5
	baz=123						
YLE	Yale	123.37	347	ePKPdf	PKPdf	20 14 34.7	+0.5
M29A	Burnside Ranch	123.38	12	⇓PKiKP	PKPdf	20 14 34.0	-0.3
	baz=123						
M29A	Burnside Ranch	123.38	12	⇓PKiKP	PKPdf	20 14 34.0	-0.3
	baz=123						
N26A	Koester Ranch,	123.40	15	⇑PKiKP	PKPdf	20 14 34.1	-0.4
	baz=123						
N26A	Koester Ranch,	123.40	15	⇑PKiKP	PKPdf	20 14 34.1	-0.4
	baz=123						
GSC	Goldstone	123.43	29	ePKIKP	PKPdf	20 14 35.6	+0.9
GSC	Goldstone	123.43	29	ePKPdf	PKPdf	20 14 35.6	+0.9
GSC	Goldstone	123.43	29	⇓PKiKP	PKiKP	20 14 34.9	0.0
	baz=123						
GSC	Goldstone	123.43	29	⇓PKiKP	PKiKP	20 14 34.9	0.0
	baz=123						
P21A	Newcastle	123.43	19	⇑PKiKP	PKPdf	20 14 34.5	-0.2
	baz=123						
P21A	Newcastle	123.43	19	⇑PKiKP	PKPdf	20 14 34.5	-0.2
	baz=123						
M30A	Dale-Ortello V	123.45	11	⇑PKiKP	PKPdf	20 14 34.2	-0.3
	baz=123						
M30A	Dale-Ortello V	123.45	11	⇑PKiKP	PKPdf	20 14 34.2	-0.3
	baz=123						
DECC	Green Verdugo	123.53	31	⇓PKiKP	PKPdf	20 14 34.9	+0.1
	baz=123						
DECC	Green Verdugo	123.53	31	⇓PKiKP	PKPdf	20 14 34.9	+0.1
	baz=123						
OGNE	Ogallala	123.57	14	ePKPdf	PKPdf	20 14 34.4	-0.4
OGNE				LR	LR		
	comp=Z,164μm,20.0s						
OGNE	Ogallala	123.57	14	⇓PKiKP	PKPdf	20 14 34.4	-0.4
	baz=123						
OGNE	Ogallala	123.57	14	⇓PKiKP	PKPdf	20 14 34.4	-0.4
	baz=123						
O24A	Longmont	123.58	16	⇓PKiKP	PKPdf	20 14 34.3	-0.6
	baz=123						
O24A	Longmont	123.58	16	⇓PKiKP	PKPdf	20 14 34.3	-0.6
	baz=123						
P22A	Eagle	123.58	18	⇓PKiKP	PKPdf	20 14 34.7	-0.3
	baz=123						
P22A	Eagle	123.58	18	⇓PKiKP	PKPdf	20 14 34.7	-0.3
	baz=123						
N27A	Anderson Farm,	123.58	14	⇓PKiKP	PKPdf	20 14 34.6	-0.3
	baz=123						
N27A	Anderson Farm,	123.58	14	⇓PKiKP	PKPdf	20 14 34.6	-0.3
	baz=123						
PASC	Pasadena Art C	123.67	31	ePKPdf	PKPdf	20 14 36.6	+1.6
RRX	Edison Barstow	123.68	29	⇓PKiKP	PKiKP	20 14 35.5	+0.2
	baz=123						
RRX	Edison Barstow	123.68	29	⇓PKiKP	PKiKP	20 14 35.5	+0.2
	baz=123						
Q20A	Ridgley Place,	123.68	20	⇑PKiKP	PKPdf	20 14 34.8	-0.4
	baz=123						
Q20A	Ridgley Place,	123.68	20	⇑PKiKP	PKPdf	20 14 34.8	-0.4
	baz=123						
MWC	Mount Wilson	123.69	31	ePKIKP	PKPdf	20 14 36.1	+0.7
MWC	Mount Wilson	123.69	31	ePKPdf	PKPdf	20 14 36.1	+0.7
TUQ	Turquoise Moun	123.73	28	⇑PKiKP	PKPdf	20 14 35.3	0.0
	baz=123						
TUQ	Turquoise Moun	123.73	28	⇑PKiKP	PKPdf	20 14 35.3	0.0
	baz=123						
ISCO	Idaho Springs	123.73	17	PFAKE		20 14 50.0	+15
ISCO				LR	LR		
	comp=Z,275μm,21.0s						
ISCO	Idaho Springs	123.73	17	⇓PKiKP	PKPdf	20 14 35.3	-0.1
	baz=123						
ISCO	Idaho Springs	123.73	17	⇓PKiKP	PKPdf	20 14 35.3	-0.1
	baz=123						
O25A	Wiggins	123.84	16	⇑PKiKP	PKPdf	20 14 35.2	-0.2
	baz=124						
O25A	Wiggins	123.84	16	⇑PKiKP	PKPdf	20 14 35.2	-0.2
	baz=124						
BFSC	Mount Baldy Ra	123.88	30	⇑PKiKP	PKPdf	20 14 35.3	-0.3
	baz=124						
BFSC	Mount Baldy Ra	123.88	30	⇑PKiKP	PKPdf	20 14 35.3	-0.3
	baz=124						
BGNE	Belgrade	123.89	10	⇓PKiKP	PKPdf	20 14 35.2	-0.1
	baz=124						
BGNE	Belgrade	123.89	10	⇓PKiKP	PKPdf	20 14 35.2	-0.1
	baz=124						
SMCO	Snowmass	123.90	19	ePKPdf	PKPdf	20 14 36.0	+0.1
N28A	Pribbeno Ranch	123.92	13	⇓PKiKP	PKPdf	20 14 35.0	-0.5
	baz=124						
N28A	Pribbeno Ranch	123.92	13	⇓PKiKP	PKPdf	20 14 35.0	-0.5
	baz=124						
O26A	Horse Wrangler	123.93	15	⇑PKiKP	PKPdf	20 14 35.2	-0.3
	baz=124						
O26A	Horse Wrangler	123.93	15	⇑PKiKP	PKPdf	20 14 35.2	-0.3
	baz=124						
FMP	Fort Macarthur	123.98	31	⇓PKiKP	PKiKP	20 14 36.2	+0.3
	baz=124						
FMP	Fort Macarthur	123.98	31	⇓PKiKP	PKiKP	20 14 36.2	+0.3
	baz=124						
PV04	Paradox Valley	123.98	21	ePKPdf	PKPdf	20 14 36.5	+0.8
N29A	Votaw Ranch, W	123.99	12	⇑PKiKP	PKPdf	20 14 35.4	-0.2
	baz=124						
N29A	Votaw Ranch, W	123.99	12	⇑PKiKP	PKPdf	20 14 35.4	-0.2
	baz=124						
Q21A	Lamborn Mesa,	124.02	19	⇑PKiKP	PKPdf	20 14 35.6	-0.3
	baz=124						
Q21A	Lamborn Mesa,	124.02	19	⇑PKiKP	PKPdf	20 14 35.6	-0.3
	baz=124						
HEC	Hector,Ludlow	124.04	29	⇑PKiKP	PKiKP	20 14 36.2	+0.1
	baz=124						
HEC	Hector,Ludlow	124.04	29	⇑PKiKP	PKiKP	20 14 36.2	+0.1
	baz=124						
P23A	Jefferson	124.06	17	⇓PKiKP	PKPdf	20 14 35.6	-0.5
	baz=124						
P23A	Jefferson	124.06	17	⇓PKiKP	PKPdf	20 14 35.6	-0.5
	baz=124						
CPNY	Central Park	124.08	348	ePKPdf	PKPdf	20 14 35.5	-0.1
N30A	Hueftle Ranch,	124.12	12	⇓PKiKP	PKPdf	20 14 35.9	+0.1
	baz=124						
N30A	Hueftle Ranch,	124.12	12	⇓PKiKP	PKPdf	20 14 35.9	+0.1
	baz=124						
CIS	Catalina Islan	124.17	32	⇑PKiKP	PKPdf	20 14 36.0	0.0
	baz=124						
CIS	Catalina Islan	124.17	32	⇑PKiKP	PKPdf	20 14 36.0	0.0
	baz=124						
O27A	Beecher Island	124.18	14	⇑PKiKP	PKPdf	20 14 35.9	-0.1
	baz=124						
O27A	Beecher Island	124.18	14	⇑PKiKP	PKPdf	20 14 35.9	-0.1
	baz=124						
P24A	Kohler Place,	124.19	17	⇓PKiKP	PKPdf	20 14 35.8	-0.4
	baz=124						
P24A	Kohler Place,	124.19	17	⇓PKiKP	PKPdf	20 14 35.8	-0.4
	baz=124						
ALLY	Alegheny Colle	124.20	354	ePKPdf	PKPdf	20 14 34.9	-1.0
Q22A	Crested Butte,	124.21	19	⇑PKiKP	PKPdf	20 14 36.1	-0.3
	baz=124						
Q22A	Crested Butte,	124.21	19	⇑PKiKP	PKPdf	20 14 36.1	-0.3
	baz=124						
BBRC	Big Bear Solar	124.22	30	⇓PKiKP	PKPdf	20 14 36.0	-0.4
	baz=124						
BBRC	Big Bear Solar	124.22	30	⇓PKiKP	PKPdf	20 14 36.0	-0.4
	baz=124						
BRNJ	Basking Ridge	124.31	348	ePKPdf	PKPdf	20 14 36.5	+0.5
PV01	Paradox Valley	124.33	20	ePKPdf	PKPdf	20 14 37.6	+1.1
R20A	Redvale	124.34	20	⇓PKiKP	PKPdf	20 14 36.3	-0.2
	baz=124						
R20A	Redvale	124.34	20	⇓PKiKP	PKPdf	20 14 36.3	-0.2
	baz=124						
GMRC	Granite Mounta	124.39	28	⇓PKiKP	PKPdf	20 14 36.6	0.0
	baz=124						
GMRC	Granite Mounta	124.39	28	⇓PKiKP	PKPdf	20 14 36.6	0.0
	baz=124						
LDFC	Landfair	124.39	28	ePKPdf	PKPdf	20 14 38.5	+1.9
P25A	Willow Gulch B	124.39	16	⇓PKiKP	PKPdf	20 14 36.1	-0.4
	baz=124						
P25A	Willow Gulch B	124.39	16	⇓PKiKP	PKPdf	20 14 36.1	-0.4
	baz=124						
O28A	Krutsinger Ran	124.41	14	⇓PKiKP	PKPdf	20 14 36.1	-0.3
	baz=124						
O28A	Krutsinger Ran	124.41	14	⇓PKiKP	PKPdf	20 14 36.1	-0.3
	baz=124						
SCI	San Clemente I	124.43	32	⇑PKiKP	PKiKP	20 14 36.8	0.0
	baz=124						
SCI	San Clemente I	124.43	32	⇑PKiKP	PKiKP	20 14 36.8	0.0
	baz=124						
R21A	Cimarron	124.45	19	⇓PKiKP	PKPdf	20 14 36.6	-0.2
	baz=124						
R21A	Cimarron	124.45	19	⇓PKiKP	PKPdf	20 14 36.6	-0.2
	baz=124						
U15A	North Rim	124.46	25	⇑PKiKP	PKPdf	20 14 37.0	+0.1
	baz=124						
U15A	North Rim	124.46	25	⇑PKiKP	PKPdf	20 14 37.0	+0.1
	baz=124						
Q23A	Hartsel	124.49	18	⇑PKiKP	PKPdf	20 14 36.6	-0.3
	baz=124						
Q23A	Hartsel	124.49	18	⇑PKiKP	PKPdf	20 14 36.6	-0.3
	baz=124						
P26A	Davis Ranch, A	124.56	15	⇑PKiKP	PKPdf	20 14 36.5	-0.4
	baz=124						
P26A	Davis Ranch, A	124.56	15	⇑PKiKP	PKPdf	20 14 36.5	-0.4
	baz=124						
MURC	Murrieta	124.62	31	⇑PKiKP	PKiKP	20 14 37.1	-0.2
	baz=124						
MURC	Murrieta	124.62	31	⇑PKiKP	PKiKP	20 14 37.1	-0.2
	baz=124						
O29A	4D Ranch, Culb	124.62	13	⇓PKiKP	PKPdf	20 14 36.7	-0.1
	baz=124						
O29A	4D Ranch, Culb	124.62	13	⇓PKiKP	PKPdf	20 14 36.7	-0.1
	baz=124						
Q24A	Divide	124.64	17	⇓PKiKP	PKPdf	20 14 36.7	-0.4
	baz=124						
Q24A	Divide	124.64	17	⇓PKiKP	PKPdf	20 14 36.7	-0.4
	baz=124						
S20A	Disappointment	124.67	20	⇑PKiKP	PKPdf	20 14 37.0	-0.3
	baz=124						
S20A	Disappointment	124.67	20	⇑PKiKP	PKPdf	20 14 37.0	-0.3
	baz=124						
O30A	MW Ranch, Wils	124.72	12	⇓PKiKP	PKPdf	20 14 36.8	-0.2
	baz=124						
O30A	MW Ranch, Wils	124.72	12	⇓PKiKP	PKPdf	20 14 36.8	-0.2
	baz=124						
P27A	Ficken Ranch,	124.76	15	⇑PKiKP	PKPdf	20 14 36.8	-0.3
	baz=124						
P27A	Ficken Ranch,	124.76	15	⇑PKiKP	PKPdf	20 14 36.8	-0.3
	baz=124						
R22A	Saguache, Gunn	124.83	19	⇑PKiKP	PKPdf	20 14 37.7	+0.1
	baz=124						
R22A	Saguache, Gunn	124.83	19	⇑PKiKP	PKPdf	20 14 37.7	+0.1
	baz=124						
BELC	Belle Mtn. Jos	124.87	29	⇓PKiKP	PKiKP	20 14 37.9	0.0
	baz=125						
BELC	Belle Mtn. Jos	124.87	29	⇓PKiKP	PKiKP	20 14 37.9	0.0
	baz=125						
NEE2	Needles Airpor	124.88	28	⇑PKiKP	PKiKP	20 14 37.6	0.0
	baz=125						
NEE2	Needles Airpor	124.88	28	⇑PKiKP	PKiKP	20 14 37.6	0.0
	baz=125						
W13A	Hualapai Mount	124.92	27	⇓PKiKP	PKPdf	20 14 37.9	+0.2
	baz=125						
W13A	Hualapai Mount	124.92	27	⇓PKiKP	PKPdf	20 14 37.9	+0.2
	baz=125						
Q25A	Bedland, Calha	124.93	16	⇑PKiKP	PKPdf	20 14 37.5	-0.2
	baz=125						
Q25A	Bedland, Calha	124.93	16	⇑PKiKP	PKPdf	20 14 37.5	-0.2
	baz=125						
P28A	Saint Francis	124.94	14	⇓PKiKP	PKPdf	20 14 37.6	+0.1
	baz=125						
P28A	Saint Francis	124.94	14	⇓PKiKP	PKPdf	20 14 37.6	+0.1
	baz=125						
PFO	Pinyon Flat Ob	124.97	30	ePKPdf	PKPdf	20 14 38.7	+0.9
PFO				PKP	PKPdf	20 14 39.2	+1.5
PFO				PKKP	PKKPdf	20 24 56.2	-3.4
PFO				SKKP		20 28 28.5	
PFO				LR	LR		
	comp=Z,80μm,20.0s						
PFO	Pinyon Flat Ob	124.97	30	PKP	PKPdf	20 14 39.2	+1.5
	comp=Z,33nm,1.0s,baz=359,slow=1.0,SNR=20						
PFO				PKKP	PKKPdf	20 24 56.2	-3.4
	comp=Z,16nm,1.0s,baz=126,slow=5.8,SNR=4.0						
PFO				SKKP		20 28 28.5	
	comp=Z,13nm,1.0s,baz=106,slow=5.4,SNR=3.6						
PFO	Pinyon Flat Ob	124.97	30	⇓PKiKP	PKiKP	20 14 38.3	+0.2
	baz=125						
PFO	Pinyon Flat Ob	124.97	30	⇓PKiKP	PKiKP	20 14 38.3	+0.2
	baz=125						
S21A	Coal Bank Pass	125.02	20	⇓PKiKP	PKiKP	20 14 38.3	0.0
	baz=125						
S21A	Coal Bank Pass	125.02	20	⇓PKiKP	PKiKP	20 14 38.3	0.0
	baz=125						
P29A	Atwood	125.09	13	⇓PKiKP	PKPdf	20 14 37.8	0.0
	baz=125						
P29A	Atwood	125.09	13	⇓PKiKP	PKPdf	20 14 37.8	0.0
	baz=125						
Q26A	Hugo	125.12	16	⇑PKiKP	PKPdf	20 14 37.5	-0.4
	baz=125						
Q26A	Hugo	125.12	16	⇑PKiKP	PKPdf	20 14 37.5	-0.4
	baz=125						
IRM	Iron Mountain	125.14	28	⇓PKiKP	PKiKP	20 14 38.6	+0.3
	baz=125						
IRM	Iron Mountain	125.14	28	⇓PKiKP	PKiKP	20 14 38.6	+0.3
	baz=125						
R23A	Moffat	125.16	18	⇓PKiKP	PKiKP	20 14 38.6	+0.1
	baz=125						
R23A	Moffat	125.16	18	⇓PKiKP	PKiKP	20 14 38.6	+0.1
	baz=125						
MVCO	Mesa Verde	125.19	21	ePKPdf	PKPdf	20 14 39.1	+0.9
MVCO				LR	LR		
	comp=Z,237μm,22.0s						
MVCO	Mesa Verde	125.19	21	⇓PKiKP	PKiKP	20 14 38.7	+0.1
	baz=125						
MVCO	Mesa Verde	125.19	21	⇓PKiKP	PKiKP	20 14 38.7	+0.1
	baz=125						
109C	Camp Elliot, M	125.23	31	⇑PKiKP	PKPdf	20 14 38.0	0.0
	baz=125						
109C	Camp Elliot, M	125.23	31	⇑PKiKP	PKPdf	20 14 38.0	0.0
	baz=125						
S22A	4UR Ranch, Cre	125.25	19	⇑PKiKP	PKPdf	20 14 38.5	+0.1
	baz=125						
S22A	4UR Ranch, Cre	125.25	19	⇑PKiKP	PKPdf	20 14 38.5	+0.1
	baz=125						
KSCO	Kaye Shedlock'	125.26	15	⇑PKiKP	PKPdf	20 14 37.9	-0.2
	baz=125						
KSCO	Kaye Shedlock'	125.26	15	⇑PKiKP	PKPdf	20 14 37.9	-0.2
	baz=125						
P30A	Selden	125.30	12	⇑PKiKP	PKPdf	20 14 37.9	-0.2
	baz=125						
P30A	Selden	125.30	12	⇑PKiKP	PKPdf	20 14 37.9	-0.2
	baz=125						
R24A	Sanders Place,	125.33	17	⇑PKiKP	PKPdf	20 14 38.2	-0.2
	baz=125						
R24A	Sanders Place,	125.33	17	⇑PKiKP	PKPdf	20 14 38.2	-0.2
	baz=125						
Q28A	Sharon Springs	125.41	14	⇑PKiKP	PKPdf	20 14 38.4	0.0
	baz=125						
Q28A	Sharon Springs	125.41	14	⇑PKiKP	PKPdf	20 14 38.4	0.0
	baz=125						
BC3	Big Chuckawall	125.41	29	⇑PKiKP	PKiKP	20 14 39.0	0.0
	baz=125						
BC3	Big Chuckawall	125.41	29	⇑PKiKP	PKiKP	20 14 39.0	0.0
	baz=125						
PDMCI	Parker Dam,Lak	125.48	27	⇑PKiKP	PKiKP	20 14 39.1	+0.2
	baz=125						
PDMCI	Parker Dam,Lak	125.48	27	⇑PKiKP	PKiKP	20 14 39.1	+0.2
	baz=125						
P31A	Stockton	125.49	12	⇓PKiKP	PKPdf	20 14 38.4	-0.1
	baz=125						
P31A	Stockton	125.49	12	⇓PKiKP	PKPdf	20 14 38.4	-0.1
	baz=125						
S23A	Nye Farm, Mont	125.55	18	⇓PKiKP	PKiKP	20 14 39.3	+0.1
	baz=125						
S23A	Nye Farm, Mont	125.55	18	⇓PKiKP	PKiKP	20 14 39.3	+0.1
	baz=125						
MONP	Monument Peak	125.57	30	⇑PKiKP	PKiKP	20 14 39.5	+0.2
	baz=125						
MONP	Monument Peak	125.57	30	⇑PKiKP	PKiKP	20 14 39.5	+0.2
	baz=125						
WUAZ	Wupatki	125.61	24	ePKPdf	PKPdf	20 14 38.7	-0.2
WUAZ				LR	LR		
	comp=Z,143μm,22.0s						
WUAZ	Wupatki	125.61	24	⇑PKiKP	PKPdf	20 14 38.5	-0.4
	baz=125						
WUAZ	Wupatki	125.61	24	⇑PKiKP	PKPdf	20 14 38.5	-0.4
	baz=125						
BAR	Barrett	125.62	31	ePKPdf	PKPdf	20 14 40.0	+1.1
HDIL	Hopedale	125.64	2	ePKPdf	PKPdf	20 14 39.1	+0.5
HDIL				LR	LR		
	comp=Z,4825μm,22.0s						
R25A	Fountain Ranch	125.64	17	⇑PKiKP	PKPdf	20 14 38.7	-0.2
	baz=125						
R25A	Fountain Ranch	125.64	17	⇑PKiKP	PKPdf	20 14 38.7	-0.2
	baz=125						
SDCO	Great Sand Dun	125.66	18	ePKPdf	PKPdf	20 14 39.6	+0.5
SDCO				LR	LR		
	comp=Z,252μm,21.0s						
T21A	Navajo Lake	125.71	20	⇓PKiKP	PKiKP	20 14 39.4	-0.2
	baz=125						
T21A	Navajo Lake	125.71	20	⇓PKiKP	PKiKP	20 14 39.4	-0.2
	baz=125						
R26A	Arlington	125.72	16	⇓PKiKP	PKPdf	20 14 38.7	-0.4
	baz=125						
R26A	Arlington	125.72	16	⇓PKiKP	PKPdf	20 14 38.7	-0.4
	baz=125						
Q29A	Oakley	125.77	13	⇑PKiKP	PKPdf	20 14 38.9	-0.1
	baz=125						
Q29A	Oakley	125.77	13	⇑PKiKP	PKPdf	20 14 38.9	-0.1
	baz=125						
Y12C	Blythe	125.77	28	⇓PKiKP	PKiKP	20 14 39.8	+0.3
	baz=126						
Y12C	Blythe	125.77	28	⇓PKiKP	PKiKP	20 14 39.8	+0.3
	baz=126						
SWSC	Sam W. Stewart	125.84	30	⇑PKiKP	PKiKP	20 14 39.5	-0.1
	baz=126						
SWSC	Sam W. Stewart	125.84	30	⇑PKiKP	PKiKP	20 14 39.5	-0.1
	baz=126						
S24A	Houchin Ranch,	125.85	18	⇑PKiKP	PKPdf	20 14 39.2	-0.3
	baz=126						
S24A	Houchin Ranch,	125.85	18	⇑PKiKP	PKPdf	20 14 39.2	-0.3
	baz=126						
Q30A	Quinter	125.85	13	⇑PKiKP	PKPdf	20 14 39.1	-0.1
	baz=126						
Q30A	Quinter	125.85	13	⇑PKiKP	PKPdf	20 14 39.1	-0.1
	baz=126						
SFIN	Scholer Farm	125.85	360	⇑PKiKP	PKPdf	20 14 39.1	+0.1
	baz=126						
SFIN	Scholer Farm	125.85	360	⇑PKiKP	PKPdf	20 14 39.1	+0.1
	baz=126						
T22A	Edith	125.90	20	⇑PKiKP	PKiKP	20 14 39.9	-0.1
	ba

	baz=126								
V20A	Brimhall	126.47	22	⇑PKiKP	PKiKP	20 14 41.1	0.0		
	baz=126								
V20A	Brimhall	126.47	22	⇑PKiKP	PKiKP	20 14 41.1	0.0		
	baz=126								
U22A	Llaves	126.50	20	⇓PKiKP	PKiKP	20 14 41.3	+0.1		
	baz=126								
U22A	Llaves	126.50	20	⇓PKiKP	PKiKP	20 14 41.3	+0.1		
	baz=126								
R30A	Dighton	126.50	13	⇑PKiKP	PKiKP	20 14 40.7	-0.2		
	baz=126								
R30A	Dighton	126.50	13	⇑PKiKP	PKiKP	20 14 40.7	-0.2		
	baz=126								
X16A	Lo Mia Camp, P	126.54	25	⇓PKiKP	PKPdf	20 14 40.9	+0.2		
	baz=126								
X16A	Lo Mia Camp, P	126.54	25	⇓PKiKP	PKPdf	20 14 40.9	+0.2		
	baz=126								
T25A	Trinidad	126.55	17	⇑PKiKP	PKiKP	20 14 41.1	-0.1		
	baz=126								
T25A	Trinidad	126.55	17	⇑PKiKP	PKiKP	20 14 41.1	-0.1		
	baz=126								
W18A	Petrified Fore	126.60	23	⇓PKiKP	PKiKP	20 14 41.3	-0.1		
	baz=126								
W18A	Petrified Fore	126.60	23	⇓PKiKP	PKiKP	20 14 41.3	-0.1		
	baz=126								
R31A	Burdett	126.65	12	⇓PKiKP	PKPdf	20 14 40.6	-0.1		
	baz=126								
R31A	Burdett	126.65	12	⇓PKiKP	PKPdf	20 14 40.6	-0.1		
	baz=126								
T26A	Comanche Natio	126.74	16	⇑PKiKP	PKPdf	20 14 40.8	-0.3		
	baz=126								
T26A	Comanche Natio	126.74	16	⇑PKiKP	PKPdf	20 14 40.8	-0.3		
	baz=126								
V21A	Milan	126.75	21	⇑PKiKP	PKPdf	20 14 41.3	+0.1		
	baz=126								
V21A	Milan	126.75	21	⇑PKiKP	PKPdf	20 14 41.3	+0.1		
	baz=126								
U23A	El Rito	126.75	19	⇓PKiKP	PKiKP	20 14 41.8	+0.1		
	baz=126								
U23A	El Rito	126.75	19	⇓PKiKP	PKiKP	20 14 41.8	+0.1		
	baz=126								
S28A	Manter	126.79	15	⇑PKiKP	PKPdf	20 14 41.1	0.0		
	baz=126								
S28A	Manter	126.79	15	⇑PKiKP	PKPdf	20 14 41.1	0.0		
	baz=126								
Z14A	Wintersburg	126.80	27	⇓PKiKP	PKiKP	20 14 41.7	+0.2		
	baz=126								
Z14A	Wintersburg	126.80	27	⇓PKiKP	PKiKP	20 14 41.7	+0.2		
	baz=126								
V22A	San Miguel Ran	126.90	20	⇑PKiKP	PKiKP	20 14 41.8	-0.1		
	baz=127								
V22A	San Miguel Ran	126.90	20	⇑PKiKP	PKiKP	20 14 41.8	-0.1		
	baz=127								
PMSA	Palmer Station	126.91	192	*e*PKPdf	PKPdf	20 14 41.9	+1.7		
PMSA				LR	LR				
	comp=Z,210μm,22.0s								
113A	Mohawk Valley,	126.93	28	⇑PKiKP	PKiKP	20 14 42.0	+0.2		
	baz=127								
113A	Mohawk Valley,	126.93	28	⇑PKiKP	PKiKP	20 14 42.0	+0.2		
	baz=127								
S29A	Ulysses	126.95	14	⇑PKiKP	PKiKP	20 14 41.6	-0.2		
	baz=127								
S29A	Ulysses	126.95	14	⇑PKiKP	PKiKP	20 14 41.6	-0.2		
	baz=127								
U24A	Moreno Valley	126.97	18	⇑PKiKP	PKiKP	20 14 42.2	0.0		
	baz=127								
U24A	Moreno Valley	126.97	18	⇑PKiKP	PKiKP	20 14 42.2	0.0		
	baz=127								
X18A	Snowflake	127.04	24	⇓PKiKP	PKPdf	20 14 41.9	+0.2		
	baz=127								
X18A	Snowflake	127.04	24	⇓PKiKP	PKPdf	20 14 41.9	+0.2		
	baz=127								
BLO	Bloomington	127.05	359	*e*PKIKP	PKPdf	20 14 41.4	0.0		
BLO	Bloomington	127.05	359	*e*PKPdf	PKPdf	20 14 41.4	0.0		
W20A	Ramah	127.06	22	⇑PKiKP	PKiKP	20 14 42.1	-0.2		
	baz=127								
W20A	Ramah	127.06	22	⇑PKiKP	PKiKP	20 14 42.1	-0.2		
	baz=127								
S30A	Montezuma	127.08	13	⇑PKiKP	PKiKP	20 14 41.9	-0.2		
	baz=127								
S30A	Montezuma	127.08	13	⇑PKiKP	PKiKP	20 14 41.9	-0.2		
	baz=127								
T27A	Campo	127.08	16	⇑PKiKP	PKPdf	20 14 41.9	+0.2		
	baz=127								
T27A	Campo	127.08	16	⇑PKiKP	PKPdf	20 14 41.9	+0.2		
	baz=127								
T28A	Walsh	127.18	15	⇑PKiKP	PKPdf	20 14 42.0	+0.2		
	baz=127								
T28A	Walsh	127.18	15	⇑PKiKP	PKPdf	20 14 42.0	+0.2		
	baz=127								
CBN	Corbin	127.22	350	PFAKE		20 14 50.0	+8.3		
CBN				LR	LR				
	comp=Z,245μm,21.0s								
U25A	Circle Dot Ran	127.23	18	⇓PKiKP	PKPdf	20 14 42.3	+0.2		
	baz=127								
U25A	Circle Dot Ran	127.23	18	⇓PKiKP	PKPdf	20 14 42.3	+0.2		
	baz=127								
V23A	Ortiz Mt. (NFS	127.29	19	⇑PKiKP	PKiKP	20 14 42.8	+0.1		
	baz=127								
V23A	Ortiz Mt. (NFS	127.29	19	⇑PKiKP	PKiKP	20 14 42.8	+0.1		
	baz=127								
S31A	Mullinville	127.31	12	⇓PKiKP	PKiKP	20 14 42.3	-0.2		
	baz=127								
S31A	Mullinville	127.31	12	⇓PKiKP	PKiKP	20 14 42.3	-0.2		
	baz=127								
T29A	Hugoton	127.35	14	⇑PKiKP	PKiKP	20 14 42.6	-0.1		
	baz=127								
T29A	Hugoton	127.35	14	⇑PKiKP	PKiKP	20 14 42.6	-0.1		
	baz=127								
W21A	San Fidel	127.37	21	⇑PKiKP	PKiKP	20 14 42.9	0.0		
	baz=127								
W21A	San Fidel	127.37	21	⇑PKiKP	PKiKP	20 14 42.9	0.0		
	baz=127								
U26A	Atchley Ranch,	127.43	17	⇓PKiKP	PKiKP	20 14 42.8	-0.2		
	baz=127								
U26A	Atchley Ranch,	127.43	17	⇓PKiKP	PKiKP	20 14 42.8	-0.2		
	baz=127								
X20A	Quemado	127.58	22	⇑PKiKP	PKiKP	20 14 43.2	-0.2		
	baz=127								
X20A	Quemado	127.58	22	⇑PKiKP	PKiKP	20 14 43.2	-0.2		
	baz=127								
V24A	Rampart Ranch,	127.60	19	⇑PKiKP	PKiKP	20 14 43.4	0.0		
	baz=127								
V24A	Rampart Ranch,	127.60	19	⇑PKiKP	PKiKP	20 14 43.4	0.0		
	baz=127								
T30A	Plains	127.63	14	⇓PKiKP	PKiKP	20 14 43.1	-0.1		
	baz=127								
T30A	Plains	127.63	14	⇓PKiKP	PKiKP	20 14 43.1	-0.1		
	baz=127								
U27A	Thompson Grove	127.66	16	⇓PKiKP	PKPdf	20 14 42.9	+0.1		
	baz=127								
U27A	Thompson Grove	127.66	16	⇓PKiKP	PKPdf	20 14 42.9	+0.1		
	baz=127								
W22A	Albuquerque	127.68	20	⇓PKiKP	PKiKP	20 14 44.3	+0.7		
	baz=127								
W22A	Albuquerque	127.68	20	⇓PKiKP	PKiKP	20 14 44.3	+0.7		
	baz=127								
V25A	Rancho No Teng	127.69	18	⇑PKiKP	PKPdf	20 14 43.1	+0.2		
	baz=127								
V25A	Rancho No Teng	127.69	18	⇑PKiKP	PKPdf	20 14 43.1	+0.2		
	baz=127								
T31A	Randall Ranch,	127.77	13	⇑PKiKP	PKiKP	20 14 43.3	-0.1		
	baz=128								
T31A	Randall Ranch,	127.77	13	⇑PKiKP	PKiKP	20 14 43.3	-0.1		
	baz=128								
W23A	Werner Place,	127.84	20	⇑PKiKP	PKPdf	20 14 43.5	+0.3		
	baz=128								
W23A	Werner Place,	127.84	20	⇑PKiKP	PKPdf	20 14 43.5	+0.3		
	baz=128								
U28A	Mallet	127.86	15	⇑PKiKP	PKPdf	20 14 43.3	+0.2		
	baz=128								
U28A	Mallet	127.86	15	⇑PKiKP	PKPdf	20 14 43.3	+0.2		
	baz=128								
TAOE	Nuku Hiva Isla	127.87	90	*e*PKIKP	PKPdf	20 14 43.5	-0.1		
	comp=Z,604nm,1.1s								
TAOE	Nuku Hiva Isla	127.87	90	*e*LQ	LQ	20 49 17.9			
TAOE	comp=Z,155μm,40.0s			*e*LR	LR	20 54 32.6			
	comp=Z,160μm,27.2s								
X21A	Alamocita Cree	127.92	22	⇑PKiKP	PKiKP	20 14 44.0	-0.1		
	baz=128								
X21A	Alamocita Cree	127.92	22	⇑PKiKP	PKiKP	20 14 44.0	-0.1		
	baz=128								
ANMO	Albuquerque	127.93	20	*e*PKPdf	PKPdf	20 14 43.0	-0.4		
ANMO				PKP	PKPdf	20 14 43.5	0.0		
ANMO				LR	LR				
	comp=Z,212μm,20.0s								
ANMO	Albuquerque	127.93	20	PKP	PKPdf	20 14 43.5	0.0		
	comp=Z,61nm,1.0s,baz=229,slow=0.1,SNR=37								
V26A	Tequesquite Ra	127.98	17	⇓PKiKP	PKPdf	20 14 43.5	+0.1		
	baz=128								
V26A	Tequesquite Ra	127.98	17	⇓PKiKP	PKPdf	20 14 43.5	+0.1		
	baz=128								
WCI	Wyandotte Cave	127.99	359	*e*PKIKP	PKPpre	20 14 32.4			
WCI	Wyandotte Cave	127.99	359	*e*PKPpre	PKPpre	20 14 32.4			
U29A	Oasis Ranch, S	128.03	14	⇑PKiKP	PKiKP	20 14 43.8	-0.3		
	baz=128								
U29A	Oasis Ranch, S	128.03	14	⇑PKiKP	PKiKP	20 14 43.8	-0.3		
	baz=128								
W24A	Lazy 6 Ranch,	128.03	19	⇑PKiKP	PKiKP	20 14 44.1	-0.2		
	baz=128								
W24A	Lazy 6 Ranch,	128.03	19	⇑PKiKP	PKiKP	20 14 44.1	-0.2		
	baz=128								
214A	Organ Pipe Nat	128.05	28	⇑PKiKP	PKiKP	20 14 44.0	-0.2		
	baz=128								
214A	Organ Pipe Nat	128.05	28	⇑PKiKP	PKiKP	20 14 44.0	-0.2		
	baz=128								
U30A	WK&E Inc. Balk	128.10	14	⇑PKiKP	PKiKP	20 14 43.9	-0.2		
	baz=128								
U30A	WK&E Inc. Balk	128.10	14	⇑PKiKP	PKiKP	20 14 43.9	-0.2		
	baz=128								
X22A	Bernardo	128.14	21	⇑PKiKP	PKiKP	20 14 44.2	-0.2		
	baz=128								
X22A	Bernardo	128.14	21	⇑PKiKP	PKiKP	20 14 44.2	-0.2		
	baz=128								
Y20A	Horse Springs,	128.19	23	⇓PKiKP	PKPdf	20 14 44.1	0.0		
	baz=128								
Y20A	Horse Springs,	128.19	23	⇓PKiKP	PKPdf	20 14 44.1	0.0		
	baz=128								
LAZ	Ladron	128.19	21	*e*PKPdf	PKPdf	20 14 44.9	+0.9		
USIN	University of	128.26	1	*e*PKPdf	PKPdf	20 14 41.5	-2.2		
V27A	Dan Oppiter Fa	128.28	16	⇓PKiKP	PKiKP	20 14 44.4	-0.2		
	baz=128								
V27A	Dan Oppiter Fa	128.28	16	⇓PKiKP	PKiKP	20 14 44.4	-0.2		
	baz=128								
W25A	X Bar L Ranch,	128.32	18	⇑PKiKP	PKiKP	20 14 44.5	-0.3		
	baz=128								
W25A	X Bar L Ranch,	128.32	18	⇑PKiKP	PKiKP	20 14 44.5	-0.3		
	baz=128								
X23A	Hourglass Bar	128.35	20	⇓PKiKP	PKiKP	20 14 44.7	-0.2		
	baz=128								
X23A	Hourglass Bar	128.35	20	⇓PKiKP	PKiKP	20 14 44.7	-0.2		
	baz=128								
Y21A	Point of Rocks	128.36	22	⇓PKiKP	PKiKP	20 14 44.7	-0.3		
	baz=128								
Y21A	Point of Rocks	128.36	22	⇓PKiKP	PKiKP	20 14 44.7	-0.3		
	baz=128								
U31A	Nine Bar Ranch	128.43	13	⇓PKiKP	PKPdf	20 14 44.1	-0.1		
	baz=128								
U31A	Nine Bar Ranch	128.43	13	⇓PKiKP	PKPdf	20 14 44.1	-0.1		
	baz=128								
V28A	Channing	128.45	16	⇓PKiKP	PKPdf	20 14 44.3	0.0		
	baz=128								
V28A	Channing	128.45	16	⇓PKiKP	PKPdf	20 14 44.3	0.0		
	baz=128								
LPM	Los Pinos Moun	128.45	21	*e*PKPdf	PKPdf	20 14 45.7	+1.3		
LENM	Lemitar	128.46	21	*e*PKPdf	PKPdf	20 14 45.2	+0.8		
SIUC	Southern Illin	128.47	2	*e*PKPpre	PKPpre	20 14 36.7			
V29A	Stinnett	128.51	15	⇓PKiKP	PKPdf	20 14 44.0	-0.3		
	baz=128								
V29A	Stinnett	128.51	15	⇓PKiKP	PKPdf	20 14 44.0	-0.3		
	baz=128								
VWCC	Virginia Weste	128.53	353	*e*PKPdf	PKPdf	20 14 42.8	-1.5		
Y22D	IRIS PASSCAL I	128.56	21	⇑PKiKP	PKiKP	20 14 44.9	-0.3		
	baz=128								
Y22D	IRIS PASSCAL I	128.56	21	⇑PKiKP	PKiKP	20 14 44.9	-0.3		
	baz=128								
BNM	Barren Site	128.60	21	*e*PKPdf	PKPdf	20 14 45.7	+0.9		
X24A	Lazy VL Ranch,	128.62	19	⇓PKiKP	PKPdf	20 14 44.9	+0.1		
	baz=128								
X24A	Lazy VL Ranch,	128.62	19	⇓PKiKP	PKPdf	20 14 44.9	+0.1		
	baz=128								
BLA	Blacksburg	128.62	353	PFAKE		20 14 50.0	+5.5		
BLA				LR	LR				
	comp=Z,396μm,21.0s								
TUC	Tucson	128.64	26	*e*PKIKP	PKPdf	20 14 46.1	+1.4		
TUC				MLR	MLR				
	comp=Z,141μm,21.0s								
TUC	Tucson	128.64	26	*e*PKPdf	PKPdf	20 14 46.1	+1.4		
TUC				LR	LR				
	comp=Z,141μm,21.0s								
W26A	Owens Ranch, T	128.64	17	⇑PKiKP	PKPdf	20 14 44.9	+0.2		
	baz=128								
W26A	Owens Ranch, T	128.64	17	⇑PKiKP	PKPdf	20 14 44.9	+0.2		
	baz=128								
Y22A	Socorro	128.67	21	⇑PKiKP	PKiKP	20 14 45.4	-0.2		
	baz=128								
Y22A	Socorro	128.67	21	⇑PKiKP	PKiKP	20 14 45.4	-0.2		
	baz=128								
Z20A	Nine Sixteen R	128.82	23	⇑PKiKP	PKiKP	20 14 45.8	0.0		
	baz=128								
Z20A	Nine Sixteen R	128.82	23	⇑PKiKP	PKiKP	20 14 45.8	0.0		
	baz=128								
V30A	Spur Ranch, Mi	128.82	14	⇓PKiKP	PKPdf	20 14 45.0	0.0		
	baz=128								
V30A	Spur Ranch, Mi	128.82	14	⇓PKiKP	PKPdf	20 14 45.0	0.0		
	baz=128								
W27A	Bowe Ranch, En	128.87	17	⇑PKiKP	PKPdf	20 14 45.1	-0.1		
	baz=129								
W27A	Bowe Ranch, En	128.87	17	⇑PKiKP	PKPdf	20 14 45.1	-0.1		
	baz=129								
X25A	Clemmons Ranch	128.90	19	⇓PKiKP	PKPdf	20 14 45.4	+0.2		
	baz=129								
X25A	Clemmons Ranch	128.90	19	⇓PKiKP	PKPdf	20 14 45.4	+0.2		
	baz=129								
W28A	Vega	128.92	16	⇑PKiKP	PKPdf	20 14 45.1	-0.1		
	baz=129								
W28A	Vega	128.92	16	⇑PKiKP	PKPdf	20 14 45.1	-0.1		
	baz=129								
RCBR	Riachuelo	128.97	274	*e*PKPdf	PKPdf	20 14 46.0	+0.3		
RCBR				LR	LR				
	comp=Z,161μm,20.0s								
Z21A	St. Cloud Mine	128.99	22	⇑PKiKP	PKiKP	20 14 45.9	-0.3		
	baz=129								
Z21A	St. Cloud Mine	128.99	22	⇑PKiKP	PKiKP	20 14 45.9	-0.3		
	baz=129								
Y23A	Lovelace Mesa,	128.99	20	⇑PKiKP	PKPdf	20 14 45.2	-0.3		
	baz=129								
Y23A	Lovelace Mesa,	128.99	20	⇑PKiKP	PKPdf	20 14 45.2	-0.3		
	baz=129								
V31A	Spring Creek L	129.01	13	⇑PKiKP	PKPdf	20 14 45.0	-0.2		
	baz=129								
V31A	Spring Creek L	129.01	13	⇑PKiKP	PKPdf	20 14 45.0	-0.2		
	baz=129								
BBSR	BB Station	129.09	335	*e*PKPdf	PKPdf	20 14 45.4	0.0		
BBSR				LR	LR				
	comp=Z,146μm,21.0s								
X26A	CR and CF Fran	129.13	18	⇓PKiKP	PKPdf	20 14 45.4	-0.3		
	baz=129								
X26A	CR and CF Fran	129.13	18	⇓PKiKP	PKPdf	20 14 45.4	-0.3		
	baz=129								
W29A	Amraillo	129.19	15	⇓PKiKP	PKPdf	20 14 45.1	-0.6		
	baz=129								
W29A	Amraillo	129.19	15	⇓PKiKP	PKPdf	20 14 45.1	-0.6		
	baz=129								
Y24A	Capitan	129.20	20	⇓PKiKP	PKPdf	20 14 45.6	-0.3		
	baz=129								
Y24A	Capitan	129.20	20	⇓PKiKP	PKPdf	20 14 45.6	-0.3		
	baz=129								
X27A	F and S Farms,	129.25	17	⇓PKiKP	PKPdf	20 14 45.8	-0.1		
	baz=129								
X27A	F and S Farms,	129.25	17	⇓PKiKP	PKPdf	20 14 45.8	-0.1		
	baz=129								
Z22A	Elephant Butte	129.29	22	⇑PKiKP	PKPdf	20 14 45.9	-0.2		
	baz=129								
Z22A	Elephant Butte	129.29	22	⇑PKiKP	PKPdf	20 14 45.9	-0.2		
	baz=129								
120A	U Bar Ranch, L	129.30	24	⇑PKiKP	PKPdf	20 14 45.8	-0.3		
	baz=129								
120A	U Bar Ranch, L	129.30	24	⇑PKiKP	PKPdf	20 14 45.8	-0.3		
	baz=129								
W30A	Crocket Farms	129.40	14	⇓PKiKP	PKPdf	20 14 46.1	0.0		
	baz=129								
W30A	Crocket Farms	129.40	14	⇓PKiKP	PKPdf	20 14 46.1	0.0		
	baz=129								
AMTX	Amarillo	129.41	16	*e*PKPdf	PKPdf	20 14 47.0	+0.9		
AMTX				LR	LR				
	comp=Z,229μm,21.0s								
PARMO	Parma	129.50	3	*e*PKPdf	PKPdf	20 14 46.9	+0.8		
Z23A	Rita Site, Whi	129.54	21	⇓PKiKP	PKPdf	20 14 46.3	-0.1		
	baz=129								
Z23A	Rita Site, Whi	129.54	21	⇓PKiKP	PKPdf	20 14 46.3	-0.1		
	baz=129								
W31A	Holland Ranch,	129.55	14	⇑PKiKP	PKPdf	20 14 46.2	-0.1		
	baz=129								
W31A	Holland Ranch,	129.55	14	⇑PKiKP	PKPdf	20 14 46.2	-0.1		
	baz=129								
X28A	Dimmitt	129.62	16	⇑PKiKP	PKPdf	20 14 46.3	-0.2		
	baz=129								
X28A	Dimmitt	129.62	16	⇑PKiKP	PKPdf	20 14 46.3	-0.2		
	baz=129								
TUL1	Tulsa	129.64	9	⇑PKiKP	PKPdf	20 14 46.0	-0.4		
	baz=129								
TUL1	Tulsa	129.64	9	⇑PKiKP	PKPdf	20 14 46.0	-0.4		
	baz=129								
121A	Cookes Peak, D	129.64	23	⇓PKiKP	PKPdf	20 14 46.7	-0.1		
	baz=129								
121A	Cookes Peak, D	129.64	23	⇓PKiKP	PKPdf	20 14 46.7	-0.1		
	baz=129								
Y26A	Elida	129.71	18	⇓PKiKP	PKPdf	20 14 46.7	-0.1		
	baz=129								
Y26A	Elida	129.71	18	⇓PKiKP	PKPdf	20 14 46.7	-0.1		
	baz=129								
Z24A	Sheeppen Canyo	129.77	20	⇓PKiKP	PKPdf	20 14 46.8	-0.2		
	baz=130								
Z24A	Sheeppen Canyo	129.77	20	⇓PKiKP	PKPdf	20 14 46.8	-0.2		
	baz=130								
122A	Conniff Cattle	129.78	22	⇑PKiKP	PKPdf	20 14 46.8	-0.1		
	baz=130								
122A	Conniff Cattle	129.78	22	⇑PKiKP	PKPdf	20 14 46.8	-0.1		
	baz=130								
X29A	Tulia	129.82	16	⇑PKiKP	PKPdf	20 14 46.9	-0.1		
	baz=130								
X29A	Tulia	129.82	16	⇑PKiKP	PKPdf	20 14 46.9	-0.1		
	baz=130								
GLAT	Glass	129.91	2	*e*PKPdf	PKPdf	20 14 48.4	+1.5		
220A	Playas Peak, P	129.91	24	⇓PKiKP	PKPdf	20 14 47.0	-0.2		
	baz=130								
220A	Playas Peak, P	129.91	24	⇓PKiKP	PKPdf	20 14 47.0	-0.2		
	baz=130								
Y27A	Causey	129.94	17	⇑PKiKP	PKPdf	20 14 47.0	-0.2		
	baz=130								
Y27A	Causey	129.94	17	⇑PKiKP	PKPdf	20 14 47.0	-0.2		
	baz=130								
MSTX	Muleshoe	129.97	17	⇑PKiKP	PKPdf	20 14 46.9	-0.4		
	baz=130								
MSTX	Muleshoe	129.97	17	⇑PKiKP	PKPdf	20 14 46.9	-0.4		
	baz=130								
Z25A	Roswell	130.03	19	⇑PKiKP	PKPdf	20 14 47.3	-0.1		
	baz=130								
Z25A	Roswell	130.03	19	⇑PKiKP	PKPdf	20 14 47.3	-0.1		
	baz=130								
X30A	Coker Ranch, T	130.03	15	⇑PKiKP	PKPdf	20 14 47.1	-0.1		
	baz=130								
X30A	Coker Ranch, T	130.03	15	⇑PKiKP	PKPdf	20 14 47.1	-0.1		
	baz=130								
X31A	McDonald Ranch	130.07	14	⇑PKiKP	PKPdf	20 14 47.1	-0.2		
	baz=130								
X31A	McDonald Ranch	130.07	14	⇑PKiKP	PKPdf	20 14 47.1	-0.2		
	baz=130								
319A	Douglas	130.07	25	⇑PKiKP	PKPdf	20 14 47.8	+0.3		
	baz=130								
319A	Douglas	130.07	25	⇑PKiKP	PKPdf	20 14 47.8	+0.3		
	baz=130								
WVT	Waverly	130.09	1	*e*PKIKP	PKPdf	20 14 46.7	-0.5		
WVT	Waverly	130.09	1	*e*PKPdf	PKPdf	20 14 46.7	-0.5		
123A	Bell Site, Whi	130.10	21	⇑PKiKP	PKPdf	20 14 47.4	-0.1		
	baz=130								
123A	Bell Site, Whi	130.10	21	⇑PKiKP	PKPdf	20 14 47.4	-0.1		
	baz=130								
221A	Mesquite Ranch	130.11	23	⇓PKiKP	PKPdf	20 14 47.4	-0.2		
	baz=130								
221A	Mesquite Ranch	130.11	23	⇓PKiKP	PKPdf	20 14 47.4	-0.2		
	baz=130								
Y28A	McKinney Farm,	130.18	16	⇓PKiKP	PKPdf	20 14 47.1	-0.5		
	baz=130								
Y28A	McKinney Farm,	130.18	16	⇓PKiKP	PKPdf	20 14 47.1	-0.5		
	baz=130								
CNNC	Cliffs of the	130.20	350	PFAKE		20 15 00.0	+13		
CNNC				LR	LR				
	comp=Z,268μm,20.0s								
WMOK	Wichita Mounta	130.23	13	*e*PKIKP	PKPdf	20 14 47.1	-0.5		
WMOK				MLR	MLR				
	comp=Z,291μm,22.0s								
WMOK	Wichita Mounta	130.23	13	*e*PKPdf	PKPdf	20 14 47.1	-0.5		
WMOK				LR	LR				
	comp=Z,291μm,22.0s								
HALT	Halls	130.27	2	*e*PKPdf	PKPdf	20 14 46.6	-0.9		
Z26A	Caprock	130.27	19	⇓PKiKP	PKPdf	20 14 47.4	-0.4		
	baz=130								
Z26A	Caprock	130.27	19

comp=Z,288μm,22.0s
Z31A Sharp Cattle R 131.28 15 ⇓PKiKP **PKPdf 20 14 49.6 0.0**
baz=131
Z31A Sharp Cattle R 131.28 15 ⇓PKiKP **PKPdf 20 14 49.6 0.0**
baz=131
226B Tecolote Peak, 131.31 19 ⇑PKiKP **PKPdf 20 14 49.4 -0.4**
baz=131
226B Tecolote Peak, 131.31 19 ⇑PKiKP **PKPdf 20 14 49.4 -0.4**
baz=131
128A Castleberry Fa 131.32 17 ⇓PKiKP **PKPdf 20 14 49.4 -0.4**
baz=131
128A Castleberry Fa 131.32 17 ⇓PKiKP **PKPdf 20 14 49.4 -0.4**
baz=131
324A Moseley Ranch, 131.46 21 ⇑PKiKP **PKPdf 20 14 50.1 -0.1**
baz=131
324A Moseley Ranch, 131.46 21 ⇑PKiKP **PKPdf 20 14 50.1 -0.1**
baz=131
Z32A Haskell 131.46 14 ⇑PKiKP **PKPdf 20 14 50.1 +0.2**
baz=131
Z32A Haskell 131.46 14 ⇑PKiKP **PKPdf 20 14 50.1 +0.2**
baz=131
129A Stewart Farms, 131.49 17 ⇑PKiKP **PKPdf 20 14 50.0 -0.1**
baz=131
129A Stewart Farms, 131.49 17 ⇑PKiKP **PKPdf 20 14 50.0 -0.1**
baz=131
227A Bennet, Jal 131.65 18 ⇑PKiKP **PKPdf 20 14 50.5 0.0**
baz=131
227A Bennet, Jal 131.65 18 ⇑PKiKP **PKPdf 20 14 50.5 0.0**
baz=131
OXF Oxford 131.66 3 *e*PKIKP **PKPdf 20 14 50.2 -0.1**
OXF MLR MLR
comp=Z,356μm,21.0s
OXF Oxford 131.66 3 *e*PKPdf **PKPdf 20 14 50.2 -0.1**
OXF LR LR
comp=Z,356μm,21.0s
325A Bean Ranch, Si 131.70 21 ⇑PKiKP **PKPdf 20 14 50.4 -0.3**
baz=131
325A Bean Ranch, Si 131.70 21 ⇑PKiKP **PKPdf 20 14 50.4 -0.3**
baz=131
228A UT Block 9, Go 131.76 18 ⇓PKiKP **PKPdf 20 14 50.7 0.0**
baz=132
228A UT Block 9, Go 131.76 18 ⇓PKiKP **PKPdf 20 14 50.7 0.0**
baz=132
130A Snyder 131.76 16 ⇑PKiKP **PKPdf 20 14 50.4 -0.2**
baz=132
130A Snyder 131.76 16 ⇑PKiKP **PKPdf 20 14 50.4 -0.2**
baz=132
131A Roby 131.84 15 ⇑PKiKP **PKPdf 20 14 50.5 -0.2**
baz=132
131A Roby 131.84 15 ⇑PKiKP **PKPdf 20 14 50.5 -0.2**
baz=132
ABTX Abilene, Hawle 132.07 14 ⇑PKiKP **PKPdf 20 14 51.0 -0.2**
baz=132
ABTX Abilene, Hawle 132.07 14 ⇑PKiKP **PKPdf 20 14 51.0 -0.2**
baz=132
326A Caldwell Ranch 132.08 20 ⇓PKiKP **PKPdf 20 14 51.0 -0.3**
baz=132
326A Caldwell Ranch 132.08 20 ⇓PKiKP **PKPdf 20 14 51.0 -0.3**
baz=132
229A Bryant Ranch, 132.13 17 ⇑PKiKP **PKPdf 20 14 51.5 +0.2**
baz=132
229A Bryant Ranch, 132.13 17 ⇑PKiKP **PKPdf 20 14 51.5 +0.2**
baz=132
327A Balmorhea Ranc 132.18 19 ⇑PKiKP **PKPdf 20 14 51.8 +0.3**
baz=132
327A Balmorhea Ranc 132.18 19 ⇑PKiKP **PKPdf 20 14 51.8 +0.3**
baz=132
425A Indio Mountain 132.23 21 ⇓PKiKP **PKPdf 20 14 51.5 -0.1**
baz=132
425A Indio Mountain 132.23 21 ⇓PKiKP **PKPdf 20 14 51.5 -0.1**
baz=132
328A Wristen Ranch, 132.38 18 ⇑PKiKP **PKPdf 20 14 51.8 0.0**
baz=132
328A Wristen Ranch, 132.38 18 ⇑PKiKP **PKPdf 20 14 51.8 0.0**
baz=132
230A Sterling City 132.40 16 ⇓PKiKP **PKPdf 20 14 51.6 -0.2**
baz=132
230A Sterling City 132.40 16 ⇓PKiKP **PKPdf 20 14 51.6 -0.2**
baz=132
329A Wagon Wheel Ra 132.53 17 ⇑PKiKP **PKPdf 20 14 51.8 -0.3**
baz=132
329A Wagon Wheel Ra 132.53 17 ⇑PKiKP **PKPdf 20 14 51.8 -0.3**
baz=132
231A Bronte 132.56 15 ⇓PKiKP **PKPdf 20 14 52.3 +0.2**
baz=132
231A Bronte 132.56 15 ⇓PKiKP **PKPdf 20 14 52.3 +0.2**
baz=132
426A McDonald Obser 132.66 20 ⇓PKiKP **PKPdf 20 14 52.2 -0.3**
baz=132
426A McDonald Obser 132.66 20 ⇓PKiKP **PKPdf 20 14 52.2 -0.3**
baz=132
GOGA Godfrey 132.67 356 PFAKE 20 15 00.0 +7.8
GOGA LR LR
comp=Z,1.0nm,21.0s
427A Hayter Ranch, 132.69 19 ⇑PKiKP **PKPdf 20 14 52.7 +0.3**
baz=132
427A Hayter Ranch, 132.69 19 ⇑PKiKP **PKPdf 20 14 52.7 +0.3**
baz=132
232A Coleman 132.77 15 ⇓PKiKP **PKPdf 20 14 52.6 +0.1**
baz=132
232A Coleman 132.77 15 ⇓PKiKP **PKPdf 20 14 52.6 +0.1**
baz=132
330A Mertzon 132.83 16 ⇓PKiKP **PKPdf 20 14 52.4 -0.3**
baz=132
330A Mertzon 132.83 16 ⇓PKiKP **PKPdf 20 14 52.4 -0.3**
baz=132
428A Kincaid Ranch, 133.03 18 ⇓PKiKP **PKPdf 20 14 52.6 -0.5**
baz=133
428A Kincaid Ranch, 133.03 18 ⇓PKiKP **PKPdf 20 14 52.6 -0.5**
baz=133
331A San Angelo 133.13 16 ⇑PKiKP **PKPdf 20 14 52.8 -0.4**
baz=133
331A San Angelo 133.13 16 ⇑PKiKP **PKPdf 20 14 52.8 -0.4**
baz=133
WHTX Lake Whitney 133.16 12 ⇓PKiKP **PKPdf 20 14 53.2 0.0**
baz=133
WHTX Lake Whitney 133.16 12 ⇓PKiKP **PKPdf 20 14 53.2 0.0**
baz=133
LRAL Lakeview Retre 133.18 360 *e*PKPdf **PKPdf 20 14 49.7 -3.5**
LRAL LR LR
comp=Z,351μm,22.0s
526A Mary Lane Ranc 133.20 20 ⇑PKiKP **PKPdf 20 14 53.2 -0.3**
baz=133
526A Mary Lane Ranc 133.20 20 ⇑PKiKP **PKPdf 20 14 53.2 -0.3**
baz=133
332A Millersview 133.23 15 ⇑PKiKP **PKPdf 20 14 53.7 +0.4**
baz=133
332A Millersview 133.23 15 ⇑PKiKP **PKPdf 20 14 53.7 +0.4**
baz=133
527A Woodward Ranch133.28 20 ⇓PKiKP **PKPdf 20 14 53.2 -0.4**
baz=133
527A Woodward Ranch133.28 20 ⇓PKiKP **PKPdf 20 14 53.2 -0.4**
baz=133
429A Davenport Ranc 133.36 18 ⇑PKiKP **PKPdf 20 14 54.0 +0.3**
baz=133
429A Davenport Ranc 133.36 18 ⇑PKiKP **PKPdf 20 14 54.0 +0.3**
baz=133
430A Baggett Ranch, 133.40 17 ⇑PKiKP **PKPdf 20 14 53.9 +0.1**
baz=133
430A Baggett Ranch, 133.40 17 ⇑PKiKP **PKPdf 20 14 53.9 +0.1**
baz=133
528A Cox Ranch, San 133.53 19 ⇑PKiKP **PKPdf 20 14 54.0 -0.1**
baz=133
528A Cox Ranch, San 133.53 19 ⇑PKiKP **PKPdf 20 14 54.0 -0.1**
baz=133
626A Big Bend Ranch 133.65 21 ⇓PKiKP **PKPdf 20 14 54.2 -0.1**
baz=133
626A Big Bend Ranch 133.65 21 ⇓PKiKP **PKPdf 20 14 54.2 -0.1**
baz=133
431A Sonora 133.67 16 ⇑PKiKP **PKPdf 20 14 54.1 -0.1**
baz=133
431A Sonora 133.67 16 ⇑PKiKP **PKPdf 20 14 54.1 -0.1**
baz=133
432A Menard 133.70 15 ⇑PKiKP **PKPdf 20 14 54.5 +0.2**
baz=133
432A Menard 133.70 15 ⇑PKiKP **PKPdf 20 14 54.5 +0.2**
baz=133
529A Stev Forest Ra 133.74 18 ⇓PKiKP **PKPdf 20 14 54.4 0.0**
baz=133
529A Stev Forest Ra 133.74 18 ⇓PKiKP **PKPdf 20 14 54.4 0.0**
baz=133
VBMS Vicksburg 133.88 4 *e*PKPdf **PKPdf 20 14 54.9 +0.4**
VBMS LR LR
comp=Z,241μm,21.0s
RKT Rikitea 133.94 109 *e*PP PP 20 17 23.1 -2.1
comp=Z,51μm,29.5s
RKT Rikitea 133.94 109 *e*SS SS 20 35 06.0 -5.8
comp=Z,119μm,38.0s
RKT Rikitea 133.94 109 *e*LQ LQ 20 51 56.6
comp=Z,139μm,39.8s
RKT *e*LR LR 20 57 32.2
comp=Z,89μm,31.2s
530A J-C Ranch, Com 133.97 17 ⇑PKiKP **PKPdf 20 14 55.1 +0.3**
baz=134
530A J-C Ranch, Com 133.97 17 ⇑PKiKP **PKPdf 20 14 55.1 +0.3**
baz=134
627A Terlingua Ranc 133.99 20 ⇑PKiKP **PKPdf 20 14 55.3 +0.3**
baz=134
627A Terlingua Ranc 133.99 20 ⇑PKiKP **PKPdf 20 14 55.3 +0.3**
baz=134
TXAR Lajitas Array 134.01 20 PKPpre PKPpre 20 14 46.9
TXAR PKP **PKPdf 20 14 53.5 -1.5**
TXAR PP PP 20 17 35.9 +12
TXAR SKKPbc SKKPbc 20 27 36.5 +2.5
TXAR Lajitas Array 134.01 20 PKhKP PKPpre 20 14 46.9
comp=Z,2.9nm,0.7s,baz=228,slow=2.7,SNR=5.5
TXAR PKP **PKPdf 20 14 53.5 -1.5**
comp=Z,20nm,0.8s,baz=268,slow=0.8,SNR=11
TXAR PP PP 20 17 35.9 +12
comp=Z,45nm,0.9s,baz=7.4,slow=3.9,SNR=4.2
TXAR SKKPbc SKKPbc 20 27 36.5 +2.5
comp=Z,7.8nm,1.0s,baz=197,slow=3.9,SNR=3.8
JCT Junction City 134.08 15 PFAKE 20 15 00.0 +5.0
JCT LR LR
comp=Z,232μm,22.0s
JCT Junction City 134.08 15 ⇑PKiKP **PKPdf 20 14 55.0 0.0**
baz=134
JCT Junction City 134.08 15 ⇑PKiKP **PKPdf 20 14 55.0 0.0**
baz=134
628A Black Gap, Mar 134.12 19 ⇓PKiKP **PKPdf 20 14 55.7 +0.6**
baz=134
628A Black Gap, Mar 134.12 19 ⇓PKiKP **PKPdf 20 14 55.7 +0.6**
baz=134
531A Rocksprings 134.18 16 ⇓PKiKP **PKPdf 20 14 55.5 +0.3**
baz=134
531A Rocksprings 134.18 16 ⇓PKiKP **PKPdf 20 14 55.5 +0.3**
baz=134
532A Rocksprings 134.38 16 ⇓PKiKP **PKPdf 20 14 55.4 -0.2**
baz=134
532A Rocksprings 134.38 16 ⇓PKiKP **PKPdf 20 14 55.4 -0.2**
baz=134
TIGA Tifton 134.64 356 ⇓PKiKP **PKPdf 20 14 56.3 +0.3**
baz=134
TIGA Tifton 134.64 356 ⇓PKiKP **PKPdf 20 14 56.3 +0.3**
baz=134
631A Perdido Creek 134.88 17 ⇓PKiKP **PKiKP 20 14 57.2 -0.7**
baz=135
631A Perdido Creek 134.88 17 ⇓PKiKP **PKiKP 20 14 57.2 -0.7**
baz=135
632A Uvalde 135.00 16 ⇓PKiKP **PKiKP 20 14 57.6 -0.6**
baz=135
632A Uvalde 135.00 16 ⇓PKiKP **PKiKP 20 14 57.6 -0.6**
baz=135
BRAL Brewton 135.20 360 *e*PKPpre PKPpre 20 14 50.5
BRAL LR LR
comp=Z,300μm,22.0s
EFI East Falkland 135.80 206 PFAKE 20 15 10.0 +13
EFI LR LR
comp=Z,102μm,20.0s
LPIG La Paz 135.83 31 PKP **PKPdf 20 14 58.6 +0.2**
LPIG La Paz 135.83 31 PKP **PKPdf 20 14 58.6 +0.2**
comp=Z,2.5nm,0.3s,baz=150,slow=3.8,SNR=6.4
BESB Sao Joao Dos P 136.57 275 ⇓*iP* PKPdf 20 14 54.5 -5.5
BESB *i* 20 15 11.5
BESB *i* 20 17 31.8
BESB *i* 20 18 00.3
BESB *i* 20 18 00.3
BESB *i* 20 18 28.0
BESB *i* 20 18 53.1
BESB *i* 20 21 07.5
BESB *i* 20 28 24.7
BESB *i* 20 30 15.8
BESB *i* 20 31 41.3
BESB *i* 20 36 32.8
BESB *i* 20 36 55.9
BESB *i* 20 37 46.8
BESB *i* 20 51 33.1
BESB *i* 20 55 28.6
BESB *i* 20 57 37.8
BESB *i* 21 04 17.6
KVTX Kingsville 137.35 14 PFAKE 20 15 10.0 +8.9
KVTX LR LR
comp=Z,232μm,19.0s
DWPF Disney 137.72 353 *e*PKPdf **PKPdf 20 15 01.4 -0.3**
ANWB Willy Bob 139.76 321 PFAKE 20 15 20.0 +14
ANWB LR LR
comp=Z,158μm,20.0s
BPA Boggy Peak 140.28 320 *e* **PKPdf 20 15 09.2 +2.4**
SEG Port Louis 140.54 319 *e*P **PKPdf 20 15 10.2 +3.0**
MGG Marie-Galante 140.78 318 *e*P PKPdf 20 15 19.4 +12
DOG Dongo Capester 140.89 319 *e*P PKPdf 20 15 17.4 +10
ECG Echelle 140.91 319 *e*P **PKPdf 20 15 09.2 +1.2**
LKG Breislack 140.91 319 *e*P PKPdf 20 15 16.7 +8.7
LZG Guadaloupe-1 140.91 319 *e*P **PKPdf 20 15 12.7 +4.9**
TAG Tarade 140.91 319 *e*P **PKPdf 20 15 04.4 -3.6**
MLG Mont-d'or 140.93 319 *e*P PKPdf 20 15 13.3 +5.3
TBG Guadaloupe-3 141.04 319 *e*P **PKPdf 20 15 09.2 +1.1**
MDN Morne-Daniel 141.28 318 *e* PKPdf 20 15 17.3 +8.8
GRTK Grand Turk 141.33 336 *e*PKPdf **PKPdf 20 15 07.7 -0.8**
GRTK LR LR
comp=Z,149μm,20.0s
FDF Fort de France 141.54 317 PFAKE 20 15 20.0 +11
FDF LR LR
comp=Z,81μm,20.0s
BBGH Gun Hill 141.58 313 PFAKE 20 15 20.0 +11
BBGH LR LR
comp=Z,204μm,22.0s
CBYP Canovanas 141.64 326 *e*PKPpre PKPpre 20 15 03.3
LRS Lares 142.15 328 *e*PKPpre PKPpre 20 15 05.1
CELP Cerrillos 142.19 327 *e*PKPpre PKPpre 20 15 06.1
BDFB Brasilia 142.19 263 PKPpre PKPpre 20 15 06.6
BDFB Brasilia 142.19 263 PKhKP PKPpre 20 15 06.6
comp=Z,32nm,0.8s,baz=78,slow=5.2,SNR=31
OBIP Obispado Ponce 142.23 327 *e*PKPpre PKPpre 20 15 05.7
LSP Las Mesas 142.37 328 *e*PKPdf **PKPdf 20 15 10.5 0.0**
CRPR Cabo Rojo, PR 142.52 328 *e*PKPdf **PKPdf 20 15 08.9 -1.8**
SDDR Presa de Saban 143.65 334 *e*PKPpre PKPpre 20 15 09.8
SDDR LR LR
comp=Z,180μm,22.0s
GRW Mount Saint Ca 143.73 315 *e*P PKPbc 20 15 11.6 +1.1
GRGR Grenville 143.74 315 *e*PKPpre PKPpre 20 15 10.9
GRGR LR LR
comp=Z,72μm,20.0s
GTBY Guantanamo Bay 144.22 340 *e*PKPdf PKPbc 20 15 11.7 -0.1
GTBY LR LR
comp=Z,140μm,21.0s
TBH Brigand Hill 144.47 312 *e*P **PKPdf 20 15 14.1 -0.1**
TRN Trinidad (W) 144.60 313 *e*P **PKPdf 20 15 13.9 -0.5**
TCE Chacachacare 144.81 313 *e*P PKPdf 20 15 21.5 +6.7
TPP Pointe-a-Pierr 144.86 312 *e*P **PKPdf 20 15 15.7 +0.8**
ALNG Atlantic LNG 145.12 312 *e*P **PKPdf 20 15 18.1 +2.8**
TEIG Tepich 145.92 2 *e*PKPdf **PKPdf 20 15 15.7 -0.8**
TEIG PKPbc **PKPdf 20 15 16.3 -0.3**
TEIG LR LR
comp=Z,208μm,21.0s
TEIG Tepich 145.92 2 PKPbc **PKPdf 20 15 16.3 -0.3**
comp=Z,1μm,1.2s,baz=337,slow=4.9,SNR=134
COYC Coyhaique 146.10 199 ⇓*iP* **PKPbc 20 15 16.9 -0.1**
COYC Coyhaique 146.10 199 ⇓*iP* **PKPbc 20 15 16.9 -0.1**
GWJ Greenwich 146.47 342 *i* P **PKPbc 20 15 19.3 +0.2**
LPA La Plata 146.48 227 PKP **PKPab 20 15 20.0 +0.6**
LPA PP **PP 20 18 43.0 +1.7**
LPA SKIKP 20 18 49.0
LPA SKIKP 20 18 56.0
LPA SKIKS 20 22 24.0
LPA PPS PPS 20 31 24.0
LPA SS SS 20 37 42.0 +4.9
MBJ Montego Bay 146.48 344 *i* P PKPab 20 15 26.7 +6.9
STH Stony Hill 146.49 342 *i* P **PKPab 20 15 20.1 +0.2**
HOJ Hope 146.54 342 *i* PA **PKPab 20 15 21.3 +1.3**
CVJ Coleyville 146.56 343 *i* P **PKPbc 20 15 19.1 -0.2**
YHJ Yallahs 146.57 341 *i* P **PKPbc 20 15 19.2 0.0**
MCJ Malvern 146.89 343 *i* P **PKPab 20 15 21.2 -0.3**
PCJ Portland Cotta 146.91 342 *i* P **PKPab 20 15 20.9 -0.6**
TRQA Tornquist 147.31 218 *e*PKPdf **PKPdf 20 15 19.6 +1.1**
TRQA LR LR
comp=Z,188μm,21.0s
CPUP Villa Florida 149.56 242 PKP **PKPdf 20 15 21.9 -0.4**
CPUP PKPbc **PKPbc 20 15 26.5 -0.5**
CPUP Villa Florida 149.56 242 PKP **PKPdf 20 15 21.9 -0.4**
comp=Z,24nm,1.1s,baz=288,slow=16,SNR=15
CPUP PKPbc **PKPbc 20 15 26.5 -0.5**
comp=Z,80nm,0.8s,baz=74,slow=2.7,SNR=46
PLCA Paso Flores 149.73 205 PKP **PKPdf 20 15 22.4 +0.1**
PLCA PKPbc **PKiKP 20 15 28.8 +0.7**
PLCA Paso Flores 149.73 205 PKP **PKPdf 20 15 22.4 +0.1**
comp=Z,115nm,1.1s,baz=138,slow=1.6,SNR=6.6
PLCA PKPbc **PKiKP 20 15 28.8 +0.7**
comp=Z,126nm,1.2s,baz=127,slow=0.5,SNR=33
SDV Santo Domingo 151.94 323 *e*PKPdf **PKPdf 20 15 26.1 -0.5**
SDV LR LR
comp=Z,22μm,22.0s
CCHI Chillan 153.81 208 ⇑*iP* **PKPbc 20 15 37.1 +0.7**
SIV San Ignacio 154.76 262 PKP **PKPdf 20 15 30.3 -0.2**
SIV PKPbc **PKPbc 20 15 38.1 -0.9**
SIV San Ignacio 154.76 262 PKP **PKPdf 20 15 30.3 -0.2**
comp=Z,13nm,1.0s,baz=138,slow=0.7,SNR=28
SIV PKPbc **PKPbc 20 15 38.1 -0.9**
comp=Z,21nm,0.8s,baz=129,slow=2.7,SNR=22
LMEL Las Melosas 155.02 215 *e*P **PKPdf 20 15 32.3 +1.8**
LMEL Las Melosas 155.02 215 ⇑*iP* **PKPdf 20 15 32.9 +2.4**
CFAA Coronel Fontan 155.40 222 PKP **PKPdf 20 15 30.6 -0.3**
CFAA PKPab **PKPab 20 15 54.0 -2.4**
CFAA Coronel Fontan 155.40 222 PKP **PKPdf 20 15 30.6 -0.3**
comp=Z,4.8nm,1.2s,baz=210,slow=0.7,SNR=25
CFAA PKPab **PKPab 20 15 54.0 -2.4**
comp=Z,15nm,1.1s,baz=359,slow=1.3,SNR=9.4
FCH Farellones 155.45 216 *e*P PKPdf 20 15 37.4 +6.1
RPN Rapa Nui 155.53 126 PFAKE 20 15 40.0 +8.8
RPN LR LR
comp=Z,63μm,20.0s
CLCH Cerro Calan 155.54 215 ⇑*iP* **PKPdf 20 15 33.2 +2.1**
JTS JuntasAbangare 155.72 355 PKPbc PKPdf 20 15 44.2 +12
JTS PKPab **PKPab 20 15 56.8 -1.1**
JTS JuntasAbangare 155.72 355 PKPbc PKPdf 20 15 44.2 +12
comp=Z,9.1nm,0.5s,baz=343,slow=12,SNR=6.1
JTS PKPab **PKPab 20 15 56.8 -1.1**
comp=Z,31nm,1.0s,baz=350,slow=12,SNR=6.5
PEL Peldehue 155.81 215 ⇑*iP* **PKPdf 20 15 32.7 +1.2**
BCIP Isla Barro Col 155.82 342 *e*PKPdf **PKPdf 20 15 31.3 -0.6**
BCIP LR LR
comp=Z,93μm,22.0s
SAML Samuel 156.00 280 *e*PKPdf **PKPdf 20 15 31.9 -0.3**
SAML LR LR
comp=Z,359μm,20.0s
ROSC El Rosal 157.32 325 PKP **PKPdf 20 15 33.1 -1.3**
ROSC *e*PKPdf **PKPdf 20 15 35.4 +1.0**
ROSC El Rosal 157.32 325 PKP **PKPdf 20 15 33.1 -1.3**
comp=Z,69nm,1.0s,baz=115,slow=2.3,SNR=38
TLL Tololo Astrono 158.00 221 *e*PKIKP **PKPdf 20 15 38.3 +3.7**
TLL Tololo Astrono 158.00 221 *e*P **PKPdf 20 15 38.2 +3.7**
TLL Tololo Astrono 158.00 221 ⇓*iP* **PKPdf 20 15 38.8 +4.2**
LCO Las Campanas 158.71 223 *e*PKPdf **PKPdf 20 15 36.0 +0.4**
LCO LR LR
comp=Z,191μm,21.0s
LVC Limon Verde 160.74 241 *e*PKPdf **PKPdf 20 15 38.5 +0.5**
LVC LR LR
comp=Z,117μm,21.0s
LPAZ La Paz 161.53 261 *e*PKPdf **PKPdf 20 15 38.1 -1.3**
LPAZ PKP **PKPdf 20 15 38.3 -1.1**
LPAZ PKPab **PKPab 20 16 23.8 -0.3**
LPAZ La Paz 161.53 261 PKP **PKPdf 20 15 38.3 -1.1**
comp=Z,35nm,1.1s,baz=43,slow=3.1,SNR=62
LPAZ PKPab **PKPab 20 16 23.8 -0.3**
comp=Z,136nm,1.0s,baz=252,slow=24,SNR=4.1
OTAV Otavalo 163.40 328 PFAKE 20 15 50.0 +8.8
OTAV LR LR
comp=Z,142μm,22.0s
PAYG Puerto Ayora 166.35 13 PKPdf **PKPdf 20 15 42.4 -0.7**
PAYG LR LR
comp=Z,107μm,20.0s
ATAH Atahualpa 169.00 308 PKP **PKPdf 20 15 46.1 +0.6**
ATAH Atahualpa 169.00 308 PKP **PKPdf 20 15 46.1 +0.6**
comp=Z,56nm,1.1s,baz=35,slow=1.4,SNR=26

DJA ***10*** *20:06:58.6±5.4,35°N±49°×13°9E±6°5,h10km,M6.3/14, mb6.3/14*
BGS ***10*** *20:06:59.5±1.6,33°.52N×140°.39E,h40km,mb6.0*
NIED ***10*** *20:07:00,34°.80N×138°.50E,h20km,Mw6.2 Best double couple: M0=2.25000×10^18 NP1:φ=88.00000°,δ=51.00000°, λ=63.00000°. NP2:φ=307.00000°,δ=47.00000°,λ=119.00000°.*
IDC ***10*** *20:07:02.7±0.3,34°.69N×138°.33E,h0km,mb5.7/48, mb1 5.7/52,mb1mx5.7/54,mbtmp5.7/52,ML4.4/4,MS6.5/3, Ms1 6.5/3,ms1mx5.8/42,Error ellipse: s-maj=10.5km s-min=7.9km az=90.0*
ISCJB ***10*** *20:07:05.7±0.4,34°.75N±0°.02×138°.40E±0°.02,h28km±2km, mb6. 1/290,MS6.8/13,Error ellipse: s-maj=3.3km s-min=2.8km az=44.4*
JMA ***10*** *20:07:05.7±0.1,34°.79N×138°.50E,h23km±2km,M6.5 Broadband fault plane solution: P waves. NP1: φ=71.00000°,δ=58.00000°,λ=38.00000°. NP2:φ=319.00000°, δ=58.00000°,λ=142.00000°. Principal axes: T Plg48.0000°, Azm285.0000°; N Plg42.0000°, Azm105.0000°; P Plg0.0000°, Azm195.0000°;*
SZGRF ***10*** *20:07:06.4,35°.35N×139°.99E,h33km,mb6.0,Near south coast of eastern Honshu, Japan*
MOS ***10*** *20:07:06.2±1.1,34°.75N×138°.33E,h33km,mb6.3/70, MS6.3/4,Error ellipse: s-maj=7.8km s-min=5.3km az=103.7*
BKK ***10*** *20:07:07.1±0.7,35°N±7°×13°8E±1°0,h10km,M6.9/23, mB7.3/2,mb6.9/23,Mw(mB)7.3/2*
TEH ***10*** *20:07:08.0,34°.73N×138°.28E,h27km,ML6.4*
NEIC ***10*** *20:07:09.1±0.7,34°.74N×138°.26E,h40km±6km,mb6.1/77, MW6.2(NIED),Error ellipse: s-maj=4.5km s-min=3.7km az=125.0*
NEIC One person killed, 123 people injured and 5,192 buildings damaged in the Shizuoka area. One road damaged at Tokyo. Felt [VI] at Shizuoka; [V] at Akiruno and Namazu; [IV] at Ayase, Gotemba, Machida, Matsumoto, Okazaki, Tachikawa, Tokyo, Yamato, Yokohama, Zama and Zushi; [III] at Atsugi, Hachioji, Hamura, Kawasaki, Kyoto, Nagoya, Osaka, Sagamihara and Yokosuka. A tsunami with wave heights [center-to-peak] was recorded at the following tide stations: 7 cm at Owase, 7 cm at Shimizuminato, 17 cm at Uchiura, 39 cm at Omaezaki and 60 cm at Yaizu. Recorded [6L JMA] in Shizuoka; [5L JMA] in Nagano; [4 JMA] in Aichi, Chiba, Gifu, Kanagawa, Tokyo and Yamanashi; [3 JMA] in Fukui, Gumma, Hyogo, Ibaraki, Ishikawa, Kyoto, Mie, Nara, Niigata, Osaka, Saitama, Shiga, Tochigi, Tottori and Toyama; [2 JMA] in Fukushima, Miyagi, Okayama and Shimane; [1 JMA] in Hiroshima, Wakayama and Yamagata. Recorded [4 JMA] on Nii-jima; [3 JMA] on Kozu-shima, O-shima and To-shima; [2 JMA] on Mikura-jima and Miyake-jima. Also recorded [1 JMA] in Kagawa, Kochi and Tokushima, Shikoku.

ISC 10 20:07:07.1±0.3,34.76N±0°.03×138°.46E±0°.02,h27km±2km, h26km:pP-P,n1087,σ1°08/1127,mb6.1/290,MS6.7/13, 249C-165D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**0.34**	**98**	⇑P	**Pb**	**20 07 12.8**	**-2.1**
JIZS				S	**Sb**	**20 07 18.3**	**-1.9**
SHZ3	**Shizuoka 3**	**0.37**	**325**	P	**Pb**	**20 07 13.6**	**-1.7**
SHZ3				S	**Sb**	**20 07 19.6**	**-1.3**
AJI	**Ajiro2**	**0.59**	**61**	⇓P	**Pb**	**20 07 16.6**	**-2.2**
TK04	**Tokai 4**	**0.62**	**232**	P	**Pb**	**20 07 18.8**	**-0.4**
HMMJ	**Hamamatsu 2**	**0.62**	**279**	⇑P	**Pb**	**20 07 18.0**	**-1.3**
JYZW	**Yoshizawa**	**0.64**	**291**	P	**Pb**	**20 07 18.3**	**-1.5**
JYN	**Shimob**	**0.73**	**5**	⇓P	**Pb**	**20 07 19.0**	**-2.4**
JNY	**Yasuok**	**0.77**	**320**	⇑P	**Pb**	**20 07 20.3**	**-1.7**
JIM2	**Oshima 3**	**0.80**	**93**	⇑P	**Pb**	**20 07 20.3**	**-2.1**
JIM2				S	**Sb**	**20 07 32.3**	**-0.5**
JAO	**Obara**	**1.11**	**297**	⇑P	**Pn**	**20 07 25.8**	**-1.1**
JNT	**Takato**	**1.14**	**347**	⇓P	**Pn**	**20 07 26.3**	**-1.1**
JRY	**Ryogami san**	**1.30**	**16**	⇓P	**Pn**	**20 07 28.5**	**-1.1**
JNG	**Nsakai**	**1.67**	**350**	⇓P	**Pn**	**20 07 35.4**	**+0.8**
JGN	**Niukaw**	**1.73**	**328**	⇑P	**Pn**	**20 07 36.1**	**+0.6**
MJAR	**Matsushiro Arr**	**1.79**	**353**	Pn	**Pn**	**20 07 36.0**	**-0.3**
MJAR	**Matsushiro Arr**	**1.79**	**353**	Pn	**Pn**	**20 07 36.0**	**-0.3**
	2μm,0.3s,baz=176,slow=14,SNR=1121						
MAT	**Matsushiro**	**1.79**	**353**	P	**Pn**	**20 07 36.4**	**+0.2**
MAT				S	**Sb**	**20 08 01.1**	**-0.1**
MAT	**Matsushiro**	**1.79**	**353**	P	**Pn**	**20 07 36.6**	**+0.4**
JGK	**Kuni**	**1.80**	**5**	⇓P	**Pn**	**20 07 37.4**	**+1.0**
JTT	**Ttatey**	**2.06**	**334**	⇑P	**Pn**	**20 07 40.9**	**+1.0**
JKT	**Katashina**	**2.10**	**17**	P	**Pn**	**20 07 41.2**	**+0.6**

JFM	Mihama	2.17 291	⇑P	Pn	20 07 40.8 -0.7
JHK	Hiroka	2.52 10	⇓P	Pn	20 07 47.3 +1.0
JWT	Wachi	2.57 283	P	Pn	20 07 46.1 -0.8
JJG	Jouge	4.38 270	⇑P	Pn	20 08 11.0 -0.8
JKU	Kubokawa	4.71 254	P	Pn	20 08 16.8 +0.3
JNU	Nakatsue	6.51 258	*e*Pn	Pn	20 08 40.9 -0.3
JNU			Sn	Sn	20 09 56.9 +2.3
JNU	Nakatsue	6.51 258	Pn	Pn	20 08 40.0 -1.2
	13nm,0.3s,baz=62,slow=8.5,SNR=40				
ERM	Erimo	8.12 26	Pn	Pn	20 09 04.9 +1.7
	3μm,0.9s,SNR=14				
ERM	Erimo	8.12 26	*i* P	Pn	20 09 03.8 +0.6
KSRS	Korea Array	8.94 291	Pn	Pn	20 09 13.7 -0.8
	3.3nm,0.3s,baz=114,slow=14,SNR=31				
KSRS			Sn	Sn	20 11 00.4 +6.1
	11nm,0.3s,baz=104,slow=24,SNR=8.2				
KSRS			LR	LR	20 12 48.6
	comp=Z,372μm,18.7s,baz=59,slow=39				
KSAR	Wonju Array Be	8.97 290	Pn	Pn	20 09 13.7 -1.2
KSAR			Sn	Sn	20 11 00.4 +5.5
VLA	Vladivostok	9.79 330⇑	*e*P	Pn	20 09 28.9 +2.9
VLA			pmax	pmax	
	comp=Z,690nm,1.4s				
ASAJ	Asahikawa	9.87 18	Pn	Pn	20 09 27.6 +0.5
ASAJ	Asahikawa	9.87 18	Pn	Pn	20 09 27.6 +0.5
	comp=Z,10nm,0.3s,baz=226,slow=14,SNR=21				
ASAJ			LR	LR	20 14 09.8
	comp=Z,68μm,19.5s,baz=269,slow=43				
INCN	Inchon	9.95 289	*e*Pn	Pn	20 09 26.9 -1.4
USRK	Ussuriysk Arra	10.66 334	Pn	Pn	20 09 38.6 +0.6
	comp=Z,3.3nm,0.3s,baz=153,slow=12,SNR=24				
YUK	Yuzh-Kuril'sk	10.88 29	*d i* P	Pn	20 09 42.5 +1.6
YUK			*i* S	Sn	20 11 39.4 -2.3
YUK			pmax	pmax	
	comp=Z,41μm,1.3s				
YUK			pmax	pmax	
	comp=N,179nm,0.5s				
YUK			pmax	pmax	
	comp=Z,417nm,0.5s				
YUK			pmax	pmax	
	comp=E,193nm,0.5s				
YUK			MLR	MLR	
	comp=N,8μm,16.0s				
YUK			MLR	MLR	
	comp=E,31μm,16.0s				
YUK			MLR	MLR	
	comp=Z,38μm,16.0s				
JOW	Kunigami	11.79 231	*e*Pn	Pn	20 09 54.6 +1.0
MDJ	Mudanjiang	11.97 328	P	Pn	20 10 00.1 +4.2
MDJ			S	Sn	20 12 15.1 +6.6
MDJ			PcP	PcP	20 15 41.8 +0.8
MDJ			ScP	ScP	20 19 10.1 -1.9
MDJ			pmax	pmax	
	comp=Z,380nm,1.3s				
MDJ			pmax	pmax	
	comp=Z,30μm,10.6s				
MDJ			LR	LR	
	comp=N,184μm,29.3s				
MDJ			LR	LR	
	comp=E,103μm,19.1s				
MDJ			LR	LR	
	comp=Z,123μm,21.6s				
YSS	Yuzh-Sakhalins	12.60 14⇑	*e*P	Pn	20 10 03.0 -1.5
YSS			*e*S	Sn	20 12 25.0 +1.2
YSS			pmax	pmax	
	comp=Z,150nm,0.8s				
YSS			pmax	pmax	
	comp=N,180nm,1.0s				
KUR	Kuril'sk	12.69 32	P	Pn	20 10 06.2 +0.5
KUR			S	Sn	20 12 21.3 -4.7
KUR			pmax	pmax	
	comp=Z,162nm,1.1s				
KUR			pmax	pmax	
	comp=N,100nm,1.1s				
KUR			pmax	pmax	
	comp=E,65nm,1.1s				
KUR			MLR	MLR	
	comp=E,57μm,16.0s				
KUR			MLR	MLR	
	comp=Z,43μm,16.0s				
KUR			MLR	MLR	
	comp=Z,26μm,16.0s				
CN2	Changchun	13.52 316	*e*P	Pn	20 10 19.8 +2.8
CN2			*es*P		20 10 32.0
CN2			*e*S	Sn	20 12 48.5 +2.2
CN2			pmax	pmax	
	comp=Z,280nm,1.2s				
HABR	Khabarovsk	13.93 351	*de*P	P	20 10 27.7 -2.8
HABR			*e*		20 12 54.0
HABR			MLR	MLR	
	comp=Z,152μm,16.0s				
DL2	Dalian	14.10 292	P	P	20 10 34.6 +2.2
DL2			S	S	20 13 17.0 -4.2
DL2			pmax	pmax	
	comp=Z,3μm,1.3s				
DL2			LR	LR	
	comp=N,186μm,19.1s				
DL2			LR	LR	
	comp=E,150μm,16.7s				
DL2			LR	LR	
	comp=Z,311μm,16.1s				
NJ2	Nanjing	16.60 266	*e*P	P	20 11 01.8 +1.6
NJ2			pmax	pmax	
	comp=Z,970nm,0.8s				
TATO	Taipei	17.64 241	*e*P	Pn	20 11 11.1 +0.1
	comp=Z,4μm,2.4s				
YHNB	Yeheng	17.91 240	*e*P	P	20 11 17.4 +2.6
NACB	Ninganchiao	18.06 239	*e*Pn	P	20 11 19.3 +2.9
	comp=Z,335nm,1.2s				
BJI	Beijing	18.46 293	P	Pn	20 11 21.8 +0.9
BJI			pmax	pmax	
	comp=Z,54μm,7.9s				
BJT	Baijiatuau	18.46 293	*e*P	P	20 11 19.1 -1.6
SSLB	Suanglung	18.76 239	*e*Pn	Pn	20 11 24.9 +0.3
	comp=Z,297nm,1.1s				
YULB	Yu-li	18.77 237	*e*P	Pn	20 11 24.8 0.0
QZH	Quanzhou	19.79 246⇓	*i* P	P	20 11 35.8 +0.4
QZH			pmax	pmax	
	comp=Z,9μm,2.0s				
HIA	Hailar	20.01 322	*e*P	P	20 11 35.9 -1.7
SKR	Severo-Kuril's	20.44 34	*e*P	P	20 11 36.5 -5.7
SKR			*i*		20 11 48.0
SKR			pmax	pmax	
	comp=N,670nm,1.0s				
SKR			pmax	pmax	
	comp=E,340nm,1.0s				
SKR			pmax	pmax	
	comp=Z,220nm,1.0s				
WHN	Wuhan	20.72 265	P	Pn	20 11 46.8 -1.1
WHN			pmax	pmax	
	comp=Z,8μm,1.4s				
GUMO	Guam	21.86 163	*e*P	P	20 11 58.7 +0.9
	comp=Z,2μm,1.2s				
HHC	Hu-ho-hao-te	22.06 294	*e*P	P	20 11 58.0 -1.9
HHC			PP	PnPn	20 12 23.5 +1.4
HHC			S	S	20 15 53.1 -8.7
HHC			PcP	PcP	20 15 58.0 +0.9
HHC			SS	SS	20 16 30.5
HHC			ScP	ScP	20 19 30.9 -1.7
HHC			PcS	PcS	20 19 34.9 -0.8
HHC			ScS	ScS	20 23 14.1 -3.3
HHC			pmax	pmax	
	comp=Z,840nm,0.9s				
HHC			LR	LR	
	comp=N,166μm,12.4s				
HHC			LR	LR	
	comp=E,151μm,14.6s				
HHC			LR	LR	
	comp=Z,189μm,12.3s				
CVP	Callao Caves	22.56 225⇓	*e*P	P	20 12 05.0 -0.2
PALP	Palanan	22.72 223⇑	*e*P	P	20 12 06.6 -0.4
APYP	Conner	22.78 227	*e*P	P	20 12 06.9 -0.7
PIP	Pasuquin	22.81 229⇓	*e*P	P	20 12 06.7 -1.2
PETK	Petropavlovsk-	22.85 31	P	P	20 12 08.3 +0.2
PETK			pmax	pmax	
	comp=Z,148nm,0.9s				
PETK	Petropavlovsk-	22.85 31	P	P	20 12 08.3 +0.2
PETK	Petropavlovsk-	22.85 31	P	P	20 12 08.3 +0.2
	comp=Z,145nm,0.9s,baz=212,slow=4.2,SNR=18				
CAUP	Cauayan	23.16 224	*e*P	P	20 12 12.0 +0.5
PET	Petropavlovsk	23.20 32⇓	*e*P	P	20 12 11.7 +0.1
PET			*e*S	S	20 16 23.9 +2.2
PET			pmax	pmax	
	comp=Z,472nm,1.2s				
PET			MLR	MLR	
	comp=Z,78μm,20.0s				
SIPP	Brgy, Tapao	23.21 228⇑	*e*P	P	20 12 10.3 -1.8
ABRA	Dolores	23.26 227	*e*P	P	20 12 10.0 -2.6
BALP	Baler	24.27 223	*e*P	P	20 12 22.0 -0.1
XAN	Xi'an	24.35 277	P	P	20 12 21.5 -1.4
PVCP	Virac	24.73 215⇑	*i* P	P	20 12 26.4 0.0
ENH	Enshi	24.80 268	*e*P	P	20 12 25.9 -1.1
	comp=Z,1μm,1.1s				
SCZP	Santa Cruz	25.20 226	*e*P	P	20 12 20.0 -11
GQP	Guinayangan	25.31 219⇓	*e*P	P	20 12 25.3 -6.3
TGY	Tagaytay City	25.95 222	P	P	20 12 35.9 -1.6
TGY	Tagaytay City	25.95 222	P	P	20 12 35.9 -1.6
	comp=Z,1μm,1.0s,baz=170,slow=2.1,SNR=20				
ULN	Ulaanbaatar	26.78 309	*e*P	P	20 12 42.9 -2.0
	comp=Z,527nm,1.4s				
SONM	Songino Array	27.19 308	P	P	20 12 47.3 -1.2
SONM			PcP	PcP	20 16 08.8 +0.5
SONM	Songino Array	27.19 308	P	P	20 12 47.3 -1.2
	comp=Z,268nm,1.1s,baz=112,slow=9.0,SNR=19				
SONM			PcP	PcP	20 16 08.8 +0.5
	comp=Z,12nm,0.8s,baz=114,slow=1.5,SNR=4.9				
YAK	Yakutsk	27.85 351	*e*P	P	20 12 52.4 -1.7
YAK			*e*PP	pP	20 13 00.9 -1.0
YAK			*e*S	S	20 17 31.7 -3.8
YAK			*e*SSS	SSS	20 19 09.9
YAK			pmax	pmax	
	comp=E,126nm,1.0s				
YAK			pmax	pmax	
	comp=N,513nm,1.4s				
YAK			pmax	pmax	
	comp=Z,386nm,0.9s				
YAK			smax	smax	
	comp=E,14μm,6.7s				
YAK			smax	smax	
	comp=N,21μm,7.1s				
YAK			MLR	MLR	
	comp=Z,358μm,33.0s				
LZH	Lanzhou	28.16 283	⇓P	P	20 12 56.8 -0.5
LZH			pP	pP	20 13 04.2 -1.0
LZH			sP	sP	20 13 07.9 -0.6
LZH			pmax	pmax	
	comp=Z,850nm,1.4s				
LZH			pmax	pmax	
	comp=Z,5μm,7.8s				
LZH			LR	LR	
	comp=N,119μm,12.8s				
LZH			LR	LR	
	comp=E,238μm,16.9s				
LZH			LR	LR	
	comp=Z,228μm,14.4s				
GYA	Guiyang	28.50 262⇑	*i* P	P	20 12 59.7 -0.7
GYA			pP	pP	20 13 08.9 +0.6
GYA			sP	sP	20 13 13.6 +2.0
GYA			PP	PnPn	20 13 51.0 +0.7
GYA			PcP	PcP	20 16 12.9 +1.1
GYA			S	S	20 17 43.5 -3.2
GYA			sS	sS	20 17 56.8 -2.9
GYA			SS	SnSn	20 19 07.1 +0.6
GYA			ScP	ScP	20 19 51.6 +0.4
GYA			ScS	ScS	20 23 44.0 -0.6
GYA			pmax	pmax	
	comp=Z,2μm,1.0s				
GYA			pmax	pmax	
	comp=Z,18μm,10.2s				
GYA			LR	LR	
	comp=N,121μm,15.8s				
GYA			LR	LR	
	comp=E,89μm,17.2s				
GYA			LR	LR	
	comp=Z,172μm,16.4s				
CD2	Chengdu	29.32 272	*e*P	P	20 13 07.1 -0.5
CD2			pP	pP	20 13 15.2 -0.3
CD2			sP	sP	20 13 18.8 0.0
CD2			PP	PnPn	20 14 02.0 +0.5
CD2			S	S	20 17 56.0 -3.4
CD2			sS	sS	20 18 09.1 -3.4
CD2			SS	SnSn	20 19 26.3 0.0
CD2			pmax	pmax	
	comp=Z,730nm,1.3s				
CD2			LR	LR	
	comp=N,334μm,16.7s				
CD2			LR	LR	
	comp=E,206μm,16.6s				
CD2			LR	LR	
	comp=Z,238μm,17.8s				
QIZ	Qiongzhong	29.81 246	P	P	20 13 12.0 0.0
QIZ			S	S	20 18 06.9 -0.2
FX1	Attu Island--F	30.49 43	P	P	20 13 18.8 +1.1
FX1	Attu Island--F	30.49 43	P	P	20 13 18.8 +1.1
	comp=Z,76nm,0.6s,baz=336,slow=3.7,SNR=9.7				
SMY	Shemya	30.96 44	*e*P	P	20 13 23.0 +1.3
SMY			pmax	pmax	
	comp=Z,336nm,1.2s				
SMY	Shemya	30.96 44	*e*P	P	20 13 23.0 +1.3
	comp=Z,336nm,1.2s				
GTA	Gaotai	31.02 290	P	P	20 13 22.5 -0.1
GTA			pP	pP	20 13 30.2 -0.3
GTA			sP	sP	20 13 32.9 -0.9
GTA			pmax	pmax	
	comp=Z,700nm,1.0s				
KMI	Kunming	32.27 262	P	P	20 13 33.7 -0.2
KMI			S	S	20 18 42.5 -3.5
KMI			pmax	pmax	
	comp=Z,190nm,2.0s				
KDM	Kudat	34.13 221	P	P	20 13 49.5 -0.4
MYLDM	Lahad Datu	34.75 217	P	P	20 13 56.3 +1.1
SDKM	Sandakan	35.02 219	P	P	20 13 57.9 +0.3
KKM	Kota Kinabalu	35.20 221	*e*P	P	20 14 00.5 +1.3
	comp=Z,414nm,1.7s				
KKM	Kota Kinabalu	35.20 221	P	P	20 13 58.8 -0.4
TNTI	Ternate	35.37 199	P	P	20 14 05.1 +4.5
	comp=Z,2μm,0.8s,comp=Z,82μm				
TSM	Tawau	35.83 217	P	P	20 14 05.8 +1.3
BAKI	Biak	35.84 184	P	P	20 14 19.9 +15
	comp=Z,764nm,1.6s				
HVS	Khovu-Aksy	35.99 311⇑	*e*P	P	20 14 04.8 -0.9
HVS			pmax	pmax	
	comp=Z,950nm,1.4s				
SWI	Sorong	36.08 192	P	P	20 14 10.5 +3.9
	comp=Z,181nm,1.1s				
ADK	Adak	36.18 48	*e*P	P	20 14 09.5 +2.4
ADK			pmax	pmax	
	comp=Z,1μm,1.3s				
ADK	Adak	36.18 48	*e*P	P	20 14 09.5 +2.4
	comp=Z,1μm,1.3s				
GTOI	Gorontalo	36.90 206	P	P	20 14 13.3 -0.3
	comp=Z,4μm,1.4s				
GTOI	Gorontalo	36.90 206	P	P	20 14 12.0 -1.6
	comp=Z,1μm,1.2s				
LOEI	Loei	37.30 252	P	P	20 14 14.9 -2.2
	comp=Z,4μm,1.8s				
TIXI	Tiksi	37.30 355⇓	*e*P	P	20 14 15.7 -0.7
TIXI			pmax	pmax	
	comp=Z,275nm,1.2s				
TIXI			MLR	MLR	
	comp=Z,300μm,25.0s				
TOLI	Toli-Toli	37.31 210	P	P	20 14 17.2 0.0
	comp=Z,236nm,1.6s				
PAYA	Payao	37.38 256	P	P	20 14 19.1 +1.3
	comp=Z,64nm,1.3s				
MRSI	Marisa	37.44 208	P	P	20 14 19.0 +0.8
	comp=Z,436nm,1.4s				
MRSI	Marisa	37.44 208	P	P	20 14 17.4 -0.8
	comp=Z,440nm,1.4s				
KRAR	Krasnoyarsk	37.51 319	*i* P	P	20 14 19.9 +1.4
KRAR			pmax	pmax	
	comp=Z,197nm,1.3s				
CMAI	Chiengmai2	37.74 257	P	P	20 14 22.0 +1.0
	comp=Z,1μm,3.3s				
ATKA	Atka Island	37.75 48	*e*P	P	20 14 22.4 +1.9
FAKI	Fak Fak	37.94 190	P	P	20 14 31.1 +8.7
	comp=Z,187nm,1.6s				
CHTO	Chiang Mai	38.41 256	*e*P	P	20 14 26.3 -0.2
CHTO			pmax	pmax	
	comp=Z,1μm,1.8s				
CHTO	Chiang Mai	38.41 256	*e*P	P	20 14 26.2 -0.2
	comp=Z,1μm,1.8s				
CHTO	Chiang Mai	38.41 256	P	P	20 14 27.1 +0.6
	comp=Z,5μm,3.0s				
LUWI	Luwuk	38.53 206	P	P	20 14 26.0 -1.5
	comp=Z,644nm,1.5s				
CMAR	Chiang Mai Arr	38.61 255	P	P	20 14 27.6 -0.5
CMAR	Chiang Mai Arr	38.61 255	P	P	20 14 27.6 -0.5
	comp=Z,38nm,0.8s,baz=49,slow=7.6,SNR=18				
MSAI	Masohi	38.95 195	P	P	20 14 42.4 +11
BTM	Bintulu	39.27 223	P	P	20 14 33.8 +0.1
WMQ	Urumqi	39.78 299	P	P	20 14 38.6 +0.9
WMQ			sP	sP	20 14 51.6 +2.6
WMQ			pmax	pmax	
	comp=Z,960nm,1.1s				
WMQ			LR	LR	
	comp=N,64μm,23.0s				
WMQ			LR	LR	
	comp=E,37μm,17.0s				
WMQ			LR	LR	
	comp=Z,57μm,19.0s				
SGKI	Sangatta, Kali	40.17 214	P	P	20 14 43.0 +1.8
	comp=Z,756nm,1.0s				
SBUM	Sibu	40.37 223	P	P	20 14 43.1 +0.3
SPIA	Saint Paul Isl	40.85 41	*e*P	P	20 14 49.9 +3.6
	comp=Z,778nm,1.2s				
PHET	Kaeng Krachan	41.29 248	P	P	20 14 52.2 +1.8
	comp=Z,423nm,1.6s				
MMSI	Mamuju	41.54 210	P	P	20 15 05.2 +13
ZALV	Zalesovo Beam	41.73 314	P	P	20 14 52.9 -0.7
ZALV					20 16 48.8
ZALV			pmax	pmax	
	comp=Z,73nm,0.9s				
ZALV	Zalesovo Beam	41.73 314	P	P	20 14 52.9 -0.7
ZALV			PcP	PcP	20 16 48.8 -0.9
ZALV	Zalesovo Beam	41.73 314	P	P	20 14 52.9 -0.7
	comp=Z,73nm,0.9s,baz=101,slow=7.2,SNR=15				
ZALV			PcP	PcP	20 16 48.8 -0.9
	comp=Z,76nm,0.9s,baz=107,slow=2.3,SNR=7.2				
KSM	Kuching	42.26 225	*e*P	P	20 14 58.1 -0.2
	comp=Z,125nm,1.0s				
KSM	Kuching	42.26 225	P	P	20 14 58.8 +0.5
NVS	Novosibirsk	42.73 316	*e*P	P	20 15 00.0 -1.7
KAPI	Kappang	43.32 208	P	P	20 15 05.9 -1.0
	comp=Z,3μm,1.4s,SNR=15				
KAPI	Kappang	43.32 208	P	P	20 15 06.4 -0.5
	SNR=17				
KAPI	Kappang	43.32 208	P	P	20 15 04.8 -2.0
KAPI	Kappang	43.32 208	P	P	20 15 05.7 -1.2
	comp=Z,632nm,1.6s				
KAPI	Kappang	43.32 208	P	P	20 15 04.8 -2.0
	comp=Z,756nm,1.2s,baz=22,slow=6.1				
MK31	Makanchi Array	43.34 304	*ce*P	P	20 15 06.5 -0.3
MK31			pmax	pmax	
	comp=Z,463nm,1.0s				
MKAR	Makanchi Array	43.34 304	P	P	20 15 05.9 -1.0
MKAR					20 16 55.0
MKAR			pmax	pmax	
	comp=Z,168nm,0.9s				
MKAR	Makanchi Array	43.34 304	P	P	20 15 05.8 -1.0
MKAR			PcP	PcP	20 16 55.0 -0.2
MKAR	Makanchi Array	43.34 304	P	P	20 15 05.8 -1.0
	comp=Z,168nm,0.9s,baz=90,slow=10,SNR=29				
MKAR			PcP	PcP	20 16 55.0 -0.2
	comp=Z,24nm,0.8s,baz=90,slow=5.8,SNR=3.8				
BKSI	Bulukumba	43.46 207	P	P	20 15 07.4 -0.6
	comp=Z,157nm,3.6s				
KTGM	Kuala Trenggan	43.85 236	P	P	20 15 10.7 -0.5
PMG	Port Moresby	44.69 168	*e*P	P	20 15 16.1 -1.8
	comp=Z,152nm,1.0s				
PMG	Port Moresby	44.69 168	P	P	20 15 17.0 -0.9
	comp=Z,60nm,0.6s,baz=284,slow=23,SNR=19				
KULM	Kulim	45.60 239	*e*P	P	20 15 25.6 +0.4
	comp=Z,1μm,1.9s				
KULM	Kulim	45.60 239	P	P	20 15 25.2 0.0
KULM	Kulim	45.60 239	P	P	20 15 26.8 +1.6
	comp=Z,4μm,1.0s				
KULM	Kulim	45.60 239	P	P	20 15 24.1 -1.1
	comp=Z,282nm,1.8s				
MMRI	Maumere	45.81 203	P	P	20 15 27.1 +0.3
IPM	Ipoh	45.91 238	*e*P	P	20 15 27.4 -0.3
	comp=Z,2μm,2.2s				
IPM	Ipoh	45.91 238	P	P	20 15 27.6 -0.1
IPM	Ipoh	45.91 238	P	P	20 15 27.3 -0.3
MYKOM	Kota Tinggi	45.98 232	P	P	20 15 28.6 +0.4
SDPT	Sand Point	46.09 44	*e*P	P	20 15 30.3 +1.7
	comp=Z,207nm,0.7s				
KGM	Kluang	46.16 233	P	P	20 15 30.1 +0.5
FRIM	Kepong	46.39 236	P	P	20 15 31.5 +0.1
LBFI	Labuhan Bajo,	46.46 206	P	P	20 15 34.6 +2.7
BATI	Baumata	46.87 200	P	P	20 15 34.0 -1.1
BATI	Baumata	46.87 200	P	P	20 15 34.0 -1.1
	comp=Z,327nm,1.0s,baz=204,slow=1.1,SNR=16				
PPBI	Pangkal Pinang	47.63 226	P	P	20 15 41.7 +0.7
ULHL	Ulahol	48.31 298	*i* P	P	20 15 47.2 +0.8
ULHL	Ulahol	48.31 298	P	P	20 15 47.2 +0.8
	SNR=7.3				
HNR	Honiara	48.44 151	*e*P	P	20 15 47.9 +0.6
HNR	Honiara	48.44 151	P	P	20 15 47.0 -0.3
	comp=Z,28nm,0.4s,baz=326,slow=3.6,SNR=2.7				
PSI	Prapat	48.57 238	P	P	20 15 47.6 -0.9
PSI	Prapat	48.57 238	P	P	20 15 47.6 -0.9
	comp=Z,78nm,0.9s,baz=4.1,slow=6.1,SNR=13				
RGRI	Rengat	48.59 232	P	P	20 15 50.8 +2.3
	comp=Z,541nm,2.0s				
TKM2	Tokmak 2	48.63 299	*e*P	P	20 15 49.4 +0.6
TKM2	Tokmak 2	48.63 299	P	P	20 15 49.9 +1.1
	SNR=23				
TKM2	Tokmak 2	48.63 299	*e*P	P	20 15 49.4 +0.6
	comp=Z,2μm,1.6s				
BKNI	Bangkinang	48.93 234	P	P	20 15 51.3 +0.2
	comp=Z,671nm,1.6s				
PMBI	Palembang	49.05 227	P	P	20 15 53.1 +1.1
KZA	Kyzart	49.07 298	*i* P	P	20 15 53.5 +1.1
KZA	Kyzart	49.07 298	P	P	20 15 53.5 +1.1
	SNR=12				
KBK	Karagaybulak	49.15 299	*i* P	P	20 15 53.3 +0.5
KBK	Karagaybulak	49.15 299	P	P	20 15 53.3 +0.5
	SNR=18				
KSH	Kashi	49.16 295	P	P	20 15 56.4 +3.5
KSH			sP	sP	20 16 06.5 +2.2
KSH			PP	PP	20 17 50.5 +4.0
KSH			S	S	20 22 59.2 +2.4
KSH			sS	sS	20 23 12.2 +2.0
KSH			SS	SS	20 26 27.2 -0.7
KSH			pmax	pmax	
	comp=Z,290nm,1.1s				
KSH			pmax	pmax	
	comp=Z,87μm,8.9s				
KSH			LR	LR	
	comp=N,82μm,13.0s				
KSH			LR	LR	
	comp=E,34μm,10.4s				
KSH			LR	LR	
	comp=Z,52μm,15.2s				
CHMS	Chumysh	49.22 300	*i* P	P	20 15 54.0 +0.9
CHMS	Chumysh	49.22 300	P	P	20 15 54.0 +0.9
	SNR=14				
USP	Ospenovka	49.34 300	*i* P	P	20 15 54.2 +0.2
USP	Ospenovka	49.34 300	P	P	20 15 54.1 +0.2
	SNR=12				
FRU	Bishkek	49.35 300	*i* P	P	20 15 54.5 +0.4
FRU			pmax	pmax	
	comp=Z,530nm,1.3s				
PWJI	Pagerwojo	49.46 216	P	P	20 15 55.8 +0.7
	comp=Z,382nm,0.9s				
AAK	Ala-Archa	49.48 299	P	P	20 15 55.2 -0.1
	comp=Z,1μm,1.1s,SNR=6.8				
AAK	Ala-Archa	49.48 299	⇑*e*P	P	20 15 55.4 +0.1
AAK			pmax	pmax	
	comp=Z,2μm,2.5s				
AAK			MLR	MLR	
	comp=Z,254μm,18.0s				
AAK	Ala-Archa	49.48 299	P	P	20 15 56.1 +0.8
	SNR=10				
AAK	Ala-Archa	49.48 299	P	P	20 15 54.0 -1.3
AAK	Ala-Archa	49.48 299	P	P	20 15 54.0 -1.3
	comp=Z,102nm,0.9s,baz=83,slow=4.5,SNR=11				
PPI	Padang Panjang	49.94 234	P	P	20 16 01.2 +2.4
EKS2	Erkin-Say	49.99 299	P	P	20 15 59.8 +0.7
	SNR=5.1				
UGM	Wanagama	49.99 217	*e*P	P	20 15 58.8 -0.4
	comp=Z,546nm,1.1s				
RSO	Redoubt South	50.16 37	*e*P	P	20 16 00.9 +0.7
	comp=Z,800nm,1.0s				
AML	Almayashu	50.18 299	P	P	20 16 01.9 +1.0
	SNR=23				
BVAR	Borovoye Array	50.35 313	P	P	20 16 00.9 -0.6
BVAR			pmax	pmax	
	comp=Z,343nm,0.9s				
BVAR	Borovoye Array	50.35 313	P	P	20 16 00.9 -0.6
BVAR			*e*		20 53 34.2
BVAR	Borovoye Array	50.35 313	P	P	20 16 00.9 -0.6
	comp=Z,342nm,0.9s,baz=97,slow=7.2,SNR=58				
BVAR			P4KPbc		20 53 34.2
	comp=Z,0.6nm,0.7s,baz=103,slow=6.5,SNR=5.4				

BRVK Borovoye 50.41 313 P **P 20 16 01.1 -0.9**
comp=Z,3μm,1.1s,SNR=24
BRVK Borovoye 50.41 313 *ce*P **P 20 16 01.7 -0.3**
BRVK pmax pmax
comp=Z,2μm,1.2s
BRVK Borovoye 50.41 313 P **P 20 16 02.4 +0.4**
SNR=12
KLSI 50.48 226 P **P 20 16 04.2 +1.3**
comp=Z,420nm,1.9s
LEM Lembang 50.59 221 P **P 20 16 03.9 0.0**
comp=Z,802nm,4.5s
MASI Maura Aman, Be 50.78 230 P **P 20 16 06.9 +1.7**
comp=Z,1μm,1.2s
LWLI Liwa 51.14 226 P **P 20 16 07.3 -0.7**
comp=Z,375nm,0.7s
KASI Kota Agung 51.29 225 P P 20 16 05.2 -3.8
PMR Palmer 51.87 35 *e*P **P 20 16 15.3 +2.6**
PMR pmax pmax
comp=Z,154nm,0.9s
PMR Palmer 51.87 35 *e*P **P 20 16 15.3 +2.6**
comp=Z,154nm,0.9s
KK31 Karatay Array 52.21 301 *ce*P **P 20 16 15.5 -0.1**
KK31 pmax pmax
comp=Z,1μm,1.2s
KKAR Karatay Array 52.21 301 *e*P **P 20 16 15.1 -0.5**
KKAR pmax pmax
comp=Z,932nm,1.1s
KKAR Karatay Array 52.21 301 *e*P **P 20 16 15.1 -0.5**
comp=Z,932nm,1.1s
COLA College 52.26 31 *e*P **P 20 16 17.9 +2.3**
COLA pmax pmax
comp=Z,839nm,1.0s
COLA College 52.26 31 *e*P **P 20 16 17.9 +2.3**
comp=Z,839nm,1.0s
ILAR Eielson Array 52.68 31 P **P 20 16 19.7 +0.9**
ILAR Eielson Array 52.68 31 P **P 20 16 19.7 +0.9**
comp=Z,32nm,0.8s,baz=279,slow=5.5,SNR=9.7
MID Middleton Isla 53.46 38 *e*P **P 20 16 27.6 +3.1**
MID pmax pmax
comp=Z,211nm,0.9s
MID Middleton Isla 53.46 38 *e*P **P 20 16 27.6 +3.1**
comp=Z,211nm,0.9s
FITZ Fitzroy Crossi 53.97 195 P **P 20 16 28.1 -0.6**
FITZ Fitzroy Crossi 53.97 195 P **P 20 16 28.1 -0.6**
comp=Z,100nm,1.1s,baz=23,slow=7.7,SNR=8.5
MENT Mentasta 54.25 33 *e*P **P 20 16 33.0 +2.6**
WRAB Tennant Creek 54.53 185 P **P 20 16 32.3 -0.5**
comp=Z,1μm,0.7s,SNR=10.0
WRA Warramunga Arr 54.55 185 P **P 20 16 31.5 -1.4**
WRA ⇑*e* 20 47 03.0
WRA *e* 20 53 53.1
WRA Warramunga Arr 54.55 185 P **P 20 16 31.5 -1.4**
comp=Z,130nm,0.7s,baz=1.3,slow=7.7,SNR=74
WRA P*KP*bc 20 47 03.0
comp=Z,3.2nm,0.9s,baz=192,slow=1.9,SNR=4.6
WRA P4KPbc 20 53 53.1
comp=Z,1.7nm,0.8s,baz=360,slow=4.8,SNR=7.6
CTA Charters Tower 55.05 171 P **P 20 16 36.2 -0.3**
CTA Charters Tower 55.05 171 P **P 20 16 36.2 -0.3**
comp=Z,37nm,0.8s,baz=343,slow=12,SNR=7.8
CTA LR LR 20 37 28.3
comp=Z,157μm,20.9s,baz=286,slow=33
SVE Sverdlovsk 55.28 319 ⇓*e*P **P 20 16 38.2 +0.4**
SVE pmax pmax
comp=Z,1μm,1.4s
KBL Kabul 55.99 291 *e*P **P 20 16 43.1 -0.5**
KBL pmax pmax
comp=Z,137nm,1.0s
KBL Kabul 55.99 291 *e*P **P 20 16 43.1 -0.5**
comp=Z,138nm,1.0s
ARU Arti 56.48 319 *c i*P **P 20 16 46.2 -0.3**
ARU 20 18 49.2
ARU S **S 20 24 36.5 +0.7**
ARU SS **SS 20 28 21.4 -1.3**
ARU pmax pmax
comp=Z,2μm,1.7s
ARU Arti 56.48 319 P **P 20 16 46.4 -0.1**
comp=Z,5μm,1.1s,SNR=42
SOKR Solikamsk 56.68 323 ⇓*i*P **P 20 16 48.3 +0.6**
SOKR pmax pmax
comp=Z,840nm,1.4s
INK Inuvik 57.48 26 *e*P **P 20 16 54.7 +1.4**
comp=Z,90nm,0.8s
INK Inuvik 57.48 26 P **P 20 16 54.1 +0.7**
comp=Z,48nm,1.0s,baz=265,slow=7.2,SNR=4.8
HYT Haines Junctio 57.54 35 *e*P P 20 16 58.1 +4.1
AB31 Akbulak array 57.58 310 *ce*P **P 20 16 53.9 -0.4**
AB31 pmax pmax
comp=Z,502nm,0.7s
ABKAR Akbulak array 57.58 310 *e*P **P 20 16 53.7 -0.6**
comp=Z,405nm,0.8s
ASAR Alice Springs 58.27 185 P **P 20 16 58.8 -0.6**
ASAR P'P' 20 46 41.3
ASAR P'P'ab P'P'ab 20 47 08.8 +11
ASAR *e* 20 54 06.0
ASAR Alice Springs 58.27 185 P **P 20 16 58.8 -0.6**
comp=Z,73nm,0.8s,baz=17,slow=13,SNR=45
ASAR PKPPKP P'P'df 20 46 41.3 +8.8
comp=Z,1.7nm,0.9s,baz=145,slow=3.3,SNR=4.2
ASAR PKP2ab 20 47 08.8
comp=Z,14nm,1.1s,baz=177,slow=3.1,SNR=7.5
ASAR P4KPbc 20 54 06.0
comp=Z,1.0nm,0.9s,baz=2.5,slow=2.9,SNR=4.9
MBWA Marble Bar 58.40 201 P **P 20 16 59.9 -0.4**
SNR=6.7
MBWA Marble Bar 58.40 201 *e*P **P 20 16 59.4 -0.9**
comp=Z,303nm,0.8s
AKTO Aktyubinsk 58.42 312 *i*P **P 20 16 59.7 -0.5**
AKTO pmax pmax
comp=Z,300nm,0.8s
AKTO Aktyubinsk 58.42 312 P **P 20 17 00.3 +0.1**
AKTO Aktyubinsk 58.42 312 P **P 20 17 00.3 +0.1**
comp=Z,288nm,0.8s,baz=76,slow=6.6,SNR=28
SIT Sitka 59.66 39 *e*P **P 20 17 10.6 +1.9**
SIT Sitka 59.66 39 *e*P **P 20 17 10.6 +1.9**
COCO West Island 61.15 228 *i*P **P 20 17 20.0 +0.7**
COCO West Island 61.15 228 P **P 20 17 19.9 +0.6**
SNR=5.2
COCO West Island 61.15 228 *e*P P 20 17 11.2 -8.1
comp=Z,844nm,1.1s
CRAG Craig 61.34 40 *e*P **P 20 17 21.4 +1.2**
comp=Z,152nm,1.3s
DLBC Dease Lake 61.88 37 P **P 20 17 26.2 +2.3**
DLBC Dease Lake 61.88 37 P **P 20 17 26.2 +2.3**
comp=Z,22nm,0.9s,baz=292,slow=8.8,SNR=2.9
IMYA Miami 62.03 296 *e*P **P 20 17 25.8 +0.4**
SPA0 Spitsbergen Ar 62.28 349 *e*P **P 20 17 26.8 +0.6**
NOUC Port Laguerre 62.43 151 *e*P **P 20 17 27.6 -0.2**
DZM Mont Dzumac 62.46 151 *e*P **P 20 17 28.8 +0.7**
KBS Kingsbay 62.47 350 *e*P **P 20 17 28.4 +1.0**
KBS Kingsbay 62.47 350 *e*P **P 20 17 27.8 +0.3**
KBS pmax pmax
comp=Z,290nm,1.1s
KBS Kingsbay 62.47 350 *e*P **P 20 17 27.8 +0.3**
comp=Z,290nm,1.1s
IMOG Moghan 62.69 296 *e*P **P 20 17 29.2 -0.8**
IAKL Akhelmad 62.91 297 *e*P **P 20 17 31.2 -0.2**
IKRD Kardeh 63.02 297 *e*P P 20 17 28.1 -4.0
LVZ Lovozero 63.19 336 *e*P **P 20 17 31.6 -0.8**
LVZ pmax pmax
comp=Z,440nm,1.2s
LVZ Lovozero 63.19 336 P **P 20 17 32.0 -0.4**
comp=Z,2μm,1.2s,SNR=9.1
ISFR Sfrayin 63.28 298 *e*P **P 20 17 34.6 +0.8**
ISHV Shirvan 63.29 299 *e*P **P 20 17 34.1 +0.3**
TMCR Tamitsa 63.58 331 *e*P **P 20 17 35.4 +0.4**
TMCR *e* 20 18 08.5
TMCR pmax pmax
comp=Z,1μm,1.3s
APA Apatity 63.76 336 ⇑*i*P **P 20 17 36.0 -0.2**
APA *e*PPP PPP 20 21 29.0
APA pmax pmax
comp=Z,684nm,1.2s
APA MLR MLR
comp=Z,14μm,15.0s
MSVF Nonsavu 64.35 138 P **P 20 17 42.2 +1.5**
comp=Z,579nm,1.1s,SNR=8.4
MSVF Nonsavu 64.35 138 *e*P **P 20 17 42.6 +1.9**
MSVF pmax pmax
comp=Z,324nm,1.6s
MSVF Nonsavu 64.35 138 *e*P **P 20 17 42.6 +1.9**
comp=Z,324nm,1.6s
IMND Minoodasht 65.07 299 *e*P **P 20 17 45.9 +0.7**
ARCES ARCESS Array B 65.27 339 P **P 20 17 45.8 -0.2**
ARCES P'P'ab **P'P'ab 20 46 39.5 -3.2**
ARCES ARCESS Array B 65.27 339 P **P 20 17 45.8 -0.2**
comp=Z,150nm,0.9s,baz=60,slow=7.3,SNR=36
ARCES P*KP*ab 20 46 39.5
comp=Z,4.0nm,1.0s,baz=352,slow=3.7,SNR=5.4
ARE0 ARCESS Array S 65.27 339 *e*P **P 20 17 45.5 -0.4**
ARE0 ARCESS Array S 65.27 339 *e*P **P 20 17 45.4 -0.6**
KTK1 Kautokeino 66.23 339 *e*P **P 20 17 51.8 -0.4**
STKA Stephens Creek 66.35 177 *e*P **P 20 17 53.4 0.0**
comp=Z,23nm,1.0s
STKA Stephens Creek 66.35 177 P **P 20 17 53.3 0.0**
comp=Z,109nm,1.0s,baz=342,slow=7.1,SNR=11
IGLO Ghaloghah 66.53 299 *e*P **P 20 17 54.4 -0.6**
IANJ Anjilo 66.94 298 *e*Pn **P 20 17 57.1 -0.5**
YKA Yellowknife Ar 66.96 29 P **P 20 17 58.3 +1.4**
YKA ⇑*e* 20 46 24.8
YKA Yellowknife Ar 66.96 29 P **P 20 17 58.3 +1.4**
comp=Z,25nm,0.9s,baz=295,slow=6.4,SNR=4.6
YKA P*KP*bc 20 46 24.8
comp=Z,1.4nm,0.8s,baz=119,slow=4.1,SNR=4.5
TRO Tromso 67.07 341 *e*P **P 20 17 57.4 -0.1**
ISHM Shahmirzad 67.23 299 *e*P **P 20 18 00.2 +0.7**
IALA Alasht 67.46 299 *e*P **P 20 18 01.2 +0.3**
AFI Afiamalu 67.61 127 P **P 20 18 01.6 -0.2**
AFI Afiamalu 67.61 127 P **P 20 18 01.6 -0.2**
comp=Z,18nm,0.3s,baz=207,slow=9.0,SNR=2.3
MOS Moscow 67.63 323 *e*P **P 20 18 00.3 -1.0**
MOS *e* 20 18 26.1
MOS pmax pmax
comp=Z,921nm,1.2s
ILAS Lasjerd 67.67 298 *e*P **P 20 18 02.4 +0.2**
XMAS Kiritimati 67.69 104 *e*P **P 20 18 03.1 +0.8**
comp=Z,162nm,0.8s
VRHR Novokhopersk 67.75 317 *e*P **P 20 18 00.4 -1.7**
VRHR pmax pmax
comp=Z,140nm,0.6s
VRHR pmax pmax
comp=N,140nm,1.0s
VRHR pmax pmax
comp=E,90nm,1.2s
DAG Danmarks Havn 67.81 354 *i*P **P 20 18 02.8 +0.7**
DAG pmax pmax
comp=Z,88nm,0.9s
DAG Danmarks Havn 67.81 354 *i*P **P 20 18 02.8 +0.7**
comp=Z,105nm,0.9s
OBN Obninsk 68.46 323 ⇑*i*P **P 20 18 05.8 -0.7**
OBN *e**PP **pP 20 18 17.6 +2.6**
OBN *e* 20 18 27.5
OBN *e* 20 20 37.4
OBN *e*S **S 20 27 06.4 0.0**
OBN *e*SS **SS 20 31 33.0 +3.4**
OBN pmax pmax
comp=Z,722nm,1.2s
OBN MLR MLR
comp=Z,40μm,18.0s
OBN Obninsk 68.46 323 P **P 20 18 06.9 +0.4**
comp=Z,2μm,1.2s,SNR=12
PUL Pulkovo 68.91 329 *i*P **P 20 18 09.3 +0.1**
PUL pmax pmax
comp=Z,957nm,1.3s
VSR Storozhevoye 69.05 318 *e*P **P 20 18 09.5 -0.7**
VSR pmax pmax
comp=N,200nm,0.8s
VSR pmax pmax
comp=E,200nm,0.8s
VSR pmax pmax
comp=Z,230nm,0.8s
VORD Divnogorie 69.10 318 *e*P **P 20 18 10.3 -0.2**
VORD pmax pmax
comp=Z,330nm,1.3s
VORD pmax pmax
comp=N,90nm,0.5s
VORD pmax pmax
comp=E,130nm,0.6s
STEI Steigen 69.20 340 *e*P **P 20 18 10.6 -0.3**
KAF Kangasniemi 69.21 332 *e*P **P 20 18 10.5 -0.5**
KAF pmax pmax
comp=Z,65nm,0.4s
KAF Kangasniemi 69.21 332 *e*p **P 20 18 10.5 -0.5**
comp=Z,65nm,0.4s
IZEF Zefreh 69.30 296 *e*P **P 20 18 12.6 +0.1**
BANOM Banah 69.64 288 P **P 20 18 14.7 +0.3**
SNR=11
SMDO Samad 69.68 284 P **P 20 18 15.3 +0.6**
SNR=5.8
FIA1 FINESS Array S 69.69 332 *e*P **P 20 18 13.4 -0.5**
FINES FINESS Array B 69.69 332 P **P 20 18 12.9 -1.1**
FINES FINESS Array B 69.69 332 P **P 20 18 12.9 -1.1**
comp=Z,317nm,0.9s,baz=108,slow=7.6,SNR=18
IGAR Gharneh 69.75 296 *e*P **P 20 18 14.2 -1.0**
HOQ Hoqain 70.00 285 P **P 20 18 17.2 +0.5**
SNR=10
NLWA Neilton Lookou 70.01 46 *e*P **P 20 18 18.6 +2.3**
comp=Z,224nm,1.3s
DGRG David-gareji 70.06 307 P **P 20 18 17.6 +0.8**
GUDG Gudauri 70.16 308 P **P 20 18 17.3 -0.3**
DUS Dusheti 70.19 308 P **P 20 18 19.2 +1.6**
UOSS Wadi Hilu 70.20 287 P **P 20 18 17.8 0.0**
comp=Z,728nm,1.3s,SNR=7.5
NWAO Narrogin (SRO) 70.22 199 *e*P **P 20 18 16.8 -0.8**
NWAO Narrogin (SRO) 70.22 199 P **P 20 18 16.2 -1.4**
comp=Z,116nm,0.7s,baz=14,slow=7.2,SNR=33
IPAR Pars 70.23 293 *e*P **P 20 18 18.1 -0.2**
ISRB Sarab 70.27 303 *e*P **P 20 18 18.4 +0.1**
HATD Hatta, Dubai 70.32 287 P **P 20 18 18.9 +0.3**
SNR=8.3
TBLG Delisi 70.34 308 *e*P **P 20 18 19.2 +0.7**
TBLG Delisi 70.34 308 P **P 20 18 19.2 +0.7**
ZEI Tsey 70.37 309 *e*P **P 20 18 16.0 -2.8**
ZEI pmax pmax
comp=Z,343nm,1.5s
ISRV Sarvestan 70.41 293 *e*P **P 20 18 19.4 0.0**
ASHO Ashiyiah 70.44 287 P **P 20 18 19.7 +0.3**
SNR=8.6
IHRS Heris 70.46 303 *e*P **P 20 18 19.1 -0.4**
BSY Bisya 70.51 285 P **P 20 18 20.4 +0.6**
SNR=11
KBZ Khabaz 70.54 310 P **P 20 18 19.9 +0.3**
KBZ Khabaz 70.54 310 P **P 20 18 19.9 +0.3**
KBZ Khabaz 70.54 310 P **P 20 18 19.9 +0.3**
comp=Z,337nm,1.0s,baz=68,slow=4.3,SNR=44
KIV Kislovodsk 70.56 310 *e*P **P 20 18 20.1 +0.2**
KIV pmax pmax
comp=Z,925nm,1.1s
KIV Kislovodsk 70.56 310 P **P 20 18 20.5 +0.6**
comp=Z,4μm,1.2s,SNR=31
NAZ Nazwa, Dubai 70.61 287 P **P 20 18 20.9 +0.6**
SNR=5.8
MOR8 Moi Rana 70.64 339 *e*P **P 20 18 18.4 -1.4**
MOR8 AMB AMB 20 18 20.6
comp=Z,744nm,1.6s
KZR Kazreti 70.73 307 P **P 20 18 21.1 +0.3**
ARQ Araqi 70.75 285 P **P 20 18 22.0 +0.8**
SNR=14
ONI Oni 70.75 309 P **P 20 18 21.7 +0.7**
KONS Konsvik 70.79 340 *e*P **P 20 18 21.8 +1.1**
FLOS Flostrand 70.84 340 *e*P **P 20 18 21.0 +0.1**
ASUD Al Ashush, Dub 71.05 287 P **P 20 18 23.2 +0.2**
SNR=6.6
ITBZ Tabriz 71.12 304 *e*P **P 20 18 23.1 -0.3**
GNI Garni 71.12 306 P **P 20 18 25.1 +1.7**
SNR=20
VSU Vasula 71.17 329 *c i*P **P 20 18 22.8 -0.3**
VSU pmax pmax
comp=Z,2μm,1.2s
AKH Akhalkalaki 71.31 308 P **P 20 18 26.0 +1.4**
ISHB Shabestar 71.46 304 *e*P **P 20 18 25.1 -0.5**
IAZR Azarshahr 71.51 303 *e*P **P 20 18 25.4 -0.5**
JNW Jan Mayen West 71.89 349 *e* **P 20 18 30.0 +2.8**
KEBM Edson Butte 72.01 50 *e*P **P 20 18 30.4 +1.8**
comp=Z,231nm,1.1s
IKOM Komasi 72.18 299 *e*P **P 20 18 28.6 -1.3**
ILIN Lien 72.20 300 *e*P **P 20 18 29.4 -0.7**
IVIS Veis 72.48 300 *e*P **P 20 18 30.6 -1.0**
NSS Namsos 72.54 339 *e*P **P 20 18 30.9 -0.3**
SOC Sochi 72.61 311 *e*P **P 20 18 29.4 -2.6**
SOC *e*S S 20 27 48.8 -6.3
SOC pmax pmax
comp=Z,399nm,1.1s
IDHR Dehrash 72.72 300 *e*P **P 20 18 30.8 -2.3**
IGHG Ghaleghazi 72.78 300 *e*P **P 20 18 32.8 -0.7**
SUMG Summit 72.93 359 *e*P **P 20 18 35.7 +1.8**
SUMG pmax pmax
comp=Z,231nm,1.0s
SUMG Summit 72.93 359 *i*P **P 20 18 34.8 +0.9**
comp=Z,161nm,0.9s
SUMG Summit 72.93 359 *e*P **P 20 18 35.7 +1.8**
comp=Z,231nm,1.0s
MICGM Minsk 73.01 325 *e*P **P 20 18 32.0 -2.2**
MNK Minsk 73.03 325 *e*P **P 20 18 32.0 -2.3**
MNK pmax pmax
comp=Z,1μm,1.0s
NACGM Naroch 73.28 326 *e*P **P 20 18 33.0 -2.8**
ANN Anapa 73.35 313 *e*P **P 20 18 33.7 -2.7**
ANN *e**PP **pP 20 18 44.9 0.0**
ANN *e* 20 18 49.7
ANN *e*S **S 20 27 59.9 -3.6**
ANN pmax pmax
comp=N,217nm,1.4s
ANN pmax pmax
comp=E,179nm,1.4s
ANN pmax pmax
comp=Z,868nm,1.4s
NEW Newport 73.42 42 P **P 20 18 38.7 +1.9**
NEW Newport 73.42 42 P **P 20 18 38.7 +1.9**
comp=Z,18nm,0.8s,baz=308,slow=11,SNR=3.7
NEW Newport 73.42 42 ⇓P **P 20 18 37.1 +0.3**
baz=73
KHMM Horse Mountain 73.43 52 *e*P **P 20 18 38.2 +1.0**
comp=Z,143nm,1.1s
YBH Yreka Blue Hor 73.63 50 *e*P **P 20 18 39.6 +1.4**
comp=Z,91nm,1.1s
YBH Yreka Blue Hor 73.63 50 P **P 20 18 38.9 +0.7**
comp=Z,35nm,0.9s,baz=309,slow=1.7,SNR=5.1
TBLU Trondheim 73.99 338 *e*P **P 20 18 38.6 -1.2**
SCO Scoresbysund 74.10 353 ⇑*i*P **P 20 18 41.1 +0.8**
SCO pmax pmax
comp=Z,45nm,1.0s
SCO Scoresbysund 74.10 353 ⇑*i*P **P 20 18 41.1 +0.8**
comp=Z,45nm,1.0s
KCPM Cahto Peak 74.15 53 *e*P **P 20 18 42.2 +0.8**
WDC Whiskeytown Da 74.35 51 *e*P **P 20 18 43.1 +0.7**
WDC pmax pmax
comp=Z,84nm,1.0s
WDC Whiskeytown Da 74.35 51 *e*P **P 20 18 43.1 +0.7**
comp=Z,84nm,1.0s
UMR Umm Al-Rimmam 74.39 295 *e*P **P 20 18 42.1 -0.6**
UMR AMb AMB 20 18 44.6
comp=Z,1μm,1.8s
AKASG Malin Array Be 74.60 321 P **P 20 18 43.0 -0.6**
AKASG Malin Array Be 74.60 321 P **P 20 18 43.0 -0.6**
AKASG Malin Array Be 74.60 321 P **P 20 18 43.0 -0.6**
comp=Z,170nm,0.9s,baz=46,slow=6.2,SNR=41
RDF Al-Radifah 74.83 295 *e*P **P 20 18 45.2 -0.2**
RDF AMb AMB 20 18 46.7
comp=Z,2μm,1.3s
NAY Al-Naaiem 74.89 295 *e*P **P 20 18 45.0 -0.7**
NAY AMb AMB 20 18 47.4
comp=Z,1μm,1.4s
A14A Double T Ranch 75.03 40 ⇓P **P 20 18 46.1 -0.2**
baz=75
SIM Simferopol' 75.24 315 *e*P **P 20 18 46.8 -0.6**
SIM *e* 20 18 53.0
SIM pmax pmax
comp=Z,281nm,0.8s
DOMB Dombas 75.27 338 *e*P **P 20 18 47.9 +0.6**
DOMB AMB AMB 20 18 49.5
comp=Z,288nm,1.4s
JTMT Jette 75.28 42 *e*P **P 20 18 49.6 +1.8**
comp=Z,58nm,1.0s
MOL Molde 75.32 339 *e*P **P 20 18 47.4 -0.1**
NB2 NORSAR Subarra 75.33 336 P **P 20 18 47.4 -0.3**
comp=Z,2μm,1.7s,baz=43,slow=5.9
NB2 NORSAR Subarra 75.33 336 P **P 20 18 47.4 -0.3**
baz=43,slow=5.9
NOA NORSAR Array B 75.33 336 P **P 20 18 47.1 -0.6**
NOA NORSAR Array B 75.33 336 P **P 20 18 47.1 -0.6**
comp=Z,108nm,0.8s,baz=44,slow=5.6,SNR=64
A15A Johnson Ranch, 75.39 40 ⇓P **P 20 18 48.6 +0.2**
baz=75
NC602 NORSAR Array S 75.44 336 *e*P **P 20 18 47.8 -0.5**
B14A Marquette Ranc 75.47 41 ⇓P **P 20 18 49.4 +0.5**
baz=75
SUW Suwalki 75.48 327 *e*P **P 20 18 48.1 -0.5**
SUW Suwalki 75.48 327 *e*P **P 20 18 48.1 -0.5**
SUW Suwalki 75.48 327 *e*P **P 20 18 47.9 -0.7**
NAO01 NORSAR Array S 75.58 336 *e*P **P 20 18 48.2 -0.8**
comp=Z,421nm,1.4s
RBK Rabkut 75.63 281 P **P 20 18 50.0 -0.2**
SNR=9.5
WVOR Wild Horse Val 75.79 48 *e*P **P 20 18 51.7 +0.9**
WVOR pmax pmax
comp=Z,89nm,0.9s
WVOR Wild Horse Val 75.79 48 *e*P **P 20 18 51.7 +0.9**
comp=Z,89nm,0.9s
B15A Bradely Ranch, 75.88 41 ⇓P **P 20 18 52.0 +0.9**
baz=76
SLMT Seeley Lake 76.01 42 *e*P **P 20 18 54.0 +2.0**
comp=Z,84nm,0.8s
A16A West Butte Ran 76.01 40 ⇓P **P 20 18 52.4 +0.5**
baz=76
BEKR Beckworth 76.14 51 *e*P **P 20 18 53.4 +0.5**
C15A Salmond Ranch, 76.18 41 ⇑P **P 20 18 53.4 +0.5**
baz=76
B16A M & M Farms, S 76.28 40 ⇓P **P 20 18 54.3 +0.9**
baz=76
OSL Oslo 76.31 336 *e*P **P 20 18 52.0 -1.2**
ABTO Aybut 76.44 282 P **P 20 18 54.6 -0.2**
SNR=15
A17A Triple J Farms 76.48 39 ⇑P **P 20 18 55.1 +0.5**
baz=76
C16A Fuhringer Ranc 76.63 41 ⇑P **P 20 18 55.6 +0.1**
baz=76
HYA Hoyanger 76.82 338 *e*P **P 20 18 56.5 +0.4**
B17A L&G Farms, Che 76.83 40 ⇑P **P 20 18 57.4 +0.9**
baz=77
PAHR Pah Rah Range 76.85 51 *e*P **P 20 18 57.0 +0.1**
comp=Z,118nm,1.0s
KONO Kongsberg 76.90 336 *e*P **P 20 18 56.1 -0.4**
KONO AMB AMB 20 18 58.5
comp=Z,328nm,1.8s
KONO Kongsberg 76.90 336 *e*P **P 20 18 56.2 -0.4**
KONO pmax pmax
comp=Z,578nm,1.8s
KONO Kongsberg 76.90 336 *e*P **P 20 18 56.2 -0.4**
comp=Z,578nm,1.8s
MFID Camas Ranch 76.92 46 ⇓P **P 20 18 57.7 +0.5**
baz=77
A18A Metzger Ranch, 76.94 39 ⇓P **P 20 18 58.0 +0.9**
baz=77
OUZ Omahuta 76.97 151 *e*P **P 20 18 58.9 +1.7**
KIS Kishinev 77.03 319 ⇑*i*P **P 20 18 56.0 -1.6**
comp=Z,700nm,1.5s
KIS Kishinev 77.03 319 *α i*P **P 20 18 56.0 -1.6**
KIS pmax pmax
comp=Z,700nm,1.5s
FCC Fort Churchill 77.08 25 *e*P **P 20 19 00.2 +2.6**
FCC Fort Churchill 77.08 25 *e*P **P 20 19 00.2 +2.6**
comp=Z,3.6nm,0.9s
CMB Columbia Colle 77.14 53 *e*P P 20 19 01.8 +3.4
CMB pmax pmax
comp=Z,187nm,1.3s
CMB Columbia Colle 77.14 53 *e*P P 20 19 01.8 +3.4
comp=Z,187nm,1.3s
C17A Wharram Farm, 77.26 40 ⇓P **P 20 18 59.1 +0.2**
baz=77
B18A Beardsley Farm 77.31 39 ⇑P **P 20 19 00.1 +0.9**
baz=77
SUE Sulen 77.34 339 *e*P **P 20 18 59.4 +0.4**
LRM Limekiln Ridge 77.44 43 *e*P **P 20 19 01.2 +1.0**
A19A Klindworth Far 77.51 39 ⇑P **P 20 19 01.5 +1.2**
baz=77
EGMT Eagleton 77.55 40 ⇑P **P 20 19 01.4 +0.9**
baz=77
D17A Six Diamond Ra 77.59 41 ⇑P **P 20 19 01.3 +0.4**
baz=78
IAS Iasi 77.59 319 ⇓P **P 20 19 00.7 0.0**
IAS Iasi 77.59 319 ⇓*i*P **P 20 19 00.6 -0.1**
ASK Askoy 77.66 338 *e*P **P 20 19 00.1 -0.7**
ASK AMB AMB 20 19 02.7
comp=Z,587nm,1.4s
RUND Rundenannen 77.66 338 *e*P **P 20 18 59.8 -1.1**
RUND AMB AMB 20 19 02.7
comp=Z,592nm,1.4s
LEOM Leova 77.67 318 ⇓P **P 20 19 01.3 +0.2**
LEOM Leova 77.67 318 ⇓*i*P **P 20 19 01.3 +0.2**
ODD1 Odda 77.67 337 *e*P **P 20 19 01.2 +0.3**
ODD1 AMB AMB 20 19 03.6
comp=Z,430nm,1.4s
HLID Hailey 77.67 45 ⇑P **P 20 19 01.9 +0.4**
baz=78
BER Bergen 77.70 338 *e*P **P 20 19 00.3 -0.7**

B19A Brinkman Farms 77.70 39 ⇑P P 20 19 02.3 +0.9
baz=78
BMN Battle Mountai 77.80 49 eP P 20 19 03.8 +1.5
BMN pmax pmax
comp=Z,108nm,1.0s
BMN Battle Mountai 77.80 49 eP P 20 19 03.8 +1.5
comp=Z,108nm,1.0s
EGD Espegrend 77.82 338 eP P 20 19 00.7 -0.9
EGD AMB AMB 20 19 03.1
comp=Z,502nm,1.1s
E17A Martinsdale 77.92 41 ⇑P P 20 19 03.6 +0.7
baz=78
A20A Cobblestone Ra 77.95 38 ⇑P P 20 19 04.0 +1.2
baz=78
BEL Belsk 78.00 326 eP P 20 19 03.1 +0.2
BOZ Bozeman (W) 78.00 42 eP P 20 19 03.8 +0.6
BOZ pmax pmax
comp=Z,67nm,1.1s
BOZ Bozeman (W) 78.00 42 eP P 20 19 03.8 +0.6
comp=Z,67nm,1.1s
I14A Mackay 78.01 45 ⇑P P 20 19 05.5 +2.2
baz=78
D18A Linhart Farms, 78.04 40 ⇑P P 20 19 04.9 +1.5
baz=78
C19A Slack Wire Ran 78.10 40 ⇓P P 20 19 03.8 +0.2
baz=78
BLS5 Blasjo 78.10 337 eP P 20 19 04.0 +0.6
BLS5 AMB AMB 20 19 07.3
comp=Z,494nm,1.2s
TLCR 78.14 317 ⇑P P 20 19 04.0 +0.2
TLCR 78.14 317 ⇑iP P 20 19 04.0 +0.2
B20A Solberg Farm, 78.19 39 ⇑P P 20 19 05.0 +0.9
baz=78
PRAR RASCA 78.20 320 ⇑iP P 20 19 03.8 -0.3
NVAR Mina Array Bea 78.27 51 P P 20 19 05.5 +0.6
NVAR Mina Array Bea 78.27 51 P P 20 19 05.5 +0.6
comp=Z,39nm,0.9s,baz=300,slow=4.8,SNR=5.1
BSD Bornholm Skovb 78.28 331 ⇑iP P 20 19 03.7 -0.6
BSD pmax pmax
comp=Z,98nm,0.9s
BSD Bornholm Skovb 78.28 331 ⇑iP P 20 19 03.7 -0.6
comp=Z,98nm,0.8s
HOMB Homborsund 78.32 336 eP P 20 19 04.0 -0.5
SFJD Kangerlussuaq 78.32 4 iP P 20 19 04.6 +0.2
comp=Z,46nm,0.8s
SFJD Kangerlussuaq 78.32 4 eP P 20 19 03.1 -1.2
SFJD Kangerlussuaq 78.32 4 P P 20 19 04.0 -0.3
comp=Z,27nm,0.6s,baz=26,slow=4.1,SNR=9.6
E18A Harlowton 78.37 41 ⇓P P 20 19 06.4 +1.1
baz=78
F17A Fitzpatrick Pl 78.38 42 ⇑P P 20 19 06.1 +0.8
baz=78
MLAC Mammoth Lakes 78.38 52 ⇓P P 20 19 05.7 +0.1
baz=78
A21A Bergtoll Ranch 78.39 38 ⇑P P 20 19 05.7 +0.5
baz=78
TESR Tescani 78.51 319 ⇓iP P 20 19 06.1 +0.3
CFR Carcaliu 78.52 317 ⇓P P 20 19 05.9 0.0
CFR Carcaliu 78.52 317 ⇓iP P 20 19 05.9 0.0
BR131 Keskin Array S 78.53 310 eP P 20 19 06.0 -0.3
comp=Z,186nm,1.1s
BRTR Keskin Array B 78.53 310 P P 20 19 06.4 +0.1
BRTR Keskin Array B 78.53 310 P P 20 19 06.4 +0.1
comp=Z,130nm,1.0s,baz=99,slow=3.9,SNR=59
KWP Kalwaria Pacla 78.54 323 ⇓P P 20 19 06.8 +0.8
KWP Kalwaria Pacla 78.54 323 ⇓iP P 20 19 06.8 +0.8
KWP Kalwaria Pacla 78.54 323 eP P 20 19 06.2 +0.3
KWP Kalwaria Pacla 78.54 323 eP P 20 19 06.5 +0.5
BURAR Bucovina Array 78.57 321 ⇓P P 20 19 06.6 +0.3
BURAR Bucovina Array 78.57 321 ⇓iP P 20 19 06.6 +0.3
GKP Gorka Klasztor 78.61 328 eP P 20 19 06.1 -0.1
C20A Veseth Ranch, 78.66 39 ⇓P P 20 19 06.5 -0.2
baz=78
PETR Petresti 78.69 318 ⇓iP P 20 19 08.4 +1.6
G17A Pierce Place, 78.69 42 ⇓P P 20 19 08.2 +1.1
baz=79
SNART Snartemo 78.70 336 eP P 20 19 06.7 +0.1
B21A Ellsworth Farm 78.71 38 ⇓P P 20 19 07.8 +0.9
baz=79
TIRR Tirgusor 78.81 317 eP P 20 19 07.7 +0.2
TIRR pmax pmax
comp=Z,213nm,1.4s
TIRR Tirgusor 78.81 317 ⇓iP P 20 19 07.7 +0.2
TIRR Tirgusor 78.81 317 eP P 20 19 07.7 +0.2
comp=Z,213nm,1.4s
COP Copenhagen 78.84 332 ⇑iP P 20 19 07.3 -0.1
COP pmax pmax
comp=Z,76nm,0.9s
COP Copenhagen 78.84 332 ⇑iP P 20 19 07.3 -0.1
comp=Z,76nm,0.8s
VRI Vrincioaia 78.87 319 ⇓P P 20 19 08.1 +0.3
VRI Vrincioaia 78.87 319 ⇓iP P 20 19 08.1 +0.3
F18A Big Timber 78.89 41 ⇓P P 20 19 08.9 +0.8
baz=79
A22A Carney Farms, 78.89 37 ⇓P P 20 19 07.8 -0.2
baz=79
PLOR Plostina 78.92 319 ⇑P P 20 19 08.9 +0.7
PLOR Plostina 78.92 319 ⇑iP P 20 19 08.9 +0.7
ANTO Ankara 78.97 311 ⇓P P 20 19 09.4 +0.8
ANTO Ankara 78.97 311 P P 20 19 09.5 +0.8
SNR=13
ANTO Ankara 78.97 311 ⇓iP P 20 19 09.4 +0.8
ANTO Ankara 78.97 311 eP P 20 19 09.0 +0.4
comp=Z,784nm,1.7s
D20A Manuel Ranch, 78.99 40 ⇑P P 20 19 10.4 +1.9
baz=79
GRER 79.04 318 ⇓iP P 20 19 10.6 +1.8
E19A Rath Farm, Rou 79.04 40 ⇓P P 20 19 09.4 +0.5
baz=79
TIN Tinemaha 79.11 52 ⇓P P 20 19 09.7 +0.2
baz=79
I16A Newdale 79.17 44 ⇓P P 20 19 10.8 +1.1
baz=79
LLD Lille Linde 79.18 332 iP P 20 19 09.3 0.0
LLD pmax pmax
comp=Z,99nm,0.8s
LLD Lille Linde 79.18 332 iP P 20 19 09.3 0.0
comp=Z,99nm,0.8s
KOLS Kolonicke sedl 79.22 323 eP P 20 19 09.5 -0.2
KOLS pmax pmax
comp=Z,62nm,1.2s
KOLS Kolonicke sedl 79.22 323 eP P 20 19 09.5 -0.2
KOLS e 20 34 54.0
KOLS e 20 35 23.3
VES Vestal, Richgr 79.24 54 ⇓P P 20 19 10.1 +0.1
baz=79
RAYN Ar Rayn 79.27 291 P P 20 19 10.0 -0.4
comp=Z,2µm,1.4s,SNR=26
RAYN Ar Rayn 79.27 291 eP P 20 19 10.3 -0.2
comp=Z,1µm,1.6s
PKM Peak Mountain 79.29 55 ⇓P P 20 19 11.1 +0.6
baz=79
B22A Reddig Ranch S 79.31 38 ⇑P P 20 19 11.1 +0.8
baz=79
AMRR Amara 79.32 317 ⇑P P 20 19 11.5 +1.2
AMRR Amara 79.32 317 ⇑iP P 20 19 11.5 +1.2
RGN Rugen 79.33 331 eP P 20 19 09.2 -0.9
PGOR Pogoanele 79.33 318 ⇑iP P 20 19 11.8 +1.5
F19A Roth Farm, Mol 79.34 41 ⇓P P 20 19 11.0 +0.5
baz=79
H17A Grant Village 79.36 43 ⇑P P 20 19 11.5 +0.6
baz=79
E20A Meyer Farm, Mu 79.37 40 ⇓P P 20 19 10.8 +0.1
baz=79
STHS Stebnicka Huta 79.40 324 eP P 20 19 11.0 +0.3
STHS pmax pmax
comp=Z,103nm,1.5s
STHS Stebnicka Huta 79.40 324 eP P 20 19 11.0 +0.3
STHS e 20 35 03.3
STHS e 20 35 35.8
UZH Uzhgorod 79.41 323 eP P 20 19 07.3 -3.4
A23A Redstone 79.43 37 ⇑P P 20 19 11.7 +0.9
baz=79
ISR Istrita 79.44 318 ⇓P P 20 19 12.1 +1.1
ISR Istrita 79.44 318 ⇓iP P 20 19 12.1 +1.1
MUD Monsted U'grnd 79.47 334 ⇑iP P 20 19 10.7 -0.2
MUD pmax pmax
comp=Z,140nm,1.0s
MUD Monsted U'grnd 79.47 334 ⇑iP P 20 19 10.7 -0.2
comp=Z,145nm,0.9s
FRB Frobisher Bay 79.50 12 P P 20 19 11.0 +0.1
FRB Frobisher Bay 79.50 12 P P 20 19 11.0 +0.1
comp=Z,89nm,0.9s,baz=350,slow=6.1,SNR=13
DOPR Dopca 79.53 319 ⇑iP P 20 19 12.8 +1.3
BORG Borgarnes 79.55 351 P P 20 19 13.0 +1.9
comp=Z,644nm,1.0s,SNR=8.7
BORG Borgarnes 79.55 351 P P 20 19 11.6 +0.4
BORG Borgarnes 79.55 351 P P 20 19 11.6 +0.4
comp=Z,74nm,0.9s,baz=1.7,slow=2.2,SNR=17
OJC Ojcow 79.55 325 eP P 20 19 11.8 +0.3
OJC Ojcow 79.55 325 eP P 20 19 11.6 +0.1
comp=Z,270nm,1.1s
CWC Cottonwood Cre 79.56 53 ⇑P P 20 19 12.9 +0.9
baz=80
RRI2 Red Ridge 79.59 44 eP P 20 19 08.4 -3.8
comp=Z,88nm,1.1s
D21A La Casta Ranch 79.60 39 ⇓P P 20 19 12.4 +0.5
baz=80
SBC Santa Barbara 79.62 55 ⇑P P 20 19 13.6 +1.5
baz=80
CRVS Cervenica-Dubn 79.64 323 eP P 20 19 12.2 +0.2
CRVS pmax pmax
comp=Z,161nm,1.5s
CRVS Cervenica-Dubn 79.64 323 eP P 20 19 12.2 +0.2
CRVS e 20 34 53.8
I17A Pilgrim Ck. 79.66 43 ⇑P P 20 19 12.4 0.0
baz=80
GRAC Grapevine Rang 79.70 52 ⇓P P 20 19 12.9 +0.3
baz=80
B23A Brockton 79.70 37 ⇓P P 20 19 12.5 +0.1
baz=80
HVU Hansel Valley 79.70 46 eP P 20 19 13.0 +0.3
HVU pmax pmax
comp=Z,70nm,0.9s
HVU Hansel Valley 79.70 46 eP P 20 19 12.9 +0.3
comp=Z,70nm,0.9s
C22A Vida 79.73 38 ⇓P P 20 19 12.7 +0.1
baz=80
ISA Isabella 79.75 54 ⇑P P 20 19 13.6 +0.6
baz=80
SECR 79.75 318 ⇑iP P 20 19 13.6 +0.9
LRW Lerwick 79.78 341 eP P 20 19 11.8 -0.6
LRW AMB AMB 20 19 15.0
comp=Z,227nm,1.2s
F20A Billings 79.81 41 ⇓P P 20 19 13.2 +0.1
baz=80
ARVC Arvin 79.82 54 ⇓P P 20 19 14.0 +0.8
baz=80
NIE Niedzica 79.85 324 eP P 20 19 15.6 +2.5
SULR 79.88 318 ⇓iP P 20 19 14.1 +0.8
A24A Westby 79.89 36 ⇑P P 20 19 13.8 +0.5
baz=80
E21A Keefer Ranch, 79.90 40 ⇓P P 20 19 14.3 +0.8
baz=80
D22A Cohagen 79.97 39 ⇑P P 20 19 14.3 +0.5
baz=80
CJR Cluj-Napoca 80.00 321 ⇑iP P 20 19 15.1 +1.1
ZALF Zalf 80.02 303 eP P 20 19 15.8 +1.5
ZALF Zalf 80.02 303 eP P 20 19 15.8 +1.5
SNR=97
C23A Lambert 80.05 38 ⇑P P 20 19 14.7 +0.5
baz=80
R11A Troy Canyon, C 80.05 50 ⇓P P 20 19 15.4 +0.8
baz=80
VOIR 80.05 319 ⇓P P 20 19 14.8 +0.4
VOIR 80.05 319 ⇓iP P 20 19 14.8 +0.4
DGMT Dagmar 80.09 37 ⇓P P 20 19 15.0 +0.5
baz=80
MPMC Manual Prospec 80.17 53 ⇓P P 20 19 16.2 +0.8
baz=80
MTUR Matau 80.18 319 ⇓P P 20 19 16.0 +0.9
MTUR Matau 80.18 319 ⇓iP P 20 19 16.0 +0.9
BLG Laguna Peak 80.25 55 ⇑P P 20 19 15.3 -0.3
baz=80
A25A Svangstu Ranch 80.31 36 ⇑P P 20 19 15.4 -0.2
baz=80
F21A Absaloka Mine, 80.34 40 ⇑P P 20 19 16.7 +0.8
baz=80
FURC Furnace Creek, 80.34 52 ⇓P P 20 19 16.7 +0.8
baz=80
LRMC Laurel Mountai 80.38 53 ⇓P P 20 19 17.7 +1.3
baz=80
TOTH TOTAH 80.39 304 eP P 20 19 16.7 +0.3
TOTH TOTAH 80.39 304 eP P 20 19 16.7 +0.3
SNR=100
QASN Qassioun 80.39 304 eP P 20 19 13.2 -3.2
QASN Qassioun 80.39 304 eP P 20 19 13.2 -3.2
SNR=98
KECS Kecovo 80.40 323 eP P 20 19 15.6 -0.5
KECS pmax pmax
comp=Z,33nm,1.2s
KECS Kecovo 80.40 323 eP P 20 19 15.6 -0.5
KECS e 20 35 11.3
DRGR 80.41 321 ⇑P P 20 19 16.6 +0.3
DRGR 80.41 321 ⇑iP P 20 19 16.6 +0.3
D23A Lindsay 80.45 38 ⇓P P 20 19 16.6 +0.1
baz=80
EDW2 Edwards Air Fo 80.53 54 ⇓P P 20 19 17.4 +0.3
baz=80
SALA Sala 80.55 303 eP P 20 19 18.5 +1.1
SALA Sala 80.55 303 eP P 20 19 18.5 +1.1
SNR=97
E22A Miles City 80.56 39 ⇓P P 20 19 17.5 +0.5
baz=80
OKC Ostrava-Krasne 80.59 325 eP P 20 19 16.9 -0.2
OKC e 20 19 24.7
OKC Ostrava-Krasne 80.59 325 eP P 20 19 16.9 -0.2
OKC ePCP PcP 20 19 24.7 +0.8
C24A Savage 80.61 38 ⇑P P 20 19 16.7 -0.6
baz=80
DUG Dugway 80.65 47 ⇓P P 20 19 18.2 +0.5
baz=80
DECC Green Verdugo 80.67 55 ⇓P P 20 19 18.5 +0.7
baz=81
HUMR Humele 80.67 318 ⇓iP P 20 19 17.4 -0.2
BRBR Barbar 80.68 304 eP P 20 19 20.1 +2.0
BRBR Barbar 80.68 304 eP P 20 19 20.1 +2.0
SNR=96
G21A Lodge Grass 80.68 41 ⇑P P 20 19 18.6 +0.8
baz=80
H20A Greybull 80.73 42 ⇓P P 20 19 17.5 -0.6
baz=81
KSP Ksiaz 80.73 327 eP P 20 19 17.3 -0.5
KSP Ksiaz 80.73 327 eP P 20 19 18.0 +0.2
LOT Lotru 80.73 320 ⇓iP P 20 19 18.5 +0.4
B25A Knox Farm, Ray 80.74 37 ⇑P P 20 19 17.7 -0.2
baz=81
E23A Ismay 80.85 39 ⇓P P 20 19 19.1 +0.5
baz=81
MWC Mount Wilson 80.86 55 eP P 20 19 21.3 +2.2
MWC Mount Wilson 80.86 55 eP P 20 19 21.3 +2.2
DEV Deva 80.91 320 ⇓P P 20 19 19.5 +0.7
DEV Deva 80.91 320 ⇓iP P 20 19 19.5 +0.7
MORC Moravsky Berou 80.91 326 eP P 20 19 19.0 +0.1
MORC pmax pmax
comp=Z,193nm,1.3s
MORC Moravsky Berou 80.91 326 eP P 20 19 19.0 +0.1
comp=Z,193nm,1.3s
J19A Crowheart 80.93 43 ⇓P P 20 19 20.0 +0.7
baz=81
D24A Glendive 80.94 38 ⇓P P 20 19 19.9 +0.8
baz=81
PDAR Pinedale Array 80.96 44 P P 20 19 19.2 -0.3
PDAR Pinedale Array 80.96 44 P P 20 19 19.2 -0.3
comp=Z,13nm,0.9s,baz=66,slow=1.1,SNR=3.6
BSEG Bad Segeberg 80.96 332 eP P 20 19 18.8 -0.1
comp=Z,336nm,1.2s
BSEG Bad Segeberg 80.96 332 eP P 20 19 18.8 -0.1
BSEG pmax pmax
comp=Z,336nm,1.2s
CTU Camp Tracy 80.98 46 eP P 20 19 21.8 +2.2
URZ Urewera 81.02 150 eP P 20 19 18.2 -1.0
comp=Z,179nm,1.3s
URZ Urewera 81.02 150 P P 20 19 17.6 -1.6
comp=Z,43nm,0.8s,baz=336,slow=3.8,SNR=11
PHNC Paralimni 81.04 306 P P 20 19 19.9 +0.1
SHOC Shoshone 81.06 52 ⇑P P 20 19 20.6 +0.7
baz=81
GSC Goldstone 81.06 53 ⇓P P 20 19 21.3 +1.3
baz=81
DPC Dobruska-Polom 81.07 327 eP P 20 19 19.9 +0.2
DPC Dobruska-Polom 81.07 327 eP P 20 19 19.9 +0.2
DPC Dobruska-Polom 81.07 327 eP P 20 19 19.3 -0.4
comp=Z,2µm,1.6s
C25A Freed Ranch, W 81.07 37 ⇑P P 20 19 20.9 +1.2
baz=81
PSZ Piszkesteto 81.07 323 ⇓P P 20 19 20.3 +0.5
PSZ Piszkesteto 81.07 323 ⇓iP P 20 19 20.3 +0.5
PSZ Piszkesteto 81.07 323 eP P 20 19 19.8 0.0
comp=Z,475nm,1.7s
UPC Upice 81.10 327 eP P 20 19 19.6 -0.2
UPC e 20 19 26.3
UPC Upice 81.10 327 eP P 20 19 19.6 -0.2
UPC ePCP PcP 20 19 26.3 +0.2
UPC esP sP 20 19 39.2 +7.7
TCHB Talchebab 81.10 304 eP P 20 19 21.2 +1.0
TCHB Talchebab 81.10 304 eP P 20 19 21.2 +1.0
SNR=94
CIS Catalina Islan 81.11 56 ⇑P P 20 19 20.2 0.0
baz=81
B26A Jensen Ranch, 81.12 36 ⇑P P 20 19 20.4 +0.4
baz=81
BFSC Mount Baldy Ra 81.12 54 ⇓P P 20 19 21.0 +0.6
baz=81
M17A Scullys Gap (B 81.14 45 ⇑P P 20 19 21.1 +0.7
baz=81
H21A Big Horn, Sher 81.16 41 ⇑P P 20 19 20.8 +0.4
baz=81
G22A Birney 81.18 40 ⇓P P 20 19 20.1 -0.3
baz=81
RRX Edison Barstow 81.19 54 ⇓P P 20 19 21.6 +1.1
baz=81
VYHS Vyhne 81.19 324 eP P 20 19 20.4 +0.1
VYHS pmax pmax
comp=Z,124nm,1.4s
VYHS Vyhne 81.19 324 eP P 20 19 20.4 +0.1
VYHS e 20 34 53.8
L18A Fontenelle, Gr 81.22 45 ⇑P P 20 19 21.2 +0.3
baz=81
GZR Gura Zlata 81.30 320 ⇓P P 20 19 21.2 +0.2
GZR Gura Zlata 81.30 320 ⇓iP P 20 19 21.1 +0.1
F23A Volborg 81.31 40 ⇑P P 20 19 21.9 +0.8
baz=81
E24A Baker 81.32 38 ⇓P P 20 19 21.9 +0.8
baz=81
K19A Absolon Red Bu 81.33 43 ⇓P P 20 19 21.4 0.0
baz=81
J20A Shoshoni 81.42 43 ⇑P P 20 19 22.5 +0.7
baz=81
MAMC Mammari 81.48 307 P P 20 19 20.9 -1.2
L19A Farson 81.50 44 ⇓P P 20 19 23.7 +1.4
baz=81
CSS Prodhromos 81.53 307 P P 20 19 20.6 -1.8
comp=Z,1.8nm,1.1s
CSS Prodhromos 81.53 307 eP P 20 19 22.3 -0.1
comp=Z,1µm,2.2s
I21A Big Trails, Te 81.56 42 ⇑P P 20 19 24.0 +1.4
baz=81
C26A Wahner Farm, P 81.56 36 ⇑P P 20 19 22.8 +0.5
baz=81
TUQ Turquoise Moun 81.56 53 ⇓P P 20 19 23.6 +0.9
baz=82
ISP Isparta 81.62 310 ⇓P P 20 19 22.7 -0.2
ISP Isparta 81.62 310 ⇓iP P 20 19 22.7 -0.2
ISP Isparta 81.62 310 eP P 20 19 22.2 -0.7
comp=Z,297nm,1.7s
HEC Hector,Ludlow 81.66 53 ⇑P P 20 19 23.4 +0.2
baz=82
G23A Biddle 81.67 40 ⇑P P 20 19 23.4 +0.4
baz=82
PVCC Panska Ves 81.72 328 eP P 20 19 23.4 +0.3
PVCC Panska Ves 81.72 328 eP P 20 19 23.4 +0.3
F24A Ekalaka 81.73 39 ⇓P P 20 19 24.1 +0.8
baz=82
BRG Berggiesshubel 81.75 328 iP P 20 19 22.9 -0.3
comp=Z,230nm,1.5s
BRG i PP PP 20 22 20.1 -10
comp=Z,85nm,1.4s
BRG Berggiesshubel 81.75 328 eP P 20 19 23.3 +0.1
comp=Z,42nm,1.0s
BRG Berggiesshubel 81.75 328 iP P 20 19 22.9 -0.3
BRG pmax pmax
comp=Z,230nm,1.5s
BZS Buzias 81.76 321 ⇓P P 20 19 23.2 -0.1
BZS Buzias 81.76 321 ⇓iP P 20 19 23.2 -0.1
J21A Lysite 81.78 42 ⇑P P 20 19 24.4 +0.7
baz=82
MURC Murrieta 81.81 55 ⇑P P 20 19 24.2 +0.3
baz=82
E25A Miller Ranch, 81.82 38 ⇑P P 20 19 24.6 +0.8
baz=82
CLL Collm 81.83 329 eP P 20 19 23.2 -0.4
comp=Z,108nm,0.9s
CLL Collm 81.83 329 ⇑iP P 20 19 23.2 -0.4
CLL i 20 19 33.1
CLL pmax pmax
comp=Z,234nm,1.1s
CLL Collm 81.83 329 ⇑iP P 20 19 23.2 -0.4
comp=Z,234nm,1.1s
CLL i (pP) pP 20 19 33.1 +0.9
comp=Z,224nm,1.1s
SMOL Smolenice 81.85 325 eP P 20 19 23.5 -0.3
SMOL Smolenice 81.85 325 eP P 20 19 23.5 -0.3
SMOL e 20 35 21.2
ALFC Alevga 81.90 307 P P 20 19 22.9 -1.4
comp=Z,1.5nm,0.7s
C27A Sayler Ranch, 81.93 36 ⇓P P 20 19 24.7 +0.4
baz=82
D26A Manning 81.94 37 ⇑P P 20 19 24.5 +0.1
baz=82
I22A 9 Mile Ranch, 81.95 41 ⇓P P 20 19 24.6 0.0
baz=82
M19A Rock Springs 81.99 45 ⇑P P 20 19 25.3 +0.3
baz=82
G24A Alzada 82.09 39 ⇑P P 20 19 26.0 +0.7
baz=82
PRA Prague 82.12 327 P P 20 19 25.0 -0.1
PRU Pruhonice 82.13 327 eP P 20 19 24.5 -0.7
PRU e 20 19 34.0
PRU Pruhonice 82.13 327 eP P 20 19 24.5 -0.7
PRU ex x 20 19 34.0
GMRC Granite Mounta 82.13 53 ⇑P P 20 19 25.9 +0.2
baz=82
NRDL Niedersach Rie 82.14 331 eP P 20 19 24.6 -0.5
comp=Z,50nm,1.0s
L20A Wamsutter 82.14 44 ⇓P P 20 19 25.7 -0.1
baz=82
AKMC Akamas 82.15 307 P P 20 19 24.9 -0.8
F25A Bowman 82.19 38 ⇓P P 20 19 25.8 +0.1
baz=82
TREC Trest 82.20 326 eP P 20 19 25.5 -0.2
TREC Trest 82.20 326 eP P 20 19 25.5 -0.2
PPCY Paphos 82.23 307 P P 20 19 25.4 -0.6
ZST Bratislava 82.23 325 eP P 20 19 25.8 0.0
ZST Bratislava 82.23 325 eP P 20 19 25.8 0.0
J22A Midwest 82.26 42 ⇓P P 20 19 25.9 -0.4
baz=82
109C Camp Elliot, M 82.29 55 ⇓P P 20 19 27.1 +0.7
baz=82
PFO Pinyon Flat Ob 82.30 54 P P 20 19 27.1 +0.5
PFO Pinyon Flat Ob 82.30 54 P P 20 19 27.1 +0.5
comp=Z,40nm,1.0s,baz=262,slow=3.0,SNR=3.9
PFO Pinyon Flat Ob 82.30 54 ⇑P P 20 19 27.1 +0.5
baz=82
E26A Carlson Angus 82.32 38 ⇓P P 20 19 26.4 +0.1
baz=82
D27A Center 82.34 37 ⇓P P 20 19 26.9 +0.4
baz=82
K21A Alcova 82.35 43 ⇑P P 20 19 27.8 +1.0
baz=82
BELC Belle Mtn. Jos 82.37 54 ⇓P P 20 19 27.9 +0.9
baz=82
H24A Dirks Ranch, A 82.41 40 ⇑P P 20 19 28.0 +1.1
baz=82
Q16A Castle Valley 82.44 48 ⇓P P 20 19 28.7 +1.4
baz=82
MVH1 Achvaich 82.48 341 ⇑eP P 20 19 26.4 -0.5
MCD Coleburn Disti 82.52 340 ⇑eP P 20 19 25.9 -1.2
RDO Rodhopi 82.54 315 eP P 20 19 27.7 +0.2
M20A Sweetwater, Wa 82.56 44 ⇓P P 20 19 28.6 +0.6
baz=82
F26A Lodgepole 82.64 38 ⇓P P 20 19 29.2 +1.1
baz=82
G25A Newell 82.70 39 ⇑P P 20 19 29.2 +0.8
baz=83
BAR Barrett 82.71 55 eP P 20 19 29.0 +0.4
comp=Z,68nm,0.9s
L21A Rawlins 82.72 43 ⇑P P 20 19 30.4 +1.7
baz=83
TANN Tannenbergstha 82.72 329 eP P 20 19 28.1 -0.3
comp=Z,27nm,1.1s
MDND Maddock 82.75 35 ⇑P P 20 19 29.7 +1.1
baz=83
MONP Monument Peak 82.75 55 ⇑P P 20 19 29.5 +0.4
baz=83
O19A Miners Draw (B 82.78 45 ⇓P P 20 19 28.4 -0.7
baz=83

E27A **Carson** 82.79 37 ⇑P P 20 19 30.3 +1.5
baz=83
NEE2 **Needles Airpor** 82.82 53 ⇓P P 20 19 30.2 +1.0
baz=83
IRM **Iron Mountain** 82.84 53 ⇑P P 20 19 29.6 +0.3
baz=83
NKC **Novy Kostel** 82.86 328 eP P 20 19 28.1 -1.0
NKC e 20 19 37.0
NKC **Novy Kostel** 82.86 328 eP P 20 19 28.1 -1.0
NKC ex x 20 19 37.0
PKSM **Moragy** 82.87 323 ⇑P P 20 19 28.5 -0.6
PKSM **Moragy** 82.87 323⇑iP P 20 19 28.5 -0.6
DRUM **Mains of Drumt** 82.88 340⇑eP P 20 19 27.9 -1.1
MOX **Moxa** 82.91 329 eP P 20 19 29.1 -0.2
comp=Z,40nm,1.0s
MOX **Moxa** 82.91 329 eP P 20 19 29.1 -0.2
MOX pmax pmax
comp=Z,40nm,1.0s
VTS **Vitosha** 82.91 318 ⇑P P 20 19 30.0 +0.3
VTS **Vitosha** 82.91 318⇑iP P 20 19 30.0 +0.3
BC3 **Big Chuckawall** 82.94 54 ⇓P P 20 19 30.1 +0.2
baz=83
N20A **Spence Gulch,** 82.94 45 ⇓P P 20 19 29.9 -0.1
baz=83
MDO **Dochfour** 82.95 341⇑eP P 20 19 28.1 -1.2
F27A **Lemmon** 82.95 38 ⇑P P 20 19 30.1 +0.4
baz=83
M21A **Separation Pea** 82.95 44 ⇑P P 20 19 30.6 +0.6
baz=83
I24A **Kuemmerle Ranc** 82.97 41 ⇓P P 20 19 28.5 -1.4
baz=83
H25A **Fruitdale** 83.00 39 ⇑P P 20 19 30.7 +0.8
baz=83
CONA **Conrad Observa** 83.01 325⇑iP P 20 19 30.5 +0.5
comp=Z,345nm,1.5s,SNR=16
G26A **Maurine** 83.06 38 ⇓P P 20 19 30.3 +0.1
baz=83
W13A **Hualapai Mount** 83.10 52 ⇑P P 20 19 31.6 +0.7
baz=83
DVTC **Desert V Tower** 83.11 55 ⇓P P 20 19 31.7 +1.0
baz=83
SWSC **Sam W. Stewart** 83.14 55 ⇑P P 20 19 31.2 +0.4
baz=83
KAC **Achnashellach** 83.15 341⇑eP P 20 19 29.7 -0.7
KHC **Kasperske Hory** 83.18 327 eP P 20 19 30.4 -0.4
KHC e 20 19 38.1
KHC **Kasperske Hory** 83.18 327 eP P 20 19 30.4 -0.4
KHC ex x 20 19 38.1
KHC **Kasperske Hory** 83.18 327 eP P 20 19 30.2 -0.5
comp=Z,335nm,1.6s
L22A **Ellis Ranch, M** 83.20 43 ⇑P P 20 19 32.2 +1.0
baz=83
IBBN **Ibbenburen** 83.20 332 eP P 20 19 30.1 -0.6
comp=Z,102nm,0.9s
P19A **Cripple Cowboy** 83.30 46 ⇑P P 20 19 32.1 +0.3
baz=83
U15A **North Rim** 83.30 50 ⇑P P 20 19 33.2 +1.3
baz=83
J24A **Dixon Ranch, L** 83.31 41 ⇑P P 20 19 32.4 +0.7
baz=83
ROTZ **Rotzenmuhle** 83.32 328 eP P 20 19 31.7 +0.3
comp=Z,222nm,1.4s
GEC2 **GERESS Array S** 83.34 327 eP P 20 19 31.2 -0.5
comp=Z,54nm,1.1s
GEC2 **GERESS Array S** 83.34 327 eP P 20 19 31.7 +0.1
GEC2 **GERESS Array S** 83.34 327 eP P 20 19 31.7 +0.1
GERES **GERESS Array B** 83.34 327 P P 20 19 30.6 -1.1
GERES **GERESS Array B** 83.34 327 P P 20 19 30.6 -1.1
comp=Z,28nm,0.9s,baz=39,slow=5.8,SNR=31
G27A **Dupree** 83.34 38 ⇑P P 20 19 32.1 +0.4
baz=83
I25A **Rochford** 83.34 40 ⇑P P 20 19 31.4 -0.5
baz=83
KPL **Plockton** 83.38 341 eP P 20 19 30.9 -0.7
KPL AMB AMB 20 19 35.5
comp=Z,227nm,1.2s
O20A **White River Ci** 83.41 45 ⇑P P 20 19 32.3 -0.1
baz=83
N21A **Black Mountain** 83.42 44 ⇓P P 20 19 32.0 -0.5
baz=83
H26A **Fairpoint** 83.43 39 ⇓P P 20 19 32.9 +0.8
baz=83
KSB **Sheil Bridge** 83.44 341⇑eP P 20 19 30.8 -1.0
UBBA **Unterbreizbach** 83.46 330 eP P 20 19 31.8 -0.2
comp=Z,380nm,1.8s
WET **Wettzell** 83.48 327 eP P 20 19 32.3 0.0
comp=Z,48nm,1.0s
WET **Wettzell** 83.48 327 eP P 20 19 32.3 0.0
WET pmax pmax
comp=Z,48nm,1.0s
Y12C **Blythe** 83.50 53 ⇑P P 20 19 33.0 +0.3
baz=83
M22A **Cedar Creek Ra** 83.52 43 ⇓P P 20 19 34.2 +1.3
baz=83
LIA **Limnos Island** 83.55 315 eP P 20 19 32.4 -0.4
L23A **Garrett** 83.55 42 ⇓P P 20 19 34.0 +0.9
baz=83
RPZ **Rata Peaks** 83.56 157 eP P 20 19 31.9 -0.6
RPZ **Rata Peaks** 83.56 157 P P 20 19 31.4 -1.1
comp=Z,32nm,0.9s,baz=181,slow=21,SNR=5.0
ELO **Logie Almond** 83.61 340⇑eP P 20 19 32.1 -0.7
K24A **Anderson Ranch** 83.63 41 ⇓P P 20 19 34.4 +1.0
baz=84
ARSA **Arzberg** 83.65 325⇑iP P 20 19 33.4 +0.2
comp=Z,216nm,1.7s,SNR=13
GLA **Glamis** 83.72 54 ⇓P P 20 19 34.9 +1.0
baz=84
P20A **De Beque** 83.73 46 ⇓P P 20 19 34.6 +0.7
baz=84
ESY **Stoneypath** 83.77 339⇑eP P 20 19 33.1 -0.5
H27A **Howes** 83.78 39 ⇓P P 20 19 33.7 -0.3
baz=84
I26A **New Underwood** 83.79 40 ⇑P P 20 19 34.4 +0.4
baz=84
GRF **Grafenberg Arr** 83.80 329 eP P 20 19 34.1 +0.2
comp=Z,198nm,1.0s
GRF **Grafenberg Arr** 83.80 329 eP P 20 19 34.1 +0.2
GRF pmax pmax
comp=Z,198nm,1.0s
GRFO **Grafenberg** 83.80 329 eP P 20 19 34.3 +0.4
GRFO pmax pmax
comp=Z,543nm,1.3s
GRFO **Grafenberg** 83.80 329 eP P 20 19 34.3 +0.4
comp=Z,543nm,1.3s
MOA **Molln** 83.81 326⇑iP P 20 19 34.1 +0.1
comp=Z,237nm,1.3s,SNR=9.9
WTSB **Winterswijk** 83.84 332 eP P 20 19 33.5 -0.5
comp=Z,1μm,2.2s
SMG **Samos** 83.97 312 eP P 20 19 34.8 -0.2
M23A **Laramie** 83.97 43 ⇓P P 20 19 36.2 +0.9
baz=84
N22A **Wattenberg Ran** 84.00 44 ⇑P P 20 19 36.3 +0.9
baz=84
CHOS **Chios island** 84.01 313 eP P 20 19 35.4 +0.1
EBL **Broad Law** 84.02 339⇑eP P 20 19 34.1 -0.8
EAB **Aberfoyle** 84.03 340⇑eP P 20 19 34.6 -0.4
G28A **Parade** 84.06 38 ⇓P P 20 19 35.8 +0.4
baz=84
BUG **Bochum--Univer** 84.07 332 eP P 20 19 34.4 -0.8
comp=Z,7μm,2.7s
ARG **Arkhangelos** 84.12 310 eP P 20 19 35.8 0.0
PV04 **Paradox Valley** 84.14 47 eP P 20 19 36.3 +0.2
Q20A **Ridgley Place,** 84.14 46 ⇓P P 20 19 36.0 0.0
baz=84
J26A **Sides Ranch, S** 84.17 40 ⇑P P 20 19 36.7 +0.7
baz=84
I27A **Quinn** 84.18 39 ⇓P P 20 19 36.8 +0.7
baz=84
N23A **Red Feather La** 84.23 43 ⇓P P 20 19 37.5 +0.9
baz=84
PLG **Polygyros** 84.25 316 eP P 20 19 36.3 -0.1
P21A **Newcastle** 84.27 45 ⇑P P 20 19 37.0 +0.2
baz=84
PERS **Pernice** 84.29 325 eP P 20 19 36.3 -0.2
H28A **Mission Ridge** 84.29 38 ⇓P P 20 19 37.7 +1.1
baz=84
SOKA **Soboth** 84.30 325 iP P 20 19 36.5 -0.1
comp=Z,406nm,1.0s,SNR=36
O22A **Kremmling** 84.37 44 ⇑P P 20 19 36.8 -0.6
baz=84
Y14A **Wickenburg** 84.38 52 ⇑P P 20 19 37.1 -0.1
baz=84
PGBU **Glenifferbraes** 84.40 340 eP P 20 19 35.6 -1.2
PGBU AMB AMB 20 19 38.3
comp=Z,274nm,1.6s
PAIG **Paliouri** 84.41 315 eP P 20 19 36.7 -0.4

WUAZ **Wupatki** 84.45 50 ⇑P P 20 19 38.1 +0.4
baz=84
GRG **Griva** 84.45 317 eP P 20 19 37.5 +0.1
ESK **Eskdalemuir** 84.46 339 P P 20 19 37.4 +0.3
comp=Z,420nm,1.1s,SNR=8.2
ESK **Eskdalemuir** 84.46 339 eP P 20 19 36.3 -0.8
ESK AMB AMB 20 19 36.6
comp=Z,382nm,1.8s
ESK **Eskdalemuir** 84.46 339 iP P 20 19 37.6 +0.5
ESK **Eskdalemuir** 84.46 339 eP P 20 19 37.1 0.0
comp=Z,195nm,1.5s
M24A **Cheyenne** 84.47 42 ⇑P P 20 19 38.7 +1.0
baz=84
K26A **Motz Farm, Whi** 84.53 41 ⇓P P 20 19 38.6 +0.7
baz=84
TNS **Taunus Mts** 84.55 330 eP P 20 19 37.4 -0.4
comp=Z,43nm,0.9s
TNS **Taunus Mts** 84.55 330 eP P 20 19 37.4 -0.4
TNS pmax pmax
comp=Z,43nm,0.9s
ECK **Cauldkaine Hil** 84.55 339⇑eP P 20 19 36.9 -0.7
RJOB **Jochberg** 84.56 327 eP P 20 19 37.9 0.0
comp=Z,124nm,0.9s
R20A **Redvale** 84.59 47 ⇑P P 20 19 39.4 +1.0
baz=84
113A **Mohawk Valley,** 84.60 54 ⇓P P 20 19 38.6 +0.3
baz=84
P22A **Eagle** 84.62 45 ⇑P P 20 19 39.5 +0.9
baz=84
ODZ **Otahua Downs** 84.63 158 eP P 20 19 38.7 +0.8
comp=Z,128nm,1.4s
Q21A **Lamborn Mesa,** 84.64 46 ⇑P P 20 19 40.3 +1.7
baz=84
OBKA **Obir** 84.65 325⇑iP P 20 19 37.8 -0.7
comp=Z,93nm,0.9s,SNR=8.4
I28A **Midland** 84.69 39 ⇑P P 20 19 38.6 +0.1
baz=84
O23A **Lake Granby, G** 84.70 44 ⇑P P 20 19 39.9 +0.8
baz=85
Z14A **Wintersburg** 84.78 53 ⇓P P 20 19 39.1 -0.1
baz=85
AOS **Alonnisos** 84.79 315 eP P 20 19 38.9 -0.2
KBA **Koelnbreinsper** 84.80 326 iP P 20 19 38.6 -0.7
comp=Z,282nm,1.7s,SNR=11
S20A **Disappointment** 84.83 47 ⇑P P 20 19 39.6 -0.1
baz=85
N24A **Carr** 84.87 43 ⇓P P 20 19 41.8 +2.0
baz=85
FUR **Furstenfeldbru** 84.92 328 eP P 20 19 39.4 -0.2
comp=Z,131nm,0.8s
FUR **Furstenfeldbru** 84.92 328 eP P 20 19 39.4 -0.2
FUR pmax pmax
comp=Z,131nm,0.8s
R21A **Cimarron** 84.96 46 ⇓P P 20 19 41.3 +0.9
baz=85
MYKA **Terra Mystica** 84.99 325 iP P 20 19 39.3 -0.8
comp=Z,297nm,1.8s,SNR=13
LJU **Ljubljana** 85.00 325 iP P 20 19 39.4 -0.7
Q22A **Cressed Butte,** 85.02 45 ⇑P P 20 19 42.6 +1.9
baz=85
BOJS **Bojanci** 85.04 324 eP P 20 19 39.6 -0.6
KESW **Keswick, Cumbr** 85.06 339 eP P 20 19 40.0 -0.2
KESW AMB AMB 20 19 45.4
comp=Z,393nm,2.9s
GCD **Castle Douglas** 85.06 339⇑eP P 20 19 39.2 -1.0
HPK **Haverah Park** 85.14 338 eP P 20 19 39.7 -0.9
HPK AMB AMB 20 19 41.8
comp=Z,279nm,1.4s
FNA **Florina** 85.14 317 eP P 20 19 40.1 -0.8
ISCO **Idaho Springs** 85.15 44 ⇑P P 20 19 40.4 -0.9
baz=85
APE **Apeiranthos** 85.18 312 ⇓P P 20 19 40.3 -0.9
APE **Apeiranthos** 85.18 312 eP P 20 19 40.1 -1.1
APE **Apeiranthos** 85.18 312 ⇓iP P 20 19 40.3 -0.9
BEBN **Eben Emael** 85.19 332 P P 20 19 40.2 -0.7
comp=Z,80nm,1.6s
MEM **Membach** 85.22 332 P P 20 19 40.4 -0.6
comp=Z,109nm,1.6s
O24A **Longmont** 85.24 44 ⇑P P 20 19 41.5 -0.1
baz=85
KZN **Kozani** 85.24 317 eP P 20 19 41.3 -0.2
S21A **Coal Bank Pass** 85.28 47 ⇓P P 20 19 41.5 -0.6
baz=85
GAL1 **Galloway** 85.28 340⇑eP P 20 19 40.5 -0.7
GAL1 AMB AMB 20 19 42.3
comp=Z,169nm,1.5s
P23A **Jefferson** 85.30 44 ⇑P P 20 19 42.9 +0.8
baz=85
N25A **Grover** 85.33 43 ⇑P P 20 19 42.6 +0.6
baz=85
JAVS **Javornik** 85.33 325 iP P 20 19 40.7 -1.1
STU **Stuttgart** 85.36 329 eP P 20 19 41.4 -0.4
comp=Z,116nm,1.0s
M26A **McRoberts Ranc** 85.40 42 ⇑P P 20 19 43.0 +0.7
baz=85
WATA **Walderalm** 85.41 327⇑iP P 20 19 41.5 -0.8
comp=Z,97nm,1.2s
L27A **T5 Ranch, Ells** 85.42 41 ⇓P P 20 19 43.4 +1.0
baz=85
ABTA **Abfaltersbach** 85.43 326⇑iP P 20 19 40.9 -1.4
comp=Z,156nm,1.1s,SNR=13
WTTA **Wattenberg** 85.44 327 iP P 20 19 42.0 -0.4
comp=Z,102nm,0.9s,SNR=5.7
K28A **Ten Mile Ranch** 85.49 40 ⇓P P 20 19 43.7 +1.0
baz=85
BRSD **Miller** 85.50 37 ⇑P P 20 19 44.0 +1.4
baz=85
PMOR **Pomariorio Ree** 85.52 112 eP P 20 19 44.3 +1.3
comp=Z,168nm,1.3s
TIR **Tirane** 85.59 318 eP P 20 19 43.2 +0.1
TIR pmax pmax
comp=Z,177nm,1.0s
TIR **Tirane** 85.59 318 eP P 20 19 43.2 +0.1
comp=Z,178nm,1.0s
THL **Klokotos Trika** 85.61 316 eP P 20 19 42.4 -0.8
TRI **Trieste** 85.61 325 eP P 20 19 42.1 -1.0
TRI pmax pmax
comp=Z,181nm,1.0s
TRI **Trieste** 85.61 325 eP P 20 19 42.1 -1.0
comp=Z,181nm,1.0s
MOTA **Moasalm** 85.62 327⇑iP P 20 19 42.7 -0.6
comp=Z,131nm,1.2s,SNR=11
LKR **Lokris** 85.65 315 eP P 20 19 42.1 -1.3
RETA **Reutte** 85.66 327⇑iP P 20 19 43.0 -0.4
comp=Z,290nm,1.6s,SNR=14
SANT **Santorini** 85.67 312 eP P 20 19 42.0 -1.6
U20A **Newcomb** 85.68 48 ⇑P P 20 19 43.1 -0.7
baz=86
KBI1 **Birley Grange** 85.71 337⇑eP P 20 19 42.5 -0.9
214A **Organ Pipe Nat** 85.74 54 ⇑P P 20 19 44.6 +0.6
baz=86
M27A **Reverse DX Ran** 85.77 41 ⇓P P 20 19 43.7 -0.4
baz=86
LANF **Langenberg** 85.78 330 eP P 20 19 43.0 -0.9
O25A **Wiggins** 85.78 43 ⇑P P 20 19 43.9 -0.4
baz=86
AGG **Agios Georgios** 85.79 315 eP P 20 19 42.5 -1.7
S22A **4UR Ranch, Cre** 85.80 46 ⇓P P 20 19 44.4 -0.2
baz=86
PPT **Papeete** 85.82 115 P P 20 19 45.5 +1.1
PPT **Papeete** 85.82 115 P P 20 19 45.5 +1.1
comp=Z,37nm,1.0s,baz=138,slow=5.5,SNR=3.7
T21A **Navajo Lake** 85.88 47 ⇑P P 20 19 44.1 -0.8
baz=86
WLF **Walferdange** 85.91 331 eP P 20 19 44.2 -0.3
comp=Z,154nm,1.2s
WLF **Walferdange** 85.91 331 eP P 20 19 43.8 -0.7
WLF **Walferdange** 85.91 331 eP P 20 19 43.8 -0.7
NAIG **Nisos Aigina** 85.95 314 eP P 20 19 43.2 -1.7
SNF **Seneffe** 85.96 333 P P 20 19 44.1 -0.6
Q24A **Divide** 85.97 44 ⇑P P 20 19 45.2 -0.3
baz=86
X18A **Snowflake** 85.97 50 ⇑P P 20 19 42.9 -2.5
baz=86
TIAR **Tiarei** 85.98 114 eP P 20 19 46.6 +1.3
comp=Z,82nm,0.9s
K29A **Lazy Trails An** 86.00 39 ⇑P P 20 19 43.1 -2.1
baz=86
FETA **Feichten** 86.03 327⇑iPcP P 20 19 44.9 -0.4
comp=Z,180nm,1.1s,SNR=8.6
BFO **Black Forest** 86.07 329 P P 20 19 44.0 -1.3
comp=Z,675nm,1.4s,SNR=15
BFO **Black Forest** 86.07 329 eP P 20 19 44.6 -0.7
comp=Z,58nm,0.9s
BFO **Black Forest** 86.07 329 eP P 20 19 44.6 -0.7
BFO pmax pmax
comp=Z,58nm,0.9s

BFO **Black Forest** 86.07 329 eP P 20 19 43.3 -2.1
comp=Z,456nm,1.6s
GIVF **Givet** 86.08 332⇑iP P 20 19 44.3 -1.0
comp=Z,387nm,1.2s
V20A **Brimhall** 86.08 49 ⇑P P 20 19 45.5 -0.4
baz=86
R23A **Moffat** 86.10 45 ⇑P P 20 19 46.9 +0.8
baz=86
O26A **Horse Wrangler** 86.14 43 ⇑P P 20 19 44.9 -1.1
baz=86
EVR **Evrytania** 86.16 316 eP P 20 19 45.5 -0.6
DOU **Dourbes** 86.17 332 P P 20 19 45.0 -0.8
comp=Z,98nm,2.1s
TVO **Taravao** 86.19 115 eP P 20 19 47.8 +1.4
comp=Z,150nm,1.4s
DAVA **Damuels** 86.20 328⇓iPcP P 20 19 45.7 -0.5
comp=Z,259nm,1.2s,SNR=9.5
T22A **Edith** 86.24 47 ⇓P P 20 19 47.3 +0.6
baz=86
DID **Didima** 86.27 314 eP P 20 19 43.9 -2.7
NPS **Neapolis** 86.30 311 eP P 20 19 46.1 -0.6
BAIF **Baives** 86.35 332⇑iP P 20 19 45.6 -1.0
comp=Z,227nm,1.2s
OGNE **Ogallala** 86.36 41 ⇓P P 20 19 47.7 +0.7
baz=86
WLS **Welschbruch** 86.41 330 eP P 20 19 45.1 -2.0
EFP **Efpalio** 86.43 315 eP P 20 19 47.9 +0.6
CDF **Champ du Feu** 86.44 330⇑iP P 20 19 46.4 -0.9
comp=Z,698nm,1.5s
WME **Mynydd Eilian** 86.44 339⇑eP P 20 19 46.2 -0.8
WPM1 **Penmaenmawr** 86.44 338⇑eP P 20 19 45.0 -2.1
LAST **Lasithi** 86.45 311 eP P 20 19 47.3 -0.2
R24A **Sanders Place,** 86.49 45 ⇓P P 20 19 46.3 -1.5
baz=86
GUR **Goura** 86.51 315 eP P 20 19 46.8 -1.0
LAKA **Lakka** 86.52 315 eP P 20 19 47.1 -0.7
Q25A **Bedland, Calha** 86.52 44 ⇑P P 20 19 48.2 +0.2
baz=86
FUORN **Ofenpass-Fuorn** 86.54 327 eP P 20 19 47.8 -0.2
comp=Z,342nm,1.1s
FOEL **Foel Wylfa** 86.55 338 eP P 20 19 47.3 -0.3
FOEL AMB AMB 20 19 49.9
comp=Z,302nm,2.2s
KLV **Kalavryta, Ach** 86.55 315 eP P 20 19 47.9 -0.1
WLF1 **Llynfaes** 86.56 339 eP P 20 19 45.7 -1.9
WLF1 AMB AMB 20 19 48.8
comp=Z,259nm,1.9s
SDCO **Great Sand Dun** 86.59 46 eP P 20 19 46.8 -1.6
comp=Z,481nm,2.4s
YLL **Llanberis** 86.63 339 eP P 20 19 46.1 -1.8
ECH **Echery** 86.64 330 eP P 20 19 47.2 -1.0
YRC **Rhoscolyn** 86.65 339⇑eP P 20 19 47.0 -1.0
IDI **Anoyia** 86.73 311 eP P 20 19 48.7 -0.2
IDI **Anoyia** 86.73 311 eP P 20 19 48.5 -0.4
M29A **Burnside Ranch** 86.74 40 ⇓P P 20 19 49.9 +1.0
baz=87
T23A **Casias Ranch,** 86.74 46 ⇑P P 20 19 50.1 +0.9
baz=87
KEK **Kerkira** 86.75 317 eP P 20 19 48.8 -0.1
SKP1 **Kophill** 86.77 336⇑eP P 20 19 47.2 -1.4
N28A **Pribbeno Ranch** 86.81 41 ⇓P P 20 19 48.9 -0.4
baz=87
S24A **Houchin Ranch,** 86.83 45 ⇑P P 20 19 49.4 -0.2
baz=87
YRE **Yr Eifl** 86.84 339⇑eP P 20 19 48.1 -0.8
VLX **Vlachokerasia** 86.87 314 eP P 20 19 48.9 -0.7
LKD2 **Lefkada island** 86.91 316 eP P 20 19 48.8 -0.8
SSW **Stow on the Wo** 86.91 337⇑eP P 20 19 48.7 -0.6
RLS **Riolos of Patr** 86.94 315 eP P 20 19 49.7 -0.1
MOF **Molkenrain** 86.94 330 eP P 20 19 48.0 -1.7
PAGF **Fort de Pagny** 86.96 331⇑iP P 20 19 49.1 -0.6
comp=Z,135nm,1.1s
VLI **Veliai** 86.97 313 eP P 20 19 47.9 -2.1
R25A **Fountain Ranch** 87.03 45 ⇑P P 20 19 50.7 +0.3
baz=87
TUE **Stuetta** 87.06 328 eP P 20 19 50.2 -0.3
comp=Z,415nm,1.7s
VAM **Vamos** 87.08 312 eP P 20 19 50.7 +0.2
HINF **Hinteralfeld** 87.08 330⇑iP P 20 19 49.2 -1.2
comp=Z,208nm,1.6s
HMNX **Herstmonceux** 87.10 335⇑eP P 20 19 50.0 -0.2
HMNX AMB AMB 20 19 53.3
comp=Z,392nm,1.4s
THEF **They Montfort** 87.12 330 eP P 20 19 49.2 -1.3
MEH **Mehetia** 87.14 114 eP P 20 19 52.4 +1.5
comp=Z,66nm,0.9s
HAU **Haudompre** 87.14 330⇑iP P 20 19 49.4 -1.2
comp=Z,330nm,1.7s
AMT **Artemida-Makis** 87.15 315 eP P 20 19 50.4 -0.5
MCH1 **Michaelchurch** 87.25 337⇑eP P 20 19 49.0 -2.0
MCH1 AMB AMB 20 19 51.8
comp=Z,350nm,3.8s
WOL **Wolverton** 87.25 336 eP P 20 19 49.5 -1.6
WOL AMB AMB 20 19 51.6
comp=Z,336nm,1.4s
ITM **Ithomi** 87.26 314 eP P 20 19 50.3 -1.1
MEZF **Maizieres J'vi** 87.27 331⇑iP P 20 19 50.6 -0.6
comp=Z,729nm,1.6s
SWN1 **Swindon** 87.28 336 eP P 20 19 50.0 -1.1
SWN1 AMB AMB 20 19 52.3
comp=Z,525nm,2.2s
DYR **Agios Nikonas** 87.30 314 eP P 20 19 50.8 -0.8
ANKY **Antikythira Is** 87.32 313 eP P 20 19 50.8 -0.9
VLS **Valsamata** 87.36 316 eP P 20 19 50.8 -1.1
Y20A **Horse Springs,** 87.37 50 ⇑P P 20 19 53.6 +1.3
baz=87
R26A **Arlington** 87.40 44 ⇑P P 20 19 53.2 +1.0
baz=87
LOMF **Lomont** 87.46 329 eP P 20 19 51.0 -1.3
SFTF **Sexfontaines** 87.52 331⇑iP P 20 19 51.5 -0.9
comp=Z,427nm,1.1s
PYL **PYLOS** 87.56 314 eP P 20 19 51.2 -1.6
SPMN **St. Paul** 87.85 33 ⇓P P 20 19 54.7 +0.7
baz=88
P29A **Atwood** 87.91 42 ⇑P P 20 19 55.6 +1.0
baz=88
TAOE **Nuku Hiva Isla** 87.99 102 eP P 20 19 56.7 +1.4
comp=Z,412nm,1.3s
ATD **Arta Tunnel** 88.07 283 P P 20 19 55.1 -0.6
ATD **Arta Tunnel** 88.07 283 P P 20 19 55.1 -0.6
comp=Z,52nm,0.9s,baz=0.0,slow=5.1,SNR=4.6
SCHQ **Schefferville** 88.15 14 eP P 20 19 56.8 +1.5
comp=Z,100nm,0.9s
SCHQ **Schefferville** 88.15 14 P P 20 19 54.5 -0.8
comp=Z,27nm,0.6s,baz=336,slow=5.3,SNR=9.5
AQU **L'Aquila** 88.26 323 eP P 20 19 56.2 +0.1
comp=Z,231nm,1.1s
R28A **Tribune** 88.30 43 ⇑P P 20 19 56.1 -0.4
baz=88
HEX **Exmoor** 88.31 337⇑eP P 20 19 54.7 -1.4
CABF **La Chapelle** 88.36 329⇑iP P 20 19 55.5 -1.1
comp=Z,616nm,1.9s
VLC **Villacollemand** 88.36 325 eP P 20 19 55.8 -0.7
comp=Z,350nm,1.8s
V25A **Rancho No Teng** 88.39 46 ⇓P P 20 19 58.4 +1.3
baz=88
LOR **Lormes** 88.74 331⇑iP P 20 19 57.1 -1.2
comp=Z,400nm,1.6s
S28A **Manter** 88.78 44 ⇓P P 20 20 00.1 +1.4
baz=89
P31A **Stockton** 88.81 41 ⇓P P 20 19 59.1 +0.3
baz=89
LPL **La Plagne** 88.95 328⇑iP P 20 19 58.7 -0.8
comp=Z,265nm,1.3s
LPG **La Plagne** 88.96 328⇑iP P 20 19 58.8 -0.8
comp=Z,111nm,0.8s
SSF **Saint Saulge** 89.05 331⇑iP P 20 19 58.7 -1.0
comp=Z,149nm,1.4s
Z23A **Rita Site, Whi** 89.14 49 ⇑P P 20 20 03.7 +3.1
baz=89
FLN **La Foliniere** 89.15 334⇑iP P 20 19 59.1 -1.0
comp=Z,610nm,1.7s
LDF **La Druitiere** 89.17 334⇑iP P 20 19 59.2 -1.0
comp=Z,518nm,1.7s
HYF **Humbligny** 89.22 332⇑iP P 20 20 00.1 -0.4
SMF **Signal de Mont** 89.26 331⇑iP P 20 19 59.6 -1.1
comp=Z,445nm,1.7s
AVF **Avril sur Loir** 89.33 331⇑iP P 20 20 00.1 -0.9
comp=Z,206nm,1.2s
BNI **Bardonecchia** 89.34 328 eP P 20 19 59.8 -1.5
BNI pmax pmax
comp=Z,79nm,1.1s
BNI **Bardonecchia** 89.34 328 eP P 20 19 59.8 -1.5
comp=Z,78nm,1.1s
MBDF **Montbardon** 89.56 328⇑iP P 20 20 00.7 -1.6
comp=Z,322nm,1.4s

GRR	Gorron	89.60	334	⇑iP	P	20	20 01.5	-0.7
	comp=Z,626nm,1.6s							
BGF	Bois d'Agland	89.73	331	⇑iP	P	20	20 01.9	-1.0
	comp=Z,384nm,1.8s							
SAOF	Saorge	89.79	327	eP	P	20	20 01.7	-1.6
ORIF	Oris-en-Rattie	89.79	328	⇑iP	P	20	20 02.4	-0.9
	comp=Z,159nm,1.1s							
AUTN	L'Aution	89.84	327	eP	P	20	20 02.2	-1.5
TOUF	Mont Tournerai	89.91	327	eP	P	20	20 02.8	-1.2
CEL	Celeste	89.94	318	eP	P	20	20 03.0	-1.1
	comp=Z,74nm,1.0s							
SBF	Sospel	89.94	327	⇑iP	P	20	20 02.3	-1.7
	comp=Z,206nm,1.0s							
LUCF	Luceram	89.96	327	eP	P	20	20 02.6	-1.5
AGO	Saint Agoulin	90.02	331	eP	P	20	20 03.3	-1.0
MVIF	Mont Vial	90.04	327	eP	P	20	20 03.1	-1.5
REVF	Revere	90.07	327	eP	P	20	20 03.2	-1.4
TCF	Toulx Ste Croi	90.20	331	⇑iP	P	20	20 04.4	-0.7
	comp=Z,284nm,1.5s							
PGF	Pioggiola	90.24	325	⇑iP	P	20	20 04.1	-1.4
	comp=Z,134nm,1.2s							
CALN	Calern	90.27	327	eP	P	20	20 04.5	-1.1
SGMF	Saint Gilles	90.31	335	⇑iP	P	20	20 05.0	-0.5
	comp=Z,632nm,1.6s							
PYM	Petit Puy Mans	90.32	331	eP	P	20	20 04.1	-1.6
VIVF	Saint-Julien-l	90.36	329	⇑iP	P	20	20 05.0	-0.9
	comp=Z,177nm,1.0s							
ROSF	Rostrenen	90.49	336	⇑iP	P	20	20 05.9	-0.5
	comp=Z,239nm,0.9s							
FRF	La Foret Royal	90.53	327	⇑iP	P	20	20 05.1	-1.6
	comp=Z,415nm,1.5s							
LBL	Lubilhac	90.65	330	eP	P	20	20 06.2	-1.1
SMRF	Simiane la Rot	90.67	328	⇑iP	P	20	20 06.5	-0.9
	comp=Z,243nm,1.3s							
LMR	La Mourre	90.77	327	⇑iP	P	20	20 06.5	-1.3
	comp=Z,508nm,1.4s							
QUIF	Quistinic	90.81	335	⇑iP	P	20	20 07.1	-0.8
	comp=Z,158nm,1.1s							
MFF	Saint Martin d	90.84	333	⇑iP	P	20	20 07.6	-0.5
	comp=Z,401nm,1.3s							
RJF	Les Rejaudoux	91.28	331	⇑iP	P	20	20 09.7	-0.4
	comp=Z,688nm,1.7s							
LASF	Ste Croix	91.33	329	⇑iP	P	20	20 09.8	-0.6
	comp=Z,433nm,1.5s							
CAF	Calviac	91.38	331	⇑iP	P	20	20 10.5	-0.1
	comp=Z,470nm,1.5s							
LFF	La Frestale	91.89	331	⇑iP	P	20	20 12.7	-0.2
	comp=Z,195nm,0.8s							
Z29A	Hungry Hill Ra	91.91	47	⇑P	P	20	20 12.6	-0.7
	baz=92							
427A	Hayter Ranch,	92.54	49	⇑P	P	20	20 15.6	-0.7
	baz=92							
MTLF	Montolieu	92.62	330	⇑iP	P	20	20 15.9	-0.4
	comp=Z,482nm,1.7s							
Y32A	R-V Farms, Ver	92.72	45	⇑P	P	20	20 17.7	+0.7
	baz=93							
TXAR	Lajitas Array	93.41	51	P	P	20	20 21.4	+1.0
TXAR	Lajitas Array	93.41	51	P	P	20	20 21.4	+1.0
	comp=Z,20nm,0.8s,baz=270,slow=0.1,SNR=3.4							
EPF	Esparros	93.64	331	⇑iP	P	20	20 20.1	-1.0
	comp=Z,78nm,1.0s							
232A	Coleman	94.11	46	⇑P	P	20	20 22.0	-1.4
	baz=94							
ETSF	Etsaut	94.11	331	⇑iP	P	20	20 23.2	-0.1
	comp=Z,88nm,0.9s							
SJPF	Ste Jean	94.20	332	eP	P	20	20 23.3	-0.3
	comp=Z,105nm,1.4s							
KEST	Kesra	95.31	321	PP	PP	20	24 20.2	+1.6
KEST	Kesra	95.31	321	PP	PP	20	24 20.2	+1.6
	comp=Z,3.2nm,0.8s,baz=253,slow=7.1,SNR=4.0							
PBRG	Braganca	97.38	335	eP	P	20	20 37.3	-0.9
	comp=Z,83nm,1.6s							
PGAV	Gavieira, Arco	97.77	336	eP	P	20	20 39.4	-0.6
MVO	Moncorvo	98.05	334	eP	P	20	20 40.4	-0.8
POLO	Lamas de Olo	98.13	335	eP	P	20	20 41.4	-0.3
	comp=Z,70nm,1.4s							
PVRL	Vila Real	98.19	335	eP	Pdif	20	20 43.5	+1.6
	comp=Z,50nm,1.5s							
ESDC	Sonseca Array	98.20	332	P	Pdif	20	20 43.2	+1.2
ESDC				PP	PP	20	24 41.8	+1.3
ESDC	Sonseca Array	98.20	332	P	Pdif	20	20 43.2	+1.2
	comp=Z,2.4nm,0.6s,baz=23,slow=4.2,SNR=5.0							
ESDC				PP	PP	20	24 41.8	+1.3
	comp=Z,7.7nm,1.0s,baz=26,slow=7.0,SNR=6.2							
PVIS	Viseu	98.75	335	eP	P	20	20 40.6	-3.8
	comp=Z,64nm,1.4s							
PGRA	Graciosa	105.51	349	eSKiKP	SKiKP	20	28 44.6	-17
ROSA	Rosais	105.85	349	eSKiKP	SKiKP	20	28 49.5	-12
ROSA				eSKiKP	SKiKP	20	28 53.9	-7.9
PSET	Sete Cidades	106.30	347	eSKiKP	SKiKP	20	28 42.6	-20
CMLA	Cha da Macela	106.32	347	eSKiKP	SKiKP	20	28 40.1	-23
PSMN	Pico do Norte,	106.97	346	eSKiKP	SKiKP	20	28 44.1	-20
VNDA	Vanda	112.93	175	PKiKP	PKiKP	20	25 39.1	-1.2
VNDA	Vanda	112.93	175	PKiKP	PKiKP	20	25 39.1	-1.2
	comp=Z,2.7nm,0.7s,baz=359,slow=5.6,SNR=3.1							
MAW	Mawson	116.47	204	PKP	PKPdf	20	25 47.3	0.0
MAW	Mawson	116.47	204	PKP	PKPdf	20	25 47.3	0.0
	comp=Z,5.7nm,0.9s,baz=51,slow=5.2,SNR=7.0							
TORD	Torodi Ar. Bea	117.13	311	PKP	PKPdf	20	25 48.0	-2.3
TORD				PKKPbc	PKKPbc	20	36 14.4	+0.7
TORD	Torodi Ar. Bea	117.13	311	PKP	PKPdf	20	25 48.0	-2.3
	comp=Z,13nm,0.9s,baz=20,slow=1.2,SNR=8.6							
TORD				PKKPbc	PKKPbc	20	36 14.4	+0.7
	comp=Z,1.6nm,0.6s,baz=220,slow=2.6,SNR=5.9							
LBTB	Lobatse	121.94	260	ePKPdf	PKPdf	20	25 58.7	-0.7
LBTB				PKP	PKPdf	20	25 58.9	-0.5
LBTB	Lobatse	121.94	260	PKP	PKPdf	20	25 58.9	-0.5
	comp=Z,39nm,0.8s,baz=132,slow=2.4,SNR=25							
BOSA	Boshof	123.76	256	PKP	PKPdf	20	26 02.0	-0.8
BOSA	Boshof	123.76	256	PKP	PKPdf	20	26 02.0	-0.8
	comp=Z,18nm,0.8s,baz=82,slow=2.1,SNR=16							
QSPA	South Pole Qui	124.51	180	PKP	PKPdf	20	26 02.3	-0.7
QSPA	South Pole Qui	124.51	180	PKP	PKPdf	20	26 02.3	-0.7
	comp=Z,64nm,0.8s,baz=142,slow=4.1,SNR=6.6							
BBTS	Babate	125.41	330	PKP	PKPdf	20	26 06.0	-0.2
BBTS				PP	PP	20	27 55.4	-0.2
BBTS	Babate	125.41	330	PKP	PKPdf	20	26 06.0	-0.2
	comp=Z,33nm,0.8s,baz=169,slow=2.8,SNR=4.5							
BBTS				PP	PP	20	27 55.4	-0.2
	comp=Z,36nm,0.9s,baz=97,slow=1.0,SNR=3.7							
DBIC	Dimbokro	126.18	313	PKP	PKPdf	20	26 07.1	-0.6
DBIC				PP	PP	20	27 59.3	-2.0
DBIC	Dimbokro	126.18	313	PKP	PKPdf	20	26 07.1	-0.6
	comp=Z,25nm,0.8s,baz=65,slow=1.2,SNR=6.6							
DBIC				PP	PP	20	27 59.3	-2.0
	comp=Z,49nm,1.1s,baz=14,slow=9.0,SNR=6.5							
PMSA	Palmer Station	147.01	162	PKPbc	PKPbc	20	26 46.3	-0.1
PMSA				PKPdf	PKPab	20	26 46.5	-1.4
PMSA	Palmer Station	147.01	162	PKPbc	PKPbc	20	26 46.3	-0.1
	comp=Z,46nm,0.9s,baz=152,slow=23,SNR=5.0							
SAML	Samuel	147.54	43	ePKPdf	PKPbc	20	26 48.4	-0.9
LPAZ	La Paz	149.91	59	ePKPdf	PKPdf	20	26 52.0	+0.7
LPAZ				PKPbc	PKPbc	20	26 55.9	-0.3
LPAZ	La Paz	149.91	59	PKPbc	PKPbc	20	26 55.9	-0.3
	comp=Z,46nm,0.9s,baz=312,slow=1.9,SNR=10							
RCBR	Riachuelo	150.74	348	ePKPbc	PKPbc	20	26 56.7	-0.8
USHA	Ushuaia	152.59	145	PKPbc	PKPbc	20	27 00.7	+0.3
USHA	Ushuaia	152.59	145	PKPbc	PKPbc	20	27 00.7	+0.3
	comp=Z,47nm,0.9s,baz=290,slow=1.5,SNR=7.7							
SIV	San Ignacio	154.38	48	PKPbc	PKPbc	20	27 05.3	-0.3
SIV	San Ignacio	154.38	48	PKPbc	PKPbc	20	27 05.3	-0.3
	comp=Z,24nm,1.1s,baz=345,slow=8.5,SNR=4.0							
CFAA	Coronel Fontan	157.46	90	PKPab	PKPab	20	27 33.2	+0.5
CFAA	Coronel Fontan	157.46	90	PKPab	PKPab	20	27 33.2	+0.5
	comp=Z,2.1nm,0.7s,baz=285,slow=3.6,SNR=6.1							
BDFB	Brasilia	160.09	19	PKPab	PKPab	20	27 45.5	+1.2
BDFB	Brasilia	160.09	19	PKPab	PKPab	20	27 45.5	+1.2
	comp=Z,8.4nm,0.7s,baz=298,slow=15,SNR=3.5							

*IDC **10** 20:16:36.3±0.7, 13°.91N×93°.00E, h0km, mb4.5/16, mb1 4.5/17, mb1mx4.4/30, mbtmp4.4/17, ML4.4/1, Error ellipse: s-maj=23.7km s-min=14.3km az=51.0*
*ISCJB **10** 20:16:39.2±0.5, 14°.02N±0°.09×93°.20E±0°.06, h32km, mb4.5/29, Error ellipse: s-maj=12.5km s-min=8.7km az=164.0*

ISC 10 20:16:41.4±0.7, 14°.0N±0°.1×93°.1E±0°.1, h32km, n42, σ0°.77/43, mb4.6/29, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.12	51	Pn	Pn	20 18 23.1	-0.2
	1.5nm,0.3s,baz=241,slow=15,SNR=5.2						
CMAR				Sn	Sn	20 19 41.9	-1.3
	4.8nm,0.3s,baz=245,slow=19,SNR=6.6						
MKAR	Makanchi Array	33.91	347	P	P	20 23 20.4	-1.0
	5.3nm,0.6s,baz=172,slow=7.6,SNR=6.5						
SONM	Songino Array	35.47	15	P	P	20 23 35.0	-0.1
	0.7nm,0.5s,baz=207,slow=5.4,SNR=7.8						
KURBB	Kurchatov Arra	38.38	345	P	P	20 24 00.1	+0.6
	10nm,0.8s,baz=162,slow=7.9,SNR=11						
ZALV	Zalesovo Beam	40.36	352	P	P	20 24 16.4	+0.4
	7.3nm,0.6s,baz=162,slow=8.3,SNR=14						
BVAR	Borovoye Array	42.89	340	P	P	20 24 37.2	+0.4
	3.1nm,0.8s,baz=166,slow=10,SNR=4.8						
FITZ	Fitzroy Crossi	45.25	134	P	P	20 24 55.3	-0.8
	2.4nm,0.4s,baz=208,slow=17,SNR=8.8						
MJAR	Matsushiro Arr	46.00	52	P	P	20 25 04.2	+2.2
	16nm,0.4s,baz=290,slow=7.2,SNR=6.4						
ASAJ	Asahikawa	51.59	44	P	P	20 25 45.4	+0.7
	4.7nm,0.9s,baz=268,slow=2.9,SNR=4.0						
WRA	Warramunga Arr	52.76	129	P	P	20 25 53.5	-0.3
	2.0nm,0.7s,baz=311,slow=7.6,SNR=4.2						
ASAR	Alice Springs	54.71	133	P	P	20 26 06.9	-1.1
	2.6nm,0.6s,baz=306,slow=6.7,SNR=12						
BRTR	Keskin Array B	57.76	308	P	P	20 26 29.0	-0.8
	5.5nm,0.8s,baz=125,slow=8.2,SNR=9.4						
FINES	FINESS Array B	66.85	331	P	P	20 27 30.2	+0.2
	2.4nm,0.4s,baz=120,slow=9.1,SNR=9.6						
KAF	Kangasniemi	66.91	332	ep	P	20 27 30.7	+0.4
	0.6nm,0.3s						
ARCES	ARCESS Array B	69.18	340	P	P	20 27 45.3	+0.8
	3.7nm,1.0s,baz=102,slow=8.0,SNR=6.6						
GERES	GERESS Array B	72.63	317	P	P	20 28 05.5	-0.5
	3.3nm,0.7s,baz=82,slow=5.5,SNR=9.8						
NB2	NORSAR Subarra	73.92	330	P	P	20 28 12.6	-0.7
	comp=Z,2.6nm,0.6s,baz=89,slow=6.2						
NOA	NORSAR Array B	73.92	330	P	P	20 28 13.0	-0.3
	comp=Z,3.1nm,0.7s,baz=89,slow=5.9,SNR=9.0						
HINF	Hinteralfeld	77.26	316	eP	P	20 28 31.8	-0.9
	comp=Z,8.9nm,0.8s						
HAU	Hadompre	77.58	317	eP	P	20 28 33.3	-1.1
	comp=Z,24nm,1.1s						
LPG	La Plagne	77.62	314	eP	P	20 28 34.8	-0.3
	comp=Z,20nm,0.7s						
LPL	La Plagne	77.63	314	eP	P	20 28 34.8	-0.2
	comp=Z,24nm,0.7s						
FRF	La Foret Royal	77.95	312	eP	P	20 28 36.0	-0.6
	comp=Z,19nm,0.8s						
LMR	La Mourre	78.08	312	eP	P	20 28 36.7	-0.6
SFTF	Sexfontaines	78.42	317	eP	P	20 28 38.2	-0.9
SMRF	Simiane la Rot	78.66	313	eP	P	20 28 40.3	-0.3
	comp=Z,12nm,0.8s						
SMF	Signal de Mont	79.46	316	eP	P	20 28 43.9	-0.9
	comp=Z,18nm,0.8s						
AVF	Avril sur Loir	79.77	316	eP	P	20 28 45.5	-1.0
	comp=Z,8.1nm,0.8s						
LASF	Ste Croix	79.87	313	eP	P	20 28 46.8	-0.3
BGF	Bois d'Agland	80.15	316	eP	P	20 28 48.1	-0.5
CAF	Calviac	80.98	314	eP	P	20 28 52.8	-0.3
MTLF	Montolieu	81.17	312	eP	P	20 28 53.6	-0.5
	comp=Z,7.3nm,0.9s						
LDF	La Druitiere	81.74	318	eP	P	20 28 56.3	-0.7
	comp=Z,8.3nm,0.6s						
SGMF	Saint Gilles	83.40	318	eP	P	20 29 05.1	-0.5
	comp=Z,17nm,0.8s						
SJPF	Ste Jean	83.68	313	eP	P	20 29 06.9	-0.3
ESDC	Sonseca Array	86.52	310	P	P	20 29 21.4	-0.2
	comp=Z,1.4nm,0.5s,baz=54,slow=4.3,SNR=5.1						
TORD	Torodi Ar. Bea	88.23	283	P	P	20 29 29.8	-0.4
	comp=Z,6.3nm,1.0s,baz=87,slow=4.9,SNR=5.1						
PDAR	Pinedale Array	119.77	19	PKP	PKPdf	20 35 29.5	+0.5
	comp=Z,1.1nm,0.7s,baz=22,slow=1.0,SNR=3.5						
NVAR	Mina Array Bea	120.09	28	PKP	PKPdf	20 35 31.2	+1.5
	comp=Z,0.8nm,0.5s,baz=312,slow=2.3,SNR=4.9						
TXAR	Lajitas Array	133.94	21	PKP	PKPdf	20 35 57.1	+0.9
	comp=Z,0.4nm,0.6s,baz=197,slow=1.3,SNR=3.7						
TEIG	Tepich	145.93	2	PKPbc	PKPab	20 36 19.6	+0.5
	comp=Z,18nm,0.5s,baz=345,slow=3.1,SNR=23						
PLCA	Paso Flores	149.81	205	PKPbc	PKPbc	20 36 28.8	+0.2
	comp=Z,3.6nm,1.0s,baz=84,slow=6.8,SNR=3.6						

NNC 10 20:18:14.1±0.6, 44°.73N×80°.24E, h0km, mb3.9, mpv3.5, 3C-3D, Error ellipse: s-maj=32.6km s-min=8.8km az=138.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.51	34	⇑Pn	Pn	20 18 55.9	-0.4
	17nm,0.7s,baz=215,slow=15,SNR=59						
MK31				⇓Sn	Sn	20 19 28.9	+1.2
	30nm,0.4s,baz=217,slow=26,SNR=4.2						
KNDC	Almaty	2.81	239	⇑Pn	Pn	20 19 00.0	-0.4
KNDC				⇑Sn	Sn	20 19 34.3	-0.7
TKM2	Tokmak 2	3.82	243	⇓Sn	Sn	20 20 03.2	+2.9
	40nm,0.8s						
KK31	Karatay Array	7.21	260	⇓Lg	Lg	20 22 04.6	
	19nm,1.1s,baz=184,slow=53,SNR=4.2						

*IDC **10** 20:18:56.0±8.8, 1°.16N×124°.15E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/24, mbtmp3.9/4, Error ellipse: s-maj=145.7km s-min=112.2km az=125.0*

ISC 10 20:19:03.5±10.0, 0°.8N±0°.9×124°.1E±0°.8, h35km, n7, σ1°.25/7, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	15.30	153	P	P	20 22 41.4	0.0
	baz=10,SNR=8.6						
KDU	Kakadu	15.82	148	P	P	20 22 48.0	+0.8
	baz=11,SNR=37						
KNRA	Kununurra	17.06	164	P	P	20 23 00.7	-0.2
	baz=12,SNR=8.1						
FITZ	Fitzroy Crossi	18.88	175	P	Pn	20 23 21.8	0.0
	0.3nm,0.3s,baz=6.0,slow=10,SNR=26						
WRA	Warramunga Arr	22.98	155	P	P	20 24 03.5	-1.8
	0.6nm,0.4s,baz=332,slow=10,SNR=12						
ASAR	Alice Springs	26.17	159	P	P	20 24 36.2	+1.3
	0.9nm,0.4s,baz=332,slow=8.8,SNR=16						
STKA	Stephens Creek	36.54	154	P	P	20 26 05.0	-0.9
	3.3nm,0.9s,baz=315,slow=8.6,SNR=2.6						

IDC 10 20:23:31.7±0.6, 14°.09N×93°.03E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.3/30, mbtmp4.3/18, ML3.8/1, Error ellipse: s-maj=22.0km s-min=12.6km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.15	52	Pn	Pn	20 25 19.0	+1.3
	0.5nm,0.3s,baz=240,slow=16,SNR=4.3						
CMAR				Sn	Sn	20 26 38.5	-1.2
	1.8nm,0.3s,baz=282,slow=29,SNR=4.3						
MKAR	Makanchi Array	33.83	347	P	P	20 30 15.3	-0.4
	2.3nm,0.6s,baz=174,slow=7.9,SNR=10						
SONM	Songino Array	35.44	16	P	P	20 30 29.9	+0.1
	2.1nm,0.7s,baz=198,slow=7.4,SNR=9.1						
KURBB	Kurchatov Arra	38.30	345	P	P	20 30 54.1	+0.2
	3.1nm,0.7s,baz=165,slow=7.9,SNR=12						
KSRS	Korea Array	38.76	47	P	P	20 30 56.8	-1.2
	1.6nm,0.7s,baz=244,slow=8.7,SNR=7.0						
ZALV	Zalesovo Beam	40.29	352	P	P	20 31 11.5	+1.0
	4.0nm,0.6s,baz=178,slow=7.6,SNR=9.1						
FITZ	Fitzroy Crossi	45.35	134	P	P	20 31 50.9	-1.1
	2.7nm,0.5s,baz=330,slow=6.3,SNR=10						
WRA	Warramunga Arr	52.87	129	P	P	20 32 49.6	-0.1
	2.3nm,0.7s,baz=306,slow=8.1,SNR=8.0						
WRA				PcP	PcP	20 33 59.1	+0.1
	1.3nm,0.5s,baz=322,slow=3.2,SNR=8.8						
ASF	Jabal al Asfar	54.08	300	P	P	20 32 59.1	+0.5
	1.1nm,0.6s,baz=280,slow=5.6,SNR=3.1						
ASAR	Alice Springs	54.82	133	P	P	20 33 04.0	+0.1
	2.3nm,0.6s,baz=310,slow=6.8,SNR=22						
ASAR				PcP	PcP	20 34 06.5	+0.1
	1.4nm,0.8s,baz=310,slow=4.6,SNR=3.8						
BRTR	Keskin Array B	57.66	308	P	P	20 33 24.0	-0.2
	2.3nm,0.7s,baz=119,slow=8.1,SNR=6.4						
STKA	Stephens Creek	65.22	135	P	P	20 34 16.0	+0.8
	2.9nm,0.6s,baz=312,slow=7.0,SNR=9.0						
FINES	FINESS Array B	66.76	331	P	P	20 34 24.5	-0.1
	3.6nm,0.6s,baz=93,slow=4.8,SNR=14						
KAF	Kangasniemi	66.81	332	ep	P	20 34 21.2	-3.8
	0.5nm,0.3s						
ARCES	ARCESS Array B	69.09	340	P	P	20 34 39.7	+0.4
	1.5nm,0.5s,baz=92,slow=6.5,SNR=14						
GERES	GERESS Array B	72.53	317	P	P	20 35 00.4	-0.3
	2.9nm,0.8s,baz=90,slow=3.1,SNR=7.9						
NB2	NORSAR Subarra	73.83	330	P	P	20 35 07.2	-0.9
	comp=Z,118nm,2.0s,baz=91,slow=5.9						
NB2	NORSAR Subarra	73.83	330	P	P	20 35 07.2	-0.9
	baz=91,slow=5.9						
NOA	NORSAR Array B	73.83	330	P	P	20 35 07.3	-0.8
	comp=Z,1.3nm,0.5s,baz=90,slow=5.7,SNR=8.2						
TORD	Torodi Ar. Bea	88.13	283	P	P	20 36 24.8	-0.3
	comp=Z,9.0nm,1.0s,baz=234,slow=2.8,SNR=5.4						
ILAR	Eielson Array	89.42	22	P	P	20 36 29.6	-0.6
	comp=Z,1.9nm,1.0s,baz=296,slow=5.3,SNR=5.1						
PDAR	Pinedale Array	119.74	19	PKP	PKPdf	20 42 22.1	-2.5
	comp=Z,0.4nm,0.6s,baz=323,slow=1.4,SNR=3.7						
NVAR	Mina Array Bea	120.08	28	PKP	PKPdf	20 42 25.7	+0.4
	comp=Z,0.8nm,0.7s,baz=277,slow=0.7,SNR=5.4						
TEIG	Tepich	145.88	2	PKPbc	PKPab	20 43 14.6	+0.3
	comp=Z,9.0nm,0.5s,baz=335,slow=4.5,SNR=10						
CPUP	Villa Florida	149.72	242	PKPbc	PKPbc	20 43 23.6	-0.6
	comp=Z,0.4nm,0.3s,baz=118,slow=6.3,SNR=3.3						

IDC 10 20:27:58.4±2.1, 13°.42N×93°.21E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/27, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=65.9km s-min=27.1km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.45	47	Pn	Pn	20 29 48.4	0.0
	0.5nm,0.3s,baz=250,slow=15,SNR=4.2						
MKAR	Makanchi Array	34.52	347	P	P	20 34 48.3	-0.1
	2.8nm,0.8s,baz=168,slow=6.9,SNR=3.7						
WRA	Warramunga Arr	52.31	129	P	P	20 37 12.1	-0.1
	6.9nm,1.2s,baz=313,slow=7.8,SNR=3.5						
ASAR	Alice Springs	54.24	133	P	P	20 37 26.4	0.0
	0.7nm,0.4s,baz=307,slow=7.0,SNR=5.3						

IDC 10 20:31:21.3±0.6, 13°.55N×93°.24E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.2/32, mbtmp4.3/18, ML4.5/1, Error ellipse: s-maj=28.0km s-min=11.8km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.34	48	Pn	Pn	20 33 09.3	-0.5
	2.2nm,0.3s,baz=240,slow=15,SNR=8.5						
MKAR	Makanchi Array	34.39	347	P	P	20 38 10.5	+0.3
	2.7nm,0.6s,baz=165,slow=8.7,SNR=22						
SONM	Songino Array	35.90	15	P	P	20 38 22.7	-0.6
	4.7nm,1.1s,baz=194,slow=6.9,SNR=3.1						
BATI	Baumata	38.32	127	P	P	20 38 42.9	-1.3
	15nm,0.5s,baz=308,slow=22,SNR=5.1						
KURBB	Kurchatov Arra	38.87	345	P	P	20 38 47.5	-0.7
	3.0nm,0.6s,baz=167,slow=7.6,SNR=6.6						
ZALV	Zalesovo Beam	40.85	352	P	P	20 39 03.5	-1.2
	2.6nm,0.7s,baz=150,slow=7.7,SNR=4.9						
BVAR	Borovoye Array	43.38	340	P	P	20 39 25.8	+0.4
	0.7nm,0.6s,baz=150,slow=6.7,SNR=3.3						
FITZ	Fitzroy Crossi	44.84	134	P	P	20 39 36.9	-0.6
	6.7nm,0.5s,baz=320,slow=5.1,SNR=28						
AKTO	Aktyubinsk	46.60	329	P	P	20 39 49.6	-1.6
	2.8nm,0.6s,baz=345,slow=16,SNR=3.5						
WRA	Warramunga Arr	52.37	129	P	P	20 40 36.0	+0.4
	4.5nm,0.8s,baz=311,slow=7.7,SNR=19						
WRA				PcP	PcP	20 41 45.5	-1.3
	0.5nm,0.4s,baz=323,slow=3.2,SNR=4.6						
ASAR	Alice Springs	54.30	133	P	P	20 40 50.9	+1.1
	3.6nm,0.6s,baz=310,slow=6.9,SNR=34						
BRTR	Keskin Array B	58.15	308	P	P	20 41 16.9	-0.4
	1.1nm,0.8s,baz=130,slow=6.3,SNR=4.2						
STKA	Stephens Creek	64.69	135	P	P	20 42 01.8	+0.3
	1.8nm,0.3s,baz=317,slow=5.4,S

1.5nm,0.4s,baz=308,slow=7.0,SNR=14
BRTR Keskin Array B 57.65 308 P P 20 46 16.4 -0.1
0.5nm,0.6s,baz=137,slow=7.1,SNR=2.5
FINES FINESS Array B 66.94 331 P P 20 47 18.1 +0.1
1.6nm,0.8s,baz=72,slow=6.2,SNR=3.6

IDC 10 20:38:29.3±1.0, 13°.95N×92°.94E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/28, mbtmp3.8/9, Error ellipse: s-maj=62.4km s-min=16.7km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.94	347	P	P	20 45 14.1	-0.3
3.1nm,1.0s,baz=160,slow=7.6,SNR=4.5							
KURBB	Kurchatov Arra	38.41	345	P	P	20 45 52.4	-0.1
1.3nm,0.8s,baz=167,slow=7.7,SNR=4.1							
ZALV	Zalesovo Beam	40.42	353	P	P	20 46 09.1	0.0
1.3nm,0.7s,baz=167,slow=8.9,SNR=2.7							
FITZ	Fitzroy Crossi	45.32	134	P	P	20 46 48.9	-0.5
3.1nm,0.8s,baz=347,slow=3.3,SNR=12							
WRA	Warramunga Arr	52.85	129	P	P	20 47 47.1	-0.1
0.3nm,0.6s,baz=306,slow=9.6,SNR=5.2							
ASAR	Alice Springs	54.79	133	P	P	20 48 01.8	+0.4
0.7nm,0.6s,baz=305,slow=7.0,SNR=4.4							
BRTR	Keskin Array B	57.67	308	P	P	20 48 21.6	-0.4
0.8nm,0.7s,baz=108,slow=7.7,SNR=3.3							
FINES	FINESS Array B	66.83	331	P	P	20 49 22.7	-0.1
0.8nm,0.8s,baz=128,slow=4.3,SNR=2.9							
GERES	GERESS Array B	72.57	317	P	P	20 49 59.2	+0.7
0.1nm,0.3s,baz=114,slow=6.0,SNR=3.7							

IDC 10 20:40:39.9±9.0, 13°.96N×93°.16E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, Error ellipse: s-maj=558.1km s-min=20.2km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.98	347	P	P	20 47 25.4	+0.2
1.2nm,1.1s,baz=165,slow=6.7,SNR=2.2							
KURBB	Kurchatov Arra	38.45	345	P	P	20 48 02.9	-0.4
0.3nm,0.7s,baz=165,slow=7.7,SNR=3.5							
FITZ	Fitzroy Crossi	45.18	134	P	P	20 48 58.5	-0.3
3.9nm,1.2s,baz=315,slow=7.1,SNR=5.1							
WRA	Warramunga Arr	52.69	129	P	P	20 49 56.6	+0.1
0.3nm,0.6s,baz=311,slow=10,SNR=5.9							
ASAR	Alice Springs	54.64	133	P	P	20 50 10.7	-0.1
0.4nm,0.4s,baz=310,slow=7.2,SNR=8.4							

IDC 10 20:45:28.7±1.4, 13°.95N×92°.83E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, Error ellipse: s-maj=87.6km s-min=19.1km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.91	347	P	P	20 52 12.8	-0.6
0.5nm,0.5s,baz=171,slow=7.3,SNR=6.7							
KURBB	Kurchatov Arra	38.38	345	P	P	20 52 51.6	+0.1
1.0nm,0.8s,baz=158,slow=8.5,SNR=6.0							
ZALV	Zalesovo Beam	40.40	353	P	P	20 53 08.5	+0.1
0.4nm,0.4s,baz=160,slow=9.2,SNR=2.8							
WRA	Warramunga Arr	52.93	129	P	P	20 54 47.4	+0.2
0.3nm,0.9s,baz=292,slow=9.3,SNR=2.9							
ASAR	Alice Springs	54.87	133	P	P	20 55 00.8	-0.5
0.2nm,0.5s,baz=314,slow=6.6,SNR=3.7							
FINES	FINESS Array B	66.78	331	P	P	20 56 21.1	-0.7
0.4nm,0.5s,baz=102,slow=8.8,SNR=4.9							
ARCES	ARCESS Array B	69.15	340	P	P	20 56 37.1	+0.5
0.7nm,0.8s,baz=122,slow=8.7,SNR=3.6							
GERES	GERESS Array B	72.49	317	P	P	20 56 57.9	+0.5
0.3nm,0.5s,baz=81,slow=8.2,SNR=3.6							

IDC 10 20:46:57.1±5.5, 13°.53N×92°.19E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/28, mbtmp3.5/6, Error ellipse: s-maj=299.0km s-min=18.7km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.19	348	P	P	20 53 43.6	-0.6
0.2nm,0.5s,baz=158,slow=8.6,SNR=3.6							
KURBB	Kurchatov Arra	38.63	346	P	P	20 54 22.6	+0.5
0.4nm,0.6s,baz=156,slow=8.9,SNR=3.0							
ZALV	Zalesovo Beam	40.74	353	P	P	20 54 39.1	-0.5
0.3nm,0.4s,baz=180,slow=1.4,SNR=2.6							
FITZ	Fitzroy Crossi	45.56	133	P	P	20 55 18.9	-0.2
1.7nm,0.9s,baz=295,slow=16,SNR=6.7							
WRA	Warramunga Arr	53.16	128	P	P	20 56 16.7	-0.6
0.3nm,0.8s,baz=306,slow=9.5,SNR=6.4							
ASAR	Alice Springs	55.04	132	P	P	20 56 31.5	+0.5
0.4nm,0.5s,baz=309,slow=7.0,SNR=7.6							

IDC 10 20:47:38.2±1.5, 13°.88N×92°.88E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/29, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=59.6km s-min=17.8km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.40	51	Pn	Pn	20 49 27.2	-0.3
0.2nm,0.3s,baz=243,slow=16,SNR=3.6							
MKAR	Makanchi Array	34.00	347	P	P	20 54 22.9	-0.7
0.8nm,0.9s,baz=163,slow=8.7,SNR=3.2							
KURBB	Kurchatov Arra	38.46	345	P	P	20 55 01.8	+0.1
0.4nm,0.7s,baz=171,slow=7.3,SNR=3.4							
ZALV	Zalesovo Beam	40.48	353	P	P	20 55 19.1	+0.6
0.3nm,0.4s,baz=186,slow=5.4,SNR=2.5							
FITZ	Fitzroy Crossi	45.32	134	P	P	20 55 57.6	-0.6
1.7nm,0.9s,baz=270,slow=4.0,SNR=4.1							
WRA	Warramunga Arr	52.85	129	P	P	20 56 55.7	-0.4
0.8nm,0.9s,baz=311,slow=10.0,SNR=6.0							
ASAR	Alice Springs	54.79	133	P	P	20 57 10.5	+0.3
0.6nm,0.4s,baz=308,slow=6.9,SNR=14							

*ISCJB **10**20:51:42.2±0.4, 23°.23N±0°.02×121°.65E±0°.02, h30km±2km, Error ellipse: s-maj=3.8km s-min=2.8km az=158.1*
*TAP **10**20:51:42.7, 23°.25N×121°.56E, h38km, ML4.0, B*
*JMA **10**20:51:43.3±0.3, 23°.27N×121°.71E, h91km, M3.2*
ISC 10 20:51:42.8±1.0, 23°.23N±0°.03×121°.61E±0°.03, h32km±8km, n50, σ0°87/84, 3C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.26	239	⇓P	Pn	20 51 49.9	-0.6
CHKT	baz=220			S	Sn	20 51 55.3	-0.2
TWF1	Yuli	0.31	292	⇓iP	Pb	20 51 50.7	+0.1
TWF1	baz=294			eS	Sn	20 51 56.2	-0.6
EHY	Hungye	0.38	316	⇓iP	Pb	20 51 51.3	-0.3
EHY	baz=308			S	Sb	20 51 57.1	-0.4
TEGC	Jichi Village	0.48	352	P	Pb	20 51 53.0	0.0
TEGC	baz=7.0			eS	Sb	20 52 00.8	+0.8
ESL	Shilin	0.60	344	⇓iP	Pn	20 51 53.9	-1.3
ESL	baz=341			eS	Sb	20 52 02.4	-1.0
TTN	Taitung	0.64	222	eP	Pn	20 51 54.2	-1.5
TTN	baz=227			eS	Sb	20 52 05.8	+1.4
TWG	Pinlang	0.65	231	P	Pn	20 51 54.3	-1.5
TWG	baz=234			eS	Sn	20 52 02.9	-2.1
YUS	Yu-Shan	0.66	293	iP	Pn	20 51 55.7	-0.7
YUS	baz=294			S	Sn	20 52 04.7	-1.2
HWA	Hwalien	0.74	360	eP	Pn	20 51 56.2	-0.9
ALS	baz=13 Alishan	0.79	291	P	Pn	20 51 57.8	-0.3
ALS	baz=291			eS	Sn	20 52 08.2	-0.8
TWD	Chiawan	0.84	359	iP	Pn	20 51 57.5	-1.0
TWD	baz=351			eS	Sn	20 52 08.4	-1.5
SMLT	Sun Moon Lake	0.92	315	⇓iP	Pn	20 51 59.4	-0.3
SMLT	baz=321			iS	Sn	20 52 10.6	-1.2
CHN5	Tsauling	0.93	293	P	Pn	20 51 60.0	+0.2
CHN5	baz=293			S	Sn	20 52 12.5	+0.4
WHF	Hehuan Shan	0.96	341	⇓P	Pn	20 51 59.4	-1.1
WHF	baz=345			S	Sn	20 52 11.4	-1.9
TYC	Yuchr	0.96	314	⇓iP	Pn	20 52 00.1	-0.1
TYC	baz=325			S	Sn	20 52 12.1	-0.7
CHN1	Nanshi	1.00	267	⇑iP	Pn	20 52 01.1	+0.4
CHN1	baz=265			S	Sn	20 52 14.8	+1.1
WGK	Gukeng	1.06	295	P	Pn	20 52 02.4	+0.9
WGK	baz=296			S	Sb	20 52 16.8	+0.5
WNT	Mingjian	1.07	307	eP	Pn	20 52 02.0	+0.5
WNT	baz=309			eS	Sn	20 52 16.1	+0.8
TWT	Tachien	1.09	339	eP	Pn	20 52 01.8	-0.3
CHY	baz=331 Chiayi	1.12	284	eP	Pn	20 52 02.6	+0.3
CHY	baz=283			eS	Sn	20 52 17.7	+1.0
SGLT	Jiouru	1.15	244	eP	Pb	20 52 04.6	+0.4
CHN3	baz=240 Shinhua	1.16	262	eP	Pb	20 52 04.3	+0.1
LAY	baz=260 Lan-yu	1.19	183	eP	Pn	20 52 02.0	-1.4
ENA	baz=171 Nanau	1.20	6	eP	Pn	20 52 02.6	-0.8
ENA	baz=20			eS	Sn	20 52 17.4	-1.1
NNS	Nan Shan	1.22	350	eP	Pn	20 52 03.4	-0.4
TCU	baz=4.0 Taichung	1.25	317	eP	Pn	20 52 05.2	+1.1
TCU	baz=307			eS	Sb	20 52 21.5	-0.1
SCZT	Fangliau	1.25	227	eP	Pn	20 52 03.9	-0.3
SCLT	baz=221 Jiali	1.30	268	eP	Pn	20 52 05.4	+0.5
SCLT	baz=265			eS	Sn	20 52 22.8	+1.5
WSF	baz=265 Szhu	1.34	288	eP	Pn	20 52 04.9	-0.4
WSF	baz=288			eS	Sn	20 52 22.6	+0.5
TWQ1	Liyutan	1.35	325	P	Pn	20 52 06.7	+1.2
TWQ1	baz=328			eS	Sb	20 52 23.9	-0.6
WTCT	Ta-ch'eng	1.37	297	P	Pn	20 52 05.8	0.0
WTCT	baz=298			S	Sn	20 52 23.5	+0.6
TWC	Suao	1.39	9	eP	Pn	20 52 06.1	+0.1
ENTT	baz=15 Nioudou	1.40	358	eP	Pn	20 52 05.7	-0.6
NSY	baz=4.0 Sanyi	1.41	327	P	Pn	20 52 07.8	+1.4
NSY	baz=330			S	Sb	20 52 26.5	+0.2
TWP	baz=330 Hsiaoliuchiu	1.45	233	eP	Pb	20 52 10.3	+1.0
NSK	baz=228 Sanguang	1.46	351	eP	Pn	20 52 07.0	0.0
NSK	baz=355			eS	Sn	20 52 24.1	-0.9
HEN	baz=355 Hengchun	1.47	214	eP	Pn	20 52 07.1	0.0
TWE	baz=199 Neicheng	1.48	2	eP	Pn	20 52 06.7	-0.6
TWA	baz=360 Mucha	1.74	359	eP	Pn	20 52 11.8	+0.9
YOJ	baz=5.0 Yonaguni jima	1.77	46	⇑eP	Pn	20 52 11.8	+0.5
YOJ	baz=48 Yonaguni jima	1.77	46	P	Pn	20 52 11.8	+0.5
YOJ				S	Sn	20 52 33.2	+0.5
WDGT	Dungji	1.79	271	eP	Pn	20 52 10.7	-0.9
TWB1	baz=270 Santiao Chiao	1.80	11	eP	Pn	20 52 12.1	+0.4
NWF	baz=17 Wu-fen Shan	1.84	5	eP	Pn	20 52 12.6	+0.3
NWF	baz=355			eS	Sn	20 52 36.7	+2.3
PNG	Penghu	1.92	280	⇑iP	Pn	20 52 12.7	-0.6
PNG	baz=267			S	Sn	20 52 35.0	-1.4
HATJ	Hateruma jima	2.17	67	P	Pn	20 52 16.9	+0.1
HATJ				eS	Sn	20 52 42.5	-0.1
IRIF	Iriomote-Funau	2.23	60	P	Pn	20 52 18.0	+0.4
IRIF				S	Sn	20 52 44.2	+0.2
JKRS	Kuro-shima	2.41	65	P	Pn	20 52 20.6	+0.5
JKRS				eS	Sn	20 52 49.0	+0.4
JIJ	Ishigaki jima	2.58	64	P	Pn	20 52 22.2	-0.2
JIJ				S	Sn	20 52 51.2	-1.4
JTJ	Tarama	3.16	63	P	Pn	20 52 30.4	+0.1
JTJ				eS	Sn	20 53 06.9	0.0

IDC 10 20:53:54.6±1.0, 14°.26N×93°.04E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML3.7/1, MS5.1/1, Ms1 5.3/1, ms1mx4.4/49, Error ellipse: s-maj=39.2km s-min=16.3km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.03	53	Pn	Pn	20 55 39.0	0.0
0.4nm,0.3s,baz=240,slow=15,SNR=4.8							
CMAR				Sn	Sn	20 56 55.1	-4.6
0.4nm,0.3s,baz=240,slow=18,SNR=4.2							
CMAR				LR	LR	20 58 48.4	
comp=Z,14μm,19.6s,baz=45,slow=42							
MKAR	Makanchi Array	33.66	347	P	P	21 00 38.1	+1.0
0.4nm,0.4s,baz=170,slow=8.8,SNR=9.3							
SONM	Songino Array	35.27	16	P	P	21 00 50.4	-0.7
0.4nm,0.8s,baz=203,slow=10,SNR=3.5							
KURBB	Kurchatov Arra	38.13	345	P	P	21 01 15.8	+0.4
0.7nm,0.5s,baz=161,slow=7.7,SNR=4.5							
ZALV	Zalesovo Beam	40.12	352	P	P	21 01 32.1	+0.2
1.0nm,0.6s,baz=169,slow=6.3,SNR=5.0							
FITZ	Fitzroy Crossi	45.47	134	P	P	21 02 15.8	0.0
0.9nm,0.4s,baz=340,slow=12,SNR=7.9							
WRA	Warramunga Arr	52.97	129	P	P	21 03 13.0	-0.3
0.2nm,0.6s,baz=314,slow=8.2,SNR=4.6							
ASAR	Alice Springs	54.93	133	P	P	21 03 27.8	+0.1
0.5nm,0.6s,baz=307,slow=6.6,SNR=9.6							
FINES	FINESS Array B	66.61	331	P	P	21 04 45.7	-0.9
1.0nm,0.5s,baz=76,slow=8.0,SNR=8.5							
GERES	GERESS Array B	72.41	317	P	P	21 05 23.4	+0.5
0.4nm,0.5s,baz=94,slow=7.2,SNR=5.3							
NOA	NORSAR Array B	73.68	330	P	P	21 05 29.8	-0.4
0.5nm,0.8s,baz=94,slow=5.8,SNR=2.8							

IDC 10 20:54:51.3±1.5, 13°.93N×93°.06E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, Error ellipse: s-maj=64.9km s-min=20.4km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.99	347	P	P	21 01 37.2	+0.5
0.7nm,0.7s,baz=158,slow=10,SNR=4.7							
SONM	Songino Array	35.58	15	P	P	21 01 50.9	+0.3
0.4nm,0.8s,baz=175,slow=8.1,SNR=3.4							
KURBB	Kurchatov Arra	38.45	345	P	P	21 02 14.6	-0.2
0.8nm,0.8s,baz=164,slow=8.5,SNR=4.3							
ZALV	Zalesovo Beam	40.45	352	P	P	21 02 30.4	-1.0
0.7nm,0.5s,baz=178,slow=8.9,SNR=4.6							
WRA	Warramunga Arr	52.75	129	P	P	21 04 07.2	-1.2
0.3nm,0.6s,baz=305,slow=10,SNR=2.4							
ASAR	Alice Springs	54.69	133	P	P	21 04 23.8	+1.1
0.4nm,0.5s,baz=305,slow=6.6,SNR=5.2							
GERES	GERESS Array B	72.66	317	P	P	21 06 21.2	+0.1
0.1nm,0.2s,baz=76,slow=5.6,SNR=3.8							

IDC 10 20:58:55.5±1.6, 13°.40N×93°.29E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, Error ellipse: s-maj=75.8km s-min=17.7km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.55	347	P	P	21 05 45.4	-0.3
0.5nm,0.6s,baz=152,slow=8.7,SNR=5.4							
SONM	Songino Array	36.03	15	P	P	21 05 58.7	+0.1
0.4nm,0.9s,baz=186,slow=12,SNR=2.4							
ZALV	Zalesovo Beam	41.00	352	P	P	21 06 39.5	-0.6
0.4nm,0.5s,baz=173,slow=12,SNR=3.3							
FITZ	Fitzroy Crossi	44.70	134	P	P	21 07 10.1	-0.6
2.0nm,1.2s,baz=346,slow=16,SNR=2.9							
WRA	Warramunga Arr	52.25	129	P	P	21 08 09.4	+0.5
0.6nm,1.0s,baz=298,slow=6.7,SNR=3.3							
ASAR	Alice Springs	54.17	133	P	P	21 08 22.6	-0.4
0.2nm,0.4s,baz=311,slow=7.3,SNR=4.9							
FINES	FINESS Array B	67.47	331	P	P	21 09 52.9	-0.1
1.7nm,1.0s,baz=114,slow=9.2,SNR=3.3							
ARCES	ARCESS Array B	69.82	340	P	P	21 10 08.2	+0.7
0.5nm,0.6s,baz=76,slow=7.5,SNR=3.9							

IDC 10 20:59:58.2±9.8, 13°.41N×93°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=569.6km s-min=27.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.52	347	P	P	21 06 48.1	-0.1
0.2nm,0.6s,baz=159,slow=7.7,SNR=3.3							
WRA	Warramunga Arr	52.30	129	P	P	21 09 11.4	-0.5
0.2nm,0.6s,baz=313,slow=8.0,SNR=5.7							
ASAR	Alice Springs	54.22	133	P	P	21 09 26.4	+0.2
0.5nm,0.4s,baz=307,slow=6.7,SNR=8.5							

IDC 10 21:01:00.3±7.8, 13°.48N×93°.53E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, Error ellipse: s-maj=435.8km s-min=20.4km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.53	346	P	P	21 07 50.0	-0.3
0.3nm,0.6s,baz=162,slow=9.8,SNR=3.6							
ZALV	Zalesovo Beam	40.96	352	P	P	21 08 44.7	+0.1
0.2nm,0.3s,baz=167,slow=7.2,SNR=2.9							
FITZ	Fitzroy Crossi	44.58	134	P	P	21 09 14.3	-0.2
0.4nm,0.4s,baz=326,slow=11,SNR=3.4							
WRA	Warramunga Arr	52.11	129	P	P	21 10 12.3	-0.3
0.5nm,0.9s,baz=311,slow=10,SNR=3.9							
ASAR	Alice Springs	54.05	133	P	P	21 10 27.1	+0.1
0.3nm,0.4s,baz=309,slow=6.8,SNR=6.2							

IDC 10 21:04:08.0±1.3, 13°.82N×94°.15E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/28, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=43.7km s-min=18.0km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.52	44	Pn	Pn	21 05 45.6	+0.4
0.3nm,0.3s,baz=243,slow=15,SNR=7.9							
CMAR				Sn	Sn	21 06 59.9	-0.4
0.8nm,0.3s,baz=243,slow=19,SNR=7.2							
MKAR	Makanchi Array	34.35	346	P	P	21 10 56.9	+0.4
0.9nm,0.8s,baz=165,slow=10.0,SNR=6.0							
KURBB	Kurchatov Arra	38.84	344	P	P	21 11 33.2	-1.5
baz=160,slow=7.9,SNR=5.9							
ZALV	Zalesovo Beam	40.71	352	P	P	21 11 51.0	+0.8
0.5nm,0.5s,baz=174,slow=4.3,SNR=2.8							
FITZ	Fitzroy Crossi	44.39	135	P	P	21 12 20.6	0.0
1.0nm,0.8s,baz=297,slow=4.5,SNR=2.3							
WRA	Warramunga Arr	51.85	129	P	P	21 13 18.1	-0.2
0.6nm,0.7s,baz=313,slow=8.0,SNR=7.3							
ASAR	Alice Springs	53.84	133	P	P	21 13 32.9	-0.2
0.2nm,0.3s,baz=309,slow=6.8,SNR=8.5							

IDC 10 21:05:41.9±11.0, 13°.50N×93°.33E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.3/3, Error ellipse: s-maj=691.2km s-min=29.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.47	347	P	P	21 12 31.4	-0.1
0.5nm,0.7s,baz=169,slow=9.4,SNR=3.9							
WRA	Warramunga Arr	52.27	129	P	P	21 14 55.4	-0.1
0.2nm,0.4s,baz=310,slow=7.9,SNR=4.3							
ASAR	Alice Springs	54.20	133	P	P	21 15 09.6	-0.1
0.2nm,0.4s,baz=309,slow=7.3,SNR=3.0							

*IDC **10**21:06:58.4±1.0, 34°.79N×137°.86E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.6/30, mbtmp3.6/11, ML2.1/1, Error ellipse: s-maj=27.4km s-min=13.2km az=96.0*
*ISCJB **10**21:06:59.5±0.4, 34°.84N±0°.05×138°.48E±0°.05, h32km±3km, mb3.6/10, Error ellipse: s-maj=8.2km s-min=6.1km az=15.9*
*JMA **10**21:07:00.2±0.1, 34°.83N×138°.49E, h23km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φs=315.00000°, δ82.00000°, λ148.00000°. NP2: φs=50.00000°, δ58.00000°, λ9.00000°. Principal axes: T Plg28.0000°, Azm268.0000°; N Plg57.0000°, Azm123.0000°; P Plg16.0000°, Azm7.0000°;*
JMA Felt II J1.
ISC 10 21:07:00.2±0.9, 34°.82N±0°.04×138°.51E±0°.04, h25km±7km, n22, σ0°85/26, mb3.6/10, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	Sagara	0.30	241	⇓P	Pb	21 07 07.1	-0.1
JSG				S	Sb	21 07 12.6	+0.6
JIZS	Izushimoda	0.32	108	⇑P	Pb	21 07 07.3	-0.2
JIZS				S	Sb	21 07 12.7	+0.1
SHZ3	Shizuoka 3	0.34	315	⇓P	Pb	21 07 07.5	-0.5
SHZ3				S	Sb	21 07 12.9	-0.4
KTJJ	Kamata 2	0.47	77	P	Pb	21 07 09.7	-0.2
KTJJ				S	Sb	21 07 16.7	+0.2
JYN	Shimob	0.68	3	⇓P	Pb	21 07 12.7	-0.7
TK04	Tokai 4	0.68	230	P	Pb	21 07 12.6	-0.7
JIM2	Oshima 3	0.77	97	P	Pn	21 07 15.2	-0.2
JMY	Miyakejima3	1.12	132	P	Pn	21 07 20.4	+0.1
MJAR	Matsushiro Arr	1.73	352	Pn	Pn	21 07 29.6	+0.8
MJAR	69nm,0.3s,baz=213,slow=15,SNR=60			Lg	Lg	21 07 54.0	
	54nm,0.3s,baz=232,slow=40,SNR=23						
MAT	Matsushiro	1.74	352	P	Pn	21 07 29.8	+1.0
MAT				S	Sb	21 07 53.8	+1.0
USRK	Ussuriysk Arra	10.62	334	Pn	Pn	21 09 30.8	+0.1
	0.1nm,0.3s,baz=152,slow=9.8,SNR=2.7						
SONM	Songino Array	27.18	308	P	P	21 12 40.3	-1.5
0.5nm,0.9s,baz=126,slow=7.3,SNR=3.0							
MKAR	Makanchi Array	43.34	304	P	P	21 14 59.5	-0.6
0.4nm,0.7s,baz=84,slow=11,SNR=4.7							
KURBB	Kurchatov Arra	45.54	309	P	P	21 15 16.4	-1.1
1.9nm,0.9s,baz=87,slow=8.0,SNR=16							
BVAR	Borovoye Array	50.34	313	P	P	21 15 53.8	-0.9
1.0nm,0.7s,baz=81,slow=12,SNR=5.3							
ILAR	Eielson Array	52.62	31	P	P	21 16 17.1	+5.5
0.2nm,0.6s,baz=286,slow=7.3,SNR=2.9							
WRA	Warramunga Arr	54.60	185	P	P	21 16 27.1	+0.5
1.0nm,1.1s,baz=3.1,slow=7.5,SNR=3.0							

ASAR	**Alice Springs**	**58.33 185**	P		**P**	**21 16 55.6**	**+2.4**
	0.2nm,0.4s,baz=10,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**58.40 312**	P		**P**	**21 16 53.6**	**+0.2**
	0.8nm,0.5s,baz=75,slow=16,SNR=4.3						
FINES	**FINESS Array B**	**69.66 332**	P		**P**	**21 18 07.2**	**+0.1**
	1.3nm,0.7s,baz=87,slow=7.1,SNR=5.4						
NB2	**NORSAR Subarra**	**75.29 336**	P		**P**	**21 18 40.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.29 336**	P		**P**	**21 18 40.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=42,slow=5.7,SNR=4.0						

IDC 10 21:11:59.7±2.0, 13°.67N×92°.73E, $h0^{km}$, mb3.5/3, mb1 3.7/4, mb1mx3.3/27, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=62.9km s-min=26.8km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.63**	**51**	P	Pn	21 13 50.3	-2.0
	0.5nm,0.3s,baz=242,slow=16,SNR=5.9						
CMAR				Sn	Sn	21 15 08.7	-11
	0.4nm,0.3s,baz=239,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**34.16**	**347**	P	P	21 18 46.9	+0.3
	0.3nm,0.7s,baz=164,slow=8.6,SNR=3.6						
WRA	**Warramunga Arr**	**52.84**	**128**	P	P	21 21 17.6	+0.1
	0.3nm,0.5s,baz=297,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**54.75**	**132**	P	P	21 21 31.4	-0.1
	0.5nm,0.5s,baz=307,slow=6.8,SNR=7.1						

*IDC **10** 21:13:09.7±1.2, 34°.76N×138°.14E, $h0^{km}$, mb3.8/6, mb1 4.0/6, mb1mx3.6/26, mbtmp3.8/6, Error ellipse: s-maj=42.6km s-min=13.0km az=93.0*

*ISCJB **10** 21:13:12.8±0.5, 34°.85N±0°.05×138°.40E±0°.06, $h31^{km}$±4km, mb3.7/7, Error ellipse: s-maj=8.5km s-min=7.4km az=140.4*

*JMA **10** 21:13:13.6±0.1, 34°.90N×138°.42E, $h23^{km}$±2km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s=90.00000°, δ53.00000°, λ66.00000°. NP2:ϕ_s=307.00000°, δ43.00000°, λ119.00000°. Principal axes: T Plg70.0000°, Azm301.0000°; N Plg19.0000°, Azm105.0000°; P Plg5.0000°, Azm197.0000°;*

JMA Felt II J1.

ISC 10 21:13:13.0±0.9, 34°.85N±0°.04×138°.40E±0°.05, $h29^{km}$±6km, n16, σ1^s.24/20, mb3.8/7, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.25**	**226**	⇓P	**Pn**	**21 13 20.5**	**-0.3**
JSG				S	**Sb**	**21 13 26.3**	**+2.0**
SHZ3	**Shizuoka 3**	**0.27**	**324**	⇓P	**Pb**	**21 13 19.5**	**-0.6**
SHZ3				S	**Sb**	**21 13 24.0**	**-0.8**
JIZS	**Izushimoda**	**0.41**	**108**	⇑P	**Pb**	**21 13 21.7**	**-0.4**
JIZS				S	**Sb**	**21 13 27.9**	**-0.3**
TK04	**Tokai 4**	**0.64**	**223**	P	**Pn**	**21 13 26.3**	**+0.3**
JYN	**Shimob**	**0.66**	**10**	⇓P	**Pb**	**21 13 25.2**	**-0.9**
JIM2	**Oshima 3**	**0.86**	**99**	P	**Pn**	**21 13 29.2**	**0.0**
JMY	**Miyakejima3**	**1.20**	**130**	P	**Pb**	**21 13 35.3**	**+0.1**
MJAR	**Matsushiro Arr**	**1.70**	**355**	Pn	**Pn**	**21 13 42.1**	**+1.4**
	31nm,0.3s,baz=186,slow=13,SNR=41						
MJAR				Lg	Lg	21 14 05.5	
	48nm,0.3s,baz=152,slow=27,SNR=15						
MAT	**Matsushiro**	**1.70**	**355**	P	**Pn**	**21 13 42.4**	**+1.7**
MAT				S	**Sb**	**21 14 04.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.58**	**255**	P	**P**	**21 20 31.9**	**-1.6**
	0.5nm,0.4s,baz=61,slow=6.7,SNR=4.1						
MKAR	**Makanchi Array**	**43.25**	**304**	P	**P**	**21 21 12.6**	**+0.9**
	0.3nm,0.6s,baz=87,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**54.62**	**185**	P	**P**	**21 22 39.3**	**+0.3**
	1.6nm,0.7s,baz=359,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**58.35**	**185**	P	**P**	**21 23 06.2**	**+0.7**
	0.7nm,0.8s,baz=17,slow=13,SNR=8.2						
KAF	**Kangasniemi**	**69.11**	**332**	*e*p	**P**	**21 24 13.1**	**-2.9**
	0.4nm,0.4s						
FINES	**FINESS Array B**	**69.59**	**332**	P	**P**	**21 24 19.5**	**+0.5**
	1.8nm,0.7s,baz=76,slow=8.0,SNR=8.4						
NOA	**NORSAR Array B**	**75.23**	**336**	P	**P**	**21 24 53.7**	**+1.0**
	0.8nm,0.8s,baz=41,slow=5.8,SNR=3.3						

*DJA **10** 21:19:34.3±3.9, 15°N±9°×9°2E±2°8, $h26^{km}$±25^{km}, M5.0/11, mb5.0/11*

*ISCJB **10** 21:19:34.2±1.1, 14°.34N±0°.03×92°.91E±0°.03, $h2^{km}$±7km, mb4.5/88, Error ellipse: s-maj=4.8km s-min=3.9km az=45.0*

*IDC **10** 21:19:35.0±0.4, 14°.21N×92°.96E, $h0^{km}$, mb4.5/27, mb1 4.6/29, mb1mx4.5/37, mbtmp4.5/29, ML4.3/2, Error ellipse: s-maj=14.4km s-min=11.4km az=61.0*

*BJI **10** 21:19:35.4, 14°.11N×92°.89E, $h23^{km}$, mB5.3/1, mb4.8/31, Ms5.7/6, Ms7 5.5/6*

*BKK **10** 21:19:36.6±0.8, 14°N±3°×9°3E±°, $h10^{km}$, M5.2/21, mB4.9/3, mb5.3/21, MLv5.3/9, Mw(mB)4.2/3*

*MOS **10** 21:19:38.4±0.9, 14°.24N×93°.06E, $h33^{km}$, mb4.9/21, Error ellipse: s-maj=8.6km s-min=5.7km az=107.3*

*NEIC **10** 21:19:40.1±1.7, 14°.31N×92°.97E, $h30^{km}$±12^{km}, mb4.7/19, Error ellipse: s-maj=6.4km s-min=4.9km az=65.0*

ISC 10 21:19:40.5±0.5, 14°.33N±0°.04×93°.02E±0°.04, $h34^{km}$±1km, $h34^{km}$:pP-P, n258, σ1^s.54/277, mb4.6/89, 17C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.15**	**184**	*e*P	**Pb**	**21 20 01.1**	**-0.8**
PBA	**Port Blair**	**2.67**	**186**	*e*P	Pn	21 20 21.6	+0.5
CMAR	**Chiang Mai Arr**	**7.01**	**53**	Pn	**Pn**	**21 21 21.1**	**+0.3**
CMAR				Sn	**Sn**	**21 22 35.6**	**-3.8**
CMAR	**Chiang Mai Arr**	**7.01**	**53**	Pn	**Pn**	**21 21 21.1**	**+0.3**
	1.4nm,0.3s,baz=242,slow=15,SNR=74						
CMAR				Sn	**Sn**	**21 22 35.6**	**-3.8**
	5.5nm,0.3s,baz=246,slow=26,SNR=8.9						
CHTO	**Chiang Mai**	**7.22**	**51**	*e*P	**Pn**	**21 21 23.8**	**+0.1**
CHTO				*e*		21 22 40.0	
CHTO	**Chiang Mai**	**7.22**	**51**	*e*Pn	**Pn**	**21 21 23.8**	**+0.1**
CHTO				*e*Sn	**Sn**	**21 22 40.0**	**-4.5**
CHTO	**Chiang Mai**	**7.22**	**51**	P	**Pn**	**21 21 23.9**	**+0.2**
	44nm,0.8s						
CHTO	**Chiang Mai**	**7.22**	**51**	P	**Pn**	**21 21 24.6**	**+0.9**
	305nm,0.8s,1.4nm						
CMMT	**Chiang Mai**	**7.22**	**51**	P	**Pn**	**21 21 24.8**	**+1.1**
	208nm,0.7s,0.9nm						
CMBY	**CAMPBELL BAY**	**7.33**	**173**	*e*P	**Pn**	**21 21 25.6**	**+0.4**
CMBY				AMB	AMB	21 21 26.5	
	comp=Z,331nm,0.5s						
LAMP	**Lampang**	**7.59**	**56**	P	**Pn**	**21 21 30.9**	**+2.1**
	comp=Z,20nm,0.7s,comp=Z,158nmcomp=Z,0.1nm						
PBKT	**Sadao Pong**	**7.98**	**73**	P	**Pn**	**21 21 36.2**	**+2.1**
	comp=Z,49nm,0.8s,comp=Z,7μmcomp=Z,0.3nm						
CMAI	**Chiengmai2**	**8.01**	**45**	P	**Pn**	**21 21 36.3**	**+1.6**
	comp=Z,324nm,0.7s,comp=Z,1.4nm						
PAYA	**Payao**	**8.25**	**52**	P	**Pn**	**21 21 39.0**	**+1.2**
	comp=Z,26nm,0.7s,comp=Z,208nmcomp=Z,0.1nm						
PKDT	**Phuket**	**8.25**	**140**	P	Pn	21 21 43.7	+5.8
	comp=Z,400nm,0.7s,comp=Z,1.8nm						
LOEI	**Loei**	**8.54**	**67**	P	Pn	21 21 48.3	+6.5
	comp=Z,87nm,1.2s,comp=Z,0.3nm						
CHAI	**Chaiyaphum**	**8.80**	**79**	P	**Pn**	**21 21 48.5**	**+3.1**
	comp=Z,9.0nm,0.9s						
BSI	**Banda Aceh**	**9.06**	**165**	P	**Pn**	**21 21 48.3**	**-0.6**
	comp=Z,132nm,0.8s						
VIS	**Vishakhapatnam**	**9.91**	**291**	*e*P	**Pn**	**21 21 60.0**	**-0.6**
VIS				AMB	AMB	21 22 01.2	
	comp=Z,345nm,1.3s						
SHL	**Shillong**	**11.23**	**355**	*e*P	**Pn**	**21 22 16.7**	**-2.1**
SHL				AMB	AMB	21 22 17.4	
	comp=Z,67nm,0.7s						
SHL				*e*S	Sn	21 24 15.0	-8.3
PANO	**Nakornpanom**	**11.51**	**74**	P	Pn	21 22 38.7	+16
BOK	**Bokaro**	**11.58**	**325**	*e*P	**Pn**	**21 22 23.4**	**0.0**
BOK				AMB	AMB	21 22 25.3	
	comp=Z,281nm,0.3s						
KULM	**Kulim**	**11.71**	**139**	*e*Pn	**Pn**	**21 22 27.4**	**+2.1**
KULM	**Kulim**	**11.71**	**139**	P	**Pn**	**21 22 23.2**	**-2.0**
KULM	**Kulim**	**11.71**	**139**	P	**Pn**	**21 22 26.7**	**+1.4**
	comp=Z,97nm,1.1s						
TSI	**Tuntungan**	**12.07**	**153**	P	**Pn**	**21 22 32.3**	**+2.1**
	comp=Z,194nm,1.2s						
IPM	**Ipoh**	**12.57**	**140**	*e*Pn	**Pn**	**21 22 38.4**	**+1.3**
IPM	**Ipoh**	**12.57**	**140**	P	**Pn**	**21 22 35.0**	**-2.0**
IPM	**Ipoh**	**12.57**	**140**	P	**Pn**	**21 22 37.9**	**+0.8**
	comp=Z,23nm,0.9s						
PSI	**Prapat**	**12.85**	**152**	Pn	**Pn**	**21 22 41.5**	**+0.6**
PSI	**Prapat**	**12.85**	**152**	Pn	**Pn**	**21 22 41.5**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=326,slow=11,SNR=64						
ODAN	**Odare**	**13.53**	**338**	*e*P	Pn	21 22 46.5	-3.8
	comp=Z,465nm,0.5s						
TAPN	**Taplejung**	**13.87**	**340**	*e*P	Pn	21 22 51.7	-3.3
	comp=Z,279nm,0.6s						
FRIM	**Kepong**	**13.91**	**142**	P	**Pn**	**21 22 54.0**	**-1.4**
RAMN	**Ranite**	**13.91**	**335**	*e*P	**Pn**	**21 22 52.8**	**-2.8**
	comp=Z,298nm,0.4s						
PALK	**Pallekele**	**13.98**	**241**	*e*Pn	**Pn**	**21 22 55.1**	**-1.2**
PALK				*e*Sn	Sn	21 25 16.7	-14
KMI	**Kunming**	**14.10**	**39**	P	P	21 23 08.9	+3.6
KMI				pP	pP	21 23 43.7	
KMI				pmax	pmax		
	comp=Z,39nm,1.1s						
HYB	**Hyderabad**	**14.25**	**284**	*i* P	**Pn**	**21 22 59.0**	**-1.1**
HYB				*e*S	**Sn**	**21 25 40.0**	**+3.0**
HYB	**Hyderabad**	**14.25**	**284**	*e*P	**Pn**	**21 22 58.9**	**-1.1**
HYB				AMB	AMB	21 23 26.1	
	comp=Z,53nm,4.7s						
JIRN	**Jiri**	**14.71**	**335**	*e*P	**Pn**	**21 23 03.5**	**-3.0**
	comp=Z,196nm,0.4s						
NGP	**Nagpur**	**14.93**	**299**	*e*P	Pn	21 23 04.4	-4.7
NGP				*e*x	x	21 25 37.3	
PKI	**Pulchoki**	**14.96**	**333**	*e*P	Pn	21 23 06.0	-3.9
	comp=Z,337nm,0.4s						
PKIN	**Phulchoki**	**14.97**	**333**	*e*P	Pn	21 23 05.9	-4.0
	comp=Z,365nm,0.5s						
GUN	**Gumba**	**15.06**	**335**	*e*P	**Pn**	**21 23 08.0**	**-3.2**
	comp=Z,165nm,0.5s						
DMN	**Daman**	**15.13**	**332**	*e*P	**Pn**	**21 23 08.0**	**-4.0**
	comp=Z,404nm,0.7s						
JBP	**Jabalpur**	**15.15**	**307**	⇓*e*P	**Pn**	**21 23 11.3**	**-0.7**
JBP				*e*x	x	21 26 20.2	
KKN	**Kakani**	**15.21**	**333**	*e*P	**Pn**	**21 23 08.8**	**-4.2**
	comp=Z,215nm,0.7s						
LSA	**Lhasa**	**15.39**	**354**	P	**Pn**	**21 23 11.9**	**-3.8**
LSA	**Lhasa**	**15.39**	**354**	*e*P	**Pn**	**21 23 13.2**	**-2.4**
LSA				*e*		21 26 00.0	
LSA				pmax	pmax		
	comp=Z,31nm,0.9s						
LSA	**Lhasa**	**15.39**	**354**	*e*Pn	**Pn**	**21 23 13.2**	**-2.4**
	comp=Z,31nm,0.9s						
LSA				*e*Sn	**Sn**	**21 26 00.0**	**-5.4**
KGM	**Kluang**	**15.91**	**139**	P	**Pn**	**21 23 23.1**	**+1.1**
KOLN	**Koldanda**	**15.99**	**328**	*e*P	**Pn**	**21 23 19.4**	**-3.7**
	comp=Z,379nm,0.6s						
BKNI	**Bangkinang**	**16.02**	**150**	P	**Pn**	**21 23 23.1**	**-0.2**
	comp=Z,100nm,0.9s						
LATR	**Latur**	**16.31**	**287**	*e*P	**Pn**	**21 23 24.9**	**-2.0**
LATR				AMB	AMB	21 23 30.5	
	comp=Z,18nm,0.9s						
DANN	**Dangsing**	**16.39**	**330**	*e*P	**Pn**	**21 23 24.3**	**-4.0**
	comp=Z,205nm,0.7s						
PPI	**Padang Panjang**	**16.41**	**153**	P	**Pn**	**21 23 26.6**	**-1.7**
	comp=Z,48nm,1.0s						
MYKOM	**Kota Tinggi**	**16.43**	**138**	P	**P**	**21 23 32.4**	**+1.5**
MYKOM	**Kota Tinggi**	**16.43**	**138**	P	**Pn**	**21 23 29.7**	**+1.2**
	comp=Z,74nm,1.0s						
PYUN	**Piuthan**	**16.57**	**327**	*e*P	**Pn**	**21 23 26.6**	**-4.0**
	comp=Z,406nm,0.9s						
QIZ	**Qiongzhong**	**16.78**	**72**	*e*Pn	**Pn**	**21 23 33.8**	**+0.8**
	comp=Z,23nm,0.7s						
BHPL	**Bhopal**	**17.21**	**303**	*e*P	**Pn**	**21 23 38.2**	**-0.2**
POO	**Poona**	**18.85**	**285**	*e*P	**P**	**21 23 57.2**	**-0.7**
CD2	**Chengdu**	**19.23**	**29**	*e*P	**Pn**	**21 24 03.2**	**+0.2**
CD2				pP	**pP**	**21 24 09.1**	**-1.7**
CD2				sP	**sP**	**21 24 13.2**	**-2.0**
CD2				PP	**PnPn**	**21 24 20.8**	**+4.4**
CD2				S	**Sn**	**21 27 34.8**	**-2.8**
CD2				SS	**SnSn**	**21 28 00.3**	**+8.1**
CD2				pmax	pmax		
	comp=Z,90nm,0.8s						
CD2				LR	LR		
	comp=N,19μm,14.3s						
CD2				LR	LR		
	comp=Z,23μm,14.2s						
MASI	**Maura Aman, Be**	**19.62**	**152**	P	**P**	**21 24 05.3**	**-0.9**
	comp=Z,114nm,1.0s						
PPBI	**Pangkal Pinang**	**20.91**	**141**	P	**P**	**21 24 20.6**	**+0.3**
	comp=Z,473nm,1.1s						
DDI	**Dehra Dun**	**21.05**	**322**	*e*P	**P**	**21 24 20.0**	**-1.7**
KSM	**Kuching**	**21.34**	**125**	*e*P	**P**	**21 24 26.5**	**+1.7**
	comp=Z,37nm,0.9s						
KSM	**Kuching**	**21.34**	**125**	P	**P**	**21 24 27.7**	**+2.9**
ENH	**Enshi**	**21.95**	**41**	*e*P	**P**	**21 24 31.9**	**+0.5**
	comp=Z,60nm,0.8s						
SMLA	**Simla**	**22.16**	**322**	*e*P	**P**	**21 24 34.6**	**+1.0**
SMLA				AMB	AMB	21 24 40.6	
	comp=Z,41nm,1.5s						
STKI	**Sintang**	**23.12**	**126**	P	**P**	**21 24 44.5**	**+0.7**
DHRM	**DHARAMSHALA**	**23.48**	**322**	*e*P	**P**	**21 24 47.8**	**+0.3**
LZH	**Lanzhou**	**23.74**	**22**	*e*P	**P**	**21 24 51.0**	**+1.2**
LZH				pP	**pP**	**21 25 01.3**	**+1.9**
LZH				sP	**sP**	**21 25 05.5**	**+1.9**
LZH				pmax	pmax		
	comp=Z,230nm,1.7s						
LZH				pmax	pmax		
	comp=Z,860nm,7.2s						
KKM	**Kota Kinabalu**	**24.25**	**107**	*e*P	**P**	**21 24 55.8**	**+1.1**
XAN	**Xi'an**	**24.34**	**34**	P	**P**	**21 24 55.2**	**-0.1**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
GTA	**Gaotai**	**25.69**	**12**	P	**P**	**21 25 09.0**	**+1.4**
GTA				pP	**pP**	**21 25 18.4**	**+1.1**
GTA				sP	**sP**	**21 25 22.8**	**+1.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NJ2	**Nanjing**	**29.46**	**49**	*e*P	**P**	**21 25 41.6**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ	**Urumqi**	**29.74**	**352**	*e*P	**P**	**21 25 45.6**	**+1.9**
WMQ				sP	**sP**	**21 25 58.1**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**30.98**	**28**	*e*P	**P**	**21 25 56.6**	**+1.9**
HHC				PP	**PP**	**21 27 01.7**	**-3.3**
HHC				PcP	**PcP**	**21 28 49.7**	**-0.7**
HHC				S	**S**	**21 30 56.0**	**-1.3**
HHC				ScP	**ScP**	**21 32 25.2**	**-5.6**
HHC				PcS	**PcS**	**21 32 33.0**	**-1.5**
HHC				pmax	pmax		
	comp=Z,57nm,0.9s						
TKM2	**Tokmak 2**	**32.20**	**336**	*e*P	**P**	**21 26 05.5**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**32.20**	**336**	*e*P	**P**	**21 26 05.5**	**-0.1**
	comp=Z,1.8nm,0.6s						
AAK	**Ala-Archa**	**32.41**	**334**	*i* P	**P**	**21 26 09.2**	**+1.8**
AAK	**Ala-Archa**	**32.41**	**334**	*e*P	**P**	**21 26 07.6**	**+0.2**
BJT	**Baijiatuau**	**32.65**	**34**	*e*P	**P**	**21 26 10.4**	**+1.1**
BJI	**Beijing**	**32.67**	**34**	P	**P**	**21 26 10.8**	**+1.3**
BJI				pmax	pmax		
	comp=Z,29nm,0.7s						
EKS2	**Erkin-Say**	**32.74**	**333**	*e*P	**P**	**21 26 10.4**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**32.74**	**333**	*e*P	**P**	**21 26 10.4**	**+0.1**
	comp=Z,4.1nm,0.8s						
MKAR	**Makanchi Array**	**33.59**	**347**	*ce*P	**P**	**21 26 18.7**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	**33.59**	**347**	*e*P	**P**	**21 26 18.8**	**+1.3**
MKAR	**Makanchi Array**	**33.59**	**347**	P	**P**	**21 26 18.7**	**+1.3**
	comp=Z,4.7nm,0.5s,baz=168,slow=7.7,SNR=63						
KKAR	**Karatay Array**	**34.59**	**330**	*e*P	**P**	**21 26 27.0**	**+0.9**
KKAR	**Karatay Array**	**34.59**	**330**	*e*P	**P**	**21 26 27.0**	**+0.9**
SONM	**Songino Array**	**35.21**	**16**	P	**P**	**21 26 33.2**	**+1.7**
SONM				PcP	**PcP**	**21 29 02.0**	**-0.2**
SONM	**Songino Array**	**35.21**	**16**	P	**P**	**21 26 33.2**	**+1.7**
	comp=Z,11nm,1.0s,baz=200,slow=6.0,SNR=50						
SONM				PcP	**PcP**	**21 29 02.0**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=197,slow=2.5,SNR=5.3						
ULN	**Ulaanbaatar**	**35.41**	**16**	*e*P	**P**	**21 26 34.8**	**+1.5**
	comp=Z,17nm,1.3s						
HVS	**Khovu-Aksy**	**36.71**	**1**	*i* P	**P**	**21 26 45.5**	**+1.1**
HVS				pmax	pmax		
	comp=Z,48nm,1.2s						
ZAK	**Zakamensk**	**36.91**	**11**	*e*P	**P**	**21 26 46.2**	**+0.1**
ZAK				*e*		21 29 07.2	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**38.06**	**345**	P	**P**	**21 26 55.9**	**+0.2**
	comp=Z,9.6nm,0.7s,baz=164,slow=7.9,SNR=53						
KURK	**Kurchatov**	**38.12**	**345**	P	**P**	**21 26 55.9**	**-0.3**
KURK	**Kurchatov**	**38.12**	**345**	P	**P**	**21 26 55.9**	**-0.3**
TLY	**Talaya**	**38.22**	**11**	*e*P	**P**	**21 26 59.8**	**+2.7**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KSAR	**Wonju Array Be**	**38.56**	**47**	P	**P**	**21 27 00.7**	**+0.5**
KSRS	**Korea Array**	**38.60**	**47**	P	**P**	**21 27 00.7**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=242,slow=8.4,SNR=28						
JNU	**Nakatsue**	**39.11**	**55**	P	**P**	**21 27 05.5**	**+0.7**
JNU	**Nakatsue**	**39.11**	**55**	P	**P**	**21 27 05.5**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=212,slow=14,SNR=5.6						
ZAA0	**Zalesovo Array**	**40.05**	**352**	*e*P	**P**	**21 27 12.6**	**+0.3**
ZALV	**Zalesovo Beam**	**40.05**	**352**	*i* P	**P**	**21 27 12.8**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZALV	**Zalesovo Beam**	**40.05**	**352**	P	**P**	**21 27 12.9**	**+0.7**
ZALV	**Zalesovo Beam**	**40.05**	**352**	P	**P**	**21 27 12.9**	**+0.7**
	comp=Z,7.1nm,0.7s,baz=176,slow=8.2,SNR=36						
HIA	**Hailar**	**41.15**	**27**	*e*P	**P**	**21 27 22.0**	**+0.5**
	comp=Z,12nm,1.6s						
BVAR	**Borovoye Array**	**42.57**	**340**	P	**P**	**21 27 33.0**	**0.0**
BVAR	**Borovoye Array**	**42.57**	**340**	P	**P**	**21 27 33.0**	**0.0**
BVAR	**Borovoye Array**	**42.57**	**340**	P	**P**	**21 27 33.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=141,slow=9.6,SNR=9.2						
BRVK	**Borovoye**	**42.64**	**340**	*e*P	**P**	**21 27 34.0**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**42.64**	**340**	*e*P	**P**	**21 27 34.0**	**+0.5**
	comp=Z,4.0nm,0.9s						
MDJ	**Mudanjiang**	**43.27**	**38**	P	**P**	**21 27 39.6**	**+0.8**
MDJ				sP	**sP**	**21 27 48.3**	**-4.6**
MDJ				PcP	**PcP**	**21 29 28.2**	**+0.7**
MDJ				S	**S**	**21 34 08.0**	**+4.2**
MDJ				SS	**SS**	**21 37 17.1**	**-0.7**
MDJ				ScS	**ScS**	**21 37 38.2**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MDJ				LR	LR		
	comp=N,8μm,20.4s						
MDJ				LR	LR		
	comp=E,6μm,25.5s						
MDJ				LR	LR		
	comp=Z,14μm,25.5s						
VLA	**Vladivostok**	**43.94**	**41**	*i* P	P	21 27 47.9	+3.7
VLA				pmax	pmax		
	comp=Z,46nm,0.6s						
MBWA	**Marble Bar**	**43.95**	**143**	*e*P	**P**	**21 27 43.1**	**-1.4**
	comp=Z,7.7nm,0.9s						
ABKAR	**Akbulak array**	**44.11**	**329**	*e*P	**P**	**21 27 46.1**	**+0.7**
USRK	**Ussuriysk Arra**	**44.54**	**40**	P	**P**	**21 27 49.3**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=251,slow=7.3,SNR=11						
AKTO	**Aktyubinsk**	**45.83**	**329**	P	**P**	**21 28 00.1**	**+1.0**
AKTO	**Aktyubinsk**	**45.83**	**329**	P	**P**	**21 28 00.1**	**+1.0**
AKTO	**Aktyubinsk**	**45.83**	**329**	P	**P**	**21 28 00.1**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=124,slow=15,SNR=11						
HABR	**Khabarovsk**	**48.49**	**37**	*e*P	**P**	**21 28 19.4**	**-0.5**
HABR				*e*S	**S**	**21 35 18.9**	**+0.1**
HABR				*e**SS	**sS**	**21 35 36.2**	**+0.7**
HABR				*e*		21 38 09.0	
HABR				pmax	pmax		
	comp=E,28nm,1.6s						
HABR				pmax	pmax		
	comp=N,8.0nm,0.8s						
HABR				pmax	pmax		
	comp=Z,29nm,1.3s						
CLNS	**Chul'man**	**48.86**	**23**	*e*P	P	21 28 19.1	-3.6
CLNS				pmax	pmax		
	comp=Z,18nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				pmax	pmax		
	comp=N,11nm,0.7s						
SVE	**Sverdlovsk**	**49.05**	**337**	⇓*i* P	**P**	**21 28 25.5**	**+1.5**
SVE				pmax	pmax		
	comp=Z,18nm,0.9s						
ARU	**Arti**	**49.57**	**336**	*c i* P	**P**	**21 28 29.3**	**+1.3**
ARU						21 30 21.7	
ARU				S	**S**	**21 35 33.8**	**+0.1**
ARU				SS	**SS**	**21 39 08.8**	**+2.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ASAJ	**Asahikawa**	**51.44**	**45**	*e*P	**P**	**21 28 44.4**	**+2.0**
ASAJ	**Asahikawa**	**51.44**	**45**	P	**P**	**21 28 43.7**	**+1.3**
	comp=Z,12nm,1.0s,baz=23,slow=28,SNR=6.1						
KIV	**Kislovodsk**	**51.91**	**315**	*e*P	**P**	**21 28 47.1**	**+1.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**52.38**	**154**	*e*P	**P**	**21 28 48.8**	**-0.7**
	comp=Z,25nm,0.8s						
NWAO	**Narrogin (SRO)**	**52.38**	**154**	P	**P**	**21 28 48.9**	**-0.5**
	comp=Z,33nm,0.7s,baz=327,slow=7.0,SNR=12						

	comp=Z,2.0nm,0.9s					
KECS	Kecovo	67.84	317	eP	P	21 30 35.2 -0.1
PSZ	Piszkesteto	68.21	316	⇑P	P	21 30 38.1 +0.4
PSZ	Piszkesteto	68.21	316	⇑/P	P	21 30 38.1 +0.4
ARCES	ARCESS Array B	68.86	340	P	P	21 30 41.0 -0.4
ARCES	ARCESS Array B	68.86	340	P	P	21 30 41.0 -0.4
	comp=Z,4.3nm,0.7s,baz=92,slow=6.5,SNR=30					
VYHS	Vyhne	68.94	317	eP	P	21 30 42.5 +0.3
VYHS	Vyhne	68.94	317	eP	P	21 30 42.5 +0.3
OKC	Ostrava-Krasne	69.44	318	eP	P	21 30 46.6 +1.4
OKC	Ostrava-Krasne	69.44	318	eP	P	21 30 46.6 +1.4
MORC	Moravsky Berou	69.83	318	eP	P	21 30 48.4 +0.7
MORC				pmax	pmax	
	comp=Z,4.0nm,0.7s					
MORC	Moravsky Berou	69.83	318	eP	P	21 30 48.4 +0.7
	comp=Z,4.2nm,0.7s					
ZST	Bratislava	70.09	316	eP	P	21 30 48.6 -0.7
ZST	Bratislava	70.09	316	eP	P	21 30 48.6 -0.7
LSZ	Lusaka	70.52	248	eP	P	21 30 53.4 +0.8
LSZ	Lusaka	70.52	248	P	P	21 30 52.6 0.0
	comp=Z,3.2nm,0.7s,baz=59,slow=8.4,SNR=8.5					
DPC	Dobruska-Polom	70.63	319	eP	P	21 30 52.6 0.0
DPC	Dobruska-Polom	70.63	319	eP	P	21 30 52.6 0.0
CEL	Celeste	71.24	306	eP	P	21 30 56.9 +0.3
	comp=Z,12nm,1.1s					
PRU	Pruhonice	71.77	318	eP	P	21 30 59.9 +0.4
PRU	Pruhonice	71.77	318	eP	P	21 30 59.9 +0.4
BRG	Berggiesshubel	72.14	319	eP	P	21 31 02.5 +0.8
	comp=Z,3.3nm,0.7s					
BRG	Berggiesshubel	72.14	319	eP	P	21 31 02.5 +0.8
BRG				pmax	pmax	
	comp=Z,3.0nm,0.7s					
GEC2	GERESS Array S	72.34	317	eP	P	21 31 03.7 +0.7
GEC2	GERESS Array S	72.34	317	eP	P	21 31 03.7 +0.7
GERES	GERESS Array B	72.34	317	P	P	21 31 03.6 +0.6
GERES	GERESS Array B	72.34	317	P	P	21 31 03.6 +0.6
	comp=Z,3.2nm,0.6s,baz=86,slow=5.8,SNR=33					
KHC	Kasperske Hory	72.42	317	eP	P	21 31 03.6 +0.2
KHC				pmax	pmax	
	comp=Z,1.0nm,0.8s					
KHC	Kasperske Hory	72.42	317	eP	P	21 31 03.6 +0.2
KHC	Kasperske Hory	72.42	317	eP	P	21 31 03.6 +0.2
	comp=Z,1.0nm,0.8s					
CLL	Collm	72.73	320	eP	P	21 31 05.0 -0.1
CLL	Collm	72.73	320	eP	P	21 31 05.0 -0.1
NB2	NORSAR Subarra	73.61	330	P	P	21 31 09.3 -1.0
	comp=Z,2.7nm,0.7s,baz=88,slow=5.9					
NOA	NORSAR Array B	73.61	330	P	P	21 31 09.7 -0.5
NOA	NORSAR Array B	73.61	330	P	P	21 31 09.7 -0.5
	comp=Z,2.7nm,0.7s,baz=90,slow=5.8,SNR=13					
LBTB	Lobatse	76.45	240	eP	P	21 31 27.9 +0.6
LBTB	Lobatse	76.45	240	P	P	21 31 27.0 -0.4
	comp=Z,2.1nm,0.6s,baz=328,slow=5.9,SNR=5.4					
CDF	Champ du Feu	76.62	317	eP	P	21 31 27.0 -0.9
	comp=Z,3.3nm,0.7s					
KEST	Kesra	76.71	304	P	P	21 31 27.8 -0.9
KEST	Kesra	76.71	304	P	P	21 31 27.8 -0.9
	comp=Z,0.6nm,0.7s,baz=298,slow=4.8,SNR=3.8					
SBF	Sospel	77.07	312	eP	P	21 31 29.7 -0.8
	comp=Z,18nm,0.9s					
HAU	Haudompre	77.29	317	eP	P	21 31 30.6 -1.0
LPG	La Plagne	77.34	314	eP	P	21 31 31.9 -0.4
	comp=Z,13nm,0.7s					
LPL	La Plagne	77.35	314	eP	P	21 31 31.9 -0.3
	comp=Z,17nm,0.6s					
MBDF	Montbardon	77.43	313	eP	P	21 31 31.3 -1.3
	comp=Z,7.2nm,0.8s					
FRF	La Foret Royal	77.67	312	eP	P	21 31 33.2 -0.6
	comp=Z,4.3nm,0.5s					
LMR	La Mourre	77.81	312	eP	P	21 31 34.0 -0.5
	comp=Z,7.7nm,0.7s					
ORIF	Oris-en-Rattie	78.03	314	eP	P	21 31 35.4 -0.5
	comp=Z,3.0nm,0.7s					
SFTF	Sexfontaines	78.13	317	eP	P	21 31 35.6 -0.7
BOSA	Boshof	78.15	236	eP	P	21 31 37.5 +0.7
BOSA	Boshof	78.15	236	P	P	21 31 36.2 -0.6
	comp=Z,2.7nm,0.6s,baz=59,slow=4.2,SNR=9.0					
SMRF	Simiane la Rot	78.38	313	eP	P	21 31 37.5 -0.3
	comp=Z,5.3nm,0.7s					
VIVF	Saint-Julien-l	78.89	314	eP	P	21 31 39.8 -0.7
	comp=Z,5.7nm,0.7s					
LOR	Lormes	79.06	316	eP	P	21 31 40.5 -0.9
	comp=Z,3.5nm,0.6s					
SMF	Signal de Mont	79.17	315	eP	P	21 31 41.1 -0.9
	comp=Z,7.1nm,0.7s					
SSF	Saint Saulge	79.33	316	eP	P	21 31 42.1 -0.8
	comp=Z,2.0nm,0.6s					
AVF	Avril sur Loir	79.48	316	eP	P	21 31 42.7 -1.0
	comp=Z,4.9nm,0.6s					
LASF	Ste Croix	79.59	313	eP	P	21 31 44.1 -0.3
	comp=Z,17nm,1.1s					
TCF	Toulx Ste Croi	80.35	315	eP	P	21 31 48.0 -0.4
	comp=Z,4.5nm,0.8s					
CAF	Calviac	80.70	314	eP	P	21 31 50.1 -0.3
	comp=Z,3.4nm,0.7s					
MTLF	Montolieu	80.89	312	eP	P	21 31 50.9 -0.5
RJF	Les Rejaudoux	81.01	314	eP	P	21 31 51.7 -0.3
	comp=Z,7.9nm,0.8s					
LDF	La Druitiere	81.45	318	eP	P	21 31 53.5 -0.7
	comp=Z,11nm,0.7s					
FLN	La Foliniere	81.65	318	eP	P	21 31 54.7 -0.6
MFF	Saint Martin d	81.88	316	eP	P	21 31 55.8 -0.7
	comp=Z,5.0nm,0.8s					
ROSF	Rostrenen	83.55	318	eP	P	21 32 04.6 -0.6
ESDC	Sonseca Array	86.25	310	P	P	21 32 18.4 -0.6
ESDC	Sonseca Array	86.25	310	P	P	21 32 18.4 -0.6
	comp=Z,0.6nm,0.5s,baz=69,slow=5.0,SNR=6.6					
TOA0	Torodi Ar. Sit	88.07	283	eP	P	21 32 27.9 -0.2
TORD	Torodi Ar. Bea	88.07	283	P	P	21 32 28.6 +0.4
TORD	Torodi Ar. Bea	88.07	283	P	P	21 32 28.6 +0.4
	comp=Z,3.6nm,0.9s,baz=81,slow=3.8,SNR=27					
MCK	McKinley	89.00	23	eP	P	21 32 32.4 +0.7
MCK				pmax	pmax	
	comp=Z,8.0nm,0.8s					
MCK	McKinley	89.00	23	eP	P	21 32 32.4 +0.7
	comp=Z,8.3nm,0.8s					
ILAR	Eielson Array	89.20	22	P	P	21 32 31.9 -0.6
ILAR	Eielson Array	89.20	22	P	P	21 32 31.9 -0.6
	comp=Z,2.1nm,0.8s,baz=300,slow=4.3,SNR=23					
SML	Sawmill	90.24	25	eP	P	21 32 38.7 +1.1
SML				pmax	pmax	
	comp=Z,20nm,2.3s					
SML	Sawmill	90.24	25	eP	P	21 32 38.7 +1.1
	comp=Z,20nm,2.3s					
PAX	Paxson	90.73	23	eP	P	21 32 40.7 +0.8
PAX				pmax	pmax	
	comp=Z,5.0nm,1.2s					
PAX	Paxson	90.73	23	eP	P	21 32 40.7 +0.8
	comp=Z,5.3nm,1.2s					
INK	Inuvik	91.12	16	P	P	21 32 40.6 -0.8
INK	Inuvik	91.12	16	P	P	21 32 40.6 -0.8
	comp=Z,2.7nm,0.8s,baz=311,slow=9.5,SNR=3.0					
BMRM	Bremner River	92.20	24	eP	P	21 32 48.0 +1.3
	comp=Z,7.2nm,0.9s					
NVAR	Mina Array Bea	119.87	28	PKP	PKPdf	21 38 29.1 +1.1
NVAR	Mina Array Bea	119.87	28	PKP	PKPdf	21 38 29.1 +1.1
	comp=Z,0.8nm,0.6s,baz=288,slow=1.7,SNR=5.8					
TXAR	Lajitas Array	133.70	20	PKP	PKPdf	21 38 55.0 +0.5
TXAR	Lajitas Array	133.70	20	PKP	PKPdf	21 38 55.0 +0.5
	comp=Z,0.4nm,0.6s,baz=343,slow=2.6,SNR=4.3					
TEIG	Tepich	145.64	2	ePKPdf	PKPab	21 39 16.7 0.0

IDC 10 21:26:06.8±1.4, 14°.11N×93°.28E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.5/27, mbtmp3.5/7, Error ellipse: s-maj=41.4km s-min=25.7km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.95	51	Pn	Pn	21 27 51.1	+1.2
	baz=238,slow=16,SNR=2.4						
MKAR	Makanchi Array	33.86	346	P	P	21 32 52.4	+1.3
	0.5nm,0.6s,baz=167,slow=7.4,SNR=4.9						
SONM	Songino Array	35.35	15	P	P	21 33 02.6	-1.6
	0.6nm,0.9s,baz=177,slow=5.8,SNR=2.9						
ZALV	Zalesovo Beam	40.30	352	P	P	21 33 46.3	+0.6
	0.8nm,0.6s,baz=166,slow=6.9,SNR=4.6						
ASAR	Alice Springs	54.65	133	P	P	21 35 37.9	0.0
	0.3nm,0.5s,baz=308,slow=7.1,SNR=3.5						
FINES	FINESS Array B	66.86	331	P	P	21 36 59.5	-0.9
	1.2nm,0.8s,baz=100,slow=7.9,SNR=4.8						
GERES	GERESS Array B	72.68	317	P	P	21 37 37.0	+0.3
	0.2nm,0.5s,baz=66,slow=6.4,SNR=4.5						

JMA 10 21:26:41.2±0.1, 34°.89N×138°.42E, h23km±2km, M2.7, 2C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	Shizuoka 3	0.25	316	P	Pb	21 26 47.1	-0.3
SHZ3				S	Sb	21 26 51.8	+0.2
JSG	Sagara	0.29	222	⇓P	Pb	21 26 48.0	+0.1
JSG				S	Sb	21 26 53.6	+1.2
JIZS	Izushimoda	0.41	114	⇑P	Pb	21 26 49.2	-0.7
JIZS				S	Sb	21 26 55.2	-0.6
KTJJ	Kamata 2	0.53	86	P	Pb	21 26 51.3	-0.6
JYN	Shimob	0.61	9	⇓P	Pb	21 26 52.8	-0.6
JYN				eS	Sb	21 27 01.8	0.0
JNY	Yasuok	0.65	316	⇑P	Pb	21 26 53.6	-0.5
JNY				S	Sb	21 27 02.7	-0.2
TK04	Tokai 4	0.68	222	P	Pb	21 26 53.8	-0.4

*IDC **10** 21:27:04.0±1.3, 34°.78N×138°.59E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/30, mbtmp3.9/11, ML3.4/2, Error ellipse: s-maj=40.1km s-min=15.0km az=87.0*
*ISCJB **10** 21:27:07.1±0.4, 34°.86N±0°.05×138°.41E±0°.04, h23km, mb4.0/13, Error ellipse: s-maj=6.8km s-min=4.6km az=13.8*
*NEIC **10** 21:27:08.2±3.8, 34°.75N×138°.49E, h27km±25km, mb4.3/3, Error ellipse: s-maj=19.2km s-min=11.2km az=98.0*
NEIC Recorded [3 JMA] in Shizuoka and [1 JMA] in Aichi, Kanagawa, Nagano and Yamanashi.
*JMA **10** 21:27:08.2±0.1, 34°.87N×138°.45E, h24km±2km, M4.4 Broadband fault plane solution: P waves. NP1: φs=319.00000°, δ63.00000°, λ133.00000°. NP2: φs=76.00000°, δ49.00000°, λ37.00000°. Principal axes: T Plg52.0000°, Azm280.0000°; N Plg37.0000°, Azm116.0000°; P Plg8.0000°, Azm20.0000°;*
JMA Felt III J1.

ISC 10 21:27:08.2±0.6, 34°.87N±0°.04×138°.46E±0°.03, h23km, n37, σ0°.82/40, mb4.0/13, 1C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	Shizuoka 3	0.28	313	P	Pb	21 27 14.6	-0.3
SHZ3				S	Sb	21 27 19.6	+0.1
JSG	Sagara	0.30	229	⇓P	Pb	21 27 15.1	0.0
JSG				S	Sb	21 27 20.7	+0.9
JIZS	Izushimoda	0.38	114	⇑P	Pb	21 27 16.0	-0.3
JIZS				S	Sb	21 27 21.8	0.0
KTJJ	Kamata 2	0.50	84	P	Pb	21 27 18.1	-0.2
KTJJ				eS	Sb	21 27 25.3	+0.1
JYN	Shimob	0.63	6	⇓P	Pb	21 27 20.2	-0.4
TK04	Tokai 4	0.69	225	P	Pb	21 27 20.7	-0.8
JMY	Miyakejima3	1.18	132	P	Pn	21 27 29.2	-0.2
MJAR	Matsushiro Arr	1.68	353	Pn	Pb	21 27 37.6	-0.9
MJAR				Lg	Lg	21 27 59.4	
MJAR	Matsushiro Arr	1.68	353	Pn	Pb	21 27 37.6	-0.9
	64nm,0.3s,baz=178,slow=12,SNR=53						
MJAR				Lg	Lg	21 27 59.4	
	121nm,0.3s,baz=159,slow=24,SNR=21						
JNU	Nakatsue	6.54	257	Pn	Pn	21 28 42.8	-0.2
JNU	Nakatsue	6.54	257	Pn	Pn	21 28 42.8	-0.2
	0.9nm,0.3s,baz=34,slow=19,SNR=14						
KSRS	Korea Array	8.90	290	Pn	Pn	21 29 16.3	+0.9
	0.2nm,0.3s,baz=100,slow=14,SNR=3.1						
KSAR	Wonju Array Be	8.93	290	Pn	Pn	21 29 16.3	+0.5
ENH	Enshi	24.80	267	eP	P	21 32 27.9	-0.7
	4.3nm,0.6s						
ULN	Ulaanbaatar	26.71	309	P	P	21 32 45.9	+0.1
BVAR	Borovoye Array	50.28	313	P	P	21 36 01.9	-0.7
BVAR	Borovoye Array	50.28	313	P	P	21 36 01.9	-0.7
	0.4nm,0.5s,baz=63,slow=6.8,SNR=3.7						
WRAB	Tennant Creek	54.64	185	eP	P	21 36 33.4	-1.8
	0.8nm,0.6s						
WRA	Warramunga Arr	54.65	185	P	P	21 36 34.0	-1.3
WRA	Warramunga Arr	54.65	185	P	P	21 36 34.0	-1.3
	0.7nm,0.6s,baz=358,slow=7.3,SNR=9.2						
ABKAR	Akbulak array	57.51	310	eP	P	21 36 54.5	-0.9
	13nm,0.6s						
AKTO	Aktyubinsk	58.34	312	P	P	21 37 02.4	+1.0
AKTO	Aktyubinsk	58.34	312	P	P	21 37 02.4	+1.0
	0.7nm,0.5s,baz=67,slow=8.8,SNR=4.1						
ARCES	ARCESS Array B	65.16	339	P	P	21 37 46.9	-0.1
ARCES	ARCESS Array B	65.16	339	P	P	21 37 46.9	-0.1
	1.5nm,0.8s,baz=46,slow=10,SNR=4.2						
KAF	Kangasniemi	69.11	332	ep	P	21 38 08.5	-3.6
	0.7nm,0.4s						
FINES	FINESS Array B	69.59	332	P	P	21 38 14.7	-0.4
FINES	FINESS Array B	69.59	332	P	P	21 38 14.7	-0.4
	2.5nm,0.5s,baz=66,slow=5.7,SNR=19						
KBZ	Khabaz	70.47	310	P	P	21 38 21.3	+0.5
KBZ	Khabaz	70.47	310	P	P	21 38 21.3	+0.5
	2.5nm,0.8s,baz=60,slow=8.3,SNR=4.2						
NB2	NORSAR Subarra	75.23	336	P	P	21 38 48.5	-0.3
	comp=Z,0.8nm,0.9s,baz=39,slow=5.9						
NOA	NORSAR Array B	75.23	336	P	P	21 38 48.4	-0.4
NOA	NORSAR Array B	75.23	336	P	P	21 38 48.4	-0.4
	comp=Z,1.3nm,0.8s,baz=41,slow=5.9,SNR=5.8						
BRTR	Keskin Array B	78.46	310	P	P	21 39 07.7	+0.1
BRTR	Keskin Array B	78.46	310	P	P	21 39 07.7	+0.1
	comp=Z,1.4nm,0.9s,baz=77,slow=3.7,SNR=5.8						
GERES	GERESS Array B	83.25	327	P	P	21 39 34.8	+2.0
GERES	GERESS Array B	83.25	327	P	P	21 39 34.8	+2.0
	comp=Z,0.5nm,0.7s,baz=85,slow=8.2,SNR=4.4						

*IDC **10** 21:27:56.4±0.8, 13°.90N×92°.90E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.9/28, mbtmp3.8/16, ML3.6/1, Error ellipse: s-maj=23.3km s-min=18.3km az=56.0*
*ISCJB **10** 21:27:59.6±0.6, 13°.98N±0°.10×93°.05E±0°.08, h32km, mb3.8/17, Error ellipse: s-maj=15.1km s-min=9.7km az=153.3*

ISC 10 21:28:01.4±0.8, 14°.0N±0°.1×93°.0E±0°.1, h32km, n18, σ0°.69/19, mb3.9/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.27	51	Pn	Pn	21 29 46.5	+1.0
	0.3nm,0.3s,baz=239,slow=15,SNR=4.6						
CMAR				Sn	Sn	21 31 05.9	-1.2
	0.5nm,0.3s,baz=240,slow=28,SNR=4.3						
MKAR	Makanchi Array	33.94	347	P	P	21 34 42.3	+0.6
	0.8nm,0.5s,baz=171,slow=7.7,SNR=11						
SONM	Songino Array	35.58	16	P	P	21 34 57.2	+1.2
	1.1nm,0.7s,baz=201,slow=7.3,SNR=8.2						
KURBB	Kurchatov Arra	38.41	345	P	P	21 35 20.4	+0.6
	2.2nm,0.3s,baz=163,slow=8.3,SNR=4.4						
KSRS	Korea Array	38.88	47	P	P	21 35 23.6	-0.4
	0.7nm,0.6s,baz=244,slow=8.8,SNR=2.5						
ZALV	Zalesovo Beam	40.42	353	P	P	21 35 36.7	+0.2
	1.5nm,0.7s,baz=179,slow=7.6,SNR=6.5						
WRA	Warramunga Arr	52.83	129	P	P	21 37 14.1	-0.1
	0.5nm,0.7s,baz=310,slow=7.9,SNR=3.3						
ASAR	Alice Springs	54.77	133	P	P	21 37 28.6	+0.2
	0.4nm,0.4s,baz=307,slow=6.7,SNR=6.3						
BRTR	Keskin Array B	57.70	308	P	P	21 37 49.0	-0.3
	0.6nm,0.9s,baz=122,slow=9.0,SNR=3.5						
FINES	FINESS Array B	66.85	331	P	P	21 38 49.6	-0.4
	0.4nm,0.4s,baz=83,slow=6.3,SNR=4.9						
ARCES	ARCESS Array B	69.20	340	P	P	21 39 04.5	-0.2
	0.4nm,0.5s,baz=79,slow=6.5,SNR=4.6						
GERES	GERESS Array B	72.59	317	P	P	21 39 25.6	-0.1
	0.2nm,0.5s,baz=79,slow=5.1,SNR=3.6						
NOA	NORSAR Array B	73.92	330	P	P	21 39 32.0	-1.2
	0.5nm,0.6s,baz=87,slow=5.9,SNR=3.3						
LPG	La Plagne	77.57	314	eP	P	21 39 54.6	-0.2
	4.9nm,0.8s						
LPL	La Plagne	77.58	314	eP	P	21 39 54.6	-0.2
	2.6nm,0.6s						
BOSA	Boshof	77.91	236	P	P	21 39 57.0	+0.3
	2.3nm,0.9s,baz=71,slow=15,SNR=3.7						
TORD	Torodi Ar. Bea	88.11	283	P	P	21 40 49.8	+0.2
	0.4nm,0.9s,baz=58,slow=4.6,SNR=3.5						
ILAR	Eielson Array	89.56	22	P	P	21 40 54.6	-0.9
	0.4nm,0.6s,baz=260,slow=4.4,SNR=4.7						

IDC 10 21:30:58.0±1.5, 14°.17N×93°.02E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/28, mbtmp3.4/5, Error ellipse: s-maj=56.4km s-min=22.1km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.10	52	Pn	Pn	21 32 43.4	+0.1
	baz=240,slow=15,SNR=2.3						
MKAR	Makanchi Array	33.74	347	P	P	21 37 41.1	-0.1
	0.2nm,0.5s,baz=158,slow=7.0,SNR=3.3						
FITZ	Fitzroy Crossi	45.42	134	P	P	21 39 18.9	0.0
	0.7nm,0.7s,baz=315,slow=13,SNR=2.6						
WRA	Warramunga Arr	52.93	129	P	P	21 40 16.5	0.0
	0.4nm,0.9s,baz=311,slow=7.9,SNR=2.6						
ARCES	ARCESS Array B	69.01	340	P	P	21 42 04.9	-0.2
	0.6nm,0.8s,baz=101,slow=9.3,SNR=3.0						

IDC 10 21:32:44.3±0.8, 13°.83N×93°.00E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.7/30, mbtmp3.7/14, ML3.0/1, Error ellipse: s-maj=31.5km s-min=15.9km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.33	50	Pn	Pn	21 34 33.5	+0.7
	0.1nm,0.3s,baz=239,slow=15,SNR=2.8						
CMAR				Sn	Sn	21 35 50.0	-6.8
	0.5nm,0.3s,baz=238,slow=28,SNR=5.5						
MKAR	Makanchi Array	34.07	347	P	P	21 39 30.1	-0.3
	0.5nm,0.7s,baz=155,slow=9.3,SNR=4.3						
SONM	Songino Array	35.69	16	P	P	21 39 45.2	+0.6
	0.3nm,0.8s,baz=96,slow=1.5,SNR=3.6						
KURBB	Kurchatov Arra	38.54	345	P	P	21 40 08.3	-0.2
	1.5nm,0.2s,baz=159,slow=8.0,SNR=5.0						
ZALV	Zalesovo Beam	40.54	353	P	P	21 40 24.2	-1.0
	0.3nm,0.4s,baz=168,slow=16,SNR=2.4						
FITZ	Fitzroy Crossi	45.20	134	P	P	21 41 02.2	-1.2
	0.8nm,0.5s,baz=311,slow=5.7,SNR=7.4						
AKTO	Aktyubinsk	46.25	329	P	P	21 41 11.4	+0.1
	0.6nm,0.5s,baz=102,slow=9.3,SNR=3.2						
WRA	Warramunga Arr	52.73	129	P	P	21 42 01.0	-0.3
	0.7nm,0.8s,baz=293,slow=9.3,SNR=4.9						
ASAR	Alice Springs	54.66	133	P	P	21 42 16.2	+0.8
	0.7nm,0.4s,baz=308,slow=6.8,SNR=9.9						
BRTR	Keskin Array B	57.79	308	P	P	21 42 37.7	-0.1
	1.4nm,0.9s,baz=94,slow=7.9,SNR=5.5						
FINES	FINESS Array B	66.97	331	P	P	21 43 38.1	-0.6
	0.9nm,0.7s,baz=104,slow=8.0,SNR=4.5						
GERES	GERESS Array B	72.69	317	P	P	21 44 15.1	+0.8
	0.4nm,0.6s,baz=73,slow=4.5,SNR=5.1						
TORD	Torodi Ar. Bea	88.16	283	P	P	21 45 38.1	+0.2
	1.4nm,1.1s,baz=82,slow=3.4,SNR=6.2						
ILAR	Eielson Array	89.67	22	P	P	21 45 44.0	-0.1
	0.3nm,0.7s,baz=272,slow=2.6,SNR=3.6						

*IDC **10** 21:38:23.0±1.4, 14°.18N×92°.97E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/29, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=53.6km s-min=16.1km az=65.0*
*ISCJB **10** 21:38:24.7±0.7, 14°.47N±0°.07×92°.99E±0°.07, h33km, mb3.7/8, Error ellipse: s-maj=11.9km s-min=7.9km az=37.6*

ISC 10 21:38:26.8±1.0, 14°.4N±0°.1×92°.9E±0°.1, h35km, n19, σ1°.32/17, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.04	54	Pn	Pn	21 40 08.4	+1.0
	0.6nm,0.3s,baz=243,slow=15,SNR=12						
CMAR				Sn	Sn	21 41 25.1	-1.2
	1.2nm,0.3s,baz=247,slow=24,SNR=4.8						
ODAN	Odare	13.41	338	eP	Pn	21 41 34.3	-0.6
	45nm,0.3s						
TAPN	Taplejung	13.75	340	eP	Pn	21 41 37.7	-1.9
	41nm,0.5s						
RAMN	Ramite	13.79	336	eP	Pn	21 41 39.6	-0.5
	17nm,0.2s						
PKI	Pulchoki	14.83	333	eP	Pn	21 41 52.9	-1.5
	48nm,0.5s						
PKIN	Phulchoki	14.84	333	eP	Pn	21 41 53.1	-1.3
	49nm,0.5s						
DMN	Daman	15.00	332	eP	Pn	21 41 56.0	-0.5
	39nm,0.6s						
KKN	Kakani	15.08	333	eP	Pn	21 41 57.2	-0.3
KOLN	Koldanda	15.86	328	eP	Pn	21 42 07.2	-0.5
	25nm,0.3s						
DANN	Dangsing	16.26	330	eP	Pn	21 42 12.4	-0.4
	22nm,0.4s						
PYUN	Piuthan	16.44	327	eP	P	21 42 16.2	-1.3
	23nm,0.3s						
MKAR	Makanchi Array	33.48	347	P	P	21 45 06.2	+3.6
	0.4nm,0.7s,baz=181,slow=11,SNR=4.0						
SONM	Songino Array	35.14	16	P	P	21 45 20.6	+3.4
	0.4nm,0.7s,baz=206,slow=9.9,SNR=3.5						
KURBB	Kurchatov Arra	37.94	345	P	P	21 45 43.7	+2.8
	0.3nm,0.3s,baz=164,slow=7.7,SNR=2.2						
ZALV	Zalesovo Beam	39.95	353	P	P	21 46 01.1	+3.6
	0.3nm,0.6s,baz=201,slow=7.7,SNR=2.4						
FITZ	Fitzroy Crossi	45.67	134	P	P	21 46 42.6	-1.8
	1.7nm,0.9s,baz=135,slow=4.8,SNR=6.4						
WRA	Warramunga Arr	53.16	129	P	P	21 47 41.8	+0.1
	1.0nm,0.7s,baz=313,slow=8.2,SNR=20						
ASAR	Alice Springs	55.13	133	P	P	21 47 56.6	+0.6
	0.9nm,0.5s,baz=309,slow=6.8,SNR=18						
STKA	Stephens Creek	65.53	135	P	P	21 49 07.2	+0.3
	2.3nm,0.8s,baz=299,slow=6.6,SNR=6.4						

**IDC 10 21:42:32.2±1.6, 13°.94N×93°.03E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.

0.1nm,0.3s,baz=237,slow=15,SNR=3.1
MKAR Makanchi Array 34.01 347 P P 22 18 32.6 0.0
0.3nm,0.6s,baz=164,slow=7.4,SNR=3.6
KURBB Kurchatov Arra 38.48 345 P P 22 19 10.9 +0.1
0.4nm,0.8s,baz=167,slow=8.6,SNR=3.4
ZALV Zalesovo Beam 40.48 353 P P 22 19 26.8 -0.7
0.2nm,0.3s,baz=184,slow=5.8,SNR=2.3
WRA Warramunga Arr 52.76 129 P P 22 21 04.2 -0.1
0.5nm,0.6s,baz=299,slow=9.7,SNR=9.1
ASAR Alice Springs 54.70 133 P P 22 21 18.9 +0.4
0.6nm,0.4s,baz=306,slow=7.0,SNR=9.1

---

*IDC **10** 22:13:58.5±1.4, 14°.42N×93°.16E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/28, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=42.1km s-min=19.7km az=63.0*
*ISCJB **10** 22:14:00.2±0.8, 14°.48N±0°.08×93°.00E±0°.07, h33km, mb3.5/4, Error ellipse: s-maj=12.9km s-min=8.5km az=35.1*
ISC 10 22:14:01.9±1.2, 14°.5N±0°.1×93°.0E±0°.1, h35km, n17, σ1°19/17, mb3.4/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.97**	**55**	Pn	**Pn**	**22 15 39.4**	**-2.2**
	0.3nm,0.3s,baz=241,slow=16,SNR=2.9						
CMAR				Sn	**Sn**	**22 17 01.7**	**+2.0**
	0.8nm,0.3s,baz=240,slow=27,SNR=4.5						
ODAN	**Odare**	**13.35**	**338**	*e*P	**Pn**	**22 17 09.3**	**+0.1**
	41nm,0.3s						
TAPN	**Taplejung**	**13.69**	**340**	*e*P	**Pn**	**22 17 13.3**	**-0.6**
	24nm,0.2s						
RAMN	**Ramite**	**13.74**	**335**	*e*P	**Pn**	**22 17 14.3**	**-0.2**
	40nm,0.3s						
JIRN	**Jiri**	**14.53**	**335**	*e*P	**Pn**	**22 17 26.1**	**+0.7**
	34nm,0.3s						
PKI	**Pulchoki**	**14.79**	**333**	*e*P	**Pn**	**22 17 28.7**	**-0.1**
	36nm,0.3s						
PKIN	**Phulchoki**	**14.80**	**333**	*e*P	**Pn**	**22 17 29.2**	**+0.3**
DMN	**Daman**	**14.95**	**332**	*e*P	**Pn**	**22 17 30.7**	**-0.3**
	16nm,0.2s						
KKN	**Kakani**	**15.03**	**333**	*e*P	**Pn**	**22 17 31.6**	**-0.4**
	7.0nm,0.2s						
KOLN	**Koldanda**	**15.82**	**328**	*e*P	**P**	**22 17 44.1**	**-1.6**
	18nm,0.2s						
DANN	**Dangsing**	**16.21**	**330**	*e*P	**P**	**22 17 48.9**	**-1.3**
	12nm,0.2s						
PYUN	**Piuthan**	**16.40**	**327**	*e*P	**P**	**22 17 51.8**	**-0.4**
MKAR	**Makanchi Array**	**33.41**	**347**	P	P	22 20 40.8	+3.5
	0.2nm,0.5s,baz=162,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**37.88**	**345**	P	**P**	**22 21 17.6**	**+2.2**
	0.2nm,0.6s,baz=163,slow=8.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**45.69**	**134**	P	**P**	**22 22 19.1**	**-0.6**
WRA	**Warramunga Arr**	**53.18**	**129**	P	**P**	**22 23 17.4**	**+0.5**
	0.5nm,0.7s,baz=311,slow=7.7,SNR=6.2						
ASAR	**Alice Springs**	**55.15**	**133**	P	**P**	**22 23 31.9**	**+0.7**
	0.5nm,0.4s,baz=311,slow=6.9,SNR=7.7						

---

*AUST **10** 22:36:29.7±38.0, 2°.47S×134°.85E, h31km±1km, Error ellipse: s-maj=4.3km s-min=1.3km az=325.0*
*IDC **10** 22:36:59.3±1.8, 4°.84S×133°.82E, h0km, mb3.8/1, mb1 4.2/5, mb1mx3.7/19, mbtmp4.0/5, ML4.0/4, Error ellipse: s-maj=66.9km s-min=26.0km az=72.0*
ISC 10 22:37:02.6±1.2, 5°.14S±0°.08×133°.6E±0°.2, h25km, n9, σ2°56/9, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.56**	**329**	S	**Pn**	**22 37 41.8**	**-0.8**
	baz=2.6,SNR=12						
KDU	**Kakadu**	**7.57**	**188**	P	Pn	22 38 57.6	+6.2
	baz=10,SNR=11						
KDU				S	Sn	22 40 27.4	+11
	baz=10,SNR=4.3						
MTN	**Manton Dam**	**8.02**	**197**	P	Pn	22 39 06.2	+8.6
	baz=11,SNR=4.6						
MTN				S	Sn	22 40 39.5	+12
	baz=11,SNR=5.9						
KNRA	**Kununurra**	**11.48**	**204**	P	Pn	22 39 51.6	+6.6
	baz=14,SNR=8.7						
WRA	**Warramunga Arr**	**14.73**	**177**	Pn	**Pn**	**22 40 31.1**	**+1.6**
	0.3nm,0.3s,baz=356,slow=13,SNR=16						
WRA				Sn	**Sn**	**22 43 10.2**	**-1.8**
	0.3nm,0.3s,baz=358,slow=22,SNR=5.3						
FITZ	**Fitzroy Crossi**	**15.03**	**210**	Pn	**P**	**22 40 37.9**	**-0.7**
	1.0nm,0.3s,baz=37,slow=12,SNR=36						
FITZ				Sn	**Sn**	**22 43 20.5**	**+1.3**
	0.6nm,0.3s,baz=171,slow=14,SNR=8.4						
ASAR	**Alice Springs**	**18.42**	**179**	P	**Pn**	**22 41 20.3**	**+3.9**
	1.0nm,0.3s,baz=6.0,slow=11,SNR=74						
ASAR				S	**Sn**	**22 44 37.7**	**-3.9**
	0.1nm,0.3s,baz=359,slow=29,SNR=3.1						
CTA	**Charters Tower**	**19.32**	**141**	P	**Pn**	**22 41 27.1**	**-0.2**
	0.4nm,0.3s,baz=339,slow=10.0,SNR=4.0						
MKAR	**Makanchi Array**	**68.68**	**325**	P	**P**	**22 48 04.2**	**+0.1**
	0.7nm,0.7s,baz=120,slow=8.5,SNR=7.9						

---

*IDC **10** 22:37:13.9±1.0, 14°.07N×92°.93E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/27, mbtmp3.5/9, ML3.7/1, Error ellipse: s-maj=34.5km s-min=20.6km az=57.0*
*ISCJB **10** 22:37:16.9±0.8, 14°.2N±0°.1×93°.02E±0°.10, h32km, mb3.5/8, Error ellipse: s-maj=20.0km s-min=10.3km az=29.7*
ISC 10 22:37:18.9±1.1, 14°.1N±0°.2×93°.0E±0°.1, h32km, n10, σ0°80/11, mb3.5/8, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.15**	**52**	Pn	**Pn**	**22 39 01.3**	**0.0**
	0.3nm,0.3s,baz=240,slow=16,SNR=3.2						
JBP	**Jabalpur**	**15.26**	**308**	‖*i*P	**Pn**	**22 40 53.4**	**+1.3**
JBP				*i* x	x	22 40 54.0	
	comp=Z,30nm,1.0s						
JBP				*e*S	**Sn**	**22 43 38.8**	**-1.3**
MKAR	**Makanchi Array**	**33.78**	**347**	P	**P**	**22 43 58.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=164,slow=9.3,SNR=3.5						
SONM	**Songino Array**	**35.41**	**16**	P	**P**	**22 44 12.2**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=198,slow=8.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**40.25**	**353**	P	**P**	**22 44 52.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=193,slow=5.9,SNR=2.5						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**22 46 32.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=306,slow=9.9,SNR=2.1						
ASAR	**Alice Springs**	**54.86**	**133**	P	**P**	**22 46 46.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=305,slow=6.9,SNR=4.5						
FINES	**FINESS Array B**	**66.71**	**331**	P	**P**	**22 48 05.7**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=117,slow=6.6,SNR=3.3						
GERES	**GERESS Array B**	**72.48**	**317**	P	**P**	**22 48 42.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=98,slow=5.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**88.09**	**283**	P	**P**	**22 50 07.3**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=78,slow=3.5,SNR=5.2						

IDC 10 22:46:45.8±1.5, 13°.97N×93°.17E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.3/4, Error ellipse: s-maj=108.1km s-min=23.0km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.97**	**347**	P	P	22 53 30.8	-0.3
	0.3nm,0.7s,baz=169,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**52.69**	**129**	P	P	22 56 01.8	-0.7
	0.4nm,0.8s,baz=306,slow=9.5,SNR=3.0						
ASAR	**Alice Springs**	**54.64**	**133**	P	P	22 56 17.3	+0.6
	0.2nm,0.4s,baz=307,slow=7.1,SNR=3.5						
GERES	**GERESS Array B**	**72.70**	**317**	P	P	22 58 16.0	+0.2
	0.1nm,0.4s,baz=91,slow=8.0,SNR=2.7						

IDC 10 22:49:30.6±6.4, 62°.53S×155°.16E, h0km, mb3.4/2, mb1 4.0/3, mb1mx3.8/13, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=416.3km s-min=41.9km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.21**	**174**	Pn	Pn	22 53 06.4	+0.1
	1.3nm,0.3s,baz=347,slow=11,SNR=26						
VNDA				Sn	Sn	22 55 44.8	-10
	0.3nm,0.3s,baz=302,slow=9.5,SNR=4.2						
ASAR	**Alice Springs**	**41.42**	**330**	P	P	22 57 17.5	-1.2
	0.8nm,1.0s,baz=167,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**44.92**	**332**	P	P	22 57 48.0	+1.1
	0.3nm,0.7s,baz=164,slow=6.8,SNR=4.8						

---

*BUL **10** 22:54:42.7±8.0, 11°.55S×35°.53E, h29km±207km, MD4.2*
*BJI **10** 22:54:43.2, 10°.60S×34°.40E, h10km, mB4.7/1, mb4.9/16, Ms5.4/3, Ms7 5.3/3*
*ISCJB **10** 22:54:44.6±0.2, 10°.65S±0°.03×34°.29E±0°.05, h10km, mb4.6/50, Error ellipse: s-maj=7.1km s-min=3.7km az=7.6*
*IDC **10** 22:54:45.6±0.5, 10°.53S×34°.35E, h0km, mb4.5/22, mb1 4.6/28, mb1mx4.6/34, mbtmp4.6/28, ML4.8/4, Error ellipse: s-maj=17.5km s-min=11.7km az=92.0*
*NEIC **10** 22:54:46.8±0.3, 10°.56S×34°.38E, h10km, mb4.5/7, Error ellipse: s-maj=8.0km s-min=6.2km az=91.0*
NEIC Felt [IV] at Livingstonia.
ISC 10 22:54:47.7±0.5, 10°.61S±0°.04×34°.35E±0°.05, h17km±2km, h16km:pP-P, n149, σ1°62/170, mb4.6/51, 7C-6D, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**0.88**	**202**	*i* P	**Pn**	**22 55 07.9**	**+2.5**
MZM				*i* S	**Sn**	**22 55 20.7**	**+2.9**
DODT	**Dodoma, Tanzan**	**4.60**	**18**	*i* P	**Pn**	**22 55 55.4**	**-1.3**
DODT				*i* S	**Sn**	**22 56 46.3**	**-3.7**
KOND	**KOND**	**6.12**	**11**	*i* P	Pn	22 56 12.1	-5.6
KOND				*i* S	**Sb**	**22 57 45.4**	**-2.0**
KOND				AMP		22 57 47.9	
	comp=E,73μm,1.1s						
LSZ	**Lusaka**	**7.59**	**232**	*e*Pn	**Pn**	**22 56 38.4**	**+0.6**
LSZ				*e*Sn	**Sn**	**22 57 58.8**	**-4.8**
LSZ				Lg	Lg	22 58 43.8	
LSZ	**Lusaka**	**7.59**	**232**	Pn	**Pn**	**22 56 38.2**	**+0.4**
	comp=E,13nm,0.3s,baz=42,slow=12,SNR=125						
LSZ				Sn	**Sn**	**22 58 00.5**	**-3.1**
	comp=E,42nm,0.3s,baz=64,slow=9.1,SNR=6.6						
LSZ				Lg	Lg	22 58 43.8	
	comp=E,88nm,0.3s,baz=318,slow=21,SNR=5.1						
KMBO	**Kilima Mbogo**	**9.85**	**17**	*e*Pn	**Pn**	**22 57 06.8**	**-2.2**
	comp=E,23nm,0.4s						
KMBO				*e*Sn	Sn	22 58 48.0	-12
KMBO				Lg	Lg	22 59 49.1	
KMBO	**Kilima Mbogo**	**9.85**	**17**	Pn	**Pn**	**22 57 08.0**	**-0.9**
	comp=E,4.4nm,0.3s,baz=185,slow=15,SNR=48						
KMBO				Sn	Sn	22 58 50.8	-8.6
	comp=E,7.9nm,0.3s,baz=229,slow=22,SNR=5.2						
KMBO				Lg	Lg	22 59 49.1	
	comp=E,15nm,0.3s,baz=284,slow=24,SNR=15						
KMBO	**Kilima Mbogo**	**9.85**	**17**	*i* P	**Pn**	**22 57 08.4**	**-0.6**
KMBO				*i* S	**Sn**	**22 58 58.6**	**-0.8**
MBAR	**Mbarara**	**10.57**	**340**	Pn	**Pn**	**22 57 17.2**	**-1.5**
MBAR				Sn	**Sn**	**22 59 17.6**	**+0.7**
MBAR				Lg	Lg	23 00 10.6	
MBAR	**Mbarara**	**10.57**	**340**	Pn	**Pn**	**22 57 17.3**	**-1.5**
	comp=E,15nm,0.3s,baz=155,slow=17,SNR=69						
MBAR				Sn	**Sn**	**22 59 17.6**	**+0.7**
	comp=E,20nm,0.3s,baz=342,slow=20,SNR=3.4						
MBAR				Lg	Lg	23 00 10.6	
	comp=E,40nm,0.3s,baz=19,slow=23,SNR=7.0						
MBAR	**Mbarara**	**10.57**	**340**	*i* P	**Pn**	**22 57 19.0**	**+0.3**
MBAR				*i* S	**Sn**	**22 59 14.2**	**-2.7**
ENT	**Entebbe**	**10.76**	**350**	*i* P	**Pn**	**22 57 24.0**	**+2.7**
ENT				*i* S	**Sn**	**22 59 25.3**	**+3.7**
OPO	**Ambohidratompo**	**14.73**	**124**	Pn	**Pn**	**22 58 15.3**	**-0.3**
OPO	**Ambohidratompo**	**14.73**	**124**	Pn	**Pn**	**22 58 15.3**	**-0.3**
	comp=E,1.6nm,0.3s,baz=280,slow=14,SNR=10						
ABPO	**Ambohimpanom**	**14.99**	**125**	*e*Pn	**Pn**	**22 58 17.7**	**-1.4**
RUDU	**RUNDU**	**15.92**	**241**	*e*P	**Pn**	**22 58 30.2**	**-1.1**
SLR	**Silverton**	**16.11**	**200**	*e*P	**Pn**	**22 58 30.1**	**-3.6**
SLR				AMB	AMB	22 58 35.7	
	comp=Z,61nm,5.4s						
LBTB	**Lobatse**	**16.56**	**209**	*e*P	**Pn**	**22 58 37.8**	**-1.7**
LBTB	**Lobatse**	**16.56**	**209**	*e*Pn	**Pn**	**22 58 35.8**	**-3.7**
	comp=Z,38nm,0.6s						
LBTB				*e*Sn	Sn	23 01 33.7	-9.5
LBTB				Lg	Lg	23 03 15.3	
LBTB	**Lobatse**	**16.56**	**209**	Pn	**Pn**	**22 58 36.5**	**-3.0**
	comp=Z,3.7nm,0.3s,baz=34,slow=13,SNR=30						
LBTB				Sn	**Sn**	**23 01 39.2**	**-3.9**
	comp=Z,3.9nm,0.3s,baz=302,slow=3.7,SNR=3.7						
LBTB				Lg	Lg	23 03 15.3	
	comp=Z,4.0nm,0.3s,baz=309,slow=15,SNR=7.4						
ERPM	**east rand prop**	**16.68**	**199**	*e*P	**Pn**	**22 58 36.9**	**-4.1**
ERPM				AMB	AMB	22 58 38.0	
	comp=Z,27nm,10.4s						
KSR	**Koster**	**16.72**	**204**	*e*P	**Pn**	**22 58 38.0**	**-3.6**
KLOF	**Kloof**	**16.91**	**201**	*e*P	**Pn**	**22 58 39.5**	**-4.4**
PRYS	**Parys**	**17.52**	**201**	*e*P	**Pn**	**22 58 48.1**	**-3.4**
TSUM	**Tsumeb**	**18.30**	**240**	*e*P	**P**	**22 59 01.2**	**-0.1**
TSUM	**Tsumeb**	**18.30**	**240**	*e*Pn	**P**	**22 59 01.2**	**-0.1**
TSUM				Lg	Lg	23 04 13.2	
TSUM	**Tsumeb**	**18.30**	**240**	P	**Pn**	**22 59 00.4**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=46,slow=11,SNR=8.0						
TSUM				Lg	Lg	23 04 13.2	
	comp=Z,2.4nm,0.3s,baz=295,slow=12,SNR=3.3						
SWZ	**Schweizer**	**18.55**	**206**	*e*P	**P**	**22 59 00.1**	**-3.8**
SWZ				AMB	AMB	22 59 08.7	
	comp=Z,80nm,5.9s						
SEK	**Senekal**	**18.72**	**199**	*e*P	**P**	**22 59 04.2**	**-1.7**
SEK				AMB	AMB	22 59 24.1	
	comp=Z,48nm,3.9s						
BOSA	**Boshof**	**19.84**	**204**	*e*P	**P**	**22 59 17.3**	**-0.7**
BOSA				AMB	AMB	22 59 24.7	
	comp=Z,77nm,3.9s						
BOSA	**Boshof**	**19.84**	**204**	*e*P	**P**	**22 59 17.0**	**-1.0**
	comp=Z,12nm,0.5s						
BOSA				S	**S**	**23 02 58.5**	**-2.5**
BOSA				Lg	Lg	23 05 04.1	
BOSA	**Boshof**	**19.84**	**204**	P	**P**	**22 59 17.8**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=29,slow=10,SNR=21						
BOSA				Lg	Lg	23 05 04.1	
	comp=Z,2.5nm,0.3s,baz=119,slow=18,SNR=10						
WIN	**Windhoek**	**20.34**	**232**	*e*P	Pn	22 59 25.4	-0.3
WIN				AMB	AMB	22 59 41.0	
	comp=Z,14nm,4.2s						
KSD	**Kokstad**	**20.36**	**192**	*e*P	Pn	22 59 29.4	+3.6
	comp=Z,833nm,3.3s						
HVD	**Garlep Dam**	**21.53**	**201**	*e*P	**P**	**22 59 35.6**	**-0.8**
HVD				AMB	AMB	22 59 48.9	
	comp=Z,73nm,3.1s						
SOE	**Somerset East**	**23.44**	**199**	*e*P	**P**	**22 59 52.6**	**-3.8**
SOE				AMB	AMB	23 00 12.4	
	comp=Z,96nm,3.6s						
GRM	**Grahamstown**	**23.72**	**196**	*e*P	**P**	**22 59 55.4**	**-3.7**
GRM				AMB	AMB	22 59 59.8	
	comp=Z,88nm,4.7s						
KOMG	**Komaggas**	**24.74**	**217**	*e*P	P	23 00 02.5	-6.1
CVNA	**Calvinia**	**24.78**	**211**	*e*P	**P**	**23 00 11.9**	**+2.9**
CVNA				AMB	AMB	23 00 14.7	
	comp=Z,131nm,1.7s						
SUR	**Sutherland**	**25.01**	**208**	*e*P	P	23 00 04.1	-7.1
SUR				AMB	AMB	23 00 12.2	
	comp=Z,79nm,3.1s						
SUR	**Sutherland**	**25.01**	**208**	*e*P	**P**	**23 00 11.6**	**+0.5**
SUR	**Sutherland**	**25.01**	**208**	P	**P**	**23 00 12.3**	**+1.1**
	comp=Z,11nm,0.9s,baz=62,slow=11,SNR=5.0						
BUFB	**Buffelsbos**	**25.03**	**199**	*e*P	**P**	**23 00 12.3**	**+1.2**
BUFB				AMB	AMB	23 00 15.2	
	comp=Z,36nm,2.5s						
TORD	**Torodi Ar. Bea**	**40.09**	**305**	P	**P**	**23 02 22.1**	**-0.7**
TORD				PP	**PnPn**	**23 04 00.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**40.09**	**305**	P	**P**	**23 02 22.1**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=125,slow=8.0,SNR=31						
TORD				PP	**PnPn**	**23 04 00.2**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=124,slow=8.4,SNR=3.5						
ASF	**Jabal al Asfar**	**42.61**	**3**	P	**P**	**23 02 43.3**	**0.0**
ASF	**Jabal al Asfar**	**42.61**	**3**	P	**P**	**23 02 43.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=171,slow=5.3,SNR=3.0						
BRTR	**Keskin Array B**	**50.08**	**359**	P	**P**	**23 03 43.2**	**+1.2**
BRTR	**Keskin Array B**	**50.08**	**359**	P	**P**	**23 03 43.2**	**+1.2**
	comp=Z,4.9nm,0.8s,baz=179,slow=9.5,SNR=28						
BR131	**Keskin Array S**	**50.08**	**359**	*e*P	**P**	**23 03 42.7**	**+0.7**
	comp=Z,5.0nm,0.8s						
KEST	**Kesra**	**51.79**	**334**	P	**P**	**23 03 54.8**	**-0.1**
KEST	**Kesra**	**51.79**	**334**	P	**P**	**23 03 54.8**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=297,slow=2.0,SNR=6.9						
KBZ	**Khabaz**	**54.63**	**8**	P	**P**	**23 04 16.0**	**+0.5**
KBZ	**Khabaz**	**54.63**	**8**	P	**P**	**23 04 16.0**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=198,slow=10,SNR=4.3						
CFR	**Carcaliu**	**55.81**	**355**	‖*i*P	**P**	**23 04 24.7**	**+0.8**
MLR	**Muntele Rosu**	**56.35**	**353**	‖*i*P	**P**	**23 04 28.9**	**+0.9**
ARR	**Arges**	**56.40**	**352**	‖*i*P	**P**	**23 04 28.6**	**+0.3**
VOIR		**56.41**	**352**	‖*i*P	**P**	**23 04 28.8**	**+0.4**
PLOR	**Plostina**	**56.62**	**354**	‖*i*P	**P**	**23 04 31.1**	**+1.2**
VRI	**Vrincioaia**	**56.63**	**354**	‖*i*P	**P**	**23 04 30.6**	**+0.7**
TESR	**Tescani**	**57.28**	**354**	‖*i*P	**P**	**23 04 34.6**	**+0.2**
PGF	**Pioggiola**	**57.77**	**338**	*e*P	**P**	**23 04 38.6**	**+0.5**
	comp=Z,18nm,0.9s						
DRGR		**58.08**	**351**	‖*i*P	**P**	**23 04 41.5**	**+1.3**
SYO	**Syowa Base**	**58.44**	**178**	‖*e*P	**P**	**23 04 43.6**	**+1.3**
LMR	**La Mourre**	**59.38**	**337**	*e*P	**P**	**23 04 49.3**	**+0.1**
	comp=Z,6.2nm,0.7s						
SBF	**Sospel**	**59.48**	**338**	*e*P	**P**	**23 04 50.2**	**+0.2**
PSZ	**Piszkesteto**	**59.66**	**349**	‖*i*P	**P**	**23 04 51.8**	**+0.6**
MAW	**Mawson**	**60.00**	**168**	P	**P**	**23 04 55.5**	**+2.3**
MAW	**Mawson**	**60.00**	**168**	P	**P**	**23 04 55.5**	**+2.3**
	comp=Z,13nm,0.7s,baz=323,slow=9.8,SNR=39						
KECS	**Kecovo**	**60.10**	**349**	*e*P	**P**	**23 04 55.7**	**+1.7**
KOLS	**Kolonicke sedl**	**60.23**	**351**	*e*P	**P**	**23 04 56.2**	**+1.2**
CRVS	**Cervenica-Dubn**	**60.33**	**350**	*e*P	**P**	**23 04 56.1**	**+0.4**
MBDF	**Montbardon**	**60.47**	**338**	*e*P	**P**	**23 04 58.7**	**+1.9**
	comp=Z,7.7nm,0.8s						
CONA	**Conrad Observa**	**60.55**	**346**	*i* P	**P**	**23 04 58.1**	**+0.9**
	comp=Z,5.3nm,0.8s,SNR=7.8						
MOA	**Molln**	**60.87**	**345**	⇑*i*P	**P**	**23 05 00.0**	**+0.6**
	comp=Z,7.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**60.97**	**337**	*e*P	**P**	**23 05 00.5**	**+0.3**
LASF	**Ste Croix**	**61.06**	**335**	*e*P	**P**	**23 05 01.5**	**+0.7**
	comp=Z,10nm,1.1s						
FETA	**Feichten**	**61.12**	**342**	*i* P	**P**	**23 05 02.3**	**+1.0**
	comp=Z,5.6nm,0.9s,SNR=5.6						
LPG	**La Plagne**	**61.13**	**338**	*e*P	**P**	**23 05 02.1**	**+0.6**
	comp=Z,10nm,1.1s						
LPL	**La Plagne**	**61.16**	**338**	*e*P	**P**	**23 05 02.1**	**+0.5**
AKASG	**Malin Array Be**	**61.21**	**356**	P	**P**	**23 05 01.3**	**-0.3**
AKASG	**Malin Array Be**	**61.21**	**356**	P	**P**	**23 05 01.3**	**-0.3**
	comp=Z,7.8nm,0.6s,baz=175,slow=5.7,SNR=5.3						
MOTA	**Moosalm**	**61.30**	**342**	‖*i*P	**P**	**23 05 02.6**	**+0.2**
	comp=Z,3.4nm,0.7s						
ESDC	**Sonseca Array**	**61.38**	**327**	P	**P**	**23 05 03.2**	**+0.2**
ESDC	**Sonseca Array**	**61.38**	**327**	P	**P**	**23 05 03.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=6.4,SNR=3.7						
RETA	**Reutte**	**61.53**	**342**	‖*i*P	**P**	**23 05 04.3**	**+0.4**
	comp=Z,3.7nm,0.6s,SNR=5.7						
OKC	**Ostrava-Krasne**	**61.84**	**348**	*i* P	**P**	**23 05 06.2**	**+0.3**
OKC				*ex*	x	23 05 13.1	
TREC	**Trest**	**61.91**	**346**	*e*P	**P**	**23 05 05.5**	**-0.9**
GERES	**GERESS Array B**	**61.94**	**345**	P	**P**	**23 05 07.1**	**+0.5**
GERES	**GERESS Array B**	**61.94**	**345**	P	**P**	**23 05 07.1**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=152,slow=5.9,SNR=30						
KHC	**Kasperske Hory**	**62.23**	**345**	*i* P	**P**	**23 05 08.6**	**0.0**
KHC				*ex*	x	23 05 15.7	
DPC	**Dobruska-Polom**	**62.71**	**347**	*e*P	**P**	**23 05 11.8**	**+0.1**
DPC				*ex*	x	23 05 18.9	
KKAR	**Karatay Array**	**62.82**	**29**	*e*P	**P**	**23 05 12.3**	**-0.2**
	comp=Z,9.8nm,0.8s						
UPC	**Upice**	**62.93**	**347**	*e*P	**P**	**23 05 12.5**	**-0.6**
UPC				*e*pP	**pP**	**23 05 18.4**	**-0.1**
SMF	**Signal de Mont**	**63.19**	**337**	*e*P	**P**	**23 05 15.0**	**0.0**
HAU	**Haudompre**	**63.42**	**339**	*e*P	**P**	**23 05 16.6**	**+0.1**
CDF	**Champ du Feu**	**63.46**	**340**	*e*P	**P**	**23 05 16.6**	**-0.2**
	comp=Z,5.4nm,0.8s						
AVF	**Avril sur Loir**	**63.50**	**337**	*e*P	**P**	**23 05 17.3**	**+0.3**
	comp=Z,9.5nm,1.0s						
BGF	**Bois d'Agland**	**63.51**	**336**	*e*P	**P**	**23 05 17.4**	**+0.3**
TCF	**Toulx Ste Croi**	**63.54**	**336**	*e*P	**P**	**23 05 18.1**	**+0.8**
	comp=Z,26nm,1.3s						
LOR	**Lormes**	**63.70**	**337**	*e*P	**P**	**23 05 18.3**	**-0.1**
SFTF	**Sexfontaines**	**64.05**	**339**	*e*P	**P**	**23 05 20.2**	**-0.4**
MEZF	**Maizieres J'vi**	**64.30**	**339**	*e*P	**P**	**23 05 22.9**	**+0.7**
	comp=Z,20nm,1.1s						
CLL	**Collm**	**64.38**	**345**	*e*P	**P**	**23 05 22.0**	**-0.7**
VNA2	**Neumayer--Watz**	**65.55**	**194**	*e*P	**P**	**23 05 33.1**	**+3.0**
VNA1	**Neumayer--Stat**	**65.57**	**194**	*e*P	P	23 05 33.8	+3.6
BAIF	**Baives**	**65.91**	**339**	*e*P	**P**	**23 05 32.7**	**0.0**
	comp=Z,9.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**69.95**	**66**	P	**P**	**23 05 59.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**69.95**	**66**	P	**P**	**23 05 59.0**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=266,slow=7.6,SNR=8.8						
CHTO	**Chiang Mai**

MDJ LR LR
comp=Z,2μm,23.7s
PDAR Pinedale Array 135.13 322 PKP **PKPdf 23 14 07.5 +0.5**
PDAR Pinedale Array 135.13 322 PKP **PKPdf 23 14 07.5 +0.5**
comp=Z,0.5nm,0.7s,baz=90,slow=4.4,SNR=4.5
NVAR Mina Array Bea 143.04 323 PKP PKPbc 23 14 19.2 +1.0
NVAR Mina Array Bea 143.04 323 PKP PKPbc 23 14 19.2 +1.0
comp=Z,2.8nm,0.7s,baz=71,slow=3.6,SNR=20

---

*IDC **10** 22:56:11.7±0.9, 13°.97N×93°.07E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.1/27, mbtmp4.2/14, ML4.3/1, Error ellipse: s-maj=27.2km s-min=18.2km az=47.0*
*ISCJB **10** 22:56:15.4±0.3, 14°.19N±0°.04×93°.11E±0°.04, h32km, mb4.2/27, Error ellipse: s-maj=5.5km s-min=4.9km az=27.7*
*BKK **10** 22:56:17.1±0.9, 14°N±5°×9°3E±1°0, h10km, M4.9/12, mB5.2/4, mb4.9/12, MLv4.9/9, Mw(mB)4.6/4*
*NEIC **10** 22:56:17.4±1.1, 14°.06N×93°.10E, h37km±10km, mb4.2/11, Error ellipse: s-maj=10.2km s-min=5.8km az=66.0*
ISC 10 22:56:16.9±0.5, 14°.13N±0°.05×93°.08E±0°.05, h32km, n83, σ1§25/82, mb4.2/27, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.95**	**189**	*e*P	**Pb**	**22 56 35.3**	**+0.3**
PBA	**Port Blair**	**2.48**	**188**	*e*P	Pn	22 56 54.5	-0.6
PHET	**Kaeng Krachan**	**6.48**	**100**	P	Pb	22 58 01.1	-8.0
	151nm,0.8s,6μm2.0nm						
CMAR	**Chiang Mai Arr**	**7.09**	**52**	Pn	**Pn**	**22 57 58.6**	**+0.1**
CMAR				Sn	**Sn**	**22 59 16.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**7.09**	**52**	Pn	**Pn**	**22 57 58.6**	**+0.1**
	1.3nm,0.3s,baz=241,slow=15,SNR=39						
CMAR				Sn	**Sn**	**22 59 16.4**	**-1.7**
	3.1nm,0.3s,baz=242,slow=28,SNR=5.8						
CHTO	**Chiang Mai**	**7.31**	**50**	*e*Pn	**Pn**	**22 58 01.2**	**-0.3**
	16nm,0.6s						
CHTO				*e*Sn	Sn	22 59 16.6	-6.8
CHTO	**Chiang Mai**	**7.31**	**50**	P	**Pn**	**22 58 02.5**	**+1.0**
	25nm,0.8s,0.2nm						
CMMT	**Chiang Mai**	**7.31**	**50**	P	**Pn**	**22 58 02.2**	**+0.6**
	28nm,0.9s,0.2nm						
LAMP	**Lampang**	**7.66**	**54**	P	**Pn**	**22 58 07.5**	**+1.1**
	13nm,0.9s,137nm0.1nm						
PBKT	**Sadao Pong**	**7.99**	**71**	P	**Pn**	**22 58 12.3**	**+1.4**
	76nm,1.0s,0.3nm						
CMAI	**Chiengmai2**	**8.12**	**44**	P	**Pn**	**22 58 14.2**	**+1.4**
	110nm,1.3s,0.5nm						
PAYA	**Payao**	**8.33**	**50**	P	**Pn**	**22 58 17.1**	**+1.5**
	16nm,0.8s,158nm0.1nm						
LOEI	**Loei**	**8.56**	**66**	P	Pn	22 58 24.9	+6.1
	70nm,0.9s,0.3nm						
VIS	**Vishakhapatnam**	**10.04**	**292**	*e*P	**Pn**	**22 58 36.7**	**-2.3**
SHL	**Shillong**	**11.44**	**355**	*ex*	**Pn**	**22 58 56.2**	**-2.1**
SHL				*e*S	**Sn**	**23 01 05.0**	**-0.1**
BOK	**Bokaro**	**11.78**	**326**	*e*P	**Pn**	**22 59 03.1**	**+0.3**
PSI	**Prapat**	**12.65**	**152**	Pn	**Pn**	**22 59 17.1**	**+2.2**
PSI	**Prapat**	**12.65**	**152**	Pn	**Pn**	**22 59 17.1**	**+2.2**
	0.5nm,0.3s,baz=324,slow=12,SNR=11						
ODAN	**Odare**	**13.74**	**338**	*e*P	Pn	22 59 26.5	-3.3
TAPN	**Taplejung**	**14.08**	**340**	*e*P	Pn	22 59 30.7	-3.8
	62nm,0.6s						
RAMN	**Ramite**	**14.12**	**336**	*e*P	**Pn**	**22 59 32.9**	**-2.2**
	32nm,0.4s						
HYB	**Hyderabad**	**14.36**	**285**	*i* P	**P**	**22 59 43.0**	**-1.8**
HYB				*e*S	**Sn**	**23 02 19.0**	**+2.6**
JIRN	**Jiri**	**14.92**	**336**	*e*P	**Pn**	**22 59 43.1**	**-2.9**
	88nm,0.8s						
NGP	**Nagpur**	**15.08**	**300**	*ex*	**Pn**	**22 59 44.5**	**-3.4**
NGP				*ex*	x	23 02 16.4	
PKI	**Pulchoki**	**15.17**	**333**	*e*P	**Pn**	**22 59 47.1**	**-2.2**
PKIN	**Phulchoki**	**15.18**	**333**	*e*P	**Pn**	**22 59 47.0**	**-2.4**
	34nm,0.5s						
JBP	**Jabalpur**	**15.32**	**308**	⇑*i* x	x	23 00 03.8	
JBP				*ex*	**Sn**	**23 02 41.7**	**+2.1**
DMN	**Daman**	**15.34**	**332**	*e*P	**Pn**	**22 59 50.3**	**-1.1**
	50nm,0.7s						
KKN	**Kakani**	**15.42**	**333**	*e*P	**Pn**	**22 59 50.1**	**-2.3**
	41nm,0.8s						
LSA	**Lhasa**	**15.60**	**354**	*e*Pn	**Pn**	**22 59 55.5**	**+0.5**
	12nm,0.6s						
KOLN	**Koldanda**	**16.20**	**328**	*e*P	**Pn**	**23 00 02.0**	**-0.4**
	81nm,0.7s						
DANN	**Dangsing**	**16.59**	**330**	*e*P	**Pn**	**23 00 06.9**	**-0.7**
	38nm,0.6s						
PYUN	**Piuthan**	**16.78**	**328**	*e*P	**Pn**	**23 00 08.9**	**-0.9**
BHPL	**Bhopal**	**17.37**	**304**	*e*P	**Pn**	**23 00 16.2**	**-0.9**
BHPL				AMB	AMB	23 00 31.2	
	comp=Z,8.2nm,0.7s						
DDI	**Dehra Dun**	**21.25**	**322**	*e*P	**P**	**23 01 01.6**	**+1.0**
ENH	**Enshi**	**22.07**	**41**	*e*P	**P**	**23 01 09.3**	**0.0**
	comp=Z,13nm,0.8s						
SMLA	**Simla**	**22.36**	**322**	*e*P	**P**	**23 01 14.0**	**+1.6**
SMLA				AMB	AMB	23 01 25.4	
	comp=Z,13nm,1.8s						
DHRM	**DHARAMSHALA**	**23.68**	**322**	*e*P	**P**	**23 01 27.2**	**+1.1**
TKM2	**Tokmak 2**	**32.41**	**336**	*e*P	**P**	**23 02 44.6**	**+0.5**
	comp=Z,1.1nm,0.5s						
AAK	**Ala-Archa**	**32.62**	**334**	*e*P	**P**	**23 02 46.4**	**+0.5**
	comp=Z,5.0nm,1.1s						
EKS2	**Erkin-Say**	**32.95**	**333**	*e*P	**P**	**23 02 48.0**	**-0.8**
	comp=Z,2.5nm,0.6s						
MKAR	**Makanchi Array**	**33.80**	**347**	P	**P**	**23 02 57.2**	**+1.2**
MKAR	**Makanchi Array**	**33.80**	**347**	P	**P**	**23 02 57.2**	**+1.2**
	comp=Z,6.1nm,0.8s,baz=162,slow=9.1,SNR=38						
KKAR	**Karatay Array**	**34.79**	**330**	*e*P	**P**	**23 03 04.4**	**-0.3**
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**35.39**	**16**	P	**P**	**23 03 11.3**	**+1.4**
SONM	**Songino Array**	**35.39**	**16**	P	**P**	**23 03 11.3**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=201,slow=8.6,SNR=15						
ULN	**Ulaanbaatar**	**35.59**	**16**	*e*P	**P**	**23 03 12.2**	**+0.6**
	comp=Z,1.4nm,0.6s						
JNU	**Nakatsue**	**39.18**	**55**	*e*P	**P**	**23 03 42.9**	**+0.7**
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.26**	**352**	P	**P**	**23 03 51.4**	**+0.7**
ZALV	**Zalesovo Beam**	**40.26**	**352**	P	**P**	**23 03 51.4**	**+0.7**
	comp=Z,4.8nm,0.6s,baz=178,slow=8.6,SNR=30						
BRVK	**Borovoye**	**42.85**	**340**	*e*P	**P**	**23 04 12.3**	**+0.3**
	comp=Z,2.9nm,0.8s						
USRK	**Ussuriysk Arra**	**44.65**	**40**	P	**P**	**23 04 25.9**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=236,slow=2.1,SNR=4.4						
GNI	**Garni**	**49.45**	**311**	*e*P	**P**	**23 05 04.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**52.17**	**154**	*e*P	**P**	**23 05 22.6**	**-2.1**
WRA	**Warramunga Arr**	**52.85**	**129**	P	**P**	**23 05 28.8**	**-1.2**
WRA	**Warramunga Arr**	**52.85**	**129**	P	**P**	**23 05 28.8**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=312,slow=7.9,SNR=4.6						
WRAB	**Tennant Creek**	**52.85**	**129**	*e*P	**P**	**23 05 28.9**	**-1.0**
	comp=Z,5.2nm,0.7s						
ASAR	**Alice Springs**	**54.81**	**133**	P	**P**	**23 05 43.6**	**-0.6**
ASAR	**Alice Springs**	**54.81**	**133**	P	**P**	**23 05 43.6**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=309,slow=6.9,SNR=8.3						
BRTR	**Keskin Array B**	**57.67**	**308**	P	**P**	**23 06 04.8**	**+0.2**
BRTR	**Keskin Array B**	**57.67**	**308**	P	**P**	**23 06 04.8**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=116,slow=8.2,SNR=8.3						
STKA	**Stephens Creek**	**65.21**	**135**	*e*P	**P**	**23 06 54.4**	**-1.1**
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**23 07 05.2**	**+0.4**
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**23 07 05.2**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=96,slow=6.7,SNR=6.8						
ARCES	**ARCESS Array B**	**69.07**	**340**	P	**P**	**23 07 19.9**	**+0.5**
ARCES	**ARCESS Array B**	**69.07**	**340**	P	**P**	**23 07 19.9**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=91,slow=5.8,SNR=9.6						
GERES	**GERESS Array B**	**72.53**	**317**	P	**P**	**23 07 41.9**	**+1.0**
GERES	**GERESS Array B**	**72.53**	**317**	P	**P**	**23 07 41.9**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=89,slow=5.7,SNR=11						
NB2	**NORSAR Subarra**	**73.82**	**330**	P	**P**	**23 07 47.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**73.82**	**330**	P	**P**	**23 07 48.4**	**+0.1**
NOA	**NORSAR Array B**	**73.82**	**330**	P	**P**	**23 07 48.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=90,slow=5.7,SNR=7.8						
PGF	**Pioggiola**	**76.27**	**311**	*e*P	**P**	**23 08 02.8**	**0.0**
LBTB	**Lobatse**	**76.40**	**240**	*e*P	**P**	**23 08 02.9**	**-1.0**
	comp=Z,12nm,0.8s						
LPG	**La Plagne**	**77.52**	**314**	*e*P	**P**	**23 08 10.6**	**+0.6**
	comp=Z,7.3nm,0.7s						
LPL	**La Plagne**	**77.53**	**314**	*e*P	**P**	**23 08 10.6**	**+0.6**
	comp=Z,6.4nm,0.7s						
FRF	**La Foret Royal**	**77.85**	**312**	*e*P	**P**	**23 08 11.7**	**+0.1**
LOR	**Lormes**	**79.25**	**316**	*e*P	**P**	**23 08 19.1**	**-0.1**
SMF	**Signal de Mont**	**79.36**	**315**	*e*P	**P**	**23 08 19.7**	**-0.1**
	comp=Z,8.4nm,0.9s						
IM04	**Indian Mountai**	**86.26**	**22**	*e*P	**P**	**23 08 56.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**88.17**	**283**	P	**P**	**23 09 05.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**88.17**	**283**	P	**P**	**23 09 05.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=112,slow=5.0,SNR=4.3						
ILAR	**Eielson Array**	**89.37**	**22**	P	**P**	**23 09 10.1**	**0.0**
ILAR	**Eielson Array**	**89.37**	**22**	P	**P**	**23 09 10.1**	**0.0**
	comp=Z,0.9nm,0.8s,baz=295,slow=4.2,SNR=10						

---

*ISCJB **10** 22:59:53.7±1.0, 9°.37S±0°.08×124°.06E±0°.09, h150km, mb3.3/1, Error ellipse: s-maj=14.6km s-min=9.4km az=140.4*
*IDC **10** 22:59:54.0±3.4, 9°.18S×124°.13E, h134km±39km, mb3.2/1, mb1 3.5/4, mb1mx3.2/20, mbtmp3.3/4, Error ellipse: s-maj=95.0km s-min=27.0km az=52.0*
ISC 10 22:59:54.4±1.3, 9°.35S±0°.10×124°.1E±0°.1, h150km, n9, σ2§27/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.43**	**161**	P	**Pn**	**23 00 13.1**	**-2.4**
	baz=3.1,SNR=69						
SOEI				S	**Sn**	**23 00 27.9**	**-3.8**
	baz=3.1,SNR=5.5						
BATI	**Baumata**	**0.97**	**208**	P	**Pn**	**23 00 18.4**	**-0.5**
	56nm,0.3s,baz=30,slow=2.8,SNR=36						
BATI				S	**Sn**	**23 00 37.3**	**-0.4**
	76nm,0.3s,baz=307,slow=20,SNR=36						
MTN	**Manton Dam**	**7.70**	**117**	P	**Pn**	**23 01 45.4**	**+1.6**
	baz=10,SNR=16						
KNRA	**Kununurra**	**7.75**	**145**	P	**Pn**	**23 01 46.6**	**+2.2**
	baz=10,SNR=49						
KNRA				S	**Sn**	**23 03 10.7**	**-0.2**
	baz=10,SNR=20						
FITZ	**Fitzroy Crossi**	**8.82**	**171**	P	**Pn**	**23 02 00.1**	**+1.4**
	0.6nm,0.3s,baz=1.4,slow=8.9,SNR=23						
FITZ				S	**Sn**	**23 03 34.9**	**-1.9**
	2.1nm,0.3s,baz=350,slow=11,SNR=14						
KDU	**Kakadu**	**8.84**	**113**	P	**Pn**	**23 01 60.0**	**+1.0**
	baz=12,SNR=9.5						
WRA	**Warramunga Arr**	**14.43**	**138**	P	**Pn**	**23 03 12.6**	**+0.8**
	0.7nm,0.3s,baz=317,slow=15,SNR=39						
WRA				S	Sn	23 05 47.5	-4.5
	0.8nm,0.3s,baz=310,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**17.03**	**148**	P	**Pn**	**23 03 47.4**	**+3.6**
	0.3nm,0.3s,baz=318,slow=11,SNR=16						
ASAR				S	**S**	**23 06 50.3**	**-2.8**
	0.3nm,0.3s,baz=310,slow=20,SNR=7.0						
MKAR	**Makanchi Array**	**67.17**	**330**	P	**P**	**23 10 32.5**	**+0.3**
	0.4nm,0.8s,baz=140,slow=6.3,SNR=3.6						

IDC 10 23:03:56.5±0.8, 13°.92N×93°.04E, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.7/29, mbtmp3.6/12, ML3.1/1, MS4.6/1, Ms1 4.8/1, ms1mx3.9/50, Error ellipse: s-maj=33.8km s-min=16.4km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.25**	**51**	Pn	Pn	23 05 44.0	+0.1
	0.1nm,0.3s,baz=238,slow=16,SNR=2.7						
CMAR				LR	LR	23 09 13.5	
	comp=Z,5μm,21.8s,baz=271,slow=44						
MKAR	**Makanchi Array**	**33.99**	**347**	P	P	23 10 41.7	-0.3
	0.7nm,1.0s,baz=187,slow=6.7,SNR=4.1						
SONM	**Songino Array**	**35.59**	**16**	P	P	23 10 56.2	+0.2
	0.7nm,0.8s,baz=202,slow=7.5,SNR=4.4						
KURBB	**Kurchatov Arra**	**38.46**	**345**	P	P	23 11 21.1	+1.0
	0.6nm,0.8s,baz=163,slow=8.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.46**	**353**	P	P	23 11 35.6	-1.1
	0.2nm,0.3s,baz=194,slow=12,SNR=2.8						
FITZ	**Fitzroy Crossi**	**45.23**	**134**	P	P	23 12 15.5	-0.4
	2.8nm,1.0s,baz=315,slow=2.9,SNR=3.3						
WRA	**Warramunga Arr**	**52.76**	**129**	P	P	23 13 13.3	-0.4
	0.3nm,0.5s,baz=293,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**54.70**	**133**	P	P	23 13 28.4	+0.5
	0.5nm,0.5s,baz=309,slow=6.7,SNR=8.2						
FINES	**FINESS Array B**	**66.91**	**331**	P	P	23 14 50.7	+0.2
	1.0nm,0.9s,baz=194,slow=4.1,SNR=2.5						
GERES	**GERESS Array B**	**72.65**	**317**	P	P	23 15 27.4	+1.1
	0.3nm,0.7s,baz=131,slow=3.7,SNR=4.9						
NOA	**NORSAR Array B**	**73.98**	**330**	P	P	23 15 32.9	-0.9
	0.5nm,0.9s,baz=94,slow=5.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**88.17**	**283**	P	P	23 16 49.9	-0.3
	0.5nm,0.9s,baz=72,slow=4.7,SNR=3.1						

---

*IDC **10** 23:05:24.3±0.7, 13°.89N×92°.85E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.9/29, mbtmp3.9/16, ML4.5/1, Error ellipse: s-maj=24.5km s-min=16.0km az=58.0*
*ISCJB **10** 23:05:27.2±0.4, 13°.95N±0°.04×92°.95E±0°.05, h32km, mb3.9/21, Error ellipse: s-maj=7.7km s-min=5.5km az=143.4*
*NEIC **10** 23:05:29.6±1.2, 13°.94N×92°.93E, h36km±11km, mb4.1/7, Error ellipse: s-maj=12.8km s-min=6.1km az=73.0*
*BKK **10** 23:05:35.5±2.5, 16°N±10°×9°2E±2°4, h10km, M4.9/10, mB5.6/4, mb4.8/10, MLv4.9/8, Mw(mB)5.2/4*
ISC 10 23:05:29.2±0.5, 14°.02N±0°.06×92°.91E±0°.07, h32km, n65, σ1§41/64, mb4.0/21, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**52**	Pn	**Pn**	**23 07 14.7**	**+1.2**
CMAR				Sn	**Sn**	**23 08 32.7**	**-2.4**
CMAR	**Chiang Mai Arr**	**7.28**	**52**	Pn	**Pn**	**23 07 14.7**	**+1.2**
	1.8nm,0.3s,baz=242,slow=15,SNR=13						
CMAR				Sn	**Sn**	**23 08 32.7**	**-2.4**
	0.9nm,0.3s,baz=241,slow=29,SNR=6.5						
CHTO	**Chiang Mai**	**7.50**	**50**	*e*Pn	**Pn**	**23 07 16.4**	**0.0**
	11nm,0.5s						
CHTO				*e*Sn	Sn	23 08 35.6	-4.8
CHTO	**Chiang Mai**	**7.50**	**50**	P	**Pn**	**23 07 17.6**	**+1.2**
	67nm,1.2s,2μm0.3nm						
CMMT	**Chiang Mai**	**7.50**	**50**	P	**Pn**	**23 07 17.3**	**+0.8**
	26nm,1.0s,2μm0.1nm						
LAMP	**Lampang**	**7.86**	**54**	P	**Pn**	**23 07 22.5**	**+1.2**
	8.8nm,0.6s,0.0nm						
PBKT	**Sadao Pong**	**8.18**	**71**	P	Pn	23 07 37.7	+12
	20nm,1.0s,0.1nm						
CMAI	**Chiengmai2**	**8.31**	**44**	P	**Pn**	**23 07 30.3**	**+2.7**
	215nm,0.8s,0.9nm						
PAYA	**Payao**	**8.52**	**51**	P	**Pn**	**23 07 32.2**	**+1.7**
	13nm,0.7s,112nm0.8nm						
LOEI	**Loei**	**8.76**	**66**	P	Pn	23 07 50.4	+17
CRAI	**Chiangrai**	**9.43**	**48**	P	**Pn**	**23 07 42.0**	**-1.0**
	82μm,1.6s,412nm						
SHL	**Shillong**	**11.53**	**355**	*e*P	Pn	23 08 18.0	+6.2
SHL				*e*S	Sn	23 10 12.0	-7.5
KULM	**Kulim**	**11.55**	**138**	*e*Pn	**Pn**	**23 08 09.9**	**-2.0**
	4.0nm,0.7s						
PSI	**Prapat**	**12.63**	**151**	Pn	**Pn**	**23 08 29.0**	**+2.1**
PSI	**Prapat**	**12.63**	**151**	Pn	**Pn**	**23 08 29.0**	**+2.1**
	0.9nm,0.3s,baz=340,slow=18,SNR=5.0						
ODAN	**Odare**	**13.78**	**339**	*e*P	**Pn**	**23 08 43.7**	**+1.1**
	34nm,0.4s						
TAPN	**Taplejung**	**14.12**	**341**	*e*P	**Pn**	**23 08 47.0**	**-0.3**
	36nm,0.6s						
RAMN	**Ramite**	**14.15**	**336**	*e*P	**Pn**	**23 08 49.0**	**+1.3**
	36nm,0.4s						
JIRN	**Jiri**	**14.95**	**336**	*e*P	**Pn**	**23 08 59.2**	**+0.6**
	28nm,0.4s						
PKI	**Pulchoki**	**15.19**	**334**	*e*P	**Pn**	**23 09 01.4**	**-0.3**
	29nm,0.5s						
PKIN	**Phulchoki**	**15.20**	**334**	*e*P	**Pn**	**23 09 01.6**	**-0.2**
	13nm,0.3s						
JBP	**Jabalpur**	**15.25**	**308**	⇑*i*P	**P**	**23 09 04.7**	**-2.1**
JBP				*i* x	x	23 09 05.5	
	comp=Z,43nm,1.1s						
JBP				*e*S	**Sn**	**23 11 44.8**	**-5.3**
DMN	**Daman**	**15.35**	**333**	*e*P	**Pn**	**23 09 03.9**	**+0.1**
	comp=Z,81nm,0.7s						
LSA	**Lhasa**	**15.69**	**354**	*e*Pn	**Pn**	**23 09 08.7**	**+0.3**
	comp=Z,7.5nm,1.2s						
KOLN	**Koldanda**	**16.20**	**329**	*e*P	**Pn**	**23 09 15.2**	**+0.5**
	comp=Z,65nm,0.6s						
PYUN	**Piuthan**	**16.77**	**328**	*e*P	**Pn**	**23 09 22.9**	**+0.9**
	comp=Z,52nm,0.5s						
ENH	**Enshi**	**22.25**	**41**	*e*P	**P**	**23 10 23.8**	**+0.2**
	comp=Z,12nm,0.7s						
MKAR	**Makanchi Array**	**33.86**	**347**	P	**P**	**23 12 11.0**	**+2.2**
MKAR	**Makanchi Array**	**33.86**	**347**	P	**P**	**23 12 11.0**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=167,slow=10,SNR=4.1						
SONM	**Songino Array**	**35.53**	**16**	P	**P**	**23 12 25.3**	**+2.0**
SONM	**Songino Array**	**35.53**	**16**	P	**P**	**23 12 25.3**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=197,slow=8.6,SNR=9.8						
ULN	**Ulaanbaatar**	**35.73**	**16**	*e*P	**P**	**23 12 25.8**	**+0.7**
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**38.33**	**345**	P	**P**	**23 12 48.5**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=161,slow=7.3,SNR=3.6						
KURK	**Kurchatov**	**38.39**	**345**	P	**P**	**23 12 48.5**	**+1.1**
ZALV	**Zalesovo Beam**	**40.34**	**353**	P	**P**	**23 13 05.2**	**+1.6**
ZALV	**Zalesovo Beam**	**40.34**	**353**	P	**P**	**23 13 05.2**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=168,slow=6.2,SNR=4.3						
MBWA	**Marble Bar**	**43.77**	**142**	*e*P	**P**	**23 13 31.0**	**-1.1**
ABKAR	**Akbulak array**	**44.32**	**329**	*e*P	**P**	**23 13 35.9**	**-0.3**
	comp=Z,0.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**45.40**	**134**	P	**P**	**23 13 43.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**45.40**	**134**	P	**P**	**23 13 43.9**	**-1.2**
	comp=Z,3.9nm,0.6s,baz=314,slow=3.8,SNR=3.0						
NWAO	**Narrogin (SRO)**	**52.15**	**154**	*e*P	**P**	**23 14 35.6**	**-1.1**
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**52.92**	**129**	P	**P**	**23 14 42.0**	**-0.6**
WRA	**Warramunga Arr**	**52.92**	**129**	P	**P**	**23 14 42.0**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=296,slow=9.6,SNR=4.8						
WRAB	**Tennant Creek**	**52.92**	**129**	*e*P	**P**	**23 14 42.6**	**-0.1**
	comp=Z,3.3nm,0.6s						
ASAR	**Alice Springs**	**54.86**	**133**	P	**P**	**23 14 56.8**	**-0.1**
ASAR	**Alice Springs**	**54.86**	**133**	P	**P**	**23 14 56.8**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=308,slow=6.7,SNR=27						
BRTR	**Keskin Array B**	**57.60**	**308**	P	**P**	**23 15 17.4**	**+1.0**
BRTR	**Keskin Array B**	**57.60**	**308**	P	**P**	**23 15 17.4**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=120,slow=7.3,SNR=4.5						
STKA	**Stephens Creek**	**65.25**	**135**	*e*P	**P**	**23 16 07.4**	**-0.6**
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**66.76**	**331**	P	**P**	**23 16 16.5**	**-0.6**
FINES	**FINESS Array B**	**66.76**	**331**	P	**P**	**23 16 16.5**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=93,slow=5.6,SNR=2.5						
ARCES	**ARCESS Array B**	**69.11**	**340**	P	**P**	**23 16 31.6**	**-0.2**
ARCES	**ARCESS Array B**	**69.11**	**340**	P	**P**	**23 16 31.6**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=83,slow=7.4,SNR=3.1						
GERES	**GERESS Array B**	**72.49**	**317**	P	**P**	**23 16 53.2**	**+0.3**
GERES	**GERESS Array B**	**72.49**	**317**	P	**P**	**23 16 53.2**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=99,slow=6.1,SNR=2.8						
NB2	**NORSAR Subarra**	**73.83**	**330**	P	P	23 17 09.1	+8.6
	comp=Z,0.4nm,0.6s,baz=89,slow=5.6						
NOA	**NORSAR Array B**	**73.83**	**330**	P	**P**	**23 16 59.8**	**-0.8**
NOA	**NORSAR Array B**	**73.83**	**330**	P	**P**	**23 16 59.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=94,slow=5.7,SNR=2.5						
LBTB	**Lobatse**	**76.21**	**240**	*e*P	**P**	**23 17 13.5**	**-1.4**
BOSA	**Boshof**	**77.89**	**236**	P	**P**	**23 17 25.2**	**+0.8**
BOSA	**Boshof**	**77.89**	**236**	P	**P**	**23 17 25.2**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=141,slow=6.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**88.03**	**283**	P	**P**	**23 18 17.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**88.03**	**283**	P	**P**	**23 18 17.5**	**+0.5**
	comp=Z,0.2nm,0.9s,baz=87,slow=3.8,SNR=2.4						
ILAR	**Eielson Array**	**89.53**	**22**	P	**P**	**23 18 23.2**	**+0.1**
ILAR	**Eielson Array**	**89.53**	**22**	P	**P**	**23 18 23.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=310,slow=4.2,SNR=4.7						

---

*IDC **10** 23:11:51.8±1.2, 13°.54N×93°.47E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/29, mbtmp3.6/7, ML4.2/1, Error ellipse: s-maj=49.9km s-min=18.8km az=57.0*
ISC 10 23:11:56.8±1.1, 13°.6N±0°.2×93°.5E±0°.1, h35km, n8, σ1§25/9, mb3.6/6, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.13**	**47**	Pn	**Pn**	**23 13 38.2**	**-0.5**
	1.0nm,0.3s,baz=239,slow=15,SNR=7.4						
JBP	**Jabalpur**	**15.91**	**309**	⇑*i*P	**P**	**23 15 41.5**	**+0.1**

ULN	Ulaanbaatar	35.77	16	eP		P		23 21 46.1	+0.1
KURBB	Kurchatov Arra	38.43	345	P		P		23 22 08.4	+0.1
2.0nm,0.7s,baz=162,slow=8.0,SNR=17									
KURK	Kurchatov	38.49	345	P		P		23 22 08.4	-0.4
ZALV	Zalesovo Beam	40.43	353	P		P		23 22 25.0	+0.1
ZALV	Zalesovo Beam	40.43	353	P		P		23 22 25.0	+0.1
2.4nm,0.7s,baz=173,slow=8.5,SNR=13									
BVAR	Borovoye Array	42.93	340	P		P		23 22 45.2	-0.2
BVAR	Borovoye Array	42.93	340	P		P		23 22 45.2	-0.2
0.4nm,0.5s,baz=106,slow=12,SNR=4.1									
BRVK	Borovoye	43.00	340	eP		P		23 22 46.0	+0.1
FITZ	Fitzroy Crossi	45.26	134	P		P		23 23 04.1	-0.3
FITZ	Fitzroy Crossi	45.26	134	P		P		23 23 04.1	-0.3
0.5nm,0.5s,baz=11,slow=5.2,SNR=4.1									
AKTO	Aktyubinsk	46.16	329	P		P		23 23 10.9	-0.3
AKTO	Aktyubinsk	46.16	329	P		P		23 23 10.9	-0.3
0.8nm,0.7s,baz=124,slow=18,SNR=4.5									
WRA	Warramunga Arr	52.78	129	P		P		23 24 01.4	-0.7
WRA				PcP		PcP		23 25 11.8	+0.4
WRA	Warramunga Arr	52.78	129	P		P		23 24 01.4	-0.7
1.0nm,0.9s,baz=297,slow=9.5,SNR=7.5									
WRA				PcP		PcP		23 25 11.8	+0.4
0.9nm,0.8s,baz=316,slow=3.3,SNR=7.3									
WRAB	Tennant Creek	52.78	129	eP		P		23 24 02.2	+0.1
1.5nm,0.8s									
ASAR	Alice Springs	54.72	133	P		P		23 24 16.7	+0.3
ASAR				PcP		PcP		23 25 19.1	+0.2
ASAR	Alice Springs	54.72	133	P		P		23 24 16.7	+0.3
0.5nm,0.4s,baz=310,slow=6.7,SNR=8.2									
ASAR				PcP		PcP		23 25 19.1	+0.2
0.4nm,0.7s,baz=309,slow=4.0,SNR=4.3									
BRTR	Keskin Array B	57.74	308	P		P		23 24 37.5	-0.4
BRTR	Keskin Array B	57.74	308	P		P		23 24 37.5	-0.4
0.9nm,0.7s,baz=123,slow=8.2,SNR=6.7									
SANT	Santorini	63.87	304	eP		P		23 25 18.5	-1.0
FINES	FINESS Array B	66.88	331	P		P		23 25 38.0	-0.4
FINES	FINESS Array B	66.88	331	P		P		23 25 38.0	-0.4
1.6nm,0.6s,baz=90,slow=7.6,SNR=8.0									
ARCES	ARCESS Array B	69.22	340	P		P		23 25 53.0	-0.1
ARCES	ARCESS Array B	69.22	340	P		P		23 25 53.0	-0.1
0.5nm,0.5s,baz=98,slow=5.5,SNR=7.1									
GERES	GERESS Array B	72.63	317	P		P		23 26 14.3	+0.1
GERES	GERESS Array B	72.63	317	P		P		23 26 14.3	+0.1
1.0nm,0.7s,baz=87,slow=5.7,SNR=11									
NOA	NORSAR Array B	73.95	330	P		P		23 26 21.0	-0.7
NOA	NORSAR Array B	73.95	330	P		P		23 26 21.0	-0.7
0.3nm,0.5s,baz=89,slow=5.6,SNR=3.0									
TAU	Tasmania Unive	75.29	142	eP		P		23 26 29.2	-0.5
7.7nm,0.7s									
LBTB	Lobatse	76.27	240	eP		P		23 26 36.0	+0.3
1.2nm,0.5s									
BOSA	Boshof	77.95	236	eP		P		23 26 45.4	+0.2
2.1nm,0.6s									
BOSA	Boshof	77.95	236	P		P		23 26 45.9	+0.7
1.3nm,0.6s,baz=97,slow=3.1,SNR=7.7									
TORD	Torodi Ar. Bea	88.16	283	P		P		23 27 38.5	+0.4
TORD	Torodi Ar. Bea	88.16	283	P		P		23 27 38.5	+0.4
0.7nm,0.8s,baz=82,slow=4.6,SNR=3.7									
ILAR	Eielson Array	89.55	22	P		P		23 27 43.6	-0.1
ILAR	Eielson Array	89.55	22	P		P		23 27 43.6	-0.1
0.6nm,0.8s,baz=300,slow=4.8,SNR=5.7									
NVAR	Mina Array Bea	120.21	28	PKP		PKPdf		23 33 38.5	+0.3
NVAR	Mina Array Bea	120.21	28	PKP		PKPdf		23 33 38.5	+0.3
0.4nm,0.6s,baz=24,slow=3.3,SNR=3.9									

IDC 10 23:16:27.7±0.9, 13°.96N×92°.91E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/27, mbtmp3.8/11, Error ellipse: s-maj=40.9km s-min=18.6km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MKAR	Makanchi Array	33.92	347	P		P		23 23 12.9	+0.3
1.5nm,0.7s,baz=168,slow=8.0,SNR=8.5									
SONM	Songino Array	35.59	16	P		P		23 23 26.8	-0.2
0.8nm,0.8s,baz=198,slow=5.8,SNR=3.6									
KURBB	Kurchatov Arra	38.39	345	P		P		23 23 50.8	+0.1
1.8nm,0.7s,baz=160,slow=8.1,SNR=9.8									
ZALV	Zalesovo Beam	40.40	353	P		P		23 24 07.4	0.0
1.8nm,0.7s,baz=170,slow=8.8,SNR=6.2									
WRA	Warramunga Arr	52.88	129	P		P		23 25 46.0	+0.3
0.3nm,0.4s,baz=311,slow=8.2,SNR=4.8									
ASAR	Alice Springs	54.81	133	P		P		23 25 59.5	-0.4
0.3nm,0.4s,baz=312,slow=7.1,SNR=2.9									
BRTR	Keskin Array B	57.65	308	P		P		23 26 20.2	+0.1
1.3nm,0.7s,baz=133,slow=9.0,SNR=6.1									
FINES	FINESS Array B	66.81	331	P		P		23 27 20.4	-0.6
1.6nm,0.8s,baz=116,slow=8.7,SNR=3.4									
GERES	GERESS Array B	72.54	317	P		P		23 27 57.0	+0.2
0.4nm,0.5s,baz=93,slow=8.0,SNR=5.1									
NB2	NORSAR Subarra	73.88	330	P		P		23 28 03.7	-0.7
comp=Z,0.5nm,0.7s,baz=90,slow=6.2									
NOA	NORSAR Array B	73.88	330	P		P		23 28 03.7	-0.7
comp=Z,0.8nm,0.8s,baz=88,slow=6.0,SNR=4.2									
TORD	Torodi Ar. Bea	88.05	283	P		P		23 29 21.0	+0.2
comp=Z,0.8nm,0.9s,baz=96,slow=4.7,SNR=4.2									

IDC 10 23:20:08.9±1.5, 13°.92N×92°.64E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.7/29, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=55.2km s-min=17.0km az=65.0
ISCJB 10 23:20:12.5±0.8, 14°.16N±0°.08×92°.92E±0°.07, h33km, mb4.0/7, Error ellipse: s-maj=12.6km s-min=8.3km az=35.1

ISC 10 23:20:14.6±1.1, 14°.2N±0°.1×92°.8E±0°.1, h35km, n20, σ1§73/21, mb3.9/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CMAR	Chiang Mai Arr	7.27	54	Pn		Pn		23 22 00.2	+1.8
0.9nm,0.3s,baz=242,slow=15,SNR=8.3									
CMAR				Sn		Sn		23 23 17.8	-2.1
1.6nm,0.3s,baz=222,slow=23,SNR=6.2									
SHL	Shillong	11.34	356	eS		Sn		23 24 57.0	-2.9
ODAN	Odare	13.56	339	eP		Pn		23 23 26.1	+1.3
21nm,0.3s									
TAPN	Taplejung	13.91	341	eP		Pn		23 23 30.5	+0.9
14nm,0.3s									
RAMN	Ramite	13.93	336	eP		Pn		23 23 30.7	+0.8
31nm,0.2s									
JIRN	Jiri	14.73	336	eP		Pn		23 23 41.7	+0.9
13nm,0.2s									
PKI	Pulchoki	14.97	334	eP		Pn		23 23 44.4	+0.4
17nm,0.3s									
PKIN	Phulchoki	14.98	334	eP		Pn		23 23 45.0	+0.9
18nm,0.3s									
DMN	Daman	15.13	333	eP		Pn		23 23 46.4	+0.3
15nm,0.3s									
KKN	Kakani	15.22	334	eP		Pn		23 23 47.4	+0.3
9.9nm,0.4s									
KOLN	Koldanda	15.98	329	eP		P		23 23 57.3	-2.9
21nm,0.3s									
DANN	Dangsing	16.38	331	eP		P		23 24 02.9	-1.9
PYUN	Piuthan	16.56	328	eP		P		23 24 04.3	-2.3
MKAR	Makanchi Array	33.66	347	P		P		23 26 53.9	+1.8
0.6nm,0.5s,baz=163,slow=8.9,SNR=5.1									
SONM	Songino Array	35.39	16	P		P		23 27 09.4	+2.2
0.9nm,0.7s,baz=199,slow=8.3,SNR=6.1									
KURBB	Kurchatov Arra	38.12	345	P		P		23 27 31.3	+1.1
0.5nm,0.5s,baz=165,slow=8.9,SNR=5.1									
ZALV	Zalesovo Beam	40.15	353	P		P		23 27 48.4	+1.3
1.4nm,0.6s,baz=171,slow=8.1,SNR=6.8									
FITZ	Fitzroy Crossi	45.61	134	P		P		23 28 30.1	-1.7
2.0nm,0.5s,baz=327,slow=6.8,SNR=15									
WRA	Warramunga Arr	53.13	129	P		P		23 29 28.1	-1.2
2.5nm,0.7s,baz=301,slow=9.9,SNR=24									
ASAR	Alice Springs	55.08	133	P		P		23 29 42.6	-0.8
3.0nm,0.5s,baz=309,slow=6.8,SNR=51									

IDC 10 23:31:52.2±2.9, 5°.03S×132°.95E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/18, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=126.8km s-min=29.0km az=81.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
FITZ	Fitzroy Crossi	14.83	208	Pn		Pn		23 35 23.3	-0.1
0.1nm,0.3s,baz=5.2,slow=11,SNR=2.7									
WRA	Warramunga Arr	14.88	175	Pn		Pn		23 35 23.4	-0.8
0.1nm,0.3s,baz=352,slow=14,SNR=4.7									
WRA				Sn		Sn		23 38 01.4	-8.5
0.1nm,0.3s,baz=5.0,slow=23,SNR=3.7									
ASAR	Alice Springs	18.55	177	P		Pn		23 36 10.9	0.0
0.1nm,0.3s,baz=4.4,slow=11,SNR=8.6									
MKAR	Makanchi Array	68.25	325	P		P		23 42 55.0	0.0
0.2nm,0.5s,baz=115,slow=6.5,SNR=3.5									

IDC 10 23:40:49.7±2.0, 13°.75N×92°.90E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/28, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=62.6km s-min=25.8km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CMAR	Chiang Mai Arr	7.46	50	Pn		Pn		23 42 39.8	-0.2
0.1nm,0.3s,baz=242,slow=15,SNR=3.1									
MKAR	Makanchi Array	34.13	347	P		P		23 47 36.4	+0.1
0.4nm,0.8s,baz=162,slow=6.9,SNR=2.7									
FITZ	Fitzroy Crossi	45.21	134	P		P		23 49 07.6	-1.3
0.6nm,0.4s,baz=357,slow=6.1,SNR=3.3									
WRA	Warramunga Arr	52.76	129	P		P		23 50 07.4	+0.5
0.3nm,0.6s,baz=312,slow=8.5,SNR=4.8									
ASAR	Alice Springs	54.68	132	P		P		23 50 21.1	+0.1
0.3nm,0.5s,baz=313,slow=7.3,SNR=4.0									

ISCJB 10 23:55:57.8±0.4, 50°.09N±0°.03×18°.30E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.2km az=17.8
IPEC 10 23:55:58.8±0.2, 50°.05N×18°.47E, h3km±2km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0
VIE 10 23:55:58.4±0.8, 49°.66N×18°.62E, h0km, mb1.8/3, ML2.4/4, Error ellipse: s-maj=4.7km s-min=2.9km az=88.0 33 km SE of Ostrava Suspected Mining induced.
WAR 10 23:55:59.1, 50°.06N×18°.45E
CSEM 10 23:55:59.1±0.3, 50°.07N×18°.32E, h1km, ML2.7/11, Error ellipse: s-maj=6.5km s-min=3.8km az=10.0
PRU 10 23:56:00.6, 50°.07N×18°.30E, h0km

ISC 10 23:55:59.2±0.8, 50°.04N±0°.03×18°.41E±0°.02, h0km, n45, σ1§11/86, 5D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAC	Raciborz	0.15	288	⇓iPg		Pg		23 56 03.3	+1.3
RAC				eSg		Sg		23 56 06.6	+2.7
OKC	Ostrava-Krasne	0.26	220	ePG		Pg		23 56 04.9	+0.7
OKC				eSG		Sg		23 56 08.7	+1.1
comp=Z,137nm,0.5s									
OKC	Ostrava-Krasne	0.26	220	Pg		Pg		23 56 04.9	+0.7
OKC				Sg		Sg		23 56 08.7	+1.1
137nm,0.5s									
MORC	Moravsky Berou	0.62	245	ePg		Pg		23 56 11.3	+0.2
baz=65									
MORC				eSg		Sg		23 56 19.5	+0.4
28nm,0.3s,baz=65									
OJC	Ojcow	0.91	78	ePg		Pg		23 56 15.8	-0.8
OJC				eSg		Sg		23 56 28.1	-0.3
DPC	Dobruska-Polom	1.38	284	ePG		Pn		23 56 24.8	-0.9
DPC				eSG		Sg		23 56 42.7	-0.8
DPC	Dobruska-Polom	1.38	284	Pg		Pn		23 56 24.8	-0.9
DPC				Sg		Sg		23 56 42.7	-0.8
NIE	Niedzica	1.38	116	ePg		Pb		23 56 27.1	+1.2
NIE				eSg		Sn		23 56 47.1	+2.4
VRAC	Vranov	1.39	239	ePg		Pn		23 56 25.1	-0.7
baz=58									
VRAC				eSg		Sg		23 56 43.6	-0.2
10nm,0.2s,baz=58									
VYHS	Vyhne	1.57	170	ePN		Pn		23 56 27.8	-0.5
VYHS				eSN		Sn		23 56 49.6	+0.2
VYHS	Vyhne	1.57	170	ePn		Pn		23 56 27.8	-0.5
VYHS				eSn		Sn		23 56 49.6	+0.2
KSP	Ksiaz	1.58	302	ePn		Pn		23 56 27.3	-1.1
KSP				ePg		Pg		23 56 30.4	+1.0
KSP				eSn		Sn		23 56 48.6	-0.9
KSP	Ksiaz	1.58	302	ePg		Pn		23 56 27.3	-1.1
KSP				eSg		Sn		23 56 49.4	-0.1
UPC	Upice	1.61	288	ePG		Pn		23 56 28.8	-0.1
UPC				eSG		Sn		23 56 50.8	+0.5
comp=Z,5.4nm,0.4s									
UPC	Upice	1.61	288	Pg		Pn		23 56 28.8	-0.1
UPC				Sg		Sn		23 56 50.8	+0.5
5.4nm,0.4s									
KRUC	Moravsky	1.64	234	ePn		Pn		23 56 28.9	-0.3
baz=53									
KRUC				eSg		Sn		23 56 51.3	+0.3
7.5nm,0.3s,baz=53									
SMOL	Smolenice	1.66	203	ePN		Pn		23 56 27.9	-1.6
SMOL				eSN		Sn		23 56 51.4	-0.1
SMOL	Smolenice	1.66	203	ePn		Pn		23 56 27.9	-1.6
SMOL				eSn		Sn		23 56 51.4	-0.1
STHS	Stebnicka Huta	1.94	108	ePN		Pg		23 56 36.2	-0.1
STHS				eSN		Sg		23 57 03.6	+2.1
STHS	Stebnicka Huta	1.94	108	ePn		Pg		23 56 36.2	-0.1
STHS				eSn		Sg		23 57 03.6	+2.1
TREC	Trest	2.04	250	ePN		Pn		23 56 34.0	-0.8
TREC				ePG		Pn		23 56 36.1	+1.3
TREC				eSG		Sb		23 57 03.4	+0.3
comp=Z,8.3nm,0.4s									
TREC	Trest	2.04	250	Pn		Pn		23 56 34.0	-0.8
TREC	Trest	2.04	250	Pg		Pn		23 56 36.1	+1.3
TREC				Sg		Sb		23 57 03.4	+0.3
8.3nm,0.4s									
KECS	Kecovo	2.07	138	ePN		Pn		23 56 34.3	-0.8
KECS				ePG		Pg		23 56 38.9	+0.1
KECS				e				23 56 59.3	
KECS	Kecovo	2.07	138	eSG		Sn		23 57 02.3	+0.7
KECS	Kecovo	2.07	138	ePn		Pg		23 56 38.9	+0.1
KECS				eSn		Sn		23 57 02.3	+0.7
CRVS	Cervenica-Dubn	2.29	119	ePN		Pb		23 56 41.4	0.0
CRVS				eSN		Sg		23 57 11.8	-1.0
CRVS	Cervenica-Dubn	2.29	119	ePn		Pb		23 56 41.4	0.0
CRVS				eSn		Sg		23 57 11.8	-1.0
PRU	Pruhonice	2.50	270	ePN		Pn		23 56 39.5	-1.6
PRU				ePG		Pb		23 56 44.2	-0.7
PRU				eSG		Sb		23 57 17.0	+0.8
comp=Z,6.7nm,0.5s									
PRU	Pruhonice	2.50	270	Pn		Pn		23 56 39.5	-1.6
PRU	Pruhonice	2.50	270	Pg		Pb		23 56 44.2	-0.7
PRU				Sg		Sb		23 57 17.0	+0.8
6.7nm,0.5s									
PVCC	Panska Ves	2.51	283	ePN		Pn		23 56 40.7	-0.6
PVCC				ePG		Pb		23 56 45.1	-0.1
PVCC				eSG		Sg		23 57 19.0	-0.9
comp=Z,16nm,0.2s									
PVCC	Panska Ves	2.51	283	Pn		Pn		23 56 40.7	-0.6
PVCC	Panska Ves	2.51	283	Pg		Pb		23 56 45.1	-0.1
PVCC				Sg		Sg		23 57 19.0	-0.9
16nm,0.2s									
CONA	Conrad Observa	2.70	219	⇓iSg		Sb		23 57 22.2	+0.1
3.4nm,0.4s									
CONA	Conrad Observa	2.70	219	Sg		Sb		23 57 22.2	+0.1
3.4nm,0.4s									
KOLS	Kolonicke sedl	2.75	112	ePN		Pg		23 56 50.3	-1.6
BRG	Berggiesshubel	2.98	288	PG		Pb		23 56 53.9	+0.9
BRG				SG		Sg		23 57 32.9	-1.8
7.6nm,0.5s									
KHC	Kasperske Hory	3.27	256	ePN		Pn		23 56 51.3	-0.5
KHC				ePG		Pb		23 56 58.5	+0.3
KHC				eSG		Sg		23 57 42.7	-1.6
comp=Z,7.2nm,0.5s									
KHC	Kasperske Hory	3.27	256	Pn		Pn		23 56 51.3	-0.5
KHC				Sg		Sg		23 57 42.7	-1.6
7.2nm,0.5s									
MOA	Molln	3.50	233	⇓iPn		Pn		23 56 52.2	-2.7
MOA				⇓iPg		Pb		23 57 03.4	+1.4
MOA				⇓iSg		Sg		23 57 50.4	-1.2
5.9nm,0.6s									
MOA	Molln	3.50	233	Pn		Pn		23 56 52.2	-2.7
CLL	Collm	3.67	292	ePg		Pb		23 57 07.0	+2.2
CLL				eSg		Sg		23 57 56.0	-1.0
comp=Z,7.0nm,0.7s									
NKC	Novy Kostel	3.84	275	eSG		Sg		23 58 01.1	-1.4
comp=Z,3.8nm,0.4s									
NKC	Novy Kostel	3.84	275	Sg		Sg		23 58 01.1	-1.4
comp=Z,3.8nm,0.4s									

TAP 10 23:56:00.8, 24°.91N×122°.41E, h17km, ML3.6, 1C-3D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TWB1	Santiao Chiao	0.39	285	⇓iP		Pb		23 56 09.4	0.0
baz=284									
TWB1				i S		Sb		23 56 15.2	+0.1
baz=284									
TWC	Suao	0.59	240	eP		Pg		23 56 11.8	-0.6
baz=239									
NWF	Wu-fen Shan	0.59	286	⇓iP		Pb		23 56 13.4	+0.6
baz=285									
NWF				S		Sb		23 56 21.8	+0.8
baz=285									
ILA	Ilan	0.62	257	eP		Pn		23 56 14.0	-0.8
baz=256									
ILA				eS		Sb		23 56 22.4	+0.9
baz=256									
TWE	Neicheng	0.70	255	P		Pg		23 56 14.2	-0.3
baz=245									
TWE				S		Sb		23 56 24.3	+0.5
baz=245									
TWA	Mucha	0.75	276	eP		Pg		23 56 16.0	+0.5
baz=275									
TWA				eS		Sn		23 56 26.6	-1.1
baz=275									
ENA	Nanau	0.77	232⇑	eP		Pb		23 56 15.3	-0.5
baz=231									
ENA				eS		Sg		23 56 26.5	+0.4
baz=231									
PCYT	Pengchaiyu	0.78	337	⇓P		Pg		23 56 16.1	+0.1
baz=337									
ENTT	Nioudou	0.81	251	P		Pb		23 56 16.5	+0.1
baz=250									
ENTT				S		Sg		23 56 28.1	+0.7
baz=250									
TAP1	Taipei	0.81	279	eP		Pn		23 56 17.9	+0.4
baz=278									
TAP1				eS		Sn		23 56 28.5	-0.7
baz=278									
TWY	Chenhua	0.82	297	eP		Pg		23 56 17.1	+0.4
baz=296									
TWY				S		Sn		23 56 29.0	-0.3
baz=296									
TAP	Taipei	0.83	279	eP		Pn		23 56 18.1	+0.4
baz=278									
TAP				eS		Sn		23 56 29.1	-0.5
baz=278									
NSK	Sanguang	0.98	256	eP		Pb		23 56 19.4	-0.1
baz=265									
NSK				eS		Sg		23 56 32.8	-0.1
baz=265									
NNS	Nan Shan	1.05	244	eP		Pb		23 56 20.6	-0.1
baz=243									
NNS				eS		Sb		23 56 34.7	+0.4
baz=243									
TWD	Chiawan	1.11	222	eP		Pb		23 56 21.2	-0.3
baz=229									
TWD				eS		Sn		23 56 36.3	-0.2
baz=229									
WHF	Hehuan Shan	1.29	234	P		Pn		23 56 24.5	-0.1
baz=233									
WHF				eS		Sb		23 56 41.4	-0.5
baz=233									
ESL	Shilin	1.41	219	eP		Pn		23 56 25.5	-0.2
baz=201									
ESL				eS		Sb		23 56 44.6	+0.3
baz=201									
NSY	Sanyi	1.58	252	eP		Pg		23 56 31.1	0.0
baz=250									
NSY				eS		Sg		23 56 51.5	-0.2
baz=250									
TWQ1	Liyutan	1.59	250	eP		Pb		23 56 30.1	+0.4
baz=248									
TWQ1				eS		Sb		23 56 50.0	+0.4
baz=248									
EHY	Hungye	1.71	216	eP		Pn		23 56 29.0	-0.9
baz=215									
SMLT	Sun Moon Lake	1.71	234	eP		Pb		23 56 31.6	-0.4
baz=220									
TYC	Yuchr	1.73	235	eP		Pb		23 56 31.8	-0.3
baz=234									
TCU	Taichung	1.75	245	eP		Pg		23 56 34.0	-0.5
baz=243									
TWF1	Yuli	1.85	213	eP		Pn		23 56 30.5	-1.3
baz=213									
YUS	Yu-Shan	1.94	224	eP		Pn		23 56 33.6	-0.1
baz=223									
CHN5	Tsauling	2.05	231	eP		Pb		23 56 36.9	-0.8
baz=213									
CHN5				eS		Sb		23 57 04.8	+1.8
baz=213									
TWG	Pinlang	2.41	211	eP		Pn		23 56 38.5	-1.1
baz=210									
CHN1	Nanshi	2.43	225	eP		Pn		23 56 40.7	+0.9
baz=225									
SCZT	Fangliau	3.01	213	eP		Pn		23 56 48.1	+0.3
baz=200									

ISCJB 11 00:00:47.8±0.7, 51°.73N±0°.09×173°.11W±0°.05, h45km±5km, mb4.0/24, Error ellipse: s-maj=15.9km s-min=4.3km az=171.2
NEIC 11 00:00:48.8±0.6, 51°.67N×173°.15W, h41km±4km, mb4.5/9, Error ellipse: s-maj=13.8km s-min=3.8km az=170.0
IDC 11 00:00:52.3±3.1, 51°.79N×173°.05W, h70km±28km, mb3.6/18, mb1 3.8/21, mb1mx3.7/33, mbtmp3.6/21, MS3.9/1, Ms1 3.9/1, ms1mx3.2/34, Error ellipse: s-maj=23.8km s-min=10.9km az=178.0

ISC 11 00:00:49.5±1.4, 51°.8N±0°.1×173°.12W±0°.04, h45km±11km, n77, σ1§02/84, mb4.0/24, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ATKA	Atka Island	0.80	304	P		Pn		00 01 03.2	-1.2
ATKA				S		Sn		00 01 13.6	-1.6
GSMY	Great Sitkin M	1.84	280	P		Pn		00 01 17.7	-0.9
GSTR	Great Sitkin T	1.85	282	ePn		Pn		00 01 16.6	-2.2
GSTD	Great Sitkin T	1.90	280	P		Pn		00 01 18.1	-1.4
GSTD				S		Sn		00 01 41.8	-0.4
ETKA	Kagalaska Isla	2.04	274	P		Pn		00 01 20.2	-1.2
ADAG	Mount Adagdak	2.17	277	P		Pn		00 01 22.6	-0.5
ADK	Adak	2.22	275	P		Pn		00 01

NVAR Mina Array Bea 39.99 87 P P 00 08 19.9 +0.1
0.4nm,0.5s,baz=301,slow=9.7,SNR=4.7
PDAR Pinedale Array 42.80 76 P P 00 08 42.9 +0.1
PDAR Pinedale Array 42.80 76 P P 00 08 42.9 +0.1
2.1nm,0.6s,baz=307,slow=4.5,SNR=14
KSRS Korea Array 43.16 275 P P 00 08 47.7 +2.2
0.8nm,0.5s,baz=68,slow=6.7,SNR=2.6
KSAR Wonju Array Be 43.19 275 P P 00 08 47.7 +1.9
ULN Ulaanbaatar 49.23 299 P P 00 09 32.4 -0.8
SONM Songino Array 49.60 299 P P 00 09 36.0 0.0
SONM Songino Array 49.60 299 P P 00 09 36.0 0.0
0.4nm,0.4s,baz=59,slow=8.3,SNR=3.7
TXAR Lajitas Array 55.09 86 P P 00 10 16.2 -0.7
TXAR Lajitas Array 55.09 86 P P 00 10 16.2 -0.7
1.1nm,0.6s,baz=300,slow=5.9,SNR=7.8
ZALV Zalesovo Beam 56.28 316 P P 00 10 24.8 -0.2
ZALV Zalesovo Beam 56.28 316 P P 00 10 24.7 -0.2
0.4nm,0.3s,baz=49,slow=4.4,SNR=2.1
SCHQ Schefferville 57.44 41 P P 00 10 31.6 -1.6
SCHQ Schefferville 57.44 41 P P 00 10 31.6 -1.6
2.0nm,0.7s,baz=342,slow=9.6,SNR=3.7
ARCES ARCESS Array B 58.25 352 P P 00 10 38.4 -0.3
ARCES PcP **PcP 00 11 29.8 +0.4**
ARCES ARCESS Array B 58.25 352 P P 00 10 38.4 -0.3
0.9nm,0.7s,baz=18,slow=7.7,SNR=4.8
ARCES PcP **PcP 00 11 29.8 +0.4**
0.7nm,0.5s,baz=8.8,slow=5.7,SNR=6.3
MKAR Makanchi Array 62.51 311 P P 00 11 07.7 -0.4
MKAR Makanchi Array 62.51 311 P P 00 11 07.7 -0.4
0.5nm,0.5s,baz=46,slow=5.8,SNR=12
BRVK Borovoye 62.83 323 *eP* **P 00 11 10.2 +0.2**
2.1nm,0.5s
GOGA Godfrey 64.37 68 *eP* **P 00 11 19.5 -1.1**
3.9nm,0.7s
FINES FINESS Array B 66.11 350 P P 00 11 31.4 +0.1
FINES FINESS Array B 66.11 350 P P 00 11 31.4 +0.1
0.5nm,0.4s,baz=10,slow=8.5,SNR=5.4
NOA NORSAR Array B 67.50 358 P P 00 11 40.6 +0.4
NOA NORSAR Array B 67.50 358 P P 00 11 40.6 +0.4
0.5nm,0.8s,baz=19,slow=6.7,SNR=3.4
AAK Ala-Archa 69.27 313 *eP* **P 00 11 51.1 -0.7**
3.7nm,0.5s
EKS2 Erkin-Say 69.57 314 *eP* **P 00 11 54.8 +1.2**
5.1nm,0.6s
ABKAR Akbulak array 69.69 326 *eP* **P 00 11 54.2 +0.2**
1.7nm,0.6s
KKAR Karatay Array 70.66 316 *eP* **P 00 12 00.5 +0.4**
GERES GERESS Array B 79.61 355 P P 00 12 51.5 -0.1
GERES GERESS Array B 79.61 355 P P 00 12 51.5 -0.1
0.3nm,0.5s,baz=3.4,slow=6.7,SNR=4.2
BRTR Keskin Array B 85.95 340 P P 00 13 25.7 +1.0
BRTR Keskin Array B 85.95 340 P P 00 13 25.7 +1.0
0.4nm,0.7s,baz=20,slow=4.1,SNR=2.8
ASAR Alice Springs 88.25 227 P P 00 13 35.0 -0.8
ASAR Alice Springs 88.25 227 P P 00 13 35.0 -0.8
1.1nm,0.6s,baz=30,slow=4.8,SNR=12
MAW Mawson 148.96 218 PKPbc **PKPbc 00 20 30.4 -0.4**
MAW Mawson 148.96 218 PKPbc **PKPbc 00 20 30.4 -0.4**
0.7nm,0.3s,baz=49,slow=9.3,SNR=4.0
BOSA Boshof 153.10 322 PKPbc **PKPbc 00 20 41.4 -0.5**
BOSA Boshof 153.10 322 PKPbc **PKPbc 00 20 41.4 -0.5**
2.3nm,0.9s,baz=214,slow=3.6,SNR=2.7

IDC 11 00:16:30.2±0.9, 13°.88N×92°.87E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/28, mbtmp3.6/10, ML4.0/1, MS3.5/1, Ms1 3.7/1, ms1mx2.9/36, Error ellipse: s-maj=38.7km s-min=17.1km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.40**	**51**	Pn	Pn	00 18 19.2	-0.4
	0.7nm,0.3s,baz=242,slow=16,SNR=4.4						
CMAR				LR	LR	00 20 52.3	
	comp=Z,358nm,20.3s,baz=138,slow=35						
MKAR	**Makanchi Array**	**33.99**	**347**	P	P	00 23 16.1	+0.5
	0.4nm,0.7s,baz=152,slow=7.8,SNR=3.6						
SONM	**Songino Array**	**35.67**	**16**	P	P	00 23 30.5	+0.2
	0.2nm,0.5s,baz=198,slow=8.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**40.47**	**353**	P	P	00 24 10.2	-0.3
	0.4nm,0.3s,baz=168,slow=7.4,SNR=3.3						
FITZ	**Fitzroy Crossi**	**45.33**	**134**	P	P	00 24 50.0	-0.3
	0.3nm,0.4s,baz=338,slow=6.2,SNR=6.4						
WRA	**Warramunga Arr**	**52.86**	**129**	P	P	00 25 48.0	-0.1
	0.5nm,0.7s,baz=310,slow=9.9,SNR=8.8						
WRA				PcP	PcP	00 26 57.0	-0.4
	0.2nm,0.4s,baz=321,slow=3.1,SNR=5.4						
ASAR	**Alice Springs**	**54.80**	**133**	P	P	00 26 02.5	+0.2
	0.8nm,0.6s,baz=306,slow=6.6,SNR=10						
BRTR	**Keskin Array B**	**57.66**	**308**	P	P	00 26 22.6	-0.2
	0.4nm,0.7s,baz=114,slow=7.0,SNR=2.8						
FINES	**FINESS Array B**	**66.86**	**331**	P	P	00 27 23.0	-0.8
	0.9nm,0.7s,baz=92,slow=10,SNR=3.4						
GERES	**GERESS Array B**	**72.57**	**317**	P	P	00 27 60.0	+0.5
	0.3nm,0.7s,baz=66,slow=7.5,SNR=4.2						

MEX 11 00:17:49.5±0.7, 18°.02N×100°.16W, h61km±5km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.31**	**325**	*eP*	Pn	00 17 58.5	-1.3
ARIG				*i* S	Sn	00 18 05.8	-1.6
MEIG	**Mezcala**	**0.52**	**100**	*i* P	Pn	00 18 00.3	-1.6
MEIG				*e*S	Sn	00 18 08.9	-2.0
PLIG	**Platanillo**	**0.72**	**59**	*eP*	Pn	00 18 02.9	-1.4
PLIG				*i* S	Sn	00 18 12.9	-2.2
CAIG	**El Cayaco**	**0.97**	**186**	*eP*	Pn	00 18 05.8	-1.5
CAIG				*i* S	Sn	00 18 19.1	-1.3
MAVM	**Malinalco, Edo**	**1.12**	**34**	*eP*	Pn	00 18 07.8	-1.7
MAVM				*i* S	Sn	00 18 22.9	-1.5
ACP2	**Acapulco**	**1.17**	**167**	*i* P	Pn	00 18 09.2	-0.6
ACP2				*i* S	Sn	00 18 23.1	-1.8
ACX	**Acapulco**	**1.18**	**166**	*eP*	Pn	00 18 13.2	+3.2
ACX				*i* S	Sn	00 18 28.0	+2.7
ZIIG	**Zihuatanejo**	**1.31**	**252**	*eP*	Pn	00 18 10.4	-1.3
ZIIG				*i* S	Sn	00 18 25.9	-2.4
YAIG	**Yautepec**	**1.33**	**51**	*eP*	Pn	00 18 10.8	-1.4
YAIG				*i* S	Sn	00 18 27.2	-2.0
MZVM		**1.46**	**37**	*eP*	Pn	00 18 13.6	-0.1
MZVM				*i* S	Sn	00 18 32.8	+1.0
AZVM	**Cuida Lopez Ma**	**1.76**	**28**	*i* S	Sn	00 18 35.0	-4.9
MOIG	**Morelia**	**1.92**	**330**	*i* P	Pn	00 18 20.9	+0.7
MOIG				*i* S	Sn	00 18 41.2	-2.3
IIO	**Organos**	**2.07**	**41**	*eP*	Pn	00 18 21.9	-0.5
PNIG	**Pinotepa**	**2.53**	**130**	*eP*	Pn	00 18 27.2	-1.0
PNIG				*i* S	Sn	00 18 55.1	-2.8
MMIG	**Aquila**	**3.04**	**276**	*eP*	Pn	00 18 34.0	-1.2
MMIG				*i* S	Sn	00 19 08.9	-1.6

---

*IDC **11** 00:20:05.4±0.4, 13°.94N×92°.90E, h0km, mb4.3/24, mb1 4.4/25, mb1mx4.4/30, mbtmp4.3/25, ML4.2/1, Error ellipse: s-maj=16.3km s-min=11.4km az=57.0*
*BJI **11** 00:20:06.0, 13°.62N×93°.02E, h34km, mB4.9/21, mb4.6/33, Ms4.4/16, Ms7 4.2/16*
*MOS **11** 00:20:08.8±0.8, 13°.99N×93°.01E, h33km, mb4.7/19, Error ellipse: s-maj=10.5km s-min=5.9km az=108.2*
*ISCJB **11** 00:20:09.1±0.6, 14°.05N±0°.03×92°.93E±0°.03, h34km±5km, mb4.5/85, MS4.2/4, Error ellipse: s-maj=5.2km s-min=5.1km az=28.1*
*NEIC **11** 00:20:10.8±0.2, 13°.98N×92°.99E, h35km, mb4.5/16, Error ellipse: s-maj=6.9km s-min=5.3km az=63.0*
NEIC Felt at Port Blair. Felt [III] at Rangoon, Burma.
ISC 11 00:20:10.8±0.4, 14°.03N±0°.04×92°.92E±0°.04, h34km±1km, h34km:pP-P, n213, σ19.65/266, mb4.5/85, MS4.2/5, 8C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.85**	**179**	*eP*	**Pb**	**00 20 27.1**	**-0.1**
PBA	**Port Blair**	**2.37**	**184**	*eP*	Pn	00 20 46.9	-0.4
CMAR	**Chiang Mai Arr**	**7.27**	**52**	Pn	**Pn**	**00 21 55.6**	**+1.0**
CMAR				Sn	**Sn**	**00 23 13.8**	**-2.3**
CMAR	**Chiang Mai Arr**	**7.27**	**52**	Pn	**Pn**	**00 21 55.6**	**+1.0**
	1.1nm,0.3s,baz=242,slow=16,SNR=15						
CMAR				Sn	**Sn**	**00 23 13.8**	**-2.3**
	2.9nm,0.3s,baz=240,slow=29,SNR=9.9						
CHTO	**Chiang Mai**	**7.48**	**50**	*eP*	**Pn**	**00 21 57.1**	**-0.6**
CHTO				*e*		00 23 16.2	
CHTO	**Chiang Mai**	**7.48**	**50**	*e*Pn	**Pn**	**00 21 57.1**	**-0.6**
CHTO				*e*Sn	**Sn**	**00 23 16.2**	**-5.2**
VIS	**Vishakhapatnam**	**9.93**	**293**	*eP*	**Pn**	**00 22 31.0**	**-0.2**
VIS				AMB	AMB	00 22 42.5	
	comp=Z,54nm,1.7s						
SHL	**Shillong**	**11.52**	**355**	*eP*	**Pn**	**00 22 52.1**	**-0.9**
SHL				AMB	AMB	00 23 04.2	
	comp=Z,5.5nm,1.1s						
KULM	**Kulim**	**11.55**	**138**	*e*Pn	**Pn**	**00 22 55.8**	**+2.4**
BOK	**Bokaro**	**11.77**	**327**	*eP*	**Pn**	**00 22 56.6**	**+0.2**
BOK				AMB	AMB	00 23 04.2	
	comp=Z,6.1nm,0.3s						
PSI	**Prapat**	**12.64**	**151**	Pn	**Pn**	**00 23 10.9**	**+2.5**
PSI	**Prapat**	**12.64**	**151**	Pn	**Pn**	**00 23 10.9**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=158,slow=9.6,SNR=4.7						
PALK	**Pallekele**	**13.76**	**242**	*e*Pn	**P**	**00 23 30.6**	**-1.1**
ODAN	**Odare**	**13.77**	**339**	*eP*	**Pn**	**00 23 21.1**	**-2.8**
	comp=Z,9.2nm,0.2s						
ODAN				*e*S	Sn	00 25 44.8	-11
RAMN	**Ramite**	**14.15**	**336**	*eP*	**Pn**	**00 23 27.4**	**-1.7**
	comp=Z,41nm,0.7s						
HYB	**Hyderabad**	**14.24**	**286**	*i* P	**P**	**00 23 36.0**	**-1.1**
HYB				*e*S	**Sn**	**00 26 07.0**	**0.0**
HYB	**Hyderabad**	**14.24**	**286**	*eP*	**Pn**	**00 23 30.9**	**+0.8**
HYB				AMB	AMB	00 26 11.8	
	comp=Z,26nm,1.4s						
JIRN	**Jiri**	**14.94**	**336**	*eP*	**Pn**	**00 23 38.3**	**-1.7**
NGP	**Nagpur**	**14.99**	**300**	*eP*	**Pn**	**00 23 37.6**	**-2.8**
NGP				*ex*	x	00 26 09.8	
PKI	**Pulchoki**	**15.18**	**334**	*eP*	**Pn**	**00 23 42.1**	**-1.0**
	comp=Z,22nm,0.6s						
PKIN	**Phulchoki**	**15.20**	**334**	*eP*	**Pn**	**00 23 42.1**	**-1.1**
JBP	**Jabalpur**	**15.25**	**308**	*i* P	**Pn**	**00 23 45.1**	**+1.4**
JBP				*ex*	x	00 26 24.0	
DMN	**Daman**	**15.35**	**333**	*eP*	**Pn**	**00 23 44.3**	**-0.9**
LSA	**Lhasa**	**15.68**	**354**	P	**P**	**00 23 54.7**	**+1.2**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**15.68**	**354**	*eP*	**Pn**	**00 23 50.6**	**+0.9**
LSA				*e*		00 26 39.1	
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**15.68**	**354**	*e*Pn	**Pn**	**00 23 50.6**	**+0.9**
	comp=Z,12nm,0.6s						
LSA				*e*Sn	**Sn**	**00 26 39.0**	**-3.6**
KOLN	**Koldanda**	**16.20**	**329**	*eP*	**Pn**	**00 23 55.6**	**-0.5**
LATR	**Latur**	**16.30**	**288**	*eP*	**Pn**	**00 23 58.2**	**+0.9**
BHPL	**Bhopal**	**17.29**	**304**	*eP*	**P**	**00 24 12.0**	**+1.0**
BHPL				AMB	AMB	00 24 21.6	
	comp=Z,10nm,1.0s						
GYA	**Guiyang**	**17.84**	**44**	*eP*	**P**	**00 24 16.8**	**-0.3**
GYA				pP	**pP**	**00 24 25.4**	**-0.5**
GYA				PP	**PnPn**	**00 24 33.0**	**+5.2**
GYA				S	**Sn**	**00 27 32.1**	**-2.6**
GYA				sS	**S**	**00 27 45.0**	**+4.4**
GYA				SS	**SnSn**	**00 27 54.5**	**+5.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=E,230nm,15.0s						
GYA				LR	LR		
	comp=Z,350nm,14.0s						
CD2	**Chengdu**	**19.53**	**29**	P	**Pn**	**00 24 36.7**	**-0.3**
CD2				pP	**pP**	**00 24 45.8**	**+1.4**
CD2				sP	**sP**	**00 24 50.6**	**+1.9**
CD2				PP	**PnPn**	**00 24 55.2**	**+4.3**
CD2				S	**S**	**00 28 09.5**	**-5.0**
CD2				sS	sS	00 28 22.2	-6.4
CD2				SS	**SnSn**	**00 28 36.2**	**+6.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=E,600nm,15.5s						
CD2				LR	LR		
	comp=Z,570nm,13.2s						
DDI	**Dehra Dun**	**21.23**	**322**	*eP*	**P**	**00 24 55.2**	**+1.2**
ENH	**Enshi**	**22.24**	**41**	*eP*	**P**	**00 25 03.3**	**-1.5**
	comp=Z,16nm,0.7s						
SMLA	**Simla**	**22.34**	**322**	*eP*	**P**	**00 25 07.3**	**+1.5**
DHRM	**DHARAMSHALA**	**23.66**	**323**	*eP*	**P**	**00 25 20.5**	**+1.0**
DHRM				AMB	AMB	00 25 21.4	
	comp=Z,32nm,0.9s						
LZH	**Lanzhou**	**24.05**	**22**	*eP*	**P**	**00 25 24.4**	**+1.3**
LZH				pP	**pP**	**00 25 31.6**	**-1.1**
LZH				sP	**sP**	**00 25 35.6**	**-1.2**
LZH				PP	PnPn	00 26 01.4	+8.6
LZH				*e*S	**S**	**00 29 35.1**	**-3.3**
LZH				SS	**SnSn**	**00 30 29.1**	**+8.3**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=N,340nm,11.4s						
LZH				LR	LR		
	comp=E,390nm,13.1s						
LZH				LR	LR		
	comp=Z,460nm,15.1s						
XAN	**Xi'an**	**24.64**	**33**	P	**P**	**00 25 28.1**	**-0.3**
XAN				pP	**pP**	**00 25 38.2**	**+0.2**
XAN				sP	**sP**	**00 25 43.1**	**+1.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,40nm,4.7s						
GTA	**Gaotai**	**26.00**	**12**	P	**P**	**00 25 42.1**	**+1.4**
GTA				pP	**pP**	**00 25 52.2**	**+1.8**
GTA				sP	**sP**	**00 25 55.5**	**+1.1**
GTA				PP	**PnPn**	**00 26 24.3**	**+5.0**
GTA				PcP	**PcP**	**00 29 10.1**	**+1.6**
GTA				S	**S**	**00 30 10.4**	**+1.0**
GTA				sS	**sS**	**00 30 23.7**	**-1.6**
GTA				SS	**SnSn**	**00 31 16.0**	**+7.6**
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,240nm,7.9s						
GTA				LR	LR		
	comp=N,290nm,20.0s						
GTA				LR	LR		
	comp=E,330nm,17.1s						
GTA				LR	LR		
	comp=Z,650nm,22.3s						
KSH	**Kashi**	**29.44**	**333**	P	**P**	**00 26 11.1**	**-0.5**
KSH				sP	**sP**	**00 26 25.0**	**-0.3**
KSH				PP	**PnPn**	**00 27 07.0**	**+0.7**
KSH				S	**S**	**00 30 59.0**	**-4.7**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,88nm,6.2s						
KSH				LR	LR		
	comp=N,130nm,5.5s						
KSH				LR	LR		
	comp=E,340nm,13.9s						
KSH				LR	LR		
	comp=Z,620nm,22.5s						
NJ2	**Nanjing**	**29.73**	**48**	*eP*	**P**	**00 26 13.7**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,27nm,0.7s						
WMQ	**Urumqi**	**30.02**	**352**	*eP*	**P**	**00 26 18.7**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**31.28**	**28**	*eP*	**P**	**00 26 27.4**	**-0.4**
HHC				pP	**pP**	**00 26 36.9**	**-0.6**
HHC				sP	**sP**	**00 26 40.9**	**-0.7**
HHC				PP	**PnPn**	**00 27 30.6**	**0.0**
HHC				S	**S**	**00 31 30.1**	**-2.4**
HHC				sS	**sS**	**00 31 46.1**	**-2.4**
HHC				PcS	**PcS**	**00 33 04.8**	**-1.1**
HHC				ScS	**ScS**	**00 36 56.7**	**-3.1**
HHC				pmax	pmax		
	comp=Z,32nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,5.1s						
HHC				LR	LR		
	comp=N,610nm,13.7s						
HHC				LR	LR		
	comp=E,610nm,13.2s						
HHC				LR	LR		
	comp=Z,620nm,14.3s						
TKM2	**Tokmak 2**	**32.43**	**336**	*eP*	**P**	**00 26 40.4**	**+2.4**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TKM2	**Tokmak 2**	**32.43**	**336**	*eP*	**P**	**00 26 40.4**	**+2.4**
	comp=Z,2.9nm,0.9s						
AAK	**Ala-Archa**	**32.64**	**334**	*eP*	**P**	**00 26 41.9**	**+2.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
EKS2	**Erkin-Say**	**32.97**	**334**	*eP*	**P**	**00 26 43.5**	**+0.9**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**32.97**	**334**	*eP*	**P**	**00 26 43.5**	**+0.9**
	comp=Z,3.5nm,0.8s						
MK31	**Makanchi Array**	**33.86**	**347**	P	**P**	**00 26 50.8**	**+0.7**
MK31				pmax	pmax		
	comp=Z,11nm,0.7s						
MK31	**Makanchi Array**	**33.86**	**347**	*eP*	**P**	**00 26 50.9**	**+0.7**
MKAR	**Makanchi Array**	**33.86**	**347**	*eP*	**P**	**00 26 51.2**	**+1.0**
MKAR	**Makanchi Array**	**33.86**	**347**	*eP*	**P**	**00 26 51.1**	**+1.0**
MKAR	**Makanchi Array**	**33.86**	**347**	P	**P**	**00 26 51.1**	**+0.9**
	comp=Z,11nm,0.8s,baz=163,slow=8.7,SNR=70						
KK31	**Karatay Array**	**34.80**	**331**	*i* P	**P**	**00 26 58.7**	**+0.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**34.80**	**331**	*eP*	**P**	**00 26 59.6**	**+1.3**
KKAR	**Karatay Array**	**34.80**	**331**	*eP*	**P**	**00 26 59.6**	**+1.3**
JOW	**Kunigami**	**35.37**	**63**	*eP*	**P**	**00 27 04.9**	**+1.5**
	comp=Z,28nm,1.5s						
SONM	**Songino Array**	**35.52**	**16**	P	**P**	**00 27 05.7**	**+1.1**
SONM				PcP	**PcP**	**00 29 34.0**	**+0.5**
SONM	**Songino Array**	**35.52**	**16**	P	**P**	**00 27 05.7**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=199,slow=8.3,SNR=29						
SONM				PcP	**PcP**	**00 29 34.0**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=198,slow=2.4,SNR=5.9						
ULN	**Ulaanbaatar**	**35.72**	**16**	*eP*	**P**	**00 27 06.9**	**+0.5**
	comp=Z,2.2nm,0.4s						
HVS	**Khovu-Aksy**	**37.01**	**1**	*eP*	**P**	**00 27 18.2**	**+0.9**
HVS				pmax	pmax		
	comp=Z,47nm,1.2s						
ZAK	**Zakamensk**	**37.22**	**11**	*eP*	**P**	**00 27 19.8**	**+0.7**
ZAK				*e*		00 29 38.1	
KURBB	**Kurchatov Arra**	**38.32**	**345**	PcP	**PcP**	**00 29 41.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=159,slow=2.0,SNR=4.2						
KURK	**Kurchatov**	**38.38**	**345**	PcP	**PcP**	**00 29 41.8**	**0.0**
KSAR	**Wonju Array Be**	**38.84**	**47**	P	**P**	**00 27 31.4**	**-1.4**
KSRS	**Korea Array**	**38.87**	**47**	P	**P**	**00 27 31.4**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=244,slow=8.2,SNR=12						
ZAA0	**Zalesovo Array**	**40.33**	**353**	*eP*	**P**	**00 27 44.8**	**-0.2**
ZALV	**Zalesovo Beam**	**40.33**	**353**	*i* P	**P**	**00 27 45.4**	**+0.4**
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZALV	**Zalesovo Beam**	**40.33**	**353**	P	**P**	**00 27 45.3**	**+0.3**
ZALV	**Zalesovo Beam**	**40.33**	**353**	P	**P**	**00 27 45.3**	**+0.3**
	comp=Z,9.4nm,0.7s,baz=177,slow=8.6,SNR=53						
CN2	**Changchun**	**40.65**	**37**	*eP*	**P**	**00 27 47.7**	**-0.1**
CN2				*e*PP	**PnPn**	**00 29 25.4**	**-0.5**
CN2				*e*S	**S**	**00 33 54.9**	**-0.6**
CN2				*e*SS	**SS**	**00 36 50.5**	**-6.0**
NVS	**Novosibirsk**	**41.41**	**352**	*eP*	**P**	**00 27 53.6**	**-0.3**
KRAR	**Krasnoyarsk**	**41.89**	**360**	*i* P	**P**	**00 27 56.8**	**-0.9**
BVAR	**Borovoye Array**	**42.82**	**340**	P	**P**	**00 28 05.8**	**+0.4**
BVAR						00 29 56.7	
BVAR	**Borovoye Array**	**42.82**	**340**	P	**P**	**00 28 05.8**	**+0.4**
BVAR				PcP	**PcP**	**00 29 56.7**	**+0.5**
BVAR	**Borovoye Array**	**42.82**	**340**	P	**P**	**00 28 05.8**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=140,slow=7.8,SNR=18						
BVAR				PcP	**PcP**	**00 29 56.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=134,slow=4.2,SNR=3.6						
BRVK	**Borovoye**	**42.88**	**340**	*eP*	**P**	**00 28 06.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**42.88**	**340**	*eP*	**P**	**00 28 06.4**	**+0.5**
	comp=Z,3.9nm,0.7s						
MBWA	**Marble Bar**	**43.77**	**143**	P	**P**	**00 28 11.3**	**-2.1**
AB31	**Akbulak array**	**44.32**	**329**	*i* P	**P**	**00 28 18.5**	**+1.0**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.1s						
ABKAR	**Akbulak array**	**44.32**	**329**	*eP*	**P**	**00 28 18.0**	**+0.5**
	comp=Z,10nm,0.9s						
USRK	**Ussuriysk Arra**	**44.82**	**40**	P	**P**	**00 28 22.7**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=253,slow=8.9,SNR=3.8						
FITZ	**Fitzroy Crossi**	**45.39**	**134**	P	**P**	**00 28 25.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**45.39**	**134**	P	**P**	**00 28 25.2**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=293,slow=12,SNR=13						
MJAR	**Matsushiro Arr**	**46.15**	**53**	P	**P**	**00 28 32.5**	**+0.2**
MJAR				PcP	**PcP**	**00 30 08.4**	**+0.4**
MJAR	**Matsushiro Arr**	**46.15**	**53**	P	**P**	**00 28 32.5**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=292,slow=3.8,SNR=3.1						
MJAR				PcP	**PcP**	**00 30 08.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=235,slow=3.4,SNR=4.5						
SVE	**Sverdlovsk**	**49.28**	**337**	*i* P	**P**	**00 28 57.4**	**+1.2**
SVE				pmax	pmax		
	comp=Z,22nm,0.9s						
GNI	**Garni**	**49.40**	**311**	*eP*	**P**	**00 28 59.4**	**+1.8**
ARU	**Arti**	**49.80**	**336**	*d* P	**P**	**00 29 00.5**	**+0.3**
ARU						00 30 53.5	
ARU				S	**S**	**00 36 09.8**	**+2.5**
ARU				SS	**SS**	**00 39 37.6**	**-2.5**
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
KBZ	**Khabaz**	**51.83**	**315**	P	**P**	**00 29 14.6**	**-1.0**
KBZ	**Khabaz**	**51.83**	**315**	P	**P**	**00 29 14.6**	**-1.0**
KBZ	**Khabaz**	**51.83**	**315**	P	**P**	**00 29 14.6**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=135,slow=8.6,SNR=3.5						
KIV	**Kislovodsk**	**52.05**	**315**	*eP*	**P**	**00 29 18.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NWAO	**Narrogin (SRO)**	**52.16**	**154**	*eP*	**P**	**00 29 17.2**	**-1.0**
	comp=Z,295nm,2.5s						
NWAO	**Narrogin (SRO)**	**52.16**	**154**	P	**P**	**00 29 17.6**	**-0.6**
	comp=Z,6.2nm,0.7s,baz=311,slow=5.5						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**00 29 23.1**	**-0.9**
WRA				PcP	**PcP**	**00 30 32.2**	**-0.6**
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**00 29 23.1**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=304,slow=9.1,SNR=23						
WRA				PcP	**PcP**	**00 30 32.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=314,slow=3.1,SNR=5.3

SUW	Suwalki	66.87	323	eP	P	00 30 59.4	0.0
CRVS	Cervenica-Dubn	67.38	317	eP	P	00 31 03.9	+1.1
CRVS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CRVS	Cervenica-Dubn	67.38	317	eP	P	00 31 03.9	+1.1
STHS	Stebnicka Huta	67.56	318	eP	P	00 31 04.4	+0.5
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	Stebnicka Huta	67.56	318	eP	P	00 31 04.4	+0.5
KECS	Kecovo	67.99	317	eP	P	00 31 07.2	+0.6
KECS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KECS	Kecovo	67.99	317	eP	P	00 31 07.1	+0.5
VYHS	Vyhne	69.09	317	eP	P	00 31 13.1	-0.4
VYHS				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VYHS	Vyhne	69.09	317	eP	P	00 31 13.1	-0.4
ARCES	ARCESS Array B	69.11	340	P	P	00 31 13.9	+0.7
ARCES	ARCESS Array B	69.11	340	P	P	00 31 13.9	+0.7
	comp=Z,2.7nm,0.6s,baz=90,slow=6.4,SNR=31						
MORC	Moravsky Berou	69.98	318	eP	P	00 31 19.5	+0.4
MORC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MORC	Moravsky Berou	69.98	318	eP	P	00 31 19.5	+0.4
	comp=Z,6.6nm,1.1s						
LSZ	Lusaka	70.32	248	eP	P	00 31 22.0	+0.2
	comp=Z,8.0nm,1.5s						
GEC2	GERESS Array S	72.50	317	eP	P	00 31 35.1	+0.7
GEC2	GERESS Array S	72.50	317	eP	P	00 31 35.1	+0.7
GERES	GERESS Array B	72.50	317	P	P	00 31 34.7	+0.4
GERES	GERESS Array B	72.50	317	P	P	00 31 34.7	+0.4
	comp=Z,4.0nm,0.8s,baz=81,slow=5.7,SNR=34						
KHC	Kasperske Hory	72.57	317	eP	P	00 31 35.0	+0.3
KHC	Kasperske Hory	72.57	317	eP	P	00 31 35.0	+0.3
KHC	Kasperske Hory	72.57	317	eP	P	00 31 34.8	+0.1
	comp=Z,2.7nm,1.3s						
CLL	Collm	72.89	320	eP	P	00 31 37.0	+0.5
CLL				e		00 31 47.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CLL	Collm	72.89	320	eP	P	00 31 37.0	+0.5
	comp=Z,4.0nm,1.1s						
CLL				epP	pP	00 31 47.0	0.0
NB2	NORSAR Subarra	73.82	330	P	P	00 31 41.0	-0.9
	comp=Z,10.0nm,1.4s,baz=89,slow=5.9						
NOA	NORSAR Array B	73.82	330	P	P	00 31 41.4	-0.5
NOA	NORSAR Array B	73.82	330	P	P	00 31 41.4	-0.5
	comp=Z,2.2nm,0.7s,baz=90,slow=5.8,SNR=11						
RETA	Reutte	74.52	316	⇓iP	P	00 31 46.1	-0.2
	comp=Z,9.4nm,1.2s						
DAVA	Damuels	75.14	316	⇑iP	P	00 31 48.2	-1.7
	comp=Z,7.6nm,1.0s						
PGF	Pioggiola	76.22	311	eP	P	00 31 55.2	-0.9
	comp=Z,18nm,0.9s						
LBTB	Lobatse	76.22	240	eP	P	00 31 56.9	+0.5
CDF	Champ du Feu	76.78	317	eP	P	00 31 58.1	-1.1
KEST	Kesra	76.80	304	P	P	00 31 59.7	+0.2
KEST	Kesra	76.80	304	P	P	00 31 59.7	+0.2
	comp=Z,1.8nm,0.9s,baz=338,slow=3.9,SNR=4.6						
HINF	Hinteralfeld	77.12	316	eP	P	00 32 00.1	-1.0
	comp=Z,3.3nm,0.7s						
SBF	Sospel	77.20	312	eP	P	00 32 00.0	-1.6
HAU	Haudompre	77.44	317	eP	P	00 32 01.7	-1.1
	comp=Z,5.0nm,0.6s						
LPG	La Plagne	77.47	314	eP	P	00 32 02.9	-0.5
	comp=Z,13nm,0.7s						
LPL	La Plagne	77.49	314	eP	P	00 32 02.9	-0.5
	comp=Z,20nm,0.7s						
MBDF	Montbardon	77.56	313	eP	P	00 32 02.5	-1.2
	comp=Z,18nm,1.1s						
PAGF	Fort de Pagny	77.78	317	eP	P	00 32 03.9	-0.8
CABF	La Chapelle	77.79	315	eP	P	00 32 04.3	-0.6
	comp=Z,10nm,0.9s						
FRF	La Foret Royal	77.80	312	eP	P	00 32 04.1	-0.8
	comp=Z,18nm,1.0s						
BOSA	Boshof	77.91	236	eP	P	00 32 06.8	+1.0
BOSA	Boshof	77.91	236	P	P	00 32 05.7	-0.1
	comp=Z,6.9nm,0.6s,baz=79,slow=4.5,SNR=25						
LMR	La Mourre	77.93	312	eP	P	00 32 04.8	-0.8
	comp=Z,7.0nm,0.8s						
ORIF	Oris-en-Rattie	78.16	314	eP	P	00 32 05.8	-1.2
	comp=Z,6.5nm,0.9s						
MEZF	Maizieres J'vi	78.23	317	eP	P	00 32 06.3	-0.9
SFTF	Sexfontaines	78.28	317	eP	P	00 32 06.5	-1.0
	comp=Z,14nm,0.9s						
BAIF	Baives	78.56	319	eP	P	00 32 08.5	-0.5
	comp=Z,17nm,1.1s						
VIVF	Saint-Julien-l	79.02	314	eP	P	00 32 10.9	-0.8
	comp=Z,12nm,1.1s						
LOR	Lormes	79.21	316	eP	P	00 32 11.5	-1.1
SMF	Signal de Mont	79.32	315	eP	P	00 32 12.1	-1.1
	comp=Z,10nm,0.8s						
SSF	Saint Saulge	79.48	316	eP	P	00 32 13.1	-1.0
	comp=Z,7.6nm,0.9s						
AVF	Avril sur Loir	79.63	316	eP	P	00 32 13.7	-1.1
	comp=Z,7.1nm,0.8s						
LASF	Ste Croix	79.72	313	eP	P	00 32 15.1	-0.4
TCF	Toulx Ste Croi	80.49	315	eP	P	00 32 19.0	-0.6
	comp=Z,22nm,1.2s						
CAF	Calviac	80.84	314	eP	P	00 32 20.9	-0.6
	comp=Z,20nm,1.3s						
MTLF	Montolieu	81.02	312	eP	P	00 32 21.9	-0.6
	comp=Z,4.2nm,0.8s						
RJF	Les Rejaudoux	81.15	314	eP	P	00 32 22.8	-0.3
	comp=Z,11nm,1.0s						
LDF	La Druitiere	81.61	318	eP	P	00 32 24.5	-0.9
	comp=Z,11nm,0.7s						
LFF	La Frestale	81.76	314	eP	P	00 32 26.0	-0.3
FLN	La Foliniere	81.81	318	eP	P	00 32 25.5	-1.0
MFF	Saint Martin d	82.03	316	eP	P	00 32 26.8	-0.9
	comp=Z,14nm,1.0s						
SGMF	Saint Gilles	83.26	318	eP	P	00 32 33.3	-0.8
ROSF	Rostrenen	83.71	318	eP	P	00 32 35.6	-0.8
	comp=Z,16nm,1.1s						
QUIF	Quistinic	83.74	318	eP	P	00 32 35.4	-1.1
MAW	Mawson	84.30	191	P	P	00 32 39.8	+1.0
MAW	Mawson	84.30	191	P	P	00 32 39.8	+1.0
	comp=Z,1.7nm,0.7s,baz=340,slow=5.7,SNR=4.7						
ESDC	Sonseca Array	86.36	310	P	P	00 32 50.0	+0.1
ESDC	Sonseca Array	86.36	310	P	P	00 32 50.0	+0.1
	comp=Z,1.0nm,0.6s,baz=66,slow=4.2,SNR=8.5						
IM04	Indian Mountai	86.41	22	eP	P	00 32 49.0	-0.6
TOA0	Torodi Ar. Sit	88.04	283	eP	P	00 32 58.6	+0.2
TORD	Torodi Ar. Bea	88.04	283	P	P	00 32 58.8	+0.3
TORD	Torodi Ar. Bea	88.04	283	P	P	00 32 58.8	+0.3
	comp=Z,2.6nm,0.9s,baz=72,slow=3.9,SNR=20						
MCK	McKinley	89.31	23	eP	P	00 33 02.8	-0.7
MCK	McKinley	89.31	23	eP	P	00 33 02.8	-0.7
ILAR	Eielson Array	89.51	22	P	P	00 33 03.9	-0.5
ILAR	Eielson Array	89.51	22	P	P	00 33 03.9	-0.5
	comp=Z,1.6nm,0.8s,baz=299,slow=4.3,SNR=14						
SML	Sawmill	90.55	25	eP	P	00 33 08.9	-0.5
SML				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SML	Sawmill	90.55	25	eP	P	00 33 08.9	-0.5
	comp=Z,3.7nm,1.2s						
PDAR	Pinedale Array	119.83	19	PKP	PKPdf	00 38 57.8	-0.4
PDAR	Pinedale Array	119.83	19	PKP	PKPdf	00 38 57.8	-0.4
	comp=Z,0.4nm,0.3s,baz=20,slow=4.7,SNR=4.4						
NVAR	Mina Array Bea	120.18	28	PKP	PKPdf	00 38 59.1	+0.1
NVAR	Mina Array Bea	120.18	28	PKP	PKPdf	00 38 59.1	+0.1
	comp=Z,0.9nm,0.7s,baz=325,slow=2.1,SNR=7.2						
TXAR	Lajitas Array	134.01	20	PKP	PKPdf	00 39 27.2	+1.8
TXAR	Lajitas Array	134.01	20	PKP	PKPdf	00 39 27.2	+1.8
	comp=Z,0.4nm,0.6s,baz=2.8,slow=0.8,SNR=4.5						
BDFB	Brasilia	142.24	263	PKP	PKPdf	00 39 38.8	-2.1
BDFB	Brasilia	142.24	263	PKP	PKPdf	00 39 38.8	-2.1
	comp=Z,1.1nm,0.5s,baz=106,slow=7.4,SNR=2.1						
CPUP	Villa Florida	149.60	242	PKPbc	PKPbc	00 39 56.6	-0.9
CPUP	Villa Florida	149.60	242	PKPbc	PKPbc	00 39 56.6	-0.9
	comp=Z,1.2nm,0.7s,baz=122,slow=9.5,SNR=2.7						
LPAZ	La Paz	161.57	261	PKPab	PKPab	00 40 53.4	-1.4
LPAZ	La Paz	161.57	261	PKPab	PKPab	00 40 53.4	-1.4
	comp=Z,1.2nm,0.8s,baz=146,slow=3.6,SNR=3.2						

IDC 11 00:25:38.3±2.1, 14°.05N×92°.36E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=65.7km s-min=28.5km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.69	54	Pn	Pn	00 27 31.7	0.0
	0.4nm,0.3s,baz=244,slow=14,SNR=3.0						
MKAR	Makanchi Array	33.72	347	P	P	00 32 21.4	+0.1
	0.2nm,0.6s,baz=163,slow=7.8,SNR=2.8						
FITZ	Fitzroy Crossi	45.80	133	P	P	00 34 02.2	+0.1
	0.7nm,0.4s,baz=331,slow=10,SNR=6.0						
WRA	Warramunga Arr	53.35	128	P	P	00 34 59.4	-0.4
	0.7nm,0.7s,baz=312,slow=8.7,SNR=6.6						
ASAR	Alice Springs	55.27	132	P	P	00 35 13.7	-0.1
	0.7nm,0.5s,baz=309,slow=6.5,SNR=9.9						

IDC 11 00:54:07.8±2.0, 13°.58N×92°.37E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/28, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=63.0km s-min=25.9km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.96	52	Pn	Pn	00 56 05.0	+0.1
	1.0nm,0.3s,baz=240,slow=16,SNR=4.2						
MKAR	Makanchi Array	34.17	348	P	P	01 00 54.8	0.0
	0.8nm,0.8s,baz=154,slow=8.7,SNR=6.1						
FITZ	Fitzroy Crossi	45.48	133	P	P	01 02 28.9	-0.1
	0.9nm,0.6s,baz=330,slow=5.5,SNR=3.5						
WRA	Warramunga Arr	53.06	128	P	P	01 03 26.2	-0.9
	0.7nm,0.8s,baz=311,slow=8.1,SNR=4.5						
ASAR	Alice Springs	54.95	132	P	P	01 03 41.5	+0.5
	0.5nm,0.5s,baz=308,slow=7.0,SNR=6.2						

IDC 11 00:57:09.0±0.7, 13°.91N×92°.87E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/30, mbtmp4.1/16, Error ellipse: s-maj=34.0km s-min=12.0km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.38	51	Pn	Pn	00 59 03.0	+4.8
	0.6nm,0.3s,baz=229,slow=9.4,SNR=3.5						
CMAR				Sn	Sn	01 00 16.8	-6.0
	0.7nm,0.3s,baz=241,slow=28,SNR=4.7						
DAV	Davao City (W)	32.85	99	P	P	01 03 45.2	+0.4
	198nm,0.4s,baz=240,slow=14,SNR=2.6						
MKAR	Makanchi Array	33.97	347	P	P	01 03 54.4	+0.2
	3.0nm,0.8s,baz=164,slow=9.2,SNR=16						
SONM	Songino Array	35.65	16	P	P	01 04 09.0	+0.1
	1.1nm,0.7s,baz=199,slow=9.2,SNR=7.9						
KURBB	Kurchatov Arra	38.43	345	P	P	01 04 32.5	+0.2
	2.4nm,0.7s,baz=162,slow=8.1,SNR=17						
ZALV	Zalesovo Beam	40.45	353	P	P	01 04 48.9	-0.2
	1.5nm,0.5s,baz=177,slow=8.6,SNR=8.3						
BVAR	Borovoye Array	42.92	340	P	P	01 05 09.0	-0.4
	0.4nm,0.4s,baz=148,slow=8.7,SNR=5.2						
FITZ	Fitzroy Crossi	45.34	134	P	P	01 05 28.7	-0.5
	3.0nm,0.5s,baz=327,slow=5.9,SNR=16						
NWAO	Narrogin (SRO)	52.07	154	P	P	01 06 21.0	+0.3
	7.5nm,0.9s,baz=315,slow=10.0,SNR=3.2						
WRA	Warramunga Arr	52.88	129	P	P	01 06 26.6	-0.4
	1.1nm,0.6s,baz=300,slow=9.6,SNR=16						
WRA				PcP	PcP	01 07 36.1	-0.2
	0.2nm,0.5s,baz=323,slow=3.3,SNR=5.7						
ASAR	Alice Springs	54.81	133	P	P	01 06 40.9	-0.3
	2.2nm,0.4s,baz=309,slow=6.8,SNR=37						
BRTR	Keskin Array B	57.64	308	P	P	01 07 01.1	-0.3
	1.3nm,0.8s,baz=118,slow=8.8,SNR=8.0						
STKA	Stephens Creek	65.20	135	P	P	01 07 52.8	+0.4
	1.3nm,0.6s,baz=307,slow=5.1,SNR=3.9						
FINES	FINESS Array B	66.84	331	P	P	01 08 01.9	-0.6
	2.0nm,0.8s,baz=94,slow=5.1,SNR=10						
ARCES	ARCESS Array B	69.21	340	P	P	01 08 17.3	0.0
	0.9nm,0.8s,baz=79,slow=6.3,SNR=8.7						
GERES	GERESS Array B	72.55	317	P	P	01 08 38.5	+0.4
	0.9nm,0.7s,baz=85,slow=5.6,SNR=10						
NB2	NORSAR Subarra	73.91	330	P	P	01 08 44.5	-1.3
	comp=Z,0.6nm,0.4s,baz=91,slow=5.6						
NOA	NORSAR Array B	73.91	330	P	P	01 08 44.9	-0.9
	comp=Z,0.5nm,0.6s,baz=90,slow=5.4,SNR=3.1						
TORD	Torodi Ar. Bea	88.02	283	P	P	01 10 02.7	+0.8
	comp=Z,0.6nm,0.9s,baz=101,slow=3.7,SNR=3.2						

IDC 11 01:11:46.5±3.2, 10°.72N×91°.75E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/27, mbtmp3.8/6, Error ellipse: s-maj=129.0km s-min=19.6km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	36.83	349	P	P	01 18 56.4	0.0
	1.7nm,0.8s,baz=167,slow=8.3,SNR=12						
SONM	Songino Array	38.99	16	P	P	01 19 14.6	-0.1
	0.3nm,0.4s,baz=190,slow=7.3,SNR=3.3						
ZALV	Zalesovo Beam	43.47	354	P	P	01 19 50.9	-0.4
	0.6nm,0.4s,baz=159,slow=8.6,SNR=3.7						
FITZ	Fitzroy Crossi	44.04	130	P	P	01 19 56.1	-0.2
	0.8nm,0.3s,baz=333,slow=11,SNR=5.7						
WRA	Warramunga Arr	51.83	126	P	P	01 20 56.5	-0.3
	0.5nm,0.3s,baz=300,slow=10.0,SNR=13						
ASAR	Alice Springs	53.54	130	P	P	01 21 09.8	+0.3
	0.3nm,0.3s,baz=293,slow=6.5,SNR=4.5						

GUC 11 01:13:00.9±0.5, 34°.22S×69°.97W, h16km±2km, MD3.9, ML3.3, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.42	333	eP	Pg	01 13 09.3	-0.3
LMEL				iS	Sg	01 13 16.0	+0.4
LMEL				AML	AML	01 13 16.8	
	comp=N,4μm,0.2s						
CACH	El Canelo	0.53	281	⇓iP	Pg	01 13 10.9	-0.8
CACH				iS	Sg	01 13 18.5	-0.5
CHCH	Chadas Angostu	0.63	297	eP	Pg	01 13 13.1	-0.4
CHCH				iS	Sg	01 13 22.1	0.0
SJCH	San Jose de Ma	0.66	331	eP	Pg	01 13 13.2	-0.9
SJCH				eS	Sg	01 13 22.7	-0.3
SJCH				AML	AML	01 13 23.4	
	comp=N,1μm,0.3s						
PCH	Pirque	0.75	323	eP	Pb	01 13 15.1	-0.6
PCH				iS	Sb	01 13 26.1	+0.2
ANTU	Antumapu	0.85	320	eP	Pb	01 13 16.9	-0.5
ANTU				iS	Sb	01 13 28.6	0.0
CLCH	Cerro Calan	0.95	330	eP	Pg	01 13 19.4	0.0
CLCH				eS	Sn	01 13 32.7	-0.3
CLCH				AML	AML	01 13 35.6	
	comp=E,2μm,0.6s						
SAN	Santiago	0.96	323	eP	Pb	01 13 18.4	-0.8
SAN				eS	Sb	01 13 31.9	+0.2
TACH	Talagante	0.98	305	eP	Pb	01 13 19.3	-0.3
TACH				iS	Sg	01 13 32.7	-0.3
RCDM	Rinconada Maip	1.01	316	eP	Pb	01 13 19.4	-0.6
RCDM				eS	Sg	01 13 33.8	0.0
LNV	Longovilo	1.22	282	eP	Pn	01 13 23.1	-0.2
LNV				iS	Sb	01 13 39.2	0.0
PEL	Peldehue	1.23	331	eP	Pn	01 13 23.4	-0.1
PEL				eS	Sg	01 13 40.8	-0.1
PEL				AML	AML	01 13 46.5	
	comp=E,1μm,0.4s						

MEX 11 01:19:40.8±0.7, 18°.03N×99°.23W, h46km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.38	255	eP	Pn	01 19 49.0	-1.5
MEIG				eS	Sn	01 19 56.0	-1.4
PLIG	Platanillo	0.44	325	eP	Pn	01 19 49.3	-2.0
PLIG				iS	Sn	01 19 56.2	-2.5
YAIG	Yautepec	0.84	11	eP	Pn	01 19 54.9	-1.6
YAIG				iS	Sn	01 20 06.1	-2.0
MAVM	Malinalco, Edo	0.96	345	eP	Pn	01 19 56.5	-1.7
MAVM				iS	Sn	01 20 08.7	-2.2
ARIG	Puente Sto Nin	1.09	284	eP	Pn	01 19 57.7	-2.0
ARIG				iS	Sn	01 20 11.8	-1.9
MZVM		1.16	0	iP	Pn	01 19 59.4	-1.2
MZVM				iS	Sn	01 20 13.5	-1.7
ACX	Acapulco	1.30	207	iP	Pn	01 20 06.5	+4.0
ACX				iS	Sn	01 20 22.7	+3.9
CAIG	El Cayaco	1.39	226	eP	Pn	01 20 02.7	-1.1
CAIG				iS	Sn	01 20 18.5	-2.4
ZIIG	Zihuatanejo	2.17	259	iP	Pn	01 20 13.3	-1.1
ZIIG				iS	Sn	01 20 37.4	-2.7

IDC ***11*** *01:42:46.3±0.5, 13°.93N×93°.06E, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.3/30, mbtmp4.2/24, ML4.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=15.2km s-min=12.8km az=46.0*

ISCJB ***11*** *01:42:49.3±0.3, 14°.05N±0°.04×93°.11E±0°.04, h32km, mb4.3/41, MS3.6/1, Error ellipse: s-maj=5.9km s-min=5.0km az=18.5*

NEIC ***11*** *01:42:51.9±0.3, 13°.98N×93°.12E, h35km, mb4.2/5, Error ellipse: s-maj=6.7km s-min=6.2km az=153.0*

ISC 11 01:42:51.5±0.4, 14°.04N±0°.06×93°.11E±0°.05, h32km, n116, σ1 9.12/122, mb4.3/41, 2C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.39	189	eP	Pb	01 43 32.0	-1.9
CMBY	CAMPBELL BAY	7.03	173	eP	Pn	01 44 31.0	-1.2
CM31	Chiang Mai Arr	7.12	51	ePn	Pn	01 44 34.9	+1.4
	12nm,0.3s						
CM31				eS	Sn	01 45 45.0	-8.4
CMAR	Chiang Mai Arr	7.12	51	Pn	Pn	01 44 35.0	+1.5
CMAR				Sn	Sn	01 45 52.1	-1.3
CMAR	Chiang Mai Arr	7.12	51	Pn	Pn	01 44 35.1	+1.5
	2.0nm,0.3s,baz=241,slow=15,SNR=23						
CMAR				Sn	Sn	01 45 52.1	-1.3
	3.3nm,0.3s,baz=239,slow=28,SNR=10						
CHTO	Chiang Mai	7.34	49	ePn	Pn	01 44 36.1	-0.4
	8.1nm,0.4s						
CHTO				eS	Sn	01 45 55.3	-3.6
VIS	Vishakhapatnam	10.10	293	eP	Pn	01 45 12.8	-1.5
VIS				AMB	AMB	01 45 14.7	
	comp=Z,46nm,0.4s						
SHL	Shillong	11.53	354	eP	Pn	01 45 34.5	+0.4
SHL				eS	Sn	01 47 30.0	-12
BOK	Bokaro	11.87	326	eP	Pn	01 45 39.1	+0.5
BOK				AMB	AMB	01 45 47.6	
	comp=Z,22nm,1.3s						
PSI	Prapat	12.55	152	Pn	Pn	01 45 49.2	+1.1
PSI	Prapat	12.55	152	Pn	Pn	01 45 49.2	+1.1
	comp=Z,0.3nm,0.3s,baz=331,slow=19,SNR=1.9						
ODAN	Odare	13.84	338	eP	Pn	01 46 03.7	-2.0
	comp=Z,10nm,0.2s						
ODAN				eS	Sn	01 47 50.7	-48
PALK	Pallekele	13.92	242	ePn	Pn	01 46 08.7	+2.1
PALK				eS	Sn	01 48 26.1	-14
TAPN	Taplejung	14.17	340	eP	Pn	01 46 08.5	-1.8
	comp=Z,15nm,0.3s						
RAMN	Ramite	14.22	336	eP	Pn	01 46 08.4	-2.5
	comp=Z,20nm,0.3s						
HYB	Hyderabad	14.41	285	iP	P	01 46 28.5	+8.6
HYB				eS	Sn	01 48 52.0	-0.2
HYB	Hyderabad	14.41	285	ex	Sn	01 48 48.5	-3.7
JIRN	Jiri	15.01	336	eP	Pn	01 46 19.0	-2.8
	comp=Z,31nm,0.6s						
NGP	Nagpur	15.15	300	ex	Pn	01 46 18.4	-4.9
NGP				AMB	AMB	01 46 24.1	
	comp=Z,17nm,2.6s						
PKI	Pulchoki	15.26	333	eP	Pn	01 46 23.4	-1.6
	comp=Z,12nm,0.3s						
PKIN	Phulchoki	15.27	333	eP	Pn	01 46 23.8	-1.3
	comp=Z,16nm,0.3s						
JBP	Jabalpur	15.39	308	⇓iP	Pn	01 46 27.2	+0.8
JBP				ex	x	01 49 04.2	
DMN	Daman	15.43	332	eP	Pn	01 46 26.1	-1.0
	comp=Z,27nm,0.5s						
LSA	Lhasa	15.70	354	ePn	P	01 46 38.1	+3.6
	comp=Z,7.6nm,0.5s						
KOLN	Koldanda	16.29	329	eP	Pn	01 46 37.0	-1.1
LATR	Latur	16.48	288	eP	Pn	01 46 39.3	-1.0
LATR				AMB	AMB	01 46 50.7	
	comp=Z,24nm,2.7s						
PYUN	Piuthan	16.87	328	eP	Pn	01 46 45.0	-0.5
BHPL	Bhopal	17.44	304	eP	P	01 46 53.5	0.0
SMLA	Simla	22.45	322	eP	P	01 47 50.1	+2.3
DHRM	DHARAMSHALA	23.77	323	eP	P	01 48 02.4	+0.9
MKAR	Makanchi Array	33.90	347	P	P	01 49 32.0	+0.6
MKAR	Makanchi Array	33.90	347	P	P	01 49 32.0	+0.6
	comp=Z,3.8nm,0.8s,baz=162,slow=8.6,SNR=29						
KKAR	Karatay Array	34.88	331	eP	P	01 49 40.5	+0.6
	comp=Z,1.3nm,0.6s						
SONM	Songino Array	35.47	15	P	P	01 49 46.2	+1.1
SONM				PcP	PcP	01 52 14.8	+0.6
SONM	Songino Array	35.47	15	P	P	01 49 46.2	+1.1
	comp=Z,3.4nm,0.8s,baz=196,slow=9.4,SNR=20						
SONM				PcP	PcP	01 52 14.8	+0.6
	comp=Z,0.9nm,0.7s,baz=240,slow=2.4,SNR=4.6						
KSAR	Wonju Array Be	38.70	47	P	P	01 50 13.4	+0.9
KSRS	Korea Array	38.74	47	P	P	01 50 13.4	+0.6
	comp=Z,1.7nm,0.7s,baz=243,slow=8.7,SNR=5.8						
JNU	Nakatsue	39.21	54	P	P	01 50 17.4	+0.5
JNU	Nakatsue	39.21	54	P	P	01 50 17.4	+0.5
	comp=Z,2.7nm,0.4s,baz=248,slow=5.7,SNR=5.6						
ZAA0	Zalesovo Array	40.35	352	eP	P	01 50 26.2	+0.2
ZALV	Zalesovo Beam	40.35	352	P	P	01 50 26.4	+0.3
ZALV	Zalesovo Beam	40.35	352	P	P	01 50 26.4	+0.3
	comp=Z,3.1nm,0.5s,baz=178,slow=8.4,SNR=14						
USRK	Ussuriysk Arra	44.70	40	P	P	01 51 01.6	0.0
	comp=Z,0.5nm,0.4s,baz=246,slow=7.1,SNR=4.1						
FITZ	Fitzroy Crossi	45.27	134	P	P	01 51 04.9	-1.4
FITZ	Fitzroy Crossi	45.27	134	P	P	01 51 04.9	-1.4
	comp=Z,2.3nm,0.6s,baz=331,slow=3.8,SNR=9.6

MBDF Montbardon 77.69 313 *eP* **P 01 54 43.9 -1.5**
comp=Z,5.0nm,0.7s
CABF La Chapelle 77.92 315 *eP* **P 01 54 45.9 -0.6**
comp=Z,21nm,1.2s
FRF La Foret Royal 77.94 312 *eP* **P 01 54 45.7 -0.8**
comp=Z,30nm,1.2s
BOSA Boshof 78.06 236 P **P 01 54 48.0 +0.5**
BOSA Boshof 78.06 236 P **P 01 54 48.0 +0.5**
comp=Z,1.7nm,0.4s,baz=59,slow=3.6,SNR=12
LMR La Mourre 78.06 312 *eP* **P 01 54 46.3 -1.0**
ORIF Oris-en-Rattie 78.29 314 *eP* **P 01 54 47.3 -1.3**
comp=Z,3.3nm,0.7s
SFTF Sexfontaines 78.41 317 *eP* **P 01 54 48.1 -1.0**
SMRF Simiane la Rot 78.64 313 *eP* **P 01 54 49.6 -0.9**
comp=Z,16nm,1.0s
BAIF Baives 78.68 319 *eP* **P 01 54 50.0 -0.5**
comp=Z,12nm,1.0s
VIVF Saint-Julien-l 79.15 314 *eP* **P 01 54 52.5 -0.8**
comp=Z,2.1nm,0.6s
LOR Lormes 79.33 316 *eP* **P 01 54 53.0 -1.2**
comp=Z,4.0nm,0.7s
SMF Signal de Mont 79.44 316 *eP* **P 01 54 53.7 -1.1**
comp=Z,2.4nm,0.4s
SSF Saint Saulge 79.60 316 *eP* **P 01 54 54.8 -0.8**
AVF Avril sur Loir 79.75 316 *eP* **P 01 54 55.4 -1.0**
comp=Z,7.5nm,0.9s
LASF Ste Croix 79.85 313 *eP* **P 01 54 56.7 -0.4**
comp=Z,3.1nm,0.7s
TCF Toulx Ste Croi 80.61 315 *eP* **P 01 55 00.6 -0.6**
comp=Z,11nm,1.1s
MTLF Montolieu 81.15 312 *eP* **P 01 55 03.4 -0.7**
comp=Z,11nm,1.1s
ESDC Sonseca Array 86.50 310 P **P 01 55 31.4 -0.2**
ESDC Sonseca Array 86.50 310 P **P 01 55 31.4 -0.2**
comp=Z,0.5nm,0.4s,baz=57,slow=5.0,SNR=6.8
TORD Torodi Ar. Bea 88.22 283 P **P 01 55 40.3 +0.1**
TORD Torodi Ar. Bea 88.22 283 P **P 01 55 40.3 +0.1**
comp=Z,1.5nm,0.6s,baz=82,slow=4.2,SNR=19
ILAR Eielson Array 89.44 22 P **P 01 55 44.5 -0.6**
ILAR Eielson Array 89.44 22 P **P 01 55 44.5 -0.6**
comp=Z,1.6nm,0.8s,baz=297,slow=4.3,SNR=21
DAWY Dawson 92.49 20 *eP* **P 01 56 00.1 +0.8**
PDAR Pinedale Array 119.77 19 PKP **PKPdf 02 01 38.9 -0.1**
PDAR Pinedale Array 119.77 19 PKP **PKPdf 02 01 38.9 -0.1**
comp=Z,0.6nm,0.6s,baz=75,slow=1.7,SNR=3.8
NVAR Mina Array Bea 120.09 28 PKP **PKPdf 02 01 39.9 +0.2**
NVAR Mina Array Bea 120.09 28 PKP **PKPdf 02 01 39.9 +0.2**
comp=Z,1.0nm,0.7s,baz=338,slow=1.6,SNR=7.6
ANMO Albuquerque 127.87 20 *e*PKPdf **PKPdf 02 01 56.5 +1.7**
TXAR Lajitas Array 133.94 20 PKPpre PKPpre 02 01 58.9
TXAR PKP **PKiKP 02 02 07.0 -0.6**
TXAR Lajitas Array 133.94 20 PKhKP PKPpre 02 01 58.9
comp=Z,0.5nm,0.8s,baz=133,slow=10,SNR=4.0
TXAR PKP **PKiKP 02 02 07.0 -0.6**
comp=Z,0.7nm,0.8s,baz=120,slow=0.6,SNR=7.0

---

*IDC **11** 01:54:44.3±0.7, 13°.57N×93°.76E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.1/30, mbtmp4.1/16, ML4.1/1, Error ellipse: s-maj=37.9km s-min=12.3km az=58.0*

ISC 11 01:54:48.6±0.8, 13°.2N±0°.2×93°.1E±0°.2, h35km, n19, σ1°54/19, mb4.1/17, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.68**	**46**	Pn	Pn	01 56 28.4	-10
CMAR	0.9nm,0.3s,baz=242,slow=15,SNR=8.6			Sn	Sn	01 57 45.9	-18
JBP	**Jabalpur**	**15.90**	**310**	||*i*P	**Pn**	**01 58 26.7 -3.1**
JBP				*i* x	x	01 58 27.6	
	comp=Z,11nm,1.2s						
JBP				*e*S	Sn	02 01 18.1	-6.8
MKAR	**Makanchi Array**	**34.69**	**347**	P	**P**	**02 01 33.9 -1.2**
	comp=Z,3.0nm,0.7s,baz=161,slow=8.6,SNR=26						
SONM	**Songino Array**	**36.26**	**15**	P	**P**	**02 01 48.2 -0.5**
	comp=Z,0.4nm,0.4s,baz=206,slow=8.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**39.15**	**345**	P	**P**	**02 02 11.7 -1.1**
	comp=Z,2.8nm,0.7s,baz=164,slow=7.9,SNR=23						
ZALV	**Zalesovo Beam**	**41.16**	**353**	P	**P**	**02 02 28.1 -1.4**
	comp=Z,3.0nm,0.8s,baz=179,slow=8.5,SNR=10						
BVAR	**Borovoye Array**	**43.64**	**340**	P	**P**	**02 02 48.9 -0.8**
	comp=Z,0.4nm,0.4s,baz=134,slow=8.3,SNR=3.2						
FITZ	**Fitzroy Crossi**	**44.71**	**133**	P	**P**	**02 02 58.3 -0.4**
	comp=Z,5.2nm,0.5s,baz=326,slow=6.1,SNR=26						
AKTO	**Aktyubinsk**	**46.82**	**330**	P	**P**	**02 03 14.2 -0.8**
	comp=Z,0.6nm,0.5s,baz=107,slow=9.7,SNR=4.7						
NWAO	**Narrogin (SRO)**	**51.35**	**154**	P	**P**	**02 03 50.1 +0.3**
	comp=Z,8.5nm,0.8s,baz=63,slow=2.3,SNR=4.4						
WRA	**Warramunga Arr**	**52.28**	**128**	P	**P**	**02 03 56.0 -1.0**
	comp=Z,1.9nm,0.5s,baz=301,slow=9.8,SNR=30						
WRA				PcP	**PcP**	**02 05 06.4 -1.7**
	comp=Z,0.7nm,0.4s,baz=314,slow=3.3,SNR=9.7						
ASAR	**Alice Springs**	**54.19**	**132**	P	**P**	**02 04 10.7 -0.3**
	comp=Z,3.8nm,0.4s,baz=308,slow=6.8,SNR=68						
ASAR				PcP	**PcP**	**02 05 14.0 -1.3**
	comp=Z,0.5nm,0.4s,baz=329,slow=4.0,SNR=4.9						
STKA	**Stephens Creek**	**64.56**	**135**	P	**P**	**02 05 22.5 0.0**
	comp=Z,1.9nm,0.7s,baz=340,slow=7.1,SNR=3.3						
FINES	**FINESS Array B**	**67.55**	**331**	P	**P**	**02 05 42.5 +1.3**
	comp=Z,1.6nm,0.6s,baz=88,slow=4.6,SNR=10						
ARCES	**ARCESS Array B**	**69.93**	**340**	P	**P**	**02 05 57.5 +1.5**
	comp=Z,1.3nm,0.7s,baz=77,slow=7.6,SNR=5.8						
GERES	**GERESS Array B**	**73.20**	**317**	P	**P**	**02 06 19.1 +2.8**
	comp=Z,0.6nm,0.7s,baz=92,slow=4.0,SNR=5.3						
NOA	**NORSAR Array B**	**74.61**	**330**	P	**P**	**02 06 25.7 +1.6**
	comp=Z,0.5nm,0.6s,baz=90,slow=5.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**88.38**	**283**	P	P	02 07 42.8 +5.1
	comp=Z,0.5nm,1.1s,baz=75,slow=4.9,SNR=2.7						
ILAR	**Eielson Array**	**90.21**	**22**	P	**P**	**02 07 46.8 +1.5**
	comp=Z,0.2nm,0.6s,baz=306,slow=4.5,SNR=3.2						

---

*IDC **11** 01:58:34.2±0.6, 11°.50N×92°.23E, h0km, mb4.0/19, mb1 4.1/20, mb1mx4.0/31, mbtmp4.0/20, ML4.2/1, Error ellipse: s-maj=23.6km s-min=13.3km az=58.0*
*ISCJB **11** 01:58:36.4±0.5, 11°.54N±0°.06×92°.34E±0°.07, h26km, mb4.0/22, Error ellipse: s-maj=10.2km s-min=9.3km az=179.0*
*NEIC **11** 01:58:39.7±0.3, 11°.57N×92°.33E, h35km, mb4.2/3, Error ellipse: s-maj=11.3km s-min=6.8km az=58.0*

ISC 11 01:58:38.3±0.6, 11°.53N±0°.09×92°.26E±0°.09, h26km, n49, σ0°68/57, mb4.0/22, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.44**	**42**	Pn	**Pn**	**02 00 51.1 -1.6**
CMAR				Sn	**Sn**	**02 02 39.2 +1.2**
CMAR	**Chiang Mai Arr**	**9.44**	**42**	Pn	**Pn**	**02 00 51.1 -1.6**
	0.7nm,0.3s,baz=238,slow=17,SNR=3.9					
CMAR				Sn	**Sn**	**02 02 39.2 +1.2**
	0.7nm,0.3s,baz=228,slow=28,SNR=5.1					
EKS2	**Erkin-Say**	**34.94**	**336**	P	**P**	**02 05 29.3 +1.0**
	2.2nm,0.6s					
MKAR	**Makanchi Array**	**36.15**	**348**	P	**P**	**02 05 38.9 +0.4**
MKAR				PcP	**PcP**	**02 08 03.8 -0.1**
MKAR	**Makanchi Array**	**36.15**	**348**	P	**P**	**02 05 38.9 +0.4**
	3.6nm,0.8s,baz=167,slow=8.4,SNR=24					
MKAR				PcP	**PcP**	**02 08 03.8 -0.1**
	0.4nm,0.6s,baz=173,slow=1.2,SNR=3.4					
KKAR	**Karatay Array**	**36.69**	**333**	*e*P	**P**	**02 05 43.4 +0.3**
	0.7nm,0.6s					
SONM	**Songino Array**	**38.09**	**15**	P	**P**	**02 05 55.7 +0.6**
SONM				PcP	**PcP**	**02 08 10.8 +0.9**
SONM	**Songino Array**	**38.09**	**15**	P	**P**	**02 05 55.7 +0.6**
	0.8nm,0.5s,baz=204,slow=7.1,SNR=5.9					
SONM				PcP	**PcP**	**02 08 10.8 +0.9**
	0.2nm,0.5s,baz=195,slow=4.5,SNR=2.5					
KURBB	**Kurchatov Arra**	**40.58**	**347**	P	**P**	**02 06 15.7 +0.1**
	1.9nm,0.8s,baz=163,slow=7.5,SNR=12					
KURK	**Kurchatov**	**40.65**	**347**	P	**P**	**02 06 15.7 -0.5**
KSAR	**Wonju Array Be**	**41.03**	**45**	P	**P**	**02 06 18.9 -0.7**
KSRS	**Korea Array**	**41.06**	**45**	P	**P**	**02 06 18.9 -0.9**
	1.3nm,0.5s,baz=241,slow=8.6,SNR=5.1					
ZALV	**Zalesovo Beam**	**42.73**	**354**	P	**P**	**02 06 33.3 +0.1**
ZALV	**Zalesovo Beam**	**42.73**	**354**	P	**P**	**02 06 33.3 +0.1**
	2.0nm,0.5s,baz=170,slow=9.8,SNR=7.8					
FITZ	**Fitzroy Crossi**	**44.18**	**131**	P	**P**	**02 06 45.1 -0.3**
FITZ	**Fitzroy Crossi**	**44.18**	**131**	P	**P**	**02 06 45.1 -0.3**
	2.7nm,0.7s,baz=277,slow=3.2,SNR=7.2					
BVAR	**Borovoye Array**	**44.96**	**341**	P	**P**	**02 06 51.6 +0.4**
BVAR				PcP	**PcP**	**02 08 32.6 +0.4**
BVAR	**Borovoye Array**	**44.96**	**341**	P	**P**	**02 06 51.6 +0.4**
	0.3nm,0.4s,baz=141,slow=7.3,SNR=4.1					
BVAR				PcP	**PcP**	**02 08 32.6 +0.4**
	0.5nm,0.5s,baz=145,slow=5.3,SNR=3.0					
AKTO	**Aktyubinsk**	**47.88**	**331**	P	**P**	**02 07 14.1 0.0**
AKTO	**Aktyubinsk**	**47.88**	**331**	P	**P**	**02 07 14.1 0.0**
	0.9nm,0.5s,baz=104,slow=5.5,SNR=4.0					
WRA	**Warramunga Arr**	**51.90**	**127**	P	**P**	**02 07 44.9 -0.3**
WRA	**Warramunga Arr**	**51.90**	**127**	P	**P**	**02 07 44.9 -0.3**
	1.7nm,0.5s,baz=306,slow=8.4,SNR=20					
WRAB	**Tennant Creek**	**51.90**	**127**	*e*P	**P**	**02 07 44.9 -0.2**
	2.0nm,0.5s					
ASAR	**Alice Springs**	**53.68**	**131**	P	**P**	**02 07 58.0 -0.3**
ASAR	**Alice Springs**	**53.68**	**131**	P	**P**	**02 07 58.0 -0.3**
	0.8nm,0.6s,baz=304,slow=6.7,SNR=12					
BRTR	**Keskin Array B**	**58.67**	**310**	P	**P**	**02 08 32.6 -1.3**
BRTR	**Keskin Array B**	**58.67**	**310**	P	**P**	**02 08 32.6 -1.3**
	0.9nm,0.8s,baz=108,slow=9.3,SNR=5.6					
STKA	**Stephens Creek**	**63.96**	**134**	P	**P**	**02 09 09.9 +0.4**
STKA	**Stephens Creek**	**63.96**	**134**	P	**P**	**02 09 09.9 +0.4**
	2.2nm,0.9s,baz=315,slow=4.3,SNR=2.4					
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**02 09 38.6 -0.4**
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**02 09 38.6 -0.4**
	1.1nm,0.5s,baz=107,slow=6.4,SNR=7.7					
ARCES	**ARCESS Array B**	**71.22**	**340**	P	**P**	**02 09 55.1 +0.2**
ARCES	**ARCESS Array B**	**71.22**	**340**	P	**P**	**02 09 55.1 +0.2**
	2.3nm,0.8s,baz=92,slow=6.3,SNR=12					
GERES	**GERESS Array B**	**73.89**	**318**	P	**P**	**02 10 11.2 -0.1**
GERES	**GERESS Array B**	**73.89**	**318**	P	**P**	**02 10 11.2 -0.1**
	0.7nm,0.7s,baz=89,slow=6.9,SNR=6.4					
NOA	**NORSAR Array B**	**75.66**	**330**	P	**P**	**02 10 20.8 -0.4**
NOA	**NORSAR Array B**	**75.66**	**330**	P	**P**	**02 10 20.8 -0.4**
	0.9nm,0.8s,baz=91,slow=5.7,SNR=3.7					
MAW	**Mawson**	**81.73**	**191**	P	**P**	**02 10 54.5 +0.3**
MAW	**Mawson**	**81.73**	**191**	P	**P**	**02 10 54.5 +0.3**
	0.6nm,0.2s,baz=344,slow=7.4,SNR=3.2					
TORD	**Torodi Ar. Bea**	**87.97**	**283**	P	**P**	**02 11 26.6 -0.3**
TORD	**Torodi Ar. Bea**	**87.97**	**283**	P	**P**	**02 11 26.6 -0.3**
	0.8nm,0.9s,baz=98,slow=1.0,SNR=4.4					
ILAR	**Eielson Array**	**92.06**	**22**	P	**P**	**02 11 44.5 -0.5**
ILAR	**Eielson Array**	**92.06**	**22**	P	**P**	**02 11 44.5 -0.5**
	0.4nm,0.7s,baz=298,slow=3.4,SNR=6.8					
PDAR	**Pinedale Array**	**122.39**	**19**	PKP	**PKPdf**	**02 17 31.5 -0.4**
PDAR	**Pinedale Array**	**122.39**	**19**	PKP	**PKPdf**	**02 17 31.5 -0.4**
	0.3nm,0.7s,baz=338,slow=1.9,SNR=3.2					
NVAR	**Mina Array Bea**	**122.67**	**28**	PKP	**PKPdf**	**02 17 32.7 +0.1**
NVAR	**Mina Array Bea**	**122.67**	**28**	PKP	**PKPdf**	**02 17 32.7 +0.1**
	0.5nm,0.6s,baz=279,slow=2.7,SNR=5.3					
TXAR	**Lajitas Array**	**136.56**	**20**	PKP	**PKPdf**	**02 18 00.6 +1.6**
TXAR	**Lajitas Array**	**136.56**	**20**	PKP	**PKPdf**	**02 18 00.6 +1.6**
	0.3nm,0.6s,baz=359,slow=1.6,SNR=3.6					

MEX 11 02:01:15.3±0.8, 17°.08N×99°.11W, h40km±18km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.74**	**254**	*i* P	Pn	02 01 31.8	+2.4
ACX				*i* S	Sn	02 01 42.8	+3.3
ACP2	**Acapulco**	**0.77**	**255**	*e*P	Pn	02 01 28.1	-1.6
ACP2				*i* S	Sn	02 01 38.2	-1.8
HMTT	**Tlapaneco**	**0.89**	**36**	*i* P	Pn	02 01 29.6	-1.9
HMTT				*i* S	Sn	02 01 41.3	-2.0
MEIG	**Mezcala**	**0.97**	**330**	*e*P	Pn	02 01 30.4	-2.3
MEIG				*i* S	Sn	02 01 42.5	-2.8
CAIG	**El Cayaco**	**1.10**	**269**	*e*P	Pn	02 01 32.3	-2.0
CAIG				*i* S	Sn	02 01 45.6	-2.7
PNIG	**Pinotepa**	**1.17**	**126**	*e*P	Pn	02 01 33.9	-1.3
PNIG				*i* S	Sn	02 01 46.8	-3.2
PLIG	**Platanillo**	**1.36**	**344**	*e*P	Pn	02 01 36.2	-1.8
PLIG				*i* S	Sn	02 01 53.1	-1.7
ARIG	**Puente Sto Nin**	**1.68**	**316**	*i* P	Pn	02 01 40.8	-1.4
ARIG				*i* S	Sn	02 02 00.3	-2.3
YAIG	**Yautepec**	**1.78**	**1**	*e*P	Pn	02 01 42.2	-1.5
YAIG				*i* S	Sn	02 02 02.3	-3.0
ZIIG	**Zihuatanejo**	**2.31**	**284**	*i* P	Pn	02 01 50.0	-0.8
ZIIG				*i* S	Sn	02 02 15.3	-2.7
HUIG	**Huatulco**	**3.17**	**114**	*e*P	Pn	02 02 02.5	-0.1
HUIG				*i* S	Sn	02 02 35.2	-4.0
MMIG	**Aquila**	**4.21**	**287**	*e*P	Pn	02 02 15.8	-1.2
MMIG				*i* S	Sn	02 03 03.9	-1.1

IDC 11 02:08:49.0±1.0, 13°.90N×92°.97E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/29, mbtmp3.8/10, ML3.4/1, Error ellipse: s-maj=31.4km s-min=21.9km az=82.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.31**	**51**	Pn	Pn	02 10 39.1	+1.9
	0.2nm,0.3s,baz=241,slow=14,SNR=5.2						
CMAR				Sn	Sn	02 11 55.6	-5.3
	baz=238,slow=17,SNR=2.4						
MKAR	**Makanchi Array**	**34.00**	**347**	P	P	02 15 34.9	+0.3
	1.7nm,0.8s,baz=156,slow=8.4,SNR=11						
SONM	**Songino Array**	**35.63**	**16**	P	P	02 15 48.9	+0.1
	1.2nm,0.7s,baz=200,slow=7.9,SNR=7.6						
KURBB	**Kurchatov Arra**	**38.46**	**345**	P	P	02 16 11.6	-1.0
	1.2nm,0.7s,baz=159,slow=8.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**40.47**	**353**	P	P	02 16 28.6	-0.8
	1.7nm,0.7s,baz=172,slow=7.1,SNR=7.3						
BVAR	**Borovoye Array**	**42.96**	**340**	P	P	02 16 49.8	0.0
	0.3nm,0.5s,baz=145,slow=5.3,SNR=3.1						
ASAR	**Alice Springs**	**54.73**	**133**	P	P	02 18 20.0	-0.6
	0.2nm,0.2s,baz=316,slow=7.3,SNR=3.2						
ARCES	**ARCESS Array B**	**69.25**	**340**	P	P	02 19 57.8	+0.2
	0.8nm,0.8s,baz=102,slow=3.8,SNR=3.6						
BOSA	**Boshof**	**77.88**	**236**	P	P	02 20 49.7	+0.5
	2.2nm,0.8s,baz=101,slow=9.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P	P	02 21 43.0	+0.6
	0.2nm,0.6s,baz=88,slow=4.5,SNR=2.9						

GUC 11 02:21:07.0±0.6, 23°.60S×68°.37W, h170km, ML3.6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**Plate Boundary**	**1.42**	**309**	*e*P	Pn	02 21 38.2	+0.6
PB06				*e*S	Sn	02 22 02.2	+1.1
PB06				AML	AML	02 22 06.7	
	comp=N,711nm,0.4s						
CEN1	**Los Morros**	**1.69**	**277**	*e*P	Pn	02 21 43.3	+3.1
CEN1				*e*S	Sn	02 22 10.1	+4.3
CEN1				AML	AML	02 22 16.6	
	comp=N,118nm,0.3s						
ANCH	**Antofagasta**	**1.87**	**267**	*e*P	Pn	02 21 42.9	+1.0
ANCH				*e*S	Sn	02 22 10.1	+1.1
PB09	**Plate Boundary**	**1.97**	**336**	*e*P	Pn	02 21 44.6	+1.3
PB09				*e*S	Sn	02 22 13.0	+1.6
PB09				AML	AML	02 22 18.8	
	comp=E,671nm,0.4s						
PB10	**Plate Boundary**	**2.00**	**272**	*e*P	Pn	02 21 44.3	+0.8
PB10				*e*S	Sn	02 22 12.7	+1.0
PB10				AML	AML	02 22 15.5	
	comp=E,339nm,0.1s						
PB07	**Plate Boundary**	**2.33**	**323**	*e*P	Pn	02 21 48.4	+0.9
PB07				*e*S	Sn	02 22 20.0	+1.3
PB07				AML	AML	02 22 26.2	
	comp=E,186nm,0.1s						
PB01	**Plate Boundary**	**2.75**	**338**	*e*P	Pn	02 21 53.4	+1.1
PB01				*e*S	Sn	02 22 27.5	+0.1
PB01				AML	AML	02 22 32.8	
	comp=N,144nm,0.2s						
HMBC	**Humberstone**	**3.59**	**337**	*e*P	Pn	02 22 04.5	+1.7
MNMC	**Minimini**	**4.59**	**345**	*e*P	Pn	02 22 17.4	+1.5

IDC 11 02:23:35.9±1.0, 13°.83N×92°.93E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/27, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=41.2km s-min=21.5km az=47.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.39**	**51**	Pn	Pn	02 25 26.8	+1.7
	0.5nm,0.3s,baz=236,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**34.05**	**347**	P	P	02 30 21.1	-0.8
	0.2nm,0.5s,baz=157,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**52.78**	**129**	P	P	02 32 52.7	-0.6
	0.8nm,0.8s,baz=312,slow=8.4,SNR=12						
WRA				PcP	PcP	02 34 02.5	-0.4
	0.3nm,0.6s,baz=317,slow=3.5,SNR=5.9						
ASAR	**Alice Springs**	**54.72**	**133**	P	P	02 33 07.5	+0.1
	0.5nm,0.3s,baz=306,slow=6.6,SNR=6.8						
GERES	**GERESS Array B**	**72.65**	**317**	P	P	02 35 05.4	-0.2
	0.1nm,0.4s,baz=88,slow=8.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**88.09**	**283**	P	P	02 36 30.1	+0.9
	0.3nm,0.8s,baz=86,slow=3.3,SNR=3.5						

IDC 11 02:29:13.0±1.7, 13°.89N×92°.88E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.6/5, Error ellipse: s-maj=112.1km s-min=22.8km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.98**	**347**	P	P	02 35 58.8	+0.4
	0.3nm,0.4s,baz=168,slow=6.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**38.45**	**345**	P	P	02 36 36.0	-0.5
	0.4nm,0.4s,baz=155,slow=7.7,SNR=4.0						
WRA	**Warramunga Arr**	**52.86**	**129**	P	P	02 38 30.7	-0.3
	0.2nm,0.5s,baz=308,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**54.80**	**133**	P	P	02 38 45.2	+0.1
	0.4nm,0.4s,baz=317,slow=7.7,SNR=4.9						
GERES	**GERESS Array B**	**72.57**	**317**	P	P	02 40 42.2	-0.1
	0.3nm,0.6s,baz=81,slow=4.2,SNR=3.5						

---

*IDC **11** 02:34:36.6±2.6, 39°.66N×23°.40E, h0km, mb3.6/3, mb1 3.5/5, mb1mx3.3/28, mbtmp3.4/5, ML2.7/2, Error ellipse: s-maj=40.9km s-min=23.0km az=82.0*
*ATH **11** 02:34:38.5, 39°.88N×23°.80E, h17km±1km, MD3.5/28, ML3.0*
*ISCJB **11** 02:34:39.1±0.4, 39°.89N±0°.01×23°.78E±0°.02, h8km±3km, mb3.5/3, Error ellipse: s-maj=2.8km s-min=2.0km az=14.4*
*CSEM **11** 02:34:40.7±0.1, 39°.89N×23°.78E, h20km, ML3.1/17, Error ellipse: s-maj=3.3km s-min=2.1km az=104.0*
*THE **11** 02:34:40.0, 39°.91N×23°.75E, h7km, ML3.1/17, Error ellipse: s-maj=0.6km s-min=0.4km az=251.0*
*SOF **11** 02:34:41.2, 40°.03N×23°.87E, h8km, MD2.9*
*BEO **11** 02:34:43.2±1.1, 40°.01N×23°.64E, h15km±6km, ML2.9/8*

ISC 11 02:34:39.7±0.9, 39°.90N±0°.01×23°.77E±0°.02, h6km±6km, n177, σ0°80/245, mb3.6/3, 8C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.08**	**292**	P	**Pg**	**02 34 41.5**	**-0.1**
PAIG				S	**Sg**	**02 34 42.7**	**-0.2**
PAIG	**Paliouri**	**0.08**	**292**	*e*PB	**Pg**	**02 34 41.4**	**-0.1**
PAIG	**Paliouri**	**0.08**	**292**	*e*Pb	**Pg**	**02 34 41.4**	**-0.1**
OUR	**Ouranopolis**	**0.46**	**20**	P	**Pg**	**02 34 49.3**	**+0.6**
OUR				S	**Sb**	**02 34 56.2**	**-1.2**
OUR	**Ouranopolis**	**0.46**	**20**	P	**Pg**	**02 34 49.3**	**+0.6**
OUR				S	**Sb**	**02 34 56.2**	**-1.2**
PLG	**Polygyros**	**0.54**	**332**	P	**Pg**	**02 34 49.5**	**-0.6**
PLG				S	**Sg**	**02 34 56.6**	**-0.5**
PLG	**Polygyros**	**0.54**	**332**	*e*PN	**Pg**	**02 34 49.5**	**-0.6**
PLG				*e*SN	**Sg**	**02 34 56.7**	**-0.4**
PLG	**Polygyros**	**0.54**	**332**	*e*Pn	**Pg**	**02 34 49.5**	**-0.6**
PLG				*e*Sn	**Sg**	**02 34 56.7**	**-0.4**
XOR	**Xorichti**	**0.70**	**220**	P	**Pg**	**02 34 53.3**	**+0.2**
XOR				S	**Sb**	**02 35 03.6**	**-0.5**
XOR	**Xorichti**	**0.70**	**220**	P	**Pg**	**02 34 53.3**	**+0.2**
XOR				S	**Sb**	**02 35 03.6**	**-0.5**
NEO	**Neokhori**	**0.73**	**216**	P	**Pg**	**02 34 53.9**	**+0.2**
NEO				S	**Sb**	**02 35 04.4**	**-0.6**
NEO	**Neokhori**	**0.73**	**216**	*e*PN	**Pg**	**02 34 53.3**	**-0.4**
NEO				*e*SN	**Sg**	**02 35 03.5**	**+0.4**
NEO	**Neokhori**	**0.73**	**216**	*e*Pn	**Pg**	**02 34 53.3**	**-0.4**
NEO	**Neokhori**	**0.73**	**216**	P	**Pg**	**02 34 53.9**	**+0.2**
NEO				*e*Sn	**Sg**	**02 35 03.5**	**+0.4**
NEO				S	**Sb**	**02 35 04.4**	**-0.6**
AOS	**Alonnisos**	**0.73**	**174**	P	**Pg**	**02 34 54.1**	**+0.3**
AOS				S	**Sb**	**02 35 05.4**	**+0.3**
AOS	**Alonnisos**	**0.73**	**174**	*e*PN	**Pg**	**02 34 52.1**	**-1.7**
AOS				*e*SN	**Sg**	**02 35 03.0**	**-0.3**
AOS	**Alonnisos**	**0.73**	**174**	*e*Pn	**Pg**	**02 34 52.1**	**-1.7**
AOS	**Alonnisos**	**0.73**	**174**	P	**Pg**	**02 34 54.1**	**+0.3**
AOS				*e*Sn	**Sg**	**02 35 03.0**	**-0.3**
AOS				S	**Sb**	**02 35 05.4**	**+0.3**
SKIA	**Skiathos**	**0.77**	**198**	P	**Pg**	**02 34 54.9**	**+0.4**
SKIA				S	**Sb**	**02 35 06.3**	**+0.2**
SKIA	**Skiathos**	**0.77**	**198**	P	**Pg**	**02 34 54.9**	**+0.4**
SKIA				S	**Sb**	**02 35 06.3**	**+0.2**
HORT	**Hortiatis**	**0.87**	**324**	P	**Pg**	**02 34 55.5**	**-0.9**
HORT				S	**Sg**	**02 35 08.1**	**+0.4**
HORT	**Hortiatis**	**0.87**	**324**	P	**Pg**	**02 34 55.5**	**-0.9**
HORT				S	**Sg**	**02 35 08.1**	**+0.4**
THE	**Thessaloniki**	**0.96**	**320**	P	**Pg

MAKR	Makrakomi, Fth	1.55 236	P	Pn	02 35 07.2	-0.6
MAKR	Makrakomi, Fth	1.55 236	P	Pn	02 35 07.2	-0.6
KZN	Kozani	1.59 286	P	Pn	02 35 07.9	-0.5
KZN			S	Sn	02 35 28.5	-0.8
KZN	Kozani	1.59 286	*e*PN	Pn	02 35 08.1	-0.3
KZN	Kozani	1.59 286	*e*Pn	Pn	02 35 08.1	-0.3
KZN			S	Sn	02 35 28.5	-0.8
MMB	Musomiste	1.69 359	*i* P	Pn	02 35 09.3	-0.5
MMB	Musomiste	1.69 359	*i* P	Pn	02 35 09.3	-0.5
VAY	Valandovo	1.69 328	P	Pn	02 35 09.2	-0.5
VAY	Valandovo	1.69 328	*e*Pn	Pb	02 35 10.8	-0.4
VAY			*e*Sn	Sg	02 35 34.4	+0.3
VAY	Valandovo	1.69 328	*e*Pg	Pb	02 35 10.9	-0.3
VAY			*e*Sg	Sb	02 35 32.3	-0.4
VAY	Valandovo	1.69 328	P	Pn	02 35 09.2	-0.5
VAY	Valandovo	1.69 328	*e*Pg	Pb	02 35 10.9	-0.3
VAY			*e*Sg	Sb	02 35 32.3	-0.4
VAY			*e*Sn	Sg	02 35 34.4	+0.3
BOZC	Bozcaada	1.75 91	*e*P	Pn	02 35 10.7	0.0
BOZC			*e*S	Sn	02 35 31.7	-1.5
DSF	Desfina	1.77 214	P	Pn	02 35 09.7	-1.2
DSF	Desfina	1.77 214	P	Pn	02 35 09.7	-1.2
PTL	Penteli	1.85 178	*e*PN	Pn	02 35 11.4	-0.5
PTL	Penteli	1.85 178	*e*Pn	Pn	02 35 11.4	-0.5
ATH	Athens Observa	1.92 181	*e*PN	Pn	02 35 12.8	-0.1
ATH	Athens Observa	1.92 181	*e*Pn	Pn	02 35 12.8	-0.1
RZN	Rozhen	1.93 22	*i* P	Pn	02 35 13.3	+0.1
RZN	Rozhen	1.93 22	*i* P	Pn	02 35 13.3	+0.1
KALE	Kalithea	1.97 221	P	Pn	02 35 13.0	-0.7
KALE	Kalithea	1.97 221	*e*PN	Pn	02 35 12.9	-0.7
KALE	Kalithea	1.97 221	*e*Pn	Pn	02 35 12.9	-0.7
LTK	Loutraki	1.98 199	*e*PN	Pn	02 35 12.9	-0.8
LTK	Loutraki	1.98 199	*e*Pn	Pn	02 35 12.9	-0.8
ALN	Alexandroupoli	2.00 59	*e*PN	Pn	02 35 13.4	-0.6
ALN	Alexandroupoli	2.00 59	*e*Pn	Pn	02 35 13.4	-0.6
TRIZ	Trizonia	2.02 221	*e*PN	Pn	02 35 13.8	-0.5
TRIZ	Trizonia	2.02 221	*e*Pn	Pn	02 35 13.8	-0.5
FNA	Florina	2.04 297	P	Pn	02 35 14.3	-0.2
FNA			S	Sn	02 35 40.2	-0.1
FNA	Florina	2.04 297	*e*PN	Pn	02 35 14.6	+0.1
FNA	Florina	2.04 297	P	Pn	02 35 14.3	-0.2
FNA	Florina	2.04 297	*e*Pn	Pn	02 35 14.6	+0.1
FNA			S	Sn	02 35 40.2	-0.1
KKB	Krupnik	2.04 345	*i* P	Pn	02 35 14.3	-0.2
KKB	Krupnik	2.04 345	*i* P	Pn	02 35 14.3	-0.2
EFP	Efpalio	2.07 225	*e*PB	Pn	02 35 14.2	-0.7
EFP	Efpalio	2.07 225	*e*Pb	Pn	02 35 14.2	-0.7
KDZ	Kurdzhali	2.15 35	*i* P	Pn	02 35 14.8	-1.3
KDZ	Kurdzhali	2.15 35	*i* P	Pn	02 35 14.8	-1.3
LAKA	Lakka	2.17 221	*e*PB	Pn	02 35 15.3	-1.0
LAKA	Lakka	2.17 221	*e*Pb	Pn	02 35 15.3	-1.0
BIA	Bitola	2.18 302	*e*Pn	Pn	02 35 16.4	-0.1
BIA			*e*Sg	Sn	02 35 43.7	-0.2
BIA	Bitola	2.18 302	*e*Pn	Pn	02 35 16.4	-0.1
BIA			*e*Sg	Sn	02 35 43.6	-0.2
KLV	Kalavryta, Ach	2.24 215	P	Pn	02 35 16.7	-0.7
KLV	Kalavryta, Ach	2.24 215	*e*PB	Pn	02 35 16.4	-1.0
KLV	Kalavryta, Ach	2.24 215	*e*Pb	Pn	02 35 16.4	-1.0
KLV	Kalavryta, Ach	2.24 215	P	Pn	02 35 16.7	-0.7
GUR	Goura	2.25 210	P	Pn	02 35 16.8	-0.8
GUR			S	Sn	02 35 45.9	+0.1
GUR	Goura	2.25 210	*e*PB	Pn	02 35 17.0	-0.6
GUR	Goura	2.25 210	P	Pn	02 35 16.8	-0.8
GUR			S	Sn	02 35 45.9	+0.1
PLD	Plovdiv	2.31 17	P	Pn	02 35 19.5	+1.1
PLD	Plovdiv	2.31 17	*e*Pn	Pn	02 35 19.4	+1.1
PLD			*e*Sn	Sn	02 35 46.9	-0.2
PLD	Plovdiv	2.31 17	*e*Pn	Pn	02 35 19.4	+1.1
PLD			*e*Sn	Sn	02 35 46.9	-0.2
DID	Didima	2.42 190	*e*PB	Pn	02 35 18.7	-1.2
DID	Didima	2.42 190	*e*Pb	Pn	02 35 18.7	-1.2
DIM	Dimitrovgrad	2.53 31	*i* P	Pn	02 35 21.4	+0.1
DIM	Dimitrovgrad	2.53 31	*i* P	Pn	02 35 21.4	+0.1
RLS	Riolos of Patr	2.57 225	*e*PN	Pn	02 35 21.9	+0.1
RLS	Riolos of Patr	2.57 225	*e*Pn	Pn	02 35 21.9	+0.1
LKD2	Lefkada island	2.66 246	*e*PN	Pn	02 35 23.4	+0.3
LKD2	Lefkada island	2.66 246	*e*Pn	Pn	02 35 23.4	+0.3
VTS	Vitosha	2.72 351	*i* P	Pn	02 35 24.8	+0.7
VTS	Vitosha	2.72 351	⇓*i*Pn	Pn	02 35 24.9	+0.8
VTS			*e*Sn	Sn	02 35 57.1	-0.3
VTS	Vitosha	2.72 351	*i* P	Pn	02 35 24.8	+0.7
VTS			*e*Sn	Sn	02 35 57.1	-0.3
VLX	Vlachokerasia	2.75 204	P	Pn	02 35 24.2	-0.2
VLX	Vlachokerasia	2.75 204	*e*PN	Pn	02 35 24.0	-0.4
VLX	Vlachokerasia	2.75 204	*e*Pn	Pn	02 35 24.0	-0.4
AMT	Artemida-Makis	2.86 215	*e*PN	Pn	02 35 26.1	+0.2
AMT	Artemida-Makis	2.86 215	*e*Pn	Pn	02 35 26.1	+0.2
BALY	Balya	2.97 92	*e*P	Pn	02 35 26.6	-0.7
BALY			*e*S	Sn	02 36 03.5	+0.3
BALY	Balya	2.97 92	*e*P	Pn	02 35 26.6	-0.7
BALY			*e*S	Sn	02 36 03.5	+0.3
ITM	Ithomi	3.08 209	*e*PB	Pn	02 35 29.8	+1.0
ITM	Ithomi	3.08 209	*e*Pb	Pn	02 35 29.8	+1.0
VLI	Veliai	3.24 192	*e*PN	Pn	02 35 30.8	-0.3
VLI	Veliai	3.24 192	*e*Pn	Pn	02 35 30.8	-0.3
BARS	Barje	3.27 334	⇑*e*Pn	Pn	02 35 31.6	+0.2
BARS	Barje	3.27 334	⇑*e*Pn	Pn	02 35 31.6	+0.2
DYR	Agios Nikonas	3.33 200	*e*PN	Pn	02 35 32.7	+0.4
DYR	Agios Nikonas	3.33 200	*e*Pn	Pn	02 35 32.7	+0.4
PYL	PYLOS	3.40 209	*e*PN	Pn	02 35 33.1	-0.1
PYL	PYLOS	3.40 209	*e*Pn	Pn	02 35 33.1	-0.1
ZAPS	Zavoj	3.48 346	⇓*i*Pn	Pn	02 35 35.9	+1.5
PVL	Pavlikeni	3.52 19	*i* P	Pn	02 35 33.3	-1.5
PVL	Pavlikeni	3.52 19	*i* P	Pn	02 35 33.3	-1.5
SELS	Selova	3.87 330	*e*Pn	Pn	02 35 39.5	-0.2
PDG	Podgorica	4.25 308	*e*Pn	Pn	02 35 46.2	+1.4
PDG			*e*Sn	Sn	02 36 30.9	-3.8
PDG	Podgorica	4.25 308	*e*Pn	Pn	02 35 46.2	+1.4
PDG			*e*Sn	Sn	02 36 30.9	-3.8
GRUS	Gruza	4.59 331	*e*Pn	Pn	02 35 49.7	+0.1
GRUS	Gruza	4.59 331	*e*Pn	Pn	02 35 49.7	+0.1
DIVS	Divibare	5.05 327	*e*Pn	Pn	02 35 56.1	0.0
DIVS	Divibare	5.05 327	*e*Pn	Pn	02 35 56.1	0.0
GZR	Gura Zlata	5.54 353	*e*Pn	Pn	02 36 03.7	+1.0
GZR	Gura Zlata	5.54 353	*e*Pn	Pn	02 36 03.7	+1.0
ISR	Istrita	5.60 21	⇓*i*P	Pn	02 36 04.9	+1.3
VOIR		5.62 9	⇑*i*P	Pn	02 36 04.9	+1.2
TIRR	Tirgusor	5.71 36	⇑*i*P	Pn	02 36 05.8	+0.8
MLR	Muntele Rosu	5.81 15	⇑*i*P	Pn	02 36 08.2	+1.7
MLR	Muntele Rosu	5.81 15	Pn	Pn	02 36 07.6	+1.0
	0.1nm,0.3s,baz=224,slow=9.1,SNR=5.9					
MLR			Sn	Sn	02 37 20.2	+6.7
	0.1nm,0.3s,baz=242,slow=17,SNR=2.2					
MLR			Lg	Lg	02 37 49.9	
	0.0nm,0.3s,baz=288,slow=20,SNR=4.2					
CFR	Carcaliu	6.18 30	⇑*i*P	Pn	02 36 12.8	+1.4
PLOR	Plostina	6.31 19	⇑*i*P	Pn	02 36 14.6	+1.3
VRI	Vrincioaia	6.35 19	⇓*i*P	Pn	02 36 14.2	+0.5
DRGR		6.93 354	⇑*i*P	Pn	02 36 28.0	+6.2
BRTR	Keskin Array B	7.60 88	Pn	Pn	02 36 32.0	+1.0
	0.2nm,0.3s,baz=268,slow=12,SNR=9.3					
BURAR	Bucovina Array	7.78 7	⇓*i*P	Pn	02 36 35.7	+2.2
NOA	NORSAR Array B	22.55 344	P	P	02 39 40.4	+0.2
	0.6nm,0.9s,baz=148,slow=9.3,SNR=3.1					
MKAR	Makanchi Array	42.25 61	P	P	02 42 34.9	+1.3
	0.7nm,0.5s,baz=277,slow=6.5,SNR=8.4					
ZALV	Zalesovo Beam	42.65 50	P	P	02 42 37.6	+0.9
	1.0nm,0.4s,baz=276,slow=9.8,SNR=3.6					

IDC 11 02:59:47.9±10.0, 13°.73N×92°.75E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/27, mbtmp3.5/4, Error ellipse: s-maj=629.1km s-min=23.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.12	347	P	P	03 06 34.5	+0.2
	0.7nm,0.8s,baz=169,slow=8.7,SNR=7.4						
KURBB	Kurchatov Arra	38.57	345	P	P	03 07 12.0	-0.4
	0.2nm,0.4s,baz=162,slow=8.4,SNR=4.6						
WRA	Warramunga Arr	52.85	128	P	P	03 09 05.7	0.0
	0.4nm,0.8s,baz=309,slow=8.2,SNR=4.0						
ASAR	Alice Springs	54.77	132	P	P	03 09 19.6	-0.1
	0.3nm,0.3s,baz=311,slow=7.6,SNR=5.1						

*IDC **11** 03:12:27.8±1.5, 57°.78S×23°.55W, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=65.2km s-min=26.9km az=10.0*

*ISCJB **11** 03:12:28.5±0.7, 57°.8S±0°.1×23°.6W±0°.3, h16km, mb3.9/5, Error ellipse: s-maj=25.7km s-min=11.4km az=150.9*

ISC 11 03:12:30.2±0.8, 57°.8S±0°.1×23°.6W±0°.2, h16km, n14, σ0.31/12, mb3.8/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.44	159	*e*Pn	Pn	03 15 53.8	+0.2
VNA2	Neumayer--Watz	14.84	159	*e*Pn	Pn	03 15 58.7	-0.3
VNA2	Neumayer--Watz	14.84	159	*e*Sn	Sn	03 18 29.2	-14
SNAA	Sanae	16.34	157	*e*Pn	Pn	03 16 18.9	+0.2
SNAA	Sanae	16.34	157	*e*Sn	Sn	03 19 02.6	-17
CPUP	Villa Florida	39.46	308	P	P	03 19 59.0	-0.5
	0.3nm,0.4s,baz=173,slow=17,SNR=2.3						
BOSA	Boshof	44.57	71	P	P	03 20 41.1	-0.2
	3.4nm,1.1s,baz=188,slow=10,SNR=3.4						
SIV	San Ignacio	50.23	310	P	P	03 21 25.4	+0.1
	0.5nm,0.5s,baz=184,slow=14,SNR=2.7						
LPAZ	La Paz	53.00	302	P	P	03 21 47.3	+0.5
	0.9nm,0.7s,baz=169,slow=4.5,SNR=3.8						
TORD	Torodi Ar. Bea	73.68	26	P	P	03 24 03.2	+0.3
	4.4nm,1.0s,baz=201,slow=6.3,SNR=38						
FINES	FINESS Array B	125.02	27	PKP	PKPdf	03 31 27.8	-0.2
	1.2nm,0.6s,baz=151,slow=3.2,SNR=3.8						
AKTO	Aktyubinsk	126.80	52	PKP	PKPdf	03 31 32.0	+0.2
	0.4nm,0.4s,baz=243,slow=2.3,SNR=3.2						
SONM	Songino Array	148.84	87	PKPbc	PKPbc	03 32 15.9	-0.2
	1.2nm,0.6s,baz=222,slow=3.2,SNR=10.0						
ILAR	Eielson Array	152.76	309	PKPbc	PKPbc	03 32 24.7	+0.1
	1.1nm,0.8s,baz=134,slow=2.0,SNR=14						

IDC 11 03:51:14.2±8.0, 17°.48S×178°.61W, h463km±94km, mb3.2/8, mb1 3.5/8, mb1mx3.3/20, mbtmp3.2/8, Error ellipse: s-maj=46.3km s-min=22.0km az=175.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.05	189	P	P	03 55 23.4	-0.9
	5.2nm,0.3s,baz=7.1,slow=8.1,SNR=5.3						
STKA	Stephens Creek	38.67	241	P	P	03 57 58.8	+1.8
	0.7nm,0.5s,baz=78,slow=9.3,SNR=2.9						
WRA	Warramunga Arr	44.52	259	P	P	03 58 42.9	-0.9
	0.3nm,0.7s,baz=96,slow=7.8,SNR=6.8						
ASAR	Alice Springs	44.73	254	P	P	03 58 45.5	+0.1
	2.1nm,0.4s,baz=89,slow=8.1,SNR=39						
NVAR	Mina Array Bea	79.25	44	P	P	04 02 31.4	+0.5
	1.0nm,0.7s,baz=225,slow=9.0,SNR=13						
ILAR	Eielson Array	85.51	13	P	P	04 03 00.5	-1.4
	0.5nm,0.4s,baz=224,slow=5.2,SNR=14						
TXAR	Lajitas Array	85.92	58	P	P	04 03 05.8	+1.0
	0.7nm,0.7s,baz=216,slow=6.7,SNR=14						
PDAR	Pinedale Array	87.17	44	P	P	04 03 10.3	-0.3
	0.6nm,0.5s,baz=245,slow=3.9,SNR=7.4						
BRTR	Keskin Array B	144.34	315	PKP	PKPbc	04 09 56.5	-0.4
	0.6nm,0.5s,baz=130,slow=5.7,SNR=3.8						
GERES	GERESS Array B	147.15	345	PKPbc	PKPbc	04 10 03.9	-0.8
	0.5nm,0.5s,baz=322,slow=3.9,SNR=6.2						
DAVOX	Davos/Dischmat	149.94	348	PKPbc	PKPbc	04 10 11.2	-0.6
	0.7nm,0.3s,baz=328,slow=4.2,SNR=4.9						

IDC 11 04:00:08.6±1.9, 20°.78S×173°.92W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.7/7, Error ellipse: s-maj=89.7km s-min=24.0km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	18.33	262	*e*LR	LR	04 08 35.2	
	246nm,26.1s						
PPT2	Papeete2	23.20	86	*e*LR	LR	04 10 20.8	
	471nm,32.0s						
STKA	Stephens Creek	41.12	245	P	P	04 07 55.5	+0.9
	0.7nm,0.3s,baz=103,slow=12,SNR=3.1						
ASAR	Alice Springs	48.17	256	P	P	04 08 50.6	-0.5
	1.1nm,0.8s,baz=96,slow=7.7,SNR=8.5						
WRA	Warramunga Arr	48.34	261	P	P	04 08 51.1	-1.3
	0.4nm,0.6s,baz=96,slow=7.8,SNR=12						
MJAR	Matsushiro Arr	72.76	321	P	P	04 11 39.5	+0.7
	0.9nm,0.6s,baz=139,slow=7.7,SNR=2.8						
NVAR	Mina Array Bea	78.65	41	P	P	04 12 12.1	-0.8
	0.5nm,0.6s,baz=226,slow=9.3,SNR=4.0						
PDAR	Pinedale Array	86.58	42	P	P	04 12 54.4	+0.3
	0.2nm,0.6s,baz=222,slow=1.2,SNR=3.1						
ILAR	Eielson Array	87.79	11	P	P	04 12 58.1	-1.0
	0.2nm,0.8s,baz=217,slow=4.3,SNR=3.3						
BRTR	Keskin Array B	149.81	315	PKPbc	PKPbc	04 20 01.3	+0.3
	0.4nm,0.8s,baz=90,slow=4.3,SNR=2.3						
GERES	GERESS Array B	151.34	349	PKPbc	PKPbc	04 20 05.5	+1.1
	0.1nm,0.2s,baz=29,slow=2.2,SNR=2.5						

IDC 11 04:01:45.2±0.9, 13°.82N×92°.95E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/28, mbtmp3.7/9, ML4.1/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=35.7km s-min=18.1km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.38	51	Pn	Pn	04 03 33.4	-0.9
	0.8nm,0.3s,baz=240,slow=15,SNR=3.4						
CMAR				Sn	Sn	04 04 52.0	-6.8
	0.6nm,0.3s,baz=240,slow=27,SNR=2.8						
CMAR				LR	LR	04 07 12.4	
	comp=Z,68nm,19.3s,baz=137,slow=44						
MKAR	Makanchi Array	34.07	347	P	P	04 08 32.2	+0.9
	0.3nm,0.5s,baz=171,slow=8.5,SNR=3.6						
SONM	Songino Array	35.71	16	P	P	04 08 44.8	-0.9
	0.6nm,0.7s,baz=200,slow=7.7,SNR=3.4						
KURBB	Kurchatov Arra	38.53	345	P	P	04 09 10.3	+0.9
	0.5nm,0.7s,baz=161,slow=7.8,SNR=2.6						
WRA	Warramunga Arr	52.76	129	P	P	04 11 02.3	-0.1
	0.3nm,0.3s,baz=310,slow=10.0,SNR=15						
WRA				PcP	PcP	04 12 11.6	-0.5
	0.4nm,0.4s,baz=325,slow=3.3,SNR=8.2						
ASAR	Alice Springs	54.70	133	P	P	04 11 16.9	+0.3
	1.5nm,0.5s,baz=308,slow=6.8,SNR=24						
BRTR	Keskin Array B	57.76	308	P	P	04 11 37.8	-0.7
	0.6nm,0.8s,baz=138,slow=6.8,SNR=2.6						
STKA	Stephens Creek	65.08	135	P	P	04 12 27.9	0.0
	0.6nm,0.4s,baz=344,slow=7.4,SNR=3.0						
TORD	Torodi Ar. Bea	88.11	283	P	P	04 14 38.4	-0.2
	0.2nm,0.6s,baz=73,slow=4.5,SNR=2.8						

DJA 11 04:11:01.6±1.4, 2°N±6°×12°3E±°, h5km±6km, M4.2/4, MLv4.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.86	183	P	Pg	04 11 15.9	-2.2
GTOI				S	Sg	04 11 26.6	-2.7
KMSI	Cibinong	1.30	135	P	Pn	04 11 23.6	-2.8
KMSI				S	Sb	04 11 43.7	+0.1
MRSI	Marisa	1.51	228	P	Pn	04 11 28.0	-1.3
LUWI	Luwuk	2.54	187	P	Pn	04 11 44.9	+1.4
LUWI				S	Sn	04 12 15.9	+1.0
TTSI	Tana Toraja	5.56	216	P	Pn	04 12 29.3	+4.3

IDC 11 04:12:18.4±3.0, 13°.64S×72°.96W, h92km±23km, mb3.6/1, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=81.3km s-min=20.0km az=39.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.36	120	P	Pn	04 13 37.4	+0.6
	3.8nm,0.3s,baz=309,slow=8.4,SNR=168						
LPAZ				S	Sn	04 14 37.5	-0.2
	baz=10,slow=19,SNR=3.2						
ATAH	Atahualpa	8.39	320	P	Pn	04 14 17.1	-0.7
	0.7nm,0.3s,baz=148,slow=15,SNR=3.3						
SIV	San Ignacio	11.73	103	P	Pn	04 15 03.0	+0.3
	0.4nm,0.3s,baz=287,slow=12,SNR=8.9						
CPUP	Villa Florida	19.34	133	P	P	04 16 36.3	-0.4
	0.3nm,0.3s,baz=318,slow=14,SNR=1.9						
TORD	Torodi Ar. Bea	78.60	73	P	P	04 24 10.7	0.0
	0.6nm,0.5s,baz=258,slow=4.7,SNR=23						
SONM	Songino Array	145.90	1	PKPbc	PKPdf	04 31 47.1	+0.3
	0.6nm,0.6s,baz=332,slow=2.8,SNR=3.7						

*ISCJB **11** 04:12:39.1±0.6, 24°.84S±0°.04×69°.10W±0°.07, h81km±9km, mb3.6/5, Error ellipse: s-maj=11.3km s-min=6.0km az=173.7*

*NEIC **11** 04:12:40.3, 24°.69S×69°.09W, h18km, MG4.3(GUC), After GUC.*

*GUC **11** 04:12:40.3±1.0, 24°.69S×69°.09W, h18km±11km, ML4.3*

*IDC **11** 04:12:42.0±0.8, 24°.81S×69°.03W, h93km±6km, mb3.5/5, mb1 3.6/8, mb1mx3.5/19, mbtmp3.5/8, Error ellipse: s-maj=22.4km s-min=16.2km az=82.0*

ISC 11 04:12:40.5±0.8, 24°.84S±0°.05×69°.16W±0°.07, h80km±8km, n26, σ1.54/41, mb3.6/5, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	Antofagasta	1.62	315	*e*P	Pn	04 13 07.3	-0.1
ANCH				*e*S	Sn	04 13 26.8	-1.0
ANCH	Antofagasta	1.62	315	*e*P	Pn	04 13 07.3	-0.1
ANCH				*e*S	Sn	04 13 26.8	-1.0
ANCH				AML	AML	04 13 30.4	
	comp=E,3μm,0.5s						
CEN1	Los Morros	1.73	326	*e*P	Pn	04 13 07.7	-1.3
CEN1				*e*S	Sn	04 13 27.6	-2.8
CEN1	Los Morros	1.73	326	*e*P	Pn	04 13 07.7	-1.3
CEN1				*e*S	Sn	04 13 27.6	-2.8
PB10	Plate Boundary	1.83	316	⇓*e*P	Pn	04 13 10.1	-0.2
PB10				*e*S	Sn	04 13 33.5	+0.6
PB10				AML	AML	04 13 39.5	
	comp=E,5μm,0.2s						
PB06	Plate Boundary	2.15	350	*e*P	Pn	04 13 14.7	0.0
PB06				*e*S	Sn	04 13 41.0	+0.3
PB06	Plate Boundary	2.15	350	*e*P	Pn	04 13 14.7	0.0
PB06				*e*S	Sn	04 13 41.0	+0.3
PB06				AML	AML	04 13 45.8	
	comp=E,2μm,0.4s						
LVC	Limon Verde	2.23	6	*e*Pn	Pn	04 13 16.7	+1.0
LVC				*e*S	Sn	04 13 39.7	-2.8
PB09	Plate Boundary	3.03	359	*e*P	Pn	04 13 27.4	+1.0
PB09	Plate Boundary	3.03	359	*e*P	Pn	04 13 27.4	+1.0
PB09				AML	AML	04 14 12.5	
	comp=E,4μm,0.5s						
PB07	Plate Boundary	3.17	348	*e*P	Pn	04 13 27.3	-1.0
PB07				*e*S	Sn	04 14 05.8	+0.6
PB07	Plate Boundary	3.17	348	*e*P	Pn	04 13 27.3	-1.0
PB07				*e*S	Sn	04 14 05.8	+0.6
PB07				AML	AML	04 14 15.5	
	comp=E,991nm,0.7s						
PB01	Plate Boundary	3.79	355	P	Pn	04 13 35.8	-0.9
PB01				*e*S	Sn	04 14 22.4	+2.3
PB01	Plate Boundary	3.79	355	*e*P	Pn	04 13 35.8	-0.9
PB01				*e*S	Sn	04 14 22.4	+2.3
LCO	Las Campanas	4.38	198	*e*Pn	Pn	04 13 44.4	-0.5
LCO				*e*S	Sn	04 14 42.7	+7.9
CFAA	Coronel Fontan	6.79	173	P	Pn	04 14 18.8	+1.2
	comp=E,0.1nm,0.3s,baz=352,slow=14,SNR=27						
CFAA				S	Sn	04 15 34.5	+1.0
	comp=E,0.3nm,0.3s,baz=28,slow=15,SNR=3.5						
CPUP	Villa Florida	10.78	100	P	Pn	04 15 10.2	-1.8
	comp=E,0.1nm,0.3s,baz=286,slow=20,SNR=2.3						
SIV	San Ignacio	11.61	42	P	Pn	04 15 21.7	-1.7
	comp=E,4.5nm,0.3s,baz=251,slow=13,SNR=28						
SIV				S	Sn	04 17 18.7	-13
	comp=E,0.1nm,0.3s,baz=223,slow=18,SNR=1.6						
BDFB	Brasilia	21.82	69	P	P	04 17 26.0	-0.5
	comp=E,1.3nm,0.5s,baz=250,slow=12,SNR=3.9						
TXAR	Lajitas Array	63.25	326	P	P	04 23 00.6	-0.2
	comp=E,0.4nm,0.6s,baz=148,slow=9.2,SNR=6.7						
PDAR	Pinedale Array	76.88	331	P	P	04 24 23.9	-0.2
	comp=E,0.2nm,0.5s,baz=129,slow=7.1,SNR=3.8						
PDAR				pP	pP	04 24 48.8	+3.5
	comp=E,0.2nm,0.7s,baz=104,slow=9.4,SNR=2.2						
TORD	Torodi Ar. Bea	78.70	70	P	P	04 24 34.1	-0.4
	comp=E,1.5nm,0.6s,baz=259,slow=5.2,SNR=27						
TORD				pP	pP	04 24 57.8	+1.9
	comp=E,1.1nm,0.6s,baz=259,slow=5.4,SNR=5.1						
MAW	Mawson	81.22	163	P	P	04 24 48.3	+1.1
	comp=E,0.6nm,0.2s,baz=311,slow=6.6,SNR=4.4						
WRA	Warramunga Arr	129.96	209	PKP	PKPdf	04 31 40.4	-1.2
	comp=E,0.1nm,0.3s,baz=156,slow=1.8,SNR=3.4						
WRA				pPKP	pPKPdf	04 32 07.2	+2.8
	comp=E,0.3nm,0.8s,baz=148,slow=1.8,SNR=1.7						
KURBB	Kurchatov Arra	144.21	36	PKP	PKPab	04 32 05.4	+0.7
	comp=E,0.2nm,0.4s,baz=304,slow=3.2,SNR=4.6						
MKAR	Makanchi Array	148.41	39	PKPbc	PKPdf	04 32 17.6	+3.5
	comp=E,1.0nm,0.7s,baz=337,sl

TXAR	Lajitas Array	68.38	44	P	P	04 23 58.3	-0.9
	comp=Z,0.5nm,0.8s,baz=19,slow=2.6,SNR=6.5						
TORD	Torodi Ar. Bea	83.00	304	P	P	04 25 22.1	-0.7
	comp=Z,0.7nm,0.6s,baz=331,slow=3.3,SNR=5.3						

IDC 11 04:18:42.0±0.9, 13°.98N×93°.09E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/29, mbtmp3.7/11, ML3.5/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=36.6km s-min=18.8km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.17	51	Pn	Pn	04 20 28.5	+0.3
	0.2nm,0.3s,baz=241,slow=15,SNR=6.8						
CMAR				Sn	Sn	04 21 48.0	-2.5
	0.2nm,0.3s,baz=240,slow=24,SNR=3.8						
CMAR				LR	LR	04 23 51.3	
	comp=Z,43nm,19.1s,baz=230,slow=43						
AAK	Ala-Archa	32.75	334	LR	LR	04 39 59.5	
	comp=Z,158nm,18.2s,baz=17,slow=39						
MKAR	Makanchi Array	33.94	347	P	P	04 25 27.2	+0.2
	0.7nm,0.6s,baz=165,slow=9.4,SNR=6.3						
SONM	Songino Array	35.52	15	P	P	04 25 41.1	+0.3
	1.1nm,0.8s,baz=200,slow=8.2,SNR=6.3						
KURBB	Kurchatov Arra	38.41	345	P	P	04 26 05.4	+0.3
	1.8nm,0.9s,baz=163,slow=7.7,SNR=7.0						
AKTO	Aktyubinsk	46.16	329	P	P	04 27 08.2	-0.1
	0.5nm,0.5s,baz=113,slow=13,SNR=2.4						
WRA	Warramunga Arr	52.76	129	P	P	04 27 58.8	-0.3
	0.4nm,0.8s,baz=311,slow=7.7,SNR=4.1						
WRA				PcP	PcP	04 29 08.4	-0.5
	0.8nm,0.9s,baz=322,slow=3.5,SNR=9.3						
ASAR	Alice Springs	54.71	133	P	P	04 28 13.8	+0.3
	0.3nm,0.3s,baz=320,slow=7.8,SNR=5.3						
FINES	FINESS Array B	66.87	331	P	P	04 29 35.3	-0.4
	0.6nm,0.6s,baz=103,slow=6.1,SNR=2.8						
ARCES	ARCESS Array B	69.21	340	P	P	04 29 49.9	-0.4
	0.6nm,0.7s,baz=97,slow=6.7,SNR=6.4						
TORD	Torodi Ar. Bea	88.21	283	P	P	04 31 36.0	+0.2
	0.4nm,0.7s,baz=76,slow=3.3,SNR=3.5						
ILAR	Eielson Array	89.50	22	P	P	04 31 39.1	-1.8
	0.3nm,0.8s,baz=302,slow=4.6,SNR=4.4						
TXAR	Lajitas Array	134.00	20	PKP	PKPdf	04 38 03.5	+1.3
	0.1nm,0.4s,baz=308,slow=4.4,SNR=2.8						

ISK 11 04:20:46.6, 39°.32N×42°.75E, h5km, MD3.4
DDA 11 04:20:46.4, 39°.30N×42°.70E, h13km, ML3.6
CSEM 11 04:20:47.2±0.2, 39°.29N×42°.73E, h2km, MD3.4, Error ellipse: s-maj=4.8km s-min=4.3km az=92.0
ISC 11 04:20:46.3±0.9, 39°.29N±0°.02×42°.68E±0°.02, h12km±7km, n57, σ1§10/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUTA	Tutak	0.15	43	*i* Pg	Pg	04 20 50.1	+0.1
TUTA				*i* Sg	Sg	04 20 52.6	-0.2
AGRB	Hanur-Agry	0.37	40	*e*PG	Pg	04 20 53.4	-0.4
AGRB	Hanur-Agry	0.37	40	*e*Pg	Pg	04 20 53.4	-0.4
TATV	Tatvan	0.85	203	*e*P	Pb	04 21 03.1	+0.1
TATV				*e*S	Sg	04 21 13.8	-0.1
TATV	Tatvan	0.85	203	*e*P	Pb	04 21 03.1	+0.1
TATV				*e*S	Sg	04 21 13.8	-0.1
HOMI	Horasan	0.96	322	*i* P	Pg	04 21 05.2	+0.3
HOMI				*i* S	Sn	04 21 19.0	-0.5
CLDR	Caldiran	0.97	99	*e*PG	Pb	04 21 04.6	-0.5
CLDR				*e*SG	Sg	04 21 17.8	+0.1
CLDR	Caldiran	0.97	99	*e*Pg	Pb	04 21 04.6	-0.5
CLDR				*e*Sg	Sg	04 21 17.8	+0.1
GEVA	Gevas	1.02	163	*e*P	Pb	04 21 05.1	-0.9
GEVA				*e*S	Sn	04 21 20.8	-0.1
GEVA	Gevas	1.02	163	*e*P	Pb	04 21 05.1	-0.9
GEVA				*e*S	Sn	04 21 20.8	-0.1
ERZM	Erzurum	1.19	301	*e*P	Pg	04 21 09.5	+0.3
ERZM				*e*S	Sb	04 21 24.6	+0.3
ERZM	Erzurum	1.19	301	*e*P	Pg	04 21 09.5	+0.3
ERZM				*e*S	Sb	04 21 24.6	+0.3
EZM	Erzurum	1.19	301	*e*PN	Pg	04 21 10.3	+1.0
DIGO	Kars	1.24	25	*e*P	Pg	04 21 10.5	+0.3
DIGO				*e*S	Sg	04 21 28.2	+1.9
DIGO	Kars	1.24	25	*e*P	Pg	04 21 10.5	+0.3
BNGL	BINGOL	1.24	255	*e*P	Pg	04 21 09.5	-0.1
BNGL				*e*S	Sg	04 21 28.0	+1.7
BNGB	Bing¨¶l	1.59	260	*e*PN	Pg	04 21 16.3	-0.5
BEST	Besiri	1.79	219	*e*P	Pb	04 21 19.5	+0.5
BEST				*e*S	Sb	04 21 42.4	+1.1
SIRT	Sirnak	1.80	186	*e*PN	Pb	04 21 19.6	+0.4
SIRT	Sirnak	1.80	186	*e*Pn	Pb	04 21 19.6	+0.4
GNI	Garni	1.80	61	*e*PN	Pb	04 21 18.5	-0.8
GNI	Garni	1.80	61	*e*Pn	Pb	04 21 18.5	-0.8
DAGI	Agillar	1.88	342	*e*P	Pb	04 21 20.9	+0.4
HAKT	HAKKARI	1.91	155	*i* P	Pb	04 21 21.8	+0.6
HAKT				*e*S	Sg	04 21 47.8	0.0
HAKT	HAKKARI	1.91	155	*i* P	Pb	04 21 21.8	+0.6
HAKT				*e*S	Sg	04 21 47.8	0.0
ARTV	Artvin	1.98	343	*e*P	Pb	04 21 22.2	-0.1
ARTV	Artvin	1.98	343	*e*P	Pb	04 21 22.2	-0.1
CUKT	Cukurca	2.17	160	*e*PN	Pb	04 21 24.4	-1.1
CUKT	Cukurca	2.17	160	*e*Pn	Pb	04 21 24.4	-1.1
AKH	Akhalkalaki	2.20	16	P	Pb	04 21 26.4	+0.3
AKH				S	Sg	04 21 58.4	+1.2
AKH	Akhalkalaki	2.20	16	P	Pb	04 21 26.4	+0.3
BAYT	Ayd¨–ntepe-Bay	2.25	300	*e*PN	Pb	04 21 25.9	-1.0
BAYT	Ayd¨–ntepe-Bay	2.25	300	*e*Pn	Pb	04 21 25.9	-1.0
BCA	Borcka	2.30	340	*e*PN	Pb	04 21 25.6	-2.0
BCA	Borcka	2.30	340	*e*Pn	Pb	04 21 25.6	-2.0
ERZN	Erzincan	2.31	278	*e*PN	Pb	04 21 26.9	-1.0
DIY	Diyarbakir	2.38	235	*e*PN	Pb	04 21 28.5	-0.5
DIY	Diyarbakir	2.38	235	*e*Pn	Pb	04 21 28.5	-0.5
KZR	Kazreti	2.47	32	P	Pb	04 21 30.1	-0.5
KZR	Kazreti	2.47	32	P	Pb	04 21 30.1	-0.5
PTK	Pertek	2.59	262	*e*PN	Pb	04 21 31.2	-1.6
PTK	Pertek	2.59	262	*e*Pn	Pb	04 21 31.2	-1.6
EZC	Erzincan	2.62	281	*e*PN	Pb	04 21 31.3	-1.8
EZC	Erzincan	2.62	281	*e*Pn	Pb	04 21 31.3	-1.8
GUMT	Gumushane	2.73	296	*e*PN	Pb	04 21 32.8	-2.2
GUMT	Gumushane	2.73	296	*e*Pn	Pb	04 21 32.8	-2.2
SVRC	Sivrice-ELAZID	2.79	252	*e*PN	Pb	04 21 34.0	-2.1
SVRC	Sivrice-ELAZID	2.79	252	*e*Pn	Pb	04 21 34.1	-2.1
TBLG	Delisi	2.90	32	*e*P	Pg	04 21 39.7	-2.1
TBLG	Delisi	2.90	32	P	Pg	04 21 39.7	-2.1
TBLG				S	Sg	04 22 19.5	+0.2
DGRG	David-gareji	2.98	43	P	Pg	04 21 41.0	-2.4
DGRG				S	Sg	04 22 22.5	+0.6
DUS	Dusheti	3.19	28	P	Pg	04 21 48.0	+0.7
ILIC	ilic-Erzincan	3.19	274	*e*PN	Pn	04 21 39.6	+3.2
ILIC	ilic-Erzincan	3.19	274	*e*Pn	Pn	04 21 39.6	+3.2
ONI	Oni	3.34	10	P	Pn	04 21 40.2	+1.8
ESPY	Espiye-Giresun	3.44	299	*e*PN	Pn	04 21 42.8	+3.1
ESPY	Espiye-Giresun	3.44	299	*e*Pn	Pn	04 21 42.8	+3.1

IDC 11 04:28:36.9±1.8, 13°.72N×93°.11E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/27, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=62.6km s-min=26.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.32	49	Pn	Pn	04 30 24.2	-0.9
	0.6nm,0.3s,baz=243,slow=15,SNR=3.9						
CMAR				Sn	Sn	04 31 42.2	-6.9
	0.5nm,0.3s,baz=244,slow=27,SNR=5.6						
MKAR	Makanchi Array	34.20	347	P	P	04 35 24.1	0.0
	0.4nm,0.8s,baz=157,slow=7.8,SNR=2.7						
WRA	Warramunga Arr	52.58	129	P	P	04 37 52.7	-0.1
	0.8nm,0.7s,baz=302,slow=9.6,SNR=8.5						
WRA				PcP	PcP	04 39 02.3	-0.8
	0.1nm,0.3s,baz=324,slow=3.0,SNR=3.2						
ASAR	Alice Springs	54.52	133	P	P	04 38 07.2	+0.3
	1.0nm,0.4s,baz=310,slow=6.9,SNR=17						

PRE 11 04:30:17.5±3.2, 32°.79S×22°.05E, h5km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	1.12	291	*e*P	Pg	04 30 39.1	-0.3
SUR				*e*S	Sg	04 30 54.3	+0.2
SUR				AML	AML	04 30 58.5	
	comp=Z,205nm,0.3s						
CVNA	Calvinia	2.34	303	*e*P	Pn	04 30 58.2	+1.4
CVNA				*e*S	Sb	04 31 27.9	-1.7
CVNA				AML	AML	04 31 33.5	
	comp=Z,194nm,0.6s						
BUFB	Buffelsbos	2.63	122	*e*P	Pn	04 31 00.8	+0.2
BUFB				*e*S	Sn	04 31 32.0	-0.8
BUFB				AML	AML	04 31 39.9	
	comp=Z,99nm,0.8s						
ELIM	Elim	2.63	226	*e*P	Pn	04 31 00.2	-0.5
ELIM				*e*S	Sn	04 31 31.4	-1.7
ELIM				AML	AML	04 31 44.4	
	comp=Z,194nm,0.4s						
SOE	Somerset East	2.96	89	*e*P	Pn	04 31 06.5	+1.2
SOE				*e*S	Sn	04 31 43.6	+2.3
SOE				AML	AML	04 31 50.4	
	comp=Z,81nm,0.4s						
HVD	Gariep Dam	3.66	54	*e*P	Pn	04 31 16.2	+1.2
HVD				*e*S	Sn	04 32 00.2	+1.4
HVD				AML	AML	04 32 14.1	
	comp=Z,92nm,0.5s						
KOMG	Komaggas	4.92	306	*e*P	Pn	04 31 32.7	+0.6
KOMG				*e*S	Sn	04 32 27.9	-1.6
KOMG				AML	AML	04 32 49.1	
	comp=Z,66nm,0.3s						
BOSA	Boshof	5.00	34	*e*P	Pn	04 31 33.4	0.0
BOSA				*e*S	Sn	04 32 31.6	-0.1
BOSA				AML	AML	04 32 55.7	
	comp=Z,44nm,0.5s						
SWZ	Schweizer	6.28	28	*e*P	Pn	04 31 52.2	+1.3
SWZ				*e*S	Sn	04 32 59.8	-3.4
SWZ				AML	AML	04 33 32.4	
	comp=Z,30nm,0.4s						
SEK	Senekal	6.55	49	*e*S	Sn	04 33 05.9	-4.2
SEK				AML	AML	04 33 44.5	
	comp=Z,47nm,0.6s						
KSD	Kokstad	6.67	72	*e*S	Sn	04 33 10.0	-2.9
KSD				AML	AML	04 33 55.6	
	comp=Z,38nm,0.4s						
PRYS	Parys	7.45	40	*e*S	Sn	04 33 25.5	-6.6
PRYS				AML	AML	04 34 09.2	
	comp=Z,15nm,0.7s						
KSR	Koster	8.11	33	*e*P	Pn	04 32 18.6	+2.5
KSR				*e*S	Sn	04 33 42.1	-6.4
KSR				AML	AML	04 34 38.1	
	comp=Z,14nm,0.5s						
LBTB	Lobatse	8.35	23	*e*P	Pn	04 32 19.5	+0.1
LBTB				*e*S	Sn	04 33 50.1	-4.1
LBTB				AML	AML	04 34 37.6	
	comp=Z,14nm,0.6s						
ERPM	east rand prop	8.39	42	*e*S	Sn	04 33 52.4	-2.9
ERPM				AML	AML	04 34 39.0	
	comp=Z,11nm,0.7s						
SLR	Silverton	8.89	39	*e*S	Sn	04 34 01.5	-6.1
SLR				AML	AML	04 34 55.3	
	comp=Z,15nm,0.6s						

IDC 11 04:37:54.6±0.6, 14°.26N×93°.13E, h0km, mb3.9/18, mb1 4.1/19, mb1mx4.0/32, mbtmp3.9/19, ML4.4/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/38, Error ellipse: s-maj=26.2km s-min=12.4km az=58.0
ISCJB 11 04:37:57.4±0.3, 14°.37N±0°.03×93°.12E±0°.04, h33km, mb4.0/22, MS3.4/5, Error ellipse: s-maj=5.7km s-min=4.7km az=155.9
NEIC 11 04:37:59.9±0.8, 14°.28N×93°.13E, h35km±8km, mb4.4/4, Error ellipse: s-maj=8.4km s-min=6.3km az=74.0
ISC 11 04:37:59.9±0.4, 14°.36N±0°.05×93°.08E±0°.05, h35km, n79, σ1§59/79, mb4.0/22, MS3.5/5, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	1.18	187	*e*P	Pn	04 38 18.6	-1.4
PBA	Port Blair	2.70	187	*e*P	Pn	04 38 39.0	-1.9
CMAR	Chiang Mai Arr	6.95	53	Pn	Pn	04 39 38.4	-0.9
CMAR				Sn	Sn	04 40 55.5	-1.6
CMAR	Chiang Mai Arr	6.95	53	Pn	Pn	04 39 38.4	-0.9
	2.0nm,0.3s,baz=244,slow=15,SNR=9.7						
CMAR				Sn	Sn	04 40 55.5	-1.6
	2.5nm,0.3s,baz=236,slow=25,SNR=3.2						
CMAR				LR	LR	04 42 59.6	
	comp=Z,203nm,18.4s,baz=160,slow=44						
CHTO	Chiang Mai	7.16	51	*e*Pn	Pn	04 39 42.4	+0.3
	18nm,0.5s						
CHTO				*e*S	Sn	04 40 58.8	-3.6
CMBY	CAMPBELL BAY	7.35	173	*e*P	Pn	04 39 44.1	-0.7
VIS	Vishakhapatnam	9.95	291	*e*P	Pn	04 40 19.2	-1.2
SHL	Shillong	11.21	354	*e*P	Pn	04 40 38.4	+0.6
SHL				*i* x	Sn	04 42 35.0	-7.0
BOK	Bokaro	11.59	325	*e*P	Pn	04 40 43.0	+0.1
PSI	Prapat	12.85	153	Pn	Pn	04 41 02.0	+1.7
PSI	Prapat	12.85	153	Pn	Pn	04 41 02.0	+1.7
	0.6nm,0.3s,baz=325,slow=10,SNR=10						
ODAN	Odare	13.53	338	*e*P	Pn	04 41 05.8	-3.8
	48nm,0.6s						
ODAN				*e*S	Sn	04 43 29.1	-10
TAPN	Taplejung	13.86	340	*e*P	Pn	04 41 11.4	-2.8
	34nm,0.4s						
RAMN	Ramite	13.91	335	*e*P	Pn	04 41 12.3	-2.6
	24nm,0.4s						
PALK	Pallekele	14.04	241	*e*Pn	Pn	04 41 15.3	-1.2
PALK				*e*S	Sn	04 43 37.6	-14
HYB	Hyderabad	14.30	284	*i* P	P	04 41 27.0	+0.3
HYB	Hyderabad	14.30	284	*e*P	Pn	04 41 20.0	0.0
HYB				AMB	AMB	04 41 40.2	
	comp=Z,17nm,1.8s						
JIRN	Jiri	14.71	335	*e*P	Pn	04 41 23.1	-2.7
	comp=Z,39nm,0.5s						
PKI	Pulchoki	14.96	333	*e*P	Pn	04 41 26.5	-2.7
	comp=Z,57nm,0.5s						
NGP	Nagpur	14.97	299	*e*x	Pn	04 41 23.8	-5.1
NGP				*e*x	x	04 43 59.5	
PKIN	Phulchoki	14.97	333	*e*P	Pn	04 41 26.4	-2.9
	comp=Z,68nm,0.6s						
DMN	Daman	15.13	332	*e*P	Pn	04 41 28.2	-3.2
	comp=Z,24nm,0.3s						
JBP	Jabalpur	15.18	307	*e*P	Pn	04 41 32.5	+0.8
JBP				*e*x	Sn	04 44 13.7	-4.9
LSA	Lhasa	15.37	354	*e*Pn	Pn	04 41 36.4	+1.7
	comp=Z,11nm,0.4s						
LSA				*e*S	Sn	04 44 24.7	+0.6
KOLN	Koldanda	16.00	328	*e*P	Pn	04 41 38.2	-4.3
	comp=Z,51nm,0.4s						
LATR	Latur	16.35	287	*e*P	P	04 41 48.3	-1.2
LATR				AMB	AMB	04 41 49.4	
	comp=Z,10nm,1.3s						
LATR				*e*S	Sn	04 44 46.0	-1.3
LATR				*e*x	x	04 44 46.0	
LATR				*e*x	x	04 45 01.0	
	comp=N,5.4nm,0.1s						
LATR				⇓*e*x	x	04 45 01.0	
	comp=E,4.0nm,0.1s						
DANN	Dangsing	16.39	330	*e*P	Pn	04 41 45.1	-2.6
	comp=E,26nm,0.5s						
PYUN	Piuthan	16.58	327	*e*P	Pn	04 41 47.0	-3.0
	comp=E,45nm,0.5s						
BHPL	Bhopal	17.24	303	*e*P	P	04 41 59.5	+0.2
POO	Poona	18.90	285	*e*x	x	04 42 40.0	
	comp=E,20nm,1.0s						
NDI	New Delhi	20.48	317	*e*x	x	04 42 46.0	
ENH	Enshi	21.89	41	*e*P	P	04 42 49.6	-0.4
	comp=E,5.8nm,0.6s						
SMLA	Simla	22.18	321	*e*P	P	04 42 53.7	+0.7
DHRM	DHARAMSHALA	23.49	322	*e*P	P	04 43 08.0	+1.1
KAPI	Kappang	32.72	124	LR	LR	04 58 07.3	
	comp=E,24nm,18.1s,baz=142,slow=37						
MK31	Makanchi Array	33.58	347	*e*P	P	04 44 37.9	+1.3
MKAR	Makanchi Array	33.58	347	P	P	04 44 38.0	+1.4
MKAR	Makanchi Array	33.58	347	P	P	04 44 38.0	+1.4
	comp=E,0.9nm,0.7s,baz=157,slow=8.0,SNR=7.9						
SONM	Songino Array	35.16	16	P	P	04 44 51.4	+0.9
SONM	Songino Array	35.16	16	P	P	04 44 51.4	+0.9
	comp=E,0.6nm,0.8s,baz=207,slow=9.5,SNR=4.4						
KURBB	Kurchatov Arra	38.05	345	P	P	04 45 15.8	+1.0
	comp=E,0.8nm,0.6s,baz=164,slow=7.5,SNR=6.4						
KURK	Kurchatov	38.11	345	P	P	04 45 15.8	+0.4
KSRS	Korea Array	38.54	47	LR	LR	05 03 00.3	
	comp=E,43nm,19.6s,baz=225,slow=39						
ZALV	Zalesovo Beam	40.03	352	P	P	04 45 31.1	-0.3
ZALV	Zalesovo Beam	40.03	352	P	P	04 45 31.0	-0.3
	comp=E,0.5nm,0.5s,baz=140,slow=9.2,SNR=2.3						
BVAR	Borovoye Array	42.57	340	P	P	04 45 53.4	+1.1
	comp=E,0.2nm,0.4s,baz=152,slow=6.5,SNR=2.2						
ABKAR	Abkulak array	44.12	329	*e*P	P	04 46 06.0	+1.2
	comp=E,6.3nm,0.7s						
FITZ	Fitzroy Crossi	45.51	134	P	P	04 46 15.1	-1.2
FITZ	Fitzroy Crossi	45.51	134	P	P	04 46 15.1	-1.2
	comp=E,5.2nm,0.5s,baz=326,slow=6.3,SNR=37						
AKTO	Aktyubinsk	45.83	329	P	P	04 46 19.3	+0.9
AKTO	Aktyubinsk	45.83	329	P	P	04 46 19.3	+0.9
	comp=E,0.8nm,0.6s,baz=140,slow=18,SNR=4.1						
NWAO	Narrogin (SRO)	52.38	154	P	P	04 47 07.7	-1.0
NWAO	Narrogin (SRO)	52.38	154	P	P	04 47 07.7	-1.0
	comp=E,6.4nm,0.6s,baz=299,slow=6.0,SNR=4.6						
NWAO				LR	LR	05 07 53.8	
	comp=E,110nm,20.4s,baz=132,slow=34						
WRA	Warramunga Arr	53.00	129	P	P	04 47 12.6	-0.9
WRA				PcP	PcP	04 48 22.1	+0.1
WRA	Warramunga Arr	53.00	129	P	P	04 47 12.6	-0.9
	comp=E,4.1nm,0.8s,baz=313,slow=8.3,SNR=29						
WRA				PcP	PcP	04 48 22.1	+0.1
	comp=E,0.6nm,0.7s,baz=318,slow=3.4,SNR=4.8						
WRAB	Tennant Creek	53.00	129	*e*P	P	04 47 12.6	-0.9
	comp=E,3.9nm,0.8s						
ASAR	Alice Springs	54.97	133	P	P	04 47 27.2	-0.6
ASAR	Alice Springs	54.97	133	P	P	04 47 27.2	-0.6
	comp=E,2.8nm,0.6s,baz=312,slow=6.9,SNR=37						
BRTR	Keskin Array B	57.53	308	P	P	04 47 46.0	-0.2
BRTR	Keskin Array B	57.53	308	P	P	04 47 46.0	-0.2
	comp=E,1.0nm,0.8s,baz=123,slow=10,SNR=3.1						
PETK	Petropavlovsk-	63.45	38	LR	LR	05 18 58.5	
	comp=E,29nm,20.1s,baz=130,slow=39						
STKA	Stephens Creek	65.37	135	P	P	04 48 39.0	0.0
STKA	Stephens Creek	65.37	135	P	P	04 48 39.0	0.0
	comp=E,2.3nm,0.5s,baz=317,slow=4.2,SNR=12						
FINES	FINESS Array B	66.55	331	P	P	04 48 46.1	0.0
FINES	FINESS Array B	66.55	331	P	P	04 48 46.1	0.0
	comp=E,0.8nm,0.7s,baz=94,slow=14,SNR=3.1						
ARCES	ARCESS Array B	68.86	340	P	P	04 49 00.9	+0.4
ARCES	ARCESS Array B	68.86	340	P	P	04 49 00.9	+0.4
	comp=E,1.1nm,0.8s,baz=90,slow=8.1,SNR=4.4						
ARCES				LR	LR	05 23 41.0	
	comp=E,34nm,19.9s,baz=14,slow=40						
GERES	GERESS Array B	72.36	317	P	P	04 49 25.0	+2.6
GERES	GERESS Array B	72.36	317	P	P	04 49 25.0	+2.6
	comp=E,0.4nm,0.6s,baz=106,slow=7.2,SNR=3.7						
NB2	NORSAR Subarra	73.62	330	P	P	04 49 32.4	+2.8
	comp=Z,1.3nm,0.6s,baz=89,slow=6.2						
BOSA	Boshof	78.21	236	P	P	04 49 57.0	+0.5
BOSA	Boshof	78.21	236	P	P	04 49 57.0	+0.5
	comp=Z,2.0nm,0.7s,baz=28,slow=5.5,SNR=4.7						
TORD	Torodi Ar. Bea	88.11	283	P	P	04 50 47.5	-0.1
TORD	Torodi Ar. Bea	88.11	283	P	P	04 50 47.5	-0.1
	comp=Z,0.4nm,0.6s,baz=69,slow=3.5,SNR=5.9						
ILAR	Eielson Array	89.16	22	P	P	04 50 50.6	-1.0
ILAR	Eielson Array	89.16	22	P	P	04 50 50.6	-1.0
	comp=Z,0.2nm,0.8s,baz=303,slow=5.2,SNR=2.4						
TXAR	Lajitas Array	133.65	20	PKP	PKPdf	04 57 13.6	-0.1
TXAR	Lajitas Array	133.65	20	PKP	PKPdf	04 57 13.6	-0.1
	comp=Z,0.1nm,0.5s,baz=20,slow=2.9,SNR=2.1						

IDC 11 04:46:02.7±7.6, 6°.88S×129°.82E, h62km±63km, mb3.5/2, mb1 4.1/5, mb1mx3.6/20, mbtmp4.0/5, ML4.3/3, Error ellipse: s-maj=91.9km s-min=25.1km az=52.0
AUST 11 04:46:10.7, 7°.48S×129°.54E, h60km
ISC 11 04:46:05.9±1.6, 7°.1S±0°.1×129°.6E±0°.1, h104km, n23, σ2§05/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.91	32	P	Pn	04 47 28.9	+11
	baz=5.3,SNR=9.3						
FAKI				S	Sn	04 48 26.1	+13
	baz=5.3,SNR=14						
MTN	Manton Dam	5.88	166	P	Pn	04 47 35.0	+4.5
	baz=5.6,SNR=100						
MTN				S	Sn	04 48 36.0	-0.6
	baz=5.6,SNR=5.2						
SOEI	Soe	5.93	243	P	Pn	04 47 32.1	+0.7
	baz=5.7,SNR=6.0						
SOEI				S	Sn	04 48 33.2	-4.9
	baz=5.7,SNR=7.0						
KDU	Kakadu	6.20	154	P	Pn	04 47 40.2	+5.3
	baz=6.0,SNR=138						
KDU				S	Sn	04 48 45.5	+1.1
	baz=6.0,SNR=7.0						
SWI	Sorong	6.42	15	P	Pn	04 47 50.8	+13
	baz=6.8,SNR=3.1						
BATI	Baumata	6.66	242	P	Pn	04 47 42.4	+1.1
	8.7nm,0.3s,baz=68,slow=11,SNR=4.0						
BATI				S	Sn	04 48 49.5	-6.3
	16nm,0.3s,baz=142,slow=23,SNR=9.5						
KNRA	Kununurra	8.55	186	P	Pn	04 48 07.0	+0.1
	baz=8.2,SNR=46						
KNRA				S	Sn	04 49 32.3	-9.5
	baz=8.2,SNR=8.2						
WSI	Waingapu	9.59	254	S	Sn	04 49 41.6	-25
	baz=9.4,SNR=3.5						
FITZ	Fitzroy Crossi	11.60	199	P	Pn	04 48 45.2	-3.0
	1.3nm,0.3s,baz=20,slow=10.0,SNR=76						
FITZ				S	Sn	04 50 41.5	-14
	1.6nm,0.3s,baz=77,slow=21

EAZ				AML	AML	04 52 22.2	
EAZ				AML	AML	04 52 22.2	
EAZ				AML	AML	04 52 23.7	
TUZ	**Tuapeka**	**2.23**	**91**	PN	Pn	04 51 46.4	+1.1
TUZ				AML	AML	04 52 15.9	
TUZ				AML	AML	04 52 16.1	
LBZ	**Lake Benmore**	**3.08**	**61**	PN	Pn	04 51 59.2	+2.0
LBZ				AML	AML	04 52 57.3	
ODZ	**Otahua Downs**	**3.10**	**74**	PN	Pn	04 51 57.4	+0.1

IDC 11 05:11:22.2±1.2, 14°.06N×93°.12E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/27, mbtmp3.5/4, Error ellipse: s-maj=70.3km s-min=24.9km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.87**	**347**	P	P	05 18 06.6	0.0
	0.3nm,0.7s,baz=179,slow=7.2,SNR=2.9						
FITZ	**Fitzroy Crossi**	**45.27**	**134**	P	P	05 19 42.3	+0.5
	0.5nm,0.5s,baz=339,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**52.78**	**129**	P	P	05 20 38.8	-0.7
	0.3nm,0.7s,baz=308,slow=8.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**88.22**	**283**	P	P	05 24 15.9	-0.1
	0.3nm,0.8s,baz=71,slow=2.6,SNR=2.6						

IDC 11 05:18:29.9±2.0, 24°.18N×121°.89E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/25, mbtmp3.8/4, Error ellipse: s-maj=257.5km s-min=22.0km az=68.0
ISCJB 11 05:18:36.8±0.3, 24°.28N±0°.02×122°.34E±0°.02, h64km±4km, mb3.6/4, Error ellipse: s-maj=4.1km s-min=2.6km az=162.8
JMA 11 05:18:37.8±0.2, 24°.46N×122°.38E, h68km, M3.4
TAP 11 05:18:37.5, 24°.29N×122°.29E, h60km, ML3.9, C
ISC 11 05:18:37.1±0.9, 24°.27N±0°.03×122°.33E±0°.02, h55km±8km, n55, σ1°.01/95, mb3.8/4, 13C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.54**	**274**	*e*P	**Pn**	**05 18 49.4**	**+0.1**
	baz=278						
TWC	**Suao**	**0.55**	**308**	⇑P	**Pn**	**05 18 49.8**	**+0.4**
	baz=309						
TWC				S	**Sn**	**05 18 58.2**	**0.0**
	baz=309						
ENA	**Nanau**	**0.56**	**286**	P	**Pn**	**05 18 49.9**	**+0.4**
	baz=291						
ENA				S	**Sn**	**05 18 58.7**	**+0.3**
	baz=291						
YOJ	**Yonaguni jima**	**0.65**	**73**	P	**Pn**	**05 18 51.2**	**+0.7**
YOJ				S	**Sn**	**05 19 01.1**	**+0.9**
TWD	**Chiawan**	**0.70**	**254**	⇑*i*P	**Pn**	**05 18 51.1**	**+0.1**
	baz=244						
TWD				*i* S	**Sn**	**05 19 01.2**	**-0.1**
	baz=244						
HWA	**Hwalien**	**0.72**	**246**	⇑*i*P	**Pn**	**05 18 51.8**	**+0.4**
	baz=244						
HWA				S	**Sn**	**05 19 02.6**	**+0.7**
	baz=244						
ILA	**Ilan**	**0.72**	**313**	*e*P	**Pn**	**05 18 52.1**	**+0.7**
	baz=322						
ILA				*e*S	**Sn**	**05 19 03.2**	**+1.3**
	baz=322						
TWE	**Neicheng**	**0.75**	**307**	*e*P	**Pn**	**05 18 52.6**	**+0.8**
	baz=313						
TWE				*e*S	**Sn**	**05 19 03.3**	**+0.8**
	baz=313						
ENTT	**Nioudou**	**0.79**	**298**	⇑*i*P	**Pn**	**05 18 53.1**	**+0.8**
	baz=292						
ENTT				*i* S	**Sn**	**05 19 04.3**	**+0.9**
	baz=292						
TWB1	**Santiao Chiao**	**0.80**	**337**	⇑*i*P	**Pn**	**05 18 52.4**	**0.0**
	baz=329						
TWB1				*i* S	**Sn**	**05 19 02.8**	**-0.8**
	baz=329						
NNS	**Nan Shan**	**0.89**	**281**	⇑P	**Pn**	**05 18 54.0**	**+0.3**
	baz=281						
NNS				*e*S	**Sn**	**05 19 06.0**	**+0.1**
	baz=281						
TEGC	**Jichi Village**	**0.91**	**232**	*e*P	**Pn**	**05 18 54.2**	**+0.3**
	baz=223						
ESL	**Shilin**	**0.94**	**241**	P	**Pn**	**05 18 54.2**	**0.0**
	baz=239						
ESL				*e*S	**Sn**	**05 19 06.5**	**-0.3**
	baz=239						
NWF	**Wu-fen Shan**	**0.94**	**328**	*e*P	**Pn**	**05 18 54.5**	**+0.1**
	baz=329						
NWF				*e*S	**Sn**	**05 19 06.6**	**-0.3**
	baz=329						
NSK	**Sanguang**	**0.97**	**295**	⇑*i*P	**Pn**	**05 18 55.4**	**+0.7**
	baz=288						
NSK				S	**Sn**	**05 19 08.2**	**+0.4**
	baz=288						
TWA	**Mucha**	**0.98**	**316**	*e*P	**Pn**	**05 18 55.7**	**+0.9**
	baz=328						
TWA				S	**Sn**	**05 19 07.6**	**-0.2**
	baz=328						
WHF	**Hehuan Shan**	**0.98**	**263**	⇑*i*P	**Pn**	**05 18 55.4**	**+0.2**
	baz=253						
WHF				S	**Sn**	**05 19 08.2**	**-0.2**
	baz=253						
TAP1	**Taipei**	**1.06**	**316**	*e*P	**Pn**	**05 18 56.8**	**+1.0**
	baz=328						
TAP1				*e*S	**Sn**	**05 19 09.8**	**+0.2**
	baz=328						
TAP	**Taipei**	**1.07**	**316**	*e*P	**Pn**	**05 18 56.5**	**+0.6**
	baz=328						
TAP				*e*S	**Sn**	**05 19 10.0**	**0.0**
	baz=328						
EHY	**Hungye**	**1.20**	**231**	*e*P	**Pn**	**05 18 57.3**	**-0.4**
	baz=229						
EHY				*e*S	**Sn**	**05 19 12.2**	**-0.7**
	baz=229						
TWY	**Chenhua**	**1.20**	**327**	*e*P	**Pn**	**05 18 59.0**	**+1.3**
	baz=328						
TWY				*e*S	**Sn**	**05 19 12.8**	**-0.2**
	baz=328						
NCU	**National Centr**	**1.25**	**304**	*e*P	**Pn**	**05 18 58.9**	**+0.5**
	baz=304						
NCU				*e*S	**Sn**	**05 19 14.9**	**+0.6**
	baz=304						
IRIF	**Iriomote-Funau**	**1.28**	**87**	P	**Pn**	**05 18 59.1**	**+0.4**
IRIF				S	**Sn**	**05 19 15.3**	**+0.5**
TWF1	**Yuli**	**1.32**	**226**	⇑*i*P	**Pn**	**05 18 59.2**	**-0.1**
	baz=235						
TWF1				*e*S	**Sn**	**05 19 15.2**	**-0.6**
	baz=235						
HATJ	**Hateruma jima**	**1.36**	**99**	P	**Pn**	**05 19 01.2**	**+1.3**
HATJ				S	**Sn**	**05 19 18.7**	**+1.8**
SMLT	**Sun Moon Lake**	**1.36**	**254**	⇑P	**Pn**	**05 19 00.8**	**+0.8**
	baz=247						
SMLT				*e*S	**Sn**	**05 19 18.0**	**+0.9**
	baz=247						
PCYT	**Pengchaiyu**	**1.37**	**350**	*e*P	**Pn**	**05 19 01.0**	**+0.9**
	baz=343						
TYC	**Yuchr**	**1.40**	**255**	⇑P	**Pn**	**05 19 01.1**	**+0.8**
	baz=249						
TYC				*e*S	**Sn**	**05 19 18.9**	**+1.2**
	baz=249						
TWQ1	**Liyutan**	**1.42**	**273**	*e*P	**Pn**	**05 19 01.9**	**+1.2**
	baz=273						
NSY	**Sanyi**	**1.44**	**276**	*e*P	**Pn**	**05 19 02.2**	**+1.3**
	baz=276						
NSY				*e*S	**Sn**	**05 19 20.2**	**+1.4**
	baz=276						
CHKT	**Chengkung**	**1.46**	**217**	*e*P	**Pn**	**05 19 00.7**	**-0.6**
	baz=208						
CHKT				*e*S	**Sn**	**05 19 17.4**	**-2.0**
	baz=208						
YUS	**Yu-Shan**	**1.48**	**239**	⇑*i*P	**Pn**	**05 19 02.9**	**+0.9**
	baz=237						
YUS				S	**Sn**	**05 19 20.6**	**+0.1**
	baz=237						
TCU	**Taichung**	**1.52**	**266**	*e*P	**Pn**	**05 19 03.3**	**+1.4**
	baz=278						
JKRS	**Kuro-shima**	**1.53**	**91**	P	**Pn**	**05 19 03.3**	**+1.1**
JKRS				S	**Sn**	**05 19 22.4**	**+1.4**
WNT	**Mingjian**	**1.56**	**256**	*e*P	**Pn**	**05 19 04.2**	**+1.7**
	baz=255						
WNT				*e*S	**Sn**	**05 19 24.3**	**+2.8**
	baz=255						
ALS	**Alishan**	**1.59**	**242**	*e*P	**Pn**	**05 19 04.2**	**+1.0**
	baz=233						
CHN5	**Tsauling**	**1.66**	**246**	*e*P	**Pn**	**05 19 05.3**	**+1.4**
	baz=237						
CHN5				*e*S	**Sn**	**05 19 25.5**	**+1.3**
	baz=237						
JIJ	**Ishigaki jima**	**1.66**	**86**	P	**Pn**	**05 19 04.1**	**+0.3**
JIJ				S	**Sn**	**05 19 23.8**	**-0.2**
WGK	**Gukeng**	**1.72**	**251**	*e*P	**Pn**	**05 19 06.2**	**+1.5**
	baz=240						
WGK				*e*S	**Sn**	**05 19 28.3**	**+2.7**
	baz=240						
TWG	**Pinlang**	**1.85**	**219**	⇑P	**Pn**	**05 19 06.1**	**-0.4**
	baz=225						
TWG				*e*S	**Sn**	**05 19 27.8**	**-0.9**
	baz=225						
CHY	**Chiayi**	**1.91**	**247**	*e*P	**Pn**	**05 19 08.5**	**+1.2**
	baz=246						
WTCT	**Ta-ch'eng**	**1.92**	**258**	*e*P	**Pn**	**05 19 08.1**	**+0.7**
	baz=258						
WTCT				*e*S	**Sn**	**05 19 31.2**	**+0.8**
	baz=258						
CHN1	**Nanshi**	**1.97**	**237**	*e*P	**Pn**	**05 19 09.5**	**+1.3**
	baz=237						
CHN1				*e*S	**Sn**	**05 19 34.0**	**+2.1**
	baz=237						
WSF	**Szhu**	**2.03**	**252**	*e*P	**Pn**	**05 19 09.9**	**+1.0**
	baz=264						
WSF				*e*S	**Sn**	**05 19 35.0**	**+1.9**
	baz=264						
JTJ	**Tarama**	**2.19**	**80**	P	**Pn**	**05 19 12.1**	**+1.0**
JTJ				S	**Sn**	**05 19 37.3**	**+0.2**
SCZT	**Fangliau**	**2.46**	**220**	*e*P	**Pn**	**05 19 16.7**	**+1.9**
	baz=216						
SCZT				*e*S	**Sn**	**05 19 44.9**	**+1.2**
	baz=216						
PNG	**Penghu**	**2.63**	**255**	*e*P	**Pn**	**05 19 17.2**	**0.0**
	baz=256						
PNG				*e*S	**Sn**	**05 19 47.1**	**-0.9**
	baz=256						
WDGT	**Dungji**	**2.65**	**248**	*e*P	**Pn**	**05 19 18.3**	**+1.0**
	baz=248						
JKE	**Kume jima 2**	**4.52**	**62**	P	**Pn**	**05 19 44.1**	**+1.0**
JAGN	**Aguni-jima**	**5.00**	**61**	P	**Pn**	**05 19 50.3**	**+0.6**
JOW	**Kunigami**	**5.94**	**63**	P	**Pn**	**05 20 01.9**	**-0.7**
SONM	**Songino Array**	**26.71**	**336**	P	**P**	**05 24 10.6**	**-0.7**
	0.7nm,0.9s,baz=141,slow=7.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**40.74**	**327**	P	**P**	**05 26 10.8**	**-1.7**
	0.6nm,0.4s,baz=123,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**45.48**	**164**	P	**P**	**05 26 50.7**	**-0.3**
	0.8nm,0.5s,baz=346,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**48.96**	**166**	P	**P**	**05 27 18.6**	**+0.5**
	0.4nm,0.3s,baz=346,slow=7.4,SNR=7.5						

IDC 11 05:23:16.9±7.3, 2°.75N×126°.66E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/32, Error ellipse: s-maj=173.2km s-min=113.5km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**23.73**	**121**	LR	LR	05 36 49.7	
	comp=Z,54nm,19.6s,baz=50,slow=34						
WRA	**Warramunga Arr**	**23.78**	**162**	P	P	05 28 30.9	-0.5
	2.2nm,0.7s,baz=341,slow=10,SNR=23						
ASAR	**Alice Springs**	**27.19**	**165**	P	P	05 29 02.5	0.0
	0.2nm,0.3s,baz=353,slow=7.0,SNR=4.7						
STKA	**Stephens Creek**	**37.25**	**159**	P	P	05 30 30.8	+0.4
	1.9nm,0.8s,baz=324,slow=9.1,SNR=3.7						

MEX 11 05:29:04.4±1.1, 17°.00N×94°.90W, h95km±30km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.69**	**224**	*e*P	Pn	05 29 30.7	-2.1
HUIG				*e*S	Sn	05 29 53.4	-1.1
TGIG		**1.71**	**97**	*e*P	Pn	05 29 32.3	-0.9
TGIG				*i* S	Sn	05 29 53.2	-1.8
OXX	**Oaxaca**	**1.75**	**273**	*i* P	Pn	05 29 40.5	+6.7
OXX				*i* S	Sn	05 30 02.4	+6.2
TPIG	**Tehuac#an**	**2.74**	**301**	*e*P	Pn	05 29 45.3	-1.5
TPIG				*i* S	Sn	05 30 17.5	-1.9
PNIG	**Pinotepa**	**3.15**	**259**	*e*P	Pn	05 29 51.5	-0.7
PNIG				*i* S	Sn	05 30 28.2	-0.8
YAIG	**Yautepec**	**4.38**	**296**	*i* P	Pn	05 30 07.3	-1.6
YAIG				*i* S	Sn	05 30 58.5	-0.5

IDC 11 05:30:01.3±1.4, 10°.83N×93°.27E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.6/28, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=52.8km s-min=26.6km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.36**	**35**	Pn	Pn	05 32 19.2	+1.6
	0.5nm,0.3s,baz=225,slow=15,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.54**	**353**	P	P	05 38 06.1	-0.5
	0.5nm,0.4s,baz=159,slow=7.2,SNR=3.6						
BVAR	**Borovoye Array**	**45.94**	**341**	P	P	05 38 23.8	-2.1
	0.3nm,0.4s,baz=142,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**50.69**	**127**	P	P	05 39 02.7	-0.4
	0.5nm,1.0s,baz=309,slow=7.9,SNR=3.3						
FINES	**FINESS Array B**	**69.72**	**332**	P	P	05 41 13.1	+0.2
	1.7nm,0.7s,baz=98,slow=5.8,SNR=8.7						
ARCES	**ARCESS Array B**	**72.22**	**340**	P	P	05 41 28.4	+0.5
	1.5nm,0.9s,baz=82,slow=7.4,SNR=4.0						
GERES	**GERESS Array B**	**75.07**	**318**	P	P	05 41 46.3	+1.0
	1.0nm,0.6s,baz=71,slow=4.5,SNR=5.1						
NOA	**NORSAR Array B**	**76.76**	**330**	P	P	05 41 54.4	-0.1
	0.8nm,0.7s,baz=91,slow=5.7,SNR=3.2						

IDC 11 05:33:10.8±5.1, 13°.85N×92°.93E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/28, mbtmp3.5/4, Error ellipse: s-maj=113.0km s-min=48.2km az=107.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.37**	**51**	Pn	Pn	05 34 59.8	0.0
	baz=239,slow=17,SNR=2.6						
CMAR				Sn	Sn	05 36 14.9	-9.3
	0.4nm,0.3s,baz=244,slow=26,SNR=4.5						
FITZ	**Fitzroy Crossi**	**45.26**	**134**	P	P	05 41 29.9	-0.5
	0.5nm,0.4s,baz=327,slow=8.4,SNR=8.4						
WRA	**Warramunga Arr**	**52.80**	**129**	P	P	05 42 28.1	-0.2
	0.9nm,1.1s,baz=311,slow=8.0,SNR=4.7						
WRA				PcP	PcP	05 43 37.9	0.0
	0.1nm,0.5s,baz=320,slow=3.1,SNR=2.8						
ASAR	**Alice Springs**	**54.73**	**133**	P	P	05 42 42.5	+0.1
	0.3nm,0.4s,baz=308,slow=6.7,SNR=8.4						

TEH 11 05:42:43.0, 26°.86N×55°.02E, h18km, ML3.5
THR 11 05:42:44.7±0.3, 26°.73N×55°.16E, h44km±5km, ML3.5
CSEM 11 05:42:45.8±0.2, 27°.02N×55°.05E, h2km, ML3.5, Error ellipse: s-maj=5.1km s-min=3.7km az=74.0
ISCJB 11 05:42:46.5±0.5, 27°.04N±0°.04×54°.99E±0°.05, h17km, Error ellipse: s-maj=6.6km s-min=5.0km az=158.7
ISC 11 05:42:45.7±1.1, 26°.90N±0°.04×55°.05E±0°.06, h17km, n28, σ0°.74/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.11**	**63**	*e*Pg	**Pb**	**05 43 05.9**	**-0.7**
BNDS				*e*Sg	**Sn**	**05 43 21.4**	**-0.3**
BNDS				AML	AML	05 43 26.5	
	comp=N,1μm,0.7s						
BNDS				AML	AML	05 43 30.8	
	comp=E,891nm,0.4s						
BNDS	**Bandar-Abbas**	**1.11**	**63**	*e*Pg	**Pb**	**05 43 05.9**	**-0.7**
BNDS				*e*Sg	**Sn**	**05 43 21.4**	**-0.3**
IBND	**Bandar-abas**	**1.43**	**67**	*e*Pg	**Pb**	**05 43 11.7**	**-0.3**
IBND				*e*Sg	**Sg**	**05 43 32.9**	**+0.9**
IBND				*e*		05 43 37.1	
	comp=Z,16μm,0.2s						
IBND	**Bandar-abas**	**1.43**	**67**	*e*Pg	**Pb**	**05 43 11.7**	**-0.3**
IBND				*e*Sg	**Sg**	**05 43 32.9**	**+0.9**
BANOM	**Banah**	**1.48**	**131**	P	**Pg**	**05 43 13.6**	**-0.6**
BANOM				S	**Sg**	**05 43 35.0**	**+1.5**
NAZ	**Nazwa, Dubai**	**1.98**	**164**	P	**Pg**	**05 43 22.7**	**-1.0**
FAQ	**Al Faqa, Dubai**	**2.20**	**167**	P	**Pb**	**05 43 25.2**	**+0.2**
ASUD	**Al Ashush, Dub**	**2.28**	**174**	P	**Pb**	**05 43 26.3**	**0.0**
HATD	**Hatta, Dubai**	**2.28**	**155**	P	**Pb**	**05 43 26.3**	**-0.1**
GHIR	**Ghir-Karzin**	**2.30**	**307**	*e*Pn	**Pn**	**05 43 24.0**	**+1.1**
GHIR				AML	AML	05 44 05.5	
	comp=E,168nm,0.3s						
GHIR				AML	AML	05 44 21.5	
	comp=N,188nm,0.8s						
GHIR	**Ghir-Karzin**	**2.30**	**307**	*e*Pn	**Pn**	**05 43 24.0**	**+1.1**
ASHO	**Ashiyiah**	**2.38**	**157**	P	**Pb**	**05 43 26.9**	**-1.3**
KRBR	**Kerman**	**3.42**	**26**	*e*Pn	**Pn**	**05 43 38.8**	**+0.2**
KRBR	**Kerman**	**3.42**	**26**	*e*Pn	**Pn**	**05 43 38.8**	**+0.2**
IPAR	**Pars**	**3.42**	**329**	*e*Pn	**Pn**	**05 43 39.0**	**+0.4**
IPAR				*e*		05 44 52.3	
	comp=Z,970nm,0.5s						
IPAR	**Pars**	**3.42**	**329**	*e*Pn	**Pn**	**05 43 39.0**	**+0.4**
IMEH	**Mehriz**	**4.49**	**355**	*e*Pn	**Pn**	**05 43 53.9**	**+0.7**
IMEH				*e*		05 44 03.6	
	comp=Z,208nm,0.2s						
IMEH	**Mehriz**	**4.49**	**355**	*e*Pn	**Pn**	**05 43 53.9**	**+0.7**
IBAF	**Bafgh**	**4.70**	**5**	*e*Pn	**Pn**	**05 43 56.2**	**+0.2**
IBAF				*e*		05 44 00.3	
	comp=Z,543nm,0.2s						
IBAF	**Bafgh**	**4.70**	**5**	*e*Pn	**Pn**	**05 43 56.2**	**+0.2**
ISAD	**Sadrabad**	**5.14**	**347**	*e*Pn	**Pn**	**05 44 02.9**	**+0.7**
ISAD				*e*		05 44 26.1	
	comp=Z,172nm,0.2s						
ISAD	**Sadrabad**	**5.14**	**347**	*e*Pn	**Pn**	**05 44 02.9**	**+0.7**
IZEF	**Zefreh**	**6.43**	**339**	*e*Pn	**Pn**	**05 44 19.1**	**-0.8**
IZEF				*e*		05 44 49.7	
	comp=Z,99nm,0.1s						
IZEF	**Zefreh**	**6.43**	**339**	*e*Pn	**Pn**	**05 44 19.1**	**-0.8**
IKOO	**Kooshah**	**6.49**	**31**	*e*Pn	**Pn**	**05 44 21.6**	**+0.9**
IKOO				*e*		05 46 28.8	
	comp=N,71nm,0.2s						
IKOO	**Kooshah**	**6.49**	**31**	*e*Pn	**Pn**	**05 44 21.6**	**+0.9**
TABS	**Tabas**	**6.96**	**14**	*e*Pn	**Pn**	**05 44 27.7**	**+0.7**
TABS	**Tabas**	**6.96**	**14**	*e*Pn	**Pn**	**05 44 27.7**	**+0.7**

IDC 11 05:44:59.2±1.3, 13°.82N×93°.02E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, Error ellipse: s-maj=79.0km s-min=24.8km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.08**	**347**	P	P	05 51 45.0	-0.4
	0.6nm,0.7s,baz=148,slow=8.5,SNR=4.8						
FITZ	**Fitzroy Crossi**	**45.18**	**134**	P	P	05 53 18.0	-0.2
	0.8nm,0.5s,baz=319,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**52.71**	**129**	P	P	05 54 15.8	-0.2
	0.6nm,0.8s,baz=306,slow=9.4,SNR=5.7						
WRA				PcP	PcP	05 55 25.6	-0.3
	0.2nm,0.4s,baz=324,slow=3.3,SNR=6.8						
ASAR	**Alice Springs**	**54.65**	**133**	P	P	05 54 30.4	+0.1
	0.5nm,0.5s,baz=307,slow=6.5,SNR=11						
TORD	**Torodi Ar. Bea**	**88.18**	**283**	P	P	05 57 53.2	+0.3
	0.4nm,0.9s,baz=57,slow=4.5,SNR=2.4						

IDC 11 05:48:44.3±0.5, 25°.58N×101°.00E, h0km, mb4.3/22, mb1 4.3/23, mb1mx4.2/32, mbtmp4.2/23, ML3.8/1, MS3.3/6, Ms1 3.4/6, ms1mx2.9/40, Error ellipse: s-maj=16.1km s-min=11.5km az=72.0
BJI 11 05:48:45.0, 25°.54N×101°.07E, h6km, mB4.9/4, mb4.4/9, ML4.1/15, Ms4.1/3, Ms7 3.9/3
NEIC 11 05:48:49.5±0.3, 25°.53N×100°.97E, h35km, mb4.2/3, Error ellipse: s-maj=8.5km s-min=6.2km az=91.0
ISC 11 05:48:45.7±2.1, 25°.51N±0°.06×100°.93E±0°.07, h10km±13km, n69, σ1°.17/84, mb4.4/29, MS3.4/5, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.68**	**103**	Pn	**Pn**	**05 49 14.5**	**-0.9**
KMI				Sn	**Sn**	**05 49 36.9**	**-0.2**
KMI				smax	smax		
	comp=N,2μm,1.0s						
KMI				smax	smax		
	comp=E,2μm,1.2s						
GYA	**Guiyang**	**5.24**	**78**	⇓*i*Pn	**Pn**	**05 50 06.3**	**+2.0**
GYA				smax	smax		
	comp=N,110nm,0.7s						
GYA				smax	smax		
	comp=E,100nm,0.8s						
CD2	**Chengdu**	**5.93**	**24**	Pn	**Pn**	**05 50 15.8**	**+2.1**
CD2				Sn	**Sn**	**05 51 23.8**	**+2.1**
CD2				Sg	Sb	05 51 47.6	+7.3
CD2				smax	smax		
	comp=N,430nm,1.2s						
CD2				smax	smax		
	comp=E,410nm,1.4s						
CD2				LR	LR		
	comp=N,820nm,5.4s						
CD2				LR	LR		
	comp=E,1μm,7.2s						
CD2				LR	LR		
	comp=Z,740nm,7.4s						
CHTO	**Chiang Mai**	**6.91**	**196**	*e*Pn	**Pn**	**05 50 27.0**	**-0.2**
	comp=Z,5.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.26**	**195**	Pn	**Pn**	**05 50 34.4**	**+2.4**
CMAR				Pg	**Pg**	**05 51 02.9**	**-1.9**
CMAR				Lg	Lg	05 52 38.3	
CMAR	**Chiang Mai Arr**	**7.26**	**195**	Pn	**Pn**	**05 50 34.4**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=14,slow=12,SNR=8.2						
CMAR				Pg	**Pg**	**05 51 02.9**	**-1.9**
	baz=8.2,slow=18,SNR=4.7						
CMAR				Lg	Lg	05 52 38.3	
	comp=Z,1.5nm,0.3s,baz=13,slow=26,SNR=4.6						
CMAR				LR	LR	05 53 52.0	
	comp=Z,182nm,18.3s,baz=307,slow=42						
ENH	**Enshi**	**8.93**	**56**	*e*Pn	**Pn**	**05 50 55.3**	**+0.4**
	comp=Z,18nm,0.7s						
LZH	**Lanzhou**	**10.84**	**13**	*e*P	**Pn**	**05 51 22.1**	**+1.0**
LZH				pP		05 51 25.5	
LZH				sP		05 51 27.2	
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN	**Xi'an**	**10.97**	**37**	P	**Pn**	**05 51 22.5**	**-0.3**
XAN				LR	LR		
	comp=N,210nm,6.5s						
XAN				LR	LR		
	comp=E,110nm,7.0s						
XAN				LR	LR		
	comp=Z,100nm,7.2s						
GTA	**Gaotai**	**13.89**	**356**	P	**P**	**05 52 12.6**	**+1.4**
GTA				pP	pP	05 52 15.0	
GTA				sP		05 52 18.6	
GTA				S	**S**	**05 54 56.1**	**-3.3**
GTA				SS	SnSn	05 55 10.4	+20
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA				pmax	pmax		
	comp=Z,54nm,4.8s						
GTA				LR	LR		
	comp=N,240nm,10.9s						
GTA				LR	LR		
	comp=E,290nm,10.0s						
GTA				LR	LR		
	comp=Z,230nm,12.8s						
PSI	**Prapat**	**22.66**	**185**	P	**P**	**05 53 50.1**	**+2.7**
PSI	**Prapat**	**22.66**	**185**	P	**P**	**05 53 50.1**	**+2.7**
	comp=Z,12nm,0.8s,baz=342,slow=8.9,SNR=9.1						
SONM	**Songino Array**	**22.70**	**10**	P	**P**	**05 53 47.5**	**-0.1**
SONM	**Songino Array**	**22.70**	**10**	P	**P**	**05 53 47.5**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=188,slow=8.5,SNR=14						
ULN

KURBB PcP **PcP** **05 57 56.6 -1.0**
comp=Z,0.7nm,0.3s,baz=141,slow=2.3,SNR=4.9
KURK Kurchatov 30.45 332 P **P** **05 54 58.9 +0.5**
KURK PcP **PcP** **05 57 56.6 -1.0**
ZAA0 Zalesovo Array 30.84 341 *e*P **P** **05 55 01.8 0.0**
ZALV Zalesovo Beam 30.84 341 P **P** **05 55 02.0 +0.3**
ZALV Zalesovo Beam 30.84 341 P **P** **05 55 02.0 +0.3**
comp=Z,4.8nm,0.9s,baz=152,slow=10,SNR=9.6
USRK Ussuriysk Arra 31.32 46 P **P** **05 55 04.4 -1.7**
comp=Z,5.3nm,0.9s,baz=239,slow=7.3,SNR=11
MJAR Matsushiro Arr 33.59 62 LR LR 06 10 30.7
comp=Z,77nm,19.5s,baz=225,slow=39
BVAR Borovoye Array 35.76 328 P **P** **05 55 45.5 +0.7**
BVAR PcP **PcP** **05 58 10.9 -1.6**
BVAR Borovoye Array 35.76 328 P **P** **05 55 45.5 +0.7**
comp=Z,1.3nm,0.6s,baz=114,slow=10.0,SNR=7.0
BVAR PcP **PcP** **05 58 10.9 -1.6**
comp=Z,1.6nm,0.7s,baz=123,slow=5.5,SNR=7.2
ASAJ Asahikawa 38.43 50 P **P** **05 56 07.2 -0.3**
ASAJ Asahikawa 38.43 50 P **P** **05 56 07.2 -0.3**
comp=Z,6.0nm,0.5s,baz=287,slow=19,SNR=6.7
ABKAR Akbulak array 39.60 318 *e*P **P** **05 56 18.4 +1.1**
comp=Z,3.5nm,0.7s
AKTO Aktyubinsk 41.20 319 P **P** **05 56 30.7 +0.3**
AKTO PcP **PcP** **05 58 27.9 -1.6**
AKTO Aktyubinsk 41.20 319 P **P** **05 56 30.7 +0.3**
comp=Z,2.1nm,0.6s,baz=112,slow=8.3,SNR=13
AKTO PcP **PcP** **05 58 27.9 -1.6**
comp=Z,0.9nm,0.7s,baz=198,slow=20,SNR=3.0
RDF Al-Radifah 47.27 287 *e*P **P** **05 57 19.8 +0.3**
RDF AMb AMB 05 57 24.7
comp=Z,38nm,1.3s
MIB Mutribah 47.32 288 *e*P **P** **05 57 20.1 +0.3**
MIB AMb AMB 05 57 23.4
comp=Z,16nm,1.0s
NAY Al-Naaiem 47.48 287 *e*P **P** **05 57 21.3 +0.2**
NAY AMb AMB 05 57 22.7
comp=Z,17nm,1.1s
WRA Warramunga Arr 55.64 141 P **P** **05 58 22.3 +0.2**
WRA Warramunga Arr 55.64 141 P **P** **05 58 22.3 +0.2**
comp=Z,7.6nm,0.8s,baz=330,slow=7.9,SNR=50
ASAR Alice Springs 58.39 144 P **P** **05 58 42.2 +0.6**
ASAR Alice Springs 58.39 144 P **P** **05 58 42.2 +0.6**
comp=Z,4.4nm,0.8s,baz=327,slow=6.7,SNR=42
AKASG Malin Array Be 59.28 315 P **P** **05 58 46.8 -0.7**
AKASG Malin Array Be 59.28 315 P **P** **05 58 46.8 -0.7**
comp=Z,1.1nm,0.3s,baz=91,slow=5.7,SNR=2.4
FINES FINESS Array B 60.72 328 P **P** **05 58 56.6 -0.6**
FINES FINESS Array B 60.72 328 P **P** **05 58 56.6 -0.6**
comp=Z,0.8nm,0.6s,baz=79,slow=7.2,SNR=3.5
ARCES ARCESS Array B 61.26 337 P **P** **05 58 60.0 -0.8**
ARCES ARCESS Array B 61.26 337 P **P** **05 58 60.0 -0.8**
comp=Z,2.2nm,0.9s,baz=99,slow=7.7,SNR=4.7
ARCES LR LR 06 30 37.1
comp=Z,28nm,21.1s,baz=74,slow=41
KMBO Kilima Mbogo 66.91 257 P **P** **05 59 40.4 +1.3**
KMBO Kilima Mbogo 66.91 257 P **P** **05 59 40.4 +1.3**
comp=Z,1.6nm,0.6s,baz=50,slow=23,SNR=5.4
NB2 NORSAR Subarra 67.89 328 P **P** **05 59 43.2 -1.1**
comp=Z,0.9nm,0.6s,baz=77,slow=6.5
NOA NORSAR Array B 67.89 328 P **P** **05 59 43.4 -0.9**
NOA NORSAR Array B 67.89 328 P **P** **05 59 43.4 -0.9**
comp=Z,1.4nm,0.7s,baz=77,slow=6.4,SNR=6.1
STKA Stephens Creek 69.02 144 P **P** **05 59 51.8 +0.2**
STKA Stephens Creek 69.02 144 P **P** **05 59 51.8 +0.2**
comp=Z,3.1nm,0.6s,baz=321,slow=9.5,SNR=10
GERES GERESS Array B 69.49 315 P **P** **05 59 55.1 +0.5**
GERES GERESS Array B 69.49 315 P **P** **05 59 55.1 +0.5**
comp=Z,0.8nm,0.6s,baz=76,slow=5.6,SNR=5.8
GERES LR LR 06 36 24.8
comp=Z,33nm,19.3s,baz=292,slow=41
ILAR Eielson Array 76.07 24 P **P** **06 00 31.8 -1.4**
ILAR Eielson Array 76.07 24 P **P** **06 00 31.8 -1.4**
comp=Z,0.5nm,0.7s,baz=271,slow=4.6,SNR=7.9
YKA Yellowknife Ar 87.83 16 P **P** **06 01 34.6 -0.4**
YKA Yellowknife Ar 87.83 16 P **P** **06 01 34.6 -0.4**
comp=Z,1.3nm,0.7s,baz=332,slow=4.9,SNR=3.6
BOSA Boshof 90.43 238 P **P** **06 01 47.1 -0.9**
BOSA Boshof 90.43 238 P **P** **06 01 47.1 -0.9**
comp=Z,2.9nm,1.0s,baz=45,slow=1.4,SNR=2.4
TXAR Lajitas Array 120.57 25 PKP **PKPdf** **06 07 37.7 -0.7**
TXAR Lajitas Array 120.57 25 PKP **PKPdf** **06 07 37.7 -0.7**
comp=Z,0.2nm,0.6s,baz=212,slow=0.9,SNR=3.0
SDV Santo Domingo 144.84 345 *e*PKPdf **PKPab** **06 08 22.1 -1.0**
ROSC El Rosal 149.47 351 *e*PKPdf **PKPdf** **06 08 33.6 +1.5**
ROSC *e*PKPbc **PKPbc** **06 08 36.7 +0.2**
ROSC PKPbc **PKPbc** **06 08 36.9 +0.3**
ROSC *e*PKPab **PKPab** **06 08 40.4 -0.8**
ROSC El Rosal 149.47 351 PKPbc **PKPbc** **06 08 36.9 +0.3**
comp=Z,12nm,0.8s,baz=86,slow=11,SNR=14

IDC 11 06:01:50.2±1.1, 29°.11S×178°.37W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=17.0km s-min=11.3km az=6.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.42**	**110**	Pn	Pn	06 02 03.8	+0.3
	2μm,0.3s,baz=290,slow=24,SNR=191						
RAO				Sn	Sb	06 02 12.2	+4.7
	4μm,0.3s,baz=311,slow=20,SNR=33						
STKA	**Stephens Creek**	**34.47**	**255**	P	P	06 08 39.6	-0.3
	0.5nm,0.3s,baz=103,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**42.87**	**266**	P	P	06 09 50.5	-0.1
	0.3nm,0.5s,baz=104,slow=6.9,SNR=6.4						
WRA	**Warramunga Arr**	**43.74**	**271**	P	P	06 09 57.2	-0.3
	0.2nm,0.3s,baz=110,slow=7.7,SNR=9.5						

IDC 11 06:05:43.4±3.6, 6°.54S×154°.83E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/18, mbtmp3.5/2, Error ellipse: s-maj=176.8km s-min=52.5km az=129.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**234**	P	P	06 10 60.0	+0.4
	1.9nm,0.8s,baz=59,slow=9.5,SNR=8.3						
ASAR	**Alice Springs**	**26.35**	**228**	P	P	06 11 20.9	-0.6
	0.4nm,0.8s,baz=63,slow=8.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.75**	**286**	PKPbc	PKPbc	06 25 43.5	+0.1
	0.9nm,0.8s,baz=72,slow=2.3,SNR=3.8						

---

*ISCJB **11** 06:06:47.9±0.5, 59°.82N±0°.03×24°.42E±0°.08, h0km, Error ellipse: s-maj=5.9km s-min=4.4km az=32.1*
*IDC **11** 06:06:49.8±2.0, 59°.74N×24°.88E, h0km, mb1 3.2/3, mb1mx3.0/27, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=21.8km s-min=7.2km az=140.0*
*HEL **11** 06:06:50.5±0.1, 59°.83N×24°.49E, h0km, ML2.4, Explosion*
*BER **11** 06:06:51.6±4.0, 59°.84N×24°.52E, h0km±20km, ML2.3(NAO)*
*NAO **11** 06:06:51.2±1.0, 59°.83N×24°.56E, ML2.3*
*CSEM **11** 06:06:51.1±0.2, 59°.99N×24°.40E, h1km, ML3.2, Error ellipse: s-maj=6.4km s-min=5.0km az=138.0, Mining explosion.*

ISC 11 06:06:49.1±0.7, 59°.86N±0°.02×24°.49E±0°.03, h0km, n35, σ1§39/48, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.36**	**353**	*e*P	**Pg**	**06 06 57.3**	**+1.3**
MEF				*e*S	**Sg**	**06 07 02.2**	**+1.5**
MEF	**Metsahovi**	**0.36**	**353**	*e*P	**Pg**	**06 06 57.3**	**+1.3**
	SNR=90						
MEF				*e*S	**Sb**	**06 07 03.4**	**-1.2**
	6μm,0.1s,SNR=90						
PVF	**Pernaja**	**0.97**	**44**	*e*P	**Pg**	**06 07 08.1**	**+0.4**
PVF				*e*SB	**Sb**	**06 07 22.1**	**0.0**
PVF	**Pernaja**	**0.97**	**44**	P	**Pg**	**06 07 08.1**	**+0.4**
PVF				Sb	**Sb**	**06 07 22.1**	**0.0**
MTSE	**Matsula**	**1.20**	**197**	*e*P	**Pg**	**06 07 11.5**	**-0.5**
MTSE				*e*S	**Sg**	**06 07 25.9**	**-1.5**
FIA0	**FINESS Array S**	**1.77**	**26**	Pg	**Pb**	**06 07 22.3**	**-0.1**
	baz=195,slow=18						
FIA0				Lg	Lg	06 07 47.0	
	baz=201,slow=37						
FIA0	**FINESS Array S**	**1.77**	**26**	Pg	**Pb**	**06 07 22.3**	**-0.1**
	baz=195,slow=18						
FIA0				Lg	Lg	06 07 47.0	
	baz=201,slow=37						
FIA0	**FINESS Array S**	**1.77**	**26**	*e*P	**Pb**	**06 07 22.6**	**+0.2**
FIA0	**FINESS Array S**	**1.77**	**26**	Pg	**Pb**	**06 07 22.3**	**-0.1**
	baz=195,slow=17,SNR=90						
FIA0	**FINESS Array S**	**1.77**	**26**	P	**Pb**	**06 07 22.6**	**+0.2**
FIA0				Lg	Lg	06 07 47.0	
	baz=201,slow=28,SNR=28						
FINES	**FINESS Array B**	**1.77**	**26**	Pn	**Pb**	**06 07 22.6**	**+0.2**
	4.0nm,0.3s,baz=198,slow=16,SNR=59						
FINES				Lg	Lg	06 07 46.4	
	6.2nm,0.3s,baz=200,slow=26,SNR=16						
RAF	**Rauma**	**1.78**	**312**	*e*P	**Pb**	**06 07 22.4**	**-0.2**
RAF	**Rauma**	**1.78**	**312**	P	**Pb**	**06 07 22.4**	**-0.2**
VSU	**Vasula**	**1.82**	**139**	Pg	**Pb**	**06 07 23.1**	**-0.1**
VSU				Lg	Lg	06 07 48.0	
VSU	**Vasula**	**1.82**	**139**	Pg	**Pb**	**06 07 23.1**	**-0.1**
VSU				Lg	Lg	06 07 48.0	
VSU	**Vasula**	**1.82**	**139**	*e*PG	**Pb**	**06 07 22.8**	**-0.3**
VSU	**Vasula**	**1.82**	**139**	Pg	**Pb**	**06 07 22.8**	**-0.3**
VSU	**Vasula**	**1.82**	**139**	*e*P	**Pg**	**06 07 25.0**	**+1.1**
	SNR=50						
VSU				Lg	Lg	06 07 48.0	
AAL	**Aland**	**2.28**	**280**	*e*PB	**Pb**	**06 07 30.4**	**-0.6**
AAL	**Aland**	**2.28**	**280**	Pb	**Pb**	**06 07 30.3**	**-0.6**
KEF	**Keuruu**	**2.33**	**4**	MSG		06 08 07.4	
	comp=Z,18nm,0.1s						
KAF	**Kangasniemi**	**2.43**	**21**	MSG		06 08 10.3	
	comp=Z,19nm,0.1s						
SLIT	**Slitere, Latvi**	**2.51**	**208**	*e*P	**Pb**	**06 07 35.4**	**+0.4**
	SNR=50						
SLIT				*e*S	**Sb**	**06 08 07.8**	**+1.4**
	comp=Z,158nm,0.2s,SNR=50						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 08 12.9**	**+1.8**
	baz=106,slow=9.3						
HFS				Sn	**Sn**	**06 09 14.0**	**-0.1**
	baz=90,slow=28						
HFS				Lg	Lg	06 09 38.0	
	baz=85,slow=37						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 08 12.9**	**+1.8**
	baz=106,slow=9.3						
HFS				Sn	**Sn**	**06 09 14.0**	**-0.1**
	baz=90,slow=28						
HFS				Lg	Lg	06 09 38.0	
	baz=85,slow=37						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 08 12.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=12						
HFS				Sn	**Sn**	**06 09 15.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=90,slow=16,SNR=7.4						
HFS				Lg	Lg	06 09 38.6	
	comp=Z,0.6nm,0.3s,baz=89,slow=35,SNR=6.0						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 08 12.9**	**+1.8**
	baz=106,slow=8.6,SNR=50						
HFS				Sn	**Sn**	**06 09 14.0**	**-0.1**
	baz=90,slow=25,SNR=50						
HFS				Lg	Lg	06 09 38.0	
	baz=85,slow=35,SNR=26						
NB2	**NORSAR Subarra**	**6.67**	**286**	Pn	**Pn**	**06 08 27.7**	**-0.6**
	baz=88,slow=16						
NB2	**NORSAR Subarra**	**6.67**	**286**	Pn	**Pn**	**06 08 27.7**	**-0.6**
	baz=88,slow=16						
NB2	**NORSAR Subarra**	**6.67**	**286**	Pn	**Pn**	**06 08 27.7**	**-0.6**
	baz=88,slow=15,SNR=50						
NOA	**NORSAR Array B**	**6.67**	**286**	Pn	**Pn**	**06 08 29.7**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=91,slow=14,SNR=14						
NOA				Sn	**Sn**	**06 09 45.2**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=119,slow=21,SNR=2.7						
NOA				Lg	Lg	06 10 15.9	
	comp=Z,0.4nm,0.3s,baz=92,slow=11,SNR=3.0						
ARA0	**ARCESS Array S**	**9.73**	**2**	Pn	**Pn**	**06 09 10.9**	**+0.9**
	baz=178,slow=16						
ARA0				Sn	**Sn**	**06 10 56.4**	**-3.4**
	baz=187,slow=16						
ARA0	**ARCESS Array S**	**9.73**	**2**	Pn	**Pn**	**06 09 10.9**	**+0.9**
	baz=178,slow=16						
ARA0				Sn	**Sn**	**06 10 56.4**	**-3.4**
	baz=187,slow=16						
ARA0	**ARCESS Array S**	**9.73**	**2**	Pn	**Pn**	**06 09 10.9**	**+0.9**
	baz=178,slow=14,SNR=50						
ARA0				Sn	**Sn**	**06 10 56.4**	**-3.4**
	baz=187,slow=15,SNR=50						
ARCES	**ARCESS Array B**	**9.73**	**2**	Pn	**Pn**	**06 09 10.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=180,slow=14,SNR=15						
ARCES				Sn	**Sn**	**06 10 55.9**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=186,slow=22,SNR=2.8						

---

*BKK **11** 06:09:31.5±2.8, 15°.N±9°.×9°.0E±2°.8, h10km, M4.8/11, mB5.3/6, mb4.8/11, Mw(mB)4.8/6*
*ISCJB **11** 06:09:59.2±0.9, 14°.06N±0°.03×92°.89E±0°.03, h15km±6km, mb4.5/94, MS4.0/25, Error ellipse: s-maj=4.8km s-min=4.4km az=143.7*
*BJI **11** 06:09:59.3, 13°.66N×92°.84E, h36km, mB4.6/25, mb4.4/36, Ms4.3/28, Ms7 4.0/27*
*MOS **11** 06:10:01.3±0.9, 14°.00N×93°.09E, h33km, mb4.7/28, MS4.0/4, Error ellipse: s-maj=9.5km s-min=5.7km az=113.9*
*NEIC **11** 06:10:02.2±0.2, 13°.97N×93°.06E, mb4.6/19, Error ellipse: s-maj=5.3km s-min=3.7km az=51.0*
*IDC **11** 06:10:02.5±2.9, 13°.96N×93°.03E, h31km±20km, mb4.2/37, mb1 4.3/39, mb1mx4.3/43, mbtmp4.2/39, ML4.0/2, MS3.9/17, Ms1 3.9/17, ms1mx3.6/48, Error ellipse: s-maj=13.8km s-min=9.7km az=46.0*

ISC 11 06:10:03.0±0.4, 13°.96N±0°.03×92°.98E±0°.04, h34km±1km, h34km:pP-P, n257, σ1§73/318, mb4.5/94, MS4.0/27, 7C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.78**	**184**	*e*P	**Pb**	**06 10 19.5**	**+1.3**
DGPR				*e*S	**Sb**	**06 10 29.6**	**+1.0**
PBA	**Port Blair**	**2.30**	**186**	*e*P	Pn	06 10 40.4	+1.8
PBA				*e*S	Sn	06 11 07.9	+2.1
CMAR	**Chiang Mai Arr**	**7.26**	**51**	Pn	**Pn**	**06 11 45.4**	**-1.5**
CMAR				Sn	**Sn**	**06 13 03.0**	**-5.2**
CMAR	**Chiang Mai Arr**	**7.26**	**51**	Pn	**Pn**	**06 11 45.4**	**-1.5**
	1.6nm,0.3s,baz=241,slow=15,SNR=15						
CMAR				Sn	**Sn**	**06 13 03.0**	**-5.2**
	5.7nm,0.3s,baz=238,slow=28,SNR=6.0						
CMAR				LR	LR	06 15 14.1	
	comp=Z,984nm,20.7s,baz=337,slow=43						
CHTO	**Chiang Mai**	**7.48**	**49**	*e*P	**Pn**	**06 11 47.8**	**-2.1**
CHTO				*e*		06 13 08.4	
CHTO	**Chiang Mai**	**7.48**	**49**	*e*Pn	**Pn**	**06 11 47.8**	**-2.1**
CHTO				*e*Sn	**Sn**	**06 13 08.4**	**-5.2**
CHTO	**Chiang Mai**	**7.48**	**49**	P	**Pn**	**06 11 51.5**	**+1.6**
	19nm,0.9s,691nm						
CMMT	**Chiang Mai**	**7.49**	**49**	P	**Pn**	**06 11 51.4**	**+1.5**
	67nm,0.7s,886nm						
LAMP	**Lampang**	**7.83**	**54**	P	Pn	06 11 58.9	+4.2
	32nm,1.0s						
CMAI	**Chiengmai2**	**8.30**	**43**	P	**Pn**	**06 12 03.3**	**+2.1**
	60nm,0.6s,2μm						
PAYA	**Payao**	**8.51**	**50**	P	Pn	06 12 07.7	+3.8
	38nm,0.7s,340nm						
VIS	**Vishakhapatnam**	**10.01**	**293**	*e*P	**Pn**	**06 12 24.0**	**-0.6**
VIS				AMB	AMB	06 12 26.2	
	comp=Z,124nm,0.8s						
VIS				*i* S	Sn	06 14 08.2	-7.7
KULM	**Kulim**	**11.46**	**138**	*e*Pn	**Pn**	**06 12 44.1**	**-0.3**
	comp=Z,23nm,1.0s						
SHL	**Shillong**	**11.59**	**355**	*ex*	Pn	06 12 38.5	-7.8
SHL				AMB	AMB	06 12 42.3	
	comp=Z,10nm,1.3s						
SHL				*e*S	Sn	06 14 37.0	-18
PANO	**Nakornpanom**	**11.64**	**73**	P	Pn	06 12 59.3	+12
	comp=Z,27nm,1.6s						
BOK	**Bokaro**	**11.86**	**327**	*e*P	**Pn**	**06 12 47.7**	**-2.2**
BOK				AMB	AMB	06 12 49.2	
	comp=Z,32nm,0.7s						
UBPT	**Khong Chiam**	**12.16**	**82**	P	**P**	**06 13 06.7**	**+0.6**
	comp=Z,35nm,1.9s						
IPM	**Ipoh**	**12.31**	**139**	*e*Pn	**Pn**	**06 12 53.5**	**-2.6**
PSI	**Prapat**	**12.54**	**152**	Pn	**Pn**	**06 13 00.5**	**+1.1**
PSI	**Prapat**	**12.54**	**152**	Pn	**Pn**	**06 13 00.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=302,slow=15,SNR=3.3						
PSI				LR	LR	06 19 01.0	
	comp=Z,413nm,18.5s,baz=322,slow=43						
ODAN	**Odare**	**13.86**	**339**	*e*P	**Pn**	**06 13 14.7**	**-2.7**
	comp=Z,41nm,0.3s						
ODAN				*e*S	Sn	06 15 38.8	-12
TAPN	**Taplejung**	**14.20**	**341**	*e*P	Pn	06 13 18.9	-3.2
	comp=Z,49nm,0.3s						
RAMN	**Ramite**	**14.24**	**336**	*e*P	**Pn**	**06 13 19.6**	**-2.9**
	comp=Z,48nm,0.4s						
HYB	**Hyderabad**	**14.31**	**286**	*i* P	**Pn**	**06 13 21.5**	**-2.0**
HYB				*e*S	**Sn**	**06 16 03.5**	**+2.4**
HYB	**Hyderabad**	**14.31**	**286**	*ex*	Sn	06 15 50.3	-11
HYB				AMB	AMB	06 16 09.8	
	comp=Z,12nm,0.5s						
KMI	**Kunming**	**14.41**	**38**	P	P	06 13 40.5	+9.1
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				LR	LR		
	comp=N,700nm,18.1s						
KMI				LR	LR		
	comp=E,500nm,14.0s						
KMI				LR	LR		
	comp=Z,590nm,14.4s						
KMI	**Kunming**	**14.41**	**38**	P	Pn	06 13 28.0	+3.1
KMI				pP	P	06 13 35.4	+4.0
KMI				sP		06 13 41.0	
KMI				S	**Sn**	**06 16 06.1**	**+2.4**
KMI				sS	**S**	**06 16 18.4**	**-4.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,53nm,3.1s						
KMI				LR	LR		
	comp=N,700nm,17.6s						
KMI				LR	LR		
	comp=E,350nm,16.5s						
KMI				LR	LR		
	comp=Z,620nm,16.2s						
JIRN	**Jiri**	**15.03**	**336**	*e*P	**Pn**	**06 13 30.2**	**-3.2**
	comp=Z,34nm,0.3s						
NGP	**Nagpur**	**15.08**	**300**	*ex*	Pn	06 13 28.8	-5.0
NGP				*ex*	x	06 16 08.1	
PKI	**Pulchoki**	**15.28**	**334**	*e*P	**Pn**	**06 13 33.6**	**-3.0**
	comp=Z,50nm,0.3s						
PKIN	**Phulchoki**	**15.29**	**334**	*e*P	**Pn**	**06 13 33.7**	**-3.0**
	comp=Z,44nm,0.3s						
JBP	**Jabalpur**	**15.34**	**309⇑**	*i*P	**Pn**	**06 13 38.1**	**+1.0**
JBP				*ex*	x	06 16 53.8	
GUN	**Gumba**	**15.38**	**336**	*e*P	**Pn**	**06 13 34.2**	**-3.7**
	comp=Z,33nm,0.4s						
DMN	**Daman**	**15.44**	**333**	*e*P	**Pn**	**06 13 35.6**	**-3.1**
	comp=Z,72nm,0.7s						
KKN	**Kakani**	**15.52**	**334**	*e*P	**Pn**	**06 13 36.3**	**-3.4**
	comp=Z,18nm,0.4s						
LSA	**Lhasa**	**15.76**	**354**	P	**P**	**06 13 44.8**	**-1.8**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**15.76**	**354**	*e*P	**Pn**	**06 13 41.4**	**-1.6**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s						
LSA	**Lhasa**	**15.76**	**354**	*e*Pn	**Pn**	**06 13 41.4**	**-1.6**
	comp=Z,26nm,0.8s						
KOLN	**Koldanda**	**16.29**	**329**	*e*P	**Pn**	**06 13 46.8**	**-2.7**
DANN	**Dangsing**	**16.69**	**331**	*e*P	**Pn**	**06 13 52.0**	**-2.7**
PYUN	**Piuthan**	**16.87**	**328**	*e*P	**Pn**	**06 13 54.0**	**-2.8**
QIZ	**Qiongzhong**	**16.93**	**70**	P	**P**	**06 13 59.2**	**0.0**
QIZ				S	**Sn**	**06 17 05.8**	**+1.1**
QIZ				pmax	pmax		
	comp=Z,97nm,4.7s						
QIZ				LR	LR		
	comp=Z,660nm,16.1s						
BHPL	**Bhopal**	**17.38**	**304**	*e*P	**Pn**	**06 14 02.4**	**-0.7**
BHPL				AMB	AMB	06 14 06.5	
	comp=Z,22nm,1.7s						
GYA	**Guiyang**	**17.85**	**44**	*e*P	**P**	**06 14 11.0**	**+1.5**
GYA				S	**Sn**	**06 17 25.3**	**-1.9**
GYA				sS	**S**	**06 17 38.0**	**+5.0**
GYA				SS	**SnSn**	**06 17 47.5**	**+6.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,14.6s						
GYA				LR	LR		
	comp=E,360nm,15.2s						
GYA				LR	LR		
	comp=Z,470nm,14.5s						
CD2	**Chengdu**	**19.57**	**29**	*e*P	**Pn**	**06 14 31.1**	**+1.5**
CD2				pP	**pP**	**06 14 40.0**	**+2.9**
CD2				sP	**sP**	**06 14 44.8**	**+3.4**
CD2				PP	**PnPn**	**06 14 49.2**	**+5.6**
CD2				S	**S**	**06 18 03.6**	**-3.8**
CD2				SS	**SnSn**	**06 18 30.5**	**+7.4**
CD2				pmax	pmax		
	comp=Z,50nm,0.7s						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
CD2				LR	LR		
	comp=N,500nm,16.6s						
CD2				LR	LR		
	comp=E,510nm,20.2s						
CD2				LR	LR		
	comp=Z,500nm,15.4s						
ENH	**Enshi**	**22.25**	**40**	*e*P	**P**	**06 14 56.5**	**-0.7**
	comp=Z,8.8nm,0.7s						
SMLA	**Simla**	**22.43**	**322**	*e*P	**P**	**06 14 57.0**	**-2.0**
SMLA				AMB	AMB	06 15 03.1	
	comp=Z,16nm,0.4s						
DHRM	**DHARAMSHALA**	**23.75**	**323**	*e*P	**P**	**06 15 13.1**	**+0.5**
DHRM				AMB	AMB	06 15 15.7	
	comp=Z,18nm,1.2s						
LZH	**Lanzhou**	**24.09**	**22**	*e*P	**P**	**06 15 16.5**	**+0.8**
LZH				pP	**pP**	**06 15 25.6**	**+0.1**
LZH				sP	**sP**	**06 15 29.1**	**-0.5**
LZH				PP	PnPn	06 15 53.1	+7.5
LZH				*e*S	**S**	**06 19 28.0**	**-3.3**
LZH				SS	**SnSn**	**06 20 21.3**	**+7.2**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,6.2s						
LZH				LR	LR		
	comp=N,360nm,10.2s						
LZH				LR	LR		
	comp=E,500nm,15.8s						
LZH				LR	LR		
	comp=Z,690nm,17.2s						
XAN	**Xi'an**	**24.67**	**33**	P	**P**	**06 15 19.8**	**-1.0**
XAN				pP	**pP**	**06 15 29.3**	**-1.3**
XAN				sP	**sP**	**06 15 34.0**	**-0.7**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,33nm,5.6s						
XAN				LR	LR		
	comp=N,180nm,21.4s						
XAN				LR	LR		
	comp=E,99nm,24.4s						
XAN				LR	LR		
	comp=Z,74nm,16.3s						
GTA	**Gaotai**	**26.06**	**12**	P	**P**	**06 15 34.6**	**+1.1**
GTA				pP	**pP**	**06 15 43.4**	**+0.2**
GTA				sP	**sP**	**06 15 46.6**	**-0.8**
GTA				PcP	**PcP**	**06 19 02.0**	**+1.1**
GTA				S	**S**	**06 20 01.1**	**-1.4**
GTA				ScP	**ScP**	**06 22 39.9**	**+1.8**
GTA				ScS	**ScS**	**06 26 26.0**	**-1.9**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,61nm,3.8s						
GTA				LR	LR		
	comp=N,210nm,20.0s						
GTA				LR	LR		
	comp=E,150nm,20.4s						

WMQ pmax pmax
comp=Z,5.0nm,0.9s
WMQ pmax pmax
comp=Z,86nm,4.5s
WMQ LR LR
comp=N,150nm,23.0s
WMQ LR LR
comp=E,92nm,25.0s
WMQ LR LR
comp=Z,200nm,24.0s
HHC Hu-ho-hao-te 31.32 28 *e*P P 06 16 20.4 +0.1
HHC pP **pP** **06 16 29.9 -0.2**
HHC sP **sP** **06 16 33.9 -0.4**
HHC PP **PnPn** **06 17 23.6 +0.3**
HHC S **S** **06 21 23.1 -2.1**
HHC PcS **PcS** **06 22 57.8 -0.4**
HHC ScS **ScS** **06 26 49.7 -2.4**
HHC pmax pmax
comp=Z,40nm,0.6s
HHC pmax pmax
comp=Z,260nm,5.2s
HHC LR LR
comp=N,350nm,13.5s
HHC LR LR
comp=E,520nm,12.4s
HHC LR LR
comp=Z,470nm,13.6s
TKM2 Tokmak 2 32.52 336 *e*P P 06 16 31.1 +0.1
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 32.52 336 *e*P P 06 16 31.1 +0.1
comp=Z,2.6nm,0.6s
KAPI Kappang 32.57 124 P **P** **06 16 31.2 -0.3**
KAPI Kappang 32.57 124 P **P** **06 16 31.2 -0.3**
comp=Z,3.2nm,0.4s,baz=237,slow=15,SNR=2.5
AAK Ala-Archa 32.73 334 P **P** **06 16 31.8 -1.0**
AAK Ala-Archa 32.73 334 P **P** **06 16 31.8 -1.0**
AAK Ala-Archa 32.73 334 P **P** **06 16 31.8 -1.0**
comp=Z,1.6nm,0.4s,baz=205,slow=14,SNR=3.1
BJI Beijing 33.00 34 P **P** **06 16 35.7 +0.8**
BJI S **S** **06 21 53.3 +2.2**
BJI pmax pmax
comp=Z,16nm,0.4s
BJI LR LR
comp=N,240nm,20.1s
BJI LR LR
comp=E,330nm,20.6s
BJI LR LR
comp=Z,210nm,20.7s
EKS2 Erkin-Say 33.06 334 *e*P P 06 16 37.2 +1.6
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 33.06 334 *e*P P 06 16 37.2 +1.6
comp=Z,5.3nm,0.8s
MKAR Makanchi Array 33.94 347 *i*P **P** **06 16 43.7 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 33.94 347 P **P** **06 16 42.6 -0.4**
MKAR Makanchi Array 33.94 347 P **P** **06 16 42.6 -0.4**
comp=Z,3.2nm,0.8s,baz=156,slow=8.0,SNR=22
KKAR Karatay Array 34.89 331 *e*P **P** **06 16 52.2 +0.9**
KKAR Karatay Array 34.89 331 *e*P **P** **06 16 52.2 +0.9**
SONM Songino Array 35.57 16 P **P** **06 16 57.6 +0.3**
SONM PcP **PcP** **06 19 26.1 +0.3**
SONM Songino Array 35.57 16 P **P** **06 16 57.6 +0.3**
comp=Z,2.9nm,0.9s,baz=202,slow=9.4,SNR=16
SONM PcP **PcP** **06 19 26.1 +0.3**
comp=Z,0.9nm,0.7s,baz=188,slow=2.9,SNR=3.8
SONM LR LR 06 35 01.2
comp=Z,146nm,18.1s,baz=84,slow=42
HVS Khovu-Aksy 37.08 1d *i*P **P** **06 17 10.2 +0.1**
HVS pmax pmax
comp=Z,36nm,1.3s
ZAK Zakamensk 37.28 11 *e*P **P** **06 17 12.7 +0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.8s
KURBB Kurchatov Arra 38.41 345 P **P** **06 17 21.6 +0.5**
comp=Z,1.1nm,0.3s,baz=161,slow=8.0,SNR=14
KURBB PcP **PcP** **06 19 34.1 0.0**
KURK Kurchatov 38.47 345 P **P** **06 17 21.7 0.0**
KURK 06 19 34.1
KURK Kurchatov 38.47 345 P **P** **06 17 21.6 0.0**
KURK PcP **PcP** **06 19 34.1 -0.2**
TLY Talaya 38.59 11 *e*P **P** **06 17 25.8 +3.0**
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,199nm,19.0s
KSAR Wonju Array Be 38.84 47 P **P** **06 17 24.6 -0.4**
KSRS Korea Array 38.88 47 P **P** **06 17 24.6 -0.7**
comp=Z,0.5nm,0.4s,baz=238,slow=9.7,SNR=3.5
KSRS LR LR 06 35 53.5
comp=Z,262nm,20.0s,baz=218,slow=40
JNU Nakatsue 39.35 54 P **P** **06 17 29.8 +0.4**
JNU Nakatsue 39.35 54 P **P** **06 17 29.8 +0.4**
comp=Z,7.4nm,0.9s,baz=209,slow=10,SNR=3.1
JNU LR LR 06 35 45.7
comp=Z,218nm,19.9s,baz=66,slow=39
ZAA0 Zalesovo Array 40.41 353 *e*P **P** **06 17 38.7 +0.9**
ZALV Zalesovo Beam 40.41 353 *i*P **P** **06 17 38.0 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 40.41 353 P **P** **06 17 37.5 -0.3**
ZALV Zalesovo Beam 40.41 353 P **P** **06 17 37.5 -0.3**
comp=Z,2.3nm,0.6s,baz=180,slow=8.3,SNR=8.7
CN2 Changchun 40.67 37 *e*P **P** **06 17 41.1 +0.9**
CN2 *e*PP **PnPn** **06 19 18.9 +0.5**
CN2 *e*S **S** **06 23 48.3 +0.3**
CN2 *e*SS **SS** **06 26 43.9 -5.3**
NVS Novosibirsk 41.49 351 *e*P P 06 17 51.3 +4.6
BVAR Borovoye Array 42.91 340 P **P** **06 17 57.6 -0.7**
BVAR Borovoye Array 42.91 340 P **P** **06 17 57.6 -0.7**
BVAR Borovoye Array 42.91 340 P **P** **06 17 57.6 -0.7**
comp=Z,0.8nm,0.7s,baz=152,slow=6.7,SNR=4.8
BRVK Borovoye 42.97 340 *e*P **P** **06 17 58.9 +0.1**
BRVK *e**PP **pP** **06 18 07.8 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 42.97 340 *e*P **P** **06 17 58.9 +0.1**
comp=Z,5.4nm,0.8s
BRVK *e*pP **pP** **06 18 07.8 -1.1**
MDJ Mudanjiang 43.58 38 P **P** **06 18 05.3 +1.4**
MDJ pP **pP** **06 18 14.2 +0.3**
MDJ sP **sP** **06 18 18.1 +0.1**
MDJ PP **PP** **06 19 47.9 +2.3**
MDJ PcP **PcP** **06 19 50.5 -0.6**
MDJ S **S** **06 24 33.6 +2.6**
MDJ sS **sS** **06 24 49.9 +2.4**
MDJ ScS **ScS** **06 28 02.9 +2.0**
MDJ pmax pmax
comp=Z,6.0nm,1.8s
MDJ pmax pmax
comp=Z,81nm,3.7s
MDJ LR LR
comp=N,190nm,23.5s
MDJ LR LR
comp=E,87nm,11.3s
MDJ LR LR
comp=E,87nm,11.3s
ABKAR Akbulak array 44.41 329 *e*P **P** **06 18 11.0 +0.5**
ABKAR *e*pP **pP** **06 18 20.4 -0.1**
USRK Ussuriysk Arra 44.84 40 P **P** **06 18 13.2 -0.8**
comp=E,1.6nm,0.6s,baz=235,slow=9.4,SNR=4.3
FITZ Fitzroy Crossi 45.30 134 P **P** **06 18 16.4 -1.5**
FITZ ScP **ScP** **06 23 46.9 -0.8**
FITZ Fitzroy Crossi 45.30 134 P **P** **06 18 16.4 -1.5**
comp=E,5.2nm,0.5s,baz=328,slow=6.3,SNR=44
FITZ ScP **ScP** **06 23 46.9 -0.8**
comp=E,2.0nm,0.8s,baz=238,slow=2.5,SNR=4.0
AKTO Aktyubinsk 46.13 329 P **P** **06 18 23.4 -0.7**
AKTO Aktyubinsk 46.13 329 P **P** **06 18 23.4 -0.7**
AKTO Aktyubinsk 46.13 329 P **P** **06 18 23.4 -0.7**
comp=E,2.0nm,0.6s,baz=121,slow=8.9,SNR=8.8
MJAR Matsushiro Arr 46.15 52 P **P** **06 18 23.8 -0.7**
MJAR Matsushiro Arr 46.15 52 P **P** **06 18 23.8 -0.7**
comp=E,2.3nm,0.7s,baz=263,slow=10.0,SNR=7.4
MJAR LR LR 06 39 43.4
comp=E,153nm,19.1s,baz=210,slow=39
KLR Kul'dur 47.37 34 *e*P P 06 18 47.2 +13
SVE Sverdlovsk 49.37 337 *e*P P 06 18 57.6 +8.5
SVE pmax pmax
comp=Z,32nm,0.9s
GNI Garni 49.49 311 *e*P **P** **06 18 51.0 +0.5**
comp=Z,38nm,1.2s

ARU Arti 49.89 336 *c i*P **P** **06 18 53.4 +0.3**
ARU 06 20 48.1
ARU S **S** **06 26 01.7 +0.9**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ZEI Tsey 50.92 314 *e*P **P** **06 19 02.1 +0.7**
ZEI pmax pmax
comp=Z,16nm,1.3s
ASAJ Asahikawa 51.73 44 P **P** **06 19 08.2 +1.0**
ASAJ Asahikawa 51.73 44 P **P** **06 19 08.2 +1.0**
comp=Z,1.9nm,0.3s,baz=260,slow=17,SNR=2.9
ASAJ LR LR 06 43 18.3
comp=Z,144nm,19.4s,baz=170,slow=39
KBZ Khabaz 51.92 315 P **P** **06 19 08.3 -0.3**
KBZ Khabaz 51.92 315 P **P** **06 19 08.2 -0.3**
KBZ Khabaz 51.92 315 P **P** **06 19 08.2 -0.3**
comp=Z,1.1nm,0.6s,baz=45,slow=13,SNR=2.7
KIV Kislovodsk 52.14 315 *e*P **P** **06 19 11.7 +1.4**
KIV pmax pmax
comp=Z,17nm,0.9s
KIV MLR MLR
comp=Z,65nm,16.0s
SOKR Solikamsk 52.76 338 *d i*P P 06 19 23.9 +9.5
SOKR pmax pmax
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 52.82 129 P **P** **06 19 13.9 -1.6**
WRA PcP **PcP** **06 20 24.6 -0.1**
WRA Warramunga Arr 52.82 129 P **P** **06 19 13.9 -1.6**
comp=Z,2.9nm,0.6s,baz=302,slow=10,SNR=35
WRA PcP **PcP** **06 20 24.6 -0.1**
comp=Z,3.2nm,0.6s,baz=316,slow=3.4,SNR=12
WRAB Tennant Creek 52.83 129 *e*P **P** **06 19 14.1 -1.5**
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 52.83 129 *e*P **P** **06 19 14.1 -1.5**
comp=Z,3.4nm,0.6s
YSS Yuzh-Sakhalins 52.83 41 *e*P **P** **06 19 17.4 +2.2**
YUK Yuzh-Kuril'sk 53.94 45 *c*P **P** **06 19 26.4 +3.0**
YUK *e*S **S** **06 26 59.8 +3.1**
YUK MLR MLR
comp=N,225nm,21.0s
YUK MLR MLR
comp=Z,227nm,21.0s
ASF Jabal al Asfar 54.10 300 LR LR 06 44 00.9
comp=Z,54nm,18.2s,baz=278,slow=38
AS31 Alice Springs 54.77 133 *e*P **P** **06 19 28.6 -1.2**
ASAR Alice Springs 54.77 133 P **P** **06 19 28.8 -1.0**
ASAR ScP **ScP** **06 24 27.1 -1.1**
ASAR S **S** **06 27 04.1 -4.4**
ASAR Alice Springs 54.77 133 P **P** **06 19 28.8 -1.0**
comp=Z,4.5nm,0.4s,baz=308,slow=6.8,SNR=82
ASAR ScP **ScP** **06 24 27.1 -1.1**
comp=Z,0.6nm,0.7s,baz=302,slow=4.3,SNR=4.4
ASAR S **S** **06 27 04.1 -4.4**
comp=Z,1.9nm,1.0s,baz=305,slow=12,SNR=14
ASAR LR LR 06 46 24.3
comp=Z,76nm,19.4s,baz=154,slow=40
VRHR Novokhopersk 55.37 323 *e*P **P** **06 19 34.1 +0.4**
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=E,6.0nm,0.6s
OPO Ambohidratompo 55.52 236 LR LR 06 39 52.7
comp=E,245nm,19.4s,baz=343,slow=32
VORD Divnogorie 56.69 322 *e*P **P** **06 19 43.8 +0.7**
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
VSR Storozhevoye 56.85 323 *e*P **P** **06 19 44.4 +0.1**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=Z,8.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.8s
KMBO Kilima Mbogo 57.19 259 P **P** **06 19 47.1 -0.5**
KMBO Kilima Mbogo 57.19 259 P **P** **06 19 47.1 -0.5**
comp=E,2.5nm,0.8s,baz=83,slow=8.0,SNR=6.4
BR131 Keskin Array S 57.70 308 *e*P **P** **06 19 50.4 -0.3**
comp=E,2.0nm,0.7s
BRTR Keskin Array B 57.70 308 P **P** **06 19 50.0 -0.7**
BRTR Keskin Array B 57.70 308 P **P** **06 19 50.0 -0.7**
comp=E,4.1nm,0.8s,baz=114,slow=7.5,SNR=20
BRTR LR LR 06 47 59.1
comp=E,68nm,21.6s,baz=110,slow=39
PMG Port Moresby 58.55 110 P **P** **06 19 57.0 +0.2**
PMG Port Moresby 58.55 110 P **P** **06 19 57.0 +0.2**
comp=E,9.0nm,0.6s,baz=225,slow=20,SNR=2.2
OBN Obninsk 59.69 326 ‖ *i*P **P** **06 20 05.0 +1.0**
OBN *e*S S 06 28 22.4 +10
OBN *e*SS **SS** **06 32 14.5 +6.4**
OBN pmax pmax
comp=Z,8.0nm,1.2s
CFR Carcaliu 62.53 314 ‖ *i*P P 06 20 13.2 -10
VRI Vrinciooaia 63.60 314 ‖ *i*P **P** **06 20 32.0 +1.4**
PLOR Plostina 63.65 314 ‖ *i*P **P** **06 20 31.5 +0.5**
PETK Petropavlovsk- 63.82 37 LR LR 06 52 42.5
comp=Z,88nm,18.1s,baz=245,slow=40
MLR Muntele Rosu 64.10 314 ‖ *i*P **P** **06 20 34.9 +0.8**
MLR Muntele Rosu 64.10 314 P **P** **06 20 34.3 +0.2**
MLR Muntele Rosu 64.10 314 P **P** **06 20 34.3 +0.2**
comp=Z,1.3nm,0.9s,baz=138,slow=2.4,SNR=7.6
BURAR Bucovina Array 64.84 316 ‖ *i*P **P** **06 20 38.7 -0.2**
STKA Stephens Creek 65.16 135 P **P** **06 20 40.8 -0.2**
STKA Stephens Creek 65.16 135 P **P** **06 20 40.8 -0.2**
comp=Z,2.7nm,0.7s,baz=306,slow=8.9,SNR=6.2
APA Apatity 65.79 339 ‖ *e*P P 06 20 51.8 +7.3
APA MLR MLR
comp=Z,100nm,16.0s
FINES FINESS Array B 66.85 331 P **P** **06 20 51.0 -0.3**
FINES FINESS Array B 66.85 331 P **P** **06 20 51.0 -0.3**
comp=Z,2.1nm,0.6s,baz=119,slow=7.2,SNR=7.5
KAF Kangasniemi 66.90 332 *e*P **P** **06 20 49.6 -2.1**
KAF Kangasniemi 66.90 332 *e*p **P** **06 20 49.6 -2.1**
KOLS Kolonicke sedl 66.94 317 *e*P **P** **06 20 53.0 +0.8**
KOLS pmax pmax
comp=Z,8.0nm,1.7s
KOLS Kolonicke sedl 66.94 317 *e*P **P** **06 20 53.0 +0.8**
CRVS Cervenica-Dubn 67.47 317 *e*P **P** **06 20 56.5 +0.9**
CRVS pmax pmax
comp=Z,10.0nm,1.1s
CRVS Cervenica-Dubn 67.47 317 *e*P **P** **06 20 56.5 +0.9**
STHS Stebnicka Huta 67.65 318 *e*P **P** **06 20 57.2 +0.5**
STHS Stebnicka Huta 67.65 318 *e*P **P** **06 20 57.2 +0.5**
KECS Kecovo 68.09 317 *e*P **P** **06 20 59.9 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 68.09 317 *e*P **P** **06 20 59.9 +0.4**
NIE Niedzica 68.26 318 *e*P P 06 21 03.8 +3.2
OJC Ojcow 68.65 319 *e*P **P** **06 21 03.4 +0.5**
VYHS Vyhne 69.18 317 *e*P **P** **06 21 05.7 -0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 69.18 317 *e*P **P** **06 21 05.7 -0.6**
ARCES ARCESS Array B 69.19 340 P **P** **06 21 06.2 +0.3**
ARCES ARCESS Array B 69.19 340 P **P** **06 21 06.2 +0.3**
comp=Z,1.6nm,0.7s,baz=90,slow=7.3,SNR=7.1
ARCES LR LR 06 56 21.9
comp=Z,155nm,18.1s,baz=94,slow=40
MORC Moravsky Berou 70.08 318 *e*P **P** **06 21 12.3 +0.5**
MORC *e**PP **pP** **06 21 20.4 -2.0**
MORC pmax pmax
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 70.08 318 *e*P **P** **06 21 12.3 +0.5**
comp=Z,8.8nm,1.1s
MORC *e*pP **pP** **06 21 20.4 -2.0**
LSZ Lusaka 70.35 248 *e*P **P** **06 21 15.6 +1.4**
comp=Z,18nm,0.9s
VRAC Vranov 70.69 318 P **P** **06 21 16.1 +0.6**
VRAC Vranov 70.69 318 P **P** **06 21 16.1 +0.6**
comp=Z,2.9nm,0.5s,baz=57,slow=4.5,SNR=3.5
DPC Dobruska-Polom 70.88 319 *e*P **P** **06 21 17.4 +0.7**
DPC *e* 06 21 25.1
DPC Dobruska-Polom 70.88 319 *e*P **P** **06 21 17.4 +0.7**
DPC *e*pP **pP** **06 21 25.1 -2.2**
DPC Dobruska-Polom 70.88 319 *e*P **P** **06 21 17.0 +0.2**
comp=Z,33nm,1.1s
BRG Berggiesshubel 72.40 319 *e*P **P** **06 21 26.6 +0.8**
comp=Z,6.1nm,1.1s
BRG *e* 06 21 35.8

comp=Z,7.5nm,0.9s
BRG *e* 06 40 52.0
BRG Berggiesshubel 72.40 319 *e*P **P** **06 21 26.6 +0.8**
BRG *e* 06 21 35.8
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 72.59 317 *e*P **P** **06 21 27.2 +0.1**
GEC2 pmax pmax
comp=Z,2µm,1.1s
GEC2 GERESS Array S 72.59 317 *e*P **P** **06 21 27.2 +0.1**
comp=Z,2µm,1.1s
GERES GERESS Array B 72.59 317 P **P** **06 21 27.1 -0.1**
GERES GERESS Array B 72.59 317 P **P** **06 21 27.1 -0.1**
comp=Z,3.0nm,0.8s,baz=84,slow=5.5,SNR=25
KHC Kasperske Hory 72.66 317 *e*P **P** **06 21 26.6 -0.9**
KHC *e* 06 21 37.1
KHC *e* 06 21 46.9
KHC Kasperske Hory 72.66 317 *e*P **P** **06 21 26.6 -0.9**
KHC *e*pP **pP** **06 21 37.1 -1.0**
KHC *e*PCP **PcP** **06 21 46.9 +2.1**
KHC Kasperske Hory 72.66 317 *e*P **P** **06 21 27.9 +0.4**
comp=Z,4.5nm,1.0s
CLL Collm 72.98 320 *e*P **P** **06 21 30.0 +0.7**
CLL *e* 06 21 38.0
CLL pmax pmax
comp=Z,12nm,1.7s
CLL Collm 72.98 320 *e*P **P** **06 21 30.0 +0.7**
comp=Z,12nm,1.7s
CLL *e*pP **pP** **06 21 38.0 -1.8**
FX1 Attu Island--F 73.08 39 *e*P **P** **06 21 29.0 -0.8**
FX1 Attu Island--F 73.08 39 P **P** **06 21 29.4 -0.4**
comp=Z,4.4nm,0.6s,baz=264,slow=8.3,SNR=3.2
NB2 NORSAR Subarra 73.92 330 P **P** **06 21 33.9 -0.7**
comp=Z,3.7nm,0.8s,baz=91,slow=6.2
NOA NORSAR Array B 73.92 330 P **P** **06 21 34.1 -0.5**
NOA NORSAR Array B 73.92 330 P **P** **06 21 34.1 -0.5**
comp=Z,1.8nm,0.7s,baz=90,slow=5.7,SNR=8.5
NOA LR LR 06 59 45.1
comp=Z,51nm,18.9s,baz=85,slow=40
DAVOX Davos/Dischmat 75.27 315 P **P** **06 21 43.0 +0.1**
DAVOX Davos/Dischmat 75.27 315 P **P** **06 21 43.0 +0.1**
comp=Z,2.3nm,0.6s,baz=89,slow=4.4,SNR=4.8
LBTB Lobatse 76.24 240 *e*P **P** **06 21 49.4 +0.7**
PGF Pioggiola 76.31 311 *e*P **P** **06 21 49.3 +0.4**
comp=Z,16nm,0.8s
CDF Champ du Feu 76.87 317 *e*P **P** **06 21 51.6 -0.3**
KEST Kesra 76.89 304 P **P** **06 21 52.5 +0.3**
KEST Kesra 76.89 304 P **P** **06 21 52.5 +0.3**
comp=Z,1.6nm,0.8s,baz=66,slow=12,SNR=5.0
SENIN Lac Senin/Sane 77.08 315 *e*P **P** **06 21 53.7 +0.4**
comp=Z,12nm,1.4s
LPG La Plagne 77.57 314 *e*P **P** **06 21 56.3 +0.2**
comp=Z,25nm,0.8s
LPL La Plagne 77.58 314 *e*P **P** **06 21 56.3 +0.2**
comp=Z,35nm,0.8s
MBDF Montbardon 77.65 313 *e*P **P** **06 21 56.8 +0.3**
comp=Z,7.8nm,0.7s
BNI Bardonecchia 77.68 314 *e*P **P** **06 21 57.3 +0.8**
BNI pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 77.68 314 *e*P **P** **06 21 57.3 +0.8**
comp=Z,7.5nm,1.0s
CABF La Chapelle 77.88 315 *e*P **P** **06 21 57.7 +0.1**
comp=Z,8.0nm,0.7s
BOSA Boshof 77.92 236 P **P** **06 21 59.0 +0.9**
BOSA Boshof 77.92 236 P **P** **06 21 59.0 +0.9**
comp=Z,15nm,0.8s,baz=76,slow=4.8,SNR=16
BOSA LR LR 06 54 52.5
comp=Z,101nm,19.0s,baz=245,slow=34
ORIF Oris-en-Rattie 78.25 314 *e*P **P** **06 22 00.5 +0.8**
ORIF *e*R
comp=Z,74nm,20.0s
SMRF Simiane la Rot 78.61 313 *e*P **P** **06 22 02.1 +0.5**
comp=Z,30nm,1.2s
BAIF Baives 78.66 319 *e*P **P** **06 22 01.8 +0.1**
SMF Signal de Mont 79.41 316 *e*P **P** **06 22 05.5 -0.4**
comp=Z,20nm,1.0s
SSF Saint Saulge 79.57 316 *e*P **P** **06 22 06.5 -0.3**
comp=Z,7.6nm,0.8s
AVF Avril sur Loir 79.72 316 *e*P **P** **06 22 07.1 -0.5**
comp=Z,9.8nm,0.8s
TCF Toulx Ste Croi 80.58 315 *e*P **P** **06 22 12.3 0.0**
comp=Z,12nm,1.0s
CAF Calviac 80.93 314 *e*P **P** **06 22 14.4 +0.2**
comp=Z,12nm,1.0s
MTLF Montolieu 81.11 312 *e*P **P** **06 22 15.3 +0.1**
LDF La Druitiere 81.70 318 *e*P **P** **06 22 17.9 -0.2**
comp=Z,15nm,0.8s
EKA Eskdalemuir Ar 82.10 325 P **P** **06 22 20.4 +0.2**
EKA Eskdalemuir Ar 82.10 325 P **P** **06 22 20.4 +0.2**
comp=Z,9.2nm,1.0s,baz=99,slow=5.2,SNR=4.7
MFF Saint Martin d 82.12 316 *e*P **P** **06 22 20.1 -0.3**
MAW Mawson 84.24 191 P **P** **06 22 31.8 +1.2**
MAW Mawson 84.24 191 P **P** **06 22 31.8 +1.2**
comp=Z,3.9nm,0.8s,baz=16,slow=10,SNR=6.5
MAW LR LR 06 51 03.7
comp=Z,68nm,19.9s,baz=244,slow=29
IM04 Indian Mountai 86.45 22 *e*P **P** **06 22 42.0 0.0**
ESDC Sonseca Array 86.46 310 P **P** **06 22 42.9 +0.2**
ESDC Sonseca Array 86.46 310 P **P** **06 22 42.9 +0.2**
comp=Z,2.2nm,0.8s,baz=57,slow=4.7,SNR=6.3
TOA0 Torodi Ar. Sit 88.11 283 *e*P **P** **06 22 51.5 +0.5**
TORD Torodi Ar. Bea 88.11 283 P **P** **06 22 51.5 +0.5**
TORD Torodi Ar. Bea 88.11 283 P **P** **06 22 51.5 +0.5**
comp=Z,5.8nm,0.9s,baz=85,slow=4.5,SNR=32
TRF Thorofare Moun 88.97 24 *e*P **P** **06 22 55.0 +0.6**
comp=Z,4.7nm,0.8s
MCK McKinley 89.35 23 *e*P **P** **06 22 56.8 +0.9**
MCK pmax pmax
comp=Z,10.0nm,1.2s
MCK McKinley 89.35 23 *e*P **P** **06 22 56.8 +0.9**
comp=Z,9.7nm,1.2s
ILAR Eielson Array 89.56 22 P **P** **06 22 56.1 -0.7**
ILAR PP PP 06 26 35.1 +7.1
ILAR Eielson Array 89.56 22 P **P** **06 22 56.1 -0.7**
comp=Z,1.5nm,0.7s,baz=298,slow=4.4,SNR=23
ILAR PP PP 06 26 35.1 +7.1
comp=Z,0.5nm,0.9s,baz=304,slow=6.8,SNR=5.4
PMR Palmer 90.38 25 *e*P **P** **06 23 00.7 0.0**
PMR *e**PP **pP** **06 23 09.3 -2.2**
PMR pmax pmax
comp=Z,3.0nm,0.9s
PMR Palmer 90.38 25 *e*P **P** **06 23 00.7 0.0**
comp=Z,3.4nm,0.9s
PMR *e*pP **pP** **06 23 09.3 -2.2**
SML Sawmill 90.59 25 *e*P **P** **06 23 02.0 +0.2**
SML pmax pmax
comp=Z,2.0nm,0.9s
SML Sawmill 90.59 25 *e*P **P** **06 23 02.0 +0.2**
comp=Z,2.0nm,0.9s
INK Inuvik 91.48 16 P **P** **06 23 05.3 -0.4**
INK Inuvik 91.48 16 P **P** **06 23 05.3 -0.4**
comp=Z,2.7nm,0.8s,baz=311,slow=9.3,SNR=3.5
EGAK Eagle 91.55 20 *e*P **P** **06 23 05.6 -0.5**
comp=Z,2.8nm,0.8s
SFJD Kangerlussuaq 94.97 346 LR LR 07 11 44.9
comp=Z,77nm,19.6s,baz=24,slow=39
PDAR Pinedale Array 119.88 19 PKP **PKPdf** **06 28 49.7 -0.8**
PDAR Pinedale Array 119.88 19 PKP **PKPdf** **06 28 49.7 -0.8**
comp=Z,0.7nm,0.7s,baz=36,slow=0.8,SNR=7.5
NVAR Mina Array Bea 120.21 28 PKP **PKPdf** **06 28 52.0 +0.7**
NVAR Mina Array Bea 120.21 28 PKP **PKPdf** **06 28 52.0 +0.7**
comp=Z,1.0nm,0.7s,baz=289,slow=1.4,SNR=10
ECSD EROS Data Cent 121.92 8 *e*PKPdf **PKPdf** **06 28 53.6 -0.5**
MVU Marysvale 122.73 23 *e*PKPdf **PKPdf** **06 28 56.6 +0.4**
ANMO Albuquerque 127.98 20 *e*PKPdf **PKPdf** **06 29 07.1 +0.9**
LAZ Ladron 128.24 21 *e*PKPdf **PKPdf** **06 29 06.7 -0.1**
TXAR Lajitas Array 134.05 20 PKP **PKPdf** **06 29 18.5 +0.7**
TXAR Lajitas Array 134.05 20 PKP **PKPdf** **06 29 18.5 +0.7**
comp=Z,0.4nm,0.6s,baz=171,slow=1.5,SNR=7.4
JCT Junction City 134.13 15 *e*PKIKP **PKPdf** **06 29 17.5 -0.3**
JCT Junction City 134.13 15 *e*PKPdf **PKPdf** **06 29 17.5 -0.3**
CPUP Villa Florida 149.62 241 PKPbc **PKPbc** **06 29 48.1 -1.7**
CPUP Villa Florida 149.62 241 PKPbc **PKPbc** **06 29 48.1 -1.7**
comp=Z,2.1nm,0.7s,baz=166,slow=19,SNR=5.1
ROSC El Rosal 157.46 325 PKPab **PKPab** **06 30 29.1 +0.4**
ROSC El Rosal 157.46 325 PKPab **PKPab** **06 30 29.1 +0.4**
comp=Z,1.2nm,0.4s,baz=90,slow=19,SNR=4.3
LPAZ La Paz 161.62 260 PKP **PKPdf** **06 30 01.3 -0.9**
LPAZ PKPab **PKPab** **06 30 46.9 -0.4**
LPAZ La Paz 161.62 260 PKP **PKPdf** **06 30 01.3 -0.9**
comp=Z,1.2nm,1.0s,baz=246,slow=3.6,SNR=3.6
LPAZ PKPab **PKPab** **06 30 46.9 -0.4**

comp=Z,2.3nm,1.0s,baz=11,slow=5.0,SNR=5.2

ISCJB 11 06:10:04.1±0.8,5.°22N±0.°08×126.°5E±0.°2,h66km,mb3.5/5, Error ellipse: s-maj=28.3km s-min=6.8km az=160.5
MAN 11 06:10:06,5.°67N×126.°45E,h142km,mb4.2,ML3.1,MS2.8
IDC 11 06:10:07.1±3.7,6.°18N×127.°04E,h149km±30km,mb3.3/5, mb1 3.4/5,mb1mx3.2/24,mbtmp3.3/5,Error ellipse: s-maj=91.2km s-min=21.6km az=64.0

ISC 11 06:10:05.8±1.0,5.°27N±0.°09×126.°5E±0.°2,h66km,n10, σ1°28/12,mb3.3/5,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.68**	**354**	*eP*	**Pn**	**06 10 33.4**	**+0.3**
MATI				*eS*	**Sn**	**06 10 52.5**	**-1.1**
DAV	**Davao City (W)**	**1.99**	**334**	P	**Pn**	**06 10 37.9**	**+0.7**
	120nm,0.3s,baz=206,slow=4.1,SNR=8.3						
DAV				S	**Sn**	**06 11 03.5**	**+2.4**
	80nm,0.3s,baz=288,slow=20,SNR=3.4						
DMPH	**Davao City--Mi**	**2.03**	**333⇑**	*eP*	**Pn**	**06 10 38.5**	**+0.6**
DMPH				*eS*	**Sn**	**06 11 01.5**	**-0.7**
BUKP	**Musuan**	**2.94**	**332**	*eP*	**Pn**	**06 10 48.9**	**-1.3**
PAGZ	**Pagadian**	**3.98**	**310**	*eP*	**Pn**	**06 11 03.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**23.23**	**182**	P	**P**	**06 15 09.3**	**+1.8**
	0.9nm,0.8s,baz=8.9,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**26.23**	**163**	P	**P**	**06 15 34.5**	**-0.3**
	0.3nm,0.3s,baz=345,slow=10,SNR=15						
ASAR	**Alice Springs**	**29.66**	**166**	P	**P**	**06 16 05.2**	**-0.3**
	0.2nm,0.3s,baz=348,slow=7.5,SNR=6.0						
STKA	**Stephens Creek**	**39.66**	**160**	P	**P**	**06 17 30.6**	**-0.8**
	2.3nm,0.5s,baz=349,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**56.14**	**325**	P	P	06 19 28.3	-10
	0.8nm,0.8s,baz=112,slow=6.5,SNR=2.7						

ISCJB 11 06:10:52.9±0.5,59.°82N±0.°03×24.°44E±0.°08,h0km,Error ellipse: s-maj=6.2km s-min=4.7km az=153.1
CSEM 11 06:10:54.2±0.2,59.°84N×24.°57E,h2km,ML2.3,Error ellipse: s-maj=4.8km s-min=3.8km az=80.0,Mining explosion.
IDC 11 06:10:54.5±2.0,59.°83N×24.°66E,h0km,mb1 3.0/3, mb1mx2.9/27,mbtmp3.0/3,ML2.7/3,Error ellipse: s-maj=22.0km s-min=7.3km az=143.0
HEL 11 06:10:54.8±0.1,59.°83N×24.°44E,h0km,ML2.2,Explosion
NAO 11 06:10:55.5±1.0,59.°83N×24.°67E,ML2.3
BER 11 06:10:57.3±4.4,59.°85N×24.°80E,h20km±31km, ML2.3(NAO)

ISC 11 06:10:53.6±0.7,59.°82N±0.°03×24.°47E±0.°03,h0km,n33, σ0°76/41,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.40**	**355**	*eP*	**Pg**	**06 11 01.9**	**+0.6**
MEF				*eS*	**Sg**	**06 11 06.4**	**-0.1**
MEF	**Metsahovi**	**0.40**	**355**	P	**Pg**	**06 11 01.9**	**+0.6**
MEF				S	**Sg**	**06 11 06.4**	**-0.1**
PVF	**Pernaja**	**1.01**	**43**	*eP*	**Pg**	**06 11 12.7**	**-0.2**
PVF	**Pernaja**	**1.01**	**43**	P	**Pg**	**06 11 12.7**	**-0.2**
MTSE	**Matsula**	**1.16**	**197**	*eP*	**Pg**	**06 11 15.8**	**0.0**
MTSE	**Matsula**	**1.16**	**197**	P	**Pg**	**06 11 15.7**	**0.0**
VJF	**Virojoki**	**1.70**	**64**	*eP*	**Pb**	**06 11 25.0**	**-0.7**
VJF	**Virojoki**	**1.70**	**64**	P	**Pb**	**06 11 25.0**	**-0.7**
VSU	**Vasula**	**1.79**	**138**	Pg	**Pb**	**06 11 27.0**	**-0.2**
VSU				Lg	Lg	06 11 50.6	
VSU	**Vasula**	**1.79**	**138**	Pg	**Pb**	**06 11 27.0**	**-0.2**
VSU				Lg	Lg	06 11 50.6	
VSU	**Vasula**	**1.79**	**138**	*eP*	**Pn**	**06 11 26.6**	**+0.9**
VSU				*eS*	**Sb**	**06 11 50.3**	**+0.1**
VSU	**Vasula**	**1.79**	**138**	P	**Pn**	**06 11 26.6**	**+0.9**
VSU	**Vasula**	**1.79**	**138**	Pg	**Pb**	**06 11 27.0**	**-0.2**
	SNR=93						
VSU				*eS*	**Sn**	**06 11 49.6**	**+0.5**
	SNR=50						
VSU				Lg	Lg	06 11 50.6	
	SNR=29						
RAF	**Rauma**	**1.81**	**313**	*eP*	**Pb**	**06 11 27.5**	**0.0**
	SNR=50						
RAF				*eS*	**Sb**	**06 11 51.0**	**+0.3**
	49nm,0.1s,SNR=50						
FIA0	**FINESS Array S**	**1.81**	**25**	Pg	**Pb**	**06 11 27.4**	**-0.2**
	baz=201,slow=18						
FIA0				Lg	Lg	06 11 50.4	
	baz=193,slow=28						
FIA0	**FINESS Array S**	**1.81**	**25**	Pg	**Pb**	**06 11 27.4**	**-0.2**
	baz=201,slow=18						
FIA0				Lg	Lg	06 11 50.4	
	baz=193,slow=28						
FIA0	**FINESS Array S**	**1.81**	**25**	Pg	**Pb**	**06 11 27.4**	**-0.2**
	baz=201,slow=17,SNR=93						
FIA0				Lg	Lg	06 11 50.3	
	baz=193,slow=24,SNR=90						
FINES	**FINESS Array B**	**1.81**	**25**	Pn	**Pb**	**06 11 27.3**	**-0.2**
	3.5nm,0.3s,baz=204,slow=13,SNR=72						
FINES				Lg	Lg	06 11 50.0	
	4.9nm,0.3s,baz=204,slow=30,SNR=14						
KEF	**Keuruu**	**2.37**	**5**	MSG		06 12 11.5	
	comp=Z,12nm,0.1s						
KAF	**Kangasniemi**	**2.47**	**20**	MSG		06 12 14.4	
	comp=Z,9.6nm,0.1s						
SLIT	**Slitere, Latvi**	**2.47**	**208**	*eP*	**Pb**	**06 11 38.2**	**-0.7**
	SNR=50						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 12 16.8**	**+1.2**
	baz=112,slow=14						
HFS				Sn	**Sn**	**06 13 19.4**	**+0.7**
	baz=100,slow=28						
HFS				Lg	Lg	06 13 49.5	
	baz=87,slow=28						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 12 16.8**	**+1.2**
	baz=112,slow=14						
HFS				Sn	**Sn**	**06 13 19.4**	**+0.7**
	baz=100,slow=28						
HFS				Lg	Lg	06 13 49.5	
	baz=87,slow=28						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 12 16.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=88,slow=16,SNR=5.0						
HFS				Sn	**Sn**	**06 13 17.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=86,slow=24,SNR=5.3						
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**06 12 16.8**	**+1.2**
	baz=112,slow=13,SNR=55						
HFS				Sn	**Sn**	**06 13 19.4**	**+0.7**
	baz=100,slow=25,SNR=55						
HFS				Lg	Lg	06 13 49.5	
	baz=87,slow=27,SNR=4.4						
NB2	**NORSAR Subarra**	**6.68**	**286**	Pn	**Pn**	**06 12 33.0**	**+0.1**
	baz=92,slow=14						
NB2	**NORSAR Subarra**	**6.68**	**286**	Pn	**Pn**	**06 12 33.0**	**+0.1**
	baz=92,slow=14						
NB2	**NORSAR Subarra**	**6.68**	**286**	Pn	**Pn**	**06 12 33.0**	**+0.1**
	baz=92,slow=14,SNR=55						
NOA	**NORSAR Array B**	**6.68**	**286**	Pn	**Pn**	**06 12 32.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=15,SNR=6.9						
NOA				Sn	**Sn**	**06 13 46.5**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=2.0						
NOA				Lg	Lg	06 14 20.7	
	comp=Z,0.4nm,0.3s,baz=246,slow=15,SNR=2.9						
ARA0	**ARCESS Array S**	**9.77**	**2**	Pn	**Pn**	**06 13 15.1**	**-0.1**
	baz=178,slow=16						
ARA0	**ARCESS Array S**	**9.77**	**2**	Pn	**Pn**	**06 13 15.1**	**-0.1**
	baz=178,slow=16						
ARA0	**ARCESS Array S**	**9.77**	**2**	Pn	**Pn**	**06 13 15.1**	**-0.1**
	baz=178,slow=14,SNR=55						
ARCES	**ARCESS Array B**	**9.77**	**2**	Pn	**Pn**	**06 13 14.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=6.1						

IDC 11 06:11:06.9±2.1,59.°87N×24.°55E,h0km,mb1 3.1/3, mb1mx2.9/27,mbtmp3.0/3,ML2.9/3,Error ellipse: s-maj=24.9km s-min=7.3km az=144.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**1.75**	**25**	Pn	Pn	06 11 39.1	+0.6
	3.6nm,0.3s,baz=203,slow=14,SNR=19						
FINES				Lg	Lg	06 12 02.5	
	5.7nm,0.3s,baz=206,slow=31,SNR=11						
HFS	**Hagfors**	**5.46**	**278**	Pn	Pn	06 12 29.5	+0.1
	0.2nm,0.3s,baz=86,slow=12,SNR=6.3						
HFS				Sn	Sn	06 13 27.4	-5.4
	0.3nm,0.3s,baz=95,slow=26,SNR=3.1						
NOA	**NORSAR Array B**	**6.70**	**286**	Pn	Pn	06 12 44.4	-2.2
	0.4nm,0.3s,baz=88,slow=14,SNR=6.6						
NOA				Sn	Sn	06 13 56.3	-7.3
	0.2nm,0.3s,baz=125,slow=11,SNR=2.8						
NOA				Lg	Lg	06 14 32.4	
	0.5nm,0.3s,baz=126,slow=18,SNR=3.5						
ARCES	**ARCESS Array B**	**9.72**	**2**	Pn	Pn	06 13 25.2	-2.6
	0.1nm,0.3s,baz=178,slow=14,SNR=5.5						

ISCJB 11 06:13:49.1±0.6,24.°02S±0.°05×66.°81W±0.°08, h192km±11km,mb3.0/2,Error ellipse: s-maj=12.5km s-min=7.6km az=175.6
IDC 11 06:13:49.6±1.7,24.°06S×66.°73W,h178km±19km,mb2.9/2, mb1 3.1/6,mb1mx3.0/19,mbtmp2.9/6,Error ellipse: s-maj=25.6km s-min=16.5km az=105.0
GUC 11 06:13:53.9±0.6,23.°73S×67.°50W,h239km±21km,ML4.2
NEIC 11 06:13:53.9,23.°73S×67.°50W,h239km,MG4.2(GUC), After GUC.

ISC 11 06:13:49.6±0.9,24.°00S±0.°07×66.°80W±0.°08, h183km±11km,n26,σ1°69/36,2C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**305**	*ePn*	**Pn**	**06 14 33.4**	**+2.0**
LVC				*eSn*	**Sn**	**06 15 05.2**	**+1.4**
PB06	**Plate Boundary**	**2.85**	**296**	*eP*	**Pn**	**06 14 38.5**	**+1.7**
PB06				*eS*	**Sn**	**06 15 13.1**	**-0.4**
PB06	**Plate Boundary**	**2.85**	**296**	*eP*	**Pn**	**06 14 38.5**	**+1.7**
PB06				*eS*	**Sn**	**06 15 13.1**	**-0.4**
PB06				AML	AML	06 15 17.9	
	comp=E,370nm,0.3s						
PB04	**Plate Boundary**	**3.02**	**304**	*eP*	Pn	06 14 46.0	+7.4
PB04				*eS*	Sn	06 15 25.6	+8.8
PB04	**Plate Boundary**	**3.02**	**304**	*eP*	Pn	06 14 46.0	+7.4
PB04				*eS*	Sn	06 15 25.6	+8.8
PB04				AML	AML	06 15 32.0	
	comp=N,251nm,0.3s						
PB09	**Plate Boundary**	**3.14**	**314⇑**	*eP*	**Pn**	**06 14 42.5**	**+2.2**
PB09				*eS*	**Sn**	**06 15 19.8**	**-0.1**
PB09	**Plate Boundary**	**3.14**	**314⇑**	*eP*	**Pn**	**06 14 42.5**	**+2.2**
PB09				*eS*	**Sn**	**06 15 19.8**	**-0.1**
PB09				AML	AML	06 15 21.5	
	comp=N,448nm,0.3s						
CEN1	**Los Morros**	**3.17**	**280**	P	Pn	06 14 44.6	+4.0
CEN1	**Los Morros**	**3.17**	**280**	*eP*	Pn	06 14 44.6	+4.0
ANCH	**Antofagasta**	**3.32**	**275**	*eP*	**Pn**	**06 14 44.1**	**+1.9**
ANCH				*eS*	**Sn**	**06 15 21.8**	**-1.6**
ANCH	**Antofagasta**	**3.32**	**275**	*eP*	**Pn**	**06 14 44.1**	**+1.9**
ANCH				*eS*	**Sn**	**06 15 21.8**	**-1.6**
PB10	**Plate Boundary**	**3.47**	**277**	*eP*	**Pn**	**06 14 45.6**	**+1.5**
PB10				*eS*	**Sn**	**06 15 24.6**	**-2.2**
PB10				AML	AML	06 15 30.0	
	comp=E,805nm,0.3s						
PB07	**Plate Boundary**	**3.63**	**308**	*eP*	**Pn**	**06 14 47.3**	**+0.9**
PB07				*eS*	**Sn**	**06 15 28.3**	**-2.5**
PB07	**Plate Boundary**	**3.63**	**308**	*eP*	**Pn**	**06 14 47.3**	**+0.9**
PB07				*eS*	**Sn**	**06 15 28.3**	**-2.5**
PB07				AML	AML	06 15 30.5	
	comp=E,300nm,0.4s						
PB01	**Plate Boundary**	**3.85**	**319**	*eP*	**Pn**	**06 14 50.0**	**+0.9**
PB01				*eS*	**Sn**	**06 15 32.7**	**-2.8**
PB01	**Plate Boundary**	**3.85**	**319**	*eP*	**Pn**	**06 14 50.0**	**+0.9**
PB01				*eS*	**Sn**	**06 15 32.7**	**-2.8**
PB01				AML	AML	06 15 35.9	
	comp=E,142nm,0.1s						
CFAA	**Coronel Fontan**	**7.68**	**189**	P	**Pn**	**06 15 39.6**	**+0.9**
	comp=E,0.0nm,0.3s,baz=10,slow=13,SNR=8.7						
CFAA				S	**Sn**	**06 17 02.9**	**-2.2**
	comp=E,0.2nm,0.3s,baz=40,slow=17,SNR=20						
LPAZ	**La Paz**	**7.77**	**351**	*ePn*	**Pn**	**06 15 40.5**	**-0.1**
LPAZ	**La Paz**	**7.77**	**351**	P	**Pn**	**06 15 41.8**	**+1.3**
	comp=E,0.1nm,0.3s,baz=197,slow=20,SNR=5.9						
LPAZ				S	**Sn**	**06 17 06.6**	**-1.7**
	comp=E,0.1nm,0.3s,baz=119,slow=17,SNR=2.5						
CPUP	**Villa Florida**	**8.89**	**107**	P	**Pn**	**06 15 53.2**	**-1.3**
	comp=E,0.1nm,0.3s,baz=306,slow=19,SNR=3.4						
SIV	**San Ignacio**	**9.61**	**35**	P	**Pn**	**06 16 03.1**	**-1.0**
	comp=E,0.8nm,0.3s,baz=243,slow=12,SNR=12						
BDFB	**Brasilia**	**19.52**	**68**	P	**P**	**06 18 04.9**	**+1.7**
	comp=E,0.2nm,0.3s,baz=245,slow=7.4,SNR=3.6						
TXAR	**Lajitas Array**	**63.78**	**324**	P	**P**	**06 24 03.4**	**+1.1**
	comp=E,0.2nm,0.8s,baz=161,slow=5.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**06 25 18.3**	**-0.9**
	comp=E,0.2nm,0.4s,baz=239,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**131.71**	**207**	PKP	**PKPdf**	**06 32 41.3**	**-0.1**
	comp=E,0.2nm,0.5s,baz=161,slow=1.7,SNR=5.2						
MKAR	**Makanchi Array**	**146.41**	**40**	PKPbc	**PKPab**	**06 33 10.3**	**+0.2**
	comp=E,0.5nm,0.5s,baz=277,slow=3.8,SNR=3.0						

IDC 11 06:25:56.7±0.6,13.°88N×93.°00E,h0km,mb4.1/16, mb1 4.2/17,mb1mx4.0/29,mbtmp4.0/17,MS3.4/1, Ms1 3.4/1,ms1mx2.5/49,Error ellipse: s-maj=24.4km s-min=13.9km az=58.0
ISCJB 11 06:25:59.7±0.5,13.°93N±0.°06×93.°17E±0.°07,h32km, mb4.0/18,MS3.3/1,Error ellipse: s-maj=9.2km s-min=9.0km az=135.8
NEIC 11 06:26:02.0±0.3,13.°89N×93.°05E,h35km,mb4.0/2,Error ellipse: s-maj=9.1km s-min=6.3km az=54.0

ISC 11 06:26:01.8±0.6,13.°97N±0.°08×93.°07E±0.°07,h32km,n45, σ1°24/49,mb4.1/18,1C,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.20**	**51**	Pn	**Pn**	**06 27 46.4**	**+1.4**
CMAR				Sn	**Sn**	**06 29 04.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**7.20**	**51**	Pn	**Pn**	**06 27 46.4**	**+1.4**
	baz=242,slow=14,SNR=7.2						
CMAR				Sn	**Sn**	**06 29 04.1**	**-1.6**
	0.9nm,0.3s,baz=242,slow=30,SNR=4.5						
CHTO	**Chiang Mai**	**7.42**	**49**	*ePn*	**Pn**	**06 27 48.6**	**+0.6**
	4.3nm,0.6s						
KULM	**Kulim**	**11.41**	**138**	Pn	**Pn**	**06 28 42.0**	**-0.6**
JBP	**Jabalpur**	**15.40**	**308⇑**	*iP*	**P**	**06 29 45.0**	**+3.8**
JBP				*i* x	x	06 29 48.2	
	comp=Z,9.1nm,0.6s						
JBP				*eS*	**Sn**	**06 32 21.1**	**-5.5**
AAK	**Ala-Archa**	**32.76**	**334**	LR	LR	06 47 05.8	
	comp=Z,61nm,18.9s,baz=62,slow=39						
MKAR	**Makanchi Array**	**33.95**	**347**	P	**P**	**06 32 43.0**	**+0.7**
MKAR	**Makanchi Array**	**33.95**	**347**	P	**P**	**06 32 43.0**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=163,slow=8.9,SNR=11						
SONM	**Songino Array**	**35.54**	**15**	P	**P**	**06 32 56.1**	**0.0**
SONM	**Songino Array**	**35.54**	**15**	P	**P**	**06 32 56.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=197,slow=9.0,SNR=6.7						
KURBB	**Kurchatov Arra**	**38.42**	**345**	P	**P**	**06 33 20.9**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=161,slow=8.2,SNR=17						
KURK	**Kurchatov**	**38.48**	**345**	P	**P**	**06 33 20.9**	**+0.1**
ZALV	**Zalesovo Beam**	**40.42**	**352**	P	**P**	**06 33 37.1**	**+0.2**
ZALV	**Zalesovo Beam**	**40.42**	**352**	P	**P**	**06 33 37.1**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=175,slow=8.3,SNR=7.9						
BVAR	**Borovoye Array**	**42.93**	**340**	P	**P**	**06 33 56.9**	**-0.6**
BVAR	**Borovoye Array**	**42.93**	**340**	P	**P**	**06 33 56.9**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=123,slow=5.3,SNR=3.4						
ABKAR	**Akbulak array**	**44.45**	**329**	*eP*	**P**	**06 34 10.6**	**+0.8**
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**45.25**	**134**	P	**P**	**06 34 15.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**45.25**	**134**	P	**P**	**06 34 15.2**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=335,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**52.76**	**129**	P	**P**	**06 35 13.5**	**-0.7**
WRA				PcP	**PcP**	**06 36 23.3**	**-0.2**
WRA	**Warramunga Arr**	**52.76**	**129**	P	**P**	**06 35 13.5**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=310,slow=10.0,SNR=12						
WRA				PcP	**PcP**	**06 36 23.3**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=326,slow=3.3,SNR=12						
WRAB	**Tennant Creek**	**52.77**	**129**	P	**P**	**06 35 13.2**	**-1.0**
	comp=Z,2.8nm,0.9s						
ASAR	**Alice Springs**	**54.71**	**133**	P	**P**	**06 35 28.4**	**-0.1**
ASAR	**Alice Springs**	**54.71**	**133**	P	**P**	**06 35 28.4**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=310,slow=6.9,SNR=20						
BRTR	**Keskin Array B**	**57.76**	**308**	P	**P**	**06 35 49.8**	**-0.4**
BRTR	**Keskin Array B**	**57.76**	**308**	P	**P**	**06 35 49.8**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=115,slow=7.6,SNR=8.0						
FINES	**FINESS Array B**	**66.88**	**331**	P	**P**	**06 36 50.4**	**-0.2**
FINES	**FINESS Array B**	**66.88**	**331**	P	**P**	**06 36 50.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=88,slow=5.9,SNR=6.5						
ARCES	**ARCESS Array B**	**69.22**	**340**	P	**P**	**06 37 05.6**	**+0.4**
ARCES	**ARCESS Array B**	**69.22**	**340**	P	**P**	**06 37 05.6**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=87,slow=7.4,SNR=5.9						
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**06 37 26.6**	**+0.2**
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**06 37 26.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=87,slow=5.5,SNR=9.1						
NOA	**NORSAR Array B**	**73.95**	**330**	P	**P**	**06 37 33.4**	**-0.5**
NOA	**NORSAR Array B**	**73.95**	**330**	P	**P**	**06 37 33.4**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=87,slow=5.9,SNR=3.1						
BOSA	**Boshof**	**77.99**	**236**	P	**P**	**06 37 57.5**	**0.0**
BOSA	**Boshof**	**77.99**	**236**	P	**P**	**06 37 57.5**	**0.0**
	comp=Z,3.0nm,0.5s,baz=63,slow=6.1,SNR=9.7						
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**06 38 50.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**06 38 50.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=84,slow=4.5,SNR=4.1						
ILAR	**Eielson Array**	**89.52**	**22**	P	**P**	**06 38 55.8**	**+0.1**
ILAR	**Eielson Array**	**89.52**	**22**	P	**P**	**06 38 55.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=296,slow=4.1,SNR=8.8						
SFJD	**Kangerlussuaq**	**94.99**	**346**	*eP*	**P**	**06 39 20.1**	**-0.8**
NVAR	**Mina Array Bea**	**120.17**	**28**	PKP	**PKPdf**	**06 44 50.4**	**+0.1**
NVAR	**Mina Array Bea**	**120.17**	**28**	PKP	**PKPdf**	**06 44 50.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=297,slow=2.8,SNR=4.8						
TXAR	**Lajitas Array**	**134.02**	**20**	PKP	**PKPdf**	**06 45 18.5**	**+1.7**
TXAR	**Lajitas Array**	**134.02**	**20**	PKP	**PKPdf**	**06 45 18.5**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=278,slow=0.6,SNR=3.2						

ATH 11 06:26:30.3,39.°86N×23.°75E,h14km±1km,MD3.5/30, ML2.8
ISCJB 11 06:26:31.3±0.4,39.°89N±0.°01×23.°76E±0.°03,h7km±2km, Error ellipse: s-maj=3.3km s-min=2.0km az=10.7
CSEM 11 06:26:31.4±0.1,39.°90N×23.°76E,h8km,ML2.9/14,Error ellipse: s-maj=3.3km s-min=2.0km az=97.0
THE 11 06:26:31.9,39.°92N×23.°76E,h2km,ML2.9/14,Error ellipse: s-maj=0.8km s-min=0.3km az=124.0
SOF 11 06:26:31.8,40.°01N×23.°87E,h2km,MD2.7
BEO 11 06:26:34.3±1.0,39.°98N×23.°63E,h5km±4km,ML2.7/5

ISC 11 06:26:31.8±0.8,39.°90N±0.°01×23.°75E±0.°02,h7km±5km, n119,σ0°99/190,3C-1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.06**	**300**	P	**Pg**	**06 26 33.4**	**0.0**
PAIG				S	**Sg**	**06 26 34.1**	**-0.6**
PAIG	**Paliouri**	**0.06**	**300**	*e*PG	**Pg**	**06 26 33.5**	**0.0**
PAIG				*e*SG	**Sg**	**06 26 34.8**	**+0.1**
PAIG	**Paliouri**	**0.06**	**300**	*e*Pg	**Pg**	**06 26 33.5**	**0.0**
PAIG				*e*Sg	**Sg**	**06 26 34.8**	**+0.1**
OUR	**Ouranopolis**	**0.47**	**22**	P	**Pg**	**06 26 40.6**	**-0.3**
OUR				S	**Sg**	**06 26 47.0**	**-0.1**
OUR	**Ouranopolis**	**0.47**	**22**	P	**Pg**	**06 26 40.6**	**-0.3**
OUR				S	**Sg**	**06 26 47.0**	**-0.1**
PLG	**Polygyros**	**0.53**	**334**	P	**Pg**	**06 26 41.4**	**-0.5**
PLG				S	**Sg**	**06 26 49.1**	**+0.2**
PLG	**Polygyros**	**0.53**	**334**	*e*PG	**Pg**	**06 26 41.5**	**-0.5**
PLG				*e*SB	**Sg**	**06 26 48.6**	**-0.3**
PLG	**Polygyros**	**0.53**	**334**	*e*Pg	**Pg**	**06 26 41.5**	**-0.5**
PLG				*e*Sb	**Sg**	**06 26 48.6**	**-0.3**
PLG				S	**Sg**	**06 26 49.1**	**+0.2**
XOR	**Xorichti**	**0.68**	**219**	P	**Pg**	**06 26 45.0**	**+0.1**
XOR				S	**Sb**	**06 26 55.7**	**+0.1**
XOR	**Xorichti**	**0.68**	**219**	P	**Pg**	**06 26 45.0**	**+0.1**
XOR				S	**Sb**	**06 26 55.7**	**+0.1**
NEO	**Neokhori**	**0.71**	**215**	P	**Pg**	**06 26 45.8**	**+0.3**
NEO				S	**Sb**	**06 26 57.1**	**+0.5**
NEO	**Neokhori**	**0.71**	**215**	P	**Pg**	**06 26 45.8**	**+0.3**
NEO				S	**Sb**	**06 26 57.1**	**+0.5**
AOS	**Alonnisos**	**0.73**	**172**	P	**Pg**	**06 26 45.8**	**-0.1**
AOS				S	**Sb**	**06 26 57.5**	**+0.4**
AOS	**Alonnisos**	**0.73**	**172**	P	**Pg**	**06 26 45.8**	**-0.1**
AOS				S	**Sb**	**06 26 57.5**	**+0.4**
SKIA	**Skiathos**	**0.76**	**197**	P	**Pb**	**06 26 46.9**	**-0.4**
SKIA				S	**Sb**	**06 26 58.0**	**+0.1**
SKIA	**Skiathos**	**0.76**	**197**	P	**Pb**	**06 26 46.9**	**-0.4**
SKIA				S	**Sb**	**06 26 58.0**	**+0.1**
HORT	**Hortiatis**	**0.86**	**325**	P	**Pg**	**06 26 47.2**	**-1.0**
HORT				S	**Sg**	**06 27 00.0**	**+0.6**
HORT	**Hortiatis**	**0.86**	**325**	P	**Pg**	**06 26 47.2**	**-1.0**
HORT				S	**Sg**	**06 27 00.0**	**+0.6**
THE	**Thessaloniki**	**0.95**	**321**	P	**Pg**	**06 26 49.0**	**-0.9**
THE				S	**Sb**	**06 27 03.3**	**+0.1**
THE	**Thessaloniki**	**0.95**	**321**	P	**Pg**	**06 26 49.0**	**-0.9**
THE				S	**Sb**	**06 27 03.3**	**+0.1**
SOH	**Sokhos**	**0.97**	**342**	P	**Pg**	**06 26 49.8**	**-0.6**
SOH				S	**Sb**	**06 27 04.0**	**0.0**
SOH	**Sokhos**	**0.97**	**342**	*e*PN	**Pg**	**06 26 49.9**	**-0.5**
SOH				*e*SB	**Sb**	**06 27 03.9**	**0.0**
SOH	**Sokhos

TRIZ	Trizonia	2.01	221	*e*Pn	Pn	06 27 05.5	-0.5
TRIZ				*e*Sn	Sn	06 27 31.1	-0.3
FNA	Florina	2.02	297	*e*PN	Pn	06 27 07.0	+0.8
FNA	Florina	2.02	297	*e*Pn	Pn	06 27 07.0	+0.8
ALN	Alexandroupoli	2.02	60	*e*PN	Pn	06 27 07.1	+0.9
ALN	Alexandroupoli	2.02	60	*e*Pn	Pn	06 27 07.1	+0.9
KKB	Krupnik	2.03	346	P	Pn	06 27 05.3	-1.1
KKB	Krupnik	2.03	346	P	Pn	06 27 05.3	-1.1
EFP	Efpalio	2.05	225	*e*PN	Pn	06 27 06.8	+0.2
EFP				*e*SN	Sn	06 27 32.4	0.0
EFP	Efpalio	2.05	225	*e*Pn	Pn	06 27 06.8	+0.2
EFP				*e*Sn	Sn	06 27 32.4	0.0
NAIG	Nisos Aigina	2.15	185	*e*PN	Pn	06 27 08.0	+0.1
NAIG	Nisos Aigina	2.15	185	*e*Pn	Pn	06 27 08.0	+0.1
LAKA	Lakka	2.15	220	*e*PB	Pn	06 27 06.2	-1.9
LAKA	Lakka	2.15	220	*e*Pb	Pn	06 27 06.2	-1.9
KDZ	Kurdzhali	2.16	35	P	Pn	06 27 07.1	-1.1
KDZ	Kurdzhali	2.16	35	P	Pn	06 27 07.1	-1.1
KLV	Kalavryta, Ach	2.23	214	*e*PN	Pn	06 27 08.2	-1.0
KLV				*e*SN	Sn	06 27 36.7	-0.3
KLV	Kalavryta, Ach	2.23	214	*e*Pn	Pn	06 27 08.2	-1.0
KLV				*e*Sn	Sn	06 27 36.7	-0.3
GUR	Goura	2.24	210	*e*PN	Pn	06 27 06.9	-2.5
GUR				*e*SN	Sn	06 27 37.0	-0.4
GUR	Goura	2.24	210	*e*Pn	Pn	06 27 06.9	-2.5
GUR				*e*Sn	Sn	06 27 37.0	-0.4
PLD	Plovdiv	2.32	18	*e*Pn	Pb	06 27 13.2	-0.7
PLD				*e*Sn	Sb	06 27 42.1	-0.7
PLD	Plovdiv	2.32	18	*e*Pn	Pb	06 27 13.2	-0.7
PLD				*e*Sn	Sb	06 27 42.1	-0.7
CHOS	Chios island	2.34	129	*e*PN	Pn	06 27 11.4	+0.6
CHOS	Chios island	2.34	129	*e*Pn	Pn	06 27 11.4	+0.6
DID	Didima	2.42	190	*e*PB	Pn	06 27 10.8	-1.0
DID				*e*SN	Sn	06 27 40.6	-1.0
DID	Didima	2.42	190	*e*Pb	Pn	06 27 10.8	-1.0
DID				*e*Sn	Sn	06 27 40.6	-1.0
RLS	Riolos of Patr	2.56	225	*e*PB	Pn	06 27 12.4	-1.2
RLS	Riolos of Patr	2.56	225	*e*Pb	Pn	06 27 12.4	-1.2
VTS	Vitosha	2.72	352	P	Pn	06 27 17.1	+1.0
VTS	Vitosha	2.72	352	||*i*P	Sn	06 27 48.4	-0.9
VTS	Vitosha	2.72	352	*e*Pn	Pn	06 27 17.0	+1.0
VTS				*e*Sn	Sn	06 27 50.2	+0.9
VTS	Vitosha	2.72	352	*e*Pn	Pn	06 27 17.0	+1.0
VTS				*e*Sn	Sn	06 27 50.2	+0.9
VLX	Vlachokerasia	2.74	203	*e*PB	Pn	06 27 16.2	0.0
VLX	Vlachokerasia	2.74	203	*e*Pb	Pn	06 27 16.2	0.0
VLI	Veliai	3.24	192	*e*PN	Pn	06 27 22.3	-0.7
VLI	Veliai	3.24	192	*e*Pn	Pn	06 27 22.3	-0.7
BARS	Barje	3.26	334	*e*Pn	Pn	06 27 23.5	+0.2
BARS				*e*Sn	Sn	06 28 00.4	-1.9
BARS	Barje	3.26	334	*e*Pn	Pn	06 27 23.5	+0.2
BARS				*e*Sn	Sn	06 28 00.4	-1.9
DYR	Agios Nikonas	3.32	200	*e*PB	Pn	06 27 25.2	+1.1
DYR	Agios Nikonas	3.32	200	*e*Pb	Pn	06 27 25.2	+1.1
JMB	Yambol	3.34	39	*e*Pn	Pn	06 27 27.0	+2.6
JMB				*e*Sg	Sg	06 28 19.0	-0.1
JMB	Yambol	3.34	39	*e*Pn	Pn	06 27 27.0	+2.6
PYL	PYLOS	3.39	208	*e*PB	Pn	06 27 26.6	+1.6
PYL	PYLOS	3.39	208	*e*Pb	Pn	06 27 26.6	+1.6
ZAPS	Zavoj	3.48	346	*e*Pn	Pn	06 27 28.0	+1.7
SELS	Selova	3.86	330	*e*Pn	Pn	06 27 32.5	+0.9
VOIR		5.62	9	||*i*P	Pn	06 27 56.9	+1.1
TIRR	Tirgusor	5.72	36	||*i*P	Sn	06 29 08.3	+5.3
TIRR				S	Sb	06 29 12.7	-8.0
PLOR	Plostina	6.32	19	||*i*P	Pn	06 28 08.1	+2.8

KRSC 11 06:34:41.4±2.1, 49°.62N×157°.00E, h166km±106km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.21	332	*e*P	Pn	06 35 08.7	-0.6
ASAK	Asacha	2.83	11	P	Pn	06 35 28.6	+1.3
MTVR	Mutnovka	2.96	14	S	Sn	06 36 09.1	+2.9
RUS	Russkaya	2.97	18	*e*P	Pn	06 35 31.7	+2.7
RUS				*e*S	Sn	06 36 08.4	+2.4
NLC	Nalytchevo	3.85	22	S	Sn	06 36 27.4	+1.7
SPN	Mys Shipunski	3.96	27	*e*P	Pn	06 35 44.1	+2.6
SPN				S	Sn	06 36 29.6	+1.1
GNL	Ganaly	4.12	8	P	Pn	06 35 43.8	+0.1
MKZ	Mys Kozlova	5.74	29	P	Pn	06 36 04.9	+0.3

BKK ***11*** *06:49:17.3±3.6, 11°N±7°×8°7E±3°6, h10km, M4.8/10, mB5.5/4, mb4.7/10, Mw(mB)5.0/4*
IDC ***11*** *06:50:35.2±2.6, 14°.97N×93°.07E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/28, mbtmp3.6/6, ML3.8/1, MS3.3/2, Ms1 3.4/2, ms1mx2.7/37, Error ellipse: s-maj=54.0km s-min=29.9km az=160.0*
ISC 11 06:50:40.6±1.5, 15°.0N±0°.1×93°.05E±0°.10, h35km, n25, σ19°67/14, mb3.7/5, 1D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.59	58	Pn	Pn	06 52 13.8	-1.3
	0.5nm,0.3s,baz=240,slow=15,SNR=6.6						
CMAR				Sn	Sn	06 53 31.0	+2.0
	0.2nm,0.3s,baz=243,slow=28,SNR=5.5						
CMAR				LR	LR	06 55 16.5	
	comp=Z,73nm,20.8s,baz=105,slow=43						
PHET	Kaeng Krachan	6.72	107	P	Pn	06 52 08.2	-8.6
	117nm,0.6s,3μm						
CHTO	Chiang Mai	6.78	55	P	Pn	06 52 28.8	+11
	16nm,0.8s						
CMMT	Chiang Mai	6.78	55	P	Pn	06 52 28.4	+11
	15nm,0.8s						
LAMP	Lampang	7.20	60	P	Pn	06 52 38.2	+15
	8.3nm,0.5s						
CMAI	Chiengmai2	7.51	49	P	Pn	06 52 39.6	+12
	15nm,0.5s,953nm						
PBKT	Sadao Pong	7.77	78	P	Pn	06 52 38.4	+7.1
	13nm,1.1s						
PAYA	Payao	7.81	56	P	Pn	06 52 41.0	+9.2
	9.5nm,0.5s,107nm						
LOEI	Loei	8.26	72	P	Pn	06 52 48.3	+10
SHL	Shillong	10.54	354	*e*P	Pn	06 53 18.0	+8.6
SHL				*e*S	Sn	06 55 05.0	-1.4
ODAN	Odare	12.90	337	*e*P	Pn	06 53 44.3	+2.5
	13nm,0.3s						
TAPN	Taplejung	13.23	339	*e*P	Pn	06 53 48.8	+2.5
PKI	Pulchoki	14.36	332	*e*P	Pn	06 54 03.2	+1.4
	8.0nm,0.3s						
PKIN	Phulchoki	14.38	332	*e*P	Pn	06 54 03.7	+1.8
	11nm,0.3s						
GUN	Gumba	14.45	334	*e*P	Pn	06 54 05.1	+2.1
DMN	Daman	14.54	331	*e*P	Pn	06 54 05.4	+1.3
	4.5nm,0.3s						
JBP	Jabalpur	14.76	305	||*i*P	P	06 54 17.7	+5.2
JBP				*i* x	x	06 54 18.1	
	comp=Z,14nm,0.7s						
JBP				*e*S	x	06 57 41.1	
KOLN	Koldanda	15.43	327	*e*P	Pn	06 54 16.7	+0.9
	comp=Z,6.8nm,0.3s						
PYUN	Piuthan	16.01	326	*e*P	P	06 54 24.6	-2.0
MKAR	Makanchi Array	32.92	346	P	P	06 57 12.8	+1.2
	comp=Z,0.5nm,0.6s,baz=162,slow=8.4,SNR=5.9						
SONM	Songino Array	34.53	16	P	P	06 57 24.6	-1.1
	comp=Z,0.6nm,0.6s,baz=207,slow=9.3,SNR=4.1						
KURBB	Kurchatov Arra	37.40	345	P	P	06 57 51.1	+1.0
	comp=Z,0.9nm,0.6s,baz=161,slow=7.9,SNR=2.2						
NWAO	Narrogin (SRO)	52.99	154	LR	LR	07 21 34.2	
	comp=Z,105nm,20.3s,baz=41,slow=35						
BRTR	Keskin Array B	57.10	308	P	P	07 00 22.4	-1.4
	comp=Z,0.4nm,0.4s,baz=111,slow=7.9,SNR=3.0						
TORD	Torodi Ar. Bea	87.94	283	P	P	07 03 28.6	+1.1
	comp=Z,0.3nm,1.0s,baz=97,slow=4.3,SNR=2.3						

IDC ***11*** *06:51:55.7±0.7, 8°.44S×126°.78E, h0km, mb4.0/10, mb1 4.1/15, mb1mx4.0/27, mbtmp4.1/15, ML4.1/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/26, Error ellipse: s-maj=25.1km s-min=14.7km az=65.0*
ISCJB ***11*** *06:51:58.1±0.5, 8°.57S±0°.05×126°.77E±0°.05, h33km, mb4.0/10, MS3.3/2, Error ellipse: s-maj=8.3km s-min=5.2km az=41.0*
NEIC ***11*** *06:52:00.7±0.4, 8°.55S×126°.80E, h35km, mb4.2/1, Error ellipse: s-maj=12.6km s-min=7.8km az=54.0*
AUST ***11*** *06:52:16.0, 9°.49S×127°.04E, h100km*
ISC 11 06:52:00.7±0.6, 8°.71S±0°.06×126°.75E±0°.06, h35km, n50, σ29°29/58, mb4.0/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	3.39	244	Pn	Pn	06 52 52.8	+1.6
BATI				Sn	Sn	06 53 30.9	+0.7
BATI	Baumata	3.39	244	Pn	Pn	06 52 52.8	+1.6
	14nm,0.3s,baz=136,slow=3.8,SNR=9.8						
BATI				Sn	Sn	06 53 30.9	+0.7
	17nm,0.3s,baz=63,slow=18,SNR=5.7						
MTN	Manton Dam	5.95	134	P	Pn	06 53 32.8	+6.5
	baz=5.2,SNR=30						
MTN				S	Sn	06 54 36.6	+3.3
	baz=5.2,SNR=8.5						
KDU	Kakadu	6.87	126	P	Pn	06 53 44.9	+5.9
	baz=6.2,SNR=10						
KNRA	Kununurra	7.20	164	P	Pn	06 53 48.5	+5.1
	baz=6.4,SNR=9.2						
KNRA				S	Sn	06 55 05.0	+1.0
	baz=6.4,SNR=7.4						
KAPI	Kappang	7.86	297	Pn	Pn	06 53 51.6	-1.0
KAPI				Sn	Sn	06 55 20.2	-0.2
KAPI	Kappang	7.86	297	Pn	Pn	06 53 51.6	-1.0
	baz=104,slow=19,SNR=1.7						
KAPI				Sn	Sn	06 55 20.2	-0.2
	1.0nm,0.3s,baz=198,slow=16,SNR=2.0						
FITZ	Fitzroy Crossi	9.40	186	Pn	Pn	06 54 15.1	+1.4
FITZ				Sn	Sn	06 55 53.1	-5.0
FITZ	Fitzroy Crossi	9.40	186	Pn	Pn	06 54 15.1	+1.4
	1.6nm,0.3s,baz=360,slow=15,SNR=39						
FITZ				Sn	Sn	06 55 53.1	-5.0
	8.1nm,0.3s,baz=353,slow=12,SNR=13						
FITZ	Fitzroy Crossi	9.40	186	P	Pn	06 54 15.2	+1.5
	baz=8.7,SNR=33						
FITZ				S	Sn	06 55 53.3	-4.8
	baz=8.7,SNR=8.9						
WRAB	Tennant Creek	13.36	147	*e*Pn	Pn	06 55 08.6	+0.7
	8.8nm,0.9s						
WRA	Warramunga Arr	13.36	147	Pn	Pn	06 55 08.5	+0.5
WRA				Sn	Sn	06 57 30.4	-4.9
WRA	Warramunga Arr	13.36	147	Pn	Pn	06 55 08.5	+0.5
	1.1nm,0.3s,baz=314,slow=14,SNR=46						
WRA				Sn	Sn	06 57 30.4	-4.9
	2.0nm,0.3s,baz=325,slow=21,SNR=20						
ASAR	Alice Springs	16.37	156	Pn	Pn	06 55 49.0	+1.0
ASAR				Sn	Sn	06 58 43.1	-5.6
ASAR	Alice Springs	16.37	156	Pn	Pn	06 55 49.0	+1.0
	0.4nm,0.3s,baz=319,slow=11,SNR=20						
ASAR				Sn	Sn	06 58 43.1	-5.6
	0.6nm,0.3s,baz=319,slow=18,SNR=6.6						
ASAR				LR	LR	07 01 30.1	
	comp=Z,56nm,19.0s,baz=92,slow=35						
COEN	Coen	16.92	109	P	P	06 55 58.1	+1.5
	baz=16,SNR=6.1						
MEEK	Meekatharra	19.43	202	P	Pn	06 56 26.3	+0.8
	baz=19,SNR=8.8						
MEEK				S	S	06 59 54.3	-7.7
	baz=19,SNR=3.8						
PMG	Port Moresby	20.17	94	P	P	06 56 31.2	-1.0
PMG	Port Moresby	20.17	94	P	P	06 56 31.2	-1.0
	9.1nm,0.7s,baz=252,slow=9.6,SNR=1.7						
MANU	Manus Island	21.56	73	P	P	06 56 59.1	+12
	baz=22,SNR=5.0						
CTAO	Charters Tower	21.99	123	P	P	06 56 52.0	+0.1
	16nm,1.7s						
MORW	Morawa	22.61	205	P	P	06 56 59.6	+1.1
	baz=22,SNR=9.3						
MORW				S	S	07 01 06.6	+2.5
	baz=22,SNR=3.6						
NWAO	Narrogin (SRO)	25.66	199	P	P	06 57 29.8	+2.6
NWAO	Narrogin (SRO)	25.66	199	P	P	06 57 29.8	+2.6
	5.9nm,0.7s,baz=16,slow=10,SNR=3.5						
CMAR	Chiang Mai Arr	38.49	315	P	P	06 59 18.8	-1.0
CMAR	Chiang Mai Arr	38.49	315	P	P	06 59 18.8	-1.0
	1.3nm,0.6s,baz=147,slow=6.8,SNR=4.9						
SONM	Songino Array	59.12	344	P	P	07 01 57.6	-0.2
SONM	Songino Array	59.12	344	P	P	07 01 57.6	-0.2
	0.4nm,0.4s,baz=149,slow=6.7,SNR=2.3						
MKAR	Makanchi Array	67.95	329	P	P	07 02 55.0	-1.0
MKAR	Makanchi Array	67.95	329	P	P	07 02 55.0	-1.0
	1.2nm,0.5s,baz=124,slow=7.5,SNR=14						
VNDA	Vanda	71.17	172	P	P	07 03 16.9	+1.5
VNDA	Vanda	71.17	172	P	P	07 03 16.9	+1.5
	0.5nm,0.7s,baz=332,slow=5.0,SNR=2.8						
ZALV	Zalesovo Beam	71.74	335	P	P	07 03 16.8	-2.3
ZALV	Zalesovo Beam	71.74	335	P	P	07 03 16.8	-2.3
	1.2nm,0.4s,baz=136,slow=4.5,SNR=6.5						
KURBB	Kurchatov Arra	72.33	330	P	P	07 03 21.5	-1.2
	0.8nm,0.5s,baz=135,slow=4.7,SNR=7.3						
KURK	Kurchatov	72.34	330	P	P	07 03 21.5	-1.3
BVAR	Borovoye Array	77.83	329	P	P	07 03 52.7	-1.7
BVAR	Borovoye Array	77.83	329	P	P	07 03 52.7	-1.7
	0.8nm,0.7s,baz=153,slow=10.0,SNR=5.3						
QSPA	South Pole Qui	81.28	180	P	P	07 04 14.9	+1.7
QSPA	South Pole Qui	81.28	180	P	P	07 04 14.9	+1.7
	1.2nm,0.7s,baz=18,slow=6.4,SNR=9.0						
KMBO	Kilima Mbogo	89.34	269	LR	LR	07 44 22.6	
	comp=Z,3.4nm,19.7s,baz=273,slow=35						
BRTR	Keskin Array B	97.89	309	LR	LR	07 51 15.5	
	comp=Z,36nm,20.1s,baz=106,slow=36						
TXAR	Lajitas Array	128.56	59	PKP	PKPdf	07 11 04.5	-0.4
TXAR	Lajitas Array	128.56	59	PKP	PKPdf	07 11 04.5	-0.4
	0.3nm,0.9s,baz=212,slow=3.2,SNR=3.3						
CPUP	Villa Florida	144.94	174	PKPbc	PKPdf	07 11 35.8	+0.9
CPUP	Villa Florida	144.94	174	PKPbc	PKPdf	07 11 35.8	+0.9
	0.7nm,0.6s,baz=128,slow=12,SNR=3.2						
JTS	JuntasAbangare	148.70	85	PKPbc	PKPab	07 11 47.8	-1.3
JTS	JuntasAbangare	148.70	85	PKPbc	PKPab	07 11 47.8	-1.3
	2.8nm,0.6s,baz=331,slow=8.1,SNR=3.6						
LPAZ	La Paz	151.12	149	PKPbc	PKPbc	07 11 54.2	+2.2
LPAZ	La Paz	151.12	149	PKPbc	PKPbc	07 11 54.2	+2.2
	0.5nm,0.4s,baz=268,slow=6.5,SNR=6.2						

JMA ***11*** *06:52:03.8±0.3, 33°.28N×138°.50E, h311km, M3.6*
ISCJB ***11*** *06:52:04.2±0.9, 33°.3N±0°.1×138°.4E±0°.1, h300km, mb3.0/4, Error ellipse: s-maj=17.1km s-min=11.5km az=166.4*
IDC ***11*** *06:52:04.4±6.6, 33°.31N×138°.62E, h306km±30km, mb2.9/4, mb1 2.9/6, mb1mx2.7/29, mbtmp2.8/6, Error ellipse: s-maj=85.6km s-min=52.5km az=154.0*
ISC 11 06:52:05.3±1.5, 33°.3N±0°.1×138°.4E±0°.1, h300km, n12, σ0°66/14, mb3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.81	319	P	Pn	06 52 45.1	+0.6
JHJ2	Mitsune	1.21	100	P	Pn	06 52 47.0	+0.3
TTO1	TONANKAI O.B.S	1.37	282	P	Pn	06 52 47.4	+0.2
JIE	Ise	1.75	307	P	Pn	06 52 50.0	-0.1
BSO3	Boso 3	2.28	50	P	Pn	06 52 53.0	-1.0
BSO3				*e*S	S	06 53 33.8	+0.9
BSO4	Boso 4	2.30	44	P	Pn	06 52 53.7	-0.7
MJAR	Matsushiro Arr	3.20	357	P	Pn	06 53 03.5	+0.6
	1.0nm,0.3s,baz=172,slow=12,SNR=8.7						
MJAR				S	S	06 53 49.6	+0.6
	0.7nm,0.3s,baz=166,slow=17,SNR=4.4						
KSRS	Korea Array	9.48	299	P	Pn	06 54 17.6	+0.7
	0.1nm,0.3s,baz=121,slow=15,SNR=3.1						
ZALV	Zalesovo Beam	42.69	315	P	P	06 59 32.8	-0.2
	0.4nm,0.3s,baz=90,slow=7.2,SNR=2.6						
MKAR	Makanchi Array	44.09	305	P	P	06 59 44.1	-0.2
	0.3nm,0.5s,baz=84,slow=11,SNR=4.8						
KURBB	Kurchatov Arra	46.42	310	P	P	07 00 02.6	+0.3
	0.3nm,0.3s,baz=88,slow=6.1,SNR=4.9						
BVAR	Borovoye Array	51.29	314	P	P	07 00 38.2	-0.9
	0.4nm,0.4s,baz=85,slow=9.0,SNR=2.9						

IDC ***11*** *06:57:07.4±2.1, 59°.66N×24°.94E, h0km, mb1 2.9/3, mb1mx2.8/27, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=22.6km s-min=7.9km az=141.0*
ISCJB ***11*** *06:57:08.9±0.5, 59°.93N±0°.03×24°.40E±0°.07, h0km, Error ellipse: s-maj=5.4km s-min=4.8km az=12.8*
HEL ***11*** *06:57:08.9±0.0, 59°.87N×24°.33E, h0km, ML2.1, Explosion*
CSEM ***11*** *06:57:10.6±0.1, 59°.97N×24°.54E, h2km, ML2.7, Error ellipse: s-maj=4.1km s-min=3.4km az=97.0, Mining explosion.*
ISC 11 06:57:08.8±0.8, 59°.87N±0°.03×24°.44E±0°.04, h0km, n15, σ0°73/22, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.35	356	*e*P	Pg	06 57 15.2	-0.3
MEF				*e*S	Sg	06 57 19.8	-0.3
MEF	Metsahovi	0.35	356	*e*P	Pg	06 57 15.3	-0.2
	SNR=90						
MEF				S	Sg	06 57 19.7	-0.3
PVF	Pernaja	0.98	46	*e*P	Pg	06 57 27.3	-0.4
PVF				*e*S	Sg	06 57 39.8	-0.6
PVF	Pernaja	0.98	46	P	Pg	06 57 27.2	-0.4
PVF				S	Sg	06 57 39.7	-0.6
MTSE	Matsula	1.20	196	*e*P	Pg	06 57 30.3	-1.5
RAF	Rauma	1.76	312	*e*P	Pb	06 57 41.7	-0.2
	SNR=50						
RAF				*e*S	Sb	06 58 04.8	+0.3
	26nm,0.1s,SNR=50						
FINES	FINESS Array B	1.77	26	Pn	Pn	06 57 41.0	+0.4
	1.1nm,0.3s,baz=196,slow=14,SNR=32						
FINES				Lg	Lg	06 58 06.2	
	2.5nm,0.3s,baz=193,slow=30,SNR=14						
VSU	Vasula	1.84	139	*e*P	Pn	06 57 41.8	+0.3
VSU	Vasula	1.84	139	*e*P	Pg	06 57 43.7	-0.3
	SNR=50						
VSU				*e*S	Sg	06 58 09.2	+1.4
	SNR=50						
KEF	Keuruu	2.32	5	MSG		06 58 24.6	
	comp=Z,7.9nm,0.1s						
KAF	Kangasniemi	2.43	21	MSG		06 58 29.8	
	comp=Z,7.1nm,0.1s						
SLIT	Slitere, Latvi	2.51	207	*e*P	Pb	06 57 54.0	-0.6
	SNR=50						
SLIT				*e*S	Sb	06 58 27.0	+1.0
	comp=Z,326nm,0.2s,SNR=50						
HFS	Hagfors	5.40	277	Pn	Pn	06 58 31.7	+1.2
	comp=Z,0.1nm,0.3s,baz=92,slow=14,SNR=4.0						
HFS				Sn	Sn	06 59 33.2	0.0
	comp=Z,0.2nm,0.3s,baz=91,slow=25,SNR=3.1						
HFS				Lg	Lg	06 59 59.6	
	comp=Z,0.6nm,0.3s,baz=95,slow=30,SNR=5.8						
NOA	NORSAR Array B	6.65	286	Pn	Pn	06 58 48.4	+0.8
	comp=Z,0.2nm,0.3s,baz=96,slow=14,SNR=4.7						
NOA				Sn	Sn	07 00 03.0	-1.0
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=2.6						
NOA				Lg	Lg	07 00 35.7	
	comp=Z,0.4nm,0.3s,baz=91,slow=15,SNR=3.1						
ARCES	ARCESS Array B	9.72	2	Pn	Pn	06 59 29.8	+0.2
	comp=Z,0.1nm,0.3s,baz=180,slow=14,SNR=6.6						

ISCJB ***11*** *07:01:05.6±0.5, 59°.88N±0°.03×24°.35E±0°.07, h0km, Error ellipse: s-maj=5.2km s-min=4.3km az=6.5*
IDC ***11*** *07:01:06.5±1.9, 59°.83N×24°.62E, h0km, mb1 2.8/3, mb1mx2.8/27, mbtmp2.8/3, ML2.7/2, Error ellipse: s-maj=20.6km s-min=6.8km az=148.0*
HEL ***11*** *07:01:07.0±0.1, 59°.87N×24°.41E, h0km, ML2.2, Explosion*
CSEM ***11*** *07:01:07.3±0.2, 59°.93N×24°.51E, h1km, ML2.6, Error ellipse: s-maj=5.3km s-min=4.4km az=95.0, Mining explosion.*
ISC 11 07:01:05.8±0.8, 59°.85N±0°.03×24°.42E±0°.04, h0km, n18, σ19°02/26, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.37	358	*e*P	Pg	07 01 13.3	+0.5
MEF				*e*S	Sg	07 01 18.1	+0.5
MEF	Metsahovi	0.37	358	*e*P	Pg	07 01 13.4	+0.6
	SNR=90						
MEF				S	Sg	07 01 18.0	+0.5
PVF	Pernaja	1.00	45	*e*P	Pg	07 01 24.8	-0.1
PVF				*e*S	Sg	07 01 37.2	-0.7
PVF	Pernaja	1.00	45	P	Pg	07 01 24.8	-0.1
PVF				S	Sg	07 01 37.2	-0.7
MTSE	Matsula	1.18	195	*e*P	Pg	07 01 28.5	0.0
MTSE				*e*S	Sg	07 01 43.7	0.0
MTSE	Matsula	1.18	195	P	Pg	07 01 28.4	0.0
VJF	Virojoki	1.71	65	*e*P	Pn	07 01 37.2	+0.4
VJF	Virojoki	1.71	65	P	Pn	07 01 37.2	+0.4
RAF	Rauma	1.76	313	*e*P	Pn	07 01 38.3	+0.8
	SNR=50						
RAF				*e*S	Sn	07 02 00.2	-0.4
	50nm,0.1s,SNR=50						
FINES	FINESS Array B	1.79	26	Pn	Pn	07 01 38.9	+1.0
	2.4nm,0.3s,baz=204,slow=15,SNR=43						
FINES				Lg	Lg	07 02 02.2	
	2.7nm,0.3s,baz=200,slow=28,SNR=9.0						
VSU	Vasula	1.83	138	*e*P	Pb	07 01 39.9	-0.3
VSU	Vasula	1.83	138	*e*P	Pb	07 01 40.0	-0.2
	SNR=50						
VSU				*e*S	Sb	07 02 04.5	+0.9
	SNR=50						
KEF	Keuruu	2.33	5	MSG		07 02 21.6	
	comp=Z,9.9nm,0.2s						
KAF	Kangasniemi	2.45	21	MSG		07 02 23.1	
	comp=Z,12nm,0.1s						
SLIT	Slitere, Latvi	2.49	207	*e*P	Pb	07 01 50.4	-0.9
	SNR=50						
SLIT				*e*S	Sb	07 02 23.8	+1.3
	comp=Z,475nm,0.3s,SNR=50						
HFS	Hagfors	5.39	278	Pn	Pn	07 02 29.2	+1.8
	comp=Z,0.1nm,0.3s,baz=82,slow=14,SNR=4.2						
HFS				Sn	Sn	07 03 30.9	+0.8
	comp=Z,0.2nm,0.3s,baz=87,slow=28,SNR=3.2						
HFS				Lg	Lg

HMTT			*i* S	Sb	07 14 29.6	-4.8
ACX	**Acapulco**	**1.09 275**	*i* P	Pb	07 14 21.3	-0.4
ACX			*i* S	Sb	07 14 35.5	-0.3
ACP2	**Acapulco**	**1.11 275**	*e*P	Pb	07 14 18.1	-4.0
MEIG	**Mezcala**	**1.43 323**	*i* P	Pn	07 14 23.9	-2.9
MEIG			*i* S	Sn	07 14 40.9	-4.6
CAIG	**El Cayaco**	**1.50 281**	*e*P	Pn	07 14 23.6	-4.1
CAIG			*i* S	Sn	07 14 41.6	-5.5
PLIG	**Platanillo**	**1.77 335**	*e*P	Pn	07 14 28.5	-3.0
PLIG			*i* S	Sn	07 14 49.8	-4.2
TPIG	**Tehuac#an**	**2.09 38**	*i* P	Pn	07 14 33.7	-2.3
TPIG			*i* S	Sn	07 14 57.7	-4.5
YAIG	**Yautepec**	**2.10 351**	*e*P	Pn	07 14 33.1	-3.1
YAIG			*i* S	Sn	07 14 58.3	-4.0
ARIG	**Puente Sto Nin**	**2.15 314**	*i* P	Pn	07 14 34.0	-2.6
ARIG			*i* S	Sn	07 14 58.1	-5.2
HUIG	**Huatulco**	**2.71 111**	*i* P	Pb	07 14 49.5	+0.1
ZIIG	**Zihuatanejo**	**2.74 288**	*e*P	Pn	07 14 41.2	-3.6
ZIIG			*i* S	Sn	07 15 13.4	-4.4
MOIG	**Morelia**	**3.71 321**	*i* P	Pn	07 14 58.3	-0.1

BJI ***11*** *07:14:30.4, 13°.79N×92°.91E, h31km, mB4.7/19, mb4.6/29, Ms4.3/13, Ms7 3.9/10*
IDC ***11*** *07:14:30.5±0.5, 14°.10N×93°.07E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.3/32, mbtmp4.3/22, ML4.1/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/43, Error ellipse: s-maj=20.6km s-min=11.7km az=59.0*
ISCJB ***11*** *07:14:33.7±0.2, 14°.15N±0°.03×93°.01E±0°.03, h32km, mb4.5/56, MS3.6/10, Error ellipse: s-maj=4.8km s-min=3.9km az=14.1*
MOS ***11*** *07:14:33.7±1.0, 14°.13N×93°.10E, h33km, mb4.7/15, Error ellipse: s-maj=12.7km s-min=7.1km az=111.1*
NEIC ***11*** *07:14:36.1±0.3, 14°.15N×93°.09E, h35km, mb4.5/10, Error ellipse: s-maj=8.5km s-min=6.1km az=56.0*
ISC 11 07:14:35.6±0.4, 14°.07N±0°.04×92°.98E±0°.04, h32km, n157, σ1§72/193, mb4.5/56, MS3.8/11, 4C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.89**	**183**	*e*P	**Pb**	**07 14 54.3**	**+1.7**
DGPR				*e*S	**Sb**	**07 15 04.6**	**+0.5**
PBA	**Port Blair**	**2.41**	**186**	*e*P	Pn	07 15 14.1	+1.3
PBA				*e*S	Sn	07 15 41.5	+0.3
CMAR	**Chiang Mai Arr**	**7.20**	**52**	Pn	**Pn**	**07 16 17.8**	**-0.8**
CMAR				Sn	**Sn**	**07 17 36.7**	**-2.6**
CMAR	**Chiang Mai Arr**	**7.20**	**52**	Pn	**Pn**	**07 16 17.8**	**-0.8**
	0.8nm,0.3s,baz=242,slow=14,SNR=11						
CMAR				Sn	**Sn**	**07 17 36.7**	**-2.6**
	1.5nm,0.3s,baz=243,slow=30,SNR=4.5						
CHTO	**Chiang Mai**	**7.41**	**50**	*e*P	**Pn**	**07 16 19.5**	**-2.1**
CHTO				*e*		07 17 37.2	
CHTO	**Chiang Mai**	**7.41**	**50**	*e*Pn	**Pn**	**07 16 19.5**	**-2.1**
CHTO				*e*Sn	Sn	07 17 37.2	-7.4
VIS	**Vishakhapatnam**	**9.97**	**293**	*e*P	**Pn**	**07 16 56.5**	**-0.2**
VIS				AMB	AMB	07 17 04.2	
	comp=Z,49nm,1.1s						
VIS				*ex*	x	07 18 36.8	
SHL	**Shillong**	**11.48**	**355**	*ex*	**Pn**	**07 17 20.0**	**+2.5**
SHL				*e*S	Sn	07 19 13.0	-12
BOK	**Bokaro**	**11.77**	**326**	*e*P	**Pn**	**07 17 19.9**	**-1.4**
BOK				AMB	AMB	07 19 24.8	
	comp=Z,17nm,0.3s						
MDRS	**Chennai**	**12.42**	**267**	*ex*	Sn	07 19 55.2	+7.5
MDRS				*ex*	x	07 28 40.2	
MDRS				*ex*	x	07 36 40.2	
PSI	**Prapat**	**12.64**	**152**	Pn	Pn	07 17 37.8	+4.4
PSI	**Prapat**	**12.64**	**152**	Pn	Pn	07 17 37.8	+4.4
	comp=Z,0.8nm,0.3s,baz=331,slow=11,SNR=14						
PSI				LR	LR	07 23 08.4	
	comp=Z,231nm,18.5s,baz=322,slow=41						
ODAN	**Odare**	**13.76**	**339**	*e*P	**Pn**	**07 17 47.3**	**-1.4**
TAPN	**Taplejung**	**14.10**	**340**	*e*P	**Pn**	**07 17 52.1**	**-1.3**
	comp=Z,33nm,0.7s						
RAMN	**Ramite**	**14.13**	**336**	*e*P	**Pn**	**07 17 52.6**	**-1.2**
HYB	**Hyderabad**	**14.28**	**285**	*i* P	**P**	**07 18 04.0**	**+1.5**
HYB				*e*S	**Sn**	**07 20 35.0**	**+1.8**
HYB	**Hyderabad**	**14.28**	**285**	*ex*	**Sn**	**07 20 28.8**	**-4.3**
HYB				AMB	AMB	07 20 39.0	
	comp=Z,24nm,4.6s						
KMI	**Kunming**	**14.32**	**38**	P	**Pn**	**07 17 55.4**	**-1.0**
KMI				pP	**P**	**07 18 04.5**	**+1.4**
KMI				sP		07 18 08.8	
KMI				S	**Sn**	**07 20 36.5**	**+2.2**
KMI				SS	**S**	**07 20 53.6**	**-0.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,90nm,4.3s						
KMI				LR	LR		
	comp=N,180nm,14.5s						
KMI				LR	LR		
	comp=E,220nm,14.5s						
JIRN	**Jiri**	**14.93**	**336**	*e*P	**Pn**	**07 18 03.1**	**-1.7**
PKI	**Pulchoki**	**15.18**	**333**	*e*P	**Pn**	**07 18 05.6**	**-2.4**
PKIN	**Phulchoki**	**15.19**	**333**	*e*P	**Pn**	**07 18 05.7**	**-2.4**
	comp=E,16nm,0.4s						
JBP	**Jabalpur**	**15.28**	**308**	⇑*ix*	x	07 18 21.4	
JBP				*i* x	x	07 18 23.3	
	comp=Z,24nm,1.1s						
JBP				*ex*	x	07 20 47.1	
DMN	**Daman**	**15.34**	**333**	*e*P	**Pn**	**07 18 08.0**	**-2.1**
KOLN	**Koldanda**	**16.19**	**329**	*e*P	**Pn**	**07 18 19.4**	**-1.6**
LATR	**Latur**	**16.35**	**288**	*ex*	x	07 21 07.4	
LATR				AMB	AMB	07 21 15.3	
	comp=Z,15nm,1.1s						
PYUN	**Piuthan**	**16.77**	**328**	*e*P	**Pn**	**07 18 26.8**	**-1.5**
BHPL	**Bhopal**	**17.32**	**304**	*ex*	Pn	07 18 30.5	-4.6
BHPL				AMB	AMB	07 18 48.0	
	comp=Z,14nm,0.7s						
GYA	**Guiyang**	**17.77**	**44**	*e*P	**Pn**	**07 18 40.2**	**-0.5**
GYA				pP	**pP**	**07 18 48.8**	**-1.0**
GYA				PP	**PnPn**	**07 18 56.0**	**+4.2**
GYA				S	**Sn**	**07 21 54.5**	**-3.5**
GYA				SS	**SnSn**	**07 22 17.0**	**+5.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,410nm,14.8s						
GYA				LR	LR		
	comp=E,330nm,15.4s						
GYA				LR	LR		
	comp=Z,430nm,14.8s						
CD2	**Chengdu**	**19.47**	**29**	*e*P	**Pn**	**07 19 01.0**	**-0.2**
CD2				pP	**pP**	**07 19 10.2**	**+1.9**
CD2				sP	**sP**	**07 19 15.2**	**+2.8**
CD2				PP	**PnPn**	**07 19 19.2**	**+4.2**
CD2				S	**S**	**07 22 34.0**	**-4.2**
CD2				SS	**SnSn**	**07 23 01.1**	**+7.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=E,230nm,14.2s						
CD2				LR	LR		
	comp=Z,200nm,13.8s						
SMLA	**Simla**	**22.34**	**322**	*e*P	**P**	**07 19 31.3**	**+0.4**
DHRM	**DHARAMSHALA**	**23.66**	**323**	*e*P	**P**	**07 19 45.2**	**+0.6**
DHRM				AMB	AMB	07 19 45.6	
	comp=Z,23nm,0.1s						
LZH	**Lanzhou**	**23.99**	**22**	*e*P	**P**	**07 19 47.3**	**-0.2**
LZH				pP	**pP**	**07 19 56.3**	**-0.4**
LZH				sP	**sP**	**07 20 00.7**	**+0.1**
LZH				PP	**PnPn**	**07 20 21.5**	**+4.6**
LZH				*e*S	**S**	**07 23 57.0**	**-5.6**
LZH				SS	**SnSn**	**07 24 51.1**	**+6.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=N,350nm,12.1s						
LZH				LR	LR		
	comp=E,340nm,13.0s						
LZH				LR	LR		
	comp=Z,440nm,14.6s						
XAN	**Xi'an**	**24.57**	**33**	P	**P**	**07 19 50.8**	**-2.0**
XAN				pP	**pP**	**07 20 01.1**	**-0.9**
XAN				sP	**sP**	**07 20 06.2**	**+0.3**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,13nm,3.5s						
GTA	**Gaotai**	**25.95**	**12**	P	**P**	**07 20 05.9**	**+0.6**
GTA				pP	**pP**	**07 20 16.6**	**+2.1**
GTA				sP	**sP**	**07 20 20.6**	**+2.2**
GTA				S	**S**	**07 24 33.1**	**-0.6**
GTA				SS	**SnSn**	**07 25 39.6**	**+7.5**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=N,92nm,15.7s						
GTA				LR	LR		
	comp=E,65nm,14.3s						
KSH	**Kashi**	**29.44**	**333**	*e*P	**P**	**07 20 34.7**	**-1.8**
KSH				sP	**sP**	**07 20 48.6**	**-1.1**
KSH				PP	**PnPn**	**07 21 30.6**	**-0.6**
KSH				S	S	07 25 21.5	-7.2
KSH				sS	sS	07 25 37.5	-6.5
KSH				SS	**SnSn**	**07 26 54.4**	**-2.8**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,98nm,4.5s						
KSH				LR	LR		
	comp=N,330nm,14.0s						
KSH				LR	LR		
	comp=E,150nm,9.5s						
KSH				LR	LR		
	comp=Z,120nm,5.4s						
NJ2	**Nanjing**	**29.66**	**48**	*e*P	**P**	**07 20 36.8**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,28nm,1.2s						
WMQ	**Urumqi**	**29.99**	**352**	*e*P	**P**	**07 20 41.0**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**31.22**	**28**	*e*P	**P**	**07 20 51.4**	**-0.8**
HHC				pP	**pP**	**07 21 00.9**	**-0.6**
HHC				sP	**sP**	**07 21 04.9**	**-0.5**
HHC				PP	**PnPn**	**07 21 54.6**	**-0.2**
HHC				S	**S**	**07 25 54.1**	**-2.5**
HHC				sS	**sS**	**07 26 10.1**	**-1.9**
HHC				PcS	**PcS**	**07 27 28.8**	**-1.9**
HHC				SS	**SnSn**	**07 27 40.8**	**+0.3**
HHC				ScS	**ScS**	**07 31 20.7**	**-3.9**
HHC				pmax	pmax		
	comp=Z,61nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
HHC				LR	LR		
	comp=N,220nm,13.4s						
HHC				LR	LR		
	comp=E,550nm,14.4s						
HHC				LR	LR		
	comp=Z,160nm,15.9s						
AAK	**Ala-Archa**	**32.63**	**334**	P	**P**	**07 21 06.3**	**+1.6**
AAK	**Ala-Archa**	**32.63**	**334**	P	**P**	**07 21 06.3**	**+1.6**
AAK	**Ala-Archa**	**32.63**	**334**	P	**P**	**07 21 06.3**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=180,slow=8.1,SNR=5.2						
BJI	**Beijing**	**32.90**	**34**	P	**P**	**07 21 07.1**	**+0.2**
BJI				S	**S**	**07 26 20.5**	**-2.1**
BJI				pmax	pmax		
	comp=Z,12nm,0.5s						
MKAR	**Makanchi Array**	**33.83**	**347**	*ce*P	**P**	**07 21 14.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**33.83**	**347**	*e*P	**P**	**07 21 15.2**	**+0.2**
MKAR	**Makanchi Array**	**33.83**	**347**	P	**P**	**07 21 14.8**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=164,slow=8.6,SNR=36						
MKAR				LR	LR	07 37 41.5	
	comp=Z,43nm,18.9s,baz=172,slow=41						
KKAR	**Karatay Array**	**34.79**	**331**	*e*P	**P**	**07 21 23.5**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**34.79**	**331**	*e*P	**P**	**07 21 23.5**	**+0.2**
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**35.46**	**16**	P	**P**	**07 21 29.1**	**0.0**
SONM	**Songino Array**	**35.46**	**16**	P	**P**	**07 21 29.1**	**0.0**
	comp=Z,3.3nm,0.9s,baz=198,slow=9.4,SNR=19						
HVS	**Khovu-Aksy**	**36.97**	**1**	⇑*iP*	**P**	**07 21 41.1**	**-0.8**
HVS				pmax	pmax		
	comp=Z,33nm,1.3s						
KURBB	**Kurchatov Arra**	**38.30**	**345**	P	**P**	**07 21 52.5**	**-0.5**
	comp=Z,8.5nm,0.8s,baz=168,slow=7.8,SNR=12						
KURK	**Kurchatov**	**38.36**	**345**	P	**P**	**07 21 52.6**	**-1.0**
KURK	**Kurchatov**	**38.36**	**345**	P	**P**	**07 21 52.5**	**-1.0**
TLY	**Talaya**	**38.48**	**11**	*e*P	**P**	**07 21 55.8**	**+1.2**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAA0	**Zalesovo Array**	**40.30**	**353**	*e*P	**P**	**07 22 09.1**	**-0.6**
ZALV	**Zalesovo Beam**	**40.30**	**353**	P	**P**	**07 22 09.1**	**-0.6**
ZALV	**Zalesovo Beam**	**40.30**	**353**	P	**P**	**07 22 09.1**	**-0.6**
ZALV	**Zalesovo Beam**	**40.30**	**353**	P	**P**	**07 22 09.1**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=173,slow=8.2,SNR=23						
CN2	**Changchun**	**40.59**	**37**	*e*P	**P**	**07 22 12.9**	**+0.7**
BVAR	**Borovoye Array**	**42.80**	**340**	P	**P**	**07 22 29.7**	**-0.5**
BVAR	**Borovoye Array**	**42.80**	**340**	P	**P**	**07 22 29.7**	**-0.5**
BVAR	**Borovoye Array**	**42.80**	**340**	P	**P**	**07 22 29.7**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=139,slow=9.2,SNR=13						
BRVK	**Borovoye**	**42.87**	**340**	*e*P	**P**	**07 22 30.1**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**42.87**	**340**	*e*P	**P**	**07 22 30.1**	**-0.6**
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**44.32**	**329**	*e*P	**P**	**07 22 43.1**	**+0.6**
	comp=Z,5.8nm,0.7s						
ABKAR				*e*		07 22 52.6	
AKTO	**Aktyubinsk**	**46.03**	**329**	P	**P**	**07 22 56.1**	**0.0**
AKTO	**Aktyubinsk**	**46.03**	**329**	P	**P**	**07 22 56.1**	**0.0**
AKTO	**Aktyubinsk**	**46.03**	**329**	P	**P**	**07 22 56.1**	**0.0**
	comp=Z,3.5nm,0.7s,baz=124,slow=8.1,SNR=18						
SVE	**Sverdlovsk**	**49.27**	**337**	*e*P	**P**	**07 23 21.2**	**+0.1**
SVE				pmax	pmax		
	comp=Z,25nm,0.9s						
ARU	**Arti**	**49.79**	**336**	*d iP*	**P**	**07 23 24.6**	**-0.5**
ARU						07 25 13.3	
ARU				S	**S**	**07 30 32.3**	**0.0**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**52.06**	**315**	*e*P	**P**	**07 23 43.8**	**+1.3**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
NWAO	**Narrogin (SRO)**	**52.16**	**154**	P	**P**	**07 23 42.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**52.16**	**154**	P	**P**	**07 23 42.6**	**-0.6**
	comp=Z,13nm,1.0s,baz=333,slow=9.0,SNR=3.1						
NWAO				LR	LR	07 50 05.6	
	comp=Z,86nm,18.0s,baz=236,slow=41						
WRA	**Warramunga Arr**	**52.89**	**129**	P	**P**	**07 23 47.5**	**-1.3**
WRA				PcP	**PcP**	**07 24 58.0**	**+0.3**
WRA	**Warramunga Arr**	**52.89**	**129**	P	**P**	**07 23 47.5**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=313,slow=8.3,SNR=29						
WRA				PcP	**PcP**	**07 24 58.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=324,slow=3.2,SNR=6.1						
WRAB	**Tennant Creek**	**52.90**	**129**	*e*P	**P**	**07 23 47.2**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRAB	**Tennant Creek**	**52.90**	**129**	*e*P	**P**	**07 23 47.2**	**-1.7**
	comp=Z,1.8nm,0.6s						
FURI	**Furi**	**53.37**	**271**	*e*P	**P**	**07 23 53.6**	**+0.7**
	comp=Z,44nm,0.5s						
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**07 24 02.2**	**-0.9**
ASAR				PcP	**PcP**	**07 25 06.0**	**+0.9**
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**07 24 02.2**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=316,slow=7.2,SNR=29						
ASAR				PcP	**PcP**	**07 25 06.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=305,slow=3.3,SNR=3.4						
BR131	**Keskin Array S**	**57.63**	**308**	*e*P	**P**	**07 24 22.6**	**-0.4**
	comp=Z,5.4nm,0.9s						
BRTR	**Keskin Array B**	**57.63**	**308**	P	**P**	**07 24 22.8**	**-0.2**
BRTR	**Keskin Array B**	**57.63**	**308**	P	**P**	**07 24 22.8**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=117,slow=7.7,SNR=23						
OBN	**Obninsk**	**59.59**	**326**	⇑*eP*	**P**	**07 24 35.7**	**-0.4**
OBN				*e*S	**S**	**07 32 41.5**	**-2.5**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
PETK	**Petropavlovsk-**	**63.73**	**37**	LR	LR	07 54 36.0	
	comp=Z,16nm,22.0s,baz=87,slow=38						
STKA	**Stephens Creek**	**65.24**	**135**	*e*P	**P**	**07 25 13.7**	**-0.6**
	comp=Z,0.7nm,0.8s						
STKA	**Stephens Creek**	**65.24**	**135**	P	**P**	**07 25 13.7**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=303,slow=7.4,SNR=5.8						
STKA				LR	LR	07 54 02.2	
	comp=Z,70nm,18.8s,baz=24,slow=36						
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**07 25 22.9**	**-0.6**
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**07 25 22.9**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=102,slow=8.0,SNR=11						
FINES				LR	LR	08 00 03.2	
	comp=Z,34nm,19.8s,baz=24,slow=41						
KOLS	**Kolonicke sedl**	**66.86**	**317**	*e*P	**P**	**07 25 22.9**	**-1.6**
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KOLS	**Kolonicke sedl**	**66.86**	**317**	*e*P	**P**	**07 25 22.9**	**-1.6**
KOLS				*e*		08 04 35.9	
CRVS	**Cervenica-Dubn**	**67.39**	**317**	*e*P	**P**	**07 25 28.5**	**+0.6**
CRVS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CRVS	**Cervenica-Dubn**	**67.39**	**317**	*e*P	**P**	**07 25 28.5**	**+0.6**
KECS	**Kecovo**	**68.00**	**317**	*e*P	**P**	**07 25 31.8**	**+0.1**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KECS	**Kecovo**	**68.00**	**317**	*e*P	**P**	**07 25 31.8**	**+0.1**
ARCES	**ARCESS Array B**	**69.09**	**340**	P	**P**	**07 25 37.6**	**-0.5**
ARCES	**ARCESS Array B**	**69.09**	**340**	P	**P**	**07 25 37.6**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=86,slow=6.2,SNR=12						
ARCES				LR	LR	07 59 01.8	
	comp=Z,51nm,18.6s,baz=184,slow=39						
VYHS	**Vyhne**	**69.10**	**317**	*e*P	**P**	**07 25 38.5**	**-0.1**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VYHS	**Vyhne**	**69.10**	**317**	*e*P	**P**	**07 25 38.5**	**-0.1**
MORC	**Moravsky Berou**	**70.00**	**318**	*e*P	**P**	**07 25 44.5**	**+0.4**
MORC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MORC	**Moravsky Berou**	**70.00**	**318**	*e*P	**P**	**07 25 44.5**	**+0.4**
	comp=Z,6.5nm,1.1s						
DPC	**Dobruska-Polom**	**70.80**	**319**	*e*P	P	07 25 44.4	-4.6
DPC	**Dobruska-Polom**	**70.80**	**319**	*e*P	P	07 25 44.4	-4.6
GEC2	**GERESS Array S**	**72.51**	**317**	*e*P	**P**	**07 25 59.2**	**-0.2**
GEC2				pmax	pmax		
	comp=Z,322nm,0.6s						
GEC2	**GERESS Array S**	**72.51**	**317**	*e*P	**P**	**07 25 59.2**	**-0.2**
	comp=Z,322nm,0.6s						
GERES	**GERESS Array B**	**72.51**	**317**	P	**P**	**07 25 59.5**	**+0.1**
GERES	**GERESS Array B**	**72.51**	**317**	P	**P**	**07 25 59.5**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=91,slow=5.5,SNR=17						
KHC	**Kasperske Hory**	**72.58**	**317**	*e*P	**P**	**07 25 59.7**	**-0.1**
KHC	**Kasperske Hory**	**72.58**	**317**	*e*P	**P**	**07 25 59.7**	**-0.1**
CLL	**Collm**	**72.90**	**320**	*ep*P	pP	07 26 12.0	+0.4
NB2	**NORSAR Subarra**	**73.82**	**330**	P	**P**	**07 26 05.7**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=88,slow=5.9						
NOA	**NORSAR Array B**	**73.82**	**330**	P	**P**	**07 26 06.0**	**-0.8**
NOA	**NORSAR Array B**	**73.82**	**330**	P	**P**	**07 26 06.0**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=89,slow=5.9,SNR=8.2						
NOA				LR	LR	08 00 29.0	
	comp=Z,21nm,21.9s,baz=110,slow=37						
CDF	**Champ du Feu**	**76.79**	**317**	*e*P	**P**	**07 26 23.2**	**-1.0**
KEST	**Kesra**	**76.82**	**304**	P	**P**	**07 26 24.8**	**+0.1**
KEST	**Kesra**	**76.82**	**304**	P	**P**	**07 26 24.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=255,slow=5.2,SNR=3.5						
HAU	**Haudompre**	**77.45**	**317**	*e*P	**P**	**07 26 26.9**	**-1.0**
	comp=Z,4.3nm,0.5s						
LPG	**La Plagne**	**77.49**	**314**	*e*P	**P**	**07 26 27.9**	**-0.6**
	comp=Z,11nm,0.7s						
LPL	**La Plagne**	**77.50**	**314**	*e*P	**P**	**07 26 28.1**	**-0.4**
	comp=Z,12nm,0.7s						
MBDF	**Montbardon**	**77.58**	**313**	*e*P	**P**	**07 26 27.3**	**-1.5**
CABF	**La Chapelle**	**77.81**	**315**	*e*P	**P**	**07 26 29.3**	**-0.7**
BOSA	**Boshof**	**77.98**	**236**	P	**P**	**07 26 32.6**	**+1.4**
BOSA	**Boshof**	**77.98**	**236**	P	**P**	**07 26 32.6**	**+1.4**
	comp=Z,4.8nm,0.9s,baz=63,slow=5.0,SNR=6.3						
SMRF	**Simiane la Rot**	**78.53**	**313**	*e*P	**P**	**07 26 33.7**	**-0.3**
LOR	**Lormes**	**79.22**	**316**	*e*P	**P**	**07 26 36.6**	**-1.1**
SMF	**Signal de Mont**	**79.33**	**315**	*e*P	**P**	**07 26 37.3**	**-1.0**
	comp=Z,3.0nm,0.5s						
SSF	**Saint Saulge**	**79.49**	**316**	*e*P	**P**	**07 26 38.3**	**-0.8**
	comp=Z,4.0nm,0.7s						
AVF	**Avril sur Loir**	**79.64**	**316**	*e*P	**P**	**07 26 38.9**	**-1.0**
	comp=Z,5.5nm,0.7s						
LASF	**Ste Croix**	**79.74**	**313**	*e*P	**P**	**07 26 40.4**	**-0.2**
	comp=Z,12nm,1.0s						
TCF	**Toulx Ste Croi**	**80.50**	**315**	*e*P	**P**	**07 26 44.2**	**-0.5**
IM04	**Indian Mountai**	**86.35**	**22**	*e*P	**P**	**07 27 14.2**	**-0.2**
IM04				*e*		07 27 23.9	
ESDC	**Sonseca Array**	**86.39**	**310**	P	**P**	**07 27 15.1**	**0.0**
ESDC	**Sonseca Array**	**86.39**	**310**	P	**P**	**07 27 15.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=29,slow=3.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**88.09**	**283**	P	**P**	**07 27 24.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**88.09**	**283**	P	**P**	**07 27 24.5**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=82,slow=4.4,SNR=16						
TRF	**Thorofare Moun**	**88.87**	**24**	*e*P	**P**	**07 27 26.2**	**-0.4**
	comp=Z,25nm,2.1s						
MCK	**McKinley**	**89.25**	**23**	*e*P	**P**	**07 27 28.6**	**+0.3**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MCK	**McKinley**	**89.25**	**23**	*e*P	**P**	**07 27 28.6**	**+0.3**
	comp=Z,4.4nm,0.9s						
ILAR	**Eielson Array**	**89.45**	**22**	P	**P**	**07 27 27.8**	**-1.4**
ILAR				PP	**PP**	**07 31 01.1**	**+1.1**
ILAR	**Eielson Array**	**89.45**	**22**	P	**P**	**07 27 27.8**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=298,slow=4.4,SNR=17						
ILAR				PP	**PP**	**07 31 01.1**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=302,slow=9.4,SNR=4.5						
PMR	**Palmer**	**90.28**	**25**	*e*P	**P**	**07 27 32.5**	**-0.5**
PMR				pmax	pmax

MORF S **Sb** **07 32 45.8 +0.4**
146nm,0.3s
MORF Marmelete 1.31 46 P **Pn** **07 32 30.1 +2.0**
MORF *e*S **Sb** **07 32 45.8 +0.4**
146nm,0.3s
PTEO Sao Teotonio 1.45 37 *e*P **Pn** **07 32 31.9 +1.9**
PTEO *e*S **Sn** **07 32 49.0 -0.1**
PTEO A A 07 32 49.9
70nm,0.2s
PTEO Sao Teotonio 1.45 37 P **Pn** **07 32 31.9 +1.9**
PTEO S **Sn** **07 32 49.0 -0.1**
35nm,0.2s
PTEO Sao Teotonio 1.45 37 P **Pn** **07 32 31.9 +1.9**
PTEO *e*S **Sn** **07 32 49.0 -0.1**
70nm,0.2s
PBDV Barranco-do-Ve 1.75 60 *e*P **Pn** **07 32 36.1 +2.1**
PBDV *e*S **Sn** **07 32 56.0 -0.4**
PBDV A A 07 33 03.2
30nm,0.2s
PBDV Barranco-do-Ve 1.75 60 ⇑P **Pn** **07 32 36.1 +2.1**
PBDV S **Sn** **07 32 56.0 -0.4**
30nm,0.2s
PBDV Barranco-do-Ve 1.75 60 P **Pn** **07 32 36.1 +2.1**
PBDV *e*S **Sn** **07 32 56.0 -0.4**
30nm,0.2s
PCVE Castro Verde 1.90 49 *i* Pn **Pn** **07 32 38.4 +2.4**
PCVE *e*Sn **Sn** **07 32 59.9 -0.1**
PCVE A A 07 33 02.4
33nm,0.2s
PCVE Castro Verde 1.90 49 ⇑P **Pn** **07 32 38.4 +2.4**
PCVE S **Sn** **07 32 59.9 -0.1**
33nm,0.2s
PCVE Castro Verde 1.90 49 P **Pn** **07 32 38.4 +2.4**
PCVE S **Sn** **07 32 59.9 -0.1**
33nm,0.2s
PVAQ Vaqueiros 1.97 59 *e*Pn **Pn** **07 32 39.1 +2.0**
PVAQ *e*Sn **Sn** **07 33 01.3 -0.6**
PVAQ A A 07 33 04.3
52nm,0.2s
PVAQ Vaqueiros 1.97 59 ⇑P **Pn** **07 32 39.1 +2.0**
PVAQ S **Sn** **07 33 01.3 -0.6**
52nm,0.2s
PVAQ Vaqueiros 1.97 59 P **Pn** **07 32 39.1 +2.0**
PVAQ S **Sn** **07 33 01.3 -0.6**
52nm,0.2s
PNCL Nicolau / Gran 2.00 31 *e*Pn **Pn** **07 32 39.4 +1.8**
PNCL *e*Sn **Sn** **07 33 02.3 -0.4**
PNCL A A 07 33 04.3
66nm,0.1s
EGRO El Granado 2.20 58 ⇑P **Pn** **07 32 42.0 +1.8**
2.4nm,0.1s,SNR=18
EGRO S **Sn** **07 33 06.3 -1.2**
23nm,0.1s,SNR=7.9
EGRO El Granado 2.20 58 P **Pn** **07 32 42.0 +1.8**
2.4nm,0.1s,SNR=18
EGRO S **Sn** **07 33 06.3 -1.2**
23nm,0.1s,SNR=7.9
PBEJ Beja 2.26 43 *e*Pn **Pn** **07 32 42.9 +1.8**
PBEJ *e*Sn **Sn** **07 33 08.6 -0.5**
PBEJ A A 07 33 10.4
30nm,0.3s
PBEJ Beja 2.26 43 P **Pn** **07 32 42.9 +1.8**
PBEJ S **Sn** **07 33 08.6 -0.5**
15nm,0.3s
PBEJ Beja 2.26 43 P **Pn** **07 32 42.9 +1.8**
PBEJ S **Sn** **07 33 08.6 -0.5**
15nm,0.3s
PMST Lisbon--Monsan 2.39 12 *e*Sn **Sn** **07 33 11.9 -0.4**
PMST A A 07 33 14.6
79nm,0.2s
PMST Lisbon--Monsan 2.39 12 *e*Sn **Sn** **07 33 11.9 -0.4**
79nm,0.2s
MOE Montemor 2.43 29 *e*Sn **Sn** **07 33 13.0 -0.2**
MOE Montemor 2.43 29 S **Sn** **07 33 13.0 -0.2**
MOE Montemor 2.43 29 S **Sn** **07 33 13.0 -0.2**
PACT Alcochete 2.50 18 *e*Pn **Pn** **07 32 46.8 +2.5**
PACT *e*Sn **Sn** **07 33 14.6 -0.3**
PACT A A 07 33 17.9
53nm,0.4s
PACT Alcochete 2.50 18 *e*Pn **Pn** **07 32 46.8 +2.5**
PACT *e*Sn **Sn** **07 33 14.6 -0.3**
53nm,0.4s
EVOP Sao Brissos 2.53 32 *e*Pn **Pn** **07 32 46.8 +2.1**
EVOP *e*Sn **Sn** **07 33 14.8 -0.8**
47nm,0.2s
EVO Evora 2.58 34 *e*Pn **Pn** **07 32 46.8 +1.4**
EVO *e*Sn **Sn** **07 33 14.8 -2.1**
94nm,0.2s
PMAFR Mafra 2.59 10 *e*Pn **Pn** **07 32 47.3 +1.6**
PMAFR *e*Sn **Sn** **07 33 17.0 -0.2**
PMAFR A A 07 33 20.0
133nm,0.4s
PMAFR Mafra 2.59 10 *e*Pn **Pn** **07 32 47.3 +1.6**
PMAFR *e*Sn **Sn** **07 33 17.0 -0.2**
133nm,0.4s
PBAR Barrancos 2.85 51 *e*Pn **Pn** **07 32 50.8 +1.6**
PBAR *e*Sn **Sn** **07 33 22.6 -1.0**
PBAR A A 07 33 24.9
19nm,0.2s
PBAR Barrancos 2.85 51 P **Pn** **07 32 50.8 +1.6**
PBAR S **Sn** **07 33 22.6 -1.0**
19nm,0.2s
PBAR Barrancos 2.85 51 P **Pn** **07 32 50.8 +1.6**
PBAR S **Sn** **07 33 22.6 -1.0**
19nm,0.2s
EMIN Mina Concepcio 2.88 61 ⇓P **Pn** **07 32 51.0 +1.5**
0.5nm,0.1s,SNR=18
EMIN S **Sn** **07 33 23.4 -0.8**
7.9nm,0.1s,SNR=13
EMIN Mina Concepcio 2.88 61 P **Pn** **07 32 51.0 +1.5**
0.5nm,0.1s,SNR=18
EMIN S **Sn** **07 33 23.4 -0.8**
7.9nm,0.1s,SNR=13
ALMR Almeirim 2.93 19 *e*S **Sn** **07 33 24.7 -0.8**
ALMR AML AML 07 33 26.1
comp=E,26nm,0.2s
PMTG Montargil 2.96 25 *e*Pn **Pn** **07 32 52.6 +1.9**
PMTG *e*Sn **Sn** **07 33 25.4 -0.8**
PMTG A A 07 33 27.0
comp=E,53nm,0.2s
PMTG Montargil 2.96 25 *e*Pn **Pn** **07 32 52.6 +1.9**
PMTG *e*Sn **Sn** **07 33 25.4 -0.8**
comp=E,53nm,0.2s
PESTR Estremoz 3.04 35 *e*Pn **Pn** **07 32 53.1 +1.2**
PESTR *e*Sn **Sn** **07 33 27.3 -1.1**
PESTR A A 07 33 29.0
comp=E,18nm,0.4s
PESTR Estremoz 3.04 35 ⇑P **Pn** **07 32 53.1 +1.2**
PESTR S **Sn** **07 33 27.3 -1.1**
comp=E,18nm,0.4s
PESTR Estremoz 3.04 35 P **Pn** **07 32 53.1 +1.2**
PESTR S **Sn** **07 33 27.3 -1.1**
comp=E,18nm,0.4s
EBAD Badajoz 3.25 43 P **Pn** **07 32 56.1 +1.4**
comp=E,0.2nm,0.1s,SNR=23
EBAD S **Sn** **07 33 30.9 -2.6**
comp=E,36nm,0.2s,SNR=14
EBAD Badajoz 3.25 43 P **Pn** **07 32 56.1 +1.4**
comp=E,0.2nm,0.1s,SNR=23
EBAD S **Sn** **07 33 30.9 -2.6**
comp=E,36nm,0.2s,SNR=14
PTOM Tomar 3.41 19 *e*Pn **Pn** **07 32 58.9 +2.0**
PTOM *e*Sn **Sn** **07 33 35.9 -1.4**
PTOM A A 07 33 39.9
comp=E,33nm,0.1s
PTOM Tomar 3.41 19 P **Pn** **07 32 58.9 +2.0**
PTOM S **Sn** **07 33 35.9 -1.4**
comp=E,16nm,0.1s
PTOM Tomar 3.41 19 P **Pn** **07 32 58.9 +2.0**
PTOM S **Sn** **07 33 35.9 -1.4**
comp=E,16nm,0.1s
PMRV Marv??o 3.59 32 *e*Pn **Pn** **07 33 01.1 +1.7**
PMRV *e*Sn **Sn** **07 33 39.8 -2.1**
PMRV A A 07 33 42.5
comp=E,53nm,0.2s
PMRV Marv??o 3.59 32 P **Pn** **07 33 01.1 +1.7**
PMRV S **Sn** **07 33 39.8 -2.1**
comp=E,53nm,0.2s
PMRV Marv??o 3.59 32 P **Pn** **07 33 01.1 +1.7**
PMRV S **Sn** **07 33 39.8 -2.1**
comp=E,53nm,0.2s
PCAS Casmilo, Conde 3.80 16 *e*Pn **Pn** **07 33 04.2 +1.9**
PCAS *e*Sn **Sn** **07 33 45.7 -1.3**
PCAS A A 07 33 50.1
comp=E,11nm,0.5s
PCAS Casmilo, Conde 3.80 16 *e*Pn **Pn** **07 33 04.2 +1.9**
PCAS *e*Sn **Sn** **07 33 45.7 -1.3**
comp=E,11nm,0.5s
ECAB El Cabril 3.90 63 P **Pn** **07 33 05.1 +1.4**
comp=E,0.0nm,0.2s,SNR=6.6
ECAB S **Sn** **07 33 47.1 -2.5**
comp=E,2.2nm,0.1s,SNR=6.3
ECAB El Cabril 3.90 63 P **Pn** **07 33 05.1 +1.4**
SNR=6.6
ECAB S **Sn** **07 33 47.1 -2.5**
comp=E,2.2nm,0.1s,SNR=6.3
PCBR Castelo Branco 3.91 28 *e*Pn **Pn** **07 33 05.5 +1.8**
PCBR *e*Sn **Sn** **07 33 47.7 -2.0**
PCBR A A 07 33 50.9
comp=E,19nm,0.3s
PCBR Castelo Branco 3.91 28 P **Pn** **07 33 05.5 +1.8**
PCBR S **Sn** **07 33 47.7 -2.0**
comp=E,9.5nm,0.3s
PCBR Castelo Branco 3.91 28 P **Pn** **07 33 05.5 +1.8**
PCBR S **Sn** **07 33 47.7 -2.0**
comp=E,9.5nm,0.3s
EMIJ Mijas 4.08 86 P **Pn** **07 33 07.6 +1.4**
comp=E,0.1nm,0.2s,SNR=7.9
EMIJ S **Sn** **07 33 52.1 -1.9**
comp=E,3.0nm,0.2s,SNR=7.9
EMIJ Mijas 4.08 86 P **Pn** **07 33 07.6 +1.4**
comp=E,0.1nm,0.2s,SNR=7.9
EMIJ S **Sn** **07 33 52.1 -1.9**
comp=E,3.0nm,0.2s,SNR=7.9
MTE Manteigas 4.38 24 *e*Pn **Pn** **07 33 12.0 +1.7**
MTE *e*Sn **Sn** **07 33 59.6 -1.9**
MTE A A 07 34 03.2
comp=E,19nm,0.3s
MTE Manteigas 4.38 24 P **Pn** **07 33 12.0 +1.7**
MTE S **Sn** **07 33 59.6 -1.9**
comp=E,9.6nm,0.3s
MTE Manteigas 4.38 24 P **Pn** **07 33 12.0 +1.7**
MTE S **Sn** **07 33 59.6 -1.9**
comp=E,9.6nm,0.3s
EADA Adamuz 4.55 66 P **Pn** **07 33 14.0 +1.4**
comp=E,0.8nm,0.1s,SNR=11
EADA S **Sn** **07 34 03.1 -2.5**
comp=E,5.3nm,0.1s,SNR=5.0
EADA Adamuz 4.55 66 P **Pn** **07 33 14.0 +1.4**
comp=E,0.8nm,0.1s,SNR=11
EADA S **Sn** **07 34 03.1 -2.5**
comp=E,5.3nm,0.1s,SNR=5.0
PVIS Viseu 4.57 19 *e*Pn **Pn** **07 33 14.2 +1.3**
PVIS *e*Sn **Sn** **07 34 04.6 -1.6**
PVIS A A 07 34 07.3
comp=E,23nm,0.1s
PVIS Viseu 4.57 19 P **Pn** **07 33 14.2 +1.3**
PVIS S **Sn** **07 34 04.6 -1.6**
comp=E,12nm,0.1s
PVIS Viseu 4.57 19 P **Pn** **07 33 14.2 +1.3**
PVIS S **Sn** **07 34 04.6 -1.6**
comp=E,12nm,0.1s
EPLA Plasencia 4.71 38 P **Pn** **07 33 15.7 +1.0**
comp=E,1.1nm,0.1s,SNR=7.9
EPLA S **Sn** **07 34 06.9 -2.5**
comp=E,6.8nm,0.1s,SNR=11
EPLA Plasencia 4.71 38 P **Pn** **07 33 15.7 +1.0**
comp=E,1.1nm,0.1s,SNR=7.9
EPLA S **Sn** **07 34 06.9 -2.5**
comp=E,6.8nm,0.1s,SNR=11
MIF Mishlifen 4.82 127 P **Pn** **07 33 17.0 +0.6**
MIF S Sn 07 34 09.0 -3.4
MIF Mishlifen 4.82 127 *i* P **Pn** **07 33 17.0 +0.6**
CIA Chichaoua 4.90 169 P Pn 07 33 15.0 -2.4
CIA S Sn 07 34 07.0 -7.2
KIB El Ksiba 4.93 139 P **Pn** **07 33 19.0 +1.1**
KIB S Sn 07 34 10.0 -5.1
KIB El Ksiba 4.93 139 *e*P **Pn** **07 33 19.0 +1.1**
TZC Tazercounte 5.06 146 P **Pn** **07 33 21.0 +1.3**
TZC S Sn 07 34 11.0 -7.5
TZC Tazercounte 5.06 146 *e*P **Pn** **07 33 21.0 +1.3**
EBAN Banos Encina 5.14 68 P **Pn** **07 33 21.5 +0.9**
comp=E,1.2nm,0.2s,SNR=7.9
EBAN S **Sn** **07 34 16.1 -3.9**
comp=E,1.8nm,0.1s,SNR=7.9
EBAN Banos Encina 5.14 68 P **Pn** **07 33 21.5 +0.9**
comp=E,1.2nm,0.2s,SNR=7.9
EBAN S **Sn** **07 34 16.1 -3.9**
comp=E,1.8nm,0.1s,SNR=7.9
PVRL Vila Real 5.15 18 *e*Sn **Sn** **07 34 17.0 -3.2**
PVRL A A 07 34 22.0
comp=E,28nm,0.1s
PVRL Vila Real 5.15 18 S **Sn** **07 34 17.0 -3.2**
comp=E,14nm,0.1s
PVRL Vila Real 5.15 18 S **Sn** **07 34 17.0 -3.2**
comp=E,14nm,0.1s
POLO Lamas de Olo 5.22 17 *e*Pn **Pn** **07 33 23.1 +1.3**
POLO *e*Sn **Sn** **07 34 18.6 -3.5**
POLO A A 07 34 23.1
comp=E,7.3nm,0.4s
POLO Lamas de Olo 5.22 17 *e*Pn **Pn** **07 33 23.1 +1.3**
POLO *e*Sn **Sn** **07 34 18.6 -3.5**
comp=E,7.3nm,0.4s
MVO Moncorvo 5.24 24 *e*Pn **Pn** **07 33 23.5 +1.4**
MVO *e*Sn **Sn** **07 34 20.2 -2.4**
MVO A A 07 34 22.1
comp=E,11nm,0.6s
MVO Moncorvo 5.24 24 *e*Pn **Pn** **07 33 23.5 +1.4**
MVO *e*Sn **Sn** **07 34 20.2 -2.4**
comp=E,11nm,0.6s
OUK Oukaimeden 5.42 162 P Pn 07 33 25.0 +0.1
OUK S Sn 07 34 21.0 -6.8
PCAB Cabril 5.49 14 *e*Pn **Pn** **07 33 26.8 +1.3**
PCAB *e*Sn **Sn** **07 34 25.5 -3.2**
PCAB A A 07 34 31.6
comp=E,12nm,0.1s
PCAB Cabril 5.49 14 P **Pn** **07 33 26.8 +1.3**
PCAB S **Sn** **07 34 25.5 -3.2**
comp=E,5.9nm,0.1s
PCAB Cabril 5.49 14 P **Pn** **07 33 26.8 +1.3**
PCAB S **Sn** **07 34 25.5 -3.2**
comp=E,5.9nm,0.1s
EQES Quesada 5.59 73 P **Pn** **07 33 29.0 +2.1**
comp=E,0.2nm,0.0s,SNR=7.9
EQES S **Sn** **07 34 29.6 -1.7**
comp=E,9.6nm,0.3s,SNR=7.9
EQES Quesada 5.59 73 P **Pn** **07 33 29.0 +2.1**
comp=E,0.2nm,0.0s,SNR=7.9
EQES S **Sn** **07 34 29.5 -1.7**
comp=E,9.6nm,0.3s,SNR=7.9
EBER Berja 5.61 83 S **Sn** **07 34 31.1 -0.7**
comp=E,0.1nm,0.1s,SNR=7.9
EBER Berja 5.61 83 S **Sn** **07 34 31.1 -0.7**
comp=E,0.1nm,0.1s,SNR=7.9
ELOB Lobios 5.64 14 P **Pn** **07 33 28.8 +1.3**
comp=E,1.0nm,0.1s,SNR=42
ELOB S **Sn** **07 34 29.2 -3.2**
comp=E,5.0nm,0.1s,SNR=11
ELOB Lobios 5.64 14 P **Pn** **07 33 28.8 +1.3**
comp=E,1.0nm,0.1s,SNR=42
ELOB S **Sn** **07 34 29.2 -3.2**
comp=E,5.0nm,0.1s,SNR=11
ESDC Sonseca Array 5.67 53 P **Pn** **07 33 29.7 +1.6**
comp=E,0.6nm,0.2s,baz=241,slow=13,SNR=12
ESDC S **Sn** **07 34 29.8 -3.5**
comp=E,3.2nm,0.3s,baz=240,slow=24,SNR=25
ESDC Sonseca Array 5.67 53 P **Pn** **07 33 29.7 +1.6**
comp=E,0.6nm,0.2s,SNR=12
ESDC S **Sn** **07 34 29.8 -3.5**
comp=E,3.2nm,0.3s,SNR=25
PGAV Gavieira, Arco 5.69 12 *e*Pn **Pn** **07 33 29.5 +1.1**
PGAV *e*Sn Sn 07 34 30.0 -3.8
PGAV A A 07 34 35.0
comp=E,15nm,0.5s
PGAV Gavieira, Arco 5.69 12 *e*Pn **Pn** **07 33 29.5 +1.1**
PGAV *e*Sn Sn 07 34 30.0 -3.8
comp=E,15nm,0.5s
EZAM Zamans 5.81 8 P **Pn** **07 33 31.4 +1.5**
comp=E,2.0nm,0.2s,SNR=7.9
EZAM S Sn 07 34 32.7 -3.9
comp=E,4.3nm,0.2s,SNR=7.9
EZAM Zamans 5.81 8 P **Pn** **07 33 31.4 +1.5**
comp=E,2.0nm,0.2s,SNR=7.9
EZAM S Sn 07 34 32.7 -3.9
comp=E,4.3nm,0.2s,SNR=7.9
PBRG Braganca 5.91 23 *e*Sn Sn 07 34 34.9 -4.2
PBRG A A 07 34 39.5
comp=E,7.7nm,0.1s
PBRG Braganca 5.91 23 S Sn 07 34 34.9 -4.2
comp=E,3.8nm,0.1s
PBRG Braganca 5.91 23 *e*Sn Sn 07 34 34.9 -4.2
comp=E,7.7nm,0.1s
EHUE Huescar 5.96 74 P **Pn** **07 33 33.8 +1.8**
comp=E,0.8nm,0.2s,SNR=7.9
EHUE S **Sn** **07 34 37.9 -2.4**
comp=E,2.8nm,0.2s,SNR=7.9
EHUE Huescar 5.96 74 P **Pn** **07 33 33.8 +1.8**
comp=E,0.8nm,0.2s,SNR=7.9
EHUE S **Sn** **07 34 37.9 -2.4**
comp=E,2.8nm,0.2s,SNR=7.9
ECAL Calabor 6.04 23 P **Pn** **07 33 34.6 +1.5**
comp=E,2.7nm,0.2s,SNR=7.9
ECAL S Sn 07 34 36.9 -5.3
comp=E,1.4nm,0.2s,SNR=12
ECAL Calabor 6.04 23 P **Pn** **07 33 34.6 +1.5**
comp=E,2.7nm,0.2s,SNR=7.9
GUD Guadarrama 6.15 45 P **Pn** **07 33 36.2 +1.5**
comp=E,1.6nm,0.2s,SNR=7.9
GUD S **Sn** **07 34 42.5 -2.6**
comp=E,4.3nm,0.2s,SNR=7.9
GUD Guadarrama 6.15 45 P **Pn** **07 33 36.2 +1.5**
comp=E,1.6nm,0.2s,SNR=7.9
GUD S **Sn** **07 34 42.5 -2.6**
comp=E,4.3nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.58 6 P **Pn** **07 33 40.1 -0.3**
comp=E,0.4nm,0.0s,SNR=7.9
EMAZ S Sn 07 34 51.3 -4.2
comp=E,16nm,0.2s,SNR=5.0
EMAZ Mazaricos 6.58 6 P **Pn** **07 33 40.1 -0.3**
comp=E,0.4nm,0.0s,SNR=7.9
ETOB Tobarra 6.96 69 P Pn 07 33 43.5 -2.2
comp=E,0.1nm,0.1s,SNR=7.9
ETOB S Sn 07 35 00.7 -4.2
comp=E,0.9nm,0.1s,SNR=7.9
EPON Pontenova 7.22 16 S Sn 07 35 05.9 -5.4
comp=E,0.5nm,0.1s,SNR=7.9
EARI Arriondas 7.76 26 P **Pn** **07 33 58.5 +1.9**
comp=E,0.0nm,0.0s,SNR=7.9
EARI S Sn 07 35 19.3 -5.3
comp=E,0.1nm,0.1s,SNR=7.9
EARI Arriondas 7.76 26 P **Pn** **07 33 58.5 +1.9**
SNR=7.9
EMOS Mosqueruela 8.35 59 P **Pn** **07 34 06.5 +1.6**
comp=E,0.2nm,0.1s,SNR=7.9
EMOS S Sn 07 35 33.7 -5.6
comp=E,0.0nm,0.1s,SNR=7.9
EMOS Mosqueruela 8.35 59 P **Pn** **07 34 06.5 +1.6**
comp=E,0.2nm,0.1s,SNR=7.9
SJPF Ste Jean 9.43 42 *e*Pn **Pn** **07 34 21.7 +2.2**
SJPF *e*Sn Sn 07 36 00.2 -5.3
comp=E,1.1nm,0.2s
SJPF Ste Jean 9.43 42 *e*Pn **Pn** **07 34 21.7 +2.2**
SJPF *e*Sn Sn 07 36 00.2 -5.3
comp=E,0.6nm,0.2s
ETSF Etsaut 9.66 45 *e*Pn **Pn** **07 34 24.7 +2.0**
ETSF *e*Sn Sn 07 36 03.7 -7.6
comp=E,0.8nm,0.3s
ETSF Etsaut 9.66 45 *e*Pn **Pn** **07 34 24.7 +2.0**

IDC 11 07:43:08.4±1.7, 11°.57S×165°.90E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=41.6km s-min=28.2km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.46**	**177**	Pn	Pn	07 45 39.7	-0.1
	0.2nm,0.3s,baz=351,slow=19,SNR=2.9						
DZM				Sn	Sn	07 47 40.6	+2.7
	baz=323,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**31.45**	**251**	P	P	07 49 32.0	+0.1
	0.8nm,0.7s,baz=84,slow=9.0,SNR=8.3						
ASAR	**Alice Springs**	**32.70**	**244**	P	P	07 49 42.3	-0.6
	1.6nm,0.7s,baz=69,slow=9.6,SNR=20						
FITZ	**Fitzroy Crossi**	**39.39**	**256**	P	P	07 50 40.6	+0.3
	1.6nm,0.8s,baz=110,slow=8.4,SNR=3.9						
ILAR	**Eielson Array**	**83.96**	**18**	P	P	07 55 40.1	0.0
	0.1nm,0.6s,baz=229,slow=4.9,SNR=3.6						

*IDC **11** 07:53:40.6±1.5, 0°.69N×122°.81E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=128.1km s-min=22.8km az=64.0*
*ISCJB **11** 07:53:53.4±0.8, 0°.38N±0°.10×122°.4E±0°.1, h114km, mb3.6/3, Error ellipse: s-maj=16.9km s-min=12.6km az=28.7*
*DJA **11** 07:53:57.9±1.4, 0°N±10°×12°2E±°, h63km±18km, M3.7/5, MLv3.7/5*
ISC 11 07:53:53.9±1.1, 0°.38N±0°.09×122°.35E±0°.10, h114km, n9, σ1§57/10, mb3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.42**	**283**	P	**Pn**	**07 54 11.5**	**+0.8**
GTOI	**Gorontalo**	**0.71**	**69**	P	**Sn**	**07 54 13.9**	**+1.2**
GTOI				S	**Sn**	**07 54 24.6**	**-2.3**
LUWI	**Luwuk**	**1.47**	**163**	P	**Pn**	**07 54 21.9**	**+1.2**
KMSI	**Cibinong**	**1.64**	**83**	P	**Pn**	**07 54 24.6**	**+2.0**
SKSI	**Soroako, Sulaw**	**3.06**	**199**	P	**Pn**	**07 54 42.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.65**	**170**	P	**Pn**	**07 58 03.9**	**-0.7**
	0.5nm,0.3s,baz=353,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**23.37**	**150**	P	**P**	**07 58 51.1**	**-1.3**
	1.8nm,0.6s,baz=327,slow=10,SNR=27						
ASAR	**Alice Springs**	**26.41**	**156**	P	**P**	**07 59 19.5**	**-0.5**
	0.6nm,0.5s,baz=344,slow=14,SNR=16						
MKAR	**Makanchi Array**	**57.95**	**329**	P	**P**	**08 03 34.8**	**+0.4**
	0.7nm,0.5s,baz=132,slow=8.0,SNR=3.0						

*SZGRF **11** 07:54:28.7, 13°.40N×92°.91E, h33km, mb5.0, Andaman Islands, India, region*
*ISCJB **11** 07:54:31.3±0.9, 14°.42N±0°.02×92°.89E±0°.02, h1km±5km, mb4.9/160, MS3.9/30, Error ellipse: s-maj=4.2km s-min=3.4km az=40.1*
*IDC **11** 07:54:32.5±0.4, 14°.31N×92°.95E, h0km, mb4.8/29, mb1 4.9/30, mb1mx4.8/35, mbtmp4.8/30, ML4.8/1, MS3.8/22, Ms1 3.8/22, ms1mx3.6/41, Error ellipse: s-maj=14.1km s-min=10.3km az=45.0*
*BJI **11** 07:54:33.3, 14°.02N×92°.94E, h35km, mB4.9/24, mb4.7/43, Ms4.3/29, Ms7 3.9/28*
*MOS **11** 07:54:35.7±0.9, 14°.34N×93°.02E, h33km, mb5.2/48, Error ellipse: s-maj=8.1km s-min=5.2km az=111.4*
*BKK **11** 07:54:36.8±0.4, 15°N±3°×9°.3E±°, h10km, M4.7/21, mB5.1/10, mb4.9/21, MLv4.8/7, Mw(mB)4.5/10*
*NEIC **11** 07:54:38.5±0.6, 14°.35N×92°.98E, h38km±5km, mb4.9/41, Error ellipse: s-maj=5.3km s-min=4.1km az=54.0*
*DJA **11** 07:54:39.7±0.8, 14°N±5°×9°.3E±°, h45km±8km, M5.0/17, mB5.5/7, mb5.1/17, MLv4.9/1, Mw(mB)5.0/7*
ISC 11 07:54:38.0±0.3, 14°.36N±0°.03×92°.94E±0°.04, h34km, h34km:pP-P, n392, σ1§45/440, mb4.9/159, MS3.8/32, 11C-20D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.18**	**181**	*e*P	**Pb**	**07 54 59.3**	**-0.5**
PBA	**Port Blair**	**2.69**	**184**	*e*P	Pn	07 55 18.7	-0.3
PBA				*e*S	Sn	07 55 51.8	+1.4
PHET	**Kaeng Krachan**	**6.66**	**102**	P	**Pn**	**07 56 14.7**	**+1.2**
	470nm,0.8s,8μm2.4nm						
CMAR	**Chiang Mai Arr**	**7.05**	**54**	Pn	**Pn**	**07 56 17.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**7.05**	**54**	Pn	**Pn**	**07 56 17.6**	**-1.4**
	4.4nm,0.3s,baz=243,slow=15,SNR=38						
CMAR				LR	LR	07 59 20.6	
	comp=Z,354nm,21.1s,baz=167,slow=41						
CHTO	**Chiang Mai**	**7.26**	**52**	*e*P	**Pn**	**07 56 20.5**	**-1.3**
CHTO				*e*		07 57 37.2	
CHTO	**Chiang Mai**	**7.26**	**52**	*e*Pn	**Pn**	**07 56 20.5**	**-1.3**
CHTO				*e*Sn	Sn	07 57 37.2	-5.9
CHTO	**Chiang Mai**	**7.26**	**52**	P	**Pn**	**07 56 20.4**	**-1.3**
	32nm,0.8s,756nm0.3nm						
CHTO	**Chiang Mai**	**7.26**	**52**	P	**Pn**	**07 56 20.6**	**-1.3**
	24nm,0.5s,576nm0.3nm						
CMMT	**Chiang Mai**	**7.26**	**52**	P	**Pn**	**07 56 20.2**	**-1.6**
	27nm,0.7s,678nm0.3nm						
CMBY	**CAMPBELL BAY**	**7.37**	**172**	*e*P	**Pn**	**07 56 24.7**	**+1.5**
LAMP	**Lampang**	**7.64**	**56**	P	**Pn**	**07 56 27.3**	**+0.4**
	12nm,0.6s,183nm0.1nm						
CMAI	**Chiengmai2**	**8.04**	**46**	P	**Pn**	**07 56 32.5**	**-0.2**
	44nm,0.6s,2μm0.6nm						
PBKT	**Sadao Pong**	**8.04**	**73**	P	**Pn**	**07 56 33.2**	**+0.7**
	40nm,0.9s,0.2nm						
PAYA	**Payao**	**8.29**	**52**	P	**Pn**	**07 56 35.2**	**-0.7**
	24nm,0.9s,259nm0.1nm						

LOEI	**Loei**	**8.60 68**	P	Pn	07 56 46.0	+5.9
BSI	**Banda Aceh**	**9.11 165**	P	**Pn**	**07 56 46.4**	**-0.7**
	67nm,0.8s,2μm					
VIS	**Vishakhapatnam**	**9.83 291**	*e*P	**Pn**	**07 56 56.1**	**-0.8**
VIS			AMB	AMB	07 56 57.1	
	comp=Z,348nm,1.4s					
LHMI	**Lhok Sumawe**	**9.89 156**	P	Pn	07 57 01.7	+3.8
	comp=Z,321nm,1.0s					
SHL	**Shillong**	**11.19 355**	*ex*	Pn	07 57 11.9	-3.9
SHL			AMB	AMB	07 57 33.4	
	comp=Z,54nm,0.3s					
SHL			*ex*	Sn	07 59 11.0	-8.9
BOK	**Bokaro**	**11.51 326**	*e*P	**Pn**	**07 57 18.9**	**-1.1**
BOK			AMB	AMB	07 57 21.4	
	comp=Z,114nm,2.0s					
KULM	**Kulim**	**11.78 139**	*e*Pn	**Pn**	**07 57 25.5**	**+1.7**
KULM	**Kulim**	**11.78 139**	P	**Pn**	**07 57 25.4**	**+1.7**
KULM	**Kulim**	**11.78 139**	P	**Pn**	**07 57 26.1**	**+2.3**
	comp=Z,98nm,1.1s,comp=Z,863nm					
MDRS	**Chennai**	**12.40 266**	*ex*	x	07 58 20.6	
MDRS			*ex*	x	07 58 36.6	
MDRS			*ex*	**Sn**	**07 59 53.0**	**+3.6**
MDRS			*ex*	x	08 00 15.8	
MDRS			*ex*	x	08 01 43.4	
MDRS			*ex*	x	08 07 58.2	
MDRS			*ex*	x	08 22 46.2	
IPM	**Ipoh**	**12.64 140**	*e*Pn	**Pn**	**07 57 35.9**	**+0.4**
IPM	**Ipoh**	**12.64 140**	P	**Pn**	**07 57 36.5**	**+1.0**
IPM	**Ipoh**	**12.64 140**	P	**Pn**	**07 57 36.0**	**+0.4**
	comp=Z,31nm,1.1s					
PSI	**Prapat**	**12.91 152**	Pn	**Pn**	**07 57 41.6**	**+2.3**
PSI	**Prapat**	**12.91 152**	Pn	**Pn**	**07 57 41.6**	**+2.3**
	comp=Z,2.3nm,0.3s,baz=326,slow=11,SNR=67					
PSI			LR	LR	08 03 09.7	
	comp=Z,480nm,19.5s,baz=334,slow=40					
KTGM	**Kuala Trenggan**	**13.46 131**	P	**Pn**	**07 57 49.2**	**+2.4**
ODAN	**Odare**	**13.48 338**	*e*P	Pn	07 57 42.4	-4.7
	comp=Z,243nm,0.5s					
ODAN			*e*S	Sn	08 00 04.6	-11
TAPN	**Taplejung**	**13.82 340**	*e*P	Pn	07 57 46.9	-4.9
	comp=Z,123nm,0.4s					
RAMN	**Ramite**	**13.86 336**	*e*P	Pn	07 57 48.4	-3.9
	comp=Z,144nm,0.4s					
PALK	**Pallekele**	**13.93 241**	*e*Pn	**Pn**	**07 57 52.8**	**-0.3**
PALK			*e*Sn	Sn	08 00 14.6	-12
FRIM	**Kepong**	**13.98 141**	P	**Pn**	**07 57 55.0**	**+1.2**
KMI	**Kunming**	**14.12 39**	P	**P**	**07 58 03.8**	**+0.7**
KMI			S	Sn	08 00 40.7	+9.1
KMI			pmax	pmax		
	comp=Z,27nm,0.9s					
KMI			LR	LR		
	comp=N,340nm,12.4s					
KMI			LR	LR		
	comp=E,190nm,11.4s					
KMI			LR	LR		
	comp=Z,240nm,14.5s					
HYB	**Hyderabad**	**14.17 284**	*i*P	**Pn**	**07 57 55.0**	**-1.5**
HYB			*e*S	**Sn**	**08 00 32.0**	**-0.6**
HYB	**Hyderabad**	**14.17 284**	*e*P	**Pn**	**07 57 55.7**	**-0.7**
HYB			AMB	AMB	07 58 17.8	
	comp=Z,31nm,0.9s					
JIRN	**Jiri**	**14.65 336**	*e*P	Pn	07 57 58.9	-4.4
	comp=Z,87nm,0.4s					
NGP	**Nagpur**	**14.85 299**	*ex*	Pn	07 58 00.8	-4.8
NGP			*ex*	x	08 00 31.9	
PKI	**Pulchoki**	**14.90 333**	*e*P	Pn	07 58 01.6	-5.0
	comp=Z,212nm,0.4s					
PKIN	**Phulchoki**	**14.91 333**	*e*P	Pn	07 58 01.7	-5.0
	comp=Z,299nm,0.5s					
GUN	**Gumba**	**15.00 335**	*e*P	Pn	07 58 03.4	-4.5
	comp=Z,56nm,0.4s					
DMN	**Daman**	**15.07 332**	*e*P	Pn	07 58 03.9	-4.8
KKN	**Kakani**	**15.15 333**	*e*P	**Pn**	**07 58 06.0**	**-3.7**
LSA	**Lhasa**	**15.36 354**	P	**P**	**07 58 18.0**	**+0.9**
LSA			pmax	pmax		
	comp=Z,30nm,0.8s					
LSA	**Lhasa**	**15.36 354**	*e*P	**Pn**	**07 58 13.7**	**+1.0**
LSA			*e*S	**Sn**	**08 00 56.0**	**-6.0**
LSA			pmax	pmax		
	comp=Z,24nm,0.7s					
LSA	**Lhasa**	**15.36 354**	*e*P	**Pn**	**07 58 13.7**	**+1.0**
	comp=Z,24nm,0.7s					
LSA			*e*S	**Sn**	**08 00 56.0**	**-6.0**
KOLN	**Koldanda**	**15.93 328**	*e*P	**Pn**	**07 58 15.4**	**-4.5**
	comp=Z,166nm,0.5s					
KGM	**Kluang**	**15.98 139**	P	**Pn**	**07 58 21.7**	**+1.2**
LATR	**Latur**	**16.23 287**	*ex*	**Pn**	**07 58 23.7**	**+0.2**
	comp=Z,45nm,1.2s					
LATR			*ex*	x	08 01 08.2	
DANN	**Dangsing**	**16.33 330**	*e*P	**Pn**	**07 58 21.0**	**-4.0**
	comp=Z,155nm,0.8s					
PPI	**Padang Panjang**	**16.47 153**	P	**Pn**	**07 58 25.5**	**-1.1**
	comp=Z,51nm,0.9s					
MYKOM	**Kota Tinggi**	**16.50 138**	P	**P**	**07 58 28.2**	**-1.1**
MYKOM	**Kota Tinggi**	**16.50 138**	P	**P**	**07 58 29.2**	**-0.1**
	comp=Z,90nm,1.0s,comp=Z,787nm					
PYUN	**Piuthan**	**16.51 327**	*e*P	**Pn**	**07 58 23.7**	**-3.6**
	comp=Z,276nm,0.7s					
BHPL	**Bhopal**	**17.13 303**	*e*P	**P**	**07 58 36.4**	**0.0**
BHPL			AMB	AMB	07 58 50.8	
	comp=Z,87nm,2.1s					
GYA	**Guiyang**	**17.59 45**⇑	*i*P	**Pn**	**07 58 40.8**	**0.0**
GYA			pP	**pP**	**07 58 51.3**	**+0.9**
GYA			sP	**sP**	**07 58 57.8**	**+3.1**
GYA			S	**Sn**	**08 01 55.4**	**-0.5**
GYA			SS	**SnSn**	**08 02 18.2**	**+8.5**
GYA			pmax	pmax		
	comp=Z,20nm,0.8s					
GYA			pmax	pmax		
	comp=Z,120nm,4.8s					
GYA			LR	LR		
	comp=N,480nm,14.5s					
GYA			LR	LR		
	comp=E,450nm,15.2s					
GYA			LR	LR		
	comp=Z,500nm,14.9s					
POO	**Poona**	**18.77 285**	*ex*	**P**	**07 58 59.0**	**+4.5**
	comp=Z,20nm,1.0s					
CD2	**Chengdu**	**19.24 29**	*e*P	**P**	**07 58 59.8**	**+0.3**
CD2			pP	**pP**	**07 59 07.2**	**-1.2**
CD2			sP	**sP**	**07 59 14.6**	**+1.9**
CD2			PP	**PnPn**	**07 59 19.2**	**+5.2**
CD2			S	**Sn**	**08 02 33.1**	**-2.3**
CD2			sS	**sS**	**08 02 46.2**	**-3.7**
CD2			SS	SnSn	08 03 00.4	+10
CD2			pmax	pmax		
	comp=Z,70nm,0.9s					
CD2			pmax	pmax		
	comp=Z,350nm,4.8s					
CD2			LR	LR		
	comp=N,510nm,15.2s					
CD2			LR	LR		
	comp=E,480nm,14.2s					
CD2			LR	LR		
	comp=Z,420nm,13.1s					
MASI	**Maura Aman, Be**	**19.68 151**	P	**P**	**07 59 04.1**	**-0.3**
	comp=Z,146nm,0.9s					
NDI	**New Delhi**	**20.39 317**	*ex*	x	08 02 43.0	
PPBI	**Pangkal Pinang**	**20.98 140**	P	**P**	**07 59 18.3**	**-0.3**
	comp=Z,91nm,0.9s,comp=Z,11μm					
KSM	**Kuching**	**21.41 125**	*e*P	**P**	**07 59 24.6**	**+1.5**
	comp=Z,54nm,0.9s					
KSM	**Kuching**	**21.41 125**	P	**P**	**07 59 23.4**	**+0.3**
KSM	**Kuching**	**21.41 125**	P	**P**	**07 59 25.4**	**+2.2**
	comp=Z,70nm,0.9s					
ENH	**Enshi**	**21.98 41**	*e*P	**P**	**07 59 28.2**	**-0.9**
	comp=Z,55nm,0.8s					
SMLA	**Simla**	**22.09 322**	*e*P	**P**	**07 59 31.6**	**+1.3**
SMLA			AMB	AMB	07 59 45.1	
	comp=Z,36nm,1.0s					
SBUM	**Sibu**	**22.41 120**	P	**P**	**07 59 33.4**	**-0.5**
DHRM	**DHARAMSHALA**	**23.41 322**	*e*P	**P**	**07 59 45.0**	**+0.7**
LZH	**Lanzhou**	**23.74 22**	⇓P	**P**	**07 59 47.6**	**+0.2**
LZH			pP	**pP**	**07 59 56.3**	**-0.6**
LZH			sP	**sP**	**08 00 01.1**	**0.0**
LZH			PP	**PnPn**	**08 00 20.6**	**+4.9**
LZH			*e*S	**S**	**08 03 57.8**	**-2.8**
LZH			SS	**SnSn**	**08 04 47.9**	**+7.5**
LZH			pmax	pmax		
	comp=Z,59nm,1.2s					
LZH			pmax	pmax		
	comp=Z,190nm,4.0s					
LZH			LR	LR		
	comp=N,440nm,11.5s					
LZH			LR	LR		
	comp=E,460nm,12.3s					
LZH			LR	LR		
	comp=Z,520nm,13.8s					
KKM	**Kota Kinabalu**	**24.33 107**	P	**P**	**07 59 51.3**	**-1.6**
XAN	**Xi'an**	**24.36 34**	P	**P**	**07 59 51.7**	**-1.3**
XAN			pP	**pP**	**08 00 02.2**	**-0.5**
XAN			sP	**sP**	**08 00 07.4**	**+0.6**
XAN			pmax	pmax		
	comp=Z,21nm,0.8s					
XAN			LR	LR		
	comp=N,200nm,11.0s					
XAN			LR	LR		
	comp=Z,57nm,24.4s					
SDKM	**Sandakan**	**25.38 108**	P	**P**	**08 00 01.8**	**-0.7**
GTA	**Gaotai**	**25.68 12**	⇓P	**P**	**08 00 05.7**	**+0.7**
GTA			pP	**pP**	**08 00 16.2**	**+1.5**
GTA			sP	**sP**	**08 00 20.0**	**+1.2**
GTA			PcP	**PcP**	**08 03 36.0**	**+1.1**
GTA			S	**S**	**08 04 30.3**	**-1.2**
GTA			sS	**sS**	**08 04 46.0**	**-1.5**
GTA			SS	SnSn	08 05 40.1	+12
GTA			pmax	pmax		
	comp=Z,47nm,0.9s					
GTA			pmax	pmax		
	comp=Z,120nm,5.9s					
GTA			LR	LR		
	comp=N,200nm,15.7s					
GTA			LR	LR		
	comp=E,130nm,17.6s					
GTA			LR	LR		
	comp=Z,250nm,19.5s					
TSM	**Tawau**	**26.52 110**	P	**P**	**08 00 14.0**	**+1.2**
MYLDM	**Lahad Datu**	**26.76 107**	P	**P**	**08 00 15.7**	**+0.8**
BBKI	**Banjar Baru**	**28.02 128**	P	**P**	**08 00 26.8**	**+0.7**
	comp=Z,212nm,0.9s,comp=Z,8μm					
KSH	**Kashi**	**29.16 332**	P	**P**	**08 00 35.3**	**-1.0**
KSH			sP	**sP**	**08 00 48.1**	**-2.0**
KSH			PP	**PnPn**	**08 01 30.2**	**+0.5**
KSH			S	S	08 05 20.3	-6.2
KSH			SS	**SnSn**	**08 06 52.4**	**-0.3**
KSH			pmax	pmax		
	comp=Z,7.0nm,0.8s					
KSH			pmax	pmax		
	comp=Z,100nm,5.0s					
KSH			LR	LR		
	comp=N,240nm,12.9s					
KSH			LR	LR		
	comp=E,250nm,14.9s					
KSH			LR	LR		
	comp=Z,180nm,16.1s					
NJ2	**Nanjing**	**29.50 49**	*e*P	**P**	**08 00 40.1**	**+1.0**
NJ2			pP	**pP**	**08 00 49.8**	**+0.9**
NJ2			sP	**sP**	**08 00 54.7**	**+1.7**
NJ2			S	**S**	**08 05 34.3**	**+2.8**
NJ2			sS	**sS**	**08 05 51.6**	**+4.0**
NJ2			pmax	pmax		
	comp=Z,29nm,1.5s					
NJ2			LR	LR		
	comp=N,420nm,21.9s					
NJ2			LR	LR		
	comp=E,590nm,21.4s					
NJ2			LR	LR		
	comp=Z,180nm,24.1s					
WMQ	**Urumqi**	**29.70 352**	P	**P**	**08 00 42.3**	**+1.4**
WMQ			sP	**sP**	**08 00 55.9**	**+1.1**
WMQ			PP	**PnPn**	**08 01 37.9**	**+1.0**
WMQ			S	**S**	**08 05 33.9**	**-0.8**
WMQ			sS	**sS**	**08 05 50.6**	**-0.2**
WMQ			SS	**SnSn**	**08 07 09.5**	**+3.8**
WMQ			pmax	pmax		
	comp=Z,14nm,1.2s					
WMQ			pmax	pmax		
	comp=Z,140nm,4.7s					
WMQ			LR	LR		
	comp=N,160nm,22.0s					
WMQ			LR	LR		
	comp=E,96nm,20.0s					
WMQ			LR	LR		
	comp=Z,150nm,24.0s					
MMSI	**Mamuju**	**30.81 121**	P	**P**	**08 00 51.1**	**+0.1**
	comp=Z,83nm,0.8s					
HHC	**Hu-ho-hao-te**	**30.99 28**	*e*P	**P**	**08 00 52.6**	**+0.2**
HHC			pP	**pP**	**08 01 02.1**	**0.0**
HHC			sP	**sP**	**08 01 06.1**	**-0.1**
HHC			PP	**PnPn**	**08 01 55.0**	**+1.0**
HHC			S	**S**	**08 05 53.9**	**-1.1**
HHC			sS	**sS**	**08 06 09.9**	**-1.2**
HHC			PcS	**PcS**	**08 07 31.1**	**-1.0**
HHC			SS	**SnSn**	**08 07 39.0**	**+2.0**
HHC			ScS	**ScS**	**08 11 22.7**	**-2.7**
HHC			pmax	pmax		
	comp=Z,59nm,0.6s					
HHC			pmax	pmax		
	comp=Z,150nm,5.2s					
HHC			LR	LR		
	comp=N,390nm,13.4s					
HHC			LR	LR		
	comp=E,390nm,13.6s					
HHC			LR	LR		
	comp=Z,260nm,14.1s					
TKM2	**Tokmak 2**	**32.14 336**	*e*P	**P**	**08 01 03.0**	**+0.4**
TKM2			pmax	pmax		
	comp=Z,4.0nm,0.8s					
TKM2	**Tokmak 2**	**32.14 336**	*e*P	**P**	**08 01 03.0**	**+0.4**
	comp=Z,3.7nm,0.8s					
SPSI	**Sidrap Palu**	**32.23 122**	P	**P**	**08 01 02.5**	**-1.0**
	comp=Z,21nm,0.9s,comp=Z,1μm					
AAK	**Ala-Archa**	**32.35 334**	LR	LR	08 15 45.5	
	comp=Z,306nm,21.8s,baz=132,slow=39					
BJT	**Baijiatuau**	**32.67 34**	*e*P	**P**	**08 01 07.6**	**+0.6**
	comp=Z,20nm,0.6s					
EKS2	**Erkin-Say**	**32.68 333**	*e*P	**P**	**08 01 08.8**	**+1.5**
EKS2			pmax	pmax		
	comp=Z,5.0nm,0.8s					
EKS2	**Erkin-Say**	**32.68 333**	*e*P	**P**	**08 01 08.8**	**+1.5**
	comp=Z,5.2nm,0.8s					
BJI	**Beijing**	**32.69 34**	P	**P**	**08 01 07.4**	**+0.2**
BJI			S	**S**	**08 06 24.3**	**+3.0**
BJI			pmax	pmax		
	comp=Z,28nm,0.8s					
BJI			LR	LR		
	comp=N,210nm,19.9s					
BJI			LR	LR		
	comp=E,240nm,22.9s					
BJI			LR	LR		
	comp=Z,110nm,23.7s					
SKSI	**Soroako, Sulaw**	**32.76 119**	P	P	08 01 12.9	+4.7
KAPI	**Kappang**	**32.83 124**	P	**P**	**08 01 07.0**	**-1.6**
KAPI	**Kappang**	**32.83 124**	P	**P**	**08 01 07.0**	**-1.6**
	comp=Z,7.1nm,0.6s,baz=323,slow=5.1,SNR=4.1					
BKSI	**Bulukumba**	**33.30 124**	P	**P**	**08 01 12.0**	**-0.8**
	comp=Z,23nm,0.8s					
MKAR	**Makanchi Array**	**33.54 347**	*ce*P	**P**	**08 01 15.1**	**+0.5**
MKAR			pmax	pmax		
	comp=Z,22nm,0.8s					
MKAR	**Makanchi Array**	**33.54 347**	*e*P	**P**	**08 01 15.2**	**+0.5**
MKAR	**Makanchi Array**	**33.54 347**	P	**P**	**08 01 15.1**	**+0.5**
	comp=Z,22nm,0.8s,baz=162,slow=9.1,SNR=91					
MKAR			LR	LR	08 18 48.2	
	comp=Z,128nm,19.6s,baz=168,slow=43					
KKAR	**Karatay Array**	**34.52 330**	*e*P	**P**	**08 01 23.8**	**+0.7**
KKAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
KKAR	**Karatay Array**	**34.52 330**	*e*P	**P**	**08 01 23.8**	**+0.7**
	comp=Z,2.5nm,0.6s					
LBFI	**Labuhan Bajo,**	**35.06 129**	P	**P**	**08 01 27.5**	**-0.6**
	comp=Z,96nm,0.8s					
SONM	**Songino Array**	**35.20 16**	P	**P**	**08 01 29.5**	**+0.5**
SONM			PcP	**PcP**	**08 04 00.3**	**+0.6**
SONM	**Songino Array**	**35.20 16**	P	**P**	**08 01 29.5**	**+0.5**
	comp=Z,13nm,1.0s,baz=199,slow=8.6,SNR=48					
SONM			PcP	**PcP**	**08 04 00.3**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=200,slow=2.9,SNR=8.2					
SONM			LR	LR	08 18 38.4	
	comp=Z,91nm,19.2s,baz=183,slow=41					
ULN	**Ulaanbaatar**	**35.40 16**	*e*P	**P**	**08 01 30.9**	**0.0**
	comp=Z,19nm,1.3s					
ULN	**Ulaanbaatar**	**35.40 16**	P	**P**	**08 01 31.0**	**+0.2**
	comp=Z,11nm,1.2s					
HVS	**Khovu-Aksy**	**36.69 1**	*d i*P	**P**	**08 01 41.8**	**+0.1**
HVS			pmax	pmax		
	comp=Z,72nm,1.3s					
ZAK	**Zakamensk**	**36.90 11**	*e*P	**P**	**08 01 43.2**	**-0.3**
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.1s					
TLY	**Talaya**	**38.21 11**	*e*P	P	08 01 59.2	+4.7
TLY			pmax	pmax		
	comp=Z,8.0nm,0.8s					
KSAR	**Wonju Array Be**	**38.60 47**	P	**P**	**08 01 57.7**	**-0.2**
KSRS	**Korea Array**	**38.63 47**	P	**P**	**08 01 57.7**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=242,slow=8.5,SNR=34					
KSRS			LR	LR	08 20 45.2	
	comp=Z,250nm,18.5s,baz=9.0,slow=41					
JNU	**Nakatsue**	**39.15 55**	P	**P**	**08 02 03.1**	**+0.4**
JNU	**Nakatsue**	**39.15 55**	P	**P**	**08 02 03.1**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=247,slow=9.9,SNR=5.3					
JNU			LR	LR	08 20 39.7	
	comp=Z,104nm,18.5s,baz=54,slow=40					
SOEI	**Soe**	**39.23 126**	P	P	08 02 00.0	-3.6
ZAA0	**Zalesovo Array**	**40.01 353**	*e*P	**P**	**08 02 09.3**	**-0.2**
ZALV	**Zalesovo Beam**	**40.01 353**	P	**P**	**08 02 09.4**	**-0.1**
ZALV	**Zalesovo Beam**	**40.01 353**	P	**P**	**08 02 09.3**	**-0.1**
ZALV	**Zalesovo Beam**	**40.01 353**	P	**P**	**08 02 09.3**	**-0.1**
	comp=Z,20nm,0.8s,baz=174,slow=8.7,SNR=66					
CN2	**Changchun**	**40.38 37**	*e*P	**P**	**08 02 12.7**	**0.0**
CN2			*e*S	**S**	**08 08 18.7**	**+0.1**
CN2			*e*SS	**SS**	**08 11 13.0**	**-5.3**
CN2			pmax	pmax		
	comp=Z,20nm,0.7s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,500nm,17.0s					
CN2			LR	LR		
	comp=E,400nm,17.0s					
CN2			LR	LR		
	comp=Z,400nm,18.0s					
NVS	**Novosibirsk**	**41.10 351**⇓	*i*P	**P**	**08 02 17.7**	**-0.7**
NVS			pmax	pmax		
	comp=Z,16nm,1.0s					
NVS			pmax	pmax		
	comp=N,8.0nm,1.1s					
BVAR	**Borovoye Array**	**42.52 340**	LR	LR	08 22 59.7	
	comp=N,52nm,21.0s,baz=240,slow=40					
BRVK	**Borovoye**	**42.58 340**	*e*P	**P**	**08 02 30.4**	**-0.2**
BRVK			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BRVK	**Borovoye**	**42.58 340**	*e*P	**P**	**08 02 30.4**	**-0.2**
	comp=Z,4.1nm,0.9s					
MDJ	**Mudanjiang**	**43.30 38**	P	**P**	**08 02 37.9**	**+1.4**
MDJ			pP	**pP**	**08 02 46.6**	**+0.1**
MDJ			sP	**sP**	**08 02 50.7**	**+0.1**
MDJ			PP	**PP**	**08 04 18.9**	**+1.4**
MDJ			PcP	**PcP**	**08 04 26.0**	**+0.9**
MDJ			S	**S**	**08 09 03.0**	**+1.3**
MDJ			sS	**sS**	**08 09 18.5**	**+0.3**
MDJ			pmax	pmax		
	comp=Z,6.0nm,0.5s					
MDJ			pmax	pmax		
	comp=Z,44nm,4.1s					
MDJ			LR	LR		
	comp=N,110nm,26.4s					
MDJ			LR	LR		
	comp=E,74nm,15.1s					
MDJ			LR	LR		
	comp=Z,110nm,17.6s					
MBWA	**Marble Bar**	**44.02 143**	*e*P	**P**	**08 02 40.5**	**-2.1**
	comp=Z,14nm,0.8s					
ABKAR	**Akbulak array**	**44.05 329**	*e*P	**P**	**08 02 43.3**	**+0.8**
	comp=Z,13nm,0.7s					
RDF	**Al-Radifah**	**44.34 297**	*e*P	**P**	**08 02 45.0**	**-0.2**
RDF			AMb	AMB	08 02 45.7	
	comp=Z,30nm,0.8s					
USRK	**Ussuriysk Arra**	**44.56 40**	P	**P**	**08 02 46.2**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=240,slow=8.1,SNR=7.4					
USRK			LR	LR	08 24 17.0	
	comp=Z,118nm,18.9s,baz=332,slow=40					
NAY	**Al-Naaiem**	**44.66 297**	*e*P	**P**	**08 02 47.6**	**-0.1**
NAY			AMb	AMB	08 02 48.7	
	comp=Z,22nm,1.4s					
FITZ	**Fitzroy Crossi**	**45.60 134**	P	**P**	**08 02 53.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**45.60 134**	P	**P**	**08 02 53.8**	**-1.4**
	comp=Z,16nm,0.7s,baz=324,slow=5.7,SNR=41					
RAYN	**Ar Rayn**	**45.62 289**	*e*P	**P**	**08 02 56.1**	**+0.6**
	comp=Z,15nm,1.4s					
AKTO	**Aktyubinsk**	**45.76 329**	LR	LR	08 23 44.4	
	comp=Z,68nm,19.1s,baz=337,slow=38					
MAT	**Matsushiro**	**45.94 53**	P	**P**	**08 02 56.3**	**-1.5**
MJAR	**Matsushiro Arr**	**45.94 53**	P	**P**	**08 02 58.1**	**+0.3**
MJAR			PcP	**PcP**	**08 04 34.2**	**-0.2**
MJAR	**Matsushiro Arr**	**45.94 53**	P	**P**	**08 02 58.1**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=264,slow=10,SNR=15					
MJAR			PcP	**PcP**	**08 04 34.2**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=228,slow=2.5,SNR=9.8					
MJAR			LR	LR	08 25 27.8	
	comp=Z,48nm,18.3s,baz=305,slow=40					
HABR	**Khabarovsk**	**48.52 37**	P	**P**	**08 03 15.1**	**-2.5**
HABR			*e*'SP	**sP**	**08 03 28.3**	**-3.4**
HABR			*e*		08 04 39.9	
HABR			*e*PPP	PPP	08 05 57.0	
HABR			*e*S	**S**	**08 10 13.7**	**-2.9**
HABR			*e*'SS	**sS**	**08 10 30.3**	**-3.0**
HABR			*e*SS	**SS**	**08 13 45.5**	**-1.3**
HABR			pmax	pmax		
	comp=E,16nm,0.9s					
HABR			pmax	pmax		
	comp=N,48nm,2.4s					
HABR			pmax	pmax		
	comp=Z,58nm,2.4s					
CLNS	**Chul'man**	**48.86 23**	*e*P	**P**	**08 03 20.0**	**-0.2**
CLNS			pmax	pmax		
	comp=Z,29nm,1.0s					
CLNS			pmax	pmax		
	comp=E,14nm,0.8s					
CLNS			pmax	pmax		
	comp=N,15nm,0.8s					
SVE	**Sverdlovsk**	**48.99 337**⇑	*e*P	**P**	**08 03 21.7**	**+0.6**
SVE			pmax	pmax		
	comp=Z,56nm,0.9s					
GNI	**Garni**	**49.20 311**	*e*P	**P**	**08 03 25.0**	**+1.7**
	comp=Z,12nm,0.7s					
ARU	**Arti**	**49.51 336**	*d i*P	**P**	**08 03 25.0**	**-0.1**
ARU					08 05 18.1	
ARU			S	**S**	**08 10 32.9**	**+2.5**
ARU			SS	**SS**	**08 14 00.5**	**-2.1**
ARU			pmax	pmax		
	comp=Z,34nm,1.7s					
ASAJ	**Asahikawa**	**51.47 45**	*e*P	**P**	**08 03 40.8**	**+0.6**
	comp=Z,7.7nm,1.1s					
ASAJ	**Asahikawa**	**51.47 45**	P	**P**	**08 03 40.0**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=252,slow=11,SNR=5.4					
KBZ	**Khabaz**	**51.62 315**	P	**P**	**08 03 41.6**	**+0.4**
KBZ	**Khabaz**	**51.62 315**	P	**P**	**08 03 41.6**	**+0.4**
KBZ	**Khabaz**	**51.62 315**	P	**P**	**08 03 41.6**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=133,slow=8.8,SNR=4.9					
KBZ			LR	LR	08 29 51.2	
	comp=Z,77nm,19.9s,baz=223,slow=41					
KIV	**Kislovodsk**	**51.83 315**	*e*P	**P**	**08 03 43.7**	**+0.7**
KIV			pmax	pmax		
	comp=Z,29nm,1.0s					
SOKR	**Solikamsk**	**52.40 338**	*d i*P	**P**	**08 03 46.9**	**+0.2**
SOKR			pmax	pmax		
	comp=Z,50nm,1.1s					
NWAO	**Narrogin (SRO)**	**52.44 154**	*e*P	**P**	**08 03 46.3**	**-1.1**
	comp=Z,54nm,1.0s					
NWAO	**Narrogin (SRO)**	**52.44 154**	P	**P**	**08 03 46.9**	**-0.6**
	comp=Z,55nm,0.9s,baz=320,slow=7.7,SNR=20					
NWAO			LR	LR	08 26 57.0	
	comp=Z,124nm,18.3s,baz=199,slow=37					
YSS	**Yuzh-Sakhalins**	**52.56 41**⇓	*i*P	**P**	**08 03 48.3**	**+0.1**
YSS			pmax	pmax		
	comp=Z,30nm,0.9s					
WRA	**Warramunga Arr**	**53.10 129**	P	**P**	**08 03 51.0**	**-1.6**
WRA			PcP	**PcP**	**08 05 00.8**	**+0.1**
WRA	**Warramunga Arr**	**53.10 129**	P	**P**	**08 03 51.0**	**-1.6**
	comp=Z,4.7nm,0.6s,baz=303,slow=10,SNR=167					
WRA			PcP	**PcP**	**08 05 00.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=320,slow=3.0,SNR=5.0					
WRAB	**Tennant Creek**	**53.10 129**	*e*P	**P**	**08 03 51.0**	**-1.6**
WRAB			pmax	pmax		

comp=N,9.0nm,1.1s
VRHR Novokhopersk 55.02 323 *e*P **P 08 04 05.4 -0.7**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.8s
AS31 Alice Springs 55.06 133 *e*P **P 08 04 05.6 -1.2**
ASAR Alice Springs 55.06 133 P **P 08 04 06.0 -0.9**
ASAR S **S 08 11 43.1 -4.3**
ASAR Alice Springs 55.06 133 P **P 08 04 06.0 -0.9**
comp=E,7.3nm,0.6s,baz=309,slow=6.8,SNR=145
ASAR S **S 08 11 43.1 -4.3**
comp=E,0.4nm,0.8s,baz=300,slow=13,SNR=5.9
ASAR LR LR 08 29 52.5
comp=E,118nm,20.9s,baz=311,slow=38
EIL Elat 55.36 296 P **P 08 04 09.5 +0.5**
EIL Elat 55.36 296 P **P 08 04 09.5 +0.5**
baz=113,slow=7.7
ANN Anapa 55.68 315 *e*P P 08 04 06.0 -5.0
ANN *e*S S 08 11 48.5 -6.6
ANN pmax pmax
comp=Z,31nm,1.3s
VORD Divnogorie 56.35 322 *e*P **P 08 04 14.4 -1.2**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 56.51 323 *e*P **P 08 04 16.2 -0.6**
VSR pmax pmax
comp=Z,6.0nm,0.5s
VSR pmax pmax
comp=N,3.0nm,0.3s
VSR pmax pmax
comp=E,6.0nm,0.5s
BR131 Keskin Array S 57.42 308 *e*P **P 08 04 23.2 -0.5**
comp=E,5.7nm,0.7s
BRTR Keskin Array B 57.42 308 P **P 08 04 23.4 -0.3**
BRTR Keskin Array B 57.42 308 P **P 08 04 23.4 -0.3**
comp=E,7.0nm,0.7s,baz=121,slow=8.0,SNR=33
BRTR LR LR 08 32 27.9
comp=E,58nm,18.8s,baz=230,slow=40
MOS Moscow 58.99 327 *e*P **P 08 04 31.4 -2.8**
OBN Obninsk 59.33 326⇑ *i*P **P 08 04 36.4 -0.1**
OBN pmax pmax
comp=Z,18nm,1.3s
OBN MLR MLR
comp=Z,100nm,18.0s
TIXI Tiksi 61.16 12⇑ *i*P **P 08 04 48.1 -0.6**
TIXI pmax pmax
comp=Z,32nm,1.7s
TIRR Tirgusor 61.94 313⇑ *i*P **P 08 04 54.4 -0.1**
CFR Carcaliu 62.22 314⇑ *i*P **P 08 04 56.4 0.0**
TMCR Tamitsa 62.25 336 *e*P **P 08 04 53.3 -2.9**
TMCR pmax pmax
comp=Z,11nm,0.2s
AKASG Malin Array Be 62.41 320 P **P 08 04 55.9 -1.7**
AKASG Malin Array Be 62.41 320 P **P 08 04 55.9 -1.7**
AKASG Malin Array Be 62.41 320 P **P 08 04 55.9 -1.7**
comp=Z,15nm,0.3s,baz=77,slow=5.8,SNR=5.1
CTA Charters Tower 62.61 122 P **P 08 04 59.0 -0.3**
CTA Charters Tower 62.61 122 P **P 08 04 59.0 -0.3**
comp=Z,4.0nm,0.6s,baz=296,slow=6.4,SNR=5.4
CTAO Charters Tower 62.61 122 *e*P **P 08 04 59.1 -0.3**
CTAO pmax pmax
comp=Z,6.0nm,0.7s
CTAO Charters Tower 62.61 122 *e*P **P 08 04 59.1 -0.3**
comp=Z,6.3nm,0.7s
VRI Vrincioaia 63.29 314⇓ *i*P **P 08 05 04.1 +0.5**
PLOR Plostina 63.35 314⇓ *i*P **P 08 05 04.6 +0.7**
PETK Petropavlovsk- 63.52 38 LR LR 08 34 01.3
comp=Z,30nm,20.3s,baz=81,slow=37
MLR Muntele Rosu 63.80 314⇓ *i*P **P 08 05 06.9 -0.1**
VOIR 64.42 314⇓ *i*P **P 08 05 10.4 -0.7**
BURAR Bucovina Array 64.53 316⇑ *i*P **P 08 05 11.9 +0.1**
LVZ Lovozero 65.11 339⇑ *i*P **P 08 05 14.8 -0.3**
LVZ pmax pmax
comp=Z,36nm,2.5s
APA Apatity 65.41 339⇑ *i*P **P 08 05 16.8 -0.2**
APA pmax pmax
comp=Z,18nm,0.8s
APA MLR MLR
comp=Z,100nm,16.0s
STKA Stephens Creek 65.47 135 *e*P **P 08 05 17.3 -0.6**
comp=Z,2.6nm,0.6s
STKA Stephens Creek 65.47 135 P **P 08 05 17.6 -0.3**
comp=Z,11nm,0.6s,baz=311,slow=6.1,SNR=26
STKA LR LR 08 33 36.4
comp=Z,142nm,19.9s,baz=25,slow=36
VTS Vitosha 65.54 310⇓ *i*P **P 08 05 18.1 -0.4**
KWP Kalwaria Pacla 66.40 318 *e*P **P 08 05 24.2 +0.5**
FINES FINESS Array B 66.48 331 P **P 08 05 23.5 -0.5**
FINES FINESS Array B 66.48 331 P **P 08 05 23.5 -0.5**
comp=Z,18nm,0.6s,baz=100,slow=6.4,SNR=67
FINES LR LR 08 39 59.1
comp=Z,101nm,19.6s,baz=9.8,slow=41
KAF Kangasniemi 66.53 332 *e*P **P 08 05 22.6 -1.7**
KAF pmax pmax
comp=Z,18nm,1.1s
KAF Kangasniemi 66.53 332 *e*p **P 08 05 22.6 -1.7**
comp=Z,18nm,1.1s,baz=103,slow=6.2
KOLS Kolonicke sedl 66.62 317 *e*P **P 08 05 25.5 +0.4**
SUW Suwalki 66.62 323 *e*P **P 08 05 24.5 -0.5**
CRVS Cervenica-Dubn 67.15 317 *e*P **P 08 05 29.2 +0.7**
CRVS pmax pmax
comp=Z,18nm,1.1s
CRVS Cervenica-Dubn 67.15 317 *e*P **P 08 05 29.1 +0.6**
STHS Stebnicka Huta 67.33 318 *e*P **P 08 05 29.8 +0.1**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 67.33 318 *e*P **P 08 05 29.8 +0.1**
KECS Kecovo 67.77 317 *e*P **P 08 05 32.5 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 67.77 317 *e*P **P 08 05 32.5 +0.1**
NIE Niedzica 67.94 318 *e*P **P 08 05 36.5 +3.0**
PSZ Piszkesteto 68.13 316 *e*P **P 08 05 34.2 -0.6**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 68.13 316⇓ *i*P **P 08 05 34.3 -0.6**
PSZ Piszkesteto 68.13 316 *e*P **P 08 05 34.2 -0.6**
comp=Z,12nm,1.0s
OJC Ojcow 68.32 319 *e*P **P 08 05 36.0 +0.1**
OJC pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 68.32 319 *e*P **P 08 05 36.0 +0.1**
comp=Z,12nm,0.9s
ARCES ARCESS Array B 68.81 340 P **P 08 05 38.6 0.0**
ARCES ARCESS Array B 68.81 340 P **P 08 05 38.6 0.0**
comp=Z,14nm,0.7s,baz=91,slow=6.8,SNR=106
ARCES LR LR 08 39 15.9
comp=Z,135nm,18.1s,baz=98,slow=39
ARE0 ARCESS Array S 68.81 340 *e*P **P 08 05 38.4 -0.2**
VYHS Vyhne 68.86 317 *e*P **P 08 05 39.2 -0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 68.86 317 *e*P **P 08 05 39.2 -0.1**
PKSM Moragy 68.93 314⇑ *i*P **P 08 05 39.2 -0.5**
OKC Ostrava-Krasne 69.37 318 *i*P **P 08 05 42.9 +0.6**
OKC Ostrava-Krasne 69.37 318 *i*P **P 08 05 42.9 +0.6**
MORC Moravsky Berou 69.76 318 *e*P **P 08 05 45.0 +0.2**
MORC pmax pmax
comp=Z,20nm,1.2s
MORC Moravsky Berou 69.76 318 *e*P **P 08 05 45.0 +0.2**
comp=Z,20nm,1.2s
LSZ Lusaka 70.46 248 *e*P **P 08 05 51.0 +1.2**
comp=Z,7.0nm,0.7s
DPC Dobruska-Polom 70.56 319 *i*P **P 08 05 50.2 +0.5**
DPC Dobruska-Polom 70.56 319 *i*P **P 08 05 50.2 +0.5**
DPC Dobruska-Polom 70.56 319 *e*P **P 08 05 50.3 +0.5**
comp=Z,85nm,1.3s
KSP Ksiaz 70.58 319 *e*P **P 08 05 50.0 +0.2**
KSP Ksiaz 70.58 319 *e*P **P 08 05 50.3 +0.5**
UPC Upice 70.75 319 *e*P **P 08 05 50.8 -0.1**
UPC Upice 70.75 319 *e*P **P 08 05 50.8 -0.1**
CONA Conrad Observa 70.85 316⇓ *i*P **P 08 05 51.4 -0.2**
comp=Z,5.4nm,0.9s,SNR=4.8
GROS Grobnik 71.11 315 *i*P **P 08 05 53.1 -0.1**
CEL Celeste 71.16 306 *e*P **P 08 05 54.0 +0.4**
comp=Z,29nm,1.1s
BOJS Bojanci 71.31 314 *i*P **P 08 05 53.0 -1.3**
SOKA Soboth 71.43 315⇓ *i*P **P 08 05 55.2 0.0**
comp=Z,14nm,1.2s,SNR=6.4
VISS Visnje 71.59 314 *i*P **P 08 05 56.0 0.0**
PVCC Panska Ves 71.68 319 *i*P **P 08 05 55.0 -1.4**
PVCC Panska Ves 71.68 319 *i*P **P 08 05 55.0 -1.4**
PVCC *ex* x 08 05 57.0
PRU Pruhonice 71.70 318 *e*P **P 08 05 56.8 +0.2**
PRU Pruhonice 71.70 318 *e*P **P 08 05 56.8 +0.2**
BRG Berggiesshubel 72.07 319 *i*P **P 08 05 59.2 +0.4**
comp=Z,16nm,0.9s
BRG Berggiesshubel 72.07 319 *e*P **P 08 05 58.9 +0.1**
comp=Z,16nm,0.9s
BRG Berggiesshubel 72.07 319 *i*P **P 08 05 59.2 +0.4**
BRG pmax pmax
comp=Z,16nm,0.9s
JAVS Javornik 72.12 314 *i*P **P 08 05 58.8 -0.6**
VOY Vojsko 72.24 314 *e*P **P 08 05 59.4 -0.6**
GEC2 GERESS Array S 72.27 317 *e*P **P 08 06 00.0 -0.2**
comp=Z,18nm,1.0s
GEC2 GERESS Array S 72.27 317 *e*P **P 08 06 00.0 -0.2**
GEC2 pmax pmax
comp=Z,18nm,1.0s
GEC2 GERESS Array S 72.27 317 *e*P **P 08 06 00.2 0.0**
comp=Z,3um,0.6s
GERES GERESS Array B 72.27 317 P **P 08 06 00.1 0.0**
GERES GERESS Array B 72.27 317 P **P 08 06 00.1 0.0**
comp=Z,13nm,0.8s,baz=86,slow=5.9,SNR=71
GERES LR LR 08 45 11.8
comp=Z,46nm,19.8s,baz=352,slow=42
KHC Kasperske Hory 72.34 317 *i*P P 08 05 53.3 -7.2
KHC *e* 08 06 00.5
KHC Kasperske Hory 72.34 317 *e*P **P 08 06 00.5 0.0**
KHC Kasperske Hory 72.34 317 *e*P **P 08 06 00.1 -0.4**
comp=Z,5.7nm,0.7s
CLL Collm 72.66 320 *e*P **P 08 06 01.9 -0.3**
comp=Z,12nm,1.1s
CLL Collm 72.66 320 *e*P **P 08 06 02.0 -0.3**
CLL *e* 08 06 14.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 72.66 320 *e*P **P 08 06 02.0 -0.3**
comp=Z,12nm,1.1s
CLL *e*pP **pP 08 06 14.0 +1.2**
CLL LmV 08 42 00.0
comp=Z,100nm,20.3s
FX1 Attu Island--F 72.80 39 P **P 08 06 02.9 -0.2**
FX1 Attu Island--F 72.80 39 P **P 08 06 02.9 -0.2**
comp=Z,50nm,1.3s,baz=315,slow=4.3,SNR=5.1
WET Wettzell 72.80 317 *e*P **P 08 06 03.3 +0.1**
comp=Z,16nm,1.2s
WET Wettzell 72.80 317 *e*P **P 08 06 03.3 +0.1**
WET pmax pmax
comp=Z,16nm,1.2s
RJOB Jochberg 72.92 316 *e*P **P 08 06 03.3 -0.7**
comp=Z,6.0nm,1.0s
TANN Tannenbergstha 73.03 319 *e*P **P 08 06 04.6 0.0**
comp=Z,13nm,1.2s
ABTA Abfaltersbach 73.16 315⇓ *i*P **P 08 06 04.3 -1.2**
comp=Z,6.6nm,1.0s
ROTZ Rotzenmuhle 73.22 318 *e*P **P 08 06 06.2 +0.6**
comp=Z,22nm,1.2s
NB2 NORSAR Subarra 73.55 330 P **P 08 06 06.2 -1.2**
comp=Z,9.7nm,0.6s,baz=88,slow=5.9
NB2 NORSAR Subarra 73.55 330 P **P 08 06 06.2 -1.2**
baz=88,slow=5.9
NOA NORSAR Array B 73.55 330 P **P 08 06 06.5 -1.0**
NOA NORSAR Array B 73.55 330 P **P 08 06 06.5 -1.0**
comp=Z,7.9nm,0.6s,baz=90,slow=5.8,SNR=45
NOA LR LR 08 43 30.8
comp=Z,54nm,19.2s,baz=100,slow=40
MOX Moxa 73.56 319 *e*P **P 08 06 07.6 0.0**
comp=Z,9.0nm,0.8s
MOX Moxa 73.56 319 *e*P **P 08 06 07.6 0.0**
MOX pmax pmax
comp=Z,9.0nm,0.8s
WTTA Wattenberg 73.73 315⇓ *i*P **P 08 06 07.9 -1.1**
comp=Z,8.9nm,0.6s
GRF Grafenberg Arr 73.86 318 *e*P **P 08 06 09.7 +0.3**
comp=Z,30nm,1.4s
GRF Grafenberg Arr 73.86 318 *e*P **P 08 06 09.7 +0.3**
GRF pmax pmax
comp=Z,30nm,1.4s
MOTA Moosalm 74.08 316⇓ *i*P **P 08 06 09.8 -1.2**
comp=Z,6.1nm,0.7s,SNR=5.1
BSEG Bad Segeberg 74.20 322 *e*P **P 08 06 11.6 +0.3**
comp=Z,32nm,0.7s
BSEG Bad Segeberg 74.20 322 *e*P **P 08 06 11.6 +0.3**
BSEG pmax pmax
comp=Z,32nm,0.7s
RETA Reutte 74.30 316⇓ *i*P **P 08 06 11.4 -0.8**
comp=Z,9.7nm,0.6s,SNR=6.5
FETA Feichten 74.36 315⇓ *i*P **P 08 06 11.8 -0.8**
comp=Z,7.7nm,1.1s
NRDL Niedersach Rie 74.40 321 *e*P **P 08 06 12.6 +0.2**
comp=Z,23nm,1.5s
FUORN Ofenpass-Fuorn 74.71 315 *e*P **P 08 06 14.7 -0.1**
comp=Z,6.4nm,0.8s
DAVA Damuels 74.92 316 *i*P **P 08 06 15.3 -0.5**
SNR=6.7
TUE Stuetta 75.36 315 *e*P **P 08 06 18.2 -0.2**
comp=Z,38nm,1.8s
TNS Taunus Mts 75.61 319 *e*P **P 08 06 19.6 0.0**
comp=Z,10.0nm,0.9s
TNS Taunus Mts 75.61 319 *e*P **P 08 06 19.6 0.0**
TNS pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 75.86 317 *e*P **P 08 06 20.5 -0.6**
comp=Z,12nm,1.6s
BFO Black Forest 75.86 317 *e*P **P 08 06 20.5 -0.6**
BFO pmax pmax
comp=Z,12nm,1.6s
PGF Pioggiola 76.02 311 *e*P **P 08 06 21.1 -1.1**
comp=Z,46nm,1.1s
LBTB Lobatse 76.41 239 *e*P **P 08 06 25.4 +0.7**
comp=Z,5.6nm,0.7s
CDF Champ du Feu 76.55 317 *e*P **P 08 06 23.9 -1.2**
comp=Z,6.4nm,0.8s
KEST Kesra 76.63 304 P **P 08 06 25.8 0.0**
KEST Kesra 76.63 304 P **P 08 06 25.8 0.0**
comp=Z,2.1nm,0.9s,baz=108,slow=1.7,SNR=6.5
SENIN Lac Senin/Sane 76.78 315 *e*P **P 08 06 26.6 0.0**
comp=Z,26nm,1.5s
HINF Hinterlalfeld 76.90 316 *e*P **P 08 06 25.8 -1.2**
SBF Sospel 76.99 312 *e*P **P 08 06 26.1 -1.5**
comp=Z,24nm,0.7s
HAU Haudompre 77.22 317 *e*P **P 08 06 27.6 -1.1**
comp=Z,12nm,0.7s
HAU *e*R
comp=Z,39nm,21.2s
LPG La Plagne 77.26 314 *e*P **P 08 06 28.8 -0.6**
comp=Z,39nm,0.7s
LPL La Plagne 77.27 314 *e*P **P 08 06 28.8 -0.6**
comp=Z,59nm,0.7s
MBDF Montbardon 77.35 313 *e*P **P 08 06 28.2 -1.5**
comp=Z,20nm,0.8s
BNI Bardonecchia 77.37 314 *e*P **P 08 06 29.3 -0.5**
BNI pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 77.37 314 *e*P **P 08 06 29.3 -0.5**
comp=Z,12nm,0.8s
PAGF Fort de Pagny 77.56 317 *e*P **P 08 06 29.8 -0.8**
CABF La Chapelle 77.57 315 *e*P **P 08 06 30.1 -0.7**
comp=Z,25nm,1.0s
FRF La Foret Royal 77.60 312 *e*P **P 08 06 30.2 -0.7**
comp=Z,56nm,1.1s
LMR La Mourre 77.73 312 *e*P **P 08 06 30.8 -0.9**
comp=Z,16nm,0.7s
GIVF Givet 77.93 319 *e*P **P 08 06 32.0 -0.7**
comp=Z,7.4nm,0.5s
ORIF Oris-en-Rattie 77.95 313 *e*P **P 08 06 31.7 -1.3**
comp=Z,8.9nm,0.7s
ORIF *e*R
comp=Z,50nm,21.8s
SFTF Sexfontaines 78.06 317 *e*P **P 08 06 32.4 -1.0**
BOSA Boshof 78.11 236 P **P 08 06 34.8 +0.7**
BOSA Boshof 78.11 236 P **P 08 06 34.8 +0.7**
comp=Z,7.5nm,0.6s,baz=78,slow=5.0,SNR=21
SMRF Simiane la Rot 78.31 313 *e*P **P 08 06 34.6 -0.3**
comp=Z,14nm,0.7s
BAIF Baives 78.33 319 *e*P **P 08 06 34.2 -0.7**
comp=Z,28nm,1.0s
VIVF Saint-Julien-l 78.81 314 *e*P **P 08 06 36.8 -0.9**
comp=Z,11nm,0.8s
LOR Lormes 78.99 316 *e*P **P 08 06 37.4 -1.2**
comp=Z,14nm,0.8s
LOR *e*R
comp=Z,40nm,21.2s
SMF Signal de Mont 79.10 315 *e*P **P 08 06 38.1 -1.1**
comp=Z,18nm,0.7s
SSF Saint Saulge 79.26 316 *e*P **P 08 06 39.0 -1.0**
comp=Z,14nm,0.9s
AVF Avril sur Loir 79.41 316 *e*P **P 08 06 39.7 -1.1**
comp=Z,12nm,0.7s
LASF Ste Croix 79.52 313 *e*P **P 08 06 41.1 -0.4**
comp=Z,15nm,0.9s
BGF Bois d'Agland 79.79 315 *e*P **P 08 06 41.5 -1.4**
comp=Z,8.7nm,0.6s
HYF Humbligny 79.81 316 *e*P **P 08 06 42.6 -0.4**
TCF Toulx Ste Croi 80.27 315 *e*P **P 08 06 44.9 -0.7**
comp=Z,15nm,0.8s
CAF Calviac 80.62 314 *e*P **P 08 06 46.9 -0.6**
comp=Z,16nm,1.0s
MTLF Montolieu 80.82 312 *e*P **P 08 06 47.8 -0.7**
comp=Z,17nm,0.9s
RJF Les Rejaudoux 80.93 314 *e*P **P 08 06 48.7 -0.4**
comp=Z,19nm,0.8s
RJF *e*R
comp=Z,58nm,21.5s
LDF La Druitiere 81.38 318 *e*P **P 08 06 50.4 -1.0**
comp=Z,20nm,0.6s
LFF La Frestale 81.54 314 *e*P **P 08 06 51.8 -0.5**
FLN La Foliniere 81.58 318 *e*P **P 08 06 51.4 -1.0**
comp=Z,22nm,0.8s
FLN *e*R
comp=Z,51nm,20.0s
MFF Saint Martin d 81.81 316 *e*P **P 08 06 52.8 -0.9**
comp=Z,19nm,0.8s
GRR Gorron 81.90 318 *e*P **P 08 06 53.2 -0.9**
comp=Z,7.6nm,0.6s
EPF Esparros 82.22 312 *e*P **P 08 06 54.3 -1.7**
ETSF Etsaut 82.90 312 *e*P **P 08 06 58.9 -0.7**
comp=Z,13nm,1.0s
SGMF Saint Gilles 83.04 318 *e*P **P 08 06 59.2 -0.9**
comp=Z,25nm,0.8s
SJPF Ste Jean 83.32 313 *e*P **P 08 07 01.2 -0.5**
ROSF Rostrenen 83.48 318 *e*P **P 08 07 01.5 -0.9**
comp=Z,16nm,0.8s
QUIF Quistinic 83.51 318 *e*P **P 08 07 01.3 -1.2**
ESDC Sonseca Array 86.17 310 P **P 08 07 15.8 -0.4**
ESDC Sonseca Array 86.17 310 P **P 08 07 15.8 -0.4**
comp=Z,2.4nm,0.6s,baz=57,slow=4.6,SNR=14
COLD Coldfoot 86.76 20 *e*P **P 08 07 18.9 +0.5**
comp=Z,2.8nm,0.8s
SUMG Summit 87.60 347 *e*P **P 08 07 22.7 -0.2**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 87.60 347 *i*P **P 08 07 22.4 -0.5**
comp=Z,7.8nm,0.9s
SUMG Summit 87.60 347 *e*P **P 08 07 22.7 -0.2**
comp=Z,8.2nm,0.9s
TORD Torodi Ar. Bea 87.99 283 P **P 08 07 25.5 +0.1**
TORD PP **PP 08 10 51.6 -0.5**
TORD Torodi Ar. Bea 87.99 283 P **P 08 07 25.5 +0.1**
comp=Z,9.0nm,0.9s,baz=82,slow=4.5,SNR=46
TORD PP **PP 08 10 51.6 -0.5**
comp=Z,1.5nm,1.0s,baz=72,slow=8.2,SNR=6.7
PPLA Purkeypile 88.14 25 *e*P **P 08 07 25.6 +0.2**
comp=Z,7.8nm,0.7s
TRF Thorofare Moun 88.62 24 *e*P **P 08 07 27.0 -0.7**
comp=Z,8.0nm,0.8s
COLA College 88.80 22 *e*P **P 08 07 27.6 -0.6**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 88.80 22 *e*P **P 08 07 27.6 -0.6**
comp=Z,10.0nm,0.8s
SPU Mount Spurr 89.02 26 *e*P **P 08 07 29.5 +0.1**
ILAR Eielson Array 89.20 22 P **P 08 07 28.6 -1.5**
ILAR PP **PP 08 10 59.0 -1.2**
ILAR Eielson Array 89.20 22 P **P 08 07 28.6 -1.5**
comp=Z,3.1nm,0.8s,baz=300,slow=4.4,SNR=44
ILAR PP **PP 08 10 59.0 -1.2**
comp=Z,0.6nm,0.9s,baz=299,slow=6.8,SNR=5.4
PMR Palmer 90.03 25 *e*P **P 08 07 34.0 -0.1**
PMR pmax pmax
comp=Z,12nm,0.7s
PMR Palmer 90.03 25 *e*P **P 08 07 34.0 -0.1**
comp=Z,12nm,0.7s
SML Sawmill 90.25 25 *e*P **P 08 07 35.6 +0.5**
SML pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 90.25 25 *e*P **P 08 07 35.6 +0.5**
comp=Z,3.1nm,0.8s
INK Inuvik 91.11 16 P **P 08 07 38.5 -0.4**
INK Inuvik 91.11 16 P **P 08 07 38.5 -0.4**
comp=Z,4.6nm,0.9s,baz=310,slow=5.7,SNR=4.5
EGAK Eagle 91.19 20 *e*P **P 08 07 39.4 0.0**
comp=Z,3.0nm,0.8s
BMRM Bremner River 92.21 24 *e*P **P 08 07 44.7 +0.5**
comp=Z,13nm,1.1s
DAWY Dawson 92.24 20 *e*P **P 08 07 43.9 -0.5**
RAGM Ragged Mountai 92.52 25 *e*P **P 08 07 46.5 +0.9**
comp=Z,10nm,1.2s
HYT Haines Junctio 95.02 22 *e*P **P 08 07 58.0 +0.7**
HLID Hailey 117.16 22 *e*PKPdf **PKPdf 08 13 20.1 0.0**
TPAW Teton Pass 118.42 20 *e*PKPdf **PKPdf 08 13 22.5 -0.2**
LOHW Long Hollow 118.42 19 *e*PKPdf **PKPdf 08 13 22.4 -0.2**
SNOW Snow King Moun 118.50 19 *e*PKPdf **PKPdf 08 13 22.8 -0.1**
REDW Red Top Meadow 118.56 20 *e*PKPdf **PKPdf 08 13 22.8 -0.1**
PDAR Pinedale Array 119.51 19 PKP **PKPdf 08 13 24.1 -0.6**
PDAR Pinedale Array 119.51 19 PKP **PKPdf 08 13 24.1 -0.6**
comp=Z,1.2nm,0.6s,baz=225,slow=0.3,SNR=15
NVAR Mina Array Bea 119.88 28 PKP **PKPdf 08 13 26.4 +0.8**
NVAR Mina Array Bea 119.88 28 PKP **PKPdf 08 13 26.4 +0.8**
comp=Z,1.7nm,0.6s,baz=306,slow=2.2,SNR=22
DUG Dugway 120.68 23 *e*PKIKP **PKPdf 08 13 27.1 +0.1**
DUG Dugway 120.68 23 *e*PKPdf **PKPdf 08 13 27.1 +0.1**
ECSD EROS Data Cent 121.53 8 *e*PKPdf **PKPdf 08 13 27.5 -0.9**
MVU Marysvale 122.38 23 *e*PKPdf **PKPdf 08 13 31.5 +1.0**
MSU Marysvale 122.38 23 *e*PKIKP **PKPdf 08 13 31.7 +1.3**
MSU Marysvale 122.38 23 *e*PKPdf **PKPdf 08 13 31.7 +1.3**
ANMO Albuquerque 127.62 20 *e*PKPdf **PKPdf 08 13 41.3 +0.8**
TUC Tucson 128.33 26 *e*PKIKP **PKPdf 08 13 43.6 +1.8**
TUC Tucson 128.33 26 *e*PKPdf **PKPdf 08 13 43.5 +1.8**
TXAR Lajitas Array 133.69 20 PKP **PKPdf 08 13 53.5 +1.4**
TXAR Lajitas Array 133.69 20 PKP **PKPdf 08 13 53.5 +1.4**
comp=Z,1.0nm,0.6s,baz=122,slow=0.6,SNR=18
JCT Junction City 133.76 15 *e*PKIKP **PKPdf 08 13 52.5 +0.4**
JCT Junction City 133.76 15 *e*PKPdf **PKPdf 08 13 52.5 +0.4**
TEIG Tepich 145.61 2 *e*PKPdf **PKPdf 08 14 13.5 -0.2**
TRQA Tornquist 147.59 219 *e*PKPdf **PKPdf 08 14 17.2 +0.6**
CPUP Villa Florida 149.77 242 PKPbc **PKPbc 08 14 24.3 -0.8**
CPUP Villa Florida 149.77 242 PKPbc **PKPbc 08 14 24.3 -0.8**
comp=Z,2.5nm,0.6s,baz=68,slow=2.4,SNR=10
PLCA Paso Flores 150.03 206 PKPab **PKPab 08 14 35.4 +4.2**
PLCA Paso Flores 150.03 206 PKPab **PKPab 08 14 35.4 +4.2**
comp=Z,4.7nm,0.9s,baz=199,slow=2.0,SNR=4.9
ROSC El Rosal 157.11 326 PKPab **PKPab 08 15 02.6 +0.4**
ROSC El Rosal 157.11 326 PKPab **PKPab 08 15 02.6 +0.4**
comp=Z,5.8nm,0.8s,baz=92,slow=23,SNR=7.4
LPAZ La Paz 161.64 262 PKPab **PKPab 08 15 21.5 -0.8**
LPAZ La Paz 161.64 262 PKPab **PKPab 08 15 21.5 -0.8**
comp=Z,0.7nm,0.7s,baz=108,slow=3.2,SNR=4.7

IDC 11 08:15:28.1±4.0, 18.76N×145.52E, h258km±39km, mb3.5/18, mb1 3.6/19, mb1mx3.5/30, mbtmp3.4/19, Error ellipse: s-maj=18.5km s-min=8.5km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.85**	**342**	P	P	P	08 19 30.1	+0.7
0.8nm,0.3s,baz=167,slow=10.0,SNR=8.7								
USRK	**Ussuriysk Arra**	**27.79**	**339**	P	P	P	08 20 53.4	-0.1
0.7nm,0.6s,baz=139,slow=7.5,SNR=3.6								
PETK	**Petropavlovsk-**	**35.57**	**13**	P	P	P	08 22 01.6	+0.6
1.2nm,0.7s,baz=190,slow=7.3,SNR=4.8								
WRA	**Warramunga Arr**	**39.99**	**196**	P	P	P	08 22 37.7	-0.6
2.6nm,0.3s,baz=14,slow=8.4,SNR=86								
WRA				PcP	PcP	PcP	08 24 38.1	+0.1
0.2nm,0.3s,baz=14,slow=3.3,SNR=4.7								
FITZ	**Fitzroy Crossi**	**41.51**	**209**	P	P	P	08 22 50.4	-0.3
1.8nm,0.3s,baz=37,slow=11,SNR=20								
SONM	**Songino Array**	**42.99**	**321**	P	P	P	08 23 02.5	0.0
0.3nm,0.3s,baz=141,slow=8.6,SNR=3.9								
ASAR	**Alice Springs**	**43.66**	**196**	P	P	P	08 23 07.3	-0.6
0.6nm,0.3s,baz=16,slow=6.2,SNR=15								
ASAR				PcP	PcP	PcP	08 24 49.7	-0.5
0.3nm,0.6s,baz=15,slow=3.8,SNR=4.3								
DZM	**Mont Dzumac**	**45.44**	**152**	P	P	P	08 23 21.3	-0.7
4.0nm,0.6s,baz=297,slow=6.8,SNR=5.6								
STKA	**Stephens Creek**	**50.48**	**184**	P	P	P	08 24 01.3	+1.1
1.3nm,0.4s,baz=354,slow=2.5,SNR=5.1								
ZALV	**Zalesovo Beam**	**57.87**	**323**	P	P	P	08 24 52.6	-0.5

0.8nm,0.4s,baz=104,slow=3.0,SNR=2.5
NWAO Narrogin (SRO) 58.07 208 P P 08 24 54.7 0.0
9.6nm,1.0s,baz=27,slow=14,SNR=3.1
MKAR Makanchi Array 58.30 314 P P 08 24 57.0 +0.7
0.3nm,0.5s,baz=98,slow=8.8,SNR=3.6
KURBB Kurchatov Arra 61.17 318 P P 08 25 15.4 -0.1
1.1nm,0.6s,baz=97,slow=7.2,SNR=10
ILAR Eielson Array 63.67 26 P P 08 25 30.3 -1.5
0.7nm,0.7s,baz=245,slow=5.2,SNR=10
BVAR Borovoye Array 66.33 320 P P 08 25 49.4 +0.3
0.8nm,0.3s,baz=102,slow=7.2,SNR=5.8
YKA Yellowknife Ar 78.02 28 P P 08 26 58.0 +0.1
1.4nm,0.7s,baz=295,slow=7.2,SNR=4.1
ARCES ARCESS Array B 82.39 342 P P 08 27 20.3 -0.8
0.5nm,0.7s,baz=82,slow=8.7,SNR=4.7
NVAR Mina Array Bea 83.23 52 P P 08 27 26.8 +0.4
0.7nm,0.6s,baz=262,slow=5.9,SNR=7.9
FINES FINESS Array B 86.76 335 P P 08 27 41.6 -1.4
0.5nm,0.3s,baz=56,slow=4.8,SNR=5.4
DBIC Dimbokro 141.38 308 PKP PKPdf 08 34 28.3 -1.0
5.6nm,1.0s,baz=226,slow=1.8,SNR=3.1
LPAZ La Paz 147.84 91 PKPbc PKPbc 08 34 45.6 +1.2
1.2nm,1.0s,baz=252,slow=6.4,SNR=4.0

*ISCJB **11** 08:20:08.7±1.0, 44°.54N±0°.05×129°.6W±0°.1, h13km, mb3.7/7, MS3.1/8, Error ellipse: s-maj=11.1km s-min=6.6km az=165.8*
*NEIC **11** 08:20:08.8±1.3, 44°.53N×129°.77W, h10km, mb3.9/7, Error ellipse: s-maj=15.3km s-min=8.9km az=76.0*
*IDC **11** 08:20:09.1±2.4, 44°.69N×129°.53W, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.6/28, mbtmp3.5/7, ML3.7/3, MS3.2/13, Ms1 3.2/13, ms1mx3.1/36, Error ellipse: s-maj=41.3km s-min=21.3km az=52.0*
ISC 11 08:20:09.6±1.5, 44°.50N±0°.06×129°.7W±0°.1, h13km, n71, σ1§32/66, mb3.8/7, MS3.2/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.22**	**111**	*e*Pn	**Pn**	**08 21 11.2**	**-2.5**
KEBM				*e*Sn	**Sn**	**08 22 00.5**	**-2.4**
MPOR	**Mary's Peak**	**4.40**	**88**	P	**Pn**	**08 21 14.9**	**-1.4**
KMOR	**Kings Mountain**	**4.55**	**73**	P	**Pn**	**08 21 17.2**	**-1.0**
F03A	**Seaside**	**4.57**	**70**	P	**Pn**	**08 21 17.9**	**-0.6**
COR	**Corvallis**	**4.58**	**87**	*e*Pn	**Pn**	**08 21 17.9**	**-0.6**
KBO	**Bosley Butte**	**4.60**	**118**	*e*Pn	**Pn**	**08 21 18.7**	**-0.3**
NLO	**Nicolai Mounta**	**4.69**	**68**	P	**Pn**	**08 21 20.1**	**-0.1**
BMW	**Boistfort Moun**	**4.96**	**64**	P	**Pn**	**08 21 23.0**	**-0.9**
NLWA	**Neilton Lookou**	**4.99**	**53**	*e*Pn	**Pn**	**08 21 23.3**	**-1.0**
NLWA				*e*Sn	**Sn**	**08 22 24.3**	**+2.5**
OTR	**Olympics--Tyee**	**5.16**	**44**	P	**Pn**	**08 21 26.8**	**+0.2**
SSOR	**Sweet Springs**	**5.18**	**84**	P	**Pn**	**08 21 27.1**	**+0.2**
G04A	**Mulino**	**5.19**	**80**	P	**Pn**	**08 21 26.7**	**-0.2**
BROR	**Big Rock Looko**	**5.21**	**90**	P	**Pn**	**08 21 27.2**	**0.0**
CPW	**Capitol Peak**	**5.22**	**59**	P	**Pn**	**08 21 27.2**	**-0.2**
HUMO	**Hull Mountain**	**5.26**	**109**	*e*Pn	**Pn**	**08 21 27.2**	**-0.7**
HUMO				*e*Sn	**Sn**	**08 22 28.1**	**-0.2**
H04A	**Detroit Lake**	**5.37**	**85**	P	**Pn**	**08 21 29.0**	**-0.5**
LCW	**Lucas Creek**	**5.37**	**64**	P	**Pn**	**08 21 29.3**	**-0.2**
FRIS	**Frissel Point**	**5.46**	**90**	P	**Pn**	**08 21 30.8**	**0.0**
MTMW	**Mount Mitchell**	**5.50**	**71**	P	**Pn**	**08 21 31.3**	**-0.1**
HDW	**Hoodsport**	**5.60**	**53**	P	**Pn**	**08 21 32.7**	**+0.1**
GNW	**Green Mountain**	**5.69**	**55**	P	**Pn**	**08 21 33.5**	**-0.2**
VLL	**Laurance Lake**	**5.78**	**78**	P	**Pn**	**08 21 35.9**	**+0.8**
YBH	**Yreka Blue Hor**	**5.82**	**116**	*e*Pn	**Pn**	**08 21 38.2**	**+2.5**
YBH				*e*Sn	**Sn**	**08 22 46.7**	**+4.4**
YBH	**Yreka Blue Hor**	**5.82**	**116**	Pn	**Pn**	**08 21 38.2**	**+2.5**
YBH				LR	LR	08 23 44.8	
RVC	**Mount Rainier-**	**5.94**	**63**	P	**Pn**	**08 21 38.1**	**+0.8**
LON	**Longmire**	**5.98**	**65**	*e*Pn	**Pn**	**08 21 38.2**	**+0.4**
PGC	**Sidney**	**5.98**	**44**	*e*Pn	**Pn**	**08 21 37.5**	**-0.3**
PGC				*e*Sn	**Sn**	**08 22 47.5**	**+1.4**
RMW	**Rattlesnake Mo**	**6.25**	**59**	P	**Pn**	**08 21 42.0**	**+0.4**
CMW	**Cultus Mountai**	**6.54**	**51**	P	**Pn**	**08 21 46.4**	**+0.8**
TBM	**Table Mountain**	**6.90**	**64**	P	**Pn**	**08 21 51.4**	**+1.0**
BBB	**Bella Bella**	**7.76**	**7**	LR	LR	08 24 12.6	
	comp=Z,82nm,20.6s,baz=194,slow=32						
WVOR	**Wild Horse Val**	**8.31**	**101**	*e*Pn	**Pn**	**08 22 12.7**	**+2.7**
	2.0nm,0.8s						
BMO	**Blue Mountains**	**8.85**	**83**	*e*Pn	**Pn**	**08 22 16.8**	**-0.4**
	2.8nm,0.4s						
NEW	**Newport**	**9.47**	**62**	*e*Pn	**Pn**	**08 22 24.2**	**-1.6**
NEW	**Newport**	**9.47**	**62**	Pn	**Pn**	**08 22 25.0**	**-0.8**
	0.5nm,0.3s,baz=251,slow=12,SNR=8.7						
NEW				LR	LR	08 25 59.8	
	comp=Z,246nm,19.1s,baz=243,slow=38						
NVAR	**Mina Array Bea**	**10.48**	**121**	Pn	Pn	08 22 43.5	+3.8
NVAR	**Mina Array Bea**	**10.48**	**121**	Pn	Pn	08 22 43.5	+3.8
	0.0nm,0.3s,baz=293,slow=13,SNR=7.0						
BSMT	**Bassoo Peak**	**10.87**	**67**	*e*Pn	**Pn**	**08 22 45.8**	**+0.8**
JTMT	**Jette**	**11.19**	**68**	*e*Pn	**Pn**	**08 22 47.3**	**-1.9**
SWMT	**Swartz Lake**	**11.33**	**69**	*e*Pn	**Pn**	**08 22 52.0**	**+0.8**
	1.1nm,0.8s						
SLMT	**Seeley Lake**	**11.63**	**71**	*e*Pn	**Pn**	**08 22 55.7**	**+0.3**
CHMT	**Chamberlain Mo**	**11.76**	**72**	*e*Pn	**Pn**	**08 22 57.6**	**+0.4**
MCMT	**McKenzie Canyo**	**12.01**	**83**	*e*Pn	**Pn**	**08 23 02.5**	**+1.8**
BOZ	**Bozeman (W)**	**12.83**	**79**	*e*Pn	**Pn**	**08 23 13.4**	**+1.6**
HWUT	**Hardware Ranch**	**13.58**	**96**	*e*Pn	**Pn**	**08 23 24.6**	**+2.6**
DLBC	**Dease Lake**	**13.96**	**359**	LR	LR	08 28 15.8	
	comp=Z,108nm,21.4s,baz=328,slow=35						
GCMT	**Greycliff**	**14.20**	**78**	*e*P	**P**	**08 23 38.9**	**+0.9**
	3.2nm,0.8s						
EGMT	**Eagleton**	**14.24**	**69**	*e*P	**P**	**08 23 38.5**	**+0.3**
	2.8nm,0.6s						
MSU	**Marysvale**	**14.42**	**108**	*e*Pn	**Pn**	**08 23 36.0**	**+2.4**
	9.4nm,1.7s						
LDFC	**Landfair**	**14.63**	**125**	*e*P	**P**	**08 23 43.2**	**+0.5**
	6.8nm,0.8s						
PDAR	**Pinedale Array**	**14.69**	**90**	Pn	**P**	**08 23 41.9**	**-1.6**
PDAR	**Pinedale Array**	**14.69**	**90**	Pn	**P**	**08 23 41.9**	**-1.6**
	0.0nm,0.3s,baz=309,slow=10.0,SNR=2.5						
PFO	**Pinyon Flat Ob**	**14.95**	**132**	LR	LR	08 28 44.4	
	comp=Z,137nm,19.6s,baz=214,slow=34						
SRU	**San Rafael**	**15.28**	**104**	*e*P	**P**	**08 23 51.2**	**+1.2**
	11nm,1.3s						
ISCO	**Idaho Springs**	**18.45**	**96**	*e*P	**Pn**	**08 24 25.4**	**+0.2**
	2.1nm,0.9s						
SDCO	**Great Sand Dun**	**19.40**	**102**	*e*P	**Pn**	**08 24 37.3**	**+0.5**
	1.7nm,1.0s						
ANMO	**Albuquerque**	**20.21**	**110**	LR	LR	08 32 49.8	
	comp=Z,107nm,20.4s,baz=304,slow=38						
ILAR	**Eielson Array**	**22.46**	**341**	P	**P**	**08 25 08.4**	**+0.3**
ILAR	**Eielson Array**	**22.46**	**341**	P	**P**	**08 25 08.4**	**+0.3**
	2.9nm,1.2s,baz=156,slow=8.8,SNR=18						
ILAR				LR	LR	08 32 12.4	
	comp=Z,96nm,21.9s,baz=176,slow=32						
ULM	**Lac du Bonnet**	**23.48**	**64**	P	**P**	**08 25 17.8**	**-1.0**
ULM	**Lac du Bonnet**	**23.48**	**64**	P	**P**	**08 25 17.8**	**-1.0**
	2.3nm,0.7s,baz=266,slow=6.2,SNR=3.3						
ULM				LR	LR	08 34 05.4	
	comp=Z,108nm,19.7s,baz=331,slow=36						
AMTX	**Amarillo**	**23.51**	**104**	*e*P	**P**	**08 25 18.4**	**-1.0**
	3.9nm,0.7s						
AGMN	**Agassiz Nation**	**23.53**	**69**	*e*P	**P**	**08 25 18.2**	**-1.1**
	2.2nm,0.6s						
ECSD	**EROS Data Cent**	**23.68**	**80**	*e*P	**P**	**08 25 20.0**	**-0.9**
	2.6nm,1.0s						
INK	**Inuvik**	**23.95**	**357**	LR	LR	08 33 48.9	
	comp=Z,62nm,19.9s,baz=39,slow=34						
TXAR	**Lajitas Array**	**25.59**	**117**	P	**P**	**08 25 38.2**	**-0.4**
TXAR	**Lajitas Array**	**25.59**	**117**	P	**P**	**08 25 38.2**	**-0.4**
	0.7nm,0.8s,baz=297,slow=7.0,SNR=11						
TXAR				LR	LR	08 36 18.5	
	comp=Z,82nm,19.3s,baz=45,slow=38						
WMOK	**Wichita Mounta**	**25.61**	**102**	*e*P	**P**	**08 25 38.5**	**-0.1**
	2.7nm,0.8s						
LPIG	**La Paz**	**25.78**	**136**	LR	LR	08 34 24.8	
	comp=Z,6.1nm,19.5s,baz=190,slow=33						
SCHQ	**Schefferville**	**40.66**	**52**	LR	LR	08 43 20.7	
	comp=Z,71nm,21.4s,baz=23,slow=34						
NOA	**NORSAR Array B**	**70.13**	**19**	LR	LR	09 00 53.1	
	comp=Z,12nm,19.3s,baz=70,slow=35						

KRSC 11 08:24:05.3±0.7, 58°.85N×161°.90E, h19km±19km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALN	**Palana**	**1.03**	**284**	*i* P	Pb	08 24 22.7	-1.8
PALN				*i* S	Sb	08 24 34.6	-3.0
SRKR	**Sorokina**	**2.24**	**190**	*e*P	Pn	08 24 41.7	+0.3
SRKR				*i* S	Sn	08 25 07.8	-0.7
SMKR	**Semkarok**	**2.29**	**186**	*e*P	Pn	08 24 43.1	+1.0
SMKR				*i* S	Sn	08 25 10.5	+0.7
BDR	**Baidarnaya**	**2.32**	**190**	*e*P	Pn	08 24 42.9	+0.4
BDR				*i* S	Sn	08 25 10.1	-0.5
KLY	**Klyuchi**	**2.63**	**195**	*e*P	Pn	08 24 46.6	-0.1
KLY				*i* S	Sn	08 25 16.3	-1.7
KBTR	**Krutoberegovo**	**2.69**	**169**	*e*P	Pn	08 24 48.7	+1.1
KBTR				*e*S	Sn	08 25 20.2	+0.6
SRDR	**Sredinnyy**	**2.80**	**206**	*e*P	Pn	08 24 51.1	+2.0
SRDR				*i* S	Sn	08 25 24.1	+1.7
BZGR	**Bezymyannyi-Gr**	**2.99**	**193**	P	Pn	08 24 53.8	+2.0
BZGR				*i* S	Sn	08 25 28.9	+1.7
KOZ	**Kozyrevsk**	**3.01**	**202**	P	Pn	08 24 54.2	+2.3
KOZ				*i* S	Sn	08 25 29.8	+2.4
BZMR	**Bezymyannaya**	**3.02**	**195**	*e*P	Pn	08 24 53.1	+0.8
KPT	**Kopyto**	**3.03**	**198**	P	Pn	08 24 54.9	+2.6
KPT				*i* S	Sn	08 25 30.5	+2.3
KMNR	**Kamenistaya**	**3.23**	**197**	*e*P	Pn	08 24 56.0	+0.9
KMNR				*e*S	Sn	08 25 34.0	+0.9
ESO	**Esso**	**3.41**	**212**	*e*P	Pn	08 25 00.4	+3.0
ESO				*i* S	Sb	08 25 41.7	-4.3
BKI	**Bering**	**4.28**	**147**	P	Pn	08 25 11.8	+2.5
BKI				*i* S	Sn	08 26 00.0	+1.4

*ISCJB **11** 08:32:07.0±1.3, 14°.06N±0°.04×93°.08E±0°.03, h15km±9km, mb4.4/49, MS3.8/8, Error ellipse: s-maj=7.3km s-min=5.3km az=162.6*
*BJI **11** 08:32:06.4, 13°.68N×92°.99E, h33km, mB4.7/22, mb4.6/29, Ms4.3/19, Ms7 3.8/19*
*IDC **11** 08:32:06.5±0.4, 14°.10N×93°.10E, h0km, mb4.4/22, mb1 4.5/23, mb1mx4.4/30, mbtmp4.3/23, ML4.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.1/43, Error ellipse: s-maj=16.6km s-min=12.0km az=56.0*
*MOS **11** 08:32:10.0±1.2, 14°.16N×93°.18E, h33km, mb4.7/11, Error ellipse: s-maj=11.4km s-min=9.0km az=96.2*
*NEIC **11** 08:32:12.0±0.2, 14°.12N×93°.15E, h35km, mb4.5/8, Error ellipse: s-maj=6.3km s-min=6.0km az=59.0*
ISC 11 08:32:11.4±0.5, 14°.02N±0°.04×93°.14E±0°.05, h33km±1km, h33km:pP-P, n149, σ1§88/201, mb4.4/49, MS3.7/10, 2C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.11**	**51**	Pn	**Pn**	**08 33 52.8**	**-0.4**
CMAR				Sn	**Sn**	**08 35 09.2**	**-3.7**
CMAR	**Chiang Mai Arr**	**7.11**	**51**	Pn	**Pn**	**08 33 52.8**	**-0.4**
	1.1nm,0.3s,baz=241,slow=15,SNR=18						
CMAR				Sn	**Sn**	**08 35 09.2**	**-3.7**
	0.8nm,0.3s,baz=236,slow=19,SNR=3.0						
CMAR				LR	LR	08 37 21.5	
	comp=Z,399nm,18.5s,baz=36,slow=44						
CHTO	**Chiang Mai**	**7.33**	**49**	*e*P	**Pn**	**08 33 55.8**	**-0.4**
CHTO				*e*		08 35 12.5	
CHTO	**Chiang Mai**	**7.33**	**49**	*e*Pn	**Pn**	**08 33 55.8**	**-0.4**
CHTO				*e*Sn	**Sn**	**08 35 12.5**	**-5.9**
SHL	**Shillong**	**11.55**	**354**	*e*P	Pn	08 34 58.0	+3.8
SHL				*e*S	Sn	08 36 48.0	-14
PSI	**Prapat**	**12.52**	**152**	Pn	**P**	**08 35 16.5**	**-2.2**
PSI	**Prapat**	**12.52**	**152**	Pn	**P**	**08 35 16.5**	**-2.2**
	0.6nm,0.3s,baz=308,slow=8.3,SNR=6.9						
ODAN	**Odare**	**13.86**	**338**	*e*P	**Pn**	**08 35 23.0**	**-2.8**
	19nm,0.4s						
ODAN				*e*S	Sn	08 37 45.4	-14
RAMN	**Ramite**	**14.25**	**336**	*e*P	**Pn**	**08 35 29.1**	**-2.0**
	42nm,0.4s						
KMI	**Kunming**	**14.27**	**38**	P	Pn	08 35 34.6	+3.2
KMI				pP	**P**	**08 35 39.9**	**+1.6**
KMI				S	**Sn**	**08 38 11.5**	**+2.7**
KMI				sS	**S**	**08 38 23.0**	**-5.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,69nm,5.3s						
KMI				LR	LR		
	comp=N,200nm,17.0s						
KMI				LR	LR		
	comp=E,290nm,17.0s						
KMI				LR	LR		
	comp=Z,330nm,17.8s						
HYB	**Hyderabad**	**14.44**	**285**	*i* P	**P**	**08 35 41.0**	**+1.0**
HYB				*e*S	**Sn**	**08 38 11.0**	**-1.7**
PKI	**Pulchoki**	**15.29**	**333**	*e*P	**Pn**	**08 35 42.8**	**-2.4**
PKIN	**Phulchoki**	**15.30**	**333**	*e*P	**Pn**	**08 35 43.4**	**-1.9**
	comp=Z,30nm,0.5s						
DMN	**Daman**	**15.46**	**332**	*e*P	**Pn**	**08 35 45.1**	**-2.2**
LSA	**Lhasa**	**15.72**	**354**	*e*P	**P**	**08 35 52.9**	**-1.6**
LSA				pmax	pmax		
	comp=Z,31nm,0.9s						
LSA	**Lhasa**	**15.72**	**354**	*e*P	**P**	**08 35 52.9**	**-1.6**
	comp=Z,31nm,0.9s						
KOLN	**Koldanda**	**16.32**	**328**	*e*P	**Pn**	**08 35 57.0**	**-1.3**
	comp=Z,34nm,0.5s						
QIZ	**Qiongzhong**	**16.77**	**70**	P	**Pn**	**08 36 03.7**	**-0.2**
QIZ				S	**Sn**	**08 39 07.6**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,90nm,4.4s						
QIZ				LR	LR		
	comp=Z,370nm,13.9s						
GYA	**Guiyang**	**17.71**	**44**	*e*P	**P**	**08 36 17.3**	**+1.0**
GYA				pP	**pP**	**08 36 24.0**	**-1.0**
GYA				PP	**PnPn**	**08 36 31.2**	**+4.6**
GYA				S	**Sn**	**08 39 30.9**	**-1.2**
GYA				sS	**S**	**08 39 42.8**	**+4.2**
GYA				SS	**SnSn**	**08 39 52.4**	**+6.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,430nm,14.4s						
GYA				LR	LR		
	comp=E,360nm,15.2s						
GYA				LR	LR		
	comp=Z,480nm,14.9s						
CD2	**Chengdu**	**19.45**	**28**	*e*P	**Pn**	**08 36 36.4**	**-0.2**
CD2				pP	**pP**	**08 36 46.0**	**+1.9**
CD2				sP	**sP**	**08 36 50.2**	**+1.9**
CD2				PP	**PnPn**	**08 36 55.2**	**+4.9**
CD2				S	**S**	**08 40 08.2**	**-5.2**
CD2				sS	sS	08 40 21.2	-6.2
CD2				SS	**SnSn**	**08 40 36.1**	**+7.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,60nm,4.8s						
CD2				LR	LR		
	comp=N,400nm,12.0s						
CD2				LR	LR		
	comp=Z,120nm,8.2s						
ENH	**Enshi**	**22.11**	**40**	*e*P	**P**	**08 37 02.9**	**-1.2**
	comp=Z,8.5nm,0.5s						
LZH	**Lanzhou**	**23.99**	**22**	*e*P	**P**	**08 37 23.3**	**+0.1**
LZH				pP	**pP**	**08 37 32.4**	**-0.3**
LZH				sP	**sP**	**08 37 35.6**	**-1.1**
LZH				PP	**PnPn**	**08 37 57.2**	**+4.7**
LZH				*e*S	**S**	**08 41 33.3**	**-4.8**
LZH				SS	**SnSn**	**08 42 29.1**	**+9.2**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.1s						
LZH				LR	LR		
	comp=N,450nm,12.9s						
LZH				LR	LR		
	comp=E,430nm,13.1s						
LZH				LR	LR		
	comp=Z,500nm,14.3s						
XAN	**Xi'an**	**24.54**	**33**	P	**P**	**08 37 27.0**	**-1.1**
XAN				pP	**pP**	**08 37 36.7**	**-1.0**
XAN				sP	**sP**	**08 37 41.5**	**-0.2**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,25nm,5.1s						
XAN				LR	LR		
	comp=N,180nm,11.6s						
XAN				LR	LR		
	comp=Z,62nm,5.8s						
GTA	**Gaotai**	**25.97**	**12**	*e*P	**P**	**08 37 41.8**	**+0.7**
GTA				pP	**pP**	**08 37 50.7**	**0.0**
GTA				sP	**sP**	**08 37 55.5**	**+0.7**
GTA				PcP	**PcP**	**08 41 10.7**	**+1.6**
GTA				S	**S**	**08 42 08.7**	**-0.9**
GTA				sS	**sS**	**08 42 22.5**	**-3.0**
GTA				SS	**SnSn**	**08 43 14.8**	**+6.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,94nm,5.7s						
GTA				LR	LR		
	comp=N,130nm,18.5s						
GTA				LR	LR		
	comp=E,140nm,13.3s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
KSH	**Kashi**	**29.55**	**332**	P	**P**	**08 38 11.4**	**-1.8**
KSH				sP	**sP**	**08 38 25.5**	**-1.4**
KSH				PP	**PnPn**	**08 39 07.5**	**-1.0**
KSH				S	S	08 42 58.5	-7.6
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,78nm,4.5s						
KSH				LR	LR		
	comp=N,210nm,7.6s						
KSH				LR	LR		
	comp=E,160nm,11.3s						
KSH				LR	LR		
	comp=Z,110nm,5.2s						
WMQ	**Urumqi**	**30.07**	**352**	*e*P	**P**	**08 38 19.9**	**+2.3**
WMQ				sP	**sP**	**08 38 34.6**	**+3.3**
WMQ				PP	**PnPn**	**08 39 17.7**	**+2.4**
WMQ				S	**S**	**08 43 13.8**	**-0.1**
WMQ				sS	**sS**	**08 43 30.4**	**+0.6**
WMQ				SS	**SnSn**	**08 44 53.1**	**+5.1**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.0s						
WMQ				LR	LR		
	comp=N,68nm,20.0s						
WMQ				LR	LR		
	comp=Z,73nm,20.0s						
HHC	**Hu-ho-hao-te**	**31.20**	**28**	*e*P	**P**	**08 38 28.4**	**+0.7**
HHC				pP	**pP**	**08 38 37.9**	**+0.6**
HHC				sP	**sP**	**08 38 41.9**	**+0.5**
HHC				PP	**PnPn**	**08 39 31.6**	**+1.4**
HHC				S	**S**	**08 43 31.1**	**-0.7**
HHC				sS	**sS**	**08 43 47.1**	**-0.6**
HHC				PcS	**PcS**	**08 45 05.8**	**-0.5**
HHC				SS	**SnSn**	**08 45 17.8**	**+2.1**
HHC				ScS	**ScS**	**08 48 57.7**	**-2.3**
HHC				pmax	pmax		
	comp=Z,37nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,5.2s						
HHC				LR	LR		
	comp=N,480nm,14.5s						
HHC				LR	LR		
	comp=E,790nm,14.6s						
HHC				LR	LR		
	comp=Z,130nm,14.6s						
AAK	**Ala-Archa**	**32.74**	**334**	LR	LR	08 54 04.0	
	comp=Z,95nm,19.2s,baz=171,slow=40						
BJI	**Beijing**	**32.87**	**34**	P	**P**	**08 38 42.7**	**+0.5**
BJI				S	**S**	**08 43 58.8**	**+1.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI				LR	LR		
	comp=N,130nm,10.8s						
BJI				LR	LR		
	comp=E,240nm,11.3s						
BJI				LR	LR		
	comp=Z,97nm,19.7s						
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**08 38 50.9**	**-0.5**
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**08 38 50.9**	**-0.5**
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**08 38 50.9**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=168,slow=8.9,SNR=33						
KKAR	**Karatay Array**	**34.91**	**331**	*e*P	**P**	**08 38 59.6**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**34.91**	**331**	*e*P	**P**	**08 38 59.6**	**-0.4**
	comp=Z,4.8nm,0.8s						
SONM	**Songino Array**	**35.48**	**15**	P	**P**	**08 39 05.0**	**+0.1**
SONM				PcP	**PcP**	**08 41 34.5**	**+0.6**
SONM	**Songino Array**	**35.48**	**15**	P	**P**	**08 39 05.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=198,slow=9.8,SNR=17						
SONM				PcP	**PcP**	**08 41 34.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=225,slow=2.1,SNR=4.7						
ZAK	**Zakamensk**	**37.20**	**11**	*e*P	P	08 39 14.5	-5.0
TLY	**Talaya**	**38.51**	**11**	*e*P	**P**	**08 39 27.7**	**-2.8**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSAR	**Wonju Array Be**	**38.70**	**47**	P	**P**	**08 39 31.6**	**-0.6**
KSRS	**Korea Array**	**38.73**	**47**	P	**P**	**08 39 31.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=242,slow=8.5,SNR=4.0						
KSRS				LR	LR	08 57 52.1	
	comp=Z,116nm,19.2s,baz=240,slow=40						
JNU	**Nakatsue**	**39.20**	**54**	LR	LR	08 56 15.2	
	comp=Z,98nm,18.6s,baz=53,slow=37						
ZAA0	**Zalesovo Array**	**40.38**	**352**	*e*P	**P**	**08 39 45.1**	**-0.8**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**08 39 45.2**	**-0.7**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**08 39 45.2**	**-0.7**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**08 39 45.2**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=174,slow=8.8,SNR=18						
CN2	**Changchun**	**40.54**	**37**	*e*P	**P**	**08 39 46.8**	**-0.7**
CN2				*e*pP	**pP**	**08 39 56.6**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MDJ	**Mudanjiang**	**43.45**	**38**	P	**P**	**08 40 11.6**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,45nm,4.1s						
ABKAR	**Akbulak array**	**44.44**	**329**	*e*P	**P**	**08 40 19.1**	**0.0**
	comp=Z,5.0nm,0.8s						
USRK	**Ussuriysk Arra**	**44.70**	**40**	P	**P**	**08 40 20.6**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=241,slow=8.1,SNR=5.8						
FITZ	**Fitzroy Crossi**	**45.23**	**134**	P	**P**	**08 40 25.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**45.23**	**134**	P	**P**	**08 40 25.9**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=330,slow=7.2,S

comp=Z,2.6nm,1.1s
STKA Stephens Creek 65.09 135 P **P 08 42 49.9 +0.9**
comp=Z,2.3nm,0.7s,baz=287,slow=10,SNR=5.7
FINES FINESS Array B 66.87 331 P **P 08 42 59.2 -0.7**
FINES FINESS Array B 66.87 331 P **P 08 42 59.2 -0.7**
comp=Z,4.2nm,0.7s,baz=126,slow=4.9,SNR=11
KOLS Kolonicke sedl 67.00 317 *e*P **P 08 42 59.8 -1.2**
KOLS Kolonicke sedl 67.00 317 *e*P **P 08 42 59.8 -1.2**
CRVS Cervenica-Dubn 67.53 317 *e*P **P 08 43 04.8 +0.4**
CRVS *e* 08 43 14.3
CRVS pmax pmax
comp=Z,7.0nm,1.2s
CRVS Cervenica-Dubn 67.53 317 *e*P **P 08 43 04.8 +0.4**
CRVS *ep*P **pP 08 43 14.3 -0.4**
ARCES ARCESS Array B 69.19 340 P **P 08 43 14.2 -0.2**
ARCES ARCESS Array B 69.19 340 P **P 08 43 14.2 -0.2**
comp=Z,1.9nm,0.5s,baz=89,slow=6.5,SNR=20
LSZ Lusaka 70.51 248 *e*P **P 08 43 25.2 +1.7**
comp=Z,2.2nm,0.6s
DPC Dobruska-Polom 70.94 319 *e*P **P 08 43 26.7 +1.2**
DPC *e* 08 43 34.8
DPC Dobruska-Polom 70.94 319 *e*P **P 08 43 26.7 +1.2**
DPC *ex* x 08 43 28.8
DPC *ep*P **pP 08 43 34.8 -1.1**
BRG Berggiesshubel 72.45 319 *e*P **P 08 43 34.7 +0.2**
comp=Z,9.4nm,1.4s
BRG Berggiesshubel 72.45 319 *e*P **P 08 43 34.7 +0.2**
BRG pmax pmax
comp=Z,9.0nm,1.4s
GERES GERESS Array B 72.65 317 P **P 08 43 35.5 -0.3**
GERES GERESS Array B 72.65 317 P **P 08 43 35.5 -0.3**
comp=Z,1.9nm,0.6s,baz=90,slow=6.7,SNR=13
KHC Kasperske Hory 72.72 317 *e*P P 08 43 32.1 -4.2
KHC *e* 08 43 45.2
KHC Kasperske Hory 72.72 317 *e*P **P 08 43 35.7 -0.6**
KHC *ep*P **pP 08 43 45.2 -1.5**
FX1 Attu Island--F 72.94 39 P **P 08 43 38.4 +1.0**
FX1 Attu Island--F 72.94 39 P **P 08 43 38.4 +1.0**
comp=Z,2.0nm,0.5s,baz=270,slow=5.1,SNR=3.6
NB2 NORSAR Subarra 73.94 330 P **P 08 43 41.8 -1.4**
comp=Z,0.3nm,0.7s,baz=88,slow=6.5
NOA NORSAR Array B 73.94 330 P **P 08 43 42.1 -1.1**
NOA NORSAR Array B 73.94 330 P **P 08 43 42.1 -1.1**
comp=Z,2.2nm,0.7s,baz=89,slow=5.9,SNR=8.7
SBF Sospel 77.36 312 *e*P **P 08 44 03.0 -0.2**
LPG La Plagne 77.64 314 *e*P **P 08 44 04.5 -0.4**
comp=Z,11nm,0.7s
LPL La Plagne 77.65 314 *e*P **P 08 44 04.5 -0.4**
comp=Z,12nm,0.7s
MBDF Montbardon 77.72 313 *e*P **P 08 44 03.8 -1.5**
comp=Z,8.7nm,0.8s
CABF La Chapelle 77.95 315 *e*P **P 08 44 05.9 -0.5**
FRF La Foret Royal 77.97 312 *e*P **P 08 44 05.8 -0.7**
BOSA Boshof 78.07 236 P **P 08 44 08.6 +1.2**
BOSA Boshof 78.07 236 P **P 08 44 08.6 +1.2**
comp=Z,7.6nm,0.9s,baz=72,slow=4.7,SNR=10
LMR La Mourre 78.10 312 *e*P **P 08 44 06.9 -0.3**
ORIF Oris-en-Rattie 78.33 314 *e*P **P 08 44 07.9 -0.6**
comp=Z,15nm,1.1s
SMRF Simiane la Rot 78.68 313 *e*P **P 08 44 10.2 -0.2**
VIVF Saint-Julien-l 79.18 314 *e*P **P 08 44 12.5 -0.7**
LOR Lormes 79.36 316 *e*P **P 08 44 13.0 -1.1**
SMF Signal de Mont 79.48 316 *e*P **P 08 44 13.6 -1.1**
comp=Z,3.3nm,0.5s
SSF Saint Saulge 79.64 316 *e*P **P 08 44 14.8 -0.8**
AVF Avril sur Loir 79.78 316 *e*P **P 08 44 15.3 -1.0**
comp=Z,5.4nm,0.7s
LASF Ste Croix 79.89 313 *e*P **P 08 44 16.7 -0.3**
TCF Toulx Ste Croi 80.65 315 *e*P **P 08 44 20.6 -0.5**
CAF Calviac 81.00 314 *e*P **P 08 44 22.7 -0.3**
MTLF Montolieu 81.19 312 *e*P **P 08 44 23.6 -0.4**
RJF Les Rejaudoux 81.31 314 *e*P **P 08 44 24.3 -0.3**
LDF La Druitiere 81.76 318 *e*P **P 08 44 26.0 -0.9**
MFF Saint Martin d 82.19 316 *e*P **P 08 44 28.3 -0.9**
GRR Gorron 82.28 318 *e*P **P 08 44 28.7 -0.9**
SJPF Ste Jean 83.69 313 *e*P **P 08 44 37.0 -0.1**
MAW Mawson 84.32 191 P **P 08 44 40.9 +1.4**
MAW Mawson 84.32 191 P **P 08 44 40.9 +1.4**
comp=Z,1.8nm,0.6s,baz=359,slow=4.3,SNR=5.1
IM04 Indian Mountai 86.34 22 *e*P **P 08 44 49.9 0.0**
ESDC Sonseca Array 86.53 310 P **P 08 44 51.1 -0.4**
ESDC Sonseca Array 86.53 310 P **P 08 44 51.1 -0.4**
comp=Z,0.4nm,0.3s,baz=54,slow=4.7,SNR=3.7
TORD Torodi Ar. Bea 88.25 283 P **P 08 45 00.4 +0.4**
TORD Torodi Ar. Bea 88.25 283 P **P 08 45 00.4 +0.4**
comp=Z,3.1nm,0.8s,baz=87,slow=4.5,SNR=18
ILAR Eielson Array 89.45 22 P **P 08 45 03.8 -1.0**
ILAR Eielson Array 89.45 22 P **P 08 45 03.8 -1.0**
comp=Z,1.0nm,0.7s,baz=291,slow=4.1,SNR=16
INK Inuvik 91.39 16 P **P 08 45 13.6 -0.1**
INK Inuvik 91.39 16 P **P 08 45 13.6 -0.1**
comp=Z,2.8nm,0.9s,baz=304,slow=5.5,SNR=3.2
DAWY Dawson 92.49 20 *e*P **P 08 45 18.4 -0.6**
SNOW Snow King Moun 118.77 20 *e*PKPdf **PKPdf 08 50 57.7 +0.8**
PDAR Pinedale Array 119.78 19 PKP **PKPdf 08 50 58.6 -0.1**
PDAR Pinedale Array 119.78 19 PKP **PKPdf 08 50 58.6 -0.1**
comp=Z,0.5nm,0.6s,baz=124,slow=0.5,SNR=6.1
NVAR Mina Array Bea 120.09 28 PKP **PKPdf 08 51 00.8 +1.3**
NVAR Mina Array Bea 120.09 28 PKP **PKPdf 08 51 00.8 +1.3**
comp=Z,0.8nm,0.5s,baz=293,slow=2.1,SNR=11
DUG Dugway 120.92 23 *e*PKIKP **PKPdf 08 51 01.3 +0.4**
DUG Dugway 120.92 23 *e*PKPdf **PKPdf 08 51 01.3 +0.4**
MSU Marysvale 122.62 23 *e*PKIKP **PKPdf 08 51 05.4 +1.1**
MSU Marysvale 122.62 23 *e*PKPdf **PKPdf 08 51 05.4 +1.1**
ANMO Albuquerque 127.88 20 *e*PKPdf **PKPdf 08 51 15.6 +1.1**
TXAR Lajitas Array 133.95 21 PKP **PKPdf 08 51 27.6 +1.6**
TXAR Lajitas Array 133.95 21 PKP **PKPdf 08 51 27.6 +1.6**
comp=Z,0.5nm,0.5s,baz=167,slow=0.5,SNR=12
JCT Junction City 134.04 16 *e*PKIKP **PKPdf 08 51 25.9 -0.2**
JCT Junction City 134.04 16 *e*PKPdf **PKPdf 08 51 25.9 -0.2**
TEIG Tepich 145.94 2 *e*PKPdf **PKPab 08 51 48.5 -0.3**
CPUP Villa Florida 149.77 241 PKPbc **PKPbc 08 51 58.8 +0.2**
CPUP Villa Florida 149.77 241 PKPbc **PKPbc 08 51 58.8 +0.2**
comp=Z,0.4nm,0.4s,baz=50,slow=4.9,SNR=5.0
PLCA Paso Flores 149.81 205 PKPbc **PKPbc 08 51 58.9 +0.5**
PLCA Paso Flores 149.81 205 PKPbc **PKPbc 08 51 58.9 +0.5**
comp=Z,3.5nm,1.1s,baz=162,slow=3.2,SNR=2.8
LPAZ La Paz 161.78 260 PKPab **PKPab 08 52 56.2 -0.2**
LPAZ La Paz 161.78 260 PKPab **PKPab 08 52 56.2 -0.2**
comp=Z,1.2nm,0.9s,baz=180,slow=9.1,SNR=3.1

NIED ***11*** *08:32:00, 23.°80N×121.°90E, h35km, Mw4.3 Best double couple: M0 2.77000×10^15 NP1:φs=246.00000°, δ=84.00000°, λ=-86.00000°. NP2:φs=30.00000°, δ=8.00000°, λ=-125.00000°.*
IDC ***11*** *08:32:22.4±1.5, 23.°31N×121.°16E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML3.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/35, Error ellipse: s-maj=102.2km s-min=25.3km az=76.0*
ISCJB ***11*** *08:32:26.1±0.3, 23.°73N±0.°02×121.°85E±0.°02, h25km±2km, mb3.3/3, MS3.3/3, Error ellipse: s-maj=3.4km s-min=2.3km az=148.2*
TAP ***11*** *08:32:26.6, 23.°75N×121.°78E, h35km, ML4.5, C*
JMA ***11*** *08:32:27.0±0.3, 23.°77N×121.°85E, h69km, M3.6*
ISC 11 08:32:26.6±0.9, 23.°73N±0.°02×121.°80E±0.°02, h31km±7km, n64, σ0°74/110, mb3.3/3, MS3.5/3, 17C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.24**	**266**	P	**Pn**	**08 32 33.9**	**-0.1**
TEGC	baz=253			S	**Sn**	**08 32 39.3**	**+0.6**
HWA	**Hwalien**	**0.31**	**324**	⇓P	**Pb**	**08 32 34.2**	**0.0**
HWA	baz=326			*e*S	**Sn**	**08 32 40.1**	**-0.3**
ESL	**Shilin**	**0.35**	**285**	⇑*i*P	**Pb**	**08 32 34.5**	**-0.2**
ESL	baz=282			*e*S	**Sb**	**08 32 40.1**	**-0.2**
TWD	**Chiawan**	**0.40**	**332**	⇓*i*P	**Pb**	**08 32 35.2**	**-0.3**
TWD	baz=342			S	**Sb**	**08 32 41.3**	**-0.3**
EHY	**Hungye**	**0.49**	**243**	⇑*i*P	**Pb**	**08 32 36.7**	**-0.2**
EHY	baz=252			*e*S	**Sb**	**08 32 44.0**	**+0.1**
EHP	**Heping Village**	**0.58**	**355**	P	**Pb**	**08 32 37.9**	**-0.5**
EHP	baz=348			S	**Sb**	**08 32 46.5**	**0.0**
TWF1	**Yuli**	**0.59**	**231**	⇑*i*P	**Pb**	**08 32 38.4**	**-0.2**
TWF1	baz=240			*e*S	**Sb**	**08 32 48.0**	**-0.6**
WHF	**Hehuan Shan**	**0.64**	**310**	⇑*i*P	**Pb**	**08 32 38.9**	**-0.7**
WHF	baz=301			*e*S	**Sb**	**08 32 48.0**	**-0.6**
ENA	**Nanau**	**0.70**	**356**	⇓*i*P	**Pn**	**08 32 39.6**	**-0.8**
ENA	baz=358			*e*S	**Sb**	**08 32 49.0**	**-0.7**
CHKT	**Chengkung**	**0.74**	**213**	*e*P	**Pn**	**08 32 39.7**	**-1.2**
TWT	**Tachien**	**0.78**	**313**	⇑*e*P	**Pn**	**08 32 41.4**	**-0.2**
TWT	baz=311			S	**Sb**	**08 32 51.4**	**-0.6**
NNS	**Nan Shan**	**0.81**	**331**	⇑*e*P	**Pn**	**08 32 41.4**	**-0.7**
NNS	baz=324			S	**Sn**	**08 32 52.0**	**-1.1**
YUS	**Yu-Shan**	**0.81**	**253**	⇑*i*P	**Pn**	**08 32 42.3**	**-0.1**
YUS	baz=251			*e*S	**Sn**	**08 32 52.7**	**-0.9**
SMLT	**Sun Moon Lake**	**0.84**	**281**	⇑*i*P	**Pn**	**08 32 42.2**	**-0.2**
SMLT	baz=285			*e*S	**Sn**	**08 32 53.1**	**-0.7**
TWC	**Suao**	**0.88**	**3**	*e*P	**Pn**	**08 32 42.6**	**-0.2**
TWC	baz=357			*e*S	**Sb**	**08 32 54.8**	**0.0**
TYC	**Yuchr**	**0.88**	**282**	⇑*i*P	**Pn**	**08 32 42.7**	**-0.2**
TYC	baz=288			*e*S	**Sn**	**08 32 54.0**	**-0.6**
ENTT	**Nioudou**	**0.93**	**347**	⇑*e*P	**Pn**	**08 32 43.2**	**-0.4**
ENTT	baz=348			*e*S	**Sn**	**08 32 55.3**	**-0.7**
ALS	**Alishan**	**0.94**	**257**	⇑*i*P	**Pn**	**08 32 44.3**	**+0.4**
ALS	baz=264			*e*S	**Sn**	**08 32 56.4**	**-0.1**
TWE	**Neicheng**	**1.00**	**353**	*e*P	**Pn**	**08 32 44.6**	**+0.2**
NSK	**Sanguang**	**1.03**	**337**	⇑*i*P	**Pn**	**08 32 44.9**	**-0.1**
NSK	baz=337			S	**Sn**	**08 32 57.6**	**-0.7**
WNT	**Mingjian**	**1.03**	**279**	⇑P	**Pb**	**08 32 46.0**	**+0.1**
WNT	baz=278			*e*S	**Sb**	**08 32 59.7**	**+0.5**
ILA	**Ilan**	**1.03**	**357**	*e*P	**Pb**	**08 32 45.5**	**-0.4**
CHN5	**Tsauling**	**1.04**	**263**	⇑*i*P	**Pb**	**08 32 45.9**	**-0.1**
CHN5	baz=262			*e*S	**Sb**	**08 32 59.7**	**+0.4**
TCU	**Taichung**	**1.11**	**292**	*e*P	**Pb**	**08 32 47.3**	**+0.1**
TCU	baz=292			*e*S	**Sb**	**08 33 02.1**	**+0.7**
TWG	**Pinlang**	**1.12**	**217**	*e*P	**Pn**	**08 32 45.0**	**-1.2**
TWQ1	**Liyutan**	**1.12**	**304**	⇑*i*P	**Pb**	**08 32 47.5**	**0.0**
TWQ1	baz=303			*e*S	**Sb**	**08 33 01.7**	**0.0**
WGK	**Gukeng**	**1.14**	**268**	*e*P	**Pb**	**08 32 47.1**	**-0.5**
WGK	baz=267			*e*S	**Sb**	**08 33 02.6**	**+0.5**
NSY	**Sanyi**	**1.17**	**306**	⇑*i*P	**Pb**	**08 32 48.3**	**0.0**
NSY	baz=306			S	**Sb**	**08 33 03.5**	**+0.4**
TWA	**Mucha**	**1.26**	**351**	P	**Pn**	**08 32 48.7**	**+0.6**
TWA	baz=342			*e*S	**Sn**	**08 33 04.4**	**+0.3**
CHY	**Chiayi**	**1.28**	**260**	*e*P	**Pb**	**08 32 49.6**	**-0.5**
CHY	baz=259			*e*S	**Sb**	**08 33 06.7**	**+0.5**
CHN1	**Nanshi**	**1.29**	**245**	*e*P	**Pb**	**08 32 49.5**	**-0.7**
CHN1	baz=244			*e*S	**Sb**	**08 33 07.2**	**+0.8**
TWB1	**Santiao Chiao**	**1.29**	**8**	*e*P	**Pn**	**08 32 48.9**	**+0.4**
HSN	**Hsinchu**	**1.31**	**325**	*e*P	**Pb**	**08 32 50.4**	**-0.2**
HSN	baz=327			*e*S	**Sb**	**08 33 08.0**	**+0.9**
YOJ	**Yonaguni jima**	**1.33**	**56**	*e*P	**Pn**	**08 32 49.4**	**+0.4**
YOJ	baz=59			*e*S	**Sn**	**08 33 05.5**	**-0.1**
YOJ	**Yonaguni jima**	**1.33**	**56**	P	**Pn**	**08 32 49.2**	**+0.2**
YOJ				*e*S	**Sn**	**08 33 05.3**	**-0.3**
TAP1	**Taipei**	**1.33**	**349**	*e*P	**Pn**	**08 32 49.2**	**+0.2**
TAP1	baz=349			*e*S	**Sn**	**08 33 06.2**	**+0.5**
TAP	**Taipei**	**1.33**	**348**	*e*P	**Pn**	**08 32 49.6**	**+0.5**
TAP	baz=349			*e*S	**Sn**	**08 33 06.5**	**+0.7**
NWF	**Wu-fen Shan**	**1.34**	**359**	*e*P	**Pn**	**08 32 50.2**	**+0.9**
NWF	baz=346			*e*S	**Sb**	**08 33 07.3**	**-0.6**
NCU	**National Centr**	**1.36**	**336**	*e*P	**Pn**	**08 32 49.9**	**+0.5**
NCU	baz=336			*e*S	**Sb**	**08 33 08.7**	**+0.2**
WTCT	**Ta-ch'eng**	**1.40**	**276**	*e*P	**Pn**	**08 32 51.1**	**+1.1**
WTCT	baz=276			*e*S	**Sb**	**08 33 09.9**	**+0.4**
WSF	**Szhu**	**1.45**	**267**	*e*P	**Pn**	**08 32 51.5**	**+0.8**
WSF	baz=267			*e*S	**Sb**	**08 33 10.9**	**-0.1**
CHN3	**Shinhua**	**1.47**	**244**	*e*P	**Pb**	**08 32 53.1**	**-0.2**
CHN3	baz=243			*e*S	**Sb**	**08 33 13.3**	**+1.7**
TWY	**Chenhua**	**1.55**	**353**	*e*P	**Pn**	**08 32 52.2**	**+0.1**
SGLT	**Jiouru**	**1.56**	**231**	*e*P	**Pb**	**08 32 55.2**	**+0.4**
SCLT	**Jiali**	**1.57**	**250**	*e*P	**Pn**	**08 32 53.1**	**+0.7**
SCLT	baz=249			*e*S	**Sb**	**08 33 14.4**	**-0.2**
TAI1	**Yung-k'ang**	**1.60**	**245**	*e*P	**Pb**	**08 32 54.9**	**-0.6**
SCZT	**Fangliau**	**1.73**	**219**	*e*P	**Pn**	**08 32 56.0**	**+1.4**
SCZT	baz=211			*e*S	**Sb**	**08 33 18.4**	**-0.7**
HATJ	**Hateruma jima**	**1.86**	**79**	P	**Pn**	**08 32 56.4**	**0.0**
HATJ				*e*S	**Sn**	**08 33 18.9**	**0.0**
IRIF	**Iriomote-Funau**	**1.86**	**71**	P	**Pn**	**08 32 56.7**	**+0.3**
IRIF				*e*S	**Sn**	**08 33 19.4**	**+0.5**
PCYT	**Pengchaiyu**	**1.91**	**7**	*e*P	**Pn**	**08 32 58.1**	**+1.0**
WDGT	**Dungji**	**2.02**	**257**	P	**Pn**	**08 32 58.9**	**+0.3**
WDGT	baz=258			*e*S	**Sn**	**08 33 22.1**	**-0.6**
PNG	**Penghu**	**2.06**	**266**	⇑*e*P	**Pn**	**08 32 59.6**	**+0.5**
PNG	baz=255			*e*S	**Sn**	**08 33 24.4**	**+0.5**
JKRS	**Kuro-shima**	**2.08**	**75**	P	**Pn**	**08 32 59.9**	**+0.5**
JKRS				*e*S	**Sn**	**08 33 24.5**	**+0.2**
JIJ	**Ishigaki jima**	**2.23**	**73**	P	**Pn**	**08 33 01.3**	**-0.2**
JIJ				*e*S	**Sn**	**08 33 27.2**	**-0.8**
JTJ	**Tarama**	**2.80**	**70**	P	**Pn**	**08 33 09.3**	**0.0**
JTJ				*e*S	**Sn**	**08 33 42.5**	**+0.5**
KNM	**Kinmen**	**3.15**	**283**	*e*P	**Pn**	**08 33 15.7**	**+1.6**
KNM	baz=283			*e*S	**Sn**	**08 33 52.9**	**+2.1**
QZH	**Quanzhou**	**3.17**	**293**	⇓*i*Pn	**Pn**	**08 33 12.8**	**-1.5**
QZH				Sn	**Sn**	**08 33 48.1**	**-2.9**
QZH				smax	smax		
QZH	comp=N,380nm,0.8s			smax	smax		
JOGS	**Gusukube**	**3.45**	**72**	P	**Pn**	**08 33 18.8**	**+0.6**
JOGS				*e*S	**Sn**	**08 33 57.9**	**-0.1**
KSRS	**Korea Array**	**14.66**	**20**	Pn	**P**	**08 35 59.1**	**+1.5**
KSRS	comp=E,0.2nm,0.3s,baz=202,slow=12,SNR=7.5			LR	LR	08 42 55.6	
USRK	**Ussuriysk Arra**	**22.07**	**20**	LR	LR	08 46 56.7	
SONM	**Songino Array**	**27.01**	**337**	P	**P**	**08 38 07.5**	**+1.6**
SONM	comp=E,0.4nm,0.5s,baz=154,slow=9.2,SNR=4.7			LR	LR	08 50 01.2	
MKAR	**Makanchi Array**	**39.06**	**316**	LR	LR	08 56 25.2	
WRA	**Warramunga Arr**	**45.09**	**163**	P	**P**	**08 40 38.2**	**-1.9**
ASAR	**Alice Springs**	**48.55**	**165**	P	**P**	**08 41 06.1**	**-1.1**

GUC 11 08:40:28.7±0.5, 34.°79S×71.°73W, h39km±1km, MD3.7, ML3.2, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.61**	**172**	⇑*i*P	Pn	08 40 40.9	-0.1
TALC				*i*S	Sn	08 40 50.4	+0.8
LNV	**Longovilo**	**0.88**	**18**	*e*P	Pn	08 40 44.9	+0.4
LNV				*i*S	Sn	08 40 57.0	+0.9
CACH	**El Canelo**	**1.15**	**55**	*e*P	Pn	08 40 49.7	+1.1
CACH				*i*S	Sn	08 41 05.4	+2.2
CHCH	**Chadas Angostu**	**1.24**	**47**	⇑*i*P	Pn	08 40 50.9	+1.3
CHCH				*i*S	Sn	08 41 06.8	+1.7
TACH	**Talagante**	**1.31**	**30**	*e*P	Pn	08 40 51.7	+1.1
TACH				*i*S	Sn	08 41 09.7	+2.8
ANTU	**Antumapu**	**1.52**	**37**	*e*P	Pn	08 40 54.8	+1.3
ANTU				*e*S	Sn	08 41 14.4	+2.2
ANTU				AML	AML	08 41 16.8	
PCH	**Pirque**	**1.54**	**41**	*e*P	Pn	08 40 55.0	+1.2
PCH				*i*S	Sn	08 41 15.1	+2.3
LMEL	**Las Melosas**	**1.58**	**54**	*e*P	Pn	08 40 55.5	+1.0
LMEL				*e*S	Sn	08 41 16.4	+2.6
LMEL				AML	AML	08 41 21.8	
COCH	**Cobquecura**	**1.59**	**213**	*e*P	Pn	08 40 57.5	+3.2
COCH				*e*S	Sn	08 41 18.1	+4.5
SJCH	**San Jose de Ma**	**1.62**	**45**	*e*P	Pn	08 40 56.0	+1.1
SJCH				*i*S	Sn	08 41 16.9	+2.3
STL	**Santa Lucia**	**1.63**	**34**	*e*P	Pn	08 40 56.3	+1.4
LACH	**Col Las Americ**	**1.67**	**37**	*e*P	Pn	08 40 56.6	+1.1
LACH				*e*S	Sn	08 41 17.9	+2.1
CLCH	**Cerro Calan**	**1.71**	**36**	*e*P	Pn	08 40 57.4	+1.2
CLCH				*e*S	Sn	08 41 19.1	+2.2
CLCH				AML	AML	08 41 24.8	
PEL	**Peldehue**	**1.86**	**28**	*e*P	Pn	08 40 59.6	+1.4
PEL				AML	AML	08 41 31.5	

IDC 11 08:42:59.1±1.8, 13.°83N×92.°85E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/28, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=60.9km s-min=24.2km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.45**	**51**	Pn	Pn	08 44 49.0	-0.1
	0.5nm,0.3s,baz=233,slow=16,SNR=4.4						
KURBB	**Kurchatov Arra**	**38.49**	**345**	P	P	08 50 22.9	-0.1
	0.4nm,0.4s,baz=153,slow=7.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**45.31**	**134**	P	P	08 51 18.8	-0.2
	1.5nm,0.5s,baz=327,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**52.85**	**129**	P	P	08 52 16.7	-0.2
	0.5nm,0.5s,baz=312,slow=8.2,SNR=18						
ASAR	**Alice Springs**	**54.78**	**133**	P	P	08 52 31.2	+0.1
	0.7nm,0.5s,baz=307,slow=6.4,SNR=19						

IDC ***11*** *08:43:36.3±0.6, 29.°02N×103.°81E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/30, mbtmp4.1/18, ML3.9/1, Error ellipse: s-maj=22.1km s-min=13.3km az=47.0*
ISCJB ***11*** *08:43:37.2±0.5, 29.°02N±0.°06×103.°76E±0.°06, h17km, mb4.0/20, Error ellipse: s-maj=9.4km s-min=6.4km az=26.0*
NEIC ***11*** *08:43:37.9±0.4, 28.°99N×103.°76E, h10km, mb4.4/3, Error ellipse: s-maj=11.6km s-min=7.4km az=219.0*
BJI ***11*** *08:43:39.2, 29.°09N×103.°75E, h14km, mb4.1/2, ML4.0/17, Ms3.8/3, Ms7 3.7/3*
ISC 11 08:43:38.9±0.5, 29.°03N±0.°04×103.°77E±0.°06, h17km, n49, σ1°13/61, mb4.2/20, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.87**	**360**	Pg	**Pb**	**08 44 12.3**	**-0.3**
CD2				Sg	**Sb**	**08 44 36.5**	**+0.7**
CD2				smax	smax		
CD2	comp=N,7μm,0.7s			smax	smax		
CD2	comp=E,8μm,0.5s			smax	smax		
GYA	**Guiyang**	**3.63**	**134**	⇑*i*Pn	**Pn**	**08 44 35.9**	**+1.4**
GYA				Pg	**Pg**	**08 44 48.9**	**+0.4**
GYA				Sn	**Sn**	**08 45 18.6**	**+1.6**
GYA				Sg	**Sg**	**08 45 33.8**	**-1.7**
GYA				smax	smax		
GYA	comp=N,300nm,0.9s			smax	smax		
GYA	comp=E,260nm,0.8s			smax	smax		
KMI	**Kunming**	**4.00**	**193**	Pn	Pn	08 44 43.4	+3.7
KMI				Pg	**Pg**	**08 44 55.0**	**-0.6**
KMI				Sn	**Sb**	**08 45 33.5**	**-3.8**
KMI				Sg	**Sg**	**08 45 48.8**	**+1.3**
KMI				smax	smax		
KMI	comp=N,58nm,0.9s			smax	smax		
KMI	comp=E,61nm,0.9s			LR	LR		
KMI	comp=N,480nm,4.5s			LR	LR		
KMI	comp=E,230nm,5.1s			LR	LR		
KMI	comp=Z,320nm,9.0s			LR	LR		
ENH	**Enshi**	**5.13**	**75**	*e*Pn	**Pn**	**08 44 56.4**	**+1.4**
ENH	comp=Z,375nm,0.6s			*e*Sn	**Sn**	**08 45 55.2**	**+1.4**
XAN	**Xi'an**	**6.65**	**40**	Pn	**Pn**	**08 45 15.4**	**-0.5**
XAN				Pg	Pb	08 45 40.2	+6.1
XAN				Sn	**Sn**	**08 46 26.8**	**-4.6**
XAN				Sg	Sg	08 47 04.7	-7.7
XAN				smax	smax		
XAN	comp=N,170nm,0.9s			smax	smax		
XAN	comp=E,89nm,0.8s			smax	smax		
LZH	**Lanzhou**	**7.03**	**1**	*e*Pg	Pb	08 45 44.8	+4.1
LZH				Sn	Sn	08 46 52.2	+11
LZH				Sg	Sb	08 47 12.1	+7.7
LZH				smax	smax		
LZH	comp=N,79nm,1.0s			smax	smax		
LZH	comp=E,120nm,1.2s			LR	LR		
LZH	comp=N,420nm,6.1s			LR	LR		
LZH	comp=E,310nm,8.1s			LR	LR		
LZH	comp=Z,440nm,8.2s			LR	LR		
WHN	**Wuhan**	**9.32**	**78**	P	Pn	08 45 58.4	+5.9
WHN				smax	smax		
WHN	comp=N,190nm,0.8s			smax	smax		
WHN	comp=E,230nm,0.4s			smax	smax		
SONM	**Songino Array**	**18.88**	**5**	P	**Pn**	**08 47 59.7**	**+0.6**
SONM	**Songino Array**	**18.88**	**5**	P	**Pn**	**08 47 59.7**	**+0.6**
	comp=E,0.4nm,0.3s,baz=192,slow=12,SNR=10.0						
KSAR	**Wonju Array Be**	**21.80**	**61**	P	**P**	**08 48 30.6**	**+0.5**
KSRS	**Korea Array**	**21.84**	**61**	P	**P**	**08 48 30.6**	**+0.1**
	comp=E,6.4nm,0.7s,baz=243,slow=9.7,SNR=8.5						

JNU	**Nakatsue**	23.55	73	P	**P**	08 48 48.8	+0.3
JNU	**Nakatsue**	23.55	73	P	**P**	08 48 48.8	+0.3
comp=E,15nm,1.1s,baz=282,slow=9.3,SNR=3.7							
MKAR	**Makanchi Array**	24.39	322	P	**P**	08 48 56.9	+0.5
MKAR	**Makanchi Array**	24.39	322	P	**P**	08 48 56.9	+0.5
comp=E,2.8nm,0.5s,baz=120,slow=12,SNR=34							
USRK	**Ussuriysk Arra**	27.08	48	P	**P**	08 49 20.4	-0.1
comp=E,2.4nm,0.6s,baz=254,slow=9.3,SNR=10							
ZAA0	**Zalesovo Array**	28.47	336	*e*P	**P**	08 49 32.7	-0.2
ZALV	**Zalesovo Beam**	28.47	336	P	**P**	08 49 33.0	0.0
ZALV	**Zalesovo Beam**	28.47	336	P	**P**	08 49 33.0	0.0
comp=E,3.3nm,0.5s,baz=144,slow=8.5,SNR=13							
KURBB	**Kurchatov Arra**	28.74	326	P	**P**	08 49 35.6	+0.2
comp=E,2.8nm,0.7s,baz=132,slow=9.3,SNR=11							
KURBB				PcP	**PcP**	08 52 45.0	-0.3
comp=E,0.3nm,0.3s,baz=140,slow=2.3,SNR=4.2							
KURK	**Kurchatov**	28.76	326	P	**P**	08 49 35.6	+0.1
KURK				PcP	**PcP**	08 52 45.0	-0.3
BVAR	**Borovoye Array**	34.26	324	P	**P**	08 50 25.8	+2.0
BVAR				PcP	**PcP**	08 52 59.4	-0.7
BVAR	**Borovoye Array**	34.26	324	P	**P**	08 50 25.8	+2.0
comp=E,0.4nm,0.4s,baz=121,slow=10,SNR=3.0							
BVAR				PcP	**PcP**	08 52 59.4	-0.7
comp=E,1.2nm,0.6s,baz=130,slow=2.3,SNR=5.5							
ABKAR	**Akbulak array**	38.86	314	*e*P	**P**	08 51 03.9	+0.8
comp=E,0.5nm,0.4s							
AKTO	**Aktyubinsk**	40.36	315	P	**P**	08 51 17.3	+1.6
AKTO	**Aktyubinsk**	40.36	315	P	**P**	08 51 17.3	+1.6
comp=E,0.6nm,0.4s,baz=98,slow=9.4,SNR=3.1							
FITZ	**Fitzroy Crossi**	51.40	153	P	**P**	08 52 43.0	0.0
FITZ	**Fitzroy Crossi**	51.40	153	P	**P**	08 52 43.0	0.0
comp=E,0.8nm,0.6s,baz=320,slow=9.6,SNR=3.0							
WRAB	**Tennant Creek**	56.93	145	*e*P	**P**	08 53 23.0	-0.4
comp=E,2.3nm,0.4s							
WRA	**Warramunga Arr**	56.93	145	P	**P**	08 53 23.2	-0.2
WRA	**Warramunga Arr**	56.93	145	P	**P**	08 53 23.2	-0.2
comp=E,1.4nm,0.6s,baz=338,slow=8.0,SNR=25							
ARCES	**ARCESS Array B**	59.02	336	P	**P**	08 53 37.5	+0.1
ARCES				PcP	**PcP**	08 54 26.1	-0.1
ARCES	**ARCESS Array B**	59.02	336	P	**P**	08 53 37.5	+0.1
comp=E,1.5nm,0.6s,baz=88,slow=7.8,SNR=9.2							
ARCES				PcP	**PcP**	08 54 26.1	-0.1
comp=E,1.1nm,0.5s,baz=89,slow=4.7,SNR=9.1							
FINES	**FINESS Array B**	59.12	327	P	**P**	08 53 38.2	0.0
FINES	**FINESS Array B**	59.12	327	P	**P**	08 53 38.2	0.0
comp=E,1.7nm,0.5s,baz=83,slow=7.6,SNR=9.7							
ASAR	**Alice Springs**	59.89	148	P	**P**	08 53 44.2	+0.2
ASAR	**Alice Springs**	59.89	148	P	**P**	08 53 44.2	+0.2
comp=E,0.6nm,0.4s,baz=327,slow=6.8,SNR=15							
NB2	**NORSAR Subarra**	66.25	328	P	**P**	08 54 25.0	-0.8
comp=Z,1.4nm,0.5s,baz=75,slow=6.9							
NOA	**NORSAR Array B**	66.25	328	P	**P**	08 54 25.3	-0.5
NOA	**NORSAR Array B**	66.25	328	P	**P**	08 54 25.3	-0.5
comp=Z,1.2nm,0.6s,baz=73,slow=6.6,SNR=6.7							
GERES	**GERESS Array B**	68.79	315	P	**P**	08 54 43.0	+0.8
GERES	**GERESS Array B**	68.79	315	P	**P**	08 54 43.0	+0.8
comp=Z,1.4nm,0.6s,baz=64,slow=6.4,SNR=8.6							
ILAR	**Eielson Array**	71.83	25	P	**P**	08 54 59.3	-1.0
ILAR	**Eielson Array**	71.83	25	P	**P**	08 54 59.3	-1.0
comp=Z,0.4nm,0.7s,baz=307,slow=3.8,SNR=6.6							
PMR	**Palmer**	72.49	29	*e*P	**P**	08 55 03.5	-0.8
comp=Z,3.8nm,0.7s							
TORD	**Torodi Ar. Bea**	93.97	287	P	**P**	08 56 57.0	+0.5
TORD	**Torodi Ar. Bea**	93.97	287	P	**P**	08 56 57.0	+0.5
comp=Z,0.3nm,0.6s,baz=52,slow=3.5,SNR=2.4							
TXAR	**Lajitas Array**	116.32	27	PKP	**PKPdf**	09 02 21.5	-0.6
TXAR	**Lajitas Array**	116.32	27	PKP	**PKPdf**	09 02 21.5	-0.6
comp=Z,0.1nm,0.5s,baz=13,slow=8.3,SNR=3.1							

BJI ***11*** *08:51:23.9, 13°.68N×92°.95E, h34km, mB4.6/21, mb4.5/25, Ms4.2/22, Ms7 3.8/22*
ISCJB ***11*** *08:51:25.8±0.8, 14°.17N±0°.03×92°.97E±0°.03, h24km±6km, mb4.5/49, MS3.9/18, Error ellipse: s-maj=4.9km s-min=4.5km az=138.9*
IDC ***11*** *08:51:28.1±3.7, 14°.04N×93°.08E, h33km±27km, mb4.2/25, mb1 4.3/26, mb1mx4.3/31, mbtmp4.2/26, ML4.6/1, MS3.9/13, Ms1 3.9/13, ms1mx3.5/38, Error ellipse: s-maj=16.6km s-min=10.7km az=51.0*
NEIC ***11*** *08:51:29.0±0.8, 14°.13N×93°.07E, h38km±8km, mb4.6/12, Error ellipse: s-maj=8.0km s-min=6.4km az=71.0*
BKK ***11*** *08:51:30.4±1.5, 14°N±4°×9°3E±1°6, h10km, M4.7/13, mB5.2/9, mb4.8/13, MLv5.0/9, Mw(mB)4.5/9*
ISC 11 08:51:28.4±0.4,**14°.06N**±0°.04×**93°.04E**±0°.04,**h34**km±1km, **n150**,σ1§**95**/200,**mb4.5**/49,**MS3.8**/19,**1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.88**	**187**	*e*P	**Pb**	**08 51 46.7**	**+1.4**
DGPR				*e*S	**Sb**	**08 51 58.0**	**+1.2**
PBA	**Port Blair**	**2.41**	**187**	*e*P	Pn	08 52 07.3	+1.9
PBA				*e*S	Sn	08 52 35.7	+2.0
PHET	**Kaeng Krachan**	**6.51**	**99**	P	**Pn**	**08 53 02.4**	**+0.5**
720nm,0.5s,10μm3.0nm							
CMAR	**Chiang Mai Arr**	**7.16**	**52**	Pn	**Pn**	**08 53 10.3**	**-0.6**
CMAR				Sn	**Sn**	**08 54 25.6**	**-5.5**
CMAR	**Chiang Mai Arr**	**7.16**	**52**	Pn	**Pn**	**08 53 10.3**	**-0.6**
2.4nm,0.3s,baz=236,slow=15,SNR=19							
CMAR				Sn	**Sn**	**08 54 25.6**	**-5.5**
2.9nm,0.3s,baz=240,slow=30,SNR=6.5							
CMAR				LR	LR	08 56 41.7	
comp=Z,885nm,18.2s,baz=278,slow=44							
CHTO	**Chiang Mai**	**7.38**	**49**	*e*Pn	**Pn**	**08 53 12.5**	**-1.4**
CHTO				*e*Sn	Sn	08 54 29.3	-7.2
CHTO	**Chiang Mai**	**7.38**	**49**	P	Pn	08 53 17.1	+3.3
56nm,0.8s,741nm0.3nm							
CMMT	**Chiang Mai**	**7.38**	**49**	P	**Pn**	**08 53 16.8**	**+2.9**
60nm,0.7s,715nm0.3nm							
LAMP	**Lampang**	**7.73**	**54**	P	**Pn**	**08 53 20.6**	**+1.9**
29nm,0.8s,269nm0.1nm							
PBKT	**Sadao Pong**	**8.05**	**71**	P	**Pn**	**08 53 22.5**	**-0.5**
81nm,0.7s,0.3nm							
CMAI	**Chiengmai2**	**8.20**	**44**	P	**Pn**	**08 53 27.7**	**+2.5**
59nm,0.6s,1μm0.4nm							
PAYA	**Payao**	**8.40**	**50**	P	**Pn**	**08 53 28.5**	**+0.6**
38nm,0.9s,350nm0.1nm							
LOEI	**Loei**	**8.63**	**66**	P	Pn	08 53 36.8	+5.8
59nm,0.7s,1μm0.2nm							
VIS	**Vishakhapatnam**	**10.02**	**293**	*e*P	**Pn**	**08 53 51.2**	**+1.1**
VIS				*ex*	x	08 55 30.9	
KULM	**Kulim**	**11.50**	**139**	*e*Pn	**Pn**	**08 54 12.4**	**+2.1**
PANO	**Nakornpanom**	**11.57**	**73**	P	Pn	08 54 25.2	+14
BOK	**Bokaro**	**11.81**	**326**	*e*P	**Pn**	**08 54 13.2**	**-1.3**
UBPT	**Khong Chiam**	**12.09**	**83**	P	**Pn**	**08 54 20.7**	**+2.3**
45nm,1.0s,15μm							
PSI	**Prapat**	**12.61**	**152**	Pn	Pn	08 54 30.8	+5.2
PSI	**Prapat**	**12.61**	**152**	Pn	Pn	08 54 30.8	+5.2
0.2nm,0.3s,baz=328,slow=10,SNR=9.3							
PSI				LR	LR	08 59 51.2	
comp=Z,346nm,20.4s,baz=186,slow=40							
ODAN	**Odare**	**13.79**	**338**	*e*P	**Pn**	**08 54 39.5**	**-2.3**
117nm,0.5s							
ODAN				*e*S	Sn	08 56 59.4	-15
PALK	**Pallekele**	**13.87**	**242**	*e*Pn	**Pn**	**08 54 42.3**	**-0.4**
PALK				*e*Sn	Sn	08 57 05.8	-10
TAPN	**Taplejung**	**14.13**	**340**	*e*P	**Pn**	**08 54 44.0**	**-2.5**
108nm,0.7s							
RAMN	**Ramite**	**14.17**	**336**	*e*P	**Pn**	**08 54 44.2**	**-2.8**
150nm,0.7s							
KMI	**Kunming**	**14.30**	**38**	P	**P**	**08 54 55.1**	**-0.4**
KMI				S	S	08 57 37.5	-8.5
KMI				LR	LR		
comp=N,570nm,13.0s							
KMI				LR	LR		
comp=E,350nm,13.2s							
KMI				LR	LR		
comp=Z,480nm,16.2s							
HYB	**Hyderabad**	**14.34**	**285**	*i* P	**P**	**08 54 55.0**	**-0.8**
HYB				*e*S	**Sn**	**08 57 28.0**	**+1.0**
JIRN	**Jiri**	**14.96**	**336**	*e*P	**Pn**	**08 54 55.6**	**-2.3**
comp=Z,129nm,0.7s							
NGP	**Nagpur**	**15.08**	**300**	*ex*	**Pn**	**08 54 55.5**	**-3.6**
NGP				*ex*	x	08 57 33.1	
PKI	**Pulchoki**	**15.21**	**333**	*e*P	**Pn**	**08 54 58.4**	**-2.7**
comp=Z,73nm,0.5s							
PKIN	**Phulchoki**	**15.22**	**333**	*e*P	**Pn**	**08 54 58.8**	**-2.4**
comp=Z,105nm,0.6s							
GUN	**Gumba**	**15.31**	**335**	*e*P	**Pn**	**08 55 00.0**	**-2.4**
DMN	**Daman**	**15.38**	**333**	*e*P	**Pn**	**08 55 00.1**	**-3.1**
comp=Z,68nm,0.6s							
LSA	**Lhasa**	**15.66**	**354**	P	**P**	**08 55 09.3**	**-1.6**
LSA				pmax	pmax		
comp=Z,10.0nm,0.6s							
LSA	**Lhasa**	**15.66**	**354**	*e*P	**Pn**	**08 55 06.6**	**-0.5**
comp=Z,25nm,0.6s							
KOLN	**Koldanda**	**16.23**	**329**	*e*P	**Pn**	**08 55 11.9**	**-2.2**
comp=Z,135nm,0.7s							
LATR	**Latur**	**16.40**	**288**	*ex*	P	08 55 24.1	+5.4
comp=Z,33nm,0.7s							
LATR				*ex*	x	08 57 58.0	
DANN	**Dangsing**	**16.63**	**330**	*e*P	**Pn**	**08 55 16.7**	**-2.6**
comp=Z,65nm,0.5s							
QIZ	**Qiongzhong**	**16.85**	**71**	P	**P**	**08 55 23.2**	**-0.5**
QIZ				S	**Sn**	**08 58 27.3**	**-0.9**
QIZ				pmax	pmax		
comp=Z,100nm,4.5s							
QIZ				LR	LR		
comp=N,440nm,18.2s							
QIZ				LR	LR		
comp=Z,470nm,15.9s							
BHPL	**Bhopal**	**17.37**	**304**	*e*P	**P**	**08 55 28.7**	**-0.7**
GYA	**Guiyang**	**17.75**	**44**	*e*P	**P**	**08 55 34.6**	**+0.9**
GYA				pP	**pP**	**08 55 42.5**	**0.0**
GYA				PP	**PnPn**	**08 55 49.8**	**+5.7**
GYA				S	**Sn**	**08 58 47.0**	**-3.0**
GYA				sS	**S**	**08 59 01.4**	**+5.1**
GYA				SS	**SnSn**	**08 59 11.7**	**+7.9**
GYA				pmax	pmax		
comp=Z,10.0nm,0.7s							
GYA				pmax	pmax		
comp=Z,90nm,4.7s							
GYA				LR	LR		
comp=N,450nm,14.2s							
GYA				LR	LR		
comp=E,390nm,15.1s							
GYA				LR	LR		
comp=Z,450nm,14.8s							
POO	**Poona**	**18.94**	**286**	*ex*	x	08 56 01.0	
comp=Z,20nm,1.0s							
CD2	**Chengdu**	**19.46**	**29**	*e*P	**Pn**	**08 55 53.3**	**-0.4**
CD2				pP	**pP**	**08 56 01.9**	**+0.7**
CD2				sP	**sP**	**08 56 06.6**	**+1.1**
CD2				PP	**PnPn**	**08 56 11.4**	**+3.9**
CD2				S	**S**	**08 59 25.3**	**-5.2**
CD2				pmax	pmax		
comp=Z,30nm,1.2s							
CD2				pmax	pmax		
comp=Z,120nm,4.8s							
CD2				LR	LR		
comp=N,380nm,15.4s							
CD2				LR	LR		
comp=E,430nm,14.2s							
CD2				LR	LR		
comp=Z,230nm,16.7s							
ENH	**Enshi**	**22.14**	**41**	*e*P	**P**	**08 56 19.3**	**-2.1**
comp=Z,13nm,0.6s							
SMLA	**Simla**	**22.39**	**322**	*e*P	**P**	**08 56 25.9**	**+2.0**
DHRM	**DHARAMSHALA**	**23.70**	**323**	*e*P	**P**	**08 56 37.7**	**+0.1**
LZH	**Lanzhou**	**23.98**	**22**	*e*P	**P**	**08 56 40.2**	**+0.1**
LZH				pP	**pP**	**08 56 48.8**	**-0.9**
LZH				sP	**sP**	**08 56 53.2**	**-0.6**
LZH				PP	**PnPn**	**08 57 14.0**	**+4.5**
LZH				*e*S	**S**	**09 00 52.0**	**-2.9**
LZH				SS	**SnSn**	**09 01 44.2**	**+7.4**
LZH				pmax	pmax		
comp=Z,18nm,1.0s							
LZH				pmax	pmax		
comp=Z,110nm,4.0s							
LZH				LR	LR		
comp=N,440nm,13.6s							
LZH				LR	LR		
comp=E,430nm,14.0s							
LZH				LR	LR		
comp=Z,530nm,14.5s							
XAN	**Xi'an**	**24.56**	**33**	P	**P**	**08 56 45.5**	**+0.3**
XAN				pP	**pP**	**08 56 54.2**	**-0.7**
XAN				sP	**sP**	**08 56 58.5**	**-0.5**
XAN				S	**S**	**09 01 08.4**	**+4.4**
XAN				pmax	pmax		
comp=Z,3.0nm,1.0s							
XAN				pmax	pmax		
comp=Z,24nm,4.8s							
XAN				LR	LR		
comp=N,160nm,13.4s							
XAN				LR	LR		
comp=Z,65nm,16.3s							
GTA	**Gaotai**	**25.95**	**12**	⇓P	P	08 57 06.8	+8.9
GTA				pP	pP	08 57 14.6	+7.0
GTA				sP	sP	08 57 17.8	+6.1
GTA				pmax	pmax		
comp=Z,15nm,0.7s							
GTA	**Gaotai**	**25.95**	**12**	*e*P	**P**	**08 56 59.5**	**+1.6**
GTA				pP	**pP**	**08 57 10.0**	**+2.4**
GTA				sP	**sP**	**08 57 13.2**	**+1.5**
GTA				PcP	**PcP**	**09 00 26.9**	**+0.9**
GTA				S	**S**	**09 01 26.1**	**-0.1**
GTA				sS	**sS**	**09 01 39.8**	**-2.4**
GTA				SS	**SnSn**	**09 02 32.5**	**+7.7**
GTA				pmax	pmax		
comp=Z,4.0nm,0.8s							
GTA				pmax	pmax		
comp=Z,79nm,5.7s							
GTA				LR	LR		
comp=N,140nm,17.1s							
GTA				LR	LR		
comp=E,110nm,17.1s							
GTA				LR	LR		
comp=Z,150nm,15.7s							
KSH	**Kashi**	**29.47**	**333**	*e*P	**P**	**08 57 27.1**	**-2.3**
KSH				sP	**sP**	**08 57 41.1**	**-2.1**
KSH				PP	**PnPn**	**08 58 23.1**	**-1.2**
KSH				S	S	09 02 13.6	-8.1
KSH				sS	sS	09 02 29.6	-8.2
KSH				SS	**SnSn**	**09 03 46.1**	**-4.5**
KSH				pmax	pmax		
comp=Z,4.0nm,0.5s							
KSH				pmax	pmax		
comp=Z,90nm,5.8s							
KSH				LR	LR		
comp=N,310nm,14.1s							
KSH				LR	LR		
comp=E,440nm,17.3s							
KSH				LR	LR		
comp=Z,74nm,7.6s							
WMQ	**Urumqi**	**30.01**	**352**	*e*P	**P**	**08 57 36.7**	**+2.6**
WMQ				pP	**pP**	**08 57 47.0**	**+3.2**
WMQ				PP	**PnPn**	**08 58 34.2**	**+2.7**
WMQ				S	**S**	**09 02 30.2**	**+0.2**
WMQ				sS	**sS**	**09 02 46.5**	**+0.5**
WMQ				pmax	pmax		
comp=Z,5.0nm,0.7s							
WMQ				pmax	pmax		
comp=Z,120nm,4.0s							
WMQ				LR	LR		
comp=N,79nm,26.0s							
WMQ				LR	LR		
comp=E,190nm,27.0s							
WMQ				LR	LR		
comp=Z,94nm,22.0s							
HHC	**Hu-ho-hao-te**	**31.21**	**28**	*e*P	**P**	**08 57 44.4**	**-0.3**
HHC				pP	**pP**	**08 57 53.9**	**-0.6**
HHC				sP	**sP**	**08 57 57.9**	**-0.7**
HHC				PP	**PnPn**	**08 58 47.6**	**+0.3**
HHC				S	**S**	**09 02 47.1**	**-1.8**
HHC				sS	**sS**	**09 03 03.1**	**-1.9**
HHC				PcS	**PcS**	**09 04 21.8**	**-1.5**
HHC				ScS	**ScS**	**09 08 13.7**	**-3.3**
HHC				pmax	pmax		
comp=Z,29nm,0.6s							
HHC				pmax	pmax		
comp=Z,250nm,5.1s							
HHC				LR	LR		
comp=N,330nm,13.2s							
HHC				LR	LR		
comp=E,470nm,13.3s							
HHC				LR	LR		
comp=Z,340nm,13.6s							
AAK	**Ala-Archa**	**32.66**	**334**	P	**P**	**08 57 56.9**	**-0.7**
AAK	**Ala-Archa**	**32.66**	**334**	P	**P**	**08 57 56.9**	**-0.7**
comp=Z,1.6nm,0.3s,baz=187,slow=6.6,SNR=2.5							
BJI	**Beijing**	**32.89**	**34**	P	**P**	**08 58 00.5**	**+1.2**
BJI				S	**S**	**09 03 16.7**	**+1.9**
BJI				pmax	pmax		
comp=Z,12nm,0.7s							
BJI				LR	LR		
comp=N,300nm,16.9s							
BJI				LR	LR		
comp=E,170nm,23.3s							
BJI				LR	LR		
comp=Z,160nm,22.7s							
EKS2	**Erkin-Say**	**32.99**	**333**	*e*P	**P**	**08 58 01.7**	**+1.3**
comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**33.86**	**347**	*e*P	**P**	**08 58 07.9**	**+0.1**
MKAR	**Makanchi Array**	**33.86**	**347**	P	**P**	**08 58 07.8**	**+0.1**
comp=Z,2.3nm,0.5s,baz=168,slow=8.7,SNR=26							
KKAR	**Karatay Array**	**34.83**	**331**	*e*P	**P**	**08 58 16.3**	**+0.1**
comp=Z,2.1nm,0.6s							
SONM	**Songino Array**	**35.46**	**16**	P	**P**	**08 58 22.1**	**+0.4**
SONM				PcP	**PcP**	**09 00 52.1**	**+1.2**
SONM	**Songino Array**	**35.46**	**16**	P	**P**	**08 58 22.1**	**+0.4**
comp=Z,4.8nm,1.1s,baz=201,slow=5.2,SNR=15							
SONM				PcP	**PcP**	**09 00 52.1**	**+1.2**
comp=Z,0.6nm,0.6s,baz=191,slow=4.0,SNR=2.5							
KURBB	**Kurchatov Arra**	**38.33**	**345**	P	**P**	**08 58 45.6**	**-0.2**
comp=Z,4.2nm,0.6s,baz=161,slow=7.9,SNR=34							
KURK	**Kurchatov**	**38.39**	**345**	P	**P**	**08 58 45.6**	**-0.8**
KSAR	**Wonju Array Be**	**38.74**	**47**	P	**P**	**08 58 49.8**	**+0.3**
KSRS	**Korea Array**	**38.77**	**47**	P	**P**	**08 58 49.8**	**0.0**
comp=Z,0.5nm,0.4s,baz=241,slow=8.8,SNR=3.9							
KSRS				LR	LR	09 15 38.8	
comp=Z,244nm,18.4s,baz=210,slow=38							
JNU	**Nakatsue**	**39.25**	**54**	LR	LR	09 15 01.3	
comp=Z,252nm,19.2s,baz=56,slow=36							
ZALV	**Zalesovo Beam**	**40.32**	**352**	P	**P**	**08 59 01.4**	**-1.1**
ZALV	**Zalesovo Beam**	**40.32**	**352**	P	**P**	**08 59 01.4**	**-1.1**
comp=Z,2.8nm,0.7s,baz=175,slow=8.2,SNR=14							
CN2	**Changchun**	**40.56**	**37**	*e*P	**P**	**08 59 04.2**	**-0.5**
CN2				*e*pP	**pP**	**08 59 14.0**	**-0.6**
MDJ	**Mudanjiang**	**43.48**	**38**	P	**P**	**08 59 28.9**	**+0.5**
MDJ				pP	**pP**	**08 59 37.8**	**-0.6**
MDJ				sP	**sP**	**08 59 41.6**	**-0.8**
MDJ				PP	**PP**	**09 01 09.3**	**-0.5**
MDJ				PcP	**PcP**	**09 01 16.6**	**+0.5**
MDJ				ScP	**ScP**	**09 05 06.4**	**+1.2**
MDJ				S	**S**	**09 05 55.6**	**+0.8**
MDJ				sS	**sS**	**09 06 11.8**	**+0.6**
MDJ				SS	**SS**	**09 09 10.7**	**+0.9**
MDJ				ScS	**ScS**	**09 09 25.5**	**-0.2**
MDJ				pmax	pmax		
comp=Z,5.0nm,0.7s							
MDJ				pmax	pmax		
comp=Z,45nm,4.2s							
MDJ				LR	LR		
comp=N,120nm,25.6s							
MDJ				LR	LR		
comp=E,160nm,25.6s							
MDJ				LR	LR		
comp=Z,230nm,15.8s							
ABKAR	**Akbulak array**	**44.35**	**329**	*e*P	**P**	**08 59 35.5**	**+0.1**
comp=Z,8.1nm,0.7s							
USRK	**Ussuriysk Arra**	**44.73**	**40**	P	**P**	**08 59 37.1**	**-1.3**
comp=Z,0.7nm,0.6s,baz=244,slow=6.6,SNR=2.6							
FITZ	**Fitzroy Crossi**	**45.33**	**134**	P	**P**	**08 59 42.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**45.33**	**134**	P	**P**	**08 59 42.0**	**-1.6**
comp=Z,12nm,0.5s,baz=330,slow=6.9,SNR=98							
AKTO	**Aktyubinsk**	**46.07**	**329**	P	**P**	**08 59 48.6**	**-0.4**
AKTO	**Aktyubinsk**	**46.07**	**329**	P	**P**	**08 59 48.6**	**-0.4**
baz=128,slow=12							
AKTO				LR	LR	09 23 32.9	
comp=Z,86nm,19.9s,baz=273,slow=42							
GNI	**Garni**	**49.47**	**311**	P	**P**	**09 00 17.0**	**+1.3**
GNI	**Garni**	**49.47**	**311**	P	**P**	**09 00 17.0**	**+1.3**
comp=Z,3.0nm,0.4s,baz=90,slow=9.1,SNR=2.4							
KBZ	**Khabaz**	**51.89**	**315**	P	**P**	**09 00 33.4**	**-0.3**
KBZ	**Khabaz**	**51.89**	**315**	P	**P**	**09 00 33.4**	**-0.3**
comp=Z,1.2nm,0.6s,baz=107,slow=6.9,SNR=3.7							
WRA	**Warramunga Arr**	**52.84**	**129**	P	**P**	**09 00 39.6**	**-1.5**
WRA				PcP	**PcP**	**09 01 49.9**	**-0.3**
WRA	**Warramunga Arr**	**52.84**	**129**	P	**P**	**09 00 39.6**	**-1.5**
comp=Z,4.9nm,0.5s,baz=312,slow=8.3,SNR=121							
WRA				PcP	**PcP**	**09 01 49.9**	**-0.3**
comp=Z,2.9nm,0.7s,baz=322,slow=3.0,SNR=5.9							
WRAB	**Tennant Creek**	**52.85**	**129**	*e*P	**P**	**09 00 39.6**	**-1.5**
comp=Z,11nm,1.0s							
ASF	**Jabal al Asfar**	**54.09**	**300**	LR	LR	09 27 45.9	
comp=Z,57nm,19.0s,baz=286,slow=40							
ASAR	**Alice Springs**	**54.79**	**133**	P	**P**	**09 00 54.1**	**-1.2**
ASAR				PcP	**PcP**	**09 01 56.9**	**-0.7**
ASAR				ScP	**ScP**	**09 05 50.6**	**-3.1**
ASAR				S	**S**	**09 08 31.4**	**-2.8**
ASAR	**Alice Springs**	**54.79**	**133**	P	**P**	**09 00 54.1**	**-1.2**
comp=Z,7.4nm,0.6s,baz=308,slow=6.5,SNR=157							
ASAR				PcP	**PcP**	**09 01 56.9**	**-0.7**
comp=Z,0.9nm,0.7s,baz=311,slow=4.0,SNR=4.4							
ASAR				ScP	**ScP**	**09 05 50.6**	**-3.1**
comp=Z,0.6nm,0.8s,baz=315,slow=4.2,SNR=5.6							
ASAR				S	**S**	**09 08 31.4**	**-2.8**
comp=Z,0.9nm,0.8s,baz=303,slow=12,SNR=9.5							
ASAR				LR	LR	09 28 53.3	
comp=Z,84nm,18.8s,baz=205,slow=41							
BR131	**Keskin Array S**	**57.68**	**308**	*e*P	**P**	**09 01 15.2**	**-0.7**
comp=Z,4.9nm,0.8s							
BRTR	**Keskin Array B**	**57.68**	**308**	P	**P**	**09 01 15.2**	**-0.7**
BRTR	**Keskin Array B**	**57.68**	**308**	P	**P**	**09 01 15.2**	**-0.7**
comp=Z,5.1nm,0.8s,baz=119,slow=7.7,SNR=26							
BRTR				LR	LR	09 29 25.6	
comp=Z,71nm,20.6s,baz=108,slow=40							
PETK	**Petropavlovsk-**	**63.71**	**37**	LR	LR	09 32 42.1	
comp=Z,55nm,18.7s,baz=82,slow=39							
STKA	**Stephens Creek**	**65.19**	**135**	*e*P	**P**	**09 02 05.9**	**-0.7**
comp=Z,14nm,2.1s							
STKA	**Stephens Creek**	**65.19**	**135**	P	**P**	**09 02 05.6**	**-1.0**
comp=Z,4.2nm,0.5s,baz=314,slow=5.9,SNR=21							
STKA				LR	LR	09 30 38.2	
comp=Z,118nm,20.2s,baz=24,slow=36							
FINES	**FINESS Array B**	**66.78**	**331**	P	**P**	**09 02 15.4**	**-0.9**
FINES	**FINESS Array B**	**66.78**	**331**	P	**P**	**09 02 15.4**	**-0.9**
comp=Z,2.7nm,0.7s,baz=103,slow=6.1,SNR=6.0							
CRVS	**Cervenica-Dubn**	**67.43**	**317**	*e*P	**P**	**09 02 21.0**	**+0.3**
ARCES	**ARCESS Array B**	**69.12**	**340**	P	**P**	**09 02 30.4**	**-0.5**
ARCES	**ARCESS Array B**	**69.12**	**340**	P	**P**	**09 02 30.4**	**-0.5**
comp=Z,1.4nm,0.5s,

MAW	**Mawson**	**84.34 191**	P		**P**	**09 03 57.7**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=346,slow=7.5,SNR=4.4						
IM04	**Indian Mountai**	**86.34 22**	*e*P		**P**	**09 04 06.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**88.14 283**	P		**P**	**09 04 16.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**88.14 283**	P		**P**	**09 04 16.8**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=85,slow=4.4,SNR=30						
ILAR	**Eielson Array**	**89.45 22**	P		**P**	**09 04 22.3**	**+0.6**
ILAR	**Eielson Array**	**89.45 22**	P		**P**	**09 04 22.3**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=294,slow=4.4,SNR=8.2						
PMR	**Palmer**	**90.27 25**	*e*P		**P**	**09 04 25.4**	**-0.1**
	comp=Z,4.6nm,0.7s						
EGAK	**Eagle**	**91.44 20**	*e*P		**P**	**09 04 32.0**	**+1.0**
	comp=Z,2.2nm,0.8s						
DBIC	**Dimbokro**	**96.00 278**	P		**P**	**09 04 52.8**	**-0.1**
DBIC	**Dimbokro**	**96.00 278**	P		**P**	**09 04 52.8**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=106,slow=7.3,SNR=2.1						
SNOW	**Snow King Moun**	**118.76 20**	*e*PKPdf		**PKPdf**	**09 10 14.0**	**+0.2**
PDAR	**Pinedale Array**	**119.77 19**	PKP		**PKPdf**	**09 10 15.3**	**-0.4**
PDAR	**Pinedale Array**	**119.77 19**	PKP		**PKPdf**	**09 10 15.3**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=76,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**120.10 28**	PKP		**PKPdf**	**09 10 17.1**	**+0.7**
NVAR	**Mina Array Bea**	**120.10 28**	PKP		**PKPdf**	**09 10 17.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=318,slow=1.2,SNR=3.9						
ECSD	**EROS Data Cent**	**121.82 8**	*e*PKPdf		**PKPdf**	**09 10 18.3**	**-1.1**
MVU	**Marysvale**	**122.62 23**	*e*PKPdf		**PKPdf**	**09 10 20.9**	**-0.4**
MSU	**Marysvale**	**122.62 23**	*e*PKPdf		**PKPdf**	**09 10 22.5**	**+1.2**
TXAR	**Lajitas Array**	**133.94 20**	PKP		**PKPdf**	**09 10 44.3**	**+1.3**
TXAR	**Lajitas Array**	**133.94 20**	PKP		**PKPdf**	**09 10 44.3**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=128,slow=0.3,SNR=3.9						
TEIG	**Tepich**	**145.91 2**	*e*PKPdf		**PKPdf**	**09 11 04.5**	**-0.2**
CPUP	**Villa Florida**	**149.71 242**	*e*PKPdf		**PKPdf**	**09 11 11.4**	**+0.7**
CPUP			PKPbc		**PKPbc**	**09 11 14.4**	**-0.9**
CPUP	**Villa Florida**	**149.71 242**	PKPbc		**PKPbc**	**09 11 14.4**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=133,slow=3.2,SNR=4.8						
PLCA	**Paso Flores**	**149.80 205**	PKPbc		**PKPbc**	**09 11 15.6**	**+0.3**
PLCA	**Paso Flores**	**149.80 205**	PKPbc		**PKPbc**	**09 11 15.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=135,slow=6.4,SNR=3.3						

*IDC **11** 09:05:48.3±0.7, 55°.56S×29°.74W, h0km, mb4.1/7, mb1 4.1/8, mb1mx4.0/19, mbtmp4.0/8, ML3.1/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/19, Error ellipse: s-maj=27.1km s-min=18.4km az=67.0*
*NEIC **11** 09:05:50.1±0.6, 55°.47S×29°.70W, h10km, mb4.4/3, Error ellipse: s-maj=24.1km s-min=14.3km az=68.0*
*ISCJB **11** 09:05:51.1±0.7, 55°.5S±0°.1×29°.7W±0°.3, h28km, mb4.1/8, MS3.5/2, Error ellipse: s-maj=23.4km s-min=13.7km az=159.4*

ISC 11 09:05:52.5±0.7, 55°.5S±0°.1×29°.7W±0°.2, h28km, n28, σ1§26/26, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**18.24 156**		*e*P	**P**	**09 10 03.4**	**+0.2**
VNA2	**Neumayer--Watz**	**18.24 156**		*e*	P	09 10 10.9	+7.7
SNAA	**Sanae**	**19.82 155**		*e*P	**Pn**	**09 10 21.3**	**-0.9**
SNAA	**Sanae**	**19.82 155**		*e*	**Pn**	**09 10 24.6**	**+2.4**
SNAA	**Sanae**	**19.82 155**		*e*P	**Pn**	**09 10 21.0**	**-1.2**
SNAA	**Sanae**	**19.82 155**		P	**P**	**09 10 19.9**	**-0.7**
	0.1nm,0.3s,baz=313,slow=11,SNR=9.8						
SNAA				LR	LR	09 15 57.9	
	comp=Z,34nm,20.6s,baz=357,slow=31						
PLCA	**Paso Flores**	**30.50 282**		LR	LR	09 22 22.1	
	comp=Z,126nm,19.4s,baz=147,slow=33						
QSPA	**South Pole Qui**	**34.73 180**		*e*P	**P**	**09 12 40.3**	**+0.4**
	14nm,1.3s						
QSPA	**South Pole Qui**	**34.73 180**		P	**P**	**09 12 39.7**	**-0.2**
	3.5nm,0.6s,baz=228,slow=2.8,SNR=35						
CPUP	**Villa Florida**	**35.40 314**		P	**P**	**09 12 44.3**	**-1.4**
CPUP	**Villa Florida**	**35.40 314**		P	**P**	**09 12 44.3**	**-1.4**
	1.8nm,0.7s,baz=168,slow=14,SNR=3.1						
CPUP				LR	LR	09 25 03.5	
	comp=Z,50nm,18.1s,baz=174,slow=33						
MAW	**Mawson**	**41.42 145**		P	**P**	**09 13 34.7**	**-1.1**
MAW	**Mawson**	**41.42 145**		P	**P**	**09 13 34.7**	**-1.1**
	1.2nm,0.8s,baz=305,slow=7.8,SNR=4.2						
SBA	**Scott Base**	**46.50 185**		*e*P	**P**	**09 14 19.1**	**+2.6**
	1.1nm,0.7s						
VNDA	**Vanda**	**47.03 183**		*e*P	**P**	**09 14 21.5**	**+0.8**
	3.1nm,0.8s						
VNDA	**Vanda**	**47.03 183**		P	**P**	**09 14 20.9**	**+0.2**
	2.3nm,1.0s,baz=192,slow=5.0,SNR=7.9						
LPAZ	**La Paz**	**48.91 308**		*e*P	**P**	**09 14 37.6**	**+1.0**
LPAZ	**La Paz**	**48.91 308**		P	**P**	**09 14 37.0**	**+0.4**
	2.4nm,0.6s,baz=155,slow=8.1,SNR=14						
LBTB	**Lobatse**	**50.24 76**		P	**P**	**09 14 46.5**	**+0.4**
LBTB	**Lobatse**	**50.24 76**		P	**P**	**09 14 46.5**	**+0.4**
	2.1nm,0.7s,baz=235,slow=12,SNR=3.3						
TORD	**Torodi Ar. Bea**	**73.33 32**		P	**P**	**09 17 23.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**73.33 32**		P	**P**	**09 17 23.1**	**+1.7**
	0.5nm,0.6s,baz=199,slow=6.6,SNR=7.8						
INK	**Inuvik**	**144.49 322**		PKP	PKPdf	09 25 29.8	+5.4
INK	**Inuvik**	**144.49 322**		PKP	PKPdf	09 25 29.8	+5.4
	3.4nm,0.8s,baz=130,slow=4.1,SNR=4.2						
ILAR	**Eielson Array**	**148.70 313**		PKPbc	**PKPbc**	**09 25 35.4**	**-0.2**
ILAR	**Eielson Array**	**148.70 313**		PKPbc	**PKPbc**	**09 25 35.4**	**-0.2**
	1.0nm,0.8s,baz=127,slow=1.6,SNR=14						
SONM	**Songino Array**	**152.12 87**		PKPbc	**PKPbc**	**09 25 44.0**	**-0.4**
SONM				PKPab	**PKPab**	**09 25 52.4**	**-1.7**
SONM	**Songino Array**	**152.12 87**		PKPbc	**PKPbc**	**09 25 44.0**	**-0.4**
	0.8nm,0.7s,baz=224,slow=3.8,SNR=5.4						
SONM				PKPab	**PKPab**	**09 25 52.4**	**-1.7**
	0.3nm,0.5s,baz=248,slow=3.9,SNR=2.6						

*ISCJB **11** 09:06:03.8±0.7, 24°.57N±0°.05×122°.57E±0°.02, h94km±7km, Error ellipse: s-maj=7.8km s-min=3.4km az=3.3*
*TAP **11** 09:06:03.5, 24°.61N×122°.55E, h102km, ML3.4, C*
*JMA **11** 09:06:04.0±0.2, 24°.67N×122°.60E, h96km±1km, M2.4*

ISC 11 09:06:04.1±1.7, 24°.56N±0°.06×122°.56E±0°.03, h95km±12km, n27, σ0§50/49, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42 104**		P	**Pn**	**09 06 18.9**	**+0.1**
YOJ				*e*S	**Sn**	**09 06 30.2**	**+0.5**
TWC	**Suao**	**0.65 274**		*i* P	**Pn**	**09 06 20.3**	**-0.3**
	baz=267						
TWC				S	**Sn**	**09 06 32.2**	**-0.7**
	baz=267						
TWB1	**Santiao Chiao**	**0.68 310**		P	**Pn**	**09 06 20.9**	**0.0**
	baz=307						
TWB1				*e*S	**Sn**	**09 06 32.9**	**-0.6**
	baz=307						
ENA	**Nanau**	**0.76 260**		P	**Pn**	**09 06 21.7**	**+0.1**
	baz=252						
ENA				*e*S	**Sn**	**09 06 35.0**	**+0.2**
	baz=252						
NWF	**Wu-fen Shan**	**0.87 306**		*e*P	**Pn**	**09 06 22.8**	**-0.1**
	baz=297						
NWF				*e*S	**Sn**	**09 06 36.7**	**-0.2**
	baz=297						
ENTT	**Nioudou**	**0.91 275**		P	**Pn**	**09 06 23.5**	**+0.4**
	baz=270						
ENTT				*e*S	**Sn**	**09 06 38.1**	**+0.6**
	baz=270						
TWA	**Mucha**	**0.98 295**		*e*P	**Pn**	**09 06 23.6**	**-0.4**
	baz=286						
TWA				*e*S	**Sn**	**09 06 37.8**	**-1.0**
	baz=286						
TWD	**Chiawan**	**1.00 242**		P	**Pn**	**09 06 23.8**	**-0.4**
	baz=235						
TWD				*i* S	**Sn**	**09 06 39.4**	**+0.1**
	baz=235						
HWA	**Hwalien**	**1.05 236**		*e*P	**Pn**	**09 06 24.6**	**-0.1**
	baz=229						
HWA				*e*S	**Sn**	**09 06 40.6**	**+0.4**
	baz=229						
TAP1	**Taipei**	**1.06 297**		*e*P	**Pn**	**09 06 25.1**	**+0.4**
	baz=287						
TAP1				*e*S	**Sn**	**09 06 40.9**	**+0.6**
	baz=287						
IRIF	**Iriomote-Funau**	**1.09 102**		P	**Pn**	**09 06 25.1**	**0.0**
IRIF				*e*S	**Sn**	**09 06 41.0**	**0.0**
NNS	**Nan Shan**	**1.09 264**		P	**Pn**	**09 06 25.4**	**+0.1**
	baz=255						
NNS				*e*S	**Sn**	**09 06 41.2**	**-0.1**
	baz=255						
NSK	**Sanguang**	**1.10 276**		P	**Pn**	**09 06 25.6**	**+0.2**
	baz=268						
NSK				*e*S	**Sn**	**09 06 41.3**	**0.0**
	baz=268						
TWY	**Chenhua**	**1.12 309**		*e*P	**Pn**	**09 06 25.8**	**+0.2**
	baz=299						
TWY				*e*S	**Sn**	**09 06 41.9**	**+0.2**
	baz=299						
HATJ	**Hateruma jima**	**1.24 114**		P	**Pn**	**09 06 27.3**	**+0.4**
HATJ				*e*S	**Sn**	**09 06 44.7**	**+0.6**
WHF	**Hehuan Shan**	**1.25 251**		⇓*i*P	**Pn**	**09 06 27.5**	**0.0**
	baz=248						
WHF				S	**Sn**	**09 06 45.1**	**-0.1**
	baz=248						
ESL	**Shilin**	**1.27 234**		*e*P	**Pn**	**09 06 26.7**	**-0.7**
	baz=228						
ESL				*e*S	**Sn**	**09 06 44.0**	**-0.9**
	baz=228						
TWT	**Tachien**	**1.30 257**		*e*P	**Pn**	**09 06 28.6**	**+0.7**
	baz=254						
TWT				*e*S	**Sn**	**09 06 46.8**	**+1.1**
	baz=254						
JKRS	**Kuro-shima**	**1.36 104**		P	**Pn**	**09 06 28.7**	**+0.4**
JKRS				*e*S	**Sn**	**09 06 47.2**	**+0.5**
JIJ	**Ishigaki jima**	**1.45 98**		P	**Pn**	**09 06 29.4**	**-0.1**
JIJ				*e*S	**Sn**	**09 06 47.8**	**-1.0**
HSN	**Hsinchu**	**1.47 280**		*e*P	**Pn**	**09 06 29.6**	**-0.1**
	baz=279						
HSN				*e*S	**Sn**	**09 06 48.7**	**-0.3**
	baz=279						
EHY	**Hungye**	**1.55 227**		*e*P	**Pn**	**09 06 30.1**	**-0.6**
	baz=233						
SMLT	**Sun Moon Lake**	**1.66 246**		*e*P	**Pn**	**09 06 32.9**	**+0.6**
	baz=239						
TWF1	**Yuli**	**1.67 224**		*e*P	**Pn**	**09 06 31.9**	**-0.4**
	baz=230						
TYC	**Yuchr**	**1.69 247**		*e*P	**Pn**	**09 06 33.2**	**+0.7**
	baz=241						
JTJ	**Tarama**	**1.95 87**		P	**Pn**	**09 06 36.1**	**+0.3**
JTJ				*e*S	**Sn**	**09 06 59.7**	**-0.3**
JOGS	**Gusukube**	**2.59 85**		*e*S	**Sn**	**09 07 14.5**	**-0.7**

*NIED **11** 09:09:00, 34°.80N×138°.50E, h14km, Mw4.2 Best double couple: M0=2.08000×10^15 NP1:φs107.00000°, δ66.00000°, λ106.00000°. NP2:φs252.00000°, δ29.00000°, λ59.00000°.*
*IDC **11** 09:09:38.7±0.7, 34°.68N×138°.53E, h0km, mb4.0/20, mb1 4.1/21, mb1mx4.1/32, mbtmp4.0/21, ML3.4/2, Error ellipse: s-maj=18.5km s-min=16.4km az=60.0*
*MOS **11** 09:09:41.9±0.9, 34°.73N×138°.53E, h33km, mb4.4/19, Error ellipse: s-maj=12.6km s-min=7.8km az=99.2*
*ISCJB **11** 09:09:41.8±0.3, 34°.68N±0°.04×138°.52E±0°.03, h23km, mb4.2/31, Error ellipse: s-maj=5.6km s-min=3.9km az=9.7*
*JMA **11** 09:09:43.2±0.1, 34°.82N×138°.53E, h20km±2km, M4.4 Broadband fault plane solution: P waves. NP1: φs102.00000°, δ58.00000°, λ97.00000°. NP2: φs269.00000°, δ33.00000°, λ79.00000°. Principal axes: T Plg76.0000°, Azm32.0000°; N Plg6.0000°, Azm278.0000°; P Plg13.0000°, Azm187.0000°;*
JMA Felt II J1.
*NEIC **11** 09:09:44.6±1.0, 34°.72N×138°.55E, h39km±9km, mb4.3/4 Error ellipse: s-maj=9.2km s-min=7.4km az=141.0*
NEIC Recorded [2 JMA] in Kanagawa, Shizuoka, Tokyo and Yamanashi and [1 JMA] in Gifu, Gumma, Nagano and Saitama.

ISC 11 09:09:42.8±0.4, 34°.82N±0°.04×138°.55E±0°.03, h23km, n86, σ1§07/96, mb4.2/31, 3C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**0.29 111**		P	**Pb**	**09 09 49.6**	**0.0**
JIZS				S	**Sb**	**09 09 54.3**	**+0.1**
JSG	**Sagara**	**0.33 243**		⇓P	**Pb**	**09 09 50.3**	**+0.1**
JSG				S	**Sb**	**09 09 56.2**	**+1.0**
SHZ3	**Shizuoka 3**	**0.37 311**		⇓P	**Pb**	**09 09 50.7**	**-0.1**
SHZ3				S	**Sb**	**09 09 56.4**	**+0.2**
KTJJ	**Kamata 2**	**0.44 77**		⇓P	**Pb**	**09 09 52.4**	**+0.5**
JYN	**Shimob**	**0.67 360**		⇓P	**Pb**	**09 09 55.8**	**-0.2**
TK04	**Tokai 4**	**0.70 232**		P	**Pb**	**09 09 55.8**	**-0.6**
JIM2	**Oshima 3**	**0.74 98**		P	**Pn**	**09 09 57.7**	**-0.1**
JMY	**Miyakejima3**	**1.10 133**		P	**Pb**	**09 10 03.0**	**-0.1**
MAT	**Matsushiro**	**1.74 351**		P	**Pb**	**09 10 13.1**	**-0.9**
MAT				S	**Sb**	**09 10 36.2**	**+0.8**
JNU	**Nakatsue**	**6.59 257**		Pn	**Pn**	**09 11 20.0**	**+1.6**
JNU				Lg	Lg	09 13 09.9	
JNU	**Nakatsue**	**6.59 257**		Pn	**Pn**	**09 11 20.0**	**+1.6**
	0.9nm,0.3s,baz=96,slow=10,SNR=7.8						
JNU				Lg	Lg	09 13 09.9	
	baz=174,slow=18,SNR=1.2						
ERM	**Erimo**	**8.04 25**		*ce*P	**Pn**	**09 11 39.4**	**+1.3**
ERM				pmax	pmax		
	comp=Z,12nm,1.3s						
KSRS	**Korea Array**	**8.98 290**		Pn	**Pn**	**09 11 52.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=93,slow=14,SNR=2.6						
KSRS				Sn	**Sn**	**09 13 34.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=103,slow=24,SNR=3.0						
KSAR	**Wonju Array Be**	**9.01 290**		Pn	**Pn**	**09 11 52.6**	**+1.1**
KSAR				Sn	**Sn**	**09 13 34.0**	**+1.7**
ASAJ	**Asahikawa**	**9.79 17**		Pn	**Pn**	**09 12 03.6**	**+1.4**
ASAJ	**Asahikawa**	**9.79 17**		Pn	**Pn**	**09 12 03.6**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=226,slow=16,SNR=5.5						
USRK	**Ussuriysk Arra**	**10.64 334**		Pn	Pn	09 12 18.2	+4.5
	comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=9.6						
YUK	**Yuzh-Kuril'sk**	**10.79 29**		*d i* P	**Pn**	**09 12 16.9**	**+1.0**
YUK				pmax	pmax		
	comp=N,36nm,0.5s						
YUK				pmax	pmax		
	comp=E,86nm,0.5s						
YUK				pmax	pmax		
	comp=Z,141nm,0.5s						
YSS	**Yuzh-Sakhalins**	**12.53 13**		⇑*e*P	**Pn**	**09 12 41.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
KLR	**Kul'dur**	**15.24 343**		*e*P	**Pn**	**09 13 14.0**	**-2.5**
KLR				MLR	MLR		
	comp=Z,600nm,14.0s						
PETK	**Petropavlovsk-**	**22.77 31**		P	**P**	**09 14 43.9**	**+0.5**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK	**Petropavlovsk-**	**22.77 31**		P	**P**	**09 14 43.9**	**+0.5**
PETK	**Petropavlovsk-**	**22.77 31**		P	**P**	**09 14 43.9**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=208,slow=11,SNR=2.8						
SONM	**Songino Array**	**27.20 308**		P	**P**	**09 15 23.7**	**-1.2**
SONM	**Songino Array**	**27.20 308**		P	**P**	**09 15 23.7**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=116,slow=10,SNR=4.2						
TIXI	**Tiksi**	**37.24 355**		*e*P	**P**	**09 16 52.2**	**0.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.73 314**		P	**P**	**09 17 30.2**	**+0.3**
ZALV						09 19 24.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**41.73 314**		P	**P**	**09 17 30.2**	**+0.3**
ZALV				PcP	**PcP**	**09 19 24.5**	**-1.4**
ZALV	**Zalesovo Beam**	**41.73 314**		P	**P**	**09 17 30.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=95,slow=10,SNR=3.1						
ZALV				PcP	**PcP**	**09 19 24.5**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=129,slow=2.0,SNR=2.5						
MKAR	**Makanchi Array**	**43.36 304**		*ce*P	**P**	**09 17 43.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.36 304**		P	**P**	**09 17 43.3**	**0.0**
MKAR	**Makanchi Array**	**43.36 304**		P	**P**	**09 17 43.3**	**0.0**
	comp=Z,1.0nm,0.6s,baz=89,slow=11,SNR=9.6						
KURK	**Kurchatov**	**45.50 310**		P	**P**	**09 18 00.7**	**+0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**45.50 310**		P	**P**	**09 18 00.7**	**+0.5**
KURBB	**Kurchatov Arra**	**45.56 309**		P	**P**	**09 18 00.7**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=85,slow=8.1,SNR=20						
BVAR	**Borovoye Array**	**50.36 313**		P	**P**	**09 18 37.8**	**0.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**50.36 313**		P	**P**	**09 18 37.8**	**0.0**
BVAR	**Borovoye Array**	**50.36 313**		P	**P**	**09 18 37.8**	**0.0**
	comp=Z,1.8nm,0.6s,baz=101,slow=7.7,SNR=9.4						
BRVK	**Borovoye**	**50.42 313**		*e*P	**P**	**09 18 38.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	**Karatay Array**	**52.23 301**		*e*P	**P**	**09 18 52.6**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	**Karatay Array**	**52.23 301**		*e*P	**P**	**09 18 52.6**	**+0.6**
	comp=Z,5.3nm,1.0s						
ILAR	**Eielson Array**	**52.59 31**		P	**P**	**09 18 54.9**	**+0.5**
ILAR	**Eielson Array**	**52.59 31**		P	**P**	**09 18 54.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=275,slow=5.5,SNR=6.5						
WRAB	**Tennant Creek**	**54.60 185**		*e*P	**P**	**09 19 07.6**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRAB	**Tennant Creek**	**54.60 185**		*e*P	**P**	**09 19 07.6**	**-1.9**
	comp=Z,1.9nm,0.9s						
WRA	**Warramunga Arr**	**54.61 185**		P	**P**	**09 19 07.9**	**-1.7**
WRA	**Warramunga Arr**	**54.61 185**		P	**P**	**09 19 07.9**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=1.0,slow=7.6,SNR=25						
ARU	**Arti**	**56.48 319**		*d i* P	**P**	**09 19 23.3**	**+0.6**
ARU						09 21 25.2	
ARU				S	**S**	**09 27 09.5**	**-2.9**
ARU				SS	**SS**	**09 30 54.8**	**-4.4**
ARU				pmax	pmax		
	comp=Z,18nm,1.7s						
HYT	**Haines Junctio**	**57.45 35**		*e*P	**P**	**09 19 29.8**	**+0.1**
ABKAR	**Akbulak array**	**57.59 310**		*e*P	**P**	**09 19 30.4**	**-0.3**
	comp=Z,5.3nm,0.6s						
ASAR	**Alice Springs**	**58.34 185**		P	**P**	**09 19 34.9**	**-1.2**
ASAR	**Alice Springs**	**58.34 185**		P	**P**	**09 19 34.9**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=13,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**58.42 312**		P	**P**	**09 19 36.7**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**58.42 312**		P	**P**	**09 19 36.7**	**+0.2**
AKTO	**Aktyubinsk**	**58.42 312**		P	**P**	**09 19 36.7**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=84,slow=11,SNR=16						
SPITS	**Spitsbergen Ar**	**62.23 349**		P	**P**	**09 20 03.8**	**+1.7**
SPITS	**Spitsbergen Ar**	**62.23 349**		P	**P**	**09 20 03.8**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=82,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**65.23 339**		P	**P**	**09 20 22.4**	**+0.4**
ARCES	**ARCESS Array B**	**65.23 339**		P	**P**	**09 20 22.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=68,slow=8.0,SNR=7.3						
VSR	**Storozhevoye**	**69.04 318**		*e*P	**P**	**09 20 46.0**	**-0.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.5s						
VORD	**Divnogorie**	**69.10 318**		*e*P	**P**	**09 20 47.4**	**+0.6**
VORD				pmax	pmax		
	comp=N,20nm,0.5s						
VORD				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VORD				pmax	pmax		
	comp=E,4.0nm,0.3s						
KAF	**Kangasniemi**	**69.19 332**		*e*P	**P**	**09 20 46.5**	**-0.7**
KAF	**Kangasniemi**	**69.19 332**		*e*p	**P**	**09 20 46.5**	**-0.7**
FINES	**FINESS Array B**	**69.67 332**		P	**P**	**09 20 50.3**	**+0.2**
FINES	**FINESS Array B**	**69.67 332**		P	**P**	**09 20 50.3**	**+0.2**
	comp=E,2.7nm,0.6s,baz=75,slow=5.9,SNR=12						
KBZ	**Khabaz**	**70.56 310**		P	**P**	**09 20 56.8**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**70.56 310**		P	**P**	**09 20 56.8**	**+0.9**
KBZ	**Khabaz**	**70.56 310**		P	**P**	**09 20 56.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=72,slow=13,SNR=3.7						
NB2	**NORSAR Subarra**	**75.30 336**		P	**P**	**09 21 23.8**	**0.0**
	comp=Z,2.5nm,0.7s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.30 336**		P	**P**	**09 21 23.9**	**+0.1**
NOA	**NORSAR Array B**	**75.30 336**		P	**P**	**09 21 23.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=42,slow=5.7,SNR=12						
NVAR	**Mina Array Bea**	**78.18 51**		P	**P**	**09 21 40.4**	**-0.4**
NVAR	**Mina Array Bea**	**78.18 51**		P	**P**	**09 21 40.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=306,slow=5.4,SNR=6.6						
BRTR	**Keskin Array B**	**78.54 310**		P	**P**	**09 21 42.2**	**-0.3**
BRTR	**Keskin Array B**	**78.54 310**		P	**P**	**09 21 42.2**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=119,slow=1.5,SNR=3.7						
PDAR	**Pinedale Array**	**80.87 44**		P	**P**	**09 21 54.8**	**-0.5**
PDAR	**Pinedale Array**	**80.87 44**		P	**P**	**09 21 54.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=330,slow=5.0,SNR=4.3						
CLL	**Collm**	**81.82 329**		*e*P	**P**	**09 22 00.0**	**+0.2**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CLL	**Collm**	**81.82 329**		*e*P	**P**	**09 22 00.0**	**+0.2**
	comp=Z,4.0nm,0.7s						
CLL				*e*PcP	**PcP**	**09 22 05.0**	**-0.5**
SRU	**San Rafael**	**82.62 47**		*e*P	**P**	**09 22 05.7**	**+1.2**
	comp=Z,1.9nm,0.8s						
EKA	**Eskdalemuir Ar**	**84.40 339**		P	**P**	**09 22 12.8**	**-0.3**
EKA	**Eskdalemuir Ar**	**84.40 339**		P	**P**	**09 22 12.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=23,slow=4.5,SNR=3.5						
TXAR	**Lajitas Array**	**93.31 51**		P	**P**	**09 22 57.1**	**+0.9**
TXAR	**Lajitas Array**	**93.31 51**		P	**P**	**09 22

PETK	**Petropavlovsk-**	**8.29**	**24**	*e*PN	**Pn**	**09 13 02.3 +1.4**
PETK	**Petropavlovsk-**	**8.29**	**24**	P	**Pn**	**09 13 00.4 -0.5**
	comp=Z,0.4nm,0.3s,baz=178,slow=12,SNR=9.0					
PETK				LR	LR	09 16 14.8
	comp=Z,56nm,20.0s,baz=45,slow=38					
JNB	**Noboribetsu**	**8.54**	**252**	P	**Pn**	**09 13 05.6 +1.2**
JNB				*e*S	**Sn**	**09 14 36.3 -3.3**
JKB	**Kayabe**	**8.81**	**248**	P	**Pn**	**09 13 08.2 +0.1**
JKB				*e*S	**Sn**	**09 14 41.1 -5.2**
JYM2	**Yakumo 2**	**9.14**	**251**	P	**Pn**	**09 13 13.7 +1.1**
JANG	**Nango**	**9.35**	**239**	*e*S	Sn	09 14 51.1 -8.5
JTM	**Tenmabayashi**	**9.38**	**242**	*e*S	Sn	09 14 54.1 -6.1
JTH	**Tanohata**	**9.42**	**236**	*e*S	Sn	09 14 50.7 -11
JOSM	**Okushiri--Mats**	**9.75**	**253**	P	**Pn**	**09 13 19.9 -1.1**
USRK	**Ussuriysk Arra**	**14.26**	**271**	P	**Pn**	**09 14 22.5 0.0**
	comp=Z,0.3nm,0.3s,baz=80,slow=13,SNR=12					
VLA	**Vladivostok**	**14.61**	**267**	*e*P	**Pn**	**09 14 29.1 +1.7**
VLA				pmax	pmax	
	comp=Z,8.0nm,0.1s					
FX1	**Attu Island--F**	**15.52**	**55**	P	**Pn**	**09 14 38.9 -0.5**
	comp=Z,0.5nm,0.3s,baz=263,slow=19,SNR=3.1					
FX1				S	Sn	09 17 21.4 -8.9
	comp=Z,0.4nm,0.3s,baz=168,slow=20,SNR=2.1					
KSRS	**Korea Array**	**19.77**	**254**	P	**P**	**09 15 32.2 +1.9**
	comp=Z,0.2nm,0.3s,baz=54,slow=9.8,SNR=5.8					
YAK	**Yakutsk**	**20.82**	**330**	*e*P	Pn	09 15 44.4 +0.2
YAK				pmax	pmax	
	comp=E,15nm,0.9s					
YAK				pmax	pmax	
	comp=Z,45nm,0.9s					
YAK				pmax	pmax	
	comp=N,19nm,1.1s					
SONM	**Songino Array**	**30.98**	**291**	P	P	09 17 15.5 -2.0
	comp=N,0.3nm,0.4s,baz=64,slow=9.8,SNR=3.3					
SONM				LR	LR	09 30 14.0
	comp=N,102nm,19.0s,baz=279,slow=37					
ILAR	**Eielson Array**	**37.85**	**38**	P	**P**	**09 18 15.9 -0.5**
	comp=N,0.3nm,0.8s,baz=281,slow=9.9,SNR=6.8					
ZALV	**Zalesovo Beam**	**42.62**	**306**	PcP	**PcP**	**09 20 47.5 -0.2**
	comp=N,0.9nm,0.4s,baz=69,slow=4.8,SNR=4.0					
ZALV				LR	LR	09 37 47.3
	comp=N,105nm,18.6s,baz=160,slow=38					
INK	**Inuvik**	**42.95**	**32**	P	**P**	**09 18 58.5 0.0**
	comp=N,1.5nm,0.7s,baz=299,slow=10,SNR=2.9					
MKAR	**Makanchi Array**	**46.76**	**298**	P	P	09 19 27.2 -2.0
MKAR						09 21 01.5
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
MKAR				MLR	MLR	
	comp=Z,77nm,18.9s					
MKAR	**Makanchi Array**	**46.76**	**298**	P	P	09 19 27.2 -2.0
	comp=Z,1.3nm,0.7s,baz=72,slow=8.4,SNR=7.9					
MKAR				PcP	**PcP**	**09 21 01.5 -0.6**
	comp=Z,1.1nm,0.8s,baz=58,slow=4.3,SNR=4.8					
MKAR				LR	LR	09 40 07.3
	comp=Z,77nm,18.9s,baz=164,slow=37					
KURK	**Kurchatov**	**47.32**	**304**	P	P	09 19 30.9 -2.6
KURK						09 21 03.7
KURK				pmax	pmax	
	comp=Z,1.0nm,0.6s					
KURBB	**Kurchatov Arra**	**47.41**	**304**	P	P	09 19 30.9 -3.3
	comp=Z,1.1nm,0.6s,baz=69,slow=8.4,SNR=3.2					
KURBB				PcP	**PcP**	**09 21 03.6 -0.7**
	comp=Z,0.3nm,0.3s,baz=68,slow=3.8,SNR=4.2					
BVAR	**Borovoye Array**	**50.94**	**310**	P	P	09 19 56.8 -4.4
BVAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
BVAR	**Borovoye Array**	**50.94**	**310**	P	P	09 19 56.8 -4.4
	comp=Z,0.8nm,0.7s,baz=51,slow=11,SNR=2.7					
CMAR	**Chiang Mai Arr**	**51.38**	**256**	P	**P**	**09 20 05.7 +0.8**
	comp=Z,1.2nm,0.3s,baz=36,slow=7.8,SNR=5.4					
ARCES	**ARCESS Array B**	**58.60**	**341**	P	**P**	**09 20 55.2 -1.1**
	comp=Z,0.7nm,0.6s,baz=49,slow=6.1,SNR=3.0					
NVAR	**Mina Array Bea**	**63.60**	**61**	P	**P**	**09 21 32.1 +1.1**
	comp=Z,0.3nm,0.6s,baz=297,slow=6.0,SNR=4.7					
FINES	**FINESS Array B**	**64.67**	**335**	P	P	09 21 34.9 -2.4
	comp=Z,6.5nm,0.9s,baz=38,slow=7.0,SNR=7.1					
PDAR	**Pinedale Array**	**65.98**	**53**	P	**P**	**09 21 47.0 +0.5**
	comp=Z,0.4nm,0.8s,baz=321,slow=2.3,SNR=4.1					
WRA	**Warramunga Arr**	**67.27**	**198**	P	**P**	**09 21 55.5 +1.0**
	comp=Z,0.6nm,0.8s,baz=12,slow=6.8,SNR=2.9					
NB2	**NORSAR Subarra**	**68.97**	**341**	P	**P**	**09 22 03.7 -1.1**
	comp=Z,1.9nm,0.4s,baz=29,slow=6.5					
NOA	**NORSAR Array B**	**68.97**	**341**	P	**P**	**09 22 03.8 -1.0**
	comp=Z,2.0nm,0.5s,baz=28,slow=6.4,SNR=14					
ASAR	**Alice Springs**	**70.97**	**198**	P	**P**	**09 22 19.2 +1.8**
	comp=Z,0.3nm,0.5s,baz=12,slow=5.9,SNR=6.0					
KIV	**Kislovodsk**	**70.98**	**314**	*e*P	**P**	**09 22 18.8 +1.3**
KIV				pmax	pmax	
	comp=Z,10.0nm,0.9s					
KIV				MLR	MLR	
	comp=Z,40nm,18.0s					
KBZ	**Khabaz**	**71.04**	**314**	P	**P**	**09 22 17.6 -0.1**
KBZ				pmax	pmax	
	comp=Z,6.0nm,0.9s					
KBZ				MLR	MLR	
	comp=Z,68nm,19.3s					
KBZ	**Khabaz**	**71.04**	**314**	P	**P**	**09 22 17.6 -0.1**
	comp=Z,5.9nm,0.8s,baz=77,slow=3.5,SNR=9.0					
KBZ				LR	LR	09 58 04.0
	comp=Z,68nm,19.3s,baz=278,slow=40					
AKASG	**Malin Array Be**	**71.99**	**326**	P	**P**	**09 22 22.1 -1.2**
AKASG				pmax	pmax	
	comp=Z,3.0nm,0.5s					
AKASG	**Malin Array Be**	**71.99**	**326**	P	**P**	**09 22 22.1 -1.2**
	comp=Z,3.2nm,0.5s,baz=35,slow=6.5,SNR=2.8					
DPC	**Dobruska-Polom**	**76.92**	**333**	*i* P	**P**	**09 22 52.1 +0.1**
DPC	**Dobruska-Polom**	**76.92**	**333**	*i* P	**P**	**09 22 52.1 +0.1**
CLL	**Collm**	**77.10**	**335**	*i* P	**P**	**09 22 52.1 -0.9**
CLL				pmax	pmax	
	comp=Z,7.0nm,0.8s					
CLL	**Collm**	**77.10**	**335**	*i* P	**P**	**09 22 52.1 -0.9**
	comp=Z,7.0nm,0.8s					
CLL				*e*PP	**PP**	**09 25 46.0 0.0**
EKA	**Eskdalemuir Ar**	**77.18**	**346**	P	**P**	**09 22 52.8 -0.5**
	comp=Z,0.3nm,0.4s,baz=23,slow=5.0,SNR=3.8					
PRU	**Pruhonice**	**77.80**	**333**	*i* P	**P**	**09 22 56.9 0.0**
PRU	**Pruhonice**	**77.80**	**333**	‖ *i* P	**P**	**09 22 56.9 0.0**
BRTR	**Keskin Array B**	**78.63**	**316**	P	**P**	**09 23 02.2 +0.3**
	comp=Z,1.5nm,0.8s,baz=98,slow=4.4,SNR=4.7					
TXAR	**Lajitas Array**	**78.68**	**60**	P	**P**	**09 23 02.8 +0.6**
	comp=Z,0.9nm,0.8s,baz=300,slow=4.3,SNR=12					
TXAR				pP	pP	09 23 18.1 +6.3
	comp=Z,0.9nm,0.7s,baz=305,slow=3.1,SNR=6.4					
KHC	**Kasperske Hory**	**78.85**	**334**	*e*P	**P**	**09 23 02.5 -0.3**
KHC				*e*		09 23 10.9
KHC	**Kasperske Hory**	**78.85**	**334**	‖ *e*P	**P**	**09 23 02.5 -0.3**
KHC				*e*pP	**PcP**	**09 23 10.9 -0.6**
GERES	**GERESS Array B**	**79.06**	**333**	P	**P**	**09 23 03.5 -0.6**
	comp=Z,1.0nm,0.8s,baz=28,slow=4.4,SNR=7.5					
SFTF	**Sexfontaines**	**82.12**	**338**	*e*P	**P**	**09 23 20.1 -0.2**
FLN	**La Foliniere**	**82.91**	**342**	*e*P	**P**	**09 23 24.8 +0.4**
	comp=Z,9.5nm,0.7s					
LDF	**La Druitiere**	**82.99**	**342**	*e*P	**P**	**09 23 26.0 +1.2**
LOR	**Lormes**	**83.29**	**339**	*e*P	**P**	**09 23 26.8 +0.4**
	comp=Z,8.9nm,0.7s					
GRR	**Gorron**	**83.34**	**342**	*e*P	**P**	**09 23 27.4 +0.8**
	comp=Z,10nm,0.7s					
SSF	**Saint Saulge**	**83.57**	**339**	*e*P	**P**	**09 23 28.4 +0.5**
	comp=Z,4.6nm,0.6s					
AVF	**Avril sur Loir**	**83.86**	**339**	*e*P	**P**	**09 23 29.2 -0.1**
	comp=Z,4.3nm,0.5s					
SMF	**Signal de Mont**	**83.87**	**339**	*e*P	**P**	**09 23 29.4 0.0**
	comp=Z,6.7nm,0.7s					
LPG	**La Plagne**	**84.15**	**336**	*e*P	**P**	**09 23 31.5 +0.3**
QUIF	**Quistinic**	**84.27**	**344**	*e*P	**P**	**09 23 33.6 +2.2**
	comp=Z,41nm,1.1s					
TCF	**Toulx Ste Croi**	**84.61**	**339**	*e*P	**P**	**09 23 34.2 +1.0**
MBDF	**Montbardon**	**84.85**	**336**	*e*P	**P**	**09 23 34.9 +0.3**
MFF	**Saint Martin d**	**84.88**	**341**	*e*P	**P**	**09 23 36.2 +1.7**
ORIF	**Oris-en-Rattie**	**84.92**	**337**	*e*P	**P**	**09 23 35.9 +1.0**
	comp=Z,12nm,0.7s					
VIVF	**Saint-Julien-l**	**85.31**	**337**	*e*P	**P**	**09 23 37.9 +1.1**
CAF	**Calviac**	**85.92**	**339**	*e*P	**P**	**09 23 41.4 +1.6**
LASF	**Ste Croix**	**86.25**	**338**	*e*P	**P**	**09 23 42.8 +1.4**
	comp=Z,5.6nm,0.8s					
RPZ	**Rata Peaks**	**90.62**	**166**	LR	LR	10 01 46.5
	comp=Z,86nm,18.5s,baz=190,slow=33					

MOS ***11*** *09:17:37.7±1.4, 49°.70N×156°.88E, h5km, mb4.3/1, Error ellipse: s-maj=51.4km s-min=12.1km az=82.7*

KRSC 11 09:17:37.7±0.9**, 49°.70N×156°.88E, h5**km±5km**, ML4.2,**

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.10**	**334**	*e*PN	Pg	09 17 55.6	-3.2
SKR				*e*S	Sg	09 18 11.0	-2.0
SKR				smax	smax		
	comp=N,440nm,0.2s						
SKR				smax	smax		
	comp=E,510nm,0.2s						
SKR	**Severo-Kuril's**	**1.10**	**334**	*e*P	Pg	09 17 58.3	-0.5
SKR				*e*S	Sg	09 18 13.4	+0.4
PAU	**Pauzhetka**	**1.77**	**359**	PN	Pb	09 18 10.1	-0.5
PAU				S	Sb	09 18 33.4	+0.3
PAU	**Pauzhetka**	**1.77**	**359**	*e*P	Pb	09 18 10.1	-0.5
PAU				*e*S	Sb	09 18 33.4	+0.3
MIPR	**Malaya Ipel'ka**	**2.58**	**358**	P	Pn	09 18 21.2	+1.1
ASAK	**Asacha**	**2.76**	**13**	*e*P	Pn	09 18 24.8	+2.1
ASAK				S	Sb	09 19 00.0	-1.9
MTVR	**Mutnovka**	**2.91**	**16**	*e*P	Pn	09 18 27.0	+2.2
MTVR				*e*S	Sb	09 19 03.3	-2.8
RUS	**Russkaya**	**2.92**	**20**	PN	Pn	09 18 26.3	+1.5
RUS				S	Sn	09 19 01.8	+1.5
RUS	**Russkaya**	**2.92**	**20**	*e*P	Pn	09 18 26.3	+1.5
RUS				*e*S	Sn	09 19 01.8	+1.5
PET	**Petropavlovsk**	**3.51**	**18**	PN	Pn	09 18 35.1	+2.3
PET	**Petropavlovsk**	**3.51**	**18**	P	Pn	09 18 35.1	+2.3
SDLR	**Sedlovina**	**3.80**	**18**	*e*P	Pn	09 18 38.8	+1.8
NLC	**Nalytchevo**	**3.80**	**23**	PN	Pn	09 18 37.9	+1.0
NLC	**Nalytchevo**	**3.80**	**23**	*e*P	Pn	09 18 37.9	+1.0
NLC				*e*S	Sn	09 19 22.3	+0.4
SPN	**Mys Shipunski**	**3.93**	**29**	PN	Pn	09 18 40.8	+2.2
SPN				S	Sn	09 19 27.2	+2.1
SPN	**Mys Shipunski**	**3.93**	**29**	*e*P	Pn	09 18 40.8	+2.2
SPN				S	Sn	09 19 27.2	+2.1
GNL	**Ganaly**	**4.05**	**9**	*e*P	Pn	09 18 43.2	+2.7
MKZ	**Mys Kozlova**	**5.71**	**30**	PN	Pn	09 19 03.9	+0.9
MKZ	**Mys Kozlova**	**5.71**	**30**	P	Pn	09 19 03.9	+0.9
MKZ				S	Sn	09 20 06.2	-2.6

RSPR 11 09:31:35.0, 18°.92N×68°.54W, h104km±4km**, MD3.9**/13**, 13C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.81**	**261**	‖ *e*P	Pn	09 31 53.1	-0.8
DR12				*e*S	Sn	09 32 08.1	0.0
IMO	**Isla Mona**	**1.00**	**143**	‖ *e*P	Pn	09 31 55.1	-0.6
IMO				*e*S	Sn	09 32 10.0	-1.3
IDE	**Isla Desecheo**	**1.14**	**118**	‖ *e*P	Pn	09 31 57.4	+0.1
AGPR	**Aguadilla, PR**	**1.42**	**108**	‖ *e*P	Pn	09 32 02.0	+1.5
LSP	**Las Mesas**	**1.56**	**118**	‖ *e*P	Pn	09 32 02.9	+0.6
CRPR	**Cabo Rojo, PR**	**1.63**	**124**	‖ *e*P	Pn	09 32 03.1	0.0
AOPR	**Arecibo Observ**	**1.78**	**108**	*e*S	Sn	09 32 28.4	+0.5
AOPR	**Arecibo Observ**	**1.78**	**108**	‖ *e*P	Pn	09 32 04.4	-0.6
OBIP	**Obispado Ponce**	**2.03**	**115**	‖ *e*P	Pn	09 32 08.7	+0.5
SJG	**San Juan**	**2.40**	**109**	‖ *e*P	Pn	09 32 12.1	-0.8
CBYP	**Canovanas**	**2.62**	**104**	‖ *e*P	Pn	09 32 15.2	-0.7
CBYP	**Canovanas**	**2.62**	**104**	*e*S	Sn	09 32 47.0	-0.4
CPD	**Cerro la Pandu**	**2.64**	**109**	‖ *e*P	Pn	09 32 15.9	-0.2
CPD	**Cerro la Pandu**	**2.64**	**109**	*e*S	Sn	09 32 47.7	0.0
HUMP	**Col San Antoni**	**2.66**	**106**	‖ *e*P	Pn	09 32 15.8	-0.6
HUMP	**Col San Antoni**	**2.66**	**106**	*e*S	Sn	09 32 48.1	-0.1
MTP	**Monte Pirata**	**2.95**	**106**	‖ *e*P	Pn	09 32 19.5	-0.7
MTP	**Monte Pirata**	**2.95**	**106**	*e*S	Sn	09 32 55.7	+0.7
GRTK	**Grand Turk**	**3.55**	**317**	‖ *e*P	Pn	09 32 28.6	+0.5
GRTK	**Grand Turk**	**3.55**	**317**	*e*S	Sn	09 33 09.4	+0.1
ABV	**Anegada**	**3.99**	**92**	‖ *e*P	Pn	09 32 34.1	0.0
ABV	**Anegada**	**3.99**	**92**	*e*S	Sn	09 33 17.2	-2.7

IDC ***11*** *09:36:44.4±0.6, 59°.80S×26°.54W, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/19, Error ellipse: s-maj=21.0km s-min=14.8km az=46.0*

ISCJB ***11*** *09:36:46.4±0.5, 59°.88S±0°.09×26°.5W±0°.2, h26km, mb4.0/12, MS3.5/2, Error ellipse: s-maj=17.8km s-min=9.2km az=145.3*

ISC 11 09:36:48.2±0.6**, 59°.8S**±0°.1×**26°.5W**±0°.1**, h26**km**, n21,** σ0**.96/20, mb4.1**/12**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.19**	**153**	*e*Pn	**Pn**	**09 39 53.3**	**-0.1**
VNA2	**Neumayer--Watz**	**13.58**	**153**	*e*Pn	**Pn**	**09 39 57.2**	**-1.6**
VNA2	**Neumayer--Watz**	**13.58**	**153**	*e*Sn	Sn	09 42 15.3	-13
SNAA	**Sanae**	**15.18**	**151**	*e*Pn	**Pn**	**09 40 19.3**	**-1.2**
SNAA	**Sanae**	**15.18**	**151**	*e*Sn	Sn	09 42 57.4	-10
SNAA	**Sanae**	**15.18**	**151**	Pn	**Pn**	**09 40 19.2**	**-1.2**
	1.0nm,0.3s,baz=320,slow=14,SNR=88						
SNAA				Sn	Sn	09 42 52.7	-15
	0.1nm,0.3s,baz=342,slow=20,SNR=3.8						
SNAA				LR	LR	09 45 30.7	
	comp=Z,42nm,18.7s,baz=306,slow=35						
QSPA	**South Pole Qui**	**30.40**	**180**	P	**P**	**09 42 59.0**	**+1.1**
	1.6nm,0.6s,baz=207,slow=3.3,SNR=19						
PLCA	**Paso Flores**	**33.18**	**285**	P	**P**	**09 43 22.0**	**-0.4**
	1.4nm,0.5s,baz=156,slow=8.2,SNR=4.7						
MAW	**Mawson**	**36.93**	**140**	P	**P**	**09 43 54.4**	**+0.1**
	0.7nm,0.6s,baz=260,slow=6.1,SNR=2.2						
MAW				LR	LR	09 57 05.3	
	comp=Z,98nm,19.6s,baz=174,slow=33						
CFAA	**Coronel Fontan**	**39.49**	**297**	P	**P**	**09 44 16.0**	**-0.4**
	0.4nm,0.5s,baz=162,slow=6.9,SNR=7.2						
CPUP	**Villa Florida**	**39.65**	**314**	P	**P**	**09 44 17.6**	**0.0**
	0.6nm,0.3s,baz=124,slow=9.8,SNR=7.8						
CPUP				LR	LR	09 58 55.4	
	comp=Z,42nm,18.9s,baz=177,slow=34						
VNDA	**Vanda**	**42.79**	**183**	P	**P**	**09 44 44.4**	**+1.6**
	1.3nm,0.8s,baz=187,slow=5.8,SNR=8.5						
BOSA	**Boshof**	**46.69**	**72**	P	**P**	**09 45 15.1**	**+0.4**
	3.8nm,1.0s,baz=236,slow=2.6,SNR=6.2						
BDFB	**Brasilia**	**46.85**	**331**	P	**P**	**09 45 16.6**	**+0.7**
	2.5nm,0.6s,baz=159,slow=8.6,SNR=3.4						
LBTB	**Lobatse**	**49.89**	**69**	P	**P**	**09 45 38.8**	**-0.5**
	4.8nm,0.8s,baz=215,slow=4.5,SNR=6.0						
LPAZ	**La Paz**	**52.91**	**307**	P	**P**	**09 46 02.7**	**+0.2**
	1.1nm,0.3s,baz=113,slow=6.0,SNR=18						
TORD	**Torodi Ar. Bea**	**76.21**	**28**	P	**P**	**09 48 34.9**	**+1.0**
	1.8nm,0.3s,baz=198,slow=6.2,SNR=76						
ASAR	**Alice Springs**	**95.26**	**162**	P	**P**	**09 50 08.9**	**-0.6**
	0.6nm,0.7s,baz=186,slow=3.9,SNR=9.5						
ZALV	**Zalesovo Beam**	**143.59**	**68**	PKhKP	PKPpre	09 56 15.4	
	0.5nm,0.4s,baz=234,slow=4.8,SNR=2.6						
SONM	**Songino Array**	**150.40**	**93**	PKPbc	**PKPbc**	**09 56 36.3**	**+0.1**
	1.8nm,0.8s,baz=211,slow=3.3,SNR=11						
SONM				PKPab	**PKPab**	**09 56 42.7**	**-0.2**
	0.9nm,0.8s,baz=215,slow=3.3,SNR=3.4						
ILAR	**Eielson Array**	**152.78**	**306**	PKPbc	**PKPbc**	**09 56 39.4**	**-1.6**
	0.4nm,0.6s,baz=166,slow=4.9,SNR=8.3						
ILAR				PKPab	**PKPab**	**09 56 51.1**	**-1.0**
	0.5nm,0.8s,baz=172,slow=4.1,SNR=6.0						

IDC ***11*** *09:50:54.4±0.6, 6°.05S×149°.48E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.3/19, mbtmp4.2/15, ML3.6/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/20, Error ellipse: s-maj=24.1km s-min=13.6km az=89.0*

AUST ***11*** *09:50:56.9±2.5, 6°.07S×149°.29E, h0km, Error ellipse: s-maj=1.8km s-min=0.9km az=325.0*

ISCJB ***11*** *09:51:00.6±0.4, 6°.05S±0°.05×149°.37E±0°.08, h58km, mb4.1/15, MS3.4/7, Error ellipse: s-maj=12.2km s-min=6.0km az=24.7*

NEIC ***11*** *09:51:01.7±1.8, 6°.07S×149°.47E, h56km±15km, mb4.6/2, Error ellipse: s-maj=14.3km s-min=10.0km az=87.0*

ISC 11 09:51:02.1±0.5**, 6°.08S**±0°.07×**149°.43E**±0°.09**, h58**km**, n58,** σ0**.84/67, mb4.1**/15**, MS3.3/7, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.31**	**56**	P	**Pn**	**09 51 52.3**	**+0.9**
	baz=3.4,SNR=61						
PMG	**Port Moresby**	**4.00**	**214**	Pn	**Pn**	**09 52 01.7**	**+0.7**
PMG				Sn	**Sn**	**09 52 45.8**	**-0.7**
PMG				*e*Sn	Sn	09 52 47.0	+0.4
PMG	**Port Moresby**	**4.00**	**214**	Pn	**Pn**	**09 52 01.7**	**+0.7**
	71nm,0.3s,baz=14,slow=4.4,SNR=162						
PMG				Sn	**Sn**	**09 52 45.8**	**-0.7**
	59nm,0.3s,baz=101,slow=16,SNR=10.0						
COEN	**Coen**	**9.96**	**218**	P	**Pn**	**09 53 22.4**	**-0.2**
	baz=9.9,SNR=24						
HNR	**Honiara**	**10.94**	**108**	LR	LR	09 57 14.9	
	comp=Z,116nm,19.6s,baz=180,slow=35						
MTSU	**Mount Surprise**	**12.98**	**202**	P	**Pn**	**09 54 04.5**	**+0.7**
	baz=13,SNR=28						
CTA	**Charters Tower**	**14.26**	**192**	Pn	**Pn**	**09 54 19.9**	**-1.3**
CTA	**Charters Tower**	**14.26**	**192**	Pn	**Pn**	**09 54 19.9**	**-1.3**
	0.2nm,0.3s,baz=12,slow=16,SNR=5.0						
KDU	**Kakadu**	**17.97**	**247**	P	**P**	**09 55 07.5**	**-0.4**
	baz=18,SNR=11						
WRAB	**Tennant Creek**	**20.11**	**225**	*e*P	**P**	**09 55 31.9**	**+0.6**
	22nm,0.7s						
WRA	**Warramunga Arr**	**20.12**	**225**	P	**P**	**09 55 31.9**	**+0.4**
WRA				PcP	**PcP**	**09 59 44.9**	**+0.1**
WRA	**Warramunga Arr**	**20.12**	**225**	P	**P**	**09 55 31.9**	**+0.4**
	4.9nm,0.4s,baz=52,slow=11,SNR=78						
WRA				PcP	**PcP**	**09 59 44.9**	**+0.1**
	2.9nm,0.8s,baz=32,slow=2.0,SNR=7.7						
WRA				LR	LR	10 03 18.3	
	comp=Z,103nm,20.5s,baz=60,slow=37						
RMQ	**Roma**	**20.30**	**182**	P	Pn	09 55 34.8	-1.1
	baz=20,SNR=18						
KNRA	**Kununurra**	**22.40**	**243**	P	**P**	**09 55 55.8**	**-0.2**
	baz=22,SNR=9.8						
DZM	**Mont Dzumac**	**22.87**	**136**	*e*P	**P**	**09 56 00.5**	**-0.5**
DZM	**Mont Dzumac**	**22.87**	**136**	P	**P**	**09 56 00.1**	**-0.9**
	4.4nm,0.5s,baz=300,slow=23,SNR=12						
DZM				LR	LR	10 03 03.7	
	comp=Z,204nm,19.6s,baz=122,slow=32						
AS31	**Alice Springs**	**23.00**	**219**	*e*P	**P**	**09 56 01.8**	**-0.4**
AS31				*e*S	**S**	**10 00 10.0**	**+1.5**
ASAR	**Alice Springs**	**23.00**	**219**	P	**P**	**09 56 01.9**	**-0.3**
ASAR				PcP	**PcP**	**09 59 50.8**	**+0.4**
ASAR				S	**S**	**10 00 09.5**	**+1.0**
ASAR				ScP	ScP	10 03 31.8	+8.2
ASAR	**Alice Springs**	**23.00**	**219**	P	**P**	**09 56 01.9**	**-0.3**
	6.2nm,0.6s,baz=51,slow=9.6,SNR=118						
ASAR				PcP	**PcP**	**09 59 50.8**	**+0.4**
	1.1nm,0.7s,baz=54,slow=2.4,SNR=5.8						
ASAR				S	**S**	**10 00 09.5**	**+1.0**
	2.2nm,0.9s,baz=36,slow=24,SNR=9.5						
ASAR				ScP	ScP	10 03 31.8	+8.2
	0.3nm,0.7s,baz=35,slow=3.8,SNR=4.4						
ASAR				LR	LR	10 04 33.5	
	comp=Z,121nm,21.3s,baz=50,slow=36						
FITZ	**Fitzroy Crossi**	**26.11**	**241**	P	**P**	**09 56 30.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**26.11**	**241**	P	**P**	**09 56 30.9**	**+0.1**
	10nm,0.6s,baz=59,slow=8.2,SNR=81						
FITZ				LR	LR	10 08 12.9	
	comp=Z,42nm,20.1s,baz=60,slow=40						
FITZ	**Fitzroy Crossi**	**26.11**	**241**	P	P	09 56 40.0	+9.2
	baz=26,SNR=28						
STKA	**Stephens Creek**	**26.69**	**195**	*e*P	**P**	**09 56 37.0**	**+1.1**
STKA	**Stephens Creek**	**26.69**	**195**	P	**P**	**09 56 36.4**	**+0.5**
	4.8nm,0.8s,baz=347,slow=9.3,SNR=10.0						
STKA				LR	LR	10 06 44.7	
	comp=Z,121nm,18.7s,baz=29,slow=36						
STKA	**Stephens Creek**	**26.69**	**195**	P	**P**	**09 56 37.8**	**+1.9**
	baz=27,SNR=5.8						
MEEK	**Meekatharra**	**35.77**	**232**	P	**P**	**09 57 56.1**	**+0.2**
	baz=36,SNR=27						
MORW	**Morawa**	**38.95**	**230**	P	**P**	**09 58 22.5**	**-0.2**
	baz=39,SNR=3.8						
KLBR	**Kellerberrin**	**39.01**	**225**	P	**P**	**09 58 22.6**	**-0.6**
	baz=39,SNR=13						
KSRS	**Korea Array**	**47.73**	**337**	P	**P**	**09 59 32.5**	**-0.7**
	1.1nm,0.7s,baz=156,slow=7.9,SNR=3.6						
KSRS				LR	LR	10 18 16.6	
	comp=Z,38nm,21.6s,baz=123,slow=34						
KSAR	**Wonju Array Be**	**47.74**	**337**	P	**P**	**09 59 32.5**	**-0.8**
ASAJ	**Asahikawa**	**50.34**	**354**	P	**P**	**09 59 54.2**	**+1.1**
ASAJ	**Asahikawa**	**50.34**	**354**	P	**P**	**09 59 54.2**	**+1.1**
	3.0nm,0.6s,baz=187,slow=29,SNR=4.6						
USRK	**Ussuriysk Arra**	**52.46

*NEIC **11** 10:18:09.2±0.5, 14°.16N×93°.14E, h35km, mb4.6/2, Error ellipse: s-maj=14.0km s-min=10.6km az=56.0*

ISC 11 10:18:09.1±0.5, 14°29N±0°07×93°14E±0°07, h35km, n41, σ1§61/39, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.94**	**53**	Pn	**Pn**	**10 19 48.4**	**+0.1**
CMAR				Sn	**Sn**	**10 21 05.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.94**	**53**	Pn	**Pn**	**10 19 48.4**	**+0.1**
	0.9nm,0.3s,baz=238,slow=16,SNR=4.7						
CMAR				Sn	**Sn**	**10 21 05.2**	**-0.8**
	0.9nm,0.3s,baz=241,slow=30,SNR=5.3						
CHTO	**Chiang Mai**	**7.15**	**50**	*e*Pn	**Pn**	**10 19 53.1**	**+1.9**
	9.4nm,0.5s						
CHTO				*e*Sn	**Sn**	**10 21 08.1**	**-3.2**
ODAN	**Odare**	**13.61**	**338**	*e*P	**Pn**	**10 21 18.4**	**-1.5**
TAPN	**Taplejung**	**13.95**	**340**	*e*P	**Pn**	**10 21 22.9**	**-1.7**
RAMN	**Ramite**	**14.00**	**335**	*e*P	**Pn**	**10 21 22.3**	**-2.9**
JIRN	**Jiri**	**14.80**	**335**	*e*P	**Pn**	**10 21 33.4**	**-2.8**
	32nm,0.5s						
PKI	**Pulchoki**	**15.05**	**333**	*e*P	Pn	10 21 36.0	-3.5
	27nm,0.4s						
NGP	**Nagpur**	**15.05**	**299**	*e*P	Pn	10 21 34.3	-5.0
NGP				*e*S	Sn	10 24 06.4	-19
PKIN	**Phulchoki**	**15.06**	**333**	*e*P	Pn	10 21 36.0	-3.6
	36nm,0.6s						
DMN	**Daman**	**15.22**	**332**	*e*P	**Pn**	**10 21 38.5**	**-3.2**
	32nm,0.5s						
KOLN	**Koldanda**	**16.09**	**328**	*e*P	**Pn**	**10 21 49.1**	**-3.8**
	55nm,0.6s						
KSM	**Kuching**	**21.21**	**125**	*e*P	**P**	**10 22 50.6**	**-1.3**
MK31	**Makanchi Array**	**33.66**	**346**	*e*P	**P**	**10 24 45.0**	**-1.4**
MKAR	**Makanchi Array**	**33.66**	**346**	P	**P**	**10 24 47.5**	**+1.1**
MKAR	**Makanchi Array**	**33.66**	**346**	P	**P**	**10 24 47.5**	**+1.1**
	0.4nm,0.5s,baz=174,slow=9.8,SNR=5.3						
SONM	**Songino Array**	**35.21**	**16**	P	P	10 25 03.5	+3.4
SONM	**Songino Array**	**35.21**	**16**	P	P	10 25 03.5	+3.4
	0.2nm,0.3s,baz=222,slow=5.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**38.13**	**345**	P	P	10 25 27.6	+2.9
	0.7nm,0.3s,baz=169,slow=8.6,SNR=2.0						
KURK	**Kurchatov**	**38.19**	**345**	P	**P**	**10 25 27.6**	**+2.4**
KSRS	**Korea Array**	**38.54**	**47**	LR	LR	10 43 51.8	
	comp=Z,47nm,19.9s,baz=250,slow=40						
ZALV	**Zalesovo Beam**	**40.11**	**352**	P	**P**	**10 25 42.8**	**+1.6**
ZALV	**Zalesovo Beam**	**40.11**	**352**	P	**P**	**10 25 42.8**	**+1.6**
	0.5nm,0.4s,baz=162,slow=8.3,SNR=2.4						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**10 27 21.4**	**-0.7**
WRA				PcP	**PcP**	**10 28 31.4**	**+0.6**
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**10 27 21.4**	**-0.7**
	0.7nm,0.4s,baz=313,slow=8.2,SNR=24						
WRA				PcP	**PcP**	**10 28 31.4**	**+0.6**
	0.4nm,0.6s,baz=321,slow=3.1,SNR=3.5						
WRAB	**Tennant Creek**	**52.91**	**129**	*e*P	**P**	**10 27 21.9**	**-0.2**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**54.88**	**133**	P	**P**	**10 27 35.8**	**-0.6**
ASAR	**Alice Springs**	**54.88**	**133**	P	**P**	**10 27 35.8**	**-0.6**
	1.2nm,0.5s,baz=306,slow=6.7,SNR=17						
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**10 27 56.1**	**+0.1**
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**10 27 56.1**	**+0.1**
	0.3nm,0.4s,baz=132,slow=6.4,SNR=3.5						
CTAO	**Charters Tower**	**62.41**	**122**	*e*P	**P**	**10 28 28.2**	**-0.7**
	22nm,1.5s						
STKA	**Stephens Creek**	**65.28**	**135**	*e*P	**P**	**10 28 47.7**	**0.0**
STKA	**Stephens Creek**	**65.28**	**135**	P	**P**	**10 28 47.6**	**0.0**
	0.6nm,0.3s,baz=310,slow=7.9,SNR=4.9						
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**10 29 32.1**	**0.0**
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**10 29 32.1**	**0.0**
	0.3nm,0.3s,baz=79,slow=7.1,SNR=3.5						
GERES				LR	LR	11 03 48.7	
	comp=Z,29nm,18.2s,baz=97,slow=38						
BOSA	**Boshof**	**78.23**	**236**	P	**P**	**10 30 06.3**	**+0.6**
BOSA	**Boshof**	**78.23**	**236**	P	**P**	**10 30 06.3**	**+0.6**
	2.7nm,0.6s,baz=72,slow=4.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**10 30 57.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**10 30 57.4**	**+0.2**
	0.7nm,0.7s,baz=87,slow=4.2,SNR=4.1						
ILAR	**Eielson Array**	**89.19**	**22**	P	**P**	**10 31 03.4**	**+2.4**
ILAR	**Eielson Array**	**89.19**	**22**	P	**P**	**10 31 03.4**	**+2.4**
	0.1nm,0.5s,baz=312,slow=5.4,SNR=2.9						

*CSEM **11** 10:35:35.3, 34°.41N×36°.69E, h4km, ML1.6, After NSSC*

NSSC 11 10:35:35.4±2.4, 34°41N×36°69E, h5km±8km, ML1.6, 4C-8D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.26**	**295**	*e*P	Pg	10 35 40.2	-0.5
HAWK				*e*S	Sg	10 35 44.7	+0.5
HAWK				AML	AML	10 35 45.9	
	comp=Z,279nm,0.2s						
HAWK				AML	AML	10 35 46.4	
	comp=N,456nm,0.5s						
HAWK				AML	AML	10 35 48.6	
	comp=E,359nm,0.3s						
HAWK	**Haweek**	**0.26**	**295⇓**	*e*P	Pg	10 35 40.1	-0.5
HAWK				*e*S	Sg	10 35 44.8	+0.6
HAWK				AML	AML	10 35 45.9	
	comp=Z,280nm,0.2s						
HAWK				AML	AML	10 35 46.4	
	comp=N,454nm,0.5s						
HAWK				AML	AML	10 35 48.6	
	comp=E,359nm,0.3s						
HAWK	**Haweek**	**0.26**	**295⇓**	*e*P	Pg	10 35 40.1	-0.6
	SNR=99						
HAWK				*e*S	Sg	10 35 44.8	+0.6
	comp=E,359nm,0.3s,SNR=59						
FKH	**Fakeheh**	**0.28**	**235**	*e*P	Pg	10 35 40.1	-1.0
ROOS	**tl_alroos**	**0.55**	**116**	*e*P	Pb	10 35 47.1	-0.6
ROOS				*e*S	Sg	10 35 54.0	+0.6
ROOS				AML	AML	10 35 57.8	
	comp=Z,0.9nm,0.3s						
ROOS				AML	AML	10 36 00.3	
	comp=E,0.7nm,0.2s						
ROOS				AML	AML	10 36 06.3	
	comp=N,0.6nm,0.4s						
ROOS	**tl_alroos**	**0.55**	**116**	*e*P	Pb	10 35 47.1	-0.6
	SNR=75						
ROOS				*e*S	Sg	10 35 54.0	+0.7
	comp=N,0.6nm,0.4s,SNR=59						
HWQ	**Hawqa**	**0.63**	**258**	*e*P	Pg	10 35 47.5	-0.2
BIDA	**Albida**	**0.68**	**333**	*e*P	Pg	10 35 49.0	+0.5
BIDA				*e*S	Sb	10 35 59.6	-0.1
BIDA				AML	AML	10 36 02.2	
	comp=Z,104nm,0.3s						
BIDA				AML	AML	10 36 05.3	
	comp=N,26nm,0.3s						
BRBR	**Barbar**	**1.17**	**212**	*e*P	Pb	10 35 58.5	0.0
BRBR				*e*S	Sb	10 36 14.5	+0.3
BRBR				AML	AML	10 36 20.4	
	comp=E,19nm,0.3s						
BRBR				AML	AML	10 36 23.0	
	comp=Z,20nm,0.5s						
BRBR				AML	AML	10 36 23.3	
	comp=N,11nm,0.6s						
BRBR	**Barbar**	**1.17**	**212⇑**	*e*P	Pn	10 35 58.8	0.0
BRBR				*e*S	Sg	10 36 13.6	0.0
BRBR				AML	AML	10 36 20.4	
	comp=E,19nm,0.3s						
BRBR				AML	AML	10 36 23.0	
	comp=Z,20nm,0.5s						
BRBR				AML	AML	10 36 23.3	
	comp=N,11nm,0.6s						
BRBR	**Barbar**	**1.17**	**212⇑**	*e*P	Pn	10 35 58.8	0.0
	SNR=57						
BRBR				*e*S	Sg	10 36 13.6	+0.1
	comp=N,11nm,0.6s,SNR=49						
ARNB	**Al Arnab**	**1.56**	**338**	*e*P	Pn	10 36 03.2	-0.8
ARNB				*e*S	Sn	10 36 24.2	-0.6
ARNB				AML	AML	10 36 27.7	
	comp=E,46nm,0.4s						
ARNB				AML	AML	10 36 28.9	
	comp=N,45nm,0.5s						
ARNB				AML	AML	10 36 30.4	
	comp=Z,19nm,0.5s						
ARNB	**Al Arnab**	**1.56**	**338⇓**	*e*P	Pn	10 36 03.8	-0.2
ARNB				*e*S	Sn	10 36 23.9	-1.0
ARNB				AML	AML	10 36 27.7	
	comp=E,46nm,0.4s						
ARNB				AML	AML	10 36 28.9	
	comp=N,45nm,0.5s						
ARNB				AML	AML	10 36 30.4	
	comp=Z,19nm,0.5s						
ARNB	**Al Arnab**	**1.56**	**338⇓**	*e*P	Pn	10 36 03.8	-0.2
	SNR=57						
ARNB				*e*S	Sn	10 36 23.9	-0.9
	comp=Z,19nm,0.5s,SNR=49						
ZALF	**Zalf**	**1.58**	**160**	*e*P	Pn	10 36 03.9	-0.3
ZALF				*e*S	Sn	10 36 24.2	-0.8
ZALF				AML	AML	10 36 28.1	
	comp=Z,11nm,0.6s						
ZALF				AML	AML	10 36 28.7	
	comp=N,9.6nm,0.2s						
ZALF				AML	AML	10 36 31.6	
	comp=E,11nm,0.6s						
ZALF	**Zalf**	**1.58**	**160⇓**	*e*P	Pn	10 36 03.4	-0.8
ZALF				*e*S	Sn	10 36 24.1	-0.9
ZALF				AML	AML	10 36 28.1	
	comp=Z,11nm,0.6s						
ZALF				AML	AML	10 36 28.7	
	comp=N,9.6nm,0.2s						
ZALF				AML	AML	10 36 31.6	
	comp=E,11nm,0.6s						
ZALF	**Zalf**	**1.58**	**160⇓**	*e*P	Pn	10 36 03.3	-0.8
	SNR=57						
ZALF				*e*S	Sn	10 36 24.1	-0.9
	comp=E,11nm,0.6s,SNR=49						
BTCH	**Batrach**	**1.64**	**353**	*e*P	Pn	10 36 05.0	0.0
BTCH				*e*S	Sn	10 36 26.5	-0.1
BTCH				AML	AML	10 36 31.3	
	comp=E,21nm,0.3s						
BTCH				AML	AML	10 36 33.0	
	comp=N,34nm,0.3s						
BTCH				AML	AML	10 36 34.9	
	comp=Z,40nm,0.4s						
BTCH	**Batrach**	**1.64**	**353⇓**	*e*P	Pb	10 36 06.0	-0.2
BTCH				*e*S	Sb	10 36 27.4	+0.2
BTCH				AML	AML	10 36 31.3	
	comp=E,21nm,0.3s						
BTCH				AML	AML	10 36 33.0	
	comp=N,34nm,0.3s						
BTCH				AML	AML	10 36 34.9	
	comp=Z,40nm,0.4s						
BTCH	**Batrach**	**1.64**	**353⇓**	*e*P	Pb	10 36 06.0	-0.2
	SNR=57						
BTCH				*e*S	Sb	10 36 27.4	+0.1
	comp=Z,40nm,0.4s,SNR=49						
SALA	**Sala**	**1.69**	**179**	*e*P	Pb	10 36 06.8	-0.6
SALA				*e*S	Sb	10 36 29.2	+0.1
SALA				AML	AML	10 36 31.5	
	comp=Z,23nm,0.3s						
SALA				AML	AML	10 36 31.8	
	comp=N,12nm,0.3s						
SALA				AML	AML	10 36 36.3	
	comp=E,2.4nm,0.4s						
SALA	**Sala**	**1.69**	**179⇑**	*e*P	Pn	10 36 06.1	+0.2
SALA				*e*S	Sn	10 36 28.1	-0.1
SALA				AML	AML	10 36 31.5	
	comp=Z,23nm,0.3s						
SALA				AML	AML	10 36 31.8	
	comp=N,12nm,0.3s						
SALA				AML	AML	10 36 36.3	
	comp=E,2.4nm,0.4s						
SALA	**Sala**	**1.69**	**179⇑**	*e*P	Pn	10 36 06.1	+0.2
	SNR=45						
SALA				*e*S	Sn	10 36 28.1	-0.1
	comp=E,2.4nm,0.4s,SNR=40						
TCHB	**Talchebab**	**1.84**	**199**	*e*P	Pn	10 36 07.7	-0.1
TCHB				*e*S	Sn	10 36 30.5	-1.0
TCHB				AML	AML	10 36 37.3	
	comp=N,34nm,0.4s						
TCHB				AML	AML	10 36 38.5	
	comp=E,17nm,0.5s						
TCHB				AML	AML	10 36 38.8	
	comp=Z,41nm,0.7s						
TCHB	**Talchebab**	**1.84**	**199**	*e*P	Pn	10 36 07.7	0.0
	SNR=45						
TCHB				*e*S	Sn	10 36 30.5	-0.9
	comp=Z,41nm,0.7s,SNR=40						
DRWC	**Darouich**	**2.21**	**359**	*e*P	Pn	10 36 10.6	-2.3
DRWC	**Darouich**	**2.21**	**359**	*e*P	Pn	10 36 10.6	-2.3
	SNR=45						

*IDC **11** 10:39:59.2±0.7, 19°.96S×169°.98E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, ML3.8/2, MS3.9/15, Ms1 3.9/15, ms1mx3.8/22, Error ellipse: s-maj=22.3km s-min=18.5km az=129.0*

*NOU **11** 10:40:00.8±1.6, 19°.18S×169°.61E, h10km, MD3.0, ML3.4*

*ISCJB **11** 10:40:01.9±0.5, 20°.06S±0°.08×170°.00E±0°.06, h30km, mb4.4/17, MS4.0/12, Error ellipse: s-maj=12.8km s-min=4.7km az=146.7*

*NEIC **11** 10:40:04.2±0.4, 20°.03S×170°.01E, h35km, mb4.7/6, Error ellipse: s-maj=13.4km s-min=9.4km az=162.0*

ISC 11 10:40:03.6±0.5, 20°02S±0°09×170°00E±0°07, h30km, n55, σ1§03/56, mb4.3/17, MS4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.60**	**233**	*e*P	**Pn**	**10 40 58.2**	**+0.8**
BAYA				*e*S	**Sn**	**10 41 39.0**	**+0.1**
BAYA				AMP		10 41 42.9	
	comp=Z,41nm,3.5s						
PLUM	**Mont Dore**	**3.85**	**234**	*e*P	**Pn**	**10 41 01.1**	**+0.2**
PLUM				*e*S	**Sn**	**10 41 43.9**	**-1.3**
PLUM				AMP		10 41 49.6	
	comp=Z,219nm,10.0s						
DZM	**Mont Dzumac**	**3.90**	**238**	*e*Pn	**Pn**	**10 41 01.3**	**-0.3**
	comp=Z,52nm,0.2s						
DZM				*e*Sn	**Sn**	**10 41 46.4**	**0.0**
	comp=Z,348nm,0.3s						
DZM	**Mont Dzumac**	**3.90**	**238**	*e*P	**Pn**	**10 41 00.0**	**-1.6**
DZM				*e*S	**Sn**	**10 41 45.9**	**-0.5**
DZM				AMP		10 41 53.3	
	comp=Z,2μm,5.6s						
DZM	**Mont Dzumac**	**3.90**	**238**	Pn	**Pn**	**10 41 01.1**	**-0.5**
DZM				*e*Sn	**Sn**	**10 41 44.6**	**-1.8**
DZM				Sn	**Sn**	**10 41 47.7**	**+1.4**
DZM	**Mont Dzumac**	**3.90**	**238**	Pn	**Pn**	**10 41 01.1**	**-0.5**
	comp=Z,11nm,0.3s,baz=54,slow=13,SNR=612						
DZM				Sn	**Sn**	**10 41 47.7**	**+1.4**
	comp=Z,42nm,0.3s,baz=128,slow=20,SNR=10						
LASL	**Noumea**	**3.91**	**235**	*e*P	**Pn**	**10 41 01.4**	**-0.2**
LASL				*e*S	**Sn**	**10 41 47.1**	**+0.7**
LASL				AMP		10 41 49.9	
	comp=Z,771nm,1.1s						
NORM	**Noumea**	**3.95**	**236**	*e*P	**Pn**	**10 41 02.0**	**-0.2**
NORM				*e*S	**Sn**	**10 41 46.8**	**-0.7**
NORM				AMP		10 41 50.9	
	comp=Z,240nm,3.1s						
NOUC	**Port Laguerre**	**4.02**	**238**	*e*P	**Pn**	**10 41 02.3**	**-1.0**
NOUC				*e*S	**Sn**	**10 41 48.8**	**-0.6**
NOUC				AMP		10 42 07.7	
	comp=Z,79nm,1.8s						
MSVF	**Nonsavu**	**7.96**	**75**	*e*Pn	**Pn**	**10 41 58.1**	**+0.7**
	comp=Z,112nm,1.4s						
HNR	**Honiara**	**14.32**	**316**	LR	LR	10 48 00.8	
	comp=Z,172nm,19.0s,baz=309,slow=34						
AFI	**Afiamalu**	**18.45**	**74**	LR	LR	10 49 42.1	
	comp=Z,517nm,20.9s,baz=237,slow=32						
URZ	**Urewera**	**19.20**	**163**	*e*P	**P**	**10 44 23.4**	**-1.6**
	comp=Z,63nm,1.4s						
URZ	**Urewera**	**19.20**	**163**	P	**Pn**	**10 44 26.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=10,slow=11,SNR=2.7						
URZ				LR	LR	10 50 44.9	
	comp=Z,200nm,19.3s,baz=102,slow=34						
CTA	**Charters Tower**	**22.30**	**266**	P	**P**	**10 45 01.0**	**+2.2**
CTA	**Charters Tower**	**22.30**	**266**	P	**P**	**10 45 01.0**	**+2.2**
	comp=Z,2.6nm,0.5s,baz=103,slow=14,SNR=4.1						
CTAO	**Charters Tower**	**22.30**	**266**	*e*P	**P**	**10 44 58.6**	**-0.3**
	comp=Z,24nm,1.0s						
PMG	**Port Moresby**	**24.45**	**292**	*e*P	**P**	**10 45 20.1**	**0.0**
PMG	**Port Moresby**	**24.45**	**292**	P	**P**	**10 45 20.3**	**+0.3**
	comp=Z,14nm,0.8s,baz=135,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**28.05**	**239**	*e*P	**P**	**10 45 53.0**	**+0.6**
STKA	**Stephens Creek**	**28.05**	**239**	P	**P**	**10 45 52.6**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=91,slow=8.7,SNR=5.5						
STKA				LR	LR	10 56 15.0	
	comp=Z,462nm,21.0s,baz=28,slow=35						
WRAB	**Tennant Creek**	**33.46**	**264**	*e*P	**P**	**10 46 39.1**	**-1.2**
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**33.47**	**264**	P	**P**	**10 46 39.4**	**-1.1**
WRA	**Warramunga Arr**	**33.47**	**264**	P	**P**	**10 46 39.4**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=92,slow=8.5,SNR=21						
WRA				LR	LR	10 59 25.8	
	comp=Z,143nm,20.9s,baz=85,slow=35						
ASAR	**Alice Springs**	**33.64**	**257**	P	**P**	**10 46 41.5**	**-0.4**
ASAR	**Alice Springs**	**33.64**	**257**	P	**P**	**10 46 41.5**	**-0.4**
	comp=Z,18nm,0.8s,baz=85,slow=9.1,SNR=335						
ASAR				LR	LR	11 00 29.4	
	comp=Z,361nm,18.1s,baz=91,slow=37						
TBI	**Tubuai**	**37.73**	**103**	*e*LQ	LQ	10 56 04.1	
	comp=Z,590nm,31.2s						
TBI				*e*LR	LR	10 57 48.6	
	comp=Z,140nm,28.5s						
PPT2	**Papeete2**	**38.28**	**93**	*e*LQ	LQ	10 56 17.9	
	comp=Z,591nm,28.8s						
PPT2				*e*LR	LR	10 57 59.6	
	comp=Z,287nm,27.0s						
PPT	**Papeete**	**38.29**	**93**	LR	LR	11 00 03.0	
	comp=Z,298nm,21.6s,baz=266,slow=31						
VNDA	**Vanda**	**57.68**	**182**	*e*P	**P**	**10 49 50.7**	**-0.1**
VNDA	**Vanda**	**57.68**	**182**	P	**P**	**10 49 50.8**	**0.0**
	comp=Z,0.7nm,0.9s,baz=5.3,slow=3.2,SNR=3.5						
SBA	**Scott Base**	**57.90**	**181**	*e*P	**P**	**10 49 53.6**	**+1.3**
	comp=Z,7.9nm,1.0s						
CASY	**Casey**	**59.70**	**204**	*e*P	P	10 50 12.5	+7.5
	comp=Z,20nm,1.8s						
KSRS	**Korea Array**	**69.55**	**325**	LR	LR	11 21 16.2	
	comp=Z,32nm,18.6s,baz=128,slow=36						
QSPA	**South Pole Qui**	**70.04**	**180**	*e*P	**P**	**10 51 12.2**	**-0.4**
	comp=Z,7.9nm,0.9s						
PSI	**Prapat**	**73.25**	**279**	LR	LR	11 21 13.6	
	comp=Z,92nm,19.9s,baz=25,slow=34						
PETK	**Petropavlovsk-**	**73.60**	**352**	P	**P**	**10 51 34.3**	**+0.5**
PETK	**Petropavlovsk-**	**73.60**	**352**	P	**P**	**10 51 34.3**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=142,slow=6.2,SNR=6.8						
PETK				LR	LR	11 17 08.4	
	comp=Z,40nm,21.3s,baz=306,slow=30						
MAW	**Mawson**	**77.98**	**202**	P	**P**	**10 51 59.8**	**+1.1**
MAW	**Mawson**	**77.98**	**202**	P	**P**	**10 51 59.8**	**+1.1**
	comp=Z,0.5nm,0.2s,baz=68,slow=5.4,SNR=3.1						
MAW				LR	LR	11 21 21.4	
	comp=Z,118nm,21.7s,baz=21,slow=32						
CMAR	**Chiang Mai Arr**	**79.47**	**294**	P	**P**	**10 52 08.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**79.47**	**294**	P	**P**	**10 52 08.9**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=118,slow=6.8,SNR=4.5						
SAC	**San Andreas**	**85.52**	**47**	*e*P	**P**	**10 52 36.9**	**-2.0**
	comp=Z,88nm,1.2s						
SONM	**Songino Array**	**88.27**	**323**	P	**P**	**10 52 52.0**	**-0.3**
SONM	**Songino Array**	**88.27**	**323**	P	**P**	**10 52 52.0**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=132,slow=4.5,SNR=5.7						
NVAR	**Mina Array Bea**	**88.78**	**48**	P	**P**	**10 52 55.1**	**+0.1**
NVAR	**Mina Array Bea**	**88.78**	**48**	P	**P**	**10 52 55.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=226,slow=6.2,SNR=3.9						
NVAR				LR	LR	11 24 43.3	
	comp=Z,88nm,19.4s,baz=249,slow=30						
ILAR	**Eielson Array**	**90.76**	**17**	P	**P**	**10 53 01.6**	**-1.7**
ILAR	**Eielson Array**	**90.76**	**17**	P	**P**	**10 53 01.6**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=235,slow=5.8,SNR=8.4						
ILAR				LR	LR	11 34 17.8	
	comp=Z,40nm,18.4s,baz=85,slow=36						
TXAR	**Lajitas Array**	**96.51**	**61**	P	**P**	**10 53 32.0**	**+1.3**
TXAR	**Lajitas Array**	**96.51**	**61**	P	**P**	**10 53 32.0**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=250,slow=4.4,SNR=2.8						
TXAR				LR	LR	11 29 35.5	
	comp=Z,73nm,19.8s,baz=180,slow=31						
PDAR	**Pinedale Array**	**96.62**	**47**	LR	LR	11 34 22.8	
	comp=Z,33nm,18.8s,baz=186,slow=34						
KHC	**Kasperske Hory**	**145.35**	**332**	*e*PKP	**PKPbc**	**10 59 37.0**	**-1.4**
GERES	**GERESS Array B**	**145.51**	**332**	PKPbc	**PKPdf**	**10 59 38.5**	**-0.4**
GERES	**GERESS Array B**	**145.51**	**332**	PKPbc	**PKPdf**	**10 59 38.5**	**-0.4**
	comp=Z,0.8nm,0.2s,baz=27,slow=3.3,SNR=9.3						

KRSC 11 10:43:44.6±0.5, 51°10N×158°12E, h31km±30km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.90**	**295**	*e*P	Pn	10 44 01.2	+0.1
PAU				*e*S	Sn	10 44 13.0	0.0
ASAK	**Asacha**	**1.29**	**354**	*e*P	Pn	10 44 07.5	+0.9
ASAK				*e*S	Sn	10 44 23.5	+0.5
SKR	**Severo-Kuril's**	**1.33**	**253**	*e*P	Pn	10 44 06.1	-1.0
SKR				*e*S	Sn	10 44 21.3	-2.4
RUS	**Russkaya**	**1.36**	**10**	*e*P	Pn	10 44 08.1	+0.7
RUS				*e*S	Sn	10 44 24.5	+0.2
MTVR	**Mutnovka**	**1.39**	**2**	*e*P	Pn	10 44 09.0	+1.0
MTVR				*e*S	Sb	10 44 26.5	-1.1
MIPR	**Malaya Ipel'ka**	**1.45**	**325**	*e*P	Pn	10 44 09.7	+1.0
MIPR				*e*S	Sn	10 44 27.9	+1.2
GRL	**Gorelyy**	**1.46**	**359**	*e*P	Pb	10 44 10.3	-0.9
GRL				*e*S	Sb	10 44 28.5	-1.0
APC	**Apacha**	**1.92**	**342**	*e*P	Pn	10 44 16.6	+1.5
APC				*e*S	Sn	10 44 39.4	+1.2
PET	**Petropavlovsk**	**1.96**	**9**	*e*P	Pn	10 44 16.8	+1.2
PET				*e*S	Sn	10 44 40.5	+1.5
UGLR	**Uglovaya**	**2.16**	**11**	*e*P	Pb	10 44 20.9	-2.2
UGLR				*e*S	Sn	10 44 46.6	+2.3
AVH	**Avacha**	**2.20**	**10**	*e*P	Pb	10 44 21.8	-2.0
AVH				*e*S	Sb	10 44 48.7	-2.1
NLC	**Nalytchevo**	**2.21**	**20**	P	Pn	10 44 19.3	+0.3
NLC				S	Sn	10 44 45.2	-0.1
KOK	**Koryaka**	**2.22**	**8**	*e*P	Pn	10 44 21.6	+2.2
KOK				*e*S	Sb	10 44 48.8	-2.5
SDLR	**Sedlovina**	**2.23**	**12**	*e*P	Pn	10 44 20.9	+1.3
SDLR				*e*S	Sn	10 44 47.3	+1.1
KRER	**Koryakskii**	**2.24**	**10**	*e*P	Pb	10 44 22.4	-2.3
KRER				*e*S	Sb	10 44 49.4	-2.8
SPN	**Mys Shipunski**	**2.32**	**30**	*e*P	Pn	10 44 22.0	+1.4
SPN				*e*S	Sn	10 44 49.2	+1.1
GNL	**Ganaly**	**2.60**	**358

IDC 11 11:15:18.8±1.5,5°.06S×146°.30E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.6/18,mbtmp3.6/5,ML3.4/2,Error ellipse: s-maj=53.9km s-min=25.6km az=118.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.41**	**169**	Pn	Pn	11 16 28.6	+1.6
	6.8nm,0.3s,baz=266,slow=20,SNR=21						
PMG				Sn	Sn	11 17 11.0	-8.1
	10nm,0.3s,baz=175,slow=20,SNR=13						
CTA	**Charters Tower**	**14.94**	**180**	Pn	P	11 18 54.8	-2.6
	0.7nm,0.3s,baz=2.6,slow=15,SNR=8.4						
WRA	**Warramunga Arr**	**18.83**	**217**	P	P	11 19 39.8	-0.6
	0.2nm,0.3s,baz=44,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**22.02**	**212**	P	P	11 20 14.6	-0.6
	1.0nm,0.8s,baz=53,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**23.99**	**236**	P	P	11 20 35.5	+0.1
	3.7nm,0.7s,baz=84,slow=7.1,SNR=13						
ILAR	**Eielson Array**	**84.89**	**23**	P	P	11 27 55.5	+0.1
	0.3nm,0.9s,baz=252,slow=5.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.17**	**285**	PKP	PKPdf	11 34 56.9	-1.0
	0.2nm,0.4s,baz=58,slow=3.4,SNR=4.4						

IDC 11 11:30:54.4±10.0,23°.51S×179°.84E,h627km±142km, mb3.1/6,mb1 3.3/6,mb1mx3.0/18,mbtmp3.1/6,Error ellipse: s-maj=90.3km s-min=54.5km az=162.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.33**	**270**	P	P	11 36 26.6	+0.3
	6.5nm,0.4s,baz=96,slow=11,SNR=17						
STKA	**Stephens Creek**	**34.73**	**248**	P	P	11 36 54.5	-0.1
	1.3nm,0.6s,baz=82,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**41.96**	**260**	P	P	11 37 52.9	0.0
	1.9nm,0.5s,baz=96,slow=7.4,SNR=25						
WRA	**Warramunga Arr**	**42.29**	**266**	P	P	11 37 54.9	-0.5
	1.8nm,0.4s,baz=102,slow=8.1,SNR=48						
FITZ	**Fitzroy Crossi**	**50.72**	**265**	P	P	11 38 58.9	+0.3
	0.8nm,0.5s,baz=117,slow=5.9,SNR=3.6						
TXAR	**Lajitas Array**	**90.35**	**58**	P	P	11 42 50.6	0.0
	0.2nm,0.7s,baz=208,slow=5.1,SNR=3.8						

IDC 11 11:32:11.6±1.9,7°.17S×150°.81E,h0km,mb3.5/4, mb1 3.8/5,mb1mx3.5/18,mbtmp3.6/5,ML2.3/1,Error ellipse: s-maj=93.7km s-min=24.3km az=134.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.24**	**238**	Pn	Pn	11 33 19.7	+2.2
	1.2nm,0.3s,baz=68,slow=5.4,SNR=3.6						
PMG				Sn	Sn	11 34 07.9	+0.1
	9.5nm,0.3s,baz=152,slow=19,SNR=10						
WRA	**Warramunga Arr**	**20.41**	**230**	P	P	11 36 50.0	-0.5
	1.4nm,0.6s,baz=55,slow=10,SNR=19						
ASAR	**Alice Springs**	**23.08**	**223**	P	P	11 37 18.8	-0.4
	0.6nm,0.6s,baz=58,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**26.82**	**244**	P	P	11 37 53.1	-0.7
	1.6nm,0.7s,baz=62,slow=11,SNR=7.3						
ILAR	**Eielson Array**	**85.08**	**22**	P	P	11 44 49.0	-0.1
	0.3nm,0.7s,baz=244,slow=5.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.04**	**284**	PKPbc	PKPbc	11 52 03.1	+0.3
	0.5nm,0.6s,baz=65,slow=1.8,SNR=4.3						

KRSC 11 11:42:39.6±0.5,53°.99N×161°.16E,h43km±32km,ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.66**	**30**	*e*P	Pn	11 42 51.6	-0.9
MKZ				*e*S	Sn	11 42 59.8	-2.0
KII	**Karymskiy**	**1.01**	**273**	*i* P	Pn	11 42 57.5	+0.1
KII				*e*S	Sn	11 43 10.6	+0.1
SPN	**Mys Shipunski**	**1.12**	**218**	*e*P	Pn	11 42 58.3	-0.5
SPN				*e*S	Sn	11 43 11.7	-1.4
NLC	**Nalytchevo**	**1.36**	**234**	*e*P	Pn	11 43 02.5	+0.5
NLC				*e*S	Sn	11 43 18.9	+0.1
TUMR	**Tumrok**	**1.42**	**336**	*e*P	Pn	11 43 03.8	+0.7
TUMR				*e*S	Sn	11 43 21.5	+0.7
SDLR	**Sedlovina**	**1.53**	**243**	*e*P	Pn	11 43 05.5	+0.9
SMAR	**Somma**	**1.58**	**244**	*e*P	Pn	11 43 06.2	+0.8
KRER	**Koryakskii**	**1.59**	**245**	*e*P	Pn	11 43 06.6	+1.1
KRER				*e*S	Sn	11 43 26.0	+0.9
UGLR	**Uglovaya**	**1.60**	**242**	*e*P	Pn	11 43 06.5	+1.0
AVH	**Avacha**	**1.61**	**244**	*e*P	Pn	11 43 07.1	+1.4
AVH				*e*S	Sn	11 43 26.6	+1.2
KOK	**Koryaka**	**1.66**	**246**	*e*P	Pn	11 43 07.5	+1.2
KOK				*e*S	Sn	11 43 27.5	+1.0
PET	**Petropavlovsk**	**1.78**	**238**	*e*P	Pn	11 43 08.9	+1.0
PET				*e*S	Sn	11 43 30.5	+1.2
KMNR	**Kamenistaya**	**1.85**	**344**	*e*P	Pn	11 43 10.6	+1.7
KMNR				*e*S	Sn	11 43 33.4	+2.2
GNL	**Ganaly**	**1.93**	**262**	*e*P	Pn	11 43 11.4	+1.3
GNL				*e*S	Sn	11 43 34.4	+1.2
BZGR	**Bezymyannyi-Gr**	**1.97**	**352**	*e*S	Sn	11 43 36.0	+1.7
ZLN	**Zelenaya**	**2.04**	**354**	S	Sn	11 43 38.2	+2.3
KPT	**Kopyto**	**2.05**	**345**	P	Pn	11 43 13.1	+1.4
KOZ	**Kozyrevsk**	**2.20**	**341**	S	Sn	11 43 39.7	0.0
RUS	**Russkaya**	**2.23**	**227**	*e*P	Pn	11 43 14.9	+0.9
RUS				*e*S	Sn	11 43 40.8	+0.6
KRSR	**Krestovskiy**	**2.26**	**352**	S	Sn	11 43 40.7	-0.6
MTVR	**Mutnovka**	**2.34**	**231**	*e*P	Pn	11 43 17.2	+1.5
MTVR				*e*S	Sn	11 43 44.9	+1.5
KLY	**Klyuchi**	**2.35**	**353**	P	Pn	11 43 15.8	+0.2
KLY				S	Sn	11 43 42.1	-1.0
GRL	**Gorelyy**	**2.35**	**233**	P	Pn	11 43 16.8	+1.0
ESO	**Esso**	**2.40**	**325**	*e*P	Pn	11 43 17.3	+0.9
ESO				*e*S	Sn	11 43 45.6	+1.0
KBTR	**Krutoberegovo**	**2.42**	**23**	*e*P	Pn	11 43 17.2	+0.6
KBTR				*e*S	Sn	11 43 44.8	-0.2
SRDR	**Sredinnyy**	**2.48**	**341**	P	Pn	11 43 18.5	+1.0
ASAK	**Asacha**	**2.54**	**232**	*e*P	Pn	11 43 20.7	+2.3
ASAK				*e*S	Sn	11 43 50.4	+2.3
BDR	**Baidarnaya**	**2.58**	**1**	S	Sn	11 43 51.2	+2.0
SMKR	**Semkarok**	**2.60**	**4**	P	Pn	11 43 21.4	+2.1
SMKR				S	Sn	11 43 52.0	+2.3
SRKR	**Sorokina**	**2.67**	**0**	P	Pn	11 43 20.6	+0.4
SRKR				S	Sn	11 43 50.6	-0.7
BKI	**Bering**	**3.05**	**65**	*e*S	Sn	11 43 56.5	-4.0

*IDC **11** 12:00:54.7±10.0,44°.32N×148°.34E,h92km±68km,mb3.3/4, mb1 3.5/5,mb1mx3.2/25,mbtmp3.3/5,ML3.1/1,Error ellipse: s-maj=108.9km s-min=28.3km az=177.0*
*JMA **11** 12:00:56.1±0.3,44°.01N×148°.15E,h0km,M3.9*
*MOS **11** 12:00:56.1±0.6,44°.67N×148°.12E,h107km,mb3.8/4,Error ellipse: s-maj=38.3km s-min=19.7km az=56.8*
ISC 11 12:00:54.3±1.5,44°.3N±0°.1×148°.5E±0°.1,h91km±12km,n22, σ1°92/29,mb3.8/5,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.06**	**336**	⇓*i*PN	**Pn**	**12 01 14.7**	**0.0**
KUR				*i* S	**Sn**	**12 01 28.5**	**-1.5**
KUR				pmax	pmax		
	comp=N,15nm,0.1s						
KUR				pmax	pmax		
	comp=E,11nm,0.1s						
KUR				pmax	pmax		
	comp=Z,437nm,0.1s						
KUR				smax	smax		
	comp=E,219nm,0.3s						
KUR				smax	smax		
	comp=N,586nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.89**	**264**	*i* PN	**Pn**	**12 01 26.3**	**+1.2**
YUK				*i* S	**Sn**	**12 01 47.8**	**-0.7**
YUK				pmax	pmax		
	comp=N,10.0nm,0.2s						
YUK				pmax	pmax		
	comp=Z,75nm,0.2s						
YUK				pmax	pmax		
	comp=E,43nm,0.1s						
YUK				smax	smax		
	comp=N,205nm,0.3s						
YUK				smax	smax		
	comp=E,234nm,0.3s						
NEM2	**Nemuro 2**	**2.17**	**247**	P	**Pn**	**12 01 29.9**	**+1.2**
NEM2				*e*S	**Sn**	**12 01 54.5**	**-0.5**
JRA	**Rausu**	**2.44**	**263**	P	**Pn**	**12 01 34.2**	**+2.0**
JNK	**Nakash**	**2.80**	**257**	P	**Pn**	**12 01 39.2**	**+2.2**
JNK				*e*S	**Sn**	**12 02 10.7**	**+0.8**
JAK	**Akkeshi**	**3.02**	**247**	P	**Pn**	**12 01 41.5**	**+1.5**
JAK				*e*S	**Sn**	**12 02 14.4**	**-0.9**
JTKR	**Abashiri--Toko**	**3.30**	**266**	P	**Pn**	**12 01 45.9**	**+2.1**
JAR	**Ashorobuto**	**3.54**	**256**	P	**Pn**	**12 01 49.5**	**+2.4**
JAR				*e*S	**Sn**	**12 02 28.6**	**+0.7**
JCH	**Churui**	**4.07**	**248**	P	**Pn**	**12 01 55.7**	**+1.5**
JCH				*e*S	**Sn**	**12 02 39.8**	**-0.9**
ERM	**Erimo**	**4.49**	**242**	*e*PN	Pn	12 02 03.5	+3.5
JNBK	**Urakawa-nobuka**	**4.62**	**247**	P	**Pn**	**12 02 03.3**	**+1.6**
JNBK				*e*S	**Sn**	**12 02 53.0**	**-1.2**
JKB	**Kayabe**	**5.94**	**249**	P	**Pn**	**12 02 21.1**	**+1.4**
JKB				*e*S	**Sn**	**12 03 23.0**	**-3.3**
JOT	**Ohata**	**6.17**	**245**	*e*S	**Sn**	**12 03 27.1**	**-4.8**
JANG	**Nango**	**6.46**	**235**	*e*S	**Sn**	**12 03 34.7**	**-4.2**
PETK	**Petropavlovsk-**	**10.74**	**31**	PN	**Pn**	**12 03 24.9**	**0.0**
PETK	**Petropavlovsk-**	**10.74**	**31**	P	**Pn**	**12 03 24.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=204,slow=12,SNR=5.7						
ILAR	**Eielson Array**	**40.51**	**37**	P	**P**	**12 08 24.9**	**+1.1**
	comp=E,0.7nm,1.1s,baz=264,slow=7.2,SNR=5.4						
MKAR	**Makanchi Array**	**45.19**	**298**	P	**P**	**12 09 01.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.19**	**298**	P	**P**	**12 09 01.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=77,slow=8.4,SNR=6.8						
BRVK	**Borovoye**	**49.96**	**309**	*e*P	P	12 09 44.4	+5.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**64.85**	**333**	P	**P**	**12 11 22.1**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=49,slow=9.4,SNR=6.3						
TXAR	**Lajitas Array**	**81.57**	**57**	P	**P**	**12 13 02.5**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=289,slow=2.8,SNR=4.1						

*IDC **11** 12:22:59.1±1.6,3°.82N×127°.04E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.8/23,mbtmp4.1/6,MS3.2/3,Ms1 3.2/3, ms1mx2.6/41,Error ellipse: s-maj=89.8km s-min=23.8km az=68.0*
*ISCJB **11** 12:23:02.6±0.9,3°.74N±0°.09×126°.9E±0°.1,h36km,mb4.0/7, MS3.4/1,Error ellipse: s-maj=16.5km s-min=12.2km az=27.4*
*NEIC **11** 12:23:04.0±0.8,3°.81N×127°.06E,h35km,mb4.6/1,Error ellipse: s-maj=21.7km s-min=12.2km az=71.0*
ISC 11 12:23:04.5±1.0,3°.8N±0°.1×127°.0E±0°.2,h36km,n19, σ0°82/17,mb4.0/7,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.32**	**220**	*e*Pn	**Pn**	**12 25 44.9**	**+1.0**
KAPI				*e*Sn	**Sn**	**12 27 48.6**	**-0.7**
KAPI	**Kappang**	**11.32**	**220**	LR	LR	12 31 09.1	
	comp=Z,77nm,18.6s,baz=6.6,slow=43						
BATI	**Baumata**	**14.28**	**193**	LR	LR	12 31 39.2	
	comp=Z,81nm,18.8s,baz=142,slow=36						
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	**P**	**12 27 52.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	**P**	**12 27 52.9**	**-0.5**
	2.7nm,0.6s,baz=9.1,slow=8.2,SNR=16						
WRAB	**Tennant Creek**	**24.66**	**163**	*e*P	**P**	**12 28 22.3**	**+0.2**
	18nm,0.9s						
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**12 28 21.2**	**-0.9**
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**12 28 21.2**	**-0.9**
	11nm,0.8s,baz=344,slow=10,SNR=62						
AS31	**Alice Springs**	**28.11**	**166**	*e*P	**P**	**12 28 51.7**	**-1.5**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**12 28 52.6**	**-0.6**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**12 28 52.6**	**-0.6**
	0.8nm,0.8s,baz=348,slow=7.1,SNR=13						
STKA	**Stephens Creek**	**38.10**	**160**	*e*P	**P**	**12 30 20.6**	**+0.5**
STKA	**Stephens Creek**	**38.10**	**160**	P	**P**	**12 30 20.2**	**+0.2**
	5.6nm,0.7s,baz=338,slow=6.7,SNR=18						
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**12 32 50.9**	**-0.3**
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**12 32 50.9**	**-0.3**
	0.9nm,0.6s,baz=118,slow=7.3,SNR=5.6						
ABKAR	**Akbulak array**	**72.25**	**321**	*e*P	**P**	**12 34 25.9**	**-0.2**
AKTO	**Aktyubinsk**	**73.76**	**322**	LR	LR	13 08 17.0	
	comp=Z,19nm,20.2s,baz=39,slow=37						
VNDA	**Vanda**	**83.45**	**173**	*e*P	**P**	**12 35 28.2**	**+0.4**
VNDA	**Vanda**	**83.45**	**173**	P	**P**	**12 35 29.4**	**+1.5**
	0.5nm,0.8s,baz=311,slow=3.7,SNR=3.8						

MAN 11 12:25:48,16°.02N×120°.80E,h1km,mb4.3,ML3.1,MS2.9, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.42**	**330**	⇑*i*P	Pg	12 25 55.3	-1.0
BCPH				*i* S	Sb	12 26 06.2	+0.7
BALP	**Baler**	**0.79**	**110**	*e*P	Pg	12 26 03.8	+0.5
BALP				*e*S	Sb	12 26 15.5	-0.4
CAUP	**Cauayan**	**1.34**	**47**	*e*P	Pb	12 26 15.0	+1.0
APYP	**Conner**	**1.88**	**13**	*e*P	Pb	12 26 22.3	-0.9

*ISCJB **11** 12:31:01.7±0.5,23°.06S±0°.05×68°.36W±0°.06,h119km±4km, mb3.9/7,Error ellipse: s-maj=9.1km s-min=7.2km az=22.6*
*IDC **11** 12:31:01.1±2.2,23°.06S×68°.24W,h96km±19km,mb3.9/8, mb1 3.9/12,mb1mx3.8/21,mbtmp3.9/12,MS3.1/2, Ms1 3.0/2,ms1mx2.5/23,Error ellipse: s-maj=22.2km s-min=15.7km az=89.0*
*GUC **11** 12:31:02.7±1.1,23°.12S×68°.42W,h106km±7km,ML4.4*
*NEIC **11** 12:31:02.7,23°.12S×68°.42W,h106km,mb4.4/3,After GUC.*
ISC 11 12:31:02.5±0.6,23°.07S±0°.05×68°.34W±0°.05,h113km±4km, n53,σ1°06/68,mb4.3/7,4C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.21**	**40**	⇓*i*P	**Pn**	**12 31 18.9**	**+0.2**
SPCH				*e*S	**Sn**	**12 31 30.9**	**+0.2**
SPCH	**San Pedro de A**	**0.21**	**40**	⇓*i*P	**Pn**	**12 31 18.9**	**+0.2**
SPCH				*e*S	**Sn**	**12 31 30.9**	**+0.2**
SPCH				AML	AML	12 31 32.5	
	comp=E,15μm,0.2s						
LVC	**Limon Verde**	**0.69**	**311**	*e*Pn	**Pn**	**12 31 21.0**	**-0.4**
LVC				*e*Sn	**Sn**	**12 31 35.8**	**+0.3**
PB06	**Plate Boundary**	**1.19**	**287**	*e*P	**Pn**	**12 31 25.9**	**-0.2**
PB06				*e*S	**Sn**	**12 31 43.3**	**-0.6**
PB06	**Plate Boundary**	**1.19**	**287**	*e*P	**Pn**	**12 31 25.9**	**-0.2**
PB06				*e*S	**Sn**	**12 31 43.3**	**-0.6**
PB06				AML	AML	12 31 45.4	
	comp=N,12μm,0.5s						
PB09	**Plate Boundary**	**1.52**	**327**	⇓*i*P	**Pn**	**12 31 30.5**	**+0.7**
PB09				*i* S	**Sn**	**12 31 51.6**	**+1.1**
PB09	**Plate Boundary**	**1.52**	**327**	⇓*i*P	**Pn**	**12 31 30.5**	**+0.7**
PB09				*i* S	**Sn**	**12 31 51.6**	**+1.1**
PB09				AML	AML	12 31 54.9	
	comp=N,10μm,0.7s						
CEN1	**Los Morros**	**1.74**	**259**	⇓*i*P	**Pn**	**12 31 33.3**	**+0.9**
CEN1				*i* S	**Sn**	**12 31 56.8**	**+1.5**
CEN1	**Los Morros**	**1.74**	**259**	⇓*i*P	**Pn**	**12 31 33.3**	**+0.9**
CEN1				*i* S	**Sn**	**12 31 56.8**	**+1.5**
ANCH	**Antofagasta**	**2.00**	**252**	⇑*i*P	**Pn**	**12 31 35.1**	**-0.4**
ANCH				*i* S	**Sn**	**12 31 59.7**	**-1.1**
ANCH	**Antofagasta**	**2.00**	**252**	⇑*i*P	**Pn**	**12 31 35.1**	**-0.4**
ANCH				*i* S	**Sn**	**12 31 59.7**	**-1.1**
ANCH				AML	AML	12 32 04.8	
	comp=E,2μm,0.1s						
PB10	**Plate Boundary**	**2.08**	**257**	*e*P	**Pn**	**12 31 35.8**	**-0.8**
PB10				*e*S	**Sn**	**12 32 00.3**	**-2.5**
PB10				AML	AML	12 32 19.0	
	comp=N,4μm,0.3s						
PB01	**Plate Boundary**	**2.28**	**332**	⇑*e*P	**Pn**	**12 31 39.4**	**+0.1**
PB01				*i* S	**Sn**	**12 32 07.1**	**-0.3**
PB01	**Plate Boundary**	**2.28**	**332**	⇑*e*P	**Pn**	**12 31 39.4**	**+0.1**
PB01				*i* S	**Sn**	**12 32 07.1**	**-0.3**
PB01				AML	AML	12 32 09.9	
	comp=E,2μm,0.7s						
HMBC	**Humberstone**	**3.13**	**332**	P	**Pn**	**12 31 49.2**	**-1.2**
HMBC	**Humberstone**	**3.13**	**332**	*e*P	**Pn**	**12 31 49.2**	**-1.2**
PSGC	**Pisagua**	**3.83**	**334**	P	**Pn**	**12 31 57.6**	**-2.2**
PSGC	**Pisagua**	**3.83**	**334**	*e*P	**Pn**	**12 31 57.6**	**-2.2**
LCO	**Las Campanas**	**6.29**	**199**	*e*Pn	Pn	12 32 28.4	-4.6
	comp=E,72nm,0.8s						
LCO				*e*Sn	Sn	12 33 37.8	-5.8
LPAZ	**La Paz**	**6.75**	**2**	*e*Pn	**Pn**	**12 32 40.4**	**+0.8**
LPAZ				S	Sn	12 33 46.0	-9.3
LPAZ	**La Paz**	**6.75**	**2**	P	**Pn**	**12 32 39.9**	**+0.2**
	comp=E,5.9nm,0.3s,baz=160,slow=8.3,SNR=122						
LPAZ				S	Sn	12 33 46.0	-9.3
	comp=E,0.5nm,0.3s,baz=184,slow=4.7,SNR=3.5						
CFAA	**Coronel Fontan**	**8.50**	**179**	P	**Pn**	**12 33 00.1**	**-2.7**
CFAA				S	Sn	12 34 28.0	-9.1
CFAA	**Coronel Fontan**	**8.50**	**179**	P	**Pn**	**12 33 00.1**	**-2.7**
	comp=E,0.4nm,0.3s,baz=358,slow=13,SNR=17						
CFAA				S	Sn	12 34 28.0	-9.1
	comp=E,0.2nm,0.3s,baz=218,slow=18,SNR=3.7						
SIV	**San Ignacio**	**9.82**	**46**	P	Pn	12 33 17.2	-3.5
SIV				S	Sn	12 34 58.3	-11
SIV	**San Ignacio**	**9.82**	**46**	P	Pn	12 33 17.2	-3.5
	comp=E,10nm,0.3s,baz=241,slow=12,SNR=80						
SIV				S	Sn	12 34 58.3	-11
	comp=E,0.3nm,0.3s,baz=252,slow=19,SNR=2.2						
SIV				LR	LR	12 38 07.0	
	comp=E,94nm,20.4s,slow=44						
SAML	**Samuel**	**14.89**	**20**	*e*Pn	**Pn**	**12 34 24.2**	**-3.1**
	comp=E,4.9nm,0.7s						
TRQA	**Tornquist**	**15.90**	**161**	*e*P	**P**	**12 34 41.4**	**+0.1**
	comp=E,30nm,1.1s						
PLCA	**Paso Flores**	**17.71**	**186**	P	**Pn**	**12 35 02.6**	**+0.7**
PLCA	**Paso Flores**	**17.71**	**186**	P	**Pn**	**12 35 02.6**	**+0.7**
	comp=E,0.3nm,0.3s,baz=16,slow=8.8,SNR=7.8						
BDFB	**Brasilia**	**20.54**	**73**	P	**P**	**12 35 30.9**	**-1.4**
BDFB	**Brasilia**	**20.54**	**73**	P	**P**	**12 35 30.9**	**-1.4**
	comp=E,5.4nm,0.6s,baz=240,slow=11,SNR=7.3						
BDFB				LR	LR	12 45 14.0	
	comp=E,55nm,18.6s,baz=216,slow=42						
SNAA	**Sanae**	**60.63**	**161**	P	**P**	**12 41 01.8**	**+0.6**
SNAA	**Sanae**	**60.63**	**161**	P	**P**	**12 41 01.8**	**+0.6**
	comp=E,2.0nm,0.6s,baz=284,slow=8.1,SNR=31						
DBIC	**Dimbokro**	**68.69**	**73**	P	**P**	**12 41 54.6**	**+0.3**
DBIC	**Dimbokro**	**68.69**	**73**	P	**P**	**12 41 54.6**	**+0.3**
	comp=E,3.9nm,0.5s,baz=219,slow=6.7,SNR=4.8						
PDAR	**Pinedale Array**	**75.72**	**330**	P	**P**	**12 42 36.7**	**+0.8**
PDAR	**Pinedale Array**	**75.72**	**330**	P	**P**	**12 42 36.7**	**+0.8**
	comp=E,0.2nm,0.4s,baz=123,slow=3.3,SNR=5.0						
NVAR	**Mina Array Bea**	**77.05**	**322**	P	**P**	**12 42 44.1**	**+0.7**
NVAR	**Mina Array Bea**	**77.05**	**322**	P	**P**	**12 42 44.1**	**+0.7**
	comp=E,0.1nm,0.5s,baz=161,slow=5.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P	**P**	**12 42 45.6**	**0.0**
TORD				pP	**pP**	**12 43 14.9**	**+0.7**
TORD				sP	**sP**	**12 43 25.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P	**P**	**12 42 45.6**	**0.0**
	comp=E,4.9nm,0.6s,baz=258,slow=5.6,SNR=33						
TORD				pP	**pP**	**12 43 14.9**	**+0.7**
	comp=E,3.6nm,0.8s,baz=253,slow=5.3,SNR=4.4						
TORD				sP	**sP**	**12 43 25.7**	**-0.7**
	comp=E,1.2nm,0.6s,baz=257,slow=5.7,SNR=1.8						
BOSA	**Boshof**	**82.25**	**118**	P	**P**	**12 43 12.1**	**+0.2**
BOSA	**Boshof**	**82.25**	**118**	P	**P**	**12 43 12.1**	**+0.2**
	comp=E,0.6nm,0.4s,baz=277,slow=8.1,SNR=3.0						
MAW	**Mawson**	**82.68**	**163**	P	**P**	**12 43 14.1**	**+1.0**
MAW	**Mawson**	**82.68**	**163**	P	**P**	**12 43 14.1**	**+1.0**
	comp=E,4.3nm,0.6s,baz=214,slow=5.5,SNR=15						
ASAR	**Alice Springs**	**128.76**	**206**	PKP	**PKPdf**	**12 49 57.6**	**+0.3**
ASAR	**Alice Springs**	**128.76**	**206**	PKP	**PKPdf**	**12 49 57.6**	**+0.3**
	comp=E,1.5nm,0.7s,baz=137,slow=2.3,SNR=10						
WRA	**Warramunga Arr**	**131.86**	**209**	PKP	**PKPdf**	**12 50 03.9**	**+0.6**
WRA	**Warramunga Arr**	**131.86**	**209**	PKP	**PKPdf**	**12 50 03.9**	**+0.6**
	comp=E,1.1nm,0.5s,baz=154,slow=1.6,SNR=11						
MKAR	**Makanchi Array**	**146.57**	**38**	PKPbc	**PKPbc**	**12 50 30.1**	**-0.7**
MKAR				pPKPbc	pPKPbc	12 50 59.8	-1.2
MKAR	**Makanchi Array**	**146.57**	**38**	PKPbc	**PKPbc**	**12 50 30.1**	**-0.7**
	comp=E,1.0nm,0.6s,baz=330,slow=3.2,SNR=7.5						
MKAR				pPKPbc	pPKPbc	12 50 59.8	-1.2
	comp=E,0.5nm,0.5s,baz=188,slow=25,SNR=1.8						
KAPI	**Kappang**	**150.99**	**197**	PKPbc	**PKPbc**	**12 50 42.5**	**-0.5**
KAPI	**Kappang**	**150.99**	**197**	PKPbc	**PKPbc**	**12 50 42.5**	**-0.5**
	comp=E,3.5nm,0.3s,baz=180,slow=10,SNR=4.2						

*ISCJB **11** 12:39:52.9±0.6,58°.92N±0°.04×6°.27E±0°.09,h0km,Error ellipse: s-maj=7.9km s-min=3.5km az=144.1*
*CSEM **11** 12:39:52.4±0.9,58°.88N×6°.30E,h8km,ML1.7,Error ellipse: s-maj=19.5km s-min=10.0km az=22.0,Suspected Mining explosion.*
*BER **11** 12:39:54.6±3.6,58°.87N×6°.31E,h0km,MD1.8,ML1.7, ML1.7(NAO),Suspected explosion*
*NAO **11** 12:39:57.9±6.3,59°.12N×6°.50E,h21km±25km,ML1.7*
ISC 11 12:39:52.7±1.0,58°.84N±0°.04×6°.23E±0°.05,h0km,n21, σ0°62/32,1C,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLS5	**Blasjo**	**0.60**	**11**	⇑*i*P	**Pb**	**12 40 05.7**	**-0.3**
BLS5				*e*S	**Sb**	**12 40 14.2**	**-0.8**
BLS5				AML

mb1 3.8/18, mb1mx3.7/25, mbtmp3.7/18, Error ellipse: s-maj=22.2km s-min=8.2km az=81.0
AUST 11 12:41:17.8, 1°.50N×128°.50E, h300km
ISC 11 12:41:08.2±0.5, 2°.31N±0°.08×128°.5E±0°.1, h250km, n43, σ0:90/44, mb4.0/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.39**	**144**	P	**Pn**	**12 42 41.3**	**0.0**
	baz=5.8,SNR=7.8						
PALU	**Palau**	**7.75**	**50**	S	S	12 44 53.3	+26
	baz=8.3,SNR=6.3						
BATI	**Baumata**	**13.35**	**201**	P	**P**	**12 44 08.8**	**-1.1**
	5.6nm,0.3s,baz=24,slow=1.4,SNR=4.3						
KDU	**Kakadu**	**15.41**	**165**	P	**P**	**12 44 32.4**	**-0.3**
	baz=15,SNR=25						
KNRA	**Kununurra**	**17.88**	**179**	P	**P**	**12 45 00.0**	**+0.5**
	baz=17,SNR=51						
FITZ	**Fitzroy Crossi**	**20.49**	**188**	P	**P**	**12 45 26.6**	**-0.9**
	1.4nm,0.4s,baz=12,slow=8.4,SNR=28						
FITZ	**Fitzroy Crossi**	**20.49**	**188**	P	**P**	**12 45 26.6**	**-0.9**
	baz=20,SNR=14						
COEN	**Coen**	**21.73**	**138**	P	**P**	**12 45 39.8**	**-0.1**
	baz=21,SNR=4.6						
WRA	**Warramunga Arr**	**22.84**	**166**	P	**P**	**12 45 49.8**	**-0.2**
	5.6nm,0.3s,baz=342,slow=10,SNR=143						
WRA				S	S	12 49 47.6	+7.1
	1.0nm,0.8s,baz=351,slow=18,SNR=4.0						
WRA				ScP	**ScP**	**12 52 48.6**	**+1.7**
	0.6nm,0.6s,baz=342,slow=3.3,SNR=6.2						
MTSU	**Mount Surprise**	**25.59**	**143**	P	**P**	**12 46 12.3**	**-2.6**
	baz=25,SNR=4.2						
ASAR	**Alice Springs**	**26.35**	**169**	P	**P**	**12 46 21.9**	**+0.2**
	4.1nm,0.7s,baz=359,slow=8.5,SNR=95						
ASAR				PcP	**PcP**	**12 49 41.4**	**+0.6**
	0.6nm,0.4s,baz=356,slow=2.2,SNR=6.6						
ASAR				ScP	**ScP**	**12 52 58.9**	**+2.1**
	0.9nm,0.6s,baz=341,slow=2.6,SNR=12						
CTA	**Charters Tower**	**28.25**	**143**	P	P	12 46 43.5	+4.9
	2.1nm,0.6s,baz=326,slow=11,SNR=5.7						
JNU	**Nakatsue**	**30.73**	**4**	P	**P**	**12 46 59.0**	**-1.2**
	2.7nm,0.7s,baz=217,slow=5.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**33.14**	**301**	P	**P**	**12 47 22.1**	**+0.6**
	1.5nm,0.7s,baz=124,slow=7.7,SNR=6.3						
KSRS	**Korea Array**	**34.98**	**359**	P	**P**	**12 47 37.0**	**+0.1**
	2.6nm,0.4s,baz=176,slow=9.6,SNR=19						
BBOO	**Buckleboo**	**35.65**	**169**	P	**P**	**12 47 43.1**	**+0.4**
	baz=35,SNR=43						
STKA	**Stephens Creek**	**36.20**	**161**	P	**P**	**12 47 47.7**	**+0.3**
	5.8nm,0.3s,baz=345,slow=8.0,SNR=58						
STKA	**Stephens Creek**	**36.20**	**161**	P	**P**	**12 47 47.9**	**+0.5**
	baz=36,SNR=47						
CMSA	**Cobar Meteorol**	**37.41**	**155**	S	S	12 53 35.0	+8.1
	baz=37,SNR=7.8						
ARMA	**Armidale**	**39.31**	**148**	P	**P**	**12 48 14.9**	**+1.4**
	baz=39,SNR=3.9						
ARPS	**Mount Arapiles**	**40.81**	**164**	P	**P**	**12 48 27.0**	**+1.4**
	baz=40,SNR=9.1						
USRK	**Ussuriysk Arra**	**41.82**	**4**	P	**P**	**12 48 33.7**	**+0.1**
	2.0nm,0.5s,baz=177,slow=8.8,SNR=6.4						
ASAJ	**Asahikawa**	**43.45**	**15**	P	**P**	**12 48 47.2**	**+0.5**
	1.6nm,0.4s,baz=213,slow=12,SNR=5.3						
TAPN	**Taplejung**	**46.30**	**306**	*eP*	**P**	**12 49 10.0**	**+0.2**
ODAN	**Odare**	**46.35**	**306**	*eP*	**P**	**12 49 10.8**	**+0.7**
	22nm,0.6s						
RAMN	**Ramite**	**47.03**	**305**	*eP*	**P**	**12 49 16.4**	**+1.0**
	23nm,0.4s						
JIRN	**Jiri**	**47.65**	**306**	*eP*	**P**	**12 49 20.9**	**+0.6**
GUN	**Gumba**	**48.01**	**306**	*eP*	**P**	**12 49 23.7**	**+0.7**
PKI	**Pulchoki**	**48.25**	**306**	*eP*	**P**	**12 49 24.9**	**+0.1**
	5.8nm,0.3s						
KKN	**Kakani**	**48.44**	**306**	*eP*	**P**	**12 49 26.4**	**+0.2**
DMN	**Daman**	**48.51**	**305**	*eP*	**P**	**12 49 27.1**	**+0.4**
	15nm,0.8s						
SONM	**Songino Array**	**49.22**	**340**	P	**P**	**12 49 31.8**	**+0.3**
	1.5nm,0.7s,baz=153,slow=8.0,SNR=9.7						
SONM				PcP	**PcP**	**12 50 51.1**	**+0.5**
	0.2nm,0.3s,baz=140,slow=4.7,SNR=3.6						
KOLN	**Koldanda**	**49.80**	**305**	*eP*	**P**	**12 49 37.1**	**+0.7**
	27nm,0.6s						
DANN	**Dangsing**	**49.90**	**306**	*eP*	**P**	**12 49 37.6**	**+0.4**
	32nm,0.5s						
PYUN	**Piuthan**	**50.43**	**305**	*eP*	**P**	**12 49 41.9**	**+0.8**
	13nm,0.4s						
PETK	**Petropavlovsk-**	**56.08**	**21**	P	**P**	**12 50 22.2**	**+0.8**
	2.2nm,0.6s,baz=151,slow=3.4,SNR=4.5						
MKAR	**Makanchi Array**	**59.74**	**325**	P	**P**	**12 50 46.9**	**0.0**
	3.9nm,0.4s,baz=115,slow=8.0,SNR=57						
ZALV	**Zalesovo Beam**	**62.66**	**333**	P	**P**	**12 51 05.3**	**-0.9**
	1.5nm,0.5s,baz=133,slow=8.1,SNR=4.7						
BVAR	**Borovoye Array**	**69.48**	**327**	P	**P**	**12 51 48.3**	**-1.3**
	1.3nm,0.4s,baz=111,slow=8.1,SNR=9.5						
ILAR	**Eielson Array**	**85.60**	**25**	P	**P**	**12 53 17.5**	**-0.8**
	0.3nm,0.4s,baz=249,slow=4.9,SNR=8.8						
ARCES	**ARCESS Array B**	**92.39**	**340**	P	**P**	**12 53 49.2**	**-0.9**
	0.6nm,0.4s,baz=71,slow=5.3,SNR=9.0						
FINES	**FINESS Array B**	**93.92**	**332**	P	**P**	**12 53 56.8**	**-0.5**
	0.7nm,0.5s,baz=86,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**125.06**	**288**	PKP	**PKPdf**	**12 59 40.0**	**+0.1**
	0.4nm,0.4s,baz=69,slow=1.6,SNR=7.3						

IDC 11 12:42:39.3±1.9, 13°.61N×92°.54E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=62.2km s-min=23.4km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.81**	**51**	Pn	Pn	12 44 34.7	+0.4
	baz=236,slow=15,SNR=3.2						
CMAR				Sn	Sn	12 45 54.0	-10
	0.2nm,0.3s,baz=217,slow=25,SNR=2.8						
MKAR	**Makanchi Array**	**34.18**	**347**	P	P	12 49 26.7	+0.3
	0.9nm,0.8s,baz=149,slow=9.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**40.70**	**353**	P	P	12 50 20.4	-1.1
	0.7nm,0.4s,baz=186,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**52.94**	**128**	P	P	12 51 58.3	+0.5
	0.5nm,0.8s,baz=313,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**54.85**	**132**	P	P	12 52 11.4	-0.4
	0.2nm,0.6s,baz=305,slow=6.6,SNR=4.2						

IDC 11 12:46:12.6±58.0, 16°.00S×177°.39W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=1067.0km s-min=167.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.42**	**239**	P	P	12 53 52.5	-0.3
	1.3nm,1.0s,baz=58,slow=9.5,SNR=4.1						
WRA	**Warramunga Arr**	**45.96**	**258**	P	P	12 54 37.9	0.0
	0.2nm,0.5s,baz=91,slow=7.5,SNR=8.2						
ASAR	**Alice Springs**	**46.27**	**252**	P	P	12 54 40.0	-0.2
	2.5nm,0.5s,baz=89,slow=7.8,SNR=63						

IDC 11 12:56:56.1±0.8, 14°.09N×93°.08E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/28, mbtmp3.9/15, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/36, Error ellipse: s-maj=30.7km s-min=16.4km az=52.0
ISCJB 11 12:57:00.5±0.6, 14°.23N±0°.09×93°.34E±0°.08, h41km, mb3.9/16, MS3.3/2, Error ellipse: s-maj=13.3km s-min=11.2km az=175.9
NEIC 11 12:57:01.4±0.4, 14°.12N×93°.15E, h35km, mb4.1/2, Error ellipse: s-maj=12.2km s-min=8.3km az=223.0
ISC 11 12:57:02.4±0.8, 14°.2N±0°.1×93°.28E±0°.09, h41km, n33, σ0:79/36, mb4.0/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.87**	**52**	Pn	**Pn**	**12 58 42.2**	**+1.5**
CMAR				Sn	**Sn**	**12 59 55.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**6.87**	**52**	Pn	**Pn**	**12 58 42.2**	**+1.5**
	0.6nm,0.3s,baz=241,slow=15,SNR=9.1						
CMAR				Sn	**Sn**	**12 59 55.8**	**-1.9**
	0.1nm,0.3s,baz=243,slow=24,SNR=2.6						
AAK	**Ala-Archa**	**32.61**	**334**	LR	LR	13 18 45.4	
	comp=Z,38nm,19.2s,baz=300,slow=40						
MKAR	**Makanchi Array**	**33.74**	**346**	P	**P**	**13 03 40.7**	**+0.6**
MKAR	**Makanchi Array**	**33.74**	**346**	P	**P**	**13 03 40.7**	**+0.6**
	1.6nm,0.8s,baz=157,slow=9.0,SNR=7.9						
SONM	**Songino Array**	**35.23**	**15**	P	**P**	**13 03 54.5**	**+1.4**
SONM	**Songino Array**	**35.23**	**15**	P	**P**	**13 03 54.5**	**+1.4**
	1.6nm,0.8s,baz=201,slow=10,SNR=10						
ZALV	**Zalesovo Beam**	**40.18**	**352**	P	**P**	**13 04 34.7**	**+0.1**
ZALV	**Zalesovo Beam**	**40.18**	**352**	P	**P**	**13 04 34.7**	**+0.1**
	1.4nm,0.6s,baz=175,slow=8.6,SNR=7.0						
ABKAR	**Akbulak array**	**44.33**	**329**	*eP*	**P**	**13 05 09.2**	**+0.7**
	0.8nm,0.3s						
AKTO	**Aktyubinsk**	**46.04**	**329**	P	**P**	**13 05 21.8**	**-0.2**
AKTO	**Aktyubinsk**	**46.04**	**329**	P	**P**	**13 05 21.8**	**-0.2**
	1.0nm,0.4s,baz=116,slow=8.6,SNR=6.1						
WRA	**Warramunga Arr**	**52.77**	**129**	P	**P**	**13 06 13.4**	**-0.4**
WRA				PcP	**PcP**	**13 07 23.3**	**+0.3**
WRA	**Warramunga Arr**	**52.77**	**129**	P	**P**	**13 06 13.4**	**-0.4**
	0.3nm,0.5s,baz=313,slow=8.2,SNR=11						
WRA				PcP	**PcP**	**13 07 23.3**	**+0.3**
	0.5nm,0.6s,baz=319,slow=3.0,SNR=7.6						
WRAB	**Tennant Creek**	**52.77**	**129**	*eP*	**P**	**13 06 13.8**	**0.0**
	4.6nm,1.1s						
ASAR	**Alice Springs**	**54.74**	**133**	P	**P**	**13 06 28.2**	**0.0**
ASAR	**Alice Springs**	**54.74**	**133**	P	**P**	**13 06 28.2**	**0.0**
	0.5nm,0.6s,baz=309,slow=6.8,SNR=12						
BRTR	**Keskin Array B**	**57.76**	**308**	P	**P**	**13 06 48.9**	**-0.9**
BRTR	**Keskin Array B**	**57.76**	**308**	P	**P**	**13 06 48.9**	**-0.9**
	1.2nm,0.6s,baz=128,slow=8.0,SNR=5.1						
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**13 07 49.0**	**-0.3**
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**13 07 49.0**	**-0.3**
	1.0nm,0.5s,baz=103,slow=6.1,SNR=8.5						
ARCES	**ARCESS Array B**	**69.04**	**340**	P	**P**	**13 08 03.4**	**-0.2**
ARCES	**ARCESS Array B**	**69.04**	**340**	P	**P**	**13 08 03.4**	**-0.2**
	0.9nm,0.5s,baz=91,slow=7.3,SNR=11						
ARCES				LR	LR	13 39 14.7	
	comp=Z,26nm,18.0s,baz=76,slow=37						
GERES	**GERESS Array B**	**72.59**	**317**	P	**P**	**13 08 25.4**	**-0.3**
GERES	**GERESS Array B**	**72.59**	**317**	P	**P**	**13 08 25.4**	**-0.3**
	0.3nm,0.2s,baz=81,slow=8.2,SNR=4.5						
HFS	**Hagfors**	**72.59**	**329**	P	**P**	**13 08 25.0**	**-0.4**
HFS	**Hagfors**	**72.59**	**329**	P	**P**	**13 08 25.0**	**-0.4**
	1.6nm,0.8s,baz=106,slow=9.4,SNR=4.5						
NOA	**NORSAR Array B**	**73.83**	**330**	P	**P**	**13 08 32.0**	**-0.6**
NOA	**NORSAR Array B**	**73.83**	**330**	P	**P**	**13 08 32.0**	**-0.6**
	0.5nm,0.6s,baz=90,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**88.33**	**283**	P	**P**	**13 09 50.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**88.33**	**283**	P	**P**	**13 09 50.5**	**-0.1**
	0.9nm,0.8s,baz=85,slow=2.6,SNR=4.8						
ILAR	**Eielson Array**	**89.20**	**22**	P	**P**	**13 09 53.2**	**-0.5**
ILAR	**Eielson Array**	**89.20**	**22**	P	**P**	**13 09 53.2**	**-0.5**
	0.3nm,0.6s,baz=300,slow=4.6,SNR=6.1						

ISCJB 11 13:02:33.3±0.6, 13°.80N±0°.02×60°.98W±0°.07, h133km±6km, Error ellipse: s-maj=11.9km s-min=3.8km az=4.5
TRN 11 13:02:33.4, 13°.84N×60°.90W, h122km, M3.7(FDF)
FUNV 11 13:02:35.5, 13°.41N×60°.57W, h12km, MW3.1
ISC 11 13:02:33.7±1.7, 13°.80N±0°.04×60°.97W±0°.09, h128km±10km, n38, σ1:50/50, 14C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.09**	**165**	*eP*	**Pn**	**13 02 51.5**	**+0.3**
MCLT	**Moule a Chique**	**0.09**	**165**	⇑*iP*	**Pn**	**13 02 51.5**	**+0.3**
MCLT				*eS*	**Sn**	**13 03 04.6**	**+0.2**
SLW	**Petit Monier**	**0.22**	**7**	⇓*iP*	**Pn**	**13 02 52.6**	**+1.1**
SVB	**Belmont**	**0.59**	**208**	*eP*	**Pn**	**13 02 53.6**	**+0.4**
SVB	**Belmont**	**0.59**	**208**	*eP*	**Pn**	**13 02 53.6**	**+0.4**
SVB				*eS*	**Sn**	**13 03 07.8**	**-0.1**
SVB				*eS*		13 03 08.6	
FDF	**Fort de France**	**0.95**	**349**	⇑*iP*	**Pn**	**13 02 56.2**	**+0.2**
FDF				*eS*	**Sn**	**13 03 12.3**	**-0.7**
GRW	**Mount Saint Ca**	**1.76**	**203**	⇑*eP*	**Pn**	**13 03 05.8**	**+0.9**
GRW				*eS*	**Sn**	**13 03 31.4**	**+2.8**
GRGR	**Grenville**	**1.79**	**202**	⇑*iP*	**Pn**	**13 03 05.3**	**+0.2**
GRGR				*eS*	**Sn**	**13 03 29.8**	**+0.8**
MGG	**Marie-Galante**	**2.14**	**351**	⇑*iP*	**Pn**	**13 03 08.9**	**-0.4**
TBG	**Guadaloupe-3**	**2.15**	**342**	⇑*iP*	**Pn**	**13 03 09.9**	**+0.5**
PHG	**Guadaloupe-2**	**2.30**	**344**	⇑*iP*	**Pn**	**13 03 11.8**	**+0.3**
DOG	**Dongo Capester**	**2.31**	**344**	⇑*iP*	**Pn**	**13 03 11.7**	**+0.2**
ECG	**Echelle**	**2.33**	**343**	⇑*iP*	**Pn**	**13 03 12.3**	**+0.4**
TAG	**Tarade**	**2.33**	**343**	⇑*iP*	**Pn**	**13 03 12.7**	**+0.8**
LKG	**Breislack**	**2.33**	**343**	⇑*iP*	**Pn**	**13 03 12.8**	**+0.9**
CRG	**Carmichael**	**2.34**	**343**	⇑*iP*	**Pn**	**13 03 12.1**	**+0.1**
MLG	**Mont-d'or**	**2.36**	**342**	*eP*	**Pn**	**13 03 12.3**	**+0.1**
SSG	**Sans Toucher**	**2.38**	**343**	⇑*iP*	**Pn**	**13 03 12.5**	**0.0**
LZG	**Guadaloupe-1**	**2.46**	**342**	*eP*	**Pn**	**13 03 13.5**	**+0.1**
TOSP	**Speyside**	**2.52**	**170**	*eP*	**Pn**	**13 03 15.2**	**+1.1**
TOSP	**Speyside**	**2.52**	**170**	⇑*iP*	**Pn**	**13 03 15.3**	**+1.1**
TOSP				*eS*	**Sn**	**13 03 44.4**	**-0.8**
SEG	**Port Louis**	**2.64**	**349**	*eP*	Pn	13 03 11.8	-3.9
TRN	**Trinidad (W)**	**3.16**	**188**	*eP*	**Pn**	**13 03 24.7**	**+2.3**
TRN				*eS*	**Sn**	**13 04 00.3**	**+0.3**
TCE	**Chacachacare**	**3.17**	**194**	*eP*	**Pn**	**13 03 23.4**	**+0.7**
TCE				*eS*	**Sn**	**13 04 01.5**	**+1.1**
TBH	**Brigand Hill**	**3.29**	**182**	*eP*	**Pn**	**13 03 26.2**	**+2.0**
TBH				*eS*	**Sn**	**13 04 04.5**	**+1.4**
GUIV	**Guiria**	**3.36**	**202**	*eP*	**Pn**	**13 03 24.4**	**-0.7**
GUIV				*eS*	**Sn**	**13 04 00.7**	**-4.0**
CRUV	**Carupano**	**3.81**	**216**	*eP*	**Pn**	**13 03 31.9**	**+0.9**
CRUV				*eS*	**Sn**	**13 04 14.8**	**-0.6**
ANWB	**Willy Bob**	**3.93**	**349**	*eP*	**Pn**	**13 03 31.6**	**-0.9**
GUNV	**Guanoco**	**4.10**	**208**	*eP*	**Pn**	**13 03 35.3**	**+0.5**
GUNV				*eS*	**Sn**	**13 04 19.6**	**-2.5**
PCRV	**Puerto La Cruz**	**5.08**	**225**	*eP*	**Pn**	**13 03 49.7**	**+1.7**
ORIV	**Oritupano**	**5.27**	**207**	*eP*	**Pn**	**13 03 50.6**	**+0.1**
ORIV				*eS*	**Sn**	**13 04 45.8**	**-4.6**
RIOV	**Rio Grande**	**5.75**	**188**	*eP*	**Pn**	**13 03 55.1**	**-1.9**
RIOV				*eS*	Sn	13 04 53.5	-8.4
CUPV	**Cœpira**	**6.01**	**232**	*eP*	**Pn**	**13 04 03.3**	**+2.8**
CUPV				*eS*	**Sn**	**13 05 08.9**	**+0.8**
PRGV	**PARIAGUAN**	**6.17**	**216**	*eP*	**Pn**	**13 04 03.8**	**+1.2**
GURV	**El Guri**	**6.35**	**199**	*eP*	**Pn**	**13 04 04.1**	**-0.9**
LUEV	**Luepa**	**7.92**	**184**	*eP*	**Pn**	**13 04 23.4**	**-2.9**
LUEV				*eS*	Sn	13 05 43.0	-12
MAPV	**Macapo**	**8.32**	**243**	*eP*	Pn	13 04 36.1	+4.4
BAUV	**El Baul**	**8.45**	**236**	*eP*	Pn	13 04 36.8	+3.5
BAUV				*eS*	**Sn**	**13 06 06.0**	**-1.1**

IDC 11 13:13:01.3±1.4, 13°.70N×92°.89E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/27, mbtmp3.4/6, ML3.9/1, Error ellipse: s-maj=52.0km s-min=19.3km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.50**	**50**	Pn	Pn	13 14 51.1	-1.0
	0.4nm,0.3s,baz=237,slow=18,SNR=3.2						
CMAR				Sn	Sn	13 16 09.8	-8.2
	0.7nm,0.3s,baz=240,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**34.17**	**347**	P	P	13 19 49.4	+1.0
	0.4nm,0.7s,baz=151,slow=6.5,SNR=2.6						
SONM	**Songino Array**	**35.85**	**16**	P	P	13 20 02.7	-0.2
	0.2nm,0.3s,baz=205,slow=9.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**38.63**	**345**	P	P	13 20 25.3	-1.0
	0.2nm,0.3s,baz=150,slow=9.0,SNR=3.9						
WRA	**Warramunga Arr**	**52.73**	**129**	P	P	13 22 18.0	-0.3
	0.5nm,0.7s,baz=298,slow=9.7,SNR=6.7						
WRA				PcP	PcP	13 23 28.0	-0.1
	0.4nm,0.5s,baz=321,slow=3.1,SNR=8.4						
ASAR	**Alice Springs**	**54.66**	**132**	P	P	13 22 32.5	0.0
	0.7nm,0.5s,baz=311,slow=6.9,SNR=22						
ASAR				PcP	PcP	13 23 35.5	+0.1
	0.3nm,0.6s,baz=314,slow=4.0,SNR=4.2						

IDC 11 13:25:05.3±2.5, 20°.51S×174°.71W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, ML2.0/1, Error ellipse: s-maj=109.1km s-min=25.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.13**	**24**	Pn	Pn	13 26 51.4	+0.3
	1.6nm,0.3s,baz=311,slow=20,SNR=3.3						
AFI				Sn	Sn	13 28 09.3	-3.6
	1.4nm,0.3s,baz=170,slow=17,SNR=2.9						
STKA	**Stephens Creek**	**40.57**	**245**	P	P	13 32 46.7	0.0
	2.7nm,1.0s,baz=76,slow=4.2,SNR=3.1						
ASAR	**Alice Springs**	**47.52**	**256**	P	P	13 33 42.4	-0.3
	0.8nm,0.8s,baz=109,slow=8.0,SNR=8.4						
WRA	**Warramunga Arr**	**47.65**	**261**	P	P	13 33 43.7	-0.1
	0.3nm,0.6s,baz=95,slow=8.2,SNR=13						
NVAR	**Mina Array Bea**	**78.94**	**42**	P	P	13 37 11.0	-0.1
	0.3nm,0.6s,baz=201,slow=4.7,SNR=3.7						

KRSC 11 13:29:27.0±0.8, 50°.65N×157°.46E, h39km±39km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.85**	**273**	*i* P	Pn	13 29 41.3	-1.2
SKR				*i* S	Sn	13 29 51.9	-1.9
PAU	**Pauzhetka**	**0.92**	**334**	*eP*	Pn	13 29 44.4	+1.1
PAU				*eS*	Sn	13 29 57.0	+1.7
MIPR	**Malaya Ipel'ka**	**1.69**	**345**	*eP*	Pn	13 29 56.2	+2.2
MIPR				S	Sn	13 30 17.2	+2.9
ASAK	**Asacha**	**1.76**	**9**	*eP*	Pn	13 29 56.5	+1.5
ASAK				*eS*	Sn	13 30 17.7	+1.5
MTVR	**Mutnovka**	**1.89**	**14**	*eP*	Pn	13 29 58.6	+1.7
MTVR				*eS*	Sn	13 30 21.5	+1.8
RUS	**Russkaya**	**1.90**	**20**	*eP*	Pn	13 29 58.1	+1.2
RUS				*eS*	Sn	13 30 20.8	+1.2
GRL	**Gorelyy**	**1.94**	**11**	P	Pn	13 29 59.1	+1.5
GRL				S	Sn	13 30 22.5	+1.6
APC	**Apacha**	**2.29**	**355**	*eP*	Pn	13 30 05.4	+3.3
APC				S	Sn	13 30 34.0	+5.0
PET	**Petropavlovsk**	**2.49**	**17**	P	Pn	13 30 06.9	+2.0
UGLR	**Uglovaya**	**2.70**	**18**	P	Pn	13 30 11.2	+3.2
AVH	**Avacha**	**2.74**	**16**	*eP*	Pn	13 30 11.7	+3.2
AVH				*eS*	Sn	13 30 44.3	+4.0
NLC	**Nalytchevo**	**2.78**	**24**	S	Sn	13 30 41.3	+0.1
SPN	**Mys Shipunski**	**2.92**	**32**	P	Pn	13 30 12.7	+1.8
SPN				S	Sn	13 30 46.7	+2.0
GNL	**Ganaly**	**3.06**	**5**	*eP*	Pn	13 30 16.4	+3.4
GNL				S	Sn	13 30 52.6	+4.1
MKZ	**Mys Kozlova**	**4.70**	**32**	P	Pn	13 30 37.3	+2.1

IDC 11 13:38:16.9±8.3, 13°.36N×92°.95E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=176.0km s-min=46.6km az=106.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.67**	**48**	Pn	Pn	13 40 09.9	-0.1
	0.2nm,0.3s,baz=233,slow=17,SNR=2.7						
CMAR				Sn	Sn	13 41 22.7	-15
	0.2nm,0.3s,baz=233,slow=27,SNR=3.4						
WRA	**Warramunga Arr**	**52.47**	**128**	P	P	13 47 31.8	-0.2
	0.3nm,0.7s,baz=303,slow=7.6,SNR=3.5						
ASAR	**Alice Springs**	**54.38**	**132**	P	P	13 47 46.0	0.0
	0.3nm,0.8s,baz=305,slow=6.7,SNR=7.9						

WEL 11 13:54:27.1±0.4, 46°.46S×164°.73E, h5km, ML3.6/3, Error ellipse: s-maj=4.5km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.96**	**61**	PN	Pn	13 55 00.5	-0.4
DCZ				SN	Sn	13 55 25.1	-0.7
DCZ				AML	AML	13 55 26.3	
DCZ				AML	AML	13 55 26.4	
DCZ				AML	AML	13 55 28.3	
APZ	**The Paps**	**2.28**	**101**	PN	Pn	13 55 04.7	-0.7
APZ				SN	Sn	13 55 32.6	-1.2
WHZ	**Wether Hill Ro**	**2.31**	**77**	PN	Pn	13 55 04.7	-1.0
WHZ				SN	Sn	13 55 33.5	-1.0
WHZ				AML	AML	13 55 33.7	
MLZ	**Mavora Lakes**	**2.65**	**66**	PN	Pn	13 55 11.4	+0.9
SYZ	**Scrubby Hill**	**3.05**	**93**	PN	Pn	13 55 15.2	-0.7
ODZ	**Otahua Downs**	**4.38**	**73**	PN	Pn	13 55 32.3	-1.9

IDC 11 13:56:55.2±3.2, 16°.22S×174°.22W, h83km±29km, mb3.4/8, mb1 3.7/9, mb1mx3.6/18, mbtmp3.5/9, Error ellipse: s-maj=41.2km s-min=16.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**46**	P	Pn	13 57 44.7	-0.1
	102nm,0.3s,baz=65,slow=1.1,SNR=91						
AFI				S	Sn	13 58 18.8	-4.2
	130nm,0.3s,baz=42,slow=20,SNR=12						
STKA	**Stephens Creek**	**42.95**	**240**	P	P

MWZ				AML	AML	14 29 08.4	
MWZ				AML	AML	14 29 08.4	
URZ	**Urewera**	**0.51 220**		P*	Pn	14 28 54.6	-0.5
URZ				S*	Sn	14 29 03.4	-0.3
URZ				AML	AML	14 29 03.5	
PUZ	**Puketiti**	**0.61 109**		⇑PN	Pn	14 28 56.3	0.0
PUZ				SN	Sn	14 29 06.2	+0.5
PUZ				AML	AML	14 29 09.5	
EDRZ	**Edgecumbe**	**0.67 249**		⇓P*	Pn	14 28 57.0	0.0
EDRZ				S*	Sn	14 29 07.0	-0.1
MARZ	**Manawahe**	**0.69 260**		⇓P*	Pn	14 28 56.9	-0.3
MARZ				S*	Sn	14 29 07.4	0.0
MXZ	**Matakaoa Point**	**0.69 64**		AML	AML	14 28 59.1	
MXZ				AML	AML	14 28 59.7	
OPRZ	**Ohinepanea**	**0.77 272**		P*	Pn	14 28 57.9	-0.3
OPRZ				S*	Sn	14 29 09.0	-0.2
CNGZ	**Carnagh Statio**	**0.81 139**		PN	Pn	14 28 58.9	+0.1
TARZ	**Mount Tarawera**	**0.89 246**		⇓P*	Pn	14 28 60.0	+0.1
LIRZ	**Lichensteins R**	**0.92 261**		P*	Pn	14 28 59.2	-0.9
RRRZ	**Republican Roa**	**0.93 239**		⇓P*	Pn	14 29 00.1	-0.2
TGRZ	**Tauranga**	**1.01 278**		⇓P*	Pn	14 29 01.1	-0.3
KARZ	**Kaharoa**	**1.03 261**		⇓P*	Pn	14 29 01.5	-0.1
PRRZ	**Plateau Road**	**1.09 235**		⇓P*	Pn	14 29 02.2	-0.3
RAHZ	**Arahi**	**1.10 198**		⇓PN	Pn	14 29 02.8	+0.2
HRRZ	**Handcock Road**	**1.11 242**		P*	Pn	14 29 02.6	-0.2
KNZ	**Kokohu**	**1.15 174**		PN	Pn	14 29 02.4	-0.8
ALRZ	**Allen Road**	**1.16 233**		⇓P*	Pn	14 29 03.1	-0.3
MHGZ	**Mahia Peninsul**	**1.31 167**		PN	Pn	14 29 04.7	-0.7
NMHZ	**Naumai**	**1.35 205**		PN	Pn	14 29 06.4	+0.4
BKZ	**Black Stump Fm**	**1.53 212**		⇓P*	Pn	14 29 08.0	-0.4
BKZ				AML	AML	14 29 32.3	
BKZ				AML	AML	14 29 35.1	
TOZ	**Tahuroa Road**	**1.61 274**		⇓P*	Pn	14 29 09.3	-0.1
MCHZ	**McNeill Hill**	**1.70 202**		PN	Pn	14 29 10.4	-0.3
RITZ	**Rihia Road**	**1.72 229**		P*	Pn	14 29 11.1	+0.2
KATZ	**Kakaramea**	**1.81 232**		P*	Pn	14 29 12.6	+0.3
CKHZ	**Cape Kidnapper**	**1.82 191**		PN	Pn	14 29 10.9	-1.4
KUZ	**Kuaotunu**	**1.83 307**		PN	Pn	14 29 12.0	-0.4
KRVZ	**Karewarewa**	**1.92 230**		⇓P*	Pn	14 29 13.9	+0.1
OTVZ	**Oturere**	**1.95 228**		⇓P*	Pn	14 29 14.2	0.0
WTVZ	**West Tongariro**	**1.96 230**		⇑P*	Pn	14 29 14.6	+0.2
BHHZ	**Black Hill Sta**	**1.98 215**		P*	Pn	14 29 14.3	-0.3
KAHZ	**Kahuranaki**	**1.99 195**		PN	Pn	14 29 13.4	-1.2
NGZ	**Ngauruhoe**	**2.00 229**		P*	Pn	14 29 14.9	+0.1
TUVZ	**Tukino**	**2.03 226**		P*	Pn	14 29 15.2	-0.1
MKAZ	**Moumakai**	**2.03 291**		⇓PN	Pn	14 29 15.3	+0.2
WPVZ	**Whakapapa**	**2.05 229**		P*	Pn	14 29 15.7	+0.2
MOVZ	**Moawhango**	**2.07 222**		⇓P*	Pn	14 29 15.3	-0.4
FWVZ	**Far West T-bar**	**2.08 228**		P*	Pn	14 29 15.9	-0.2
WNVZ	**Wahianoa**	**2.10 226**		P*	Pn	14 29 16.1	-0.2
TRVZ	**Turoa**	**2.11 227**		*e*P*	Pn	14 29 17.3	+0.8
PXZ	**Pawanui**	**2.22 193**		⇑PN	Pn	14 29 15.5	-2.2
PNHZ	**Pukenui**	**2.29 207**		*e*PN	Pn	14 29 16.8	-1.9
WPHZ	**Waipukurau**	**2.35 201**		PN	Pn	14 29 18.1	-1.4
PRHZ	**Porangahau**	**2.49 196**		*e*PN	Pn	14 29 19.3	-2.1
TSZ	**Takapari Road**	**2.50 209**		PN	Pn	14 29 19.5	-2.1
WAZ	**Wanganui**	**2.74 226**		PN	Pn	14 29 25.3	+0.5
MRZ	**Mangatainoka R**	**3.17 208**		PN	Pn	14 29 27.5	-3.2
MRZ				AML	AML	14 30 07.4	
HOWZ	**Holdsworth Sta**	**3.40 207**		PN	Pn	14 29 30.6	-3.3
OGWZ	**Otaki Gorge**	**3.46 211**		PN	Pn	14 29 31.8	-2.9
KIW	**Kapiti Island**	**3.61 213**		PN	Pn	14 29 34.3	-2.5
CAW	**Cannon Point**	**3.75 210**		*e*PN	Pn	14 29 35.1	-3.5
TCW	**Tory Channel**	**4.18 216**		PN	Pn	14 29 40.6	-3.9
TUWZ	**Tuamarina**	**4.50 217**		PN	Pn	14 29 45.3	-3.6
BSWZ	**Blackbirch Sta**	**4.76 215**		PN	Pn	14 29 48.8	-3.7
THZ	**Tophouse**	**5.27 221**		PN	Pn	14 29 55.8	-3.7
KHZ	**Kahutara**	**5.47 213**		PN	Pn	14 29 58.0	-4.2
LTZ	**Lake Taylor**	**6.34 218**		PN	Pn	14 30 10.5	-3.7
CRLZ	**Canterbury Las**	**6.81 212**		PN	Pn	14 30 15.0	-5.5
MQZ	**McQueen's Vall**	**6.90 211**		PN	Pn	14 30 16.0	-5.8
ODZ	**Otahua Downs**	**8.83 214**		PN	Pn	14 30 42.2	-6.0

*ISCJB **11** 14:29:38.4±0.4, 52°.3N±0°.1×174°.14W±0°.06, h85km±4km, mb3.6/6, Error ellipse: s-maj=22.5km s-min=4.9km az=169.2*
*IDC **11** 14:29:40.7±3.8, 52°.22N×174°.29W, h98km±34km, mb3.4/6, mb1 3.5/8, mb1mx3.2/30, mbtmp3.3/8, Error ellipse: s-maj=36.7km s-min=17.3km az=161.0*
*NEIC **11** 14:29:40.4, 51°.92N×174°.06W, h62km, mb3.7/1, ML3.4(AEIC), After AEIC.*
ISC 11 14:29:39.0±0.8, 52°.1N±0°.2×174°.10W±0°.05, h80km±6km, n31, σ0§84/40, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.10**	**325**	P	**Pn**	**14 29 50.0**	**-0.5**
ATKA				S	**Sn**	**14 29 58.3**	**-0.7**
GSTR	**Great Sitkin T**	**1.21**	**269**	*e*P	**Pn**	**14 30 00.8**	**+0.2**
GSMY	**Great Sitkin M**	**1.21**	**267**	P	**Pn**	**14 30 00.7**	**0.0**
GSMY				S	**Sn**	**14 30 16.6**	**-0.2**
GSTD	**Great Sitkin T**	**1.26**	**268**	P	**Pn**	**14 30 01.5**	**+0.2**
GSTD				S	**Sn**	**14 30 18.4**	**+0.3**
GSCK	**Great Sitkin C**	**1.28**	**266**	P	**Pn**	**14 30 01.6**	**+0.2**
ETKA	**Kagalaska Isla**	**1.45**	**261**	P	**Pn**	**14 30 03.8**	**+0.1**
ADAG	**Mount Adagdak**	**1.55**	**266**	P	**Pn**	**14 30 06.0**	**+1.0**
ADK	**Adak**	**1.61**	**262**	P	**Pn**	**14 30 05.8**	**0.0**
ADK				S	**Sn**	**14 30 25.9**	**-0.1**
KINC	**Kanaga Island**	**1.88**	**265**	P	**Pn**	**14 30 09.6**	**+0.3**
KIKV	**Kanaga Island**	**1.91**	**264**	P	**Pn**	**14 30 10.1**	**+0.4**
KICM	**Kanaga Island**	**1.92**	**265**	P	**Pn**	**14 30 10.4**	**+0.6**
TAFP	**Tanaga Falls P**	**2.41**	**266**	P	**Pn**	**14 30 17.1**	**+0.7**
TASE	**Tanaga Southea**	**2.45**	**265**	P	**Pn**	**14 30 17.6**	**+0.6**
GANE	**Gareloi Northe**	**2.91**	**266**	P	**Pn**	**14 30 23.4**	**+0.3**
NIKH	**Nikolski High**	**3.32**	**73**	P	**Pn**	**14 30 29.8**	**+1.2**
NIKH				S	**Sn**	**14 31 06.2**	**-0.7**
OKCE	**Okmok Cone E**	**3.84**	**68**	P	**Pn**	**14 30 36.0**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**3.89**	**69**	P	**Pn**	**14 30 37.4**	**+0.9**
AMKA	**Amchitka**	**4.17**	**262**	*e*P	**Pn**	**14 30 42.7**	**+2.6**
LSSE	**Little Sitkin**	**4.53**	**270**	P	**Pn**	**14 30 45.6**	**+0.5**
LSSA	**Little Sitkin**	**4.56**	**271**	P	**Pn**	**14 30 46.8**	**+1.2**
FX1	**Attu Island--F**	**7.81**	**281**	P	**Pn**	**14 31 29.0**	**-0.8**
	0.5nm,0.3s,baz=18,slow=20,SNR=3.7						
FX1				S	**Sn**	**14 32 56.0**	**-0.6**
	0.6nm,0.3s,baz=261,slow=19,SNR=3.1						
PETK	**Petropavlovsk-**	**17.11**	**284**	P	**P**	**14 33 34.6**	**+1.3**
	0.1nm,0.3s,baz=102,slow=14,SNR=4.9						
ILAR	**Eielson Array**	**18.86**	**37**	P	**P**	**14 33 53.0**	**+0.7**
	0.3nm,0.3s,baz=217,slow=9.7,SNR=6.6						
ILAR				pP	**pP**	**14 34 09.9**	**+1.7**
	0.2nm,0.3s,baz=234,slow=9.1,SNR=5.3						
EGAK	**Eagle**	**21.08**	**40**	*e*P	**P**	**14 34 16.6**	**+0.2**
	2.2nm,0.6s						
NVAR	**Mina Array Bea**	**40.58**	**87**	P	**P**	**14 37 11.4**	**+0.6**
	0.1nm,0.4s,baz=352,slow=5.6,SNR=2.4						
NVAR				pP	**pP**	**14 37 29.9**	**0.0**
	0.3nm,0.6s,baz=287,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**43.30**	**76**	P	**P**	**14 37 33.3**	**+0.4**
	0.4nm,0.7s,baz=304,slow=6.4,SNR=3.2						
PDAR				pP	**pP**	**14 37 52.1**	**-0.1**
	0.8nm,0.7s,baz=295,slow=3.7,SNR=5.0						
JNU	**Nakatsue**	**43.55**	**266**	P	**P**	**14 37 34.0**	**-0.7**
	6.1nm,0.8s,baz=30,slow=8.1,SNR=3.6						
HFS	**Hagfors**	**67.92**	**356**	P	**P**	**14 40 27.3**	**-1.2**
	0.7nm,0.5s,baz=22,slow=1.6,SNR=5.2						
WRA	**Warramunga Arr**	**84.63**	**228**	P	**P**	**14 42 02.5**	**-1.1**
	0.3nm,0.6s,baz=36,slow=6.1,SNR=5.4						
ASAR	**Alice Springs**	**88.06**	**226**	P	**P**	**14 42 20.1**	**-0.2**
	0.4nm,0.5s,baz=23,slow=4.8,SNR=17						
BOSA	**Boshof**	**152.44**	**321**	PKPbc	**PKPbc**	**14 49 24.6**	**-1.2**
	1.1nm,0.4s,baz=0.0,slow=4.0,SNR=3.7						

*IDC **11** 15:15:24.3±6.1, 36°.01N×71°.07E, h76km±54km, mb3.3/8, mb1 3.4/12, mb1mx3.3/30, mbtmp3.3/12, ML3.5/4, MS3.0/1, Ms1 3.0/1, ms1mx2.2/27, Error ellipse: s-maj=39.0km s-min=21.3km az=21.0*
*ISCJB **11** 15:15:26.4±0.5, 36°.22N±0°.04×71°.0E±0°.1, h102km, mb3.4/7, Error ellipse: s-maj=11.8km s-min=5.2km az=175.4*
ISC 11 15:15:27.4±0.7, 36°.22N±0°.06×71°.0E±0°.1, h102km, n22, σ1§25/25, mb3.5/7, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.51**	**162**	⇑P	**Pn**	**15 16 06.8**	**-0.1**
CEP				S	**Sn**	**15 16 37.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.16**	**143**	P	**Pn**	**15 16 16.0**	**+0.5**
THW	**Thamme Wali**	**3.47**	**170**	⇑P	**Pn**	**15 16 19.6**	**0.0**
AML	**Almayashu**	**6.26**	**19**	P	**Pn**	**15 16 57.7**	**+0.1**
	SNR=10						
EKS2	**Erkin-Say**	**6.78**	**18**	P	**Pn**	**15 17 06.0**	**+1.6**
	SNR=6.6						
KK31	**Karatay Array**	**6.88**	**357**	P	**Pn**	**15 17 06.2**	**+0.6**
	8.0nm,0.3s,baz=184,slow=14,SNR=143						
KK31				⇓S	**Sn**	**15 18 19.0**	**-3.5**
	4.8nm,0.4s,baz=194,slow=22						
AAK	**Ala-Archa**	**6.95**	**22**	P	**Pn**	**15 17 07.6**	**+0.9**
	2.4nm,0.3s,baz=190,slow=6.1,SNR=7.6						
AAK				S	**Sn**	**15 18 24.5**	**+0.2**
	0.8nm,0.3s,baz=317,slow=22,SNR=9.0						
CHMS	**Chumysh**	**7.36**	**22**	P	**Pn**	**15 17 13.4**	**+1.2**
	SNR=6.0						
USP	**Ospenovka**	**7.54**	**20**	P	**Pn**	**15 17 15.1**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**7.57**	**27**	P	**Pn**	**15 17 16.1**	**+0.9**
	SNR=6.1						
MKAR	**Makanchi Array**	**13.52**	**35**	P	**Pn**	**15 18 35.9**	**+0.9**
	0.1nm,0.3s,baz=243,slow=11,SNR=3.4						
AB31	**Akbulak array**	**15.33**	**332**	⇑P	**Pn**	**15 18 56.9**	**-1.1**
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**16.81**	**359**	P	**Pn**	**15 19 16.2**	**-0.1**
	0.2nm,0.3s,baz=166,slow=12,SNR=4.5						
AKTO	**Aktyubinsk**	**17.02**	**331**	P	**Pn**	**15 19 19.3**	**+0.3**
	0.4nm,0.3s,baz=146,slow=14,SNR=8.4						
ZALV	**Zalesovo Beam**	**20.17**	**24**	P	**P**	**15 19 53.6**	**+0.1**
	2.2nm,0.4s,baz=223,slow=10,SNR=8.2						
ZALV				LR	LR	15 28 11.4	
	comp=Z,36nm,18.2s,baz=68,slow=38						
FINES	**FINESS Array B**	**37.71**	**326**	P	**P**	**15 22 35.3**	**+2.5**
	1.0nm,0.7s,baz=119,slow=8.1,SNR=2.6						
ARCES	**ARCESS Array B**	**41.40**	**338**	P	**P**	**15 23 04.6**	**+1.4**
	1.4nm,0.9s,baz=112,slow=9.3,SNR=4.5						
NOA	**NORSAR Array B**	**44.60**	**323**	P	**P**	**15 23 30.6**	**+1.4**
	0.5nm,0.6s,baz=96,slow=7.7,SNR=3.2						
KSRS	**Korea Array**	**44.97**	**71**	P	**P**	**15 23 31.5**	**-0.9**
	0.6nm,0.7s,baz=270,slow=7.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**15 26 00.5**	**-0.9**
	0.2nm,0.4s,baz=46,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**15 27 34.5**	**-1.0**
	0.3nm,0.7s,baz=317,slow=4.9,SNR=3.2						
ASAR	**Alice Springs**	**84.10**	**125**	P	**P**	**15 27 46.5**	**-0.6**
	0.1nm,0.5s,baz=318,slow=5.3,SNR=5.0						

*IDC **11** 15:19:02.8±0.4, 14°.05N×93°.07E, h0km, mb4.3/23, mb1 4.4/24, mb1mx4.3/31, mbtmp4.3/24, ML3.5/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/42, Error ellipse: s-maj=16.4km s-min=11.4km az=61.0*
*ISCJB **11** 15:19:04.9±0.9, 13°.99N±0°.03×92°.98E±0°.04, h25km±7km, mb4.4/59, MS3.6/15, Error ellipse: s-maj=6.0km s-min=5.5km az=39.6*
*BJI **11** 15:19:05.0, 13°.53N×93°.45E, h31km, mB4.5/19, mb4.3/28, Ms4.2/16, Ms7 3.7/18*
*MOS **11** 15:19:05.6±0.9, 13°.97N×93°.05E, h33km, mb4.7/13, Error ellipse: s-maj=10.6km s-min=7.2km az=102.4*
*NEIC **11** 15:19:05.6±3.1, 14°.00N×93°.04E, h19km±19km, mb4.5/8, Error ellipse: s-maj=7.3km s-min=6.5km az=65.0*
ISC 11 15:19:07.4±0.4, 13°.91N±0°.04×92°.99E±0°.05, h33km±2km, h33km:pP-P, n169, σ1§58/196, mb4.4/59, MS3.6/15, 3C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.72**	**184**	*e*P	**Pn**	**15 19 21.0**	**-0.4**
DGPR				*e*S	**Sb**	**15 19 31.0**	**-0.4**
DGPR				AML	AML	15 19 42.8	
	comp=N,28μm,0.5s						
DGPR				AML	AML	15 19 43.0	
	comp=E,14μm,0.5s						
PBA	**Port Blair**	**2.25**	**186**	*e*P	Pn	15 19 43.7	+1.3
PBA				*e*S	Sn	15 20 11.8	+2.7
PBA				AML	AML	15 20 29.3	
	comp=E,1μm,0.4s						
PBA				AML	AML	15 20 31.9	
	comp=N,1μm,0.6s						
CMAR	**Chiang Mai Arr**	**7.29**	**51**	Pn	**Pn**	**15 20 50.6**	**-1.2**
CMAR				Sn	**Sn**	**15 22 08.9**	**-4.7**
CMAR	**Chiang Mai Arr**	**7.29**	**51**	Pn	**Pn**	**15 20 50.6**	**-1.2**
	comp=N,0.2nm,0.3s,baz=237,slow=14,SNR=6.5						
CMAR				Sn	**Sn**	**15 22 08.9**	**-4.7**
	comp=N,0.9nm,0.3s,baz=239,slow=26,SNR=3.6						
CMAR				LR	LR	15 24 20.3	
	comp=N,417nm,19.1s,baz=199,slow=44						
CHTO	**Chiang Mai**	**7.52**	**49**	*e*P	**Pn**	**15 20 54.3**	**-0.5**
CHTO	**Chiang Mai**	**7.52**	**49**	*e*P	**Pn**	**15 20 54.3**	**-0.5**
CHTO	**Chiang Mai**	**7.52**	**49**	P	Pn	15 21 02.8	+8.0
	comp=N,21nm,0.9s						
CMMT	**Chiang Mai**	**7.52**	**49**	P	Pn	15 21 02.2	+7.3
	comp=N,18nm,0.8s,comp=N,481nm						
LAMP	**Lampang**	**7.86**	**53**	P	Pn	15 21 07.4	+7.8
	comp=N,10nm,0.8s						
NAYO	**Nakonayok**	**8.10**	**86**	P	Pn	15 21 13.9	+11
	comp=N,35nm,1.1s						
CMAI	**Chiengmai2**	**8.34**	**43**	P	Pn	15 21 13.1	+6.8
	comp=N,15nm,0.7s						
LOEI	**Loei**	**8.74**	**65**	P	Pn	15 21 24.8	+13
	comp=N,18nm,0.7s						
CHAI	**Chaiyaphum**	**8.92**	**76**	P	Pn	15 21 26.2	+12
	comp=N,4.9nm,0.8s						
VIS	**Vishakhapatnam**	**10.04**	**293**	*e*P	**Pn**	**15 21 28.7**	**-0.8**
VIS				*ex*	x	15 23 08.2	
VIS				AML	AML	15 23 15.6	
	comp=N,303nm,0.3s						
VIS				AML	AML	15 23 15.8	
	comp=E,142nm,0.3s						
SHL	**Shillong**	**11.65**	**355**	*e*P	Pn	15 21 45.7	-5.9
SHL	**Shillong**	**11.65**	**355**	*e*P	**Pn**	**15 21 54.0**	**+2.4**
BOK	**Bokaro**	**11.91**	**327**	*e*P	Pn	15 21 51.5	-3.5
PALK	**Pallekele**	**13.75**	**243**	*e*Pn	**Pn**	**15 22 19.7**	**-0.6**
HYB	**Hyderabad**	**14.33**	**286**	*i* P	**P**	**15 22 34.0**	**-0.9**
HYB				*e*		15 24 53.5	
HYB				*e*S	**Sn**	**15 25 06.0**	**-0.2**
HYB	**Hyderabad**	**14.33**	**286**	*ex*	x	15 24 54.8	
KMI	**Kunming**	**14.45**	**38**	P	**Pn**	**15 22 30.4**	**+0.4**
KMI				pP	P	15 22 41.0	+4.6
KMI				sP		15 22 47.2	
KMI				S	Sn	15 25 18.2	+9.0
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KMI				pmax	pmax		
	comp=Z,82nm,3.1s						
KMI				LR	LR		
	comp=N,280nm,14.9s						
KMI				LR	LR		
	comp=E,210nm,14.4s						
KMI				LR	LR		
	comp=Z,190nm,16.3s						
NGP	**Nagpur**	**15.11**	**300**	*ex*	**Pn**	**15 22 34.5**	**-4.2**
NGP				*ex*	x	15 25 04.8	
LSA	**Lhasa**	**15.81**	**354**	P	**P**	**15 22 51.1**	**-0.6**
LSA	**Lhasa**	**15.81**	**354**	*e*P	**Pn**	**15 22 47.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**15.81**	**354**	*e*Pn	**Pn**	**15 22 47.5**	**-0.7**
	comp=Z,13nm,0.8s						
QIZ	**Qiongzhong**	**16.95**	**70**	P	**Pn**	**15 23 00.8**	**-1.4**
QIZ				S	**Sn**	**15 26 09.3**	**-0.4**
QIZ				LR	LR		
	comp=Z,310nm,13.6s						
BHPL	**Bhopal**	**17.42**	**304**	*e*P	**Pn**	**15 23 05.6**	**-2.5**
GYA	**Guiyang**	**17.89**	**44**	*e*P	**P**	**15 23 15.0**	**+0.6**
GYA				pP	**pP**	**15 23 22.6**	**-0.4**
GYA				PP	**PnPn**	**15 23 31.0**	**+5.8**
GYA				S	**Sn**	**15 26 33.4**	**+0.8**
GYA				sS	sS	15 26 45.7	-6.3
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,460nm,14.4s						
GYA				LR	LR		
	comp=E,410nm,15.5s						
GYA				LR	LR		
	comp=Z,430nm,14.7s						
CD2	**Chengdu**	**19.61**	**29**	*e*P	**Pn**	**15 23 36.4**	**+1.7**
CD2				pP	**pP**	**15 23 45.2**	**+3.3**
CD2				sP	**sP**	**15 23 49.7**	**+3.7**
CD2				PP	PnPn	15 23 55.6	+6.9
CD2				S	**Sn**	**15 27 13.8**	**-0.3**
CD2				sS	**sS**	**15 27 26.5**	**-0.2**
CD2				SS	SnSn	15 27 42.2	+13
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,410nm,14.2s						
CD2				LR	LR		
	comp=Z,260nm,10.8s						
DDI	**Dehra Dun**	**21.37**	**322**	*e*P	**P**	**15 23 52.6**	**+0.3**
ENH	**Enshi**	**22.29**	**40**	P	**P**	**15 23 58.2**	**-3.9**
	comp=Z,12nm,0.9s						
SMLA	**Simla**	**22.48**	**322**	*e*P	**P**	**15 24 04.5**	**+0.4**
DHRM	**DHARAMSHALA**	**23.80**	**323**	*e*P	**P**	**15 24 18.2**	**+0.5**
LZH	**Lanzhou**	**24.14**	**22**	*e*P	P	15 24 29.1	+8.4
LZH				pP	pP	15 24 36.5	+6.3
LZH				sP	sP	15 24 39.8	+5.7
LZH				PP	PnPn	15 25 06.2	+15
LZH				*e*S	S	15 28 49.6	+13
LZH				sS	sS	15 28 58.5	+6.3
LZH				SS	SnSn	15 29 51.5	+31
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,95nm,4.0s						
LZH				LR	LR		
	comp=N,440nm,13.0s						
LZH				LR	LR		
	comp=E,420nm,14.3s						
LZH				LR	LR		
	comp=Z,590nm,15.9s						
XAN	**Xi'an**	**24.71**	**33**	P	**P**	**15 24 24.9**	**-0.9**
XAN				pP	**pP**	**15 24 34.3**	**-0.9**
XAN				sP	**sP**	**15 24 39.0**	**-0.2**
XAN				S	**S**	**15 28 48.1**	**+2.4**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,17nm,4.0s						
XAN				LR	LR		
	comp=N,62nm,8.7s						
XAN				LR	LR		
	comp=Z,41nm,13.5s						
GTA	**Gaotai**	**26.11**	**12**	P	**P**	**15 24 39.1**	**+0.6**
GTA				pP	**pP**	**15 24 48.4**	**+0.5**
GTA				sP	**sP**	**15 24 52.7**	**+0.8**
GTA				PP	**PnPn**	**15 25 20.8**	**+3.2**
GTA				S	**S**	**15 29 09.3**	**+1.3**
GTA				sS	**sS**	**15 29 23.0**	**-0.6**
GTA				SS	**SnSn**	**15 30 15.3**	**+7.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,50nm,4.7s						
GTA				LR	LR		
	comp=N,130nm,12.8s						
GTA				LR	LR		
	comp=E,95nm,16.6s						
GTA				LR	LR		
	comp=Z,120nm,16.6s						
KSH	**Kashi**	**29.59**	**333**	*e*P	P	15 25 15.6	+6.0
KSH				sP	sP	15 25 28.6	+5.6
KSH				PP	**PP**	**15 26 12.6**	**-4.1**
KSH				S	S	15 30 11.8	+9.0
KSH				sS	sS	15 30 27.9	+10
KSH				SS	**ScP**	**15 31 47.8**	**-5.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,77nm,4.8s						
KSH				LR	LR		
	comp=N,54nm,3.8s						
KSH				LR	LR		
	comp=E,78nm,4.4s						
KSH				LR	LR		
	comp=Z,130nm,5.1s						
WMQ	**Urumqi**	**30.16**	**352**	*e*P	**P**	**15 25 16.6**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.5s						
WMQ				LR	LR		
	comp=Z,57nm,21.0s						
HHC	**Hu-ho-hao-te**	**31.36**	**28**	*e*P	**P**	**15 25 24.8**	**-0.5**
HHC				pP	**pP**	**15 25 34.3**	**-0.5**
HHC				sP	**sP**	**15 25 38.3**	**-0.4**
HHC				PP	**PnPn**	**15 26 30.2**	**+1.7**
HHC				S	**S**	**15 30 30.9**	**+0.3**
HHC				sS	**sS**	**15 30 46.9**	**+0.7**
HHC				PcS	**PcS**	**15 31 59.5**	**-3.5**
HHC				SS	**SnSn**	**15 32 21.9**	**+6.1**
HHC				ScS	**ScS**	**15 35 52.3**	**-4.8**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
HHC				LR	LR		
	comp=N,270nm,13.7s						
HHC				LR	LR		
	comp=E,270nm,13.7s						
HHC				LR	LR		
	comp=Z,170nm,14.2s						
AAK	**Ala-Archa**	**32.78**	**334**	*e*P	**P**	**15 25 38.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MKAR	**Makanchi Array**	**33.99**	**347**	*e*P	**P**	**15 25 48.0**	**-0.1**
MKAR	**Makanchi Array**	**33.99**	**347**	*e*P	**P**	**15 25 48.0**	**-0.1**
MKAR	**Makanchi Array**	**33.99**	**347**	P	**P**	**15 25 48.0**	**-0

MDJ LR LR
comp=Z,95nm,20.9s
ABKAR Akbulak array 44.46 329 *eP* **P 15 27 14.9 -0.5**
USRK Ussuriysk Arra 44.88 40 LR LR 15 48 39.9
comp=Z,68nm,20.3s,baz=101,slow=40
FITZ Fitzroy Crossi 45.26 134 P **P 15 27 21.8 -0.4**
FITZ Fitzroy Crossi 45.26 134 P **P 15 27 21.8 -0.4**
comp=Z,3.4nm,0.7s,baz=330,slow=5.6,SNR=17
AKTO Aktyubinsk 46.17 329 P **P 15 27 29.0 0.0**
AKTO Aktyubinsk 46.17 329 P **P 15 27 29.0 0.0**
AKTO Aktyubinsk 46.17 329 P **P 15 27 29.0 0.0**
comp=Z,2.4nm,0.6s,baz=110,slow=7.9,SNR=11
ARU Arti 49.94 336*d iP* **P 15 27 57.8 -0.2**
ARU 15 29 50.5
ARU S **S 15 35 05.9 -0.3**
ARU SS **SS 15 38 37.7 -1.5**
ARU pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 51.97 315 P **P 15 28 12.6 -0.9**
KBZ Khabaz 51.97 315 P **P 15 28 12.6 -0.9**
KBZ Khabaz 51.97 315 P **P 15 28 12.6 -0.9**
comp=Z,0.7nm,0.4s,baz=111,slow=8.8,SNR=2.9
NWAO Narrogin (SRO) 52.02 154 *eP* **P 15 28 14.7 +0.8**
KIV Kislovodsk 52.18 315 *eP* **P 15 28 15.0 -0.2**
KIV pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 52.78 129 P **P 15 28 19.6 -0.3**
WRA PcP **PcP 15 29 29.9 +0.7**
WRA Warramunga Arr 52.78 129 P **P 15 28 19.6 -0.3**
comp=Z,2.1nm,0.6s,baz=310,slow=7.6,SNR=20
WRA PcP **PcP 15 29 29.9 +0.7**
comp=Z,1.6nm,0.6s,baz=316,slow=3.2,SNR=13
WRAB Tennant Creek 52.79 129 *eP* **P 15 28 18.8 -1.1**
WRAB pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 52.79 129 *eP* **P 15 28 18.8 -1.1**
comp=Z,3.5nm,0.7s
ASAR Alice Springs 54.73 133 P **P 15 28 34.5 +0.4**
ASAR PcP **PcP 15 29 37.5 +1.0**
ASAR Alice Springs 54.73 133 P **P 15 28 34.5 +0.4**
comp=Z,1.4nm,0.4s,baz=308,slow=7.0,SNR=68
ASAR PcP **PcP 15 29 37.5 +1.0**
comp=Z,1.9nm,0.8s,baz=310,slow=4.0,SNR=5.9
AS31 Alice Springs 54.73 133 *eP* **P 15 28 34.1 +0.1**
OPO Ambohidratompo 55.49 236 P **P 15 28 42.1 +2.3**
OPO Ambohidratompo 55.49 236 P **P 15 28 42.1 +2.3**
comp=Z,3.4nm,0.8s,baz=45,slow=7.1,SNR=3.6
EIL Elat 55.60 297 LR LR 15 52 11.0
comp=Z,37nm,20.0s,baz=78,slow=36
BR131 Keskin Array S 57.74 308 *eP* **P 15 28 55.0 -0.5**
comp=Z,6.6nm,1.1s
BR131 *e* 15 29 03.1
BRTR Keskin Array B 57.74 308 P **P 15 28 55.3 -0.2**
BRTR Keskin Array B 57.74 308 P **P 15 28 55.3 -0.2**
comp=Z,3.7nm,0.9s,baz=120,slow=7.2,SNR=15
OBN Obninsk 59.73 326⇑ *eP* **P 15 29 09.5 +0.6**
OBN *e* 15 31 21.3
OBN *eS* S 15 37 31.4 +14
OBN pmax pmax
comp=Z,7.0nm,1.2s
PETK Petropavlovsk- 63.86 37 LR LR 16 00 49.1
comp=Z,39nm,21.2s,baz=106,slow=39
STKA Stephens Creek 65.12 135 P **P 15 29 45.5 +0.3**
STKA Stephens Creek 65.12 135 P **P 15 29 45.5 +0.3**
comp=Z,1.5nm,0.7s,baz=325,slow=4.5,SNR=5.0
FINES FINESS Array B 66.89 331 P **P 15 29 55.4 -0.8**
FINES FINESS Array B 66.89 331 P **P 15 29 55.4 -0.8**
comp=Z,2.5nm,0.5s,baz=96,slow=6.1,SNR=18
KOLS Kolonicke sedl 66.98 317 *eP* **P 15 29 57.6 +0.5**
KOLS Kolonicke sedl 66.98 317 *eP* **P 15 29 57.6 +0.5**
CRVS Cervenica-Dubn 67.51 317 *eP* **P 15 30 01.2 +0.8**
CRVS pmax pmax
comp=Z,5.0nm,1.0s
CRVS Cervenica-Dubn 67.51 317 *eP* **P 15 30 01.2 +0.8**
ARCES ARCESS Array B 69.25 340 P **P 15 30 10.6 -0.3**
ARCES ARCESS Array B 69.25 340 P **P 15 30 10.6 -0.3**
comp=Z,2.6nm,0.8s,baz=91,slow=7.2,SNR=13
ARCES LR LR 16 05 24.8
comp=Z,46nm,18.8s,baz=110,slow=40
MORC Moravsky Berou 70.12 318 *eP* **P 15 30 16.3 -0.4**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 70.12 318 *eP* **P 15 30 16.3 -0.4**
comp=Z,5.6nm,1.0s
LSZ Lusaka 70.33 248 *eP* **P 15 30 20.4 +1.8**
comp=Z,8.7nm,0.9s
DPC Dobruska-Polom 70.92 319 *eP* **P 15 30 21.7 +0.1**
DPC *e* 15 30 30.3
DPC Dobruska-Polom 70.92 319 *eP* **P 15 30 21.7 +0.1**
DPC *epP* **pP 15 30 30.3 -1.5**
UPC Upice 71.12 319 *eP* P 15 30 27.7 +5.0
UPC Upice 71.12 319 *epP* P 15 30 27.7 +5.0
CEL Celeste 71.46 306 *eP* **P 15 30 24.1 -1.0**
comp=Z,18nm,1.1s
GEC2 GERESS Array S 72.63 317 *eP* **P 15 30 31.9 0.0**
GEC2 GERESS Array S 72.63 317 *eP* **P 15 30 31.9 0.0**
GERES GERESS Array B 72.63 317 P **P 15 30 30.8 -1.1**
GERES GERESS Array B 72.63 317 P **P 15 30 30.8 -1.1**
comp=Z,1.8nm,0.6s,baz=83,slow=5.8,SNR=17
KHC Kasperske Hory 72.70 317 *eP* **P 15 30 32.4 +0.1**
KHC *e* 15 30 40.4
KHC Kasperske Hory 72.70 317 *eP* **P 15 30 32.4 +0.1**
KHC *epP* **pP 15 30 40.4 -2.1**
NB2 NORSAR Subarra 73.96 330 P **P 15 30 38.5 -1.0**
comp=Z,1.0nm,0.6s,baz=88,slow=5.9
NOA NORSAR Array B 73.96 330 P **P 15 30 38.5 -1.0**
NOA NORSAR Array B 73.96 330 P **P 15 30 38.5 -1.0**
comp=Z,2.1nm,0.8s,baz=90,slow=5.7,SNR=6.5
NOA LR LR 16 08 05.6
comp=Z,27nm,19.3s,baz=290,slow=40
FETA Feichten 74.71 315⇑ *iP* **P 15 30 43.3 -1.0**
comp=Z,3.6nm,0.9s
DAVA Damuels 75.27 316⇑ *iP* **P 15 30 47.3 -0.2**
comp=Z,8.3nm,1.1s
LBTB Lobatse 76.21 240 LR LR 16 00 02.0
comp=Z,25nm,19.7s,slow=32
PGF Pioggiola 76.35 311 *eP* **P 15 30 53.2 -0.5**
CDF Champ du Feu 76.91 317 *eP* **P 15 30 56.1 -0.6**
comp=Z,2.1nm,0.6s
SBF Sospel 77.33 312 *eP* **P 15 30 58.6 -0.5**
comp=Z,28nm,1.0s
HAU Haudompre 77.58 317 *eP* **P 15 30 59.8 -0.6**
comp=Z,3.2nm,0.5s
LPG La Plagne 77.61 314 *eP* **P 15 31 00.9 0.0**
comp=Z,15nm,0.9s
LPL La Plagne 77.62 314 *eP* **P 15 31 00.9 0.0**
comp=Z,16nm,0.8s
MBDF Montbardon 77.69 313 *eP* **P 15 31 00.4 -0.9**
comp=Z,8.3nm,0.9s
BOSA Boshof 77.89 236 P **P 15 31 04.6 +2.0**
BOSA Boshof 77.89 236 P **P 15 31 04.6 +2.0**
comp=Z,11nm,0.6s,baz=80,slow=3.8,SNR=13
CABF La Chapelle 77.92 315 *eP* **P 15 31 02.3 -0.1**
FRF La Foret Royal 77.93 312 *eP* **P 15 31 02.1 -0.3**
comp=Z,65nm,1.4s
GIVF Givet 78.30 319 *eP* **P 15 31 04.2 -0.1**
SFTF Sexfontaines 78.42 317 *eP* **P 15 31 04.5 -0.5**
SMRF Simiane la Rot 78.64 313 *eP* **P 15 31 06.6 +0.2**
BAIF Baives 78.70 319 *eP* **P 15 31 06.6 +0.1**
VIVF Saint-Julien-l 79.15 314 *eP* **P 15 31 09.0 -0.2**
LOR Lormes 79.34 316 *eP* **P 15 31 09.6 -0.5**
comp=Z,3.7nm,0.6s
SMF Signal de Mont 79.45 316 *eP* **P 15 31 10.2 -0.5**
comp=Z,8.4nm,0.8s
AVF Avril sur Loir 79.76 316 *eP* **P 15 31 11.8 -0.6**
comp=Z,3.1nm,0.6s
LASF Ste Croix 79.85 313 *eP* **P 15 31 13.3 +0.3**
comp=Z,13nm,1.1s
TCF Toulx Ste Croi 80.62 315 *eP* **P 15 31 17.1 0.0**
CAF Calviac 80.97 314 *eP* **P 15 31 19.0 0.0**
MTLF Montolieu 81.15 312 *eP* **P 15 31 19.9 -0.1**
comp=Z,9.6nm,1.0s
RJF Les Rejaudoux 81.28 314 *eP* **P 15 31 20.8 +0.2**
LDF La Druitiere 81.74 318 *eP* **P 15 31 22.5 -0.5**
FLN La Foliniere 81.94 318 *eP* **P 15 31 23.5 -0.5**
MFF Saint Martin d 82.16 316 *eP* **P 15 31 24.9 -0.3**
EPF Esparros 82.56 312 *eP* **P 15 31 26.5 -0.9**
SGMF Saint Gilles 83.40 318 *eP* **P 15 31 31.3 -0.3**
ROSF Rostrenen 83.85 318 *eP* **P 15 31 33.6 -0.3**
comp=Z,16nm,1.0s
MAW Mawson 84.19 191 P **P 15 31 36.8 +1.8**
MAW Mawson 84.19 191 P **P 15 31 36.8 +1.8**
comp=Z,2.1nm,0.6s,baz=2.5,slow=8.1,SNR=6.2
ESDC Sonseca Array 86.49 310 P **P 15 31 47.7 +0.3**
ESDC Sonseca Array 86.49 310 P **P 15 31 47.7 +0.3**
comp=Z,0.2nm,0.3s,baz=65,slow=4.8,SNR=3.0
TORD Torodi Ar. Bea 88.13 283 P **P 15 31 56.8 +1.1**
TORD Torodi Ar. Bea 88.13 283 P **P 15 31 56.8 +1.1**
comp=Z,3.3nm,0.9s,baz=84,slow=4.3,SNR=15
ILAR Eielson Array 89.61 22 P **P 15 32 00.8 -0.8**
ILAR Eielson Array 89.61 22 P **P 15 32 00.8 -0.8**
comp=Z,1.1nm,0.8s,baz=292,slow=4.0,SNR=14
MENT Mentasta 91.80 22 *eP* **P 15 32 11.5 -0.5**
DAWY Dawson 92.65 20 P **P 15 32 15.4 -0.5**
PDAR Pinedale Array 119.93 19 PKP **PKPdf 15 37 55.3 +0.1**
PDAR Pinedale Array 119.93 19 PKP **PKPdf 15 37 55.3 +0.1**
comp=Z,0.4nm,0.7s,baz=40,slow=1.5,SNR=3.0
NVAR Mina Array Bea 120.26 28 PKP **PKPdf 15 37 57.5 +1.5**
NVAR Mina Array Bea 120.26 28 PKP **PKPdf 15 37 57.5 +1.5**
comp=Z,0.9nm,0.8s,baz=285,slow=2.6,SNR=6.0
TXAR Lajitas Array 134.10 20 PKP **PKPdf 15 38 23.2 +0.7**
TXAR Lajitas Array 134.10 20 PKP **PKPdf 15 38 23.2 +0.7**
comp=Z,0.5nm,0.8s,baz=316,slow=2.5,SNR=4.9
CPUP Villa Florida 149.59 241 PKPbc **PKPbc 15 38 54.7 +0.4**
CPUP Villa Florida 149.59 241 PKPbc **PKPbc 15 38 54.7 +0.4**
comp=Z,0.5nm,0.3s,baz=97,slow=4.9,SNR=3.9

IDC 11 15:29:26.6±1.0, 13°.81N×92°.78E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.5/28, mbtmp3.6/8, ML3.5/1, Error ellipse: s-maj=41.4km s-min=19.5km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.51**	**51**	Pn	Pn	15 31 18.6	+1.1
	0.2nm,0.3s,baz=240,slow=15,SNR=4.2						
CMAR				Sn	Sn	15 32 35.0	-8.4
	0.2nm,0.3s,baz=240,slow=28,SNR=5.2						
MKAR	**Makanchi Array**	**34.04**	**347**	P	P	15 36 12.0	-0.5
	0.6nm,0.7s,baz=171,slow=10,SNR=5.7						
KURBB	**Kurchatov Arra**	**38.50**	**345**	P	P	15 36 50.2	-0.3
	0.5nm,0.3s,baz=166,slow=7.7,SNR=2.7						
FITZ	**Fitzroy Crossi**	**45.34**	**133**	P	P	15 37 46.4	-0.4
	0.5nm,0.5s,baz=327,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**52.88**	**128**	P	P	15 38 44.3	-0.5
	0.4nm,0.7s,baz=309,slow=7.8,SNR=4.4						
ASAR	**Alice Springs**	**54.81**	**132**	P	P	15 38 59.0	+0.1
	0.4nm,0.5s,baz=307,slow=6.7,SNR=15						
BRTR	**Keskin Array B**	**57.64**	**308**	P	P	15 39 18.9	-0.2
	0.4nm,0.6s,baz=95,slow=6.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**87.96**	**283**	P	P	15 42 20.0	+0.8
	0.6nm,0.9s,baz=85,slow=3.1,SNR=2.7						

BJI ***11*** *15:31:50.9, 62°.20N×151°.10W, h67km, mb4.4/1*
ISCJB ***11*** *15:31:52.8±0.2, 62°.26N±0°.02×151°.05W±0°.04, h81km±2km, mb3.9/24, Error ellipse: s-maj=3.4km s-min=2.8km az=38.9*
IDC ***11*** *15:31:54.7±2.2, 62°.44N×151°.19W, h82km±20km, mb3.7/17, mb1 3.9/20, mb1mx3.8/29, mbtmp3.8/20, MS2.9/4, Ms1 2.9/4, ms1mx2.6/39, Error ellipse: s-maj=16.0km s-min=10.6km az=33.0*
NEIC ***11*** *15:31:54.9, 62°.24N×151°.12W, h68km, mb3.9/6, ML4.0(AEIC), After AEIC.*
NEIC Felt at Anchorage, Chugiak, Talkeetna, Wasilla and Willow.

ISC 11 15:31:53.3±0.7, 62°.26N±0°.03×151°.08W±0°.03, h72km±6km, n155, σ1§16/168, mb4.0/24, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.35**	**218**	P	**Pn**	**15 32 05.7**	**+0.5**
SUA	**Susitna One**	**0.81**	**169**	P	**Pn**	**15 32 10.5**	**+0.7**
PPLA	**Purkeypile**	**0.82**	**322**	P	**Pn**	**15 32 10.6**	**+0.6**
PPLA				S	**Sn**	**15 32 23.0**	**+0.8**
STLK	**Strandline Lak**	**0.84**	**206**	P	**Pn**	**15 32 10.4**	**+0.3**
CGLM	**Capps Glacier**	**1.05**	**205**	P	**Pn**	**15 32 12.8**	**+0.1**
SPCG	**Spurr Capps Gl**	**1.07**	**205**	P	**Pn**	**15 32 13.0**	**+0.1**
SPCG				S	**Sn**	**15 32 27.8**	**+0.3**
CRP	**Crater Peak**	**1.12**	**208**	P	**Pn**	**15 32 13.9**	**+0.3**
CRP				S	**Sn**	**15 32 28.9**	**+0.2**
PMR	**Palmer**	**1.14**	**125**	P	**Pn**	**15 32 14.3**	**+0.7**
PMR				S	**Sn**	**15 32 30.5**	**+1.8**
CP2	**Crater Peak Tw**	**1.14**	**210**	P	**Pn**	**15 32 14.3**	**+0.4**
SPBG	**Spurr Blockage**	**1.18**	**212**	P	**Pn**	**15 32 14.8**	**+0.5**
SPBG				S	**Sn**	**15 32 30.9**	**+1.0**
SPU	**Mount Spurr**	**1.18**	**204**	P	**Pn**	**15 32 14.4**	**+0.2**
BGL	**Barrier Glacie**	**1.18**	**213**	P	**Pn**	**15 32 14.8**	**+0.6**
CKL	**Chakachamna La**	**1.23**	**210**	P	**Pn**	**15 32 15.2**	**+0.4**
TRF	**Thorofare Moun**	**1.25**	**16**	P	**Pn**	**15 32 16.0**	**+0.7**
CAST	**Castle Rocks**	**1.25**	**339**	P	**Pn**	**15 32 15.9**	**+0.8**
CAST				S	**Sn**	**15 32 31.7**	**+0.2**
KTH	**Kantishna Hill**	**1.30**	**3**	P	**Pn**	**15 32 17.1**	**+1.4**
BKG	**Blockade Glaci**	**1.32**	**206**	P	**Pn**	**15 32 16.4**	**+0.3**
SML	**Sawmill**	**1.37**	**108**	P	**Pn**	**15 32 17.8**	**+1.2**
NKA	**Nikishka**	**1.52**	**183**	P	**Pn**	**15 32 21.4**	**+2.8**
RND	**Reindeer**	**1.54**	**41**	P	**Pn**	**15 32 19.9**	**+1.0**
BGRM	**Barrier Glacie**	**1.64**	**204**	P	**Pn**	**15 32 20.4**	**+0.2**
CHUM	**Lake Minchumin**	**1.72**	**341**	P	**Pn**	**15 32 22.3**	**+1.1**
MCK	**McKinley**	**1.77**	**33**	P	**Pn**	**15 32 23.3**	**+1.4**
SLKM	**Skilak Lake**	**1.81**	**166**	P	**Pn**	**15 32 23.5**	**+1.1**
RDT	**Redoubt**	**1.81**	**201**	P	**Pn**	**15 32 22.9**	**+0.5**
SCM	**Sheep Creek Mo**	**1.82**	**102**	P	**Pn**	**15 32 23.4**	**+0.8**
DFR	**Drift River**	**1.84**	**206**	P	**Pn**	**15 32 23.4**	**+0.4**
DHY	**Denali Highway**	**1.90**	**63**	P	**Pn**	**15 32 24.9**	**+1.2**
NCT	**North Crescent**	**1.92**	**208**	P	**Pn**	**15 32 24.6**	**+0.6**
RDWB	**Redoubt West**	**1.97**	**206**	P	**Pn**	**15 32 25.4**	**+0.7**
RSO	**Redoubt South**	**1.98**	**205**	*e*Pn	**Pn**	**15 32 25.5**	**+0.7**
GLI	**Glacier Island**	**2.35**	**124**	P	**Pn**	**15 32 29.5**	**-0.3**
ILIM	**Iliamna**	**2.37**	**203**	P	**Pn**	**15 32 31.3**	**+1.3**
TT01	**Tatalina**	**2.38**	**288**	P	**Pn**	**15 32 29.9**	**-0.1**
IVE	**Iliamna Volcan**	**2.44**	**204**	P	**Pn**	**15 32 31.5**	**+0.6**
SVW2	**Sparrevohn**	**2.44**	**243**	P	**Pn**	**15 32 30.9**	**-0.1**
JPK	**Jack Peak**	**2.45**	**118**	P	**Pn**	**15 32 31.6**	**+0.4**
NEA	**Nenana**	**2.49**	**20**	P	**Pn**	**15 32 32.3**	**+0.7**
VLZ	**Valdez**	**2.53**	**115**	P	**Pn**	**15 32 32.0**	**0.0**
KLU	**Klutina**	**2.56**	**105**	P	**Pn**	**15 32 32.7**	**+0.1**
WRH	**Wood River Hil**	**2.60**	**30**	P	**Pn**	**15 32 33.9**	**+0.9**
HOM	**Homer**	**2.62**	**186**	P	**Pn**	**15 32 34.4**	**+1.1**
FID	**Port Fidalgo**	**2.67**	**122**	P	**Pn**	**15 32 33.5**	**-0.6**
PAX	**Paxson**	**2.69**	**72**	P	**Pn**	**15 32 35.8**	**+1.5**
HARP	**HAARP**	**2.77**	**84**	P	**Pn**	**15 32 36.9**	**+1.5**
MLY	**Manley**	**2.79**	**3**	P	**Pn**	**15 32 36.5**	**+0.9**
CCB	**Clear Creek Bu**	**2.81**	**30**	P	**Pn**	**15 32 36.7**	**+0.8**
OPT	**Oil Point**	**2.82**	**203**	P	**Pn**	**15 32 37.5**	**+1.5**
DDM	**Donnelly Dome**	**2.83**	**55**	P	**Pn**	**15 32 38.5**	**+2.4**
HDA	**Harding Lake**	**2.84**	**39**	P	**Pn**	**15 32 37.7**	**+1.3**
PDB	**Pedro Bay**	**2.91**	**213**	P	**Pn**	**15 32 37.9**	**+0.7**
MDM	**Murphy Dome**	**2.99**	**24**	P	**Pn**	**15 32 39.4**	**+1.0**
COLA	**College**	**2.99**	**27**	P	**Pn**	**15 32 39.5**	**+1.2**
EYAK	**Cordova Ski Ar**	**3.08**	**121**	P	**Pn**	**15 32 40.0**	**+0.5**
AUE	**Augustine Isla**	**3.12**	**202**	P	**Pn**	**15 32 40.7**	**+0.6**
IL1	**Eielson Array**	**3.14**	**35**	P	**Pn**	**15 32 41.6**	**+1.2**
ILAR	**Eielson Array**	**3.14**	**35**	P	**Pn**	**15 32 41.1**	**+0.7**
ILAR				S	**Sn**	**15 33 16.1**	**-0.6**
ILAR	**Eielson Array**	**3.14**	**35**	P	**Pn**	**15 32 41.1**	**+0.7**
	32nm,0.3s,baz=220,slow=14,SNR=1913						
ILAR				S	**Sn**	**15 33 16.1**	**-0.6**
	54nm,0.3s,baz=222,slow=22,SNR=22						
AUI	**Augustine Isla**	**3.15**	**202**	P	**Pn**	**15 32 41.5**	**+0.9**
GLM	**Gilmore Dome**	**3.19**	**29**	P	**Pn**	**15 32 42.4**	**+1.2**
WASW	**Wrangell South**	**3.26**	**93**	P	**Pn**	**15 32 43.1**	**+0.8**
SGAM	**Sherman Glacie**	**3.33**	**119**	P	**Pn**	**15 32 42.4**	**-0.5**
BMRM	**Bremner River**	**3.35**	**110**	P	**Pn**	**15 32 43.2**	**-0.1**
GOAT	**Goat Mountain**	**3.48**	**116**	P	**Pn**	**15 32 45.0**	**-0.1**
GCSA	**Galena City Sc**	**3.60**	**316**	P	**Pn**	**15 32 47.6**	**+1.0**
RAGM	**Ragged Mountai**	**3.61**	**118**	P	**Pn**	**15 32 46.5**	**-0.3**
SCRK	**Sand Creek**	**3.65**	**59**	P	**Pn**	**15 32 48.7**	**+1.2**
MID	**Middleton Isla**	**3.67**	**139**	P	**Pn**	**15 32 48.6**	**+1.1**
VRDI	**Verde Repeater**	**3.77**	**103**	P	**Pn**	**15 32 49.1**	**0.0**
IM3	**Indian Mountai**	**3.92**	**344**	P	**Pn**	**15 32 51.8**	**+0.8**
MCARA	**McCarthy VSAT**	**3.92**	**99**	P	**Pn**	**15 32 51.2**	**+0.2**
NICHA	**Nichawak Mount**	**3.99**	**117**	P	**Pn**	**15 32 51.8**	**-0.2**
KAPH	**Katmai Pasha**	**4.02**	**205**	P	**Pn**	**15 32 53.5**	**+1.1**
KHIT	**Khitrov Hills**	**4.18**	**112**	P	**Pn**	**15 32 55.3**	**+0.6**
PTPK	**Patty Peak**	**4.24**	**101**	P	**Pn**	**15 32 55.7**	**+0.2**
GRIN	**Grindle Hills**	**4.24**	**114**	P	**Pn**	**15 32 56.3**	**+1.0**
BALM	**Baldy**	**4.34**	**103**	P	**Pn**	**15 32 56.5**	**-0.3**
BCA3	**Beaver Creek A**	**4.36**	**75**	P	**Pn**	**15 32 57.6**	**+0.6**
KIAG	**Kiagna River**	**4.38**	**104**	P	**Pn**	**15 32 56.8**	**-0.6**
KAKN	**Katmai Knife C**	**4.44**	**208**	P	**Pn**	**15 32 58.6**	**+0.4**
KELA	**Mount Kelaz**	**4.48**	**213**	P	**Pn**	**15 32 59.5**	**+0.8**
KULT	**Kultieth River**	**4.51**	**113**	P	**Pn**	**15 32 59.8**	**+0.7**
ISLE	**Juniper Island**	**4.51**	**108**	P	**Pn**	**15 32 59.0**	**-0.2**
BARK	**Barkley Ridge**	**4.54**	**110**	P	**Pn**	**15 32 59.9**	**+0.4**
KDAK	**Kodiak Island**	**4.55**	**190**	P	**Pn**	**15 32 59.6**	**0.0**
KABR	**Katmai Barrier**	**4.57**	**207**	P	**Pn**	**15 33 00.9**	**+0.9**
BARN	**Barnard Glacie**	**4.65**	**101**	P	**Pn**	**15 33 01.5**	**+0.4**
BAGL	**Bagley Icefiel**	**4.67**	**108**	P	**Pn**	**15 33 01.3**	**+0.1**
CAHL	**Cahill**	**4.72**	**208**	P	**Pn**	**15 33 01.9**	**0.0**
GRNC	**Granite Creek**	**4.72**	**105**	P	**Pn**	**15 33 02.0**	**-0.1**
KJL	**Kejulik**	**4.78**	**210**	P	**Pn**	**15 33 03.2**	**+0.4**
YAH	**Yahtse**	**4.88**	**109**	P	**Pn**	**15 33 04.9**	**+0.6**
COLD	**Coldfoot**	**5.00**	**4**	P	**Pn**	**15 33 07.2**	**+1.5**
EGAK	**Eagle**	**5.11**	**56**	P	**Pn**	**15 33 08.2**	**+1.0**
TABL	**Table Mountain**	**5.12**	**106**	P	**Pn**	**15 33 07.7**	**+0.2**
OHAK	**Old Harbor**	**5.18**	**193**	P	**Pn**	**15 33 07.6**	**-0.5**
DAWY	**Dawson**	**5.59**	**66**	P	**Pn**	**15 33 14.5**	**+0.6**
BM3	**Burnt Mountain**	**5.87**	**25**	P	**Pn**	**15 33 18.6**	**+1.0**
PNL	**Peninsula**	**6.25**	**109**	P	**Pn**	**15 33 23.0**	**+0.2**
HYT	**Haines Junctio**	**6.64**	**96**	P	**Pn**	**15 33 27.9**	**-0.4**
WHY	**Whitehorse**	**7.92**	**94**	P	**Pn**	**15 33 45.5**	**-0.2**
SKAG	**Skagway**	**8.18**	**103**	*e*P	**Pn**	**15 33 49.0**	**-0.1**
INK	**Inuvik**	**9.50**	**43**	P	**Pn**	**15 34 06.8**	**-0.2**
INK				S	**Sn**	**15 35 50.1**	**-1.9**
INK	**Inuvik**	**9.50**	**43**	P	**Pn**	**15 34 06.8**	**-0.2**
	1.4nm,0.3s,baz=246,slow=16,SNR=14						
INK				S	**Sn**	**15 35 50.1**	**-1.9**
	0.4nm,0.3s,baz=150,slow=20,SNR=2.4						
INK				LR	LR	15 37 50.1	
	comp=Z,46nm,21.6s,baz=0.0,slow=38						
DLBC	**Dease Lake**	**11.09**	**101**	*e*P	**Pn**	**15 34 28.2**	**-0.6**
DLBC				S	**Sn**	**15 36 26.2**	**-4.6**
DLBC	**Dease Lake**	**11.09**	**101**	P	**Pn**	**15 34 28.4**	**-0.4**
	0.4nm,0.3s,baz=322,slow=11,SNR=5.8						
DLBC				S	**Sn**	**15 36 26.2**	**-4.6**
	0.3nm,0.3s,baz=241,slow=19,SNR=3.2						
DLBC				LR	LR	15 38 58.4	
	comp=Z,100nm,21.2s,baz=331,slow=38						
YKA	**Yellowknife Ar**	**16.77**	**73**	P	**Pn**	**15 35 43.6**	**+0.4**
YKA	**Yellowknife Ar**	**16.77**	**73**	P	**Pn**	**15 35 43.6**	**+0.4**
	0.5nm,0.3s,baz=284,slow=9.3,SNR=7.5						
FX1	**Attu Island--F**	**21.08**	**260**	*e*P	**P**	**15 36 31.3**	**0.0**
FX1	**Attu Island--F**	**21.08**	**260**	P	**P**	**15 36 30.8**	**-0.5**
	3.9nm,0.5s,baz=308,slow=16,SNR=8.9						
FX1				LR	LR	15 43 47.4	
	comp=Z,24nm,18.8s,baz=192,slow=34						
EDM	**Edmonton**	**21.77**	**97**	*e*P	**P**	**15 36 39.2**	**+0.5**
NEW	**Newport**	**23.53**	**111**	P	**P**	**15 36 58.2**	**+1.5**
NEW	**Newport**	**23.53**	**111**	P	**P**	**15 36 58.2**	**+1.5**
	3.4nm,0.6s,baz=296,slow=4.9,SNR=5.3						
NEW				LR	LR	15 46 32.7	
	comp=Z,42nm,19.2s,baz=338,slow=37						
WALA	**Waterton Lakes**	**24.36**	**106**	*e*P	**P**	**15 37 05.6**	**+1.3**
	0.4nm,0.9s						
SWMT	**Swartz Lake**	**25.48**	**108**	*e*P	**P**	**15 37 17.8**	**+3.4**
	3.2nm,1.1s						
HUMO	**Hull Mountain**	**25.74**	**127**	*e*P	**P**	**15 37 19.1**	**+2.3**
	2.8nm,0.6s						
BMO	**Blue Mountains**	**26.12**	**116**	*e*P	**P**	**15 37 21.3**	**+1.1**
	6.9nm,1.4s						
YBH	**Yreka Blue Hor**	**26.59**	**127**	P	**P**	**15 37 26.1**	**+1.6**
YBH	**Yreka Blue Hor**	**26.59**	**127**	P	**P**	**15 37 26.1**	**+1.6**
	1.8nm,0.6s,baz=334,slow=4.5,SNR=8.6						
PETK	**Petropavlovsk-**	**28.14**	**275**	P	**P**	**15 37 39.0**	**+0.8**
PETK	**Petropavlovsk-**	**28.14**	**275**	P	**P**	**15 37 39.0**	**+0.8**
	0.5nm,0.6s,baz=73,slow=12,SNR=6.1						
IMW	**Indian Meadow**	**29.63**	**110**	*e*P	**P**	**15 37 54.6**	**+2.8**
	2.0nm,0.8s						
NVAR	**Mina Array Bea**	**31.12**	**125**	P	**P**	**15 38 06.9**	**+2.0**
NVAR	**Mina Array Bea**	**31.12**	**125**	P	**P**	**15 38 06.9**	**+2.0**
	4.1nm,0.8s,baz=312,slow=9.0,SNR=28						
PDAR	**Pinedale Array**	**31.14**	**109**	P	**P**	**15 38 06.6**	**+1.5**
PDAR	**Pinedale Array**	**31.14**	**109**	P	**P**	**15 38 06.6**	**+1.5**
	0.7nm,0.5s,baz=314,slow=3.0,SNR=6.6						
NV11	**Mina Array Sit**	**31.18**	**124**	*e*P	**P**	**15 38 07.4**	**+2.0**
PFO	**Pinyon Flat Ob**	**36.07**	**126**	P	**P**	**15 38 48.9**	**+1.1**
PFO	**Pinyon Flat Ob**	**36.07**	**126**	P	**P**	**15 38 48.9**	**+1.1**
	1.2nm,0.5s,baz=0.0,slow=8.1,SNR=2.3						
SCHQ	**Schefferville**	**41.58**	**60**	P	**P**	**15 39 33.3**	**-0.1**
SCHQ	**Schefferville**	**41.58**	**60**	P	**P**	**15 39 33.3**	**-0.1**
	2.2nm,0.5s,baz=315,slow=10.0,SNR=6.0						
WMOK	**Wichita Mounta**	**42.52**	**105**	*e*P	**P**	**15 39 41.7**	**+0.4**
	8.2nm,1.3s						
TXAR	**Lajitas Array**	**44.99**	**115**	P	**P**	**15 40 03.0**	**+1.7**
TXAR	**Lajitas Array**	**44.99**	**115**	P	**P**	**15 40 03.0**	**+1.7**
	1.2nm,0.6s,baz=327,slow=5.9,SNR=14						
ARCES	**ARCESS Array B**	**48.47**	**2**	P	**P**	**15 40 27.9**	**+0.1**

0.5nm,0.7s,baz=311,slow=7.7,SNR=7.7
ASAR Alice Springs 54.98 133 P P 15 56 37.8 -0.2
0.3nm,0.5s,baz=306,slow=6.7,SNR=5.4
BRTR Keskin Array B 57.51 308 P P 15 56 55.5 -0.6
0.7nm,0.8s,baz=108,slow=4.7,SNR=3.4
STKA Stephens Creek 65.39 135 P P 15 57 49.5 +0.2
1.8nm,1.0s,baz=321,slow=6.5,SNR=3.6
FINES FINESS Array B 66.53 331 P P 15 57 55.7 -0.4
1.6nm,0.9s,baz=121,slow=6.8,SNR=3.7
ARCES ARCESS Array B 68.84 340 P P 15 58 10.8 +0.2
1.3nm,0.8s,baz=105,slow=6.8,SNR=5.1
GERES GERESS Array B 72.35 317 P P 15 58 31.8 -0.7
0.4nm,0.7s,baz=101,slow=6.9,SNR=4.8
SPITS Spitsbergen Ar 73.31 348 P P 15 58 39.1 +1.5
2.3nm,0.9s,baz=91,slow=12,SNR=6.5

IDC 11 15:48:14.6±2.5, 0°.35S×132°.42E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=99.0km s-min=28.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.86	200	P	P	P	15 52 34.8	-1.6
	0.1nm,0.3s,baz=24,slow=12,SNR=3.6							
WRA	Warramunga Arr	19.57	175	P	P	P	15 52 44.6	+0.4
	0.2nm,0.3s,baz=355,slow=11,SNR=8.4							
ASAR	Alice Springs	23.23	177	P	P	P	15 53 24.1	+0.5
	2.2nm,0.8s,baz=353,slow=11,SNR=14							
MKAR	Makanchi Array	64.14	324	P	P	P	15 58 51.0	0.0
	0.3nm,0.8s,baz=117,slow=8.4,SNR=2.5							

IDC 11 16:28:08.6±0.6, 5°.23S×11°.41W, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.1/29, mbtmp4.1/20, ML3.7/1, MS3.9/38, Ms1 3.9/38, ms1mx3.9/42, Error ellipse: s-maj=22.0km s-min=14.8km az=116.0
ISCJB 11 16:28:09.8±0.4, 5°.16S±0°.07×11°.42W±0°.09, h18km, mb4.3/31, MS4.0/42, Error ellipse: s-maj=14.0km s-min=8.1km az=31.8
NEIC 11 16:28:10.1±0.4, 5°.22S×11°.42W, h10km, mb4.5/4, Error ellipse: s-maj=14.4km s-min=9.4km az=126.0
GCMT 11 16:28:13.3±0.3, 5°.00S×11°.60W, h12km, MW4.9, Moment Tensor Solution. s20,c21; s73,c100; Moment tensor: Scale 10^16 Nm; Mrr=2.34±.09; Mθθ=0.26±.08; Mφφ=2.08±.07; Mrθ=1.05±.31; Mθφ=-0.75±.06; Mφr=-0.74±.28; Best double couple: M0=2.70000×10^16 NP1:φs=325.00000°, δ=59.00000°, λ=-106.00000°. NP2:φs=174.00000°, δ=35.00000°, λ=-65.00000°. Principal axes: T 2.5800, Plg=13.0000°, Azm=67.0000°; N 0.1700, Plg=14.0000°, Azm=334.0000°; P -2.7600, Plg=71.0000°, Azm=198.0000°; Data Used: IU IC II G.

ISC 11 16:28:11.3±0.5, 5°.18S±0°.09×11°.4W±0°.1, h18km, n102, σ1=00/69, mb4.3/31, MS4.0/42, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LIC	Lamto	13.01	30	eP		Pn	16 31 14.9	-0.5
	baz=205							
LIC				eR				
	939nm,19.8s							
LIC	Lamto	13.01	30	eP		Pn	16 31 13.9	-1.5
	29nm,0.9s							
KIC	Kosan Boka	13.27	30	eP		Pn	16 31 15.7	-3.3
	118nm,1.5s							
TIC	Toumodi	13.38	29	eP		Pn	16 31 19.6	-0.9
	11nm,0.2s							
DBIC	Dimbokro	13.48	29	eP		Pn	16 31 21.1	-0.7
	104nm,1.6s							
DBIC	Dimbokro	13.48	29	Pn		Pn	16 31 21.2	-0.6
	0.3nm,0.3s,baz=193,slow=13,SNR=8.5							
DBIC				LR		LR	16 35 31.3	
	comp=Z,706nm,20.2s,baz=181,slow=33							
BBTS	Babate	20.35	346	P		Pn	16 32 49.0	-0.1
BBTS	Babate	20.35	346	P		Pn	16 32 49.0	-0.1
	14nm,0.7s,baz=208,slow=5.2,SNR=1.9							
BBTS				LR		LR	16 38 57.8	
	comp=Z,196nm,21.1s,baz=160,slow=32							
TOA0	Torodi Ar. Sit	22.40	36	eP		P	16 33 07.5	-1.5
TORD	Torodi Ar. Bea	22.40	36	P		P	16 33 07.3	-1.7
TORD	Torodi Ar. Bea	22.40	36	P		P	16 33 07.3	-1.7
	9.5nm,0.9s,baz=221,slow=10,SNR=55							
TORD				LR		LR	16 40 43.2	
	comp=Z,746nm,20.5s,baz=210,slow=34							
TSUM	Tsumeb	31.53	119	LR		LR	16 44 36.6	
	comp=Z,485nm,21.4s,baz=282,slow=31							
BDFB	Brasilia	37.38	251	P		P	16 35 24.0	+0.4
BDFB	Brasilia	37.38	251	P		P	16 35 24.0	+0.4
	1.9nm,0.5s,baz=96,slow=9.2,SNR=3.4							
BDFB				LR		LR	16 47 33.4	
	comp=Z,354nm,20.9s,baz=231,slow=31							
BOSA	Boshof	41.85	128	P		P	16 36 00.4	-0.3
	2.1nm,0.7s							
BOSA	Boshof	41.85	128	P		P	16 36 00.7	-0.1
	1.7nm,0.7s,baz=331,slow=5.1,SNR=3.9							
BOSA				LR		LR	16 50 42.6	
	comp=Z,136nm,18.2s,baz=307,slow=32							
KEST	Kesra	45.13	24	P		P	16 36 27.2	+0.2
KEST	Kesra	45.13	24	P		P	16 36 27.2	+0.2
	0.8nm,0.6s,baz=112,slow=5.4,SNR=2.6							
KEST				LR		LR	16 55 32.8	
	comp=Z,147nm,19.7s,baz=158,slow=36							
ESDC	Sonseca Array	45.16	8	P		P	16 36 28.1	+1.0
ESDC	Sonseca Array	45.16	8	P		P	16 36 28.1	+1.0
	0.2nm,0.3s,baz=186,slow=8.0,SNR=3.8							
ESDC				LR		LR	16 56 04.0	
	comp=Z,54nm,21.5s,baz=150,slow=37							
CPUP	Villa Florida	48.57	239	LR		LR	16 55 30.2	
	comp=Z,120nm,18.9s,baz=44,slow=34							
KMBO	Kilima Mbogo	48.77	87	LR		LR	16 56 27.7	
	comp=Z,534nm,18.2s,baz=274,slow=35							
ETSF	Etsaut	48.86	11	eP		P	16 36 57.3	+1.3
SJPF	Ste Jean	48.95	10	eP		P	16 36 56.7	+0.1
EPF	Esparros	49.16	11	eP		P	16 36 58.2	0.0
SIV	San Ignacio	49.84	254	P		P	16 37 04.4	+0.5
SIV	San Ignacio	49.84	254	P		P	16 37 04.4	+0.5
	1.3nm,0.8s,baz=124,slow=10,SNR=4.2							
MTLF	Montolieu	49.85	13	eP		P	16 37 04.0	+0.5
LASF	Ste Croix	50.93	14	eP		P	16 37 12.8	+1.2
	30nm,1.3s							
LFF	La Frestale	51.07	11	eP		P	16 37 13.5	+0.8
CAF	Calviac	51.33	12	eP		P	16 37 15.4	+0.8
SAML	Samuel	51.46	263	eP		P	16 37 15.9	-0.3
	7.1nm,1.4s							
RJF	Les Rejaudoux	51.58	12	eP		P	16 37 17.1	+0.7
RJF				eR				
	142nm,17.0s							
VIVF	Saint-Julien-l	51.86	15	eP		P	16 37 19.9	+1.3
ORIF	Oris-en-Rattie	52.23	16	eP		P	16 37 21.8	+0.3
ORIF				eR				
	214nm,17.5s							
MBDF	Montbardon	52.30	16	eP		P	16 37 23.9	+1.9
	6.4nm,0.8s							
MFF	Saint Martin d	52.52	10	eP		P	16 37 24.1	+0.7
	22nm,1.2s							
TCF	Toulx Ste Croi	52.66	12	eP		P	16 37 25.7	+1.2
	30nm,1.5s							
LPG	La Plagne	53.00	16	eP		P	16 37 28.8	+1.4
	12nm,0.9s							
LPL	La Plagne	53.02	16	eP		P	16 37 28.9	+1.5
	7.9nm,0.8s							
AVF	Avril sur Loir	53.38	13	eP		P	16 37 30.5	+0.7
SSF	Saint Saulge	53.67	13	eP		P	16 37 32.8	+0.9
	7.1nm,0.9s							
ROSF	Rostrenen	53.77	7	eP		P	16 37 32.9	+0.3
	48nm,1.4s							
LOR	Lormes	53.94	13	eP		P	16 37 34.5	+0.6
	19nm,1.4s							
LOR				eR				
	169nm,18.0s							
DAVOX	Davos/Dischmat	55.07	18	LR		LR	17 01 09.7	
	comp=Z,157nm,18.7s,baz=267,slow=36							
EIL	Elat	56.38	49	LR		LR	17 03 40.4	
	comp=Z,124nm,18.9s,baz=98,slow=38							
ATD	Arta Tunnel	56.49	73	LR		LR	16 59 10.8	
	comp=Z,117nm,19.8s,baz=274,slow=33							
LPAZ	La Paz	56.62	254	LR		LR	16 59 26.9	
	comp=Z,161nm,21.9s,baz=249,slow=33							
GERES	GERESS Array B	58.11	19	P		P	16 38 03.9	+0.1
GERES	GERESS Array B	58.11	19	P		P	16 38 03.9	+0.1
	1.9nm,0.7s,baz=190,slow=6.4,SNR=18							
GERES				LR		LR	17 03 31.8	
	comp=Z,158nm,20.3s,baz=22,slow=36							
KHC	Kasperske Hory	58.32	19	AMS		AMS	17 03 00.0	
	comp=Z,200nm,21.1s							
MMAI	Mount Meron Ar	58.41	46	LR		LR	17 01 02.5	
	comp=Z,106nm,20.8s,baz=230,slow=34							
NKC	Novy Kostel	58.93	18	AMS		AMS	17 02 00.0	
	comp=Z,100nm,19.9s							
ASF	Jabal al Asfar	59.07	48	LR		LR	17 05 12.9	
	comp=Z,195nm,18.7s,baz=203,slow=38							
TREC	Trest	59.10	20	AMS		AMS	17 03 20.0	
	comp=Z,100nm,18.3s							
PRU	Pruhonice	59.37	19	AMS		AMS	17 05 00.0	
	comp=Z,100nm,19.0s							
LRS	Lares	59.38	295	eP		P	16 38 11.8	-1.4
VRAC	Vranov	59.49	21	LR		LR	17 05 40.7	
	comp=Z,135nm,18.6s,baz=210,slow=38							
DPC	Dobruska-Polom	60.28	20	AMS		AMS	17 04 30.0	
OKC	Ostrava-Krasne	60.50	22	AMS		AMS	17 07 30.0	
	comp=Z,100nm,17.4s							
BR131	Keskin Array S	60.96	39	P		P	16 38 26.8	+3.0
	4.2nm,1.0s							
BRTR	Keskin Array B	60.96	39	P		P	16 38 25.6	+1.8
BRTR	Keskin Array B	60.96	39	P		P	16 38 25.6	+1.8
	1.7nm,1.0s,baz=201,slow=6.6,SNR=7.9							
BRTR				LR		LR	17 04 52.0	
	comp=Z,61nm,21.8s,baz=213,slow=36							
ROSC	El Rosal	63.60	278	P		P	16 38 42.3	+0.1
ROSC	El Rosal	63.60	278	P		P	16 38 42.3	+0.1
	5.2nm,0.4s,baz=269,slow=23,SNR=4.1							
ROSC				LR		LR	17 03 43.0	
	comp=Z,127nm,20.7s,baz=42,slow=34							
AKASG	Malin Array Be	65.72	27	P		P	16 38 54.6	-0.3
AKASG	Malin Array Be	65.72	27	P		P	16 38 54.6	-0.3
	14nm,0.3s,baz=224,slow=6.5,SNR=2.3							
AKASG				LR		LR	17 09 15.0	
	comp=Z,64nm,18.6s,baz=215,slow=38							
ATAH	Atahualpa	66.55	264	LR		LR	17 07 39.5	
	comp=Z,343nm,19.0s,baz=321,slow=36							
SNAA	Sanae	66.63	177	eP		P	16 38 59.5	-1.0
SNAA	Sanae	66.63	177	P		P	16 38 59.8	-0.7
	0.8nm,1.0s,baz=353,slow=6.3,SNR=7.4							
HFS	Hagfors	68.06	13	LR		LR	17 10 35.0	
	comp=Z,57nm,19.8s,baz=196,slow=37							
NOA	NORSAR Array B	68.34	12	P		P	16 39 12.3	+0.9
NOA	NORSAR Array B	68.34	12	P		P	16 39 12.3	+0.9
	1.4nm,0.9s,baz=206,slow=6.4,SNR=2.7							
NOA				LR		LR	17 10 42.0	
	comp=Z,52nm,19.6s,baz=210,slow=37							
GNI	Garni	68.45	43	LR		LR	17 10 60.0	
	comp=Z,44nm,19.1s,baz=116,slow=38							
KBZ	Khabaz	68.95	39	P		P	16 39 16.7	+1.2
KBZ	Khabaz	68.95	39	P		P	16 39 16.7	+1.2
	5.2nm,0.9s,baz=169,slow=3.2,SNR=6.0							
KBZ				LR		LR	17 11 28.4	
	comp=Z,40nm,21.6s,baz=20,slow=38							
FINES	FINESS Array B	72.48	18	P		P	16 39 36.3	-0.3
FINES	FINESS Array B	72.48	18	P		P	16 39 36.3	-0.3
	1.5nm,0.5s,baz=212,slow=4.2,SNR=15							
FINES				LR		LR	17 11 01.9	
	comp=Z,73nm,20.8s,baz=182,slow=36							
JTS	JuntasAbangare	74.80	282	LR		LR	17 11 06.0	
	comp=Z,73nm,20.1s,baz=188,slow=34							
SCHQ	Schefferville	75.28	331	LR		LR	17 05 33.3	
	comp=Z,42nm,19.6s,baz=342,slow=30							
ARCES	ARCESS Array B	78.69	12	LR		LR	17 16 44.1	
	comp=Z,66nm,19.2s,baz=232,slow=37							
MAW	Mawson	79.28	158	P		P	16 40 15.5	+0.1
MAW	Mawson	79.28	158	P		P	16 40 15.5	+0.1
	0.6nm,0.3s,baz=248,slow=7.5,SNR=3.3							
MAW				LR		LR	17 06 23.0	
	comp=Z,84nm,21.4s,baz=205,slow=29							
AKTO	Aktyubinsk	81.11	37	P		P	16 40 25.9	+0.4
AKTO	Aktyubinsk	81.11	37	P		P	16 40 25.9	+0.4
	1.6nm,0.9s,baz=238,slow=7.5,SNR=4.3							
AKTO				LR		LR	17 22 27.4	
	comp=Z,30nm,18.1s,baz=75,slow=40							
QSPA	South Pole Qui	84.92	180	eP		P	16 40 45.6	+0.4
	38nm,2.0s							
ULM	Lac du Bonnet	90.39	320	LR		LR	17 15 23.2	
	comp=Z,56nm,18.2s,baz=45,slow=31							
AAK	Ala-Archa	90.48	47	P		P	16 41 18.4	+5.9
AAK	Ala-Archa	90.48	47	P		P	16 41 18.4	+5.9
	1.4nm,0.3s,baz=265,slow=4.7,SNR=4.2							
KURBB	Kurchatov Arra	93.94	40	P		P	16 41 29.8	+1.7
	0.6nm,1.0s,baz=268,slow=5.7,SNR=3.8							
KURK	Kurchatov	94.00	40	P		P	16 41 29.8	+1.4
TXAR	Lajitas Array	94.45	299	P		P	16 41 30.5	-0.6
TXAR	Lajitas Array	94.45	299	P		P	16 41 30.5	-0.6
	0.5nm,0.9s,baz=134,slow=3.6,SNR=4.3							
TXAR				LR		LR	17 19 04.9	
	comp=Z,50nm,21.0s,baz=185,slow=32							
MKAR	Makanchi Array	96.29	44	P		P	16 41 37.9	-1.1
MKAR	Makanchi Array	96.29	44	P		P	16 41 37.9	-1.1
	0.1nm,0.5s,baz=267,slow=12,SNR=2.5							
MKAR				LR		LR	17 30 37.2	
	comp=Z,63nm,21.1s,baz=70,slow=39							
VNDA	Vanda	97.33	179	LR		LR	17 19 08.2	
	comp=Z,91nm,21.1s,baz=182,slow=32							
ZALV	Zalesovo Beam	97.84	30	LR		LR	17 30 07.0	
	comp=Z,51nm,20.0s,baz=246,slow=38							
PDAR	Pinedale Array	99.45	312	LR		LR	17 20 31.6	
	comp=Z,70nm,20.1s,baz=311,slow=32							
WRA	Warramunga Arr	138.10	128	PKPpre		PKPpre	16 47 25.9	
WRA	Warramunga Arr	138.10	128	PKhKP		PKPpre	16 47 25.9	
	0.4nm,1.0s,baz=243,slow=1.4,SNR=3.7							
CTA	Charters Tower	146.66	140	PKPbc		PKPbc	16 47 52.6	-0.3
CTA	Charters Tower	146.66	140	PKPbc		PKPbc	16 47 52.6	-0.3
	3.0nm,0.8s,baz=231,slow=9.9,SNR=3.6							

IDC 11 16:31:50.1±0.8, 13°.86N×92°.97E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.7/29, mbtmp3.6/13, ML3.4/1, Error ellipse: s-maj=35.4km s-min=15.0km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.34	51	Pn		Pn	16 33 40.5	+1.9
	0.2nm,0.3s,baz=233,slow=14,SNR=4.3							
CMAR				Sn		Sn	16 34 55.2	-7.5
	0.5nm,0.3s,baz=233,slow=19,SNR=4.6							
MKAR	Makanchi Array	34.04	347	P		P	16 38 36.2	+0.3
	0.8nm,0.9s,baz=199,slow=24,SNR=3.8							
SONM	Songino Array	35.67	16	P		P	16 38 49.9	-0.3
	0.2nm,0.4s,baz=202,slow=7.3,SNR=2.9							
KURBB	Kurchatov Arra	38.50	345	P		P	16 39 13.3	-0.7
	0.3nm,0.6s,baz=165,slow=7.7,SNR=4.2							
ZALV	Zalesovo Beam	40.51	353	P		P	16 39 30.4	-0.3
	0.4nm,0.4s,baz=178,slow=7.2,SNR=3.1							
FITZ	Fitzroy Crossi	45.24	134	P		P	16 40 09.4	-0.1
	2.1nm,0.5s,baz=325,slow=6.2,SNR=17							
AKTO	Aktyubinsk	46.21	329	P		P	16 40 16.5	-0.3
	0.5nm,0.5s,baz=98,slow=7.1,SNR=1.7							
WRA	Warramunga Arr	52.77	129	P		P	16 41 07.1	-0.2
	0.9nm,0.7s,baz=302,slow=9.6,SNR=10							
WRA				PcP		PcP	16 42 17.2	+0.2
	0.9nm,0.6s,baz=318,slow=3.3,SNR=14							
ASAR	Alice Springs	54.70	133	P		P	16 41 21.6	+0.1
	1.1nm,0.4s,baz=306,slow=6.7,SNR=57							
ASAR				PcP		PcP	16 42 24.5	+0.2
	0.5nm,0.7s,baz=315,slow=3.7,SNR=5.6							
BRTR	Keskin Array B	57.76	308	P		P	16 41 43.6	+0.3
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.3							
STKA	Stephens Creek	65.09	135	P		P	16 42 31.8	-1.0
	0.6nm,0.5s,baz=34,slow=3.6,SNR=4.0							
TORD	Torodi Ar. Bea	88.13	283	P		P	16 44 44.1	+0.6
	0.4nm,0.9s,baz=77,slow=1.9,SNR=2.4							
ILAR	Eielson Array	89.66	22	P		P	16 44 48.7	-1.0
	0.3nm,0.9s,baz=289,slow=2.8,SNR=2.8							

DHMR 11 16:46:26.9±1.5, 13°.45N×50°.69E, h18km±651km, ML4.2, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.90	303	i P		Pn	16 46 59.1	+0.6
MUKL				i S		Sb	16 47 25.8	+1.3
MUKL					AML	AML	16 47 28.7	
	comp=E,3μm,0.3s							
BDHA	Al Bayda'	5.00	277	i S		Sn	16 48 43.3	+4.1
LBOS		5.30	275	i P		Pn	16 47 48.3	+2.6
LBOS				i S		Sn	16 48 50.1	+3.5

IDC 11 16:53:19.6±0.9, 34°.02N×25°.30E, h0km, mb4.0/18, mb1 4.1/29, mb1mx4.1/37, mbtmp4.0/29, ML3.7/10, Error ellipse: s-maj=19.5km s-min=13.9km az=7.0
ISCJB 11 16:53:19.3±0.8, 33°.95N±0°.02×25°.53E±0°.03, h8km±5km, mb3.9/27, Error ellipse: s-maj=3.9km s-min=3.8km az=137.5
ATH 11 16:53:19.9, 33°.97N×25°.36E, h5km±2km, MD3.4/7
CSEM 11 16:53:20.7±0.2, 34°.03N×25°.55E, h2km, mb4.0/8, Error ellipse: s-maj=6.5km s-min=3.8km az=44.0
HLW 11 16:53:29.4, 33°.81N×25°.72E, h33km±3km, Md3.8, Ml3.3
THE 11 16:53:34.5, 34°.87N×25°.32E, h31km±3km, ML3.2/2, Error ellipse: s-maj=4.7km s-min=1.1km az=185.0

ISC 11 16:53:20.2±1.2, 34°.00N±0°.03×25°.43E±0°.03, h3km±8km, n139, σ1=59/159, mb3.9/27, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.14	333	P		Pn	16 53 42.9	0.0
SIVA				S		Sg	16 53 51.3	-5.4
SIVA	Sivas	1.14	333	ePB		Pb	16 53 42.4	0.0
SIVA				eSB		Sb	16 53 57.8	+0.2
SIVA	Sivas	1.14	333	ePb		Pb	16 53 42.4	0.0
SIVA	Sivas	1.14	333	P		Pn	16 53 42.9	0.0
SIVA				S		Sg	16 53 51.3	-5.4
SIVA				eSb		Sb	16 53 57.8	+0.2
LAST	Lasithi	1.16	2	ePG		Pg	16 53 42.2	-0.2
LAST				eSB		Sn	16 53 59.5	-0.2
LAST	Lasithi	1.16	2	ePg		Pg	16 53 42.2	-0.2
LAST				eSb		Sn	16 53 59.5	-0.2
NPS	Neapolis	1.27	7	P		Pg	16 53 44.5	0.0
NPS				S		Sg	16 53 50.8	-10
NPS	Neapolis	1.27	7	ePG		Pg	16 53 44.3	-0.2
NPS	Neapolis	1.27	7	ePg		Pg	16 53 44.3	-0.2
NPS	Neapolis	1.27	7	P		Pg	16 53 44.5	0.0
NPS				S		Sg	16 53 50.8	-10
ZKR	Zakros	1.28	30	ePB		Pn	16 53 45.5	+0.5
ZKR	Zakros	1.28	30	ePb		Pn	16 53 45.5	+0.5
IDI	Anoyia	1.36	341	P		Pn	16 53 45.5	-0.6
IDI				S		Sg	16 53 53.8	-10
IDI	Anoyia	1.36	341	ePG		Pn	16 53 45.7	-0.4
IDI				eSB		Sn	16 54 04.8	+0.2
IDI	Anoyia	1.36	341	P		Pn	16 53 45.5	-0.6
IDI	Anoyia	1.36	341	ePg		Pn	16 53 45.7	-0.4
IDI				S		Sg	16 53 53.8	-10
IDI				eSb		Sn	16 54 04.8	+0.2
VAM	Vamos	1.73	324	P		Pb	16 53 52.6	0.0
VAM				S		Sn	16 54 05.8	-7.9
VAM	Vamos	1.73	324	ePG		Pb	16 53 52.2	-0.4
VAM				eSN		Sg	16 54 17.5	+1.7
VAM	Vamos	1.73	324	ePg		Pb	16 53 52.2	-0.4
VAM	Vamos	1.73	324	P		Pb	16 53 52.6	0.0
VAM				S		Sn	16 54 05.8	-7.9
VAM				eSn		Sg	16 54 17.5	+1.7
KARP	Karpathos	2.10	42	P		Pg	16 54 00.0	-0.4
KARP				S		Sn	16 54 21.1	-1.7
KARP	Karpathos	2.10	42	ePG		Pg	16 53 59.8	-0.6
KARP				eSN		Sg	16 54 28.4	+0.8
KARP	Karpathos	2.10	42	ePg		Pg	16 53 59.8	-0.6
KARP	Karpathos	2.10	42	P		Pg	16 54 00.0	-0.4
KARP				S		Sn	16 54 21.1	-1.7
KARP				eSn		Sg	16 54 28.4	+0.8
LTBQ	Tobruq	2.32	214	i P		Pb	16 54 02.8	+0.2
	SNR=50							
LTBQ				eS		Sg	16 54 34.2	-0.5
	SNR=50							
SLUM		2.51	184	S		Sn	16 54 30.2	-2.7
ANKY	Antikythira Is	2.56	317	P		Pb	16 54 05.2	-1.4
ANKY				S		Sn	16 54 27.5	-6.5
ANKY	Antikythira Is	2.56	317	P		Pb	16 54 05.2	-1.4
ANKY				S		Sn	16 54 27.5	-6.5
HMAT	Matruh	3.22	154	P		Pn	16 54 12.2	+0.5
BDRM	Kayabasi	3.47	28	eP		Pn	16 54 16.7	+1.7
BDRM				eS		Sn	16 54 51.4	-5.2
TURN	Turunc	3.86	41	eP		Pn	16 54 19.8	-0.6
TURN				eS		Sn	16 54 57.8	-8.4
AKAS	Kas	4.08	56	eP		Pn	16 54 25.5	+1.9
AKAS				eS		Sn	16 55 09.9	-2.0
AYDN	Tasoluk	4.16	28	eP		Pn	16 54 26.7	+2.2
AYDN				eS		Sn	16 55 14.1	+0.4
GOLH	Golhisar	4.66	45	eP		Pn	16 54 34.7	+3.1
GOLH				eS		Sn	16 55 26.2	+0.1
DNZL	Cakiroluk	4.71	38	eP		Pn	16 54 36.3	+4.0
DNZL				eS		Sn	16 55 26.4	-1.0
SWA2		4.75	180	P		Pn	16 54 33.7	+1.1
KORT	Korkueli	5.00	52	eP		Pn	16 54 39.1	+2.8
KORT				eS		Sn	16 55 31.9	-2.8
LJBD	Adjabya	5.39	237	i P		Pn	16 54 43.5	+2.1
	SNR=48							
LJBD				eS		Sn	16 55 43.1	-0.9
	SNR=48							
GLL	Jalalah	6.93	128	P		Pn	16 55 01.8	-0.8
HFRF	Wahat Farafira	7.27	159	P		Pn	16 55 07.0	-0.2
AMAG	Maghara	7.38	115	P		Pn	16 55 08.4	-0.5
RSH		7.63	111	P		Pn	16 55 11.7	-0.5
HNKL	Nakhl	8.32	117	P		Pn	16 55 20.9	-0.8
MMAI	Mount Meron Ar	8.38	94	Pn		Pn	16 55 22.2	-0.5
	1.7nm,0.3s,baz=275,slow=12,SNR=7.8							
MMAI				Sn		Sn	16 56 54.5	-3.4
	1.4nm,0.3s,baz=268,slow=24,SNR=4.0							
BRTR	Keskin Array B	8.71	47	Pn		Pn	16 55 30.1	+2.9
	0.2nm,0.3s,baz=220,slow=14,SNR=11							
BRTR				Sn		Sn	16 57 06.8	+1.0
	0.1nm,0.3s,baz=223,slow=24,SNR=2.6							
HDK1	Dakhla	9.11	157	P		Pn	16 55 32.0	-0.5
EIL	Elat	9.18	116

CDF	Champ du Feu	19.77 322	eP	Pn	16 57 52.5	-0.4
	4.8nm,0.7s					
CDF	Champ du Feu	19.77 322	eP	Pn	16 57 52.5	-0.4
	2.4nm,0.7s					
HAU	Haudompre	20.00 320	eP	Pn	16 57 55.6	+0.1
	6.1nm,0.7s					
HAU	Haudompre	20.00 320	eP	Pn	16 57 55.6	+0.1
	3.0nm,0.7s					
MTLF	Montolieu	20.33 304	eP	Pn	16 58 00.7	+1.3
MTLF	Montolieu	20.33 304	eP	Pn	16 58 00.7	+1.3
PAGF	Fort de Pagny	20.67 321	eP	Pn	16 58 04.3	+1.0
	4.7nm,0.9s					
PAGF	Fort de Pagny	20.67 321	eP	Pn	16 58 04.3	+1.0
	2.3nm,0.9s					
LOR	Lormes	20.98 316	eP	P	16 58 05.5	+1.1
LOR	Lormes	20.98 316	eP	P	16 58 05.5	+1.1
CAF	Calviac	21.01 308	eP	P	16 58 06.9	+2.1
	23nm,1.2s					
CAF	Calviac	21.01 308	eP	P	16 58 06.9	+2.1
	12nm,1.2s					
AVF	Avril sur Loir	21.03 314	eP	P	16 58 05.3	+0.3
	13nm,1.1s					
AVF	Avril sur Loir	21.03 314	eP	P	16 58 05.3	+0.3
	6.3nm,1.1s					
SSF	Saint Saulge	21.08 315	eP	P	16 58 07.0	+1.6
SSF	Saint Saulge	21.08 315	eP	P	16 58 07.0	+1.6
TCF	Toulx Ste Croi	21.49 312	eP	P	16 58 09.8	-0.2
	21nm,1.2s					
TCF	Toulx Ste Croi	21.49 312	eP	P	16 58 09.8	-0.2
	10nm,1.2s					
RJF	Les Rejaudoux	21.52 309	eP	P	16 58 11.4	+1.2
RJF	Les Rejaudoux	21.52 309	eP	P	16 58 11.4	+1.2
ETSF	Etsaut	22.14 301	eP	P	16 58 22.5	+5.5
	6.5nm,0.8s					
ETSF	Etsaut	22.14 301	eP	P	16 58 22.5	+5.5
	3.2nm,0.8s					
BAIF	Baives	22.37 322	eP	P	16 58 21.1	+1.8
	10.0nm,0.5s					
BAIF	Baives	22.37 322	eP	P	16 58 21.1	+1.8
	5.0nm,0.5s					
SJPF	Ste Jean	22.67 302	eP	P	16 58 25.5	+2.9
SJPF	Ste Jean	22.67 302	eP	P	16 58 25.5	+2.9
MFF	Saint Martin d	23.10 311	eP	P	16 58 26.8	-0.2
	5.2nm,0.6s					
MFF	Saint Martin d	23.10 311	eP	P	16 58 26.8	-0.2
	2.6nm,0.6s					
LDF	La Druitiere	23.96 315	eP	P	16 58 34.3	-1.2
	3.6nm,0.5s					
LDF	La Druitiere	23.96 315	eP	P	16 58 34.3	-1.2
	1.8nm,0.5s					
ESDC	Sonseca Array	24.14 292	P	P	16 58 36.8	-0.6
	0.5nm,0.4s,baz=80,slow=9.7,SNR=6.5					
FLN	La Foliniere	24.25 315	eP	P	16 58 37.5	-0.7
	5.1nm,0.5s					
FLN	La Foliniere	24.25 315	eP	P	16 58 37.5	-0.7
	2.5nm,0.5s					
GRR	Gorron	24.30 314	eP	P	16 58 38.8	+0.1
GRR	Gorron	24.30 314	eP	P	16 58 38.8	+0.1
MDT	Midelt	25.07 276	P	P	16 58 47.4	+1.4
	2.2nm,0.8s,baz=104,slow=13,SNR=4.2					
SGMF	Saint Gilles	25.27 313	eP	P	16 58 47.4	0.0
SGMF	Saint Gilles	25.27 313	eP	P	16 58 47.4	0.0
QUIF	Quistinic	25.51 312	eP	P	16 58 50.0	+0.4
QUIF	Quistinic	25.51 312	eP	P	16 58 50.0	+0.4
ROSF	Rostrenen	25.74 312	eP	P	16 58 51.4	-0.3
ROSF	Rostrenen	25.74 312	eP	P	16 58 51.4	-0.3
HFS	Hagfors	27.25 347	P	P	16 59 04.6	-0.7
	1.6nm,0.6s,baz=139,slow=14,SNR=5.2					
FINES	FINESS Array B	27.46 1	P	P	16 59 07.8	+0.7
	1.8nm,0.9s,baz=154,slow=13,SNR=3.1					
FINES			PcP	PcP	17 02 24.6	-0.9
	0.4nm,0.6s,baz=186,slow=2.8,SNR=4.2					
NB2	NORSAR Subarra	28.57 346	P	P	16 59 16.0	-1.1
	comp=Z,0.7nm,0.6s,baz=156,slow=9.3					
NB2	NORSAR Subarra	28.57 346	P	P	16 59 16.0	-1.1
	comp=Z,0.7nm,0.6s,SNR=4.3					
NOA	NORSAR Array B	28.57 346	P	P	16 59 15.5	-1.7
	comp=Z,0.6nm,0.6s,baz=146,slow=8.7,SNR=4.5					
TORD	Torodi Ar. Bea	29.93 232	P	P	16 59 28.7	-0.9
	comp=Z,1.2nm,0.7s,baz=42,slow=7.5,SNR=6.6					
ARCES	ARCESS Array B	35.58 0	P	P	17 00 16.7	-1.7
	comp=Z,1.0nm,0.7s,baz=186,slow=7.2,SNR=5.7					
BVAR	Borovoye Array	36.99 45	P	P	17 00 31.8	+1.2
	comp=Z,0.6nm,0.7s,baz=251,slow=4.4,SNR=3.6					
KURBB	Kurchatov Arra	41.68 50	P	P	17 01 10.7	+0.8
	comp=Z,3.0nm,0.7s,baz=277,slow=8.8,SNR=33					
MKAR	Makanchi Array	44.23 56	P	P	17 01 31.5	+0.9
	comp=Z,4.1nm,0.6s,baz=273,slow=7.0,SNR=42					
ZALV	Zalesovo Beam	45.65 45	P	P	17 01 42.0	+0.2
	comp=Z,2.8nm,0.5s,baz=268,slow=8.5,SNR=18					
SONM	Songino Array	60.05 50	P	P	17 03 29.6	+1.1
	comp=Z,1.2nm,0.7s,baz=287,slow=8.2,SNR=9.9					
SCHQ	Schefferville	64.21 320	P	P	17 03 55.2	-0.9
	comp=Z,2.5nm,0.6s,baz=61,slow=7.1,SNR=4.8					
CMAR	Chiang Mai Arr	66.48 83	P	P	17 04 11.6	+0.1
	comp=Z,0.5nm,0.8s,baz=300,slow=9.2,SNR=4.5					
USRK	Ussuriysk Arra	77.50 45	P	P	17 05 17.0	-0.1
	comp=Z,1.9nm,0.7s,baz=309,slow=5.5,SNR=6.1					
YKA	Yellowknife Ar	78.62 342	P	P	17 05 23.2	+0.3
	comp=Z,2.2nm,0.9s,baz=34,slow=5.9,SNR=2.9					
KSRS	Korea Array	78.81 52	P	P	17 05 25.1	+0.7
	comp=Z,0.8nm,0.6s,baz=307,slow=4.7,SNR=5.8					
ILAR	Eielson Array	81.37 357	P	P	17 05 38.2	+0.4
	comp=Z,0.8nm,0.6s,baz=345,slow=4.0,SNR=12					
PDAR	Pinedale Array	93.20 329	P	P	17 06 35.8	-0.5
	comp=Z,0.3nm,0.7s,baz=83,slow=2.8,SNR=2.9					

IDC 11 16:55:39.4±1.1, 13°.73N×93°.87E, h0km, mb3.8/8, mb1 3.8/10, mb1mx3.6/29, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=49.9km s-min=17.1km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.77	45	Pn	Pn	16 57 19.4	-0.8
	0.3nm,0.3s,baz=242,slow=15,SNR=7.7						
CMAR				Sn	Sn	16 58 34.4	-3.7
	0.0nm,0.3s,baz=241,slow=28,SNR=2.9						
PSI	Prapat	11.95	155	Pn	Pn	16 58 32.1	+0.8
	0.5nm,0.3s,baz=336,slow=18,SNR=2.7						
PSI				Sn	Sn	17 00 56.7	+11
	0.5nm,0.3s,baz=169,slow=20,SNR=11						
MKAR	Makanchi Array	34.37	346	P	P	17 02 27.9	-0.2
	1.0nm,0.7s,baz=165,slow=9.6,SNR=4.6						
KURBB	Kurchatov Arra	38.85	344	P	P	17 03 06.2	0.0
	1.2nm,0.7s,baz=165,slow=7.6,SNR=7.4						
ZALV	Zalesovo Beam	40.76	352	P	P	17 03 22.8	+0.8
	0.7nm,0.5s,baz=176,slow=7.4,SNR=3.7						
WRA	Warramunga Arr	52.01	129	P	P	17 04 50.7	-0.3
	0.3nm,0.5s,baz=313,slow=8.3,SNR=14						
ASAR	Alice Springs	53.98	133	P	P	17 05 05.8	+0.2
	0.6nm,0.6s,baz=308,slow=6.7,SNR=17						
FINES	FINESS Array B	67.46	331	P	P	17 06 36.2	-0.6
	1.2nm,0.8s,baz=73,slow=4.8,SNR=3.5						
ARCES	ARCESS Array B	69.71	340	P	P	17 06 51.1	+0.3
	0.7nm,0.6s,baz=84,slow=8.3,SNR=3.6						
HFS	Hagfors	73.31	329	P	P	17 07 12.5	-0.2
	1.7nm,0.8s,baz=90,slow=6.1,SNR=2.7						

SKHL 11 17:03:12.3±0.8, 53°.95N×126°.62E, h7km±2km, mb3.8/5, 1C-2D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	Zeya	0.43	119	⇑iPg	Pg	17 03 20.8	+0.2
ZEA				AMB	AMB	17 03 21.1	
	140nm,0.3s						
ZEA				eSg	Sg	17 03 27.1	+0.8
ZEA				A	A	17 03 27.6	
	480nm,0.3s						
ZEA				A	A	17 03 27.6	
	780nm,0.3s						
KROS	Kirovskiy	0.53	23	⇓iPg	Pg	17 03 21.9	-0.6
KROS				AMB	AMB	17 03 22.4	
	63nm,0.2s						
KROS				sPg	sPg	17 03 25.2	
KROS				eSg	Sg	17 03 29.5	+0.1
KROS				A	A	17 03 30.5	
	260nm,0.4s						
BMKR	Bomnak	1.51	59	⇓iPg	Pn	17 03 39.5	-0.2
BMKR				AMB	AMB	17 03 40.3	
	14nm,0.4s						
BMKR				AMB	AMB	17 03 40.3	
	33nm,0.4s						
BMKR				pPg	Pg	17 03 41.1	-0.2
BMKR				sPg	sPg	17 03 44.5	
BMKR				eSg	Sn	17 03 59.5	-0.2
BMKR				A	A	17 04 01.9	
	107nm,0.4s						
BMKR				A	A	17 04 01.9	
	106nm,0.4s						
BMKR				A	A	17 04 01.9	
	45nm,0.4s						
EKMR	Ekimchan	3.88	101	ePn	Pn	17 04 11.6	-0.8
EKMR				ePg	Pb	17 04 22.0	+0.9
EKMR				AMB	AMB	17 04 25.2	
	2.0nm,0.1s						
EKMR				eSg	Sb	17 05 12.1	+3.8
EKMR				A	A	17 05 20.8	
	7.0nm,0.3s						
EKMR				A	A	17 05 20.8	
	4.0nm,0.3s						
EKMR				A	A	17 05 20.8	
	5.0nm,0.3s						
TUP	Tupik	3.94	280	ePn	Pn	17 04 14.8	+1.5
TUP				ePg	Pb	17 04 24.9	+2.7
TUP				AMB	AMB	17 04 27.2	
	2.0nm,0.2s						
TUP				eSn	Sn	17 05 01.4	+1.6
TUP				eSg	Sg	17 05 17.2	-1.9
TUP				A	A	17 05 18.7	
	14nm,0.8s						

IDC 11 17:03:25.7±11.0, 6°.69S×129°.72E, h105km±108km, mb3.3/3, mb1 3.7/5, mb1mx3.4/18, mbtmp3.5/5, ML4.2/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/9, Error ellipse: s-maj=126.1km s-min=29.8km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.92	162	P	Pn	17 06 37.1	-1.4
	0.6nm,0.3s,baz=344,slow=13,SNR=26						
WRA				S	Sn	17 09 02.9	-9.0
	1.3nm,0.3s,baz=335,slow=20,SNR=9.6						
ASAR	Alice Springs	17.36	167	P	Pn	17 07 22.1	+0.6
	3.1nm,0.3s,baz=340,slow=9.8,SNR=359						
ASAR				S	Sn	17 10 23.6	-11
	0.5nm,0.3s,baz=352,slow=27,SNR=6.0						
STKA	Stephens Creek	27.41	158	P	P	17 09 01.3	-0.1
	1.5nm,0.8s,baz=319,slow=9.3,SNR=4.0						
CMAR	Chiang Mai Arr	39.32	310	P	P	17 10 44.5	-0.3
	0.5nm,0.7s,baz=125,slow=8.3,SNR=4.8						
SONM	Songino Array	58.06	342	LR	LR	17 38 57.6	
	comp=Z,63nm,18.4s,baz=291,slow=37						
MKAR	Makanchi Array	67.81	327	P	P	17 14 12.7	+0.3
	0.4nm,0.7s,baz=113,slow=7.6,SNR=4.7						

*ISCJB **11** 17:05:17.5±0.7, 24°.35S±0°.06×66°.99W±0°.09, h186km±13km, mb3.5/3, Error ellipse: s-maj=12.8km s-min=9.7km az=7.0*
*IDC **11** 17:05:17.8±1.8, 24°.32S×66°.89W, h170km±17km, mb3.4/3, mb1 3.2/7, mb1mx3.2/20, mbtmp3.2/7, Error ellipse: s-maj=30.5km s-min=15.4km az=89.0*
*GUC **11** 17:05:20.5±0.5, 24°.17S×67°.44W, h220km, ML4.5*

ISC 11 17:05:17.3±0.8, 24°.40S±0°.07×66°.91W±0°.08, h171km±11km, n17, σ1§64/23, mb3.5/3, 2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	3.18	288	⇓ePg	Pn	17 06 09.6	+1.7
CEN1				iS	Sn	17 06 47.1	-0.1
CEN1				AML	AML	17 06 49.0	
	comp=N,317nm,0.6s						
PB04	Plate Boundary	3.19	311	⇓ePg	Pn	17 06 14.6	+6.7
PB04				eS	Sn	17 06 55.3	+8.2
PB04				AML	AML	17 07 05.9	
	comp=N,421nm,0.4s						
ANCH	Antofagasta	3.28	282	ePg	Pn	17 06 10.4	+1.3
ANCH				eS	Sn	17 06 48.1	-1.2
ANCH				AML	AML	17 06 50.1	
	comp=E,518nm,0.5s						
PB09	Plate Boundary	3.37	320	ePg	Pn	17 06 12.3	+2.0
PB09				eS	Sn	17 06 51.7	+0.1
PB09				AML	AML	17 06 54.2	
	comp=N,1μm,0.5s						
PB10	Plate Boundary	3.45	284	ePg	Pn	17 06 12.3	+1.1
PB10				eS	Sn	17 06 51.3	-1.9
PB10				AML	AML	17 06 56.3	
	comp=N,845nm,0.6s						
PB07	Plate Boundary	3.82	314	ePg	Pn	17 06 16.9	+0.8
PB07				eS	Sn	17 06 59.4	-2.6
PB07				AML	AML	17 07 01.4	
	comp=N,555nm,0.3s						
CFAA	Coronel Fontan	7.27	189	P	Pn	17 07 01.8	+0.8
	comp=N,0.1nm,0.3s,baz=12,slow=10,SNR=14						
CFAA				S	Sn	17 08 19.0	-3.9
	comp=N,0.5nm,0.3s,baz=137,slow=19,SNR=16						
LPAZ	La Paz	8.15	352	P	Pn	17 07 14.2	+0.8
	comp=N,0.6nm,0.3s,baz=162,slow=8.6,SNR=23						
LPAZ				S	Sn	17 08 42.5	-2.4
	comp=N,0.4nm,0.3s,baz=294,slow=18,SNR=6.9						
CPUP	Villa Florida	8.87	105	P	Pn	17 07 23.8	+1.6
	comp=N,0.3nm,0.3s,baz=253,slow=15,SNR=3.6						
SIV	San Ignacio	10.00	34	P	Pn	17 07 36.3	-0.8
	comp=N,1.1nm,0.3s,baz=235,slow=14,SNR=12						
SNAA	Sanae	58.95	161	P	P	17 14 59.4	+1.0
	comp=N,0.5nm,0.8s,baz=292,slow=7.5,SNR=13						
TORD	Torodi Ar. Bea	76.63	69	P	P	17 16 49.1	-0.6
	comp=N,0.6nm,0.6s,baz=237,slow=5.6,SNR=6.9						
MAW	Mawson	81.03	163	P	P	17 17 13.7	+1.0
	comp=N,1.1nm,0.5s,baz=14,slow=12,SNR=4.1						
ASAR	Alice Springs	128.13	204	PKP	PKPdf	17 24 04.0	+0.1
	comp=N,0.4nm,0.7s,baz=135,slow=1.9,SNR=6.7						
WRA	Warramunga Arr	131.31	207	PKP	PKPdf	17 24 10.3	+0.3
	comp=N,1.1nm,1.2s,baz=164,slow=1.6,SNR=5.2						
ZALV	Zalesovo Beam	143.71	28	PKP	PKPdf	17 24 30.8	-0.8
	comp=N,0.5nm,0.5s,baz=294,slow=6.1,SNR=3.3						
MKAR	Makanchi Array	146.78	40	PKPbc	PKPab	17 24 39.8	-1.0
	comp=N,0.8nm,0.5s,baz=321,slow=2.8,SNR=13						

WEL 11 17:30:52.4±0.2, 45°.39S×166°.70E, h21km±1km, ML3.5/16, 1C-3D, Error ellipse: s-maj=2.2km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.33	105	⇓P*	Pb	17 30 59.4	-0.1
DCZ				S*	Sb	17 31 04.4	-0.1
DCZ				AML	AML	17 31 04.4	
DCZ				AML	AML	17 31 04.4	
DCZ				AML	AML	17 31 04.5	
WHZ	Wether Hill Ro	1.01	120	⇓PN	Pb	17 31 10.7	-0.6
WHZ				SN	Sb	17 31 24.4	+0.3
WHZ				AML	AML	17 31 27.6	
MLZ	Mavora Lakes	1.04	88	⇓PN	Pb	17 31 10.4	-1.4
MLZ				S*	Sb	17 31 24.2	-0.8
MLZ				AML	AML	17 31 24.6	
MSZ	Milford Sound	1.13	51	PN	Pn	17 31 11.8	-1.1
MSZ				SN	Sn	17 31 28.8	+1.0
MSZ				AML	AML	17 31 29.3	
MSZ				AML	AML	17 31 29.3	
MSZ				AML	AML	17 31 31.9	
APZ	The Paps	1.70	149	PN	Pb	17 31 22.2	-0.8
WKZ	Wanaka	1.73	72	PN	Pn	17 31 22.1	+0.7
WKZ				AML	AML	17 31 49.4	
WKZ				AML	AML	17 31 51.4	
WKZ				AML	AML	17 31 51.4	
WKZ				AML	AML	17 31 55.9	
EAZ	Earnscleugh	1.85	86	PN	Pn	17 31 23.8	+1.0
EAZ				AML	AML	17 31 52.1	
EAZ				AML	AML	17 31 52.3	
EAZ				AML	AML	17 31 52.3	
EAZ				AML	AML	17 31 52.6	
JCZ	Jackson Bay	1.97	49	AML	AML	17 31 56.9	
JCZ				AML	AML	17 31 58.1	
SYZ	Scrubby Hill	2.05	125	PN	Pn	17 31 26.5	+0.9
TUZ	Tuapeka	2.13	106	PN	Pn	17 31 27.7	+1.0
TUZ				AML	AML	17 31 57.3	
LBZ	Lake Benmore	2.67	69	PN	Pn	17 31 34.1	-0.1
LBZ				AML	AML	17 34 17.6	
ODZ	Otahua Downs	2.81	84	⇑PN	Pn	17 31 36.0	-0.1
FOZ	Fox Glacier	2.81	51	PN	Pn	17 31 38.5	+2.4
RPZ	Rata Peaks	3.53	63	PN	Pn	17 31 45.5	-0.6
RPZ				AML	AML	17 32 35.8	

IDC 11 17:35:02.3±8.2, 2°.71N×127°.56E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.6/4, Error ellipse: s-maj=132.2km s-min=100.7km az=137.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.77	185	P	P	17 39 45.6	+0.6
	0.6nm,0.4s,baz=18,slow=9.6,SNR=5.9						
WRA	Warramunga Arr	23.48	164	P	P	17 40 13.8	0.0
	1.8nm,0.6s,baz=342,slow=10,SNR=14						
ASAR	Alice Springs	26.94	167	P	P	17 40 45.0	-0.6
	0.2nm,0.6s,baz=354,slow=7.5,SNR=3.8						
STKA	Stephens Creek	36.89	160	P	P	17 42 12.8	0.0
	1.5nm,0.7s,baz=333,slow=13,SNR=5.9						

IDC 11 17:53:00.6±3.5, 13°.93N×93°.01E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=144.2km s-min=25.6km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.27	51	Sn	Sn	17 56 07.3	-4.2
	0.2nm,0.3s,baz=241,slow=32,SNR=5.6						
MKAR	Makanchi Array	33.98	347	P	P	17 59 45.8	-0.1
	0.3nm,0.6s,baz=167,slow=7.2,SNR=3.8						
SONM	Songino Array	35.60	16	P	P	17 59 60.0	-0.1
	0.1nm,0.4s,baz=224,slow=4.0,SNR=2.8						
WRA	Warramunga Arr	52.78	129	P	P	18 02 17.7	-0.2
	0.5nm,0.8s,baz=307,slow=7.2,SNR=2.9						
ASAR	Alice Springs	54.73	133	P	P	18 02 32.2	0.0
	0.2nm,0.5s,baz=311,slow=7.2,SNR=3.7						

*NNC **11** 18:12:47.1±5.8, 34°.87N×70°.04E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=75.1km s-min=10.7km az=176.0*
*IDC **11** 18:13:07.4±8.3, 36°.20N×70°.66E, h146km±73km, mb2.9/3, mb1 3.1/6, mb1mx2.8/29, mbtmp2.9/6, Error ellipse: s-maj=64.5km s-min=48.1km az=44.0*
*ISCJB **11** 18:13:12.3±1.1, 36°.45N±0°.08×70°.7E±0°.1, h204km, mb2.9/2, Error ellipse: s-maj=13.4km s-min=11.2km az=152.2*

ISC 11 18:13:13.8±1.5, 36°.6N±0°.1×70°.6E±0°.1, h204km, n15, σ1§59/18, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.03	23	P	Pn	18 14 42.6	+0.9
	SNR=20						
KK31	Karatay Array	6.49	360	⇑P	Pn	18 14 47.8	+0.4
	1.4nm,0.3s,baz=175,slow=12,SNR=43						
KK31				⇓S	S	18 15 57.7	-3.8
	4.3nm,0.5s,baz=182,slow=21						
EKS2	Erkin-Say	6.53	21	P	Pn	18 14 49.2	+1.1
	SNR=18						
KZA	Kyzart	6.56	32	P	Pn	18 14 49.1	+0.4
	SNR=8.2						
AAK	Ala-Archa	6.74	26	P	Pn	18 14 49.0	-1.8
	2.1nm,0.3s,baz=180,slow=5.3,SNR=6.2						
AAK				S	S	18 16 07.0	-0.6
	0.8nm,0.3s,baz=306,slow=22,SNR=7.5						
CHMS	Chumysh	7.15	25	P	Pn	18 14 56.9	+0.9
	SNR=6.4						
USP	Ospenovka	7.30	23	P	Pn	18 14 59.0	+1.0
	SNR=9.1						
TKM2	Tokmak 2	7.40	30	⇑P	Pn	18 15 00.3	+0.9
	9.1nm,0.5s						
TKM2	Tokmak 2	7.40	30	P	Pn	18 15 00.7	+1.3
	SNR=17						
MKAR	Makanchi Array	13.41	37	P	Pn	18 16 17.0	+0.8
	0.1nm,0.3s,baz=217,slow=14,SNR=6.4						
AB31	Akbulak array	14.82	332	⇓P	P	18 16 35.9	+1.6
	0.4nm,0.5s						
AKTO	Aktyubinsk	16.52	331	P	Pn	18 16 54.4	+0.4
	0.1nm,0.3s,baz=143,slow=17,SNR=3.7						
AKTO				S	S	18 19 54.3	-0.9
	0.1nm,0.3s,baz=180,slow=20,SNR=2.3						
ZALV	Zalesovo Beam	19.96	25	P	P	18 17 32.3	+2.0
	0.6nm,0.4s,baz=230,slow=9.0,SNR=3.8						
WRA	Warramunga Arr	82.34	122	P	P	18 25 11.2	-1.9
	0.3nm,0.9s,baz=322,slow=4.5,SNR=2.8						
ASAR	Alice Springs	84.60	125	P	P	18 25 23.1	-1.4
	0.2nm,0.8s,baz=322,slow=4.2,SNR=4.4						

MEX 11 18:54:26.6±0.8, 18°.09N×100°.63W, h47km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.33	55	ePg	Pn	18 54 34.0	-1.9
ARIG				iS	Sn	18 54 40.7	-1.7
ZIIG	Zihuatanejo	0.93	239	ePg	Pn	18 54 41.5	-1.8
ZIIG				iS	Sn	18 54 53.7	-1.8
MEIG	Mezcala	0.98	99	ePg	Pn	18 54 41.9	-2.1
MEIG				iS	Sn	18 54 55.0	-2.0
CAIG	El Cayaco	1.09	161	ePg	Pn	18 54 43.4	-2.2
CAIG				iS	Sn	18 54 58.0	-1.6
PLIG	Platanillo	1.12	74	ePg	Pn	18 54 44.3	-1.7
PLIG				eS	Sn	18 54 58.3	-2.1
MAVM	Malinalco, Edo	1.38	51	ePg	Pn	18 54 48.0	-1.8
MAVM				iS	Sn	18 55 05.3	-1.9
ACP2	Acapulco	1.40	149	iP	Pn	18 54 48.3	-1.5
ACP2				iS	Sn	18 55 05.2	-1.9
ACX	Acapulco	1.42	148	ePg	Pn	18 54 50.8	+0.8
ACX				eS	Sn	18 55 08.2	+0.6
TOVM	TOLUCA	1.49	37	iP	Pn	18 54 49.0	-2.4
TOVM				iS	Sn	18 55 07.2	-2.9
YAIG	Yautepec	1.67	62	iP	Pn	18 54 52.7	-1.0
YAIG				iS	Sn	18 55 12.2	-2.0
IIO	Organos	2.35	50	ePg	Pn	18 55 01.2	-2.0
IIO				eS	Sn	18 55 28.5	-2.6
MMIG	Aquila	2.59	275	iP	Pn	18 55 05.5	-0.5
MMIG				iS	Sn	18 55 35.0	-1.2

*ISCJB **11** 18:54:40.3±0.3, 49°.87N±0°.01×7°.39E±0°.03, h10km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=173.6*
*STR **11** 18:54:41.7±0.4, 49°.85N×7°.39E, h10km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **11** 18:54:41.4±0.1, 49°.89N×7°.39E, h15km, ML2.5/13, Error ellipse: s-maj=2.6km s-min=2.1km az=106.0*
*BGR **11** 18:54:42.1±0.3, 49°.87N×7°.44E, h5km, ML1.8/6, Error ellipse: s-maj=3.3km s-min=3.3km az=139.0*
*LDG **11** 18:54:42.4±0.1, 49°.92N×7°.40E, h10km, Md2.6/2, Ml2.6/9, Error ellipse: s-maj=1.3km s-min=1.0km az=83.0*
*UCC **11** 18:54:42.1±0.6, 49°.91N×7°.39E, h16km±3km, ML1.7*
*BNS **11** 18:54:43.8±0.5, 49°.99N×7°.41E, h10km±3km, ML1.4*

**ISC 11 18:54:42.0±0.9, 49°.91N±0°.02×7°.36E±0°.02

TNS Taunus Mts 0.77 65 *e*Pg **Pg 18 54 56.7 -0.3**
TNS *e*Sg **Sg 18 55 06.4 -0.7**
TNS Taunus Mts 0.77 65 Pg **Pg 18 54 56.7 -0.3**
TNS Sg **Sg 18 55 06.4 -0.7**
WLF Walferdange 0.82 253 P **Pg 18 54 57.0 -1.0**
WLF S **Sg 18 55 09.0 +0.1**
comp=N,22nm,0.3s
WLF Walferdange 0.82 253 *e*Pg **Pg 18 54 58.2 +0.2**
WLF *e*Sg **Sg 18 55 09.5 +0.7**
WLF Walferdange 0.82 253 P **Pg 18 54 57.0 -1.0**
WLF Walferdange 0.82 253 Pg **Pg 18 54 58.2 +0.2**
WLF S **Sg 18 55 08.9 +0.1**
comp=N,22nm,0.3s
WLF Sg **Sg 18 55 09.5 +0.7**
LANF Langenberg 0.97 163 Pg **Pg 18 55 00.1 -0.8**
LANF Sg **Sg 18 55 12.4 -1.3**
DREG Dreilaegerbach 1.04 317 *e*Pg **Pg 18 55 02.2 0.0**
DREG *e*Sg **Sg 18 55 15.8 -0.1**
comp=N,7.4nm,0.9s
DREG Dreilaegerbach 1.04 317 Pg **Pg 18 55 02.2 0.0**
DREG Sg **Sg 18 55 15.8 -0.1**
comp=N,7.4nm,0.9s
HOBG Hohbusch 1.07 359 *e*Pg **Pg 18 55 02.3 -0.5**
HOBG *e*Sg **Sg 18 55 15.8 -1.1**
comp=N,21nm,0.4s
HOBG Hohbusch 1.07 359 Pg **Pg 18 55 02.3 -0.5**
HOBG Sg **Sg 18 55 15.8 -1.1**
comp=N,21nm,0.4s
MEM Membach 1.12 309 ⇓P **Pb 18 55 02.5 -0.4**
MEM S **Sb 18 55 17.5 +0.2**
comp=N,5.5nm,0.3s
MEM Membach 1.12 309 P **Pb 18 55 02.5 -0.4**
MEM S **Sb 18 55 17.4 +0.2**
comp=N,5.5nm,0.3s
HGN Heimansgroeve 1.25 314 *e*Pg **Pg 18 55 07.2 +1.0**
HGN Heimansgroeve 1.25 314 Pg **Pg 18 55 07.2 +1.0**
CDF Champ du Feu 1.50 182 *e*Pn **Pn 18 55 08.7 +0.4**
CDF Champ du Feu 1.50 182 *e*Pg **Pg 18 55 11.4 +0.5**
CDF *e*Sn **Sn 18 55 27.0 -0.6**
CDF *e*Sg **Sb 18 55 28.2 -0.1**
comp=N,12nm,0.3s
CDF Champ du Feu 1.50 182 *e*Pn **Pn 18 55 08.7 +0.4**
CDF Champ du Feu 1.50 182 *e*Pg **Pg 18 55 11.4 +0.5**
CDF *e*Sn **Sn 18 55 27.0 -0.6**
CDF *e*Sg **Sb 18 55 28.2 -0.1**
comp=N,5.8nm,0.3s
BUG Bochum--Univer 1.53 358 *e*Sg **Sg 18 55 31.6 +0.1**
GIVF Givet 1.65 278 *e*Pn **Pn 18 55 10.0 -0.3**
GIVF Givet 1.65 278 *e*Pg **Pg 18 55 13.7 0.0**
GIVF *e*Sn **Sn 18 55 30.4 -0.7**
GIVF *e*Sg **Sg 18 55 35.3 +0.2**
comp=N,11nm,0.3s
GIVF Givet 1.65 278 *e*Pn **Pn 18 55 10.0 -0.3**
GIVF Givet 1.65 278 *e*Pg **Pg 18 55 13.7 0.0**
GIVF *e*Sn **Sn 18 55 30.4 -0.7**
GIVF *e*Sg **Sg 18 55 35.3 +0.2**
comp=N,5.4nm,0.3s
ECH Echery 1.70 185 Pg **Pn 18 55 12.2 +1.2**
ECH Sg **Sb 18 55 35.0 +1.0**
BFO Black Forest 1.70 158 *e*Pg **Pb 18 55 14.0 +1.0**
BFO *e*Sg **Sn 18 55 33.9 +1.4**
BFO Black Forest 1.70 158 Pg **Pb 18 55 14.0 +1.0**
BFO Sg **Sn 18 55 33.9 +1.4**
PAGF Fort de Pagny 1.73 219 *e*Pn **Pn 18 55 12.6 +1.2**
PAGF Fort de Pagny 1.73 219 *e*Pn **Pn 18 55 12.6 +1.2**
DOU Dourbes 1.79 277 ⇑P **Pn 18 55 13.9 +1.6**
DOU S **Sn 18 55 33.9 -0.8**
comp=N,4.1nm,0.2s
DOU Dourbes 1.79 277 P **Pn 18 55 13.8 +1.6**
DOU S **Sn 18 55 33.9 -0.8**
comp=N,4.1nm,0.2s
UBBA Unterbreizbach 1.92 61 *e*Pg **Pb 18 55 17.2 +0.7**
UBBA *e*Sg **Sb 18 55 41.6 +1.4**
UBBA Unterbreizbach 1.92 61 Pg **Pb 18 55 17.2 +0.7**
UBBA Sg **Sb 18 55 41.6 +1.4**
HAU Haudompre 2.02 200 *e*P **Pb 18 55 17.9 -0.4**
HAU *e*Sg **Sg 18 55 46.3 -0.7**
comp=N,8.1nm,0.4s
HAU Haudompre 2.02 200 *e*P **Pb 18 55 17.9 -0.4**
HAU *e*Sg **Sg 18 55 46.3 -0.7**
comp=N,4.1nm,0.4s
BAIF Baives 2.04 275 *e*Pn **Pn 18 55 15.3 -0.4**
BAIF Baives 2.04 275 *e*Pg **Pg 18 55 21.1 -0.1**
BAIF *e*Sn **Sn 18 55 39.7 -1.1**
BAIF *e*Sg **Sg 18 55 47.6 -0.1**
comp=N,4.0nm,0.3s
BAIF Baives 2.04 275 *e*Pn **Pn 18 55 15.3 -0.4**
BAIF Baives 2.04 275 *e*Pg **Pg 18 55 21.1 -0.1**
BAIF *e*Sn **Sn 18 55 39.7 -1.1**
BAIF *e*Sg **Sg 18 55 47.6 -0.1**
comp=N,2.0nm,0.3s
MEZF Maizieres J'vi 2.07 228 *e*P **Pn 18 55 18.1 +2.1**
MEZF Maizieres J'vi 2.07 228 *e*Pg **Pb 18 55 20.9 +1.8**
MEZF *e*Sg **Sg 18 55 49.0 +0.5**
MEZF Maizieres J'vi 2.07 228 *e*P **Pn 18 55 18.1 +2.1**
MEZF Maizieres J'vi 2.07 228 *e*Pg **Pb 18 55 20.9 +1.8**
MEZF *e*Sg **Sg 18 55 49.0 +0.5**
HINF Hinteralfeld 2.12 189 *e*Pn **Pn 18 55 16.6 -0.2**
HINF Hinteralfeld 2.12 189 *e*P **Pn 18 55 19.0 +2.2**
HINF *e*Sn **Sn 18 55 41.8 -1.0**
comp=N,8.2nm,0.3s
HINF Hinteralfeld 2.12 189 *e*Pn **Pn 18 55 16.6 -0.2**
HINF Hinteralfeld 2.12 189 *e*P **Pn 18 55 19.0 +2.2**
HINF *e*Sn **Sn 18 55 41.8 -1.0**
comp=N,4.1nm,0.3s
SFTF Sexfontaines 2.29 223 *e*Pg **Pb 18 55 25.1 +2.2**
SFTF *e*Sn **Sn 18 55 45.8 -1.2**
SFTF *e*Sg **Sg 18 55 55.0 -0.6**
comp=N,3.7nm,0.2s
SFTF Sexfontaines 2.29 223 *e*Pg **Pb 18 55 25.1 +2.2**
SFTF *e*Sn **Sn 18 55 45.8 -1.2**
SFTF *e*Sg **Sg 18 55 55.0 -0.6**
comp=N,1.9nm,0.2s
LOR Lormes 3.52 223 *e*Pn **Pn 18 55 35.5 -0.5**
LOR Lormes 3.52 223 *e*Pg **Pg 18 55 48.0 -1.4**
LOR *e*Sn **Sn 18 56 14.8 -2.5**
LOR *e*Sg **Sg 18 56 33.7 -1.3**
comp=N,1.7nm,0.3s
LOR Lormes 3.52 223 *e*Pn **Pn 18 55 35.5 -0.5**
LOR Lormes 3.52 223 *e*Pg **Pg 18 55 48.0 -1.4**
LOR *e*Sn **Sn 18 56 14.8 -2.5**
LOR *e*Sg **Sg 18 56 33.7 -1.3**
comp=N,0.9nm,0.3s
SSF Saint Saulge 3.83 223 *e*Pn **Pn 18 55 39.7 -0.6**
SSF Saint Saulge 3.83 223 *e*Pn **Pn 18 55 39.7 -0.6**
SMF Signal de Mont 4.03 217 *e*Pn **Pn 18 55 42.1 -0.8**
SMF Signal de Mont 4.03 217 *e*Pn **Pn 18 55 42.1 -0.8**
HYF Humbligny 4.10 232 *e*Pn **Pn 18 55 42.9 -1.1**
HYF Humbligny 4.10 232 *e*Pn **Pn 18 55 42.9 -1.1**

*IDC **11** 18:55:08.0±0.6, 13°.84N×92°.84E, h0km, mb4.0/15, mb1 4.1/16, mb1mx3.9/26, mbtmp3.9/16, ML3.4/1, Error ellipse: s-maj=24.9km s-min=13.7km az=54.0*
*ISCJB **11** 18:55:11.0±0.5, 13°.84N±0°.09×92°.94E±0°.09, h32km, mb4.1/26, Error ellipse: s-maj=14.2km s-min=10.8km az=138.2*
ISC 11 18:55:13.0±0.7, 13°.86N±0°.10×92°.99E±0°.10, h32km, n34, σ1§10/36, mb4.1/26, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.32**	**51**	**Pn**	**Pn**	**18 56 58.9**	**+1.1**
	0.2nm,0.3s,baz=241,slow=15,SNR=7.5						
CMAR				Sn	**Sn**	18 58 16.6	-3.3
	0.7nm,0.3s,baz=240,slow=28,SNR=11						
SHL	**Shillong**	**11.69**	**355**	*e*P	**Pn**	**18 58 01.0**	**+3.1**
MKAR	**Makanchi Array**	**34.04**	**347**	P	**P**	**19 01 54.1**	**0.0**
	2.8nm,0.8s,baz=168,slow=9.0,SNR=19						
SONM	**Songino Array**	**35.66**	**16**	P	**P**	**19 02 09.1**	**+0.8**
	0.8nm,0.7s,baz=201,slow=7.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**40.51**	**353**	P	**P**	**19 02 48.8**	**-0.1**
	2.0nm,0.6s,baz=178,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**45.23**	**134**	P	**P**	**19 03 27.8**	**+0.2**
	0.7nm,0.4s,baz=324,slow=6.8,SNR=8.4						
WRA	**Warrumunga Arr**	**52.76**	**129**	P	**P**	**19 04 25.0**	**-0.4**
	0.8nm,0.6s,baz=298,slow=9.7,SNR=17						
WRA				PcP	**PcP**	**19 05 34.9**	**+0.2**
	0.3nm,0.7s,baz=311,slow=3.2,SNR=3.2						
ASAR	**Alice Springs**	**54.69**	**133**	P	**P**	**19 04 39.6**	**+0.2**
	0.7nm,0.5s,baz=311,slow=6.9,SNR=35						
BRTR	**Keskin Array B**	**57.77**	**308**	P	**P**	**19 04 59.9**	**-1.5**
	2.0nm,0.8s,baz=123,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**65.08**	**135**	P	**P**	**19 05 52.2**	**+1.5**
	0.9nm,0.7s,baz=270,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**66.94**	**331**	P	**P**	**19 06 01.1**	**-1.0**
	1.5nm,0.6s,baz=123,slow=7.0,SNR=8.2						
ARCES	**ARCESS Array B**	**69.29**	**340**	P	**P**	**19 06 16.1**	**-0.7**
	1.2nm,0.8s,baz=69,slow=6.6,SNR=4.9						
GERES	**GERESS Array B**	**72.66**	**317**	P	**P**	**19 06 37.7**	**-0.1**
	1.0nm,0.7s,baz=79,slow=6.9,SNR=10						
NB2	**NORSAR Subarra**	**74.00**	**330**	P	**P**	**19 06 44.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=88,slow=6.2						
NOA	**NORSAR Array B**	**74.00**	**330**	P	**P**	**19 06 44.1**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=90,slow=6.0,SNR=4.1						
LPG	**La Plagne**	**77.64**	**314**	*e*P	**P**	**19 07 06.3**	**-0.5**
	comp=Z,7.5nm,0.8s						
LPL	**La Plagne**	**77.65**	**314**	*e*P	**P**	**19 07 06.3**	**-0.5**
	comp=Z,9.9nm,0.7s						
BOSA	**Boshof**		**77.87**	**236**	P	**P**	**19 07 08.2**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=14,slow=10,SNR=5.6						
PAGF	**Fort de Pagny**	**77.95**	**317**	*e*P	**P**	**19 07 07.5**	**-0.6**
	comp=Z,0.9nm,0.5s						
FRF	**La Foret Royal**	**77.97**	**312**	*e*P	**P**	**19 07 07.7**	**-0.6**
	comp=Z,4.7nm,0.7s						
SFTF	**Sexfontaines**	**78.45**	**317**	*e*P	**P**	**19 07 09.9**	**-1.0**
VIVF	**Saint-Julien-l**	**79.19**	**314**	*e*P	**P**	**19 07 14.3**	**-0.7**
	comp=Z,9.4nm,1.0s						
LOR	**Lormes**	**79.38**	**316**	*e*P	**P**	**19 07 15.0**	**-1.0**
	comp=Z,2.9nm,0.6s						
SMF	**Signal de Mont**	**79.48**	**316**	*e*P	**P**	**19 07 15.6**	**-1.0**
	comp=Z,5.2nm,0.7s						
SSF	**Saint Saulge**	**79.65**	**316**	*e*P	**P**	**19 07 16.5**	**-0.9**
AVF	**Avril sur Loir**	**79.79**	**316**	*e*P	**P**	**19 07 17.4**	**-0.8**
CAF	**Calviac**	**81.00**	**314**	*e*P	**P**	**19 07 24.4**	**-0.4**
MTLF	**Montolieu**	**81.18**	**312**	*e*P	**P**	**19 07 25.3**	**-0.5**
RJF	**Les Rejaudoux**	**81.31**	**314**	*e*P	**P**	**19 07 26.2**	**-0.2**
	comp=Z,3.0nm,0.5s						
LDF	**La Druitiere**	**81.78**	**318**	*e*P	**P**	**19 07 28.0**	**-0.8**
	comp=Z,3.0nm,0.6s						
MFF	**Saint Martin d**	**82.20**	**316**	*e*P	**P**	**19 07 30.3**	**-0.7**
	comp=Z,2.1nm,0.6s						
ESDC	**Sonseca Array**	**86.52**	**310**	P	**P**	**19 07 52.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=50,slow=5.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**88.14**	**283**	P	**P**	**19 08 01.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=65,slow=3.8,SNR=3.5						
ILAR	**Eielson Array**	**89.65**	**22**	P	**P**	**19 08 07.3**	**-0.2**
	comp=Z,5.5nm,0.3s,baz=316,slow=5.1,SNR=6.4						

IDC 11 19:02:47.5±7.0, 13°.76N×93°.16E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=146.4km s-min=48.1km az=105.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.26**	**49**	Pn	Pn	19 04 35.1	+0.1
	0.1nm,0.3s,baz=240,slow=15,SNR=3.8						
CMAR				Sn	Sn	19 05 51.6	-6.5
	0.2nm,0.3s,baz=240,slow=28,SNR=4.7						
WRA	**Warrumunga Arr**	**52.56**	**129**	P	P	19 12 03.0	-0.2
	0.4nm,0.9s,baz=317,slow=7.7,SNR=4.5						
ASAR	**Alice Springs**	**54.50**	**133**	P	P	19 12 17.3	-0.1
	0.3nm,0.5s,baz=311,slow=7.1,SNR=7.7						

*SZGRF **11** 19:25:32.6, 22°.54S×176°.70W, h33km, South of Fiji Islands*
*AUST **11** 19:25:39.1, 22°.80S×175°.89W, h100km*
*IDC **11** 19:25:41.8±0.7, 22°.29S×176°.67W, h102km±5km, mb4.0/11, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, MS4.1/1, Ms1 4.1/1, ms1mx2.8/32, Error ellipse: s-maj=21.5km s-min=13.1km az=141.0*
*ISCJB **11** 19:25:44.1±0.4, 22°.38S±0°.07×176°.68W±0°.06, h134km, mb4.3/25, Error ellipse: s-maj=11.0km s-min=7.4km az=156.6*
*NEIC **11** 19:25:44.1±1.5, 22°.43S×176°.66W, h124km±13km, mb4.5/18, Error ellipse: s-maj=9.1km s-min=7.3km az=155.0*
ISC 11 19:25:45.4±0.4, 22°.35S±0°.09×176°.60W±0°.07, h134km, n165, σ0§85/181, mb4.4/25, 24C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.81**	**311**	*e*Pn	Pn	19 27 27.0	+4.1
	64nm,0.8s						
MSVF				*e*		19 27 37.6	
NIUE	**Niue**	**7.04**	**64**	P	Pn	19 27 21.0	-5.0
	baz=6.7,SNR=7.4						
AFI	**Afiamalu**	**9.56**	**29**	*e*Pn	Pn	19 27 47.9	-12
AFI				*e*Sn	Sn	19 29 32.5	-13
AFI				S	Sn	19 29 33.0	-13
AFI	**Afiamalu**	**9.56**	**29**	P	Pn	19 27 55.5	-4.4
	4.6nm,0.3s,baz=223,slow=19,SNR=3.6						
AFI				S	Sn	19 29 33.0	-13
	9.5nm,0.3s,baz=60,slow=20,SNR=3.8						
AFI				LR	LR	19 31 18.6	
	comp=Z,67nm,19.8s,baz=106,slow=35						
RAR	**Rarotonga**	**15.68**	**89**	P	**Pn**	**19 29 18.7**	**-0.3**
RAR				S	Sn	19 31 58.9	-14
RAR	**Rarotonga**	**15.68**	**89**	P	**Pn**	**19 29 18.7**	**-0.3**
	2.3nm,0.3s,baz=270,slow=13,SNR=5.0						
RAR				S	Sn	19 31 58.9	-14
	3.9nm,0.3s,baz=270,slow=16,SNR=7.6						
DZM	**Mont Dzumac**	**15.71**	**268**	P	**Pn**	**19 29 18.6**	**-0.8**
DZM	**Mont Dzumac**	**15.71**	**268**	P	**Pn**	**19 29 18.6**	**-0.8**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.4						
URZ	**Urewera**	**16.75**	**197**	P	Pn	19 29 27.2	-4.9
URZ				S	Sn	19 32 17.4	-21
URZ	**Urewera**	**16.75**	**197**	P	Pn	19 29 27.2	-4.9
	1.7nm,0.3s,baz=316,slow=12,SNR=9.4						
URZ				S	Sn	19 32 17.4	-21
	0.4nm,0.3s,baz=156,slow=20,SNR=3.8						
KHZ	**Kahutara**	**21.64**	**200**	*e*P	**P**	**19 30 23.5**	**-1.5**
	21nm,1.0s						
KHZ				*e*S	S	19 34 04.7	-12
HNR	**Honiara**	**25.90**	**296**	*e*P	**P**	**19 31 05.8**	**+0.7**
	57nm,0.8s						
ARMA	**Armidale**	**29.50**	**247**	P	**P**	**19 31 38.0**	**+0.8**
	baz=30,SNR=6.4						
EIDS	**Eidsvold**	**29.67**	**258**	P	**P**	**19 31 39.3**	**+0.7**
	baz=30,SNR=4.1						
EIDS				S	**S**	**19 36 28.8**	**+4.2**
	baz=30,SNR=5.5						
MGCD	**Mangrove Creek**	**30.43**	**242**	P	**P**	**19 31 47.5**	**+2.2**
	baz=31,SNR=5.6						
RMQ	**Roma**	**31.75**	**255**	P	**P**	**19 31 58.4**	**+1.4**
	baz=32,SNR=8.7						
YNG	**Young**	**32.87**	**241**	P	**P**	**19 32 08.4**	**+1.7**
	baz=33,SNR=7.0						
MILA	**Mila**	**32.96**	**236**	P	**P**	**19 32 08.5**	**+1.0**
	baz=33,SNR=5.2						
CTAO	**Charters Tower**	**34.64**	**267**	*e*P	**P**	**19 32 22.5**	**+0.4**
	30nm,0.6s						
CMSA	**Cobar Meteorol**	**34.70**	**247**	P	**P**	**19 32 21.8**	**-0.6**
	baz=35,SNR=24						
TOO	**Toolangi**	**35.91**	**236**	P	**P**	**19 32 33.6**	**+0.8**
	baz=36,SNR=5.6						
MTSU	**Mount Surprise**	**36.84**	**269**	P	**P**	**19 32 41.5**	**+0.6**
	baz=38,SNR=16						
PMG	**Port Moresby**	**37.04**	**284**	*e*P	**P**	**19 32 42.8**	**+0.2**
	34nm,1.0s						
STKA	**Stephens Creek**	**38.20**	**246**	*e*P	**P**	**19 32 51.5**	**-0.7**
	2.7nm,1.0s						
STKA	**Stephens Creek**	**38.20**	**246**	P	**P**	**19 32 51.5**	**-0.7**
	4.8nm,0.5s,baz=95,slow=9.4,SNR=39						
STKA	**Stephens Creek**	**38.20**	**246**	P	**P**	**19 32 52.5**	**+0.3**
	baz=39,SNR=36						
ARPS	**Mount Arapiles**	**38.60**	**239**	P	**P**	**19 32 56.3**	**+0.9**
	baz=39,SNR=8.6						
BBOO	**Buckleboo**	**42.93**	**245**	P	**P**	**19 33 29.2**	**-1.8**
	baz=43,SNR=22						
AS31	**Alice Springs**	**45.39**	**258**	*e*P	**P**	**19 33 49.9**	**-0.9**
AS31				*e*PcP	**PcP**	**19 35 27.6**	**-0.4**
ASAR	**Alice Springs**	**45.39**	**258**	P	**P**	**19 33 50.1**	**-0.7**
ASAR				sP	sP	19 34 26.8	-10
ASAR				PcP	**PcP**	**19 35 28.1**	**0.0**
ASAR				PKiKP	**PKiKP**	**19 42 24.1**	**-1.4**
ASAR	**Alice Springs**	**45.39**	**258**	P	**P**	**19 33 50.2**	**-0.7**
	11nm,0.6s,baz=98,slow=7.6,SNR=171						
ASAR				sP	sP	19 34 26.8	-10
	3.3nm,1.0s,baz=90,slow=8.1,SNR=1.9						
ASAR				PcP	**PcP**	**19 35 28.1**	**0.0**
	4.9nm,0.6s,baz=106,slow=3.8,SNR=13						
ASAR				PKiKP	**PKiKP**	**19 42 24.1**	**-1.4**
	0.3nm,0.7s,baz=145,slow=1.9,SNR=4.8						
WRAB	**Tennant Creek**	**45.65**	**264**	*e*P	**P**	**19 33 51.2**	**-1.7**
	17nm,0.8s						
WRAB				*e*PcP	**PcP**	**19 35 28.4**	**-0.6**
WRA	**Warrumunga Arr**	**45.66**	**264**	P	**P**	**19 33 51.9**	**-1.1**
WRA				PcP	**PcP**	**19 35 29.1**	**+0.2**
WRA	**Warrumunga Arr**	**45.66**	**264**	P	**P**	**19 33 51.9**	**-1.1**
	15nm,0.7s,baz=94,slow=8.4,SNR=131						
WRA				PcP	**PcP**	**19 35 29.1**	**+0.2**
	4.6nm,0.7s,baz=95,slow=3.7,SNR=8.2						
KDU	**Kakadu**	**49.31**	**272**	P	**P**	**19 34 20.2**	**-0.9**
	baz=50,SNR=14						
FORT	**Forrest**	**49.79**	**248**	P	**P**	**19 34 24.0**	**-0.6**
	baz=50,SNR=12						
MIDW	**Midway**	**50.27**	**359**	P	**P**	**19 34 28.3**	**+0.2**
MTN	**Manton Dam**	**50.50**	**272**	P	**P**	**19 34 29.2**	**-1.0**
	baz=51,SNR=14						
KNRA	**Kununurra**	**51.85**	**267**	P	**P**	**19 34 39.4**	**-0.8**
	baz=52,SNR=48						
FITZ	**Fitzroy Crossi**	**54.09**	**263**	P	**P**	**19 34 56.0**	**-0.6**
	baz=55,SNR=54						
SWI	**Sorong**	**54.98**	**285**	P	**P**	**19 35 02.9**	**-0.3**
	baz=56,SNR=5.7						
SBA	**Scott Base**	**56.13**	**184**	*e*P	**P**	**19 35 11.7**	**+1.4**
	4.0nm,0.8s						
VNDA	**Vanda**	**56.20**	**186**	*e*P	**P**	**19 35 10.0**	**-0.8**
	1.8nm,0.9s						
VNDA	**Vanda**	**56.20**	**186**	P	**P**	**19 35 11.4**	**+0.5**
	1.1nm,0.7s,baz=9.3,slow=6.2,SNR=5.0						
SOEI	**Soe**	**57.87**	**272**	P	**P**	**19 35 25.1**	**+1.3**
	baz=58,SNR=7.8						
KLBR	**Kellerberrin**	**58.47**	**246**	P	**P**	**19 35 26.4**	**-1.3**
	baz=59,SNR=6.1						
MEEK	**Meekatharra**	**58.56**	**252**	P	**P**	**19 35 27.6**	**-0.7**
	baz=59,SNR=5.1						
MBWA	**Marble Bar**	**58.74**	**258**	*e*P	**P**	**19 35 27.5**	**-2.1**
	7.4nm,0.7s						
BLDU	**Ballidu**	**59.51**	**247**	P	**P**	**19 35 34.5**	**-0.3**
	baz=60,SNR=8.0						
MORW	**Morawa**	**60.35**	**248**	P	**P**	**19 35 39.8**	**-0.7**
	baz=61,SNR=6.8						
CASY	**Casey**	**62.87**	**206**	*e*P	**P**	**19 35 56.3**	**-0.4**
	5.0nm,0.6s						
QSPA	**South Pole Qui**	**67.73**	**180**	*e*P	**P**	**19 36 28.7**	**+0.4**
	7.0nm,1.1s						
JNU	**Nakatsue**	**74.50**	**316**	LR	LR	20 05 53.5	
	comp=Z,118nm,18.3s,baz=190,slow=32						
KSM	**Kuching**	**74.96**	**278**	*e*P	**P**	**19 37 11.7**	**-0.7**
KSM	**Kuching**	**74.96**	**278**	P	**P**	**19 37 12.9**	**+0.5**
	baz=76,SNR=3.7						
PETK	**Petropavlovsk-**	**78.39**	**345**	P	**P**	**19 37 30.6**	**-0.2**
PETK	**Petropavlovsk-**	**78.39**	**345**	P	**P**	**19 37 30.6**	**-0.2**
	1.1nm,0.3s,baz=176,slow=7.1,SNR=4.6						
ISA	**Isabella**	**79.71**	**45**	P	**P**	**19 37 38.6**	**+0.2**
	3.3nm,0.9s						
MAW	**Mawson**	**80.27**	**200**	*e*P	**P**	**19 37 41.3**	**+0.4**
	1.6nm,0.6s						
MAW				*e*PcP	**PcP**	**19 37 49.3**	**+1.7**
MAW	**Mawson**	**80.27**	**200**	P	**P**	**19 37 41.7**	**+0.7**
	3.7nm,0.6s,baz=131,slow=6.5,SNR=13						
MAW	**Mawson**	**80.27**	**200**	P	**P**	**19 37 41.6**	**+0.7**
	baz=80,SNR=7.9						
YBH	**Yreka Blue Hor**	**80.93**	**38**	*e*P	**P**	**19 37 46.6**	**+1.7**
	1.8nm,0.6s						
NVAR	**Mina Array Bea**	**81.48**	**43**	P	**P**	**19 37 49.0**	**+1.0**
NVAR				sP	sP	19 38 25.1	-11
NVAR	**Mina Array Bea**	**81.48**	**43**	P	**P**	**19 37 49.0**	**+1.0**
	0.6nm,0.8s,baz=220,slow=6.9,SNR=4.7						
NVAR				sP	sP	19 38 25.1	-11
	0.9nm,0.7s,baz=225,slow=8.9,SNR=3.2						
KULM	**Kulim**	**85.31**	**278**	P	**P**	**19 38 07.7**	**-0.2**
	5.7nm,0.8s						
SNAA	**Sanae**	**86.13**	**178**	*e*P	**P**	**19 38 11.2**	**+0.2**
	0.8nm,0.6s						
PMR	**Palmer**	**86.51**	**13**	*e*P	**P**	**19 38 13.1**	**+0.4**
	3.0nm,0.5s						
TXAR	**Lajitas Array**	**86.96**	**57**	P	**P**	**19 38 17.0**	**+1.2**
TXAR				pP	pP	19 38 38.7	-11
TXAR				sP	sP	19 38 53.1	-11
TXAR	**Lajitas Array**	**86.96**	**57**	P	**P**	**19 38 17.0**	**+1.2**
	1.0nm,0.7s,baz=218,slow=7.9,SNR=9.6						
TXAR				pP	pP	19 38 38.7	-11
	0.3nm,0.4s,baz=224,slow=7.2,SNR=4.4						
TXAR				sP	sP	19 38 53.1	-11
	1.9nm,1.1s,baz=212,slow=4.9,SNR=3.3						
PDAR	**Pinedale Array**	**89.42**	**43**	P	**P**	**19 38 27.6**	**+0.3**
PDAR	**Pinedale Array**	**89.42**	**43**	P	**P**	**19 38 27.6**	**+0.3**
	0.5nm,0.8s,baz=201,slow=3.9,SNR=2.3						
ILAR	**Eielson Array**	**89.83**	**12**	P	**P**	**19 38 28.5**	**+0.1**
ILAR	**Eielson Array**	**89.83**	**12**	P	**P**	**19 38 28.5**	**+0.1**
	1.7nm,0.5s,baz=221,slow=5.8,SNR=28						
CMAR	**Chiang Mai Arr**	**91.95**	**289**	P	**P**	**19 38 39.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**91.95**	**289**	P	**P**	**19 38 39.1**	**-0.2**
	1.9nm,0.8s,baz=130,slow=3.3,SNR=16						
ZALV	**Zalesovo Beam**	**112.74**	**321**	PKiKP	**PKiKP**	**19 44 04.3**	**-1.5**
ZALV	**Zalesovo Beam**	**112.74**	**321**	PKiKP	**PKiKP**	**19 44 04.3**	**-1.5**
	0.6nm,0.4s,baz=154,slow=1.0,SNR=4.7						
MKAR	**Makanchi Array**	**113.41**	**313**	PKiKP	**PKiKP**	**19 44 06.4**	**-1.0**
MKAR	**Makanchi Array**	**113.41**	**313**	PKiKP	**PKiKP**	**19 44 06.4**	**-1.0**
	0.4nm,0.5s,baz=92,slow=0.3,SNR=6.4						
KURK	**Kurchatov**	**116.23**	**317**	PKP	**PKPdf**	**19 44 11.5**	**-1.1**
KURK				PP	**PP**	**19 45 19.8**	**-0.5**
KURBB	**Kurchatov Arra**	**116.28**	**317**	PKP	**PKPdf**	**19 44 11.5**	**-1.2**
	0.8nm,0.7s,baz=103,slow=1.8,SNR=11						
KURBB				PP	**PP**	**19 45 19.8**	**-0.8**
	0.3nm,0.9s,baz=98,slow=5.8,SNR=4.7						
BVAR	**Borovoye Array**	**121.32**	**319**	PKP	**PKPdf**	**19 44 21.7**	**-0.7**
BVAR	**Borovoye Array**	**

CLL ⇑iPKPab **PKPab 19 45 26.5 0.0**
comp=Z,12nm,1.0s
OKC Ostrava-Krasne 150.20 341⇑ePKP **PKPbc 19 45 20.4 0.0**
OKC ex x 19 45 22.9
OKC ePKPAB **PKPab 19 45 27.4 +0.5**
UPC Upice 150.21 344⇑ePKP **PKPbc 19 45 21.2 +0.8**
DPC Dobruska-Polom 150.27 343⇑ePKP **PKPbc 19 45 21.4 +0.8**
DPC ex x 19 45 24.4
DPC ePKPAB **PKPab 19 45 28.2 +1.0**
BRG Berggiesshubel 150.36 346 ePKP **PKPbc 19 45 21.2 +0.4**
comp=Z,8.7nm,0.8s
BRG i 19 45 27.8
comp=Z,8.6nm,0.8s
BRG Berggiesshubel 150.36 346 ePKPbc **PKPbc 19 45 21.0 +0.3**
DOPR Dopca 150.42 328⇑iP **PKPbc 19 45 21.9 +0.8**
MLR Muntele Rosu 150.47 327⇑iP **PKPbc 19 45 21.5 +0.1**
MLR Muntele Rosu 150.47 327 PKPbc **PKPbc 19 45 21.3 -0.1**
MLR Muntele Rosu 150.47 327 PKPbc **PKPbc 19 45 21.3 -0.1**
comp=Z,1.4nm,0.6s,baz=339,slow=2.8,SNR=30
PVCC Panska Ves 150.54 345⇑ePKP **PKPbc 19 45 21.2 0.0**
PVCC ePKPAB **PKPab 19 45 28.2 0.0**
KECS Kecovo 150.57 337 ePKP **PKPbc 19 45 22.8 +1.5**
EIL Elat 150.78 291 PKPbc **PKPbc 19 45 22.8 +0.3**
EIL Elat 150.78 291 PKPbc **PKPbc 19 45 22.8 +0.3**
comp=Z,8.6nm,0.8s,baz=329,slow=3.2,SNR=7.5
BUG Bochum--Univer 150.80 355 ePKPbc **PKPbc 19 45 22.2 +0.5**
VOIR 150.96 328⇑iP **PKPbc 19 45 22.8 +0.4**
CSS Prodhromos 151.00 302 ePKPbc **PKPbc 19 45 22.5 -0.3**
MOX Moxa 151.03 349 ePKPbc **PKPbc 19 45 22.3 0.0**
PRU Pruhonice 151.05 345⇑ePKP PKP 19 45 22.7
PRU ePKPAB **PKPab 19 45 30.9 +0.5**
TANN Tannenbergstha 151.10 348 ePKPbc **PKPbc 19 45 22.9 +0.3**
VRAC Vranov 151.13 342 PKPbc **PKPbc 19 45 22.8 +0.2**
VRAC PKPab **PKPab 19 45 31.6 +0.8**
VRAC Vranov 151.13 342 PKPbc **PKPbc 19 45 22.8 +0.2**
comp=Z,1.5nm,0.3s,baz=33,slow=11,SNR=3.1
VRAC PKPab **PKPab 19 45 31.6 +0.8**
comp=Z,3.4nm,0.5s,baz=216,slow=5.6,SNR=6.5
ARR Arges 151.22 328⇑iP **PKPbc 19 45 24.2 +1.2**
NKC Novy Kostel 151.27 348⇑ePKP **PKPbc 19 45 23.0 +0.1**
NKC ePKPAB **PKPab 19 45 30.9 -0.4**
TREC Trest 151.45 343⇑ePKP **PKPbc 19 45 23.7 +0.3**
LOT Lotru 151.58 329⇑iP **PKPbc 19 45 23.5 -0.4**
ROTZ Rotzenmuhle 151.76 348 ePKPbc **PKPbc 19 45 24.3 +0.3**
TNS Taunus Mts 151.90 353 ePKPbc **PKPbc 19 45 24.6 +0.2**
KHC Kasperske Hory 152.08 346⇑ePKP PKP 19 45 25.2
KHC ePKPAB **PKPab 19 45 35.4 +0.7**
KHC Kasperske Hory 152.08 346 ePKPbc **PKPbc 19 45 24.9 +0.1**
KHC ePKPab **PKPab 19 45 35.1 +0.4**
GZR Gura Zlata 152.08 330⇑iP **PKPbc 19 45 25.0 0.0**
GEC2 GERESS Array S 152.32 345 ePKPbc **PKPbc 19 45 25.5 +0.1**
GERES GERESS Array B 152.32 345 PKP **PKPdf 19 45 18.7 +0.2**
GERES PKPbc **PKPbc 19 45 25.4 -0.1**
GERES PKPab **PKPab 19 45 35.6 -0.2**
GERES GERESS Array B 152.32 345 PKP **PKPdf 19 45 18.7 +0.2**
comp=Z,0.2nm,0.4s,baz=29,slow=2.2,SNR=3.2
GERES PKPbc **PKPbc 19 45 25.4 -0.1**
comp=Z,2.2nm,0.5s,baz=21,slow=2.2,SNR=24
GERES PKPab **PKPab 19 45 35.6 -0.2**
comp=Z,1.1nm,0.5s,baz=42,slow=4.2,SNR=6.1
BZS Buzias 152.43 332⇑iP **PKPbc 19 45 25.9 +0.2**
CONA Conrad Observa 152.59 342⇓iPKIKP **PKPbc 19 45 26.5 +0.5**
comp=Z,4.6nm,0.7s
WLF Walferdange 152.65 356 ePKPbc **PKPbc 19 45 27.0 +1.0**
PKSM Moragy 153.16 336⇑iP **PKPbc 19 45 28.1 +0.9**
BFO Black Forest 153.78 353 ePKPbc **PKPbc 19 45 27.3 -1.3**
BFO ePKPab **PKPab 19 45 41.6 -0.3**
SOKA Soboth 153.96 342⇑iPKPbc **PKPbc 19 45 28.7 -0.4**
comp=Z,2.6nm,0.9s
MOTA Moosalm 154.30 348⇓iPKPab **PKPab 19 45 43.8 -0.5**
comp=Z,4.1nm,0.8s
ABTA Abfaltersbach 154.56 345⇑iPKPbc **PKPbc 19 45 29.9 -0.4**
comp=Z,3.5nm,0.5s
DAVOX Davos/Dischmat 155.06 349 PKPbc PKPdf 19 45 31.7 +9.0
DAVOX PKPab **PKPab 19 45 47.7 0.0**
DAVOX Davos/Dischmat 155.06 349 PKPbc PKPdf 19 45 31.7 +9.0
comp=Z,2.3nm,0.5s,baz=0.0,slow=1.0,SNR=11
DAVOX PKPab **PKPab 19 45 47.7 0.0**
comp=Z,2.0nm,0.6s,baz=53,slow=5.1,SNR=3.1
ESDC Sonseca Array 161.62 18 PKPab **PKPab 19 46 16.2 +0.1**
ESDC Sonseca Array 161.62 18 PKPab **PKPab 19 46 16.2 +0.1**
comp=Z,1.1nm,0.6s,baz=330,slow=4.4,SNR=6.9
TORD Torodi Ar. Bea 170.71 170 PKP **PKPdf 19 45 36.7 -1.7**
TORD PKPab **PKPab 19 46 56.6 0.0**
TORD Torodi Ar. Bea 170.71 170 PKP **PKPdf 19 45 36.7 -1.7**
comp=Z,0.6nm,0.8s,baz=216,slow=1.5,SNR=3.1
TORD PKPab **PKPab 19 46 56.6 0.0**
comp=Z,1.1nm,0.7s,baz=180,slow=4.7,SNR=6.8

IDC 11 19:47:35.6±322.0, 46°.00N×63°.60E, h0km, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.77**	**322**	i				20 20 40.0	
	baz=130,slow=321,SNR=3.7								
I43RU	**DUBNA INFRASONI**	**9.53**	**313**	i				21 42 40.0	
	baz=115,slow=319,SNR=1.3								

*IDC **11** 19:47:42.5±1.6, 5°.69S×147°.65E, h121km±14km, mb4.0/12, mb1 4.0/13, mb1mx4.0/17, mbtmp4.0/13, MS3.5/1, Ms1 3.5/1, ms1mx2.4/26, Error ellipse: s-maj=22.2km s-min=8.5km az=106.0*
*ISCJB **11** 19:47:44.6±0.4, 5°.68S±0°.05×147°.47E±0°.08, h150km, mb4.2/18, Error ellipse: s-maj=11.6km s-min=5.4km az=24.4*
*AUST **11** 19:47:44.5, 5°.77S×147°.10E, h100km*
*NEIC **11** 19:47:45.1±1.3, 5°.73S×147°.56E, h144km±11km, mb4.5/6, Error ellipse: s-maj=14.0km s-min=7.9km az=104.0*
ISC 11 19:47:46.0±0.4, 5°.77S±0°.06×147°.52E±0°.10, h150km, n74, σ1§42/82, mb4.2/18, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.63**	**186**	ePn			**Pn**	**19 48 39.6**	**-1.9**
PMG				eSn			Sn	19 49 17.5	-7.1
PMG	**Port Moresby**	**3.63**	**186**	P			**Pn**	**19 48 39.8**	**-1.7**
	28nm,0.3s,baz=3.1,slow=13,SNR=92								
PMG				S			**Sn**	**19 49 21.0**	**-3.6**
	56nm,0.3s,baz=14,slow=14,SNR=3.7								
RABL	**Rabaul**	**4.88**	**71**	P			**Pn**	**19 48 56.9**	**-1.1**
	baz=5.3,SNR=40								
COEN	**Coen**	**9.19**	**207**	P			**Pn**	**19 49 55.3**	**0.0**
	baz=9.1,SNR=25								
COEN				S			**Sn**	**19 51 33.4**	**-4.1**
	baz=9.1,SNR=9.7								
MTSU	**Mount Surprise**	**12.68**	**194**	P			**Pn**	**19 50 42.6**	**+1.4**
	baz=13,SNR=12								
CTA	**Charters Tower**	**14.29**	**185**	P			**P**	**19 51 05.1**	**+0.7**
CTA	**Charters Tower**	**14.29**	**185**	P			**P**	**19 51 05.1**	**+0.7**
	0.5nm,0.3s,baz=356,slow=15,SNR=3.0								
KDU	**Kakadu**	**16.36**	**244**	P			**Pn**	**19 51 26.0**	**-1.3**
	baz=16,SNR=45								
MTN	**Manton Dam**	**17.63**	**245**	P			**P**	**19 51 41.3**	**0.0**
	baz=17,SNR=106								
MTN				S			S	19 54 42.2	-15
	baz=17,SNR=6.3								
WRAB	**Tennant Creek**	**19.03**	**221**	eP			**P**	**19 51 57.4**	**+0.8**
	66nm,0.6s								
WRAB				eS			**S**	**19 55 21.1**	**-3.8**
WRA	**Warramunga Arr**	**19.05**	**221**	P			**P**	**19 51 57.4**	**+0.5**
WRA				S			**S**	**19 55 27.7**	**+2.6**
WRA	**Warramunga Arr**	**19.05**	**221**	P			**P**	**19 51 57.3**	**+0.5**
	13nm,0.3s,baz=41,slow=11,SNR=765								
WRA				S			**S**	**19 55 27.7**	**+2.6**
	baz=44,slow=19,SNR=6.0								
GUMO	**Guam**	**19.41**	**352**	eP			**P**	**19 52 01.2**	**+0.5**
KNRA	**Kununurra**	**20.88**	**240**	P			**P**	**19 52 16.1**	**-0.4**
	baz=20,SNR=295								
AS31	**Alice Springs**	**22.10**	**215**	eP			**P**	**19 52 30.1**	**+0.8**
ASAR	**Alice Springs**	**22.10**	**215**	P			**P**	**19 52 29.8**	**+0.4**
ASAR				S			**S**	**19 56 28.0**	**+5.4**
ASAR	**Alice Springs**	**22.10**	**215**	P			**P**	**19 52 29.8**	**+0.4**
	36nm,0.8s,baz=49,slow=8.6,SNR=740								
ASAR				S			**S**	**19 56 28.0**	**+5.4**
	12nm,0.9s,baz=33,slow=22,SNR=25								
FITZ	**Fitzroy Crossi**	**24.63**	**238**	P			**P**	**19 52 53.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.63**	**238**	P			**P**	**19 52 53.8**	**+1.0**
	48nm,0.4s,baz=66,slow=8.8,SNR=391								
FITZ				LR			LR	20 03 35.3	
	comp=Z,106nm,18.2s,baz=49,slow=38								
FITZ	**Fitzroy Crossi**	**24.63**	**238**	P			**P**	**19 52 53.6**	**+0.8**
	baz=24,SNR=407								
STKA	**Stephens Creek**	**26.56**	**191**	P			**P**	**19 53 10.8**	**+0.7**
STKA	**Stephens Creek**	**26.56**	**191**	P			**P**	**19 53 10.8**	**+0.7**
	1.7nm,0.5s,baz=16,slow=12,SNR=9.0								
STKA	**Stephens Creek**	**26.56**	**191**	P			**P**	**19 53 11.3**	**+1.3**
	baz=27,SNR=4.2								
WSI	**Waingapu**	**27.25**	**260**	P			P	19 53 08.9	-7.4
	baz=27,SNR=6.7								
FORT	**Forrest**	**30.88**	**214**	P			**P**	**19 53 49.5**	**+1.2**
	baz=31,SNR=14								
MBWA	**Marble Bar**	**30.97**	**238**⇓iP				**P**	**19 53 49.5**	**+0.2**
	12nm,0.6s								
MEEK	**Meekatharra**	**34.50**	**230**	P			**P**	**19 54 21.0**	**+1.0**
	baz=34,SNR=44								
MORW	**Morawa**	**37.71**	**228**	P			**P**	**19 54 48.1**	**+0.9**
	baz=38,SNR=3.8								
KLBR	**Kellerberrin**	**37.90**	**224**	P			**P**	**19 54 49.3**	**+0.5**
	baz=38,SNR=29								
BLDU	**Ballidu**	**38.06**	**226**	P			**P**	**19 54 51.0**	**+0.8**
	baz=38,SNR=10								
KSRS	**Korea Array**	**46.73**	**338**	P			**P**	**19 55 59.9**	**-0.1**
	1.9nm,0.8s,baz=154,slow=9.4,SNR=5.3								
KSRS				PcP			**PcP**	**19 57 30.6**	**-0.4**
	1.3nm,0.7s,baz=169,slow=4.1,SNR=4.3								
KSAR	**Wonju Array Be**	**46.73**	**338**	P			**P**	**19 55 59.9**	**-0.1**
KSAR				PcP			**PcP**	**19 57 30.6**	**-0.5**
USRK	**Ussuriysk Arra**	**51.67**	**346**	P			**P**	**19 56 37.6**	**+0.2**
	3.1nm,0.6s,baz=173,slow=8.5,SNR=7.3								
USRK				PcP			**PcP**	**19 57 48.8**	**-0.2**
	1.2nm,0.5s,baz=164,slow=4.1,SNR=5.1								
PETK	**Petropavlovsk-**	**59.28**	**7**	P			**P**	**19 57 31.0**	**-0.7**
PETK	**Petropavlovsk-**	**59.28**	**7**	P			**P**	**19 57 31.0**	**-0.7**
	2.0nm,0.7s,baz=165,slow=6.0,SNR=3.2								
FX1	**Attu Island--F**	**62.34**	**17**	eP			**P**	**19 57 53.4**	**+1.1**
ULN	**Ulaanbaatar**	**64.16**	**331**	eP			**P**	**19 58 04.9**	**+0.3**
	4.2nm,0.7s								
SONM	**Songino Array**	**64.46**	**331**	P			**P**	**19 58 06.7**	**+0.1**
SONM				PcP			**PcP**	**19 58 39.2**	**-0.3**
SONM	**Songino Array**	**64.46**	**331**	P			**P**	**19 58 06.7**	**+0.1**
	2.7nm,0.8s,baz=155,slow=5.0,SNR=17								
SONM				PcP			**PcP**	**19 58 39.2**	**-0.3**
	0.4nm,0.4s,baz=157,slow=4.6,SNR=3.0								
VNDA	**Vanda**	**72.11**	**177**	P			**P**	**19 58 54.4**	**+0.9**
VNDA	**Vanda**	**72.11**	**177**	P			**P**	**19 58 54.4**	**+0.9**
	2.6nm,0.7s,baz=324,slow=6.3,SNR=14								
MKAR	**Makanchi Array**	**77.65**	**320**	P			**P**	**19 59 25.6**	**-0.3**
MKAR	**Makanchi Array**	**77.65**	**320**	P			**P**	**19 59 25.6**	**-0.3**
	1.9nm,0.6s,baz=101,slow=7.7,SNR=19								
ZAA0	**Zalesovo Array**	**79.09**	**328**	eP			P	19 59 31.1	-2.6
ZALV	**Zalesovo Beam**	**79.09**	**328**	P			**P**	**19 59 32.7**	**-0.9**
ZALV				pP			pP	20 00 05.4	-5.4
ZALV	**Zalesovo Beam**	**79.09**	**328**	P			**P**	**19 59 32.7**	**-0.9**
	4.7nm,0.5s,baz=110,slow=5.9,SNR=20								
ZALV				pP			pP	20 00 05.4	-5.4
	1.2nm,0.6s,baz=105,slow=6.9,SNR=3.9								
TKM2	**Tokmak 2**	**80.85**	**315**	eP			**P**	**19 59 42.8**	**-0.8**
KURK	**Kurchatov**	**81.34**	**323**	P			**P**	**19 59 45.4**	**-0.3**
KURBB	**Kurchatov Arra**	**81.36**	**323**	P			**P**	**19 59 45.4**	**-0.5**
	0.7nm,0.7s,baz=115,slow=4.3,SNR=9.9								
EKS2	**Erkin-Say**	**82.07**	**314**	eP			**P**	**19 59 49.2**	**-0.7**
MAW	**Mawson**	**82.66**	**203**	P			**P**	**19 59 51.7**	**-0.6**
MAW	**Mawson**	**82.66**	**203**	P			**P**	**19 59 51.7**	**-0.6**
	0.8nm,0.6s,baz=37,slow=6.1,SNR=3.9								
PMR	**Palmer**	**82.78**	**26**	P			**P**	**19 59 51.6**	**-1.4**
KKAR	**Karatay Array**	**84.50**	**314**	eP			**P**	**20 00 01.6**	**-0.7**
	2.0nm,0.8s								
COLA	**College**	**84.74**	**23**	P			P	20 00 01.2	-1.6
ILAR	**Eielson Array**	**85.07**	**23**	P			**P**	**20 00 03.2**	**-1.3**
ILAR	**Eielson Array**	**85.07**	**23**	P			**P**	**20 00 03.2**	**-1.3**
	3.7nm,0.7s,baz=252,slow=5.0,SNR=40								
EGAK	**Eagle**	**87.34**	**24**	P			**P**	**20 00 16.0**	**+0.3**
	5.9nm,0.9s								
HYT	**Haines Junctio**	**87.75**	**28**	eP			**P**	**20 00 18.3**	**+0.5**
DAWY	**Dawson**	**87.84**	**25**	eP			**P**	**20 00 19.5**	**+1.4**
ABKAR	**Akbulak array**	**92.74**	**319**	eP			P	20 00 39.8	-1.5
	0.8nm,0.6s								
CLL	**Collm**	**121.04**	**329**	ePKPdf			**PKPdf**	**20 06 20.0**	**-0.8**
GERES	**GERESS Array B**	**122.01**	**326**	PKP			**PKPdf**	**20 06 22.1**	**-0.8**
GERES	**GERESS Array B**	**122.01**	**326**	PKP			**PKPdf**	**20 06 22.1**	**-0.8**
	0.7nm,0.6s,baz=82,slow=2.0,SNR=8.3								
LPAZ	**La Paz**	**138.47**	**122**	PKP			**PKPdf**	**20 06 55.5**	**-0.1**
LPAZ	**La Paz**	**138.47**	**122**	PKP			**PKPdf**	**20 06 55.5**	**-0.1**
	1.2nm,0.7s,baz=230,slow=3.5,SNR=4.1								
SIV	**San Ignacio**	**144.38**	**128**	PKP			**PKPab**	**20 07 04.3**	**+0.3**
SIV	**San Ignacio**	**144.38**	**128**	PKP			**PKPab**	**20 07 04.3**	**+0.3**
	5.0nm,0.6s,baz=246,slow=3.5,SNR=18								
TOA0	**Torodi Ar. Sit**	**145.53**	**285**	ePKPdf			**PKPdf**	**20 07 07.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**145.53**	**285**	PKPbc			**PKPdf**	**20 07 07.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**145.53**	**285**	PKPbc			**PKPdf**	**20 07 07.4**	**-0.1**
	5.3nm,0.6s,baz=63,slow=3.3,SNR=76								
SAML	**Samuel**	**146.08**	**115**	ePKPdf			**PKPdf**	**20 07 08.8**	**+0.4**
BDFB	**Brasilia**	**153.75**	**144**	PKPbc			**PKPbc**	**20 07 28.5**	**0.0**
BDFB	**Brasilia**	**153.75**	**144**	PKPbc			**PKPbc**	**20 07 28.5**	**0.0**
	2.5nm,0.4s,baz=143,slow=4.9,SNR=4.4								

IDC 11 19:54:05.6±1.1, 13°.84N×92°.96E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, ML3.2/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/30, Error ellipse: s-maj=42.1km s-min=24.0km az=47.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.36**	**51**	Pn			Pn	19 55 54.7	+0.2
	0.1nm,0.3s,baz=238,slow=15,SNR=2.6								
CMAR				Sn			Sn	19 57 11.8	-7.0
	0.2nm,0.3s,baz=236,slow=28,SNR=5.2								
MKAR	**Makanchi Array**	**34.05**	**347**	P			P	20 00 51.7	+0.1
	0.9nm,0.9s,baz=183,slow=10,SNR=3.6								
SONM	**Songino Array**	**35.70**	**16**	LR			LR	20 17 32.1	
	comp=Z,43nm,18.2s,baz=324,slow=39								
WRA	**Warramunga Arr**	**52.76**	**129**	P			P	20 03 22.6	-0.2
	0.4nm,0.8s,baz=307,slow=8.8,SNR=2.7								
ASAR	**Alice Springs**	**54.70**	**133**	P			P	20 03 36.9	-0.1
	0.4nm,0.5s,baz=306,slow=6.4,SNR=5.5								
PETK	**Petropavlovsk-**	**63.93**	**37**	LR			LR	20 32 04.3	
	comp=Z,29nm,20.3s,baz=356,slow=36								
GERES	**GERESS Array B**	**72.66**	**317**	P			P	20 05 35.0	-0.4
	0.3nm,0.6s,baz=94,slow=7.3,SNR=4.5								
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P			P	20 06 59.4	+0.4
	0.3nm,0.7s,baz=85,slow=5.4,SNR=2.6								

CASC 11 20:00:27.8±1.6, 12°.01N×86°.95W, h102km±14km, MD3.8, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.39**	**64**	eP			Pn	20 00 42.7	-0.4
COPN				eS			Sn	20 00 55.4	+0.9
CNCH	**Conchagua**	**1.53**	**326**	eP			Pn	20 00 54.0	-0.7
CNCH				eS			Sn	20 01 16.0	+0.9
VSM	**San Miguel**	**1.91**	**318**	eP			Pn	20 00 60.0	+0.3
VSM				eS			Sn	20 01 26.2	+2.2
VCR	**Vista de Mar**	**2.27**	**145**⇑	eP			Pn	20 01 05.6	+1.4
VCR				eS			Sn	20 01 33.0	+1.0
LFRS	**El Faro**	**2.61**	**308**	eP			Pn	20 01 09.0	+0.4
LFRS				eS			Sn	20 01 41.1	+1.2
JCR	**Jicaral**	**2.80**	**140**	eP			Pn	20 01 12.2	+1.1
JCR				eS			Sn	20 01 44.5	+0.2
CGA2	**Cerro Gallo 2**	**3.14**	**129**	eP			Pn	20 01 17.6	+1.9
CGA2				eS			Sn	20 01 53.3	+0.7
SBLS	**San Blas**	**3.18**	**305**	eP			Pn	20 01 17.3	+1.0
SBLS				eS			Sn	20 01 55.0	+1.3

IDC 11 20:01:33.7±360.0, 51°.26N×84°.63E, h0km, Error ellipse: s-maj=128.2km s-min=41.5km az=180.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.70**	**2**	i				20 13 40.0	
	baz=183,slow=253,SNR=3.2								
I31KZ	**AKTYUBINSK INF**	**16.80**	**278**	i				21 40 20.0	
	baz=78,slow=320,SNR=1.4								
I43RU	**DUBNA INFRASONI**	**27.94**	**300**	i				22 54 20.0	
	baz=81,slow=326,SNR=1.1								

*MEX **11** 20:03:12.6±1.0, 14°.23N×93°.26W, h16km±26km, MD4.2*
*IDC **11** 20:03:15.3±9.4, 14°.44N×93°.07W, h55km±65km, mb3.6/5, mb1 4.0/7, mb1mx3.6/24, mbtmp3.7/7, ML4.1/2, MS3.6/14, Ms1 3.6/14, ms1mx3.4/26, Error ellipse: s-maj=79.1km s-min=39.8km az=177.0*

ISC 11 20:03:13.4±1.4, 14°.3N±0°.1×93°.18W±0°.05, h51km, n26, σ1§23/21, mb4.0/5, MS3.6/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.07**	**55**	i P			**Pn**	**20 03 30.1**	**-2.0**
THIG				i S			**Sn**	**20 03 45.7**	**-0.3**
CCIG	**Comitan**	**2.22**	**27**	eP			**Pn**	**20 03 47.9**	**0.0**
CCIG				i S			**Sn**	**20 04 13.8**	**-0.4**
TGIG		**2.47**	**1**	i P			**Pn**	**20 03 50.5**	**-0.7**
TGIG				i S			**Sn**	**20 04 18.9**	**-1.3**
HUIG	**Huatulco**	**3.19**	**298**	i P			**Pn**	**20 03 59.8**	**-1.2**
HUIG				i S			**Sn**	**20 04 34.5**	**-3.3**
TUIG	**Tuzandepetl**	**3.90**	**342**	i P			**Pn**	**20 04 10.3**	**-0.6**
TUIG				i S			**Sn**	**20 04 55.2**	**-0.3**
VHO	**Vista Hermosa**	**4.40**	**309**	i P			**Pn**	**20 04 17.9**	**+0.1**
VHO				i S			**Sn**	**20 05 06.8**	**-1.1**
TEIG	**Tepich**	**7.53**	**38**	P			**Pn**	**20 04 59.8**	**-0.9**
	14nm,0.3s,baz=222,slow=1.3,SNR=17								
TEIG				S			**Sn**	**20 06 23.2**	**-1.5**
	3.0nm,0.3s,baz=18,slow=19,SNR=2.9								
TEIG				LR			LR	20 08 30.4	
	comp=Z,1μm,18.3s,baz=261,slow=43								
JTS	**JuntasAbangare**	**8.97**	**115**	LR			LR	20 07 47.5	
	comp=Z,51nm,21.7s,baz=148,slow=30								
TXAR	**Lajitas Array**	**17.84**	**329**	P			**P**	**20 07 18.9**	**+0.6**
	0.1nm,0.3s,baz=142,slow=12,SNR=10								
TXAR				LR			LR	20 14 25.0	
	comp=Z,69nm,20.0s,baz=185,slow=38								
TKL	**Tuckaleechee C**	**22.89**	**20**	LR			LR	20 18 54.6	
	comp=Z,132nm,19.6s,baz=22,slow=41								
ANMO	**Albuquerque**	**23.79**	**332**	P			**P**	**20 08 22.5**	**+0.8**
	0.8nm,0.4s,baz=160,slow=8.0,SNR=4.0								
ATAH	**Atahualpa**	**25.86**	**145**	LR			LR	20 16 48.3	
	comp=Z,107nm,20.8s,baz=97,slow=31								
PFO	**Pinyon Flat Ob**	**28.55**	**316**	LR			LR	20 22 49.6	
	comp=Z,99nm,18.0s,baz=136,slow=41								
PDAR	**Pinedale Array**	**31.69**	**337**	P			**P**	**20 09 33.4**	**+1.0**
	0.5nm,0.4s,baz=148,slow=10,SNR=3.6								
NVAR	**Mina Array Bea**	**32.73**	**322**	P			**P**	**20 09 42.9**	**+1.3**
	2.1nm,0.8s,baz=130,slow=7.5,SNR=8.0								
ULM	**Lac du Bonnet**	**35.92**	**357**	LR			LR	20 26 53.7	
	comp=Z,70nm,19.6s,baz=5.0,slow=40								
LPAZ	**La Paz**	**39.19**	**140**	LR			LR	20 25 31.5	
	comp=Z,89nm,20.7s,baz=231,slow=34								
SCHQ	**Schefferville**	**45.35**	**21**	LR			LR	20 31 50.4	
	comp=Z,172nm,18.4s,baz=94,slow=38								
YKA	**Yellowknife Ar**	**50.48**	**347**	P			**P**	**20 12 06.0**	**+0.1**
	2.9nm,0.7s,baz=153,slow=7.6,SNR=3.3								
CPUP	**Villa Florida**	**53.35**	**139**	LR			LR	20 34 40.7	
	comp=Z,56nm,19.0s,baz=184,slow=35								
BDFB	**Brasilia**	**53.65**	**122**	LR			LR	20 35 45.3	
	comp=Z,84nm,19.6s,baz=22,slow=36								
ILAR	**Eielson Array**	**62.12**	**337**	P			**P**	**20 13 29.3**	**+0.5**
	1.3nm,1.0s,baz=144,slow=4.7,SNR=9.8								
NOA	**NORSAR Array B**	**84.43**	**28**	LR			LR	20 51 50.1	
	comp=Z,40nm,20.5s,baz=275,slow=35								
ARCES	**ARCESS Array B**	**86.21**	**18**	LR			LR	20 55 18.3	
	comp=Z,50nm,18.1s,baz=276,slow=36								
FINES	**FINESS Array B**	**90.71**	**25**	LR			LR	20 59 04.9	
	comp=Z,50nm,18.7s,baz=178,slow=37								
CMAR	**Chiang Mai Arr**	**145.33**	**339**	PKPbc			**PKPdf**	**20 22 46.9**	**+0.3**
	1.3nm,0.8s,baz=339,slow=3.4,SNR=7.3								

IDC 11 20:39:01.0±1.6, 5°.72N×127°.50E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, Error ellipse: s-maj=100.9km s-min=18.9km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.74**	**184**	P			P	20 44 15.3	+0.2
	0.5nm,0.3s,baz=4.5,slow=7.4,SNR=10								
WRA	**Warramunga Arr**	**26.37**	**165**	P			P	20 44 39.2	+0.1
	0.4nm,0.4s,baz=346,slow=10,SNR=13								
ASAR	**Alice Springs**	**29.87**	**168**	P			P	20 45 10.1	-0.3
	0.1nm,0.2s,baz=339,slow=7.1,SNR=6.1								
STKA	**Stephens Creek**	**39.73**	**161**

PETK	Petropavlovsk-	66.66 354	P	P	21 13 34.9	0.0
PETK	Petropavlovsk-	66.66 354	P	P	21 13 34.9	0.0
	3.2nm,0.7s,baz=146,slow=8.7,SNR=5.6					
PPI	Padang Panjang	67.28 275	P	P	21 13 36.4	-3.4
	baz=67,SNR=3.4					
CMAR	Chiang Mai Arr	74.27 294	P	P	21 14 22.7	+1.0
CMAR	Chiang Mai Arr	74.27 294	P	P	21 14 22.7	+1.0
	2.2nm,0.8s,baz=132,slow=4.4,SNR=13					
ULN	Ulaanbaatar	80.93 324	eP	P	21 14 58.4	+0.2
	0.8nm,0.5s					
SONM	Songino Array	81.30 324	P	P	21 15 00.2	+0.1
SONM	Songino Array	81.30 324	P	P	21 15 00.2	+0.1
	0.3nm,0.5s,baz=115,slow=4.8,SNR=3.4					
MAW	Mawson	83.13 202	P	P	21 15 08.6	-0.5
	2.9nm,0.8s,baz=150,slow=5.4,SNR=6.0					
ILAR	Eielson Array	85.24 18	P	P	21 15 19.1	-0.5
ILAR			pP	pP	21 16 08.2	-0.4
ILAR	Eielson Array	85.24 18	P	P	21 15 19.1	-0.5
	1.2nm,0.7s,baz=240,slow=5.5,SNR=15					
ILAR			pP	pP	21 16 08.2	-0.4
	1.7nm,0.9s,baz=228,slow=6.2,SNR=11					
MKAR	Makanchi Array	96.10 317	P	P	21 16 11.1	+0.2
MKAR	Makanchi Array	96.10 317	P	P	21 16 11.1	+0.2
	0.6nm,0.6s,baz=88,slow=6.2,SNR=11					
ARCES	ARCESS Array B 118.87 346		PKP	PKPdf	21 21 29.3	-0.7
ARCES	ARCESS Array B 118.87 346		PKP	PKPdf	21 21 29.3	-0.7
	0.6nm,0.4s,baz=76,slow=1.5,SNR=17					
FINES	FINESS Array B 124.38 339		PKP	PKPdf	21 21 40.4	-0.4
FINES	FINESS Array B 124.38 339		PKP	PKPdf	21 21 40.4	-0.4
	2.4nm,0.9s,baz=8.5,slow=2.8,SNR=6.4					
GERES	GERESS Array B 138.34 334		SKPbc	SKPbc	21 25 24.8	+1.6
GERES	GERESS Array B 138.34 334		SKPbc	SKPbc	21 25 24.8	+1.6
	1.0nm,0.8s,baz=36,slow=2.5,SNR=8.8					

CSEM ***11*** *21:06:33.2±0.2,38°.96N×22°.06E,h11km±1km,ML2.0/7, Error ellipse: s-maj=5.2km s-min=3.4km az=106.0*
ATH ***11*** *21:06:33.0,38°.95N×22°.02E,h18km*
THE 11 21:06:33.4,38°.94N×22°.04E,h15km,ML2.0/7,Error ellipse: s-maj=0.9km s-min=0.4km az=310.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	Makrakomi, Fth	0.10	44	P	Pg	21 06 36.9	+0.2
MAKR				S	Sg	21 06 38.8	-0.1
MAKR	Makrakomi, Fth	0.10	44	P	Pg	21 06 36.9	+0.2
MAKR				S	Sg	21 06 38.8	-0.1
EVR	Evrytania	0.18	263	P	Pg	21 06 37.5	-0.4
EVR				S	Sg	21 06 40.8	-0.2
EVR	Evrytania	0.18	263	ePB	Pg	21 06 37.5	-0.4
EVR	Evrytania	0.18	263	P	Pg	21 06 37.5	-0.4
EVR				S	Sg	21 06 40.8	-0.2
AGG	Agios Georgios	0.24	70	P	Pg	21 06 38.8	+0.1
AGG				S	Sb	21 06 43.0	-0.7
AGG	Agios Georgios	0.24	70	ePB	Pg	21 06 38.8	+0.1
AGG	Agios Georgios	0.24	70	P	Pg	21 06 38.8	+0.1
AGG				S	Sb	21 06 43.0	-0.7
AXAR	Agios Charalam	0.51	110	P	Pg	21 06 43.6	0.0
AXAR				S	Sg	21 06 50.9	+0.4
AXAR	Agios Charalam	0.51	110	P	Pg	21 06 43.6	0.0
AXAR				S	Sg	21 06 50.9	+0.4
EFP	Efpalio	0.52	192	P	Pg	21 06 43.4	-0.4
EFP				S	Sb	21 06 51.8	+0.1
EFP	Efpalio	0.52	192	ePN	Pg	21 06 43.5	-0.3
EFP				eSN	Sb	21 06 51.5	-0.2
EFP	Efpalio	0.52	192	P	Pg	21 06 43.4	-0.4
EFP				eSn	Sb	21 06 51.5	-0.2
KALE	Kalithea	0.55	172	P	Pg	21 06 43.7	-0.7
KALE				S	Sb	21 06 52.4	-0.4
KALE	Kalithea	0.55	172	ePN	Pg	21 06 43.7	-0.7
KALE				eSN	Sb	21 06 52.4	-0.4
KALE	Kalithea	0.55	172	P	Pg	21 06 43.7	-0.7
KALE				S	Sb	21 06 52.4	-0.4
TRIZ	Trizonia	0.57	178	P	Pg	21 06 44.1	-0.6
TRIZ				S	Sb	21 06 53.6	+0.4
TRIZ	Trizonia	0.57	178	ePN	Pg	21 06 44.1	-0.6
TRIZ				eSN	Sb	21 06 53.1	-0.1
TRIZ	Trizonia	0.57	178	P	Pg	21 06 44.1	-0.6
TRIZ				eSn	Sb	21 06 53.1	-0.1
THL	Klokotos Trika	0.62	358	P	Pg	21 06 44.9	-0.8
THL				S	Sb	21 06 54.9	+0.3
THL	Klokotos Trika	0.62	358	ePN	Pg	21 06 45.0	-0.7
THL	Klokotos Trika	0.62	358	ePn	Pg	21 06 45.0	-0.7
THL				S	Sb	21 06 54.9	+0.3
DSF	Desfina	0.65	144	P	Pg	21 06 45.1	-1.1
DSF				S	Sb	21 06 55.3	-0.2
DSF	Desfina	0.65	144	P	Pg	21 06 45.1	-1.1
DSF				S	Sb	21 06 55.3	-0.2
LAKA	Lakka	0.70	184	P	Pg	21 06 46.4	-0.8
LAKA				S	Sb	21 06 57.2	+0.3
LAKA	Lakka	0.70	184	ePN	Pg	21 06 46.4	-0.8
LAKA	Lakka	0.70	184	ePn	Pg	21 06 46.4	-0.8
LAKA				S	Sb	21 06 57.2	+0.3
LKR	Lokris	0.80	111	ePN	Pg	21 06 48.7	-0.3
LKR	Lokris	0.80	111	ePn	Pg	21 06 48.7	-0.3
KLV	Kalavryta, Ach	0.90	175	P	Pb	21 06 50.1	-0.7
KLV				S	Sg	21 07 03.2	+0.4
KLV	Kalavryta, Ach	0.90	175	ePB	Pb	21 06 49.9	-0.9
KLV	Kalavryta, Ach	0.90	175	P	Pb	21 06 50.1	-0.7
KLV				S	Sg	21 07 03.2	+0.4
NEO	Neokhori	0.99	68	ePN	Pb	21 06 52.1	-0.2
NEO	Neokhori	0.99	68	ePn	Pb	21 06 52.1	-0.2
XOR	Xorichti	0.99	64	P	Pb	21 06 52.0	-0.3
XOR				S	Sg	21 07 05.5	-0.1
XOR	Xorichti	0.99	64	P	Pb	21 06 52.0	-0.3
XOR				S	Sg	21 07 05.5	-0.1
RLS	Riolos of Patr	0.99	207	P	Pb	21 06 52.2	-0.1
RLS	Riolos of Patr	0.99	207	ePN	Pb	21 06 52.1	-0.2
RLS	Riolos of Patr	0.99	207	ePn	Pb	21 06 52.1	-0.2
GUR	Goura	1.03	167	P	Pb	21 06 52.6	-0.5
GUR				S	Sg	21 07 07.3	+0.2
GUR	Goura	1.03	167	ePN	Pb	21 06 52.9	-0.2
GUR	Goura	1.03	167	P	Pb	21 06 52.6	-0.5
GUR	Goura	1.03	167	ePn	Pb	21 06 52.9	-0.2
GUR				S	Sg	21 07 07.3	+0.2
LTK	Loutraki	1.17	141	ePN	Pn	21 06 55.2	-0.1
LTK	Loutraki	1.17	141	ePn	Pn	21 06 55.2	-0.1
VLS	Valsamata	1.37	237	ePN	Pb	21 06 59.2	+0.4
VLS	Valsamata	1.37	237	ePn	Pb	21 06 59.2	+0.4
AMT	Artemida-Makis	1.43	191	ePN	Pb	21 07 00.1	+0.3
AMT	Artemida-Makis	1.43	191	ePn	Pb	21 07 00.1	+0.3
VLX	Vlachokerasia	1.59	170	ePN	Pb	21 07 02.3	-0.4
VLX	Vlachokerasia	1.59	170	ePn	Pb	21 07 02.3	-0.4
DID	Didima	1.71	146	ePN	Pb	21 07 04.0	-0.7
DID	Didima	1.71	146	ePn	Pb	21 07 04.0	-0.7
ITM	Ithomi	1.76	183	ePN	Pb	21 07 04.7	-0.8
ITM	Ithomi	1.76	183	ePn	Pb	21 07 04.7	-0.8
PYL	PYLOS	2.06	187	ePN	Pb	21 07 09.2	-1.3
PYL	PYLOS	2.06	187	ePn	Pb	21 07 09.2	-1.3
VLI	Veliai	2.33	162	ePN	Pb	21 07 13.2	-1.9
VLI	Veliai	2.33	162	ePn	Pb	21 07 13.2	-1.9

IDC 11 21:06:47.9±1.8,13°.89N×93°.07E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/26,mbtmp3.3/4,ML3.5/1,Error ellipse: s-maj=62.2km s-min=26.2km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.24	50	Pn	Pn	21 08 36.3	+1.2
	0.2nm,0.3s,baz=238,slow=15,SNR=3.2						
CMAR				Sn	Sn	21 09 53.3	-4.8
	0.2nm,0.3s,baz=239,slow=27,SNR=5.1						
MKAR	Makanchi Array	34.03	347	P	P	21 13 33.2	-0.4
	0.2nm,0.7s,baz=146,slow=8.0,SNR=2.4						
WRA	Warramunga Arr	52.71	129	P	P	21 16 04.4	-0.3
	0.3nm,0.7s,baz=321,slow=7.5,SNR=8.8						
WRA				PcP	PcP	21 17 14.6	0.0
	0.5nm,1.1s,baz=318,slow=3.0,SNR=6.2						
ASAR	Alice Springs	54.65	133	P	P	21 16 18.7	-0.2
	0.4nm,0.4s,baz=307,slow=6.7,SNR=12						

CSEM ***11*** *21:07:23.8,38°.97N×22°.00E,h21km,MD2.9, After ATH*
ATH 11 21:07:23.8,38°.97N×22°.00E,h21km±1km,MD2.9/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.16	250	ePB	Pb	21 07 29.0	-1.0
EVR				eSB	Sb	21 07 31.9	-2.4
EVR	Evrytania	0.16	250	ePb	Pb	21 07 29.0	-1.0
EVR				eSb	Sb	21 07 31.9	-2.4
AGG	Agios Georgios	0.26	78	ePB	Pb	21 07 30.1	0.0
AGG				eSB	Sb	21 07 34.4	-0.1
AGG	Agios Georgios	0.26	78	ePb	Pb	21 07 30.1	0.0
AGG				eSb	Sb	21 07 34.4	-0.1
EFP	Efpalio	0.55	188	ePN	Pb	21 07 34.8	0.0
EFP				eSN	Sb	21 07 43.2	+1.0
EFP	Efpalio	0.55	188	ePn	Pb	21 07 34.8	0.0
EFP				eSn	Sb	21 07 43.2	+1.0
KALE	Kalithea	0.59	169	ePN	Pb	21 07 35.2	-0.4
KALE				eSN	Sb	21 07 43.6	0.0
KALE	Kalithea	0.59	169	ePn	Pb	21 07 35.2	-0.4
KALE				eSn	Sb	21 07 43.6	0.0
THL	Klokotos Trika	0.59	1	ePN	Pb	21 07 35.5	-0.1
THL	Klokotos Trika	0.59	1	ePn	Pb	21 07 35.5	-0.1
TRIZ	Trizonia	0.61	175	ePN	Pb	21 07 35.5	-0.3
TRIZ				eSN	Sb	21 07 44.0	+0.1
TRIZ	Trizonia	0.61	175	ePn	Pb	21 07 35.5	-0.3
TRIZ				eSn	Sb	21 07 44.0	+0.1
LAKA	Lakka	0.73	181	ePN	Pb	21 07 37.8	-0.1
LAKA	Lakka	0.73	181	ePn	Pb	21 07 37.8	-0.1
LKR	Lokris	0.84	112	ePN	Pn	21 07 40.1	-0.3
LKR	Lokris	0.84	112	ePn	Pn	21 07 40.1	-0.3
KLV	Kalavryta, Ach	0.93	173	ePN	Pb	21 07 41.4	0.0
KLV				eSN	Sn	21 07 54.2	-0.3
KLV	Kalavryta, Ach	0.93	173	ePn	Pb	21 07 41.4	0.0
KLV				eSn	Sn	21 07 54.2	-0.3
RLS	Riolos of Patr	1.00	205	ePN	Pn	21 07 43.7	+1.1
RLS	Riolos of Patr	1.00	205	ePn	Pn	21 07 43.7	+1.1
NEO	Neokhori	1.01	70	ePN	Pn	21 07 43.2	+0.4
NEO	Neokhori	1.01	70	ePn	Pn	21 07 43.2	+0.4
GUR	Goura	1.07	165	ePN	Pb	21 07 43.9	+0.2
GUR	Goura	1.07	165	ePn	Pb	21 07 43.9	+0.2
LTK	Loutraki	1.21	141	ePN	Pb	21 07 46.2	+0.1
LTK	Loutraki	1.21	141	ePn	Pb	21 07 46.2	+0.1

IDC ***11*** *21:18:34.3±0.5,51°.39N×178°.65W,h0km,mb4.0/24, mb1 4.3/25,mb1mx4.2/30,mbtmp4.1/25,ML5.0/1,MS3.1/5, Ms1 3.1/5,ms1mx2.8/55,Error ellipse: s-maj=18.9km s-min=11.9km az=164.0*
BJI ***11*** *21:18:38.0,51°.30N×178°.50W,h38km,mB4.9/4,mb4.7/8*
ISCJB ***11*** *21:18:39.6±0.3,51°.27N±0°.05×178°.53W±0°.03,h45km, mb4.3/63,MS3.1/4,Error ellipse: s-maj=7.0km s-min=2.8km az=174.1*
NEIC ***11*** *21:18:41.2±0.4,51°.34N×178°.56W,h46km±3km,mb4.4/30, Error ellipse: s-maj=8.2km s-min=2.9km az=176.0*
ISC 11 21:18:40.8±0.4,51°.31N±0°.08×178°.51W±0°.03,h45km, n392,σ0°72/403,mb4.4/72,MS3.1/4,117C-94D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	Gareloi-Kavalg	0.31	322	P	Pn	21 18 48.6	-0.8
GALAA	Gareloi Lava P	0.48	340	P	Pn	21 18 51.9	+0.5
GAEA	Gareloi East	0.49	342	P	Pn	21 18 52.1	+0.4
GANE	Gareloi Northe	0.53	342	P	Pn	21 18 52.5	+0.3
TASE	Tanaga Southea	0.60	29	P	Pn	21 18 53.0	0.0
TANO	Tanaga North	0.65	22	P	Pn	21 18 54.0	+0.3
TAPA	Tanaga Point A	0.66	41	P	Pn	21 18 53.6	-0.3
TAFP	Tanaga Falls P	0.67	29	P	Pn	21 18 53.9	-0.1
KIKV	Kanaga Island	1.01	55	P	Pn	21 18 58.0	-0.5
KICM	Kanaga Island	1.02	53	P	Pn	21 18 58.4	-0.2
KINC	Kanaga Island	1.06	54	P	Pn	21 18 59.0	-0.2
KIRH	Kanaga Island	1.06	56	P	Pn	21 18 58.8	-0.4
ADK	Adak	1.27	63	P	Pn	21 19 01.4	-0.7
ADK				S	Sn	21 19 20.4	+2.4
CERAA	Semis' Rag'd T	1.27	298	P	Pn	21 19 02.9	+0.8
CESW	Semis' Southwe	1.34	297	P	Pn	21 19 03.4	+0.4
ADAG	Mount Adagdak	1.36	60	P	Pn	21 19 03.6	+0.3
AMKA	Amchitka	1.38	274	P	Pn	21 19 02.0	-1.4
AMKA				S	Sn	21 19 18.9	-1.6
CEAP	Semis' Anvil P	1.38	301	P	Pn	21 19 04.5	+1.0
CETU	Semis' Tuman	1.41	298	P	Pn	21 19 04.8	+0.9
ETKA	Kagalaska Isla	1.42	66	P	Pn	21 19 03.5	-0.6
GSCK	Great Sitkin C	1.62	64	P	Pn	21 19 07.4	+0.6
GSTD	Great Sitkin T	1.65	62	P	Pn	21 19 08.1	+0.8
GSTD				S	Sn	21 19 28.6	+0.8
GSMY	Great Sitkin M	1.69	63	P	Pn	21 19 08.1	+0.3
LSSE	Little Sitkin	1.93	290	P	Pn	21 19 11.6	+0.6
LSSA	Little Sitkin	1.96	290	P	Pn	21 19 11.9	+0.3
ATKA	Atka Island	2.82	70	P	Pn	21 19 23.5	+0.2
ATKA				S	Sn	21 19 57.6	+1.5
KOFP	Korovin Flat P	2.90	69	P	Pn	21 19 25.9	+1.5
SMY	Shemya	4.78	290	ePn	Pn	21 19 52.5	+2.3
FX1	Attu Island--F	5.37	290	Pn	Pn	21 19 58.9	+0.7
FX1				Sn	Sn	21 21 08.0	+9.3
FX1	Attu Island--F	5.37	290	Pn	Pn	21 19 58.9	+0.7
	1.6nm,0.3s,baz=146,slow=17,SNR=19						
FX1				Sn	Sn	21 21 08.0	+9.3
	3.9nm,0.3s,baz=66,slow=20,SNR=4.6						
FX1				LR	LR	21 21 47.4	
	comp=Z,67nm,19.6s,baz=128,slow=37						
NIKH	Nikolski High	6.17	71	P	Pn	21 20 10.3	+1.0
OKTU	Okmok Mt. Tuli	6.74	68	P	Pn	21 20 18.0	+0.9
SPIA	Saint Paul Isl	7.61	36	P	Pn	21 20 30.6	+1.7
ZRO	Akutan Zero	8.10	65	P	Pn	21 20 36.6	+0.9
AKUT	Akutan	8.23	65	ePn	Pn	21 20 38.7	+1.3
AKUT				eSn	Sn	21 22 08.1	-0.9
OHAK	Old Harbor	15.82	58	ePn	Pn	21 22 20.5	+0.5
	20nm,0.7s						
SVW2	Sparrevohn	15.99	43	ePn	P	21 22 24.8	-0.3
	13nm,1.0s						
KDAK	Kodiak Island	16.31	57	Pn	Pn	21 22 23.1	-3.2
	3.8nm,1.4s						
KDAK	Kodiak Island	16.31	57	Pn	Pn	21 22 23.1	-3.2
	5.5nm,0.3s,baz=267,slow=3.9,SNR=46						
SPU	Mount Spurr	17.58	46	ePn	P	21 22 44.7	+1.9
TRF	Thorofare Moun	19.27	40	eP	P	21 23 02.2	+0.8
	16nm,0.8s						
IM04	Indian Mountai	19.32	31	eP	P	21 23 02.1	+0.3
MCK	McKinley	19.93	40	eP	P	21 23 09.6	+1.1
	7.0nm,0.7s						
BMRM	Bremner River	20.98	49	eP	Pn	21 23 22.5	-0.4
PAX	Paxson	21.11	44	eP	P	21 23 21.3	0.0
	14nm,0.7s						
ILAR	Eielson Array	21.18	38	P	P	21 23 21.2	-0.8
ILAR				PcP	PcP	21 27 25.4	-0.3
ILAR	Eielson Array	21.18	38	P	P	21 23 21.2	-0.8
	1.1nm,0.6s,baz=243,slow=8.5,SNR=16						
ILAR				PcP	PcP	21 27 25.4	-0.3
	0.4nm,0.6s,baz=260,slow=3.5,SNR=3.8						
ILAR				LR	LR	21 30 55.3	
	comp=Z,60nm,19.4s,baz=249,slow=35						
COLD	Coldfoot	21.22	31	eP	P	21 23 23.7	+1.4
	5.0nm,0.8s						
MENT	Mentasta	21.86	44	eP	P	21 23 29.6	+0.3
EGAK	Eagle	23.48	41	eP	P	21 23 45.3	-0.6
	9.9nm,0.9s						
ASAJ	Asahikawa	26.89	270	LR	LR	21 32 46.9	
	comp=Z,27nm,20.2s,baz=6.9,slow=32						
INK	Inuvik	27.41	35	P	P	21 24 21.4	-0.1
INK				PcP	PcP	21 27 38.9	-0.2
INK	Inuvik	27.41	35	P	P	21 24 21.4	-0.1
	1.1nm,0.3s,baz=248,slow=11,SNR=9.1						
INK				PcP	PcP	21 27 38.9	-0.2
	1.2nm,0.5s,baz=315,slow=4.3,SNR=3.5						
INK				LR	LR	21 35 56.5	
	comp=Z,55nm,19.2s,baz=252,slow=38						
DLBC	Dease Lake	28.24	56	LR	LR	21 36 42.4	
	comp=Z,87nm,18.6s,baz=298,slow=38						
USRK	Ussuriysk Arra	33.48	278	P	P	21 25 15.4	0.0
	1.7nm,0.6s,baz=63,slow=9.4,SNR=6.5						
YKA	Yellowknife Ar	35.14	46	P	P	21 25 29.1	-0.5
YKA	Yellowknife Ar	35.14	46	P	P	21 25 29.1	-0.5
	0.9nm,0.5s,baz=276,slow=9.3,SNR=3.7						
FL2	Flat Top 2	36.60	75	P	P	21 25 43.9	+1.5
TDL	Tradedollar La	36.60	75	P	P	21 25 44.2	+1.7
LON	Longmire	36.66	74	eP	P	21 25 44.7	+1.9
	3.4nm,0.6s						
EBG	Ellensburg	37.33	73	P	P	21 25 50.2	+1.7
BROR	Big Rock Looko	37.50	78	P	P	21 25 51.8	+1.9
VFP	Flag Point	37.57	76	P	P	21 25 52.2	+1.5
FRIS	Frissel Point	37.75	78	P	P	21 25 54.0	+1.8
IRO	Indian Ridge	37.76	78	P	P	21 25 53.8	+1.5
EDM	Edmonton	38.68	61	eP	P	21 25 59.9	+0.1
YBH	Yreka Blue Hor	38.71	82	eP	P	21 26 01.0	+0.8
	2.8nm,0.9s						
YBH	Yreka Blue Hor	38.71	82	P	P	21 26 02.3	+2.1
	2.2nm,0.6s,baz=333,slow=5.4,SNR=7.7						
NEW	Newport	38.73	70	eP	P	21 26 01.1	+0.8
NEW	Newport	38.73	70	P	P	21 26 00.8	+0.5
	9.7nm,0.6s,baz=302,slow=6.3,SNR=11						
NEW	Newport	38.73	70	⇓P	P	21 26 00.5	+0.2
	baz=39,SNR=6.1						
BSMT	Bassoo Peak	40.30	69	eP	P	21 26 14.1	+0.5
WVOR	Wild Horse Val	40.84	78	eP	P	21 26 18.7	+0.8
	7.3nm,0.8s						
MSO	Missoula	41.32	70	eP	P	21 26 22.3	+0.5
	6.3nm,0.9s						
MSO	Missoula	41.32	70	⇑P	P	21 26 22.0	+0.2
	baz=41						
C15A	Salmond Ranch,	41.62	68	⇑P	P	21 26 24.6	+0.3
	baz=42,SNR=19						
B16A	M & M Farms, S	41.82	67	⇓P	P	21 26 25.4	-0.5
	baz=42						
MFID	Camas Ranch	42.01	75	⇑P	P	21 26 27.9	+0.4
	baz=42						
A17A	Triple J Farms	42.13	66	⇑P	P	21 26 28.5	+0.1
	baz=42						
B17A	L&G Farms, Che	42.40	66	⇓P	P	21 26 30.4	-0.2
	baz=42						
HRY	Holter Researc	42.62	69	eP	P	21 26 33.0	+0.5
A18A	Metzger Ranch,	42.63	65	⇑P	P	21 26 32.2	-0.2
	baz=42						
C17A	Wharram Farm,	42.76	67	⇓P	P	21 26 33.6	0.0
	baz=43						
HLID	Hailey	42.78	74	eP	P	21 26 35.0	+1.1
	4.9nm,0.8s						
HLID	Hailey	42.78	74	⇓P	P	21 26 34.5	+0.7
	baz=43,SNR=6.5						
B18A	Beardsley Farm	42.93	66	⇑P	P	21 26 35.1	+0.2
	baz=43						
MCMT	McKenzie Canyo	43.02	72	eP	P	21 26 36.3	+0.4
	2.8nm,0.6s						
D17A	Six Diamond Ra	43.05	68	⇓P	P	21 26 36.4	+0.4
	baz=43						
EGMT	Eagleton	43.14	66	⇑P	P	21 26 36.9	+0.3
	baz=43						
I14A	Mackay	43.16	73	⇓P	P	21 26 37.2	+0.3
	baz=43,SNR=7.1						
A19A	Klindworth Far	43.25	65	⇑P	P	21 26 37.2	-0.3
	baz=43						
BOZ	Bozeman (W)	43.30	70	eP	P	21 26 38.7	+0.7
	10nm,1.3s						
E17A	Martinsdale	43.32	69	⇓P	P	21 26 38.4	+0.2
	baz=43,SNR=5.8						
B19A	Brinkman Farms	43.38	65	⇑P	P	21 26 38.3	-0.2
	baz=43						
NVAR	Mina Array Bea	43.38	83	P	P	21 26 39.5	+0.7
NVAR	Mina Array Bea	43.38	83	P	P	21 26 39.5	+0.7
	1.5nm,0.8s,baz=297,slow=6.0,SNR=8.2						
D18A	Linhart Farms,	43.54	67	⇑P	P	21 26 40.1	+0.2
	baz=43,SNR=5.1						
C19A	Slack Wire Ran	43.69	66	⇓P	P	21 26 41.3	+0.2
	baz=44,SNR=7.7						
F17A	Fitzpatrick Pl	43.73	69	⇑P	P	21 26 41.6	+0.1
	baz=44						
A20A	Cobblestone Ra	43.74	64	⇑P	P	21 26 41.5	+0.2
	baz=44						
E18A	Harlowton	43.81	68	⇑P	P	21 26 42.8	+0.7
	baz=44,SNR=9.9						
D19A	Cripps Ranch,	44.09	67	⇑P	P	21 26 44.3	0.0
	baz=44,SNR=6.5						
A21A	Bergtoll Ranch	44.24	64	⇓P	P	21 26 45.6	+0.2
	baz=44						
F18A	Big Timber	44.29	69	⇑P	P	21 26 45.9	0.0
	baz=44						
C20A	Veseth Ranch,	44.30	66	⇓P	P	21 26 46.4	+0.5
	baz=44						
E19A	Rath Farm, Rou	44.53	68	⇓P	P	21 26 47.9	+0.2
	baz=44,SNR=6.5						
D20A	Manuel Ranch,	44.56	67	⇓P	P	21 26 48.4	+0.4
	baz=44						
IMW	Indian Meadow	44.68	72	eP	P	21 26 50.8	+1.5
	7.6nm,1.4s						
C21A	Desert Coulee	44.76	65	⇓P	P	21 26 49.9	+0.3
	baz=45						
RRI2	Red Ridge	44.76	73	eP	P	21 26 51.8	+1.8
	3.7nm,0.8s						
F19A	Roth Farm, Mol	44.77	68	⇑P	P	21 26 49.9	+0.2
	baz=45						
HVU	Hansel Valley	44.79	75	eP	P	21 26 51.2	+1.2
	8.1nm,0.6s						
A22A	Carney Farms,	44.81	63	⇑P	P	21 26 50.2	+0.2
	baz=45						
E20A	Meyer Farm, Mu	44.88	67	⇓P	P	21 26 50.7	+0.1
	baz=45						
H18A	Shoshone NF, C	45.00	70	⇓P	P	21 26 52.4	+0.7
	baz=45						
R11A	Troy Canyon, C	45.12	81	⇑P	P	21 26 52.6	-0.1
	baz=45,SNR=7.2						
D21A	La Casta Ranch	45.23	66	⇓P	P	21 26 53.1	-0.2
	baz=45						
F20A	Billings	45.26	68	⇑P	P	21 26 54.0	+0.4
	baz=45						
MPMC	Manual Prospec	45.36	85	⇓P	P	21 26 54.7	0.0
	baz=45						
G20A	Bridger	45.55	69

baz=47
MVU Marysvale 47.10 79 eP P 21 27 09.7 +1.3
3.8nm,0.8s
MSU Marysvale 47.12 79 eP P 21 27 09.6 +1.1
G23A Biddle 47.20 67 ⇓P P 21 27 08.9 +0.1
baz=47
TMUT Trail Mountain 47.23 77 eP P 21 27 10.9 +1.5
6.9nm,0.8s
I22A 9 Mile Ranch, 47.32 69 ⇑P P 21 27 10.0 +0.2
baz=47,SNR=6.6
F24A Ekalaka 47.38 66 ⇑P P 21 27 10.3 +0.1
baz=47
Q16A Castle Valley 47.49 78 ⇑P P 21 27 11.9 +0.6
baz=47,SNR=5.6
E25A Miller Ranch, 47.59 65 ⇑P P 21 27 12.2 +0.3
baz=47
M20A Sweetwater, Wa 47.73 73 ⇑P P 21 27 13.3 +0.1
baz=48
SRU San Rafael 47.77 77 eP P 21 27 14.3 +0.9
14nm,1.1s
HHC Hu-ho-hao-te 47.88 286 eP P 21 27 13.7 -0.5
HHC S S 21 34 05.8 -2.4
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.8s
O19A Miners Draw (B 47.89 75 ⇑P P 21 27 14.5 +0.1
baz=48,SNR=14
L21A Rawlins 47.94 72 ⇑P P 21 27 14.4 -0.3
baz=48,SNR=7.8
H24A Dirks Ranch, A 47.95 67 ⇓P P 21 27 14.1 -0.5
baz=48
K22A Casper 48.03 71 ⇑P P 21 27 15.6 +0.2
baz=48
N20A Spence Gulch, 48.08 74 ⇓P P 21 27 16.2 +0.3
baz=48
M21A Separation Pea 48.15 72 ⇑P P 21 27 16.4 -0.1
baz=48
W13A Hualapai Mount 48.23 83 ⇑P P 21 27 16.4 -0.6
baz=48
U15A North Rim 48.36 81 ⇑P P 21 27 18.6 +0.4
baz=48,SNR=7.9
P19A Cripple Cowboy 48.38 75 ⇓P P 21 27 18.4 +0.1
baz=48,SNR=17
L22A Ellis Ranch, M 48.45 71 ⇓P P 21 27 19.4 +0.7
baz=48
K23A Bowen Ranch, D 48.50 70 ⇑P P 21 27 18.7 -0.3
baz=48
O20A White River Ci 48.52 74 ⇓P P 21 27 19.2 -0.1
baz=48
H25A Fruitdale 48.57 67 ⇓P P 21 27 19.3 -0.1
baz=48
N21A Black Mountain 48.58 73 ⇑P P 21 27 19.5 -0.2
baz=48,SNR=5.5
RSSD Black Hills 48.61 68 eP P 21 27 19.9 -0.1
comp=Z,4.2nm,0.5s
J24A Dixon Ranch, L 48.72 69 ⇑P P 21 27 20.1 -0.6
baz=49
F27A Lemmon 48.74 65 ⇑P P 21 27 20.3 -0.4
baz=49
G26A Maurine 48.75 66 ⇑P P 21 27 20.6 -0.2
baz=49
P20A De Beque 48.82 75 ⇓P P 21 27 21.0 -0.5
baz=49,SNR=8.0
L23A Garrett 48.84 71 ⇓P P 21 27 21.3 -0.4
baz=49,SNR=11
I25A Rochford 48.85 68 ⇓P P 21 27 21.1 -0.6
baz=49
H26A Fairpoint 49.05 66 ⇓P P 21 27 22.8 -0.3
baz=49
G27A Dupree 49.08 65 ⇑P P 21 27 22.6 -0.8
baz=49
N22A Wattenberg Ran 49.19 73 ⇓P P 21 27 24.5 +0.1
baz=49
PV04 Paradox Valley 49.20 77 eP P 21 27 25.0 +0.6
M23A Laramie 49.22 71 ⇑P P 21 27 24.8 +0.1
baz=49
Q20A Ridgley Place, 49.22 76 ⇑P P 21 27 24.7 +0.1
baz=49
P21A Newcastle 49.38 75 ⇑P P 21 27 25.6 -0.3
baz=49
N23A Red Feather La 49.44 72 ⇑P P 21 27 26.4 +0.1
baz=49
WUAZ Wupatki 49.52 81 ⇓P P 21 27 26.7 -0.2
baz=49
O22A Kremmling 49.53 73 ⇑P P 21 27 27.1 0.0
baz=49
Y14A Wickenburg 49.53 84 ⇓P P 21 27 26.7 -0.3
baz=49
ULM Lac du Bonnet 49.56 57 P P 21 27 26.2 -0.6
ULM Lac du Bonnet 49.56 57 P P 21 27 26.2 -0.6
comp=Z,2.9nm,0.8s,baz=309,slow=8.0,SNR=2.6
PV01 Paradox Valley 49.57 77 eP P 21 27 28.3 +0.9
comp=Z,635nm,0.9s
Q21A Lamborn Mesa, 49.73 75 ⇑P P 21 27 28.3 -0.3
baz=50
M24A Cheyenne 49.75 71 ⇓P P 21 27 28.7 0.0
baz=50
I27A Quinn 49.79 67 ⇑P P 21 27 28.3 -0.4
baz=50
O23A Lake Granby, G 49.88 73 ⇓P P 21 27 29.6 -0.1
baz=50
S20A Disappointment 49.89 77 ⇓P P 21 27 29.5 -0.3
baz=50,SNR=7.5
R21A Cimarron 50.04 76 ⇓P P 21 27 30.6 -0.3
baz=50
MVCO Mesa Verde 50.20 78 ⇑P P 21 27 31.6 -0.5
baz=50
ISCO Idaho Springs 50.31 73 eP P 21 27 34.5 +1.4
comp=Z,2.3nm,0.8s
ISCO Idaho Springs 50.31 73 ⇑P P 21 27 33.3 +0.2
baz=50
I28A Midland 50.34 66 ⇑P P 21 27 32.7 -0.2
baz=50,SNR=5.9
S21A Coal Bank Pass 50.34 77 ⇓P P 21 27 33.6 +0.3
baz=50,SNR=6.8
R22A Saguache, Gunn 50.61 75 ⇓P P 21 27 35.7 +0.3
baz=50
W18A Petrified Fore 50.79 80 ⇑P P 21 27 36.8 +0.2
baz=51
S22A 4UR Ranch, Cre 50.88 76 ⇑P P 21 27 38.1 +0.8
baz=51,SNR=6.8
N26A Koester Ranch, 51.10 71 ⇓P P 21 27 39.2 +0.5
baz=51
V20A Brimhall 51.13 79 ⇓P P 21 27 39.2 0.0
baz=51
M27A Reverse DX Ran 51.15 69 ⇓P P 21 27 39.5 +0.4
baz=51
R23A Moffat 51.20 75 ⇓P P 21 27 39.8 0.0
baz=51
U21A Nageezi 51.22 78 ⇑P P 21 27 39.9 +0.1
baz=51,SNR=8.9
T22A Edith 51.30 77 ⇑P P 21 27 40.5 0.0
baz=51
P25A Willow Gulch B 51.36 72 ⇑P P 21 27 40.8 0.0
baz=51
K29A Lazy Trails An 51.59 67 ⇑P P 21 27 42.4 +0.1
baz=51
R24A Sanders Place, 51.61 74 ⇑P P 21 27 42.5 -0.2
baz=52
SDCO Great Sand Dun 51.69 75 eP P 21 27 43.4 0.0
comp=Z,4.2nm,1.1s
Q25A Bedland, Calha 51.69 73 ⇓P P 21 27 43.7 +0.3
baz=52
T23A Casias Ranch, 51.82 76 ⇑P P 21 27 44.9 +0.6
baz=52
P26A Davis Ranch, A 51.82 72 ⇓P P 21 27 44.6 +0.4
baz=52
S24A Houchin Ranch, 51.93 75 ⇓P P 21 27 45.4 +0.2
baz=52
V22A San Miguel Ran 52.01 78 ⇓P P 21 27 45.8 0.0
baz=52
Q26A Hugo 52.12 73 ⇑P P 21 27 47.4 +1.0
baz=52
R25A Fountain Ranch 52.16 74 ⇑P P 21 27 47.2 +0.4
baz=52,SNR=5.5
U23A El Rito 52.18 77 ⇓P P 21 27 47.8 +0.8
baz=52
Y20A Horse Springs, 52.43 81 ⇑P P 21 27 49.3 +0.4
baz=52
X21A Alamocita Cree 52.44 80 ⇑P P 21 27 49.6 +0.6
baz=52,SNR=5.3
R26A Arlington 52.57 73 ⇓P P 21 27 49.9 +0.2
baz=52,SNR=7.1
KSCO Kaye Shedlock' 52.60 72 ⇑P P 21 27 50.2 +0.3
baz=52
T25A Trinidad 52.74 75 ⇓P P 21 27 51.5 +0.4
baz=53,SNR=6.3

P28A Saint Francis 52.76 71 ⇑P P 21 27 51.3 +0.2
baz=53
X22A Bernardo 52.88 79 ⇑P P 21 27 52.8 +0.7
baz=53
R27A Eads 52.97 73 ⇓P P 21 27 52.9 +0.3
baz=53
O29A 4D Ranch, Culb 52.97 70 ⇑P P 21 27 53.0 +0.4
baz=53
S26A Kim 52.99 74 ⇓P P 21 27 52.7 -0.2
baz=53,SNR=6.1
V24A Rampart Ranch, 53.14 77 ⇑P P 21 27 54.5 +0.4
baz=53
T26A Comanche Natio 53.21 74 ⇓P P 21 27 54.7 +0.2
baz=53
U25A Circle Dot Ran 53.22 76 ⇑P P 21 27 55.2 +0.5
baz=53
P29A Atwood 53.23 70 ⇑P P 21 27 55.6 +1.1
baz=53
Y22A Socorro 53.28 80 ⇓P P 21 27 55.8 +0.7
baz=53
W24A Lazy 6 Ranch, 53.40 77 ⇓P P 21 27 56.2 +0.3
baz=53
V25A Rancho No Teng 53.47 76 ⇑P P 21 27 56.8 +0.3
baz=53
R28A Tribune 53.52 72 ⇑P P 21 27 56.9 +0.2
baz=53
319A Douglas 53.58 84 ⇓P P 21 27 57.5 +0.3
baz=54
U26A Atchley Ranch, 53.63 75 ⇑P P 21 27 57.6 0.0
baz=54,SNR=5.6
Q29A Oakley 53.66 71 ⇑P P 21 27 58.3 +0.6
baz=54
P30A Selden 53.67 70 ⇑P P 21 27 58.0 +0.2
baz=54
220A Playas Peak, P 53.69 83 ⇑P P 21 27 58.7 +0.7
baz=54
121A Cookes Peak, D 53.72 82 ⇑P P 21 27 58.4 +0.1
baz=54
T27A Campo 53.81 74 ⇓P P 21 27 59.5 +0.6
baz=54
Y23A Lovelace Mesa, 53.85 79 ⇓P P 21 27 59.8 +0.5
baz=54
W25A X Bar L Ranch, 53.97 77 ⇓P P 21 28 00.2 +0.1
baz=54,SNR=6.3
V26A Tequesquite Ra 54.00 76 ⇑P P 21 28 00.7 +0.4
baz=54
T28A Walsh 54.14 73 ⇓P P 21 28 01.2 -0.1
baz=54
P31A Stockton 54.20 69 ⇑P P 21 28 02.0 +0.5
baz=54
ZALV Zalesovo Beam 54.21 314 PcP PcP 21 29 05.6 +0.4
ZALV Zalesovo Beam 54.21 314 PcP PcP 21 29 05.6 +0.4
comp=Z,0.8nm,0.4s,baz=56,slow=4.3,SNR=7.0
Y24A Capitan 54.23 79 ⇓P P 21 28 02.3 +0.3
baz=54,SNR=9.9
R30A Dighton 54.47 71 ⇓P P 21 28 03.7 +0.2
baz=54,SNR=6.0
Q31A Ellis 54.52 70 ⇓P P 21 28 04.2 +0.3
baz=54
U28A Mallet 54.56 74 ⇓P P 21 28 04.6 +0.3
baz=54
Z24A Sheeppen Canyo 54.68 79 ⇑P P 21 28 05.4 +0.1
baz=55
X26A CR and CF Fran 54.81 77 ⇓P P 21 28 05.5 -0.7
baz=55
W27A Bowe Ranch, En 54.93 76 ⇑P P 21 28 06.7 -0.3
baz=55
124A Stringfield Ra 55.05 80 ⇑P P 21 28 08.1 +0.1
baz=55
U29A Oasis Ranch, S 55.09 74 ⇑P P 21 28 08.6 +0.5
baz=55
Z25A Roswell 55.11 79 ⇑P P 21 28 08.4 0.0
baz=55
T30A Plains 55.13 72 ⇑P P 21 28 08.6 +0.2
baz=55
Y26A Elida 55.23 78 ⇑P P 21 28 09.2 0.0
baz=55
125A Gardner Draw, 55.57 79 ⇓P P 21 28 11.7 0.0
baz=55
Z26A Caprock 55.57 78 ⇑P P 21 28 11.4 -0.3
baz=55
T31A Randall Ranch, 55.61 72 ⇑P P 21 28 12.1 +0.3
baz=56
Y27A Causey 55.66 77 ⇓P P 21 28 12.4 +0.1
baz=56
GTA Gaotai 55.76 292 eP P 21 28 13.6 +0.7
GTA pmax pmax
comp=Z,8.0nm,0.6s
MNTX Cornudas Mount 55.78 81 eP P 21 28 13.1 +0.1
comp=Z,2.8nm,1.0s
324A Moseley Ranch, 55.89 81 ⇓P P 21 28 13.8 -0.2
baz=56
325A Bean Ranch, Si 56.26 81 ⇓P P 21 28 16.3 -0.4
baz=56
226B Tecolote Peak, 56.27 79 ⇓P P 21 28 15.8 -0.8
baz=56
425A Indio Mountain 56.65 81 ⇑P P 21 28 19.6 +0.2
baz=56
426A McDonald Obser 57.33 80 ⇑P P 21 28 23.7 -0.6
baz=57
Y31A Rekieta Farm, 57.37 75 ⇑P P 21 28 24.1 -0.3
baz=57
328A Wristen Ranch, 57.59 79 ⇓P P 21 28 25.4 -0.6
baz=58
526A Mary Lane Ranc 57.71 81 ⇑P P 21 28 27.0 0.0
baz=58
WMOK Wichita Mounta 57.74 73 P P 21 28 27.6 +0.7
comp=Z,3.7nm,0.8s
Y32A R-V Farms, Ver 57.84 74 ⇑P P 21 28 28.1 +0.5
baz=58
Z31A Sharp Cattle R 57.88 76 ⇑P P 21 28 28.4 +0.4
baz=58
626A Big Bend Ranch 58.04 82 ⇑P P 21 28 28.4 -0.8
baz=58
428A Kincaid Ranch, 58.12 79 ⇑P P 21 28 30.0 +0.3
baz=58
ARCES ARCESS Array B 58.19 350 P P 21 28 28.6 -0.9
ARCES ARCESS Array B 58.19 350 P P 21 28 28.6 -0.9
comp=Z,1.0nm,0.5s,baz=25,slow=8.1,SNR=12
230A Sterling City 58.28 77 ⇓P P 21 28 30.8 0.0
baz=58
Z32A Haskell 58.30 75 ⇑P P 21 28 30.7 -0.1
baz=58
528A Cox Ranch, San 58.45 80 ⇑P P 21 28 32.0 -0.1
baz=58
TXAR Lajitas Array 58.48 81 P P 21 28 32.1 -0.2
TXAR Lajitas Array 58.48 81 P P 21 28 32.1 -0.2
comp=Z,1.0nm,0.6s,baz=327,slow=6.5,SNR=9.5
627A Terlingua Ranc 58.57 81 ⇓P P 21 28 32.6 -0.3
baz=58
330A Mertzon 58.57 78 ⇑P P 21 28 32.5 -0.3
baz=58
429A Davenport Ranc 58.68 79 ⇑P P 21 28 33.7 +0.2
baz=58
TUL1 Tulsa 58.72 70 ⇑P P 21 28 34.1 +0.4
baz=59
231A Bronte 58.73 77 ⇓P P 21 28 34.2 +0.3
baz=59
529A Stev Forest Ra 58.82 80 ⇓P P 21 28 34.6 0.0
baz=59
628A Black Gap, Mar 58.86 81 ⇑P P 21 28 35.0 +0.2
baz=59
CD2 Chengdu 59.17 282 eP P 21 28 38.9 +2.0
CD2 pP pP 21 28 50.6 +0.9
CD2 sP sP 21 28 55.9 +1.0
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,30nm,4.8s
232A Coleman 59.17 76 ⇑P P 21 28 37.1 +0.1
baz=59
530A J-C Ranch, Com 59.35 79 ⇓P P 21 28 37.9 -0.3
baz=59
431A Sonora 59.43 78 ⇑P P 21 28 38.6 -0.1
baz=59
332A Millersview 59.47 77 ⇑P P 21 28 39.4 +0.5
baz=59
432A Menard 59.79 77 ⇑P P 21 28 41.7 +0.4
baz=60
JCT Junction City 60.06 78 ⇓P P 21 28 43.2 +0.1
baz=60
MKAR Makanchi Array 60.22 309 P P 21 28 43.2 -0.7
MKAR Makanchi Array 60.22 309 P P 21 28 43.2 -0.7
comp=Z,0.9nm,0.9s,baz=35,slow=4.4,SNR=4.3
532A Rocksprings 60.25 78 ⇓P P 21 28 44.5 +0.1
baz=60
631A Perdido Creek 60.34 79 ⇓P P 21 28 44.5 -0.4
baz=60

WHTX Lake Whitney 60.43 75 ⇓P P 21 28 45.6 0.0
baz=60
GYA Guiyang 60.51 276 eP P 21 28 48.6 +2.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
SFIN Scholer Farm 60.62 61 ⇓P P 21 28 46.7 0.0
baz=60
732A Laxson Ranch, 61.20 79 ⇑P P 21 28 50.9 +0.2
baz=61
FINES FINESS Array B 65.89 347 P P 21 29 19.8 -1.4
FINES FINESS Array B 65.89 347 P P 21 29 19.8 -1.4
comp=Z,1.5nm,0.7s,baz=32,slow=8.2,SNR=8.0
KMSC Kings Mountain 67.55 62 ⇓P P 21 29 32.4 +0.1
baz=67
GOGA Godfrey 67.63 64 eP P 21 29 32.5 -0.3
comp=Z,9.2nm,0.8s
NOA NORSAR Array B 67.73 355 P P 21 29 32.5 -0.5
NOA NORSAR Array B 67.73 355 P P 21 29 32.5 -0.5
comp=Z,0.5nm,0.6s,baz=5.7,slow=5.8,SNR=3.0
CMAR Chiang Mai Arr 71.20 276 P P 21 29 54.8 -0.2
CMAR Chiang Mai Arr 71.20 276 P P 21 29 54.8 -0.2
comp=Z,0.7nm,0.7s,baz=28,slow=6.1,SNR=8.2
GUN Gumba 72.05 292 eP P 21 30 01.9 +1.4
comp=Z,84nm,0.4s
JIRN Jiri 72.06 292 eP P 21 30 01.9 +1.4
comp=Z,50nm,0.6s
RAMN Ramite 72.35 291 eP P 21 30 03.2 +1.1
comp=Z,58nm,0.8s
KKN Kakani 72.49 293 eP P 21 30 03.9 +1.0
comp=Z,26nm,0.6s
PKI Pulchoki 72.58 292 eP P 21 30 04.5 +0.9
comp=Z,26nm,0.6s
PKIN Phulchoki 72.58 292 eP P 21 30 05.1 +1.6
comp=Z,10nm,0.6s
DMN Daman 72.73 293 eP P 21 30 05.5 +1.1
comp=Z,12nm,0.6s
DANN Dangsing 72.94 294 eP P 21 30 06.7 +1.0
comp=Z,37nm,0.8s
KOLN Koldanda 73.47 294 eP P 21 30 09.5 +0.8
comp=Z,12nm,0.8s
AKASG Malin Array Be 75.67 342 P P 21 30 20.1 -0.7
AKASG Malin Array Be 75.67 342 P P 21 30 20.1 -0.7
comp=Z,15nm,0.3s,baz=22,slow=8.0,SNR=1.9
KBZ Khabaz 78.75 331 P P 21 30 38.9 +0.7
KBZ Khabaz 78.75 331 P P 21 30 38.9 +0.7
comp=Z,1.5nm,0.8s,baz=71,slow=7.3,SNR=3.7
BAIF Baives 78.98 358 eP P 21 30 39.6 +0.3
comp=Z,2.9nm,0.6s
GERES GERESS Array B 79.67 352 P P 21 30 42.3 -0.9
GERES GERESS Array B 79.67 352 P P 21 30 42.3 -0.9
comp=Z,0.4nm,0.6s,baz=23,slow=7.2,SNR=6.1
PAGF Fort de Pagny 80.44 357 eP P 21 30 47.6 +0.3
comp=Z,2.4nm,0.7s
LDF La Druitiere 80.46 1 eP P 21 30 46.8 -0.6
comp=Z,7.2nm,0.8s
GRR Gorron 80.66 2 eP P 21 30 48.9 +0.5
SGMF Saint Gilles 80.75 3 eP P 21 30 48.7 -0.2
SFTF Sexfontaines 80.81 358 eP P 21 30 49.2 -0.1
comp=Z,8.8nm,0.6s
QUIF Quistinic 81.07 3 eP P 21 30 50.8 +0.2
LOR Lormes 81.78 358 eP P 21 30 54.3 -0.2
SSF Saint Saulge 81.99 359 eP P 21 30 55.4 -0.1
WRA Warramunga Arr 82.09 224 P P 21 30 55.4 -0.9
WRA Warramunga Arr 82.09 224 P P 21 30 55.4 -0.9
comp=Z,0.4nm,0.7s,baz=32,slow=5.8,SNR=3.4
AVF Avril sur Loir 82.26 359 eP P 21 30 56.8 -0.2
comp=Z,1.2nm,0.4s
SMF Signal de Mont 82.40 358 eP P 21 30 58.5 +0.8
comp=Z,5.7nm,0.8s
MFF Saint Martin d 82.45 1 eP P 21 30 57.8 -0.2
TCF Toulx Ste Croi 82.78 359 eP P 21 31 00.1 +0.4
RJF Les Rejaudoux 83.76 360 eP P 21 31 04.4 -0.4
ORIF Oris-en-Rattie 84.07 357 eP P 21 31 06.1 -0.4
LFF La Frestale 84.12 1 eP P 21 31 06.6 0.0
comp=Z,7.6nm,0.6s
CAF Calviac 84.14 360 eP P 21 31 06.7 0.0
VIVF Saint-Julien-l 84.17 358 eP P 21 31 07.1 +0.2
MBDF Montbardon 84.23 356 eP P 21 31 07.7 +0.3
FITZ Fitzroy Crossi 84.57 232 P P 21 31 09.0 0.0
FITZ Fitzroy Crossi 84.57 232 P P 21 31 09.0 0.0
comp=Z,1.8nm,0.9s,baz=26,slow=5.1,SNR=4.0
LASF Ste Croix 84.97 358 eP P 21 31 11.1 +0.2
SBF Sospel 85.06 356 eP P 21 31 11.0 -0.5
comp=Z,5.1nm,0.5s
BRTR Keskin Array B 85.08 336 P P 21 31 11.7 0.0
BRTR Keskin Array B 85.08 336 P P 21 31 11.7 0.0
comp=Z,1.7nm,0.7s,baz=40,slow=3.0,SNR=11
ASAR Alice Springs 85.56 223 P P 21 31 14.0 0.0
ASAR Alice Springs 85.56 223 P P 21 31 14.0 0.0
comp=Z,0.5nm,0.5s,baz=24,slow=5.6,SNR=10.0
LMR La Mourre 85.63 356 eP P 21 31 14.0 -0.2
MTLF Montolieu 85.72 359 eP P 21 31 14.7 0.0
EPF Esparros 86.03 1 eP P 21 31 16.2 -0.1
PGF Pioggiola 86.29 354 eP P 21 31 17.1 -0.5
comp=Z,7.5nm,0.8s
ESDC Sonseca Array 89.26 4 P P 21 31 30.8 -1.0
ESDC Sonseca Array 89.26 4 P P 21 31 30.8 -1.0
comp=Z,0.2nm,0.3s,baz=343,slow=4.6,SNR=4.5
STKA Stephens Creek 89.97 213 P P 21 31 35.7 +0.9
STKA Stephens Creek 89.97 213 P P 21 31 35.7 +0.9
comp=Z,3.2nm,1.1s,baz=349,slow=15,SNR=3.7
TORD Torodi Ar. Bea 115.81 360 PKP PKPdf 21 37 17.4 -1.0
TORD Torodi Ar. Bea 115.81 360 PKP PKPdf 21 37 17.4 -1.0
comp=Z,0.3nm,0.5s,baz=356,slow=2.0,SNR=8.7
DBIC Dimbokro 121.99 7 PKP PKPdf 21 37 29.8 -0.6
DBIC Dimbokro 121.99 7 PKP PKPdf 21 37 29.8 -0.6
comp=Z,6.5nm,1.1s,baz=163,slow=1.6,SNR=5.5
MAW Mawson 146.54 218 PKPbc PKPbc 21 38 15.1 -0.5
MAW Mawson 146.54 218 PKPbc PKPbc 21 38 15.1 -0.5
comp=Z,0.4nm,0.3s,baz=256,slow=23,SNR=3.7
BOSA Boshof 151.16 313 PKPbc PKPbc 21 38 28.3 -0.6
BOSA Boshof 151.16 313 PKPbc PKPbc 21 38 28.3 -0.6
comp=Z,2.1nm,0.7s,baz=213,slow=16,SNR=6.8

---

*ISCJB **11** 21:19:48.8±1.0, 17°.5S±0°.3×178°.8W±0°.2, h547km, mb3.8/9, Error ellipse: s-maj=51.4km s-min=12.7km az=150.3*
*IDC **11** 21:19:53.4±6.6, 17°.47S×178°.84W, h588km±86km, mb3.3/9, mb1 3.5/10, mb1mx3.3/21, mbtmp3.3/10, Error ellipse: s-maj=74.5km s-min=26.3km az=155.0*
*AUST **11** 21:20:11.8±7.9, 18°.59S×178°.05E, h502km±1km, Error ellipse: s-maj=6.0km s-min=2.4km az=247.0*

ISC 11 21:19:49.6±1.3, 17°.6S±0°.4×178°.7W±0°.3, h547km, n17, σ0.975/17, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.72	250	P	P	21 22 57.9	+1.6
0.5nm,0.3s,baz=77,slow=14,SNR=5.5							
CTA	Charters Tower	33.27	260	P	P	21 25 42.8	+0.5
2.0nm,0.4s,baz=90,slow=8.3,SNR=4.1							
CMSA	Cobar Meteorol	35.11	240	P	P	21 25 57.4	-0.2
baz=32,SNR=12							
STKA	Stephens Creek	38.59	241	P	P	21 26 26.2	+0.1
4.1nm,0.5s,baz=93,slow=9.9,SNR=27							
STKA	Stephens Creek	38.59	241	P	P	21 26 26.2	+0.1
baz=35,SNR=18							
BBOO	Buckleboo	43.36	241	P	P	21 27 03.4	-0.6
baz=40,SNR=15							
WRA	Warramunga Arr	44.47	259	P	P	21 27 11.9	-0.8
2.2nm,0.3s,baz=93,slow=7.4,SNR=132							
ASAR	Alice Springs	44.66	254	P	P	21 27 13.9	-0.3
17nm,0.5s,baz=88,slow=8.5,SNR=377							
KDU	Kakadu	47.33	269	P	P	21 27 34.8	+0.2
baz=44,SNR=6.3							
KDU				S	S	21 33 27.7	-21
baz=44,SNR=5.2							
MTN	Manton Dam	48.58	268	P	P	21 27 43.7	-0.1
baz=45,SNR=7.2							
KNRA	Kununurra	50.29	264	P	P	21 27 56.1	-0.3
baz=47,SNR=4.7							
FITZ	Fitzroy Crossi	52.85	260	P	P	21 28 14.8	-0.1
0.6nm,0.3s,baz=155,slow=7.9,SNR=16							
MEEK	Meekatharra	58.33	249	P	P	21 28 51.5	-1.4
baz=55,SNR=5.1							
YBH	Yreka Blue Hor	78.42	39	P	P	21 30 55.0	+0.9
0.9nm,0.4s,baz=297,slow=4.5,SNR=4.0							
NVAR	Mina Array Bea	79.35	44	P	P	21 30 59.5	+0.2
0.8nm,0.6s,baz=225,slow=8.0,SNR=5.4							
ILAR	Eielson Array	85.62	13	P	P	21 31 29.1	-0.9
0.3nm,0.4s,baz=227,slow=5.0,SNR=4.9							
TXAR	Lajitas Array	86.02	58	P	P	21 31 33.3	+0.5
0.7nm,0.7s,baz=229,slow=6.2,SNR=8.2							

MAN 11 21:29:37.9±0.4N×123.12E, h10km, mb3.9, ML2.7, MS2.3, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.97**	**49**	*eP*	Pb	21 29 55.9	-0.1
TBP				*eS*	Sn	21 30 10.7	+0.1
PAGZ	**Pagadian**	**1.22**	**168**	*eP*	Pn	21 29 58.8	-1.2
PAGZ				*eS*	Sb	21 30 09.6	-6.3
LLP	**Lapu-Lapu**	**1.52**	**33⇑**	*eP*	Pn	21 30 04.0	-0.2
LLP				*eS*	Sb	21 30 25.2	+0.6
CGP	**Cagayan de Oro**	**1.66**	**111**	*eP*	Pb	21 30 07.2	-0.5
CGP				*i* S	Sg	21 30 31.6	+1.1
BUKP	**Musuan**	**2.24**	**121**	*eP*	Pn	21 30 15.1	+0.8

*ISCJB **11** 21:33:17.1±0.3, 25.72N±0.05×125.52E±0.05, h104km±4km, mb3.7/11, Error ellipse: s-maj=11.0km s-min=3.2km az=141.5*
*JMA **11** 21:33:18.0±0.1, 25.81N×125.39E, h95km, M3.6*
*IDC **11** 21:33:19.1±3.5, 25.74N×125.45E, h106km±34km, mb3.5/10, mb1 3.6/13, mb1mx3.5/30, mbtmp3.5/13, Error ellipse: s-maj=30.5km s-min=13.6km az=89.0*
ISC 11 21:33:18.5±0.7, 25.72N±0.06×125.51E±0.05, h103km±8km, n31, σ1§18/47, mb3.9/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.93**	**192**	P	**Pn**	**21 33 38.3**	**-0.1**
JMJ				*eS*	**Sn**	**21 33 52.7**	**-0.6**
JOGS	**Gusukube**	**0.96**	**186**	P	**Pn**	**21 33 38.9**	**+0.1**
JOGS				*eS*	**Sn**	**21 33 53.5**	**-0.5**
JKE	**Kume jima 2**	**1.30**	**62**	P	**Pn**	**21 33 42.6**	**+0.1**
JKE				*eS*	**Sn**	**21 34 00.2**	**-0.4**
JTJ	**Tarama**	**1.30**	**214**	P	**Pn**	**21 33 42.0**	**-0.6**
JTJ				S	**Sn**	**21 33 59.6**	**-1.1**
JAGN	**Aguni-jima**	**1.78**	**61**	P	**Pn**	**21 33 48.8**	**+0.4**
JAGN				*eS*	**Sn**	**21 34 11.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.83**	**223**	P	**Pn**	**21 33 48.2**	**-0.9**
JIJ				*eS*	**Sn**	**21 34 09.7**	**-2.7**
JKRS	**Kuro-shima**	**2.01**	**223**	P	**Pn**	**21 33 50.6**	**-0.7**
JKRS				*eS*	**Sn**	**21 34 14.6**	**-1.8**
JJT2	**Tamagusuku 2**	**2.06**	**78**	P	**Pn**	**21 33 52.2**	**+0.3**
JJT2				*eS*	**Sn**	**21 34 18.5**	**+1.0**
IRIF	**Iriomote-Funau**	**2.12**	**230**	P	**Pn**	**21 33 52.0**	**-0.8**
IRIF				*eS*	**Sn**	**21 34 17.5**	**-1.5**
HATJ	**Hateruma jima**	**2.27**	**223**	P	**Pn**	**21 33 54.0**	**-0.7**
HATJ				*eS*	**Sn**	**21 34 22.0**	**-0.4**
JIH	**Iheya**	**2.56**	**59**	P	**Pn**	**21 33 58.5**	**0.0**
JIH				*eS*	**Sn**	**21 34 28.5**	**-0.8**
YOJ	**Yonaguni jima**	**2.59**	**241**	P	**Pn**	**21 33 58.7**	**-0.2**
YOJ				*eS*	**Sn**	**21 34 28.7**	**-1.2**
JOW	**Kunigami**	**2.72**	**65**	P	**Pn**	**21 33 59.5**	**-1.1**
JOW				*eS*	**Sn**	**21 34 30.8**	**-2.2**
JTK	**Tokunoshima**	**3.70**	**56**	P	**Pn**	**21 34 13.0**	**-0.7**
JTK				*eS*	**Sn**	**21 34 54.7**	**-1.7**
JAMN	**Amaminishikomi**	**4.12**	**52**	P	**Pn**	**21 34 18.2**	**-1.2**
JAMN				*eS*	**Sn**	**21 35 04.6**	**-2.0**
JAM	**Amami Oshima**	**4.53**	**53**	P	**Pn**	**21 34 24.1**	**-0.8**
JAM				*eS*	**Sn**	**21 35 14.0**	**-2.4**
JMZ	**Minamidaito 2**	**5.15**	**88**	P	**Pn**	**21 34 31.8**	**-1.5**
JMZ				*eS*	Sn	21 35 24.4	-7.1
JNU	**Nakatsue**	**8.73**	**31**	P	**Pn**	**21 35 22.3**	**+0.4**
	0.8nm,0.3s,baz=187,slow=10,SNR=8.0						
KSRS	**Korea Array**	**11.87**	**9**	P	**Pn**	**21 36 06.1**	**+1.7**
	0.2nm,0.3s,baz=189,slow=13,SNR=8.6						
USRK	**Ussuriysk Arra**	**19.17**	**14**	P	**Pn**	**21 37 34.7**	**-1.2**
	0.2nm,0.3s,baz=221,slow=8.6,SNR=4.3						
ASAJ	**Asahikawa**	**23.01**	**33**	P	**P**	**21 38 13.8**	**-0.7**
	4.8nm,0.9s,baz=210,slow=7.3,SNR=3.3						
SONM	**Songino Array**	**26.72**	**331**	P	**P**	**21 38 50.8**	**+2.5**
	0.2nm,0.4s,baz=145,slow=7.4,SNR=2.7						
PETK	**Petropavlovsk-**	**36.43**	**33**	P	**P**	**21 40 12.3**	**-0.8**
	1.4nm,0.8s,baz=247,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**40.07**	**313**	P	**P**	**21 40 43.8**	**0.0**
	0.3nm,0.7s,baz=97,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**41.19**	**324**	P	**P**	**21 40 51.7**	**-1.1**
	0.4nm,0.3s,baz=110,slow=6.3,SNR=3.3						
FITZ	**Fitzroy Crossi**	**43.56**	**180**	P	**P**	**21 41 12.5**	**+0.2**
	1.5nm,0.5s,baz=2.7,slow=8.5,SNR=8.0						
WRA	**Warramunga Arr**	**46.20**	**168**	P	**P**	**21 41 33.5**	**+0.2**
	1.2nm,0.6s,baz=350,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**49.77**	**170**	P	**P**	**21 42 01.2**	**+0.4**
	0.8nm,0.5s,baz=354,slow=8.0,SNR=19						
STKA	**Stephens Creek**	**59.30**	**164**	P	**P**	**21 43 10.0**	**+0.5**
	1.0nm,0.9s,baz=347,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**66.03**	**28**	P	**P**	**21 43 55.4**	**+1.4**
	0.3nm,0.4s,baz=284,slow=8.5,SNR=5.9						
INK	**Inuvik**	**70.31**	**23**	P	**P**	**21 44 21.0**	**+0.5**
	3.6nm,0.9s,baz=312,slow=5.1,SNR=4.3						

*IDC **11** 21:41:00.9±0.8, 23.85N×121.59E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/28, mbtmp3.8/11, MS3.5/1, Ms1 3.5/1, ms1mx2.4/47, Error ellipse: s-maj=30.9km s-min=16.2km az=69.0*
*NIED **11** 21:41:00, 24.00N×121.50E, h5km, Mw4.2 Best double couple: M0=2.07000×10^15 NP1:φs=37.00000°, δ=65.00000°, λ=95.00000°. NP2:φs=206.00000°, δ=25.00000°, λ=80.00000°.*
*JMA **11** 21:41:02.5±0.4, 23.95N×121.49E, h60km, M3.7*
*TAP **11** 21:41:03.0, 23.97N×121.58E, h4km, ML4.2, B*
*BJI **11** 21:41:02.0, 23.87N×121.76E, h7km, mB4.4/1, mb4.1/5, ML3.8/5, Ms4.0/3, Ms7 4.1/2*
*ISCJB **11** 21:41:02.3±0.4, 23.94N±0.02×121.69E±0.02, h4km±2km, mb3.8/14, Error ellipse: s-maj=3.1km s-min=2.0km az=42.0*
*NEIC **11** 21:41:03.0, 23.96N×121.58E, h4km, mb4.3/4, ML4.2(TAP), After TAP.*
NEIC Recorded [5 TAP] in Hua-lien and [1 TAP] in I-lan and Nan-t'ou.
ISC 11 21:41:02.7±0.8, 23.94N±0.02×121.64E±0.02, h11km±5km, n92, σ0§89/127, mb3.9/14, 13C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.05**	**313⇑**	*iP*	**Pg**	**21 41 04.3**	**-0.5**
	baz=69						
TWD	**Chiawan**	**0.14**	**342⇑**	*iP*	**Pg**	**21 41 06.0**	**0.0**
	baz=9.0						
TWD				S	**Sg**	**21 41 08.9**	**+0.5**
	baz=9.0						
ESL	**Shilin**	**0.23**	**236⇓**	*iP*	**Pg**	**21 41 07.4**	**-0.1**
	baz=221						
ESL				S	**Sg**	**21 41 10.6**	**-0.2**
	baz=221						
NACB	**Ninganchiao**	**0.23**	**349⇓**	*iP*	**Pg**	**21 41 07.2**	**-0.4**
NACB				*eS*	**Sg**	**21 41 10.3**	**-0.5**
TEGC	**Jichi Village**	**0.25**	**202**	P	**Pg**	**21 41 09.4**	**+1.5**
	baz=187						
TEGC				S	**Sg**	**21 41 14.7**	**+3.4**
	baz=187						
EHP	**Heping Village**	**0.38**	**14**	*eP*	**Pg**	**21 41 10.5**	**+0.4**
	baz=24						
EHP				*eS*	**Sg**	**21 41 16.1**	**+0.9**
	baz=24						
WHF	**Hehuan Shan**	**0.40**	**300⇑**	*iP*	**Pg**	**21 41 10.6**	**-0.1**
	baz=301						
WHF				*eS*	**Sg**	**21 41 16.0**	**-0.1**
	baz=301						
ENA	**Nanau**	**0.49**	**10⇑**	*iP*	**Pg**	**21 41 12.5**	**+0.3**
	baz=23						
EHY	**Hungye**	**0.53**	**214**	P	**Pg**	**21 41 13.0**	**0.0**
	baz=203						
TWT	**Tachien**	**0.53**	**306**	*eP*	**Pg**	**21 41 13.3**	**+0.3**
	baz=305						
NNS	**Nan Shan**	**0.55**	**333⇑**	*iP*	**Pg**	**21 41 13.8**	**+0.3**
	baz=338						
NNS				*eS*	**Sg**	**21 41 21.2**	**+0.3**
	baz=338						
YULB	**Yu-li**	**0.63**	**210**	*eP*	**Pg**	**21 41 14.7**	**-0.3**
YULB				*eS*	**Sg**	**21 41 22.5**	**-0.9**
SSLB	**Suanglung**	**0.65**	**256**	*eP*	**Pg**	**21 41 15.4**	**+0.1**
SSLB				*eS*	**Sg**	**21 41 23.2**	**-0.7**
TWF1	**Yuli**	**0.67**	**208⇓**	*eP*	**Pg**	**21 41 15.5**	**-0.2**
	baz=209						
SMLT	**Sun Moon Lake**	**0.68**	**265**	⇑P	**Pb**	**21 41 16.4**	**-0.3**
	baz=262						
SMLT				*eS*	**Sg**	**21 41 24.6**	**-0.3**
	baz=262						
TWC	**Suao**	**0.69**	**16⇑**	*iP*	**Pg**	**21 41 16.4**	**+0.3**
	baz=24						
ENTT	**Nioudou**	**0.70**	**354⇑**	*iP*	**Pb**	**21 41 16.7**	**-0.2**
	baz=359						
ENTT				*eS*	**Sb**	**21 41 26.7**	**+0.2**
	baz=359						
TYC	**Yuchr**	**0.72**	**267**	⇑P	**Pg**	**21 41 16.8**	**+0.2**
	baz=264						
TYC				*eS*	**Sg**	**21 41 25.6**	**-0.5**
	baz=264						
YHNB	**Yeheng**	**0.76**	**341**	*eP*	**Pb**	**21 41 18.0**	**-0.1**
YHNB				*eS*	**Sb**	**21 41 28.3**	**-0.2**
NSK	**Sanguang**	**0.77**	**340⇑**	*iP*	**Pb**	**21 41 18.2**	**0.0**
	baz=344						
NSK				*eS*	**Sb**	**21 41 29.1**	**+0.3**
	baz=344						
TWE	**Neicheng**	**0.77**	**2⇑**	*iP*	**Pb**	**21 41 18.2**	**0.0**
	baz=7.0						
TWE				*eS*	**Sb**	**21 41 29.2**	**+0.4**
	baz=7.0						
YUS	**Yu-Shan**	**0.78**	**235⇑**	*eP*	**Pb**	**21 41 18.7**	**+0.1**
	baz=230						
YUS				*eS*	**Sg**	**21 41 29.0**	**+0.9**
	baz=230						
CHKT	**Chengkung**	**0.88**	**197**	P	**Pb**	**21 41 19.9**	**-0.1**
	baz=181						
CHKT				*eS*	**Sn**	**21 41 34.8**	**+1.0**
	baz=181						
WNT	**Mingjian**	**0.88**	**266**	*eP*	**Pn**	**21 41 21.0**	**0.0**
	baz=263						
WNT				*eS*	**Sn**	**21 41 32.9**	**-0.9**
	baz=263						
ALS	**Alishan**	**0.88**	**241**	P	**Pb**	**21 41 20.6**	**+0.5**
	baz=233						
TWQ1	**Liyutan**	**0.89**	**297**	*eP*	**Pn**	**21 41 21.1**	**-0.1**
	baz=297						
TCU	**Taichung**	**0.91**	**283**	*eP*	**Pn**	**21 41 22.1**	**+0.7**
	baz=274						
TCU				*eS*	**Sn**	**21 41 35.6**	**+1.1**
	baz=274						
NSY	**Sanyi**	**0.93**	**300**	*eP*	**Pn**	**21 41 21.9**	**+0.1**
	baz=300						
CHN5	**Tsauling**	**0.95**	**249**	*eP*	**Pn**	**21 41 22.2**	**+0.1**
	baz=236						
CHN5				*eS*	**Sn**	**21 41 35.9**	**+0.2**
	baz=236						
WGK	**Gukeng**	**1.02**	**256**	P	**Pn**	**21 41 23.5**	**+0.5**
	baz=254						
WGK				*eS*	**Sn**	**21 41 39.1**	**+1.8**
	baz=254						
TWA	**Mucha**	**1.03**	**357**	P	**Pn**	**21 41 23.3**	**+0.1**
	baz=4.0						
TATO	**Taipei**	**1.04**	**352**	*eP*	**Pg**	**21 41 22.7**	**0.0**
TATO				*eS*	**Sg**	**21 41 36.0**	**-0.1**
HSN	**Hsinchu**	**1.05**	**324**	*eP*	**Pn**	**21 41 24.1**	**+0.7**
	baz=330						
TAP1	**Taipei**	**1.10**	**354**	⇑P	**Pn**	**21 41 24.2**	**+0.2**
	baz=357						
TAP1				*eS*	**Sn**	**21 41 39.8**	**+0.7**
	baz=357						
TAP	**Taipei**	**1.10**	**353**	*eP*	**Pn**	**21 41 24.7**	**+0.7**
NCU	**National Centr**	**1.10**	**338**	*eP*	**Pb**	**21 41 23.4**	**-0.4**
	baz=352						
NCU				*eS*	**Sn**	**21 41 42.1**	**+2.8**
	baz=352						
TWB1	**Santiao Chiao**	**1.10**	**16**	*eP*	**Pb**	**21 41 24.0**	**+0.1**
	baz=15						
NWF	**Wu-fen Shan**	**1.13**	**6**	*eP*	**Pn**	**21 41 24.8**	**+0.3**
	baz=14						
CHY	**Chiayi**	**1.20**	**249**	*eP*	**Pg**	**21 41 26.1**	**+0.3**
	baz=262						
CHY				*eS*	**Sn**	**21 41 44.0**	**+2.3**
	baz=262						
TWG	**Pinlang**	**1.23**	**205**	*eP*	**Pn**	**21 41 23.9**	**-2.0**
	baz=199						
WTCT	**Ta-ch'eng**	**1.25**	**267**	*eP*	**Pg**	**21 41 27.1**	**+0.4**
	baz=265						
WTCT				*eS*	**Sn**	**21 41 43.7**	**+0.7**
	baz=265						
TTN	**Taitung**	**1.27**	**201**	*eP*	**Pg**	**21 41 26.8**	**-0.3**
	baz=197						
CHN1	**Nanshi**	**1.27**	**234**	P	**Pg**	**21 41 27.2**	**+0.1**
	baz=233						
CHN1				S	**Sn**	**21 41 45.8**	**+2.2**
	baz=233						
TWY	**Chenhua**	**1.33**	**358**	*eP*	**Pb**	**21 41 27.9**	**+0.2**
	baz=351						
WSF	**Szhu**	**1.34**	**257**	*eP*	**Pg**	**21 41 28.3**	**-0.1**
	baz=251						
YOJ	**Yonaguni jima**	**1.35**	**67**	*eP*	**Pn**	**21 41 27.5**	**0.0**
	baz=70						
YOJ	**Yonaguni jima**	**1.35**	**67**	P	**Pn**	**21 41 27.5**	**0.0**
YOJ				*eS*	**Sn**	**21 41 45.6**	**+0.1**
CHN3	**Shinhua**	**1.46**	**234**	*eP*	**Pg**	**21 41 31.0**	**+0.4**
	baz=233						
CHN3				*eS*	**Sg**	**21 41 52.5**	**+2.9**
	baz=233						
SCLT	**Jiali**	**1.54**	**240**	*eP*	**Pg**	**21 41 33.3**	**+1.2**
	baz=237						
SGLT	**Jiouru**	**1.61**	**221**	*eP*	**Pg**	**21 41 33.8**	**+0.2**
	baz=204						
PCYT	**Pengchaiyu**	**1.72**	**13**	*eP*	**Pb**	**21 41 33.8**	**-0.5**
	baz=18						
SCZT	**Fangliau**	**1.83**	**211**	*eP*	**Pb**	**21 41 35.4**	**-0.7**
	baz=235						
SCZT				*eS*	**Sg**	**21 42 00.3**	**-1.1**
	baz=235						
WDGT	**Dungji**	**1.94**	**250**	*eP*	**Pn**	**21 41 36.3**	**+0.7**
	baz=249						
WDGT				*eS*	**Sg**	**21 42 04.1**	**-1.1**
	baz=249						
IRIF	**Iriomote-Funau**	**1.94**	**78**	P	**Pn**	**21 41 35.9**	**+0.2**
IRIF				*eS*	**Sn**	**21 42 01.3**	**+1.2**
PNG	**Penghu**	**1.95**	**259**	P	**Pn**	**21 41 36.4**	**+0.7**
	baz=258						
PNG				*eS*	**Sb**	**21 42 01.9**	**-0.7**
	baz=258						
HATJ	**Hateruma jima**	**1.98**	**86**	P	**Pn**	**21 41 36.2**	**0.0**
HATJ				*eS*	**Sn**	**21 42 01.8**	**+0.8**
TWP	**Hsiaoliuchiu**	**1.98**	**217**	*eP*	**Pg**	**21 41 40.5**	**-0.1**
	baz=218						
HEN	**Hengchun**	**2.10**	**204**	*eP*	**Pb**	**21 41 40.9**	**0.0**
	baz=188						
JKRS	**Kuro-shima**	**2.18**	**82**	P	**Pn**	**21 41 39.8**	**+0.9**
JKRS				*eS*	**Sn**	**21 42 07.1**	**+1.1**
JIJ	**Ishigaki jima**	**2.32**	**79**	P	**Pn**	**21 41 40.6**	**-0.3**
JIJ				*eS*	**Sn**	**21 42 09.4**	**0.0**
JTJ	**Tarama**	**2.88**	**75**	P	**Pn**	**21 41 48.9**	**+0.4**
JTJ				*eS*	**Sn**	**21 42 24.7**	**+1.6**
QZH	**Quanzhou**	**2.95**	**290⇓**	*iP*	**Pn**	**21 41 48.8**	**-0.8**
QZH				Sn	**Sn**	**21 42 25.4**	**+0.4**
QZH				smax	smax		
	comp=N,900nm,1.0s						
QZH				smax	smax		
	comp=E,550nm,0.8s						
QZH				LR	LR		
	comp=N,3μm,7.8s						
QZH				LR	LR		
	comp=E,4μm,6.8s						
QZH				LR	LR		
	comp=Z,5μm,8.9s						
KSAR	**Wonju Array Be**	**14.48**	**20**	Pn	**P**	**21 44 32.1**	**-2.2**
KSRS	**Korea Array**	**14.50**	**20**	Pn	**P**	**21 44 32.1**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=202,slow=12,SNR=12						
DAV	**Davao City (W)**	**17.20**	**167**	LR	LR	21 52 17.1	
	comp=Z,157nm,19.3s,baz=236,slow=40						
USRK	**Ussuriysk Arra**	**21.92**	**20**	P	**P**	**21 45 57.0**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=219,slow=11,SNR=4.1						
GTA	**Gaotai**	**24.05**	**315**	*eP*	P	21 46 23.7	+5.6
GTA				pP	pP	21 46 28.7	+7.3
GTA				sP	sP	21 46 32.0	+9.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**38.80**	**316**	P	**P**	**21 48 28.3**	**+0.8**
MKAR	**Makanchi Array**	**38.80**	**316**	P	**P**	**21 48 28.3**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=108,slow=10,SNR=6.7						
ZAA0	**Zalesovo Array**	**40.67**	**327**	*eP*	**P**	**21 48 44.4**	**+1.5**
ZALV	**Zalesovo Beam**	**40.67**	**327**	P	**P**	**21 48 42.1**	**-0.8**
ZALV	**Zalesovo Beam**	**40.67**	**327**	P	**P**	**21 48 42.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=111,slow=7.9,SNR=7.7						
KURK	**Kurchatov**	**42.55**	**320**	P	**P**	**21 48 58.7**	**+0.4**
KURBB	**Kurchatov Arra**	**42.56**	**320**	P	**P**	**21 48 58.7**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=114,slow=10,SNR=7.9						
WRA	**Warramunga Arr**	**45.34**	**163**	P	**P**	**21 49 19.6**	**-1.4**
WRA	**Warramunga Arr**	**45.34**	**163**	P	**P**	**21 49 19.6**	**-1.4**
	comp=Z,1.4nm,0.9s,baz=346,slow=8.7,SNR=11						
BVAR	**Borovoye Array**	**48.12**	**321**	P	**P**	**21 49 42.8**	**+0.2**
BVAR	**Borovoye Array**	**48.12**	**321**	P	**P**	**21 49 42.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=102,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**48.80**	**165**	P	**P**	**21 49 47.9**	**-0.2**
ASAR	**Alice Springs**	**48.80**	**165**	P	**P**	**21 49 47.9**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=344,slow=6.7,SNR=6.1						
ABKAR	**Akbulak array**	**53.91**	**314**	*eP*	**P**	**21 50 26.2**	**+0.1**
	comp=Z,1.1nm,0.6s						
STKA	**Stephens Creek**	**58.69**	**160**	*eP*	**P**	**21 51 00.5**	**+0.1**
	comp=Z,0.3nm,0.8s						
STKA	**Stephens Creek**	**58.69**	**160**	P	**P**	**21 50 59.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=332,slow=8.7,SNR=4.6						
KDAK	**Kodiak Island**	**67.86**	**35**	*eP*	**P**	**21 52 00.7**	**-0.2**
	comp=Z,7.4nm,0.9s						
KDAK	**Kodiak Island**	**67.86**	**35**	P	**P**	**21 52 02.0**	**+1.1**
	comp=Z,5.4nm,0.9s,baz=322,slow=17,SNR=3.1						
KOPT	**Kop Dagi**	**68.49**	**305**	*i* P	P	21 51 58.7	-6.9
ILAR	**Eielson Array**	**69.23**	**27**	P	**P**	**21 52 09.6**	**+0.2**
ILAR	**Eielson Array**	**69.23**	**27**	P	**P**	**21 52 09.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=284,slow=7.3,SNR=6.2						
EGAK	**Eagle**	**71.61**	**27**	*eP*	**P**	**21 52 24.4**	**+0.5**
	comp=Z,4.3nm,0.9s						
HYT	**Haines Junctio**	**74.49**	**30**	*eP*	**P**	**21 52 40.0**	**-1.2**
GERES	**GERESS Array B**	**83.29**	**321**	P	**P**	**21 53 30.0**	**+0.3**
GERES	**GERESS Array B**	**83.29**	**321**	P	**P**	**21 53 30.0**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=90,slow=1.0,SNR=3.7						

*ISCJB **11** 21:41:21.6±0.3, 25.53N±0.04×101.01E±0.04, h13km, mb4.1/26, Error ellipse: s-maj=5.9km s-min=5.0km az=28.1*
*BJI **11** 21:41:22.8, 25.56N×101.07E, h7km, mB4.6/4, mb4.1/5, ML4.0/13, Ms4.0/3, Ms7 3.8/3*
*IDC **11** 21:41:26.7±3.8, 25.55N×101.00E, h35km±32km, mb3.9/17, mb1 4.0/18, mb1mx3.8/31, mbtmp3.9/18, ML3.9/1, Error ellipse: s-maj=19.6km s-min=11.8km az=68.0*
*NEIC **11** 21:41:27.5±0.8, 25.59N×100.99E, h44km±9km, mb4.5/8, Error ellipse: s-maj=7.9km s-min=6.5km az=79.0*
ISC 11 21:41:23.7±0.5, 25.52N±0.04×101.03E±0.05, h13km, n62, σ1§49/70, mb4.2/26, 2C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.59**	**104**	Pn	**Pn**	**21 41 51.8**	**0.0**
KMI				Pg	**Pb**	**21 41 53.2**	**+0.1**
KMI				Sg	**Sb**	**21 42 13.4**	**+0.1**
KMI				smax	smax		
	comp=N,3μm,0.9s						
KMI				smax	smax		
	comp=E,2μm,0.8s						
GYA	**Guiyang**	**5.15**	**78⇑**	*i*Pn	**Pn**	**21 42 43.0**	**+2.3**
GYA				Pg	Pg	21 42 58.5	-3.9
GYA				smax	smax		
	comp=N,90nm,0.7s						
GYA				smax	smax		
	comp=E,80nm,0.8s						
GYA				LR	LR		
	comp=N,1μm,7.8s						
GYA				LR	LR		
	comp=E,640nm,6.5s						
CD2	**Chengdu**	**5.88**	**23⇑**	*i*Pn	**Pn**	**21 42 52.5**	**+1.9**
CD2				Pg	**Pb**	**21 43 08.8**	**+2.6**
CD2				Sn	**Sn**	**21 44 01.4**	**+3.4**
CD2				Sg	**Sg**	**21 44 29.2**	**-3.4**
CD2				smax	smax		
	comp=N,350nm,1.4s						
CD2				smax	smax		
	comp=E,350nm,1.2s						
CD2				LR	LR		
	comp=Z,1μm,10.2s						
CHTO	**Chiang Mai**	**6.95**	**197**	*e*Pn	**Pn**	**21 43 07.3**	**+2.0**
	comp=Z,13nm,0.8s						
CHTO	**Chiang Mai**	**6.95**	**197**	P	**Pg**	**21 43 36.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**7.29**	**196**	Pn	**Pn**	**21 43 12.8**	**+2.8**
CMAR				Pg	Pg	21 43 39.9	-3.5
CMAR				Lg	Lg	21 45 16.1	
CMAR	**Chiang Mai Arr**	**7.29**	**196**	Pn	**Pn**	**21 43 12.8**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=11,slow=13,SNR=9.6						
CMAR				Pg	Pg	21 43 39.9	-3.5
	comp=Z,0.8nm,0.3s,baz=9.8,slow=17,SNR=27						
CMAR				Lg	Lg	21 45 16.1	
	comp=Z,0.8nm,0.3s,baz=7.9,slow=27,SNR=8.0						
ENH	**Enshi**	**8.85**	**56**	*e*Pn	**Pn**	**21 43 32.9**	**+1.6**
	comp=Z,0.3nm,0.3s						
ENH				*e*Sn	**Sn**	**21 45 09.1**	**-1.9**
LSA	**Lhasa**	**9.70**	**298**	*e*Pn	**Pn**	**21 43 43.0**	**-0.4**
LZH	**Lanzhou**	**10.80**	**12**	*eP*	**Pn**	**21 44 00.1**	**+1.9**
LZH				pP		21 44 03.0	
LZH				sP		21 44 06.5	
LZH				*e*S	**Sn**	**21 46 01.2**	**+2.1**
LZH				sS		21 46 04.7	
LZH				SS	**SnSn**	**21 46 11.5**	**+0.1**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,60nm,4.0s						
LZH				LR	LR		
	comp=N,200nm,4.1s						
LZH				LR	LR		
	comp=E,170nm,5.2s						
LZH				LR	LR		
	comp=Z,280nm,6.9s						
XAN	**Xi'an**	**10.90**	**37**	P	**Pn**	**21 43 59.5**	**0.0**
XAN				LR	LR		
	comp=N,2μm,12.1s						
XAN				LR	LR		
	comp=E,560nm,12.1s						
XAN				LR	LR		
	comp=Z,500nm,15.3s						
GTA	**Gaotai**	**13.89**	**356**	P	**P**	**21 44 50.1**	**+1.5**
GTA				pP	pP	21 44 54.1	
GTA				sP		21 44 57.7	
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**22.67**	**9**	P	**P**	**21 46 23.6**	**-1.3**
SONM	**Songino Array**	**22.67**	**9**	P	**P**	**21 46 23.6**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=195,slow=9.6,SNR=13						
PSI	**Prapat**	**22.68**	**185**	P	**P**	**21 46 27.6**	**+2.5**
PSI	**Prapat**	**22.68**	**185**	P	**P**	**21 46 27.6**	**+2.5**
	comp=Z,9.7nm,0.9s,baz=3.7,slow=4.8,SNR=8.1			

comp=Z,3.9nm,0.4s
PSZ Piszkesteto 65.75 313 *e*P **P 21 52 05.3 -3.0**
MORC Moravsky Berou 66.88 316 *e*P **P 21 52 13.6 -2.0**
KMBO Kilima Mbogo 67.00 257 *e*P **P 21 52 16.6 -0.4**
NOA NORSAR Array B 67.93 328 P **P 21 52 19.7 -2.3**
NOA NORSAR Array B 67.93 328 P **P 21 52 19.7 -2.3**
comp=Z,0.6nm,0.7s,baz=77,slow=6.4,SNR=3.5
STKA Stephens Creek 68.97 144 P **P 21 52 27.5 -1.2**
STKA Stephens Creek 68.97 144 P **P 21 52 27.5 -1.2**
comp=Z,1.5nm,0.6s,baz=298,slow=4.7,SNR=4.5
CLL Collm 69.33 318 *e*P **P 21 52 31.0 +0.2**
GERES GERESS Array B 69.55 315 P **P 21 52 32.0 -0.3**
GERES GERESS Array B 69.55 315 P **P 21 52 32.0 -0.3**
comp=Z,0.5nm,0.7s,baz=64,slow=6.1,SNR=5.1
ILAR Eielson Array 76.02 24 P **P 21 53 08.3 -2.1**
ILAR Eielson Array 76.02 24 P **P 21 53 08.3 -2.1**
comp=Z,0.3nm,0.6s,baz=309,slow=3.1,SNR=3.2
INK Inuvik 78.29 18 P **P 21 53 21.2 -1.8**
INK Inuvik 78.29 18 P **P 21 53 21.2 -1.8**
comp=Z,3.5nm,1.0s,baz=347,slow=4.2,SNR=2.0
ROSC El Rosal 149.47 351 PKPbc **PKPbc 22 01 14.6 +0.6**
ROSC El Rosal 149.47 351 PKPbc **PKPbc 22 01 14.6 +0.6**
comp=Z,7.3nm,0.5s,baz=82,slow=15,SNR=4.6

SZGRF ***11*** *21:43:34.5,23˚.82N×94˚.59E,h101km,mb5.1, Myanmar-India border region*
BJI ***11*** *21:43:44.4,24˚.20N×94˚.58E,h100km,mB5.3/45,mb5.4/52*
MOS ***11*** *21:43:45.5±1.0,24˚.31N×94˚.82E,h92km,mb5.4/71, MS4.5/35,Error ellipse: s-maj=7.0km s-min=3.4km az=122.6*
ISCJB ***11*** *21:43:45.0±0.3,24˚.35N±0˚.02×94˚.66E±0˚.02,h87km±3km, mb5.3/326,Error ellipse: s-maj=3.1km s-min=2.0km az=34.1*
PDG ***11*** *21:43:46.8,24˚.40N×94˚.70E,h92km,mb5.5/10*
IDC ***11*** *21:43:47.8±0.4,24˚.29N×94˚.84E,h101km±3km,mb5.0/41, mb1 5.0/42,mb1mx5.0/42,mbtmp5.0/42,MS4.4/15, Ms1 4.4/15,ms1mx4.2/30,Error ellipse: s-maj=8.5km s-min=6.3km az=48.0*
NEIC ***11*** *21:43:47.6±0.1,24˚.32N×94˚.79E,h99km,mb5.4/59, MW5.5,Error ellipse: s-maj=4.7km s-min=3.2km az=51.0, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁷Nm; Mrr1.41; Mθθ-2.10; Mφφ0.70; Mrθ-0.56; Mφφ0.13; Mφr-0.67; Best double couple: M₀2.10000×10¹⁷ NP1: φs121.00000°,δ44.00000°,λ135.00000°. NP2: φs246.00000°,δ60.00000°,λ55.00000°. Principal axes: T 1.8900, Plg58.0000°, Azm105.0000°; N 0.3100, Plg29.0000°, Azm265.0000°; P -2.1900, Plg8.0000°, Azm0.0000°;*
NEIC Felt [IV] at Guwahati and Shillong, India. Also felt at Jorhat, Mawlai, Sibsagar and Silchar. Felt [II] at Dhaka, Bangladesh. Also felt at Sylhet. Felt at Thimphu and Trongsa, Bhutan.
BKK ***11*** *21:43:49.5±0.6,24˚N±4˚×9˚5E±˚,h101km±5km,M5.4/44, mb5.6/44,mB5.8/34,MLv6.0/4,Mw(mB)5.3/34*
GCMT ***11*** *21:43:49.8±0.1,24˚.25N×94˚.77E,h115km,MW5.5, Moment Tensor Solution. s97,c165; s3,c3; Moment tensor: Scale 10¹⁷Nm; Mrr1.39±.03; Mθθ-2.12±.03; Mφφ0.73±.03; Mrθ-0.59±.02; Mθφ-0.02±.03; Mφr-0.86±.02; Best double couple: M₀2.10000×10¹⁷ NP1:φs241.00000°, δ62.00000°,λ53.00000°. NP2:φs119.00000°,δ45.00000°, λ139.00000°. Principal axes: T 2.0300, Plg56.0000°, Azm102.0000°; N 0.1900, Plg32.0000°, Azm260.0000°; P -2.2200, Plg10.0000°, Azm357.0000°; Data Used: II IU IC G CN. Surface waves: sta=107, comp=221, per= 50.*
LDG ***11*** *21:43:50.0±0.6,24˚.74N×94˚.27E,h98km,Mb5.1/47, Ms4.2/11 Earth ellipse: s-maj=31.9km s-min=18.7km az=175.0*
DJA ***11*** *21:43:54.9±1.5,24˚N±4˚×9˚5E±˚,h157km±16km,M5.4/65, mb5.6/65,mB5.8/51,Mw(mB)5.4/51*
ISC 11 21:43:47.6±0.2,24˚.31N±0˚.02×94˚.72E±0˚.02,h102km±1km, h102km:pP-P,n1513,σ1°28/1904,mb5.3/325,367C-291D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.87**	**297**	*i* PNCNW		**Pn**	**21 44 31.0**	**-0.8**
SHL					AMB	AMB	21 44 38.5	
comp=Z,4μm,0.7s								
SHL				*ex*		x	21 44 51.5	
TURI	**Tura**	**4.17**	**288**	*e*4		x	21 45 15.0	
TURI				*e*S		**Sn**	**21 45 32.0**	**-5.0**
CMAI	**Chiengmai2**	**5.92**	**137**	P		**Pn**	**21 45 14.1**	**+1.2**
comp=Z,1μm,1.1s,comp=Z,8.2nm								
SLGI	**Shiliguri**	**6.18**	**294**	*i* P		**Pn**	**21 45 14.4**	**-1.9**
SLGI				*i* 4		Sn	21 46 18.0	-7.5
LSA	**Lhasa**	**6.25**	**330**	P		**Pn**	**21 45 18.6**	**+0.9**
LSA				LR		LR		
comp=N,3μm,3.7s								
LSA				LR		LR		
comp=E,12μm,6.0s								
LSA				LR		LR		
comp=Z,7μm,6.0s								
SHBG	**Sahibganj**	**6.48**	**279**	*e*4		Sn	21 46 26.1	-6.8
CHTO	**Chiang Mai**	**6.73**	**144**	*e*P		**Pn**	**21 45 24.9**	**+1.0**
CHTO				*e*			21 46 40.9	
CHTO	**Chiang Mai**	**6.73**	**144**	*e*Pn		**Pn**	**21 45 24.9**	**+1.0**
CHTO				*e*Sn		**Sn**	**21 46 40.9**	**+1.8**
PAYA	**Payao**	**6.86**	**135**	P		**Pn**	**21 45 27.9**	**+2.3**
comp=Z,464nm,0.8s,comp=Z,9μmcomp=Z,1.8nm								
TAPN	**Taplejung**	**7.01**	**297**	*e*Pn		**Pn**	**21 45 26.7**	**-1.2**
TAPN				*e*Sn		**Sn**	**21 46 42.1**	**-4.1**
comp=Z,8μm,0.4s								
CMAR	**Chiang Mai Arr**	**7.02**	**145**	P		**Pn**	**21 45 27.9**	**+0.1**
CMAR				PKiKP		**PKiKP**	**22 00 09.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**7.02**	**145**	P		**Pn**	**21 45 27.9**	**+0.1**
comp=Z,5.5nm,0.3s,baz=317,slow=14,SNR=71								
CMAR				LR		LR	21 48 45.3	
comp=Z,4μm,21.3s,baz=322,slow=43								
CMAR				PKiKP		**PKiKP**	**22 00 09.2**	**-0.4**
comp=Z,0.1nm,0.3s,baz=274,slow=1.8,SNR=13								
ODAN	**Odare**	**7.09**	**293**	*e*Pn		**Pn**	**21 45 27.1**	**-1.9**
ODAN				*e*Sn		Sn	21 46 40.9	-7.3
comp=Z,12μm,0.3s								
KMI	**Kunming**	**7.33**	**82**	⇑P		Pn	21 45 37.1	+4.9
KMI				sP		sP	21 45 58.2	
KMI				S		Sn	21 47 00.9	+6.9
KMI				pmax		pmax		
comp=Z,790nm,1.4s								
KMI				LR		LR		
comp=N,6μm,7.6s								
KMI				LR		LR		
comp=E,4μm,7.3s								
KMI				LR		LR		
comp=Z,4μm,7.6s								
RAMN	**Ramite**	**7.79**	**291**	*e*Pn		**Pn**	**21 45 36.0**	**-2.5**
BOK	**Bokaro**	**8.10**	**268**	*e*P		**Pn**	**21 45 39.7**	**-2.7**
BOK				AMB		AMB	21 45 55.4	
comp=Z,722nm,3.9s								
JIRN	**Jiri**	**8.37**	**295**	*e*Pn		**Pn**	**21 45 44.9**	**-1.6**
JIRN				*e*Sn		**Sn**	**21 47 13.7**	**-5.8**
GUN	**Gumba**	**8.72**	**296**	*e*Pn		**Pn**	**21 45 49.2**	**-2.0**
GUN				*e*Sn		**Sn**	**21 47 22.4**	**-5.6**
comp=Z,8μm,0.4s								
PKI	**Pulchoki**	**8.99**	**293**	*e*Pn		**Pn**	**21 45 51.8**	**-3.1**
PKIN	**Phulchoki**	**9.01**	**293**	*e*Pn		**Pn**	**21 45 52.7**	**-2.3**
PKIN				*e*Sn		Sn	21 47 26.8	-8.0
comp=Z,5μm,0.3s								
KKN	**Kakani**	**9.17**	**294**	*e*Pn		**Pn**	**21 45 54.5**	**-2.7**
KKN				*e*Sn		Sn	21 47 31.9	-6.9
comp=Z,3μm,0.2s								
DMN	**Daman**	**9.26**	**293**	*e*Pn		**Pn**	**21 45 55.8**	**-2.6**
DMN				*e*Sn		Sn	21 47 31.6	-9.3
comp=Z,3μm,0.3s								
PBKT	**Sadao Pong**	**9.67**	**142**	P		**Pn**	**21 46 05.2**	**+1.4**
comp=Z,890nm,0.9s,comp=Z,8μm								
CD2	**Chengdu**	**10.36**	**49**	P		**Pn**	**21 46 14.0**	**+0.8**
CD2				PP			21 46 24.9	
CD2				sP			21 46 41.6	
CD2				S		**Sn**	**21 48 08.0**	**+0.6**
CD2				SS			21 48 24.2	
CD2				pmax		pmax		
comp=Z,70nm,1.2s								
CD2				pmax		pmax		
comp=Z,400nm,4.2s								
CD2				LR		LR		
comp=N,7μm,10.8s								
CD2				LR		LR		
comp=E,5μm,9.6s								
CD2				LR		LR		
comp=Z,4μm,12.0s								
KOLN	**Koldanda**	**10.58**	**291**	*e*Pn		Pn	21 46 12.9	-3.5
KOLN				*e*Sn		Sn	21 48 02.6	-11
comp=Z,4μm,0.3s								
DANN	**Dangsing**	**10.63**	**295**	*e*Pn		Pn	21 46 13.1	-4.0
DANN				*e*Sn		Sn	21 48 05.6	-8.6
comp=Z,3μm,0.4s								
CHAI	**Chaiyaphum**	**10.79**	**139**	P		**Pn**	**21 46 22.0**	**+3.0**
comp=Z,91nm,0.8s,comp=Z,685nm								
GYA	**Guiyang**	**11.01**	**76**	⇑*i*P		**Pn**	**21 46 22.4**	**+0.3**
GYA				PP		**P**	**21 46 33.2**	**+0.5**
GYA				sP			21 46 51.8	
GYA				S		**Sn**	**21 48 22.5**	**-0.7**
GYA				SS		SS	21 48 41.0	
GYA				pmax		pmax		
comp=Z,150nm,0.8s								
GYA				pmax		pmax		
comp=Z,590nm,5.9s								
GYA				LR		LR		
comp=N,5μm,10.9s								
GYA				LR		LR		
comp=E,1μm,11.8s								
GYA				LR		LR		
comp=Z,2μm,10.9s								
PYUN	**Piuthan**	**11.19**	**292**	*e*Pn		Pn	21 46 20.6	-4.0
PYUN				*e*Sn		Sn	21 48 18.3	-10
comp=Z,7μm,0.7s								
DGPR	**DIGLIPUR**	**11.20**	**189**	*e*P		Pn	21 46 20.8	-3.8
DGPR				AMB		AMB	21 46 23.2	
comp=Z,557nm,0.6s								
PANO	**Nakornpanom**	**11.67**	**126**	P		Pn	21 46 22.4	-8.5
NAYO	**Nakonayok**	**11.72**	**147**	P		**Pn**	**21 46 33.3**	**+1.7**
comp=Z,107nm,1.1s,comp=Z,12μm								
VIS	**Vishakhapatnam**	**12.49**	**241**	*e*P		**Pn**	**21 46 39.5**	**-2.3**
VIS				AMB		AMB	21 46 47.7	
comp=Z,110nm,1.8s								
PBA	**Port Blair**	**12.72**	**189**	*e*P		Pn	21 46 42.7	-2.2
PBA				AMB		AMB	21 46 49.8	
comp=Z,362nm,1.4s								
UBPT	**Khong Chiam**	**13.52**	**130**	P		**Pn**	**21 46 54.9**	**-0.3**
comp=Z,270nm,1.3s,comp=Z,3μm								
PTH	**Pithoragarh**	**13.95**	**295**	*e*4		Pn	21 46 52.3	-8.7
PTH				*e*4		x	21 49 14.7	
LZH	**Lanzhou**	**14.13**	**32**	⇓P		**Pn**	**21 47 01.4**	**-1.9**
LZH				pP		P	21 47 15.0	+7.3
LZH				sP			21 47 28.7	
LZH				S		**Sn**	**21 49 36.1**	**-2.9**
LZH				pmax		pmax		
comp=Z,200nm,1.0s								
LZH				pmax		pmax		
comp=Z,500nm,4.0s								
LZH				LR		LR		
comp=N,2μm,10.3s								
LZH				LR		LR		
comp=E,2μm,10.4s								
LZH				LR		LR		
comp=Z,3μm,11.9s								
NGP	**Nagpur**	**14.80**	**261**	*ex*		Pn	21 47 06.0	-5.7
NGP				*ex*		P	21 47 21.5	+6.5
comp=Z,188nm,0.8s								
NGP				*e*4		x	21 49 37.5	
QIZ	**Qiongzhong**	**15.00**	**108**	P		**Pn**	**21 47 15.0**	**+0.7**
QIZ				S		**Sn**	**21 49 59.8**	**-0.1**
QIZ				pmax		pmax		
comp=Z,590nm,4.5s								
QIZ				LR		LR		
comp=N,2μm,17.9s								
QIZ				LR		LR		
comp=E,750nm,17.8s								
QIZ				LR		LR		
comp=Z,2μm,19.6s								
GTA	**Gaotai**	**15.66**	**15**	⇓P		**Pn**	**21 47 20.2**	**-2.4**
GTA				pP		pP	21 47 34.4	-9.1
GTA				PP		PP	21 47 36.3	
GTA				sP		sP	21 47 49.3	-7.2
GTA				S		**Sn**	**21 50 13.1**	**-2.8**
GTA				sS		S	21 50 34.0	+10
GTA				PcP		**PcP**	**21 52 19.3**	**+2.2**
GTA				ScP		**ScP**	**21 55 43.0**	**+0.8**
GTA				PcS		**PcS**	**21 55 53.8**	**+1.1**
GTA				ScS		**ScS**	**21 59 19.8**	**-1.0**
GTA				pmax		pmax		
comp=Z,890nm,3.8s								
GTA				LR		LR		
comp=E,4μm,8.6s								
GTA				LR		LR		
comp=Z,2μm,29.0s								
BHPL	**Bhopal**	**15.87**	**270**	*ex*		**Pn**	**21 47 21.5**	**-3.8**
BHPL				AMB		AMB	21 47 40.1	
comp=Z,234nm,1.5s								
DDI	**Dehra Dun**	**15.97**	**296**	*e*P		**Pn**	**21 47 24.1**	**-2.4**
DDI				*ex*		x	21 50 04.0	
NDI	**New Delhi**	**16.27**	**289**	*ex*		**Pn**	**21 47 26.0**	**-4.1**
NDI				*ex*		x	21 50 11.0	
HYB	**Hyderabad**	**16.59**	**249**	*i* P		**Pn**	**21 47 31.0**	**-3.1**
comp=Z,71nm,0.8s								
HYB				*e*S		**Sn**	**21 50 40.0**	**+1.7**
PKDT	**Phuket**	**16.68**	**167**	P		**Pn**	**21 47 35.2**	**-0.1**
comp=Z,101nm,1.4s,comp=Z,2μm								
SMLA	**Simla**	**16.96**	**298**	*e*P		**Pn**	**21 47 36.2**	**-2.3**
SMLA				AMB		AMB	21 47 38.0	
comp=Z,287nm,0.2s								
SMLA				*e*4		x	21 50 31.7	
GZH	**Guangzhou**	**17.10**	**90**	P		**P**	**21 47 43.6**	**+3.2**
GZH				S		**S**	**21 50 53.7**	**+0.3**
GZH				pmax		pmax		
comp=Z,2μm,5.8s								
GZH				LR		LR		
comp=N,2μm,6.4s								
GZH				LR		LR		
comp=E,2μm,7.0s								
CMBY	**CAMPBELL BAY**	**17.21**	**183**	*e*P		**P**	**21 47 38.5**	**-3.3**
CMBY				AMB		AMB	21 47 40.4	
comp=Z,149nm,1.2s								
BHK	**Bhakra**	**17.66**	**298**	*e*P		**P**	**21 47 45.8**	**-0.8**
BHK				*e*4		x	21 50 48.0	
LATR	**Latur**	**17.90**	**254**	*e*P		**P**	**21 47 46.3**	**-2.9**
LATR				*e*P		**Pn**	**21 47 49.4**	**-0.6**
LATR				AMB		AMB	21 48 06.3	
comp=Z,126nm,0.4s								
LATR				*e*4		x	21 50 51.8	
DHRM	**DHARAMSHALA**	**18.04**	**300**	*e*P		**P**	**21 47 50.0**	**-1.0**
DHRM				AMB		AMB	21 47 54.4	
comp=Z,354nm,0.0s								
PONG	**Pong**	**18.21**	**299**	*e*P		**P**	**21 47 52.0**	**-0.6**
PONG				*ex*		x	21 48 35.0	
AJM	**Ajmer**	**18.27**	**281**	*e*P		**P**	**21 47 51.0**	**-2.4**
AJM				*e*4		x	21 51 00.0	
WHN	**Wuhan**	**18.49**	**66**	P		**Pn**	**21 47 56.8**	**-0.2**
WHN				sP		sP	21 48 33.2	+5.5
WHN				S		S	21 51 11.1	-10
WHN				pmax		pmax		
comp=Z,240nm,0.9s								
WHN				pmax		pmax		
comp=Z,4μm,3.8s								
BSI	**Banda Aceh**	**18.71**	**178**	P		**Pn**	**21 47 59.1**	**-0.7**
comp=Z,320nm,1.1s,comp=Z,3μm								
LHMI	**Lhok Sumawe**	**19.09**	**173**	P		Pn	21 48 09.2	+5.0
JMU	**Jammu**	**19.31**	**300**	*ex*		Sn	21 51 32.5	-11
KULM	**Kulim**	**19.75**	**162**	*e*P		**Pn**	**21 48 11.0**	**-1.0**
comp=Z,90nm,0.8s								
KULM				*e*S		**S**	**21 51 47.2**	**+0.5**
KULM	**Kulim**	**19.75**	**162**	P		**Pn**	**21 48 11.6**	**-0.4**
KULM	**Kulim**	**19.75**	**162**	P		**Pn**	**21 48 11.5**	**-0.4**
comp=Z,122nm,1.5s,comp=Z,2μm								
POO	**Poona**	**20.26**	**258**	*e*P		**P**	**21 48 12.7**	**-2.3**
WMQ	**Urumqi**	**20.30**	**345**	⇓*i*P		Pn	21 48 17.3	-1.0
WMQ				pP		pP	21 48 40.3	+5.6
WMQ				S		**S**	**21 51 54.1**	**-3.2**
WMQ				sS		sS	21 52 23.7	-5.8
WMQ				PcP		**PcP**	**21 52 28.8**	**+4.1**
WMQ				SS		SS	21 52 30.3	
WMQ				pmax		pmax		
comp=Z,430nm,1.0s								
WMQ				pmax		pmax		
comp=Z,2μm,4.5s								
WMQ				LR		LR		
comp=N,2μm,26.0s								
WMQ				LR		LR		
comp=E,1μm,26.0s								
WMQ				LR		LR		
comp=Z,3μm,26.0s								
KTGM	**Kuala Trenggan**	**20.53**	**155**	P		Pn	21 48 20.3	-0.7
IPM	**Ipoh**	**20.63**	**162**	*e*P		**P**	**21 48 19.1**	**+0.1**
comp=Z,545nm,1.8s								
IPM				*e*S		**S**	**21 52 02.4**	**-1.6**
IPM	**Ipoh**	**20.63**	**162**	P		**P**	**21 48 19.5**	**+0.5**
IPM	**Ipoh**	**20.63**	**162**	P		**P**	**21 48 19.4**	**+0.4**
comp=Z,161nm,1.2s,comp=Z,2μm								
BTO	**Baotou**	**20.70**	**35**	*e*P		**P**	**21 48 18.7**	**-1.0**
BTO				S		**S**	**21 52 01.6**	**-3.7**
BTO				LR		LR		
comp=N,560nm,11.8s								
BTO				LR		LR		
comp=E,580nm,7.6s								
SARP	**Sargodha**	**20.86**	**296**	P		**P**	**21 48 21.5**	**+0.2**
KCSI	**Kotacane, Aceh**	**20.87**	**171**	P		**P**	**21 48 22.7**	**+1.1**
comp=E,280nm,0.9s,comp=E,3μm								
CHCP	**Chirah Chowk**	**20.93**	**301**	P		**P**	**21 48 22.5**	**+0.4**
TSI	**Tuntungan**	**21.01**	**169**	P		**P**	**21 48 26.2**	**+3.1**
comp=E,549nm,1.2s,comp=E,6μm								
PALK	**Pallekele**	**21.62**	**221**	P		**P**	**21 48 31.5**	**+1.9**
comp=E,437nm,1.3s,SNR=8.7								
PALK	**Pallekele**	**21.62**	**221**	*e*P		**P**	**21 48 31.1**	**+1.4**
comp=E,178nm,1.1s								
PALK				*e*S		**S**	**21 52 18.2**	**-5.2**
PALK	**Pallekele**	**21.62**	**221**	P		**P**	**21 48 32.1**	**+2.5**
comp=E,173nm,1.2s,comp=E,2μm								
HHC	**Hu-ho-hao-te**	**21.70**	**36**	*e*P		**P**	**21 48 29.2**	**-1.1**
HHC				pP		**pP**	**21 48 49.5**	**-0.5**
HHC				PP		**PnPn**	**21 48 58.4**	**+1.6**
HHC				sP		**sP**	**21 49 01.7**	**-1.1**
HHC				S		**S**	**21 52 22.2**	**-2.4**
HHC				sS		sS	21 52 50.7	-6.8
HHC				SS		**SnSn**	**21 53 00.6**	**+2.1**
HHC				PcS		**PcS**	**21 56 05.6**	**-0.3**
HHC				pmax		pmax		
comp=Z,50nm,0.6s								
HHC				pmax		pmax		
comp=Z,520nm,5.3s								
HHC				LR		LR		
comp=N,3μm,10.7s								
HHC				LR		LR		
comp=E,3μm,10.5s								
HHC				LR		LR		
comp=Z,3μm,11.8s								
QZH	**Quanzhou**	**21.70**	**83**	⇑*i*P		**P**	**21 48 29.4**	**-1.0**
QZH				pP		**pP**	**21 48 54.8**	**+4.7**
QZH				S		**S**	**21 52 26.3**	**+1.5**
QZH				pmax		pmax		
comp=Z,530nm,1.1s								
QZH				pmax		pmax		
comp=Z,2μm,6.5s								
QZH				LR		LR		
comp=N,4μm,9.8s								
QZH				LR		LR		
comp=E,2μm,6.8s								
QZH				LR		LR		
comp=Z,2μm,17.7s								
PSI	**Prapat**	**21.76**	**169**	P		**P**	**21 48 32.9**	**+1.7**
PSI				PcP		**PcP**	**21 52 28.5**	**+0.5**
PSI	**Prapat**	**21.76**	**169**	P		**P**	**21 48 32.9**	**+1.7**
comp=Z,127nm,0.9s,baz=313,slow=7.0,SNR=69								
PSI				PcP		**PcP**	**21 52 28.5**	**+0.5**
comp=Z,23nm,0.7s,baz=105,slow=23,SNR=6.3								
PSI				LR		LR	21 56 57.1	
comp=Z,539nm,18.9s,baz=353,slow=36								
THW	**Thamme Wali**	**21.85**	**298**	P		**P**	**21 48 31.5**	**-0.5**
KSH	**Kashi**	**21.92**	**318**	⇓*i*P		**P**	**21 48 33.3**	**+0.6**
KSH				pP		**pP**	**21 48 53.9**	**+1.5**
KSH				PP		**PnPn**	**21 49 04.3**	**+4.5**
KSH				sP		**sP**	**21 49 06.3**	**+1.1**
KSH				S		S	21 52 21.2	-7.5
KSH				sS		sS	21 52 55.5	-6.5
KSH				SS		**SnSn**	**21 53 07.2**	**+3.3**
KSH				pmax		pmax		
comp=Z,210nm,1.2s								
KSH				LR		LR		
comp=N,1μm,10.4s								
KSH				LR		LR		
comp=E,780nm,10.6s								
KSH				LR		LR		
comp=Z,1μm,12.9s								
FRIM	**Kepong**	**21.98**	**161**	P		**P**	**21 48 35.0**	**+1.6**
CEP	**Cherat**	**22.04**	**301**	P		**P**	**21 48 33.8**	**-0.3**
NJ2	**Nanjing**	**22.59**	**65**	*e*P		**P**	**21 48 39.6**	**-0.1**
NJ2				pP		**pP**	**21 48 58.2**	**-1.4**
NJ2				sP		**sP**	**21 49 13.0**	**+0.7**
NJ2				S		**S**	**21 52 38.7**	**-1.2**
NJ2				pmax		pmax		
comp=Z,110nm,0.6s								
NJ2				pmax		pmax		
comp=Z,860nm,4.2s								
NJ2				LR		LR		
comp=N,2μm,17.3s								
NJ2				LR		LR		
comp=E,2μm,20.8s								
NJ2				LR		LR		
comp=Z,1μm,20.8s								
TIA	**Tai'an**	**22.64**	**53**	*e*P		P	21 48 31.4	-8.7
TIA				S		**S**	**21 52 39.2**	**-1.3**
TIA				pmax		pmax		
comp=Z,50nm,0.9s								
TIA				LR		LR		
comp=N,600nm,13.0s								
TIA				LR		LR		
comp=E,2μm,17.8s								
TIA				LR		LR		
comp=Z,2μm,15.0s								
ULHL	**Ulahol**	**23.55**	**324**	*i* P		**P**	**21 48 51.3**	**+2.3**
ULHL	**Ulahol**	**23.55**	**324**	P		**P**	**21 48 51.3**	**+2.3**
SNR=67								
KGM	**Kluang**	**23.67**	**158**	P		**P**	**21 48 51.4**	**+1.4**
BJI	**Beijing**	**23.90**	**44**	P		**P**	**21 48 51.7**	**-0.2**
BJI				pP		**pP**	**21 49 12.9**	**-0.6**
BJI				sP		**sP**	**21 49 25.6**	**-0.6**
BJI				S		**S**	**21 53 00.8**	**+0.1**
BJI				sS		**sS**	**21 53 39.2**	**-0.4**
BJI				ScP		**ScP**	**21 56 00.9**	**-0.1**
BJI				ScS		**ScS**	**21 59 47.4**	**-0.6**
BJI				pmax		pmax		
comp=Z,20nm,0.8s								
BJI				pmax		pmax		
comp=Z,340nm,6.6s								
BJI				LR		LR		
comp=N,1μm,9.1s								
BJI				LR		LR		
comp=E,560nm,12.1s								
BJI				LR		LR		
comp=Z,660nm,33.7s								
KZA	**Kyzart**	**23.98**	**322**	*i* P		**P**	**21 48 55.1**	**+2.1**
KZA	**Kyzart**	**23.98**	**322**	P		**P**	**21 48 55.1**	**+2.1**
SNR=26								
MYKOM	**Kota Tinggi**	**24.06**	**157**	P		**P**	**21 48 55.0**	**+1.5**
MYKOM	**Kota Tinggi**	**24.06**	**157**	P		**P**	**21 48 54.9**	**+1.4**
comp=Z,115nm,1.2s,comp=Z,2μm								
SSE	**Sheshan**	**24.35**	**68**	P		**P**	**21 48 53.4**	**-2.6**
SSE				pP		**pP**	**21 49 14.7**	**-3.5**
SSE				sP		**sP**	**21 49 27.4**	**-3.1**
SSE				S		**S**	**21 53 05.0**	**-3.1**
SSE				pmax		pmax		
comp=Z,330nm,1.1s								
SSE				pmax		pmax		
comp=Z,420nm,5.9s								
SSE				LR		LR		
comp=N,680nm,17.5s								
SSE				LR		LR		
comp=E,900nm,17.5s								
SSE				LR		LR		
comp=Z,1μm,19.6s								
TKM2	**Tokmak 2**	**24.36**	**324**	⇓*i*P		**P**	**21 48 58.1**	**+1.8**
TKM2				*e*S		**S**	**21 53 09.4**	**+0.9**
TKM2				pmax		pmax		
comp=Z,445nm,0.9s								
TKM2	**Tokmak 2**	**24.36**	**324**	P		**P**	**21 48 58.3**	**+2.0**
SNR=402					

KBL eS S 21 53 11.8 +0.6
KBK Karagaybulak 24.53 323 *i* P P 21 49 00.5 +2.7
KBK Karagaybulak 24.53 323 P P 21 49 00.5 +2.7
SNR=156
MKAR Makanchi Array 24.55 339 *ce*P P 21 48 59.5 +1.8
MKAR pmax pmax
comp=Z,155nm,0.6s
MKAR Makanchi Array 24.55 339 *e*P P 21 48 59.6 +1.8
MKAR PcP PcP 21 52 34.9 +1.6
MKAR S S 21 53 14.5 +3.4
MKAR ScP ScP 21 56 03.5 +0.7
MKAR *e* 22 22 06.6
MKAR Makanchi Array 24.55 339 P P 21 48 59.6 +1.9
comp=Z,154nm,0.6s,baz=145,slow=9.7,SNR=406
MKAR PcP PcP 21 52 34.9 +1.6
comp=Z,30nm,0.9s,baz=161,slow=3.3,SNR=6.0
MKAR S S 21 53 14.5 +3.4
comp=Z,22nm,1.0s,baz=162,slow=15,SNR=2.6
MKAR ScP ScP 21 56 03.5 +0.7
comp=Z,5.5nm,0.8s,baz=97,slow=5.6,SNR=4.4
MKAR P3KPbc 22 22 06.6
comp=Z,0.8nm,0.8s,baz=332,slow=2.5,SNR=5.5
BKNI Bangkinang 24.61 165 P P 21 48 59.8 +1.3
comp=Z,228nm,1.1s,comp=Z,2μm
AAK Ala-Archa 24.77 322 P P 21 49 02.0 +2.1
comp=Z,2μm,0.8s,SNR=68
AAK Ala-Archa 24.77 322 *d i*P P 21 49 02.5 +2.6
AAK pmax pmax
comp=Z,492nm,1.1s
AAK Ala-Archa 24.77 322 P P 21 49 02.9 +3.0
SNR=78
AAK Ala-Archa 24.77 322 P P 21 49 02.6 +2.7
SNR=133
AAK Ala-Archa 24.77 322 *e*P P 21 49 02.2 +2.3
comp=Z,218nm,0.8s
AAK *e*PcP PcP 21 52 35.9 +1.9
AAK ScS ScS 21 59 54.5 +2.7
AAK Ala-Archa 24.77 322 P P 21 49 02.6 +2.7
comp=Z,185nm,0.7s,baz=128,slow=6.5,SNR=134
AAK ScS ScS 21 59 54.5 +2.7
comp=Z,1.3nm,0.3s,baz=258,slow=21,SNR=6.1
FRU Bishkek 24.83 323 ⇓ *i*P P 21 49 02.0 +1.6
FRU *i* *PP pP 21 49 24.0 +1.2
FRU *i* 21 49 36.0
FRU eS S 21 53 18.0 +2.3
FRU *i* *SS sS 21 53 54.0 -0.9
FRU pmax pmax
comp=Z,290nm,1.3s
FRU smax smax
comp=N,370nm,3.0s
CHMS Chumysh 24.87 323 *i* P P 21 49 03.8 +3.1
CHMS Chumysh 24.87 323 P P 21 49 03.9 +3.1
SNR=7.4
AML Almayashu 24.90 321 *i* P P 21 49 03.6 +2.2
AML Almayashu 24.90 321 P P 21 49 03.5 +2.2
SNR=44
USP Ospenovka 25.19 324 *i* P P 21 49 05.9 +2.3
USP Ospenovka 25.19 324 P P 21 49 05.9 +2.3
SNR=12
EKS2 Erkin-Say 25.19 322 *e*P P 21 49 06.2 +2.5
EKS2 pmax pmax
comp=Z,168nm,0.8s
EKS2 Erkin-Say 25.19 322 P P 21 49 06.2 +2.5
SNR=166
EKS2 Erkin-Say 25.19 322 *e*P P 21 49 06.2 +2.5
comp=Z,168nm,0.8s
PPI Padang Panjang 25.22 167 P P 21 49 03.4 -0.6
comp=Z,70nm,1.3s,comp=Z,1μm
SONM Songino Array 25.25 19 P P 21 49 05.3 +1.2
SONM PcP PcP 21 52 35.3 +0.4
SONM S S 21 53 24.8 +2.5
SONM ScP ScP 21 56 04.1 -0.7
SONM *e* 22 22 04.0
SONM Songino Array 25.25 19 P P 21 49 05.3 +1.2
comp=Z,54nm,0.7s,baz=200,slow=8.8,SNR=93
SONM PcP PcP 21 52 35.3 +0.4
comp=Z,4.4nm,0.7s,baz=215,slow=5.5,SNR=2.4
SONM S S 21 53 24.7 +2.5
comp=Z,6.5nm,1.1s,baz=185,slow=14,SNR=2.9
SONM ScP ScP 21 56 04.1 -0.7
comp=Z,15nm,1.1s,baz=200,slow=3.0,SNR=8.2
SONM P3KPbc 22 22 04.0
comp=Z,0.9nm,1.0s,baz=17,slow=1.5,SNR=3.8
ULN Ulaanbaatar 25.47 20 P P 21 49 07.3 +1.1
SNR=34
ULN Ulaanbaatar 25.47 20 *e*P P 21 49 06.8 +0.6
comp=Z,93nm,0.9s
ULN Ulaanbaatar 25.47 20 P P 21 49 07.3 +1.1
comp=Z,125nm,0.9s,comp=Z,1μm
RGRI Rengat 25.60 162 P P 21 49 09.9 +2.5
comp=Z,327nm,1.5s,comp=Z,11μm
TGY Tagaytay City 26.71 108 P P 21 49 18.8 +1.3
TGY Tagaytay City 26.71 108 P P 21 49 18.8 +1.3
comp=Z,77nm,0.4s,baz=114,slow=6.5,SNR=3.7
HVS Khovu-Aksy 26.80 359 *d i*P P 21 49 19.8 +1.8
HVS pmax pmax
comp=Z,403nm,0.8s
ZAK Zakamensk 26.87 12 ⇑ *i*P P 21 49 20.9 +2.2
ZAK *e* 21 49 49.5
ZAK pmax pmax
comp=Z,57nm,1.2s
DL2 Dalian 27.02 51 P P 21 49 19.9 -0.1
DL2 pP pP 21 49 46.6 +4.0
DL2 S S 21 53 48.5 -1.7
DL2 pmax pmax
comp=Z,52nm,1.0s
DL2 pmax pmax
comp=Z,160nm,5.7s
KSM Kuching 27.25 144 *e*P P 21 49 23.8 +1.5
comp=Z,225nm,1.4s
KSM *e*PcP PcP 21 52 40.1 +0.2
KSM Kuching 27.25 144 P P 21 49 23.8 +1.5
KSM Kuching 27.25 144 P P 21 49 23.5 +1.2
comp=Z,110nm,1.4s,comp=Z,2μm
KDM Kudat 27.35 126 P P 21 49 24.7 +1.5
KKAR Karatay Array 27.36 319 *e*P P 21 49 23.6 +0.5
KKAR *e* 21 52 40.8
KKAR Karatay Array 27.36 319 *e*P P 21 49 23.6 +0.5
KKAR *e*PcP PcP 21 52 40.8 +1.1
BTM Bintulu 27.46 137 P P 21 49 26.4 +2.1
KKM Kota Kinabalu 27.49 128 *e*P P 21 49 26.6 +2.0
comp=Z,218nm,1.5s
KKM Kota Kinabalu 27.49 128 P P 21 49 27.0 +2.4
KKM Kota Kinabalu 27.49 128 P P 21 49 27.0 +2.4
comp=Z,92nm,1.5s,comp=Z,2μm
SBUM Sibu 27.53 139 P P 21 49 26.6 +1.8
SBUM Sibu 27.53 139 P P 21 49 26.3 +1.5
comp=Z,42nm,1.6s,comp=Z,1μm
MOY Mondy 27.74 8 *e*P P 21 49 29.4 +2.9
MOY pmax pmax
comp=Z,54nm,1.8s
TLY Talaya 28.18 12 *c i*P P 21 49 32.8 +2.5
TLY eS S 21 54 12.8 +4.6
TLY eSS SnSn 21 54 51.7 -44
TLY *e* 21 55 31.1
TLY pmax pmax
comp=Z,40nm,1.0s
TLY MLR MLR
comp=Z,607nm,13.0s
TLY Talaya 28.18 12 P P 21 49 33.9 +3.6
comp=Z,192nm,1.1s,SNR=5.1
MASI Maura Aman, Be 28.25 164 P P 21 49 32.3 +1.1
comp=Z,102nm,1.6s
SDKM Sandakan 28.47 127 P P 21 49 34.9 +1.6
PPBI Pangkal Pinang 28.55 156 P P 21 49 35.7 +1.8
comp=Z,160nm,1.0s,comp=Z,3μm
PMBI Palembang 28.78 159 P P 21 49 38.9 +3.0
comp=Z,295nm,1.0s
KSI Kapahiang 28.83 164 P P 21 49 36.1 -0.3
comp=Z,129nm,0.9s,comp=Z,2μm
IRK Irkutsk 28.83 12 *e*P P 21 49 37.6 +1.6
IRK pmax pmax
comp=Z,149nm,1.7s
STKI Sintang 29.06 144 P P 21 49 40.5 +2.1
comp=Z,126nm,1.3s,comp=Z,32μm
KURBB Kurchatov Arra 29.11 339 P P 21 49 39.9 +1.3
comp=Z,66nm,0.7s,baz=158,slow=7.5,SNR=266
KURBB PcP PcP 21 52 45.0 +1.1
comp=Z,38nm,0.9s,baz=162,slow=2.1,SNR=9.1
KURBB ScP ScP 21 56 17.1 +0.9
comp=Z,23nm,0.9s,baz=150,slow=2.7,SNR=14
KURK Kurchatov 29.16 339 P P 21 49 39.9 +0.9
KURK 21 52 45.0
KURK pmax pmax
comp=Z,66nm,0.7s
KURK pmax pmax
comp=Z,38nm,0.9s
KURK pmax pmax
comp=N,23nm,0.9s
KURK Kurchatov 29.16 339 P P 21 49 39.9 +0.9
KURK PcP PcP 21 52 45.0 +1.0
KURK ScP ScP 21 56 17.1 +0.7
SNY Shenyang 29.63 47 ⇑ P P 21 49 42.5 -0.8
SNY S S 21 54 29.8 -1.4
SNY pmax pmax
comp=Z,150nm,5.8s
SNY LR LR
comp=N,430nm,17.7s
SNY LR LR
comp=E,670nm,14.9s
SNY LR LR
comp=Z,640nm,24.0s
TPI Tanjungpandan 29.69 153 P P 21 49 46.0 +2.0
comp=Z,123nm,1.1s,comp=Z,1μm
MYLDM Lahad Datu 29.74 126 P P 21 49 47.1 +2.6
MYLDM Lahad Datu 29.74 126 P P 21 49 47.1 +2.6
comp=Z,142nm,1.4s,comp=Z,2μm
TSM Tawau 29.88 128 P P 21 49 47.4 +1.6
JOW Kunigami 30.32 78 *e*P P 21 49 49.2 -0.3
comp=Z,88nm,1.5s
JOW *e*pP pP 21 50 11.8 -0.5
KLSI 30.43 160 P P 21 49 50.1 -0.4
comp=Z,63nm,1.2s
ZALV Zalesovo Beam 30.52 348 P P 21 49 52.4 +1.5
ZALV 21 52 47.6
ZALV S S 21 54 46.4 +1.5
ZALV 22 00 12.2
ZALV pmax pmax
comp=Z,14nm,0.7s
ZALV pmax pmax
comp=Z,27nm,1.1s
ZALV smax smax
comp=N,8.0nm,0.9s
ZALV pmax pmax
comp=N,8.0nm,1.0s
ZALV Zalesovo Beam 30.52 348 P P 21 49 52.4 +1.5
ZALV PcP PcP 21 52 47.6 +0.1
ZALV S S 21 54 46.4 +1.5
ZALV ScP ScP 21 56 20.1 -0.6
ZALV ScS ScS 22 00 12.2 -4.7
ZALV *e* 22 21 39.1
ZALV Zalesovo Beam 30.52 348 P P 21 49 52.4 +1.5
comp=N,23nm,0.8s,baz=172,slow=11,SNR=31
ZALV PcP PcP 21 52 47.6 +0.1
comp=N,27nm,1.1s,baz=165,slow=3.1,SNR=3.8
ZALV S S 21 54 46.4 +1.5
comp=N,7.7nm,0.9s,baz=178,slow=12,SNR=2.6
ZALV ScP ScP 21 56 20.1 -0.6
comp=N,6.6nm,0.7s,baz=172,slow=2.9,SNR=5.0
ZALV ScS ScS 22 00 12.2 -4.7
comp=N,7.6nm,1.0s,baz=193,slow=5.9,SNR=6.5
ZALV LR LR 22 05 34.7
comp=N,156nm,21.4s,baz=71,slow=43
ZALV P3KPbc 22 21 39.1
comp=N,3.0nm,0.8s,baz=345,slow=5.1,SNR=12
LWLI Liwa 30.53 161 P P 21 49 50.3 -1.2
comp=N,235nm,0.8s,comp=N,2μm
KASI Kota Agung 31.14 161 P P 21 49 55.6 -1.2
comp=N,92nm,0.9s
KSAR Wonju Array Be 31.16 57 P P 21 49 55.1 -1.7
KSAR PcP PcP 21 52 49.5 0.0
KSAR S S 21 54 54.2 -1.0
KSAR ScP ScP 21 56 22.4 -0.8
KSRS Korea Array 31.19 57 P P 21 49 55.1 -1.9
comp=N,3.1nm,0.6s,baz=247,slow=8.1,SNR=10
KSRS PcP PcP 21 52 49.5 0.0
comp=N,3.0nm,0.7s,baz=269,slow=2.7,SNR=5.2
KSRS S S 21 54 54.2 -1.5
comp=N,3.9nm,1.0s,baz=259,slow=13,SNR=4.1
KSRS ScP ScP 21 56 22.4 -0.8
comp=N,7.7nm,1.0s,baz=255,slow=4.1,SNR=11
KSRS LR LR 22 03 31.0
comp=N,934nm,18.4s,baz=256,slow=38
BLSI Bandar Lampung 31.23 159 P P 21 49 57.0 -0.5
comp=N,102nm,0.9s
PBKI Pangkalan Bun 31.50 146 P P 21 50 02.4 +2.4
comp=N,227nm,1.4s,comp=N,3μm
NVS Novosibirsk 31.67 347 ⇑ *i*P P 21 50 01.8 +0.8
NVS *e* *PP pP 21 50 25.5 +1.6
NVS *e* 21 52 45.9
NVS *e*S S 21 55 00.3 -2.4
NVS *e*SS SnSn 21 56 59.0 -1.2
NVS *e*SSS SSS 22 00 16.5
NVS pmax pmax
comp=N,29nm,0.8s
NVS pmax pmax
comp=E,18nm,0.8s
NVS pmax pmax
comp=Z,44nm,0.8s
NVS pmax pmax
comp=N,53nm,1.6s
NVS pmax pmax
comp=E,44nm,1.6s
NVS pmax pmax
comp=Z,83nm,1.6s
NVS smax smax
comp=N,63nm,1.6s
NVS smax smax
comp=E,44nm,1.6s
KRAR Krasnoyarsk 31.70 358 ⇓ *i*P P 21 50 05.9 +4.6
KRAR pmax pmax
comp=Z,24nm,0.8s
CN2 Changchun 31.76 45 *e*P P 21 50 03.0 +1.0
CN2 *es*P sP 21 50 36.8 0.0
CN2 *e*S S 21 55 04.4 -0.1
CN2 ScP ScP 21 56 24.2 -0.9
CN2 *e*SS SnSn 21 56 59.0 -3.7
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,700nm,16.0s
CN2 LR LR
comp=Z,600nm,17.0s
MTKI Muara Teweh, K 31.83 139 P P 21 50 06.3 +3.4
comp=Z,211nm,0.7s,comp=Z,7μm
SBJI Serang 32.22 158 P P 21 50 08.7 +2.5
comp=Z,153nm,1.3s
JNU Nakatsue 32.77 66 *e*P P 21 50 10.7 -0.3
comp=Z,16nm,0.7s
JNU *e*pP pP 21 50 33.3 -0.7
JNU Nakatsue 32.77 66 P P 21 50 10.9 -0.1
comp=Z,35nm,0.7s,baz=276,slow=3.2,SNR=28
JNU LR LR 22 04 45.5
comp=Z,674nm,19.9s,baz=271,slow=38
DBJI Dramaga 32.84 158 P P 21 50 11.4 -0.3
comp=Z,388nm,0.7s,comp=Z,4μm
SKJI Sukabumi 33.19 158 P P 21 50 11.6 -3.1
LEM Lembang 33.40 156 P P 21 50 19.4 +2.7
comp=Z,104nm,1.0s
BBKI Banjar Baru 33.84 142 P P 21 50 22.8 +2.4
comp=Z,388nm,1.2s,comp=Z,5μm
BVAR Borovoye Array 34.07 334 P P 21 50 23.4 +1.4
BVAR 21 52 58.2
BVAR S S 21 55 41.3 +1.3
BVAR 22 00 33.2
BVAR pmax pmax
comp=Z,37nm,0.8s
BVAR pmax pmax
comp=Z,17nm,0.7s
BVAR pmax pmax
comp=N,20nm,0.7s
BVAR pmax pmax
comp=N,3.0nm,0.8s
BVAR Borovoye Array 34.07 334 P P 21 50 23.4 +1.4
BVAR PcP PcP 21 52 58.2 +0.9
BVAR S S 21 55 41.3 +1.3
BVAR ScP ScP 21 56 33.6 +0.6
BVAR PKiKP PKiKP 22 00 21.3 +0.4
BVAR ScS ScS 22 00 33.2 -1.8
BVAR Borovoye Array 34.07 334 P P 21 50 23.4 +1.4
comp=N,37nm,0.8s,baz=134,slow=10,SNR=95
BVAR PcP PcP 21 52 58.2 +0.9
comp=N,17nm,0.7s,baz=150,slow=4.3,SNR=8.0
BVAR S S 21 55 41.3 +1.3
comp=N,21nm,0.9s,baz=133,slow=11,SNR=7.7
BVAR ScP ScP 21 56 33.6 +0.6
comp=N,20nm,0.7s,baz=138,slow=3.2,SNR=15
BVAR PKiKP PKiKP 22 00 21.3 +0.4
comp=N,2.7nm,0.7s,baz=252,slow=0.5,SNR=5.9
BVAR ScS ScS 22 00 33.2 -1.8
comp=N,2.7nm,0.8s,baz=85,slow=33,SNR=7.6
BRVK Borovoye 34.14 334 P P 21 50 24.7 +2.2
comp=N,324nm,0.7s,SNR=17
BRVK Borovoye 34.14 334 *d i*P P 21 50 24.1 +1.5
BRVK pmax pmax
comp=Z,54nm,1.0s
BRVK Borovoye 34.14 334 P P 21 50 24.5 +1.9
SNR=16
BRVK Borovoye 34.14 334 *e*P P 21 50 24.0 +1.5
comp=Z,37nm,0.7s
BRVK *e*PP PP 21 51 42.0 +0.3
BRVK *e*S S 21 55 41.5 +0.4
CISI Cisompet, Garu 34.15 156 P P 21 50 28.3 +5.2
DAV Davao City (W) 34.16 115 LR LR 22 06 28.8
comp=Z,287nm,18.1s,baz=24,slow=40
KBKI Kotabaru 34.47 140 P P 21 50 28.2 +2.4
comp=Z,117nm,1.4s
MDJ Mudanjiang 34.80 46 P P 21 50 29.0 +0.6
MDJ pP pP 21 50 49.7 -1.8
MDJ sP sP 21 51 01.3 -2.0
MDJ PP PP 21 51 50.0 +0.8
MDJ PcP PcP 21 53 00.8 +1.3
MDJ S S 21 55 51.3 -0.2
MDJ ScS ScS 22 00 37.4 -1.8
MDJ pmax pmax
comp=Z,13nm,1.7s
MDJ pmax pmax
comp=Z,61nm,5.0s
MDJ LR LR
comp=N,390nm,14.5s
MDJ LR LR
comp=E,340nm,21.8s
MDJ LR LR
comp=Z,490nm,17.4s
MRSI Marisa 35.44 128 P P 21 50 36.8 +2.6
comp=Z,110nm,1.2s,comp=Z,1μm
UGM Wanagama 35.54 152 *e*P P 21 50 35.2 +0.2
comp=Z,160nm,0.9s
MMSI Mamuju 35.68 135 P P 21 50 38.6 +2.4
comp=Z,196nm,1.4s,comp=Z,3μm
VLA Vladivostok 35.79 49 *d i*P P 21 50 37.9 +1.0
VLA pmax pmax
comp=Z,66nm,1.2s
PWJI Pagerwojo 36.20 150 P P 21 50 41.6 +1.0
comp=Z,194nm,1.1s,comp=Z,10μm
USRK Ussuriysk Arra 36.23 47 P P 21 50 39.7 -0.9
comp=Z,9.3nm,0.9s,baz=254,slow=8.8,SNR=24
USRK ScP ScP 21 56 38.8 -2.2
comp=Z,3.3nm,0.9s,baz=239,slow=4.8,SNR=4.2
USRK LR LR 22 05 21.2
comp=Z,362nm,18.3s,baz=16,slow=36
KMMI Kalianget 36.38 147 P P 21 50 45.5 +3.3
comp=Z,648nm,1.1s,comp=Z,6μm
TTSI Tana Toraja 36.53 135 P P 21 50 46.2 +2.7
comp=Z,202nm,1.3s,comp=Z,2μm
BLJI Banyuglugur 36.80 148 P P 21 50 48.1 +2.4
comp=Z,229nm,0.8s,comp=Z,3μm
ABKAR Akbulak array 36.85 321 *e*P P 21 50 47.6 +1.8
ABKAR *e*pP pP 21 51 09.9 +0.8
ABKAR *e*PcP PcP 21 53 05.7 +0.2
LUWI Luwuk 37.09 129 P P 21 50 49.5 +1.3
comp=Z,368nm,1.4s,comp=Z,3μm
SKSI Soroako, Sulaw 37.15 132 P P 21 50 51.0 +2.1
comp=Z,116nm,1.5s,comp=Z,2μm
GMJI Gumukmas 37.18 148 P P 21 50 50.0 +1.1
comp=Z,140nm,0.9s,comp=Z,2μm
KAPI Kappang 37.99 137 P P 21 50 55.4 -0.5
comp=Z,340nm,0.7s,SNR=6.2
KAPI Kappang 37.99 137 P P 21 50 56.2 +0.3
SNR=6.1
KAPI Kappang 37.99 137 *e*P P 21 50 56.2 +0.3
KAPI *e*pP pP 21 51 21.1 +1.9
KAPI PcP PcP 21 53 08.7 -0.9
KAPI *e*PcP PcP 21 53 09.5 -0.1
KAPI Kappang 37.99 137 P P 21 50 56.2 +0.3
comp=Z,76nm,0.8s,comp=Z,1μm
KAPI Kappang 37.99 137 P P 21 50 55.4 -0.5
comp=Z,30nm,0.6s,baz=325,slow=8.3,SNR=17
KAPI PcP PcP 21 53 08.7 -0.9
comp=Z,16nm,0.5s,baz=190,slow=4.1,SNR=5.1
KAPI LR LR 22 08 49.1
comp=Z,636nm,21.6s,baz=332,slow=40
KLR Kul'dur 38.13 40 *e*P P 21 50 51.3 -5.3
KLR MLR MLR
comp=E,500nm,11.0s
KLR MLR MLR
comp=Z,1μm,11.0s
DNP Denpasar 38.40 146 P P 21 51 01.0 +1.8
comp=Z,261nm,1.0s
IGBI Denpasar 38.49 146 P P 21 51 00.5 +0.5
comp=Z,169nm,1.1s
AKTO Aktyubinsk 38.51 322 P P 21 51 01.1 +1.3
AKTO 21 53 12.3
AKTO 21 56 50.3
AKTO 22 01 00.0
AKTO pmax pmax
comp=Z,15nm,0.4s
AKTO pmax pmax
comp=Z,35nm,0.8s
AKTO pmax pmax
comp=N,19nm,0.7s
AKTO pmax pmax
comp=N,2.0nm,0.9s
AKTO Aktyubinsk 38.51 322 P P 21 51 01.1 +1.3
AKTO PcP PcP 21 53 12.3 +1.6
AKTO ScP ScP 21 56 50.3 +0.9
AKTO ScS ScS 22 00 60.0 +0.3
AKTO Aktyubinsk 38.51 322 P P 21 51 01.1 +1.3
comp=N,15nm,0.4s,baz=117,slow=7.8,SNR=65
AKTO PcP PcP 21 53 12.3 +1.6
comp=N,35nm,0.8s,baz=252,slow=3.0,SNR=3.9
AKTO ScP ScP 21 56 50.3 +0.9
comp=N,18nm,0.7s,baz=97,slow=5.6,SNR=11
AKTO ScS ScS 22 00 60.0 +0.3
comp=N,2.3nm,0.9s,baz=358,slow=20,SNR=5.9
MTNI Mataram 38.86 145 P P 21 51 03.9 +0.8
comp=N,68nm,1.4s,comp=N,856nm
MAT Matsushiro 39.12 61 P P 21 51 04.3 -0.8
MAT S S 21 56 55.8 -1.6
CLNS Chul'man 39.15 26 *e*P P 21 51 06.1 +1.0
CLNS *e* *PP pP 21 51 28.6 0.0
CLNS *e* 21 52 37.8
CLNS *e* 21 53 12.2
CLNS *e*S S 21 57 00.3 +3.0
CLNS pmax pmax
comp=Z,50nm,1.4s
CLNS pmax pmax
comp=E,21nm,1.3s
CLNS pmax pmax
comp=N,27nm,1.4s
CLNS pmax pmax
comp=N,20nm,1.6s
CLNS pmax pmax
comp=E,28nm,1.6s
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS smax smax
comp=E,197nm,7.9s
CLNS smax smax
comp=N,119nm,15.2s
TNTI Ternate 39.31 122 P P 21 51 07.0 +0.1
comp=N,167nm,1.5s,comp=N,3μm
HABR Khabarovsk 39.79 42 *e*P P 21 51 10.4 0.0
HABR *SP sP 21 51 44.1 -1.6
HABR *e*S S 21 57 07.1 +0.1
HABR *e* *SS sS 21 57 45.7 -1.9
HABR *e*SS SS 22 00 05.5 -1.2
HABR *e* 22 01 05.8
HABR pmax pmax
comp=N,31nm,1.5s
HABR pmax pmax
comp=Z,86nm,1.8s
HABR pmax pmax
comp=E,53nm,1.8s
HABR MLR MLR
comp=Z,186nm,15.0s
BBSI Bau Bau 40.16 134 P P 21 51 16.0 +2.1
comp=Z,120nm,1.2s,comp=Z,2μm
LBMI Labuha 40.31 123 P P 21 51 16.4 +1.2
comp=Z,75nm,1.5s,comp=Z,1μm
SVE Sverdlovsk 40.77 332 *c i*P P 21 51 20.6 +2.2
SVE *e* 21 53 01.1
SVE *e* 21 53 25.7

SVE *i* S **S** **21 57 22.8 +1.4**
SVE *e*SS **SS** **22 00 22.8 -3.2**
SVE pmax pmax
comp=Z,128nm,0.6s
SVE MLR MLR
comp=Z,2μm,20.0s
LBFI Labuhan Bajo, 40.81 140 P **P** **21 51 20.0 +0.8**
comp=Z,338nm,0.7s,comp=Z,4μm
ARU Arti 41.45 330*c* *i*P **P** **21 51 25.5 +1.5**
ARU *P **pP** **21 51 47.3 -0.3**
ARU *P **sP** **21 52 01.8 +2.5**
ARU 21 53 02.6
ARU 21 53 20.8
ARU PPP PPP 21 53 36.3
ARU S **S** **21 57 32.6 +1.2**
ARU *SS **sS** **21 58 12.6 +0.4**
ARU SS SS 22 00 31.0 -8.4
ARU 22 01 15.8
ARU pmax pmax
comp=Z,73nm,1.7s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 41.45 330 P **P** **21 51 25.0 +1.0**
comp=Z,523nm,0.4s,SNR=33
WSI Waingapu 42.00 140 P **P** **21 51 27.8 -1.1**
comp=Z,576nm,0.8s,comp=Z,4μm
UMR Umm Al-Rimmam 42.02 288 *e*P **P** **21 51 30.2 +1.2**
UMR AMb AMB 21 51 35.9
comp=Z,104nm,0.8s
KBD Kabd 42.07 287 *e*P **P** **21 51 30.3 +0.9**
KBD AMb AMB 21 51 36.4
comp=Z,65nm,0.6s
RDF Al-Radifah 42.21 287 *e*P **P** **21 51 31.4 +0.7**
RDF AMb AMB 21 51 38.3
comp=Z,182nm,0.9s
MIB Mutribah 42.33 288 *e*P **P** **21 51 32.6 +1.1**
MIB AMb AMB 21 51 38.5
comp=Z,158nm,0.7s
MMRI Maumere 42.35 137 P **P** **21 51 31.6 -0.2**
comp=Z,263nm,0.8s,comp=Z,2μm
NAY Al-Naaiem 42.45 287 *e*P **P** **21 51 33.0 +0.4**
NAY AMb AMB 21 51 39.5
comp=Z,95nm,0.8s
BASI Baing, Sumba 42.60 141 P **P** **21 51 33.6 -0.2**
comp=Z,231nm,1.6s,comp=Z,2μm
MAK Makhachkala 42.87 308 *e*P **P** **21 51 36.9 +1.1**
MAK *e*PP **pP** **21 51 59.9 +0.4**
MAK *e*SP **sP** **21 52 10.9 -0.3**
MAK *e* 21 53 16.2
MAK *e* 21 53 25.3
MAK *e*S **S** **21 57 52.5 -0.2**
MAK *e*SS **sS** **21 58 35.0 +1.3**
MAK *e*SS **SS** **22 01 06.6 -1.1**
MAK pmax pmax
comp=Z,106nm,1.5s
MAK MLR MLR
comp=Z,1μm,22.0s
IBDR Badra 43.37 293 *i* PP PP 21 53 38.0 +15
IBDR *i* S **S** **21 57 58.0 -2.2**
IBDR *i* SS sS 21 58 43.0 +1.8
SWI Sorong 43.37 120 P **P** **21 51 40.8 +0.7**
comp=Z,174nm,1.2s,comp=Z,2μm
ASAJ Asahikawa 43.55 51 *e*P **P** **21 51 41.6 +0.4**
ASAJ *e*pP **pP** **21 52 05.1 +0.1**
ASAJ Asahikawa 43.55 51 P **P** **21 51 40.8 -0.4**
comp=Z,16nm,0.7s,baz=271,slow=14,SNR=11
ERM Erimo 43.61 54 P **P** **21 51 41.1 -0.6**
comp=Z,100nm,0.5s,SNR=6.5
ERM Erimo 43.61 54*c*e**P** **21 51 41.7 0.0**
ERM pmax pmax
comp=Z,13nm,1.1s
ERM Erimo 43.61 54 *e*P **P** **21 51 41.6 -0.1**
SOKR Solikamsk 44.07 333*d* *i*P **P** **21 51 47.1 +2.0**
SOKR S **S** **21 58 11.7 +2.0**
SOKR SS **SS** **22 01 24.1 -6.3**
SOKR pmax pmax
comp=Z,140nm,1.3s
SOKR MLR MLR
comp=Z,1μm,25.0s
DGRG David-gareji 44.22 305 P **P** **21 51 49.7 +3.0**
DGRG S **S** **21 58 17.6 +5.1**
YSS Yuzh-Sakhalins 44.26 47⇑ *i*P **P** **21 51 47.5 +0.7**
YSS *e*PP **pP** **21 52 12.5 +1.8**
YSS *e*SP **sP** **21 52 22.0 -0.3**
YSS *e* 21 53 34.2
YSS *i* S **S** **21 58 12.0 -0.9**
YSS *e*SS **sS** **21 58 53.0 -1.0**
YSS *e*SSS SSS 22 01 30.0
YSS pmax pmax
comp=Z,90nm,1.2s
YSS MLR MLR
comp=Z,600nm,15.0s
BATI Baumata 44.44 137 P **P** **21 51 48.2 -0.5**
comp=Z,177nm,1.1s,comp=Z,1μm
SOEI Soe 44.48 136 P **P** **21 51 48.8 -0.2**
comp=Z,636nm,1.0s,comp=Z,6μm
YAK Yakutsk 44.48 23 *e*P **P** **21 51 47.6 -0.7**
YAK *e*PP **pP** **21 52 09.2 -3.0**
YAK *e* 21 53 28.0
YAK *e* 21 53 37.1
YAK *e*PPP PPP 21 54 11.9
YAK *e*S **S** **21 58 12.8 -2.8**
YAK *e*SS **sS** **21 58 54.0 -2.7**
YAK *e* 22 01 28.4
YAK *e*SS **SS** **22 01 41.0 +3.2**
YAK pmax pmax
comp=Z,21nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,23nm,0.6s
YAK smax smax
comp=N,127nm,1.6s
YAK smax smax
comp=E,406nm,2.9s
GNI Garni 44.55 303 *e*P **P** **21 51 51.6 +2.1**
GNI Garni 44.55 303 *e*P **P** **21 51 51.4 +1.9**
GNI Garni 44.55 303 P **P** **21 51 50.5 +0.9**
comp=E,4.0nm,0.5s,baz=143,slow=18,SNR=5.1
BHD Baghdad 44.66 293 *i* P P 21 51 38.0 -12
BHD *i* sP sP 21 52 09.0 -17
BHD *i* PP PP 21 53 48.0 +12
BHD *i* S **S** **21 58 17.0 -2.0**
BHD *i* sS sS 21 58 57.0 -3.2
TBLG Delisi 44.72 305 *i* P **P** **21 51 52.6 +1.9**
TBLG *e*S **S** **21 58 19.9 +0.1**
TBLG Delisi 44.72 305 P **P** **21 51 52.6 +1.9**
TBLG S **S** **21 58 19.9 +0.1**
DUS Dusheti 44.79 306 P **P** **21 51 54.1 +2.8**
RAYN Ar Rayn 44.81 280 P **P** **21 51 52.5 +0.9**
comp=E,356nm,0.9s,SNR=30
RAYN Ar Rayn 44.81 280 *e*P **P** **21 51 52.8 +1.2**
comp=E,59nm,0.9s
KZR Kazreti 44.92 305 P **P** **21 51 54.7 +2.4**
GUDG Gudauri 45.00 306 P **P** **21 51 55.1 +2.0**
GUDG S **S** **21 58 25.4 +1.2**
CLDR Caldiran 45.11 302 *e*P **P** **21 51 55.1 +1.1**
HAKT HAKKARI 45.20 299 *i* P **P** **21 51 54.6 -0.2**
CUKT Cukurca 45.27 299 *e*P **P** **21 51 55.2 0.0**
FAKI Fak Fak 45.41 121 P **P** **21 51 57.1 +0.7**
comp=E,376nm,1.2s,comp=E,3μm
ZEI Tsey 45.47 307 *e*P **P** **21 51 56.8 +0.1**
ZEI pmax pmax
comp=Z,60nm,0.8s
AKH Akhalkalaki 45.62 305 P **P** **21 52 00.9 +3.0**
AKH S **S** **21 58 37.7 +4.6**
DIGO Kars 45.62 303 *i* P **P** **21 51 59.1 +1.0**
ONI Oni 45.77 306 P **P** **21 52 02.2 +3.2**
ONI S **S** **21 58 36.9 +2.0**
AGRB Hanur-Agry 45.85 302 *e*P **P** **21 52 01.8 +1.9**
YUK Yuzh-Kuril'sk 45.86 51 *e*P **P** **21 51 57.8 -1.7**
YUK *e*S **S** **21 58 34.1 -1.9**
YUK MLR MLR
comp=N,310nm,22.0s
YUK MLR MLR
comp=E,467nm,22.0s
YUK MLR MLR
comp=Z,334nm,22.0s
KARS Kars 45.86 304 *e*P **P** **21 52 01.8 +2.0**
TUTA Tutak 45.98 302 *i* P **P** **21 52 01.8 +0.9**
RKPI Ransiki, Papua 46.09 118 P **P** **21 52 02.6 +0.9**
comp=Z,234nm,1.0s,comp=Z,9μm

SIRT Sirnak 46.21 299 *e*P **P** **21 52 05.0 +2.4**
KBZ Khabaz 46.31 308 P **P** **21 52 03.7 +0.6**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 46.31 308 P **P** **21 52 03.7 +0.6**
KBZ Khabaz 46.31 308 P **P** **21 52 03.7 +0.6**
comp=Z,6.0nm,0.7s,baz=132,slow=6.2,SNR=11
KIV Kislovodsk 46.49 308 *e*P **P** **21 52 06.7 +2.1**
KIV *e*PP **pP** **21 52 29.9 +1.2**
KIV *e*S **S** **21 58 48.4 +3.1**
KIV pmax pmax
comp=Z,64nm,1.0s
KIV MLR MLR
comp=Z,316nm,15.0s
KIV Kislovodsk 46.49 308 P **P** **21 52 06.9 +2.3**
comp=Z,345nm,1.0s,SNR=18
HOMI Horasan 46.72 303 *i* P **P** **21 52 07.7 +1.1**
ARTV Artvin 46.77 304 *i* P **P** **21 52 08.1 +1.1**
DAGI Agillar 46.77 304 *i* P **P** **21 52 08.7 +1.7**
DDEM Demirkent 46.89 304 *i* P **P** **21 52 09.1 +1.4**
DBAD Bademkaya 46.94 304 *i* P **P** **21 52 11.0 +2.9**
DBOC Borcka 46.98 305 *i* P **P** **21 52 09.8 +1.4**
BCA Borcka 47.02 305 *e*P **P** **21 52 09.1 +0.4**
ERZM Erzurum 47.12 303 *i* P **P** **21 52 12.8 +2.9**
EZM Erzurum 47.13 303 *e*P **P** **21 52 10.8 +0.9**
BAKI Biak 47.47 116 P **P** **21 52 13.4 +0.9**
MARD Mardin 47.53 299 *i* P **P** **21 52 13.7 +0.8**
BNGB Bing¨¶l 47.62 301 *e*P **P** **21 52 14.4 +0.9**
BAYT Ayd¨–ntepe-Bay 48.08 303 *e*P **P** **21 52 19.4 +2.3**
ERZN Erzincan 48.38 302 *e*P **P** **21 52 19.4 0.0**
MACK Trabzon 48.39 304 *i* P **P** **21 52 20.1 +0.8**
VRHR Novokhopersk 48.46 318 *e*P **P** **21 52 20.2 +0.6**
VRHR *e*PP pP 21 52 52.0 +8.1
VRHR *e* 21 53 44.8
VRHR *e*S **S** **21 59 10.8 -1.9**
VRHR *e* 22 02 01.6
VRHR pmax pmax
comp=Z,70nm,1.0s
VRHR pmax pmax
comp=N,3.0nm,0.5s
VRHR pmax pmax
comp=E,40nm,1.0s
VRHR smax smax
comp=E,550nm,2.3s
VRHR smax smax
comp=Z,170nm,2.3s
VRHR smax smax
comp=N,250nm,1.1s
VRHR MLR MLR
comp=N,30nm,17.0s
VRHR MLR MLR
comp=E,370nm,17.0s
VRHR MLR MLR
comp=Z,500nm,17.0s
GUMT Gumushane 48.59 303 *e*P **P** **21 52 21.4 +0.4**
SOC Sochi 48.59 307 *e*P **P** **21 52 20.7 -0.1**
SOC *e*PP **pP** **21 52 42.9 -2.1**
SOC *e* 21 54 13.5
SOC *i* S **S** **21 59 14.9 +0.1**
SOC *e*SS **SS** **22 02 44.5 -1.5**
SOC pmax pmax
comp=Z,34nm,0.7s
SOC MLR MLR
comp=Z,388nm,18.0s
PTK Pertek 48.63 301 *e*P **P** **21 52 22.4 +1.0**
EZC Erzincan 48.67 302 *e*P **P** **21 52 23.1 +1.4**
KELT Kelkit 48.75 303 *i* P **P** **21 52 24.1 +1.8**
URFA Urfa 49.09 299 *e*P **P** **21 52 25.7 +1.0**
ESPY Espiye-Giresun 49.18 304 *e*P **P** **21 52 23.7 -1.6**
ILIC ilic-Erzincan 49.27 302 *e*P **P** **21 52 26.0 -0.2**
KEMA Kemaliye 49.33 302 *i* P **P** **21 52 28.8 +2.2**
MYA Malataya 49.39 300 *e*P **P** **21 52 28.0 +0.9**
GRSN GIRESUNGRSN 49.52 304 *i* P **P** **21 52 27.5 -0.5**
SUSE Susehri 49.56 303 *i* P **P** **21 52 30.7 +2.3**
VORD Divnogorie 49.88 317 *e*P **P** **21 52 31.2 +0.8**
VORD *e* 21 53 49.7
VORD *e*S **S** **21 59 30.7 -1.8**
VORD *e* 22 02 10.2
VORD pmax pmax
comp=N,20nm,1.4s
VORD pmax pmax
comp=E,30nm,1.4s
VORD pmax pmax
comp=Z,20nm,1.4s
VORD smax smax
comp=N,400nm,2.6s
VORD smax smax
comp=Z,180nm,2.6s
VORD smax smax
comp=E,100nm,0.9s
VORD MLR MLR
comp=N,320nm,19.0s
VORD MLR MLR
comp=E,2μm,19.0s
VORD MLR MLR
comp=Z,570nm,19.0s
VSR Storozhevoye 50.00 317 *e*P **P** **21 52 31.5 +0.2**
VSR *e*PP pP 21 53 02.5 +6.8
VSR *e* 21 53 50.4
VSR *e*S **S** **21 59 32.0 -2.3**
VSR *e* 22 02 10.1
VSR pmax pmax
comp=N,9.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR smax smax
comp=N,440nm,2.2s
VSR smax smax
comp=E,190nm,2.2s
VSR smax smax
comp=Z,70nm,2.2s
VSR MLR MLR
comp=N,180nm,20.0s
VSR MLR MLR
comp=E,320nm,20.0s
VSR MLR MLR
comp=Z,770nm,20.0s
VOR Voronezh 50.08 318 *e*P **P** **21 52 33.0 +1.1**
VOR *e*S **S** **21 59 35.0 -0.3**
VOR pmax pmax
comp=Z,250nm,1.0s
GZT Gaziantep 50.09 299 *i* P **P** **21 52 33.7 +1.2**
DARE Darende-Malaty 50.12 301 *e*P **P** **21 52 32.7 +0.1**
RSDY Resadiye-TOKAT 50.23 303 *e*P **P** **21 52 33.7 +0.3**
ANN Anapa 50.32 309 *e*P **P** **21 52 34.1 +0.2**
ANN *e*PP **pP** **21 52 54.6 -3.7**
ANN *e* 21 54 31.0
ANN *e*PPP PPP 21 55 34.8
ANN *e*S **S** **21 59 38.2 -0.7**
ANN *e*SSS SSS 22 04 55.9
ANN pmax pmax
comp=Z,38nm,1.1s
ANN MLR MLR
comp=Z,376nm,18.0s
SCER sogukcermik 50.38 302 *i* P **P** **21 52 36.9 +2.3**
SVSK Karacayir 50.48 303 *e*P **P** **21 52 37.0 +1.9**
KUZU Kuzuini 50.51 298 *i* P **P** **21 52 35.4 -0.1**
ERBA Erbaa 50.67 304 *i* P **P** **21 52 37.4 +0.8**
AYKD Aykdinkavak 50.69 299 *i* P **P** **21 52 37.5 +0.7**
TOKT Tokat 50.83 303 *e*P **P** **21 52 37.7 -0.2**
TOKA Tokat 50.88 303 *i* P **P** **21 52 39.5 +1.3**
PINB Pinarbasi 50.97 301 *i* P **P** **21 52 40.9 +1.8**
ASF Jabal al Asfar 51.03 293 P **P** **21 52 41.0 +1.4**
ASF ScP **ScP** **21 57 40.7 -0.6**
ASF Jabal al Asfar 51.03 293 P **P** **21 52 40.9 +1.4**
comp=Z,20nm,0.7s,baz=46,slow=2.8,SNR=40
ASF ScP **ScP** **21 57 40.7 -0.6**
comp=Z,2.0nm,0.8s,baz=105,slow=0.5,SNR=3.1
TIXI Tiksi 51.14 13*c* *i*P **P** **21 52 39.8 +0.2**
TIXI pmax pmax
comp=Z,341nm,1.4s
HTY Hatay 51.30 298 *e*P **P** **21 52 41.0 -0.4**
MBWA Marble Bar 51.33 150 P **P** **21 52 42.3 +0.7**
SNR=9.0
MBWA Marble Bar 51.33 150 *e*P **P** **21 52 42.3 +0.7**
comp=Z,179nm,0.7s
MBWA *e*pP **pP** **21 53 06.3 +0.2**
YAYL Yayladag 51.33 298 *i* P **P** **21 52 41.8 0.0**
BNN Bunyan 51.40 301 *e*P **P** **21 52 41.7 -0.6**
HAVZ Havza 51.45 304 *i* P **P** **21 52 43.5 +1.0**
KOZT Kozan 51.47 299 *e*P **P** **21 52 43.1 +0.5**
CEYT Ceyhan 51.56 299 *e*P **P** **21 52 42.6 -0.6**

YOZ Yozgat 51.78 302 *e*P **P** **21 52 45.6 +0.6**
DIKM Dikmen 51.80 305 *e*P **P** **21 52 46.0 +1.0**
FITZ Fitzroy Crossi 51.82 142 ScP **ScP** **21 57 42.3 -2.2**
FITZ Fitzroy Crossi 51.82 142 ScP **ScP** **21 57 42.3 -2.2**
comp=Z,4.4nm,0.8s,baz=62,slow=19,SNR=3.3
MOS Moscow 51.84 323 *e*P **P** **21 52 44.6 -0.4**
MOS *e* 21 53 22.4
MOS *e*S **S** **21 59 56.6 -2.9**
MOS *e* 22 02 25.3
MOS *e*SS **SS** **22 03 34.9 -2.2**
MOS pmax pmax
comp=Z,74nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.0s
MOS smax smax
comp=E,100nm,1.2s
MOS smax smax
comp=N,400nm,1.8s
MOS MLR MLR
comp=Z,500nm,15.0s
MOS MLR MLR
comp=E,500nm,18.0s
JAY Jayapura 52.01 114 P **P** **21 52 47.8 +0.9**
comp=E,52nm,0.9s
KARA Karaisali 52.09 299 *e*P **P** **21 52 48.6 +1.3**
CTKT Corum 52.16 303 *i* P **P** **21 52 49.8 +1.8**
BYBT Boyabat 52.17 305 *e*P **P** **21 52 48.6 +0.9**
AVNT Avonos 52.17 301 *i* P **P** **21 52 49.2 +1.2**
MMAI Mount Meron Ar 52.19 294 ScP **ScP** **21 57 46.2 0.0**
MMAI Mount Meron Ar 52.19 294 ScP **ScP** **21 57 46.2 0.0**
comp=E,9.4nm,1.1s,baz=76,slow=12,SNR=5.7
OBN Obninsk 52.30 322⇑ *i*P **P** **21 52 49.0 +0.6**
OBN *e*PP pP 21 53 22.2 +9.2
OBN *i* 21 53 58.3
OBN *e* 21 54 46.9
OBN *i* S **S** **22 00 04.1 -1.6**
OBN pmax pmax
comp=Z,91nm,1.8s
OBN MLR MLR
comp=Z,700nm,22.0s
OBN Obninsk 52.30 322 P **P** **21 52 49.4 +1.0**
comp=Z,421nm,0.4s,SNR=6.1
CORM Corum 52.30 303 *e*P **P** **21 52 48.3 -0.6**
GULE Gulek 52.31 299 *i* P **P** **21 52 50.1 +1.0**
NIG Nigde 52.40 300 *e*P **P** **21 52 49.0 -0.8**
CDAG Cicekdag 52.51 302 *i* P **P** **21 52 51.3 +0.9**
SIM Simferopol' 52.69 309*c* *i*P **P** **21 52 51.0 -0.5**
SIM *e*PP **pP** **21 53 12.0 -4.1**
SIM *e*S **S** **22 00 10.0 -1.4**
SIM pmax pmax
comp=Z,19nm,0.8s
TOS Tosya 52.74 304 *e*P **P** **21 52 53.3 +1.2**
KAMT Kaman 53.03 302 *e*P **P** **21 52 53.0 -1.4**
EIL Elat 53.03 290 *e*P **P** **21 52 53.4 -0.9**
EIL Elat 53.03 290 P **P** **21 52 55.2 +0.9**
EIL Elat 53.03 290 P **P** **21 52 55.2 +0.9**
comp=Z,40nm,0.8s,baz=38,slow=3.3,SNR=37
CANT Cankiri 53.05 303 *e*P **P** **21 52 54.0 -0.4**
BRTR Keskin Array B 53.07 302 P **P** **21 52 55.4 +0.8**
BRTR ScP **ScP** **21 57 48.2 -1.8**
BRTR S **S** **22 00 19.0 +1.8**
BRTR Keskin Array B 53.07 302 P **P** **21 52 55.4 +0.8**
comp=Z,8.6nm,0.5s,baz=133,slow=11,SNR=64
BRTR ScP **ScP** **21 57 48.2 -1.8**
comp=Z,3.8nm,0.9s,baz=123,slow=5.1,SNR=3.8
BRTR S **S** **22 00 19.0 +1.8**
comp=Z,3.7nm,1.0s,baz=90,slow=16,SNR=7.9
ELDT Eldivan 53.21 303 *i* P **P** **21 52 57.5 +1.9**
BBAL Bala 53.48 302 *i* P **P** **21 52 58.7 +1.0**
LFK Lefkose 53.48 297 *e*P **P** **21 52 57.3 -0.3**
AFSR Af´ar-Bala (A 53.53 302 *e*P **P** **21 52 55.3 -2.6**
CSS Prodhromos 53.68 296 *e*P **P** **21 52 58.5 -0.5**
CSS Prodhromos 53.68 296 *e*P **P** **21 52 59.9 +0.9**
comp=Z,40nm,1.0s
ANTO Ankara 53.72 303 *e*P **P** **21 52 59.2 0.0**
ANTO Ankara 53.72 303⇓ P **P** **21 53 00.3 +1.0**
ANTO Ankara 53.72 303 P **P** **21 53 00.7 +1.5**
SNR=12
ANTO Ankara 53.72 303⇓ *i*P **P** **21 53 00.3 +1.0**
ANTO Ankara 53.72 303 *e*P **P** **21 52 59.8 +0.5**
comp=Z,40nm,1.0s
ANTO *e*pP **pP** **21 53 22.6 -1.3**
LOD Lodumlu 53.74 303 *e*P **P** **21 53 00.6 +1.2**
SAFT Safranbolu 53.74 304 *e*P **P** **21 53 00.0 +0.7**
ERMK Ermenek 53.85 299 *i* P **P** **21 52 59.4 -1.0**
TMCR Tamitsa 54.02 333 *e*P **P** **21 53 03.0 +2.1**
TMCR *e* 21 54 06.0
TMCR pmax pmax
comp=Z,68nm,1.0s
LADK Ladik-KONYA 54.16 301 *e*P **P** **21 53 00.0 -2.5**
KONT Konya--Tatoy 54.18 300 *e*P P 21 53 07.3 +4.7
KDHN Kadınhani 54.33 301 *i* P **P** **21 53 03.3 -0.4**
GAZI Gazipasa 54.37 298 *i* P P 21 53 00.2 -3.8
KIZT Kizilcal 54.48 301 *e*P **P** **21 53 03.9 -1.0**
SVRH Sivrihisar-ESK 54.72 302 *e*P **P** **21 53 04.2 -2.3**
PETK Petropavlovsk- 54.79 41 P **P** **21 53 06.2 -0.5**
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK MLR MLR
comp=Z,180nm,19.7s
PETK Petropavlovsk- 54.79 41 P **P** **21 53 06.2 -0.5**
PETK Petropavlovsk- 54.79 41 P **P** **21 53 06.2 -0.5**
comp=Z,12nm,1.0s,baz=217,slow=4.7,SNR=13
PETK LR LR 22 17 46.0
comp=Z,180nm,19.7s,baz=112,slow=37
MDUB Mudurnu 54.91 303 *e*P **P** **21 53 06.9 -1.0**
SEYT Eskypehyr 55.24 302 *i* P **P** **21 53 10.7 +0.4**
SUTC Sutluce-Ispart 55.30 300 *e*P **P** **21 53 07.9 -2.9**
PET Petropavlovsk 55.36 41 *e*P **P** **21 53 10.2 -0.6**
PET *e*S **S** **22 00 44.2 -2.9**
PET *e* 22 02 45.2
PET *e*SS **SS** **22 04 32.0 -0.7**
PET pmax pmax
comp=Z,29nm,0.8s
PET MLR MLR
comp=Z,300nm,18.0s
GULT Gulveren 55.43 303 *e*P **P** **21 53 11.9 +0.3**
BORA Eskisehir 55.51 303 *i* P **P** **21 53 12.6 +0.3**
SHUT Suhut-Afyon 55.55 301 *e*P P 21 53 09.2 -3.3
ALT Altintas 55.85 302 *e*P **P** **21 53 12.6 -2.1**
KORT Korkueli 55.86 299 *i* P **P** **21 53 14.3 -0.6**
ADVT Abdulvahap 56.02 303 *e*P **P** **21 53 15.7 -0.1**
SILT Sile 56.04 304 *e*P **P** **21 53 16.2 +0.4**
HRT Hereke 56.04 304 *e*P **P** **21 53 16.4 +0.4**
AKASG Malin Array Be 56.19 316 P **P** **21 53 16.7 -0.1**
AKASG S **S** **22 00 55.9 -2.3**
AKASG pmax pmax
comp=Z,16nm,0.4s
AKASG pmax pmax
comp=N,4.0nm,0.7s
AKASG smax smax
comp=N,10.0nm,0.8s
AKASG Malin Array Be 56.19 316 P **P** **21 53 16.6 -0.1**
AKASG ScP **ScP** **21 58 02.3 -0.9**
AKASG S **S** **22 00 55.9 -2.3**
AKASG Malin Array Be 56.19 316 P **P** **21 53 16.6 -0.1**
comp=N,17nm,0.3s,baz=77,slow=7.2,SNR=16
AKASG ScP **ScP** **21 58 02.3 -0.9**
comp=N,4.0nm,0.7s,baz=73,slow=5.0,SNR=3.7
AKASG S **S** **22 00 55.9 -2.3**
comp=N,10nm,0.8s,baz=88,slow=13,SNR=5.9
WNDE Wendo Genet 56.26 262 *e*P **P** **21 53 20.4 +2.3**
GDZ Gediz 56.33 302 *i* P **P** **21 53 18.4 +0.2**
KHL Karahalli 56.37 301 *e*P **P** **21 53 17.5 -0.9**
KHAL Karahalli 56.39 301 *i* P **P** **21 53 17.6 -1.0**
KIS Kishinev 56.40 311 *e*P **P** **21 53 17.0 -1.3**
KIS *e*pP pP 21 53 38.0 -5.2
KIS *e*S **S** **22 00 58.0 -3.2**
KIS *e*sS sS 22 01 38.0 -5.8
KIS LRM MLR 22 22 34.0
comp=N,500nm,18.0s
KIS Kishinev 56.40 311 *e*P **P** **21 53 17.0 -1.3**
KIS *e*PP pP 21 53 38.0 -5.2
KIS *e* 21 56 42.0
KIS *e*S **S** **22 00 58.0 -3.2**
KIS *e* 22 02 56.0
KIS MLR MLR
comp=Z,400nm,16.0s
KIS MLR MLR
comp=Z,500nm,18.0s
TLCR 56.44 309⇑ P **P** **21 53 19.5 +0.9**
TLCR 56.44 309⇑ *i*P **P** **21 53 19.5 +0.9**
GOLH Golhisar 56.46 300 *i* P **P** **21 53 17.6 -1.5**

PUL	**Pulkovo**	**56.46 327**	⇑*i*P	**P**	**21 53 20.8**	**+2.3**
PUL			pmax	pmax		
comp=Z,88nm,1.3s						
ISK	**Istanbul-Kandi**	**56.48 304**	*e*P	**P**	**21 53 16.2**	**-2.8**
ULDT	**Uludag**	**56.50 303**	*i* P	**P**	**21 53 20.1**	**+0.6**
AKAS	**Kas**	**56.55 298**	*i* P	**P**	**21 53 18.9**	**-0.9**
LVZ	**Lovozero**	**56.55 337**	*e*P	**P**	**21 53 20.5**	**+1.4**
LVZ			pmax	pmax		
comp=Z,25nm,0.9s						
ARMT	**Armutlu**	**56.67 304**	*e*P	**P**	**21 53 19.4**	**-1.0**
TIRR	**Tirgusor**	**56.76 308**	⇓P	**P**	**21 53 21.9**	**+1.0**
TIRR	**Tirgusor**	**56.76 308**	⇓*i*P	**P**	**21 53 21.9**	**+1.0**
TIRR	**Tirgusor**	**56.76 308**	*e*P	**P**	**21 53 21.8**	**+0.9**
comp=Z,34nm,1.2s						
TIRR			*e*pP	**pP**	**21 53 44.1**	**-1.7**
LEOM	**Leova**	**56.80 311**	⇓P	**P**	**21 53 22.4**	**+1.2**
LEOM	**Leova**	**56.80 311**	⇓*i*P	**P**	**21 53 22.4**	**+1.2**
APA	**Apatity**	**56.91 336**	⇑*i*P	**P**	**21 53 24.0**	**+2.5**
APA			*i* *PP	**pP**	**21 53 48.2**	**+1.7**
APA			*i*		21 54 23.2	
APA			*i*		21 55 27.0	
APA			*i* S	**S**	**22 01 10.0**	**+2.8**
APA			*i*		22 03 00.0	
APA			pmax	pmax		
comp=Z,22nm,0.8s						
APA			MLR	MLR		
comp=Z,700nm,16.0s						
FETY	**Fethiye**	**56.91 299**	*e*P	**P**	**21 53 20.2**	**-2.0**
CFR	**Carcaliu**	**56.92 309**	⇑P	**P**	**21 53 22.6**	**+0.6**
CFR	**Carcaliu**	**56.92 309**	⇑*i*P	**P**	**21 53 22.6**	**+0.6**
DEMI	**Demirci**	**56.93 302**	*i* P	**P**	**21 53 20.8**	**-1.5**
PSN	**Preselentsi**	**56.96 307**	P	**P**	**21 53 23.5**	**+1.2**
KULA	**Kula-Manisa**	**57.03 301**	*e*P	**P**	**21 53 21.4**	**-1.6**
SLVT	**Silivri**	**57.11 305**	*e*P	**P**	**21 53 22.3**	**-1.2**
MICGM	**Minsk**	**57.20 320**	⇓*e*P	**P**	**21 53 24.0**	**+0.2**
MNK	**Minsk**	**57.22 320**	⇓*e*P	**P**	**21 53 24.0**	**0.0**
MNK			*e* *PP	**pP**	**21 53 53.0**	**+4.1**
MNK			*e*S	**S**	**22 01 08.0**	**-3.8**
MNK			pmax	pmax		
comp=Z,110nm,1.0s						
DALY	**Dalyan (Mu¨la**	**57.23 299**	*e*P	P	21 53 19.5	-4.8
MRIV	**Mauritius Mete**	**57.27 222**	*e*P	**P**	**21 53 25.9**	**+1.2**
YER	**Yerkesik**	**57.49 300**	*e*P	**P**	**21 53 23.2**	**-3.0**
GONE	**Gonen-Balikesi**	**57.62 303**	*e*P	**P**	**21 53 24.8**	**-2.2**
BALY	**Balya**	**57.70 303**	*i* P	**P**	**21 53 26.1**	**-1.6**
NACGM	**Naroch**	**57.86 321**	*e*	**P**	**21 53 26.0**	**-2.4**
VRI	**Vrincioaia**	**57.88 310**	⇓P	**P**	**21 53 30.2**	**+1.4**
VRI	**Vrincioaia**	**57.88 310**	⇓*i*P	**P**	**21 53 30.2**	**+1.4**
TESR	**Tescani**	**57.91 311**	⇓*i*P	**P**	**21 53 29.1**	**+0.1**
PLOR	**Plostina**	**57.94 310**	⇑P	**P**	**21 53 30.9**	**+1.7**
PLOR	**Plostina**	**57.94 310**	⇑*i*P	**P**	**21 53 30.9**	**+1.7**
VSU	**Vasula**	**58.13 325***c*	*i*P	**P**	**21 53 30.9**	**+0.6**
VSU			pmax	pmax		
comp=Z,98nm,0.9s						
JMB	**Yambol**	**58.22 306**	P	**P**	**21 53 32.2**	**+1.0**
GCAM	**G?zelcaml?**	**58.24 300**	*i* P	P	21 53 22.9	-8.6
MLR	**Muntele Rosu**	**58.45 310**	⇓*i*P	**P**	**21 53 34.2**	**+1.3**
MLR	**Muntele Rosu**	**58.45 310**	S	**S**	**22 01 28.7**	**+0.4**
comp=Z,0.9nm,0.9s,baz=293,slow=21,SNR=10						
WRA	**Warramunga Arr**	**58.50 135**	P	**P**	**21 53 33.8**	**+0.4**
WRA			pP	**pP**	**21 53 57.1**	**-1.4**
WRA			ScP	**ScP**	**21 58 13.1**	**-0.8**
WRA			S	**S**	**22 01 26.0**	**-3.3**
WRA			P'P'		22 23 09.0	
WRA			⇑*e*		22 23 17.7	
WRA	**Warramunga Arr**	**58.50 135**	P	**P**	**21 53 33.8**	**+0.4**
comp=Z,102nm,0.8s,baz=324,slow=7.3,SNR=246						
WRA			pP	**pP**	**21 53 57.1**	**-1.4**
comp=Z,59nm,0.9s,baz=323,slow=7.5,SNR=7.4						
WRA			ScP	**ScP**	**21 58 13.1**	**-0.8**
comp=Z,3.5nm,0.8s,baz=326,slow=5.9,SNR=4.7						
WRA			S	**S**	**22 01 26.0**	**-3.3**
comp=Z,3.1nm,1.2s,baz=339,slow=9.6,SNR=6.9						
WRA			LR	LR	22 18 33.4	
comp=Z,172nm,21.0s,baz=335,slow=36						
WRA			PKPPKP	**P'P'df**	**22 23 09.0**	**-1.0**
comp=Z,2.7nm,1.0s,baz=127,slow=1.6,SNR=8.0						
WRA			PKP2bc		22 23 17.7	
comp=Z,5.1nm,0.9s,baz=151,slow=2.0,SNR=10						
WRAB	**Tennant Creek**	**58.50 135**	P	**P**	**21 53 33.0**	**-0.4**
comp=Z,1μm,0.8s						
SMG	**Samos**	**58.55 301**	*e*P	**P**	**21 53 34.4**	**+0.8**
KARP	**Karpathos**	**58.61 298**	P	**P**	**21 53 34.6**	**+0.5**
KARP	**Karpathos**	**58.61 298**	*e*P	**P**	**21 53 35.4**	**+1.3**
SZH	**Strazhica**	**58.62 307**	P	**P**	**21 53 34.4**	**+0.4**
KAF	**Kangasniemi**	**58.73 329**	*e*P	**P**	**21 53 34.9**	**+0.5**
KAF			pmax	pmax		
comp=Z,31nm,0.9s						
KAF	**Kangasniemi**	**58.73 329**	*e*p	**P**	**21 53 34.9**	**+0.5**
comp=Z,31nm,0.9s,baz=96,slow=6.8						
FIA1	**FINESS Array S**	**58.76 328**	*e*P	**P**	**21 53 35.3**	**+0.7**
FIA1			*e*pP	**pP**	**21 53 59.8**	**+0.2**
FINES	**FINESS Array B**	**58.76 328**	P	**P**	**21 53 35.5**	**+0.9**
FINES			S	**S**	**22 01 30.4**	**-1.1**
FINES	**FINESS Array B**	**58.76 328**	P	**P**	**21 53 35.5**	**+0.9**
comp=Z,26nm,0.7s,baz=111,slow=7.5,SNR=104						
FINES			S	**S**	**22 01 30.4**	**-1.1**
comp=Z,7.1nm,0.8s,baz=74,slow=12,SNR=8.9						
FINES			LR	LR	22 21 10.0	
comp=Z,1μm,18.8s,baz=97,slow=38						
PRK	**Paraskevi**	**58.79 302**	*e*P	pP	21 53 59.3	-1.0
CHOS	**Chios island**	**59.07 301**	*e*P	**P**	**21 53 38.2**	**+0.9**
VOIR		**59.08 310**	⇑P	**P**	**21 53 38.2**	**+0.9**
VOIR		**59.08 310**	⇑*i*P	**P**	**21 53 38.2**	**+0.9**
RDO	**Rodhopi**	**59.13 305**	*e*P	**P**	**21 53 38.0**	**+0.5**
KDZ	**Kurdzhali**	**59.16 305**	P	**P**	**21 53 38.8**	**+1.0**
SMTH	**Samothraki Isl**	**59.21 304**	*e*P	**P**	**21 53 38.0**	**-0.1**
ARR	**Arges**	**59.38 310**	⇑*i*P	**P**	**21 53 40.5**	**+1.2**
ZKR	**Zakros**	**59.44 298**	*e*P	**P**	**21 53 39.8**	**0.0**
LVV	**L'vov**	**59.52 315**	*e*P	**P**	**21 53 40.4**	**+0.3**
LVV			*e*		21 54 03.6	
LVV			*e*		21 57 22.6	
LVV			*e*S	**S**	**22 01 41.4**	**-0.4**
LVV			*e*		22 03 17.4	
LVV			MLR	MLR		
comp=Z,200nm,17.0s						
LVV			MLR	MLR		
comp=E,100nm,14.0s						
LVV			MLR	MLR		
comp=N,100nm,17.0s						
LIA	**Limnos Island**	**59.55 303**	*e*P	**P**	**21 53 41.1**	**+0.7**
PLD	**Plovdiv**	**59.64 306**	P	**P**	**21 53 40.4**	**-0.6**
APE	**Apeiranthos**	**59.67 300**	*e*P	sP	21 54 16.9	-0.9
RZN	**Rozhen**	**59.68 305**	P	**P**	**21 53 42.2**	**+0.6**
SANT	**Santorini**	**59.84 299**	*e*P	**P**	**21 53 41.8**	**-0.8**
SANT	**Santorini**	**59.84 299**	*e*P	**P**	**21 53 42.2**	**-0.3**
comp=N,142nm,0.7s						
SANT			*e*pP	**pP**	**21 54 06.2**	**-1.5**
NPS	**Neapolis**	**59.90 298**	*e*P	**P**	**21 53 43.1**	**+0.1**
SUW	**Suwalki**	**59.94 320**	*e*P	**P**	**21 53 43.2**	**+0.3**
SUW			*e* *PP	**pP**	**21 54 08.0**	**0.0**
SUW			pmax	pmax		
comp=Z,135nm,1.0s						
SUW	**Suwalki**	**59.94 320**	*e*P	**P**	**21 53 43.2**	**+0.3**
comp=Z,135nm,1.0s						
SUW			*e*pP	**pP**	**21 54 08.0**	**0.0**
SUW	**Suwalki**	**59.94 320**	*e*P	**P**	**21 53 43.1**	**+0.2**
SUW			*e*pP	**pP**	**21 54 08.0**	**0.0**
SUW			*e*S	**S**	**22 01 44.8**	**-2.2**
SUW			LMZ	LR	22 16 38.5	
LOT	**Lotru**	**59.98 310**	⇑*i*P	**P**	**21 53 44.7**	**+1.2**
PGB	**Panagyurishte**	**59.99 306**	P	**P**	**21 53 44.4**	**+0.9**
LAST	**Lasithi**	**60.03 298**	*e*P	**P**	**21 53 44.4**	**+0.5**
ARCES	**ARCESS Array B**	**60.20 338**	P	**P**	**21 53 45.9**	**+1.5**
ARCES	**ARCESS Array B**	**60.20 338**	P	**P**	**21 53 45.9**	**+1.5**
comp=Z,28nm,0.7s,baz=93,slow=9.0,SNR=108						
ARE0	**ARCESS Array S**	**60.20 338**	*e*P	**P**	**21 53 45.9**	**+1.5**
ARE0			*e*pP	**pP**	**21 54 09.4**	**-0.1**
ARE0			*e*S	**S**	**22 01 51.0**	**+1.1**
ARE0	**ARCESS Array S**	**60.20 338**	*e*P	**P**	**21 53 44.4**	**0.0**
NVR	**Nevrokopi**	**60.36 305**	P	**P**	**21 53 46.2**	**+0.2**
NVR	**Nevrokopi**	**60.36 305**	*e*P	**P**	**21 53 45.8**	**-0.2**
KWP	**Kalwaria Pacla**	**60.39 315**	*e*P	**P**	**21 53 45.8**	**-0.2**
KWP			*e* *PP	**pP**	**21 54 10.4**	**-0.8**
KWP			pmax	pmax		
comp=Z,76nm,0.8s						
KWP	**Kalwaria Pacla**	**60.39 315**	⇑*i*P	**P**	**21 53 46.9**	**+0.9**
KWP	**Kalwaria Pacla**	**60.39 315**	*e*P	**P**	**21 53 45.8**	**-0.2**
comp=Z,76nm,0.8s						
KWP			*e*pP	**pP**	**21 54 10.4**	**-0.8**
KWP	**Kalwaria Pacla**	**60.39 315**	*e*P	**P**	**21 53 46.7**	**+0.7**
KWP			*e*pP	**pP**	**21 54 08.0**	**-3.2**
KWP			*e*S	**S**	**22 01 51.9**	**-1.0**
KWP			LMZ	LR	22 18 57.7	
MMB	**Musomiste**	**60.43 305**	P	**P**	**21 53 46.4**	**-0.1**
IDI	**Anoyia**	**60.48 298**	*e*P	**P**	**21 53 46.6**	**-0.4**
IDI	**Anoyia**	**60.48 298**	*e*P	**P**	**21 53 47.4**	**+0.4**
comp=Z,64nm,1.0s						
SIVA	**Sivas**	**60.59 298**	*e*P	**P**	**21 53 47.7**	**0.0**
DRGR		**60.59 311**	⇑P	**P**	**21 53 48.5**	**+0.9**
DRGR		**60.59 311**	⇑*i*P	**P**	**21 53 48.5**	**+0.9**
TRPA	**Tarpa**	**60.60 313**	⇑*i*P	**P**	**21 53 48.8**	**+1.3**
AOS	**Alonnisos**	**60.65 303**	*e*P	**P**	**21 53 47.7**	**-0.2**
GZR	**Gura Zlata**	**60.68 310**	⇑P	**P**	**21 53 49.4**	**+1.2**
GZR	**Gura Zlata**	**60.68 310**	⇑*i*P	**P**	**21 53 49.4**	**+1.2**
VTS	**Vitosha**	**60.69 307**	P	**P**	**21 53 46.3**	**-2.1**
VTS	**Vitosha**	**60.69 307**	⇑P	**P**	**21 53 48.7**	**+0.3**
VTS	**Vitosha**	**60.69 307**	*e*P	**P**	**21 53 48.6**	**+0.2**
VTS	**Vitosha**	**60.69 307**	P	**P**	**21 53 48.6**	**+0.2**
VTS	**Vitosha**	**60.69 307**	⇑*i*P	**P**	**21 53 48.7**	**+0.3**
PAIG	**Paliouri**	**60.69 303**	*e*P	**P**	**21 53 48.9**	**+0.7**
KOLS	**Kolonicke sedl**	**60.72 314**	*e*P	**P**	**21 53 49.0**	**+0.7**
KOLS			pmax	pmax		
comp=Z,7.0nm,1.3s						
KOLS	**Kolonicke sedl**	**60.72 314**	*e*P	**P**	**21 53 49.0**	**+0.7**
KOLS			*e*pP	**pP**	**21 54 13.7**	**+0.2**
UZH	**Uzhgorod**	**60.73 314***c*	*i*P	**P**	**21 53 49.5**	**+1.2**
UZH			*e* *PP	**pP**	**21 54 13.5**	**0.0**
UZH			*e*		21 56 02.0	
UZH			*i* S	**S**	**22 01 56.5**	**-0.7**
UZH			*e*PS	PnS	22 02 09.1	-17
UZH			*i*		22 02 42.9	
UZH			*e*		22 03 24.9	
UZH			MLR	MLR		
comp=N,200nm,16.0s						
UZH			MLR	MLR		
comp=E,300nm,16.0s						
UZH			MLR	MLR		
comp=Z,100nm,16.0s						
PLG	**Polygyros**	**60.80 304**	P	**P**	**21 53 49.2**	**+0.2**
PLG	**Polygyros**	**60.80 304**	*e*P	**P**	**21 53 49.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**60.83 158**	*e*P	**P**	**21 53 49.2**	**+0.2**
comp=Z,100nm,0.7s						
PTL	**Penteli**	**60.83 301**	*e*P	**P**	**21 53 48.6**	**-0.7**
KKB	**Krupnik**	**60.87 306**	P	**P**	**21 53 48.6**	**-0.9**
KTK1	**Kautokeino**	**60.91 337**	*e*P	**P**	**21 53 50.5**	**+1.3**
KTK1			AMB	AMB	21 53 55.6	
comp=Z,634nm,1.0s						
ASAR	**Alice Springs**	**60.98 139**	P	**P**	**21 53 51.0**	**+0.6**
ASAR			pP	**pP**	**21 54 14.6**	**-1.0**
ASAR			P'P'		22 23 05.5	
ASAR	**Alice Springs**	**60.98 139**	P	**P**	**21 53 51.0**	**+0.6**
comp=Z,49nm,0.7s,baz=320,slow=7.0,SNR=291						
ASAR			pP	**pP**	**21 54 14.6**	**-1.0**
comp=Z,69nm,0.9s,baz=319,slow=6.4,SNR=11						
ASAR			PKPPKP	**P'P'df**	**22 23 05.5**	**-0.4**
comp=Z,1.9nm,0.8s,baz=141,slow=2.6,SNR=8.1						
VAM	**Vamos**	**61.01 298**	P	**P**	**21 53 50.8**	**+0.3**
VAM	**Vamos**	**61.01 298**	*e*P	**P**	**21 53 51.2**	**+0.7**
KNT	**Kendrikon**	**61.10 305**	P	**P**	**21 53 51.0**	**0.0**
NEO	**Neokhori**	**61.13 303**	*e*P	**P**	**21 53 51.2**	**-0.1**
KMBO	**Kilima Mbogo**	**61.15 254**	⇑*i*P	**P**	**21 53 53.5**	**+1.4**
KMBO	**Kilima Mbogo**	**61.15 254**	P	**P**	**21 53 53.5**	**+1.4**
SNR=12						
KMBO	**Kilima Mbogo**	**61.15 254**	*e*P	**P**	**21 53 53.2**	**+1.2**
KMBO	**Kilima Mbogo**	**61.15 254**	P	**P**	**21 53 53.3**	**+1.2**
comp=Z,45nm,1.1s,baz=48,slow=9.1,SNR=59						
PMG	**Port Moresby**	**61.16 117**	*e*P	**P**	**21 53 52.7**	**+1.0**
comp=Z,138nm,0.8s						
CRVS	**Cervenica-Dubn**	**61.25 314**	*e*P	**P**	**21 53 53.7**	**+1.8**
CRVS			pmax	pmax		
comp=Z,18nm,0.9s						
CRVS	**Cervenica-Dubn**	**61.25 314**	*e*P	**P**	**21 53 53.7**	**+1.8**
CRVS			*e*pP	**pP**	**21 54 17.6**	**+0.5**
STHS	**Stebnicka Huta**	**61.35 314**	*e*P	**P**	**21 53 53.6**	**+1.0**
STHS			pmax	pmax		
comp=Z,4.0nm,0.7s						
STHS	**Stebnicka Huta**	**61.35 314**	*e*P	**P**	**21 53 53.6**	**+1.0**
STHS			*e*pP	**pP**	**21 54 18.5**	**+0.7**
LKR	**Lokris**	**61.40 302**	*e*P	**P**	**21 53 50.8**	**-2.3**
DID	**Didima**	**61.41 301**	*e*P	**P**	**21 53 51.1**	**-2.1**
BEL	**Belsk**	**61.47 317**	*e*P	**P**	**21 53 53.8**	**+0.6**
BEL			*e*pP	**pP**	**21 54 19.0**	**+0.5**
BEL			*e*S	**S**	**22 02 05.6**	**-0.9**
BEL			LMZ	LR	22 18 01.6	
BZS	**Buzias**	**61.47 310**	⇓P	**P**	**21 53 54.1**	**+0.7**
BZS	**Buzias**	**61.47 310**	⇓*i*P	**P**	**21 53 54.1**	**+0.7**
LTK	**Loutraki**	**61.53 301**	*e*P	**P**	**21 53 51.6**	**-2.4**
LIT	**Litokhoron**	**61.56 304**	*e*P	**P**	**21 53 53.7**	**-0.5**
ANKY	**Antikythira Is**	**61.65 299**	*e*P	**P**	**21 53 54.8**	**0.0**
VLI	**Veliai**	**61.78 300**	P	**P**	**21 53 54.0**	**-1.6**
VLI	**Veliai**	**61.78 300**	*e*P	**P**	**21 53 54.1**	**-1.6**
KYTH	**Kithira**	**61.78 299**	P	**P**	**21 53 55.0**	**-0.7**
AGG	**Agios Georgios**	**61.86 303**	P	**P**	**21 53 55.1**	**-1.1**
AGG	**Agios Georgios**	**61.86 303**	*e*P	**P**	**21 53 55.1**	**-1.1**
KECS	**Kecovo**	**61.94 313**	*e*P	**P**	**21 53 57.0**	**+0.5**
KECS			pmax	pmax		
comp=Z,5.0nm,1.1s						
KECS	**Kecovo**	**61.94 313**	*e*P	**P**	**21 53 57.0**	**+0.5**
KECS			*e*pP	**pP**	**21 54 21.1**	**-0.7**
NIE	**Niedzica**	**61.96 315**	⇑*i*P	P	21 53 59.9	+3.2
NIE			*e* *PP	pP	21 54 22.8	+0.9
NIE			*e*		21 56 16.7	
NIE			*e*S	**S**	**22 02 15.7**	**+2.8**
THL	**Klokotos Trika**	**62.01 303**	P	**P**	**21 53 56.5**	**-0.6**
THL	**Klokotos Trika**	**62.01 303**	*e*P	**P**	**21 53 56.9**	**-0.2**
GUR	**Goura**	**62.03 301**	P	**P**	**21 53 55.4**	**-2.1**
GUR	**Goura**	**62.03 301**	*e*P	**P**	**21 53 56.3**	**-1.2**
KZN	**Kozani**	**62.08 304**	P	**P**	**21 53 56.8**	**-0.9**
KZN	**Kozani**	**62.08 304**	*e*P	**P**	**21 53 57.7**	**0.0**
VLX	**Vlachokerasia**	**62.10 301**	P	**P**	**21 53 56.0**	**-2.0**
VLX	**Vlachokerasia**	**62.10 301**	*e*P	**P**	**21 53 56.4**	**-1.6**
KALE	**Kalithea**	**62.11 302**	*e*P	**P**	**21 53 56.4**	**-1.5**
KLV	**Kalavryta, Ach**	**62.16 302**	*e*P	**P**	**21 53 56.4**	**-1.9**
TRIZ	**Trizonia**	**62.17 302**	*e*P	**P**	**21 53 57.3**	**-0.9**
OJC	**Ojcow**	**62.22 315**	*e*P	**P**	**21 53 58.7**	**+0.4**
OJC			*e* *PP	**pP**	**21 54 21.1**	**-2.5**
OJC			*e*S	**S**	**22 02 15.0**	**-1.1**
OJC	**Ojcow**	**62.22 315**	*e*P	**P**	**21 53 59.1**	**+0.7**
comp=Z,21nm,0.9s						
DYR	**Agios Nikonas**	**62.25 300**	P	**P**	**21 53 58.0**	**-0.8**
DYR	**Agios Nikonas**	**62.25 300**	*e*P	**P**	**21 53 58.3**	**-0.5**
LAKA	**Lakka**	**62.26 302**	P	**P**	**21 53 57.7**	**-1.2**
LAKA	**Lakka**	**62.26 302**	*e*P	**P**	**21 53 57.7**	**-1.2**
EVR	**Evrytania**	**62.28 303**	P	**P**	**21 53 58.4**	**-0.7**
EVR	**Evrytania**	**62.28 303**	*e*P	**P**	**21 53 58.2**	**-0.9**
EFP	**Efpalio**	**62.29 302**	*e*P	**P**	**21 53 58.2**	**-0.8**
FNA	**Florina**	**62.30 305**	*e*P	**P**	**21 53 58.6**	**-0.5**
PSZ	**Piszkesteto**	**62.39 313**	⇓P	**P**	**21 54 00.4**	**+0.8**
PSZ	**Piszkesteto**	**62.39 313**	⇓*i*P	**P**	**21 54 00.4**	**+0.8**
PSZ	**Piszkesteto**	**62.39 313**	*e*P	**P**	**21 54 00.5**	**+0.8**
comp=Z,26nm,1.0s						
PSZ	**Piszkesteto**	**62.39 313**	⇓*e*P	**P**	**21 54 00.5**	**+0.8**
ITM	**Ithomi**	**62.49 301**	P	**P**	**21 53 59.4**	**-1.1**
ITM	**Ithomi**	**62.49 301**	*e*P	**P**	**21 53 59.3**	**-1.2**
TRO	**Tromso**	**62.50 338**	*e*P	**P**	**21 54 00.9**	**+1.0**
TRO			AMB	AMB	21 54 05.6	
comp=Z,139nm,1.5s						
TRO			*i*		22 02 15.2	
TRO			AMS	AMS	22 23 14.6	
comp=Z,504nm,22.1s						
AMT	**Artemida-Makis**	**62.60 301**	*e*P	**P**	**21 54 00.8**	**-0.4**
NEST	**Nestorio**	**62.60 304**	P	**P**	**21 54 00.5**	**-0.7**
PYL	**PYLOS**	**62.69 300**	*e*P	**P**	**21 54 00.3**	**-1.4**
RLS	**Riolos of Patr**	**62.69 302**	*e*P	**P**	**21 54 01.1**	**-0.6**
DIVS	**Divibare**	**62.81 309**	P	**P**	**21 54 02.6**	**+0.1**
PVY	**Plav**	**63.06 307**	⇑*i*P	**P**	**21 54 03.6**	**-0.6**
IVA	**Berane**	**63.06 307**	⇑*i*P	**P**	**21 54 03.3**	**-0.9**
LKD2	**Lefkada island**	**63.18 303**	*e*P	**P**	**21 54 03.4**	**-1.6**
ABPO	**Ambohimpanom**	**63.22 231**	*e*P	**P**	**21 54 05.9**	**+0.3**
ABPO			*e* *PP	**pP**	**21 54 31.4**	**+0.5**
ABPO			pmax	pmax		
comp=Z,76nm,0.8s						
ABPO	**Ambohimpanom**	**63.22 231**	*e*P	**P**	**21 54 05.9**	**+0.3**
comp=Z,76nm,0.8s						
ABPO			*e*pP	**pP**	**21 54 31.4**	**+0.5**
OKC	**Ostrava-Krasne**	**63.32 315**	⇑*i*P	**P**	**21 54 06.4**	**+0.8**
OKC			*e*		21 54 27.7	
OKC			*e*S	**S**	**22 02 26.1**	**-3.7**
OKC			*e*		22 09 31.9	
OKC			MLR	MLR		
comp=Z,200nm,19.2s						
OKC	**Ostrava-Krasne**	**63.32 315**	⇑*i*P	**P**	**21 54 06.4**	**+0.8**
OKC			*e*x	x	21 54 18.4	
OKC			*e*pP	**pP**	**21 54 27.7**	**-3.3**
OKC			*e*S	**S**	**22 02 26.1**	**-3.7**
OKC			*e*x	x	22 09 31.9	
OKC			AMS	AMS	22 24 10.0	
comp=Z,200nm,19.2s						
TIR	**Tirane**	**63.33 306**	*e*P	**P**	**21 54 04.5**	**-1.4**
VLS	**Valsamata**	**63.35 302**	P	**P**	**21 54 04.8**	**-1.3**
VLS	**Valsamata**	**63.35 302**	*e*P	**P**	**21 54 04.8**	**-1.3**
PLE	**Pljevlja**	**63.36 308**	⇑*i*P	**P**	**21 54 05.6**	**-0.6**
PKSM	**Moragy**	**63.45 311**	⇑P	**P**	**21 54 06.9**	**+0.3**
PKSM	**Moragy**	**63.45 311**	⇑*i*P	**P**	**21 54 06.9**	**+0.3**
PKSM	**Moragy**	**63.45 311**	⇓*e*P	**P**	**21 54 07.2**	**+0.6**
PKSG		**63.46 312**	⇓*e*P	**P**	**21 54 07.3**	**+0.7**
GKP	**Gorka Klasztor**	**63.51 319**	*e*P	**P**	**21 54 07.1**	**+0.3**
GKP			*e*S	**S**	**22 02 31.7**	**-0.4**
GKP			LMZ	LR	22 18 35.3	
TTG	**Podgorica**	**63.60 307**	⇑*i*P	**P**	**21 54 07.1**	**-0.5**
KEK	**Kerkira**	**63.67 304**	*e*P	**P**	**21 54 06.4**	**-1.8**
ULC	**Ulcinj**	**63.69 306**	⇑*i*P	**P**	**21 54 07.3**	**-1.0**
DRME	**Dracevica, Mon**	**63.69 307**	⇑*i*P	**P**	**21 54 08.2**	**-0.1**
MORC	**Moravsky Berou**	**63.71 315**	*e*P	**P**	**21 54 09.2**	**+0.9**
MORC			pmax	pmax		
comp=Z,22nm,0.8s						
MORC	**Moravsky Berou**	**63.71 315**	*e*P	**P**	**21 54 09.2**	**+0.9**
comp=Z,22nm,0.8s						
UPM	**Unac-Piva**	**63.73 308**	*e*P	**P**	**21 54 07.4**	**-1.3**
NKY	**Niksic**	**63.73 307**	⇑*i*P	**P**	**21 54 08.1**	**-0.5**
NKME	**Niksic**	**63.76 307**	⇑*i*P	**P**	**21 54 08.3**	**-0.5**
STEI	**Steigen**	**63.77 336**	*e*P	**P**	**21 54 09.6**	**+1.3**
BUM	**Brajici-Budva**	**63.89 307**	⇑*i*P	**P**	**21 54 08.7**	**-0.9**
BRY	**Bratogost**	**64.04 307**	⇑*i*P	**P**	**21 54 09.9**	**-0.8**
MOR8	**Moi Rana**	**64.11 334**	*e*P	**P**	**21 54 10.6**	**-0.1**
MOR8			AMB	AMB	21 54 11.9	
comp=Z,67nm,1.1s						
HCY	**Herceg Novi**	**64.15 307**	⇑*i*P	**P**	**21 54 10.1**	**-1.2**
ZST	**Bratislava**	**64.21 313**	*e*P	**P**	**21 54 11.9**	**+0.4**
ZST	**Bratislava**	**64.21 313**	*e*P	**P**	**21 54 11.9**	**+0.4**
KSP	**Ksiaz**	**64.37 316**	⇑*e*P	**P**	**21 54 13.4**	**+0.9**
KSP			*e* *PP	**pP**	**21 54 34.9**	**-3.1**
KSP			*e*		21 54 47.8	
KSP			*e*S	**S**	**22 02 41.7**	**-1.1**
KSP			*e*PPS	PPS	22 03 24.5	
KSP	**Ksiaz**	**64.37 316**	*e*P	**P**	**21 54 13.4**	**+0.9**
KSP			*e*S	**S**	**22 02 41.8**	**-1.1**
KSP			LMZ	LR	22 20 48.5	
DPC	**Dobruska-Polom**	**64.42 316**	*e*P	**P**	**21 54 13.7**	**+0.8**
DPC			*e*		21 54 33.2	
DPC			*e*S	**S**	**22 02 44.3**	**+0.8**
DPC			*e*		22 09 44.3	
DPC	**Dobruska-Polom**	**64.42 316**	*e*P	**P**	**21 54 13.7**	**+0.8**
DPC			*e*pP	**pP**	**21 54 33.2**	**-5.1**
DPC			*e*S	**S**	**22 02 44.3**	**+0.8**
DPC			*e*x	x	22 09 44.3	
DPC			AMS	AMS	22 25 10.0	
DPC	**Dobruska-Polom**	**64.42 316**	*e*P	**P**	**21 54 14.2**	**+1.2**
comp=Z,741nm,2.2s						
FLOS	**Flostrand**	**64.54 334**	*e*P	**P**	**21 54 14.6**	**+1.3**
UPC	**Upice**	**64.59 316**	*e*P	**P**	**21 54 14.7**	**+0.7**
UPC			*e*		21 54 33.3	
UPC	**Upice**	**64.59 316**	⇑*e*P	**P**	**21 54 14.7**	**+0.7**
UPC			*e*x	x	21 54 33.3	
BSD	**Bornholm Skovb**	**64.67 321**	*i* P	**P**	**21 54 14.6**	**+0.2**
comp=Z,26nm,0.9s						
BSD						
comp=Z,440nm,14.0s						
HFS	**Hagfors**	**64.81 327**	S	**S**

NOA pP **pP** **21 54 49.9 +1.8**
NOA S **S** **22 03 03.4 +1.7**
NOA NORSAR Array B 65.94 328 P **P** **21 54 22.8 +0.3**
comp=Z,35nm,0.8s,baz=84,slow=6.3,SNR=102
NOA pP **pP** **21 54 49.9 +1.8**
comp=Z,18nm,0.7s,baz=84,slow=6.4,SNR=4.7
NOA S **S** **22 03 03.4 +1.7**
comp=Z,0.9nm,0.8s,baz=94,slow=14,SNR=4.4
NOA LR LR 22 25 30.5
comp=Z,856nm,19.0s,baz=85,slow=38
NAO01 NORSAR Array S 66.12 328 *e*P **P** **21 54 23.4 -0.2**
comp=Z,22nm,0.7s
NAO01 *e*pP **pP** **21 54 49.4 +0.2**
TBLU Trondheim 66.12 330 *e*P **P** **21 54 24.3 +0.7**
TBLU AMB AMB 21 54 28.8
comp=Z,97nm,1.3s
TBLU *e*S **S** **22 03 03.4 -0.3**
MOA Molln 66.14 313⇑*i*P **P** **21 54 24.4 +0.3**
comp=Z,22nm,0.9s,SNR=16
OBKA Obir 66.20 312⇑*i*P **P** **21 54 25.0 +0.4**
comp=Z,12nm,0.9s,SNR=5.9
LJU Ljubljana 66.30 311 *i* P **P** **21 54 25.7 +0.6**
LJU *e* 21 54 51.1
LJU *e*S **S** **22 03 05.8 -0.8**
OSL Oslo 66.32 327 *e*P **P** **21 54 25.6 +0.8**
GEC2 GERESS Array S 66.34 315 *e*P **P** **21 54 26.3 +0.9**
comp=Z,11nm,0.8s
GEC2 *e*pP **pP** **21 54 51.7 +0.8**
GEC2 GERESS Array S 66.34 315 *e*P **P** **21 54 26.3 +0.9**
GEC2 *e**PP **pP** **21 54 51.7 +0.8**
GEC2 pmax pmax
comp=Z,11nm,0.8s
GERES GERESS Array B 66.34 315 P **P** **21 54 26.1 +0.8**
GERES pP **pP** **21 54 51.7 +0.8**
GERES P'P' 22 22 55.6
GERES GERESS Array B 66.34 315 P **P** **21 54 26.1 +0.8**
comp=Z,14nm,0.6s,baz=72,slow=6.0,SNR=110
GERES pP **pP** **21 54 51.7 +0.8**
comp=Z,32nm,0.7s,baz=87,slow=5.5,SNR=13
GERES PKPPKP **P'P'df** **22 22 55.6 -4.1**
comp=Z,0.5nm,0.8s,baz=254,slow=3.7,SNR=5.6
CLL Collm 66.35 317 *e*P **P** **21 54 26.1 +0.8**
comp=Z,5.0nm,0.8s
CLL Collm 66.35 317⇑*i*P **P** **21 54 25.7 +0.4**
CLL *i **PP **pP** **21 54 51.1 +0.3**
CLL *i **SP **sP** **21 55 02.4 +0.4**
CLL *e*S **S** **22 03 05.0 -2.0**
CLL pmax pmax
comp=Z,19nm,1.1s
CLL Collm 66.35 317⇑*i*P **P** **21 54 25.7 +0.4**
comp=Z,19nm,1.1s
CLL *e* 21 54 46.0
CLL *i* pP **pP** **21 54 51.1 +0.3**
CLL *i* PcP **PcP** **21 54 54.4 0.0**
CLL *i* sP **sP** **21 55 02.4 +0.4**
CLL *i* 21 55 07.5
CLL *e*PPPP 21 59 13.0
CLL *e*S **S** **22 03 05.0 -2.0**
CLL *e*PS **PnS** **22 03 46.0 +3.5**
CLL *e*SS SS 22 07 32.0 +7.3
CLL *e*SSS SSS 22 10 44.0
CLL *e*PKPPKPd **P'P'df** **22 22 55.0 -4.3**
CLL LmV 22 27 00.0
comp=Z,500nm,19.1s
KHC Kasperske Hory 66.37 315 *e*P **P** **21 54 25.6 +0.1**
KHC *e* 21 54 48.3
KHC *e* 21 55 03.3
KHC *e*S **S** **22 03 05.5 -1.8**
KHC *e* 22 10 29.8
KHC MLR MLR
comp=Z,400nm,21.9s
KHC Kasperske Hory 66.37 315 *e*P **P** **21 54 25.6 +0.1**
KHC *e*x x 21 54 35.4
KHC *e*pP **pP** **21 54 48.3 -2.8**
KHC *e*sP **sP** **21 55 03.3 +1.1**
KHC *e*S **S** **22 03 05.5 -1.8**
KHC *e*x x 22 10 29.8
KHC AMS AMS 22 26 20.0
comp=Z,400nm,21.9s
KHC Kasperske Hory 66.37 315 *e*P **P** **21 54 26.2 +0.7**
comp=Z,9.6nm,0.8s
CUC Castrocucco 66.62 305 *e*P **P** **21 54 27.5 +0.2**
comp=Z,20nm,0.8s
JAVS Javornik 66.65 311 *i* P **P** **21 54 27.5 0.0**
JAVS *e* 21 54 50.3
JAVS *i* S **S** **22 03 09.7 -1.3**
MBAR Mbarara 66.68 258 P **P** **21 54 28.2 0.0**
comp=Z,126nm,0.7s,SNR=14
MBAR Mbarara 66.68 258⇑*i*P **P** **21 54 27.9 -0.3**
VOY Vojsko 66.74 312 *e*P **P** **21 54 28.4 +0.4**
VOY *e* 21 54 52.3
VOY *e* 21 54 54.2
VOY *e* 21 54 56.9
VOY *e* 21 55 00.3
CTAO Charters Tower 66.81 127 *e*P **P** **21 54 29.1 +0.4**
CTAO pmax pmax
comp=Z,276nm,1.5s
CTAO Charters Tower 66.81 127 *e*P **P** **21 54 29.1 +0.4**
comp=Z,276nm,1.5s
WET Wettzell 66.82 315 *e*P **P** **21 54 29.6 +1.3**
comp=Z,8.0nm,0.8s
WET Wettzell 66.82 315 *e*P **P** **21 54 29.6 +1.3**
WET pmax pmax
comp=Z,8.0nm,0.8s
DOMB Dombas 66.82 329 *e*P **P** **21 54 29.8 +1.7**
TANN Tannenbergstha 66.85 316 *e*P **P** **21 54 29.6 +1.0**
comp=Z,7.0nm,0.8s
TRI Trieste 66.89 311 *e*P **P** **21 54 29.1 +0.3**
TRI pmax pmax
comp=Z,58nm,0.8s
TRI Trieste 66.89 311 *e*P **P** **21 54 29.1 +0.3**
comp=Z,58nm,0.8s
KBA Koelnbreinsper 66.90 313⇑*i*P **P** **21 54 29.0 -0.1**
comp=Z,16nm,0.8s
KONO Kongsberg 66.92 327 *e*P **P** **21 54 29.6 +0.9**
KONO AMB AMB 21 54 32.1
comp=Z,41nm,1.5s
KONO *e*S **S** **22 03 15.0 +1.5**
KONO AMS AMS 22 25 46.6
comp=Z,435nm,16.5s
KONO Kongsberg 66.92 327 *e*P **P** **21 54 28.9 +0.1**
KONO *e**PP **pP** **21 54 54.4 +0.1**
KONO Kongsberg 66.92 327 *e*P **P** **21 54 28.9 +0.1**
KONO *e*pP **pP** **21 54 54.4 +0.1**
CEL Celeste 66.95 303 *e*P **P** **21 54 30.0 +0.6**
comp=Z,56nm,0.9s
ROTZ Rotzenmuhle 67.13 316 *e*P **P** **21 54 31.9 +1.6**
comp=Z,19nm,0.7s
RJOB Jochberg 67.14 314 *e*P **P** **21 54 31.1 +0.6**
comp=Z,7.0nm,0.9s
MOX Moxa 67.33 317 *e*P **P** **21 54 32.4 +0.8**
comp=Z,8.0nm,0.9s
MOX Moxa 67.33 317 *e*P **P** **21 54 32.4 +0.8**
MOX pmax pmax
comp=Z,8.0nm,0.9s
MOL Molde 67.44 330 *e*P **P** **21 54 33.8 +1.8**
MOL AMB AMB 21 54 34.5
comp=Z,56nm,0.9s
BSEG Bad Segeberg 67.50 320 *e*P **P** **21 54 34.1 +1.6**
comp=Z,31nm,0.8s
BSEG Bad Segeberg 67.50 320 *e*P **P** **21 54 34.1 +1.6**
BSEG pmax pmax
comp=Z,31nm,0.8s
ABTA Abfaltersbach 67.53 312⇑*i*P **P** **21 54 32.2 -0.8**
comp=Z,14nm,1.1s,SNR=10
MUD Monsted U'grnd 67.68 323 *i* P **P** **21 54 35.9 +2.3**
comp=Z,15nm,1.0s
MUD pmax pmax
comp=Z,500nm,13.0s
GRF Grafenberg Arr 67.77 316 *e*P **P** **21 54 35.9 +1.6**
comp=Z,10.0nm,0.9s
GRF Grafenberg Arr 67.77 316 *e*P **P** **21 54 35.9 +1.6**
GRF pmax pmax
comp=Z,10.0nm,0.9s
GRFO Grafenberg 67.77 316 *e*P **P** **21 54 35.8 +1.4**
GRFO Grafenberg 67.77 316 *e*P **P** **21 54 35.8 +1.4**
NRDL Niedersach Rie 67.90 319 *e*P **P** **21 54 36.4 +1.4**
comp=Z,15nm,1.0s
WTTA Wattenberg 68.01 313⇑*i*P **P** **21 54 35.7 -0.4**
comp=Z,28nm,1.2s,SNR=14
WATA Walderalm 68.03 313⇑*i*P **P** **21 54 35.7 -0.5**
comp=Z,14nm,0.7s,SNR=13
FUR Furstenfeldbru 68.05 314 *e*P **P** **21 54 37.3 +1.1**
comp=Z,10.0nm,0.8s
FUR Furstenfeldbru 68.05 314 *e*P **P** **21 54 37.3 +1.1**

FUR pmax pmax
comp=Z,10.0nm,0.8s
UBBA Unterbreizbach 68.31 317 *e*P **P** **21 54 38.1 +0.6**
comp=Z,2.0nm,0.8s
MOTA Moosalm 68.34 313⇑*i*P **P** **21 54 37.7 -0.5**
comp=Z,25nm,0.8s,SNR=34
ODD1 Odda 68.36 327 *e*P **P** **21 54 39.0 +1.2**
ODD1 AMB AMB 21 54 40.0
comp=Z,21nm,0.8s
SNART Snartemo 68.37 325 *e*P **P** **21 54 39.0 +1.1**
SNART AMB AMB 21 54 40.2
comp=Z,34nm,1.0s
BLS5 Blasjo 68.54 327 *e*P **P** **21 54 40.6 +1.6**
RETA Reutte 68.54 314⇑*i*P **P** **21 54 39.2 -0.1**
comp=Z,44nm,1.4s,SNR=22
FETA Feichten 68.66 313⇑*i*P **P** **21 54 40.0 -0.2**
comp=Z,20nm,1.0s,SNR=14
RUND Rundenannen 68.87 328 *e*P **P** **21 54 41.4 +0.4**
BER Bergen 68.89 328 *e*P **P** **21 54 41.3 +0.2**
BER *e*S **S** **22 03 37.7 +0.7**
BER *e*SS **SS** **22 08 05.0 +1.5**
BER AMS AMS 22 26 55.2
comp=Z,711nm,17.2s
ASK Askoy 68.94 328 *e*P **P** **21 54 39.1 -2.2**
EGD Espegrend 68.97 328 *e*P **P** **21 54 41.9 +0.4**
SUE Sulen 69.03 329 *e*P **P** **21 54 43.4 +1.5**
SUE AMB AMB 21 54 47.8
comp=Z,64nm,1.5s
SUE *e*S **S** **22 03 40.1 +1.6**
SUE AMS AMS 22 26 59.5
comp=Z,867nm,17.4s
FUORN Ofenpass-Fuorn 69.07 313 *e*P **P** **21 54 43.1 +0.4**
comp=Z,22nm,0.8s
DAVA Damuels 69.17 313 *i* P **P** **21 54 43.2 -0.1**
comp=Z,33nm,1.0s,SNR=16
STU Stuttgart 69.27 315 *e*P **P** **21 54 44.5 +0.8**
comp=Z,18nm,0.8s
STU Stuttgart 69.27 315 *e*P **P** **21 54 43.8 +0.2**
STU pmax pmax
comp=Z,60nm,0.8s
STU Stuttgart 69.27 315 *e*P **P** **21 54 43.8 +0.2**
comp=Z,60nm,0.8s
DAVOX Davos/Dischmat 69.29 313 PKPPKP 22 22 52.4
comp=Z,0.5nm,0.3s,baz=315,slow=10.0,SNR=4.5
IBBN Ibbenburen 69.35 319 *e*P **P** **21 54 45.5 +1.5**
comp=Z,21nm,1.1s
TNS Taunus Mts 69.40 317 *e*P **P** **21 54 45.6 +1.1**
comp=Z,11nm,0.8s
TNS Taunus Mts 69.40 317 *e*P **P** **21 54 45.6 +1.1**
TNS pmax pmax
comp=Z,11nm,0.8s
VLC Villacollemand 69.58 310 *e*P **P** **21 54 46.2 +0.5**
TUE Stuetta 69.72 313 *e*P **P** **21 54 45.9 -0.9**
comp=Z,24nm,0.9s
BUG Bochum--Univer 69.84 318 *e*P **P** **21 54 48.2 +1.1**
comp=Z,16nm,0.9s
BFO Black Forest 69.93 315 P **P** **21 54 48.1 +0.3**
comp=Z,65nm,1.1s,SNR=6.8
BFO Black Forest 69.93 315 *e*P **P** **21 54 48.3 +0.5**
comp=Z,4.0nm,0.8s
BFO Black Forest 69.93 315 *e*P **P** **21 54 48.3 +0.5**
BFO pmax pmax
comp=Z,4.0nm,0.8s
BFO Black Forest 69.93 315 *e*P **P** **21 54 48.0 +0.3**
WTSB Winterswijk 70.00 319 *e*P **P** **21 54 49.0 +0.9**
comp=Z,28nm,0.8s
LANF Langenberg 70.11 316 *e*P **P** **21 54 49.4 +0.6**
WLS Welschbruch 70.54 315 *e*P **P** **21 54 50.8 -0.7**
CDF Champ du Feu 70.59 315⇑*i*P **P** **21 54 52.1 +0.2**
comp=Z,56nm,0.9s
CDF *e*pP **pP** **21 55 17.0 -0.7**
ECH Echery 70.72 315 *e*P **P** **21 54 52.7 +0.1**
MEM Membach 70.82 318 P **P** **21 54 54.0 +0.9**
comp=Z,12nm,1.0s
MEM AP **pP** **21 55 19.4 +0.4**
HGN Heimansgroeve 70.83 318 *e*P **P** **21 54 53.5 +0.4**
comp=Z,26nm,1.2s
MOF Molkenrain 70.83 315 *e*P **P** **21 54 53.4 +0.1**
PGF Pioggiola 70.97 309⇑*i*P **P** **21 54 54.5 +0.2**
comp=Z,41nm,0.8s
PGF *e*pP **pP** **21 55 19.4 -0.8**
WLF Walferdange 70.98 317 P **P** **21 54 55.1 +1.1**
comp=Z,66nm,1.1s
WLF AP **pP** **21 55 20.1 +0.2**
WLF Walferdange 70.98 317 *e*P **P** **21 54 55.8 +1.7**
comp=Z,41nm,0.9s
WLF Walferdange 70.98 317 *e*P **P** **21 54 55.2 +1.1**
WLF *e**PP **pP** **21 55 20.4 +0.5**
WLF pmax pmax
comp=Z,89nm,0.9s
WLF Walferdange 70.98 317 *e*P **P** **21 54 55.2 +1.1**
comp=Z,89nm,0.9s
WLF *e*pP **pP** **21 55 20.4 +0.5**
HINF Hinteralfeld 71.02 315⇑*i*P **P** **21 54 54.5 +0.1**
comp=Z,28nm,0.9s
SENIN Lac Senin/Sane 71.11 313 *e*P **P** **21 54 55.2 -0.1**
comp=Z,40nm,0.9s
LOMF Lomont 71.16 314 *e*P **P** **21 54 55.1 -0.2**
HAU Haudompre 71.30 315⇑*i*P **P** **21 54 56.3 +0.2**
comp=Z,35nm,0.8s
HAU *e*pP **pP** **21 55 21.2 -0.7**
HAU *e*R
comp=Z,155nm,23.0s
JMIC Jan Mayen 71.44 340 *e*S **S** **22 04 07.8 +1.5**
THEF They Montfort 71.47 315 *e*P **P** **21 54 56.9 -0.2**
OG01 Vacheresse 71.53 313 *e*P **P** **21 54 58.1 +0.5**
VSL Vilsalto 71.54 306 *e*P **P** **21 54 58.1 +0.4**
comp=Z,79nm,1.1s
VSL *e*PcP **PcP** **21 55 16.8 +0.3**
VSL *e*pP **pP** **21 55 23.6 +0.1**
PAGF Fort de Pagny 71.55 316⇑*i*P **P** **21 54 58.3 +0.8**
comp=Z,22nm,0.9s
PAGF *e*pP **pP** **21 55 23.2 -0.2**
SAOF Saorge 71.59 311 *e*P **P** **21 54 57.9 0.0**
STKA Stephens Creek 71.61 139 *e*P **P** **21 54 58.1 +0.1**
STKA pP **pP** **21 55 23.9 0.0**
STKA P'P' 22 22 47.5
STKA Stephens Creek 71.61 139 P **P** **21 54 58.0 -0.1**
comp=Z,43nm,1.0s,baz=326,slow=6.4,SNR=55
STKA pP **pP** **21 55 23.9 0.0**
comp=Z,34nm,1.0s,baz=323,slow=5.2,SNR=6.6
STKA PKPPKP **P'P'df** **22 22 47.5 -0.5**
comp=Z,1.7nm,0.8s,baz=11,slow=16,SNR=2.8
STKA LR LR 22 30 48.1
comp=Z,309nm,21.0s,baz=147,slow=39
DAG Danmarks Havn 71.64 347⇑*i*P **P** **21 54 58.0 +0.4**
comp=Z,50nm,1.0s
AUTN L'Aution 71.68 311 *e*P **P** **21 54 59.2 +0.5**
GIVF Givet 71.69 317 *e*P **P** **21 54 59.0 +0.7**
comp=Z,45nm,1.0s
GIVF *e*pP **pP** **21 55 23.9 -0.3**
SBF Sospel 71.71 310⇑*i*P **P** **21 54 58.8 +0.1**
comp=Z,79nm,1.0s
LPG La Plagne 71.72 312⇑*i*P **P** **21 54 59.6 +0.6**
comp=Z,52nm,0.7s
LPL La Plagne 71.73 312⇑*i*P **P** **21 54 59.6 +0.6**
comp=Z,86nm,0.9s
LPL *e*pP **pP** **21 55 24.6 -0.2**
RSL Roselend 71.75 312 *e*P **P** **21 54 59.3 +0.3**
LUCF Luceram 71.76 310 *e*P **P** **21 54 59.1 +0.1**
TOUF Mont Tournerai 71.80 311 *e*P **P** **21 54 59.6 +0.2**
DOU Dourbes 71.83 317 P **P** **21 55 00.4 +1.2**
comp=Z,9.1nm,1.6s
DOU AP **pP** **21 55 26.8 +1.7**
CABF La Chapelle 71.85 314⇑*i*P **P** **21 54 59.9 +0.4**
comp=Z,60nm,1.0s
BNI Bardonecchia 71.89 312 *e*P **P** **21 54 59.9 0.0**
BNI pmax pmax
comp=Z,28nm,1.0s
BNI Bardonecchia 71.89 312 *e*P **P** **21 54 59.9 0.0**
comp=Z,28nm,1.0s
HNR Honiara 71.90 110 *e*P **P** **21 55 00.8 +0.6**
HNR pP **pP** **21 55 26.3 +0.2**
HNR Honiara 71.90 110 P **P** **21 55 00.1 -0.1**
comp=Z,52nm,0.3s,baz=186,slow=13,SNR=6.0
HNR pP **pP** **21 55 26.3 +0.2**
comp=Z,57nm,0.5s,baz=306,slow=4.2,SNR=2.1
SNF Seneffe 71.91 318 P **P** **21 55 00.9 +1.3**
MBDF Montbardon 71.92 311 *e*P **P** **21 54 59.5 -0.6**
comp=Z,39nm,0.7s
MEZF Maizieres J'vi 71.99 316⇑*i*P **P** **21 55 00.9 +0.7**
comp=Z,137nm,0.8s
MEZF *e*pP **pP** **21 55 25.8 -0.3**
BAIF Baives 72.08 317⇑*i*P **P** **21 55 01.4 +0.7**
comp=Z,54nm,0.9s

SFTF Sexfontaines 72.08 315⇑*i*P **P** **21 55 01.1 +0.3**
comp=Z,90nm,0.8s
SFTF *e*pP **pP** **21 55 26.0 -0.7**
FRF La Foret Royal 72.34 310⇑*i*P **P** **21 55 02.6 +0.2**
comp=Z,66nm,0.9s
FRF *e*pP **pP** **21 55 27.6 -0.7**
OG35 Corcelles 72.36 313 *e*P **P** **21 55 02.7 +0.2**
ORIF Oris-en-Rattie 72.47 312⇑*i*P **P** **21 55 03.2 -0.1**
comp=Z,27nm,0.7s
ORIF *e*R
comp=Z,521nm,21.2s
LMR La Mourre 72.50 310⇑*i*P **P** **21 55 03.6 +0.3**
comp=Z,63nm,1.0s
KEST Kesra 72.67 302 *e*P **P** **21 55 05.3 +0.7**
KEST Kesra 72.67 302 P **P** **21 55 05.4 +0.7**
comp=Z,26nm,1.0s,baz=24,slow=1.0,SNR=68
ALE Alert 72.82 357 P **P** **21 55 06.0 +1.5**
comp=Z,248nm,0.7s,SNR=26
SMRF Simiane la Rot 72.96 311⇑*i*P **P** **21 55 06.7 +0.6**
comp=Z,33nm,0.9s
OG26 St.-Nazaire-De 72.97 312 *e*P **P** **21 55 07.0 +0.8**
LOR Lormes 73.12 315⇑*i*P **P** **21 55 07.0 +0.1**
comp=Z,37nm,0.9s
LOR *e*pP **pP** **21 55 31.9 -1.0**
LOR *e*R
comp=Z,160nm,21.0s
SSB Saint Sauveur 73.27 313 *e*P **P** **21 55 08.2 +0.3**
VIVF Saint-Julien-l 73.31 312⇑*i*P **P** **21 55 08.4 +0.3**
comp=Z,56nm,0.9s
VIVF *e*pP **pP** **21 55 33.5 -0.6**
SMF Signal de Mont 73.32 314⇑*i*P **P** **21 55 08.3 +0.2**
comp=Z,96nm,0.8s
SMF *e*pP **pP** **21 55 33.3 -0.8**
SSF Saint Saulge 73.41 315⇑*i*P **P** **21 55 08.9 +0.3**
comp=Z,104nm,0.9s
SSF *e*pP **pP** **21 55 34.0 -0.6**
AVF Avril sur Loir 73.60 314⇑*i*P **P** **21 55 10.0 +0.3**
comp=Z,85nm,0.9s
AVF *e*pP **pP** **21 55 35.1 -0.6**
COLF Collangettes 73.77 313 *e*P **P** **21 55 09.5 -1.3**
CMAH Djebel Manchou 73.88 303 P **P** **21 55 12.0 +0.3**
HYF Humbligny 73.91 315⇑P **P** **21 55 12.5 +0.9**
ABSA Djebel Ababsia 73.95 303 P **P** **21 55 12.7 +0.6**
AGO Saint Agoulin 73.97 314 *e*P **P** **21 55 12.8 +0.8**
BGF Bois d'Agland 74.00 314⇑*i*P **P** **21 55 12.4 +0.3**
comp=Z,27nm,0.7s
BGF *e*pP **pP** **21 55 37.5 -0.6**
LASF Ste Croix 74.11 311⇑*i*P **P** **21 55 13.5 +0.7**
comp=Z,76nm,0.9s
LASF *e*pP **pP** **21 55 38.6 -0.2**
PYM Petit Puy Mans 74.15 313 *e*P **P** **21 55 13.6 +0.5**
LBL Lubilhac 74.16 313 *e*P **P** **21 55 14.1 +1.0**
CKFL Kef-Lekhel 74.49 303 P **P** **21 55 15.4 +0.1**
TCF Toulx Ste Croi 74.50 314⇑*i*P **P** **21 55 15.8 +0.7**
comp=Z,83nm,0.8s
TCF *e*pP **pP** **21 55 40.9 -0.2**
ESK Eskdalemuir 74.70 324 P **P** **21 55 16.8 +0.9**
comp=Z,310nm,0.7s,SNR=9.3
ESK Eskdalemuir 74.70 324 *i* P **P** **21 55 17.3 +1.4**
ESK Eskdalemuir 74.70 324 *e*P **P** **21 55 16.9 +0.9**
comp=Z,40nm,0.8s
CASM Ain Smara 74.71 303 P **P** **21 55 16.6 +0.2**
CTEI Djebel Teioual 74.83 303 P **P** **21 55 17.9 +0.6**
CAF Calviac 75.05 313⇑*i*P **P** **21 55 19.0 +0.8**
comp=Z,58nm,0.9s
CAF *e*pP **pP** **21 55 44.2 -0.1**
DFRA Djebel Bou Aff 75.08 304 P **P** **21 55 19.6 +0.9**
LDF La Druitiere 75.23 317⇑*i*P **P** **21 55 19.5 +0.4**
comp=Z,70nm,0.7s
LDF *e*pP **pP** **21 55 44.6 -0.6**
RJF Les Rejaudoux 75.29 313⇑*i*P **P** **21 55 20.6 +1.0**
comp=Z,96nm,0.9s
RJF *e*pP **pP** **21 55 45.8 +0.1**
RJF *e*R
comp=Z,263nm,21.8s
LRDF Laroque-de-Fa 75.39 311 *e*P **P** **21 55 20.3 +0.1**
FLN La Foliniere 75.40 317⇑*i*P **P** **21 55 20.4 +0.3**
comp=Z,49nm,1.1s
FLN *e*R
comp=Z,397nm,21.8s
MTLF Montolieu 75.47 311⇑*i*P **P** **21 55 21.2 +0.5**
comp=Z,57nm,0.9s
MTLF *e*pP **pP** **21 55 46.4 -0.4**
SET Setif 75.56 303 P **P** **21 55 23.0 +1.6**
SCO Scoresbysund 75.65 342 *i* P **P** **21 55 23.3 +2.2**
comp=Z,23nm,0.9s
SCO
comp=Z,430nm,27.0s
GRR Gorron 75.76 317⇑*i*P **P** **21 55 22.6 +0.4**
comp=Z,58nm,0.8s
LSZ Lusaka 75.91 246⇑*i*P **P** **21 55 24.8 +1.1**
LSZ Lusaka 75.91 246 P **P** **21 55 25.1 +1.4**
SNR=32
LSZ Lusaka 75.91 246 *e*P **P** **21 55 24.3 +0.6**
LFF La Frestale 75.93 313⇑*i*P **P** **21 55 24.2 +1.0**
comp=Z,66nm,0.9s
LFF *e*pP **pP** **21 55 49.3 0.0**
MFF Saint Martin d 75.93 315⇑*i*P **P** **21 55 23.6 +0.4**
comp=Z,43nm,0.9s
MLS Moulis 76.38 311 *e*P **P** **21 55 25.3 -0.5**
SGMF Saint Gilles 76.87 317⇑*i*P **P** **21 55 29.3 +0.9**
comp=Z,99nm,0.8s
SGMF *e*pP **pP** **21 55 54.5 -0.1**
EPF Esparros 76.87 311⇑*i*P **P** **21 55 28.3 -0.3**
comp=Z,11nm,0.8s
COLD Coldfoot 76.91 21 *e*P **P** **21 55 29.0 +0.6**
comp=Z,36nm,1.2s
RESF Ens 76.95 311 *e*P **P** **21 55 29.8 +0.6**
VIEF Viey 77.14 311 *e*P **P** **21 55 30.7 +0.5**
ROSF Rostrenen 77.28 317⇑*i*P **P** **21 55 31.6 +0.9**
comp=Z,103nm,0.8s
QUIF Quistinic 77.37 317⇑*i*P **P** **21 55 31.7 +0.5**
comp=Z,39nm,0.9s
ETSF Etsaut 77.53 311⇑*i*P **P** **21 55 33.2 +0.8**
comp=Z,45nm,0.8s
ETSF *e*pP **pP** **21 55 58.5 -0.1**
LARF Larrau 77.77 312 *e*P **P** **21 55 34.4 +0.7**
SJPF Ste Jean 77.91 312⇑*i*P **P** **21 55 35.6 +1.2**
comp=Z,47nm,1.1s
SVW2 Sparrevohn 77.97 28 *e*P **P** **21 55 34.0 -0.3**
comp=Z,23nm,0.8s
SUMG Summit 78.33 347 *e*P **P** **21 55 37.4 +0.8**
SUMG pmax pmax
comp=Z,107nm,0.7s
SUMG Summit 78.33 347⇑*i*P **P** **21 55 37.8 +1.2**
comp=Z,102nm,0.7s
SUMG *i* pP **pP** **21 56 04.4 +1.5**
SUMG Summit 78.33 347 *e*P **P** **21 55 37.4 +0.8**
comp=Z,107nm,0.7s
PPLA Purkeypile 78.46 25 *e*P **P** **21 55 35.0 -2.2**
BORG Borgarnes 78.59 337 *e*P P 21 55 41.3 +3.6
TRF Thorofare Moun 78.90 25 *e*P **P** **21 55 40.2 +0.5**
COLA College 79.00 23 *e*P **P** **21 55 40.3 +0.4**
COLA pmax pmax
comp=Z,113nm,0.9s
COLA College 79.00 23 *e*P **P** **21 55 40.3 +0.4**
comp=Z,113nm,0.9s
MCK McKinley 79.25 24 *e*P **P** **21 55 41.8 +0.4**
MCK McKinley 79.25 24 *e*P **P** **21 55 41.8 +0.4**
ILAR Eielson Array 79.40 23 P **P** **21 55 41.3 -0.9**
ILAR PP **PP** **21 58 43.5 +0.5**
ILAR S **S** **22 05 31.2 -3.3**
ILAR PKKPbc **PKKPbc** **22 14 30.6 -1.5**
ILAR P'P' 22 22 34.0
ILAR Eielson Array 79.40 23 P **P** **21 55 41.3 -0.9**
comp=Z,16nm,0.8s,baz=300,slow=5.3,SNR=94
ILAR PP **PP** **21 58 43.5 +0.5**
comp=Z,2.5nm,0.8s,baz=301,slow=6.0,SNR=3.5
ILAR S **S** **22 05 31.2 -3.3**
comp=Z,0.3nm,0.7s,baz=278,slow=6.3,SNR=3.2
ILAR PKKPbc **PKKPbc** **22 14 30.6 -1.5**
comp=Z,1.5nm,0.8s,baz=157,slow=1.9,SNR=12
ILAR PKPPKP **P'P'df** **22 22 34.0 -1.8**
comp=Z,1.6nm,0.9s,baz=160,slow=1.2,SNR=10.0
ILAR LR LR 22 33 32.2
comp=Z,201nm,20.2s,baz=126,slow=38
SPU Mount Spurr 79.41 27 *e*P **P** **21 55 42.3 0.0**
RSO Redoubt South 79.49 28 *e*P **P** **21 55 43.7 +0.7**
PMR Palmer 80.37 26 *e*P **P** **21 55 47.3 -0.1**
PMR pmax pmax
comp=Z,29nm,0.8s
PMR Palmer 80.37 26 *e*P **P** **21 55 47.3 -0.1**
comp=Z,29nm,0.8s
SML Sawmill 80.57 25 *e*P **P** **21 55 48.5 0.0**
SML Sawmill 80.57 25 *e*P **P** **21 55 48.5 0.0**

OHAK Old Harbor 80.93 31 eP P 21 55 49.9 -0.6
comp=Z,26nm,0.7s
KDAK Kodiak Island 80.96 30 eP P 21 55 50.4 -0.3
KDAK Kodiak Island 80.96 30 P P 21 55 50.2 -0.4
comp=Z,224nm,0.8s,SNR=11
KDAK Kodiak Island 80.96 30 P P 21 55 50.3 -0.3
comp=Z,25nm,0.7s,baz=303,slow=2.8,SNR=27
PAX Paxson 80.97 24 eP P 21 55 51.0 +0.3
PAX Paxson 80.97 24 eP P 21 55 51.0 +0.3
INK Inuvik 81.14 16 eP P 21 55 51.6 +0.3
comp=Z,164nm,1.1s
INK S S 22 05 50.5 -1.9
INK Inuvik 81.14 16 P P 21 55 51.8 +0.5
comp=Z,120nm,1.0s,baz=328,slow=6.6,SNR=93
INK S S 22 05 50.5 -1.9
comp=Z,1.3nm,0.7s,baz=158,slow=19,SNR=4.8
ESDC Sonseca Array 81.15 309 P P 21 55 52.5 +0.5
ESDC Sonseca Array 81.15 309 P P 21 55 52.6 +0.5
comp=Z,4.2nm,0.5s,baz=57,slow=5.3,SNR=37
ESLA Sonseca Array 81.15 309 eP P 21 55 52.4 +0.4
comp=Z,11nm,1.3s
ESLA epP pP 21 56 18.4 0.0
SLR Silverton 81.25 237⇓iP P 21 55 54.2 +1.4
SLR AMB AMB 21 55 55.3
comp=Z,320nm,0.8s
EGAK Eagle 81.34 21 eP P 21 55 52.5 0.0
comp=Z,66nm,1.0s
EGAK epP pP 21 56 17.8 -1.1
PAB San Pablo 81.47 309 eP P 21 55 54.5 +0.7
PAB San Pablo 81.47 309 eP P 21 55 54.5 +0.7
ERPM east rand prop 81.60 236⇑iP P 21 55 55.6 +0.9
ERPM AMB AMB 21 55 56.8
comp=Z,135nm,1.1s
MENT Mentasta 81.63 23 eP P 21 55 55.2 +1.1
KLOF Kloof 82.09 237⇑iP P 21 55 58.7 +1.5
KLOF AMB AMB 21 55 59.7
comp=Z,317nm,0.8s
KSR Koster 82.37 237 eP P 21 55 59.6 +0.8
KSR AMB AMB 21 56 00.7
comp=Z,65nm,1.0s
BMRM Bremner River 82.51 25 eP P 21 55 59.1 +0.4
PRYS Parys 82.58 236⇑iP P 21 56 00.6 +0.9
PRYS AMB AMB 21 56 01.3
comp=Z,94nm,0.9s
MVO Moncorvo 82.64 312 eP P 21 56 01.1 +1.2
comp=Z,57nm,0.9s
MVO iP pP 21 56 26.9 +0.5
RAGM Ragged Mountai 82.84 26 eP P 21 56 02.4 +1.9
LBTB Lobatse 82.95 239⇑iP P 21 56 03.2 +1.5
LBTB AMB AMB 21 56 04.1
comp=Z,300nm,0.8s
LBTB Lobatse 82.95 239 eP P 21 56 02.9 +1.3
PVRL Vila Real 83.06 312 eP P 21 56 03.4 +1.4
comp=Z,38nm,1.2s
POLO Lamas de Olo 83.07 312 eP P 21 56 03.1 +1.0
comp=Z,13nm,1.1s
PCAB Cabril 83.08 313 eP P 21 56 03.2 +1.1
comp=Z,37nm,1.0s
SEK Senekal 83.12 235⇑iP P 21 56 03.5 +1.0
SEK AMB AMB 21 56 04.7
comp=Z,155nm,2.2s
PGAV Gavieira, Arco 83.13 313 eP P 21 56 04.1 +1.7
comp=Z,47nm,1.5s
MTE Manteigas 83.33 311 eP P 21 56 05.0 +1.6
comp=Z,46nm,1.1s
MTE iP pP 21 56 30.7 +0.7
MTE Manteigas 83.33 311 eP P 21 56 03.8 +0.4
comp=Z,50nm,1.1s
MTE epP pP 21 56 29.9 0.0
PVIS Viseu 83.43 312 eP P 21 56 05.5 +1.6
comp=Z,38nm,1.1s
PVIS iP pP 21 56 31.5 +1.0
PVIS Viseu 83.43 312 ePP PP 21 59 18.8 +2.0
PCBR Castelo Branco 83.53 311 eP P 21 56 05.4 +1.0
comp=Z,47nm,1.4s
PCBR iP pP 21 56 31.4 +0.5
DZM Mont Dzumac 83.54 118 eLR LR 22 22 23.9
comp=Z,596nm,36.2s
PMRV Marv??o 83.65 310 eP P 21 56 05.5 +0.5
comp=Z,37nm,1.7s
PMRV iP pP 21 56 32.5 +0.9
PMRV Marv??o 83.65 310 ePP PP 21 59 20.3 +1.6
PBAR Barrancos 83.95 309 eP P 21 56 07.4 +0.8
comp=Z,48nm,1.7s
PBAR iP pP 21 56 33.9 +0.8
PESTR Estremoz 84.04 310 eP P 21 56 07.7 +0.7
comp=Z,29nm,1.5s
SWZ Schweizer 84.26 237⇑iP P 21 56 09.4 +1.1
SWZ AMB AMB 21 56 10.0
comp=Z,294nm,1.0s
PTOM Tomar 84.27 311 eP P 21 56 09.0 +0.9
comp=Z,63nm,1.3s
PTOM iP pP 21 56 36.1 +1.4
RUDU RUNDU 84.28 248⇑iP P 21 56 10.2 +1.6
RUDU AMB AMB 21 56 11.3
comp=Z,134nm,1.8s
PMTG Montargil 84.39 310 eP P 21 56 09.5 +0.7
comp=Z,30nm,1.8s
PMTG iP pP 21 56 35.7 +0.4
EVO Evora 84.48 310⇑iP P 21 56 10.4 +1.2
EVO epP pP 21 56 36.1 +0.3
EVO eR
comp=Z,76nm,17.8s
EVO Evora 84.48 310 eP P 21 56 10.3 +1.1
comp=Z,35nm,1.6s
EVO iP pP 21 56 36.8 +1.0
PBEJ Beja 84.60 309 eP P 21 56 11.0 +1.1
comp=Z,31nm,0.8s
PBEJ iP pP 21 56 37.5 +1.0
PVAQ Vaqueiros 84.78 309 eP P 21 56 11.8 +1.1
comp=Z,64nm,1.2s
PVAQ iP pP 21 56 38.3 +1.0
PVAQ Vaqueiros 84.78 309 ePP PP 21 59 29.6 +1.8
PBDV Barranco-do-Ve 85.00 309 eP P 21 56 13.2 +1.3
comp=Z,88nm,1.3s
PBDV iP pP 21 56 39.0 +0.5
PNCL Nicolau / Gran 85.03 310 eP P 21 56 13.2 +1.2
comp=Z,63nm,1.3s
PNCL iP pP 21 56 39.8 +1.2
PNCL Nicolau / Gran 85.03 310 ePP PP 21 59 32.3 +2.4
BOSA Boshof 85.05 236⇑iP P 21 56 13.0 +0.8
BOSA AMB AMB 21 56 14.4
comp=Z,280nm,0.9s
BOSA Boshof 85.05 236 P P 21 56 13.2 +0.9
BOSA pP pP 21 56 38.3 -0.6
BOSA Boshof 85.05 236 P P 21 56 13.2 +0.9
comp=Z,250nm,0.8s,baz=59,slow=4.5,SNR=304
BOSA pP pP 21 56 38.3 -0.6
comp=Z,36nm,0.6s,baz=66,slow=5.3,SNR=2.7
HYT Haines Junctio 85.24 23 eP P 21 56 13.4 +0.7
SFJD Kangerlussuaq 85.33 347⇑iP P 21 56 13.3 +0.4
comp=Z,31nm,0.7s
SFJD iP pP 21 56 40.0 +0.5
SFJD Kangerlussuaq 85.33 347 eP P 21 56 13.2 +0.3
comp=Z,46nm,0.8s
SFJD epP pP 21 56 39.5 0.0
PTEO Sao Teotonio 85.43 309 eP P 21 56 15.7 +1.7
comp=Z,57nm,2.1s
MORF Marmelete 85.48 309 eP P 21 56 15.9 +1.6
MORF eS S 22 06 31.3 -6.3
MORF Marmelete 85.48 309 eP P 21 56 16.2 +1.9
comp=Z,65nm,1.1s
HVD Gariep Dam 85.89 234⇓iP P 21 56 17.5 +1.1
HVD AMB AMB 21 56 18.2
comp=Z,179nm,1.1s
TSUM Tsumeb 86.67 247⇑iP P 21 56 21.6 +1.1
SKAG Skagway 86.97 23 eP P 21 56 21.2 +0.1
comp=Z,104nm,1.5s
TOA0 Torodi Ar. Sit 87.39 283 eP P 21 56 24.5 +0.5
TOA0 epP pP 21 56 51.0 +0.3
TORD Torodi Ar. Bea 87.39 283 P P 21 56 24.9 +0.9
TORD pP pP 21 56 50.1 -0.6
TORD PP PP 22 00 11.4 +22
TORD S S 22 06 55.9 -0.7
TORD PKKPbc PKKPbc 22 14 12.3 -0.1
TORD Torodi Ar. Bea 87.39 283 P P 21 56 24.9 +0.9
comp=Z,22nm,0.9s,baz=66,slow=4.1,SNR=125
TORD pP pP 21 56 50.1 -0.6
comp=Z,14nm,0.9s,baz=66,slow=4.6,SNR=6.0
TORD PP PP 22 00 11.4 +22
comp=Z,5.0nm,0.8s,baz=60,slow=6.9,SNR=4.5
TORD S S 22 06 55.9 -0.7
comp=Z,1.4nm,1.1s,baz=72,slow=8.5,SNR=4.1
TORD PKKPbc PKKPbc 22 14 12.3 -0.1
comp=Z,1.0nm,0.7s,baz=314,slow=2.2,SNR=8.0
WIN Windhoek 88.59 245⇑iP P 21 56 31.4 +1.7
WIN AMB AMB 21 56 32.6
comp=Z,41nm,1.0s
DLBC Dease Lake 89.58 22 eP P 21 56 33.9 +0.3
DLBC PP PP 22 00 06.3 +0.6
DLBC Dease Lake 89.58 22 P P 21 56 34.5 +0.9
comp=Z,7.4nm,0.9s,baz=323,slow=4.8,SNR=19
DLBC PP PP 22 00 06.3 +0.6
comp=Z,5.5nm,0.9s,baz=315,slow=10.0,SNR=3.6
YKA Yellowknife Ar 90.39 13 P P 21 56 37.1 0.0
YKA PP PP 22 00 11.5 -0.4
YKA Yellowknife Ar 90.39 13 P P 21 56 37.1 0.0
comp=Z,7.6nm,0.9s,baz=331,slow=3.7,SNR=7.0
YKA PP PP 22 00 11.5 -0.4
comp=Z,5.4nm,0.9s,baz=334,slow=8.3,SNR=5.4
MIR Mirnyy 90.58 181⇑iP P 21 56 39.0 +1.4
MIR pmax pmax
comp=Z,94nm,1.5s
CASY Casey 91.10 174 eP P 21 56 39.7 -0.4
comp=Z,48nm,1.4s
MAW Mawson 94.65 192 eP P 21 56 56.9 +0.5
MAW epP pP 21 57 22.6 -0.7
MAW PKKP PKKPdf 22 13 54.1 -2.3
MAW Mawson 94.65 192 P P 21 56 56.7 +0.3
comp=Z,26nm,1.1s,baz=14,slow=6.1,SNR=40
MAW PKKP PKKPdf 22 13 54.2 -2.3
comp=Z,1.2nm,0.6s,baz=244,slow=6.4,SNR=4.7
DBIC Dimbokro 95.95 280 P P 21 57 04.2 +0.5
DBIC Dimbokro 95.95 280 P P 21 57 04.2 +0.5
comp=Z,13nm,0.8s,baz=96,slow=3.3,SNR=9.6
DBIC LR LR 22 43 07.2
comp=Z,290nm,20.9s,baz=47,slow=37
KIC Kosan Boka 95.97 280 ePKIKP P 21 57 04.3 +0.5
comp=Z,93nm,1.6s
TIC Toumodi 96.11 280 ePKIKP P 21 57 04.6 +0.2
comp=Z,94nm,1.4s
LIC Lamto 96.29 280⇑iP P 21 57 05.6 +0.4
comp=Z,21nm,0.9s
LIC eR
comp=Z,442nm,22.2s
LIC Lamto 96.29 280 ePKIKP P 21 57 04.5 -0.7
comp=Z,30nm,0.9s
DRV Dumont d'Urvil 96.88 163 S SKSac 22 07 23.0 -11
DRV SS SS 22 14 25.0 -33
SCHQ Schefferville 99.61 349 ePdif Pdif 21 57 19.9 +0.6
comp=Z,6.9nm,0.8s
SCHQ PKKPbc PKKPbc 22 13 39.9 -2.0
SCHQ Schefferville 99.61 349 P Pdif 21 57 19.9 +0.6
comp=Z,7.3nm,0.8s,baz=47,slow=7.0,SNR=8.8
SCHQ PKKPbc PKKPbc 22 13 39.9 -2.0
comp=Z,4.6nm,0.7s,baz=179,slow=1.4,SNR=9.0
SYO Syowa Base 101.18 198⇓ePdiff Pdif 21 57 25.0 -0.7
NEW Newport 102.32 21 PKKPbc PKKPbc 22 13 32.3 -1.8
NEW Newport 102.32 21 PKKPbc PKKPbc 22 13 32.3 -1.8
comp=Z,2.9nm,0.6s,baz=58,slow=1.8,SNR=4.4
ULM Lac du Bonnet 105.18 7 PKiKP PKiKP 22 01 58.0 0.0
ULM PKKPbc PKKPbc 22 13 23.4 -2.2
ULM PKKPab PKKPdf 22 13 40.0 +5.6
ULM Lac du Bonnet 105.18 7 PKiKP PKiKP 22 01 58.0 0.0
comp=Z,2.9nm,0.6s,baz=317,slow=1.3,SNR=3.4
ULM PKKPbc PKKPbc 22 13 23.4 -2.2
comp=Z,4.7nm,0.6s,baz=179,slow=4.7,SNR=5.4
ULM PKKPab PKKPdf 22 13 40.0 +5.6
comp=Z,5.6nm,0.7s,baz=206,slow=5.1,SNR=5.1
YBH Yreka Blue Hor 105.71 28 PKKPbc PKKPbc 22 13 22.9 -0.9
YBH Yreka Blue Hor 105.71 28 PKKPbc PKKPbc 22 13 22.9 -0.9
comp=Z,1.8nm,0.7s,baz=104,slow=3.1,SNR=7.7
E17A Martinsdale 105.85 18 ⇓PKiKP PKiKP 22 01 59.2 -0.4
baz=106
E17A Martinsdale 105.85 18 ⇓PKiKP PKiKP 22 01 59.2 -0.4
baz=106
C22A Vida 105.92 14 ⇑PKiKP PKiKP 22 01 59.2 -0.3
baz=106
C22A Vida 105.92 14 ⇑PKiKP PKiKP 22 01 59.2 -0.3
baz=106
B25A Knox Farm, Ray 105.99 12 ⇓PKiKP PKiKP 22 01 59.8 +0.2
baz=106
B25A Knox Farm, Ray 105.99 12 ⇓PKiKP PKiKP 22 01 59.8 +0.2
baz=106
D20A Manuel Ranch, 106.00 16 ⇑PKiKP PKiKP 22 01 59.9 +0.2
baz=106
D20A Manuel Ranch, 106.00 16 ⇑PKiKP PKiKP 22 01 59.9 +0.2
baz=106
E18A Harlowton 106.02 17 ⇓PKiKP PKiKP 22 01 59.7 -0.2
baz=106
E18A Harlowton 106.02 17 ⇓PKiKP PKiKP 22 01 59.7 -0.2
baz=106
B27A Peters Farms, 106.22 11 ⇓PKiKP PKiKP 22 02 00.7 +0.7
baz=106
B27A Peters Farms, 106.22 11 ⇓PKiKP PKiKP 22 02 00.7 +0.7
baz=106
F17A Fitzpatrick Pl 106.41 18 ⇑PKiKP PKiKP 22 02 00.5 -0.1
baz=106
F17A Fitzpatrick Pl 106.41 18 ⇑PKiKP PKiKP 22 02 00.5 -0.1
baz=106
D22A Cohagen 106.42 15 ⇓PKiKP PKiKP 22 02 00.9 +0.4
baz=106
D22A Cohagen 106.42 15 ⇓PKiKP PKiKP 22 02 00.9 +0.4
baz=106
E20A Meyer Farm, Mu 106.54 16 ⇓PKiKP PKiKP 22 02 00.6 -0.1
baz=106
E20A Meyer Farm, Mu 106.54 16 ⇓PKiKP PKiKP 22 02 00.6 -0.1
baz=106
F19A Roth Farm, Mol 106.93 17 ⇓PKiKP PKiKP 22 02 00.9 -0.6
baz=107
F19A Roth Farm, Mol 106.93 17 ⇓PKiKP PKiKP 22 02 00.9 -0.6
baz=107
MFID Camas Ranch 106.99 23 ⇓PKiKP PKiKP 22 02 01.5 -0.2
baz=107
MFID Camas Ranch 106.99 23 ⇓PKiKP PKiKP 22 02 01.5 -0.2
baz=107
HLID Hailey 107.35 22 ePKiKP PKiKP 22 02 03.2 +0.7
HLID Hailey 107.35 22 ⇑PKiKP PKiKP 22 02 02.7 +0.2
baz=107
HLID Hailey 107.35 22 ⇑PKiKP PKiKP 22 02 02.7 +0.2
baz=107
E24A Baker 107.39 14 ⇑PKiKP PKiKP 22 02 02.3 0.0
baz=107
E24A Baker 107.39 14 ⇑PKiKP PKiKP 22 02 02.3 0.0
baz=107
RLMT Red Lodge 107.52 18 ePKiKP PKiKP 22 02 02.7 -0.1
G20A Bridger 107.71 17 ⇓PKiKP PKiKP 22 02 03.1 +0.1
baz=107
G20A Bridger 107.71 17 ⇓PKiKP PKiKP 22 02 03.1 +0.1
baz=107
EYMN Ely 107.86 4 ePKiKP PKiKP 22 02 03.3 +0.2
F23A Volborg 107.94 15 ⇑PKiKP PKiKP 22 02 03.3 0.0
baz=108
F23A Volborg 107.94 15 ⇑PKiKP PKiKP 22 02 03.3 0.0
baz=108
F24A Ekalaka 108.04 14 ⇓PKiKP PKiKP 22 02 03.2 -0.3
baz=108
F24A Ekalaka 108.04 14 ⇓PKiKP PKiKP 22 02 03.2 -0.3
baz=108
G22A Birney 108.20 15 ⇓PKiKP PKiKP 22 02 03.9 0.0
baz=108
G22A Birney 108.20 15 ⇓PKiKP PKiKP 22 02 03.9 0.0
baz=108
G23A Biddle 108.44 15 ⇑PKiKP PKiKP 22 02 04.4 0.0
baz=108
G23A Biddle 108.44 15 ⇑PKiKP PKiKP 22 02 04.4 0.0
baz=108
RRI2 Red Ridge 108.54 20 ePKiKP PKiKP 22 02 05.4 +0.5
VNDA Vanda 108.81 168 PKiKP PKiKP 22 02 03.5 -0.3
VNDA PKKPbc PKKPbc 22 13 12.9 -2.3
VNDA Vanda 108.81 168 PKiKP PKiKP 22 02 03.5 -0.3
comp=Z,2.1nm,0.8s,baz=298,slow=5.7,SNR=5.1
VNDA PKKPbc PKKPbc 22 13 12.9 -2.3
comp=Z,3.8nm,0.8s,baz=95,slow=2.4,SNR=10
I20A Worland 108.92 17 ⇓PKiKP PKiKP 22 02 05.3 0.0
baz=109
I20A Worland 108.92 17 ⇓PKiKP PKiKP 22 02 05.3 0.0
baz=109
G26A Maurine 108.96 13 ⇓PKiKP PKiKP 22 02 05.0 -0.2
baz=109
G26A Maurine 108.96 13 ⇓PKiKP PKiKP 22 02 05.0 -0.2
baz=109
H24A Dirks Ranch, A 109.06 14 ⇓PKiKP PKiKP 22 02 05.0 -0.6
baz=109
H24A Dirks Ranch, A 109.06 14 ⇓PKiKP PKiKP 22 02 05.0 -0.6
baz=109
I21A Big Trails, Te 109.27 17 ⇓PKiKP PKiKP 22 02 05.7 -0.4
baz=109
I21A Big Trails, Te 109.27 17 ⇓PKiKP PKiKP 22 02 05.7 -0.4
baz=109
J19A Crowheart 109.29 18 ⇑PKiKP PKiKP 22 02 05.7 -0.4
baz=109
J19A Crowheart 109.29 18 ⇑PKiKP PKiKP 22 02 05.7 -0.4
baz=109
I22A 9 Mile Ranch, 109.40 16 ⇑PKiKP PKiKP 22 02 06.0 -0.3
baz=109
I22A 9 Mile Ranch, 109.40 16 ⇑PKiKP PKiKP 22 02 06.0 -0.3
baz=109
J20A Shoshoni 109.48 17 ⇑PKiKP PKiKP 22 02 06.4 0.0
baz=109
J20A Shoshoni 109.48 17 ⇑PKiKP PKiKP 22 02 06.4 0.0
baz=109
G28A Parade 109.49 12 ⇑PKiKP PKiKP 22 02 05.7 -0.6
baz=109
G28A Parade 109.49 12 ⇑PKiKP PKiKP 22 02 05.7 -0.6
baz=109
H26A Fairpoint 109.57 13 ⇑PKiKP PKiKP 22 02 06.2 -0.3
baz=109
H26A Fairpoint 109.57 13 ⇑PKiKP PKiKP 22 02 06.2 -0.3
baz=109
PDAR Pinedale Array 109.60 19 PKiKP PKiKP 22 02 06.6 -0.2
PDAR PP PP 22 02 34.9 -3.1
PDAR PKKPbc PKKPbc 22 13 09.8 -2.2
PDAR PKKP PKKPab 22 13 21.9 -4.5
PDAR Pinedale Array 109.60 19 PKiKP PKiKP 22 02 06.6 -0.2
comp=Z,3.0nm,0.7s,baz=76,slow=0.9,SNR=24
PDAR PP PP 22 02 34.9 -3.1
comp=Z,1.7nm,0.6s,baz=343,slow=1.5,SNR=4.2
PDAR PKKPbc PKKPbc 22 13 09.8 -2.2
comp=Z,1.8nm,1.0s,baz=153,slow=5.0,SNR=9.3
PDAR PKKP PKKPab 22 13 21.9 -4.5
comp=Z,3.3nm,1.1s,baz=149,slow=3.7,SNR=10
J21A Lysite 109.66 17 ⇓PKiKP PKiKP 22 02 06.2 -0.7
baz=109
J21A Lysite 109.66 17 ⇓PKiKP PKiKP 22 02 06.2 -0.7
baz=109
K19A Absolon Red Bu 109.76 18 ⇑PKiKP PKiKP 22 02 06.3 -0.8
baz=109
K19A Absolon Red Bu 109.76 18 ⇑PKiKP PKiKP 22 02 06.3 -0.8
baz=109
J22A Midwest 109.85 16 ⇑PKiKP PKiKP 22 02 06.4 -0.8
baz=110
J22A Midwest 109.85 16 ⇑PKiKP PKiKP 22 02 06.4 -0.8
baz=110
I25A Rochford 109.93 14 ⇓PKiKP PKiKP 22 02 06.7 -0.6
baz=110
I25A Rochford 109.93 14 ⇓PKiKP PKiKP 22 02 06.7 -0.6
baz=110
K20A Yellowstone Ra 110.05 18 ⇓PKiKP PKiKP 22 02 06.9 -0.6
baz=110
K20A Yellowstone Ra 110.05 18 ⇓PKiKP PKiKP 22 02 06.9 -0.6
baz=110
J23A Dilts Ranch, B 110.09 16 ⇓PKiKP PKiKP 22 02 06.8 -0.8
baz=110
J23A Dilts Ranch, B 110.09 16 ⇓PKiKP PKiKP 22 02 06.8 -0.8
baz=110
I26A New Underwood 110.11 13 ⇑PKiKP PKiKP 22 02 07.3 -0.2
baz=110
I26A New Underwood 110.11 13 ⇑PKiKP PKiKP 22 02 07.3 -0.2
baz=110
L18A Fontenelle, Gr 110.23 19 ⇓PKiKP PKiKP 22 02 07.5 -0.4
baz=110
L18A Fontenelle, Gr 110.23 19 ⇓PKiKP PKiKP 22 02 07.5 -0.4
baz=110
I27A Quinn 110.24 13 ⇓PKiKP PKiKP 22 02 07.4 -0.4
baz=110
I27A Quinn 110.24 13 ⇓PKiKP PKiKP 22 02 07.4 -0.4
baz=110
L19A Farson 110.27 19 ⇓PKiKP PKiKP 22 02 07.2 -0.8
baz=110
L19A Farson 110.27 19 ⇓PKiKP PKiKP 22 02 07.2 -0.8
baz=110
NVAR Mina Array Bea 110.33 27 PKiKP PKiKP 22 02 09.4 +1.1
NVAR PKKPbc PKKPbc 22 13 09.0 -0.5
NVAR Mina Array Bea 110.33 27 PKiKP PKiKP 22 02 09.4 +1.1
comp=Z,1.8nm,0.7s,baz=294,slow=0.9,SNR=10
NVAR PKKPbc PKKPbc 22 13 09.0 -0.5
comp=Z,1.7nm,0.8s,baz=149,slow=3.9,SNR=6.1
J24A Dixon Ranch, L 110.37 15 ⇑PKiKP PKiKP 22 02 07.7 -0.4
baz=110
J24A Dixon Ranch, L 110.37 15 ⇑PKiKP PKiKP 22 02 07.7 -0.4
baz=110
K21A Alcova 110.38 17 ⇑PKiKP PKiKP 22 02 07.6 -0.6
baz=110
K21A Alcova 110.38 17 ⇑PKiKP PKiKP 22 02 07.6 -0.6
baz=110
M17A Scullys Gap (B 110.45 20 ⇓PKiKP PKiKP 22 02 07.5 -0.9
baz=110
M17A Scullys Gap (B 110.45 20 ⇓PKiKP PKiKP 22 02 07.5 -0.9
baz=110
BRSD Miller 110.45 10 ⇑PKiKP PKiKP 22 02 07.5 -0.6
baz=110
BRSD Miller 110.45 10 ⇑PKiKP PKiKP 22 02 07.5 -0.6
baz=110
I28A Midland 110.48 12 ⇑PKiKP PKiKP 22 02 08.2 0.0
baz=110
I28A Midland 110.48 12 ⇑PKiKP PKiKP 22 02 08.2 0.0
baz=110
J25A Sunshine Ranch 110.52 14 ⇓PKiKP PKiKP 22 02 07.9 -0.4
baz=110
J25A Sunshine Ranch 110.52 14 ⇓PKiKP PKiKP 22 02 07.9 -0.4
baz=110
K22A Casper 110.55 17 ⇓PKiKP PKiKP 22 02 08.1 -0.4
baz=110
K22A Casper 110.55 17 ⇓PKiKP PKiKP 22 02 08.1 -0.4
baz=110
L20A Wamsutter 110.65 18 ⇑PKiKP PKiKP 22 02 08.4 -0.4
baz=110
L20A Wamsutter 110.65 18 ⇑PKiKP PKiKP 22 02 08.4 -0.4
baz=110
J26A Sides Ranch, S 110.75 14 ⇓PKiKP PKiKP 22 02 08.6 -0.1
baz=110
J26A Sides Ranch, S 110.75 14 ⇓PKiKP PKiKP 22 02 08.6 -0.1
baz=110
M19A Rock Springs 110.88 19 ⇓PKiKP PKiKP 22 02 08.8 -0.5
baz=110
M19A Rock Springs 110.88 19 ⇓PKiKP PKiKP 22 02 08.8 -0.5
baz=110
DUG Dugway 110.89 22 ⇑PKiKP PKiKP 22 02 09.3 +0.1
baz=110
DUG Dugway 110.89 22 ⇑PKiKP PKiKP 22 02 09.3 +0.1
baz=110
L21A Rawlins 110.97 17 ⇓PKiKP PKiKP 22 02 08.9 -0.4
baz=111
L21A Rawlins 110.97 17 ⇓PKiKP PKiKP 22 02 08.9 -0.4
baz=111
J28A Allard Ranch, 111.02 12 ⇓PKiKP PKiKP 22 02 09.0 -0.2
baz=111
J28A Allard Ranch, 111.02 12 ⇓PKiKP PKiKP 22 02 09.0 -0.2
baz=111
SADO Sadowa 111.03 355 PKiKP PKiKP 22 02 08.9 -0.2
SADO PKKPab PKKPab 22 13 14.6 -5.1
SADO Sadowa 111.03 355 PKiKP PKiKP 22 02 08.9 -0.2
comp=Z,4.4nm,0.6s,baz=340,slow=4.3,SNR=5.8
SADO PKKPab PKKPab 22 13 14.6 -5.1
comp=Z,9.3nm,0.7s,baz=222,slow=5.1,SNR=8.3
M20A Sweetwater, Wa 111.17 18 ⇓PKiKP PKiKP 22 02 09.4 -0.4
baz=111
M20A Sweetwater, Wa 111.17 18 ⇓PKiKP PKiKP 22 02 09.4 -0.4
baz=111
K25A Mack Ranch, Ha 111.24 15 ⇓PKiKP PKiKP 22 02 09.6 -0.1
baz=111
K25A Mack Ranch, Ha 111.24 15 ⇓PKiKP PKiKP 22 02 09.6 -0.1
baz=111
L23A Garrett 111.27 16 ⇓PKiKP PKiKP 22 02 09.4 -0.6
baz=111
L23A Garrett 111.27 16 ⇓PKiKP PKiKP 22 02 09.4 -0.6
baz=111
M21A Separation Pea 111.30 18 ⇓PKiKP PKiKP 22 02 09.7 -0.4
baz=111
M21A Separation Pea 111.30 18 ⇓PKiKP PKiKP 22 02 09.7 -0.4
baz=111
K26A Motz Farm, Whi 111.31 14 ⇓PKiKP PKiKP 22 02 09.4 -0.5
baz=111
K26A Motz Farm, Whi 111.31 14 ⇓PKiKP PKiKP 22 02 09.4 -0.5
baz=111
R11A Troy Canyon, C 111.49 25 ⇑PKiKP PKiKP 22 02 10.8 +0.4
baz=111
R11A Troy Canyon, C 111.49 25 ⇑PKiKP PKiKP 22 02 10.8 +0.4
baz=111
ECSD EROS Data Cent 111.50 9 ePKiKP PKiKP 22 02 09.7 -0.4
L25A Engebretsen Ra 111.65 15 ⇓PKiKP PKiKP 22 02 09.9 -0.6
baz=111
L25A Engebretsen Ra 111.65 15 ⇓PKiKP PKiKP 22 02 09.9 -0.6
baz=111
M22A Cedar Creek Ra 111.70 17 ⇑PKiKP PKiKP 22 02 10.1 -0.7
baz=111
M22A Cedar Creek Ra 111.70 17 ⇑PKiKP PKiKP 22 02 10.1 -0.7
baz=111

N20A	Spence Gulch, baz=111	111.76	19	⇑PKiKP	PKiKP	22 02 10.6	-0.3
N20A	Spence Gulch, baz=111	111.76	19	⇑PKiKP	PKiKP	22 02 10.6	-0.3
M23A	Laramie baz=112	111.87	16	⇓PKiKP	PKiKP	22 02 10.7	-0.4
M23A	Laramie baz=112	111.87	16	⇓PKiKP	PKiKP	22 02 10.7	-0.4
O19A	Miners Draw (B baz=112	112.00	19	⇑PKiKP	PKiKP	22 02 10.7	-0.6
O19A	Miners Draw (B baz=112	112.00	19	⇑PKiKP	PKiKP	22 02 10.7	-0.6
N21A	Black Mountain baz=112	112.04	18	⇓PKiKP	PKiKP	22 02 11.1	-0.4
N21A	Black Mountain baz=112	112.04	18	⇓PKiKP	PKiKP	22 02 11.1	-0.4
PHWY	Pilot Hill	112.09	16	ePKiKP	PKiKP	22 02 10.8	-0.8
M24A	Cheyenne baz=112	112.09	16	⇑PKiKP	PKiKP	22 02 11.3	-0.2
M24A	Cheyenne baz=112	112.09	16	⇑PKiKP	PKiKP	22 02 11.3	-0.2
N22A	Wattenberg Ran baz=112	112.30	17	⇓PKiKP	PKiKP	22 02 11.5	-0.6
N22A	Wattenberg Ran baz=112	112.30	17	⇓PKiKP	PKiKP	22 02 11.5	-0.6
N23A	Red Feather La baz=112	112.35	17	⇑PKiKP	PKiKP	22 02 11.7	-0.4
N23A	Red Feather La baz=112	112.35	17	⇑PKiKP	PKiKP	22 02 11.7	-0.4
O20A	White River Ci baz=112	112.41	19	⇑PKiKP	PKiKP	22 02 11.9	-0.3
O20A	White River Ci baz=112	112.41	19	⇑PKiKP	PKiKP	22 02 11.9	-0.3
MVU	Marysvale	112.61	23	ePKiKP	PKiKP	22 02 13.8	+1.2
PKM	Peak Mountain baz=112	112.62	30	⇓PKiKP	PKiKP	22 02 12.3	-0.3
PKM	Peak Mountain baz=112	112.62	30	⇓PKiKP	PKiKP	22 02 12.3	-0.3
MPMC	Manual Prospec baz=112	112.68	28	⇑PKiKP	PKiKP	22 02 12.4	-0.4
MPMC	Manual Prospec baz=112	112.68	28	⇑PKiKP	PKiKP	22 02 12.4	-0.4
O22A	Kremmling baz=112	112.87	18	⇑PKiKP	PKiKP	22 02 12.3	-0.9
O22A	Kremmling baz=112	112.87	18	⇑PKiKP	PKiKP	22 02 12.3	-0.9
P20A	De Beque baz=113	112.95	19	⇓PKiKP	PKiKP	22 02 12.5	-0.6
P20A	De Beque baz=113	112.95	19	⇓PKiKP	PKiKP	22 02 12.5	-0.6
O23A	Lake Granby, G baz=113	112.99	17	⇑PKiKP	PKiKP	22 02 12.7	-0.7
O23A	Lake Granby, G baz=113	112.99	17	⇑PKiKP	PKiKP	22 02 12.7	-0.7
N26A	Koester Ranch, baz=113	113.08	15	⇑PKiKP	PKiKP	22 02 13.0	-0.3
N26A	Koester Ranch, baz=113	113.08	15	⇑PKiKP	PKiKP	22 02 13.0	-0.3
P22A	Eagle baz=113	113.34	18	⇑PKiKP	PKiKP	22 02 13.7	-0.3
P22A	Eagle baz=113	113.34	18	⇑PKiKP	PKiKP	22 02 13.7	-0.3
ISCO	Idaho Springs baz=113	113.46	17	⇑PKiKP	PKiKP	22 02 13.7	-0.6
ISCO	Idaho Springs baz=113	113.46	17	⇑PKiKP	PKiKP	22 02 13.7	-0.6
BGNE	Belgrade baz=113	113.54	11	⇑PKiKP	PKiKP	22 02 13.9	-0.1
BGNE	Belgrade baz=113	113.54	11	⇑PKiKP	PKiKP	22 02 13.9	-0.1
GSC	Goldstone baz=113	113.62	28	⇑PKiKP	PKiKP	22 02 14.4	-0.1
GSC	Goldstone baz=113	113.62	28	⇑PKiKP	PKiKP	22 02 14.4	-0.1
P23A	Jefferson baz=113	113.80	17	⇑PKiKP	PKiKP	22 02 14.5	-0.5
P23A	Jefferson baz=113	113.80	17	⇑PKiKP	PKiKP	22 02 14.5	-0.5
O27A	Beecher Island baz=114	113.86	14	⇑PKiKP	PKiKP	22 02 14.6	-0.2
O27A	Beecher Island baz=114	113.86	14	⇑PKiKP	PKiKP	22 02 14.6	-0.2
Q22A	Crested Butte, baz=114	113.97	18	⇓PKiKP	PKiKP	22 02 14.6	-0.7
Q22A	Crested Butte, baz=114	113.97	18	⇓PKiKP	PKiKP	22 02 14.6	-0.7
P25A	Willow Gulch B baz=114	114.10	16	⇑PKiKP	PKiKP	22 02 15.3	-0.1
P25A	Willow Gulch B baz=114	114.10	16	⇑PKiKP	PKiKP	22 02 15.3	-0.1
QSPA	South Pole Qui	114.12	180	ePKiKP	PKPdf	22 02 13.9	-0.3
BFSC	Mount Baldy Ra baz=114	114.15	29	⇑PKiKP	PKiKP	22 02 15.3	-0.2
BFSC	Mount Baldy Ra baz=114	114.15	29	⇑PKiKP	PKiKP	22 02 15.3	-0.2
R20A	Redvale baz=114	114.16	20	⇑PKiKP	PKiKP	22 02 15.1	-0.5
R20A	Redvale baz=114	114.16	20	⇑PKiKP	PKiKP	22 02 15.1	-0.5
R21A	Cimarron baz=114	114.25	19	⇓PKiKP	PKiKP	22 02 15.4	-0.3
R21A	Cimarron baz=114	114.25	19	⇓PKiKP	PKiKP	22 02 15.4	-0.3
P26A	Davis Ranch, A baz=114	114.26	15	⇑PKiKP	PKiKP	22 02 15.5	-0.1
P26A	Davis Ranch, A baz=114	114.26	15	⇑PKiKP	PKiKP	22 02 15.5	-0.1
U15A	North Rim baz=114	114.43	24	⇓PKiKP	PKPdf	22 02 16.8	+0.6
U15A	North Rim baz=114	114.43	24	⇓PKiKP	PKPdf	22 02 16.8	+0.6
GMRC	Granite Mounta baz=114	114.55	27	⇓PKiKP	PKPdf	22 02 16.5	+0.2
GMRC	Granite Mounta baz=114	114.55	27	⇓PKiKP	PKPdf	22 02 16.5	+0.2
R22A	Saguache, Gunn baz=114	114.61	18	⇑PKiKP	PKPdf	22 02 17.0	+0.5
R22A	Saguache, Gunn baz=114	114.61	18	⇑PKiKP	PKPdf	22 02 17.0	+0.5
P28A	Saint Francis baz=114	114.61	14	⇓PKiKP	PKiKP	22 02 15.9	-0.3
P28A	Saint Francis baz=114	114.61	14	⇓PKiKP	PKiKP	22 02 15.9	-0.3
Q25A	Bedland, Calha baz=114	114.65	16	⇓PKiKP	PKiKP	22 02 15.8	-0.7
Q25A	Bedland, Calha baz=114	114.65	16	⇓PKiKP	PKiKP	22 02 15.8	-0.7
Q26A	Hugo baz=114	114.82	16	⇓PKiKP	PKiKP	22 02 16.7	0.0
Q26A	Hugo baz=114	114.82	16	⇓PKiKP	PKiKP	22 02 16.7	0.0
S21A	Coal Bank Pass baz=114	114.82	20	⇑PKiKP	PKPdf	22 02 17.4	+0.4
S21A	Coal Bank Pass baz=114	114.82	20	⇑PKiKP	PKPdf	22 02 17.4	+0.4
R23A	Moffat baz=115	114.91	18	⇓PKiKP	PKiKP	22 02 17.0	-0.1
R23A	Moffat baz=115	114.91	18	⇓PKiKP	PKiKP	22 02 17.0	-0.1
MVCO	Mesa Verde baz=115	115.02	20	⇓PKiKP	PKiKP	22 02 17.0	-0.3
MVCO	Mesa Verde baz=115	115.02	20	⇓PKiKP	PKiKP	22 02 17.0	-0.3
S22A	4UR Ranch, Cre baz=115	115.03	19	⇑PKiKP	PKiKP	22 02 17.2	-0.2
S22A	4UR Ranch, Cre baz=115	115.03	19	⇑PKiKP	PKiKP	22 02 17.2	-0.2
R24A	Sanders Place, baz=115	115.07	17	⇑PKiKP	PKiKP	22 02 16.9	-0.4
R24A	Sanders Place, baz=115	115.07	17	⇑PKiKP	PKiKP	22 02 16.9	-0.4
P31A	Stockton baz=115	115.15	12	⇑PKiKP	PKiKP	22 02 16.9	-0.3
P31A	Stockton baz=115	115.15	12	⇑PKiKP	PKiKP	22 02 16.9	-0.3
IRM	Iron Mountain baz=115	115.29	27	⇓PKiKP	PKiKP	22 02 17.4	-0.2
IRM	Iron Mountain baz=115	115.29	27	⇓PKiKP	PKiKP	22 02 17.4	-0.2
R25A	Fountain Ranch baz=115	115.36	17	⇓PKiKP	PKiKP	22 02 17.2	-0.6
R25A	Fountain Ranch baz=115	115.36	17	⇓PKiKP	PKiKP	22 02 17.2	-0.6
SDCO	Great Sand Dun	115.41	18	ePKPdf	PKPdf	22 02 17.1	-0.9
SDCO				ePP	PP	22 03 19.2	-0.2
R26A	Arlington baz=115	115.43	16	⇑PKiKP	PKiKP	22 02 17.4	-0.5
R26A	Arlington baz=115	115.43	16	⇑PKiKP	PKiKP	22 02 17.4	-0.5
Q29A	Oakley baz=115	115.44	14	⇑PKiKP	PKiKP	22 02 17.3	-0.6
Q29A	Oakley baz=115	115.44	14	⇑PKiKP	PKiKP	22 02 17.3	-0.6
Q30A	Quinter baz=115	115.51	13	⇓PKiKP	PKiKP	22 02 17.6	-0.3
Q30A	Quinter baz=115	115.51	13	⇓PKiKP	PKiKP	22 02 17.6	-0.3
WUAZ	Wupatki	115.57	23	ePKPdf	PKPdf	22 02 18.4	+0.1
WUAZ	Wupatki baz=115	115.57	23	⇓PKiKP	PKiKP	22 02 17.8	-0.5
WUAZ	Wupatki baz=115	115.57	23	⇓PKiKP	PKiKP	22 02 17.8	-0.5
S24A	Houchin Ranch, baz=115	115.59	17	⇓PKiKP	PKiKP	22 02 18.3	-0.2
S24A	Houchin Ranch, baz=115	115.59	17	⇓PKiKP	PKiKP	22 02 18.3	-0.2
R27A	Eads baz=115	115.60	15	⇓PKiKP	PKiKP	22 02 18.0	-0.2
R27A	Eads baz=115	115.60	15	⇓PKiKP	PKiKP	22 02 18.0	-0.2
SFIN	Scholer Farm baz=115	115.63	2	⇓PKiKP	PKiKP	22 02 17.7	-0.3
SFIN	Scholer Farm baz=115	115.63	2	⇓PKiKP	PKiKP	22 02 17.7	-0.3
Q31A	Ellis baz=115	115.65	12	⇓PKiKP	PKiKP	22 02 17.9	-0.3
Q31A	Ellis baz=115	115.65	12	⇓PKiKP	PKiKP	22 02 17.9	-0.3
U20A	Newcomb baz=115	115.78	21	⇑PKiKP	PKPdf	22 02 18.9	+0.2
U20A	Newcomb baz=115	115.78	21	⇑PKiKP	PKPdf	22 02 18.9	+0.2
R28A	Tribune baz=115	115.78	14	⇓PKiKP	PKiKP	22 02 18.1	-0.4
R28A	Tribune baz=115	115.78	14	⇓PKiKP	PKiKP	22 02 18.1	-0.4
MONP	Monument Peak baz=116	115.83	29	⇓PKiKP	PKiKP	22 02 18.7	-0.2
MONP	Monument Peak baz=116	115.83	29	⇓PKiKP	PKiKP	22 02 18.7	-0.2
T23A	Casias Ranch, baz=116	115.92	18	⇑PKiKP	PKPdf	22 02 19.3	+0.2
T23A	Casias Ranch, baz=116	115.92	18	⇑PKiKP	PKPdf	22 02 19.3	+0.2
U21A	Nageezi baz=116	116.00	20	⇓PKiKP	PKPdf	22 02 19.7	+0.5
U21A	Nageezi baz=116	116.00	20	⇓PKiKP	PKPdf	22 02 19.7	+0.5
KSU1	Kansas State U	116.04	10	ePKPdf	PKPdf	22 02 18.3	-0.5
SWSC	Sam W. Stewart baz=116	116.06	28	⇓PKiKP	PKiKP	22 02 18.7	-0.4
SWSC	Sam W. Stewart baz=116	116.06	28	⇓PKiKP	PKiKP	22 02 18.7	-0.4
S26A	Kim baz=116	116.07	16	⇑PKiKP	PKiKP	22 02 18.8	-0.3
S26A	Kim baz=116	116.07	16	⇑PKiKP	PKiKP	22 02 18.8	-0.3
R30A	Dighton baz=116	116.17	13	⇓PKiKP	PKiKP	22 02 18.9	-0.3
R30A	Dighton baz=116	116.17	13	⇓PKiKP	PKiKP	22 02 18.9	-0.3
T25A	Trinidad baz=116	116.28	17	⇑PKiKP	PKiKP	22 02 19.7	0.0
T25A	Trinidad baz=116	116.28	17	⇑PKiKP	PKiKP	22 02 19.7	0.0
U22A	Llaves baz=116	116.30	19	⇓PKiKP	PKiKP	22 02 20.1	+0.4
U22A	Llaves baz=116	116.30	19	⇓PKiKP	PKiKP	22 02 20.1	+0.4
V20A	Brimhall baz=116	116.32	21	⇑PKiKP	PKiKP	22 02 20.1	+0.3
V20A	Brimhall baz=116	116.32	21	⇑PKiKP	PKiKP	22 02 20.1	+0.3
Y14A	Wickenburg baz=116	116.36	26	⇓PKiKP	PKiKP	22 02 20.1	+0.4
Y14A	Wickenburg baz=116	116.36	26	⇓PKiKP	PKiKP	22 02 20.1	+0.4
GLA	Glamis baz=116	116.38	28	⇑PKiKP	PKiKP	22 02 20.1	+0.4
GLA	Glamis baz=116	116.38	28	⇑PKiKP	PKiKP	22 02 20.1	+0.4
T26A	Comanche Natio baz=116	116.46	16	⇑PKiKP	PKPdf	22 02 19.6	-0.4
T26A	Comanche Natio baz=116	116.46	16	⇑PKiKP	PKPdf	22 02 19.6	-0.4
S28A	Manter baz=116	116.48	15	⇑PKiKP	PKPdf	22 02 19.4	-0.4
S28A	Manter baz=116	116.48	15	⇑PKiKP	PKPdf	22 02 19.4	-0.4
W18A	Petrified Fore baz=116	116.51	22	⇓PKiKP	PKiKP	22 02 20.5	+0.4
W18A	Petrified Fore baz=116	116.51	22	⇓PKiKP	PKiKP	22 02 20.5	+0.4
U23A	El Rito baz=116	116.54	19	⇑PKiKP	PKiKP	22 02 20.5	+0.3
U23A	El Rito baz=116	116.54	19	⇑PKiKP	PKiKP	22 02 20.5	+0.3
V21A	Milan baz=116	116.58	20	⇑PKiKP	PKPdf	22 02 20.0	-0.3
V21A	Milan baz=116	116.58	20	⇑PKiKP	PKPdf	22 02 20.0	-0.3
V22A	San Miguel Ran baz=116	116.71	20	⇑PKiKP	PKiKP	22 02 21.3	+0.7
V22A	San Miguel Ran baz=116	116.71	20	⇑PKiKP	PKiKP	22 02 21.3	+0.7
T27A	Campo baz=116	116.78	16	⇓PKiKP	PKPdf	22 02 20.2	-0.3
T27A	Campo baz=116	116.78	16	⇓PKiKP	PKPdf	22 02 20.2	-0.3
T28A	Walsh baz=116	116.88	15	⇑PKiKP	PKPdf	22 02 20.4	-0.3
T28A	Walsh baz=116	116.88	15	⇑PKiKP	PKPdf	22 02 20.4	-0.3
W20A	Ramah baz=117	116.92	21	⇓PKiKP	PKiKP	22 02 21.4	+0.4
W20A	Ramah baz=117	116.92	21	⇓PKiKP	PKiKP	22 02 21.4	+0.4
S31A	Mullinville baz=117	116.97	13	⇓PKiKP	PKPdf	22 02 20.4	-0.4
S31A	Mullinville baz=117	116.97	13	⇓PKiKP	PKPdf	22 02 20.4	-0.4
U25A	Circle Dot Ran baz=117	116.97	17	⇑PKiKP	PKiKP	22 02 21.4	+0.4
U25A	Circle Dot Ran baz=117	116.97	17	⇑PKiKP	PKiKP	22 02 21.4	+0.4
T29A	Hugoton baz=117	117.03	14	⇑PKiKP	PKPdf	22 02 20.8	-0.1
T29A	Hugoton baz=117	117.03	14	⇑PKiKP	PKPdf	22 02 20.8	-0.1
113A	Mohawk Valley, baz=117	117.07	27	⇑PKiKP	PKPdf	22 02 20.9	-0.1
113A	Mohawk Valley, baz=117	117.07	27	⇑PKiKP	PKPdf	22 02 20.9	-0.1
U26A	Atchley Ranch, baz=117	117.16	17	⇑PKiKP	PKPdf	22 02 20.9	-0.5
U26A	Atchley Ranch, baz=117	117.16	17	⇑PKiKP	PKPdf	22 02 20.9	-0.5
T30A	Plains baz=117	117.30	14	⇑PKiKP	PKPdf	22 02 21.4	-0.1
T30A	Plains baz=117	117.30	14	⇑PKiKP	PKPdf	22 02 21.4	-0.1
V24A	Rampart Ranch, baz=117	117.37	18	⇓PKiKP	PKiKP	22 02 22.2	+0.3
V24A	Rampart Ranch, baz=117	117.37	18	⇓PKiKP	PKiKP	22 02 22.2	+0.3
U27A	Thompson Grove baz=117	117.37	16	⇑PKiKP	PKPdf	22 02 21.4	-0.3
U27A	Thompson Grove baz=117	117.37	16	⇑PKiKP	PKPdf	22 02 21.4	-0.3
V25A	Rancho No Teng baz=117	117.44	18	⇓PKiKP	PKPdf	22 02 21.9	0.0
V25A	Rancho No Teng baz=117	117.44	18	⇓PKiKP	PKPdf	22 02 21.9	0.0
U28A	Mallet baz=117	117.56	15	⇑PKiKP	PKPdf	22 02 21.5	-0.5
U28A	Mallet baz=117	117.56	15	⇑PKiKP	PKPdf	22 02 21.5	-0.5
W23A	Werner Place, baz=117	117.64	19	⇑PKiKP	PKPdf	22 02 22.1	-0.3
W23A	Werner Place, baz=117	117.64	19	⇑PKiKP	PKPdf	22 02 22.1	-0.3
U29A	Oasis Ranch, S baz=117	117.71	15	⇑PKiKP	PKPdf	22 02 21.7	-0.5
U29A	Oasis Ranch, S baz=117	117.71	15	⇑PKiKP	PKPdf	22 02 21.7	-0.5
V26A	Tequesquite Ra baz=117	117.71	17	⇑PKiKP	PKPdf	22 02 21.4	-0.9
V26A	Tequesquite Ra baz=117	117.71	17	⇑PKiKP	PKPdf	22 02 21.4	-0.9
ANMO	Albuquerque	117.74	20	ePKPdf	PKPdf	22 02 22.9	+0.4
ANMO				PKKPbc	PKKPbc	22 12 42.9	-1.5
ANMO	Albuquerque	117.74	20	PKKPbc	PKKPbc	22 12 42.9	-1.5
	comp=Z,2.5hm,0.8s,baz=145,slow=7.0,SNR=7.1						
U30A	WK&E Inc. Balk baz=117	117.77	14	⇓PKiKP	PKPdf	22 02 22.3	-0.1
U30A	WK&E Inc. Balk baz=117	117.77	14	⇓PKiKP	PKPdf	22 02 22.3	-0.1
X21A	Alamocita Cree baz=117	117.78	21	⇓PKiKP	PKiKP	22 02 23.4	+0.7
X21A	Alamocita Cree baz=117	117.78	21	⇓PKiKP	PKiKP	22 02 23.4	+0.7
W24A	Lazy 6 Ranch, baz=118	117.81	19	⇑PKiKP	PKiKP	22 02 23.2	+0.5
W24A	Lazy 6 Ranch, baz=118	117.81	19	⇑PKiKP	PKiKP	22 02 23.2	+0.5
X22A	Bernardo baz=118	117.98	20	⇑PKiKP	PKiKP	22 02 24.0	+1.1
X22A	Bernardo baz=118	117.98	20	⇑PKiKP	PKiKP	22 02 24.0	+1.1
V27A	Dan Oppiter Fa baz=118	117.99	16	⇓PKiKP	PKiKP	22 02 23.2	+0.3
V27A	Dan Oppiter Fa baz=118	117.99	16	⇓PKiKP	PKiKP	22 02 23.2	+0.3
W25A	X Bar L Ranch, baz=118	118.07	18	⇓PKiKP	PKPdf	22 02 23.1	0.0
W25A	X Bar L Ranch, baz=118	118.07	18	⇓PKiKP	PKPdf	22 02 23.1	0.0
Y20A	Horse Springs, baz=118	118.08	22	⇓PKiKP	PKiKP	22 02 23.8	+0.5
Y20A	Horse Springs, baz=118	118.08	22	⇓PKiKP	PKiKP	22 02 23.8	+0.5
U31A	Nine Bar Ranch baz=118	118.10	13	⇓PKiKP	PKPdf	22 02 22.9	-0.1
U31A	Nine Bar Ranch baz=118	118.10	13	⇓PKiKP	PKPdf	22 02 22.9	-0.1
V28A	Channing baz=118	118.15	16	⇓PKiKP	PKPdf	22 02 22.8	-0.4
V28A	Channing baz=118	118.15	16	⇓PKiKP	PKPdf	22 02 22.8	-0.4
X23A	Hourglass Bar baz=118	118.16	20	⇑PKiKP	PKiKP	22 02 23.8	+0.4
X23A	Hourglass Bar baz=118	118.16	20	⇑PKiKP	PKiKP	22 02 23.8	+0.4
214A	Organ Pipe Nat baz=118	118.17	26	⇑PKiKP	PKiKP	22 02 23.6	+0.3
214A	Organ Pipe Nat baz=118	118.17	26	⇑PKiKP	PKiKP	22 02 23.6	+0.3
SIUC	Southern Illin	118.20	4	ePKPdf	PKPdf	22 02 23.2	+0.2
V29A	Stinnett baz=118	118.20	15	⇓PKiKP	PKPdf	22 02 22.7	-0.6
V29A	Stinnett baz=118	118.20	15	⇓PKiKP	PKPdf	22 02 22.7	-0.6
Y21A	Point of Rocks baz=118	118.22	21	⇓PKiKP	PKiKP	22 02 24.3	+0.7
Y21A	Point of Rocks baz=118	118.22	21	⇓PKiKP	PKiKP	22 02 24.3	+0.7
LENM	Lemitar	118.30	20	ePKPdf	PKPdf	22 02 24.0	+0.4
W26A	Owens Ranch, T baz=118	118.38	17	⇓PKiKP	PKPdf	22 02 23.6	0.0
W26A	Owens Ranch, T baz=118	118.38	17	⇓PKiKP	PKPdf	22 02 23.6	0.0
X24A	Lazy VL Ranch, baz=118	118.40	19	⇑PKiKP	PKiKP	22 02 23.9	+0.1
X24A	Lazy VL Ranch, baz=118	118.40	19	⇑PKiKP	PKiKP	22 02 23.9	+0.1
BNM	Barren Site	118.42	20	ePKPdf	PKPdf	22 02 24.8	+0.9
Y22A	Socorro baz=118	118.51	20	⇑PKiKP	PKiKP	22 02 24.7	+0.7
Y22A	Socorro baz=118	118.51	20	⇑PKiKP	PKiKP	22 02 24.7	+0.7
W27A	Bowe Ranch, En baz=118	118.59	17	⇓PKiKP	PKPdf	22 02 23.9	-0.1
W27A	Bowe Ranch, En baz=118	118.59	17	⇓PKiKP	PKPdf	22 02 23.9	-0.1
W28A	Vega baz=118	118.63	16	⇑PKiKP	PKiKP	22 02 24.7	+0.6
W28A	Vega baz=118	118.63	16	⇑PKiKP	PKiKP	22 02 24.7	+0.6
X25A	Clemmons Ranch baz=118	118.66	18	⇓PKiKP	PKPdf	22 02 24.1	-0.1
X25A	Clemmons Ranch baz=118	118.66	18	⇓PKiKP	PKPdf	22 02 24.1	-0.1
V31A	Spring Creek L baz=118	118.68	13	⇓PKiKP	PKiKP	22 02 24.6	+0.4
V31A	Spring Creek L baz=118	118.68	13	⇓PKiKP	PKiKP	22 02 24.6	+0.4
Z20A	Nine Sixteen R baz=118	118.73	22	⇑PKiKP	PKiKP	22 02 24.9	+0.5
Z20A	Nine Sixteen R baz=118	118.73	22	⇑PKiKP	PKiKP	22 02 24.9	+0.5
Y23A	Lovelace Mesa, baz=118	118.80	20	⇓PKiKP	PKiKP	22 02 24.9	+0.3
Y23A	Lovelace Mesa, baz=118	118.80	20	⇓PKiKP	PKiKP	22 02 24.9	+0.3
Z21A	St. Cloud Mine baz=118	118.86	21	⇓PKiKP	PKiKP	22 02 25.6	+0.8
Z21A	St. Cloud Mine baz=118	118.86	21	⇓PKiKP	PKiKP	22 02 25.6	+0.8
X26A	CR and CF Fran baz=118	118.88	17	⇓PKiKP	PKPdf	22 02 24.6	-0.1
X26A	CR and CF Fran baz=118	118.88	17	⇓PKiKP	PKPdf	22 02 24.6	-0.1
Y24A	Capitan baz=119	119.00	19	⇑PKiKP	PKiKP	22 02 25.3	+0.3
Y24A	Capitan baz=119	119.00	19	⇑PKiKP	PKiKP	22 02 25.3	+0.3
Z22A	Elephant Butte baz=119	119.14	21	⇓PKiKP	PKiKP	22 02 25.6	+0.3
Z22A	Elephant Butte baz=119	119.14	21	⇓PKiKP	PKiKP	22 02 25.6	+0.3
W31A	Holland Ranch, baz=119	119.22	14	⇓PKiKP	PKPdf	22 02 24.8	-0.4
W31A	Holland Ranch, baz=119	119.22	14	⇓PKiKP	PKPdf	22 02 24.8	-0.4
TUL1	Tulsa baz=119	119.29	10	⇑PKiKP	PKPdf	22 02 24.9	-0.3
TUL1	Tulsa baz=119	119.29	10	⇑PKiKP	PKPdf	22 02 24.9	-0.3
Z23A	Rita Site, Whi baz=119	119.37	20	⇑PKiKP	PKiKP	22 02 26.1	+0.4
Z23A	Rita Site, Whi baz=119	119.37	20	⇑PKiKP	PKiKP	22 02 26.1	+0.4
TZTN	Tazewell	119.45	358	ePKPdf	PKPdf	22 02 25.6	0.0
TZTN				ePKPdf	pPKPdf	22 02 53.0	-0.5
Y26A	Elida baz=119	119.46	18	⇑PKiKP	PKPdf	22 02 25.4	-0.4
Y26A	Elida baz=119	119.46	18	⇑PKiKP	PKPdf	22 02 25.4	-0.4
X29A	Tulia baz=119	119.52	16	⇑PKiKP	PKPdf	22 02 25.6	-0.3
X29A	Tulia baz=119	119.52	16	⇑PKiKP	PKPdf	22 02 25.6	-0.3
121A	Cookes Peak, D baz=119	119.53	22	⇓PKiKP	PKiKP	22 02 26.5	+0.4
121A	Cookes Peak, D baz=119	119.53	22	⇓PKiKP	PKiKP	22 02 26.5	+0.4
Z24A	Sheeppen Canyo baz=119	119.57	19	⇑PKiKP	PKiKP	22 02 26.7	+0.6
Z24A	Sheeppen Canyo baz=119	119.57	19	⇑PKiKP	PKiKP	22 02 26.7	+0.6
122A	Conniff Cattle baz=119	119.64	21	⇑PKiKP	PKiKP	22 02 26.5	+0.2
122A	Conniff Cattle baz=119	119.64	21	⇑PKiKP	PKiKP	22 02 26.5	+0.2
Y27A	Causey baz=119	119.68	17	⇑PKiKP	PKPdf	22 02 25.9	-0.3
Y27A	Causey baz=119	119.68	17	⇑PKiKP	PKPdf	22 02 25.9	-0.3
MSTX	Muleshoe baz=119	119.70	17	⇑PKiKP	PKPdf	22 02 25.8	-0.4
MSTX	Muleshoe baz=119	119.70	17	⇑PKiKP	PKPdf	22 02 25.8	-0.4
X30A	Coker Ranch, T baz=119	119.72	15	⇓PKiKP	PKPdf	22 02 25.4	-0.8
X30A	Coker Ranch, T baz=119	119.72	15	⇓PKiKP	PKPdf	22 02 25.4	-0.8
X31A	McDonald Ranch baz=119	119.75	14	⇓PKiKP	PKPdf	22 02 25.7	-0.4
X31A	McDonald Ranch baz=119	119.75	14	⇓PKiKP	PKPdf	22 02 25.7	-0.4
Z25A	Roswell baz=120	119.81	19	⇑PKiKP	PKiKP	22 02 26.9	+0.4
Z25A	Roswell baz=120	119.81	19	⇑PKiKP	PKiKP	22 02 26.9	+0.4

WVT	Waverly	119.84	2	ePKIKP	PKPdf	22 02 25.8	-0.4
WVT	Waverly	119.84	2	ePKPdf	PKPdf	22 02 25.8	-0.4
220A	Playas Peak, P	119.85	23	⇓PKiKP	PKiKP	22 02 27.0	+0.3
	baz=120						
220A	Playas Peak, P	119.85	23	⇓PKiKP	PKiKP	22 02 27.0	+0.3
	baz=120						
WMOK	Wichita Mounta	119.90	13	ePKIKP	PKPdf	22 02 25.3	-1.1
WMOK	Wichita Mounta	119.90	13	ePKPdf	PKPdf	22 02 25.3	-1.1
PPT2	Papeete2	120.02	97	eLR	LR	22 39 23.4	
	comp=Z,357nm,30.0s						
Z26A	Caprock	120.03	18	⇑PKiKP	PKPdf	22 02 26.4	-0.4
	baz=120						
Z26A	Caprock	120.03	18	⇑PKiKP	PKPdf	22 02 26.4	-0.4
	baz=120						
319A	Douglas	120.05	24	⇑PKiKP	PKiKP	22 02 27.6	+0.6
	baz=120						
319A	Douglas	120.05	24	⇑PKiKP	PKiKP	22 02 27.6	+0.6
	baz=120						
124A	Stringfield Ra	120.13	20	⇑PKiKP	PKiKP	22 02 27.8	+0.5
	baz=120						
124A	Stringfield Ra	120.13	20	⇑PKiKP	PKiKP	22 02 27.8	+0.5
	baz=120						
222A	Williams Famil	120.15	21	⇓PKiKP	PKiKP	22 02 27.6	+0.3
	baz=120						
222A	Williams Famil	120.15	21	⇓PKiKP	PKiKP	22 02 27.6	+0.3
	baz=120						
Z27A	Tatum	120.20	17	⇓PKiKP	PKiKP	22 02 27.3	0.0
	baz=120						
Z27A	Tatum	120.20	17	⇓PKiKP	PKiKP	22 02 27.3	0.0
	baz=120						
Y30A	Stafford Cattl	120.26	15	⇓PKiKP	PKPdf	22 02 26.8	-0.4
	baz=120						
Y30A	Stafford Cattl	120.26	15	⇓PKiKP	PKPdf	22 02 26.8	-0.4
	baz=120						
Y31A	Rekieta Farm,	120.33	14	⇓PKiKP	PKPdf	22 02 26.7	-0.6
	baz=120						
Y31A	Rekieta Farm,	120.33	14	⇓PKiKP	PKPdf	22 02 26.7	-0.6
	baz=120						
TKL	Tuckaleechee C	120.34	359	ePKPdf	PKPdf	22 02 27.2	0.0
TKL				ePKPdf	pPKPdf	22 02 54.4	-0.9
TKL				pPKP	pPKPdf	22 02 54.8	-0.5
TKL				PKKPbc	PKKPbc	22 12 36.2	+1.5
TKL				PKKP	PKKPdf	22 13 04.6	-1.5
TKL	Tuckaleechee C	120.34	359	PKP	PKPdf	22 02 27.2	0.0
	comp=Z,28nm,0.8s,baz=131,slow=3.5,SNR=22						
TKL				pPKP	pPKPdf	22 02 54.8	-0.5
	comp=Z,8.0nm,0.8s,baz=220,slow=1.3,SNR=2.9						
TKL				PKKPbc	PKKPbc	22 12 36.2	+1.5
	comp=Z,1.3nm,0.6s,baz=99,slow=5.5,SNR=3.6						
TKL				PKKP	PKKPdf	22 13 04.6	-1.5
	comp=Z,1.4nm,0.4s,baz=135,slow=2.9,SNR=4.1						
320A	Kipp Ranch, An	120.36	23	⇓PKiKP	PKiKP	22 02 27.9	+0.2
	baz=120						
320A	Kipp Ranch, An	120.36	23	⇓PKiKP	PKiKP	22 02 27.9	+0.2
	baz=120						
125A	Gardner Draw,	120.41	19	⇓PKiKP	PKPdf	22 02 27.4	-0.2
	baz=120						
125A	Gardner Draw,	120.41	19	⇓PKiKP	PKPdf	22 02 27.4	-0.2
	baz=120						
Z28A	Tucker Farm, M	120.45	17	⇓PKiKP	PKPdf	22 02 27.3	-0.3
	baz=120						
Z28A	Tucker Farm, M	120.45	17	⇓PKiKP	PKPdf	22 02 27.3	-0.3
	baz=120						
Y32A	R-V Farms, Ver	120.47	14	⇑PKiKP	PKPdf	22 02 27.3	-0.3
	baz=120						
Y32A	R-V Farms, Ver	120.47	14	⇑PKiKP	PKPdf	22 02 27.3	-0.3
	baz=120						
CPCT	Cooper Cave	120.56	359	ePKPdf	PKPdf	22 02 27.3	-0.3
126A	Clayton Basin,	120.61	18	⇓PKiKP	PKPdf	22 02 27.3	-0.6
	baz=120						
126A	Clayton Basin,	120.61	18	⇓PKiKP	PKPdf	22 02 27.3	-0.6
	baz=120						
Z29A	Hungry Hill Ra	120.65	16	⇑PKiKP	PKPdf	22 02 27.9	-0.2
	baz=120						
Z29A	Hungry Hill Ra	120.65	16	⇑PKiKP	PKPdf	22 02 27.9	-0.2
	baz=120						
KMSC	Kings Mountain	120.76	356	⇓PKiKP	PKPdf	22 02 28.0	0.0
	baz=120						
KMSC	Kings Mountain	120.76	356	⇓PKiKP	PKPdf	22 02 28.0	0.0
	baz=120						
127A	Arkansas Junct	120.77	18	⇑PKiKP	PKPdf	22 02 28.0	-0.3
	baz=120						
127A	Arkansas Junct	120.77	18	⇑PKiKP	PKPdf	22 02 28.0	-0.3
	baz=120						
Z30A	Sanderson Ranc	120.77	15	⇑PKiKP	PKPdf	22 02 27.8	-0.4
	baz=120						
Z30A	Sanderson Ranc	120.77	15	⇑PKiKP	PKPdf	22 02 27.8	-0.4
	baz=120						
SWET	Sewanee	120.80	1	ePKPdf	PKPdf	22 02 27.0	-1.2
UALR	University of	120.86	7	ePKPdf	PKPdf	22 02 28.2	0.0
225A	Deer Hill, Car	120.87	19	⇑PKiKP	PKPdf	22 02 28.5	-0.1
	baz=120						
225A	Deer Hill, Car	120.87	19	⇑PKiKP	PKPdf	22 02 28.5	-0.1
	baz=120						
Z31A	Sharp Cattle R	120.97	15	⇓PKiKP	PKPdf	22 02 28.4	-0.1
	baz=121						
Z31A	Sharp Cattle R	120.97	15	⇓PKiKP	PKPdf	22 02 28.4	-0.1
	baz=121						
128A	Castleberry Fa	121.06	17	⇑PKiKP	PKPdf	22 02 28.6	-0.3
	baz=121						
128A	Castleberry Fa	121.06	17	⇑PKiKP	PKPdf	22 02 28.6	-0.3
	baz=121						
MNTX	Cornudas Mount	121.08	20	ePKPdf	PKPdf	22 02 28.7	-0.1
226B	Tecolote Peak,	121.10	19	⇑PKiKP	PKPdf	22 02 28.7	-0.2
	baz=121						
226B	Tecolote Peak,	121.10	19	⇑PKiKP	PKPdf	22 02 28.7	-0.2
	baz=121						
Z32A	Haskell	121.13	14	⇑PKiKP	PKiKP	22 02 29.0	0.0
	baz=121						
Z32A	Haskell	121.13	14	⇑PKiKP	PKiKP	22 02 29.0	0.0
	baz=121						
129A	Stewart Farms,	121.21	16	⇓PKiKP	PKPdf	22 02 28.9	-0.2
	baz=121						
129A	Stewart Farms,	121.21	16	⇓PKiKP	PKPdf	22 02 28.9	-0.2
	baz=121						
324A	Moseley Ranch,	121.29	20	⇓PKiKP	PKPdf	22 02 29.3	0.0
	baz=121						
324A	Moseley Ranch,	121.29	20	⇓PKiKP	PKPdf	22 02 29.3	0.0
	baz=121						
OXF	Oxford	121.37	4	ePKIKP	PKPdf	22 02 28.4	-0.8
OXF	Oxford	121.37	4	ePKPdf	PKPdf	22 02 28.4	-0.8
227A	Bennet, Jal	121.41	18	⇓PKiKP	PKPdf	22 02 29.5	0.0
	baz=121						
227A	Bennet, Jal	121.41	18	⇓PKiKP	PKPdf	22 02 29.5	0.0
	baz=121						
130A	Snyder	121.47	16	⇓PKiKP	PKPdf	22 02 29.5	-0.1
	baz=121						
130A	Snyder	121.47	16	⇓PKiKP	PKPdf	22 02 29.5	-0.1
	baz=121						
228A	UT Block 9, Go	121.50	17	⇓PKiKP	PKPdf	22 02 29.6	-0.1
	baz=121						
228A	UT Block 9, Go	121.50	17	⇓PKiKP	PKPdf	22 02 29.6	-0.1
	baz=121						
325A	Bean Ranch, Si	121.52	20	⇑PKiKP	PKPdf	22 02 29.7	-0.2
	baz=121						
325A	Bean Ranch, Si	121.52	20	⇑PKiKP	PKPdf	22 02 29.7	-0.2
	baz=121						
131A	Roby	121.53	15	⇑PKiKP	PKiKP	22 02 29.8	-0.1
	baz=121						
131A	Roby	121.53	15	⇑PKiKP	PKiKP	22 02 29.8	-0.1
	baz=121						
ABTX	Abilene, Hawle	121.75	14	⇓PKiKP	PKPdf	22 02 30.0	0.0
	baz=121						
ABTX	Abilene, Hawle	121.75	14	⇓PKiKP	PKPdf	22 02 30.0	0.0
	baz=121						
TBI	Tubuai	121.77	103	eLR	LR	22 40 09.6	
	comp=Z,309nm,35.2s						
229A	Bryant Ranch,	121.85	17	⇑PKiKP	PKPdf	22 02 30.0	-0.3
	baz=122						
229A	Bryant Ranch,	121.85	17	⇑PKiKP	PKPdf	22 02 30.0	-0.3
	baz=122						
326A	Caldwell Ranch	121.86	19	⇓PKiKP	PKPdf	22 02 30.1	-0.3
	baz=122						
326A	Caldwell Ranch	121.86	19	⇓PKiKP	PKPdf	22 02 30.1	-0.3
	baz=122						
425A	Indio Mountain	122.05	20	⇓PKiKP	PKPdf	22 02 30.7	-0.1
	baz=122						
425A	Indio Mountain	122.05	20	⇓PKiKP	PKPdf	22 02 30.7	-0.1
	baz=122						
230A	Sterling City	122.11	16	⇓PKiKP	PKiKP	22 02 30.9	-0.1
	baz=122						
230A	Sterling City	122.11	16	⇓PKiKP	PKiKP	22 02 30.9	-0.1
	baz=122						
328A	Wristen Ranch,	122.14	18	⇑PKiKP	PKPdf	22 02 30.7	-0.2
	baz=122						
328A	Wristen Ranch,	122.14	18	⇑PKiKP	PKPdf	22 02 30.7	-0.2
	baz=122						
231A	Bronte	122.26	15	⇓PKiKP	PKPdf	22 02 30.7	-0.4
	baz=122						
231A	Bronte	122.26	15	⇓PKiKP	PKPdf	22 02 30.7	-0.4
	baz=122						
329A	Wagon Wheel Ra	122.26	17	⇓PKiKP	PKPdf	22 02 30.8	-0.4
	baz=122						
329A	Wagon Wheel Ra	122.26	17	⇓PKiKP	PKPdf	22 02 30.8	-0.4
	baz=122						
426A	McDonald Obser	122.46	19	⇓PKiKP	PKPdf	22 02 31.6	-0.1
	baz=122						
426A	McDonald Obser	122.46	19	⇓PKiKP	PKPdf	22 02 31.6	-0.1
	baz=122						
232A	Coleman	122.46	14	⇑PKiKP	PKPdf	22 02 31.5	0.0
	baz=122						
232A	Coleman	122.46	14	⇑PKiKP	PKPdf	22 02 31.5	0.0
	baz=122						
427A	Hayter Ranch,	122.47	18	⇓PKiKP	PKiKP	22 02 31.9	+0.2
	baz=122						
427A	Hayter Ranch,	122.47	18	⇓PKiKP	PKiKP	22 02 31.9	+0.2
	baz=122						
330A	Mertzon	122.55	16	⇓PKiKP	PKPdf	22 02 31.4	-0.2
	baz=122						
330A	Mertzon	122.55	16	⇓PKiKP	PKPdf	22 02 31.4	-0.2
	baz=122						
428A	Kincaid Ranch,	122.79	18	⇓PKiKP	PKiKP	22 02 32.9	+0.5
	baz=122						
428A	Kincaid Ranch,	122.79	18	⇓PKiKP	PKiKP	22 02 32.9	+0.5
	baz=122						
WHTX	Lake Whitney	122.82	12	⇓PKiKP	PKPdf	22 02 32.0	-0.1
	baz=122						
WHTX	Lake Whitney	122.82	12	⇓PKiKP	PKPdf	22 02 32.0	-0.1
	baz=122						
331A	San Angelo	122.83	15	⇓PKiKP	PKPdf	22 02 32.2	0.0
	baz=122						
331A	San Angelo	122.83	15	⇓PKiKP	PKPdf	22 02 32.2	0.0
	baz=122						
332A	Millersview	122.92	15	⇑PKiKP	PKiKP	22 02 32.5	-0.1
	baz=123						
332A	Millersview	122.92	15	⇑PKiKP	PKiKP	22 02 32.5	-0.1
	baz=123						
526A	Mary Lane Ranc	123.00	19	⇓PKiKP	PKiKP	22 02 33.0	+0.1
	baz=123						
526A	Mary Lane Ranc	123.00	19	⇓PKiKP	PKiKP	22 02 33.0	+0.1
	baz=123						
527A	Woodward Ranch	123.07	19	⇑PKiKP	PKiKP	22 02 33.0	0.0
	baz=123						
527A	Woodward Ranch	123.07	19	⇑PKiKP	PKiKP	22 02 33.0	0.0
	baz=123						
429A	Davenport Ranc	123.10	17	⇓PKiKP	PKPdf	22 02 32.7	-0.1
	baz=123						
429A	Davenport Ranc	123.10	17	⇓PKiKP	PKPdf	22 02 32.7	-0.1
	baz=123						
430A	Baggett Ranch,	123.12	16	⇑PKiKP	PKPdf	22 02 32.8	0.0
	baz=123						
430A	Baggett Ranch,	123.12	16	⇑PKiKP	PKPdf	22 02 32.8	0.0
	baz=123						
528A	Cox Ranch, San	123.29	18	⇑PKiKP	PKPdf	22 02 33.2	0.0
	baz=123						
528A	Cox Ranch, San	123.29	18	⇑PKiKP	PKPdf	22 02 33.2	0.0
	baz=123						
431A	Sonora	123.38	16	⇓PKiKP	PKPdf	22 02 33.0	-0.3
	baz=123						
431A	Sonora	123.38	16	⇓PKiKP	PKPdf	22 02 33.0	-0.3
	baz=123						
432A	Menard	123.39	15	⇑PKiKP	PKPdf	22 02 33.0	-0.3
	baz=123						
432A	Menard	123.39	15	⇑PKiKP	PKPdf	22 02 33.0	-0.3
	baz=123						
626A	Big Bend Ranch	123.47	20	⇓PKiKP	PKPdf	22 02 33.5	-0.1
	baz=123						
626A	Big Bend Ranch	123.47	20	⇓PKiKP	PKPdf	22 02 33.5	-0.1
	baz=123						
529A	Stev Forest Ra	123.49	18	⇑PKiKP	PKiKP	22 02 33.7	-0.1
	baz=123						
529A	Stev Forest Ra	123.49	18	⇑PKiKP	PKiKP	22 02 33.7	-0.1
	baz=123						
530A	J-C Ranch, Com	123.70	17	⇑PKiKP	PKiKP	22 02 34.3	+0.1
	baz=123						
530A	J-C Ranch, Com	123.70	17	⇑PKiKP	PKiKP	22 02 34.3	+0.1
	baz=123						
JCT	Junction City	123.77	15	ePKIKP	PKPdf	22 02 33.5	-0.5
JCT	Junction City	123.77	15	ePKPdf	PKPdf	22 02 33.5	-0.5
JCT	Junction City	123.77	15	⇑PKiKP	PKiKP	22 02 34.3	+0.1
	baz=123						
JCT	Junction City	123.77	15	⇑PKiKP	PKiKP	22 02 34.3	+0.1
	baz=123						
627A	Terlingua Ranc	123.78	19	⇓PKiKP	PKiKP	22 02 34.4	0.0
	baz=124						
627A	Terlingua Ranc	123.78	19	⇓PKiKP	PKiKP	22 02 34.4	0.0
	baz=124						
TXAR	Lajitas Array	123.81	19	PKP	PKPdf	22 02 34.1	-0.1
TXAR				PKKPbc	PKKPbc	22 12 21.0	-0.5
TXAR	Lajitas Array	123.81	19	PKP	PKPdf	22 02 34.1	-0.1
	comp=Z,11nm,0.7s,baz=199,slow=1.1,SNR=97						
TXAR				PKKPbc	PKKPbc	22 12 21.0	-0.5
	comp=Z,1.1nm,0.8s,baz=134,slow=6.4,SNR=7.2						
531A	Rocksprings	123.89	16	⇓PKiKP	PKPdf	22 02 34.4	+0.1
	baz=124						
531A	Rocksprings	123.89	16	⇓PKiKP	PKPdf	22 02 34.4	+0.1
	baz=124						
628A	Black Gap, Mar	123.90	19	⇑PKiKP	PKiKP	22 02 34.6	+0.1
	baz=124						
628A	Black Gap, Mar	123.90	19	⇑PKiKP	PKiKP	22 02 34.6	+0.1
	baz=124						
532A	Rocksprings	124.08	15	⇓PKiKP	PKPdf	22 02 34.7	+0.1
	baz=124						
532A	Rocksprings	124.08	15	⇓PKiKP	PKPdf	22 02 34.7	+0.1
	baz=124						
TIGA	Tifton	124.55	358	⇓PKiKP	PKPdf	22 02 35.5	+0.1
	baz=124						
TIGA	Tifton	124.55	358	⇓PKiKP	PKPdf	22 02 35.5	+0.1
	baz=124						
631A	Perdido Creek	124.60	16	⇑PKiKP	PKPdf	22 02 35.6	0.0
	baz=124						
631A	Perdido Creek	124.60	16	⇑PKiKP	PKPdf	22 02 35.6	0.0
	baz=124						
632A	Uvalde	124.71	15	⇓PKiKP	PKiKP	22 02 36.1	0.0
	baz=124						
632A	Uvalde	124.71	15	⇓PKiKP	PKiKP	22 02 36.1	0.0
	baz=124						
732A	Laxson Ranch,	125.41	16	⇑PKiKP	PKPdf	22 02 37.2	+0.1
	baz=125						
732A	Laxson Ranch,	125.41	16	⇑PKiKP	PKPdf	22 02 37.2	+0.1
	baz=125						
CBYP	Canovanas	133.64	334	eSKPbc	SKPbc	22 06 12.6	0.0
MTP	Monte Pirata	133.67	334	ePKPdf	PKPdf	22 02 53.0	0.0
MTP				eSKPbc	SKPbc	22 06 13.3	+0.7
LRS	Lares	134.00	335	ePKPdf	PKPdf	22 02 54.2	+0.5
LRS				eSKPbc	SKPbc	22 06 14.1	+0.3
CELP	Cerrillos	134.10	335	ePKPdf	PKPdf	22 02 54.4	+0.5
CELP				eSKPdf	SKPbc	22 06 13.3	-0.7
OBIP	Obispado Ponce	134.14	335	ePKPdf	PKPdf	22 02 53.7	-0.3
OBIP				ePPKPdf	pPKPdf	22 03 22.7	+0.7
OBIP				eSKPbc	SKPbc	22 06 14.4	+0.3
TEIG	Tepich	135.64	4	ePKPdf	PKPdf	22 02 56.9	+0.2
TEIG				eSKPdf	SKPbc	22 06 18.9	-0.1
TEIG	Tepich	135.64	4	PKP	PKPdf	22 02 56.9	+0.2
	comp=Z,28nm,1.0s,baz=326,slow=2.4,SNR=11						
TEIG				SKPbc	SKPbc	22 06 18.8	-0.1
	comp=Z,8.4nm,0.7s,baz=342,slow=2.7,SNR=4.0						
BDFB	Brasilia	144.03	277	PKP	PKPbc	22 03 11.2	+0.9
BDFB	Brasilia	144.03	277	PKP	PKPbc	22 03 11.2	+0.9
	comp=Z,83nm,0.8s,baz=81,slow=3.0,SNR=114						
SDV	Santo Domingo	144.04	335	ePKPdf	PKPbc	22 03 11.0	+0.5
SDV				eSKPbc	SKPbc	22 06 41.5	-0.5
JTS	JuntasAbangare	145.61	359	PKPbc	PKPdf	22 03 13.3	-1.5
JTS	JuntasAbangare	145.61	359	PKPbc	PKPdf	22 03 13.3	-1.5
	comp=Z,25nm,0.8s,baz=284,slow=7.7,SNR=10						
EFI	East Falkland	145.64	210	ePKP2	PKPdf	22 03 13.7	+0.1
EFI	East Falkland	145.64	210	ePKPdf	PKPdf	22 03 13.7	+0.1
VCR	Vista de Mar	145.78	1	eP	PKPdf	22 03 15.1	-0.1
URSC	Urasca	146.03	357⇑	eP	PKPab	22 03 17.0	-0.3
CAO	Cobano	146.20	360	eP	PKPdf	22 03 15.8	0.0
BCIP	Isla Barro Col	146.31	350	eP	PKPbc	22 03 17.3	+0.1
BCIP	Isla Barro Col	146.31	350	ePKPdf	PKPbc	22 03 16.7	-0.6
BUS	Buena Vista	146.31	357	eP	PKPbc	22 03 17.4	-0.5
QCR	Quepos	146.46	358	eP	PKPbc	22 03 17.4	-0.3
ZANG	Zanguenga, Cho	146.52	350	eP	PKPdf	22 03 16.6	+0.2
CTCR	Cotoan	146.91	355	eP	PKPdf	22 03 17.4	+0.2
USHA	Ushuaia	147.04	198	PKPbc	PKPbc	22 03 17.3	-0.8
USHA				pPKPbc	pPKPbc	22 03 45.3	-0.6
USHA	Ushuaia	147.04	198	PKPbc	PKPbc	22 03 17.3	-0.8
	comp=Z,96nm,0.8s,baz=116,slow=4.1,SNR=42						
USHA				pPKPbc	pPKPbc	22 03 45.3	-0.6
	comp=Z,30nm,0.7s,baz=73,slow=6.3,SNR=3.3						
ACR	Cerro Adams	147.18	356	eP	PKPbc	22 03 20.7	+0.9
ROSC	El Rosal	149.11	338	ePKPdf	PKPdf	22 03 22.4	+1.3
ROSC				PKPbc	PKPdf	22 03 23.1	+2.0
ROSC				ePKPbc	PKiKP	22 03 26.9	+0.3
ROSC	El Rosal	149.11	338	PKPbc	PKPdf	22 03 23.1	+2.0
	comp=Z,278nm,1.0s,baz=116,slow=4.2,SNR=35						
SAML	Samuel	153.96	302	ePKPdf	PKPdf	22 03 28.1	+0.2
SAML				ePKPbc	PKiKP	22 03 36.4	+0.4
CPUP	Villa Florida	154.68	259	PKP	PKPdf	22 03 28.3	-0.2
CPUP				PKPbc	PKPbc	22 03 36.3	-0.8
CPUP				PKPab	PKPab	22 03 52.4	0.0
CPUP	Villa Florida	154.68	259	PKP	PKPdf	22 03 28.3	-0.2
	comp=Z,16nm,1.1s,baz=52,slow=2.8,SNR=11						
CPUP				PKPbc	PKPbc	22 03 36.3	-0.8
	comp=Z,10nm,0.6s,baz=70,slow=2.7,SNR=26						
CPUP				PKPab	PKPab	22 03 52.4	0.0
	comp=Z,21nm,0.7s,baz=84,slow=3.8,SNR=17						
SIV	San Ignacio	155.85	285	PKP	PKPdf	22 03 30.9	+0.4
SIV				PKPbc	PKPbc	22 03 40.5	
SIV				PKPab	PKPab	22 03 57.4	-0.3
SIV	San Ignacio	155.85	285	PKP	PKPdf	22 03 30.9	+0.4
	comp=Z,9.0nm,1.1s,baz=124,slow=1.3,SNR=15						
SIV				PKPbc	PKPbc	22 03 40.5	
	comp=Z,6.1nm,0.7s,baz=136,slow=3.2,SNR=14						
SIV				PKPab	PKPab	22 03 57.4	-0.3
	comp=Z,18nm,1.0s,baz=91,slow=3.5,SNR=8.0						
ATAH	Atahualpa	161.69	338	PKP	PKPdf	22 03 40.0	+2.0
ATAH				PKPab	PKPab	22 04 25.1	+1.7
ATAH	Atahualpa	161.69	338	PKP	PKPdf	22 03 40.0	+2.0
	comp=Z,31nm,0.8s,baz=123,slow=0.3,SNR=23						
ATAH				PKPab	PKPab	22 04 25.1	+1.7
	comp=Z,53nm,0.7s,baz=18,slow=2.6,SNR=20						
LPAZ	La Paz	162.06	293	PKP	PKPdf	22 03 38.8	+0.3
LPAZ				ePKPdf	PKPdf	22 03 38.9	+0.4
LPAZ				PKPab	PKPab	22 04 24.9	-0.5
LPAZ	La Paz	162.06	293	PKP	PKPdf	22 03 38.8	+0.4
	comp=Z,16nm,0.9s,baz=52,slow=3.0,SNR=47						
LPAZ				PKPab	PKPab	22 04 24.9	-0.5
	comp=Z,8.6nm,0.8s,baz=143,slow=5.6,SNR=5.1						
CFAA	Coronel Fontan	163.29	240	PKP	PKPdf	22 03 39.6	+1.1
CFAA				pPKP	pPKPdf	22 04 06.3	-0.5
CFAA				PKPab	PKPab	22 04 30.5	+0.8
CFAA				pPKPab	pPKPab	22 04 56.1	-0.7
CFAA				PP	PP	22 08 14.4	-0.8
CFAA	Coronel Fontan	163.29	240	PKP	PKPdf	22 03 39.6	+1.1
	comp=Z,3.9nm,0.8s,baz=258,slow=0.7,SNR=59						
CFAA				pPKP	pPKPdf	22 04 06.3	-0.5
	comp=Z,2.2nm,0.9s,baz=200,slow=0.6,SNR=4.8						
CFAA				PKPab	PKPab	22 04 30.5	+0.8
	comp=Z,5.4nm,0.7s,baz=96,slow=3.8,SNR=22						
CFAA				pPKPab	pPKPab	22 04 56.1	-0.7
	comp=Z,1.4nm,0.9s,baz=87,slow=11,SNR=1.8						
CFAA				PP	PP	22 08 14.4	-0.8
	comp=Z,1.5nm,1.0s,baz=98,slow=4.1,SNR=6.8						
LVC	Limon Verde	164.89	273	ePKPdf	PKPdf	22 03 40.9	+0.3
LVC				epPKPdf	pPKPdf	22 04 08.4	-0.3
LVC				ePKPab	PKPab	22 04 36.3	-1.0

DJA 11 21:47:16.3±1.3, **0°N**±5°×**12°3E**±1°0, **h131**km±12km, **M3.6**/3, **MLv3.6**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.55	340	P	Pn	21 47 38.1	+2.3
LUWI	Luwuk	1.23	200	P	Pn	21 47 40.2	-1.4
LUWI				S	Sn	21 48 03.0	+2.2
MRSI	Marisa	1.31	286	P	Pn	21 47 44.0	+1.6
MRSI				S	Sn	21 48 02.8	+0.6
SKSI	Soroako, Sulaw	3.22	215	P	Pn	21 48 06.3	+0.3

*IDC **11** 21:52:44.4±0.7, 13°.85N×93°.07E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/29, mbtmp4.0/14, ML4.3/2, Error ellipse: s-maj=27.4km s-min=14.9km az=61.0*
*ISCJB **11** 21:52:47.4±0.5, 13°.91N±0°.06×93°.22E±0°.07, h32km, mb4.1/16, Error ellipse: s-maj=10.5km s-min=8.1km az=24.4*
*NEIC **11** 21:52:49.3±0.5, 13°.85N×93°.08E, h35km, mb4.3/5, Error ellipse: s-maj=11.9km s-min=7.7km az=74.0*

ISC 11 21:52:49.3±0.7, **13°.91N**±0°.08×**93°.16E**±0°.09, **h32**km, **n31**, σ0°**76**/36, **mb4.1**/16, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7

SIVA S Sg 22 05 57.0 -1.5
SIVA eSb Sn 22 06 00.0 -1.5
LAST Lasithi 1.17 4 P Pg 22 05 45.3 +0.5
LAST S Sg 22 05 57.7 -2.3
LAST Lasithi 1.17 4 ePG Pg 22 05 45.2 +0.5
LAST eSB Sn 22 06 03.0 +0.3
LAST Lasithi 1.17 4 P Pg 22 05 45.3 +0.5
LAST S Sg 22 05 57.7 -2.3
LAST eSb Sn 22 06 03.0 +0.3
NPS Neapolis 1.28 9 P Pb 22 05 47.3 0.0
NPS S Sg 22 06 00.8 -2.8
NPS Neapolis 1.28 9 ePB Pb 22 05 47.3 0.0
NPS Neapolis 1.28 9 P Pb 22 05 47.3 0.0
NPS S Sg 22 06 00.8 -2.8
ZKR Zakros 1.32 31 P Pg 22 05 48.5 +0.9
ZKR S Sb 22 06 05.2 -0.2
ZKR Zakros 1.32 31 ePB Pg 22 05 48.4 +0.9
ZKR eSB Sn 22 06 08.1 +1.8
ZKR Zakros 1.32 31 P Pg 22 05 48.5 +0.9
ZKR S Sb 22 06 05.2 -0.2
ZKR eSb Sn 22 06 08.1 +1.8
IDI Anoyia 1.36 343 P Pg 22 05 48.7 +0.4
IDI S Sb 22 06 02.5 -4.0
IDI Anoyia 1.36 343 ePG Pb 22 05 48.3 -0.3
IDI Anoyia 1.36 343 ePg Pb 22 05 48.3 -0.3
IDI Anoyia 1.36 343 P Pg 22 05 48.7 +0.4
IDI S Sb 22 06 02.5 -4.0
VAM Vamos 1.71 326 P Pg 22 05 55.1 0.0
VAM S Sn 22 06 15.2 -0.8
VAM Vamos 1.71 326 ePN Pg 22 05 55.1 0.0
VAM Vamos 1.71 326 P Pg 22 05 55.1 0.0
VAM S Sn 22 06 15.2 -0.8
KARP Karpathos 2.14 43 P Pg 22 06 03.1 -0.2
KARP S Sn 22 06 27.5 +1.0
KARP Karpathos 2.14 43 ePG Pb 22 06 02.9 +1.0
KARP Karpathos 2.14 43 ePg Pb 22 06 02.9 +1.0
KARP S Sn 22 06 27.5 +1.0
LTBQ Tobruq 2.28 213 i P Pg 22 06 05.3 -0.7
SNR=50
THR3 Thira Island, 2.42 0 P Pn 22 06 04.1 +1.1
THR3 Thira Island, 2.42 0 P Pn 22 06 04.1 +1.1
ANKY Antikythira Is 2.53 318 P Pb 22 06 07.8 -0.8
ANKY Antikythira Is 2.53 318 ePN Pb 22 06 08.0 -0.6
ANKY Antikythira Is 2.53 318 P Pb 22 06 07.8 -0.8
KYTH Kithira 2.98 321 P Pb 22 06 13.8 -2.5
KYTH Kithira 2.98 321 P Pb 22 06 13.8 -2.5
APE Apeiranthos 3.08 2 P Pn 22 06 13.2 +1.1
APE S Sn 22 06 46.0 -3.6
APE Apeiranthos 3.08 2 ePB Pn 22 06 14.7 +2.6
APE Apeiranthos 3.08 2 P Pn 22 06 13.2 +1.1
APE Apeiranthos 3.08 2 ePb Pn 22 06 14.7 +2.6
ARG Arkhangelos 3.17 45 P Pb 22 06 16.8 -2.6
ARG S Sn 22 06 51.8 0.0
ARG Arkhangelos 3.17 45 ePB Pb 22 06 16.8 -2.6
ARG eSN Sb 22 06 55.9 -2.6
ARG Arkhangelos 3.17 45 ePb Pb 22 06 16.8 -2.6
ARG S Sn 22 06 51.8 0.0
HMAT Matruh 3.23 153 P Pn 22 06 15.4 +1.2
BDRM Kayabasi 3.50 28 i P Pn 22 06 20.2 +2.2
BDRM i S Sn 22 06 59.9 -0.2
BDRM Kayabasi 3.50 28 i P Pn 22 06 20.2 +2.2
TURN Turunc 3.90 42 i P Pn 22 06 22.2 -1.2
TURN i S Sn 22 07 00.4 -10
TURN Turunc 3.90 42 i P Pn 22 06 22.2 -1.2
AKAS Kas 4.13 56 i P Pn 22 06 28.7 +2.1
AKAS i S Sn 22 07 14.5 -1.2
AKAS Kas 4.13 56 i P Pn 22 06 28.7 +2.1
AKAS i S Sn 22 07 14.5 -1.2
AYDN Tasoluk 4.19 28 i P Pn 22 06 30.4 +2.9
AYDN eS Sn 22 07 17.4 +0.3
AYDN Tasoluk 4.19 28 i P Pn 22 06 30.4 +2.9
AYDN eS Sn 22 07 17.4 +0.3
GOLH Golhisar 4.70 45 i P Pn 22 06 37.5 +2.9
GOLH i S Sn 22 07 28.2 -1.7
GOLH Golhisar 4.70 45 i P Pn 22 06 37.5 +2.9
GOLH i S Sn 22 07 28.2 -1.7
SWA2 4.73 179 P Pn 22 06 36.9 +2.1
DNZL Cakiroluk 4.75 38 i P Pn 22 06 38.1 +2.9
DNZL i S Sn 22 07 29.1 -1.9
DNZL Cakiroluk 4.75 38 i P Pn 22 06 38.1 +2.9
KORT Korkueli 5.05 52 i P Pn 22 06 41.6 +2.3
KORT eS Sn 22 07 24.6 -14
KORT Korkueli 5.05 52 i P Pn 22 06 41.6 +2.3
MANT Manisa 5.18 29 i P Pn 22 06 43.6 +2.4
MANT eS Sn 22 07 34.0 -7.6
MANT Manisa 5.18 29 i P Pn 22 06 43.6 +2.4
LJBD Adjabya 5.34 236 i P Pn 22 06 46.6 +3.3
SNR=48
LJBD eS Sn 22 07 45.5 0.0
SNR=48
KHAL Karahalli 5.49 36 i P Pn 22 06 46.7 +1.3
KHAL i S Sn 22 07 43.0 -6.4
KHAL Karahalli 5.49 36 i P Pn 22 06 46.7 +1.3
LUJL Ujela 5.97 217 i P Pn 22 06 54.5 +2.6
SNR=46
LUJL eS Sn 22 08 01.5 +0.5
35nm,0.5s,SNR=46
GAZI Gazipasa 6.11 67 i P Pn 22 06 54.4 +0.6
GAZI i S Sn 22 07 54.4 -10
GAZI Gazipasa 6.11 67 i P Pn 22 06 54.4 +0.6
HMYD Mayadein 6.22 131 P Pn 22 06 55.0 -0.4
HNAT Natroun 6.22 133 P Pn 22 06 55.0 -0.4
ERMK Ermenek 6.71 65 i P Pn 22 07 04.0 +1.8
ERMK i S Sn 22 08 11.3 -8.0
ERMK Ermenek 6.71 65 i P Pn 22 07 04.0 +1.8
HSAF As Saff 6.83 128 P Pn 22 07 03.3 -0.4
KDHN Kadinhani 7.08 48 i P Pn 22 07 09.6 +2.4
KDHN eS Sn 22 08 17.2 -11
KDHN Kadinhani 7.08 48 i P Pn 22 07 09.6 +2.4
HFRF Wahat Farafira 7.27 159 P Pn 22 07 10.2 +0.5
AMAG Maghara 7.42 115 P Pn 22 07 10.5 -1.3
SUZ 7.57 121 P Pn 22 07 13.5 -0.3
RSH 7.67 111 P Pn 22 07 13.9 -1.3
HNKL Nakhl 8.35 117 P Pn 22 07 23.9 -0.7
MMAI Mount Meron Ar 8.43 94 Pn Pn 22 07 25.1 -0.7
4.7nm,0.3s,baz=266,slow=12,SNR=30
MMAI Sn Sn 22 08 57.0 -4.6
6.3nm,0.3s,baz=264,slow=24,SNR=15
GRB Gharib 8.53 130 P Pn 22 07 26.6 -0.5
BRTR Keskin Array B 8.75 47 Pn Pn 22 07 31.4 +1.3
0.3nm,0.3s,baz=227,slow=14,SNR=13
BRTR Sn Sn 22 09 10.3 +0.7
0.2nm,0.3s,baz=213,slow=24,SNR=3.9
ARNB Al Arnab 8.90 75 eP Pn 22 07 32.2 0.0
ARNB eS Sn 22 08 59.8 -13
ARNB AML AML 22 09 14.5
comp=N,22nm,0.5s
ARNB AML AML 22 09 14.6
comp=Z,12nm,0.5s
ARNB AML AML 22 09 22.1
comp=E,19nm,0.6s
ARNB Al Arnab 8.90 75 eP Pn 22 07 32.2 0.0
SNR=45
TR2 9.07 126 P Pn 22 07 33.8 -0.6
HAWK Haweek 9.15 84 eP Pn 22 07 35.0 -0.5
HAWK eS Sn 22 09 06.9 -12
HAWK AML AML 22 09 19.1
comp=N,13nm,0.4s
HAWK AML AML 22 09 19.3
comp=E,14nm,0.5s
HAWK AML AML 22 09 22.8
comp=Z,7.5nm,0.4s
HAWK Haweek 9.15 84 eP Pn 22 07 35.0 -0.5
SNR=45
HKAT Jabal Katrina 9.17 124 P Pn 22 07 35.2 -0.7
EIL Elat 9.21 115 Pn Pn 22 07 37.2 +0.8
comp=Z,1.5nm,0.3s,baz=200,slow=8.0,SNR=18
EIL Sn Sn 22 09 16.4 -4.3
comp=Z,1.3nm,0.3s,baz=40,slow=20,SNR=3.8
BTCH Batrach 9.32 74 eP Pn 22 07 38.3 +0.4
BTCH eS Sn 22 09 11.5 -12
BTCH AML AML 22 09 25.1
comp=E,18nm,0.4s
BTCH AML AML 22 09 26.9
comp=Z,26nm,0.5s
BTCH AML AML 22 09 27.1
comp=N,35nm,0.5s
BTCH Batrach 9.32 74 eP Pn 22 07 38.3 +0.4
SNR=45
SALA Sala 9.59 94 eP Pn 22 07 42.3 +0.6
SALA eS Sn 22 09 20.7 -10
SALA AML AML 22 09 35.0
comp=Z,26nm,0.6s
SALA AML AML 22 09 37.9
comp=E,1.4nm,0.4s
SALA AML AML 22 09 44.5
comp=N,13nm,0.6s
SALA Sala 9.59 94 eP Pn 22 07 42.3 +0.6
SNR=45
ASF Jabal al Asfar 9.84 97 Pn Pn 22 07 43.9 -1.1
comp=N,0.6nm,0.3s,baz=258,slow=5.6,SNR=4.6
ASF Sn Sn 22 09 31.8 -4.4
comp=N,0.4nm,0.3s,baz=343,slow=21,SNR=4.1
MLR Muntele Rosu 11.50 2 Pn Pn 22 08 10.2 +2.5
baz=135,slow=11
GNI Garni 16.62 63 Pn P 22 09 21.3 +2.0
comp=N,0.9nm,0.3s,baz=276,slow=4.2,SNR=10
VRAC Vranov 16.64 340 Pn P 22 09 19.6 +0.4
comp=N,0.1nm,0.3s,baz=131,slow=9.6,SNR=4.2
KBZ Khabaz 16.73 49 Pn P 22 09 22.1 +1.8
comp=N,0.1nm,0.3s,baz=266,slow=8.3,SNR=10
AKASG Malin Array Be 16.94 8 Pn P 22 09 21.9 -0.6
comp=N,1.3nm,0.3s,baz=199,slow=10,SNR=13
SBF Sospel 17.06 311 eP P 22 09 24.2 +0.2
comp=N,24nm,1.0s
SBF Sospel 17.06 311 eP P 22 09 24.2 +0.2
comp=N,12nm,1.0s
GERES GERESS Array B 17.20 333 P P 22 09 25.9 +0.3
comp=N,0.2nm,0.3s,baz=148,slow=13,SNR=20
FRF La Foret Royal 17.42 309 eP P 22 09 28.0 0.0
FRF La Foret Royal 17.42 309 eP P 22 09 28.0 0.0
KHC Kasperske Hory 17.48 333 P P 22 09 31.0 +2.3
KHC Kasperske Hory 17.48 333 ex P 22 09 31.0 +2.3
MBDF Montbardon 17.90 312 eP P 22 09 36.5 +3.0
comp=N,11nm,1.1s
MBDF Montbardon 17.90 312 eP P 22 09 36.5 +3.0
comp=N,5.6nm,1.1s
LPL La Plagne 18.34 314 eP P 22 09 40.5 +2.2
LPL La Plagne 18.34 314 eP P 22 09 40.5 +2.2
CABF La Chapelle 19.31 316 eP Pn 22 09 51.9 +2.1
CABF La Chapelle 19.31 316 eP Pn 22 09 51.9 +2.1
LASF Ste Croix 19.47 307 eP Pn 22 09 52.5 +0.9
LASF Ste Croix 19.47 307 eP Pn 22 09 52.5 +0.9
HINF Hinteralfeld 19.60 320 eP Pn 22 09 56.1 +2.9
CDF Champ du Feu 19.75 322 eP Pn 22 09 57.1 +2.0
comp=N,3.2nm,0.7s
CDF Champ du Feu 19.75 322 eP Pn 22 09 57.1 +2.0
comp=N,1.6nm,0.7s
HAU Haudompre 19.98 320 eP Pn 22 09 59.4 +1.6
HAU Haudompre 19.98 320 eP Pn 22 09 59.4 +1.6
MTLF Montolieu 20.30 304 eP Pn 22 10 01.7 +0.2
MTLF Montolieu 20.30 304 eP Pn 22 10 01.7 +0.2
SMF Signal de Mont 20.64 314 eP Pn 22 10 05.2 -0.4
SMF Signal de Mont 20.64 314 eP Pn 22 10 05.2 -0.4
PAGF Fort de Pagny 20.65 321 eP Pn 22 10 07.4 +1.8
comp=N,3.0nm,0.7s
LOR Lormes 20.95 316 eP Pn 22 10 09.1 -0.1
LOR Lormes 20.95 316 eP Pn 22 10 09.1 -0.1
MEZF Maizieres J'vi 20.97 320 eP Pn 22 10 09.4 0.0
MEZF Maizieres J'vi 20.97 320 eP Pn 22 10 09.4 0.0
CAF Calviac 20.98 308 eP Pn 22 10 08.6 -1.0
comp=N,16nm,1.3s
CAF Calviac 20.98 308 eP Pn 22 10 08.6 -1.0
comp=N,8.1nm,1.3s
AVF Avril sur Loir 21.01 314 eP P 22 10 08.6 +1.4
comp=N,3.8nm,0.7s
AVF Avril sur Loir 21.01 314 eP P 22 10 08.6 +1.4
comp=N,1.9nm,0.7s
SSF Saint Saulge 21.05 315 eP P 22 10 10.2 +2.5
comp=N,7.7nm,1.0s
SSF Saint Saulge 21.05 315 eP P 22 10 10.2 +2.5
comp=N,3.8nm,1.0s
BGF Bois d'Agland 21.20 313 eP P 22 10 09.9 +0.6
comp=N,9.9nm,0.8s
BGF Bois d'Agland 21.20 313 eP P 22 10 09.9 +0.6
comp=N,4.9nm,0.8s
TCF Toulx Ste Croi 21.46 312 eP P 22 10 12.5 +0.3
comp=N,16nm,1.1s
TCF Toulx Ste Croi 21.46 312 eP P 22 10 12.5 +0.3
comp=N,8.2nm,1.1s
RJF Les Rejaudoux 21.49 309 eP P 22 10 13.7 +1.3
RJF Les Rejaudoux 21.49 309 eP P 22 10 13.7 +1.3
LFF La Frestale 21.86 307 eP P 22 10 17.5 +1.1
LFF La Frestale 21.86 307 eP P 22 10 17.5 +1.1
ETSF Etsaut 22.11 301 eP P 22 10 19.8 +0.6
ETSF Etsaut 22.11 301 eP P 22 10 19.8 +0.6
BAIF Baives 22.36 322 eP P 22 10 23.2 +1.5
BAIF Baives 22.36 322 eP P 22 10 23.2 +1.5
MFF Saint Martin d 23.07 311 eP P 22 10 29.8 +0.5
MFF Saint Martin d 23.07 311 eP P 22 10 29.8 +0.5
LDF La Druitiere 23.93 315 eP P 22 10 38.3 +0.5
LDF La Druitiere 23.93 315 eP P 22 10 38.3 +0.5
ESDC Sonseca Array 24.10 292 P P 22 10 40.4 +0.8
comp=N,0.2nm,0.3s,baz=72,slow=9.5,SNR=6.0
FLN La Foliniere 24.22 315 eP P 22 10 41.0 +0.4
FLN La Foliniere 24.22 315 eP P 22 10 41.0 +0.4
GRR Gorron 24.27 314 eP P 22 10 39.9 -1.1
GRR Gorron 24.27 314 eP P 22 10 39.9 -1.1
SGMF Saint Gilles 25.24 313 eP P 22 10 51.4 +1.6
SGMF Saint Gilles 25.24 313 eP P 22 10 51.4 +1.6
QUIF Quistinic 25.48 312 eP P 22 10 53.0 +1.1
comp=N,21nm,0.9s
QUIF Quistinic 25.48 312 eP P 22 10 53.0 +1.1
comp=N,10nm,0.9s
ROSF Rostrenen 25.71 312 eP P 22 10 54.4 +0.4
ROSF Rostrenen 25.71 312 eP P 22 10 54.4 +0.4
HFS Hagfors 27.25 347 P P 22 11 08.2 +0.3
comp=N,1.0nm,0.6s,baz=140,slow=12,SNR=4.5
FINES FINESS Array B 27.48 1 P P 22 11 09.1 -0.7
comp=N,3.0nm,0.9s,baz=170,slow=9.9,SNR=3.3
FINES PcP PcP 22 14 28.6 +0.6
comp=N,0.8nm,0.6s,baz=204,slow=4.2,SNR=3.9
NOA NORSAR Array B 28.57 346 P P 22 11 19.5 -0.2
comp=N,1.2nm,0.9s,baz=146,slow=9.0,SNR=3.4
EKA Eskdalemuir Ar 29.10 326 P P 22 11 24.5 +0.2
comp=N,0.4nm,0.4s,baz=123,slow=7.7,SNR=2.9
TORD Torodi Ar. Bea 29.89 232 P P 22 11 32.8 +1.0
comp=N,0.8nm,0.7s,baz=34,slow=8.4,SNR=10
ARCES ARCESS Array B 35.60 0 P P 22 12 20.0 -1.1
comp=N,1.1nm,0.6s,baz=170,slow=7.4,SNR=8.2
ARCES PcP PcP 22 14 49.9 +0.1
comp=N,0.9nm,0.7s,baz=189,slow=5.0,SNR=3.4
KURBB Kurchatov Arra 41.73 50 P P 22 13 13.8 +1.1
comp=N,2.5nm,0.6s,baz=276,slow=8.6,SNR=19
MKAR Makanchi Array 44.28 56 P P 22 13 34.6 +1.1
comp=N,3.7nm,0.5s,baz=270,slow=7.3,SNR=82
MKAR PcP PcP 22 15 18.9 +1.0
comp=N,0.5nm,0.8s,baz=257,slow=2.5,SNR=2.6
ZALV Zalesovo Beam 45.69 45 P P 22 13 45.0 +0.3
comp=N,2.0nm,0.4s,baz=265,slow=8.6,SNR=8.5
ZALV PcP PcP 22 15 23.3 +0.6
comp=N,0.3nm,0.3s,baz=288,slow=1.4,SNR=2.3
SONM Songino Array 60.09 50 P P 22 15 31.0 -0.3
comp=N,1.1nm,0.6s,baz=280,slow=7.4,SNR=5.6
BOSA Boshof 62.26 180 P P 22 15 46.8 +0.8
comp=N,5.2nm,1.1s,baz=18,slow=9.6,SNR=2.9
SCHQ Schefferville 64.19 320 P P 22 15 58.9 +0.3
comp=N,2.5nm,0.9s,baz=78,slow=7.8,SNR=3.6
CMAR Chiang Mai Arr 66.53 83 P P 22 16 14.6 +0.3
comp=N,0.3nm,0.4s,baz=287,slow=7.3,SNR=3.7
USRK Ussuriysk Arra 77.54 45 P P 22 17 20.6 +0.7
comp=N,1.8nm,0.7s,baz=264,slow=4.9,SNR=6.3
KSRS Korea Array 78.85 52 P P 22 17 28.0 +0.8
comp=N,0.6nm,0.5s,baz=301,slow=4.9,SNR=4.3
ILAR Eielson Array 81.38 357 P P 22 17 41.2 +0.8
comp=N,0.7nm,0.6s,baz=342,slow=3.6,SNR=7.7
FX1 Attu Island--F 89.05 19 P P 22 18 19.2 +0.2
comp=N,9.9nm,0.9s,baz=277,slow=8.1,SNR=3.5
WRA Warramunga Arr 116.27 97 PKP PKPdf 22 24 07.9 -0.2
comp=N,0.5nm,0.8s,baz=305,slow=1.8,SNR=5.0

IDC 11 22:10:13.7±2.0, 13°82N×92°87E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.7/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/38, Error ellipse: s-maj=62.1km s-min=30.0km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.43**	**51**	Pn	Pn	22 12 03.4	-0.1
	0.3nm,0.3s,baz=240,slow=15,SNR=5.6						
CMAR				Sn	Sn	22 13 22.8	-5.9
	0.2nm,0.3s,baz=240,slow=29,SNR=4.8						
MKAR	**Makanchi Array**	**34.05**	**347**	P	P	22 16 59.7	0.0
	0.3nm,0.7s,baz=165,slow=6.9,SNR=2.9						
WRA	**Warramunga Arr**	**52.82**	**129**	P	P	22 19 30.8	-0.6
	0.4nm,0.9s,baz=307,slow=8.6,SNR=5.3						
WRA				PcP	PcP	22 20 41.0	+0.2
	0.5nm,1.0s,baz=321,slow=3.3,SNR=3.0						
ASAR	**Alice Springs**	**54.75**	**133**	P	P	22 19 45.4	0.0
	0.4nm,0.4s,baz=309,slow=6.9,SNR=5.7						
MMAI	**Mount Meron Ar**	**55.41**	**301**	LR	LR	22 45 15.9	
	comp=Z,165nm,21.3s,baz=55,slow=38						

PRE 11 22:35:43.0±2.0, 26°96S×26°84E, h2km, ML2.4, 4C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.04**	**229**	eP	Pg	22 35 44.5	+0.4
MOAB				eS	Sg	22 35 45.7	+0.7
MOAB				AML	AML	22 35 45.8	
	comp=Z,2μm,0.3s						
BFSD	**Buffelsfontein**	**0.10**	**334**	eP	Pg	22 35 45.7	+0.5
BFSD				eS	Sg	22 35 46.5	-0.2
BFSD				AML	AML	22 35 46.7	
	comp=Z,3μm,0.3s						
TLEK	**Tau Lekoa**	**0.15**	**268**	eP	Pg	22 35 47.2	+1.2
TLEK				eS	Sg	22 35 49.1	+0.9
TLEK				AML	AML	22 35 50.2	
	comp=Z,570nm,0.2s						
PRYS	**Parys**	**0.47**	**86**	eP	Pb	22 35 53.4	-0.8
PRYS				eS	Sg	22 36 00.0	+1.5
PRYS				AML	AML	22 36 04.2	
	comp=Z,156nm,0.5s						
PRYS	**Parys**	**0.47**	**86**	eP	Pb	22 35 53.3	-1.0
PRYS				eS	Sg	22 35 59.0	+0.5
PRYS				AML	AML	22 36 04.2	
	comp=Z,139nm,0.5s						
KLOF	**Kloof**	**0.92**	**49**	⇑i P	Pg	22 36 00.8	-0.1
KLOF				eS	Sg	22 36 11.2	-1.8
KLOF				AML	AML	22 36 18.1	
	comp=Z,162nm,0.2s						
KSR	**Koster**	**1.10**	**3**	eP	Pg	22 36 03.7	-0.8
KSR				eS	Sg	22 36 19.5	+0.5
KSR				AML	AML	22 36 21.9	
	comp=Z,172nm,0.1s						
KSR	**Koster**	**1.10**	**3**	⇑i P	Pg	22 36 03.5	-1.0
KSR				eS	Sg	22 36 18.0	-0.9
KSR				AML	AML	22 36 20.6	
	comp=Z,123nm,0.2s						
SWZ	**Schweizer**	**1.36**	**260**	eP	Pn	22 36 08.0	-1.2
SWZ				eS	Sb	22 36 27.3	-0.1
SWZ				AML	AML	22 36 30.4	
	comp=Z,102nm,0.3s						
SWZ	**Schweizer**	**1.36**	**260**	eP	Pn	22 36 09.2	-0.1
SWZ				eS	Sg	22 36 26.6	-0.5
SWZ				AML	AML	22 36 30.2	
	comp=Z,79nm,0.4s						
ERPM	**east rand prop**	**1.40**	**64**	eP	Pb	22 36 10.4	+0.3
ERPM				eS	Sn	22 36 30.4	+1.3
ERPM				AML	AML	22 36 32.1	
	comp=Z,30nm,0.2s						
ERPM	**east rand prop**	**1.40**	**64**	⇑i P	Pb	22 36 10.7	+0.5
ERPM				eS	Sn	22 36 29.2	+0.2
ERPM				AML	AML	22 36 31.4	
	comp=Z,28nm,0.2s						
SEK	**Senekal**	**1.53**	**153**	eP	Pn	22 36 11.4	-0.2
SEK				eS	Sn	22 36 32.3	+0.1
SEK				AML	AML	22 36 34.2	
	comp=Z,60nm,0.2s						
SEK	**Senekal**	**1.53**	**153**	⇓i P	Pg	22 36 13.4	+0.8
SEK				eS	Sn	22 36 30.7	-1.6
SEK				AML	AML	22 36 34.1	
	comp=Z,60nm,0.2s						
SLR	**Silverton**	**1.78**	**47**	eP	Pn	22 36 15.0	0.0
SLR				eS	Sn	22 36 38.5	+0.2
SLR				AML	AML	22 36 40.8	
	comp=Z,93nm,0.5s						
SLR	**Silverton**	**1.78**	**47**	eP	Pn	22 36 15.8	+0.8
SLR				eS	Sn	22 36 38.0	-0.3
SLR				AML	AML	22 36 40.6	
	comp=Z,82nm,0.6s						
BOSA	**Boshof**	**2.16**	**220**	eP	Pn	22 36 19.7	-0.6
BOSA				eS	Sn	22 36 46.9	-0.9
BOSA				AML	AML	22 36 52.9	
	comp=Z,14nm,0.4s						
BOSA	**Boshof**	**2.16**	**220**	⇑i P	Pn	22 36 21.3	+1.0
BOSA				eS	Sn	22 36 47.9	+0.1
BOSA				AML	AML	22 36 51.3	
	comp=Z,14nm,0.4s						
LBTB	**Lobatse**	**2.23**	**330**	eP	Pn	22 36 21.2	0.0
LBTB				eS	Sn	22 36 49.2	-0.3
LBTB				AML	AML	22 36 52.6	
	comp=Z,50nm,0.4s						
LBTB	**Lobatse**	**2.23**	**330**	eP	Pn	22 36 21.9	+0.7
LBTB				eS	Sn	22 36 50.2	+0.7
LBTB				AML	AML	22 36 52.5	
	comp=Z,50nm,0.4s						
KSD	**Kokstad**	**4.23**	**148**	eS	Sn	22 37 36.8	-2.0
KSD				AML	AML	22 37 57.5	
	comp=Z,17nm,0.3s						

DDA ***11*** *22:40:12.0, 33°80N×25°91E, h27km, MD3.8*
ISK ***11*** *22:40:16.1, 34°13N×26°25E, h8km, ML4.1*
IDC ***11*** *22:40:16.8±0.5, 34°24N×26°14E, h0km, mb4.3/29, mb1 4.3/40, mb1mx4.3/46, mbtmp4.2/40, ML4.1/7, MS3.4/7, Ms1 3.4/7, ms1mx2.9/44, Error ellipse: s-maj=11.9km s-min=10.4km az=154.0*
ISCJB ***11*** *22:40:17.7±0.5, 34°14N±0°01×26°24E±0°01, h22km±4km, mb4.3/79, MS3.4/6, Error ellipse: s-maj=2.4km s-min=1.7km az=19.0*
MOS ***11*** *22:40:19.9±1.2, 34°21N×26°11E, h33km, mb4.5/26, Error ellipse: s-maj=5.2km s-min=2.9km az=110.5*
NEIC ***11*** *22:40:19.4, 34°24N×26°17E, h26km, mb4.1/13, ML3.8(ATH), After ATH.*
ATH ***11*** *22:40:19.4, 34°24N×26°17E, h26km±2km, MD3.9/23, ML3.8*
BJI ***11*** *22:40:20.5, 34°10N×26°20E, h42km, mb4.5/6*
NSSC ***11*** *22:40:20.1±2.2, 34°85N×26°63E, h0km±231km, ML3.7*
CSEM ***11*** *22:40:21.5±0.1, 34°18N×26°24E, h40km, mb4.3/50, Ms3.0, Mw3.9, Error ellipse: s-maj=2.5km s-min=1.6km az=20.0*
HLW ***11*** *22:40:22.4, 34°36N×26°27E, h33km±4km, Md3.8, Ml0.0*
NIC ***11*** *22:40:25.1±0.1, 34°33N×26°67E, h55km, mb4.7, ML4.2, MW3.7*

ISC 11 22:40:19.8±0.5, 34°22N±0°02×26°23E±0°01, h24km±4km, n1009, σ1°27/953, mb4.4/78, MS3.4/6, 10C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.89**	**359**	P	Pn	22 40 36.1	-0.9
ZKR	**Zakros**	**0.89**	**359**	ePN	Pn	22 40 36.2	-0.8
ZKR				eSN	Sn	22 40 48.8	-0.4
ZKR	**Zakros**	**0.89**	**359**	P	Pn	22 40 36.1	-0.9
ZKR				eSn	Sn	22 40 48.8	-0.4
LAST	**Lasithi**	**1.13**	**327**	P	Pb	22 40 40.9	+0.2
LAST	**Lasithi**	**1.13**	**327**	ePN	Pb	22 40 40.5	-0.2
LAST				eSN	Sb	22 40 56.3	+1.4
LAST	**Lasithi**	**1.13**	**327**	ePn	Pb	22 40 40.5	-0.2
LAST	**Lasithi**	**1.13**	**327**	P	Pb	22 40 40.9	+0.2
LAST				eSn	Sb	22 40 56.3	+1.4
NPS	**Neapolis**	**1.16**	**334**	P	Pb	22 40 41.6	+0.4
NPS	**Neapolis**	**1.16**	**334**	P	Pb	22 40 41.0	-0.2
NPS	**Neapolis**	**1.16**	**334**	ePN	Pb	22 40 40.9	-0.2
NPS				eSN	Sb	22 40 56.7	+0.9
NPS	**Neapolis**	**1.16**	**334**	P	Pb	22 40 41.0	-0.2
NPS	**Neapolis**	**1.16**	**334**	P	Pb	22 40 41.0	-0.2
NPS				eSn	Sb	22 40 56.7	+0.9
SIVA	**Sivas**	**1.42**	**305**	P	Pb	22 40 45.5	-0.1
SIVA	**Sivas**	**1.42**	**305**	P	Pb	22 40 45.5	-0.1
KARP	**Karpathos**	**1.53**	**30**	P	Pb	22 40 48.3	+0.8
KARP	**Karpathos**	**1.53**	**30**	ePN	Pb	22 40 47.7	+0.2
KARP	**Karpathos**	**1.53**	**30**	P	Pb	22 40 47.8	+0.2
KARP	**Karpathos**	**1.53**	**30**	ePn	Pb	22 40 47.7	+0.2
IDI	**Anoyia**	**1.54**	**314**	P	Pb	22 40 47.8	+0.2
IDI	**Anoyia**	**1.54**	**314**	ePN	Pb	22 40 47.3	-0.3
IDI	**Anoyia**	**1.54**	**314**	ePn	Pb	22 40 47.6	0.0
IDI				eSn	Sb	22 41 06.5	-0.2
IDI	**Anoyia**	**1.54**	**314**	ePn	Pb	22 40 47.3	-0.3
IDI	**Anoyia**	**1.54**	**314**	P	Pb	22 40 47.8	+0.2
IDI				eSn	Sb	22 41 06.5	-0.2
VAM	**Vamos**	**2.05**	**306**	P	Pb	22 40 55.0	-1.4
VAM	**Vamos**	**2.05**	**306**	P	Pb	22 40 54.4	-2.0
VAM	**Vamos**	**2.05**	**306**	ePN	Pb	22 40 54.9	-1.4
VAM	**Vamos**	**2.05**	**306**	P	Pb	22 40 54.4	-2.0
VAM	**Vamos**	**2.05**	**306**	P	Pb	22 40 54.4	-2.0

VAM	Vamos	2.05	306	ePn	Pb	22 40 54.9	-1.4
SANT	Santorini	2.24	344	ePN	Pb	22 40 56.2	-3.4
SANT	Santorini	2.24	344	ePn	Pb	22 40 56.9	-2.7
SANT				eSn	Sn	22 41 17.8	-4.6
SANT	Santorini	2.24	344	ePn	Pb	22 40 56.9	-2.7
THR3	Thira Island,	2.29	343	P	Pb	22 40 57.1	-3.3
THR3	Thira Island,	2.29	343	P	Pb	22 40 57.1	-3.3
NIS1	Nisyros Isl.	2.50	18	P	Pb	22 41 03.2	-0.9
NIS1	Nisyros Isl.	2.50	18	P	Pb	22 41 03.2	-0.9
ARG	Arkhangelos	2.52	37	P	Pb	22 41 02.1	-2.4
ARG	Arkhangelos	2.52	37	P	Pb	22 41 01.7	-2.8
ARG	Arkhangelos	2.52	37	ePB	Pb	22 41 02.2	-2.3
ARG	Arkhangelos	2.52	37	P	Pb	22 41 01.7	-2.8
ARG	Arkhangelos	2.52	37	P	Pb	22 41 01.7	-2.8
ARG	Arkhangelos	2.52	37	ePb	Pb	22 41 02.2	-2.3
DAT	Datca	2.73	23	ePN	Pn	22 41 02.8	+0.4
DAT				eSN	Sn	22 41 36.5	+1.8
DAT	Datca	2.73	23	ePn	Pn	22 41 02.8	+0.4
DAT				eSn	Sn	22 41 36.5	+1.8
APE	Apeiranthos	2.90	349	P	Pb	22 41 06.5	-4.4
APE	Apeiranthos	2.90	349	ePN	Pn	22 41 05.4	+0.8
APE	Apeiranthos	2.90	349	P	Pb	22 41 06.5	-4.4
APE	Apeiranthos	2.90	349	ePn	Pn	22 41 05.4	+0.8
APE	Apeiranthos	2.90	349	P	Pb	22 41 06.5	-4.4
LTBQ	Tobruq	2.90	223	*i* P	Pb	22 41 07.1	-3.8
	SNR=24						
LTBQ				eS	Sn	22 41 39.1	+0.4
	SNR=24						
ANKY	Antikythira Is	2.91	305	P	Pb	22 41 06.7	-4.4
ANKY	Antikythira Is	2.91	305	P	Pb	22 41 06.9	-4.2
ANKY	Antikythira Is	2.91	305	P	Pb	22 41 06.9	-4.2
BODT	Bodrum	2.97	17	ePN	Pn	22 41 06.4	+0.9
BODT				eSN	Sn	22 41 42.5	+2.1
BODT	Bodrum	2.97	17	Pn	Pn	22 41 07.5	+2.0
BODT	Bodrum	2.97	17	ePn	Pn	22 41 06.4	+0.9
BODT				eSn	Sn	22 41 42.5	+2.1
MATC	Matruh	2.99	163	P	Pn	22 41 07.3	+1.6
HMAT	Matruh	3.20	167	S	Sn	22 41 46.6	+0.5
DALY	Dalyan (Mu¨la	3.26	37	ePN	Pn	22 41 10.1	+0.7
DALY				eSN	Sn	22 41 49.5	+2.0
DALY	Dalyan (Mu¨la	3.26	37	ePn	Pn	22 41 10.1	+0.7
DALY				eSn	Sn	22 41 49.5	+2.0
TURN	Turunc	3.28	35	*i* P	Pn	22 41 08.1	-1.6
TURN				*i* S	Sn	22 41 45.8	-2.1
TURN	Turunc	3.28	35	*i* P	Pn	22 41 08.1	-1.6
TURN				*i* S	Sn	22 41 45.8	-2.1
MLSB	Milas	3.32	22	ePN	Pn	22 41 11.2	+1.0
MLSB	Milas	3.32	22	Pn	Pn	22 41 11.2	+1.0
MLSB	Milas	3.32	22	ePn	Pn	22 41 11.3	+1.0
KYTH	Kithira	3.33	309	P	Pn	22 41 11.6	+1.2
KYTH	Kithira	3.33	309	ePN	Pn	22 41 11.9	+1.5
KYTH	Kithira	3.33	309	P	Pn	22 41 11.6	+1.2
KYTH	Kithira	3.33	309	ePn	Pn	22 41 11.9	+1.5
FETY	Fethiye	3.35	43	ePN	Pn	22 41 11.4	+0.6
FETY	Fethiye	3.35	43	Pn	Pn	22 41 12.0	+1.2
FETY	Fethiye	3.35	43	ePn	Pn	22 41 11.4	+0.6
YER	Yerkesik	3.35	29	ePN	Pn	22 41 11.5	+0.6
YER	Yerkesik	3.35	29	P	Pn	22 41 11.4	+0.6
YER	Yerkesik	3.35	29	Pn	Pn	22 41 11.4	+0.6
YER	Yerkesik	3.35	29	ePn	Pn	22 41 11.5	+0.6
AKAS	Kas	3.41	53	*i* P	Pn	22 41 13.3	+1.6
AKAS				*i* S	Sn	22 41 51.6	+0.1
AKAS	Kas	3.41	53	P	Pn	22 41 13.3	+1.6
AKAS				S	Sn	22 41 51.6	+0.1
AKAS	Kas	3.41	53	*i* P	Pn	22 41 13.3	+1.6
AKAS				*i* S	Sn	22 41 51.6	+0.1
SMG	Samos	3.52	8	ePN	Pn	22 41 13.9	+0.9
SMG	Samos	3.52	8	P	Pn	22 41 14.3	+1.3
SMG	Samos	3.52	8	ePn	Pn	22 41 13.9	+0.9
SMG	Samos	3.52	8	P	Pn	22 41 14.3	+1.3
VLI	Veliai	3.67	314	P	Pn	22 41 15.3	+0.2
VLI	Veliai	3.67	314	P	Pn	22 41 15.2	+0.2
VLI	Veliai	3.67	314	P	Pn	22 41 15.2	+0.2
AYDN	Tasoluk	3.69	21	*i* P	Pn	22 41 17.4	+2.0
AYDN				eS	Sn	22 41 57.3	-0.8
AYDN	Tasoluk	3.69	21	*i* P	Pn	22 41 17.4	+2.0
AYDN				eS	Sn	22 41 57.3	-0.8
ELL	Elmali	3.92	49	ePN	Pn	22 41 19.2	+0.5
ELL	Elmali	3.92	49	P	Pn	22 41 19.8	+1.1
ELL	Elmali	3.92	49	Pn	Pn	22 41 19.8	+1.1
ELL	Elmali	3.92	49	P	Pn	22 41 19.8	+1.1
GOLH	Golhisar	4.05	41	*i* P	Pn	22 41 22.6	+2.2
GOLH				*i* S	Sn	22 42 06.9	-0.3
GOLH	Golhisar	4.05	41	P	Pn	22 41 22.6	+2.2
GOLH				S	Sn	22 42 06.8	-0.3
GOLH	Golhisar	4.05	41	*i* P	Pn	22 41 22.6	+2.2
GOLH				*i* S	Sn	22 42 06.9	-0.3
DYR	Agios Nikonas	4.07	310	ePN	Pn	22 41 21.8	+1.2
DYR	Agios Nikonas	4.07	310	ePn	Pn	22 41 21.8	+1.2
DIDY	Didyma	4.07	324	P	Pn	22 41 20.2	-0.5
DIDY	Didyma	4.07	324	P	Pn	22 41 20.2	-0.5
DID	Didima	4.08	324	P	Pn	22 41 21.4	+0.6
DID	Didima	4.08	324	ePN	Pn	22 41 21.1	+0.3
DID	Didima	4.08	324	P	Pn	22 41 22.1	+1.3
DID	Didima	4.08	324	ePn	Pn	22 41 21.1	+0.3
DID	Didima	4.08	324	P	Pn	22 41 22.1	+1.3
DNZL	Cakiroluk	4.15	33	*i* P	Pn	22 41 23.6	+1.7
DNZL				*i* S	Sn	22 42 08.0	-1.7
DNZL	Cakiroluk	4.15	33	*i* P	Pn	22 41 23.6	+1.7
DNZL				*i* S	Sn	22 42 08.0	-1.7
CHOS	Chios island	4.16	358	ePN	Pn	22 41 22.9	+1.0
CHOS	Chios island	4.16	358	P	Pn	22 41 24.6	+2.7
CHOS	Chios island	4.16	358	ePn	Pn	22 41 22.9	+1.0
CHOS	Chios island	4.16	358	P	Pn	22 41 24.6	+2.7
IZM	Izmir	4.25	11	ePN	Pn	22 41 24.4	+1.2
IZM	Izmir	4.25	11	P	Pn	22 41 24.4	+1.2
IZM	Izmir	4.25	11	Pn	Pn	22 41 24.4	+1.2
IZM	Izmir	4.25	11	ePn	Pn	22 41 24.4	+1.2
ATH	Athens Observa	4.26	332	P	Pn	22 41 27.0	+3.8
ATH	Athens Observa	4.26	332	ePN	Pn	22 41 23.9	+0.7
ATH	Athens Observa	4.26	332	P	Pn	22 41 27.0	+3.8
ATH	Athens Observa	4.26	332	ePn	Pn	22 41 23.9	+0.7
ATH	Athens Observa	4.26	332	P	Pn	22 41 27.0	+3.8
PTL	Penteli	4.28	334	P	Pn	22 41 24.5	+1.0
PTL	Penteli	4.28	334	P	Pn	22 41 25.4	+1.9
PTL	Penteli	4.28	334	P	Pn	22 41 25.4	+1.9
KORT	Korkueli	4.35	49	*i* P	Pn	22 41 27.0	+2.4
KORT				*i* S	Sn	22 42 16.8	+2.0
KORT	Korkueli	4.35	49	P	Pn	22 41 27.0	+2.4
KORT				S	Sn	22 42 16.7	+2.0
KORT	Korkueli	4.35	49	*i* P	Pn	22 41 27.0	+2.4
KORT				S	Sn	22 42 16.7	+2.0
VLX	Vlachokerasia	4.44	316	P	Pn	22 41 26.5	+0.8
VLX	Vlachokerasia	4.44	316	ePN	Pn	22 41 26.6	+0.8
VLX	Vlachokerasia	4.44	316	P	Pn	22 41 29.2	+3.4
VLX	Vlachokerasia	4.44	316	ePn	Pn	22 41 26.6	+0.8
VLX	Vlachokerasia	4.44	316	P	Pn	22 41 29.2	+3.4
PYL	PYLOS	4.53	307	P	Pn	22 41 29.7	+2.8
PYL	PYLOS	4.53	307	P	Pn	22 41 29.7	+2.8
ACOR	Acrocorinthos	4.56	324	P	Pn	22 41 27.9	+0.5
ACOR	Acrocorinthos	4.56	324	P	Pn	22 41 27.9	+0.5
ITM	Ithomi	4.58	311	P	Pn	22 41 28.2	+0.5
ITM	Ithomi	4.58	311	P	Pn	22 41 29.6	+1.9
ITM	Ithomi	4.58	311	P	Pn	22 41 29.6	+1.9
LTK	Loutraki	4.62	326	ePN	Pn	22 41 28.9	+0.6
LTK	Loutraki	4.62	326	ePn	Pn	22 41 28.9	+0.6
KULA	Kula-Manisa	4.71	24	ePN	Pn	22 41 30.7	+1.1
KULA	Kula-Manisa	4.71	24	Pn	Pn	22 41 30.6	+1.1
KULA	Kula-Manisa	4.71	24	Pn	Pn	22 41 30.6	+1.1
BCK	Bucak	4.79	46	ePN	Pn	22 41 31.7	+1.1
BCK	Bucak	4.79	46	P	Pn	22 41 31.7	+1.1
BCK	Bucak	4.79	46	Pn	Pn	22 41 31.7	+1.1
BCK	Bucak	4.79	46	ePn	Pn	22 41 31.7	+1.1
GUR	Goura	4.87	321	P	Pn	22 41 32.1	+0.5
GUR	Goura	4.87	321	ePN	Pn	22 41 31.9	+0.3
GUR	Goura	4.87	321	P	Pn	22 41 33.9	+2.3
GUR	Goura	4.87	321	ePn	Pn	22 41 31.9	+0.3
GUR	Goura	4.87	321	P	Pn	22 41 33.9	+2.3
KHL	Karahalli	4.88	32	ePN	Pn	22 41 32.8	+0.9
KHL	Karahalli	4.88	32	Pn	Pn	22 41 32.7	+0.9
KHL	Karahalli	4.88	32	ePn	Pn	22 41 32.8	+0.9
KHAL	Karahalli	4.91	31	*i* P	Pn	22 41 33.0	+0.8
KHAL				*i* S	Sn	22 42 27.0	-1.4
KHAL	Karahalli	4.91	31	*i* S	Sn	22 42 27.0	-1.4
AMT	Artemida-Makis	4.94	313	ePN	Pn	22 41 34.0	+1.4
AMT	Artemida-Makis	4.94	313	ePn	Pn	22 41 34.0	+1.4
ISP	Isparta	5.00	43	ePN	Pn	22 41 34.9	+1.4
ISP	Isparta	5.00	43	P	Pn	22 41 34.9	+1.4
ISP	Isparta	5.00	43	Pn	Pn	22 41 34.9	+1.4
ISP	Isparta	5.00	43	ePn	Pn	22 41 34.9	+1.4
SWA2		5.00	188	P	Pn	22 41 34.8	+1.3
KLV	Kalavryta, Ach	5.05	320	P	Pn	22 41 35.2	+1.1
KLV	Kalavryta, Ach	5.05	320	P	Pn	22 41 35.2	+1.1
SUTC	Sutluce-Ispart	5.05	49	ePN	Pn	22 41 35.9	+1.5
SUTC	Sutluce-Ispart	5.05	49	Pn	Pn	22 41 35.8	+1.5
SUTC	Sutluce-Ispart	5.05	49	Pn	Pn	22 41 35.8	+1.5
PPCY	Paphos	5.09	81	P	Pn	22 41 34.8	+0.2
PPCY	Paphos	5.09	81	P	Pn	22 41 34.8	+0.2
PPCY	Paphos	5.09	81	P	Pn	22 41 34.8	+0.2
AKMC	Akamas	5.09	79	P	Pn	22 41 34.7	0.0
AKMC	Akamas	5.09	79	P	Pn	22 41 34.7	0.0
AKMC	Akamas	5.09	79	P	Pn	22 41 34.7	0.0
LKR	Lokris	5.13	330	P	Pn	22 41 37.4	+2.2
LKR	Lokris	5.13	330	P	Pn	22 41 37.4	+2.2
DSF	Desfina	5.14	326	P	Pn	22 41 36.5	+1.1
DSF	Desfina	5.14	326	P	Pn	22 41 36.5	+1.1
SMIA	Simia	5.25	333	P	Pn	22 41 38.5	+1.7
SMIA	Simia	5.25	333	P	Pn	22 41 38.5	+1.7
LAKA	Lakka	5.28	321	ePN	Pn	22 41 38.0	+0.7
LAKA	Lakka	5.28	321	P	Pn	22 41 39.3	+2.0
LAKA	Lakka	5.28	321	ePn	Pn	22 41 38.0	+0.7
LAKA	Lakka	5.28	321	P	Pn	22 41 39.3	+2.0
AOS	Alonnisos	5.29	340	ePN	Pn	22 41 39.0	+1.6
AOS	Alonnisos	5.29	340	P	Pn	22 41 41.1	+3.7
AOS	Alonnisos	5.29	340	ePn	Pn	22 41 39.0	+1.6
AOS	Alonnisos	5.29	340	P	Pn	22 41 41.1	+3.7
KALE	Kalithea	5.31	323	ePN	Pn	22 41 39.4	+1.6
KALE	Kalithea	5.31	323	P	Pn	22 41 41.1	+3.3
KALE	Kalithea	5.31	323	ePn	Pn	22 41 39.4	+1.6
KALE	Kalithea	5.31	323	P	Pn	22 41 41.1	+3.3
ALFC	Alevga	5.33	78	P	Pn	22 41 37.9	-0.1
	12nm,0.3s						
ALFC				S	Sn	22 42 35.1	-3.5
ALFC	Alevga	5.33	78	P	Pn	22 41 37.9	-0.1
ALFC	Alevga	5.33	78	P	Pn	22 41 37.9	-0.1
	12nm,0.3s						
ALFC				S	Sn	22 42 35.1	-3.5
TRIZ	Trizonia	5.33	322	ePN	Pn	22 41 39.6	+1.7
TRIZ	Trizonia	5.33	322	ePn	Pn	22 41 39.6	+1.7
GAZI	Gazipasa	5.37	66	*i* P	Pn	22 41 38.7	+0.2
GAZI				*i* S	Sn	22 42 36.6	-3.0
GAZI	Gazipasa	5.37	66	P	Pn	22 41 38.6	+0.2
GAZI	Gazipasa	5.37	66	*i* P	Pn	22 41 38.7	+0.2
GAZI				*i* S	Sn	22 42 36.6	-3.0
RLS	Riolos of Patr	5.43	316	P	Pn	22 41 43.5	+4.2
EFP	Efpalio	5.46	321	P	Pn	22 41 42.1	+2.4
EFP	Efpalio	5.46	321	P	Pn	22 41 42.1	+2.4
SHUT	Suhut-Afyon	5.55	38	ePN	Pn	22 41 42.8	+1.7
LEF	Lefka	5.56	79	ePN	Pn	22 41 40.5	-0.6
LEF	Lefka	5.56	79	Pn	Pn	22 41 41.3	+0.2
LEF	Lefka	5.56	79	Pn	Pn	22 41 41.3	+0.2
XOR	Xorichti	5.69	335	P	Pn	22 41 45.6	+2.8
XOR	Xorichti	5.69	335	P	Pn	22 41 45.6	+2.8
DST	Dursunbey	5.70	19	ePN	Pn	22 41 44.7	+1.5
DST	Dursunbey	5.70	19	P	Pn	22 41 44.6	+1.5
DST	Dursunbey	5.70	19	Pn	Pn	22 41 44.6	+1.5
DST	Dursunbey	5.70	19	P	Pn	22 41 44.6	+1.5
AGG	Agios Georgios	5.73	328	P	Pn	22 41 44.0	+0.6
AGG	Agios Georgios	5.73	328	P	Pn	22 41 45.0	+1.6
AGG	Agios Georgios	5.73	328	P	Pn	22 41 45.0	+1.6
AGG	Agios Georgios	5.73	328	P	Pn	22 41 45.0	+1.6
ALT	Altintas	5.75	32	ePN	Pn	22 41 45.2	+1.5
ALT	Altintas	5.75	32	Pn	Pn	22 41 45.2	+1.5
ALT	Altintas	5.75	32	ePn	Pn	22 41 45.2	+1.5
MAKR	Makrakomi, Fth	5.81	327	P	Pn	22 41 48.5	+4.0
MAMC	Mammari	5.83	79	P	Pn	22 41 45.4	+0.6
MAMC	Mammari	5.83	79	P	Pn	22 41 45.4	+0.6
MAMC	Mammari	5.83	79	P	Pn	22 41 45.4	+0.6
EVR	Evrytania	5.88	324	P	Pn	22 41 50.1	+4.5
HNAT	Natroun	5.90	140	P	Pn	22 41 46.6	+0.8
CSS	Prodhromos	5.90	81	P	Pn	22 41 45.8	-0.1
	5.7nm,0.5s						
CSS				S	Sn	22 42 49.5	-3.2
CSS	Prodhromos	5.90	81	ePN	Pn	22 41 47.0	+1.2
CSS	Prodhromos	5.90	81	P	Pn	22 41 45.7	-0.1
CSS	Prodhromos	5.90	81	ePn	Pn	22 41 45.7	-0.1
CSS				eSn	Sn	22 42 51.0	-1.7
CSS	Prodhromos	5.90	81	P	Pn	22 41 45.8	-0.1
	5.7nm,0.5s						
CSS				eSn	Sn	22 42 51.0	-1.7
ERMK	Ermenek	5.96	64	*i* P	Pn	22 41 48.5	+1.7
ERMK				*i* S	Sn	22 42 56.2	+1.7
ERMK	Ermenek	5.96	64	P	Pn	22 41 48.5	+1.7
ERMK				S	Sn	22 42 56.2	+1.7
ERMK	Ermenek	5.96	64	*i* P	Pn	22 41 48.5	+1.7
ERMK				*i* S	Sn	22 42 56.2	+1.7
AKIN	Ak¨–nc¨–lar- K	6.02	80	ePN	Pn	22 41 48.2	+0.8
AKIN	Ak¨–nc¨–lar- K	6.02	80	ePn	Pn	22 41 48.2	+0.8
VLS	Valsamata	6.03	313	P	Pn	22 41 46.6	-1.0
VLS	Valsamata	6.03	313	P	Pn	22 41 47.7	+0.1
VLS	Valsamata	6.03	313	P	Pn	22 41 47.7	+0.1
VLS	Valsamata	6.03	313	P	Pn	22 41 47.7	+0.1
SQR		6.04	134	P	Pn	22 41 47.9	+0.2
LJBD	Adjabya	6.07	239	*i* P	Pn	22 41 49.5	+1.4
	SNR=23						
LJBD				eS	Sn	22 42 53.9	-2.8
	SNR=23						
LFK	Lefkose	6.10	78	ePN	Pn	22 41 50.0	+1.3
LFK	Lefkose	6.10	78	Pn	Pn	22 41 49.1	+0.5
LFK	Lefkose	6.10	78	Pn	Pn	22 41 49.1	+0.5
AYT	Al 'Ayyat	6.14	136	P	Pn	22 41 49.8	+0.7
KONT	Konya--Tatoy	6.20	51	ePN	Pn	22 41 51.9	+1.9
KONT	Konya--Tatoy	6.20	51	Pn	Pn	22 41 51.8	+1.9
KONT	Konya--Tatoy	6.20	51	Pn	Pn	22 41 51.8	+1.9
AWBH		6.31	158	P	Pn	22 41 52.0	+0.6
THL	Klokotos Trika	6.31	329	P	Pn	22 41 54.2	+2.8
THL	Klokotos Trika	6.31	329	P	Pn	22 41 54.1	+2.7
THL	Klokotos Trika	6.31	329	P	Pn	22 41 54.1	+2.7
LADK	Ladik-KONYA	6.35	50	ePN	Pn	22 41 53.9	+1.7
LADK	Ladik-KONYA	6.35	50	Pn	Pn	22 41 53.8	+1.7
LADK	Ladik-KONYA	6.35	50	Pn	Pn	22 41 53.8	+1.7
KOT	Kottamia	6.39	130	P	Pn	22 41 52.8	+0.2
LKD2	Lefkada island	6.40	317	P	Pn	22 41 53.9	+1.3
LKD2	Lefkada island	6.40	317	P	Pn	22 41 54.8	+2.2
LKD2	Lefkada island	6.40	317	P	Pn	22 41 54.8	+2.2
KDHN	Kadinhani	6.40	46	*i* P	Pn	22 41 54.2	+1.5
KDHN				*i* S	Sn	22 43 04.6	-0.5
KDHN	Kadinhani	6.40	46	P	Pn	22 41 54.2	+1.5
KDHN				S	Sn	22 43 04.6	-0.5
KDHN	Kadinhani	6.40	46	*i* P	Pn	22 41 54.2	+1.5
KDHN				*i* S	Sn	22 43 04.6	-0.5
IKL	Isikli	6.42	70	ePN	Pn	22 41 53.6	+0.6
IKL	Isikli	6.42	70	Pn	Pn	22 41 53.5	+0.6
IKL	Isikli	6.42	70	ePn	Pn	22 41 53.6	+0.6
HSAF	As Saff	6.44	134	P	Pn	22 41 53.6	+0.3
PHNC	Paralimni	6.48	81	P	Pn	22 41 55.4	+1.7
	4.4nm,0.6s						
PHNC				S	Sn	22 43 03.8	-3.1
PHNC	Paralimni	6.48	81	P	Pn	22 41 55.4	+1.7
PHNC				S	Sn	22 43 03.8	-3.1
PHNC	Paralimni	6.48	81	P	Pn	22 41 55.4	+1.7
	4.4nm,0.6s						
KIZT	Kizilcal	6.50	43	ePN	Pn	22 41 56.1	+1.9
KIZT	Kizilcal	6.50	43	Pn	Pn	22 41 56.0	+1.9
KIZT	Kizilcal	6.50	43	ePn	Pn	22 41 56.1	+1.9
PLG	Polygyros	6.53	341	P	Pn	22 41 57.7	+3.2
PLG	Polygyros	6.53	341	P	Pn	22 41 57.7	+3.2
PLG	Polygyros	6.53	341	P	Pn	22 41 57.7	+3.2
HHAG	Hagoal	6.55	129	P	Pn	22 41 54.8	+0.1
GLL	Jalalah	6.56	133	P	Pn	22 41 54.7	-0.2
LUJL	Ujela	6.59	221	*i* P	Pn	22 41 56.3	+1.0
	SNR=22						
LUJL				eS	Sn	22 43 06.7	-3.1
	128nm,0.5s,SNR=22						
EREN	Erenkoy	6.65	76	ePN	Pn	22 41 57.4	+1.3
EREN	Erenkoy	6.65	76	Pn	Pn	22 41 57.1	+1.0
EREN	Erenkoy	6.65	76	Pn	Pn	22 41 57.1	+1.0
HORT	Hortiatis	6.84	340	P	Pn	22 42 03.6	+4.9
JAN	Janina	6.93	323	P	Pn	22 42 03.9	+4.0
JAN	Janina	6.93	323	P	Pn	22 42 03.9	+4.0
GULT	Gulveren	7.08	28	ePN	Pn	22 42 04.0	+2.0
GULT	Gulveren	7.08	28	Pn	Pn	22 42 04.0	+2.0
GULT	Gulveren	7.08	28	Pn	Pn	22 42 04.0	+2.0
IGT	Igoumenitsa	7.10	320	P	Pn	22 42 04.5	+2.2
IGT	Igoumenitsa	7.10	320	P	Pn	22 42 04.5	+2.2
IGT	Igoumenitsa	7.10	320	P	Pn	22 42 04.5	+2.2
SUZ		7.10	126	P	Pn	22 42 02.0	-0.3
RSH		7.11	115	P	Pn	22 42 01.5	-0.9
HFRF	Wahat Farafira	7.27	165	P	Pn	22 42 05.1	+0.5
ZAF		7.29	131	P	Pn	22 42 04.8	-0.1
NVR	Nevrokopi	7.36	346	P	Pn	22 42 06.7	+0.9
NVR	Nevrokopi	7.36	346	P	Pn	22 42 06.7	+0.9
MDUB	Mudurnu	7.39	31	ePN	Pn	22 42 08.2	+1.9
MDUB	Mudurnu	7.39	31	Pn	Pn	22 42 08.2	+1.9
MDUB	Mudurnu	7.39	31	ePn	Pn	22 42 08.2	+1.9
KNT	Kendrikon	7.42	340	P	Pn	22 42 08.6	+2.0
KNT	Kendrikon	7.42	340	P	Pn	22 42 09.3	+2.7
KNT	Kendrikon	7.42	340	P	Pn	22 42 09.3	+2.7
KNT	Kendrikon	7.42	340	P	Pn	22 42 09.3	+2.7
NEST	Nestorio	7.43	328	P	Pn	22 42 07.6	+0.7
KDZ	Kurdzhali	7.45	355	P	Pn	22 42 10.0	+3.0
OFRI	'Ofer	7.49	100	Pn	Pn	22 42 07.4	-0.2
KEK	Kerkira	7.52	319	P	Pn	22 42 09.2	+1.2
KEK	Kerkira	7.52	319	P	Pn	22 42 09.2	+1.2
RZN	Rozhen	7.55	351	P	Pn	22 42 12.1	+3.5
AFSR	Af´ar-Bala (A	7.57	44	ePN	Pn	22 42 10.8	+2.1
AFSR	Af´ar-Bala (A	7.57	44	ePn	Pn	22 42 10.8	+2.1
FNA	Florina	7.60	331	P	Pn	22 42 10.9	+1.7
FNA	Florina	7.60	331	P	Pn	22 42 13.0	+3.8
FNA	Florina	7.60	331	P	Pn	22 42 13.0	+3.8
FNA	Florina	7.60	331	P	Pn	22 42 10.9	+1.7
MMB	Musomiste	7.62	346	P	Pn	22 42 13.7	+4.3
MMB	Musomiste	7.62	346	P	Pn	22 42 12.9	+3.5
MMB	Musomiste	7.62	346	P	Pn	22 42 13.7	+4.3
MMB	Musomiste	7.62	346	P	Pn	22 42 12.9	+3.5
BLGI	Bet Lehem HaGe	7.63	99	Pn	Pn	22 42 09.2	-0.3
SLTI	Sal´it	7.64	103	Pn	Pn	22 42 08.6	-1.1
KZIT	Kziot	7.64	113	P	Pn	22 42 11.1	+1.4
KZIT	Kziot	7.64	113	Pn	Pn	22 42 09.1	-0.6
KZIT	Kziot	7.64	113	P	Pn	22 42 11.1	+1.4
MMA0	Mount Meron ar	7.74	96	Pn	Pn	22 42 10.2	-1.0
MMAI	Mount Meron Ar	7.74	96	Pn	Pn	22 42 10.4	-0.7
MMAI				Sn	Sn	22 43 33.6	-4.6
MMAI	Mount Meron Ar	7.74	96	Pn	Pn	22 42 10.4	-0.7
	8.4nm,0.3s,baz=271,slow=12,SNR=45						
MMAI				Sn	Sn	22 43 33.6	-4.6
	11nm,0.3s,baz=311,slow=26,SNR=5.2						
MMAI	Mount Meron Ar	7.74	96	Pn	Pn	22 42 10.4	-0.7
KARA	Karaisali	7.79	65	ePN	Pn	22 42 12.6	+0.9
KARA	Karaisali	7.79	65	ePn	Pn	22 42 12.6	+0.9
RTMI	Retamim	7.80	112	Pn	Pn	22 42 11.0	-0.9
NIG	Nigde	7.81	58	ePN	Pn	22 42 13.5	+1.2
NIG	Nigde	7.81	58	Pn	Pn	22 42 13.4	+1.2
NIG	Nigde	7.81	58	Pn	Pn	22 42 13.4	+1.2
BIA	Bitola	7.82	332	P	Pn	22 42 13.9	+1.7
BIA	Bitola	7.82	332	P	Pn	22 42 13.9	+1.7
BHL	Bhannes	7.83	90	eP	Pn	22 42 11.6	-0.

MARH AML AML 22 44 04.3
comp=N,30nm,0.4s
MARH Ras Al Marh 8.50 88 *e*P **Pn 22 42 22.0 +0.2**
MARH *e*S Sn 22 43 48.7 -8.4
MARH AML AML 22 43 58.2
comp=E,52nm,0.4s
MARH AML AML 22 44 04.4
comp=Z,57nm,0.5s
MARH AML AML 22 44 04.4
comp=N,30nm,0.4s
MARH Ras Al Marh 8.50 88 *e*P **Pn 22 42 22.0 +0.2**
SNR=45
MARH *e*S Sn 22 43 48.7 -8.4
comp=N,30nm,0.4s,SNR=40
HRFI Mount Harif 8.55 117 P **Pn 22 42 23.9 +1.7**
HRFI Mount Harif 8.55 117 Pn **Pn 22 42 22.5 +0.3**
HRFI Mount Harif 8.55 117 P **Pn 22 42 23.9 +1.7**
BTCH Batrach 8.57 75 *e*P **Pn 22 42 22.6 0.0**
BTCH *e*S Sn 22 43 47.0 -12
BTCH AML AML 22 43 57.7
comp=E,78nm,0.4s
BTCH AML AML 22 44 01.9
comp=Z,148nm,0.4s
BTCH AML AML 22 44 16.8
comp=N,127nm,0.6s
BTCH Batrach 8.57 75 *e*P **Pn 22 42 22.5 0.0**
SNR=45
BTCH *e*S Sn 22 43 47.0 -12
comp=N,127nm,0.6s,SNR=40
MBRI Mt Berech 8.59 119 Pn **Pn 22 42 23.1 +0.3**
EIL Elat 8.69 119 *e*PN **Pn 22 42 23.8 -0.2**
EIL Elat 8.69 119 Pn **Pn 22 42 24.4 +0.4**
EIL Sn Sn 22 43 54.7 -6.5
EIL Elat 8.69 119 Pn **Pn 22 42 24.4 +0.4**
comp=N,3.3nm,0.3s,baz=281,slow=6.7,SNR=25
EIL Sn Sn 22 43 54.7 -6.5
comp=N,5.9nm,0.3s,baz=1.1,slow=17,SNR=4.4
EIL Elat 8.69 119 Pn **Pn 22 42 24.0 0.0**
VTS Vitosha 8.69 345 P Pn 22 42 27.8 +3.6
VTS Vitosha 8.69 345 P Pn 22 42 27.8 +3.6
KFRA Kufra 8.76 81 *e*P **Pn 22 42 22.6 -2.4**
KFRA *e*S Sn 22 43 52.2 -11
KFRA Kufra 8.76 81 *e*P **Pn 22 42 22.9 -2.2**
KFRA *e*S Sn 22 43 52.5 -11
KFRA AML AML 22 43 57.3
comp=E,346nm,0.4s
KFRA AML AML 22 44 00.1
comp=Z,120nm,0.4s
KFRA AML AML 22 44 08.9
comp=N,244nm,0.6s
KFRA Kufra 8.76 81 *e*P **Pn 22 42 22.9 -2.2**
SNR=45
KFRA *e*S Sn 22 43 52.5 -11
comp=N,244nm,0.6s,SNR=40
SALA Sala 8.90 97 *e*P **Pn 22 42 27.6 +0.5**
SALA *e*S **Sn 22 44 02.1 -4.7**
SALA AML AML 22 44 12.7
comp=E,6.0nm,0.5s
SALA AML AML 22 44 19.8
comp=N,45nm,0.5s
SALA Sala 8.90 97 *e*P **Pn 22 42 27.9 +0.7**
SALA *e*S **Sn 22 44 01.9 -4.9**
SALA AML AML 22 44 11.0
comp=Z,46nm,0.5s
SALA AML AML 22 44 12.7
comp=E,6.0nm,0.5s
SALA AML AML 22 44 19.8
comp=N,45nm,0.5s
SALA Sala 8.90 97 *e*P **Pn 22 42 27.9 +0.7**
SNR=45
SALA *e*S **Sn 22 44 01.9 -4.9**
comp=N,45nm,0.5s,SNR=40
CORM Corum 8.96 46 *e*PN **Pn 22 42 28.8 +1.0**
CORM Corum 8.96 46 Pn **Pn 22 42 28.8 +1.0**
CORM Corum 8.96 46 *e*Pn **Pn 22 42 28.8 +1.0**
BNN Bunyan 9.01 56 *e*PN **Pn 22 42 29.2 +0.6**
BNN Bunyan 9.01 56 Pn **Pn 22 42 29.1 +0.6**
BNN Bunyan 9.01 56 *e*Pn **Pn 22 42 29.2 +0.6**
SOI Samo 9.08 298 P **Pn 22 42 29.3 -0.1**
SOI Samo 9.08 298 P **Pn 22 42 29.3 -0.1**
SOI Samo 9.08 298 P **Pn 22 42 29.3 -0.1**
GRI Girifalco 9.13 303 P **Pn 22 42 30.4 +0.2**
GRI Girifalco 9.13 303 P **Pn 22 42 30.4 +0.2**
GRI Girifalco 9.13 303 P **Pn 22 42 30.4 +0.2**
ASF Jabal al Asfar 9.17 100 Pn **Pn 22 42 29.6 -1.2**
ASF Sn **Sn 22 44 08.0 -5.2**
ASF Jabal al Asfar 9.17 100 Pn **Pn 22 42 29.6 -1.2**
comp=N,1.0nm,0.3s,baz=239,slow=10,SNR=12
ASF Sn **Sn 22 44 08.0 -5.2**
comp=N,1.0nm,0.3s,baz=247,slow=8.5,SNR=2.9
SHRM 9.25 131 P **Pn 22 42 31.2 -0.6**
CEL Celeste 9.27 299 *e*Pn **Pn 22 42 31.6 -0.5**
CEL Celeste 9.27 299 *e*Pn **Pn 22 42 31.6 -0.5**
LZLA Zalla 9.31 235 *i* P **Pn 22 42 32.5 -0.2**
SNR=22
MTTG Motta San Giov 9.32 297 P **Pn 22 42 32.7 -0.1**
MTTG Motta San Giov 9.32 297 P **Pn 22 42 32.7 -0.1**
ZALF Zalf 9.35 95 *e*P **Pn 22 42 33.1 -0.2**
ZALF *e*S Sn 22 44 11.2 -6.5
ZALF AML AML 22 44 27.7
comp=N,13nm,0.5s
ZALF AML AML 22 44 45.0
comp=E,26nm,0.6s
ZALF Zalf 9.35 95 *e*P **Pn 22 42 34.2 +1.0**
ZALF *e*S Sn 22 44 10.8 -6.8
ZALF AML AML 22 44 27.8
comp=N,13nm,0.5s
ZALF AML AML 22 44 39.9
comp=Z,26nm,0.5s
ZALF AML AML 22 44 45.0
comp=E,26nm,0.6s
ZALF Zalf 9.35 95 *e*P **Pn 22 42 34.2 +1.0**
SNR=45
ZALF *e*S Sn 22 44 10.9 -6.8
comp=E,26nm,0.6s,SNR=40
JOPP Joppolo 9.42 301 P **Pn 22 42 34.1 +0.1**
JOPP Joppolo 9.42 301 P **Pn 22 42 34.1 +0.1**
AGST Augusta-Monte 9.45 292 P **Pn 22 42 33.1 -1.3**
AGST Augusta-Monte 9.45 292 P **Pn 22 42 33.1 -1.3**
HAVL Avola 9.45 290 P **Pn 22 42 33.5 -1.0**
HAVL Avola 9.45 290 P **Pn 22 42 33.5 -1.0**
SSY Sortino 9.54 291 P **Pn 22 42 34.5 -1.2**
SSY Sortino 9.54 291 P **Pn 22 42 34.5 -1.2**
TDS Terranova Siba 9.60 307 P **Pn 22 42 37.5 +1.0**
TDS Terranova Siba 9.60 307 P **Pn 22 42 37.5 +1.0**
TDS Terranova Siba 9.60 307 P **Pn 22 42 37.5 +1.0**
ORI Oriolo Calabro 9.74 310 P Pn 22 42 40.0 +1.5
ORI Oriolo Calabro 9.74 310 P Pn 22 42 40.0 +1.5
ORI Oriolo Calabro 9.74 310 P Pn 22 42 40.0 +1.5
HVZN Vizzini 9.82 291 P **Pn 22 42 38.7 -0.9**
HVZN Vizzini 9.82 291 P **Pn 22 42 38.7 -0.9**
DARE Darende-Malaty 10.05 61 *e*PN **Pn 22 42 43.3 +0.5**
SCHR S. Chirico Rap 10.06 309 P **Pn 22 42 42.6 -0.3**
SCHR S. Chirico Rap 10.06 309 P **Pn 22 42 42.6 -0.3**
RAFF Raffo Rosso 10.10 291 P Pn 22 42 46.5 +3.1
RAFF Raffo Rosso 10.10 291 P Pn 22 42 46.5 +3.1
HSFG 10.11 137 P **Pn 22 42 43.4 -0.2**
CUC Castrocucco 10.12 308 *e*Pn **Pn 22 42 42.5 -1.1**
CUC *e*Sn **Sn 22 44 32.1 -4.2**
CUC Castrocucco 10.12 308 *e*Pn **Pn 22 42 42.5 -1.1**
SIRI Monte Sirino - 10.18 309 P **Pn 22 42 44.5 -0.1**
SIRI Monte Sirino - 10.18 309 P **Pn 22 42 44.5 -0.1**
MTSN Montesano sull 10.30 309 P **Pn 22 42 46.5 +0.3**
MTSN Montesano sull 10.30 309 P **Pn 22 42 46.5 +0.3**
SVSK Karacayir 10.31 53 *e*PN **Pn 22 42 47.1 +0.8**
SVSK Karacayir 10.31 53 Pn **Pn 22 42 47.0 +0.8**
SVSK Karacayir 10.31 53 Pn **Pn 22 42 47.0 +0.8**
LKFR Kufra 10.36 196 *i* P **Pn 22 42 48.5 +1.4**
SNR=22
MGR Morigerati 10.36 308 P **Pn 22 42 46.2 -0.8**
MGR Morigerati 10.36 308 P **Pn 22 42 46.2 -0.8**
RESU Resuttano 10.45 293 P Pn 22 42 50.1 +1.9
RESU Resuttano 10.45 293 P Pn 22 42 50.1 +1.9
BULG Bulgheria - Ca 10.45 307 P Pn 22 42 49.7 +1.5
BULG Bulgheria - Ca 10.45 307 P Pn 22 42 49.7 +1.5
CSLB Castelbuono 10.53 294 P **Pn 22 42 49.8 +0.5**
CSLB Castelbuono 10.53 294 P **Pn 22 42 49.8 +0.5**
APRS 10.56 157 P **Pn 22 42 49.4 -0.4**
ALJA Alia 10.71 293 P Pn 22 42 53.7 +2.0
ALJA Alia 10.71 293 P Pn 22 42 53.7 +2.0
MRLC Muro Lucano 10.74 311 P **Pn 22 42 51.2 -0.9**
MRLC Muro Lucano 10.74 311 P **Pn 22 42 51.2 -0.9**
SGO Sicignano 10.75 309 P **Pn 22 42 51.4 -0.9**
SGO Sicignano 10.75 309 P **Pn 22 42 51.4 -0.9**
STON Ston 10.91 325 *e*Pn Pn 22 42 51.2 -3.3
STON Sn Sn 22 44 44.1 -12
BBLS Lazići 10.99 333 *e*Pn **Pn 22 42 55.4 -0.2**
LSHF Shwairf 11.00 251 *i* P **Pn 22 42 55.1 -0.7**
SNR=22
CORL Corleone 11.09 293 P Pn 22 43 00.5 +3.6
FG5 Orsara di Pugl 11.18 312 P **Pn 22 42 58.7 +0.6**
FG5 Orsara di Pugl 11.18 312 P **Pn 22 42 58.7 +0.6**
FG5 Orsara di Pugl 11.18 312 P **Pn 22 42 58.7 +0.6**
MLR Muntele Rosu 11.26 359 Pn Pn 22 43 01.3 +2.0
MLR Muntele Rosu 11.26 359 Pn Pn 22 43 01.3 +2.0
baz=174,slow=18
MLR Muntele Rosu 11.26 359 P Pn 22 43 01.3 +2.0
MRB1 Monte Rocchett 11.27 311 P **Pn 22 43 00.7 +1.3**
MRB1 Monte Rocchett 11.27 311 P **Pn 22 43 00.7 +1.3**
MMGO Monte Magaggia 11.28 292 P Pn 22 43 03.6 +4.1
CRJA Costa Raja 11.29 292 P Pn 22 43 03.3 +3.6
MTGR Montagna Grand 11.50 292 P Pn 22 43 06.3 +3.7
FG2 Serracapriola 11.55 314 P Pn 22 43 05.3 +2.1
FG2 Serracapriola 11.55 314 P Pn 22 43 05.3 +2.1
SGG Gregorio Mates 11.79 311 P **Pn 22 43 07.5 +1.0**
SGG Gregorio Mates 11.79 311 P **Pn 22 43 07.5 +1.0**
UDBI Udbina 13.08 325 *e*Pn **Pn 22 43 21.2 -3.0**
UDBI Sn Sn 22 45 41.0 -8.0
KEST Kesra 13.93 281 *e*Pn **Pn 22 43 36.6 +0.8**
KEST *e*Sn **Sn 22 46 07.6 -2.2**
KEST Kesra 13.93 281 Pn **Pn 22 43 36.0 +0.2**
comp=E,0.0nm,0.3s,baz=71,slow=2.8,SNR=8.3
KEST Sn Sn 22 46 03.3 -6.5
comp=E,0.1nm,0.3s,baz=53,slow=20,SNR=3.9
KEST Kesra 13.93 281 *e*Pn **Pn 22 43 36.6 +0.8**
KEST *e*Sn **Sn 22 46 07.6 -2.2**
KECS Kecovo 14.88 345 *e*P P 22 43 50.4 -3.8
KECS Kecovo 14.88 345 *e*PN P 22 43 50.4 -3.8
KECS Kecovo 14.88 345 *e*Pn P 22 43 50.4 -3.8
KOLS Kolonicke sedl 14.99 350 *e*P **Pn 22 43 51.1 +1.0**
KOLS Kolonicke sedl 14.99 350 *e*PN **Pn 22 43 51.1 +1.0**
KOLS Kolonicke sedl 14.99 350 *e*Pn **Pn 22 43 51.1 +1.0**
SOKA Soboth 15.06 329 ⇓*i*P **P 22 43 57.1 +0.8**
comp=E,3.2nm,0.8s,SNR=5.6
SOKA Soboth 15.06 329 P **P 22 43 57.1 +0.8**
comp=E,3.2nm,0.8s,SNR=5.6
CRVS Cervenica-Dubn 15.09 348 *e*P P 22 44 01.4 +4.9
CRVS Cervenica-Dubn 15.09 348 *e*P P 22 44 01.4 +4.9
ZST Bratislava 15.54 337 *e*P **P 22 44 04.7 +3.2**
ZST Bratislava 15.54 337 *e*P **P 22 44 04.7 +3.2**
STHS Stebnicka Huta 15.63 348 *e*P P 22 44 06.5 +4.0
STHS Stebnicka Huta 15.63 348 *e*P P 22 44 06.5 +4.0
PGF Pioggiola 15.85 307 *e*P **Pn 22 44 00.6 -0.8**
KIV Kislovodsk 16.03 48 *e*P **P 22 44 05.6 -1.4**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV Kislovodsk 16.03 48 P **P 22 44 05.6 -1.4**
KIV Kislovodsk 16.03 48 *e*P **P 22 44 05.6 -1.4**
comp=Z,41nm,1.1s
KBZ Khabaz 16.04 49 P **P 22 44 06.4 -0.6**
KBZ Khabaz 16.04 49 Pn **P 22 44 06.4 -0.6**
KBZ Khabaz 16.04 49 Pn **P 22 44 06.4 -0.6**
comp=Z,0.2nm,0.3s,baz=250,slow=9.0,SNR=12
KBZ Khabaz 16.04 49 P **P 22 44 06.4 -0.6**
ZEI Tsey 16.24 53 *e*P **P 22 44 07.6 -1.9**
ZEI pmax pmax
comp=Z,16nm,1.0s
ZEI Tsey 16.24 53 *e*P **P 22 44 07.6 -1.9**
comp=Z,16nm,1.0s
ABTA Abfaltersbach 16.26 324 ⇓*i*P **P 22 44 08.0 -1.6**
comp=Z,6.0nm,0.5s
ABTA Abfaltersbach 16.26 324 P **P 22 44 08.0 -1.6**
comp=Z,6.0nm,0.5s
TBLG Delisi 16.39 57 P **P 22 44 11.9 +1.0**
TBLG Delisi 16.39 57 P **P 22 44 11.9 +1.0**
TBLG Delisi 16.39 57 P **P 22 44 11.9 +1.0**
GUDG Gudauri 16.49 55 P **P 22 44 16.1 +3.9**
DUS Dusheti 16.50 56 P **P 22 44 12.8 +0.6**
DUS Dusheti 16.50 56 P **P 22 44 12.8 +0.6**
KRUC Moravsky 16.53 337 P **P 22 44 13.1 +0.7**
KRUC Moravsky 16.53 337 P **P 22 44 13.1 +0.7**
KRUC Moravsky 16.53 337 P **P 22 44 13.1 +0.7**
MAGA Magasa 16.58 319 P **P 22 44 13.2 0.0**
MAGA Magasa 16.58 319 P **P 22 44 13.2 0.0**
AKASG Malin Array Be 16.62 7 *c*e**P P 22 44 13.3 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 16.62 7 Pn **P 22 44 12.0 -1.4**
AKASG Malin Array Be 16.62 7 Pn **P 22 44 12.0 -1.4**
comp=Z,3.7nm,0.3s,baz=195,slow=10,SNR=16
AKASG Malin Array Be 16.62 7 Pn **P 22 44 12.0 -1.4**
AKASG Malin Array Be 16.62 7 *e*P **P 22 44 13.3 -0.1**
comp=Z,4.0nm,0.5s
VRAC Vranov 16.68 338 Pn **P 22 44 13.6 -0.5**
VRAC Vranov 16.68 338 Pn **P 22 44 13.6 -0.5**
comp=Z,0.5nm,0.3s,baz=157,slow=11,SNR=5.9
VRAC LR LR 22 50 59.5
comp=Z,76nm,20.4s,baz=161,slow=39
VRAC Vranov 16.68 338 P **P 22 44 13.6 -0.5**
comp=Z,1.0nm,0.3s
OKC Ostrava-Krasne 16.70 342 *e*P **Pn 22 44 10.1 -2.1**
OKC Ostrava-Krasne 16.70 342 *e*P **Pn 22 44 10.1 -2.1**
DGRG David-gareji 16.74 59 P **P 22 44 15.3 +0.5**
DGRG David-gareji 16.74 59 P **P 22 44 15.3 +0.5**
MORC Moravsky Berou 16.81 340 *e*P **Pn 22 44 12.8 -0.8**
MORC pmax pmax
comp=Z,14nm,1.6s
MORC Moravsky Berou 16.81 340 *e*Pn **Pn 22 44 12.8 -0.8**
comp=Z,14nm,1.6s
MORC Moravsky Berou 16.81 340 *e*Pn **Pn 22 44 12.8 -0.8**
comp=Z,14nm,1.6s
MABI Malga Bissina 16.82 319 P **P 22 44 16.7 +0.8**
MABI Malga Bissina 16.82 319 P **P 22 44 16.7 +0.8**
TREC Trest 17.04 335 *e*P **Pn 22 44 14.2 -2.2**
TREC Trest 17.04 335 *e*P **Pn 22 44 14.2 -2.2**
TREC *e*pP **pP 22 44 24.5 0.0**
WTTA Wattenberg 17.05 324 ⇑*i*P **P 22 44 20.6 +2.1**
comp=Z,4.2nm,0.6s,SNR=6.0
WTTA Wattenberg 17.05 324 P **P 22 44 20.7 +2.3**
WTTA Wattenberg 17.05 324 P **P 22 44 20.7 +2.3**
WTTA Wattenberg 17.05 324 P **P 22 44 20.7 +2.3**
WATA Walderalm 17.13 324 ⇑*i*Pn **P 22 44 19.8 +0.5**
comp=Z,6.2nm,0.5s,SNR=5.5
WATA Walderalm 17.13 324 Pn **P 22 44 19.8 +0.5**
comp=Z,6.2nm,0.5s,SNR=5.5
BRMO Bormio 17.16 320 P **P 22 44 21.1 +1.5**
BRMO Bormio 17.16 320 P **P 22 44 21.1 +1.5**
FUORN Ofenpass-Fuorn 17.32 320 *e*Pn **P 22 44 21.5 +0.1**
comp=Z,21nm,1.0s
FUORN Ofenpass-Fuorn 17.32 320 *e*Pn **P 22 44 21.5 +0.1**
comp=Z,21nm,1.0s
GERES GERESS Array B 17.33 331 P **P 22 44 20.3 -1.1**
GERES GERESS Array B 17.33 331 P **P 22 44 20.3 -1.1**
comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=15
GERES LR LR 22 50 37.2
comp=Z,63nm,21.2s,baz=294,slow=36
GERES GERESS Array B 17.33 331 P **P 22 44 20.3 -1.1**
FETA Feichten 17.34 322 ⇑*i*Pn **P 22 44 22.7 +1.1**
comp=Z,4.9nm,0.7s,SNR=9.7
FETA Feichten 17.34 322 Pn **P 22 44 22.7 +1.1**
comp=Z,4.9nm,0.7s,SNR=9.7
MOTA Moosalm 17.37 324 ⇑*i*P **P 22 44 20.3 -1.6**
comp=Z,2.4nm,0.5s,SNR=7.1
MOTA Moosalm 17.37 324 P **P 22 44 20.3 -1.6**
comp=Z,2.4nm,0.5s,SNR=7.1
SBF Sospel 17.46 309 *e*P **P 22 44 20.8 -2.0**
comp=Z,45nm,1.2s
SBF Sospel 17.46 309 P **P 22 44 21.9 -0.9**
SBF Sospel 17.46 309 P **P 22 44 21.9 -0.9**
SBF Sospel 17.46 309 P **P 22 44 21.9 -0.9**
MUGIO Muggio 17.56 317 P **P 22 44 23.6 -0.3**
MUGIO Muggio 17.56 317 P **P 22 44 23.6 -0.3**
KHC Kasperske Hory 17.61 332 *e*P **P 22 44 22.6 -1.8**
KHC Kasperske Hory 17.61 332 *e*P **P 22 44 22.6 -1.8**
KHC AMS AMS 22 52 20.0
comp=Z,200nm,16.8s
KHC Kasperske Hory 17.61 332 P **P 22 44 24.2 -0.2**
KHC Kasperske Hory 17.61 332 P **P 22 44 24.2 -0.2**
DAVOX Davos/Dischmat 17.62 320 P **P 22 44 23.8 -0.9**
DAVOX Davos/Dischmat 17.62 320 P **P 22 44 23.8 -0.9**
comp=Z,0.3nm,0.3s,baz=155,slow=14,SNR=9.9
DAVOX Davos/Dischmat 17.62 320 P **P 22 44 23.8 -0.9**
DPC Dobruska-Polom 17.68 339 *e*P **P 22 44 23.9 -1.3**
DPC Dobruska-Polom 17.68 339 *e*P **P 22 44 23.9 -1.3**
DPC AMS AMS 22 52 30.0
DPC Dobruska-Polom 17.68 339 *e*Pn **P 22 44 24.2 -1.0**
DPC Dobruska-Polom 17.68 339 *e*P **P 22 44 23.9 -1.3**
DPC Dobruska-Polom 17.68 339 *e*Pn **P 22 44 24.2 -1.0**
TUE Stuetta 17.71 319 *e*Pn **P 22 44 27.1 +1.3**
comp=Z,8.1nm,0.9s
TUE Stuetta 17.71 319 *e*Pn **P 22 44 27.1 +1.3**
comp=Z,8.1nm,0.9s
LMR La Mourre 17.84 306 *e*P **P 22 44 25.5 -1.4**
LMR La Mourre 17.84 306 *e*P **P 22 44 25.5 -1.4**
FRF La Foret Royal 17.84 307 *e*P **Pn 22 44 24.3 -2.1**
comp=Z,37nm,1.3s
DAVA Damuels 17.95 322 ⇑*i*P **P 22 44 27.4 -0.9**
comp=Z,3.4nm,0.4s,SNR=6.3
DAVA Damuels 17.95 322 P **P 22 44 27.4 -0.9**
comp=Z,3.4nm,0.4s,SNR=6.3
PRU Pruhonice 17.95 335 *e*P **P 22 44 26.4 -1.7**
PRU Pruhonice 17.95 335 *e*P **P 22 44 26.4 -1.7**
PRU *e*pP pP 22 44 41.9 +7.3
PRU AMS AMS 22 51 00.0
comp=Z,100nm,16.7s
PRU Pruhonice 17.95 335 *e*P **P 22 44 26.4 -1.7**
MBDF Montbardon 18.28 311 *e*P **P 22 44 30.8 -1.2**
comp=Z,32nm,1.0s
MBDF Montbardon 18.28 311 P **P 22 44 32.0 0.0**
MBDF Montbardon 18.28 311 P **P 22 44 32.0 0.0**
MBDF Montbardon 18.28 311 P **P 22 44 32.0 0.0**
PVCC Panska Ves 18.40 336 *e*P **Pn 22 44 35.0 +1.8**
PVCC Panska Ves 18.40 336 *e*P **Pn 22 44 35.0 +1.8**
PVCC Panska Ves 18.40 336 *e*P **Pn 22 44 35.0 +1.8**
MIB Mutribah 18.43 98 *e*P **Pn 22 44 33.4 -0.3**
MIB AMb AMB 22 44 38.1
comp=Z,14nm,0.6s
MIB Mutribah 18.43 98 *e*P **Pn 22 44 33.4 -0.3**
comp=Z,14nm,0.6s
BNALP Bannalp 18.46 319 P **Pn 22 44 35.8 +1.7**
BNALP Bannalp 18.46 319 P **Pn 22 44 35.8 +1.7**
BNI Bardonecchia 18.50 312 *e*P **Pn 22 44 34.7 +0.2**
BNI pmax pmax
comp=Z,8.0nm,1.4s
BNI Bardonecchia 18.50 312 *e*P **Pn 22 44 34.7 +0.2**
comp=Z,7.9nm,1.4s
BNI Bardonecchia 18.50 312 *e*P **Pn 22 44 34.7 +0.2**
comp=Z,7.8nm,1.4s
NAY Al-Naaiem 18.54 100 *e*P **Pn 22 44 34.9 -0.1**
NAY AMb AMB 22 44 37.8
comp=Z,19nm,0.6s
NAY Al-Naaiem 18.54 100 *e*P **Pn 22 44 34.9 -0.1**
comp=Z,19nm,0.6s
LPG La Plagne 18.67 313 *e*P **Pn 22 44 36.4 -0.4**
comp=Z,6.1nm,0.5s
LPG La Plagne 18.67 313 P **Pn 22 44 35.4 -1.4**
LPG La Plagne 18.67 313 P **Pn 22 44 35.4 -1.4**
LPG La Plagne 18.67 313 *e*P **Pn 22 44 36.4 -0.4**
comp=Z,3.0nm,0.5s
LPL La Plagne 18.69 313 *e*P **Pn 22 44 36.8 -0.2**
comp=Z,6.2nm,0.4s
LPL La Plagne 18.69 313 P **Pn 22 44 36.1 -0.9**
LPL La Plagne 18.69 313 P **Pn 22 44 36.1 -0.9**
LPL La Plagne 18.69 313 *e*P **Pn 22 44 36.8 -0.2**
comp=Z,3.1nm,0.4s
SMRF Simiane la Rot 18.72 307 *e*P **Pn 22 44 36.0 -1.2**
comp=Z,14nm,0.9s
SMRF Simiane la Rot 18.72 307 *e*P **Pn 22 44 36.0 -1.2**
comp=Z,6.9nm,0.9s
SENIN Lac Senin/Sane 18.80 316 *e*Pn **Pn 22 44 38.5 +0.1**
comp=Z,6.5nm,0.7s
SENIN Lac Senin/Sane 18.80 316 *e*Pn **Pn 22 44 38.5 +0.1**
comp=Z,6.5nm,0.7s
UMR Umm Al-Rimmam 18.82 98 *e*P **P 22 44 37.3 -0.6**
UMR AMb AMB 22 44 42.5
comp=Z,63nm,1.6s
UMR Umm Al-Rimmam 18.82 98 *e*P **P 22 44 37.3 -0.6**
comp=Z,63nm,1.6s
RSL Roselend 18.84 313 *e*P **Pn 22 44 38.4 -0.4**
BRG Berggiesshubel 18.90 335 *e*P **Pn 22 44 39.7 +0.4**
comp=Z,2.1nm,0.9s
BRG Berggiesshubel 18.90 335 *e*P **Pn 22 44 39.7 +0.4**
BRG pmax pmax
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 18.90 335 *e*P **Pn 22 44 39.7 +0.4**
comp=Z,2.0nm,0.9s
NKC Novy Kostel 18.93 332 *e*P **Pn 22 44 39.1 -0.5**
NKC Novy Kostel 18.93 332 *e*P **Pn 22 44 39.1 -0.5**
NKC Novy Kostel 18.93 332 *e*P **Pn 22 44 39.1 -0.5**
ORIF Oris-en-Rattie 18.93 310 *e*P **Pn 22 44 38.1 -1.7**
comp=Z,20nm,1.2s
ORIF *e*R
comp=Z,97nm,21.2s
ORIF Oris-en-Rattie 18.93 310 *e*P **Pn 22 44 38.1 -1.7**
comp=Z,9.8nm,1.2s
SLE Schleitheim 18.98 321 P **Pn 22 44 41.2 +1.0**
SLE Schleitheim 18.98 321 P **Pn 22 44 41.2 +1.0**
SLE Schleitheim 18.98 321 P **Pn 22 44 41.2 +1.0**
VSR Storozhevoye 19.41 25 *e*P **Pn 22 44 45.2 -0.2**
VSR *e*S **S 22 48 19.6 -2.5**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR smax smax
comp=E,10.0nm,1.1s
VSR smax smax
comp=Z,1.0nm,0.4s
VSR smax smax
comp=N,4.0nm,1.1s
VSR Storozhevoye 19.41 25 *e*P **Pn 22 44 45.2 -0.2**
BFO Black Forest 19.42 322 *e*P **Pn 22 44 44.7 -0.9**
BFO pmax pmax
comp=Z,6.0nm,0.7s
BFO Black Forest 19.42 322 *e*Pn **Pn 22 44 44.6 -0.9**
comp=Z,6.3nm,0.7s
BFO Black Forest 19.42 322 *e*P **Pn 22 44 44.7 -0.9**
comp=Z,6.0nm,0.7s
BOURR Bourrignon 19.43 318 P **Pn 22 44 45.4 -0.3**
BOURR Bourrignon 19.43 318 P **Pn 22 44 45.4 -0.3**
CLL Collm 19.59 335 *e*P **Pn 22 44 46.0 -1.6**
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 19.59 335 *e*P **Pn 22 44 46.0 -1.6**
comp=Z,3.0nm,0.7s
CLL *i* pP **pP 22 44 52.5 -0.1**
comp=Z,5.0nm,0.7s
CLL Collm 19.59 335 *e*P **Pn 22 44 46.0 -1.6**
comp=Z,3.0nm,0.7s
LOMF Lomont 19.63 318 *e*P **Pn 22 44 47.0 -1.1**
CABF La Chapelle 19.64 315 *e*P **P 22 44 44.7 -2.1**
comp=Z,18nm,0.7s
CABF La Chapelle 19.64 315 P **Pn 22 44 46.0 -2.3**
CABF La Chapelle 19.64 315 P **Pn 22 44 46.0 -2.3**
CABF La Chapelle 19.64 315 P **Pn 22 44 46.0 -2.3**
VIVF Saint-Julien-l 19.67 309 *e*P **Pn 22 44 46.3 -2.3**
VIVF Saint-Julien-l 19.67 309 P **Pn 22 44 47.0 -1.6**
VIVF Saint-Julien-l 19.67 309 P **Pn 22 44 47.0 -1.6**
VIVF Saint-Julien-l 19.67 309 P **Pn 22 44 47.0 -1.6**
MOF Molkenrain 19.75 319 *e*P **P 22 44 46.6 -1.4**
HINF Hinteralfeld 19.88 319 *e*P **Pn 22 44 49.2 -1.9**
comp=Z,8.7nm,0.6s
HINF Hinteralfeld 19.88 319 P **P 22 44 48.2 -1.2**
HINF Hinteralfeld 19.88 319 P **P 22 44 48.2 -1.2**
HINF Hinteralfeld 19.88 319 *e*P **Pn 22 44 49.2 -1.9**
comp=Z,4.3nm,0.6s
LASF Ste Croix 19.89 306 *e*P **Pn 22 44 49.3 -2.0**
comp=Z,11nm,0.9s
LASF Ste Croix 19.89 306 *e*P **Pn 22 44 49.3 -2.0**
comp=Z,5.5nm,0.9s
SUW Suwalki 19.91 355 *e*P **Pn 22 44 51.9 +0.7**
SUW pmax pmax
comp=Z,31nm,0.8s
SUW Suwalki 19.91 355 *e*Pn **Pn 22 44 51.9 +0.7**
comp=Z,31nm,0.8s
SUW Suwalki 19.91 355 *e*P **Pn 22 44 51.7 +0.5**
SUW Suwalki 19.91 355 *e*Pn **Pn 22 44 51.9 +0.7**
comp=Z,31nm,0.8s
CDF Champ du Feu 20.02 321 *e*P **Pn 22 44 50.9 -1.8**
comp=Z,22nm,0.9s
CDF Champ du Feu 20.02 321 P **Pn 22 44 50.9 -1.8**
CDF Champ du Feu 20.02 321 P **Pn 22 44 50.9 -1.8**

CDF	Champ du Feu	20.02 321	eP	Pn	22 44 50.9	-1.8
	comp=Z,11nm,0.9s					
EJON	La Jonquera	20.03 301	P	Pn	22 44 51.1	-1.7
EJON	La Jonquera	20.03 301	P	Pn	22 44 51.1	-1.7
LANF	Langenberg	20.11 323	eP	Pn	22 44 52.2	-1.5
CFON	Fontmartina	20.17 299	P	Pn	22 44 53.7	-0.9
CFON	Fontmartina	20.17 299	P	Pn	22 44 53.7	-0.9
VRHR	Novokhopersk	20.24 29	eP	Pn	22 44 56.2	+1.0
VRHR			pmax	pmax		
	comp=N,80nm,1.1s					
VRHR			pmax	pmax		
	comp=E,50nm,1.1s					
VRHR			pmax	pmax		
	comp=Z,40nm,1.1s					
HAU	Haudompre	20.27 319	eP	P	22 44 52.9	-0.7
	comp=Z,11nm,0.5s					
HAU			eR			
	comp=Z,160nm,21.2s					
HAU	Haudompre	20.27 319	P	P	22 44 52.9	-0.7
HAU	Haudompre	20.27 319	P	P	22 44 52.9	-0.7
HAU	Haudompre	20.27 319	eP	P	22 44 52.9	-0.7
	comp=Z,5.3nm,0.5s					
THEF	They Montfort	20.60 319	eP	Pn	22 44 57.0	-2.4
MTLF	Montolieu	20.76 303	eP	P	22 44 57.9	-1.0
	comp=Z,9.5nm,0.8s					
MTLF	Montolieu	20.76 303	P	P	22 44 58.2	-0.7
MTLF	Montolieu	20.76 303	P	P	22 44 58.2	-0.7
MTLF	Montolieu	20.76 303	P	P	22 44 58.2	-0.7
EMIR	Miracle	20.87 299	P	Pn	22 45 00.2	-2.5
EMIR	Miracle	20.87 299	P	Pn	22 45 00.2	-2.5
PAGF	Fort de Pagny	20.93 319	eP	P	22 45 00.1	-0.6
	comp=Z,6.2nm,0.7s					
PAGF	Fort de Pagny	20.93 319	eP	P	22 45 00.1	-0.6
	comp=Z,3.1nm,0.7s					
SMF	Signal de Mont	21.00 313	eP	P	22 45 01.1	-0.4
	comp=Z,12nm,0.8s					
SMF	Signal de Mont	21.00 313	P	Pn	22 45 01.3	-2.9
SMF	Signal de Mont	21.00 313	P	Pn	22 45 01.3	-2.9
SMF	Signal de Mont	21.00 313	P	Pn	22 45 01.3	-2.9
EPOB	Poblet	21.07 297	P	P	22 45 01.8	-0.6
EPOB	Poblet	21.07 297	P	P	22 45 01.8	-0.6
SFTF	Sexfontaines	21.11 318	eP	P	22 45 02.7	+0.1
	comp=Z,112nm,1.3s					
SFTF	Sexfontaines	21.11 318	eP	P	22 45 02.7	+0.1
	comp=Z,56nm,1.3s					
PYM	Petit Puy Mans	21.12 310	eP	P	22 45 01.6	-1.2
AGO	Saint Agoulin	21.17 311	eP	P	22 45 02.9	-0.4
CSOR	Sort	21.26 300	P	P	22 45 04.7	+0.3
CSOR	Sort	21.26 300	P	P	22 45 04.7	+0.3
MEZF	Maizieres J'vi	21.26 319	eP	P	22 45 04.0	-0.3
	comp=Z,23nm,0.7s					
MEZF	Maizieres J'vi	21.26 319	P	P	22 45 03.7	-0.6
MEZF	Maizieres J'vi	21.26 319	eP	P	22 45 04.0	-0.3
	comp=Z,12nm,0.7s					
LOR	Lormes	21.29 314	eP	P	22 45 03.8	-0.8
	comp=Z,12nm,0.8s					
LOR			eR			
	comp=Z,80nm,20.2s					
LOR	Lormes	21.29 314	P	P	22 45 03.8	-0.8
LOR	Lormes	21.29 314	eP	P	22 45 03.8	-0.8
	comp=Z,6.2nm,0.8s					
AVF	Avril sur Loir	21.36 313	eP	P	22 45 04.1	-1.3
AVF	Avril sur Loir	21.36 313	P	P	22 45 04.2	-1.2
AVF	Avril sur Loir	21.36 313	P	P	22 45 04.2	-1.2
AVF	Avril sur Loir	21.36 313	P	P	22 45 04.2	-1.2
WLF	Walferdange	21.38 322	eP	P	22 45 05.7	+0.2
WLF			pmax	pmax		
	comp=Z,7.0nm,0.6s					
WLF	Walferdange	21.38 322	eP	P	22 45 05.7	+0.2
	comp=Z,6.7nm,0.6s					
WLF	Walferdange	21.38 322	eP	P	22 45 05.7	+0.2
	comp=Z,6.7nm,0.6s					
SSF	Saint Saulge	21.40 314	eP	P	22 45 05.3	-0.5
	comp=Z,18nm,0.9s					
SSF	Saint Saulge	21.40 314	P	P	22 45 04.9	-0.9
SSF	Saint Saulge	21.40 314	P	P	22 45 04.9	-0.9
SSF	Saint Saulge	21.40 314	eP	P	22 45 05.3	-0.5
	comp=Z,8.8nm,0.9s					
CAF	Calviac	21.40 307	eP	P	22 45 04.9	-0.9
CAF	Calviac	21.40 307	P	P	22 45 05.1	-0.7
CAF	Calviac	21.40 307	P	P	22 45 05.1	-0.7
CAF	Calviac	21.40 307	P	P	22 45 05.1	-0.7
BGF	Bois d'Agland	21.57 312	eP	P	22 45 07.5	-0.1
	comp=Z,24nm,0.6s					
BGF	Bois d'Agland	21.57 312	P	P	22 45 09.9	+2.3
BGF	Bois d'Agland	21.57 312	P	P	22 45 09.9	+2.3
BGF	Bois d'Agland	21.57 312	eP	P	22 45 07.5	-0.1
	comp=Z,12nm,0.6s					
EBEN	Beniarda	21.71 290	P	P	22 45 09.7	+0.4
EBEN	Beniarda	21.71 290	P	P	22 45 09.7	+0.4
TCF	Toulx Ste Croi	21.85 311	eP	P	22 45 10.0	-0.6
	comp=Z,26nm,1.2s					
TCF	Toulx Ste Croi	21.85 311	P	P	22 45 09.5	-1.1
TCF	Toulx Ste Croi	21.85 311	P	P	22 45 09.5	-1.1
TCF	Toulx Ste Croi	21.85 311	eP	P	22 45 10.0	-0.6
	comp=Z,13nm,1.2s					
RJF	Les Rejaudoux	21.90 308	eP	P	22 45 10.9	-0.3
	comp=Z,8.8nm,0.5s					
RJF			eR			
	comp=Z,50nm,18.8s					
RJF	Les Rejaudoux	21.90 308	eP	P	22 45 10.9	-0.3
	comp=Z,4.4nm,0.5s					
EPF	Esparros	21.99 301	eP	P	22 45 11.4	-0.8
	comp=Z,5.5nm,0.7s					
EPF	Esparros	21.99 301	eP	P	22 45 11.4	-0.8
	comp=Z,2.8nm,0.7s					
EBIE	Bielsa	22.05 300	P	P	22 45 13.4	+0.4
EBIE	Bielsa	22.05 300	P	P	22 45 13.4	+0.4
MEM	Membach	22.05 324	P	P	22 45 13.1	+0.4
	comp=Z,8.6nm,0.9s					
MEM	Membach	22.05 324	P	P	22 45 13.1	+0.4
	comp=Z,8.6nm,0.9s					
EMOS	Mosqueruela	22.07 294	P	P	22 45 15.2	+2.0
EMOS	Mosqueruela	22.07 294	P	P	22 45 15.2	+2.0
OBN	Obninsk	22.10 16⇑	eP	P	22 45 12.5	-0.6
OBN			e		22 45 35.8	
OBN			eS	S	22 49 12.2	-3.2
OBN			pmax	pmax		
	comp=Z,16nm,1.2s					
OBN			MLR	MLR		
	comp=Z,100nm,21.0s					
OBN	Obninsk	22.10 16	P	P	22 45 12.6	-0.6
OBN	Obninsk	22.10 16	P	P	22 45 12.6	-0.6
LFF	La Frestale	22.29 306	eP	P	22 45 14.6	-0.7
	comp=Z,15nm,0.9s					
LFF	La Frestale	22.29 306	P	P	22 45 14.6	-0.7
LFF	La Frestale	22.29 306	P	P	22 45 14.6	-0.7
LFF	La Frestale	22.29 306	eP	P	22 45 14.6	-0.7
	comp=Z,7.6nm,0.9s					
GIVF	Givet	22.32 322	eP	P	22 45 15.2	-0.4
GIVF	Givet	22.32 322	P	P	22 45 15.2	-0.4
GIVF	Givet	22.32 322	P	P	22 45 15.2	-0.4
GIVF	Givet	22.32 322	eP	P	22 45 15.2	-0.4
DOU	Dourbes	22.44 322	P	P	22 45 16.9	+0.1
DOU	Dourbes	22.44 322	P	P	22 45 16.9	+0.1
ETSF	Etsaut	22.60 300	eP	P	22 45 18.8	+0.1
ETSF	Etsaut	22.60 300	P	P	22 45 19.6	+0.9
ETSF	Etsaut	22.60 300	P	P	22 45 19.6	+0.9
ETSF	Etsaut	22.60 300	eP	P	22 45 18.8	+0.1
BAIF	Baives	22.61 321	eP	P	22 45 17.3	-1.4
	comp=Z,22nm,0.7s					
BAIF	Baives	22.61 321	P	P	22 45 18.3	-0.4
BAIF	Baives	22.61 321	P	P	22 45 18.3	-0.4
BAIF	Baives	22.61 321	P	P	22 45 18.3	-0.4
SJPF	Ste Jean	23.12 301	eP	P	22 45 22.3	-1.8
	comp=Z,18nm,1.0s					
SJPF	Ste Jean	23.12 301	P	P	22 45 26.5	+2.4
SJPF	Ste Jean	23.12 301	P	P	22 45 26.5	+2.4
SJPF	Ste Jean	23.12 301	eP	P	22 45 22.3	-1.8
	comp=Z,8.8nm,1.0s					
MFF	Saint Martin d	23.46 310	eP	P	22 45 27.6	+0.1
	comp=Z,11nm,0.7s					
MFF	Saint Martin d	23.46 310	P	P	22 45 28.1	+0.6
MFF	Saint Martin d	23.46 310	P	P	22 45 28.1	+0.6
MFF	Saint Martin d	23.46 310	eP	P	22 45 27.6	+0.1
	comp=Z,5.7nm,0.7s					
EVIA	Vianos	23.49 289	P	P	22 45 28.6	+0.7
EVIA	Vianos	23.49 289	P	P	22 45 28.6	+0.7
EVIA	Vianos	23.49 289	P	P	22 45 28.6	+0.7
EHUE	Huescar	23.55 287	P	P	22 45 29.3	+0.8
EHUE	Huescar	23.55 287	P	P	22 45 29.3	+0.8
EHUE	Huescar	23.55 287	P	P	22 45 29.3	+0.8
EBER	Berja	23.80 285	P	P	22 45 30.0	-1.1
EBER	Berja	23.80 285	P	P	22 45 30.0	-1.1

EQES	Quesada	23.93 287	P	P	22 45 32.1	0.0
EQES	Quesada	23.93 287	P	P	22 45 32.1	0.0
VSU	Vasula	24.25 1	eP	P	22 45 36.7	+1.9
VSU			pmax	pmax		
	comp=Z,43nm,1.3s					
VSU	Vasula	24.25 1	P	P	22 45 36.7	+1.9
VSU	Vasula	24.25 1	eP	P	22 45 36.7	+1.9
	comp=Z,43nm,1.3s					
LDF	La Druitiere	24.28 314	eP	P	22 45 34.0	-1.1
	comp=Z,17nm,0.5s					
LDF	La Druitiere	24.28 314	P	P	22 45 34.5	-0.6
LDF	La Druitiere	24.28 314	P	P	22 45 34.5	-0.6
LDF	La Druitiere	24.28 314	P	P	22 45 34.5	-0.6
EGUA	Guajares	24.35 285	P	P	22 45 37.6	+1.7
EGUA	Guajares	24.35 285	P	P	22 45 37.6	+1.7
EGUA	Guajares	24.35 285	P	P	22 45 37.6	+1.7
ERON	Agron	24.53 285	P	P	22 45 39.0	+1.3
ERON	Agron	24.53 285	P	P	22 45 39.0	+1.3
FLN	La Foliniere	24.57 314	eP	P	22 45 36.9	-0.8
	comp=Z,26nm,0.9s					
FLN			eR			
	comp=Z,71nm,20.8s					
FLN	La Foliniere	24.57 314	P	P	22 45 36.6	-1.1
FLN	La Foliniere	24.57 314	P	P	22 45 36.6	-1.1
FLN	La Foliniere	24.57 314	eP	P	22 45 36.9	-0.8
	comp=Z,13nm,0.9s					
GRR	Gorron	24.63 313	eP	P	22 45 35.3	-3.0
	comp=Z,13nm,0.5s					
ESDC	Sonseca Array	24.67 292	P	P	22 45 39.0	+0.1
ESDC	Sonseca Array	24.67 292	P	P	22 45 39.0	+0.1
	comp=Z,7.7nm,0.6s,baz=80,slow=9.2,SNR=58					
ESDC	Sonseca Array	24.67 292	P	P	22 45 39.0	+0.1
ESLA	Sonseca Array	24.67 292	eP	P	22 45 39.0	+0.1
	comp=Z,5.5nm,1.1s					
ESLA	Sonseca Array	24.67 292	eP	P	22 45 39.0	+0.1
	comp=Z,5.5nm,1.1s					
PAB	San Pablo	24.96 291	eP	P	22 45 40.3	-1.3
PAB			pmax	pmax		
	comp=Z,24nm,1.5s					
PAB	San Pablo	24.96 291	eP	P	22 45 40.3	-1.3
	comp=Z,24nm,1.5s					
PAB	San Pablo	24.96 291	eP	P	22 45 40.3	-1.3
	comp=Z,24nm,1.5s					
EADA	Adamuz	25.11 288	P	P	22 45 42.4	-0.5
EADA	Adamuz	25.11 288	P	P	22 45 42.4	-0.5
EMIJ	Mijas	25.33 284	P	P	22 45 44.6	-0.2
EMIJ	Mijas	25.33 284	P	P	22 45 44.6	-0.2
SGMF	Saint Gilles	25.61 312	eP	P	22 45 47.8	+0.6
	comp=Z,11nm,0.6s					
SGMF	Saint Gilles	25.61 312	P	P	22 45 47.3	+0.1
SGMF	Saint Gilles	25.61 312	P	P	22 45 47.3	+0.1
SGMF	Saint Gilles	25.61 312	P	P	22 45 47.3	+0.1
MDT	Midelt	25.71 276	P	P	22 45 48.8	+0.4
MDT	Midelt	25.71 276	P	P	22 45 48.8	+0.4
	comp=Z,2.2nm,0.6s,baz=85,slow=12,SNR=6.8					
MDT	Midelt	25.71 276	P	P	22 45 48.8	+0.4
ECAB	El Cabril	25.78 288	P	P	22 45 48.4	-0.5
ECAB	El Cabril	25.78 288	P	P	22 45 48.4	-0.5
QUIF	Quistinic	25.86 311	eP	P	22 45 48.8	-0.7
	comp=Z,10nm,0.6s					
QUIF	Quistinic	25.86 311	P	P	22 45 48.5	-1.0
QUIF	Quistinic	25.86 311	P	P	22 45 48.5	-1.0
QUIF	Quistinic	25.86 311	eP	P	22 45 48.8	-0.7
	comp=Z,5.1nm,0.6s					
EARI	Arriondas	26.02 300	P	P	22 45 51.9	+0.9
EARI	Arriondas	26.02 300	P	P	22 45 51.9	+0.9
ROSF	Rostrenen	26.09 312	eP	P	22 45 50.4	-1.1
ROSF	Rostrenen	26.09 312	P	P	22 45 50.6	-0.9
ROSF	Rostrenen	26.09 312	P	P	22 45 50.6	-0.9
ROSF	Rostrenen	26.09 312	P	P	22 45 50.6	-0.9
ROSF	Rostrenen	26.09 312	P	P	22 45 50.6	-0.9
EPLA	Plasencia	26.32 292	P	P	22 45 53.4	-0.4
EPLA	Plasencia	26.32 292	P	P	22 45 53.4	-0.4
EPLA	Plasencia	26.32 292	P	P	22 45 53.4	-0.4
EMIN	Mina Concepcio	26.78 287	P	P	22 45 57.8	-0.1
EMIN	Mina Concepcio	26.78 287	P	P	22 45 57.8	-0.1
ECAL	Calabor	26.95 296	P	P	22 45 59.9	+0.4
ECAL	Calabor	26.95 296	P	P	22 45 59.9	+0.4
EBAD	Badajoz	27.02 289	P	P	22 45 59.6	-0.5
EBAD	Badajoz	27.02 289	P	P	22 45 59.6	-0.5
PBAR	Barrancos	27.05 288	eP	P	22 46 00.5	+0.1
	comp=Z,15nm,1.4s					
PBAR	Barrancos	27.05 288	eP	P	22 46 00.5	+0.1
	comp=Z,15nm,1.4s					
MVO	Moncorvo	27.10 295	eP	P	22 46 01.1	+0.2
	comp=Z,28nm,1.7s					
MVO			eLR	LR	22 52 46.5	
	comp=Z,24nm,15.3s					
MVO	Moncorvo	27.10 295	P	P	22 46 01.1	+0.2
MVO	Moncorvo	27.10 295	P	P	22 46 01.1	+0.2
HFS	Hagfors	27.19 346	P	P	22 46 00.9	-0.5
HFS	Hagfors	27.19 346	P	P	22 46 00.9	-0.5
	comp=Z,2.7nm,0.6s,baz=128,slow=9.6,SNR=11					
HFS			LR	LR	22 57 37.7	
	comp=Z,83nm,19.2s,baz=260,slow=38					
HFS	Hagfors	27.19 346	P	P	22 46 00.9	-0.5
	comp=Z,3.0nm,0.6s					
FINES	FINESS Array B	27.24 360	P	P	22 46 00.6	-1.2
FINES	FINESS Array B	27.24 360	P	P	22 46 00.6	-1.2
	comp=Z,2.5nm,0.7s,baz=172,slow=10,SNR=8.4					
FINES	FINESS Array B	27.24 360	P	P	22 46 00.6	-1.2
	comp=Z,3.0nm,0.7s					
PMRV	Marv??o	27.31 291	eP	P	22 46 02.5	-0.2
	comp=Z,13nm,1.6s					
PMRV			eLQ	LQ	22 51 11.5	
PMRV			eLR	LR	22 52 58.7	
	comp=Z,27nm,13.1s					
PMRV	Marv??o	27.31 291	P	P	22 46 02.2	-0.5
PMRV	Marv??o	27.31 291	P	P	22 46 02.2	-0.5
EGRO	El Granado	27.43 287	P	P	22 46 03.4	-0.4
EGRO	El Granado	27.43 287	P	P	22 46 03.4	-0.4
PESTR	Estremoz	27.47 290	eP	P	22 46 04.2	+0.1
	comp=Z,20nm,1.4s					
PESTR	Estremoz	27.47 290	P	P	22 46 04.1	0.0
PESTR	Estremoz	27.47 290	P	P	22 46 04.1	0.0
PVAQ	Vaqueiros	27.63 286	eP	P	22 46 05.7	+0.2
	comp=Z,24nm,1.5s					
PVAQ			eLQ	LQ	22 51 25.9	
PVAQ			eLR	LR	22 53 01.0	
	comp=Z,34nm,13.4s					
PVAQ	Vaqueiros	27.63 286	eP	P	22 46 05.7	+0.2
	comp=Z,24nm,1.5s					
PBEJ	Beja	27.71 288	eP	P	22 46 07.8	+1.4
	comp=Z,17nm,1.9s					
PBEJ	Beja	27.71 288	P	P	22 46 07.7	+1.4
PBEJ	Beja	27.71 288	P	P	22 46 07.7	+1.4
PVIS	Viseu	27.73 294	eP	P	22 46 08.3	+1.8
	comp=Z,19nm,1.8s					
PVIS	Viseu	27.73 294	P	P	22 46 08.5	+2.0
PVIS	Viseu	27.73 294	P	P	22 46 08.5	+2.0
EVO	Evora	27.81 289	eP	P	22 46 07.4	+0.3
	comp=Z,14nm,1.0s					
PBDV	Barranco-do-Ve	27.81 286	eP	P	22 46 07.7	+0.5
	comp=Z,41nm,1.5s					
PBDV	Barranco-do-Ve	27.81 286	eP	P	22 46 07.7	+0.5
	comp=Z,41nm,1.5s					
EVOP	Sao Brissos	27.89 289	eP	P	22 46 07.4	-0.5
	comp=Z,7.1nm,1.0s					
KAF	Kangasniemi	27.91 0	eP	P	22 46 08.0	+0.2
KAF	Kangasniemi	27.91 0	ep	P	22 46 08.0	+0.2
KAF	Kangasniemi	27.91 0	eP	P	22 46 08.0	+0.2
PTOM	Tomar	28.10 291	eP	P	22 46 09.8	0.0
	comp=Z,24nm,1.3s					
PTOM	Tomar	28.10 291	P	P	22 46 09.7	0.0
PTOM	Tomar	28.10 291	P	P	22 46 09.7	0.0
AKTK	Aktyubinsk	28.26 45	P	P	22 46 12.0	+0.9
	comp=Z,1.0nm,0.5s					
AKTO	Aktyubinsk	28.26 45	P	P	22 46 12.0	+0.9
AKTO			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKTO	Aktyubinsk	28.26 45	P	P	22 46 12.0	+0.9
AKTO	Aktyubinsk	28.26 45	P	P	22 46 12.0	+0.9
	comp=Z,1.3nm,0.5s,baz=238,slow=6.7,SNR=6.5					
AKTO	Aktyubinsk	28.26 45	P	P	22 46 12.0	+0.9
NB2	NORSAR Subarra	28.53 345	P	P	22 46 12.5	-0.9
	comp=Z,0.6nm,0.6s,baz=158,slow=10					
NB2	NORSAR Subarra	28.53 345	P	P	22 46 12.5	-0.9
	comp=Z,0.6nm,0.6s,SNR=4.4					
NOA	NORSAR Array B	28.53 345	P	P	22 46 12.1	-1.3
NOA	NORSAR Array B	28.53 345	P	P	22 46 12.1	-1.3
	comp=Z,0.6nm,0.5s,baz=146,slow=7.4,SNR=4.0					
NOA			LR	LR	22 58 29.8	
	comp=Z,45nm,20.6s,baz=170,slow=38					
NOA	NORSAR Array B	28.53 345	P	P	22 46 12.1	-1.3
	comp=Z,1.0nm,0.5s					

ABKAR	Akbulak array	29.01 49	eP	P	22 46 17.4	-0.3
	comp=Z,1.5nm,0.5s					
ABKAR	Akbulak array	29.01 49	eP	P	22 46 17.4	-0.3
	comp=Z,1.5nm,0.5s					
EKA	Eskdalemuir Ar	29.32 325	P	P	22 46 20.6	+0.2
EKA	Eskdalemuir Ar	29.32 325	P	P	22 46 20.5	+0.2
	comp=Z,0.9nm,0.4s,baz=129,slow=9.7,SNR=9.5					
EKA	Eskdalemuir Ar	29.32 325	P	P	22 46 20.5	+0.2
	comp=Z,1.0nm,0.4s					
TOA0	Torodi Ar. Sit	30.59 233	eP	P	22 46 32.3	+0.3
TOA0	Torodi Ar. Sit	30.59 233	eP	P	22 46 32.3	+0.3
TORD	Torodi Ar. Bea	30.59 233	P	P	22 46 33.2	+1.2
TORD			PcP	PcP	22 49 31.1	+0.8
TORD	Torodi Ar. Bea	30.59 233	P	P	22 46 33.2	+1.2
	comp=Z,5.6nm,0.7s,baz=32,slow=8.7,SNR=71					
TORD			PcP	PcP	22 49 31.1	+0.8
	comp=Z,0.4nm,0.6s,baz=38,slow=2.4,SNR=4.0					
TORD			LR	LR	23 00 38.2	
	comp=Z,158nm,18.5s,baz=35,slow=40					
TORD	Torodi Ar. Bea	30.59 233	P	P	22 46 33.2	+1.2
TORD	Torodi Ar. Bea	30.59 233	PcP	PcP	22 49 31.1	+0.8
ARU	Arti	31.30 35	eP	P	22 46 51.9	+14
ARU					22 47 58.8	
ARU			SS	SS	22 53 57.6	+0.3
KKAR	Karatay Array	35.35 62	eP	P	22 47 13.8	+0.4
KKAR			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KKAR	Karatay Array	35.35 62	eP	P	22 47 13.8	+0.4
	comp=Z,2.6nm,0.6s					
KKAR	Karatay Array	35.35 62	eP	P	22 47 13.8	+0.4
	comp=Z,2.6nm,0.6s					
ARCES	ARCESS Array B	35.37 360	P	P	22 47 13.7	+0.5
ARCES			PcP	PcP	22 49 43.3	+0.5
ARCES	ARCESS Array B	35.37 360	P	P	22 47 13.7	+0.5
	comp=Z,1.4nm,0.4s,baz=195,slow=10.0,SNR=7.6					
ARCES			PcP	PcP	22 49 43.3	+0.5
	comp=Z,1.8nm,0.9s,baz=152,slow=4.1,SNR=3.2					
ARCES			LR	LR	23 01 38.5	
	comp=Z,67nm,20.8s,baz=4.5,slow=36					
ARCES	ARCESS Array B	35.37 360	P	P	22 47 13.7	+0.5
	comp=Z,1.0nm,0.4s					
ARCES	ARCESS Array B	35.37 360	PcP	PcP	22 49 43.3	+0.5
	comp=Z,2.0nm,0.9s					
BRVK	Borovoye	36.31 45	eP	P	22 47 23.1	+1.6
BRVK			pmax	pmax		
	comp=Z,8.0nm,1.7s					
BRVK	Borovoye	36.31 45	P	P	22 47 23.2	+1.7
BRVK	Borovoye	36.31 45	eP	P	22 47 23.1	+1.6
	comp=Z,8.0nm,1.7s					
BVAR	Borovoye Array	36.37 45	P	P	22 47 24.0	+2.0
BVAR			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BVAR	Borovoye Array	36.37 45	P	P	22 47 24.0	+2.0
BVAR	Borovoye Array	36.37 45	P	P	22 47 24.0	+2.0
	comp=Z,3.9nm,0.9s,baz=245,slow=6.4,SNR=22					
BVAR	Borovoye Array	36.37 45	P	P	22 47 24.0	+2.0
	comp=Z,4.0nm,0.9s					
AAK	Ala-Archa	38.29 63	eP	P	22 47 39.9	+1.3
AAK			pmax	pmax		
	comp=Z,18nm,1.7s					
AAK	Ala-Archa	38.29 63	P	P	22 47 40.7	+2.1
AAK	Ala-Archa	38.29 63	P	P	22 47 40.7	+2.1
	comp=Z,1.6nm,0.3s,baz=262,slow=11,SNR=4.3					
AAK	Ala-Archa	38.29 63	eP	P	22 47 39.9	+1.3
	comp=Z,18nm,1.7s					
DBIC	Dimbokro	39.69 233	P	P	22 47 50.4	+0.1
DBIC	Dimbokro	39.69 233	P	P	22 47 50.4	+0.1
	comp=Z,2.0nm,0.4s,baz=24,slow=8.2,SNR=10					
DBIC			LR	LR	23 05 07.2	
	comp=Z,132nm,18.3s,baz=20,slow=38					
DBIC	Dimbokro	39.69 233	P	P	22 47 50.4	+0.1
	comp=Z,2.0nm,0.4s					
TIC	Toumodi	39.82 234	ePKIKP	P	22 47 51.9	+0.4
	comp=Z,4.9nm,0.2s					
KIC	Kosan Boka	39.85 233	ePKIKP	P	22 47 52.3	+0.7
	comp=Z,117nm,1.6s					
LIC	Lamto	40.14 233	eP	P	22 47 54.3	+0.3
	comp=Z,8.6nm,0.6s					
LIC			eR			
	comp=Z,150nm,21.8s					
LIC	Lamto	40.14 233	ePKIKP	P	22 47 52.5	-1.5
	comp=Z,20nm,0.7s					
LIC	Lamto	40.14 233	eP	P	22 47 54.3	+0.3
	comp=Z,4.3nm,0.6s					
KURBB	Kurchatov Arra	41.03 50	P	P	22 48 02.8	+1.7
	comp=Z,7.1nm,0.4s,baz=288,slow=6.3,SNR=141					
KURK	Kurchatov	41.10 50	P	P	22 48 02.8	+1.2
KURK			pmax	pmax		
	comp=Z,8.0nm,0.4s					
KURK	Kurchatov	41.10 50	P	P	22 48 02.8	+1.2
KURK	Kurchatov	41.10 50	P	P	22 48 02.8	+1.2
	comp=Z,8.0nm,0.4s					
MKAR	Makanchi Array	43.56 56	ceP	P	22 48 23.3	+1.5
MKAR			pmax	pmax		
	comp=Z,8.0nm,0.6s					
MKAR	Makanchi Array	43.56 56	P	P	22 48 23.4	+1.6
MKAR			PcP	PcP	22 50 10.1	+0.9
MKAR	Makanchi Array	43.56 56	P	P	22 48 23.4	+1.6
	comp=Z,8.2nm,0.6s,baz=272,slow=6.8,SNR=90					
MKAR			PcP	PcP	22 50 10.1	+0.9
	comp=Z,0.7nm,0.7s,baz=276,slow=5.3,SNR=1.8					
MKAR	Makanchi Array	43.56 56	eP	P	22 48 23.3	+1.5
	comp=Z,8.0nm,0.6s					
NVS	Novosibirsk	44.14 44	eP	P	22 48 26.9	+0.7
NVS			e		22 54 57.4	
NVS			pmax	pmax		
	comp=Z,7.0nm,0.8s					
NVS			pmax	pmax		
	comp=N,2.0nm,0.6s					
NVS			pmax	pmax		
	comp=E,3.0nm,0.6s					
NVS	Novosibirsk	44.14 44	eP	P	22 48 26.9	+0.7
	comp=E,7.0nm,0.8s					
SPITS	Spitsbergen Ar	44.27 357	P	P	22 48 26.9	-0.1
SPITS			PcP	PcP	22 50 11.9	+0.9
SPITS	Spitsbergen Ar	44.27 357	P	P	22 48 26.9	-0.1
	comp=E,1.1nm,0.

SONM	**Songino Array**	59.40	50	P		**P**	**22 50 22.3**	**+1.9**
SONM	**Songino Array**	59.40	50	P		**P**	**22 50 22.3**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=287,slow=8.3,SNR=10							
SONM	**Songino Array**	59.40	50	P		**P**	**22 50 22.3**	**+1.9**
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	59.81	50	*e*P		**P**	**22 50 22.5**	**-0.8**
	comp=Z,1.3nm,0.4s							
ULN	**Ulaanbaatar**	59.81	50	*e*P		**P**	**22 50 22.5**	**-0.8**
	comp=Z,1.3nm,0.4s							
CD2	**Chengdu**	63.90	69	*e*P		**P**	**22 50 51.8**	**+0.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SCHQ	**Schefferville**	64.47	320	P		**P**	**22 50 54.2**	**-0.1**
SCHQ	**Schefferville**	64.47	320	P		**P**	**22 50 54.2**	**-0.1**
	comp=Z,5.3nm,0.5s,baz=58,slow=5.7,SNR=23							
SCHQ	**Schefferville**	64.47	320	P		**P**	**22 50 54.2**	**-0.1**
HHC	**Hu-ho-hao-te**	65.42	56	*e*P		**P**	**22 51 00.9**	**+0.1**
HHC				S		**S**	**22 59 39.3**	**-4.7**
CMAR	**Chiang Mai Arr**	65.80	84	P		**P**	**22 51 04.3**	**+0.9**
CMAR	**Chiang Mai Arr**	65.80	84	P		**P**	**22 51 04.2**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=302,slow=7.4,SNR=5.7							
CMAR	**Chiang Mai Arr**	65.80	84	P		**P**	**22 51 04.3**	**+0.9**
	comp=Z,1.0nm,0.6s							
SADO	**Sadowa**	76.33	315	P		**P**	**22 52 07.1**	**+0.3**
SADO	**Sadowa**	76.33	315	P		**P**	**22 52 07.1**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=109,slow=2.7,SNR=6.0							
SADO	**Sadowa**	76.33	315	P		**P**	**22 52 07.1**	**+0.3**
USRK	**Ussuriysk Arra**	76.88	45	P		**P**	**22 52 10.6**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=301,slow=6.2,SNR=9.1							
KSAR	**Wonju Array Be**	78.13	53	P		**P**	**22 52 18.2**	**+1.1**
KSAR	**Wonju Array Be**	78.13	53	P		**P**	**22 52 18.2**	**+1.1**
KSRS	**Korea Array**	78.15	53	P		**P**	**22 52 18.2**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=300,slow=4.8,SNR=5.0							
KSRS	**Korea Array**	78.15	53	P		**P**	**22 52 18.2**	**+1.0**
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	81.19	357	P		**P**	**22 52 34.0**	**+0.8**
ILAR	**Eielson Array**	81.19	357	P		**P**	**22 52 34.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=352,slow=1.8,SNR=2.9							
ILAR	**Eielson Array**	81.19	357	P		**P**	**22 52 34.0**	**+0.8**
ULM	**Lac du Bonnet**	81.58	327	P		**P**	**22 52 35.8**	**+0.3**
ULM	**Lac du Bonnet**	81.58	327	P		**P**	**22 52 35.8**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=71,slow=6.2,SNR=2.6							
ULM	**Lac du Bonnet**	81.58	327	P		**P**	**22 52 35.8**	**+0.3**
	comp=Z,1.0nm,0.3s							
ERM	**Erimo**	84.63	42	*e*P		**P**	**22 52 53.0**	**+1.6**
ERM				pmax	pmax			
	comp=Z,22nm,1.7s							
ERM	**Erimo**	84.63	42	P		**P**	**22 52 53.1**	**+1.6**
ERM	**Erimo**	84.63	42	*e*P		**P**	**22 52 53.0**	**+1.6**
	comp=Z,22nm,1.7s							
BDFB	**Brasilia**	86.17	248	P		**P**	**22 53 00.4**	**+0.9**
BDFB	**Brasilia**	86.17	248	P		**P**	**22 53 00.4**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=164,slow=4.8,SNR=4.0							
BDFB	**Brasilia**	86.17	248	P		**P**	**22 53 00.4**	**+0.9**
	comp=Z,2.0nm,0.5s							
NEW	**Newport**	91.59	336	P		**P**	**22 53 25.3**	**+0.5**
NEW	**Newport**	91.59	336	P		**P**	**22 53 25.3**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=36,slow=5.9,SNR=5.2							
NEW	**Newport**	91.59	336	P		**P**	**22 53 25.3**	**+0.5**
	comp=Z,2.0nm,0.7s							
PDAR	**Pinedale Array**	93.36	329	P		**P**	**22 53 32.2**	**-1.1**
PDAR	**Pinedale Array**	93.36	329	P		**P**	**22 53 32.2**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=57,slow=3.3,SNR=3.1							
PDAR	**Pinedale Array**	93.36	329	P		**P**	**22 53 32.2**	**-1.1**
WRA	**Warramunga Arr**	115.60	97	PKP		**PKPdf**	**22 58 59.3**	**-1.1**
WRA	**Warramunga Arr**	115.60	97	PKP		**PKPdf**	**22 58 59.3**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=311,slow=1.9,SNR=8.5							
ASAR	**Alice Springs**	117.01	101	PKP		**PKPdf**	**22 59 03.0**	**-0.1**
ASAR	**Alice Springs**	117.01	101	PKP		**PKPdf**	**22 59 03.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=298,slow=1.7,SNR=5.8							
QSPA	**South Pole Qui**	124.08	180	PKP		**PKPdf**	**22 59 15.5**	**+0.2**
QSPA	**South Pole Qui**	124.08	180	PKP		**PKPdf**	**22 59 15.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=255,slow=2.4,SNR=11							

WEL 11 22:53:59.9±0.4, 46°.18S×165°.85E, h12km, ML3.6/11, Error ellipse: s-maj=4.1km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.15**	**53**	P*	Pb	22 54 20.1	-1.6
DCZ				*eS**	Sb	22 54 34.1	-2.4
DCZ				AML	AML	22 54 37.2	
DCZ				AML	AML	22 54 42.7	
DCZ				AML	AML	22 54 51.5	
WHZ	**Wether Hill Ro**	**1.49**	**80**	PN	Pn	22 54 26.0	-0.5
WHZ				SN	Sn	22 54 44.0	-1.8
WHZ				AML	AML	22 54 47.0	
APZ	**The Paps**	**1.61**	**115**	PN	Pn	22 54 28.1	-0.2
APZ				SN	Sn	22 54 47.5	-1.6
MLZ	**Mavora Lakes**	**1.82**	**64**	PN	Pn	22 54 31.4	+0.2
MLZ				AML	AML	22 54 59.5	
MLZ				AML	AML	22 54 59.5	
SYZ	**Scrubby Hill**	**2.30**	**100**	PN	Pn	22 54 38.9	+1.3
EAZ	**Earnscleugh**	**2.60**	**70**	AML	AML	22 54 49.5	
EAZ				AML	AML	22 55 19.2	
TUZ	**Tuapeka**	**2.64**	**87**	AML	AML	22 55 17.0	
TUZ				AML	AML	22 55 24.3	
ODZ	**Otahua Downs**	**3.55**	**73**	PN	Pn	22 54 54.6	-0.2

IDC 11 22:55:52.1±3.5, 23°.87S×179°.97W, h459km±33km, mb3.0/5, mb1 3.3/5, mb1mx3.2/15, mbtmp3.0/5, Error ellipse: s-maj=109.0km s-min=21.6km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.76**	**248**	P	P	23 02 02.6	-0.1
	1.3nm,0.4s,baz=98,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**42.06**	**261**	P	P	23 03 02.6	0.0
	0.4nm,0.4s,baz=95,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**42.43**	**266**	P	P	23 03 05.2	-0.3
	1.2nm,0.3s,baz=103,slow=8.4,SNR=50						
WRA				ScP	ScP	23 07 54.5	-0.6
	0.6nm,0.8s,baz=99,slow=3.8,SNR=6.0						
NVAR	**Mina Array Bea**	**84.71**	**44**	P	P	23 07 37.2	+0.2
	0.3nm,0.3s,baz=209,slow=9.2,SNR=2.7						
TXAR	**Lajitas Array**	**90.39**	**58**	P	P	23 08 03.5	-0.4
	0.3nm,0.7s,baz=217,slow=6.0,SNR=4.4						
BRTR	**Keskin Array B**	**147.58**	**307**	PKPbc	PKPbc	23 14 43.7	-0.6
	0.2nm,0.4s,baz=354,slow=1.4,SNR=2.7						

MEX 11 23:06:59.1±1.0, 16°.80N×100°.58W, h2km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.39**	**51**	*e*P	Pg	23 07 06.2	-0.5
CAIG				*i* S	Sg	23 07 11.4	-0.3
ACX	**Acapulco**	**0.70**	**84**	*i* P	Pn	23 07 15.1	-0.9
ACX				*i* S	Sb	23 07 24.7	+0.6
ZIIG	**Zihuatanejo**	**1.16**	**314**	*e*P	Pg	23 07 18.4	-3.1
ZIIG				*i* S	Sg	23 07 32.9	-3.6
ARIG	**Puente Sto Nin**	**1.49**	**9**	*e*P	Pn	23 07 23.6	-3.3
ARIG				*i* S	Sb	23 07 42.2	-4.7
PLIG	**Platanillo**	**1.89**	**33**	*e*P	Pn	23 07 29.8	-2.7
PLIG				*i* S	Sn	23 07 52.4	-4.6
PNIG	**Pinotepa**	**2.39**	**99**	*e*P	Pn	23 07 35.9	-3.4
PNIG				*i* S	Sn	23 08 04.0	-5.1
YAIG	**Yautepec**	**2.51**	**35**	*i* P	Pn	23 07 39.2	-1.8

*IDC **11** 23:13:35.4±0.5, 14°.06N×93°.16E, h0km, mb4.1/19, mb1 4.2/20, mb1mx4.1/31, mbtmp4.1/20, ML4.1/1, MS3.6/6, Ms1 3.6/6, ms1mx3.1/32, Error ellipse: s-maj=21.2km s-min=11.7km az=56.0*

*ISCJB **11** 23:13:38.4±0.3, 14°.12N±0°.05×93°.18E±0°.04, h32km, mb4.2/30, MS3.6/4, Error ellipse: s-maj=7.7km s-min=5.4km az=28.7*

*NEIC **11** 23:13:40.6±0.3, 14°.07N×93°.16E, h35km, mb4.2/5, Error ellipse: s-maj=8.4km s-min=5.8km az=55.0*

*BKK **11** 23:13:54.7±1.2, 14°N±5°×94°E±1°4, h10km, M4.4/10, mB4.0/1, mb4.5/10, MLv4.3/4, Mw(mB)3.0/1*

ISC 11 23:13:40.1±0.5, 14°.10N±0°.07×93°.21E±0°.06, h32km, n82, σ0°.96/84, mb4.2/30, MS3.6/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.00**	**51**	Pn	**Pn**	**23 15 22.0**	**+1.4**
CMAR				Sn	**Sn**	**23 16 38.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.00**	**51**	Pn	**Pn**	**23 15 22.0**	**+1.4**
	1.0nm,0.3s,baz=240,slow=14,SNR=13						
CMAR				Sn	**Sn**	**23 16 38.9**	**-0.3**
	0.9nm,0.3s,baz=237,slow=28,SNR=6.7						
CMAR				LR	LR	23 18 34.8	
	comp=Z,313nm,20.6s,baz=235,slow=42						
CHTO	**Chiang Mai**	**7.23**	**49**	*e*Pn	**Pn**	**23 15 25.1**	**+1.4**
	11nm,0.6s						
CHTO				*e*Sn	**Sn**	**23 16 41.3**	**-3.3**
CHTO	**Chiang Mai**	**7.23**	**49**	P	Pn	23 15 29.8	+6.2
	23nm,1.0s,0.1nm						
CMMT	**Chiang Mai**	**7.23**	**49**	P	Pn	23 15 29.4	+5.7
	22nm,0.9s,0.1nm						
LAMP	**Lampang**	**7.57**	**54**	P	Pn	23 15 34.6	+6.2
	10nm,0.7s,107nm						
NAYO	**Nakonayok**	**7.87**	**87**	P	Pn	23 15 36.3	+3.9
	25nm,0.7s						
PBKT	**Sadao Pong**	**7.88**	**71**	P	**Pn**	**23 15 35.3**	**+2.7**
	29nm,0.7s,0.1nm						
CMAI	**Chiengmai2**	**8.05**	**43**	P	Pn	23 15 41.5	+6.4
	29nm,1.1s						
LOEI	**Loei**	**8.46**	**65**	P	Pn	23 15 48.7	+8.1
	38nm,0.9s						
PSI	**Prapat**	**12.56**	**153**	Pn	P	23 16 42.5	-5.6
PSI	**Prapat**	**12.56**	**153**	Pn	P	23 16 42.5	-5.6
	0.3nm,0.3s,baz=337,slow=14,SNR=8.2						
PSI				LR	LR	23 22 02.3	
	comp=Z,206nm,18.9s,baz=338,slow=40						
ODAN	**Odare**	**13.81**	**338**	*e*P	**Pn**	**23 16 52.8**	**-1.2**
	7.0nm,0.3s						
TAPN	**Taplejung**	**14.15**	**340**	*e*P	**Pn**	**23 16 57.5**	**-1.2**
RAMN	**Ramite**	**14.20**	**335**	*e*P	**Pn**	**23 16 57.8**	**-1.5**
	16nm,0.4s						
HYB	**Hyderabad**	**14.49**	**285**	*i* P	**P**	**23 17 10.5**	**+1.1**
HYB				*e*S	**Sn**	**23 19 41.5**	**-1.3**
JIRN	**Jiri**	**15.00**	**335**	*e*P	**Pn**	**23 17 09.4**	**-0.8**
	13nm,0.3s						
PKI	**Pulchoki**	**15.25**	**333**	*e*P	**Pn**	**23 17 12.1**	**-1.5**
	38nm,0.6s						
PKIN	**Phulchoki**	**15.26**	**333**	*e*P	**Pn**	**23 17 12.6**	**-1.0**
	42nm,0.5s						
DMN	**Daman**	**15.42**	**332**	*e*P	**Pn**	**23 17 15.0**	**-0.7**
LSA	**Lhasa**	**15.64**	**353**	*e*Pn	**Pn**	**23 17 18.6**	**-0.2**
	4.2nm,0.3s						
KOLN	**Koldanda**	**16.29**	**328**	*e*P	**Pn**	**23 17 26.4**	**-0.4**
	34nm,0.6s						
MKAR	**Makanchi Array**	**33.86**	**346**	P	**P**	**23 20 20.6**	**+0.8**
MKAR	**Makanchi Array**	**33.86**	**346**	P	**P**	**23 20 20.6**	**+0.8**
	1.1nm,0.7s,baz=166,slow=8.8,SNR=10.0						
SONM	**Songino Array**	**35.38**	**15**	P	**P**	**23 20 32.8**	**-0.2**
SONM	**Songino Array**	**35.38**	**15**	P	**P**	**23 20 32.8**	**-0.2**
	0.3nm,0.5s,baz=177,slow=8.7,SNR=2.9						
KURBB	**Kurchatov Arra**	**38.33**	**345**	P	**P**	**23 20 58.4**	**+0.5**
	1.8nm,0.7s,baz=165,slow=8.0,SNR=11						
KURK	**Kurchatov**	**38.39**	**345**	P	**P**	**23 20 58.4**	**-0.1**
KSRS	**Korea Array**	**38.62**	**47**	LR	LR	23 39 33.0	
	comp=Z,102nm,19.3s,baz=235,slow=40						
BATI	**Baumata**	**38.67**	**127**	P	**P**	**23 20 59.7**	**-1.6**
BATI	**Baumata**	**38.67**	**127**	P	**P**	**23 20 59.7**	**-1.6**
	18nm,0.6s,baz=315,slow=4.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**40.30**	**352**	P	**P**	**23 21 14.5**	**+0.2**
ZALV	**Zalesovo Beam**	**40.30**	**352**	P	**P**	**23 21 14.5**	**+0.2**
	0.6nm,0.5s,baz=182,slow=7.4,SNR=4.5						
BVAR	**Borovoye Array**	**42.85**	**340**	P	**P**	**23 21 34.2**	**-1.1**
BVAR	**Borovoye Array**	**42.85**	**340**	P	**P**	**23 21 34.2**	**-1.1**
	0.3nm,0.5s,baz=149,slow=9.4,SNR=3.7						
BRVK	**Borovoye**	**42.92**	**340**	*e*P	**P**	**23 21 35.9**	**+0.1**
ABKAR	**Akbulak array**	**44.41**	**329**	*e*P	**P**	**23 21 48.0**	**+0.2**
	3.2nm,0.8s						
ABKAR				*e*		23 21 58.1	
USRK	**Ussuriysk Arra**	**44.59**	**40**	P	**P**	**23 21 48.7**	**-0.6**
	0.8nm,0.5s,baz=232,slow=14,SNR=2.6						
MJAR	**Matsushiro Arr**	**45.89**	**52**	P	**P**	**23 22 01.4**	**+1.5**
MJAR	**Matsushiro Arr**	**45.89**	**52**	P	**P**	**23 22 01.4**	**+1.5**
	1.1nm,0.9s,baz=256,slow=8.6,SNR=5.2						
MJAR				LR	LR	23 43 24.0	
	comp=Z,69nm,19.2s,baz=240,slow=39						
AKTO	**Aktyubinsk**	**46.12**	**329**	P	**P**	**23 22 01.8**	**+0.4**
AKTO	**Aktyubinsk**	**46.12**	**329**	P	**P**	**23 22 01.8**	**+0.4**
	1.2nm,0.5s,baz=130,slow=11,SNR=6.8						
NWAO	**Narrogin (SRO)**	**52.09**	**154**	P	**P**	**23 22 47.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**52.09**	**154**	P	**P**	**23 22 47.4**	**+0.1**
	4.8nm,0.5s,baz=300,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**52.74**	**129**	P	**P**	**23 22 52.4**	**0.0**
WRA				PcP	**PcP**	**23 24 02.1**	**+0.4**
WRA	**Warramunga Arr**	**52.74**	**129**	P	**P**	**23 22 52.4**	**0.0**
	5.3nm,0.8s,baz=313,slow=8.2,SNR=70						
WRA				PcP	**PcP**	**23 24 02.2**	**+0.4**
	2.0nm,0.5s,baz=320,slow=3.4,SNR=16						
WRAB	**Tennant Creek**	**52.74**	**129**	*e*P	**P**	**23 22 52.5**	**+0.2**
	12nm,1.1s						
WRAB				*e*PcP	**PcP**	**23 24 02.2**	**+0.4**
ASAR	**Alice Springs**	**54.70**	**133**	P	**P**	**23 23 06.9**	**+0.3**
ASAR				PcP	**PcP**	**23 24 09.8**	**+0.6**
ASAR				S	**S**	**23 30 42.4**	**-2.7**
ASAR	**Alice Springs**	**54.70**	**133**	P	**P**	**23 23 06.9**	**+0.3**
	4.8nm,0.7s,baz=310,slow=6.8,SNR=48						
ASAR				PcP	**PcP**	**23 24 09.8**	**+0.6**
	1.7nm,0.8s,baz=311,slow=3.9,SNR=6.7						
ASAR				S	**S**	**23 30 42.4**	**-2.7**
	0.1nm,0.3s,baz=312,slow=12,SNR=4.6						
BR131	**Keskin Array S**	**57.79**	**308**	*e*P	**P**	**23 23 28.2**	**-0.5**
	2.0nm,0.8s						
BRTR	**Keskin Array B**	**57.79**	**308**	P	**P**	**23 23 28.6**	**-0.1**
BRTR	**Keskin Array B**	**57.79**	**308**	P	**P**	**23 23 28.6**	**-0.1**
	2.2nm,0.7s,baz=122,slow=7.4,SNR=15						
BRTR				LR	LR	23 51 41.8	
	comp=Z,34nm,20.4s,baz=18,slow=40						
CTAO	**Charters Tower**	**62.25**	**122**	P	**P**	**23 23 58.9**	**-0.5**
STKA	**Stephens Creek**	**65.10**	**135**	*e*P	**P**	**23 24 18.5**	**+0.6**
	0.5nm,0.4s						
STKA	**Stephens Creek**	**65.10**	**135**	P	**P**	**23 24 18.2**	**+0.3**
	2.8nm,0.5s,baz=296,slow=6.2,SNR=12						
FINES	**FINESS Array B**	**66.83**	**331**	P	**P**	**23 24 28.2**	**-0.4**
FINES	**FINESS Array B**	**66.83**	**331**	P	**P**	**23 24 28.2**	**-0.4**
	1.7nm,0.8s,baz=85,slow=4.2,SNR=11						
ARCES	**ARCESS Array B**	**69.14**	**340**	P	**P**	**23 24 43.2**	**+0.2**
ARCES	**ARCESS Array B**	**69.14**	**340**	P	**P**	**23 24 43.2**	**+0.2**
	0.6nm,0.5s,baz=67,slow=9.3,SNR=6.5						
ARCES				LR	LR	23 59 06.3	
	comp=Z,68nm,21.9s,baz=250,slow=40						
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**23 25 05.3**	**+0.5**
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**23 25 05.3**	**+0.5**
	1.0nm,0.6s,baz=77,slow=5.8,SNR=11						
NB2	**NORSAR Subarra**	**73.91**	**330**	P	**P**	**23 25 10.5**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=91,slow=6.5						
NOA	**NORSAR Array B**	**73.91**	**330**	P	**P**	**23 25 11.3**	**-0.6**
NOA	**NORSAR Array B**	**73.91**	**330**	P	**P**	**23 25 11.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=90,slow=6.0,SNR=3.8						
LPG	**La Plagne**	**77.63**	**314**	*e*P	**P**	**23 25 34.0**	**+0.1**
	comp=Z,8.4nm,0.8s						
LPL	**La Plagne**	**77.64**	**314**	*e*P	**P**	**23 25 34.0**	**+0.2**
	comp=Z,7.4nm,0.6s						
PAGF	**Fort de Pagny**	**77.92**	**317**	*e*P	**P**	**23 25 34.7**	**-0.4**
CABF	**La Chapelle**	**77.94**	**315**	*e*P	**P**	**23 25 35.4**	**+0.1**
	comp=Z,10nm,1.1s						
FRF	**La Foret Royal**	**77.97**	**312**	*e*P	**P**	**23 25 35.4**	**0.0**
	comp=Z,5.4nm,0.8s						
BOSA	**Boshof**	**78.18**	**236**	P	**P**	**23 25 37.3**	**+0.4**
BOSA	**Boshof**	**78.18**	**236**	P	**P**	**23 25 37.3**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=24,slow=3.5,SNR=4.6						
ORIF	**Oris-en-Rattie**	**78.32**	**314**	*e*P	**P**	**23 25 37.4**	**-0.1**
ORIF				*e*R			
	comp=Z,41nm,21.8s						
SFTF	**Sexfontaines**	**78.43**	**317**	*e*P	**P**	**23 25 37.6**	**-0.3**
SMRF	**Simiane la Rot**	**78.67**	**313**	*e*P	**P**	**23 25 39.7**	**+0.3**
	comp=Z,7.3nm,0.9s						
SMF	**Signal de Mont**	**79.47**	**316**	*e*P	**P**	**23 25 43.1**	**-0.5**
TCF	**Toulx Ste Croi**	**80.64**	**315**	*e*P	**P**	**23 25 50.1**	**+0.1**
	comp=Z,5.7nm,1.0s						
CAF	**Calviac**	**80.99**	**314**	*e*P	**P**	**23 25 52.1**	**+0.2**
	comp=Z,5.1nm,1.1s						
MTLF	**Montolieu**	**81.18**	**312**	*e*P	**P**	**23 25 52.9**	**0.0**
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**88.30**	**283**	P	**P**	**23 26 29.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**88.30**	**283**	P	**P**	**23 26 29.8**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=86,slow=4.2,SNR=14						
TXAR	**Lajitas Array**	**133.85**	**21**	PKP	**PKPdf**	**23 32 55.6**	**+0.9**
TXAR	**Lajitas Array**	**133.85**	**21**	PKP	**PKPdf**	**23 32 55.6**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=270,slow=0.7,SNR=3.3						

*ISCJB **11** 23:21:30.3±0.2, 59°.46N±0°.02×151°.82W±0°.04, h70km±4km, mb3.8/5, Error ellipse: s-maj=4.2km s-min=3.3km az=141.0*

*NEIC **11** 23:21:32.1, 59°.44N×151°.86W, h50km, ML3.4(AEIC), After AEIC.*

*IDC **11** 23:21:34.2±8.8, 59°.65N×151°.78W, h79km±57km, mb3.5/5, mb1 3.6/6, mb1mx3.2/27, mbtmp3.5/6, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/37, Error ellipse: s-maj=73.4km s-min=53.2km az=151.0*

ISC 11 23:21:31.2±0.9, 59°.45N±0°.04×151°.89W±0°.04, h57km±7km, n102, σ0°.88/112, mb3.9/5, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.24**	**31**	P	**Pn**	**23 21 40.6**	**0.0**
HOM				S	**Sn**	**23 21 47.5**	**+0.2**
NNL	**Ninilchik**	**0.66**	**27**	P	**Pn**	**23 21 45.8**	**+1.0**
OPT	**Oil Point**	**0.71**	**287**	P	**Pn**	**23 21 45.7**	**+0.2**
AUE	**Augustine Isla**	**0.77**	**264**	P	**Pn**	**23 21 46.3**	**+0.2**
AUP	**Augustine Pinn**	**0.79**	**264**	P	**Pn**	**23 21 46.9**	**+0.4**
AUL	**Augustine Lava**	**0.80**	**265**	P	**Pn**	**23 21 46.8**	**+0.3**
AUI	**Augustine Isla**	**0.80**	**262**	P	**Pn**	**23 21 46.6**	**+0.1**
IVE	**Iliamna Volcan**	**0.80**	**315**	P	**Pn**	**23 21 46.5**	**-0.2**
IVE				S	**Sn**	**23 21 58.0**	**0.0**
AUW	**Augustine West**	**0.81**	**265**	P	**Pn**	**23 21 47.0**	**+0.3**
RSO	**Redoubt South**	**1.10**	**337**	*e*P	**Pn**	**23 21 50.7**	**+0.1**
RSO				S	**Sn**	**23 22 04.5**	**-0.6**
RDWB	**Redoubt West**	**1.14**	**336**	P	**Pn**	**23 21 51.1**	**-0.1**
RDWB				S	**Sn**	**23 22 06.1**	**+0.1**
RDT	**Redoubt**	**1.15**	**347**	P	**Pn**	**23 21 51.3**	**+0.1**
DFR	**Drift River**	**1.21**	**341**	P	**Pn**	**23 21 52.1**	**+0.1**
NCT	**North Crescent**	**1.23**	**335**	P	**Pn**	**23 21 52.4**	**+0.1**
MCNL	**McNeil River**	**1.28**	**259**	P	**Pn**	**23 21 52.9**	**0.0**
SLKM	**Skilak Lake**	**1.35**	**38**	P	**Pn**	**23 21 54.3**	**+0.7**
KAPH	**Katmai Pasha**	**1.54**	**237**	P	**Pn**	**23 21 56.9**	**+0.5**
KAPH				S	**Sn**	**23 22 16.3**	**+1.1**
KDAK	**Kodiak Island**	**1.71**	**193**	P	**Pn**	**23 21 58.2**	**-0.4**
KDAK				S	**Sn**	**23 22 20.8**	**+1.4**
SPU	**Mount Spurr**	**1.74**	**357**	P	**Pn**	**23 21 59.7**	**+0.6**
CKL	**Chakachamna La**	**1.76**	**353**	P	**Pn**	**23 22 00.2**	**+0.7**
SPBG	**Spurr Blockage**	**1.83**	**353**	P	**Pn**	**23 22 01.3**	**+1.0**
BGL	**Barrier Glacie**	**1.83**	**352**	P	**Pn**	**23 22 01.5**	**+1.1**
KAKN	**Katmai Knife C**	**2.02**	**236**	P	**Pn**	**23 22 03.4**	**+0.5**
STLK	**Strandline Lak**	**2.05**	**1**	P	**Pn**	**23 22 04.8**	**+1.4**
KABR	**Katmai Barrier**	**2.08**	**232**	P	**Pn**	**23 22 04.4**	**+0.6**
SUA	**Susitna One**	**2.10**	**15**	P	**Pn**	**23 22 05.1**	**+1.1**
KELA	**Mount Kelaz**	**2.24**	**245**	P	**Pn**	**23 22 06.3**	**+0.3**
CAHL	**Cahill**	**2.27**	**233**	P	**Pn**	**23 22 07.5**	**+1.2**
OHAK	**Old Harbor**	**2.36**	**199**	P	**Pn**	**23 22 06.9**	**-0.5**
KJL	**Kejulik**	**2.38**	**235**	P	**Pn**	**23 22 09.0**	**+1.2**
SVW2	**Sparrevohn**	**2.47**	**313**	P	**Pn**	**23 22 09.1**	**+0.1**
PMR	**Palmer**	**2.54**	**31**	P	**Pn**	**23 22 10.5**	**+0.5**
SKT	**Skwentna**	**2.54**	**4**	P	**Pn**	**23 22 11.5**	**+1.5**
GLI	**Glacier Island**	**2.79**	**57**	P	**Pn**	**23 22 12.5**	**-0.8**
MID	**Middleton Isla**	**2.83**	**88**	P	**Pn**	**23 22 14.0**	**+0.1**
SML	**Sawmill**	**2.94**	**35**	P	**Pn**	**23 22 16.0**	**+0.5**
PLK1	**Peulik 1**	**2.97**	**238**	P	**Pn**	**23 22 17.0**	**+1.2**
JPK	**Jack Peak**	**3.09**	**56**	P	**Pn**	**23 22 17.0**	**-0.4**
VLZ	**Valdez**	**3.24**	**56**	P	**Pn**	**23 22 19.4**	**0.0**
EYAK	**Cordova Ski Ar**	**3.27**	**68**	P	**Pn**	**23 22 20.3**	**+0.4**
PPLA	**Purkeypile**

FINES FINESS Array B 71.79 332 P **P 23 39 15.2 +0.5**
0.8nm,0.5s,baz=57,slow=7.0,SNR=9.5
NOA NORSAR Array B 77.54 336 P **P 23 39 47.5 +0.1**
0.8nm,0.9s,baz=42,slow=5.4,SNR=2.7

KRSC 11 23:37:09.0±2.3, 49°.36N×156°.56E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.92	2	eP	Pn	23 37 56.2	+0.1
ASAK	Asacha	3.14	15	eP	Pn	23 38 02.0	+2.7
MTVR	Mutnovka	3.29	18	eP	Pn	23 38 04.5	+3.1
MTVR				i S	Sb	23 38 45.0	-3.5
RUS	Russkaya	3.32	21	eP	Pn	23 38 03.8	+2.3
UGLR	Uglovaya	4.11	19	eP	Pn	23 38 16.3	+3.8
KRER	Koryakskii	4.18	18	eP	Pn	23 38 17.2	+3.5
SDLR	Sedlovina	4.18	19	eP	Pn	23 38 16.9	+3.3
SPN	Mys Shipunski	4.33	29	eP	Pn	23 38 18.6	+3.2
GNL	Ganaly	4.43	11	eP	Pn	23 38 19.7	+2.8
MKZ	Mys Kozlova	6.11	30	eP	Pn	23 38 41.4	+1.6
KBTR	Krutoberegovo	7.84	27	eP	Pn	23 39 06.7	+3.2

*IDC **11** 23:50:22.4±2.2, 6°.68S×129°.27E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=115.8km s-min=32.2km az=68.0*
*AUST **11** 23:51:02.2±99.0, 9°.01S×129°.79E, h20km, Error ellipse: s-maj=8.5km s-min=1.2km az=285.0*
ISC 11 23:50:35.0±1.1, 7°.05S±0°.07×129°.78E±0°.09, h139km, n9, σ3§13/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	4.79	31	P	Sn	23 52 37.6	-2.7
	baz=6.6,SNR=3.9						
MTN	Manton Dam	5.91	167	P	Pn	23 52 04.3	+4.0
	baz=4.1,SNR=14						
MTN				S	Sn	23 53 08.5	+1.4
	baz=4.1,SNR=12						
KDU	Kakadu	6.20	155	P	Pn	23 52 08.7	+4.5
	baz=4.5,SNR=6.9						
KDU				S	Sn	23 53 15.1	+1.1
	baz=4.5,SNR=8.6						
BATI	Baumata	6.81	242	Sn	Sn	23 53 28.6	-0.2
	3.5nm,0.3s,baz=165,slow=16,SNR=2.2						
KNRA	Kununurra	8.63	187	P	Pn	23 52 39.5	+2.6
	baz=6.7,SNR=8.3						
KNRA				S	Sn	23 54 11.8	-0.9
	baz=6.7,SNR=5.6						
FITZ	Fitzroy Crossi	11.70	200	Sn	Sn	23 55 22.7	-4.2
	0.6nm,0.3s,baz=83,slow=18,SNR=6.6						
WRA	Warramunga Arr	13.56	161	Pn	Pn	23 53 42.2	+0.4
	0.3nm,0.3s,baz=339,slow=13,SNR=11						
WRA				Sn	Sn	23 56 08.2	-3.5
	0.9nm,0.3s,baz=345,slow=24,SNR=12						
ASAR	Alice Springs	16.99	167	P	Pn	23 54 28.3	+3.9
	0.3nm,0.3s,baz=345,slow=11,SNR=22						
ASAR				S	S	23 57 29.2	-4.9
	0.2nm,0.3s,baz=343,slow=25,SNR=5.5						
MKAR	Makanchi Array	68.15	327	P	P	00 01 20.8	+0.7
	0.3nm,0.5s,baz=123,slow=7.7,SNR=4.2						

IDC 11 23:51:08.9±2.0, 13°.75N×92°.72E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/27, mbtmp3.4/6, ML3.6/1, Error ellipse: s-maj=62.2km s-min=24.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.59	51	Pn	Pn	23 53 02.0	+1.1
	0.3nm,0.3s,baz=238,slow=14,SNR=4.0						
CMAR				Sn	Sn	23 54 22.9	-4.9
	0.4nm,0.3s,baz=71,slow=32,SNR=4.0						
MKAR	Makanchi Array	34.09	347	P	P	23 57 55.9	+0.8
	0.2nm,0.6s,baz=160,slow=7.6,SNR=3.3						
SONM	Songino Array	35.84	16	P	P	23 58 09.1	-1.4
	0.2nm,0.3s,baz=151,slow=3.3,SNR=2.1						
ZALV	Zalesovo Beam	40.59	353	P	P	23 58 50.0	-0.1
	0.3nm,0.4s,baz=194,slow=10,SNR=2.3						
WRA	Warramunga Arr	52.89	128	P	P	00 00 26.9	-0.1
	0.6nm,0.8s,baz=307,slow=8.0,SNR=3.9						
ASAR	Alice Springs	54.81	132	P	P	00 00 41.0	-0.1
	0.3nm,0.3s,baz=304,slow=6.6,SNR=3.9						

IDC 11 23:52:40.1±2.0, 13°.96N×92°.89E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=58.9km s-min=26.5km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.33	52	Pn	Pn	23 54 28.1	-0.5
	0.5nm,0.3s,baz=241,slow=14,SNR=4.8						
CMAR				Sn	Sn	23 55 44.5	-8.0
	0.6nm,0.3s,baz=243,slow=32,SNR=5.0						
MKAR	Makanchi Array	33.92	347	P	P	23 59 25.0	+0.1
	0.3nm,0.5s,baz=175,slow=11,SNR=4.0						
SONM	Songino Array	35.59	16	P	P	23 59 39.7	+0.2
	0.3nm,0.3s,baz=202,slow=7.3,SNR=4.1						
ZALV	Zalesovo Beam	40.40	353	P	P	00 00 19.5	-0.3
	0.9nm,0.7s,baz=186,slow=9.7,SNR=3.1						
ASAR	Alice Springs	54.83	133	P	P	00 02 12.3	-0.1
	0.2nm,0.3s,baz=305,slow=6.4,SNR=2.3						

IDC 11 23:55:08.8±0.9, 14°.37N×93°.22E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/27, mbtmp3.7/7, Error ellipse: s-maj=68.7km s-min=19.1km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.60	346	P	P	00 01 51.4	+0.6
	0.2nm,0.5s,baz=168,slow=9.3,SNR=3.3						
FITZ	Fitzroy Crossi	45.41	134	P	P	00 03 28.9	-0.7
	1.0nm,0.6s,baz=329,slow=6.8,SNR=4.0						
WRA	Warramunga Arr	52.90	129	P	P	00 04 26.6	-0.3
	0.9nm,1.1s,baz=310,slow=7.8,SNR=3.5						
ASAR	Alice Springs	54.87	133	P	P	00 04 42.2	+0.9
	0.2nm,0.3s,baz=309,slow=7.0,SNR=4.4						
FINES	FINESS Array B	66.61	331	P	P	00 05 59.4	-1.3
	2.8nm,1.0s,baz=110,slow=12,SNR=3.5						
GERES	GERESS Array B	72.45	317	P	P	00 06 37.7	+0.4
	0.5nm,0.6s,baz=74,slow=6.1,SNR=6.1						
TORD	Torodi Ar. Bea	88.25	283	P	P	00 08 02.9	+0.2
	0.2nm,0.7s,baz=73,slow=3.9,SNR=2.9						

*IDC **11** 23:55:40.6±5.5, 37°.31N×72°.04E, h128km±48km, mb3.1/3, mb1 3.1/7, mb1mx2.9/30, mbtmp3.1/7, Error ellipse: s-maj=57.4km s-min=35.3km az=138.0*
*ISCJB **11** 23:55:42.4±1.3, 37°.6N±0°.1×71°.7E±0°.1, h130km, mb3.3/3, Error ellipse: s-maj=17.1km s-min=10.8km az=139.4*
*NNC **11** 23:56:32.6±0.6, 43°.92N×72°.80E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=16.8km s-min=7.1km az=24.0*
ISC 11 23:55:42.6±1.6, 37°.5N±0°.1×71°.8E±0°.1, h130km, n17, σ1§00/19, mb3.4/3, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.84	17	P	Pn	23 56 54.5	+0.5
	SNR=28						
EKS2	Erkin-Say	5.37	16	P	Pn	23 57 01.4	+0.7
	SNR=13						
AAK	Ala-Archa	5.52	21	P	Pn	23 57 04.0	+1.2
	SNR=9.2						
AAK	Ala-Archa	5.52	21	P	Pn	23 57 03.7	+0.9
	3.5nm,0.3s,baz=163,slow=6.8,SNR=13						
AAK				S	Sn	23 58 05.1	-0.3
	1.3nm,0.3s,baz=139,slow=23,SNR=16						
KK31	Karatay Array	5.68	350	P	Pn	23 57 05.5	+0.7
	16nm,0.4s,baz=172,slow=12,SNR=519						
KK31				S	Sn	23 58 07.0	-1.8
	5.1nm,0.3s,baz=170,slow=22,SNR=17						
CHMS	Chumysh	5.93	21	P	Pn	23 57 09.1	+0.9
	SNR=9.5						
USP	Ospenovka	6.11	19	P	Pn	23 57 11.5	+0.9
	SNR=5.5						
TKM2	Tokmak 2	6.14	27	⇓P	Pn	23 57 11.7	+0.5
	2.4nm,0.5s						
TKM2	Tokmak 2	6.14	27	P	Pn	23 57 12.0	+0.9
	SNR=6.3						
MKAR	Makanchi Array	12.10	37	P	Pn	23 58 30.2	-0.5
	0.1nm,0.3s,baz=233,slow=17,SNR=3.5						
AB31	Akbulak array	14.55	328	⇓P	Pn	23 59 01.9	-0.3
	0.8nm,0.3s						
AKTO	Aktyubinsk	16.26	327	⇑P	P	23 59 24.6	+0.6
	2.9nm,0.9s						
AKTO	Aktyubinsk	16.26	327	P	P	23 59 24.7	+0.7
	0.3nm,0.3s,baz=131,slow=13,SNR=6.7						
ZALV	Zalesovo Beam	18.73	24	P	P	23 59 50.0	-1.1
	0.2nm,0.3s,baz=211,slow=11,SNR=4.3						
BRTR	Keskin Array B	29.76	286	P	P	00 01 37.7	+0.8
	0.4nm,0.7s,baz=81,slow=11,SNR=3.6						
ARCES	ARCESS Array B	40.47	337	P	P	00 03 09.0	+1.0
	0.9nm,0.8s,baz=107,slow=8.1,SNR=6.7						
TORD	Torodi Ar. Bea	66.38	269	P	P	00 06 16.3	-1.6
	0.2nm,0.4s,baz=50,slow=5.7,SNR=7.4						

IDC 11 23:55:49.7±15.0, 48°.55N×154°.21E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/25, mbtmp3.7/3, Error ellipse: s-maj=358.8km s-min=99.3km az=148.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	46.79	296	P	P	00 04 20.6	-0.1
	0.4nm,0.8s,baz=54,slow=7.3,SNR=3.5						
FINES	FINESS Array B	62.73	335	P	P	00 06 15.9	0.0
	1.8nm,0.9s,baz=38,slow=7.2,SNR=8.9						
BRTR	Keskin Array B	77.58	317	P	P	00 07 47.6	0.0
	0.6nm,0.6s,baz=53,slow=6.3,SNR=3.8						

*IDC **12** 00:04:05.7±0.6, 14°.31N×92°.96E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.1/29, mbtmp4.2/18, ML4.3/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/32, Error ellipse: s-maj=23.9km s-min=13.8km az=57.0*
*ISCJB **12** 00:04:09.0±0.2, 14°.45N±0°.03×93°.02E±0°.05, h33km, mb4.2/35, MS3.6/3, Error ellipse: s-maj=6.4km s-min=4.2km az=164.8*
*NEIC **12** 00:04:11.3±0.3, 14°.39N×93°.03E, h35km, mb4.1/6, Error ellipse: s-maj=8.8km s-min=5.3km az=62.0*
ISC 12 00:04:11.1±0.4, 14°.42N±0°.05×92°.97E±0°.06, h35km, n102, σ1§00/102, mb4.3/35, MS3.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	1.23	182	eP	Pn	00 04 32.7	+0.9
DGPR				eS	Sn	00 04 45.9	-1.4
DGPR				AML	AML	00 04 51.4	
	comp=E,5μm,0.2s						
DGPR				AML	AML	00 04 51.6	
	comp=N,3μm,0.2s						
PBA	Port Blair	2.75	185	eP	Pn	00 04 53.6	+0.9
PBA				eS	Sn	00 05 24.6	-0.2
PBA				AML	AML	00 05 29.6	
	comp=N,3μm,0.7s						
PBA				AML	AML	00 05 30.5	
	comp=E,2μm,0.4s						
CMAR	Chiang Mai Arr	7.00	54	Pn	Pn	00 05 50.5	-0.7
CMAR				Sn	Sn	00 07 07.5	-2.1
CMAR	Chiang Mai Arr	7.00	54	Pn	Pn	00 05 50.5	-0.7
	comp=E,1.3nm,0.3s,baz=242,slow=15,SNR=27						
CMAR				Sn	Sn	00 07 07.5	-2.1
	comp=E,1.1nm,0.3s,baz=242,slow=29,SNR=4.6						
CMBY	CAMPBELL BAY	7.42	173	eP	Pn	00 05 54.5	-2.5
CMBY				eS	Sn	00 07 12.7	-7.3
CMBY				AML	AML	00 07 22.7	
	comp=E,276nm,0.3s						
VIS	Vishakhapatnam	9.83	291	eP	Pn	00 06 30.1	+0.1
VIS				ex	x	00 08 04.6	
SHL	Shillong	11.14	355	eP	Pn	00 06 47.0	-1.1
SHL				eS	Sn	00 08 42.0	-10
BOK	Bokaro	11.48	325	eP	Pn	00 06 52.2	-0.4
PSI	Prapat	12.95	152	Pn	Pn	00 07 15.1	+2.3
PSI	Prapat	12.95	152	Pn	Pn	00 07 15.1	+2.3
	comp=E,1.0nm,0.3s,baz=324,slow=11,SNR=17						
PSI	Prapat	12.95	152	P	Pn	00 07 17.9	+5.0
	baz=6.9,SNR=10						
HYB	Hyderabad	14.19	284	i P	P	00 07 38.0	+1.4
HYB				e		00 09 53.0	
HYB				eS	Sn	00 10 05.0	-0.9
PKIN	Phulchoki	14.88	333	eP	Pn	00 07 35.2	-4.0
	comp=E,162nm,0.4s						
DMN	Daman	15.03	332	eP	Pn	00 07 37.9	-3.4
	comp=E,55nm,0.3s						
LSA	Lhasa	15.30	354	ePn	Pn	00 07 46.7	+1.7
	comp=E,5.3nm,0.4s						
KOLN	Koldanda	15.89	328	eP	Pn	00 07 50.0	-2.4
	comp=E,118nm,0.4s						
DANN	Dangsing	16.29	330	eP	Pn	00 07 54.9	-2.7
	comp=E,71nm,0.5s						
BHPL	Bhopal	17.12	303	eP	P	00 08 08.8	-0.4
KSM	Kuching	21.42	125	eP	P	00 08 55.3	-1.0
ENH	Enshi	21.92	41	eP	P	00 09 01.4	-0.1
	comp=E,8.5nm,0.7s						
SMLA	Simla	22.07	322	ex	P	00 09 00.5	-2.6
LUWI	Luwuk	33.26	115	P	P	00 10 55.6	+10
	baz=27,SNR=3.4						
MKAR	Makanchi Array	33.49	347	P	P	00 10 47.6	+0.5
MKAR	Makanchi Array	33.49	347	P	P	00 10 47.6	+0.5
	comp=E,3.4nm,0.8s,baz=163,slow=9.2,SNR=26						
SONM	Songino Array	35.14	16	P	P	00 11 02.6	+1.1
SONM				PcP	PcP	00 13 32.9	+0.5
SONM	Songino Array	35.14	16	P	P	00 11 02.6	+1.1
	comp=E,1.8nm,0.8s,baz=201,slow=9.4,SNR=9.8						
SONM				PcP	PcP	00 13 32.9	+0.5
	comp=E,0.6nm,0.7s,baz=193,slow=5.9,SNR=2.7						
SONM				LR	LR	00 26 38.1	
	comp=E,70nm,21.2s,baz=38,slow=38						
ULN	Ulaanbaatar	35.34	16	P	P	00 11 03.6	+0.3
KURBB	Kurchatov Arra	37.97	345	P	P	00 11 26.6	+1.3
	comp=E,1.6nm,0.2s,baz=163,slow=8.0,SNR=15						
KURK	Kurchatov	38.03	345	P	P	00 11 26.6	+0.7
ZAA0	Zalesovo Array	39.96	353	eP	P	00 11 42.1	+0.1
ZALV	Zalesovo Beam	39.96	353	P	P	00 11 42.8	+0.8
ZALV	Zalesovo Beam	39.96	353	P	P	00 11 42.8	+0.8
	comp=E,2.4nm,0.6s,baz=173,slow=9.5,SNR=14						
BVAR	Borovoye Array	42.48	340	P	P	00 12 03.3	+0.6
BVAR	Borovoye Array	42.48	340	P	P	00 12 03.3	+0.6
	comp=E,0.6nm,0.5s,baz=141,slow=7.3,SNR=4.8						
BRVK	Borovoye	42.54	340	eP	P	00 12 03.8	+0.6
	comp=E,1.3nm,0.6s						
ABKAR	Akbulak array	44.02	329	eP	P	00 12 16.1	+0.9
	comp=E,2.7nm,0.8s						
FITZ	Fitzroy Crossi	45.62	134	P	P	00 12 27.4	-0.9
	baz=39,SNR=8.7						
MEEK	Meekatharra	47.82	148	P	P	00 12 44.8	-0.7
	baz=41,SNR=3.9						
MORW	Morawa	48.64	153	P	P	00 12 51.6	-0.1
	baz=42,SNR=10						
WRA	Warramunga Arr	53.12	129	P	P	00 13 24.6	-1.0
WRA	Warramunga Arr	53.12	129	P	P	00 13 24.6	-1.0
	comp=E,2.3nm,0.7s,baz=313,slow=8.2,SNR=44						
WRAB	Tennant Creek	53.12	129	eP	P	00 13 25.0	-0.6
	comp=E,3.7nm,0.8s						
ASAR	Alice Springs	55.08	133	P	P	00 13 39.4	-0.6
ASAR	Alice Springs	55.08	133	P	P	00 13 39.4	-0.6
	comp=E,1.7nm,0.5s,baz=309,slow=6.8,SNR=27						
MANU	Manus Island	56.29	102	P	P	00 13 53.4	+4.7
	baz=50,SNR=3.7						
BRTR	Keskin Array B	57.41	308	P	P	00 13 56.6	+0.1
BRTR	Keskin Array B	57.41	308	P	P	00 13 56.6	+0.1
	comp=E,1.1nm,0.7s,baz=125,slow=8.5,SNR=7.3						
PETK	Petropavlovsk-	63.46	38	LR	LR	00 44 58.6	
	comp=E,24nm,21.9s,baz=290,slow=39						
STKA	Stephens Creek	65.49	135	eP	P	00 14 50.6	-0.3
	comp=E,0.6nm,0.6s						
STKA	Stephens Creek	65.49	135	P	P	00 14 50.5	-0.5
	comp=E,4.1nm,0.7s,baz=323,slow=6.8,SNR=14						
STKA				LR	LR	00 46 40.3	
	comp=E,92nm,19.8s,baz=351,slow=39						
STKA	Stephens Creek	65.49	135	P	P	00 14 51.0	0.0
	baz=59,SNR=5.2						
FINES	FINESS Array B	66.44	331	P	P	00 14 56.6	0.0
FINES	FINESS Array B	66.44	331	P	P	00 14 56.6	0.0
	comp=E,3.9nm,0.7s,baz=96,slow=4.7,SNR=21						
RMQ	Roma	67.76	127	P	P	00 15 07.4	+1.8
	baz=61,SNR=4.6						
CMSA	Cobar Meteorol	68.14	133	P	P	00 15 08.1	+0.2
	baz=61,SNR=7.9						
ARCES	ARCESS Array B	68.77	340	P	P	00 15 11.8	+0.6
ARCES	ARCESS Array B	68.77	340	P	P	00 15 11.8	+0.6
	comp=E,1.6nm,0.5s,baz=92,slow=6.7,SNR=20						
GERES	GERESS Array B	72.25	317	P	P	00 15 33.6	+0.6
GERES	GERESS Array B	72.25	317	P	P	00 15 33.6	+0.6
	comp=E,2.0nm,0.8s,baz=83,slow=6.0,SNR=19						
CLL	Collm	72.63	320	eP	P	00 15 35.0	0.0
NB2	NORSAR Subarra	73.52	330	P	P	00 15 39.8	-0.3
	comp=Z,1.1nm,0.6s,baz=89,slow=5.9						
NOA	NORSAR Array B	73.52	330	P	P	00 15 39.9	-0.3
NOA	NORSAR Array B	73.52	330	P	P	00 15 39.9	-0.3
	comp=Z,1.3nm,0.6s,baz=89,slow=5.8,SNR=8.3						
PGF	Pieggiola	76.00	311	eP	P	00 15 54.5	-0.5
SBF	Sospel	76.97	312	eP	P	00 15 59.7	-0.7
LPG	La Plagne	77.24	314	eP	P	00 16 02.3	+0.1
	comp=Z,7.4nm,0.8s						
LPL	La Plagne	77.25	314	eP	P	00 16 02.3	+0.1
	comp=Z,8.7nm,0.7s						
MBDF	Montbardon	77.33	313	eP	P	00 16 01.6	-0.9
	comp=Z,6.3nm,0.9s						
FRF	La Foret Royal	77.58	312	eP	P	00 16 03.6	-0.2
	comp=Z,10nm,0.9s						
LMR	La Mourre	77.71	312	eP	P	00 16 04.2	-0.3
	comp=Z,3.1nm,0.6s						
BOSA	Boshof	78.16	236	P	P	00 16 07.8	+0.4
BOSA	Boshof	78.16	236	P	P	00 16 07.8	+0.4
	comp=Z,1.9nm,0.6s,baz=107,slow=17,SNR=5.8						
SMRF	Simiane la Rot	78.29	313	eP	P	00 16 08.0	+0.2
	comp=Z,6.4nm,0.9s						
VIVF	Saint-Julien-l	78.79	314	eP	P	00 16 10.2	-0.3
	comp=Z,7.7nm,1.0s						
LOR	Lormes	78.97	316	eP	P	00 16 10.8	-0.6
	comp=Z,4.7nm,0.9s						
SMF	Signal de Mont	79.08	315	eP	P	00 16 11.4	-0.6
	comp=Z,3.7nm,0.6s						
SSF	Saint Saulge	79.24	316	eP	P	00 16 12.5	-0.3
AVF	Avril sur Loir	79.39	316	eP	P	00 16 13.1	-0.5
LASF	Ste Croix	79.50	313	eP	P	00 16 14.5	+0.1
TCF	Toulx Ste Croi	80.25	315	eP	P	00 16 18.2	-0.2
CAF	Calviac	80.61	314	eP	P	00 16 20.3	0.0
	comp=Z,6.4nm,0.8s						
MTLF	Montolieu	80.80	312	eP	P	00 16 21.1	-0.3
	comp=Z,3.9nm,0.9s						
RJF	Les Rejaudoux	80.91	314	eP	P	00 16 22.1	+0.2
	comp=Z,3.5nm,0.7s						
LDF	La Druitiere	81.36	318	eP	P	00 16 23.8	-0.4
	comp=Z,3.9nm,0.6s						
LFF	La Frestale	81.53	314	eP	P	00 16 25.4	+0.2
MFF	Saint Martin d	81.79	316	eP	P	00 16 26.2	-0.3
	comp=Z,9.1nm,1.1s						
GRR	Gorron	81.88	318	eP	P	00 16 26.3	-0.7
EPF	Esparros	82.21	312	eP	P	00 16 27.7	-1.2
SGMF	Saint Gilles	83.01	318	eP	P	00 16 32.6	-0.3
ROSF	Rostrenen	83.46	318	eP	P	00 16 34.9	-0.3
ESDC	Sonseca Array	86.16	310	P	P	00 16 48.9	-0.2
ESDC	Sonseca Array	86.16	310	P	P	00 16 48.9	-0.2
	comp=Z,0.4nm,0.5s,baz=58,slow=5.7,SNR=4.1						
TORD	Torodi Ar. Bea	88.00	283	P	P	00 16 58.8	+0.4
TORD	Torodi Ar. Bea	88.00	283	P	P	00 16 58.8	+0.4
	comp=Z,1.5nm,0.7s,baz=73,slow=4.2,SNR=12						
ILAR	Eielson Array	89.14	22	P	P	00 17 02.4	-0.4
ILAR	Eielson Array	89.14	22	P	P	00 17 02.4	-0.4
	comp=Z,0.5nm,0.7s,baz=304,slow=4.4,SNR=7.0						
PDAR	Pinedale Array	119.45	19	PKPpre	PKPpre	00 22 49.6	
PDAR				PKP	**PKPdf**	00 22 57.1	-0.5
PDAR	Pinedale Array	119.45	19	PKhKP	PKPpre	00 22 49.6	
	comp=Z,0.3nm,0.4s,baz=90,slow=2.7,SNR=2.9						
PDAR				PKP	**PKPdf**	00 22 57.1	-0.5
	comp=Z,0.3nm,0.4s,baz=57,slow=3.3,SNR=3.8						
TXAR	Lajitas Array	133.63	20	PKP	**PKPdf**	00 23 26.6	+1.7
TXAR	Lajitas Array	133.63	20	PKP	**PKPdf**	00 23 26.6	+1.7
	comp=Z,0.2nm,0.6s,baz=212,slow=2.9,SNR=3.4						
TEIG	Tepich	145.55	2	PKPbc	**PKPab**	00 23 46.9	0.0
TEIG	Tepich	145.55	2	PKPbc	**PKPab**	00 23 46.9	0.0
	comp=Z,7.3nm,0.7s,baz=311,slow=5.5,SNR=6.4						

*MEX **12** 00:25:45.4±0.7, 14°.00N×93°.33W, h21km±41km, MD4.3*
*ISCJB **12** 00:25:50.2±1.1, 14°.41N±0°.06×93°.07W±0°.05, h65km±8km, mb4.3/50, Error ellipse: s-maj=11.6km s-min=7.1km az=32.3*
*IDC **12** 00:25:52.5±3.1, 14°.47N×93°.02W, h71km±25km, mb3.8/17, mb1 4.0/19, mb1mx3.9/28, mbtmp3.9/19, MS4.0/24, Ms1 4.0/24, ms1mx3.9/36, Error ellipse: s-maj=25.7km s-min=15.6km az=39.0*
*NEIC **12** 00:25:54.1±1.2, 14°.62N×92°.88W, h78km±10km, mb4.4/40, Error ellipse: s-maj=10.8km s-min=5.2km az=222.0*
ISC 12 00:25:49.8±1.3, 14°.37N±0°.07×93°.23W±0°.05, h54km±10km, n445, σ1§24/437, mb4.3/51, MS4.1/22, 147C-169D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.08	60	eP	Pn	00 26 05.9	-2.8
THIG				eS	Sn	00 26 22.4	-0.2
CCIG	Comitan	2.18	29	eP	Pn	00 26 24.1	+0.2
CCIG				i S	Sn	00 26 52.4	+2.7
TGIG		2.40	2	eP	Pn	00 26 26.5	-0.2
TGIG				i S	Sn	00 26 57.9	+2.8
HUIG	Huatulco	3.11	297	i P	Pn	00 26 32.2	-4.3
HUIG				i S	Sn	00 27 09.6	-2.8
TUIG	Tuzandepetl	3.82	343	i P	Pn	00 26 50.8	+4.6
VHO	Vista Hermosa	4.32	309	eP	Pn	00 26 50.2	-2.9
VHO				i S	Sn	00 27 41.8	-0.6
SCIG	Sabancuy	4.98	23	i P	Pn	00 27 02.1	+0.1
SCIG				i S	Sn	00 28 02.1	+3.8
TEIG	Tepich	7.50	38	ePn	Pn	00 27 33.9	-2.8
TEIG				eSn	Sn	00 28 52.4	-8.1
TEIG	Tepich	7.50	38	P	Pn	00 27 35.7	-1.0
	32nm,0.3s,baz=247,slow=10,SNR=60						
TEIG				S	Sn	00 29 00.5	+0.1
	13nm,0.3s,baz=174,slow=23,SNR=5.1						
TEIG				LR	LR	00 30 54.1	
	comp=Z,2μm,21.8s,baz=61,slow=41						
JTS	JuntasAbangare	9.04	116	P	Pn	00 27 58.3	+0.5
JTS	JuntasAbangare	9.04	116

baz=18,SNR=19
232A Coleman 18.40 342 ⇑P P 00 30 01.1 +0.5
baz=18,SNR=6.8
330A Mertzon 18.46 338 ⇓P P 00 30 01.9 +0.7
baz=18,SNR=16
428A Kincaid Ranch, 18.46 333 ⇓P Pn 00 30 02.7 +0.8
baz=18,SNR=15
526A Mary Lane Ranc 18.55 329 ⇓P Pn 00 30 03.9 +0.8
baz=19,SNR=23
231A Bronte 18.65 341 ⇓P P 00 30 04.3 +0.9
baz=19
329A Wagon Wheel Ra 18.84 336 ⇓P P 00 30 06.4 +1.0
baz=19
230A Sterling City 18.87 339 ⇓P P 00 30 06.7 +0.9
baz=19,SNR=7.6
427A Hayter Ranch, 18.88 332 ⇓P P 00 30 07.3 +1.3
baz=19,SNR=19
426A McDonald Obser 19.02 330 ⇑P P 00 30 09.0 +1.4
baz=19,SNR=22
328A Wristen Ranch, 19.08 334 ⇓P P 00 30 09.5 +1.4
baz=19,SNR=15
ABTX Abilene, Hawle 19.09 343 ⇑P P 00 30 08.9 +0.7
baz=19
TIGA Tifton 19.15 26 ⇑P P 00 30 05.6 -3.2
baz=19
229A Bryant Ranch, 19.20 337 ⇑P P 00 30 10.6 +1.2
baz=19
131A Roby 19.36 342 ⇓P P 00 30 11.7 +0.6
baz=19
327A Balmorhea Ranc 19.36 333 ⇓P P 00 30 12.4 +1.2
baz=19
LRAL Lakeview Retre 19.43 16 eP P 00 30 11.2 -0.6
20nm,1.3s
130A Snyder 19.47 340 ⇓P P 00 30 13.0 +0.7
baz=19
326A Caldwell Ranch 19.54 331 ⇑P P 00 30 14.4 +1.2
baz=20,SNR=14
425A Indio Mountain 19.59 328 ⇑P P 00 30 15.0 +1.2
baz=20,SNR=19
228A UT Block 9, Go 19.63 336 ⇑P P 00 30 15.2 +1.1
baz=20
Z32A Haskell 19.69 344 ⇓P P 00 30 15.4 +0.6
baz=20,SNR=12
129A Stewart Farms, 19.81 338 ⇑P P 00 30 16.6 +0.5
baz=20
227A Bennet, Jal 19.83 334 ⇓P P 00 30 17.4 +1.2
baz=20
Z31A Sharp Cattle R 19.89 343 ⇓P P 00 30 17.3 +0.5
baz=20,SNR=7.8
128A Castleberry Fa 20.04 337 ⇑P P 00 30 19.2 +0.7
baz=20,SNR=29
325A Bean Ranch, Si 20.06 330 ⇓P P 00 30 19.9 +1.0
baz=20,SNR=21
Z30A Sanderson Ranc 20.16 340 ⇓P P 00 30 20.2 +0.4
baz=20,SNR=16
226B Tecolote Peak, 20.27 332 ⇑P P 00 30 22.2 +1.2
baz=20,SNR=20
Z29A Hungry Hill Ra 20.33 339 ⇑P P 00 30 21.8 +0.1
baz=20,SNR=16
Y32A R-V Farms, Ver 20.34 345 ⇑P P 00 30 22.0 +0.2
baz=20
324A Moseley Ranch, 20.37 329 ⇓P P 00 30 23.0 +0.7
baz=20,SNR=16
127A Arkansas Junct 20.43 335 ⇓P P 00 30 23.4 +0.6
baz=20,SNR=11
GDL2 Guadalupe Moun 20.46 332 eP Pn 00 30 25.7 0.0
Y31A Rekieta Farm, 20.52 343 ⇓P P 00 30 24.3 +0.6
baz=20,SNR=15
MNTX Cornudas Mount 20.53 329 eP P 00 30 25.0 +1.2
12nm,0.9s
Z28A Tucker Farm, M 20.59 338 ⇑P P 00 30 25.0 +0.4
baz=21
225A Deer Hill, Car 20.60 331 ⇓P P 00 30 25.6 +0.9
baz=21,SNR=11
Y30A Stafford Cattl 20.63 342 ⇓P P 00 30 25.1 +0.1
baz=21
126A Clayton Basin, 20.69 333 ⇓P P 00 30 26.5 +0.9
baz=21,SNR=8.8
Y29A Porterfield Fa 20.86 340 ⇑P P 00 30 27.8 +0.3
baz=21,SNR=6.5
ROSC El Rosal 20.87 115 eP Pn 00 30 30.4 -0.7
ROSC El Rosal 20.87 115 P Pn 00 30 29.1 -2.0
12nm,0.7s,baz=284,slow=14,SNR=5.4
WMOK Wichita Mounta 20.89 347 eP P 00 30 28.0 +0.3
9.8nm,1.0s
GOGA Godfrey 20.93 23 eP P 00 30 27.8 -0.3
39nm,1.2s
Z27A Tatum 20.93 336 ⇓P P 00 30 28.7 +0.4
baz=21,SNR=71
125A Gardner Draw, 20.98 332 ⇓P P 00 30 29.7 +0.9
baz=21,SNR=32
PLAL Pickwick Lake 21.05 12 eP P 00 30 27.4 -1.9
14nm,1.0s
X31A McDonald Ranch 21.08 344 ⇑P P 00 30 30.2 +0.5
baz=21,SNR=13
Y28A McKinney Farm, 21.10 339 ⇑P P 00 30 30.5 +0.5
baz=21,SNR=23
X30A Coker Ranch, T 21.15 342 ⇓P P 00 30 30.9 +0.4
baz=21,SNR=12
HBAR Harrisburg 21.23 6 eP P 00 30 29.6 -1.7
223A Chaparral, Ant 21.30 328 ⇓P P 00 30 32.8 +0.5
baz=21
MSTX Muleshoe 21.35 338 ⇑P P 00 30 32.6 -0.1
baz=21,SNR=7.9
124A Stringfield Ra 21.38 331 ⇑P P 00 30 34.4 +1.2
baz=21,SNR=35
X29A Tulia 21.41 341 ⇑P P 00 30 33.5 +0.1
baz=21
Y27A Causey 21.42 337 ⇓P P 00 30 33.7 +0.3
baz=21,SNR=10
Z25A Roswell 21.53 333 ⇓P P 00 30 35.4 +0.8
baz=22,SNR=13
TUL1 Tulsa 21.58 354 ⇓P P 00 30 34.4 -0.6
baz=21
W31A Holland Ranch, 21.59 345 ⇓P P 00 30 35.4 +0.1
baz=22
X28A Dimmitt 21.64 340 ⇑P P 00 30 35.9 +0.1
baz=22
Y26A Elida 21.71 336 ⇓P P 00 30 37.3 +0.7
baz=22,SNR=11
123A Bell Site, Whi 21.72 329 ⇓P P 00 30 37.6 +0.9
baz=22
222A Williams Famil 21.74 327 ⇓P P 00 30 38.0 +1.1
baz=22,SNR=6.9
W30A Crocket Farms 21.76 344 ⇓P P 00 30 37.3 +0.3
baz=22
SWET Sewanee 21.78 16 eP P 00 30 38.7 +1.5
AMTX Amarillo 21.80 341 eP P 00 30 37.2 -0.3
22nm,0.7s
Z24A Sheeppen Canyo 21.86 332 ⇑P P 00 30 39.8 +1.4
baz=22,SNR=25
320A Kipp Ranch, An 21.96 323 ⇑P P 00 30 40.4 +1.1
baz=22
W29A Amraillo 22.01 341 ⇑P P 00 30 40.1 +0.3
baz=22
221A Mesquite Ranch 22.03 325 ⇓P P 00 30 41.2 +1.1
baz=22
X27A F and S Farms, 22.07 338 ⇑P P 00 30 40.6 +0.2
baz=22
V31A Spring Creek L 22.13 346 ⇑P P 00 30 42.9 +1.9
baz=22,SNR=12
122A Conniff Cattle 22.15 328 ⇑P P 00 30 42.3 +0.9
baz=22
WVT Waverly 22.21 12 eP P 00 30 40.1 -1.7
5.7nm,0.8s
WVT eS S 00 34 38.6 -4.4
Z23A Rita Site, Whi 22.22 330 ⇓P P 00 30 43.4 +1.4
baz=22,SNR=12
X26A CR and CF Fran 22.25 336 ⇓P P 00 30 42.8 +0.3
baz=22,SNR=11
W28A Vega 22.32 340 ⇑P P 00 30 42.9 -0.2
baz=22
V30A Spur Ranch, Mi 22.33 344 ⇓P P 00 30 43.4 +0.2
baz=22
220A Playas Peak, P 22.37 324 ⇑P P 00 30 45.7 +1.9
baz=22,SNR=12
Y24A Capitan 22.39 333 ⇓P P 00 30 45.1 +1.1
baz=22,SNR=25
CPCT Cooper Cave 22.41 19 eP P 00 30 43.1 -0.8
319A Douglas 22.43 322 ⇓P P 00 30 45.7 +1.3
baz=22
121A Cookes Peak, D 22.43 326 ⇓P P 00 30 45.8 +1.4
baz=22,SNR=30
W27A Bowe Ranch, En 22.43 338 ⇑P P 00 30 44.2 -0.1
baz=22,SNR=12
Z22A Elephant Butte 22.57 329 ⇑P P 00 30 47.1 +1.2
baz=23,SNR=8.0
X25A Clemmons Ranch 22.57 335 ⇓P P 00 30 46.5 +0.6
baz=23,SNR=5.1
V29A Stinnett 22.67 342 ⇓P P 00 30 47.1 +0.2
baz=23
Y23A Lovelace Mesa, 22.68 331 ⇑P P 00 30 48.4 +1.4
baz=23,SNR=20
U31A Nine Bar Ranch 22.70 346 ⇓P P 00 30 47.1 0.0
baz=23
W26A Owens Ranch, T 22.71 337 ⇓P P 00 30 48.0 +0.6
baz=23
V28A Channing 22.77 341 ⇑P P 00 30 48.1 +0.1
baz=23
SDV Santo Domingo 22.78 101 eP P 00 30 48.2 -0.2
14nm,0.8s
TKL Tuckaleechee C 22.84 20 eP P 00 30 47.9 -0.6
TKL Tuckaleechee C 22.84 20 P P 00 30 48.0 -0.6
0.9nm,0.4s,baz=196,slow=11,SNR=3.4
TKL LR LR 00 41 35.9
comp=Z,460nm,18.2s,baz=216,slow=42
120A U Bar Ranch, L 22.91 325 ⇑P P 00 30 51.0 +1.6
baz=23,SNR=13
X24A Lazy VL Ranch, 22.93 333 ⇓P P 00 30 50.3 +0.6
baz=23,SNR=6.6
Z21A St. Cloud Mine 22.97 328 ⇓P P 00 30 51.6 +1.4
baz=23,SNR=11
V27A Dan Oppiter Fa 22.98 340 ⇓P P 00 30 50.4 +0.4
baz=23
U30A WK&E Inc. Balk 23.05 345 ⇓P P 00 30 51.0 +0.3
baz=23,SNR=12
W25A X Bar L Ranch, 23.09 336 ⇑P P 00 30 52.0 +0.7
baz=23,SNR=36
Y22A Socorro 23.12 330 ⇓P P 00 30 52.8 +1.3
baz=23,SNR=9.1
BNM Barren Site 23.13 331 eP P 00 30 53.3 +1.6
10nm,1.0s
U29A Oasis Ranch, S 23.14 343 ⇓P P 00 30 51.7 +0.1
baz=23
Y22D IRIS PASSCAL I 23.21 330 ⇑P P 00 30 53.5 +1.2
baz=23
LPM Los Pinos Moun 23.27 331 eP P 00 30 55.5 +2.5
X23A Hourglass Bar 23.28 332 ⇑P P 00 30 54.0 +0.9
baz=23,SNR=5.8
KMSC Kings Mountain 23.30 25 ⇓P P 00 30 50.2 -2.8
baz=23
LENM Lemitar 23.31 330 eP P 00 30 55.3 +1.9
15nm,1.2s
Z20A Nine Sixteen R 23.31 326 ⇓P P 00 30 54.4 +1.0
baz=23,SNR=12
V26A Tequesquite Ra 23.35 338 ⇓P P 00 30 54.1 +0.4
baz=23,SNR=8.9
U28A Mallet 23.35 341 ⇑P P 00 30 53.6 -0.1
baz=23
T31A Randall Ranch, 23.36 347 ⇑P P 00 30 53.2 -0.5
baz=23
W24A Lazy 6 Ranch, 23.47 334 ⇓P P 00 30 55.9 +0.9
baz=24,SNR=13
W24A ⇑S S 00 35 14.4 +10
baz=24
T30A Plains 23.51 345 ⇓P P 00 30 55.2 0.0
baz=23
SIUC Southern Illin 23.53 8 eP P 00 30 53.3 -1.9
17nm,0.9s
Y21A Point of Rocks 23.53 329 ⇓P P 00 30 57.2 +1.7
baz=24,SNR=9.4
LAZ Ladron 23.58 330 eP P 00 30 58.1 +2.1
11nm,1.3s
U27A Thompson Grove 23.58 340 ⇓P P 00 30 56.5 +0.6
baz=24,SNR=6.1
X22A Bernardo 23.60 331 ⇑P P 00 30 57.9 +1.7
baz=24
V25A Rancho No Teng 23.70 336 ⇑P P 00 30 58.5 +1.4
baz=24,SNR=18
ANMO Albuquerque 23.71 332 eP P 00 30 58.7 +1.6
ANMO Albuquerque 23.71 332 P P 00 30 57.5 +0.4
2.3nm,0.6s,baz=140,slow=11,SNR=12
ANMO LR LR 00 42 23.5
comp=Z,122nm,19.6s,baz=256,slow=42
TZTN Tazewell 23.72 20 eP P 00 30 56.1 -0.9
20nm,1.1s
W23A Werner Place, 23.75 333 ⇓P P 00 30 58.8 +1.2
baz=24
T29A Hugoton 23.81 344 ⇓P P 00 30 57.9 0.0
baz=24,SNR=6.8
Y20A Horse Springs, 23.81 327 ⇓P P 00 31 00.3 +2.2
baz=24,SNR=25
S31A Mullinville 23.82 348 ⇓P P 00 30 57.5 -0.5
baz=24
V24A Rampart Ranch, 23.86 335 ⇑P P 00 31 00.1 +1.5
baz=24,SNR=8.1
U26A Atchley Ranch, 23.87 339 ⇓P P 00 30 59.7 +1.1
baz=24,SNR=15
X21A Alamocita Cree 23.93 329 ⇓P P 00 31 01.5 +2.3
baz=24,SNR=21
TUC Tucson 24.00 321 eP P 00 31 01.5 +1.8
72nm,1.1s
W22A Albuquerque 24.00 332 ⇑P P 00 31 01.4 +1.5
baz=24
T28A Walsh 24.00 342 ⇑P P 00 30 59.8 +0.1
baz=24
S30A Montezuma 24.06 346 ⇑P P 00 31 00.5 +0.3
baz=24
U25A Circle Dot Ran 24.11 337 ⇓P P 00 31 02.2 +1.4
baz=24,SNR=14
T27A Campo 24.14 341 ⇓P P 00 31 01.5 +0.6
baz=24
S29A Ulysses 24.20 345 ⇓P P 00 31 02.0 +0.5
baz=24
V23A Ortiz Mt. (NFS 24.26 334 ⇓P P 00 31 04.3 +2.1
baz=24,SNR=20
X20A Quemado 24.37 328 ⇓P P 00 31 05.4 +2.2
baz=24,SNR=16
S28A Manter 24.38 343 ⇑P P 00 31 03.6 +0.4
baz=24,SNR=5.7
W21A San Fidel 24.40 330 ⇓P P 00 31 04.7 +1.2
baz=24
U24A Moreno Valley 24.46 336 ⇓P P 00 31 04.5 +0.5
baz=24
R31A Burdett 24.47 348 ⇓P P 00 31 03.8 -0.1
baz=24
T26A Comanche Natio 24.52 340 ⇑P P 00 31 05.9 +1.3
baz=24,SNR=11
R30A Dighton 24.63 347 ⇓P P 00 31 05.6 +0.3
baz=24,SNR=8.4
V22A San Miguel Ran 24.72 333 ⇓P P 00 31 07.2 +0.8
baz=25
U23A El Rito 24.76 334 ⇑P P 00 31 07.6 +0.8
baz=25
S27A Las Animas 24.76 341 ⇓P P 00 31 07.2 +0.6
baz=25
T25A Trinidad 24.77 338 ⇑P P 00 31 08.9 +2.1
baz=25,SNR=13
KSU1 Kansas State U 24.82 354 eP P 00 31 06.2 -0.8
29nm,1.3s
W20A Ramah 24.83 329 ⇓P P 00 31 09.1 +1.7
baz=25,SNR=8.5
S26A Kim 24.89 340 ⇑P P 00 31 09.3 +1.5
baz=25,SNR=7.5
T24A Torres, Weston 24.95 337 ⇓P P 00 31 10.2 +1.7
baz=25
V21A Milan 24.96 331 ⇑P P 00 31 10.6 +2.0
baz=25
R29A Marienthal 24.96 345 ⇑P P 00 31 09.1 +0.7
baz=25,SNR=9.6
214A Organ Pipe Nat 25.04 318 ⇑P P 00 31 10.3 +1.2
baz=25
R28A Tribune 25.06 344 ⇓P P 00 31 09.6 +0.3
baz=25
U22A Liaves 25.08 333 ⇓P P 00 31 09.8 +0.1
baz=25
X18A Snowflake 25.12 326 ⇑P P 00 31 11.3 +1.3
baz=25
Q31A Ellis 25.14 349 ⇓P P 00 31 09.7 -0.3
baz=25
S25A Robets Cordova 25.25 339 ⇓P P 00 31 12.2 +1.1
baz=25
R27A Eads 25.29 342 ⇓P P 00 31 12.7 +1.3
baz=25,SNR=6.9
T23A Casias Ranch, 25.30 335 ⇓P P 00 31 13.2 +1.5
baz=25
V20A Brimhall 25.35 330 ⇑P P 00 31 13.4 +1.3
baz=25
Q29A Oakley 25.37 346 ⇑P P 00 31 12.3 +0.2
baz=25
W18A Petrified Fore 25.45 327 ⇑P P 00 31 14.6 +1.6
baz=26
U21A Nageezi 25.48 332 ⇓P P 00 31 15.3 +2.0
baz=26,SNR=5.5
R26A Arlington 25.50 341 ⇓P P 00 31 14.6 +1.2
baz=26,SNR=8.5
S24A Houchin Ranch, 25.51 338 ⇓P P 00 31 15.5 +1.9
baz=26,SNR=7.0
R25A Fountain Ranch 25.63 340 ⇑P P 00 31 15.9 +1.4
baz=26,SNR=9.0
P31A Stockton 25.64 349 ⇓P P 00 31 15.2 +0.7
baz=26
T22A Edith 25.64 334 ⇓P P 00 31 16.2 +1.4
baz=26
SDCO Great Sand Dun 25.71 337 eP P 00 31 16.9 +1.4
19nm,1.4s
Q28A Sharon Springs 25.74 344 ⇑P P 00 31 16.0 +0.5
baz=26
P30A Selden 25.83 347 ⇓P P 00 31 16.5 +0.3
baz=26
U20A Newcomb 25.84 331 ⇓P P 00 31 17.6 +1.1
baz=26
X16A Lo Mia Camp, P 25.87 324 ⇓P P 00 31 17.5 +0.6
baz=26
T21A Navajo Lake 25.89 333 ⇓P P 00 31 17.8 +0.7
baz=26
KSCO Kaye Shedlock' 25.91 343 ⇑P P 00 31 17.7 +0.6
baz=26
ATAH Atahualpa 25.94 144 LR LR 00 39 56.8
comp=Z,249nm,18.4s,baz=231,slow=33
R24A Sanders Place, 26.00 338 ⇑P P 00 31 18.4 +0.5
baz=26,SNR=6.5
P29A Atwood 26.04 346 ⇓P P 00 31 18.3 +0.2
baz=26
Z14A Wintersburg 26.04 320 ⇓P P 00 31 19.3 +1.1
baz=26
Q26A Hugo 26.09 342 ⇓P P 00 31 19.8 +1.0
baz=26,SNR=5.1
113A Mohawk Valley, 26.18 318 ⇓P P 00 31 20.6 +1.2
baz=26
P28A Saint Francis 26.20 345 ⇑P P 00 31 20.4 +0.7
baz=26
R23A Moffat 26.22 337 ⇑P P 00 31 21.4 +1.3
baz=26
S22A 4UR Ranch, Cre 26.23 335 ⇑P P 00 31 21.8 +1.6
baz=26,SNR=9.8
Q25A Bedland, Calha 26.32 340 ⇓P P 00 31 22.1 +1.3
baz=26
P27A Ficken Ranch, 26.41 344 ⇑P P 00 31 22.0 +0.5
baz=26
Y14A Wickenburg 26.46 321 ⇑P P 00 31 22.9 +0.9
baz=26
O29A 4D Ranch, Culb 26.50 347 ⇓P P 00 31 21.9 -0.5
baz=26
MVCO Mesa Verde 26.51 332 eP P 00 31 25.0 +2.4
13nm,1.1s
MVCO Mesa Verde 26.51 332 ⇑P P 00 31 24.4 +1.8
baz=26
S21A Coal Bank Pass 26.57 334 ⇑P P 00 31 23.7 +0.5
baz=27
R22A Saguache, Gunn 26.62 336 ⇑P P 00 31 24.6 +0.9
baz=27
P26A Davis Ranch, A 26.63 342 ⇓P P 00 31 24.2 +0.6
baz=27
WUAZ Wupatki 26.63 325 eP P 00 31 25.1 +1.5
8.6nm,1.0s
WUAZ Wupatki 26.63 325 ⇓P P 00 31 24.8 +1.1
baz=27
Q24A Divide 26.66 339 ⇑P P 00 31 25.0 +0.9
baz=27
P25A Willow Gulch B 26.83 341 ⇑P P 00 31 26.3 +0.9
baz=27
S20A Disappointment 26.95 333 ⇑P P 00 31 28.6 +1.9
baz=27
O27A Beecher Island 26.97 344 ⇓P P 00 31 27.2 +0.6
baz=27
R21A Cimarron 27.06 335 ⇓P P 00 31 28.8 +1.3
baz=27
Q22A Crested Butte, 27.23 336 ⇓P P 00 31 30.3 +1.1
baz=27
R20A Redvale 27.26 333 ⇓P P 00 31 31.6 +2.2
baz=27
P23A Jefferson 27.27 338 ⇑P P 00 31 31.6 +2.0
baz=27,SNR=11
Y12C Blythe 27.29 319 ⇑P P 00 31 30.8 +1.4
baz=27
PV01 Paradox Valley 27.30 333 eP P 00 31 31.6 +1.9
1um,1.2s
PDMCI Parker Dam,Lak 27.41 320 ⇓P P 00 31 31.5 +1.1
baz=28
Q21A Lamborn Mesa, 27.47 335 ⇑P P 00 31 31.7 +0.6
baz=28
SMCO Snowmass 27.52 336 eP P 00 31 32.9 +1.0
10nm,1.0s
N27A Anderson Farm, 27.57 345 ⇑P P 00 31 32.1 +0.2
baz=28
ISCO Idaho Springs 27.57 339 eP P 00 31 34.0 +1.8
6.6nm,1.3s
ISCO Idaho Springs 27.57 339 ⇑P P 00 31 32.6 +0.4
baz=28
OGNE Ogallala 27.57 345 ⇑P P 00 31 32.2 +0.3
baz=28
PV04 Paradox Valley 27.66 333 eP P 00 31 35.5 +2.6
W13A Hualapai Mount 27.78 322 ⇑P P 00 31 35.2 +1.2
baz=28
P22A Eagle 27.80 337 ⇓P P 00 31 34.9 +0.7
baz=28
U15A North Rim 27.81 326 ⇓P P 00 31 35.5 +1.2
baz=28
BC3 Big Chuckawall 27.83 317 ⇑P P 00 31 36.0 +1.7
baz=28,SNR=6.1
Q20A Ridgley Place, 27.86 334 ⇓P P 00 31 35.6 +1.0
baz=28
IRM Iron Mountain 27.95 319 ⇓P P 00 31 36.7 +1.3
baz=28
N25A Grover 28.00 342 ⇑P P 00 31 36.7 +0.9
baz=28
P21A Newcastle 28.01 336 ⇑P P 00 31 37.6 +1.6
baz=28
O22A Kremmling 28.22 338 ⇓P P 00 31 38.7 +0.7
baz=28
P20A De Beque 28.36 335 ⇓P P 00 31 40.6 +1.4
baz=28
PFO Pinyon Flat Ob 28.47 316 LR LR 00 45 13.8
comp=Z,254nm,18.4s,baz=313,slow=41
O21A Pagoda 28.61 337 ⇓P P 00 31 42.8 +1.4
baz=29
GMRC Granite Mounta 28.67 319 ⇑P P 00 31 43.8 +1.9
baz=29
N22A Wattenberg Ran 28.75 339 ⇑P P 00 31 43.8 +1.1
baz=29
O20A White River Ci 28.84 336 ⇑P P 00 31 44.8 +1.4
baz=29
N21A Black Mountain 29.10 337 ⇑P P 00 31 47.3 +1.5
baz=29
HEC Hector,Ludlow 29.13 318 ⇓P P 00 31 47.7 +1.8
baz=29
L25A Engebretsen Ra 29.21 344 ⇓P P 00 31 47.9 +1.3
baz=29
CCUT Cedar City 29.21 326 eP P 00 31 49.6 +2.9
6.9nm,1.2s
ECSD EROS Data Cent 29.41 355 eP P 00 31 47.8 -0.4
4.7nm,1.0s
N20A Spence Gulch, 29.45 336 ⇑P P 00 31 50.0 +1.2
baz=29
SHPR Sheep Range 29.50 322 eP P 00 31 50.9 +1.6
BFSC Mount Baldy Ra 29.65 316 ⇓P P 00 31 52.0 +1.5
baz=30
L23A Garrett 29.68 341 ⇓P P 00 31 52.1 +1.3
baz=30,SNR=5.9
M21A Separation Pea 29.79 338 ⇓P P 00 31 53.2 +1.4
baz=30,SNR=9.0
RWWY Rawlins 29.80 339 eP P 00 31 54.3 +2.4
69nm,2.0s
M20A Sweetwater, Wa 29.99 337 ⇓P P 00 31 54.7 +1.2
baz=30
J26A Sides Ranch, S 30.06 346 ⇑P P 00 31 55.2 +1.2
baz=30
L21A Rawlins 30.10 339 ⇑P P 00 31 55.8 +1.3
baz=30,SNR=7.3
K23A Bowen Ranch, D 30.24 342 ⇓P P 00 31 56.5 +0.8
baz=30
J25A Sunshine Ranch 30.31 345 ⇑P P 00 31 57.2 +0.9
baz=30
DAU Daniels Canyon 30.36 332 eP P 00 31 59.5 +2.6
K22A Casper 30.43 340 ⇓P P 00 31 58.8 +1.4
baz=30
L20A Wamsutter 30.49 337 ⇓P P 00 31 59.2 +1.2
baz=30
FURC Furnace Creek, 30.50 320 ⇓P P 00 32 00.1 +2.3
baz=31
OSI Osito Adit 30.58 316 ⇑P P 00 32 00.1 +1.4
baz=31
MPMC Manual Prospec 30.64 319 ⇓P P 00 32 00.9 +1.6

baz=31
K21A Alcova 30.65 339 ⇑P **P 00 32 00.7 +1.3**
baz=31
SPMN St. Paul 30.76 1 ⇓P **P 00 32 00.2 +0.1**
baz=31
I25A Rochford 30.89 345 ⇑P **P 00 32 02.5 +1.1**
baz=31
R11A Troy Canyon, C 31.01 325 ⇓P **P 00 32 04.1 +1.5**
baz=31
K20A Yellowstone Ra 31.06 338 ⇓P **P 00 32 03.6 +0.7**
baz=31
L18A Fontenelle, Gr 31.08 335 ⇑P **P 00 32 04.8 +1.6**
baz=31
J22A Midwest 31.10 341 ⇑P **P 00 32 04.6 +1.4**
baz=31
J21A Lysite 31.35 340 ⇓P **P 00 32 06.7 +1.1**
baz=31,SNR=6.7
K19A Absolon Red Bu 31.39 338 ⇓P **P 00 32 06.8 +0.9**
baz=31
H25A Fruitdale 31.42 346 ⇑P **P 00 32 07.1 +1.2**
baz=31
I22A 9 Mile Ranch, 31.53 342 ⇓P **P 00 32 08.3 +1.2**
baz=32
J20A Shoshoni 31.57 339 ⇓P **P 00 32 08.5 +1.1**
baz=32
BW06 Boulder Array 31.60 337 *eP* **P 00 32 08.4 +0.6**
PDAR Pinedale Array 31.60 337 P **P 00 32 08.2 +0.4**
PDAR PcP **PcP 00 35 01.9 +2.8**
PDAR Pinedale Array 31.60 337 P **P 00 32 08.2 +0.4**
1.0nm,0.8s,baz=141,slow=9.6,SNR=7.0
PDAR PcP **PcP 00 35 01.9 +2.8**
0.5nm,0.6s,baz=130,slow=2.8,SNR=3.4
PDAR LR LR 00 48 10.7
comp=Z,116nm,20.5s,baz=58,slow=42
I21A Big Trails, Te 31.72 340 ⇓P **P 00 32 09.8 +1.1**
baz=32
H24A Dirks Ranch, A 31.77 345 ⇓P **P 00 32 09.7 +0.5**
baz=32,SNR=7.3
J19A Crowheart 31.84 338 ⇓P **P 00 32 11.1 +1.3**
baz=32
I20A Worland 32.12 340 ⇓P **P 00 32 13.2 +1.1**
baz=32,SNR=5.9
H22A Clearmont 32.13 342 ⇑P **P 00 32 13.5 +1.2**
baz=32
H21A Big Horn, Sher 32.37 341 ⇑P **P 00 32 14.7 +0.4**
baz=32
G23A Biddle 32.42 344 ⇓P **P 00 32 15.2 +0.4**
baz=32,SNR=7.2
I19A Meeteetse 32.49 339 ⇓P **P 00 32 16.9 +1.4**
baz=32,SNR=6.4
I18A Diamond G Ranc 32.50 337 ⇑P **P 00 32 16.8 +1.1**
baz=32
H20A Greybull 32.55 340 ⇑P **P 00 32 16.8 +0.9**
baz=32
SADO Sadowa 32.58 19 LR LR 00 47 09.7
comp=Z,401nm,18.9s,baz=57,slow=39
REDW Red Top Meadow 32.61 336 *eP* **P 00 32 18.2 +1.6**
29nm,1.3s
NVAR Mina Array Bea 32.64 322 P **P 00 32 19.2 +2.2**
NVAR PcP **PcP 00 35 03.4 +1.3**
NVAR Mina Array Bea 32.64 322 P **P 00 32 19.2 +2.2**
4.3nm,0.8s,baz=138,slow=8.3,SNR=25
NVAR PcP **PcP 00 35 03.4 +1.3**
1.1nm,0.7s,baz=113,slow=3.4,SNR=5.0
SNOW Snow King Moun 32.66 336 *eP* **P 00 32 19.4 +2.4**
50nm,1.4s
G22A Birney 32.68 343 ⇓P **P 00 32 17.5 +0.5**
baz=33,SNR=6.5
LOHW Long Hollow 32.73 336 *eP* **P 00 32 18.9 +1.3**
23nm,1.6s
TPAW Teton Pass 32.76 336 *eP* **P 00 32 20.1 +2.1**
24nm,1.3s
RRI2 Red Ridge 32.79 335 *eP* **P 00 32 20.0 +1.8**
22nm,1.4s
MOOW Moose Ponds 32.90 336 *eP* **P 00 32 20.9 +1.8**
F23A Volborg 32.90 344 ⇓P **P 00 32 19.9 +0.9**
baz=33
E26A Carlson Angus 32.93 348 ⇓P **P 00 32 19.8 +0.6**
baz=33
G21A Lodge Grass 32.96 342 ⇓P **P 00 32 20.4 +0.9**
baz=33
I17A Pilgrim Ck. 32.98 337 ⇑P **P 00 32 21.7 +1.9**
baz=33
H19A Powell 33.04 339 ⇑P **P 00 32 21.5 +1.3**
baz=33,SNR=5.1
IMW Indian Meadow 33.10 336 *eP* **P 00 32 22.4 +1.5**
3.5nm,0.8s
IMW *e*PcP **PcP 00 35 04.5 +1.2**
E25A Miller Ranch, 33.15 347 ⇑P **P 00 32 21.8 +0.7**
baz=33
G20A Bridger 33.27 341 ⇓P **P 00 32 22.5 +0.2**
baz=33,SNR=6.2
H18A Shoshone NF, C 33.29 338 ⇑P **P 00 32 23.3 +0.8**
baz=33,SNR=17
I16A Newdale 33.30 336 ⇓P **P 00 32 23.6 +1.1**
baz=33
D27A Center 33.37 350 ⇓P **P 00 32 23.7 +0.7**
baz=33
E24A Baker 33.41 346 ⇑P **P 00 32 24.6 +1.2**
baz=33
RLMT Red Lodge 33.53 339 *eP* **P 00 32 25.4 +0.8**
3.0nm,0.9s
E22A Miles City 33.71 344 ⇓P **P 00 32 26.8 +0.8**
baz=34
D25A Fairfield 33.76 348 ⇑P **P 00 32 27.2 +0.9**
baz=34
G18A Lazy EL Ranch, 33.81 339 ⇓P **P 00 32 28.0 +1.1**
baz=34
H16A Russell Place, 33.90 337 ⇓P **P 00 32 29.0 +1.2**
baz=34
AGMN Agassiz Nation 33.90 357 *eP* **P 00 32 26.4 -1.2**
5.6nm,0.8s
D24A Glendive 33.94 346 ⇑P **P 00 32 28.8 +0.8**
baz=34
F19A Roth Farm, Mol 34.07 340 ⇑P **P 00 32 30.6 +1.5**
baz=34
QLMT Earthquake Lak 34.07 337 *eP* **P 00 32 31.0 +1.7**
E21A Keefer Ranch, 34.11 343 ⇑P **P 00 32 30.8 +1.3**
baz=34
I14A Mackay 34.16 334 ⇑P **P 00 32 31.8 +1.8**
baz=34
D23A Lindsay 34.20 345 ⇑P **P 00 32 31.2 +1.0**
baz=34
HLID Hailey 34.29 332 *eP* **P 00 32 33.3 +2.1**
5.8nm,1.2s
HLID Hailey 34.29 332 ⇓P **P 00 32 32.6 +1.5**
baz=34,SNR=6.7
F18A Big Timber 34.37 339 ⇑P **P 00 32 32.7 +0.9**
baz=34,SNR=6.1
E20A Meyer Farm, Mu 34.39 342 ⇑P **P 00 32 33.0 +1.1**
baz=34
D22A Cohagen 34.43 344 ⇑P **P 00 32 33.1 +0.9**
baz=34,SNR=7.1
E19A Rath Farm, Rou 34.56 341 ⇑P **P 00 32 34.1 +0.7**
baz=34,SNR=8.8
D21A La Casta Ranch 34.57 343 ⇓P **P 00 32 34.1 +0.7**
baz=34
MCMT McKenzie Canyo 34.63 335 *eP* **P 00 32 36.0 +1.8**
7.2nm,1.1s
F17A Fitzpatrick Pl 34.70 338 ⇑P **P 00 32 36.3 +1.6**
baz=35,SNR=14
C23A Lambert 34.79 346 ⇑P **P 00 32 36.3 +1.1**
baz=35
MFID Camas Ranch 34.83 331 ⇑P **P 00 32 36.9 +1.1**
baz=35
C22A Vida 34.90 345 ⇑P **P 00 32 37.1 +0.9**
baz=35
D20A Manuel Ranch, 34.92 342 ⇑P **P 00 32 37.6 +1.2**
baz=35
DLMT Dillon 34.97 336 *eP* **P 00 32 38.6 +1.6**
11nm,1.0s
E18A Harlowton 35.02 340 ⇑P **P 00 32 38.6 +1.2**
baz=35,SNR=7.0
A26A Wade Farm, Ken 35.19 350 ⇑P **P 00 32 39.3 +0.6**
baz=35
D19A Cripps Ranch, 35.21 341 ⇑P **P 00 32 39.8 +0.8**
baz=35,SNR=7.4
E17A Martinsdale 35.25 339 ⇓P **P 00 32 40.6 +1.1**
baz=35
C21A Desert Coulee 35.29 344 ⇑P **P 00 32 40.8 +1.1**
baz=35
LRM Limekiln Ridge 35.30 337 *eP* **P 00 32 41.5 +1.6**
83nm,1.2s
A25A Svangstu Ranch 35.42 349 ⇑P **P 00 32 41.5 +0.8**
baz=35
C20A Veseth Ranch, 35.45 343 ⇓P **P 00 32 42.2 +1.3**
baz=35
D18A Linhart Farms, 35.53 340 ⇓P **P 00 32 43.1 +1.3**
baz=36
A24A Westby 35.58 348 ⇓P **P 00 32 42.8 +0.7**
baz=36
C19A Slack Wire Ran 35.77 342 ⇑P **P 00 32 44.7 +0.9**
baz=36
D17A Six Diamond Ra 35.79 340 ⇑P **P 00 32 45.0 +1.0**
baz=36,SNR=6.5
ULM Lac du Bonnet 35.85 357 P **P 00 32 43.9 -0.4**
ULM Lac du Bonnet 35.85 357 P **P 00 32 43.9 -0.4**
1.7nm,0.5s,baz=169,slow=9.4,SNR=3.2
ULM LR LR 00 49 26.2
comp=Z,174nm,20.9s,baz=279,slow=40
C17A Wharram Farm, 36.23 340 ⇑P **P 00 32 48.7 +0.9**
baz=36,SNR=5.4
EGMT Eagleton 36.25 341 ⇑P **P 00 32 48.8 +0.9**
baz=36
A21A Bergtoll Ranch 36.32 345 ⇑P **P 00 32 49.0 +0.6**
baz=36
A20A Cobblestone Ra 36.48 344 ⇓P **P 00 32 50.4 +0.6**
baz=36
CHMT Chamberlain Mo 36.51 337 *eP* **P 00 32 51.2 +1.0**
1.5nm,0.7s
B18A Beardsley Farm 36.58 341 ⇑P **P 00 32 51.6 +0.9**
baz=36
BMO Blue Mountains 36.61 331 *eP* **P 00 32 51.7 +0.7**
1.3nm,0.5s
MSO Missoula 36.71 336 ⇓P **P 00 32 52.7 +0.9**
baz=37,SNR=5.3
C16A Fuhringer Ranc 36.71 339 ⇓P **P 00 32 52.5 +0.7**
baz=37
A19A Klindworth Far 36.76 343 ⇓P **P 00 32 53.1 +1.0**
baz=37
C15A Salmond Ranch, 36.99 338 ⇑P **P 00 32 54.9 +0.6**
baz=37
A18A Metzger Ranch, 37.07 342 ⇓P **P 00 32 55.6 +0.8**
baz=37
B16A M & M Farms, S 37.23 340 ⇑P **P 00 32 56.9 +0.8**
baz=37
YBH Yreka Blue Hor 37.35 323 P **P 00 32 56.6 -0.7**
YBH Yreka Blue Hor 37.35 323 P **P 00 32 56.6 -0.7**
1.1nm,0.7s,baz=145,slow=3.5,SNR=4.6
YBH LR LR 00 50 23.6
comp=Z,164nm,22.0s,baz=148,slow=39
A17A Triple J Farms 37.36 341 ⇑P **P 00 32 57.9 +0.6**
baz=37
B15A Bradely Ranch, 37.44 339 ⇓P **P 00 32 58.7 +0.8**
baz=37
A15A Johnson Ranch, 38.06 339 ⇓P **P 00 33 04.6 +1.4**
baz=38
A14A Double T Ranch 38.30 338 ⇑P **P 00 33 06.6 +1.4**
baz=38
NEW Newport 39.15 335 LR LR 00 52 23.0
comp=Z,349nm,18.2s,baz=154,slow=41
NEW Newport 39.15 335 ⇓P **P 00 33 13.5 +1.2**
baz=39
LPAZ La Paz 39.28 140 P **P 00 33 16.9 +2.6**
LPAZ La Paz 39.28 140 LR LR 00 47 52.9
comp=Z,147nm,21.3s,baz=208,slow=34
LON Longmire 40.16 329 *eP* **P 00 33 19.9 -0.9**
3.0nm,0.8s
EDM Edmonton 41.91 342 *eP* **P 00 33 35.5 +0.5**
SCHQ Schefferville 45.30 21 P **P 00 34 01.7 -0.5**
SCHQ PcP **PcP 00 35 43.0 +1.9**
SCHQ Schefferville 45.30 21 P **P 00 34 01.7 -0.5**
2.3nm,0.9s,baz=214,slow=11,SNR=2.3
SCHQ PcP **PcP 00 35 43.0 +1.9**
1.4nm,0.6s,baz=288,slow=5.3,SNR=4.7
SCHQ LR LR 00 55 17.8
comp=Z,542nm,18.3s,baz=289,slow=39
YKA Yellowknife Ar 50.40 347 P **P 00 34 42.0 +0.5**
YKA Yellowknife Ar 50.40 347 P **P 00 34 42.0 +0.5**
9.5nm,0.7s,baz=151,slow=7.6,SNR=11
DLBC Dease Lake 51.84 336 P **P 00 34 53.5 +1.1**
DLBC Dease Lake 51.84 336 P **P 00 34 53.5 +1.1**
3.4nm,0.9s,baz=105,slow=8.5,SNR=6.3
CPUP Villa Florida 53.44 139 LR LR 00 56 12.4
comp=Z,81nm,19.6s,baz=99,slow=34
BDFB Brasilia 53.73 122 LR LR 00 59 10.2
comp=Z,105nm,18.2s,baz=210,slow=37
RKT Rikitea 55.29 228 *e*LR LR 00 51 30.2
284nm,29.0s
RKT Rikitea 55.29 228 *e*T T 01 34 45.0
2.0nm,0.3s
INK Inuvik 59.75 344 P **P 00 35 49.2 +0.4**
INK Inuvik 59.75 344 P **P 00 35 49.2 +0.4**
6.1nm,0.7s,baz=130,slow=9.2,SNR=7.8
RCBR Riachuelo 60.29 105 P **P 00 35 54.9 +1.4**
PMOR Pomariorio Ree 61.43 244 *e*T T 01 42 22.2
1.5nm,0.3s
ILAR Eielson Array 62.04 337 LR LR 01 05 33.6
comp=Z,118nm,19.0s,baz=150,slow=38
PPT Papeete 64.00 242 LR LR 00 58 55.6
comp=Z,171nm,18.9s,baz=152,slow=31
PPT2 Papeete2 64.01 242 *e*LR LR 00 55 07.5
152nm,27.5s
TBI Tubuai 66.55 236 *e*LR LR 00 56 29.3
151nm,30.2s
ESDC Sonseca Array 80.42 52 P **P 00 37 54.0 -2.1**
ESDC Sonseca Array 80.42 52 P **P 00 37 54.0 -2.1**
1.3nm,0.7s,baz=286,slow=5.4,SNR=8.5
NOA NORSAR Array B 84.39 28 P **P 00 38 16.3 0.0**
NOA NORSAR Array B 84.39 28 P **P 00 38 16.3 0.0**
1.1nm,0.7s,baz=292,slow=4.9,SNR=4.4
NOA LR LR 01 14 12.3
comp=Z,113nm,21.5s,baz=285,slow=34
HFS Hagfors 85.86 29 LR LR 01 14 55.0
comp=Z,120nm,20.5s,baz=229,slow=34
ARCES ARCESS Array B 86.16 18 P **P 00 38 24.7 -0.3**
ARCES ARCESS Array B 86.16 18 P **P 00 38 24.7 -0.3**
1.5nm,0.7s,baz=316,slow=3.3,SNR=7.0
ARCES LR LR 01 17 13.7
comp=Z,145nm,19.0s,baz=258,slow=36
DBIC Dimbokro 86.80 84 LR LR 01 11 30.0
comp=Z,75nm,19.2s,baz=287,slow=32
GERES GERESS Array B 90.08 39 P **P 00 38 42.9 -1.2**
GERES GERESS Array B 90.08 39 P **P 00 38 42.9 -1.2**
0.5nm,0.7s,baz=320,slow=5.2,SNR=4.5
GERES LR LR 01 20 04.5
comp=Z,93nm,18.9s,baz=94,slow=36
FINES FINESS Array B 90.67 25 P **P 00 38 46.4 -0.1**
FINES FINESS Array B 90.67 25 P **P 00 38 46.4 -0.1**
0.9nm,0.8s,baz=305,slow=6.7,SNR=3.5
FINES LR LR 01 21 28.2
comp=Z,110nm,18.2s,baz=211,slow=37
TORD Torodi Ar. Bea 91.45 76 P **P 00 38 49.7 -1.4**
TORD Torodi Ar. Bea 91.45 76 P **P 00 38 49.7 -1.4**
0.5nm,0.8s,baz=293,slow=4.7,SNR=4.7
VRAC Vranov 91.64 38 LR LR 01 22 01.5
comp=Z,131nm,18.4s,baz=356,slow=37
SONM Songino Array 115.65 345 PKP **PKPdf 00 44 25.2 -1.2**
SONM Songino Array 115.65 345 PKP **PKPdf 00 44 25.2 -1.2**
0.3nm,0.4s,baz=79,slow=3.1,SNR=3.5
MKAR Makanchi Array 118.99 4 PKP **PKPdf 00 44 31.8 -0.9**
MKAR Makanchi Array 118.99 4 PKP **PKPdf 00 44 31.8 -0.9**
0.4nm,0.7s,baz=343,slow=3.8,SNR=3.7
WRA Warramunga Arr 134.33 256 PKPpre PKPpre 00 44 60.0
WRA PKP **PKPdf 00 45 03.0 +0.4**
WRA Warramunga Arr 134.33 256 PKhKP PKPpre 00 44 60.0
0.7nm,0.7s,baz=85,slow=2.4,SNR=6.1
WRA PKP **PKPdf 00 45 03.0 +0.4**
0.7nm,0.7s,baz=82,slow=2.1,SNR=7.0
ASAR Alice Springs 134.66 251 PKP **PKPdf 00 45 03.5 +0.3**
ASAR Alice Springs 134.66 251 PKP **PKPdf 00 45 03.5 +0.3**
0.2nm,0.3s,baz=98,slow=1.9,SNR=3.8
CMAR Chiang Mai Arr 145.25 339 PKPbc **PKPbc 00 45 22.6 +0.5**
CMAR Chiang Mai Arr 145.25 339 PKPbc **PKPbc 00 45 22.6 +0.5**
4.4nm,0.6s,baz=343,slow=3.9,SNR=24

IDC 12 00:53:00.5±2.9, 5°.44S×147°.79E, h172km±38km, mb3.1/4, mb1 3.2/6, mb1mx3.1/19, mbtmp3.1/6, Error ellipse: s-maj=75.9km s-min=25.4km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**189**	P	Pn	00 54 02.0	+0.7
	2.1nm,0.3s,baz=3.5,slow=19,SNR=4.3						
PMG				S	Sn	00 54 49.0	+0.2
	13nm,0.3s,baz=18,slow=20,SNR=15						
WRA	**Warramunga Arr**	**19.47**	**221**	P	P	00 57 14.0	-0.3
	0.5nm,0.3s,baz=47,slow=12,SNR=39						
ASAR	**Alice Springs**	**22.52**	**215**	P	P	00 57 46.7	+0.6
	1.2nm,0.6s,baz=48,slow=8.5,SNR=14						
FITZ	**Fitzroy Crossi**	**25.03**	**238**	P	P	00 58 08.6	-0.3
	0.9nm,0.5s,baz=47,slow=9.8,SNR=7.3						
SONM	**Songino Array**	**64.31**	**330**	P	P	01 03 17.2	-0.5
	0.2nm,0.5s,baz=151,slow=3.3,SNR=2.5						
MKAR	**Makanchi Array**	**77.57**	**320**	P	P	01 04 37.9	+0.4
	0.3nm,0.9s,baz=119,slow=6.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.71**	**285**	PKPbc	PKPdf	01 12 19.2	-0.3
	0.2nm,0.6s,baz=56,slow=4.6,SNR=3.9						

IDC 12 01:06:19.9±12.0, 2°.28N×128°.13E, h164km±114km, mb3.2/5, mb1 3.3/5, mb1mx3.1/22, mbtmp3.2/5, Error ellipse: s-maj=108.8km s-min=23.1km az=62.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.41**	**187**	P	P	01 10 44.0	-0.3
	1.1nm,0.8s,baz=9.2,slow=9.7,SNR=6.4						
WRA	**Warramunga Arr**	**22.91**	**165**	P	P	01 11 10.2	+0.4
	0.3nm,0.3s,baz=346,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.40**	**168**	P	P	01 11 41.0	-0.4
	0.2nm,0.3s,baz=355,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**36.30**	**160**	P	P	01 13 07.8	0.0
	1.2nm,0.3s,baz=333,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**59.53**	**325**	P	P	01 16 06.1	0.0
	0.9nm,0.5s,baz=118,slow=7.7,SNR=19						
TORD	**Torodi Ar. Bea**	**124.69**	**288**	PKP	PKPdf	01 25 00.7	-0.5
	0.3nm,1.0s,baz=95,slow=2.1,SNR=4.0						

*CSEM **12** 01:10:11.8, 33°.97N×25°.34E, h5km, MD3.4, After ATH*
*ATH **12** 01:10:11.8, 33°.97N×25°.34E, h5km±4km, MD3.4/7*
*ISCJB **12** 01:10:12.9±0.8, 33°.95N±0°.06×25°.53E±0°.08, h17km, mb3.5/3, Error ellipse: s-maj=12.1km s-min=5.6km az=137.0*
*IDC **12** 01:10:13.0±1.4, 33°.95N×25°.51E, h0km, mb3.6/3, mb1 3.5/8, mb1mx3.4/29, mbtmp3.4/8, ML3.3/5, Error ellipse: s-maj=33.3km s-min=23.9km az=161.0*

ISC 12 01:10:14.6±1.0, 34°.09N±0°.07×25°.53E±0°.05, h17km, n24, σ0°.95/28, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.07**	**358**	*e*PG	**Pn**	**01 10 34.4**	**-0.4**
LAST	**Lasithi**	**1.07**	**358**	*e*Pg	**Pn**	**01 10 34.4**	**-0.4**
SIVA	**Sivas**	**1.09**	**328**	*e*PB	**Pn**	**01 10 33.9**	**-1.2**
SIVA				*e*SB	**Sg**	**01 10 50.1**	**0.0**
SIVA	**Sivas**	**1.09**	**328**	*e*Pb	**Pn**	**01 10 33.9**	**-1.2**
SIVA				*e*Sb	**Sg**	**01 10 50.1**	**0.0**
ZKR	**Zakros**	**1.17**	**29**	*e*PB	**Pg**	**01 10 37.5**	**+0.3**
ZKR	**Zakros**	**1.17**	**29**	*e*Pb	**Pg**	**01 10 37.5**	**+0.3**
NPS	**Neapolis**	**1.17**	**4**	*e*PB	**Pb**	**01 10 36.4**	**+0.1**
NPS	**Neapolis**	**1.17**	**4**	*e*Pb	**Pb**	**01 10 36.4**	**+0.1**
IDI	**Anoyia**	**1.30**	**336**	*e*PB	**Pn**	**01 10 37.7**	**-0.4**
IDI				*e*SB	**Sg**	**01 10 56.7**	**0.0**
IDI	**Anoyia**	**1.30**	**336**	*e*Pb	**Pn**	**01 10 37.7**	**-0.4**
IDI				*e*Sb	**Sg**	**01 10 56.7**	**0.0**
VAM	**Vamos**	**1.71**	**321**	*e*PG	**Pb**	**01 10 44.0**	**-1.5**
VAM	**Vamos**	**1.71**	**321**	*e*Pg	**Pb**	**01 10 44.0**	**-1.5**
KARP	**Karpathos**	**1.98**	**42**	*e*PG	**Pg**	**01 10 52.3**	**-0.3**
KARP	**Karpathos**	**1.98**	**42**	*e*Pg	**Pg**	**01 10 52.3**	**-0.3**
ARG	**Arkhangelos**	**3.00**	**44**	*e*PN	**Pb**	**01 11 06.1**	**-1.5**
ARG	**Arkhangelos**	**3.00**	**44**	*e*Pn	**Pb**	**01 11 06.1**	**-1.5**
MMAI	**Mount Meron Ar**	**8.32**	**95**	Pn	**Pn**	**01 12 14.0**	**-0.4**
	1.1nm,0.3s,baz=261,slow=11,SNR=6.0						
MMAI				Sn	**Sn**	**01 13 46.4**	**-1.6**
	1.0nm,0.3s,baz=267,slow=26,SNR=4.0						
BRTR	**Keskin Array B**	**8.59**	**47**	Pn	Pn	01 12 21.6	+3.4
	0.1nm,0.3s,baz=220,slow=14,SNR=4.4						
EIL	**Elat**	**9.15**	**116**	Pn	**Pn**	**01 12 26.2**	**+0.4**
	0.3nm,0.3s,baz=299,slow=16,SNR=4.3						
ASF	**Jabal al Asfar**	**9.73**	**98**	Pn	**Pn**	**01 12 34.7**	**+0.9**
	0.1nm,0.3s,baz=201,slow=11,SNR=1.4						
GERES	**GERESS Array B**	**17.16**	**333**	P	**P**	**01 14 16.3**	**+1.1**
	0.1nm,0.3s,baz=148,slow=13,SNR=7.8						
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**01 16 23.1**	**+0.2**
	0.3nm,0.7s,baz=26,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**44.12**	**56**	P	**P**	**01 18 23.8**	**+1.8**
	0.7nm,0.5s,baz=270,slow=7.4,SNR=10						
ZALV	**Zalesovo Beam**	**45.53**	**45**	P	**P**	**01 18 34.1**	**+1.0**
	0.4nm,0.4s,baz=268,slow=6.6,SNR=2.6						

IDC 12 01:36:41.2±0.8, 4°.03N×127°.00E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/24, mbtmp3.9/9, MS3.1/1, Ms1 3.1/1, ms1mx2.6/30, 1D, Error ellipse: s-maj=64.8km s-min=15.9km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.19**	**319**	⇓*iP*	Pn	01 37 50.0	+3.5
KAPI	**Kappang**	**11.54**	**219**	LR	LR	01 44 12.9	
	comp=Z,91nm,18.2s,baz=46,slow=39						
FITZ	**Fitzroy Crossi**	**22.03**	**183**	P	P	01 41 37.1	-0.4
	0.6nm,0.4s,baz=0.0,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	01 42 04.5	-1.4
	3.9nm,0.7s,baz=342,slow=11,SNR=21						
ASAR	**Alice Springs**	**28.34**	**167**	P	P	01 42 38.7	+1.7
	0.3nm,0.4s,baz=346,slow=9.7,SNR=5.6						
ASAR				PcP	PcP	01 45 49.2	-1.0
	0.2nm,0.3s,baz=352,slow=2.5,SNR=4.5						
STKA	**Stephens Creek**	**38.31**	**160**	P	P	01 44 03.5	-0.3
	3.3nm,0.7s,baz=326,slow=9.0,SNR=9.3						
STKA				PcP	PcP	01 46 17.9	0.0
	1.5nm,0.5s,baz=354,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**47.10**	**341**	P	P	01 45 15.4	+0.2
	0.7nm,0.7s,baz=155,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	01 46 31.1	-1.0
	0.9nm,0.5s,baz=120,slow=8.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	P	01 46 51.3	-1.3
	1.0nm,0.5s,baz=113,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**84.72**	**25**	P	P	01 49 16.6	-0.3
	0.5nm,0.9s,baz=248,slow=4.8,SNR=5.6						
ARCES	**ARCESS Array B**	**90.26**	**340**	P	P	01 49 45.3	+1.7
	0.8nm,0.6s,baz=67,slow=9.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**123.08**	**288**	PKP	PKPdf	01 55 42.0	+1.2
	0.5nm,0.9s,baz=104,slow=2.1,SNR=2.5						

IDC 12 01:47:51.5±2.0, 13°.51N×92°.24E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/28, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=64.2km s-min=26.2km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.10**	**52**	Pn	Pn	01 49 50.8	+0.2
	0.5nm,0.3s,baz=238,slow=15,SNR=4.5						
MKAR	**Makanchi Array**	**34.21**	**348**	P	P	01 54 38.3	-0.5
	0.2nm,0.4s,baz=160,slow=7.8,SNR=5.4						
FITZ	**Fitzroy Crossi**	**45.52**	**133**	P	P	01 56 13.1	0.0
	1.5nm,0.9s,baz=321,slow=6.5,SNR=6.6						
WRA	**Warramunga Arr**	**53.11**	**128**	P	P	01 57 11.0	-0.3
	0.2nm,0.4s,baz=307,slow=9.6,SNR=5.1						
ASAR	**Alice Springs**	**55.00**	**132**	P	P	01 57 25.3	+0.3
	0.3nm,0.4s,baz=308,slow=7.1,SNR=6.1						

*IDC **12** 01:52:20.5±8.2, 0°.89N×122°.45E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=142.2km s-min=114.1km az=105.0*
*ISCJB **12** 01:52:45.3±1.0, 0°.1S±0°.1×123°.0E±0°.1, h157km, mb3.4/3, Error ellipse: s-maj=19.5km s-min=15.6km az=150.6*
*DJA **12** 01:52:48.3±3.4, 0°.S±12°.×12°.3E±1°.7, h126km±33km, M3.8/5, MLv3.8/5*

ISC 12 01:52:46.0±1.3, 0°.04S±0°.10×122°.9E±0°.1, h157km, n9, σ0°.78/9, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.68**	**11**	P	**Pn**	**01 53 10.0**	**+0.8**
LUWI	**Luwuk**	**1.00**	**186**	P	**Pn**	**01 53 11.1**	**-0.4**
MRSI	**Marisa**	**1.07**	**299**	P	**Pn**	**01 53 11.4**	**-0.7**
SKSI	**Soroako, Sulaw**	**2.92**	**212**	P	**Pn**	**01 53 32.8**	**+0.1**
TTSI	**Tana Toraja**	**4.28**	**226**	P	**Pn**	**01 53 50.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.15**	**172**	P	**P**	**01 56 46.7**	**+0.2**
	0.8nm,0.3s,baz=4.5,slow=11,SNR=25						
WRA	**Warramunga Arr**	**22.74**	**151**	P	**P**	**01 57 33.7**	**-1.2**
	0.7nm,0.6s,baz=326,slow=11,SNR=18						
ASAR	**Alice Springs**	**25.81**	**156**	P	**P**	**01 58 03.2**	**+0.4**
	0.3nm,0.5s,baz=341,slow=15,SNR=5.3						
STKA	**Stephens Creek**	**36.28**	**153**	P	**P**	**01 59 34.2**	**-0.2**
	1.1nm,0.6s,baz=323,slow=5.1,SNR=3.2						

*ISCJB **12** 02:19:57.1±1.0, 46°.3N±0°.2×153°.0E±0°.1, h40km, mb3.8/13,*

Error ellipse: s-maj=24.9km s-min=7.3km az=150.7
*MOS **12** 02:19:57.7±0.8, 46°.39N×152°.88E, h43km, mb4.2/6, Error ellipse: s-maj=17.7km s-min=14.1km az=58.2*
*IDC **12** 02:19:60.0±3.1, 46°.33N×153°.02E, h48km±27km, mb3.4/10, mb1 3.7/13, mb1mx3.5/27, mbtmp3.5/13, ML3.3/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/31, Error ellipse: s-maj=40.8km s-min=19.5km az=160.0*

ISC 12 02:19:58.9±1.1, 46°.3N±0°.2×153°.0E±0°.1, h40km, n22, σ0§69/22, mb3.8/13, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.77**	**256**	⇓*i*PN	**Pn**	**02 20 54.8**	**+0.4**
KUR				*i* S	**Sn**	**02 21 37.8**	**+0.4**
KUR	comp=Z,90nm,0.5s			pmax	pmax		
KUR	comp=E,19nm,0.1s			pmax	pmax		
KUR	comp=N,27nm,0.1s			pmax	pmax		
KUR	comp=E,62nm,0.6s			smax	smax		
KUR	comp=N,51nm,0.3s			smax	smax		
PETK	**Petropavlovsk-**	**7.47**	**22**	*e*PN	**Pn**	**02 21 45.9**	**+0.7**
PETK	**Petropavlovsk-**	**7.47**	**22**	P	**Pn**	**02 21 46.0**	**+0.7**
	comp=N,0.4nm,0.3s,baz=164,slow=14,SNR=8.4						
ASAJ	**Asahikawa**	**7.68**	**257**	P	**Pn**	**02 21 49.0**	**+0.8**
	comp=N,0.8nm,0.3s,baz=101,slow=10,SNR=3.0						
ASAJ				LR	LR	02 24 40.0	
	comp=N,79nm,19.3s,baz=165,slow=36						
ERM	**Erimo**	**8.28**	**243**	*e*PN	**Pn**	**02 21 56.1**	**-0.3**
FX1	**Attu Island--F**	**14.61**	**56**	LR	LR	02 27 43.6	
	comp=N,29nm,21.1s,baz=312,slow=32						
USRK	**Ussuriysk Arra**	**14.96**	**270**	P	**Pn**	**02 23 27.4**	**0.0**
	comp=N,0.4nm,0.3s,baz=66,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**36.95**	**38**	P	**P**	**02 27 03.9**	**+0.2**
	comp=N,0.1nm,0.5s,baz=256,slow=7.3,SNR=2.5						
HVS	**Khovu-Aksy**	**38.53**	**300**	⇑*i*P	**P**	**02 27 15.7**	**-1.6**
HVS	comp=Z,12nm,1.2s			pmax	pmax		
MKAR	**Makanchi Array**	**47.11**	**298**	P	**P**	**02 28 26.0**	**-0.7**
MKAR	**Makanchi Array**	**47.11**	**298**	P	**P**	**02 28 26.0**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=62,slow=7.3,SNR=7.9						
BRVK	**Borovoye**	**51.16**	**310**	*e*P	**P**	**02 28 57.2**	**-0.3**
BRVK	comp=Z,1.0nm,0.8s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**52.21**	**257**	P	**P**	**02 29 07.1**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=36,slow=7.8,SNR=3.7						
AAK	**Ala-Archa**	**53.99**	**297**	*e*P	**P**	**02 29 18.4**	**-0.5**
AAK	comp=Z,3.0nm,0.8s			pmax	pmax		
ARCES	**ARCESS Array B**	**58.28**	**341**	P	**P**	**02 29 49.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=24,slow=6.9,SNR=4.2						
NVAR	**Mina Array Bea**	**62.70**	**62**	P	**P**	**02 30 19.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=302,slow=7.3,SNR=2.2						
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**02 30 30.3**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=42,slow=6.2,SNR=4.6						
NB2	**NORSAR Subarra**	**68.65**	**341**	P	**P**	**02 30 57.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.65**	**341**	P	**P**	**02 30 58.0**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=28,slow=6.4,SNR=5.7						
TXAR	**Lajitas Array**	**77.77**	**60**	P	**P**	**02 31 51.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=316,slow=6.5,SNR=5.8						
BRTR	**Keskin Array B**	**78.69**	**317**	P	**P**	**02 31 56.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=38,slow=7.3,SNR=3.8						
GERES	**GERESS Array B**	**78.85**	**334**	P	**P**	**02 31 57.5**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.9,SNR=3.4						

*ISCJB **12** 02:20:41.0±0.4, 38°.53N±0°.02×21°.48E±0°.02, h8km±3km, mb3.1/3, MS3.3/1, Error ellipse: s-maj=2.9km s-min=2.4km az=139.1*
*IDC **12** 02:20:40.2±1.6, 38°.56N×21°.42E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/27, mbtmp3.2/4, ML2.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.3/17, Error ellipse: s-maj=44.0km s-min=28.0km az=136.0*
*THE **12** 02:20:41.6, 38°.52N×21°.53E, h0km, ML3.1/14, Error ellipse: s-maj=0.9km s-min=0.3km az=243.0*
*CSEM **12** 02:20:41.5±0.1, 38°.51N×21°.53E, h2km, ML3.1/14, Error ellipse: s-maj=2.8km s-min=2.1km az=60.0*
*ATH **12** 02:20:41.2, 38°.53N×21°.52E, h21km±1km, MD3.3/28, ML3.1*

ISC 12 02:20:41.5±0.9, 38°.54N±0°.01×21°.51E±0°.01, h11km±7km, n146, σ1§11/205, mb3.1/3, 4C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.33**	**109**	P	**Pg**	**02 20 47.7**	**-0.5**
EFP				S	**Sg**	**02 20 52.4**	**-0.2**
EFP	**Efpalio**	**0.33**	**109**	*e*PB	**Pg**	**02 20 47.7**	**-0.5**
EFP	**Efpalio**	**0.33**	**109**	P	**Pg**	**02 20 47.7**	**-0.5**
EFP				S	**Sg**	**02 20 52.4**	**-0.2**
AXS	**Araxos**	**0.36**	**197**	P	**Pg**	**02 20 48.3**	**-0.3**
AXS				S	**Sg**	**02 20 53.6**	**+0.3**
AXS	**Araxos**	**0.36**	**197**	P	**Pg**	**02 20 48.3**	**-0.3**
AXS				S	**Sg**	**02 20 53.6**	**+0.3**
PSA1	**Psathopyrgos**	**0.36**	**125**	*e*PB	**Pg**	**02 20 48.2**	**-0.5**
EVR	**Evrytania**	**0.45**	**32**	P	**Pg**	**02 20 50.1**	**-0.2**
EVR				S	**Sb**	**02 20 57.6**	**-0.7**
EVR	**Evrytania**	**0.45**	**32**	*e*PB	**Pg**	**02 20 50.2**	**-0.1**
EVR				*e*SB	**Sb**	**02 20 57.6**	**-0.7**
EVR	**Evrytania**	**0.45**	**32**	*e*Pb	**Pg**	**02 20 50.2**	**-0.1**
EVR				S	**Sb**	**02 20 57.6**	**-0.7**
LAKA	**Lakka**	**0.48**	**129**	P	**Pg**	**02 20 50.5**	**-0.3**
LAKA				S	**Sg**	**02 20 57.8**	**+0.7**
LAKA	**Lakka**	**0.48**	**129**	*e*PB	**Pg**	**02 20 50.1**	**-0.7**
LAKA				*e*SB	**Sb**	**02 20 58.0**	**-1.0**
LAKA	**Lakka**	**0.48**	**129**	*e*Pb	**Pg**	**02 20 50.1**	**-0.7**
LAKA	**Lakka**	**0.48**	**129**	P	**Pg**	**02 20 50.5**	**-0.3**
LAKA				S	**Sg**	**02 20 57.8**	**+0.7**
TRIZ	**Trizonia**	**0.48**	**111**	P	**Pg**	**02 20 50.2**	**-0.6**
TRIZ	**Trizonia**	**0.48**	**111**	*e*PB	**Pg**	**02 20 50.1**	**-0.7**
TRIZ				*e*SB	**Sb**	**02 20 58.1**	**-0.9**
TRIZ	**Trizonia**	**0.48**	**111**	*e*Pb	**Pg**	**02 20 50.1**	**-0.7**
TRIZ				*e*Sb	**Sb**	**02 20 58.1**	**-0.9**
RLS	**Riolos of Patr**	**0.48**	**184**	P	**Pg**	**02 20 50.5**	**-0.4**
RLS	**Riolos of Patr**	**0.48**	**184**	*e*PB	**Pg**	**02 20 50.9**	**0.0**
RLS				*e*SB	**Sb**	**02 20 58.7**	**-0.4**
RLS	**Riolos of Patr**	**0.48**	**184**	P	**Pg**	**02 20 50.5**	**-0.4**
RLS	**Riolos of Patr**	**0.48**	**184**	*e*Pb	**Pg**	**02 20 50.9**	**0.0**
RLS				*e*Sb	**Sb**	**02 20 58.7**	**-0.4**
KALE	**Kalithea**	**0.52**	**106**	P	**Pg**	**02 20 50.8**	**-0.8**
KALE				S	**Sg**	**02 20 58.5**	**0.0**
KALE	**Kalithea**	**0.52**	**106**	*e*PN	**Pg**	**02 20 50.8**	**-0.8**
KALE	**Kalithea**	**0.52**	**106**	P	**Pg**	**02 20 50.8**	**-0.8**
KALE				S	**Sg**	**02 20 58.5**	**0.0**
MAKR	**Makrakomi, Fth**	**0.68**	**46**	P	**Pg**	**02 20 54.7**	**0.0**
MAKR	**Makrakomi, Fth**	**0.68**	**46**	P	**Pg**	**02 20 54.7**	**0.0**
KLV	**Kalavryta, Ach**	**0.71**	**134**	P	**Pg**	**02 20 54.2**	**-1.0**
KLV				S	**Sg**	**02 21 04.8**	**+0.3**
KLV	**Kalavryta, Ach**	**0.71**	**134**	*e*PN	**Pg**	**02 20 54.5**	**-0.7**
KLV				*e*SN	**Sb**	**02 21 05.3**	**-0.4**
KLV	**Kalavryta, Ach**	**0.71**	**134**	P	**Pg**	**02 20 54.2**	**-1.0**
KLV	**Kalavryta, Ach**	**0.71**	**134**	*e*Pn	**Pg**	**02 20 54.5**	**-0.7**
KLV				S	**Sg**	**02 21 04.8**	**+0.3**
KLV				*e*Sn	**Sb**	**02 21 05.3**	**-0.4**
LKD2	**Lefkada island**	**0.71**	**291**	P	**Pb**	**02 20 55.2**	**-0.7**
LKD2				S	**Sb**	**02 21 06.4**	**+0.7**
LKD2	**Lefkada island**	**0.71**	**291**	*e*PN	**Pb**	**02 20 55.4**	**-0.5**
LKD2				*e*SN	**Sb**	**02 21 05.7**	**0.0**
LKD2	**Lefkada island**	**0.71**	**291**	P	**Pb**	**02 20 55.2**	**-0.7**
LKD2				*e*Sn	**Sb**	**02 21 05.7**	**0.0**
LKD2				S	**Sb**	**02 21 06.4**	**+0.7**
VLS	**Valsamata**	**0.81**	**244**	P	**Pg**	**02 20 56.6**	**-0.4**
VLS	**Valsamata**	**0.81**	**244**	*e*PN	**Pg**	**02 20 56.1**	**-0.9**
VLS				*e*SN	**Sb**	**02 21 09.1**	**+0.6**
VLS	**Valsamata**	**0.81**	**244**	*e*Pn	**Pg**	**02 20 56.1**	**-0.9**
VLS	**Valsamata**	**0.81**	**244**	P	**Pg**	**02 20 56.6**	**-0.4**
VLS				*e*Sn	**Sb**	**02 21 09.1**	**+0.6**
AGG	**Agios Georgios**	**0.81**	**53**	P	**Pg**	**02 20 56.5**	**-0.6**
AGG	**Agios Georgios**	**0.81**	**53**	*e*PN	**Pg**	**02 20 56.5**	**-0.6**
AGG				*e*SN	**Sb**	**02 21 07.9**	**-0.6**
AGG	**Agios Georgios**	**0.81**	**53**	P	**Pg**	**02 20 56.5**	**-0.6**
AGG				*e*Sn	**Sb**	**02 21 07.9**	**-0.6**
DSF	**Desfina**	**0.81**	**99**	P	**Pg**	**02 20 56.2**	**-1.0**
DSF				S	**Sb**	**02 21 08.3**	**-0.4**
DSF	**Desfina**	**0.81**	**99**	P	**Pg**	**02 20 56.2**	**-1.0**
DSF				S	**Sb**	**02 21 08.3**	**-0.4**
GUR	**Goura**	**0.89**	**132**	P	**Pg**	**02 20 57.6**	**-1.1**
GUR				S	**Sb**	**02 21 11.1**	**+0.1**
GUR	**Goura**	**0.89**	**132**	*e*PB	**Pg**	**02 20 57.7**	**-1.0**
GUR				*e*SN	**Sb**	**02 21 11.2**	**+0.2**
GUR	**Goura**	**0.89**	**132**	*e*Pb	**Pg**	**02 20 57.7**	**-1.0**
GUR				*e*Sn	**Sb**	**02 21 11.2**	**+0.2**
AXAR	**Agios Charalam**	**0.93**	**75**	P	**Pg**	**02 20 58.6**	**-0.8**
AXAR				S	**Sb**	**02 21 12.3**	**+0.2**
AXAR	**Agios Charalam**	**0.93**	**75**	P	**Pg**	**02 20 58.6**	**-0.8**
AXAR				S	**Sb**	**02 21 12.3**	**+0.2**
AMT	**Artemida-Makis**	**1.02**	**171**	*e*PN	**Pg**	**02 21 00.2**	**-0.9**
AMT				*e*SN	**Sn**	**02 21 15.7**	**-0.4**
AMT	**Artemida-Makis**	**1.02**	**171**	*e*Pn	**Pg**	**02 21 00.2**	**-0.9**
AMT				*e*Sn	**Sn**	**02 21 15.7**	**-0.4**
THAL	**Thalero**	**1.04**	**118**	P	**Pg**	**02 21 00.9**	**-0.6**
THAL	**Thalero**	**1.04**	**118**	P	**Pg**	**02 21 00.9**	**-0.6**
THL	**Klokotos Trika**	**1.10**	**21**	P	**Pb**	**02 21 02.6**	**0.0**
THL	**Klokotos Trika**	**1.10**	**21**	*e*PN	**Pb**	**02 21 02.6**	**0.0**
THL	**Klokotos Trika**	**1.10**	**21**	P	**Pb**	**02 21 02.6**	**0.0**
LKR	**Lokris**	**1.18**	**84**	*e*PB	**Pg**	**02 21 02.7**	**-1.4**
LKR	**Lokris**	**1.18**	**84**	*e*Pb	**Pg**	**02 21 02.7**	**-1.4**
JAN	**Janina**	**1.23**	**336**	P	**Pn**	**02 21 05.2**	**+0.5**
JAN	**Janina**	**1.23**	**336**	P	**Pn**	**02 21 05.2**	**+0.5**
ACOR	**Acrocorinthos**	**1.25**	**121**	P	**Pg**	**02 21 04.4**	**-1.2**
ACOR	**Acrocorinthos**	**1.25**	**121**	P	**Pg**	**02 21 04.4**	**-1.2**
LTK	**Loutraki**	**1.26**	**114**	P	**Pg**	**02 21 05.2**	**-0.5**
LTK				S	**Sn**	**02 21 23.4**	**+1.3**
LTK	**Loutraki**	**1.26**	**114**	*e*PN	**Pg**	**02 21 04.9**	**-0.8**
LTK				*e*SN	**Sn**	**02 21 23.1**	**+1.0**
LTK	**Loutraki**	**1.26**	**114**	*e*Pn	**Pg**	**02 21 04.9**	**-0.8**
LTK	**Loutraki**	**1.26**	**114**	P	**Pg**	**02 21 05.2**	**-0.5**
LTK				*e*Sn	**Sn**	**02 21 23.1**	**+1.0**
SFD	**Strofades**	**1.34**	**197**	P	**Pb**	**02 21 06.5**	**-0.2**
SFD	**Strofades**	**1.34**	**197**	P	**Pb**	**02 21 06.5**	**-0.2**
IGT	**Igoumenitsa**	**1.35**	**318**	P	**Pg**	**02 21 07.2**	**-0.2**
IGT				S	**Sn**	**02 21 27.6**	**+3.3**
IGT	**Igoumenitsa**	**1.35**	**318**	P	**Pg**	**02 21 07.2**	**-0.2**
IGT				S	**Sn**	**02 21 27.6**	**+3.3**
VLX	**Vlachokerasia**	**1.35**	**149**	P	**Pn**	**02 21 06.2**	**-0.3**
VLX				S	**Sn**	**02 21 25.5**	**+1.0**
VLX	**Vlachokerasia**	**1.35**	**149**	*e*PN	**Pn**	**02 21 06.1**	**-0.4**
VLX				*e*SN	**Sn**	**02 21 25.6**	**+1.0**
VLX	**Vlachokerasia**	**1.35**	**149**	P	**Pn**	**02 21 06.2**	**-0.3**
VLX				*e*Sn	**Sn**	**02 21 25.6**	**+1.0**
SMIA	**Simia**	**1.38**	**75**	P	**Pb**	**02 21 07.2**	**-0.1**
SMIA				S	**Sn**	**02 21 25.8**	**+0.8**
SMIA	**Simia**	**1.38**	**75**	P	**Pb**	**02 21 07.2**	**-0.1**
SMIA				S	**Sn**	**02 21 25.8**	**+0.8**
ITM	**Ithomi**	**1.40**	**166**	P	**Pb**	**02 21 07.4**	**-0.2**
ITM				S	**Sn**	**02 21 27.7**	**+2.2**
ITM	**Ithomi**	**1.40**	**166**	*e*PN	**Pn**	**02 21 07.1**	**+0.1**
ITM	**Ithomi**	**1.40**	**166**	*e*Pn	**Pn**	**02 21 07.1**	**+0.1**
ITM	**Ithomi**	**1.40**	**166**	P	**Pb**	**02 21 07.4**	**-0.2**
NEO	**Neokhori**	**1.54**	**60**	P	**Pn**	**02 21 09.3**	**+0.3**
NEO	**Neokhori**	**1.54**	**60**	*e*PN	**Pn**	**02 21 09.5**	**+0.5**
NEO	**Neokhori**	**1.54**	**60**	*e*Pn	**Pn**	**02 21 09.5**	**+0.5**
XOR	**Xorichti**	**1.55**	**57**	P	**Pn**	**02 21 09.6**	**+0.4**
XOR				S	**Sg**	**02 21 31.7**	**+0.2**
XOR	**Xorichti**	**1.55**	**57**	P	**Pn**	**02 21 09.6**	**+0.4**
XOR				S	**Sg**	**02 21 31.7**	**+0.2**
PYL	**PYLOS**	**1.65**	**173**	*e*PN	**Pn**	**02 21 11.0**	**+0.5**
PYL	**PYLOS**	**1.65**	**173**	*e*Pn	**Pn**	**02 21 11.0**	**+0.5**
DID	**Didima**	**1.71**	**126**	P	**Pn**	**02 21 12.2**	**+0.9**
DID				S	**Sb**	**02 21 35.3**	**+0.7**
DID	**Didima**	**1.71**	**126**	*e*PN	**Pn**	**02 21 12.1**	**+0.8**
DID	**Didima**	**1.71**	**126**	*e*Pn	**Pn**	**02 21 12.1**	**+0.8**
DID				S	**Sb**	**02 21 35.3**	**+0.7**
LIT	**Litokhoron**	**1.74**	**26**	P	**Pn**	**02 21 12.5**	**+0.8**
LIT	**Litokhoron**	**1.74**	**26**	P	**Pn**	**02 21 12.5**	**+0.8**
NAIG	**Nisos Aigina**	**1.75**	**116**	*e*PN	**Pn**	**02 21 12.2**	**+0.4**
NAIG	**Nisos Aigina**	**1.75**	**116**	*e*Pn	**Pn**	**02 21 12.2**	**+0.4**
KEK	**Kerkira**	**1.77**	**312**	P	**Pb**	**02 21 13.7**	**-0.3**
KEK				S	**Sg**	**02 21 37.9**	**-0.6**
KEK	**Kerkira**	**1.77**	**312**	P	**Pb**	**02 21 13.7**	**-0.3**
KEK				S	**Sg**	**02 21 37.9**	**-0.6**
KZN	**Kozani**	**1.78**	**7**	P	**Pn**	**02 21 13.1**	**+0.8**
KZN	**Kozani**	**1.78**	**7**	*e*PN	**Pb**	**02 21 13.9**	**-0.3**
KZN	**Kozani**	**1.78**	**7**	P	**Pn**	**02 21 13.1**	**+0.8**
KZN	**Kozani**	**1.78**	**7**	*e*Pn	**Pb**	**02 21 13.9**	**-0.3**
ERET	**Eretria**	**1.81**	**92**	P	**Pn**	**02 21 12.9**	**+0.2**
ERET	**Eretria**	**1.81**	**92**	P	**Pn**	**02 21 12.9**	**+0.2**
ATH	**Athens Observa**	**1.83**	**107**	*e*PN	**Pb**	**02 21 14.4**	**-0.6**
ATH	**Athens Observa**	**1.83**	**107**	*e*Pn	**Pb**	**02 21 14.4**	**-0.6**
DYR	**Agios Nikonas**	**1.89**	**159**	P	**Pn**	**02 21 13.8**	**0.0**
DYR	**Agios Nikonas**	**1.89**	**159**	*e*PN	**Pn**	**02 21 14.9**	**+1.1**
DYR	**Agios Nikonas**	**1.89**	**159**	P	**Pn**	**02 21 13.8**	**0.0**
DYR	**Agios Nikonas**	**1.89**	**159**	*e*Pn	**Pn**	**02 21 14.9**	**+1.1**
PTL	**Penteli**	**1.92**	**104**	P	**Pn**	**02 21 14.5**	**+0.3**
PTL	**Penteli**	**1.92**	**104**	*e*PN	**Pn**	**02 21 14.5**	**+0.3**
PTL	**Penteli**	**1.92**	**104**	P	**Pn**	**02 21 14.5**	**+0.3**
VLI	**Veliai**	**2.14**	**148**	*e*PN	**Pn**	**02 21 18.4**	**+1.2**
VLI	**Veliai**	**2.14**	**148**	*e*Pn	**Pn**	**02 21 18.4**	**+1.2**
PLG	**Polygyros**	**2.37**	**39**	*e*PN	**Pn**	**02 21 20.2**	**-0.2**
PLG	**Polygyros**	**2.37**	**39**	*e*Pn	**Pn**	**02 21 20.2**	**-0.2**
BIA	**Bitola**	**2.48**	**357**	*e*Pn	**Pb**	**02 21 25.7**	**-0.5**
BIA	**Bitola**	**2.48**	**357**	*e*Pn	**Pb**	**02 21 25.7**	**-0.5**
SOH	**Sokhos**	**2.69**	**31**	P	**Pn**	**02 21 26.1**	**+1.3**
SOH				S	**Sn**	**02 21 59.9**	**+2.5**
SOH	**Sokhos**	**2.69**	**31**	P	**Pn**	**02 21 26.1**	**+1.3**
SOH				S	**Sn**	**02 21 59.9**	**+2.5**
KNT	**Kendrikon**	**2.83**	**22**	P	**Pn**	**02 21 28.1**	**+1.4**
KNT	**Kendrikon**	**2.83**	**22**	P	**Pn**	**02 21 28.1**	**+1.4**
VAY	**Valandovo**	**2.90**	**16**	*e*Pn	Pn	02 21 23.5	-4.1
SRS	**Serrai**	**3.04**	**31**	P	**Pn**	**02 21 30.8**	**+1.3**
SRS	**Serrai**	**3.04**	**31**	P	**Pn**	**02 21 30.8**	**+1.3**
VTS	**Vitosha**	**4.25**	**17**	⇓*i*P	**Pn**	**02 21 48.7**	**+2.3**
VTS	**Vitosha**	**4.25**	**17**	⇓*i*P	**Pn**	**02 21 48.7**	**+2.3**
STON	**Ston**	**5.21**	**327**	*e*Pn	**Pn**	**02 21 59.9**	**+0.6**
STON				Sn	**Sn**	**02 22 56.1**	**-3.2**
STON	**Ston**	**5.21**	**327**	*e*Pn	**Pn**	**02 21 59.9**	**+0.6**
DIVS	**Divibare**	**5.67**	**349**	*e*Pn	**Pn**	**02 22 06.5**	**+0.7**
UDBI	**Udbina**	**7.37**	**326**	*e*Pn	**Pn**	**02 22 31.2**	**+2.1**
UDBI				Sn	**Sn**	**02 23 50.4**	**-2.4**
UDBI	**Udbina**	**7.37**	**326**	*e*Pn	**Pn**	**02 22 31.2**	**+2.1**
VOIR		**7.38**	**20**	⇑*i*P	**Pn**	**02 22 32.1**	**+2.8**
VOIR		**7.38**	**20**	⇑*i*P	**Pn**	**02 22 32.1**	**+2.8**
MLR	**Muntele Rosu**	**7.69**	**24**	⇑*i*P	Pn	02 22 37.2	+3.6
MLR	**Muntele Rosu**	**7.69**	**24**	⇑*i*P	Pn	02 22 37.2	+3.6
NVLJ	**Novalja**	**7.81**	**323**	*e*Pn	**Pn**	**02 22 34.9**	**-0.1**
NVLJ				Sn	**Sn**	**02 23 60.0**	**-3.4**
NVLJ	**Novalja**	**7.81**	**323**	*e*Pn	**Pn**	**02 22 34.9**	**-0.1**
PLOR	**Plostina**	**8.24**	**26**	⇓*i*P	Pn	02 22 44.8	+3.7
VRI	**Vrincioaia**	**8.28**	**26**	⇓*i*P	Pn	02 22 46.1	+4.4
BRTR	**Keskin Array B**	**9.50**	**79**	Pn	**Pn**	**02 23 00.8**	**+2.3**
	0.1nm,0.3s,baz=259,slow=13,SNR=4.5						
EIL	**Elat**	**14.21**	**124**	LR	LR	02 29 52.6	
	comp=Z,27nm,21.9s,baz=191,slow=39						
NOA	**NORSAR Array B**	**23.43**	**347**	P	**P**	**02 25 50.7**	**+0.2**
	0.5nm,0.8s,baz=157,slow=10,SNR=3.4						
TORD	**Torodi Ar. Bea**	**30.80**	**220**	P	**P**	**02 26 57.5**	**+0.1**
	0.1nm,0.4s,baz=32,slow=8.5,SNR=5.6						
MKAR	**Makanchi Array**	**44.45**	**59**	P	**P**	**02 28 52.3**	**-0.2**
	0.2nm,0.4s,baz=288,slow=8.6,SNR=3.3						
MKAR				LR	LR	02 48 25.6	
	comp=Z,35nm,20.4s,baz=193,slow=37						

*IDC **12** 02:28:39.8±0.8, 15°.07S×173°.50W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/19, mbtmp4.1/9, MS3.5/11, Ms1 3.5/11, ms1mx3.3/29, Error ellipse: s-maj=44.6km s-min=15.6km az=142.0*
*NEIC **12** 02:28:41.6±0.2, 15°.13S×173°.51W, h10km, mb4.6/25, Error ellipse: s-maj=15.1km s-min=5.8km az=143.0*
*ISCJB **12** 02:28:43.1±0.4, 15°.15±0°.1×173°.6W±0°.1, h30km, mb4.5/35, MS3.6/10, Error ellipse: s-maj=24.3km s-min=9.3km az=141.7*

ISC 12 02:28:44.4±0.6, 15°.1S±0°.1×173°.3W±0°.1, h30km, n244, σ1§02/236, mb4.5/35, MS3.7/10, 86C-92D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**51**	*e*Pn	**Pn**	**02 29 15.3**	**-0.1**
AFI				*e*Sn	**Sn**	**02 29 35.5**	**-3.2**
AFI	**Afiamalu**	**1.93**	**51**	Pn	**Pn**	**02 29 15.2**	**-0.1**
	209nm,0.3s,baz=227,slow=19,SNR=201						
AFI				Sn	**Sn**	**02 29 35.2**	**-3.5**
	194nm,0.3s,baz=205,slow=17,SNR=7.1						
AFI				LR	LR	02 29 55.4	
	comp=Z,1μm,18.1s,baz=109,slow=37						
DZM	**Mont Dzumac**	**20.37**	**247**	*e*LR	LR	02 38 20.3	
	405nm,28.3s						
DZM	**Mont Dzumac**	**20.37**	**247**	LR	LR	02 38 00.9	
	comp=Z,54nm,21.2s,baz=180,slow=28						
PPT2	**Papeete2**	**22.91**	**99**	*e*LR	LR	02 38 54.2	
	155nm,30.0s						
TBI	**Tubuai**	**23.93**	**114**	*e*LR	LR	02 39 28.7	
	101nm,27.8s						
URZ	**Urewera**	**24.53**	**198**	P	**P**	**02 34 01.5**	**+0.1**
URZ	**Urewera**	**24.53**	**198**	P	**P**	**02 34 01.5**	**+0.1**
	6.0nm,0.3s,baz=287,slow=4.4,SNR=9.9						
PMG	**Port Moresby**	**39.00**	**274**	*e*P	**P**	**02 36 06.7**	**-1.9**
	22nm,1.0s						
STKA	**Stephens Creek**	**44.23**	**240**	P	**P**	**02 36 49.8**	**-1.5**
STKA	**Stephens Creek**	**44.23**	**240**	P	**P**	**02 36 49.8**	**-1.5**
	0.8nm,0.4s,baz=104,slow=8.5,SNR=8.8						
STKA				LR	LR	02 52 20.5	
	comp=Z,93nm,18.9s,baz=25,slow=32						
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**02 37 34.9**	**-1.4**
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**02 37 34.9**	**-1.4**
	0.6nm,0.5s,baz=92,slow=6.7,SNR=24						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**02 37 36.8**	**-1.6**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**02 37 36.8**	**-1.6**
	2.0nm,0.4s,baz=87,slow=8.0,SNR=40						
ASAR				LR	LR	02 56 35.6	
	comp=Z,130nm,20.1s,baz=263,slow=33						
FITZ	**Fitzroy Crossi**	**58.34**	**258**	LR	LR	03 02 07.9	
	comp=Z,59nm,18.1s,baz=84,slow=34						
VES	**Vestal, Richgr**	**72.11**	**44**	⇑P	**P**	**02 40 08.0**	**+1.9**
	baz=72						
MURC	**Murrieta**	**72.16**	**47**	⇑P	**P**	**02 40 07.9**	**+1.3**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.19**	**46**	⇑P	**P**	**02 40 08.0**	**+1.1**
	baz=72						
EDW2	**Edwards Air Fo**	**72.31**	**45**	⇓P	**P**	**02 40 08.5**	**+1.0**
	baz=73						
MONP	**Monument Peak**	**72.34**	**48**	⇓P	**P**	**02 40 08.8**	**+0.9**
	baz=73						
PETK	**Petropavlovsk-**	**72.41**	**342**	LR	LR	03 07 38.5	
	comp=Z,18nm,19.4s,baz=64,slow=32						
ISA	**Isabella**	**72.42**	**44**	⇑P	**P**	**02 40 09.4**	**+1.2**
	baz=73						
PFO	**Pinyon Flat Ob**	**72.69**	**47**	⇓P	**P**	**02 40 11.0**	**+1.1**
	baz=73						
LRMC	**Laurel Mountai**	**72.84**	**45**	⇓P	**P**	**02 40 11.9**	**+1.2**
	baz=73						
BELC	**Belle Mtn. Jos**	**73.22**	**47**	⇓P	**P**	**02 40 14.4**	**+1.3**
	baz=74						
MPMC	**Manual Prospec**	**73.30**	**44**	⇑P	**P**	**02 40 14.8**	**+1.2**
	baz=74						
GSC	**Goldstone**	**73.35**	**45**	*e*P	**P**	**02 40 14.2**	**+0.5**
	2.2nm,0.9s						
GSC	**Goldstone**	**73.35**	**45**	⇑P	**P**	**02 40 14.8**	**+1.0**
	baz=74						
BC3	**

TXAR	Lajitas Array	80.41	56	P	P	02 40 54.0	+0.4
TXAR	Lajitas Array	80.41	56	P	P	02 40 54.0	+0.4
	2.2nm,1.1s,baz=225,slow=5.1,SNR=16						
TXAR				LR	LR	03 07 52.4	
	comp=Z,44nm,19.8s,baz=0.0,slow=29						
Y23A	Lovelace Mesa,	80.44	51	⇓P	P	02 40 54.7	+0.9
	baz=81						
PV01	Paradox Valley	80.49	46	eP	P	02 40 54.6	+0.5
	133nm,0.6s						
S20A	Disappointment	80.50	47	⇓P	P	02 40 54.9	+0.7
	baz=81,SNR=6.0						
ANMO	Albuquerque	80.58	50	eP	P	02 40 54.6	0.0
	3.0nm,1.0s						
225A	Deer Hill, Car	80.61	53	⇑P	P	02 40 55.7	+0.9
	baz=81						
426A	McDonald Obser	80.65	55	⇓P	P	02 40 56.2	+1.1
	baz=81						
R20A	Redvale	80.65	46	⇑P	P	02 40 55.9	+1.0
	baz=81						
V22A	San Miguel Ran	80.67	49	⇓P	P	02 40 55.6	+0.6
	baz=81						
627A	Terlingua Ranc	80.67	56	⇑P	P	02 40 56.2	+1.1
	baz=81						
T21A	Navajo Lake	80.70	48	⇑P	P	02 40 56.6	+1.4
	baz=81						
527A	Woodward Ranch	80.77	55	⇑P	P	02 40 56.2	+0.6
	baz=81						
S21A	Coal Bank Pass	80.82	47	⇑P	P	02 40 56.9	+0.9
	baz=81,SNR=10						
W23A	Werner Place,	80.90	50	⇓P	P	02 40 57.4	+1.1
	baz=81						
Y24A	Capitan	80.90	51	⇑P	P	02 40 57.1	+0.8
	baz=81,SNR=5.0						
U22A	Llaves	80.92	49	⇓P	P	02 40 57.5	+1.2
	baz=81						
125A	Gardner Draw,	80.97	53	⇓P	P	02 40 57.5	+0.9
	baz=81						
MCMT	McKenzie Canyo	81.01	39	eP	P	02 40 57.6	+0.9
	2.3nm,1.0s						
Q20A	Ridgley Place,	81.06	46	⇓P	P	02 40 57.8	+0.7
	baz=81,SNR=5.1						
628A	Black Gap, Mar	81.09	56	⇑P	P	02 40 58.0	+0.8
	baz=81						
226B	Tecolote Peak,	81.11	53	⇓P	P	02 40 58.7	+1.4
	baz=81						
O19A	Miners Draw (B	81.13	44	⇓P	P	02 40 57.7	+0.4
	baz=81						
V23A	Ortiz Mt. (NFS	81.13	49	⇑P	P	02 40 58.6	+1.1
	baz=81						
T22A	Edith	81.16	48	⇑P	P	02 40 58.5	+0.8
	baz=81						
X24A	Lazy VL Ranch,	81.17	51	⇓P	P	02 40 58.3	+0.5
	baz=81						
Z25A	Roswell	81.18	52	⇓P	P	02 40 59.0	+1.3
	baz=81						
RRI2	Red Ridge	81.19	41	eP	P	02 40 58.4	+0.6
	5.4nm,1.0s						
427A	Hayter Ranch,	81.22	55	⇑P	P	02 40 59.3	+1.3
	baz=82						
P20A	De Beque	81.25	45	⇓P	P	02 40 59.3	+1.3
	baz=82						
L18A	Fontenelle, Gr	81.30	42	⇑P	P	02 40 58.8	+0.5
	baz=82						
R21A	Cimarron	81.31	46	⇓P	P	02 40 59.2	+0.8
	baz=82						
I16A	Newdale	81.35	40	⇑P	P	02 40 59.6	+1.1
	baz=82						
U23A	El Rito	81.37	49	⇓P	P	02 40 60.0	+1.1
	baz=82						
MSO	Missoula	81.43	37	eP	P	02 40 59.2	+0.5
	9.4nm,1.3s						
MSO	Missoula	81.43	37	⇑P	P	02 40 58.8	+0.1
	baz=82,SNR=6.2						
528A	Cox Ranch, San	81.43	56	⇓P	P	02 40 60.0	+0.9
	baz=82						
DLMT	Dillon	81.44	38	eP	P	02 41 00.3	+1.5
	6.2nm,1.1s						
W24A	Lazy 6 Ranch,	81.47	50	⇓P	P	02 40 59.8	+0.5
	baz=82						
REDW	Red Top Meadow	81.49	41	eP	P	02 40 59.3	0.0
	11nm,1.4s						
TPAW	Teton Pass	81.49	41	eP	P	02 41 00.5	+1.2
	7.5nm,1.1s						
Q21A	Lamborn Mesa,	81.51	46	⇑P	P	02 41 00.5	+1.0
	baz=82						
BSMT	Bassoo Peak	81.51	36	eP	P	02 41 00.0	+0.8
S22A	4UR Ranch, Cre	81.54	47	⇑P	P	02 41 00.9	+1.1
	baz=82,SNR=11						
O20A	White River Ci	81.64	45	⇑P	P	02 41 01.2	+1.1
	baz=82						
M19A	Rock Springs	81.68	43	⇓P	P	02 41 01.2	+0.9
	baz=82						
IMW	Indian Meadow	81.70	40	eP	P	02 41 01.8	+1.3
	7.9nm,1.3s						
428A	Kincaid Ranch,	81.73	55	⇑P	P	02 41 01.7	+1.1
	baz=82						
X25A	Clemmons Ranch	81.74	51	⇓P	P	02 41 01.5	+0.8
	baz=82						
Z26A	Caprock	81.74	52	⇓P	P	02 41 01.5	+0.9
	baz=82						
MOOW	Moose Ponds	81.75	41	eP	P	02 41 02.2	+1.6
	4.8nm,1.3s						
LOHW	Long Hollow	81.77	41	eP	P	02 41 01.8	+1.0
	3.2nm,1.0s						
R22A	Saguache, Gunn	81.81	47	⇓P	P	02 41 02.3	+1.2
	baz=82,SNR=5.5						
L19A	Farson	81.83	42	⇓P	P	02 41 01.6	+0.5
	baz=82						
529A	Stev Forest Ra	81.87	56	⇓P	P	02 41 02.0	+0.7
	baz=82						
CHMT	Chamberlain Mo	81.88	37	eP	P	02 41 01.1	-0.1
328A	Wristen Ranch,	81.89	55	⇑P	P	02 41 01.6	+0.2
	baz=82						
H16A	Russell Place,	81.92	40	⇓P	P	02 41 02.9	+1.4
	baz=82						
N20A	Spence Gulch,	81.96	44	⇓P	P	02 41 02.7	+0.9
	baz=82						
Q22A	Crested Butte,	81.98	46	⇑P	P	02 41 03.2	+1.1
	baz=82,SNR=5.4						
PDAR	Pinedale Array	82.02	42	P	P	02 41 02.5	+0.4
PDAR	Pinedale Array	82.02	42	P	P	02 41 02.5	+0.4
	1.9nm,1.0s,baz=225,slow=2.2,SNR=13						
PDAR				LR	LR	03 10 24.2	
	comp=Z,37nm,18.3s,baz=78,slow=30						
COLA	College	82.10	11	eP	P	02 41 02.3	+0.7
	13nm,0.7s						
W25A	X Bar L Ranch,	82.17	50	⇓P	P	02 41 03.5	+0.5
	baz=82						
ILAR	Eielson Array	82.18	11	P	P	02 41 01.3	-0.8
ILAR	Eielson Array	82.18	11	P	P	02 41 01.3	-0.8
	0.3nm,0.6s,baz=228,slow=6.0,SNR=6.3						
M20A	Sweetwater, Wa	82.31	43	⇓P	P	02 41 04.1	+0.5
	baz=83						
V25A	Rancho No Teng	82.32	50	⇓P	P	02 41 04.2	+0.4
	baz=83,SNR=7.4						
X26A	CR and CF Fran	82.39	51	⇑P	P	02 41 04.6	+0.6
	baz=83						
P22A	Eagle	82.41	46	⇑P	P	02 41 04.9	+0.7
	baz=83						
N21A	Black Mountain	82.42	44	⇓P	P	02 41 04.7	+0.5
	baz=83						
R23A	Moffat	82.45	47	⇑P	P	02 41 05.3	+0.8
	baz=83						
L20A	Wamsutter	82.45	43	⇓P	P	02 41 04.9	+0.6
	baz=83,SNR=5.3						
K19A	Absolon Red Bu	82.51	42	⇑P	P	02 41 05.0	+0.4
	baz=83						
329A	Wagon Wheel Ra	82.58	55	⇓P	P	02 41 05.8	+0.7
	baz=83						
J19A	Crowheart	82.59	42	⇑P	P	02 41 05.5	+0.6
	baz=83						
Y27A	Causey	82.61	52	⇑P	P	02 41 05.6	+0.4
	baz=83						
128A	Castleberry Fa	82.63	53	⇓P	P	02 41 06.0	+0.6
	baz=83						
S24A	Houchin Ranch,	82.65	48	⇑P	P	02 41 06.2	+0.7
	baz=83						
C15A	Salmond Ranch,	82.70	36	⇑P	P	02 41 05.5	+0.1
	baz=83,SNR=6.5						
U25A	Circle Dot Ran	82.71	49	⇓P	P	02 41 06.6	+0.9
	baz=83						
K20A	Yellowstone Ra	82.76	42	⇑P	P	02 41 06.2	+0.3
	baz=83						
O22A	Kremmling	82.81	45	⇑P	P	02 41 06.6	+0.2
	baz=83,SNR=6.5						
A14A	Double T Ranch	82.89	35	⇑P	P	02 41 06.7	+0.4
	baz=83						
F17A	Fitzpatrick Pl	82.89	39	⇑P	P	02 41 07.3	+0.9
	baz=83						
H18A	Shoshone NF, C	82.89	40	⇓P	P	02 41 06.9	+0.3
	baz=83						
M21A	Separation Pea	82.92	44	⇓P	P	02 41 06.8	0.0
	baz=83						
V26A	Tequesquite Ra	82.92	50	⇓P	P	02 41 07.4	+0.6
	baz=83						
631A	Perdido Creek	82.93	57	⇓P	P	02 41 07.2	+0.3
	baz=83						
MSTX	Muleshoe	82.94	52	⇓P	P	02 41 07.7	+0.7
	baz=83						
P23A	Jefferson	82.95	46	⇓P	P	02 41 08.3	+1.1
	baz=83						
Z28A	Tucker Farm, M	82.97	53	⇑P	P	02 41 07.8	+0.7
	baz=83						
R24A	Sanders Place,	82.97	47	⇑P	P	02 41 07.9	+0.7
	baz=83						
I19A	Meeteetse	83.00	41	⇑P	P	02 41 08.4	+1.2
	baz=83						
T25A	Trinidad	83.01	49	⇓P	P	02 41 08.2	+0.8
	baz=83						
B15A	Bradely Ranch,	83.01	36	⇑P	P	02 41 07.6	+0.6
	baz=83						
L21A	Rawlins	83.08	43	⇑P	P	02 41 07.7	+0.2
	baz=83						
W27A	Bowe Ranch, En	83.16	51	⇓P	P	02 41 08.4	+0.4
	baz=83						
N22A	Wattenberg Ran	83.16	45	⇓P	P	02 41 08.9	+0.8
	baz=83						
C16A	Fuhringer Ranc	83.21	37	⇑P	P	02 41 08.3	+0.3
	baz=84						
S25A	Robets Cordova	83.21	48	⇓P	P	02 41 09.0	+0.6
	baz=84						
531A	Rocksprings	83.23	56	⇑P	P	02 41 08.5	+0.1
	baz=84						
J20A	Shoshoni	83.25	42	⇑P	P	02 41 09.1	+0.7
	baz=84						
Q24A	Divide	83.26	47	⇑P	P	02 41 09.7	+0.9
	baz=84						
G18A	Lazy EL Ranch,	83.26	40	⇓P	P	02 41 09.1	+0.7
	baz=84						
O23A	Lake Granby, G	83.27	45	⇑P	P	02 41 09.2	+0.5
	baz=84						
A15A	Johnson Ranch,	83.27	35	⇑P	P	02 41 08.5	+0.2
	baz=84						
ISCO	Idaho Springs	83.30	46	⇑P	P	02 41 09.5	+0.6
	baz=84						
H19A	Powell	83.31	40	⇓P	P	02 41 09.8	+1.2
	baz=84						
F18A	Big Timber	83.46	39	⇑P	P	02 41 10.1	+0.8
	baz=84						
K21A	Alcova	83.46	43	⇑P	P	02 41 10.0	+0.5
	baz=84						
Z29A	Hungry Hill Ra	83.48	53	⇑P	P	02 41 09.9	+0.2
	baz=84						
D17A	Six Diamond Ra	83.50	38	⇑P	P	02 41 10.2	+0.7
	baz=84,SNR=6.3						
I20A	Worland	83.50	41	⇓P	P	02 41 09.8	+0.1
	baz=84,SNR=5.5						
N23A	Red Feather La	83.55	45	⇓P	P	02 41 10.9	+0.7
	baz=84						
X28A	Dimmitt	83.59	52	⇑P	P	02 41 10.7	+0.4
	baz=84						
632A	Uvalde	83.60	57	⇑P	P	02 41 11.3	+0.9
	baz=84						
J21A	Lysite	83.66	42	⇓P	P	02 41 11.3	+0.8
	baz=84,SNR=6.7						
E18A	Harlowton	83.66	38	⇓P	P	02 41 11.6	+1.2
	baz=84,SNR=5.5						
C17A	Wharram Farm,	83.70	37	⇑P	P	02 41 11.3	+0.8
	baz=84,SNR=6.7						
L22A	Ellis Ranch, M	83.73	44	⇓P	P	02 41 11.6	+0.6
	baz=84						
532A	Rocksprings	83.73	57	⇑P	P	02 41 11.5	+0.4
	baz=84						
Y29A	Porterfield Fa	83.74	53	⇑P	P	02 41 12.0	+1.0
	baz=84						
S26A	Kim	83.89	49	⇑P	P	02 41 12.3	+0.6
	baz=84						
F19A	Roth Farm, Mol	83.90	39	⇑P	P	02 41 12.4	+0.8
	baz=84						
Z30A	Sanderson Ranc	83.94	53	⇑P	P	02 41 11.9	-0.1
	baz=84						
I21A	Big Trails, Te	83.98	42	⇑P	P	02 41 11.9	-0.1
	baz=84						
R26A	Arlington	84.19	48	⇓P	P	02 41 13.8	+0.5
	baz=84						
L23A	Garrett	84.25	44	⇓P	P	02 41 14.1	+0.5
	baz=84						
E19A	Rath Farm, Rou	84.29	39	⇓P	P	02 41 14.2	+0.6
	baz=85						
332A	Millersview	84.32	56	⇑P	P	02 41 15.3	+1.4
	baz=85						
J22A	Midwest	84.32	42	⇓P	P	02 41 14.1	+0.2
	baz=85						
A17A	Triple J Farms	84.40	36	⇑P	P	02 41 14.7	+0.7
	baz=85						
EGMT	Eagleton	84.48	37	⇑P	P	02 41 14.8	+0.3
	baz=85						
D19A	Cripps Ranch,	84.58	38	⇓P	P	02 41 16.1	+1.1
	baz=85						
232A	Coleman	84.58	55	⇑P	P	02 41 15.4	+0.1
	baz=85						
Z31A	Sharp Cattle R	84.72	54	⇓P	P	02 41 16.3	+0.4
	baz=85						
C19A	Slack Wire Ran	84.75	38	⇑P	P	02 41 16.9	+1.1
	baz=85						
ABTX	Abilene, Hawle	84.85	54	⇓P	P	02 41 17.2	+0.6
	baz=85						
Y31A	Rekieta Farm,	84.86	53	⇑P	P	02 41 17.0	+0.4
	baz=85						
Z32A	Haskell	85.23	54	⇑P	P	02 41 19.0	+0.6
	baz=86						
R28A	Tribune	85.39	48	⇑P	P	02 41 19.8	+0.5
	baz=86						
Y32A	R-V Farms, Ver	85.51	53	⇓P	P	02 41 20.6	+0.7
	baz=86						
HHC	Hu-ho-hao-te	88.91	313	eP	P	02 41 39.0	+2.7
HHC	Hu-ho-hao-te	88.91	313	S	S	02 52 22.5	+0.1
HHC				pmax	pmax		
	comp=Z,60nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,6.1s						
SNAA	Sanae	93.16	177	LR	LR	03 16 59.6	
	comp=Z,15nm,21.7s,baz=2.4,slow=31						
ULM	Lac du Bonnet	93.69	39	LR	LR	03 17 56.7	
	comp=Z,48nm,21.4s,baz=310,slow=32						
CFAA	Coronel Fontan	94.53	124	LR	LR	03 13 31.0	
	comp=Z,8.8nm,20.3s,baz=64,slow=28						
MORC	Moravsky Berou	144.34	348	ePKPdf	PKPbc	02 48 17.3	+1.3
PSZ	Piszkesteto	145.54	344	ePKPbc	PKPab	02 48 21.3	+1.1
WLF	Walferdange	145.57	1	ePKPbc	PKPab	02 48 20.9	+0.8
GERES	GERESS Array B	145.90	352	PKPbc	PKPdf	02 48 20.8	+0.3
GERES	GERESS Array B	145.90	352	PKPbc	PKPdf	02 48 20.8	+0.3
	comp=Z,1.0nm,1.0s,baz=49,slow=2.5,SNR=8.7						
BRTR	Keskin Array B	146.01	321	PKPbc	PKPbc	02 48 22.1	+0.2
BRTR	Keskin Array B	146.01	321	PKPbc	PKPbc	02 48 22.1	+0.2
	comp=Z,0.7nm,0.7s,baz=29,slow=2.8,SNR=4.8						

ISC 12 02:35:54.1±1.6, 42°38N±0°.06×43°.07E±0°.05, h10km±12km, n13, σ1§37/22, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.35	52	P	Pg	02 36 00.8	-0.2
ONI				S	Sb	02 36 08.1	0.0
AKH	Akhalkalaki	1.01	162	P	Pg	02 36 12.3	-1.3
AKH				S	Sn	02 36 28.9	0.0
GUDG	Gudauri	1.04	85	P	Pg	02 36 13.2	-0.9
DUS	Dusheti	1.24	103	P	Pn	02 36 17.9	+0.4
TBLG	Delisi	1.40	117	P	Pn	02 36 19.1	-0.5
TBLG				S	Sg	02 36 39.2	+0.2
ARTV	Artvin	1.47	216	i P	Pn	02 36 19.5	-1.2
ARTV				i S	Sn	02 36 38.8	-1.4
DBOC	Borcka	1.47	226	i P	Pn	02 36 14.7	-6.0
DBOC				i S	Sn	02 36 39.6	-0.4
DAGI	Agillar	1.56	214	i P	Pn	02 36 21.4	-0.5
DAGI				i S	Sn	02 36 38.7	-3.6
DBAD	Bademkaya	1.71	218	i P	Pn	02 36 23.8	-0.1
DBAD				i S	Sn	02 36 46.4	+0.6
DDEM	Demirkent	1.78	214	i P	Pn	02 36 24.3	-0.7
DDEM				i S	Sn	02 36 48.5	+0.8
DGRG	David-gareji	1.95	118	P	Pb	02 36 29.6	-0.1
DGRG				S	Sg	02 36 58.3	+1.6
DIGO	Kars	1.97	173	i P	Pn	02 36 28.9	+1.2
KOPT	Kop Dagi	3.06	220	i P	Pn	02 36 44.9	+2.3
KOPT				i S	Sb	02 37 28.1	+2.0

DJA 12 02:52:10.5±3.0, 5°S±14°×12°6E±1°2, h446km±41km, M4.2/4, mb4.4/4, mB4.6/3, MLv4.2/4, Mw(mB)3.8/3
ISCJB 12 02:52:12.2±0.5, 4°83S±0°.06×125°81E±0°.07, h398km, mb3.6/2, Error ellipse: s-maj=9.9km s-min=6.6km az=142.4
IDC 12 02:52:13.2±2.1, 4°71S×125°62E, h444km±22km, mb3.3/3, mb1 3.5/7, mb1mx3. 1/24, mbtmp3.3/7, Error ellipse: s-maj=42.8km s-min=12.5km az=61.0
AUST 12 02:52:44.8±0.0, 7°88S×126°49E, h466km, Error ellipse: s-maj=1.6km s-min=1.2km az=257.0

ISC 12 02:52:12.0±1.0, 4°72S±0°.08×125°86E±0°.08, h398km, n25, σ1§94/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.92	40	P	Pn	02 53 09.4	+2.1
MSAI	Masohi	3.35	66	P	Pn	02 53 19.8	+1.7
LBMI	Labuha	4.37	22	P	Pn	02 53 29.2	+1.6
SKSI	Soroako, Sulaw	5.01	296	P	Pn	02 53 35.2	+1.0
SOEI	Soe	5.25	197	S	S	02 54 49.5	+3.9
	baz=2.9,SNR=5.1						
BKSI	Bulukumba	5.75	264	P	Pn	02 53 42.5	+0.7
	81nm,0.8s,670nm0.3nm						
BATI	Baumata	5.87	202	P	Pn	02 53 45.5	+2.2
	4.4nm,0.3s,baz=25,slow=1.3,SNR=3.0						
BATI				S	S	02 55 01.0	+3.5
	10nm,0.3s,baz=94,slow=23,SNR=8.6						
KAPI	Kappang	6.09	267	P	Pn	02 53 45.5	-0.1
	1.1nm,0.3s,baz=80,slow=6.2,SNR=7.6						
SPSI	Sidrap Palu	6.12	277	P	Pn	02 53 46.2	+0.3
	96nm,0.7s,2um						
TTSI	Tana Toraja	6.25	285	P	Pn	02 53 48.0	+0.7
WSI	Waingapu	7.39	228	S	S	02 55 44.9	+16
	baz=6.4,SNR=4.6						
MTN	Manton Dam	9.61	148	P	Pn	02 54 26.8	+1.3
	baz=6.7,SNR=43						
KDU	Kakadu	10.27	141	P	Pn	02 54 34.6	+1.4
	baz=7.6,SNR=4.7						
KNRA	Kununurra	11.26	166	P	Pn	02 54 45.4	+0.7
	baz=8.1,SNR=8.7						
FITZ	Fitzroy Crossi	13.31	181	P	P	02 55 06.6	+0.4
	1.3nm,0.3s,baz=14,slow=10,SNR=65						
FITZ				S	S	02 57 27.7	-2.5
	0.1nm,0.3s,baz=333,slow=11,SNR=6.4						
WRA	Warramunga Arr	17.24	152	P	P	02 55 48.5	-0.3
	0.7nm,0.3s,baz=328,slow=11,SNR=51						
WRA				S	S	02 58 45.8	-2.3
	0.1nm,0.3s,baz=327,slow=20,SNR=7.0						
COEN	Coen	19.38	119	P	P	02 56 10.2	-0.8
	baz=18,SNR=4.2						
ASAR	Alice Springs	20.38	158	P	P	02 56 20.2	0.0
	6.1nm,0.6s,baz=339,slow=8.7,SNR=136						
ASAR				S	S	02 59 40.1	-2.6
	2.0nm,0.9s,baz=347,slow=21,SNR=11						
MEEK	Meekatharra	22.87	197	P	P	02 56 41.1	-1.7
	baz=20,SNR=3.2						
STKA	Stephens Creek	30.79	153	P	P	02 57 52.5	-0.3
	3.0nm,0.4s,baz=320,slow=7.4,SNR=11						
STKA	Stephens Creek	30.79	153	P	P	02 57 52.5	-0.3
	baz=28,SNR=6.8						
ARPS	Mount Arapiles	35.11	157	P	P	02 58 29.7	0.0
	baz=32,SNR=7.5						
NFK	Norfolk Island	46.59	126	P	P	03 00 14.4	+12
	baz=44,SNR=7.1						
MKAR	Makanchi Array	64.10	328	P	P	03 02 00.8	-4.5
	0.4nm,0.6s,baz=116,slow=7.6,SNR=6.2						
TORD	Torodi Ar. Bea	124.31	283	PKP	PKPdf	03 10 21.4	-4.0
	0.4nm,0.7s,baz=63,slow=2.7,SNR=3.4						

GUC 12 02:55:19.7±0.8, 35°02S×71°24W, h86km±5km, MD3.6, ML3.3, 4C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.49	221	⇑iP	Pn	02 55 33.3	-0.7
TALC				eS	Sn	02 55 45.1	+0.5
TALC				AML	AML	02 55 47.1	
	comp=E,15μm,0.1s						
CACH	El Canelo	1.05	30	eP	Pn	02 55 40.2	+0.3
CACH				i S	Sn	02 55 56.1	+1.1
LNV	Longovilo	1.07	352	eP	Pn	02 55 40.7	+0.7
CHCH	Chadas Angostu	1.19	24	⇑iP	Pn	02 55 41.8	+0.3
CHCH				i S	Sn	02 55 58.7	+0.9
LMEL	Las Melosas	1.45	36	⇑iP	Pn	02 55 45.0	+0.1
LMEL				eS	Sn	02 56 04.8	+0.8
LMEL				AML	AML	02 56 08.3	
	comp=N,515nm,0.3s						
PCH	Pirque	1.52	23	⇓iP	Pn	02 55 46.2	+0.4
PCH				i S	Sn	02 56 06.1	+0.7
ANTU	Antumapu	1.54	19	eS	Sn	02 56 06.5	+0.9
ANTU				AML	AML	02 56 07.8	
	comp=N,325nm,0.1s						
RCDM	Rinconada Maip	1.57	13	eP	Pn	02 55 46.4	+0.1
RCDM				eS	Sn	02 56 06.7	+0.4
RCDM				AML	AML	02 56 08.5	
	comp=E,667nm,0.1s						
COCH	Cobquecura	1.68	228	eP	Pn	02 55 48.0	+0.5
COCH				eS	Sn	02 56 09.0	+0.4
CCHI	Chillan	1.72	203	eP	Pn	02 55 48.2	+0.2
CCHI				eS	Sn	02 56 10.5	+0.9
CCHI				AML	AML	02 56 12.6	
	comp=N,202nm,0.5s						
CLCH	Cerro Calan	1.72	20	eP	Pn	02 55 48.6	+0.3
CLCH				eS	Sn	02 56 10.7	+0.7
CLCH				AML	AML	02 56 12.7	
	comp=N,329nm,0.8s						
PEL	Peldehue	1.93	14	⇑eP	Pn	02 55 51.2	+0.3
PEL				eS	Sn	02 56 15.4	+0.7
PEL				AML	AML	02 56 21.2	
	comp=N,372nm,0.3s						

CSEM 12 03:00:27.1, 38°42N×30°46W, h5km, ML2.5, After PDA

PDA 12 03:00:27.1±0.8, 38°42N×30°46W, h5km, MD3.6, ML2.5, Error ellipse: s-maj=35.9km s-min=7.8km az=170.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	Caldeira	1.39	83	eP	Pn	03 00 48.4	-4.8
CALA				eS	Sb	03 01 04.0	-7.8
CALA	Caldeira	1.39	83	eP	Pn	03 00 48.4	-4.8
CALA				eS	Sb	03 01 04.0	-7.8
PCED	Cedros	1.39	81	eP	Pn	03 00 48.1	-5.1
PCED				eS	Sb	03 01 04.0	-7.7
PCED				A	A	03 01 05.4	
	13nm,0.5s						
PCED	Cedros	1.39	81	eP	Pn	03 00 48.1	-5.1
PCED				eS	Sb	03 01 04.0	-7.7
PICO	Pico	1.60	86	eP	Pn	03 00 51.6	-4.5
PICO				eS	Sn	03 01 09.4	-7.8
PICO	Pico	1.60	86	eP	Pn	03 00 51.6	-4.5
PICO				eS	Sn	03 01 09.4	-7.8
ROSA	Rosais	1.76	79	eP	Pn	03 00 53.3	-5.0
ROSA				eS	Sn	03 01 13.7	-7.5
ROSA				A	A	03 01 16.8	
	12nm,0.4s						
ROSA	Rosais	1.76	79	eP	Pn	03

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.85**	**193**	*eP*	**Pb**	**03 03 09.9**	**+0.7**
DGPR				*eS*	**Sn**	**03 03 19.1**	**-0.8**
DGPR				AML	AML	03 03 27.1	
	comp=E,6μm,0.5s						
PBA	**Port Blair**	**2.37**	**189**	*eP*	Pn	03 03 29.0	-0.5
PBA				*eS*	Sn	03 03 55.8	-1.7
CMBY	**CAMPBELL BAY**	**7.00**	**173**	*eP*	**Pn**	**03 04 30.3**	**-2.9**
CMBY				*ex*	x	03 05 15.7	
CMBY				AML	AML	03 06 41.7	
	comp=E,574nm,0.3s						
CM31	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	**03 04 37.5**	**+2.6**
	comp=E,7.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	**03 04 35.4**	**+0.5**
CMAR				Sn	**Sn**	**03 05 51.8**	**-3.0**
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	**03 04 35.4**	**+0.5**
	comp=E,0.4nm,0.3s,baz=242,slow=14,SNR=11						
CMAR				Sn	**Sn**	**03 05 51.8**	**-3.0**
	comp=E,2.0nm,0.3s,baz=241,slow=28,SNR=7.4						
CMAR				LR	LR	03 08 06.0	
	comp=E,226nm,18.5s,baz=287,slow=44						
CHTO	**Chiang Mai**	**7.34**	**49**	*eP*	**Pn**	**03 04 36.0**	**-2.0**
CHTO				*e*		03 05 57.4	
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.4s						
CHTO	**Chiang Mai**	**7.34**	**49**	*ePn*	**Pn**	**03 04 36.0**	**-2.0**
	comp=Z,6.7nm,0.4s						
CHTO				*e*Sn	**Sn**	**03 05 57.4**	**-2.8**
VIS	**Vishakhapatnam**	**10.12**	**293**	*eP*	**Pn**	**03 05 14.4**	**-1.6**
VIS				*ex*	x	03 06 57.1	
VIS				AML	AML	03 07 02.5	
	comp=E,99nm,0.7s						
VIS				AML	AML	03 07 02.8	
	comp=N,157nm,0.0s						
SHL	**Shillong**	**11.56**	**354**	*eP*	**Pn**	**03 05 38.0**	**+2.2**
SHL				*eS*	Sn	03 07 36.0	-7.9
BOK	**Bokaro**	**11.90**	**326**	*eP*	**Pn**	**03 05 40.2**	**-0.1**
PSI	**Prapat**	**12.52**	**152**	Pn	Pn	03 05 53.7	+4.6
PSI	**Prapat**	**12.52**	**152**	Pn	Pn	03 05 53.7	+4.6
	comp=N,1.2nm,0.3s,baz=272,slow=7.4,SNR=3.6						
PSI				LR	LR	03 11 02.7	
	comp=N,182nm,19.6s,baz=177,slow=39						
ODAN	**Odare**	**13.87**	**338**	*eP*	**Pn**	**03 06 05.2**	**-2.2**
	comp=N,27nm,0.5s						
TAPN	**Taplejung**	**14.20**	**340**	*eP*	Pn	03 06 08.7	-3.4
	comp=N,37nm,0.8s						
RAMN	**Ramite**	**14.25**	**336**	*eP*	**Pn**	**03 06 11.2**	**-1.5**
	comp=N,15nm,0.4s						
JIRN	**Jiri**	**15.04**	**336**	*eP*	**Pn**	**03 06 20.7**	**-2.8**
PKI	**Pulchoki**	**15.29**	**333**	*eP*	**Pn**	**03 06 24.9**	**-1.9**
	comp=N,14nm,0.4s						
PKIN	**Phulchoki**	**15.30**	**333**	*eP*	**Pn**	**03 06 25.1**	**-1.8**
	comp=N,18nm,0.4s						
GUN	**Gumba**	**15.39**	**335**	*eP*	**Pn**	**03 06 25.4**	**-2.7**
	comp=N,26nm,0.6s						
DMN	**Daman**	**15.46**	**332**	*eP*	**Pn**	**03 06 26.5**	**-2.4**
KKN	**Kakani**	**15.54**	**333**	*eP*	**Pn**	**03 06 28.1**	**-1.8**
LSA	**Lhasa**	**15.72**	**354**	*eP*	**P**	**03 06 37.0**	**+0.8**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s						
LSA	**Lhasa**	**15.72**	**354**	*ePn*	**P**	**03 06 37.0**	**+0.8**
	comp=Z,14nm,0.6s						
KOLN	**Koldanda**	**16.32**	**329**	*eP*	**Pn**	**03 06 37.5**	**-2.4**
	comp=Z,33nm,0.6s						
DANN	**Dangsing**	**16.72**	**330**	*eP*	**Pn**	**03 06 41.4**	**-3.6**
	comp=Z,30nm,0.8s						
QIZ	**Qiongzhong**	**16.78**	**70**	P	**Pn**	**03 06 46.5**	**+0.9**
QIZ				S	**Sn**	**03 09 52.9**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,110nm,4.5s						
QIZ				LR	LR		
	comp=Z,220nm,14.2s						
BHPL	**Bhopal**	**17.47**	**304**	*eP*	**Pn**	**03 06 53.6**	**-0.6**
LZH	**Lanzhou**	**24.00**	**22**	*eP*	**P**	**03 08 06.4**	**+1.6**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN	**Xi'an**	**24.55**	**33**	P	**P**	**03 08 10.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,21nm,4.8s						
XAN				LR	LR		
	comp=N,57nm,9.8s						
XAN				LR	LR		
	comp=Z,29nm,5.9s						
GTA	**Gaotai**	**25.98**	**12**	P	**P**	**03 08 25.0**	**+2.2**
GTA				PP	**PnPn**	**03 09 06.0**	**+4.7**
GTA				S	**S**	**03 12 46.8**	**-4.7**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,4.1s						
GTA				LR	LR		
	comp=N,95nm,18.1s						
GTA				LR	LR		
	comp=E,48nm,14.3s						
GTA				LR	LR		
	comp=Z,120nm,20.9s						
HHC	**Hu-ho-hao-te**	**31.21**	**28**	*eP*	**P**	**03 09 10.2**	**+0.8**
HHC				S	**S**	**03 14 11.3**	**-2.4**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.4s						
TKM2	**Tokmak 2**	**32.53**	**336**	*eP*	**P**	**03 09 22.4**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TKM2	**Tokmak 2**	**32.53**	**336**	*eP*	**P**	**03 09 22.4**	**+1.3**
	comp=Z,2.7nm,0.9s						
AAK	**Ala-Archa**	**32.74**	**334**	*ceP*	**P**	**03 09 23.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,11nm,1.2s						
AAK	**Ala-Archa**	**32.74**	**334**	*eP*	**P**	**03 09 24.0**	**+1.1**
	comp=Z,4.4nm,0.8s						
EKS2	**Erkin-Say**	**33.08**	**333**	*eP*	**P**	**03 09 26.3**	**+0.5**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**33.08**	**333**	*eP*	**P**	**03 09 26.2**	**+0.5**
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**33.92**	**347**	*ceP*	**P**	**03 09 33.7**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**33.92**	**347**	*eP*	**P**	**03 09 34.0**	**+1.0**
MKAR	**Makanchi Array**	**33.92**	**347**	P	**P**	**03 09 33.8**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=159,slow=8.9,SNR=61						
KKAR	**Karatay Array**	**34.91**	**331**	*eP*	**P**	**03 09 42.6**	**+1.0**
KKAR	**Karatay Array**	**34.91**	**331**	*eP*	**P**	**03 09 42.6**	**+1.0**
SONM	**Songino Array**	**35.48**	**15**	P	**P**	**03 09 48.0**	**+1.4**
SONM	**Songino Array**	**35.48**	**15**	P	**P**	**03 09 48.0**	**+1.4**
	comp=Z,4.2nm,0.9s,baz=201,slow=8.5,SNR=19						
HVS	**Khovu-Aksy**	**37.03**	**1**	*cP*	**P**	**03 10 01.0**	**+1.3**
HVS				pmax	pmax		
	comp=Z,54nm,1.2s						
KSRS	**Korea Array**	**38.74**	**47**	LR	LR	03 28 55.0	
	comp=Z,68nm,20.2s,baz=122,slow=40						
ZAA0	**Zalesovo Array**	**40.38**	**352**	*eP*	**P**	**03 10 28.3**	**+0.7**
ZAA0				*ep*P	**pP**	**03 10 37.4**	**+0.3**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**03 10 28.2**	**+0.6**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**03 10 28.2**	**+0.6**
ZALV	**Zalesovo Beam**	**40.38**	**352**	P	**P**	**03 10 28.2**	**+0.6**
	comp=Z,7.6nm,0.7s,baz=176,slow=8.6,SNR=25						
ZALV				LR	LR	03 31 00.4	
	comp=Z,48nm,18.4s,baz=159,slow=42						
BRVK	**Borovoye**	**42.97**	**340**	*eP*	**P**	**03 10 49.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**44.44**	**329**	*eP*	**P**	**03 11 01.8**	**+1.0**
	comp=Z,7.6nm,0.8s						
MJAR	**Matsushiro Arr**	**46.01**	**52**	P	**P**	**03 11 14.8**	**+1.4**
MJAR	**Matsushiro Arr**	**46.01**	**52**	P	**P**	**03 11 14.8**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=242,slow=9.5,SNR=2.3						
ARU	**Arti**	**49.91**	**336**	*dP*	**P**	**03 11 43.4**	**+0.2**
ARU						03 13 36.6	
ARU				S	**S**	**03 18 51.9**	**+0.7**
ARU				SS	**SS**	**03 22 23.3**	**-0.8**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
KBZ	**Khabaz**	**51.99**	**315**	P	**P**	**03 11 59.3**	**+0.2**
KBZ	**Khabaz**	**51.99**	**315**	P	**P**	**03 11 59.3**	**+0.2**
KBZ	**Khabaz**	**51.99**	**315**	P	**P**	**03 11 59.3**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=109,slow=5.6,SNR=3.6						
KIV	**Kislovodsk**	**52.20**	**315**	*eP*	**P**	**03 12 02.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s						
WRA	**Warramunga Arr**	**52.74**	**129**	P	**P**	**03 12 04.7**	**-0.3**
WRA				PcP	**PcP**	**03 13 15.0**	**+0.6**
WRA	**Warramunga Arr**	**52.74**	**129**	P	**P**	**03 12 04.7**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=314,slow=7.6,SNR=31						
WRA				PcP	**PcP**	**03 13 15.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=316,slow=3.4,SNR=11						
WRAB	**Tennant Creek**	**52.75**	**129**	P	P	03 11 57.9	-7.2
WRAB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRAB	**Tennant Creek**	**52.75**	**129**	P	P	03 11 57.9	-7.2
	comp=Z,2.6nm,1.0s						
ASAR	**Alice Springs**	**54.70**	**133**	P	**P**	**03 12 19.4**	**0.0**
ASAR	**Alice Springs**	**54.70**	**133**	P	**P**	**03 12 19.4**	**0.0**
	comp=Z,2.8nm,0.6s,baz=308,slow=6.7,SNR=50						
BR131	**Keskin Array S**	**57.78**	**308**	*eP*	**P**	**03 12 41.2**	**-0.2**
	comp=Z,4.0nm,0.9s						
BR131				*ep*P	**pP**	**03 12 50.1**	**-1.0**
BRTR	**Keskin Array B**	**57.78**	**308**	P	**P**	**03 12 41.1**	**-0.2**
BRTR	**Keskin Array B**	**57.78**	**308**	P	**P**	**03 12 41.1**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=124,slow=8.0,SNR=27						
OBN	**Obninsk**	**59.72**	**326**	‖ *iP*	**P**	**03 12 55.2**	**+0.9**
OBN				*e*		03 13 41.1	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TIXI	**Tiksi**	**61.46**	**12**	*eP*	**P**	**03 13 05.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,81nm,24.0s						
STKA	**Stephens Creek**	**65.09**	**135**	P	**P**	**03 13 30.2**	**-0.4**
STKA	**Stephens Creek**	**65.09**	**135**	P	**P**	**03 13 30.2**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=319,slow=9.2,SNR=5.6						
STKA				LR	LR	03 46 19.6	
	comp=Z,170nm,19.4s,baz=24,slow=40						
FINES	**FINESS Array B**	**66.87**	**331**	P	**P**	**03 13 41.2**	**-0.3**
FINES	**FINESS Array B**	**66.87**	**331**	P	**P**	**03 13 41.2**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=108,slow=7.7,SNR=13						
CRVS	**Cervenica-Dubn**	**67.53**	**317**	*eP*	**P**	**03 13 46.8**	**+0.8**
CRVS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CRVS	**Cervenica-Dubn**	**67.53**	**317**	*eP*	**P**	**03 13 46.8**	**+0.8**
CRVS				*e*PP	**PP**	**03 16 12.7**	**-2.3**
STHS	**Stebnicka Huta**	**67.71**	**318**	*eP*	**P**	**03 13 47.4**	**+0.2**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	**Stebnicka Huta**	**67.71**	**318**	*eP*	**P**	**03 13 47.4**	**+0.2**
ARCES	**ARCESS Array B**	**69.20**	**340**	P	**P**	**03 13 56.3**	**+0.3**
ARCES	**ARCESS Array B**	**69.20**	**340**	P	**P**	**03 13 56.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.4,SNR=6.2						
ARCES				LR	LR	03 49 43.9	
	comp=Z,56nm,18.4s,baz=82,slow=41						
MORC	**Moravsky Berou**	**70.14**	**318**	*eP*	**P**	**03 14 02.2**	**-0.1**
MORC				*e**PP	**pP**	**03 14 12.7**	**+0.4**
MORC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MORC	**Moravsky Berou**	**70.14**	**318**	*eP*	**P**	**03 14 02.2**	**-0.1**
	comp=Z,8.4nm,1.2s						
MORC				*ep*P	**pP**	**03 14 12.7**	**+0.4**
BRG	**Berggiesshubel**	**72.45**	**319**	*eP*	**P**	**03 14 16.9**	**+0.7**
	comp=Z,5.0nm,0.9s						
BRG				*e*		03 14 27.3	
	comp=Z,5.2nm,1.1s						
BRG	**Berggiesshubel**	**72.45**	**319**	*eP*	**P**	**03 14 16.9**	**+0.7**
BRG				*e*		03 14 27.3	
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GEC2	**GERESS Array S**	**72.65**	**317**	*eP*	**P**	**03 14 18.3**	**+0.8**
GEC2	**GERESS Array S**	**72.65**	**317**	*eP*	**P**	**03 14 18.3**	**+0.8**
GERES	**GERESS Array B**	**72.65**	**317**	P	**P**	**03 14 17.6**	**+0.1**
GERES	**GERESS Array B**	**72.65**	**317**	P	**P**	**03 14 17.6**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=86,slow=5.9,SNR=31						
GERES				LR	LR	03 53 18.3	
	comp=Z,27nm,20.1s,baz=334,slow=42						
NB2	**NORSAR Subarra**	**73.94**	**330**	P	**P**	**03 14 24.3**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**73.94**	**330**	P	**P**	**03 14 24.6**	**-0.2**
NOA	**NORSAR Array B**	**73.94**	**330**	P	**P**	**03 14 24.6**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=89,slow=5.8,SNR=11						
NOA				LR	LR	03 52 45.3	
	comp=Z,20nm,19.3s,baz=105,slow=40						
NAO01	**NORSAR Array S**	**74.10**	**330**	*eP*	**P**	**03 14 25.0**	**-0.7**
	comp=Z,5.5nm,0.9s						
CDF	**Champ du Feu**	**76.93**	**317**	*eP*	**P**	**03 14 41.7**	**-0.6**
KEST	**Kesra**	**76.97**	**304**	*eP*	**P**	**03 14 42.8**	**0.0**
KEST	**Kesra**	**76.97**	**304**	P	**P**	**03 14 42.5**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=209,slow=19,SNR=5.4						
HAU	**Haudompre**	**77.59**	**317**	*eP*	**P**	**03 14 45.3**	**-0.7**
	comp=Z,4.3nm,0.6s						
LPG	**La Plagne**	**77.63**	**314**	*eP*	**P**	**03 14 46.6**	**0.0**
	comp=Z,12nm,0.7s						
LPL	**La Plagne**	**77.64**	**314**	*eP*	**P**	**03 14 46.6**	**0.0**
	comp=Z,18nm,0.7s						
MBDF	**Montbardon**	**77.72**	**313**	*eP*	**P**	**03 14 45.8**	**-1.1**
	comp=Z,7.9nm,0.9s						
BNI	**Bardonecchia**	**77.74**	**314**	*eP*	**P**	**03 14 46.8**	**-0.2**
BNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BNI	**Bardonecchia**	**77.74**	**314**	*eP*	**P**	**03 14 46.8**	**-0.2**
	comp=Z,6.0nm,0.9s						
CABF	**La Chapelle**	**77.95**	**315**	*eP*	**P**	**03 14 47.9**	**-0.1**
	comp=Z,8.7nm,0.9s						
FRF	**La Foret Royal**	**77.97**	**312**	*eP*	**P**	**03 14 47.8**	**-0.3**
	comp=Z,5.2nm,0.6s						
BOSA	**Boshof**	**78.06**	**236**	P	**P**	**03 14 49.1**	**+0.1**
BOSA	**Boshof**	**78.06**	**236**	P	**P**	**03 14 49.1**	**+0.1**
	comp=Z,5.8nm,1.1s,baz=112,slow=5.4,SNR=3.4						
LMR	**La Mourre**	**78.10**	**312**	*eP*	**P**	**03 14 48.5**	**-0.3**
	comp=Z,6.6nm,0.8s						
SMRF	**Simiane la Rot**	**78.67**	**313**	*eP*	**P**	**03 14 52.3**	**+0.2**
	comp=Z,5.8nm,0.8s						
BAIF	**Baives**	**78.71**	**319**	*eP*	**P**	**03 14 52.2**	**+0.1**
VIVF	**Saint-Julien-l**	**79.18**	**314**	*eP*	**P**	**03 14 54.5**	**-0.3**
LOR	**Lormes**	**79.36**	**316**	*eP*	**P**	**03 14 55.1**	**-0.6**
	comp=Z,8.5nm,1.1s						
SMF	**Signal de Mont**	**79.47**	**316**	*eP*	**P**	**03 14 55.7**	**-0.6**
	comp=Z,6.5nm,0.7s						
SSF	**Saint Saulge**	**79.63**	**316**	*eP*	**P**	**03 14 56.8**	**-0.4**
	comp=Z,4.3nm,0.7s						
AVF	**Avril sur Loir**	**79.78**	**316**	*eP*	**P**	**03 14 57.4**	**-0.6**
	comp=Z,5.9nm,0.9s						
BGF	**Bois d'Agland**	**80.17**	**316**	*eP*	**P**	**03 15 00.1**	**0.0**
	comp=Z,6.3nm,0.8s						
TCF	**Toulx Ste Croi**	**80.65**	**315**	*eP*	**P**	**03 15 02.6**	**-0.1**
	comp=Z,9.0nm,1.0s						
CAF	**Calviac**	**81.00**	**314**	*eP*	**P**	**03 15 04.6**	**0.0**
MTLF	**Montolieu**	**81.18**	**312**	*eP*	**P**	**03 15 05.5**	**-0.1**
RJF	**Les Rejaudoux**	**81.31**	**314**	*eP*	**P**	**03 15 06.3**	**+0.1**
LDF	**La Druitiere**	**81.76**	**318**	*eP*	**P**	**03 15 08.1**	**-0.4**
	comp=Z,11nm,0.8s						
MFF	**Saint Martin d**	**82.18**	**316**	*eP*	**P**	**03 15 10.5**	**-0.3**
	comp=Z,5.7nm,0.7s						
SGMF	**Saint Gilles**	**83.41**	**318**	*eP*	**P**	**03 15 16.9**	**-0.2**
ESDC	**Sonseca Array**	**86.53**	**310**	P	**P**	**03 15 33.0**	**-0.1**
ESDC	**Sonseca Array**	**86.53**	**310**	P	**P**	**03 15 33.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=62,slow=4.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**88.24**	**283**	P	**P**	**03 15 41.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**88.24**	**283**	P	**P**	**03 15 41.9**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=85,slow=4.5,SNR=17						
ILAR	**Eielson Array**	**89.46**	**22**	P	**P**	**03 15 46.3**	**-0.1**
ILAR	**Eielson Array**	**89.46**	**22**	P	**P**	**03 15 46.3**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=300,slow=4.5,SNR=16						
INK	**Inuvik**	**91.40**	**16**	LR	LR	04 02 24.5	
	comp=Z,38nm,19.7s,baz=212,slow=39						
NVAR	**Mina Array Bea**	**120.10**	**28**	PKP	**PKPdf**	**03 21 40.6**	**-0.6**
NVAR	**Mina Array Bea**	**120.10**	**28**	PKP	**PKPdf**	**03 21 40.6**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=302,slow=1.8,SNR=4.0						
TXAR	**Lajitas Array**	**133.96**	**21**	PKP	**PKPdf**	**03 22 08.2**	**+0.6**
TXAR	**Lajitas Array**	**133.96**	**21**	PKP	**PKPdf**	**03 22 08.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=174,slow=1.8,SNR=5.0						

KRSC 12 03:06:15.4±0.8, 55°60N×161°13E, h159km±38km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.42**	**324**	*iP*	Pn	03 06 39.0	+1.5
BZGR				*i*S	Sn	03 06 56.3	+1.8
ZLN	**Zelenaya**	**0.46**	**336**	*eP*	Pn	03 06 39.0	+1.3
ZLN				*i*S	Sn	03 06 56.4	+1.6
BZMR	**Bezymyannaya**	**0.49**	**313**	*eP*	Pn	03 06 39.1	+1.2
BZMR				*i*S	Sn	03 06 56.3	+1.1
KMNR	**Kamenistaya**	**0.53**	**288**	*iP*	Pn	03 06 39.4	+1.4
KMNR				*i*S	Sn	03 06 57.0	+1.7
LGNR	**Loginova**	**0.54**	**333**	P	Pn	03 06 39.3	+1.0
LGNR				*i*S	Sn	03 06 56.7	+0.8
CIRR	**Tsirk**	**0.56**	**338**	*eP*	Pn	03 06 38.7	+0.5
CIRR				*i*S	Sn	03 06 55.8	0.0
KIRR	**Kirishev**	**0.57**	**309**	*eP*	Pn	03 06 39.0	+0.7
KIRR				*i*S	Sn	03 06 56.3	+0.5
KPT	**Kopyto**	**0.63**	**306**	*eP*	Pn	03 06 39.2	+0.7
KPT				*e*S	Sn	03 06 56.6	+0.3
TUMR	**Tumrok**	**0.64**	**241**	*iP*	Pn	03 06 40.5	+1.8
TUMR				*i*S	Sn	03 06 58.3	+1.9
KRSR	**Krestovskiy**	**0.69**	**333**	*eP*	Pn	03 06 39.4	+0.5
KRSR				*i*S	Sn	03 06 57.0	0.0
KLY	**Klyuchi**	**0.76**	**340**	*iP*	Pn	03 06 39.6	+0.4
KLY				*i*S	Sn	03 06 57.4	-0.1
KOZ	**Kozyrevsk**	**0.84**	**303**	P	Pn	03 06 40.5	+0.7
KOZ				*i*S	Sn	03 06 58.4	-0.2
BDR	**Baidarnaya**	**0.97**	**3**	*iP*	Pn	03 06 41.5	+0.7
BDR				*i*S	Sn	03 07 00.4	-0.1
SMKR	**Semkarok**	**1.00**	**11**	*iP*	Pn	03 06 41.7	+0.6
SMKR				*i*S	Sn	03 07 00.9	0.0
SRKR	**Sorokina**	**1.06**	**1**	*iP*	Pn	03 06 42.0	+0.5
SRKR				*i*S	Sn	03 07 01.2	-0.5
SRDR	**Sredinnyy**	**1.07**	**313**	*eP*	Pn	03 06 42.0	+0.4
SRDR				*e*S	Sn	03 07 01.3	-0.6
MKZ	**Mys Kozlova**	**1.10**	**162**	*iP*	Pn	03 06 43.3	+1.5
MKZ				*i*S	Sn	03 07 03.6	+1.6
KBTR	**Krutoberegovo**	**1.13**	**57**	*iP*	Pn	03 06 42.7	+0.7
KBTR				*i*S	Sn	03 07 02.7	+0.1
ESO	**Esso**	**1.41**	**284**	*eP*	Pn	03 06 45.4	+0.7
KII	**Karymskiy**	**1.84**	**213**	*iP*	Pn	03 06 51.6	+2.2
SPN	**Mys Shipunski**	**2.59**	**195**	*iP*	Pn	03 06 58.2	+0.2
SPN				*i*S	Sn	03 07 30.1	-0.8
NLC	**Nalytchevo**	**2.65**	**204**	*eP*	Pn	03 06 59.9	+1.2
NLC				*i*S	Sn	03 07 32.5	+0.3
GNL	**Ganaly**	**2.66**	**225**	*iP*	Pn	03 07 00.7	+1.7
SDLR	**Sedlovina**	**2.67**	**210**	*iP*	Pn	03 07 01.0	+1.8
KRER	**Koryakskii**	**2.69**	**212**	*eP*	Pn	03 07 01.9	+2.4
AVH	**Avacha**	**2.73**	**212**	*iP*	Pn	03 07 02.1	+2.3
KOK	**Koryaka**	**2.73**	**213**	*eP*	Pn	03 07 02.3	+2.4
UGLR	**Uglovaya**	**2.75**	**210**	*iP*	Pn	03 07 02.1	+2.0
BKI	**Bering**	**2.79**	**96**	*iP*	Pn	03 07 02.7	+2.3
BKI				*i*S	Sn	03 07 36.8	+1.6
RUS	**Russkaya**	**3.53**	**207**	*eP*	Pn	03 07 10.2	+0.5
RUS				*e*S	Sn	03 07 51.1	-0.9
APC	**Apacha**	**3.55**	**223**	*eP*	Pn	03 07 12.8	+2.8
MTVR	**Mutnovka**	**3.57**	**210**	P	Pn	03 07 11.9	+1.4
MTVR				*i*S	Sn	03 07 54.0	+0.6
ASAK	**Asacha**	**3.75**	**212**	*iP*	Pn	03 07 14.2	+1.5

IDC ***12*** *03:07:58.8±1.4, 22°52S×66°01W, h240km±15km, mb3.3/1, mb1 3.1/5, mb1mx2.9/18, mbtmp3.0/5, Error ellipse: s-maj=27.2km s-min=14.9km az=89.0*
ISCJB ***12*** *03:07:59.0±0.6, 22°53S±0°05×66°1W±0°1, h262km±18km, mb3.5/1, Error ellipse: s-maj=15.4km s-min=7.7km az=5.4*
GUC ***12*** *03:08:01.9±0.5, 22°41S×66°69W, h290km, ML4.6*

ISC 12 03:07:59.8±0.9, 22°45S±0°07×66°04W±0°10, h248km±12km, n17, σ1°28/23, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**3.04**	**282**	*eP*	**Pn**	**03 08 54.4**	**+1.7**
PB09				AML	AML	03 09 40.5	
	comp=N,669nm,0.1s						
PB01	**Plate Boundary**	**3.49**	**293** ⇑	*eP*	**Pn**	**03 08 58.8**	**+1.0**
PB01				*e*S	**S**	**03 09 42.9**	**-0.8**
PB01				AML	AML	03 09 45.2	
	comp=N,503nm,0.1s						
PB07	**Plate Boundary**	**3.64**	**281** ⇑	*eP*	**Pn**	**03 09 00.6**	**+1.1**
PB07				*e*S	**S**	**03 09 45.0**	**-1.7**
PB07				AML	AML	03 09 47.3	
	comp=E,575nm,0.4s						
CEN1	**Los Morros**	**3.94**	**255**	*eP*	**Pn**	**03 09 05.8**	**+2.8**
CEN1				*e*S	**S**	**03 09 53.2**	**+0.1**
CEN1				AML	AML	03 09 56.0	
	comp=E,233nm,0.6s						
ANCH	**Antofagasta**	**4.21**	**252**	*eP*	**Pn**	**03 09 06.9**	**+1.0**
PB10	**Plate Boundary**	**4.29

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.26**	**291**	*e*PG	**Pg**	**03 24 47.2**	**-0.3**
PUK				*i* SG	**Sg**	**03 24 51.3**	**0.0**
PUK	**Puka**	**0.26**	**291**	*e*Pg	**Pg**	**03 24 47.2**	**-0.3**
	SNR=11						
PUK				*i* Sg	**Sg**	**03 24 51.3**	**0.0**
	SNR=11						
PHP	**Peshkopia**	**0.31**	**148**	*e*PG	**Pg**	**03 24 47.9**	**-0.4**
PHP				*i* SG	**Sg**	**03 24 53.2**	**+0.6**
PHP	**Peshkopia**	**0.31**	**148**	*e*Pg	**Pg**	**03 24 47.9**	**-0.4**
	SNR=11						
PHP				*i* Sg	**Sg**	**03 24 53.2**	**+0.6**
	SNR=11						
BCI	**Bajram Curri**	**0.43**	**345**	*e*PG	**Pg**	**03 24 50.4**	**-0.2**
BCI				*i* SG	**Sb**	**03 24 58.6**	**+0.6**
BCI	**Bajram Curri**	**0.43**	**345**	*e*Pg	**Pg**	**03 24 50.4**	**-0.2**
	SNR=10.0						
PRZK	**Prizren**	**0.48**	**56**	P	**Pg**	**03 24 51.5**	**+0.1**
PRZK				S	**Sb**	**03 24 58.9**	**-0.3**
TIR	**Tirane**	**0.66**	**204**	*i* SG	**Sn**	**03 25 06.5**	**-0.7**
TIR	**Tirane**	**0.66**	**204**	*e*Pg	**Pb**	**03 24 55.1**	**-0.2**
TIR				*i* Sg	**Sn**	**03 25 07.0**	**-0.2**
TIR	**Tirane**	**0.66**	**204**	*e*Pg	**Pb**	**03 24 55.1**	**-0.2**
TIR				*i* Sg	**Sn**	**03 25 07.0**	**-0.2**
PEJK	**Peje**	**0.69**	**3**	P	**Pb**	**03 24 55.3**	**-0.7**
PEJK				S	**Sn**	**03 25 07.3**	**-1.0**
ULC	**Ulcinj**	**0.73**	**272**	P	**Pb**	**03 24 56.1**	**-0.4**
PDG	**Podgorica**	**0.86**	**304**	*e*Pg	**Pg**	**03 24 59.2**	**+0.5**
PDG				*e*Sg	**Sn**	**03 25 11.9**	**-0.4**
PDG	**Podgorica**	**0.86**	**304**	*e*Pg	**Pg**	**03 24 59.2**	**+0.5**
PDG				*e*Sg	**Sn**	**03 25 11.9**	**-0.4**
SKO	**Skopje**	**0.91**	**88**	*e*Pg	**Pg**	**03 24 59.6**	**0.0**
SKO				*i* Sg	**Sn**	**03 25 12.6**	**-0.8**
SKO				*e*Lg	Lg	03 25 13.1	
	comp=E,51nm,0.3s						
SKO				*e*Lg	Lg	03 25 13.2	
	comp=N,96nm,0.3s						
SKO	**Skopje**	**0.91**	**88**	*e*Pg	**Pg**	**03 24 59.5**	**0.0**
SKO				*i* Sg	**Sn**	**03 25 12.6**	**-0.8**
SKO				*e*Lg	Lg	03 25 13.2	
	comp=N,96nm,0.3s						
BEY	**Berane**	**0.95**	**345**	P	**Pb**	**03 25 00.3**	**-0.1**
BIA	**Bitola**	**1.24**	**138**	*e*Pg	**Pn**	**03 25 04.9**	**-0.2**
BIA				*i* Sg	**Sg**	**03 25 23.6**	**+1.5**
BIA	**Bitola**	**1.24**	**138**	*e*Pg	**Pn**	**03 25 04.8**	**-0.2**
BIA				*i* Sg	**Sg**	**03 25 23.5**	**+1.5**
SJES	**Sjenica**	**1.32**	**352**	*e*Pg	**Pg**	**03 25 07.4**	**0.0**
SJES	**Sjenica**	**1.32**	**352**	*e*Pg	**Pg**	**03 25 07.4**	**0.0**
SELS	**Selova**	**1.43**	**27**	*e*Pg	**Pg**	**03 25 09.6**	**+0.1**
SELS				*i* Sg	**Sg**	**03 25 27.8**	**-0.3**
BARS	**Barje**	**1.47**	**53**	*e*Pg	**Pg**	**03 25 10.7**	**+0.6**
BARS				*e*Sg	**Sg**	**03 25 29.3**	**+0.2**
BARS	**Barje**	**1.47**	**53**	*e*Pg	**Pg**	**03 25 10.7**	**+0.6**
BARS				*e*Sg	**Sg**	**03 25 29.3**	**+0.2**
GRUS	**Gruza**	**1.97**	**10**	*e*Pn	**Pb**	**03 25 18.2**	**+0.5**
GRUS	**Gruza**	**1.97**	**10**	*e*Pn	**Pb**	**03 25 18.2**	**+0.5**
STON	**Ston**	**2.08**	**297**	*e*Pn	**Pb**	**03 25 19.4**	**-0.2**
STON				Sn	**Sg**	**03 25 51.1**	**+2.2**
STON	**Ston**	**2.08**	**297**	*e*Pn	**Pb**	**03 25 19.4**	**-0.2**

*IDC **12** 03:26:22.6±1.1, 32°.42S×177°.95W, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.9/17, mbtmp4.0/5, ML3.8/1, MS3.8/9, Ms1 3.8/9, ms1mx3.4/34, Error ellipse: s-maj=41.2km s-min=24.6km az=145.0*

ISC 12 03:26:25.8±1.2, 32°.4S±0°.2×177°.9W±0°.2, h20km, n23, σ1§10/10, mb3.9/4, MS3.9/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.12**	**213**	Pn	**Pn**	**03 28 08.3**	**-0.4**
	1.8nm,0.3s,baz=23,slow=7.7,SNR=13						
URZ				Sn	**Sn**	**03 29 29.6**	**+0.7**
	4.9nm,0.3s,baz=180,slow=20,SNR=12						
DZM	**Mont Dzumac**	**17.26**	**303**	*e*LR	LR	03 34 00.8	
	386nm,23.9s						
DZM	**Mont Dzumac**	**17.26**	**303**	LR	LR	03 35 48.1	
	comp=Z,461nm,18.5s,baz=26,slow=33						
TBI	**Tubuai**	**26.67**	**77**	*e*LR	LR	03 38 58.8	
	99nm,26.8s						
PPT2	**Papeete2**	**29.52**	**67**	*e*LR	LR	03 40 13.8	
	72nm,23.2s						
HNR	**Honiara**	**30.67**	**313**	LR	LR	03 42 35.1	
	comp=Z,77nm,18.1s,baz=266,slow=32						
STKA	**Stephens Creek**	**34.13**	**260**	P	**P**	**03 33 10.4**	**+1.1**
	0.6nm,0.3s,baz=120,slow=12,SNR=3.5						
PMG	**Port Moresby**	**39.54**	**298**	LR	LR	03 48 19.3	
	comp=Z,72nm,18.4s,baz=107,slow=33						
ASAR	**Alice Springs**	**43.09**	**269**	P	**P**	**03 34 24.1**	**-0.6**
	1.0nm,0.4s,baz=109,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.26**	**274**	P	**P**	**03 34 34.0**	**-0.1**
	3.0nm,0.3s,baz=112,slow=8.1,SNR=96						
WRA				LR	LR	03 53 24.1	
	comp=Z,163nm,18.1s,baz=95,slow=37						
FITZ	**Fitzroy Crossi**	**52.43**	**271**	LR	LR	03 57 32.9	
	comp=Z,153nm,18.0s,baz=91,slow=36						
NWAO	**Narrogin (SRO)**	**53.77**	**251**	LR	LR	03 55 45.9	
	comp=Z,122nm,18.9s,baz=202,slow=33						
KAPI	**Kappang**	**64.03**	**281**	LR	LR	04 04 15.0	
	comp=Z,71nm,18.1s,baz=107,slow=36						
SNAA	**Sanae**	**76.17**	**178**	*e*P	P	03 38 25.0	+13
VNA2	**Neumayer--Watz**	**76.75**	**177**	*e*P	P	03 38 29.4	+14
VNA1	**Neumayer--Stat**	**76.98**	**176**	*e*P	P	03 38 30.8	+14
PETK	**Petropavlovsk-**	**87.75**	**346**	LR	LR	04 17 31.9	
	comp=Z,17nm,18.7s,baz=114,slow=35						
YBH	**Yreka Blue Hor**	**89.57**	**38**	LR	LR	04 12 14.5	
	comp=Z,45nm,18.8s,baz=346,slow=31						
NVAR	**Mina Array Bea**	**89.66**	**43**	P	**P**	**03 39 23.8**	**+1.4**
	0.2nm,0.5s,baz=205,slow=3.9,SNR=2.6						
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc	**PKPbc**	**03 46 06.1**	**-0.2**
	1.4nm,0.5s,baz=32,slow=3.5,SNR=12						
HFS	**Hagfors**	**151.20**	**348**	PKPbc	**PKPbc**	**03 46 16.5**	**-0.4**
	2.5nm,0.8s,baz=108,slow=4.7,SNR=4.5						
BRTR	**Keskin Array B**	**153.54**	**295**	PKPbc	**PKPbc**	**03 46 21.1**	**-2.0**
	0.8nm,0.9s,baz=123,slow=4.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**160.84**	**179**	PKPab	**PKPab**	**03 47 06.6**	**-0.5**
	0.2nm,0.8s,baz=179,slow=4.3,SNR=4.2						

*IDC **12** 03:35:28.9±1.4, 38°.97N×28°.94E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/27, mbtmp3.4/5, ML3.7/2, MS2.6/2, Ms1 2.6/2, ms1mx2.2/36, Error ellipse: s-maj=33.9km s-min=16.4km az=168.0*

*ISK **12** 03:35:28.9, 39°.11N×29°.06E, h5km, ML3.6*

*ISCJB **12** 03:35:29.8±0.4, 39°.11N±0°.01×29°.04E±0°.02, h4km±3km, mb3.4/3, MS2.4/1, Error ellipse: s-maj=2.5km s-min=2.3km az=159.5*

*DDA **12** 03:35:29.4, 39°.11N×29°.04E, h14km, ML3.6*

*CSEM **12** 03:35:30.2±0.1, 39°.10N×29°.05E, h2km, ML3.6, Error ellipse: s-maj=2.1km s-min=1.9km az=85.0*

*ATH **12** 03:35:43.3, 39°.11N×27°.85E, h37km, MD3.6/5*

ISC 12 03:35:30.4±1.0, 39°.11N±0°.01×29°.03E±0°.01, h8km±7km, n187, σ0§88/225, mb3.4/3, 8C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**254**	*i* P	**Pg**	**03 35 35.3**	**-0.2**
DEMI				*i* S	**Sg**	**03 35 39.0**	**0.0**
DEMI	**Demirci**	**0.26**	**254**	*i* P	**Pg**	**03 35 35.3**	**-0.2**
DEMI				*i* S	**Sg**	**03 35 39.0**	**0.0**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**03 35 37.1**	**-0.3**
GDZ				*i* S	**Sg**	**03 35 42.1**	**+0.1**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**03 35 37.1**	**-0.3**
GDZ				*i* S	**Sg**	**03 35 42.1**	**+0.1**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**03 35 42.5**	**-0.5**
DURS				*i* S	**Sg**	**03 35 51.4**	**-0.1**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**03 35 42.5**	**-0.5**
DURS				*i* S	**Sg**	**03 35 51.4**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	PG	**Pg**	**03 35 42.7**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**206**	*i* Pg	**Pg**	**03 35 42.7**	**-0.5**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**03 35 43.8**	**-0.6**
MANT				*i* S	**Sg**	**03 35 53.3**	**-0.5**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**03 35 43.8**	**-0.6**
MANT				*i* S	**Sg**	**03 35 53.3**	**-0.5**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pg**	**03 35 45.9**	**-0.4**
KHAL				*i* S	**Sg**	**03 35 56.3**	**-0.7**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pg**	**03 35 45.9**	**-0.4**
KHAL				*i* S	**Sg**	**03 35 56.3**	**-0.7**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**03 35 47.0**	**-0.2**
KHL				*e*SG	**Sg**	**03 35 59.0**	**+0.3**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**03 35 47.1**	**-0.2**
KHL				*e*Sg	**Sg**	**03 35 59.0**	**+0.3**
ORLT	**Orhaneli**	**0.94**	**354**	*e*PG	**Pg**	**03 35 47.9**	**-0.6**
ORLT	**Orhaneli**	**0.94**	**354**	*e*Pg	**Pg**	**03 35 47.9**	**-0.6**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**03 35 48.9**	**-0.3**
AKHS				*i* S	**Sb**	**03 36 02.4**	**-0.3**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**03 35 48.9**	**-0.3**
AKHS				*i* S	**Sb**	**03 36 02.4**	**-0.3**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**03 35 49.3**	**-1.0**
ULDT				*i* S	**Sg**	**03 36 03.5**	**-0.1**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**03 35 49.3**	**-1.0**
ULDT				*i* S	**Sg**	**03 36 03.6**	**-0.1**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pg**	**03 35 50.3**	**0.0**
BALB				*e*SG	**Sn**	**03 36 05.0**	**-1.0**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pg**	**03 35 50.3**	**0.0**
BALB				*e*Sg	**Sn**	**03 36 05.0**	**-1.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	**03 35 53.5**	**-0.8**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	**03 35 53.5**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pn**	**03 35 53.8**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pn**	**03 35 53.8**	**-0.6**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**03 35 54.1**	**-0.3**
BALY				*i* S	**Sb**	**03 36 10.8**	**-0.1**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**03 35 54.1**	**-0.3**
BALY				*i* S	**Sb**	**03 36 10.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**03 35 54.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**03 35 54.1**	**-0.4**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**03 35 54.9**	**-0.3**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*Pn	**Pn**	**03 35 54.9**	**-0.3**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**03 35 54.8**	**-0.8**
BORA				*i* S	**Sg**	**03 36 13.8**	**+0.2**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**03 35 54.8**	**-0.8**
BORA				*i* S	**Sg**	**03 36 13.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**03 35 56.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pb**	**03 35 56.6**	**-0.2**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pn**	**03 35 55.9**	**-0.8**
DNZL				*i* S	**Sg**	**03 36 17.0**	**+0.9**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pn**	**03 35 55.9**	**-0.8**
DNZL				*i* S	**Sg**	**03 36 17.0**	**+0.9**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**03 35 56.8**	**-0.5**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pb**	**03 35 56.8**	**-0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**03 35 57.1**	**0.0**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**03 35 57.1**	**0.0**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pn**	**03 35 57.3**	**0.0**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pn**	**03 35 57.3**	**0.0**
SEYT	**Eskypehyr**	**1.47**	**73**	*i* P	**Pn**	**03 35 57.1**	**-0.2**
SEYT				*i* S	**Sb**	**03 36 17.3**	**+0.4**
SEYT	**Eskypehyr**	**1.47**	**73**	*i* P	**Pn**	**03 35 57.1**	**-0.2**
SEYT				*i* S	**Sb**	**03 36 17.3**	**+0.4**
YLV	**Yalova**	**1.48**	**10**	*e*PN	**Pb**	**03 35 57.9**	**-0.3**
YLV	**Yalova**	**1.48**	**10**	*e*Pn	**Pb**	**03 35 57.9**	**-0.3**
BNT	**Bandirma**	**1.51**	**326**	*e*PN	**Pb**	**03 35 58.5**	**-0.2**
BNT	**Bandirma**	**1.51**	**326**	*e*Pn	**Pb**	**03 35 58.5**	**-0.2**
GPA	**Golpazari**	**1.53**	**40**	*e*PN	**Pn**	**03 35 58.2**	**0.0**
GPA	**Golpazari**	**1.53**	**40**	*e*Pn	**Pn**	**03 35 58.2**	**0.0**
IZM	**Izmir**	**1.56**	**243**	*e*PN	**Pb**	**03 35 59.4**	**-0.1**
IZM	**Izmir**	**1.56**	**243**	*e*Pn	**Pb**	**03 35 59.4**	**-0.1**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pn**	**03 35 59.9**	**-0.7**
AYDN				*i* S	**Sn**	**03 36 22.0**	**-0.7**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pn**	**03 35 59.9**	**-0.7**
AYDN				*i* S	**Sn**	**03 36 22.0**	**-0.7**
BUY	**Buyukada**	**1.74**	**2**	*i* P	**Pn**	**03 36 00.3**	**-0.6**
BUY				*i* S	**Sn**	**03 36 23.4**	**+0.1**
BUY	**Buyukada**	**1.74**	**2**	*i* P	**Pn**	**03 36 00.3**	**-0.6**
BUY				*i* S	**Sn**	**03 36 23.4**	**+0.1**
ISP	**Isparta**	**1.74**	**137**	*e*PN	**Pn**	**03 36 01.4**	**+0.3**
ISP	**Isparta**	**1.74**	**137**	*e*Pn	**Pn**	**03 36 01.4**	**+0.3**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**03 36 01.0**	**-0.1**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**03 36 01.0**	**-0.1**
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	**03 36 01.9**	**+0.4**
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	**03 36 01.9**	**+0.4**
AYVA	**Ayvalik**	**1.83**	**277**	*i* P	**Pb**	**03 36 04.2**	**+0.1**
AYVA				*i* S	**Sg**	**03 36 29.2**	**0.0**
AYVA	**Ayvalik**	**1.83**	**277**	*i* P	**Pb**	**03 36 04.2**	**+0.1**
KRBG	**Karabiga-Canak**	**1.85**	**314**	*e*PN	**Pb**	**03 36 03.5**	**-1.0**
KRBG	**Karabiga-Canak**	**1.85**	**314**	*e*Pn	**Pb**	**03 36 03.5**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*PN	**Pn**	**03 36 03.3**	**+0.8**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*Pn	**Pn**	**03 36 03.3**	**+0.8**
GOLH	**Golhisar**	**1.92**	**167**	*i* P	**Pn**	**03 36 03.7**	**+0.2**
GOLH				*i* S	**Sn**	**03 36 27.7**	**-0.2**
GOLH	**Golhisar**	**1.92**	**167**	*i* P	**Pn**	**03 36 03.7**	**+0.2**
GOLH				*i* S	**Sn**	**03 36 27.7**	**-0.2**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pn**	**03 36 04.2**	**+0.4**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pn**	**03 36 04.2**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*PN	**Pn**	**03 36 03.8**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*Pn	**Pn**	**03 36 03.8**	**-0.3**
GCAM	**G?zelcaml?**	**2.00**	**226**	*i* P	**Pb**	**03 36 07.2**	**+0.3**
GCAM				*i* S	**Sn**	**03 36 28.5**	**-1.1**
GCAM	**G?zelcaml?**	**2.00**	**226**	*i* P	**Pb**	**03 36 07.2**	**+0.3**
GCAM				*i* S	**Sn**	**03 36 28.5**	**-1.1**
URLA	**Izmir**	**2.05**	**249**	*i* P	**Pb**	**03 36 06.7**	**-1.2**
URLA				*i* S	**Sg**	**03 36 35.0**	**-1.2**
URLA	**Izmir**	**2.05**	**249**	*i* P	**Pb**	**03 36 06.7**	**-1.2**
BCK	**Bucak**	**2.05**	**143**	*e*PN	**Pn**	**03 36 05.8**	**+0.5**
BCK	**Bucak**	**2.05**	**143**	*e*Pn	**Pn**	**03 36 05.8**	**+0.5**
YER	**Yerkesik**	**2.06**	**197**	*e*PN	**Pn**	**03 36 06.0**	**+0.6**
YER	**Yerkesik**	**2.06**	**197**	*e*Pn	**Pn**	**03 36 06.0**	**+0.6**
MLSB	**Milas**	**2.07**	**209**	*e*PN	**Pn**	**03 36 06.0**	**+0.6**
MLSB	**Milas**	**2.07**	**209**	*e*Pn	**Pn**	**03 36 06.0**	**+0.6**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*PN	**Pn**	**03 36 06.7**	**+1.1**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*Pn	**Pn**	**03 36 06.7**	**+1.1**
SILT	**Sile**	**2.09**	**13**	*e*PN	**Pn**	**03 36 06.8**	**+1.0**
SILT	**Sile**	**2.09**	**13**	*e*Pn	**Pn**	**03 36 06.8**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN	**Pn**	**03 36 07.5**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*Pn	**Pn**	**03 36 07.5**	**+1.2**
SART	**Tekirdag**	**2.12**	**318**	*i* P	**Pn**	**03 36 10.5**	**+0.8**
SART				*i* S	**Sg**	**03 36 37.6**	**-1.0**
KLYT	**Kilyos**	**2.14**	**0**	*e*PN	**Pn**	**03 36 06.8**	**+0.4**
KLYT	**Kilyos**	**2.14**	**0**	*e*Pn	**Pn**	**03 36 06.8**	**+0.4**
MFT	**Murefte**	**2.15**	**322**	*e*PN	**Pn**	**03 36 08.0**	**+1.4**
MFT	**Murefte**	**2.15**	**322**	*e*Pn	**Pn**	**03 36 08.0**	**+1.4**
PRK	**Paraskevi**	**2.15**	**274**	*e*PN	**Pn**	**03 36 05.8**	**-0.8**
PRK	**Paraskevi**	**2.15**	**274**	*e*Pn	**Pn**	**03 36 05.8**	**-0.8**
MDUB	**Mudurnu**	**2.15**	**50**	*e*PN	**Pn**	**03 36 07.3**	**+0.6**
MDUB	**Mudurnu**	**2.15**	**50**	*e*Pn	**Pn**	**03 36 07.3**	**+0.6**
LPK	**Lapseki**	**2.16**	**306**	*e*PN	**Pn**	**03 36 07.8**	**+1.1**
LPK	**Lapseki**	**2.16**	**306**	*e*Pn	**Pn**	**03 36 07.8**	**+1.1**
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*PN	**Pn**	**03 36 07.7**	**+1.0**
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*Pn	**Pn**	**03 36 07.7**	**+1.0**
TKR	**Tekirdag**	**2.20**	**329**	*e*PN	**Pn**	**03 36 08.3**	**+1.0**
TKR	**Tekirdag**	**2.20**	**329**	*e*Pn	**Pn**	**03 36 08.3**	**+1.0**
SLVT	**Silivri**	**2.21**	**344**	*e*PN	**Pn**	**03 36 08.6**	**+1.2**
SLVT	**Silivri**	**2.21**	**344**	*e*Pn	**Pn**	**03 36 08.6**	**+1.2**
SMG	**Samos**	**2.22**	**232**	*e*PB	**Pb**	**03 36 11.5**	**+0.7**
SMG	**Samos**	**2.22**	**232**	*e*Pb	**Pb**	**03 36 11.5**	**+0.7**
KIZT	**Kizilcal**	**2.23**	**95**	*e*PN	**Pn**	**03 36 08.1**	**+0.3**
KIZT	**Kizilcal**	**2.23**	**95**	*e*Pn	**Pn**	**03 36 08.1**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.25**	**136**	*e*PN	**Pn**	**03 36 08.5**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.25**	**136**	*e*Pn	**Pn**	**03 36 08.5**	**+0.4**
TURN	**Turunc**	**2.26**	**189**	*i* P	**Pn**	**03 36 08.4**	**+0.3**
TURN	**Turunc**	**2.26**	**189**	*i* P	**Pn**	**03 36 08.4**	**+0.3**
DALY	**Dalyan (Mu¨la**	**2.31**	**188**	*e*PN	**Pn**	**03 36 09.0**	**+0.2**
DALY	**Dalyan (Mu¨la**	**2.31**	**188**	*e*Pn	**Pn**	**03 36 09.0**	**+0.2**
KORT	**Korkueli**	**2.35**	**153**	*i* P	**Pn**	**03 36 10.6**	**+1.1**
KORT				*i* S	**Sg**	**03 36 47.3**	**+1.3**
KORT	**Korkueli**	**2.35**	**153**	*i* P	**Pn**	**03 36 10.6**	**+1.1**
BDRM	**Kayabasi**	**2.40**	**212**	*i* P	**Pn**	**03 36 08.7**	**-1.3**
BDRM	**Kayabasi**	**2.40**	**212**	*i* P	**Pn**	**03 36 08.7**	**-1.3**
BOZC	**Bozcaada**	**2.42**	**288**	*i* P	**Pn**	**03 36 10.0**	**-0.3**
BOZC				*i* S	**Sn**	**03 36 39.5**	**-0.5**
CTYL	**Yal??k??y-??at**	**2.43**	**347**	*e*PN	**Pn**	**03 36 11.8**	**+1.4**
CTYL	**Yal??k??y-??at**	**2.43**	**347**	*e*Pn	**Pn**	**03 36 11.8**	**+1.4**
CHOS	**Chios island**	**2.44**	**254**	*e*PN	**Pn**	**03 36 10.1**	**-0.5**
CHOS	**Chios island**	**2.44**	**254**	*e*Pn	**Pn**	**03 36 10.1**	**-0.5**
BODT	**Bodrum**	**2.46**	**214**	*e*PN	**Pn**	**03 36 11.9**	**+1.1**
BODT	**Bodrum**	**2.46**	**214**	*e*Pn	**Pn**	**03 36 11.9**	**+1.1**
ELL	**Elmali**	**2.46**	**163**	*e*PN	**Pn**	**03 36 11.5**	**+0.5**
ELL	**Elmali**	**2.46**	**163**	*e*Pn	**Pn**	**03 36 11.5**	**+0.5**
FETY	**Fethiye**	**2.47**	**179**	*e*PN	**Pn**	**03 36 11.1**	**0.0**
FETY	**Fethiye**	**2.47**	**179**	*e*Pn	**Pn**	**03 36 11.1**	**0.0**
DAT	**Datca**	**2.64**	**206**	*e*PN	**Pn**	**03 36 14.7**	**+1.2**
DAT	**Datca**	**2.64**	**206**	*e*Pn	**Pn**	**03 36 14.7**	**+1.2**
ENEZ	**Enez**	**2.74**	**307**	*e*PN	**Pn**	**03 36 16.3**	**+1.6**
ENEZ	**Enez**	**2.74**	**307**	*e*Pn	**Pn**	**03 36 16.3**	**+1.6**
LADK	**Ladik-KONYA**	**2.76**	**108**	*e*PN	**Pn**	**03 36 15.9**	**+0.8**
LADK	**Ladik-KONYA**	**2.76**	**108**	*e*Pn	**Pn**	**03 36 15.9**	**+0.8**
PHSR	**Pinarhisar**	**2.77**	**336**	*e*PN	**Pn**	**03 36 16.7**	**+1.6**
PHSR	**Pinarhisar**	**2.77**	**336**	*e*Pn	**Pn**	**03 36 16.7**	**+1.6**
KONT	**Konya--Tatoy**	**2.86**	**113**	*e*PN	**Pn**	**03 36 17.1**	**+0.7**
KONT	**Konya--Tatoy**	**2.86**	**113**	*e*Pn	**Pn**	**03 36 17.1**	**+0.7**
KDZE	**Karadeniz Ereo**	**2.87**	**39**	*e*PN	**Pn**	**03 36 17.5**	**+1.0**
KDZE	**Karadeniz Ereo**	**2.87**	**39**	*e*Pn	**Pn**	**03 36 17.5**	**+1.0**
NIS1	**Nisyros Isl.**	**2.90**	**211**	*e*PN	**Pg**	**03 36 24.2**	**-1.9**
AKAS	**Kas**	**2.91**	**171**	*i* P	**Pn**	**03 36 17.1**	**-0.1**
AKAS	**Kas**	**2.91**	**171**	*i* P	**Pn**	**03 36 17.1**	**-0.1**
ANTO	**Ankara**	**3.01**	**74**	*e*PN	**Pn**	**03 36 19.8**	**+1.3**
ANTO	**Ankara**	**3.01**	**74**	⇑*i*P	**Pg**	**03 36 26.3**	**-1.7**
ANTO	**Ankara**	**3.01**	**74**	*e*Pn	**Pn**	**03 36 19.8**	**+1.3**
SMTH	**Samothraki Isl**	**3.02**	**298**	*e*PN	**Pn**	**03 36 19.1**	**+0.5**
SMTH	**Samothraki Isl**	**3.02**	**298**	*e*Pn	**Pn**	**03 36 19.1**	**+0.5**
LIA	**Limnos Island**	**3.08**	**286**	*e*PN	**Pn**	**03 36 20.1**	**+0.8**
LIA	**Limnos Island**	**3.08**	**286**	*e*Pn	**Pn**	**03 36 20.1**	**+0.8**
AFSR	**Af¨ar-Bala (A**	**3.15**	**83**	*e*PN	**Pn**	**03 36 21.4**	**+0.9**
AFSR	**Af¨ar-Bala (A**	**3.15**	**83**	*e*Pn	**Pn**	**03 36 21.4**	**+0.9**
EDRB	**Edirne**	**3.24**	**328**	*e*PN	**Pn**	**03 36 22.7**	**+1.1**
EDRB	**Edirne**	**3.24**	**328**	*e*Pn	**Pn**	**03

KTJJ	Kamata 2	0.50	72	⇓P		Pn	03 43 45.5	0.0
KTJJ				S		Sb	03 43 52.6	0.0
TK04	Tokai 4	0.64	233	P		Pb	03 43 47.3	-0.1
TK04				eS		Sn	03 43 56.9	+0.8
JOD2	Odawara 2	0.69	45	⇓P		Pb	03 43 48.5	0.0
JOD2				eS		Sb	03 43 58.0	+0.1
JYN	Shimob	0.72	4	⇓P		Pb	03 43 49.0	-0.1
JYN				eS		Sb	03 43 59.1	+0.3
JIM2	Oshima 3	0.78	94	P		Pb	03 43 50.3	+0.4
TK02	Tokai 2	1.02	216	P		Pn	03 43 52.2	-0.2
JMY	Miyakejima3	1.10	129	P		Pb	03 43 55.2	-0.1
MJAR	Matsushiro Arr	1.78	353	Pn		Pb	03 44 06.1	-0.6
	46nm,0.3s,baz=180,slow=14,SNR=225							
MJAR				Sn		Sb	03 44 29.7	+1.0
	66nm,0.3s,baz=186,slow=23,SNR=16							
MAT	Matsushiro	1.78	353	P		Pb	03 44 06.2	-0.6
MAT				S		Sb	03 44 30.6	+1.8
ASAJ	Asahikawa	9.86	18	LR		LR	03 50 14.8	
	comp=Z,47nm,20.1s,baz=1.7,slow=40							
KURBB	Kurchatov Arra	45.56	309	P		P	03 51 50.2	-0.9
	0.2nm,0.6s,baz=86,slow=7.6,SNR=5.3							
WRA	Warramunga Arr	54.55	185	P		P	03 52 59.8	+0.2
	0.7nm,0.4s,baz=1.3,slow=7.6,SNR=22							
ASAR	Alice Springs	58.28	185	P		P	03 53 26.4	+0.3
	0.5nm,0.5s,baz=9.6,slow=9.6,SNR=8.2							

IDC 12 03:51:37.3±3.6, 3°78S×152°33E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/17, mbtmp3.2/2, Error ellipse: s-maj=169.0km s-min=44.6km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.79	226	P	P	03 56 52.2	+0.3
	0.2nm,0.3s,baz=51,slow=9.7,SNR=3.6						
ASAR	Alice Springs	26.61	220	P	P	03 57 17.9	+0.3
	0.2nm,0.4s,baz=59,slow=9.3,SNR=4.0						
TORD	Torodi Ar. Bea	149.54	290	PKPbc	PKPbc	04 11 29.0	-0.9
	0.7nm,0.5s,baz=81,slow=2.1,SNR=19						

IDC 12 04:08:58.4±0.7, 13°.89N×92°.91E, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.9/31, mbtmp3.9/18, ML3.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/44, Error ellipse: s-maj=27.4km s-min=13.5km az=53.0
ISCJB 12 04:09:01.7±0.3, 14°.11N±0°.03×93°.18E±0°.05, h32km, mb4.0/23, MS3.1/1, Error ellipse: s-maj=6.6km s-min=4.7km az=5.9
NEIC 12 04:09:03.9±0.5, 13°.96N×93°.06E, h35km, mb4.0/3, Error ellipse: s-maj=11.6km s-min=8.5km az=46.0
ISC 12 04:09:03.9±0.5, 14°.08N±0°.06×93°.12E±0°.07, h32km, n67, σ1§32/69, mb4.0/23, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.91	191	eP	Pb	04 09 21.3	0.0
DGPR				eS	Sn	04 09 31.3	-1.2
DGPR				AML	AML	04 09 37.3	
	comp=E,3μm,0.3s						
DGPR				AML	AML	04 09 37.9	
	comp=N,5μm,0.5s						
PBA	Port Blair	2.43	189	eP	Pn	04 09 40.9	-0.6
PBA				eS	Sn	04 10 07.9	-2.2
CMAR	Chiang Mai Arr	7.09	51	Pn	Pn	04 10 47.0	+1.4
CMAR				Sn	Sn	04 12 03.7	-1.5
CMAR	Chiang Mai Arr	7.09	51	Pn	Pn	04 10 47.0	+1.4
	comp=N,0.2nm,0.3s,baz=248,slow=15,SNR=6.5						
CMAR				Sn	Sn	04 12 03.7	-1.5
	comp=N,0.6nm,0.3s,baz=242,slow=30,SNR=11						
CHTO	Chiang Mai	7.31	49	ePn	Pn	04 10 48.3	-0.3
	comp=N,4.6nm,0.6s						
CHTO				eS	Sn	04 12 07.2	-3.3
VIS	Vishakhapatnam	10.09	292	eP	Pn	04 11 24.7	-2.0
VIS				ex	x	04 13 08.3	
VIS				AML	AML	04 13 26.4	
	comp=E,44nm,0.5s						
VIS				AML	AML	04 13 26.4	
	comp=N,45nm,0.6s						
BOK	Bokaro	11.84	326	eP	Pn	04 11 49.6	-1.0
PSI	Prapat	12.59	152	LR	LR	04 17 13.6	
	comp=N,104nm,18.8s,baz=181,slow=39						
ODAN	Odare	13.80	338	eP	Pn	04 12 14.2	-3.4
	comp=N,15nm,0.5s						
TAPN	Taplejung	14.14	340	eP	Pn	04 12 21.2	-1.1
	comp=N,30nm,0.7s						
RAMN	Ramite	14.18	336	eP	Pn	04 12 18.7	-4.2
	comp=N,16nm,0.5s						
JIRN	Jiri	14.98	336	eP	Pn	04 12 30.6	-3.2
	comp=N,30nm,0.8s						
NGP	Nagpur	15.13	300	ex	Pn	04 12 30.0	-5.6
PKI	Pulchoki	15.23	333	eP	Pn	04 12 34.1	-3.0
	comp=N,14nm,0.5s						
PKIN	Phulchoki	15.24	333	eP	Pn	04 12 33.8	-3.3
	comp=N,12nm,0.5s						
GUN	Gumba	15.33	335	eP	Pn	04 12 34.9	-3.5
DMN	Daman	15.40	332	eP	Pn	04 12 36.1	-3.1
	comp=N,22nm,0.7s						
LSA	Lhasa	15.65	354	ePn	Pn	04 12 44.4	+1.6
KOLN	Koldanda	16.26	328	eP	Pn	04 12 49.4	-0.8
	comp=N,29nm,0.6s						
LATR	Latur	16.47	287	eP	Pn	04 12 53.8	+1.0
PYUN	Piuthan	16.84	328	eP	Pn	04 12 58.0	+0.5
	comp=N,324nm,1.2s						
BHPL	Bhopal	17.43	304	eP	Pn	04 13 04.7	-0.1
SMLA	Simla	22.42	322	eP	P	04 14 01.1	+1.1
DHRM	DHARAMSHALA	23.74	322	eP	P	04 14 15.0	+1.3
MK31	Makanchi Array	33.86	347	eP	P	04 15 44.3	+0.8
MKAR	Makanchi Array	33.86	347	P	P	04 15 44.3	+0.8
MKAR	Makanchi Array	33.86	347	P	P	04 15 44.3	+0.8
	comp=N,1.8nm,0.7s,baz=157,slow=8.8,SNR=15						
MKAR				LR	LR	04 33 37.2	
	comp=N,39nm,18.9s,baz=259,slow=44						
KKAR	Karatay Array	34.85	330	eP	P	04 15 53.1	+0.9
	comp=N,0.4nm,0.5s						
SONM	Songino Array	35.42	15	P	P	04 15 58.3	+1.1
SONM	Songino Array	35.42	15	P	P	04 15 58.3	+1.1
	comp=N,0.3nm,0.3s,baz=207,slow=6.1,SNR=3.8						
KURBB	Kurchatov Arra	38.33	345	P	P	04 16 21.9	+0.2
	comp=N,2.5nm,0.8s,baz=165,slow=8.2,SNR=18						
KURK	Kurchatov	38.39	345	P	P	04 16 21.9	-0.3
ZALV	Zalesovo Beam	40.31	352	P	P	04 16 38.8	+0.6
ZALV	Zalesovo Beam	40.31	352	P	P	04 16 38.8	+0.6
	comp=N,1.6nm,0.5s,baz=181,slow=7.8,SNR=8.5						
BVAR	Borovoye Array	42.84	340	P	P	04 16 58.6	-0.3
BVAR	Borovoye Array	42.84	340	P	P	04 16 58.6	-0.3
	comp=N,0.5nm,0.5s,baz=142,slow=5.6,SNR=4.1						
ABKAR	Akbulak array	44.38	329	eP	P	04 17 12.2	+0.9
	comp=N,2.1nm,0.8s						
MJAR	Matsushiro Arr	45.98	52	P	P	04 17 25.7	+1.4
MJAR	Matsushiro Arr	45.98	52	P	P	04 17 25.7	+1.4
	comp=N,0.3nm,0.3s,baz=279,slow=7.5,SNR=4.1						
AKTO	Aktyubinsk	46.09	329	P	P	04 17 24.9	-0.1
AKTO	Aktyubinsk	46.09	329	P	P	04 17 24.9	-0.1
	comp=N,0.8nm,0.5s,baz=122,slow=12,SNR=3.5						
WRA	Warramunga Arr	52.80	129	P	P	04 18 15.2	-1.3
WRA				PcP	PcP	04 19 25.5	-0.2
WRA	Warramunga Arr	52.80	129	P	P	04 18 15.2	-1.3
	comp=N,1.6nm,0.6s,baz=294,slow=9.5,SNR=25						
WRA				PcP	PcP	04 19 25.5	-0.2
	comp=N,1.9nm,0.6s,baz=317,slow=3.3,SNR=20						
WRAB	Tennant Creek	52.80	129	eP	P	04 18 15.7	-0.9
	comp=N,3.4nm,0.6s						
ASAR	Alice Springs	54.75	133	P	P	04 18 30.1	-0.8
ASAR				PcP	PcP	04 19 33.2	0.0
ASAR	Alice Springs	54.75	133	P	P	04 18 30.1	-0.8
	comp=N,2.7nm,0.5s,baz=307,slow=6.6,SNR=41						
ASAR				PcP	PcP	04 19 33.2	0.0
	comp=N,0.8nm,0.5s,baz=323,slow=3.1,SNR=5.8						
BRTR	Keskin Array B	57.73	308	P	P	04 18 51.1	-0.9
BRTR	Keskin Array B	57.73	308	P	P	04 18 51.1	-0.9
	comp=N,1.5nm,0.7s,baz=136,slow=9.1,SNR=10						
STKA	Stephens Creek	65.15	135	P	P	04 19 41.4	-0.7
STKA	Stephens Creek	65.15	135	P	P	04 19 41.4	-0.7
	comp=N,2.2nm,0.6s,baz=320,slow=5.9,SNR=6.5						
FINES	FINESS Array B	66.81	331	P	P	04 19 51.4	-0.9
FINES	FINESS Array B	66.81	331	P	P	04 19 51.4	-0.9
	comp=N,1.2nm,0.8s,baz=101,slow=8.0,SNR=4.0						
GERES	GERESS Array B	72.59	317	P	P	04 20 26.7	-1.6
GERES	GERESS Array B	72.59	317	P	P	04 20 26.7	-1.6
	comp=N,0.7nm,0.6s,baz=61,slow=6.6,SNR=5.9						
HFS	Hagfors	72.64	329	P	P	04 20 27.9	-0.3
HFS	Hagfors	72.64	329	P	P	04 20 27.9	-0.3
	comp=N,1.2nm,0.7s,baz=133,slow=6.3,SNR=2.8						
NOA	NORSAR Array B	73.88	330	P	P	04 20 34.1	-1.5
NOA	NORSAR Array B	73.88	330	P	P	04 20 34.1	-1.5
	comp=N,0.7nm,0.8s,baz=87,slow=5.9,SNR=3.2						
LPG	La Plagne	77.58	314	eP	P	04 20 57.8	+0.4
	comp=N,4.9nm,0.9s						
LPL	La Plagne	77.59	314	eP	P	04 20 57.2	-0.1
	comp=N,4.5nm,0.7s						
SMF	Signal de Mont	79.42	316	eP	P	04 21 06.4	-0.7
	comp=N,2.9nm,0.7s						
TORD	Torodi Ar. Bea	88.21	283	P	P	04 21 52.7	+0.1
TORD	Torodi Ar. Bea	88.21	283	P	P	04 21 52.7	+0.1
	comp=N,0.6nm,0.8s,baz=85,slow=3.1,SNR=4.4						
ILAR	Eielson Array	89.40	22	P	P	04 21 58.4	+1.1
ILAR	Eielson Array	89.40	22	P	P	04 21 58.4	+1.1
	comp=N,0.3nm,0.9s,baz=292,slow=4.8,SNR=3.7						
TXAR	Lajitas Array	133.90	20	PKP	PKPdf	04 28 20.4	+1.8
TXAR	Lajitas Array	133.90	20	PKP	PKPdf	04 28 20.4	+1.8
	comp=N,0.1nm,0.7s,baz=233,slow=2.8,SNR=2.7						

ISCJB 12 04:14:04.2±0.4, 51°.51N±0°.02×16°.15E±0°.03, h0km, mb3.1/1, Error ellipse: s-maj=3.0km s-min=2.4km az=18.8
CSEM 12 04:14:06.8±0.2, 51°.48N×16°.10E, h2km, ML3.4/9, Error ellipse: s-maj=4.0km s-min=3.4km az=20.0
IPEC 12 04:14:06.8±0.3, 51°.50N×16°.25E, h0km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0
WAR 12 04:14:07.6, 51°.50N×16°.09E
IDC 12 04:14:07.8±0.6, 51°.52N×15°.78E, h0km, mb3.3/1, mb1 3.4/8, mb1mx3.2/29, mbtmp3.3/8, ML3.2/8, Error ellipse: s-maj=11.7km s-min=5.8km az=98.0
VIE 12 04:14:08.8±0.4, 51°.31N×16°.09E, h0km, mb2.6/3, ML2.9/3, Error ellipse: s-maj=3.9km s-min=2.4km az=48.0 68 km WNW of Wroclaw Suspected Mining induced.
PRU 12 04:14:09.0, 51°.38N×16°.11E, h0km
ISC 12 04:14:05.8±0.6, 51°.54N±0°.03×16°.08E±0°.02, h0km, n60, σ1§45/96, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	169	ePg	Pg	04 14 20.0	+0.7
KSP				eSg	Sg	04 14 28.6	+0.1
KSP	Ksiaz	0.71	169	⇓iPg	Pg	04 14 20.1	+0.7
KSP				eSg	Sg	04 14 28.7	+0.2
UPC	Upice	1.03	182	ePG	Pg	04 14 26.1	+0.5
UPC	Upice	1.03	182	Pg	Pg	04 14 26.1	+0.5
DPC	Dobruska-Polom	1.20	173	ePG	Pg	04 14 28.9	+0.1
DPC				eSG	Sg	04 14 43.5	-0.8
DPC	Dobruska-Polom	1.20	173	Pg	Pg	04 14 28.9	+0.1
DPC				Sg	Sg	04 14 43.5	-0.8
PVCC	Panska Ves	1.39	224	ePG	Pb	04 14 33.0	+0.4
PVCC				eSG	Sg	04 14 51.0	+0.6
	comp=Z,143nm,0.3s						
PVCC	Panska Ves	1.39	224	Pg	Pb	04 14 33.0	+0.4
PVCC				Sg	Sg	04 14 51.0	+0.6
	143nm,0.3s						
BRG	Berggiesshubel	1.50	245	PN	Pn	04 14 34.2	+0.2
BRG				PG	Pg	04 14 35.8	+1.3
BRG				SG	Sn	04 14 55.7	+1.5
	103nm,0.3s						
PRA	Prague	1.80	216	PG	Pn	04 14 39.0	+0.9
PRA				SG	Sb	04 15 03.0	+0.2
PRU	Pruhonice	1.83	213	ePN	Pn	04 14 38.8	+0.3
PRU				ePG	Pb	04 14 40.5	+0.3
PRU				eSG	Sb	04 15 03.7	0.0
	comp=Z,26nm,0.3s						
PRU	Pruhonice	1.83	213	Pn	Pn	04 14 38.8	+0.3
CLL	Collm	1.94	264	ePn	Pn	04 14 41.0	+1.0
CLL				ePg	Pg	04 14 43.0	0.0
CLL				i		04 14 48.0	
CLL				i Sg	Sg	04 15 09.8	+1.7
	comp=Z,31nm,0.4s						
MORC	Moravsky Berou	1.99	152	ePn	Pn	04 14 40.6	-0.2
	baz=335						
MORC				eSg	Sn	04 15 06.9	+0.4
	comp=Z,28nm,0.5s,baz=335						
OKC	Ostrava-Krasne	2.15	142	ePG	Pb	04 14 46.4	+0.8
OKC				eSG	Sb	04 15 12.9	+0.1
OKC	Ostrava-Krasne	2.15	142	Pg	Pb	04 14 46.4	+0.8
OKC				Sg	Sb	04 15 12.9	+0.1
VRAC	Vranov	2.26	171	Pn	Pn	04 14 45.5	+1.1
	comp=Z,4.5nm,0.3s,baz=352,slow=16,SNR=12						
VRAC				Sn	Sb	04 15 15.8	0.0
	comp=Z,6.5nm,0.3s,baz=266,slow=23,SNR=8.7						
VRAC	Vranov	2.26	171	ePn	Pn	04 14 44.8	+0.4
	baz=354						
VRAC				eSg	Sb	04 15 15.9	0.0
	comp=Z,17nm,0.3s,baz=354						
TREC	Trest	2.28	190	ePN	Pn	04 14 45.1	+0.4
TREC				ePG	Pb	04 14 48.6	+0.8
TREC				eSG	Sb	04 15 17.3	+0.8
	comp=Z,24nm,0.3s						
TREC	Trest	2.28	190	Pn	Pn	04 14 45.1	+0.4
KRUC	Moravsky	2.49	175	ePn	Pn	04 14 48.1	+0.6
	baz=358						
KRUC				eSg	Sb	04 15 23.3	+0.8
	comp=Z,14nm,0.3s,baz=358						
NKC	Novy Kostel	2.65	242	ePN	Pn	04 14 51.1	+1.4
NKC				ePG	Pg	04 14 57.2	+0.7
NKC				eSG	Sg	04 15 32.8	+2.1
	comp=Z,33nm,0.3s						
NKC	Novy Kostel	2.65	242	Pn	Pn	04 14 51.1	+1.4
OJC	Ojcow	2.70	118	ePg	Pg	04 14 57.3	-0.2
OJC				eSg	Sg	04 15 32.6	+0.1
KHC	Kasperske Hory	2.89	215	ePN	Pn	04 14 54.1	+0.9
KHC				ePG	Pb	04 15 00.1	+1.8
KHC				eSN	Sn	04 15 28.5	-0.2
KHC				eSG	Sb	04 15 36.6	+2.4
	comp=Z,12nm,0.3s						
KHC	Kasperske Hory	2.89	215	Pn	Pn	04 14 54.1	+0.9
KHC	Kasperske Hory	2.89	215	Pg	Pb	04 15 00.1	+1.8
KHC				Sg	Sb	04 15 36.6	+2.4
	comp=Z,12nm,0.3s						
GERES	GERESS Array B	3.10	210	Pn	Pn	04 14 56.9	+0.9
	comp=Z,1.7nm,0.3s,baz=25,slow=12,SNR=42						
GERES				Pg	Pb	04 15 02.7	+0.9
	comp=Z,3.9nm,0.3s,baz=32,slow=18,SNR=43						
GERES				Sn	Sn	04 15 31.8	-2.1
	comp=Z,4.0nm,0.3s,baz=32,slow=26,SNR=7.1						
GERES				Lg	Lg	04 15 43.6	
	comp=Z,5.4nm,0.3s,baz=33,slow=27,SNR=10						
SMOL	Smolenice	3.15	163	e	Pg	04 15 06.0	-0.1
SMOL	Smolenice	3.15	163	eSG	Sg	04 15 46.4	-0.5
SMOL	Smolenice	3.15	163	eSg	Sg	04 15 46.4	-0.5
ZST	Bratislava	3.41	168	eSG	Sg	04 15 52.8	-2.5
ZST	Bratislava	3.41	168	eSg	Sg	04 15 52.8	-2.5
CONA	Conrad Observa	3.62	182	⇑iPn	Pn	04 15 03.2	+0.1
CONA				⇑iSg	Sg	04 16 01.2	-0.7
	comp=Z,10.0nm,0.4s						
CONA	Conrad Observa	3.62	182	Pn	Pn	04 15 03.2	+0.1
CONA				Sg	Sg	04 16 01.2	-0.7
	comp=Z,10.0nm,0.4s						
BSD	Bornholm Skovb	3.65	349	iP	Pn	04 15 04.4	+0.9
BSD				iS	Sn	04 15 47.2	0.0
BSD	Bornholm Skovb	3.65	349	iP	Pn	04 15 04.4	+0.9
BSD				iS	Sn	04 15 47.2	0.0
STHS	Stebnicka Huta	3.92	121	eSG	Sg	04 16 14.8	+3.0
STHS	Stebnicka Huta	3.92	121	eSg	Sg	04 16 14.8	+3.0
KECS	Kecovo	4.17	135	e	Pg	04 15 25.9	+0.1
KECS	Kecovo	4.17	135	eSG	Sg	04 16 20.8	+1.0
KECS	Kecovo	4.17	135	eSg	Sg	04 16 20.9	+1.1
CRVS	Cervenica-Dubn	4.35	125	eSG	Sg	04 16 25.7	+0.3
CRVS	Cervenica-Dubn	4.35	125	eSg	Sg	04 16 25.7	+0.3
PSZ	Piszkesteto	4.39	144	⇓iP	Pg	04 15 33.2	+3.4
PSZ	Piszkesteto	4.39	144	S	Sb	04 16 21.9	+4.7
KOLS	Kolonicke sedl	4.75	121	ePn	Pn	04 15 19.5	+0.8
KOLS				e		04 15 38.8	
KOLS	Kolonicke sedl	4.75	121	eSG	Sg	04 16 41.2	+2.8
KOLS	Kolonicke sedl	4.75	121	ePn	Pn	04 15 19.5	+0.8
KOLS				eSg	Sg	04 16 41.2	+2.8
VOY	Vojsko	5.70	196	ePn	Pn	04 15 33.3	+1.6
VOY	Vojsko	5.70	196	Pn	Pn	04 15 33.3	+1.6
DAVOX	Davos/Dischmat	6.26	223	Pn	Pn	04 15 40.2	+0.7
	comp=Z,0.3nm,0.3s,baz=354,slow=10,SNR=3.5						
DAVOX				Lg	Lg	04 17 23.1	
	comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.3						
AKASG	Malin Array Be	8.31	91	Pn	Pn	04 16 08.6	+1.0
	comp=Z,1.4nm,0.3s,baz=282,slow=12,SNR=2.0						
AKASG				Lg	Lg	04 18 38.1	
	baz=277,slow=26,SNR=1.7						
HFS	Hagfors	8.72	352	Pn	Pn	04 16 12.3	-0.8
	comp=Z,0.1nm,0.3s,baz=157,slow=15,SNR=3.3						
HFS				Sn	Sn	04 17 47.2	-4.7
	comp=Z,0.1nm,0.3s,baz=176,slow=26,SNR=2.4						
MLR	Muntele Rosu	8.91	129	Pn	Pn	04 16 15.6	-0.2
	comp=Z,0.1nm,0.3s,baz=288,slow=15,SNR=4.0						
NOA	NORSAR Array B	9.90	346	Pn	Pn	04 16 29.3	+0.1
	comp=Z,0.2nm,0.3s,baz=162,slow=12,SNR=2.7						
NOA				Sn	Sn	04 18 15.3	-5.6
	comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=2.5						
FINES	FINESS Array B	11.35	25	Pn	Pn	04 16 48.2	-0.7
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=6.3						
FINES				Sn	Sn	04 18 47.1	-9.2
	comp=Z,0.1nm,0.3s,baz=213,slow=24,SNR=2.4						
EKA	Eskdalemuir Ar	12.08	296	Pn	Pn	04 16 57.6	-1.4
	baz=103,slow=13,SNR=3.6						
ARCES	ARCESS Array B	18.60	10	Pn	P	04 18 21.9	-2.4
	comp=Z,0.3nm,0.3s,baz=204,slow=13,SNR=9.0						
TORD	Torodi Ar. Bea	40.02	202	P	P	04 21 42.9	+0.5
	comp=Z,0.6nm,1.2s,baz=11,slow=8.9,SNR=2.7						

CSEM 12 04:14:20.7±0.2, 42°.99N×18°.76E, h2km, ML3.1/11, Error ellipse: s-maj=3.2km s-min=2.9km az=75.0
PDG 12 04:14:20.6±0.1, 43°.00N×18°.74E, h9km, MD3.1/8, ML3.1/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0
TIR 12 04:14:21.0, 43°.08N×18°.85E, h17km, ML3.7
BEO 12 04:14:21.1±0.3, 42°.98N×18°.76E, h2km±2km, ML2.9/1
ISC 12 04:14:20.6±0.9, 43°.01N±0°.01×18°.72E±0°.02, h8km±7km, n68, σ1§33/120, 11C-24D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.17	230	⇓iPg	Pg	04 14 24.2	-0.1
BRY				eSg	Sg	04 14 27.0	+0.2
BRY	Bratogost	0.17	230	⇓iPg	Pg	04 14 24.2	-0.1
BRY				eSg	Sg	04 14 27.0	+0.2
UPM	Unac-Piva	0.23	35	⇓iPg	Pg	04 14 25.2	-0.2
UPM				eSg	Sg	04 14 29.3	+0.7
UPM	Unac-Piva	0.23	35	⇓iPg	Pg	04 14 25.2	-0.2
UPM				eSg	Sg	04 14 29.3	+0.7
NKY	Niksic	0.28	135	⇑iPg	Pg	04 14 25.8	-0.5
NKY				eSg	Sg	04 14 30.1	0.0
NKY	Niksic	0.28	135	⇑iPg	Pg	04 14 25.8	-0.5
NKY				eSg	Sg	04 14 30.1	0.0
NKME	Niksic	0.30	145	⇑iPg	Pg	04 14 25.9	-0.7
NKME				eSg	Sg	04 14 30.9	+0.3
NKME	Niksic	0.30	145	⇑iPg	Pg	04 14 25.9	-0.7
NKME				eSg	Sg	04 14 30.9	+0.3
PLE	Pljevlja	0.58	57	⇓iPg	Pg	04 14 31.4	-0.5
PLE				eSg	Sg	04 14 40.5	+0.9
PLE	Pljevlja	0.58	57	⇓iPg	Pg	04 14 31.4	-0.5
PLE				eSg	Sg	04 14 40.5	+0.9
HCY	Herceg Novi	0.59	197	⇑iPg	Pg	04 14 31.3	-0.7
HCY				eSg	Sb	04 14 41.4	-0.3
HCY	Herceg Novi	0.59	197	⇑iPg	Pg	04 14 31.3	-0.7
HCY				eSg	Sb	04 14 41.4	-0.3
PDG	Podgorica	0.70	146	⇓iPg	Pg	04 14 32.6	-1.6
PDG				iSg	Sg	04 14 42.6	-0.7
PDG	Podgorica	0.70	146	⇑iPg	Pg	04 14 32.5	-1.6
PDG				iSg	Sg	04 14 42.6	-0.7
TTG	Podgorica	0.70	146	⇑iPg	Pg	04 14 32.5	-1.6
TTG				eSg	Sg	04 14 43.5	+0.2
BUM	Brajici-Budva	0.72	170	⇓iPg	Pg	04 14 33.7	-0.9
BUM				eSg	Sb	04 14 45.7	+0.1
BUM	Brajici-Budva	0.72	170	⇓iPg	Pg	04 14 33.7	-0.9
BUM				eSg	Sb	04 14 45.7	+0.1
STON	Ston	0.76	260	ePg	Pg	04 14 34.0	-1.3
STON	Ston	0.76	260	⇓iPg	Pg	04 14 34.5	-0.8
STON				iSg	Sb	04 14 46.3	-0.3
STON	Ston	0.76	260	⇓iPg	Pg	04 14 34.5	-0.8
STON				iSg	Sb	04 14 46.3	-0.3
BEY	Berane	0.87	99	⇓iPg	Pg	04 14 36.3	-1.1
BEY				eSg	Sb	04 14 49.8	-0.1
IVA	Berane	0.87	99	⇓iPg	Pg	04 14 36.3	-1.1
IVA				eSg	Sb	04 14 49.8	-0.1
DRME	Dracevica, Mon	0.89	157	⇓iPg	Pg	04 14 36.9	-0.9
DRME				eSg	Sb	04 14 50.7	+0.3
DRME	Dracevica, Mon	0.89	157	⇓iPg	Pg	04 14 36.9	-0.9
DRME				eSg	Sb	04 14 50.7	+0.3
SJES	Sjenica	0.95	74	ePg	Pg	04 14 37.2	-1.7
SJES				eSg	Sg	04 14 51.6	+0.3
BBLS	Lazići	0.99	30	⇓ePg	Pg	04 14 39.4	-0.2
BBLS				eSg	Sb	04 14 53.1	-0.1
BBLS	Lazići	0.99	30	⇓ePg	Pg	04 14 39.4	-0.2
BBLS				eSg	Sb	04 14 53.1	-0.1
PVY	Plav	1.00	114	⇓iPg	Pg	04 14 39.3	-0.6
PVY				eSg	Sn	04 14 54.9	-0.6
ULC	Ulcinj	1.12	160	⇓iPg	Pb	04 14 40.9	-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.81**	**78**	P	Pn	04 29 26.8	+1.0
	7.0nm,0.3s,baz=40,slow=4.5,SNR=6.3						
DZM	**Mont Dzumac**	**16.57**	**243**	P	Pn	04 31 31.2	-0.7
	0.5nm,0.3s,baz=85,slow=19,SNR=3.7						
URZ	**Urewera**	**23.48**	**190**	P	P	04 32 34.3	-1.6
	11nm,0.5s,baz=352,slow=8.5,SNR=11						
CTA	**Charters Tower**	**34.72**	**257**	P	P	04 34 18.9	+4.1
	1.7nm,0.3s,baz=90,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**40.65**	**239**	P	P	04 35 07.1	+3.3
	1.8nm,0.4s,baz=50,slow=6.6,SNR=5.8						
WRA	**Warramunga Arr**	**45.92**	**257**	P	P	04 35 45.1	-0.6
	1.2nm,0.7s,baz=82,slow=6.0,SNR=28						
ASAR	**Alice Springs**	**46.30**	**252**	P	P	04 35 48.9	+0.2
	12nm,0.3s,baz=84,slow=8.3,SNR=170						
ASAR				S	S	04 42 05.1	-3.4
	0.7nm,0.7s,baz=84,slow=15,SNR=6.7						
FITZ	**Fitzroy Crossi**	**54.26**	**258**	P	P	04 36 47.8	+0.2
	1.0nm,0.6s,baz=98,slow=3.3,SNR=5.7						
VNDA	**Vanda**	**63.23**	**185**	P	P	04 37 48.4	+0.5
	0.6nm,0.5s,baz=356,slow=9.4,SNR=5.1						
NVAR	**Mina Array Bea**	**76.94**	**44**	P	P	04 39 11.3	0.0
	0.5nm,0.8s,baz=235,slow=11,SNR=3.3						
ILAR	**Eielson Array**	**83.06**	**13**	P	P	04 39 41.9	-0.9
	0.8nm,0.5s,baz=215,slow=5.4,SNR=22						
TXAR	**Lajitas Array**	**83.90**	**58**	P	P	04 39 47.4	-0.6
	0.5nm,0.8s,baz=224,slow=3.5,SNR=6.9						
PDAR	**Pinedale Array**	**84.85**	**43**	P	P	04 39 53.0	+0.4
	0.3nm,0.6s,baz=238,slow=3.1,SNR=3.4						
MAW	**Mawson**	**86.69**	**200**	P	P	04 40 02.2	+1.4
	5.1nm,0.7s,baz=125,slow=6.2,SNR=20						

BJI ***12*** *04:33:20.3, 8.˙79N×93.˚65E, h35km, mB4.9/31, mb4.6/41, Ms4.7/37, Ms7 4.4/34*

MOS ***12*** *04:33:22.0±1.2, 9.˚04N×93.˚67E, h33km, mb5.1/42, MS4.3/5, Error ellipse: s-maj=8.7km s-min=4.5km az=116.9*

GCMT ***12*** *04:33:23.6±0.2, 9.˚03N×93.˚78E, h20km, MW5.1, Moment Tensor Solution. s39,c47; s74,c118; Moment tensor: Scale 10^{16}Nm; M_{rr}-4.88±.22; $M_{\theta\theta}$0.05±.13; $M_{\phi\phi}$4.83±.15; $M_{r\theta}$-0.45±.32; $M_{r\phi}$0.58±.10; $M_{\theta\phi}$-1.05±.25; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s10.00000°, δ51.00000°, λ-85.00000°. NP2:ϕ_s183.00000°, δ39.00000°, λ-96.00000°. Principal axes: T 5.0200, Plg6.0000°, Azm97.0000°; N 0.0000, Plg4.0000°, Azm188.0000°; P -5.0200, Plg83.0000°, Azm307.0000°; Data Used: IU II IC CN G.*

ISCJB ***12*** *04:33:23.2±0.5, 9.˚00N±0.˚03×93.˚64E±0.˚03, h45km±4km, mb4.8/122, MS4.3/39 Error ellipse: s-maj=4.9km s-min=3.9km az=36.7*

TEH ***12*** *04:33:24.0, 9.˚11N×93.˚75E, h35km, ML4.9*

IDC ***12*** *04:33:25.5±1.9, 9.˚10N×93.˚80E, h50km±16km, mb4.3/33, mb1 4.3/34, mb1mx4.3/37, mbtmp4.2/34, ML3.9/1, MS4.2/27, Ms1 4.2/27, ms1mx4.0/48, Error ellipse: s-maj=15.4km s-min=8.8km az=52.0*

NEIC ***12*** *04:33:25.7±0.7, 9.˚02N×93.˚72E, h51km±6km, mb4.9/33, Error ellipse: s-maj=6.6km s-min=4.4km az=48.0*

AUST ***12*** *04:33:27.7, 9.˚18N×93.˚77E, h60km*

DJA ***12*** *04:33:37.7±1.5, 9.˚N±6.˚×9.˚5E±1.˚9, h10km, M4.7/6, mB5.1/5, mb4.7/6, MLv4.8/1, Mw(mB)4.4/5*

BKK ***12*** *04:33:44.7±0.7, 9.˚N±3.˚×9.˚5E±.˚, h10km, M4.6/17, mB5.2/11, mb4.6/17, MLv4.8/8, Mw(mB)4.5/11*

ISC 12 04:33:23.3±0.4, 9.˚02N±0.˚03×93.˚69E±0.˚04, h31km±1km, h31km:pP-P, n431, σ1°48/487, mb4.9/121, MS4.3/40, 14C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.00**	**173**	*e*P	**Pn**	**04 33 55.7**	**+0.7**
CMBY				AMB	AMB	04 34 25.0	
	comp=Z,3μm,0.5s						
PBA	**Port Blair**	**2.79**	**341**	*e*P	Pn	04 34 04.6	-1.2
PBA				*e*S	Sn	04 34 39.5	+1.1
DGPR	**DIGLIPUR**	**4.20**	**350**	*e*P	**Pn**	**04 34 28.5**	**+3.2**
DGPR				*ex*	**Sb**	**04 35 27.7**	**+0.8**
PKDT	**Phuket**	**4.73**	**103**	P	**Pn**	**04 34 32.9**	**+0.4**
LHMI	**Lhok Sumawe**	**4.96**	**139**	P	Pn	04 34 42.2	+6.5
LHMI	**Lhok Sumawe**	**4.96**	**139**	P	Pb	04 34 44.7	-4.8
	baz=5.1,SNR=3.9						
KCSI	**Kotacane, Aceh**	**6.80**	**143**	P	Pn	04 35 04.2	+3.2
PHET	**Kaeng Krachan**	**7.00**	**56**	P	**Pn**	**04 35 04.8**	**+1.1**
	comp=Z,544nm,0.6s,comp=Z,8μmcomp=Z,2.6nm						
KULM	**Kulim**	**7.83**	**118**	*e*Pn	**Pn**	**04 35 15.0**	**-0.3**
KULM				*e*Sn	**Sn**	**04 36 42.2**	**-0.7**
KULM	**Kulim**	**7.83**	**118**	P	**Pn**	**04 35 16.1**	**+0.9**
KULM	**Kulim**	**7.83**	**118**	P	**Pn**	**04 35 14.9**	**-0.3**
	comp=Z,41nm,1.2s,comp=Z,565nm						
PSI	**Prapat**	**8.07**	**140**	P	Pn	04 35 22.9	+4.3
PSI				S	**Sn**	**04 36 54.4**	**+5.4**
PSI	**Prapat**	**8.07**	**140**	P	Pn	04 35 22.9	+4.3
	comp=Z,1.6nm,0.3s,baz=332,slow=12,SNR=22						
PSI				S	**Sn**	**04 36 54.4**	**+5.4**
	comp=Z,1.4nm,0.3s,baz=133,slow=19,SNR=2.4						
PSI				LR	LR	04 39 02.2	
	comp=Z,2μm,19.0s,baz=310,slow=41						
PSI	**Prapat**	**8.07**	**140**	P	Pn	04 35 23.6	+5.0
	baz=8.3,SNR=14						
IPM	**Ipoh**	**8.56**	**121**	*e*Pn	**Pn**	**04 35 25.0**	**-0.3**
IPM				*e*Sn	**Sn**	**04 36 56.4**	**-4.5**
IPM	**Ipoh**	**8.56**	**121**	P	**Pn**	**04 35 27.7**	**+2.4**
IPM	**Ipoh**	**8.56**	**121**	P	**Pn**	**04 35 25.1**	**-0.2**
	comp=Z,61nm,0.9s,comp=Z,539nm						
NAYO	**Nakonayok**	**9.14**	**54**	P	**Pn**	**04 35 34.9**	**+1.7**
	comp=Z,40nm,1.0s,comp=Z,2μmcomp=Z,0.2nm						
KTGM	**Kuala Trenggan**	**10.06**	**111**	P	**Pn**	**04 35 48.0**	**+2.3**
PBKT	**Sadao Pong**	**10.33**	**43**	P	**Pn**	**04 35 52.0**	**+2.6**
	comp=Z,36nm,1.0s						
CHAI	**Chaiyaphum**	**10.60**	**49**	P	**Pn**	**04 35 56.1**	**+2.9**
	comp=Z,7.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**10.68**	**28**	P	Pn	04 35 58.1	+3.8
CMAR	**Chiang Mai Arr**	**10.68**	**28**	P	Pn	04 35 58.1	+3.8
	comp=Z,0.9nm,0.3s,baz=216,slow=14,SNR=18						
CMAR				LR	LR	04 39 50.3	
	comp=Z,1μm,20.8s,baz=213,slow=36						
CHTO	**Chiang Mai**	**10.99**	**27**	*e*P	**Pn**	**04 36 01.5**	**+3.0**
CHTO	**Chiang Mai**	**10.99**	**27**	*e*Pn	**Pn**	**04 36 01.5**	**+3.0**
CHTO	**Chiang Mai**	**10.99**	**27**	P	Pn	04 36 07.6	+9.1
	comp=Z,15nm,1.0s,comp=Z,358nm						
CHTO	**Chiang Mai**	**10.99**	**27**	P	Pn	04 36 07.6	+9.1
	comp=Z,15nm,1.0s,comp=Z,358nm						
CMMT	**Chiang Mai**	**10.99**	**27**	P	Pn	04 36 07.2	+8.7
	comp=Z,19nm,1.0s,comp=Z,586nm						
PPI	**Padang Panjang**	**11.54**	**144**	P	Pn	04 36 19.0	+13
CMAI	**Chiengmai2**	**12.03**	**25**	P	**P**	**04 36 26.8**	**+1.4**
	comp=Z,18nm,1.3s,comp=Z,1μm						
MYKOM	**Kota Tinggi**	**12.40**	**125**	P	**P**	**04 36 27.3**	**-2.1**
MYKOM	**Kota Tinggi**	**12.40**	**125**	P	**P**	**04 36 28.3**	**-1.1**
RGRI	**Rengat**	**12.68**	**137**	P	P	04 36 27.5	-5.0
	comp=Z,515nm,0.4s,comp=Z,59μm						
PALK	**Pallekele**	**12.97**	**263**	*e*Pn	**Pn**	**04 36 27.4**	**+1.7**
PALK				*e*Sn	Sn	04 38 38.2	-11
UBPT	**Khong Chiam**	**13.09**	**60**	P	P	04 36 32.4	-4.6
VIS	**Vishakhapatnam**	**13.28**	**312**	*e*P	**Pn**	**04 36 30.5**	**+0.7**
VIS				AMB	AMB	04 36 44.8	
	comp=Z,103nm,1.2s						
VIS				*ex*	x	04 38 44.2	
PANO	**Nakornpanom**	**13.36**	**52**	P	**P**	**04 36 43.0**	**+3.0**
BOK	**Bokaro**	**16.48**	**334**	*e*P	**P**	**04 37 14.9**	**+0.2**
BOK				AMB	AMB	04 37 17.6	
	comp=Z,66nm,1.7s						
SHL	**Shillong**	**16.55**	**354**	*e*P	**Pn**	**04 37 13.7**	**+0.4**
SHL				AMB	AMB	04 37 17.9	
	comp=Z,22nm,1.1s						
HYB	**Hyderabad**	**16.93**	**301**	*i*P	**P**	**04 37 20.0**	**+0.2**
HYB				*e*S	**Sn**	**04 40 27.0**	**+1.6**
KLSI		**17.51**	**141**	P	P	04 37 37.4	+11
KSM	**Kuching**	**18.16**	**113**	*e*P	**P**	**04 37 35.0**	**+1.7**
	comp=Z,110nm,1.8s						
KSM	**Kuching**	**18.16**	**113**	P	**P**	**04 37 36.1**	**+2.8**
	comp=Z,32nm,1.4s,comp=Z,871nm						
KSM	**Kuching**	**18.16**	**113**	P	**P**	**04 37 37.0**	**+3.6**
	baz=18,SNR=10						
KMI	**Kunming**	**18.19**	**27**	P	**P**	**04 37 37.2**	**+3.3**
KMI				sP	sP	04 37 51.1	+5.0
KMI				S	**Sn**	**04 40 57.5**	**+1.3**
KMI				pmax	pmax		
	comp=Z,19nm,1.2s						
KMI				LR	LR		
	comp=N,510nm,14.5s						
KMI				LR	LR		
	comp=E,830nm,13.5s						
KMI				LR	LR		
	comp=Z,1μm,15.2s						
QIZ	**Qiongzhong**	**18.55**	**56**	P	**P**	**04 37 37.4**	**-0.2**
QIZ				S	**Sn**	**04 41 02.7**	**-1.9**
QIZ				pmax	pmax		
	comp=Z,11nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,450nm,6.9s						
QIZ				LR	LR		
	comp=N,2μm,11.8s						
QIZ				LR	LR		
	comp=E,840nm,13.2s						
QIZ				LR	LR		
	comp=Z,2μm,10.1s						
NGP	**Nagpur**	**18.56**	**312**	*e*P	**P**	**04 37 36.2**	**-1.6**
NGP				*ex*	x	04 40 49.8	
SBUM	**Sibu**	**19.55**	**108**	P	**Pn**	**04 37 52.9**	**+2.9**
STKI	**Sintang**	**19.82**	**116**	P	**Pn**	**04 37 54.0**	**+0.7**
HMDM	**Hanimaadhoo**	**20.43**	**265**	S	S	04 41 29.1	-17
	baz=20,SNR=3.0						
LSA	**Lhasa**	**20.72**	**354**	*e*P	**P**	**04 38 01.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,27nm,0.5s						
LSA	**Lhasa**	**20.72**	**354**	*e*P	**P**	**04 38 01.9**	**+0.2**
	comp=Z,27nm,0.5s						
BHPL	**Bhopal**	**21.04**	**314**	*e*P	**P**	**04 38 06.6**	**+1.8**
BHPL				AMB	AMB	04 38 10.8	
	comp=Z,61nm,0.6s						
GYA	**Guiyang**	**21.27**	**34⇑**	*i*P	**P**	**04 38 09.7**	**+2.4**
GYA				pP	**pP**	**04 38 17.4**	**+1.8**
GYA				PP	**PnPn**	**04 38 33.0**	**+5.5**
GYA				S	**S**	**04 41 57.4**	**-4.8**
GYA				sS	Sn	04 42 12.3	+2.1
GYA				SS	**SnSn**	**04 42 32.0**	**+6.4**
GYA				ScP	**ScP**	**04 45 45.8**	**-0.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,530nm,16.9s						
GYA				LR	LR		
	comp=E,460nm,17.8s						
GYA				LR	LR		
	comp=Z,520nm,15.9s						
KKM	**Kota Kinabalu**	**22.52**	**96**	*e*P	**P**	**04 38 21.2**	**+0.3**
	comp=Z,21nm,1.1s						
KKM	**Kota Kinabalu**	**22.52**	**96**	P	P	04 38 27.5	+6.6
	baz=22,SNR=4.0						
CD2	**Chengdu**	**23.72**	**22**	*e*P	**P**	**04 38 33.2**	**+0.4**
CD2				pP	**pP**	**04 38 44.2**	**+2.6**
CD2				sP	**sP**	**04 38 46.8**	**+1.4**
CD2				PP	**PnPn**	**04 39 06.7**	**+5.7**
CD2				S	**S**	**04 42 42.7**	**-3.4**
CD2				sS	**sS**	**04 42 58.5**	**-2.4**
CD2				SS	**SnSn**	**04 43 32.5**	**+6.9**
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
CD2				pmax	pmax		
	comp=Z,320nm,6.0s						
CD2				LR	LR		
	comp=N,1μm,15.6s						
CD2				LR	LR		
	comp=E,630nm,10.8s						
CD2				LR	LR		
	comp=Z,1μm,10.4s						
NDI	**New Delhi**	**24.96**	**324**	*e*P	**P**	**04 38 44.0**	**-0.1**
SMLA	**Simla**	**26.85**	**327**	*e*P	**P**	**04 39 02.2**	**+1.1**
SMLA				AMB	AMB	04 39 03.6	
	comp=Z,36nm,0.7s						
SDNR	**Sundarnagar**	**27.25**	**328**	*ex*	**P**	**04 39 04.0**	**-0.8**
DHRM	**DHARAMSHALA**	**28.19**	**328**	*e*P	**P**	**04 39 14.2**	**+0.7**
DHRM				AMB	AMB	04 39 17.6	
	comp=Z,50nm,1.6s						
LZH	**Lanzhou**	**28.49**	**17**	*e*P	**P**	**04 39 18.7**	**+2.7**
LZH				pP	pP	04 39 30.0	+5.0
LZH				sP	sP	04 39 33.5	+4.7
LZH				PP	**PnPn**	**04 40 09.1**	**+2.9**
LZH				*e*S	**S**	**04 44 02.3**	**+0.4**
LZH				sS	**sS**	**04 44 19.1**	**+2.3**
LZH				SS	**SnSn**	**04 45 25.0**	**+2.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,86nm,4.8s						
LZH				LR	LR		
	comp=N,470nm,12.0s						
LZH				LR	LR		
	comp=E,530nm,13.2s						
LZH				LR	LR		
	comp=Z,600nm,14.0s						
XAN	**Xi'an**	**28.58**	**27**	P	**P**	**04 39 15.9**	**-0.8**
XAN				pP	**pP**	**04 39 24.3**	**-1.4**
XAN				S	**S**	**04 44 01.4**	**-1.6**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
XAN				LR	LR		
	comp=N,500nm,13.3s						
XAN				LR	LR		
	comp=E,240nm,17.3s						
XAN				LR	LR		
	comp=Z,320nm,15.3s						
WHN	**Wuhan**	**28.82**	**39**	*e*P	**P**	**04 39 21.3**	**+2.5**
WHN				LR	LR		
	comp=N,1μm,11.2s						
WHN				LR	LR		
	comp=E,2μm,11.8s						
WHN				LR	LR		
	comp=Z,1μm,15.1s						
KAPI	**Kappang**	**29.48**	**117**	LR	LR	04 51 02.6	
	comp=Z,474nm,21.1s,baz=176,slow=36						
GTA	**Gaotai**	**30.76**	**9**	P	**P**	**04 39 36.7**	**+0.7**
GTA				pP	**pP**	**04 39 44.2**	**-0.9**
GTA				sP	**sP**	**04 39 48.0**	**-0.8**
GTA				PP	**PnPn**	**04 40 38.5**	**+1.8**
GTA				S	**S**	**04 44 38.4**	**+1.0**
GTA				SS	**SnSn**	**04 46 21.0**	**+3.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,86nm,7.3s						
GTA				LR	LR		
	comp=N,290nm,16.6s						
GTA				LR	LR		
	comp=E,370nm,14.3s						
GTA				LR	LR		
	comp=Z,280nm,22.3s						
NJ2	**Nanjing**	**32.71**	**42**	*e*P	**P**	**04 39 53.8**	**+0.7**
NJ2				pP	**pP**	**04 40 03.2**	**+1.0**
NJ2				sP	**sP**	**04 40 08.4**	**+2.5**
NJ2				PP	**PP**	**04 41 07.8**	**+0.4**
NJ2				S	**S**	**04 45 09.7**	**+2.0**
NJ2				sS	**sS**	**04 45 22.6**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,14nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,760nm,6.2s						
NJ2				LR	LR		
	comp=N,770nm,16.3s						
NJ2				LR	LR		
	comp=E,680nm,23.0s						
NJ2				LR	LR		
	comp=Z,470nm,23.0s						
KBL	**Kabul**	**34.00**	**322**	*e*P	**P**	**04 40 04.6**	**0.0**
KBL				pmax	pmax		
	comp=Z,30nm,1.1s						
KBL	**Kabul**	**34.00**	**322**	*e*P	**P**	**04 40 04.6**	**0.0**
	comp=Z,30nm,1.1s						
KSH	**Kashi**	**34.26**	**335**	P	**P**	**04 40 05.5**	**-1.2**
KSH				sP	**sP**	**04 40 19.6**	**+0.1**
KSH				PP	**PnPn**	**04 41 21.0**	**-0.4**
KSH				S	**S**	**04 45 26.3**	**-5.5**
KSH				sS	**sS**	**04 45 42.9**	**-3.9**
KSH				SS	**SnSn**	**04 47 36.5**	**-5.7**
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KSH				LR	LR		
	comp=N,130nm,7.6s						
KSH				LR	LR		
	comp=E,210nm,9.0s						
KSH				LR	LR		
	comp=Z,230nm,12.8s						
WMQ	**Urumqi**	**35.06**	**352**	*e*P	**P**	**04 40 15.0**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,73nm,4.0s						
BATI	**Baumata**	**35.42**	**122**	LR	LR	04 55 58.5	
	comp=Z,687nm,21.8s,baz=114,slow=38						
HHC	**Hu-ho-hao-te**	**35.45**	**24**	*e*P	**P**	**04 40 15.0**	**-2.0**
HHC				pP	**pP**	**04 40 25.1**	**-0.9**
HHC				sP	**sP**	**04 40 28.9**	**-0.9**
HHC				PP	**PnPn**	**04 41 35.8**	**-0.4**
HHC				S	**S**	**04 45 46.6**	**-3.6**
HHC				PcS	**PcS**	**04 46 30.8**	**-2.6**
HHC				ScS	**ScS**	**04 50 29.8**	**-4.8**
HHC				pmax	pmax		
	comp=Z,46nm,0.6s						
HHC				pmax	pmax		
	comp=Z,270nm,5.7s						
HHC				LR	LR		
	comp=N,950nm,11.6s						
HHC				LR	LR		
	comp=E,1μm,12.1s						
HHC				LR	LR		
	comp=Z,890nm,14.0s						
AAI	**Ambon**	**36.64**	**109**	P	P	04 40 33.3	+6.0
	baz=37,SNR=3.4						
TKM2	**Tokmak 2**	**37.31**	**338**	*e*P	**P**	**04 40 33.2**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TKM2	**Tokmak 2**	**37.31**	**338**	P	**P**	**04 40 33.2**	**+0.3**
	SNR=14						
TKM2	**Tokmak 2**	**37.31**	**338**	*e*P	**P**	**04 40 33.2**	**+0.3**
	comp=Z,9.0nm,0.6s						
KBK	**Karagaybulak**	**37.33**	**337**	*i*P	**P**	**04 40 34.7**	**+1.6**
KBK	**Karagaybulak**	**37.33**	**337**	P	**P**	**04 40 34.7**	**+1.6**
	SNR=8.8						
AML	**Almayashu**	**37.39**	**335**	*i*P	**P**	**04 40 34.7**	**+0.9**
AML	**Almayashu**	**37.39**	**335**	P	**P**	**04 40 34.7**	**+0.9**
	SNR=24						
AAK	**Ala-Archa**	**37.49**	**337**	*i*P	**P**	**04 40 35.8**	**+1.4**
AAK	**Ala-Archa**	**37.49**	**337**	P	**P**	**04 40 35.9**	**+1.4**
	SNR=7.9						
AAK	**Ala-Archa**	**37.49**	**337**	LR	LR	04 59 24.1	
	comp=Z,183nm,19.1s,baz=146,slow=42						
FRU	**Bishkek**	**37.61**	**337**	*i*P	**P**	**04 40 35.0**	**-0.2**
FRU				pmax	pmax		
	comp=Z,50nm,2.0s						
CHMS	**Chumysh**	**37.70**	**337**	*i*P	**P**	**04 40 36.3**	**+0.3**
CHMS	**Chumysh**	**37.70**	**337**	P	**P**	**04 40 36.3**	**+0.3**
	SNR=6.6						
EKS2	**Erkin-Say**	**37.80**	**336**	*e*P	**P**	**04 40 38.2**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,14nm,0.8s						
EKS2	**Erkin-Say**	**37.80**	**336**	P	**P**	**04 40 38.2**	**+1.2**
	SNR=12						
EKS2	**Erkin-Say**	**37.80**	**336**	*e*P	**P**	**04 40 38.2**	**+1.2**
	comp=Z,14nm,0.8s						
USP	**Ospenovka**	**38.02**	**337**	*i*P	**P**	**04 40 39.1**	**+0.4**
USP	**Ospenovka**	**38.02**	**337**	P	**P**	**04 40 39.1**	**+0.4**
	SNR=22						
MK31	**Makanchi Array**	**38.88**	**348**	*e*P	**P**	**04 40 45.5**	**-0.4**
MK31	**Makanchi Array**	**38.88**	**348**	*e*P	**P**	**04 40 45.5**	**-0.4**
MKAR	**Makanchi Array**	**38.88**	**348**	*e*P	**P**	**04 40 45.4**	**-0.5**
MKAR	**Makanchi Array**	**38.88**	**348**	*e*P	**P**	**04 40 45.4**	**-0.5**
MKAR	**Makanchi Array**	**38.88**	**348**	P	**P**	**04 40 45.5**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=160,slow=7.6,SNR=5.8						
MKAR				LR	LR	05 00 49.8	
	comp=Z,133nm,20.1s,baz=164,slow=42						
KK31	**Karatay Array**	**39.55**	**333**	*e*P	**P**	**04 40 51.9**	**+0.4**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**39.55**	**333**	*e*P	**P**	**04 40 52.0**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**39.55**	**333**	*e*P	**P**	**04 40 52.0**	**+0.4**
	comp=Z,3.7nm,0.5s						
IKOO	**Kooshah**	**39.64**	**311**	*e*P	**P**	**04 40 53.1**	**+0.3**
ITEG	**Tejag**	**40.06**	**312**	*e*P	**P**	**04 40 58.0**	**+1.9**
SONM	**Songino Array**	**40.16**	**13**	P	**P**	**04 40 56.7**	**+0.1**
SONM				PcP	**PcP**	**04 43 00.6**	**0.0**
SONM	**Songino Array**	**40.16**	**13**	P	**P**	**04 40 56.7**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=199,slow=8.2,SNR=10						
SONM				PcP	**PcP**	**04 43 00.6**	**0.0**
	comp=Z,1.8nm,0.6s,baz=201,slow=4.1,SNR=4.5						
SONM				LR	LR	04 59 09.7	
	comp=Z,573nm,20.1s,baz=196,slow=39						
ULN	**Ulaanbaatar**	**40.34**	**14**	*e*P	**P**	**04 40 59.4**	**+1.2**
	comp=Z,7.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.48**	**131**	P	**P**	**04 41 07.3**	**-0.5**
FITZ				PcP	**PcP**	**04 43 05.7**	**+0.5**
FITZ				ScP	**ScP**	**04 46 51.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**41.48**	**131**	P	**P**	**04 41 07.3**	**-0.5**
	comp=Z,1.5nm,1.0s,baz=339,slow=7.6,SNR=2.5						
FITZ				PcP	**PcP**	**04 43 05.7**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=322,slow=5.3,SNR=7.4						
FITZ				ScP	**ScP**	**04 46 51.4**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=223,slow=3.3,SNR=4.2						
FITZ				LR	LR	05 01 02.3	
	comp=Z,144nm,19.1s,baz=49,slow=40						
FITZ	**Fitzroy Crossi**	**41.48**	**131**	P	P	04 41 12.4	+4.6
	baz=42,SNR=3.2						
FITZ				S	**ScP**	**04 46 53.4**	**+0.2**
	baz=42,SNR=3.6						
KSAR	**Wonju Array Be**	**41.88**	**42**	P	**P**	**04 41 11.6**	**+0.8**
KSRS	**Korea Array**	**41.91**	**42**	P	**P**	**04 41 11.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=234,slow=8.1,SNR=3.1						
KSRS				LR	LR	05 00 14.9	
	comp=Z,241nm,18.2s,baz=58,slow=39						
HVS	**Khovu-Aksy**	**41.99**	**0**	*i*P	**P**	**04 41 11.7**	**+0.1**
HVS				pmax	pmax		
	comp=Z,75nm,1.2s						
IMEH	**Mehriz**	**42.57**	**307**	*e*P	**P**	**04 41 16.7**	**-0.1**
MEEK	**Meekatharra**	**42.91**	**146**	P	**P**	**04 41 20.9**	**+1.5**
	baz=43,SNR=4.7						
ICHK	**Chekchek**	**43.07**	**308**	*e*P	**P**	**04 41 21.5**	**+0.7**
KURBB	**Kurchatov Arra**	**43.34**	**346**	P	**P**	**04 41 22.1**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=159,slow=7.9,SNR=19						
KURBB				PcP	**PcP**	**04 43 11.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=145,slow=3.5,SNR=7.8						
KURK	**Kurchatov**	**43.40**	**346**	P	**P**	**04 41 22.2**	**-0.8**
KURK						04 43 11.2	
KURK	**Kurchatov**	**43.40**	**346**	P	**P**	**04 41 22.1**	**-0.8**
KURK				PcP	**PcP**	**04 43 11.2**	**+0.2**
ISAD	**Sadrabad**	**43.50**	**307**	*e*P	**P**	**04 41 23.4**	**-1.0**
MORW

MDJ PcP **PcP** **04 43 21.2 -2.9**
MDJ PP **PP** **04 43 44.7 +1.0**
MDJ PcS **PcS** **04 47 15.7 -3.4**
MDJ S **S** **04 48 43.4 +0.4**
MDJ sS sS 04 49 04.0 +5.7
MDJ pmax pmax
comp=Z,4.0nm,0.9s
MDJ pmax pmax
comp=Z,98nm,5.7s
MDJ LR LR
comp=N,370nm,14.6s
MDJ LR LR
comp=E,210nm,16.9s
MDJ LR LR
comp=Z,350nm,19.1s
NWAO Narrogin (SRO) 47.36 153 P **P** **04 41 54.0 -0.6**
NWAO Narrogin (SRO) 47.36 153 P **P** **04 41 54.0 -0.6**
comp=Z,8.5nm,0.7s,baz=339,slow=7.0,SNR=2.9
NWAO LR LR 05 00 44.7
comp=Z,261nm,19.6s,baz=194,slow=35
KBD Kabd 47.50 301 *eP* **P** **04 41 56.1 +0.4**
KBD AMb AMB 04 41 57.7
comp=Z,46nm,1.0s
RDF Al-Radifah 47.55 301 *eP* **P** **04 41 57.0 +0.8**
RDF AMb AMB 04 41 59.0
comp=Z,139nm,0.8s
IRAZ Razeghan 47.73 310 *eP* **P** **04 41 58.2 +0.4**
BVA0 Borovoye Array 47.77 341 P **P** **04 41 56.2 -1.3**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 47.84 341 *d iP* **P** **04 41 57.3 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 47.84 341 *eP* **P** **04 41 57.8 -0.2**
comp=Z,6.9nm,0.7s
BRVK *e*pP **pP** **04 42 07.1 -0.2**
NAY Al-Naaiem 47.90 301 *eP* **P** **04 41 59.3 +0.4**
NAY AMb AMB 04 42 00.4
comp=Z,80nm,1.2s
MIB Mutribah 47.96 302 *eP* **P** **04 41 59.7 +0.3**
MIB AMb AMB 04 42 01.1
comp=Z,121nm,1.0s
RAYN Ar Rayn 48.22 293 *eP* **P** **04 42 03.8 +2.3**
comp=Z,63nm,1.1s
MJAR Matsushiro Arr 48.74 49 P **P** **04 42 04.3 -1.0**
MJAR PcP **PcP** **04 43 30.5 +0.4**
MJAR Matsushiro Arr 48.74 49 P **P** **04 42 04.3 -1.0**
comp=Z,0.3nm,0.4s,baz=240,slow=6.3,SNR=2.8
MJAR PcP **PcP** **04 43 30.5 +0.4**
comp=Z,4.0nm,0.8s,baz=244,slow=3.4,SNR=11
MJAR LR LR 05 04 53.7
comp=Z,209nm,18.2s,baz=230,slow=39
AB31 Akbulak array 49.02 331 *i P* **P** **04 42 07.3 +0.1**
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 49.02 331 *eP* **P** **04 42 07.6 +0.4**
comp=Z,8.0nm,0.5s
WRA Warramunga Arr 49.29 126 P **P** **04 42 08.7 -1.0**
WRA ScP **ScP** **04 47 22.6 -3.0**
WRA Warramunga Arr 49.29 126 P **P** **04 42 08.7 -1.0**
comp=Z,0.9nm,0.5s,baz=306,slow=8.4,SNR=19
WRA ScP **ScP** **04 47 22.6 -3.0**
comp=Z,1.0nm,0.9s,baz=314,slow=4.0,SNR=4.6
WRAB Tennant Creek 49.29 126 *eP* **P** **04 42 09.7 0.0**
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 49.29 126 *eP* **P** **04 42 09.7 0.0**
comp=Z,3.2nm,0.6s
ATD Arta Tunnel 50.04 277 LR LR 05 00 31.6
comp=Z,341nm,19.9s,baz=187,slow=32
AKTO Aktyubinsk 50.74 331 P **P** **04 42 19.7 -0.5**
AKTO Aktyubinsk 50.74 331 P **P** **04 42 19.7 -0.5**
AKTO Aktyubinsk 50.74 331 P **P** **04 42 19.7 -0.5**
comp=Z,5.5nm,0.7s,baz=110,slow=7.8,SNR=21
ASAR Alice Springs 50.99 130 P **P** **04 42 20.9 -1.7**
ASAR PcP **PcP** **04 43 38.9 +0.4**
ASAR ScP **ScP** **04 47 30.4 -2.5**
ASAR Alice Springs 50.99 130 P **P** **04 42 20.9 -1.7**
comp=Z,2.5nm,0.8s,baz=311,slow=7.3,SNR=20
ASAR PcP **PcP** **04 43 38.9 +0.4**
comp=Z,1.1nm,0.8s,baz=308,slow=3.2,SNR=4.6
ASAR ScP **ScP** **04 47 30.3 -2.5**
comp=Z,0.4nm,0.8s,baz=284,slow=3.7,SNR=3.3
ASAR LR LR 05 06 18.7
comp=Z,258nm,19.3s,baz=47,slow=39
AS31 Alice Springs 50.99 130 *eP* **P** **04 42 21.6 -1.0**
HABR Khabarovsk 52.44 34 P **P** **04 42 30.1 -2.9**
HABR *e**PP **pP** **04 42 40.3 -2.1**
HABR *e**SP **sP** **04 42 44.4 -1.7**
HABR *e* 04 43 41.1
HABR *e* 04 44 29.2
HABR *e*S **S** **04 49 54.1 -3.0**
HABR *e**SS **sS** **04 50 10.9 -1.7**
HABR 04 52 17.2
HABR *e*SS **SS** **04 53 33.6 -1.7**
HABR *e*SSS SSS 04 55 18.4
HABR pmax pmax
comp=N,12nm,0.9s
HABR pmax pmax
comp=Z,48nm,2.2s
HABR pmax pmax
comp=E,29nm,1.1s
HABR MLR MLR
comp=Z,290nm,18.0s
GNI Garni 53.33 314 *eP* **P** **04 42 40.1 +0.2**
comp=Z,38nm,1.3s
DGRG David-gareji 53.38 316 P **P** **04 42 41.5 +1.4**
OPO Ambohidratompo 53.44 239 LR LR 05 00 38.2
comp=Z,461nm,19.8s,baz=56,slow=30
TBLG Delisi 53.93 316 *eP* **P** **04 42 44.8 +0.7**
TBLG Delisi 53.93 316 P **P** **04 42 44.8 +0.7**
SVE Sverdlovsk 54.18 338⇑ *eP* **P** **04 42 45.7 +0.1**
SVE pmax pmax
comp=Z,21nm,0.9s
ARU Arti 54.67 337 *d iP* **P** **04 42 48.6 -0.6**
ARU 04 44 47.1
ARU S **S** **04 50 27.3 +0.1**
ARU SS SS 04 54 01.8 -8.5
ARU pmax pmax
comp=Z,12nm,1.0s
ZEI Tsey 54.91 317 *eP* **P** **04 42 50.9 -0.6**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
ONI Oni 55.14 316 P **P** **04 42 53.6 +0.6**
KBZ Khabaz 55.95 317 P **P** **04 42 58.5 -0.2**
KBZ 04 43 57.4
KBZ Khabaz 55.95 317 P **P** **04 42 58.5 -0.2**
KBZ PcP **PcP** **04 43 57.4 +0.4**
KBZ Khabaz 55.95 317 P **P** **04 42 58.5 -0.2**
comp=Z,8.5nm,1.0s,baz=116,slow=4.0,SNR=8.3
KBZ PcP **PcP** **04 43 57.4 +0.4**
comp=Z,2.2nm,0.5s,baz=153,slow=6.9,SNR=2.4
KBZ LR LR 05 09 18.8
comp=Z,177nm,19.2s,baz=308,slow=38
YSS Yuzh-Sakhalins 56.17 39 *eP* P 04 43 08.3 +8.2
YSS MLR MLR
comp=Z,400nm,14.0s
KIV Kislovodsk 56.18 317 *eP* **P** **04 43 00.6 +0.2**
KIV *e*S **S** **04 50 48.5 +0.6**
KIV pmax pmax
comp=Z,18nm,0.7s
KIV MLR MLR
comp=Z,175nm,16.0s
KMBO Kilima Mbogo 57.11 263 *eP* **P** **04 43 10.5 +2.7**
comp=Z,58nm,2.2s
KMBO Kilima Mbogo 57.11 263 P **P** **04 43 10.2 +2.5**
comp=Z,3.7nm,0.8s,baz=52,slow=10,SNR=8.2
KMBO LR LR 05 04 53.8
comp=Z,378nm,18.9s,baz=104,slow=33
ASF Jabal al Asfar 57.23 302 P **P** **04 43 09.0 +0.9**
ASF Jabal al Asfar 57.23 302 P **P** **04 43 09.0 +0.9**
comp=Z,4.0nm,0.8s,baz=134,slow=0.8,SNR=5.2
EIL Elat 58.48 299 P **P** **04 43 17.7 +0.9**
EIL Elat 58.48 299 P **P** **04 43 17.7 +0.9**
comp=Z,6.8nm,0.6s,baz=152,slow=2.3,SNR=7.7
EIL LR LR 05 09 00.1
comp=Z,222nm,21.6s,baz=92,slow=36
CTA Charters Tower 59.26 120 P **P** **04 43 21.2 -1.0**
CTA Charters Tower 59.26 120 P **P** **04 43 21.2 -1.0**
comp=Z,4.6nm,0.9s,baz=306,slow=5.1,SNR=3.9
CTAO Charters Tower 59.26 120 *eP* **P** **04 43 23.1 +0.8**
CTAO pmax pmax
comp=Z,24nm,1.3s
CTAO Charters Tower 59.26 120 *eP* **P** **04 43 23.1 +0.8**
comp=Z,24nm,1.3s
VRHR Novokhopersk 59.75 325 *eP* **P** **04 43 23.6 -1.6**
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=Z,20nm,1.3s
VRHR pmax pmax
comp=E,8.0nm,0.6s
ANN Anapa 60.00 317 *eP* P 04 43 20.6 -6.4
ANN pmax pmax
comp=Z,38nm,1.3s
VSR Storozhevoye 61.21 324 *eP* **P** **04 43 33.9 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.6s
STKA Stephens Creek 61.21 134 P **P** **04 43 34.8 -0.7**
STKA Stephens Creek 61.21 134 P **P** **04 43 34.8 -0.7**
comp=E,1.3nm,0.3s,baz=328,slow=3.8,SNR=3.9
BR131 Keskin Array S 61.35 310 *eP* **P** **04 43 35.1 -1.5**
comp=E,3.9nm,0.6s
BRTR Keskin Array B 61.35 310 P **P** **04 43 35.2 -1.3**
BRTR Keskin Array B 61.35 310 P **P** **04 43 35.2 -1.3**
comp=E,4.8nm,0.6s,baz=131,slow=6.9,SNR=28
BRTR LR LR 05 10 36.5
comp=E,195nm,19.6s,baz=168,slow=36
OBN Obninsk 64.18 328 *eP* **P** **04 43 54.1 -0.8**
OBN *i* 04 44 28.9
OBN *i* 04 46 14.5
OBN *e*S **S** **04 52 31.5 +1.5**
OBN pmax pmax
comp=Z,11nm,1.2s
TIRR Tirgusor 66.14 315 ⇓P **P** **04 44 06.9 -0.9**
TIRR Tirgusor 66.14 315 ⇓*i*P **P** **04 44 06.9 -0.9**
TIXI Tiksi 66.21 12 ⇓*i*P **P** **04 44 06.7 -1.0**
TIXI pmax pmax
comp=Z,25nm,1.2s
AKASG Malin Array Be 66.99 321 P **P** **04 44 11.5 -1.6**
AKASG Malin Array Be 66.99 321 P **P** **04 44 11.5 -1.6**
AKASG Malin Array Be 66.99 321 P **P** **04 44 11.5 -1.6**
comp=Z,3.8nm,0.6s,baz=88,slow=5.8,SNR=3.2
VRI Vrincioaia 67.58 316 ⇑P **P** **04 44 17.5 +0.5**
VRI Vrincioaia 67.58 316 ⇑*i*P **P** **04 44 17.5 +0.5**
PLOR Plostina 67.63 316 ⇑P **P** **04 44 17.9 +0.6**
PLOR Plostina 67.63 316 ⇑*i*P **P** **04 44 17.9 +0.6**
TESR Tescani 67.75 317 ⇓*i*P **P** **04 44 17.6 -0.4**
MLR Muntele Rosu 68.05 315 ⇓*i*P **P** **04 44 20.0 -0.1**
VAM Vamos 68.13 304 *eP* **P** **04 44 20.9 +0.3**
VOIR 68.66 315 ⇑P **P** **04 44 23.0 -0.9**
VOIR 68.66 315 ⇑*i*P **P** **04 44 23.0 -0.9**
MICGM Minsk 68.74 325 *e* **P** **04 44 23.0 -1.1**
MNK Minsk 68.77 325 *eP* **P** **04 44 23.0 -1.2**
ANKY Antikythira Is 68.89 305 *eP* **P** **04 44 24.6 -0.8**
PAIG Paliouri 68.95 309 *eP* P 04 44 17.9 -7.8
NVR Nevrokopi 68.97 311 *eP* **P** **04 44 24.1 -1.7**
LSZ Lusaka 69.23 250 *eP* **P** **04 44 29.6 +1.6**
comp=Z,128nm,2.6s
VLI Veliai 69.25 306 *eP* **P** **04 44 25.4 -2.2**
VTS Vitosha 69.59 312 ⇓P **P** **04 44 27.7 -2.1**
VTS Vitosha 69.59 312 *eP* **P** **04 44 27.3 -2.5**
VTS Vitosha 69.59 312 ⇓*i*P **P** **04 44 27.6 -2.2**
DYR Agios Nikonas 69.73 306 *eP* **P** **04 44 29.6 -1.0**
VLX Vlachokerasia 69.74 306 *eP* P 04 44 26.6 -4.2
GUR Goura 69.81 307 *eP* **P** **04 44 29.4 -1.8**
LIT Litokhoron 69.88 309 *eP* **P** **04 44 29.1 -2.3**
AGG Agios Georgios 69.91 308 *eP* P 04 44 28.3 -3.4
KLV Kalavryta, Ach 69.97 307 *eP* **P** **04 44 30.6 -1.5**
KALE Kalithea 70.00 308 *eP* P 04 44 28.4 -3.9
TRIZ Trizonia 70.06 307 *eP* **P** **04 44 30.1 -2.4**
ITM Ithomi 70.09 306 *eP* **P** **04 44 31.4 -1.4**
LAKA Lakka 70.12 307 *eP* **P** **04 44 31.7 -1.3**
EFP Efpalio 70.19 308 *eP* **P** **04 44 31.9 -1.5**
THL Klokotos Trika 70.19 309 *eP* P 04 44 29.4 -3.9
PYL PYLOS 70.22 306 *eP* P 04 44 25.2 -8.4
EVR Evrytania 70.30 306 *eP* **P** **04 44 31.4 -2.8**
DRGR 70.47 316 ⇓P **P** **04 44 34.9 -0.1**
DRGR 70.47 316 ⇓*i*P **P** **04 44 34.9 -0.1**
RLS Riolos of Patr 70.51 307 *eP* **P** **04 44 33.9 -1.4**
APA Apatity 70.63 339 ⇑*i*P **P** **04 44 35.4 -0.1**
APA *i* 04 44 54.0
APA *i*S **S** **04 53 44.0 -3.1**
APA *i* 04 54 34.0
APA pmax pmax
comp=Z,20nm,1.0s
APA MLR MLR
comp=Z,300nm,25.0s
UZH Uzhgorod 71.00 318 *eP* **P** **04 44 39.1 +1.0**
UZH *e* 04 44 50.9
UZH *e* 04 45 04.9
KOLS Kolonicke sedl 71.06 319 *eP* **P** **04 44 38.2 -0.3**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 71.06 319 *eP* **P** **04 44 38.1 -0.4**
LKD2 Lefkada island 71.19 308 *eP* **P** **04 44 37.7 -1.8**
FINES FINESS Array B 71.50 332 P **P** **04 44 40.1 -0.8**
FINES FINESS Array B 71.50 332 P **P** **04 44 40.1 -0.8**
comp=Z,3.6nm,0.6s,baz=102,slow=5.8,SNR=19
KAF Kangasniemi 71.58 333 *eP* **P** **04 44 41.6 +0.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 71.58 333 *ep* **P** **04 44 41.6 +0.3**
comp=Z,4.1nm,0.5s
CRVS Cervenica-Dubn 71.58 319 *eP* **P** **04 44 41.9 +0.3**
CRVS pmax pmax
comp=Z,24nm,1.4s
CRVS Cervenica-Dubn 71.58 319 *eP* **P** **04 44 41.9 +0.3**
STHS Stebnicka Huta 71.79 319 *eP* **P** **04 44 42.9 0.0**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 71.79 319 *eP* **P** **04 44 42.9 0.0**
KECS Kecovo 72.17 318 *eP* **P** **04 44 45.0 -0.2**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 72.17 318 *eP* **P** **04 44 45.0 -0.2**
NIE Niedzica 72.40 319 *eP* **P** **04 44 48.5 +2.0**
PSZ Piszkesteto 72.50 317 ⇑P **P** **04 44 46.9 -0.4**
PSZ Piszkesteto 72.50 317 ⇑*i*P **P** **04 44 46.9 -0.4**
PSZ Piszkesteto 72.50 317 *eP* **P** **04 44 46.5 -0.8**
comp=Z,12nm,1.1s
OJC Ojcow 72.82 320 *eP* **P** **04 44 48.7 -0.3**
OJC *e* 04 45 05.4
OJC Ojcow 72.82 320 *eP* **P** **04 44 48.3 -0.7**
comp=Z,14nm,0.9s
OKC Ostrava-Krasne 73.84 319 *i P* **P** **04 44 55.7 +0.7**
OKC Ostrava-Krasne 73.84 319 *i P* **P** **04 44 55.7 +0.7**
ARCES ARCESS Array B 74.05 340 P **P** **04 44 55.8 -0.1**
ARCES ARCESS Array B 74.05 340 P **P** **04 44 55.8 -0.1**
comp=Z,5.2nm,0.7s,baz=93,slow=5.7,SNR=38
ARCES LR LR 05 20 07.6
comp=Z,124nm,21.2s,baz=105,slow=38
ARE0 ARCESS Array S 74.05 340 *eP* **P** **04 44 52.9 -3.0**
MORC Moravsky Berou 74.22 319 *eP* **P** **04 44 57.3 0.0**
MORC pmax pmax
comp=Z,15nm,1.2s
MORC Moravsky Berou 74.22 319 *eP* **P** **04 44 57.3 0.0**
comp=Z,15nm,1.2s
LBTB Lobatse 74.40 241 *eP* **P** **04 45 00.7 +1.8**
comp=Z,12nm,0.8s
KTK1 Kautokeino 74.67 339 *eP* **P** **04 44 59.8 +0.3**
DPC Dobruska-Polom 75.05 320 *eP* **P** **04 45 02.7 +0.6**
DPC Dobruska-Polom 75.05 320 *i P* **P** **04 45 02.6 +0.5**
DPC *ex* x 04 45 08.1
DPC Dobruska-Polom 75.05 320 *eP* **P** **04 45 02.7 +0.6**
KSP Ksiaz 75.11 320⇓*eP* **P** **04 45 02.5 +0.2**
UPC Upice 75.26 320 *i P* **P** **04 45 03.5 +0.2**
UPC Upice 75.26 320 *i P* **P** **04 45 03.5 +0.2**
ARSA Arzberg 75.41 316 *i P* **P** **04 45 04.3 +0.1**
comp=Z,14nm,1.6s,SNR=5.4
BOJS Bojanci 75.53 315 *i P* **P** **04 45 04.3 -0.6**
BOJS Bojanci 75.53 315 P **P** **04 45 04.3 -0.6**
PERS Pernice 75.66 316 *i P* **P** **04 45 05.4 -0.3**
PERS Pernice 75.66 316 *i P* **P** **04 45 05.4 -0.3**
SOKA Soboth 75.72 316 *i P* **P** **04 45 06.1 0.0**
comp=Z,13nm,1.0s,SNR=8.6
BOSA Boshof 75.81 237 *eP* **P** **04 45 08.0 +1.0**
comp=Z,24nm,1.1s
BOSA Boshof 75.81 237 P **P** **04 45 08.3 +1.4**
comp=Z,6.5nm,0.5s,baz=99,slow=3.9,SNR=13
BOSA LR LR 05 13 28.4
comp=Z,241nm,19.7s,baz=345,slow=32
VISS Visnje 75.83 315 *i P* **P** **04 45 06.2 -0.4**
VISS *i* 04 45 13.2
VISS Visnje 75.83 315 *i P* **P** **04 45 06.2 -0.4**
PRU Pruhonice 76.18 319 *i P* **P** **04 45 08.7 +0.2**
PRU *e* 04 45 14.3
PRU Pruhonice 76.18 319 *i P* **P** **04 45 08.7 +0.2**
PRU *ex* x 04 45 14.3
TRO Tromso 76.31 340 *eP* **P** **04 45 08.5 -0.3**
VOY Vojsko 76.49 315 *eP* **P** **04 45 09.9 -0.6**
VOY *e* 04 45 16.8
VOY Vojsko 76.49 315 *eP* **P** **04 45 09.9 -0.6**
BRG Berggiesshubel 76.59 320 *eP* **P** **04 45 10.2 -0.6**
comp=Z,25nm,1.8s
BRG Berggiesshubel 76.59 320 *eP* **P** **04 45 10.2 -0.6**
BRG pmax pmax
comp=Z,25nm,1.8s
GERES GERESS Array B 76.68 318 P **P** **04 45 11.2 -0.4**
GERES GERESS Array B 76.68 318 P **P** **04 45 11.2 -0.4**
comp=Z,3.2nm,0.5s,baz=86,slow=6.8,SNR=30
KHC Kasperske Hory 76.77 318 *i P* **P** **04 45 10.4 -1.6**
KHC *e* 04 45 17.4
KHC Kasperske Hory 76.77 318 *i P* **P** **04 45 10.4 -1.6**
KHC *ex* x 04 45 17.4
KHC Kasperske Hory 76.77 318 *eP* **P** **04 45 11.7 -0.2**
comp=Z,5.2nm,0.8s
CLL Collm 77.20 321⇑*i P* **P** **04 45 14.3 +0.1**
CLL *e* 04 45 20.0
CLL pmax pmax
comp=Z,14nm,1.5s
CLL Collm 77.20 321⇑*i P* **P** **04 45 14.3 +0.1**
comp=Z,14nm,1.5s
CLL *e* 04 45 20.0
CLL *e*PcP **pP** **04 45 23.0 -1.0**
CLL LmV 05 28 00.0
comp=Z,100nm,18.5s
HFS Hagfors 77.25 330 P **P** **04 45 13.8 -0.5**
HFS Hagfors 77.25 330 P **P** **04 45 13.8 -0.5**
comp=Z,5.2nm,0.6s,baz=98,slow=6.1,SNR=20
WTTA Wattenberg 78.05 316⇑*i P* **P** **04 45 18.3 -1.1**
comp=Z,19nm,1.2s
GRF Grafenberg Arr 78.32 319 *eP* **P** **04 45 20.5 0.0**
GRF pmax pmax
comp=Z,13nm,1.2s
NC602 NORSAR Array S 78.35 330 *eP* **P** **04 45 19.5 -0.9**
NB2 NORSAR Subarra 78.52 331 P **P** **04 45 20.4 -1.1**
comp=Z,10nm,0.9s,baz=92,slow=5.9
NB2 NORSAR Subarra 78.52 331 P **P** **04 45 20.4 -1.1**
baz=92,slow=5.9
NOA NORSAR Array B 78.52 331 P **P** **04 45 20.6 -0.8**
NOA NORSAR Array B 78.52 331 P **P** **04 45 20.6 -0.8**
comp=Z,3.0nm,0.6s,baz=94,slow=5.1,SNR=15
NOA LR LR 05 27 10.5
comp=Z,118nm,20.6s,baz=70,slow=41
SPA0 Spitsbergen Ar 78.64 348 *eP* **P** **04 45 21.7 -0.1**
SPITS Spitsbergen Ar 78.64 348 P **P** **04 45 21.9 +0.1**
SPITS Spitsbergen Ar 78.64 348 P **P** **04 45 21.9 +0.1**
comp=Z,4.0nm,0.5s,baz=99,slow=10,SNR=32
RETA Reutte 78.64 317⇓*i P* **P** **04 45 21.9 -0.6**
comp=Z,21nm,1.0s,SNR=7.5
FETA Feichten 78.68 316⇓*i P* **P** **04 45 22.1 -0.7**
comp=Z,12nm,0.9s,SNR=5.4
NAO01 NORSAR Array S 78.68 330 *eP* **P** **04 45 21.2 -1.0**
comp=Z,8.0nm,0.8s
NAO01 *e*pP **PcP** **04 45 28.4 -2.8**
FUORN Ofenpass-Fuorn 79.00 316 *eP* **P** **04 45 24.9 +0.2**
comp=Z,28nm,1.7s
DAVA Damuels 79.25 316 *i P* **P** **04 45 25.7 -0.2**
comp=Z,15nm,1.0s,SNR=5.7
MAW Mawson 79.56 192 P **P** **04 45 27.8 +1.0**
MAW Mawson 79.56 192 P **P** **04 45 27.8 +1.0**
comp=Z,1.3nm,0.5s,baz=3.2,slow=8.6,SNR=5.3
MAW LR LR 05 14 42.9
comp=Z,159nm,19.4s,baz=38,slow=31
KBS Kingsbay 79.62 349 *eP* **P** **04 45 27.0 -0.1**
KBS *e**PP **PcP** **04 45 34.3 -0.6**
KBS pmax pmax
comp=Z,6.0nm,0.7s
KBS Kingsbay 79.62 349 *eP* **P** **04 45 27.0 -0.1**
comp=Z,6.0nm,0.7s
KBS *e*pP **PcP** **04 45 34.3 -0.6**
TUE Stuetta 79.64 316 *eP* **P** **04 45 28.1 -0.1**
comp=Z,26nm,1.5s
KEST Kesra 80.23 305 *eP* **P** **04 45 31.7 +0.3**
KEST *e*pP **PcP** **04 45 38.1 -0.4**
KEST Kesra 80.23 305 P **P** **04 45 31.1 -0.2**
comp=Z,1.2nm,0.5s,baz=355,slow=3.3,SNR=12
BFO Black Forest 80.25 318 *eP* **P** **04 45 30.5 -0.7**
BFO Black Forest 80.25 318 *eP* **P** **04 45 30.5 -0.7**
MOL Molde 80.28 332 *eP* **P** **04 45 30.8 -0.1**
LANF Langenberg 80.57 318 *eP* **P** **04 45 32.3 -0.5**
CDF Champ du Feu 80.95 318 *eP* **P** **04 45 34.1 -0.9**
SENIN Lac Senin/Sane 81.06 316 *eP* **P** **04 45 36.0 +0.3**
comp=Z,20nm,1.5s
MOF Molkenrain 81.08 317 *eP* **P** **04 45 35.4 -0.3**
SBF Sospel 81.13 313 *eP* **P** **04 45 35.4 -0.6**
comp=Z,32nm,0.9s
LOMF Lomont 81.32 317 *eP* **P** **04 45 35.8 -1.1**
BER Bergen 81.42 330 *e*PP PP 04 48 37.5 -5.5
LPG La Plagne 81.50 315 *eP* **P** **04 45 37.9 -0.3**
comp=Z,33nm,0.8s
LPL La Plagne 81.51 315 *eP* **P** **04 45 37.9 -0.3**
comp=Z,26nm,0.9s
MBDF Montbardon 81.55 314 *eP* **P** **04 45 37.1 -1.2**
comp=Z,17nm,1.0s
RSL Roselend 81.58 315 *eP* **P** **04 45 37.7 -0.7**
BNI Bardonecchia 81.59 314 *eP* **P** **04 45 38.0 -0.5**
BNI pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 81.59 314 *eP* **P** **04 45 38.0 -0.5**
comp=Z,10nm,0.9s
HAU Haudompre 81.60 317 *eP* **P** **04 45 37.5 -0.8**
HAU *e*R
comp=Z,65nm,19.8s
FRF La Foret Royal 81.72 313 *eP* **P** **04 45 38.6 -0.5**
CABF La Chapelle 81.88 316 *eP* **P** **04 45 39.5 -0.4**
comp=Z,37nm,1.4s
ORIF Oris-en-Rattie 82.16 314 *eP* **P** **04 45 41.1 -0.4**
comp=Z,7.7nm,0.8s
ORIF *e*R
comp=Z,71nm,20.5s
SFTF Sexfontaines 82.46 318 *eP* **P** **04 45 42.2 -0.6**
comp=Z,25nm,0.9s
SMRF Simiane la Rot 82.46 313 *eP* **P** **04 45 42.9 -0.1**
BAIF Baives 82.83 319 *eP* **P** **04 45 44.5 -0.2**
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 83.02 314 *eP* **P** **04 45 45.4 -0.5**
comp=Z,20nm,1.2s
LOR Lormes 83.34 317 *eP* **P** **04 45 46.7 -0.7**
comp=Z,21nm,0.9s
LOR *e*R
comp=Z,94nm,21.2s
SMF Signal de Mont 83.42 316 *eP* **P** **04 45 46.9 -0.9**
comp=Z,13nm,0.8s
SSF Saint Saulge 83.60 317 *eP* **P** **04 45 48.1 -0.7**
AVF Avril sur Loir 83.74 316 *eP* **P** **04 45 48.6 -0.8**
comp=Z,15nm,1.1s
BGF Bois d'Agland 84.11 316 *eP* **P** **04 45 51.0 -0.4**
TCF Toulx Ste Croi 84.58 316 *eP* **P** **04 45 53.3 -0.5**
MTLF Montolieu 84.95 313 *eP* **P** **04 45 55.4 -0.3**
comp=Z,22nm,1.2s
RJF Les Rejaudoux 85.19 315 *eP* **P** **04 45 56.8 -0.1**
RJF *e*R
comp=Z,135nm,22.8s
JMIC Jan Mayen 85.49 341 LR LR 05 31 56.8
comp=Z,83nm,19.7s,baz=65,slow=41
LDF La Druitiere 85.82 318 *eP* **P** **04 45 59.2 -0.7**
FLN La Foliniere 86.03 319 *eP* **P** **04 46 00.5 -0.4**
FLN *e*R
comp=Z,95nm,22.0s
ESK Eskdalemuir 86.56 325 *eP* **P** **04 46 03.3 -0.1**
ESK pmax pmax
comp=Z,21nm,1.0s
ESK Eskdalemuir 86.56 325 *eP* **P** **04 46 03.3 -0.1**
comp=Z,21nm,1.0s
SJPF Ste Jean 87.48 313 *eP* **P** **04 46 07.4 -0.8**
ROSF Rostrenen 87.93 318 *eP* **P** **04 46 09.4 -0.8**
QUIF Quistinic 87.94 318 *eP* **P** **04 46 09.5 -0.7**
TORD Torodi Ar. Bea 89.90 283 PP PP 04 49 59.5 +6.4
TORD Torodi Ar. Bea 89.90 283 PP PP 04 49 59.5 +6.4
comp=Z,0.6nm,0.9s,baz=66,slow=7.0,SNR=3.5
ESDC Sonseca Array 90.14 310 P **P** **04 46 20.8 -0.1**
ESDC Sonseca Array 90.14 310 P **P** **04 46 20.8 -0.1**
comp=Z,0.5nm,0.4s,baz=61,slow=4.1,SNR=5.9
ESDC LR LR 05 32 04.7
comp=Z,45nm,18.9s,baz=110,slow=39
URZ Urewera 90.39 129 P **P** **04 46 20.4 -1.5**
URZ Urewera 90.39 129 P **P** **04 46 20.4 -1.5**

comp=Z,5.1nm,0.3s,baz=225,slow=19,SNR=10
IMA2 Indian Mountai 90.74 22 *e*P **P 04 46 24.0 +0.8**
IM04 Indian Mountai 90.74 22 *e*P **P 04 46 23.5 +0.4**
IM04 *ep*P **pP 04 46 31.8 -1.2**
COLD Coldfoot 91.48 20 *e*P **P 04 46 27.3 +0.8**
SVW2 Sparrevohn 91.94 27 *e*P **P 04 46 30.4 +1.8**
comp=Z,10nm,1.1s
SUMG Summit 92.94 347 *e*P **P 04 46 34.3 +0.7**
SUMG Summit 92.94 347 *e*P **P 04 46 34.3 +0.7**
SPU Mount Spurr 93.47 26 *e*P **P 04 46 36.3 +0.5**
MCK McKinley 93.59 23 *e*P **P 04 46 37.2 +0.9**
MCK McKinley 93.59 23 *e*P **P 04 46 37.2 +0.9**
ILAR Eielson Array 93.86 22 P **P 04 46 36.4 -1.1**
ILAR PKKPbc **PKKPdf 05 03 40.0 -1.3**
ILAR Eielson Array 93.86 22 P **P 04 46 36.4 -1.1**
comp=Z,2.2nm,0.9s,baz=302,slow=4.3,SNR=28
ILAR PKKPbc **PKKPdf 05 03 40.0 -1.3**
comp=Z,0.6nm,1.0s,baz=167,slow=2.1,SNR=5.1
VNDA Vanda 94.13 168 LR LR 05 24 23.5
comp=Z,151nm,18.1s,baz=16,slow=32
PMR Palmer 94.53 25 *e*P **P 04 46 40.4 -0.1**
PMR *e**PP **pP 04 46 47.9 -2.6**
PMR pmax pmax
comp=Z,6.0nm,0.9s
PMR Palmer 94.53 25 *e*P **P 04 46 40.4 -0.1**
comp=Z,6.1nm,0.9s
PMR *ep*P **pP 04 46 47.9 -2.6**
KDAK Kodiak Island 94.67 29 P **P 04 46 40.0 -1.2**
KDAK Kodiak Island 94.67 29 P **P 04 46 40.0 -1.2**
comp=Z,6.8nm,1.0s,baz=345,slow=12,SNR=3.9
SML Sawmill 94.77 25 *e*P **P 04 46 42.5 +0.8**
SML Sawmill 94.77 25 *e*P **P 04 46 42.5 +0.8**
PAX Paxson 95.33 23 *e*P **P 04 46 42.1 -2.2**
PAX Paxson 95.33 23 *e*P **P 04 46 42.1 -2.2**
INK Inuvik 96.03 16 *e*P **P 04 46 47.1 -0.1**
comp=Z,4.4nm,0.8s
BMRM Bremner River 96.74 25 *e*P **P 04 46 51.9 +1.2**
DAWY Dawson 96.96 21 *e*P **P 04 46 51.7 0.0**
DAWY *ep*P **pP 04 46 59.6 -2.0**
DBIC Dimbokro 97.34 278 P Pdif 04 46 55.2 +0.8
DBIC Dimbokro 97.34 278 P Pdif 04 46 55.2 +0.8
comp=Z,4.1nm,0.9s,baz=80,slow=9.4,SNR=7.6
DBIC LR LR 05 28 44.7
comp=Z,141nm,20.1s,baz=26,slow=34
NEW Newport 116.81 23 *e*PKPdf **PKPdf 04 52 04.7 -0.2**
HLID Hailey 121.77 24 *e*PKPdf **PKPdf 04 52 15.3 +0.5**
TPAW Teton Pass 123.14 21 *e*PKPdf **PKPdf 04 52 18.2 +0.6**
LOHW Long Hollow 123.16 21 *e*PKPdf **PKPdf 04 52 17.8 +0.3**
SNOW Snow King Moun 123.23 21 *e*PKPdf **PKPdf 04 52 18.6 +0.8**
REDW Red Top Meadow 123.29 21 *e*PKPdf **PKPdf 04 52 18.2 +0.4**
NVAR Mina Array Bea 124.17 30 PKP **PKPdf 04 52 19.1 -0.5**
NVAR Mina Array Bea 124.17 30 PKP **PKPdf 04 52 19.1 -0.5**
comp=Z,0.6nm,0.6s,baz=282,slow=1.9,SNR=3.9
BW06 Boulder Array 124.27 21 *e*PKPdf **PKPdf 04 52 19.3 -0.4**
PDAR Pinedale Array 124.27 21 PKP **PKPdf 04 52 19.1 -0.5**
PDAR Pinedale Array 124.27 21 PKP **PKPdf 04 52 19.1 -0.5**
comp=Z,1.3nm,0.9s,baz=48,slow=2.2,SNR=11
HWUT Hardware Ranch 124.54 23 *e*PKPdf **PKPdf 04 52 20.2 0.0**
DUG Dugway 125.24 25 *e*PKIKP **PKPdf 04 52 22.0 +0.5**
DUG Dugway 125.24 25 *e*PKPdf **PKPdf 04 52 22.0 +0.5**
ECSD EROS Data Cent 126.67 9 *e*PKPdf **PKPdf 04 52 23.6 -0.4**
MSU Marysvale 126.92 25 *e*PKIKP **PKPdf 04 52 26.4 +1.5**
MSU Marysvale 126.92 25 *e*PKPdf **PKPdf 04 52 26.4 +1.5**
ANMO Albuquerque 132.30 22 *e*PKPdf **PKPdf 04 52 35.9 +0.7**
TUC Tucson 132.73 29 *e*PKIKP **PKPdf 04 52 36.1 +0.2**
TUC Tucson 132.73 29 *e*PKPdf **PKPdf 04 52 36.1 +0.2**
WVT Waverly 135.07 2 *e*PKIKP **PKPdf 04 52 39.7 -0.4**
WVT Waverly 135.07 2 *e*PKPdf **PKPdf 04 52 39.7 -0.4**
MNTX Cornudas Mount 135.59 23 *e*PKPdf **PKPdf 04 52 41.8 +0.5**
TXAR Lajitas Array 138.37 23 PKPpre PKPpre 04 52 36.6
TXAR PKP **PKPdf 04 52 44.3 -2.2**
TXAR Lajitas Array 138.37 23 PKhKP PKPpre 04 52 36.6
comp=Z,0.2nm,0.6s,baz=163,slow=0.7,SNR=4.0
TXAR PKP **PKPdf 04 52 44.3 -2.2**
comp=Z,0.9nm,0.9s,baz=117,slow=0.6,SNR=7.9
JCT Junction City 138.65 18 *e*PKIKP **PKPdf 04 52 47.5 +0.6**
JCT Junction City 138.65 18 *e*PKPdf **PKPdf 04 52 47.5 +0.6**
BDFB Brasilia 142.06 256 PKPpre PKPpre 04 52 48.9
BDFB Brasilia 142.06 256 PKhKP PKPpre 04 52 48.9
comp=Z,1.9nm,0.7s,baz=152,slow=13,SNR=3.2
TRQA Tornquist 143.72 213 *e*PKPdf PKPbc 04 52 54.3 +1.0
MTP Monte Pirata 146.15 323 *e*PKPbc **PKPbc 04 53 01.1 -0.2**
CBYP Canovanas 146.19 323 *e*PKPbc **PKPbc 04 53 01.6 +0.1**
LRS Lares 146.75 325 *e*PKPbc **PKPbc 04 53 02.8 -0.4**
CELP Cerrillos 146.77 324 *e*PKPbc **PKPbc 04 53 03.1 -0.1**
CPUP Villa Florida 147.58 234 *e*PKPbc **PKPbc 04 53 05.4 +0.1**
CPUP Villa Florida 147.58 234 PKPbc **PKPdf 04 53 03.4 +0.7**
comp=Z,12nm,0.9s,baz=95,slow=2.9,SNR=28
TEIG Tepich 150.88 4 *e*PKPbc **PKPbc 04 53 14.1 +0.3**
LCO Las Campanas 155.29 214 *e*PKPdf **PKPdf 04 53 15.3 +0.7**
LVC Limon Verde 158.52 229 *e*PKPdf **PKPdf 04 53 19.5 +0.6**
LVC *e*PKPab **PKPab 04 53 53.7 0.0**
LPAZ La Paz 160.85 246 *e*PKPdf **PKPdf 04 53 22.6 +0.5**
LPAZ *e*PKPab **PKPab 04 54 04.7 +0.1**
LPAZ La Paz 160.85 246 PKP **PKPdf 04 53 22.7 +0.5**
comp=Z,1.1nm,0.7s,baz=168,slow=3.2,SNR=5.5
LPAZ PKPab **PKPab 04 54 04.7 +0.1**
comp=Z,2.5nm,0.6s,baz=88,slow=3.2,SNR=13
ROSC El Rosal 161.76 319 *e*PKPdf **PKPdf 04 53 23.2 +0.2**
ROSC El Rosal 161.76 319 PKP **PKPdf 04 53 23.2 +0.2**
comp=Z,1.4nm,0.3s,baz=97,slow=19,SNR=2.4

IDC 12 04:44:00.5±3.7, 1°.22S×89°.55E, h34^{km}±24^{km}, mb3.5/8, mb1 3.8/9, mb1mx3.6/28, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=36.5km s-min=19.9km az=47.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**10.19**	**67**	Pn	Pn	04 46 23.5	-1.1
0.5nm,0.3s,baz=258,slow=9.3,SNR=6.7							
CMAR	**Chiang Mai Arr**	**21.63**	**25**	P	P	04 48 48.7	+0.7
3.0nm,1.0s,baz=213,slow=9.7,SNR=6.3							
FITZ	**Fitzroy Crossi**	**39.20**	**118**	P	P	04 51 25.7	-0.1
1.4nm,0.8s,baz=286,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**47.57**	**116**	P	P	04 52 32.9	-0.5
1.4nm,1.0s,baz=290,slow=8.6,SNR=4.7							
WRA				ScP	ScP	04 57 54.8	-0.1
0.7nm,0.9s,baz=286,slow=4.9,SNR=3.4							
MKAR	**Makanchi Array**	**48.24**	**353**	P	P	04 52 37.4	-0.7
1.0nm,0.9s,baz=177,slow=8.4,SNR=5.1							
ASAR	**Alice Springs**	**48.40**	**121**	P	P	04 52 39.3	-0.5
0.4nm,0.6s,baz=298,slow=6.0,SNR=5.0							
ASAR				ScP	ScP	04 57 57.1	-1.3
0.3nm,0.3s,baz=292,slow=4.9,SNR=4.3							
SONM	**Songino Array**	**51.02**	**15**	P	P	04 52 59.6	+0.2
0.3nm,0.3s,baz=196,slow=9.0,SNR=2.8							
BRTR	**Keskin Array B**	**65.25**	**315**	P	P	04 54 38.2	-1.0
0.5nm,0.6s,baz=129,slow=6.0,SNR=3.0							
GERES	**GERESS Array B**	**81.63**	**320**	P	P	04 56 15.4	0.0
0.3nm,0.5s,baz=134,slow=8.4,SNR=2.8							
TXAR	**Lajitas Array**	**149.34**	**23**	PKPbc	PKPbc	05 03 46.9	+0.1
0.1nm,0.4s,baz=5.7,slow=1.8,SNR=2.7							
LPAZ	**La Paz**	**151.92**	**231**	PKPbc	PKPbc	05 03 54.8	+0.9
0.3nm,0.6s,baz=126,slow=2.7,SNR=3.1							

ISCJB ***12*** *04:45:34.1±0.5, 10°.62N±0°.04×62°.53W±0°.03, h86^{km}±6^{km}, Error ellipse: s-maj=7.1km s-min=3.9km az=162.6*
FUNV ***12*** *04:45:37.0, 10°.55N×62°.46W, h69^{km}, MW2.8*
TRN ***12*** *04:45:37.5, 10°.86N×62°.43W, h68^{km}, MD3.6*
ISC 12 04:45:33.4±1.3, 10°.66N±0°.04×62°.50W±0°.03, h97^{km}±8^{km}, n21, σ2^{s}11/40, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.27**	**92**	⇑*i*P	**Pn**	**04 45 47.6**	**+0.1**
GUIV				*e*S	**Sn**	**04 45 55.4**	**-2.7**
GUNV	**Guanoco**	**0.66**	**222**	*e*S	**Sn**	**04 46 01.2**	**-1.5**
CRUV	**Carupano**	**0.72**	**271**	⇑*e*P	**Pn**	**04 45 51.6**	**+0.9**
CRUV				*e*S	**Sn**	**04 46 02.5**	**-1.3**
TCE	**Chacachacare**	**0.73**	**87**	⇑*e*P	**Pn**	**04 45 52.4**	**+1.6**
TCE				*e*S	**Sn**	**04 46 02.6**	**-1.4**
TRN	**Trinidad (W)**	**1.08**	**90**	*e*P	**Pn**	**04 45 56.4**	**+2.0**
TRN				*e*S	**Sn**	**04 46 10.2**	**-0.2**
TPP	**Pointe-a-Pierr**	**1.09**	**108**	*e*P	**Pn**	**04 45 57.1**	**+2.5**
TPP				*e*S	**Sn**	**04 46 11.6**	**+1.1**
TBH	**Brigand Hill**	**1.42**	**97**	*e*P	**Pn**	**04 46 01.2**	**+2.7**
TBH				*e*S	**Sn**	**04 46 19.4**	**+1.8**
GRW	**Mount Saint Ca**	**1.71**	**29**	*e*P	**Pn**	**04 46 03.3**	**+1.1**
GRW				*e*S	**Sn**	**04 46 21.5**	**-2.5**
ORIV	**Oritupano**	**1.81**	**210**	*e*P	**Pn**	**04 46 05.3**	**+1.8**
ORIV				*e*S	**Sn**	**04 46 24.9**	**-1.5**
TOSP	**Speyside**	**2.03**	**72**	*e*P	**Pn**	**04 46 08.3**	**+2.1**
TOSP				*e*S	**Sn**	**04 46 30.7**	**-0.7**
PCRV	**Puerto La Cruz**	**2.15**	**257**	*e*P	**Pn**	**04 46 10.1**	**+2.1**
PCRV				*e*S	**Sn**	**04 46 34.1**	**-0.3**
RIOV	**Rio Grande**	**2.66**	**165**	*e*S	**Sn**	**04 46 43.7**	**-2.5**
PRGV	**PARIAGUAN**	**2.83**	**228**	*e*P	**Pn**	**04 46 18.9**	**+2.0**
PRGV				*e*S	**Sn**	**04 46 49.0**	**-1.3**
SVB	**Belmont**	**2.87**	**25**	*e*P	**Pn**	**04 46 18.5**	**+1.1**
SVB				*e*S	**Sn**	**04 46 48.1**	**-3.1**
GURV	**El Guri**	**2.94**	**191**	*e*P	**Pn**	**04 46 19.0**	**+0.7**
GURV				*e*S	**Sn**	**04 46 50.5**	**-2.3**
CUPV	**Cœpira**	**3.29**	**260**	*e*P	**Pn**	**04 46 25.8**	**+2.8**
CUPV				*e*S	**Sn**	**04 47 00.8**	**-0.6**
MCLT	**Moule a Chique**	**3.40**	**27**	*e*P	**Pn**	**04 46 25.4**	**+1.0**
MCLT				*e*S	**Sn**	**04 47 00.1**	**-3.7**
BIRV	**Birongo**	**3.71**	**268**	*e*P	**Pn**	**04 46 31.3**	**+2.6**
BIRV				*e*S	**Sn**	**04 47 11.1**	**-0.4**
LUEV	**Luepa**	**4.89**	**168**	*e*P	**Pn**	**04 46 45.4**	**+0.5**
LUEV				*e*S	**Sn**	**04 47 35.3**	**-5.0**
TURV	**Turiamo**	**5.25**	**268**	*e*P	**Pn**	**04 46 51.6**	**+2.0**
TURV				*e*S	**Sn**	**04 47 47.5**	**-1.4**
BAUV	**El Baul**	**5.72**	**253**	*e*P	**Pn**	**04 46 57.2**	**+1.3**
BAUV				*e*S	**Sn**	**04 47 57.5**	**-2.8**

BJI ***12*** *04:45:40.2, 68°.90N×16°.60W, h10^{km}, mB5.0/8, mb4.8/18, Ms4.8/8, Ms7 4.5/8*
ISCJB ***12*** *04:45:41.6±0.1, 68°.72N±0°.02×16°.85W±0°.05, h10^{km}, mb4.5/132, MS4.0/30, Error ellipse: s-maj=2.9km s-min=2.3km az=167.0*
CSEM ***12*** *04:45:41.5±0.1, 68°.74N×16°.86W, h2^{km}, mb4.6/93, Ms3.8, Mw4.9, Error ellipse: s-maj=3.8km s-min=3.1km az=58.0*
MOS ***12*** *04:45:41.6±1.0, 68°.91N×16°.78W, h10^{km}, mb4.7/44, Error ellipse: s-maj=12.8km s-min=6.2km az=103.3*
IDC ***12*** *04:45:41.3±0.5, 68°.87N×16°.94W, h0^{km}, mb4.1/21, mb1 4.4/27, mb1mx4.3/36, mbtmp4.2/27, ML4.2/5, MS4.0/21, Ms1 4.0/21, ms1mx3.8/47, Error ellipse: s-maj=14.8km s-min=9.9km az=24.0*
REY ***12*** *04:45:41.6, 68°.70N×16°.41W, h10^{km}, ML4.1, ML3.9*
GCMT ***12*** *04:45:43.4±0.3, 68°.94N×16°.83W, h12^{km}±1^{km}, MW4.9, Moment Tensor Solution. s18,c23; s64,c101; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.21±.13; $M_{\theta\theta}$0.06±.09; $M_{r\theta}$-1.09±.32; $M_{\phi\phi}$2.13±.09; $M_{\theta r}$-0.11±.27; Best double couple: $M_0$2.60000×10^{16} NP1:ϕ_s88.00000°, δ73.00000°, λ-39.00000°. NP2:ϕ_s192.00000°, δ53.00000°, λ-158.00000°. Principal axes: T 3.0100, Plg13.0000°, Azm144.0000°; N -0.9300, Plg48.0000°, Azm248.0000°; P -2.0800, Plg40.0000°, Azm43.0000°; Data Used: II IU G IC CN.*
NEIC ***12*** *04:45:43.5±0.2, 68°.86N×16°.67W, h10^{km}, mb4.5/48 Error ellipse: s-maj=6.3km s-min=3.7km az=204.0*
SZGRF ***12*** *04:45:43.0, 68°.29N×18°.23W, h10^{km}, mb4.7, MS3.7, Iceland region*
ISC 12 04:45:42.9±0.4, 68°.78N±0°.03×16°.56W±0°.03, h11^{km}±2^{km}, h11^{km}:pP-P, n720, σ1^{s}17/639, mb4.6/131, MS4.0/31, 111C-125D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**2.32**	**194**	P	**Pn**	**04 46 17.9**	**-2.9**
IGRI				S	**Sn**	**04 46 43.7**	**-5.5**
ILEI	**Leirhofn**	**2.39**	**179**	P	**Pn**	**04 46 19.3**	**-2.5**
ILEI				S	**Sn**	**04 46 48.4**	**-2.5**
SCO	**Scoresbysund**	**2.54**	**315**	*i* P	Pn	04 46 16.5	-7.5
SCO	**Scoresbysund**	**2.54**	**315**	*i* P	Pn	04 46 16.5	-7.5
SNR=46							
IGIL	**Gilhagi**	**2.72**	**178**	P	**Pn**	**04 46 23.9**	**-2.5**
IGIL				S	**Sn**	**04 46 56.4**	**-2.8**
IHED	**Heoinshofoi**	**2.73**	**186**	P	**Pn**	**04 46 23.9**	**-2.6**
IHED				S	**Sn**	**04 46 56.9**	**-2.5**
ISIG	**Siglufjorour**	**2.81**	**200**	P	**Pn**	**04 46 24.9**	**-2.7**
IDIM	**Dimmadals¨js**	**2.84**	**183**	P	**Pn**	**04 46 25.7**	**-2.3**
IDIM				S	**Sn**	**04 46 59.4**	**-2.7**
IGRA	**Granastaoir**	**2.90**	**188**	P	**Pn**	**04 46 26.4**	**-2.5**
IGRA				S	**Sn**	**04 47 01.1**	**-2.6**
ISKI	**Skildingah^‡ls**	**2.93**	**184**	P	**Pn**	**04 46 27.0**	**-2.3**
IHLA	**Hella**	**2.94**	**195**	P	**Pn**	**04 46 26.9**	**-2.5**
IHRN	**Hraun**	**3.01**	**209**	P	**Pn**	**04 46 28.5**	**-1.9**
IKVO	**Krokottuvotn**	**3.08**	**182**	P	**Pn**	**04 46 29.2**	**-2.2**
IREN	**Reynihlio**	**3.15**	**183**	P	**Pn**	**04 46 30.3**	**-2.0**
IGRS	**Grímsstaoir**	**3.16**	**177**	P	**Pn**	**04 46 30.4**	**-2.1**
IGRS				S	**Sn**	**04 47 08.5**	**-1.7**
ISVA	**Svartarkot**	**3.47**	**185**	P	**Pn**	**04 46 34.9**	**-1.8**
JMIC	**Jan Mayen**	**3.56**	**48**	Pn	**Pn**	**04 46 36.8**	**-1.1**
JMIC				Sn	Sn	04 47 11.5	-8.3
JMIC	**Jan Mayen**	**3.56**	**48**	Pn	**Pn**	**04 46 36.8**	**-1.1**
8.6nm,0.3s,baz=282,slow=11,SNR=7.3							
JMIC				Sn	Sn	04 47 11.5	-8.3
5.6nm,0.3s,baz=190,slow=11,SNR=2.3							
JMIC	**Jan Mayen**	**3.56**	**48**	Pn	**Pn**	**04 46 36.8**	**-1.1**
IASK	**Askja**	**3.75**	**181**	P	**Pn**	**04 46 38.9**	**-1.7**
IADA	**Aoalbol**	**3.80**	**174**	P	**Pn**	**04 46 39.0**	**-2.3**
IADA				S	**Sn**	**04 47 24.9**	**-1.0**
IMKO	**Mokollar**	**3.82**	**179**	P	**Pn**	**04 46 39.9**	**-1.7**
IHVA	**Hvannstoosfjol**	**3.85**	**176**	P	**Pn**	**04 46 39.8**	**-2.2**
IHVA				S	**Sn**	**04 47 26.3**	**-0.9**
IGLU	**Glumsstadir**	**3.86**	**171**	P	**Pn**	**04 46 39.9**	**-2.2**
IGLU				S	**Sn**	**04 47 26.1**	**-1.2**
IBRU	**Bruarjokull**	**3.98**	**177**	P	**Pn**	**04 46 41.5**	**-2.2**
IVSH	**V-Sauoahnukur**	**4.01**	**175**	P	**Pn**	**04 46 41.7**	**-2.4**
IKRE	**Kreppuhraun**	**4.02**	**179**	P	**Pn**	**04 46 42.4**	**-1.9**
IASB	**¨sbjarnarst**	**4.47**	**207**	P	**Pn**	**04 46 49.9**	**-0.5**
BORG	**Borgarnes**	**4.47**	**207**	*e*Pn	**Pn**	**04 46 49.8**	**-0.6**
BORG				*e*Sn	Sb	04 47 46.1	-8.8
BORG	**Borgarnes**	**4.47**	**207**	Pn	**Pn**	**04 46 50.0**	**-0.4**
21nm,0.3s,baz=33,slow=7.0,SNR=88							
BORG				Sn	**Sn**	**04 47 43.5**	**+1.2**
baz=216,slow=19,SNR=3.0							
BORG				LR	LR	04 48 25.0	
comp=Z,804nm,21.9s,baz=24,slow=36							
BORG	**Borgarnes**	**4.47**	**207**	*e*Pn	**Pn**	**04 46 49.8**	**-0.6**
BORG				S	**Sn**	**04 47 43.5**	**+1.2**
BORG				*e*Sn	Sb	04 47 46.2	-8.8
IVAT	**Vatnsfell**	**4.71**	**193**	P	**Pn**	**04 46 54.3**	**+0.5**
IFAG	**Fagurholsmyri**	**4.93**	**180**	P	**Pn**	**04 46 56.2**	**-0.5**
IKUD	**Kuludalsa**	**4.96**	**208**	P	**Pn**	**04 46 56.4**	**-0.7**
IHEI	**Heioarbar**	**4.97**	**204**	P	**Pn**	**04 46 57.0**	**-0.2**
ISAN	**Sandskeio**	**5.15**	**205**	P	**Pn**	**04 47 00.0**	**+0.2**
ISOL	**Solvholt**	**5.18**	**202**	P	**Pn**	**04 47 00.7**	**+0.5**
IKAS	**Kald??rsel**	**5.23**	**206**	P	**Pn**	**04 47 01.2**	**+0.4**
DAG	**Danmarks Havn**	**8.06**	**357**	*i* P	Pn	04 47 36.0	-3.5
DAG				*e*S	Sn	04 48 55.1	-15
SUMG	**Summit**	**8.16**	**308**	*e*P	Pn	04 47 37.1	-4.3
SUMG				pmax	pmax		
comp=Z,45nm,0.8s							
SUMG	**Summit**	**8.16**	**308**	*i* P	Pn	04 47 36.7	-4.7
SUMG				*i* S	Sn	04 49 06.2	-7.4
SUMG	**Summit**	**8.16**	**308**	*e*Pn	Pn	04 47 37.1	-4.3
comp=Z,45nm,0.8s							
MOL	**Molde**	**11.66**	**111**	*e*P	Pn	04 48 30.7	+1.8
MOL	**Molde**	**11.66**	**111**	*e*P	Pn	04 48 30.7	+1.8
SNR=45							
SUE	**Sulen**	**11.84**	**120**	*e*	Pn	04 48 32.0	+0.7
SUE	**Sulen**	**11.84**	**120**	*e*P	Pn	04 48 32.5	+1.1
SUE				AMB	AMB	04 48 36.7	
comp=Z,58nm,1.5s							
SUE	**Sulen**	**11.84**	**120**	*e*P	Pn	04 48 32.5	+1.1
comp=Z,58nm,1.5s,SNR=45							
HYA	**Hoyanger**	**12.21**	**118**	*e*P	Pn	04 48 37.8	+1.3
ASK	**Askoy**	**12.42**	**121**	*e*P	Pn	04 48 39.7	+0.4
ASK				AMB	AMB	04 48 45.8	
comp=Z,96nm,1.4s							
RUND	**Rundenannen**	**12.53**	**121**	*e*P	Pn	04 48 41.1	+0.3
RUND				AMB	AMB	04 48 47.4	
comp=Z,88nm,1.6s							
BER	**Bergen**	**12.54**	**121**	*e*P	**Pn**	**04 48 41.1**	**+0.2**
BER	**Bergen**	**12.54**	**121**	*e*P	**Pn**	**04 48 41.1**	**+0.2**
SNR=45							
EGD	**Espegrend**	**12.60**	**122**	*e*P	Pn	04 48 41.9	+0.2
EGD				AMB	AMB	04 48 44.6	
comp=Z,55nm,1.5s							
KBS	**Kingsbay**	**12.67**	**25**	*e*P	**Pn**	**04 48 41.4**	**-1.2**
KBS				AMB	AMB	04 48 56.4	
comp=Z,46nm,1.8s							
KBS	**Kingsbay**	**12.67**	**25**	*e*P	**Pn**	**04 48 41.2**	**-1.4**
KBS				pmax	pmax		
comp=Z,20nm,0.7s							
KBS	**Kingsbay**	**12.67**	**25**	*e*Pn	**Pn**	**04 48 41.2**	**-1.4**
comp=Z,20nm,0.7s							
KBS	**Kingsbay**	**12.67**	**25**	*e*P	**Pn**	**04 48 41.3**	**-1.2**
comp=Z,46nm,1.8s,SNR=45							
SPA0	**Spitsbergen Ar**	**13.00**	**30**	*e*P	**Pn**	**04 48 47.4**	**+0.2**
SPA0	**Spitsbergen Ar**	**13.00**	**30**	*e*P	**Pn**	**04 48 47.3**	**+0.2**
SNR=45							
SPITS	**Spitsbergen Ar**	**13.00**	**30**	Pn	**Pn**	**04 48 47.5**	**+0.4**
SPITS	**Spitsbergen Ar**	**13.00**	**30**	Pn	**Pn**	**04 48 47.5**	**+0.4**
baz=225,slow=13,SNR=69							
SPITS	**Spitsbergen Ar**	**13.00**	**30**	Pn	**Pn**	**04 48 47.5**	**+0.4**
ODD1	**Odda**	**13.31**	**121**	*e*P	Pn	04 48 53.0	+1.5
ODD1				AMB	AMB	04 49 01.9	
comp=Z,62nm,2.0s							
ODD1	**Odda**	**13.31**	**121**	*e*P	Pn	04 48 53.0	+1.5
comp=Z,62nm,2.0s,SNR=45							
KMY	**Karmoy**	**13.45**	**125**	*e*P	Pn	04 48 54.5	+1.2
KMY	**Karmoy**	**13.45**	**125**	*e*P	Pn	04 48 54.5	+1.2
SNR=45							
BLS5	**Blasjo**	**13.65**	**122**	*e*P	Pn	04 48 57.3	+1.2
NOA	**NORSAR Array B**	**13.98**	**110**	Pn	Pn	04 49 01.6	+1.0
NOA	**NORSAR Array B**	**13.98**	**110**	Pn	Pn	04 49 01.6	+1.0
comp=Z,0.5nm,0.3s,baz=301,slow=13,SNR=6.8							
NOA				LR	LR	04 54 10.8	
comp=Z,397nm,18.9s,baz=310,slow=36							
NOA	**NORSAR Array B**	**13.98**	**110**	Pn	Pn	04 49 01.6	+1.0
NAO01	**NORSAR Array S**	**14.01**	**111**	*e*Pn	P	04 49 03.4	-5.5
comp=Z,8.8nm,1.0s							
NAO01	**NORSAR Array S**	**14.01**	**111**	*e*Pn	P	04 49 03.4	-5.5
comp=Z,8.8nm,1.0s							
KTK1	**Kautokeino**	**14.16**	**70**	*e*P	**P**	**04 49 09.6**	**-1.1**
SNART	**Snartemo**	**14.76**	**123**	*e*P	P	04 49 12.4	-4.8
ARCES	**ARCESS Array B**	**14.78**	**67**	Pn	P	04 49 13.7	-3.8
ARCES	**ARCESS Array B**	**14.78**	**67**	Pn	P	04 49 13.7	-3.8
comp=Z,0.1nm,0.3s,baz=306,slow=15,SNR=8.4							
ARCES				LR	LR	04 53 34.8	
comp=Z,380nm,21.4s,baz=151,slow=32							
ARE0	**ARCESS Array S**	**14.78**	**67**	*e*P	P	04 49 12.9	-4.5
EKA	**Eskdalemuir Ar**	**14.83**	**149**	Pn	P	04 49 13.1	-4.9
EKA	**Eskdalemuir Ar**	**14.83**	**149**	Pn	P	04 49 13.1	-4.9
baz=332,slow=13,SNR=10							
EKA	**Eskdalemuir Ar**	**14.83**	**149**	Pn	P	04 49 13.1	-4.9
ESK	**Eskdalemuir**	**14.83**	**149**	*e*P	P	04 49 14.0	-4.1
ESK	**Eskdalemuir**	**14.83**	**149**	*e*Pn	P	04 49 14.0	-4.1
ESK	**Eskdalemuir**	**14.83**	**149**	*e*Pn	P	04 49 14.0	-4.1
HFS	**Hagfors**	**15.48**	**109**	Pn	**P**	**04 49 21.1**	**-4.2**
HFS	**Hagfors**	**15.48**	**109**	Pn	**P**	**04 49 21.1**	**-4.2**
comp=Z,0.2nm,0.3s,baz=301,slow=12,SNR=4.2							
HFS	**Hagfors**	**15.48**	**109**	Pn	**P**	**04 49 21.1**	**-4.2**
VAL	**Valentia**	**17.17**	**167**	*e*P	**P**	**04 49 43.2**	**-0.7**
LVZ	**Lovozero**	**18.48**	**69**	⇑*i*P	**Pn**	**04 49 57.8**	**-0.7**
LVZ				pmax	pmax		
comp=Z,100nm,1.7s							
LVZ	**Lovozero**	**18.48**	**69**	*i* P	**Pn**	**04 49 57.8**	**-0.7**
comp=Z,100nm,1.7s							
KAF	**Kangasniemi**	**18.66**	**90**	*e*P	**Pn**	**04 50 01.6**	**+1.0**
KAF				pmax	pmax		
comp=Z,11nm,0.9s							
KAF	**Kangasniemi**	**18.66**	**90**	*ep*	**Pn**	**04 50 01.6**	**+1.0**
comp=Z,10nm,0.9s							
KAF	**Kangasniemi**	**18.66**	**90**	*e*P	**Pn**	**04 50 01.6**	**+1.0**
comp=Z,10nm,0.9s							
FIA1	**FINESS Array S**	**19.00**	**92**	*e*P	**Pn**	**04 50 06.3**	**+1.5**
FIA1	**FINESS Array S**	**19.00**	**92**	*e*P	**Pn**	**04 50 06.3**	**+1.5**
FINES	**FINESS Array B**	**19.00**	**92**	P	**Pn**	**04 50 06.0**	**+1.2**
FINES	**FINESS Array B**	**19.00**	**92**	P	**Pn**	**04 50 06.0**	**+1.2**
comp=Z,1.1nm,0.3s,baz=321,slow=11,SNR=30							
FINES				LR	LR	04 56 32.3	
comp=Z,195nm,19.6s,baz=315,slow=34							
FINES	**FINESS Array B**	**19.00**	**92**	P	**Pn**	**04 50 06.0**	**+1.

comp=N,352nm,13.6s
BRG
comp=E,233nm,13.5s
BRG
comp=Z,415nm,15.9s
BRG Berggiesshubel 23.18 125 *e*P **P 04 50 51.1 +2.1**
BRG *e* 04 50 58.0
BRG S Sn 04 55 07.0 -10
BRG pmax pmax
comp=Z,28nm,1.7s
BRG pmax pmax
comp=Z,24nm,1.3s
BRG MLR MLR
comp=N,352nm,13.6s
BRG MLR MLR
comp=E,233nm,13.5s
BRG MLR MLR
comp=Z,415nm,15.9s
BRG Berggiesshubel 23.18 125 *e*P **P 04 50 51.1 +2.1**
comp=Z,28nm,1.7s
SFTF Sexfontaines 23.26 141 *e*P **P 04 50 51.0 +1.1**
comp=Z,99nm,1.3s
SFTF Sexfontaines 23.26 141 *e*P **P 04 50 51.0 +1.1**
comp=Z,49nm,1.3s
NKC Novy Kostel 23.31 128 *i* P P 04 50 52.6 +2.2
NKC *e* 04 50 59.0
NKC *e*S S 04 55 07.9 +5.4
NKC Novy Kostel 23.31 128 *i* P P 04 50 52.6 +2.2
NKC *e*pP pP 04 50 59.0 +5.3
NKC *e*S S 04 55 07.9 +5.4
NKC AMS AMS 05 02 40.0
comp=Z,200nm,14.2s
NKC Novy Kostel 23.31 128 P P 04 50 52.6 +2.2
NKC S S 04 55 07.9 +5.4
GRA1 Grafenberg Arr 23.45 130 *e*P P 04 50 54.6 +2.8
comp=Z,34nm,1.5s
GRF Grafenberg Arr 23.45 130 *e*P P 04 50 54.6 +2.8
comp=Z,34nm,1.5s
GRF *e*L L 04 59 13.2
comp=Z,277nm,22.0s
GRF Grafenberg Arr 23.45 130 *e*P P 04 50 54.6 +2.8
GRF pmax pmax
comp=Z,34nm,1.5s
THEF They Montfort 23.46 140 *e*P **P 04 50 53.6 +1.7**
CDF Champ du Feu 23.59 138 *e*P **P 04 50 55.0 +1.6**
comp=Z,20nm,0.9s
CDF Champ du Feu 23.59 138 *e*P **P 04 50 55.0 +1.6**
comp=Z,10nm,0.9s
PVCC Panska Ves 23.67 125 *i* P **P 04 50 55.8 +1.9**
PVCC *e*S S 04 55 12.9 +4.7
PVCC MLR MLR
comp=Z,400nm,12.4s
PVCC Panska Ves 23.67 125 *i* P **P 04 50 55.8 +1.9**
PVCC *e*S S 04 55 12.9 +4.7
PVCC AMS AMS 05 04 10.0
comp=Z,400nm,12.4s
PVCC Panska Ves 23.67 125 P **P 04 50 55.8 +1.9**
PVCC S S 04 55 12.9 +4.7
MFF Saint Martin d 23.74 151 *e*P **P 04 50 55.1 +0.4**
MFF Saint Martin d 23.74 151 *e*P **P 04 50 55.1 +0.4**
STU Stuttgart 23.75 134 *e*P P 04 50 57.8 +3.1
STU Stuttgart 23.75 134 *e*P P 04 50 57.8 +3.1
STU Stuttgart 23.75 134 *e*P P 04 50 57.8 +3.1
ECH Echery 23.75 138 *e*P **P 04 50 55.7 +0.9**
LOR Lormes 23.89 144 *e*P **P 04 50 56.6 +0.5**
comp=Z,23nm,1.0s
LOR *e*R
comp=Z,574nm,18.2s
LOR Lormes 23.89 144 *e*P **P 04 50 56.6 +0.5**
comp=Z,12nm,1.0s
KSP Ksiaz 23.91 122⇑ *e*P **P 04 50 58.0 +1.7**
KSP *e**PP pP 04 51 04.1 +4.4
KSP *e*S S 04 55 17.0 +4.8
KSP Ksiaz 23.91 122⇑ *e*P **P 04 50 58.0 +1.7**
KSP *e*S S 04 55 17.0 +4.8
BFO Black Forest 23.93 136 *e*P **P 04 50 57.5 +1.0**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 23.93 136 *e*P **P 04 50 57.5 +1.0**
comp=Z,9.6nm,1.0s
BFO Black Forest 23.93 136 *e*P **P 04 50 57.5 +1.0**
comp=Z,9.6nm,1.0s
SSF Saint Saulge 24.01 145 *e*P **P 04 50 57.6 +0.4**
comp=Z,24nm,1.0s
SSF Saint Saulge 24.01 145 *e*P **P 04 50 57.6 +0.4**
comp=Z,12nm,1.0s
HINF Hinteralfeld 24.05 139 *e*P **P 04 50 59.0 +1.4**
HINF Hinteralfeld 24.05 139 *e*P **P 04 50 59.0 +1.4**
MOF Molkenrain 24.08 138 *e*P **P 04 50 58.6 +0.6**
UPC Upice 24.12 123 *e*P **P 04 50 59.7 +1.4**
UPC Upice 24.12 123 *e*P **P 04 50 59.7 +1.4**
UPC Upice 24.12 123 P **P 04 50 59.7 +1.4**
PRU Pruhonice 24.14 125 *i* P **P 04 51 00.4 +2.0**
PRU *e* 04 51 05.0
PRU *e*S **S 04 55 19.3 +3.6**
PRU MLR MLR
comp=Z,400nm,14.2s
PRU Pruhonice 24.14 125 *i* P **P 04 51 00.4 +2.0**
PRU *e*pP pP 04 51 05.0 +3.2
PRU *e*S **S 04 55 19.3 +3.6**
PRU AMS AMS 05 03 00.0
comp=Z,400nm,14.2s
PRU Pruhonice 24.14 125 P **P 04 51 00.4 +2.0**
PRU S **S 04 55 19.3 +3.6**
AVF Avril sur Loir 24.23 145 *e*P **P 04 50 59.8 +0.5**
comp=Z,26nm,1.0s
AVF Avril sur Loir 24.23 145 *e*P **P 04 50 59.8 +0.5**
comp=Z,13nm,1.0s
BGF Bois d'Agland 24.35 146 *e*P **P 04 51 00.8 +0.4**
comp=Z,35nm,0.8s
BGF Bois d'Agland 24.35 146 *e*P **P 04 51 00.8 +0.4**
comp=Z,18nm,0.8s
DPC Dobruska-Polom 24.36 122 *i* P **P 04 51 02.4 +1.9**
DPC *e* 04 51 05.4
DPC Dobruska-Polom 24.36 122 *i* P **P 04 51 02.4 +1.9**
DPC *e*pP **pP 04 51 05.4 +1.5**
DPC *e*S S 04 55 30.3 +11
DPC AMS AMS 05 03 40.0
DPC Dobruska-Polom 24.36 122 P **P 04 51 02.4 +1.9**
SMF Signal de Mont 24.48 145 *e*P **P 04 51 02.2 +0.7**
comp=Z,78nm,1.4s
SMF Signal de Mont 24.48 145 *e*P **P 04 51 02.2 +0.7**
comp=Z,39nm,1.4s
TCF Toulx Ste Croi 24.48 147 *e*P **P 04 51 02.3 +0.6**
comp=Z,54nm,1.0s
TCF Toulx Ste Croi 24.48 147 *e*P **P 04 51 02.3 +0.6**
comp=Z,27nm,1.0s
KHC Kasperske Hory 24.62 128 *i* P P 04 51 05.2 +2.3
KHC *e* 04 51 12.5
KHC *e*S S 04 55 32.1 +8.4
KHC MLR MLR
comp=Z,500nm,13.7s
KHC Kasperske Hory 24.62 128 *i* P P 04 51 05.2 +2.3
KHC *e*pP pP 04 51 12.5 +6.2
KHC *e*S S 04 55 32.1 +8.4
KHC AMS AMS 05 03 20.0
comp=Z,500nm,13.7s
KHC Kasperske Hory 24.62 128 *e*P **P 04 51 04.9 +2.0**
comp=Z,22nm,1.4s
KHC Kasperske Hory 24.62 128 P P 04 51 05.2 +2.3
MNK Minsk 24.74 103 *e*P **P 04 51 05.0 +1.2**
MNK Minsk 24.74 103 *e*P **P 04 51 05.0 +1.2**
MICGM Minsk 24.75 103 *e* **P 04 51 05.0 +1.1**
AGO Saint Agoulin 24.89 146 *e*P **P 04 51 06.4 +1.1**
GERES GERESS Array B 24.92 128 P **P 04 51 07.8 +2.2**
GERES GERESS Array B 24.92 128 P **P 04 51 07.8 +2.2**
comp=Z,12nm,0.9s,baz=332,slow=8.3,SNR=52
GERES LR LR 05 00 16.2
comp=Z,191nm,20.5s,baz=313,slow=35
GERES GERESS Array B 24.92 128 P **P 04 51 07.8 +2.2**
CABF La Chapelle 25.00 141 *e*P **P 04 51 07.5 +1.1**
comp=Z,12nm,0.9s
CABF La Chapelle 25.00 141 *e*P **P 04 51 07.5 +1.1**
comp=Z,6.1nm,0.9s
TREC Trest 25.04 125 *e*P **P 04 51 08.8 +2.2**
TREC MLR MLR
comp=Z,400nm,15.8s
TREC Trest 25.04 125 *e*P **P 04 51 08.8 +2.2**
TREC *e*S S 04 55 41.5 +11
TREC AMS AMS 05 03 40.0
comp=Z,400nm,15.8s
TREC Trest 25.04 125 P **P 04 51 08.8 +2.2**
PYM Petit Puy Mans 25.16 147 *e*P **P 04 51 08.9 +1.1**
MORC Moravsky Berou 25.24 122 *e*P **P 04 51 10.0 +1.6**
MORC pmax pmax
comp=Z,37nm,1.4s
MORC Moravsky Berou 25.24 122 *e*P **P 04 51 10.0 +1.6**
comp=Z,37nm,1.4s
MORC Moravsky Berou 25.24 122 *e*P **P 04 51 10.0 +1.6**
DAVA Damuels 25.30 135⇑ *i*P **P 04 51 11.0 +1.9**
comp=Z,14nm,1.2s
RJF Les Rejaudoux 25.30 149 *e*P **P 04 51 09.7 +0.7**
comp=Z,47nm,1.1s
RJF *e*R
comp=Z,756nm,19.8s
RJF Les Rejaudoux 25.30 149 *e*P **P 04 51 09.7 +0.7**
comp=Z,23nm,1.1s
VRAC Vranov 25.36 123 P **P 04 51 11.7 +2.2**
VRAC Vranov 25.36 123 P **P 04 51 11.7 +2.2**
comp=Z,6.0nm,0.5s,baz=332,slow=11,SNR=6.2
VRAC LR LR 05 00 50.6
comp=Z,311nm,21.1s,baz=332,slow=36
VRAC Vranov 25.36 123 P **P 04 51 11.7 +2.2**
OKC Ostrava-Krasne 25.37 121 *i* P **P 04 51 10.2 +0.6**
OKC *e* 04 51 16.3
OKC *e*S S 04 55 40.8 +5.3
OKC MLR MLR
comp=Z,300nm,14.9s
OKC Ostrava-Krasne 25.37 121 *i* P **P 04 51 10.2 +0.6**
OKC *e*pP pP 04 51 16.3 +3.3
OKC *e*S S 04 55 40.8 +5.3
OKC AMS AMS 05 03 50.0
comp=Z,300nm,14.9s
OKC Ostrava-Krasne 25.37 121 P **P 04 51 10.2 +0.6**
OKC S S 04 55 40.8 +5.3
LFF La Frestale 25.51 151 *e*P **P 04 51 12.1 +1.2**
LFF La Frestale 25.51 151 *e*P **P 04 51 12.1 +1.2**
OJC Ojcow 25.56 118 *e*P P 04 51 17.5 +6.2
DAVOX Davos/Dischmat 25.76 135 P **P 04 51 15.5 +2.1**
DAVOX Davos/Dischmat 25.76 135 P **P 04 51 15.5 +2.1**
comp=Z,5.5nm,0.8s,baz=317,slow=11,SNR=15
DAVOX LR LR 05 01 35.7
comp=Z,359nm,19.7s,baz=311,slow=37
DAVOX Davos/Dischmat 25.76 135 P **P 04 51 15.5 +2.1**
CAF Calviac 25.77 149 *e*P **P 04 51 14.0 +0.7**
comp=Z,39nm,1.2s
CAF Calviac 25.77 149 *e*P **P 04 51 14.0 +0.7**
comp=Z,19nm,1.2s
WTTA Wattenberg 25.78 132⇑ *i*P **P 04 51 15.7 +2.2**
comp=Z,22nm,1.1s,SNR=6.4
TUE Stuetta 25.91 136 *e*P **P 04 51 16.1 +1.3**
comp=Z,13nm,1.0s
TUE Stuetta 25.91 136 *e*P **P 04 51 16.1 +1.3**
comp=Z,13nm,1.0s
LPL La Plagne 26.18 141 *e*P **P 04 51 19.0 +1.7**
LPL La Plagne 26.18 141 *e*P **P 04 51 19.0 +1.7**
LPG La Plagne 26.20 141 *e*P **P 04 51 18.8 +1.3**
LPG La Plagne 26.20 141 *e*P **P 04 51 18.8 +1.3**
VIVF Saint-Julien-l 26.36 145 *e*P **P 04 51 19.1 +0.5**
comp=Z,24nm,1.2s
VIVF Saint-Julien-l 26.36 145 *e*P **P 04 51 19.1 +0.5**
comp=Z,12nm,1.2s
CONA Conrad Observa 26.37 126⇓ *i*P **P 04 51 19.4 +0.6**
comp=Z,11nm,1.2s
NIE Niedzica 26.42 118 *e*P P 04 51 22.2 +3.0
NIE Niedzica 26.42 118 *e*P P 04 51 22.2 +3.0
ABTA Abfaltersbach 26.49 131⇓ *i*pP pP 04 51 22.7 -0.6
comp=Z,8.5nm,1.2s
ZST Bratislava 26.50 124 *e*P P 04 51 22.8 +3.0
ZST Bratislava 26.50 124 *e*P P 04 51 22.8 +3.0
ZST Bratislava 26.50 124 *e*P P 04 51 22.8 +3.0
ORIF Oris-en-Rattie 26.56 143 *e*P **P 04 51 21.8 +1.3**
comp=Z,12nm,0.8s
ORIF *e*R
comp=Z,512nm,18.8s
ORIF Oris-en-Rattie 26.56 143 *e*P **P 04 51 21.8 +1.3**
comp=Z,6.2nm,0.8s
SCHQ Schefferville 26.58 264 P **P 04 51 19.3 -1.2**
SCHQ Schefferville 26.58 264 P **P 04 51 19.3 -1.2**
comp=Z,2.8nm,0.9s,baz=44,slow=4.8,SNR=2.7
SCHQ LR LR 05 01 27.5
comp=Z,150nm,18.9s,baz=31,slow=36
SCHQ Schefferville 26.58 264 P **P 04 51 19.3 -1.2**
BNI Bardonecchia 26.61 141 *e*P P 04 51 23.8 +2.8
BNI pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 26.61 141 *e*P P 04 51 23.8 +2.8
comp=Z,19nm,1.2s
BNI Bardonecchia 26.61 141 *e*P P 04 51 23.8 +2.8
comp=Z,19nm,1.2s
STHS Stebnicka Huta 26.73 117 *e*P P 04 51 25.6 +3.7
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 26.73 117 *e*P P 04 51 25.6 +3.7
STHS Stebnicka Huta 26.73 117 *e*P P 04 51 25.6 +3.7
comp=Z,5.4nm,1.0s
LASF Ste Croix 26.93 146 *e*P **P 04 51 24.2 +0.4**
LASF Ste Croix 26.93 146 *e*P **P 04 51 24.2 +0.4**
MBDF Montbardon 26.94 141 *e*P **P 04 51 25.9 +1.9**
comp=Z,63nm,1.5s
MBDF Montbardon 26.94 141 *e*P **P 04 51 25.9 +1.9**
comp=Z,32nm,1.5s
SJPF Ste Jean 26.96 155 *e*P **P 04 51 24.2 +0.2**
comp=Z,35nm,1.5s
SJPF Ste Jean 26.96 155 *e*P **P 04 51 24.2 +0.2**
comp=Z,18nm,1.5s
CRVS Cervenica-Dubn 27.24 117 *e*P **P 04 51 28.0 +1.5**
CRVS pmax pmax
comp=Z,12nm,1.8s
CRVS Cervenica-Dubn 27.24 117 *e*P **P 04 51 28.0 +1.5**
CRVS Cervenica-Dubn 27.24 117 *e*P **P 04 51 28.0 +1.5**
comp=Z,12nm,1.8s
ETSF Etsaut 27.27 154 *e*P **P 04 51 27.0 +0.1**
comp=Z,24nm,1.4s
ETSF Etsaut 27.27 154 *e*P **P 04 51 27.0 +0.1**
comp=Z,12nm,1.4s
EPF Esparros 27.29 152 *e*P **P 04 51 27.7 +0.6**
comp=Z,23nm,1.1s
EPF Esparros 27.29 152 *e*P **P 04 51 27.7 +0.6**
comp=Z,12nm,1.1s
LVV L'vov 27.30 113 *e*P P 04 51 33.4 +6.4
KECS Kecovo 27.30 119 *e*P **P 04 51 27.4 +0.4**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 27.30 119 *e*P **P 04 51 27.4 +0.4**
KECS Kecovo 27.30 119 *e*P **P 04 51 27.4 +0.4**
comp=Z,2.4nm,1.0s
MTLF Montolieu 27.32 149 *e*P **P 04 51 27.8 +0.5**
comp=Z,26nm,1.4s
MTLF Montolieu 27.32 149 *e*P **P 04 51 27.8 +0.5**
comp=Z,13nm,1.4s
SMRF Simiane la Rot 27.39 144 *e*P **P 04 51 29.5 +1.6**
comp=Z,33nm,1.3s
SMRF Simiane la Rot 27.39 144 *e*P **P 04 51 29.5 +1.6**
comp=Z,16nm,1.3s
OBN Obninsk 27.40 93⇑ *i*P **P 04 51 28.9 +1.1**
OBN pmax pmax
comp=Z,37nm,1.6s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 27.40 93 *i* P **P 04 51 28.9 +1.1**
comp=Z,200nm,16.0s
KOLS Kolonicke sedl 27.48 116 *e*P P 04 51 34.8 +6.1
KOLS pmax pmax
comp=Z,17nm,1.7s
KOLS Kolonicke sedl 27.48 116 *e*P P 04 51 34.8 +6.1
PSZ Piszkesteto 27.61 120 *e*P **P 04 51 32.1 +2.2**
PSZ pmax pmax
comp=Z,39nm,1.6s
PSZ Piszkesteto 27.61 120 *e*P **P 04 51 32.1 +2.2**
comp=Z,39nm,1.6s
PSZ Piszkesteto 27.61 120 *e*P **P 04 51 32.1 +2.2**
comp=Z,39nm,1.6s
UZH Uzhgorod 27.75 117 *e*P P 04 51 34.5 +3.5
UZH *e* 04 51 37.7
UZH Uzhgorod 27.75 117 *e*P P 04 51 34.5 +3.5
SBF Sospel 27.91 141 *e*P **P 04 51 33.8 +1.2**
comp=Z,29nm,1.0s
SBF Sospel 27.91 141 *e*P **P 04 51 33.8 +1.2**
comp=Z,14nm,1.0s
FRF La Foret Royal 28.02 142 *e*P **P 04 51 34.4 +0.9**
comp=Z,45nm,1.3s
FRF La Foret Royal 28.02 142 *e*P **P 04 51 34.4 +0.9**
comp=Z,22nm,1.3s
LMR La Mourre 28.20 143 *e*P P 04 51 36.1 +1.0
LMR La Mourre 28.20 143 *e*P P 04 51 36.1 +1.0
AKASG Malin Array Be 28.33 106 P P 04 51 37.3 +1.1
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,271nm,19.5s
AKASG Malin Array Be 28.33 106 P P 04 51 37.3 +1.1
AKASG Malin Array Be 28.33 106 P P 04 51 37.3 +1.1
comp=Z,14nm,0.3s,baz=333,slow=9.5,SNR=2.7
AKASG LR LR 05 02 27.0
comp=Z,271nm,19.5s,baz=340,slow=35
AKASG Malin Array Be 28.33 106 P P 04 51 37.3 +1.1
VLC Villacollemand 28.34 137 *e*P P 04 51 39.1 +2.7
comp=Z,26nm,1.0s
VLC Villacollemand 28.34 137 *e*P P 04 51 39.1 +2.7
comp=Z,26nm,1.0s
PKSM Moragy 28.75 124 S S 04 56 32.0 +3.2
PGF Pioggiola 29.52 140 *e*P P 04 51 48.1 +1.1
PGF Pioggiola 29.52 140 *e*P P 04 51 48.1 +1.1
ESDC Sonseca Array 29.95 160 P P 04 51 51.5 +0.7
ESDC Sonseca Array 29.95 160 P P 04 51 51.5 +0.7
comp=Z,0.2nm,0.4s,baz=0.0,slow=8.6,SNR=7.2
ESDC Sonseca Array 29.95 160 P P 04 51 51.5 +0.7
VSR Storozhevoye 31.46 95 *e*P **P 04 52 04.6 +0.8**
VSR pmax pmax
comp=Z,20nm,1.8s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,1.8s
VSR Storozhevoye 31.46 95 *e*P **P 04 52 04.6 +0.8**
comp=E,10.0nm,0.9s
VORD Divnogorie 31.71 95 *e*P **P 04 52 06.5 +0.5**
VORD pmax pmax
comp=N,30nm,1.5s
VORD pmax pmax
comp=Z,10.0nm,1.5s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 31.71 95 *e*P **P 04 52 06.5 +0.5**
VRHR Novokhopersk 32.45 93 *e*P P 04 52 08.1 -4.4
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,4.0nm,0.4s
VRHR pmax pmax
comp=E,6.0nm,0.4s
ARU Arti 34.27 72*d* *i*P **P 04 52 29.2 +0.8**
ARU 04 53 43.3
ARU S **S 04 57 55.5 +0.7**
ARU SS **SnSn 05 00 04.0 +0.6**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU MLR MLR
comp=Z,401nm,17.0s
ARU Arti 34.27 72 *i* P **P 04 52 29.2 +0.8**
comp=Z,26nm,1.7s
KEST Kesra 36.11 143 *e*P P 04 52 46.7 +2.2
KEST Kesra 36.11 143 P P 04 52 46.9 +2.5
comp=Z,0.5nm,0.9s,baz=312,slow=15,SNR=2.3
KEST LR LR 05 06 57.7
comp=Z,106nm,18.1s,baz=204,slow=35
KEST Kesra 36.11 143 *e*P P 04 52 46.7 +2.2
YKW3 Yellowknife Ar 36.70 310 *e*P **P 04 52 48.1 -1.1**
YKW3 Yellowknife Ar 36.70 310 *e*P **P 04 52 48.1 -1.1**
YKA Yellowknife Ar 36.75 310 P **P 04 52 48.8 -0.8**
YKA Yellowknife Ar 36.75 310 P **P 04 52 48.8 -0.8**
comp=Z,2.9nm,0.9s,baz=35,slow=8.5,SNR=3.6
YKA Yellowknife Ar 36.75 310 P **P 04 52 48.8 -0.8**
MDV Middlebury 37.88 259 *e*P **P 04 53 00.1 +0.7**
comp=Z,74µm,1.0s
MDV Middlebury 37.88 259 *e*P **P 04 53 00.1 +0.7**
comp=Z,10µm,1.0s
TIXI Tiksi 37.96 17⇑ *i*P **P 04 53 00.4 +0.7**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI MLR MLR
comp=Z,181nm,22.0s
TIXI Tiksi 37.96 17 *i* P **P 04 53 00.4 +0.7**
comp=Z,181nm,22.0s
KIV Kislovodsk 38.86 98 *e*P P 04 53 10.1 +2.3
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 38.86 98 *e*P P 04 53 10.1 +2.3
comp=Z,6.0nm,0.9s
KBZ Khabaz 39.14 98 P P 04 53 12.1 +2.2
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 39.14 98 P P 04 53 12.1 +2.2
KBZ Khabaz 39.14 98 P P 04 53 12.1 +2.2
comp=Z,2.7nm,0.8s,baz=321,slow=7.8,SNR=4.3
KBZ Khabaz 39.14 98 P P 04 53 12.1 +2.2
BR131 Keskin Array S 39.41 111 *e*P P 04 53 14.2 +1.7
comp=Z,1.6nm,0.8s
BR131 Keskin Array S 39.41 111 *e*P P 04 53 14.2 +1.7
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 39.41 111 P P 04 53 13.7 +1.2
BRTR Keskin Array B 39.41 111 P P 04 53 13.7 +1.2
comp=Z,0.9nm,0.8s,baz=277,slow=4.9,SNR=4.8
BRTR Keskin Array B 39.41 111 P P 04 53 13.7 +1.2
ABKAR Akbulak array 40.60 78 *e*P **P 04 53 22.8 +0.8**
comp=Z,7.5nm,1.0s
ABKAR *e*PcP **PcP 04 55 24.4 +0.7**
ABKAR Akbulak array 40.60 78 *e*P **P 04 53 22.8 +0.8**
comp=Z,7.5nm,1.0s
ULM Lac du Bonnet 40.76 285 *e*P **P 04 53 25.5 +2.1**
comp=Z,8.4nm,1.2s
ULM Lac du Bonnet 40.76 285 P **P 04 53 22.3 -1.0**
comp=Z,5.6nm,0.8s,baz=21,slow=9.5,SNR=2.0
ULM LR LR 05 10 18.0
comp=Z,337nm,18.4s,baz=49,slow=36
ULM Lac du Bonnet 40.76 285 P **P 04 53 22.3 -1.0**
comp=Z,337nm,18.4s
BRVK Borovoye 41.00 67 *e*P **P 04 53 25.9 +0.6**
BRVK pmax pmax
comp=Z,14nm,1.4s
BRVK Borovoye 41.00 67 *e*P **P 04 53 25.9 +0.6**
comp=Z,14nm,1.4s
BRVK Borovoye 41.00 67 *e*P **P 04 53 25.9 +0.6**
comp=Z,14nm,1.4s
EGAK Eagle 41.15 328 *e*P **P 04 53 25.7 -0.7**
comp=Z,12nm,1.2s
EGAK Eagle 41.15 328 *e*P **P 04 53 25.7 -0.7**
comp=Z,12nm,1.2s
DAWY Dawson 41.43 326 *e*P **P 04 53 27.7 -1.1**
DAWY Dawson 41.43 326 *e*P **P 04 53 27.7 -1.1**
ILAR Eielson Array 42.22 331 P **P 04 53 35.0 -0.2**
ILAR Eielson Array 42.22 331 P **P 04 53 35.0 -0.2**
comp=Z,2.2nm,0.9s,baz=21,slow=6.0,SNR=25
ILAR LR LR 05 14 39.9
comp=Z,172nm,20.0s,baz=214,slow=41
ILAR Eielson Array 42.22 331 P **P 04 53 35.0 -0.2**
IM04 Indian Mountai 42.24 336 *e*P **P 04 53 35.2 -0.1**
IM04 Indian Mountai 42.24 336 *e*P **P 04 53 35.2 -0.1**
COLA College 42.30 332 *e*P **P 04 53 36.8 +1.1**
COLA pmax pmax
comp=Z,49nm,1.3s
COLA College 42.30 332 *e*P **P 04 53 36.8 +1.1**
comp=Z,49nm,1.3s
COLA College 42.30 332 *e*P **P 04 53 36.8 +1.1**
comp=Z,49nm,1.3s
NVS Novosibirsk 43.62 56 *e*P **P 04 53 47.9 +1.3**
NVS pmax pmax
comp=Z,27nm,1.4s
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,0.6s
NVS Novosibirsk 43.62 56 *e*P **P 04 53 47.9 +1.3**
comp=E,8.0nm,1.1s
HYT Haines Junctio 43.93 323 *e*P **P 04 53 49.2 0.0**
HYT Haines Junctio 43.93 323 *e*P **P 04 53 49.2 0.0**
SPMN St. Paul 43.93 278 ⇓P **P 04 53 49.6 +0.3**
baz=44
A26A Wade Farm, Ken 44.05 289 ⇓P **P 04 53 50.4 +0.3**
baz=44
EDM Edmonton 44.08 301 *e*P **P 04 53 50.8 +0.4**
EDM Edmonton 44.08 301 *e*P **P 04 53 50.8 +0.4**
EDM Edmonton 44.08 301 *e*P **P 04 53 50.8 +0.4**
MDND Maddock 44.10 286 ⇓P **P 04 53 50.6 +0.1**
baz=44
B27A Peters Farms, 44.20 288 ⇑P **P 04 53 51.7 +0.3**
baz=44
SKAG Skagway 44.66 320 *e*P **P 04 53 55.3 +0.5**
comp=E,7.0nm,0.8s
SKAG Skagway 44.66 320 *e*P **P 04 53 55.3 +0.5**
comp=E,7.0nm,0.8s
A24A Westby 44.70 290 ⇓P **P 04 53 55.8 +0.4**
baz=44
ZAA0 Zalesovo Array 44.86 55 *e*P **P 04 53 57.2 +0.6**
ZAA0 Zalesovo Array 44.86 55 *e*P **P 04 53 57.2 +0.6**

ZALV	Zalesovo Beam	44.86	55	P	P	04 53 56.9 +0.4
ZALV				pmax	pmax	
	comp=Z,6.0nm,0.8s					
ZALV	Zalesovo Beam	44.86	55	P	P	04 53 56.9 +0.4
ZALV	Zalesovo Beam	44.86	55	P	P	04 53 56.9 +0.4
	comp=Z,6.2nm,0.8s,baz=331,slow=8.8,SNR=14					
ZALV	Zalesovo Beam	44.86	55	P	P	04 53 56.9 +0.4
C27A	Sayler Ranch,	44.88	288	⇑P	P	04 53 57.2 +0.4
	baz=45					
C26A	Wahner Farm, P	44.99	288	⇑P	P	04 53 58.1 +0.4
	baz=45					
A22A	Carney Farms,	45.29	292	⇓P	P	04 54 00.5 +0.5
	baz=45					
D27A	Center	45.41	287	⇓P	P	04 54 01.5 +0.5
	baz=45					
B23A	Brockton	45.43	291	⇓P	P	04 54 01.6 +0.4
	baz=45,SNR=5.6					
C25A	Freed Ranch, W	45.48	289	⇓P	P	04 54 01.2 -0.4
	baz=45					
A21A	Bergtoll Ranch	45.63	293	⇓P	P	04 54 02.9 +0.1
	baz=45,SNR=16					
D25A	Fairfield	45.99	289	⇓P	P	04 54 05.5 -0.2
	baz=46					
A20A	Cobblestone Ra	46.06	294	⇓P	P	04 54 06.0 -0.2
	baz=46					
C23A	Lambert	46.07	291	⇓P	P	04 54 06.2 0.0
	baz=46					
E26A	Carlson Angus	46.28	287	⇓P	P	04 54 08.1 +0.2
	baz=46					
A19A	Klindworth Far	46.29	294	⇓P	P	04 54 08.4 +0.4
	baz=46,SNR=6.6					
C22A	Vida	46.35	291	⇓P	P	04 54 08.7 +0.2
	baz=46					
D24A	Glendive	46.37	289	⇓P	P	04 54 09.4 +0.8
	baz=46					
E25A	Miller Ranch,	46.58	288	⇓P	P	04 54 11.3 +1.0
	baz=46					
ECSD	EROS Data Cent	46.59	281	*e*P	P	04 54 10.9 +0.5
	comp=Z,7.8nm,1.0s					
ECSD	EROS Data Cent	46.59	281	*e*P	P	04 54 10.9 +0.5
	comp=Z,7.8nm,1.0s					
D23A	Lindsay	46.62	290	⇓P	P	04 54 10.9 +0.3
	baz=46					
F27A	Lemmon	46.65	287	⇑P	P	04 54 11.0 +0.2
	baz=46					
A18A	Metzger Ranch,	46.66	295	⇑P	P	04 54 11.0 +0.1
	baz=46					
C21A	Desert Coulee	46.69	292	⇑P	P	04 54 12.0 +0.8
	baz=46					
B19A	Brinkman Farms	46.77	294	⇓P	P	04 54 12.1 +0.4
	baz=46,SNR=6.8					
BRSD	Miller	46.81	283	⇑P	P	04 54 12.6 +0.6
	baz=47					
F26A	Lodgepole	46.89	287	⇑P	P	04 54 13.2 +0.5
	baz=47,SNR=6.1					
A17A	Triple J Farms	46.92	296	⇑P	P	04 54 13.2 +0.2
	baz=47					
D22A	Cohagen	46.97	291	⇓P	P	04 54 13.8 +0.5
	baz=47,SNR=7.0					
B18A	Beardsley Farm	47.10	295	⇑P	P	04 54 14.7 +0.4
	baz=47,SNR=5.5					
C20A	Veseth Ranch,	47.10	293	⇑P	P	04 54 14.3 0.0
	baz=47,SNR=8.2					
F25A	Bowman	47.10	288	⇓P	P	04 54 14.3 -0.1
	baz=47					
E23A	Ismay	47.24	290	⇓P	P	04 54 16.1 +0.7
	baz=47					
YAK	Yakutsk	47.26	21	*e*P	P	04 54 16.3 +1.0
YAK				pmax	pmax	
	comp=Z,11nm,0.9s					
YAK	Yakutsk	47.26	21	*e*P	P	04 54 16.3 +1.0
	comp=Z,11nm,0.9s					
H28A	Mission Ridge	47.34	285	⇑P	P	04 54 16.5 +0.3
	baz=47					
G26A	Maurine	47.35	287	⇑P	P	04 54 16.8 +0.5
	baz=47					
EGMT	Eagleton	47.41	294	*e*P	P	04 54 17.0 +0.2
	comp=Z,28nm,1.1s					
EGMT	Eagleton	47.41	294	*e*P	P	04 54 17.0 +0.2
	comp=Z,28nm,1.1s					
EGMT	Eagleton	47.41	294	⇓P	P	04 54 17.2 +0.4
	baz=47,SNR=9.8					
C19A	Slack Wire Ran	47.43	294	⇑P	P	04 54 16.7 -0.2
	baz=47,SNR=5.5					
F24A	Ekalaka	47.51	289	⇓P	P	04 54 17.7 +0.1
	baz=47,SNR=6.0					
A15A	Johnson Ranch,	47.55	297	⇑P	P	04 54 17.4 -0.5
	baz=47					
D20A	Manuel Ranch,	47.68	293	⇑P	P	04 54 19.3 +0.5
	baz=47,SNR=6.6					
G25A	Newell	47.72	287	⇑P	P	04 54 19.4 +0.2
	baz=48,SNR=5.9					
A14A	Double T Ranch	47.78	298	⇓P	P	04 54 19.4 -0.3
	baz=48					
WALA	Waterton Lakes	47.86	298	*e*P	P	04 54 20.6 +0.3
	comp=Z,0.2nm,1.0s					
WALA	Waterton Lakes	47.86	298	*e*P	P	04 54 20.6 +0.3
	comp=Z,0.2nm,1.0s					
D19A	Cripps Ranch,	47.87	293	⇓P	P	04 54 20.2 -0.1
	baz=48,SNR=9.8					
F23A	Volborg	47.95	289	⇑P	P	04 54 20.4 -0.5
	baz=48					
G24A	Alzada	47.95	288	⇑P	P	04 54 20.7 -0.3
	baz=48					
I28A	Midland	47.98	285	⇓P	P	04 54 21.0 -0.1
	baz=48					
H26A	Fairpoint	48.00	286	⇓P	P	04 54 21.3 -0.1
	baz=48					
B15A	Bradely Ranch,	48.08	297	⇓P	P	04 54 21.5 -0.5
	baz=48					
C17A	Wharram Farm,	48.09	295	⇓P	P	04 54 21.4 -0.6
	baz=48,SNR=12					
D18A	Linhart Farms,	48.15	294	⇑P	P	04 54 21.5 -1.0
	baz=48					
F22A	Rosebud	48.19	290	⇓P	P	04 54 22.9 +0.1
	baz=48					
E20A	Meyer Farm, Mu	48.19	292	⇓P	P	04 54 22.8 -0.1
	baz=48,SNR=9.2					
I27A	Quinn	48.23	286	⇑P	P	04 54 23.6 +0.5
	baz=48,SNR=5.1					
C16A	Fuhringer Ranc	48.26	296	⇓P	P	04 54 23.3 -0.1
	baz=48					
H25A	Fruitdale	48.28	287	⇓P	P	04 54 23.8 +0.2
	baz=48					
G23A	Biddle	48.40	289	⇓P	P	04 54 24.5 0.0
	baz=48					
E19A	Rath Farm, Rou	48.45	293	⇓P	P	04 54 24.9 0.0
	baz=48,SNR=7.4					
D17A	Six Diamond Ra	48.48	295	⇑P	P	04 54 25.0 -0.1
	baz=48,SNR=10					
J28A	Allard Ranch,	48.50	284	⇑P	P	04 54 26.0 +0.7
	baz=48					
H24A	Dirks Ranch, A	48.51	288	⇓P	P	04 54 25.6 +0.3
	baz=48,SNR=5.8					
I26A	New Underwood	48.54	286	⇑P	P	04 54 26.1 +0.5
	baz=48					
C15A	Salmond Ranch,	48.57	297	⇑P	P	04 54 26.1 +0.3
	baz=48					
KMSC	Kings Mountain	48.63	261	⇓P	P	04 54 27.3 +1.0
	baz=48					
K29A	Lazy Trails An	48.76	283	⇓P	P	04 54 26.8 -0.4
	baz=48					
I25A	Rochford	48.86	287	⇑P	P	04 54 27.9 -0.3
	baz=49					
J27A	Elkhorn Farm,	48.92	285	⇑P	P	04 54 28.9 +0.3
	baz=49					
YBMT	Yellow Bay	48.94	298	*e*P	P	04 54 31.3 +2.6
	comp=Z,3.7nm,0.9s					
YBMT	Yellow Bay	48.94	298	*e*P	P	04 54 31.3 +2.6
	comp=Z,3.7nm,0.9s					
E17A	Martinsdale	49.14	294	⇑P	P	04 54 30.2 -0.1
	baz=49,SNR=11					
K28A	Ten Mile Ranch	49.17	284	⇑P	P	04 54 30.8 +0.4
	baz=49					
BSMT	Bassoo Peak	49.20	298	*e*P	P	04 54 32.5 +1.8
	comp=Z,10nm,1.5s					
BSMT	Bassoo Peak	49.20	298	*e*P	P	04 54 32.5 +1.8
	comp=Z,10nm,1.5s					
F18A	Big Timber	49.25	293	⇑P	P	04 54 31.2 +0.2
	baz=49,SNR=9.3					
SWMT	Swartz Lake	49.25	297	*e*P	P	04 54 32.6 +1.6
	comp=Z,4.2nm,1.0s					
SWMT	Swartz Lake	49.25	297	*e*P	P	04 54 32.6 +1.6
	comp=Z,4.2nm,1.0s					
H22A	Clearmont	49.26	289	⇑P	P	04 54 31.4 +0.3
	baz=49					
SLMT	Seeley Lake	49.32	297	*e*P	P	04 54 30.1 -1.5
	comp=Z,11nm,0.9s					
SLMT	Seeley Lake	49.32	297	*e*P	P	04 54 30.1 -1.5
	comp=Z,11nm,0.9s					
G20A	Bridger	49.34	291	⇑P	P	04 54 31.9 +0.1
	baz=49					
J25A	Sunshine Ranch	49.43	287	⇓P	P	04 54 32.7 +0.3
	baz=49					
K27A	Flueckinger Fa	49.49	285	⇓P	P	04 54 33.1 +0.2
	baz=49					
CHMT	Chamberlain Mo	49.53	296	*e*P	P	04 54 32.7 -0.6
	comp=Z,5.7nm,1.4s					
CHMT	Chamberlain Mo	49.53	296	*e*P	P	04 54 32.7 -0.6
	comp=Z,5.7nm,1.4s					
F17A	Fitzpatrick Pl	49.56	294	⇓P	P	04 54 33.4 -0.1
	baz=49,SNR=8.1					
G18A	Lazy EL Ranch,	49.72	293	⇓P	P	04 54 34.4 -0.3
	baz=49					
KDAK	Kodiak Island	49.75	331	LR	LR	05 17 01.9
	comp=Z,278nm,18.4s,baz=357,slow=38					
MSO	Missoula	49.83	297	⇓P	P	04 54 35.2 -0.3
	baz=50,SNR=9.0					
H20A	Greybull	49.92	291	⇑P	P	04 54 36.3 +0.1
	baz=50					
HVS	Khovu-Aksy	49.92	51	*d i*P	P	04 54 37.2 +1.2
HVS				pmax	pmax	
	comp=Z,120nm,1.7s					
HVS	Khovu-Aksy	49.92	51	*i*P	P	04 54 37.2 +1.2
	comp=Z,120nm,1.7s					
I22A	9 Mile Ranch,	49.92	289	⇑P	P	04 54 36.3 +0.1
	baz=50					
G17A	Pierce Place,	50.11	293	⇑P	P	04 54 37.5 -0.1
	baz=50					
BOZ	Bozeman (W)	50.12	294	*e*P	P	04 54 39.5 +1.8
BOZ				pmax	pmax	
	comp=Z,4.0nm,0.9s					
BOZ	Bozeman (W)	50.12	294	*e*P	P	04 54 39.5 +1.8
	comp=Z,3.6nm,0.9s					
BOZ	Bozeman (W)	50.12	294	*e*P	P	04 54 39.5 +1.8
	comp=Z,3.6nm,0.9s					
I21A	Big Trails, Te	50.27	290	⇑P	P	04 54 38.7 -0.2
	baz=50,SNR=8.5					
H18A	Shoshone NF, C	50.31	292	⇓P	P	04 54 39.0 -0.3
	baz=50					
MK31	Makanchi Array	50.34	62	*e*P	P	04 54 40.0 +0.8
MK31	Makanchi Array	50.34	62	*e*P	P	04 54 40.0 +0.8
MK31	Makanchi Array	50.34	62	*e*P	P	04 54 40.0 +0.8
MKAR	Makanchi Array	50.34	62	P	P	04 54 39.8 +0.6
MKAR				pmax	pmax	
	comp=Z,10.0nm,1.0s					
MKAR	Makanchi Array	50.34	62	P	P	04 54 39.8 +0.6
MKAR	Makanchi Array	50.34	62	P	P	04 54 39.8 +0.6
	comp=Z,9.5nm,1.0s,baz=336,slow=5.6,SNR=39					
MKAR	Makanchi Array	50.34	62	P	P	04 54 39.8 +0.6
J22A	Midwest	50.34	289	⇓P	P	04 54 39.8 +0.4
	baz=50					
I20A	Worland	50.43	291	⇑P	P	04 54 39.9 -0.2
	baz=50,SNR=5.2					
I19A	Meeteetse	50.65	291	⇑P	P	04 54 41.6 -0.2
	baz=50,SNR=7.0					
KSU1	Kansas State U	50.65	278	*e*P	P	04 54 42.7 +1.1
	comp=Z,13nm,0.9s					
KSU1	Kansas State U	50.65	278	*e*P	P	04 54 42.7 +1.1
	comp=Z,13nm,0.9s					
DLMT	Dillon	50.69	295	*e*P	P	04 54 43.3 +1.3
	comp=Z,5.5nm,1.1s					
DLMT	Dillon	50.69	295	*e*P	P	04 54 43.3 +1.3
	comp=Z,5.5nm,1.1s					
J21A	Lysite	50.73	290	⇓P	P	04 54 41.9 -0.6
	baz=50,SNR=6.3					
J20A	Shoshoni	50.95	290	⇓P	P	04 54 43.8 -0.2
	baz=51,SNR=9.6					
K22A	Casper	51.03	288	⇑P	P	04 54 44.6 -0.1
	baz=51					
EKS2	Erkin-Say	51.15	71	*e*P	P	04 54 46.6 +1.1
EKS2				pmax	pmax	
	comp=Z,4.0nm,0.8s					
EKS2	Erkin-Say	51.15	71	*e*P	P	04 54 46.6 +1.1
	comp=Z,3.7nm,0.8s					
EKS2	Erkin-Say	51.15	71	*e*P	P	04 54 46.6 +1.1
	comp=Z,3.7nm,0.8s					
L23A	Garrett	51.22	287	⇑P	P	04 54 46.1 0.0
	baz=51					
MCMT	McKenzie Canyo	51.24	295	*e*P	P	04 54 45.6 -0.7
	comp=Z,2.4nm,1.4s					
MCMT	McKenzie Canyo	51.24	295	*e*P	P	04 54 45.6 -0.7
	comp=Z,2.4nm,1.4s					
N27A	Anderson Farm,	51.26	284	⇑P	P	04 54 46.5 +0.2
	baz=51					
K21A	Alcova	51.30	289	⇑P	P	04 54 46.6 -0.1
	baz=51					
J19A	Crowheart	51.35	291	⇑P	P	04 54 47.5 +0.4
	baz=51					
IMW	Indian Meadow	51.43	293	*e*P	P	04 54 50.1 +2.3
	comp=Z,4.6nm,0.9s					
IMW	Indian Meadow	51.43	293	*e*P	P	04 54 50.1 +2.3
	comp=Z,4.6nm,0.9s					
M24A	Cheyenne	51.48	286	⇑P	P	04 54 48.2 +0.1
	baz=51					
MOOW	Moose Ponds	51.50	293	*e*P	P	04 54 49.9 +1.7
	comp=Z,7.3nm,1.6s					
MOOW	Moose Ponds	51.50	293	*e*P	P	04 54 49.9 +1.7
	comp=Z,7.2nm,1.6s					
L22A	Ellis Ranch, M	51.55	288	⇓P	P	04 54 48.3 -0.3
	baz=51					
TKM2	Tokmak 2	51.55	70	*e*P	P	04 54 49.0 +0.5
TKM2				pmax	pmax	
	comp=Z,7.0nm,1.3s					
TKM2	Tokmak 2	51.55	70	*e*P	P	04 54 49.0 +0.5
	comp=Z,7.0nm,1.3s					
TKM2	Tokmak 2	51.55	70	*e*P	P	04 54 49.0 +0.5
	comp=Z,7.0nm,1.3s					
P30A	Selden	51.57	281	⇑P	P	04 54 48.7 +0.1
	baz=51					
LOHW	Long Hollow	51.57	292	*e*P	P	04 54 51.6 +2.9
	comp=Z,1.3nm,0.8s					
LOHW	Long Hollow	51.57	292	*e*P	P	04 54 51.6 +2.9
	comp=Z,1.3nm,0.8s					
O28A	Krutsinger Ran	51.60	283	⇑P	P	04 54 49.2 +0.4
	baz=51					
I16A	Newdale	51.63	293	⇑P	P	04 54 48.9 -0.2
	baz=51					
K20A	Yellowstone Ra	51.65	290	⇓P	P	04 54 48.7 -0.5
	baz=51					
K19A	Absolon Red Bu	51.67	290	⇓P	P	04 54 48.9 -0.6
	baz=51					
O27A	Beecher Island	51.79	283	⇑P	P	04 54 50.4 +0.1
	baz=52					
M23A	Laramie	51.80	287	⇓P	P	04 54 50.5 0.0
	baz=52					
PHWY	Pilot Hill	51.85	287	*e*P	P	04 54 53.6 +2.7
	comp=Z,4.2nm,1.0s					
PHWY	Pilot Hill	51.85	287	*e*P	P	04 54 53.6 +2.7
	comp=Z,4.2nm,1.0s					
REDW	Red Top Meadow	51.88	292	*e*P	P	04 54 53.0 +2.0
	comp=Z,11nm,1.7s					
REDW	Red Top Meadow	51.88	292	*e*P	P	04 54 53.0 +2.0
	comp=Z,11nm,1.7s					
L21A	Rawlins	51.93	289	⇓P	P	04 54 51.1 -0.3
	baz=52					
BW06	Boulder Array	51.97	291	*e*P	P	04 54 50.6 -1.1
	comp=Z,7.9nm,1.3s					
BW06	Boulder Array	51.97	291	*e*P	P	04 54 50.6 -1.1
	comp=Z,7.9nm,1.3s					
PDAR	Pinedale Array	51.97	291	P	P	04 54 50.9 -0.8
PDAR	Pinedale Array	51.97	291	P	P	04 54 50.9 -0.8
	comp=Z,3.3nm,1.0s,baz=45,slow=4.6,SNR=12					
PDAR				LR	LR	05 16 48.9
	comp=Z,345nm,19.6s,baz=30,slow=36					
PDAR	Pinedale Array	51.97	291	P	P	04 54 50.9 -0.8
RRI2	Red Ridge	52.05	293	*e*P	P	04 54 53.9 +1.5
	comp=Z,3.9nm,1.2s					
RRI2	Red Ridge	52.05	293	*e*P	P	04 54 53.9 +1.5
	comp=Z,3.9nm,1.2s					
Q30A	Quinter	52.06	281	⇑P	P	04 54 52.9 +0.7
	baz=52					
M22A	Cedar Creek Ra	52.16	288	⇑P	P	04 54 53.1 -0.1
	baz=52					
I14A	Mackay	52.24	295	⇓P	P	04 54 53.5 -0.2
	baz=52					
M21A	Separation Pea	52.24	288	⇑P	P	04 54 53.0 -0.8
	baz=52					
N23A	Red Feather La	52.38	287	⇑P	P	04 54 54.0 -0.9
	baz=52,SNR=7.5					
P27A	Ficken Ranch,	52.39	283	⇓P	P	04 54 54.8 +0.1
	baz=52					
Q28A	Sharon Springs	52.56	282	⇓P	P	04 54 56.5 +0.5
	baz=52					
N22A	Wattenberg Ran	52.64	287	⇓P	P	04 54 57.0 +0.2
	baz=52					
P26A	Davis Ranch, A	52.66	284	⇑P	P	04 54 56.9 +0.1
	baz=52					
R30A	Dighton	52.70	280	⇑P	P	04 54 57.4 +0.4
	baz=52					
L18A	Fontenelle, Gr	52.88	291	⇑P	P	04 54 58.4 -0.1
	baz=53					
HLID	Hailey	52.88	295	⇓P	P	04 54 58.3 -0.2
	baz=53					
KSCO	Kaye Shedlock'	52.89	283	⇓P	P	04 54 58.8 +0.3
	baz=53					
O23A	Lake Granby, G	52.98	286	⇓P	P	04 54 59.1 -0.2
	baz=53					
P25A	Willow Gulch B	52.99	285	⇑P	P	04 54 59.3 +0.1
	baz=53					
ZAK	Zakamensk	53.16	44	*e*P	P	04 55 00.7 +0.4
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.3s					
ZAK	Zakamensk	53.16	44	*e*P	P	04 55 00.7 +0.4
	comp=Z,3.0nm,1.3s					
R28A	Tribune	53.19	282	⇑P	P	04 55 00.6 0.0
	baz=53					
ISCO	Idaho Springs	53.24	286	*e*P	P	04 55 00.5 -0.8
ISCO				pmax	pmax	
	comp=Z,4.0nm,1.1s					
ISCO	Idaho Springs	53.24	286	*e*P	P	04 55 00.5 -0.8
	comp=Z,4.1nm,1.1s					
ISCO	Idaho Springs	53.24	286	*e*P	P	04 55 00.5 -0.8
	comp=Z,4.1nm,1.1s					
ISCO	Idaho Springs	53.24	286	⇓P	P	04 55 01.1 -0.2
	baz=53					
N20A	Spence Gulch,	53.24	289	⇑P	P	04 55 00.9 -0.2
	baz=53,SNR=7.3					
O22A	Kremmling	53.24	287	⇑P	P	04 55 00.8 -0.5
	baz=53,SNR=7.7					
Q26A	Hugo	53.28	284	⇓P	P	04 55 01.8 +0.4
	baz=53					
MFID	Camas Ranch	53.48	296	⇓P	P	04 55 02.4 -0.3
	baz=53					
M17A	Scullys Gap (B	53.49	291	⇑P	P	04 55 03.0 0.0
	baz=53					
O21A	Pagoda	53.52	288	⇓P	P	04 55 03.6 +0.3
	baz=53					
T31A	Randall Ranch,	53.54	279	⇑P	P	04 55 04.1 +0.9
	baz=53					
Q25A	Bedland, Calha	53.55	284	⇑P	P	04 55 03.7 +0.3
	baz=53					
S29A	Ulysses	53.59	281	⇓P	P	04 55 04.5 +0.9
	baz=53					
R27A	Eads	53.59	283	⇓P	P	04 55 04.3 +0.7
	baz=53					
P23A	Jefferson	53.70	286	⇑P	P	04 55 04.8 +0.1
	baz=53					
Q24A	Divide	53.82	285	⇓P	P	04 55 05.5 -0.1
	baz=54					
P22A	Eagle	53.82	287	⇑P	P	04 55 05.5 +0.1
	baz=54					
O20A	White River Ci	53.85	288	⇑P	P	04 55 05.6 0.0
	baz=54,SNR=9.4					
O19A	Miners Draw (B	54.01	289	⇑P	P	04 55 06.9 +0.2
	baz=54					
P21A	Newcastle	54.12	287	⇑P	P	04 55 07.7 +0.1
	baz=54,SNR=5.6					
R25A	Fountain Ranch	54.24	284	⇓P	P	04 55 08.7 +0.3
	baz=54					
T28A	Walsh	54.39	281	⇓P	P	04 55 10.0 +0.5
	baz=54					
U30A	WK&E Inc. Balk	54.39	280	⇑P	P	04 55 10.1 +0.6
	baz=54					
S26A	Kim	54.43	283	⇓P	P	04 55 10.3 +0.6
	baz=54					
P20A	De Beque	54.47	288	⇓P	P	04 55 10.5 +0.3
	baz=54					
Q22A	Crested Butte,	54.53	287	⇑P	P	04 55 10.9 +0.2
	baz=54,SNR=5.8					
P19A	Cripple Cowboy	54.56	289	⇓P	P	04 55 10.9 +0.1
	baz=54					
DAU	Daniels Canyon	54.64	291	*e*P	P	04 55 12.1 +0.6
DAU				pmax	pmax	
	comp=Z,8.0nm,1.2s					
DAU	Daniels Canyon	54.64	291	*e*P	P	04 55 12.1 +0.6
	comp=Z,7.8nm,1.2s					
DAU	Daniels Canyon	54.64	291	*e*P	P	04 55 12.1 +0.6
	comp=Z,7.8nm,1.2s					
T27A	Campo	54.66	282	⇓P	P	04 55 11.8 +0.4
	baz=54					
KSH	Kashi	54.70	71	P	P	04 55 15.4 +3.7
KSH				sP	sP	04 55 22.3 +5.6
KSH				PP	PP	04 57 19.3 +5.4
KSH				S	**S**	**05 02 53.3 +1.7**
KSH				sS	sS	05 03 00.3 +2.8
KSH				SS	**SS**	**05 06 34.9 +1.1**
KSH				pmax	pmax	
	comp=Z,6.0nm,1.2s					
KSH				LR	LR	
	comp=N,160nm,10.5s					
KSH				LR	LR	
	comp=E,180nm,9.6s					
KSH				LR	LR	
	comp=Z,120nm,17.4s					
S25A	Robets Cordova	54.73	284	⇑P	P	04 55 12.0 -0.1
	baz=54					
V31A	Spring Creek L	54.78	279	⇓P	P	04 55 12.6 +0.4
	baz=54					
Q20A	Ridgley Place,	54.93	288	⇓P	P	04 55 13.3 -0.1
	baz=55					
R22A	Saguache, Gunn	55.04	286	⇓P	P	04 55 14.6 +0.1
	baz=55,SNR=5.3					
R21A	Cimarron	55.19	287	⇓P	P	04 55 15.7 +0.3
	baz=55					
WMOK	Wichita Mounta	55.33	277	*e*P	P	04 55 15.8 -0.4
WMOK				pmax	pmax	
	comp=Z,6.0nm,1.1s					
WMOK	Wichita Mounta	55.33	277	*e*P	P	04 55 15.8 -0.4
	comp=Z,6.0nm,1.1s					
WMOK	Wichita Mounta	55.33	277	*e*P	P	04 55 15.8 -0.4
	comp=Z,6.0nm,1.1s					
DUG	Dugway	55.36	292	*e*P	P	04 55 17.1 +0.6
DUG				pmax	pmax	
	comp=Z,13nm,1.4s					
DUG	Dugway	55.36	292	*e*P	P	04 55 17.1 +0.6
	comp=Z,13nm,1.4s					
DUG	Dugway	55.36	292	*e*P	P	04 55 17.1 +0.6
	comp=Z,13nm,1.4s					
DUG	Dugway	55.36	292	⇓P	P	04 55 15.5 -1.0
	baz=55,SNR=6.4					
S22A	4UR Ranch, Cre	55.50	286	⇓P	P	04 55 18.0 +0.3
	baz=55					
SRU	San Rafael	55.56	290	*e*P	P	04 55 18.0 0.0
SRU				pmax	pmax	
	comp=Z,6.0nm,1.0s					
SRU	San Rafael	55.56	290	*e*P	P	04 55 18.0 0.0
	comp=Z,5.7nm,1.0s					
SRU	San Rafael	55.56	290	*e*P	P	04 55 18.0 0.0
	comp=Z,5.7nm,1.0s					
U26A	Atchley Ranch,	55.62	282	⇑P	P	04 55 18.7 +0.2
	baz=55					
R20A	Redvale	55.64	287	⇑P	P	04 55 18.6 0.0
	baz=55					
PV01	Paradox Valley	55.76	288	*e*P	P	04 55 20.1 +0.6
	comp=Z,760nm,1.0s					
PV01	Paradox Valley	55.76	288	*e*P	P	04 55 20.1 +0.6
	comp=Z,760nm,1.0s					
X31A	McDonald Ranch	55.85	278	⇓P	P	04 55 20.4 +0.5
	baz=56					
T22A	Edith	56.18	286	⇓P	P	04 55 22.0 -0.5
	baz=56					
SONM	Songino Array	56.30	43	P	P	04 55 22.9 -0.2
SONM	Songino Array	56.30	43	P	P	04 55 22.9 -0.2
	comp=Z,0.5nm,0.5s,baz=327,slow=11,SNR=4.9					
SONM				LR	LR	05 20 31.2
	comp=Z,247nm,20.0s,baz=24,slow=37					
SONM	Songino Array	56.30	43	P	P	04 55 22.9 -0.2
X30A	Coker Ranch, T	56.34	279	⇑P	P	04 55 23.8 +0.3
	baz=56					

X28A	Dimmitt	56.75	280	⇑P	P	04 55 26.9	+0.4
	baz=56						
TOA0	Torodi Ar. Sit	56.82	159	eP	P	04 55 27.1	+0.1
TOA0	Torodi Ar. Sit	56.82	159	eP	P	04 55 27.1	+0.1
TORD	Torodi Ar. Bea	56.82	159	P	P	04 55 27.0	+0.1
TORD	Torodi Ar. Bea	56.82	159	P	P	04 55 27.0	+0.1
	comp=Z,3.7nm,1.0s,baz=345,slow=7.2,SNR=14						
TORD	Torodi Ar. Bea	56.82	159	P	P	04 55 27.0	+0.1
Y30A	Stafford Cattl	56.86	279	⇓P	P	04 55 27.5	+0.3
	baz=57						
Z32A	Haskell	56.86	277	⇑P	P	04 55 27.6	+0.4
	baz=57						
X27A	F and S Farms,	56.96	281	⇓P	P	04 55 28.4	+0.5
	baz=57						
U21A	Nageezi	56.97	286	⇓P	P	04 55 28.1	0.0
	baz=57						
V23A	Ortiz Mt. (NFS	57.07	284	⇓P	P	04 55 29.2	+0.4
	baz=57						
Z31A	Sharp Cattle R	57.09	278	⇓P	P	04 55 29.6	+0.8
	baz=57						
V22A	San Miguel Ran	57.17	285	⇓P	P	04 55 29.9	+0.3
	baz=57						
YBH	Yreka Blue Hor	57.19	301	LR	LR	05 19 22.6	
	comp=Z,163nm,21.0s,baz=13,slow=35						
W24A	Lazy 6 Ranch,	57.27	283	⇑P	P	04 55 30.1	-0.1
	baz=57						
X26A	CR and CF Fran	57.30	282	⇑P	P	04 55 30.5	+0.1
	baz=57						
Y28A	McKinney Farm,	57.32	280	⇓P	P	04 55 30.7	+0.2
	baz=57						
MSTX	Muleshoe	57.45	280	⇑P	P	04 55 31.9	+0.4
	baz=57						
Z30A	Sanderson Ranc	57.48	279	⇓P	P	04 55 32.3	+0.8
	baz=57						
ABTX	Abilene, Hawle	57.54	277	⇑P	P	04 55 32.7	+0.8
	baz=57						
Y27A	Causey	57.67	281	⇓P	P	04 55 33.4	+0.4
	baz=57						
Z29A	Hungry Hill Ra	57.71	279	⇑P	P	04 55 33.6	+0.4
	baz=58						
ANMO	Albuquerque	57.88	284	eP	P	04 55 35.9	+1.3
	comp=Z,2.5nm,1.2s						
ANMO	Albuquerque	57.88	284	eP	P	04 55 35.9	+1.3
	comp=Z,2.5nm,1.2s						
Z28A	Tucker Farm, M	57.93	280	⇓P	P	04 55 35.0	+0.3
	baz=58						
R11A	Troy Canyon, C	57.95	294	⇑P	P	04 55 35.0	0.0
	baz=58,SNR=13						
130A	Snyder	58.04	278	⇑P	P	04 55 36.3	+0.8
	baz=58						
232A	Coleman	58.20	276	⇓P	P	04 55 37.3	+0.7
	baz=58						
231A	Bronte	58.40	277	⇓P	P	04 55 38.9	+0.9
	baz=58						
W20A	Ramah	58.44	286	⇓P	P	04 55 38.9	+0.4
	baz=58						
Y24A	Capitan	58.44	283	⇓P	P	04 55 38.7	+0.3
	baz=58						
Z26A	Caprock	58.51	281	⇑P	P	04 55 39.1	+0.2
	baz=58						
128A	Castleberry Fa	58.56	279	⇓P	P	04 55 39.5	+0.3
	baz=58						
U15A	North Rim	58.58	290	⇑P	P	04 55 39.2	-0.3
	baz=58						
Y23A	Lovelace Mesa,	58.66	283	⇓P	P	04 55 40.0	0.0
	baz=58,SNR=5.6						
332A	Millersview	58.69	276	⇓P	P	04 55 40.4	+0.4
	baz=58,SNR=6.2						
NVAR	Mina Array Bea	58.78	296	P	P	04 55 39.2	-1.6
NVAR	Mina Array Bea	58.78	296	P	P	04 55 39.2	-1.6
	comp=Z,0.6nm,0.7s,baz=56,slow=3.4,SNR=3.2						
NVAR				LR	LR	05 21 28.7	
	comp=Z,353nm,18.0s,baz=315,slow=37						
NVAR	Mina Array Bea	58.78	296	P	P	04 55 39.2	-1.6
X20A	Quemado	58.97	286	⇑P	P	04 55 41.9	-0.3
	baz=59						
Y22A	Socorro	58.97	284	⇓P	P	04 55 42.4	+0.2
	baz=59						
331A	San Angelo	59.01	277	⇓P	P	04 55 43.0	+0.8
	baz=59						
WUAZ	Wupatki	59.09	289	eP	P	04 55 44.0	+1.1
	comp=Z,9.5nm,1.3s						
WUAZ	Wupatki	59.09	289	eP	P	04 55 44.0	+1.1
	comp=Z,9.5nm,1.3s						
WUAZ	Wupatki	59.09	289	⇓P	P	04 55 43.2	+0.3
	baz=59						
125A	Gardner Draw,	59.31	281	⇓P	P	04 55 44.8	+0.4
	baz=59						
SHPR	Sheep Range	59.48	292	eP	P	04 55 47.4	+1.8
	comp=Z,8.7nm,1.4s						
SHPR	Sheep Range	59.48	292	eP	P	04 55 47.4	+1.8
	comp=Z,8.7nm,1.4s						
JCT	Junction City	59.53	276	eP	P	04 55 45.6	-0.3
JCT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JCT	Junction City	59.53	276	eP	P	04 55 45.6	-0.3
	comp=Z,5.0nm,0.8s						
JCT	Junction City	59.53	276	eP	P	04 55 45.6	-0.3
	comp=Z,5.0nm,0.8s						
JCT	Junction City	59.53	276	⇑P	P	04 55 46.1	+0.2
	baz=59						
124A	Stringfield Ra	59.55	282	⇓P	P	04 55 46.6	+0.4
	baz=59,SNR=5.1						
Z22A	Elephant Butte	59.59	284	⇓P	P	04 55 46.8	+0.4
	baz=59						
431A	Sonora	59.64	277	⇓P	P	04 55 47.2	+0.6
	baz=59						
226B	Tecolote Peak,	59.66	281	⇑P	P	04 55 47.5	+0.7
	baz=59						
430A	Baggett Ranch,	59.77	277	⇓P	P	04 55 48.4	+0.9
	baz=60						
Z21A	St. Cloud Mine	59.79	284	⇓P	P	04 55 48.2	+0.3
	baz=60						
532A	Rocksprings	59.89	276	⇓P	P	04 55 49.0	+0.6
	baz=60						
531A	Rocksprings	60.09	276	⇑P	P	04 55 50.4	+0.7
	baz=60						
X16A	Lo Mia Camp, P	60.10	288	⇓P	P	04 55 50.3	+0.3
	baz=60						
429A	Davenport Ranc	60.16	278	⇓P	P	04 55 50.3	+0.1
	baz=60,SNR=5.5						
326A	Caldwell Ranch	60.28	280	⇑P	P	04 55 51.7	+0.6
	baz=60						
Z20A	Nine Sixteen R	60.29	285	⇑P	P	04 55 51.7	+0.5
	baz=60						
W13A	Hualapai Mount	60.32	291	⇓P	P	04 55 51.6	+0.1
	baz=60						
428A	Kincaid Ranch,	60.35	279	⇑P	P	04 55 52.3	+0.7
	baz=60						
530A	J-C Ranch, Com	60.38	277	⇓P	P	04 55 52.7	+0.9
	baz=60,SNR=6.6						
632A	Uvalde	60.41	275	⇑P	P	04 55 52.3	+0.5
	baz=60						
SHOC	Shoshone	60.41	293	⇓P	P	04 55 52.2	+0.4
	baz=60						
427A	Hayter Ranch,	60.49	279	⇓P	P	04 55 53.1	+0.6
	baz=60						
121A	Cookes Peak, D	60.53	284	⇓P	P	04 55 53.4	+0.5
	baz=60						
529A	Stev Forest Ra	60.73	278	⇑P	P	04 55 54.7	+0.6
	baz=60						
426A	McDonald Obser	60.88	280	⇑P	P	04 55 55.7	+0.3
	baz=61						
Y14A	Wickenburg	61.08	289	⇑P	P	04 55 56.3	-0.2
	baz=61						
PDMCI	Parker Dam,Lak	61.14	290	⇓P	P	04 55 57.2	+0.4
	baz=61						
220A	Playas Peak, P	61.36	284	⇑P	P	04 55 59.0	+0.5
	baz=61						
526A	Mary Lane Ranc	61.46	280	⇓P	P	04 55 59.7	+0.5
	baz=61						
628A	Black Gap, Mar	61.55	278	⇑P	P	04 56 00.2	+0.6
	baz=61						
627A	Terlingua Ranc	61.76	279	⇑P	P	04 56 01.4	+0.3
	baz=62						
Y12C	Blythe	61.77	291	⇓P	P	04 56 01.3	+0.2
	baz=62						
320A	Kipp Ranch, An	61.88	284	⇑P	P	04 56 01.8	-0.2
	baz=62						
626A	Big Bend Ranch	61.93	279	⇑P	P	04 56 02.2	-0.1
	baz=62						
TXAR	Lajitas Array	61.96	279	P	P	04 56 02.2	-0.3
TXAR	Lajitas Array	61.96	279	P	P	04 56 02.2	-0.3
	comp=Z,1.3nm,0.9s,baz=32,slow=8.6,SNR=8.6						
TXAR				LR	LR	05 21 02.1	
	comp=Z,143nm,20.3s,baz=180,slow=34						
TXAR	Lajitas Array	61.96	279	P	P	04 56 02.2	-0.3
BELC	Belle Mtn. Jos	62.04	292	⇑P	P	04 56 02.8	-0.2
	baz=62						
GTA	Gaotai	62.38	52	P	P	04 56 06.0	+0.8
GTA				pP	pP	04 56 09.6	+0.7
GTA				sP	sP	04 56 12.5	+2.3
GTA				S	S	05 04 30.1	-1.4
GTA				sS	sS	05 04 37.7	+0.3
GTA				SS	SS	05 08 34.2	+0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				LR	LR		
	comp=N,240nm,21.9s						
GTA				LR	LR		
	comp=E,260nm,19.5s						
GTA				LR	LR		
	comp=Z,320nm,22.8s						
LIC	Lamto	62.94	167	eP	P	04 56 05.7	-3.3
LIC				eR			
	comp=Z,227nm,22.5s						
HHC	Hu-ho-hao-te	64.13	42	eP	P	04 56 15.3	-1.5
HHC				PcP	PcP	04 56 51.8	0.0
HHC				PP	PP	04 58 37.2	0.0
HHC				ScP		05 00 51.8	
HHC				PcS		05 00 53.5	
HHC				S	S	05 04 47.7	-5.5
HHC				ScS	SKKSac	05 06 04.5	-5.7
HHC				SS	SS	05 08 57.0	-4.3
HHC				pmax	pmax		
	comp=Z,50nm,0.8s						
HHC				pmax	pmax		
	comp=Z,900nm,6.6s						
HHC				LR	LR		
	comp=N,180nm,16.2s						
HHC				LR	LR		
	comp=E,450nm,16.9s						
HHC				LR	LR		
	comp=Z,370nm,16.5s						
MDJ	Mudanjiang	64.15	26	P	P	04 56 16.7	0.0
MDJ				pP	pP	04 56 19.9	-0.5
MDJ				sP	sP	04 56 21.2	-0.5
MDJ				PcP	PcP	04 56 52.4	+0.7
MDJ				PP	PP	04 58 37.2	0.0
MDJ				S	S	05 04 50.9	-2.2
MDJ				pmax	pmax		
	comp=Z,11nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,49nm,5.2s						
MDJ				LR	LR		
	comp=N,40nm,27.3s						
MDJ				LR	LR		
	comp=E,34nm,27.3s						
MDJ				LR	LR		
	comp=Z,39nm,21.2s						
CN2	Changchun	64.24	30	eP	P	04 56 17.9	+0.6
LZH	Lanzhou	66.61	50	eP	P	04 56 31.2	-1.8
LZH				pP	pP	04 56 35.1	-1.6
LZH				sP	sP	04 56 38.0	0.0
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSRS	Korea Array	70.84	29	LR	LR	05 31 04.8	
	comp=Z,69nm,18.9s,baz=86,slow=38						
MJAR	Matsushiro Arr	73.33	21	P	P	04 57 14.0	-0.1
MJAR	Matsushiro Arr	73.33	21	P	P	04 57 14.0	-0.1
	comp=Z,0.5nm,0.4s,baz=337,slow=7.0,SNR=4.6						
MJAR	Matsushiro Arr	73.33	21	P	P	04 57 14.0	-0.1
JNU	Nakatsue	75.58	28	LR	LR	05 29 23.7	
	comp=Z,62nm,21.4s,baz=273,slow=35						
GYA	Guiyang	76.47	50	eP	P	04 57 33.0	+0.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CHTO	Chiang Mai	81.37	60	eP	P	04 57 58.4	-0.9
CHTO				pmax	pmax		
	comp=Z,17nm,1.6s						
CHTO	Chiang Mai	81.37	60	eP	P	04 57 58.4	-0.9
	comp=Z,17nm,1.6s						
CHTO	Chiang Mai	81.37	60	eP	P	04 57 58.4	-0.9
	comp=Z,17nm,1.6s						
CMAR	Chiang Mai Arr	81.70	60	P	P	04 58 01.4	+0.3
CMAR	Chiang Mai Arr	81.70	60	P	P	04 58 01.4	+0.3
	comp=Z,1.3nm,0.4s,baz=321,slow=6.1,SNR=17						
CMAR	Chiang Mai Arr	81.70	60	P	P	04 58 01.4	+0.3
SAML	Samuel	84.08	226	eP	P	04 58 13.6	+0.3
	comp=Z,13nm,1.7s						
SAML	Samuel	84.08	226	eP	P	04 58 13.6	+0.3
	comp=Z,13nm,1.7s						
SNAA	Sanae	140.50	173	ePKPdf	PKPdf	05 05 10.7	+0.6
SNAA	Sanae	140.50	173	ePKIKP	PKPdf	05 05 10.7	+0.6
MAW	Mawson	146.59	137	PKPbc	PKPbc	05 05 20.9	-1.5
MAW	Mawson	146.59	137	PKPbc	PKPbc	05 05 20.9	-1.5
	comp=Z,2.4nm,0.9s,baz=309,slow=6.5,SNR=4.3						
MAW	Mawson	146.59	137	PKPbc	PKPbc	05 05 20.9	-1.5

WEL 12 04:47:43.3±0.8, 36°.39S×177°.86E, h174km±8km, ML3.7/4, Error ellipse: s-maj=10.5km s-min=7.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.22	163	PN	Pn	04 48 12.0	-0.1
MXZ				AML	AML	04 48 34.6	
MXZ				AML	AML	04 48 34.7	
PUZ	Puketiti	1.71	169	PN	Pn	04 48 16.6	-0.2
PUZ				SN	Sn	04 48 42.2	-0.7
PUZ				AML	AML	04 48 54.5	
MWZ	Matawai	1.96	188	PN	Pn	04 48 20.4	+0.9
MWZ				SN	Sn	04 48 47.2	-0.6
MWZ				AML	AML	04 48 51.4	
URZ	Urewera	1.96	198	PN	Pn	04 48 19.4	0.0
URZ				AML	AML	04 48 53.7	
URZ				AML	AML	04 48 55.4	
CNGZ	Carnagh Statio	2.11	173	PN	Pn	04 48 21.9	+0.8
RAHZ	Arahi	2.59	194	PN	Pn	04 48 26.8	0.0
KNZ	Kokohu	2.63	183	PN	Pn	04 48 26.6	-0.4
MHGZ	Mahia Peninsul	2.76	179	PN	Pn	04 48 28.8	+0.2
NMHZ	Naumai	2.83	197	PN	Pn	04 48 30.1	+0.5
BKZ	Black Stump Fm	2.97	201	PN	Pn	04 48 32.1	+0.7
MCHZ	McNeill Hill	3.18	196	PN	Pn	04 48 34.4	+0.5
CKHZ	Cape Kidnapper	3.32	191	PN	Pn	04 48 34.4	-1.1
CKHZ				SN	Sn	04 49 15.5	-0.9
BHHZ	Black Hill Sta	3.40	204	PN	Pn	04 48 36.7	0.0
WNVZ	Wahianoa	3.43	211	PN	Pn	04 48 38.4	+1.1
MOVZ	Moawhango	3.44	208	PN	Pn	04 48 37.4	+0.3
KAHZ	Kahuranaki	3.48	193	PN	Pn	04 48 36.8	-0.8
PXZ	Pawanui	3.72	192	PN	Pn	04 48 39.2	-1.4
PNHZ	Pukenui	3.75	200	PN	Pn	04 48 40.1	-1.0
TSZ	Takapari Road	3.96	202	PN	Pn	04 48 42.8	-0.8
PRHZ	Porangahau	3.99	194	PN	Pn	04 48 42.4	-1.6
DVHZ	Dannevirke	4.12	198	PN	Pn	04 48 44.7	-1.0
BFZ	Birch Farm	4.46	196	PN	Pn	04 48 48.3	-1.8
MRZ	Mangatainoka R	4.62	202	PN	Pn	04 48 50.5	-1.7
HOWZ	Holdsworth Sta	4.86	202	PN	Pn	04 48 53.2	-2.1
OGWZ	Otaki Gorge	4.89	205	PN	Pn	04 48 53.9	-1.7
TMWZ	Te Maipa	4.95	198	PN	Pn	04 48 53.7	-2.8
KIW	Kapiti Island	5.03	206	PN	Pn	04 48 55.5	-1.9
CAW	Cannon Point	5.19	204	PN	Pn	04 48 57.4	-2.1
PLWZ	Palliser	5.55	201	PN	Pn	04 49 01.2	-3.2
TCW	Tory Channel	5.57	209	PN	Pn	04 49 02.0	-2.4
TUWZ	Tuamarina	5.88	210	PN	Pn	04 49 06.0	-2.7
THZ	Tophouse	6.60	214	PN	Pn	04 49 16.0	-2.2

*PDG **12** 04:55:02.7±0.1, 43°.01N×18°.73E, h11km±1km, MD2.5/4, ML2.5/12, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*CSEM **12** 04:55:02.8±0.2, 43°.00N×18°.73E, h2km, ML2.5/12, Error ellipse: s-maj=3.8km s-min=2.9km az=119.0*
*BEO **12** 04:55:03.6±0.3, 42°.97N×18°.76E, h1km±2km, ML2.3/9*
ISC 12 04:55:02.4±0.8, 43°.02N±0°.02×18°.71E±0°.02, h13km±5km, n50, σ0.91/91, 14C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	Bratogost	0.17	227	⇓iPg	Pg	04 55 06.4	-0.1
BRY				eSg	Sg	04 55 09.2	-0.1
BRY	Bratogost	0.17	227	⇓iPg	Pg	04 55 06.4	-0.1
BRY				eSg	Sg	04 55 09.2	-0.1
UPM	Unac-Piva	0.24	38	⇓iPg	Pg	04 55 07.4	-0.2
UPM				eSg	Sg	04 55 11.4	+0.3
UPM	Unac-Piva	0.24	38	⇓iPg	Pg	04 55 07.4	-0.2
UPM				eSg	Sg	04 55 11.4	+0.3
NKY	Niksic	0.29	134	⇑iPg	Pg	04 55 08.1	-0.4
NKY				eSg	Sg	04 55 12.6	0.0
NKY	Niksic	0.29	134	⇑iPg	Pg	04 55 08.1	-0.4
NKY				eSg	Sg	04 55 12.6	0.0
NKME	Niksic	0.31	144	⇑iPg	Pg	04 55 08.2	-0.6
NKME				eSg	Sg	04 55 13.0	0.0
NKME	Niksic	0.31	144	⇑iPg	Pg	04 55 08.2	-0.6
NKME				eSg	Sg	04 55 13.0	0.0
PLE	Pljevlja	0.59	58	⇓iPg	Pg	04 55 13.8	-0.2
PLE				eSg	Sb	04 55 23.6	+0.6
PLE	Pljevlja	0.59	58	⇓iPg	Pg	04 55 13.8	-0.2
PLE				eSg	Sb	04 55 23.6	+0.6
HCY	Herceg Novi	0.59	195	⇓iPg	Pg	04 55 13.6	-0.4
HCY				eSg	Sb	04 55 23.4	+0.5
HCY	Herceg Novi	0.59	195	⇓iPg	Pg	04 55 13.6	-0.4
HCY				eSg	Sb	04 55 23.4	+0.5
PDG	Podgorica	0.71	145	⇓iPg	Pg	04 55 15.0	-1.3
PDG				i Sg	Sb	04 55 25.2	-1.2
PDG	Podgorica	0.71	145	⇓iPg	Pg	04 55 15.0	-1.3
PDG				i Sg	Sb	04 55 25.2	-1.2
TTG	Podgorica	0.71	145	⇓iPg	Pg	04 55 15.0	-1.3
TTG				eSg	Sb	04 55 25.7	-0.7
BUM	Brajici-Budva	0.73	169	⇑iPg	Pg	04 55 16.0	-0.6
BUM				eSg	Sb	04 55 27.5	+0.6
BUM	Brajici-Budva	0.73	169	⇑iPg	Pg	04 55 16.0	-0.6
BUM				eSg	Sb	04 55 27.5	+0.6
STON	Ston	0.75	259	ePg	Pg	04 55 16.2	-0.8
STON				Sg	Sb	04 55 28.0	+0.5
STON	Ston	0.75	259	⇓iPg	Pg	04 55 16.7	-0.3
STON				i Sg	Sb	04 55 28.5	+1.0
STON	Ston	0.75	259	⇓iPg	Pg	04 55 16.7	-0.3
STON				Sg	Sb	04 55 28.0	+0.5
BEY	Berane	0.88	99	⇓iPg	Pg	04 55 18.6	-0.9
BEY				eSg	Sn	04 55 32.6	-0.8
IVA	Berane	0.88	99	⇓iPg	Pg	04 55 18.6	-0.9
IVA				eSg	Sn	04 55 32.6	-0.8
DRME	Dracevica, Mon	0.90	157	⇓iPg	Pg	04 55 19.2	-0.6
DRME				eSg	Sn	04 55 33.3	-0.4
DRME	Dracevica, Mon	0.90	157	⇓iPg	Pg	04 55 19.2	-0.6
DRME				eSg	Sn	04 55 33.3	-0.4
SJES	Sjenica	0.96	75	ePg	Pg	04 55 19.8	-1.1
SJES				eSg	Sb	04 55 33.4	-0.2
BBLS	Lazići	0.99	31	ePg	Pn	04 55 22.1	0.0
BBLS				i Sg	Sn	04 55 36.9	+0.9
BBLS	Lazići	0.99	31	ePg	Pn	04 55 22.1	0.0
BBLS				i Sg	Sn	04 55 36.9	+0.9
PVY	Plav	1.01	114	⇓iPg	Pb	04 55 21.5	-0.4
PVY				eSg	Sn	04 55 37.2	+0.6
ULC	Ulcinj	1.13	159	⇑iPg	Pb	04 55 23.2	-0.6
ULC				eSg	Sn	04 55 40.8	+1.5
ULC	Ulcinj	1.13	159	⇑iPg	Pb	04 55 23.2	-0.6
ULC				eSg	Sn	04 55 40.8	+1.5
DIVS	Divibare	1.43	40	ePg	Pg	04 55 29.3	-0.6
DIVS				i Sg	Sg	04 55 49.1	+0.7
DIVS	Divibare	1.43	40	ePg	Pg	04 55 29.3	-0.6
DIVS				i Sg	Sg	04 55 49.1	+0.7
GRUS	Gruza	1.70	59	⇑iPn	Pg	04 55 34.7	-0.4
GRUS				eSn	Sg	04 55 56.5	-0.7
GRUS	Gruza	1.70	59	⇑iPn	Pg	04 55 34.7	-0.4
GRUS				eSn	Sg	04 55 56.5	-0.7
SELS	Selova	1.78	83	ePn	Pb	04 55 33.9	-1.0
SELS	Selova	1.78	83	ePn	Pb	04 55 33.9	-1.0
TIR	Tirane	1.88	152	ePn	Pb	04 55 36.4	-0.2
TIR	Tirane	1.88	152	ePn	Pb	04 55 36.4	-0.2
BLY	Banja Luka	2.05	328	ePn	Pg	04 55 41.5	-0.3
BLY				eSn	Sg	04 56 08.1	-0.3
BLY	Banja Luka	2.05	328	ePn	Pg	04 55 41.5	-0.3
BLY				eSn	Sg	04 56 08.1	-0.3
BARS	Barje	2.29	94	⇑iPn	Pn	04 55 41.2	+1.3
BARS				eSn	Sb	04 56 10.5	-1.4
BARS	Barje	2.29	94	⇑iPn	Pn	04 55 41.2	+1.3
BARS				eSn	Sb	04 56 10.5	-1.4
UDBI	Udbina	2.61	306	ePn	Pb	04 55 49.9	+0.7
UDBI				Sn	Sg	04 56 25.9	-0.5
UDBI	Udbina	2.61	306	ePn	Pb	04 55 49.8	+0.7
ZAPS	Zavoj	2.88	84	ePn	Pn	04 55 50.1	+2.0
ZAPS	Zavoj	2.88	84	ePn	Pn	04 55 50.1	+2.0
NVLJ	Novalja	3.18	300	ePn	Pb	04 55 55.9	-2.9
NVLJ				Sn	Sb	04 56 36.2	-1.1
NVLJ	Novalja	3.18	300	ePn	Pb	04 55 55.8	-2.9
NVLJ				Sn	Sb	04 56 36.2	-1.1
PKSM	Moragy	3.19	359	⇑iP	Pn	04 55 53.3	+1.0
VTS	Vitosha	3.34	96	⇑iP	Pb	04 56 03.5	+1.9

*ISCJB **12** 04:56:51.4±0.6, 38°.69S±0°.07×137°.24E±0°.05, h10km, mb4.2/9, MS3.4/1, Error ellipse: s-maj=9.6km s-min=5.9km az=170.0*
*IDC **12** 04:56:52.0±0.7, 38°.90S×137°.27E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/16, mbtmp4.2/11, ML4.9/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/25, Error ellipse: s-maj=30.5km s-min=18.1km az=86.0*
*NEIC **12** 04:56:54.0, 38°.80S×137°.47E, h10km, mb4.7/4, ML4.5(AUST), After AUST.*
*AUST **12** 04:56:55.5±8.9, 38°.84S×137°.21E, h34km±1km, Error ellipse: s-maj=3.0km s-min=0.9km az=357.0*
ISC 12 04:56:52.9±0.5, 38°.78S±0°.06×137°.33E±0°.06, h10km, n57, σ1.68/58, mb4.3/9, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	Mount Arapiles	4.10	62	P	Pn	04 57 57.2	+1.6
	baz=4.2,SNR=393						
ARPS				S	Sn	04 58 43.6	0.0
	baz=4.2,SNR=6.7						
TOO	Toolangi	6.54	82	P	Pn	04 58 30.6	+1.3
	baz=6.6,SNR=22						
STKA	Stephens Creek	7.72	28	ePn	Pn	04 58 46.6	+1.3
	16nm,0.6s						
STKA				eS	Sn	05 00 10.0	-2.8
STKA	Stephens Creek	7.72	28	Pn	Pn	04 58 46.8	+1.4
	9.8nm,0.3s,baz=192,slow=12,SNR=37						
STKA				Sn	Sn	05 00 08.2	-4.6
	19nm,0.3s,baz=116,slow=18,SNR=5.7						
STKA				LR	LR	05 02 00.0	
	comp=Z,485nm,21.8s,baz=27,slow=39						
STKA	Stephens Creek	7.72	28	S	Sn	05 00 11.1	-1.7
	baz=7.8,SNR=5.0						
TAU	Tasmania Unive	8.62	122	ePn	Pn	04 58 56.5	-1.2
TAU				eS	Sn	05 00 30.6	-4.5
FORT	Forrest	11.03	314	P	Pn	04 59 29.9	-0.9
	baz=11,SNR=26						
ARMA	Armidale	14.42	59	P	Pn	05 00 08.9	-8.3
	baz=14,SNR=5.6						
ASAR	Alice Springs	15.34	348	Pn	Pn

QSPA	South Pole Qui	51.34	180	*e*P	P	05 05 56.6	-0.7
	24nm,2.0s						
QSPA	South Pole Qui	51.34	180	P	P	05 05 56.1	-1.1
	0.7nm,0.8s,baz=346,slow=16,SNR=4.4						
CMAR	Chiang Mai Arr	67.34	320	P	P	05 07 49.4	+1.1
CMAR	Chiang Mai Arr	67.34	320	P	P	05 07 49.4	+1.1
	1.1nm,0.4s,baz=158,slow=4.9,SNR=6.4						
USRK	Ussuriysk Arra	82.74	356	P	P	05 09 18.7	+2.2
	2.7nm,0.6s,baz=212,slow=7.0,SNR=8.7						
BOSA	Boshof	87.77	235	P	P	05 09 44.0	+1.4
BOSA	Boshof	87.77	235	P	P	05 09 44.0	+1.4
	2.2nm,0.9s,baz=153,slow=8.4,SNR=3.4						
SONM	Songino Array	90.53	340	P	P	05 09 56.2	+1.4
SONM	Songino Array	90.53	340	P	P	05 09 56.2	+1.4
	0.6nm,0.6s,baz=152,slow=4.6,SNR=3.5						
MKAR	Makanchi Array	98.36	325	P	P	05 10 30.4	-0.2
MKAR	Makanchi Array	98.36	325	P	P	05 10 30.4	-0.2
	0.3nm,0.7s,baz=133,slow=6.3,SNR=2.1						
ILAR	Eielson Array	118.77	28	PKP	PKPdf	05 15 39.7	-0.6
ILAR	Eielson Array	118.77	28	PKP	PKPdf	05 15 39.7	-0.6
	0.3nm,0.8s,baz=288,slow=3.2,SNR=4.8						
NVAR	Mina Array Bea	122.58	65	PKP	PKPdf	05 15 49.2	+0.4
NVAR	Mina Array Bea	122.58	65	PKP	PKPdf	05 15 49.2	+0.4
	0.7nm,0.9s,baz=248,slow=3.6,SNR=4.2						
TXAR	Lajitas Array	129.42	81	PKP	PKPdf	05 16 02.6	+0.6
TXAR	Lajitas Array	129.42	81	PKP	PKPdf	05 16 02.6	+0.6
	0.9nm,0.9s,baz=225,slow=3.7,SNR=8.8						
PDAR	Pinedale Array	130.39	63	PKP	PKPdf	05 16 05.1	+1.5
PDAR	Pinedale Array	130.39	63	PKP	PKPdf	05 16 05.1	+1.5
	0.4nm,0.8s,baz=321,slow=2.3,SNR=3.9						
FINES	FINESS Array B	133.09	322	PKP	PKPdf	05 16 08.1	+0.3
FINES	FINESS Array B	133.09	322	PKP	PKPdf	05 16 08.1	+0.3
	1.0nm,0.7s,baz=165,slow=2.2,SNR=3.1						
TORD	Torodi Ar. Bea	133.26	249	PKP	PKPdf	05 16 10.2	+0.7
TORD	Torodi Ar. Bea	133.26	249	PKP	PKPdf	05 16 10.2	+0.7
	0.7nm,0.9s,baz=115,slow=1.5,SNR=4.4						
WVT	Waverly	144.33	80	*e*PKPdf	PKPbc	05 16 27.8	+0.3
HDIL	Hopedale	144.39	72	*e*PKPdf	PKPdf	05 16 28.7	-0.3
USIN	University of	144.99	77	*e*PKPdf	PKPdf	05 16 30.4	+0.2
COWI	Conover	145.35	63	*e*PKPdf	PKPab	05 16 31.3	+0.7
SWET	Sewanee	145.50	82	*e*PKPdf	PKPdf	05 16 31.3	+0.1
TKL	Tuckaleechee C	147.31	82	*e*PKPbc	PKPbc	05 16 36.8	+0.1
ESDC	Sonseca Array	150.15	284	PKPbc	PKPbc	05 16 44.4	+0.5
ESDC	Sonseca Array	150.15	284	PKPbc	PKPbc	05 16 44.4	+0.5
	0.4nm,0.3s,baz=60,slow=2.5,SNR=10						

SKHL 12 04:57:38.4±0.5, 54°.09N×127°.73E, h13km±5km, mb3.8/4, 2C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**0.45**	**219**↑	*e*Pg	Pg	04 57 46.3	-1.1
ZEA				AMB	AMB	04 57 47.8	
	53nm,0.2s						
ZEA				pPg	Pb	04 57 48.8	+0.6
ZEA				*e*Sg	Sg	04 57 51.8	-1.6
ZEA				A	A	04 57 52.3	
	530nm,0.2s						
KROS	**Kirovskiy**	**0.56**	**308**↓	*i*Pg	Pg	04 57 49.3	-0.2
KROS				AMB	AMB	04 57 49.7	
	54nm,0.3s						
KROS				pPg	Pn	04 57 54.3	+2.1
KROS				*e*Sg	Sb	04 57 57.6	-0.5
KROS				A	A	04 57 58.8	
	280nm,0.4s						
BMKR	**Bomnak**	**0.90**	**46**↑	*i*Pg	Pg	04 57 54.5	-1.3
BMKR				AMB	AMB	04 57 54.7	
	41nm,0.2s						
BMKR				AMB	AMB	04 57 54.7	
	26nm,0.2s						
BMKR				AMB	AMB	04 57 54.7	
	42nm,0.2s						
BMKR				*i* Sg	Sg	04 58 06.6	-1.0
BMKR				A	A	04 58 07.0	
	126nm,0.4s						
BMKR				A	A	04 58 07.0	
	131nm,0.4s						
BMKR				A	A	04 58 07.0	
	70nm,0.4s						
TUP	**Tupik**	**4.57**	**277**	*e*Pn	Pn	04 58 47.0	-0.3
TUP				*e*Pg	Pb	04 59 00.6	+2.1
TUP				AMB	AMB	04 59 06.5	
	4.0nm,0.4s						
TUP				*e*Sn	Sn	04 59 40.7	+0.4
TUP				*e*Sg	Sg	05 00 00.3	-5.0
TUP				A	A	05 00 07.6	
	12nm,0.7s						

*IDC **12** 05:11:27.3±0.6, 49°.87N×178°.52W, h0km, mb4.2/25, mb1 4.4/27, mb1mx4.3/34, mbtmp4.2/27, ML4.1/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/47, Error ellipse: s-maj=17.2km s-min=10.2km az=1.0*

*ISCJB **12** 05:11:29.0±1.2, 49°.97N±0°.04×178°.58W±0°.04, h14km±7km, mb4.4/71, MS3.8/4, Error ellipse: s-maj=7.0km s-min=4.4km az=165.4*

*BJI **12** 05:11:29.0, 50°.30N×178°.70W, h8km, mB4.9/6, mb4.6/11, Ms4.5/3, Ms7 4.1/2*

*NEIC **12** 05:11:30.7, 49°.87N×178°.61W, h26km, mb4.3/18, ML4.0(AEIC), After AEIC.*

*MOS **12** 05:11:31.5±1.1, 49°.98N×178°.63W, h33km, mb4.8/26, Error ellipse: s-maj=11.0km s-min=7.1km az=98.0*

ISC 12 05:11:30.0±1.0, 49°.96N±0°.07×178°.66W±0°.04, h15km±5km, n387, σ0.99/409, mb4.5/71, MS3.9/4, 86C-104D, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.60**	**357**	P	**Pn**	**05 11 57.0**	**-0.7**
GALAA	**Gareloi Lava P**	**1.81**	**358**	P	**Pn**	**05 12 00.6**	**-0.1**
GAEA	**Gareloi East**	**1.83**	**358**	P	**Pn**	**05 12 00.8**	**-0.1**
GANE	**Gareloi Northe**	**1.86**	**358**	P	**Pn**	**05 12 01.0**	**-0.4**
TASE	**Tanaga Southea**	**1.92**	**12**	P	**Pn**	**05 12 01.7**	**-0.5**
AMKA	**Amchitka**	**1.93**	**318**	P	**Pn**	**05 12 00.9**	**-1.3**
AMKA				S	**Sn**	**05 12 23.6**	**-2.6**
TAPA	**Tanaga Point A**	**1.93**	**16**	P	**Pn**	**05 12 01.6**	**-0.8**
TANO	**Tanaga North**	**1.99**	**10**	P	**Pn**	**05 12 02.9**	**-0.2**
TAFP	**Tanaga Falls P**	**1.99**	**12**	P	**Pn**	**05 12 02.5**	**-0.7**
TAFP				S	**Sn**	**05 12 26.0**	**-1.8**
KIKV	**Kanaga Island**	**2.14**	**25**	P	**Pn**	**05 12 04.6**	**-0.6**
KICM	**Kanaga Island**	**2.17**	**25**	P	**Pn**	**05 12 05.7**	**+0.2**
KIRH	**Kanaga Island**	**2.18**	**26**	P	**Pn**	**05 12 04.9**	**-0.8**
KINC	**Kanaga Island**	**2.20**	**25**	P	**Pn**	**05 12 05.5**	**-0.5**
CERAA	**Semis' Rag'd T**	**2.21**	**332**	P	**Pn**	**05 12 06.3**	**+0.1**
CESW	**Semis' Southwe**	**2.25**	**331**	P	**Pn**	**05 12 06.6**	**-0.1**
ADK	**Adak**	**2.30**	**32**	P	**Pn**	**05 12 06.2**	**-1.1**
ADK				S	**Sn**	**05 12 34.0**	**-1.3**
ADK	**Adak**	**2.30**	**32**	P	**Pn**	**05 12 06.2**	**-1.1**
ADK				S	**Sn**	**05 12 34.0**	**-1.3**
CETU	**Semis' Tuman**	**2.33**	**331**	P	**Pn**	**05 12 07.7**	**0.0**
CEAP	**Semis' Anvil P**	**2.33**	**332**	P	**Pn**	**05 12 08.3**	**+0.5**
ETKA	**Kagalaska Isla**	**2.38**	**36**	P	**Pn**	**05 12 07.5**	**-1.0**
ADAG	**Mount Adagdak**	**2.41**	**32**	P	**Pn**	**05 12 08.7**	**-0.1**
GSCK	**Great Sitkin C**	**2.59**	**37**	P	**Pn**	**05 12 10.8**	**-0.5**
GSTD	**Great Sitkin T**	**2.63**	**36**	P	**Pn**	**05 12 11.2**	**-0.8**
GSTD				S	**Sn**	**05 12 42.3**	**-1.4**
LSSE	**Little Sitkin**	**2.64**	**319**	P	**Pn**	**05 12 12.3**	**+0.2**
GSMY	**Great Sitkin M**	**2.66**	**37**	P	**Pn**	**05 12 11.4**	**-0.9**
LSSA	**Little Sitkin**	**2.68**	**319**	P	**Pn**	**05 12 12.9**	**+0.3**
LSNW	**Little Sitkin**	**2.69**	**320**	P	**Pn**	**05 12 12.7**	**-0.1**
GSTR	**Great Sitkin T**	**2.69**	**36**	*e*Pn	**Pn**	**05 12 12.7**	**-0.2**
SMY	**Shemya**	**5.32**	**304**	*e*P	**Pn**	**05 12 50.8**	**+2.0**
SMY	**Shemya**	**5.32**	**304**	*e*Pn	**Pn**	**05 12 50.8**	**+2.0**
FX1	**Attu Island--F**	**5.89**	**303**	Pn	**Pn**	**05 12 57.1**	**+0.4**
FX1				Sn	**Sn**	**05 13 59.1**	**-4.8**
FX1				S	**Sn**	**05 14 02.2**	**-1.8**
FX1	**Attu Island--F**	**5.89**	**303**	Pn	**Pn**	**05 12 57.1**	**+0.4**
	10nm,0.3s,baz=186,slow=8.9,SNR=44						
FX1				Sn	**Sn**	**05 13 59.1**	**-4.8**
	12nm,0.3s,baz=103,slow=20,SNR=7.7						
NIKH	**Nikolski High**	**6.83**	**60**	P	**Pn**	**05 13 08.7**	**-0.9**
NIKH				S	**Sn**	**05 14 21.9**	**-5.1**
OKTU	**Okmok Mt. Tuli**	**7.44**	**58**	P	**Pn**	**05 13 17.2**	**-0.7**
MREP	**Makushin Rep't**	**8.31**	**58**	P	**Pn**	**05 13 28.5**	**-1.5**
PEA0B	**Petropavlovsk-**	**15.03**	**291**	*e*Pn	**Pn**	**05 15 02.9**	**+1.2**
PETK	**Petropavlovsk-**	**15.03**	**291**	P	**Pn**	**05 15 03.1**	**+1.4**
PETK	**Petropavlovsk-**	**15.03**	**291**	Pn	**Pn**	**05 15 03.1**	**+1.4**
PETK	**Petropavlovsk-**	**15.03**	**291**	Pn	**Pn**	**05 15 03.1**	**+1.4**
	2.2nm,0.3s,baz=95,slow=18,SNR=23						
PETK				LR	LR	05 20 35.9	
	comp=Z,139nm,18.8s,baz=53,slow=36						
OHAK	**Old Harbor**	**16.65**	**54**	*e*Pn	**Pn**	**05 15 19.4**	**-3.1**
SVW2	**Sparrevohn**	**17.07**	**40**	*e*P	**P**	**05 15 30.6**	**+1.1**
	9.7nm,1.0s						
KDAK	**Kodiak Island**	**17.17**	**53**	*e*Pn	**Pn**	**05 15 27.1**	**-1.9**
KDAK	**Kodiak Island**	**17.17**	**53**	P	**Pn**	**05 15 24.9**	**-4.2**
	1.5nm,0.3s,baz=263,slow=5.0,SNR=14						
PPLA	**Purkeypile**	**19.36**	**38**	*e*P	**Pn**	**05 15 58.1**	**+2.1**
	10nm,0.8s						
PMR	**Palmer**	**20.07**	**43**	*e*P	**Pn**	**05 16 06.6**	**+2.3**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PMR	**Palmer**	**20.07**	**43**	*e*Pn	**Pn**	**05 16 06.6**	**+2.3**
	comp=Z,3.6nm,0.7s						
TRF	**Thorofare Moun**	**20.38**	**38**	*e*Pn	**P**	**05 16 05.2**	**-0.9**
SEY	**Seymchan**	**20.38**	**321**↑	*e*P	**P**	**05 16 06.0**	**+0.1**
SML	**Sawmill**	**20.51**	**43**	*e*P	Pn	05 16 10.7	+1.2
SML				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SML	**Sawmill**	**20.51**	**43**	*e*Pn	Pn	05 16 10.7	+1.1
	comp=Z,3.6nm,0.8s						
IMA2	**Indian Mountai**	**20.63**	**29**	*e*Pn	**P**	**05 16 08.7**	**0.0**
BMRM	**Bremner River**	**21.95**	**47**	*e*P	**P**	**05 16 25.1**	**+2.2**
PAX	**Paxson**	**22.17**	**42**	*e*P	**P**	**05 16 27.2**	**+1.9**
PAX				pmax	pmax		
	comp=Z,15nm,1.5s						
PAX	**Paxson**	**22.17**	**42**	*e*Pn	**P**	**05 16 27.2**	**+1.9**
	comp=Z,15nm,1.5s						
ILAR	**Eielson Array**	**22.32**	**36**	P	**P**	**05 16 25.2**	**-1.5**
ILAR				PcP	**PcP**	**05 20 20.6**	**-1.0**
ILAR	**Eielson Array**	**22.32**	**36**	P	**P**	**05 16 25.2**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=239,slow=9.1,SNR=26						
ILAR				PcP	**PcP**	**05 20 20.6**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=272,slow=3.7,SNR=4.3						
COLD	**Coldfoot**	**22.44**	**29**	*e*Pn	**P**	**05 16 27.5**	**-0.5**
EGAK	**Eagle**	**24.58**	**39**	*e*P	**P**	**05 16 49.1**	**+0.1**
	comp=Z,5.8nm,0.6s						
DAWY	**Dawson**	**25.10**	**41**	*e*P	**P**	**05 16 54.0**	**+0.2**
HYT	**Haines Junctio**	**25.34**	**49**	*e*P	**P**	**05 16 56.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**25.58**	**278**	*e*P	**P**	**05 16 59.9**	**+1.7**
INK	**Inuvik**	**28.58**	**33**	*e*P	**P**	**05 17 23.6**	**-1.5**
INK	**Inuvik**	**28.58**	**33**	P	**P**	**05 17 24.2**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=234,slow=10,SNR=12						
INK				LR	LR	05 30 22.3	
	comp=Z,74nm,18.3s,baz=277,slow=40						
DLBC	**Dease Lake**	**29.09**	**54**	P	**P**	**05 17 28.2**	**-1.6**
DLBC	**Dease Lake**	**29.09**	**54**	P	**P**	**05 17 28.2**	**-1.6**
	comp=Z,2.7nm,0.9s,baz=282,slow=9.3,SNR=6.1						
KLR	**Kul'dur**	**31.68**	**288**	*e*P	P	05 17 50.0	-2.6
USRK	**Ussuriysk Arra**	**33.59**	**279**	P	**P**	**05 18 10.2**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=55,slow=10.0,SNR=5.2						
YKA	**Yellowknife Ar**	**36.16**	**45**	P	**P**	**05 18 31.6**	**+0.2**
YKA	**Yellowknife Ar**	**36.16**	**45**	P	**P**	**05 18 31.5**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=284,slow=9.0,SNR=5.6						
YBH	**Yreka Blue Hor**	**39.01**	**80**	P	**P**	**05 18 55.9**	**0.0**
YBH	**Yreka Blue Hor**	**39.01**	**80**	P	**P**	**05 18 55.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=294,slow=9.6,SNR=3.5						
NEW	**Newport**	**39.31**	**68**	P	**P**	**05 18 57.8**	**-0.5**
NEW	**Newport**	**39.31**	**68**	P	**P**	**05 18 57.8**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=297,slow=6.9,SNR=5.8						
NEW	**Newport**	**39.31**	**68**	⇑P	**P**	**05 18 58.0**	**-0.3**
	baz=39,SNR=5.2						
EDM	**Edmonton**	**39.44**	**59**	*e*P	**P**	**05 18 59.5**	**+0.3**
EDM	**Edmonton**	**39.44**	**59**	*e*P	**P**	**05 18 59.5**	**+0.3**
KSRS	**Korea Array**	**39.77**	**273**	P	**P**	**05 19 02.8**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=59,slow=8.4,SNR=7.5						
KSAR	**Wonju Array Be**	**39.80**	**273**	P	**P**	**05 19 02.8**	**+0.4**
BSMT	**Bassoo Peak**	**40.90**	**67**	*e*P	**P**	**05 19 11.2**	**-0.3**
	comp=Z,5.5nm,1.3s						
A14A	**Double T Ranch**	**41.19**	**65**	⇓P	**P**	**05 19 14.2**	**+0.3**
	baz=41						
A15A	**Johnson Ranch,**	**41.59**	**65**	⇓P	**P**	**05 19 16.9**	**-0.2**
	baz=41						
MSO	**Missoula**	**41.89**	**68**	⇑P	**P**	**05 19 19.5**	**-0.1**
	baz=42						
B15A	**Bradely Ranch,**	**42.00**	**66**	⇓P	**P**	**05 19 20.5**	**+0.1**
	baz=42						
C15A	**Salmond Ranch,**	**42.23**	**67**	⇓P	**P**	**05 19 22.7**	**+0.3**
	baz=42						
B16A	**M & M Farms, S**	**42.45**	**65**	⇑P	**P**	**05 19 23.6**	**-0.5**
	baz=42						
C16A	**Fuhringer Ranc**	**42.73**	**66**	⇓P	**P**	**05 19 26.2**	**-0.2**
	baz=43						
A17A	**Triple J Farms**	**42.79**	**64**	⇓P	**P**	**05 19 25.9**	**-1.0**
	baz=43,SNR=9.5						
HLID	**Hailey**	**43.26**	**73**	⇓P	**P**	**05 19 30.9**	**0.0**
	baz=43						
C17A	**Wharram Farm,**	**43.39**	**66**	⇓P	**P**	**05 19 31.5**	**-0.3**
	baz=43						
B18A	**Beardsley Farm**	**43.59**	**64**	⇑P	**P**	**05 19 32.9**	**-0.4**
	baz=43,SNR=5.9						
I14A	**Mackay**	**43.66**	**72**	⇓P	**P**	**05 19 34.3**	**+0.3**
	baz=44						
NVAR	**Mina Array Bea**	**43.66**	**81**	P	**P**	**05 19 34.5**	**+0.3**
NVAR				PcP	**PcP**	**05 21 20.1**	**-1.1**
NVAR	**Mina Array Bea**	**43.66**	**81**	P	**P**	**05 19 34.5**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=289,slow=8.0,SNR=7.2						
NVAR				PcP	**PcP**	**05 21 20.1**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=267,slow=3.4,SNR=3.6						
D17A	**Six Diamond Ra**	**43.67**	**66**	⇓P	**P**	**05 19 33.9**	**-0.2**
	baz=44						
EGMT	**Eagleton**	**43.79**	**65**	*e*P	**P**	**05 19 34.1**	**-0.8**
	comp=Z,6.3nm,1.0s						
EGMT	**Eagleton**	**43.79**	**65**	⇓P	**P**	**05 19 34.8**	**-0.1**
	baz=44						
E17A	**Martinsdale**	**43.91**	**67**	⇑P	**P**	**05 19 35.9**	**-0.2**
	baz=44						
A19A	**Klindworth Far**	**43.93**	**63**	⇑P	**P**	**05 19 35.9**	**-0.2**
	baz=44						
B19A	**Brinkman Farms**	**44.05**	**64**	⇓P	**P**	**05 19 36.4**	**-0.6**
	baz=44,SNR=8.3						
D18A	**Linhart Farms,**	**44.17**	**66**	⇑P	**P**	**05 19 37.6**	**-0.4**
	baz=44						
F17A	**Fitzpatrick Pl**	**44.32**	**68**	⇓P	**P**	**05 19 39.2**	**-0.1**
	baz=44						
C19A	**Slack Wire Ran**	**44.34**	**65**	⇑P	**P**	**05 19 39.3**	**-0.1**
	baz=44,SNR=8.0						
E18A	**Harlowton**	**44.42**	**67**	⇓P	**P**	**05 19 40.2**	**+0.1**
	baz=44						
A20A	**Cobblestone Ra**	**44.42**	**63**	⇓P	**P**	**05 19 39.7**	**-0.3**
	baz=44						
H16A	**Russell Place,**	**44.59**	**70**	⇓P	**P**	**05 19 41.7**	**+0.1**
	baz=44						
VES	**Vestal, Richgr**	**44.70**	**85**	⇓P	**P**	**05 19 43.7**	**+1.5**
	baz=44						
D19A	**Cripps Ranch,**	**44.73**	**65**	⇓P	**P**	**05 19 42.9**	**+0.4**
	baz=45						
F18A	**Big Timber**	**44.88**	**67**	⇓P	**P**	**05 19 43.8**	**0.0**
	baz=45						
A21A	**Bergtoll Ranch**	**44.94**	**62**	⇑P	**P**	**05 19 44.1**	**-0.1**
	baz=45						
C20A	**Veseth Ranch,**	**44.96**	**64**	⇓P	**P**	**05 19 44.2**	**-0.1**
	baz=45,SNR=5.2						
E19A	**Rath Farm, Rou**	**45.15**	**66**	⇑P	**P**	**05 19 45.9**	**+0.1**
	baz=45						
ISA	**Isabella**	**45.20**	**85**	⇑P	**P**	**05 19 46.5**	**+0.1**
	baz=45						
D20A	**Manuel Ranch,**	**45.20**	**65**	⇓P	**P**	**05 19 46.8**	**+0.5**
	baz=45						
C21A	**Desert Coulee**	**45.43**	**64**	⇑P	**P**	**05 19 48.2**	**+0.1**
	baz=45						
R11A	**Troy Canyon, C**	**45.44**	**80**	⇑P	**P**	**05 19 49.1**	**+0.8**
	baz=45						
A22A	**Carney Farms,**	**45.52**	**62**	⇑P	**P**	**05 19 48.5**	**-0.2**
	baz=45						
RLMT	**Red Lodge**	**45.56**	**68**	*e*P	**P**	**05 19 49.4**	**+0.1**
	comp=Z,3.9nm,1.0s						
MPMC	**Manual Prospec**	**45.59**	**84**	⇓P	**P**	**05 19 50.5**	**+0.9**
	baz=45						
FURC	**Furnace Creek,**	**45.74**	**83**	⇑P	**P**	**05 19 51.2**	**+0.7**
	baz=46						
H19A	**Powell**	**45.97**	**69**	⇓P	**P**	**05 19 52.9**	**+0.5**
	baz=46						
EDW2	**Edwards Air Fo**	**45.99**	**85**	⇑P	**P**	**05 19 53.7**	**+1.0**
	baz=46						
DUG	**Dugway**	**46.11**	**76**	⇓P	**P**	**05 19 54.2**	**+0.6**
	baz=46						
A23A	**Redstone**	**46.13**	**61**	⇑P	**P**	**05 19 53.5**	**0.0**
	baz=46						
G20A	**Bridger**	**46.14**	**67**	⇓P	**P**	**05 19 53.4**	**-0.4**
	baz=46						
C22A	**Vida**	**46.17**	**63**	⇑P	**P**	**05 19 53.5**	**-0.4**
	baz=46						
I19A	**Meeteetse**	**46.31**	**69**	⇑P	**P**	**05 19 55.5**	**+0.3**
	baz=46						
D22A	**Cohagen**	**46.31**	**64**	⇑P	**P**	**05 19 55.0**	**0.0**
	baz=46						
B23A	**Brockton**	**46.32**	**62**	⇑P	**P**	**05 19 54.7**	**-0.3**
	baz=46						
SHOC	**Shoshone**	**46.46**	**83**	⇓P	**P**	**05 19 57.5**	**+1.2**
	baz=46						
GSC	**Goldstone**	**46.49**	**84**	⇑P	**P**	**05 19 57.3**	**+0.7**
	baz=46						
C23A	**Lambert**	**46.55**	**63**	⇓P	**P**	**05 19 56.4**	**-0.4**
	baz=46						
BFSC	**Mount Baldy Ra**	**46.61**	**86**	⇑P	**P**	**05 19 58.4**	**+0.9**
	baz=46						
A24A	**Westby**	**46.64**	**61**	⇓P	**P**	**05 19 57.1**	**-0.5**
	baz=46,SNR=5.7						
BW06	**Boulder Array**	**46.67**	**71**	*e*P	**P**	**05 19 57.6**	**-0.4**
	comp=Z,3.2nm,1.1s						
PDAR	**Pinedale Array**	**46.67**	**71**	P	**P**	**05 19 57.4**	**-0.7**
PDAR	**Pinedale Array**	**46.67**	**71**	P	**P**	**05 19 57.4**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=294,slow=3.9,SNR=17						
D23A	**Lindsay**	**46.87**	**64**	⇓P	**P**	**05 19 59.6**	**+0.2**
	baz=47						
K19A	**Absolon Red Bu**	**47.07**	**71**	⇓P	**P**	**05 20 00.6**	**-0.6**
	baz=47						
C24A	**Savage**	**47.13**	**63**	⇓P	**P**	**05 20 01.7**	**+0.3**
	baz=47						
A25A	**Svangstu Ranch**	**47.13**	**61**	⇓P	**P**	**05 20 01.0**	**-0.4**
	baz=47						
G22A	**Birney**	**47.28**	**66**	⇓P	**P**	**05 20 02.6**	**0.0**
	baz=47						
SONM	**Songino Array**	**47.38**	**298**	P	**P**	**05 20 04.1**	**+0.7**
SONM				PcP	**PcP**	**05 21 34.0**	**+0.1**
SONM	**Songino Array**	**47.38**	**298**	P	**P**	**05 20 04.1**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=65,slow=6.9,SNR=11						
SONM				PcP	**PcP**	**05 21 34.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=68,slow=2.1,SNR=6.5						
D24A	**Glendive**	**47.41**	**63**	⇑P	**P**	**05 20 03.5**	**0.0**
	baz=47						
B25A	**Knox Farm, Ray**	**47.46**	**61**	⇓P	**P**	**05 20 03.0**	**-0.9**
	baz=47						
I21A	**Big Trails, Te**	**47.46**	**69**	⇑P	**P**	**05 20 04.2**	**0.0**
	baz=47						
K20A	**Yellowstone Ra**	**47.47**	**70**	⇓P	**P**	**05 20 03.7**	**-0.6**
	baz=47						
F23A	**Volborg**	**47.53**	**65**	⇑P	**P**	**05 20 03.9**	**-0.6**
	baz=47						
GMRC	**Granite Mounta**	**47.55**	**84**	⇑P	**P**	**05 20 05.3**	**+0.4**
	baz=47						
A26A	**Wade Farm, Ken**	**47.76**	**60**	⇓P	**P**	**05 20 06.0**	**-0.3**
	baz=48						
ZAK	**Zakamensk**	**47.78**	**302**	*e*P	**P**	**05 20 07.5**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PFO	**Pinyon Flat Ob**	**47.78**	**85**	⇓P	**P**	**05 20 08.6**	**+1.9**
	baz=48						
BELC	**Belle Mtn. Jos**	**47.83**	**85**	⇓P	**P**	**05 20 08.3**	**+1.3**
	baz=48						
SRU	**San Rafael**	**48.18**	**76**	*e*P	**P**	**05 20 10.4**	**+0.6**
SRU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SRU	**San Rafael**	**48.18**	**76**	*e*P	**P**	**05 20 10.3**	**+0.6**
	comp=Z,2.2nm,1.0s						
HHC	**Hu-ho-hao-te**	**48.18**	**287**	*e*P	**P**	**05 20 11.0**	**+1.3**
HHC				PcP	**PcP**	**05 21 39.8**	**+2.9**
HHC				PP	**PP**	**05 22 02.3**	**+0.5**
HHC				ScP	**ScP**	**05 25 32.4**	**+1.7**
HHC				PcS	**PcS**	**05 25 34.6**	**+1.9**
HHC				S	**S**	**05 27 06.8**	**-1.5**
HHC				sS	**sS**	**05 27 14.4**	**-1.5**
HHC				ScS	**ScS**	**05 30 01.4**	**-0.8**
HHC				SS	**SS**	**05 30 31.0**	**-6.1**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,6.2s						
HHC				LR	LR		
	comp=N,190nm,16.2s						
HHC				LR	LR		
	comp=E,180nm,16.2s						
HHC				LR	LR		
	comp=Z,100nm,16.3s						
M20A	**Sweetwater, Wa**	**48.23**	**72**	⇓P	**P**	**05 20 09.9**	**-0.3**
	baz=48						
MONP	**Monument Peak**	**48.26**	**86**	⇑P	**P**	**05 20

baz=53
X21A Alamocita Cree 52.79 79 ⇓P P 05 20 45.2 +0.5
baz=53
S25A Robets Cordova 52.85 73 ⇑P P 05 20 45.7 +0.5
baz=53
DAG Danmarks Havn 52.90 6 *i* P P 05 20 44.7 0.0
comp=Z,1.9nm,0.8s
V23A Ortiz Mt. (NFS 52.97 76 ⇑P P 05 20 47.1 +1.0
baz=53
Z20A Nine Sixteen R 53.13 80 ⇓P P 05 20 47.5 +0.2
baz=53
Y21A Point of Rocks 53.14 79 ⇑P P 05 20 47.6 +0.3
baz=53
T25A Trinidad 53.19 74 ⇑P P 05 20 47.9 +0.2
baz=53
X22A Bernardo 53.24 78 ⇓P P 05 20 48.5 +0.5
baz=53
P28A Saint Francis 53.30 70 ⇑P P 05 20 48.2 -0.1
baz=53
S26A Kim 53.47 73 ⇓P P 05 20 49.5 -0.1
baz=53
120A U Bar Ranch, L 53.48 81 ⇑P P 05 20 51.1 +1.3
baz=53
V24A Rampart Ranch, 53.55 76 ⇓P P 05 20 51.1 +0.7
baz=53
Z21A St. Cloud Mine 53.59 80 ⇓P P 05 20 51.4 +0.7
baz=53
Y22A Socorro 53.63 79 ⇓P P 05 20 51.2 +0.3
baz=54
X23A Hourglass Bar 53.71 77 ⇑P P 05 20 51.7 +0.2
baz=54
W24A Lazy 6 Ranch, 53.80 76 ⇑P P 05 20 52.4 +0.2
baz=54
V25A Rancho No Teng 53.89 75 ⇓P P 05 20 52.7 -0.1
baz=54
220A Playas Peak, P 53.97 82 ⇓P P 05 20 53.6 +0.2
baz=54
121A Cookes Peak, D 54.03 80 ⇑P P 05 20 54.3 +0.4
baz=54
Z22A Elephant Butte 54.08 79 ⇑P P 05 20 54.5 +0.4
baz=54
Y23A Lovelace Mesa, 54.21 78 ⇓P P 05 20 55.1 -0.1
baz=54
320A Kipp Ranch, An 54.34 82 ⇑P P 05 20 56.4 +0.4
baz=54
W25A X Bar L Ranch, 54.39 76 ⇓P P 05 20 56.4 +0.1
baz=54
S28A Manter 54.46 72 ⇑P P 05 20 56.5 -0.3
baz=54
Y24A Capitan 54.61 78 ⇓P P 05 20 58.3 +0.2
baz=54
SUMG Summit 54.66 14 *i* P P 05 20 58.6 +0.5
comp=Z,6.0nm,0.9s
Z24A Sheeppen Canyo 55.04 78 ⇑P P 05 21 01.6 +0.4
baz=55
ZALV Zalesovo Beam 55.08 314 P P 05 21 00.5 -0.4
ZALV 05 22 02.1
ZALV Zalesovo Beam 55.08 314 P P 05 21 00.5 -0.4
ZALV PcP **PcP 05 22 02.1 -0.1**
ZALV Zalesovo Beam 55.08 314 P P 05 21 00.5 -0.4
comp=Z,1.0nm,0.6s,baz=2.9,slow=5.9,SNR=4.1
ZALV PcP **PcP 05 22 02.1 -0.1**
comp=Z,0.7nm,0.4s,baz=51,slow=2.8,SNR=3.6
124A Stringfield Ra 55.40 79 ⇑P P 05 21 03.6 -0.2
baz=55
Z25A Roswell 55.48 78 ⇓P P 05 21 04.4 +0.1
baz=55
LZH Lanzhou 55.88 287 *e*P P 05 21 10.6 +3.5
LZH pP pP 05 21 14.9 +3.1
LZH sP sP 05 21 17.1 +3.5
LZH pmax pmax
comp=Z,10.0nm,1.0s
125A Gardner Draw, 55.93 78 ⇓P P 05 21 07.3 -0.2
baz=56
Z26A Caprock 55.95 77 ⇑P P 05 21 07.3 -0.3
baz=56
Y27A Causey 56.06 76 ⇑P P 05 21 08.0 -0.4
baz=56
324A Moseley Ranch, 56.21 80 ⇑P P 05 21 09.4 -0.2
baz=56
MSTX Muleshoe 56.25 76 ⇓P P 05 21 09.4 -0.4
baz=56
126A Clayton Basin, 56.34 78 ⇓P P 05 21 10.2 -0.2
baz=56
Z27A Tatum 56.41 77 ⇑P P 05 21 10.6 -0.3
baz=56
325A Bean Ranch, Si 56.59 80 ⇓P P 05 21 12.0 -0.3
baz=56
226B Tecolote Peak, 56.63 78 ⇓P P 05 21 12.2 -0.2
baz=56
326A Caldwell Ranch 57.25 79 ⇑P P 05 21 16.7 -0.2
baz=57
128A Castleberry Fa 57.32 77 ⇑P P 05 21 16.8 -0.5
baz=57
228A UT Block 9, Go 57.59 77 ⇓P P 05 21 18.7 -0.6
baz=57
426A McDonald Obser 57.66 80 ⇓P P 05 21 19.0 -0.8
baz=58
129A Stewart Farms, 57.71 76 ⇓P P 05 21 19.4 -0.7
baz=58
Z30A Sanderson Ranc 57.73 75 ⇓P P 05 21 19.6 -0.6
baz=58
427A Hayter Ranch, 57.93 79 ⇑P P 05 21 21.1 -0.6
baz=58
328A Wristen Ranch, 57.95 78 ⇓P P 05 21 21.0 -0.7
baz=58
526A Mary Lane Ranc 58.03 80 ⇓P P 05 21 22.3 -0.2
baz=58
130A Snyder 58.30 76 ⇑P P 05 21 23.5 -0.6
baz=58
Y32A R-V Farms, Ver 58.30 74 ⇓P P 05 21 23.4 -0.7
baz=58
Z31A Sharp Cattle R 58.33 75 ⇑P P 05 21 23.6 -0.7
baz=58
626A Big Bend Ranch 58.34 81 ⇑P P 05 21 24.0 -0.6
baz=58
329A Wagon Wheel Ra 58.40 77 ⇓P P 05 21 24.1 -0.8
baz=58
428A Kincaid Ranch, 58.47 79 ⇑P P 05 21 25.1 -0.3
baz=58
230A Sterling City 58.68 76 ⇑P P 05 21 26.0 -0.8
baz=58,SNR=7.5
Z32A Haskell 58.75 74 ⇓P P 05 21 26.6 -0.7
baz=59
TXAR Lajitas Array 58.79 80 P P 05 21 27.2 -0.5
TXAR PcP **PcP 05 22 17.6 +0.4**
TXAR Lajitas Array 58.79 80 P P 05 21 27.2 -0.5
comp=Z,0.8nm,0.6s,baz=301,slow=5.3,SNR=14
TXAR PcP **PcP 05 22 17.6 +0.4**
comp=Z,1.2nm,0.8s,baz=282,slow=2.8,SNR=6.1
627A Terlingua Ranc 58.89 80 ⇓P P 05 21 28.0 -0.4
baz=59
429A Davenport Ranc 59.04 78 ⇓P P 05 21 28.4 -1.0
baz=59
628A Black Gap, Mar 59.18 80 ⇓P P 05 21 29.9 -0.5
baz=59
430A Baggett Ranch, 59.34 78 ⇑P P 05 21 30.8 -0.6
baz=59
CD2 Chengdu 59.36 283 *e*P P 05 21 36.5 +4.9
CD2 pmax pmax
comp=Z,10.0nm,0.8s
331A San Angelo 59.50 77 ⇑P P 05 21 31.8 -0.7
baz=59
ARCES ARCESS Array B 59.51 350 P P 05 21 32.2 +0.3
ARCES ARCESS Array B 59.51 350 P P 05 21 32.2 +0.3
comp=Z,9.8nm,0.7s,baz=25,slow=8.3,SNR=59
ARE0 ARCESS Array S 59.51 350 P P 05 21 31.9 -0.1
232A Coleman 59.60 76 ⇓P P 05 21 32.6 -0.6
baz=59
530A J-C Ranch, Com 59.71 78 ⇓P P 05 21 33.7 -0.4
baz=60,SNR=5.4
431A Sonora 59.81 77 ⇓P P 05 21 33.8 -0.9
baz=60
LVZ Lovozero 59.84 346*ce*P P 05 21 34.4 +0.1
LVZ pmax pmax
comp=Z,25nm,1.7s
332A Millersview 59.88 76 ⇑P P 05 21 34.2 -0.9
baz=60
KURK Kurchatov 60.07 314 P P 05 21 37.0 +0.9
KURK Kurchatov 60.07 314 P P 05 21 37.0 +0.9
KURBB Kurchatov Arra 60.18 314 P P 05 21 37.0 +0.2
comp=Z,7.1nm,0.6s,baz=44,slow=6.6,SNR=34
432A Menard 60.19 76 ⇓P P 05 21 36.4 -0.9
baz=60
531A Rocksprings 60.20 78 ⇓P P 05 21 36.4 -0.9
baz=60
JCT Junction City 60.46 77 ⇑P P 05 21 38.1 -1.0
baz=60

GYA Guiyang 60.57 277 *e*P P 05 21 44.6 +4.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
532A Rocksprings 60.63 77 ⇓P P 05 21 39.2 -1.1
baz=60
631A Perdido Creek 60.70 78 ⇓P P 05 21 39.5 -1.2
baz=60
MK31 Makanchi Array 60.99 309 *e*P P 05 21 42.3 -0.2
MK31 Makanchi Array 60.99 309 *e*P P 05 21 42.3 -0.2
MKAR Makanchi Array 60.99 309 P P 05 21 42.2 -0.3
MKAR Makanchi Array 60.99 309 P P 05 21 42.2 -0.3
MKAR Makanchi Array 60.99 309 P P 05 21 42.2 -0.3
comp=Z,0.8nm,0.4s,baz=50,slow=6.2,SNR=14
SCHQ Schefferville 61.07 38 P P 05 21 42.8 0.0
SCHQ Schefferville 61.07 38 P P 05 21 42.8 0.0
comp=Z,2.8nm,0.7s,baz=298,slow=8.1,SNR=6.9
732A Laxson Ranch, 61.55 78 ⇑P P 05 21 46.4 -0.1
baz=61
BRVK Borovoye 62.06 320*de*P P 05 21 50.0 +0.5
BRVK pmax pmax
comp=Z,9.0nm,2.5s
ARU Arti 63.86 329*c i*P P 05 22 02.1 +0.6
ARU 05 24 20.8
ARU S **S 05 30 36.4 +0.5**
ARU pmax pmax
comp=Z,10.0nm,1.2s
TKM2 Tokmak 2 67.09 310 *e*P P 05 22 23.7 +0.8
TKM2 pmax pmax
comp=Z,7.0nm,1.0s
TKM2 Tokmak 2 67.09 310 *e*P P 05 22 23.7 +0.8
comp=Z,6.7nm,1.0s
FINES FINESS Array B 67.19 347 P P 05 22 22.8 -0.1
FINES FINESS Array B 67.19 347 P P 05 22 22.8 -0.1
comp=Z,3.8nm,0.7s,baz=28,slow=8.6,SNR=10
AAK Ala-Archa 67.85 310 *e*P P 05 22 28.9 +1.3
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 67.85 310 *e*P P 05 22 28.9 +1.3
comp=Z,9.8nm,0.9s
EKS2 Erkin-Say 68.18 311 *e*P P 05 22 30.9 +1.2
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 68.18 311 *e*P P 05 22 30.9 +1.2
comp=Z,9.9nm,0.8s
NB2 NORSAR Subarra 69.07 355 P P 05 22 35.2 +0.4
comp=Z,8.1nm,1.1s,baz=10,slow=6.5
NOA NORSAR Array B 69.07 355 P P 05 22 35.1 +0.4
NOA NORSAR Array B 69.07 355 P P 05 22 35.1 +0.4
comp=Z,6.3nm,0.9s,baz=6.7,slow=6.3,SNR=13
ABKAR Akbulak array 69.13 323 *e*P P 05 22 35.9 +0.6
comp=Z,0.8nm,0.4s
KKAR Karatay Array 69.42 313 *e*P P 05 22 37.6 +0.4
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 69.42 313 *e*P P 05 22 37.6 +0.4
comp=Z,4.6nm,0.6s
OBN Obninsk 71.23 340*de*P P 05 22 48.4 +0.4
OBN pmax pmax
comp=Z,13nm,0.9s
VRHR Novokhopersk 73.63 335 *e*P P 05 23 06.0 +3.6
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VSR Storozhevoye 74.18 336 *e*P P 05 23 05.0 -0.6
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,9.0nm,0.6s
VORD Divnogorie 74.37 336 *e*P P 05 23 06.8 +0.1
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,8.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 76.79 308 *e*P P 05 23 20.9 -0.3
KBL pmax pmax
comp=Z,4.0nm,0.5s
KBL Kabul 76.79 308 *e*P P 05 23 20.9 -0.3
comp=Z,4.2nm,0.5s
AKASG Malin Array Be 76.93 342*ce*P P 05 23 22.7 +1.3
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 76.93 342 P P 05 23 21.7 +0.3
AKASG Malin Array Be 76.93 342 P P 05 23 21.7 +0.3
comp=Z,3.8nm,0.5s,baz=22,slow=5.8,SNR=5.9
CLL Collm 78.62 353 ⇓*i*P P 05 23 31.0 +0.2
CLL pmax pmax
comp=Z,5.0nm,0.5s
CLL Collm 78.62 353 ⇓*i*P P 05 23 31.0 +0.2
comp=Z,5.0nm,0.5s
DPC Dobruska-Polom 79.25 350 *e*P P 05 23 35.3 +0.9
DPC Dobruska-Polom 79.25 350 *e*P P 05 23 35.3 +0.9
STHS Stebnicka Huta 79.54 347 *e*P P 05 23 37.6 +1.7
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 79.54 347 *e*P P 05 23 37.6 +1.7
KIV Kislovodsk 79.75 331 *e*P P 05 23 38.3 +1.0
KIV pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 79.86 346 *e*P P 05 23 38.9 +1.3
KOLS pmax pmax
comp=Z,7.0nm,1.5s
KOLS Kolonicke sedl 79.86 346 *e*P P 05 23 38.9 +1.3
KBZ Khabaz 79.89 331 P P 05 23 38.3 +0.4
KBZ Khabaz 79.89 331 P P 05 23 38.3 +0.4
KBZ Khabaz 79.89 331 P P 05 23 38.3 +0.4
comp=Z,2.5nm,0.7s,baz=65,slow=3.1,SNR=5.3
KBZ LR LR 06 00 48.3
comp=Z,40nm,18.2s,baz=209,slow=37
CRVS Cervenica-Dubn 80.01 347 *e*P P 05 23 39.7 +1.2
CRVS pmax pmax
comp=Z,3.0nm,1.1s
CRVS Cervenica-Dubn 80.01 347 *e*P P 05 23 39.7 +1.2
GIVF Givet 80.27 358 *e*P P 05 23 40.5 +0.7
BAIF Baives 80.33 358 *e*P P 05 23 40.9 +0.8
KECS Kecovo 80.56 347 *e*P P 05 23 42.3 +0.9
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 80.56 347 *e*P P 05 23 42.3 +0.9
BUR08 Bucovina Ar. S 80.62 344 *e*P P 05 23 43.0 +1.1
KHC Kasperske Hory 80.73 352 *e*P P 05 23 43.3 +0.9
KHC Kasperske Hory 80.73 352 *e*P P 05 23 43.3 +0.9
GERES GERESS Array B 81.00 352 P P 05 23 44.4 +0.5
GERES GERESS Array B 81.00 352 P P 05 23 44.4 +0.5
comp=Z,1.3nm,0.5s,baz=32,slow=5.2,SNR=12
WRA Warramunga Arr 81.05 224 P P 05 23 43.2 -1.1
WRA Warramunga Arr 81.05 224 P P 05 23 43.2 -1.1
comp=Z,1.5nm,0.8s,baz=31,slow=5.8,SNR=16
PSZ Piszkesteto 81.20 347 ⇑*i*P P 05 23 47.4 +2.5
ZST Bratislava 81.29 349 *e*P P 05 23 46.9 +1.6
ZST Bratislava 81.29 349 *e*P P 05 23 46.9 +1.6
FLN La Foliniere 81.65 1 *e*P P 05 23 47.4 +0.2
PAGF Fort de Pagny 81.79 357 *e*P P 05 23 48.9 +0.9
LDF La Druitiere 81.82 1 *e*P P 05 23 48.3 +0.2
comp=Z,5.3nm,0.7s
DRGR 81.87 345 ⇑*i*P P 05 23 49.4 +0.9
CDF Champ du Feu 81.88 356 *e*P P 05 23 48.7 +0.2
ROSF Rostrenen 82.00 3 *e*P P 05 23 49.7 +0.6
GRR Gorron 82.02 1 *e*P P 05 23 49.6 +0.5
SGMF Saint Gilles 82.11 3 *e*P P 05 23 50.2 +0.6
SFTF Sexfontaines 82.17 358 *e*P P 05 23 50.5 +0.6
comp=Z,7.6nm,0.5s
HAU Haudompre 82.32 357 *e*P P 05 23 51.2 +0.4
MLR Muntele Rosu 82.56 343 ⇓*i*P P 05 23 54.3 +2.1
VOIR 82.78 343 ⇓*i*P P 05 23 54.5 +1.2
LOR Lormes 83.13 358 *e*P P 05 23 55.5 +0.5
comp=Z,3.6nm,0.6s
GZR Gura Zlata 83.22 345 ⇑*i*P P 05 23 56.6 +1.1
SSF Saint Saulge 83.34 359 *e*P P 05 23 56.6 +0.5
AVF Avril sur Loir 83.62 359 *e*P P 05 23 57.8 +0.3
comp=Z,6.4nm,0.8s
CABF La Chapelle 83.72 357 *e*P P 05 23 58.9 +0.7
comp=Z,8.7nm,0.9s
SMF Signal de Mont 83.75 358 *e*P P 05 23 58.6 +0.4
comp=Z,8.9nm,0.8s
MFF Saint Martin d 83.81 1 *e*P P 05 23 59.0 +0.5
comp=Z,8.9nm,0.8s
TCF Toulx Ste Croi 84.13 359 *e*P P 05 24 00.5 +0.3
ASAR Alice Springs 84.50 223 P P 05 24 01.9 -0.2

ASAR Alice Springs 84.50 223 P P 05 24 01.9 -0.2
comp=Z,1.2nm,0.7s,baz=23,slow=5.8,SNR=11
LPG La Plagne 84.81 356 *e*P P 05 24 04.4 +0.4
RJF Les Rejaudoux 85.12 360 *e*P P 05 24 05.3 +0.1
BNI Bardonecchia 85.26 356 *e*P P 05 24 07.5 +1.5
BNI pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 85.26 356 *e*P P 05 24 07.5 +1.5
comp=Z,9.1nm,0.9s
ORIF Oris-en-Rattie 85.42 357 *e*P P 05 24 07.7 +0.9
comp=Z,5.7nm,0.8s
LFF La Frestale 85.48 0 *e*P P 05 24 07.5 +0.6
CAF Calviac 85.50 359 *e*P P 05 24 07.7 +0.6
VIVF Saint-Julien-I 85.52 358 *e*P P 05 24 08.0 +0.8
comp=Z,5.1nm,0.7s
MBDF Montbardon 85.58 356 *e*P P 05 24 08.6 +1.0
comp=Z,6.6nm,0.6s
BRTR Keskin Array B 86.28 336 P P 05 24 11.5 +0.3
BRTR Keskin Array B 86.28 336 P P 05 24 11.5 +0.3
comp=Z,1.0nm,0.7s,baz=36,slow=2.7,SNR=5.7
ROSC El Rosal 95.45 76 LR LR 06 08 01.1
comp=Z,68nm,18.3s,baz=198,slow=36
TORD Torodi Ar. Bea 117.17 360 PKP PKPdf 05 30 13.4 -1.3
TORD Torodi Ar. Bea 117.17 360 PKP PKPdf 05 30 13.4 -1.3
comp=Z,0.4nm,0.9s,baz=309,slow=1.0,SNR=5.5
MAW Mawson 145.40 216 PKPbc PKPdf 05 31 05.2 -0.6
MAW Mawson 145.40 216 PKPbc PKPdf 05 31 05.2 -0.6
comp=Z,8.5nm,1.1s,baz=66,slow=3.1,SNR=11
BOSA Boshof 151.99 311 PKPbc PKPbc 05 31 24.4 -0.1
BOSA PKPab **PKPab 05 31 33.6 -0.2**
BOSA Boshof 151.99 311 PKPbc PKPbc 05 31 24.4 -0.1
comp=Z,2.8nm,0.8s,baz=260,slow=4.8,SNR=8.8
BOSA PKPab **PKPab 05 31 33.6 -0.2**
comp=Z,1.6nm,0.5s,baz=176,slow=19,SNR=4.4

GUC 12 05:21:04.4±0.3, 23°.82S×67°.36W, h240km, ML3.9, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.64**	**279**	⇑*i*P		Pn	05 21 57.5	+4.9
CEN1				*e*S		S	05 22 32.9	+2.5
CEN1				AML		AML	05 22 36.8	
comp=N,67nm,0.6s								
PB09	**Plate Boundary**	**2.66**	**319**	*e*P		Pn	05 21 54.9	+2.0
PB09				*e*S		S	05 22 33.1	+2.1
PB09				AML		AML	05 22 35.4	
comp=N,291nm,0.3s								
ANCH	**Antofagasta**	**2.79**	**272**	*e*P		Pn	05 21 55.9	+1.9
ANCH				*e*S		S	05 22 34.9	+1.8
ANCH				AML		AML	05 22 38.2	
comp=E,275nm,0.6s								
PB10	**Plate Boundary**	**2.94**	**275**	*e*P		Pn	05 21 57.6	+2.0
PB10				*e*S		S	05 22 38.4	+2.4
PB10				AML		AML	05 22 43.5	
comp=E,159nm,0.5s								
HMBC	**Humberstone**	**4.23**	**326**	*e*P		Pn	05 22 10.6	-0.2
HMBC				*e*S		S	05 23 03.3	-0.1
PSGC	**Pisagua**	**4.92**	**328**	*e*P		Pn	05 22 19.2	0.0
PSGC				*e*S		S	05 23 18.0	-0.5

*IDC **12** 05:25:10.3±0.8, 13°.62N×93°.74E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/29, mbtmp3.8/11, ML4.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/40, Error ellipse: s-maj=36.5km s-min=15.1km az=53.0*
*ISCJB **12** 05:25:13.3±0.6, 13°.69N±0°.07×93°.85E±0°.08, h33km, mb3.9/12, MS3.7/2, Error ellipse: s-maj=10.7km s-min=9.9km az=28.2*
*NEIC **12** 05:25:15.6±0.5, 13°.70N×93°.84E, h35km, mb4.1/2, Error ellipse: s-maj=14.3km s-min=9.9km az=55.0*
ISC 12 05:25:15.4±0.7, 13°.6N±0°.1×93°.80E±0°.10, h35km, n29, σ1§05/31, mb3.9/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.88**	**45**	Pn		**Pn**	**05 26 54.3**	**+0.4**
CMAR				Sn		**Sn**	**05 28 11.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**6.88**	**45**	Pn		**Pn**	**05 26 54.3**	**+0.4**
1.1nm,0.3s,baz=238,slow=15,SNR=6.9								
CMAR				Sn		**Sn**	**05 28 11.4**	**+0.4**
0.3nm,0.3s,baz=241,slow=28,SNR=5.7								
CHTO	**Chiang Mai**	**7.13**	**43**	Pn		**Pn**	**05 26 55.8**	**-1.5**
MK31	**Makanchi Array**	**34.43**	**346**	*e*P		**P**	**05 31 58.5**	**-1.0**
MKAR	**Makanchi Array**	**34.43**	**346**	P		**P**	**05 31 59.0**	**-0.6**
MKAR	**Makanchi Array**	**34.43**	**346**	P		**P**	**05 31 59.0**	**-0.6**
1.3nm,0.7s,baz=173,slow=7.7,SNR=9.3								
KSRS	**Korea Array**	**38.52**	**46**	LR		LR	05 51 43.0	
comp=Z,24nm,19.1s,baz=190,slow=41								
KURBB	**Kurchatov Arra**	**38.92**	**345**	P		**P**	**05 32 37.0**	**-0.7**
1.6nm,0.7s,baz=167,slow=7.8,SNR=9.7								
KURK	**Kurchatov**	**38.98**	**345**	P		**P**	**05 32 37.0**	**-1.2**
ZALV	**Zalesovo Beam**	**40.83**	**352**	P		**P**	**05 32 54.7**	**+1.2**
ZALV	**Zalesovo Beam**	**40.83**	**352**	P		**P**	**05 32 54.7**	**+1.2**
0.4nm,0.3s,baz=180,slow=8.6,SNR=4.1								
FITZ	**Fitzroy Crossi**	**44.51**	**134**	P		**P**	**05 33 24.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**44.51**	**134**	P		**P**	**05 33 24.3**	**+0.5**
1.4nm,0.4s,baz=321,slow=9.0,SNR=12								
ABKAR	**Akbulak array**	**45.09**	**329**	*e*P		**P**	**05 33 27.9**	**-0.2**
0.8nm,0.7s								
WRA	**Warramunga Arr**	**52.01**	**129**	P		**P**	**05 34 21.8**	**+0.1**
WRA				PcP		**PcP**	**05 35 32.1**	**-1.7**
WRA	**Warramunga Arr**	**52.01**	**129**	P		**P**	**05 34 21.8**	**+0.1**
1.6nm,1.0s,baz=294,slow=9.5,SNR=9.8								
WRA				PcP		**PcP**	**05 35 32.1**	**-1.7**
0.3nm,0.4s,baz=322,slow=3.0,SNR=6.9								
WRAB	**Tennant Creek**	**52.01**	**129**	*e*P		**P**	**05 34 21.3**	**-0.4**
10.0nm,1.6s								
ASAR	**Alice Springs**	**53.97**	**133**	P		**P**	**05 34 36.7**	**+0.5**
ASAR	**Alice Springs**	**53.97**	**133**	P		**P**	**05 34 36.7**	**+0.5**
1.0nm,0.4s,baz=308,slow=6.7,SNR=16								
BRTR	**Keskin Array B**	**58.52**	**308**	P		**P**	**05 35 07.2**	**-1.4**
BRTR	**Keskin Array B**	**58.52**	**308**	P		**P**	**05 35 07.2**	**-1.4**
0.2nm,0.3s,baz=93,slow=7.2,SNR=2.3								
CTAO	**Charters Tower**	**61.52**	**122**	P		**P**	**05 35 29.2**	**-0.1**
FINES	**FINESS Array B**	**67.50**	**331**	P		**P**	**05 36 08.1**	**+0.4**
FINES	**FINESS Array B**	**67.50**	**331**	P		**P**	**05 36 08.1**	**+0.4**
0.7nm,0.6s,baz=145,slow=3.4,SNR=3.5								
NOA	**NORSAR Array B**	**74.58**	**330**	P		**P**	**05 36 51.6**	**+0.9**
NOA	**NORSAR Array B**	**74.58**	**330**	P		**P**	**05 36 51.6**	**+0.9**
0.6nm,0.7s,baz=89,slow=5.8,SNR=2.4								
TORD	**Torodi Ar. Bea**	**88.96**	**283**	P		**P**	**05 38 09.2**	**+2.1**
TORD	**Torodi Ar. Bea**	**88.96**	**283**	P		**P**	**05 38 09.2**	**+2.1**
0.2nm,0.7s,baz=51,slow=4.7,SNR=3.0								
VNDA	**Vanda**	**98.61**	**168**	LR		LR	06 18 06.7	
comp=Z,111nm,19.4s,baz=184,slow=32								

*IDC **12** 05:36:44.4±2.3, 31°.87N×138°.40E, h330km±21km, mb3.2/10, mb1 3.4/13, mb1mx3.3/27, mbtmp3.2/13, Error ellipse: s-maj=19.2km s-min=18.0km az=15.0*
*ISCJB **12** 05:36:45.1±1.0, 32°.19N±0°.10×138°.6E±0°.1, h337km±6km, mb3.4/10, Error ellipse: s-maj=16.7km s-min=13.4km az=142.5*
*JMA **12** 05:36:46.1±0.4, 32°.27N×138°.59E, h335km, M3.5*
ISC 12 05:36:45.3±1.2, 32°.2N±0°.1×138°.63E±0°.09, h332km±9km, n23, σ1§63/29, mb3.5/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.39**	**46**	P		**Pn**	**05 37 32.6**	**+1.7**
JIE	**Ise**	**2.75**	**325**	P		**Pn**	**05 37 41.4**	**+0.4**
JKN2	**Miekihoku**	**2.87**	**317**	P		**Pn**	**05 37 42.3**	**+0.3**
BSO1	**Boso 1**	**3.18**	**38**	P		**Pn**	**05 37 44.2**	**0.0**
JHU	**Hanno**	**3.73**	**8**	P		**Pn**	**05 37 50.3**	**-0.1**
JHU				S		**S**	**05 38 40.8**	**-1.9**
JRY	**Ryogami san**	**3.86**	**3**	P		**Pn**	**05 37 52.7**	**+1.0**
JRY				*e*S		**S**	**05 38 46.4**	**+1.2**
JAG	**Ashikaga**	**4.32**	**9**	P		**Pn**	**05 37 56.2**	**-0.3**
JAG				S		**S**	**05 38 51.2**	**-2.7**
MJAR	**Matsushiro Arr**	**4.39**	**356**	P		**Pn**	**05 37 57.7**	**+0.3**
0.8nm,0.3s,baz=162,slow=12,SNR=6.1								
MJAR				S		**S**	**05 38 57.0**	**+1.6**
0.8nm,0.3s,baz=173,slow=20,SNR=5.2								
JHO	**Hitachi**	**4.73**	**19**	P		**Pn**	**05 38 00.0**	**-1.0**
JHO				S		**S**	**05 38 58.7**	**-3.3**
JMK	**Ichinoseki**	**7.11**	**17**	P		**Pn**	**05 38 29.5**	**+1.1**
JMK				S		**S**	**05 39 49.3**	**-2.8**
KSRS	**Korea Array**	**10.27**	**304**	P		**P**	**05 39 07.5**	**-0.8**
0.7nm,0.3s,baz=120,slow=12,SNR=13								
USRK	**Ussuriysk Arra**	**13.11**	**339**	P		**Pn**	**05 39 41.6**	**+1.4**
2.5nm,0.3s,baz=162,slow=11,SNR=46								

SONM Songino Array 28.98 312 P **P 05 42 15.4 +0.2**
1.2nm,0.4s,baz=127,slow=9.0,SNR=7.5
ZALV Zalesovo Beam 43.68 316 P **P 05 44 16.5 -1.6**
1.5nm,0.4s,baz=83,slow=8.7,SNR=6.5
MKAR Makanchi Array 44.94 306 P **P 05 44 27.6 -0.6**
1.5nm,0.5s,baz=88,slow=9.8,SNR=10
KDAK Kodiak Island 52.30 39 P **P 05 45 25.1 +1.7**
2.0nm,0.4s,baz=315,slow=8.6,SNR=6.5
ILAR Eielson Array 54.85 30 P **P 05 45 43.6 +1.9**
0.1nm,0.6s,baz=276,slow=8.1,SNR=3.1
ASAR Alice Springs 55.69 185 P **P 05 45 45.3 -2.9**
0.7nm,0.4s,baz=22,slow=12,SNR=7.0
ARCES ARCESS Array B 67.75 340 P **P 05 47 08.2 +0.7**
1.6nm,0.7s,baz=54,slow=9.2,SNR=4.1
FINES FINESS Array B 72.05 332 P **P 05 47 33.2 -0.3**
0.9nm,0.4s,baz=67,slow=6.4,SNR=8.2
PDAR Pinedale Array 82.75 44 P **P 05 48 34.6 +1.6**
0.4nm,0.8s,baz=270,slow=0.3,SNR=3.3
TXAR Lajitas Array 94.95 51 P **P 05 49 32.1 +1.2**
0.2nm,0.6s,baz=323,slow=3.0,SNR=5.7
LPAZ La Paz 151.05 63 PKPbc **PKPbc 05 55 59.6 -1.0**
0.4nm,0.7s,baz=270,slow=1.0,SNR=3.5

*IDC **12** 05:39:18.0±5.5, 7°.52S×128°.68E, h135km±54km, mb3.4/3, mb1 3.5/7, mb1mx3.3/20, mbtmp3.4/7, Error ellipse: s-maj=67.3km s-min=27.2km az=58.0*
*ISCJB **12** 05:39:20.2±0.8, 7°.75S±0°.06×128°.55E±0°.05, h151km, mb3.6/3, Error ellipse: s-maj=8.1km s-min=6.5km az=20.0*
*AUST **12** 05:39:20.2, 7°.98S×128°.54E, h5km*
ISC 12 05:39:20.4±0.8, 7°.74S±0°.07×128°.53E±0°.06, h151km, n15, σ1°90/21, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.66**	**244**	P	**Pn**	**05 40 31.0**	**+1.5**
	baz=4.6,SNR=4.5						
SOEI				S	**Sn**	**05 41 26.1**	**+2.8**
	baz=4.6,SNR=4.6						
BATI	**Baumata**	**5.39**	**243**	P	**Pn**	**05 40 40.7**	**+1.7**
	8.3nm,0.3s,baz=91,slow=7.3,SNR=4.2						
BATI				S	**Sn**	**05 41 40.8**	**+0.3**
	12nm,0.3s,baz=348,slow=19,SNR=7.6						
MTN	**Manton Dam**	**5.68**	**153**	P	**Pn**	**05 40 45.1**	**+2.2**
	baz=5.5,SNR=25						
MTN				S	**Sn**	**05 41 49.0**	**+1.6**
	baz=5.5,SNR=9.5						
FAKI	**Fak Fak**	**6.06**	**38**	P	**Pn**	**05 40 49.1**	**+1.2**
	baz=6.3,SNR=3.7						
KDU	**Kakadu**	**6.26**	**142**	P	**Pn**	**05 40 52.3**	**+1.7**
	baz=6.1,SNR=194						
KDU				S	**Sn**	**05 42 00.6**	**-0.7**
	baz=6.1,SNR=6.9						
KNRA	**Kununurra**	**7.89**	**178**	P	**Pn**	**05 41 14.3**	**+2.0**
	baz=7.7,SNR=15						
KNRA				S	**Sn**	**05 42 39.1**	**-1.2**
	baz=7.7,SNR=18						
WSI	**Waingapu**	**8.36**	**256**	P	Pn	05 41 10.2	-8.4
	baz=8.3,SNR=4.3						
FITZ	**Fitzroy Crossi**	**10.67**	**195**	P	**Pn**	**05 41 48.9**	**-0.4**
	0.4nm,0.3s,baz=23,slow=9.7,SNR=29						
FITZ				S	**Sn**	**05 43 43.1**	**-4.3**
	0.6nm,0.3s,baz=66,slow=19,SNR=6.3						
FITZ	**Fitzroy Crossi**	**10.67**	**195**	P	**Pn**	**05 41 49.0**	**-0.3**
	baz=10,SNR=14						
FITZ				S	**Sn**	**05 43 47.2**	**-0.2**
	baz=10,SNR=3.8						
WRA	**Warramunga Arr**	**13.37**	**156**	P	**Pn**	**05 42 23.9**	**-0.5**
	0.6nm,0.3s,baz=346,slow=12,SNR=28						
WRA				S	Sn	05 44 44.0	-8.4
	0.7nm,0.3s,baz=336,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**16.65**	**163**	P	**Pn**	**05 43 07.4**	**+2.3**
	0.5nm,0.3s,baz=346,slow=12,SNR=28						
ASAR				S	S	05 46 01.1	-9.1
	0.2nm,0.3s,baz=340,slow=19,SNR=7.4						
SONM	**Songino Array**	**58.70**	**343**	P	**P**	**05 48 59.8**	**-2.3**
	0.8nm,0.7s,baz=155,slow=6.3,SNR=4.4						
MKAR	**Makanchi Array**	**68.06**	**328**	P	**P**	**05 50 01.8**	**-1.9**
	0.3nm,0.4s,baz=119,slow=8.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.61**	**335**	P	**P**	**05 50 24.5**	**-0.6**
	0.5nm,0.3s,baz=134,slow=6.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**127.51**	**281**	PKP	**PKPdf**	**05 58 07.9**	**-0.6**
	0.1nm,0.5s,baz=36,slow=3.0,SNR=3.6						

IDC 12 05:51:16.4±11.0, 38°.33S×137°.15E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=152.2km s-min=47.4km az=159.0, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**7.39**	**31**	Pn	Pn	05 53 06.2	+0.6
	1.6nm,0.3s,baz=206,slow=11,SNR=15						
STKA				Sn	Sn	05 54 29.0	-1.2
	1.6nm,0.3s,baz=78,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**14.88**	**348**	Pn	Pn	05 54 47.6	-0.4
	0.2nm,0.3s,baz=170,slow=9.8,SNR=5.4						
ASAR				Sn	Sn	05 57 28.4	-5.3
	0.1nm,0.3s,baz=165,slow=23,SNR=3.7						
WRA	**Warramunga Arr**	**18.48**	**352**	P	P	05 55 33.7	-0.3
	0.2nm,0.3s,baz=170,slow=10.0,SNR=8.7						
FITZ	**Fitzroy Crossi**	**22.52**	**330**	P	P	05 56 17.9	+0.2
	0.5nm,0.3s,baz=171,slow=8.8,SNR=7.7						

WEL 12 05:53:08.8±0.4, 37°.86S×175°.80E, h275km±4km, ML3.7/12, 2D, Error ellipse: s-maj=7.6km s-min=6.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.11**	**112**	PN	Pn	05 53 46.9	-0.1
URZ				SN	S	05 54 16.9	-0.3
BKZ	**Black Stump Fm**	**1.41**	**158**	↓PN	Pn	05 53 48.9	0.0
BKZ				SN	S	05 54 19.9	-0.8
BKZ				AML	AML	05 54 22.7	
MWZ	**Matawai**	**1.44**	**110**	PN	Pn	05 53 49.3	+0.2
MWZ				SN	S	05 54 20.3	-0.7
TRVZ	**Turoa**	**1.45**	**188**	PN	Pn	05 53 49.5	+0.2
NMHZ	**Naumai**	**1.47**	**148**	PN	Pn	05 53 50.0	+0.7
WNVZ	**Wahianoa**	**1.47**	**186**	PN	Pn	05 53 49.6	+0.1
MOVZ	**Moawhango**	**1.54**	**181**	PN	Pn	05 53 49.4	-0.4
BHHZ	**Black Hill Sta**	**1.64**	**173**	PN	Pn	05 53 50.2	-0.3
MCHZ	**McNeill Hill**	**1.73**	**156**	PN	Pn	05 53 51.3	+0.3
KNZ	**Kokohu**	**1.87**	**129**	PN	Pn	05 53 51.8	-0.3
CNGZ	**Carnagh Statio**	**2.00**	**109**	PN	Pn	05 53 53.6	+0.4
WAZ	**Wanganui**	**2.00**	**198**	PN	Pn	05 53 52.9	-0.3
WAZ				SN	S	05 54 27.8	-0.8
CKHZ	**Cape Kidnapper**	**2.05**	**151**	PN	Pn	05 53 53.5	-0.2
PNHZ	**Pukenui**	**2.07**	**172**	PN	Pn	05 53 53.1	-0.8
PNHZ				SN	S	05 54 27.9	-1.9
KAHZ	**Kahuranaki**	**2.11**	**157**	↓PN	Pn	05 53 54.0	-0.2
KAHZ				SN	S	05 54 29.8	-0.5
TSZ	**Takapari Road**	**2.20**	**177**	PN	Pn	05 53 54.0	-1.1
PXZ	**Pawanui**	**2.32**	**159**	PN	Pn	05 53 55.4	-0.7
DVHZ	**Dannevirke**	**2.45**	**173**	PN	Pn	05 53 55.8	-1.5
MRZ	**Mangatainoka R**	**2.80**	**183**	PN	Pn	05 53 59.3	-1.4
MRZ				AML	AML	05 54 40.9	
MRZ				AML	AML	05 54 41.1	
BFZ	**Birch Farm**	**2.84**	**173**	PN	Pn	05 53 59.7	-1.4
HOWZ	**Holdsworth Sta**	**3.04**	**184**	PN	Pn	05 54 00.7	-2.5
KIW	**Kapiti Island**	**3.08**	**193**	PN	Pn	05 54 01.1	-2.5
DUWZ	**D'Urville Isla**	**3.28**	**206**	PN	Pn	05 54 03.5	-2.3
CAW	**Cannon Point**	**3.29**	**190**	PN	Pn	05 54 03.1	-2.7
CAW				AML	AML	05 54 50.8	
MTW	**Mount Morrison**	**3.30**	**184**	PN	Pn	05 54 03.5	-2.5
TCW	**Tory Channel**	**3.55**	**199**	PN	Pn	05 54 05.9	-2.7
TCW				AML	AML	05 54 53.1	
TCW				AML	AML	05 54 53.2	
PLWZ	**Palliser**	**3.73**	**186**	PN	Pn	05 54 07.9	-2.7
NNZ	**Nelson**	**3.84**	**208**	PN	Pn	05 54 08.6	-3.2
TUWZ	**Tuamarina**	**3.84**	**201**	PN	Pn	05 54 09.1	-2.7
THZ	**Tophouse**	**4.49**	**209**	PN	Pn	05 54 15.8	-3.5
KHZ	**Kahutara**	**4.87**	**200**	PN	Pn	05 54 20.2	-3.5
LTZ	**Lake Taylor**	**5.61**	**208**	PN	Pn	05 54 28.2	-4.4
MQZ	**McQueen's Vall**	**6.31**	**201**	PN	Pn	05 54 35.7	-5.4

IDC 12 06:10:52.0±4.6, 7°.69S×119°.50E, h0km, mb3.9/2, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, ML3.3/3, Error ellipse: s-maj=121.0km s-min=14.9km az=82.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.67**	**5**	Pn	Pn	06 11 36.7	+0.4
	2.0nm,0.3s,baz=191,slow=8.8,SNR=13						
KAPI				Sn	Sn	06 12 09.5	+0.1
	4.0nm,0.3s,baz=201,slow=23,SNR=6.8						
KAPI				Lg	Lg	06 12 16.7	
	11nm,0.3s,baz=241,slow=22,SNR=7.3						
FITZ	**Fitzroy Crossi**	**11.95**	**151**	Pn	Pn	06 13 44.5	+0.7
	0.0nm,0.3s,baz=331,slow=13,SNR=3.1						
FITZ				Sn	Sn	06 15 50.5	-7.4
	0.1nm,0.3s,baz=25,slow=17,SNR=5.2						
WRA	**Warramunga Arr**	**18.85**	**132**	P	P	06 15 13.7	0.0
	0.3nm,0.3s,baz=307,slow=13,SNR=17						
ASAR	**Alice Springs**	**21.05**	**141**	P	P	06 15 37.8	0.0
	2.5nm,0.5s,baz=317,slow=9.5,SNR=33						
STKA	**Stephens Creek**	**31.66**	**142**	P	P	06 17 16.8	-0.4
	1.0nm,0.5s,baz=319,slow=9.3,SNR=4.8						

IDC 12 06:29:43.4±1.8, 13°.53N×93°.63E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=61.7km s-min=26.0km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.08**	**45**	Pn	Pn	06 31 27.8	-0.6
	0.5nm,0.3s,baz=236,slow=16,SNR=2.7						
CMAR				Sn	Sn	06 32 43.0	-6.6
	0.8nm,0.3s,baz=240,slow=31,SNR=3.3						
MKAR	**Makanchi Array**	**34.51**	**346**	P	P	06 36 33.7	+0.5
	0.2nm,0.5s,baz=160,slow=9.9,SNR=2.9						
WRA	**Warramunga Arr**	**52.06**	**129**	P	P	06 38 55.6	+0.2
	0.2nm,0.5s,baz=315,slow=7.5,SNR=12						
WRA				PcP	PcP	06 40 05.7	-2.0
	0.3nm,0.9s,baz=324,slow=3.1,SNR=5.8						
ASAR	**Alice Springs**	**54.01**	**133**	P	P	06 39 10.2	+0.4
	0.4nm,0.5s,baz=307,slow=7.0,SNR=9.1						

*TRN **12** 06:39:46.4, 18°.87N×64°.13W, h57km*
*NEIC **12** 06:39:48.5, 18°.92N×64°.11W, h56km, MD3.5(RSPR), After RSPR.*
RSPR 12 06:39:48.5, 18°.92N×64°.11W, h56km, MD3.5/8, 33C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.28**	**227**	↓eP	Pn	06 39 57.4	-0.6
ABV	**Anegada**	**0.28**	**227**	eS	Sn	06 40 04.5	-0.4
ABV	**Anegada**	**0.28**	**227**	↓eP	Pn	06 39 57.4	-0.6
ABV				eS	Sn	06 40 04.5	-0.4
ABVI	**Anegada Island**	**0.28**	**227**	↓eP	Pn	06 39 57.4	-0.6
ABVI				eS	Sn	06 40 04.5	-0.4
TBVI	**Tortola**	**0.69**	**224**	↑eP	Pn	06 40 01.7	-0.7
TBVI				eS	Sn	06 40 11.9	-0.6
TBVI	**Tortola**	**0.69**	**224**	↑eP	Pn	06 40 01.7	-0.7
TBVI				eS	Sn	06 40 11.9	-0.6
TBVI	**Tortola**	**0.69**	**224**	↑eP	Pn	06 40 01.7	-0.7
TBVI				eS	Sn	06 40 11.9	-0.6
MTP	**Monte Pirata**	**1.59**	**239**	↑eP	Pn	06 40 13.6	-0.7
MTP	**Monte Pirata**	**1.59**	**239**	eS	Sn	06 40 33.0	-0.8
MTP	**Monte Pirata**	**1.59**	**239**	↑eP	Pn	06 40 13.6	-0.7
MTP				eS	Sn	06 40 33.0	-0.8
MTP	**Monte Pirata**	**1.59**	**239**	↑eP	Pn	06 40 13.6	-0.7
MTP				eS	Sn	06 40 33.1	-0.8
CBYP	**Canovanas**	**1.77**	**249**	↑eP	Pn	06 40 15.6	-1.3
CBYP	**Canovanas**	**1.77**	**249**	eS	Sn	06 40 37.4	-1.0
CBYP	**Canovanas**	**1.77**	**249**	↑eP	Pn	06 40 15.6	-1.3
CBYP				eS	Sn	06 40 37.4	-1.0
CBYP	**Canovanas**	**1.77**	**249**	↑eP	Pn	06 40 15.6	-1.3
CBYP				eS	Sn	06 40 37.4	-1.0
HUMP	**Col San Antoni**	**1.82**	**245**	↑eP	Pn	06 40 16.4	-1.1
HUMP	**Col San Antoni**	**1.82**	**245**	eS	Sn	06 40 38.5	-0.9
HUMP	**Col San Antoni**	**1.82**	**245**	↑eP	Pn	06 40 16.4	-1.1
HUMP				eS	Sn	06 40 38.5	-0.9
HUMP	**Col San Antoni**	**1.82**	**245**	↑eP	Pn	06 40 16.4	-1.1
HUMP				eS	Sn	06 40 38.5	-0.9
CPD	**Cerro la Pandu**	**1.92**	**243**	↑eP	Pn	06 40 18.1	-0.8
CPD	**Cerro la Pandu**	**1.92**	**243**	eS	Sn	06 40 40.9	-1.1
CPD	**Cerro la Pandu**	**1.92**	**243**	↑eP	Pn	06 40 18.1	-0.8
CPD				eS	Sn	06 40 40.9	-1.1
CPD	**Cerro la Pandu**	**1.92**	**243**	↑eP	Pn	06 40 18.7	-0.2
CPD				eS	Sn	06 40 40.9	-1.1
SJG	**San Juan**	**2.09**	**248**	↑eP	Pn	06 40 20.2	-1.0
SJG				eS	Sn	06 40 45.2	-0.9
SJG	**San Juan**	**2.09**	**248**	↑eP	Pn	06 40 20.2	-1.0
SJG				eS	Sn	06 40 45.2	-0.9
SJG	**San Juan**	**2.09**	**248**	↑eP	Pn	06 40 20.2	-1.0
SJG				eS	Sn	06 40 45.2	-0.9
CELP	**Cerrillos**	**2.49**	**251**	↓eP	Pn	06 40 25.6	-1.0
CELP	**Cerrillos**	**2.49**	**251**	↓eP	Pn	06 40 25.6	-1.0
CELP	**Cerrillos**	**2.49**	**251**	↓eP	Pn	06 40 25.6	-1.0
OBIP	**Obispado Ponce**	**2.52**	**250**	↑eP	Pn	06 40 25.9	-1.1
OBIP	**Obispado Ponce**	**2.52**	**250**	↑eP	Pn	06 40 25.9	-1.1
OBIP	**Obispado Ponce**	**2.52**	**250**	↑eP	Pn	06 40 25.9	-1.1
AOPR	**Arecibo Observ**	**2.57**	**258**	↑eP	Pn	06 40 26.3	-1.4
AOPR	**Arecibo Observ**	**2.57**	**258**	eS	Sn	06 40 56.4	-1.4
AOPR	**Arecibo Observ**	**2.57**	**258**	↑eP	Pn	06 40 26.3	-1.4
AOPR				eS	Sn	06 40 56.4	-1.4
AOPR	**Arecibo Observ**	**2.57**	**258**	↑eP	Pn	06 40 26.3	-1.4
AOPR				eS	Sn	06 40 56.4	-1.4
LRS	**Lares**	**2.66**	**257**	↑eP	Pn	06 40 28.5	-0.5
LRS				eS	Sn	06 40 59.5	-0.7
LRS	**Lares**	**2.66**	**257**	↑eP	Pn	06 40 28.5	-0.5
LRS				eS	Sn	06 40 59.5	-0.7
LRS	**Lares**	**2.66**	**257**	↑eP	Pn	06 40 28.5	-0.5
LRS				eS	Sn	06 40 59.5	-0.7
LSP	**Las Mesas**	**2.92**	**256**	↑eP	Pn	06 40 31.6	-0.8
LSP	**Las Mesas**	**2.92**	**256**	eS	Sn	06 41 05.3	-1.0
LSP	**Las Mesas**	**2.92**	**256**	↑eP	Pn	06 40 31.6	-0.8
LSP				eS	Sn	06 41 05.3	-1.0
LSP	**Las Mesas**	**2.92**	**256**	↑eP	Pn	06 40 31.6	-0.8
LSP				eS	Sn	06 41 05.3	-1.0
CRPR	**Cabo Rojo, PR**	**2.98**	**253**	↑eP	Pn	06 40 32.9	-0.5
CRPR	**Cabo Rojo, PR**	**2.98**	**253**	eS	Sn	06 41 07.3	-0.6
CRPR	**Cabo Rojo, PR**	**2.98**	**253**	↑eP	Pn	06 40 32.9	-0.5
CRPR				eS	Sn	06 41 07.3	-0.6
CRPR	**Cabo Rojo, PR**	**2.98**	**253**	↑eP	Pn	06 40 32.9	-0.5
CRPR				eS	Sn	06 41 07.3	-0.6

*IDC **12** 07:02:41.6±3.2, 17°.21N×101°.11W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/22, mbtmp3.5/5, ML2.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=58.9km s-min=40.1km az=31.0*
*ISCJB **12** 07:02:44.1±1.2, 17°.27N±0°.07×101°.42W±0°.04, h27km±7km, mb3.4/3, Error ellipse: s-maj=12.7km s-min=6.1km az=14.4*
*MEX **12** 07:02:44.3±0.7, 17°.21N×101°.45W, h5km±9km, MD3.8*
ISC 12 07:02:42.5±1.5, 17°.16N±0°.08×101°.40W±0°.05, h13km±9km, n12, σ1°57/19, mb3.4/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.45**	**352**	*i* P	**Pg**	**07 02 51.5**	**0.0**
ZIIG				*i* S	**Sg**	**07 02 57.4**	**-0.1**
CAIG	**El Cayaco**	**1.08**	**96**	*e*P	**Pb**	**07 03 02.8**	**-0.3**
CAIG				*i* S	**Sg**	**07 03 17.7**	**0.0**
ARIG	**Puente Sto Nin**	**1.50**	**42**	*e*P	**Pn**	**07 03 08.2**	**-0.9**
ARIG				*e*S	**Sn**	**07 03 26.5**	**-2.0**
ACX	**Acapulco**	**1.50**	**101**	*i* P	**Pg**	**07 03 11.3**	**0.0**
ACX				*i* S	**Sg**	**07 03 31.0**	**+0.2**
MEIG	**Mezcala**	**1.86**	**66**	*e*P	**Pn**	**07 03 14.8**	**+0.7**
MEIG				*e*S	**Sn**	**07 03 36.9**	**-0.6**
MMIG	**Aquila**	**2.17**	**301**	*e*P	**Pn**	**07 03 17.0**	**-1.3**
MMIG				*i* S	**Sn**	**07 03 42.8**	**-2.3**
PLIG	**Platanillo**	**2.18**	**56**	*e*P	**Pn**	**07 03 18.7**	**+0.1**
PLIG				*e*S	**Sn**	**07 03 44.1**	**-1.4**
TXAR	**Lajitas Array**	**12.30**	**351**	Pn	**Pn**	**07 05 39.4**	**+2.0**
	0.0nm,0.3s,baz=157,slow=16,SNR=3.6						
TXAR				Lg	Lg	07 09 10.9	
	0.0nm,0.3s,baz=169,slow=33,SNR=5.2						
TXAR				LR	LR	07 10 53.6	
	comp=Z,114nm,18.4s,baz=190,slow=40						
TEIG	**Tepich**	**12.80**	**74**	Pn	**Pn**	**07 05 41.7**	**-2.6**
	0.1nm,0.3s,baz=273,slow=16,SNR=2.0						
TEIG				Sn	Sn	07 07 57.4	-9.3
	0.1nm,0.3s,baz=36,slow=19,SNR=2.9						
NVAR	**Mina Array Bea**	**25.85**	**328**	P	**P**	**07 08 16.9**	**+2.9**
	2.2nm,0.8s,baz=146,slow=9.1,SNR=16						

PDAR Pinedale Array 26.46 346 P **P 07 08 21.1 +1.7**
0.9nm,1.0s,baz=151,slow=11,SNR=5.5
ILAR Eielson Array 56.48 338 P **P 07 12 24.7 +0.8**
0.2nm,0.8s,baz=156,slow=6.9,SNR=3.9

*IDC **12** 07:18:18.1±0.9, 27°.72N×53°.21E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.8/30, mbtmp3.9/14, Error ellipse: s-maj=22.5km s-min=17.8km az=165.0*
*TEH **12** 07:18:18.9, 27°.47N×53°.19E, h10km, ML3.6*
*ISCJB **12** 07:18:19.2±0.7, 27°.64N±0°.06×53°.07E±0°.09, h20km, mb3.9/13, Error ellipse: s-maj=11.1km s-min=8.3km az=164.6*
*CSEM **12** 07:18:21.4±0.7, 27°.78N×53°.08E, h5km, ML3.4, Error ellipse: s-maj=18.1km s-min=8.1km az=47.0*
ISC 12 07:18:20.1±0.9, 27°.56N±0°.07×53°.05E±0°.07, h20km, n36, σ1°33/37, mb3.9/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.72**	**355**	*e*Pg	**Pb**	**07 18 31.3**	**-2.9**
ISRV	**Sarvestan**	**1.81**	**2**	*e*Pn	**Pn**	**07 18 51.2**	**+0.6**
ISRV				*e*Sg	**Sb**	**07 19 18.9**	**+3.6**
ISRV				*e*		07 19 29.4	
	comp=Z,17μm,0.6s						
ISRV	**Sarvestan**	**1.81**	**2**	*e*Pn	**Pn**	**07 18 51.2**	**+0.6**
ISRV				*e*Sg	**Sb**	**07 19 18.9**	**+3.6**
IPAR	**Pars**	**2.27**	**360**	*e*Pn	**Pn**	**07 18 58.0**	**+1.1**
IPAR				*e*		07 19 42.5	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**2.27**	**360**	*e*Pn	**Pn**	**07 18 58.0**	**+1.1**
BNDS	**Bandar-Abbas**	**2.77**	**93**	*e*Pn	**Pb**	**07 19 07.4**	**-1.8**
BNDS				*e*Sg	**Sb**	**07 19 45.8**	**+2.5**
IMEH	**Mehriz**	**4.05**	**19**	*e*Pn	**Pn**	**07 19 21.5**	**+0.3**
IMEH				*e*Sg	Sb	07 20 26.2	+6.6
IMEH				*e*		07 20 40.3	
	comp=Z,599nm,0.4s						
IMEH	**Mehriz**	**4.05**	**19**	*e*Pn	**Pn**	**07 19 21.5**	**+0.3**
IMEH				*e*Sg	Sb	07 20 26.2	+6.6
KRBR	**Kerman**	**4.05**	**53**	*e*Pn	**Pn**	**07 19 21.6**	**+0.3**
ISAD	**Sadrabad**	**4.37**	**7**	*e*Pn	**Pn**	**07 19 26.2**	**+0.5**
ISAD				*e*		07 20 48.2	
	comp=Z,557nm,0.3s						
ISAD	**Sadrabad**	**4.37**	**7**	*e*Pn	**Pn**	**07 19 26.2**	**+0.5**
IBAF	**Bafgh**	**4.57**	**28**	*e*	Pn	07 19 33.3	+4.9
	comp=Z,621nm,0.2s						
ICHK	**Chekchek**	**4.81**	**14**	*e*Pn	**Pn**	**07 19 32.1**	**+0.4**
ICHK				*e*		07 19 49.8	
	comp=Z,1μm,0.5s						
ICHK	**Chekchek**	**4.81**	**14**	*e*Pn	**Pn**	**07 19 32.1**	**+0.4**
NASN	**Na'in**	**5.22**	**358**	*e*Pn	**Pn**	**07 19 37.5**	**0.0**
IZEF	**Zefreh**	**5.35**	**353**	*e*Pn	**Pn**	**07 19 39.7**	**+0.5**
IZEF				*e*		07 20 07.1	
	comp=Z,123nm,0.2s						
IZEF	**Zefreh**	**5.35**	**353**	*e*Pn	**Pn**	**07 19 39.7**	**+0.5**
IKLH	**Kolahrood**	**5.88**	**348**	*e*Sn	**Sn**	**07 20 52.4**	**-0.9**
IKLH	**Kolahrood**	**5.88**	**348**	*e*Sn	**Sn**	**07 20 52.4**	**-0.9**
ISFB	**Sefidab**	**6.80**	**354**	*e*Pn	**Pn**	**07 19 58.0**	**-0.9**
ISFB				*e*		07 20 01.4	
	comp=Z,82nm,0.2s						
ISFB	**Sefidab**	**6.80**	**354**	*e*Pn	**Pn**	**07 19 58.0**	**-0.9**
TABS	**Tabas**	**7.01**	**29**	*e*Pn	**Pn**	**07 20 01.5**	**-0.2**
BRTR	**Keskin Array B**	**20.16**	**312**	P	**P**	**07 22 53.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=134,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**23.15**	**8**	P	**P**	**07 23 24.5**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=175,slow=12,SNR=6.1						
BVAR	**Borovoye Array**	**28.51**	**22**	P	**P**	**07 24 13.5**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=199,slow=8.8,SNR=8.0						
MKAR	**Makanchi Array**	**29.93**	**42**	P	**P**	**07 24 26.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=230,slow=7.4,SNR=9.5						
KURBB	**Kurchatov Arra**	**30.08**	**33**	P	**P**	**07 24 27.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=232,slow=8.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**35.17**	**33**	P	**P**	**07 25 11.1**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=239,slow=11,SNR=5.6						
FINES	**FINESS Array B**	**38.39**	**339**	P	**P**	**07 25 39.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=139,slow=9.1,SNR=7.6						
CMAR	**Chiang Mai Arr**	**43.00**	**92**	P	**P**	**07 26 18.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=289,slow=9.8,SNR=6.0						
ARCES	**ARCESS Array B**	**44.95**	**347**	P	**P**	**07 26 33.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=139,slow=8.4,SNR=3.3						
SONM	**Songino Array**	**45.80**	**49**	P	**P**	**07 26 40.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=270,slow=9.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**49.91**	**264**	P

PB09 *i* S **Sn** **07 54 30.0 -1.4**
PB09 AML AML 07 54 31.0
comp=N,6μm,0.3s
PB07 Plate Boundary 1.27 209 ⇑*i*P **Pn** **07 54 14.1 -0.7**
PB07 *e*S **Sn** **07 54 32.2 -0.9**
PB07 AML AML 07 54 35.5
comp=E,2μm,0.3s
PSGC Pisagua 1.31 320 ⇑*e*P **Pn** **07 54 15.3 +0.2**
PSGC *e*S **Sn** **07 54 34.9 +1.0**
PSGC AML AML 07 54 37.2
comp=N,641nm,0.4s
MNMC Minimini 1.51 347 *e*P **Pn** **07 54 18.3 +0.7**
MNMC *e*S **Sn** **07 54 40.1 +1.8**
MNMC AML AML 07 54 41.6
comp=N,1μm,0.5s
PB04 Plate Boundary 1.67 188 *e*P **Pn** **07 54 22.0 +2.9**
PB04 *e*S **Sn** **07 54 45.6 +4.4**
PB04 AML AML 07 54 56.6
comp=E,553nm,0.3s
CEN1 Los Morros 2.91 198 *e*P **Pn** **07 54 37.2 +1.9**
ANCH Antofagasta 3.25 200 *e*P **Pn** **07 54 40.5 +0.9**
LPAZ La Paz 4.42 14 P **Pn** **07 54 57.9 +1.9**
comp=E,1.8nm,0.3s,baz=181,slow=8.2,SNR=30
BDFB Brasilia 20.75 80 P **P** **07 58 20.7 -1.9**
comp=E,0.3nm,0.3s,baz=264,slow=9.0,SNR=3.1
TORD Torodi Ar. Bea 77.34 71 P **P** **08 05 32.2 -1.3**
comp=E,0.4nm,0.4s,baz=253,slow=5.5,SNR=10

IDC 12 08:25:30.9±1.0, 0°.13S×124°.82E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=37.7km s-min=17.6km az=72.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.01**	**226**	Pn	Pn	08 27 16.5	+1.6
1.9nm,0.3s,baz=117,slow=4.8,SNR=7.1							
KAPI				Sn	Sn	08 28 34.5	-0.8
2.4nm,0.3s,baz=196,slow=22,SNR=6.7							
FITZ	**Fitzroy Crossi**	**17.88**	**177**	P	Pn	08 29 40.9	-0.2
0.1nm,0.3s,baz=13,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**21.79**	**155**	P	P	08 30 23.8	-0.7
1.1nm,0.8s,baz=337,slow=10.0,SNR=9.2							
ASAR	**Alice Springs**	**25.00**	**160**	P	P	08 30 56.2	-0.4
0.8nm,0.8s,baz=333,slow=7.4,SNR=10							
ASAR				PcP	PcP	08 34 32.1	+0.1
0.3nm,0.4s,baz=352,slow=2.4,SNR=10							
STKA	**Stephens Creek**	**35.34**	**155**	P	P	08 32 28.6	+0.5
0.6nm,0.4s,baz=345,slow=10,SNR=6.0							
SONM	**Songino Array**	**50.39**	**344**	P	P	08 34 31.3	+1.2
0.3nm,0.5s,baz=153,slow=8.1,SNR=2.6							
MKAR	**Makanchi Array**	**59.69**	**327**	P	P	08 35 36.0	-1.3
0.6nm,0.3s,baz=124,slow=8.3,SNR=16							

MEX 12 08:34:22.1±0.5, 16°.94N×100°.52W, h4km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**66**	*e*P	Pg	08 34 26.7	-0.6
CAIG				*i* S	Sg	08 34 31.0	+0.3
ACX	**Acapulco**	**0.64**	**96**	*e*P	Pg	08 34 35.1	+0.7
ACX				*i* S	Sb	08 34 44.1	-1.0
ZIIG	**Zihuatanejo**	**1.12**	**306**	*i* P	Pg	08 34 40.9	-2.7
ZIIG				*i* S	Sg	08 34 54.9	-3.2
MEIG	**Mezcala**	**1.30**	**41**	*e*P	Pn	08 34 43.7	-3.5
MEIG				*i* S	Sg	08 34 59.8	-4.4
ARIG	**Puente Sto Nin**	**1.34**	**7**	*e*P	Pn	08 34 43.8	-3.9
ARIG				*i* S	Sg	08 35 00.6	-4.8
PLIG	**Platanillo**	**1.74**	**34**	*e*P	Pn	08 34 49.0	-4.2
PLIG				*i* S	Sn	08 35 11.6	-4.3
PNIG	**Pinotepa**	**2.36**	**103**	*i* P	Pn	08 34 57.6	-4.1
PNIG				*i* S	Sn	08 35 26.9	-4.1

*IDC **12** 08:36:12.4±3.0, 14°.32N×93°.44W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.8/23, mbtmp3.7/7, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/31, Error ellipse: s-maj=64.5km s-min=39.5km az=13.0*
*ISCJB **12** 08:36:15.6±0.9, 14°.32N±0°.07×93°.71W±0°.04, h36km, mb3.7/5, MS2.9/2, Error ellipse: s-maj=10.4km s-min=5.7km az=5.4*
*MEX **12** 08:36:16.4±0.8, 14°.23N×93°.73W, h16km±15km, MD4.0*
ISC 12 08:36:17.5±1.1, 14°.3N±0°.1×93°.69W±0°.05, h36km, n15, σ1§49/19, mb3.8/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.49**	**67**	*i* P	**Pn**	**08 36 39.3**	**-2.4**
THIG				*i* S	**Sn**	**08 36 58.4**	**-1.5**
CCIG	**Comitan**	**2.45**	**37**	*e*P	**Pn**	**08 36 55.0**	**0.0**
CCIG				*i* S	**Sn**	**08 37 23.9**	**+0.1**
TGIG		**2.49**	**13**	*e*P	**Pn**	**08 36 54.8**	**-0.8**
TGIG				*i* S	**Sn**	**08 37 24.4**	**-0.3**
HUIG	**Huatulco**	**2.74**	**302**	*i* P	**Pn**	**08 36 56.8**	**-2.1**
HUIG				*i* S	**Sn**	**08 37 28.9**	**-1.9**
VHO	**Vista Hermosa**	**4.00**	**313**	*e*P	**Pn**	**08 37 15.6**	**-0.9**
VHO				*i* S	**Sn**	**08 38 01.4**	**-0.9**
TEIG	**Tepich**	**7.81**	**41**	Pn	**Pn**	**08 38 05.8**	**-2.9**
1.9nm,0.3s,baz=282,slow=2.7,SNR=16							
TEIG				Sn	Sn	08 39 26.2	-10
1.0nm,0.3s,baz=22,slow=19,SNR=2.2							
TEIG				LR	LR	08 41 26.8	
comp=Z,230nm,21.1s,baz=326,slow=41							
JTS	**JuntasAbangare**	**9.43**	**114**	Pn	**Pn**	**08 38 31.4**	**+0.5**
0.1nm,0.3s,baz=344,slow=15,SNR=2.4							
JTS				Lg	Lg	08 40 45.3	
0.1nm,0.3s,baz=131,slow=19,SNR=2.4							
TXAR	**Lajitas Array**	**17.55**	**330**	P	**P**	**08 40 21.2**	**+0.9**
0.0nm,0.3s,baz=151,slow=12,SNR=9.9							
TKL	**Tuckaleechee C**	**23.03**	**21**	LR	LR	08 52 15.3	
comp=Z,43nm,21.2s,baz=277,slow=42							
ANMO	**Albuquerque**	**23.53**	**333**	P	**P**	**08 41 25.5**	**+0.8**
0.5nm,0.6s,baz=150,slow=16,SNR=3.4							
PDAR	**Pinedale Array**	**31.46**	**337**	P	**P**	**08 42 36.2**	**+0.4**
0.7nm,0.8s,baz=128,slow=9.7,SNR=5.2							
NVAR	**Mina Array Bea**	**32.40**	**322**	P	**P**	**08 42 46.7**	**+2.5**
1.0nm,0.8s,baz=143,slow=7.7,SNR=9.2							
NVAR				LR	LR	08 56 44.1	
comp=Z,31nm,21.2s,baz=309,slow=38							
ILAR	**Eielson Array**	**61.89**	**337**	P	**P**	**08 46 33.6**	**+0.6**
0.9nm,0.9s,baz=141,slow=4.2,SNR=12							
NOA	**NORSAR Array B**	**84.63**	**28**	P	**P**	**08 48 47.6**	**+0.4**
1.5nm,0.8s,baz=291,slow=4.7,SNR=4.0							
CMAR	**Chiang Mai Arr**	**145.12**	**339**	PKPbc	**PKPab**	**08 55 51.8**	**+0.2**
1.0nm,0.3s,baz=340,slow=3.6,SNR=7.7							

*ISCJB **12** 08:43:28.6±0.4, 42°.57N±0°.02×13°.20E±0°.03, h10km±5km, Error ellipse: s-maj=4.1km s-min=3.5km az=145.2*
*CSEM **12** 08:43:28.8±0.1, 42°.57N×13°.20E, h5km, ML3.2/8, Error ellipse: s-maj=2.4km s-min=2.1km az=66.0*
*ROM **12** 08:43:28.4±0.1, 42°.56N×13°.21E, h10km, Ml2.9/12, Error ellipse: s-maj=1.1km s-min=0.8km az=59.0*
ISC 12 08:43:29.0±0.8, 42°.57N±0°.02×13°.19E±0°.02, h12km±6km, n50, σ0§73/70, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.12**	**286**	Pg	**Pg**	**08 43 32.1**	**-0.1**
LNSS				Sg	**Sg**	**08 43 34.7**	**+0.2**
6μm,0.4s							
LNSS	**Leonessa**	**0.12**	**286**	Pg	**Pg**	**08 43 32.1**	**-0.1**
LNSS				Sg	**Sg**	**08 43 34.7**	**+0.2**
6μm,0.4s							
NRCA	**Norcia**	**0.27**	**348**	Pg	**Pg**	**08 43 34.4**	**-0.3**
NRCA				Sg	**Sg**	**08 43 38.8**	**+0.3**
NRCA	**Norcia**	**0.27**	**348**	Pg	**Pg**	**08 43 34.4**	**-0.3**
NRCA				Sg	**Sg**	**08 43 38.8**	**+0.3**
FIAM	**Fiamignano**	**0.31**	**191**	Pg	**Pg**	**08 43 35.1**	**-0.2**
FIAM				Sg	**Sg**	**08 43 40.0**	**+0.4**
1μm,0.5s							
FIAM	**Fiamignano**	**0.31**	**191**	Pg	**Pg**	**08 43 35.1**	**-0.2**
FIAM				Sg	**Sg**	**08 43 40.0**	**+0.4**
1μm,0.5s							
TERO	**Teramo**	**0.31**	**80**	Pg	**Pg**	**08 43 34.7**	**-0.6**
TERO				Sg	**Sg**	**08 43 39.2**	**-0.3**
2μm,0.4s							
TERO	**Teramo**	**0.31**	**80**	Pg	**Pg**	**08 43 34.7**	**-0.6**
TERO				Sg	**Sg**	**08 43 39.2**	**-0.3**
2μm,0.4s							
FAGN	**Fagnano**	**0.42**	**136**	Pg	**Pb**	**08 43 37.8**	**-0.6**
1μm,0.4s							
FAGN	**Fagnano**	**0.42**	**136**	Pg	**Pb**	**08 43 37.8**	**-0.6**
1μm,0.4s							
MNS	**Montasola**	**0.42**	**244**	Pg	**Pg**	**08 43 37.2**	**-0.2**
MNS				Sg	**Sg**	**08 43 43.4**	**+0.4**
418nm,0.5s							
MNS	**Montasola**	**0.42**	**244**	Pg	**Pg**	**08 43 37.2**	**-0.2**
MNS				Sg	**Sg**	**08 43 43.4**	**+0.4**
418nm,0.5s							
CESX	**Cesi**	**0.45**	**275**	Pg	**Pg**	**08 43 37.7**	**-0.3**
CESX				Sg	**Sb**	**08 43 45.1**	**-0.6**
325nm,0.5s							
CESX	**Cesi**	**0.45**	**275**	Pg	**Pg**	**08 43 37.7**	**-0.3**
CESX				Sg	**Sb**	**08 43 45.1**	**-0.6**
325nm,0.5s							
FDMO	**Fiordimonte**	**0.47**	**351**	Pg	**Pg**	**08 43 37.9**	**-0.4**
FDMO				Sg	**Sb**	**08 43 45.6**	**-0.7**
345nm,0.2s							
FDMO	**Fiordimonte**	**0.47**	**351**	Pg	**Pg**	**08 43 37.9**	**-0.4**
FDMO				Sg	**Sb**	**08 43 45.6**	**-0.7**
345nm,0.2s							
CESI	**CESI - Serrava**	**0.48**	**334**	Pg	**Pg**	**08 43 38.2**	**-0.4**
CESI				Sg	**Sb**	**08 43 45.9**	**-0.7**
171nm,0.5s							
CESI	**CESI - Serrava**	**0.48**	**334**	Pg	**Pg**	**08 43 38.2**	**-0.4**
CESI				Sg	**Sb**	**08 43 45.9**	**-0.7**
171nm,0.5s							
VCEL	**Villa Celiera**	**0.51**	**110**	Pg	**Pg**	**08 43 38.4**	**-0.7**
VCEL				Sg	**Sg**	**08 43 45.9**	**0.0**
959nm,0.4s							
VCEL	**Villa Celiera**	**0.51**	**110**	Pg	**Pg**	**08 43 38.4**	**-0.7**
VCEL				Sg	**Sg**	**08 43 45.9**	**0.0**
959nm,0.4s							
OFFI	**Offida**	**0.51**	**45**	Pg	**Pg**	**08 43 39.2**	**+0.1**
1μm,0.5s							
OFFI	**Offida**	**0.51**	**45**	Pg	**Pg**	**08 43 39.2**	**+0.1**
1μm,0.5s							
PTQR	**Pietraquaria**	**0.57**	**164**	Pg	**Pg**	**08 43 39.8**	**-0.4**
PTQR	**Pietraquaria**	**0.57**	**164**	Pg	**Pg**	**08 43 39.8**	**-0.4**
TRTR	**Tortoreto Alta**	**0.58**	**66**	Pg	**Pb**	**08 43 40.8**	**-0.4**
TRTR	**Tortoreto Alta**	**0.58**	**66**	Pg	**Pb**	**08 43 40.8**	**-0.4**
CERT	**Cerreto**	**0.64**	**194**	Pg	**Pg**	**08 43 40.5**	**-1.0**
CERT	**Cerreto**	**0.64**	**194**	Pg	**Pg**	**08 43 40.5**	**-1.0**
SNTG	**Esanatoglia**	**0.71**	**345**	Pg	**Pg**	**08 43 42.0**	**-0.8**
SNTG	**Esanatoglia**	**0.71**	**345**	Pg	**Pg**	**08 43 42.0**	**-0.8**
GUMA	**Gualdo di Mace**	**0.73**	**48**	Pg	Pg	08 43 38.9	-4.4
GUMA				Sg	Sg	08 43 46.3	-6.6
2μm,0.6s							
VVLD	**Villa Vallelon**	**0.77**	**155**	Pg	**Pg**	**08 43 43.1**	**-0.8**
VVLD	**Villa Vallelon**	**0.77**	**155**	Pg	**Pg**	**08 43 43.1**	**-0.8**
CING	**Cingoli**	**0.81**	**0**	Pg	**Pg**	**08 43 43.6**	**-1.0**
CING	**Cingoli**	**0.81**	**0**	Pg	**Pg**	**08 43 43.6**	**-1.0**
MURB	**Monte Urbino**	**0.85**	**325**	Pg	**Pg**	**08 43 44.8**	**-0.7**
MURB	**Monte Urbino**	**0.85**	**325**	Pg	**Pg**	**08 43 44.8**	**-0.7**
MGAB	**Montegabbione**	**0.87**	**294**	Pg	**Pg**	**08 43 45.3**	**-0.5**
MGAB	**Montegabbione**	**0.87**	**294**	Pg	**Pg**	**08 43 45.3**	**-0.5**
ARVD	**Arcevia**	**0.94**	**349**	Pg	**Pg**	**08 43 46.2**	**-1.1**
ARVD	**Arcevia**	**0.94**	**349**	Pg	**Pg**	**08 43 46.2**	**-1.1**
AOI	**Ancona**	**1.02**	**17**	Pg	**Pg**	**08 43 48.0**	**-0.8**
AOI	**Ancona**	**1.02**	**17**	Pg	**Pg**	**08 43 48.0**	**-0.8**
PIEI	**Pieia**	**1.08**	**334**	Pg	**Pg**	**08 43 48.4**	**-1.4**
PIEI	**Pieia**	**1.08**	**334**	Pg	**Pg**	**08 43 48.4**	**-1.4**
CAFI	**Castiglion Fio**	**1.18**	**311**	Pg	**Pn**	**08 43 51.5**	**+0.1**
CAFI	**Castiglion Fio**	**1.18**	**311**	Pg	**Pn**	**08 43 51.5**	**+0.1**
NVLJ	**Novalja**	**2.34**	**31**	*e*Pn	**Pn**	**08 44 08.0**	**+0.7**
NVLJ				Sn	**Sn**	**08 44 36.7**	**+0.8**
NVLJ	**Novalja**	**2.34**	**31**	*e*Pn	**Pn**	**08 44 07.9**	**+0.7**
NVLJ				Sn	**Sn**	**08 44 36.6**	**+0.8**
UDBI	**Udbina**	**2.71**	**43**	*e*Pn	**Pn**	**08 44 13.9**	**+1.5**
UDBI				Sn	**Sn**	**08 44 47.8**	**+2.7**

IDC 12 08:49:27.2±4.5, 13°.59N×92°.70E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/27, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=105.7km s-min=47.8km az=109.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.71**	**50**	Pn	Pn	08 51 21.0	+0.1
0.6nm,0.3s,baz=239,slow=16,SNR=2.8							
CMAR				Sn	Sn	08 52 34.6	-14
0.5nm,0.3s,baz=240,slow=31,SNR=4.0							
WRA	**Warramunga Arr**	**52.81**	**128**	P	P	08 58 44.1	-0.6
0.4nm,0.9s,baz=311,slow=7.6,SNR=3.5							
WRA				PcP	PcP	08 59 54.6	+0.3
0.1nm,0.4s,baz=320,slow=3.2,SNR=3.7							
ASAR	**Alice Springs**	**54.72**	**132**	P	P	08 58 58.7	0.0
0.3nm,0.6s,baz=306,slow=6.6,SNR=5.8							

*ISCJB **12** 08:50:50.9±0.4, 39°.91N±0°.01×23°.80E±0°.03, h4km±3km, Error ellipse: s-maj=3.9km s-min=2.4km az=7.7*
*THE **12** 08:50:51.7, 39°.91N×23°.78E, h7km, ML2.6/11, Error ellipse: s-maj=0.8km s-min=0.4km az=173.0*
*CSEM **12** 08:50:51.1±0.1, 39°.90N×23°.79E, h5km, ML2.6/11, Error ellipse: s-maj=3.0km s-min=1.9km az=104.0*
*ATH **12** 08:50:51.3, 39°.90N×23°.80E, h7km±2km, MD2.7/8*
ISC 12 08:50:51.3±0.8, 39°.91N±0°.01×23°.78E±0°.02, h8km±5km, n58, σ0§44/105, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.08**	**286**	P	**Pg**	**08 50 53.5**	**+0.1**
PAIG				S	**Sg**	**08 50 54.9**	**+0.1**
PAIG	**Paliouri**	**0.08**	**286**	*e*PG	**Pg**	**08 50 53.5**	**+0.1**
PAIG				*e*SG	**Sg**	**08 50 55.0**	**+0.1**
PAIG	**Paliouri**	**0.08**	**286**	P	**Pg**	**08 50 53.5**	**+0.1**
PAIG				S	**Sg**	**08 50 54.9**	**+0.1**
OUR	**Ouranopolis**	**0.46**	**20**	P	**Pb**	**08 51 01.2**	**-0.4**
OUR				S	**Sg**	**08 51 06.7**	**+0.6**
OUR	**Ouranopolis**	**0.46**	**20**	P	**Pb**	**08 51 01.2**	**-0.4**
OUR				S	**Sg**	**08 51 06.7**	**+0.6**
PLG	**Polygyros**	**0.53**	**331**	P	**Pg**	**08 51 01.3**	**-0.3**
PLG	**Polygyros**	**0.53**	**331**	*e*PB	**Pg**	**08 51 01.4**	**-0.2**
PLG				*e*SB	**Sg**	**08 51 08.5**	**-0.1**
PLG	**Polygyros**	**0.53**	**331**	*e*Pb	**Pg**	**08 51 01.4**	**-0.2**
PLG				*e*Sb	**Sg**	**08 51 08.5**	**-0.1**
XOR	**Xorichti**	**0.70**	**220**	P	**Pg**	**08 51 05.0**	**+0.1**
XOR				S	**Sb**	**08 51 15.2**	**-0.5**
XOR	**Xorichti**	**0.70**	**220**	P	**Pg**	**08 51 05.0**	**+0.1**
XOR				S	**Sb**	**08 51 15.2**	**-0.5**
NEO	**Neokhori**	**0.74**	**216**	P	**Pg**	**08 51 05.7**	**+0.2**
NEO				S	**Sb**	**08 51 16.7**	**+0.1**
NEO	**Neokhori**	**0.74**	**216**	*e*PB	**Pg**	**08 51 05.7**	**+0.2**
NEO				*e*SB	**Sg**	**08 51 15.8**	**+0.8**
NEO	**Neokhori**	**0.74**	**216**	P	**Pg**	**08 51 05.7**	**+0.2**
NEO				*e*Sb	**Sg**	**08 51 15.8**	**+0.8**
NEO				S	**Sb**	**08 51 16.7**	**+0.1**
AOS	**Alonnisos**	**0.74**	**174**	P	**Pg**	**08 51 05.7**	**+0.3**
AOS				S	**Sb**	**08 51 17.2**	**+0.6**
AOS	**Alonnisos**	**0.74**	**174**	*e*PB	**Pg**	**08 51 05.8**	**+0.3**
AOS				*e*SB	**Sb**	**08 51 15.9**	**-0.7**
AOS	**Alonnisos**	**0.74**	**174**	P	**Pg**	**08 51 05.7**	**+0.3**
AOS				*e*Sb	**Sb**	**08 51 15.9**	**-0.7**
AOS				S	**Sb**	**08 51 17.2**	**+0.6**
SKIA	**Skiathos**	**0.78**	**198**	P	**Pg**	**08 51 06.7**	**+0.5**
SKIA				S	**Sb**	**08 51 17.4**	**-0.3**
SKIA	**Skiathos**	**0.78**	**198**	P	**Pg**	**08 51 06.7**	**+0.5**
SKIA				S	**Sb**	**08 51 17.4**	**-0.3**
HORT	**Hortiatis**	**0.87**	**323**	P	**Pg**	**08 51 07.3**	**-0.7**
HORT				S	**Sb**	**08 51 20.3**	**-0.1**
HORT	**Hortiatis**	**0.87**	**323**	P	**Pg**	**08 51 07.3**	**-0.7**
HORT				S	**Sb**	**08 51 20.3**	**-0.1**
SOH	**Sokhos**	**0.97**	**341**	P	**Pg**	**08 51 09.9**	**0.0**
SOH				S	**Sb**	**08 51 23.9**	**+0.5**
SOH	**Sokhos**	**0.97**	**341**	*e*PB	**Pg**	**08 51 10.0**	**0.0**
SOH				*e*SB	**Sb**	**08 51 23.8**	**+0.4**
SOH	**Sokhos**	**0.97**	**341**	P	**Pg**	**08 51 09.9**	**0.0**
SOH				*e*Sb	**Sb**	**08 51 23.8**	**+0.4**
LIA	**Limnos Island**	**1.08**	**90**	P	**Pg**	**08 51 12.0**	**-0.2**
LIA				S	**Sb**	**08 51 26.8**	**+0.4**
LIA	**Limnos Island**	**1.08**	**90**	*e*PN	**Pg**	**08 51 11.8**	**-0.2**
LIA				*e*SB	**Sg**	**08 51 26.0**	**0.0**
LIA	**Limnos Island**	**1.08**	**90**	P	**Pb**	**08 51 12.0**	**-0.2**
LIA				*e*Sb	**Sg**	**08 51 26.0**	**0.0**
MRKA	**Markates**	**1.21**	**187**	P	**Pb**	**08 51 13.7**	**-0.7**
MRKA				S	**Sg**	**08 51 30.1**	**0.0**
MRKA	**Markates**	**1.21**	**187**	P	**Pb**	**08 51 13.7**	**-0.7**
MRKA				S	**Sg**	**08 51 30.1**	**0.0**
SRS	**Serrai**	**1.22**	**353**	P	**Pb**	**08 51 14.4**	**-0.2**
SRS				S	**Sn**	**08 51 31.5**	**+0.1**
SRS	**Serrai**	**1.22**	**353**	P	**Pb**	**08 51 14.4**	**-0.2**
SRS				S	**Sn**	**08 51 31.5**	**+0.1**
KAVA	**Kavala**	**1.23**	**27**	P	**Pb**	**08 51 14.4**	**-0.3**
KAVA				S	**Sn**	**08 51 31.6**	**+0.1**
KAVA	**Kavala**	**1.23**	**27**	P	**Pb**	**08 51 14.4**	**-0.3**
KAVA				S	**Sn**	**08 51 31.6**	**+0.1**
LKR	**Lokris**	**1.39**	**206**	*e*PG	**Pn**	**08 51 17.0**	**0.0**
LKR				*e*SB	**Sn**	**08 51 35.9**	**+0.4**
LKR	**Lokris**	**1.39**	**206**	*e*Pg	**Pn**	**08 51 17.0**	**0.0**
LKR				*e*Sb	**Sn**	**08 51 35.9**	**+0.4**
THL	**Klokotos Trika**	**1.40**	**257**	P	**Pn**	**08 51 16.8**	**-0.3**
THL				S	**Sg**	**08 51 36.9**	**+0.5**
THL	**Klokotos Trika**	**1.40**	**257**	*e*PG	**Pb**	**08 51 17.6**	**-0.1**
THL				*e*SB	**Sg**	**08 51 37.6**	**+1.2**
THL	**Klokotos Trika**	**1.40**	**257**	P	**Pn**	**08 51 16.8**	**-0.3**
THL	**Klokotos Trika**	**1.40**	**257**	*e*Pg	**Pb**	**08 51 17.6**	**-0.1**
THL				S	**Sg**	**08 51 36.9**	**+0.5**
THL				*e*Sb	**Sg**	**08 51 37.6**	**+1.2**
KNT	**Kendrikon**	**1.42**	**332**	P	**Pn**	**08 51 17.6**	**+0.1**
KNT				S	**Sn**	**08 51 36.3**	**-0.1**
KNT	**Kendrikon**	**1.42**	**332**	P	**Pn**	**08 51 17.6**	**+0.1**
KNT				S	**Sn**	**08 51 36.3**	**-0.1**
AGG	**Agios Georgios**	**1.43**	**232**	P	**Pn**	**08 51 16.5**	**-1.0**
AGG				S	**Sn**	**08 51 36.1**	**-0.4**
AGG	**Agios Georgios**	**1.43**	**232**	*e*PB	**Pb**	**08 51 18.3**	**+0.1**
AGG	**Agios Georgios**	**1.43**	**232**	P	**Pn**	**08 51 16.5**	**-1.0**
AGG	**Agios Georgios**	**1.43**	**232**	*e*Pb	**Pb**	**08 51 18.3**	**+0.1**
AGG				S	**Sn**	**08 51 36.1**	**-0.4**
NVR	**Nevrokopi**	**1.44**	**2**	P	**Pn**	**08 51 17.4**	**-0.4**
NVR				S	**Sn**	**08 51 36.6**	**-0.3**
NVR	**Nevrokopi**	**1.44**	**2**	*e*PG	**Pn**	**08 51 18.0**	**+0.2**
NVR	**Nevrokopi**	**1.44**	**2**	P	**Pn**	**08 51 17.4**	**-0.4**
NVR	**Nevrokopi**	**1.44**	**2**	*e*Pg	**Pn**	**08 51 18.0**	**+0.2**
NVR				S	**Sn**	**08 51 36.6**	**-0.3**
SMTH	**Samothraki Isl**	**1.46**	**67**	*e*PG	**Pn**	**08 51 17.9**	**0.0**
SMTH	**Samothraki Isl**	**1.46**	**67**	*e*Pg	**Pn**	**08 51 17.9**	**0.0**
MAKR	**Makrakomi, Fth**	**1.56**	**236**	P	**Pn**	**08 51 19.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.56**	**236**	P	**Pn**	**08 51 19.2**	**-0.1**
KZN	**Kozani**	**1.59**	**285**	*e*PB	**Pg**	**08 51 21.7**	**-0.1**
KZN	**Kozani**	**1.59**	**285**	*e*Pb	**Pg**	**08 51 21.7**	**-0.1**
VAY	**Valandovo**	**1.69**	**327**	*e*Pg	**Pg**	**08 51 24.6**	**+0.9**
VAY				*i* Sg	**Sg**	**08 51 46.5**	**+0.9**
VAY	**Valandovo**	**1.69**	**327**	*e*Pg	**Pg**	**08 51 24.5**	**+0.9**
VAY				*i* Sg	**Sg**	**08 51 46.4**	**+0.9**
FNA	**Florina**	**2.04**	**296**	*e*PN	**Pb**	**08 51 27.9**	**-0.7**
FNA	**Florina**	**2.04**	**296**	*e*Pn	**Pb**	**08 51 27.9**	**-0.7**

*ISCJB **12** 08:51:48.6±0.4, 40°.88N±0°.03×141°.97E±0°.05, h74km±4km, mb3.8/17, Error ellipse: s-maj=7.1km s-min=4.7km az=23.3*
*JMA **12** 08:51:49.0±0.1, 40°.87N×142°.05E, h61km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ_s=208.00000°, δ65.00000°, λ60.00000°. NP2: ϕ_s=83.00000°, δ38.00000°, λ138.00000°. Principal axes: T Plg58.0000°, Azm76.0000°; N Plg27.0000°, Azm222.0000°; P Plg15.0000°, Azm320.0000°;*
JMA Felt II J1.
*IDC **12** 08:51:50.4±2.2, 40°.85N×141°.91E, h79km±20km, mb3.7/16, mb1 3.8/19, mb1mx3.7/31, mbtmp3.7/19, MS2.7/1, Ms1 2.7/1, ms1mx2.2/39 Error ellipse: s-maj=16.3km s-min=13.8km az=135.0*
*NIED **12** 08:52:00, 40°.90N×142°.00E, h65km, Mw4.0 Best double couple: M_0=9.45000×10^{14} NP1: ϕ_s=201.00000°, δ61.00000°, λ36.00000°. NP2: ϕ_s=92.00000°, δ59.00000°, λ146.00000°.*
ISC 12 08:51:49.0±0.9, 40°.88N±0°.04×142°.00E±0°.05, h63km±8km, n34, σ1§25/45, mb4.0/17, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.62**	**216**	⇑P	**Pn**	**08 52 02.5**	**-0.1**
JANG				S	**Sn**	**08 52 12.4**	**-0.1**
JTM	**Tenmabayashi**	**0.71**	**263**	⇑P	**Pn**	**08 52 03.8**	**+0.3**
JTM				S	**Sn**	**08 52 14.5**	**+0.3**
JOT	**Ohata**	**0.88**	**305**	⇓P	**Pn**	**08 52 05.6**	**0.0**
JOT				S	**Sn**	**08 52 17.8**	**0.0**
JKB	**Kayabe**	**1.24**	**325**	⇓P	**Pn**	**08 52 10.6**	**+0.3**
JKB				*e*S	**Sn**	**08 52 26.7**	**+0.5**
JAH	**Hinai**	**1.24**	**237**	⇑P	**Pn**	**08 52 10.9**	**+0.6**
JAH				S	**Sn**	**08 52 27.2**	**+0.9**
JSR	**Shiriuchi**	**1.36**	**299**	⇓P	**Pn**	**08 52 12.2**	**+0.4**
JSR				*e*S	**Sn**	**08 52 29.9**	**+1.0**
JEM	**Erimo**	**1.43**	**37**	P	**Pn**	**08 52 13.4**	**+0.5**

comp=E,13nm,0.4s
ZALF AML AML 09 53 36.3
comp=N,12nm,0.6s
ZALF Zalf 1.42 174 *e*P Pn 09 52 55.6 +1.6
SNR=90
ZALF *e*S Sn 09 53 10.4 -1.1
comp=N,12nm,0.6s,SNR=90
SALA Sala 1.66 192 *e*P Pn 09 52 58.7 +1.3
SALA *e*S Sn 09 53 16.7 -1.0
SALA AML AML 09 53 17.5
comp=E,2.6nm,0.5s
SALA AML AML 09 53 35.1
comp=N,14nm,0.7s
SALA Sala 1.66 192 *e*P Pn 09 52 58.7 +1.3
SNR=90
SALA *e*S Sn 09 53 16.7 -1.0
comp=N,14nm,0.7s,SNR=90
SLMH Al Salmeh 1.98 19 *e*P Pn 09 53 00.3 -1.2
SLMH Al Salmeh 1.98 19 *e*P Pn 09 53 00.3 -1.3
SNR=90
DRWC Darouich 2.31 350 *e*P Pn 09 53 08.2 +2.0
DRWC *e*S Sn 09 53 31.7 -1.7
DRWC AML AML 09 53 37.0
comp=E,112nm,0.4s
DRWC AML AML 09 53 37.1
comp=N,97nm,0.3s
DRWC Darouich 2.31 350 *e*P Pn 09 53 08.2 +2.0
SNR=90
DRWC *e*S Sn 09 53 31.7 -1.8
comp=N,97nm,0.3s,SNR=90

DDA ***12*** *09:52:32.7, 37°.48N×38°.70E, h24km, ML3.1*
CSEM ***12*** *09:52:33.7±0.3, 37°.53N×38°.70E, h2km, ML3.1, Error ellipse: s-maj=10.2km s-min=5.8km az=149.0*
ISK 12 09:52:35.8, 37°.69N×38°.85E, h6km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.49**	**244**	*i* P	Pg	09 52 40.0	-5.5
ATAB				*i* S	Sg	09 52 44.4	-7.5
ATAB	**Bozova**	**0.49**	**244**	*i* P	Pg	09 52 40.0	-5.4
ATAB				*i* S	Sg	09 52 44.4	-7.5
MYA	**Malataya**	**0.72**	**332**	*e*PG	Pg	09 52 50.0	+0.2
MYA				*e*SG	Sb	09 53 00.8	-0.5
MYA	**Malataya**	**0.72**	**332**	*e*Pg	Pg	09 52 50.1	+0.2
MYA				*e*Sg	Sb	09 53 00.8	-0.5
SVRC	**Sivrice-ELAZID**	**0.78**	**27**	*e*PG	Pg	09 52 51.0	0.0
SVRC	**Sivrice-ELAZID**	**0.78**	**27**	*e*Pg	Pg	09 52 51.1	+0.1
DIYA	**Diyarbakir**	**1.03**	**76**	*i* P	Pn	09 52 56.8	-0.1
DIYA				*i* S	Sn	09 53 12.5	+0.7
DIYA	**Diyarbakir**	**1.03**	**76**	*i* P	Pn	09 52 56.8	-0.1
DIYA				*i* S	Sn	09 53 12.5	+0.7
GZT	**Gaziantep**	**1.08**	**253**	*i* P	Pg	09 52 50.4	-6.3
GZT				*i* S	Sg	09 53 05.4	-5.5
DIY	**Diyarbakir**	**1.11**	**79**	*e*PN	Pb	09 52 57.4	-0.1
DIY				*e*SN	Sn	09 53 13.2	-0.4
DIY	**Diyarbakir**	**1.11**	**79**	*e*Pn	Pb	09 52 57.4	-0.1
DIY				*e*Sn	Sn	09 53 13.2	-0.5
PTK	**Pertek**	**1.28**	**19**	*e*PN	Pg	09 53 00.6	0.0
PTK	**Pertek**	**1.28**	**19**	*e*Pn	Pg	09 53 00.6	0.0
DARE	**Darende-Malaty**	**1.40**	**310**	*e*PN	Pb	09 53 02.3	-0.2
MARD	**Mardin**	**1.57**	**103**	*i* P	Pn	09 53 01.7	-2.8
MARD				*i* S	Sn	09 53 23.3	-2.0
KEMA	**Kemaliye**	**1.61**	**350**	*i* P	Pn	09 53 05.2	+0.3
KEMA				*i* S	Sg	09 53 33.9	+6.2
KEMA	**Kemaliye**	**1.61**	**350**	*i* P	Pn	09 53 05.2	+0.3
KEMA				*i* S	Sg	09 53 33.9	+6.2
AYKD	**Aykdinkavak**	**1.65**	**261**	*i* P	Pn	09 52 59.5	-5.9
AYKD				*i* S	Sn	09 53 19.1	-7.9
KUZU	**Kuzuini**	**1.69**	**238**	*i* P	Pn	09 53 01.3	-4.6
KUZU				*i* S	Sn	09 53 19.8	-8.1
KUZU	**Kuzuini**	**1.69**	**238**	*i* P	Pn	09 53 01.3	-4.6
KUZU				*i* S	Sn	09 53 19.8	-8.1
BINT	**Bingol**	**1.75**	**47**	*e*Pn	Pg	09 53 10.1	+0.5
ILIC	**ilic-Erzincan**	**1.78**	**353**	*e*PN	Pn	09 53 07.8	+0.5
ILIC	**ilic-Erzincan**	**1.78**	**353**	*e*Pn	Pn	09 53 07.8	+0.5
BEST	**Besiri**	**1.93**	**83**	*i* P	Pn	09 53 10.2	+1.0
BEST				*i* S	Sg	09 53 37.7	-0.2
BNGB	**Bing¶l**	**1.94**	**47**	*e*PN	Pn	09 53 10.1	+0.6
COBT	**Iskenderun**	**2.38**	**242**	*i* P	Pn	09 53 12.6	-3.1
COBT				*i* S	Sn	09 53 33.4	-12
COBT	**Iskenderun**	**2.38**	**242**	*i* P	Pn	09 53 12.6	-3.0
COBT				*i* S	Sn	09 53 33.4	-12
KOZT	**Kozan**	**2.41**	**266**	*e*PN	Pn	09 53 16.8	+1.0
KOZT	**Kozan**	**2.41**	**266**	*e*Pn	Pn	09 53 16.8	+0.9
HTY	**Hatay**	**2.68**	**235**	*e*PN	Pn	09 53 20.7	+1.3
HTY	**Hatay**	**2.68**	**235**	*e*Pn	Pn	09 53 20.7	+1.2

IDC 12 10:21:50.7±3.8, 15°.43S×173°.34W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.6/4, ML1.8/1, Error ellipse: s-maj=180.1km s-min=24.2km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**45**	Pn	Pn	10 22 26.6	-1.2
	19nm,0.3s,baz=221,slow=19,SNR=2.4						
AFI				Sn	Sn	10 22 48.3	-6.8
	20nm,0.3s,baz=229,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**49.89**	**257**	P	P	10 30 45.2	-1.2
	0.7nm,1.0s,baz=91,slow=7.4,SNR=6.3						
ASAR	**Alice Springs**	**50.15**	**252**	P	P	10 30 48.8	+0.3
	1.5nm,0.5s,baz=84,slow=7.8,SNR=18						
ILAR	**Eielson Array**	**82.46**	**11**	P	P	10 34 15.5	+0.8
	0.5nm,1.1s,baz=201,slow=4.8,SNR=3.6						

IDC 12 10:29:51.0±4.0, 18°.60S×173°.93W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=155.3km s-min=52.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.54**	**261**	P	P	10 37 07.4	+0.2
	1.1nm,0.4s,baz=80,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**42.06**	**243**	P	P	10 37 44.6	-0.1
	0.2nm,0.3s,baz=90,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**48.69**	**260**	P	P	10 38 37.2	-0.3
	0.1nm,0.3s,baz=95,slow=7.6,SNR=21						
ASAR	**Alice Springs**	**48.70**	**255**	P	P	10 38 37.5	-0.2
	0.8nm,0.5s,baz=97,slow=8.2,SNR=15						
BRTR	**Keskin Array B**	**148.23**	**317**	PKPbc	PKPbc	10 49 38.8	-0.7
	0.2nm,0.3s,baz=46,slow=6.4,SNR=2.5						

IDC 12 10:47:15.2±5.3, 63°.08S×178°.27E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/9, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=173.0km s-min=43.7km az=71.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.41**	**193**	Pn	Pn	10 50 53.2	-0.2
	0.1nm,0.3s,baz=34,slow=7.6,SNR=4.5						
ASAR	**Alice Springs**	**49.17**	**302**	P	P	10 56 04.7	0.0
	1.3nm,0.9s,baz=156,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**52.39**	**305**	P	P	10 56 28.7	-0.3
	1.0nm,0.9s,baz=158,slow=6.5,SNR=8.4						
BRTR	**Keskin Array B**	**148.54**	**239**	PKPbc	PKPbc	11 07 02.6	-0.5
	0.3nm,0.5s,baz=204,slow=1.4,SNR=3.7						

IDC 12 10:51:16.8±2.7, 19°.95S×177°.97W, h526km±34km, mb2.7/6, mb1 3.0/7, mb1mx2.9/18, mbtmp2.8/7, Error ellipse: s-maj=25.0km s-min=20.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.44**	**46**	P	P	10 53 18.5	-0.1
	2.1nm,0.3s,baz=170,slow=18,SNR=3.5						
AFI				S	S	10 54 51.3	-7.0
	1.4nm,0.3s,baz=294,slow=20,SNR=2.1						
ASAR	**Alice Springs**	**44.67**	**256**	P	P	10 58 42.5	-0.4
	0.3nm,0.6s,baz=84,slow=7.8,SNR=6.5						
WRA	**Warramunga Arr**	**44.71**	**261**	P	P	10 58 43.2	0.0
	0.2nm,0.3s,baz=96,slow=7.6,SNR=18						
MJAR	**Matsushiro Arr**	**69.79**	**324**	P	P	11 01 34.5	+0.2
	0.4nm,0.3s,baz=153,slow=8.4,SNR=4.9						
QSPA	**South Pole Qui**	**70.11**	**180**	P	P	11 01 35.9	-0.1
	2.3nm,0.8s,baz=2.7,slow=1.3,SNR=12						
TXAR	**Lajitas Array**	**86.74**	**57**	P	P	11 03 06.0	+0.6
	0.1nm,0.5s,baz=214,slow=6.3,SNR=2.8						

0.6nm,0.7s,baz=161,slow=8.7,SNR=1.3
FITZ Fitzroy Crossi 45.05 133 P P 09 49 24.9 +0.2
1.2nm,0.8s,baz=326,slow=11,SNR=4.5
WRA Warramunga Arr 52.66 128 P P 09 50 22.8 -0.5
0.4nm,0.7s,baz=312,slow=7.7,SNR=8.6
WRA PcP PcP 09 51 32.6 -0.8
0.4nm,1.0s,baz=307,slow=3.5,SNR=3.3
ASAR Alice Springs 54.53 132 P P 09 50 37.4 +0.3
0.5nm,0.5s,baz=309,slow=7.1,SNR=11

IDC 12 09:49:28.1±1.9, 2°.03N×127°.64E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=104.1km s-min=23.4km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.10**	**186**	P	P	09 54 03.8	+0.3
	1.6nm,1.1s,baz=359,slow=17,SNR=2.5						
WRA	**Warramunga Arr**	**22.80**	**164**	P	P	09 54 33.2	+0.5
	1.5nm,0.5s,baz=343,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.26**	**167**	P	P	09 55 04.5	-0.8
	0.1nm,0.3s,baz=341,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**59.46**	**325**	P	P	09 59 33.0	+0.1
	0.2nm,0.4s,baz=115,slow=7.9,SNR=3.3						

IDC ***12*** *09:49:52.5±0.8, 11°.48S×166°.28E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.1/22, mbtmp4.1/15, ML4.2/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/21, Error ellipse: s-maj=23.0km s-min=18.8km az=127.0*
ISCJB ***12*** *09:49:56.6±0.6, 11°.57S±0°.08×166°.16E±0°.08, h37km, mb4.3/17, MS3.5/3, Error ellipse: s-maj=13.0km s-min=9.7km az=31.1*
NEIC ***12*** *09:49:58.5±1.6, 11°.50S×166°.20E, h40km±13km, mb4.7/6, Error ellipse: s-maj=13.3km s-min=10.3km az=67.0*
ISC 12 09:49:57.9±0.7, 11°.61S±0°.07×166°.24E±0°.09, h37km, n41, σ1°.04/46, mb4.2/17, MS3.5/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**289**	Pn	**Pn**	**09 51 31.3**	**-0.5**
HNR				Sn	**Sn**	**09 52 45.7**	**+0.4**
HNR	**Honiara**	**6.55**	**289**	Pn	**Pn**	**09 51 31.3**	**-0.5**
	10nm,0.3s,baz=134,slow=7.5,SNR=4.2						
HNR				Sn	**Sn**	**09 52 45.7**	**+0.4**
	4.7nm,0.3s,baz=126,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**10.40**	**179**	*e*Pn	**Pn**	**09 52 22.1**	**-2.5**
	6.8nm,0.3s						
DZM				*e*Sn	Sn	09 54 12.2	-7.8
	4.6nm,0.3s						
DZM				*e*LR	LR	09 54 46.4	
	358nm,24.1s						
DZM	**Mont Dzumac**	**10.40**	**179**	Pn	**Pn**	**09 52 26.8**	**+2.2**
DZM				Sn	**Sn**	**09 54 18.0**	**-2.0**
DZM	**Mont Dzumac**	**10.40**	**179**	Pn	**Pn**	**09 52 26.8**	**+2.2**
	1.0nm,0.3s,baz=34,slow=20,SNR=19						
DZM				Sn	**Sn**	**09 54 18.0**	**-2.0**
	0.3nm,0.3s,baz=20,slow=10,SNR=3.4						
CTA	**Charters Tower**	**20.97**	**244**	P	Pn	09 54 40.1	-0.6
CTA	**Charters Tower**	**20.97**	**244**	P	Pn	09 54 40.1	-0.6
	5.5nm,0.8s,baz=66,slow=11,SNR=7.4						
CTAO	**Charters Tower**	**20.97**	**244**	*e*P	**P**	**09 54 38.6**	**+0.6**
	6.3nm,0.8s						
AFI	**Afiamalu**	**21.56**	**98**	LR	LR	10 01 13.8	
	comp=Z,125nm,20.8s,baz=177,slow=32						
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**09 56 06.9**	**+0.5**
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**09 56 06.9**	**+0.5**
	2.3nm,0.9s,baz=56,slow=11,SNR=5.8						
STKA				LR	LR	10 08 05.4	
	comp=Z,105nm,19.9s,baz=25,slow=36						
WRAB	**Tennant Creek**	**31.73**	**251**	*e*P	**P**	**09 56 19.1**	**+0.5**
	4.7nm,1.2s						
WRA	**Warramunga Arr**	**31.75**	**251**	P	**P**	**09 56 19.0**	**+0.2**
WRA				PcP	**PcP**	**09 59 09.9**	**+0.1**
WRA	**Warramunga Arr**	**31.75**	**251**	P	**P**	**09 56 19.0**	**+0.2**
	3.1nm,0.9s,baz=82,slow=9.0,SNR=15						
WRA				PcP	**PcP**	**09 59 09.9**	**+0.1**
	0.9nm,0.8s,baz=78,slow=3.2,SNR=7.0						
ASAR	**Alice Springs**	**32.97**	**244**	P	**P**	**09 56 29.2**	**-0.3**
ASAR				PcP	**PcP**	**09 59 12.7**	**-0.5**
ASAR	**Alice Springs**	**32.97**	**244**	P	**P**	**09 56 29.2**	**-0.3**
	2.7nm,0.8s,baz=74,slow=9.3,SNR=30						
ASAR				PcP	**PcP**	**09 59 12.7**	**-0.5**
	0.8nm,0.7s,baz=77,slow=2.6,SNR=6.2						
FITZ	**Fitzroy Crossi**	**39.70**	**256**	P	**P**	**09 57 26.8**	**-0.2**
FITZ				PcP	**PcP**	**09 59 33.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.70**	**256**	P	**P**	**09 57 26.8**	**-0.2**
	3.4nm,0.8s,baz=95,slow=8.9,SNR=7.5						
FITZ				PcP	**PcP**	**09 59 33.4**	**+0.1**
	1.7nm,0.9s,baz=79,slow=5.2,SNR=3.2						
FITZ				LR	LR	10 13 01.9	
	comp=Z,127nm,20.1s,baz=75,slow=35						
PPT2	**Papeete2**	**43.10**	**103**	*e*LR	LR	10 10 00.2	
	92nm,26.2s						
TBI	**Tubuai**	**43.67**	**112**	*e*LR	LR	10 10 15.0	
	121nm,30.2s						
KAPI	**Kappang**	**46.41**	**274**	P	**P**	**09 58 19.6**	**-1.7**
	24nm,1.2s						
NACB	**Ninganchiao**	**56.27**	**309**	P	**P**	**09 59 33.8**	**-1.2**
	6.2nm,0.4s						
VNDA	**Vanda**	**65.94**	**181**	P	**P**	**10 00 41.5**	**+1.7**
VNDA	**Vanda**	**65.94**	**181**	P	**P**	**10 00 41.5**	**+1.7**
	1.1nm,0.3s,baz=76,slow=12,SNR=5.9						
CMAR	**Chiang Mai Arr**	**72.78**	**294**	P	**P**	**10 01 24.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**72.78**	**294**	P	**P**	**10 01 24.4**	**+1.3**
	2.3nm,0.8s,baz=116,slow=5.2,SNR=15						
QSPA	**South Pole Qui**	**78.39**	**180**	*e*P	**P**	**10 01 54.5**	**-0.1**
	7.9nm,1.1s						
ULN	**Ulaanbaatar**	**79.04**	**324**	P	**P**	**10 01 58.6**	**+0.2**
	2.3nm,0.2s						
SONM	**Songino Array**	**79.41**	**324**	P	**P**	**10 02 01.2**	**+0.8**
SONM	**Songino Array**	**79.41**	**324**	P	**P**	**10 02 01.2**	**+0.8**
	0.8nm,0.7s,baz=123,slow=5.5,SNR=4.3						
ILAR	**Eielson Array**	**83.90**	**18**	P	**P**	**10 02 22.5**	**-1.0**
ILAR	**Eielson Array**	**83.90**	**18**	P	**P**	**10 02 22.5**	**-1.0**
	0.3nm,0.8s,baz=230,slow=5.3,SNR=4.0						
MAW	**Mawson**	**84.38**	**202**	*e*P	**P**	**10 02 26.8**	**+0.7**
MAW	**Mawson**	**84.38**	**202**	P	**P**	**10 02 26.2**	**+0.2**
	1.7nm,1.0s,baz=112,slow=7.7,SNR=4.4						
NVAR	**Mina Array Bea**	**86.02**	**50**	P	**P**	**10 02 35.3**	**+0.2**
NVAR	**Mina Array Bea**	**86.02**	**50**	P	**P**	**10 02 35.3**	**+0.2**
	0.4nm,0.8s,baz=245,slow=9.8,SNR=3.4						
MK31	**Makanchi Array**	**94.26**	**317**	*e*P	**P**	**10 03 13.3**	**-0.1**
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**	**10 03 13.3**	**-0.1**
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**	**10 03 13.3**	**-0.1**
	2.8nm,0.8s,baz=102,slow=5.7,SNR=21						
ZALV	**Zalesovo Beam**	**94.30**	**324**	P	**P**	**10 03 12.4**	**-0.9**
ZALV	**Zalesovo Beam**	**94.30**	**324**	P	**P**	**10 03 12.4**	**-0.9**
	0.4nm,0.3s,baz=111,slow=7.9,SNR=2.9						

CSEM ***12*** *09:52:30.6, 34°.34N×37°.15E, h38km, ML1.8, After NSSC*
NSSC 12 09:52:30.6±2.8, 34°.34N×37°.15E, h38km±999km, MD1.6, ML1.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.64**	**241**	*e*P	Pn	09 52 45.4	+1.7
MARH				*e*S	Sn	09 52 52.0	-0.7
MARH				AML	AML	09 53 03.8	
	comp=N,37nm,0.5s						
MARH				AML	AML	09 53 07.0	
	comp=E,48nm,0.5s						
MARH	**Ras Al Marh**	**0.64**	**241**	*e*P	Pn	09 52 45.4	+1.8
	SNR=92						
MARH				*e*S	Sn	09 52 52.0	-0.8
	comp=E,48nm,0.5s,SNR=91						
TOTH	**TOTAH**	**1.15**	**212**	*e*P	Pn	09 52 49.7	-0.5
TOTH	**TOTAH**	**1.15**	**212**	*e*P	Pn	09 52 49.7	-0.5
	SNR=90						
BRBR	**Barbar**	**1.36**	**227**	*e*P	Pn	09 52 53.7	+0.4
BRBR				*e*S	Sn	09 53 09.4	-0.8
BRBR				AML	AML	09 53 17.4	
	comp=N,12nm,0.5s						
BRBR				AML	AML	09 53 20.2	
	comp=E,38nm,0.5s						
BRBR	**Barbar**	**1.36**	**227**	*e*P	Pn	09 52 53.7	+0.4
	SNR=90						
BRBR				*e*S	Sn	09 53 09.4	-0.9
	comp=E,38nm,0.5s,SNR=90						
ZALF	**Zalf**	**1.42**	**174**	*e*P	Pn	09 52 55.6	+1.6
ZALF				*e*S	Sn	09 53 10.4	-1.1
ZALF				AML	AML	09 53 19.2	

IDC 12 09:41:06.8±5.1, 13°.03N×92°.44E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/27, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/39, Error ellipse: s-maj=302.2km s-min=25.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**32.52**	**122**	LR	LR	10 04 22.0	
	comp=Z,61nm,18.1s,baz=104,slow=43						
MKAR	**Makanchi Array**	**34.72**	**348**	P	P	09 47 58.6	0.0
	0.2nm,0.5s,baz=159,slow=7.8,SNR=3.1						
WRA	**Warramunga Arr**	**52.27**	**128**	P	P	09 16 22.4	-0.5
	0.4nm,0.7s,baz=309,slow=8.2,SNR=5.4						
ASAR	**Alice Springs**	**54.17**	**132**	P	P	09 16 37.0	+0.2
	0.3nm,0.5s,baz=310,slow=6.9,SNR=10						

ISCJB ***12*** *09:07:56.2±2.4, 31°.18S±0°.04×67°.57W±0°.05, h25km±23km, mb3.3/1, Error ellipse: s-maj=7.3km s-min=6.6km az=172.2*
NEIC ***12*** *09:07:57.0, 31°.17S×68°.04W, h20km, mb3.3/1, MD3.8(SJA), After SJA.*
NEIC Felt [III] at San Juan.
GUC ***12*** *09:07:58.3±0.7, 31°.20S×67°.88W, h20km, ML3.4*
ISC 12 09:07:59.4±2.9, 31°.17S±0°.06×67°.65W±0°.07, h39km±10km, n14, σ1°.42/21, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.88**	**269**	*e*P	**Pn**	**09 08 41.1**	**-1.7**
CMCH				*e*S	**Sn**	**09 09 14.4**	**-1.7**
CMCH				AML	AML	09 09 16.1	
	comp=N,2μm,0.5s						
TLL	**Tololo Astrono**	**2.90**	**289**	*e*P	**Pn**	**09 08 44.5**	**+1.3**
TLL				*e*S	**Sn**	**09 09 17.8**	**+0.9**
TLL				AML	AML	09 09 23.3	
	comp=E,217nm,0.8s						
JACH	**Jahuel**	**2.92**	**238**	*e*P	**Pn**	**09 08 43.2**	**-0.3**
PEL	**Peldehue**	**3.24**	**232**	*e*P	**Pn**	**09 08 47.1**	**-0.7**
PEL				*e*S	**Sn**	**09 09 24.9**	**-0.3**
PEL				AML	AML	09 09 41.1	
	comp=E,170nm,0.4s						
CLCH	**Cerro Calan**	**3.31**	**227**	*e*P	**Pn**	**09 08 48.7**	**0.0**
CLCH				*e*S	**Sn**	**09 09 27.1**	**+0.3**
CLCH				AML	AML	09 09 45.3	
	comp=E,202nm,0.7s						
LCO	**Las Campanas**	**3.41**	**308**	Pn	**Pn**	**09 08 49.1**	**-1.2**
LCO				*e*Sn	**Sn**	**09 09 32.7**	**+3.1**
LMEL	**Las Melosas**	**3.44**	**218**	*e*P	**Pn**	**09 08 51.0**	**+0.5**
LMEL				*e*S	**Sn**	**09 09 32.4**	**+2.3**
LMEL				AML	AML	09 09 53.7	
	comp=N,48nm,0.8s						
TACH	**Talagante**	**3.73**	**227**	*e*P	**Pn**	**09 08 53.1**	**-1.3**
CACH	**El Canelo**	**3.85**	**219**	*e*P	**Pn**	**09 08 56.6**	**+0.3**
TRQA	**Tornquist**	**8.31**	**147**	*e*Pn	**Pn**	**09 09 58.9**	**+1.6**
TRQA				*e*Sn	**Sn**	**09 11 30.1**	**+0.2**
LVC	**Limon Verde**	**8.59**	**352**	Pn	**Pn**	**09 10 00.3**	**-1.2**
CPUP	**Villa Florida**	**10.26**	**65**	Pn	**Pn**	**09 10 22.4**	**-1.5**
LPAZ	**La Paz**	**14.82**	**358**	Pn	**Pn**	**09 11 27.3**	**+0.4**
SAML	**Samuel**	**22.49**	**12**	P	**P**	**09 12 56.4**	**+0.8**
	comp=N,0.5nm,0.4s						

IDC 12 09:17:33.4±1.5, 13°.73N×92°.84E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/28, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=43.7km s-min=23.5km az=72.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.52**	**50**	Pn	Pn	09 19 25.4	+1.0
	0.3nm,0.3s,baz=238,slow=17,SNR=3.8						
CMAR				Sn	Sn	09 20 49.0	-1.4
	0.9nm,0.3s,baz=237,slow=32,SNR=4.6						
MKAR	**Makanchi Array**	**34.13**	**347**	P	P	09 24 20.0	0.0
	0.2nm,0.6s,baz=169,slow=8.1,SNR=2.7						
FITZ	**Fitzroy Crossi**	**45.24**	**133**	P	P	09 25 52.6	-0.2
	1.2nm,0.4s,baz=326,slow=8.6,SNR=23						
WRA	**Warramunga Arr**	**52.79**	**128**	P	P	09 26 50.4	-0.4
	0.2nm,0.3s,baz=307,slow=9.5,SNR=20						
WRA				PcP	PcP	09 28 00.3	-0.1
	0.2nm,0.4s,baz=319,slow=3.0,SNR=11						
ASAR	**Alice Springs**	**54.71**	**132**	P	P	09 27 04.9	0.0
	0.6nm,0.4s,baz=307,slow=6.9,SNR=19						

IDC 12 09:25:48.7±1.1, 14°.02N×93°.04E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=40.8km s-min=19.4km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.19**	**51**	Pn	Pn	09 27 34.7	-0.4
	0.4nm,0.3s,baz=236,slow=15,SNR=3.3						
CMAR				Sn	Sn	09 28 52.6	-4.9
	0.4nm,0.3s,baz=240,slow=27,SNR=5.1						
MKAR	**Makanchi Array**	**33.90**	**347**	P	P	09 32 32.1	-1.2
	0.5nm,0.7s,baz=164,slow=9.6,SNR=5.2						
SONM	**Songino Array**	**35.50**	**16**	P	P	09 32 48.0	+0.7
	0.2nm,0.3s,baz=198,slow=7.4,SNR=2.7						
FITZ	**Fitzroy Crossi**	**45.30**	**134**	P	P	09 34 08.1	-0.5
	0.8nm,0.3s,baz=331,slow=12,SNR=12						
WRA	**Warramunga Arr**	**52.82**	**129**	P	P	09 35 06.1	-0.2
	0.2nm,0.3s,baz=309,slow=9.8,SNR=20						
WRA				PcP	PcP	09 36 15.9	+0.1
	0.3nm,0.7s,baz=321,slow=3.1,SNR=5.4						
ASAR	**Alice Springs**	**54.76**	**133**	P	P	09 35 20.6	0.0
	0.4nm,0.5s,baz=310,slow=7.0,SNR=7.9						
BRTR	**Keskin Array B**	**57.71**	**308**	P	P	09 35 41.8	+0.2
	0.4nm,0.5s,baz=85,slow=7.9,SNR=3.6						

**IDC 12 09:29:05.4±3.9, 8°.42N×93°.51E, h57km±35km, mb3.5/12, mb1 3.7/14, mb1mx3.6/28, mbtmp3.6/14, ML4.1/2, MS3.1/2, Ms1 3.2/2, ms1mx2.8/34, Error ellipse: s-maj=36.0km s-min=15.2km az=58.0, Nicobar Islands region

ILAR Eielson Array 87.78 13 P P 11 03 08.3 -0.9
0.2nm,0.4s,baz=213,slow=5.2,SNR=5.3

IDC 12 11:09:30.6±46.0, 17°82S×174°20W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=874.5km s-min=162.7km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.20**	**242**	P	P	11 17 25.6	+0.2
	0.7nm,0.7s,baz=82,slow=7.7,SNR=3.4						
WRA	**Warramunga Arr**	**48.59**	**259**	P	P	11 18 15.8	-0.5
	0.2nm,0.3s,baz=97,slow=7.1,SNR=22						
ASAR	**Alice Springs**	**48.67**	**254**	P	P	11 18 16.9	0.0
	2.1nm,0.7s,baz=90,slow=8.4,SNR=43						

---

*ISCJB **12** 11:17:45.7±0.3, 6°33S±0°02×129°34E±0°04, h165km, mb4.0/20, Error ellipse: s-maj=5.6km s-min=3.4km az=4.6*
*DJA **12** 11:17:48.7±0.3, 6°S±6°×12°9E±°, h194km±18km, M4.8/7, mb4.8/5, mB5.2/4, MLv4.9/7, Mw(mB)4.6/4*
*AUST **12** 11:17:49.9, 6°48S×129°53E, h200km*
*NEIC **12** 11:17:49.5±1.4, 6°34S×129°40E, h193km±14km, mb4.6/4, Error ellipse: s-maj=14.5km s-min=7.0km az=54.0*
*IDC **12** 11:17:49.6±2.0, 6°32S×129°41E, h192km±19km, mb3.7/18, mb1 3.8/23, mb1mx3.8/27, mbtmp3.7/23, MS4.0/1, Ms1 4.0/1, ms1mx2.8/29, Error ellipse: s-maj=17.3km s-min=8.3km az=62.0*
ISC 12 11:17:47.1±0.4, 6°43S±0°04×129°46E±0°04, h165km, n86, σ2§06/105, mb3.9/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.95**	**13**	P	**Pn**	**11 18 23.4**	**+0.8**
BNDI	**Bandanaira**	**1.95**	**13**	P	Pn	11 18 29.4	+6.8
	baz=2.0,SNR=6.8						
MSAI	**Masohi**	**3.11**	**350**	P	**Pn**	**11 18 39.3**	**+2.8**
FAKI	**Fak Fak**	**4.46**	**39**	P	**Pn**	**11 18 55.2**	**+1.4**
FAKI				S	**Sn**	**11 19 45.2**	**-0.7**
FAKI	**Fak Fak**	**4.46**	**39**	P	**Pn**	**11 18 56.0**	**+2.3**
	baz=4.5,SNR=59						
FAKI				S	**Sn**	**11 19 45.4**	**-0.5**
	baz=4.5,SNR=34						
SWI	**Sorong**	**5.82**	**18**	P	**Pn**	**11 19 12.1**	**+0.6**
	203nm,0.3s,7μm1.5nm						
SWI				S	**Sn**	**11 20 14.5**	**-3.3**
	203nm,0.3s,7μm1.5nm						
SWI	**Sorong**	**5.82**	**18**	P	**Pn**	**11 19 13.1**	**+1.6**
	baz=5.9,SNR=34						
SWI				S	**Sn**	**11 20 16.4**	**-1.4**
	baz=5.9,SNR=8.5						
SOEI	**Soe**	**6.11**	**237**	P	Pn	11 19 20.6	+5.1
	73nm,0.8s,2μm1.1nm						
SOEI				S	**Sn**	**11 20 29.0**	**+4.1**
	73nm,0.8s,2μm1.1nm						
SOEI	**Soe**	**6.11**	**237**	P	Pn	11 19 19.3	+3.8
	baz=6.2,SNR=13						
SOEI				S	**Sn**	**11 20 27.1**	**+2.2**
	baz=6.2,SNR=8.9						
MTN	**Manton Dam**	**6.58**	**166**	P	Pn	11 19 25.6	+3.9
	baz=6.6,SNR=165						
MTN				S	**Sn**	**11 20 37.8**	**+1.8**
	baz=6.6,SNR=11						
RKPI	**Ransiki, Papua**	**6.79**	**44**	P	**Pn**	**11 19 26.9**	**+2.5**
	1μm,0.7s,19μm6.0nm						
RKPI				S	**Sn**	**11 20 39.2**	**-1.7**
	1μm,0.7s,19μm6.0nm						
BATI	**Baumata**	**6.85**	**236**	P	**Pn**	**11 19 27.4**	**+2.1**
BATI				S	**Sn**	**11 20 43.0**	**+0.5**
BATI	**Baumata**	**6.85**	**236**	P	**Pn**	**11 19 23.8**	**-1.5**
	60nm,0.7s,1μm0.5nm						
BATI				S	**Sn**	**11 20 45.1**	**+2.6**
	60nm,0.7s,1μm0.5nm						
BATI	**Baumata**	**6.85**	**236**	P	**Pn**	**11 19 27.4**	**+2.1**
	16nm,0.3s,baz=129,slow=1.8,SNR=15						
BATI				S	**Sn**	**11 20 43.0**	**+0.5**
	29nm,0.3s,baz=125,slow=6.7,SNR=11						
KDU	**Kakadu**	**6.89**	**155**	P	Pn	11 19 29.6	+3.9
	baz=6.8,SNR=144						
KDU				S	**Sn**	**11 20 44.7**	**+1.3**
	baz=6.8,SNR=10.0						
LUWI	**Luwuk**	**8.55**	**308**	S	**Sn**	**11 21 27.4**	**+4.2**
	baz=8.7,SNR=4.1						
KNRA	**Kununurra**	**9.21**	**184**	P	**Pn**	**11 19 59.0**	**+2.5**
	baz=9.2,SNR=142						
KNRA				S	**Sn**	**11 21 36.5**	**-2.6**
	baz=9.2,SNR=8.3						
KAPI	**Kappang**	**9.76**	**278**	P	**Pn**	**11 20 06.4**	**+2.7**
KAPI	**Kappang**	**9.76**	**278**	P	**Pn**	**11 20 06.4**	**+2.7**
	0.4nm,0.3s,baz=162,slow=13,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.18**	**197**	P	**Pn**	**11 20 36.1**	**+0.8**
FITZ				S	**Sn**	**11 22 45.6**	**-4.8**
FITZ	**Fitzroy Crossi**	**12.18**	**197**	P	**Pn**	**11 20 36.1**	**+0.8**
	8.0nm,0.3s,baz=30,slow=12,SNR=201						
FITZ				S	**Sn**	**11 22 45.6**	**-4.8**
	1.5nm,0.3s,baz=108,slow=20,SNR=2.8						
WRAB	**Tennant Creek**	**14.24**	**161**	*e*P	**Pn**	**11 21 02.3**	**+0.9**
	12nm,0.6s						
WRAB				*e*S	Sn	11 23 33.3	-6.5
WRA	**Warramunga Arr**	**14.24**	**161**	P	**Pn**	**11 21 02.6**	**+1.1**
WRA				S	**Sn**	**11 23 35.5**	**-4.4**
WRA	**Warramunga Arr**	**14.24**	**161**	P	**Pn**	**11 21 02.6**	**+1.1**
	1.2nm,0.3s,baz=336,slow=14,SNR=44						
WRA				S	**Sn**	**11 23 35.5**	**-4.4**
	3.6nm,0.3s,baz=336,slow=22,SNR=9.0						
PALU	**Palau**	**14.57**	**20**	P	**P**	**11 21 07.7**	**+0.1**
	baz=15,SNR=13						
COEN	**Coen**	**15.43**	**120**	P	**P**	**11 21 19.5**	**+2.4**
	baz=15,SNR=5.4						
COEN				S	**Sn**	**11 24 06.6**	**-1.8**
	baz=15,SNR=3.8						
MBWA	**Marble Bar**	**17.41**	**212**	*e*P	**Pn**	**11 21 40.3**	**+0.2**
	5.2nm,0.4s						
MBWA				*e*S	**S**	**11 24 46.5**	**-5.3**
AS31	**Alice Springs**	**17.66**	**166**	*e*P	**Pn**	**11 21 45.1**	**+2.0**
AS31				*e*S	**S**	**11 24 55.6**	**-1.2**
ASAR	**Alice Springs**	**17.66**	**166**	P	**Pn**	**11 21 44.9**	**+1.8**
ASAR				S	**S**	**11 24 54.5**	**-2.4**
ASAR	**Alice Springs**	**17.66**	**166**	P	**Pn**	**11 21 44.9**	**+1.8**
	3.8nm,0.3s,baz=347,slow=10,SNR=363						
ASAR				S	**S**	**11 24 54.5**	**-2.4**
	0.9nm,0.3s,baz=342,slow=20,SNR=12						
PMG	**Port Moresby**	**17.78**	**101**	*e*P	**Pn**	**11 21 49.2**	**+4.7**
	28nm,0.8s						
PMG	**Port Moresby**	**17.78**	**101**	P	**Pn**	**11 21 48.9**	**+4.3**
	1.9nm,0.3s,baz=267,slow=7.2,SNR=11						
MTSU	**Mount Surprise**	**18.58**	**130**	P	**Pn**	**11 21 55.0**	**+1.0**
	baz=18,SNR=61						
CTA	**Charters Tower**	**21.22**	**131**	P	**P**	**11 22 22.6**	**+2.5**
CTA	**Charters Tower**	**21.22**	**131**	P	**P**	**11 22 22.6**	**+2.5**
	12nm,0.6s,baz=308,slow=13,SNR=20						
CTAO	**Charters Tower**	**21.22**	**131**	*e*P	**P**	**11 22 22.9**	**+2.8**
	23nm,0.9s						
MEEK	**Meekatharra**	**22.60**	**206**	P	**P**	**11 22 34.5**	**+0.6**
	baz=23,SNR=6.3						
BBOO	**Buckleboo**	**26.96**	**168**	P	**P**	**11 23 14.5**	**+1.2**
	baz=27,SNR=8.0						
STKA	**Stephens Creek**	**27.74**	**157**	P	**P**	**11 23 21.7**	**+1.5**
STKA	**Stephens Creek**	**27.74**	**157**	P	**P**	**11 23 21.7**	**+1.5**
	1.7nm,0.3s,baz=341,slow=8.3,SNR=22						
STKA	**Stephens Creek**	**27.74**	**157**	P	**P**	**11 23 21.8**	**+1.5**
	baz=28,SNR=20						
CMSA	**Cobar Meteorol**	**29.23**	**151**	P	**P**	**11 23 35.7**	**+2.2**
	baz=29,SNR=22						
ARPS	**Mount Arapiles**	**32.25**	**161**	P	**P**	**11 24 02.4**	**+2.5**
	baz=32,SNR=6.5						
YNG	**Young**	**32.80**	**150**	P	**P**	**11 24 07.2**	**+2.4**
	baz=33,SNR=13						
CMAR	**Chiang Mai Arr**	**38.95**	**310**	P	**P**	**11 24 57.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.95**	**310**	P	**P**	**11 24 57.2**	**-0.2**
	1.2nm,0.6s,baz=130,slow=6.6,SNR=6.9						
MJAR	**Matsushiro Arr**	**43.53**	**10**	P	**P**	**11 25 32.3**	**-2.0**
MJAR	**Matsushiro Arr**	**43.53**	**10**	P	**P**	**11 25 32.3**	**-2.0**
	3.4nm,0.7s,baz=187,slow=9.3,SNR=13						
KSAR	**Wonju Array Be**	**43.67**	**358**	P	**P**	**11 25 35.2**	**-0.2**
KSRS	**Korea Array**	**43.68**	**358**	P	**P**	**11 25 35.2**	**-0.3**
	0.9nm,0.5s,baz=186,slow=7.3,SNR=4.6						
USRK	**Ussuriysk Arra**	**50.45**	**2**	P	**P**	**11 26 26.9**	**-0.9**
	2.4nm,0.6s,baz=192,slow=6.6,SNR=5.9						
RPZ	**Rata Peaks**	**52.01**	**142**	P	**P**	**11 26 41.0**	**+1.4**
RPZ	**Rata Peaks**	**52.01**	**142**	P	**P**	**11 26 41.0**	**+1.4**
	8.4nm,1.0s,baz=350,slow=17,SNR=2.8						
RPZ				LR	LR	11 47 04.4	
	comp=Z,165nm,21.6s,baz=78,slow=34						
URZ	**Urewera**	**53.44**	**134**	P	**P**	**11 26 50.3**	**+0.1**
URZ	**Urewera**	**53.44**	**134**	P	**P**	**11 26 50.3**	**+0.1**
	4.7nm,0.7s,baz=245,slow=3.6,SNR=5.7						
RAO	**Raoul Island**	**54.46**	**121**	P	**P**	**11 26 57.5**	**-0.3**
RAO	**Raoul Island**	**54.46**	**121**	P	**P**	**11 26 57.4**	**-0.3**
	205nm,0.3s,baz=311,slow=20,SNR=2.2						
SONM	**Songino Array**	**57.74**	**342**	P	**P**	**11 27 19.9**	**-0.9**
SONM	**Songino Array**	**57.74**	**342**	P	**P**	**11 27 19.9**	**-0.9**
	0.3nm,0.3s,baz=157,slow=8.0,SNR=4.5						
PETK	**Petropavlovsk-**	**63.96**	**19**	P	**P**	**11 28 02.0**	**-0.4**
PETK	**Petropavlovsk-**	**63.96**	**19**	P	**P**	**11 28 02.0**	**-0.4**
	2.5nm,0.7s,baz=179,slow=5.9,SNR=4.9						
MKAR	**Makanchi Array**	**67.46**	**327**	P	**P**	**11 28 24.1**	**-0.9**
MKAR	**Makanchi Array**	**67.46**	**327**	P	**P**	**11 28 24.1**	**-0.9**
	1.0nm,0.4s,baz=120,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**70.84**	**334**	P	**P**	**11 28 43.6**	**-2.0**
ZALV	**Zalesovo Beam**	**70.84**	**334**	P	**P**	**11 28 43.6**	**-2.0**
	0.8nm,0.5s,baz=101,slow=7.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**71.75**	**329**	P	**P**	**11 28 50.2**	**-1.0**
	1.6nm,0.4s,baz=131,slow=4.9,SNR=9.1						
KURK	**Kurchatov**	**71.75**	**329**	P	**P**	**11 28 50.2**	**-1.0**
VNDA	**Vanda**	**73.07**	**173**	P	**P**	**11 28 58.5**	**-0.2**
VNDA	**Vanda**	**73.07**	**173**	P	**P**	**11 28 58.5**	**-0.2**
	1.0nm,0.5s,baz=256,slow=5.1,SNR=3.3						
MAW	**Mawson**	**75.28**	**201**	P	**P**	**11 29 11.1**	**-0.4**
MAW	**Mawson**	**75.28**	**201**	P	**P**	**11 29 11.1**	**-0.4**
	1.1nm,0.9s,baz=17,slow=9.6,SNR=3.8						
BVAR	**Borovoye Array**	**77.30**	**328**	P	**P**	**11 29 21.3**	**-1.9**
BVAR	**Borovoye Array**	**77.30**	**328**	P	**P**	**11 29 21.3**	**-1.9**
	0.5nm,0.4s,baz=163,slow=5.6,SNR=2.9						
ABKAR	**Akbulak array**	**81.73**	**322**	*e*P	**P**	**11 29 45.7**	**-1.5**
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**83.30**	**322**	P	**P**	**11 29 54.0**	**-1.2**
AKTO	**Aktyubinsk**	**83.30**	**322**	P	**P**	**11 29 54.0**	**-1.2**
	0.6nm,0.4s,baz=100,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**93.06**	**25**	P	**P**	**11 30 39.0**	**-2.7**
ILAR	**Eielson Array**	**93.06**	**25**	P	**P**	**11 30 39.0**	**-2.7**
	0.3nm,0.7s,baz=239,slow=5.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**128.17**	**282**	PKP	**PKPdf**	**11 36 32.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**128.17**	**282**	PKP	**PKPdf**	**11 36 32.9**	**-1.8**
	0.4nm,0.9s,baz=94,slow=2.5,SNR=3.3						
JTS	**JuntasAbangare**	**145.75**	**81**	PKPbc	**PKPdf**	**11 37 06.0**	**-1.1**
JTS	**JuntasAbangare**	**145.75**	**81**	PKPbc	**PKPdf**	**11 37 06.0**	**-1.1**
	5.2nm,0.8s,baz=352,slow=18,SNR=3.9						
CPUP	**Villa Florida**	**146.77**	**169**	PKPbc	**PKPbc**	**11 37 10.1**	**-0.3**
CPUP	**Villa Florida**	**146.77**	**169**	PKPbc	**PKPbc**	**11 37 10.1**	**-0.3**
	0.5nm,0.3s,baz=102,slow=7.5,SNR=5.0						
LPAZ	**La Paz**	**151.50**	**143**	PKPbc	**PKPbc**	**11 37 23.4**	**0.0**
LPAZ				PKPab	**PKPab**	**11 37 31.9**	**-0.3**
LPAZ	**La Paz**	**151.50**	**143**	PKPbc	**PKPbc**	**11 37 23.4**	**0.0**
	0.6nm,0.4s,baz=162,slow=2.3,SNR=4.2						
LPAZ				PKPab	**PKPab**	**11 37 31.9**	**-0.3**
	0.7nm,0.6s,baz=185,slow=4.9,SNR=4.3						

---

*ISCJB **12** 11:38:23.2±2.5, 33°1S±0°1×177°9W±0°4, h33km, mb4.5/6, Error ellipse: s-maj=51.8km s-min=6.8km az=17.3*
*NEIC **12** 11:38:25.3±4.4, 32°85S×178°50W, h2km±26km, mb4.6/2, Error ellipse: s-maj=20.7km s-min=11.6km az=116.0*
*IDC **12** 11:38:26.0±0.8, 32°74S×178°67W, h0km, mb4.5/5, mb1 4.6/7, mb1mx4.1/19, mbtmp4.5/7, ML4.3/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/26, Error ellipse: s-maj=28.2km s-min=20.4km az=101.0*
ISC 12 11:38:29.9±1.0, 32°86S±0°09×178°7W±0°2, h32km, n39, σ1§28/35, mb4.5/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.66**	**11**	Pn	**Pn**	**11 39 22.1**	**-2.2**
RAO				Sn	**Sn**	**11 40 05.8**	**-0.5**
RAO	**Raoul Island**	**3.66**	**11**	Pn	**Pn**	**11 39 22.1**	**-2.2**
	baz=246,slow=20,SNR=2.1						
RAO				Sn	**Sn**	**11 40 05.8**	**-0.5**
	73nm,0.3s,baz=253,slow=19,SNR=2.4						
URZ	**Urewera**	**6.38**	**211**	*e*Pn	**Pn**	**11 40 01.8**	**+0.1**
URZ				Sn	**Sn**	**11 41 12.3**	**-1.1**
URZ				*e*Sn	**Sn**	**11 41 12.7**	**-0.7**
URZ	**Urewera**	**6.38**	**211**	Pn	**Pn**	**11 40 00.7**	**-1.0**
	6.7nm,0.3s,baz=76,slow=16,SNR=80						
URZ				Sn	**Sn**	**11 41 12.3**	**-1.1**
	14nm,0.3s,baz=24,slow=19,SNR=7.9						
SNZO	**South Karori**	**9.94**	**210**	Pn	Pn	11 40 47.1	-3.4
SNZO				*e*Sn	Sn	11 42 32.5	-8.4
DZM	**Mont Dzumac**	**16.99**	**306**	*e*LR	LR	11 46 14.9	
	260nm,24.6s						
PPT2	**Papeete2**	**30.29**	**67**	*e*LR	LR	11 52 23.3	
	88nm,26.8s						
STKA	**Stephens Creek**	**33.42**	**261**	*e*P	**P**	**11 45 02.6**	**-3.1**
	18nm,2.6s						
STKA	**Stephens Creek**	**33.42**	**261**	LR	LR	11 56 12.4	
	comp=Z,136nm,20.1s,baz=26,slow=32						
CTA	**Charters Tower**	**33.69**	**283**	P	**P**	**11 45 10.2**	**+1.9**
CTA	**Charters Tower**	**33.69**	**283**	P	**P**	**11 45 10.2**	**+1.9**
	4.7nm,0.5s,baz=116,slow=12,SNR=9.0						
CTAO	**Charters Tower**	**33.69**	**283**	*e*P	**P**	**11 45 10.2**	**+1.9**
	5.5nm,0.6s						
AS31	**Alice Springs**	**42.45**	**270**	*e*P	**P**	**11 46 22.4**	**+0.4**
ASAR	**Alice Springs**	**42.45**	**270**	P	**P**	**11 46 22.6**	**+0.5**
ASAR	**Alice Springs**	**42.45**	**270**	P	**P**	**11 46 22.6**	**+0.5**
	4.0nm,0.7s,baz=110,slow=7.5,SNR=47						
WRA	**Warramunga Arr**	**43.66**	**275**	P	**P**	**11 46 32.8**	**+1.0**
WRA	**Warramunga Arr**	**43.66**	**275**	P	**P**	**11 46 32.8**	**+1.0**
	4.0nm,0.3s,baz=114,slow=7.7,SNR=14						
NWAO	**Narrogin (SRO)**	**53.01**	**251**	LR	LR	12 06 21.0	
	comp=Z,122nm,21.9s,baz=20,slow=32						
QSPA	**South Pole Qui**	**57.26**	**180**	P	P	11 48 17.4	+3.3
QSPA	**South Pole Qui**	**57.26**	**180**	P	P	11 48 17.4	+3.3
	3.7nm,0.8s,baz=33,slow=9.2,SNR=25						
PETK	**Petropavlovsk-**	**88.04**	**346**	P	**P**	**11 51 18.0**	**+1.5**
PETK	**Petropavlovsk-**	**88.04**	**346**	P	**P**	**11 51 18.0**	**+1.5**
	1.4nm,1.0s,baz=154,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**118.88**	**309**	PKP	**PKPdf**	**11 57 13.4**	**-1.4**
MKAR	**Makanchi Array**	**118.88**	**309**	PKP	**PKPdf**	**11 57 13.4**	**-1.4**
	0.2nm,0.6s,baz=75,slow=1.6,SNR=3.3						
KURK	**Kurchatov**	**122.30**	**313**	PKP	**PKPdf**	**11 57 21.4**	**+0.2**
KURBB	**Kurchatov Arra**	**122.33**	**313**	PKP	**PKPdf**	**11 57 21.4**	**+0.2**
	0.6nm,0.3s,baz=119,slow=2.0,SNR=5.7						
ARCES	**ARCESS Array B**	**140.85**	**347**	PKPpre	PKPpre	11 57 49.6	
ARCES	**ARCESS Array B**	**140.85**	**347**	PKhKP	PKPpre	11 57 49.6	
	1.9nm,0.8s,baz=48,slow=1.3,SNR=3.2						
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	**PKPbc**	**11 58 09.9**	**+0.8**
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	**PKPbc**	**11 58 09.9**	**+0.8**
	3.6nm,0.7s,baz=96,slow=5.7,SNR=15						
NB2	**NORSAR Subarra**	**151.07**	**350**	PKP	**PKPbc**	**11 58 19.8**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**151.07**	**350**	PKPbc	**PKPbc**	**11 58 20.2**	**+1.3**
NOA	**NORSAR Array B**	**151.07**	**350**	PKPbc	**PKPbc**	**11 58 20.2**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=15,slow=4.6,SNR=8.7						
AKASG	**Malin Array Be**	**152.83**	**319**	PKPbc	**PKPbc**	**11 58 24.0**	**+0.8**
AKASG	**Malin Array Be**	**152.83**	**319**	PKPbc	**PKPbc**	**11 58 24.0**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=79,slow=1.4,SNR=1.9						
BRTR	**Keskin Array B**	**153.15**	**294**	PKPbc	**PKPbc**	**11 58 24.9**	**+0.4**
BRTR	**Keskin Array B**	**153.15**	**294**	PKPbc	**PKPbc**	**11 58 24.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=45,slow=4.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**160.38**	**181**	PKPab	**PKPab**	**11 59 08.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**160.38**	**181**	PKPab	**PKPab**	**11 59 08.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=167,slow=3.8,SNR=5.6						

---

*IDC **12** 11:39:07.6±2.1, 14°31N×93°50W, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/24, mbtmp3.8/9, ML3.5/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/34, Error ellipse: s-maj=57.0km s-min=26.9km az=32.0*
*MEX **12** 11:39:11.1±0.3, 14°25N×93°89W, h25km±24km, MD4.0*
*ISCJB **12** 11:39:12.1±0.7, 14°35N±0°07×93°70W±0°06, h36km, mb4.2/21, MS3.7/9, Error ellipse: s-maj=9.9km s-min=8.7km az=159.5*
*BJI **12** 11:39:13.9, 14°60N×93°50W, h35km, mB5.0/1, Ms4.9/2, Ms7 4.5/2*
*NEIC **12** 11:39:13.9±0.7, 14°44N×93°47W, h35km, mb4.2/17, Error ellipse: s-maj=17.7km s-min=6.5km az=38.0*
ISC 12 11:39:12.4±0.7, 14°28N±0°08×93°56W±0°08, h36km, n203, σ1§12/199, mb4.3/21, MS3.7/9, 77C-71D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.42**	**34**	*e*P	**Pn**	**11 39 50.2**	**+0.6**
CCIG				*i* S	**Sn**	**11 40 20.3**	**+2.3**
TGIG		**2.52**	**10**	*e*P	**Pn**	**11 39 49.8**	**-1.1**
TGIG				*i* S	**Sn**	**11 40 20.1**	**-0.4**
HUIG	**Huatulco**	**2.88**	**301**	*i* P	Pn	11 39 49.6	-6.0
HUIG				*i* S	Sn	11 40 20.0	-9.1
VHO	**Vista Hermosa**	**4.13**	**313**	*i* P	Pn	11 40 09.7	-3.5
TEIG	**Tepich**	**7.78**	**40**	*e*Pn	**Pn**	**11 41 01.2**	**-1.9**
TEIG				*e*Sn	Sn	11 42 21.6	-8.2
TEIG				Sn		11 42 26.9	
TEIG	**Tepich**	**7.78**	**40**	Pn	**Pn**	**11 41 01.1**	**-1.9**
	1.9nm,0.3s,baz=294,slow=7.8,SNR=11						
TEIG				Sn	**Sn**	**11 42 26.9**	**-3.0**
	1.1nm,0.3s,baz=163,slow=19,SNR=2.6						
TEIG				LR	LR	11 44 31.0	
	comp=Z,481nm,18.2s,baz=123,slow=42						
JTS	**JuntasAbangare**	**9.29**	**114**	Pn	**Pn**	**11 41 24.0**	**+0.1**
JTS	**JuntasAbangare**	**9.29**	**114**	Pn	**Pn**	**11 41 24.0**	**+0.1**
	0.2nm,0.3s,baz=356,slow=16,SNR=2.3						
KVTX	**Kingsville**	**13.81**	**344**	Pn	**Pn**	**11 42 25.2**	**-0.4**
732A	**Laxson Ranch,**	**15.56**	**339**	⇓P	**Pn**	**11 42 50.3**	**+1.1**
	baz=16						
632A	**Uvalde**	**16.21**	**340**	⇓P	**P**	**11 42 59.3**	**-1.0**
	baz=16						
631A	**Perdido Creek**	**16.40**	**338**	⇓P	**Pn**	**11 42 59.2**	**-0.6**
	baz=16						
532A	**Rocksprings**	**16.83**	**341**	⇑P	**Pn**	**11 43 06.1**	**+0.8**
	baz=17						
531A	**Rocksprings**	**17.08**	**339**	⇓P	**Pn**	**11 43 08.2**	**-0.2**
	baz=17,SNR=8.6						
JCT	**Junction City**	**17.12**	**341**	*e*Pn	**Pn**	**11 43 09.3**	**+0.4**
	12nm,1.4s						
JCT	**Junction City**	**17.12**	**341**	⇓P	**P**	**11 43 10.4**	**+0.1**
	baz=17						
530A	**J-C Ranch, Com**	**17.35**	**337**	⇑P	**Pn**	**11 43 12.2**	**+0.4**
	baz=17						
628A	**Black Gap, Mar**	**17.42**	**332**	⇓P	**Pn**	**11 43 12.9**	**+0.2**
	baz=17,SNR=13						
432A	**Menard**	**17.49**	**342**	⇑P	**P**	**11 43 14.4**	**0.0**
	baz=17						
431A	**Sonora**	**17.57**	**339**	⇑P	**P**	**11 43 16.4**	**+1.1**
	baz=18						
627A	**Terlingua Ranc**	**17.63**	**331**	⇑P	**Pn**	**11 43 15.5**	**+0.2**
	baz=18,SNR=10						
TXAR	**Lajitas Array**	**17.66**	**330**	P	**P**	**11 43 16.4**	**0.0**
TXAR	**Lajitas Array**	**17.66**	**330**	P	**P**	**11 43 16.4**	**0.0**
	0.0nm,0.3s,baz=153,slow=11,SNR=8.5						
529A	**Stev Forest Ra**	**17.68**	**335**	⇑P	**P**	**11 43 17.0**	**+0.4**
	baz=18						
430A	**Baggett Ranch,**	**17.89**	**338**	⇓P	**Pn**	**11 43 18.8**	**+0.3**
	baz=18						
332A	**Millersview**	**17.95**	**343**	⇑P	**Pn**	**11 43 19.1**	**0.0**
	baz=18						
528A	**Cox Ranch, San**	**17.95**	**333**	⇓P	**P**	**11 43 21.0**	**+1.4**
	baz=18						
429A	**Davenport Ranc**	**17.99**	**336**	⇓P	**Pn**	**11 43 20.0**	**+0.3**
	baz=18,SNR=11						
626A	**Big Bend Ranch**	**18.08**	**329**	⇓P	**P**	**11 43 22.3**	**+1.4**
	baz=18						
331A	**San Angelo**	**18.09**	**341**	⇑P	**P**	**11 43 21.8**	**+0.8**
	baz=18						
527A	**Woodward Ranch**	**18.31**	**331**	⇑P	**Pn**	**11 43 24.3**	**+0.6**
	baz=18,SNR=8.6						
232A	**Coleman**	**18.40**	**343**	⇑P	**Pn**	**11 43 25.8**	**+1.2**
	baz=18						
428A	**Kincaid Ranch,**	**18.40**	**334**	⇑P	**Pn**	**11 43 25.2**	**+0.5**
	baz=18,SNR=5.1						
330A	**Mertzon**	**18.43**	**339**	⇓P	**Pn**	**11 43 25.9**	**+0.9**
	baz=18						
526A	**Mary Lane Ranc**	**18.47**	**330**	⇓P	**Pn**	**11 43 26.0**	**+0.3**
	baz=18						
329A	**Wagon Wheel Ra**	**18.79**	**337**	⇓P	**Pn**	**11 43 29.7**	**+0.2**
	baz=19						
427A	**Hayter Ranch,**	**18.82**	**333**	⇑P	**Pn**	**11 43 31.9**	**+2.1**
	baz=19						
230A	**Sterling City**	**18.84**	**340**	⇓P	**P**	**11 43 29.9**	**+0.5**
	baz=

V27A	Dan Oppiter Fa baz=23	22.96 340 ⇑P		P	11 44 14.7 +0.9
TKL	Tuckaleechee C comp=Z,63nm,18.3s,baz=244,slow=42	23.04 21	LR	LR	11 55 11.2
Y22A	Socorro baz=23,SNR=5.1	23.04 330 ⇓P		P	11 44 15.4 +0.7
W25A	X Bar L Ranch, baz=23,SNR=5.9	23.05 337 ⇓P		P	11 44 15.0 +0.2
BNM	Barren Site 6.7nm,1.2s	23.05 331 *e*P		P	11 44 15.4 +0.5
SDV	Santo Domingo 1.8nm,0.6s	23.08 101 P		P	11 44 17.3 +2.0
Z20A	Nine Sixteen R baz=23	23.21 326 ⇓P		P	11 44 16.7 +0.3
V26A	Tequesquite Ra baz=23	23.32 339 ⇓P		P	11 44 17.2 -0.1
W24A	Lazy 6 Ranch, baz=23,SNR=6.4	23.42 335 ⇓P		P	11 44 18.8 +0.3
ANMO	Albuquerque	23.64 333 P		P	11 44 21.9 +1.3
ANMO	Albuquerque 0.7nm,0.7s,baz=141,slow=12,SNR=2.3	23.64 333 P		P	11 44 21.9 +1.3
V25A	Rancho No Teng baz=24,SNR=8.3	23.66 337 ⇓P		P	11 44 21.2 +0.5
W23A	Werner Place, baz=24	23.69 334 ⇓P		P	11 44 22.0 +0.9
Y20A	Horse Springs, baz=24,SNR=6.6	23.72 328 ⇑P		P	11 44 23.0 +1.6
V24A	Rampart Ranch, baz=24	23.81 336 ⇑P		P	11 44 23.4 +1.1
U26A	Atchley Ranch, baz=24	23.84 339 ⇓P		P	11 44 23.2 +0.8
X21A	Alamocita Cree baz=24,SNR=6.2	23.85 330 ⇓P		P	11 44 23.9 +1.3
TUC	Tucson 13nm,0.9s	23.87 322 *e*P		P	11 44 24.4 +1.7
T28A	Walsh baz=24	24.00 343 ⇑P		P	11 44 23.7 -0.1
U25A	Circle Dot Ran baz=24,SNR=6.1	24.08 338 ⇓P		P	11 44 25.1 +0.4
T27A	Campo baz=24	24.12 342 ⇑P		P	11 44 24.8 -0.2
V23A	Ortiz Mt. (NFS baz=24,SNR=6.0	24.20 334 ⇑P		P	11 44 26.8 +1.0
S28A	Manter baz=24	24.38 344 ⇑P		P	11 44 29.0 +1.7
U24A	Moreno Valley baz=24	24.41 337 ⇓P		P	11 44 29.8 +1.9
T26A	Comanche Natio baz=24	24.50 340 ⇓P		P	11 44 29.2 +0.7
R30A	Dighton baz=25	24.64 347 ⇑P		P	11 44 30.1 +0.5
V22A	San Miguel Ran baz=25	24.65 333 ⇑P		P	11 44 30.5 +0.5
U23A	El Rito baz=25,SNR=5.9	24.70 335 ⇓P		P	11 44 31.5 +1.1
T25A	Trinidad baz=25,SNR=6.2	24.74 339 ⇑P		P	11 44 31.8 +1.1
W20A	Ramah baz=25	24.74 330 ⇑P		P	11 44 32.3 +1.5
S26A	Kim baz=25	24.87 341 ⇑P		P	11 44 32.9 +1.1
X18A	Snowflake baz=25	25.02 327 ⇑P		P	11 44 35.5 +2.2
S25A	Robets Cordova baz=25,SNR=8.0	25.22 339 ⇑P		P	11 44 35.3 +0.3
T23A	Casias Ranch, baz=25	25.25 336 ⇑P		P	11 44 36.2 +0.8
V20A	Brimhall baz=25	25.27 331 ⇓P		P	11 44 37.1 +1.5
R27A	Eads baz=25	25.28 343 ⇓P		P	11 44 36.3 +0.9
Q29A	Oakley baz=25	25.38 346 ⇑P		P	11 44 36.5 +0.2
U21A	Nageezi baz=25	25.41 333 ⇑P		P	11 44 38.3 +1.5
S24A	Houchin Ranch, baz=25	25.47 338 ⇓P		P	11 44 38.2 +0.7
R26A	Arlington baz=25	25.48 342 ⇑P		P	11 44 39.5 +2.1
R25A	Fountain Ranch baz=26	25.61 340 ⇓P		P	11 44 39.7 +1.2
SDCO	Great Sand Dun 3.9nm,1.1s	25.67 338 *e*P		P	11 44 39.9 +0.7
T21A	Navajo Lake baz=26	25.83 334 ⇑P		P	11 44 41.5 +0.9
P30A	Selden baz=26	25.85 348 ⇑P		P	11 44 41.1 +0.5
R24A	Sanders Place, baz=26	25.96 339 ⇑P		P	11 44 42.9 +1.1
113A	Mohawk Valley, baz=26	26.03 318 ⇑P		P	11 44 43.3 +1.1
S22A	4UR Ranch, Cre baz=26	26.18 336 ⇑P		P	11 44 45.3 +1.4
MVCO	Mesa Verde baz=26	26.44 332 ⇑P		P	11 44 46.7 +0.5
S21A	Coal Bank Pass baz=26	26.51 334 ⇓P		P	11 44 48.5 +1.7
R22A	Saguache, Gunn baz=26	26.57 336 ⇑P		P	11 44 48.8 +1.3
S20A	Disappointment baz=27	26.89 333 ⇓P		P	11 44 51.4 +1.1
Q22A	Crested Butte, baz=27	27.18 337 ⇑P		P	11 44 53.9 +1.0
R20A	Redvale baz=27	27.20 334 ⇑P		P	11 44 55.1 +2.1
PV01	Paradox Valley 268nm,1.0s	27.24 333 *e*P		P	11 44 54.6 +1.2
P23A	Jefferson baz=27	27.24 339 ⇑P		P	11 44 54.7 +1.3
ISCO	Idaho Springs 1.8nm,0.9s	27.54 340 *e*P		P	11 44 56.6 +0.4
ISCO	Idaho Springs baz=28	27.54 340 ⇓P		P	11 44 57.5 +1.3
BC3	Big Chuckawall baz=28	27.69 318 ⇓P		P	11 44 58.2 +0.9
O23A	Lake Granby, G baz=28	28.01 340 ⇑P		P	11 45 01.7 +1.4
O22A	Kremmling baz=28	28.19 339 ⇓P		P	11 45 02.6 +0.7
PFO	Pinyon Flat Ob comp=Z,54nm,18.6s,baz=133,slow=37	28.32 317 LR		LR	11 56 38.8
N22A	Wattenberg Ran baz=29	28.73 339 ⇓P		P	11 45 07.1 +0.5
MVL	Millersville 7.9nm,0.8s	29.74 27 *e*P		P	11 45 17.4 +2.1
M21A	Separation Pea baz=30	29.75 339 ⇓P		P	11 45 17.5 +1.8
J26A	Sides Ranch, S baz=30	30.07 346 ⇑P		P	11 45 19.2 +0.9
L21A	Rawlins baz=30	30.07 339 ⇑P		P	11 45 19.0 +0.5
J21A	Lysite baz=31	31.33 340 ⇓P		P	11 45 30.1 +0.5
K19A	Absolon Red Bu baz=31	31.35 338 ⇓P		P	11 45 29.7 -0.1
PDAR	Pinedale Array	31.56 337 P		P	11 45 31.8 +0.1
PDAR	Pinedale Array 0.9nm,0.9s,baz=127,slow=9.5,SNR=7.4	31.56 337 P		P	11 45 31.8 +0.1
G23A	Biddle baz=32	32.42 344 ⇓P		P	11 45 38.9 0.0
I19A	Meeteetse baz=32	32.46 339 ⇑P		P	11 45 40.4 +0.9
NVAR	Mina Array Bea	32.52 322 P		P	11 45 41.6 +1.5
NVAR	Mina Array Bea 1.2nm,0.9s,baz=145,slow=9.2,SNR=8.4	32.52 322 P		P	11 45 41.6 +1.5
REDW	Red Top Meadow 11nm,1.4s	32.57 336 *e*P		P	11 45 41.1 +0.7
SNOW	Snow King Moun 10nm,1.2s	32.61 336 *e*P		P	11 45 41.4 +0.5
LOHW	Long Hollow 5.8nm,1.3s	32.68 337 *e*P		P	11 45 42.4 +0.9
TPAW	Teton Pass 11nm,1.5s	32.71 336 *e*P		P	11 45 42.9 +1.1
SADO	Sadowa comp=Z,69nm,18.1s,baz=297,slow=40	32.77 19 LR		LR	12 00 52.5
E26A	Carlson Angus baz=33	32.95 349 ⇑P		P	11 45 43.3 -0.3
H19A	Powell baz=33	33.02 340 ⇓P		P	11 45 45.2 +0.9
H18A	Shoshone NF, C baz=33,SNR=7.9	33.25 339 ⇓P		P	11 45 46.5 0.0
E22A	Miles City baz=34	33.71 344 ⇑P		P	11 45 50.5 +0.3
G18A	Lazy EL Ranch, baz=34	33.78 340 ⇑P		P	11 45 50.6 -0.4
I14A	Mackay baz=34	34.09 334 ⇑P		P	11 45 54.6 +0.9
HLID	Hailey baz=34	34.22 333 *e*P		P	11 45 55.8 +1.0
HLID	Hailey baz=34	34.22 333 ⇑P		P	11 45 56.1 +1.2
F18A	Big Timber baz=34	34.35 340 ⇑P		P	11 45 56.4 +0.6
D22A	Cohagen baz=34	34.43 345 ⇓P		P	11 45 57.1 +0.6
DLMT	Dillon 4.0nm,1.0s	34.92 336 *e*P		P	11 46 01.6 +0.8
E18A	Harlowton baz=35	34.99 340 ⇑P		P	11 46 01.7 +0.3
D18A	Linhart Farms, baz=36	35.51 341 ⇓P		P	11 46 06.1 +0.3
D17A	Six Diamond Ra baz=36	35.76 340 ⇓P		P	11 46 08.3 +0.3
C17A	Wharram Farm, baz=36	36.21 340 ⇓P		P	11 46 12.4 +0.6
MSO	Missoula 34nm,2.5s	36.66 336 *e*P		P	11 46 16.2 +0.5
MSO	Missoula baz=37	36.66 336 ⇑P		P	11 46 17.0 +1.3
C16A	Fuhringer Ranc baz=37	36.68 339 ⇑P		P	11 46 15.8 0.0
C15A	Salmond Ranch, baz=37	36.96 339 ⇑P		P	11 46 18.8 +0.6
A18A	Metzger Ranch, baz=37	37.06 342 ⇓P		P	11 46 19.0 0.0
B15A	Bradely Ranch, baz=37	37.40 339 ⇑P		P	11 46 22.3 +0.3
SCHQ	Schefferville comp=Z,79nm,18.7s,baz=271,slow=38	45.50 21	LR	LR	12 07 49.8
YKA	Yellowknife Ar	50.42 348 P		P	11 48 05.6 -0.4
YKA	Yellowknife Ar 2.5nm,0.7s,baz=157,slow=8.5,SNR=3.7	50.42 348 P		P	11 48 05.6 -0.4
ILAR	Eielson Array	61.99 337 P		P	11 49 28.5 -0.1
ILAR	Eielson Array 1.1nm,0.9s,baz=150,slow=4.8,SNR=14	61.99 337 P		P	11 49 28.5 -0.1
TBI	Tubuai 96nm,28.0s	66.24 236 *e*LR		LR	11 51 05.9
NB2	NORSAR Subarra comp=Z,2.4nm,0.8s,baz=290,slow=4.8	84.62 28 P		P	11 51 42.5 +0.5
NOA	NORSAR Array B	84.62 28 P		P	11 51 42.9 +0.8
NOA	NORSAR Array B comp=Z,1.8nm,0.8s,baz=292,slow=4.8,SNR=5.4	84.62 28 P		P	11 51 42.9 +0.8
NOA			LR	LR	12 28 02.5
ARCES	ARCESS Array B comp=Z,31nm,20.9s,baz=186,slow=34	86.34 18 LR		LR	12 28 04.8
FINES	FINESS Array B comp=Z,29nm,19.1s,baz=20,slow=36	90.89 25 LR		LR	12 34 11.6
HHC	Hu-ho-hao-te	120.41 338 *e*PKP		PKPdf	11 57 57.7 -2.8
HHC		sPKP			11 58 11.9
HHC		PP		PP	11 59 26.0 +0.1
HHC		PKS		PKSdf	12 01 33.6 -3.6
HHC		SKS		SKSdf	12 05 04.9 -5.2
HHC		SKKS		SKKSac	12 06 15.5 -8.8
HHC		SS		SKKSdf	12 15 47.0 -2.4
HHC		AMB		AMB	
HHC	comp=Z,68nm,9.1s	LR		LR	
HHC	comp=N,98nm,20.4s	LR		LR	
HHC	comp=E,150nm,21.3s	LR		LR	
HHC	comp=Z,94nm,21.8s	LR		LR	
LZH	Lanzhou	127.28 342 *e*PKP		PKPdf	11 58 14.5 +0.7
LZH		sPKP			11 58 29.3
LZH		LR		LR	
LZH	comp=N,100nm,17.2s	LR		LR	
LZH	comp=E,96nm,18.5s	LR		LR	
LZH	comp=Z,120nm,19.6s	LR		LR	
CD2	Chengdu	132.09 340 *e*PKP		PKPdf	11 58 24.4 +1.4
CMAR	Chiang Mai Arr	145.22 339 PKPbc		PKPbc	11 58 46.0 -0.7
CMAR	Chiang Mai Arr comp=Z,1.7nm,0.8s,baz=344,slow=3.5,SNR=10.0	145.22 339 PKPbc		PKPbc	11 58 46.1 -0.7

*IDC **12** 11:42:55.6±2.9, 7°.46S×127°.98E, h132km±28km, mb3.5/7, mb1 3.7/9, mb1mx3.6/20, mbtmp3.6/9, Error ellipse: s-maj=24.2km s-min=15.3km az=63.0*
*AUST **12** 11:42:55.9±0.0, 7°.57S×127°.84E, h127km, Error ellipse: s-maj=1.3km s-min=0.9km az=301.0*
*ISCJB **12** 11:42:56.5±0.5, 7°.62S±0°.05×127°.97E±0°.05, h142km, mb3.7/7, Error ellipse: s-maj=8.2km s-min=5.8km az=35.1*
ISC 12 11:42:57.2±0.6, 7°.73S±0°.06×127°.96E±0°.06, h142km, n28, σ2°52/32, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe baz=4.1,SNR=81	4.16	241	P	Pn	11 44 01.7	+2.1
BATI	Baumata 136nm,0.3s,baz=112,slow=2.9,SNR=107	4.90	240	P	Pn	11 44 11.4	+2.2
BATI	63nm,0.3s,baz=43,slow=19,SNR=8.8			S	Sn	11 45 07.0	+1.7
MTN	Manton Dam baz=6.2,SNR=34	5.96	149	P	Pn	11 44 26.2	+2.8
FAKI	Fak Fak baz=6.4,SNR=46	6.41	42	P	Pn	11 44 27.8	-1.6
FAKI	baz=6.4,SNR=5.2			S	Sn	11 45 39.2	-2.4
KDU	Kakadu baz=6.9,SNR=91	6.63	138	P	Pn	11 44 34.2	+1.9
KDU	baz=6.9,SNR=9.1			S	Sn	11 45 44.9	-1.9
SWI	Sorong baz=7.5,SNR=5.1	7.58	26	P	Pn	11 44 44.9	-0.1
KNRA	Kununurra baz=8.2,SNR=396	7.94	174	P	Pn	11 44 51.2	+1.4
KNRA	baz=8.2,SNR=16			S	Sn	11 46 14.9	-3.3
FITZ	Fitzroy Crossi 3.1nm,0.3s,baz=27,slow=10,SNR=135	10.55	192	P	Pn	11 45 23.9	-0.8
FITZ	3.6nm,0.3s,baz=99,slow=22,SNR=5.8			S	Sn	11 47 15.5	-5.9
FITZ	Fitzroy Crossi baz=11,SNR=32	10.55	192	P	Pn	11 45 23.9	-0.8
WRA	Warramunga Arr 0.8nm,0.3s,baz=324,slow=14,SNR=59	13.62	154	P	Pn	11 46 05.2	+0.5
WRA	1.7nm,0.3s,baz=323,slow=27,SNR=7.9			S	Sn	11 48 27.5	-8.0
COEN	Coen baz=16,SNR=6.5	16.17	114	P	P	11 46 40.2	+3.2
COEN	baz=16,SNR=6.0			S	Sn	11 49 26.9	-10
ASAR	Alice Springs 1.6nm,0.3s,baz=341,slow=11,SNR=125	16.84	161	P	Pn	11 46 47.5	+2.8
ASAR	0.4nm,0.3s,baz=320,slow=17,SNR=5.1			S	S	11 49 46.9	-5.7
MTSU	Mount Surprise baz=19,SNR=7.0	18.99	125	P	Pn	11 47 10.8	+0.5
PMG	Port Moresby 0.6nm,0.3s,baz=210,slow=20,SNR=2.7	19.06	96	P	Pn	11 47 13.8	+2.7
MEEK	Meekatharra baz=21,SNR=9.1	20.79	204	P	Pn	11 47 40.7	+9.3
MEEK	baz=21,SNR=3.4			S	Sn	11 51 24.4	-2.9
CTA	Charters Tower 1.3nm,0.4s,baz=310,slow=17,SNR=3.4	21.57	127	P	P	11 47 36.1	+0.4
RABL	Rabaul baz=24,SNR=3.9	24.33	83	S	S	11 52 11.5	+0.4
BBOO	Buckleboo baz=26,SNR=7.7	26.06	164	P	P	11 48 20.1	+2.6
STKA	Stephens Creek 2.4nm,0.4s,baz=303,slow=9.0,SNR=9.6	27.18	154	P	P	11 48 28.8	+1.3
STKA	Stephens Creek baz=28,SNR=3.9	27.18	154	P	P	11 48 29.7	+2.2
CMSA	Cobar Meteorol baz=29,SNR=12	28.89	147	P	P	11 48 45.3	+2.6
ARPS	Mount Arapiles baz=32,SNR=18	31.55	158	P	P	11 49 09.2	+3.1
MJAR	Matsushiro Arr 0.5nm,0.6s,baz=172,slow=9.8,SNR=3.5	45.08	12	P	P	11 50 55.1	-4.0
SONM	Songino Array 0.4nm,0.5s,baz=171,slow=6.6,SNR=3.3	58.52	343	P	P	11 52 36.6	-2.1
PETK	Petropavlovsk- 1.3nm,0.8s,baz=181,slow=3.8,SNR=5.0	65.66	19	P	P	11 53 24.6	-1.4
MKAR	Makanchi Array 0.4nm,0.5s,baz=115,slow=8.6,SNR=10	67.74	328	P	P	11 53 37.3	-2.2
QSPA	South Pole Qui 2.2nm,0.6s,baz=300,slow=1.8,SNR=32	82.25	180	P	P	11 55 03.3	+0.8
CPUP	Villa Florida 0.8nm,0.4s,baz=131,slow=3.8,SNR=5.3	145.75	172	PKPbc	PKPab	12 02 20.6	-0.2

*IDC **12** 11:44:40.3±3.5, 13°.19N×91°.29W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.3/3, ML4.4/2, Error ellipse: s-maj=69.3km s-min=58.6km az=154.0*
*ISCJB **12** 11:44:54.9±1.0, 14°.1N±0°.1×91°.40W±0°.08, h88km±9km, mb3.3/2, Error ellipse: s-maj=20.1km s-min=8.9km az=27.1*
*CASC **12** 11:44:57.0±1.8, 13°.99N×91°.35W, h42km±40km, MD3.6*
ISC 12 11:44:55.2±1.3, 14°.0N±0°.1×91°.43W±0°.08, h76km±9km, n16, σ0°78/23, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.35	325	*e*P	Pn	11 45 07.4	+0.1
FUG	Fuego 3	0.71	54	*e*P	Pn	11 45 10.5	-0.3
PCG	Pacaya	0.88	65	*e*P	Pn	11 45 13.2	+0.3
PCG				*e*S	Sn	11 45 25.5	-0.4
NBG	Las Nubes	1.19	62	*e*P	Pn	11 45 17.6	+1.0
NBG				*e*S	Sn	11 45 33.3	+0.6
RBDL	Robledal	1.69	87	*e*P	Pn	11 45 23.1	0.0
RBDL				*e*S	Sn	11 45 44.7	+0.4
RTR	El Retiro	1.74	94	*e*P	Pn	11 45 24.2	+0.5
RTR				*e*S	Sn	11 45 44.1	-1.1
SBLS	San Blas	1.77	96	*e*P	Pn	11 45 24.6	+0.5
SBLS				*e*S	Sn	11 45 45.8	-0.3
SNJE	San Jose	1.78	95	*e*P	Pn	11 45 24.7	+0.4
SNJE				*e*S	Sn	11 45 45.4	-0.9
MRL	Marmol	1.98	58	*e*P	Pn	11 45 27.4	+0.5
BOQS	Boqueron	2.11	98	*e*P	Pn	11 45 29.1	+0.4
LFRS	El Faro	2.34	100	*e*P	Pn	11 45 32.5	+0.9
LFRS				*e*S	Sn	11 45 58.3	-1.2
TEIG	Tepich 16nm,0.3s,baz=211,slow=12,SNR=70	6.86	26	Pn	Pn	11 46 32.6	-0.6
TEIG	0.3nm,0.3s,baz=30,slow=22,SNR=3.5			Sn	Sn	11 48 04.5	+15
TXAR	Lajitas Array 0.1nm,0.3s,baz=151,slow=13,SNR=4.2	18.98	325	P	P	11 49 11.8	+1.0
NVAR	Mina Array Bea 0.6nm,0.6s,baz=131,slow=8.3,SNR=8.6	34.00	321	P	P	11 51 32.9	+0.9
ILAR	Eielson Array 0.1nm,0.4s,baz=102,slow=5.5,SNR=4.9	63.03	337	P	P	11 55 13.6	-0.5
CMAR	Chiang Mai Arr 1.0nm,0.8s,baz=336,slow=3.6,SNR=5.6	146.14	342	PKPbc	PKPdf	12 04 25.4	-1.4

IDC 12 11:48:50.7±9.6, 18°.32S×175°.39W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=422.0km s-min=39.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=97,slow=5.9,SNR=2.5	47.38	259	P	P	11 57 26.0	-1.0
ASAR	Alice Springs 0.8nm,0.4s,baz=89,slow=8.0,SNR=9.2	47.45	254	P	P	11 57 28.2	+0.7
ILAR	Eielson Array 0.2nm,0.6s,baz=217,slow=4.9,SNR=4.6	85.67	12	P	P	12 01 30.9	0.0

*DJA **12** 11:50:50.4±3.0, 8°.S±12°.×12°.3E±1°.7, h590km±37km, M4.1/8, MLv4.1/8*
*AUST **12** 11:50:51.0±0.8, 7°.38S×123°.33E, h561km, Error ellipse: s-maj=1.8km s-min=1.3km az=308.0*
*ISCJB **12** 11:50:51.3±0.4, 7°.42S±0°.06×123°.40E±0°.07, h550km, mb3.5/9, Error ellipse: s-maj=10.1km s-min=6.3km az=143.7*
*IDC **12** 11:50:52.2±0.7, 7°.44S×123°.56E, h552km±7km, mb3.1/9, mb1 3.3/14, mb1mx3.2/24, mbtmp3.2/14, Error ellipse: s-maj=24.7km s-min=9.2km az=68.0*
ISC 12 11:50:52.0±0.5, 7°.48S±0°.07×123°.35E±0°.09, h550km, n37, σ1°07/45, mb3.7/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.59	224	P	P	11 52 02.3	+2.2
SOEI	Soe	2.44	158	P	P	11 52 05.0	+1.0
SOEI				S	S	11 53 01.7	-0.8
SOEI	Soe baz=2.6,SNR=27	2.44	158	P	P	11 52 04.6	+0.6
SOEI	baz=2.6,SNR=16			S	S	11 53 02.2	-0.3
BATI	Baumata	2.73	173	P	P	11 52 06.6	+1.1
BATI				S	S	11 53 05.8	+0.6
BATI	Baumata 34nm,0.3s,baz=80,slow=2.2,SNR=40	2.73	173	P	P	11 52 06.6	+1.1
BATI	148nm,0.3s,baz=348,slow=20,SNR=20			S	S	11 53 05.8	+0.6
LBFI	Labuhan Bajo,	3.56	254	P	P	11 52 10.7	-0.1
LBFI				S	P	11 52 11.4	+0.6
WSI	Waingapu	3.72	234	P	P	11 52 12.6	+0.8
WSI	Waingapu baz=3.8,SNR=5.8	3.72	234	S	S	11 53 15.1	-1.8
BKSI	Bulukumba	3.86	304	P	P	11 52 11.5	-1.4
BASI	Baing, Sumba	3.86	225	P	P	11 52 12.8	0.0
BASI				S	P	11 52 13.2	+0.4
KAPI	Kappang 5.4nm,0.3s,baz=146,slow=3.0,SNR=21	4.33	304	P	P	11 52 17.8	+1.3
SPSI	Sidrap Palu	4.99	314	P	P	11 52 23.1	+1.3
MTN	Manton Dam baz=9.4,SNR=21	9.33	125	P	P	11 53 02.7	-0.5
KNRA	Kununurra baz=9.9,SNR=22	9.72	147	P	P	11 53 07.2	+0.1
FAKI	Fak Fak baz=9.9,SNR=3.0	9.95	63	P	P	11 53 10.7	+1.1
FITZ	Fitzroy Crossi 4.0nm,0.3s,baz=11,slow=8.5,SNR=53	10.79	168	P	P	11 53 18.2	+0.2
FITZ	Fitzroy Crossi baz=11,SNR=32	10.79	168	P	P	11 53 18.2	+0.2
WRA	Warramunga Arr 0.8nm,0.3s,baz=307,slow=14,SNR=17	16.34	140	P	P	11 54 13.7	-1.1
WRA	0.1nm,0.3s,baz=314,slow=18,SNR=7.4			S	S	11 56 58.3	-2.0
JAY	Jayapura baz=18,SNR=3.9	17.98	75	P	P	11 54 24.6	-5.3
ASAR	Alice Springs 0.9nm,0.3s,baz=318,slow=8.5,SNR=33	19.02	149	P	P	11 54 39.8	+0.5
ASAR	0.1nm,0.3s,baz=327,slow=20,SNR=5.5			S	S	11 57 40.6	-3.3
ASAR	0.1nm,0.3s,baz=350,slow=1.1,SNR=5.1			PcP	PcP	11 58 36.5	-0.4
MEEK	Meekatharra baz=20,SNR=13	19.58	193	P	P	11 54 44.8	+0.5
COEN	Coen baz=21,SNR=4.8	20.51	110	P	P	11 54 52.0	-0.9
BBOO	Buckleboo baz=28,SNR=4.7	27.83	157	P	P	11 55 58.1	+0.5
STKA	Stephens Creek 1.6nm,0.4s,baz=320,slow=19,SNR=5.4	29.64	147	P	P	11 56 13.8	+0.4
CMSA	Cobar Meteorol baz=32,SNR=7.2	31.74	142	P	P	11 56 32.4	+1.0
ARPS	Mount Arapiles baz=34,SNR=6.9	33.67	153	P	P	11 56 48.8	+1.2
CMAR	Chiang Mai Arr 0.9nm,0.7s,baz=142,slow=6.5,SNR=6.2	35.27	317	P	P	11 57 02.1	+0.8
MJAR	Matsushiro Arr 1.2nm,0.4s,baz=193,slow=9.1,SNR=7.2	45.96	17	P	P	11 58 24.7	-1.3
USRK	Ussuriysk Arra 1.4nm,0.4s,baz=193,slow=7.2,SNR=5.5	52.03	8	P	P	11 59 10.2	-0.4
RPZ	Rata Peaks 9.4nm,0.6s,baz=330,slow=10,SNR=5.8	55.05	139	P	P	11 59 32.7	+0.5
SONM	Songino Array 0.5nm,0.5s,baz=160,slow=6.8,SNR=6.1	57.08	346	P	P	11 59 46.2	0.0
MKAR	Makanchi Array 0.2nm,0.4s,baz=136,slow=6.2,SNR=5.4	65.18	330	P	P	12 00 39.5	+0.3
MAW	Mawson 0.6nm,0.6s,baz=82,slow=8.0,SNR=5.1	72.14	201	P	P	12 01 21.7	+1.0
VNDA	Vanda 0.9nm,0.4s,baz=329,slow=6.6,SNR=3.9	72.84	172	P	P	12 01 24.8	+0.1
PDAR	Pinedale Array 0.2nm,0.5s,baz=302,slow=0.9,SNR=3.3	121.86	44	PKP	PKPdf	12 08 43.2	-1.4
TORD	Torodi Ar. Bea 0.5nm,0.7s,baz=105,slow=0.7,SNR=3.2	122.42	281	PKP	PKPdf	12 08 45.9	-0.1
CPUP	Villa Florida 0.6nm,0.4s,baz=210,slow=5.1,SNR=4.3	146.38	179	PKPbc	PKPbc	12 09 31.6	-0.7

IDC 12 12:02:55.5±7.8, 18°.43N×146°.83E, h90km±69km, mb3.6/9, mb1 3.7/10, mb1mx3.5/25, mbtmp3.5/10, ML3.7/1, Error ellipse: s-maj=48.7km s-min=16.1km az=85.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	19.57	339	P	P	12 07 16.7	+0.3

0.2nm,0.3s,baz=166,slow=10.0,SNR=6.1
KSRS Korea Array 25.17 323 P P 12 08 13.0 +0.5
1.4nm,0.7s,baz=154,slow=8.7,SNR=3.7
WRA Warramunga Arr 40.06 198 P P 12 10 21.9 -0.2
0.5nm,0.4s,baz=25,slow=8.2,SNR=22
WRA PcP PcP 12 12 26.0 +0.6
0.3nm,0.5s,baz=15,slow=3.5,SNR=4.5
ASAR Alice Springs 43.70 197 P P 12 10 51.2 -0.7
0.4nm,0.5s,baz=31,slow=7.7,SNR=13
ASAR PcP PcP 12 12 38.8 +1.3
0.2nm,0.5s,baz=17,slow=2.4,SNR=4.2
SONM Songino Array 44.02 321 P P 12 10 54.9 +0.5
0.4nm,0.3s,baz=144,slow=9.1,SNR=3.5
MKAR Makanchi Array 59.42 314 P P 12 12 48.3 -0.5
0.2nm,0.5s,baz=90,slow=9.7,SNR=2.4
AKTO Aktyubinsk 75.27 319 P P 12 14 28.0 -0.7
0.6nm,0.4s,baz=71,slow=2.5,SNR=2.4
NVAR Mina Array Bea 82.46 52 P P 12 15 08.4 -0.2
0.5nm,0.8s,baz=256,slow=5.4,SNR=3.3
ARCES ARCESS Array B 83.07 342 P P 12 15 10.9 +0.1
3.7nm,0.9s,baz=39,slow=5.8,SNR=4.6
FINES FINESS Array B 87.57 336 P P 12 15 32.2 -1.1
10nm,1.2s,baz=48,slow=2.8,SNR=5.4

IDC 12 12:15:46.5±7.8, 20°.28S×177°.67W, h438km±91km, mb3.1/9, mb1 3.4/10, mb1mx3.3/17, mbtmp3.1/10, Error ellipse: s-maj=43.9km s-min=21.3km az=178.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.48**	**193**	P	P	12 19 33.4	-0.9
	0.8nm,0.3s,baz=290,slow=9.9,SNR=7.3						
STKA	**Stephens Creek**	**38.17**	**244**	P	P	12 22 27.4	+0.6
	3.1nm,1.2s,baz=113,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**44.88**	**256**	P	P	12 23 20.3	-0.2
	4.1nm,0.8s,baz=96,slow=7.7,SNR=66						
WRA	**Warramunga Arr**	**44.94**	**262**	P	P	12 23 20.6	-0.5
	1.6nm,0.5s,baz=98,slow=7.9,SNR=64						
MJAR	**Matsushiro Arr**	**70.22**	**323**	P	P	12 26 14.0	-0.1
	1.0nm,0.5s,baz=156,slow=6.3,SNR=8.6						
NVAR	**Mina Array Bea**	**80.65**	**43**	P	P	12 27 12.9	+0.2
	0.4nm,0.8s,baz=220,slow=3.9,SNR=4.0						
TXAR	**Lajitas Array**	**86.67**	**57**	P	P	12 27 44.0	+1.1
	0.2nm,0.6s,baz=230,slow=5.6,SNR=3.2						
ILAR	**Eielson Array**	**88.03**	**13**	P	P	12 27 47.5	-0.8
	0.2nm,0.4s,baz=218,slow=6.0,SNR=7.1						
PDAR	**Pinedale Array**	**88.59**	**43**	P	P	12 27 51.6	-0.1
	0.3nm,0.6s,baz=303,slow=4.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**90.34**	**289**	P	P	12 28 01.3	+1.2
	0.2nm,0.3s,baz=139,slow=2.0,SNR=3.4						
ULM	**Lac du Bonnet**	**100.26**	**40**	P	Pdif	12 28 43.4	-0.9
	1.2nm,0.5s,baz=315,slow=8.6,SNR=2.1						
BRTR	**Keskin Array B**	**146.92**	**313**	PKPbc	PKPdf	12 34 37.4	+0.9
	0.5nm,0.7s,baz=159,slow=4.3,SNR=2.8						

KRSC 12 12:51:14.6±1.1, 50°.06N×157°.16E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.91**	**313**	*i* P	Pg	12 51 32.5	+0.4
SKR				*i* S	Sb	12 51 45.6	+0.2
PAU	**Pauzhetka**	**1.43**	**351**	*i* P	Pg	12 51 42.0	+0.1
PAU				*i* S	Sg	12 52 02.0	+1.6
MIPR	**Malaya Ipel'ka**	**2.23**	**354**	P	Pn	12 51 53.7	+1.4
ASAK	**Asacha**	**2.37**	**11**	*e*P	Pn	12 51 55.7	+1.4
MTVR	**Mutnovka**	**2.51**	**14**	*e*P	Pn	12 51 57.6	+1.4
MTVR				*i* S	Sn	12 52 28.7	+1.3
RUS	**Russkaya**	**2.52**	**19**	*e*P	Pn	12 51 57.3	+1.1
RUS				*e*S	Sn	12 52 28.0	+0.7
GRL	**Gorelyy**	**2.56**	**13**	P	Pn	12 51 58.8	+1.9
APC	**Apacha**	**2.87**	**360**	*e*P	Pn	12 52 02.4	+1.4
PET	**Petropavlovsk**	**3.11**	**17**	*e*P	Pn	12 52 06.1	+1.8
AVH	**Avacha**	**3.36**	**16**	P	Pn	12 52 10.8	+3.0
SPN	**Mys Shipunski**	**3.53**	**29**	*e*P	Pn	12 52 11.5	+1.5
GNL	**Ganaly**	**3.67**	**7**	P	Pn	12 52 13.7	+1.5
MKZ	**Mys Kozlova**	**5.30**	**30**	*e*P	Pn	12 52 34.9	+0.5

---

*ISK **12** 13:23:32.4, 40°.17N×33°.35E, h7km, MD2.7*
*DDA **12** 13:23:32.3, 40°.09N×33°.32E, h7km, MD2.9, ML3.1*
*CSEM **12** 13:23:33.1±0.2, 40°.15N×33°.36E, h5km, ML3.1, Error ellipse: s-maj=5.5km s-min=4.2km az=107.0*
ISC 12 13:23:32.8±1.1, 40°.15N±0°.02×33°.35E±0°.03, h8km±10km, n29, σ0§70/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.34**	**10**	*i* P	**Pg**	**13 23 40.0**	**+0.3**
ELDT				*i* S	**Sb**	**13 23 46.7**	**-0.2**
ELDT	**Eldivan**	**0.34**	**10**	*i* P	**Pg**	**13 23 40.0**	**+0.3**
ELDT				*i* S	**Sb**	**13 23 46.7**	**-0.2**
CANT	**Cankiri**	**0.50**	**24**	*e*PG	**Pg**	**13 23 42.4**	**-0.1**
CANT				*e*SG	**Sg**	**13 23 49.5**	**+0.4**
ANTO	**Ankara**	**0.51**	**237**	*e*PG	**Pb**	**13 23 43.3**	**-0.7**
LOD	**Lodumlu**	**0.52**	**240**	*e*PG	**Pg**	**13 23 43.0**	**+0.2**
LOD				*e*SG	**Sb**	**13 23 50.9**	**-0.9**
AFSR	**Af¯ar-Bala (A**	**0.73**	**197**	*e*PG	**Pb**	**13 23 47.3**	**-0.6**
KAMT	**Kaman**	**0.83**	**160**	*e*PG	**Pg**	**13 23 48.8**	**+0.1**
KAMT	**Kaman**	**0.83**	**160**	*e*Pg	**Pg**	**13 23 48.8**	**+0.1**
ILGA	**Ilgaz**	**0.94**	**17**	*i* P	**Pb**	**13 23 51.7**	**+0.2**
ILGA				*i* S	**Sn**	**13 24 05.3**	**-1.0**
ILGA	**Ilgaz**	**0.94**	**17**	*i* P	**Pb**	**13 23 51.7**	**+0.2**
ILGA				*i* S	**Sn**	**13 24 05.3**	**-1.0**
CDAG	**Cicekdag**	**0.95**	**123**	*i* P	**Pg**	**13 23 50.3**	**-0.7**
CDAG				*i* S	**Sb**	**13 24 04.2**	**0.0**
CDAG	**Cicekdag**	**0.95**	**123**	*i* P	**Pg**	**13 23 50.3**	**-0.7**
CDAG				*i* S	**Sb**	**13 24 04.2**	**0.0**
CORM	**Corum**	**0.98**	**88**	*e*PG	**Pb**	**13 23 51.9**	**-0.2**
CORM	**Corum**	**0.98**	**88**	*e*Pg	**Pb**	**13 23 51.9**	**-0.2**
TOS	**Tosya**	**1.02**	**30**	*e*PG	**Pg**	**13 23 51.4**	**-1.1**
CTKT	**Corum**	**1.20**	**66**	*i* P	**Pn**	**13 23 55.9**	**0.0**
CTKT				*i* S	**Sn**	**13 24 14.9**	**+2.5**
CTKT	**Corum**	**1.20**	**66**	*i* P	**Pn**	**13 23 55.9**	**0.0**
SAFT	**Safranbolu**	**1.20**	**335**	*e*PN	**Pg**	**13 23 55.4**	**-0.4**
SAFT	**Safranbolu**	**1.20**	**335**	*e*Pn	**Pg**	**13 23 55.4**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.57**	**244**	*e*PN	**Pb**	**13 24 01.8**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.57**	**244**	*e*Pn	**Pb**	**13 24 01.8**	**-0.3**
YOZ	**Yozgat**	**1.60**	**108**	*e*PN	**Pn**	**13 24 01.8**	**+0.4**
YOZ	**Yozgat**	**1.60**	**108**	*e*Pn	**Pn**	**13 24 01.8**	**+0.4**
KIZT	**Kizilcal**	**1.70**	**222**	*e*PN	**Pn**	**13 24 03.4**	**+0.6**
KIZT	**Kizilcal**	**1.70**	**222**	*e*Pn	**Pn**	**13 24 03.4**	**+0.6**
AVNT	**Avonos**	**1.80**	**139**	*i* P	**Pg**	**13 24 06.8**	**-0.4**
AVNT				*i* S	**Sg**	**13 24 30.5**	**-0.1**
AVNT	**Avonos**	**1.80**	**139**	*i* P	**Pg**	**13 24 06.8**	**-0.4**
KDHN	**Kadinhani**	**1.89**	**211**	*i* P	**Pb**	**13 24 06.6**	**-0.9**
KDHN				*i* S	**Sb**	**13 24 32.3**	**+1.1**
KDHN	**Kadinhani**	**1.89**	**211**	*i* P	**Pb**	**13 24 06.6**	**-0.9**
KDHN				*i* S	**Sb**	**13 24 32.3**	**+1.1**

IDC 12 13:36:30.6±2.0, 14°.01N×93°.10E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/27, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=62.3km s-min=27.3km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.15**	**51**	Pn	Pn	13 38 16.4	0.0
	0.1nm,0.3s,baz=241,slow=15,SNR=3.8						
MKAR	**Makanchi Array**	**33.92**	**347**	P	P	13 43 15.4	0.0
	0.3nm,0.6s,baz=160,slow=9.1,SNR=3.0						
WRA	**Warramunga Arr**	**52.77**	**129**	P	P	13 45 47.6	-0.1
	0.3nm,0.8s,baz=312,slow=8.0,SNR=3.9						
ASAR	**Alice Springs**	**54.72**	**133**	P	P	13 46 01.9	-0.1
	0.2nm,0.5s,baz=307,slow=6.7,SNR=5.2						

IDC 12 13:36:41.5±1.4, 13°.40N×145°.29E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=58.7km s-min=22.6km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.84**	**198**	P	P	13 43 34.5	-0.1
	0.5nm,0.6s,baz=22,slow=9.6,SNR=7.7						
FITZ	**Fitzroy Crossi**	**36.81**	**212**	P	P	13 43 51.0	-0.5
	0.6nm,0.8s,baz=19,slow=9.6,SNR=3.8						
ASAR	**Alice Springs**	**38.48**	**197**	P	P	13 44 05.7	+0.1
	0.3nm,0.5s,baz=20,slow=13,SNR=14						
MKAR	**Makanchi Array**	**61.91**	**316**	P	P	13 47 03.0	-0.1
	0.1nm,0.4s,baz=95,slow=6.9,SNR=3.5						
ILAR	**Eielson Array**	**68.57**	**25**	P	P	13 47 46.0	0.0
	0.2nm,0.6s,baz=238,slow=5.2,SNR=4.5						

---

*ATH **12** 13:55:44.0, 40°.55N×19°.41E, h5km±2km, MD3.4/16*
*TIR **12** 13:55:45.2±3.5, 40°.38N×19°.78E, h0km±11km, ML4.0*
*SKO **12** 13:55:46.2, 40°.17N×19°.61E, h0km*
*BEO **12** 13:55:46.5±1.1, 40°.22N×19°.57E, h0km±4km, ML3.2/7*
*PDG **12** 13:55:47.6±0.3, 40°.29N×19°.71E, h11km±2km, ML3.1/10, Error ellipse: s-maj=2.3km s-min=1.7km az=90.0*
*THE **12** 13:55:48.3, 40°.44N×19°.72E, h3km, ML3.1/7, Error ellipse: s-maj=1.1km s-min=0.5km az=258.0*
*CSEM **12** 13:55:49.2±0.2, 40°.38N×19°.72E, h2km, ML4.0, Error ellipse: s-maj=5.3km s-min=2.6km az=70.0*
ISC 12 13:55:46.4±1.1, 40°.33N±0°.02×19°.62E±0°.03, h4km±10km, n115, σ1§49/174, 8C-11D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.54**	**147**	*e*PG	**Pn**	**13 55 59.2**	**-1.6**
SRN				*i* SG	**Sn**	**13 56 08.0**	**-2.2**
SRN	**Sarande**	**0.54**	**147**	P	**Pn**	**13 55 59.2**	**-1.6**
SRN				S	**Sn**	**13 56 08.6**	**-1.6**
SRN	**Sarande**	**0.54**	**147**	P	**Pn**	**13 55 59.2**	**-1.6**
SRN				*i* Sg	**Sn**	**13 56 08.0**	**-2.2**
	SNR=9.0						
KEK	**Kerkira**	**0.63**	**167**	P	**Pn**	**13 56 01.5**	**-0.6**
KEK				S	**Sn**	**13 56 12.5**	**-0.1**
KEK	**Kerkira**	**0.63**	**167**	*e*PB	**Pn**	**13 56 01.2**	**-0.9**
KEK				*e*SB	**Sn**	**13 56 12.7**	**+0.1**
KEK	**Kerkira**	**0.63**	**167**	*e*Pb	**Pn**	**13 56 01.2**	**-0.9**
KEK	**Kerkira**	**0.63**	**167**	P	**Pn**	**13 56 01.5**	**-0.6**
KEK				S	**Sn**	**13 56 12.5**	**-0.1**
KBN	**Korca**	**0.94**	**71**	*e*PG	**Pg**	**13 56 03.5**	**-0.9**
KBN	**Korca**	**0.94**	**71**	P	**Pg**	**13 56 03.4**	**-0.9**
KBN	**Korca**	**0.94**	**71**	P	**Pg**	**13 56 03.4**	**-0.9**
IGT	**Igoumenitsa**	**0.97**	**145**	P	**Pn**	**13 56 07.5**	**+0.8**
IGT				S	**Sn**	**13 56 23.0**	**+2.1**
IGT	**Igoumenitsa**	**0.97**	**145**	P	**Pn**	**13 56 07.5**	**+0.8**
IGT				S	**Sn**	**13 56 23.0**	**+2.1**
TIR	**Tirane**	**1.03**	**10**	*e*PG	**Pn**	**13 56 06.5**	**-1.2**
TIR	**Tirane**	**1.03**	**10**	P	**Pg**	**13 56 05.8**	**-0.4**
TIR				S	**Sg**	**13 56 19.0**	**-0.6**
TIR	**Tirane**	**1.03**	**10**	*e*Pg	**Pn**	**13 56 07.6**	**-0.1**
TIR				*e*Sg	**Sn**	**13 56 22.8**	**+0.2**
TIR	**Tirane**	**1.03**	**10**	P	**Pg**	**13 56 05.8**	**-0.4**
TIR	**Tirane**	**1.03**	**10**	*e*Pg	**Pn**	**13 56 07.6**	**-0.1**
TIR				S	**Sg**	**13 56 19.0**	**-0.6**
TIR				*e*Sg	**Sn**	**13 56 22.8**	**+0.2**
NEST	**Nestorio**	**1.10**	**85**	P	**Pg**	**13 56 07.2**	**-0.2**
NEST				S	**Sn**	**13 56 22.2**	**-2.0**
NEST	**Nestorio**	**1.10**	**85**	P	**Pg**	**13 56 07.2**	**-0.2**
NEST				S	**Sn**	**13 56 22.2**	**-2.0**
JAN	**Janina**	**1.16**	**125**	P	**Pn**	**13 56 10.2**	**+0.8**
JAN				S	**Sn**	**13 56 26.8**	**+1.1**
JAN	**Janina**	**1.16**	**125**	*e*PB	**Pn**	**13 56 10.6**	**+1.2**
JAN				*e*SB	**Sn**	**13 56 29.8**	**+4.1**
JAN	**Janina**	**1.16**	**125**	P	**Pn**	**13 56 10.2**	**+0.8**
JAN	**Janina**	**1.16**	**125**	*e*Pb	**Pn**	**13 56 10.6**	**+1.2**
JAN				S	**Sn**	**13 56 26.8**	**+1.1**
JAN				*e*Sb	**Sn**	**13 56 29.8**	**+4.1**
FNA	**Florina**	**1.41**	**71**	P	**Pn**	**13 56 12.1**	**-0.8**
FNA				S	**Sg**	**13 56 31.3**	**-0.5**
FNA	**Florina**	**1.41**	**71**	*e*PG	**Pn**	**13 56 12.1**	**-0.8**
FNA				*e*SB	**Sg**	**13 56 33.8**	**+2.0**
FNA	**Florina**	**1.41**	**71**	P	**Pn**	**13 56 12.1**	**-0.8**
FNA				S	**Sg**	**13 56 31.3**	**-0.5**
FNA				*e*Sb	**Sg**	**13 56 33.8**	**+2.0**
BIA	**Bitola**	**1.47**	**61**	P	**Pb**	**13 56 13.3**	**-1.0**
BIA				S	**Sg**	**13 56 33.1**	**-0.4**
BIA	**Bitola**	**1.47**	**61**	*i* Pg	**Pb**	**13 56 13.2**	**-1.0**
BIA				*i* Sg	**Sg**	**13 56 36.7**	**+3.1**
BIA	**Bitola**	**1.47**	**61**	P	**Pb**	**13 56 13.3**	**-1.0**
BIA				S	**Sg**	**13 56 33.1**	**-0.4**
BIA				*i* Sg	**Sg**	**13 56 36.6**	**+3.1**
PHP	**Peshkopia**	**1.49**	**24**	*e*PN	**Pg**	**13 56 16.1**	**+1.2**
PHP				*i* SN	**Sg**	**13 56 37.9**	**+3.7**
PHP	**Peshkopia**	**1.49**	**24**	P	**Pn**	**13 56 13.4**	**-0.6**
PHP				S	**Sb**	**13 56 32.8**	**-1.1**
PHP	**Peshkopia**	**1.49**	**24**	P	**Pn**	**13 56 13.4**	**-0.6**
PHP	**Peshkopia**	**1.49**	**24**	*e*Pn	**Pg**	**13 56 16.1**	**+1.2**
PHP				S	**Sb**	**13 56 32.8**	**-1.1**
PHP				*i* Sn	**Sg**	**13 56 37.9**	**+3.7**
	SNR=4.0						
KZN	**Kozani**	**1.65**	**90**	P	**Pb**	**13 56 16.2**	**-1.1**
KZN				S	**Sg**	**13 56 38.4**	**-0.8**
KZN	**Kozani**	**1.65**	**90**	*e*PG	**Pg**	**13 56 17.8**	**-0.1**
KZN	**Kozani**	**1.65**	**90**	P	**Pb**	**13 56 16.2**	**-1.1**
KZN	**Kozani**	**1.65**	**90**	*e*Pg	**Pg**	**13 56 17.8**	**-0.1**
KZN				S	**Sg**	**13 56 38.4**	**-0.8**
ULC	**Ulcinj**	**1.66**	**350**	||*i*Pn	**Pg**	**13 56 17.9**	**-0.2**
ULC				*e*Sn	**Sg**	**13 56 42.7**	**+3.1**
ULC	**Ulcinj**	**1.66**	**350**	||*i*Pn	**Pg**	**13 56 17.9**	**-0.2**
ULC				*e*Sn	**Sg**	**13 56 42.7**	**+3.1**
PUK	**Puka**	**1.72**	**7**	*e*PN	**Pg**	**13 56 19.4**	**0.0**
PUK				*i* SN	**Sg**	**13 56 45.4**	**+3.6**
PUK	**Puka**	**1.72**	**7**	*e*Pn	**Pg**	**13 56 19.4**	**0.0**
	SNR=4.0						
LKD2	**Lefkada island**	**1.74**	**152**	P	**Pg**	**13 56 19.4**	**-0.2**
LKD2				S	**Sg**	**13 56 43.9**	**+1.8**
LKD2	**Lefkada island**	**1.74**	**152**	*e*PN	**Pg**	**13 56 20.9**	**+1.3**
LKD2	**Lefkada island**	**1.74**	**152**	P	**Pg**	**13 56 19.4**	**-0.2**
LKD2	**Lefkada island**	**1.74**	**152**	*e*Pn	**Pg**	**13 56 20.9**	**+1.3**
LKD2				S	**Sg**	**13 56 43.9**	**+1.8**
DRME	**Dracevica, Mon**	**1.88**	**350**	||*i*Pn	**Pb**	**13 56 21.1**	**-0.2**
DRME				*e*Sn	**Sg**	**13 56 47.8**	**+0.9**
DRME	**Dracevica, Mon**	**1.88**	**350**	||*i*Pn	**Pb**	**13 56 21.1**	**-0.2**
DRME				*e*Sn	**Sg**	**13 56 47.8**	**+0.9**
THL	**Klokotos Trika**	**1.99**	**112**	*e*PN	**Pg**	**13 56 24.4**	**-0.2**
THL	**Klokotos Trika**	**1.99**	**112**	*e*Pn	**Pg**	**13 56 24.4**	**-0.2**
BUM	**Brajici-Budva**	**2.04**	**345**	||*i*Pn	**Pb**	**13 56 23.8**	**-0.3**
BUM				*e*Sn	**Sg**	**13 56 52.7**	**+0.7**
BUM	**Brajici-Budva**	**2.04**	**345**	||*i*Pn	**Pb**	**13 56 23.8**	**-0.3**
BUM				*e*Sn	**Sg**	**13 56 52.7**	**+0.7**
PDG	**Podgorica**	**2.12**	**353**	*e*Pn	**Pb**	**13 56 25.0**	**-0.3**
PDG				*e*Sn	**Sb**	**13 56 52.0**	**+0.1**
PDG	**Podgorica**	**2.12**	**353**	*e*Pn	**Pb**	**13 56 25.0**	**-0.3**
PDG				*e*Sn	**Sb**	**13 56 52.0**	**+0.1**
TTG	**Podgorica**	**2.12**	**353**	||*i*Pn	**Pb**	**13 56 25.5**	**+0.2**
TTG				*e*Sn	**Sg**	**13 56 53.4**	**-1.0**
SKO	**Skopje**	**2.14**	**39**	*i* Pn	**Pg**	**13 56 26.2**	**-1.2**
SKO	**Skopje**	**2.14**	**39**	*i* Pn	**Pg**	**13 56 26.1**	**-1.2**
EVR	**Evrytania**	**2.20**	**129**	*e*PN	**Pb**	**13 56 27.6**	**+0.8**
EVR	**Evrytania**	**2.20**	**129**	*e*Pn	**Pb**	**13 56 27.6**	**+0.8**
LIT	**Litokhoron**	**2.21**	**95**	P	**Pn**	**13 56 24.2**	**+0.3**
LIT	**Litokhoron**	**2.21**	**95**	*e*PN	**Pb**	**13 56 26.2**	**-0.7**
LIT	**Litokhoron**	**2.21**	**95**	P	**Pn**	**13 56 24.2**	**+0.3**
LIT	**Litokhoron**	**2.21**	**95**	*e*Pn	**Pb**	**13 56 26.2**	**-0.7**
PVY	**Plav**	**2.28**	**6**	||*i*Pn	**Pb**	**13 56 27.6**	**-0.5**
PVY				*e*Sn	**Sb**	**13 56 57.3**	**+0.6**
PVY	**Plav**	**2.28**	**6**	||*i*Pn	**Pb**	**13 56 27.6**	**-0.5**
PVY				*e*Sn	**Sb**	**13 56 57.3**	**+0.6**
VLS	**Valsamata**	**2.28**	**160**	*e*PN	**Pb**	**13 56 28.5**	**+0.5**
VLS	**Valsamata**	**2.28**	**160**	*e*Pn	**Pb**	**13 56 28.5**	**+0.5**
HCY	**Herceg Novi**	**2.28**	**339**	*e*Pn	**Pb**	**13 56 27.1**	**-1.0**
HCY				*e*Sn	**Sg**	**13 56 58.2**	**-1.4**
HCY	**Herceg Novi**	**2.28**	**339**	*e*Pn	**Pb**	**13 56 27.1**	**-1.0**
HCY				*e*Sn	**Sg**	**13 56 58.2**	**-1.4**
VAY	**Valandovo**	**2.45**	**65**	*i* Pn	**Pb**	**13 56 28.5**	**-2.4**
VAY	**Valandovo**	**2.45**	**65**	*i* Pn	**Pb**	**13 56 28.5**	**-2.4**
AGG	**Agios Georgios**	**2.47**	**121**	*e*PN	**Pb**	**13 56 31.0**	**-0.3**
AGG				*e*SN	**Sg**	**13 57 04.2**	**-1.4**
AGG	**Agios Georgios**	**2.47**	**121**	*e*Pn	**Pb**	**13 56 31.0**	**-0.3**
AGG				*e*Sn	**Sg**	**13 57 04.2**	**-1.4**
NKME	**Niksic**	**2.49**	**349**	||*i*Pn	**Pb**	**13 56 30.5**	**-1.1**
NKME				*e*Sn	**Sb**	**13 57 02.9**	**+0.3**
NKME	**Niksic**	**2.49**	**349**	||*i*Pn	**Pb**	**13 56 30.5**	**-1.1**
NKME				*e*Sn	**Sb**	**13 57 02.9**	**+0.3**
NKY	**Niksic**	**2.52**	**349**	||*i*Pn	**Pb**	**13 56 30.8**	**-1.5**
NKY				*e*Sn	**Sb**	**13 57 03.9**	**+0.1**
NKY	**Niksic**	**2.52**	**349**	||*i*Pn	**Pb**	**13 56 30.8**	**-1.5**
NKY				*e*Sn	**Sb**	**13 57 03.9**	**+0.1**
BEY	**Berane**	**2.55**	**5**	||*i*Pn	**Pb**	**13 56 31.6**	**-1.1**
BEY				*e*Sn	**Sb**	**13 57 04.2**	**-0.2**
IVA	**Berane**	**2.55**	**5**	||*i*Pn	**Pb**	**13 56 31.6**	**-1.1**
IVA				*e*Sn	**Sb**	**13 57 04.2**	**-0.2**
TREB	**Trebinje**	**2.57**	**339**	*e*Pn	**Pn**	**13 56 29.3**	**+0.5**
TREB				*e*Sn	**Sb**	**13 57 04.0**	**-0.9**
TREB	**Trebinje**	**2.57**	**339**	*e*Pn	**Pn**	**13 56 29.3**	**+0.5**
TREB				*e*Sn	**Sb**	**13 57 04.0**	**-0.9**
EFP	**Efpalio**	**2.60**	**136**	*e*PN	**Pb**	**13 56 33.1**	**-0.4**
EFP	**Efpalio**	**2.60**	**136**	*e*Pn	**Pb**	**13 56 33.1**	**-0.4**
BRY	**Bratogost**	**2.69**	**343**	||*i*Pn	**Pb**	**13 56 33.1**	**-2.1**
BRY				*e*Sn	**Sb**	**13 57 07.7**	**-1.0**
BRY	**Bratogost**	**2.69**	**343**	||*i*Pn	**Pb**	**13 56 33.1**	**-2.1**
BRY				*e*Sn	**Sb**	**13 57 07.7**	**-1.0**
TRIZ	**Trizonia**	**2.73**	**135**	*e*PN	**Pb**	**13 56 35.3**	**-0.5**
TRIZ	**Trizonia**	**2.73**	**135**	*e*Pn	**Pb**	**13 56 35.3**	**-0.5**
KALE	**Kalithea**	**2.75**	**134**	*e*PN	**Pb**	**13 56 35.0**	**-1.1**
KALE	**Kalithea**	**2.75**	**134**	*e*Pn	**Pb**	**13 56 35.0**	**-1.1**
LAKA	**Lakka**	**2.78**	**138**	*e*PN	**Pb**	**13 56 35.4**	**-1.2**
LAKA	**Lakka**	**2.78**	**138**	*e*Pn	**Pb**	**13 56 35.4**	**-1.2**
UPM	**Unac-Piva**	**2.92**	**350**	||*i*Pn	**Pb**	**13 56 36.2**	**-2.9**
UPM				*e*Sn	**Sb**	**13 57 13.0**	**-2.2**
UPM	**Unac-Piva**	**2.92**	**350**	||*i*Pn	**Pb**	**13 56 36.2**	**-2.9**
UPM				*e*Sn	**Sb**	**13 57 13.0**	**-2.2**
SJES	**Sjenica**	**2.94**	**5**	*e*Pn	**Pb**	**13 56 36.4**	**-3.0**
SJES	**Sjenica**	**2.94**	**5**	*e*Pn	**Pb**	**13 56 36.4**	**-3.0**
BARS	**Barje**	**2.98**	**33**	*e*Pn	**Pn**	**13 56 36.0**	**+1.6**
BARS				*e*Sn	**Sb**	**13 57 14.3**	**-2.5**
KLV	**Kalavryta, Ach**	**3.01**	**138**	*e*PB	**Pb**	**13 56 39.1**	**-1.5**
KLV	**Kalavryta, Ach**	**3.01**	**138**	*e*Pb	**Pb**	**13 56 39.1**	**-1.5**
KKB	**Krupnik**	**3.04**	**58**	P	**Pn**	**13 56 37.2**	**+2.0**
KKB	**Krupnik**	**3.04**	**58**	P	**Pn**	**13 56 37.2**	**+2.0**
PAIG	**Paliouri**	**3.14**	**96**	*e*PN	**Pn**	**13 56 38.9**	**+2.3**
PAIG	**Paliouri**	**3.14**	**96**	*e*Pn	**Pn**	**13 56 38.9**	**+2.3**
GUR	**Goura**	**3.19**	**138**	*e*PN	**Pb**	**13 56 41.2**	**-2.5**
GUR	**Goura**	**3.19**	**138**	*e*Pn	**Pb**	**13 56 41.2**	**-2.5**
MMB	**Musomiste**	**3.36**	**67**	P	**Pn**	**13 56 41.0**	**+1.4**
MMB	**Musomiste**	**3.36**	**67**	P	**Pn**	**13 56 41.0**	**+1.4**
VTS	**Vitosha**	**3.52**	**49**	P	**Pn**	**13 56 44.1**	**+2.1**
VTS	**Vitosha**	**3.52**	**49**	P	**Pn**	**13 56 44.1**	**+2.1**
GRUS	**Gruza**	**3.65**	**13**	*e*Pn	**Pn**	**13 56 45.3**	**+1.7**
GRUS	**Gruza**	**3.65**	**13**	*e*Pn	**Pn**	**13 56 45.3**	**+1.7**
ZAPS	**Zavoj**	**3.71**	**36**	*e*Pn	Pn	13 56 46.7	+2.3
ZAPS				*e*Sn	**Sn**	**13 57 30.5**	**+2.0**
ZAPS	**Zavoj**	**3.71**	**36**	*e*Pn	Pn	13 56 46.7	+2.3
ZAPS				*e*Sn	**Sn**	**13 57 30.5**	**+2.0**
RZN	**Rozhen**	**4.09**	**69**	P	Pn	13 56 52.1	+2.3
RZN	**Rozhen**	**4.09**	**69**	P	Pn	13 56 52.1	+2.3
CRVS	**Cervenica-Dubn**	**8.67**	**8**	*e*PN	Pn	13 57 55.8	+3.2
CRVS	**Cervenica-Dubn**	**8.67**	**8**	*e*Pn	Pn	13 57 55.8	+3.2

KRSC 12 14:04:16.9±0.7, 52°.37N×162°.45E, h43km±43km, ML3.6, Off east coast of Kamchatka Peninsula

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.01**	**240**	P	Pb	14 26 09.5	+0.1
WSI				S	Sb	14 26 22.1	-0.3
BASI	**Baing, Sumba**	**1.21**	**209**	P	Pn	14 26 09.7	-2.9
LBFI	**Labuhan Bajo,**	**1.44**	**298**	P	Pn	14 26 15.3	-0.5
LBFI				S	Sn	14 26 33.1	-1.4

IDC 12 14:36:39.0±1.8, 13°.94N×92°.99E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/27, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=61.3km s-min=22.6km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.27**	**51**	Pn	Pn	14 38 26.6	+0.1
	0.2nm,0.3s,baz=241,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**33.96**	**347**	P	P	14 43 24.1	-0.1
	0.3nm,0.8s,baz=160,slow=8.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.43**	**353**	P	P	14 44 19.0	0.0
	0.3nm,0.3s,baz=162,slow=9.8,SNR=2.9						
WRA	**Warramunga Arr**	**52.80**	**129**	P	P	14 45 56.3	-0.2
	0.3nm,0.8s,baz=313,slow=7.8,SNR=4.7						
ASAR	**Alice Springs**	**54.75**	**133**	P	P	14 46 10.7	-0.1
	0.2nm,0.4s,baz=310,slow=7.2,SNR=9.1						

MEX 12 14:37:43.9±0.6, 17°.70N×101°.44W, h48km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.10**	**192**	*e*P	Pn	14 37 49.9	-1.6
ZIIG				*i* S	Sn	14 37 55.2	-1.6
ARIG	**Puente Sto Nin**	**1.19**	**61**	*e*P	Pn	14 38 02.4	-1.8
ARIG				*i* S	Sn	14 38 17.1	-2.3
CAIG	**El Cayaco**	**1.30**	**120**	*i* P	Pn	14 38 04.0	-1.6
CAIG				*i* S	Sn	14 38 19.1	-2.7
MEIG	**Mezcala**	**1.75**	**82**	*e*P	Pn	14 38 09.9	-2.1
MEIG				*e*S	Sn	14 38 31.0	-2.2
MMIG	**Aquila**	**1.90**	**288**	*i* P	Pn	14 38 12.4	-1.5
MMIG				*i* S	Sn	14 38 34.2	-2.5
PLIG	**Platanillo**	**1.97**	**69**	*e*P	Pn	14 38 13.8	-1.1
PLIG				*i* S	Sn	14 38 36.6	-2.0
MOIG	**Morelia**	**1.98**	**7**	*i* P	Pn	14 38 13.9	-1.4
MOIG				*i* S	Sn	14 38 37.0	-2.1
YAIG	**Yautepec**	**2.53**	**63**	*i* P	Pn	14 38 21.5	-1.3
YAIG				*i* S	Sn	14 38 49.6	-3.0
PPM	**Popocatepetl**	**3.00**	**63**	*i* P	Pn	14 38 25.8	-3.9
PPM				*i* S	Sn	14 39 01.9	-2.8
PNIG	**Pinotepa**	**3.43**	**112**	*i* P	Pn	14 38 34.3	-0.6
PNIG				*i* S	Sn	14 39 12.1	-2.2

ISCJB ***12*** *14:50:14.8±0.3, 57°.71S±0°.05×25°.3W±0°.1, h43km, mb5.3/37, MS5.0/91, Error ellipse: s-maj=9.7km s-min=6.3km az=151.6*

MOS ***12*** *14:50:14.4±0.9, 57°.73S×25°.23W, h33km, mb5.5/13, MS5.0/7, Error ellipse: s-maj=25.6km s-min=12.2km az=99.4*

NEIC ***12*** *14:50:14.2±0.1, 57°.66S×25°.25W, h28km, mb5.6/27, MS5.0/58, MW5.5, Error ellipse: s-maj=7.3km s-min=5.5km az=49.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}1.47; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-1.20; $M_{r\theta}$0.02; $M_{\theta\phi}$1.91; $M_{r\phi}$0.67; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s350.00000°, δ61.00000°, λ131.00000°. NP2: ϕ_s110.00000°, δ49.00000°, λ41.00000°. Principal axes: T 1.8300, Plg54.0000°, Azm312.0000°; N 0.9200, Plg34.0000°, Azm147.0000°; P -2.7700, Plg6.0000°, Azm52.0000°;*

IDC ***12*** *14:50:18.6±1.5, 57°.73S×25°.26W, h61km±12km, mb4.8/15, mb1 4.9/16, mb1mx4.7/19, mbtmp4.8/16, MS4.9/17, Ms1 4.9/17, ms1mx4.9/18 Error ellipse: s-maj=15.2km s-min=12.2km az=57.0*

GCMT ***12*** *14:50:20.3±0.1, 57°.90S×24°.90W, h36km, MW5.5, Moment Tensor Solution. s103,c183; s32,c34; Moment tensor: Scale 10^{17}Nm; M_{rr}1.87±.03; $M_{\theta\theta}$0.19±.03; $M_{\phi\phi}$-2.06±.03; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$0.52±.02; $M_{r\phi}$0.79±.03; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s354.00000°, δ56.00000°, λ98.00000°. NP2:ϕ_s160.00000°, δ35.00000°, λ79.00000°. Principal axes: T 2.0300, Plg78.0000°, Azm291.0000°; N 0.2800, Plg6.0000°, Azm170.0000°; P -2.3200, Plg10.0000°, Azm78.0000°; Data Used: II IU CN IC G. Surface waves: ss= 95, comp=165, per= 50.*

ISC 12 14:50:16.2±0.2, 57°.67S±0°.06×25°.43W±0°.06, h43km, n309, σ1°39/313, mb5.5/37, MS5.0/91, 4C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.93**	**158**	*e*Pn	**Pn**	**14 53 42.8**	**-1.1**
VNA1	**Neumayer--Stat**	**14.93**	**158**	*e*Sn	**Sn**	**14 56 30.7**	**+3.0**
VNA2	**Neumayer--Watz**	**15.32**	**157**	*e*Pn	**Pn**	**14 53 46.5**	**-2.6**
VNA2	**Neumayer--Watz**	**15.32**	**157**	*e*pP	**P**	**14 53 53.3**	**+0.1**
VNA2	**Neumayer--Watz**	**15.32**	**157**	*e*Sn	Sn	14 56 28.2	-9.2
VNA2	**Neumayer--Watz**	**15.32**	**157**	*e*ScP	**ScP**	**15 02 22.8**	**+1.3**
SNAA	**Sanae**	**16.86**	**155**	*e*Pn	**Pn**	**14 54 08.0**	**-0.8**
SNAA	**Sanae**	**16.86**	**155**	*e*Sn	Sn	14 57 02.9	-12
SNAA	**Sanae**	**16.86**	**155**	*e*ScP	**ScP**	**15 02 29.6**	**+5.0**
SNAA	**Sanae**	**16.86**	**155**	*e*Pn	**Pn**	**14 54 07.9**	**-0.9**
	85nm,0.5s						
SNAA				*e*Sn	Sn	14 57 00.1	-15
PMSA	**Palmer Station**	**19.62**	**233**	*e*P	**Pn**	**14 54 42.8**	**+0.5**
	304nm,1.2s						
PMSA				PcP	**PcP**	**14 58 58.7**	**+0.4**
PMSA				ScP	**ScP**	**15 02 31.4**	**+0.9**
PMSA	**Palmer Station**	**19.62**	**233**	P	**Pn**	**14 54 42.8**	**+0.5**
	3.7nm,0.3s,baz=82,slow=9.0,SNR=25						
PMSA				PcP	**PcP**	**14 58 58.7**	**+0.4**
	1.0nm,0.3s,baz=32,slow=12,SNR=5.1						
PMSA				LR	LR	15 01 25.5	
	comp=Z,6μm,18.9s,baz=78,slow=34						
PMSA				ScP	**ScP**	**15 02 31.4**	**+0.9**
	0.4nm,0.3s,baz=315,slow=1.4,SNR=4.0						
EFI	**East Falkland**	**19.66**	**274**	P	**Pn**	**14 54 44.0**	**+1.2**
	1μm,0.5s,SNR=30						
EFI	**East Falkland**	**19.66**	**274**	*e*P	**Pn**	**14 54 43.5**	**+0.6**
EFI				pmax	pmax		
	comp=Z,385nm,0.8s						
EFI	**East Falkland**	**19.66**	**274**	*e*P	**Pn**	**14 54 43.5**	**+0.6**
	comp=Z,385nm,0.8s						
USHA	**Ushuaia**	**23.76**	**258**	P	**P**	**14 55 26.1**	**+1.8**
USHA				PcP	**PcP**	**14 59 07.2**	**+0.6**
USHA	**Ushuaia**	**23.76**	**258**	P	**P**	**14 55 26.1**	**+1.8**
	comp=Z,23nm,0.8s,baz=94,slow=12,SNR=17						
USHA				PcP	**PcP**	**14 59 07.2**	**+0.6**
	comp=Z,7.2nm,0.6s,baz=333,slow=4.4,SNR=7.3						
USHA				LR	LR	15 02 30.2	
	comp=Z,9μm,21.7s,baz=67,slow=31						
SYO	**Syowa Base**	**29.72**	**139**	*e*P	P	14 56 13.5	-4.2
TRQA	**Tornquist**	**30.85**	**294**	*e*P	**P**	**14 56 26.8**	**-1.3**
	comp=Z,55nm,1.1s						
QSPA	**South Pole Qui**	**32.58**	**180**	PFAKE		14 57 00.0	+17
QSPA				LR	LR		
	comp=Z,2μm,21.0s						
MAW	**Mawson**	**38.27**	**142**	P	**P**	**14 57 30.5**	**-1.2**
MAW				PcP	**PcP**	**14 59 45.2**	**+0.4**
MAW	**Mawson**	**38.27**	**142**	P	**P**	**14 57 30.5**	**-1.2**
	comp=Z,9.6nm,0.6s,baz=217,slow=8.8,SNR=42						
MAW				PcP	**PcP**	**14 59 45.2**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=231,slow=3.8,SNR=3.3						
MAW				LR	LR	15 11 07.4	
	comp=Z,2μm,20.0s,baz=249,slow=33						
CPUP	**Villa Florida**	**38.61**	**311**	*e*P	**P**	**14 57 34.7**	**-0.3**
	comp=Z,125nm,0.4s						
CPUP				*e*PcP	**PcP**	**14 59 46.9**	**+0.4**
CPUP				PcP	**PcP**	**14 59 47.7**	**+1.2**
CPUP				ScP	**ScP**	**15 03 30.4**	**-0.3**
CPUP	**Villa Florida**	**38.61**	**311**	P	**P**	**14 57 35.5**	**+0.6**
	comp=Z,18nm,0.4s,baz=132,slow=7.4,SNR=111						
CPUP				PcP	**PcP**	**14 59 47.7**	**+1.2**
	comp=Z,5.9nm,0.5s,baz=121,slow=4.1,SNR=5.7						
CPUP				ScP	**ScP**	**15 03 30.4**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=152,slow=5.5,SNR=3.9						
CPUP				LR	LR	15 12 21.3	
	comp=Z,1μm,18.5s,baz=141,slow=34						
LCO	**Las Campanas**	**42.43**	**293**	PFAKE		14 58 20.0	+13
LCO				LR	LR		
	comp=Z,3μm,20.0s						
SBA	**Scott Base**	**44.52**	**184**	*e*P	**P**	**14 58 23.6**	**+0.8**
SBA				pmax	pmax		
	comp=Z,146nm,1.3s						
SBA	**Scott Base**	**44.52**	**184**	*e*P	**P**	**14 58 23.6**	**+0.8**
	comp=Z,146nm,1.3s						
VNDA	**Vanda**	**44.99**	**182**	*e*P	**P**	**14 58 27.2**	**+0.7**
	comp=Z,81nm,1.0s						
VNDA	**Vanda**	**44.99**	**182**	P	**P**	**14 58 27.7**	**+1.2**
	comp=Z,58nm,0.8s,baz=188,slow=7.3,SNR=101						
VNDA				LR	LR	15 15 58.5	
	comp=Z,971nm,22.0s,baz=270,slow=34						
BDFB	**Brasilia**	**45.25**	**329**	P	**P**	**14 58 31.2**	**+1.8**
BDFB	**Brasilia**	**45.25**	**329**	P	**P**	**14 58 31.2**	**+1.8**
	comp=Z,19nm,0.5s,baz=137,slow=5.8,SNR=22						
BDFB				LR	LR	15 16 06.8	
	comp=Z,2μm,19.5s,baz=329,slow=34						
BOSA	**Boshof**	**45.48**	**73**	*e*P	**P**	**14 58 30.6**	**-0.5**
	comp=Z,495nm,3.0s						
BOSA	**Boshof**	**45.48**	**73**	P	**P**	**14 58 31.3**	**+0.1**
	comp=Z,13nm,0.7s,baz=207,slow=7.4,SNR=17						
BOSA				LR	LR	15 13 39.7	
	comp=Z,3μm,20.5s,baz=221,slow=31						
LVC	**Limon Verde**	**46.95**	**300**	*e*P	**P**	**14 58 42.4**	**-0.4**
	comp=Z,16nm,0.7s						
LVC				LR	LR		
	comp=Z,1μm,20.0s						
LBTB	**Lobatse**	**48.60**	**70**	*e*P	**P**	**14 58 55.6**	**+0.1**
	comp=Z,19nm,0.8s						
CASY	**Casey**	**52.05**	**159**	*e*P	**P**	**14 59 20.8**	**-0.1**
	comp=Z,49nm,1.2s						
CASY				LR	LR		
	comp=Z,2μm,22.0s						
LPAZ	**La Paz**	**52.10**	**304**	P	**P**	**14 59 23.1**	**+0.5**
	comp=Z,18nm,0.6s						
LPAZ				ScP	**ScP**	**15 04 27.2**	**0.0**
LPAZ	**La Paz**	**52.10**	**304**	P	**P**	**14 59 23.1**	**+0.5**
	comp=Z,26nm,0.4s,baz=138,slow=5.2,SNR=114						
LPAZ				ScP	**ScP**	**15 04 27.2**	**0.0**
	comp=Z,2.8nm,1.1s,baz=138,slow=5.0,SNR=3.5						
LPAZ				LR	LR	15 20 39.0	
	comp=Z,565nm,19.4s,baz=29,slow=35						
DRV	**Dumont d'Urvil**	**55.50**	**173**	PP	PP	15 01 36.0	-14
DRV				S	S	15 07 03.0	-25
DRV				SS	SKiKP	15 10 35.0	-10
DRV				R		15 16 00.0	
SAML	**Samuel**	**56.63**	**314**	*e*P	**P**	**14 59 55.1**	**+0.4**
	comp=Z,64nm,0.5s						
LSZ	**Lusaka**	**58.10**	**66**	*e*P	**P**	**15 00 05.1**	**-0.2**
	comp=Z,16nm,0.8s						
LSZ				LR	LR		
	comp=Z,2μm,19.0s						
ABPO	**Ambohimpanom**	**64.87**	**86**	PFAKE		15 01 00.0	+9.0
ABPO				LR	LR		
	comp=Z,1μm,22.0s						
LIC	**Lamto**	**65.80**	**22**	*e*P	**P**	**15 00 57.6**	**+0.8**
	comp=Z,47nm,0.6s						
KIC	**Kosan Boka**	**65.99**	**23**	*e*P	**P**	**15 00 58.8**	**+0.8**
	comp=Z,41nm,0.9s						
TIC	**Toumodi**	**66.21**	**22**	*e*P	**P**	**15 01 00.2**	**+0.8**
	comp=Z,41nm,0.7s						
DBIC	**Dimbokro**	**66.27**	**22**	*e*P	**P**	**15 01 00.3**	**+0.5**
	comp=Z,18nm,0.8s						
DBIC	**Dimbokro**	**66.27**	**22**	P	**P**	**15 01 00.7**	**+0.9**
	comp=Z,12nm,0.6s,baz=169,slow=7.5,SNR=20						
DBIC				LR	LR	15 22 53.8	
	comp=Z,791nm,20.9s,baz=168,slow=30						
OTAV	**Otavalo**	**71.35**	**303**	*e*P	**P**	**15 01 32.7**	**+0.7**
	comp=Z,47nm,1.3s						
OTAV				LR	LR		
	comp=Z,734nm,20.0s						
ROSC	**El Rosal**	**73.68**	**309**	*e*P	**P**	**15 01 44.2**	**-1.5**
ROSC	**El Rosal**	**73.68**	**309**	P	**P**	**15 01 46.3**	**+0.5**
	comp=Z,8.6nm,0.4s,baz=134,slow=3.2,SNR=6.1						
ROSC				LR	LR	15 35 55.1	
	comp=Z,403nm,19.1s,baz=20,slow=37						
TOA0	**Torodi Ar. Sit**	**74.02**	**28**	*e*P	**P**	**15 01 47.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**74.02**	**28**	P	**P**	**15 01 48.5**	**+1.3**
TORD	**Torodi Ar. Bea**	**74.02**	**28**	P	**P**	**15 01 48.5**	**+1.3**
	comp=Z,34nm,0.5s,baz=199,slow=6.7,SNR=428						
TORD				LR	LR	15 27 40.4	
	comp=Z,850nm,21.2s,baz=175,slow=30						
KMBO	**Kilima Mbogo**	**74.75**	**67**	LR	LR	15 32 30.1	
	comp=Z,1μm,18.5s,baz=274,slow=34						
GRGR	**Grenville**	**75.65**	**323**	*e*P	**P**	**15 01 57.0**	**+0.3**
	comp=Z,177nm,0.5s						
GRGR				LR	LR		
	comp=Z,550nm,20.0s						
SDV	**Santo Domingo**	**75.84**	**314**	*e*P	**P**	**15 01 57.6**	**-0.3**
	comp=Z,68nm,1.2s						
BBGH	**Gun Hill**	**75.95**	**326**	PFAKE		15 02 10.0	+12
BBGH				LR	LR		
	comp=Z,1μm,20.0s						
PAYG	**Puerto Ayora**	**76.22**	**291**	PFAKE		15 02 10.0	+10
PAYG				LR	LR		
	comp=Z,1μm,20.0s						
RPZ	**Rata Peaks**	**78.04**	**192**	*e*P	**P**	**15 02 11.2**	**+1.3**
RPZ	**Rata Peaks**	**78.04**	**192**	P	**P**	**15 02 10.6**	**+0.7**
	comp=Z,17nm,0.7s,baz=177,slow=7.3,SNR=5.5						
TBG	**Guadaloupe-3**	**79.15**	**325**	*e*P	**P**	**15 02 17.8**	**+1.7**
PHG	**Guadaloupe-2**	**79.30**	**325**	*e*P	**P**	**15 02 19.4**	**+2.3**
ECG	**Echelle**	**79.33**	**325**	*e*P	**P**	**15 02 19.4**	**+2.1**
TAG	**Tarade**	**79.33**	**325**	⇑*i*P	**P**	**15 02 19.3**	**+2.0**
LKG	**Breislack**	**79.33**	**325**	⇑*i*P	**P**	**15 02 19.3**	**+2.0**
CRG	**Carmichael**	**79.34**	**325**	*e*P	**P**	**15 02 18.7**	**+1.3**
MLG	**Mont-d'or**	**79.36**	**325**	*e*P	**P**	**15 02 19.1**	**+1.8**
SSG	**Sans Toucher**	**79.38**	**325**	*e*P	**P**	**15 02 19.5**	**+2.0**
BCIP	**Isla Barro Col**	**79.90**	**305**	PFAKE		15 02 30.0	+10
BCIP				LR	LR		
	comp=Z,388nm,19.0s						
RKT	**Rikitea**	**80.57**	**242**	*e*LR	LR	15 27 48.6	
	comp=Z,2μm,28.2s						
ANWB	**Willy Bob**	**80.90**	**325**	PFAKE		15 02 40.0	+14
ANWB				LR	LR		
	comp=Z,520nm,22.0s						
MTP	**Monte Pirata**	**82.51**	**322**	*e*P	**P**	**15 02 33.8**	**-0.1**
	comp=Z,32nm,0.5s						
STVI	**Saint Thomas**	**82.55**	**322**	*e*P	**P**	**15 02 34.4**	**+0.2**
	comp=Z,30nm,0.6s						
URZ	**Urewera**	**82.57**	**198**	*e*P	**P**	**15 02 33.0**	**-1.3**
HUMP	**Col San Antoni**	**82.65**	**322**	*e*P	**P**	**15 02 34.9**	**+0.2**
	comp=Z,31nm,0.7s						
CBYP	**Canovanas**	**82.77**	**322**	*e*P	**P**	**15 02 35.4**	**0.0**
	comp=Z,35nm,0.5s						
OBIP	**Obispado Ponce**	**82.81**	**321**	*e*P	**P**	**15 02 35.0**	**-0.5**
	comp=Z,81nm,1.4s						
CELP	**Cerrillos**	**82.83**	**321**	*e*P	**P**	**15 02 35.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**82.95**	**320**	*e*P	**P**	**15 02 36.5**	**+0.2**
	comp=Z,132nm,1.2s						
LRS	**Lares**	**83.12**	**321**	*e*P	**P**	**15 02 36.6**	**-0.7**
AOPR	**Arecibo Observ**	**83.14**	**321**	*e*P	**P**	**15 02 37.7**	**+0.3**
	comp=Z,32nm,0.5s						
NWAO	**Narrogin (SRO)**	**84.44**	**149**	P	**P**	**15 02 43.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**84.44**	**149**	P	**P**	**15 02 43.7**	**-0.3**
	comp=Z,6.4nm,0.7s,baz=172,slow=7.1,SNR=4.3						
SDDR	**Presa de Saban**	**85.33**	**317**	*e*P	**P**	**15 02 48.4**	**0.0**
	comp=Z,168nm,2.2s						
GRTK	**Grand Turk**	**87.59**	**318**	PFAKE		15 03 10.0	+11
GRTK				LR	LR		
	comp=Z,461nm,21.0s						
GTBY	**Guantanamo Bay**	**87.63**	**314**	PFAKE		15 03 10.0	+10
GTBY				LR	LR		
	comp=Z,783nm,22.0s						
STKA	**Stephens Creek**	**90.13**	**169**	*e*P	**P**	**15 03 11.2**	**-0.4**
	comp=Z,3.1nm,1.0s						
STKA	**Stephens Creek**	**90.13**	**169**	P	**P**	**15 03 11.1**	**-0.4**
	comp=Z,11nm,1.0s,baz=168,slow=3.9,SNR=15						
STKA				LR	LR	15 43 39.5	
	comp=Z,769nm,18.9s,baz=198,slow=36						
MDT	**Midelt**	**91.83**	**17**	P	**P**	**15 03 19.4**	**+0.2**
MDT	**Midelt**	**91.83**	**17**	P	**P**	**15 03 19.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=199,slow=3.2,SNR=6.1						
MDT				LR	LR	15 39 37.3	
	comp=Z,820nm,19.6s,baz=81,slow=32						
PPT2	**Papeete2**	**91.97**	**232**	*e*PS	PS	15 15 37.8	+4.4
	comp=Z,478nm,30.2s						
PPT2	**Papeete2**	**91.97**	**232**	*e*LR	LR	15 32 52.4	
	comp=Z,3μm,24.5s						
TEIG	**Tepich**	**93.42**	**303**	*e*P	**P**	**15 03 25.7**	**-0.9**
	comp=Z,17nm,0.5s						
TEIG				LR	LR		
	comp=Z,332nm,21.0s						
BBSR	**BB Station**	**95.59**	**327**	PFAKE		15 03 50.0	+14
BBSR				LR	LR		
	comp=Z,419nm,22.0s						
MBWA	**Marble Bar**	**96.26**	**148**	PFAKE		15 03 50.0	+10
MBWA				LR	LR		
	comp=Z,409nm,22.0s						
ASAR	**Alice Springs**	**97.14**	**161**	P	**P**	**15 03 43.1**	**-0.8**
ASAR				PP	**PP**	**15 07 41.6**	**+2.3**
ASAR				PKKPbc	**PKKPdf**	**15 20 21.9**	**+1.0**
ASAR	**Alice Springs**	**97.14**	**161**	P	**P**	**15 03 43.1**	**-0.8**
	comp=Z,4.9nm,0.9s,baz=181,slow=3.9,SNR=76						
ASAR				PP	**PP**	**15 07 41.6**	**+2.3**
	comp=Z,1.5nm,1.0s,baz=189,slow=6.3,SNR=4.2						
ASAR				PKKPbc	**PKKPdf**	**15 20 21.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=19,slow=2.5,SNR=9.1						
ASAR				LR	LR	15 44 58.0	
	comp=Z,828nm,19.5s,baz=194,slow=34						
AS31	**Alice Springs**	**97.14**	**161**	*e*P	**P**	**15 03 42.4**	**-1.5**
KEST	**Kesra**	**97.54**	**28**	LR	LR	15 43 13.9	
	comp=Z,267nm,20.3s,baz=358,slow=32						
PAB	**San Pablo**	**98.46**	**16**	PFAKE		15 04 00.0	+11
PAB				LR	LR		
	comp=Z,293nm,19.0s						
ESDC	**Sonseca Array**	**98.65**	**17**	LR	LR	15 45 44.8	
	comp=Z,261nm,18.1s,baz=190,slow=34						
DZM	**Mont Dzumac**	**99.94**	**191**	*e*LR	LR	15 36 39.9	
	comp=Z,589nm,23.8s						
WRA	**Warramunga Arr**	**100.86**	**161**	P	**Pdif**	**15 03 59.2**	**-1.4**
WRA				PP	PP	15 08 16.0	+8.3
WRA				PKKPbc	**PKKPbc**	**15 20 11.8**	**+1.6**
WRA	**Warramunga Arr**	**100.86**	**161**	P	**Pdif**	**15 03 59.2**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=195,slow=4.5,SNR=14						
WRA				PP	PP	15 08 16.0	+8.3
	comp=Z,2.0nm,0.9s,baz=184,slow=6.0,SNR=6.4						
WRA				PKKPbc	**PKKPbc**	**15 20 11.8**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=354,slow=2.9,SNR=17						
WRAB	**Tennant Creek**	**100.87**	**161**	*i* P	**Pdif**	**15 03 59.3**	**-1.3**
CEL	**Celeste**	**101.68**	**32**	PFAKE		15 04 10.0	+6.5
CEL				LR	LR		
	comp=Z,353nm,20.0s						
CTAO	**Charters Tower**	**102.23**	**172**	PFAKE		15 04 20.0	+13
CTAO				LR	LR		
	comp=Z,1μm,20.0s						
CNNC	**Cliffs of the**	**102.50**	**318**	PFAKE		15 04 20.0	+13
CNNC				LR	LR		
	comp=Z,293nm,20.0s						
CUC	**Castrocucco**	**103.27**	**31**	PFAKE		15 04 20.0	+9.4
CUC				LR	LR		
	comp=Z,295nm,20.0s						
CSS	**Prodhromos**	**104.61**	**47**	PFAKE		15 04 30.0	+13
CSS				LR	LR		
	comp=Z,626nm,22.0s						
CBN	**Corbin**	**104.98**	**320**	PFAKE		15 08 40.0	
CBN				LR	LR		
	comp=Z,370nm,22.0s						
BNI	**Bardonecchia**	**105.80**	**23**	PFAKE		15 08 50.0	
BNI				LR	LR		
	comp=Z,924nm,19.0s						
ISP	**Isparta**	**106.07**	**43**	PFAKE		15 08 50.0	
ISP				LR	LR		
	comp=Z,250nm,20.0s						
BINY	**Binghamton**	**108.10**	**323**	PFAKE		15 08 50.0	
BINY				LR	LR		
	comp=Z,499nm,21.0s						
ANTO	**Ankara**	**108.70**	**44**	PFAKE		15 08 50.0	
ANTO				LR	LR		
	comp=Z,384nm,22.0s						
BRTR	**Keskin Array B**	**108.89**	**44**	PKKPbc	PKKPbc	15 19 47.2	+0.3
BRTR	**Keskin Array B**	**108.89**	**44**	PKKPbc	PKKPbc	15 19 47.2	+0.3
	comp=Z,0.6nm,0.6s,baz=51,slow=2.8,SNR=3.6						
BFO	**Black Forest**	**109.27**	**23**	PFAKE		15 08 50.0	
BFO				LR	LR		
	comp=Z,614nm,20.0s						
KHC	**Kasperske Hory**	**111.20**	**26**	*e*PS	PS	15 19 06.9	+11
KHC				*ex*	x	15 25 11.9	
KHC				AMS	AMS	15 47 50.0	
	comp=Z,500nm,25.2s						
HDIL	**Hopedale**	**111.46**	**313**	PFAKE		15 09 00.0	
HDIL				LR	LR		
	comp=Z,390nm,22.0s						
KAPI	**Kappang**	**111.48**	**142**	PFAKE		15 09 00.0	
KAPI				LR	LR		
	comp=Z,292nm,19.0s						
TREC	**Trest**	**111.82**	**28**	AMS	AMS	15 50 10.0	
	comp=Z,800nm,20.0s						
AMTX	**Amarillo**	**112.03**	**301**	PFAKE		15 09 00.0	
AMTX				LR	LR		
	comp=Z,378nm,20.0s						
PRU	**Pruhonice**	**112.23**	**27**	*e*PS	PS	15 19 07.8	+2.8
PRU				*ex*	x	15 25 21.2	
PRU				AMS	AMS	15 51 50.0	
	comp=Z,400nm,19.7s						
PMG	**Port Moresby**	**112.88**	**172**	PFAKE		15 09 00.0	
PMG				LR	LR		
	comp=Z,816nm,19.0s						
HNR	**Honiara**	**112.99**	**186**	PFAKE		15 09 00.0	
HNR				LR	LR		
	comp=Z,466nm,19.0s						
DPC	**Dobruska-Polom**	**113.00**	**28**	*e*PS	PS	15 19 15.8	+3.6
DPC				*ex*	x	15 25 40.7	
DPC				AMS	AMS	15 51 30.0	
CLL	**Collm**	**113.10**	**25**	*e*PS	PS	15 19 17.0	+4.1
CLL				*e*		15 19 45.0	
CLL				*e*SS	SS	15 25 42.0	+23
CLL				*e*SSS	SSS	15 30 00.0	
KSU1	**Kansas State U**	**113.26**	**307**	PFAKE		15 09 00.0	
KSU1				LR	LR		
	comp=Z,422nm,21.0s						
KOLS	**Kolonicke sedl**	**113.30**	**32**	*e*P	**Pdif**	**15 04 58.0**	**+3.1**
KOLS	**Kolonicke sedl**	**113.30**	**32**	PDIF	**Pdif**	**15 04 58.0**	**+3.1**
GNI	**Gar

NB2	NORSAR Subarra	121.80	20	PKPdf	PKPdf	15 09 03.7	-0.3	
	comp=Z,8.7nm,1.4s,baz=188,slow=1.9							
NB2	NORSAR Subarra	121.80	20	PKPdf	PKPdf	15 09 03.7	-0.3	
	baz=188,slow=1.9							
NOA	NORSAR Array B	121.80	20	PKKPbc	PKKPbc	15 19 06.2	+3.9	
NOA	NORSAR Array B	121.80	20	PKKPbc	PKKPbc	15 19 06.2	+3.9	
	comp=Z,1.0nm,0.7s,baz=24,slow=4.1,SNR=4.3							
BW06	Boulder Array	122.01	300	PFAKE		15 09 20.0	+15	
BW06				LR	LR			
	comp=Z,442nm,21.0s							
PDAR	Pinedale Array	122.01	300	PKP	PKPdf	15 09 04.8	-0.4	
PDAR	Pinedale Array	122.01	300	PKP	PKPdf	15 09 04.8	-0.4	
	comp=Z,2.8nm,0.6s,baz=109,slow=7.6,SNR=14							
HWUT	Hardware Ranch	122.06	298	*e*PKPdf	PKPdf	15 09 05.4	+0.1	
HWUT				LR	LR			
	comp=Z,306nm,21.0s							
ULM	Lac du Bonnet	122.08	314	PKP	PKPdf	15 09 04.6	-0.2	
ULM				PP	PP	15 10 38.5	-2.4	
ULM	Lac du Bonnet	122.08	314	PKP	PKPdf	15 09 04.6	-0.2	
	comp=Z,4.6nm,0.5s,baz=132,slow=2.0,SNR=9.7							
ULM				PP	PP	15 10 38.5	-2.4	
	comp=Z,3.9nm,0.8s,baz=145,slow=8.7,SNR=3.5							
TPH	Tonopah	122.09	291	PFAKE		15 09 20.0	+15	
TPH				LR	LR			
	comp=Z,255nm,22.0s							
BORG	Borgarnes	122.14	2	PFAKE		15 09 20.0	+16	
BORG				LR	LR			
	comp=Z,391nm,22.0s							
HVU	Hansel Valley	122.77	297	*e*PKIKP	PKPdf	15 09 06.5	-0.1	
HVU	Hansel Valley	122.77	297	*e*PKPdf	PKPdf	15 09 06.5	-0.1	
NV11	Mina Array Sit	122.83	291	*e*PKPdf	PKPdf	15 09 07.2	+0.4	
NVAR	Mina Array Bea	122.90	291	PKP	PKPdf	15 09 07.7	+0.6	
NVAR	Mina Array Bea	122.90	291	PKP	PKPdf	15 09 07.7	+0.6	
	comp=Z,1.7nm,0.7s,baz=134,slow=2.6,SNR=23							
VSU	Vasula	122.97	30	*i* PKIKP	PKPdf	15 09 07.7	+1.5	
OBN	Obninsk	123.05	37	*i* PKIKP	PKPdf	15 09 06.1	-0.3	
OBN				*i*		15 10 50.3		
OBN				*i* PS	PS	15 20 45.3	+2.7	
OBN				*i* SS	SS	15 27 29.1	+0.9	
OBN				pmax	pmax			
	comp=Z,10.0nm,1.5s							
REDW	Red Top Meadow	123.07	300	PKPdf	PKPdf	15 09 07.0	-0.2	
TPAW	Teton Pass	123.22	300	*e*PKPdf	PKPdf	15 09 08.2	+0.6	
RRI2	Red Ridge	123.28	299	*e*PKPdf	PKPdf	15 09 08.3	+0.6	
MOOW	Moose Ponds	123.32	300	*e*PKPdf	PKPdf	15 09 08.1	+0.3	
IMW	Indian Meadow	123.53	300	*e*PKPdf	PKPdf	15 09 08.1	-0.1	
WAKR	Walker	123.53	290	*e*PKPdf	PKPdf	15 09 09.8	+1.5	
CM31	Chiang Mai Arr	123.60	110	*e*PKPdf	PKPdf	15 09 08.7	0.0	
CMAR	Chiang Mai Arr	123.60	110	PKP	PKPdf	15 09 09.0	+0.3	
CMAR	Chiang Mai Arr	123.60	110	PKP	PKPdf	15 09 09.0	+0.3	
	comp=Z,2.1nm,0.5s,baz=227,slow=4.1,SNR=14							
RLMT	Red Lodge	123.70	302	*e*PKPdf	PKPdf	15 09 08.0	-0.4	
BMN	Battle Mountai	123.89	293	*e*PKIKP	PKPdf	15 09 08.8	-0.1	
BMN				MLR	MLR			
	comp=Z,270nm,22.0s							
BMN	Battle Mountai	123.89	293	*e*PKPdf	PKPdf	15 09 08.8	-0.1	
BMN				LR	LR			
	comp=Z,270nm,22.0s							
CHTO	Chiang Mai	123.90	110	*e*PKIKP	PKPdf	15 09 08.5	-0.8	
CHTO				MLR	MLR			
	comp=Z,366nm,20.0s							
CHTO	Chiang Mai	123.90	110	*e*PKPdf	PKPdf	15 09 08.5	-0.8	
CHTO				LR	LR			
	comp=Z,366nm,20.0s							
GCMT	Greycliff	124.39	302	PKPdf	PKPdf	15 09 09.3	-0.3	
QLMT	Earthquake Lak	124.47	301	*e*PKPdf	PKPdf	15 09 11.7	+1.9	
DAV	Davao City (W)	124.72	144	PFAKE		15 09 20.0	+8.9	
DAV				LR	LR			
	comp=Z,245nm,22.0s							
HLID	Hailey	124.91	298	*e*PKPdf	PKPdf	15 09 10.8	+0.1	
BEKR	Beckworth	125.03	291	*e*PKPdf	PKPdf	15 09 11.6	+0.6	
MCMT	McKenzie Canyo	125.12	300	*e*PKPdf	PKPdf	15 09 12.7	+1.6	
BOZ	Bozeman (W)	125.17	301	*e*PKIKP	PKPdf	15 09 11.5	+0.4	
BOZ				MLR	MLR			
	comp=Z,197nm,20.0s							
BOZ	Bozeman (W)	125.17	301	*e*PKPdf	PKPdf	15 09 11.5	+0.4	
BOZ				LR	LR			
	comp=Z,197nm,20.0s							
FINES	FINESS Array B	125.37	27	PKP	PKPdf	15 09 10.4	-0.3	
FINES	FINESS Array B	125.37	27	PKP	PKPdf	15 09 10.4	-0.3	
	comp=Z,3.7nm,0.5s,baz=230,slow=1.4,SNR=30							
DLMT	Dillon	125.41	300	*e*PKPdf	PKPdf	15 09 12.7	+1.1	
LRM	Limekiln Ridge	125.69	301	*e*PKPdf	PKPdf	15 09 13.1	+0.9	
KAF	Kangasniemi	126.00	27	*e*PKIKP	PKPdf	15 09 11.7	-0.2	
KAF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KAF	Kangasniemi	126.00	27	*e*p	PKPdf	15 09 11.7	-0.2	
	comp=Z,3.6nm,0.6s							
HRY	Holter Researc	126.07	302	*e*PKPdf	PKPdf	15 09 13.3	+0.6	
WVOR	Wild Horse Val	126.10	294	*e*PKIKP	PKPdf	15 09 13.7	+0.8	
WVOR	Wild Horse Val	126.10	294	*e*PKPdf	PKPdf	15 09 13.7	+0.8	
EGMT	Eagleton	126.12	304	*e*PKPdf	PKPdf	15 09 13.2	+0.4	
WDC	Whiskeytown Da	126.67	290	*e*PKIKP	PKPdf	15 09 13.6	-0.3	
WDC	Whiskeytown Da	126.67	290	*e*PKPdf	PKPdf	15 09 13.6	-0.3	
CHMT	Chamberlain Mo	126.87	301	*e*PKPdf	PKPdf	15 09 14.8	+0.4	
BMO	Blue Mountains	127.25	297	*e*PKIKP	PKPdf	15 09 15.3	+0.2	
BMO				MLR	MLR			
	comp=Z,475nm,20.0s							
BMO	Blue Mountains	127.25	297	*e*PKPdf	PKPdf	15 09 15.2	+0.2	
BMO				LR	LR			
	comp=Z,475nm,20.0s							
ABKAR	Akbulak array	127.50	55	*e*PKPdf	PKPdf	15 09 14.7	-0.5	
SWMT	Swartz Lake	127.65	301	*e*PKPdf	PKPdf	15 09 15.0	-0.7	
KKAR	Karatay Array	127.95	67	*e*PKIKP	PKPdf	15 09 16.0	-0.3	
KKAR	Karatay Array	127.95	67	*e*PKPdf	PKPdf	15 09 16.0	-0.3	
JTMT	Jette	127.96	301	*e*PKPdf	PKPdf	15 09 16.2	-0.1	
KSH	Kashi	128.07	74	PKP	PKPdf	15 09 17.1	+0.3	
KSH				sPKP		15 09 31.5		
KSH				SKS	SKSdf	15 16 23.8	-0.9	
KSH				AMB	AMB			
	comp=Z,130nm,5.3s							
KSH				LR	LR			
	comp=N,120nm,7.6s							
KSH				LR	LR			
	comp=E,250nm,16.5s							
KSH				LR	LR			
	comp=Z,260nm,15.4s							
BSMT	Bassoo Peak	128.27	301	*e*PKPdf	PKPdf	15 09 16.6	-0.3	
HUMO	Hull Mountain	128.38	291	*e*PKPdf	PKPdf	15 09 17.8	+0.7	
WALA	Waterton Lakes	128.75	303	*e*PKPdf	PKPdf	15 09 17.7	-0.1	
EKS2	Erkin-Say	129.26	70	*e*PKIKP	PKPdf	15 09 19.7	+0.7	
EKS2	Erkin-Say	129.26	70	*e*PKPdf	PKPdf	15 09 19.6	+0.7	
QIZ	Qiongzhong	129.38	121	PKP	PKPdf	15 09 18.7	-1.1	
QIZ				PP	PP	15 11 30.2	+0.9	
QIZ				SS	SS	15 28 46.0	-1.4	
QIZ				AMB	AMB			
	comp=Z,69nm,3.7s							
QIZ				LR	LR			
	comp=N,340nm,20.7s							
QIZ				LR	LR			
	comp=Z,480nm,20.3s							
AAK	Ala-Archa	129.60	71	*i* PKIKP	PKPdf	15 09 20.1	+0.4	
AAK	Ala-Archa	129.60	71	*e*PKPdf	PKPdf	15 09 20.3	+0.6	
AAK				LR	LR			
	comp=Z,630nm,20.0s							
FRU	Bishkek	129.81	71	*i* PKIKP	PKPdf	15 09 20.0	+0.1	
FRU				pmax	pmax			
	comp=Z,40nm,2.0s							
FRU				MLR	MLR			
	comp=Z,500nm,22.0s							
ETW	Entiat	130.69	297	P	SKPbc	15 12 42.1	+0.5	
TMCR	Tamitsa	130.76	31	*e*PKIKP	PKPdf	15 09 21.6	+0.7	
TMCR				pmax	pmax			
	comp=Z,39nm,1.3s							
RVC	Mount Rainier-	131.01	296	P	SKPbc	15 12 43.4	+0.6	
KMI	Kunming	131.08	109	PKP	PKPdf	15 09 18.1	-5.0	
KMI				SKS	SKSdf	15 16 26.9	-4.2	
KMI				SKKS	SKKSac	15 18 30.8	-2.7	
KMI				SS	SS	15 29 06.9	-2.1	
KMI				AMB	AMB			
	comp=Z,170nm,7.8s							
KMI				LR	LR			
	comp=N,170nm,22.0s							
KMI				LR	LR			
	comp=E,290nm,20.8s							
KMI				LR	LR			
	comp=Z,350nm,23.2s							
EDM	Edmonton	131.46	307	*e*PKIKP	PKPdf	15 09 22.4	-0.3	
EDM	Edmonton	131.46	307	*e*PKPdf	PKPdf	15 09 22.4	-0.3	
RPW	Rockport	131.85	297	P	SKPbc	15 12 45.8	+0.1	
JCW	Jim Creek	131.87	297	P	SKPbc	15 12 46.1	+0.4	
ARU	Arti	132.07	48	*i* PKIKP	PKPdf	15 09 23.8	+0.2	
ARU						15 11 46.7		
ARE0	ARCESS Array S	132.10	22	*e*PKPdf	PKPdf	15 09 23.9	+0.5	
ARCES	ARCESS Array B	132.10	22	PKP	PKPdf	15 09 23.7	+0.3	
ARCES				SKP		15 12 52.5		
ARCES	ARCESS Array B	132.10	22	PKP	PKPdf	15 09 23.7	+0.3	
	comp=Z,2.6nm,0.5s,baz=211,slow=1.9,SNR=24							
ARCES				SKP		15 12 52.5		
	comp=Z,12nm,1.1s,baz=183,slow=3.6,SNR=4.3							
BLN	Blyn Mountain	132.24	296	P	SKPbc	15 12 48.3	+1.2	
MBW	Mount Baker	132.27	297	P	SKPbc	15 12 48.0	+0.7	
OSD	Olympics--Snow	132.47	295	P	SKPbc	15 12 49.9	+1.8	
SVE	Sverdlovsk	133.17	49	*e*PKIKP	PKPdf	15 09 26.4	+0.7	
SVE				pmax	pmax			
	comp=Z,28nm,1.9s							
GYA	Guiyang	134.16	112	Pdif	Pdif	15 06 28.0	-0.4	
GYA				PKP	PKPdf	15 09 28.3	-0.4	
GYA				sPKP		15 09 50.0		
GYA				PP	PP	15 12 04.8	+4.5	
GYA				PKS	PKSdf	15 13 02.5	-2.8	
GYA				SKKS		15 18 49.0		
GYA				SS	SS	15 29 45.7	-0.4	
GYA				AMB	AMB			
	comp=Z,190nm,7.8s							
GYA				LR	LR			
	comp=N,190nm,24.5s							
GYA				LR	LR			
	comp=E,170nm,25.4s							
GYA				LR	LR			
	comp=Z,230nm,24.0s							
BRVK	Borovoye	134.81	58	*d i* PKIKP	PKPdf	15 09 29.8	+0.9	
BRVK	Borovoye	134.81	58	PFAKE		15 09 40.0	+11	
BRVK				LR	LR			
	comp=Z,745nm,21.0s							
GUMO	Guam	135.39	167	PFAKE		15 09 40.0	+8.8	
GUMO				LR	LR			
	comp=Z,817nm,22.0s							
CD2	Chengdu	136.29	105	*e*PKP	PKPdf	15 09 32.6	+0.1	
CD2				sPKP		15 09 54.4		
CD2				PP	PP	15 12 17.2	+3.5	
CD2				PKS	PKSdf	15 13 07.5	-1.3	
CD2				SKS	SKSdf	15 16 36.0	-3.7	
CD2				SKKS	SKKSac	15 19 02.1	-2.4	
CD2				SS	SS	15 30 12.0	+0.3	
CD2				AMB	AMB			
	comp=Z,110nm,7.2s							
CD2				LR	LR			
	comp=N,460nm,24.0s							
CD2				LR	LR			
	comp=Z,290nm,21.4s							
MKAR	Makanchi Array	136.48	72	PKPpre	PKPpre	15 09 25.5		
MKAR				PKP	PKPdf	15 09 31.3	-1.0	
MKAR				SKPbc	SKPbc	15 12 57.0	-3.8	
MKAR				SKPab	SKiKP	15 13 05.3	-0.9	
MKAR				PKKP	PKKPdf	15 19 12.2	+2.8	
MKAR	Makanchi Array	136.48	72	PKhKP	PKPpre	15 09 25.5		
	comp=Z,0.5nm,0.5s,baz=222,slow=6.1,SNR=6.0							
MKAR				PKP	PKPdf	15 09 31.3	-1.0	
	comp=Z,0.6nm,0.5s,baz=240,slow=1.7,SNR=8.1							
MKAR				SKPbc	SKPbc	15 12 57.0	-3.8	
	comp=Z,2.3nm,1.1s,baz=224,slow=3.3,SNR=5.3							
MKAR				SKPab	SKiKP	15 13 05.3	-0.9	
	comp=Z,1.1nm,0.8s,baz=172,slow=2.2,SNR=4.4							
MKAR				PKKP	PKKPdf	15 19 12.2	+2.8	
	comp=Z,0.3nm,0.7s,baz=36,slow=1.9,SNR=4.8							
WMQ	Urumqi	137.28	79	*e*PKP	PKPdf	15 09 33.2	-0.7	
WMQ				PKS	PKSdf	15 13 07.8	-2.2	
WMQ				SKS	SKSdf	15 16 38.5	-2.3	
WMQ				SKKS	SKKSac	15 19 08.0	-1.9	
WMQ				SS	SS	15 30 22.3	-1.3	
WMQ				LR	LR			
	comp=N,290nm,26.0s							
WMQ				LR	LR			
	comp=E,260nm,26.0s							
WMQ				LR	LR			
	comp=Z,330nm,28.0s							
YKA	Yellowknife Ar	138.02	316	PKPpre	PKPpre	15 09 23.2		
YKA				PKP	PKPdf	15 09 33.3	-1.2	
YKA				SKPbc	SKPbc	15 13 01.6	-3.1	
YKA				SKPab	SKPab	15 13 12.2	-0.9	
YKA	Yellowknife Ar	138.02	316	PKhKP	PKPpre	15 09 23.2		
	comp=Z,1.4nm,0.4s,baz=120,slow=3.5,SNR=8.0							
YKA				PKP	PKPdf	15 09 33.3	-1.2	
	comp=Z,8.5nm,0.4s,baz=128,slow=2.2,SNR=32							
YKA				SKPbc	SKPbc	15 13 01.7	-3.1	
	comp=Z,5.3nm,0.8s,baz=126,slow=3.6,SNR=4.0							
YKA				SKPab	SKPab	15 13 12.2	-0.9	
	comp=Z,6.8nm,0.9s,baz=122,slow=1.5,SNR=5.6							
KBS	Kingsbay	138.15	10	PFAKE		15 09 50.0	+16	
KBS				LR	LR			
	comp=Z,217nm,20.0s							
LZH	Lanzhou	140.36	101	*e*PKP	PKPdf	15 09 38.4	-1.6	
LZH				sPKP		15 09 53.3		
LZH				PP	PP	15 12 39.0	-0.1	
LZH				PKS	PKSdf	15 13 10.6	-5.4	
LZH				AMB	AMB			
	comp=Z,170nm,4.6s							
LZH				LR	LR			
	comp=N,520nm,17.6s							
LZH				LR	LR			
	comp=E,430nm,16.4s							
LZH				LR	LR			
	comp=Z,630nm,20.1s							
GTA	Gaotai	140.67	93	PKP	PKPdf	15 09 43.5	+3.1	
GTA				sPKP		15 09 59.8		
GTA				PP	PP	15 12 44.1	+3.1	
GTA				PKS	PKSdf	15 13 17.7	+1.4	
GTA				SKKS		15 19 29.8		
GTA				SS	SS	15 31 07.3	+3.7	
GTA				AMB	AMB			
	comp=Z,120nm,7.7s							
GTA				LR	LR			
	comp=N,180nm,20.9s							
GTA				LR	LR			
	comp=E,200nm,19.0s							
GTA				LR	LR			
	comp=Z,260nm,20.4s							
WHN	Wuhan	141.30	117	PKPbc	PKPdf	15 09 49.8	+8.2	
WHN				PP	PP	15 12 53.5	+9.0	
WHN				LR	LR			
	comp=Z,780nm,21.2s							
XAN	Xi'an	141.43	108	PKP	PKPdf	15 09 38.5	-3.3	
XAN				AMB	AMB			
	comp=Z,34nm,11.2s							
XAN				LR	LR			
	comp=N,200nm,23.5s							
XAN				LR	LR			
	comp=E,70nm,24.5s							
XAN				LR	LR			
	comp=Z,100nm,22.4s							
NVS	Novosibirsk	141.94	63	*e*PKHKP	PKPpre	15 09 37.5		
NVS				pmax	pmax			
	comp=Z,25nm,2.1s							
WRAK	Wrangell Islan	142.00	300	*e*PKPpre	PKPpre	15 09 37.0		
ZALV	Zalesovo Beam	142.20	65	PKHKP	PKPpre	15 09 37.4		
ZALV	Zalesovo Beam	142.20	65	PKPpre	PKPpre	15 09 37.4		
ZALV	Zalesovo Beam	142.20	65	PKhKP	PKPpre	15 09 37.4		
	comp=Z,2.7nm,0.5s,baz=241,slow=3.7,SNR=12							
NJ2	Nanjing	144.67	121	*e*PKP	PKPdf	15 10 01.2	+14	
NJ2				pPKP	pPKPdf	15 10 02.8	+1.9	
NJ2				PP	PP	15 13 05.2	+0.4	
NJ2				SKS	SKSdf	15 16 53.8	+0.8	
NJ2				SKKS	SKKSac	15 19 51.4	-1.8	
SKAG	Skagway	144.94	303	*e*PKP	PKPdf	15 09 47.1	+0.1	
HVS	Khovu-Aksy	145.06	74	*c i* PKIKP	PKPbc	15 09 47.0	-0.2	
HYT	Haines Junctio	146.53	305	*e*PKPbc	PKPbc	15 09 52.0	+0.6	
BTO	Baotou	146.96	102	*e*PKPbc	PKPbc	15 09 52.5	-0.8	
KRAR	Krasnoyarsk	147.23	66	*e*PKIKP	PKPdf	15 09 51.3	+0.3	
INK	Inuvik	147.67	319	*e*PKPbc	PKPbc	15 09 54.3	+0.1	
HHC	Hu-ho-hao-te	147.95	103	*e*PKPbc	PKPdf	15 09 53.9	+1.0	
HHC				pPKP	pPKPdf	15 10 05.0	-1.3	
HHC				sPKP		15 10 08.4		
HHC				PKS	PKSdf	15 13 26.9	-1.1	
HHC				PP	PP	15 13 29.1	+4.6	
HHC				SKS	SKSdf	15 16 57.0	-0.6	
HHC				SKKS	SKKSac	15 20 13.0	+1.3	
HHC				SS	SS	15 32 29.6	+2.7	
HHC				AMB	AMB			
	comp=Z,750nm,9.7s							
HHC				LR	LR			
	comp=N,410nm,21.1s							
HHC				LR	LR			
	comp=E,420nm,20.5s							
HHC				LR	LR			
	comp=Z,550nm,20.9s							
DAWY	Dawson	148.59	310	*e*PKPdf	PKPdf	15 09 50.4	-2.8	
DAWY				*e*PKPbc	PKPbc	15 09 56.9	0.0	
EGAK	Eagle	149.54	310	*e*PKPbc	PKPbc	15 09 59.1	-0.1	
ZAK	Zakamensk	149.66	81	*e*PKIKP	PKPdf	15 09 52.8	-2.6	
ZAK				pmax	pmax			
	comp=Z,28nm,1.5s							
BJI	Beijing	149.74	109	PKPbc	PKPbc	15 09 59.7	-0.7	
BJI				PP	PP	15 13 35.2	+0.6	
BJI				SKS	SKSdf	15 16 59.3	-0.4	
BJI				SS	SS	15 32 47.2	+0.6	
BJI				LR	LR			
	comp=N,210nm,18.1s							
BJI				LR	LR			
	comp=E,140nm,17.6s							
BJI				LR	LR			
	comp=Z,180nm,25.9s							
SONM	Songino Array	149.84	88	PKP	PKPdf	15 09 55.4	-0.4	
SONM				PKPbc	PKPbc	15 10 00.6	-0.1	
SONM	Songino Array	149.84	88	PKP	PKPdf	15 09 55.4	-0.4	
	comp=Z,9.1nm,1.0s,baz=191,slow=6.0,SNR=5.3							
SONM				PKPbc	PKPbc	15 10 00.6	-0.1	
	comp=Z,11nm,0.6s,baz=227,slow=3.3,SNR=68							
MENT	Mentasta	150.05	306	*e*PKPbc	PKPbc	15 10 01.2	+0.7	
ULN	Ulaanbaatar	150.21	88	*e*PKPbc	PKPbc	15 10 01.1	-0.5	
DL2	Dalian	151.56	117	PKPbc	PKPbc	15 10 04.7	-0.1	
ILAR	Eielson Array	151.90	309	PKPbc	PKPbc	15 10 05.2	+0.5	
ILAR	Eielson Array	151.90	309	PKPbc	PKPbc	15 10 05.2	+0.5	
	comp=Z,18nm,0.4s,baz=128,slow=2.0,SNR=266							
PMR	Palmer	152.04	302	*e*PKIKP	PKPbc	15 10 05.5	+0.4	
PMR	Palmer	152.04	302	*e*PKPbc	PKPbc	15 10 05.5	+0.4	
COLA	College	152.33	309	*e*PKIKP	PKPbc	15 10 05.5	-0.1	
COLA				MLR	MLR			
	comp=Z,343nm,20.0s							
COLA	College	152.33	309	*e*PKPbc	PKPbc	15 10 05.5	-0.1	
COLA				LR	LR			
	comp=Z,343nm,20.0s							
KDAK	Kodiak Island	152.37	293	*e*PKPbc	PKPbc	15 10 06.5	+0.6	
KDAK				LR	LR			
	comp=Z,394nm,20.0s							
OHAK	Old Harbor	152.51	292	*e*PKPbc	PKPbc	15 10 06.9	+0.6	
INCN	Inchon	152.71	126	PFAKE		15 10 10.0	+2.5	
INCN				LR	LR			
	comp=Z,564nm,19.0s							
KSAR	Wonju Array Be	153.21	128	PKP	PKPdf	15 10 01.1	0.0	
KSAR				PKPbc	PKPbc	15 10 08.6	+0.1	
KSAR				PKPab	PKPab	15 10 20.3	-0.2	
KSRS	Korea Array	153.24	128	PKP	PKPdf	15 10 01.1	0.0	
	comp=Z,0.7nm,0.8s,baz=176,slow=2.6,SNR=2.7							
KSRS				PKPbc	PKPbc	15 10 08.6	0.0	
	comp=Z,1.7nm,0.6s,baz=180,slow=2.3,SNR=7.5							
KSRS				PKPab	PKPab	15 10 20.3	-0.3	
	comp=Z,4.5nm,0.9s,baz=216,slow=2.9,SNR=6.1							
IMA2	Indian Mountai	154.92	311	*e*PKPbc	PKPbc	15 10 11.0	-0.5	
MJAR	Matsushiro Arr	156.23	146	PKPab	PKPab	15 10 30.5	-2.9	
MJAR	Matsushiro Arr	156.23	146	PKPab	PKPab	15 10 30.5	-2.9	
	comp=Z,1.4nm,0.7s,baz=190,slow=2.6,SNR=4.3							
CN2	Changchun	157.16	115	*e*PKP	PKPdf	15 10 09.0	+2.8	
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,200nm,19.0s							
CN2				LR	LR			
	comp=E,200nm,19.0s							
CN2				LR	LR			
	comp=Z,200nm,20.0s							
USRK	Ussuriysk Arra	160.53	124	PKPab	PKPab	15 10 50.8	-0.9	
	comp=Z,3.2nm,0.8s,baz=282,slow=2.1,SNR=6.8							
ADK	Adak	162.52	263	PFAKE		15 10 20.0	+8.1	
ADK				LR	LR			
	comp=Z,740nm,21.0s							
ERM	Erimo	162.73	150	PFAKE		15 10 20.0	+7.5	
ERM				LR	LR			
	comp=Z,404nm,20.0s							
KLR	Kul'dur	164.06	112	*e*PKP2	PKPab	15 11 01.8	-5.4	
YAK	Yakutsk	166.79	60	*e*PKP2	PKPab	15 11 21.0	+2.1	
YAK				*e*		15 35 54.9		
YAK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
FX1	Attu Island--F	168.38	254	PKPab	PKPab	15 11 25.7	-0.4	
FX1	Attu Island--F	168.38	254	PKPab	PKPab	15 11 25.7	-0.4	
	comp=Z,5.6nm,0.5s,baz=325,slow=2.9,SNR=5.7							
PETK	Petropavlovsk-	175.09	203	PKP2	PKPab	15 11 55.4	-0.5	
PETK	Petropavlovsk-	175.09	203	PKPab	PKPab	15 11 55.4	-0.5	
PETK	Petropavlovsk-	175.09	203	PKPab	PKPab	15 11 55.4	-0.5	
	comp=Z,2.2nm,0.7s,baz=137,slow=5.2,SNR=5.7							

ISCJB ***12*** *14:51:32.9±0.3, 42°.34N±0°.02×13°.30E±0°.02, h7km±2km, mb3.4/2, MS2.8/1, Error ellipse: s-maj=3.0km s-min=2.8km az=37.9*

CSEM ***12*** *14:51:33.5±0.1, 42°.34N×13°.30E, h2km, ML3.9/8, Error ellipse: s-maj=2.5km s-min=2.4km az=87.0*

ROM ***12*** *14:51:33.0±0.1, 42°.34N×13°.32E, h10km, Ml3.4/31, Error ellipse: s-maj=0.9km s-min=0.8km az=75.0*

IDC ***12*** *14:51:33.8±1.3, 42°.45N×13°.46E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.3/29, mbtmp3.3/5, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.0/27, Error ellipse: s-maj=34.8km s-min=14.1km az=95.0*

LDG ***12*** *14:51:33.0±0.1, 42°.33N×13°.29E, h2km, Ml3.1/2, Error ellipse: s-maj=3.4km s-min=2.6km az=40.0*

BEO ***12*** *14:51:45.9±1.2, 42°.81N×14°.30E, h0km, ML3

	1μm,0.4s							
GUAR	Guarcino	0.55	179	Pg		Pg	14 51 43.8	-1.1
	1μm,0.4s							
CESX	Cesi	0.60	297	Pg		Pg	14 51 44.6	-1.2
	2μm,0.4s							
CESX	Cesi	0.60	297	Pg		Pg	14 51 44.6	-1.2
	2μm,0.4s							
TRTR	Tortoreto Alta	0.65	44	Pg		Pg	14 51 46.4	-0.4
	12μm,0.8s							
TRTR	Tortoreto Alta	0.65	44	Pg		Pg	14 51 46.4	-0.4
	12μm,0.8s							
OFFI	Offida	0.66	26	Pg		Pg	14 51 46.2	-0.8
	6μm,0.4s							
OFFI	Offida	0.66	26	Pg		Pg	14 51 46.2	-0.8
	6μm,0.4s							
RMP	Rome, Mte Porz	0.69	220	Pg		Pg	14 51 46.5	-1.1
	2μm,0.6s							
RMP	Rome, Mte Porz	0.69	220	Pg		Pg	14 51 46.5	-1.1
	2μm,0.6s							
POFI	Posta Fibreno	0.70	154	Pg		Pg	14 51 46.1	-1.6
	547nm,0.5s							
POFI	Posta Fibreno	0.70	154	Pg		Pg	14 51 46.1	-1.6
	547nm,0.5s							
FDMO	Fiordimonte	0.71	347	Pg		Pg	14 51 46.4	-1.6
	762nm,0.3s							
FDMO	Fiordimonte	0.71	347	Pg		Pg	14 51 46.4	-1.6
	762nm,0.3s							
CESI	CESI - Serrava	0.72	336	Pg		Pg	14 51 46.8	-1.4
	406nm,0.4s							
CESI	CESI - Serrava	0.72	336	Pg		Pg	14 51 46.8	-1.4
	406nm,0.4s							
RDP	Rocca di Papa	0.73	217	Pg		Pg	14 51 47.1	-1.2
	3μm,0.5s							
RDP	Rocca di Papa	0.73	217	Pg		Pg	14 51 47.1	-1.2
	3μm,0.5s							
SDI	San Donato	0.74	149	Pg		Pg	14 51 46.7	-1.8
SDI	San Donato	0.74	149	Pg		Pg	14 51 46.7	-1.8
GIUL	Giuliano Di Ro	0.78	182	Pg		Pg	14 51 47.9	-1.4
	931nm,0.6s							
GIUL	Giuliano Di Ro	0.78	182	Pg		Pg	14 51 47.9	-1.4
	931nm,0.6s							
GUMA	Gualdo di Mace	0.86	33	Pg		Pg	14 51 46.9	-3.9
	6μm,0.5s							
CERA	Filignano	0.92	144	Pg		Pg	14 51 50.3	-1.6
	1μm,0.7s							
CERA	Filignano	0.92	144	Pg		Pg	14 51 50.3	-1.6
	1μm,0.7s							
MIDA	Miranda	1.00	134	Pg		Pg	14 51 50.9	-2.5
	246nm,0.6s							
MIDA	Miranda	1.00	134	Pg		Pg	14 51 50.9	-2.5
	246nm,0.6s							
CING	Cingoli	1.04	356	Pg		Pg	14 51 52.1	-2.1
	1μm,0.7s							
CING	Cingoli	1.04	356	Pg		Pg	14 51 52.1	-2.1
	1μm,0.7s							
MGAB	Montegabbione	1.04	303	Pg		Pb	14 51 52.7	-1.8
	1μm,0.4s							
MGAB	Montegabbione	1.04	303	Pg		Pb	14 51 52.7	-1.8
	1μm,0.4s							
MURB	Monte Urbino	1.08	328	Pg		Pb	14 51 53.6	-1.6
	2μm,0.4s							
MURB	Monte Urbino	1.08	328	Pg		Pb	14 51 53.6	-1.6
	2μm,0.4s							
LATE	Laterza	1.14	284	Pg		Pb	14 51 55.3	-0.8
	659nm,0.5s							
LATE	Laterza	1.14	284	Pg		Pb	14 51 55.3	-0.8
	659nm,0.5s							
SACS	San Casciano d	1.14	297	Pg		Pb	14 51 55.6	-0.6
	742nm,1.0s							
ARVD	Arcevia	1.19	347	Pg		Pb	14 51 55.1	-1.8
	952nm,0.7s							
ARVD	Arcevia	1.19	347	Pg		Pb	14 51 55.1	-1.8
	952nm,0.7s							
AOI	Ancona	1.23	10	Pg		Pn	14 51 55.9	-1.7
	501nm,0.7s							
AOI	Ancona	1.23	10	Pg		Pn	14 51 55.9	-1.7
	501nm,0.7s							
PIEI	Pieia	1.32	335	Pg		Pn	14 51 57.2	-1.7
	318nm,0.7s							
PIEI	Pieia	1.32	335	Pg		Pn	14 51 57.2	-1.7
	318nm,0.7s							
NVLJ	Novalja	2.50	27	*e*Pn		Pn	14 52 14.7	-0.4
NVLJ				Sn		Sn	14 52 45.2	-0.5
NVLJ	Novalja	2.50	27	*e*Pn		Pn	14 52 14.6	-0.4
NVLJ				Sn		Sn	14 52 45.1	-0.5
UDBI	Udbina	2.83	39	*i* Pn		Pn	14 52 20.6	+0.9
UDBI				Sn		Sn	14 52 55.4	+1.5
UDBI	Udbina	2.83	39	*i* Pn		Pn	14 52 20.5	+0.9
UDBI				Sn		Sn	14 52 55.4	+1.5
PGF	Pioggiola	3.19	275	*e*P		Pn	14 52 25.4	+0.7
	11nm,0.2s							
PGF				*e*Sn		Sn	14 52 58.8	-4.0
	6.5nm,0.4s							
PGF	Pioggiola	3.19	275	*e*P		Pn	14 52 25.4	+0.7
	5.7nm,0.2s							
PGF				*e*Sn		Sn	14 52 58.8	-4.0
	3.2nm,0.4s							
SKDS	Skadanscina	3.25	9	*i* Pn		Pn	14 52 24.6	-0.8
SKDS				*i* Sn		Sn	14 53 04.9	+0.8
SKDS	Skadanscina	3.25	9	Pn		Pn	14 52 24.6	-0.8
SKDS				*i* Sn		Sn	14 53 04.9	+0.8
KNDS	Knezji Dol	3.28	13	*i* Pn		Pn	14 52 25.9	0.0
KNDS				*i* Sn		Sn	14 53 06.6	+1.6
KNDS	Knezji Dol	3.28	13	*i* Pn		Pn	14 52 25.9	0.0
KNDS				*i* Sn		Sn	14 53 06.6	+1.6
STON	Ston	3.29	79	*e*Pn		Pn	14 52 25.9	0.0
STON				Sn		Sn	14 53 03.7	-1.5
GBRS	Gornja Briga	3.37	18	*i* Pn		Pn	14 52 27.3	+0.2
GBRS				*i* Sn		Sn	14 53 08.6	+1.4
BOJS	Bojanci	3.46	23	*i* Pn		Pn	14 52 29.6	+1.3
BOJS				*i* Sn		Sn	14 53 11.6	+2.2
BOJS	Bojanci	3.46	23	*i* Pn		Pn	14 52 29.6	+1.3
BOJS				*i* Sn		Sn	14 53 11.6	+2.2
BLY	Banja Luka	3.71	48	*e*Pn		Pn	14 52 33.8	+2.1
BLY	Banja Luka	3.71	48	*e*Pn		Pn	14 52 33.8	+2.1
VOY	Vojsko	3.71	6	*e*Pn		Pn	14 52 32.3	+0.4
VOY				*e*Sn		Sn	14 53 15.7	-0.1
VOY	Vojsko	3.71	6	*e*Pn		Pn	14 52 32.3	+0.4
VOY				*e*Sn		Sn	14 53 15.7	-0.1
TREB	Trebinje	3.75	83	*e*Pn		Pn	14 52 32.8	+0.5
TREB				*e*Sn		Sn	14 53 11.7	-4.9
TREB	Trebinje	3.75	83	*e*Pn		Pn	14 52 32.8	+0.5
MYKA	Terra Mystica	4.29	3	⇑*i*Pn		Pn	14 52 40.4	+0.6
MYKA				⇑*i*Sn		Sn	14 53 32.0	+1.9
	4.2nm,0.3s							
MYKA	Terra Mystica	4.29	3	Pn		Pn	14 52 40.4	+0.6
ABTA	Abfaltersbach	4.44	353	⇑*i*Pn		Pn	14 52 42.2	+0.4
ABTA				⇑*i*Sn		Sn	14 53 34.6	+0.9
	9.6nm,0.3s							
ABTA	Abfaltersbach	4.44	353	Pn		Pn	14 52 42.2	+0.4
ABTA				Sn		Sn	14 53 34.6	+0.9
	9.6nm,0.3s							
SBF	Sospel	4.55	291	*e*P		Pn	14 52 43.9	+0.5
SBF	Sospel	4.55	291	*e*P		Pn	14 52 43.9	+0.5
BBLS	Lazići	4.72	69	*e*Pn		Pn	14 52 46.9	+1.2
BBLS				*e*Sn		Sn	14 53 29.9	-11
BBLS	Lazići	4.72	69	*e*Pn		Pn	14 52 46.9	+1.2
FRF	La Foret Royal	5.03	286	*e*P		Pn	14 52 50.4	+0.5
FRF	La Foret Royal	5.03	286	*e*P		Pn	14 52 50.4	+0.5
WTTA	Wattenberg	5.06	347	⇓*i*Pn		Pn	14 52 53.3	+2.8
WTTA	Wattenberg	5.06	347	Pn		Pn	14 52 53.3	+2.8
DAVOX	Davos/Dischmat	5.07	332	Pn		Pn	14 52 52.3	+1.8
	2.2nm,0.3s,baz=152,slow=18,SNR=11							
DAVOX				Sn		Sn	14 53 51.8	+2.6
	1.5nm,0.3s,baz=185,slow=18,SNR=4.2							
LMR	La Mourre	5.09	284	*e*P		Pn	14 52 51.0	+0.3
LMR	La Mourre	5.09	284	*e*P		Pn	14 52 51.0	+0.3
DIVS	Divibare	5.20	68	*e*Pn		Pn	14 52 53.2	+1.0
DIVS	Divibare	5.20	68	*e*Pn		Pn	14 52 53.2	+1.0
MBDF	Montbardon	5.31	299	*e*P		Pn	14 52 55.6	+1.8
MBDF	Montbardon	5.31	299	*e*P		Pn	14 52 55.6	+1.8
DAVA	Damuels	5.51	335	⇓*i*Pn		Pn	14 52 59.6	+3.0
GRUS	Gruza	5.64	72	*e*Pn		Pn	14 52 58.8	+0.5
GRUS	Gruza	5.64	72	*e*Pn		Pn	14 52 58.8	+0.5
SELS	Selova	5.82	79	*e*Pn		Pn	14 53 02.3	+1.5
SELS	Selova	5.82	79	*e*Pn		Pn	14 53 02.3	+1.5
SMRF	Simiane la Rot	5.88	289	*e*P		Pn	14 53 02.7	+1.1
SMRF	Simiane la Rot	5.88	289	*e*P		Pn	14 53 02.7	+1.1
ORIF	Oris-en-Rattie	5.97	298	*e*P		Pn	14 53 04.6	+1.8
ORIF	Oris-en-Rattie	5.97	298	*e*P		Pn	14 53 04.6	+1.8
BARS	Barje	6.30	83	*e*Pn		Pn	14 53 07.8	+0.4
BARS	Barje	6.30	83	*e*Pn		Pn	14 53 07.8	+0.4
GERES	GERESS Array B	6.51	2	Pn		Pn	14 53 09.9	-0.3
	0.5nm,0.3s,baz=171,slow=13,SNR=7.8							
GERES				Sn		Sn	14 54 21.5	-3.1
	1.3nm,0.3s,baz=177,slow=28,SNR=7.1							
KHC	Kasperske Hory	6.79	2	*e*PN		Pn	14 53 14.5	+0.4
KHC				*ex*		x	14 53 23.0	
KHC				*e*SN		Sn	14 54 28.1	-3.4
KHC	Kasperske Hory	6.79	2	Pn		Pn	14 53 14.5	+0.4
ZAPS	Zavoj	6.93	79	*e*Pn		Pn	14 53 16.9	+0.9
ZAPS	Zavoj	6.93	79	*e*Pn		Pn	14 53 16.9	+0.9
KEST	Kesra	7.28	206	Pn		Pn	14 53 23.5	+2.7
	0.2nm,0.3s,baz=16,slow=7.4,SNR=4.2							
CDF	Champ du Feu	7.40	327	*e*Pn		Pn	14 53 22.1	-0.4
CDF	Champ du Feu	7.40	327	*e*Pn		Pn	14 53 22.1	-0.4
HAU	Haudompre	7.49	321	*e*P		Pn	14 53 25.1	+1.4
HAU				*e*Sn		Sn	14 54 42.2	-6.6
	4.8nm,0.3s							
HAU	Haudompre	7.49	321	*e*P		Pn	14 53 25.1	+1.4
CRVS	Cervenica-Dubn	8.70	38	*e*PN		Pn	14 53 39.8	-0.4
CRVS	Cervenica-Dubn	8.70	38	*e*Pn		Pn	14 53 39.8	-0.4
ASF	Jabal al Asfar	21.29	111	LR		LR	15 04 43.6	
	comp=Z,44nm,22.0s,baz=151,slow=37							
TORD	Torodi Ar. Bea	30.78	203	P		P	14 57 51.7	+1.6
	0.2nm,0.5s,baz=25,slow=9.8,SNR=2.6							
MKAR	Makanchi Array	47.92	60	P		P	15 00 13.0	+0.2
	0.4nm,0.8s,baz=287,slow=5.9,SNR=2.5							

IDC 12 15:08:25.1±1.6, 6°48S×148°53E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/18, mbtmp4.0/6, ML3.8/2, Error ellipse: s-maj=52.6km s-min=22.5km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.21	205	Pn	Pn	15 09 18.9	+2.0
	18nm,0.3s,baz=17,slow=12,SNR=55						
PMG				Sn	Sn	15 09 55.6	-0.3
	61nm,0.3s,baz=22,slow=19,SNR=25						
WRA	Warramunga Arr	19.21	224	P	P	15 12 51.1	+0.1
	0.9nm,0.3s,baz=52,slow=11,SNR=49						
WRA				PcP	PcP	15 17 16.2	+1.4
	0.1nm,0.3s,baz=38,slow=1.6,SNR=5.9						
ASAR	Alice Springs	22.13	218	P	P	15 13 22.0	-0.6
	4.7nm,0.6s,baz=57,slow=9.1,SNR=100						
ASAR				PcP	PcP	15 17 21.9	+1.6
	0.7nm,0.7s,baz=29,slow=2.4,SNR=4.3						
FITZ	Fitzroy Crossi	25.14	241	P	P	15 13 52.3	+0.2
	14nm,0.7s,baz=72,slow=7.7,SNR=62						
STKA	Stephens Creek	26.09	194	P	P	15 13 58.8	-1.9
	0.9nm,0.6s,baz=9.9,slow=11,SNR=3.1						
MKAR	Makanchi Array	78.83	320	P	P	15 20 28.7	-1.5
	0.2nm,0.5s,baz=109,slow=5.6,SNR=4.2						
TORD	Torodi Ar. Bea	146.68	284	PKPbc	PKPdf	15 28 09.1	+0.6
	2.0nm,0.6s,baz=67,slow=2.8,SNR=14						

*IDC **12** 15:14:43.3±1.0, 33°23N×140°51E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/26, mbtmp3.6/8, ML3.1/2, MS4.5/3, Ms1 4.5/3, ms1mx3.2/51, Error ellipse: s-maj=40.1km s-min=16.5km az=86.0*
*JMA **12** 15:14:44.5±0.3, 33°72N×141°24E, h61km, M2.9*
*ISCJB **12** 15:14:45.1±1.0, 33°70N±0°04×141°19E±0°09, h55km±10km, mb3.6/6, MS4.5/3, Error ellipse: s-maj=13.4km s-min=6.7km az=13.4*

ISC 12 15:14:45.8±1.3, 33°67N±0°07×141°2E±0°1, h39km±5km, n21, σ1°46/25, mb3.7/6, MS4.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.00	349	P	Pn	15 15 01.9	-0.8
BSO1				*e*S	Sn	15 15 16.3	+1.0
BSO2	Boso 2	1.14	341	*e*S	Sn	15 15 19.1	-0.1
BSO3	Boso 3	1.27	333	P	Pn	15 15 06.1	-0.6
BSO3				*e*S	Sn	15 15 22.2	-0.2
JHJ2	Mitsune	1.30	245	P	Pn	15 15 07.5	+0.2
JHJ2				*e*S	Sn	15 15 24.2	+0.8
JHCJ	Hachijojimakas	1.33	244	P	Pn	15 15 07.8	0.0
JHCJ				*e*S	Sn	15 15 25.3	+1.0
BSO4	Boso 4	1.50	331	P	Pn	15 15 10.2	+0.1
JKO	Kozu shima	1.80	287	P	Pn	15 15 14.4	+0.1
JIM2	Oshima 3	1.81	306	P	Pn	15 15 13.4	-1.0
JIM2				*e*S	Sn	15 15 33.2	-2.9
KTJJ	Kamata 2	2.18	306	P	Pn	15 15 18.5	-0.9
KTJJ				*e*S	Sn	15 15 43.0	-2.1
JIZS	Izushimoda	2.20	299	P	Pn	15 15 20.0	+0.2
MJAR	Matsushiro Arr	3.78	320	Pn	Pn	15 15 42.9	+1.4
	1.3nm,0.3s,baz=156,slow=13,SNR=16						
MJAR				Sn	Sn	15 16 28.3	+3.7
	0.5nm,0.3s,baz=151,slow=11,SNR=5.2						
MAT	Matsushiro	3.78	320	P	Pn	15 15 42.9	+1.4
MAT				S	Sn	15 16 25.4	+0.7
ASAJ	Asahikawa	10.48	5	Pn	Pn	15 17 23.6	+10
	0.2nm,0.3s,baz=170,slow=11,SNR=2.9						
ASAJ				Sn	Sn	15 19 25.5	+16
	0.1nm,0.3s,baz=180,slow=20,SNR=2.4						
MKAR	Makanchi Array	45.84	305	P	P	15 23 05.3	+1.4
	0.1nm,0.6s,baz=79,slow=11,SNR=2.8						
ILAR	Eielson Array	52.43	31	P	P	15 24 01.8	+7.7
	0.2nm,0.3s,baz=263,slow=7.2,SNR=4.3						
FITZ	Fitzroy Crossi	53.59	199	P	P	15 24 00.8	-2.2
	0.7nm,0.7s,baz=14,slow=8.3,SNR=5.6						
WRA	Warramunga Arr	53.72	188	P	P	15 24 03.3	-0.7
	0.9nm,0.3s,baz=4.4,slow=7.5,SNR=30						
WRA				LR	LR	15 46 06.0	
	comp=Z,517nm,21.7s,baz=200,slow=35						
ASAR	Alice Springs	57.45	188	P	P	15 24 30.6	-0.1
	0.3nm,0.5s,baz=6.0,slow=7.2,SNR=14						
STKA	Stephens Creek	65.20	180	P	P	15 25 23.7	+0.7
	1.5nm,0.9s,baz=353,slow=8.1,SNR=3.0						
FINES	FINESS Array B	71.71	333	LR	LR	15 58 49.6	
	comp=Z,316nm,21.5s,baz=200,slow=37						
GNI	Garni	73.60	307	LR	LR	15 59 58.6	
	comp=Z,280nm,19.9s,slow=37						

IDC 12 15:26:18.4±4.0, 3°49S×140°99E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, ML3.5/1, MS4.0/1, Ms1 4.0/1, ms1mx3.2/13, Error ellipse: s-maj=123.0km s-min=30.4km az=94.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.60	201	P	P	15 30 26.2	-0.2
	0.2nm,0.3s,baz=24,slow=12,SNR=13						
FITZ	Fitzroy Crossi	20.91	225	P	P	15 31 02.2	-0.5
	1.0nm,0.9s,baz=47,slow=8.5,SNR=6.7						
ASAR	Alice Springs	21.20	198	P	P	15 31 05.8	-0.1
	0.2nm,0.4s,baz=27,slow=11,SNR=8.9						
RPZ	Rata Peaks	48.09	151	LR	LR	15 52 46.0	
	comp=Z,154nm,18.0s,baz=66,slow=33						
MKAR	Makanchi Array	71.80	322	P	P	15 37 43.1	+0.1
	0.3nm,0.7s,baz=116,slow=6.6,SNR=4.6						

*IDC **12** 15:40:51.8±1.7, 10°20N×122°34E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/25, mbtmp4.0/5, MS3.0/1, Ms1 3.0/1, ms1mx2.7/34, Error ellipse: s-maj=142.5km s-min=23.2km az=66.0*
*MAN **12** 15:40:58.9±89N×121°77E, h29km, mb4.4, ML3.3, MS3.1*

ISC 12 15:40:54.7±1.9, 9°80N±0°04×121°98E±0°08, h13km±13km, n15, σ1°68/19, mb3.9/4, 3C-2D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.32	110	⇑*i*P	Pn	15 41 09.5	-9.3
SNPH				*i* S	Sb	15 41 31.9	-4.4
DCPH	Dipolog City	1.82	132	⇑*i*P	Pg	15 41 30.6	+0.9
DCPH				*i* S	Sg	15 41 55.6	+2.3
RCP	Roxas	1.91	23	⇓*e*P	Pb	15 41 28.9	-0.3
RCP				*e*S	Sb	15 41 52.7	-0.3
LLP	Lapu-Lapu	2.03	75	⇓*e*P	Pg	15 41 33.3	-0.3
LLP				*e*S	Sg	15 42 00.4	+0.5
IPIL	Ipil	2.08	164	*e*P	Pg	15 41 33.3	-1.4
IPIL				*e*S	Sb	15 41 57.8	-0.4
PAGZ	Pagadian	2.39	144	*e*P	Pg	15 41 39.5	-1.0
CGP	Cagayan de Oro	3.00	116	*e*P	Pb	15 41 47.3	-0.7
CGP				*e*S	Sb	15 42 25.1	+0.6
CTBH	Cotabato--PC H	3.41	139	⇓*i*P	Pb	15 41 53.4	-1.6
BUKP	Musuan	3.60	122	*e*P	Pb	15 41 57.7	-0.5
DAV	Davao City (W)	4.48	127	LR	LR	15 44 19.8	
	comp=Z,154nm,18.2s,baz=231,slow=47						
BATI	Baumata	19.95	175	P	Pn	15 45 29.7	+1.4
	20nm,0.7s,baz=281,slow=8.3,SNR=5.6						
WRA	Warramunga Arr	31.96	158	P	P	15 47 21.5	+0.9
	1.4nm,0.8s,baz=337,slow=9.7,SNR=16						
ASAR	Alice Springs	35.25	161	P	P	15 47 50.7	+1.6
	0.9nm,0.6s,baz=338,slow=7.9,SNR=40						
STKA	Stephens Creek	45.50	156	P	P	15 49 15.0	+1.2
	2.2nm,0.8s,baz=337,slow=7.7,SNR=5.0						
KURBB	Kurchatov Arra	54.11	327	P	P	15 50 17.4	-1.8
	0.4nm,0.7s,baz=128,slow=6.2,SNR=3.6						

IDC 12 15:58:37.0±1.9, 57°80S×25°41W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.8/2, Error ellipse: s-maj=74.3km s-min=41.9km az=16.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	15.20	157	*e*P	Pn	16 02 13.4	+0.8
	baz=332,slow=12						
SNAA	Sanae	16.74	155	*e*P	P	16 02 35.4	+0.4
CPUP	Villa Florida	38.70	311	P	P	16 06 02.2	-0.2
	0.3nm,0.3s,baz=151,slow=10,SNR=3.1						
TORD	Torodi Ar. Bea	74.13	27	P	P	16 10 15.0	0.0
	1.0nm,0.6s,baz=201,slow=6.7,SNR=10						
SONM	Songino Array	149.84	88	PKPbc	PKPbc	16 18 27.5	-0.6
	0.2nm,0.4s,baz=256,slow=4.0,SNR=2.4						
ILAR	Eielson Array	151.99	309	PKPbc	PKPbc	16 18 32.6	+0.2
	0.5nm,0.5s,baz=139,slow=4.4,SNR=5.5						

IDC 12 15:59:36.2±7.4, 12°67N×93°97E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.1/27, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=163.8km s-min=44.1km az=99.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.49	39	Pn	Pn	16 01 26.9	+0.1
	0.2nm,0.3s,baz=233,slow=16,SNR=5.2						
WRA	Warramunga Arr	51.27	129	P	P	16 08 42.0	-0.3
	0.3nm,0.9s,baz=312,slow=7.6,SNR=2.7						
ASAR	Alice Springs	53.19	133	P	P	16 08 56.6	0.0
	0.2nm,0.4s,baz=311,slow=7.2,SNR=8.7						

*MAN **12** 16:13:19.5±95N×126°50E, h108km, mb4.9, ML3.8, MS3.8*
*ISCJB **12** 16:13:23.0±0.5, 6°10N±0°09×126°36E±0°05, h95km±11km, mb3.9/6, Error ellipse: s-maj=15.0km s-min=9.0km az=177.6*
*IDC **12** 16:13:24.6±2.2, 5°95N×126°17E, h82km±32km, mb3.7/6, mb1 3.8/6, mb1mx3.4/24, mbtmp3.7/6, Error ellipse: s-maj=66.7km s-min=20.1km az=88.0*
*AUST **12** 16:13:28.4, 6°50N×126°51E, h200km*

ISC 12 16:13:23.5±1.0, 5°94N±0°08×126°32E±0°07, h67km±15km, n28, σ0°92/30, mb3.8/6, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.00	356	*e*P	Pn	16 13 41.8	-0.2
MATI				*e*S	Sn	16 13 57.4	+1.7
DAV	Davao City (W)	1.35	327	P	Pn	16 13 46.3	-0.1
	36nm,0.3s,baz=252,slow=3.2,SNR=3.3						
DAV				S	Sn	16 14 03.7	+0.1
	235nm,0.3s,baz=43,slow=21,SNR=19						
GSPH	General Santos	1.38	276	⇓*e*P	Pn	16 13 45.9	-1.0
GSPH				*i* S	Sn	16 14 03.5	-0.9
DMPH	Davao City--Mi	1.40	325	⇑*e*P	Pn	16 13 46.5	-0.5
DMPH				*e*S	Sn	16 14 04.4	-0.4
BUKP	Musuan	2.30	327	*e*P	Pn	16 13 58.4	-0.9
CTBH	Cotabato--PC H	2.43	302	⇓*e*P	Pn	16 13 59.5	-1.4
CGP	Cagayan de Oro	2.98	327	*e*P	Pn	16 14 06.7	-1.7
CGP				*e*S	Sn	16 14 44.3	+1.3
BUTP	Butuan	3.09	347	*e*P	Pn	16 14 09.8	-0.2
PAGZ	Pagadian	3.48	303	*e*P	Pn	16 14 15.1	-0.2
IPIL	Ipil	4.16	296	*e*P	Pn	16 14 24.7	+0.2
LUWI	Luwuk	7.79	207	P	Pn	16 15 21.8	+7.6
	baz=8.4,SNR=17						
LUWI				S	Sn	16 16 58.8	+18
	baz=8.4,SNR=3.4						
PALU	Palau	8.22	80	P	Pn	16 15 20.4	+0.3
	baz=7.9,SNR=4.3						
PALU				S	Sn	16 16 49.7	-1.8
	baz=7.9,SNR=3.9						
SWI	Sorong	8.36	144	P	Pn	16 15 35.3	+13
	baz=8.8,SNR=5.5						
BATI	Baumata	16.25	189	P	P	16 17 11.3	+1.7
	4.6nm,0.3s,baz=93,slow=5.8,SNR=7.9						
WSI	Waingapu	16.62	201	S	S	16 20 47.9	+24
	baz=17,SNR=3.2						
MTN	Manton Dam	19.26	166	P	Pn	16 17 45.3	+1.0
	baz=20,SNR=3.5						
KDU	Kakadu	19.48	162	P	P	16 17 45.4	+0.2
	baz=20,SNR=4.7						
KNRA	Kununurra	21.61	174	P	P	16 18 08.8	+0.7
	baz=22,SNR=7.9						
FITZ	Fitzroy Crossi	23.89	182	P	P	16 18 31.4	+0.2
	1.9nm,0.5s,baz=10,slow=12,SNR=7.9						
WRA	Warramunga

1.6nm,1.0s,baz=29,slow=13,SNR=2.5
FITZ Fitzroy Crossi 28.75 242 P P 17 15 44.6 -0.2
1.2nm,0.5s,baz=59,slow=13,SNR=10
SONM Songino Array 66.68 328 P P 17 20 37.9 +0.4
0.4nm,0.6s,baz=144,slow=4.9,SNR=2.9
MKAR Makanchi Array 80.53 319 P P 17 21 58.5 -0.2
0.2nm,0.5s,baz=114,slow=3.6,SNR=2.8
ILAR Eielson Array 83.13 22 P P 17 22 11.5 -0.4
0.8nm,0.6s,baz=247,slow=5.6,SNR=8.9
TORD Torodi Ar. Bea 149.96 287 PKPbc PKPbc 17 29 37.6 0.0
0.3nm,0.6s,baz=72,slow=2.3,SNR=2.9

MAN 12 17:14:34,16.°19N×119.°94E,h24km,mb4.3,ML3.2,MS3.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.63**	**27**	*eP*	Pn	17 15 01.5	+0.2
BALP	**Baler**	**1.64**	**105**	*eP*	Pb	17 15 03.0	-0.5
APYP	**Conner**	**2.08**	**37**	*eP*	Pn	17 15 08.0	+0.5
APYP				*eS*	Sb	17 15 34.9	-1.8

BJI ***12*** *17:22:16.7,5.°16N×125.°99E,h94km,mB5.0/11,mb4.6/20*
MAN ***12*** *17:22:19,5.°45N×126.°40E,h107km,mb5.3,ML4.3,MS4.5*
MOS ***12*** *17:22:19.2±0.9,5.°50N×126.°05E,h102km,mb4.9/23,Error ellipse: s-maj=14.8km s-min=6.5km az=117.9*
ISCJB ***12*** *17:22:20.8±0.3,5.°57N±0.°02×126.°32E±0.°03,h113km±2km, mb4.6/72,Error ellipse: s-maj=5.2km s-min=3.2km az=162.6*
AUST ***12*** *17:22:21.4,5.°50N×126.°51E,h100km*
IDC ***12*** *17:22:21.4±0.9,5.°51N×126.°08E,h102km±6km,mb4.2/24, mb1 4.3/25,mb1mx4.3/29,mbtmp4.2/25,MS3.4/8, Ms1 3.4/8,ms1mx3.1/33,Error ellipse: s-maj=15.9km s-min=7.8km az=76.0*
NEIC ***12*** *17:22:22.7±0.9,5.°52N×126.°17E,h117km±8km,mb4.7/20, Error ellipse: s-maj=8.4km s-min=5.0km az=74.0*
DJA ***12*** *17:22:22.8±0.5,6.°N±5.°×12.°6E±.°,h81km±8km,M5.2/17, mB5.5/11,mb5.3/17,MLv5.6/6,Mw(mB)5.0/11*
BKK ***12*** *17:22:22.0±0.6,6.°N±4.°×12.°6E±.°,h100km±6km,M5.0/34, mB5.3/12,mb4.9/34,MLv5.5/5,Mw(mB)4.7/12*
ISC 12 17:22:21.1±0.5,5.°54N±0.°04×126.°21E±0.°05,h101km±3km, n253,σ1§27/277,mb4.7/72,8C-12D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.37**	**294**	‖*eP*	**Pn**	**17 22 45.3**	**-0.7**
GSPH				*eS*	**Sn**	**17 23 05.1**	**+0.3**
MATI	**Mati**	**1.40**	**2**	*eP*	**Pn**	**17 22 46.5**	**+0.2**
MATI				*eS*	**Sn**	**17 23 06.4**	**+1.2**
DAV	**Davao City (W)**	**1.65**	**338**	P	**Pn**	**17 22 50.5**	**+1.1**
DAV				S	**Sn**	**17 23 10.6**	**-0.2**
DAV	**Davao City (W)**	**1.65**	**338**	P	**Pn**	**17 22 50.3**	**+1.0**
DAV	**Davao City (W)**	**1.65**	**338**	P	**Pn**	**17 22 50.4**	**+1.1**
	276nm,0.3s,baz=210,slow=2.3,SNR=42						
DAV				S	**Sn**	**17 23 10.6**	**-0.2**
	904nm,0.3s,baz=55,slow=18,SNR=10						
DMPH	**Davao City--Mi**	**1.69**	**336**	‖*eP*	**Pn**	**17 22 50.4**	**+0.6**
DMPH				*eS*	**Sn**	**17 23 11.4**	**-0.2**
KCP	**Kidapawan**	**1.84**	**323**	‖*iP*	**Pn**	**17 22 52.5**	**+0.7**
KCP				*i S*	**Sn**	**17 23 17.5**	**+2.4**
CTBH	**Cotabato--PC H**	**2.58**	**311**	‖*iP*	**Pn**	**17 23 01.9**	**+0.6**
BUKP	**Musuan**	**2.59**	**334**	*eP*	**Pn**	**17 23 03.1**	**+1.5**
CGP	**Cagayan de Oro**	**3.27**	**333**	‖*eP*	**Pn**	**17 23 11.2**	**+0.7**
CGP				*i S*	**Sn**	**17 23 52.7**	**+4.0**
BUTP	**Butuan**	**3.46**	**350**	*eP*	**Pn**	**17 23 15.6**	**+2.5**
PAGZ	**Pagadian**	**3.63**	**309**	*eP*	**Pn**	**17 23 16.9**	**+1.5**
DCPH	**Dipolog City**	**4.15**	**317**	*eP*	**Pn**	**17 23 24.9**	**+2.5**
IPIL	**Ipil**	**4.25**	**302**	*eP*	**Pn**	**17 23 25.5**	**+1.7**
MSLP	**Maasin**	**4.76**	**344**	*eP*	**Pn**	**17 23 31.9**	**+1.2**
SNPH	**Sibulan**	**4.80**	**322**	‖*eP*	Pn	17 23 22.0	-9.3
TNTI	**Ternate**	**4.87**	**166**	P	**Pn**	**17 23 31.6**	**-0.5**
LLP	**Lapu-Lapu**	**5.25**	**335**	‖*eP*	**Pn**	**17 23 38.9**	**+1.6**
LLP				*eS*	**Sn**	**17 24 40.2**	**+3.6**
OCLP	**Ormoc**	**5.71**	**344**	*eP*	**Pn**	**17 23 45.5**	**+2.0**
PLP	**Palo**	**5.73**	**348**	‖*eP*	**Pn**	**17 23 45.4**	**+1.6**
PLP				*eS*	Sn	17 24 39.0	-9.2
GTOI	**Gorontalo**	**5.82**	**213**	P	**Pn**	**17 23 46.3**	**+1.2**
	2μm,0.9s,11μm4.9nm						
GUIM	**Jordan**	**6.20**	**325**	*eP*	**Pn**	**17 23 52.5**	**+2.3**
LBMI	**Labuha**	**6.26**	**168**	P	**Pn**	**17 23 50.7**	**-0.4**
	267nm,0.6s,5μm1.6nm						
MRSI	**Marisa**	**6.59**	**220**	P	**Pn**	**17 23 57.9**	**+2.4**
	2μm,0.7s,13μm5.4nm						
TOLI	**Toli-Toli**	**6.96**	**231**	P	**Pn**	**17 24 00.9**	**+0.3**
	733nm,0.6s,8μm2.9nm						
LUWI	**Luwuk**	**7.38**	**208**	P	Pn	17 24 10.5	+4.2
LUWI	**Luwuk**	**7.38**	**208**	P	Pn	17 24 10.5	+4.2
	baz=7.5,SNR=57						
MYLDM	**Lahad Datu**	**7.69**	**268**	P	Pn	17 24 15.3	+4.9
SWI	**Sorong**	**8.11**	**141**	P	**Pn**	**17 24 15.5**	**-0.7**
	90nm,1.1s						
PALU	**Palau**	**8.40**	**77**	P	**Pn**	**17 24 17.4**	**-2.8**
	baz=8.1,SNR=142						
PALU				S	Sn	17 25 42.4	-11
	baz=8.1,SNR=8.8						
TSM	**Tawau**	**8.40**	**262**	P	Pn	17 24 23.7	+3.5
SDKM	**Sandakan**	**8.98**	**271**	P	Pn	17 24 31.6	+3.6
AAI	**Ambon**	**9.37**	**168**	P	**Pn**	**17 24 32.6**	**-0.8**
	baz=9.3,SNR=4.9						
KDM	**Kudat**	**9.43**	**279**	P	Pn	17 24 39.2	+5.1
KKM	**Kota Kinabalu**	**9.96**	**273**	*eP*	Pn	17 24 45.6	+4.1
	31nm,0.8s						
KKM	**Kota Kinabalu**	**9.96**	**273**	P	Pn	17 24 45.9	+4.4
KKM	**Kota Kinabalu**	**9.96**	**273**	P	Pn	17 24 45.5	+4.0
KKM	**Kota Kinabalu**	**9.96**	**273**	P	Pn	17 24 45.9	+4.4
	baz=10,SNR=4.6						
FAKI	**Fak Fak**	**10.34**	**144**	P	**Pn**	**17 24 46.7**	**+0.2**
	156nm,1.1s,1μm						
RKPI	**Ransiki, Papua**	**10.59**	**131**	P	**Pn**	**17 24 51.2**	**+1.2**
	136nm,0.6s,2μm						
TTSI	**Tana Toraja**	**10.65**	**217**	P	**Pn**	**17 24 53.7**	**+2.9**
	80nm,0.9s,970nm						
KAPI	**Kappang**	**12.31**	**212**	*eP*	**Pn**	**17 25 13.1**	**+0.1**
	83nm,1.0s						
KAPI	**Kappang**	**12.31**	**212**	P	**Pn**	**17 25 13.3**	**+0.4**
	2.3nm,0.3s,baz=21,slow=5.8,SNR=14						
KAPI				LR	LR	17 30 44.4	
	comp=Z,50nm,18.4s,baz=32,slow=41						
SRPI	**Serui, Papua**	**12.43**	**126**	P	Pn	17 25 18.2	+3.7
BTM	**Bintulu**	**13.30**	**260**	P	**P**	**17 25 31.0**	**-1.0**
SBUM	**Sibu**	**14.29**	**258**	P	**P**	**17 25 43.4**	**+0.3**
SBUM	**Sibu**	**14.29**	**258**	P	**P**	**17 25 42.4**	**-0.7**
	163nm,0.9s,1μm						
BBKI	**Banjar Baru**	**14.45**	**232**	P	**P**	**17 25 43.8**	**-1.1**
	116nm,1.3s,4μm						
SOEI	**Soe**	**15.31**	**187**	P	**P**	**17 25 54.2**	**-0.3**
	140nm,0.8s						
SOEI	**Soe**	**15.31**	**187**	P	**P**	**17 25 56.6**	**+2.1**
	baz=15,SNR=13						
BATI	**Baumata**	**15.84**	**189**	P	**P**	**17 25 59.5**	**-0.8**
BATI	**Baumata**	**15.84**	**189**	P	**P**	**17 25 59.5**	**-0.8**
	129nm,0.7s,1μm						
BATI	**Baumata**	**15.84**	**189**	P	**P**	**17 25 59.5**	**-0.8**
	21nm,0.3s,baz=252,slow=0.5,SNR=28						
WSI	**Waingapu**	**16.21**	**201**	S	S	17 29 20.9	+12
	baz=16,SNR=3.6						
KSM	**Kuching**	**16.38**	**256**	*eP*	**P**	**17 26 08.3**	**+2.0**
	53nm,0.8s						
KSM	**Kuching**	**16.38**	**256**	P	**P**	**17 26 08.7**	**+2.5**
KSM	**Kuching**	**16.38**	**256**	P	**P**	**17 26 08.5**	**+2.3**
	75nm,0.9s,482nm						
KSM	**Kuching**	**16.38**	**256**	P	**P**	**17 26 09.3**	**+3.0**
	baz=17,SNR=35						
MTNI	**Mataram**	**17.28**	**215**	P	**P**	**17 26 14.8**	**-1.3**
SSLB	**Suanglung**	**18.84**	**345**	*eP*	**P**	**17 26 32.8**	**-0.5**
	12nm,0.6s						
SJI	**Sawahan**	**19.53**	**228**	P	**Pn**	**17 26 42.4**	**-0.8**
	52nm,0.8s						
MMPI	**Merauke**	**19.83**	**134**	P	**Pn**	**17 26 49.0**	**+2.5**
	281nm,1.0s						
TPI	**Tanjungpandan**	**20.29**	**246**	P	Pn	17 26 50.9	-1.0
	43nm,0.9s						
UGM	**Wanagama**	**20.58**	**230**	P	Pn	17 26 55.8	+0.5
	baz=21,SNR=3.7						
UGM				S	Sn	17 30 44.3	-3.6
	baz=21,SNR=4.6						
PPBI	**Pangkal Pinang**	**21.46**	**250**	P	**P**	**17 27 02.8**	**+1.1**
LEM	**Lembang**	**22.25**	**237**	P	**P**	**17 27 13.6**	**+3.4**
	baz=22,SNR=6.7						
MANU	**Manus Island**	**22.43**	**109**	P	P	17 27 19.8	+8.0
	baz=22,SNR=5.7						
UBPT	**Khong Chiam**	**22.56**	**297**	P	**P**	**17 27 13.6**	**+0.4**
	22nm,1.3s						
MYKOM	**Kota Tinggi**	**22.62**	**261**	P	**P**	**17 27 15.0**	**+1.1**
BTDF	**Bukit Timah Da**	**22.78**	**260**	P	**P**	**17 27 16.5**	**+1.1**
	baz=23,SNR=11						
BTDF				P	**P**	**17 27 16.5**	**+1.1**
	baz=23,SNR=11						
KTGM	**Kuala Trenggan**	**22.98**	**271**	P	**P**	**17 27 18.0**	**+0.6**
KGM	**Kluang**	**23.11**	**262**	P	**P**	**17 27 19.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**23.49**	**181**	P	**P**	**17 27 22.6**	**+0.5**
FITZ				ScP	**ScP**	**17 34 34.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.49**	**181**	P	**P**	**17 27 22.6**	**+0.5**
	6.4nm,0.4s,baz=7.4,slow=9.1,SNR=36						
FITZ				ScP	**ScP**	**17 34 34.3**	**-0.1**
	1.9nm,0.6s,baz=2.3,slow=5.3,SNR=5.3						
FITZ	**Fitzroy Crossi**	**23.49**	**181**	P	**P**	**17 27 22.7**	**+0.6**
	baz=24,SNR=14						
PANO	**Nakornpanom**	**24.09**	**300**	P	**P**	**17 27 28.9**	**+1.4**
	112nm,1.1s						
FRIM	**Kepong**	**24.62**	**266**	P	**P**	**17 27 35.0**	**+2.6**
IPM	**Ipoh**	**25.11**	**269**	*eP*	**P**	**17 27 37.1**	**+0.2**
	17nm,0.6s						
IPM	**Ipoh**	**25.11**	**269**	P	**P**	**17 27 37.8**	**+0.9**
KULM	**Kulim**	**25.45**	**271**	*eP*	**P**	**17 27 40.4**	**+0.4**
	14nm,0.9s						
KULM	**Kulim**	**25.45**	**271**	P	**P**	**17 27 41.5**	**+1.5**
PMG	**Port Moresby**	**25.61**	**125**	P	**P**	**17 27 41.1**	**-0.2**
PMG	**Port Moresby**	**25.61**	**125**	P	**P**	**17 27 41.1**	**-0.2**
	21nm,0.8s,baz=0.0,slow=9.1,SNR=3.9						
COEN	**Coen**	**25.66**	**139**	P	**P**	**17 27 41.9**	**+0.1**
	baz=26,SNR=16						
CHAI	**Chaiyaphum**	**25.91**	**295**	P	**P**	**17 27 46.0**	**+2.0**
	5.3nm,0.8s,66nm						
NAYO	**Nakonayok**	**26.00**	**291**	P	**P**	**17 27 47.1**	**+2.2**
	41nm,0.8s						
PPI	**Padang Panjang**	**26.46**	**258**	P	**P**	**17 27 50.1**	**+1.1**
	baz=27,SNR=4.3						
WRAB	**Tennant Creek**	**26.54**	**163**	*eP*	**P**	**17 27 49.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,39nm,1.0s						
WRAB	**Tennant Creek**	**26.54**	**163**	*eP*	**P**	**17 27 49.0**	**-0.7**
	comp=Z,39nm,1.0s						
WRA	**Warramunga Arr**	**26.55**	**163**	P	**P**	**17 27 49.1**	**-0.6**
WRA				ScP	**ScP**	**17 34 43.3**	**+0.2**
WRA	**Warramunga Arr**	**26.55**	**163**	P	**P**	**17 27 49.1**	**-0.6**
	comp=Z,9.2nm,0.6s,baz=344,slow=10.0,SNR=40						
WRA				ScP	**ScP**	**17 34 43.3**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=339,slow=2.9,SNR=7.5						
PBKT	**Sadao Pong**	**27.05**	**296**	P	**P**	**17 27 56.3**	**+2.0**
	comp=Z,15nm,0.9s						
LOEI	**Loei**	**27.14**	**298**	P	**P**	**17 27 51.9**	**-3.3**
	comp=Z,17nm,0.7s,comp=Z,2μm						
PHET	**Kaeng Krachan**	**27.23**	**287**	P	**P**	**17 27 59.3**	**+3.4**
	comp=Z,104nm,0.8s						
WHN	**Wuhan**	**27.27**	**337**	*eP*	P	17 28 05.2	+9.1
MBWA	**Marble Bar**	**27.28**	**193**	*eP*	**P**	**17 27 55.0**	**-1.3**
	comp=Z,20nm,0.9s						
PSI	**Prapat**	**27.35**	**265**	P	**P**	**17 27 56.9**	**-0.3**
PSI				ScP	**ScP**	**17 34 44.4**	**-1.5**
PSI	**Prapat**	**27.35**	**265**	P	**P**	**17 27 56.9**	**-0.3**
	comp=Z,18nm,0.8s,baz=94,slow=6.5,SNR=21						
PSI				ScP	**ScP**	**17 34 44.4**	**-1.5**
	comp=Z,8.2nm,0.8s,baz=77,slow=2.6,SNR=9.7						
PSI	**Prapat**	**27.35**	**265**	P	**P**	**17 27 58.0**	**+0.8**
	baz=28,SNR=10						
RABL	**Rabaul**	**27.66**	**110**	P	**P**	**17 27 56.5**	**-3.3**
	baz=27,SNR=3.2						
RABL				S	S	17 32 16.6	-18
	baz=27,SNR=3.2						
NANT	**Nan**	**28.15**	**300**	P	P	17 28 07.9	+3.7
	comp=Z,24nm,0.6s						
PAYA	**Payao**	**29.10**	**301**	P	**P**	**17 28 13.6**	**+1.0**
	comp=Z,4.2nm,0.8s						
MTSU	**Mount Surprise**	**29.53**	**143**	P	**P**	**17 28 17.1**	**+0.7**
	baz=30,SNR=11						
CM31	**Chiang Mai Arr**	**29.55**	**298**	*eP*	**P**	**17 28 16.5**	**0.0**
	comp=Z,3.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.55**	**298**	P	**P**	**17 28 16.6**	**+0.1**
CMAR				PcP	**PcP**	**17 31 20.8**	**+1.2**
CMAR				ScP	**ScP**	**17 34 52.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.55**	**298**	P	**P**	**17 28 16.6**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=111,slow=7.3,SNR=24						
CMAR				PcP	**PcP**	**17 31 20.8**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=131,slow=1.1,SNR=13						
CMAR				ScP	**ScP**	**17 34 52.8**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=138,slow=1.6,SNR=18						
CMAR				LR	LR	17 38 46.7	
	comp=Z,71nm,21.4s,baz=338,slow=34						
CHTO	**Chiang Mai**	**29.68**	**299**	*eP*	**P**	**17 28 16.9**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHTO	**Chiang Mai**	**29.68**	**299**	*eP*	**P**	**17 28 16.9**	**-0.8**
	comp=Z,5.7nm,0.7s						
CHTO	**Chiang Mai**	**29.68**	**299**	P	**P**	**17 28 17.6**	**-0.1**
	comp=Z,9.4nm,0.8s						
KMI	**Kunming**	**29.76**	**313**	P	**P**	**17 28 19.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				LR	LR		
	comp=Z,89nm,33.4s						
AS31	**Alice Springs**	**29.98**	**166**	*eP*	**P**	**17 28 20.3**	**0.0**
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**17 28 20.2**	**-0.1**
ASAR				PcP	**PcP**	**17 31 21.5**	**+1.0**
ASAR				ScP	**ScP**	**17 34 53.8**	**0.0**
ASAR	**Alice Springs**	**29.98**	**166**	P	**P**	**17 28 20.2**	**-0.1**
	comp=Z,12nm,0.6s,baz=346,slow=7.3,SNR=90						
ASAR				PcP	**PcP**	**17 31 21.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=355,slow=2.9,SNR=4.2						
ASAR				ScP	**ScP**	**17 34 53.8**	**0.0**
	comp=Z,3.3nm,0.8s,baz=350,slow=3.2,SNR=14						
CMAI	**Chiengmai2**	**30.05**	**301**	P	**P**	**17 28 22.7**	**+1.6**
	comp=Z,47nm,0.7s,comp=Z,19μm						
KSAR	**Wonju Array Be**	**31.80**	**3**	P	**P**	**17 28 37.5**	**+1.5**
KSRS	**Korea Array**	**31.81**	**3**	P	**P**	**17 28 37.5**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=186,slow=9.8,SNR=6.1						
CTAO	**Charters Tower**	**32.20**	**143**	*eP*	**P**	**17 28 40.5**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**32.20**	**143**	*eP*	**P**	**17 28 40.5**	**+0.7**
	comp=Z,24nm,0.8s						
XAN	**Xi'an**	**32.59**	**333**	P	**P**	**17 28 41.9**	**-1.2**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,13nm,4.8s						
MJAR	**Matsushiro Arr**	**32.76**	**18**	P	**P**	**17 28 46.8**	**+2.2**
MJAR				ScP	**ScP**	**17 35 03.2**	**+0.4**
MJAR	**Matsushiro Arr**	**32.76**	**18**	P	**P**	**17 28 46.8**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=195,slow=9.0,SNR=6.1						
MJAR				ScP	**ScP**	**17 35 03.2**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=228,slow=3.9,SNR=4.1						
MJAR				LR	LR	17 40 48.8	
	comp=Z,54nm,18.7s,baz=200,slow=34						
MEEK	**Meekatharra**	**32.82**	**193**	P	**P**	**17 28 45.0**	**-0.1**
	baz=33,SNR=21						
MORW	**Morawa**	**35.77**	**195**	P	**P**	**17 29 10.7**	**+0.1**
	baz=36,SNR=6.2						
FORT	**Forrest**	**36.15**	**177**	P	**P**	**17 29 14.3**	**+0.5**
	baz=36,SNR=11						
SNY	**Shenyang**	**36.22**	**357**	‖*P*	**P**	**17 29 15.8**	**+1.6**
SNY				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH	**Lanzhou**	**36.70**	**329**	*eP*	**P**	**17 29 19.6**	**+0.9**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
BLDU	**Ballidu**	**37.08**	**194**	P	**P**	**17 29 21.9**	**+0.2**
	baz=37,SNR=8.6						
VLA	**Vladivostok**	**37.77**	**7**	‖*eP*	**P**	**17 29 28.0**	**+0.6**
VLA				pmax	pmax		
	comp=Z,19nm,1.2s						
KLBR	**Kellerberrin**	**37.79**	**192**	P	**P**	**17 29 28.3**	**+0.6**
	baz=38,SNR=5.6						
SHL	**Shillong**	**38.41**	**305**	*eP*	**P**	**17 29 34.0**	**+0.7**
RMQ	**Roma**	**38.61**	**147**	P	**P**	**17 29 35.0**	**+0.3**
	baz=39,SNR=8.3						
USRK	**Ussuriysk Arra**	**38.84**	**7**	P	**P**	**17 29 36.9**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=181,slow=6.9,SNR=9.9						
EIDS	**Eidsvold**	**39.09**	**143**	P	**P**	**17 29 38.6**	**-0.1**
	baz=39,SNR=9.5						
BBOO	**Buckleboo**	**39.26**	**167**	P	**P**	**17 29 40.6**	**+0.6**
	baz=39,SNR=88						
STKA	**Stephens Creek**	**39.99**	**159**	*eP*	**P**	**17 29 46.0**	**-0.1**
	comp=Z,9.3nm,0.7s						
STKA	**Stephens Creek**	**39.99**	**159**	P	**P**	**17 29 46.6**	**+0.6**
	comp=Z,56nm,0.8s,baz=335,slow=8.2,SNR=131						
STKA				LR	LR	17 44 44.0	
	comp=Z,118nm,21.9s,baz=226,slow=34						
STKA	**Stephens Creek**	**39.99**	**159**	P	**P**	**17 29 46.7**	**+0.6**
	baz=40,SNR=5.0						
LSA	**Lhasa**	**40.88**	**310**	*eP*	**P**	**17 29 55.4**	**+1.3**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	**Lhasa**	**40.88**	**310**	*eP*	**P**	**17 29 55.4**	**+1.3**
	comp=Z,7.5nm,0.7s						
ASAJ	**Asahikawa**	**41.04**	**18**	P	**P**	**17 29 56.2**	**+1.6**
ASAJ	**Asahikawa**	**41.04**	**18**	P	**P**	**17 29 56.2**	**+1.6**
	comp=Z,5.1nm,0.8s,baz=220,slow=16,SNR=8.8						
CMSA	**Cobar Meteorol**	**41.29**	**154**	P	**P**	**17 29 57.4**	**+0.7**
	baz=41,SNR=12						
GTA	**Gaotai**	**41.30**	**329**	*eP*	**P**	**17 29 56.7**	**-0.2**
GTA				pP	pP	17 30 14.8	-5.5
GTA				PP	**PnPn**	**17 31 37.3**	**-2.4**
GTA				PcP	**PcP**	**17 31 54.5**	**+0.7**
GTA				ScP	**ScP**	**17 35 35.4**	**+0.6**
GTA				S	**S**	**17 36 06.6**	**+2.7**
GTA				SS	**SS**	**17 39 08.6**	**-2.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,82nm,8.1s						
GTA				LR	LR		
	comp=N,46nm,14.2s						
GTA				LR	LR		
	comp=E,97nm,17.6s						
GTA				LR	LR		
	comp=Z,91nm,14.7s						
TAPN	**Taplejung**	**42.55**	**305**	*eP*	**P**	**17 30 07.6**	**0.0**
	comp=Z,31nm,0.6s						
ODAN	**Odare**	**42.62**	**304**	*eP*	**P**	**17 30 07.9**	**-0.2**
	comp=Z,39nm,0.6s						
ARMA	**Armidale**	**43.25**	**147**	P	**P**	**17 30 13.9**	**+1.0**
	baz=43,SNR=20						
RAMN	**Ramite**	**43.31**	**304**	*eP*	**P**	**17 30 13.4**	**-0.2**
	comp=Z,43nm,0.6s						
HABR	**Khabarovsk**	**43.44**	**9**	*eP*	**P**	**17 30 12.2**	**-1.8**
HABR				*e*PP*	**pP**	**17 30 35.6**	**-1.9**
HABR				*e*		17 31 55.4	
HABR				*e*PPP	PPP	17 32 33.1	
HABR				*eS*	**S**	**17 36 34.2**	**-0.6**
HABR				*e*SS*	**sS**	**17 37 14.9**	**-0.4**
HABR				*e*		17 40 01.3	
HABR				pmax	pmax		
	comp=E,7.0nm,0.9s						
HABR				pmax	pmax		
	comp=N,27nm,3.0s						
HABR				pmax	pmax		
	comp=Z,22nm,2.3s						
KLR	**Kul'dur**	**43.79**	**5**	*eP*	P	17 30 25.3	+8.5
JIRN	**Jiri**	**43.92**	**305**	*eP*	**P**	**17 30 18.3**	**-0.3**
	comp=Z,76nm,0.6s						
GUN	**Gumba**	**44.27**	**305**	*eP*	**P**	**17 30 21.3**	**-0.1**
	comp=Z,80nm,0.6s						
PKI	**Pulchoki**	**44.52**	**304**	*eP*	**P**	**17 30 23.0**	**-0.4**
	comp=Z,23nm,0.7s						
PKIN	**Phulchoki**	**44.54**	**304**	*eP*	**P**	**17 30 22.6**	**-0.9**
	comp=Z,20nm,0.7s						
ARPS	**Mount Arapiles**	**44.55**	**162**	P	**P**	**17 30 24.3**	**+1.3**
	baz=45,SNR=36						
KKN	**Kakani**	**44.71**	**304**	*eP*	**P**	**17 30 23.9**	**-0.9**
	comp=Z,22nm,0.7s						
DMN	**Daman**	**44.79**	**304**	*eP*	**P**	**17 30 25.0**	**-0.4**
	comp=Z,39nm,0.8s						
YNG	**Young**	**44.82**	**154**	P	**P**	**17 30 26.9**	**+1.6**
	baz=45,SNR=8.6						
ULN	**Ulaanbaatar**	**45.26**	**342**	*eP*	**P**	**17 30 28.5**	**-0.2**
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**45.44**	**341**	P	**P**	**17 30 29.9**	**-0.2**
SONM				PcP	**PcP**	**17 32 07.6**	**0.0**
SONM				ScP	**ScP**	**17 35 51.0**	**-0.4**
SONM	**Songino Array**	**45.44**	**341**	P	**P**	**17 30 29.9**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=152,slow=9.0,SNR=15						
SONM				PcP	**PcP**	**17 32 07.6**	**0.0**
	comp=Z,1.5nm,0.8s,baz=153,slow=3.6,SNR=3.6						
SONM				ScP	**ScP**	**17 35 51.0**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=162,slow=5.5,SNR=4.8						
SONM				LR	LR	17 53 53.3	
	comp=Z,37nm,18.5s,baz=24,slow=42						
KOLN	**Koldanda**	**46.09**	**304**	*eP*	**P**	**17 30 35.6**	**-0.1**
	comp=Z,91nm,0.7s						
CNB	**Canberra Magne**	**46.10**	**154**	P	**P**	**17 30 37.1**	**+1.7**
	baz=46,SNR=4.7						
DANN	**Dangsing**	**46.17**	**304**	*eP*	**P**	**17 30 36.0**	**-0.3**
	comp=Z,124nm,0.7s						
TOO	**Toolangi**	**46.50**	**159**	P	**P**	**17 30 40.5**	**+2.1**
	baz=47,SNR=9.5						
DZM	**Mont Dzumac**	**48.00**	**126**	P	**P**	**17 30 51.1**	**+0.7**
DZM	**Mont Dzumac**

comp=Z,2.9nm,0.8s,baz=140,slow=3.5,SNR=4.9
USP Ospenovka 58.94 318 *i* P **P 17 32 09.8 -0.2**
USP Ospenovka 58.94 318 P **P 17 32 09.8 -0.2**
SNR=7.5
AML Almayashu 59.03 316 *i* P **P 17 32 10.9 -0.2**
AML Almayashu 59.03 316 P **P 17 32 10.9 -0.2**
SNR=9.0
EKS2 Erkin-Say 59.18 317 *e*P **P 17 32 11.3 -0.5**
EKS2 pmax pmax
comp=Z,13nm,1.0s
EKS2 Erkin-Say 59.18 317 P **P 17 32 11.7 -0.2**
SNR=14
EKS2 Erkin-Say 59.18 317 *e*P **P 17 32 11.3 -0.5**
comp=Z,13nm,1.0s
KBL Kabul 60.03 307 *e*P **P 17 32 16.6 -1.3**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 60.03 307 *e*P **P 17 32 16.6 -1.3**
comp=Z,7.6nm,0.8s
NVS Novosibirsk 60.04 333 *e*P **P 17 32 14.8 -2.5**
SEY Seymchan 60.40 13⇑ *e*P **P 17 32 20.7 +1.1**
KK31 Karatay Array 61.57 317 *i* P **P 17 32 26.7 -1.3**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 61.57 317 *e*P **P 17 32 26.8 -1.2**
KKAR Karatay Array 61.57 317 *e*P **P 17 32 26.8 -1.2**
VOSK Vostochnaya 65.08 327 P **P 17 32 48.8 -2.1**
VOSK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 65.61 327 *c e*P **P 17 32 53.0 -1.3**
BRVK pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 65.61 327 *e*P **P 17 32 52.9 -1.3**
comp=Z,8.3nm,0.8s
TIXI Tiksi 66.06 1⇑ *e*P **P 17 32 57.3 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,0.9s
AB31 Akbulak array 70.44 320 *i* P **P 17 33 23.3 -1.3**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 70.44 320 *e*P **P 17 33 23.2 -1.4**
comp=Z,7.4nm,0.7s
AKTO Aktyubinsk 71.94 321 P **P 17 33 32.3 -1.3**
AKTO pmax pmax
comp=Z,12nm,0.7s
AKTO Aktyubinsk 71.94 321 LR LR 18 08 57.1
comp=Z,36nm,18.1s,baz=350,slow=39
SVE Sverdlovsk 72.16 328⇑ *e*P **P 17 33 34.1 -0.8**
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 73.15 328 *c i*P **P 17 33 39.0 -1.7**
ARU *PP **pP 17 34 04.0 -2.3**
ARU S **S 17 42 59.0 -1.3**
ARU pmax pmax
comp=Z,13nm,1.0s
ZEI Tsey 80.63 312 *e*P **P 17 34 21.6 -1.7**
ZEI pmax pmax
comp=Z,7.0nm,0.8s
IM04 Indian Mountai 80.90 24 *e*P **P 17 34 24.3 +0.3**
IMA2 Indian Mountai 80.95 24 *e*P **P 17 34 24.4 +0.1**
KBZ Khabaz 81.37 313 P **P 17 34 26.9 0.0**
KBZ Khabaz 81.37 313 P **P 17 34 26.9 0.0**
KBZ Khabaz 81.37 313 P **P 17 34 26.9 0.0**
comp=Z,2.9nm,0.9s,baz=157,slow=7.7,SNR=5.3
ILAR Eielson Array 83.70 26 P **P 17 34 38.2 -0.4**
ILAR Eielson Array 83.70 26 P **P 17 34 38.2 -0.4**
comp=Z,2.5nm,1.0s,baz=232,slow=5.5,SNR=18
TMCR Tamitsa 84.26 334 *e*P P 17 34 37.8 -3.6
TMCR *e* 17 37 50.9
TMCR pmax pmax
comp=Z,31nm,0.7s
MAW Mawson 85.26 200 P **P 17 34 44.7 -1.5**
MAW Mawson 85.26 200 P **P 17 34 44.7 -1.5**
comp=Z,2.1nm,0.8s,baz=24,slow=7.4,SNR=6.0
VNDA Vanda 85.27 173 P **P 17 34 46.5 +0.3**
VNDA Vanda 85.27 173 P **P 17 34 46.5 +0.3**
comp=Z,1.3nm,0.7s,baz=321,slow=7.1,SNR=5.2
OBN Obninsk 85.30 325 *d i*P **P 17 34 45.9 -0.9**
OBN *i* *PP **pP 17 35 13.3 +0.3**
OBN pmax pmax
comp=Z,26nm,1.1s
BRTR Keskin Array B 88.48 310 P **P 17 35 01.3 -1.4**
BRTR Keskin Array B 88.48 310 P **P 17 35 01.3 -1.4**
comp=Z,1.0nm,0.8s,baz=116,slow=5.6,SNR=6.1
ARCES ARCESS Array B 88.59 340 P **P 17 35 01.7 -0.8**
ARCES ARCESS Array B 88.59 340 P **P 17 35 01.7 -0.8**
comp=Z,5.2nm,0.8s,baz=87,slow=5.0,SNR=8.5
KAF Kangasniemi 89.77 332 *e*P **P 17 35 07.5 -0.6**
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 89.77 332 *e*p **P 17 35 07.5 -0.6**
comp=Z,4.7nm,0.6s
FINES FINESS Array B 90.01 332 P **P 17 35 08.0 -1.2**
FINES FINESS Array B 90.01 332 P **P 17 35 08.0 -1.2**
comp=Z,3.0nm,0.6s,baz=38,slow=5.6,SNR=16
VSU Vasula 90.27 329⇓ *e*P **P 17 35 08.7 -1.8**
CRVS Cervenica-Dubn 95.47 320 *e*P **P 17 35 36.4 +1.7**
CRVS pmax pmax
comp=Z,2.0nm,1.2s
CRVS Cervenica-Dubn 95.47 320 *e*P **P 17 35 36.4 +1.7**
KECS Kecovo 96.20 320 *e*P **P 17 35 37.0 -1.1**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 96.20 320 *e*P **P 17 35 37.0 -1.1**
NB2 NORSAR Subarra 96.95 334 P **P 17 35 39.2 -2.0**
comp=Z,2.3nm,0.7s,baz=67,slow=4.4
NB2 NORSAR Subarra 96.95 334 P **P 17 35 39.2 -2.0**
baz=67,slow=4.4
NOA NORSAR Array B 96.95 334 P **P 17 35 39.6 -1.7**
NOA NORSAR Array B 96.95 334 P **P 17 35 39.6 -1.7**
comp=Z,2.2nm,0.8s,baz=66,slow=4.5,SNR=7.5
SMOL Smolenice 98.14 321 *e*P **P 17 35 46.5 -0.3**
SMOL Smolenice 98.14 321 *e* **P 17 35 46.5 -0.3**
TXAR Lajitas Array 120.89 51 PKKPbc PKKPbc 17 51 06.8 -0.3
TXAR Lajitas Array 120.89 51 PKKPbc PKKPbc 17 51 06.8 -0.3
comp=Z,0.6nm,0.8s,baz=114,slow=5.6,SNR=5.6
TORD Torodi Ar. Bea 121.86 289 PKP **PKPdf 17 41 04.2 -0.4**
TORD Torodi Ar. Bea 121.86 289 PKP **PKPdf 17 41 04.2 -0.4**
comp=Z,1.9nm,0.7s,baz=49,slow=1.9,SNR=12

*ISCJB **12** 17:22:35.9±0.7, 5°.49S±0°.04×130°.23E±0°.09, h150km, mb3.8/2, Error ellipse: s-maj=13.3km s-min=5.9km az=6.2*
*AUST **12** 17:22:35.5±0.0, 5°.52S×130°.10E, h57km, Error ellipse: s-maj=1.4km s-min=0.7km az=279.0*
*IDC **12** 17:22:35.6±12.0, 5°.36S×130°.24E, h153km±121km, mb3.5/2, mb1 3.4/5, mb1mx3.2/19, mbtmp3.3/5, ML3.7/3, Error ellipse: s-maj=112.3km s-min=31.5km az=54.0*
ISC 12 17:22:36.6±0.8, 5°.45S±0°.06×130°.19E±0°.09, h150km, n17, σ1§57/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.97**	**343**	S		**Pn**	**17 23 03.6**	**+2.5**
baz=1.0,SNR=5.2								
AAI	**Ambon**	**2.65**	**311**	P		**Pn**	**17 23 20.6**	**+1.0**
baz=2.6,SNR=3.5								
FAKI	**Fak Fak**	**3.25**	**39**	P		**Pn**	**17 23 28.5**	**+1.4**
baz=3.4,SNR=11								
FAKI				S		**Sn**	**17 24 08.1**	**+1.8**
baz=3.4,SNR=12								
SWI	**Sorong**	**4.68**	**13**	P		**Pn**	**17 23 43.9**	**-1.9**
baz=4.8,SNR=28								
SOEI	**Soe**	**7.26**	**234**	S		Sn	17 25 59.4	+18
baz=7.1,SNR=5.5								
MTN	**Manton Dam**	**7.40**	**173**	P		**Pn**	**17 24 22.9**	**+0.9**
baz=7.4,SNR=35								
MTN				S		**Sn**	**17 25 43.9**	**-1.0**
baz=7.4,SNR=23								
KDU	**Kakadu**	**7.53**	**163**	P		**Pn**	**17 24 25.3**	**+1.6**
baz=7.6,SNR=86								
KDU				S		**Sn**	**17 25 47.3**	**-0.7**
baz=7.6,SNR=8.1								
KNRA	**Kununurra**	**10.26**	**188**	P		**Pn**	**17 24 60.0**	**0.0**
baz=10,SNR=4.5								
FITZ	**Fitzroy Crossi**	**13.34**	**199**	P		**Pn**	**17 25 41.1**	**+0.9**
0.2nm,0.3s,baz=31,slow=8.7,SNR=12								
FITZ	**Fitzroy Crossi**	**13.34**	**199**	P		**Pn**	**17 25 41.6**	**+1.5**
baz=13,SNR=6.2								
WRA	**Warramunga Arr**	**14.96**	**165**	P		**Pn**	**17 25 59.7**	**-0.8**
0.3nm,0.3s,baz=346,slow=13,SNR=18								
COEN	**Coen**	**15.33**	**124**	P		**P**	**17 26 09.0**	**+2.4**
baz=16,SNR=6.8								
MANU	**Manus Island**	**17.47**	**79**	P		**P**	**17 26 28.7**	**-1.4**
baz=18,SNR=4.6								
ASAR	**Alice Springs**	**18.46**	**169**	P		**P**	**17 26 41.5**	**+0.5**
0.6nm,0.3s,baz=346,slow=11,SNR=54								
EIDS	**Eidsvold**	**28.16**	**137**	P		P	17 28 23.2	+8.3
baz=28,SNR=11								
STKA	**Stephens Creek**	**28.38**	**159**	P		**P**	**17 28 15.6**	**-1.2**
1.2nm,0.9s,baz=322,slow=12,SNR=5.1								
MKAR	**Makanchi Array**	**67.05**	**326**	P		**P**	**17 33 12.0**	**-1.6**
1.1nm,0.5s,baz=114,slow=7.6,SNR=1.7								

*TAP **12** 18:00:22.7, 24°.95N×122°.35E, h142km, ML4.0, D*
*ISCJB **12** 18:00:23.3±0.5, 24°.91N±0°.03×122°.31E±0°.02, h134km±4km, mb3.2/3, Error ellipse: s-maj=5.6km s-min=3.2km az=161.4*
*JMA **12** 18:00:23.9±0.3, 25°.04N×122°.34E, h131km, M2.7*
*IDC **12** 18:00:32.7±18.0, 25°.07N×122°.34E, h260km±223km, mb2.9/3, mb1 3.0/4, mb1mx2.7/26, mbtmp2.9/4, ML3.3/1, Error ellipse: s-maj=159.8km s-min=19.7km az=59.0*
ISC 12 18:00:22.3±0.8, 24°.96N±0°.04×122°.28E±0°.03, h145km±6km, n53, σ0§68/99, mb3.4/3, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.27**	**281**	*i* P		**Pn**	**18 00 42.5**	**+0.3**
baz=280								
TWB1				S		**Sn**	**18 00 56.6**	**-0.7**
baz=280								
NWF	**Wu-fen Shan**	**0.47**	**284**	P		**Pn**	**18 00 43.3**	**+0.2**
baz=283								
NWF				S		**Sn**	**18 00 58.4**	**-0.4**
baz=283								
ILA	**Ilan**	**0.52**	**249**	*e*P		**Pn**	**18 00 43.5**	**+0.3**
baz=251								
ILA				S		**Sn**	**18 00 58.7**	**-0.3**
baz=251								
TWC	**Suao**	**0.53**	**229**	*i* P		**Pn**	**18 00 43.4**	**+0.1**
baz=232								
TWC				*e*S		**Sn**	**18 00 58.1**	**-1.0**
baz=232								
TWE	**Neicheng**	**0.61**	**248**	*e*P		**Pn**	**18 00 43.9**	**+0.2**
baz=249								
TWE				*e*S		**Sn**	**18 01 00.6**	**+0.6**
baz=249								
TWA	**Mucha**	**0.64**	**272**	*e*P		**Pn**	**18 00 44.2**	**+0.3**
baz=272								
TWA				*e*S		**Sn**	**18 01 00.7**	**+0.4**
baz=272								
TAP1	**Taipei**	**0.70**	**277**	*e*P		**Pn**	**18 00 44.1**	**-0.1**
baz=276								
TAP1				*e*S		**Sn**	**18 01 01.6**	**+0.7**
baz=276								
PCYT	**Pengchaiyu**	**0.70**	**344**	⇑P		**Pn**	**18 00 44.9**	**+0.6**
baz=339								
TWY	**Chenhua**	**0.70**	**297**	P		**Pn**	**18 00 44.5**	**+0.2**
baz=295								
TWY				*e*S		**Sn**	**18 01 00.4**	**-0.6**
baz=295								
TAP	**Taipei**	**0.71**	**277**	*e*P		**Pn**	**18 00 43.8**	**-0.5**
baz=276								
TAP				*e*S		**Sn**	**18 01 01.2**	**+0.1**
baz=276								
ENA	**Nanau**	**0.72**	**223**	⇑ *i*P		**Pn**	**18 00 45.2**	**+0.7**
baz=226								
ENA				*e*S		**Sn**	**18 01 01.5**	**+0.2**
baz=226								
ENTT	**Nioudou**	**0.72**	**244**	⇑ *i*P		**Pn**	**18 00 45.0**	**+0.5**
baz=246								
ENTT				*e*S		**Sn**	**18 01 01.5**	**+0.2**
baz=246								
YOJ	**Yonaguni jima**	**0.82**	**126**	P		**Pn**	**18 00 45.6**	**+0.4**
YOJ				S		**Sn**	**18 01 02.7**	**+0.1**
NSK	**Sanguang**	**0.89**	**252**	⇑ *i*P		**Pn**	**18 00 46.0**	**+0.2**
baz=252								
NSK				S		**Sn**	**18 01 02.6**	**-1.0**
baz=252								
NNS	**Nan Shan**	**0.97**	**238**	⇑ *e*P		**Pn**	**18 00 47.2**	**+0.7**
baz=240								
NNS				*e*S		**Sn**	**18 01 05.0**	**0.0**
baz=240								
NCU	**National Centr**	**1.00**	**271**	*e*P		**Pn**	**18 00 47.1**	**+0.5**
baz=270								
NCU				*e*S		**Sn**	**18 01 05.1**	**0.0**
baz=270								
TWD	**Chiawan**	**1.07**	**216**	P		**Pn**	**18 00 47.6**	**+0.3**
baz=218								
TWD				S		**Sn**	**18 01 05.9**	**-0.4**
baz=218								
HWA	**Hwalien**	**1.15**	**213**	*e*P		**Pn**	**18 00 48.4**	**+0.4**
baz=214								
HWA				*e*S		**Sn**	**18 01 08.0**	**+0.3**
baz=214								
TWT	**Tachien**	**1.23**	**236**	*e*P		**Pn**	**18 00 49.9**	**+1.0**
baz=237								
TWT				*e*S		**Sn**	**18 01 09.6**	**+0.4**
baz=237								
WHF	**Hehuan Shan**	**1.23**	**229**	⇑P		**Pn**	**18 00 50.0**	**+0.7**
baz=230								
WHF				S		**Sn**	**18 01 09.4**	**-0.3**
baz=230								
ESL	**Shilin**	**1.38**	**215**	*e*P		**Pn**	**18 00 50.0**	**-0.3**
baz=216								
ESL				*e*S		**Sn**	**18 01 10.8**	**-0.8**
baz=216								
IRIF	**Iriomote-Funau**	**1.45**	**115**	P		**Pn**	**18 00 51.5**	**+0.5**
IRIF				*e*S		**Sn**	**18 01 12.9**	**0.0**
NSY	**Sanyi**	**1.49**	**249**	*e*P		**Pn**	**18 00 52.1**	**+0.7**
baz=249								
NSY				*e*S		**Sn**	**18 01 13.9**	**+0.3**
baz=249								
TWQ1	**Liyutan**	**1.50**	**247**	*e*P		**Pn**	**18 00 51.9**	**+0.4**
baz=247								
TWQ1				*e*S		**Sn**	**18 01 13.1**	**-0.8**
baz=247								
HATJ	**Hateruma jima**	**1.65**	**123**	P		**Pn**	**18 00 54.5**	**+1.4**
HATJ				*e*S		**Sn**	**18 01 16.1**	**-0.6**
SMLT	**Sun Moon Lake**	**1.65**	**230**	*e*P		**Pn**	**18 00 54.3**	**+1.0**
baz=231								
SMLT				*e*S		**Sn**	**18 01 17.4**	**+0.4**
baz=231								
TYC	**Yuchr**	**1.67**	**231**	⇑P		**Pn**	**18 00 54.4**	**+1.0**
baz=232								
TYC				*e*S		**Sn**	**18 01 17.4**	**+0.3**
baz=232								
TCU	**Taichung**	**1.67**	**242**	*e*P		**Pn**	**18 00 54.5**	**+1.1**
baz=242								
TCU				*e*S		**Sn**	**18 01 16.6**	**-0.6**
baz=242								
EHY	**Hungye**	**1.69**	**212**	P		**Pn**	**18 00 54.3**	**+0.7**
baz=213								
EHY				*e*S		**Sn**	**18 01 16.9**	**-0.7**
baz=213								
JKRS	**Kuro-shima**	**1.73**	**114**	P		**Pn**	**18 00 55.0**	**+1.0**
JKRS				S		**Sn**	**18 01 18.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.79**	**109**	P		**Pn**	**18 00 55.3**	**+0.6**
JIJ				S		**Sn**	**18 01 18.7**	**-0.8**
WNT	**Mingjian**	**1.81**	**234**	*e*P		**Pn**	**18 00 55.8**	**+0.9**
baz=234								
WNT				*e*S		**Sn**	**18 01 20.4**	**+0.4**
baz=234								
TWF1	**Yuli**	**1.83**	**210**	*e*P		**Pn**	**18 00 55.4**	**+0.1**
baz=211								
TWF1				S		**Sn**	**18 01 20.2**	**-0.2**
baz=211								
YUS	**Yu-Shan**	**1.90**	**220**	*e*P		**Pn**	**18 00 57.8**	**+1.2**
baz=221								
YUS				*e*S		**Sn**	**18 01 23.0**	**+0.4**
baz=221								
ALS	**Alishan**	**1.97**	**223**	*e*P		**Pn**	**18 00 58.3**	**+1.1**
baz=224								
ALS				*e*S		**Sn**	**18 01 24.2**	**+0.3**
baz=224								
CHN5	**Tsauling**	**1.99**	**228**	*e*P		**Pn**	**18 00 58.1**	**+0.9**
baz=228								
CHN5				*e*S		**Sn**	**18 01 24.0**	**+0.1**
baz=228								
WGK	**Gukeng**	**2.02**	**232**	*e*P		**Pn**	**18 00 58.3**	**+0.9**
baz=232								
WGK				*e*S		**Sn**	**18 01 24.9**	**+0.6**
baz=232								
CHKT	**Chengkung**	**2.03**	**205**	*e*P		**Pn**	**18 00 57.7**	**+0.2**
baz=205								
CHKT				S		**Sn**	**18 01 24.2**	**-0.3**
baz=205								
WTCT	**Ta-ch'eng**	**2.12**	**240**	*e*P		**Pn**	**18 00 59.2**	**+0.6**
baz=240								
WTCT				*e*S		**Sn**	**18 01 25.5**	**-1.0**
baz=240								
JTJ	**Tarama**	**2.22**	**98**	P		**Pn**	**18 01 00.6**	**+0.9**
JTJ				*e*S		**Sn**	**18 01 27.9**	**-0.6**
CHY	**Chiayi**	**2.23**	**230**	*e*P		**Pn**	**18 01 01.0**	**+1.1**
baz=230								
CHY				*e*S		**Sn**	**18 01 28.4**	**-0.5**
baz=230								
CHN1	**Nanshi**	**2.38**	**223**	*e*P		**Pn**	**18 01 02.8**	**+1.0**
baz=223								
CHN1				*e*S		**Sn**	**18 01 32.2**	**0.0**
baz=223								
TWG	**Pinlang**	**2.40**	**208**	*e*P		**Pn**	**18 01 02.7**	**+0.7**
baz=208								
TWG				*e*S		**Sn**	**18 01 31.1**	**-1.4**
baz=208								
TTN	**Taitung**	**2.43**	**206**	*e*P		**Pn**	**18 01 02.3**	**0.0**
baz=206								
TTN				*e*S		**Sn**	**18 01 31.5**	**-1.6**
baz=206								
SCLT	**Jiali**	**2.61**	**228**	*e*P		**Pn**	**18 01 05.4**	**+0.9**
baz=228								
SCLT				*e*S		**Sn**	**18 01 37.4**	**+0.4**
baz=228								
JMJ	**Miyako jima 2**	**2.74**	**92**	*e*S		**Sn**	**18 01 39.1**	**-0.8**
JOGS	**Gusukube**	**2.84**	**93**	P		**Pn**	**18 01 09.1**	**+1.6**
JOGS				*e*S		**Sn**	**18 01 42.4**	**+0.1**
LAY	**Lan-yu**	**2.98**	**193**	*e*P		**Pn**	**18 01 09.7**	**+0.4**
baz=194								
LAY				*e*S		**Sn**	**18 01 44.2**	**-1.4**
baz=194								
JKE	**Kume jima 2**	**4.29**	**70**	P		**Pn**	**18 01 26.3**	**+0.1**
KSRS	**Korea Array**	**13.36**	**20**	P		**P**	**18 03 30.9**	**+0.4**
0.2nm,0.3s,baz=206,slow=12,SNR=6.9								
SONM	**Songino Array**	**26.07**	**335**	P		**P**	**18 05 41.9**	**-0.4**
1.1nm,0.7s,baz=156,slow=9.2,SNR=7.9								
MKAR	**Makanchi Array**	**38.49**	**315**	P		**P**	**18 07 29.6**	**-0.7**
0.4nm,0.5s,baz=99,slow=9.6,SNR=10								
WRA	**Warramunga Arr**	**46.14**	**164**	P		**P**	**18 08 32.2**	**-0.1**
0.1nm,0.5s,baz=347,slow=8.7,SNR=4.3								

*BKK **12** 18:00:34.7±0.3, 27°.S±23°.×6°.6W±1°.3, h10km*
*ISCJB **12** 18:00:49.0±0.4, 27°.84S±0°.02×66°.65W±0°.03, h149km±3km, mb5.2/237, Error ellipse: s-maj=4.7km s-min=3.5km az=157.4*
*GUC **12** 18:00:49.6±1.9, 27°.93S×66°.73W, h155km±166km, mb5.3*
*MOS **12** 18:00:51.7±1.0, 27°.63S×66°.66W, h165km, mb5.3/38, MS4.5/4, Error ellipse: s-maj=11.5km s-min=7.4km az=106.8*
*NEIC **12** 18:00:52.7±0.1, 27°.89S×66°.67W, mb5.3/142, MW5.5, MW5.5, MD5.2(SJA), Error ellipse: s-maj=5.3km s-min=3.4km az=84.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.80; $M_{\theta\theta}$1.09; $M_{\phi\phi}$0.71; $M_{r\theta}$0.72; $M_{\theta\phi}$-1.74; $M_{r\phi}$0.41; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s286.00000°, δ55.00000°, λ-126.00000°. NP2:ϕ_s158.00000°, δ49.00000°, λ-50.00000°. Principal axes: T 2.6700, Plg3.0000°, Azm41.0000°; N -0.4100, Plg29.0000°, Azm309.0000°; P -2.2500, Plg60.0000°, Azm137.0000°;*
NEIC Felt [III] at Catamarca and [II] at Cordoba.
*BJI **12** 18:00:52.3, 27°.56S×67°.25W, h175km, mB5.2/25*
*IDC **12** 18:00:53.2±0.4, 27°.84S×66°.55W, h173km±3km, mb5.0/17, mb1 5.1/19, mb1mx5.1/20, mbtmp5.0/19, MS4.3/8, Ms1 4.3/8, ms1mx4.0/27, Error ellipse: s-maj=11.5km s-min=9.5km az=71.0*
*LDG **12** 18:00:53.6±1.0, 26°.98S×66°.98W, h172km, Mb5.2/35, Ms4.2/10, Error ellipse: s-maj=79.8km s-min=57.8km az=101.0*
*GCMT **12** 18:00:55.4±0.1, 28°.10S×66°.71W, h178km, MW5.4, Moment Tensor Solution. s80, c117; s8, c10; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.41±.02; $M_{\theta\theta}$0.52±.03; $M_{\phi\phi}$0.89±.03; $M_{r\theta}$0.27±.02; $M_{\theta\phi}$-1.07±.03; $M_{r\phi}$0.63±.03; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s162.00000°, δ55.00000°, λ-60.00000°. NP2:ϕ_s297.00000°, δ45.00000°, λ-126.00000°. Principal axes: T 1.8200, Plg6.0000°, Azm232.0000°; N -0.1000, Plg24.0000°, Azm324.0000°; P -1.7200, Plg65.0000°, Azm129.0000°; Data Used: II IU IC G CN. Surface waves: sta=101, comp=191, per= 50.*
*NEIC **12** 18:01:11.6±0.0, 28°.54S×64°.97W, h154km, Moment Tensor Solution. s102 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.56; $M_{\theta\theta}$1.88; $M_{\phi\phi}$-0.32; $M_{r\theta}$0.62; $M_{\theta\phi}$-1.44; $M_{r\phi}$0.82; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s265.00000°, δ58.00000°, λ-135.00000°. NP2:ϕ_s148.00000°, δ53.00000°, λ-40.00000°. Principal axes: T 2.6000, Plg2.0000°, Azm25.0000°; N -0.2600, Plg37.0000°, Azm293.0000°; P -2.3400, Plg52.0000°, Azm119.0000°;*
*DJA **12** 18:01:14.4±10.0, 28°.S±47°.×6°.6W±3°.0, h342km±89km, M5.6/8, mB5.9/4, mb5.6/8, Mw(mB)5.5/4*
ISC 12 18:00:52.2±0.3, 27°.89S±0°.03×66°.67W±0°.04, h169km±2km, h169km:pP-P, n1094, σ1§17/1250, mb5.3/224, 225C-269D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.31**	**278**	*e*P		**Pn**	**18 01 41.4**	**-2.8**
CPCH				*e*S		**Sn**	**18 02 20.4**	**-4.3**
LCO	**Las Campanas**	**3.72**	**252**	*e*Pn		**Pn**	**18 01 47.9**	**-1.8**
LCO				*e*Sn		**Sn**	**18 02 31.5**	**-2.9**
LCO	**Las Campanas**	**3.72**	**252⇑**	*e*P		**Pn**	**18 01 47.5**	**-2.2**
LCO				*e*S		**Sn**	**18 02 30.4**	**-3.9**
CDCH	**Caldera**	**3.78**	**282**	*e*P		**Pn**	**18 01 48.3**	**-1.9**
CDCH				*e*S		**Sn**	**18 02 30.6**	**-4.6**
CFAA	**Coronel Fontan**	**3.94**	**200**	P		**Pn**	**18 01 51.1**	**-1.1**
CFAA				S		**Sn**	**18 02 35.1**	**-4.1**
CFAA	**Coronel Fontan**	**3.94**	**200**	P		**Pn**	**18 01 51.1**	**-1.1**
335nm,0.3s,baz=18,slow=12,SNR=9537								
CFAA				S		**Sn**	**18 02 35.1**	**-4.1**
454nm,0.3s,baz=302,slow=24,SNR=13								
TLL	**Tololo Astrono**	**4.27**	**237⇑**	*i*P		**Pn**	**18 01 57.8**	**+1.1**
TLL				*e*S		**Sn**	**18 02 46.9**	**-0.2**
TLL	**Tololo Astrono**	**4.27**	**237⇑**	*i*P		**Pn**	**18 01 57.8**	**+1.1**
TLL				*e*S		**Sn**	**18 02 46.9**	**-0.2**
TLL	**Tololo Astrono**	**4.27**	**237⇑**	*i*P		**Pn**	**18 01 57.8**	**+1.1**
TLL				*e*S		**Sn**	**18 02 46.9**	**-0.2**
CMCH	**Combarbala**	**4.99**	**228⇓**	*i*P		**Pn**	**18 02 03.1**	**-2.8**
CMCH				*e*S		**Sn**	**18 02 59.6**	**-4.1**
ANCH	**Antofagasta**	**5.38**	**320**	*e*P		**Pn**	**18 02 09.8**	**-1.2**
CEN1	**Los Morros**	**5.50**	**324⇑**	*i*P		**Pn**	**18 02 09.8**	**-2.8**
CEN1				*e*S		Sn	18 03 09.0	-6.7
PB10	**Plate Boundary**	**5.59**	**320⇓**	*i*P		**Pn**	**18 02 12.3**	**-1.5**
LVC	**Limon Verde**	**5.64**	**338**	*e*P		**Pn**	**18 02 13.4**	**-1.2**
LVC	**Limon Verde**	**5.64**	**338**	*e*P		**Pn**	**18 02 13.4**	**-1.2**
JACH	**Jahuel**	**5.85**	**214**	P		**Pn**	**18 02 15.7**	**-1.5**
JACH	**Jahuel**	**5.85**	**214**	*i* P		**Pn**	**18 02 15.7**	**-1.5**
PB04	**Plate Boundary**	**6.16**	**335**	P		**Pn**	**18 02 22.1**	**+0.9**
PB04	**Plate Boundary**	**6.16**	**335⇓**	*e*P		**Pn**	**18 02 22.1**	**+0.9**
PEL	**Peldehue**	**6.28**	**213⇓**	*i*P		**Pn**	**18 02 20.3**	**-2.5**
CLCH	**Cerro Calan**	**6.42**	**210⇑**	*e*P		**Pn**	**18 02 22.6**	**-2.0**
PB09	**Plate Boundary**	**6.50**	**338**	*e*P		**Pn**	**18 02 24.6**	**-1.3**
PB09	**Plate Boundary**	**6.50**	**338**	*e*P		**Pn**	**18 02 24.6**	**-1.3**
SAN	**Santiago**	**6.52**	**211**	*e*P		**Pn**	**18 02 24.0**	**-1.9**
SAN	**Santiago**	**6.52**	**211**	*e*P		**Pn**	**18 02 24.0**	**-1.9**
SAN	**Santiago**	**6.52**	**211**	*e*P		**Pn**	**18 02 24.0**	**-1.9**
SJCH	**San Jose de Ma**	**6.55**	**208⇓**	*e*P		**Pn**	**18 02 24.5**	**-1.9**
SJCH	**San Jose de Ma**	**6.55**	**208⇓**	*e*P

PSGC **Pisagua** 8.84 338 P Pn 18 02 52.5 -4.4
PSGC **Pisagua** 8.84 338 eP Pn 18 02 52.5 -4.4
LPA **La Plata** 10.23 135 ceP Pn 18 03 14.0 -0.8
LPA S Sn 18 05 06.0 -2.3
LPA PCP PcP 18 09 07.0 +0.3
TRQA **Tornquist** 10.87 160 eP Pn 18 03 21.0 -2.2
404nm,1.0s
LPAZ **La Paz** 11.63 353 eP Pn 18 03 31.1 -2.7
215nm,1.7s
LPAZ **La Paz** 11.63 353 P Pn 18 03 31.4 -2.5
24nm,0.3s,baz=162,slow=8.5,SNR=98
SIV **San Ignacio** 12.93 25 P Pn 18 03 48.2 -1.8
SIV **San Ignacio** 12.93 25 P Pn 18 03 48.2 -1.8
8.8nm,0.3s,baz=225,slow=14,SNR=452
COYC **Coyhaique** 18.16 192 eP P 18 04 51.6 -0.1
COYC AMb AMB 18 04 57.1
comp=Z,375nm,0.8s
SAML **Samuel** 19.13 11 eP P 18 05 01.3 -1.2
comp=Z,267nm,1.2s
BDFB **Brasilia** 21.15 59 P P 18 05 23.3 -1.0
BDFB **Brasilia** 21.15 59 P P 18 05 23.3 -1.0
comp=Z,167nm,0.7s,baz=226,slow=9.8,SNR=221
ATAH **Atahualpa** 23.44 330 P P 18 05 48.2 +1.4
ATAH **Atahualpa** 23.44 330 P P 18 05 48.2 +1.4
comp=Z,5.4nm,0.6s,baz=144,slow=7.4,SNR=7.2
EFI **East Falkland** 24.62 167 eP P 18 05 57.1 +0.4
EFI **East Falkland** 24.62 167 eP P 18 05 56.2 -0.5
comp=Z,2µm,1.0s
USHA **Ushuaia** 26.95 182 P P 18 06 17.8 +0.2
USHA **Ushuaia** 26.95 182 P P 18 06 17.8 +0.2
comp=Z,19nm,0.8s,baz=303,slow=9.3,SNR=6.4
OTAV **Otavalo** 30.17 336 eP P 18 06 47.3 +0.2
comp=Z,8.8nm,0.6s
ROSC **El Rosal** 33.39 346 LR LR 18 22 38.0
comp=Z,576nm,18.9s,baz=25,slow=39
RCBR **Riachuelo** 36.53 59 eP P 18 07 41.3 -0.4
comp=Z,594nm,1.0s
SDV **Santo Domingo** 36.76 353 eP P 18 07 41.8 -2.0
comp=Z,42nm,0.4s
PMSA **Palmer Station** 36.93 178 eP P 18 07 45.8 +1.4
comp=Z,96nm,1.0s
PMSA **Palmer Station** 36.93 178 P P 18 07 45.1 +0.7
comp=Z,59nm,0.8s,baz=355,slow=7.2,SNR=26
GRGR **Grenville** 40.08 8 eP P 18 08 10.3 -0.9
comp=Z,762nm,0.8s
ANWB **Willy Bob** 45.54 7 eP P 18 08 51.7 -3.4
CELP **Cerrillos** 45.70 0 eP P 18 08 54.1 -2.3
MTP **Monte Pirata** 45.73 1 eP P 18 08 53.5 -3.1
comp=Z,30nm,0.5s
LRS **Lares** 45.91 360 eP P 18 08 55.5 -2.6
PCJ **Portland Cotta** 46.49 346 iP P 18 09 02.7 +0.2
HOJ **Hope** 46.66 347 iP P 18 09 04.8 +1.0
STH **Stony Hill** 46.74 347 iP P 18 09 04.7 +0.2
SDDR **Presa de Saban** 46.81 354 eP P 18 09 03.0 -2.1
comp=Z,8.9nm,0.5s
CVJ **Coleyville** 47.04 346 iP P 18 09 07.2 +0.3
MTDJ **Mount Denham** 47.04 346 eP P 18 09 07.1 +0.2
comp=Z,223nm,1.1s
GTBY **Guantanamo Bay** 48.23 349 eP P 18 09 14.5 -1.4
comp=Z,74nm,1.1s
TEIG **Tepich** 52.20 334 eP P 18 09 44.9 -0.9
comp=Z,167nm,0.9s
VNA1 **Neumayer--Stat** 53.61 159 eP P 18 09 57.0 +1.5
VNA1 **Neumayer--Stat** 53.61 159 ePcP PcP 18 10 55.2 -4.5
VNA2 **Neumayer--Watz** 53.97 160 eP P 18 09 59.3 +1.1
VNA2 **Neumayer--Watz** 53.97 160 ePcP PcP 18 10 57.5 -3.6
SNAA **Sanae** 55.60 160 eP P 18 10 10.6 +0.7
SNAA **Sanae** 55.60 160 ePcP PcP 18 11 08.7 +1.3
SNAA **Sanae** 55.60 160 ⇓iP P 18 10 10.2 +0.3
SNAA **Sanae** 55.60 160 eP P 18 10 10.1 +0.2
comp=Z,321nm,1.0s
BBSR **BB Station** 59.96 2 eP P 18 10 40.4 -0.2
comp=Z,37nm,0.8s
RKT **Rikitea** 61.12 258 eS S 18 18 55.9 +1.0
comp=Z,1µm,30.2s
RKT **Rikitea** 61.12 258 eLR LR 18 29 17.1
comp=Z,380nm,26.2s
TIGA **Tifton** 61.17 344 ⇑P P 18 10 48.0 -0.8
baz=62
BRAL **Brewton** 61.72 340 eP P 18 10 53.1 +0.6
comp=Z,62nm,0.6s
QSPA **South Pole Qui** 62.33 180 eP P 18 10 56.9 +0.5
comp=Z,221nm,0.8s
LRAL **Lakeview Retre** 63.60 341 eP P 18 11 03.7 -1.2
comp=Z,59nm,0.9s
KMSC **Kings Mountain** 64.21 347 ⇓P P 18 11 08.5 -0.3
baz=64
732A **Laxson Ranch,** 64.71 328 ⇑P P 18 11 12.6 +0.3
baz=65,SNR=102
732A ⇑S S 18 19 38.6 -0.5
baz=65
732A ⇑S S 18 19 38.6 -0.5
baz=65
CPCT **Cooper Cave** 65.22 344 eP P 18 11 14.4 -1.0
CPCT epP pP 18 11 55.6 +0.3
TKL **Tuckaleechee C** 65.24 345 eP P 18 11 14.2 -1.4
TKL epP pP 18 11 55.5 0.0
TKL **Tuckaleechee C** 65.24 345 LR LR 18 43 09.8
comp=Z,137nm,18.9s,baz=358,slow=39
632A **Uvalde** 65.28 328 ⇑P P 18 11 16.5 +0.6
baz=66,SNR=55
SWET **Sewanee** 65.36 343 eP P 18 11 15.4 -1.0
comp=Z,133nm,1.0s
SWET epP pP 18 11 56.6 +0.2
631A **Perdido Creek** 65.57 328 ⇓P P 18 11 17.9 +0.1
baz=66,SNR=48
OXF **Oxford** 65.69 339 eP P 18 11 17.5 -0.9
OXF e*PP pP 18 11 57.4 -1.1
OXF pmax pmax
comp=Z,167nm,1.1s
OXF **Oxford** 65.69 339 eP P 18 11 17.5 -0.9
comp=Z,167nm,1.1s
OXF epP pP 18 11 57.4 -1.1
532A **Rocksprings** 65.86 329 ⇑P P 18 11 20.3 +0.6
baz=66,SNR=82
VWCC **Virginia Weste** 65.99 348 eP P 18 11 20.2 -0.1
TZTN **Tazewell** 66.03 345 eP P 18 11 19.0 -1.6
comp=Z,40nm,1.4s
JSRW **J. Sargeant Re** 66.08 350 eP P 18 11 21.4 +0.5
JSRW epP pP 18 12 02.1 +1.1
JCT **Junction City** 66.11 329 eP P 18 11 21.4 +0.1
JCT pmax pmax
comp=Z,140nm,1.0s
JCT **Junction City** 66.11 329 eP P 18 11 21.4 +0.1
comp=Z,140nm,1.0s
JCT **Junction City** 66.11 329 ⇑P P 18 11 21.5 +0.3
baz=66,SNR=30
531A **Rocksprings** 66.19 328 ⇓P P 18 11 22.4 +0.6
baz=66
WHTX **Lake Whitney** 66.38 332 ⇑P P 18 11 23.1 +0.2
baz=67
432A **Menard** 66.44 329 ⇑P P 18 11 23.4 0.0
baz=67,SNR=19
530A **J-C Ranch, Com** 66.55 328 ⇑P P 18 11 24.7 +0.6
baz=67,SNR=71
431A **Sonora** 66.65 328 ⇑P P 18 11 24.7 0.0
baz=67,SNR=16
WVT **Waverly** 66.73 341 eP P 18 11 23.7 -1.3
WVT e*PP pP 18 12 05.7 +0.5
WVT pmax pmax
comp=Z,211nm,1.0s
WVT **Waverly** 66.73 341 eP P 18 11 23.7 -1.3
comp=Z,212nm,1.0s
WVT epP pP 18 12 05.7 +0.5
628A **Black Gap, Mar** 66.75 326 ⇓P P 18 11 26.3 +0.9
baz=67,SNR=85
332A **Millersview** 66.85 329 ⇓P P 18 11 26.1 +0.2
baz=67,SNR=55
UALR **University of** 66.89 337 eP P 18 11 25.8 -0.3
comp=Z,73nm,1.0s
529A **Stev Forest Ra** 66.95 327 ⇑P P 18 11 27.3 +0.7
baz=67,SNR=112
627A **Terlingua Ranc** 66.97 325 ⇓P P 18 11 27.3 +0.4
baz=67,SNR=59
TXAR **Lajitas Array** 67.02 325 P P 18 11 27.5 +0.4
TXAR PcP PcP 18 11 55.0 +0.9
TXAR pP pP 18 12 09.2 +1.9
TXAR ⇑e 18 39 55.2
TXAR **Lajitas Array** 67.02 325 P P 18 11 27.5 +0.4
comp=Z,5.7nm,0.5s,baz=149,slow=8.2,SNR=100
TXAR PcP PcP 18 11 55.0 +0.9
comp=Z,4.1nm,0.7s,baz=156,slow=7.7,SNR=6.2
TXAR pP pP 18 12 09.2 +1.9
comp=Z,9.3nm,0.9s,baz=134,slow=8.8,SNR=4.8
TXAR PKP2bc 18 39 55.2
comp=Z,2.3nm,0.9s,baz=298,slow=2.7,SNR=11

430A **Baggett Ranch,** 67.03 328 ⇓P P 18 11 27.4 +0.3
baz=67,SNR=51
331A **San Angelo** 67.09 329 ⇓P P 18 11 27.4 -0.1
baz=67,SNR=24
MIAR **Mount Ida** 67.12 336 eP P 18 11 27.2 -0.3
MIAR pmax pmax
comp=Z,54nm,0.8s
MIAR **Mount Ida** 67.12 336 eP P 18 11 27.2 -0.3
comp=Z,54nm,0.8s
429A **Davenport Ranc** 67.21 327 ⇑P P 18 11 28.8 +0.6
baz=68,SNR=91
232A **Coleman** 67.23 330 ⇑P P 18 11 28.6 +0.2
baz=68,SNR=97
528A **Cox Ranch, San** 67.26 326 ⇓P P 18 11 28.8 +0.1
baz=68,SNR=84
GLAT **Glass** 67.28 340 eP P 18 11 28.4 -0.1
GLAT epP pP 18 12 10.0 +1.3
626A **Big Bend Ranch** 67.43 325 ⇑⇑P P 18 11 30.7 +1.0
baz=68,SNR=151
330A **Mertzon** 67.52 328 ⇑P P 18 11 30.1 -0.1
baz=68,SNR=26
231A **Bronte** 67.57 329 ⇑P P 18 11 30.3 -0.2
baz=68,SNR=25
SDMD **Soldier's Deli** 67.62 351 eP P 18 11 30.4 -0.2
comp=Z,32nm,1.0s
SDMD epP pP 18 12 11.8 +0.9
527A **Woodward Ranch** 67.65 326 ⇑⇑P P 18 11 31.4 +0.2
baz=68,SNR=43
428A **Kincaid Ranch,** 67.67 327 ⇑P P 18 11 31.7 +0.5
baz=68,SNR=31
526A **Mary Lane Ranc** 67.82 325 ⇓P P 18 11 33.0 +0.8
baz=68,SNR=111
ABTX **Abilene, Hawle** 67.86 330 ⇓P P 18 11 32.3 0.0
baz=68,SNR=21
230A **Sterling City** 67.90 329 ⇑P P 18 11 32.3 -0.3
baz=68,SNR=8.8
329A **Wagon Wheel Ra** 67.97 328 ⇓P P 18 11 33.2 +0.2
baz=68,SNR=35
427A **Hayter Ranch,** 68.12 326 ⇑P P 18 11 34.4 +0.4
baz=68,SNR=21
131A **Roby** 68.23 330 ⇑P P 18 11 34.8 +0.3
baz=68,SNR=36
328A **Wristen Ranch,** 68.27 327 ⇑P P 18 11 35.2 +0.3
baz=68,SNR=51
229A **Bryant Ranch,** 68.28 328 ⇓P P 18 11 34.8 -0.1
baz=69,SNR=7.0
426A **McDonald Obser** 68.29 326 ⇑P P 18 11 35.8 +0.6
baz=69,SNR=64
WCI **Wyandotte Cave** 68.30 343 eP P 18 11 33.4 -1.5
WCI e*PP pP 18 12 15.5 +0.3
WCI pmax pmax
comp=Z,14nm,0.4s
WCI **Wyandotte Cave** 68.30 343 eP P 18 11 33.4 -1.5
comp=Z,14nm,0.4s
WCI epP pP 18 12 15.5 +0.3
Z32A **Haskell** 68.37 331 ⇓P P 18 11 35.6 +0.2
baz=69,SNR=27
LIC **Lamto** 68.42 70 eP P 18 11 34.7 -1.4
comp=Z,23nm,0.4s,baz=250
LIC eR
comp=Z,243nm,19.2s
LIC **Lamto** 68.42 70 eP P 18 11 34.8 -1.4
comp=Z,42nm,0.4s
130A **Snyder** 68.42 329 ⇓P P 18 11 35.8 0.0
baz=69,SNR=37
SIUC **Southern Illin** 68.61 341 eP P 18 11 35.5 -1.2
comp=Z,60nm,0.9s
SIUC epP pP 18 12 17.4 +0.3
TIC **Toumodi** 68.65 70 eP P 18 11 36.3 -1.3
comp=Z,24nm,0.4s
Z31A **Sharp Cattle R** 68.67 330 ⇓P P 18 11 37.4 +0.1
baz=69,SNR=37
KIC **Kosan Boka** 68.73 70 eP P 18 11 36.9 -1.2
comp=Z,162nm,1.1s
228A **UT Block 9, Go** 68.78 328 ⇑P P 18 11 38.1 0.0
baz=69,SNR=35
326A **Caldwell Ranch** 68.79 326 ⇑P P 18 11 38.6 +0.4
baz=69,SNR=46
DBIC **Dimbokro** 68.80 70 ⇓iP P 18 11 37.0 -1.5
DBIC **Dimbokro** 68.80 70 P P 18 11 37.5 -1.0
DBIC pP pP 18 12 19.6 +0.7
DBIC **Dimbokro** 68.80 70 P P 18 11 37.5 -1.0
comp=Z,24nm,0.4s,baz=211,slow=6.5,SNR=122
DBIC pP pP 18 12 19.6 +0.7
comp=Z,17nm,0.7s,baz=219,slow=8.5,SNR=2.6
DBIC LR LR 18 41 22.7
comp=Z,221nm,18.4s,baz=208,slow=35
425A **Indio Mountain** 68.86 325 ⇓P P 18 11 38.8 +0.1
baz=69,SNR=53
129A **Stewart Farms,** 68.86 329 ⇑P P 18 11 38.5 -0.1
baz=69,SNR=12
Y32A **R-V Farms, Ver** 68.95 331 ⇑P P 18 11 39.1 +0.2
baz=69,SNR=16
227A **Bennet, Jal** 69.02 327 ⇓P P 18 11 40.3 +0.7
baz=69,SNR=16
Z30A **Sanderson Ranc** 69.08 330 ⇓P P 18 11 39.6 -0.2
baz=69,SNR=30
128A **Castleberry Fa** 69.14 328 ⇑P P 18 11 40.3 0.0
baz=69,SNR=36
TUL1 **Tulsa** 69.15 335 ⇓P P 18 11 39.8 -0.4
baz=70,SNR=12
BLO **Bloomington** 69.25 344 eP P 18 11 39.2 -1.4
BLO pmax pmax
comp=Z,17nm,0.3s
BLO **Bloomington** 69.25 344 eP P 18 11 39.2 -1.4
comp=Z,17nm,0.3s
Y31A **Rekieta Farm,** 69.27 331 ⇑P P 18 11 41.1 +0.1
baz=70,SNR=30
WMOK **Wichita Mounta** 69.30 332 eP P 18 11 37.2 -4.0
WMOK pmax pmax
comp=Z,18nm,0.4s
WMOK **Wichita Mounta** 69.30 332 eP P 18 11 37.2 -4.0
comp=Z,18nm,0.4s
Z29A **Hungry Hill Ra** 69.32 329 ⇑P P 18 11 40.9 -0.5
baz=70,SNR=22
325A **Bean Ranch, Si** 69.33 325 ⇓P P 18 11 41.6 0.0
baz=70,SNR=104
Y30A **Stafford Cattl** 69.47 330 ⇓P P 18 11 42.0 -0.3
baz=70,SNR=19
226B **Tecolote Peak,** 69.50 327 ⇑P P 18 11 43.2 +0.7
baz=70,SNR=55
127A **Arkansas Junct** 69.60 327 ⇓P P 18 11 43.3 +0.1
baz=70
BRYW **Bryant College** 69.61 356 eP P 18 11 43.5 +0.7
comp=Z,95nm,1.0s
BRYW epP pP 18 12 24.2 +0.9
324A **Moseley Ranch,** 69.64 325 ⇓P P 18 11 42.8 -0.7
baz=70,SNR=54
Z28A **Tucker Farm, M** 69.65 329 ⇓P P 18 11 43.0 -0.4
baz=70,SNR=27
X31A **McDonald Ranch** 69.71 331 ⇓P P 18 11 43.7 0.0
baz=70,SNR=42
MNTX **Cornudas Mount** 69.80 325 eP P 18 11 43.4 -0.8
comp=Z,27nm,1.0s
Y29A **Portield Fa** 69.81 329 ⇓P P 18 11 44.3 -0.1
baz=70,SNR=31
SYO **Syowa Base** 69.83 158 ⇑iP P 18 11 43.0 -0.9
SYO **Syowa Base** 69.83 158 ⇓iP P 18 11 47.8 +3.9
225A **Deer Hill, Car** 69.85 326 ⇑P P 18 11 44.8 0.0
baz=70,SNR=30
126A **Clayton Basin,** 69.89 327 ⇓P P 18 11 45.2 +0.3
baz=70,SNR=21
SBA **Scott Base** 69.93 190 eP P 18 11 45.9 +1.4
SBA pmax pmax
comp=Z,202nm,1.7s
SBA **Scott Base** 69.93 190 eP P 18 11 45.9 +1.4
comp=Z,202nm,1.7s
X30A **Coker Ranch, T** 69.94 330 ⇓P P 18 11 44.9 -0.2
baz=70,SNR=21
Z27A **Tatum** 70.06 328 ⇑P P 18 11 45.6 -0.3
baz=70,SNR=46
Y28A **McKinney Farm,** 70.11 329 ⇓P P 18 11 45.8 -0.4
baz=70
W31A **Holland Ranch,** 70.17 331 ⇑P P 18 11 46.2 -0.3
baz=70,SNR=7.7
HRV **Adam Dziewonsk** 70.19 356 eP P 18 11 46.0 -0.4
HRV e*PP pP 18 12 27.9 +1.0
HRV pmax pmax
comp=Z,66nm,1.1s
HRV **Adam Dziewonsk** 70.19 356 eP P 18 11 46.0 -0.4
comp=Z,66nm,1.1s
HRV epP pP 18 12 27.9 +1.0
125A **Gardner Draw,** 70.21 327 ⇓⇓P P 18 11 46.5 -0.4
baz=70,SNR=50
BINY **Binghamton** 70.27 353 eP P 18 11 46.1 -0.8
comp=Z,85nm,1.3s
BINY epP pP 18 12 28.5 +1.0

ALLY **Alegheny Colle** 70.31 349 eP P 18 11 46.5 -0.6
comp=Z,85nm,1.1s
ALLY epP pP 18 12 28.2 +0.6
X29A **Tulia** 70.31 330 ⇑⇑P P 18 11 47.3 -0.1
baz=71,SNR=9.5
Z26A **Caprock** 70.39 327 ⇓P P 18 11 48.1 +0.2
baz=71,SNR=82
MSTX **Muleshoe** 70.40 329 ⇑P P 18 11 48.0 0.0
baz=71,SNR=19
W30A **Crocket Farms** 70.44 331 ⇑P P 18 11 48.1 0.0
baz=71
Y27A **Causey** 70.51 328 ⇑P P 18 11 48.4 -0.3
baz=71,SNR=20
SFIN **Scholer Farm** 70.53 344 ⇓P P 18 11 46.9 -1.5
baz=71,SNR=15
223A **Chaparral, Ant** 70.57 325 ⇑P P 18 11 49.5 +0.4
baz=71
X28A **Dimmitt** 70.59 329 ⇓P P 18 11 49.2 0.0
baz=71
V31A **Spring Creek L** 70.63 332 ⇓P P 18 11 50.0 +0.7
baz=71,SNR=21
124A **Stringfield Ra** 70.64 326 ⇓P P 18 11 50.0 +0.4
baz=71,SNR=48
AMTX **Amarillo** 70.67 330 eP P 18 11 49.0 -0.6
comp=Z,94nm,1.2s
Z25A **Roswell** 70.75 327 ⇓P P 18 11 50.0 -0.1
baz=71,SNR=24
Y26A **Elida** 70.85 328 ⇓P P 18 11 50.6 -0.1
baz=71,SNR=11
W29A **Amraillo** 70.85 330 ⇓P P 18 11 50.6 -0.1
baz=71
VNDA **Vanda** 70.93 190 P P 18 11 52.3 +1.8
VNDA **Vanda** 70.93 190 P P 18 11 52.3 +1.8
comp=Z,42nm,0.9s,baz=140,slow=5.0,SNR=100
V30A **Spur Ranch, Mi** 70.98 331 ⇓P P 18 11 52.3 +0.8
baz=71
123A **Bell Site, Whi** 70.99 325 ⇑P P 18 11 52.2 +0.6
baz=71
222A **Williams Famil** 71.00 324 ⇓P P 18 11 52.7 +1.0
baz=71,SNR=36
Z24A **Sheeppen Canyo** 71.10 326 ⇑P P 18 11 52.8 +0.4
baz=71,SNR=45
X27A **F and S Farms,** 71.11 329 ⇓P P 18 11 52.1 -0.2
baz=71,SNR=5.2
320A **Kipp Ranch, An** 71.14 323 ⇓P P 18 11 53.6 +1.1
baz=71,SNR=31
U31A **Nine Bar Ranch** 71.15 332 ⇑P P 18 11 52.7 +0.4
baz=71
FFD **Franklin Falls** 71.16 356 eP P 18 11 52.8 +0.6
comp=Z,68nm,1.0s
W28A **Vega** 71.22 330 ⇓P P 18 11 53.2 +0.4
baz=72,SNR=9.9
ACCN **Adirondack Com** 71.22 355 eP P 18 11 52.6 +0.1
comp=Z,7.3nm,0.8s
221A **Mesquite Ranch** 71.27 324 ⇑P P 18 11 54.5 +1.2
baz=72,SNR=9.5
HDIL **Hopedale** 71.27 342 eP P 18 11 51.7 -1.2
comp=Z,47nm,0.3s
X26A **CR and CF Fran** 71.36 328 ⇑P P 18 11 54.2 +0.4
baz=72,SNR=57
122A **Conniff Cattle** 71.42 325 ⇑P P 18 11 55.6 +1.4
baz=72
V29A **Stinnett** 71.43 331 ⇑P P 18 11 54.4 +0.2
baz=72
HNH **Hanover** 71.43 356 eP P 18 11 54.8 +1.0
comp=Z,150nm,1.2s
HNH epP pP 18 12 36.5 +2.0
W27A **Bowe Ranch, En** 71.44 329 ⇑⇑P P 18 11 54.4 +0.1
baz=72,SNR=13
Z23A **Rita Site, Whi** 71.48 326 ⇑P P 18 11 55.7 +1.2
baz=72,SNR=22
319A **Douglas** 71.58 322 ⇓P P 18 11 56.3 +1.2
baz=72,SNR=20
220A **Playas Peak, P** 71.58 323 ⇑P P 18 11 56.1 +0.9
baz=72,SNR=46
U30A **WK&E Inc. Balk** 71.62 332 ⇑P P 18 11 55.6 +0.4
baz=72
Y24A **Capitan** 71.62 327 ⇑P P 18 11 55.7 +0.2
baz=72,SNR=9.6
V28A **Channing** 71.64 330 ⇑P P 18 11 55.8 +0.4
baz=72,SNR=12
121A **Cookes Peak, D** 71.69 324 ⇓P P 18 11 57.1 +1.3
baz=72,SNR=43
T31A **Randall Ranch,** 71.70 333 ⇑P P 18 11 56.0 +0.3
baz=72
X25A **Clemmons Ranch** 71.74 328 ⇑P P 18 11 56.0 -0.1
baz=72,SNR=31
W26A **Owens Ranch, T** 71.78 329 ⇑P P 18 11 56.9 +0.6
baz=72,SNR=22
U29A **Oasis Ranch, S** 71.81 331 ⇑P P 18 11 56.8 +0.4
baz=72
Z22A **Elephant Butte** 71.84 325 ⇑P P 18 11 58.0 +1.3
baz=72,SNR=63
NCB **Newcomb** 71.85 354 eP P 18 11 56.4 0.0
comp=Z,3.1nm,0.3s
V27A **Dan Oppiter Fa** 71.91 330 ⇓P P 18 11 57.4 +0.4
baz=72
Y23A **Lovelace Mesa,** 71.93 326 ⇑P P 18 11 58.1 +0.8
baz=72,SNR=28
LBNH **Lisbon** 71.94 356 eP P 18 11 57.6 +0.7
LBNH e*PP pP 18 12 38.5 +0.9
LBNH pmax pmax
comp=Z,77nm,1.4s
LBNH **Lisbon** 71.94 356 eP P 18 11 57.6 +0.7
comp=Z,77nm,1.4s
LBNH epP pP 18 12 38.5 +0.9
T30A **Plains** 72.01 332 ⇑⇑P P 18 11 57.9 +0.3
baz=72
KOMG **Komaggas** 72.03 115 ⇓iP P 18 11 58.8 +0.8
KOMG AMB AMB 18 11 58.9
comp=Z,132nm,1.4s
S31A **Mullinville** 72.07 333 ⇑P P 18 11 58.2 +0.3
baz=72,SNR=5.1
X24A **Lazy VL Ranch,** 72.14 327 ⇓P P 18 11 58.9 +0.4
baz=72
120A **U Bar Ranch, L** 72.14 324 ⇓P P 18 11 59.8 +1.3
baz=72,SNR=36
WVL **Waterville** 72.16 358 eP P 18 11 58.5 +0.4
comp=Z,149nm,1.4s
WVL epP pP 18 12 40.1 +1.2
U28A **Mallet** 72.16 330 ⇑⇑P P 18 11 58.7 +0.1
baz=72,SNR=7.6
W25A **X Bar L Ranch,** 72.21 328 ⇓P P 18 11 59.0 +0.2
baz=72,SNR=42
Z21A **St. Cloud Mine** 72.24 325 ⇓P P 18 12 00.4 +1.2
baz=72,SNR=11
KSU1 **Kansas State U** 72.27 336 eP P 18 11 58.4 -0.6
comp=Z,36nm,0.4s
V26A **Tequesquite Ra** 72.38 329 ⇓P P 18 11 59.9 +0.1
baz=73,SNR=14
Y22A **Socorro** 72.38 326 ⇓P P 18 12 00.8 +0.8
baz=73,SNR=5.6
BNM **Barren Site** 72.39 326 eP P 18 12 00.8 +0.8
comp=Z,33nm,1.2s
T29A **Hugoton** 72.42 332 ⇑P P 18 12 00.2 +0.2
baz=73
U27A **Thompson Grove** 72.46 330 ⇑P P 18 12 00.5 +0.2
baz=73,SNR=8.6
Y22D **IRIS PASSCAL I** 72.47 326 ⇑P P 18 12 01.8 +1.4
baz=73
S30A **Montezuma** 72.49 332 ⇓P P 18 12 00.6 +0.2
baz=73,SNR=5.2
X23A **Hourglass Bar** 72.52 327 ⇓P P 18 12 01.9 +1.1
baz=73,SNR=6.8
LPM **Los Pinos Moun** 72.52 326 eP P 18 12 01.6 +0.8
comp=Z,19nm,0.9s
LONY **Lake Ozonia** 72.52 354 eP P 18 11 59.5 -0.8
comp=Z,44nm,1.0s
LONY epP pP 18 12 41.6 +0.5
Z20A **Nine Sixteen R** 72.56 324 ⇓P P 18 12 02.3 +1.2
baz=73,SNR=20
LENM **Lemitar** 72.57 326 eP P 18 12 02.2 +1.2
comp=Z,18nm,1.1s
W24A **Lazy 6 Ranch,** 72.65 328 ⇓P P 18 12 02.0 +0.4
baz=73,SNR=24
FRNY **Flat Rock** 72.65 355 eP P 18 12 01.1 +0.1
comp=Z,60nm,1.0s
FRNY epP pP 18 12 42.5 +0.7
T28A **Walsh** 72.74 331 ⇓P P 18 12 01.8 -0.1
baz=73,SNR=12
S29A **Ulysses** 72.74 332 ⇓P P 18 12 02.4 +0.6
baz=73,SNR=11
V25A **Rancho No Teng** 72.79 328 ⇓P P 18 12 02.8 +0.5
baz=73,SNR=41
Y21A **Point of Rocks** 72.80 325 ⇓P P 18 12 03.9 +1.4
baz=73,SNR=29
LAZ **Ladron** 72.84 326 eP P 18 12 03.7 +1.0
comp=Z,25nm,1.3s

PKME **Peaks-Kenny Pk** 72.85 358 *e*P P 18 12 02.6 +0.5
comp=Z,60nm,1.0s
PKME *e*pP pP 18 12 43.4 +0.4
U26A **Atchley Ranch,** 72.85 329 ⇓P P 18 12 03.0 +0.4
baz=73,SNR=24
X22A **Bernardo** 72.86 326 ⇑P P 18 12 04.2 +1.5
baz=73,SNR=12
MSNY **Massena** 72.92 354 *e*P P 18 12 03.0 +0.4
comp=Z,453nm,1.1s
MSNY *e*pP pP 18 12 44.8 +1.3
ANMO **Albuquerque** 72.94 327 *e*P P 18 12 03.9 +0.6
comp=Z,67nm,1.2s
ANMO *e*pP pP 18 12 47.4 +3.3
T27A **Campo** 72.95 331 ⇑P P 18 12 03.4 +0.3
baz=73,SNR=21
R30A **Dighton** 72.96 333 ⇓P P 18 12 03.5 +0.3
baz=73
W23A **Werner Place,** 72.96 327 ⇑P P 18 12 04.4 +1.0
baz=73,SNR=17
V24A **Rampart Ranch,** 73.00 328 ⇑P P 18 12 04.1 +0.4
baz=73,SNR=18
S28A **Manter** 73.04 331 ⇑P P 18 12 04.0 +0.3
baz=73,SNR=11
Y20A **Horse Springs,** 73.07 325 ⇓P P 18 12 05.3 +1.2
baz=73,SNR=47
TUC **Tucson** 73.11 322 *e*P P 18 12 04.7 +0.5
TUC *e**PP pP 18 12 47.8 +2.8
TUC pmax pmax
comp=Z,45nm,1.3s
TUC **Tucson** 73.11 322 *e*P P 18 12 04.7 +0.5
comp=Z,45nm,1.3s
TUC *e*pP pP 18 12 47.8 +2.8
U25A **Circle Dot Ran** 73.16 329 ⇓P P 18 12 05.0 +0.6
baz=73,SNR=42
X21A **Alamocita Cree** 73.20 325 ⇓P P 18 12 06.2 +1.3
baz=74,SNR=44
SADO **Sadowa** 73.20 351 LR LR 18 46 18.7
comp=Z,146nm,20.7s,baz=146,slow=37
Q31A **Ellis** 73.23 334 ⇓P P 18 12 05.2 +0.5
baz=74,SNR=6.3
W22A **Albuquerque** 73.24 326 ⇑P P 18 12 06.3 +1.3
baz=74
TBI **Tubuai** 73.41 252 *e*S S 18 21 22.6 +0.9
comp=Z,339nm,29.2s
T26A **Comanche Natio** 73.43 330 ⇓P P 18 12 06.7 +0.6
baz=74,SNR=37
R29A **Marienthal** 73.43 332 ⇓P P 18 12 06.3 +0.4
baz=74
V23A **Ortiz Mt. (NFS** 73.45 327 ⇓P P 18 12 07.4 +1.2
baz=74,SNR=7.2
S27A **Las Animas** 73.55 331 ⇓P P 18 12 06.9 +0.2
baz=74,SNR=11
U24A **Moreno Valley** 73.56 328 ⇑P P 18 12 08.1 +1.1
baz=74
R28A **Tribune** 73.64 332 ⇑P P 18 12 07.4 +0.3
baz=74,SNR=5.5
W21A **San Fidel** 73.66 326 ⇓P P 18 12 08.7 +1.2
baz=74,SNR=8.3
P31A **Stockton** 73.67 334 ⇓P P 18 12 07.7 +0.5
baz=74,SNR=14
SUR **Sutherland** 73.68 118 *e*P P 18 12 08.8 +0.9
comp=Z,124nm,0.8s
JFWS **Jewell Farm** 73.73 342 *e*P P 18 12 06.7 -0.7
JFWS pmax pmax
comp=Z,50nm,0.5s
JFWS **Jewell Farm** 73.73 342 *e*P P 18 12 06.7 -0.7
comp=Z,50nm,0.5s
S26A **Kim** 73.75 330 ⇓P P 18 12 08.7 +0.9
baz=74,SNR=59
T25A **Trinidad** 73.77 329 ⇑P P 18 12 09.1 +1.0
baz=74,SNR=36
U23A **El Rito** 73.93 328 ⇑P P 18 12 10.1 +1.1
baz=74,SNR=8.3
V22A **San Miguel Ran** 73.94 327 ⇓P P 18 12 10.6 +1.5
baz=74,SNR=50
214A **Organ Pipe Nat** 73.97 320 ⇑P P 18 12 10.5 +1.4
baz=74,SNR=25
T24A **Torres, Weston** 74.00 329 ⇓P P 18 12 10.8 +1.3
baz=74,SNR=31
R27A **Eads** 74.01 331 ⇑P P 18 12 09.5 +0.2
baz=74,SNR=12
P30A **Selden** 74.03 334 ⇑P P 18 12 09.7 +0.4
baz=74,SNR=6.4
W20A **Ramah** 74.09 325 ⇑P P 18 12 11.2 +1.2
baz=74,SNR=28
V21A **Milan** 74.20 326 ⇑P P 18 12 12.0 +1.3
baz=74,SNR=17
S25A **Robets Cordova** 74.21 330 ⇓P P 18 12 11.5 +0.9
baz=74,SNR=43
PQI **Presque Isle** 74.22 359 *e*P P 18 12 10.5 +0.3
comp=Z,94nm,1.0s
PQI *e*pP pP 18 12 52.1 +1.0
Q28A **Sharon Springs** 74.26 332 ⇑P P 18 12 11.4 +0.6
baz=75
U22A **Llaves** 74.28 327 ⇓P P 18 12 12.7 +1.6
baz=75,SNR=28
R26A **Arlington** 74.30 331 ⇑P P 18 12 11.7 +0.6
baz=75,SNR=27
P29A **Atwood** 74.35 333 ⇓P P 18 12 12.0 +0.8
baz=75,SNR=8.2
X18A **Snowflake** 74.37 324 ⇑P P 18 12 12.9 +1.3
baz=75,SNR=11
T23A **Casias Ranch,** 74.43 328 ⇑P P 18 12 12.9 +0.9
baz=75,SNR=10
MEH **Mehetia** 74.45 258 *e*P P 18 12 14.3 +2.0
comp=Z,192nm,1.2s
O30A **MW Ranch, Wils** 74.50 334 ⇓P P 18 12 12.7 +0.6
baz=75
S24A **Houchin Ranch,** 74.54 329 ⇑P P 18 12 13.9 +1.3
baz=75,SNR=42
R25A **Fountain Ranch** 74.54 330 ⇑P P 18 12 13.0 +0.6
baz=75,SNR=13
KSCO **Kaye Shedlock'** 74.55 332 ⇓P P 18 12 13.3 +0.8
baz=75
WIN **Windhoek** 74.55 108 ⇓*i*P P 18 12 12.0 -1.0
WIN AMB AMB 18 12 13.7
comp=Z,19nm,1.2s
V20A **Brimhall** 74.61 326 ⇑P P 18 12 13.9 +1.0
baz=75,SNR=16
P28A **Saint Francis** 74.66 333 ⇓P P 18 12 13.8 +0.8
baz=75,SNR=11
U21A **Nageezi** 74.71 327 ⇑P P 18 12 14.7 +1.1
baz=75,SNR=52
W18A **Petrified Fore** 74.72 325 ⇓P P 18 12 14.6 +1.1
baz=75,SNR=7.7
O29A **4D Ranch, Culb** 74.75 334 ⇓P P 18 12 14.1 +0.7
baz=75
SDCO **Great Sand Dun** 74.76 329 *e*P P 18 12 14.6 +0.7
comp=Z,75nm,1.4s
T22A **Edith** 74.82 328 ⇓P P 18 12 15.5 +1.3
baz=75,SNR=37
Q26A **Hugo** 74.85 331 ⇓P P 18 12 15.2 +1.0
baz=75,SNR=9.9
BGNE **Belgrade** 74.86 336 ⇓P P 18 12 14.2 +0.2
baz=75,SNR=8.1
S23A **Nye Farm, Mont** 74.95 329 ⇑P P 18 12 16.0 +1.0
baz=75
R24A **Sanders Place,** 74.98 330 ⇑P P 18 12 16.1 +1.1
baz=75
P27A **Ficken Ranch,** 74.99 332 ⇓P P 18 12 15.7 +0.7
baz=75,SNR=5.1
N30A **Hueftle Ranch,** 75.05 334 ⇑P P 18 12 15.8 +0.6
baz=75
X16A **Lo Mia Camp, P** 75.07 323 ⇑P P 18 12 17.0 +1.3
baz=75,SNR=18
U20A **Newcomb** 75.09 326 ⇓P P 18 12 16.6 +0.9
baz=75,SNR=12
Z14A **Wintersburg** 75.09 321 ⇑P P 18 12 16.4 +0.8
baz=75
T21A **Navajo Lake** 75.10 327 ⇑P P 18 12 16.8 +1.0
baz=75,SNR=11
113A **Mohawk Valley,** 75.11 320 ⇓P P 18 12 16.6 +1.0
baz=75,SNR=14
O28A **Krutsinger Ran** 75.14 333 ⇑P P 18 12 16.5 +0.7
baz=75
Q25A **Bedland, Calha** 75.16 331 ⇓P P 18 12 16.6 +0.5
baz=76,SNR=8.7
R23A **Moffat** 75.27 329 ⇑P P 18 12 17.7 +0.9
baz=76,SNR=11
N29A **Votaw Ranch, W** 75.28 334 ⇑P P 18 12 17.2 +0.7
baz=76
P26A **Davis Ranch, A** 75.31 331 ⇑P P 18 12 17.5 +0.7
baz=76,SNR=8.8
S22A **4UR Ranch, Cre** 75.37 328 ⇓P P 18 12 18.2 +0.8
baz=76,SNR=15
O27A **Beecher Island** 75.48 332 ⇑P P 18 12 18.7 +1.0
baz=76,SNR=13
PMOR **Pomariorio Ree** 75.51 261 *e*P P 18 12 20.5 +2.2
comp=Z,125nm,1.2s
TVO **Taravao** 75.51 257 *e*P P 18 12 19.7 +1.3
comp=Z,179nm,1.2s
N28A **Pribbeno Ranch** 75.52 333 ⇑P P 18 12 18.5 +0.5
baz=76,SNR=7.4
Y14A **Wickenburg** 75.56 322 ⇑P P 18 12 19.3 +1.0
baz=76,SNR=23
Q24A **Divide** 75.60 330 ⇓P P 18 12 19.7 +1.0
baz=76
M30A **Dale-Ortello V** 75.61 335 ⇓P P 18 12 19.1 +0.7
baz=76,SNR=17
P25A **Willow Gulch B** 75.62 331 ⇓P P 18 12 19.9 +1.2
baz=76,SNR=20
TIAR **Tiarei** 75.69 258 *e*P P 18 12 21.4 +2.0
comp=Z,51nm,0.9s
R22A **Saguache, Gunn** 75.73 328 ⇓P P 18 12 20.5 +1.1
baz=76
MVCO **Mesa Verde** 75.74 327 *e*P P 18 12 19.5 0.0
comp=Z,92nm,1.3s
MVCO **Mesa Verde** 75.74 327 ⇓P P 18 12 20.4 +0.9
baz=76,SNR=18
S21A **Coal Bank Pass** 75.76 327 ⇓P P 18 12 20.7 +1.1
baz=76,SNR=37
M29A **Burnside Ranch** 75.84 334 ⇑P P 18 12 20.3 +0.6
baz=76,SNR=7.8
PAE **Paea** 75.85 257 *e*P P 18 12 22.4 +2.2
comp=Z,21nm,1.0s
Q23A **Hartsel** 75.86 329 ⇓P P 18 12 20.8 +0.6
baz=76
O26A **Horse Wrangler** 75.87 332 ⇓P P 18 12 21.1 +1.1
baz=76,SNR=12
WUAZ **Wupatki** 75.87 324 *e*P P 18 12 21.2 +1.1
comp=Z,70nm,1.1s
WUAZ *e*pP pP 18 13 04.9 +3.6
WUAZ **Wupatki** 75.87 324 ⇓P P 18 12 21.6 +1.4
baz=76
PPT2 **Papeete2** 75.88 257 *e*P P 18 12 22.8 +2.3
comp=Z,132nm,1.1s
PPT2 **Papeete2** 75.88 257 *e*PP PP 18 15 12.2 -0.8
comp=Z,202nm,31.8s
PPT2 *e*S S 18 21 49.5 +0.1
comp=Z,404nm,26.2s
PPT2 **Papeete2** 75.88 257 *e*LR LR 18 36 03.6
comp=Z,304nm,23.5s
PPT **Papeete** 75.88 257 P P 18 12 22.9 +2.5
PPT **Papeete** 75.88 257 P P 18 12 22.9 +2.5
comp=Z,99nm,0.8s,baz=119,slow=19,SNR=7.2
PPT LR LR 18 36 57.4
comp=Z,263nm,22.0s,baz=359,slow=28
GLA **Glamis** 75.92 320 *e*P P 18 12 21.0 +0.7
GLA pmax pmax
comp=Z,83nm,1.5s
GLA **Glamis** 75.92 320 *e*P P 18 12 21.0 +0.7
comp=Z,83nm,1.5s
GLA **Glamis** 75.92 320 ⇓P P 18 12 21.4 +1.1
baz=76,SNR=11
OGNE **Ogallala** 75.94 333 *e*P P 18 12 20.5 +0.3
comp=Z,57nm,1.0s
OGNE **Ogallala** 75.94 333 ⇓P P 18 12 20.9 +0.7
baz=76
P24A **Kohler Place,** 75.94 330 ⇓P P 18 12 21.4 +1.0
baz=76
BUFB **Buffelsbos** 76.00 121 *e*P P 18 12 21.6 +0.8
BUFB AMB AMB 18 12 22.7
comp=Z,74nm,1.0s
N27A **Anderson Farm,** 76.02 333 ⇑P P 18 12 21.6 +0.8
baz=76,SNR=8.2
M28A **Bar X Bar Ranc** 76.06 334 ⇑P P 18 12 22.0 +1.0
baz=76,SNR=5.4
O25A **Wiggins** 76.10 331 ⇑P P 18 12 22.7 +1.4
baz=76,SNR=12
S20A **Disappointment** 76.17 327 ⇑P P 18 12 23.2 +1.4
baz=76,SNR=31
R21A **Cimarron** 76.21 328 ⇓P P 18 12 23.2 +1.1
baz=76,SNR=20
P23A **Jefferson** 76.24 330 ⇓P P 18 12 23.4 +1.1
baz=76,SNR=10
Y12C **Blythe** 76.26 321 ⇑P P 18 12 23.5 +1.3
baz=76,SNR=11
L29A **Maesberg Ranch** 76.29 335 ⇓P P 18 12 22.9 +0.7
baz=77,SNR=8.5
Q22A **Crested Butte,** 76.31 329 ⇑P P 18 12 23.9 +1.2
baz=77,SNR=14
N26A **Koester Ranch,** 76.32 332 ⇓P P 18 12 23.5 +1.0
baz=77,SNR=9.9
TSUM **Tsumeb** 76.36 105 ⇓*i*P P 18 12 23.1 -0.2
DVTC **Desert V Tower** 76.37 319 ⇓P P 18 12 24.1 +1.2
baz=77
ECSD **EROS Data Cent** 76.39 338 *e*P P 18 12 21.9 -0.7
comp=Z,38nm,0.4s
ECSD *e*pP pP 18 13 03.5 -0.3
SWSC **Sam W. Stewart** 76.40 319 ⇑P P 18 12 24.1 +1.2
baz=77
COWI **Conover** 76.42 344 *e*P P 18 12 22.3 -0.4
comp=Z,17nm,0.6s
PDMCI **Parker Dam,Lak** 76.45 321 ⇓P P 18 12 24.2 +1.0
baz=77,SNR=6.5
R20A **Redvale** 76.46 327 ⇓P P 18 12 24.8 +1.4
baz=77,SNR=9.4
ISCO **Idaho Springs** 76.49 330 *e*P P 18 12 24.2 +0.5
ISCO pmax pmax
comp=Z,54nm,1.2s
ISCO **Idaho Springs** 76.49 330 *e*P P 18 12 24.2 +0.5
comp=Z,54nm,1.2s
ISCO **Idaho Springs** 76.49 330 ⇓P P 18 12 24.5 +0.8
baz=77
PV01 **Paradox Valley** 76.51 327 *e*P P 18 12 24.3 +0.5
comp=Z,6μm,1.4s
O24A **Longmont** 76.52 331 ⇓P P 18 12 24.4 +0.8
baz=77
SPMN **St. Paul** 76.57 341 ⇓P P 18 12 22.9 -0.7
baz=77,SNR=24
M27A **Reverse DX Ran** 76.57 333 ⇑P P 18 12 24.7 +0.9
baz=77
Q21A **Lamborn Mesa,** 76.59 328 ⇓P P 18 12 25.2 +1.0
baz=77
SMCO **Snowmass** 76.59 329 *e*P P 18 12 25.2 +0.8
comp=Z,77nm,1.2s
L28A **Connealy Angus** 76.64 334 ⇑P P 18 12 25.2 +1.0
baz=77,SNR=7.5
N25A **Grover** 76.67 332 ⇓P P 18 12 25.6 +1.1
baz=77
BC3 **Big Chuckawall** 76.72 320 ⇑P P 18 12 25.9 +1.1
baz=77
BAR **Barrett** 76.72 318 *e*P P 18 12 25.4 +0.6
comp=Z,88nm,1.5s
MONP **Monument Peak** 76.72 319 ⇑P P 18 12 26.1 +1.1
baz=77
M26A **McRoberts Ranc** 76.83 333 ⇑P P 18 12 26.2 +0.9
baz=77
K29A **Lazy Trails An** 76.83 335 ⇓P P 18 12 25.9 +0.6
baz=77,SNR=15
P22A **Eagle** 76.83 329 ⇑P P 18 12 26.6 +1.0
baz=77,SNR=13
W13A **Hualapai Mount** 76.90 322 ⇑P P 18 12 27.3 +1.3
baz=77
IRM **Iron Mountain** 76.91 320 ⇑P P 18 12 26.9 +1.1
baz=77,SNR=28
O23A **Lake Granby, G** 76.96 330 ⇑P P 18 12 27.5 +1.2
baz=77,SNR=11
L27A **T5 Ranch, Ells** 77.02 334 ⇑P P 18 12 27.4 +1.1
baz=77,SNR=20
N24A **Carr** 77.02 331 ⇓P P 18 12 27.6 +1.1
baz=77
Q20A **Ridgley Place,** 77.03 328 ⇓P P 18 12 27.2 +0.6
baz=77,SNR=10
U15A **North Rim** 77.05 324 ⇑P P 18 12 28.4 +1.5
baz=77
NEE2 **Needles Airpor** 77.06 321 ⇓P P 18 12 27.6 +0.9
baz=77
P21A **Newcastle** 77.09 329 ⇑P P 18 12 28.2 +1.2
baz=77,SNR=31
109C **Camp Elliot, M** 77.12 318 ⇓P P 18 12 27.8 +0.8
baz=77
K28A **Ten Mile Ranch** 77.19 335 ⇓P P 18 12 28.3 +1.1
baz=78,SNR=13
O22A **Kremmling** 77.20 330 ⇑P P 18 12 28.2 +0.6
baz=78,SNR=28
PFO **Pinyon Flat Ob** 77.26 319 *e*P P 18 12 28.6 +0.7
comp=Z,40nm,1.1s
PFO **Pinyon Flat Ob** 77.26 319 ⇑P P 18 12 29.1 +1.2
baz=78
BELC **Belle Mtn. Jos** 77.28 320 ⇑P P 18 12 29.1 +1.1
baz=78
L26A **Underwood Farm** 77.28 333 ⇓P P 18 12 28.6 +0.8
baz=78
P20A **De Beque** 77.51 328 ⇑P P 18 12 30.4 +1.2
baz=78,SNR=18
K27A **Flueckinger Fa** 77.51 334 ⇑P P 18 12 30.0 +0.9
baz=78,SNR=7.2
M24A **Cheyenne** 77.52 332 ⇑P P 18 12 30.4 +1.2
baz=78,SNR=9.6
N23A **Red Feather La** 77.53 331 ⇑P P 18 12 30.3 +0.9
baz=78,SNR=20
LDFC **Landfair** 77.56 321 *e*P P 18 12 31.1 +1.6
comp=Z,22nm,0.5s
MAW **Mawson** 77.65 162 P P 18 12 30.3 +0.9
MAW **Mawson** 77.65 162 P P 18 12 30.3 +0.9
comp=Z,157nm,0.9s,baz=216,slow=6.2,SNR=395
GMRC **Granite Mounta** 77.65 321 ⇓P P 18 12 31.4 +1.3
baz=78
PHWY **Pilot Hill** 77.65 331 *e*P P 18 12 30.7 +0.5
comp=Z,65nm,1.3s
O21A **Pagoda** 77.66 329 ⇓P P 18 12 31.5 +1.3
baz=78,SNR=17
N22A **Wattenberg Ran** 77.68 330 ⇑P P 18 12 31.5 +1.2
baz=78,SNR=26
GRM **Grahamstown** 77.68 121 ⇓*i*P P 18 12 30.8 +0.4
GRM AMB AMB 18 12 31.8
comp=Z,283nm,1.0s
MURC **Murrieta** 77.69 319 ⇓P P 18 12 31.3 +1.2
baz=78
TOA0 **Torodi Ar. Sit** 77.72 68 *e*P P 18 12 29.8 -0.9
TORD **Torodi Ar. Bea** 77.72 68 P P 18 12 30.0 -0.7
TORD pP pP 18 13 13.1 +1.1
TORD PP PP 18 15 32.9 +4.2
TORD ScS S 18 22 04.7 -4.5
TORD PKKPbc PKKPbc 18 31 33.0 +1.7
TORD **Torodi Ar. Bea** 77.72 68 P P 18 12 30.0 -0.7
comp=Z,78nm,0.8s,baz=257,slow=5.5,SNR=318
TORD pP pP 18 13 13.1 +1.1
comp=Z,20nm,0.8s,baz=254,slow=5.2,SNR=2.2
TORD PP PP 18 15 32.9 +4.2
comp=Z,17nm,1.1s,baz=247,slow=7.5,SNR=3.9
TORD ScS S 18 22 04.7 -4.5
comp=Z,3.4nm,1.0s,baz=238,slow=9.6,SNR=6.2
TORD PKKPbc PKKPbc 18 31 33.0 +1.7
comp=Z,0.3nm,0.3s,baz=52,slow=2.3,SNR=8.1
TORD LR LR 18 46 04.8
comp=Z,307nm,19.4s,baz=215,slow=35
L25A **Engebretsen Ra** 77.74 333 ⇓P P 18 12 31.5 +1.1
baz=78
J28A **Allard Ranch,** 77.74 335 ⇓P P 18 12 30.8 +0.5
baz=78,SNR=20
BRSD **Miller** 77.81 337 ⇑P P 18 12 30.2 -0.3
baz=78,SNR=5.4
K26A **Motz Farm, Whi** 77.88 333 ⇑P P 18 12 31.9 +0.8
baz=78,SNR=6.4
J27A **Elkhorn Farm,** 77.89 334 ⇑P P 18 12 32.2 +1.0
baz=78,SNR=12
P19A **Cripple Cowboy** 77.89 328 ⇓P P 18 12 32.6 +1.2
baz=78,SNR=77
M23A **Laramie** 77.90 331 ⇓P P 18 12 32.2 +0.8
baz=78,SNR=5.6
O20A **White River Ci** 77.94 329 ⇓P P 18 12 32.7 +1.1
baz=78,SNR=27
BBRC **Big Bear Solar** 78.00 319 ⇑P P 18 12 33.3 +1.1
baz=78
L24A **Wheatland** 78.04 332 ⇑P P 18 12 32.9 +0.8
baz=78
SCI **San Clemente I** 78.04 317 ⇓P P 18 12 33.0 +0.9
baz=78
HVD **Gariep Dam** 78.06 118 ⇓*i*P P 18 12 33.6 +0.9
HVD AMB AMB 18 12 34.2
comp=Z,313nm,1.0s
HEC **Hector,Ludlow** 78.07 320 ⇓P P 18 12 33.7 +1.4
baz=78
K25A **Mack Ranch, Ha** 78.08 333 ⇓P P 18 12 33.4 +1.1
baz=78
N21A **Black Mountain** 78.12 329 ⇓P P 18 12 33.9 +1.3
baz=78,SNR=23
I28A **Midland** 78.21 335 ⇓P P 18 12 32.9 +0.1
baz=78,SNR=20
SRU **San Rafael** 78.22 327 *e*P P 18 12 33.5 +0.3
SRU *e**PP pP 18 13 17.3 +2.8
SRU pmax pmax
comp=Z,81nm,1.1s
SRU **San Rafael** 78.22 327 *e*P P 18 12 33.5 +0.3
comp=Z,81nm,1.1s
SRU *e*pP pP 18 13 17.2 +2.8
M22A **Cedar Creek Ra** 78.23 330 ⇓P P 18 12 34.2 +0.9
baz=78,SNR=5.6
CIS **Catalina Islan** 78.26 318 ⇓P P 18 12 34.3 +1.0
baz=78
TUQ **Turquoise Moun** 78.28 321 ⇓P P 18 12 34.6 +1.1
baz=78
J26A **Sides Ranch, S** 78.35 334 ⇓P P 18 12 34.6 +1.0
baz=79,SNR=33
Q16A **Castle Valley** 78.39 326 ⇓P P 18 12 35.1 +1.0
baz=79,SNR=16
BFSC **Mount Baldy Ra** 78.41 319 ⇑P P 18 12 35.0 +0.8
baz=79
FMP **Fort Macarthur** 78.41 318 ⇑P P 18 12 35.1 +1.0
baz=79
L23A **Garrett** 78.43 331 ⇑P P 18 12 34.8 +0.5
baz=79,SNR=12
CCUT **Cedar City** 78.46 324 *e*P P 18 12 35.6 +1.0
comp=Z,83nm,1.2s
CCUT *e*pP pP 18 13 17.9 +1.9
O19A **Miners Draw (B** 78.48 328 ⇑P P 18 12 35.5 +0.9
baz=79,SNR=36
RRX **Edison Barstow** 78.49 320 ⇑P P 18 12 35.7 +1.1
baz=79
N20A **Spence Gulch,** 78.51 329 ⇓P P 18 12 35.6 +0.8
baz=79,SNR=34
K24A **Anderson Ranch** 78.56 332 ⇑P P 18 12 36.0 +1.1
baz=79
MSU **Marysvale** 78.58 325 *e*P P 18 12 36.1 +0.9
MSU pmax pmax
comp=Z,54nm,1.2s
MSU **Marysvale** 78.58 325 *e*P P 18 12 36.0 +0.9
comp=Z,54nm,1.2s
MVU **Marysvale** 78.59 325 *e*P P 18 12 36.2 +0.9
comp=Z,68nm,1.2s
MVU *e*pP pP 18 13 18.9 +2.2
I27A **Quinn** 78.60 335 ⇓P P 18 12 35.4 +0.4
baz=79,SNR=7.7
MWC **Mount Wilson** 78.63 319 *e*P P 18 12 36.5 +0.9
MWC pmax pmax
comp=Z,90nm,1.6s
MWC **Mount Wilson** 78.63 319 *e*P P 18 12 36.5 +0.9
comp=Z,90nm,1.6s
SHPR **Sheep Range** 78.64 322 *e*P P 18 12 35.4 -0.1
comp=Z,94nm,1.6s
L22A **Ellis Ranch, M** 78.67 331 ⇑P P 18 12 36.8 +1.2
baz=79,SNR=7.6
ARUT **Antelope Range** 78.68 324 *e*P P 18 12 37.1 +1.4
ARUT pmax pmax
comp=Z,24nm,0.9s
ARUT **Antelope Range** 78.68 324 *e*P P 18 12 37.1 +1.4
comp=Z,24nm,0.9s
GSC **Goldstone** 78.68 320 *e*P P 18 12 36.5 +0.8
GSC pmax pmax
comp=Z,67nm,1.4s
GSC **Goldstone** 78.68 320 *e*P P 18 12 36.5 +0.8
comp=Z,67nm,1.4s
GSC **Goldstone** 78.68 320 ⇓P P 18 12 36.8 +1.1
baz=79
TMUT **Trail Mountain** 78.70 326 *e*P P 18 12 36.6 +0.6
comp=Z,58nm,1.2s
TMUT *e*pP pP 18 13 20.3 +2.9
J25A **Sunshine Ranch** 78.71 333 ⇓P P 18 12 36.5 +0.9
baz=79,SNR=10
EYMN **Ely** 78.72 343 *e*P P 18 12 34.7 -0.8
comp=Z,67nm,1.3s
EYMN *e*pP pP 18 13 14.9 -1.9
BOSA **Boshof** 78.72 116 ⇓*i*P P 18 12 36.3 0.0
BOSA AMB AMB 18 12 37.4
comp=Z,236nm,1.1s
BOSA **Boshof** 78.72 116 P P 18 12 36.6 +0.3
BOSA PKKPbc PKKPbc 18 31 29.6 +0.9
BOSA **Boshof** 78.72 116 P P 18 12 36.6 +0.3
comp=Z,259nm,0.8s,baz=247,slow=4.7,SNR=274
BOSA PKKPbc PKKPbc 18 31 29.6 +0.9
comp=Z,7.8nm,1.1s,baz=63,slow=3.1,SNR=8.3
RWWY **Rawlins** 78.73 330 *e*P P 18 12 35.1 -0.9
comp=Z,137nm,1.1s
RWWY *e*pP pP 18 13 17.2 -0.2
M21A **Separation Pea** 78.73 330 ⇓P P 18 12 36.8 +0.8
baz=79,SNR=34
H28A **Mission Ridge** 78.74 336 ⇓P P 18 12 35.9 +0.2
baz=79,SNR=11
RUDU **RUNDU** 78.74 104 *e*P P 18 12 37.4 +0.9
RUDU AMB AMB 18 12 37.8
comp=Z,139nm,1.2s

DECC	Green Verdugo	78.81 319	⇓P	P	18 12 37.2	+0.8
	baz=79					
SHOC	Shoshone	78.81 321	⇑P	P	18 12 37.1	+0.8
	baz=79					
I26A	New Underwood	78.88 334	⇓P	P	18 12 36.9	+0.4
	baz=79					
K23A	Bowen Ranch, D	78.92 332	⇓P	P	18 12 37.8	+0.9
	baz=79,SNR=29					
J24A	Dixon Ranch, L	79.00 333	⇑P	P	18 12 38.6	+1.3
	baz=79,SNR=24					
M20A	Sweetwater, Wa	79.00 330	⇓P	P	18 12 38.3	+0.8
	baz=79,SNR=23					
L21A	Rawlins	79.02 330	⇓P	P	18 12 38.2	+0.7
	baz=79,SNR=80					
G28A	Parade	79.05 336	⇑P	P	18 12 37.7	+0.3
	baz=79,SNR=8.4					
EDW2	Edwards Air Fo	79.06 319	⇓P	P	18 12 38.2	+0.5
	baz=79					
H27A	Howes	79.09 335	⇑P	P	18 12 37.8	+0.2
	baz=79,SNR=30					
BLG	Laguna Peak	79.14 318	⇑P	P	18 12 38.6	+0.5
	baz=79					
I25A	Rochford	79.21 334	⇓P	P	18 12 39.3	+0.8
	baz=80,SNR=58					
K22A	Casper	79.21 331	⇑P	P	18 12 39.4	+0.8
	baz=80,SNR=26					
OSI	Osito Adit	79.30 319	⇓P	P	18 12 39.6	+0.6
	baz=80					
LRMC	Laurel Mountai	79.31 320	⇓P	P	18 12 39.9	+0.8
	baz=80					
H26A	Fairpoint	79.34 335	⇑P	P	18 12 38.9	-0.1
	baz=80,SNR=11					
SWZ	Schweizer	79.40 115	⇓iP	P	18 12 39.4	-0.6
SWZ			AMB	AMB	18 12 40.5	
	comp=Z,199nm,0.9s					
RSSD	Black Hills	79.41 334	eP	P	18 12 38.7	-0.9
RSSD			pmax	pmax		
	comp=Z,36nm,1.0s					
RSSD	Black Hills	79.41 334	eP	P	18 12 38.7	-0.9
	comp=Z,36nm,1.0s					
J23A	Dilts Ranch, B	79.42 332	⇓P	P	18 12 40.4	+0.8
	baz=80					
I24A	Kuemmerle Ranc	79.43 333	⇑P	P	18 12 40.2	+0.7
	baz=80,SNR=11					
M19A	Rock Springs	79.45 329	⇑P	P	18 12 40.5	+0.6
	baz=80,SNR=24					
MPU	Maple Canyon	79.46 326	eP	P	18 12 40.5	+0.6
	comp=Z,109nm,1.4s					
MPU			epP	pP	18 13 23.8	+2.4
L20A	Wamsutter	79.49 330	⇓P	P	18 12 40.8	+0.8
	baz=80,SNR=20					
K21A	Alcova	79.51 331	⇓P	P	18 12 41.1	+0.9
	baz=80,SNR=73					
FURC	Furnace Creek,	79.55 321	⇑P	P	18 12 41.3	+1.1
	baz=80					
DAU	Daniels Canyon	79.58 327	eP	P	18 12 41.5	+0.8
DAU			e*PP	pP	18 13 25.3	+3.1
DAU			pmax	pmax		
	comp=Z,87nm,1.2s					
DAU	Daniels Canyon	79.58 327	eP	P	18 12 41.5	+0.8
	comp=Z,87nm,1.2s					
DAU			epP	pP	18 13 25.3	+3.1
MPMC	Manual Prospec	79.61 320	⇑P	P	18 12 41.4	+0.6
	baz=80					
NLU	North Lily Min	79.63 326	eP	P	18 12 41.0	+0.1
	comp=Z,74nm,1.4s					
H25A	Fruitdale	79.66 334	⇓P	P	18 12 41.1	+0.4
	baz=80					
G27A	Dupree	79.67 336	⇓P	P	18 12 40.9	+0.1
	baz=80,SNR=35					
ARVC	Arvin	79.72 319	⇑P	P	18 12 42.0	+0.9
	baz=80					
SBC	Santa Barbara	79.76 318	⇑P	P	18 12 42.1	+0.8
	baz=80					
J22A	Midwest	79.82 332	⇑P	P	18 12 42.0	+0.2
	baz=80,SNR=30					
JLU	Jordanelle	79.82 327	eP	P	18 12 42.4	+0.4
	comp=Z,108nm,1.4s					
JLU			epP	pP	18 13 24.5	+1.1
I23A	Meade Ranch, G	79.85 333	⇑P	P	18 12 42.3	+0.5
	baz=80					
G26A	Maurine	79.85 335	⇑P	P	18 12 41.8	+0.1
	baz=80,SNR=19					
ISA	Isabella	79.89 319	eP	P	18 12 42.9	+0.7
ISA			pmax	pmax		
	comp=Z,41nm,1.3s					
ISA	Isabella	79.89 319	eP	P	18 12 42.9	+0.7
	comp=Z,41nm,1.3s					
ISA	Isabella	79.89 319	⇓P	P	18 12 43.2	+1.0
	baz=80					
K20A	Yellowstone Ra	80.01 330	⇓P	P	18 12 43.1	+0.3
	baz=80,SNR=29					
L19A	Farson	80.02 329	⇓P	P	18 12 43.8	+0.9
	baz=80,SNR=41					
G25A	Newell	80.07 335	⇑P	P	18 12 43.4	+0.5
	baz=80					
M17A	Scullys Gap (B	80.13 328	⇑P	P	18 12 43.7	+0.2
	baz=80,SNR=20					
F27A	Lemmon	80.13 336	⇑P	P	18 12 43.5	+0.3
	baz=80,SNR=31					
PKM	Peak Mountain	80.14 318	⇓P	P	18 12 44.7	+1.1
	baz=80					
H24A	Dirks Ranch, A	80.14 334	⇑P	P	18 12 43.6	+0.2
	baz=80,SNR=46					
J21A	Lysite	80.17 331	⇑P	P	18 12 44.2	+0.6
	baz=80,SNR=28					
DUG	Dugway	80.18 326	eP	P	18 12 44.1	+0.4
DUG			pmax	pmax		
	comp=Z,64nm,1.4s					
DUG	Dugway	80.18 326	eP	P	18 12 44.1	+0.4
	comp=Z,64nm,1.4s					
DUG	Dugway	80.18 326	⇓P	P	18 12 44.6	+0.8
	baz=80					
L18A	Fontenelle, Gr	80.19 329	⇓P	P	18 12 44.5	+0.7
	baz=80,SNR=42					
I22A	9 Mile Ranch,	80.21 332	⇓P	P	18 12 44.2	+0.4
	baz=80,SNR=44					
CWC	Cottonwood Cre	80.21 320	⇓P	P	18 12 44.8	+0.7
	baz=80					
GRAC	Grapevine Rang	80.22 321	⇑P	P	18 12 44.8	+1.0
	baz=80					
R11A	Troy Canyon, C	80.22 323	⇑P	P	18 12 45.2	+1.1
	baz=80					
AGMN	Agassiz Nation	80.24 341	eP	P	18 12 43.7	+0.1
	comp=Z,33nm,0.8s					
H23A	Clabaugh Cattl	80.32 333	⇑P	P	18 12 44.5	+0.2
	baz=81,SNR=6.3					
F26A	Lodgepole	80.35 335	⇓P	P	18 12 44.8	+0.5
	baz=81					
K19A	Absolon Red Bu	80.36 330	⇓P	P	18 12 45.0	+0.3
	baz=81,SNR=38					
VES	Vestal, Richgr	80.37 319	⇑P	P	18 12 45.7	+1.0
	baz=81					
E27A	Carson	80.44 336	⇓P	P	18 12 45.2	+0.4
	baz=81,SNR=15					
J20A	Shoshoni	80.45 331	⇑P	P	18 12 46.0	+0.9
	baz=81,SNR=43					
I21A	Big Trails, Te	80.48 331	⇑P	P	18 12 45.5	+0.2
	baz=81,SNR=74					
SMMC	Simmler	80.53 318	⇓P	P	18 12 46.7	+1.1
	baz=81					
LBTB	Lobatse	80.56 113	⇓iP	P	18 12 46.5	+0.3
LBTB			AMB	AMB	18 12 47.2	
	comp=Z,309nm,1.0s					
LBTB	Lobatse	80.56 113	eP	P	18 12 46.2	0.0
	comp=Z,295nm,0.8s					
G24A	Alzada	80.57 334	⇑P	P	18 12 45.9	+0.3
	baz=81					
BW06	Boulder Array	80.64 329	eP	P	18 12 46.3	+0.1
	comp=Z,50nm,1.0s					
BW06			epP	pP	18 13 27.9	+0.1
PDAR	Pinedale Array	80.64 329	P	P	18 12 46.4	+0.2
PDAR			pP	pP	18 13 29.8	+2.0
PDAR			PKKP	PKKPdf	18 31 15.2	-2.0
PDAR			PKKPbc	PKKPbc	18 31 24.9	-2.1
PDAR	Pinedale Array	80.64 329	P	P	18 12 46.4	+0.2
	comp=Z,13nm,0.5s,baz=125,slow=7.2,SNR=85					
PDAR			pP	pP	18 13 29.8	+2.0
	comp=Z,9.5nm,0.8s,baz=109,slow=4.6,SNR=4.0					
PDAR			PKKP	PKKPdf	18 31 15.2	-2.0
	comp=Z,0.3nm,0.4s,baz=180,slow=1.3,SNR=4.0					
PDAR			PKKPbc	PKKPbc	18 31 24.9	-2.1
	comp=Z,2.2nm,0.7s,baz=207,slow=0.3,SNR=14					
HWUT	Hardware Ranch	80.66 328	eP	P	18 12 46.2	-0.1
	comp=Z,82nm,1.0s					
HWUT			epP	pP	18 13 29.9	+2.0
F25A	Bowman	80.70 335	⇓P	P	18 12 46.6	+0.3
	baz=81					
SEK	Senekal	80.72 117	⇓iP	P	18 12 47.3	+0.2
SEK			AMB	AMB	18 12 48.1	
	comp=Z,287nm,1.0s					
H22A	Clearmont	80.73 332	⇑P	P	18 12 46.6	+0.1
	baz=81,SNR=18					
TIN	Tinemaha	80.73 321	⇓P	P	18 12 47.8	+1.1
	baz=81					
RCTC	Rector, Farmer	80.78 319	⇑P	P	18 12 46.9	+0.1
	baz=81					
E26A	Carlson Angus	80.80 336	⇑P	P	18 12 46.9	+0.2
	baz=81,SNR=13					
J19A	Crowheart	80.81 330	⇓P	P	18 12 47.7	+0.7
	baz=81					
G23A	Biddle	80.84 333	⇓P	P	18 12 47.3	+0.2
	baz=81					
I20A	Worland	80.95 331	⇓P	P	18 12 48.3	+0.6
	baz=81,SNR=56					
MDND	Maddock	81.00 338	⇓P	P	18 12 48.2	+0.5
	baz=81,SNR=36					
D27A	Center	81.01 337	⇑P	P	18 12 48.1	+0.3
	baz=81,SNR=6.0					
F24A	Ekalaka	81.01 334	⇓P	P	18 12 48.1	+0.1
	baz=81					
H21A	Big Horn, Sher	81.04 332	⇓P	P	18 12 48.2	0.0
	baz=81,SNR=56					
PRYS	Parys	81.14 116	⇓iP	P	18 12 49.1	-0.2
PRYS			AMB	AMB	18 12 49.9	
	comp=Z,256nm,0.9s					
E25A	Miller Ranch,	81.17 335	⇑P	P	18 12 49.1	+0.3
	baz=82,SNR=21					
G22A	Birney	81.22 333	⇓P	P	18 12 49.1	0.0
	baz=82,SNR=15					
KSR	Koster	81.25 115	⇓iP	P	18 12 49.9	0.0
KSR			AMB	AMB	18 12 51.4	
	comp=Z,77nm,0.9s					
D26A	Manning	81.27 336	⇓P	P	18 12 49.6	+0.4
	baz=82					
F23A	Volborg	81.28 334	⇑P	P	18 12 49.5	+0.1
	baz=82					
H20A	Greybull	81.33 331	⇓P	P	18 12 49.8	+0.2
	baz=82,SNR=29					
HVU	Hansel Valley	81.37 327	eP	P	18 12 50.2	+0.2
HVU			e*PP	pP	18 13 33.3	+1.6
HVU			pmax	pmax		
	comp=Z,75nm,1.1s					
HVU	Hansel Valley	81.37 327	eP	P	18 12 50.2	+0.2
	comp=Z,75nm,1.1s					
HVU			epP	pP	18 13 33.3	+1.6
I19A	Meeteetse	81.40 331	⇓P	P	18 12 50.8	+0.6
	baz=82					
MLAC	Mammoth Lakes	81.48 321	⇓P	P	18 12 51.7	+0.9
	baz=82					
I18A	Diamond G Ranc	81.49 330	⇓P	P	18 12 51.5	+0.8
	baz=82,SNR=69					
C27A	Sayler Ranch,	81.52 337	⇓P	P	18 12 51.0	+0.5
	baz=82					
E24A	Baker	81.56 335	⇑P	P	18 12 51.4	+0.6
	baz=82					
KLOF	Kloof	81.59 115	⇑iP	P	18 12 51.9	+0.1
KLOF			AMB	AMB	18 12 52.6	
	comp=Z,327nm,0.9s					
G21A	Lodge Grass	81.60 332	⇑P	P	18 12 51.4	+0.3
	baz=82,SNR=31					
F22A	Rosebud	81.67 333	⇓P	P	18 12 51.5	+0.2
	baz=82					
NV11	Mina Array Sit	81.67 322	eP	P	18 12 52.0	+0.3
D25A	Fairfield	81.69 336	⇓P	P	18 12 52.2	+0.8
	baz=82,SNR=14					
REDW	Red Top Meadow	81.69 329	eP	P	18 12 51.7	0.0
	comp=Z,66nm,1.2s					
SNOW	Snow King Moun	81.72 329	eP	P	18 12 52.5	+0.5
	comp=Z,52nm,1.0s					
NVAR	Mina Array Bea	81.75 322	P	P	18 12 52.8	+0.5
NVAR			pP	pP	18 13 35.7	+1.8
NVAR			PKKPbc	PKKPbc	18 31 23.0	-1.1
NVAR			P'P'		18 39 31.1	
NVAR	Mina Array Bea	81.75 322	P	P	18 12 52.8	+0.5
	comp=Z,3.0nm,0.5s,baz=149,slow=6.5,SNR=45					
NVAR			pP	pP	18 13 35.7	+1.8
	comp=Z,4.7nm,0.9s,baz=146,slow=5.6,SNR=3.4					
NVAR			PKKPbc	PKKPbc	18 31 23.0	-1.1
	comp=Z,3.8nm,0.9s,baz=290,slow=2.6,SNR=13					
NVAR			PKPPKP	P'P'df	18 39 31.1	+4.8
	comp=Z,2.2nm,1.0s,baz=287,slow=2.3,SNR=8.7					
LOHW	Long Hollow	81.77 329	eP	P	18 12 52.3	+0.2
	comp=Z,61nm,1.3s					
C26A	Wahner Farm, P	81.83 337	⇑P	P	18 12 52.6	+0.5
	baz=82,SNR=8.0					
TPAW	Teton Pass	81.83 329	eP	P	18 12 52.9	+0.4
	comp=Z,61nm,1.2s					
E23A	Ismay	81.89 334	⇑P	P	18 12 52.3	-0.2
	baz=82,SNR=19					
RRI2	Red Ridge	81.89 329	eP	P	18 12 53.0	+0.1
	comp=Z,70nm,1.1s					
RRI2			epP	pP	18 13 35.4	+0.8
H19A	Powell	81.90 331	⇓P	P	18 12 53.2	+0.5
	baz=82					
MOOW	Moose Ponds	81.94 329	eP	P	18 12 52.8	-0.3
	comp=Z,36nm,1.3s					
ULM	Lac du Bonnet	82.00 342	P	P	18 12 52.5	-0.4
ULM			pP	pP	18 13 34.4	-0.2
ULM			PKKP	PKKPbc	18 31 21.0	-3.1
ULM	Lac du Bonnet	82.00 342	P	P	18 12 52.5	-0.4
	comp=Z,17nm,0.4s,baz=154,slow=5.9,SNR=37					
ULM			pP	pP	18 13 34.4	-0.2
	comp=Z,11nm,0.9s,baz=164,slow=3.7,SNR=2.2					
ULM			PKKP	PKKPbc	18 31 21.0	-3.1
	comp=Z,5.9nm,0.7s,baz=338,slow=2.1,SNR=6.9					
ULM			LR	LR	18 52 33.8	
	comp=Z,123nm,20.4s,baz=134,slow=38					
I17A	Pilgrim Ck.	82.00 330	⇓P	P	18 12 54.5	+1.1
	baz=82,SNR=14					
G20A	Bridger	82.01 332	⇓P	P	18 12 53.4	+0.1
	baz=82					
D24A	Glendive	82.03 335	⇑P	P	18 12 53.9	+0.6
	baz=82,SNR=22					
B27A	Peters Farms,	82.04 338	⇑P	P	18 12 53.3	+0.2
	baz=82					
F21A	Absaloka Mine,	82.05 333	⇓P	P	18 12 53.6	+0.2
	baz=82					
E22A	Miles City	82.09 334	⇓P	P	18 12 53.3	-0.2
	baz=82,SNR=10					
ERPM	east rand prop	82.10 115	⇑iP	P	18 12 54.8	+0.4
ERPM			AMB	AMB	18 12 55.4	
	comp=Z,224nm,1.0s					
C25A	Freed Ranch, W	82.14 336	⇑P	P	18 12 54.2	+0.5
	baz=82,SNR=5.8					
IMW	Indian Meadow	82.15 329	eP	P	18 12 54.6	+0.4
	comp=Z,112nm,1.3s					
FLWY	Flagg Ranch	82.19 330	eP	P	18 12 54.7	+0.4
	comp=Z,189nm,1.4s					
H18A	Shoshone NF, C	82.20 331	⇓P	P	18 12 54.8	+0.4
	baz=82					
B26A	Jensen Ranch,	82.34 337	⇑P	P	18 12 55.1	+0.3
	baz=83					
I16A	Newdale	82.38 329	⇓P	P	18 12 56.0	+0.8
	baz=83,SNR=38					
RLMT	Red Lodge	82.38 331	eP	P	18 12 55.5	+0.2
	comp=Z,70nm,1.1s					
SCHQ	Schefferville	82.39 360	P	P	18 12 54.5	-0.4
SCHQ	Schefferville	82.39 360	P	P	18 12 54.5	-0.4
	comp=Z,26nm,1.0s,baz=180,slow=4.1,SNR=15					
SLR	Silverton	82.41 115	⇓iP	P	18 12 56.1	+0.1
SLR			AMB	AMB	18 12 56.7	
	comp=Z,473nm,0.9s					
C24A	Savage	82.41 335	⇑P	P	18 12 55.9	+0.7
	baz=83,SNR=21					
LKWY	Lake	82.43 330	eP	P	18 12 57.2	+1.6
LKWY			pmax	pmax		
	comp=Z,45nm,1.2s					
LKWY	Lake	82.43 330	eP	P	18 12 57.2	+1.6
	comp=Z,45nm,1.2s					
WAKR	Walker	82.44 321	eP	P	18 12 56.1	+0.4
	comp=Z,58nm,1.3s					
F20A	Billings	82.45 332	⇓P	P	18 12 55.6	+0.1
	baz=83					
YFT	Old Faithful	82.53 330	eP	P	18 12 58.2	+2.0
	comp=Z,15nm,0.4s					
B25A	Knox Farm, Ray	82.58 336	⇑P	P	18 12 56.7	+0.7
	baz=83,SNR=14					
BMN	Battle Mountai	82.61 324	eP	P	18 12 55.8	-0.7
BMN	Battle Mountai	82.61 324	eP	P	18 12 55.8	-0.7
	comp=Z,2.2nm,0.6s					
E21A	Keefer Ranch,	82.62 333	⇑P	P	18 12 56.5	+0.3
	baz=83					
CMB	Columbia Colle	82.64 320	eP	P	18 12 56.2	-0.4
CMB			pmax	pmax		
	comp=Z,23nm,1.4s					
CMB	Columbia Colle	82.64 320	eP	P	18 12 56.2	-0.4
	comp=Z,23nm,1.4s					
G18A	Lazy EL Ranch,	82.66 331	⇓P	P	18 12 57.0	+0.3
	baz=83					
A26A	Wade Farm, Ken	82.72 337	⇑P	P	18 12 56.9	+0.1
	baz=83,SNR=15					
YMR	Madison River	82.76 330	eP	P	18 12 58.5	+1.2
	comp=Z,166nm,1.2s					
D22A	Cohagen	82.76 334	⇓P	P	18 12 57.4	+0.4
	baz=83					
F19A	Roth Farm, Mol	82.83 332	⇓P	P	18 12 57.7	+0.2
	baz=83					
H16A	Russell Place,	82.92 330	⇓P	P	18 12 59.0	+0.9
	baz=83					
C23A	Lambert	82.92 335	⇓P	P	18 12 58.2	+0.4
	baz=83					
E20A	Meyer Farm, Mu	83.01 333	⇓P	P	18 12 58.8	+0.4
	baz=83					
D21A	La Casta Ranch	83.01 334	⇑P	P	18 12 58.8	+0.5
	baz=83					
GCMT	Greycliff	83.08 331	eP	P	18 12 58.9	+0.1
	comp=Z,43nm,1.1s					
QLMT	Earthquake Lak	83.09 330	eP	P	18 13 00.1	+1.1
	comp=Z,7.4nm,1.1s					
DGMT	Dagmar	83.12 336	eP	P	18 12 59.4	+0.6
	comp=Z,237nm,1.2s					
DGMT	Dagmar	83.12 336	⇑P	P	18 12 59.3	+0.6
	baz=83					
A25A	Svangstu Ranch	83.13 337	⇑P	P	18 12 59.3	+0.5
	baz=83					
C22A	Vida	83.14 335	⇑P	P	18 12 59.1	+0.1
	baz=83					
G17A	Pierce Place,	83.17 330	⇓P	P	18 13 00.1	+0.8
	baz=84					
F18A	Big Timber	83.19 331	⇓P	P	18 12 59.8	+0.4
	baz=84					
E19A	Rath Farm, Rou	83.25 332	⇑P	P	18 12 59.9	+0.4
	baz=84					
PAHR	Pah Rah Range	83.25 322	eP	P	18 13 00.5	+0.7
	comp=Z,66nm,1.2s					
PAHR			epP	pP	18 13 42.0	+0.4
I14A	Mackay	83.33 328	⇑P	P	18 13 01.4	+1.2
	baz=84					
B23A	Brockton	83.40 335	⇓P	P	18 13 00.6	+0.4
	baz=84					
A24A	Westby	83.43 336	⇑P	P	18 13 00.9	+0.5
	baz=84					
D20A	Manuel Ranch,	83.49 333	⇓P	P	18 13 00.9	+0.2
	baz=84					
HLID	Hailey	83.51 327	eP	P	18 13 02.0	+0.9
	comp=Z,70nm,1.0s					
HLID			epP	pP	18 13 43.7	+0.8
HLID	Hailey	83.51 327	⇓P	P	18 13 02.2	+1.1
	baz=84					
DRV	Dumont d'Urvil	83.58 190	S	S	18 22 43.0	-25
DRV			SS	SS	18 27 53.0	-44
DRV			L	L	18 34 00.0	
DRV			R		18 40 00.0	
F17A	Fitzpatrick Pl	83.60 331	⇓P	P	18 13 02.1	+0.7
	baz=84					
C21A	Desert Coulee	83.67 334	⇓P	P	18 13 01.7	+0.1
	baz=84					
MCMT	McKenzie Canyo	83.73 329	P	P	18 13 03.4	+1.0
A23A	Redstone	83.78 336	⇓P	P	18 13 02.2	+0.1
	baz=84					
E18A	Harlowton	83.80 332	⇑P	P	18 13 02.8	+0.3
	baz=84					
BOZ	Bozeman (W)	83.82 330	eP	P	18 13 02.5	-0.1
BOZ			pmax	pmax		
	comp=Z,5.0nm,0.3s					
BOZ	Bozeman (W)	83.82 330	eP	P	18 13 02.5	-0.1
	comp=Z,5.0nm,0.3s					
D19A	Cripps Ranch,	83.85 333	⇓P	P	18 13 02.7	+0.1
	baz=84					
BEKR	Beckworth	83.90 321	eP	P	18 13 03.4	+0.2
	comp=Z,23nm,1.2s					
BEKR			epP	pP	18 13 45.9	+0.8
C20A	Veseth Ranch,	83.94 333	⇓P	P	18 13 02.8	-0.2
	baz=84					
DLMT	Dillon	84.03 329	eP	P	18 13 04.3	+0.6
	comp=Z,114nm,1.4s					
MFID	Camas Ranch	84.08 326	⇓P	P	18 13 04.5	+0.5
	baz=84					
E17A	Martinsdale	84.12 331	⇓P	P	18 13 04.6	+0.5
	baz=84					
B21A	Ellsworth Farm	84.14 334	⇓P	P	18 13 04.2	+0.2
	baz=84					
A22A	Carney Farms,	84.18 335	⇓P	P	18 13 04.5	+0.2
	baz=84					
D18A	Linhart Farms,	84.25 332	⇓P	P	18 13 04.9	+0.3
	baz=84					
LRM	Limekiln Ridge	84.32 330	eP	P	18 13 05.5	+0.2
	comp=Z,415nm,1.0s					
LRM			epP	pP	18 13 47.7	+0.6
C19A	Slack Wire Ran	84.38 333	⇑P	P	18 13 05.3	+0.1
	baz=85					
B20A	Solberg Farm,	84.53 334	⇑P	P	18 13 05.9	-0.1
	baz=85					
A21A	Bergtoll Ranch	84.56 335	⇓P	P	18 13 05.9	-0.3
	baz=85					
MIR	Mirnyy	84.59 172	eP	P	18 13 07.0	+0.9
MIR			pmax	pmax		
	comp=Z,162nm,1.5s					
D17A	Six Diamond Ra	84.59 332	⇑P	P	18 13 06.7	+0.3
	baz=85					
MORF	Marmelete	84.67 43	eP	P	18 13 06.1	-0.8
MORF			eS	S	18 23 15.5	-4.6
MORF	Marmelete	84.67 43	eP	P	18 13 08.6	+1.7
	comp=Z,114nm,1.7s					
HRY	Holter Researc	84.73 331	eP	P	18 13 07.7	+0.6
	comp=Z,20nm,0.6s					
PTEO	Sao Teotonio	84.78 43	eP	P	18 13 08.5	+1.1
	comp=Z,170nm,1.6s					
WVOR	Wild Horse Val	84.79 324	eP	P	18 13 08.0	+0.5
WVOR			pmax	pmax		
	comp=Z,35nm,1.4s					
WVOR	Wild Horse Val	84.79 324	eP	P	18 13 08.0	+0.5
	comp=Z,35nm,1.4s					
A20A	Cobblestone Ra	84.85 334	⇑P	P	18 13 07.6	0.0
	baz=85					
EGMT	Eagleton	84.89 333	eP	P	18 13 07.3	-0.6
	comp=Z,17nm,0.3s					
EGMT	Eagleton	84.89 333	⇓P	P	18 13 07.6	-0.3
	baz=85					
B19A	Brinkman Farms	84.91 333	⇓P	P	18 13 07.9	0.0
	baz=85					
C17A	Wharram Farm,	85.00 332	⇑P	P	18 13 08.3	-0.1
	baz=85					
PBDV	Barranco-do-Ve	85.06 43	eP	P	18 13 10.1	+1.2
	comp=Z,119nm,1.5s					
B18A	Beardsley Farm	85.20 333	⇓P	P	18 13 09.4	+0.1
	baz=86					
A19A	Klindworth Far	85.21 334	⇓P	P	18 13 09.2	-0.2
	baz=86					
PCVE	Castro Verde	85.25 43	eP	P	18 13 10.8	+1.1
	comp=Z,85nm,1.9s					
PNCL	Nicolau / Gran	85.27 42	eP	P	18 13 10.8	+1.0
	comp=Z,85nm,1.4s					
PVAQ	Vaqueiros	85.29 43	eP	P	18 13 11.1	+1.1
	comp=Z,102nm,1.7s					
PVAQ	Vaqueiros	85.29 43	eSKSac	S	18 23 25.7	-0.5
LIS	Lisbon	85.30 41	eP	P	18 13 09.5	-0.4
LIS			AMb	AMB	18 13 15.2	
	comp=Z,144nm,2.0s					
LIS			eS	S	18 23 19.6	-6.5
LIS	Lisbon	85.30 41	eP	P	18 13 09.5	-0.4
LIS			eS	S	18 23 19.6	-6.5
J08A	Circle Bar Ran	85.36 325	P	P	18 13 11.1	+0.8
PMAFR	Mafra	85.38 41	eP	P	18 13 11.6	+1.2
	comp=Z,89nm,1.5s					
LTIM	Timbered Crate	85.43 322	P	P	18 13 11.0	+0.3
CHMT	Chamberlain Mo	85.51 330	eP	P	18 13 11.3	+0.2
	comp=Z,19nm,1.2s					
B17A	L&G Farms, Che	85.53 332	⇓P	P	18 13 10.8	-0.2
	baz=86					
C16A	Fuhringer Ranc	85.55 331	⇓P	P	18 13 11.3	+0.2
	baz=86					
WDC	Whiskeytown Da	85.60 321	eP	P	18 13 10.1	-1.4
WDC			e*PP	pP	18 13 47.4	-6.0
WDC			pmax	pmax		
	comp=Z,37nm,1.3s					
WDC	Whisk

MSO	Missoula	85.75	330	⇑P		P	18 13 12.8	+0.6	
	baz=86								
EVO	Evora	85.85	42	⇓iP		P	18 13 13.2	+0.5	
	comp=Z,100nm,0.9s								
EVO				eR					
	comp=Z,217nm,21.0s								
EVO	Evora	85.85	42	eP		P	18 13 13.5	+0.8	
	comp=Z,46nm,2.1s								
BMO	Blue Mountains	85.86	327	eP		P	18 13 12.6	-0.2	
	comp=Z,21nm,1.2s								
BMO				epP		pP	18 13 52.7	-2.1	
SLMT	Seeley Lake	85.87	330	eP		P	18 13 13.1	+0.3	
	comp=Z,60nm,1.1s								
C15A	Salmond Ranch,	85.89	331	⇓P		P	18 13 13.6	+0.7	
	baz=86								
A17A	Triple J Farms	86.01	333	⇑P		P	18 13 13.3	0.0	
	baz=86								
PMTG	Montargil	86.08	42	eP		P	18 13 14.6	+0.8	
	comp=Z,144nm,1.4s								
CASY	Casey	86.10	179	eP		P	18 13 14.4	+0.8	
	comp=Z,130nm,0.9s								
CASY				epP		pP	18 13 54.9	-0.7	
PBAR	Barrancos	86.20	43	eP		P	18 13 15.1	+0.7	
	comp=Z,67nm,1.9s								
B15A	Bradely Ranch,	86.29	331	⇓P		P	18 13 14.4	-0.3	
	baz=87								
SWMT	Swartz Lake	86.30	330	eP		P	18 13 15.0	+0.2	
	comp=Z,48nm,1.2s								
PESTR	Estremoz	86.32	42	eP		P	18 13 15.7	+0.7	
	comp=Z,100nm,1.9s								
PTOM	Tomar	86.33	41	eP		P	18 13 16.1	+1.1	
	comp=Z,136nm,1.9s								
KHMM	Horse Mountain	86.47	320	eP		P	18 13 16.5	+0.6	
	comp=Z,94nm,1.5s								
YBH	Yreka Blue Hor	86.48	322	eP		P	18 13 14.8	-1.0	
	comp=Z,7.0nm,0.6s								
PCAS	Casmilo, Conde	86.56	41	eP		P	18 13 16.6	+0.4	
	comp=Z,90nm,1.1s								
YBMT	Yellow Bay	86.57	330	eP		P	18 13 16.3	+0.2	
	comp=Z,75nm,1.1s								
JTMT	Jette	86.60	330	eP		P	18 13 16.6	+0.3	
	comp=Z,32nm,1.1s								
PMRV	Marv??o	86.80	42	eP		P	18 13 17.2	-0.1	
	comp=Z,50nm,1.2s								
PMRV	Marv??o	86.80	42	eSKSac		SKSac	18 23 29.6	+1.4	
BLMT	Blacktail Moun	86.84	330	eP		P	18 13 17.6	0.0	
	comp=Z,170nm,1.3s								
A15A	Johnson Ranch,	86.87	332	⇓P		P	18 13 17.0	-0.6	
	baz=87								
BSMT	Bassoo Peak	86.90	330	eP		P	18 13 17.9	+0.1	
	comp=Z,96nm,1.2s								
KTRM	Thompson Ridge	86.96	321	P		P	18 13 19.1	+0.9	
KRMB	Red Mountain	87.00	321	eP		P	18 13 18.4	0.0	
	comp=Z,55nm,1.4s								
KRMB				epP		pP	18 14 01.1	+0.5	
PCBR	Castelo Branco	87.02	41	eP		P	18 13 18.7	+0.4	
	comp=Z,56nm,1.0s								
A14A	Double T Ranch	87.16	331	⇑P		P	18 13 18.9	-0.1	
	baz=87								
LSZ	Lusaka	87.16	106	⇓iP		P	18 13 22.0	+2.1	
LSZ					AMB	AMB	18 13 23.0		
	comp=Z,6μm,1.2s								
LSZ	Lusaka	87.16	106	P		P	18 13 22.2	+2.3	
	SNR=44								
LSZ	Lusaka	87.16	106	eP		P	18 13 21.5	+1.7	
	comp=Z,268nm,1.0s								
HUMO	Hull Mountain	87.20	322	eP		P	18 13 18.3	-0.9	
	comp=Z,21nm,1.2s								
VIPM	Ingram Point	87.27	325	P		P	18 13 20.5	+0.8	
VIPM	Ingram Point	87.27	325	P		P	18 13 20.5	+0.8	
MTE	Manteigas	87.34	41	eP		P	18 13 20.2	+0.2	
	comp=Z,74nm,1.9s								
MTE	Manteigas	87.34	41	eSKSac		SKSac	18 23 34.0	+2.5	
MTE	Manteigas	87.34	41	eP		P	18 13 20.5	+0.5	
	comp=Z,28nm,0.8s								
PVIS	Viseu	87.34	41	eP		P	18 13 20.8	+0.8	
	comp=Z,48nm,2.1s								
WALA	Waterton Lakes	87.44	331	eP		P	18 13 20.6	+0.3	
	comp=Z,3.5nm,1.1s								
PVRL	Vila Real	87.81	40	eP		P	18 13 22.6	+0.4	
	comp=Z,79nm,1.7s								
POLO	Lamas de Olo	87.83	40	eP		P	18 13 22.4	+0.1	
	comp=Z,23nm,1.6s								
PGAV	Gavieira, Arco	87.95	39	eP		P	18 13 23.7	+0.8	
	comp=Z,48nm,1.6s								
PGAV	Gavieira, Arco	87.95	39	eSKSac		SKSac	18 23 37.2	+2.0	
BROR	Big Rock Looko	88.06	324	P		P	18 13 23.3	+0.1	
MVO	Moncorvo	88.13	41	eP		P	18 13 24.1	+0.4	
	comp=Z,64nm,1.9s								
MVO	Moncorvo	88.13	41	eSKSac		SKSac	18 23 38.4	+2.1	
KEBM	Edson Butte	88.13	322	eP		P	18 13 24.5	+0.8	
	comp=Z,158nm,1.2s								
D08A	Wollman Farm,	88.23	327	P		P	18 13 24.1	+0.2	
NEW	Newport	88.26	329	eP		P	18 13 23.4	-0.7	
	comp=Z,60nm,1.5s								
NEW	Newport	88.26	329	⇑P		P	18 13 23.5	-0.7	
	baz=88								
DPW	Davenport	88.47	328	P		P	18 13 25.3	+0.1	
DPW	Davenport	88.47	328	P		P	18 13 25.3	+0.1	
TRW	Toppenish Ridg	88.48	326	P		P	18 13 26.0	+0.8	
PBRG	Braganca	88.71	40	eP		P	18 13 26.9	+0.5	
	comp=Z,39nm,1.4s								
ESDC	Sonseca Array	89.01	43	P		P	18 13 28.4	+0.5	
ESDC				pP		pP	18 14 12.4	+2.2	
ESDC	Sonseca Array	89.01	43	P		P	18 13 28.4	+0.5	
	comp=Z,12nm,0.8s,baz=241,slow=4.3,SNR=37								
ESDC				pP		pP	18 14 12.4	+2.2	
	comp=Z,1.0nm,0.4s,baz=255,slow=5.1,SNR=1.9								
ESLA	Sonseca Array	89.01	43	eP		P	18 13 28.4	+0.5	
	comp=Z,2.1nm,0.7s								
TBM	Table Mountain	89.12	327	P		P	18 13 29.0	+0.7	
FCC	Fort Churchill	89.30	346	eP		P	18 13 28.6	0.0	
FCC				pmax		pmax			
	comp=Z,3.0nm,1.3s								
FCC	Fort Churchill	89.30	346	eP		P	18 13 28.6	0.0	
	comp=Z,3.0nm,1.3s								
LON	Longmire	89.43	326	eP		P	18 13 29.5	-0.2	
LON				pmax		pmax			
	comp=Z,24nm,1.1s								
LON	Longmire	89.43	326	eP		P	18 13 29.5	-0.2	
	comp=Z,24nm,1.1s								
RVC	Mount Rainier-	89.64	326	P		P	18 13 30.4	-0.3	
EDM	Edmonton	90.38	334	eP		P	18 13 32.8	-1.1	
EDM				e*PP		pP	18 14 15.8	-0.5	
EDM	Edmonton	90.38	334	eP		P	18 13 32.8	-1.1	
EDM				epP		pP	18 14 15.8	-0.5	
NLWA	Neilton Lookou	90.90	325	eP		P	18 13 37.2	+0.7	
	comp=Z,34nm,1.2s								
PGC	Sidney	91.53	326	eP		P	18 13 39.6	+0.4	
	comp=Z,2.4nm,1.0s								
SJPF	Ste Jean	92.73	42	eP		P	18 13 45.5	+0.5	
	comp=Z,61nm,1.2s								
ETSF	Etsaut	93.00	42	eP		P	18 13 46.8	+0.5	
	comp=Z,35nm,1.0s								
ETSF				epP		pP	18 14 30.5	+1.8	
EPF	Esparros	93.61	43	eP		P	18 13 49.3	+0.2	
	comp=Z,19nm,0.9s								
MLS	Moulis	94.02	43	eP		P	18 13 50.8	-0.1	
CARF	Carcanieres	94.50	44	eP		P	18 13 53.2	-0.1	
QUIF	Quistinic	94.52	37	eP		P	18 13 52.4	-0.6	
	comp=Z,21nm,0.9s								
ROSF	Rostrenen	94.71	37	eP		P	18 13 53.2	-0.7	
	comp=Z,11nm,0.6s								
MTLF	Montolieu	94.92	43	eP		P	18 13 54.7	-0.3	
	comp=Z,29nm,1.2s								
MTLF				epP		pP	18 14 38.4	+0.9	
LFF	La Frestale	94.94	41	eP		P	18 13 55.0	-0.1	
KIG	Kigali	95.04	95	eP		P	18 13 58.1	+1.6	
KIG					AMB	AMB	18 13 59.2		
	comp=Z,24nm,1.1s								
SGMF	Saint Gilles	95.04	37	eP		P	18 13 54.5	-0.9	
	comp=Z,18nm,0.9s								
MFF	Saint Martin d	95.39	39	eP		P	18 13 56.9	-0.2	
MFF				epP		pP	18 14 40.5	+0.9	
KEST	Kesra	95.54	52	P		P	18 13 59.5	+1.3	
KEST	Kesra	95.54	52	P		P	18 13 59.5	+1.3	
	comp=Z,2.7nm,0.8s,baz=50,slow=0.3,SNR=7.3								
RJF	Les Rejaudoux	95.60	41	eP		P	18 13 57.6	-0.5	
RJF				epP		pP	18 14 41.5	+0.9	
RJF				eR					
	comp=Z,285nm,20.0s								
CAF	Calviac	95.71	42	eP		P	18 13 58.5	-0.1	
	comp=Z,9.7nm,0.6s								
GRR	Gorron	96.04	38	eP		P	18 13 59.1	-0.9	
LASF	Ste Croix	96.31	43	eP		P	18 14 01.4	0.0	
	comp=Z,8.3nm,1.0s								
FLN	La Foliniere	96.46	38	eP		P	18 14 01.1	-0.8	
FLN				eR					
	comp=Z,121nm,19.0s								
AFI	Afiamalu	96.48	251	LR		LR	18 47 19.7		
	comp=Z,186nm,19.5s,baz=114,slow=29								
TCF	Toulx Ste Croi	96.55	41	eP		P	18 14 01.9	-0.5	
	comp=Z,7.0nm,0.7s								
TCF				epP		pP	18 14 45.7	+0.8	
LDF	La Druitiere	96.56	38	eP		P	18 14 01.6	-0.7	
	comp=Z,40nm,1.2s								
LBL	Lubilhac	96.58	42	eP		P	18 14 03.4	+0.8	
PYM	Petit Puy Mans	96.72	41	eP		P	18 14 03.5	+0.2	
AGO	Saint Agoulin	96.96	41	eP		P	18 14 04.6	+0.4	
BGF	Bois d'Ágland	97.07	41	eP		P	18 14 04.4	-0.3	
	comp=Z,42nm,1.1s								
VIVF	Saint-Julien-l	97.22	43	eP		Pdif	18 14 05.7	+0.1	
	comp=Z,15nm,1.0s								
SMRF	Simiane la Rot	97.31	44	eP		Pdif	18 14 06.5	+0.6	
	comp=Z,55nm,1.2s								
SSB	Saint Sauveur	97.37	42	eP		Pdif	18 14 06.4	+0.2	
AVF	Avril sur Loir	97.49	41	eP		P	18 14 06.2	-0.4	
	comp=Z,50nm,1.4s								
LMR	La Mourre	97.55	45	eP		Pdif	18 14 07.2	+0.2	
	comp=Z,44nm,1.0s								
SMF	Signal de Mont	97.69	41	eP		P	18 14 07.4	-0.1	
	comp=Z,75nm,1.3s								
SMF				epP		pP	18 14 51.1	+1.0	
SSF	Saint Saulge	97.72	40	eP		P	18 14 07.0	-0.6	
	comp=Z,20nm,1.0s								
FRF	La Foret Royal	97.75	45	eP		Pdif	18 14 08.1	+0.2	
	comp=Z,32nm,1.2s								
YKA	Yellowknife Ar	97.86	340	P		P	18 14 07.0	-0.9	
YKA	Yellowknife Ar	97.86	340	P		P	18 14 06.9	-0.9	
	comp=Z,3.3nm,0.5s,baz=134,slow=4.9,SNR=20								
ORIF	Oris-en-Rattie	97.98	43	eP		Pdif	18 14 09.7	+0.7	
	comp=Z,32nm,0.8s								
ORIF				epP		pP	18 14 53.4	+1.8	
ORIF				eR					
	comp=Z,135nm,21.0s								
CALN	Calern	98.00	45	eP		P	18 14 08.6	-0.6	
LOR	Lormes	98.04	40	eP		P	18 14 08.5	-0.6	
	comp=Z,26nm,1.1s								
LOR				epP		pP	18 14 52.3	+0.7	
LOR				eR					
	comp=Z,140nm,20.0s								
MVIF	Mont Vial	98.24	45	eP		Pdif	18 14 10.7	+0.5	
REVF	Revere	98.29	45	eP		Pdif	18 14 10.8	+0.5	
LUCF	Luceram	98.36	45	eP		Pdif	18 14 11.2	+0.5	
TOUF	Mont Tournerai	98.36	44	eP		Pdif	18 14 11.3	+0.5	
SBF	Sospel	98.40	45	eP		Pdif	18 14 11.1	+0.3	
	comp=Z,45nm,1.0s								
MBDF	Montbardon	98.43	44	eP		Pdif	18 14 11.5	+0.4	
	comp=Z,33nm,1.2s								
SAOF	Saorge	98.53	45	eP		Pdif	18 14 11.7	+0.3	
BNI	Bardonecchia	98.54	43	eP		Pdif	18 14 12.4	+0.9	
BNI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BNI	Bardonecchia	98.54	43	eP		Pdif	18 14 12.4	+0.8	
	comp=Z,9.3nm,1.0s								
PGF	Pioggiola	98.72	46	eP		Pdif	18 14 12.5	+0.1	
	comp=Z,12nm,0.9s								
LPL	La Plagne	98.81	43	eP		Pdif	18 14 13.5	+0.7	
	comp=Z,25nm,0.8s								
LPL				epP		pP	18 14 57.3	+1.9	
LPG	La Plagne	98.81	43	eP		Pdif	18 14 13.7	+0.8	
	comp=Z,30nm,0.8s								
LPG				epP		pP	18 14 57.4	+1.9	
RSL	Roselend	98.83	43	eP		Pdif	18 14 13.4	+0.5	
CABF	La Chapelle	98.99	42	eP		Pdif	18 14 13.5	+0.1	
	comp=Z,33nm,1.2s								
CABF				epP		pP	18 14 57.1	+1.1	
SFTF	Sexfontaines	99.21	40	eP		Pdif	18 14 13.7	-0.6	
MEZF	Maizieres J'vi	99.38	40	eP		Pdif	18 14 14.6	-0.4	
	comp=Z,14nm,0.8s								
BAIF	Baives	99.73	38	eP		Pdif	18 14 15.9	-0.6	
PAGF	Fort de Pagny	99.78	40	eP		Pdif	18 14 16.7	-0.1	
	comp=Z,6.3nm,0.9s								
HAU	Haudompre	99.86	41	eP		Pdif	18 14 16.7	-0.5	
HAU				epP		pP	18 15 00.5	+0.7	
HAU				eR					
	comp=Z,121nm,18.5s								
HINF	Hinterlafeld	100.06	41	eP		Pdif	18 14 17.6	-0.5	
GIVF	Givet	100.09	38	eP		Pdif	18 14 17.7	-0.4	
	comp=Z,33nm,1.1s								
MOF	Molkenrain	100.24	41	eP		Pdif	18 14 18.5	-0.5	
ECH	Echery	100.43	41	eP		Pdif	18 14 20.0	+0.3	
WLF	Walferdange	100.60	39	P		Pdif	18 14 20.6	+0.2	
	comp=Z,12nm,1.2s								
CDF	Champ du Feu	100.60	41	eP		Pdif	18 14 20.2	-0.4	
	comp=Z,18nm,1.0s								
WRAK	Wrangell Islan	100.62	329	ePdif		Pdif	18 14 20.0	-0.3	
	comp=Z,8.4nm,1.2s								
DLBC	Dease Lake	100.78	331	ePdif		Pdif	18 14 21.3	+0.2	
TUE	Stuetta	100.87	43	ePdif		Pdif	18 14 21.9	0.0	
	comp=Z,8.8nm,0.8s								
LANF	Langenberg	101.19	40	eP		Pdif	18 14 23.5	+0.4	
DAVA	Damuels	101.58	43	⇑iPP		PP	18 18 35.3	-2.4	
	comp=Z,12nm,1.3s								
FETA	Feichten	101.96	43	iPdif		Pdif	18 14 27.9	+1.1	
	comp=Z,10nm,1.0s,SNR=6.9								
RETA	Reutte	102.20	43	iPdif		Pdif	18 14 28.7	+1.1	
	comp=Z,9.5nm,1.2s,SNR=5.2								
RETA				⇑iPP		PP	18 18 39.5	-2.8	
	comp=Z,11nm,1.6s								
MOTA	Moosalm	102.34	43	iPdif		Pdif	18 14 29.3	+0.9	
	comp=Z,6.2nm,0.7s,SNR=5.5								
ABTA	Abfaltersbach	102.92	44	⇓iPdif		Pdif	18 14 31.6	+0.7	
	comp=Z,9.3nm,1.1s,SNR=5.6								
ABTA				⇓iPP		PP	18 18 44.5	-3.2	
	comp=Z,12nm,1.2s								
MYKA	Terra Mystica	103.57	44	⇑iPKiKP		PKiKP	18 18 48.4	-3.0	
	comp=Z,12nm,1.1s								
SOKA	Soboth	104.45	45	⇑iPKiKP		PKiKP	18 18 54.6	+1.6	
	comp=Z,7.4nm,1.3s								
GERES	GERESS Array B	104.57	42	Pdif		Pdif	18 14 38.2	0.0	
GERES				PKiKP		PKiKP	18 18 52.9	-0.3	
GERES				PKKPbc		PKKPbc	18 30 23.9	-0.2	
GERES				PKKPab		PKKPab	18 30 39.9	+0.1	
GERES	GERESS Array B	104.57	42	Pdiff		Pdif	18 14 38.2	0.0	
	comp=Z,0.3nm,0.5s,baz=195,slow=4.1,SNR=4.8								
GERES				PKiKP		PKiKP	18 18 52.9	-0.3	
	comp=Z,1.4nm,0.7s,baz=222,slow=1.8,SNR=7.6								
GERES				PKKPbc		PKKPbc	18 30 23.9	-0.2	
	comp=Z,1.2nm,0.8s,baz=85,slow=1.6,SNR=9.2								
GERES				PKKPab		PKKPab	18 30 39.9	+0.1	
	comp=Z,0.7nm,0.8s,baz=53,slow=7.2,SNR=6.2								
CLL	Collm	105.23	40	eSP		SP	18 27 56.0	-6.0	
CLL				eSS		SS	18 33 47.0	-0.1	
CLL				eSSS		SSS	18 37 39.0		
CLL				e(SSSS)			18 40 42.0		
CLL				Lm		MLR	19 00 00.0		
	comp=Z,100nm,20.3s								
BRG	Berggiesshubel	105.58	40	eP		PKiKP	18 18 55.8	+0.9	
	comp=Z,6.2nm,1.1s								
BRG				i			18 27 59.0		
BRG				i			18 29 17.0		
BRG				S		x	18 29 21.0		
BRG									
	comp=N,91nm,13.5s								
BRG									
	comp=E,83nm,20.0s								
BRG									
	comp=Z,136nm,17.0s								
INK	Inuvik	107.62	339	PKKPbc		PKKPbc	18 30 13.3	-1.8	
INK				PKKPab		PKKPdf	18 30 27.1	-1.4	
INK	Inuvik	107.62	339	PKKPbc		PKKPbc	18 30 13.3	-1.8	
	comp=Z,9.7nm,0.8s,baz=324,slow=2.6,SNR=19								
INK				PKKPab		PKKPdf	18 30 27.1	-1.4	
	comp=Z,6.3nm,0.9s,baz=301,slow=4.6,SNR=7.0								
NOA	NORSAR Array B	108.43	30	PKKPab		PKKPab	18 30 23.2	+1.1	
NOA	NORSAR Array B	108.43	30	PKKPab		PKKPab	18 30 23.2	+1.1	
	comp=Z,2.3nm,0.9s,baz=67,slow=4.6,SNR=5.4								
CRVS	Cervenica-Dubn	109.31	44	eP		Pdif	18 15 05.5	+6.3	
CRVS	Cervenica-Dubn	109.31	44	PDIF		Pdif	18 15 05.5	+6.3	
ILAR	Eielson Array	110.86	333	Pdif		Pdif	18 15 06.0	+0.3	
ILAR				PKiKP		PKiKP	18 19 04.0	-0.3	
ILAR				PKKPbc		PKKPbc	18 30 02.1	-2.6	
ILAR	Eielson Array	110.86	333	Pdiff		Pdif	18 15 06.0	+0.3	
	comp=Z,0.2nm,0.4s,baz=147,slow=1.4,SNR=4.2								
ILAR				PKiKP		PKiKP	18 19 04.0	-0.3	
	comp=Z,1.0nm,0.5s,baz=192,slow=1.1,SNR=14								
ILAR				PKKPbc		PKKPbc	18 30 02.1	-2.6	
	comp=Z,1.6nm,0.8s,baz=291,slow=3.6,SNR=9.1								
KDAK	Kodiak Island	111.05	325	PKKPbc		PKKPbc	18 30 03.5	-0.2	
KDAK	Kodiak Island	111.05	325	PKKPbc		PKKPbc	18 30 03.5	-0.2	
	comp=Z,5.0nm,0.5s,baz=94,slow=2.7,SNR=6.1								
IMA2	Indian Mountai	113.96	334	ePKiKP		PKiKP	18 19 10.5	+0.1	
IM04	Indian Mountai	113.97	333	ePKiKP		PKiKP	18 19 10.2	-0.1	
KIEV	Kiev	114.63	44	ePKiKP		PKPdf	18 19 11.1	-0.8	
KIEV	Kiev	114.63	44	ePKiKP		PKPdf	18 19 11.1	-0.8	
AKASG	Malin Array Be	114.64	44	PKIKP		PKPdf	18 19 11.0	-0.9	
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.4s								
AKASG	Malin Array Be	114.64	44	PKP		PKPdf	18 19 11.0	-0.9	
AKASG	Malin Array Be	114.64	44	PKP		PKPdf	18 19 11.0	-0.9	
	comp=Z,1.9nm,0.4s,baz=262,slow=2.7,SNR=2.7								
BR131	Keskin Array S	114.73	57	ePKiKP		PKPdf	18 19 12.7	0.0	
BRTR	Keskin Array B	114.73	57	PKP		PKPdf	18 19 12.8	0.0	
BRTR				pPKP		pPKiKP	18 19 57.5	+0.4	
BRTR				PKKPab		PKKPab	18 29 57.6	+2.0	
BRTR	Keskin Array B	114.73	57	PKP		PKPdf	18 19 12.8	0.0	
	comp=Z,4.4nm,0.8s,baz=191,slow=2.8,SNR=22								
BRTR				pPKP		pPKiKP	18 19 57.5	+0.4	
	comp=Z,2.0nm,0.8s,baz=190,slow=3.4,SNR=4.0								
BRTR				PKKPab		PKKPab	18 29 57.6	+2.0	
	comp=Z,1.6nm,0.8s,baz=105,slow=4.5,SNR=9.5								
STKA	Stephens Creek	114.75	206	PKP		PKPdf	18 19 12.6	-0.3	
STKA	Stephens Creek	114.75	206	PKP		PKPdf	18 19 12.6	-0.3	
	comp=Z,4.2nm,1.0s,baz=349,slow=5.0,SNR=6.1								
ASF	Jabal al Asfar	115.00	65	PKP		PKPdf	18 19 13.8	+0.5	
ASF	Jabal al Asfar	115.00	65	PKP		PKPdf	18 19 13.8	+0.5	
	comp=Z,2.0nm,0.5s,baz=148,slow=6.7,SNR=5.5								
VSU	Vasula	115.06	35	diPKIKP		PKPdf	18 19 11.9	-0.6	
FINES	FINESS Array B	115.37	32	PKP		PKPdf	18 19 13.1	+0.1	
FINES				PKKPbc		PKKPbc	18 29 48.1	-1.1	
FINES	FINESS Array B	115.37	32	PKP		PKPdf	18 19 13.1	+0.1	
	comp=Z,1.7nm,0.4s,baz=320,slow=2.5,SNR=19								
FINES				PKKPbc		PKKPbc	18 29 48.1	-1.1	
	comp=Z,2.8nm,0.7s,baz=77,slow=3.0,SNR=6.8								
KAF	Kangasniemi	115.62	31	ePKIKP		PKPdf	18 19 13.3	-0.2	
KAF				pmax		pmax			
	comp=Z,6.0nm,0.5s								
KAF	Kangasniemi	115.62	31	ep		PKPdf	18 19 13.3	-0.2	
	comp=Z,5.7nm,0.5s								
ARCES	ARCESS Array B	116.58	23	PKP		PKPdf	18 19 15.2	0.0	
ARCES				PKKPbc		PKKPbc	18 29 43.8	-1.5	
ARCES	ARCESS Array B	116.58	23	PKP		PKPdf	18 19 15.2	0.0	
	comp=Z,1.1nm,0.3s,baz=242,slow=3.9,SNR=19								
ARCES				PKKPbc		PKKPbc	18 29 43.8	-1.5	
	comp=Z,7.7nm,1.0s,baz=77,slow=3.9,SNR=12								
ANN	Anapa	118.71	52	iPKIKP		PKPdf	18 19 13.8	-6.1	
ANN				e			18 19 56.4		
ANN				pmax		pmax			
	comp=Z,31nm,1.0s								
APA	Apatity	119.29	26	⇑ePKIKP		PKPdf	18 19 20.2	-0.2	
APA				MLR		MLR			
	comp=Z,300nm,19.0s								
OBN	Obninsk	119.83	40	diPKIKP		PKPdf	18 19 21.5	-0.2	
OBN				e			18 20 45.0		
OBN				iPS		PS	18 30 24.9	-15	
OBN				pmax		pmax			
	comp=Z,77nm,1.6s								
OBN				MLR		MLR			
	comp=Z,100nm,16.0s								
VSR	Storozhevoye	120.91	45	ePKIKP		PKPdf	18 19 23.1	-0.9	
VSR				pmax		pmax			
	comp=Z,50nm,1.8s								
VSR				pmax		pmax			
	comp=N,9.0nm,0.9s								
VSR				pmax		pmax			
	comp=E,8.0nm,0.9s								
VORD	Divnogorie	120.96	45	ePKIKP		PKPdf	18 19 23.5	-0.6	
VORD				pmax		pmax			
	comp=N,40nm,0.6s								
VORD				pmax		pmax			
	comp=E,30nm,0.6s								
VORD				pmax		pmax			
	comp=Z,20nm,0.6s								
TMCR	Tamitsa	121.12	30	ePKIKP		PKPdf	18 19 23.8	-0.2	
TMCR				pmax		pmax			
	comp=Z,45nm,1.2s								
KIV	Kislovodsk	122.26	54	iPKIKP		PKPdf	18 19 26.8	-0.2	
KIV				e*PP		pPKPdf	18 20 09.8	-1.6	
KIV				e			18 26 10.8		
KIV				ePS		PS	18 31 00.9	-1.0	
KIV				eSS		SS	18 37 32.7	+0.8	
KIV				pmax		pmax			
	comp=Z

AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTO	**Aktyubinsk**	**132.84**	**46**	PKPpre	PKPpre	18 19 35.0	
AKTO				PKP	**PKiKP**	**18 19 47.4**	**-0.6**
AKTO				pPKP	pPKPdf	18 20 32.8	+1.6
AKTO	**Aktyubinsk**	**132.84**	**46**	PKhKP	PKPpre	18 19 35.0	
	comp=Z,0.6nm,0.5s,baz=12,slow=5.5,SNR=4.1						
AKTO				PKP	**PKiKP**	**18 19 47.4**	**-0.6**
	comp=Z,8.8nm,0.8s,baz=271,slow=1.1,SNR=28						
AKTO				pPKP	pPKPdf	18 20 32.8	+1.6
	comp=Z,3.6nm,0.7s,baz=306,slow=2.0,SNR=2.8						
AB31	**Akbulak array**	**134.22**	**47**	PKIKP	**PKPdf**	**18 19 49.5**	**+0.1**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TIXI	**Tiksi**	**135.36**	**353**	*c i* PKIKP	**PKPdf**	**18 19 51.1**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s						
SEY	**Seymchan**	**136.74**	**335**	*d i* PKIKP	**PKPdf**	**18 19 54.6**	**+0.9**
PEA0B	**Petropavlovsk-**	**138.83**	**320**	*e* PKPdf	**PKPdf**	**18 19 56.4**	**-1.5**
PETK	**Petropavlovsk-**	**138.83**	**320**	PKHKP	PKPpre	18 19 48.1	
PETK						18 19 58.6	
PETK						18 20 43.4	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PETK				pmax	pmax		
	comp=Z,23nm,0.8s						
PETK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PETK				pmax	pmax		
	comp=N,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**138.83**	**320**	PKPpre	PKPpre	18 19 48.0	
PETK				PKP	**PKPdf**	**18 19 58.5**	**+0.7**
PETK				pPKP	pPKPdf	18 20 43.4	+1.1
PETK				SKPbc	**SKPbc**	**18 23 18.1**	**+1.2**
PETK	**Petropavlovsk-**	**138.83**	**320**	PKhKP	PKPpre	18 19 48.0	
	comp=N,3.0nm,0.7s,baz=70,slow=5.9,SNR=7.9						
PETK				PKP	**PKPdf**	**18 19 58.5**	**+0.7**
	comp=N,23nm,0.8s,baz=121,slow=2.9,SNR=36						
PETK				pPKP	pPKPdf	18 20 43.4	+1.1
	comp=N,5.1nm,0.7s,baz=123,slow=5.5,SNR=2.5						
PETK				SKPbc	**SKPbc**	**18 23 18.1**	**+1.2**
	comp=N,1.3nm,0.5s,baz=88,slow=9.3,SNR=3.6						
BRVK	**Borovoye**	**139.59**	**39**	*d i* PKIKP	**PKPdf**	**18 20 00.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,44nm,1.7s						
BRVK	**Borovoye**	**139.59**	**39**	PKPdf	**PKPdf**	**18 20 00.8**	**+1.5**
	SNR=12						
BRVK	**Borovoye**	**139.59**	**39**	*e* PKPdf	**PKPdf**	**18 20 00.2**	**+0.9**
BVA0	**Borovoye Array**	**139.66**	**39**	*i* PKIKP	**PKPdf**	**18 20 00.0**	**+0.6**
BVA0				pmax	pmax		
	comp=Z,39nm,1.2s						
BVAR	**Borovoye Array**	**139.66**	**39**	PKHKP	PKPpre	18 19 52.6	
BVAR						18 19 59.4	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				pmax	pmax		
	comp=Z,13nm,0.7s						
BVAR	**Borovoye Array**	**139.66**	**39**	PKPpre	PKPpre	18 19 52.6	
BVAR				PKP	**PKPdf**	**18 19 59.4**	**0.0**
BVAR	**Borovoye Array**	**139.66**	**39**	PKhKP	PKPpre	18 19 52.6	
	comp=Z,0.8nm,0.3s,baz=358,slow=0.8,SNR=8.8						
BVAR				PKP	**PKPdf**	**18 19 59.4**	**0.0**
	comp=Z,13nm,0.7s,baz=262,slow=1.9,SNR=36						
VOSK	**Vostochnaya**	**140.11**	**40**	PKHKP	PKPpre	18 19 53.3	
VOSK				pmax	pmax		
	comp=Z,29nm,1.0s						
SKR	**Severo-Kuril's**	**140.56**	**317**	*e* PKHKP	PKPpre	18 19 50.2	
BATI	**Baumata**	**140.83**	**196**	PKPpre	PKPpre	18 19 57.2	
BATI	**Baumata**	**140.83**	**196**	PKhKP	PKPpre	18 19 57.2	
	comp=Z,48nm,0.8s,baz=103,slow=2.7,SNR=6.3						
KBL	**Kabul**	**141.79**	**69**	*e* PKHKP	PKPpre	18 20 00.0	
KBL	**Kabul**	**141.79**	**69**	*e* PKPpre	PKPpre	18 19 60.0	
KK31	**Karatay Array**	**142.41**	**55**	*e* PKHKP	PKPpre	18 19 59.5	
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KKAR	**Karatay Array**	**142.41**	**55**	*e* PKHKP	PKPpre	18 19 59.6	
KKAR	**Karatay Array**	**142.41**	**55**	*e* PKPpre	PKPpre	18 19 59.5	
POO	**Poona**	**142.67**	**96**	*e* P	**PKPdf**	**18 20 01.5**	**-4.4**
PALK	**Pallekele**	**142.94**	**117**	*e* PKPdf	**PKPdf**	**18 20 06.3**	**-0.2**
YAK	**Yakutsk**	**144.18**	**347**	*d i* PKIKP	**PKPab**	**18 20 05.4**	**+0.1**
YAK				*e*		18 23 26.7	
YAK				pmax	pmax		
	comp=Z,292nm,0.9s						
YAK				pmax	pmax		
	comp=N,83nm,1.4s						
YAK				pmax	pmax		
	comp=E,53nm,2.2s						
YAK				pmax	pmax		
	comp=Z,81nm,3.3s						
YAK				pmax	pmax		
	comp=N,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,23nm,2.3s						
EKS2	**Erkin-Say**	**144.85**	**55**	*e* PKIKP	**PKPdf**	**18 20 09.3**	**+0.2**
EKS2	**Erkin-Say**	**144.85**	**55**	P	**PKPdf**	**18 20 09.7**	**+0.6**
	SNR=229						
EKS2	**Erkin-Say**	**144.85**	**55**	*e* PKPdf	**PKPdf**	**18 20 09.3**	**+0.2**
AML	**Almayashu**	**144.89**	**56**	P	**PKPdf**	**18 20 10.3**	**+0.7**
	SNR=13						
LATR	**Latur**	**145.01**	**98**	*e* P	**PKPbc**	**18 20 07.5**	**-2.1**
LATR				*ex*	x	18 20 09.4	
	comp=Z,339nm,1.4s						
USP	**Ospenovka**	**145.24**	**53**	P	**PKPab**	**18 20 10.8**	**+0.8**
	SNR=7.5						
KURBB	**Kurchatov Arra**	**145.26**	**40**	PKPbc	**PKPab**	**18 20 10.1**	**+0.3**
	comp=Z,233nm,0.9s,baz=300,slow=3.4,SNR=1211						
KURBB				pPKPbc	pPKPbc	18 20 53.7	+0.4
	comp=Z,48nm,0.9s,baz=300,slow=3.1,SNR=3.1						
KURK	**Kurchatov**	**145.26**	**39**	PKIKP	**PKPab**	**18 20 10.1**	**+0.3**
KURK						18 20 53.7	
KURK				pmax	pmax		
	comp=Z,233nm,0.9s						
KURK				pmax	pmax		
	comp=Z,48nm,0.9s						
KURK	**Kurchatov**	**145.26**	**39**	PKPbc	**PKPab**	**18 20 10.1**	**+0.3**
KURK				pPKPbc	pPKPbc	18 20 53.7	+0.4
NVS	**Novosibirsk**	**145.34**	**31**	*j i* PKIKP	**PKPab**	**18 20 10.4**	**+0.5**
NVS				*i*		18 20 53.6	
NVS				pmax	pmax		
	comp=E,127nm,1.3s						
NVS				pmax	pmax		
	comp=Z,608nm,1.3s						
AAK	**Ala-Archa**	**145.37**	**55**	*c i* PKP2	**PKPab**	**18 20 11.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2μm,1.2s						
AAK	**Ala-Archa**	**145.37**	**55**	PKPbc	**PKPab**	**18 20 11.9**	**+1.2**
	SNR=352						
AAK	**Ala-Archa**	**145.37**	**55**	P	**PKPab**	**18 20 11.7**	**+1.0**
	SNR=278						
AAK	**Ala-Archa**	**145.37**	**55**	PKPbc	**PKPab**	**18 20 11.4**	**+0.7**
AAK				pPKPbc	pPKPbc	18 20 55.1	+1.0
AAK	**Ala-Archa**	**145.37**	**55**	PKPbc	**PKPab**	**18 20 11.4**	**+0.7**
	comp=Z,455nm,0.8s,baz=205,slow=2.3,SNR=588						
AAK				pPKPbc	pPKPbc	18 20 55.1	+1.0
	comp=Z,85nm,1.0s,baz=174,slow=6.4,SNR=1.7						
FRU	**Bishkek**	**145.42**	**54**	*j i* PKP2	**PKPab**	**18 20 11.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,1μm,1.9s						
UCH	**Uchtor**	**145.47**	**55**	P	**PKPab**	**18 20 12.4**	**+0.9**
	SNR=40						
CHMS	**Chumysh**	**145.47**	**54**	P	**PKPab**	**18 20 11.6**	**+0.7**
	SNR=20						
KBK	**Karagaybulak**	**145.69**	**54**	P	**PKPab**	**18 20 12.7**	**+0.8**
	SNR=30						
KZA	**Kyzart**	**146.04**	**55**	P	**PKPab**	**18 20 13.4**	**-0.2**
	SNR=86						
TKM2	**Tokmak 2**	**146.10**	**54**	*e* PKP2	**PKPbc**	**18 20 12.5**	**-0.1**
TKM2	**Tokmak 2**	**146.10**	**54**	P	**PKPab**	**18 20 13.7**	**+0.1**
	SNR=10						
TKM2	**Tokmak 2**	**146.10**	**54**	*e* PKPdf	**PKPbc**	**18 20 12.5**	**-0.1**
AKL	**Akola**	**146.23**	**94**	*e* P	**PKPab**	**18 20 14.0**	**-0.4**
AKL				AMP		18 20 15.2	
	comp=Z,320nm,0.9s						
AKL				*i* S	x	18 20 59.5	
HYB	**Hyderabad**	**146.36**	**101**	*i* PKP	**PKPdf**	**18 20 12.5**	**+0.2**
	comp=Z,360nm,1.0s						
HYB				*e*pPKP	**pPKPdf**	**18 20 55.5**	**-1.3**
HYB				*e*PP	**PP**	**18 23 37.0**	**-1.1**
ZAA0	**Zalesovo Array**	**146.63**	**31**	*e* PKPdf	**PKPdf**	**18 20 12.2**	**+0.6**
ZALV	**Zalesovo Beam**	**146.63**	**31**	PKIKP	**PKPdf**	**18 20 12.3**	**+0.7**
ZALV						18 20 14.2	
ZALV						18 20 58.3	
ZALV						18 23 36.5	
ZALV				pmax	pmax		
	comp=Z,106nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,106nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,65nm,0.8s						
ZALV				pmax	pmax		
	comp=N,4.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZALV	**Zalesovo Beam**	**146.63**	**31**	PKP	**PKPdf**	**18 20 12.3**	**+0.7**
ZALV				PKPbc	**PKPbc**	**18 20 14.2**	**+0.7**
ZALV				pPKPbc	pPKPbc	18 20 58.3	+1.0
ZALV				SKPbc	**SKiKP**	**18 23 36.5**	**+0.3**
ZALV				PP	PP	18 23 51.6	+13
ZALV	**Zalesovo Beam**	**146.63**	**31**	PKP	**PKPdf**	**18 20 12.3**	**+0.7**
	comp=Z,106nm,0.3s,baz=311,slow=2.9,SNR=262						
ZALV				PKPbc	**PKPbc**	**18 20 14.2**	**+0.7**
	comp=Z,106nm,0.3s,baz=314,slow=3.6,SNR=258						
ZALV				pPKPbc	pPKPbc	18 20 58.3	+1.0
	comp=Z,65nm,0.8s,baz=302,slow=3.3,SNR=3.4						
ZALV				SKPbc	**SKiKP**	**18 23 36.5**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=270,slow=1.4,SNR=3.2						
ZALV				PP	PP	18 23 51.6	+13
	comp=Z,5.9nm,0.6s,baz=309,slow=2.8,SNR=3.8						
KAPI	**Kappang**	**146.70**	**192**	PKPdf	**PKPdf**	**18 20 12.9**	**-0.1**
	SNR=23						
KAPI	**Kappang**	**146.70**	**192**	PKP	**PKPdf**	**18 20 12.6**	**-0.4**
KAPI				*e*PKPdf	**PKPbc**	**18 20 12.8**	**-2.1**
KAPI				PKPbc	**PKPbc**	**18 20 14.7**	**-0.1**
KAPI	**Kappang**	**146.70**	**192**	PKP	**PKPdf**	**18 20 12.6**	**-0.4**
	comp=Z,220nm,1.0s,baz=208,slow=3.6,SNR=70						
KAPI				PKPbc	**PKPbc**	**18 20 14.7**	**-0.1**
	comp=Z,136nm,0.7s,baz=212,slow=4.9,SNR=72						
ULHL	**Ulahol**	**146.72**	**55**	P	**PKPbc**	**18 20 14.1**	**-0.3**
	SNR=183						
KSH	**Kashi**	**147.05**	**60**	PKPbc	**PKPbc**	**18 20 14.2**	**-1.1**
KSH				sPKP		18 21 13.3	
KSH				AMB	AMB		
	comp=Z,110nm,4.4s						
KSH				LR	LR		
	comp=N,54nm,4.3s						
KSH				LR	LR		
	comp=E,79nm,4.8s						
KSH				LR	LR		
	comp=Z,120nm,6.5s						
THN	**Thein Dam**	**147.28**	**73**	*ex*	PKPdf	18 20 08.0	-5.3
THN				*ex*	x	18 27 34.0	
KUR	**Kuril'sk**	**147.62**	**312**	*d i* PKP2	**PKPbc**	**18 20 16.6**	**+0.2**
KUR				pmax	pmax		
	comp=Z,42nm,0.9s						
KRAR	**Krasnoyarsk**	**148.30**	**22**	*j e* PKIKP	**PKPdf**	**18 20 14.8**	**+0.5**
MK31	**Makanchi Array**	**149.23**	**44**	*e* PKPdf	**PKPdf**	**18 20 16.4**	**+0.2**
MK31				*e*PKPbc	**PKPbc**	**18 20 21.1**	**+0.5**
MKAR	**Makanchi Array**	**149.23**	**44**	PKIKP	**PKPdf**	**18 20 16.8**	**+0.6**
MKAR						18 20 21.2	
MKAR				pmax	pmax		
	comp=Z,81nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,151nm,0.9s						
MKAR	**Makanchi Array**	**149.23**	**44**	PKP	**PKPdf**	**18 20 16.8**	**+0.6**
MKAR				PKPbc	**PKiKP**	**18 20 21.2**	**-0.5**
MKAR	**Makanchi Array**	**149.23**	**44**	PKP	**PKPdf**	**18 20 16.8**	**+0.6**
	comp=Z,81nm,0.6s,baz=294,slow=3.6,SNR=149						
MKAR				PKPbc	**PKiKP**	**18 20 21.2**	**-0.5**
	comp=Z,151nm,0.9s,baz=294,slow=2.8,SNR=408						
YSS	**Yuzh-Sakhalins**	**150.13**	**317**	*j i* PKP2	**PKPbc**	**18 20 23.6**	**+0.9**
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
VIS	**Vishakhapatnam**	**150.62**	**104**	*i* x	**PKPbc**	**18 20 25.4**	**+0.7**
VIS				*i* x	**PKPbc**	**18 20 25.4**	**+0.7**
PSI	**Prapat**	**151.50**	**149**	PKP	**PKPdf**	**18 20 21.2**	**+0.4**
PSI				PKPbc	**PKPbc**	**18 20 27.0**	**-0.1**
PSI				PKPab	**PKPab**	**18 20 35.6**	**-0.4**
PSI	**Prapat**	**151.50**	**149**	PKP	**PKPdf**	**18 20 21.2**	**+0.4**
	comp=Z,28nm,1.0s,baz=206,slow=6.5,SNR=21						
PSI				PKPbc	**PKPbc**	**18 20 27.0**	**-0.1**
	comp=Z,86nm,0.6s,baz=201,slow=3.0,SNR=63						
PSI				PKPab	**PKPab**	**18 20 35.6**	**-0.4**
	comp=Z,162nm,0.9s,baz=145,slow=3.1,SNR=19						
ASAJ	**Asahikawa**	**151.52**	**312**	*e* PKPdf	**PKPdf**	**18 20 20.1**	**+0.4**
ASAJ				PKPbc	**PKiKP**	**18 20 26.3**	**-0.1**
ASAJ				*e*PKPbc	**PKPbc**	**18 20 26.5**	**+0.4**
ERM	**Erimo**	**151.95**	**308**	*e* PKIKP	**PKPbc**	**18 20 27.8**	**+0.7**
ERM	**Erimo**	**151.95**	**308**	*e* PKPbc	**PKPbc**	**18 20 27.8**	**+0.7**
KGM	**Kluang**	**152.54**	**158**	P	**PKPbc**	**18 20 29.5**	**+0.2**
FRIM	**Kepong**	**153.06**	**153**	P	**PKPbc**	**18 20 30.3**	**-0.2**
HABR	**Khabarovsk**	**153.45**	**327**	*de* PKIKP	**PKPdf**	**18 20 22.2**	**-0.2**
HABR				*e*		18 21 04.5	
HABR				*e*		18 21 23.9	
HABR				*e*		18 24 18.3	
HABR				*e*		18 27 14.0	
HABR				*e*SS	SS	18 43 41.5	+3.2
HABR				*e*SSS	SSS	18 49 33.3	
HABR				pmax	pmax		
	comp=Z,91nm,1.4s						
HABR				pmax	pmax		
	comp=E,10.0nm,1.1s						
HABR				pmax	pmax		
	comp=N,18nm,1.4s						
KSM	**Kuching**	**153.57**	**173**	*e* PKPdf	**PKPdf**	**18 20 23.9**	**+0.2**
KSM				*e*PKPbc	**PKPbc**	**18 20 31.3**	**-0.3**
KSM	**Kuching**	**153.57**	**173**	P	**PKPdf**	**18 20 24.2**	**+0.5**
IPM	**Ipoh**	**153.93**	**151**	*e* PKPdf	**PKPdf**	**18 20 24.7**	**+0.5**
IPM				*e*PKPbc	**PKPbc**	**18 20 32.2**	**-0.2**
IPM	**Ipoh**	**153.93**	**151**	P	**PKPbc**	**18 20 32.6**	**+0.2**
WMQ	**Urumqi**	**153.99**	**46**	PKPbc	**PKPdf**	**18 20 23.6**	**+0.1**
WMQ				PKPab	**PKPab**	**18 20 47.2**	**+1.5**
WMQ				PKS	**PKSdf**	**18 23 54.7**	**-3.0**
WMQ				PP	**PP**	**18 24 25.4**	**+4.3**
WMQ				SKS	**SKSdf**	**18 27 13.0**	**-1.4**
WMQ				SKKS	**SKKSac**	**18 30 57.1**	**+2.6**
WMQ				SS	**SS**	**18 43 47.7**	**+2.6**
KULM	**Kulim**	**154.49**	**149**	*e* PKPdf	**PKPdf**	**18 20 25.5**	**+0.5**
KULM				*e*PKPbc	**PKPbc**	**18 20 33.4**	**-0.1**
KULM	**Kulim**	**154.49**	**149**	P	**PKPbc**	**18 20 33.7**	**+0.2**
MOY	**Mondy**	**154.50**	**18**	*e* PKIKP	**PKPdf**	**18 20 26.2**	**+2.2**
MOY				pmax	pmax		
	comp=Z,57nm,2.3s						
DMN	**Daman**	**155.04**	**84**	*e* P	**PKPdf**	**18 20 22.4**	**-3.3**
KKN	**Kakani**	**155.22**	**84**	*e* P	**PKPdf**	**18 20 23.0**	**-2.9**
PKIN	**Phulchoki**	**155.29**	**84**	*e* P	**PKPdf**	**18 20 23.1**	**-2.9**
PKI	**Pulchoki**	**155.30**	**84**	*e* P	**PKPdf**	**18 20 23.1**	**-3.0**
PKDT	**Phuket**	**155.57**	**142**	PKP	**PKPdf**	**18 20 27.5**	**+1.1**
PKDT				PKP	**PKPab**	**18 20 53.2**	**+0.2**
GUN	**Gumba**	**155.76**	**83**	*e* P	**PKPdf**	**18 20 25.6**	**-1.2**
JIRN	**Jiri**	**156.00**	**84**	*e* P	**PKPdf**	**18 20 26.4**	**-0.7**
RAMN	**Ramite**	**156.27**	**86**	*e* P	**PKPdf**	**18 20 27.9**	**+0.6**
ZAK	**Zakamensk**	**156.27**	**16**	*e* PKIKP	**PKPdf**	**18 20 26.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,18nm,1.2s						
ODAN	**Odare**	**156.95**	**86**	*e* P	**PKPdf**	**18 20 30.9**	**+2.7**
MJAR	**Matsushiro Arr**	**157.30**	**299**	PKP	**PKPdf**	**18 20 28.1**	**+0.1**
MJAR				PKPab	**PKPab**	**18 21 00.0**	**-0.1**
MJAR				pPKPab	**pPKPab**	**18 21 43.6**	**+0.7**
MJAR				PP	**PP**	**18 24 39.1**	**-0.8**
MJAR	**Matsushiro Arr**	**157.30**	**299**	PKP	**PKPdf**	**18 20 28.1**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=237,slow=2.2,SNR=11						
MJAR				PKPab	**PKPab**	**18 21 00.0**	**-0.1**
	comp=Z,13nm,0.9s,baz=81,slow=2.8,SNR=7.6						
MJAR				pPKPab	**pPKPab**	**18 21 43.6**	**+0.7**
	comp=Z,11nm,0.8s,baz=129,slow=1.9,SNR=6.0						
MJAR				PP	**PP**	**18 24 39.1**	**-0.8**
	comp=Z,3.7nm,1.2s,baz=87,slow=2.2,SNR=4.1						
TAPN	**Taplejung**	**157.30**	**85**	*e* P	**PKPdf**	**18 20 32.5**	**+3.8**
USRK	**Ussuriysk Arra**	**157.89**	**322**	PKP	**PKPdf**	**18 20 28.7**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=270,slow=1.9,SNR=9.7						
USRK				PKPab	**PKPab**	**18 21 01.7**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=55,slow=7.2,SNR=6.5						
MDJ	**Mudanjiang**	**158.84**	**326**	PKP	**PKPdf**	**18 20 29.4**	**-0.2**
MDJ				PP	**PP**	**18 24 47.1**	**-0.3**
MDJ				SS	SS	18 44 26.1	-10
MDJ				AMB	AMB		
	comp=Z,88nm,8.4s						
MDJ				LR	LR		
	comp=N,48nm,32.1s						
MDJ				LR	LR		
	comp=E,83nm,28.3s						
MDJ				LR	LR		
	comp=Z,71nm,34.7s						
MDJ	**Mudanjiang**	**158.84**	**326**	*e* PKPdf	**PKPdf**	**18 20 29.4**	**-0.2**
SONM	**Songino Array**	**159.37**	**13**	PKP	**PKPdf**	**18 20 31.0**	**+0.6**
SONM				PKPab	**PKPab**	**18 21 09.3**	**+0.5**
SONM				pPKP	**pPKPdf**	**18 21 15.6**	**+0.7**
SONM	**Songino Array**	**159.37**	**13**	PKP	**PKPdf**	**18 20 31.0**	**+0.6**
	comp=Z,30nm,1.1s,baz=267,slow=0.6,SNR=96						
SONM				PKPab	**PKPab**	**18 21 09.3**	**+0.5**
	comp=Z,16nm,1.0s,baz=324,slow=4.7,SNR=7.9						
SONM				pPKP	**pPKPdf**	**18 21 15.6**	**+0.7**
	comp=Z,10nm,1.0s,baz=338,slow=4.2,SNR=3.4						
ULN	**Ulaanbaatar**	**159.47**	**12**	PKPdf	**PKPdf**	**18 20 31.5**	**+1.0**
	SNR=22						
ULN	**Ulaanbaatar**	**159.47**	**12**	*e* PKPdf	**PKPdf**	**18 20 30.9**	**+0.4**
ULN				*e*PKPab	**PKPab**	**18 21 10.2**	**+1.0**
PHET	**Kaeng Krachan**	**160.35**	**137**	PKP	**PKPdf**	**18 20 33.7**	**+1.5**
LSA	**Lhasa**	**160.48**	**79**	PKP	**PKPdf**	**18 20 33.8**	**+1.2**
LSA	**Lhasa**	**160.48**	**79**	*e* PKIKP	**PKPdf**	**18 20 33.5**	**+0.9**
LSA	**Lhasa**	**160.48**	**79**	*e* PKPdf	**PKPdf**	**18 20 33.5**	**+0.9**
CN2	**Changchun**	**161.37**	**332**	*e* PKP	**PKPdf**	**18 20 31.9**	**-0.6**
NAYO	**Nakonayok**	**162.47**	**138**	PKP	**PKPdf**	**18 20 35.1**	**+0.7**
CM31	**Chiang Mai Arr**	**163.79**	**122**	*e* PKPdf	**PKPdf**	**18 20 36.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**163.79**	**122**	PKP	**PKPdf**	**18 20 36.4**	**+0.7**
CMAR				pPKP	**pPKPdf**	**18 21 21.8**	**+1.4**
CMAR				PKPab	**PKPab**	**18 21 28.3**	**-0.5**
CMAR				PP	**PP**	**18 25 13.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**163.79**	**122**	PKP	**PKPdf**	**18 20 36.4**	**+0.7**
	comp=Z,12nm,1.0s,baz=258,slow=2.3,SNR=82						
CMAR				pPKP	**pPKPdf**	**18 21 21.8**	**+1.4**
	comp=Z,23nm,1.0s,baz=249,slow=2.4,SNR=13						
CMAR				PKPab	**PKPab**	**18 21 28.3**	**-0.5**
	comp=Z,20nm,1.0s,baz=239,slow=3.5,SNR=14						
CMAR				PP	**PP**	**18 25 13.5**	**-1.1**
	comp=Z,5.1nm,1.0s,baz=256,slow=5.0,SNR=8.6						
GTA	**Gaotai**	**163.94**	**41**	PKP	**PKPdf**	**18 20 36.3**	**+1.0**
GTA				pPKP	**pPKPdf**	**18 21 21.5**	**+1.5**
GTA				PKPab	**PKPab**	**18 21 30.4**	**+1.3**
GTA				sPKP		18 21 40.1	
GTA				PKS	**PKSdf**	**18 24 09.8**	**+1.4**
GTA				PP	**PP**	**18 25 18.6**	**+3.6**
GTA				SKKS		18 31 46.8	
GTA				SS	**SS**	**18 45 32.4**	**+2.3**
GTA				AMB	AMB		
	comp=Z,100nm,6.2s						
GTA				LR	LR		
	comp=N,160nm,19.0s						
GTA				LR	LR		
	comp=E,210nm,17.6s						
GTA				LR	LR		
	comp=Z,110nm,19.0s						
PBKT	**Sadao Pong**	**163.96**	**132**	PKP	**PKPdf**	**18 20 36.4**	**+0.6**
CHTO	**Chiang Mai**	**164.01**	**121**	*e* PKIKP	**PKPdf**	**18 20 35.9**	**+0.1**
CHTO	**Chiang Mai**	**164.01**	**121**	PKPdf	**PKPdf**	**18 20 36.6**	**+0.8**
	SNR=10						
CHTO	**Chiang Mai**	**164.01**	**121**	*e* PKPdf	**PKPdf**	**18 20 35.9**	**+0.1**
CHTO	**Chiang Mai**	**164.01**	**121**	PKP	**PKPdf**	**18 20 36.2**	**+0.4**
JNU	**Nakatsue**	**164.01**	**293**	PKPab	**PKPab**	**18 21 29.3**	**-0.3**
JNU	**Nakatsue**	**164.01**	**293**	PKPab	**PKPab**	**18 21 29.3**	**-0.3**
	comp=Z,38nm,1.2s,baz=238,slow=2.2,SNR=4.7						
CMMT	**Chiang Mai**	**164.01**	**121**	PKP	**PKPdf**	**18 20 35.8**	**0.0**
CHAI	**Chaiyaphum**	**164.10**	**136**	PKP	**PKPdf**	**18 20 36.6**	**+0.7**
LAMP	**Lampang**	**164.34**	**124**	PKP	**PKPdf**	**18 20 37.1**	**+1.0**
KSRS	**Korea Array**	**164.46**	**312**	PKP	**PKPdf**	**18 20 35.8**	**+0.2**
	comp=Z,11nm,0.9s,baz=100,slow=0.9,SNR=24						
KSRS				pPKP	**pPKPdf**	**18 21 20.6**	**+0.3**
	comp=Z,11nm,1.1s,baz=63,slow=1.6,SNR=5.1						
KSRS				PKPab	**PKPab**	**18 21 32.1**	**+0.9**
	comp=Z,7.0nm,0.7s,baz=54,slow=4.6,SNR=16						
KSAR	**Wonju Array Be**	**164.50**	**312**	PKP	**PKPdf**	**18 20 35.8**	**+0.1**
KSAR				pPKP	**pPKPdf**	**18 21 20.6**	**+0.3**
KSAR				PKPab	**PKPab**	**18 21 32.1**	**+0.7**
CMAI	**Chiengmai2**	**164.73**	**118**	PKP	**PKPdf**	**18 20 37.6**	**+1.0**
PAYA	**Payao**	**165.03**	**122**	PKP	**PKPdf**	**18 20 37.2**	**+0.5**
UBPT	**Khong Chiam**	**165.48**	**148**	PKP	**PKPdf**	**18 20 37.9**	**+0.8**
PANO	**Nakornpanom**	**166.62**	**141**	PKP	**PKPdf**	**18 20 38.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**166.99**	**6**	*e* PKP	**PKPdf**	**18 20 38.1**	**+0.3**
HHC				pPKP	**pPKPdf**	**18 21 21.5**	**-1.0**
HHC				sPKP		18 21 38.5	
HHC				PKS	**PKSdf**	**18 24 09.5**	**-1.0**
HHC				PP	**PP**	**18 25 34.6**	**+4.7**
HHC				SKS	**SKSdf**	**18 27 24.7**	**-1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.52**	**81**	*eP*	**Pb**	**18 31 14.7**	**-0.4**
SJMP				*eS*	**Sn**	**18 31 23.7**	**-1.0**
BUSP	**Coron**	**0.54**	**226**	*eP*	**Pn**	**18 31 16.1**	**-0.9**
PGP	**Puerto Galera**	**1.17**	**17**	⇓*iP*	Pn	18 31 20.6	-5.0
OTRP	**Odiongan**	**1.39**	**91**	*eP*	**Pb**	**18 31 29.1**	**-1.0**
CUYO	**Cuyo Island**	**1.58**	**165**	*eP*	**Pb**	**18 31 32.5**	**-0.7**
BOAC	**Boac**	**1.62**	**49**	*eP*	**Pn**	**18 31 31.2**	**-0.6**
ENPP	**El Nido**	**1.64**	**225**	*eP*	**Pb**	**18 31 32.9**	**-1.3**
AUQP	**San Andres**	**2.23**	**65**	*eP*	**Pb**	**18 31 42.2**	**-2.1**
RCP	**Roxas**	**2.26**	**111**	⇓*eP*	**Pb**	**18 31 42.6**	**-2.1**
GUIM	**Jordan**	**2.62**	**132**	*eP*	**Pb**	**18 31 48.1**	**-2.8**
PVCP	**Virac**	**3.67**	**70**	*eP*	Pn	18 32 02.7	+2.6
OCLP	**Ormoc**	**4.15**	**108**	*eP*	**Pn**	**18 32 08.9**	**+2.3**
MSLP	**Maasin**	**4.74**	**118**	*eP*	Pn	18 32 18.4	+3.6
CMAR	**Chiang Mai Arr**	**21.72**	**289**	P	**P**	**18 35 55.4**	**+0.9**
	2.4nm,0.9s,baz=100,slow=8.6,SNR=19						
KSRS	**Korea Array**	**25.82**	**13**	LR	LR	18 46 30.3	
	comp=Z,19nm,20.6s,baz=350,slow=36						
WRA	**Warramunga Arr**	**34.85**	**157**	P	**P**	**18 37 55.0**	**+0.6**
	0.6nm,0.6s,baz=334,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**38.12**	**160**	P	**P**	**18 38 23.5**	**+1.3**
	0.4nm,0.6s,baz=339,slow=7.1,SNR=15						
MKAR	**Makanchi Array**	**47.03**	**324**	P	**P**	**18 39 35.1**	**+0.7**
	0.2nm,0.5s,baz=134,slow=8.7,SNR=3.2						

*IDC **12** 18:39:46.8±2.0, 19°.50N×65°.45W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/26, mbtmp3.8/7, Error ellipse: s-maj=46.2km s-min=27.7km az=78.0*
*ISCJB **12** 18:39:47.3±0.6, 19°.65N±0°.04×65°.38W±0°.03, h16km, mb3.8/7, Error ellipse: s-maj=5.8km s-min=4.2km az=26.7*
*NEIC **12** 18:39:48.1, 19°.52N×65°.28W, h113km, mb4.4/1, MD4.8(RSPR), After RSPR.*
NEIC Felt at Golden Rock and Oranjestad, Sint Eustatius.
*RSPR **12** 18:39:48.1, 19°.52N×65°.28W, h113km±8km, MD4.8/9*
ISC 12 18:39:48.7±0.8, 19°.54N±0°.05×65°.36W±0°.04, h16km, n64, σ0.57/84, mb3.8/7, 12C-30D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.24**	**162**	⇑*eP*	**Pn**	**18 40 11.1**	**-0.2**
STVI	**Saint Thomas**	**1.24**	**162**	*eS*	**Sg**	**18 40 29.0**	**+0.2**
STVI	**Saint Thomas**	**1.24**	**162**	⇑*eP*	**Pn**	**18 40 11.1**	**-0.2**
STVI				*eS*	**Sg**	**18 40 29.0**	**+0.2**
STVI	**Saint Thomas**	**1.24**	**162**	⇑*eP*	**Pn**	**18 40 11.1**	**-0.2**
STVI				*eS*	**Sg**	**18 40 29.0**	**+0.2**
ABV	**Anegada**	**1.26**	**129**	⇓*eP*	**Pb**	**18 40 12.1**	**+0.1**
ABV	**Anegada**	**1.26**	**129**	*eS*	**Sg**	**18 40 28.6**	**-0.8**
ABV	**Anegada**	**1.26**	**129**	⇓*eP*	**Pb**	**18 40 12.1**	**+0.1**
ABV				*eS*	**Sg**	**18 40 28.6**	**-0.8**
ABVI	**Anegada Island**	**1.26**	**129**	⇓*eP*	**Pb**	**18 40 12.1**	**+0.1**
ABVI				*eS*	**Sg**	**18 40 28.6**	**-0.7**
TBVI	**Tortola**	**1.31**	**148**	⇓*eP*	**Pn**	**18 40 12.5**	**+0.1**
TBVI				*eS*	**Sg**	**18 40 31.2**	**+0.1**
TBVI	**Tortola**	**1.31**	**148**	⇓*eP*	**Pn**	**18 40 12.5**	**+0.1**
TBVI				*eS*	**Sg**	**18 40 31.2**	**+0.1**
TBVI	**Tortola**	**1.31**	**148**	⇓*eP*	**Pn**	**18 40 12.5**	**+0.1**
TBVI				*eS*	**Sg**	**18 40 31.2**	**+0.1**
HUMP	**Col San Antoni**	**1.46**	**199**	⇓*eP*	**Pn**	**18 40 14.1**	**-0.3**
HUMP	**Col San Antoni**	**1.46**	**199**	*eS*	**Sb**	**18 40 33.4**	**-0.5**
HUMP	**Col San Antoni**	**1.46**	**199**	⇓*eP*	**Pn**	**18 40 14.1**	**-0.3**
HUMP				*eS*	**Sb**	**18 40 33.4**	**-0.5**
HUMP	**Col San Antoni**	**1.46**	**199**	⇓*eP*	**Pn**	**18 40 14.1**	**-0.3**
HUMP				*eS*	**Sb**	**18 40 33.4**	**-0.5**
CPD	**Cerro la Pandu**	**1.58**	**200**	⇓*eP*	**Pn**	**18 40 15.9**	**-0.2**
CPD	**Cerro la Pandu**	**1.58**	**200**	⇓*eP*	**Pn**	**18 40 15.9**	**-0.2**
CPD	**Cerro la Pandu**	**1.58**	**200**	⇓*eP*	**Pn**	**18 40 15.9**	**-0.2**
SJG	**San Juan**	**1.60**	**208**	⇓*iP*	**Pn**	**18 40 16.1**	**-0.3**
SJG				*eS*	**Sb**	**18 40 37.9**	**0.0**
SJG	**San Juan**	**1.60**	**208**	⇓*iP*	**Pn**	**18 40 16.1**	**-0.3**
SJG				*eS*	**Sb**	**18 40 37.9**	**0.0**
SJG	**San Juan**	**1.60**	**208**	⇓*iP*	**Pn**	**18 40 16.5**	**+0.1**
SJG				*eS*	**Sb**	**18 40 37.9**	**0.0**
AOPR	**Arecibo Observ**	**1.77**	**228**	⇓*eP*	**Pn**	**18 40 18.3**	**-0.5**
AOPR	**Arecibo Observ**	**1.77**	**228**	*eS*	**Sb**	**18 40 42.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.77**	**228**	⇓*eP*	**Pn**	**18 40 18.3**	**-0.5**
AOPR				*eS*	**Sb**	**18 40 42.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.77**	**228**	⇓*eP*	**Pn**	**18 40 18.3**	**-0.5**
AOPR				*eS*	**Sb**	**18 40 42.7**	**-0.2**
CELP	**Cerrillos**	**1.86**	**219**	⇓*iP*	**Pn**	**18 40 19.7**	**-0.2**
CELP				*eS*	**Sb**	**18 40 45.2**	**-0.1**
CELP	**Cerrillos**	**1.86**	**219**	⇓*iP*	**Pn**	**18 40 19.7**	**-0.2**
CELP				*eS*	**Sb**	**18 40 45.2**	**-0.1**
CELP	**Cerrillos**	**1.86**	**219**	⇓*iP*	**Pn**	**18 40 19.7**	**-0.2**
CELP				*eS*	**Sb**	**18 40 45.2**	**-0.1**
CDVI	**St. Croix**	**1.86**	**162**	*eP*	**Pn**	**18 40 20.2**	**+0.3**
LRS	**Lares**	**1.88**	**229**	⇓*eP*	**Pn**	**18 40 19.5**	**-0.7**
LRS	**Lares**	**1.88**	**229**	⇓*eP*	**Pn**	**18 40 19.5**	**-0.7**
LRS	**Lares**	**1.88**	**229**	⇓*eP*	**Pn**	**18 40 19.5**	**-0.7**
OBIP	**Obispado Ponce**	**1.90**	**219**	⇑*eP*	**Pn**	**18 40 20.1**	**-0.3**
OBIP	**Obispado Ponce**	**1.90**	**219**	*eS*	**Sb**	**18 40 45.8**	**-0.7**
OBIP	**Obispado Ponce**	**1.90**	**219**	⇑*eP*	**Pn**	**18 40 20.1**	**-0.3**
OBIP				*eS*	**Sb**	**18 40 45.8**	**-0.7**
OBIP	**Obispado Ponce**	**1.90**	**219**	⇑*eP*	**Pn**	**18 40 20.1**	**-0.3**
OBIP				*eS*	**Sb**	**18 40 45.8**	**-0.7**
LSP	**Las Mesas**	**2.12**	**231**	⇓*eP*	**Pn**	**18 40 23.9**	**+0.4**
LSP	**Las Mesas**	**2.12**	**231**	*eS*	**Sn**	**18 40 50.7**	**+1.0**
LSP	**Las Mesas**	**2.12**	**231**	⇓*eP*	**Pn**	**18 40 23.9**	**+0.4**
LSP				*eS*	**Sn**	**18 40 50.7**	**+1.0**
LSP	**Las Mesas**	**2.12**	**231**	⇓*eP*	**Pn**	**18 40 23.9**	**+0.4**
LSP				*eS*	**Sn**	**18 40 50.7**	**+1.0**
IDE	**Isla Desecheo**	**2.31**	**241**	⇑*eP*	**Pn**	**18 40 26.1**	**+0.1**
IDE	**Isla Desecheo**	**2.31**	**241**	⇑*eP*	**Pn**	**18 40 26.1**	**+0.1**
IDE	**Isla Desecheo**	**2.31**	**241**	⇑*eP*	**Pn**	**18 40 26.1**	**+0.1**
DR12	**Loma Pena Alta**	**3.88**	**260**	⇑*eP*	**Pn**	**18 40 46.8**	**-0.9**
DR12	**Loma Pena Alta**	**3.88**	**260**	⇑*eP*	**Pn**	**18 40 46.8**	**-0.9**
DR12	**Loma Pena Alta**	**3.88**	**260**	⇑*eP*	**Pn**	**18 40 46.8**	**-0.9**
SDDR	**Presa de Saban**	**5.63**	**265**	⇓*eP*	**Pn**	**18 41 12.4**	**+0.6**
SDDR	**Presa de Saban**	**5.63**	**265**	⇓*eP*	**Pn**	**18 41 12.4**	**+0.6**
SDDR	**Presa de Saban**	**5.63**	**265**	⇓*eP*	**Pn**	**18 41 12.4**	**+0.6**
SDV	**Santo Domingo**	**11.76**	**206**	*eP*	Pn	18 42 41.0	+5.0
	8.8nm,1.0s						
JTS	**JuntasAbangare**	**21.03**	**247**	P	**P**	**18 44 30.5**	**-1.4**
JTS	**JuntasAbangare**	**21.03**	**247**	P	**P**	**18 44 30.5**	**-1.4**
	7.3nm,0.9s,baz=160,slow=12,SNR=3.3						
TEIG	**Tepich**	**21.57**	**276**	P	**P**	**18 44 36.3**	**-1.4**
TEIG	**Tepich**	**21.57**	**276**	P	**P**	**18 44 36.3**	**-1.4**
	6.7nm,0.9s,baz=62,slow=5.2,SNR=4.4						
LPAZ	**La Paz**	**35.70**	**185**	P	**P**	**18 46 47.8**	**+0.5**
LPAZ	**La Paz**	**35.70**	**185**	P	**P**	**18 46 47.8**	**+0.5**
	0.6nm,0.5s,baz=6.0,slow=7.9,SNR=4.6						
TXAR	**Lajitas Array**	**36.08**	**293**	P	**P**	**18 46 51.0**	**+1.0**
TXAR	**Lajitas Array**	**36.08**	**293**	P	**P**	**18 46 51.0**	**+1.0**
	0.5nm,0.5s,baz=105,slow=9.5,SNR=5.3						
PDAR	**Pinedale Array**	**43.72**	**312**	P	**P**	**18 47 54.1**	**+0.7**
PDAR	**Pinedale Array**	**43.72**	**312**	P	**P**	**18 47 54.1**	**+0.7**
	0.4nm,0.5s,baz=118,slow=9.5,SNR=4.2						
NVAR	**Mina Array Bea**	**49.30**	**304**	P	**P**	**18 48 37.8**	**+0.5**
NVAR	**Mina Array Bea**	**49.30**	**304**	P	**P**	**18 48 37.8**	**+0.5**
	1.0nm,0.7s,baz=99,slow=7.1,SNR=5.9						
ILAR	**Eielson Array**	**68.91**	**333**	P	**P**	**18 50 52.3**	**-0.3**
ILAR	**Eielson Array**	**68.91**	**333**	P	**P**	**18 50 52.3**	**-0.3**
	0.4nm,0.7s,baz=106,slow=5.1,SNR=6.8						

IDC 12 18:45:37.0±2.0, 13°.19N×93°.04E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.2/4, ML3.5/1, Error ellipse: s-maj=65.0km s-min=25.9km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.72**	**47**	Pn	Pn	18 47 30.7	-0.1
	0.2nm,0.3s,baz=238,slow=16,SNR=4.4						
MKAR	**Makanchi Array**	**34.70**	**347**	P	P	18 52 28.6	0.0
	0.1nm,0.4s,baz=168,slow=8.7,SNR=2.9						
WRA	**Warramunga Arr**	**52.30**	**128**	P	P	18 54 50.5	-0.3
	0.5nm,1.0s,baz=320,slow=8.0,SNR=8.3						
ASAR	**Alice Springs**	**54.21**	**132**	P	P	18 55 04.8	0.0
	0.3nm,0.4s,baz=306,slow=6.8,SNR=12						

IDC 12 18:50:09.6±7.1, 16°.72S×172°.79W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, ML1.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=234.9km s-min=31.7km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.96**	**19**	Pn	Pn	18 50 58.0	+0.1
	9.5nm,0.3s,baz=203,slow=7.7,SNR=5.8						
AFI				Sn	Sn	18 51 25.4	-8.7
	22nm,0.3s,baz=40,slow=22,SNR=9.6						
STKA	**Stephens Creek**	**43.91**	**241**	P	P	18 58 18.1	-0.2
	0.9nm,0.8s,baz=106,slow=15,SNR=1.7						
STKA				LR	LR	19 12 31.5	
	comp=Z,65nm,20.6s,baz=156,slow=31						
WRA	**Warramunga Arr**	**50.13**	**258**	P	P	18 59 07.2	0.0
	0.4nm,0.8s,baz=94,slow=7.0,SNR=6.9						
ASAR	**Alice Springs**	**50.28**	**253**	P	P	18 59 08.1	-0.2
	1.0nm,0.5s,baz=89,slow=8.0,SNR=35						

*AUST **12** 18:56:27.7, 33°.04S×178°.67W, h100km*
*ISCJB **12** 18:56:29.9±0.4, 32°.90S±0°.05×179°.49W±0°.08, h100km, mb4.6/14, Error ellipse: s-maj=10.1km s-min=5.8km az=24.9*
*NEIC **12** 18:56:33.9±1.8, 32°.77S×179°.34W, h129km±16km, mb4.8/9, Error ellipse: s-maj=16.1km s-min=13.2km az=156.0*
*IDC **12** 18:56:34.6±1.5, 32°.62S×179°.49W, h133km±14km, mb4.3/10, mb1 4.4/11, mb1mx4.2/19, mbtmp4.3/11, MS3.7/3, Ms1 3.7/3, ms1mx3.1/35, Error ellipse: s-maj=14.0km s-min=13.3km az=104.0*
ISC 12 18:56:31.3±0.5, 32°.84S±0°.06×179°.53W±0°.08, h100km, n80, σ1.87/81, mb4.6/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.83**	**22**	P	**Pn**	**18 57 28.3**	**+0.1**
RAO				S	**Sn**	**18 58 11.4**	**-1.0**
RAO	**Raoul Island**	**3.83**	**22**	P	**Pn**	**18 57 28.3**	**+0.1**
	80nm,0.3s,baz=81,slow=18,SNR=4.2						
RAO				S	**Sn**	**18 58 11.4**	**-1.0**
	683nm,0.3s,baz=299,slow=23,SNR=13						
RAO				LR	LR	18 58 46.9	
	comp=Z,541nm,19.9s,baz=132,slow=36						
URZ	**Urewera**	**6.06**	**206**	*eP*	**Pn**	**18 57 57.1**	**-1.2**
	87nm,0.6s						
URZ				S	**Sn**	**18 59 05.4**	**-0.9**
URZ	**Urewera**	**6.06**	**206**	P	**Pn**	**18 57 56.8**	**-1.5**
	12nm,0.3s,baz=6.5,slow=1.9,SNR=152						
URZ				S	**Sn**	**18 59 05.4**	**-0.9**
	102nm,0.3s,baz=159,slow=22,SNR=22						
RPZ	**Rata Peaks**	**13.13**	**211**	P	Pn	18 59 30.9	-2.9
RPZ				S	Sn	19 01 43.6	-15
RPZ	**Rata Peaks**	**13.13**	**211**	P	Pn	18 59 30.9	-2.9
	1.7nm,0.3s,baz=14,slow=16,SNR=6.7						
RPZ				S	Sn	19 01 43.6	-15
	9.1nm,0.3s,baz=348,slow=20,SNR=12						
MSVF	**Nonsavu**	**15.20**	**351**	*eP*	**Pn**	**19 00 01.8**	**+1.1**
	42nm,0.8s						
NIUE	**Niue**	**16.19**	**34**	S	Sn	19 02 59.1	-13
	baz=16,SNR=4.5						
DZM	**Mont Dzumac**	**16.41**	**307**	*eP*	**P**	**19 00 20.7**	**+3.9**
	16nm,0.9s						
LHI	**Lord Howe Isla**	**18.17**	**268**	S	S	19 03 42.3	-16
	baz=19,SNR=3.0						
ARMA	**Armidale**	**24.64**	**268**	P	P	19 01 48.2	+5.5
	baz=25,SNR=4.8						
EIDS	**Eidsvold**	**26.67**	**279**	P	**P**	**19 02 03.3**	**+2.3**
	baz=27,SNR=3.8						
YNG	**Young**	**26.71**	**258**	P	**P**	**19 02 05.6**	**+4.4**
	baz=27,SNR=5.6						
RMQ	**Roma**	**28.20**	**275**	P	**P**	**19 02 17.8**	**+3.1**
	baz=29,SNR=9.0						
CMSA	**Cobar Meteorol**	**29.38**	**263**	P	**P**	**19 02 27.3**	**+2.2**
	baz=30,SNR=15						
ARPS	**Mount Arapiles**	**31.82**	**252**	P	**P**	**19 02 49.4**	**+3.0**
	baz=32,SNR=7.5						
STKA	**Stephens Creek**	**32.73**	**261**	P	**P**	**19 02 56.1**	**+1.7**
STKA	**Stephens Creek**	**32.73**	**261**	P	**P**	**19 02 56.1**	**+1.7**
	4.0nm,0.9s,baz=127,slow=14,SNR=10						
STKA	**Stephens Creek**	**32.73**	**261**	P	**P**	**19 02 56.7**	**+2.2**
	baz=33,SNR=4.6						
CTA	**Charters Tower**	**33.01**	**284**	P	**P**	**19 02 58.8**	**+1.8**
CTA	**Charters Tower**	**33.01**	**284**	P	**P**	**19 02 58.8**	**+1.8**
	4.7nm,0.4s,baz=110,slow=12,SNR=18						
CTAO	**Charters Tower**	**33.01**	**284**	*eP*	**P**	**19 02 59.0**	**+1.9**
	4.8nm,0.4s						
MTSU	**Mount Surprise**	**35.57**	**285**	P	**P**	**19 03 21.4**	**+2.2**
	baz=36,SNR=6.3						
BBOO	**Buckleboo**	**37.11**	**258**	P	**P**	**19 03 33.0**	**+0.9**
	baz=38,SNR=5.9						
COEN	**Coen**	**38.78**	**290**	P	**P**	**19 03 47.9**	**+1.6**
	baz=40,SNR=13						
AS31	**Alice Springs**	**41.74**	**270**	*eP*	**P**	**19 04 10.7**	**-0.1**
ASAR	**Alice Springs**	**41.74**	**270**	P	**P**	**19 04 11.1**	**+0.3**
ASAR				S	**S**	**19 10 18.2**	**-2.5**
ASAR	**Alice Springs**	**41.74**	**270**	P	**P**	**19 04 11.1**	**+0.3**
	8.1nm,0.4s,baz=110,slow=7.7,SNR=265						
ASAR				S	**S**	**19 10 18.2**	**-2.5**
	1.0nm,0.9s,baz=110,slow=15,SNR=6.0						
WRAB	**Tennant Creek**	**42.95**	**276**	*eP*	**P**	**19 04 20.2**	**-0.3**
	28nm,0.9s						
WRA	**Warramunga Arr**	**42.96**	**276**	P	**P**	**19 04 20.8**	**+0.1**
WRA				ScP	**ScP**	**19 09 45.8**	**-5.7**
WRA				S	**S**	**19 10 35.3**	**-3.2**
WRA	**Warramunga Arr**	**42.96**	**276**	P	**P**	**19 04 20.8**	**+0.1**
	19nm,0.6s,baz=114,slow=7.6,SNR=142						
WRA				ScP	**ScP**	**19 09 45.8**	**-5.7**
	0.9nm,0.9s,baz=113,slow=3.5,SNR=5.2						
WRA				S	**S**	**19 10 35.3**	**-3.2**
	1.2nm,1.0s,baz=116,slow=16,SNR=4.8						
FORT	**Forrest**	**44.21**	**258**	P	**P**	**19 04 31.0**	**+0.5**
	baz=45,SNR=8.5						
VNDA	**Vanda**	**45.55**	**186**	P	**P**	**19 04 42.1**	**+1.7**
VNDA	**Vanda**	**45.55**	**186**	P	**P**	**19 04 42.1**	**+1.7**
	2.4nm,0.7s,baz=6.8,slow=8.6,SNR=7.7						
KDU	**Kakadu**	**48.12**	**283**	P	**P**	**19 05 01.1**	**-0.2**
	baz=49,SNR=9.1						
MTN	**Manton Dam**	**49.14**	**282**	P	**P**	**19 05 09.2**	**+0.1**
	baz=50,SNR=6.9						
KNRA	**Kununurra**	**49.65**	**277**	P	**P**	**19 05 13.3**	**+0.3**
	baz=50,SNR=15						
FITZ	**Fitzroy Crossi**	**51.11**	**273**	P	**P**	**19 05 24.2**	**+0.2**
	baz=52,SNR=9.6						
KLBR	**Kellerberrin**	**52.36**	**253**	P	**P**	**19 05 32.1**	**-1.1**
	baz=53,SNR=6.5						
MEEK	**Meekatharra**	**53.41**	**259**	P	**P**	**19 05 39.9**	**-1.1**
	baz=54,SNR=6.3						
MORW	**Morawa**	**54.62**	**256**	P	**P**	**19 05 48.7**	**-1.0**
	baz=55,SNR=4.9						
QSPA	**South Pole Qui**	**57.28**	**180**	*eP*	**P**	**19 06 09.6**	**+1.3**
	38nm,0.8s						
QSPA	**South Pole Qui**	**57.28**	**180**	P	**P**	**19 06 09.8**	**+1.5**
	35nm,0.7s,baz=25,slow=1.2,SNR=164						
MAW	**Mawson**	**69.57**	**201**	P	**P**	**19 07 28.5**	**-0.5**
MAW	**Mawson**	**69.57**	**201**	P	**P**	**19 07 28.5**	**-0.5**
	2.4nm,0.5s,baz=149,slow=7.0,SNR=13						
MAW	**Mawson**	**69.57**	**201**	P	**P**	**19 07 28.4**	**-0.5**
	baz=69,SNR=14						
SNAA	**Sanae**	**75.75**	**179**	*eP*	**P**	**19 08 05.4**	**-0.3**
SNAA	**Sanae**	**75.75**	**179**	*eP*	**P**	**19 08 05.1**	**-0.5**
	42nm,1.0s						
VNA2	**Neumayer--Watz**	**76.38**	**177**	*eP*	**P**	**19 08 09.4**	**+0.3**
VNA1	**Neumayer--Stat**	**76.61**	**177**	*eP*	**P**	**19 08 10.7**	**+0.3**
PETK	**Petropavlovsk-**	**87.86**	**346**	P	**P**	**19 09 08.9**	**-0.1**
PETK	**Petropavlovsk-**	**87.86**	**346**	P	**P**	**19 09 08.9**	**-0.1**
	3.9nm,0.9s,baz=96,slow=6.0,SNR=3.7						
ISA	**Isabella**	**88.94**	**45**	*eP*	**P**	**19 09 15.3**	**+0.7**
	5.4nm,1.2s						
NVAR	**Mina Array Bea**	**90.91**	**44**	P	**P**	**19 09 24.1**	**+0.2**
NVAR	**Mina Array Bea**	**90.91**	**44**	P	**P**	**19 09 24.1**	**+0.2**
	1.5nm,0.8s,baz=222,slow=7.8,SNR=11						
MVU	**Marysvale**	**94.58**	**47**	P	P	19 09 37.5	-3.5
	3.7nm,0.9s						
TXAR	**Lajitas Array**	**94.79**	**58**	P	**P**	**19 09 41.5**	**-0.5**
TXAR	**Lajitas Array**	**94.79**	**58**	P	**P**	**19 09 41.5**	**-0.5**
	1.2nm,1.0s,baz=201,slow=6.7,SNR=5.9						
TXAR				LR	LR	19 46 17.6	
	comp=Z,29nm,18.4s,baz=180,slow=32						
PDAR	**Pinedale Array**	**98.79**	**44**	LR	LR	19 45 56.8	
	comp=Z,62nm,19.2s,baz=48,slow=30						
MKAR	**Makanchi Array**	**118.32**	**309**	PKP	**PKPdf**	**19 15 04.7**	**-1.9**
MKAR	**Makanchi Array**	**118.32**	**309**	PKP	**PKPdf**	**19 15 04.7**	**-1.9**
	0.5nm,0.8s,baz=101,slow=6.0,SNR=5.4						
KURK	**Kurchatov**	**121.77**	**313**	PKP	**PKPdf**	**19 15 11.6**	**-1.5**
KURBB	**Kurchatov Arra**	**121.80**	**313**	PKP	**PKPdf**	**19 15 11.5**	**-1.6**
	0.4nm,0.4s,baz=109,slow=1.8,SNR=5.0						
BVAR	**Borovoye Array**	**127.21**	**315**	PKP	**PKPdf**	**19 15 22.2**	**-1.3**
BVAR	**Borovoye Array**	**127.21**	**315**	PKP	**PKPdf**	**19 15 22.2**	**-1.3**
	0.6nm,0.4s,baz=129,slow=3.1,SNR=8.4						
ARCES	**ARCESS Array B**	**140.67**	**346**	PKPpre	PKPpre	19 15 42.5	
ARCES	**ARCESS Array B**	**140.67**	**346**	PKhKP	PKPpre	19 15 42.5	
	1.3nm,0.7s,baz=60,slow=1.6,SNR=7.7						
KAF	**Kangasniemi**	**146.37**	**338**	*ep*	**PKPdf**	**19 15 58.4**	**+0.1**
	2.7nm,0.5s						
FINES	**FINESS Array B**	**146.94**	**338**	PKPbc	**PKPdf**	**19 15 60.0**	**+0.7**
FINES	**FINESS Array B**	**146.94**	**338**	PKPbc	**PKPdf**	**19 15 60.0**	**+0.7**
	1.9nm,0.3s,baz=32,slow=4.9,SNR=38						
NB2	**NORSAR Subarra**	**150.93**	**349**	PKP	**PKPbc**	**19 16 09.8**	**-1.8**
	comp=Z,4.4nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.93**	**349**	PKPbc	**PKPbc**	**19 16 09.9**	**-1.6**
NOA	**NORSAR Array B**	**150.93**	**349**	PKPbc	**PKPbc**	**19 16 09.9**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=20,slow=4.7,SNR=13						
BRTR	**Keskin Array B**	**152.50**	**294**	PKPbc	**PKPbc**	**19 16 14.3**	**-1.7**
BRTR	**Keskin Array B**	**152.50**	**294**	PKPbc	**PKPbc**	**19 16 14.3**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=150,slow=4.0,SNR=10						
LIC	**Lamto**	**153.03**	**168**	*e*PKP2	**PKPab**	**19 16 32.2**	**+3.0**
	comp=Z,30nm,0.6s						
KIC	**Kosan Boka**	**153.21**	**168**	*e*PKP2	**PKPab**	**19 16 33.0**	**+3.0**
	comp=Z,37nm,1.0s						
TIC	**Toumodi**	**153.44**	**168**	*e*PKP2	**PKPab**	**19 16 33.8**	**+2.8**
	comp=Z,15nm,0.7s						
TORD	**Torodi Ar. Bea**	**160.37**	**184**	PKPab	**PKPab**	**19 17 00.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**160.37**	**184**	PKPab	**PKPab**	**19 17 00.0**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=168,slow=4.3,SNR=15						

*IDC **12** 19:09:26.9±0.6, 14°.12N×92°.64E, h0km, mb4.1/18, mb1 4.1/19, mb1mx4.0/32, mbtmp4.1/19, ML3.4/1, Error ellipse: s-maj=24.8km s-min=12.9km az=57.0*
*ISCJB **12** 19:09:28.0±0.5, 14°.44N±0°.06×92°.84E±0°.07, h18km, mb4.0/21, Error ellipse: s-maj=10.5km s-min=8.1km az=140.4*
ISC 12 19:09:30.3±0.9, 14°.3N±0°.1×92°.7E±0°.1, h18km, n31, σ1.42/21, mb4.1/21, 3C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.27**	**55**	Pn	**Pn**	**19 11 18.4**	**+2.6**
	0.2nm,0.3s,baz=243,slow=15,SNR=5.6						
CMAR				Sn	**Sn**	**19 12 34.4**	**-3.6**
	0.8nm,0.3s,baz=241,slow=28,SNR=14						
ODAN	**Odare**	**13.44**	**339**	*eP*	Pn	19 12 38.9	-1.6
	24nm,0.3s						
TAPN	**Taplejung**	**13.79**	**341**	*eP*	Pn	19 12 42.8	-2.5
	22nm,0.3s						
RAMN	**Ramite**	**13.81**	**337**	*eP*	Pn	19 12 43.5	-2.1
	29nm,0.2s						
JIRN	**Jiri**	**14.61**	**336**	*eP*	Pn	19 12 54.2	-2.4
	19nm,0.3s						
PKI	**Pulchoki**	**14.85**	**334**	*eP*	Pn	19 12 57.4	-2.4
	23nm,0.4s						
PKIN	**Phulchoki**	**14.86**	**334**	*eP*	Pn	19 12 57.2	-2.7
	24nm,0.4s						
DMN	**Daman**	**15.01**	**333**	*eP*	**Pn**	**19 12 59.2**	**-2.7**
	18nm,0.4s						
KKN	**K

IDC 12 19:37:23.9±3.2, 30°.02N×113°.07W, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.5/25, mbtmp3.2/4, ML3.6/3, MS3.3/10, Ms1 3.4/10, ms1mx3.2/17, Error ellipse: s-maj=57.3km s-min=15.3km az=35.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**4.59**	**322**	Pg	Pb	19 38 48.2	+2.6
	1.2nm,0.3s,baz=178,slow=15,SNR=7.8						
PFO				Lg	Lg	19 39 53.2	
	2.4nm,0.3s,baz=242,slow=22,SNR=4.7						
PFO				LR	LR	19 40 04.5	
	comp=Z,117nm,21.5s,baz=347,slow=35						
ANMO	**Albuquerque**	**7.44**	**47**	Pn	Pn	19 39 18.2	+4.2
	0.3nm,0.3s,baz=228,slow=12,SNR=4.2						
ANMO				Sn	Sb	19 40 52.8	-11
	0.2nm,0.3s,baz=236,slow=15,SNR=2.4						
ANMO				Lg	Lg	19 41 40.6	
	0.5nm,0.3s,baz=281,slow=16,SNR=3.9						
TXAR	**Lajitas Array**	**8.21**	**92**	Pn	Pn	19 39 25.3	+0.8
	0.4nm,0.3s,baz=274,slow=13,SNR=30						
TXAR				Sn	Sn	19 41 04.0	+5.9
	0.5nm,0.3s,baz=276,slow=19,SNR=5.1						
TXAR				Lg	Lg	19 42 02.2	
	0.4nm,0.3s,baz=264,slow=25,SNR=7.1						
NVAR	**Mina Array Bea**	**9.44**	**334**	Pn	Pn	19 39 42.9	+1.4
	0.2nm,0.3s,baz=153,slow=15,SNR=3.5						
PDAR	**Pinedale Array**	**13.03**	**12**	Pn	Pn	19 40 34.5	+3.9
	0.0nm,0.3s,baz=202,slow=14,SNR=2.0						
YBH	**Yreka Blue Hor**	**14.05**	**329**	LR	LR	19 46 14.2	
	comp=Z,136nm,19.5s,baz=162,slow=38						
NEW	**Newport**	**18.48**	**351**	LR	LR	19 48 36.9	
	comp=Z,50nm,19.3s,baz=103,slow=36						
BBB	**Bella Bella**	**24.78**	**338**	LR	LR	19 52 05.8	
	comp=Z,90nm,20.1s,baz=168,slow=36						
TKL	**Tuckaleechee C**	**25.20**	**69**	LR	LR	19 53 40.8	
	comp=Z,80nm,18.2s,baz=31,slow=39						
SADO	**Sadowa**	**30.46**	**52**	LR	LR	19 56 24.1	
	comp=Z,75nm,18.1s,baz=112,slow=37						
DLBC	**Dease Lake**	**30.72**	**343**	LR	LR	19 55 58.4	
	comp=Z,124nm,19.4s,baz=173,slow=36						
INK	**Inuvik**	**40.16**	**348**	LR	LR	20 02 14.6	
	comp=Z,47nm,18.1s,baz=262,slow=37						
ILAR	**Eielson Array**	**40.66**	**339**	P	P	19 45 05.3	-0.3
	0.2nm,0.6s,baz=166,slow=7.0,SNR=3.5						
ILAR				LR	LR	20 02 38.2	
	comp=Z,31nm,18.4s,baz=275,slow=37						
SCHQ	**Schefferville**	**41.14**	**39**	LR	LR	20 01 19.2	
	comp=Z,90nm,19.6s,baz=22,slow=35						

IDC 12 19:39:00.3±8.0, 7°.78S×126°.17E, h0km, mb4.0/1, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.1/4, Error ellipse: s-maj=115.1km s-min=44.2km az=175.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.46**	**226**	Pn	Pn	19 39 55.2	-0.2
	1.8nm,0.3s,baz=85,slow=11,SNR=2.6						
FITZ	**Fitzroy Crossi**	**10.27**	**183**	Pn	Pn	19 41 28.4	-0.7
	0.1nm,0.3s,baz=9.0,slow=11,SNR=7.0						
FITZ				Sn	Sn	19 43 20.7	-4.3
	0.1nm,0.3s,baz=58,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**14.45**	**148**	Pn	Pn	19 42 24.3	-2.0
	0.1nm,0.3s,baz=323,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**17.45**	**156**	P	P	19 43 07.2	+0.5
	0.1nm,0.3s,baz=339,slow=13,SNR=13						
STKA	**Stephens Creek**	**27.95**	**151**	P	P	19 44 52.6	0.0
	1.8nm,1.0s,baz=346,slow=8.3,SNR=2.4						

IDC 12 19:41:14.3±1.6, 0°.66N×126°.62E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=105.5km s-min=22.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.67**	**183**	P	Pn	19 45 34.2	-0.1
	0.0nm,0.3s,baz=345,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**21.83**	**160**	P	P	19 46 07.7	-0.8
	2.8nm,0.8s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.20**	**164**	P	P	19 46 43.1	+1.3
	0.3nm,0.4s,baz=353,slow=15,SNR=7.3						
STKA	**Stephens Creek**	**35.34**	**158**	P	P	19 48 10.3	-1.2
	1.4nm,0.9s,baz=343,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**60.01**	**326**	P	P	19 51 22.8	-0.1
	0.3nm,0.3s,baz=124,slow=7.3,SNR=10						

*TIR **12** 19:48:53.5±3.4, 40°.40N×19°.74E, h0km±11km, ML4.2*
*ATH **12** 19:48:54.4, 40°.56N×19°.63E, h5km±3km, MD3.4/8*
*BEO **12** 19:48:55.3±0.9, 40°.25N×19°.61E, h4km±4km, ML3.3/1*
*PDG **12** 19:48:56.1±0.4, 40°.37N×19°.71E, h3km±1km, ML3.2/12, Error ellipse: s-maj=1.2km s-min=1.3km az=0.0*
*CSEM **12** 19:48:56.9±0.2, 40°.42N×19°.71E, h0km±1km, ML3.4/9, Error ellipse: s-maj=4.4km s-min=2.7km az=46.0*
*IDC **12** 19:48:56.1±1.4, 40°.39N×19°.62E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/30, mbtmp3.5/9, ML3.1/3, MS3.7/2, Ms1 3.7/2, ms1mx2.5/47, Error ellipse: s-maj=22.4km s-min=20.8km az=158.0*
*THE **12** 19:48:57.8, 40°.44N×19°.80E, h0km±1km, ML3.4/9, Error ellipse: s-maj=1.9km s-min=0.7km az=279.0*

ISC 12 19:48:56.9±1.1, 40°.40N±0°.02×19°.69E±0°.02, h5km±8km, n182, σ1§23/257, mb3.7/5, 11C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.57**	**155**	P	**Pg**	**19 49 07.9**	**0.0**
SRN	**Sarande**	**0.57**	**155**	P	**Pg**	**19 49 07.9**	**0.0**
KEK	**Kerkira**	**0.69**	**173**	P	**Pb**	**19 49 11.7**	**+0.2**
KEK				S	**Sb**	**19 49 22.5**	**+1.2**
KEK	**Kerkira**	**0.69**	**173**	*e*PB	**Pb**	**19 49 10.9**	**-0.6**
KEK	**Kerkira**	**0.69**	**173**	*e*Pb	**Pb**	**19 49 10.9**	**-0.6**
KEK	**Kerkira**	**0.69**	**173**	P	**Pb**	**19 49 11.7**	**+0.2**
KBN	**Korca**	**0.86**	**75**	*e*PG	**Pg**	**19 49 11.5**	**-2.0**
KBN	**Korca**	**0.86**	**75**	P	**Pg**	**19 49 11.8**	**-1.7**
KBN				S	**Sg**	**19 49 23.6**	**-1.2**
KBN	**Korca**	**0.86**	**75**	*e*Pg	**Pg**	**19 49 11.5**	**-2.0**
	SNR=9.0						
TIR	**Tirane**	**0.95**	**8**	*e*PG	**Pg**	**19 49 14.7**	**-0.5**
TIR	**Tirane**	**0.95**	**8**	P	**Pg**	**19 49 14.8**	**-0.5**
TIR	**Tirane**	**0.95**	**8**	*e*Pg	**Pg**	**19 49 14.8**	**-0.5**
TIR	**Tirane**	**0.95**	**8**	*e*Pg	**Pg**	**19 49 14.7**	**-0.5**
	SNR=9.0						
IGT	**Igoumenitsa**	**1.00**	**150**	P	**Pb**	**19 49 16.4**	**-0.3**
IGT				S	**Sn**	**19 49 32.2**	**+0.2**
IGT	**Igoumenitsa**	**1.00**	**150**	P	**Pb**	**19 49 16.4**	**-0.3**
NEST	**Nestorio**	**1.04**	**89**	P	**Pg**	**19 49 15.6**	**-1.2**
NEST				S	**Sg**	**19 49 30.4**	**+0.1**
JAN	**Janina**	**1.16**	**130**	P	**Pg**	**19 49 18.7**	**-0.5**
JAN				S	**Sb**	**19 49 34.6**	**-0.2**
JAN	**Janina**	**1.16**	**130**	*e*PG	**Pg**	**19 49 18.6**	**-0.6**
JAN				*e*SB	**Sn**	**19 49 37.4**	**+1.3**
JAN	**Janina**	**1.16**	**130**	P	**Pg**	**19 49 18.7**	**-0.5**
JAN				S	**Sb**	**19 49 34.6**	**-0.2**
JAN				*e*Sb	**Sn**	**19 49 37.4**	**+1.3**
FNA	**Florina**	**1.34**	**73**	P	**Pn**	**19 49 20.6**	**-1.7**
FNA				S	**Sb**	**19 49 40.1**	**+0.1**
FNA	**Florina**	**1.34**	**73**	*e*PB	**Pn**	**19 49 20.6**	**-1.7**
FNA	**Florina**	**1.34**	**73**	P	**Pn**	**19 49 20.6**	**-1.7**
FNA				S	**Sb**	**19 49 40.1**	**+0.1**
BIA	**Bitola**	**1.39**	**63**	P	**Pn**	**19 49 21.7**	**-1.3**
BIA				S	**Sb**	**19 49 41.6**	**+0.2**
BIA	**Bitola**	**1.39**	**63**	*e*Pn	**Pn**	**19 49 20.9**	**-2.1**
BIA	**Bitola**	**1.39**	**63**	*e*Pn	**Pn**	**19 49 20.9**	**-2.1**
BIA	**Bitola**	**1.39**	**63**	P	**Pn**	**19 49 21.7**	**-1.3**
BIA				S	**Sb**	**19 49 41.6**	**+0.2**
PHP	**Peshkopia**	**1.40**	**24**	*e*PG	**Pg**	**19 49 24.2**	**+0.4**
PHP				*i* SN	**Sn**	**19 49 43.4**	**+1.3**
PHP	**Peshkopia**	**1.40**	**24**	P	**Pn**	**19 49 22.6**	**-0.6**
PHP				S	**Sn**	**19 49 43.1**	**+1.0**
PHP	**Peshkopia**	**1.40**	**24**	P	**Pn**	**19 49 22.6**	**-0.6**
PHP	**Peshkopia**	**1.40**	**24**	*e*Pg	**Pg**	**19 49 24.2**	**+0.4**
	SNR=9.0						
PHP				S	**Sn**	**19 49 43.1**	**+1.0**
KZN	**Kozani**	**1.59**	**93**	P	**Pn**	**19 49 25.3**	**-0.5**
KZN				S	**Sb**	**19 49 47.6**	**+0.3**
KZN	**Kozani**	**1.59**	**93**	*e*PB	**Pn**	**19 49 25.7**	**-0.1**
KZN				*e*SB	**Sg**	**19 49 48.5**	**+0.4**
KZN	**Kozani**	**1.59**	**93**	P	**Pn**	**19 49 25.3**	**-0.5**
KZN	**Kozani**	**1.59**	**93**	*e*Pb	**Pn**	**19 49 25.7**	**-0.1**
KZN				S	**Sb**	**19 49 47.6**	**+0.3**
KZN				*e*Sb	**Sg**	**19 49 48.5**	**+0.4**
ULC	**Ulcinj**	**1.60**	**348**	⇑*i*Pn	**Pn**	**19 49 25.9**	**0.0**
ULC				*e*Sn	**Sg**	**19 49 51.5**	**+3.2**
ULC	**Ulcinj**	**1.60**	**348**	⇑*i*Pn	**Pn**	**19 49 25.9**	**0.0**
ULC				*e*Sn	**Sg**	**19 49 51.5**	**+3.2**
PUK	**Puka**	**1.65**	**5**	*e*PN	**Pn**	**19 49 27.0**	**+0.4**
PUK				*i* SN	**Sg**	**19 49 52.7**	**+2.8**
PUK	**Puka**	**1.65**	**5**	*e*Pn	**Pn**	**19 49 27.0**	**+0.4**
	SNR=4.0						
PUK				*i* Sn	**Sg**	**19 49 52.7**	**+2.8**
	SNR=4.0						
LKD2	**Lefkada island**	**1.77**	**155**	P	**Pb**	**19 49 29.1**	**-0.9**
LKD2				S	**Sb**	**19 49 53.1**	**+0.6**
LKD2	**Lefkada island**	**1.77**	**155**	*e*PN	**Pg**	**19 49 31.2**	**+0.2**
LKD2	**Lefkada island**	**1.77**	**155**	P	**Pb**	**19 49 29.1**	**-0.9**
LKD2	**Lefkada island**	**1.77**	**155**	*e*Pn	**Pg**	**19 49 31.2**	**+0.2**
DRME	**Dracevica, Mon**	**1.82**	**348**	⇓*i*Pn	**Pn**	**19 49 29.7**	**+0.7**
DRME				*e*Sn	**Sg**	**19 49 57.0**	**+1.4**
DRME	**Dracevica, Mon**	**1.82**	**348**	⇓*i*Pn	**Pn**	**19 49 29.7**	**+0.7**
DRME				*e*Sn	**Sg**	**19 49 57.0**	**+1.4**
THL	**Klokotos Trika**	**1.97**	**114**	*e*PG	**Pb**	**19 49 33.2**	**-0.1**
THL	**Klokotos Trika**	**1.97**	**114**	*e*Pg	**Pb**	**19 49 33.2**	**-0.1**
BCI	**Bajram Curri**	**1.98**	**8**	*e*PN	**Pb**	**19 49 32.8**	**-0.7**
BCI				*i* PN	**Sg**	**19 50 01.6**	**+0.9**
BCI	**Bajram Curri**	**1.98**	**8**	*e*Pn	**Pb**	**19 49 32.8**	**-0.7**
	SNR=4.0						
BUM	**Brajici-Budva**	**1.99**	**343**	*e*Pn	**Pn**	**19 49 32.3**	**+1.0**
BUM				*e*Sn	**Sg**	**19 50 00.3**	**-0.6**
BUM	**Brajici-Budva**	**1.99**	**343**	*e*Pn	**Pn**	**19 49 32.3**	**+1.0**
BUM				*e*Sn	**Sg**	**19 50 00.3**	**-0.6**
SKO	**Skopje**	**2.05**	**39**	*i* Pn	**Pb**	**19 49 34.0**	**-0.7**
SKO	**Skopje**	**2.05**	**39**	*e*Pn	**Pn**	**19 49 33.3**	**+1.2**
SKO				*e*Sn	**Sb**	**19 50 01.2**	**+0.8**
SKO	**Skopje**	**2.05**	**39**	*e*Pn	**Pn**	**19 49 33.3**	**+1.2**
SKO				*e*Sn	**Sb**	**19 50 01.2**	**+0.8**
PDG	**Podgorica**	**2.05**	**351**	*e*Pn	**Pn**	**19 49 32.1**	**0.0**
PDG				*e*Sg	**Sg**	**19 50 04.3**	**+1.4**
PDG	**Podgorica**	**2.05**	**351**	⇑*i*Pn	**Pn**	**19 49 33.3**	**+1.2**
PDG				*e*Sn	**Sg**	**19 50 02.3**	**-0.6**
PDG				*e*Sg	**Sg**	**19 50 04.3**	**+1.4**
TTG	**Podgorica**	**2.05**	**351**	⇑*i*Pn	**Pn**	**19 49 33.3**	**+1.2**
TTG				*e*Sn	**Sg**	**19 50 02.3**	**-0.6**
LIT	**Litokhoron**	**2.16**	**97**	P	**Pn**	**19 49 33.9**	**+0.3**
LIT	**Litokhoron**	**2.16**	**97**	*e*PN	**Pn**	**19 49 34.8**	**+1.2**
LIT	**Litokhoron**	**2.16**	**97**	P	**Pn**	**19 49 33.9**	**+0.3**
LIT	**Litokhoron**	**2.16**	**97**	*e*Pn	**Pn**	**19 49 34.8**	**+1.2**
PVY	**Plav**	**2.20**	**5**	*e*Pn	**Pn**	**19 49 35.6**	**+1.4**
PVY				*e*Sn	**Sb**	**19 50 05.5**	**+0.6**
PVY	**Plav**	**2.20**	**5**	*e*Pn	**Pn**	**19 49 35.6**	**+1.4**
PVY				*e*Sn	**Sb**	**19 50 05.5**	**+0.6**
HCY	**Herceg Novi**	**2.23**	**337**	⇓*i*Pn	**Pn**	**19 49 35.5**	**+0.9**
HCY				*e*Sn	**Sb**	**19 50 06.9**	**+1.2**
HCY	**Herceg Novi**	**2.23**	**337**	⇓*i*Pn	**Pn**	**19 49 35.5**	**+0.9**
HCY				*e*Sn	**Sb**	**19 50 06.9**	**+1.2**
BAI	**Bari**	**2.25**	**289**	*e*Pn	**Pn**	**19 49 35.5**	**+0.7**
VLS	**Valsamata**	**2.33**	**162**	*e*PN	**Pb**	**19 49 38.5**	**-0.9**
VLS	**Valsamata**	**2.33**	**162**	*e*Pn	**Pb**	**19 49 38.5**	**-0.9**
VAY	**Valandovo**	**2.37**	**66**	P	**Pn**	**19 49 36.1**	**-0.4**
VAY				S	**Sn**	**19 50 06.0**	**+0.2**
VAY	**Valandovo**	**2.37**	**66**	*i* Pn	**Pn**	**19 49 36.0**	**-0.4**
VAY	**Valandovo**	**2.37**	**66**	*e*Pn	**Pn**	**19 49 36.0**	**-0.4**
VAY				*e*Sn	**Sn**	**19 50 06.6**	**+0.8**
VAY	**Valandovo**	**2.37**	**66**	P	**Pn**	**19 49 36.1**	**-0.4**
VAY				S	**Sn**	**19 50 06.0**	**+0.2**
NKME	**Niksic**	**2.43**	**347**	*e*Pn	**Pn**	**19 49 38.4**	**+1.1**
NKME				*e*Sn	**Sb**	**19 50 11.5**	**+0.2**
NKME	**Niksic**	**2.43**	**347**	*e*Pn	**Pn**	**19 49 38.4**	**+1.1**
NKME				*e*Sn	**Sb**	**19 50 11.5**	**+0.2**
AGG	**Agios Georgios**	**2.46**	**123**	*e*PN	**Pb**	**19 49 40.0**	**-1.6**
AGG	**Agios Georgios**	**2.46**	**123**	*e*Pn	**Pb**	**19 49 40.0**	**-1.6**
NKY	**Niksic**	**2.46**	**348**	⇓*i*Pn	**Pn**	**19 49 39.5**	**+1.6**
NKY				*e*Sn	**Sb**	**19 50 12.0**	**-0.5**
NKY	**Niksic**	**2.46**	**348**	⇓*i*Pn	**Pn**	**19 49 39.5**	**+1.6**
NKY				*e*Sn	**Sb**	**19 50 12.0**	**-0.5**
BEY	**Berane**	**2.47**	**3**	⇑*i*Pn	**Pn**	**19 49 39.4**	**+1.4**
BEY				*e*Sn	**Sb**	**19 50 11.5**	**-1.2**
IVA	**Berane**	**2.47**	**3**	⇑*i*Pn	**Pn**	**19 49 39.4**	**+1.4**
IVA				*e*Sn	**Sb**	**19 50 11.5**	**-1.2**
TREB	**Trebinje**	**2.52**	**337**	*e*Pn	**Pn**	**19 49 39.5**	**+0.9**
TREB				*e*Sn	**Sn**	**19 50 10.8**	**+1.1**
TREB	**Trebinje**	**2.52**	**337**	*e*Pn	**Pn**	**19 49 39.5**	**+0.9**
TREB				*e*Sn	**Sn**	**19 50 10.8**	**+1.1**
KNT	**Kendrikon**	**2.55**	**72**	P	**Pn**	**19 49 39.3**	**+0.3**
KNT				S	**Sn**	**19 50 10.4**	**0.0**
KNT	**Kendrikon**	**2.55**	**72**	P	**Pn**	**19 49 39.3**	**+0.3**
KNT				S	**Sn**	**19 50 10.4**	**0.0**
AXS	**Araxos**	**2.56**	**149**	P	**Pn**	**19 49 39.7**	**+0.6**
AXS	**Araxos**	**2.56**	**149**	P	**Pn**	**19 49 39.7**	**+0.6**
HORT	**Hortiatis**	**2.61**	**85**	P	**Pn**	**19 49 40.0**	**+0.2**
HORT				S	**Sn**	**19 50 11.1**	**-0.7**
HORT	**Hortiatis**	**2.61**	**85**	P	**Pn**	**19 49 40.0**	**+0.2**
HORT				S	**Sn**	**19 50 11.1**	**-0.7**
BRY	**Bratogost**	**2.64**	**341**	⇓*i*Pn	**Pn**	**19 49 41.4**	**+1.1**
BRY				*e*Sn	**Sb**	**19 50 16.3**	**-1.3**
BRY	**Bratogost**	**2.64**	**341**	⇓*i*Pn	**Pn**	**19 49 41.4**	**+1.1**
BRY				*e*Sn	**Sb**	**19 50 16.3**	**-1.3**
RLS	**Riolos of Patr**	**2.72**	**149**	*e*PN	**Pb**	**19 49 44.0**	**-2.0**
RLS	**Riolos of Patr**	**2.72**	**149**	*e*Pn	**Pb**	**19 49 44.0**	**-2.0**
LAKA	**Lakka**	**2.79**	**140**	P	**Pn**	**19 49 43.7**	**+1.4**
LAKA	**Lakka**	**2.79**	**140**	P	**Pn**	**19 49 43.7**	**+1.4**
UPM	**Unac-Piva**	**2.86**	**348**	*e*Pn	**Pn**	**19 49 44.4**	**+1.0**
UPM				*e*Sn	**Sb**	**19 50 21.5**	**-2.4**
UPM	**Unac-Piva**	**2.86**	**348**	*e*Pn	**Pn**	**19 49 44.4**	**+1.0**
UPM				*e*Sn	**Sb**	**19 50 21.5**	**-2.4**
SJES	**Sjenica**	**2.87**	**4**	*e*Pn	**Pn**	**19 49 44.7**	**+1.3**
SJES	**Sjenica**	**2.87**	**4**	*e*Pn	**Pn**	**19 49 44.7**	**+1.3**
PLG	**Polygyros**	**2.87**	**89**	P	**Pn**	**19 49 43.4**	**+0.1**
PLG	**Polygyros**	**2.87**	**89**	P	**Pn**	**19 49 43.4**	**+0.1**
STON	**Ston**	**2.88**	**329**	*e*Pn	**Pn**	**19 49 42.2**	**-1.2**
STON				Sn	**Sn**	**19 50 16.8**	**-1.7**
STON	**Ston**	**2.88**	**329**	*e*Pn	**Pn**	**19 49 42.5**	**-1.0**
STON				*e*Sn	**Sn**	**19 50 19.7**	**+1.2**
STON	**Ston**	**2.88**	**329**	*e*Pn	**Pn**	**19 49 42.5**	**-1.0**
STON				*e*Sn	**Sn**	**19 50 19.7**	**+1.2**
XOR	**Xorichti**	**2.88**	**110**	P	**Pn**	**19 49 43.7**	**+0.1**
XOR	**Xorichti**	**2.88**	**110**	P	**Pn**	**19 49 43.7**	**+0.1**
BARS	**Barje**	**2.89**	**33**	⇓*i*Pn	**Pn**	**19 49 44.6**	**+1.0**
BARS				*e*Sn	**Sn**	**19 50 20.8**	**+2.0**
BARS	**Barje**	**2.89**	**33**	⇓*i*Pn	**Pn**	**19 49 44.6**	**+1.0**
BARS				*e*Sn	**Sn**	**19 50 20.8**	**+2.0**
PLE	**Pljevlja**	**2.94**	**356**	⇑*i*Pn	**Pn**	**19 49 45.8**	**+1.5**
PLE				*e*Sn	**Sn**	**19 50 23.0**	**+3.0**
PLE	**Pljevlja**	**2.94**	**356**	⇑*i*Pn	**Pn**	**19 49 45.8**	**+1.5**
PLE				*e*Sn	**Sn**	**19 50 23.0**	**+3.0**
KKB	**Krupnik**	**2.95**	**59**	P	**Pn**	**19 49 45.7**	**+1.2**
KKB	**Krupnik**	**2.95**	**59**	P	**Pn**	**19 49 45.7**	**+1.2**
SELS	**Selova**	**3.01**	**20**	*e*Pn	**Pn**	**19 49 45.8**	**+0.5**
SRS	**Serrai**	**3.05**	**75**	P	**Pn**	**19 49 45.5**	**-0.3**
SRS	**Serrai**	**3.05**	**75**	P	**Pn**	**19 49 45.5**	**-0.3**
PAIG	**Paliouri**	**3.09**	**98**	P	**Pn**	**19 49 46.8**	**+0.4**
PAIG	**Paliouri**	**3.09**	**98**	*e*PB	**Pn**	**19 49 47.7**	**+1.3**
PAIG	**Paliouri**	**3.09**	**98**	P	**Pn**	**19 49 46.8**	**+0.4**
PAIG	**Paliouri**	**3.09**	**98**	*e*Pb	**Pn**	**19 49 47.7**	**+1.3**
GUR	**Goura**	**3.21**	**139**	P	**Pn**	**19 49 49.5**	**+1.4**
GUR	**Goura**	**3.21**	**139**	P	**Pn**	**19 49 49.5**	**+1.4**
MMB	**Musomiste**	**3.28**	**67**	P	**Pn**	**19 49 48.0**	**-1.0**
MMB	**Musomiste**	**3.28**	**67**	P	**Pn**	**19 49 48.0**	**-1.0**
NVR	**Nevrokopi**	**3.30**	**72**	P	**Pn**	**19 49 49.9**	**+0.6**
NVR	**Nevrokopi**	**3.30**	**72**	*e*PN	**Pn**	**19 50.3**	**+1.0**
NVR	**Nevrokopi**	**3.30**	**72**	P	**Pn**	**19 49 49.9**	**+0.6**
NVR	**Nevrokopi**	**3.30**	**72**	*e*Pn	**Pn**	**19 50.3**	**+1.0**
VTS	**Vitosha**	**3.43**	**49**	P	**Pn**	**19 50 1.0**	**-0.2**
VTS	**Vitosha**	**3.43**	**49**	P	**Pn**	**19 50 1.2**	**0.0**
VTS	**Vitosha**	**3.43**	**49**	⇓*i*P	**Pn**	**19 50 2.7**	**+1.5**
VTS	**Vitosha**	**3.43**	**49**	*e*Pn	**Pn**	**19 50 2.0**	**+0.8**
VTS				*e*Sn	**Sn**	**19 50 33.6**	**+1.3**
VTS	**Vitosha**	**3.43**	**49**	P	**Pn**	**19 50 1.0**	**-0.2**
VTS	**Vitosha**	**3.43**	**49**	*e*Pn	**Pn**	**19 50 2.0**	**+0.8**
VTS				*e*Sn	**Sn**	**19 50 33.6**	**+1.3**
AOS	**Alonnisos**	**3.45**	**110**	*e*PB	**Pn**	**19 49 53.6**	**+2.3**
AOS	**Alonnisos**	**3.45**	**110**	*e*Pb	**Pn**	**19 49 53.6**	**+2.3**
BBLS	**Lazići**	**3.47**	**357**	*e*Pn	**Pn**	**19 49 52.2**	**+0.6**
BBLS	**Lazići**	**3.47**	**357**	*e*Pn	**Pn**	**19 49 52.2**	**+0.6**
GRUS	**Gruza**	**3.57**	**12**	*e*Pn	**Pn**	**19 49 53.0**	**+0.1**
GRUS	**Gruza**	**3.57**	**12**	*e*Pn	**Pn**	**19 49 53.0**	**+0.1**
ZAPS	**Zavoj**	**3.62**	**36**	*e*Pn	**Pn**	**19 49 55.2**	**+1.6**
DIVS	**Divibare**	**3.70**	**3**	*e*Pn	**Pn**	**19 49 55.1**	**+0.3**
DIVS	**Divibare**	**3.70**	**3**	*e*Pn	**Pn**	**19 49 55.1**	**+0.3**
RZN	**Rozhen**	**4.01**	**70**	P	**Pn**	**19 50 00.8**	**+1.6**
RZN	**Rozhen**	**4.01**	**70**	P	**Pn**	**19 50 00.8**	**+1.6**
MPEP	**Malo Peshtene**	**4.22**	**44**	P	**Pn**	**19 50 03.9**	**+1.9**
KDZ	**Kurdzhali**	**4.51**	**72**	P	**Pn**	**19 50 04.0**	**-1.8**
KDZ	**Kurdzhali**	**4.51**	**72**	P	**Pn**	**19 50 04.0**	**-1.8**
UDBI	**Udbina**	**5.04**	**326**	*e*Pn	**Pn**	**19 50 11.8**	**-1.5**
UDBI				Sn	**Sn**	**19 51 12.1**	**+0.2**
UDBI	**Udbina**	**5.04**	**326**	*e*Pn	**Pn**	**19 50 11.7**	**-1.5**
UDBI				Sn	**Sn**	**19 51 12.0**	**+0.2**
BZS	**Buzias**	**5.40**	**15**	⇓*i*P	**Pn**	**19 50 19.2**	**+1.1**
NVLJ	**Novalja**	**5.48**	**321**	*e*Pn	**Pn**	**19 50 18.4**	**-0.8**
NVLJ				Sn	**Sn**	**19 51 21.1**	**-1.4**
NVLJ	**Novalja**	**5.48**	**321**	*e*Pn	**Pn**	**19 50 18.3**	**-0.8**
NVLJ				Sn	**Sn**	**19 51 21.0**	**-1.4**
GZR	**Gura Zlata**	**5.48**	**23**	⇑*i*P	**Pn**	**19 50 20.6**	**+1.4**
PKSM	**Moragy**	**5.86**	**353**	⇓*i*P	**Pn**	**19 50 22.5**	**-1.9**
BOJS	**Bojanci**	**6.05**	**329**	*i* Pn	**Pn**	**19 50 27.6**	**+0.6**
BOJS				*i* Sn	**Sn**	**19 51 36.2**	**-0.4**
BOJS	**Bojanci**	**6.05**	**329**	Pn	**Pn**	**19 50 27.6**	**+0.6**
BOJS				*i* Sn	**Sn**	**19 51 36.2**	**-0.4**
GBRS	**Gornja Briga**	**6.25**	**327**	*i* Pn	**Pn**	**19 50 29.7**	**-0.1**
GBRS				*i* Sn	**Sn**	**19 51 40.4**	**-1.2**
VOIR		**6.39**	**36**	⇑*i*P	**Pn**	**19 50 31.8**	**+0.1**
SKDS	**Skadanscina**	**6.62**	**323**	*i* Pn	**Pn**	**19 50 33.5**	**-1.3**
SKDS				*i* Sn	**Sn**	**19 51 48.2**	**-2.4**
SKDS	**Skadanscina**	**6.62**	**323**	*i* Pn	**Pn**	**19 50 33.5**	**-1.3**
DRGR		**6.75**	**18**	⇓*i*P	**Pn**	**19 50 38.2**	**+1.5**
MLR	**Muntele Rosu**	**6.85**	**40**	⇓*i*P	**Pn**	**19 50 38.4**	**+0.3**
MLR	**Muntele Rosu**	**6.85**	**40**	Pn	Pn	19 50 41.8	+3.7
	0.1nm,0.3s,baz=318,slow=18,SNR=6.6						
MLR				Sn	**Sn**	**19 52 00.7**	**+4.2**
	0.1nm,0.3s,baz=248,slow=19,SNR=3.3						
JAVS	**Javornik**	**6.86**	**325**	*i* Pn	**Pn**	**19 50 37.5**	**-0.7**
JAVS				*i* Sn	**Sn**	**19 51 55.3**	**-1.3**
JAVS	**Javornik**	**6.86**	**325**	*i* Pn	**Pn**	**19 50 37.5**	**-0.7**
JAVS				*i* Sn	**Sn**	**19 51 55.3**	**-1.3**
VOY	**Vojsko**	**7.04

DMPH	Davao City--Mi	1.38 318	⇓eP	Pn	20 04 51.4 +1.6
DMPH			eS	Sn	20 05 13.2 +4.7
GSPH	General Santos	1.48 271	eP	Pn	20 04 50.3 -1.0
GSPH			eS	Sn	20 05 13.3 +2.2
KCP	Kidapawan	1.64 305	⇑iP	Pn	20 04 54.3 +1.1
BUKP	Musuan	2.27 323	eP	Pn	20 05 02.8 +1.6
CTBH	Cotabato--PC H	2.47 298	⇓eP	Pn	20 05 05.7 +1.9
CGP	Cagayan de Oro	2.94 324	eP	Pn	20 05 12.1 +2.0
CGP			i S	Sn	20 05 47.4 +2.6
BUTP	Butuan	3.00 344	eP	Pn	20 05 13.7 +2.7
PAGZ	Pagadian	3.52 301	eP	Pn	20 05 20.1 +2.2
DCPH	Dipolog City	3.96 310	eP	Pn	20 05 26.7 +3.0
IPIL	Ipil	4.21 294	eP	Pn	20 05 29.2 +2.1
TBP	Tagbilaran	4.42 325	eP	Pn	20 05 31.8 +1.7
TBP			eS	Sn	20 06 24.2 +3.8
ZMPH	Zamboanga City	4.44 282	⇓iP	Pn	20 05 31.8 +1.5
ZMPH			i S	Sn	20 06 23.6 +2.8
SNPH	Sibulan	4.55 316	⇓iP	Pn	20 05 20.1 -12
SNPH			i S	Sn	20 06 15.0 -8.7
LLP	Lapu-Lapu	4.89 330	⇑eP	Pn	20 05 38.3 +1.9
LLP			eS	Sn	20 06 35.2 +3.4
PLP	Palo	5.28 344	⇓eP	Pn	20 05 44.1 +2.5
PLP			eS	Sn	20 06 43.7 +2.5
TNTI	Ternate	5.33 170	P	Pn	20 05 42.3 -0.1
	5μm,1.1s,81μm19nm				
TNTI			S	Sn	20 06 41.5 -1.1
	5μm,1.1s,81μm19nm				
GTOI	Gorontalo	6.38 213	P	Pn	20 05 58.1 +1.5
	7μm,0.7s,99μm29μm31nm				
GTOI			S	Sn	20 07 06.5 -1.6
	7μm,0.7s,99μm29μm31nm				
LBMI	Labuha	6.73 171	P	Pn	20 06 01.9 +0.4
	2μm,1.8s,68μm40μm16nm				
LBMI			S	Sn	20 07 15.9 -0.8
	2μm,1.8s,68μm40μm16nm				
MRSI	Marisa	7.13 219	P	Pn	20 06 08.8 +1.9
	3μm,1.0s,49μm21μm21nm				
MRSI			S	Sn	20 07 25.9 -0.5
	3μm,1.0s,49μm21μm21nm				
TOLI	Toli-Toli	7.47 229	P	Pn	20 06 12.0 +0.6
	3μm,1.2s,34μm15μm19nm				
LUWI	Luwuk	7.95 208	P	Pn	20 06 20.3 +2.4
	4μm,0.8s,52μm41μm16nm				
LUWI			S	Sn	20 07 51.3 +5.0
	4μm,0.8s,52μm41μm16nm				
LUWI	Luwuk	7.95 208	P	Pn	20 06 20.4 +2.4
	baz=8.0,SNR=299				
MYLDM	Lahad Datu	7.95 264	P	Pn	20 06 22.2 +4.2
MYLDM	Lahad Datu	7.95 264	P	Pn	20 06 21.5 +3.5
	1μm,1.4s,14μm45μm6.4nm				
PALU	Palau	8.08 80	P	Pn	20 06 17.6 -2.2
	baz=8.0,SNR=12				
PALU			S	Sn	20 07 42.1 -7.5
	baz=8.0,SNR=14				
SWI	Sorong	8.39 145	P	Pn	20 06 23.9 -0.1
	465nm,1.3s,5μm25μm				
SWI	Sorong	8.39 145	P	Pn	20 06 23.9 -0.1
	baz=8.4,SNR=66				
TSM	Tawau	8.71 259	P	Pn	20 06 30.4 +2.1
SDKM	Sandakan	9.21 268	P	Pn	20 06 39.0 +3.9
KDM	Kudat	9.58 276	P	Pn	20 06 45.0 +4.8
MSAI	Masohi	9.67 165	P	Pn	20 06 44.2 +2.8
	83nm,1.1s,2μm				
MSAI			S	Sn	20 08 29.8 +1.6
	83nm,1.1s,2μm				
AAI	Ambon	9.84 170	P	Pn	20 06 43.9 +0.2
	465nm,1.0s,7μm				
AAI	Ambon	9.84 170	P	Pn	20 06 43.0 -0.7
	baz=9.9,SNR=37				
KKM	Kota Kinabalu	10.17 270	ePn	Pn	20 06 51.5 +3.2
KKM	Kota Kinabalu	10.17 270	P	Pn	20 06 51.9 +3.6
KKM	Kota Kinabalu	10.17 270	P	Pn	20 06 52.1 +3.8
	325nm,1.5s,7μm38μm				
KKM	Kota Kinabalu	10.17 270	P	Pn	20 06 51.8 +3.6
	baz=10,SNR=52				
FAKI	Fak Fak	10.64 147	P	Pn	20 06 55.9 +1.3
	559nm,1.8s,10μm16μm				
FAKI	Fak Fak	10.64 147	P	Pn	20 06 54.6 0.0
	baz=11,SNR=51				
BALP	Baler	10.74 334	eP	Pn	20 07 00.0 +4.0
RKPI	Ransiki, Papua	10.78 134	P	Pn	20 06 58.3 +1.8
	595nm,2.4s,18μm				
SGKI	Sangatta, Kali	10.98 234	P	Pn	20 06 56.3 -3.0
	900nm,0.9s,13μm				
SGKI			S	Sn	20 08 46.7 -14
	900nm,0.9s,13μm				
BNDI	Bandanaira	11.06 162	P	Pn	20 07 15.9 +16
TTSI	Tana Toraja	11.20 216	P	Pn	20 07 04.7 +2.5
	3μm,1.5s,41μm18μm				
KKSI	Kolaka, Sulawe	11.23 205	P	Pn	20 07 02.0 -0.6
	322nm,0.9s,4μm				
MMSI	Mamuju	11.49 221	P	Pn	20 07 07.6 +1.5
	804nm,0.7s,13μm				
PALP	Palanan	11.62 341	eP	Pn	20 07 17.3 +10
CAUP	Cauayan	11.72 338	eP	Pn	20 07 08.7 -0.5
BKB	Balikpapan	11.98 233	P	Pn	20 07 15.9 +3.2
BBSI	Bau Bau	12.10 199	P	Pn	20 07 13.8 -0.5
	272nm,1.0s,4μm				
SRPI	Serui, Papua	12.56 129	P	Pn	20 07 23.8 +3.4
	1μm,1.2s,21μm				
APYP	Conner	12.78 337	eP	P	20 07 28.4 -2.0
ABRA	Dolores	12.81 335	eP	Pn	20 07 26.9 +3.3
KAPI	Kappang	12.87 211	Pn	Pn	20 07 24.1 -0.3
	SNR=104				
KAPI	Kappang	12.87 211	ePn	Pn	20 07 23.7 -0.7
KAPI	Kappang	12.87 211	P	Pn	20 07 23.9 -0.5
	951nm,1.1s,9μm				
KAPI	Kappang	12.87 211	P	Pn	20 07 23.7 -0.7
	26nm,0.3s,baz=30,slow=8.3,SNR=161				
BKSI	Bulukumba	12.94 209	P	Pn	20 07 24.7 -0.7
	255nm,1.2s,4μm				
MTKI	Muara Teweh, K	13.46 239	P	P	20 07 36.0 -1.9
	626nm,0.6s,10μm				
BSSI	Bau Bau, Buton	13.49 206	P	Pn	20 07 34.1 +1.5
	339nm,1.9s,5μm				
BTM	Bintulu	13.61 259	P	P	20 07 37.6 -2.0
SBUM	Sibu	14.62 256	P	P	20 07 50.3 -0.6
SBUM	Sibu	14.62 256	P	P	20 07 50.2 -0.6
	681nm,1.3s,10μm23μm				
BBKI	Banjar Baru	14.95 231	P	P	20 07 54.5 0.0
	964nm,1.9s,17μm				
MMRI	Maumere	15.19 196	P	Pn	20 07 54.5 +0.1
	576nm,0.8s,11μm				
LBFI	Labuhan Bajo,	15.85 204	P	Pn	20 08 03.3 +0.6
	1μm,1.2s,15μm				
SOEI	Soe	15.86 188	P	P	20 08 04.7 0.0
	974nm,1.3s,15μm16μm				
SOEI	Soe	15.86 188	P	P	20 08 04.4 -0.2
	baz=16,SNR=60				
STKI	Sintang	16.08 249	P	P	20 08 08.4 +1.4
	430nm,1.5s,10μm16μm				
BATI	Baumata	16.39 190	P	P	20 08 10.8 +0.3
BATI	Baumata	16.39 190	P	P	20 08 10.5 0.0
	812nm,0.9s,7μm				
BATI	Baumata	16.39 190	P	P	20 08 10.8 +0.3
	121nm,0.3s,baz=234,slow=0.4,SNR=98				
BMNI	Bima	16.43 208	P	P	20 08 13.9 +3.0
JAY	Jayapura	16.60 120	P	P	20 08 12.8 0.0
	98nm,2.2s,5μm				
KSM	Kuching	16.72 255	eP	P	20 08 16.4 +2.2
	264nm,1.1s				
KSM	Kuching	16.72 255	P	P	20 08 16.5 +2.4
KSM	Kuching	16.72 255	P	P	20 08 16.3 +2.2
	286nm,1.5s,11μm				
KSM	Kuching	16.72 255	P	P	20 08 16.4 +2.2
	baz=17,SNR=100				
WSI	Waingapu	16.78 201	P	Pn	20 08 13.7 -0.5
	840nm,0.7s,14μm				
WSI	Waingapu	16.78 201	P	Pn	20 08 13.4 -0.8
	baz=17,SNR=12				
WSI			S	S	20 11 29.3 +4.4
	baz=17,SNR=4.8				
BASI	Baing, Sumba	17.19 200	P	Pn	20 08 17.9 -1.3
	758nm,1.2s,10μm				
TWG	Pinlang	17.45 343	ePn	Pn	20 08 24.1 +1.7
	141nm,0.8s				
MTNI	Mataram	17.83 215	P	P	20 08 24.4 -1.9
	582nm,0.6s,5μm				
YULB	Yu-li	17.93 344	eP	Pn	20 08 28.3 +0.2
	42nm,0.9s				
KMMI	Kalianget	18.01 224	P	Pn	20 08 31.1 +1.9
	556nm,1.3s,5μm				
SSLB	Suanglung	18.40 344	ePn	Pn	20 08 36.1 +2.3
	59nm,0.9s				
DNP	Denpasar	18.43 218	P	Pn	20 08 34.4 +0.3
	1μm,0.6s,18μm				
IGBI	Denpasar	18.58 217	P	Pn	20 08 35.1 -0.8
	816nm,0.7s,9μm				
BLJI	Banyuglugur	18.77 223	P	Pn	20 08 37.7 -0.5
	288nm,0.8s,3μm				
YHNB	Yeheng	19.13 346	eP	Pn	20 08 43.2 +0.7
	64nm,0.8s				
GMJI	Gumukmas	19.25 222	P	Pn	20 08 43.3 -0.6
	409nm,1.1s,5μm				
MTN	Manton Dam	19.35 166	P	P	20 08 43.4 +0.4
	baz=19,SNR=124				
KDU	Kakadu	19.56 162	P	P	20 08 45.4 +0.2
	baz=20,SNR=435				
GUMO	Guam	19.63 66	ePn	Pn	20 08 49.4 +1.1
	296nm,1.1s				
KRKI	Karangkates	19.85 225	P	Pn	20 08 49.7 -1.2
	1μm,1.5s,15μm20μm				
MMPI	Merauke	20.04 136	P	Pn	20 08 55.7 +2.6
	776nm,0.7s,11μm				
MMPI	Merauke	20.04 136	P	Pn	20 08 55.8 +2.7
	baz=20,SNR=3.3				
MMPI			S	Sn	20 12 38.7 -0.2
	baz=20,SNR=6.0				
SJI	Sawahan	20.05 227	P	P	20 08 50.5 -0.1
	691nm,1.2s,7μm				
QZH	Quanzhou	20.23 339	⇑iP	P	20 08 51.0 -1.4
QZH			S	S	20 12 27.4 -6.6
QZH			pmax	pmax	
	comp=Z,110nm,0.8s				
QZH			pmax	pmax	
	comp=Z,1μm,4.2s				
QZH			LR	LR	
	comp=N,2μm,10.2s				
QZH			LR	LR	
	comp=E,2μm,7.3s				
QZH			LR	LR	
	comp=Z,4μm,16.0s				
QIZ	Qiongzhong	20.68 310	P	P	20 08 57.8 +0.5
QIZ			pP	pP	20 09 13.4 -2.9
QIZ			sP	sP	20 09 26.6 -2.2
QIZ			S	S	20 12 43.3 +0.4
QIZ			pmax	pmax	
	comp=Z,770nm,7.1s				
QIZ			LR	LR	
	comp=N,4μm,16.3s				
QIZ			LR	LR	
	comp=E,2μm,15.4s				
QIZ			LR	LR	
	comp=Z,3μm,24.1s				
QIZ	Qiongzhong	20.68 310	eP	Pn	20 08 59.1 -1.5
	comp=Z,203nm,1.0s				
TPI	Tanjungpandan	20.70 245	P	P	20 08 58.5 +0.9
	comp=Z,135nm,1.2s,comp=Z,3μm				
JOW	Kunigami	20.73 5	epP	pP	20 09 15.7 -1.1
PCJI	Pacitan	20.79 227	P	P	20 08 59.7 +1.2
	comp=Z,387nm,1.1s,comp=Z,5μm				
UGM	Wanagama	21.09 229	eP	P	20 09 02.7 +0.9
	comp=Z,372nm,0.8s				
UGM	Wanagama	21.09 229	P	P	20 09 03.2 +1.4
	comp=Z,534nm,0.8s,comp=Z,8μmcomp=Z,20μm				
UGM	Wanagama	21.09 229	P	P	20 09 02.5 +0.8
	baz=21,SNR=33				
GZH	Guangzhou	21.12 325	P	P	20 09 05.5 +3.5
GZH			PP	PnPn	20 09 27.6 +1.0
GZH			S	S	20 12 56.0 +4.5
GZH			SS	SnSn	20 13 20.9 -1.4
GZH			pmax	pmax	
	comp=Z,850nm,5.2s				
YOGI	Yogyakarta	21.20 230	P	P	20 09 05.7 +2.8
	comp=Z,1μm,1.2s,comp=Z,13μm				
BJII	Banjamegara	21.34 232	P	P	20 09 05.9 +1.3
	comp=Z,758nm,1.6s,comp=Z,12μmcomp=Z,25μm				
KNRA	Kununurra	21.72 174	P	P	20 09 08.5 +0.1
	baz=22,SNR=300				
KNRA			S	S	20 13 04.5 +1.4
	baz=22,SNR=5.5				
PPBI	Pangkal Pinang	21.86 249	P	P	20 09 10.0 0.0
	comp=Z,278nm,0.7s,comp=Z,4μm				
CLJI	Cilicap	22.12 232	P	P	20 09 12.3 -0.4
	comp=Z,222nm,1.2s				
UBPT	Khong Chiam	22.53 296	P	P	20 09 16.9 -0.1
	comp=Z,177nm,1.1s,comp=Z,4μm				
LEM	Lembang	22.73 236	P	P	20 09 19.8 +0.6
	comp=Z,763nm,1.8s,comp=Z,17μm				
LEM	Lembang	22.73 236	P	P	20 09 19.8 +0.6
	baz=23,SNR=20				
MYKOM	Kota Tinggi	22.93 260	P	P	20 09 21.7 +0.7
MYKOM	Kota Tinggi	22.93 260	P	P	20 09 21.4 +0.4
	comp=Z,433nm,1.8s,comp=Z,7μmcomp=Z,16μm				
CISI	Cisompet, Garu	22.98 234	P	P	20 09 19.7 -1.9
	comp=Z,293nm,0.9s,comp=Z,6μm				
CISI	Cisompet, Garu	22.98 234	P	P	20 09 23.0 +1.4
	baz=23,SNR=5.4				
CISI			S	S	20 13 08.5 -16
	baz=23,SNR=3.7				
BTDF	Bukit Timah Da	23.09 259	P	P	20 09 23.4 +0.9
	baz=23,SNR=38				
BTDF			P	P	20 09 23.4 +0.9
	baz=23,SNR=38				
CBJI	Citeko	23.15 238	P	P	20 09 24.2 +1.1
	comp=Z,2μm,1.1s,comp=Z,23μm				
TNG	Tangerang	23.19 239	P	P	20 09 30.3 +6.7
TNG	Tangerang	23.19 239	P	P	20 09 30.2 +6.7
KTGM	Kuala Trenggan	23.20 269	P	P	20 09 24.6 +1.0
DBJI	Dramaga	23.30 238	P	P	20 09 24.8 +0.2
	comp=Z,897nm,1.3s,comp=Z,11μm				
KGM	Kluang	23.41 261	P	P	20 09 26.5 +1.0
PMBI	Palembang	23.41 248	P	P	20 09 27.1 +1.6
	comp=Z,1μm,1.0s,comp=Z,21μm				
PMBI	Palembang	23.41 248	P	P	20 09 27.3 +1.8
	baz=24,SNR=6.5				
SBJI	Serang	23.61 240	P	P	20 09 28.8 +1.5
	comp=Z,761nm,1.0s,comp=Z,10μm				
SKJI	Sukabumi	23.71 237	P	P	20 09 28.8 +0.6
	comp=Z,423nm,1.3s,comp=Z,9μm				
BLSI	Bandar Lampung	24.01 242	P	P	20 09 33.5 +2.5
	comp=Z,408nm,0.7s,comp=Z,9μm				
FITZ	Fitzroy Crossi	24.02 182	P	P	20 09 31.0 +0.1
FITZ	Fitzroy Crossi	24.02 182	P	P	20 09 31.0 +0.1
	comp=Z,68nm,0.6s,baz=8.0,slow=9.2,SNR=194				
FITZ	Fitzroy Crossi	24.02 182	P	P	20 09 40.0 +9.1
	baz=24,SNR=23				
FITZ			S	S	20 13 48.7 +7.6
	baz=24,SNR=6.4				
PANO	Nakornpanom	24.02 299	P	P	20 09 31.5 +0.5
	comp=Z,277nm,1.4s,comp=Z,12μm				
KLI	Kotabumi	24.12 244	P	P	20 09 33.4 +1.4
	comp=Z,513nm,0.8s,comp=Z,6μm				
KLSI		24.16 244	P	P	20 09 33.4 +1.1
	comp=Z,374nm,1.2s,comp=Z,6μm				
KASI	Kota Agung	24.74 243	P	P	20 09 38.7 +1.1
	comp=Z,345nm,0.8s,comp=Z,6μm				
FRIM	Kepong	24.89 265	P	P	20 09 39.0 0.0
LWLI	Liwa	24.91 244	P	P	20 09 40.7 +1.5
	comp=Z,736nm,0.9s,comp=Z,16μm				
IPM	Ipoh	25.35 268	eP	P	20 09 43.2 0.0
	comp=Z,416nm,1.2s				
IPM	Ipoh	25.35 268	P	P	20 09 43.9 +0.7
IPM	Ipoh	25.35 268	P	P	20 09 43.9 +0.7
	comp=Z,200nm,1.9s,comp=Z,4μmcomp=Z,26μm				
MNAI	Manna	25.63 247	P	P	20 09 51.2 +5.5
	comp=Z,1μm,1.2s,comp=Z,14μm				
MNAI	Manna	25.63 247	P	P	20 09 47.4 +1.7
	baz=26,SNR=10.0				
KULM	Kulim	25.67 270	eP	P	20 09 46.8 +0.7
	comp=Z,449nm,1.5s				
KULM	Kulim	25.67 270	P	P	20 09 47.1 +1.0
KSI	Kapahiang	25.69 249	P	P	20 09 47.4 +1.1
	comp=Z,751nm,1.7s,comp=Z,13μm				
PMG	Port Moresby	25.74 126	eP	P	20 09 46.9 +0.3
PMG	Port Moresby	25.74 126	P	P	20 09 46.1 -0.5
	comp=Z,15nm,0.5s,baz=17,slow=2.0,SNR=14				
PMG			LR	LR	20 20 41.1
	comp=Z,1μm,18.9s,baz=269,slow=38				
MASI	Maura Aman, Be	25.84 250	P	P	20 09 51.0 +3.4
	comp=Z,1μm,0.7s,comp=Z,16μm				
CHAI	Chaiyaphum	25.89 294	P	P	20 09 48.9 +0.9
	comp=Z,27nm,1.2s,comp=Z,416nm				
COEN	Coen	25.91 140	P	P	20 09 47.9 -0.3
	baz=26,SNR=70				
BKNI	Bangkinang	25.98 258	P	P	20 09 49.4 +0.5
	comp=Z,178nm,1.4s,comp=Z,4μm				
BKNI	Bangkinang	25.98 258	P	P	20 09 48.8 -0.1
	baz=26,SNR=4.0				
NAYO	Nakonayok	26.03 290	P	P	20 09 50.8 +1.6
	comp=Z,203nm,1.2s,comp=Z,9μm				
PPI	Padang Panjang	26.79 257	P	P	20 09 55.7 -0.4
	comp=Z,204nm,1.4s,comp=Z,3μm				
PPI	Padang Panjang	26.79 257	P	P	20 09 55.8 -0.4
	baz=27,SNR=27				
NJ2	Nanjing	26.82 346	eP	P	20 09 57.5 +1.4
NJ2			pP	pP	20 10 18.2 0.0
NJ2			sP	sP	20 10 28.8 -1.0
NJ2			S	S	20 14 25.3 +0.1
NJ2			pmax	pmax	
	comp=Z,37nm,1.1s				
NJ2			pmax	pmax	
	comp=Z,380nm,6.7s				
NJ2			LR	LR	
	comp=N,1μm,25.9s				
NJ2			LR	LR	
	comp=E,2μm,23.0s				
NJ2			LR	LR	
	comp=Z,1μm,25.9s				
WHN	Wuhan	26.88 336	⇑iP	P	20 09 57.8 +1.1
WHN			pP	pP	20 10 19.4 +0.6
WHN			S	S	20 14 27.8 +1.6
WHN			pmax	pmax	
	comp=Z,130nm,1.0s				
WHN			pmax	pmax	
	comp=Z,650nm,9.8s				
WHN			LR	LR	
	comp=N,1μm,8.1s				
WHN			LR	LR	
	comp=E,2μm,5.4s				
WHN			LR	LR	
	comp=Z,5μm,20.7s				
WRAB	Tennant Creek	26.98 163	eP	P	20 09 56.9 -0.8
WRAB			pmax	pmax	
	comp=Z,107nm,0.5s				
WRAB	Tennant Creek	26.98 163	eP	P	20 09 56.9 -0.8
	comp=Z,107nm,0.5s				
WRA	Warramunga Arr	26.98 163	P	P	20 09 56.7 -1.1
WRA			e		20 42 33.5
WRA	Warramunga Arr	26.98 163	P	P	20 09 56.7 -1.1
	comp=Z,14nm,0.4s,baz=335,slow=10,SNR=110				
WRA			P3KPbc		20 42 33.5
	comp=Z,0.6nm,0.6s,baz=162,slow=4.0,SNR=7.5				
PBKT	Sadao Pong	27.03 295	P	P	20 09 58.6 +0.3
	comp=Z,107nm,1.4s,comp=Z,2μm				
LOEI	Loei	27.10 297	P	P	20 09 56.0 -2.9
	comp=Z,147nm,0.7s				
JNU	Nakatsue	27.24 8	eP	P	20 09 59.9 -0.1
	comp=Z,26nm,0.9s				
JNU	Nakatsue	27.24 8	P	P	20 09 59.9 -0.1
	comp=Z,20nm,1.0s,baz=86,slow=4.5,SNR=6.1				
PHET	Kaeng Krachan	27.29 286	P	P	20 10 01.7 +1.1
	comp=Z,315nm,1.0s,comp=Z,3μm				
PSI	Prapat	27.62 264	P	P	20 10 04.5 +0.8
PSI			PcP	PcP	20 13 19.2 +0.1
PSI	Prapat	27.62 264	P	P	20 10 04.5 +0.8
	comp=Z,24nm,0.7s,baz=80,slow=8.4,SNR=21				
PSI			PcP	PcP	20 13 19.2 +0.1
	comp=Z,14nm,0.7s,baz=5.1,slow=17,SNR=4.7				
PSI	Prapat	27.62 264	P	P	20 10 04.5 +0.8
	baz=28,SNR=8.9				
GYA	Guiyang	27.70 319	⇑iP	P	20 10 07.0 +2.7
GYA			pP	pP	20 10 27.4 +1.0
GYA			sP	sP	20 10 39.0 +1.0
GYA			PP	PnPn	20 10 58.8 +3.0
GYA			PcP	PcP	20 13 21.2 +2.1
GYA			S	S	20 14 40.0 +0.4
GYA			sS	sS	20 15 17.7 -0.5
GYA			SS	SnSn	20 16 05.8 +3.2
GYA			ScP	ScP	20 16 51.0 +0.1
GYA			PcS	PcS	20 17 01.8 +0.5
GYA			ScS	ScS	20 20 43.5 +0.2
GYA			pmax	pmax	
	comp=Z,40nm,1.0s				
GYA			pmax	pmax	
	comp=Z,170nm,4.9s				
GYA			LR	LR	
	comp=N,28μm,17.5s				
GYA			LR	LR	
	comp=E,24μm,18.4s				
GYA			LR	LR	
	comp=Z,27μm,17.0s				
MBWA	Marble Bar	27.84 194	P	P	20 10 05.3 0.0
	SNR=22				
MBWA	Marble Bar	27.84 194	eP	P	20 10 05.1 -0.3
	comp=Z,370nm,1.5s				
PKDT	Phuket	27.95 275	P	P	20 10 06.7 +0.1
	comp=Z,170nm,1.0s,comp=Z,2μm				
NANT	Nan	28.09 299	P	P	20 10 08.6 +0.9
	comp=Z,107nm,1.0s,comp=Z,2μm				
KCSI	Kotacane, Aceh	28.68 266	P	P	20 10 12.3 -0.7
ENH	Enshi	28.89 329	eP	P	20 10 16.2 +1.4
	comp=Z,83nm,1.0s				
LAMP	Lampang	28.92 298	P	P	20 10 16.7 +1.6
	comp=Z,18nm,1.0s,comp=Z,168nm				
PAYA	Payao	29.04 300	P	P	20 10 16.8 +0.7
	comp=Z,18nm,1.2s,comp=Z,249nm				
LHMI	Lhok Sumawe	29.36 270	P	P	20 10 20.0 +0.9
	baz=29,SNR=6.0				
CM31	Chiang Mai Arr	29.50 297	eP	P	20 10 21.0 +0.7
	comp=Z,14nm,0.7s				
CMAR	Chiang Mai Arr	29.50 297	P	P	20 10 21.1 +0.8
CMAR			ScP	ScP	20 16 57.5 +0.9
CMAR			PKiKP	PKiKP	20 20 56.6 -0.3
CMAR	Chiang Mai Arr	29.50 297	P	P	20 10 21.1 +0.8
	comp=Z,10nm,0.9s,baz=105,slow=6.8,SNR=21				
CMAR			ScP	ScP	20 16 57.5 +0.9
	comp=Z,5.3nm,1.0s,baz=143,slow=1.8,SNR=6.1				
CMAR			PKiKP	PKiKP	20 20 56.6 -0.3
	comp=Z,0.7nm,0.6s,baz=262,slow=1.1,SNR=4.9				
CMAR			LR	LR	20 23 47.0
	comp=Z,2μm,18.1s,baz=104,slow=39				
KMI	Kunming	29.57 312	P	P	20 10 22.0 +0.9
KMI			pP	pP	20 10 38.0 -5.3
KMI			PP	PnPn	20 11 23.2 +2.7
KMI			PcP	PcP	20 13 25.7 +1.8
KMI			S	S	20 15 09.6 +0.4
KMI			sS	sS	20 15 41.4 -6.5
KMI			ScS	ScS	20 20 54.2 +2.0
KMI			pmax	pmax	
	comp=Z,77nm,1.1s				
KMI			LR	LR	
	comp=N,1μm,19.2s				
KMI			LR	LR	
	comp=E,1μm,15.9s				
KMI			LR	LR	
	comp=Z,2μm,19.2s				
CMMT	Chiang Mai	29.63 298	P	P	20 10 21.8 +0.4
	comp=Z,42nm,1.2s,comp=Z,1μm				
CHTO	Chiang Mai	29.63 298	eP	P	20 10 21.4 -0.1
CHTO			pmax	pmax	
	comp=Z,50nm,1.1s				
CHTO	Chiang Mai	29.63 298	P	P	20 10 22.8 +1.3
	SNR=13				
CHTO	Chiang Mai	29.63 298	eP	P	20 10 21.4 -0.1
	comp=Z,50nm,1.1s				
CHTO	Chiang Mai	29.63 298	P	P	20 10 22.3 +0.9
	comp=Z,30nm,1.1s,comp=Z,1μm				
MTSU	Mount Surprise	29.82 144	P	P	20 10 23.2 +0.2
	baz=30,SNR=171				
CMAI	Chiengmai2	29.98 300	P	P	20 10 25.5 +0.9
	comp=Z,66nm,0.9s				
AS31	Alice Springs	30.43 166	eP	P	20 10 27.9 -0.5
ASAR	Alice Springs	30.43 166	P	P	20 10 28.1 -0.3
ASAR			PcP	PcP	20 13 25.4 -0.5
ASAR			e		20 42 17.8
ASAR	Alice Springs	30.43 166	P	P	20 10 28.1 -0.3
	comp=Z,23nm,0.5s,baz=348,slow=6.9,SNR=238				
ASAR			PcP	PcP	20 13 25.4 -0.5
	comp=Z,14nm,0.5s,baz=348,slow=2.5,SNR=6.4				
ASAR			LR	LR	20 24 14.5
	comp=Z,927nm,19.4s,baz=177,slow=39				
ASAR			P3KPbc		20 42 17.8
	comp=Z,0.3nm,0.6s,baz=164,slow=4.0,SNR=6.5				
TIA	Tai'an	31.20 345	⇓iP	P	20 10 37.2 +2.1
TIA			S	S	20 15 35.5 +1.4
TIA			pmax	pmax	
	comp=Z,40nm,1.0s				
TIA			LR	LR	
	comp=N,1μm,13.7s				
TIA			LR	LR	
	comp=E,3μm,13.2s				
TIA			LR	LR	
	comp=Z,1μm,19.6s				
KSAR	Wonju Array Be	31.27 2	P	P	20 10 35.5 0.0
KSAR			PcP	PcP	20 13 28.4 +0.6
KSAR			ScP	ScP	20 17 04.0 +2.0
KSRS	Korea Array	31.28 2	P	P	20 10 35.5 -0.1
	comp=Z,4.5nm,0.7s,baz=186,slow=9.7,SNR=17				

KSRS			PcP	**PcP**	**20 13 28.4**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=178,slow=2.2,SNR=20					
KSRS			ScP	**ScP**	**20 17 04.0**	**+2.0**
	comp=Z,4.7nm,1.0s,baz=197,slow=3.6,SNR=4.4					
KSRS			LR	LR	20 22 48.1	
	comp=Z,544nm,20.3s,baz=185,slow=35					
PATS	**Pohnpei**	**31.68 87**	P	**P**	**20 10 39.3**	**-0.2**
	baz=32,SNR=4.1					
MAT	**Matsushiro**	**32.20 18**	P	**P**	**20 10 42.5**	**-1.3**
MAT			S	**S**	**20 15 48.4**	**-1.2**
MJAR	**Matsushiro Arr**	**32.20 18**	P	**P**	**20 10 42.8**	**-1.1**
MJAR			ScP	**ScP**	**20 17 05.7**	**+0.5**
MJAR	**Matsushiro Arr**	**32.20 18**	P	**P**	**20 10 42.8**	**-1.1**
	comp=Z,5.2nm,0.8s,baz=196,slow=9.5,SNR=23					
MJAR			ScP	**ScP**	**20 17 05.7**	**+0.5**
	comp=Z,4.2nm,1.0s,baz=208,slow=3.0,SNR=5.6					
XAN	**Xi'an**	**32.23 332**	P	**P**	**20 10 43.9**	**-0.2**
XAN			pP	**pP**	**20 11 07.8**	**+1.3**
XAN			S	S	20 15 43.1	-7.1
XAN			pmax	pmax		
	comp=Z,17nm,0.9s					
XAN			pmax	pmax		
	comp=Z,44nm,5.5s					
XAN			LR	LR		
	comp=N,2μm,28.5s					
XAN			LR	LR		
	comp=E,1μm,31.6s					
XAN			LR	LR		
	comp=Z,360nm,21.4s					
CTAO	**Charters Tower**	**32.48 144**	*e*P	**P**	**20 10 47.5**	**+1.1**
CTAO			pmax	pmax		
	comp=Z,618nm,1.9s					
CTAO	**Charters Tower**	**32.48 144**	*e*P	**P**	**20 10 47.5**	**+1.1**
	comp=Z,618nm,1.9s					
CD2	**Chengdu**	**32.62 322**	P	**P**	**20 10 48.9**	**+1.3**
CD2			pP	**pP**	**20 11 11.2**	**+1.2**
CD2			sP	**sP**	**20 11 22.7**	**+1.2**
CD2			PP	**PP**	**20 12 01.6**	**-1.6**
CD2			PcP	**PcP**	**20 13 32.9**	**+1.2**
CD2			S	**S**	**20 15 56.8**	**+0.4**
CD2			sS	**sS**	**20 16 34.8**	**-0.5**
CD2			SS	**SnSn**	**20 18 00.2**	**-1.6**
CD2			ScS	**ScS**	**20 21 04.9**	**-1.8**
CD2			pmax	pmax		
	comp=Z,20nm,0.8s					
CD2			pmax	pmax		
	comp=Z,300nm,9.5s					
CD2			LR	LR		
	comp=N,3μm,20.2s					
CD2			LR	LR		
	comp=E,4μm,20.2s					
CD2			LR	LR		
	comp=Z,2μm,22.6s					
DL2	**Dalian**	**32.99 353⇑**	*i*P	**P**	**20 10 52.5**	**+1.9**
DL2			pP	**pP**	**20 11 17.4**	**+4.4**
DL2			S	**S**	**20 16 04.4**	**+2.7**
DL2			sS	**sS**	**20 16 39.4**	**-1.2**
DL2			ScS	**ScS**	**20 21 10.6**	**+2.5**
DL2			pmax	pmax		
	comp=Z,79nm,0.9s					
DL2			pmax	pmax		
	comp=Z,210nm,3.5s					
DL2			LR	LR		
	comp=N,770nm,10.5s					
DL2			LR	LR		
	comp=E,520nm,11.8s					
DL2			LR	LR		
	comp=Z,620nm,14.3s					
MEEK	**Meekatharra**	**33.37 193**	P	**P**	**20 10 53.8**	**-0.4**
	baz=34,SNR=102					
BJT	**Baijiatuau**	**35.05 346**	*e*P	**P**	**20 11 09.9**	**+1.4**
	comp=Z,117nm,0.8s					
BJI	**Beijing**	**35.07 346**	P	**P**	**20 11 10.3**	**+1.7**
BJI			S	**S**	**20 16 34.9**	**+1.1**
BJI			pmax	pmax		
	comp=Z,130nm,1.1s					
BJI			pmax	pmax		
	comp=Z,670nm,3.5s					
BJI			LR	LR		
	comp=N,690nm,15.9s					
BJI			LR	LR		
	comp=E,970nm,16.4s					
BJI			LR	LR		
	comp=Z,620nm,23.4s					
SNY	**Shenyang**	**35.71 356**	⇑P	**P**	**20 11 16.1**	**+2.0**
SNY			sP	**sP**	**20 11 48.9**	**+0.8**
SNY			S	**S**	**20 16 46.9**	**+3.3**
SNY			sS	**ScP**	**20 17 18.9**	**+1.5**
SNY			pmax	pmax		
	comp=Z,48nm,0.8s					
SNY			pmax	pmax		
	comp=Z,470nm,4.3s					
SNY			LR	LR		
	comp=N,920nm,30.9s					
SNY			LR	LR		
	comp=E,1μm,15.1s					
SNY			LR	LR		
	comp=Z,1μm,22.0s					
MORW	**Morawa**	**36.33 195**	P	**P**	**20 11 19.4**	**-0.1**
	baz=36,SNR=30					
LZH	**Lanzhou**	**36.37 328**	⇑P	**P**	**20 11 21.2**	**+1.2**
LZH			pP	**pP**	**20 11 44.3**	**+1.6**
LZH			sP	**sP**	**20 11 56.5**	**+2.4**
LZH			S	**S**	**20 16 51.6**	**-2.6**
LZH			sS	**sS**	**20 17 33.0**	**-0.5**
LZH			SS	**SnSn**	**20 19 23.0**	**-9.4**
LZH			pmax	pmax		
	comp=Z,74nm,1.3s					
LZH			pmax	pmax		
	comp=Z,350nm,4.5s					
LZH			LR	LR		
	comp=N,2μm,15.0s					
LZH			LR	LR		
	comp=E,3μm,17.1s					
LZH			LR	LR		
	comp=Z,4μm,18.6s					
FORT	**Forrest**	**36.66 178**	P	**P**	**20 11 22.6**	**+0.3**
	baz=37,SNR=134					
HHC	**Hu-ho-hao-te**	**37.11 341**	*e*P	**P**	**20 11 27.7**	**+1.5**
HHC			pP	**pP**	**20 11 51.0**	**+2.1**
HHC			sP	**sP**	**20 12 02.6**	**+2.3**
HHC			PP	**PnPn**	**20 12 56.3**	**+2.0**
HHC			S	**S**	**20 17 07.6**	**+2.3**
HHC			PcS	**PcS**	**20 17 33.2**	**+0.2**
HHC			sS	**sS**	**20 17 45.7**	**+1.1**
HHC			SS	**SnSn**	**20 19 42.8**	**-7.3**
HHC			ScS	**ScS**	**20 21 30.4**	**-0.3**
HHC			pmax	pmax		
	comp=Z,100nm,0.9s					
HHC			pmax	pmax		
	comp=Z,1μm,6.0s					
HHC			LR	LR		
	comp=N,2μm,15.6s					
HHC			LR	LR		
	comp=E,2μm,14.6s					
HHC			LR	LR		
	comp=Z,3μm,16.8s					
VLA	**Vladivostok**	**37.22 7**	*ce*P	**P**	**20 11 28.3**	**+1.4**
VLA			pmax	pmax		
	comp=Z,22nm,1.0s					
BTO	**Baotou**	**37.41 339**	*e*P	**P**	**20 11 28.0**	**-0.7**
CN2	**Changchun**	**37.60 359**	*e*P	P	20 11 33.4	+3.3
CN2			*ep*P	pP	20 11 56.0	+3.1
CN2			*es*P	sP	20 12 07.6	+3.3
CN2			*e*S	**S**	**20 17 16.6**	**+4.2**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CN2			pmax	pmax		
	comp=Z,200nm,6.0s					
CN2			LR	LR		
	comp=N,700nm,14.0s					
CN2			LR	LR		
	comp=E,600nm,14.0s					
CN2			LR	LR		
	comp=Z,500nm,21.0s					
BLDU	**Ballidu**	**37.64 194**	P	**P**	**20 11 30.4**	**-0.2**
	baz=38,SNR=81					
SHL	**Shillong**	**38.30 304**	*e*P	**P**	**20 11 39.0**	**+2.5**
SHL			*e*S	**S**	**20 17 22.0**	**-1.8**
USRK	**Ussuriysk Arra**	**38.30 6**	P	**P**	**20 11 35.5**	**-0.5**
	comp=Z,4.6nm,0.5s,baz=195,slow=7.6,SNR=19					
USRK			ScP	**ScP**	**20 17 28.2**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=208,slow=4.9,SNR=4.2					
USRK			LR	LR	20 27 20.1	
	comp=Z,614nm,20.7s,baz=178,slow=36					
KLBR	**Kellerberrin**	**38.34 192**	P	**P**	**20 11 36.5**	**-0.1**
	baz=38,SNR=105					
MDJ	**Mudanjiang**	**38.51 4**	P	**P**	**20 11 39.7**	**+2.0**
MDJ			pP	**pP**	**20 11 59.0**	**-1.5**
MDJ			sP	**sP**	**20 12 10.9**	**-1.0**
MDJ			PP	**PP**	**20 13 08.5**	**+0.7**
MDJ			S	**ScP**	**20 17 27.8**	**-0.1**
MDJ			PcS	**PcS**	**20 17 38.2**	**+0.3**
MDJ			sS	**sS**	**20 18 05.5**	**+0.1**
MDJ			ScS	**ScS**	**20 21 38.5**	**+0.3**
MDJ			pmax	pmax		
	comp=Z,33nm,1.2s					
MDJ			pmax	pmax		
	comp=Z,180nm,6.1s					
MDJ			LR	LR		
	comp=N,820nm,32.0s					
MDJ			LR	LR		
	comp=E,520nm,22.6s					
MDJ			LR	LR		
	comp=Z,1μm,37.7s					
MDJ	**Mudanjiang**	**38.51 4**	*e*P	**P**	**20 11 39.4**	**+1.7**
	comp=Z,64nm,0.9s					
ERM	**Erimo**	**38.77 20⇑**	*e*P	**P**	**20 11 42.0**	**+2.1**
ERM			pmax	pmax		
	comp=Z,33nm,1.1s					
RMQ	**Roma**	**38.92 147**	P	**P**	**20 11 42.5**	**+1.1**
	baz=39,SNR=14					
EIDS	**Eidsvold**	**39.37 144**	P	**P**	**20 11 45.2**	**0.0**
	baz=39,SNR=26					
BBOO	**Buckleboo**	**39.72 167**	P	**P**	**20 11 48.3**	**+0.3**
	baz=40,SNR=312					
NWAO	**Narrogin (SRO)**	**39.74 192**	P	**P**	**20 11 49.4**	**+1.3**
	SNR=6.7					
NWAO	**Narrogin (SRO)**	**39.74 192**	*e*P	**P**	**20 11 48.7**	**+0.5**
	comp=Z,435nm,1.4s					
NWAO	**Narrogin (SRO)**	**39.74 192**	P	**P**	**20 11 48.6**	**+0.5**
	comp=Z,98nm,0.5s,baz=22,slow=8.5,SNR=189					
STKA	**Stephens Creek**	**40.40 160**	*e*P	**P**	**20 11 53.5**	**0.0**
STKA	**Stephens Creek**	**40.40 160**	P	**P**	**20 11 53.1**	**-0.5**
	comp=Z,49nm,0.5s,baz=334,slow=8.1,SNR=176					
STKA			LR	LR	20 27 47.5	
	comp=Z,1μm,20.0s,baz=90,slow=35					
STKA	**Stephens Creek**	**40.40 160**	P	**P**	**20 11 53.6**	**0.0**
	baz=40,SNR=142					
STKA			S	**S**	**20 17 52.4**	**-2.2**
	baz=40,SNR=6.9					
ASAJ	**Asahikawa**	**40.47 18**	*e*P	**P**	**20 11 55.7**	**+1.6**
	comp=Z,341nm,2.5s					
LSA	**Lhasa**	**40.72 310**	P	**P**	**20 11 57.8**	**+0.9**
LSA			pP	**pP**	**20 12 20.2**	**+0.3**
LSA			LR	LR		
	comp=N,730nm,23.8s					
LSA			LR	LR		
	comp=E,610nm,23.8s					
LSA			LR	LR		
	comp=Z,1μm,30.0s					
LSA	**Lhasa**	**40.72 310**	*e*P	**P**	**20 11 57.4**	**+0.5**
LSA			pmax	pmax		
	comp=Z,102nm,1.3s					
LSA	**Lhasa**	**40.72 310**	*e*P	**P**	**20 11 57.4**	**+0.5**
	comp=Z,102nm,1.3s					
GTA	**Gaotai**	**40.97 328**	⇑P	**P**	**20 11 59.1**	**+0.7**
GTA			pP	**pP**	**20 12 21.6**	**+0.1**
GTA			sP	**sP**	**20 12 33.1**	**+0.3**
GTA			PcP	**PcP**	**20 13 58.2**	**+1.3**
GTA			ScP	**ScP**	**20 17 39.2**	**+1.4**
GTA			PcS	**PcS**	**20 17 47.7**	**-0.3**
GTA			S	**S**	**20 18 02.2**	**-1.1**
GTA			sS	**sS**	**20 18 42.3**	**-0.7**
GTA			SS	**SS**	**20 21 04.3**	**-4.8**
GTA			ScS	**ScS**	**20 21 53.6**	**+0.3**
GTA			pmax	pmax		
	comp=Z,22nm,0.8s					
GTA			pmax	pmax		
	comp=Z,280nm,4.7s					
GTA			LR	LR		
	comp=N,2μm,27.6s					
GTA			LR	LR		
	comp=E,2μm,20.4s					
GTA			LR	LR		
	comp=Z,2μm,26.6s					
RKGY	**Rocky Gully**	**41.42 192**	P	**P**	**20 12 03.6**	**+1.7**
	baz=42,SNR=94					
YUK	**Yuzh-Kuril'sk**	**41.49 21**	*d i*P	**P**	**20 12 03.1**	**+0.7**
YUK			*i*		20 13 59.6	
YUK			*i*		20 14 17.0	
YUK			*i*S	**S**	**20 18 10.5**	**0.0**
YUK			*i*		20 21 52.5	
YUK			pmax	pmax		
	comp=N,210nm,1.0s					
YUK			pmax	pmax		
	comp=E,162nm,1.0s					
YUK			pmax	pmax		
	comp=Z,270nm,1.1s					
YUK			pmax	pmax		
	comp=Z,241nm,1.0s					
YUK			MLR	MLR		
	comp=E,418nm,16.0s					
CMSA	**Cobar Meteorol**	**41.66 155**	P	**P**	**20 12 04.4**	**+0.5**
	baz=42,SNR=32					
TAPN	**Taplejung**	**42.44 304**	*e*P	**P**	**20 12 11.7**	**+0.9**
	comp=E,172nm,1.3s					
ODAN	**Odare**	**42.52 304**	*e*P	**P**	**20 12 11.6**	**+0.2**
	comp=E,110nm,0.7s					
HABR	**Khabarovsk**	**42.90 8**	*ce*P	**P**	**20 12 12.5**	**-1.2**
HABR			*e**PP	**pP**	**20 12 35.5**	**-1.4**
HABR			*e*		20 13 53.6	
HABR			*e*		20 14 01.2	
HABR			*e*PPP	PPP	20 14 30.0	
HABR			*e*S	**S**	**20 18 30.1**	**-0.9**
HABR			*e*SS	**SS**	**20 21 46.7**	**+0.4**
HABR			*e*		20 22 02.6	
HABR			*e*SSS	SSS	20 22 28.7	
HABR			pmax	pmax		
	comp=Z,107nm,1.9s					
YSS	**Yuzh-Sakhalins**	**43.10 16**	*e*P	**P**	**20 12 16.5**	**+1.1**
YSS			*e*		20 12 34.0	
YSS			*e*		20 14 04.0	
YSS			*e*S	**S**	**20 18 32.0**	**-2.0**
YSS			*e*SS	SS	20 21 43.0	-7.3
YSS			*e*SSS	SSS	20 22 36.0	
YSS			pmax	pmax		
	comp=Z,40nm,1.1s					
RAMN	**Ramite**	**43.21 303**	*e*P	**P**	**20 12 17.4**	**+0.5**
	comp=Z,94nm,0.8s					
KUR	**Kuril'sk**	**43.26 22**	*d i*P	P	20 12 33.1	+16
KUR			pmax	pmax		
	comp=Z,329nm,1.7s					
KUR			pmax	pmax		
	comp=Z,2μm,4.9s					
KLR	**Kul'dur**	**43.26 5**	*e*P	P	20 12 12.2	-4.4
HIA	**Hailar**	**43.43 354**	*e*P	**P**	**20 12 19.1**	**+1.0**
	comp=Z,67nm,1.1s					
ARMA	**Armidale**	**43.57 148**	P	**P**	**20 12 20.4**	**+0.9**
	baz=44,SNR=41					
JIRN	**Jiri**	**43.81 304**	*e*P	**P**	**20 12 21.7**	**-0.2**
	comp=Z,80nm,0.6s					
GUN	**Gumba**	**44.16 304**	*e*P	**P**	**20 12 24.5**	**-0.1**
	comp=Z,159nm,0.9s					
PKI	**Pulchoki**	**44.42 304**	*e*P	**P**	**20 12 26.2**	**-0.5**
PKIN	**Phulchoki**	**44.43 304**	*e*P	**P**	**20 12 26.0**	**-0.8**
	comp=Z,27nm,0.7s					
KKN	**Kakani**	**44.61 304**	*e*P	**P**	**20 12 27.6**	**-0.5**
DMN	**Daman**	**44.69 304**	*e*P	**P**	**20 12 28.4**	**-0.4**
ULN	**Ulaanbaatar**	**44.83 342**	P	**P**	**20 12 30.8**	**+1.3**
	SNR=18					
ULN	**Ulaanbaatar**	**44.83 342**	*e*P	**P**	**20 12 30.2**	**+0.8**
	comp=Z,66nm,0.9s					
ARPS	**Mount Arapiles**	**44.98 162**	P	**P**	**20 12 31.4**	**+0.9**
	baz=45,SNR=94					
SONM	**Songino Array**	**45.02 341**	P	**P**	**20 12 31.9**	**+1.0**
SONM	**Songino Array**	**45.02 341**	P	**P**	**20 12 31.9**	**+1.0**
	comp=Z,14nm,0.7s,baz=155,slow=8.5,SNR=72					
SONM			LR	LR	20 32 25.0	
	comp=Z,700nm,21.4s,baz=157,slow=37					
YNG	**Young**	**45.19 154**	P	**P**	**20 12 33.0**	**+0.7**
	baz=45,SNR=10					
KOLN	**Koldanda**	**45.99 303**	*e*P	**P**	**20 12 38.1**	**-0.9**
	comp=Z,108nm,0.7s					
DANN	**Dangsing**	**46.06 304**	*e*P	**P**	**20 12 39.1**	**-0.5**
	comp=Z,170nm,0.6s					
CNB	**Canberra Magne**	**46.47 154**	P	**P**	**20 12 44.0**	**+1.6**
	baz=47,SNR=20					
TOO	**Toolangi**	**46.90 159**	P	**P**	**20 12 47.4**	**+1.7**
	baz=47,SNR=33					
MILA	**Mila**	**47.86 155**	P	**P**	**20 12 55.8**	**+2.7**
	baz=48,SNR=8.5					
HYB	**Hyderabad**	**48.09 288**	*i*P	**P**	**20 12 54.0**	**-1.3**
HYB			*e*		20 13 14.5	
HYB			*es*P	**sP**	**20 13 28.0**	**-2.1**
HYB			*ep*PcP	**PcP**	**20 14 21.0**	**-0.7**
DZM	**Mont Dzumac**	**48.13 127**	*e*S	**S**	**20 19 46.1**	**-1.2**
	comp=Z,664nm,28.0s					
DZM			*e*LR	LR	20 26 44.2	
	comp=Z,4μm,36.6s					
DZM	**Mont Dzumac**	**48.13 127**	*e*P	**P**	**20 12 55.8**	**+0.2**
	comp=Z,64nm,0.9s					
ZAK	**Zakamensk**	**48.25 340**	*e*P	**P**	**20 12 55.7**	**-0.3**
ZAK			pmax	pmax		
	comp=Z,15nm,1.4s					
AKL	**Akola**	**50.03 292⇑**	*i*P	**P**	**20 13 10.2**	**+0.3**
AKL			AMP		20 13 13.0	
	comp=Z,275nm,1.5s					
AKL			*i*S	**S**	**20 20 13.2**	**-0.6**
MOY	**Mondy**	**50.11 340**	*e*P	**P**	**20 13 12.9**	**+2.7**
MOY			pmax	pmax		
	comp=Z,104nm,3.8s					
CLNS	**Chul'man**	**50.66 359**	*e*P	**P**	**20 13 15.0**	**+0.8**
CLNS			*e**PP	**pP**	**20 13 38.3**	**+0.3**
CLNS			*e*		20 14 32.5	
CLNS			*e*		20 15 07.6	
CLNS			*e*S	**S**	**20 20 22.4**	**+0.9**
CLNS			*e**SS	**sS**	**20 20 57.4**	**-5.0**
CLNS			*e*		20 22 48.5	
CLNS			pmax	pmax		
	comp=Z,20nm,1.0s					
CLNS			pmax	pmax		
	comp=N,16nm,1.0s					
CLNS			pmax	pmax		
	comp=E,11nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,14nm,1.1s					
CLNS			pmax	pmax		
	comp=E,10.0nm,0.9s					
CLNS			pmax	pmax		
	comp=N,14nm,1.1s					
CLNS			smax	smax		
	comp=E,318nm,12.4s					
CLNS			smax	smax		
	comp=N,353nm,12.7s					
WMQ	**Urumqi**	**50.67 324**	P	**P**	**20 13 15.4**	**+0.8**
WMQ			sP	**sP**	**20 13 47.7**	**-1.8**
WMQ			PcP	**PcP**	**20 14 32.6**	**+2.0**
WMQ			PP	**PP**	**20 15 13.3**	**+1.8**
WMQ			S	**S**	**20 20 20.6**	**-1.6**
WMQ			sS	**sS**	**20 21 04.7**	**+1.6**
WMQ			ScS	**ScS**	**20 22 53.0**	**-2.8**
WMQ			SS	**SS**	**20 23 53.2**	**-4.6**
WMQ			pmax	pmax		
	comp=Z,48nm,1.5s					
WMQ			pmax	pmax		
	comp=Z,900nm,6.0s					
WMQ			LR	LR		
	comp=N,4μm,24.0s					
WMQ			LR	LR		
	comp=E,1μm,23.0s					
WMQ			LR	LR		
	comp=Z,1μm,25.0s					
SKR	**Severo-Kuril's**	**50.91 24**	*e*P	**P**	**20 13 14.5**	**-1.6**
SKR			*e*		20 20 26.0	
SKR			pmax	pmax		
	comp=Z,400nm,1.5s					
SKR			pmax	pmax		
	comp=E,1μm,4.0s					
SKR			pmax	pmax		
	comp=Z,1μm,4.0s					
SKR			MLR	MLR		
	comp=Z,1μm,18.0s					
NDI	**New Delhi**	**51.63 302**	*ex*	**P**	**20 13 19.0**	**-2.9**
SMLA	**Simla**	**52.38 305**	*i*P	**P**	**20 13 26.9**	**-0.6**
HVS	**Khovu-Aksy**	**52.52 335**	*d i*P	**P**	**20 13 28.8**	**+0.6**
HVS			pmax	pmax		
	comp=Z,247nm,1.2s					
POO	**Poona**	**52.67 289**	*ex*	**P**	**20 13 28.0**	**-1.8**
PEA0B	**Petropavlovsk-**	**53.41 23**	*e*P	**P**	**20 13 35.3**	**+0.8**
PETK	**Petropavlovsk-**	**53.41 23**	P	**P**	**20 13 33.0**	**-1.5**
PETK	**Petropavlovsk-**	**53.41 23**	P	**P**	**20 13 33.0**	**-1.5**
PETK	**Petropavlovsk-**	**53.41 23**	P	**P**	**20 13 33.0**	**-1.5**
	comp=Z,21nm,0.7s,baz=211,slow=2.6,SNR=47					
PETK			LR	LR	20 34 38.0	
	comp=Z,353nm,20.5s,baz=213,slow=34					
PET	**Petropavlovsk**	**53.72 24**	*e*P	**P**	**20 13 38.3**	**+1.5**
MK31	**Makanchi Array**	**55.50 324**	*e*P	**P**	**20 13 49.4**	**-0.5**
MK31	**Makanchi Array**	**55.50 324**	*e*P	**P**	**20 13 49.4**	**-0.5**
MKAR	**Makanchi Array**	**55.50 324**	P	**P**	**20 13 49.3**	**-0.6**
MKAR	**Makanchi Array**	**55.50 324**	P	**P**	**20 13 49.3**	**-0.6**
MKAR			ScP	**ScP**	**20 18 39.6**	**+0.8**
MKAR	**Makanchi Array**	**55.50 324**	P	**P**	**20 13 49.3**	**-0.6**
	comp=Z,14nm,0.6s,baz=115,slow=7.5,SNR=68					
MKAR			ScP	**ScP**	**20 18 39.6**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=126,slow=4.4,SNR=3.7					
MKAR			LR	LR	20 39 58.0	
	comp=Z,782nm,18.2s,baz=113,slow=38					
YAK	**Yakutsk**	**55.91 2**	*e*P	**P**	**20 13 52.8**	**+0.4**
YAK			*e**PP	pP	20 14 11.3	-5.3
YAK			*e*		20 14 50.2	
YAK			*e*		20 15 59.1	
YAK			*e*PPP	PPP	20 17 12.5	
YAK			*e*S	**S**	**20 21 33.9**	**+1.6**
YAK			*e*		20 23 29.4	
YAK			*e*SS	**SS**	**20 25 23.0**	**+3.5**
YAK			pmax	pmax		
	comp=Z,148nm,1.1s					
YAK			pmax	pmax		
	comp=N,123nm,1.4s					
YAK			pmax	pmax		
	comp=Z,94nm,3.2s					
YAK			pmax	pmax		
	comp=N,53nm,1.9s					
YAK			pmax	pmax		
	comp=E,55nm,3.0s					
YAK			smax	smax		
	comp=N,182nm,2.6s					
YAK			smax	smax		
	comp=E,117nm,2.3s					
MSVF	**Nonsavu**	**56.16 116**	*e*P	**P**	**20 13 57.3**	**+2.2**
MSVF			pmax	pmax		
	comp=Z,98nm,1.1s					
MSVF	**Nonsavu**	**56.16 116**	*e*P	**P**	**20 13 57.3**	**+2.2**
	comp=Z,98nm,1.1s					
KSH	**Kashi**	**56.21 314**	P	**P**	**20 13 56.4**	**+1.1**
KSH			sP	**sP**	**20 14 31.3**	**+0.8**
KSH			PP	**PP**	**20 16 04.3**	**+2.8**
KSH			S	**S**	**20 21 34.5**	**-3.0**
KSH			sS	**sS**	**20 22 15.5**	**-3.5**
KSH			SS	**SS**	**20 25 23.3**	**-2.2**
KSH			pmax	pmax		
	comp=Z,8.0nm,0.7s					
KSH			pmax	pmax		
	comp=Z,230nm,3.6s					
KSH			LR	LR		
	comp=N,2μm,21.8s					
KSH			LR	LR		
	comp=E,410nm,16.6s					
KSH			LR	LR		
	comp=Z,910nm,24.4s					
KRAR	**Krasnoyarsk**	**56.49 338⇓**	*i*P	**P**	**20 13 58.9**	**+2.2**
KRAR			*i* *PP	**pP**	**20 14 21.5**	**+0.6**
KRAR			pmax	pmax		
	comp=Z,49nm,0.7s					
AAA	**Alma-Ata**	**57.08 319**	*i*P	**P**	**20 14 00.5**	**-0.8**
AAA			*i*S	**S**	**20 21 47.9**	**-0.8**
AAA			pmax	pmax		
	comp=Z,500nm,3.8s					
AAA			smax	smax		
	comp=E,500nm,4.7s					
AAA			MLR	MLR		
	comp=Z,900nm,12.0s					
ULHL	**Ulahol**	**57.12 317**	*e*P	**P**	**20 14 01.9**	**+0.2**
ULHL	**Ulahol**	**57.12 317**	P	**P**	**20 14 01.9**	**+0.2**
	SNR=15					
KZA	**Kyzart**	**57.72 317**	*e*P	**P**	**20 14 06.8**	**+0.6**
KZA	**Kyzart**	**57.72 317**	P	**P**	**20 14 06.8**	**+0.6**
	SNR=20					
TKM2	**Tokmak 2**	**57.83 318**	*i*P	**P**	**20 14 06.7**	**0.0**
TKM2	**Tokmak 2**	**57.83 318**	P	**P**	**20 14 06.7**	**0.0**
	SNR=19					
TKM2	**Tokmak 2**	**57.83 318**	*e*P	**P**	**20 14 06.7**	**0.0**
	comp=Z,50nm,1.2s					
KBK	**Karagaybulak**	**58.16 317**	*e*P	**P**	**20 14 09.3**	**+0.4**
KBK	**Karagaybulak**	**58.16 317**	P	**P**	**20 14 09.3**	**+0.4**

SNR=11
ZAA0 Zalesovo Array 58.40 333 *e*P **P** **20 14 09.5 -0.7**
ZALV Zalesovo Beam 58.40 333 P **P** **20 14 09.7 -0.4**
ZALV Zalesovo Beam 58.40 333 P **P** **20 14 09.7 -0.4**
ZALV P'P' 20 43 50.0
ZALV Zalesovo Beam 58.40 333 P **P** **20 14 09.7 -0.4**
comp=Z,43nm,0.8s,baz=126,slow=6.6,SNR=51
ZALV LR LR 20 42 32.8
comp=Z,657nm,18.6s,baz=124,slow=39
ZALV PKPPKP **P'P'df** **20 43 50.0 +1.3**
comp=Z,0.7nm,0.5s,baz=251,slow=4.5,SNR=3.8
CHMS Chumysh 58.43 317 *e*P **P** **20 14 10.3 -0.3**
CHMS Chumysh 58.43 317 P **P** **20 14 10.3 -0.3**
SNR=11
FRU Bishkek 58.45 317 *e*P **P** **20 14 10.0 -0.8**
FRU *i* 20 14 35.0
FRU *i* 20 14 59.0
FRU pmax pmax
comp=Z,40nm,2.2s
AAK Ala-Archa 58.46 317*c i*P **P** **20 14 11.3 +0.3**
AAK pmax pmax
comp=Z,80nm,2.3s
AAK Ala-Archa 58.46 317 P **P** **20 14 12.4 +1.4**
SNR=12
AAK Ala-Archa 58.46 317 *e*P **P** **20 14 10.8 -0.3**
comp=Z,184nm,2.0s
AAK *e*pP pP 20 14 42.7 +7.3
AAK Ala-Archa 58.46 317 P **P** **20 14 11.1 +0.1**
comp=Z,3.7nm,0.4s,baz=122,slow=5.5,SNR=12
AAK LR LR 20 41 09.1
comp=Z,794nm,20.4s,baz=343,slow=38
USP Ospenovka 58.71 318 *e*P **P** **20 14 12.5 -0.1**
USP Ospenovka 58.71 318 P **P** **20 14 12.5 -0.1**
SNR=15
AML Almayashu 58.81 316 *e*P **P** **20 14 13.5 -0.2**
AML Almayashu 58.81 316 P **P** **20 14 13.5 -0.2**
SNR=24
EKS2 Erkin-Say 58.96 317 *e*P **P** **20 14 14.6 +0.2**
EKS2 pmax pmax
comp=Z,55nm,1.1s
EKS2 Erkin-Say 58.96 317 P **P** **20 14 14.1 -0.4**
SNR=24
EKS2 Erkin-Say 58.96 317 *e*P **P** **20 14 14.6 +0.2**
comp=Z,55nm,1.1s
KURK Kurchatov 59.64 327 P **P** **20 14 18.5 -0.3**
KURK Kurchatov 59.64 327 P **P** **20 14 18.5 -0.3**
KURK P'P' 20 43 39.2
KURK P'P'ab **P'P'ab** **20 44 05.2 -4.4**
KURBB Kurchatov Arra 59.64 327 P **P** **20 14 18.5 -0.3**
comp=Z,23nm,0.6s,baz=127,slow=6.2,SNR=78
KURBB PKPPKP P'P'df 20 43 39.2 -7.8
comp=Z,0.7nm,0.3s,baz=278,slow=3.8,SNR=6.3
KURBB PKP2ab 20 44 05.2
comp=Z,0.7nm,0.3s,baz=268,slow=3.6,SNR=4.6
NVS Novosibirsk 59.68 333⇓*i*P **P** **20 14 18.5 -0.5**
NVS *e**PP **pP** **20 14 41.7 -1.8**
NVS *e*S **S** **20 22 18.9 -2.9**
NVS pmax pmax
comp=N,31nm,1.1s
NVS pmax pmax
comp=Z,74nm,1.1s
NVS smax smax
comp=N,45nm,2.3s
SEY Seymchan 59.85 13*de*P **P** **20 14 21.3 +1.3**
KBL Kabul 59.90 307 *e*P **P** **20 14 20.3 -0.9**
KBL pmax pmax
comp=Z,60nm,1.2s
KBL Kabul 59.90 307 *e*P **P** **20 14 20.2 -0.9**
comp=Z,60nm,1.2s
KBL Kabul 59.90 307 P **P** **20 14 20.5 -0.7**
baz=60,SNR=19
FX1 Attu Island--F 60.23 31 *e*P **P** **20 14 23.8 +1.0**
KK31 Karatay Array 61.35 316 *i* P **P** **20 14 29.7 -0.9**
KK31 pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 61.35 316 *e*P **P** **20 14 29.9 -0.7**
KKAR Karatay Array 61.35 316 *e*P **P** **20 14 29.9 -0.7**
RPZ Rata Peaks 63.83 145 *e*P **P** **20 14 48.0 +1.0**
comp=Z,66nm,0.8s
RPZ Rata Peaks 63.83 145 LR LR 20 43 04.9
comp=Z,583nm,19.3s,baz=294,slow=36
RAO Raoul Island 63.93 127 LR LR 20 39 15.6
comp=Z,672nm,19.2s,baz=28,slow=33
URZ Urewera 64.44 138 LR LR 20 40 53.3
comp=Z,557nm,18.7s,baz=203,slow=34
KHZ Kahutara 64.48 143 *e*P **P** **20 14 51.7 +0.4**
comp=Z,181nm,1.8s
BVAR Borovoye Array 65.23 327 P **P** **20 14 55.6 -0.4**
BVAR Borovoye Array 65.23 327 P **P** **20 14 55.6 -0.4**
BVAR Borovoye Array 65.23 327 P **P** **20 14 55.6 -0.4**
comp=Z,9.3nm,0.5s,baz=129,slow=9.3,SNR=42
BVAR LR LR 20 44 13.6
comp=Z,827nm,21.5s,baz=110,slow=37
BRVK Borovoye 65.30 327*c i*P **P** **20 14 56.3 -0.2**
BRVK pmax pmax
comp=Z,36nm,1.1s
BRVK Borovoye 65.30 327 P **P** **20 14 56.6 +0.2**
SNR=19
BRVK Borovoye 65.30 327 *e*P **P** **20 14 55.5 -1.0**
comp=Z,128nm,1.2s
TIXI Tiksi 65.53 1*c i*P **P** **20 14 58.0 +0.4**
TIXI pmax pmax
comp=Z,118nm,2.3s
IDAH Dahanechah 67.07 303 *e*P **P** **20 15 08.1 -0.4**
IMYA Miami 67.41 307 *e*P **P** **20 15 08.4 -2.1**
JMDO Jabal Madar 67.70 292 P **P** **20 15 11.4 -1.0**
SNR=6.4
IKOO Kooshah 67.75 302 *e*P **P** **20 15 12.0 -0.8**
ISRO Mashad 67.91 307 *e*P **P** **20 15 12.3 -1.3**
IMOG Moghan 67.98 306 *e*P **P** **20 15 13.1 -1.2**
ITEG Tejag 68.02 303 *e*P **P** **20 15 14.1 -0.3**
IPAY Payeh 68.31 307 *e*P **P** **20 15 15.9 -0.3**
HOQ Hoqain 68.48 293 P **P** **20 15 16.7 -0.5**
SNR=9.4
BSY Bisya 68.55 292 P **P** **20 15 17.6 -0.1**
SNR=6.5
IKRD Kardeh 68.74 307 *e*P P 20 15 12.9 -6.0
UOSS Wadi Hilu 69.56 294 P **P** **20 15 22.0 -1.9**
comp=Z,129nm,0.6s,SNR=6.6
HATD Hatta, Dubai 69.62 294 P **P** **20 15 24.6 +0.3**
SNR=6.2
AB31 Akbulak array 70.18 320 *i* P **P** **20 15 26.1 -1.1**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR Akbulak array 70.18 320 *e*P **P** **20 15 26.2 -1.0**
IBAF Bafgh 70.56 301 *e*P **P** **20 15 28.6 -1.5**
IMEH Mehriz 71.36 301 *e*P **P** **20 15 32.8 -2.2**
ICHK Chekchek 71.60 302 *e*P **P** **20 15 34.7 -1.8**
AKTO Aktyubinsk 71.67 321 *i* P **P** **20 15 35.6 -0.6**
AKTO pmax pmax
comp=Z,33nm,0.8s
AKTO Aktyubinsk 71.67 321 P **P** **20 15 35.5 -0.7**
AKTO Aktyubinsk 71.67 321 P **P** **20 15 35.5 -0.7**
comp=Z,20nm,0.6s,baz=98,slow=7.9,SNR=62
AKTO LR LR 20 49 46.3
comp=Z,566nm,18.5s,baz=103,slow=38
SVE Sverdlovsk 71.84 328*de*P **P** **20 15 37.2 +0.1**
SVE *e* 20 16 06.2
SVE *e* 20 18 15.0
SVE *e*S **S** **20 24 45.8 -3.9**
SVE *e* 20 25 30.4
SVE pmax pmax
comp=Z,125nm,1.2s
SVE MLR MLR
comp=Z,302nm,16.0s
ISAD Sadrabad 72.19 301 *e*P **P** **20 15 38.3 -1.7**
IGLO Ghaloghah 72.45 306 *e*P **P** **20 15 38.7 -2.7**
IKIA Kiasar 72.54 306 *e*P **P** **20 15 41.0 -1.0**
ISHM Shahmirzad 72.82 305 *e*P **P** **20 15 41.5 -2.2**
ARU Arti 72.83 327*c i*P **P** **20 15 41.8 -1.2**
ARU 20 15 59.3
ARU *e**PP **pP** **20 16 07.1 -1.2**
ARU 20 18 26.2
ARU PPP PPP 20 20 10.5
ARU S **S** **20 24 59.0 -2.0**
ARU *SS **SKSac** **20 25 38.8 -0.4**
ARU pmax pmax
comp=Z,42nm,0.6s
ARU MLR MLR
comp=Z,548nm,21.0s
ARU Arti 72.83 327 P **P** **20 15 41.6 -1.4**
comp=Z,415nm,0.6s,SNR=33
CASY Casey 73.08 187 *e*P **P** **20 15 44.8 +0.6**
comp=Z,54nm,0.8s
DRV Dumont d'Urvil 73.20 174 PP PP 20 18 07.0 -22
DRV S **S** **20 25 00.0 -4.7**
DRV SS SS 20 29 34.0 -14
DRV L L 20 34 00.0
DRV R 20 39 00.0
IFIR Firoozkooh 73.24 305 *e*P **P** **20 15 45.1 -1.1**
IZEF Zefreh 73.40 302 *e*P **P** **20 15 44.6 -2.6**
ISFB Sefidab 73.56 304 *e*P P 20 15 44.4 -3.5
IGAR Gharneh 73.61 302 *e*P **P** **20 15 46.8 -1.6**
IDMV Damavand 73.82 305 *e*P **P** **20 15 49.8 +0.2**
IVRN Varamin 74.03 305 *e*P **P** **20 15 49.6 -1.0**
IKLH Kolahrood 74.05 303 *e*P **P** **20 15 50.5 -0.5**
SOKR Solikamsk 74.56 330*c i*P **P** **20 15 53.0 0.0**
SOKR pmax pmax
comp=Z,70nm,2.3s
SOKR MLR MLR
comp=Z,630nm,18.0s
IR3 Iran Long-Peri 74.64 305 *e*P **P** **20 15 51.1 -3.0**
IGZV Ghazvin 75.34 306 *e*P **P** **20 15 56.7 -1.6**
SDPT Sand Point 75.44 34 *e*P **P** **20 15 57.9 -0.2**
comp=Z,180nm,1.3s
IRAZ Razeghan 75.52 305 *e*P **P** **20 15 57.5 -1.9**
MIR Mirnyy 76.34 193⇓*i*P **P** **20 16 05.0 +2.0**
MIR *i* 20 16 23.0
MIR *i* 20 16 32.0
MIR pmax pmax
comp=Z,273nm,2.0s
CHGN Chignik 76.75 34 *e*P **P** **20 16 05.8 +0.3**
UMR Umm Al-Rimmam 77.24 299 *e*P **P** **20 16 07.4 -1.5**
UMR AMb AMB 20 16 11.4
comp=Z,192nm,1.7s
KBD Kabd 77.26 298 *e*P **P** **20 16 07.2 -1.8**
KBD AMb AMB 20 16 12.3
comp=Z,89nm,1.3s
RDF Al-Radifah 77.38 298 *e*P **P** **20 16 08.3 -1.4**
RDF AMb AMB 20 16 12.2
comp=Z,144nm,1.2s
ISRB Sarab 77.45 307 *e*P **P** **20 16 09.2 -1.0**
IKOM Komasi 77.47 304 *e*P **P** **20 16 07.8 -2.5**
NAY Al-Naaiem 77.65 299 *e*P **P** **20 16 09.3 -1.9**
NAY AMb AMB 20 16 14.1
comp=Z,98nm,1.0s
IHRS Heris 77.96 308 *e*P **P** **20 16 11.9 -1.1**
IVIS Veis 78.02 304 *e*P **P** **20 16 10.7 -2.6**
IGHG Ghaleghazi 78.25 304 *e*P **P** **20 16 13.0 -1.7**
IDHR Dehrash 78.41 304 *e*P P 20 16 09.8 -5.7
ITBZ Tabriz 78.66 308 *e*P **P** **20 16 15.0 -1.8**
IBDR Badra 78.78 302 *i* P **P** **20 16 15.0 -2.3**
IBDR *i* PP **pP** **20 16 42.0 -1.0**
IBDR *i* S S 20 26 22.0 +15
IBDR *i* SS ScS 20 27 06.0 +36
SVW2 Sparrevohn 78.92 29 *e*P **P** **20 16 18.4 +0.9**
comp=Z,41nm,1.2s
ISHB Shabestar 79.08 308 *e*P **P** **20 16 18.4 -0.8**
RAYN Ar Rayn 79.32 293 *e*P **P** **20 16 19.2 -1.4**
comp=Z,207nm,1.8s
DGRG David-gareji 79.33 311 P **P** **20 16 21.1 +0.9**
OHAK Old Harbor 79.67 33 *e*P **P** **20 16 22.2 +0.6**
comp=Z,60nm,1.0s
GNI Garni 79.78 310 P **P** **20 16 24.9 +2.0**
SNR=8.9
GNI Garni 79.78 310 *e*P **P** **20 16 21.6 -1.3**
comp=Z,86nm,1.0s
GNI Garni 79.78 310 P **P** **20 16 22.4 -0.5**
comp=Z,3.7nm,0.5s,baz=2.3,slow=8.3,SNR=4.9
TBLG Delisi 79.81 311 P **P** **20 16 22.7 -0.1**
TBLG Delisi 79.81 311 P **P** **20 16 22.7 -0.1**
DUS Dusheti 79.84 312 P **P** **20 16 23.8 +0.8**
GUDG Gudauri 80.01 312 P **P** **20 16 23.5 -0.6**
BHD Baghdad 80.08 303 *i* P P 20 16 19.0 -5.4
BHD *i* PP pP 20 16 46.0 -4.1
BHD *i* S S 20 26 29.0 +8.0
BHD *i* SS ScS 20 27 18.0 +37
KDAK Kodiak Island 80.09 32 P **P** **20 16 24.8 +0.9**
comp=Z,279nm,0.8s,SNR=16
KDAK Kodiak Island 80.09 32 P **P** **20 16 23.9 0.0**
comp=Z,33nm,0.8s,baz=251,slow=2.9,SNR=30
RSO Redoubt South 80.22 30 *e*P **P** **20 16 25.3 +0.4**
IM04 Indian Mountai 80.33 24 *e*P **P** **20 16 25.7 +0.6**
IMA2 Indian Mountai 80.39 24 *e*P **P** **20 16 25.4 -0.2**
ZEI Tsey 80.44 312 *e*P **P** **20 16 25.2 -1.2**
ZEI pmax pmax
comp=Z,46nm,1.3s
SPU Mount Spurr 80.63 29 *e*P **P** **20 16 27.6 +0.7**
PPLA Purkeypile 80.71 27 *e*P **P** **20 16 28.1 +0.7**
comp=Z,61nm,1.1s
AKH Akhalkalaki 80.74 311 P **P** **20 16 29.0 +1.0**
ONI Oni 80.77 312 P **P** **20 16 28.7 +0.7**
KBZ Khabaz 81.18 313 P **P** **20 16 29.5 -0.5**
KBZ Khabaz 81.18 313 P **P** **20 16 29.5 -0.5**
KBZ Khabaz 81.18 313 P **P** **20 16 29.5 -0.5**
comp=Z,9.6nm,1.0s,baz=154,slow=1.5,SNR=9.3
KIV Kislovodsk 81.33 313 *e*P **P** **20 16 30.9 -0.1**
KIV *e**PP **pP** **20 16 56.7 -0.1**
KIV *e*S **S** **20 26 32.6 -1.4**
KIV pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 81.33 313 P **P** **20 16 31.1 +0.1**
comp=Z,149nm,1.7s,SNR=6.5
TRF Thorofare Moun 81.61 27 *e*P **P** **20 16 31.4 -0.7**
comp=Z,80nm,1.0s
COLD Coldfoot 81.88 23 *e*P **P** **20 16 34.6 +1.4**
comp=Z,40nm,0.8s
PMR Palmer 82.06 29 *e*P **P** **20 16 34.3 +0.1**
PMR pmax pmax
comp=Z,92nm,1.0s
PMR Palmer 82.06 29 *e*P **P** **20 16 34.3 +0.1**
comp=Z,92nm,1.0s
VRHR Novokhopersk 82.07 321 *e*P **P** **20 16 33.2 -1.3**
VRHR *e**PP **pP** **20 16 58.7 -1.6**
VRHR *e*S **S** **20 26 35.1 -5.9**
VRHR *e**SS **sS** **20 27 27.9 +2.6**
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax smax
comp=E,310nm,4.3s
VRHR smax smax
comp=Z,80nm,4.3s
VRHR smax smax
comp=N,50nm,1.5s
VRHR MLR MLR
comp=Z,510nm,23.0s
VRHR MLR MLR
comp=N,50nm,11.0s
VRHR MLR MLR
comp=E,360nm,23.0s
MCK McKinley 82.22 27 *e*P **P** **20 16 35.4 +0.3**
MCK pmax pmax
comp=Z,199nm,1.0s
MCK McKinley 82.22 27 *e*P **P** **20 16 35.4 +0.3**
comp=Z,199nm,1.0s
SML Sawmill 82.44 29 *e*P **P** **20 16 37.0 +0.6**
SML pmax pmax
comp=Z,42nm,1.1s
SML Sawmill 82.44 29 *e*P **P** **20 16 37.0 +0.6**
comp=Z,42nm,1.1s
COLA College 82.73 25 *e*P **P** **20 16 38.2 +0.5**
COLA *e**PP pP 20 16 57.9 -5.6
COLA pmax pmax
comp=Z,281nm,1.0s
COLA College 82.73 25 *e*P **P** **20 16 38.2 +0.5**
comp=Z,281nm,1.0s
COLA *e*pP pP 20 16 57.9 -5.6
ILAR Eielson Array 83.14 26 P **P** **20 16 38.9 -1.0**
ILAR Eielson Array 83.14 26 P **P** **20 16 38.9 -1.0**
comp=Z,21nm,1.0s,baz=250,slow=4.5,SNR=112
ILAR LR LR 20 55 51.0
comp=Z,181nm,18.1s,baz=274,slow=37
MID Middleton Isla 83.41 31 *e*P **P** **20 16 43.0 +1.7**
MID pmax pmax
comp=Z,146nm,1.1s
MID Middleton Isla 83.41 31 *e*P **P** **20 16 43.0 +1.7**
comp=Z,146nm,1.1s
SOC Sochi 83.49 313*c i*P **P** **20 16 40.3 -1.8**
SOC *i* *PP **pP** **20 17 06.4 -1.6**
SOC *e* 20 19 58.9
SOC *e*S **S** **20 26 50.9 -4.9**
SOC *e*SS **SS** **20 32 21.3 -2.3**
SOC *e*SSS SSS 20 35 48.5
SOC pmax pmax
comp=Z,24nm,0.7s
VORD Divnogorie 83.54 321 *e*P **P** **20 16 40.9 -1.3**
VORD *e**PP **pP** **20 17 06.6 -1.4**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 83.61 321 *e*P **P** **20 16 41.0 -1.5**
VSR *e**PP **pP** **20 17 07.0 -1.4**
VSR *e*S S 20 26 50.1 -6.6
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,40nm,0.6s
VSR smax smax
comp=E,220nm,5.1s
VSR smax smax
comp=N,70nm,2.5s
VSR smax smax
comp=Z,30nm,2.5s
DIV Divide 83.67 29 *e*P P 20 16 38.2 -4.5
comp=Z,169nm,1.0s
PAX Paxson 83.78 27 *e*P **P** **20 16 43.3 0.0**
PAX pmax pmax
comp=Z,90nm,1.2s
PAX Paxson 83.78 27 *e*P **P** **20 16 43.3 0.0**
comp=Z,90nm,1.2s
TMCR Tamitsa 83.89 334 *e*P **P** **20 16 44.7 +1.0**
TMCR *e* 20 19 57.9
TMCR pmax pmax
comp=Z,83nm,0.8s
RAGM Ragged Mountai 84.23 30 *e*P **P** **20 16 46.7 +1.2**
comp=Z,153nm,1.2s
BMRM Bremner River 84.24 29 *e*P **P** **20 16 46.6 +1.0**
comp=Z,126nm,1.1s
MOS Moscow 84.37 325 *e*P **P** **20 16 43.2 -3.1**
MOS *e* 20 17 08.6
MOS *e*S **SKSac** **20 26 54.1 -6.8**
MOS pmax pmax
comp=Z,160nm,1.8s
MOS pmax pmax
comp=Z,800nm,2.7s
MOS smax smax
comp=E,700nm,4.2s
MOS MLR MLR
comp=Z,800nm,19.0s
OBN Obninsk 85.00 325*c i*P **P** **20 16 49.3 -0.1**
OBN *i* *PP **pP** **20 17 14.2 -1.2**
OBN *e* 20 20 07.6
OBN *i* S **SKSac** **20 27 00.1 -4.8**
OBN *i* SS **SS** **20 32 49.5 +4.3**
OBN pmax pmax
comp=Z,136nm,1.6s
OBN MLR MLR
comp=Z,500nm,18.0s
OBN Obninsk 85.00 325 P **P** **20 16 49.5 +0.1**
comp=Z,315nm,0.9s,SNR=10
ANN Anapa 85.07 314 *e*P **P** **20 16 49.0 -1.0**
ANN *e**PP **pP** **20 17 14.6 -1.4**
ANN *e* 20 20 05.4
ANN *e*S S 20 27 03.5 -8.0
ANN *e*SS **SS** **20 32 51.2 +4.4**
ANN pmax pmax
comp=Z,142nm,1.4s
ANN MLR MLR
comp=Z,335nm,19.0s
LVZ Lovozero 85.11 338*c i*P **P** **20 16 50.0 +0.2**
LVZ pmax pmax
comp=Z,98nm,2.0s
EGAK Eagle 85.59 25 *e*P **P** **20 16 52.9 +0.7**
comp=Z,71nm,1.4s
APA Apatity 85.61 337⇑*i*P **P** **20 16 52.4 +0.2**
APA *i* *PP pP 20 17 24.0 +5.8
APA *i* 20 27 06.0
APA *i* S **S** **20 27 18.0 +2.1**
APA MLR MLR
comp=Z,700nm,21.0s
VNDA Vanda 85.76 173 *e*P **P** **20 16 52.9 +0.1**
comp=Z,18nm,0.8s
VNDA PKKPbc **PKKPbc** **20 34 55.7 -2.2**
VNDA Vanda 85.76 173 P **P** **20 16 52.8 +0.1**
comp=Z,3.6nm,0.5s,baz=306,slow=5.2,SNR=20
VNDA PKKPbc **PKKPbc** **20 34 55.7 -2.2**
comp=Z,0.8nm,0.7s,baz=68,slow=0.4,SNR=5.2
VNDA LR LR 20 53 06.5
comp=Z,324nm,18.5s,baz=328,slow=34
MAW Mawson 85.83 200 *e*P **P** **20 16 53.0 -0.2**
comp=Z,2.5nm,0.7s
MAW Mawson 85.83 200 P **P** **20 16 53.2 0.0**
comp=Z,6.9nm,0.9s,baz=61,slow=6.4,SNR=18
MAW LR LR 20 48 34.1
comp=Z,242nm,21.5s,baz=65,slow=31
MAW Mawson 85.83 200 P **P** **20 16 54.5 +1.3**
baz=86,SNR=5.7
ZALF Zalf 86.00 303 *e*P **P** **20 16 56.7 +1.7**
PPT Papeete 86.10 108 LR LR 20 47 02.7
comp=Z,441nm,21.5s,baz=345,slow=30
PPT2 Papeete2 86.11 108 *e*S **S** **20 27 21.4 -1.3**
comp=Z,894nm,26.8s
PPT2 Papeete2 86.11 108 *e*LR LR 20 44 16.6
comp=Z,1μm,28.5s,baz=284
ASF Jabal al Asfar 86.43 302 P **P** **20 16 57.3 +0.1**
ASF Jabal al Asfar 86.43 302 P **P** **20 16 57.3 +0.1**
comp=Z,29nm,0.7s,baz=64,slow=4.0,SNR=47
ASF LR LR 20 59 28.0
comp=Z,120nm,18.1s,baz=240,slow=38
BTCH Batrach 86.46 306 *e*P **P** **20 16 58.6 +1.4**
FKH Fakeheh 86.66 304 *e*P **P** **20 16 58.3 0.0**
SBA Scott Base 86.67 172 *e*P **P** **20 16 59.6 +2.4**
SBA pmax pmax
comp=Z,311nm,2.3s
SBA Scott Base 86.67 172 *e*P **P** **20 16 59.6 +2.4**
comp=Z,311nm,2.3s
TOTH TOTAH 86.72 303 *e*P **P** **20 16 58.8 +0.3**
ARNB Al Arnab 86.87 306 *e*P **P** **20 16 58.8 -0.5**
TBI Tubuai 86.98 114 *e*S **S** **20 27 29.2 -1.7**
comp=Z,472nm,31.2s
TBI *e*SS SS 20 33 08.6 -7.5
comp=Z,619nm,29.0s
TBI Tubuai 86.98 114 *e*LR LR 20 44 46.6
comp=Z,996nm,31.8s
HWQ Hawqa 87.04 304 *e*P **P** **20 16 59.5 -0.6**
BHL Bhannes 87.31 304 *e*P **P** **20 17 01.1 -0.4**
SIM Simferopol' 87.41 315*ce*P **P** **20 17 00.2 -1.3**
SIM *e**PP **pP** **20 17 26.0 -1.6**
SIM *e* 20 20 30.0
SIM *e* 20 27 17.0
SIM *e*S **S** **20 27 30.0 -4.3**
SIM pmax pmax
comp=Z,20nm,0.9s
SIM pmax pmax
comp=Z,60nm,8.7s
SIM pmax pmax
comp=Z,40nm,7.2s
HYT Haines Junctio 87.71 29 *e*P **P** **20 17 03.7 +0.9**
PUL Pulkovo 87.89 330⇓*e*P **P** **20 17 03.0 -0.5**
PUL pmax pmax
comp=Z,75nm,0.6s
INK Inuvik 88.12 21 *e*P **P** **20 17 04.2 -0.2**
INK PKKPbc **PKKPbc** **20 34 49.6 -1.8**
INK Inuvik 88.12 21 P **P** **20 17 03.2 -1.2**
comp=Z,21nm,0.9s,baz=278,slow=6.1,SNR=29
INK PKKPbc **PKKPbc** **20 34 49.6 -1.8**
comp=Z,1.4nm,0.5s,baz=40,slow=5.8,SNR=5.0
SPITS Spitsbergen Ar 88.16 349 P **P** **20 17 04.3 -0.2**
SPITS Spitsbergen Ar 88.16 349 P **P** **20 17 04.3 -0.2**
comp=Z,7.4nm,0.6s,baz=93,slow=8.6,SNR=19
SPITS LR LR 21 03 08.2
comp=Z,421nm,18.5s,baz=65,slow=40
ARCES ARCESS Array B 88.18 340 P **P** **20 17 04.3 -0.4**
ARCES PKiKP **PKiKP** **20 22 06.8 +1.0**
ARCES PKKPbc **PKKPbc** **20 34 48.6 -2.8**
ARCES ARCESS Array B 88.18 340 P **P** **20 17 04.3 -0.4**
comp=Z,27nm,0.7s,baz=83,slow=6.8,SNR=59
ARCES PKiKP **PKiKP** **20 22 06.8 +1.0**
comp=Z,3.7nm,0.9s,baz=45,slow=0.2,SNR=6.2
ARCES PKKPbc **PKKPbc** **20 34 48.6 -2.8**
comp=Z,4.9nm,1.0s,baz=353,slow=8.8,SNR=4.2
ARCES LR LR 21 04 14.7
comp=Z,365nm,20.3s,baz=81,slow=41
ARE0 ARCESS Array S 88.18 340 *e*P **P** **20 17 04.4 -0.3**
BR131 Keskin Array S 88.32 310 *e*P **P** **20 17 04.6 -1.7**
comp=Z,7.8nm,0.6s

```
BRTR  Keskin Array B   88.32 310  P      P      20 17 04.5 -1.7
BRTR  Keskin Array B   88.32 310  P      P      20 17 04.5 -1.7
      comp=Z,11nm,0.7s,baz=115,slow=4.8,SNR=33
BRTR                            LR     LR     21 03 16.7
      comp=Z,203nm,22.0s,baz=199,slow=40
EIL   Elat             88.33 299  P      P      20 17 05.8 -0.4
EIL   Elat             88.33 299  P      P      20 17 05.8 -0.4
      comp=Z,17nm,0.8s,baz=14,slow=2.0,SNR=14
EIL                             LR     LR     20 57 22.3
      comp=Z,238nm,19.8s,baz=93,slow=36
EIL   Elat             88.33 299  P      P      20 17 06.2  0.0
      baz=88,SNR=9.1
ANTO  Ankara           88.95 310  eP     P      20 17 09.3 +0.2
ANTO                            pmax   pmax
      comp=Z,14nm,0.9s
ANTO  Ankara           88.95 310⇑ iP     P      20 17 10.3 +1.2
ANTO  Ankara           88.95 310  eP     P      20 17 09.3 +0.2
      comp=Z,14nm,0.9s
SKAG  Skagway          89.00  30  eP     P      20 17 10.2 +1.5
      comp=Z,24nm,1.2s
SKAG                            epP    pP     20 17 30.2 -4.6
CSS   Prodhromos       89.11 305  eP     P      20 17 08.8 -1.1
      comp=Z,28nm,0.7s
CSS                             epP    pP     20 17 35.0 -1.0
KMBO  Kilima Mbogo     89.31 269  P      P      20 17 12.6 +1.1
      SNR=8.0
KMBO  Kilima Mbogo     89.31 269  eP     P      20 17 10.0 -1.5
      comp=Z,64nm,1.7s
KMBO                            epP    pP     20 17 41.8 +4.2
KMBO  Kilima Mbogo     89.31 269  P      P      20 17 11.2 -0.3
      comp=Z,5.1nm,0.8s,baz=66,slow=7.5,SNR=13
KAF   Kangasniemi      89.41 332  eP     P      20 17 10.2 -0.4
KAF                             pmax   pmax
      comp=Z,12nm,0.6s
KAF   Kangasniemi      89.41 332  ep     P      20 17 10.2 -0.4
      comp=Z,12nm,0.6s
FIA1  FINESS Array S   89.66 332  eP     P      20 17 11.0 -0.7
FINES FINESS Array B   89.66 332  P      P      20 17 11.2 -0.5
FINES FINESS Array B   89.66 332  P      P      20 17 11.2 -0.5
      comp=Z,14nm,0.5s,baz=61,slow=5.0,SNR=106
FINES                           LR     LR     21 01 36.3
      comp=Z,482nm,20.5s,baz=81,slow=38
AKASG Malin Array Be   89.92 321  i P    P      20 17 13.6 +0.4
AKASG                           pmax   pmax
      comp=Z,5.0nm,0.6s
AKASG Malin Array Be   89.92 321  P      P      20 17 13.7 +0.5
AKASG Malin Array Be   89.92 321  P      P      20 17 13.7 +0.5
      comp=Z,5.2nm,0.6s,baz=67,slow=4.6,SNR=8.7
KIEV  Kiev             89.93 321  eP     P      20 17 12.1 -1.1
KIEV                            e*PP   pP     20 17 38.3 -1.1
KIEV                            pmax   pmax
      comp=Z,23nm,0.9s
KIEV  Kiev             89.93 321  eP     P      20 17 12.1 -1.1
      comp=Z,23nm,0.9s
KIEV                            epP    pP     20 17 38.3 -1.1
VSU   Vasula           89.94 329ceP      P      20 17 12.6 -0.5
VSU                             pmax   pmax
      comp=Z,282nm,1.7s
MICGM Minsk            90.07 325  e      P      20 17 14.0 +0.2
MNK   Minsk            90.09 325  eP     P      20 17 14.0 +0.1
NACGM Naroch           90.62 325  e      P      20 17 15.0 -1.4
KIS   Kishinev         90.79 317  eP     P      20 17 14.0 -3.4
KIS                             epP    pP     20 17 41.0 -2.6
KIS   Kishinev         90.79 317  ePP    PP     20 20 41.0 -13
KIS                             eSKS   SKSac  20 27 35.0 -5.2
KIS                             eS     SKKSac 20 27 59.0 +3.8
KIS                             esS    sS     20 28 44.0 -6.8
KIS   Kishinev         90.79 317  ePS    PS     20 29 24.0 -2.2
KIS                             eLQ    LQ     20 51 02.0
KIS                             eLR    LR     20 58 32.0
      comp=Z,400nm,22.0s
KIS   Kishinev         90.79 317  eP     P      20 17 14.0 -3.4
KIS                             e*PP   pP     20 17 41.0 -2.6
KIS                             e      20 27 35.0
KIS                             eS     SKKSac 20 27 59.0 +3.8
KIS                             ePS    PS     20 29 24.0 -2.2
KIS                             MLR    MLR
      comp=Z,400nm,21.0s
KIS                             MLR    MLR
      comp=E,500nm,22.0s
KIS                             MLR    MLR
      comp=Z,400nm,22.0s
TLCR  Wrangell Islan   91.10 315⇑ iP     P      20 17 18.7 -0.1
WRAK  Wrangell Islan   91.17  33  eP     P      20 17 19.9 +1.1
      comp=Z,16nm,0.9s
CFR   Carcaliu         91.57 316⇑ iP     P      20 17 20.3 -0.7
VIB   Van Inlet        91.74  36  T      T      21 59 51.3
      SNR=2.1
DIB   Dawson Inlet,    91.79  36  T      T      21 59 49.3
DLBC  Dease Lake       91.91  31  eP     P      20 17 23.1 +0.7
DLBC  Dease Lake       91.91  31  P      P      20 17 22.5 +0.1
      comp=Z,2.6nm,0.4s,baz=165,slow=16,SNR=10
TESR  Tescani          92.35 317⇓ iP     P      20 17 24.0 -0.6
VRI   Vrincioaia       92.42 316⇓ iP     P      20 17 24.5 -0.5
PLOR  Plostina         92.48 316⇑ iP     P      20 17 25.0 -0.3
SUW   Suwalki          92.87 325  eP     P      20 17 26.0 -0.8
SUW                             pmax   pmax
      comp=Z,44nm,0.9s
SUW   Suwalki          92.87 325  eP     P      20 17 26.0 -0.8
      comp=Z,44nm,0.9s
SUW   Suwalki          92.87 325  eP     P      20 17 26.1 -0.8
MLR   Muntele Rosu     93.03 316⇓ iP     P      20 17 27.4 -0.6
MLR   Muntele Rosu     93.03 316  P      P      20 17 26.5 -1.5
MLR   Muntele Rosu     93.03 316  P      P      20 17 26.5 -1.5
      comp=Z,1.6nm,0.6s,baz=50,slow=1.5
BURAR Bucovina Array   93.08 318⇓ iP     P      20 17 27.9 -0.2
VOIR                   93.66 316⇓ iP     P      20 17 29.9 -0.9
ARR   Arges            93.96 316⇑ iP     P      20 17 32.5 +0.3
KWP   Kalwaria Pacla   94.24 321  eP     P      20 17 35.5 +2.3
KWP                             epP    pP     20 17 59.6 +0.1
LOT   Lotru            94.54 316⇑ iP     P      20 17 34.5 -0.3
KOLS  Kolonicke sedl   94.69 320  eP     P      20 17 37.4 +2.1
KOLS                            pmax   pmax
      comp=Z,41nm,2.4s
KOLS  Kolonicke sedl   94.69 320  eP     P      20 17 37.4 +2.1
KOLS                            epP    pP     20 18 00.5 -1.0
UZH   Uzhgorod         94.75 320  eP     P      20 17 35.0 -0.6
UZH                             e      20 17 53.1
UZH                             e*PP   pP     20 18 00.1 -1.7
UZH                             e      20 21 23.7
UZH                             i S    S      20 28 36.0 -4.8
UZH                             eSSS   SSS    20 38 49.3
BEL   Belsk            94.83 323  eP     P      20 17 35.3 -0.6
BEL                             epP    pP     20 18 01.3 -0.8
DAG   Danmarks Havn    94.92 352  i P    P      20 17 35.1 -0.7
      comp=Z,24nm,0.8s
DRGR                   94.93 318⇓ iP     P      20 17 35.9 -0.7
CRVS  Cervenica-Dubn   95.21 320  eP     P      20 17 38.0 +0.3
CRVS                            pmax   pmax
      comp=Z,84nm,2.4s
CRVS  Cervenica-Dubn   95.21 320  eP     P      20 17 38.0 +0.3
CRVS                            epP    pP     20 18 03.1 -0.9
STHS  Stebnicka Huta   95.21 321  eP     P      20 17 38.8 +1.1
STHS                            pmax   pmax
      comp=Z,13nm,2.0s
STHS  Stebnicka Huta   95.21 321  eP     P      20 17 38.8 +1.1
STHS                            epP    pP     20 18 04.4 +0.4
STHS                            ePP    PP     20 21 27.8 -0.8
VTS   Vitosha          95.59 314⇑ iP     P      20 17 41.1 +1.3
NIE   Niedzica         95.80 321  eP     P      20 17 42.6 +2.2
NIE                             e*PP   pP     20 18 07.2 +0.5
NIE                             e      20 28 10.7
NIE                             eS     S      20 28 51.8 +1.8
HFS   Hagfors          95.84 332  PKKPbc PKKPbc 20 34 27.9 -3.6
HFS   Hagfors          95.84 332  PKKPbc PKKPbc 20 34 27.9 -3.6
      comp=Z,1.3nm,0.5s,baz=232,slow=1.7,SNR=9.3
OJC   Ojcow            95.89 322  eP     P      20 17 40.8 +0.1
OJC                             e*PP   pP     20 18 05.7 -1.3
OJC                             e      20 28 07.4
OJC                             eS     S      20 28 51.4 +0.7
OJC   Ojcow            95.89 322  eP     P      20 17 40.9 +0.1
      comp=Z,34nm,1.3s
OJC                             epP    pP     20 18 06.2 -0.8
KECS  Kecovo           95.95 320  eP     P      20 17 40.9 -0.2
KECS                            pmax   pmax
      comp=Z,3.0nm,1.0s
KECS  Kecovo           95.95 320  eP     P      20 17 40.9 -0.2
KECS                            epP    pP     20 18 07.9 +0.6
QSPA  South Pole Qui   95.95 180  eP     P      20 17 40.3 -0.4
      comp=Z,19nm,0.9s
QSPA                            PKKPbc PKKPbc 20 34 28.8 -3.7
QSPA  South Pole Qui   95.95 180  PKKPbc PKKPbc 20 34 28.7 -3.7
      comp=Z,1.1nm,0.5s,baz=144,slow=0.4,SNR=13
QSPA                            LR     LR     20 57 41.0
      comp=Z,262nm,21.5s,baz=216,slow=33
PSZ   Piszkesteto      96.48 320  eP     P      20 17 43.6  0.0
PSZ                             pmax   pmax
      comp=Z,69nm,2.3s
PSZ   Piszkesteto      96.48 320  eP     P      20 17 43.6  0.0
      comp=Z,69nm,2.3s
NB2   NORSAR Subarra   96.59 334  P      P      20 17 42.3 -1.4
      comp=Z,14nm,0.8s,baz=65,slow=4.6
NB2   NORSAR Subarra   96.59 334  P      P      20 17 42.3 -1.4
      baz=65,slow=4.6
NOA   NORSAR Array B   96.59 334  P      P      20 17 42.6 -1.1
NOA   NORSAR Array B   96.59 334  P      P      20 17 42.6 -1.1
      comp=Z,8.2nm,0.8s,baz=64,slow=4.6,SNR=26
NOA                             LR     LR     21 03 09.3
      comp=Z,388nm,20.8s,baz=35,slow=36
NAO01 NORSAR Array S   96.81 334  eP     P      20 17 43.4 -1.3
MORC  Moravsky Berou   97.41 322  eP     Pdif   20 17 48.0 +0.2
MORC                            e*PP   pP     20 18 13.2 -0.8
MORC                            pmax   pmax
      comp=Z,29nm,1.5s
MORC  Moravsky Berou   97.41 322  eP     Pdif   20 17 48.0 +0.2
      comp=Z,29nm,1.5s
MORC                            epP    pP     20 18 13.2 -0.8
YKA   Yellowknife Ar   97.51  24  P      Pdif   20 17 48.5 +0.7
YKA   Yellowknife Ar   97.51  24  P      Pdif   20 17 48.5 +0.7
      comp=Z,3.4nm,0.8s,baz=298,slow=4.8,SNR=4.3
JMIC  Jan Mayen        97.54 346  LR     LR     21 08 15.8
      comp=Z,200nm,19.8s,baz=265,slow=39
KSP   Ksiaz            97.82 323  eP     P      20 17 49.4 -0.1
KSP                             e*PP   pP     20 18 14.3 -1.5
KSP                             e      20 28 16.5
KSP                             eS     S      20 29 02.4 -4.8
KSP   Ksiaz            97.82 323  eP     Pdif   20 17 49.8 +0.3
KSP                             epP    pP     20 18 15.5 -0.3
DPC   Dobruska-Polom   97.97 323  eP     P      20 17 50.0 -0.2
DPC                             e      20 18 16.1
DPC                             e      20 28 20.2
DPC   Dobruska-Polom   97.97 323  eP     P      20 17 50.0 -0.2
DPC                             ex     x      20 18 01.6
DPC                             epP    pP     20 18 16.1 -0.4
DPC                             esP    sP     20 18 23.3 -3.7
DPC                             ex     x      20 22 14.7
DPC                             eSKS   SKSac  20 28 20.2 +1.3
DPC                             AMS    AMS    21 06 50.0
DPC   Dobruska-Polom   97.97 323  eP     P      20 17 50.1 -0.2
      comp=Z,342nm,2.0s
UPC   Upice            98.10 323  eP     P      20 17 49.6 -1.2
UPC                             e      20 18 13.5
UPC   Upice            98.10 323  eP     P      20 17 49.6 -1.2
UPC                             ex     x      20 18 02.6
UPC                             epP    pP     20 18 13.5 -3.5
VRAC  Vranov           98.15 322  P      Pdif   20 17 51.2 +0.2
VRAC  Vranov           98.15 322  P      Pdif   20 17 51.2 +0.2
      comp=Z,5.4nm,0.9s,baz=122,slow=3.3,SNR=12
VRAC                            LR     LR     21 09 57.8
      comp=Z,254nm,18.9s,baz=235,slow=40
TREC  Trest            98.83 322  eP     P      20 17 54.0 -0.1
TREC                            e      20 18 18.1
TREC                            e      20 28 22.7
TREC                            e      20 29 03.7
TREC                            MLR    MLR
      comp=Z,300nm,17.2s
TREC  Trest            98.83 322  ePDIFF P      20 17 54.0 -0.1
TREC                            epP    pP     20 18 18.1 -2.3
TREC                            ex     x      20 22 18.0
TREC                            eSKS   SKSac  20 28 22.7 -0.6
TREC                            ex     x      20 29 03.7
TREC                            eXS    sS     20 29 58.0 -3.4
TREC                            AMS    AMS    21 10 20.0
      comp=Z,300nm,17.2s
PVCC  Panska Ves       98.96 323  eP     Pdif   20 17 55.1 +0.5
PVCC                            e      20 18 20.4
PVCC  Panska Ves       98.96 323  ePDIFF Pdif   20 17 55.1 +0.5
PVCC                            epP    pP     20 18 20.4 -0.5
PVCC                            esP    sP     20 18 30.2 -1.2
PRU   Pruhonice        99.17 323  eP     Pdif   20 17 55.6 +0.1
PRU                             e      20 18 21.1
PRU                             e      20 28 21.6
PRU   Pruhonice        99.17 323  ePDIFF Pdif   20 17 55.6 +0.1
PRU                             ex     x      20 18 06.7
PRU                             epP    pP     20 18 21.1 -0.7
PRU                             ex     x      20 22 16.2
PRU                             eSKS   SKSac  20 28 21.6 -3.3
PRU                             ex     x      20 29 04.8
PRU                             eXS    sS     20 30 02.2 -2.0
PRU                             AMS    AMS    21 01 10.0
      comp=Z,300nm,21.8s
PRA   Prague           99.20 323  PDIFF  Pdif   20 17 56.0 +0.3
PRA                             pP     pP     20 18 22.0  0.0
PRA                             SKS    SKSac  20 28 23.0 -2.0
PRA                             AMS    AMS    21 02 00.0
BRG   Berggiesshubel   99.21 324  eP     Pdif   20 17 55.3 -0.4
      comp=Z,12nm,0.9s
BRG                             e      20 18 21.2
      comp=Z,22nm,1.4s
BRG                             PP     PP     20 21 54.0 -5.1
BRG                             S      S      20 29 15.0 -3.9
BRG                             SS     SS     20 36 04.0 -4.9
BRG
      comp=N,164nm,14.0s
BRG
      comp=E,201nm,15.4s
BRG
      comp=Z,172nm,22.7s
BRG   Berggiesshubel   99.21 324  eP     Pdif   20 17 55.3 -0.4
BRG                             e      20 18 21.2
BRG                                    20 21 54.0
BRG                             S      S      20 29 15.0 -3.9
BRG                             SS     SS     20 36 04.0 -4.9
BRG                             pmax   pmax
      comp=Z,12nm,0.9s
BRG                             pmax   pmax
      comp=Z,22nm,1.4s
BRG                             MLR    MLR
      comp=N,164nm,14.0s
BRG                             MLR    MLR
      comp=E,201nm,15.4s
BRG                             MLR    MLR
      comp=Z,172nm,22.7s
CLL   Collm            99.59 324⇓ iP     Pdif   20 17 58.4 +1.0
CLL                             i      20 18 22.6
CLL                             eS     S      20 29 16.0 -6.1
CLL                             pmax   pmax
      comp=Z,44nm,1.9s
CLL   Collm            99.59 324⇓ iPdif  Pdif   20 17 58.4 +1.0
      comp=Z,44nm,1.9s
CLL                             i      20 18 12.8
CLL                             i pPdif pP     20 18 22.6 -1.1
CLL                             e      20 21 42.0
CLL                             esPP   20 22 39.0
CLL                             eSdif  S      20 29 16.0 -6.1
CLL                             e      20 30 10.0
CLL                             epPS   20 31 22.0
CLL                             eSS    SS     20 36 30.0 +16
CLL                             e(SSS) 20 40 42.0
KHC   Kasperske Hory   100.06 322 eP     Pdif   20 17 59.3 -0.3
KHC                             e      20 18 24.9
KHC                             e      20 28 27.2
KHC                             MLR    MLR
      comp=Z,300nm,20.0s
KHC   Kasperske Hory   100.06 322 ePDIFF Pdif   20 17 59.3 -0.3
KHC                             epP    pP     20 18 24.9 -1.0
KHC                             esP    sP     20 18 33.4 -3.1
KHC                             ex     x      20 22 22.5
KHC                             eSKS   SKSac  20 28 27.2 -2.2
KHC                             ex     x      20 29 08.8
KHC                             eXS    sS     20 30 07.8 -4.0
KHC                             AMS    AMS    21 02 00.0
      comp=Z,300nm,20.0s
KHC   Kasperske Hory   100.06 322 ePdif  Pdif   20 17 59.5 -0.1
GEC2  GERESS Array S   100.09 322 eP     Pdif   20 17 59.9 +0.1
GEC2  GERESS Array S   100.09 322 ePdif  Pdif   20 17 59.9 +0.1
GERES GERESS Array B   100.09 322 P      Pdif   20 17 59.5 -0.3
GERES GERESS Array B   100.09 322 P      Pdif   20 17 59.5 -0.3
      comp=Z,2.8nm,0.9s,baz=73,slow=4.9,SNR=14
RKT   Rikitea          100.23 112 eLQ    LQ     20 46 41.3
      comp=Z,525nm,32.8s
RKT                             eLR    LR     20 50 48.5
      comp=Z,658nm,35.8s
BOJS  Bojanci          100.27 318 i P    Pdif   20 18 04.0 +3.5
NKC   Novy Kostel      100.33 323 eP     Pdif   20 18 01.5 +0.8
NKC                             e      20 28 27.4
NKC                             MLR    MLR
      comp=Z,300nm,19.8s
NKC   Novy Kostel      100.33 323 ePDIFF Pdif   20 18 01.5 +0.8
NKC                             epP    pP     20 18 26.3 -0.8
NKC                             ex     x      20 22 23.4
NKC                             eSKS   20 28 27.4
NKC                             AMS    AMS    21 08 50.0
      comp=Z,300nm,19.8s
VISS  Visnje           100.44 319 i P    Pdif   20 18 00.8 -0.5
SUMG  Summit           100.91 355 i P    Pdif   20 18 11.5 +8.2
      comp=Z,4.8nm,0.9s
JAVS  Javornik         100.92 319 i P    Pdif   20 18 02.9 -0.6
GRF   Grafenberg Arr   101.27 323 eP     Pdif   20 18 05.4 +0.5
      comp=Z,40nm,1.8s
GRF   Grafenberg Arr   101.27 323 eP     Pdif   20 18 05.4 +0.5
GRF                             pmax   pmax
      comp=Z,40nm,1.8s
FUORN Ofenpass-Fuorn   103.09 321 ePdif  Pdif   20 18 14.2 +0.8
DAVOX Davos/Dischmat   103.26 321 Pdif   Pdif   20 18 13.8 -0.3
DAVOX Davos/Dischmat   103.26 321 Pdiff  Pdif   20 18 13.8 -0.3
      comp=Z,1.2nm,0.5s,baz=124,slow=12,SNR=5.4
GIVF  Givet            104.80 325 eP     Pdif   20 18 21.9 +1.3
NVAR  Mina Array Bea   105.57  48  Pdif   Pdif   20 18 24.9 +0.4
NVAR                            PKiKP  PKiKP  20 22 38.8 +1.3
NVAR                            PKKPbc PKKPbc 20 34 02.8 -0.3
NVAR  Mina Array Bea   105.57  48  Pdiff  Pdif   20 18 24.9 +0.4
      comp=Z,1.0nm,0.8s,baz=291,slow=5.6,SNR=6.1
NVAR                            PKiKP  PKiKP  20 22 38.8 +1.3
      comp=Z,1.0nm,0.6s,baz=269,slow=2.0,SNR=5.2
NVAR                            PKKPbc PKKPbc 20 34 02.8 -0.3
      comp=Z,1.0nm,0.6s,baz=131,slow=4.5,SNR=9.6
LPG   La Plagne        105.78 321 eP     Pdif   20 18 23.8 -1.6
      comp=Z,12nm,1.2s
LPL   La Plagne        105.78 321 eP     Pdif   20 18 23.6 -1.7
PDAR  Pinedale Array   109.79  40  PKKPbc PKKPbc 20 33 48.1 -2.0
PDAR                            PKKPab PKKPab 20 33 58.9 -2.8
PDAR  Pinedale Array   109.79  40  PKKPbc PKKPbc 20 33 48.1 -2.0
      comp=Z,0.5nm,0.6s,baz=104,slow=4.7,SNR=3.9
PDAR                            PKKPab PKKPab 20 33 58.9 -2.8
      comp=Z,2.2nm,0.7s,baz=122,slow=7.1,SNR=9.5
MSU   Marysvale        109.95  45 ePKiKP PKiKP  20 22 46.7 +1.0
MSU   Marysvale        109.95  45 ePKPdf PKiKP  20 22 46.6 +1.0
ULM   Lac du Bonnet    113.06  28 PKiKP  PKiKP  20 22 49.9 -1.1
ULM   Lac du Bonnet    113.06  28 PKiKP  PKiKP  20 22 49.9 -1.1
      comp=Z,2.8nm,0.6s,baz=93,slow=3.8,SNR=4.3
PGAV  Gavieira, Arco   116.87 324 PKP    PKPdf  20 22 58.7 +0.1
ECSD  EROS Data Cent   117.04  34 ePKPdf PKPdf  20 22 59.1 +0.3
MTE   Manteigas        117.37 322 ePKP   PKPdf  20 23 00.3 +0.7
PMRV  Marv??o          117.85 321 ePKP   PKPdf  20 23 00.9 +0.4
MNTX  Cornudas Mount   117.98  49 ePKPdf PKPdf  20 23 02.1 +1.1
SCHQ  Schefferville    118.33   9 PKP    PKPdf  20 23 01.4 +0.5
SCHQ                            ePKPdf PKPdf  20 23 01.5 +0.5
SCHQ  Schefferville    118.33   9 PKP    PKPdf  20 23 01.4 +0.5
      comp=Z,8.1nm,0.6s,baz=4.2,slow=3.5,SNR=20
PBAR  Barrancos        118.35 319 ePKP   PKPdf  20 23 02.0 +0.6
EVO   Evora            118.76 320 ePKIKP PKPdf  20 23 02.5 +0.3
      comp=Z,8.3nm,0.7s
PBEJ  Beja             118.97 320 ePKP   PKPdf  20 23 03.5 +0.8
COWI  Conover          119.18  28 ePKPdf PKPdf  20 23 02.8 -0.1
PCVE  Castro Verde     119.31 319 ePKP   PKPdf  20 23 04.1 +0.8
PNCL  Nicolau / Gran   119.34 320 ePKP   PKPdf  20 23 03.7 +0.4
TXAR  Lajitas Array    120.39  51 PKP    PKPdf  20 23 06.6 +0.8
TXAR                            PKKPbc PKKPbc 20 33 12.9 -0.1
TXAR  Lajitas Array    120.39  51 PKP    PKPdf  20 23 06.6 +0.8
      comp=Z,2.2nm,0.6s,baz=315,slow=0.4,SNR=17
TXAR                            PKKPbc PKKPbc 20 33 12.9 -0.1
      comp=Z,2.2nm,0.6s,baz=125,slow=5.3,SNR=16
JFWS  Jewell Farm      120.98  31 ePKIKP PKPdf  20 23 06.0 -0.4
JFWS  Jewell Farm      120.98  31 ePKPdf PKPdf  20 23 06.0 -0.4
WMOK  Wichita Mounta   121.16  43 ePKIKP PKPdf  20 23 07.4 +0.4
WMOK  Wichita Mounta   121.16  43 ePKPdf PKPdf  20 23 07.4 +0.4
TOA0  Torodi Ar. Sit   121.90 289 ePKPdf PKPdf  20 23 08.6 -0.3
TORD  Torodi Ar. Bea   121.90 289 PKP    PKPdf  20 23 08.3 -0.5
TORD                            PKKPbc PKKPab 20 33 07.9 -0.1
TORD  Torodi Ar. Bea   121.90 289 PKP    PKPdf  20 23 08.3 -0.5
      comp=Z,11nm,0.6s,baz=64,slow=1.7,SNR=100
TORD                            PKKPbc PKKPab 20 33 07.9 -0.1
      comp=Z,0.5nm,0.5s,baz=294,slow=3.0,SNR=8.5
SADO  Sadowa           124.43  22 PKP    PKPdf  20 23 12.9 -0.1
SADO  Sadowa           124.43  22 PKP    PKPdf  20 23 12.9 -0.1
      comp=Z,5.4nm,0.5s,baz=304,slow=2.1,SNR=6.8
MIAR  Mount Ida        124.72  40 ePKIKP PKPdf  20 23 14.4 +0.6
MIAR  Mount Ida        124.72  40 ePKPdf PKPdf  20 23 14.4 +0.6
PQI   Presque Isle     125.95  12 ePKPdf PKPdf  20 23 15.6 -0.2
MDV   Middlebury       127.12  18 ePKPdf PKPdf  20 23 19.2 +1.2
PLAL  Pickwick Lake    127.81  36 ePKPdf PKPdf  20 23 19.6 -0.1
TZTN  Tazewell         129.16  31 ePKPdf PKPdf  20 23 14.2 -8.1
TKL   Tuckaleechee C   129.72  32 ePKPdf PKPdf  20 23 24.4 +1.0
KIC   Kosan Boka       129.74 283 ePKIKP PKPdf  20 23 23.7 -0.2
      comp=Z,155nm,1.5s
DBIC  Dimbokro         129.78 284 PKP    PKPdf  20 23 24.1 +0.1
DBIC  Dimbokro         129.78 284 PKP    PKPdf  20 23 24.1 +0.1
      comp=Z,7.9nm,0.6s,baz=87,slow=3.6,SNR=14
TIC   Toumodi          129.94 284 ePKIKP PKPdf  20 23 24.0 -0.3
      comp=Z,31nm,0.8s
TIC   Toumodi          129.94 284 ePKP2  SKPbc  20 26 36.3 -1.9
      comp=Z,414nm,2.2s
LIC   Lamto            130.05 283 ePKIKP PKPdf  20 23 22.0 -2.5
      comp=Z,27nm,0.7s
LIC   Lamto            130.05 283 ePKIKP PKPdf  20 23 23.7 -0.8
      comp=Z,46nm,0.7s
LIC   Lamto            130.05 283 ePKP2  SKPbc  20 26 38.0 -0.6
      comp=Z,52nm,1.3s
JTS   JuntasAbangare   144.77  63 PKP    PKPdf  20 23 51.4 -0.2
JTS   JuntasAbangare   144.77  63 PKP    PKPdf  20 23 51.4 -0.2
      comp=Z,35nm,0.8s,baz=336,slow=5.8,SNR=12
LMGC  Las Mercedes     145.28  41 e      PKPab  20 23 54.0 +1.7
HLGC  Holguin          145.28  39 e      PKPbc  20 23 50.3 -1.8
MOAC  Moa              146.13  38 e      PKPab  20 23 55.3 -0.2
RCC   Rio Carpintero   146.17  40 e      PKPab  20 23 56.0 +0.4
MTDJ  Mount Denham     146.21  44 ePKP   PKPab  20 23 56.2 +0.2
MASC  Masc             146.94  37 e      PKPab  20 23 59.6 +1.0
TRQA  Tornquist        147.24 168 ePKPdf PKPbc  20 23 57.3 -0.2
SDDR  Presa de Saban   149.60  35 ePKPab PKPbc  20 24 06.0 +1.9
BCIP  Isla Barro Col   149.76  60 ePKPab PKPbc  20 24 06.7 +2.1
TLL   Tololo Astrono   151.04 148 ePKIKP PKPbc  20 24 05.7 -1.9
TLL   Tololo Astrono   151.04 148 eP     PKPbc  20 24 05.7 -1.9
TLL   Tololo Astrono   151.04 148 eP     PKPbc  20 24 05.7 -1.9
CFAA  Coronel Fontan   151.11 153 PKPbc PKPbc  20 24 07.3 -0.1
CFAA  Coronel Fontan   151.11 153 PKPbc PKPbc  20 24 07.3 -0.1
      comp=Z,3.5nm,0.6s,baz=222,slow=2.9,SNR=10
LCO   Las Campanas     152.00 147 ePKPdf PKPdf  20 24 05.4 +2.1
OTAV  Otavalo          154.38  77 ePKPab PKPab  20 24 32.5 +2.3
ATAH  Atahualpa        155.31  94 PKPbc PKPdf  20 24 18.9 +10
ATAH                            PKPab  PKPab  20 24 35.7 +1.6
ATAH  Atahualpa        155.31  94 PKPbc PKPdf  20 24 18.9 +10
      comp=Z,5.8nm,0.6s,baz=134,slow=2.8,SNR=4.4
ATAH                            PKPab  PKPab  20 24 35.7 +1.6
      comp=Z,6.0nm,0.7s,baz=120,slow=6.4,SNR=3.6
ROSC  El Rosal         156.60  63 PKP    PKPdf  20 24 11.4 +1.1
ROSC                            PKPab  PKPab  20 24 39.4 -0.2
ROSC  El Rosal         156.60  63 PKP    PKPdf  20 24 11.4 +1.1
      comp=Z,8.0nm,0.5s,baz=96,slow=17,SNR=3.4
ROSC                            PKPab  PKPab  20 24 39.4 -0.2
      comp=Z,5.9nm,0.4s,baz=97,slow=23,SNR=5.6
SDV   Santo Domingo    157.42  49 ePKPdf PKPdf  20 24 11.6 +0.6
LVC   Limon Verde      157.85 140 ePKPab PKPab  20 24 46.7 +2.2
CPUP  Villa Florida    159.52 170 PKP    PKPdf  20 24 13.9 +1.0
CPUP                            ePKPdf PKPdf  20 24 14.0 +1.0
CPUP                            PKPab  PKPab  20 24 51.6 +0.5
CPUP  Villa Florida    159.52 170 PKP    PKPdf  20 24 13.9 +1.0
      comp=Z,1.4nm,0.5s,baz=12,slow=0.2,SNR=5.7
CPUP                            PKPab  PKPab  20 24 51.6 +0.5
      comp=Z,6.8nm,0.8s,baz=186,slow=3.2,SNR=6.9
LPAZ  La Paz           162.47 127 PKP    PKPdf  20 24 18.6 +1.5
LPAZ  La Paz           162.47 127 PKP    PKPdf  20 24 18.6 +1.5
      comp=Z,2.5nm,0.5s,baz=291,slow=0.7,SNR=14
SIV   San Ignacio      167.68 144 PKP    PKPdf  20 24 21.6 +0.8
SIV   San Ignacio      167.68 144 PKP    PKPdf  20 24 21.6 +0.8
      comp=Z,5.4nm,0.7s,baz=214,slow=1.0,SNR=25
BDFB  Brasilia         169.03 209 PKP    PKPdf  20 24 22.4 +0.6
BDFB  Brasilia         169.03 209 PKP    PKPdf  20 24 22.4 +0.6
      comp=Z,3.0nm,0.5s,baz=46,slow=7.9,SNR=4.5
SAML  Samuel           170.04 107 ePKPdf PKPdf  20 24 22.4 +0.1
```

IDC 12 20:06:16.2±9.1, 15°.06N×93°.48E, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.4/27, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=158.1km s-min=51.3km az=9.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.23	56	Pn	Pn	20 07 49.5	+0.1

0.2nm,0.3s,baz=242,slow=15,SNR=7.3

MKAR	**Makanchi Array**	**32.99 346**	P	P	20 12 53.5	+0.7
	0.6nm,0.7s,baz=158,slow=6.9,SNR=5.4					
ZALV	**Zalesovo Beam**	**39.39 352**	P	P	20 13 46.6	-0.9
	0.5nm,0.5s,baz=166,slow=9.5,SNR=3.9					

CSEM ***12*** *20:14:49.3, 42°.33N×13°.54E, h10km, MD2.3/13, After ROM*

ROM 12 20:14:49.3±0.1, 42°.33N×13°.54E, h10km, Md2.3/13, Ml1.5/8, Error ellipse: s-maj=1.2km s-min=1.0km az=62.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.07**	**154**	Pg	Pg	20 14 51.8	+0.3
FAGN				Sg	Sg	20 14 53.7	+0.5
	830nm,0.5s						
FAGN	**Fagnano**	**0.07**	**154**	Pg	Pg	20 14 51.8	+0.3
FAGN				Sg	Sg	20 14 53.7	+0.5
	830nm,0.5s						
CAMP	**Campotosto**	**0.23**	**335**	Pg	Pg	20 14 54.7	+0.5
CAMP				Sg	Sg	20 14 58.6	+1.0
	48nm,0.6s						
CAMP	**Campotosto**	**0.23**	**335**	Pg	Pg	20 14 54.7	+0.5
CAMP				Sg	Sg	20 14 58.6	+1.0
	48nm,0.6s						
VCEL	**Villa Celiera**	**0.23**	**73**	Pg	Pg	20 14 55.3	+1.1
VCEL				Sg	Sg	20 14 59.5	+2.0
	97nm,0.4s						
VCEL	**Villa Celiera**	**0.23**	**73**	Pg	Pg	20 14 55.3	+1.1
VCEL				Sg	Sg	20 14 59.5	+2.0
	97nm,0.4s						
TERO	**Teramo**	**0.30**	**9**	Pg	Pg	20 14 55.8	+0.4
TERO				Sg	Sg	20 15 00.7	+1.2
	86nm,0.9s						
TERO	**Teramo**	**0.30**	**9**	Pg	Pg	20 14 55.8	+0.4
TERO				Sg	Sg	20 15 00.7	+1.2
	86nm,0.9s						
FIAM	**Fiamignano**	**0.32**	**259**	Pg	Pg	20 14 56.2	+0.3
FIAM				Sg	Sb	20 15 01.6	-1.1
	59nm,0.6s						
FIAM	**Fiamignano**	**0.32**	**259**	Pg	Pg	20 14 56.2	+0.3
FIAM				Sg	Sb	20 15 01.6	-1.1
	59nm,0.6s						
PTQR	**Pietraquaria**	**0.32**	**199**	Pg	Pg	20 14 56.4	+0.5
PTQR				Sg	Sb	20 15 01.7	-1.0
	7.0nm,0.2s						
PTQR	**Pietraquaria**	**0.32**	**199**	Pg	Pg	20 14 56.4	+0.5
PTQR				Sg	Sb	20 15 01.7	-1.0
	7.0nm,0.2s						
VVLD	**Villa Vallelon**	**0.46**	**173**	Pg	Pg	20 14 58.8	+0.4
VVLD	**Villa Vallelon**	**0.46**	**173**	Pg	Pg	20 14 58.8	+0.4
LNSS	**Leonessa**	**0.46**	**307**	Pg	Pg	20 14 59.1	+0.6
	27nm,0.6s						
LNSS	**Leonessa**	**0.46**	**307**	Pg	Pg	20 14 59.1	+0.6
	27nm,0.6s						
NRCA	**Norcia**	**0.60**	**328**	Pg	Pg	20 15 00.7	-0.3
NRCA				Sg	Sb	20 15 10.1	-0.5
	23nm,0.1s						
NRCA	**Norcia**	**0.60**	**328**	Pg	Pg	20 15 00.7	-0.3
NRCA				Sg	Sb	20 15 10.1	-0.5
	23nm,0.1s						
FDMO	**Fiordimonte**	**0.78**	**335**	Pg	Pg	20 15 04.8	+0.3
	5.0nm,0.2s						
FDMO	**Fiordimonte**	**0.78**	**335**	Pg	Pg	20 15 04.8	+0.3
	5.0nm,0.2s						

ATH 12 20:22:09.9, 38°.91N×23°.94E, h9km, MD2.0/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.26**	**350**	*e*PG	Pg	20 22 14.8	-0.4
AOS				*e*SG	Sg	20 22 19.2	+0.4
PAIG	**Paliouri**	**1.04**	**349**	*e*PN	Pg	20 22 29.8	0.0
PAIG				*e*SB	Sg	20 22 43.4	+0.1
PLG	**Polygyros**	**1.51**	**346**	*e*PB	Pb	20 22 37.8	-0.4

ISK ***12*** *20:23:26.6, 38°.26N×38°.77E, h5km, MD3.8, ML3.6*
ISCJB ***12*** *20:23:27.8±0.6, 38°.23N±0°.02×38°.77E±0°.02, h3km±4km, mb3.7/4, Error ellipse: s-maj=3.3km s-min=2.5km az=38.7*
DDA ***12*** *20:23:27.6, 38°.26N×38°.81E, h22km, ML3.7*
NSSC ***12*** *20:23:27.7±1.8, 38°.38N×39°.15E, h37km±247km, ML3.1*
CSEM ***12*** *20:23:28.3±0.1, 38°.23N×38°.77E, h2km, MD3.8, Error ellipse: s-maj=3.4km s-min=2.7km az=126.0*
IDC ***12*** *20:23:28.4±1.0, 38°.19N×38°.77E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.5/29, mbtmp3.6/10, ML3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/47, Error ellipse: s-maj=22.4km s-min=14.3km az=140.0*

ISC 12 20:23:28.4±1.2, 38°.25N±0°.02×38°.76E±0°.02, h4km±9km, n134, σ1§08/172, mb3.8/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.28**	**287**	PG	Pg	20 23 34.0	+0.2
MYA	**Malataya**	**0.28**	**287**	*i* Pg	Pg	20 23 34.0	+0.2
SVRC	**Sivrice-ELAZID**	**0.45**	**73**	PG	Pg	20 23 36.0	-1.1
SVRC	**Sivrice-ELAZID**	**0.45**	**73**	*i* Pg	Pg	20 23 36.0	-1.1
URFA	**Urfa**	**0.81**	**177**	PG	Pg	20 23 43.7	-0.2
URFA				*e*SG	Sb	20 23 56.0	-0.4
URFA	**Urfa**	**0.81**	**177**	*i* Pg	Pg	20 23 43.7	-0.2
URFA				*e*Sg	Sb	20 23 56.0	-0.4
PTK	**Pertek**	**0.81**	**37**	PG	Pg	20 23 42.7	-1.3
PTK	**Pertek**	**0.81**	**37**	*i* Pg	Pg	20 23 42.7	-1.3
ATAB	**Bozova**	**0.86**	**206**	*i* P	Pb	20 23 45.4	-0.6
ATAB				*i* S	Sn	20 23 59.3	-1.1
ATAB	**Bozova**	**0.86**	**206**	*i* P	Pb	20 23 45.4	-0.6
ATAB				*i* S	Sn	20 23 59.3	-1.1
KEMA	**Kemaliye**	**1.04**	**348**	*i* P	Pg	20 23 47.1	-1.3
KEMA				*i* S	Sg	20 24 02.3	+0.3
KEMA	**Kemaliye**	**1.04**	**348**	*i* P	Pg	20 23 47.1	-1.3
KEMA				*i* S	Sg	20 24 02.3	+0.3
DARE	**Darende-Malaty**	**1.06**	**288**	PG	Pg	20 23 47.5	-1.2
DIYA	**Diyarbakir**	**1.12**	**106**	*i* P	Pg	20 23 49.6	-0.3
DIYA				*i* S	Sn	20 24 07.4	+0.5
DIYA	**Diyarbakir**	**1.12**	**106**	*i* P	Pg	20 23 49.6	-0.3
DIYA				*i* S	Sn	20 24 07.4	+0.5
DIY	**Diyarbakir**	**1.21**	**106**	*e*PN	Pg	20 23 50.9	-0.6
DIY	**Diyarbakir**	**1.21**	**106**	*e*Pn	Pg	20 23 50.9	-0.6
ILIC	**ilic-Erzincan**	**1.21**	**353**	*e*PN	Pg	20 23 50.5	-1.2
ILIC	**ilic-Erzincan**	**1.21**	**353**	*e*Pn	Pg	20 23 50.5	-1.2
GZT	**Gaziantep**	**1.30**	**227**	*i* P	Pg	20 23 53.4	+0.1
GZT				*i* S	Sn	20 24 11.2	-0.3
BINT	**Bingol**	**1.49**	**65**	*e*Pn	Pg	20 23 58.2	+1.2
ERZN	**Erzincan**	**1.53**	**29**	*e*PN	Pn	20 23 55.4	-1.3
EZC	**Erzincan**	**1.57**	**17**	*e*PN	Pn	20 23 57.1	-0.2
EZC	**Erzincan**	**1.57**	**17**	*e*Pn	Pn	20 23 57.1	-0.2
KMRS	**Kahramanmaras**	**1.65**	**244**	*e*PN	Pn	20 23 57.6	-0.7
KMRS	**Kahramanmaras**	**1.65**	**244**	*e*Pn	Pn	20 23 57.6	-0.7
BNGB	**Bing¶ll**	**1.68**	**63**	*e*PN	Pn	20 23 58.2	-0.5
AYKD	**Aykdinkavak**	**1.76**	**242**	*i* P	Pn	20 23 59.5	-0.2
AYKD				*i* S	Sg	20 24 26.5	+1.6
MARD	**Mardin**	**1.85**	**120**	*i* P	Pn	20 24 00.8	-0.3
MARD				*i* S	Sn	20 24 25.0	0.0
KELT	**Kelkit**	**1.94**	**11**	*i* P	Pn	20 24 03.5	+1.1
KELT				*i* S	Sn	20 24 24.9	-2.5
KELT	**Kelkit**	**1.94**	**11**	*i* P	Pn	20 24 03.5	+1.1
KELT				*i* S	Sn	20 24 24.9	-2.5
KUZU	**Kuzuini**	**1.99**	**223**	*i* P	Pn	20 24 03.0	0.0
KUZU				*i* S	Sb	20 24 30.0	-0.5
KUZU	**Kuzuini**	**1.99**	**223**	*i* P	Pn	20 24 03.0	0.0
KUZU				*i* S	Sb	20 24 30.0	-0.5
BNGL	**BINGOL**	**2.00**	**69**	*i* P	Pn	20 24 04.2	+1.0
BNGL				*e*S	Sn	20 24 25.9	-2.9
SUSE	**Susehri**	**2.01**	**348**	*i* P	Pb	20 24 05.5	-0.1
SUSE				*i* S	Sg	20 24 32.4	-0.6
SUSE	**Susehri**	**2.01**	**348**	*i* P	Pb	20 24 05.5	-0.1
SUSE				*i* S	Sg	20 24 32.4	-0.6
BEST	**Besiri**	**2.01**	**99**	*i* P	Pn	20 24 03.1	-0.2
BEST				*i* S	Sb	20 24 30.1	-1.0
SLMH	**Al Salmeh**	**2.14**	**198**	*e*P	Pn	20 24 04.1	-0.8
SLMH				*e*S	Sn	20 24 31.6	-0.4
SLMH				AML	AML	20 24 43.5	
	comp=E,1μm,0.7s						
SLMH				AML	AML	20 24 47.7	
	comp=Z,957nm,0.6s						
SLMH				AML	AML	20 24 48.5	
	comp=N,419nm,0.6s						
SLMH	**Al Salmeh**	**2.14**	**198**	*e*P	Pn	20 24 04.1	-0.8
	SNR=45						
SLMH				*e*S	Sn	20 24 31.6	-0.4
	comp=N,419nm,0.6s,SNR=40						
SVSK	**Karacayir**	**2.16**	**321**	*e*PN	Pn	20 24 05.5	+0.3
SVSK	**Karacayir**	**2.16**	**321**	*e*Pn	Pn	20 24 05.5	+0.3
KOPT	**Kop Dagi**	**2.22**	**37**	*i* P	Pn	20 24 07.2	+0.8
KOPT	**Kop Dagi**	**2.22**	**37**	*i* P	Pn	20 24 07.2	+0.8
GUMT	**Gumushane**	**2.28**	**14**	*e*PN	Pn	20 24 07.4	+0.3
GUMT	**Gumushane**	**2.28**	**14**	*e*Pn	Pn	20 24 07.4	+0.3
BNN	**Bunyan**	**2.37**	**286**	*e*PN	Pn	20 24 08.1	-0.1
BNN	**Bunyan**	**2.37**	**286**	*e*Pn	Pn	20 24 08.1	-0.1
BAYT	**Ayd¨–ntepe-Bay**	**2.40**	**26**	*e*PN	Pn	20 24 08.9	+0.2
BAYT	**Ayd¨–ntepe-Bay**	**2.40**	**26**	*e*Pn	Pn	20 24 08.9	+0.2
RSDY	**Resadiye-TOKAT**	**2.42**	**333**	*e*PN	Pn	20 24 09.3	+0.4
RSDY	**Resadiye-TOKAT**	**2.42**	**333**	*e*Pn	Pn	20 24 09.3	+0.4
KOZT	**Kozan**	**2.45**	**253**	*e*PN	Pn	20 24 09.2	0.0
KOZT	**Kozan**	**2.45**	**253**	*e*Pn	Pn	20 24 09.2	0.0
JHLN	**Al Jahlan**	**2.58**	**186**	*e*P	Pn	20 24 10.2	-0.9
JHLN				*e*S	Sn	20 24 39.9	-3.0
JHLN				AML	AML	20 24 58.0	
	comp=Z,327nm,0.7s						
JHLN	**Al Jahlan**	**2.58**	**186**	*e*P	Pn	20 24 10.2	-0.9
	SNR=45						
JHLN				*e*S	Sn	20 24 39.9	-3.0
	comp=Z,327nm,0.7s,SNR=40						
EZM	**Erzurum**	**2.61**	**50**	*e*PN	Pn	20 24 11.7	-0.1
ERZM	**Erzurum**	**2.62**	**50**	*i* P	Pn	20 24 12.2	+0.4
ERZM	**Erzurum**	**2.62**	**50**	*i* P	Pn	20 24 12.2	+0.4
COBT	**Iskenderun**	**2.64**	**230**	*i* P	Pn	20 24 10.9	-1.1
COBT				*e*S	Sn	20 24 43.0	-1.6
COBT	**Iskenderun**	**2.64**	**230**	*i* P	Pn	20 24 10.9	-1.1
COBT				*e*S	Sn	20 24 43.0	-1.6
ESPY	**Espiye-Giresun**	**2.67**	**359**	*e*PN	Pn	20 24 12.4	+0.2
ESPY	**Espiye-Giresun**	**2.67**	**359**	*e*Pn	Pn	20 24 12.4	+0.2
TOKT	**Tokat**	**2.69**	**321**	*e*PN	Pn	20 24 13.0	+0.4
TOKT	**Tokat**	**2.69**	**321**	*e*Pn	Pn	20 24 13.0	+0.4
CEYT	**Ceyhan**	**2.69**	**244**	*e*PN	Pn	20 24 12.6	0.0
CEYT	**Ceyhan**	**2.69**	**244**	*e*Pn	Pn	20 24 12.6	0.0
TOKA	**Tokat**	**2.73**	**320**	*i* P	Pn	20 24 13.9	+0.8
TOKA				*i* S	Sb	20 24 50.4	-1.3
TATV	**Tatvan**	**2.77**	**83**	*i* P	Pn	20 24 13.6	-0.2
TATV				*i* S	Sn	20 24 48.5	+0.7
TATV	**Tatvan**	**2.77**	**83**	*i* P	Pn	20 24 13.6	-0.2
TATV				*i* S	Sn	20 24 48.5	+0.7
KTUT	**Trabzon**	**2.84**	**15**	*e*PN	Pn	20 24 15.0	+0.3
KTUT	**Trabzon**	**2.84**	**15**	*e*Pn	Pn	20 24 15.0	+0.3
BTCH	**Batrach**	**2.87**	**221**	*e*P	Pn	20 24 14.7	-0.4
BTCH				*e*S	Sn	20 24 51.4	+1.2
BTCH				AML	AML	20 25 14.1	
	comp=E,461nm,0.6s						
BTCH				AML	AML	20 25 18.1	
	comp=N,697nm,0.5s						
BTCH	**Batrach**	**2.87**	**221**	*e*P	Pn	20 24 14.7	-0.4
	SNR=45						
BTCH				*e*S	Sn	20 24 51.4	+1.2
	comp=N,697nm,0.5s,SNR=40						
ERBA	**Erbaa**	**2.89**	**328**	*i* P	Pn	20 24 16.7	+1.4
HTY	**Hatay**	**2.98**	**225**	*e*PN	Pn	20 24 16.2	-0.3
HTY	**Hatay**	**2.98**	**225**	*e*Pn	Pn	20 24 16.3	-0.3
SIRN	**S¨–rnak**	**2.98**	**103**	*i* P	Pn	20 24 15.7	-0.9
SIRN				*i* S	Sb	20 24 59.5	+0.4
SIRN	**S¨–rnak**	**2.98**	**103**	*i* P	Pn	20 24 15.7	-0.9
SIRT	**Sirnak**	**3.00**	**103**	*e*PN	Pn	20 24 17.3	+0.4
SIRT	**Sirnak**	**3.00**	**103**	*e*Pn	Pn	20 24 17.3	+0.4
YOZ	**Yozgat**	**3.02**	**298**	*e*PN	Pn	20 24 17.4	+0.1
YOZ	**Yozgat**	**3.02**	**298**	*e*Pn	Pn	20 24 17.4	+0.1
YAYL	**Yayladag**	**3.06**	**225**	*i* P	Pn	20 24 17.4	-0.4
YAYL	**Yayladag**	**3.06**	**225**	*i* P	Pn	20 24 17.4	-0.4
KARA	**Karaisali**	**3.10**	**253**	*e*PN	Pn	20 24 18.7	+0.5
KARA	**Karaisali**	**3.10**	**253**	*e*Pn	Pn	20 24 18.7	+0.5
ARNB	**Al Arnab**	**3.26**	**224**	*e*P	Pn	20 24 20.5	0.0
ARNB				*e*S	Sn	20 25 00.0	+0.1
ARNB				AML	AML	20 25 20.4	
	comp=N,214nm,0.7s						
ARNB				AML	AML	20 25 20.8	
	comp=E,210nm,0.6s						
ARNB				AML	AML	20 25 34.7	
	comp=Z,89nm,0.6s						
NIG	**Nigde**	**3.28**	**269**	*e*PN	Pn	20 24 21.1	+0.2
NIG	**Nigde**	**3.28**	**269**	*e*Pn	Pn	20 24 21.1	+0.2
GULE	**Gulek**	**3.30**	**254**	*i* P	Pn	20 24 21.9	+0.7
GULE	**Gulek**	**3.30**	**254**	*i* P	Pn	20 24 21.9	+0.7
TUTA	**Tutak**	**3.37**	**69**	*i* P	Pb	20 24 27.9	-1.0
KVT	**Kavak**	**3.52**	**324**	*e*PN	Pn	20 24 24.6	+0.6
KVT	**Kavak**	**3.52**	**324**	*e*Pn	Pn	20 24 24.6	+0.6
AGRB	**Hanur-Agry**	**3.56**	**67**	*e*PN	Pn	20 24 24.9	+0.3
AGRB	**Hanur-Agry**	**3.56**	**67**	*e*Pn	Pn	20 24 24.9	+0.3
CORM	**Corum**	**3.75**	**302**	*e*PN	Pn	20 24 27.7	+0.5
CORM	**Corum**	**3.75**	**302**	*e*Pn	Pn	20 24 27.7	+0.5
BCA	**Borcka**	**3.88**	**34**	*e*PN	Pn	20 24 30.0	+1.1
BCA	**Borcka**	**3.88**	**34**	*e*Pn	Pn	20 24 30.0	+1.1
CTKT	**Corum**	**3.89**	**309**	*i* P	Pn	20 24 31.0	+1.9
CTKT	**Corum**	**3.89**	**309**	*i* P	Pn	20 24 31.0	+1.9
CUKT	**Cukurca**	**3.97**	**103**	*e*PN	Pn	20 24 29.1	-1.1
CUKT	**Cukurca**	**3.97**	**103**	*e*Pn	Pn	20 24 29.1	-1.1
CLDR	**Caldiran**	**4.13**	**76**	*e*PN	Pn	20 24 33.1	+0.5
CLDR	**Caldiran**	**4.13**	**76**	*e*Pn	Pn	20 24 33.1	+0.5
ROOS	**tl_alroos**	**4.24**	**197**	*e*P	Pn	20 24 33.6	-0.2
ROOS				*e*S	Sn	20 25 21.1	-2.8
ROOS				AML	AML	20 25 57.5	
	comp=N,1.6nm,0.6s						
ROOS				AML	AML	20 26 08.8	
	comp=E,1.1nm,0.5s						
ROOS	**tl_alroos**	**4.24**	**197**	*e*P	Pn	20 24 33.7	-0.2
	SNR=45						
ROOS				*e*S	Sn	20 25 21.1	-2.8
	comp=E,1.1nm,0.5s,SNR=40						
BRTR	**Keskin Array B**	**4.26**	**292**	Pn	Pn	20 24 36.0	+1.8
	comp=E,1.4nm,0.3s,baz=121,slow=9.3,SNR=25						
BRTR				Lg	Lg	20 25 51.6	
	comp=E,0.3nm,0.3s,baz=114,slow=35,SNR=4.0						
DIKM	**Dikmen**	**4.34**	**323**	*e*PN	Pn	20 24 36.2	+1.0
DIKM	**Dikmen**	**4.34**	**323**	*e*Pn	Pn	20 24 36.2	+1.0
FKH	**Fakeheh**	**4.42**	**206**	*e*P	Pn	20 24 36.9	+0.5
HWQ	**Hawqa**	**4.57**	**211**	*e*P	Pn	20 24 39.0	+0.5
HWQ	**Hawqa**	**4.57**	**211**	*e*P	Pn	20 24 39.0	+0.5
MARH	**Ras Al Marh**	**4.60**	**204**	*e*P	Pn	20 24 40.3	+1.2
MARH				*e*S	Sn	20 25 30.3	-2.8
MARH				AML	AML	20 26 11.6	
	comp=N,79nm,0.7s						
MARH				AML	AML	20 26 16.6	
	comp=E,118nm,0.7s						
TOS	**Tosya**	**4.60**	**309**	*e*PN	Pn	20 24 39.8	+0.9
TOS	**Tosya**	**4.60**	**309**	*e*Pn	Pn	20 24 39.8	+0.9
BHL	**Bhannes**	**5.01**	**211**	*e*P	Pn	20 24 45.6	+1.1
BHL	**Bhannes**	**5.01**	**211**	*e*P	Pn	20 24 45.7	+1.1
GNI	**Garni**	**5.02**	**66**	*e*PN	Pn	20 24 46.2	+1.5
GNI	**Garni**	**5.02**	**66**	Pn	Pn	20 24 46.9	+2.2
	comp=E,0.3nm,0.3s,baz=266,slow=5.4,SNR=3.8						
GNI				LR	LR	20 27 02.4	
	comp=E,142nm,20.3s,baz=202,slow=42						
GNI	**Garni**	**5.02**	**66**	*e*Pn	Pn	20 24 46.2	+1.5
BRBR	**Barbar**	**5.34**	**206**	*e*P	Pn	20 24 50.6	+1.5
BRBR				*e*S	Sn	20 25 48.6	-2.6
BRBR				AML	AML	20 26 29.1	
	comp=N,37nm,0.6s						
BRBR				AML	AML	20 26 34.2	
	comp=E,68nm,0.6s						
BRBR	**Barbar**	**5.34**	**206**	*e*P	Pn	20 24 50.7	+1.5
	SNR=45						
BRBR				*e*S	Sn	20 25 48.6	-2.6
	comp=E,68nm,0.6s,SNR=40						
ZALF	**Zalf**	**5.44**	**193**	*e*P	Pn	20 24 50.8	+0.4
ZALF				*e*S	Sn	20 25 50.0	-3.4
ZALF	**Zalf**	**5.44**	**193**	*e*P	Pn	20 24 50.8	+0.4
	SNR=45						
MMAI	**Mount Meron Ar**	**5.89**	**209**	Pn	Pn	20 24 57.4	+0.7
	comp=E,2.5nm,0.3s,baz=58,slow=16,SNR=13						
MMAI				Lg	Lg	20 26 41.4	
	comp=E,3.3nm,0.3s,baz=46,slow=26,SNR=5.1						
ASF	**Jabal al Asfar**	**6.25**	**195**	Pn	Pn	20 25 02.3	+0.7
	comp=E,0.4nm,0.3s,baz=129,slow=22,SNR=7.8						
ASF				Lg	Lg	20 26 46.1	
	comp=E,1.8nm,0.3s,baz=345,slow=20,SNR=4.9						
AKTO	**Aktyubinsk**	**18.32**	**42**	P	P	20 27 44.9	+1.3
	comp=E,0.1nm,0.3s,baz=255,slow=13,SNR=5.0						
GERES	**GERESS Array B**	**20.94**	**308**	P	P	20 28 13.4	+1.2
	comp=E,0.7nm,0.7s,baz=107,slow=8.9,SNR=7.5						
FINES	**FINESS Array B**	**24.53**	**345**	P	P	20 28 50.0	+1.2
	comp=E,2.2nm,0.8s,baz=170,slow=9.9,SNR=3.3						
MKAR	**Makanchi Array**	**32.84**	**61**	P	P	20 30 04.4	+1.3
	comp=E,1.1nm,0.8s,baz=271,slow=8.2,SNR=9.2						
ZALV	**Zalesovo Beam**	**34.89**	**48**	P	P	20 30 21.7	+0.9
	comp=E,0.4nm,0.3s,baz=259,slow=9.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**41.29**	**243**	P	P	20 31 14.1	-1.1
	comp=E,0.8nm,1.0s,baz=64,slow=6.6,SNR=3.0						

IDC ***12*** *20:42:32.1±0.7, 57°.72S×25°.36W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, Error ellipse: s-maj=34.3km s-min=20.8km az=75.0*

ISC 12 20:42:37.5±0.7, 58°.1S±0°.2×25°.7W±0°.3, h43km, n17, σ1§44/14, mb4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.63**	**157**	*e*Pn	**P**	**20 46 04.8**	**-2.1**
VNA2	**Neumayer--Watz**	**15.03**	**157**	*e*Pn	**P**	**20 46 09.6**	**-1.7**
VNA2	**Neumayer--Watz**	**15.03**	**157**	*e*Sn	Sn	20 48 10.8	-41
SNAA	**Sanae**	**16.58**	**154**	*e*Pn	**P**	**20 46 30.7**	**+2.1**
QSPA	**South Pole Qui**	**32.19**	**180**	P	P	20 49 05.0	+3.9
	1.6nm,0.6s,baz=187,slow=3.9,SNR=24						
CPUP	**Villa Florida**	**38.74**	**311**	P	**P**	**20 49 56.8**	**-0.6**
	0.5nm,0.3s,baz=105,slow=5.3,SNR=3.7						
VNDA	**Vanda**	**44.60**	**182**	P	P	20 50 48.3	+3.6
	1.7nm,0.7s,baz=175,slow=6.3,SNR=8.5						
LPAZ	**La Paz**	**52.19**	**305**	P	**P**	**20 51 45.0**	**+0.5**
	1.4nm,0.5s,baz=105,slow=6.8,SNR=9.0						
TORD	**Torodi Ar. Bea**	**74.43**	**28**	P	**P**	**20 54 10.2**	**-0.7**
	4.5nm,0.6s,baz=198,slow=6.6,SNR=38						
ASAR	**Alice Springs**	**96.83**	**161**	P	**P**	**20 56 05.0**	**+1.2**
	0.3nm,0.7s,baz=190,slow=4.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**123.61**	**110**	PKP	**PKPdf**	**21 01 30.5**	**+0.5**
	0.4nm,0.6s,baz=226,slow=4.4,SNR=5.5						
BVAR	**Borovoye Array**	**135.16**	**58**	PKP	**PKPdf**	**21 01 51.6**	**+0.7**
	0.3nm,0.5s,baz=262,slow=4.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**137.41**	**66**	PKP	**PKPdf**	**21 01 56.4**	**+1.3**
	0.1nm,0.4s,baz=225,slow=2.8,SNR=5.3						
INK	**Inuvik**	**147.85**	**318**	PKPbc	**PKPab**	**21 02 16.6**	**-2.1**
	2.5nm,0.6s,baz=61,slow=3.5,SNR=5.5						
SONM	**Songino Array**	**150.01**	**89**	PKPbc	**PKPbc**	**21 02 21.8**	**-0.5**
	1.4nm,0.6s,baz=223,slow=3.1,SNR=12						
ILAR	**Eielson Array**	**152.02**	**309**	PKPbc	**PKPbc**	**21 02 27.3**	**+1.0**
	2.0nm,0.5s,baz=141,slow=3.2,SNR=12						
KDAK	**Kodiak Island**	**152.38**	**292**	PKPbc	**PKPbc**	**21 02 28.0**	**+0.8**
	3.3nm,0.6s,baz=133,slow=8.2,SNR=4.5						

IDC ***12*** *20:56:57.5±1.0, 11°.13S×162°.32E, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.1/21, mbtmp4.1/10, ML4.3/2, MS3.9/8, Ms1 3.9/8, ms1mx3.5/38, Error ellipse: s-maj=25.2km s-min=19.7km az=110.0*
ISCJB ***12*** *20:57:02.4±0.8, 11°.15S±0°.07×162°.34E±0°.09, h46km, mb4.0/9, MS3.9/8, Error ellipse: s-maj=12.8km s-min=10.0km az=153.2*
NEIC ***12*** *20:57:03.1±0.9, 11°.12S×162°.31E, h35km, mb4.5/3, Error ellipse: s-maj=19.9km s-min=14.6km az=130.0*
AUST ***12*** *20:57:42.0±5.2, 12°.12S×160°.55E, h264km, Error ellipse: s-maj=2.3km s-min=1.4km az=6.0*

ISC 12 20:57:04.2±0.8, 11°.12S±0°.09×162°.3E±0°.1, h46km, n39, σ1§11/31, mb3.9/9, MS3.8/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.89**	**305**	Pn	**Pn**	**20 57 46.1**	**-1.6**
HNR				Sn	**Sn**	**20 58 22.6**	**+1.4**
HNR	**Honiara**	**2.89**	**305**	Pn	**Pn**	**20 57 46.1**	**-1.6**
	51nm,0.3s,baz=166,slow=7.0,SNR=15						
HNR				Sn	**Sn**	**20 58 22.6**	**+1.4**
	435nm,0.3s,baz=231,slow=17,SNR=11						
DZM	**Mont Dzumac**	**11.58**	**161**	*e*Pn	Pn	20 59 53.8	+6.8
	1.9nm,0.2s						
DZM				*e*LR	LR	21 02 25.

ellipse: s-maj=60.5km s-min=16.6km az=61.0

ISC 12 21:02:41.4±0.9, 24°.2N±0°.1×93°.7E±0°.1, h57km, n19, σ1§69/29, mb3.4/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	2.13	309	*e*PN	Pn	21 03 18.0	+3.2
SHL				*e*SN	Sn	21 03 43.0	+2.7
TAPN	**Taplejung**	6.24	301	*e*Pn	Pn	21 04 13.5	+2.3
TAPN				*e*Sn	Sn	21 05 21.2	-0.2
300nm,1.1s							
ODAN	**Odare**	6.28	296	*e*Pn	Pn	21 04 13.9	+2.1
ODAN				*e*Sn	Sn	21 05 21.7	-0.6
85nm,0.3s							
RAMN	**Ramite**	6.97	294	*e*Pn	Pn	21 04 23.5	+2.3
CMAR	**Chiang Mai Arr**	7.53	139	P	Pn	21 04 30.0	+1.3
0.2nm,0.3s,baz=314,slow=13,SNR=11							
JIRN	**Jiri**	7.58	298	*e*Pn	Pn	21 04 31.2	+1.5
JIRN				*e*Sn	Sn	21 05 52.9	-1.6
73nm,0.3s							
GUN	**Gumba**	7.94	299	*e*Pn	Pn	21 04 35.4	+0.8
GUN				*e*Sn	Sn	21 06 01.6	-1.6
54nm,0.4s							
PKI	**Pulchoki**	8.18	296	*e*Pn	Pn	21 04 39.4	+1.5
PKI				*e*Sn	Sn	21 06 07.9	-1.2
32nm,0.4s							
PKIN	**Phulchoki**	8.20	296	*e*Pn	Pn	21 04 39.6	+1.6
PKIN				*e*Sn	Sn	21 06 07.5	-1.8
54nm,0.4s							
KKN	**Kakani**	8.37	297	*e*Pn	Pn	21 04 41.6	+1.2
KKN				*e*Sn	Sn	21 06 12.6	-1.0
34nm,0.5s							
DMN	**Daman**	8.45	295	*e*Pn	Pn	21 04 43.0	+1.6
DMN				*e*Sn	Sn	21 06 14.2	-1.3
35nm,0.6s							
KOLN	**Koldanda**	9.76	293	*e*Pn	Pn	21 05 00.4	+1.1
KOLN				*e*Sn	Sn	21 06 45.2	-2.3
31nm,0.4s							
DANN	**Dangsing**	9.83	297	*e*Pn	Pn	21 05 01.0	+0.7
MKAR	**Makanchi Array**	24.32	341	P	P	21 07 52.6	-1.0
0.4nm,0.5s,baz=150,slow=12,SNR=10							
SONM	**Songino Array**	25.63	20	P	P	21 08 03.5	-2.2
0.7nm,0.9s,baz=205,slow=6.4,SNR=4.3							
KURBB	**Kurchatov Arra**	28.87	340	P	P	21 08 33.8	-0.7
0.3nm,0.8s,baz=154,slow=9.0,SNR=3.5							
BVAR	**Borovoye Array**	33.74	334	P	P	21 09 17.6	+0.2
0.4nm,0.5s,baz=142,slow=7.3,SNR=3.7							
WRA	**Warramunga Arr**	59.10	134	P	P	21 12 35.3	-1.0
0.3nm,0.6s,baz=324,slow=7.4,SNR=5.3							
ASAR	**Alice Springs**	61.54	138	P	P	21 12 52.0	-0.9
0.3nm,0.6s,baz=322,slow=6.5,SNR=4.4							

IDC 12 21:03:18.5±3.9, 19°.47S×177°.24W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=180.7km s-min=32.6km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	38.88	243	P	P	21 10 44.9	-1.0
1.8nm,1.0s,baz=102,slow=9.3,SNR=3.9							
ASAR	**Alice Springs**	45.46	256	P	P	21 11 39.8	+0.1
0.4nm,0.4s,baz=86,slow=8.4,SNR=9.5							
WRA	**Warramunga Arr**	45.46	261	P	P	21 11 40.4	+0.7
0.2nm,0.3s,baz=95,slow=7.8,SNR=9.3							
ILAR	**Eielson Array**	87.16	13	P	P	21 16 07.2	+1.2
0.3nm,0.6s,baz=216,slow=5.7,SNR=4.5							
GERES	**GERESS Array B**	149.39	346	PKPbc	PKPdf	21 23 07.4	+2.2
0.2nm,0.6s,baz=356,slow=3.1,SNR=3.8							

IDC 12 21:08:26.6±1.1, 0°.59N×126°.47E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=130.6km s-min=17.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	21.81	160	P	P	21 13 19.5	-1.0
3.1nm,0.8s,baz=339,slow=11,SNR=8.1							
ASAR	**Alice Springs**	25.17	164	P	P	21 13 54.9	+1.1
0.7nm,1.1s,baz=349,slow=9.4,SNR=6.4							
STKA	**Stephens Creek**	35.32	157	P	P	21 15 23.3	-0.3
1.0nm,0.8s,baz=329,slow=5.9,SNR=3.0							
SONM	**Songino Array**	50.19	342	P	P	21 17 25.0	+0.8
0.2nm,0.6s,baz=141,slow=9.3,SNR=2.2							
MKAR	**Makanchi Array**	59.99	326	P	P	21 18 34.8	-0.2
0.3nm,0.3s,baz=120,slow=7.8,SNR=10.0							
KURBB	**Kurchatov Arra**	64.25	328	P	P	21 19 02.8	-0.7
0.4nm,0.6s,baz=132,slow=6.5,SNR=7.3							

*IDC **12** 21:09:31.4±3.5, 38°.14N×12°.96E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.3/31, mbtmp3.2/6, ML3.4/4, Error ellipse: s-maj=71.7km s-min=26.0km az=124.0*
*ISCJB **12** 21:09:33.6±0.6, 38°.52N±0°.03×12°.37E±0°.04, h27km±6km, mb3.2/2, Error ellipse: s-maj=6.0km s-min=3.9km az=137.8*
*LDG **12** 21:09:33.9±0.2, 38°.27N×12°.21E, h2km, Ml3.2/7, Error ellipse: s-maj=10.2km s-min=3.4km az=42.0*
*ROM **12** 21:09:33.0±0.4, 38°.51N×12°.35E, h24km±5km, Ml3.2/17, Error ellipse: s-maj=5.7km s-min=4.7km az=60.0*
*CSEM **12** 21:09:34.3±0.2, 38°.46N×12°.42E, h20km, ML3.6/5, Error ellipse: s-maj=8.2km s-min=3.6km az=44.0*

ISC 12 21:09:34.0±0.8, 38°.48N±0°.03×12°.40E±0°.04, h20km±7km, n88, σ1§16/93, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	0.65	69	Pg	Pb	21 09 46.6	-0.1
USI				Sg	Sb	21 09 56.2	+0.8
4μm,0.4s							
USI	**Ustica**	0.65	69	Pg	Pb	21 09 46.6	-0.1
USI				Sg	Sb	21 09 56.2	+0.8
4μm,0.4s							
MTGR	**Montagna Grand**	0.65	154	Pg	Pb	21 09 45.0	-1.8
MTGR				Sg	Sn	21 09 57.2	-0.6
154nm,0.2s							
MTGR	**Montagna Grand**	0.65	154	Pg	Pb	21 09 45.0	-1.8
MTGR				Sg	Sn	21 09 57.2	-0.6
154nm,0.2s							
MFNL	**Monte Finestre**	0.80	149	Pg	Pn	21 09 49.5	-0.7
MFNL	**Monte Finestre**	0.80	149	Pg	Pn	21 09 49.5	-0.7
CRJA	**Costa Raja**	0.83	145	Pg	Pb	21 09 49.4	-0.3
CRJA				Sg	Sn	21 10 01.8	-0.4
CRJA	**Costa Raja**	0.83	145	Pg	Pb	21 09 49.4	-0.3
CRJA				Sg	Sn	21 10 01.8	-0.4
CORL	**Corleone**	0.92	129	Pg	Pb	21 09 51.1	-0.2
CORL				Sg	Sb	21 10 03.6	+0.5
1μm,0.8s							
CORL	**Corleone**	0.92	129	Pg	Pb	21 09 51.1	-0.2
CORL				Sg	Sb	21 10 03.6	+0.5
1μm,0.8s							
MMGO	**Monte Magaggia**	0.94	151	Pg	Pb	21 09 51.4	-0.1
143nm,0.2s							
MMGO	**Monte Magaggia**	0.94	151	Pg	Pb	21 09 51.4	-0.1
143nm,0.2s							
ALJA	**Alia**	1.29	124	Pg	Pb	21 09 57.4	-0.3
704nm,1.0s							
ALJA	**Alia**	1.29	124	Pg	Pb	21 09 57.4	-0.3
704nm,1.0s							
GIB	**Gibilmanna**	1.37	110	Pg	Pn	21 09 57.3	-0.8
571nm,0.8s							
GIB	**Gibilmanna**	1.37	110	Pg	Pn	21 09 57.3	-0.8
571nm,0.8s							
CSLB	**Castelbuono**	1.41	112	Pg	Pn	21 09 57.6	-1.0
204nm,0.8s							
CSLB	**Castelbuono**	1.41	112	Pg	Pn	21 09 57.6	-1.0
204nm,0.8s							
PLLN	**Pollina**	1.46	109	Pg	Pn	21 09 58.0	-1.2
366nm,0.9s							
PLLN	**Pollina**	1.46	109	Pg	Pn	21 09 58.0	-1.2
366nm,0.9s							
IACL	**Alicudi**	1.54	87	Pg	Pn	21 09 58.7	-1.5
276nm,0.6s							
IACL	**Alicudi**	1.54	87	Pg	Pn	21 09 58.7	-1.5
276nm,0.6s							
RESU	**Resuttano**	1.55	122	Pg	Pb	21 10 01.9	-0.1
960nm,1.7s							
RESU	**Resuttano**	1.55	122	Pg	Pb	21 10 01.9	-0.1
960nm,1.7s							
PTS	**Pantelleria**	1.70	191	Pg	Pn	21 10 01.0	-1.5
PTS	**Pantelleria**	1.70	191	Pg	Pn	21 10 01.0	-1.5
GALF	**Gagliano Caste**	1.87	114	Pg	Pn	21 10 05.7	+0.8
128nm,0.6s							
GALF	**Gagliano Caste**	1.87	114	Pg	Pn	21 10 05.7	+0.8
128nm,0.6s							
MNO	**Monte Soro**	1.89	106	Pg	Pn	21 10 05.1	-0.2
284nm,2.1s							
MNO	**Monte Soro**	1.89	106	Pg	Pn	21 10 05.1	-0.2
284nm,2.1s							
RAFF	**Raffo Rosso**	2.00	128	Pg	Pb	21 10 07.9	-1.7
166nm,1.0s							
RAFF	**Raffo Rosso**	2.00	128	Pg	Pb	21 10 07.9	-1.7
166nm,1.0s							
LLI	**Lipari**	2.00	90	Pg	Pn	21 10 05.8	-0.8
390nm,0.8s							
LLI	**Lipari**	2.00	90	Pg	Pn	21 10 05.8	-0.8
390nm,0.8s							
ECNV	**Catenanuova**	2.03	115	Pg	Pb	21 10 09.8	-0.4
251nm,0.8s							
ECNV	**Catenanuova**	2.03	115	Pg	Pb	21 10 09.8	-0.4
251nm,0.8s							
VPL	**Vulcano Piano**	2.03	92	Pg	Pn	21 10 05.6	-1.5
VPL	**Vulcano Piano**	2.03	92	Pg	Pn	21 10 05.6	-1.5
HVZN	**Vizzini**	2.25	125	Pg	Pn	21 10 11.0	+0.9
311nm,0.7s							
HVZN	**Vizzini**	2.25	125	Pg	Pn	21 10 11.0	+0.9
311nm,0.7s							
MMME	**Mongiuffi-Meli**	2.31	103	Pg	Pn	21 10 11.2	+0.2
64nm,0.7s							
MMME	**Mongiuffi-Meli**	2.31	103	Pg	Pn	21 10 11.2	+0.2
64nm,0.7s							
HCRL	**Carlentini**	2.40	119	Pg	Pn	21 10 13.1	+1.0
57nm,0.5s							
HCRL	**Carlentini**	2.40	119	Pg	Pn	21 10 13.1	+1.0
57nm,0.5s							
SSY	**Sortino**	2.50	121	Pg	Pn	21 10 14.4	+0.9
145nm,0.7s							
SSY	**Sortino**	2.50	121	Pg	Pn	21 10 14.4	+0.9
145nm,0.7s							
VSL	**Villasalto**	2.56	294	Pg	Pn	21 10 14.7	+0.3
VSL	**Villasalto**	2.56	294	Pg	Pn	21 10 14.7	+0.3
HAVL	**Avola**	2.64	124	Pg	Pn	21 10 15.9	+0.4
HAVL	**Avola**	2.64	124	Pg	Pn	21 10 15.9	+0.4
SOI	**Samo**	2.91	97	Pg	Pn	21 10 20.5	+1.4
33nm,0.7s							
SOI	**Samo**	2.91	97	Pg	Pn	21 10 20.5	+1.4
33nm,0.7s							
PLAC	**Placanica**	3.17	89	Pg	Pn	21 10 22.3	-0.4
24nm,0.6s							
PLAC	**Placanica**	3.17	89	Pg	Pn	21 10 22.3	-0.4
24nm,0.6s							
SERS	**Sersale**	3.40	79	Pg	Pn	21 10 25.4	-0.6
12nm,1.1s							
SERS	**Sersale**	3.40	79	Pg	Pn	21 10 25.4	-0.6
12nm,1.1s							
KEST	**Kesra**	3.67	223	Pn	Pn	21 10 30.9	+1.2
0.4nm,0.3s,baz=309,slow=7.2,SNR=24							
KEST				Sn	Sn	21 11 13.9	+1.4
0.6nm,0.3s,baz=307,slow=15,SNR=3.8							
OSPF	**L'Ospedale**	4.02	323	P	Pn	21 10 36.1	+1.6
PGF	**Pioggiola**	4.82	329	*e*Pn	Pn	21 10 47.7	+2.2
PGF				*e*Sn	Sn	21 11 40.4	-0.3
42nm,1.2s							
PGF	**Pioggiola**	4.82	329	*e*Pn	Pn	21 10 47.7	+2.2
PGF				*e*Sn	Sn	21 11 40.4	-0.3
21nm,1.2s							
SBF	**Sospel**	6.55	327	*e*Pn	Pn	21 11 10.2	+1.0
SBF				*e*Sn	Sn	21 12 19.9	-3.4
12nm,0.7s							
SBF	**Sospel**	6.55	327	*e*Pn	Pn	21 11 10.2	+1.0
LMR	**La Mourre**	6.59	319	*e*Pn	Pn	21 11 10.1	+0.5
LMR				*e*Sn	Sn	21 12 20.6	-3.5
1.6nm,0.3s							
LMR	**La Mourre**	6.59	319	*e*Pn	Pn	21 11 10.1	+0.5
FRF	**La Foret Royal**	6.68	321	*e*Pn	Pn	21 11 11.7	+0.7
FRF				*e*Sn	Sn	21 12 24.1	-2.4
1.0nm,0.3s							
FRF	**La Foret Royal**	6.68	321	*e*Pn	Pn	21 11 11.7	+0.7
SMRF	**Simiane la Rot**	7.52	319	*e*Pn	Pn	21 11 23.7	+1.2
SMRF	**Simiane la Rot**	7.52	319	*e*Pn	Pn	21 11 23.7	+1.2
MBDF	**Montbardon**	7.53	328	*e*Pn	Pn	21 11 26.5	+3.8
MBDF				*e*Sn	Sn	21 12 46.3	-1.2
1.7nm,0.4s							
ORIF	**Oris-en-Rattie**	8.07	325	*e*Pn	Pn	21 11 32.5	+2.4
ORIF	**Oris-en-Rattie**	8.07	325	*e*Pn	Pn	21 11 32.5	+2.4
LPG	**La Plagne**	8.17	331	*e*P	Pn	21 11 38.0	+6.3
LPL	**La Plagne**	8.20	331	*e*P	Pn	21 11 38.6	+6.7
DAVOX	**Davos/Dischmat**	8.50	348	Pn	Pn	21 11 41.7	+5.7
0.2nm,0.3s,baz=159,slow=16,SNR=7.7							
VIVF	**Saint-Julien-l**	8.60	320	*e*Pn	Pn	21 11 37.9	+0.6
VIVF	**Saint-Julien-l**	8.60	320	*e*Pn	Pn	21 11 37.9	+0.6
MTLF	**Montolieu**	9.11	305	*e*Pn	Pn	21 11 43.8	-0.4
MTLF	**Montolieu**	9.11	305	*e*Pn	Pn	21 11 43.8	-0.4
HINF	**Hinteralfeld**	10.17	338	*e*Pn	Pn	21 12 00.1	+1.3
HINF				*e*Sn	Sn	21 13 49.5	-2.7
1.3nm,0.4s							
HINF	**Hinteralfeld**	10.17	338	*e*Pn	Pn	21 12 00.1	+1.3
GERES	**GERESS Array B**	10.40	5	Pn	Pn	21 12 05.4	+3.4
0.1nm,0.3s,baz=182,slow=14,SNR=5.2							
HAU	**Haudompre**	10.49	337	*e*Pn	Pn	21 12 04.3	+1.1
HAU	**Haudompre**	10.49	337	*e*Pn	Pn	21 12 04.3	+1.1
CDF	**Champ du Feu**	10.60	341	*e*Pn	Pn	21 12 05.9	+1.2
CDF				*e*Sn	Sn	21 14 00.1	-2.7
0.8nm,0.4s							
CDF	**Champ du Feu**	10.60	341	*e*Pn	Pn	21 12 05.9	+1.2
ESDC	**Sonseca Array**	12.78	280	Pn	P	21 12 40.3	-5.1
0.3nm,0.3s,baz=92,slow=14,SNR=3.9							
NOA	**NORSAR Array B**	22.59	358	P	P	21 14 37.9	+4.9
0.4nm,0.8s,baz=173,slow=11,SNR=3.4							
FINES	**FINESS Array B**	24.51	16	P	P	21 14 53.8	+2.1
1.6nm,0.8s,baz=197,slow=6.0,SNR=3.8							

JMA 12 21:20:28.0±0.6, 44°.21N×150°.57E, h30km, M4.4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	3.60	258	P	Pn	21 21 21.0	-0.6
NEM2				*e*S	Sn	21 22 00.2	-2.9
JNK	**Nakash**	4.28	264	P	Pn	21 21 30.7	-0.3
JAK	**Akkeshi**	4.43	256	P	Pn	21 21 32.6	-0.6
JAK				*e*S	Sn	21 22 21.5	-2.2
JTKR	**Abashiri--Toko**	4.80	269	P	Pn	21 21 39.2	+0.9
JTKR				*e*S	Sn	21 22 33.6	+0.7
JAR	**Ashorobuto**	5.01	262	P	Pn	21 21 41.9	+0.8
JOB	**Onbets**	5.07	257	P	Pn	21 21 41.8	0.0
JOB				*e*S	Sn	21 22 36.6	-2.7
JCH	**Churui**	5.49	256	P	Pn	21 21 47.0	-0.6
JCH				*e*S	Sn	21 22 45.5	-4.2
JKK2	**Kamakawa 2**	5.65	269	P	Pn	21 21 55.0	+5.1
JEM	**Erimo**	5.85	251	P	Pn	21 21 53.7	+1.1
JFR	**Furan**	5.88	263	P	Pn	21 21 54.4	+1.4
JFR				*e*S	Sn	21 22 59.7	+0.3
JNBK	**Urakawa-nobuka**	6.03	254	P	Pn	21 21 54.6	-0.4
JNBK				*e*S	Sn	21 22 56.3	-6.7
JBT2	**Biratori 2**	6.14	259	P	Pn	21 21 56.5	-0.1
JNB	**Noboribetsu**	7.16	259	P	Pn	21 22 11.8	+1.1
JKB	**Kayabe**	7.36	255	P	Pn	21 22 13.3	-0.1
JKB				*e*S	Sn	21 23 30.1	-5.7
JANG	**Nango**	7.73	243	P	Pn	21 22 15.6	-2.8
JANG				*e*S	Sn	21 23 35.4	-10
JTH	**Tanohata**	7.75	240	P	Pn	21 22 15.0	-3.8
JTH				*e*S	Sn	21 23 35.2	-10
JTM	**Tenmabayashi**	7.81	247	*e*S	Sn	21 23 39.0	-7.9
OFUJ	**Ofunato**	8.40	235	P	Pn	21 22 24.1	-3.6
JIO	**Ouri**	9.01	233	P	Pn	21 22 31.5	-4.4
JIO				*e*S	Sn	21 24 04.9	-11

*GUC **12** 21:41:26.9±0.7, 22°.10S×68°.87W, h116km±5km, ML4.0*
*IDC **12** 21:41:52.4±6.9, 19°.71S×67°.62W, h265km±43km, mb3.2/2, mb1 3.3/5, mb1mx3.1/18, mbtmp3.1/5, Error ellipse: s-maj=100.9km s-min=19.4km az=23.0*

ISC 12 21:41:27.1±0.9, 22°.04S±0°.07×68°.78W±0°.07, h110km, n12, σ1§44/13, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	0.49	299	*e*P	Pn	21 41 44.8	+0.7
PB09				*e*S	Sn	21 41 57.9	+1.1
PB09				AML	AML	21 41 59.9	
comp=E,15μm,0.7s							
PB04	**Plate Boundary**	0.69	251	*e*P	Pn	21 41 51.6	+6.3
PB04				*e*S	Sn	21 42 10.6	+12
PB04				AML	AML	21 42 12.8	
comp=N,3μm,0.3s							
SPCH	**San Pedro de A**	1.02	148	*e*P	Pn	21 41 49.9	+1.0
SPCH				*i* S	Sn	21 42 07.0	+1.8
SPCH				AML	AML	21 42 07.7	
comp=E,5μm,0.4s							
PB07	**Plate Boundary**	1.07	286⇑	*i*P	Pn	21 41 49.5	+0.3
PB07				*i* S	Sn	21 42 06.5	+0.6
PB07				AML	AML	21 42 08.2	
comp=N,3μm,0.4s							
CEN1	**Los Morros**	1.88	224	*e*P	Pn	21 42 00.8	+2.2
CEN1				*e*S	Sn	21 42 25.1	+2.4
CEN1				AML	AML	21 42 30.6	
comp=N,710nm,0.8s							
PB10	**Plate Boundary**	2.20	228⇑	*e*P	Pn	21 42 01.9	-0.8
LPAZ	**La Paz**	5.75	6	P	Pn	21 42 52.0	+1.4
comp=N,0.6nm,0.3s,baz=194,slow=6.7,SNR=17							
LPAZ				S	Sn	21 43 38.0	-18
comp=N,0.3nm,0.3s,baz=180,slow=10,SNR=2.4							
SIV	**San Ignacio**	9.45	52	P	Pn	21 43 36.2	-4.1
comp=N,0.9nm,0.3s,baz=240,slow=12,SNR=26							
BDFB	**Brasília**	20.65	76	P	P	21 45 56.7	-1.5
comp=N,0.7nm,0.3s,baz=240,slow=11,SNR=4.9							
PDAR	**Pinedale Array**	74.63	330	P	P	21 52 55.0	+0.5
comp=N,0.3nm,0.6s,baz=162,slow=6.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	77.42	70	P	P	21 53 08.9	-1.8
comp=N,0.7nm,0.5s,baz=256,slow=4.9,SNR=12							
MKAR	**Makanchi Array**	145.99	36	PKP	PKPbc	22 00 53.6	-0.4
comp=N,0.8nm,0.8s,baz=312,slow=2.1,SNR=4.5							

IDC 12 21:41:41.7±2.7, 17°.80S×175°.44W, h220km±26km, mb3.6/8, mb1 3.8/9, mb1mx3.6/18, mbtmp3.6/9, MS3.3/1, Ms1 3.3/1, ms1mx2.4/25, Error ellipse: s-maj=26.4km s-min=16.4km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	5.23	43	P	Pn	21 42 59.6	-0.1
7.2nm,0.3s,baz=202,slow=20,SNR=4.5							
AFI				S	S	21 43 56.3	-5.0
14nm,0.3s,baz=36,slow=22,SNR=7.8							
RAO	**Raoul Island**	11.63	191	LR	LR	21 48 23.5	
comp=Z,164nm,21.5s,baz=66,slow=35							
STKA	**Stephens Creek**	41.17	242	P	P	21 49 04.8	-0.1
2.4nm,0.5s,baz=72,slow=10.0,SNR=11							
WRA	**Warramunga Arr**	47.43	259	P	P	21 49 54.0	-0.6
1.6nm,0.6s,baz=94,slow=7.4,SNR=39							
ASAR	**Alice Springs**	47.54	254	P	P	21 49 55.4	-0.1
21nm,0.7s,baz=90,slow=8.1,SNR=255							
VNDA	**Vanda**	60.81	186	P	P	21 51 30.8	+0.6
1.0nm,0.9s,baz=8.7,slow=5.7,SNR=6.3							
MJAR	**Matsushiro Arr**	69.54	322	P	P	21 52 27.7	+0.9
0.9nm,0.5s,baz=164,slow=5.6,SNR=5.4							
TXAR	**Lajitas Array**	83.56	57	P	P	21 53 45.6	0.0
0.7nm,0.8s,baz=218,slow=7.9,SNR=4.6							
MAW	**Mawson**	84.91	199	P	P	21 53 50.9	-0.6
1.6nm,0.7s,baz=148,slow=12,SNR=6.8							
ILAR	**Eielson Array**	85.17	12	P	P	21 53 51.9	-0.8
0.3nm,0.6s,baz=239,slow=5.1,SNR=4.2							
GERES	**GERESS Array B**	148.15	349	PKPbc	PKPbc	22 01 01.0	-0.6
0.3nm,0.6s,baz=83,slow=4.4,SNR=5.2							

IDC 12 21:46:25.3±6.6, 13°.64N×93°.00E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/27, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=137.0km s-min=47.1km az=105.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	7.45	49	Pn	Pn	21 48 15.6	+0.2
0.1nm,0.3s,baz=240,slow=15,SNR=5.9							
CMAR				Sn	Sn	21 49 27.6	-13
0.1nm,0.3s,baz=238,slow=27,SNR=3.0							
WRA	**Warramunga Arr**	52.61	129	P	P	21 55 40.6	-0.8
0.9nm,1.2s,baz=313,slow=8.4,SNR=5.3							
ASAR	**Alice Springs**	54.54	133	P	P	21 55 55.9	+0.4
0.1nm,0.4s,baz=313,slow=6.2,SNR=2.8							

IDC 12 21:51:19.0±1.2, 2°.82N×122°.92E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.8/4, Error ellipse: s-maj=147.2km s-min=23.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	25.25	154	P	P	21 56 47.0	-0.1
0.5nm,0.3s,baz=332,slow=11,SNR=16							
SONM	**Songino Array**	47.06	345	P	P	21 59 52.3	-0.3
0.5nm,0.6s,baz=152,slow=6.3,SNR=3.5							
MKAR	**Makanchi Array**	56.20	327	P	P	22 01 01.6	+0.7
1.5nm,0.4s,baz=120,slow=8.2,SNR=38							
KURBB	**Kurchatov Arra**	60.51	329	P	P	22 01 30.2	-0.7
0.5nm,0.4s,baz=132,slow=7.1,SNR=22							

*PGC **12** 22:06:23.0±50.0, 57°.53N×142°.69W, h10km, ML2.7/2, 270km Wsw of Yakutat, Ak Gulf Of Alaska*

NEIC 12 22:06:25.7, 57°.60N×142°.92W, h7km, ML2.7(AEIC), 8D, After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUCK	**Suckling Hills**	2.52	350	P	Pn	22 07 02.7	-4.4
SUCK				S	Sn	22 07 30.4	-7.7
BGLC	**Bering Glacier**	2.54	356	P	Pn	22 07 02.8	-4.4
CHX	**Chaix Hills**	2.64	20	P	Pn	22 07 04.3	-4.5
KULT	**Kultieth River**	2.66	2	P	Pn	22 07 04.2	-4.9
KULT				S	Sn	22 07 35.1	-6.6
GRIN	**Grindle Hills**	2.70	356	P	Pn	22 07 05.0	-4.6
NICH

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.23**	**52**	Pn	**Pn**	**22 14 03.0**	**+0.9**
CMAR				Sn	**Sn**	**22 15 22.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.23**	**52**	Pn	**Pn**	**22 14 03.0**	**+0.9**
	0.5nm,0.3s,baz=242,slow=15,SNR=20						
CMAR				Sn	**Sn**	**22 15 22.9**	**-0.3**
	0.5nm,0.3s,baz=238,slow=26,SNR=5.8						
CHTO	**Chiang Mai**	**7.45**	**50**	*e*Pn	**Pn**	**22 14 05.7**	**+0.5**
	3.2nm,0.5s						
CHTO				*e*Sn	**Sn**	**22 15 25.6**	**-3.0**
ODAN	**Odare**	**13.76**	**339**	*e*P	**Pn**	**22 15 31.3**	**-0.5**
	26nm,0.5s						
RAMN	**Ramite**	**14.14**	**336**	*e*P	**Pn**	**22 15 35.6**	**-1.3**
	17nm,0.5s						
PKIN	**Phulchoki**	**15.19**	**334**	*e*P	**Pn**	**22 15 49.3**	**-1.8**
	21nm,0.5s						
DMN	**Daman**	**15.34**	**333**	*e*P	**Pn**	**22 15 52.1**	**-1.0**
	7.1nm,0.3s						
KOLN	**Koldanda**	**16.19**	**329**	*e*P	**Pn**	**22 16 03.5**	**-0.5**
	26nm,0.6s						
ENH	**Enshi**	**22.20**	**41**	*e*P	**P**	**22 17 12.4**	**0.0**
	7.6nm,0.6s						
MKAR	**Makanchi Array**	**33.84**	**347**	P	**P**	**22 18 59.1**	**+1.1**
MKAR	**Makanchi Array**	**33.84**	**347**	P	**P**	**22 18 59.2**	**+1.1**
	2.1nm,0.6s,baz=160,slow=8.8,SNR=23						
SONM	**Songino Array**	**35.49**	**16**	P	**P**	**22 19 13.4**	**+1.0**
SONM	**Songino Array**	**35.49**	**16**	P	**P**	**22 19 13.4**	**+1.0**
	1.6nm,0.8s,baz=199,slow=7.9,SNR=9.6						
ULN	**Ulaanbaatar**	**35.69**	**16**	*e*P	**P**	**22 19 14.7**	**+0.5**
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**38.31**	**345**	P	**P**	**22 19 37.0**	**+0.9**
	2.5nm,0.7s,baz=166,slow=8.3,SNR=33						
KURBB				PcP	**PcP**	**22 21 49.7**	**0.0**
	0.1nm,0.5s,baz=175,slow=2.3,SNR=4.0						
KURK	**Kurchatov**	**38.37**	**345**	P	**P**	**22 19 37.0**	**+0.4**
KURK				PcP	**PcP**	**22 21 49.7**	**-0.1**
KSAR	**Wonju Array Be**	**38.80**	**47**	P	**P**	**22 19 40.7**	**+0.2**
KSRS	**Korea Array**	**38.84**	**47**	P	**P**	**22 19 40.7**	**-0.1**
	0.8nm,0.6s,baz=270,slow=5.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**40.32**	**353**	P	**P**	**22 19 53.4**	**+0.5**
ZALV	**Zalesovo Beam**	**40.32**	**353**	P	**P**	**22 19 53.4**	**+0.5**
	2.8nm,0.7s,baz=179,slow=8.9,SNR=17						
BVAR	**Borovoye Array**	**42.81**	**340**	P	**P**	**22 20 13.7**	**+0.3**
BVAR	**Borovoye Array**	**42.81**	**340**	P	**P**	**22 20 13.7**	**+0.3**
	0.5nm,0.5s,baz=145,slow=9.0,SNR=6.1						
BRVK	**Borovoye**	**42.87**	**340**	*e*P	**P**	**22 20 14.1**	**+0.3**
	0.8nm,0.4s						
ABKAR	**Akbulak array**	**44.31**	**329**	*e*P	**P**	**22 20 25.4**	**-0.1**
	0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.39**	**134**	P	**P**	**22 20 34.3**	**-0.1**
	0.5nm,0.5s,baz=336,slow=10,SNR=4.7						
MJAR	**Matsushiro Arr**	**46.12**	**53**	P	**P**	**22 20 41.3**	**+1.2**
MJAR				PcP	**PcP**	**22 22 16.3**	**+0.4**
MJAR	**Matsushiro Arr**	**46.12**	**53**	P	**P**	**22 20 41.3**	**+1.2**
	0.2nm,0.3s,baz=257,slow=10,SNR=4.1						
MJAR				PcP	**PcP**	**22 22 16.3**	**+0.4**
	0.7nm,0.5s,baz=233,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**22 21 31.3**	**-0.7**
WRA				PcP	**PcP**	**22 22 40.3**	**-0.6**
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**22 21 31.3**	**-0.7**
	0.9nm,0.9s,baz=299,slow=9.8,SNR=11						
WRA				PcP	**PcP**	**22 22 40.3**	**-0.6**
	0.3nm,0.5s,baz=311,slow=3.4,SNR=6.2						
WRAB	**Tennant Creek**	**52.91**	**129**	*e*P	**P**	**22 21 31.9**	**-0.2**
	3.2nm,1.0s						
ASAR	**Alice Springs**	**54.85**	**133**	P	**P**	**22 21 45.5**	**-0.7**
ASAR	**Alice Springs**	**54.85**	**133**	P	**P**	**22 21 45.5**	**-0.7**
	0.7nm,0.4s,baz=311,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**22 22 05.7**	**-0.3**
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**22 22 05.7**	**-0.3**
	1.0nm,0.8s,baz=117,slow=7.3,SNR=6.2						
STKA	**Stephens Creek**	**65.25**	**135**	P	**P**	**22 22 57.1**	**-0.2**
	2.7nm,1.0s,baz=349,slow=9.7,SNR=3.2						
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**22 23 06.3**	**-0.2**
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**22 23 06.3**	**-0.2**
	2.6nm,0.9s,baz=100,slow=5.2,SNR=11						
ARCES	**ARCESS Array B**	**69.10**	**340**	P	**P**	**22 23 21.3**	**+0.1**
ARCES	**ARCESS Array B**	**69.10**	**340**	P	**P**	**22 23 21.3**	**+0.1**
	3.0nm,0.9s,baz=41,slow=8.1,SNR=6.0						
GERES	**GERESS Array B**	**72.50**	**317**	P	**P**	**22 23 42.2**	**-0.2**
GERES	**GERESS Array B**	**72.50**	**317**	P	**P**	**22 23 42.2**	**-0.2**
	0.7nm,0.7s,baz=86,slow=5.5,SNR=9.6						
LPG	**La Plagne**	**77.48**	**314**	*e*P	**P**	**22 24 11.4**	**-0.1**
	5.8nm,0.9s						
LPL	**La Plagne**	**77.49**	**314**	*e*P	**P**	**22 24 11.4**	**0.0**
	4.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**88.06**	**283**	P	**P**	**22 25 06.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**88.06**	**283**	P	**P**	**22 25 06.7**	**+0.1**
	0.3nm,0.6s,baz=71,slow=4.8,SNR=5.1						
ILAR	**Eielson Array**	**89.48**	**22**	P	**P**	**22 25 12.3**	**0.0**
ILAR	**Eielson Array**	**89.48**	**22**	P	**P**	**22 25 12.3**	**0.0**
	0.5nm,0.7s,baz=299,slow=4.7,SNR=6.1						

IDC 12 22:21:58.2±3.9, 19°.14N×145°.09E, h364km±40km, mb3.2/13, mb1 3.2/14, mb1mx3.2/28, mbtmp3.1/14, Error ellipse: s-maj=26.3km s-min=10.0km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.36**	**342**	P	P	22 25 46.9	-1.3
	0.2nm,0.3s,baz=156,slow=9.2,SNR=3.2						
KSRS	**Korea Array**	**23.62**	**324**	P	P	22 26 38.3	+0.3
	1.0nm,0.6s,baz=142,slow=9.4,SNR=4.1						
WRA	**Warramunga Arr**	**40.24**	**196**	P	P	22 29 01.6	+0.4
	0.5nm,0.4s,baz=19,slow=8.7,SNR=15						
WRA				PcP	PcP	22 30 56.3	-0.7
	0.2nm,0.4s,baz=11,slow=3.3,SNR=4.9						
FITZ	**Fitzroy Crossi**	**41.65**	**208**	P	P	22 29 11.8	-0.8
	1.1nm,0.6s,baz=31,slow=7.9,SNR=5.9						
SONM	**Songino Array**	**42.44**	**321**	P	P	22 29 19.3	+0.5
	1.0nm,0.4s,baz=143,slow=9.0,SNR=9.2						
CMAR	**Chiang Mai Arr**	**43.59**	**277**	P	P	22 29 28.4	+0.2
	0.5nm,0.3s,baz=72,slow=5.8,SNR=4.7						
ASAR	**Alice Springs**	**43.92**	**195**	P	P	22 29 30.3	-0.3
	0.3nm,0.3s,baz=20,slow=6.8,SNR=7.6						
ASAR				PcP	PcP	22 31 08.0	-1.4
	0.5nm,0.7s,baz=46,slow=3.6,SNR=4.8						
STKA	**Stephens Creek**	**50.84**	**184**	P	P	22 30 22.6	-0.5
	1.3nm,0.4s,baz=32,slow=5.3,SNR=7.9						
ZALV	**Zalesovo Beam**	**57.32**	**322**	P	P	22 31 08.9	-0.3
	0.4nm,0.3s,baz=111,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**57.74**	**314**	P	P	22 31 12.9	+0.7
	0.3nm,0.4s,baz=88,slow=8.0,SNR=11						
KURBB	**Kurchatov Arra**	**60.61**	**318**	P	P	22 31 31.1	-0.5
	0.8nm,0.5s,baz=93,slow=7.2,SNR=12						
ILAR	**Eielson Array**	**63.51**	**26**	P	P	22 31 50.5	+0.1
	0.5nm,0.6s,baz=252,slow=5.0,SNR=4.7						
BVAR	**Borovoye Array**	**65.77**	**320**	P	P	22 32 05.3	+0.2
	1.1nm,0.4s,baz=104,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**86.24**	**335**	P	P	22 33 57.2	-2.0
	4.1nm,1.0s,baz=89,slow=6.2,SNR=12						
TORD	**Torodi Ar. Bea**	**131.73**	**309**	PKP	PKPdf	22 40 28.7	-0.6
	0.3nm,0.4s,baz=33,slow=0.2,SNR=12						
LPAZ	**La Paz**	**148.25**	**90**	PKPbc	PKPbc	22 41 04.8	+1.4
	0.7nm,0.5s,baz=59,slow=2.3,SNR=4.2						

PRE 12 22:24:41.1±2.0, 26°.42S×27°.52E, h2km, ML2.6, 2C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.10**	**48**	*e*P	Pg	22 24 43.9	+0.5
KLOF				*e*S	Sg	22 24 45.1	+0.2
KLOF				AML	AML	22 24 45.9	
	comp=Z,3μm,0.3s						
KLOF	**Kloof**	**0.10**	**48**	*e*P	Pg	22 24 44.2	+0.8
KLOF				*e*S	Sg	22 24 45.5	+0.5
KLOF				AML	AML	22 24 45.9	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.53**	**196**	*e*P	Pg	22 24 50.9	-0.6
PRYS				*e*S	Sg	22 24 57.4	-1.1
PRYS				AML	AML	22 25 04.0	
	comp=Z,463nm,0.7s						
PRYS	**Parys**	**0.53**	**196**	*e*P	Pg	22 24 51.4	-0.1
PRYS				*e*S	Sg	22 24 58.6	+0.2
PRYS				AML	AML	22 25 03.9	
	comp=Z,459nm,0.7s						
ERPM	**east rand prop**	**0.65**	**83**	*e*P	Pg	22 24 52.9	-0.9
ERPM				*e*S	Sg	22 25 03.0	+0.6
ERPM				AML	AML	22 25 09.7	
	comp=Z,62nm,0.6s						
ERPM	**east rand prop**	**0.65**	**83**	↑*e*P	Pg	22 24 54.2	+0.4
ERPM				*e*S	Sg	22 25 01.9	-0.5
ERPM				AML	AML	22 25 09.7	
	comp=Z,58nm,0.6s						
SLR	**Silverton**	**0.96**	**45**	*e*P	Pg	22 24 59.0	-0.8
SLR				*e*S	Sg	22 25 12.7	+0.2
SLR				AML	AML	22 25 20.5	
	comp=Z,69nm,1.1s						
SLR	**Silverton**	**0.96**	**45**	*e*P	Pg	22 24 59.8	0.0
SLR				*e*S	Sg	22 25 12.1	-0.3
SLR				AML	AML	22 25 20.5	
	comp=Z,55nm,1.2s						
SEK	**Senekal**	**1.90**	**177**	*e*P	Pb	22 25 16.0	-0.8
SEK				*e*S	Sb	22 25 40.6	-0.5
SEK				AML	AML	22 25 42.1	
	comp=Z,160nm,0.3s						
SWZ	**Schweizer**	**2.10**	**248**	*e*P	Pn	22 25 15.5	-2.0
SWZ				*e*S	Sn	22 25 43.2	-1.2
SWZ				AML	AML	22 25 46.1	
	comp=Z,62nm,0.8s						
SWZ	**Schweizer**	**2.10**	**248**	*e*P	Pb	22 25 19.4	-0.7
SWZ				*e*S	Sn	22 25 44.9	+0.5
SWZ				AML	AML	22 25 46.2	
	comp=Z,56nm,0.9s						
LBTB	**Lobatse**	**2.23**	**308**	*e*P	Pn	22 25 17.6	-1.7
LBTB				*e*S	Sn	22 25 46.3	-1.2
LBTB				AML	AML	22 25 50.2	
	comp=Z,63nm,0.3s						
LBTB	**Lobatse**	**2.23**	**308**	*e*P	Pn	22 25 19.3	+0.1
LBTB				*e*S	Sn	22 25 47.7	+0.2
LBTB				AML	AML	22 25 50.2	
	comp=Z,63nm,0.3s						
BOSA	**Boshof**	**2.97**	**222**	*e*P	Pn	22 25 28.4	-1.1
BOSA				*e*S	Sn	22 26 05.2	-0.7
BOSA				AML	AML	22 26 11.9	
	comp=Z,21nm,0.3s						
BOSA	**Boshof**	**2.97**	**222**	↑*i*P	Pn	22 25 29.0	-0.5
BOSA				*e*S	Sn	22 26 03.8	-2.1
BOSA				AML	AML	22 26 11.8	
	comp=Z,21nm,0.3s						
KSD	**Kokstad**	**4.43**	**158**	*e*S	Sn	22 26 40.0	-1.9
KSD				AML	AML	22 27 04.2	
	comp=Z,26nm,0.5s						
HVD	**Gariep Dam**	**4.54**	**203**	*e*S	Sn	22 26 43.4	-1.1
HVD				AML	AML	22 27 03.8	
	comp=Z,9.5nm,0.4s						

GUC 12 22:32:25.8±0.4, 23°.65S×67°.33W, h230km, ML4.0, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.55**	**316**	↑*e*P	Pn	22 33 14.5	+2.0
PB09				*e*S	S	22 33 51.0	+2.0
PB09				AML	AML	22 33 56.3	
	comp=E,306nm,0.6s						
CEN1	**Los Morros**	**2.64**	**275**	↑*e*P	Pn	22 33 17.3	+4.0
CEN1				*e*S	S	22 33 55.9	+5.3
ANCH	**Antofagasta**	**2.82**	**269**	*e*P	Pn	22 33 16.9	+1.8
ANCH				*e*S	S	22 33 55.6	+1.9
PB10	**Plate Boundary**	**2.96**	**272**	↑*e*P	Pn	22 33 18.4	+1.7
PB10				*e*S	S	22 33 58.8	+2.3
PB10				AML	AML	22 34 04.4	
	comp=E,248nm,0.4s						
PB01	**Plate Boundary**	**3.27**	**322**	*e*P	Pn	22 33 21.8	+1.4
PB01				*i* S	S	22 34 04.7	+1.5
PB01				AML	AML	22 34 07.2	
	comp=E,111nm,0.2s						

*IDC **12** 22:35:43.7±0.7, 57°.12S×25°.28W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.2/18, mbtmp4.3/9, ML4.2/1, MS3.4/2, Ms1 3.4/2, ms1mx3.2/24, Error ellipse: s-maj=30.3km s-min=18.5km az=78.0*

*ISCJB **12** 22:35:46.8±0.5, 57°.17S±0°.08×25°.4W±0°.2, h35km, mb4.3/9, Error ellipse: s-maj=13.9km s-min=9.1km az=143.2*

*NEIC **12** 22:35:47.2±4.1, 57°.12S×25°.29W, h24km±29km, mb4.6/9, Error ellipse: s-maj=12.1km s-min=8.3km az=219.0*

ISC 12 22:35:48.4±0.5, 57°.16S±0°.09×25°.4W±0°.1, h35km, n37, σ0s87/36, mb4.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.40**	**158**	*e*Pn	**Pn**	**22 39 21.9**	**-0.8**
VNA2	**Neumayer--Watz**	**15.80**	**158**	*e*Pn	**Pn**	**22 39 26.5**	**-1.4**
SNAA	**Sanae**	**17.33**	**156**	*e*Pn	**Pn**	**22 39 47.2**	**-0.1**
SNAA	**Sanae**	**17.33**	**156**	*e*Pn	**Pn**	**22 39 47.3**	**0.0**
	8.1nm,0.5s						
SNAA	**Sanae**	**17.33**	**156**	P	**Pn**	**22 39 47.0**	**-0.2**
	0.9nm,0.3s,baz=323,slow=14,SNR=22						
SNAA				LR	LR	22 44 54.9	
	comp=Z,58nm,21.4s,baz=16,slow=32						
EFI	**East Falkland**	**19.63**	**272**	*e*P	**Pn**	**22 40 15.5**	**+0.3**
	48nm,0.4s						
PMSA	**Palmer Station**	**19.94**	**232**	*e*P	**Pn**	**22 40 18.5**	**-0.2**
	48nm,1.2s						
PMSA	**Palmer Station**	**19.94**	**232**	P	**Pn**	**22 40 18.2**	**-0.4**
	9.1nm,0.6s,baz=94,slow=10,SNR=5.3						
PMSA				LR	LR	22 46 24.0	
	comp=Z,259nm,21.2s,baz=36,slow=32						
TRQA	**Tornquist**	**30.64**	**293**	P	**P**	**22 41 59.9**	**+0.7**
QSPA	**South Pole Qui**	**33.09**	**180**	*e*P	**P**	**22 42 20.2**	**-0.4**
	6.7nm,0.6s						
QSPA	**South Pole Qui**	**33.09**	**180**	P	**P**	**22 42 20.3**	**-0.2**
	5.9nm,0.6s,baz=196,slow=3.4,SNR=116						
CPUP	**Villa Florida**	**38.27**	**310**	*e*P	**P**	**22 43 05.1**	**0.0**
	4.0nm,0.3s						
CPUP	**Villa Florida**	**38.27**	**310**	P	**P**	**22 43 05.3**	**+0.3**
	0.4nm,0.4s,baz=128,slow=4.4,SNR=3.1						
BOSA	**Boshof**	**45.34**	**73**	*e*P	**P**	**22 44 02.3**	**-0.7**
VNDA	**Vanda**	**45.51**	**182**	*e*P	**P**	**22 44 03.9**	**+0.3**
	4.5nm,0.9s						
VNDA	**Vanda**	**45.51**	**182**	P	**P**	**22 44 03.9**	**+0.3**
	2.6nm,0.8s,baz=192,slow=6.8,SNR=12						
LVC	**Limon Verde**	**46.69**	**299**	*e*P	**P**	**22 44 14.2**	**+0.3**
	2.2nm,0.4s						
TSUM	**Tsumeb**	**49.41**	**58**	P	**P**	**22 44 35.2**	**+0.4**
LPAZ	**La Paz**	**51.80**	**304**	*e*P	**P**	**22 44 53.8**	**+0.4**
	4.7nm,0.5s						
LPAZ	**La Paz**	**51.80**	**304**	P	**P**	**22 44 54.2**	**+0.8**
	4.5nm,0.5s,baz=165,slow=5.8,SNR=23						
SAML	**Samuel**	**56.27**	**313**	*e*P	**P**	**22 45 25.6**	**+0.4**
	3.3nm,0.6s						
SAML				*e*PP	**PP**	**22 47 26.8**	**-4.0**
TORD	**Torodi Ar. Bea**	**73.57**	**28**	P	**P**	**22 47 17.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.57**	**28**	P	**P**	**22 47 17.9**	**+0.2**
	0.8nm,0.5s,baz=202,slow=6.4,SNR=17						
STKA	**Stephens Creek**	**90.64**	**169**	P	**P**	**22 48 47.5**	**+0.4**
STKA	**Stephens Creek**	**90.64**	**169**	P	**P**	**22 48 48.5**	**+1.5**
	1.1nm,0.6s,baz=303,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**97.63**	**161**	P	Pdif	22 49 21.4	+2.1
ASAR	**Alice Springs**	**97.63**	**161**	P	Pdif	22 49 21.4	+2.1
	0.5nm,0.6s,baz=193,slow=3.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**123.78**	**110**	PKP	**PKPdf**	**22 54 42.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**123.78**	**110**	PKP	**PKPdf**	**22 54 42.4**	**+0.1**
	0.3nm,0.3s,baz=231,slow=4.7,SNR=4.5						
ARCES	**ARCESS Array B**	**131.62**	**21**	PKP	**PKPdf**	**22 54 55.8**	**+0.1**
ARCES	**ARCESS Array B**	**131.62**	**21**	PKP	**PKPdf**	**22 54 55.7**	**+0.1**
	4.1nm,1.0s,baz=235,slow=3.2,SNR=4.4						
INK	**Inuvik**	**147.27**	**319**	PKPbc	**PKPab**	**22 55 28.2**	**-0.1**
INK	**Inuvik**	**147.27**	**319**	PKPbc	**PKPab**	**22 55 28.2**	**-0.1**
	1.0nm,0.3s,baz=14,slow=2.2,SNR=7.0						
ILAR	**Eielson Array**	**151.57**	**310**	PKPbc	**PKPbc**	**22 55 37.6**	**+0.4**
ILAR	**Eielson Array**	**151.57**	**310**	PKPbc	**PKPbc**	**22 55 37.6**	**+0.4**
	1.4nm,0.8s,baz=135,slow=2.3,SNR=11						
KDAK	**Kodiak Island**	**152.16**	**294**	PKPbc	**PKPbc**	**22 55 39.1**	**+0.4**
KDAK	**Kodiak Island**	**152.16**	**294**	PKPbc	**PKPbc**	**22 55 39.1**	**+0.4**
	1.7nm,0.5s,baz=112,slow=16,SNR=4.3						

IDC 12 22:40:28.8±2.0, 15°.75S×123°.59E, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.4/19, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=121.8km s-min=24.3km az=47.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**3.05**	**140**	Pn	Pn	22 41 18.6	+0.3
	0.4nm,0.3s,baz=327,slow=14,SNR=16						
FITZ				Sn	Sg	22 42 12.2	+5.3
	2.4nm,0.3s,baz=179,slow=21,SNR=17						
WRA	**Warramunga Arr**	**11.05**	**114**	Pn	Pn	22 43 07.8	-0.5
	0.4nm,0.3s,baz=285,slow=15,SNR=30						
WRA				Sn	Sn	22 45 22.8	+10
	0.3nm,0.3s,baz=290,slow=25,SNR=9.1						
ASAR	**Alice Springs**	**12.50**	**131**	Pn	Pn	22 43 28.2	+0.1
	0.1nm,0.3s,baz=314,slow=14,SNR=7.2						
ASAR				Sn	Sn	22 46 00.5	+12
	0.2nm,0.3s,baz=307,slow=23,SNR=4.4						
MKAR	**Makanchi Array**	**72.48**	**332**	P	P	22 51 57.3	0.0
	0.4nm,0.5s,baz=125,slow=7.7,SNR=12						

*PDG **12** 22:48:17.8, 32°.80N×140°.40E, h116km, mb6.6/10*

*SZGRF **12** 22:48:41.2, 32°.48N×141°.41E, h70km, mb5.7, Southeast of Honshu, Japan*

*BJI **12** 22:48:42.6, 32°.66N×141°.24E, h51km, mB6.5/60, mb6.0/68, Ms6.6/79, Ms7 6.5/70*

*BGS **12** 22:48:46.1±1.3, 32°.04N×140°.35E, h40km, mb6.1, MS6.3*

*BKK **12** 22:48:47.0±0.3, 33°N±5°×14°.0E±°, h10km, M6.7/59, mb6.5/59, mB6.9/54, Mw(mB)6.8/54, Mwp6.6/30*

*NEIC **12** 22:48:51.4±0.1, 32°.82N×140°.40E, h53km, mb6.2/218, ME6.4, MW6.6, MW6.6, MW6.5(NIED), MW6.6(USGS), Error ellipse: s-maj=3.3km s-min=2.5km az=150.0, Moment Tensor Solution. s98 Moment tensor: Scale 10^18Nm; Mrr4.47; Mθθ-1.12; Mφφ-3.35; Mrθ-1.59; Mφθ-3.54; Mφr-7.20; Best double couple: M0=9.10000×10^18 NP1:φs196.00000°, δ74.00000°, λ74.00000°. NP2: φs61.00000°, δ22.00000°, λ133.00000°. Principal axes: T 8.7800, Plg58.0000°, Azm84.0000°; N 0.6500, Plg14.0000°, Azm200.0000°; P -9.4300, Plg27.0000°, Azm298.0000°; Broadband fault plane solution: P waves. NP1:φs15.00000°, δ5.00000°, λ90.00000°. NP2: φs195.00000°, δ85.00000°, λ90.00000°. Principal axes: T Plg50.0000°, Azm105.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm285.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Tachikawa, Tokyo, Yokosuka, Zama and Zushi; [II] at Ayase and Yokohama, Honshu. Also felt at Atsugi, Fujisawa, Hamamatsu, Hamura, Ichinoseki, Maebashi, Matsudo, Mitaka, Moriguchi, Musashimurayama, Musashino, Sagamihara, Sendai, Suwa, Uenohara, Urayasu and Yamato. Recorded [5L JMA] on Hachijo-jima; [4 JMA] on Aogo-shima; [3 JMA] on Kozu-shima, Mikura-jima, Miyake-jima and Nii-jima; [2 JMA] on O-shima and To-shima. Also recorded [3 JMA] in Chiba, Fukushima, Kanagawa and Shizuoka; [2 JMA] in Gumma, Ibaraki, Iwate, Miyagi, Nagano, Saitama, Tochigi and Yamanashi; [1 JMA] in Aomori, Gifu, Hyogo, Niigata, Wakayama and Yamagata, Honshu.

*NEIC **12** 22:48:51.0±0.0, 32°.82N×140°.38E, h52km*

*MOS **12** 22:48:51.9±1.1, 32°.76N×140°.43E, h74km, mb6.5/126, MS6.3/89, Error ellipse: s-maj=14.0km s-min=8.3km az=108.2*

*JMA **12** 22:48:51.7±0.1, 32°.87N×140°.83E, h57km±4km, M6.6*

*IDC **12** 22:48:53.6±0.9, 32°.76N×140°.46E, h71km±7km, mb5.7/36, mb1 5.8/38, mb1mx5.8/39, mbtmp5.7/38, MS6.2/54, Ms1 6.2/54, ms1mx6.1/61, Error ellipse: s-maj=10.8km s-min=5.8km az=74.0*

*ISCJB **12** 22:48:53.0±0.3, 32°.74N±0°.01×140°.43E±0°.02, h82km±2km, mb6.0/458, Error ellipse: s-maj=2.5km s-min=2.1km az=35.7*

*GCMT **12** 22:48:55.9±0.1, 32°.74N×140°.68E, h55km, MW6.6, Moment Tensor Solution. s116,c301; s99,c192; Moment tensor: Scale 10^18Nm; Mrr3.87±.04; Mθθ-0.50±.03; Mφφ-3.37±.04; Mrθ-1.72±.04; Mφθ-2.85±.03; Mφr-8.01±.06; Best double couple: M0=9.40000×10^18 NP1:φs194.00000°, δ76.00000°, λ79.00000°. NP2: φs55.00000°, δ18.00000°, λ130.00000°. Principal axes: T 9.0400, Plg57.0000°, Azm89.0000°; N 0.7000, Plg11.0000°, Azm196.0000°; P -9.7400, Plg31.0000°, Azm293.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Surface waves: sta=120, comp=302, per=50.*

*TEH **12** 22:48:56.0, 32°.76N×140°.37E, h97km, ML6.7*

*DJA **12** 22:48:58.8±1.4, 33°N±6°×14°.0E±°, h112km±14km, M6.4/38, mb6.2/38, mB6.6/38, Mw(mB)6.4/38, Mwp6.4/21*

*NIED **12** 22:49:00, 33°.00N×140°.80E, h65km, Mw6.5 Best double couple: M0=6.60000×10^18 NP1:φs215.00000°, δ68.00000°, λ97.00000°. NP2:φs17.00000°, δ23.00000°, λ73.00000°.*

*NEIC **12** 22:49:06.8±0.0, 32°.97N×140°.84E, h40km, Moment Tensor Solution. s150 Moment tensor: Scale 10^19Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mφθ0.00; Mφr0.00; Best double couple: M0=1.00000×10^19 NP1:φs194.00000°, δ75.00000°, λ82.00000°. NP2:φs42.00000°, δ17.00000°, λ117.00000°. Principal axes: T 1.0400, Plg59.0000°, Azm92.0000°; N 0.0100, Plg7.0000°, Azm196.0000°; P -1.0400, Plg29.0000°, Azm290.0000°.*

ISC 12 22:48:52.1±0.2, 32°.81N±0°.02×140°.43E±0°.02, h62km±1km, h61km:pP-P, n2162, σ1s48/2703, mb6.2/476, 443C-527D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.59**	**296**	↑P	Pn	22 49 08.4	+3.2
JHCJ				S	**Sn**	**22 49 20.4**	**+5.7**
JHJ2	**Mitsune**	**0.59**	**300**	↑P	**Pn**	**22 49 08.4**	**+3.2**
JMY	**Miyakejima3**	**1.47**	**329**	P	**Pn**	**22 49 18.

ERM	**Erimo**	**9.44**	**12** *ce*P	**Pn**	**22 51 04.1**	**-1.1**
ERM			pmax	pmax		
comp=Z,1μm,1.0s						
ERM	**Erimo**	**9.44**	**12** *e*Pn	Pn	22 51 02.1	-3.1
ERM			*e*Sn	Sn	22 52 36.7	-13
JMZ	**Minamidaito 2**	**10.63**	**231** P	Pn	22 51 26.6	+4.9
KSRS	**Korea Array**	**11.23**	**298** P	Pn	22 51 35.9	+6.1
comp=Z,5.8nm,0.3s,baz=108,slow=14,SNR=71						
KSRS			LR	LR	22 55 47.5	
comp=Z,269μm,21.7s,baz=99,slow=37						
KSRS			PcP	**PcP**	**22 57 22.8**	**+2.1**
comp=Z,0.7nm,0.3s,baz=136,slow=1.0,SNR=4.2						
KSRS			ScP	**ScP**	**23 00 49.1**	**+1.1**
comp=Z,0.3nm,0.3s,baz=136,slow=0.7,SNR=8.8						
KSRS			PKiKP	**PKiKP**	**23 05 19.1**	**-0.2**
comp=Z,0.2nm,0.3s,baz=88,slow=1.6,SNR=4.4						
KSAR	**Wonju Array Be**	**11.26**	**298** P	Pn	22 51 35.9	+5.8
KSAR			PcP	**PcP**	**22 57 22.8**	**+2.0**
KSAR			ScP	**ScP**	**23 00 49.1**	**+1.1**
KSAR			PKiKP	**PKiKP**	**23 05 19.1**	**-0.2**
ASAJ	**Asahikawa**	**11.41**	**8** *e*Pn	Pn	22 51 27.7	-4.5
ASAJ			*e*Sn	Sn	22 53 31.6	-6.4
ASAJ			ScP	**ScP**	**23 00 48.4**	**+0.2**
ASAJ	**Asahikawa**	**11.41**	**8** P	Pn	22 51 28.4	-3.8
comp=Z,87nm,0.3s,baz=223,slow=9.5,SNR=302						
ASAJ			S	Sn	22 53 30.1	-7.9
comp=Z,56nm,0.3s,baz=162,slow=32,SNR=6.2						
ASAJ			LR	LR	22 57 22.8	
comp=Z,30μm,18.0s,baz=185,slow=44						
ASAJ			ScP	**ScP**	**23 00 48.4**	**+0.2**
comp=Z,0.3nm,0.3s,baz=261,slow=15,SNR=4.2						
YUK	**Yuzh-Kuril'sk**	**11.98**	**19** *c i*P	Pn	22 51 35.3	-4.7
YUK			pmax	pmax		
comp=E,277nm,0.8s						
YUK			pmax	pmax		
comp=Z,1μm,0.8s						
YUK			pmax	pmax		
comp=Z,3μm,2.0s						
YUK			pmax	pmax		
comp=N,8μm,0.7s						
YUK			MLR	MLR		
comp=E,6μm,18.0s						
YUK			MLR	MLR		
comp=Z,17μm,18.0s						
YUK			MLR	MLR		
comp=N,5μm,18.0s						
JOW	**Kunigami**	**12.12**	**244** ⇓ *i*Pn	Pn	22 51 46.5	+4.5
comp=N,2μm,1.6s						
JOW			*e*Sn	Sn	22 54 01.8	+6.4
JOW	**Kunigami**	**12.12**	**244** P	Pn	22 51 46.4	+4.5
INCN	**Inchon**	**12.21**	**296** Pn	P	22 51 49.9	-3.7
SNR=32						
INCN	**Inchon**	**12.21**	**296** *e*Pn	P	22 51 49.0	-4.6
JIH	**Iheya**	**12.24**	**245** P	P	22 51 49.3	-4.6
VLA	**Vladivostok**	**12.29**	**329** *ce*P	Pn	22 51 47.7	+3.5
JAGN	**Aguni-jima**	**13.03**	**245** P	P	22 51 59.3	-3.3
USRK	**Ussuriysk Arra**	**13.14**	**332** P	**Pn**	**22 51 56.7**	**+1.0**
comp=N,4.1nm,0.3s,baz=135,slow=13,SNR=57						
USRK			LR	LR	22 56 51.4	
comp=N,95μm,19.8s,baz=139,slow=36						
USRK			ScP	**ScP**	**23 00 49.5**	**-1.2**
comp=N,0.0nm,0.3s,baz=282,slow=1.8,SNR=4.5						
USRK			P3KPbc		23 28 08.3	
baz=345,slow=4.5,SNR=5.8						
KUR	**Kuril'sk**	**13.67**	**23** ⇓ *i*P	**Pn**	**22 52 00.5**	**-2.4**
KUR			pmax	pmax		
comp=Z,4μm,5.8s						
KUR			pmax	pmax		
comp=N,127nm,0.8s						
KUR			pmax	pmax		
comp=E,85nm,0.8s						
KUR			pmax	pmax		
comp=Z,243nm,0.8s						
YSS	**Yuzh-Sakhalins**	**14.23**	**6** *d i*P	Pn	22 52 07.0	-3.4
YSS			*i* S	Sn	22 54 40.0	-6.7
YSS			pmax	pmax		
comp=N,640nm,0.9s						
YSS			pmax	pmax		
comp=Z,680nm,0.9s						
YSS			pmax	pmax		
comp=N,8μm,10.0s						
YSS			pmax	pmax		
comp=Z,7μm,10.0s						
YSS			smax	smax		
comp=E,4μm,10.0s						
YSS			MLR	MLR		
comp=N,48μm,16.0s						
YSS			MLR	MLR		
comp=Z,43μm,16.0s						
YSS			MLR	MLR		
comp=E,61μm,17.0s						
MDJ	**Mudanjiang**	**14.49**	**328** P	**Pn**	**22 52 13.4**	**-0.3**
MDJ			S	**Sn**	**22 54 53.5**	**+0.6**
MDJ			pmax	pmax		
comp=Z,390nm,0.8s						
MDJ			pmax	pmax		
comp=Z,20μm,11.7s						
MDJ			LR	LR		
comp=N,144μm,18.2s						
MDJ			LR	LR		
comp=E,40μm,18.2s						
MDJ			LR	LR		
comp=Z,172μm,19.6s						
MDJ	**Mudanjiang**	**14.49**	**328** ⇓ *i*Pn	**Pn**	**22 52 12.5**	**-1.2**
comp=Z,270nm,0.8s						
MDJ			*e*Sn	**Sn**	**22 54 51.6**	**-1.3**
JOGS	**Gusukube**	**15.41**	**242** P	**P**	**22 52 30.5**	**+1.4**
CN2	**Changchun**	**16.05**	**317** *e*P	**Pn**	**22 52 33.1**	**-0.7**
CN2			*es*P	sP	22 52 51.0	-6.1
CN2			*e*S	**Sn**	**22 55 28.7**	**-2.2**
SNY	**Shenyang**	**16.12**	**309** ⇓P	**P**	**22 52 36.2**	**-0.7**
SNY			S	**S**	**22 55 38.9**	**-3.8**
SNY			pmax	pmax		
comp=Z,440nm,2.5s						
SNY			pmax	pmax		
comp=Z,54μm,12.0s						
SNY			LR	LR		
comp=N,76μm,17.8s						
SNY			LR	LR		
comp=E,77μm,21.2s						
SNY			LR	LR		
comp=Z,148μm,26.0s						
HABR	**Khabarovsk**	**16.16**	**347** *d i*P	**P**	**22 52 38.4**	**+1.1**
HABR			*e*S	**Sn**	**22 55 38.3**	**+5.0**
HABR			pmax	pmax		
comp=Z,8μm,1.7s						
HABR			pmax	pmax		
comp=N,5μm,1.7s						
HABR			pmax	pmax		
comp=E,2μm,1.9s						
HABR			MLR	MLR		
comp=E,64μm,15.0s						
HABR			MLR	MLR		
comp=N,51μm,15.0s						
HABR			MLR	MLR		
comp=Z,86μm,15.0s						
UGL	**Uglegorsk**	**16.30**	**4** *e*P	Pn	22 52 32.0	-4.8
UGL			*e*S	**Sn**	**22 55 38.0**	**+1.4**
UGL			pmax	pmax		
comp=Z,15μm,4.0s						
UGL			pmax	pmax		
comp=N,17μm,5.0s						
UGL			pmax	pmax		
comp=E,5μm,2.0s						
UGL			pmax	pmax		
comp=N,1μm,1.0s						
UGL			pmax	pmax		
comp=E,2μm,1.0s						
UGL			pmax	pmax		
comp=Z,3μm,1.0s						
UGL			smax	smax		
comp=E,59μm,12.0s						
UGL			smax	smax		
comp=N,54μm,10.0s						
UGL			smax	smax		
comp=Z,51μm,10.0s						
DL2	**Dalian**	**16.40**	**297** ⇓ *i*P	**P**	**22 52 39.4**	**-0.6**
DL2			S	**Sn**	**22 55 43.4**	**+4.1**
DL2			ScS	**ScS**	**23 04 32.5**	**-3.2**
DL2			pmax	pmax		
comp=Z,1μm,0.8s						
DL2			pmax	pmax		
comp=Z,35μm,7.6s						
DL2			LR	LR		
comp=N,26μm,15.7s						
DL2			LR	LR		
comp=E,78μm,17.7s						
DL2			LR	LR		
comp=Z,93μm,16.9s						
SSE	**Sheshan**	**16.42**	**269** P	**P**	**22 52 40.8**	**+0.5**
SSE			S	**Sn**	**22 55 41.9**	**+1.9**
SSE			pmax	pmax		
comp=Z,870nm,1.2s						
SSE			pmax	pmax		
comp=Z,42μm,10.4s						
SSE			LR	LR		
comp=N,58μm,13.6s						
SSE			LR	LR		
comp=E,28μm,13.6s						
SSE			LR	LR		
comp=Z,56μm,15.7s						
IRIF	**Iriomote-Funau**	**16.91**	**244** P	**P**	**22 52 47.8**	**+2.0**
YOJ	**Yonaguni jima**	**17.39**	**246** P	**P**	**22 52 53.5**	**+2.4**
YOJ			S	**S**	**22 56 11.9**	**+3.4**
KLR	**Kul'dur**	**17.64**	**341** *c i*P	Pn	22 52 45.5	-7.9
KLR			pmax	pmax		
comp=N,10μm,10.5s						
KLR			pmax	pmax		
comp=E,6μm,10.5s						
KLR			pmax	pmax		
comp=Z,18μm,10.5s						
KLR			MLR	MLR		
comp=E,28μm,14.5s						
KLR			MLR	MLR		
comp=Z,52μm,14.5s						
NJ2	**Nanjing**	**18.23**	**273** *e*P	**Pn**	**22 53 00.7**	**0.0**
NJ2			pP	**pP**	**22 53 12.4**	**-1.0**
NJ2			sP	**sP**	**22 53 18.8**	**-2.4**
NJ2			S	**Sn**	**22 56 24.0**	**+0.4**
NJ2			sS	**sS**	**22 56 48.0**	**+1.1**
NJ2			pmax	pmax		
comp=Z,2μm,1.2s						
NJ2			pmax	pmax		
comp=Z,10μm,10.4s						
NJ2			LR	LR		
comp=N,196μm,20.8s						
NJ2			LR	LR		
comp=E,110μm,21.0s						
NJ2			LR	LR		
comp=Z,102μm,21.2s						
TATO	**Taipei**	**18.31**	**250** P	**Pn**	**22 53 05.0**	**+3.2**
SNR=73						
TATO	**Taipei**	**18.31**	**250** *e*Pn	**Pn**	**22 53 03.9**	**+2.0**
comp=Z,3μm,1.1s						
TATO			*e*S	**S**	**22 56 26.6**	**-0.5**
TATO			*e*ScP	**ScP**	**23 01 01.8**	**+0.9**
YHNB	**Yeheng**	**18.55**	**249** ⇓ *e*P	**Pn**	**22 53 05.1**	**+0.3**
comp=Z,4μm,1.0s						
YHNB			*e*S	**S**	**22 56 32.2**	**-0.1**
YHNB			*e*ScP	**ScP**	**23 01 01.3**	**-0.2**
NACB	**Ninganchiao**	**18.64**	**247** *e*P	**Pn**	**22 53 06.0**	**+0.3**
comp=Z,779nm,0.9s						
NACB			*e*S	**Sn**	**22 56 33.6**	**0.0**
NACB			*e*ScP	**ScP**	**23 01 03.0**	**+1.5**
YULB	**Yu-li**	**19.29**	**246** ⇓ *i*P	**Pn**	**22 53 12.8**	**-0.7**
comp=Z,1μm,0.9s						
YULB			*e*S	**S**	**22 56 44.1**	**-3.0**
SSLB	**Suanglung**	**19.34**	**247** *e*P	**Pn**	**22 53 13.8**	**-0.3**
comp=Z,3μm,1.0s						
SSLB			*e*S	**S**	**22 56 46.1**	**-2.1**
SSLB			*e*ScP	**ScP**	**23 01 04.3**	**+1.1**
TIA	**Tai'an**	**19.49**	**286** ⇓P	**P**	**22 53 14.8**	**+0.7**
TIA			SS	SS	22 57 21.2	
TIA			pmax	pmax		
comp=Z,360nm,0.8s						
TIA			pmax	pmax		
comp=Z,32μm,14.2s						
TIA			LR	LR		
comp=N,113μm,14.9s						
TIA			LR	LR		
comp=E,244μm,16.9s						
TIA			LR	LR		
comp=Z,302μm,16.7s						
GUMO	**Guam**	**19.56**	**167** *e*P	**Pn**	**22 53 15.7**	**-1.1**
comp=Z,25μm,1.3s						
TWG	**Pinlang**	**19.77**	**245** ⇓ *i*P	**Pn**	**22 53 18.8**	**-0.4**
comp=Z,11μm,1.2s						
TWG			*e*S	**S**	**22 56 57.3**	**+0.5**
QZH	**Quanzhou**	**20.64**	**253** ⇑ *i*P	**P**	**22 53 25.9**	**-0.7**
QZH			sP	**sP**	**22 53 43.6**	**-4.1**
QZH			S	**S**	**22 57 10.1**	**-3.8**
QZH			sS	**sS**	**22 57 37.1**	**+1.4**
QZH			pmax	pmax		
comp=Z,980nm,1.0s						
QZH			pmax	pmax		
comp=Z,21μm,6.4s						
QZH			LR	LR		
comp=N,92μm,15.6s						
QZH			LR	LR		
comp=E,152μm,21.6s						
QZH			LR	LR		
comp=Z,131μm,15.8s						
BJI	**Beijing**	**20.77**	**297** P	**P**	**22 53 28.1**	**+0.3**
BJI			sP	**sP**	**22 53 44.7**	**-4.3**
BJI			PcP	**PcP**	**22 57 35.7**	**+0.8**
BJI			pmax	pmax		
comp=Z,410nm,0.7s						
BJI			pmax	pmax		
comp=Z,16μm,10.7s						
BJI			LR	LR		
comp=N,45μm,19.5s						
BJI			LR	LR		
comp=E,137μm,23.9s						
BJI			LR	LR		
comp=Z,196μm,32.1s						
BJT	**Baijiatuau**	**20.77**	**297** ⇓ *i*P	**P**	**22 53 26.3**	**-1.6**
comp=Z,570nm,0.6s						
BJT			*e*S	**S**	**22 57 15.6**	**-0.6**
BJT			LR	LR		
comp=Z,163μm,22.0s						
SKR	**Severo-Kuril's**	**21.27**	**28** *α i*P	**P**	**22 53 29.6**	**-3.5**
SKR			*e*		22 53 59.0	
SKR			*i* S	**S**	**22 57 22.0**	**-4.0**
SKR			*e*SS	SnSn	22 58 18.0	+26
SKR			pmax	pmax		
comp=N,8μm,12.0s						
SKR			pmax	pmax		
comp=E,11μm,12.0s						
SKR			pmax	pmax		
comp=Z,12μm,12.0s						
SKR			pmax	pmax		
comp=N,340nm,1.0s						
SKR			pmax	pmax		
comp=E,670nm,1.0s						
SKR			pmax	pmax		
comp=Z,1μm,1.0s						
SKR			pmax	pmax		
comp=N,19μm,18.0s						
SKR			pmax	pmax		
comp=E,20μm,18.0s						
SKR			pmax	pmax		
comp=Z,23μm,18.0s						
SKR			smax	smax		
comp=E,94μm,12.0s						
SKR			smax	smax		
comp=N,35μm,20.0s						
SKR			smax	smax		
comp=N,130nm,0.8s						
SKR			smax	smax		
comp=E,180nm,0.8s						
SKR			MLR	MLR		
comp=N,18μm,16.0s						
SKR			MLR	MLR		
comp=E,22μm,16.0s						
SKR			MLR	MLR		
comp=Z,38μm,16.0s						
HIA	**Hailar**	**22.55**	**323** ⇓ *i*P	**P**	**22 53 44.6**	**-2.4**
comp=Z,859nm,0.8s						
HIA			*e*S	**S**	**22 57 46.7**	**-3.1**
HIA			LR	LR		
comp=Z,97μm,21.0s						
PALP	**Palanan**	**22.58**	**230** *e*P	**P**	**22 53 49.1**	**+1.7**
APYP	**Conner**	**22.80**	**234** *e*P	**P**	**22 53 48.6**	**-1.1**
APYP			*e*S	**pP**	**22 54 02.4**	**-0.8**
CAUP	**Cauayan**	**23.06**	**231** *e*P	**P**	**22 53 53.5**	**+1.1**
SIPP	**Brgy, Tapao**	**23.29**	**235** ⇓ *e*P	**P**	**22 53 54.5**	**-0.2**
ABRA	**Dolores**	**23.31**	**234** *e*P	**P**	**22 53 53.6**	**-1.1**
TIY	**Taiyuan**	**23.33**	**290** *e*P	**P**	**22 53 53.7**	**-1.3**
TIY			sP	**sP**	**22 54 12.7**	**-3.9**
TIY			PP	**PnPn**	**22 54 25.5**	**+2.0**
TIY			S	**S**	**22 58 03.8**	**+0.8**
TIY			sS	Sn	22 58 21.6	-4.4
TIY			pmax	pmax		
comp=Z,190nm,0.5s						
TIY			pmax	pmax		
comp=Z,16μm,7.6s						
TIY			LR	LR		
comp=E,133μm,16.1s						
TIY			LR	LR		
comp=Z,166μm,15.9s						
PEA0B	**Petropavlovsk-**	**23.78**	**26** *e*P	**P**	**22 53 58.3**	**-0.5**
PEA0B			*e*S	**S**	**22 58 12.1**	**+2.3**
PETK	**Petropavlovsk-**	**23.78**	**26** P	**P**	**22 53 58.8**	**-0.1**
PETK					22 57 41.9	
PETK			pmax	pmax		
comp=Z,81nm,0.8s						
PETK			MLR	MLR		
comp=Z,13μm,20.1s						
PETK	**Petropavlovsk-**	**23.78**	**26** P	**P**	**22 53 58.8**	**-0.1**
PETK			PcP	**PcP**	**22 57 41.9**	**+1.1**
PETK			ScP	**ScP**	**23 01 12.9**	**-0.9**
PETK			PKiKP	**PKiKP**	**23 05 23.4**	**-0.3**
PETK	**Petropavlovsk-**	**23.78**	**26** P	**P**	**22 53 58.8**	**-0.1**
comp=Z,71nm,0.7s,baz=182,slow=4.0,SNR=32						
PETK			PcP	**PcP**	**22 57 41.9**	**+1.1**
comp=Z,27nm,0.6s,baz=176,slow=4.2,SNR=5.6						
PETK			ScP	**ScP**	**23 01 12.9**	**-0.9**
comp=Z,6.3nm,0.8s,baz=191,slow=3.9,SNR=4.1						
PETK			LR	LR	23 03 22.3	
comp=Z,13μm,20.1s,baz=212,slow=36						
PETK			PKiKP	**PKiKP**	**23 05 23.4**	**-0.3**
comp=Z,3.5nm,0.6s,baz=119,slow=5.4,SNR=7.8						
PET	**Petropavlovsk**	**24.08**	**28** *α i*P	**P**	**22 54 01.4**	**-0.1**
PET			*e*		22 54 30.1	
PET			*e*		22 57 42.8	
PET			*i* S	**S**	**22 58 08.3**	**-6.2**
PET			*e*		23 04 59.8	
PET			pmax	pmax		
comp=Z,12μm,7.7s						
PET			pmax	pmax		
comp=Z,10μm,20.3s						
PET			pmax	pmax		
comp=Z,470nm,1.1s						
PET			MLR	MLR		
comp=Z,17μm,17.0s						
PET			MLR	MLR		
comp=Z,13μm,14.0s						
BALP	**Baler**	**24.10**	**230** *e*P	**P**	**22 54 01.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**24.38**	**297** *e*P	**P**	**22 54 03.2**	**-1.3**
HHC			sP	sP	22 54 21.1	-5.8
HHC			PP	**PnPn**	**22 54 40.7**	**+2.9**
HHC			S	**S**	**22 58 16.7**	**-3.1**
HHC			sS	sS	22 58 38.3	-7.0
HHC			PcS	**PcS**	**23 01 21.9**	**-0.5**
HHC			pmax	pmax		
comp=Z,250nm,0.9s						
HHC			pmax	pmax		
comp=Z,37μm,5.3s						
HHC			LR	LR		
comp=N,136μm,14.8s						
HHC			LR	LR		
comp=E,180μm,14.5s						
HHC			LR	LR		
comp=Z,288μm,14.5s						
BTO	**Baotou**	**25.50**	**296** *e*P	**P**	**22 54 14.3**	**-0.4**
BTO			S	**S**	**22 58 31.6**	**-6.1**
BTO			LR	LR		
comp=N,26μm,14.7s						
BTO			LR	LR		
comp=E,35μm,16.7s						
GZH	**Guangzhou**	**25.75**	**255** P	**P**	**22 54 12.4**	**-4.6**
GZH			pmax	pmax		
comp=Z,9μm,6.9s						
GZH			LR	LR		
comp=N,57μm,20.3s						
GZH			LR	LR		
comp=E,80μm,18.8s						
GZH			LR	LR		
comp=Z,130μm,34.3s						
PLP	**Palo**	**25.81**	**217** ⇓ *e*P	**P**	**22 54 16.4**	**-1.1**
OCLP	**Ormoc**	**26.09**	**217** *e*P	**P**	**22 54 24.8**	**+4.7**
XAN	**Xi'an**	**26.27**	**281** P	**P**	**22 54 20.8**	**-0.9**
XAN			pmax	pmax		
comp=Z,68nm,0.7s						
XAN			pmax	pmax		
comp=Z,4μm,10.4s						
XAN			LR	LR		
comp=N,40μm,26.5s						
XAN			LR	LR		
comp=E,29μm,28.5s						
XAN			LR	LR		
comp=Z,25μm,28.5s						
CLNS	**Chul'man**	**26.30**	**341** *d i*P	**P**	**22 54 23.1**	**+1.4**
CLNS			*e*PPP	PPP	22 55 03.6	
CLNS			*e*S	**S**	**22 58 50.0**	**+0.1**
CLNS			*e*SSS	SSS	23 00 24.4	
CLNS			*e*		23 05 07.3	
CLNS			pmax	pmax		
comp=Z,2μm,0.8s						
CLNS			pmax	pmax		
comp=N,2μm,0.9s						
CLNS			pmax	pmax		
comp=E,744nm,0.8s						
CLNS			smax	smax		
comp=E,17μm,10.5s						
CLNS			smax	smax		
comp=N,30μm,11.6s						
CLNS			MLR	MLR		
comp=Z,16μm,15.0s						
CLNS			MLR	MLR		
comp=N,16μm,15.0s						
CLNS			MLR	MLR		
comp=E,9μm,14.0s						
ENH	**Enshi**	**26.45**	**273** *e*P	**P**	**22 54 23.3**	**0.0**
comp=E,352nm,0.7s						
ENH			*e*S	**S**	**22 58 51.3**	**-1.4**
RCP	**Roxas**	**26.67**	**222** ⇑ *e*P	**P**	**22 54 24.8**	**-0.5**
MSLP	**Maasin**	**26.75**	**216** *e*P	**P**	**22 54 28.7**	**+2.6**
WAKE	**Wake Island**	**27.05**	**113** *e*P	**P**	**22 54 29.2**	**+0.4**
comp=E,3μm,1.5s						
WAKE			*e*S	**S**	**22 59 00.1**	**-2.2**
CIT	**Chita**	**27.35**	**323** *e*P	**P**	**22 54 32.4**	**+1.2**
CIT			*e*		22 54 51.1	
CIT			*e*		22 54 56.5	
CIT			*e*		22 55 24.8	
CIT			*e*		22 55 30.8	
CIT			*e*		22 59 11.2	
CIT			pmax	pmax		
comp=Z,4μm,2.9s						
GUIM	**Jordan**	**27.52**	**221** *e*P	**P**	**22 54 33.6**	**+0.6**
CGP	**Cagayan de Oro**	**28.28**	**214** ⇑ *e*P	**P**	**22 54 37.5**	**-2.2**
BUKP	**Musuan**	**28.61**	**213** *e*P	**P**	**22 54 41.6**	**-1.2**
DCPH	**Dipolog City**	**28.83**	**217** *e*P	**P**	**22 54 42.8**	**-1.8**
DAV	**Davao City (W)**	**29.10**	**212** ⇓ *e*P	**P**	**22 54 48.2**	**+1.2**
DAV	**Davao City (W)**	**29.10**	**212** LR	LR	23 04 25.3	
comp=Z,44μm,20.4s,baz=237,slow=32						
ULN	**Ulaanbaatar**	**29.28**	**311** P	**P**	**22 54 50.1**	**+1.6**
SNR=356						
ULN	**Ulaanbaatar**	**29.28**	**311** *e*P	**P**	**22 54 49.8**	**+1.2**
comp=Z,2μm,2.0s						
ULN			LR	LR		
comp=Z,106μm,20.0s						
ULN	**Ulaanbaatar**	**29.28**	**311** P	**P**	**22 54 49.2**	**+0.6**
comp=Z,593nm,1.8s,comp=Z,20μmcomp=Z,59μm						
PAGZ	**Pagadian**	**29.45**	**216** *e*P	**P**	**22 54 49.0**	**-1.1**
CTBH	**Cotabato--PC H**	**29.57**	**214** ⇑ *i*P	**P**	**22 54 50.8**	**-0.4**
SONM	**Songino Array**	**29.69**	**310** P	**P**	**22 54 53.5**	**+1.3**
SONM			PcP	**PcP**	**22 57 56.6**	**+1.6**
SONM			ScP	**ScP**	**23 01 31.7**	**+0.1**
SONM			*e*		23 26 55.6	
SONM	**Songino Array**	**29.69**	**310** P	**P**	**22 54 53.5**	**+1.3**
comp=Z,227nm,0.7s,baz=117,slow=7.9,SNR=524						
SONM			PcP	**PcP**	**22 57 56.6**	**+1.6**
comp=Z,46nm,0.8s,baz=154,slow=2.3,SNR=3.7						
SONM			ScP	**ScP**	**23 01 31.7**	**+0.1**
comp=Z,57nm,1.0s,baz=132,slow=3.9,SNR=13						
SONM			LR	LR	23 07 28.4	
comp=Z,118μm,19.3s,baz=154,slow=38						
SONM			P3KPbc		23 26 55.6	
comp=Z,3.7nm,0.9s,baz=263,slow=4.2,SNR=17						
GYA	**Guiyang**	**29.94**	**267** ⇓ *i*P	**P**	**22 54 54.0**	**-0.6**
GYA			pP	**pP**	**22 55 10.2**	**+0.5**
GYA			sP	**sP**	**22 55 16.8**	**-0.2**
GYA			PP	**PnPn**	**22 55 54.9**	**+1.7**
GYA			S	**S**	**22 59 46.8**	**-1.1**
GYA			sS	**sS**	**23 00 11.0**	**-2.7**
GYA			pmax	pmax		

comp=Z,180nm,1.0s
GYA pmax pmax
comp=Z,5μm,14.9s
GYA LR LR
comp=N,64μm,20.5s
GYA LR LR
comp=E,60μm,22.9s
GYA LR LR
comp=Z,66μm,25.1s
YAK Yakutsk 30.04 350 *d iP* **P 22 54 54.7 -0.2**
YAK *e**PP **pP 22 55 11.8 +1.8**
YAK *e* 22 57 56.0
YAK *i* S **S 22 59 44.7 -3.8**
YAK *e**SS **sS 23 00 12.2 -2.1**
YAK *e*SS **SnSn 23 01 25.9 0.0**
YAK *e* 23 01 49.9
YAK *e* 23 05 24.0
YAK pmax pmax
comp=Z,537nm,1.1s
YAK pmax pmax
comp=N,498nm,1.4s
YAK pmax pmax
comp=E,225nm,1.6s
YAK smax smax
comp=N,10μm,5.1s
YAK smax smax
comp=E,4μm,3.8s
YAK MLR MLR
comp=Z,47μm,16.0s
YAK MLR MLR
comp=N,37μm,18.0s
YAK MLR MLR
comp=E,14μm,16.0s
LZH Lanzhou 30.23 287 ⇓*P* **P 22 54 56.5 -0.6**
LZH PP **PnPn 22 55 57.2 +0.2**
LZH S **S 22 59 49.0 -3.5**
LZH pmax pmax
comp=Z,330nm,1.0s
LZH pmax pmax
comp=Z,2μm,4.5s
LZH LR LR
comp=N,100μm,14.8s
LZH LR LR
comp=E,110μm,17.0s
LZH LR LR
comp=Z,121μm,18.2s
QIZ Qiongzhong 30.61 251 P **P 22 55 01.8 +1.3**
QIZ pP **pP 22 55 13.6 -2.0**
QIZ sP **sP 22 55 20.0 -2.9**
QIZ S **S 23 00 00.6 +2.2**
QIZ pmax pmax
comp=Z,88nm,1.2s
QIZ pmax pmax
comp=Z,4μm,14.6s
QIZ LR LR
comp=N,39μm,26.3s
QIZ LR LR
comp=E,25μm,30.7s
QIZ LR LR
comp=Z,102μm,29.8s
QIZ Qiongzhong 30.61 251 ⇓*iP* **P 22 54 59.8 -0.6**
comp=Z,151nm,1.0s
QIZ *e*PP **PP 22 56 08.1 -2.4**
QIZ *e*PcP **PcP 22 57 59.2 +1.5**
QIZ *e*S **S 23 00 01.0 +2.6**
QIZ LR LR
comp=Z,35μm,19.0s
FX1 Attu Island--F 30.88 40 *e*P **P 22 55 03.9 +1.5**
SEY Seymchan 31.08 11 *d iP* **P 22 55 04.3 +0.2**
CD2 Chengdu 31.11 277 P **P 22 55 04.6 -0.2**
CD2 pP **pP 22 55 18.1 -1.8**
CD2 sP **sP 22 55 24.0 -3.2**
CD2 PP **PnPn 22 56 08.2 -0.1**
CD2 S **S 23 00 02.9 -3.1**
CD2 sS **sS 23 00 27.1 -4.8**
CD2 ScS **ScS 23 05 32.5 -1.3**
CD2 pmax pmax
comp=Z,510nm,0.8s
CD2 pmax pmax
comp=Z,8μm,8.6s
CD2 LR LR
comp=N,88μm,15.6s
CD2 LR LR
comp=E,151μm,16.7s
CD2 LR LR
comp=Z,182μm,14.2s
SMY Shemya 31.31 40 *e*P **P 22 55 08.2 +2.0**
SMY pmax pmax
comp=Z,1μm,1.2s
SMY Shemya 31.31 40 *e*P **P 22 55 08.2 +2.0**
comp=Z,1μm,1.2s
ZAK Zakamensk 32.43 314 ⇑*iP* **P 22 55 17.5 +1.3**
ZAK *e* 23 05 37.7
ZAK pmax pmax
comp=Z,452nm,1.5s
IRK Irkutsk 32.50 318 *e*P **P 22 55 17.6 +0.9**
IRK *e*S **S 23 00 32.9 +5.7**
IRK pmax pmax
comp=Z,2μm,1.8s
GTA Gaotai 33.25 293 ⇓P **P 22 55 23.2 -0.4**
GTA pP **pP 22 55 38.7 -0.1**
GTA sP **sP 22 55 44.9 -1.2**
GTA PP **PnPn 22 56 35.0 -0.6**
GTA S **S 23 00 37.7 -1.7**
GTA sS **sS 23 01 03.7 -1.7**
GTA ScP **ScP 23 01 43.0 -0.7**
GTA ScS **ScS 23 05 42.9 -1.7**
GTA pmax pmax
comp=Z,97nm,0.9s
GTA pmax pmax
comp=Z,8μm,7.1s
GTA LR LR
comp=N,36μm,16.6s
GTA LR LR
comp=E,64μm,14.7s
GTA LR LR
comp=Z,59μm,15.2s
KMI Kunming 33.72 267 P **P 22 55 28.2 +0.3**
KMI PP **PP 22 56 44.7 -0.4**
KMI PcP **PcP 22 58 06.4 0.0**
KMI S **S 23 00 43.7 -3.3**
KMI ScP **ScP 23 01 46.3 +0.6**
KMI SS **SnSn 23 02 58.0 +1.7**
KMI ScS **ScS 23 05 45.3 -2.3**
KMI pmax pmax
comp=Z,79nm,1.3s
KMI LR LR
comp=N,39μm,17.8s
KMI LR LR
comp=E,44μm,21.5s
KMI LR LR
comp=Z,67μm,28.0s
AMKA Amchitka 33.78 45 *e*P **P 22 55 29.3 +1.4**
comp=Z,461nm,1.1s
AMKA *e*PcP **PcP 22 58 06.3 +0.5**
KDM Kudat 33.83 226 P **P 22 55 29.1 +0.5**
BAKI Biak 34.07 188 P **P 22 55 31.9 +1.3**
comp=Z,443nm,1.7s,comp=Z,9μm
TNTI Ternate 34.16 204 P **P 22 55 31.3 -0.2**
MOY Mondy 34.21 315 *e*P **P 22 55 33.2 +1.5**
MOY pmax pmax
comp=Z,1μm,1.8s
MYLDM Lahad Datu 34.27 221 P **P 22 55 33.8 +1.4**
MYLDM Lahad Datu 34.27 221 P **P 22 55 35.2 +2.8**
SWI Sorong 34.60 196 P **P 22 55 35.1 -0.1**
SDKM Sandakan 34.64 224 P **P 22 55 35.6 -0.1**
RKPI Ransiki, Papua 34.65 191 P **P 22 55 34.8 -0.9**
comp=Z,332nm,0.9s,comp=Z,10μm
KWAJ Kwajalein Atol 34.68 127 ⇑*iP* **P 22 55 36.4 +0.4**
KWAJ *e* 22 56 53.9
KWAJ pmax pmax
comp=Z,662nm,1.5s
KWAJ Kwajalein Atol 34.68 127 ⇑*iP* **P 22 55 36.4 +0.4**
comp=Z,662nm,1.5s
KWAJ *e*PP **PnPn 22 56 53.9 +0.3**
KKM Kota Kinabalu 34.89 225 *e*P **P 22 55 38.0 +0.1**
comp=Z,771nm,1.7s
KKM Kota Kinabalu 34.89 225 P **P 22 55 38.3 +0.3**
KKM Kota Kinabalu 34.89 225 P **P 22 55 39.0 +1.1**
comp=Z,215nm,1.5s,comp=Z,8μm,comp=Z,59μm
JAY Jayapura 35.14 180 P **P 22 55 40.0 +0.1**
TSM Tawau 35.35 221 P **P 22 55 41.3 -0.4**
TSM Tawau 35.35 221 P **P 22 55 44.0 +2.3**
LBMI Labuha 35.44 203 P **P 22 55 43.1 +0.6**
KMSI Cibinong 35.61 209 P **P 22 55 43.6 -0.4**
PANO Nakornpanom 35.81 253 P **P 22 55 46.5 +0.8**
comp=Z,1μm,1.1s,comp=Z,36μm
GTOI Gorontalo 35.97 211 P **P 22 55 46.3 -0.7**
comp=Z,461nm,1.4s,comp=Z,10μm
UBPT Khong Chiam 36.17 250 P **P 22 55 49.1 +0.4**
comp=Z,1μm,1.2s,comp=Z,12μm
ADK Adak 36.33 45 *e*P **P 22 55 50.3 +0.6**
ADK MLR MLR
comp=Z,17μm,20.0s
ADK Adak 36.33 45 *e*P **P 22 55 50.3 +0.6**
comp=Z,3μm,1.2s
ADK LR LR
comp=Z,17μm,20.0s
FAKI Fak Fak 36.37 194 P **P 22 55 49.0 -1.5**
MIDW Midway 36.47 86 ⇑*eP* **P 22 55 51.1 -0.1**
comp=Z,466nm,1.0s
MIDW LR LR
comp=Z,40μm,21.0s
TOLI Toli-Toli 36.54 214 P **P 22 55 51.4 -0.5**
MRSI Marisa 36.58 212 P **P 22 55 52.5 +0.3**
LUWI Luwuk 37.58 210 P **P 22 55 59.0 -1.7**
MSAI Masohi 37.58 199 P **P 22 56 00.5 -0.2**
NLAI Namlea 38.02 202 P **P 22 56 04.1 -0.3**
AAI Ambon 38.11 200 P **P 22 56 05.0 -0.2**
LOEI Loei 38.34 256 P **P 22 56 05.4 -1.8**
comp=Z,2μm,0.9s
BNDI Bandanaira 38.45 197 P **P 22 56 07.5 -0.5**
HVS Khovu-Aksy 38.51 313 *d iP* **P 22 56 09.6 +1.3**
PAYA Payao 38.58 260 P **P 22 56 09.8 +0.6**
comp=Z,154nm,1.0s,comp=Z,1μm
CHAI Chaiyaphum 38.60 254 P **P 22 56 09.1 -0.3**
comp=Z,664nm,0.9s,comp=Z,5μm
CMAI Chiengmai2 38.99 261 P **P 22 56 13.5 +0.7**
comp=Z,450nm,1.3s,comp=Z,21μm
BTM Bintulu 39.04 227 P **P 22 56 13.2 +0.2**
PBKT Sadao Pong 39.07 255 P **P 22 56 13.0 -0.3**
comp=Z,2μm,1.0s,comp=Z,17μm
LAMP Lampang 39.18 259 P **P 22 56 14.6 +0.4**
comp=Z,304nm,0.9s,comp=Z,2μm
TIXI Tiksi 39.39 354 *d iP* **P 22 56 15.0 -0.2**
TIXI pmax pmax
comp=Z,691nm,1.5s
TIXI MLR MLR
comp=Z,18μm,19.0s
SGKI Sangatta, Kali 39.54 218 P P 22 56 12.2 -5.0
CMMT Chiang Mai 39.60 260 P **P 22 56 17.3 -0.5**
comp=Z,855nm,1.0s,comp=Z,9μm
CHTO Chiang Mai 39.61 260 *e*P **P 22 56 17.4 -0.4**
CHTO pmax pmax
comp=Z,533nm,0.8s
CHTO MLR MLR
comp=Z,50μm,21.0s
CHTO Chiang Mai 39.61 260 P **P 22 56 17.9 +0.1**
SNR=322
CHTO Chiang Mai 39.61 260 *e*P **P 22 56 17.4 -0.4**
comp=Z,533nm,0.8s
CHTO LR LR
comp=Z,50μm,21.0s
CHTO Chiang Mai 39.61 260 P **P 22 56 17.7 -0.1**
comp=Z,926nm,1.0s,comp=Z,10μmcomp=Z,48μm
CHTO Chiang Mai 39.61 260 P **P 22 56 17.7 -0.1**
comp=Z,926nm,1.0s,comp=Z,10μm
CM31 Chiang Mai Arr 39.78 259 ⇓*eP* **P 22 56 19.4 +0.2**
comp=Z,213nm,0.6s
CM31 *e*PP **PP 22 57 53.0 +1.4**
CM31 *e*ScP **ScP 23 02 09.5 +1.5**
CMAR Chiang Mai Arr 39.78 259 P **P 22 56 19.6 +0.3**
CMAR PcP **PcP 22 58 27.1 +2.5**
CMAR ScP **ScP 23 02 09.3 +1.3**
CMAR Chiang Mai Arr 39.78 259 P **P 22 56 19.5 +0.3**
comp=Z,208nm,0.7s,baz=53,slow=7.2,SNR=480
CMAR PcP **PcP 22 58 27.1 +2.5**
comp=Z,136nm,1.2s,baz=51,slow=1.2,SNR=6.9
CMAR ScP **ScP 23 02 09.3 +1.3**
comp=Z,13nm,0.8s,baz=39,slow=3.2,SNR=5.5
CMAR LR LR 23 13 28.1
comp=Z,47μm,20.4s,baz=64,slow=37
NAYO Nakonayok 40.01 252 P **P 22 56 21.3 +0.2**
comp=Z,738nm,1.3s
KRAR Krasnoyarsk 40.06 320 *deP* **P 22 56 23.6 +2.6**
KRAR pmax pmax
comp=Z,801nm,1.2s
SBUM Sibu 40.15 227 P **P 22 56 22.8 +0.5**
SBUM Sibu 40.15 227 P **P 22 56 22.5 +0.2**
comp=Z,201nm,1.3s,comp=Z,5μmcomp=Z,52μm
MMSI Mamuju 40.76 214 P **P 22 56 27.0 -0.3**
comp=Z,234nm,0.6s,comp=Z,7μmcomp=Z,37μm
SPIA Saint Paul Isl 41.30 39 *e*P **P 22 56 33.7 +2.5**
MTKI Muara Teweh, K 41.33 221 P **P 22 56 32.9 +1.0**
BBSI Bau Bau 41.70 207 P **P 22 56 35.6 +0.7**
comp=Z,365nm,0.9s,comp=Z,6μmcomp=Z,21μm
LSA Lhasa 41.94 279 P **P 22 56 38.0 +0.6**
LSA S **S 23 02 54.0 +2.1**
LSA pmax pmax
comp=Z,150nm,0.6s
LSA pmax pmax
comp=Z,7μm,12.0s
LSA LR LR
comp=N,18μm,23.0s
LSA LR LR
comp=E,58μm,31.0s
LSA LR LR
comp=Z,89μm,29.0s
LSA Lhasa 41.94 279 ⇓*iP* **P 22 56 37.8 +0.4**
LSA *e* 22 58 11.7
LSA *e* 22 58 32.1
LSA *e*S **S 23 02 48.0 -3.9**
LSA pmax pmax
comp=Z,146nm,0.7s
LSA MLR MLR
comp=Z,49μm,22.0s
LSA Lhasa 41.94 279 ⇓*iP* **P 22 56 37.8 +0.4**
comp=Z,146nm,0.7s
LSA *e*PP **PP 22 58 11.7 -3.6**
LSA *e*PcP **PcP 22 58 32.0 +0.1**
LSA *e*ScP **ScP 23 02 17.5 +0.5**
LSA *e*S **S 23 02 48.0 -3.9**
LSA LR LR
comp=Z,49μm,22.0s
KSM Kuching 42.10 228 ⇓*iP* **P 22 56 38.6 +0.3**
comp=Z,366nm,0.8s
KSM *e*ScP **ScP 23 02 17.8 +0.6**
KSM Kuching 42.10 228 P **P 22 56 38.9 +0.6**
KSM Kuching 42.10 228 P **P 22 56 38.6 +0.3**
comp=Z,670nm,1.4s,comp=Z,11μm
PHET Kaeng Krachan 42.16 252 P **P 22 56 39.3 +0.5**
comp=Z,3μm,1.0s,comp=Z,27μm
WMQ Urumqi 42.16 301 ⇓*iP* **P 22 56 39.6 +1.0**
WMQ sP **sP 22 56 58.6 -2.8**
WMQ ScP **ScP 23 02 16.2 -1.0**
WMQ sS **sS 23 03 18.0 -2.6**
WMQ SS **SS 23 05 59.8 -3.9**
WMQ ScS **ScS 23 06 35.2 +0.2**
WMQ pmax pmax
comp=Z,930nm,1.0s
WMQ pmax pmax
comp=Z,14μm,5.2s
WMQ LR LR
comp=N,49μm,23.0s
WMQ LR LR
comp=E,35μm,30.0s
WMQ LR LR
comp=Z,54μm,28.0s
KAPI Kappang 42.43 211 P **P 22 56 40.2 -0.7**
SNR=49
KAPI Kappang 42.43 211 ⇑*eP* **P 22 56 39.5 -1.4**
comp=Z,1μm,1.5s
KAPI *e*PP **PP 22 58 24.5 +4.1**
KAPI *e*PcP **PcP 22 58 33.8 +0.7**
KAPI *e*ScP **ScP 23 02 15.7 -2.7**
KAPI ScP **ScP 23 02 19.9 +1.4**
KAPI *e*S S 23 02 51.0 -7.3
KAPI S S 23 02 53.4 -5.0
KAPI ScS **ScS 23 06 37.6 +0.5**
KAPI Kappang 42.43 211 P **P 22 56 40.1 -0.8**
comp=Z,427nm,1.6s,comp=Z,7μmcomp=Z,23μm
KAPI Kappang 42.43 211 ScP **ScP 23 02 19.9 +1.4**
comp=Z,161nm,1.2s,baz=41,slow=2.8,SNR=8.8
KAPI S **S 23 02 53.4 -5.0**
comp=Z,43nm,1.1s,baz=201,slow=19,SNR=11
KAPI ScS **ScS 23 06 37.6 +0.5**
comp=Z,13nm,1.0s,baz=108,slow=23,SNR=7.4
KAPI LR LR 23 13 29.5
comp=Z,18μm,20.2s,baz=19,slow=35
PMG Port Moresby 42.47 170 *e*P **P 22 56 40.9 -0.2**
PMG S **S 23 02 56.9 -1.9**
PMG Port Moresby 42.47 170 P **P 22 56 41.0 -0.2**
comp=Z,606nm,2.1s,comp=Z,16μmcomp=Z,39μm
PMG Port Moresby 42.47 170 P **P 22 56 41.0 -0.2**
comp=Z,279nm,1.1s,baz=344,slow=6.7,SNR=57
PMG S **S 23 02 56.9 -1.9**
comp=Z,103nm,1.1s,baz=243,slow=22,SNR=8.8
PMG LR LR 23 13 25.8
comp=Z,8μm,20.3s,baz=170,slow=35
STKI Sintang 42.48 226 P **P 22 56 42.7 +1.3**
BKSI Bulukumba 42.55 211 P **P 22 56 41.9 0.0**
comp=Z,168nm,1.1s,comp=Z,4μm
KBKI Kotabaru 42.64 217 P **P 22 56 42.3 -0.3**
SHL Shillong 42.69 273 *e*P **P 22 56 42.5 -0.7**
SHL AMB AMB 22 56 45.9
comp=Z,129nm,0.9s
SHL *ex* x 23 02 22.0
SHL *e*SCS 23 06 38.0
BSSI Bau Bau, Buton 43.13 210 P **P 22 56 46.5 -0.1**
BBKI Banjar Baru 43.47 219 P **P 22 56 48.7 -0.6**
TARA Tarawa 43.72 129 *e*P **P 22 56 51.9 +0.5**
KTGM Kuala Trenggan 44.21 240 P **P 22 56 56.3 +1.0**
ZAA0 Zalesovo Array 44.26 316 ⇓*iP* **P 22 56 55.5 +0.2**
ZAA0 *e*PP **PcP 22 58 38.9 +0.2**
ZAA0 *e*ScP **ScP 23 02 21.0 -4.3**
ZAA0 *e*S **S 23 03 21.9 -2.4**
ZALV Zalesovo Beam 44.26 316 P **P 22 56 55.6 +0.3**
ZALV 22 58 39.1
ZALV pmax pmax
comp=Z,237nm,0.5s
ZALV MLR MLR
comp=Z,52μm,19.5s
ZALV Zalesovo Beam 44.26 316 P **P 22 56 55.6 +0.3**
ZALV PcP **PcP 22 58 39.1 +0.4**
ZALV ScP **ScP 23 02 24.2 -1.1**
ZALV *e* 23 34 51.5
ZALV Zalesovo Beam 44.26 316 P **P 22 56 55.6 +0.3**
comp=Z,358nm,0.7s,baz=103,slow=6.7,SNR=616
ZALV PcP **PcP 22 58 39.1 +0.4**
comp=Z,142nm,0.7s,baz=113,slow=2.8,SNR=5.6
ZALV ScP **ScP 23 02 24.2 -1.1**
comp=Z,89nm,0.9s,baz=98,slow=3.6,SNR=9.8
ZALV LR LR 23 16 15.5
comp=Z,52μm,19.5s,baz=109,slow=37
ZALV P4KPbc 23 34 51.5
comp=Z,0.7nm,0.5s,baz=117,slow=4.7,SNR=4.9
FALS False Pass 44.67 43 P **P 22 56 58.4 0.0**
comp=Z,98nm,0.4s
MMRI Maumere 44.72 206 P **P 22 56 59.1 -0.2**
SOEI Soe 45.05 203 P **P 22 57 01.8 -0.3**
NVS Novosibirsk 45.26 317 ⇓*iP* **P 22 57 03.9 +0.7**
NVS *e* 22 58 36.8
NVS *e*S **S 23 03 38.2 -0.6**
NVS *e*SS **ScS 23 06 49.9 -4.0**
NVS pmax pmax
comp=E,1μm,1.3s
NVS pmax pmax
comp=Z,2μm,1.3s
NVS smax smax
comp=E,1μm,2.7s
NVS smax smax
comp=N,1μm,3.0s
LBFI Labuhan Bajo, 45.49 209 P **P 22 57 04.7 -0.7**
comp=N,468nm,0.9s,comp=N,7μm
TAPN Taplejung 45.56 278 *e*P **P 22 57 07.1 +0.8**
comp=N,456nm,0.4s
BATI Baumata 45.67 203 S **S 23 03 44.0 -1.5**
BATI Baumata 45.67 203 P **P 22 57 06.8 -0.1**
comp=N,526nm,1.1s,comp=N,7μmcomp=N,920nm
BATI Baumata 45.67 203 S **S 23 03 44.0 -1.5**
comp=N,131nm,0.9s,baz=6.3,slow=18,SNR=9.4
BATI LR LR 23 14 04.3
comp=N,16μm,21.5s,baz=192,slow=33
MK31 Makanchi Array 45.79 306 ⇓*iP* **P 22 57 08.4 +0.8**
MK31 *e*S **S 23 03 48.8 +2.1**
MK31 Makanchi Array 45.79 306 ⇓*iP* **P 22 57 08.4 +0.8**
MK31 *e*ScP **ScP 23 02 31.0 -0.9**
MK31 *e*S **S 23 03 48.8 +2.1**
MKAR Makanchi Array 45.79 306 P **P 22 57 08.5 +0.9**
MKAR 23 07 02.9
MKAR pmax pmax
comp=N,39nm,0.7s
MKAR pmax pmax
comp=Z,660nm,0.7s
MKAR MLR MLR
comp=Z,45μm,21.8s
MKAR Makanchi Array 45.79 306 P **P 22 57 08.5 +0.9**
MKAR ScP **ScP 23 02 31.4 -0.5**
MKAR ScS **ScS 23 07 02.9 +5.2**
MKAR *e* 23 25 46.6
MKAR *e* 23 34 56.0
MKAR Makanchi Array 45.79 306 P **P 22 57 08.5 +0.9**
comp=Z,658nm,0.7s,baz=85,slow=8.7,SNR=2095
MKAR ScP **ScP 23 02 31.4 -0.5**
comp=Z,39nm,0.7s,baz=83,slow=5.5,SNR=8.6
MKAR ScS **ScS 23 07 02.9 +5.2**
comp=Z,4.3nm,0.9s,baz=98,slow=7.5,SNR=3.6
MKAR LR LR 23 17 21.4
comp=Z,45μm,21.8s,baz=100,slow=37
MKAR P3KPbc 23 25 46.6
comp=Z,0.3nm,0.4s,baz=300,slow=2.5,SNR=5.2
MKAR P4KPbc 23 34 56.0
comp=Z,0.3nm,0.4s,baz=80,slow=4.3,SNR=5.9
HNR Honiara 45.95 153 ⇑*iP* **P 22 57 08.7 -0.3**
comp=Z,578nm,1.0s
HNR *e*PP **PP 22 58 54.4 -3.5**
HNR LR LR
comp=Z,30μm,22.0s
HNR Honiara 45.95 153 P **P 22 57 09.7 +0.7**
comp=Z,123nm,0.4s,baz=206,slow=2.5,SNR=10
HNR LR LR 23 16 34.2
comp=Z,11μm,18.4s,baz=326,slow=36
ODAN Odare 46.00 277 *e*P **P 22 57 10.0 +0.3**
comp=Z,441nm,0.4s
BMNI Bima 46.05 211 P **P 22 57 10.8 +1.0**
KULM Kulim 46.06 242 ⇓*iP* **P 22 57 09.8 -0.3**
comp=Z,749nm,1.3s
KULM *e*PP **PP 22 59 00.8 +1.7**
KULM *e*ScP **ScP 23 02 34.8 +1.4**
KULM *e*S **S 23 03 47.6 -3.6**
KULM Kulim 46.06 242 P **P 22 57 10.5 +0.5**
KULM Kulim 46.06 242 P **P 22 57 10.4 +0.4**
comp=Z,554nm,1.4s,comp=Z,8μm
MYKOM Kota Tinggi 46.16 236 P **P 22 57 11.3 +0.5**
MYKOM Kota Tinggi 46.16 236 P **P 22 57 10.8 0.0**
comp=Z,375nm,1.1s,comp=Z,6μmcomp=Z,59μm
PKDT Phuket 46.16 247 P **P 22 57 11.1 +0.3**
comp=Z,1μm,1.1s,comp=Z,16μm
IPM Ipoh 46.33 241 ⇓*iP* **P 22 57 11.1 -1.0**
comp=Z,788nm,1.3s
IPM *e*PcP **PcP 22 58 44.1 -2.4**
IPM *e*PP **PP 22 59 04.5 +2.6**
IPM *e*ScP **ScP 23 02 34.2 -0.3**
IPM *e*S **S 23 03 50.4 -4.7**
IPM Ipoh 46.33 241 P **P 22 57 12.2 +0.1**
IPM Ipoh 46.33 241 P **P 22 57 11.4 -0.7**
comp=Z,537nm,1.3s,comp=Z,8μmcomp=Z,65μm
KGM Kluang 46.37 236 P **P 22 57 12.8 +0.4**
SDPT Sand Point 46.39 43 ⇑*eP* **P 22 57 10.0 -2.1**
comp=Z,346nm,0.6s
SDPT *e*PcP **PcP 22 58 46.2 +0.2**
SDPT *e*ScP ScP 23 02 26.1 -7.9
SDPT *e*S **S 23 03 54.5 -0.5**
RAMN Ramite 46.62 278 *e*P **P 22 57 14.5 -0.1**
comp=Z,1μm,0.7s
JIRN Jiri 46.72 279 *e*P **P 22 57 15.9 +0.4**
comp=Z,1μm,0.5s
FRIM Kepong 46.73 239 P **P 22 57 15.6 +0.4**
BASI Baing, Sumba 46.80 207 P **P 22 57 16.1 +0.4**
GUN Gumba 46.89 279 *e*P **P 22 57 17.3 +0.5**
comp=Z,685nm,0.5s
KMMI Kalianget 46.96 217 P **P 22 57 19.1 +2.1**
TPI Tanjungpandan 47.04 228 P **P 22 57 18.9 +1.3**
comp=Z,351nm,1.1s,comp=Z,4μm
MTNI Mataram 47.26 214 P **P 22 57 18.4 -0.9**
PKI Pulchoki 47.40 279 *e*P **P 22 57 20.4 -0.4**
comp=Z,547nm,0.9s
PKIN Phulchoki 47.41 279 *e*P **P 22 57 20.4 -0.4**
comp=Z,281nm,0.5s
KKN Kakani 47.43 279 *e*P **P 22 57 21.0 +0.1**
comp=Z,561nm,0.7s
DGPR DIGLIPUR 47.44 257 *e*P **P 22 57 21.1 +0.3**
DGPR AMB AMB 22 57 25.3
comp=Z,1μm,1.0s
PPBI Pangkal Pinang 47.54 230 P **P 22 57 22.3 +0.7**
CHGN Chignik 47.61 41 *e*P **P 22 57 20.6 -0.9**

DMN	**Daman**	47.64 279	*e*P		**P**	**22 57 22.4 -0.2**
	comp=Z,404nm,0.8s					
BLJI	**Banyuglugur**	47.74 217	P		**P**	**22 57 23.9 +0.9**
DNP	**Denpasar**	47.75 215	P		**P**	**22 57 22.3 -0.8**
IGBI	**Denpasar**	47.90 215	P		**P**	**22 57 22.1 -2.2**
	comp=Z,337nm,0.9s,comp=Z,6μmcomp=Z,17μm					
KURK	**Kurchatov**	47.99 311	S		**S**	**23 04 22.8 +4.9**
KURBB	**Kurchatov Arra**	48.05 311	S		**S**	**23 04 22.8 +4.0**
	comp=Z,11nm,1.1s,baz=86,slow=14,SNR=6.8					
BOK	**Bokaro**	48.41 274	*e*P		**P**	**22 57 28.9 +0.7**
BOK			AMB		AMB	22 57 30.8
	comp=Z,522nm,0.4s					
PBA	**Port Blair**	48.42 256	*e*P		P	22 57 28.7 +0.3
PBA			AMB		AMB	22 57 32.6
	comp=Z,449nm,2.9s					
DANN	**Dangsing**	48.50 281	*e*P		**P**	**22 57 29.7 +0.5**
	comp=Z,1μm,0.7s					
KRKI	**Karangkates**	48.68 218	P		**P**	**22 57 29.0 -1.3**
SJI	**Sawahan**	48.69 219	P		**P**	**22 57 29.5 -0.9**
RGRI	**Rengat**	48.74 235	P		**P**	**22 57 32.0 +1.2**
TSI	**Tuntungan**	48.80 242	P		**P**	**22 57 31.8 +0.5**
KOLN	**Koldanda**	48.83 280	*e*P		**P**	**22 57 32.0 +0.3**
	comp=Z,460nm,0.5s					
LHMI	**Lhok Sumawe**	48.90 245	P		**P**	**22 57 33.6 +1.5**
	comp=Z,1μm,1.2s,comp=Z,16μmcomp=Z,75μm					
PWJI	**Pagerwojo**	48.91 219	P		**P**	**22 57 30.7 -1.3**
	comp=Z,408nm,1.0s,comp=Z,13μm					
PSI	**Prapat**	49.00 241	ScS		ScS	23 07 21.9 +2.0
PSI	**Prapat**	49.00 241	ScS		ScS	23 07 21.9 +2.0
	comp=Z,2.3nm,0.4s,baz=172,slow=23,SNR=23					
PSI			LR		LR	23 16 07.0
	comp=Z,15μm,21.3s,baz=211,slow=33					
PMBI	**Palembang**	49.01 230	P		**P**	**22 57 34.6 +1.8**
BKNI	**Bangkinang**	49.17 237	P		**P**	**22 57 34.4 +0.3**
KCSI	**Kotacane, Aceh**	49.38 243	P		**P**	**22 57 34.2 -1.5**
	comp=Z,204nm,1.3s,comp=Z,4μmcomp=Z,34μm					
PCJI	**Pacitan**	49.39 220	P		**P**	**22 57 36.2 +0.5**
TGJI	**Tegal**	49.43 223	P		**P**	**22 57 36.8 +0.7**
BJII	**Banjamegara**	49.48 222	P		**P**	**22 57 37.6 +1.1**
	comp=Z,295nm,1.6s,comp=Z,10μm					
UGM	**Wanagama**	49.51 220	P		**P**	**22 57 36.2 -0.5**
YOGI	**Yogyakarta**	49.55 221	P		**P**	**22 57 36.2 -0.8**
	comp=Z,3μm,1.1s,comp=Z,29μm					
AAA	**Alma-Ata**	49.98 301	*i* P		**P**	**22 57 42.1 +2.0**
AAA			*i* S		**S**	**23 04 49.6 +3.4**
AAA			pmax		pmax	
	comp=Z,13μm,3.1s					
AAA			smax		smax	
	comp=E,13μm,4.4s					
AAA			MLR		MLR	
	comp=Z,34μm,13.0s					
BSI	**Banda Aceh**	50.01 247	P		**P**	**22 57 40.3 -0.2**
	comp=Z,275nm,1.2s,comp=Z,5μmcomp=Z,69μm					
CMBY	**CAMPBELL BAY**	50.15 250	*e*P		**P**	**22 57 40.8 -0.8**
CMBY			AMB		AMB	22 57 46.7
	comp=Z,861nm,3.1s					
PPI	**Padang Panjang**	50.17 237	P		**P**	**22 57 42.8 +1.1**
	comp=Z,343nm,1.1s,comp=Z,7μmcomp=Z,69μm					
CLJI	**Cilicap**	50.19 222	P		**P**	**22 57 42.3 +0.5**
LEM	**Lembang**	50.27 224	P		**P**	**22 57 42.0 -0.6**
	comp=Z,2μm,1.0s,comp=Z,20μmcomp=Z,55μm					
KLSI		50.37 229	P		**P**	**22 57 42.7 -0.5**
	comp=Z,1μm,1.1s,comp=Z,15μm					
CBJI	**Citeko**	50.41 226	P		**P**	**22 57 44.6 +1.2**
KLI	**Kotabumi**	50.42 229	P		**P**	**22 57 43.5 -0.1**
OHAK	**Old Harbor**	50.45 40⇑	*i* P		**P**	**22 57 43.0 -0.3**
	comp=Z,244nm,0.7s					
OHAK			*e*ScP		**ScP**	**23 02 49.8 -1.5**
OHAK			*e*S		**S**	**23 04 48.2 -3.9**
BLSI	**Bandar Lampung**	50.57 228	P		**P**	**22 57 44.1 -0.6**
DBJI	**Dramaga**	50.57 226	P		**P**	**22 57 44.2 -0.5**
SBJI	**Serang**	50.61 226	P		**P**	**22 57 45.8 +0.8**
ULHL	**Ulahol**	50.69 300	*i* P		**P**	**22 57 47.3 +1.7**
ULHL	**Ulahol**	50.69 300	P		**P**	**22 57 47.4 +1.7**
	SNR=13					
IM04	**Indian Mountai**	50.70 29	*e*P		**P**	**22 57 45.5 +0.4**
IM04			*e*			22 57 59.2
IM04			*e*PcP		**PcP**	**22 59 03.0 +1.5**
IM04			*e*ScP		**ScP**	**23 02 48.0 -4.2**
CISI	**Cisompet, Garu**	50.74 224	P		**P**	**22 57 43.6 -2.5**
IMA2	**Indian Mountai**	50.74 29	*e*P		**P**	**22 57 45.7 +0.2**
IMA2			*e*PcP		**PcP**	**22 59 03.2 +1.4**
IMA2			*e*ScP		**ScP**	**23 02 51.5 -1.0**
RSO	**Redoubt South**	50.75 36	*e*P		**P**	**22 57 45.9 +0.1**
	comp=Z,563nm,0.9s					
KDAK	**Kodiak Island**	50.82 40⇑	*i*P		**P**	**22 57 46.0 -0.1**
	comp=Z,402nm,0.7s					
KDAK			*e*ScP		**ScP**	**23 02 51.9 -0.9**
KDAK			*e*S		**S**	**23 04 54.8 -2.4**
KDAK			LR		LR	
	comp=Z,18μm,20.0s					
KDAK	**Kodiak Island**	50.82 40	P		**P**	**22 57 46.3 +0.3**
	comp=Z,4μm,0.7s,SNR=53					
KDAK	**Kodiak Island**	50.82 40	P		**P**	**22 57 45.9 -0.1**
	comp=Z,485nm,0.7s,baz=269,slow=5.3,SNR=209					
MASI	**Maura Aman, Be**	50.84 233	P		**P**	**22 57 47.3 +0.5**
KSI	**Kapahiang**	50.98 232	P		**P**	**22 57 48.7 +0.8**
	comp=Z,955nm,1.0s,comp=Z,14μmcomp=Z,75μm					
PTH	**Pithoragarh**	51.01 283	*ex*		P	22 57 42.2 -6.0
PTH			*ex*		PcP	22 58 56.8 -6.7
TKM2	**Tokmak 2**	51.02 301	*i*P		**P**	**22 57 49.1 +1.0**
TKM2			*e*			22 59 44.0
TKM2			*e*S		**S**	**23 05 01.0 0.0**
TKM2			pmax		pmax	
	comp=Z,130nm,0.7s					
TKM2	**Tokmak 2**	51.02 301	P		**P**	**22 57 49.3 +1.2**
	SNR=816					
TKM2	**Tokmak 2**	51.02 301	*i*P		**P**	**22 57 49.1 +1.0**
	comp=Z,130nm,0.7s					
TKM2			*e*PP		**PP**	**22 59 44.0 -0.9**
TKM2			*e*S		**S**	**23 05 00.9 0.0**
SKJI	**Sukabumi**	51.05 225	P		**P**	**22 57 48.0 -0.3**
LWLI	**Liwa**	51.05 229	P		**P**	**22 57 46.8 -1.6**
KASI	**Kota Agung**	51.16 229	P		**P**	**22 57 47.5 -1.6**
	comp=Z,710nm,1.0s,comp=Z,7μm					
SNSI	**Sinabang, Aceh**	51.19 243	P		**P**	**22 57 50.6 +1.2**
MNAI	**Manna**	51.27 231	P		**P**	**22 57 50.2 +0.2**
KZA	**Kyzart**	51.45 300	*i* P		**P**	**22 57 53.3 +1.8**
KZA	**Kyzart**	51.45 300	P		**P**	**22 57 53.3 +1.8**
	SNR=158					
KSH	**Kashi**	51.49 297⇓	*i*P		P	22 57 55.6 +4.1
KSH			PP		PP	22 59 54.6 +5.5
KSH			S		**S**	**23 05 10.8 +3.5**
KSH			sS		sS	23 05 37.8 +3.3
KSH			pmax		pmax	
	comp=Z,190nm,0.8s					
KSH			pmax		pmax	
	comp=Z,8μm,7.8s					
KSH			LR		LR	
	comp=N,15μm,15.0s					
KSH			LR		LR	
	comp=E,63μm,16.5s					
KSH			LR		LR	
	comp=Z,78μm,18.7s					
KBK	**Karagaybulak**	51.54 301	*i* P		**P**	**22 57 53.1 +1.1**
KBK	**Karagaybulak**	51.54 301	P		**P**	**22 57 53.1 +1.1**
	SNR=472					
CHMS	**Chumysh**	51.61 301	*i* P		**P**	**22 57 53.2 +0.9**
CHMS	**Chumysh**	51.61 301	P		**P**	**22 57 53.2 +0.9**
	SNR=301					
USP	**Ospenovka**	51.74 302	*i* P		**P**	**22 57 53.9 +0.6**
USP	**Ospenovka**	51.74 302	P		**P**	**22 57 53.9 +0.6**
	SNR=358					
FRU	**Bishkek**	51.74 301⇓	*i*P		**P**	**22 57 54.0 +0.7**
FRU			*i*			22 58 24.0
FRU			*e*			22 59 00.0
FRU			*i* S		**S**	**23 05 11.0 +0.4**
FRU			pmax		pmax	
	comp=Z,2μm,1.9s					
FRU			MLR		MLR	
	comp=Z,33μm,21.0s					
AAK	**Ala-Archa**	51.88 301⇓	*i*P		**P**	**22 57 54.8 +0.4**
AAK			*e*S		**S**	**23 05 09.5 -3.1**
AAK			pmax		pmax	
	comp=Z,346nm,0.9s					
AAK			MLR		MLR	
	comp=Z,33μm,20.0s					
AAK	**Ala-Archa**	51.88 301	P		**P**	**22 57 55.4 +1.0**
	SNR=260					
AAK	**Ala-Archa**	51.88 301	P		**P**	**22 57 54.9 +0.5**
	SNR=168					
AAK	**Ala-Archa**	51.88 301⇓	*i*P		**P**	**22 57 54.8 +0.4**
	comp=Z,346nm,0.9s					
AAK			*e*ScP		**ScP**	**23 02 53.6 -4.4**
AAK			*e*S		**S**	**23 05 09.5 -3.1**
AAK			LR		LR	
	comp=Z,33μm,20.0s					
UCH	**Uchtor**	51.95 301	*i* P		**P**	**22 57 56.9 +1.6**
UCH	**Uchtor**	51.95 301	P		**P**	**22 57 56.9 +1.6**
	SNR=50					
EKS2	**Erkin-Say**	52.39 301⇓	*i*P		**P**	**22 57 58.4 +0.2**
EKS2			*e*S		**S**	**23 05 19.5 0.0**
EKS2			pmax		pmax	
	comp=Z,136nm,0.5s					
EKS2	**Erkin-Say**	52.39 301	P		**P**	**22 57 58.9 +0.8**
	SNR=416					
EKS2	**Erkin-Say**	52.39 301⇓	*i*P		**P**	**22 57 58.4 +0.2**
	comp=Z,136nm,0.5s					
EKS2			*e*S		**S**	**23 05 19.5 0.0**
DDI	**Dehra Dun**	52.51 285	*e*PN		**P**	**22 57 58.0 -1.2**
DDI			*e*P		**P**	**22 57 59.8 +0.6**
PMR	**Palmer**	52.52 35⇑	*i*P		**P**	**22 57 58.5 -0.2**
PMR			*e*S		**S**	**23 05 18.3 -2.2**
PMR			pmax		pmax	
	comp=Z,575nm,1.2s					
PMR	**Palmer**	52.52 35⇑	*i*P		**P**	**22 57 58.5 -0.2**
	comp=Z,575nm,1.2s					
PMR			*e*ScP		**ScP**	**23 02 59.5 -0.7**
PMR			*e*S		**S**	**23 05 18.3 -2.2**
AML	**Almayashu**	52.56 301	*i* P		**P**	**22 58 01.3 +1.5**
AML	**Almayashu**	52.56 301	P		**P**	**22 58 01.3 +1.5**
	SNR=883					
FITZ	**Fitzroy Crossi**	52.57 198	S		**S**	**23 05 19.5 -2.5**
FITZ	**Fitzroy Crossi**	52.57 198	S		**S**	**23 05 19.5 -2.5**
	comp=Z,90nm,1.2s,baz=309,slow=23,SNR=21					
FITZ			LR		LR	23 20 52.5
	comp=Z,9μm,19.2s,baz=20,slow=36					
WRAB	**Tennant Creek**	52.77 187⇑	*i*P		**P**	**22 58 00.3 -0.7**
WRAB			*e**PP		**pP**	**22 58 15.0 -2.1**
WRAB			*e*S		S	23 05 17.4 -7.3
WRAB			pmax		pmax	
	comp=Z,1μm,1.4s					
WRAB			MLR		MLR	
	comp=Z,30μm,22.0s					
WRAB	**Tennant Creek**	52.77 187⇑	*i*P		**P**	**22 58 00.3 -0.7**
	comp=Z,1μm,1.4s					
WRAB			*e*pP		**pP**	**22 58 15.0 -2.1**
WRAB			*e*S		S	23 05 17.4 -7.3
WRAB			LR		LR	
	comp=Z,30μm,22.0s					
WRA	**Warramunga Arr**	52.78 187	P		**P**	**22 57 59.8 -1.3**
WRA			PcP		**PcP**	**22 59 12.2 +2.4**
WRA			ScP		**ScP**	**23 03 01.4 -0.4**
WRA			S		**S**	**23 05 20.5 -4.4**
WRA			ScS		**ScS**	**23 07 47.7 +2.4**
WRA		⇑	*e*			23 28 38.2
WRA			*e*			23 35 28.4
WRA	**Warramunga Arr**	52.78 187	P		**P**	**22 57 59.8 -1.3**
	comp=Z,183nm,0.4s,baz=6.0,slow=7.6,SNR=1728					
WRA			PcP		**PcP**	**22 59 12.2 +2.4**
	comp=Z,169nm,0.6s,baz=1.2,slow=4.1,SNR=7.0					
WRA			ScP		**ScP**	**23 03 01.4 -0.4**
	comp=Z,24nm,0.7s,baz=1.1,slow=4.5,SNR=4.6					
WRA			S		**S**	**23 05 20.5 -4.4**
	comp=Z,78nm,1.0s,baz=5.4,slow=13,SNR=10					
WRA			ScS		**ScS**	**23 07 47.7 +2.4**
	comp=Z,33nm,1.2s,baz=344,slow=7.5,SNR=4.5					
WRA			PKP2bc			23 28 38.2
	comp=Z,6.9nm,1.1s,baz=175,slow=1.9,SNR=7.7					
WRA			P4KPbc			23 35 28.4
	comp=Z,2.0nm,0.7s,baz=11,slow=4.9,SNR=23					
BVAR	**Borovoye Array**	52.88 315	LR		LR	23 21 41.8
	comp=Z,44μm,19.9s,baz=81,slow=37					
BVAR			PKP2bc			23 28 18.2
	comp=Z,1.3nm,0.7s,baz=226,slow=4.3,SNR=4.3					
BVAR			P4KPbc			23 35 26.5
	comp=Z,4.2nm,0.6s,baz=93,slow=5.0,SNR=25					
CTA	**Charters Tower**	52.90 173	P		**P**	**22 58 01.8 -0.1**
CTA			S		**S**	**23 05 25.8 -0.6**
CTA	**Charters Tower**	52.90 173	P		**P**	**22 58 01.8 -0.1**
	comp=Z,49nm,0.6s,baz=353,slow=8.3,SNR=126					
CTA			S		**S**	**23 05 25.8 -0.6**
	comp=Z,4.7nm,1.0s,baz=97,slow=23,SNR=7.2					
CTA			LR		LR	23 19 14.4
	comp=Z,15μm,22.0s,baz=356,slow=34					
CTAO	**Charters Tower**	52.90 173⇑	*i*P		**P**	**22 58 01.8 -0.1**
CTAO			*e*S		**S**	**23 05 23.2 -3.2**
CTAO			pmax		pmax	
	comp=Z,642nm,1.3s					
CTAO			MLR		MLR	
	comp=Z,17μm,21.0s					
CTAO	**Charters Tower**	52.90 173⇑	*i*P		**P**	**22 58 01.8 -0.1**
	comp=Z,642nm,1.3s					
CTAO			*e*S		**S**	**23 05 23.2 -3.2**
CTAO			LR		LR	
	comp=Z,17μm,21.0s					
BRVK	**Borovoye**	52.94 315	*d i*P		**P**	**22 58 02.5 +0.6**
BRVK			*i* *PP		pP	22 58 26.2 +8.1
BRVK			pmax		pmax	
	comp=Z,862nm,1.4s					
BRVK	**Borovoye**	52.94 315	P		**P**	**22 58 02.9 +0.9**
	SNR=376					
BRVK	**Borovoye**	52.94 315⇓	*i*P		**P**	**22 58 02.7 +0.7**
	comp=Z,921nm,1.3s					
BRVK			*e*PP		**PP**	**23 00 00.4 -1.4**
BRVK			*e*ScP		**ScP**	**23 02 58.5 -3.7**
BRVK			*e*S		S	23 05 19.5 -7.0
BRVK			LR		LR	
	comp=Z,49μm,20.0s					
SMLA	**Simla**	52.96 286	*i* P		**P**	**22 58 02.9 +0.5**
SMLA			AMB		AMB	22 58 07.3
	comp=Z,830nm,0.7s					
SDNR	**Sundarnagar**	53.00 287	*e*P		**P**	**22 58 03.4 +0.7**
COLA	**College**	53.10 30⇑	*i*P		**P**	**22 58 03.3 +0.4**
COLA			*e*S		**S**	**23 05 28.8 +0.6**
COLA			pmax		pmax	
	comp=Z,400nm,0.7s					
COLA			MLR		MLR	
	comp=Z,6μm,20.0s					
COLA	**College**	53.10 30⇑	*i*P		**P**	**22 58 03.3 +0.4**
	comp=Z,400nm,0.7s					
COLA			*e*S		**S**	**23 05 28.8 +0.6**
COLA			LR		LR	
	comp=Z,6μm,20.0s					
VIS	**Vishakhapatnam**	53.19 268	*e*P		**P**	**22 58 05.2 +1.0**
VIS			AMB		AMB	22 58 37.6
	comp=Z,184nm,0.7s					
DHRM	**DHARAMSHALA**	53.29 288	*e*P		**P**	**22 58 04.9 -0.2**
DHRM			AMB		AMB	22 58 07.4
	comp=Z,661nm,1.5s					
DLH	**Dalhousie**	53.46 288	*e*P		**P**	**22 58 07.0 +0.7**
DLH			*e*4		x	22 58 12.0
BHK	**Bhakra**	53.47 287	*e*P		**P**	**22 58 07.2 +1.0**
ILAR	**Eielson Array**	53.51 31	P		**P**	**22 58 05.5 -0.4**
ILAR			P'P'			23 28 04.2
ILAR			*e*			23 35 27.6
ILAR	**Eielson Array**	53.51 31	P		**P**	**22 58 05.5 -0.4**
	comp=Z,216nm,0.9s,baz=268,slow=5.3,SNR=326					
ILAR			LR		LR	23 18 42.0
	comp=Z,8μm,20.5s,baz=275,slow=33					
ILAR			PKPPKP		P'P'df	23 28 04.2 -27
	comp=Z,0.9nm,0.9s,baz=101,slow=0.9,SNR=4.9					
ILAR			P4KPbc			23 35 27.6
	comp=Z,0.6nm,0.6s,baz=254,slow=5.1,SNR=6.7					
NDI	**New Delhi**	53.77 284	*i* P		**P**	**22 58 07.0 -1.4**
NDI			*ex*		x	22 58 28.4
NDI			AMB		AMB	22 58 31.1
	comp=Z,967nm,1.7s					
NDI			*ex*		x	23 05 33.0
MID	**Middleton Isla**	54.00 37⇑	*i*P		**P**	**22 58 10.3 +0.7**
MID			*e*S		S	23 05 33.3 -7.4
MID			pmax		pmax	
	comp=Z,321nm,0.9s					
MID	**Middleton Isla**	54.00 37⇑	*i*P		**P**	**22 58 10.3 +0.7**
	comp=Z,321nm,0.9s					
MID			*e*S		S	23 05 33.3 -7.4
KKAR	**Karatay Array**	54.62 302⇓	*i*P		**P**	**22 58 15.1 +0.7**
KKAR			*e*S		**S**	**23 05 49.2 -0.4**
KKAR	**Karatay Array**	54.62 302⇓	*i*P		**P**	**22 58 15.1 +0.7**
	comp=Z,5.7nm,1.6s					
KKAR			*e*S		**S**	**23 05 49.2 -0.4**
MENT	**Mentasta**	54.99 33	*e*P		**P**	**22 58 17.8 +1.0**
NGP	**Nagpur**	55.25 274	*ex*		P	22 58 14.7 -4.5
NGP			AMB		AMB	22 58 18.9
	comp=Z,751nm,2.3s					
FUNA	**Funafuti**	55.25 131	*e*P		**P**	**22 58 19.9 +0.7**
	comp=Z,3μm,1.8s					
KIP	**Kipapa**	55.28 85	*e*P		**P**	**22 58 20.2 +0.8**
KIP			*e**SP		**sP**	**22 58 39.4 -3.2**
KIP			pmax		pmax	
	comp=Z,526nm,1.1s					
KIP			MLR		MLR	
	comp=Z,35μm,22.0s					
KIP	**Kipapa**	55.28 85	*e*P		**P**	**22 58 20.1 +0.8**
	comp=Z,526nm,1.1s					
KIP			*e*sP		**sP**	**22 58 39.4 -3.2**
KIP			LR		LR	
	comp=Z,35μm,22.0s					
HON	**Honolulu**	55.34 85	*e*P		**P**	**22 58 20.5 +0.7**
HON	**Honolulu**	55.34 85	*e*P		**P**	**22 58 20.5 +0.7**
BHPL	**Bhopal**	55.72 277	*e*P		**P**	**22 58 22.4 -0.3**
BHPL			AMB		AMB	22 58 24.5
	comp=Z,616nm,1.4s					
EGAK	**Eagle**	55.96 30	*e*P		**P**	**22 58 23.5 -0.1**
	comp=Z,187nm,1.0s					
EGAK			*e*S		**S**	**23 06 07.4 +0.6**
EGAK			LR		LR	
	comp=Z,7μm,19.0s					
AS31	**Alice Springs**	56.51 187	*e*P		**P**	**22 58 27.8 -0.2**
AS31			*e*PcP		**PcP**	**22 59 24.9 +0.8**
ASAR	**Alice Springs**	56.51 187	P		**P**	**22 58 27.6 -0.5**
ASAR			PcP		**PcP**	**22 59 25.8 +1.7**
ASAR			S		**S**	**23 06 13.1 -1.8**
ASAR		⇑	*e*			23 28 35.8
ASAR			*e*			23 35 44.4
ASAR	**Alice Springs**	56.51 187	P		**P**	**22 58 27.6 -0.5**
	comp=Z,137nm,0.5s,baz=358,slow=6.2,SNR=837					
ASAR			PcP		**PcP**	**22 59 25.8 +1.7**
	comp=Z,117nm,0.5s,baz=4.1,slow=3.6,SNR=11					
ASAR			S		**S**	**23 06 13.1 -1.8**
	comp=Z,80nm,1.1s,baz=17,slow=14,SNR=20					
ASAR			PKP2bc			23 28 35.8
	comp=Z,16nm,0.9s,baz=165,slow=2.3,SNR=15					
ASAR			P4KPbc			23 35 44.4
	comp=Z,3.5nm,0.6s,baz=4.0,slow=4.5,SNR=42					
AKL	**Akola**	57.15 275	*e*P		**P**	**22 58 33.5 +0.7**
AKL			AMB		AMB	22 58 38.2
	comp=Z,1μm,0.0s					
MBWA	**Marble Bar**	57.20 203	P		**P**	**22 58 32.7 -0.2**
	SNR=17					
MBWA	**Marble Bar**	57.20 203⇑	*e*P		**P**	**22 58 32.4 -0.5**
	comp=Z,146nm,0.7s					
MBWA			*e*pP		**pP**	**22 58 47.5 -1.7**
MBWA			*e*PcP		**PcP**	**22 59 28.0 +1.2**
MBWA			*e*S		**S**	**23 06 20.0 -3.9**
MBWA			LR		LR	
	comp=Z,7μm,21.0s					
HYB	**Hyderabad**	57.35 271	*i* P		**P**	**22 58 33.0 -1.3**
	comp=Z,820nm,1.0s					
HYB			*e*pP		**pP**	**22 58 48.0 -2.6**
HYB			*e*sP		**sP**	**22 58 54.0 -3.6**
HYB			*e*PcP		**PcP**	**22 59 26.5 -1.3**
HYB			*e*			23 00 40.0
HYB			*e*ScP		**ScP**	**23 03 21.5 -0.7**
HYB			*e*S		S	23 06 20.0 -6.5
HYB			*e*ScS		**ScS**	**23 08 16.0 -2.5**
HYB			*e*sScS			23 08 47.0
HYB			*e*			23 10 16.0
HYB			LR		LR	23 20 56.0
	comp=Z,36nm,24.0s					
HYB	**Hyderabad**	57.35 271	*e*P		**P**	**22 58 34.5 +0.2**
HYB			AMB		AMB	22 58 36.2
	comp=Z,545nm,1.0s					
SVE	**Sverdlovsk**	57.82 320	*c i*P		**P**	**22 58 37.8 +0.9**
SVE			*e*			23 00 47.6
SVE			*e*S		**S**	**23 06 27.2 -4.3**
SVE			*e*			23 08 16.6
SVE			*e*SSS		SSS	23 12 50.8
SVE			pmax		pmax	
	comp=Z,676nm,0.8s					
SVE			pmax		pmax	
	comp=Z,4μm,8.7s					
SVE			smax		smax	
	comp=E,17μm,11.3s					
SVE			smax		smax	
	comp=N,9μm,11.2s					
SVE			MLR		MLR	
	comp=Z,37μm,21.0s					
SVE			MLR		MLR	
	comp=E,26μm,20.0s					
SVE			MLR		MLR	
	comp=N,14μm,19.0s					
MDRS	**Chennai**	58.05 265	*e*P		**P**	**22 58 40.0 +0.9**
MDRS			AMB		AMB	22 58 44.3
	comp=Z,606nm,1.8s					
HYT	**Haines Junctio**	58.19 35	*e*P		**P**	**22 58 40.9 +1.2**
KBL	**Kabul**	58.24 293⇓	*i*P		**P**	**22 58 40.6 +0.1**
KBL			*e*			23 00 49.6
KBL			*e*S		**S**	**23 06 36.0 -2.1**
KBL			pmax		pmax	
	comp=Z,494nm,0.8s					
KBL	**Kabul**	58.24 293⇓	*i*P		**P**	**22 58 40.6 +0.1**
	comp=Z,494nm,0.8s					
KBL			*e*PP		**PP**	**23 00 49.6 -0.2**
KBL			*e*S		**S**	**23 06 36.0 -2.1**
INK	**Inuvik**	58.52 26⇓	*i*P		**P**	**22 58 42.0 +0.4**
	comp=Z,493nm,1.0s					
INK		⇑	*e*			23 28 30.3
INK	**Inuvik**	58.52 26	P		**P**	**22 58 41.9 +0.4**
	comp=Z,288nm,0.7s,baz=296,slow=6.7,SNR=196					
INK			LR		LR	23 25 31.5
	comp=Z,9μm,21.0s,baz=275,slow=38					
INK			PKP2bc			23 28 30.3
	comp=Z,12nm,1.1s,baz=102,slow=5.0,SNR=9.6					
PUH	**Pauahi**	58.54 86	*e*P		**P**	**22 58 43.1 +0.5**
LATR	**Latur**	58.57 273	*e*P		**P**	**22 58 41.3 -1.4**
LATR			*e*P		**P**	**22 58 41.5 -1.2**
LATR			AMB		AMB	22 58 45.4
	comp=Z,1μm,1.3s					
LATR			*ex*		x	22 58 47.3
	comp=Z,2μm,1.1s					
STCH	**Steam Cracks**	58.61 86	*e*P		**P**	**22 58 43.2 +0.2**
ARU	**Arti**	59.03 320	*c i*P		**P**	**22 58 45.4 +0.1**
ARU			*PP		pP	22 59 07.3 +5.6
ARU			*SP		sP	22 59 17.8 +9.1
ARU						22 59 33.0
ARU						23 00 54.1
ARU			PPP		PPP	23 02 23.6
ARU			S		**S**	**23 06 47.5 +0.3**
ARU			*SS		**sS**	**23 07 18.4 +3.5**
ARU			*e*			23 08 25.8
ARU			SS		**SS**	**23 10 40.0 -1.3**
ARU			pmax		pmax	
	comp=Z,1μm,1.2s					
ARU			pmax		pmax	
	comp=Z,2μm,4.8s					
ARU			smax		smax	
	comp=N,4μm,6.6s					
ARU			MLR		MLR	
	comp=Z,36μm,21.0s					
ARU	**Arti**	59.03 320	P		**P**	**22 58 45.3 0.0**
	comp=Z,5μm,0.7s					
SOKR	**Solikamsk**	59.22 324	*d i*P		**P**	**22 58 46.0 -0.5**
SOKR			S		**S**	**23 06 49.8 +0.4**
SOKR			SSS		SSS	23 13 14.2
SOKR			pmax		pmax	
	comp=Z,900nm,1.2s					
SOKR			MLR		MLR	
	comp=Z,44μm,20.0s					
SKAG	**Skagway**	59.55 36⇑	*i*P		**P**	**22 58 50.4 +1.5**
	comp=Z,408nm,1.0s					
SKAG			*e*PP		**PP**	**23 01 01.0 +0.5**
SKAG			*e*S		**S**	**23 06 53.7 -0.1**
NOUC	**Port Laguerre**	59.94 152	*e*P		**P**	**22 58 50.9 -1.1**
NOUC			*e*S		**p

ABKAR eS **S** **23 07 00.8 -0.3**
SIT Sitka 60.14 39⇑iP P 22 58 53.9 +1.0
SIT eS **S** **23 07 06.4 +4.9**
SIT pmax pmax
comp=Z,172nm,1.1s
SIT Sitka 60.14 39⇑iP P 22 58 53.9 +1.0
comp=Z,172nm,1.1s
SIT eS **S** **23 07 06.4 +4.9**
BAYA Yate Dam 60.22 152 eP P 22 58 57.0 +3.1
BAYA eS pP 22 59 13.6 +3.3
PALK Pallekele 60.73 259 P **P** **22 58 58.4 +0.8**
SNR=28
PALK Pallekele 60.73 259⇓iP P 22 58 57.8 +0.2
comp=Z,354nm,0.7s
PALK eScP **ScP** **23 03 37.4 +0.2**
PALK eS **S** **23 07 09.0 -1.2**
POO Poona 60.79 274⇓iP P 22 58 57.0 -1.1
comp=Z,250nm,1.0s
POO eP **P** **22 58 58.2 +0.2**
POO AMB AMB 22 59 02.6
comp=Z,986nm,1.5s
POO ePP **PP** **23 01 10.5 -2.0**
AKTO Aktyubinsk 60.94 314 S **S** **23 07 12.1 +0.1**
AKTO ⇑e 23 28 19.4
AKTO e 23 36 01.8
AKTO Aktyubinsk 60.94 314 S **S** **23 07 12.1 +0.1**
comp=Z,6.1nm,1.0s,baz=299,slow=21,SNR=6.6
AKTO LR LR 23 27 12.6
comp=Z,28μm,20.6s,baz=81,slow=38
AKTO PKP2bc 23 28 19.4
comp=Z,5.7nm,1.2s,baz=180,slow=5.4,SNR=3.7
AKTO P4KPbc 23 36 01.8
comp=Z,2.4nm,0.7s,baz=85,slow=6.1,SNR=6.3
COCO West Island 61.11 230 *iP* **P** **22 59 01.3 +1.3**
COCO West Island 61.11 230 PFAKE 22 59 10.0 +10
COCO LR LR
comp=Z,8μm,21.0s
CRAG Craig 61.77 40⇑iP P 22 59 05.5 +1.5
comp=Z,219nm,1.0s
CRAG eS **S** **23 07 23.9 +1.7**
MSVF Nonsavu 61.81 139⇑eP P 22 59 06.7 +1.9
MSVF eS **S** **23 07 26.2 +2.5**
MSVF MLR MLR
comp=Z,12μm,19.0s
MSVF Nonsavu 61.81 139⇑eP P 22 59 06.7 +1.9
MSVF eS **S** **23 07 26.2 +2.5**
MSVF LR LR
comp=Z,12μm,19.0s
WRAK Wrangell Islan 61.90 39⇑iP P 22 59 06.2 +1.4
comp=Z,143nm,0.9s
WRAK eS **S** **23 07 28.2 +4.4**
BHJ Bhuj 62.18 281 eP **P** **22 59 08.4 +1.2**
GOA Goa 62.25 271 eP **P** **22 59 08.5 +0.6**
GOA AMB AMB 22 59 12.7
comp=Z,838nm,2.0s
DLBC Dease Lake 62.47 36⇑iP P 22 59 10.2 +1.4
DLBC eS **S** **23 07 33.2 +2.0**
DLBC ⇑e 23 28 18.5
DLBC Dease Lake 62.47 36 PKP2bc 23 28 18.5
comp=Z,2.9nm,0.5s,baz=66,slow=1.3,SNR=7.7
TRD Trivandrum 63.17 263 eP **P** **22 59 14.4 +0.5**
TRD AMB AMB 22 59 16.5
comp=Z,353nm,0.9s
STKA Stephens Creek 64.35 179⇑eP P 22 59 22.0 +0.7
STKA eS **S** **23 07 52.3 -2.5**
STKA ⇑e 23 28 15.5
STKA Stephens Creek 64.35 179 P **P** **22 59 21.3 0.0**
comp=Z,166nm,0.7s,baz=352,slow=6.6,SNR=196
STKA S **S** **23 07 54.1 -0.7**
comp=Z,22nm,1.1s,baz=114,slow=18,SNR=5.2
STKA LR LR 23 26 30.6
comp=Z,19μm,21.1s,baz=356,slow=35
STKA PKP2bc 23 28 15.5
comp=Z,5.5nm,1.0s,baz=17,slow=1.6,SNR=5.6
ALE Alert 64.36 3 P **P** **22 59 21.0 +0.2**
comp=Z,1μm,1.5s
IMYA Miami 64.38 298 eP **P** **22 59 22.3 +0.4**
SPA0 Spitsbergen Ar 64.50 349⇓iP P 22 59 22.1 +0.3
SPITS Spitsbergen Ar 64.50 349 LR LR 23 30 13.8
comp=Z,14μm,18.2s,baz=55,slow=38
KBS Kingsbay 64.67 350⇓iP P 22 59 23.6 +0.7
KBS AMB AMB 22 59 27.1
comp=Z,484nm,1.5s
KBS Kingsbay 64.67 350⇓iP P 22 59 23.1 +0.2
KBS e 23 01 45.6
KBS eS **S** **23 07 58.7 +0.9**
KBS pmax pmax
comp=Z,216nm,0.9s
KBS MLR MLR
comp=Z,8μm,22.0s
KBS Kingsbay 64.67 350⇓iP P 22 59 23.1 +0.2
comp=Z,216nm,0.9s
KBS ePP **PP** **23 01 45.5 +0.3**
KBS eS **S** **23 07 58.7 +0.9**
KBS LR LR
comp=Z,8μm,22.0s
ISRO Mashad 64.86 298 eP **P** **22 59 25.8 +0.8**
IMOG Moghan 65.03 298 eP **P** **22 59 27.6 +1.3**
AFI Afiamalu 65.13 128 eP **P** **22 59 28.0 +1.2**
AFI LR LR
comp=Z,19μm,20.0s
AFI Afiamalu 65.13 128 P **P** **22 59 27.9 +1.1**
comp=Z,187nm,0.7s,baz=282,slow=3.6,SNR=13
AFI LR LR 23 25 06.0
comp=Z,18μm,19.7s,baz=298,slow=33
IPAY Payeh 65.15 299 eP **P** **22 59 27.4 +0.4**
IKRD Kardeh 65.38 299 eP P 22 59 25.0 -3.5
HSP Hornsund 65.39 348 eP **P** **22 59 28.2 +0.6**
LVZ Lovozero 65.63 336*d iP* **P** **22 59 28.7 -0.6**
LVZ pmax pmax
comp=Z,450nm,1.6s
LVZ Lovozero 65.63 336 P **P** **22 59 29.2 -0.1**
comp=Z,1μm,1.6s,SNR=6.8
XMAS Kiritimati 65.63 104 eP **P** **22 59 30.5 +0.4**
comp=Z,640nm,1.2s
XMAS epP **pP** **22 59 48.6 +1.9**
XMAS ePP **PP** **23 01 50.4 -4.8**
BBB Bella Bella 65.68 42 LR LR 23 26 34.2
comp=Z,10μm,20.2s,baz=299,slow=34
IDAH Dahanechah 66.00 294 eP **P** **22 59 32.6 0.0**
TMCR Tamitsa 66.07 332 eP **P** **22 59 32.8 +0.7**
TMCR e 23 00 03.6
TMCR e 23 01 58.4
TMCR eS **S** **23 08 15.5 +0.3**
TMCR pmax pmax
comp=Z,1μm,1.4s
APA Apatity 66.21 336⇑iP P 22 59 34.0 +1.1
APA *i* PPP PPP 23 03 36.0
APA *i* S **S** **23 08 16.0 -0.8**
APA *i* 23 09 20.0
ITEG Tejag 66.79 295 eP **P** **22 59 38.6 +1.1**
IKOO Kooshah 66.80 295 eP **P** **22 59 38.7 +1.0**
RES Resolute Bay 66.88 14 LR LR 23 30 12.1
comp=Z,8μm,20.8s,baz=73,slow=37
IMND Minoodasht 67.45 301 eP **P** **22 59 42.2 +0.8**
ARCES ARCESS Array B 67.66 340 P **P** **22 59 42.5 +0.3**
ARCES ⇑e 23 28 01.7
ARCES ARCESS Array B 67.66 340 P **P** **22 59 42.5 +0.3**
comp=Z,103nm,0.8s,baz=50,slow=6.9,SNR=303
ARCES PKP2bc 23 28 01.7
comp=Z,7.1nm,0.8s,baz=232,slow=1.4,SNR=4.1
ARCES LR LR 23 33 33.6
comp=Z,28μm,21.6s,baz=64,slow=40
ARE0 ARCESS Array S 67.66 340⇓iP P 22 59 42.6 +0.4
ARE0 ARCESS Array S 67.66 340⇓eP P 22 59 42.3 +0.1
ARE0 ePP **PP** **23 02 09.8 -1.7**
ARE0 eS S 23 08 26.4 -8.0
YKW3 Yellowknife Ar 67.83 29⇑iP P 22 59 43.6 +0.3
comp=Z,3.1nm,1.2s
YKW3 ePP **PP** **23 02 16.6 +3.6**
YKW3 eS **S** **23 08 36.4 -0.1**
YKA Yellowknife Ar 67.87 29 P **P** **22 59 43.2 -0.4**
YKA ⇑e 23 28 01.0
YKA Yellowknife Ar 67.87 29 P **P** **22 59 43.2 -0.4**
comp=Z,70nm,0.8s,baz=302,slow=6.2,SNR=74
YKA PKP2bc 23 28 01.0
comp=Z,8.3nm,1.1s,baz=119,slow=3.9,SNR=4.1
KTK1 Kautokeino 68.62 340⇓iP P 22 59 48.5 +0.3
IGLO Ghaloghah 68.92 300 eP **P** **22 59 51.4 +0.5**
NWAO Narrogin (SRO) 68.95 201 P **P** **22 59 51.8 +1.2**
SNR=9.2
NWAO Narrogin (SRO) 68.95 201⇑eP P 22 59 51.3 +0.7
NWAO eS **S** **23 08 49.4 -0.9**
NWAO Narrogin (SRO) 68.95 201 P **P** **22 59 51.2 +0.6**
comp=Z,250nm,0.7s,baz=34,slow=5.5,SNR=185
NWAO S **S** **23 08 50.6 +0.2**
comp=Z,131nm,1.2s,baz=205,slow=17,SNR=16
NWAO LR LR 23 30 17.3
comp=Z,12μm,22.0s,baz=21,slow=36
IKIA Kiasar 69.15 300 eP P 22 59 49.2 -3.2
IANJ Anjilo 69.31 299 eP **P** **22 59 54.1 +0.8**
TRO Tromso 69.44 341⇓iP P 22 59 53.2 0.0
TRO AMB AMB 22 59 56.6
comp=Z,423nm,1.6s
ISHM Shahmirzad 69.61 300 eP **P** **22 59 56.5 +1.2**
OFR Olym-F Res Ctr 69.63 46 P **P** **22 59 57.0 +2.2**
IBAF Bafgh 69.79 295 eP **P** **22 59 56.0 -0.3**
IALA Alasht 69.84 300 eP **P** **22 59 57.8 +1.1**
PGC Sidney 69.87 45⇑iP P 22 59 57.4 +1.1
comp=Z,23nm,0.9s
DAG Danmarks Havn 69.90 355⇓iP P 22 59 56.2 +0.3
comp=Z,163nm,0.9s
DAG *i* pP **pP** **23 00 14.2 +1.5**
DAG *i* S **S** **23 08 59.5 -1.1**
DAG
comp=Z,5μm,18.0s
SNB Saturna Island 69.98 44 P **P** **22 59 58.1 +1.2**
ILAS Lasjerd 70.05 300 eP **P** **22 59 59.4 +1.5**
IFIR Firoozkooh 70.08 300 eP **P** **22 59 59.6 +1.5**
OSD Olympics--Snow 70.10 45 P **P** **22 59 59.6 +1.6**
MOS Moscow 70.17 324K *iP* **P** **22 59 57.1 -0.8**
MOS e 23 00 17.3
MOS *i* 23 02 32.7
MOS *i* PPP PPP 23 04 18.0
MOS *i* S **S** **23 09 02.0 -2.3**
MOS *i* 23 09 50.1
MOS *i* SSS SSS 23 16 44.6
MOS pmax pmax
comp=Z,5μm,3.7s
MOS pmax pmax
comp=Z,1μm,1.7s
MOS smax smax
comp=N,5μm,5.4s
MOS MLR MLR
comp=N,18μm,21.0s
MOS MLR MLR
comp=E,28μm,21.0s
MOS MLR MLR
comp=Z,39μm,21.0s
NLWA Neilton Lookou 70.19 46⇑iP P 22 59 59.8 +1.5
comp=Z,386nm,1.1s
NLWA LR LR
comp=Z,12μm,19.0s
VRHR Novokhopersk 70.29 319 eP **P** **22 59 57.9 -0.8**
VRHR e*PP **PcP** **23 00 23.2 +3.1**
VRHR e 23 02 33.7
VRHR ePPP PPP 23 04 16.2
VRHR eS S 23 08 58.3 -7.6
VRHR pmax pmax
comp=Z,350nm,0.8s
VRHR pmax pmax
comp=N,210nm,0.9s
VRHR pmax pmax
comp=E,230nm,0.9s
VRHR pmax pmax
comp=N,850nm,3.6s
VRHR pmax pmax
comp=Z,1μm,3.6s
VRHR pmax pmax
comp=E,680nm,1.8s
VRHR smax smax
comp=N,2μm,4.3s
VRHR smax smax
comp=E,7μm,4.3s
VRHR smax smax
comp=Z,2μm,4.3s
VRHR MLR MLR
comp=N,2μm,17.0s
VRHR MLR MLR
comp=E,12μm,17.0s
VRHR MLR MLR
comp=Z,21μm,17.0s
MAK Makhachkala 70.44 309*d iP* **P** **22 59 59.3 -0.5**
MAK e 23 00 18.0
MAK e 23 02 38.2
MAK ePPP PPP 23 04 19.8
MAK *i* S **S** **23 09 08.1 +0.1**
MAK e*SS sS 23 09 28.5 -7.9
MAK eSS **SS** **23 13 37.5 -1.8**
MAK eSSS SSS 23 16 49.6
MAK pmax pmax
comp=Z,7μm,6.9s
MAK smax smax
comp=E,36μm,8.9s
MAK smax smax
comp=N,6μm,8.3s
MAK MLR MLR
comp=Z,85μm,20.0s
MAK MLR MLR
comp=E,103μm,20.0s
MAK MLR MLR
comp=N,21μm,13.0s
A05A Maple Falls 70.51 44 P **P** **23 00 00.9 +0.8**
IMEH Mehriz 70.60 295 eP **P** **23 00 00.8 -0.6**
IDMV Damavand 70.63 300 eP **P** **23 00 02.3 +0.8**
MBW Mount Baker 70.72 44 P **P** **23 00 02.4 +0.7**
CMW Cultus Mountai 70.76 44 P **P** **23 00 02.9 +1.0**
E03A Lebam 70.77 47 P **P** **23 00 02.7 +1.0**
OBN Obninsk 71.00 324*d iP* **P** **23 00 03.0 0.0**
OBN *i* 23 00 20.1
OBN *i* *PP **PcP** **23 00 26.9 +3.9**
OBN *i* S **S** **23 09 09.5 -4.5**
OBN *i* SS SS 23 13 56.3 +9.1
OBN *i* 23 16 57.6
OBN pmax pmax
comp=Z,581nm,1.7s
OBN MLR MLR
comp=Z,17μm,18.0s
OBN Obninsk 71.00 324 P **P** **23 00 03.3 +0.3**
comp=Z,2μm,1.0s,SNR=58
ISFB Sefidab 71.04 299 eP **P** **23 00 03.4 -0.3**
ISAD Sadrabad 71.07 296 eP **P** **23 00 04.2 0.0**
IVRN Varamin 71.12 300 eP **P** **23 00 04.6 +0.4**
WBK Wadi Bani Khal 71.23 285 P **P** **23 00 06.6 +1.6**
SNR=109
HTW Haystack Looko 71.26 45 P **P** **23 00 05.9 +1.1**
VOR Voronezh 71.31 320 eP **P** **23 00 04.0 -1.0**
VOR eS **S** **23 09 13.0 -4.8**
VOR pmax pmax
comp=Z,1μm,1.4s
IR3 Iran Long-Peri 71.41 301 eP **P** **23 00 07.2 +1.2**
PUL Pulkovo 71.42 330*de*P **P** **23 00 05.1 -0.3**
PUL pmax pmax
comp=Z,720nm,0.7s
D05A Enumclaw 71.42 46 P **P** **23 00 07.0 +1.3**
IMHD Mahdasht 71.57 301 eP **P** **23 00 08.1 +1.1**
STEI Steigen 71.58 341 eP **P** **23 00 06.3 +0.1**
STEI AMB AMB 23 00 09.9
comp=Z,418nm,1.2s
VSR Storozhevoye 71.59 319*d iP* **P** **23 00 06.6 0.0**
VSR e*PP PcP 23 00 31.9 +6.3
VSR e 23 02 45.5
VSR ePPP PPP 23 04 26.5
VSR eS S 23 09 14.2 -6.8
VSR pmax pmax
comp=N,630nm,1.5s
VSR pmax pmax
comp=E,1μm,1.5s
VSR pmax pmax
comp=Z,2μm,1.5s
VSR pmax pmax
comp=N,250nm,1.3s
VSR pmax pmax
comp=E,410nm,1.3s
VSR pmax pmax
comp=Z,700nm,1.3s
VSR pmax pmax
comp=E,490nm,2.8s
VSR pmax pmax
comp=Z,950nm,2.8s
VSR pmax pmax
comp=N,390nm,1.4s
VSR smax smax
comp=N,2μm,4.8s
VSR smax smax
comp=E,6μm,4.8s
VSR smax smax
comp=Z,540nm,2.4s
VSR MLR MLR
comp=N,9μm,25.0s
VSR MLR MLR
comp=E,9μm,25.0s
VSR MLR MLR
comp=Z,31μm,25.0s
IZEF Zefreh 71.64 298 eP **P** **23 00 07.8 +0.2**
VORD Divnogorie 71.64 319 eP **P** **23 00 07.0 +0.1**
VORD e*PP PcP 23 00 32.3 +6.5
VORD e 23 02 45.1
VORD eS S 23 09 15.2 -6.4
VORD pmax pmax
comp=E,850nm,2.0s
VORD pmax pmax
comp=Z,2μm,2.0s
VORD pmax pmax
comp=N,70nm,0.6s
VORD pmax pmax
comp=Z,480nm,1.3s
VORD pmax pmax
comp=N,40nm,0.6s
VORD pmax pmax
comp=E,110nm,0.6s
VORD pmax pmax
comp=Z,1μm,3.0s
VORD pmax pmax
comp=N,260nm,1.0s
VORD pmax pmax
comp=E,150nm,1.0s
VORD smax smax
comp=N,4μm,5.4s
VORD smax smax
comp=E,9μm,5.4s
VORD smax smax
comp=Z,19μm,5.4s
VORD smax smax
comp=Z,310nm,1.8s
VORD MLR MLR
comp=N,8μm,18.0s
VORD MLR MLR
comp=E,11μm,18.0s
VORD MLR MLR
comp=Z,19μm,18.0s
TDL Tradedollar La 71.68 46 P **P** **23 00 08.9 +1.4**
KAF Kangasniemi 71.69 333 eP **P** **23 00 07.7 +0.7**
KAF pmax pmax
comp=Z,377nm,0.7s
KAF Kangasniemi 71.69 333 ep **P** **23 00 07.7 +0.7**
comp=Z,376nm,0.7s,baz=51,slow=5.7
LON Longmire 71.74 46 eP **P** **23 00 08.2 +0.5**
LON pmax pmax
comp=Z,133nm,1.1s
LON Longmire 71.74 46 eP **P** **23 00 08.2 +0.5**
comp=Z,133nm,1.1s
F04A Amboy 71.75 47 P **P** **23 00 08.4 +0.7**
WRW Wenatchee Ridg 71.76 45 P **P** **23 00 09.0 +1.1**
SMDO Samad 71.77 286 P **P** **23 00 09.6 +1.2**
SNR=170
PNT Penticton 71.79 43 P **P** **23 00 08.6 +0.7**
PNT Penticton 71.79 43 P **P** **23 00 08.6 +0.7**
BANOM Banah 71.82 289 P **P** **23 00 10.0 +1.5**
SNR=31
COR Corvallis 71.84 48 eP **P** **23 00 09.4 +1.1**
COR e*PP **pP** **23 00 24.7 -0.4**
COR pmax pmax
comp=Z,897nm,1.5s
COR Corvallis 71.84 48 eP **P** **23 00 09.3 +1.1**
comp=Z,897nm,1.5s
COR epP **pP** **23 00 24.7 -0.4**
KEBM Edson Butte 72.00 50⇑iP P 23 00 10.3 +1.0
comp=Z,292nm,0.8s
KEBM ePP **PP** **23 02 50.0 +0.5**
IKLH Kolahrood 72.00 298 eP **P** **23 00 10.6 +0.8**
JMDO Jabal Madar 72.05 285 P **P** **23 00 10.8 +0.9**
SNR=109
IGAR Gharneh 72.08 297 eP **P** **23 00 10.8 +0.6**
HOQ Hoqain 72.11 287 P **P** **23 00 11.4 +1.1**
SNR=330
FIA1 FINESS Array S 72.17 333⇓iP P 23 00 09.9 0.0
FIA1 ePP **PP** **23 02 45.6 -4.8**
FIA1 eS **S** **23 09 25.9 -1.4**
FINES FINESS Array B 72.17 333 P **P** **23 00 10.0 +0.1**
FINES S **S** **23 09 27.6 +0.3**
FINES FINESS Array B 72.17 333 P **P** **23 00 10.0 +0.1**
comp=Z,201nm,0.6s,baz=66,slow=5.2,SNR=515
FINES S **S** **23 09 27.6 +0.3**
comp=Z,5.4nm,0.8s,baz=68,slow=17,SNR=5.3
FINES LR LR 23 33 36.6
comp=Z,19μm,22.0s,baz=57,slow=37
IRAZ Razeghan 72.24 301 eP **P** **23 00 11.9 +0.8**
UOSS Wadi Hilu 72.35 289 P **P** **23 00 12.0 +0.3**
comp=Z,4μm,0.9s,SNR=82
KBO Bosley Butte 72.38 51⇑iP P 23 00 12.7 +1.0
comp=Z,263nm,1.1s
WTV Waterville 72.38 44 P **P** **23 00 12.2 +0.6**
EBG Ellensburg 72.41 45 P **P** **23 00 13.1 +1.3**
VLL Laurance Lake 72.44 47 P **P** **23 00 13.2 +1.2**
HATD Hatta, Dubai 72.47 289 P **P** **23 00 13.6 +1.2**
SNR=125
H04A Detroit Lake 72.50 48 P **P** **23 00 12.1 -0.2**
IPAR Pars 72.51 294 eP **P** **23 00 12.9 -0.1**
DGRG David-gareji 72.55 308 P **P** **23 00 11.5 -1.1**
DGRG S **S** **23 09 33.6 +1.1**
ASHO Ashiyiah 72.59 288 P **P** **23 00 14.0 +0.8**
SNR=116
BSY Bisya 72.60 286 P **P** **23 00 14.5 +1.3**
SNR=173
GUDG Gudauri 72.65 310 P **P** **23 00 13.9 +0.5**
GUDG S **S** **23 09 34.7 +0.7**
DUS Dusheti 72.68 309 P **P** **23 00 15.4 +1.9**
DUS S **SKiKP** **23 09 40.3 -1.6**
ISRB Sarab 72.71 304 eP **P** **23 00 14.6 +0.7**
NAZ Nazwa, Dubai 72.77 289 P **P** **23 00 15.2 +1.1**
SNR=76
TBLG Delisi 72.83 309 P **P** **23 00 15.4 +1.1**
TBLG S **S** **23 09 36.3 +0.6**
TBLG Delisi 72.83 309 P **P** **23 00 15.4 +1.1**
TBLG S **S** **23 09 36.3 +0.6**
ARQ Araqi 72.87 287 P **P** **23 00 16.1 +1.3**
SNR=373
ZEI Tsey 72.87 310 eP P 23 00 11.1 -3.6
ZEI eS **S** **23 09 33.9 -2.5**
ZEI pmax pmax
comp=Z,404nm,1.3s
IHRS Heris 72.91 305 eP **P** **23 00 15.3 +0.2**
KRMB Red Mountain 72.92 51⇑iP P 23 00 15.6 +0.6
comp=Z,129nm,1.3s
KRMB ePP **PP** **23 02 57.1 -0.3**
HUMO Hull Mountain 73.01 50⇑iP P 23 00 16.0 +0.6
comp=Z,83nm,1.0s
HUMO eS **S** **23 09 34.2 -3.5**
MOR8 Moi Rana 73.03 340⇓iP P 23 00 13.8 -1.2
MOR8 AMB AMB 23 00 17.1
comp=Z,481nm,1.2s
KBZ Khabaz 73.05 311 P **P** **23 00 16.6 +1.1**
KBZ S **S** **23 09 40.1 +2.1**
KBZ pmax pmax
comp=Z,331nm,0.9s
KBZ smax smax
comp=N,6.0nm,1.0s
KBZ MLR MLR
comp=Z,32μm,21.9s
KBZ Khabaz 73.05 311 P **P** **23 00 16.6 +1.1**
KBZ S **S** **23 09 40.1 +2.1**
KBZ Khabaz 73.05 311 P **P** **23 00 16.6 +1.1**
comp=Z,331nm,0.9s,baz=72,slow=4.2,SNR=372
KBZ S **S** **23 09 40.1 +2.1**
comp=Z,5.9nm,1.0s,baz=269,slow=21,SNR=14
KBZ LR LR 23 35 08.0
comp=Z,32μm,21.9s,baz=69,slow=38
KIV Kislovodsk 73.08 312*d iP* **P** **23 00 16.8 +1.0**
KIV e 23 00 33.7
KIV e 23 02 58.5
KIV ePPP PPP 23 04 42.9
KIV eS **S** **23 09 37.9 -0.6**
KIV eSS **SS** **23 14 24.0 +4.3**
KIV pmax pmax
comp=Z,4μm,5.0s
KIV pmax pmax
comp=Z,1μm,1.0s
KIV MLR MLR
comp=Z,31μm,18.0s
KIV Kislovodsk 73.08 312 P **P** **23 00 17.7 +1.9**
comp=Z,7μm,0.7s
EDM Edmonton 73.17 37⇑eP P 23 00 16.3 +0.2
EDM eS **S** **23 09 40.0 +0.8**

EDM	**Edmonton**	**73.17**	**37**⇑	*e*P	**P**	**23 00 16.3 +0.2**
EDM				*e*S	**S**	**23 09 40.0 +0.8**
KONS	**Konsvik**	**73.18**	**341**	*e*P	**P**	**23 00 15.7 -0.1**
ASUD	**Al Ashush, Dub**	**73.20**	**289**	P	**P**	**23 00 18.1 +1.4**
	SNR=52					
KZR	**Kazreti**	**73.21**	**309**	P	**P**	**23 00 17.8 +1.2**
FLOS	**Flostrand**	**73.23**	**340**	*e*P	**P**	**23 00 16.2 +0.1**
FLOS				AMB	AMB	23 00 21.6
	comp=Z,511nm,1.6s					
ONI	**Oni**	**73.25**	**310**	P	**P**	**23 00 18.6 +1.8**
ONI				S	**S**	**23 09 40.3 -0.1**
RAO	**Raoul Island**	**73.28**	**143**	PFAKE		23 00 30.0 +13
RAO				LR	LR	
	comp=Z,14μm,20.0s					
C09A	**Chrisman Ranch**	**73.31**	**44**	P	**P**	**23 00 17.6 +0.6**
STOK	**Stokkvaagen**	**73.33**	**340**	*e*P	**P**	**23 00 16.8 +0.1**
STOK				AMB	AMB	23 00 23.1
	comp=N,84nm,1.7s					
KHMM	**Horse Mountain**	**73.34**	**52**⇑	*i*P	**P**	**23 00 18.7 +1.2**
	comp=N,281nm,1.2s					
KHMM				*e*PP	**PP**	**23 03 01.2 0.0**
KHMM				*e*S	**SKiKP**	**23 09 44.3 +1.3**
IFTB	**Fath-abad**	**73.50**	**305**	*e*P	**P**	**23 00 19.0 +0.4**
VIPM	**Ingram Point**	**73.56**	**47**	P	**P**	**23 00 19.3 +0.6**
VIPM	**Ingram Point**	**73.56**	**47**	P	**P**	**23 00 19.3 +0.6**
ITBZ	**Tabriz**	**73.57**	**305**	*e*P	**P**	**23 00 19.5 +0.6**
GNI	**Garni**	**73.59**	**307**	*e*P	**P**	**23 00 20.7 +1.7**
GNI	**Garni**	**73.59**	**307**	P	**P**	**23 00 21.2 +2.2**
	SNR=129					
GNI	**Garni**	**73.59**	**307**⇓	*i*P	**P**	**23 00 20.7 +1.7**
	comp=N,1μm,1.3s					
GNI				*e*PP	**PP**	**23 03 03.9 +0.6**
GNI				*e*S	**S**	**23 09 48.3 +3.7**
GNI	**Garni**	**73.59**	**307**	LR	LR	23 35 40.1
	comp=N,37μm,20.2s,baz=41,slow=38					
YBH	**Yreka Blue Hor**	**73.60**	**51**⇑	*i*P	**P**	**23 00 20.3 +1.4**
	comp=N,193nm,1.1s					
YBH				*e*PP	**PP**	**23 03 03.4 +0.1**
YBH				*e*S	SKiKP	23 09 31.8 -12
YBH	**Yreka Blue Hor**	**73.60**	**51**	LR	LR	23 29 03.2
	comp=N,17μm,20.0s,baz=296,slow=33					
VSU	**Vasula**	**73.68**	**330***d*	*i*P	**P**	**23 00 18.9 0.0**
VSU				pmax	pmax	
	comp=Z,2μm,1.2s					
NEW	**Newport**	**73.74**	**43**⇑	*i*P	**P**	**23 00 20.1 +0.6**
	comp=Z,243nm,0.9s					
NEW				*e*PP	**PP**	**23 03 04.1 -0.1**
NEW				LR	LR	
	comp=Z,6μm,22.0s					
NEW	**Newport**	**73.74**	**43**	⇑P	**P**	**23 00 20.3 +0.7**
	baz=74					
AKH	**Akhalkalaki**	**73.81**	**309**	P	**P**	**23 00 22.0 +1.7**
AKH				S	**S**	**23 09 48.5 +1.5**
ISHB	**Shabestar**	**73.91**	**305**	*e*P	**P**	**23 00 21.4 +0.4**
KCPM	**Cahto Peak**	**74.02**	**53**⇑	*i*P	**P**	**23 00 21.7 +0.3**
	comp=Z,280nm,1.2s					
KCPM				*e*PP	**PP**	**23 03 07.0 +0.1**
KCPM				*e*S	**S**	**23 09 50.9 +1.5**
KIPM	**Iron Peak**	**74.03**	**53**	*e*P	**P**	**23 00 22.3 +0.7**
	comp=Z,333nm,1.2s					
JNW	**Jan Mayen West**	**74.10**	**350**	*e*P	**P**	**23 00 24.0 +2.9**
JMIC	**Jan Mayen**	**74.15**	**350**	*e*P	**P**	**23 00 23.1 +1.6**
JMIC				AMB	AMB	23 00 27.8
	comp=Z,659nm,1.8s					
JMIC	**Jan Mayen**	**74.15**	**350**	LR	LR	23 33 25.6
	comp=Z,4μm,21.3s,baz=194,slow=36					
WDC	**Whiskeytown Da**	**74.28**	**52**⇑	*i*P	**P**	**23 00 23.6 +0.8**
WDC				pmax	pmax	
	comp=Z,112nm,0.9s					
WDC	**Whiskeytown Da**	**74.28**	**52**⇑	*i*P	**P**	**23 00 23.6 +0.8**
	comp=Z,112nm,0.9s					
DIGO	**Kars**	**74.38**	**308**	*i* Pn	**P**	**23 00 25.1 +1.4**
OUZ	**Omahuta**	**74.49**	**152**⇓	*i*P	**P**	**23 00 25.4 +1.7**
	comp=Z,2μm,2.2s					
OUZ				*e*PP	**PP**	**23 03 11.1 -0.2**
IKOM	**Komasi**	**74.57**	**301**	*e*P	**P**	**23 00 24.4 -0.4**
DYDN	**Diyadin**	**74.60**	**307**	*i* Pn	**P**	**23 00 26.9 +2.0**
ILIN	**Lien**	**74.60**	**302**	*e*P	**P**	**23 00 24.6 -0.5**
CLDR	**Caldiran**	**74.64**	**307**	*e*P	**P**	**23 00 25.7 +0.5**
HOPS	**Hopland**	**74.71**	**53**⇑	*i*P	**P**	**23 00 25.9 +0.6**
	comp=Z,151nm,1.3s					
HOPS				*e*PP	**PP**	**23 03 14.2 +1.6**
IVIS	**Veis**	**74.88**	**301**	*e*P	**P**	**23 00 26.5 0.0**
SUMG	**Summit**	**74.89**	**360**⇓	*i*P	**P**	**23 00 27.1 +0.9**
SUMG				pmax	pmax	
	comp=Z,380nm,0.8s					
SUMG	**Summit**	**74.89**	**360**⇓	*i*P	**P**	**23 00 27.4 +1.2**
	comp=Z,240nm,0.9s					
SUMG				*i* pP	**pP**	**23 00 45.8 +2.6**
SUMG				*i* S	**S**	**23 09 59.5 +0.9**
SUMG						
	comp=Z,7μm,19.0s					
SUMG	**Summit**	**74.89**	**360**⇓	*i*P	**P**	**23 00 27.1 +0.9**
	comp=Z,380nm,0.8s					
ARTV	**Artvin**	**74.94**	**309**	*i* Pn	**P**	**23 00 28.2 +1.3**
NSS	**Namsos**	**74.94**	**339**⇓	*i*P	**P**	**23 00 25.9 -0.2**
NSS				AMB	AMB	23 00 31.7
	comp=Z,106nm,1.5s					
DAGI	**Agillar**	**75.00**	**309**	*i* Pn	**P**	**23 00 28.4 +1.3**
BCA	**Borcka**	**75.01**	**310**	*e*P	**P**	**23 00 27.3 +0.3**
DBOC	**Borcka**	**75.03**	**310**	*i* Pn	**P**	**23 00 28.6 +1.4**
AGRB	**Hanur-Agry**	**75.05**	**308**	*e*P	**P**	**23 00 28.4 +0.9**
SOC	**Sochi**	**75.12**	**312***d*	*i*P	**P**	**23 00 28.1 +0.5**
SOC				*i*		23 00 39.5
SOC				*e**PP	**pP**	**23 00 49.6 +5.1**
SOC				*e**SP	sP	23 00 59.3 +7.9
SOC				*i*		23 03 16.5
SOC				*i* PPP	PPP	23 05 01.6
SOC				*i* S	**S**	**23 09 59.4 -1.8**
SOC				*e*		23 10 24.8
SOC				*e**SS	**ScS**	**23 10 41.2 +6.3**
SOC				*i* SS	**SS**	**23 14 50.6 0.0**
SOC				pmax	pmax	
	comp=Z,477nm,0.9s					
SOC				pmax	pmax	
	comp=Z,3μm,2.0s					
SOC				MLR	MLR	
	comp=Z,28μm,22.0s					
SOC				MLR	MLR	
	comp=N,14μm,22.0s					
SOC				MLR	MLR	
	comp=E,9μm,22.0s					
IDHR	**Dehrash**	**75.12**	**302**	*e*P	**P**	**23 00 28.1 +0.1**
WALA	**Waterton Lakes**	**75.12**	**41**⇑	*i*P	**P**	**23 00 27.9 +0.3**
	comp=E,9.1nm,1.1s					
WALA				*e*S	**S**	**23 10 02.7 +1.3**
DBAD	**Bademkaya**	**75.17**	**309**	*i* Pn	**P**	**23 00 29.7 +1.6**
IGHG	**Ghaleghazi**	**75.18**	**301**	*e*P	**P**	**23 00 27.4 -1.0**
DDEM	**Demirkent**	**75.20**	**309**	*i* Pn	**P**	**23 00 29.6 +1.3**
TUTA	**Tutak**	**75.25**	**307**	*i* Pn	**P**	**23 00 30.5 +1.8**
MCCM	**Marconi Confer**	**75.26**	**54**⇑	*e*P	**P**	**23 00 29.0 +0.5**
	comp=E,380nm,1.4s					
BSMT	**Bassoo Peak**	**75.29**	**42**	*e*P	**P**	**23 00 29.4 +0.6**
	comp=E,14μm,1.1s					
BMO	**Blue Mountains**	**75.41**	**46**⇑	*i*P	**P**	**23 00 29.8 +0.4**
	comp=E,227nm,0.9s					
BMO				LR	LR	
	comp=Z,6μm,20.0s					
A14A	**Double T Ranch**	**75.44**	**41**	⇓P	**P**	**23 00 30.1 +0.6**
	baz=75,SNR=74					
A14A				⇓S	**S**	**23 10 01.0 -3.9**
	baz=75					
A14A				⇓S	**S**	**23 10 01.0 -3.9**
	baz=75					
BLMT	**Blacktail Moun**	**75.44**	**42**	*e*P	**P**	**23 00 30.2 +0.6**
	comp=Z,246nm,1.2s					
HOMI	**Horasan**	**75.53**	**308**	*i* Pn	**P**	**23 00 32.0 +1.7**
MICGM	**Minsk**	**75.54**	**326**⇓	*i*P	**P**	**23 00 30.0 +0.3**
MNK	**Minsk**	**75.56**	**326***d*	*i*P	**P**	**23 00 30.0 +0.1**
MNK				*e**PP	**PcP**	**23 00 44.0 +1.4**
MNK				*e**SP	sP	23 01 00.0 +6.3
MNK				*e*		23 03 20.0
MNK				*e*PPP	PPP	23 05 10.0
MNK				*e*S	**S**	**23 10 03.0 -2.7**
MNK				*e**SS	**SKSac**	**23 10 30.0 -4.3**
MNK				*e*PS	PnS	23 11 00.0 +11
MNK				*e*SS	**SS**	**23 14 52.0 -4.6**
MNK				*e*SSS	SSS	23 18 14.0
MNK				pmax	pmax	
	comp=Z,16μm,6.0s					
MNK				pmax	pmax	
	comp=Z,2μm,1.5s					
MNK				pmax	pmax	
	comp=E,1μm,1.4s					
MNK				pmax	pmax	
	comp=N,1μm,1.3s					
MNK				pmax	pmax	
	comp=Z,13μm,10.0s					
MNK				smax	smax	
	comp=E,25μm,11.0s					
MNK				MLR	MLR	
	comp=E,43μm,18.0s					
MNK				MLR	MLR	
	comp=N,25μm,16.0s					
MNK				MLR	MLR	
	comp=Z,79μm,20.0s					
HAKT	**HAKKARI**	**75.58**	**305**	*i* Pn	**P**	**23 00 31.5 +0.9**
PZAR	**Pazar-Rize**	**75.61**	**310**	*e*P	**P**	**23 00 30.8 +0.4**
TAU	**Tasmania Unive**	**75.62**	**175**	*e*P	**P**	**23 00 31.2 +1.1**
TAU				pmax	pmax	
	comp=Z,1μm,1.5s					
TAU				MLR	MLR	
	comp=Z,19μm,22.0s					
TAU	**Tasmania Unive**	**75.62**	**175**	*e*P	**P**	**23 00 31.2 +1.1**
	comp=Z,1μm,1.5s					
TAU				LR	LR	
	comp=Z,19μm,22.0s					
JTMT	**Jette**	**75.63**	**42**	*e*P	**P**	**23 00 31.6 +1.0**
	comp=Z,243nm,0.9s					
JTMT				*e*pP	**pP**	**23 00 47.2 -0.4**
GEVA	**Gevas**	**75.64**	**306**	*i* Pn	**P**	**23 00 32.3 +1.4**
IIGN	**Ignalina**	**75.79**	**327**	*e*P	**P**	**23 00 31.9 +0.8**
CUKT	**Cukurca**	**75.80**	**305**	*e*P	**P**	**23 00 31.6 -0.2**
A15A	**Johnson Ranch,**	**75.82**	**41**	⇑P	**P**	**23 00 32.0 +0.3**
	baz=76,SNR=91					
WVOR	**Wild Horse Val**	**75.86**	**49**⇑	*i*P	**P**	**23 00 32.7 +0.7**
WVOR				*e*		23 03 23.9
WVOR				pmax	pmax	
	comp=Z,367nm,1.4s					
WVOR	**Wild Horse Val**	**75.86**	**49**⇑	*i*P	**P**	**23 00 32.7 +0.7**
	comp=Z,367nm,1.4s					
WVOR				*e*PP	**PP**	**23 03 23.9 +1.5**
DGAR	**Diego Garcia**	**75.87**	**251***d*	*e*P	P	23 00 36.2 +4.0
DGAR	**Diego Garcia**	**75.87**	**251**	*e*P	**P**	**23 00 32.3 0.0**
	comp=Z,176nm,0.8s					
DGAR				LR	LR	
	comp=Z,11μm,20.0s					
ANN	**Anapa**	**75.88**	**314***d*	*i*P	**P**	**23 00 32.2 +0.3**
ANN				*e**PP	pP	23 00 55.5 +6.6
ANN				*e*		23 03 26.9
ANN				*e*PPP	PPP	23 05 12.2
ANN				*i* S	**S**	**23 10 08.4 -1.1**
ANN				*e*SS	**SS**	**23 15 04.3 +2.3**
ANN				pmax	pmax	
	comp=E,238nm,1.2s					
ANN				pmax	pmax	
	comp=Z,1μm,1.2s					
ANN				pmax	pmax	
	comp=N,290nm,1.3s					
ANN				pmax	pmax	
	comp=N,2μm,7.5s					
ANN				pmax	pmax	
	comp=E,932nm,7.5s					
ANN				pmax	pmax	
	comp=Z,5μm,7.5s					
ANN				MLR	MLR	
	comp=N,12μm,21.0s					
ANN				MLR	MLR	
	comp=E,5μm,21.0s					
ANN				MLR	MLR	
	comp=Z,23μm,21.0s					
SWMT	**Swartz Lake**	**75.92**	**42**	*e*P	**P**	**23 00 32.4 +0.1**
	comp=Z,206nm,1.0s					
EZM	**Erzurum**	**75.96**	**308**	*e*P	**P**	**23 00 34.7 +1.8**
TATV	**Tatvan**	**76.08**	**307**	*i* Pn	**P**	**23 00 34.9 +1.5**
BEKR	**Beckworth**	**76.08**	**52**⇑	*i*P	**P**	**23 00 33.6 +0.3**
	comp=Z,105nm,1.0s					
BEKR				*e*PP	**PP**	**23 03 24.1 -0.3**
SCO	**Scoresbysund**	**76.22**	**354**	*i* P	**P**	**23 00 34.6 +1.3**
	comp=Z,167nm,0.9s					
SCO				*i* pP	**pP**	**23 00 52.8 +2.5**
SCO				*i* S	**S**	**23 10 15.2 +2.8**
SCO						
	comp=Z,6μm,25.0s					
IBDR	**Badra**	**76.24**	**301**	*i* P	**P**	**23 00 34.0 -0.2**
IBDR				*i* PP	**pP**	**23 00 50.0 -1.2**
IBDR				*i* sP	**sP**	**23 01 03.0 +5.0**
IBDR				*i* S	**S**	**23 10 10.0 -3.9**
IBDR				*i* SS	SKSac	23 10 26.0 -14
B15A	**Bradely Ranch,**	**76.28**	**41**	⇓P	**P**	**23 00 34.9 +0.6**
	baz=76,SNR=180					
MSO	**Missoula**	**76.33**	**43**	⇓P	**P**	**23 00 34.6 0.0**
	baz=76,SNR=42					
TBLU	**Trondheim**	**76.40**	**339**	*e*P	**P**	**23 00 34.1 -0.4**
TBLU				AMB	AMB	23 00 37.3
	comp=Z,579nm,1.2s					
KTUT	**Trabzon**	**76.44**	**310**	*e*P	**P**	**23 00 35.3 +0.2**
MACK	**Trabzon**	**76.46**	**310**	*i* Pn	**P**	**23 00 36.5 +1.1**
KOPT	**Kop Dagi**	**76.47**	**309**	*i* Pn	**P**	**23 00 37.7 +2.0**
SIRT	**Sirnak**	**76.47**	**306**	*e*P	**P**	**23 00 36.1 +0.6**
SIRN	**S¨–rnak**	**76.50**	**306**	*i* Pn	**P**	**23 00 36.8 +1.1**
BAYT	**Ayd¨–ntepe-Bay**	**76.51**	**309**	*e*P	**P**	**23 00 36.6 +0.9**
C15A	**Salmond Ranch,**	**76.56**	**42**	⇓P	**P**	**23 00 36.6 +0.7**
	baz=76,SNR=86					
BNGL	**BINGOL**	**76.60**	**308**	*i* Pn	**P**	**23 00 38.3 +1.9**
UMR	**Umm Al-Rimmam**	**76.71**	**297**	*e*P	**P**	**23 00 37.0 +0.2**
UMR				AMb	AMB	23 00 39.4
	comp=Z,727nm,0.5s					
PAHR	**Pah Rah Range**	**76.80**	**51**⇑	*i*P	**P**	**23 00 37.8 +0.3**
	comp=Z,244nm,1.1s					
PAHR				PP	**PP**	**23 03 29.6 -0.9**
MIB	**Mutribah**	**76.86**	**297**	*e*P	**P**	**23 00 37.7 -0.1**
MIB				AMb	AMB	23 00 46.2
	comp=Z,1μm,0.7s					
BNGB	**Bing¨¶l**	**76.89**	**308**	*e*P	**P**	**23 00 38.2 +0.4**
GUMT	**Gumushane**	**76.90**	**310**	*e*P	**P**	**23 00 39.5 +1.6**
KBD	**Kabd**	**76.91**	**296**	*e*P	**P**	**23 00 38.4 +0.4**
KBD				AMb	AMB	23 00 40.9
	comp=Z,753nm,0.7s					
A17A	**Triple J Farms**	**76.94**	**40**	⇓P	**P**	**23 00 38.4 +0.4**
	baz=77,SNR=21					
SAO	**San Andreas Ge**	**76.95**	**55**⇑	*i*P	**P**	**23 00 38.3 +0.2**
SAO				*e*		23 03 31.2
SAO				pmax	pmax	
	comp=Z,161nm,1.2s					
SAO	**San Andreas Ge**	**76.95**	**55**⇑	*i*P	**P**	**23 00 38.3 +0.2**
	comp=Z,162nm,1.2s					
SAO				*e*PP	**PP**	**23 03 31.1 -0.4**
CMB	**Columbia Colle**	**77.01**	**53**⇑	*i*P	**P**	**23 00 38.5 0.0**
CMB				*e*		23 03 30.0
CMB				pmax	pmax	
	comp=Z,421nm,1.3s					
CMB	**Columbia Colle**	**77.01**	**53**⇑	*i*P	**P**	**23 00 38.5 0.0**
	comp=Z,421nm,1.3s					
CMB				*e*PP	**PP**	**23 03 30.0 -2.0**
MFID	**Camas Ranch**	**77.08**	**47**	⇓P	**P**	**23 00 39.6 +0.7**
	baz=77,SNR=113					
AKASG	**Malin Array Be**	**77.14**	**323**	P	**P**	**23 00 38.9 0.0**
AKASG				S	**S**	**23 10 23.9 +0.8**
AKASG				pmax	pmax	
	comp=Z,124nm,0.6s					
AKASG				smax	smax	
	comp=N,4.0nm,0.7s					
AKASG				MLR	MLR	
	comp=Z,62μm,20.1s					
AKASG	**Malin Array Be**	**77.14**	**323**	P	**P**	**23 00 38.9 0.0**
AKASG				S	**S**	**23 10 23.9 +0.8**
AKASG	**Malin Array Be**	**77.14**	**323**	P	**P**	**23 00 38.9 0.0**
	comp=Z,124nm,0.6s,baz=46,slow=5.5,SNR=220					
AKASG				S	**S**	**23 10 23.9 +0.8**
	comp=Z,3.5nm,0.7s,baz=53,slow=9.7,SNR=5.5					
AKASG				LR	LR	23 37 12.1
	comp=Z,62μm,20.1s,baz=50,slow=38					
ESPY	**Espiye-Giresun**	**77.15**	**310**	*e*P	**P**	**23 00 38.5 -0.6**
RDF	**Al-Radifah**	**77.15**	**296**	*e*P	**P**	**23 00 39.4 +0.1**
RDF				AMb	AMB	23 00 41.9
	comp=Z,1μm,0.6s					
KIEV	**Kiev**	**77.15**	**323**⇓	*i*P	**P**	**23 00 38.6 -0.3**
KIEV				*e*		23 03 28.6
KIEV				*e*S	**S**	**23 10 23.0 -0.2**
KIEV				pmax	pmax	
	comp=Z,250nm,0.6s					
KIEV				MLR	MLR	
	comp=Z,59μm,20.0s					
KIEV	**Kiev**	**77.15**	**323**⇓	*i*P	**P**	**23 00 38.6 -0.3**
	comp=Z,250nm,0.6s					
KIEV				*e*PP	**PP**	**23 03 28.6 -4.2**
KIEV				*e*S	**S**	**23 10 23.0 -0.2**
KIEV				LR	LR	
	comp=Z,59μm,20.0s					
ERZN	**Erzincan**	**77.21**	**309**	*e*P	**P**	**23 00 39.9 +0.2**
KELT	**Kelkit**	**77.21**	**310**	*i* Pn	**P**	**23 00 41.5 +1.7**
NAY	**Al-Naaiem**	**77.22**	**297**	*e*P	**P**	**23 00 39.7 0.0**
NAY				AMb	AMB	23 00 48.3
	comp=Z,1μm,0.8s					
B17A	**L&G Farms, Che**	**77.26**	**40**	⇓P	**P**	**23 00 40.3 +0.6**
	baz=77,SNR=32					
BHD	**Baghdad**	**77.28**	**301**	*i* P	**P**	**23 00 37.0 -3.0**
BHD				*i* sP	sP	23 01 10.0 +6.1
BHD				*i* PP	PP	23 05 23.0
BHD				*i* S	**S**	**23 10 23.0 -2.2**
BHD				*i* SS	**SKSac**	**23 10 47.0 -0.8**
EZC	**Erzincan**	**77.36**	**309**	*e*P	**P**	**23 00 41.9 +1.3**
A18A	**Metzger Ranch,**	**77.42**	**40**	⇑P	**P**	**23 00 41.1 +0.5**
	baz=77,SNR=23					
HFS	**Hagfors**	**77.59**	**336**	PKKPbc	PKKPbc	23 19 42.9 -1.5
HFS	**Hagfors**	**77.59**	**336**	PKKPbc	PKKPbc	23 19 42.9 -1.5
	comp=Z,2.2nm,0.7s,baz=174,slow=3.0,SNR=6.8					
HFS				LR	LR	23 37 41.2
	comp=Z,14μm,21.6s,baz=49,slow=38					
HRY	**Holter Researc**	**77.60**	**42**	*e*P	**P**	**23 00 41.7 0.0**
	comp=Z,248nm,1.1s					
RBK	**Rabkut**	**77.64**	**283**	P	**P**	**23 00 42.7 +0.4**
	SNR=114					
C17A	**Wharram Farm,**	**77.67**	**41**	⇓P	**P**	**23 00 42.0 0.0**
	baz=77,SNR=40					
MARD	**Mardin**	**77.70**	**306**	*i* Pn	**P**	**23 00 43.7 +1.2**
MOL	**Molde**	**77.72**	**340**⇓	*i*P	**P**	**23 00 42.4 +0.5**
LRM	**Limekiln Ridge**	**77.75**	**43**	*e*P	**P**	**23 00 43.5 +0.8**
	comp=Z,22μm,1.1s					
NB2	**NORSAR Subarra**	**77.76**	**337**	P	**P**	**23 00 42.4 +0.2**
	comp=Z,306nm,0.9s,baz=41,slow=5.6					
NB2	**NORSAR Subarra**	**77.76**	**337**	P	**P**	**23 00 42.4 +0.2**
	baz=41,slow=5.6					
NOA	**NORSAR Array B**	**77.76**	**337**	P	**P**	**23 00 42.1 -0.1**
NOA				PKKPbc	**PKKPbc**	**23 19 44.8 +0.7**
NOA	**NORSAR Array B**	**77.76**	**337**	P	**P**	**23 00 42.1 -0.1**
	comp=Z,187nm,0.9s,baz=38,slow=5.2,SNR=399					
NOA				PKKPbc	**PKKPbc**	**23 19 44.8 +0.7**
	comp=Z,0.5nm,0.7s,baz=243,slow=2.2,SNR=4.3					
NOA				LR	LR	23 37 18.6
	comp=Z,17μm,21.9s,baz=45,slow=37					
B18A	**Beardsley Farm**	**77.76**	**40**	⇑P	**P**	**23 00 43.1 +0.6**
	baz=78,SNR=116					
DIY	**Diyarbakir**	**77.77**	**307**	*e*P	**P**	**23 00 44.4 +1.7**
SIM	**Simferopol'**	**77.77**	**316**	*e*P	**P**	**23 00 42.2 -0.3**
SIM				*e**PP	pP	23 01 09.0 +9.4
SIM				*e*		23 03 43.0
SIM				*e*PPP	PPP	23 05 26.0
SIM				*e*S	**S**	**23 10 28.0 -2.2**
SIM				pmax	pmax	
	comp=Z,2μm,9.3s					
PTK	**Pertek**	**77.79**	**308**	*e*P	**P**	**23 00 44.1 +1.1**
BMN	**Battle Mountai**	**77.82**	**50**⇑	*i*P	**P**	**23 00 43.7 +0.5**
BMN				pmax	pmax	
	comp=Z,238nm,1.1s					
BMN	**Battle Mountai**	**77.82**	**50**⇑	*i*P	**P**	**23 00 43.7 +0.5**
	comp=Z,238nm,1.1s					
DIYA	**Diyarbakir**	**77.82**	**307**	*i* Pn	**P**	**23 00 44.5 +1.5**
HLID	**Hailey**	**77.86**	**46**⇑	*i*P	**P**	**23 00 43.9 +0.6**
	comp=Z,80nm,1.0s					
HLID				*e*PP	**PP**	**23 03 34.1 -5.1**
HLID				LR	LR	
	comp=Z,9μm,22.0s					
HLID	**Hailey**	**77.86**	**46**	⇓P	**P**	**23 00 44.2 +0.8**
	baz=78,SNR=83					
SUSE	**Susehri**	**77.86**	**310**	*i* Pn	**P**	**23 00 44.4 +1.0**
NC602	**NORSAR Array S**	**77.88**	**337**⇓	*i*P	**P**	**23 00 42.2 -0.6**
D17A	**Six Diamond Ra**	**77.98**	**41**	⇑P	**P**	**23 00 44.3 +0.4**
	baz=78,SNR=82					
EGMT	**Eagleton**	**77.99**	**40**	PFAKE		23 01 00.0 +16
EGMT				LR	LR	
	comp=Z,8μm,20.0s					
EGMT	**Eagleton**	**77.99**	**40**	⇑P	**P**	**23 00 44.3 +0.5**
	baz=78,SNR=44					
A19A	**Klindworth Far**	**78.00**	**39**	⇑P	**P**	**23 00 44.5 +0.6**
	baz=78,SNR=98					
SUW	**Suwalki**	**78.00**	**328**⇓	*i*P	**P**	**23 00 43.3 -0.3**
SUW				*e*		23 03 39.2
SUW				*e*S	**S**	**23 10 30.9 -1.4**
SUW				pmax	pmax	
	comp=Z,681nm,1.1s					
SUW	**Suwalki**	**78.00**	**328**⇓	*i*P	**P**	**23 00 43.3 -0.3**
	comp=Z,682nm,1.1s					
SUW				*e*PP	**PP**	**23 03 39.2 -0.6**
SUW				*e*S	**S**	**23 10 30.9 -1.4**
SUW	**Suwalki**	**78.00**	**328**	*i* P	**P**	**23 00 43.6 0.0**
SUW				*e*sP	sP	23 01 01.3 -6.2
SUW				*e*PP	**PP**	**23 03 41.9 +2.1**
SUW				*e*S	**S**	**23 10 31.2 -1.1**
SUW				*e*SS	**SS**	**23 15 32.1 -1.4**
SUW				LMZ	LR	23 34 54.5
NAO01	**NORSAR Array S**	**78.01**	**337**⇓	*e*P	**P**	**23 00 43.1 -0.5**
	comp=Z,140nm,0.9s					
NAO01				*e*PP	PP	23 03 34.4 -5.3
ILIC	**ilic-Erzincan**	**78.03**	**309**	*e*P	**P**	**23 00 45.2 +0.9**
SVRC	**Sivrice-ELAZID**	**78.12**	**308**	*e*P	**P**	**23 00 46.0 +1.1**
FCC	**Fort Churchill**	**78.14**	**26**	*e*P	**P**	**23 00 43.9 -0.4**
FCC	**Fort Churchill**	**78.14**	**26**	*e*P	**P**	**23 00 43.9 -0.4**
	comp=Z,3.9nm,0.6s					
B19A	**Brinkman Farms**	**78.17**	**40**	⇓P	**P**	**23 00 45.2 +0.4**
	baz=78					
KEMA	**Kemaliye**	**78.18**	**309**	*i* Pn	**P**	**23 00 46.8 +1.8**
NVAR	**Mina Array Bea**	**78.19**	**52**	P	**P**	**23 00 46.8 +1.4**
NVAR				⇑*e*		23 27 52.0
NVAR	**Mina Array Bea**	**78.19**	**52**	P	**P**	**23 00 46.8 +1.4**
	comp=Z,46nm,0.6s,baz=283,slow=5.7,SNR=238					
NVAR				PKP2bc		23 27 52.0
	comp=Z,2.6nm,1.0s,baz=155,slow=3.6,SNR=4.5					
NVAR				LR	LR	23 31 48.3
	comp=Z,28μm,20.0s,baz=76,slow=33					
I14A	**Mackay**	**78.23**	**45**	⇑P	**P**	**23 00 46.6 +1.2**
	baz=78,SNR=93					
MLAC	**Mammoth Lakes**	**78.27**	**53**	⇓P	**P**	**23 00 46.5 +0.8**
	baz=78,SNR=12					
E17A	**Martinsdale**	**78.29**	**42**	⇑P	**P**	**23 00 46.5 +0.8**
	baz=78,SNR=59					
NV11	**Mina Array Sit**	**78.29**	**52**⇑	*i*P	**P**	**23 00 46.1 +0.3**
NV11				PP	**PP**	**23 03 40.4 -2.5**
NV11				*e*S	**S**	**23 10 31.2

E18A	Harlowton	78.76	41	⇓P		P	23 00 49.1 +0.9
	baz=78,SNR=13						
KVT	Kavak	78.76	312	eP		P	23 00 49.2 +1.1
SVSK	Karacayir	78.80	310	eP		P	23 00 48.9 +0.7
TOKT	Tokat	78.86	311	eP		P	23 00 49.7 +1.0
TOKA	Tokat	78.91	311	i Pn		P	23 00 50.6 +1.6
A21A	Bergtoll Ranch	78.92	38	⇑P		P	23 00 49.4 +0.6
	baz=79,SNR=110						
DIKM	Dikmen	78.93	313	eP		P	23 00 49.5 +0.4
URFA	Urfa	78.95	307	eP		P	23 00 49.5 +0.1
HAVZ	Havza	78.97	312	i Pn		P	23 00 50.8 +1.5
D19A	Cripps Ranch,	78.97	41	⇓P		P	23 00 49.7 +0.4
	baz=79,SNR=106						
TIN	Tinemaha	78.98	53	⇑P		P	23 00 50.1 +0.6
	baz=79,SNR=21						
G17A	Pierce Place,	79.02	43	⇑P		P	23 00 50.5 +0.8
	baz=79,SNR=37						
PKM	Peak Mountain	79.05	56	⇑P		P	23 00 50.7 +0.7
	baz=79,SNR=63						
VES	Vestal, Richgr	79.06	54	⇑P		P	23 00 49.5 -0.3
	baz=79,SNR=49						
H16A	Russell Place,	79.09	44	⇑P		P	23 00 51.3 +1.2
	baz=79,SNR=25						
TPH	Tonopah	79.10	52	PFAKE			23 01 00.0 +10
TPH				LR		LR	
	comp=Z,31μm,20.0s						
C20A	Veseth Ranch,	79.12	40	⇓P		P	23 00 50.7 +0.7
	baz=79,SNR=112						
B21A	Ellsworth Farm	79.21	39	⇓P		P	23 00 50.8 +0.3
	baz=79,SNR=25						
DARE	Darende-Malaty	79.22	309	eP		P	23 00 52.1 +1.3
HYA	Hoyanger	79.23	339	⇓iP		P	23 00 50.5 +0.3
HYA				AMB		AMB	23 00 53.9
	comp=Z,446nm,1.5s						
F18A	Big Timber	79.26	42	⇓P		P	23 00 51.6 +0.7
	baz=79,SNR=86						
YMR	Madison River	79.27	43	eP		P	23 00 52.0 +0.9
	comp=Z,97nm,0.9s						
ATAB	Bozova	79.29	308	i Pn		P	23 00 52.9 +1.8
KONO	Kongsberg	79.34	337	⇓iP		P	23 00 50.7 -0.1
KONO				AMB		AMB	23 00 58.1
	comp=Z,167nm,1.6s						
KONO	Kongsberg	79.34	337	⇓iP		P	23 00 50.7 -0.1
KONO				e			23 03 50.7
KONO				eS		S	23 10 46.1 -0.2
KONO				pmax		pmax	
	comp=Z,528nm,1.6s						
KONO				MLR		MLR	
	comp=Z,18μm,20.0s						
KONO	Kongsberg	79.34	337	⇓iP		P	23 00 50.7 -0.1
	comp=Z,528nm,1.6s						
KONO				ePP		PP	23 03 50.7 0.0
KONO				eS		S	23 10 46.1 -0.2
KONO				LR		LR	
	comp=Z,18μm,20.0s						
BYBT	Boyabat	79.34	313	eP		P	23 00 51.6 +0.4
SBC	Santa Barbara	79.37	56	⇓P		P	23 00 52.0 +0.5
	baz=79,SNR=8.1						
YNR	Norris Junctio	79.41	43	⇑iP		P	23 00 53.3 +1.4
	comp=Z,148nm,1.1s						
YNR				ePP		PP	23 04 04.9 +13
CWC	Cottonwood Cre	79.42	54	⇑P		P	23 00 52.0 0.0
	baz=79						
D20A	Manuel Ranch,	79.43	40	⇑P		P	23 00 52.4 +0.7
	baz=79,SNR=108						
I16A	Newdale	79.43	44	⇓P		P	23 00 53.5 +1.6
	baz=79,SNR=42						
A22A	Carney Farms,	79.44	38	⇑P		P	23 00 51.8 0.0
	baz=79,SNR=116						
E19A	Rath Farm, Rou	79.45	41	⇑P		P	23 00 52.5 +0.6
	baz=79,SNR=163						
YFT	Old Faithful	79.47	44	⇑iP		P	23 00 54.5 +2.3
	comp=Z,543nm,1.6s						
BZK	Bozkurt	79.53	313	eP		P	23 00 52.1 -0.1
C21A	Desert Coulee	79.54	39	⇑P		P	23 00 52.7 +0.5
	baz=79,SNR=92						
ISA	Isabella	79.57	54	⇑iP		P	23 00 52.3 -0.4
ISA				e			23 03 55.1
ISA				pmax		pmax	
	comp=Z,107nm,1.1s						
ISA	Isabella	79.57	54	⇑iP		P	23 00 52.2 -0.4
	comp=Z,107nm,1.1s						
ISA				ePP		PP	23 03 55.1 +1.6
ISA	Isabella	79.57	54	⇑P		P	23 00 52.2 -0.5
	baz=79,SNR=50						
KIS	Kishinev	79.58	320	i P		P	23 00 51.5 -0.9
	comp=Z,1μm,2.0s						
KIS				i pP		pP	23 01 18.5 +9.0
KIS	Kishinev	79.58	320	i PP		PP	23 03 54.0 +0.9
	comp=Z,3μm,12.0s						
KIS	Kishinev	79.58	320	ePPP		PPP	23 05 48.0
KIS				eS		S	23 10 44.0 -5.3
	comp=Z,4μm,9.0s						
KIS				i SKS		SKSac	23 11 00.0 -3.7
KIS				i ScS		ScS	23 11 10.0 -0.9
KIS				i sS		sS	23 11 27.0 +8.7
KIS	Kishinev	79.58	320	i PS			23 11 43.0
KIS				eSS		SS	23 15 48.0 -9.4
KIS				eSSS		SSS	23 19 14.0
KIS				eLQ		LQ	23 26 40.0
KIS				eLR		LR	23 34 04.0
	comp=Z,19μm,20.0s						
KIS	Kishinev	79.58	320κ	iP		P	23 00 51.5 -0.9
KIS				i *PP		pP	23 01 18.5 +9.0
KIS				i			23 03 54.0
KIS				ePPP		PPP	23 05 48.0
KIS				eS		S	23 10 44.0 -5.3
KIS				i			23 11 00.0
KIS				i			23 11 10.0
KIS				i *SS		sS	23 11 27.0 +8.7
KIS				ePS		PnS	23 11 43.0 +3.1
KIS				eSSS		SSS	23 19 14.0
KIS				pmax		pmax	
	comp=Z,1μm,2.0s						
KIS				pmax		pmax	
	comp=Z,6μm,9.0s						
KIS				pmax		pmax	
	comp=Z,5μm,14.0s						
KIS				MLR		MLR	
	comp=N,7μm,18.0s						
KIS				MLR		MLR	
	comp=E,11μm,18.0s						
KIS				MLR		MLR	
	comp=Z,17μm,18.0s						
KIS				MLR		MLR	
	comp=Z,19μm,20.0s						
KIS	Kishinev	79.58	320	⇑iP		P	23 00 52.8 +0.4
GRAC	Grapevine Rang	79.59	53	⇓P		P	23 00 53.0 +0.2
	baz=79						
ARVC	Arvin	79.61	55	⇑P		P	23 00 52.7 -0.1
	baz=79,SNR=12						
H17A	Grant Village	79.66	44	⇑P		P	23 00 55.7 +2.4
	baz=79						
LKWY	Lake	79.66	43	⇓iP		P	23 00 55.5 +2.2
LKWY				pmax		pmax	
	comp=Z,257nm,1.1s						
LKWY				MLR		MLR	
	comp=Z,9μm,20.0s						
LKWY	Lake	79.66	43	⇓iP		P	23 00 55.5 +2.2
	comp=Z,257nm,1.1s						
LKWY				LR		LR	
	comp=Z,9μm,20.0s						
G18A	Lazy EL Ranch,	79.69	42	⇑P		P	23 00 53.7 +0.4
	baz=80,SNR=17						
F19A	Roth Farm, Mol	79.72	42	⇓P		P	23 00 53.9 +0.5
	baz=80,SNR=40						
SUE	Sulen	79.73	340	⇓iP		P	23 00 53.5 +0.6
SUE				AMB		AMB	23 00 56.8
	comp=Z,339nm,1.4s						
IMW	Indian Meadow	79.74	44	⇑iP		P	23 00 54.9 +1.1
	comp=Z,117nm,0.9s						
IMW				eS		S	23 10 52.8 +0.9
FLWY	Flagg Ranch	79.77	44	⇑iP		P	23 00 55.3 +1.5
	comp=Z,721nm,1.6s						
E20A	Meyer Farm, Mu	79.78	41	⇓P		P	23 00 54.4 +0.7
	baz=80,SNR=73						
B22A	Reddig Ranch S	79.83	38	⇑P		P	23 00 54.0 +0.1
	baz=80						
RRI2	Red Ridge	79.83	45	⇑iP		P	23 00 54.9 +0.6
	comp=Z,121nm,1.0s						
RRI2				ePP		PP	23 03 58.8 +3.1
HVU	Hansel Valley	79.86	47	⇑iP		P	23 00 55.5 +1.2
HVU				e			23 03 53.6
HVU				pmax		pmax	
	comp=Z,117nm,0.8s						
HVU	Hansel Valley	79.86	47	⇑iP		P	23 00 55.5 +1.2
	comp=Z,117nm,0.8s						
HVU				ePP		PP	23 03 53.6 -2.3
PINB	Pinarbasi	79.87	310	i Pn		P	23 00 56.2 +1.7
I17A	Pilgrim Ck.	79.94	44	⇓P		P	23 00 56.7 +1.9
	baz=80,SNR=14						
MOOW	Moose Ponds	79.94	44	⇑iP		P	23 00 55.6 +0.9
	comp=Z,279nm,1.5s						
MOOW				eS		S	23 10 55.5 +1.7
OSI	Osito Adit	79.97	55	⇓eP		P	23 00 55.9 +1.1
	comp=Z,144nm,1.1s						
OSI	Osito Adit	79.97	55	⇑P		P	23 00 55.1 +0.3
	baz=80						
TPAW	Teton Pass	79.97	44	⇑iP		P	23 00 55.5 +0.5
	comp=Z,163nm,1.1s						
TPAW				ePP		PP	23 03 55.0 -1.8
RLMT	Red Lodge	79.98	42	⇑iP		P	23 00 55.5 +0.6
	comp=Z,207nm,1.3s						
RLMT				LR		LR	
	comp=Z,6μm,21.0s						
A23A	Redstone	80.00	37	⇑P		P	23 00 55.0 +0.3
	baz=80,SNR=23						
BLG	Laguna Peak	80.00	56	⇓P		P	23 00 54.8 -0.2
	baz=80						
H18A	Shoshone NF, C	80.02	43	⇑P		P	23 00 56.0 +0.9
	baz=80,SNR=69						
MPMC	Manual Prospec	80.02	54	⇓P		P	23 00 55.6 +0.2
	baz=80						
R11A	Troy Canyon, C	80.03	51	⇑P		P	23 00 55.6 +0.3
	baz=80,SNR=297						
YOZ	Yozgat	80.03	311	eP		P	23 00 55.6 +0.4
TOS	Tosya	80.05	313	eP		P	23 00 57.0 +1.7
D21A	La Casta Ranch	80.06	40	⇓P		P	23 00 55.6 +0.4
	baz=80,SNR=80						
ASK	Askoy	80.07	339	eP		P	23 00 54.5 -0.3
ASK				AMB		AMB	23 00 57.1
	comp=Z,543nm,1.6s						
RUND	Rundenannen	80.07	339	eP		P	23 00 54.6 -0.3
RUND				AMB		AMB	23 00 57.9
	comp=Z,538nm,1.4s						
ODD1	Odda	80.08	338	⇓iP		P	23 00 55.2 +0.2
ODD1				AMB		AMB	23 00 58.8
	comp=Z,238nm,1.1s						
SNOW	Snow King Moun	80.10	44	eP		P	23 00 56.0 +0.3
	comp=Z,107nm,1.0s						
LOHW	Long Hollow	80.10	44	⇑iP		P	23 00 56.3 +0.7
	comp=Z,42nm,0.9s						
REDW	Red Top Meadow	80.10	45	eP		P	23 00 56.7 +1.0
	comp=Z,99nm,1.1s						
BER	Bergen	80.10	339	⇓iP		P	23 00 54.7 -0.3
BER				AMB		AMB	23 00 57.9
	comp=Z,339nm,1.4s						
BNN	Bunyan	80.13	310	eP		P	23 00 56.7 +0.9
IAS	Iasi	80.14	320	⇑iP		P	23 00 56.2 +0.8
SFJD	Kangerlussuaq	80.15	4	⇓iP		P	23 00 55.3 +0.2
	comp=Z,60nm,0.8s						
SFJD				i pP		pP	23 01 13.3 +1.1
SFJD				i S		S	23 10 52.0 -2.6
SFJD							
	comp=Z,5μm,26.0s						
SFJD	Kangerlussuaq	80.15	4	⇓eP		P	23 00 55.4 +0.2
	comp=Z,1μm,1.8s						
SFJD				epP		pP	23 01 11.1 -1.1
SFJD				P'P'			23 27 40.1
SFJD				LR		LR	
	comp=Z,5μm,19.0s						
SFJD	Kangerlussuaq	80.15	4	PKPPKP		P'P'df	23 27 40.1 -5.9
	comp=Z,6.8nm,0.6s,baz=288,slow=5.9,SNR=3.9						
CORM	Corum	80.16	312	eP		P	23 00 56.1 +0.3
KMRS	Kahramanmaras	80.19	308	eP		P	23 00 56.4 +0.4
F20A	Billings	80.20	41	⇑P		P	23 00 56.2 +0.2
	baz=80,SNR=7.2						
LRMC	Laurel Mountai	80.21	54	⇓P		P	23 00 56.2 0.0
	baz=80,SNR=75						
LEOM	Leova	80.21	320	⇑iP		P	23 00 56.6 +0.8
SLMH	Al Salmeh	80.22	307	eP		S	23 10 57.3 +0.7
FURC	Furnace Creek,	80.22	53	⇑P		P	23 00 56.5 +0.5
	baz=80,SNR=105						
EGD	Espegrend	80.23	339	eP		P	23 00 55.3 -0.3
EGD				AMB		AMB	23 00 58.7
	comp=Z,495nm,1.5s						
ILGA	Ilgaz	80.23	313	i Pn		P	23 00 58.1 +1.7
C22A	Vida	80.23	39	⇓P		P	23 00 56.0 0.0
	baz=80,SNR=17						
SNZO	South Karori	80.24	154	eP		P	23 00 54.6 -1.1
	comp=Z,581nm,1.3s						
SNZO				LR		LR	
	comp=Z,20μm,22.0s						
B23A	Brockton	80.25	38	⇑P		P	23 00 56.2 +0.1
	baz=80,SNR=16						
LVV	L'vov	80.31	324	d iP		P	23 00 57.0 +0.7
LVV				e*PP		pP	23 01 16.0 +2.6
LVV				i S		S	23 10 57.0 +0.1
LVV				MLR		MLR	
	comp=Z,34μm,20.0s						
AYKD	Aykdinkavak	80.31	308	i Pn		P	23 00 58.1 +1.5
EDW2	Edwards Air Fo	80.33	55	⇓P		P	23 00 56.9 +0.1
	baz=80,SNR=121						
E21A	Keefer Ranch,	80.34	40	⇑P		P	23 00 57.2 +0.6
	baz=80						
H19A	Powell	80.41	43	⇓P		P	23 00 58.1 +0.9
	baz=80,SNR=9.0						
DECC	Green Verdugo	80.44	55	⇓P		P	23 00 57.3 -0.1
	baz=80,SNR=8.5						
D22A	Cohagen	80.45	39	⇑P		P	23 00 57.6 +0.4
	baz=80,SNR=115						
A24A	Westby	80.46	37	⇓P		P	23 00 57.4 +0.2
	baz=80,SNR=7.9						
KUZU	Kuzuini	80.48	308	i Pn		P	23 00 58.8 +1.2
I18A	Diamond G Ranc	80.51	44	⇓P		P	23 00 58.8 +0.9
	baz=80,SNR=22						
G20A	Bridger	80.52	42	⇑P		P	23 00 57.5 -0.2
	baz=80,SNR=61						
BLS5	Blasjo	80.53	338	⇓iP		P	23 00 58.0 +0.6
BLS5				AMB		AMB	23 01 01.2
	comp=Z,334nm,1.3s						
BEL	Belsk	80.53	327	i P		P	23 00 58.4 +1.0
BEL				esP		sP	23 01 17.0 -4.4
BEL				ePP		PP	23 04 00.2 -0.6
BEL				eS		S	23 10 59.6 +0.5
BEL				eSS		SS	23 16 10.6 -0.7
BEL				LMZ		LR	23 38 56.4
CANT	Cankiri	80.55	312	eP		P	23 00 58.5 +0.7
C23A	Lambert	80.56	38	⇓P		P	23 00 58.0 +0.2
	baz=80,SNR=31						
PASC	Pasadena Art C	80.58	55	⇑iP		P	23 00 58.0 -0.1
	comp=Z,271nm,1.4s						
PASC				ePP		PP	23 03 60.0 -1.9
CDAG	Cicekdag	80.64	311	i Pn		P	23 00 59.6 +1.2
MWC	Mount Wilson	80.64	55	⇑iP		P	23 00 58.4 -0.2
MWC				e			23 04 01.0
MWC				eS		S	23 11 00.3 -1.1
MWC				pmax		pmax	
	comp=Z,382nm,1.4s						
MWC	Mount Wilson	80.64	55	⇑iP		P	23 00 58.4 -0.2
	comp=Z,382nm,1.4s						
MWC				ePP		PP	23 04 01.0 -1.6
MWC				eS		S	23 11 00.3 -1.1
DGMT	Dagmar	80.66	38	PFAKE			23 01 10.0 +12
DGMT				LR		LR	
	comp=Z,10μm,19.0s						
DGMT	Dagmar	80.66	38	⇑P		P	23 00 58.4 +0.2
	baz=80,SNR=11						
TLCR		80.68	318	⇑iP		P	23 00 59.1 +0.7
HWUT	Hardware Ranch	80.70	46	⇑iP		P	23 00 59.7 +0.9
	comp=Z,2μm,1.0s						
HWUT				LR		LR	
	comp=Z,8μm,20.0s						
ELDT	Eldivan	80.73	312	i Pn		P	23 01 00.4 +1.4
PRAR	RASCA	80.74	321	⇑iP		P	23 00 59.2 +0.5
DUG	Dugway	80.75	48	⇑iP		P	23 00 59.4 +0.3
DUG				e			23 04 01.1
DUG				pmax		pmax	
	comp=Z,140nm,0.8s						
DUG				MLR		MLR	
	comp=Z,9μm,19.0s						
DUG	Dugway	80.75	48	⇑iP		P	23 00 59.4 +0.3
	comp=Z,140nm,0.8s						
DUG				ePP		PP	23 04 01.1 -2.2
DUG				LR		LR	
	comp=Z,9μm,19.0s						
DUG	Dugway	80.75	48	⇓P		P	23 00 59.8 +0.7
	baz=80,SNR=331						
F21A	Absaloka Mine,	80.75	41	⇓P		P	23 00 59.2 +0.3
	baz=80,SNR=11						
FMP	Fort Macarthur	80.75	56	⇓P		P	23 00 59.0 0.0
	baz=81						
SAFT	Safranbolu	80.75	313	eP		P	23 00 59.8 +0.9
HOMB	Homborsund	80.76	337	eP		P	23 00 58.7 +0.1
HOMB				AMB		AMB	23 01 01.8
	comp=Z,223nm,1.2s						
BSD	Bornholm Skovb	80.77	332	⇓iP		P	23 00 58.4 -0.2
	comp=Z,159nm,0.8s						
BSD				i pP		pP	23 01 16.9 +1.1
BSD				i S		S	23 10 57.9 -3.6
BSD							
	comp=Z,11μm,17.0s						
I19A	Meeteetse	80.79	43	⇓P		P	23 01 00.2 +0.9
	baz=81,SNR=50						
KHZ	Kahutara	80.80	156	eP		P	23 00 58.3 -0.4
	comp=Z,848nm,1.6s						
AVNT	Avonos	80.81	310	i Pn		P	23 01 00.4 +1.0
CIS	Catalina Islan	80.84	56	⇓P		P	23 00 59.3 -0.3
	baz=81						
A25A	Svangstu Ranch	80.90	37	⇓P		P	23 01 00.2 +0.6
	baz=81,SNR=13						
GSC	Goldstone	80.91	54	⇓iP		P	23 01 00.1 +0.2
GSC				e			23 04 05.0
GSC				eS		S	23 11 06.1 +2.2
GSC				pmax		pmax	
	comp=Z,230nm,1.2s						
GSC	Goldstone	80.91	54	⇓iP		P	23 01 00.1 +0.2
	comp=Z,230nm,1.2s						
GSC				ePP		PP	23 04 05.0 +0.4
GSC				eS		S	23 11 06.1 +2.2
GSC	Goldstone	80.91	54	⇓P		P	23 01 00.2 +0.3
	baz=81,SNR=103						
BFSC	Mount Baldy Ra	80.91	55	⇓P		P	23 00 59.8 -0.2
	baz=81						
KOZT	Kozan	80.91	309	eP		P	23 01 01.7 +1.9
SHOC	Shoshone	80.93	53	⇑P		P	23 01 00.2 +0.2
	baz=81,SNR=13						
D23A	Lindsay	80.95	39	⇑P		P	23 01 00.7 +0.8
	baz=81						
SCI	San Clemente I	80.98	57	⇓P		P	23 01 00.3 +0.1
	baz=81						
RRX	Edison Barstow	81.01	54	⇓P		P	23 01 00.7 +0.3
	baz=81						
E22A	Miles City	81.01	40	⇑P		P	23 01 00.6 +0.3
	baz=81,SNR=20						
BR131	Keskin Array S	81.04	312	⇓iP		P	23 01 01.1 +0.4
	comp=Z,192nm,0.8s						
BR131				ePP		PP	23 04 05.9 +0.3
BRTR	Keskin Array B	81.04	312	P		P	23 01 01.3 +0.7
BRTR				S		S	23 11 08.3 +3.0
BRTR				PKKPbc		PKKPbc	23 19 37.9 +1.4
BRTR				P'P'			23 27 33.5
BRTR	Keskin Array B	81.04	312	P		P	23 01 01.3 +0.7
	comp=Z,179nm,0.9s,baz=118,slow=3.8,SNR=484						
BRTR				S		S	23 11 08.3 +3.0
	comp=Z,3.5nm,1.1s,baz=83,slow=11,SNR=5.0						
BRTR				PKKPbc		PKKPbc	23 19 37.9 +1.4
	comp=Z,6.3nm,0.5s,baz=209,slow=4.1,SNR=31						
BRTR				PKPPKP		P'P'df	23 27 33.5 -11
	comp=Z,0.8nm,0.7s,baz=270,slow=1.2,SNR=4.4						
BRTR				LR		LR	23 40 22.1
	comp=Z,9μm,21.7s,baz=61,slow=38						
TESR	Tescani	81.05	320	⇑iP		P	23 01 01.2 +0.8
FRB	Frobisher Bay	81.06	13	PKKPbc		PKKPbc	23 19 35.9 -0.9
FRB	Frobisher Bay	81.06	13	PKKPbc		PKKPbc	23 19 35.9 -0.9
	comp=Z,12nm,0.8s,baz=230,slow=12,SNR=3.7						
CFR	Carcaliu	81.06	319	⇑iP		P	23 01 00.9 +0.5
G21A	Lodge Grass	81.08	41	⇓P		P	23 01 00.9 +0.3
	baz=81,SNR=25						
KWP	Kalwaria Pacla	81.08	324	⇓iP		P	23 01 01.3 +0.8
KWP				e			23 04 06.0
KWP				eS		S	23 11 03.7 -1.4
KWP				pmax		pmax	
	comp=Z,1μm,1.1s						
KWP				MLR		MLR	
	comp=Z,42μm,20.0s						
KWP	Kalwaria Pacla	81.08	324	⇑iP		P	23 01 01.9 +1.4
KWP	Kalwaria Pacla	81.08	324	⇓iP		P	23 01 01.3 +0.8
	comp=Z,1μm,1.1s						
KWP				ePP		PP	23 04 06.0 +0.6
KWP				eS		S	23 11 03.7 -1.4
KWP				LR		LR	
	comp=Z,42μm,20.0s						
KWP	Kalwaria Pacla	81.08	324	i P		P	23 01 01.4 +0.9
KWP				esP		sP	23 01 20.3 -4.1
KWP				ePP		PP	23 04 05.4 -0.1
KWP				eS		S	23 11 05.8 +0.7
KWP				eSS		SS	23 16 16.6 -3.2
KWP				LMZ		LR	23 39 10.7
H20A	Greybull	81.08	42	⇑P		P	23 01 01.2 +0.5
	baz=81,SNR=31						
BURAR	Bucovina Array	81.11	322	⇑iP		P	23 01 01.6 +0.8
GKP	Gorka Klasztor	81.12	329	i P		P	23 01 01.1 +0.5
GKP				esP		sP	23 01 20.5 -4.0
GKP				ePP		PP	23 04 08.2 +2.5
GKP				eS		S	23 11 04.8 -0.5
GKP				eSS		SS	23 16 20.1 0.0
GKP				LMZ		LR	23 38 47.9
CTU	Camp Tracy	81.12	47	eP		P	23 01 02.0 +1.0
	comp=Z,236nm,1.2s						
C24A	Savage	81.14	38	⇑P		P	23 01 01.3 +0.4
	baz=81,SNR=5.1						
SNART	Snartemo	81.14	337	eP		P	23 01 00.8 +0.2
SNART				AMB		AMB	23 01 05.3
	comp=Z,224nm,1.1s						
RPZ	Rata Peaks	81.14	158	eP		P	23 01 00.2 -0.4
	comp=Z,198nm,0.9s						
RPZ	Rata Peaks	81.14	158	P		P	23 01 01.3 +0.7
	comp=Z,41nm,0.5s,baz=329,slow=2.0,SNR=13						
RPZ				LR		LR	23 33 00.9
	comp=Z,11μm,21.1s,baz=335,slow=33						
KAMT	Kaman	81.20	311	eP		P	23 01 01.2 -0.2
J19A	Crowheart	81.22	44	⇓P		P	23 01 02.3 +0.7
	baz=81,SNR=163						
BW06	Boulder Array	81.22	44	⇑iP		P	23 01 01.5 -0.2
	comp=Z,75nm,1.0s						
BW06				ePP		PP	23 04 05.6 -1.6
BW06				LR		LR	
	comp=Z,7μm,20.0s						
PDAR	Pinedale Array	81.22	44	P		P	23 01 01.5 -0.1
PDAR				PKKPbc		PKKPbc	23 19 37.8 +1.6
PDAR				P'P'			23 27 34.5
PDAR	Pinedale Array	81.22	44	P		P	23 01 01.5 -0.1
	comp=Z,29nm,0.7s,baz=268,slow=1.1,SNR=148						
PDAR				PKKPbc		PKKPbc	23 19 37.8 +1.6
	comp=Z,1.8nm,0.8s,baz=121,slow=4.4,SNR=6.3						
PDAR				PKPPKP		P'P'df	23 27 34.5 -10
	comp=Z,1.9nm,1.0s,baz=84,slow=6.1,SNR=3.7						
PDAR				LR		LR	23 36 04.2
	comp=Z,6μm,20.3s,baz=317,slow=35						
PETR	Petresti	81.23	319	⇑iP		P	23 01 03.5 +2.2
CEYT	Ceyhan	81.23	308	eP		P	23 01 02.3 +0.8
F22A	Rosebud	81.26	41	⇑P		P	23 01 01.6 0.0
	baz=81,SNR=35						
B25A	Knox Farm, Ray	81.31	37	⇑P		P	23 01 02.4 +0.6
	baz=81,SNR=49						
COP	Copenhagen	81.32	333	⇓iP		P	23 01 01.8 +0.3
	comp=Z,103nm,0.8s						
COP				i			23 01 20.3
COP				i S		S	23 11 05.3 -1.9
COP							
	comp=Z,7μm,17.0s						
E23A	Ismay	81.32	40	⇓P		P	23 01 02.4 +0.5
	baz=81,SNR=36						
M17A	Scullys Gap (B	81.33	46	⇓P		P	23 01 02.6 +0.3
	baz=81,SNR=82						
I20A	Worland	81.34	43	⇑

YURE **YUREGIR** 81.41 308 *i* Pn P 23 01 04.2 +1.7
VRI **Vrincioaia** 81.41 320⇑*i*P P 23 01 03.4 +1.1
TUQ **Turquoise Moun** 81.43 53 ⇑P P 23 01 02.7 0.0
baz=81,SNR=17
L18A **Fontenelle, Gr** 81.44 45 ⇓P P 23 01 03.6 +0.8
baz=81,SNR=43
D24A **Glendive** 81.45 39 ⇓P P 23 01 02.9 +0.4
baz=81,SNR=55
EFOR **EFORIE** 81.46 317⇓*i*P P 23 01 03.4 +0.9
PLOR **Plostina** 81.47 320⇑*i*P P 23 01 03.7 +1.1
A26A **Wade Farm, Ken** 81.47 36 ⇓P P 23 01 02.5 -0.1
baz=81,SNR=30
KDZE **Karadeniz Ereo** 81.47 314 *e*P P 23 01 01.4 -1.3
BBAL **Bala** 81.47 312 *i* Pn P 23 01 04.0 +1.1
HTY **Hatay** 81.47 307 *e*P P 23 01 02.8 0.0
HARR **Harsova** 81.48 318 ⇑P P 23 01 03.8 +1.2
HARR **Harsova** 81.48 318⇑*i*P P 23 01 03.8 +1.2
ANTO **Ankara** 81.49 312 *e*P P 23 01 02.7 -0.2
ANTO **Ankara** 81.49 312⇓*i*P P 23 01 03.8 +0.9
ANTO *e* 23 04 08.5
ANTO *e*S S 23 11 10.5 +0.7
ANTO pmax pmax
comp=Z,149nm,0.6s
ANTO MLR MLR
comp=Z,16μm,22.0s
ANTO **Ankara** 81.49 312 P P 23 01 04.2 +1.3
SNR=88
ANTO **Ankara** 81.49 312⇓*i*P P 23 01 04.0 +1.1
ANTO **Ankara** 81.49 312⇓*i*P P 23 01 03.8 +0.9
comp=Z,149nm,0.6s
ANTO *e*PP PP 23 04 08.5 -0.7
ANTO *e*S S 23 11 10.5 +0.7
ANTO LR LR
comp=Z,16μm,22.0s
HEC **Hector,Ludlow** 81.49 54 ⇓P P 23 01 03.1 +0.1
baz=81
LOD **Lodumlu** 81.49 312 *e*P P 23 01 03.1 +0.1
H21A **Big Horn, Sher** 81.53 42 ⇑P P 23 01 03.5 +0.4
baz=81,SNR=58
YAYL **Yayladag** 81.54 307 *i* Pn P 23 01 04.5 +1.2
KARA **Karaisali** 81.55 309 *e*P P 23 01 03.6 +0.4
AFSR **Af´ar-Bala (A** 81.56 312 *e*P P 23 01 02.8 -0.5
MURC **Murrieta** 81.58 56 ⇓P P 23 01 03.4 -0.1
baz=81,SNR=36
GRER 81.58 319⇑*i*P P 23 01 06.0 +2.8
G22A **Birney** 81.59 41 ⇓P P 23 01 03.3 0.0
baz=81,SNR=62
MPU **Maple Canyon** 81.59 48⇑*i*P P 23 01 04.5 +0.9
comp=Z,283nm,1.1s
MPU *e*PP PP 23 04 10.2 -0.1
DAU **Daniels Canyon** 81.59 47 *e*P P 23 01 04.6 +0.8
DAU pmax pmax
comp=Z,161nm,0.8s
DAU **Daniels Canyon** 81.59 47 *e*P P 23 01 04.6 +0.8
comp=Z,160nm,0.8s
K19A **Absolon Red Bu** 81.60 44 ⇓P P 23 01 03.3 -0.3
baz=81,SNR=52
C25A **Freed Ranch, W** 81.62 38 ⇑P P 23 01 03.8 +0.3
baz=81,SNR=8.2
MANR **Mangalia** 81.64 317⇑*i*P P 23 01 05.4 +1.9
LLD **Lille Linde** 81.66 333 *i* P P 23 01 03.8 +0.4
comp=Z,157nm,0.6s
LLD *i* 23 01 22.2
B26A **Jensen Ranch,** 81.71 37 ⇓P P 23 01 04.4 +0.5
baz=82,SNR=7.2
BORG **Borgarnes** 81.71 352 *e*P P 23 01 05.4 +2.0
comp=Z,326nm,1.4s
BORG LR LR
comp=Z,5μm,19.0s
GULE **Gulek** 81.71 309 *i* Pn P 23 01 05.7 +1.4
J20A **Shoshoni** 81.72 43 ⇑P P 23 01 04.5 +0.4
baz=82,SNR=103
ARUT **Antelope Range** 81.74 50 *e*P P 23 01 04.7 +0.3
ARUT pmax pmax
comp=Z,170nm,1.0s
ARUT **Antelope Range** 81.74 50 *e*P P 23 01 04.7 +0.3
comp=Z,170nm,1.0s
L19A **Farson** 81.74 45 ⇓P P 23 01 04.7 +0.3
baz=82,SNR=75
KOLS **Kolonicke sedl** 81.75 324 *e*P P 23 01 04.5 +0.4
KOLS pmax pmax
comp=Z,267nm,1.6s
KOLS **Kolonicke sedl** 81.75 324 *e*P P 23 01 04.5 +0.4
KOLS **Kolonicke sedl** 81.75 324 *e*S S 23 11 08.6 -3.5
KOLS *e*SS SS 23 16 23.0 -6.8
KOLS *e* 23 19 36.4
F23A **Volborg** 81.76 40 ⇑P P 23 01 04.1 -0.1
baz=82,SNR=78
E24A **Baker** 81.81 39 ⇑P P 23 01 04.3 -0.2
baz=82,SNR=39
RGN **Rugen** 81.82 332 *e*P P 23 01 04.7 +0.5
comp=Z,535nm,1.3s
RGN *e*PP PP 23 04 11.7 +0.4
SOFL **Sornfelli, Far** 81.85 345 *e*P P 23 01 05.3 +1.0
SOFL AMB AMB 23 01 07.0
comp=Z,408nm,1.7s
SOFL AMS AMS 23 39 20.4
comp=Z,13μm,19.2s
AMRR **Amara** 81.86 318⇑*i*P P 23 01 06.3 +1.7
PGOR **Pogoanele** 81.87 319⇑*i*P P 23 01 06.7 +2.0
I21A **Big Trails, Te** 81.90 43 ⇓P P 23 01 05.4 +0.3
baz=82,SNR=109
CCUT **Cedar City** 81.92 50⇑*i*P P 23 01 05.9 +0.4
comp=Z,203nm,1.2s
CCUT *e*PP PP 23 04 13.2 0.0
STHS **Stebnicka Huta** 81.94 325 *e*P P 23 01 06.0 +1.0
STHS pmax pmax
comp=Z,165nm,1.1s
STHS **Stebnicka Huta** 81.94 325 *e*P P 23 01 06.0 +1.0
STHS *e* 23 19 31.2
H22A **Clearmont** 81.94 42 ⇓P P 23 01 05.4 +0.1
baz=82,SNR=14
UZH **Uzhgorod** 81.94 324 *e*P P 23 01 05.0 0.0
UZH *e*S S 23 11 09.0 -5.0
UZH MLR MLR
comp=Z,14μm,21.0s
D25A **Fairfield** 81.95 38 ⇑P P 23 01 05.7 +0.4
baz=82,SNR=21
PSN **Preselentsi** 81.96 317 P P 23 01 05.9 +0.7
GMRC **Granite Mounta** 81.97 54 ⇓P P 23 01 05.8 +0.1
baz=82
ISR **Istrita** 81.98 319 ⇓P P 23 01 07.0 +1.6
ISR **Istrita** 81.98 319⇓*i*P P 23 01 06.9 +1.6
K20A **Yellowstone Ra** 82.00 44 ⇑P P 23 01 05.4 -0.3
baz=82,SNR=32
109C **Camp Elliot, M** 82.04 56 ⇑P P 23 01 05.9 +0.1
baz=82
DOPR **Dopca** 82.07 320⇑*i*P P 23 01 07.5 +1.7
MLR **Muntele Rosu** 82.08 320⇓*i*P P 23 01 06.8 +0.8
MLR **Muntele Rosu** 82.08 320 PKKPbc PKKPbc 23 19 35.4 +1.2
MLR ⇑*e* 23 27 32.1
MLR **Muntele Rosu** 82.08 320 PKKPbc PKKPbc 23 19 35.4 +1.2
comp=Z,1.9nm,0.7s,baz=180,slow=4.6,SNR=10
MLR PKP2bc 23 27 32.1
comp=Z,0.7nm,0.9s,baz=292,slow=13,SNR=4.0
MLR LR LR 23 42 33.3
comp=Z,5μm,21.9s,baz=54,slow=39
OJC **Ojcow** 82.08 326⇓*i*P P 23 01 06.2 +0.5
OJC *e**PP pP 23 01 22.7 -0.2
OJC *e*S S 23 11 11.5 -3.9
OJC *e*SS SS 23 16 33.6 -1.0
PFO **Pinyon Flat Ob** 82.09 55⇑*i*P P 23 01 05.9 -0.4
comp=Z,326nm,1.3s
PFO *e*PP PP 23 04 14.7 +0.2
PFO *e*S S 23 11 07.2 -9.1
PFO **Pinyon Flat Ob** 82.09 55 LR LR 23 31 18.8
comp=Z,20μm,20.4s,baz=280,slow=31
PFO **Pinyon Flat Ob** 82.09 55 ⇓P P 23 01 06.1 -0.2
baz=82,SNR=104
G23A **Biddle** 82.09 41 ⇓P P 23 01 05.8 -0.2
baz=82,SNR=78
J21A **Lysite** 82.10 43 ⇓P P 23 01 06.4 +0.2
baz=82,SNR=48
MVU **Marysvale** 82.11 49 *e*P P 23 01 07.2 +0.7
comp=Z,165nm,1.0s
MVU *e*PP PP 23 04 12.4 -2.3
MVU *e*S S 23 11 18.3 +1.7
MVU LR LR
comp=Z,10μm,19.0s
MDUB **Mudurnu** 82.12 313 *e*P P 23 01 06.0 -0.2
MSU **Marysvale** 82.13 49 *e*P P 23 01 07.3 +0.8
MSU pmax pmax
comp=Z,165nm,1.0s
MSU **Marysvale** 82.13 49 *e*P P 23 01 07.3 +0.8
comp=Z,165nm,1.0s

C26A **Wahner Farm, P** 82.14 37 ⇑P P 23 01 06.4 +0.3
baz=82,SNR=32
LRW **Lerwick** 82.15 342 *e*P P 23 01 06.1 +0.3
LRW AMB AMB 23 01 08.0
comp=Z,264nm,1.7s
LRW AMS AMS 23 36 20.5
comp=Z,11μm,27.0s
TRPA **Tarpa** 82.15 323⇓*i*P P 23 01 07.6 +1.5
CRVS **Cervenica-Dubn** 82.17 324 *e*P P 23 01 07.1 +0.8
CRVS pmax pmax
comp=Z,1μm,2.2s
CRVS **Cervenica-Dubn** 82.17 324 *e*P P 23 01 07.1 +0.8
CRVS **Cervenica-Dubn** 82.17 324 *e*S S 23 11 13.4 -3.0
CRVS *e*SS SS 23 16 31.0 -5.1
CRVS *e* 23 19 33.1
LDFC **Landfair** 82.18 53⇑*i*P P 23 01 06.5 -0.2
comp=Z,202nm,1.0s
LDFC *e*PP PP 23 04 14.8 -0.3
B27A **Peters Farms,** 82.18 36 ⇑P P 23 01 06.5 +0.2
baz=82
BELC **Belle Mtn. Jos** 82.18 55 ⇑P P 23 01 06.5 -0.3
baz=82
F24A **Ekalaka** 82.20 40 ⇑P P 23 01 06.5 0.0
baz=82,SNR=40
ODZ **Otahua Downs** 82.21 159 *e*P P 23 01 06.8 +0.6
comp=Z,754nm,1.8s
M19A **Rock Springs** 82.22 45 ⇑P P 23 01 07.0 +0.1
baz=82,SNR=15
TMUT **Trail Mountain** 82.28 48⇑*i*P P 23 01 07.9 +0.5
comp=Z,126nm,0.9s
TMUT *e*pP pP 23 01 21.1 -3.5
SECR 82.30 319⇑*i*P P 23 01 08.2 +1.2
I22A **9 Mile Ranch,** 82.31 42 ⇑P P 23 01 07.5 +0.3
baz=82,SNR=62
E25A **Miller Ranch,** 82.33 39 ⇑P P 23 01 07.3 +0.1
baz=82,SNR=69
A28A **Rude Farm, Bot** 82.34 35 ⇑P P 23 01 07.3 +0.2
baz=82
FKH **Fakeheh** 82.35 306 *e*P P 23 01 08.4 +0.8
NIE **Niedzica** 82.38 325⇓*i*P P 23 01 10.3 +2.9
NIE *e*S S 23 11 21.4 +2.8
L20A **Wamsutter** 82.40 44 ⇑P P 23 01 08.1 +0.3
baz=82,SNR=24
SULR 82.42 319⇑*i*P P 23 01 09.0 +1.4
MARH **Ras Al Marh** 82.42 306 *e*P S 23 11 20.6 +0.5
BAR **Barrett** 82.46 56⇑*i*P P 23 01 07.8 -0.2
comp=Z,869nm,1.8s
BAR *e*PP PP 23 04 17.4 0.0
BAR *e*S S 23 11 17.2 -2.7
ZALF **Zalf** 82.46 304 *e*P P 23 01 10.1 +2.1
ZALF **Zalf** 82.46 304 *e*P S 23 11 19.3 -0.6
D26A **Manning** 82.49 38 ⇓P P 23 01 08.0 0.0
baz=82,SNR=10
H23A **Clabaugh Cattl** 82.49 41 ⇑P P 23 01 08.1 0.0
baz=82,SNR=8.0
MDB **Medias** 82.50 321⇑*i*P P 23 01 10.4 +2.4
MONP **Monument Peak** 82.52 56 ⇑P P 23 01 08.3 -0.3
baz=82
C27A **Sayler Ranch,** 82.52 37 ⇓P P 23 01 08.4 +0.3
baz=82,SNR=8.2
Q16A **Castle Valley** 82.53 48 ⇓P P 23 01 09.3 +0.8
baz=82,SNR=116
SVRH **Sivrihisar-ESK** 82.53 312 *e*P P 23 01 07.3 -1.0
SPNC **Sapanca-Adapaz** 82.53 314 *e*P P 23 01 08.4 +0.2
G24A **Alzada** 82.55 40 ⇑P P 23 01 07.9 -0.5
baz=82,SNR=9.6
GULT **Gulveren** 82.56 314 *e*P P 23 01 07.9 -0.6
VOIR 82.59 320⇑*i*P P 23 01 09.4 +0.8
B28A **Dugan Ranch, T** 82.60 36 ⇑P P 23 01 08.4 -0.1
baz=82
J22A **Midwest** 82.61 43 ⇑P P 23 01 08.6 -0.2
baz=82,SNR=263
KIZT **Kizilcal** 82.64 312 *e*P P 23 01 08.9 -0.1
HWQ **Hawqa** 82.65 306 *e*P P 23 01 09.5 +0.3
K21A **Alcova** 82.65 43 ⇑P P 23 01 09.3 +0.2
baz=82,SNR=235
SILT **Sile** 82.65 315 *e*P P 23 01 08.2 -0.7
BVCR **Bucharest-Old** 82.66 319⇑*i*P P 23 01 10.2 +1.4
BAPR **Bucharest-Chil** 82.67 319⇑*i*P P 23 01 10.3 +1.4
IRM **Iron Mountain** 82.67 54 ⇓P P 23 01 09.4 +0.3
baz=82
F25A **Bowman** 82.67 39 ⇑P P 23 01 09.1 +0.1
baz=82,SNR=64
NEE2 **Needles Airpor** 82.69 53 ⇑P P 23 01 09.3 +0.1
baz=82
PRD **Provadia** 82.70 317 P P 23 01 10.0 +0.9
KDHN **Kadinhani** 82.70 311 *i* Pn P 23 01 09.6 +0.2
MTUR **Matau** 82.72 320 ⇑P P 23 01 10.3 +1.0
MTUR **Matau** 82.72 320⇑*i*P P 23 01 10.3 +1.0
LADK **Ladik-KONYA** 82.74 311 *e*P P 23 01 08.9 -0.6
BC3 **Big Chuckawall** 82.75 55 ⇓P P 23 01 09.7 0.0
baz=83
GPA **Golpazari** 82.77 314 *e*P P 23 01 11.7 +2.2
CIOR **Ciorogarla** 82.77 319⇑*i*P P 23 01 10.3 +0.9
M20A **Sweetwater, Wa** 82.80 45 ⇓P P 23 01 10.3 +0.4
baz=83,SNR=50
TOTH **TOTAH** 82.84 305 *e*P P 23 01 04.9 -5.1
HRT **Hereke** 82.84 314 *e*P P 23 01 09.5 -0.4
I23A **Meade Ranch, G** 82.84 42 ⇓P P 23 01 09.5 -0.5
baz=83
H24A **Dirks Ranch, A** 82.84 41 ⇓P P 23 01 09.5 -0.4
baz=83,SNR=58
QASN **Qassioun** 82.84 305 *e*P P 23 01 04.5 -5.7
E26A **Carlson Angus** 82.84 38 ⇓P P 23 01 09.9 0.0
baz=83,SNR=24
ARR **Arges** 82.86 320⇑*i*P P 23 01 11.5 +1.5
DVTC **Desert V Tower** 82.87 56 ⇑P P 23 01 10.5 +0.3
baz=83
KONT **Konya--Tatoy** 82.89 311 *e*P P 23 01 09.8 -0.5
ESKT **Eskisehir** 82.90 313 *e*P P 23 01 10.9 +0.5
D27A **Center** 82.91 37 ⇓P P 23 01 10.5 +0.4
baz=83,SNR=21
SWSC **Sam W. Stewart** 82.92 55 ⇓P P 23 01 10.1 -0.3
baz=83
RAC **Raciborz** 82.92 327 *e*P P 23 01 11.0 +0.9
RAC *e* 23 04 24.2
RAC *e*S S 23 11 23.4 -0.5
RAC MLR MLR
comp=E,23μm,23.5s
RAC MLR MLR
comp=N,23μm,20.6s
RAC MLR MLR
comp=Z,25μm,21.9s
BORA **Eskisehir** 82.93 313 *i* Pn P 23 01 11.0 +0.6
KECS **Kecovo** 82.94 324 *e*P P 23 01 11.0 +0.8
KECS pmax pmax
comp=Z,155nm,1.6s
KECS **Kecovo** 82.94 324 *e*P P 23 01 11.0 +0.8
KECS *e*PP PP 23 04 23.2 +2.5
DRGR 82.95 322⇑*i*P P 23 01 11.1 +0.7
KLYT **Kilyos** 82.95 315 *e*P P 23 01 09.2 -1.2
O19A **Miners Draw (B** 82.97 46 ⇓P P 23 01 10.7 -0.1
baz=83,SNR=152
W13A **Hualapai Mount** 82.99 53 ⇑P P 23 01 11.3 +0.3
baz=83
SALA **Sala** 82.99 304 *e*P P 23 01 13.3 +2.2
L21A **Rawlins** 82.99 44 ⇓P P 23 01 11.1 +0.2
baz=83,SNR=186
GOLR 83.03 320⇑*i*P P 23 01 12.7 +2.0
ADVT **Abdulvahap** 83.03 314 *e*P P 23 01 10.0 -0.8
IKL **Isikli** 83.03 309 *e*P P 23 01 08.2 -2.8
ISK **Istanbul-Kandi** 83.05 315 *e*P P 23 01 10.3 -0.6
K22A **Casper** 83.06 43 ⇓P P 23 01 11.3 +0.1
baz=83,SNR=52
BHL **Bhannes** 83.06 306 *e*P P 23 01 11.6 +0.4
CAVI **Cavuskoy** 83.11 314 *e*P P 23 01 10.8 -0.5
EREN **Erenkoy** 83.12 308 *e*P P 23 01 11.3 0.0
J23A **Dilts Ranch, B** 83.14 42 ⇑P P 23 01 11.4 -0.2
baz=83,SNR=6.9
F26A **Lodgepole** 83.14 39 ⇓P P 23 01 11.5 +1.0
baz=83,SNR=55
BUY **Buyukada** 83.15 315 *i* Pn P 23 01 12.8 +1.4
BGKT **Bogazkoy** 83.15 315 *e*P P 23 01 10.8 -0.6
N20A **Spence Gulch,** 83.16 45 ⇑P P 23 01 12.1 +0.3
baz=83,SNR=275
RCY **Rachaya** 83.17 305 *e*P P 23 01 12.7 +0.8
G25A **Newell** 83.17 40 ⇑P P 23 01 11.4 -0.2
baz=83,SNR=12
YLV **Yalova** 83.17 314 *e*P P 23 01 11.4 -0.2
ASF **Jabal al Asfar** 83.18 304 P P 23 01 12.9 +1.0
ASF PKKPbc PKKPbc 23 19 33.5 +2.2
ASF **Jabal al Asfar** 83.18 304 P P 23 01 12.9 +1.0
comp=Z,88nm,0.7s,baz=11,slow=1.8,SNR=110
ASF PKKPbc PKKPbc 23 19 33.5 +2.2
comp=Z,2.1nm,0.7s,baz=190,slow=1.2,SNR=4.2

HUMR **Humele** 83.22 319⇓*i*P P 23 01 11.7 0.0
M21A **Separation Pea** 83.22 44 ⇑P P 23 01 12.2 0.0
baz=83,SNR=117
KSP **Ksiaz** 83.25 328⇓*i*P P 23 01 12.5 +0.7
KSP *e**PP pP 23 01 29.1 +0.1
KSP *e* 23 04 23.8
KSP *e*S S 23 11 24.5 -2.8
KSP MLR MLR
comp=Z,41μm,24.3s
KSP **Ksiaz** 83.25 328 *e*P P 23 01 12.4 +0.7
KSP *e*sP sP 23 01 31.1 -4.7
KSP *e*PP PP 23 04 26.0 +2.8
KSP *e*S S 23 11 26.8 -0.5
KSP *e*SS SS 23 16 53.2 +1.4
KSP LMZ LR 23 39 35.5
RWWY **Rawlins** 83.26 44⇑*i*P P 23 01 12.6 +0.2
comp=Z,276nm,1.1s
RWWY *e*PP PP 23 04 23.3 -0.6
CTYL **Yal??k??y-??at** 83.26 316 *e*P P 23 01 12.2 +0.2
U15A **North Rim** 83.27 51 ⇓P P 23 01 13.1 +0.5
baz=83,SNR=205
LOT **Lotru** 83.28 321⇓*i*P P 23 01 13.8 +1.6
PMOR **Pomariorio Ree** 83.28 113 *e*P P 23 01 13.5 +1.2
comp=Z,741nm,1.3s
CTKS **Kestanelik-??a** 83.28 315 *e*P P 23 01 11.9 -0.2
PDMCI **Parker Dam,Lak** 83.28 53 ⇓P P 23 01 12.4 +0.1
baz=83
ERMK **Ermenek** 83.30 309 *i* Pn P 23 01 13.1 +0.5
BOLV **Bolvadin** 83.32 312 *i* Pn P 23 01 13.4 +0.8
Y12C **Blythe** 83.33 54 ⇑P P 23 01 12.6 +0.1
baz=83
E27A **Carson** 83.34 38 ⇑P P 23 01 12.5 +0.1
baz=83,SNR=14
I24A **Kuemmerle Ranc** 83.37 41 ⇑P P 23 01 12.3 -0.4
baz=83,SNR=10
ELBA **Catalca** 83.38 315 *i* Pn P 23 01 13.2 +0.6
MDND **Maddock** 83.38 36 ⇓P P 23 01 12.7 +0.2
baz=83,SNR=22
MORC **Moravsky Berou** 83.44 327⇓*i*P P 23 01 13.5 +0.7
MORC *e* 23 04 26.5
MORC *e*S S 23 11 29.8 +0.5
MORC pmax pmax
comp=Z,440nm,1.3s
MORC **Moravsky Berou** 83.44 327⇓*i*P P 23 01 13.5 +0.7
comp=Z,440nm,1.3s
MORC *e*PP PP 23 04 26.5 +1.6
MORC *e*S S 23 11 29.8 +0.5
H25A **Fruitdale** 83.44 40 ⇓P P 23 01 13.0 0.0
baz=83,SNR=27
BSEG **Bad Segeberg** 83.44 333 *e*P P 23 01 13.3 +0.6
comp=Z,91nm,0.8s
BSEG **Bad Segeberg** 83.44 333 *e*P P 23 01 13.3 +0.6
BSEG pmax pmax
comp=Z,91nm,0.8s
MUKL **Al Mukalla** 83.44 283⇑*e*P P 23 01 12.9 -0.5
MUKL AMb AMB 23 01 16.1
comp=Z,2μm,1.4s
DEV **Deva** 83.45 321⇓*i*P P 23 01 13.7 +0.8
P19A **Cripple Cowboy** 83.46 47 ⇓P P 23 01 13.9 +0.6
baz=83,SNR=320
SLVT **Silivri** 83.46 315 *e*P P 23 01 13.0 -0.1
F27A **Lemmon** 83.47 39 ⇑P P 23 01 13.2 +0.1
baz=83,SNR=24
ULM **Lac du Bonnet** 83.48 33⇑*i*P P 23 01 12.7 -0.3
ULM *e*PP PP 23 04 25.2 +0.1
ULM *e*S S 23 11 32.0 +2.4
ULM PKKPbc PKKPbc 23 19 33.7 +2.7
ULM P'P' 23 27 35.0
ULM **Lac du Bonnet** 83.48 33 P P 23 01 12.2 -0.7
comp=Z,30nm,0.6s,baz=312,slow=6.8,SNR=29
ULM PKKPbc PKKPbc 23 19 33.7 +2.7
comp=Z,8.4nm,0.9s,baz=338,slow=2.4,SNR=5.6
ULM PKPPKP P'P'df 23 27 35.0 -5.2
comp=Z,3.4nm,0.9s,baz=79,slow=3.1,SNR=3.1
ULM LR LR 23 37 31.6
comp=Z,8μm,20.5s,baz=316,slow=35
ARMT **Armutlu** 83.48 315 *e*P P 23 01 12.7 -0.5
SZH **Strazhica** 83.49 318 P P 23 01 13.6 +0.4
L22A **Ellis Ranch, M** 83.50 44 ⇑P P 23 01 14.0 +0.5
baz=83,SNR=127
K23A **Bowen Ranch, D** 83.51 43 ⇑P P 23 01 13.0 -0.5
baz=83,SNR=19
PPT **Papeete** 83.51 116 LR LR 23 35 37.0
comp=Z,11μm,19.5s,baz=130,slow=34
PHNC **Paralimni** 83.52 308 P P 23 01 13.4 -0.1
comp=Z,12nm,1.4s
PPT2 **Papeete2** 83.52 116 *e*P P 23 01 15.2 +1.5
comp=Z,292nm,1.2s
PPT2 **Papeete2** 83.52 116 *e*S S 23 11 33.9 +2.9
comp=Z,8μm,25.0s
PPT2 **Papeete2** 83.52 116 *e*LQ LQ 23 23 25.1
comp=Z,22μm,31.2s
PPT2 *e*LR LR 23 26 53.6
comp=Z,95μm,27.0s,baz=313
GLA **Glamis** 83.53 55⇑*i*P P 23 01 14.0 +0.4
GLA *e* 23 04 26.3
GLA pmax pmax
comp=Z,245nm,1.1s
GLA **Glamis** 83.53 55⇑*i*P P 23 01 14.0 +0.4
comp=Z,245nm,1.1s
GLA *e*PP PP 23 04 26.3 +0.1
GLA **Glamis** 83.53 55 ⇑P P 23 01 14.0 +0.4
baz=83
RSSD **Black Hills** 83.53 41⇑*i*P P 23 01 13.5 -0.1
RSSD *e* 23 04 21.6
RSSD *e*S S 23 11 27.0 -3.8
RSSD pmax pmax
comp=Z,36nm,0.6s
RSSD **Black Hills** 83.53 41⇑*i*P P 23 01 13.5 -0.1
comp=Z,36nm,0.6s
RSSD *e*PP PP 23 04 21.6 -4.4
RSSD *e*S S 23 11 27.0 -3.8
G26A **Maurine** 83.54 39 ⇓P P 23 01 13.3 -0.2
baz=83,SNR=126
TCHB **Talchebab** 83.55 305 *e*P P 23 01 10.7 -3.0
TCHB **Talchebab** 83.55 305 *e*P S 23 11 29.8 -1.2
ZIMR 83.56 319⇑*i*P P 23 01 14.1 +0.6
PAE **Paea** 83.56 116 *e*P P 23 01 15.0 +1.2
comp=Z,68nm,1.2s
MDNY **Mudanya-Bursa** 83.59 314 *e*P P 23 01 13.2 -0.5
DPC **Dobruska-Polom** 83.59 328⇓*i*P P 23 01 14.5 +0.9
DPC *e* 23 01 33.4
DPC *e* 23 04 27.3
DPC *e* 23 11 28.3
DPC **Dobruska-Polom** 83.59 328⇓*i*P P 23 01 14.5 +0.9
DPC *e*sP sP 23 01 33.4 -4.2
DPC *e*PP PP 23 04 27.3 +1.2
DPC *e*SKS SKSac 23 11 28.3 -2.6
DPC *e*x x 23 16 48.1
DPC *e*PKPPKP P'P'df 23 27 31.2 -8.8
DPC *e*x x 23 30 46.0
DPC AMS AMS 23 42 40.0
O20A **White River Ci** 83.60 46 ⇑P P 23 01 14.2 +0.1
baz=83,SNR=48
PSZ **Piszkesteto** 83.61 324⇓*i*P P 23 01 14.5 +0.7
PSZ *e* 23 04 25.9
PSZ *e*S S 23 11 33.2 +2.0
PSZ pmax pmax
comp=Z,637nm,1.1s
PSZ MLR MLR
comp=Z,38μm,20.0s
PSZ **Piszkesteto** 83.61 324⇑*i*P P 23 01 15.1 +1.3
PSZ **Piszkesteto** 83.61 324⇓*i*P P 23 01 14.5 +0.7
comp=Z,637nm,1.1s
PSZ *e*PP PP 23 04 25.9 -0.4
PSZ *e*S S 23 11 33.2 +2.0
PSZ LR LR
comp=Z,38μm,20.0s
PSZ **Piszkesteto** 83.61 324⇓*e*SKSac P 23 01 14.8 +1.0
PHSR **Pinarhisar** 83.61 316 *e*P P 23 01 15.2 +1.3
UPC **Upice** 83.62 328⇓*i*P P 23 01 14.4 +0.7
UPC *e* 23 01 32.8
UPC *e* 23 04 28.0
UPC *e* 23 11 26.9
UPC *e* 23 11 31.4
UPC **Upice** 83.62 328⇓*i*P P 23 01 14.4 +0.7
UPC *e*pP pP 23 01 32.8 +1.9
UPC *e*PP PP 23 04 28.0 +1.8
UPC *e*SKS S 23 11 26.9 -4.1
UPC *e*x x 23 11 31.4
UPC *e*PKPPKP P'P'df 23 27 42.3 +2.4
JMB **Yambol** 83.63 317 P P 23 01 15.1 +1.2
JMB **Yambol** 83.63 317 P P 23 01 15.6 +1.7
ALT **Altintas** 83.64 313 *i* Pn P 23 01 12.0 -2.1

N21A	Black Mountain	83.65	45	⇓P		P	23 01 14.6 +0.3
	baz=83,SNR=124						
SHUT	Suhut-Afyon	83.67	312		eP	P	23 01 14.6 +0.2
TIAR	Tiarei	83.68	115		eP	P	23 01 15.8 +1.4
	comp=Z,484nm,1.1s						
J24A	Dixon Ranch, L	83.69	42	⇑P		P	23 01 13.9 -0.5
	baz=83,SNR=20						
LFK	Lefkose	83.69	308		eP	P	23 01 14.6 +0.1
MMAI	Mount Meron Ar	83.74	305	LR		LR	23 42 31.6
	comp=Z,12μm,19.1s,baz=55,slow=38						
I25A	Rochford	83.76	41	⇓P		P	23 01 14.6 -0.2
	baz=84,SNR=62						
ORLT	Orhaneli	83.78	314		eP	P	23 01 15.6 +0.9
M22A	Cedar Creek Ra	83.80	44	⇑P		P	23 01 15.6 +0.4
	baz=84,SNR=61						
GZR	Gura Zlata	83.84	321	⇓	iP	P	23 01 15.7 +0.7
G27A	Dupree	83.84	39	⇓P		P	23 01 14.8 -0.2
	baz=84,SNR=104						
PVL	Pavlikeni	83.86	318	P		P	23 01 16.7 +1.7
L23A	Garrett	83.87	43	⇑P		P	23 01 15.1 -0.3
	baz=84,SNR=170						
TVO	Taravao	83.89	116		eP	P	23 01 17.1 +1.6
	comp=Z,760nm,1.3s						
AKIN	Ak¯–nc¯–lar- K	83.89	308		eP	P	23 01 16.8 +1.5
H26A	Fairpoint	83.89	40	⇑P		P	23 01 15.3 0.0
	baz=84,SNR=88						
P20A	De Beque	83.90	47	⇑P		P	23 01 15.8 +0.2
	baz=84,SNR=66						
GAZI	Gazipasa	83.93	309		iPn	P	23 01 15.2 -0.4
MAMC	Mammari	83.96	308	P		P	23 01 14.8 -0.9
KCTX	Karacabey (Bur	83.97	315		eP	P	23 01 15.4 -0.3
K24A	Anderson Ranch	83.99	42	⇓P		P	23 01 15.4 -0.6
	baz=84,SNR=6.7						
TKR	Tekirdag	84.00	315		eP	P	23 01 16.2 +0.3
GDZ	Gediz	84.01	313		iPn	P	23 01 16.7 +0.6
CSS	Prodhromos	84.01	308	P		P	23 01 16.2 +0.2
	comp=Z,14nm,1.2s						
CSS	Prodhromos	84.01	308		eP	P	23 01 16.0 0.0
CSS	Prodhromos	84.01	308	P		P	23 01 16.0 0.0
CSS	Prodhromos	84.01	308	⇓	iP	P	23 01 16.3 +0.2
	comp=Z,428nm,0.8s						
CSS					ePP	PP	23 04 31.3 +1.3
CSS					LR	LR	
	comp=Z,48μm,21.0s						
O21A	Pagoda	84.02	46	⇑P		P	23 01 16.6 +0.4
	baz=84,SNR=36						
SUTC	Sutluce-Ispart	84.03	311		eP	P	23 01 16.4 +0.2
J25A	Sunshine Ranch	84.13	41	⇓P		P	23 01 16.1 -0.5
	baz=84,SNR=17						
ISP	Isparta	84.13	312		eP	P	23 01 15.6 -1.1
ISP	Isparta	84.13	312	P		P	23 01 16.2 -0.5
ISP	Isparta	84.13	312	⇓	iP	P	23 01 16.4 -0.3
ISP					e		23 04 30.9
ISP					eS	S	23 11 34.9 -1.9
ISP					pmax	pmax	
	comp=Z,461nm,1.3s						
ISP					MLR	MLR	
	comp=Z,12μm,21.0s						
ISP	Isparta	84.13	312	⇓	iP	P	23 01 16.4 -0.3
ISP	Isparta	84.13	312	⇓	iP	P	23 01 16.4 -0.3
	comp=Z,461nm,1.3s						
ISP					ePP	PP	23 04 30.9 -0.1
ISP					eS	S	23 11 34.9 -1.9
ISP					LR	LR	
	comp=Z,12μm,21.0s						
BNT	Bandirma	84.17	315		eP	P	23 01 17.6 +0.8
VRAC	Vranov	84.21	327		PKKPbc	PKKPbc	23 19 30.6 +1.3
VRAC	Vranov	84.21	327		PKKPbc	PKKPbc	23 19 30.6 +1.3
	comp=Z,2.6nm,0.8s,baz=117,slow=0.7,SNR=3.8						
VRAC					LR	LR	23 42 08.7
	comp=Z,22μm,20.2s,baz=48,slow=38						
LEF	Lefka	84.21	308		eP	P	23 01 15.9 -1.1
DST	Dursunbey	84.22	314		eP	P	23 01 17.5 +0.5
I26A	New Underwood	84.23	40	⇑P		P	23 01 17.5 +0.4
	baz=84,SNR=13						
PVCC	Panska Ves	84.24	329	⇓	iP	P	23 01 17.6 +0.8
PVCC					e		23 01 36.1
PVCC					e		23 04 32.4
PVCC					e		23 11 31.6
PVCC					MLR	MLR	
	comp=Z,18μm,16.0s						
PVCC	Panska Ves	84.24	329	⇓	iP	P	23 01 17.6 +0.8
PVCC					epP	pP	23 01 36.1 +2.0
PVCC					ePP	PP	23 04 32.4 +1.1
PVCC					eSKS	S	23 11 31.6 -5.6
PVCC					eXS	sS	23 12 11.0 +4.6
PVCC					ex	x	23 16 53.5
PVCC					AMS	AMS	23 44 40.0
	comp=Z,18μm,16.0s						
Y14A	Wickenburg	84.25	53	⇓P		P	23 01 17.6 +0.3
	baz=84,SNR=96						
N22A	Wattenberg Ran	84.26	45	⇑P		P	23 01 18.4 +0.9
	baz=84,SNR=29						
H27A	Howes	84.26	40	⇑P		P	23 01 17.3 +0.2
	baz=84						
PV04	Paradox Valley	84.26	48	⇑	iP	P	23 01 17.5 +0.1
BRG	Berggiesshubel	84.26	329	⇓	iP	P	23 01 17.4 +0.5
	comp=Z,185nm,0.9s						
BRG					iP	pP	23 01 35.9 +1.7
	comp=Z,289nm,1.1s						
BRG					iPP	PP	23 04 34.0 +2.6
	comp=Z,213nm,1.4s						
BRG					S	S	23 11 31.0 -6.4
BRG					SS	SS	23 17 03.0 -3.7
BRG					ePKKP	PKKPdf	23 19 20.2 +0.7
	comp=Z,5.9nm,1.3s						
BRG					ePKPPKP	P'P'df	23 27 31.5 -7.2
	comp=Z,41nm,2.1s						
BRG							
	comp=N,17μm,18.8s						
BRG							
	comp=E,7μm,17.4s						
BRG							
	comp=Z,21μm,17.8s						
BRG	Berggiesshubel	84.26	329		eP	P	23 01 17.4 +0.5
	comp=Z,87nm,0.8s						
BRG	Berggiesshubel	84.26	329	⇓	iP	P	23 01 17.4 +0.5
BRG					i*PP	pP	23 01 35.9 +1.7
BRG					i		23 04 34.0
BRG					S	S	23 11 31.0 -6.4
BRG					SS	SS	23 17 03.0 -3.7
BRG					pmax	pmax	
	comp=Z,185nm,0.9s						
BRG					pmax	pmax	
	comp=Z,213nm,1.4s						
BRG					MLR	MLR	
	comp=N,17μm,18.8s						
BRG					MLR	MLR	
	comp=E,7μm,17.4s						
BRG					MLR	MLR	
	comp=Z,21μm,17.8s						
M23A	Laramie	84.27	44	⇓P		P	23 01 17.8 +0.3
	baz=84,SNR=73						
MFT	Murefte	84.28	315		eP	P	23 01 16.9 -0.4
Q20A	Ridgley Place,	84.29	47	⇑P		P	23 01 18.1 +0.5
	baz=84,SNR=316						
BZS	Buzias	84.30	322	⇑	iP	P	23 01 17.6 +0.4
BCK	Bucak	84.31	311		eP	P	23 01 15.9 -1.6
DURS	Dursunbey	84.31	314		iPn	P	23 01 17.9 +0.4
PKSN	Nyarlorinc	84.32	324	⇑	e	P	23 01 18.7 +1.4
BUD	Budapest	84.34	324	⇓	e	P	23 01 18.0 +0.6
CLL	Collm	84.34	330		eP	P	23 01 17.7 +0.4
	comp=Z,165nm,0.8s						
CLL	Collm	84.34	330	⇓	iP	P	23 01 17.4 +0.1
CLL					i*PP	pP	23 01 36.5 +1.9
CLL					eS	S	23 11 33.0 -5.1
CLL					pmax	pmax	
	comp=Z,403nm,0.8s						
CLL					MLR	MLR	
	comp=Z,16μm,18.4s						
CLL	Collm	84.34	330	⇓	iP	P	23 01 17.4 +0.1
	comp=Z,403nm,0.8s						
CLL					iPmax		23 01 18.0
CLL					iPcP	PcP	23 01 21.0 +0.1
CLL					i(pP)	pP	23 01 36.5 +1.9
CLL					iS	sP	23 01 39.2 -2.1
CLL					i		23 01 48.7
CLL					iPP	PP	23 04 33.2 +1.1
CLL					e		23 05 18.0
CLL					eS	SKSac	23 11 36.0 +0.4
	comp=N,5μm,18.9s						
CLL					eS	SKSac	23 11 36.0 +0.4
	comp=E,16μm,19.1s						
CLL					esS	sS	23 12 11.0 +3.7
CLL					e		23 12 31.0
CLL					ePS	PnS	23 12 39.0 +0.7
CLL					eSS	SS	23 17 06.0 -1.8
CLL					e		23 17 57.0
CLL					iPKKPbc	PKKPbc	23 19 30.2 +1.2
	comp=Z,46nm,1.9s						
CLL					epPKKPbc		23 19 50.0
CLL					eSSS	SSS	23 20 38.0
CLL					e		23 22 01.0
CLL					eSSSS		23 23 12.0
CLL					iPKPPKPdf	P'P'df	23 27 32.0 -6.5
CLL					e		23 27 49.0
CLL					Lm	MLR	23 44 00.0
	comp=Z,16μm,18.4s						
CLL					L	L	23 52 00.0
	comp=N,4μm,21.4s						
CLL					L	L	23 52 00.0
	comp=E,11μm,21.3s						
CLL					L	L	23 52 00.0
	comp=Z,13μm,18.9s						
L24A	Wheatland	84.36	43	⇑P		P	23 01 18.2 +0.4
	baz=84,SNR=22						
ALFC	Alevga	84.38	308	P		P	23 01 17.5 -0.4
	comp=Z,11nm,0.8s						
SMOL	Smolenice	84.38	326		eP	P	23 01 17.9 +0.3
SMOL					e		23 04 34.1
SMOL	Smolenice	84.38	326		eP	P	23 01 17.9 +0.3
SMOL					ePP	PP	23 04 34.1 +1.6
SART	Tekirdag	84.40	315		iPn	P	23 01 18.6 +0.6
RKY	Sarkoy-Tekirda	84.41	315		eP	P	23 01 17.5 -0.5
WUAZ	Wupatki	84.41	51	⇑	iP	P	23 01 18.4 +0.2
	comp=Z,283nm,1.0s						
WUAZ					ePP	PP	23 04 33.6 +0.1
WUAZ	Wupatki	84.41	51	⇑P		P	23 01 18.7 +0.4
	baz=84,SNR=144						
113A	Mohawk Valley,	84.42	55	⇑P		P	23 01 18.2 +0.1
	baz=84						
TIM	Timisoara	84.42	322	⇓	iP	P	23 01 18.1 +0.3
SZAC	Souni-Zanaja	84.43	308	P		P	23 01 18.2 0.0
KHAL	Karahalli	84.44	312		iPn	P	23 01 18.8 +0.5
KHL	Karahalli	84.45	312		eP	P	23 01 18.4 +0.2
P21A	Newcastle	84.46	46	⇑P		P	23 01 19.1 +0.6
	baz=84,SNR=88						
DIM	Dimitrovgrad	84.50	317	P		P	23 01 19.7 +1.4
N23A	Red Feather La	84.50	44	⇑P		P	23 01 19.3 +0.6
	baz=84,SNR=104						
DEMI	Demirci	84.50	313		iPn	P	23 01 19.0 +0.5
GONE	Gonen-Balikesi	84.51	315		eP	P	23 01 18.0 -0.3
KRBG	Karabiga-Canak	84.52	315		eP	P	23 01 18.3 -0.1
PHWY	Pilot Hill	84.53	44	⇑	iP	P	23 01 19.1 +0.2
	comp=Z,206nm,1.2s						
PHWY					eS	S	23 11 41.6 +0.6
PKS7	Kunszentmiklos	84.57	324	⇓	e	P	23 01 19.3 +0.8
G28A	Parade	84.58	39	⇑P		P	23 01 18.9 +0.2
	baz=84,SNR=21						
J26A	Sides Ranch, S	84.58	41	⇓P		P	23 01 18.9 +0.1
	baz=84,SNR=56						
K25A	Mack Ranch, Ha	84.59	42	⇓P		P	23 01 19.2 +0.2
	baz=84,SNR=29						
O22A	Kremmling	84.60	45	⇓P		P	23 01 19.6 +0.3
	baz=84,SNR=254						
PV01	Paradox Valley	84.63	48		eP	P	23 01 19.4 +0.1
	comp=Z,722nm,1.2s						
NRDL	Niedersach Rie	84.63	332		eP	P	23 01 18.9 +0.3
	comp=Z,42nm,0.9s						
Z14A	Wintersburg	84.63	54	⇑P		P	23 01 19.1 -0.1
	baz=84,SNR=20						
PRA	Prague	84.63	328	⇓P		P	23 01 20.0 +1.2
PRA					PP	PP	23 04 36.0 +1.5
PRA					SKS	SKSac	23 11 35.0 -2.5
PRA					AMS	AMS	23 44 30.0
AKMC	Akamas	84.64	308	P		P	23 01 18.9 -0.3
BALB	Balikesir	84.64	314		eP	P	23 01 19.4 +0.3
I27A	Quinn	84.64	40	⇓P		P	23 01 19.3 +0.2
	baz=84,SNR=24						
PRU	Pruhonice	84.65	328	⇓	iP	P	23 01 19.3 +0.4
PRU					e		23 01 38.5
PRU					e		23 04 35.9
PRU					e		23 11 33.1
PRU					MLR	MLR	
	comp=Z,18μm,16.8s						
PRU	Pruhonice	84.65	328	⇓	iP	P	23 01 19.3 +0.4
PRU					ex	x	23 01 38.5
PRU					ePP	PP	23 04 35.9 +1.3
PRU					eSKS	SKSac	23 11 33.1 -4.5
PRU					eSS	SS	23 17 07.0 -5.4
PRU					ePKPPKP	P'P'df	23 27 29.5 -8.5
PRU					ex	x	23 30 47.7
PRU					AMS	AMS	23 43 10.0
	comp=Z,18μm,16.8s						
MPEP	Malo Peshtene	84.66	319	P		P	23 01 19.7 +0.6
PKSG		84.71	325	⇓	eSKSac	P	23 01 19.6 +0.3
PPCY	Paphos	84.71	308	P		P	23 01 19.4 -0.1
R20A	Redvale	84.71	48	⇑P		P	23 01 20.2 +0.5
	baz=84,SNR=234						
TREC	Trest	84.72	327	⇓	iP	P	23 01 19.8 +0.4
TREC					e		23 01 37.9
TREC					e		23 04 37.0
TREC					e		23 11 34.3
TREC					eSS	SS	23 17 08.5 -5.2
TREC					MLR	MLR	
	comp=Z,25μm,21.2s						
TREC	Trest	84.72	327	⇓	iP	P	23 01 19.8 +0.4
TREC					epP	pP	23 01 37.9 +1.3
TREC					ePP	PP	23 04 37.0 +1.7
TREC					eSKS	S	23 11 34.3 -7.8
TREC					eXS	sS	23 12 14.6 +3.2
TREC					eSS	SS	23 17 08.5 -5.2
TREC					ex	x	23 27 22.4
TREC					ex	x	23 30 47.0
TREC					AMS	AMS	23 41 20.0
	comp=Z,25μm,21.2s						
KORT	Korkueli	84.73	311		iPn	P	23 01 20.6 +0.9
BALY	Balya	84.74	314		iPn	P	23 01 20.0 +0.4
ZST	Bratislava	84.76	326		eP	P	23 01 19.5 0.0
ZST					e		23 04 37.5
ZST					eS	SKSac	23 11 32.8 -5.6
ZST					eSS	SS	23 17 09.2 -5.0
ZST	Bratislava	84.76	326		eP	P	23 01 19.5 0.0
ZST					ePP	PP	23 04 37.5 +1.9
ZST					eS	SKSac	23 11 32.8 -5.6
ZST					eSS	SS	23 17 09.2 -5.0
M24A	Cheyenne	84.79	43	⇓P		P	23 01 20.7 +0.7
	baz=84,SNR=61						
CSKK	Cs¯‡kako	84.79	325	⇓	e	P	23 01 20.2 +0.5
H28A	Mission Ridge	84.79	39	⇓P		P	23 01 19.7 -0.1
	baz=84,SNR=49						
Q21A	Lamborn Mesa,	84.81	47	⇓P		P	23 01 21.0 +0.8
	baz=85,SNR=158						
KDZ	Kurdzhali	84.82	317	P		P	23 01 21.0 +1.0
P22A	Eagle	84.83	46	⇑P		P	23 01 21.2 +0.8
	baz=85,SNR=361						
L25A	Engebretsen Ra	84.84	42	⇓P		P	23 01 20.6 +0.4
	baz=85,SNR=33						
MEH	Mehetia	84.85	115		eP	P	23 01 21.6 +1.3
	comp=Z,451nm,1.3s						
MVH1	Achvaich	84.85	342	⇓	eP	P	23 01 19.6 -0.1
KULA	Kula-Manisa	84.87	313		eP	P	23 01 19.4 -1.0
AGMN	Agassiz Nation	84.87	34	⇑	iP	P	23 01 18.9 -1.2
	comp=Z,320nm,1.6s						
AGMN					ePP	PP	23 04 36.8 +0.3
AGMN					eS	S	23 11 40.7 -2.9
AGMN					LR	LR	
	comp=Z,10μm,19.0s						
MCD	Coleburn Disti	84.90	341	⇓	eP	P	23 01 19.4 -0.6
K26A	Motz Farm, Whi	84.92	42	⇑P		P	23 01 20.7 +0.1
	baz=85,SNR=23						
PKS2	Kecel	84.93	324	⇓	eP	P	23 01 20.8 +0.4
PLD	Plovdiv	84.94	318	P		P	23 01 20.6 +0.1
PLD	Plovdiv	84.94	318	P		P	23 01 21.3 +0.8
ALN	Alexandroupoli	84.94	316		eP	P	23 01 20.5 0.0
S20A	Disappointment	84.94	48	⇓P		P	23 01 20.8 -0.1
	baz=85,SNR=106						
O23A	Lake Granby, G	84.95	45	⇓P		P	23 01 21.8 +0.8
	baz=85,SNR=74						
PGB	Panagyurishte	84.95	318	P		P	23 01 21.3 +0.6
SMCO	Snowmass	84.96	46	⇑	iP	P	23 01 21.9 +0.7
	comp=Z,284nm,1.1s						
PKST	T¯s	84.97	325	⇓	eP	P	23 01 20.8 +0.2
X16A	Lo Mia Camp, P	85.02	52	⇓P		P	23 01 21.9 +0.6
	baz=85,SNR=66						
MME1	Meikle Cairn	85.05	341		eP	P	23 01 20.6 -0.3
RDO	Rodhopi	85.08	317	P		P	23 01 20.9 -0.3
RDO	Rodhopi	85.08	317		eP	P	23 01 21.6 +0.4
GOLH	Golhisar	85.09	312		iPn	P	23 01 21.4 -0.1
R21A	Cimarron	85.11	47	⇓P		P	23 01 22.7 +0.9
	baz=85,SNR=302						
DNZL	Cakiroluk	85.14	312		iPn	P	23 01 22.3 +0.4
AKHS	Akhisar	85.16	314		iPn	P	23 01 21.8 +0.1
N24A	Carr	85.16	44	⇑P		P	23 01 22.9 +0.9
	baz=85,SNR=36						
I28A	Midland	85.17	40	⇓P		P	23 01 21.7 0.0
	baz=85,SNR=103						
ELL	Elmali	85.17	311		eP	P	23 01 21.2 -0.7
Q22A	Crested Butte,	85.20	46	⇑P		P	23 01 22.9 +0.6
	baz=85,SNR=470						
RZN	Rozhen	85.20	317	P		P	23 01 22.3 +0.2
J27A	Elkhorn Farm,	85.21	41	⇑P		P	23 01 22.4 +0.4
	baz=85,SNR=29						
TANN	Tannenbergstha	85.23	330		eP	P	23 01 22.3 +0.4
	comp=Z,34nm,0.9s						
MVCO	Mesa Verde	85.24	48	⇑	iP	P	23 01 22.9 +0.5
	comp=Z,193nm,1.1s						
MVCO					LR	LR	
	comp=Z,11μm,20.0s						
MVCO	Mesa Verde	85.24	48	⇑P		P	23 01 22.5 +0.1
	baz=85,SNR=69						
M25A	Palm-Egli Farm	85.25	43	⇓P		P	23 01 23.2 +0.9
	baz=85						
DRUM	Mains of Drumt	85.27	341		eP	P	23 01 21.6 -0.3
DRUM					AMB	AMB	23 01 24.6
	comp=Z,343nm,1.6s						
DRUM					e		23 04 24.7
DRUM					AMS	AMS	23 43 56.1
	comp=Z,10μm,21.3s						
MDO	Dochfour	85.32	342	⇓	eP	P	23 01 21.5 -0.6
NKC	Novy Kostel	85.38	329	⇓	iP	P	23 01 22.8 +0.2
NKC					e		23 01 42.0
NKC					e		23 04 38.0
NKC					e		23 11 38.6
NKC					MLR	MLR	
	comp=Z,9μm,16.1s						
NKC	Novy Kostel	85.38	329	⇓	iP	P	23 01 22.8 +0.2
NKC					epP	pP	23 01 42.0 +2.1
NKC					ePP	PP	23 04 38.0 -2.5
NKC					eSKS	SKSac	23 11 38.6 -3.7
NKC					ex	x	23 17 13.1
NKC					ex	x	23 27 24.1
NKC					AMS	AMS	23 43 30.0
	comp=Z,9μm,16.1s						
ISCO	Idaho Springs	85.39	45	⇑	iP	P	23 01 23.8 +0.6
ISCO					e		23 04 41.7
ISCO					pmax	pmax	
	comp=Z,196nm,1.2s						
ISCO					MLR	MLR	
	comp=Z,12μm,20.0s						
ISCO	Idaho Springs	85.39	45	⇑	iP	P	23 01 23.8 +0.6
	comp=Z,196nm,1.2s						
ISCO					ePP	PP	23 04 41.7 +0.3
ISCO					LR	LR	
	comp=Z,12μm,20.0s						
ISCO	Idaho Springs	85.39	45	⇑P		P	23 01 23.8 +0.6
	baz=85,SNR=115						
S21A	Coal Bank Pass	85.40	48	⇑P		P	23 01 24.1 +0.8
	baz=85,SNR=231						
PKSM	Moragy	85.41	324	⇑	iP	P	23 01 23.1 +0.3
PKSM	Moragy	85.41	324	⇓	eSKSdf	P	23 01 22.8 0.0
L26A	Underwood Farm	85.41	42	⇓P		P	23 01 23.3 +0.2
	baz=85,SNR=5.3						
MOX	Moxa	85.42	330		eP	P	23 01 23.1 +0.3
	comp=Z,53nm,0.9s						
MOX	Moxa	85.42	330		eP	P	23 01 23.1 +0.3
MOX					pmax	pmax	
	comp=Z,53nm,0.9s						
K27A	Flueckinger Fa	85.45	41	⇑P		P	23 01 23.1 -0.1
	baz=85,SNR=11						
VTS	Vitosha	85.45	319	P		P	23 01 23.2 -0.1
VTS	Vitosha	85.45	319	⇑P		P	23 01 24.2 +0.9
VTS	Vitosha	85.45	319		eP	P	23 01 24.0 +0.7
VTS	Vitosha	85.45	319	P		P	23 01 23.8 +0.5
VTS	Vitosha	85.45	319	⇑	iP	P	23 01 24.2 +0.9
O24A	Longmont	85.50	44	⇓P		P	23 01 24.7 +1.1
	baz=85,SNR=22						
KAC	Achnashellach	85.51	342	⇓	eP	P	23 01 23.2 +0.1
SMTH	Samothraki Isl	85.51	316		eP	P	23 01 23.3 -0.1
J28A	Allard Ranch,	85.52	40	⇑P		P	23 01 23.5 +0.1
	baz=85,SNR=38						
P23A	Jefferson	85.52	45	⇑P		P	23 01 25.0 +1.1
	baz=85,SNR=129						
CONA	Conrad Observa	85.54	326		iPcP	P	23 01 24.4 +0.9
	comp=Z,405nm,1.2s,SNR=239						
CONA				⇑	iPP	PP	23 04 42.0 0.0
	comp=Z,146nm,1.4s						
CONA				⇑	iS	S	23 11 48.3 -2.0
	comp=Z,30nm,1.7s						
CSNA	Conrad Observa	85.54	326		iPcP	P	23 01 24.4 +0.9
	comp=Z,546nm,1.6s,SNR=236						
214A	Organ Pipe Nat	85.55	55	⇑P		P	23 01 24.0 +0.2
	baz=85,SNR=44						
BOZC	Bozcaada	85.61	315		iPn	P	23 01 23.8 -0.1
N25A	Grover	85.63	43	⇓P		P	23 01 24.9 +0.7
	baz=85,SNR=28						
AKAS	Kas	85.68	311		iPn	P	23 01 24.0 -0.5
IBBN	Ibbenburen	85.68	333		eP	P	23 01 24.2 +0.2
	comp=Z,181nm,0.7s						
R22A	Saguache, Gunn	85.69	47	⇓P		P	23 01 25.9 +1.2
	baz=86						
KHC	Kasperske Hory	85.70	328	⇓	iP	P	23 01 24.4 +0.1
KHC					e		23 01 43.6
KHC					e		23 04 43.7
KHC					e		23 11 40.9
KHC					MLR	MLR	
	comp=Z,25μm,16.5s						
KHC	Kasperske Hory	85.70	328	⇓	iP	P	23 01 24.4 +0.1
KHC					epP	pP	23 01 43.6 +2.1
KHC					ex	x	23 02 31.5
KHC					ePP	PP	23 04 43.7 +0.4
KHC					eSKS	SKSac	23 11 40.9 -3.5
KHC					eXS	sS	23 12 23.9 +2.8
KHC					ex	x	23 17 21.0
KHC					ePKPPKP	P'P'df	23 27 27.4 -8.7
KHC					ex	x	23 30 43.4
KHC					AMS	AMS	23 44 00.0
	comp=Z,25μm,16.5s						
KHC	Kasperske Hory	85.70	328	⇓	iP	P	23 01 24.3 +0.1
	comp=Z,376nm,1.2s						
KHC					ePP	PP	23 04 43.7 +0.4
KHC					eS	SKSac	23 11 41.5 -2.9
W18A	Petrified Fore	85.72	51	⇓P		P	23 01 24.8 0.0
	baz=86,SNR=6.2						
U20A	Newcomb	85.74	49	⇑P		P	23 01 24.8 -0.1
	baz=86,SNR=49						
KPL	Plockton	85.74	342	⇓	eP	P	23 01 24.4 +0.2
KPL					AMB	AMB	23 01 27.3
	comp=Z,654nm,1.4s						
KPL					AMS	AMS	23 42 55.4
	comp=Z,12μm,22.1s						
M26A	McRoberts Ranc	85.75	42	⇓P		P	23 01 25.5 +0.8
	baz=86,SNR=10						
FETY	Fethiye	85.76	311		eP	P	23 01 23.4 -1.4
KAVA	Kavala	85.76	317	P		P	23 01 24.7 +0.1
L27A	T5 Ranch, Ells	85.81	42	⇓P		P	23 01 25.4 +0.4
	baz=86,SNR=10						
Q23A	Hartsel	85.82	46	⇑P		P	23 01 26.1 +0.7
	baz=86,SNR=35						
MMB	Musomiste	85.82	318	P		P	23 01 25.1 +0.1
ROTZ	Rotzenmuhle

AYDN Tasoluk 85.88 313 *i* Pn **P** **23 01 26.4 +1.1**
NVR Nevrokopi 85.90 318 P **P** **23 01 24.7 -0.7**
NVR Nevrokopi 85.90 318 *eP* **P** **23 01 25.2 -0.2**
K28A Ten Mile Ranch 85.92 41 ⇓P **P** **23 01 25.6 +0.1**
baz=86,SNR=17
TURN Turunc 85.92 312 *i* Pn **P** **23 01 27.4 +1.9**
DALY Dalyan (Mu¨la 85.92 312 *eP* **P** **23 01 23.1 -2.4**
X18A Snowflake 85.94 51 ⇑P **P** **23 01 26.1 +0.2**
baz=86,SNR=46
S22A 4UR Ranch, Cre 85.94 47 ⇑P **P** **23 01 26.8 +0.8**
baz=86,SNR=218
UBBA Unterbreizbach 85.95 331 *eP* **P** **23 01 25.5 +0.2**
comp=Z,21nm,0.8s
YER Yerkesik 85.96 312 *eP* **P** **23 01 25.0 -0.8**
TAOE Nuku Hiva Isla 85.97 103 *eS* **S** **23 11 59.2 +3.7**
comp=Z,15µm,32.8s
TAOE Nuku Hiva Isla 85.97 103 *e*LQ LQ 23 24 25.2
comp=Z,17µm,29.4s
TAOE *e*LR LR 23 28 19.2
comp=Z,98µm,26.5s,baz=311
T21A Navajo Lake 85.98 48 ⇓P **P** **23 01 26.5 +0.4**
baz=86,SNR=27
EIL Elat 85.98 303 *eP* **P** **23 01 25.1 -0.9**
EIL Elat 85.98 303 P **P** **23 01 26.0 0.0**
EIL PP **PP** **23 04 49.4 +3.2**
EIL PKKPbc **PKKPbc** **23 19 27.0 +2.3**
EIL P'P' 23 27 32.9
EIL Elat 85.98 303 P **P** **23 01 26.0 0.0**
comp=Z,129nm,1.0s,baz=47,slow=2.8,SNR=59
EIL PP **PP** **23 04 49.4 +3.2**
comp=Z,74nm,1.1s,baz=105,slow=5.0,SNR=4.5
EIL PKKPbc **PKKPbc** **23 19 27.0 +2.3**
comp=Z,5.6nm,0.6s,baz=63,slow=2.3,SNR=13
EIL PKPPKP **P'P'df** **23 27 32.9 -2.6**
comp=Z,1.2nm,0.6s,baz=307,slow=14,SNR=3.6
EIL LR LR 23 44 25.6
comp=Z,19µm,20.8s,baz=76,slow=39
P24A Kohler Place, 85.99 45 ⇓P **P** **23 01 27.0 +0.9**
baz=86,SNR=23
ELO Logie Almond 85.99 341 *eP* **P** **23 01 25.1 -0.4**
WET Wettzell 86.00 329 *eP* **P** **23 01 26.1 +0.4**
comp=Z,28nm,1.0s
WET Wettzell 86.00 329 *eP* **P** **23 01 26.1 +0.4**
WET pmax pmax
comp=Z,28nm,1.0s
KKB Krupnik 86.00 318 P **P** **23 01 25.9 0.0**
BRSD Miller 86.03 38 ⇑P **P** **23 01 25.6 -0.4**
baz=86,SNR=22
O25A Wiggins 86.07 44 ⇓P **P** **23 01 26.6 +0.2**
baz=86,SNR=33
LIA Limnos Island 86.08 316 *eP* **P** **23 01 26.1 -0.1**
N26A Koester Ranch, 86.12 43 ⇓P **P** **23 01 26.5 -0.1**
baz=86,SNR=8.1
V20A Brimhall 86.12 49 ⇓P **P** **23 01 26.7 -0.1**
baz=86,SNR=80
SIGR SIGRI 86.13 315 P **P** **23 01 27.6 +1.1**
M27A Reverse DX Ran 86.14 42 ⇑P **P** **23 01 26.9 +0.2**
baz=86,SNR=8.4
BEHE Becsehely 86.14 325⇑*e*SKSdf **P** **23 01 26.7 +0.3**
ESY Stoneypath 86.16 340⇓*eP* **P** **23 01 26.3 0.0**
DIVS Divibare 86.18 321 P **P** **23 01 26.7 -0.1**
ARSA Arzberg 86.18 326 *i* PcP **P** **23 01 27.0 +0.3**
comp=Z,231nm,1.3s,SNR=153
Q24A Divide 86.20 45 ⇑P **P** **23 01 27.7 +0.4**
baz=86,SNR=83
SRS Serrai 86.21 317 P **P** **23 01 26.1 -0.8**
URLA Izmir 86.22 314 *e*Pn **P** **23 01 27.2 +0.1**
U21A Nageezi 86.25 49 ⇑P **P** **23 01 27.5 +0.1**
baz=86,SNR=85
GCAM G?zelcaml? 86.25 313 *i* Pn **P** **23 01 27.6 +0.5**
R23A Moffat 86.28 46 ⇑P **P** **23 01 28.7 +1.1**
baz=86,SNR=141
GRF Grafenberg Arr 86.31 330 *eP* **P** **23 01 27.9 +0.7**
comp=Z,121nm,1.1s
GRF *e*pP **pP** **23 01 47.0 +2.5**
GRF Grafenberg Arr 86.31 330 *eP* **P** **23 01 27.9 +0.7**
GRF *e**PP **pP** **23 01 47.0 +2.5**
GRF pmax pmax
comp=Z,121nm,1.1s
L28A Connealy Angus 86.31 41 ⇑P **P** **23 01 27.4 -0.1**
baz=86
GRFO Grafenberg 86.31 330⇓*iP* **P** **23 01 27.5 +0.3**
GRFO *e* 23 04 48.8
GRFO *e*S S 23 11 48.6 -9.0
GRFO pmax pmax
comp=Z,1µm,1.5s
GRFO Grafenberg 86.31 330⇓*iP* **P** **23 01 27.4 +0.3**
comp=Z,1µm,1.5s
GRFO *e*PP **PP** **23 04 48.8 +0.7**
GRFO *e*S S 23 11 48.6 -9.0
EDI Edinburgh 86.32 340 *eP* **P** **23 01 27.0 0.0**
EDI AMB AMB 23 01 28.7
comp=Z,133nm,2.1s
EDI AMS AMS 23 34 54.8
comp=Z,8µm,35.3s
MOA Molln 86.33 327 *i* PcP **P** **23 01 27.6 +0.3**
comp=Z,223nm,1.3s,SNR=136
MOA ⇑*i*PP **PP** **23 04 50.4 +2.1**
comp=Z,120nm,1.4s
T22A Edith 86.36 48 ⇓P **P** **23 01 28.6 +0.6**
baz=86,SNR=126
EAB Aberfoyle 86.41 341⇓*eP* **P** **23 01 27.2 -0.3**
EBL Broad Law 86.41 340⇓*eP* **P** **23 01 27.6 +0.1**
P25A Willow Gulch B 86.43 44 ⇓P **P** **23 01 28.7 +0.5**
baz=86,SNR=47
O26A Horse Wrangler 86.45 43 ⇑P **P** **23 01 28.3 0.0**
baz=86,SNR=24
K29A Lazy Trails An 86.46 40 ⇓P **P** **23 01 28.2 0.0**
baz=86,SNR=44
EAU Auchinoon 86.46 341⇓*eP* **P** **23 01 27.8 0.0**
S23A Nye Farm, Mont 86.48 47 ⇑P **P** **23 01 29.4 +0.8**
baz=86
SMG Samos 86.49 313 P **P** **23 01 28.0 -0.3**
SMG Samos 86.49 313 *eP* **P** **23 01 28.0 -0.3**
OUR Ouranopolis 86.50 317 P **P** **23 01 28.1 -0.2**
W20A Ramah 86.52 50 ⇓P **P** **23 01 28.7 -0.1**
baz=86,SNR=43
BDRM Kayabasi 86.52 312 *i* P **P** **23 01 28.6 +0.1**
N27A Anderson Farm, 86.53 43 ⇑P **P** **23 01 28.8 +0.2**
baz=86,SNR=38
CHOS Chios island 86.53 314 *eP* **P** **23 01 28.4 -0.2**
SOH Sokhos 86.54 317 P **P** **23 01 28.0 -0.5**
SOH Sokhos 86.54 317 *eP* **P** **23 01 28.1 -0.5**
BDHA Al Bayda' 86.55 284⇑*eP* **P** **23 01 28.7 -0.5**
BUG Bochum--Univer 86.55 333 *eP* **P** **23 01 28.4 +0.1**
comp=Z,89nm,0.9s
KNT Kendrikon 86.57 318 P **P** **23 01 28.2 -0.5**
ARG Arkhangelos 86.63 311 P **P** **23 01 28.9 -0.1**
ARG Arkhangelos 86.63 311 *eP* **P** **23 01 29.4 +0.4**
V21A Milan 86.65 49 ⇓P **P** **23 01 29.7 +0.3**
baz=86,SNR=66
VAY Valandovo 86.65 318 P **P** **23 01 27.8 -1.2**
VAY Valandovo 86.65 318⇓*eP* **P** **23 01 28.2 -0.8**
R24A Sanders Place, 86.69 46 ⇓P **P** **23 01 30.4 +0.8**
baz=86,SNR=131
TUC Tucson 86.72 53⇑*iP* **P** **23 01 29.5 -0.1**
TUC *e* 23 04 49.8
TUC *e*S S 23 11 55.3 -7.1
TUC pmax pmax
comp=Z,111nm,1.4s
TUC Tucson 86.72 53⇑*iP* **P** **23 01 29.5 -0.1**
comp=Z,111nm,1.4s
TUC *e*PP **PP** **23 04 49.8 -2.3**
TUC *e*S S 23 11 55.3 -7.1
OGNE Ogallala 86.72 42⇑*iP* **P** **23 01 29.4 -0.2**
comp=Z,203nm,0.8s
OGNE *e*PP **PP** **23 04 53.1 +1.3**
OGNE LR LR
comp=Z,8µm,19.0s
OGNE Ogallala 86.72 42 ⇓P **P** **23 01 29.4 -0.2**
baz=86,SNR=23
SDCO Great Sand Dun 86.76 46⇑*iP* **P** **23 01 30.4 +0.4**
comp=Z,143nm,1.3s
SDCO *e*PP **PP** **23 04 49.7 -2.8**
SDCO LR LR
comp=Z,6µm,22.0s
Q25A Bedland, Calha 86.77 45 ⇓P **P** **23 01 30.2 +0.3**
baz=86,SNR=76
PGBU Glenifferbraes 86.78 341⇓*eP* **P** **23 01 29.1 -0.2**
PGBU AMB AMB 23 01 32.2
comp=Z,698nm,1.4s
PGBU *e* 23 04 36.7
PGBU AMS AMS 23 48 57.4
comp=Z,9µm,20.1s
PLG Polygyros 86.78 317 P **P** **23 01 29.3 -0.4**

PLG Polygyros 86.78 317 *eP* **P** **23 01 29.4 -0.3**
U22A Llaves 86.79 48 ⇑P **P** **23 01 30.6 +0.5**
baz=87,SNR=50
M28A Bar X Bar Ranc 86.80 42 ⇑P **P** **23 01 29.7 -0.1**
baz=86,SNR=12
PERS Pernice 86.82 326 *i* P **P** **23 01 29.7 -0.1**
PERS *e*S **SKSac** **23 11 48.1 -3.4**
SOKA Soboth 86.83 326 *i* PcP **P** **23 01 29.8 -0.1**
comp=Z,285nm,1.1s,SNR=246
SOKA ⇑*i*SKSac **SKSac** **23 11 48.9 -2.7**
HORT Hortiatis 86.83 317 P **P** **23 01 29.9 -0.1**
L29A Maesberg Ranch 86.84 41 ⇑P **P** **23 01 29.9 -0.2**
baz=87,SNR=24
SKO Skopje 86.85 319⇓*iP* **P** **23 01 31.5 +1.5**
SKO *i* S **SKSac** **23 11 50.5 -1.2**
ESK Eskdalemuir 86.85 340 *eP* **P** **23 01 29.1 -0.6**
ESK AMB AMB 23 01 32.4
comp=Z,232nm,1.4s
ESK *e* 23 04 44.0
ESK AMS AMS 23 37 07.3
comp=Z,9µm,26.8s
ESK Eskdalemuir 86.85 340⇓*eP* **P** **23 01 29.7 0.0**
ESK *e* 23 04 49.7
ESK pmax pmax
comp=Z,210nm,1.1s
ESK MLR MLR
comp=Z,10µm,21.0s
ESK Eskdalemuir 86.85 340⇓*eP* **P** **23 01 29.7 0.0**
comp=Z,210nm,1.1s
ESK *e*PP **PP** **23 04 49.7 -2.5**
ESK LR LR
comp=Z,10µm,21.0s
LBOS 86.87 284⇑*eP* **P** **23 01 30.4 -0.5**
LBOS AMb AMB 23 01 31.6
comp=Z,2µm,1.7s
P26A Davis Ranch, A 86.88 44 ⇓P **P** **23 01 30.5 +0.1**
baz=87,SNR=34
T23A Casias Ranch, 86.88 47 ⇑P **P** **23 01 31.2 +0.6**
baz=87,SNR=11
PAIG Paliouri 86.94 317 P **P** **23 01 30.1 -0.4**
PAIG Paliouri 86.94 317 *eP* **P** **23 01 29.7 -0.8**
ECK Cauldkaine Hil 86.95 340⇓*eP* **P** **23 01 30.3 +0.1**
XAL Allendale 86.96 339 *eP* **P** **23 01 29.6 -0.7**
O27A Beecher Island 86.97 43 ⇑P **P** **23 01 30.7 -0.1**
baz=87,SNR=22
NIS1 Nisyros Isl. 86.98 312 *eP* P 23 01 25.1 -5.6
S24A Houchin Ranch, 87.00 46 ⇓P **P** **23 01 31.7 +0.5**
baz=87,SNR=84
PLE Pljevlja 87.02 321⇓*iP* **P** **23 01 30.9 -0.1**
V22A San Miguel Ran 87.04 49 ⇓P **P** **23 01 31.6 +0.3**
baz=87,SNR=34
TNS Taunus Mts 87.05 331 *eP* **P** **23 01 30.9 +0.1**
comp=Z,33nm,1.0s
TNS Taunus Mts 87.05 331 *eP* **P** **23 01 30.9 +0.1**
TNS pmax pmax
comp=Z,33nm,1.0s
SISC Sisak 87.05 324 P **P** **23 01 30.3 -0.6**
IVA Berane 87.07 321 *eP* **P** **23 01 31.4 -0.2**
W21A San Fidel 87.07 50 ⇓P **P** **23 01 31.6 +0.2**
baz=87,SNR=11
RJOB Jochberg 87.08 328 *eP* **P** **23 01 31.4 +0.3**
comp=Z,24nm,0.8s
TBI Tubuai 87.09 120 *eP* **P** **23 01 32.8 +1.5**
comp=Z,314nm,1.2s
TBI Tubuai 87.09 120 *e*PP PP 23 04 57.2 +1.4
TBI *e*S **S** **23 12 06.5 +0.8**
comp=Z,3µm,30.0s
comp=Z,12µm,34.5s
TBI Tubuai 87.09 120 *e*LR LR 23 28 36.8
comp=Z,64µm,34.8s,baz=312
EYMN Ely 87.13 32⇑*iP* **P** **23 01 30.4 -0.9**
comp=Z,485nm,1.6s
EYMN *e*PP **PP** **23 04 54.6 -0.1**
EYMN LR LR
comp=Z,8µm,22.0s
M29A Burnside Ranch 87.14 41 ⇓P **P** **23 01 31.1 -0.4**
baz=87
N28A Pribbeno Ranch 87.17 42 ⇑P **P** **23 01 31.6 -0.1**
baz=87,SNR=17
OBKA Obir 87.18 326⇓*i*PcP **P** **23 01 31.5 -0.2**
comp=Z,60nm,0.8s,SNR=35
Q26A Hugo 87.19 45 ⇓P **P** **23 01 32.1 +0.1**
baz=87,SNR=44
PVY Plav 87.23 320⇓*iP* **P** **23 01 31.5 -0.5**
U23A El Rito 87.23 48 ⇑P **P** **23 01 32.8 +0.5**
baz=87,SNR=36
R25A Fountain Ranch 87.24 46 ⇑P **P** **23 01 32.1 -0.1**
baz=87,SNR=95
AOS Alonnisos 87.32 316 P **P** **23 01 30.9 -1.4**
AOS Alonnisos 87.32 316 *eP* **P** **23 01 31.5 -0.8**
KBA Koelnbreinsper 87.32 327 *i* PcP **P** **23 01 32.1 -0.3**
comp=Z,93nm,0.7s,SNR=53
BCI Bajram Curri 87.33 320 *eP* **P** **23 01 31.8 -0.5**
P27A Ficken Ranch, 87.33 44 ⇓P **P** **23 01 32.3 -0.3**
baz=87,SNR=11
Y20A Horse Springs, 87.35 51 ⇑P **P** **23 01 33.5 +0.6**
baz=87,SNR=100
UPM Unac-Piva 87.37 321⇑*iP* **P** **23 01 32.0 -0.7**
X21A Alamocita Cree 87.40 50 ⇑P **P** **23 01 33.4 +0.3**
baz=87,SNR=82
O28A Krutsinger Ran 87.42 43 ⇑P **P** **23 01 32.7 -0.2**
baz=87,SNR=19
FUR Furstenfeldbru 87.44 329 *eP* **P** **23 01 33.0 +0.3**
comp=Z,25nm,0.7s
FUR Furstenfeldbru 87.44 329 *eP* **P** **23 01 33.0 +0.3**
FUR pmax pmax
comp=Z,25nm,0.7s
KESW Keswick, Cumbr 87.45 340⇓*eP* **P** **23 01 32.6 0.0**
KESW AMB AMB 23 01 35.6
comp=Z,378nm,1.6s
KESW *e* 23 04 47.4
KESW AMS AMS 23 38 40.6
comp=Z,12µm,24.8s
GCD Castle Douglas 87.46 340⇓*eP* **P** **23 01 32.5 -0.1**
S25A Robets Cordova 87.46 46 ⇓P **P** **23 01 33.3 0.0**
baz=87,SNR=43
T24A Torres, Weston 87.47 47 ⇑P **P** **23 01 34.2 +0.8**
baz=87
MYKA Terra Mystica 87.52 326 *i* P **P** **23 01 32.5 -0.7**
comp=Z,87nm,0.7s,SNR=79
MYKA Terra Mystica 87.52 326 P **PP** **23 05 01.3 +3.3**
comp=Z,323nm,1.9s
LJU Ljubljana 87.53 326 *i* P **P** **23 01 32.6 -0.6**
LJU *i* PcP **PcP** **23 01 34.0 -1.2**
LJU *i* pP pP 23 02 02.9 +12
LJU *e*PP **PP** **23 04 57.6 -0.5**
LJU *i* SKSac **SKSac** **23 11 52.5 -3.2**
LJU *e*S **SKKSac** **23 12 05.6 +0.3**
LJU *e*sS sS 23 13 00.3 +21
LJU *e*SP **SPn** **23 13 04.8 -3.8**
LJU *e*SS **SS** **23 18 00.7 +5.8**
M30A Dale-Ortello V 87.53 41 ⇓P **P** **23 01 33.0 -0.3**
baz=87,SNR=19
BIA Bitola 87.55 319 *i* P **P** **23 01 32.2 -1.3**
HPK Haverah Park 87.56 339⇓*eP* **P** **23 01 33.2 +0.1**
HPK AMB AMB 23 01 35.9
comp=Z,396nm,1.4s
HPK *e* 23 04 48.0
HPK AMS AMS 23 40 18.2
comp=Z,13µm,24.9s
BOJS Bojanci 87.58 325 *i* P **P** **23 01 33.2 -0.2**
BOJS *i* PcP **PcP** **23 01 34.2 -1.1**
BOJS *e*PP **PP** **23 04 55.7 -2.7**
BOJS *e*SKSac **SKSac** **23 11 52.4 -3.6**
BOJS *e*S **SKKSac** **23 12 07.4 +1.7**
LMK Market Rasen 87.58 338⇓*eP* **P** **23 01 33.2 0.0**
LMK AMB AMB 23 01 38.4
comp=Z,568nm,1.3s
PHP Peshkopia 87.59 320 P **P** **23 01 33.2 -0.4**
NKY Niksic 87.59 321⇓*iP* **P** **23 01 33.1 -0.6**
XOR Xorichti 87.59 316 P **P** **23 01 32.5 -1.2**
W22A Albuquerque 87.60 49 ⇓P **P** **23 01 34.7 +0.7**
baz=87
N29A Votaw Ranch, W 87.60 42 ⇑P **P** **23 01 33.5 -0.3**
baz=87,SNR=14
V23A Ortiz Mt. (NFS 87.61 48 ⇓P **P** **23 01 35.0 +0.9**
baz=87,SNR=25
NEO Neokhori 87.62 316 P **P** **23 01 33.4 -0.4**
NEO Neokhori 87.62 316 *eP* **P** **23 01 33.0 -0.8**
PUK Puka 87.64 320 *eP* **P** **23 01 32.4 -1.5**
R26A Arlington 87.64 45 ⇑P **P** **23 01 34.2 +0.2**
baz=87,SNR=25
NKME Niksic 87.64 321⇓*iP* **P** **23 01 33.2 -0.7**
KARP Karpathos 87.66 311 *eP* **P** **23 01 33.1 -0.9**
KSCO Kaye Shedlock' 87.66 44 ⇓P **P** **23 01 34.1 0.0**

baz=87,SNR=7.6
GAL1 Galloway 87.67 341⇓*eP* **P** **23 01 33.2 -0.4**
GAL1 AMB AMB 23 01 35.3
comp=Z,252nm,1.4s
GAL1 *e* 23 04 44.0
GAL1 AMS AMS 23 40 02.0
comp=Z,10µm,24.3s
BEBN Eben Emael 87.67 333 P **P** **23 01 33.6 -0.2**
comp=Z,90nm,1.3s
BEBN AP **pP** **23 01 51.2 +0.1**
BEBN PP **PP** **23 05 00.5 +1.5**
FNA Florina 87.68 318 P **P** **23 01 33.2 -0.9**
FNA Florina 87.68 318 *eP* **P** **23 01 33.3 -0.9**
Z20A Nine Sixteen R 87.70 52 ⇑P **P** **23 01 35.0 +0.6**
baz=88,SNR=105
APE Apeiranthos 87.70 313 *eP* **P** **23 01 31.4 -2.8**
MEM Membach 87.70 333 P **P** **23 01 33.6 -0.3**
comp=Z,126nm,1.6s
MEM AP **pP** **23 01 50.2 -1.0**
MEM PP **PP** **23 04 55.9 -3.2**
TTG Podgorica 87.72 321⇓*iP* **P** **23 01 33.7 -0.4**
ECSD EROS Data Cent 87.74 37⇑*iP* **P** **23 01 33.8 -0.5**
comp=Z,146nm,0.8s
ECSD *e*PP **PP** **23 05 00.2 +0.4**
ECSD LR LR
comp=Z,14µm,20.0s
Y21A Point of Rocks 87.74 50 ⇑P **P** **23 01 35.4 +0.7**
baz=88,SNR=50
U24A Moreno Valley 87.75 47 ⇑P **P** **23 01 35.9 +1.1**
baz=88
BRY Bratogost 87.77 321 *eP* **P** **23 01 33.9 -0.7**
KZN Kozani 87.78 318 P **P** **23 01 32.4 -2.2**
KZN Kozani 87.78 318 *eP* **P** **23 01 32.0 -2.6**
P28A Saint Francis 87.79 43 ⇓P **P** **23 01 34.5 -0.2**
baz=88,SNR=53
MRKA Markates 87.80 316 P **P** **23 01 33.5 -1.2**
T25A Trinidad 87.81 46 ⇑P **P** **23 01 35.3 +0.3**
baz=88,SNR=64
VOY Vojsko 87.84 326 *eP* **P** **23 01 33.0 -1.8**
VOY *e* 23 11 55.8
VOY *e* 23 12 12.2
LAZ Ladron 87.84 50 *eP* **P** **23 01 36.1 +0.9**
comp=Z,33nm,1.3s
LAZ *e*PP **PP** **23 05 01.9 +0.6**
JAVS Javornik 87.86 326 *i* P **P** **23 01 33.9 -1.0**
JAVS *i* S **SKSac** **23 11 55.0 -3.0**
X22A Bernardo 87.86 50 ⇑P **P** **23 01 36.0 +0.8**
baz=88,SNR=10
STU Stuttgart 87.86 330 *eP* **P** **23 01 34.7 0.0**
comp=Z,20nm,0.7s
STU Stuttgart 87.86 330⇓*iP* **P** **23 01 34.2 -0.5**
STU *e* 23 04 58.4
STU *e*S **S** **23 12 11.6 -1.1**
STU pmax pmax
comp=Z,941nm,1.8s
STU Stuttgart 87.86 330⇓*iP* **P** **23 01 34.2 -0.5**
comp=Z,941nm,1.8s
STU *e*PP **PP** **23 04 58.4 -2.2**
STU *e*S **S** **23 12 11.6 -1.1**
SMIA Simia 87.91 316 P **P** **23 01 33.9 -1.3**
N30A Hueftle Ranch, 87.91 41 ⇑P **P** **23 01 34.8 -0.4**
baz=88,SNR=5.8
DRME Dracevica, Mon 87.92 321⇓*iP* **P** **23 01 35.0 -0.1**
WATA Walderalm 87.93 328⇓*i*PcP **P** **23 01 34.9 -0.4**
comp=Z,38nm,0.7s,SNR=36
ANMO Albuquerque 87.94 49⇑*iP* **P** **23 01 35.5 -0.1**
comp=Z,71nm,1.1s
ANMO *e*PP **PP** **23 05 02.4 +0.5**
ANMO P'P' 23 27 35.4
ANMO LR LR
comp=Z,28µm,20.0s
ANMO Albuquerque 87.94 49 PKPPKP **P'P'df** **23 27 35.4 +3.2**
comp=Z,2.1nm,0.9s,baz=225,slow=3.5,SNR=4.6
ABTA Abfaltersbach 87.95 327 *i* P **P** **23 01 34.1 -1.2**
comp=Z,124nm,0.9s,SNR=90
WTTA Wattenberg 87.96 328 *i* PcP **P** **23 01 35.2 -0.2**
comp=Z,48nm,0.6s,SNR=43
WTTA Wattenberg 87.96 328 P PP 23 05 07.1 +5.5
comp=Z,298nm,1.8s
O29A 4D Ranch, Culb 87.97 42 ⇑P **P** **23 01 35.4 -0.1**
baz=88,SNR=22
W23A Werner Place, 88.00 49 ⇑P **P** **23 01 36.3 +0.3**
baz=88,SNR=22
BUM Brajici-Budva 88.00 321⇓*iP* **P** **23 01 34.8 -0.8**
120A U Bar Ranch, L 88.02 52 ⇓P **P** **23 01 36.5 +0.5**
baz=88,SNR=32
R27A Eads 88.04 45 ⇑P **P** **23 01 35.8 -0.1**
baz=88,SNR=28
ULC Ulcinj 88.05 320⇓*iP* **P** **23 01 35.3 -0.5**
PTL Penteli 88.07 315 *eP* **P** **23 01 33.8 -2.1**
S26A Kim 88.07 46 ⇑P **P** **23 01 36.0 -0.1**
baz=88,SNR=30
Q28A Sharon Springs 88.09 44 ⇓P **P** **23 01 36.0 -0.1**
baz=88
LENM Lemitar 88.10 50 *eP* **P** **23 01 37.2 +0.8**
comp=Z,40nm,1.4s
LENM *e*PP **PP** **23 04 58.7 -4.5**
HCY Herceg Novi 88.11 321⇓*iP* **P** **23 01 35.1 -0.9**
NEST Nestorio 88.12 318 P **P** **23 01 35.3 -0.9**
KBI1 Birley Grange 88.13 338⇓*eP* **P** **23 01 35.5 -0.4**
TIR Tirane 88.13 320 *eP* **P** **23 01 36.4 +0.2**
TIR Tirane 88.13 320⇓*eP* **P** **23 01 35.7 -0.4**
TIR *e* 23 05 01.9
TIR *e*S **S** **23 12 18.4 +2.9**
TIR pmax pmax
comp=Z,87nm,0.8s
TIR MLR MLR
comp=Z,19µm,21.0s
TIR Tirane 88.13 320 *eP* **P** **23 01 35.3 -0.9**
TIR Tirane 88.13 320⇓*eP* **P** **23 01 35.7 -0.4**
comp=Z,87nm,0.8s
TIR *e*PP **PP** **23 05 01.9 -1.1**
TIR *e*S **S** **23 12 18.4 +2.9**
TIR LR LR
comp=Z,19µm,21.0s
MOTA Moosalm 88.14 328⇑*i*PcP **P** **23 01 35.8 -0.5**
comp=Z,68nm,0.9s,SNR=62
TRBA At Turbah 88.14 284⇓*eP* **P** **23 01 36.4 -0.5**
TRI Trieste 88.14 326⇓*iP* **P** **23 01 34.9 -1.2**
TRI *e* 23 05 02.6
TRI *e*S S 23 12 09.2 -6.1
TRI pmax pmax
comp=Z,240nm,1.4s
TRI Trieste 88.14 326⇓*iP* **P** **23 01 34.9 -1.2**
comp=Z,240nm,1.4s
TRI *e*PP **PP** **23 05 02.6 -0.3**
TRI *e*S S 23 12 09.2 -6.1
THL Klokotos Trika 88.14 317 *eP* **P** **23 01 34.3 -1.9**
UCC Uccle 88.17 334 P **P** **23 01 36.4 +0.3**
comp=Z,124nm,2.0s
UCC AP **pP** **23 01 54.5 +1.0**
ATHU Athens Univers 88.17 315 P **P** **23 01 35.4 -1.0**
RETA Reutte 88.18 329⇓*i*PcP **P** **23 01 36.3 0.0**
comp=Z,144nm,1.0s,SNR=90
Z21A St. Cloud Mine 88.18 51 ⇑P **P** **23 01 37.5 +0.7**
baz=88,SNR=40
LKR Lokris 88.18 316 *eP* **P** **23 01 34.1 -2.3**
Y22D IRIS PASSCAL I 88.19 50 ⇑P **P** **23 01 36.8 0.0**
baz=88
SANT Santorini 88.19 313 *eP* **P** **23 01 35.5 -1.1**
comp=Z,126nm,0.8s
SANT LR LR
comp=Z,9µm,20.0s
V24A Rampart Ranch, 88.19 48 ⇑P **P** **23 01 37.8 +0.9**
baz=88,SNR=28
ATH Athens Observa 88.21 315 *eP* **P** **23 01 34.3 -2.2**
P29A Atwood 88.25 43 ⇑P **P** **23 01 36.6 -0.2**
baz=88,SNR=20
Y22A Socorro 88.25 50 ⇑P **P** **23 01 37.3 +0.2**
baz=88,SNR=22
MSEY Mahe Island 88.27 263 P **P** **23 01 39.2 +2.0**
SNR=12
MSEY Mahe Island 88.27 263⇓*eP* **P** **23 01 38.0 +0.7**
comp=Z,530nm,1.4s
MSEY LR LR
comp=Z,9µm,19.0s
LANF Langenberg 88.28 331 *eP* **P** **23 01 36.4 -0.3**
T26A Comanche Natio 88.29 46 ⇑P **P** **23 01 37.1 -0.1**
baz=88,SNR=54
U25A Circle Dot Ran 88.29 47 ⇓P **P** **23 01 37.6 +0.3**
baz=88,SNR=135
319A Douglas 88.30 53 ⇑P **P** **23 01 37.6 +0.3**
baz=88,SNR=38
AXAR Agios Charalam 88.30 316 P **P** **23 01 35.7 -1.3**
AGG Agios Georgios 88.32 317 P **P** **23 01 35.2 -1.9**

AGG **Agios Georgios** 88.32 317 eP P 23 01 35.0 -2.1
BNM **Barren Site** 88.33 50 eP P 23 01 37.9 +0.4
comp=Z,16nm,0.7s
BNM ePP PP 23 05 04.8 -0.3
X23A **Hourglass Bar** 88.34 49 ⇑P P 23 01 37.7 +0.2
baz=88,SNR=13
O30A **MW Ranch, Wils** 88.35 42 ⇓P P 23 01 36.9 -0.4
baz=88,SNR=6.4
S27A **Las Animas** 88.37 45 ⇓P P 23 01 37.2 -0.3
baz=88
WLF **Walferdange** 88.40 332 P P 23 01 37.6 +0.3
comp=Z,336nm,2.1s
WLF AP pP 23 01 56.1 +1.5
WLF **Walferdange** 88.40 332 eP P 23 01 37.8 +0.6
comp=Z,31nm,1.0s
WLF **Walferdange** 88.40 332⇓iP P 23 01 37.0 -0.2
WLF e 23 05 03.6
WLF eS S 23 12 17.9 +0.2
WLF pmax pmax
comp=Z,983nm,1.8s
WLF MLR MLR
comp=Z,19µm,21.0s
WLF **Walferdange** 88.40 332⇓iP P 23 01 37.0 -0.2
comp=Z,983nm,1.8s
WLF ePP PP 23 05 03.6 -1.2
WLF eS S 23 12 17.9 +0.2
WLF LR LR
comp=Z,19µm,21.0s
SNF **Seneffe** 88.43 334 P P 23 01 37.9 +0.6
SNF AP pP 23 01 55.6 +0.9
W24A **Lazy 6 Ranch,** 88.44 48 ⇑P P 23 01 38.5 +0.5
baz=88,SNR=81
NVLJ **Novalja** 88.45 324 P P 23 01 35.7 -1.9
STNC **Stoke** 88.48 339⇓eP P 23 01 37.6 0.0
STNC AMB AMB 23 01 40.5
comp=Z,286nm,1.3s
STNC e 23 04 49.5
STNC AMS AMS 23 40 45.4
comp=Z,13µm,23.8s
220A **Playas Peak, P** 88.48 53 ⇓P P 23 01 38.4 +0.2
baz=88,SNR=31
ZKR **Zakros** 88.53 312 P P 23 01 37.6 -0.5
ZKR **Zakros** 88.53 312 eP P 23 01 37.7 -0.4
V25A **Rancho No Teng** 88.53 47 ⇑P P 23 01 38.7 +0.3
baz=88,SNR=80
SPMN **St. Paul** 88.55 34 ⇑P P 23 01 37.7 -0.3
baz=88
FETA **Feichten** 88.55 328 iPcP P 23 01 38.0 -0.3
comp=Z,79nm,0.9s,SNR=90
FETA **Feichten** 88.55 328 P PKKPbc 23 19 20.8 +1.5
comp=Z,14nm,1.3s
GIVF **Givet** 88.56 333⇓iP P 23 01 37.4 -0.6
GIVF epP pP 23 01 55.2 -0.1
BGNE **Belgrade** 88.56 40 ⇑P P 23 01 37.6 -0.6
baz=88,SNR=15
GMM **Mts of Mourne** 88.57 341 eP P 23 01 37.2 -0.7
BFO **Black Forest** 88.57 330 eP P 23 01 38.0 -0.1
comp=Z,22nm,0.8s
BFO **Black Forest** 88.57 330⇓iP P 23 01 37.5 -0.6
BFO e 23 05 03.6
BFO eS SKSac 23 11 59.9 -2.0
BFO pmax pmax
comp=Z,528nm,1.5s
BFO MLR MLR
comp=Z,14µm,19.0s
BFO **Black Forest** 88.57 330⇓iP P 23 01 37.5 -0.6
comp=Z,528nm,1.5s
BFO ePP PP 23 05 03.6 -2.7
BFO eS SKSac 23 11 59.9 -2.0
BFO LR LR
comp=Z,14µm,19.0s
R28A **Tribune** 88.58 44 ⇑P P 23 01 38.2 -0.3
baz=88,SNR=9.0
121A **Cookes Peak, D** 88.59 52 ⇑P P 23 01 39.0 +0.2
baz=88,SNR=38
LTK **Loutraki** 88.62 315 eP P 23 01 35.8 -2.7
DSF **Desfina** 88.62 316 P P 23 01 36.1 -2.5
DOU **Dourbes** 88.65 333 P P 23 01 38.8 +0.4
comp=Z,132nm,2.0s
DOU AP pP 23 01 56.7 +1.0
DOU PP PP 23 05 06.9 +0.1
P30A **Selden** 88.68 42 ⇑P P 23 01 38.5 -0.3
baz=88,SNR=22
Z22A **Elephant Butte** 88.68 51 ⇑P P 23 01 39.5 +0.4
baz=88,SNR=49
EVR **Evrytania** 88.70 317 P P 23 01 38.1 -0.9
EVR **Evrytania** 88.70 317 eP P 23 01 37.6 -1.4
Q29A **Oakley** 88.70 43 ⇑P P 23 01 38.7 -0.2
baz=88
U26A **Atchley Ranch,** 88.70 47 ⇑P P 23 01 39.7 +0.5
baz=88,SNR=35
DAVA **Damuels** 88.72 329⇓iPcP P 23 01 39.0 0.0
comp=Z,123nm,0.8s,SNR=74
JAN **Janina** 88.74 318 P P 23 01 38.6 -0.5
JAN **Janina** 88.74 318 eP P 23 01 38.6 -0.5
DID **Didima** 88.80 315 P P 23 01 36.4 -3.0
DID **Didima** 88.80 315 eP P 23 01 36.7 -2.7
NPS **Neapolis** 88.81 312 P P 23 01 38.0 -1.5
NPS **Neapolis** 88.81 312 eP P 23 01 38.5 -1.0
BAIF **Baives** 88.83 334⇓iP P 23 01 38.8 -0.4
comp=Z,129nm,0.9s
X24A **Lazy VL Ranch,** 88.83 49 ⇓P P 23 01 40.3 +0.5
baz=89,SNR=38
320A **Kipp Ranch, An** 88.83 53 ⇑P P 23 01 40.1 +0.3
baz=89,SNR=16
DIDY **Didyma** 88.83 315 P P 23 01 37.1 -2.6
Y23A **Lovelace Mesa,** 88.84 50 ⇑P P 23 01 40.0 +0.1
baz=89,SNR=52
WME **Myndd Eilian** 88.84 340⇓eP P 23 01 39.0 -0.2
WPM1 **Penmaenmawr** 88.85 339⇓eP P 23 01 39.1 -0.2
KALE **Kalithea** 88.86 316 P P 23 01 38.8 -0.9
KALE **Kalithea** 88.86 316 eP P 23 01 38.2 -1.5
T27A **Campo** 88.89 46 ⇑P P 23 01 40.2 +0.2
baz=89,SNR=20
WLS **Welschbruch** 88.91 331 eP P 23 01 38.2 -1.5
TRIZ **Trizonia** 88.91 316 P P 23 01 44.5 +4.6
TRIZ **Trizonia** 88.91 316 eP P 23 01 38.2 -1.7
221A **Mesquite Ranch** 88.92 52 ⇓P P 23 01 40.4 +0.2
baz=89
R29A **Marienthal** 88.92 44 ⇓P P 23 01 40.0 0.0
baz=89,SNR=11
CDF **Champ du Feu** 88.94 331⇓iP P 23 01 39.5 -0.4
comp=Z,156nm,0.9s
CDF epP pP 23 01 57.3 0.0
FOEL **Foel Wylfa** 88.96 339 eP P 23 01 39.7 -0.1
FOEL AMB AMB 23 01 42.5
comp=Z,413nm,1.8s
FOEL e 23 05 04.3
FOEL AMS AMS 23 39 36.0
comp=Z,13µm,28.8s
LAST **Lasithi** 88.96 312 P P 23 01 37.4 -2.9
LAST **Lasithi** 88.96 312 eP P 23 01 40.2 -0.1
WLF1 **Llynfaes** 88.96 340⇓eP P 23 01 39.3 -0.5
WLF1 AMB AMB 23 01 42.3
comp=Z,198nm,1.9s
WLF1 e 23 04 51.6
WLF1 AMS AMS 23 38 06.0
comp=Z,11µm,29.7s
EFP **Efpalio** 88.97 316 eP P 23 01 39.5 -0.6
122A **Conniff Cattle** 89.00 51 ⇓P P 23 01 41.0 +0.4
baz=89,SNR=8.4
W25A **X Bar L Ranch,** 89.03 48 ⇑P P 23 01 41.0 +0.3
baz=89,SNR=38
YLL **Llanberis** 89.03 340⇓eP P 23 01 40.0 -0.1
S28A **Manter** 89.03 45 ⇓P P 23 01 40.6 0.0
baz=89,SNR=16
ELSH **Elham, Standar** 89.04 336 eP P 23 01 39.4 -0.8
ELSH AMB AMB 23 01 42.5
comp=Z,271nm,1.7s
ELSH e 23 05 02.6
ELSH AMS AMS 23 49 44.8
comp=Z,13µm,16.6s
GUR **Goura** 89.04 316 P P 23 01 39.1 -1.6
GUR **Goura** 89.04 316 eP P 23 01 39.0 -1.6
YRC **Rhoscolyn** 89.05 340⇓eP P 23 01 40.0 -0.2
PSA1 **Psathopyrgos** 89.05 316 eP P 23 01 45.5 +5.0
LAKA **Lakka** 89.05 316 P P 23 01 39.3 -1.3
LAKA **Lakka** 89.05 316 eP P 23 01 39.2 -1.3
V26A **Tequesquite Ra** 89.07 47 ⇑P P 23 01 41.3 +0.4
baz=89,SNR=51
Q30A **Quinter** 89.08 43 ⇑P P 23 01 40.5 -0.2
baz=89
KLV **Kalavryta, Ach** 89.08 316 P P 23 01 38.8 -2.0
KLV **Kalavryta, Ach** 89.08 316 eP P 23 01 38.2 -2.6
DAVOX **Davos/Dischmat** 89.11 329 PKKPbc PKKPbc 23 19 19.9 +2.0
DAVOX P'P' 23 27 25.6
DAVOX **Davos/Dischmat** 89.11 329 PKKPbc PKKPbc 23 19 19.9 +2.0
comp=Z,9.6nm,0.9s,baz=26,slow=5.1,SNR=9.8
DAVOX PKPPKP **P'P'df** 23 27 25.6 -4.3
comp=Z,1.2nm,0.7s,baz=306,slow=4.4,SNR=5.3
DAVOX LR LR 23 47 38.1
comp=Z,25µm,18.0s,baz=38,slow=40
IGT **Igoumenitsa** 89.12 318 P P 23 01 39.9 -0.9
ECH **Echery** 89.14 331 eP P 23 01 40.4 -0.4
Z23A **Rita Site, Whi** 89.15 50 ⇑P P 23 01 41.1 -0.1
baz=89,SNR=14
HLM1 **Long Mynd** 89.18 339 eP P 23 01 40.6 -0.2
HLM1 AMB AMB 23 01 42.4
comp=Z,106nm,1.8s
P31A **Stockton** 89.18 42 ⇓P P 23 01 40.9 -0.3
baz=89
T28A **Walsh** 89.21 45 ⇑P P 23 01 41.5 0.0
baz=89,SNR=16
Y24A **Capitan** 89.24 49 ⇑P P 23 01 41.5 -0.3
baz=89,SNR=17
YRE **Yr Eifl** 89.24 340⇓eP P 23 01 41.0 -0.1
IDI **Anoyia** 89.25 312 P P 23 01 40.9 -0.7
IDI **Anoyia** 89.25 312 eP P 23 01 40.6 -1.0
IDI **Anoyia** 89.25 312⇓eP P 23 01 40.1 -1.5
comp=Z,126nm,0.8s
IDI ePP PP 23 05 05.6 -6.6
IDI eS SKSac 23 12 00.8 -5.7
U27A **Thompson Grove** 89.25 46 ⇑P P 23 01 42.0 +0.3
baz=89,SNR=19
KEK **Kerkira** 89.30 318 eP P 23 01 39.6 -2.1
222A **Williams Famil** 89.31 52 ⇑P P 23 01 42.0 0.0
baz=89
X25A **Clemmons Ranch** 89.34 48 ⇑P P 23 01 42.5 +0.3
baz=89,SNR=6.6
VLX **Vlachokerasia** 89.40 315 P P 23 01 41.0 -1.4
VLX **Vlachokerasia** 89.40 315 eP P 23 01 40.9 -1.4
AXS **Araxos** 89.43 316 P P 23 01 41.2 -1.1
LKD2 **Lefkada island** 89.44 317 P P 23 01 41.3 -1.1
LKD2 **Lefkada island** 89.44 317 eP P 23 01 41.6 -0.8
MOF **Molkenrain** 89.44 331 eP P 23 01 41.5 -0.8
PAGF **Fort de Pagny** 89.45 332⇓iP P 23 01 42.2 0.0
comp=Z,48nm,0.7s
PAGF epP pP 23 02 00.0 +0.4
S29A **Ulysses** 89.47 44 ⇑P P 23 01 42.5 -0.1
baz=89,SNR=7.5
SIVA **Sivas** 89.47 312 P P 23 01 42.0 -0.5
SIVA **Sivas** 89.47 312 eP P 23 01 42.8 +0.3
RLS **Riolos of Patr** 89.47 316 P P 23 01 41.8 -0.7
RLS **Riolos of Patr** 89.47 316 eP P 23 01 42.1 -0.4
VLI **Veliai** 89.50 315 P P 23 01 40.0 -2.7
VLI **Veliai** 89.50 315 eP P 23 01 40.2 -2.5
R30A **Dighton** 89.51 43 ⇓P P 23 01 42.7 -0.1
baz=89,SNR=23
123A **Bell Site, Whi** 89.52 51 ⇓P P 23 01 43.3 +0.3
baz=89
Q31A **Ellis** 89.53 42 ⇓P P 23 01 42.0 -0.8
baz=89
W26A **Owens Ranch, T** 89.54 48 ⇑P P 23 01 43.4 +0.3
baz=89,SNR=14
HMNX **Herstmonceux** 89.55 336⇓eP P 23 01 43.0 +0.4
HMNX AMB AMB 23 01 45.5
comp=Z,459nm,1.9s
HMNX AMS AMS 23 48 23.1
comp=Z,11µm,18.3s
TUE **Stuetta** 89.58 329⇓iP P 23 01 42.7 -0.4
comp=Z,262nm,1.1s
TUE ePP PP 23 05 12.3 -2.2
TUE eS SKSac 23 12 05.0 -3.4
TUE LR LR
comp=Z,29µm,21.0s
COWI **Conover** 89.58 32⇑iP P 23 01 42.5 -0.4
comp=Z,61nm,0.8s
COWI ePP PP 23 05 13.9 -0.5
COWI LR LR
comp=Z,8µm,19.0s
HINF **Hinteralfeld** 89.59 331⇓iP P 23 01 42.0 -0.9
VAM **Vamos** 89.59 313 P P 23 01 42.5 -0.6
VAM **Vamos** 89.59 313 eP P 23 01 42.9 -0.2
SCHQ **Schefferville** 89.61 15 ePP PP 23 05 16.2 +1.9
SCHQ PKKPbc **PKKPbc** 23 19 16.5 -0.2
SCHQ P'P' 23 27 26.9
SCHQ **Schefferville** 89.61 15 P P 23 01 43.0 +0.2
comp=Z,88nm,1.0s,baz=350,slow=5.3,SNR=54
SCHQ PKKPbc **PKKPbc** 23 19 16.5 -0.2
comp=Z,11nm,0.7s,baz=160,slow=3.2,SNR=11
SCHQ PKPPKP **P'P'df** 23 27 26.9 -1.7
comp=Z,5.5nm,0.9s,baz=142,slow=5.0,SNR=5.0
SCHQ LR LR 23 45 57.4
comp=Z,6µm,18.7s,baz=347,slow=38
THEF **They Montfort** 89.61 331 eP P 23 01 41.4 -1.6
U28A **Mallet** 89.64 46 ⇓P P 23 01 43.3 -0.2
baz=89
HAU **Haudompre** 89.64 331⇓iP P 23 01 42.4 -0.8
comp=Z,114nm,0.9s
HAU eR
comp=Z,16µm,20.2s
Z24A **Sheeppen Canyo** 89.66 50 ⇑P P 23 01 43.7 0.0
baz=90,SNR=29
MCH1 **Michaelchurch** 89.67 338⇓eP P 23 01 41.9 -1.2
MCH1 AMB AMB 23 01 44.4
comp=Z,328nm,1.8s
MCH1 e 23 05 11.4
MCH1 AMS AMS 23 41 32.0
comp=Z,13µm,25.4s
T29A **Hugoton** 89.68 45 ⇑P P 23 01 43.6 0.0
baz=89
V27A **Dan Oppiter Fa** 89.68 47 ⇑P P 23 01 43.8 +0.1
baz=90,SNR=14
AMT **Artemis-Makis** 89.69 316 eP P 23 01 42.8 -0.8
WOL **Wolverton** 89.69 337⇓eP P 23 01 42.9 -0.4
WOL AMB AMB 23 01 45.5
comp=Z,237nm,1.7s
WOL e 23 05 07.4
WOL AMS AMS 23 50 35.5
comp=Z,8µm,17.1s
SWN1 **Swindon** 89.71 337 AMS AMS 23 42 50.2
comp=Z,10µm,23.5s
KYTH **Kithira** 89.73 314 P P 23 01 42.4 -1.4
MEZF **Maizieres J'vi** 89.76 332⇓iP P 23 01 43.6 -0.1
MEZF epP pP 23 02 01.5 +0.5
KARN **Karanos** 89.77 313 P P 23 01 44.0 0.0
ITM **Ithomi** 89.79 315 P P 23 01 42.8 -1.3
ITM **Ithomi** 89.79 315 eP P 23 01 42.8 -1.3
223A **Chaparral, Ant** 89.81 51 ⇑P P 23 01 44.5 +0.1
baz=90
DYR **Agios Nikonas** 89.83 315 P P 23 01 42.7 -1.6
DYR **Agios Nikonas** 89.83 315 eP P 23 01 43.0 -1.3
S30A **Montezuma** 89.84 44 ⇓P P 23 01 44.4 +0.1
baz=90,SNR=34
ANKY **Antikythira Is** 89.84 314 P P 23 01 42.9 -1.4
X26A **CR and CF Fran** 89.86 48 ⇑P P 23 01 44.8 +0.2
baz=90,SNR=68
LPW **Lampeter** 89.89 339⇓eP P 23 01 44.0 -0.2
LPW AMB AMB 23 01 45.6
comp=Z,1µm,2.0s
LPW e 23 05 08.6
LPW AMS AMS 23 38 54.3
comp=Z,180µm,29.0s
VLS **Valsamata** 89.90 317 P P 23 01 43.5 -1.0
R31A **Burdett** 89.94 43 ⇓P P 23 01 44.3 -0.5
baz=90
LOMF **Lomont** 89.97 331 eP P 23 01 43.9 -0.9
W27A **Bowe Ranch, En** 89.99 47 ⇓P P 23 01 45.8 +0.6
baz=90,SNR=74
124A **Stringfield Ra** 90.01 50 ⇑P P 23 01 45.2 -0.2
baz=90,SNR=69
SFTF **Sexfontaines** 90.01 332⇓iP P 23 01 44.5 -0.3
comp=Z,297nm,1.0s
V28A **Channing** 90.06 46 ⇓P P 23 01 45.7 +0.3
baz=90,SNR=15
Z25A **Roswell** 90.11 49 ⇓P P 23 01 46.0 +0.2
baz=90,SNR=57
U29A **Oasis Ranch, S** 90.16 45 ⇓P P 23 01 45.9 0.0
baz=90
T30A **Plains** 90.20 44 ⇓P P 23 01 46.1 0.0
baz=90,SNR=6.4
X27A **F and S Farms,** 90.25 48 ⇓P P 23 01 46.8 +0.5
baz=90,SNR=27
Y26A **Elida** 90.26 49 ⇑P P 23 01 46.5 0.0
baz=90,SNR=13
224A **Cornudas Mount** 90.36 51 ⇑P P 23 01 46.9 -0.1
baz=90
W28A **Vega** 90.39 47 ⇓P P 23 01 47.5 +0.5
baz=90,SNR=17
V29A **Stinnett** 90.40 46 ⇑P P 23 01 47.2 +0.1
baz=90,SNR=10
S31A **Mullinville** 90.42 43 ⇓P P 23 01 46.8 -0.2
baz=90,SNR=21
U30A **WK&E Inc. Balk** 90.48 45 ⇓P P 23 01 47.3 -0.1
baz=90
125A **Gardner Draw,** 90.55 50 ⇓P P 23 01 47.9 +0.1
baz=90,SNR=77
Z26A **Caprock** 90.59 49 ⇑P P 23 01 47.7 -0.3
baz=90,SNR=119
T31A **Randall Ranch,** 90.67 44 ⇓P P 23 01 48.2 0.0
baz=90,SNR=25
MNTX **Cornudas Mount** 90.69 51⇑iP P 23 01 48.4 +0.1
comp=Z,73nm,1.3s
MNTX ePP PP 23 05 21.1 -2.7
MNTX LR LR
comp=Z,10µm,20.0s
Y27A **Causey** 90.70 48 ⇓P P 23 01 48.2 -0.3
baz=90,SNR=17
HEX **Exmoor** 90.73 338⇓eP P 23 01 47.9 -0.2
324A **Moseley Ranch,** 90.79 51 ⇑P P 23 01 48.8 -0.2
baz=91,SNR=35
225A **Deer Hill, Car** 90.80 50 ⇓P P 23 01 49.2 +0.2
baz=91,SNR=13
W29A **Amraillo** 90.82 46 ⇓P P 23 01 49.3 +0.3
baz=91,SNR=20
CABF **La Chapelle** 90.86 330⇓iP P 23 01 48.6 -0.3
comp=Z,255nm,1.2s
CABF epP pP 23 02 06.4 +0.1
X28A **Dimmitt** 90.89 47 ⇓P P 23 01 49.5 +0.1
baz=91
VLC **Villacollemand** 90.89 327⇓iP P 23 01 48.1 -1.0
comp=Z,162nm,1.1s
VLC ePP PP 23 05 24.6 -0.2
VLC eS S 23 12 39.6 -1.5
VLC LR LR
comp=Z,29µm,21.0s
MSTX **Muleshoe** 90.89 48 ⇑P P 23 01 48.9 -0.5
baz=91,SNR=14
AMTX **Amarillo** 90.96 47⇑iP P 23 01 50.0 +0.4
comp=Z,307nm,1.1s
AMTX ePP PP 23 05 24.7 -1.2
AMTX LR LR
comp=Z,10µm,20.0s
126A **Clayton Basin,** 90.97 50 ⇑P P 23 01 49.4 -0.3
baz=91,SNR=26
V30A **Spur Ranch, Mi** 90.97 45 ⇑P P 23 01 49.7 +0.1
baz=91
HTL **Hartland** 91.00 339⇓eP P 23 01 49.4 0.0
HTL AMB AMB 23 01 51.0
comp=Z,181nm,1.7s
HTL e 23 05 16.5
HTL AMS AMS 23 41 44.3
comp=Z,12µm,26.6s
KSU1 **Kansas State U** 91.02 41⇑iP P 23 01 49.4 -0.3
comp=Z,195nm,0.8s
KSU1 ePP PP 23 05 22.7 -3.3
KSU1 LR LR
comp=Z,8µm,22.0s
Z27A **Tatum** 91.04 49 ⇑P P 23 01 49.7 -0.4
baz=91,SNR=41
U31A **Nine Bar Ranch** 91.06 45 ⇓P P 23 01 50.5 +0.5
baz=91
325A **Bean Ranch, Si** 91.17 51 ⇓P P 23 01 50.7 -0.1
baz=91,SNR=57
LOR **Lormes** 91.23 332⇓iP P 23 01 50.0 -0.6
comp=Z,648nm,1.4s
LOR epP pP 23 02 07.8 -0.2
LOR eR
comp=Z,17µm,21.2s
226B **Tecolote Peak,** 91.24 50 ⇑P P 23 01 51.1 +0.1
baz=91,SNR=47
X29A **Tulia** 91.24 47 ⇓P P 23 01 51.3 +0.3
baz=91,SNR=34
Y28A **McKinney Farm,** 91.26 48 ⇓P P 23 01 50.7 -0.4
baz=91,SNR=8.8
CUC **Castrocucco** 91.27 321⇓eP P 23 01 49.5 -1.4
comp=Z,43nm,1.0s
CUC ePP PP 23 05 26.5 -1.5
CUC eS S 23 12 47.8 +3.0
CUC LR LR
comp=Z,15µm,20.0s
DYA **Yadsworthy** 91.32 338⇓eP P 23 01 50.4 -0.4
DYA AMB AMB 23 01 53.0
comp=Z,192nm,1.8s
DYA e 23 05 18.3
DYA AMS AMS 23 51 53.4
comp=Z,11µm,16.5s
127A **Arkansas Junct** 91.37 49 ⇑P P 23 01 51.0 -0.6
baz=91
RSL **Roselend** 91.37 330 eP P 23 01 50.8 -0.6
W30A **Crocket Farms** 91.43 46 ⇑P P 23 01 52.2 +0.4
baz=91,SNR=7.3
LPL **La Plagne** 91.46 329⇓iP P 23 01 51.8 -0.1
comp=Z,402nm,1.1s
LPG **La Plagne** 91.47 329⇓iP P 23 01 51.9 -0.1
comp=Z,542nm,1.0s
V31A **Spring Creek L** 91.47 45 ⇑P P 23 01 52.5 +0.6
baz=91,SNR=24
JFWS **Jewell Farm** 91.50 35 eP P 23 01 50.7 -1.2
JFWS pmax pmax
comp=Z,70nm,0.8s
JFWS **Jewell Farm** 91.50 35 eP P 23 01 50.6 -1.2
comp=Z,70nm,0.8s
425A **Indio Mountain** 91.54 52 ⇑P P 23 01 52.6 +0.2
baz=91,SNR=81
SSF **Saint Saulge** 91.54 332⇓iP P 23 01 51.7 -0.3
comp=Z,258nm,1.0s
Z28A **Tucker Farm, M** 91.58 48 ⇓P P 23 01 52.5 -0.1
baz=91,SNR=37
FLN **La Foliniere** 91.61 335⇓iP P 23 01 51.8 -0.4
comp=Z,259nm,1.0s
FLN epP pP 23 02 09.5 -0.1
FLN eR
comp=Z,33µm,22.8s
LDF **La Druitiere** 91.62 335⇓iP P 23 01 51.9 -0.4
comp=Z,121nm,0.8s
Y29A **Porterfield Fa** 91.65 47 ⇓P P 23 01 52.8 0.0
baz=91,SNR=25
HYF **Humbligny** 91.71 333⇓iP P 23 01 53.0 +0.2
X30A **Coker Ranch, T** 91.75 46 ⇑P P 23 01 53.2 0.0
baz=92,SNR=26
SMF **Signal de Mont** 91.75 332⇓iP P 23 01 52.5 -0.5
comp=Z,548nm,1.2s
SMF epP pP 23 02 10.2 -0.2
VAL **Valentia** 91.77 342 eP P 23 01 51.8 -1.1
VAL **Valentia** 91.77 342⇓iS SKSac 23 12 16.6 -3.6
W31A **Holland Ranch,** 91.81 45 ⇓P P 23 01 54.0 +0.5
baz=92,SNR=37
AVF **Avril sur Loir** 91.82 332⇓iP P 23 01 53.1 -0.2
JSA **Saint Aubin** 91.83 337⇓eP P 23 01 52.7 -0.5
JSA AMB AMB 23 01 54.8
comp=Z,198nm,1.7s
JSA e 23 05 22.1
JSA AMS AMS 23 46 29.0
comp=Z,12µm,19.8s
227A **Bennet, Jal** 91.85 50 ⇑P P 23 01 53.8 0.0
baz=92,SNR=5.6
BNI **Bardonecchia** 91.85 329⇓iP P 23 01 53.4 -0.2
BNI e 23 05 33.2
BNI eS SKSac 23 12 19.2 -2.1
BNI pmax pmax
comp=Z,261nm,1.1s
BNI MLR MLR
comp=Z,15µm,20.0s
BNI **Bardonecchia** 91.85 329⇓iP P 23 01 53.4 -0.2
comp=Z,261nm,1.1s
BNI ePP PP 23 05 33.2 +0.7
BNI eS SKSac 23 12 19.2 -2.1
BNI LR LR
comp=Z,15µm,20.0s
326A **Caldwell Ranch** 91.86 51 ⇑P P 23 01 53.8 -0.1
baz=92,SNR=42
OG22 **Abries** 91.92 329 eP P 23 01 53.1 -0.9
128A **Castleberry Fa** 91.96 49 ⇓P P 23 01 54.0 -0.4
baz=92,SNR=60
GDM **Grand'Maison** 91.97 330 eP P 23 01 53.7 -0.5
LPIG **La Paz** 92.00 60 LR LR 23 39 24.9
comp=Z,906nm,18.6s,baz=326,slow=33
Z29A **Hungry Hill Ra** 92.03 48 ⇓P P 23 01 54.7 +0.1
baz=92,SNR=58
GRR **Gorron** 92.06 335⇓iP P 23 01 54.2 -0.1
comp=Z,300nm,0.8s
MBDF **Montbardon** 92.07 329⇓iP P 23 01 53.8 -0.9
comp=Z,262nm,0.8s
GRN **Grenoble** 92.10 330 eP P 23 01 54.6 -0.1
Y30A **Stafford Cattl** 92.12 47 ⇓P P 23 01 55.1 +0.1
baz=92,SNR=29

327A	Balmorhea Ranc	92.14	50	⇑P		P	23 01 55.2	0.0
	baz=92							
X31A	McDonald Ranch	92.17	46	⇑P		P	23 01 55.3	+0.2
	baz=92,SNR=90							
BGF	Bois d'Agland	92.21	332	⇓iP		P	23 01 54.8	-0.3
	comp=Z,71nm,0.7s							
BGF					epP	pP	23 02 12.6	+0.1
228A	UT Block 9, Go	92.22	49	⇑P		P	23 01 55.5	-0.1
	baz=92,SNR=23							
SURF	Saint Ours	92.25	329	eP		P	23 01 55.0	-0.5
ORIF	Oris-en-Rattie	92.30	330	⇓iP		P	23 01 55.3	-0.4
	comp=Z,219nm,0.8s							
ORIF					eR			
	comp=Z,22μm,22.5s							
SAOF	Saorge	92.31	328	eP		P	23 01 54.8	-0.8
129A	Stewart Farms,	92.34	48	⇓P		P	23 01 55.7	-0.4
	baz=92,SNR=12							
AUTN	L'Aution	92.36	328	eP		P	23 01 55.0	-1.1
Z30A	Sanderson Ranc	92.37	47	⇑P		P	23 01 56.0	-0.1
	baz=92,SNR=66							
TOUF	Mont Tournerai	92.42	328	eP		P	23 01 54.9	-1.5
Y31A	Rekieta Farm,	92.45	47	⇓P		P	23 01 56.3	-0.2
	baz=92,SNR=49							
SBF	Sospel	92.46	328	⇓iP		P	23 01 55.3	-1.1
	comp=Z,275nm,0.9s							
CEL	Celeste	92.48	320	⇓iP		P	23 01 55.0	-1.5
	comp=Z,251nm,1.3s							
CEL					ePP	PP	23 05 38.1	+0.6
CEL					eS	S	23 12 59.0	+3.3
CEL					LR	LR		
	comp=Z,11μm,20.0s							
LUCF	Luceram	92.48	328	eP		P	23 01 55.5	-1.0
AGO	Saint Agoulin	92.52	332	eP		P	23 01 56.2	-0.3
427A	Hayter Ranch,	92.53	51	⇓P		P	23 01 57.1	+0.1
	baz=92,SNR=40							
MVIF	Mont Vial	92.56	328	eP		P	23 01 56.1	-0.8
328A	Wristen Ranch,	92.57	50	⇑P		P	23 01 57.1	0.0
	baz=92,SNR=54							
REVF	Revere	92.59	328	eP		P	23 01 55.9	-1.0
526A	Mary Lane Ranc	92.60	52	⇓P		P	23 01 57.5	+0.1
	baz=92,SNR=75							
TCF	Toulx Ste Croi	92.69	332	⇓iP		P	23 01 57.3	0.0
	comp=Z,114nm,0.7s							
TCF					epP	pP	23 02 15.0	+0.3
SGMF	Saint Gilles	92.76	336	⇓iP		P	23 01 57.5	-0.1
	comp=Z,190nm,0.9s							
SGMF					epP	pP	23 02 15.4	+0.4
PGF	Pioggiola	92.77	326	⇓iP		P	23 01 56.8	-1.1
	comp=Z,170nm,1.2s							
CALN	Calern	92.79	328	eP		P	23 01 57.0	-1.0
WMOK	Wichita Mounta	92.81	45	⇑iP		P	23 01 58.3	+0.2
WMOK				e			23 05 39.2	
WMOK					pmax	pmax		
	comp=Z,116nm,1.0s							
WMOK					MLR	MLR		
	comp=Z,10μm,21.0s							
WMOK	Wichita Mounta	92.81	45	⇑iP		P	23 01 58.3	+0.2
	comp=Z,116nm,1.0s							
WMOK					ePP	PP	23 05 39.1	-1.2
WMOK					LR	LR		
	comp=Z,10μm,21.0s							
PYM	Petit Puy Mans	92.81	332	eP		P	23 01 57.2	-0.8
229A	Bryant Ranch,	92.82	49	⇓P		P	23 01 58.1	-0.1
	baz=93,SNR=20							
OG26	St.-Nazaire-De	92.82	330	eP		P	23 01 57.2	-0.8
527A	Woodward Ranch	92.86	51	⇓P		P	23 01 58.6	+0.1
	baz=93,SNR=14							
VIVF	Saint-Julien-l	92.86	330	⇓iP		P	23 01 58.0	-0.2
	comp=Z,434nm,1.0s							
626A	Big Bend Ranch	92.89	52	⇓P		P	23 01 58.7	+0.1
	baz=93,SNR=22							
Y32A	R-V Farms, Ver	92.92	46	⇑P		P	23 01 58.6	0.0
	baz=93,SNR=34							
ROSF	Rostrenen	92.93	337	⇓iP		P	23 01 58.3	0.0
	comp=Z,378nm,1.1s							
130A	Snyder	92.93	48	⇑P		P	23 01 58.6	-0.1
	baz=93,SNR=40							
Z31A	Sharp Cattle R	92.96	47	⇑P		P	23 01 58.6	-0.2
	baz=93,SNR=56							
329A	Wagon Wheel Ra	93.03	49	⇑P		P	23 01 59.4	+0.1
	baz=93,SNR=94							
FRF	La Foret Royal	93.05	328	⇓iP		P	23 01 58.0	-1.0
	comp=Z,613nm,1.6s							
FRF					epP	pP	23 02 15.8	-0.6
428A	Kincaid Ranch,	93.08	50	⇓P		P	23 01 60.0	+0.5
	baz=93,SNR=17							
LBL	Lubilhac	93.14	331	eP		P	23 01 59.7	+0.2
SMRF	Simiane la Rot	93.19	329	⇓iP		P	23 01 59.4	-0.3
	comp=Z,501nm,1.4s							
131A	Roby	93.24	48	⇓P		P	23 02 00.3	+0.1
	baz=93,SNR=29							
QUIF	Quistinic	93.26	336	⇓iP		P	23 01 59.5	-0.3
	comp=Z,112nm,0.9s							
LMR	La Mourre	93.29	328	⇓iP		P	23 01 59.3	-0.8
	comp=Z,790nm,1.5s							
230A	Sterling City	93.32	49	⇓P		P	23 02 00.3	-0.2
	baz=93,SNR=28							
MFF	Saint Martin d	93.32	334	⇓iP		P	23 02 00.2	0.0
	comp=Z,486nm,1.3s							
MFF					epP	pP	23 02 18.0	+0.4
TXAR	Lajitas Array	93.35	52	P		P	23 02 01.2	+0.5
TXAR				PKKPbc		PKKPbc	23 19 09.9	+3.2
TXAR				P'P'			23 27 17.1	
TXAR	Lajitas Array	93.35	52	P		P	23 02 01.2	+0.5
	comp=Z,169nm,0.7s,baz=299,slow=2.9,SNR=273							
TXAR				PKKPbc		PKKPbc	23 19 09.9	+3.2
	comp=Z,2.6nm,1.0s,baz=136,slow=4.5,SNR=5.2							
TXAR				PKPPKP		P'P'df	23 27 17.1	-4.7
	comp=Z,0.3nm,0.4s,baz=145,slow=4.6,SNR=4.3							
TXAR				LR		LR	23 40 46.2	
	comp=Z,21μm,20.2s,baz=5.0,slow=33							
Z32A	Haskell	93.37	47	⇑P		P	23 02 00.8	0.0
	baz=93,SNR=160							
528A	Cox Ranch, San	93.38	51	⇑P		P	23 02 01.5	+0.5
	baz=93,SNR=23							
627A	Terlingua Ranc	93.45	52	⇓P		P	23 02 01.7	+0.4
	baz=93,SNR=35							
330A	Mertzon	93.60	49	⇑P		P	23 02 01.4	-0.4
	baz=93,SNR=27							
429A	Davenport Ranc	93.66	50	⇓P		P	23 02 01.9	-0.3
	baz=93,SNR=7.7							
TUL1	Tulsa	93.73	43	⇓P		P	23 02 02.3	0.0
	baz=94,SNR=30							
ABTX	Abilene, Hawle	93.74	47	⇓P		P	23 02 02.5	+0.1
	baz=94,SNR=44							
HDIL	Hopedale	93.75	36	eP		P	23 02 02.0	-0.3
	comp=Z,75nm,0.8s							
HDIL					LR	LR		
	comp=Z,5μm,20.0s							
628A	Black Gap, Mar	93.76	51	⇓P		P	23 02 02.7	+0.1
	baz=94,SNR=15							
RJF	Les Rejaudoux	93.77	332	⇓iP		P	23 02 02.4	+0.1
	comp=Z,432nm,1.2s							
RJF					eR			
	comp=Z,19μm,21.8s							
529A	Stev Forest Ra	93.78	50	⇑P		P	23 02 02.7	0.0
	baz=94,SNR=14							
231A	Bronte	93.78	48	⇓P		P	23 02 02.3	-0.4
	baz=94,SNR=23							
LASF	Ste Croix	93.84	330	⇓iP		P	23 02 02.6	0.0
	comp=Z,537nm,1.2s							
CAF	Calviac	93.87	332	⇓iP		P	23 02 03.1	+0.3
	comp=Z,542nm,1.3s							
430A	Baggett Ranch,	93.97	49	⇑P		P	23 02 03.1	-0.4
	baz=94,SNR=12							
331A	San Angelo	94.14	49	⇑P		P	23 02 03.8	-0.5
	baz=94,SNR=12							
232A	Coleman	94.23	48	⇑P		P	23 02 04.7	-0.1
	baz=94,SNR=52							
530A	J-C Ranch, Com	94.33	50	⇓P		P	23 02 05.5	+0.3
	baz=94,SNR=20							
LFF	La Frestale	94.38	333	⇓iP		P	23 02 05.3	+0.2
	comp=Z,138nm,0.7s							
LFF					epP	pP	23 02 23.2	+0.7
431A	Sonora	94.44	49	⇑P		P	23 02 05.3	-0.5
	baz=94,SNR=13							
332A	Millersview	94.52	48	⇑P		P	23 02 05.9	-0.2
	baz=94,SNR=66							
SLM	Saint Louis	94.74	37	eP		P	23 02 06.1	-0.8
SLM					pmax	pmax		
	comp=Z,102nm,0.8s							
SLM	Saint Louis	94.74	37	eP		P	23 02 06.0	-0.8
	comp=Z,102nm,0.8s							
SADO	Sadowa	94.81	27	PKKPbc		PKKPbc	23 19 03.4	+0.2
SADO	Sadowa	94.81	27	PKKPbc		PKKPbc	23 19 03.4	+0.2
	comp=Z,5.1nm,0.6s,baz=243,slow=2.9,SNR=5.8							
432A	Menard	94.83	48	⇓P		P	23 02 06.9	-0.6
	baz=95,SNR=14							
531A	Rocksprings	94.83	49	⇑P		P	23 02 07.5	0.0
	baz=95,SNR=18							
VSL	Villasalto	94.95	324	eP		P	23 02 06.8	-1.0
	comp=Z,88nm,1.0s							
VSL					ePP	PP	23 05 56.3	-0.4
VSL					LR	LR		
	comp=Z,28μm,21.0s							
SFIN	Scholer Farm	94.95	34	⇓P		P	23 02 07.7	-0.1
	baz=95							
WDD	Wield Dalam	94.96	319	eP		P	23 02 06.0	-1.9
	comp=Z,228nm,1.4s							
WDD					ePP	PP	23 05 56.5	-0.4
WDD					LR	LR		
	comp=Z,7μm,20.0s							
JCT	Junction City	95.09	49	⇑eP		P	23 02 08.3	-0.4
JCT				e			23 05 56.5	
JCT					pmax	pmax		
	comp=Z,164nm,1.1s							
JCT					MLR	MLR		
	comp=Z,12μm,20.0s							
JCT	Junction City	95.09	49	⇑eP		P	23 02 08.3	-0.4
	comp=Z,164nm,1.1s							
JCT					ePP	PP	23 05 56.5	-1.8
JCT					LR	LR		
	comp=Z,12μm,20.0s							
JCT	Junction City	95.09	49	⇑P		P	23 02 08.4	-0.2
	baz=95,SNR=14							
MTLF	Montolieu	95.12	331	⇓iP		P	23 02 08.5	0.0
	comp=Z,260nm,1.3s							
MTLF					epP	pP	23 02 26.3	+0.4
532A	Rocksprings	95.27	49	⇑P		P	23 02 09.2	-0.3
	baz=95,SNR=23							
631A	Perdido Creek	95.32	50	⇑P		P	23 02 09.5	-0.2
	baz=95,SNR=30							
LRDF	Laroque-de-Fa	95.32	330	eP		P	23 02 08.7	-0.7
WHTX	Lake Whitney	95.51	46	⇓P		P	23 02 10.7	+0.1
	baz=95,SNR=32							
SJAF	Saint Jean de	95.55	330	eP		P	23 02 08.9	-1.6
FILF	Fillols	95.62	330	eP		P	23 02 10.5	-0.4
CARF	Carcanieres	95.68	330	eP		P	23 02 10.3	-0.9
632A	Uvalde	95.76	49	⇓P		P	23 02 11.6	-0.1
	baz=96,SNR=10							
MLS	Moulis	95.89	331	eP		P	23 02 11.2	-0.9
SIUC	Southern Illin	95.96	37	eP		P	23 02 13.0	+0.5
	comp=Z,42nm,0.8s							
SIUC					ePP	PP	23 06 04.9	+0.3
MIAR	Mount Ida	95.98	42	⇑iP		P	23 02 12.4	-0.2
MIAR					pmax	pmax		
	comp=Z,83nm,0.9s							
MIAR	Mount Ida	95.98	42	⇑iP		P	23 02 12.4	-0.2
	comp=Z,83nm,0.9s							
MELF	Melles	96.10	331	eP		P	23 02 11.9	-1.2
EPF	Esparros	96.14	332	⇓iP		P	23 02 12.5	-0.7
	comp=Z,28nm,0.7s							
732A	Laxson Ranch,	96.17	50	⇓P		P	23 02 13.6	0.0
	baz=96,SNR=12							
BLO	Bloomington	96.17	35	eP		P	23 02 13.7	+0.3
BLO					pmax	pmax		
	comp=Z,19nm,0.6s							
BLO	Bloomington	96.17	35	eP		P	23 02 13.7	+0.3
	comp=Z,19nm,0.6s							
MSNY	Massena	96.18	24	eP		P	23 02 12.9	-0.3
	comp=Z,438nm,0.8s							
LABF	Labassere	96.23	332	eP		P	23 02 12.8	-0.8
RESF	Ens	96.33	332	eP		P	23 02 13.5	-0.7
VIEF	Viey	96.39	332	eP		P	23 02 14.2	-0.2
PARMO	Parma	96.48	38	ePdif		P	23 02 14.6	-0.2
UALR	University of	96.50	41	eP		P	23 02 15.9	+0.9
	comp=Z,36nm,1.0s							
ETSF	Etsaut	96.60	332	⇓iP		P	23 02 15.6	+0.2
	comp=Z,52nm,0.6s							
LONY	Lake Ozonia	96.60	24	eP		P	23 02 14.6	-0.7
	comp=Z,13nm,0.9s							
LONY					LR	LR		
	comp=Z,7μm,19.0s							
LARF	Larrau	96.65	333	eP		P	23 02 15.8	+0.3
SJPF	Ste Jean	96.68	333	eP		P	23 02 14.9	-0.7
	comp=Z,20nm,0.9s							
FRNY	Flat Rock	96.76	24	eP		P	23 02 14.9	-1.0
	comp=Z,12nm,0.8s							
PQI	Presque Isle	96.82	19	eP		P	23 02 15.3	-0.9
	comp=Z,44nm,0.8s							
PQI					ePP	PP	23 06 10.7	-0.1
HBAR	Harrisburg	96.84	40	eP		P	23 02 17.4	+1.0
ALLY	Alegheny Colle	97.02	29	eP		P	23 02 16.8	-0.4
	comp=Z,37nm,0.8s							
ALLY					ePP	PP	23 06 13.1	+0.5
WCI	Wyandotte Cave	97.02	35	eP		P	23 02 16.8	-0.5
WCI				e			23 06 10.5	
WCI					pmax	pmax		
	comp=Z,37nm,0.8s							
WCI	Wyandotte Cave	97.02	35	eP		P	23 02 16.8	-0.5
	comp=Z,37nm,0.8s							
WCI					ePP	PP	23 06 10.5	-2.3
NCB	Newcomb	97.30	24	eP		P	23 02 17.9	-0.5
	comp=Z,16nm,0.7s							
NCB					ePP	PP	23 06 15.5	+0.9
NCB					LR	LR		
	comp=Z,7μm,22.0s							
MDV	Middlebury	97.63	24	eP		P	23 02 19.6	-0.2
	comp=Z,89μm,0.6s							
PKME	Peaks-Kenny Pk	97.74	21	eP		P	23 02 20.1	-0.2
	comp=Z,17nm,0.8s							
PKME					LR	LR		
	comp=Z,6μm,22.0s							
LBNH	Lisbon	97.83	23	eP		Pdif	23 02 21.3	+0.5
LBNH					pmax	pmax		
	comp=Z,12nm,0.8s							
LBNH					MLR	MLR		
	comp=Z,7μm,22.0s							
LBNH	Lisbon	97.83	23	eP		Pdif	23 02 21.3	+0.5
	comp=Z,12nm,0.8s							
LBNH					LR	LR		
	comp=Z,7μm,22.0s							
KEST	Kesra	97.85	322	eP		P	23 02 21.2	0.0
KEST				ePP		PP	23 06 20.1	+0.8
KEST				S		SKSac	23 12 54.2	+0.6
KEST				PKKPbc		PKKPdf	23 18 55.9	-0.4
KEST	Kesra	97.85	322	P		P	23 02 20.9	-0.3
	comp=Z,27nm,1.1s,baz=282,slow=2.6,SNR=25							
KEST				PP		PP	23 06 14.8	-4.5
	comp=Z,8.3nm,0.9s,baz=239,slow=0.7,SNR=4.0							
KEST				S		SKSac	23 12 54.2	+0.6
	comp=Z,1.0nm,1.1s,baz=283,slow=23,SNR=11							
KEST				PKKPbc		PKKPdf	23 18 55.9	-0.4
	comp=Z,1.4nm,0.8s,baz=280,slow=11,SNR=6.0							
KEST				LR		LR	23 50 47.2	
	comp=Z,7μm,20.0s,baz=349,slow=38							
WVT	Waverly	97.89	38	eP		P	23 02 21.2	0.0
WVT					pmax	pmax		
	comp=Z,14nm,0.9s							
WVT	Waverly	97.89	38	eP		P	23 02 21.1	0.0
	comp=Z,14nm,0.9s							
RKT	Rikitea	97.91	112	ePP		PP	23 06 21.2	+0.3
	comp=Z,3μm,31.8s							
RKT				eSKSac		SKSac	23 12 55.7	+1.9
	comp=Z,7μm,27.5s							
RKT				eSP		SP	23 15 08.4	+1.7
	comp=Z,9μm,33.2s							
RKT	Rikitea	97.91	112	eLR		LR	23 33 34.6	
	comp=Z,75μm,32.8s,baz=302							
ACCN	Adirondack Com	98.00	24	eP		P	23 02 21.4	-0.1
	comp=Z,20nm,0.8s							
ACCN					ePP	PP	23 06 20.7	+0.7
HNH	Hanover	98.19	23	eP		Pdif	23 02 23.1	+0.7
	comp=Z,28nm,0.9s							
HNH				e		pP	23 02 42.2	+2.3
HNH					ePP	PP	23 06 22.2	+0.8
BINY	Binghamton	98.20	26	eP		Pdif	23 02 22.7	+0.2
	comp=Z,25nm,1.2s							
BINY					LR	LR		
	comp=Z,9μm,19.0s							
WVL	Waterville	98.26	21	eP		Pdif	23 02 23.1	+0.4
	comp=Z,40nm,1.1s							
OXF	Oxford	98.30	40	eP		Pdif	23 02 23.3	+0.2
OXF				e			23 06 23.9	
OXF					pmax	pmax		
	comp=Z,52nm,0.8s							
OXF					MLR	MLR		
	comp=Z,12μm,20.0s							
OXF	Oxford	98.30	40	eP		Pdif	23 02 23.3	+0.3
	comp=Z,52nm,0.8s							
OXF					ePP	PP	23 06 23.9	+1.2
OXF					LR	LR		
	comp=Z,12μm,20.0s							
KVTX	Kingsville	98.31	50	PFAKE			23 02 30.0	+6.7
KVTX				LR		LR		
	comp=Z,10μm,19.0s							
FFD	Franklin Falls	98.61	23	eP		Pdif	23 02 24.3	+0.1
	comp=Z,28nm,0.7s							
EMMW	East Machias	98.78	20	eP		P	23 02 24.7	-0.2
	comp=Z,86nm,1.4s							
DRV	Dumont d'Urvil	99.16	180	Pdif		Pdif	23 02 15.0	-11
DRV	Dumont d'Urvil	99.16	180	PP		PP	23 06 03.0	-27
DRV				SKKS			23 14 55.0	
DRV				SS		SS	23 20 19.0	-23
VBMS	Vicksburg	99.41	42	PFAKE			23 02 40.0	+12
VBMS				LR		LR		
	comp=Z,9μm,20.0s							
SWET	Sewanee	99.57	37	ePdif		Pdif	23 02 27.7	-1.1
	comp=Z,14nm,0.9s							
SWET				ePP		PP	23 06 31.5	-0.8
TZTN	Tazewell	99.69	35	ePdif		Pdif	23 02 29.3	+0.1
	comp=Z,35nm,1.3s							
TZTN				ePP		PP	23 06 33.0	-0.1
WES	Weston	99.69	23	eP		Pdif	23 02 29.6	+0.5
WES	Weston	99.69	23	ePdif		Pdif	23 02 29.6	+0.5
PBRG	Braganca	99.84	336	ePdif		Pdif	23 02 30.1	+0.2
PBRG	Braganca	99.84	336	ePP		PP	23 06 39.9	+5.9
CPCT	Cooper Cave	100.09	36	ePdif		Pdif	23 02 30.7	-0.4
PGAV	Gavieira, Arco	100.21	337	ePdif		Pdif	23 02 31.1	-0.5
PGAV	Gavieira, Arco	100.21	337	ePP		PP	23 06 40.5	+3.6
PGAV				eSKSac		SKSac	23 13 04.1	-1.2
TKL	Tuckaleechee C	100.29	35	ePdif		Pdif	23 02 31.4	-0.5
PCAB	Cabril	100.36	337	ePdif		Pdif	23 02 31.2	-1.0
PCAB	Cabril	100.36	337	ePP		PP	23 06 41.6	+3.6
MVO	Moncorvo	100.50	336	ePdif		Pdif	23 02 32.9	0.0
MVO	Moncorvo	100.50	336	ePP		PP	23 06 41.1	+2.0
MVO				eSKSac		SKSac	23 13 06.3	-0.4
POLO	Lamas de Olo	100.58	336	ePdif		Pdif	23 02 32.9	-0.3
POLO	Lamas de Olo	100.58	336	ePP		PP	23 06 41.9	+2.2
BLA	Blacksburg	100.59	32	eP		Pdif	23 02 32.4	-0.9
BLA				e			23 06 37.2	
BLA					pmax	pmax		
	comp=Z,16nm,1.0s							
BLA					MLR	MLR		
	comp=Z,11μm,20.0s							
BLA	Blacksburg	100.59	32	ePdif		Pdif	23 02 32.4	-0.9
	comp=Z,16nm,1.0s							
BLA				ePP		PP	23 06 37.2	-2.8
BLA				LR		LR		
	comp=Z,11μm,20.0s							
PVRL	Vila Real	100.64	336	ePdif		Pdif	23 02 32.0	-1.4
PVRL	Vila Real	100.64	336	ePP		PP	23 06 45.4	+5.3
ESDC	Sonseca Array	100.69	333	P		Pdif	23 02 33.4	-0.3
ESDC				PP		PP	23 06 29.8	-11
ESDC				PKKPbc		PKKPbc	23 18 49.0	+1.9
ESDC	Sonseca Array	100.69	333	P		Pdif	23 02 33.4	-0.3
	comp=Z,4.2nm,0.8s,baz=25,slow=4.3,SNR=16							
ESDC				PP		PP	23 06 29.8	-11
	comp=Z,17nm,1.0s,baz=23,slow=6.7,SNR=6.9							
ESDC				PKKPbc		PKKPbc	23 18 49.0	+1.9
	comp=Z,1.2nm,0.5s,baz=206,slow=2.7,SNR=8.8							
ESLA	Sonseca Array	100.69	333	ePdif		Pdif	23 02 32.6	-1.1
	comp=Z,2.1nm,0.9s							
ESLA				ePP		PP	23 06 39.3	-1.3
LRAL	Lakeview Retre	100.72	39	ePdif		Pdif	23 02 34.2	+0.3
	comp=Z,4.4nm,0.7s							
LRAL				ePP		PP	23 06 41.0	0.0
LRAL				LR		LR		
	comp=Z,7μm,19.0s							
PAB	San Pablo	100.95	333	eP		Pdif	23 02 34.3	-0.6
PAB				e			23 06 42.0	
PAB					pmax	pmax		
	comp=Z,10.0nm,1.1s							
PAB					MLR	MLR		
	comp=Z,18μm,21.0s							
PAB	San Pablo	100.95	333	ePdif		Pdif	23 02 34.3	-0.6
	comp=Z,10.0nm,1.1s							
PAB				ePP		PP	23 06 42.0	-0.6
PAB				LR		LR		
	comp=Z,18μm,21.0s							
CBN	Corbin	101.07	29	PFAKE			23 02 50.0	+15
CBN				LR		LR		
	comp=Z,10μm,22.0s							
PVIS	Viseu	101.20	336	ePdif		Pdif	23 02 36.0	0.0
PVIS	Viseu	101.20	336	ePP		PP	23 06 48.7	+4.3
MTE	Manteigas	101.36	336	ePdif		Pdif	23 02 36.7	0.0
MTE	Manteigas	101.36	336	ePP		PP	23 06 48.0	+2.4
MTE				eSKSac		SKSac	23 13 10.5	-0.3
MTE	Manteigas	101.36	336	ePdif		Pdif	23 02 36.2	-0.5
	comp=Z,19nm,1.0s							
MTE				ePP		PP	23 06 41.1	-4.5
MTE				LR		LR		
	comp=Z,12μm,20.0s							
CASY	Casey	101.41	192	ePdif		Pdif	23 02 36.8	+0.9
	comp=Z,107nm,1.5s							
CASY				ePP		PP	23 06 44.4	-2.3
CASY				LR		LR		
	comp=Z,7μm,21.0s							
KMBO	Kilima Mbogo	101.68	276	P		Pdif	23 02 40.1	+1.3
	SNR=15							
KMBO	Kilima Mbogo	101.68	276	ePdif		Pdif	23 02 39.0	+0.3
KMBO				ePP		PP	23 06 49.7	-0.1
KMBO				LR		LR		
	comp=Z,6μm,20.0s							
KMBO	Kilima Mbogo	101.68	276	P		Pdif	23 02 38.8	0.0
	comp=Z,14nm,0.8s,baz=32,slow=7.7,SNR=20							
PCBR	Castelo Branco	101.84	335	ePdif		Pdif	23 02 40.7	+2.0
PCBR	Castelo Branco	101.84	335	ePP		PP	23 06 53.2	+4.1
KMSC	Kings Mountain	101.87	34	⇑Pdiff		Pdif	23 02 38.2	-0.8
	baz=102							
KMSC	Kings Mountain	101.87	34	⇑Pdiff		Pdif	23 02 38.2	-0.8
	baz=102							
PCAS	Casmilo, Conde	102.00	336	ePdif		Pdif	23 02 38.8	-0.7
PCAS	Casmilo, Conde	102.00	336	ePP		PP	23 06 54.2	+3.9
PMRV	Marv??o	102.17	335	ePdif		Pdif	23 02 40.3	0.0
PMRV	Marv??o	102.17	335	ePP		PP	23 06 54.5	+2.8
PMRV				eSKSac		SKSac	23 13 14.9	+0.3
BRAL	Brewton	102.25	40	PFAKE			23 02 50.0	+9.3
BRAL				LR		LR		
	comp=Z,7μm,19.0s							
PTOM	Tomar	102.36	336	ePdif		Pdif	23 02 44.0	+3.0
PTOM

baz=104
PVAQ Vaqueiros 104.09 334 *e*Pdif **Pdif 23 02 46.4 -2.4**
PVAQ Vaqueiros 104.09 334 *e*PP PP 23 07 08.4 +2.5
PVAQ *e*SKSac **SKSac 23 13 22.8 -0.8**
PBDV Barranco-do-Ve 104.31 334 *e*Pdif **Pdif 23 02 50.5 +0.7**
PBDV Barranco-do-Ve 104.31 334 *e*PP PP 23 07 11.8 +4.2
PTEO Sao Teotonio 104.32 335 *e*Pdif **Pdif 23 02 53.1 +3.3**
PTEO Sao Teotonio 104.32 335 *e*PP PP 23 07 13.4 +5.7
MORF Marmelete 104.51 335 *e*P **Pdif 23 02 51.8 +1.1**
MORF *e* 23 07 10.0
MORF *e*S **SKSac 23 13 26.7 +1.1**
MORF Marmelete 104.51 335 *e*Pdif **Pdif 23 02 52.9 +2.2**
MORF Marmelete 104.51 335 *e*PP PP 23 07 12.6 +3.4
RTC Rabat Centre 106.77 332 PFAKE 23 07 20.0
RTC LR LR
comp=Z,9μm,22.0s
MBAR Mbarara 106.82 280 PFAKE 23 07 20.0
MBAR LR LR
comp=Z,546nm,19.0s
MDT Midelt 106.87 330 PKKPbc PKKPbc 23 18 30.8 +2.1
MDT Midelt 106.87 330 PKKPbc PKKPbc 23 18 30.8 +2.1
comp=Z,1.8nm,0.6s,baz=248,slow=2.8,SNR=6.3
CMLA Cha da Macela 108.57 348 PFAKE 23 07 30.0
CMLA LR LR
comp=Z,4μm,19.0s
TEIG Tepich 109.67 49 PKKPbc PKKPbc 23 18 21.1 +1.7
TEIG LR LR
comp=Z,8μm,20.0s
TEIG Tepich 109.67 49 PKKPbc PKKPbc 23 18 21.1 +1.6
comp=Z,26nm,0.8s,baz=39,slow=1.0,SNR=16
VNDA Vanda 110.85 175 Pdif **Pdif 23 03 27.0 +9.3**
VNDA PKiKP **PKiKP 23 07 18.0 +1.1**
VNDA PKKPbc **PKKPbc 23 18 16.5 -0.8**
VNDA Vanda 110.85 175 Pdiff **Pdif 23 03 27.0 +9.3**
comp=Z,1.1nm,0.8s,baz=30,slow=4.0,SNR=3.0
VNDA PKiKP **PKiKP 23 07 18.0 +1.1**
comp=Z,3.2nm,0.5s,baz=322,slow=6.5,SNR=7.3
VNDA PKKPbc **PKKPbc 23 18 16.5 -0.8**
comp=Z,5.7nm,0.9s,baz=237,slow=2.2,SNR=6.8
BBSR BB Station 110.97 23 PFAKE 23 07 30.0
BBSR LR LR
comp=Z,4μm,20.0s
SBA Scott Base 111.55 174 *e*PKIKP **PKiKP 23 07 19.3 +1.1**
SBA *e* 23 08 01.8
SBA MLR MLR
comp=Z,4μm,22.0s
SBA Scott Base 111.55 174 *e*PKiKP **PKiKP 23 07 19.2 +1.1**
SBA *e*PP **PP 23 08 01.8 +0.9**
SBA LR LR
comp=Z,4μm,22.0s
MAW Mawson 115.38 204 Pdif **Pdif 23 03 45.9 +7.9**
MAW PKP **PKPdf 23 07 26.5 +0.8**
MAW PKKPbc **PKKPbc 23 18 01.1 -0.6**
MAW Mawson 115.38 204 Pdiff **Pdif 23 03 45.9 +7.9**
comp=Z,1.2nm,0.5s,baz=61,slow=13,SNR=4.2
MAW PKP **PKPdf 23 07 26.5 +0.8**
comp=Z,14nm,0.6s,baz=76,slow=4.3,SNR=32
MAW PKKPbc **PKKPbc 23 18 01.1 -0.6**
comp=Z,14nm,1.0s,baz=249,slow=4.6,SNR=10
LMGC Las Mercedes 116.40 40 *e* **PKPdf 23 07 25.1 -4.2**
LSZ Lusaka 116.67 268 *e*PKPdf **PKPdf 23 07 30.8 +0.8**
LSZ *e*PP **PP 23 08 39.9 +1.3**
LSZ LR LR
comp=Z,9μm,22.0s
RCC Rio Carpintero 117.15 39 *e* **PKPdf 23 07 29.5 -1.2**
GTBY Guantanamo Bay 117.52 38 PFAKE 23 07 40.0 +8.6
GTBY LR LR
comp=Z,7μm,21.0s
MTDJ Mount Denham 117.60 41 PFAKE 23 07 40.0 +8.2
MTDJ LR LR
comp=Z,3μm,21.0s
GRTK Grand Turk 118.13 34 *e*PKPdf **PKPdf 23 07 33.1 +0.5**
GRTK LR LR
comp=Z,6μm,21.0s
TOA0 Torodi Ar. Sit 119.65 312 *e*PKPdf **PKPdf 23 07 35.3 -0.3**
TOA0 *e*PP **PP 23 08 57.6 -0.5**
TORD Torodi Ar. Bea 119.65 312 Pdif **Pdif 23 04 05.5 +7.1**
TORD PKP **PKPdf 23 07 34.9 -0.7**
TORD PP PP 23 08 49.2 -8.9
TORD PKKPbc **PKKPbc 23 17 42.7 -2.7**
TORD PKKPab **PKKPab 23 17 48.4 -1.7**
TORD SKKP 23 21 40.6
TORD Torodi Ar. Bea 119.65 312 Pdiff **Pdif 23 04 05.5 +7.1**
comp=Z,0.4nm,0.8s,baz=36,slow=2.4,SNR=4.1
TORD PKP **PKPdf 23 07 34.9 -0.7**
comp=Z,26nm,0.6s,baz=46,slow=0.9,SNR=223
TORD PP PP 23 08 49.2 -8.9
comp=Z,26nm,1.1s,baz=36,slow=3.9,SNR=5.7
TORD PKKPbc **PKKPbc 23 17 42.7 -2.7**
comp=Z,3.7nm,1.0s,baz=224,slow=2.4,SNR=9.8
TORD PKKPab **PKKPab 23 17 48.4 -1.7**
comp=Z,12nm,0.8s,baz=217,slow=3.1,SNR=27
TORD SKKP 23 21 40.6
comp=Z,7.3nm,1.1s,baz=228,slow=3.9,SNR=5.1
SDDR Presa de Saban 120.23 35 *e*PKPdf **PKPdf 23 07 37.1 +0.3**
SDDR LR LR
comp=Z,7μm,20.0s
RPN Rapa Nui 120.28 104 PFAKE 23 07 50.0 +14
RPN LR LR
comp=Z,12μm,20.0s
QSPA South Pole Qui 122.57 180 Pdif Pdif 23 04 27.1 +17
QSPA *e*PKPdf **PKPdf 23 07 39.4 -0.4**
QSPA PKP **PKPdf 23 07 39.5 -0.3**
QSPA *e*PP **PP 23 09 18.0 0.0**
QSPA PP PP 23 09 18.4 +0.4
QSPA PKKPbc **PKKPbc 23 17 36.2 +0.2**
QSPA LR LR
comp=Z,12μm,22.0s
QSPA South Pole Qui 122.57 180 Pdiff Pdif 23 04 27.0 +17
comp=Z,0.9nm,0.7s,baz=138,slow=2.3,SNR=6.3
QSPA PKP **PKPdf 23 07 39.5 -0.3**
comp=Z,50nm,0.5s,baz=296,slow=0.9,SNR=110
QSPA PP **PP 23 09 18.4 +0.5**
comp=Z,42nm,1.1s,baz=340,slow=2.2,SNR=8.7
QSPA PKKPbc **PKKPbc 23 17 36.2 +0.2**
comp=Z,4.6nm,0.8s,baz=212,slow=4.9,SNR=6.1
PAYG Puerto Ayora 122.65 67 PFAKE 23 07 50.0 +8.5
PAYG LR LR
comp=Z,9μm,20.0s
LSP Las Mesas 122.88 32 *e*PKPdf **PKPdf 23 07 41.8 0.0**
LRS Lares 122.88 31 *e*PKPdf **PKPdf 23 07 41.2 -0.6**
CELP Cerrillos 123.19 31 *e*PKPdf **PKPdf 23 07 42.2 -0.2**
LBTB Lobatse 123.20 260 *e*PKPdf **PKPdf 23 07 42.7 +0.4**
LBTB *e*pPKPdf **pPKPdf 23 07 59.9 -0.4**
BCIP Isla Barro Col 123.31 50 *e*PKPdf **PKPdf 23 07 41.6 -1.1**
BCIP LR LR
comp=Z,5μm,22.0s
MTP Monte Pirata 123.61 30 *e*PKPdf **PKPdf 23 07 42.8 -0.4**
MTP *e*pPKPdf **pPKPdf 23 08 03.1 +1.9**
STVI Saint Thomas 123.63 29 *e*PKPdf **PKPdf 23 07 42.7 -0.5**
STVI *e*pPKPdf **pPKPdf 23 08 01.1 -0.2**
SYO Syowa Base 124.07 205‖ *e*P **PKPdf 23 07 41.8 -0.6**
SYO Syowa Base 124.07 205‖ *e*P **PKPdf 23 07 45.2 +2.8**
CDVI St. Croix 124.24 29 *e*PKPdf **PKPdf 23 07 44.8 +0.4**
BOSA Boshof 124.88 256 PKPpre PKPpre 23 07 37.5
BOSA *e*PKPdf **PKiKP 23 07 45.9 +0.1**
BOSA PKP **PKiKP 23 07 46.3 +0.5**
BOSA *e*PP **PP 23 09 35.1 +0.5**
BOSA PKKPbc **PKKPbc 23 17 27.0 +1.5**
BOSA Boshof 124.88 256 PKhKP PKPpre 23 07 37.5
comp=Z,3.3nm,0.5s,baz=37,slow=2.3,SNR=7.7
BOSA PKP **PKiKP 23 07 46.3 +0.5**
comp=Z,56nm,0.9s,baz=88,slow=2.2,SNR=36
BOSA PKKPbc **PKKPbc 23 17 27.0 +1.5**
comp=Z,6.6nm,0.9s,baz=292,slow=9.8,SNR=8.3
SKI Saint Kitts 125.43 27 *e* **PP 23 09 36.7 +0.1**
ANWB Willy Bob 125.49 26 *e*PKPdf **PKPdf 23 07 47.0 +0.2**
ANWB LR LR
comp=Z,4μm,21.0s
SEG Port Louis 126.75 27 *e*P **PKPdf 23 07 49.0 -0.3**
DEG La Desirade 127.00 26 *e*P **PKPdf 23 07 50.4 +0.6**
TAG Tarade 127.02 27 *e*P **PKPdf 23 07 51.2 +1.3**
ECG Echelle 127.03 27 *e*P **PKPdf 23 07 52.0 +2.0**
DOG Dongo Capester 127.05 27 *e*P **PKPdf 23 07 50.9 +1.0**
PHG Guadaloupe-2 127.06 27 *e*P **PKPdf 23 07 50.8 +0.8**
HMG Houelmont 127.06 27 *e*P **PKPdf 23 07 49.8 -0.1**
TBG Guadaloupe-3 127.20 27⇑*i*P **PKPdf 23 07 50.8 +0.7**
MGG Marie-Galante 127.27 27⇑*i*P **PKPdf 23 07 50.8 +0.6**
TSUM Tsumeb 127.44 270 *e*PKPdf **PKPdf 23 07 50.4 -0.2**
FDF Fort de France 128.41 27 *e*P **PKPdf 23 07 52.5 0.0**
DBIC Dimbokro 128.71 314 PKPpre PKPpre 23 07 39.8
DBIC *e*PKPdf **PKPdf 23 07 52.8 -0.3**
DBIC PKP **PKPdf 23 07 52.9 -0.2**
DBIC *e*pPKPdf pPKPdf 23 08 12.7 +1.6
DBIC *e*PP **PP 23 09 58.6 -0.3**
DBIC Dimbokro 128.71 314 PKhKP PKPpre 23 07 39.8
comp=Z,7.9nm,1.0s,baz=243,slow=7.7,SNR=3.6
DBIC PKP **PKPdf 23 07 52.9 -0.2**
comp=Z,42nm,0.6s,baz=14,slow=2.0,SNR=40
DBIC PP **PP 23 10 01.9 +3.0**
comp=Z,22nm,0.8s,baz=13,slow=12,SNR=3.9
TIC Toumodi 128.83 314 *e*PKP1 **PKPdf 23 07 52.6 -0.7**
comp=Z,369nm,1.1s
KIC Kosan Boka 128.88 313 *e*PKP1 **PKPdf 23 07 53.3 -0.1**
comp=Z,373nm,1.3s
SDV Santo Domingo 129.05 41 *e*PKPdf **PKPdf 23 07 54.2 +0.3**
SDV LR LR
comp=Z,862nm,20.0s
LIC Lamto 129.16 313 *e*PKIKP **PKPdf 23 07 53.6 -0.3**
comp=Z,41nm,0.5s
LIC *e*R
comp=Z,18μm,21.5s
LIC Lamto 129.16 313 *e*PKP1 **PKPdf 23 07 53.7 -0.2**
comp=Z,185nm,1.1s
MCLT Moule a Chique 129.43 27 *e* SKPab 23 11 08.5 -1.6
SVB Belmont 129.71 28 *e*P **PKPdf 23 07 54.5 -0.4**
SVB Belmont 129.71 28 *e* SKPab 23 11 10.9 -0.4
SUR Sutherland 129.76 253 PFAKE 23 08 10.0 +15
SUR LR LR
comp=Z,7μm,21.0s
ROSC El Rosal 130.09 48 PKP **PKPdf 23 07 56.8 +0.6**
ROSC *e*PKPdf **PKiKP 23 07 57.4 +0.3**
ROSC El Rosal 130.09 48 PKP **PKPdf 23 07 56.8 +0.6**
comp=Z,43nm,0.5s,baz=104,slow=14,SNR=28
SACV Santiago Islan 130.09 340 *e*PKPdf **PKPdf 23 07 56.0 +0.3**
SACV LR LR
comp=Z,4μm,22.0s
BBGH Gun Hill 130.47 26 PFAKE 23 08 10.0 +14
BBGH LR LR
comp=Z,8μm,22.0s
GRGR Grenville 130.58 29 *e*PKPdf **PKPdf 23 07 56.0 -0.6**
GRGR *e*PP **PP 23 10 12.2 +1.6**
GRGR LR LR
comp=Z,5μm,21.0s
OTAV Otavalo 130.79 56 *e*PKPdf **PKPdf 23 07 57.4 -0.2**
OTAV *e*SKP 23 11 15.3
OTAV LR LR
comp=Z,6μm,20.0s
TOSP Speyside 131.78 28 *e* **PKPdf 23 08 00.1 +1.2**
TOSP Speyside 131.78 28⇑*i*P **PKPdf 23 08 00.5 +1.7**
ATAH Atahualpa 135.86 63 SKP **SKPdf 23 11 34.5 -2.2**
ATAH Atahualpa 135.86 63 SKP **SKPdf 23 11 34.5 -2.2**
comp=Z,57nm,1.3s,baz=327,slow=3.6,SNR=7.6
SNAA Sanae 136.48 196 *e*PKP PKPpre 23 07 51.9
SNAA Sanae 136.48 196 *e*SKP **SKPbc 23 11 33.8 +0.8**
SNAA Sanae 136.48 196 *e*PKPpre PKPpre 23 07 50.6
SNAA PKPpre PKPpre 23 07 54.2
SNAA *e*PKPdf **PKPdf 23 08 06.3 +0.3**
SNAA PKP **PKiKP 23 08 07.1 -0.6**
SNAA SKP 23 11 32.0
SNAA Sanae 136.48 196 PKhKP PKPpre 23 07 54.2
comp=Z,2.2nm,0.5s,baz=188,slow=9.4,SNR=13
SNAA PKP **PKiKP 23 08 07.1 -0.6**
comp=Z,8.7nm,0.8s,baz=83,slow=2.8,SNR=13
SNAA SKP 23 11 32.0
comp=Z,32nm,1.0s,baz=88,slow=1.5,SNR=10
VNA2 Neumayer--Watz 138.05 195 *e*PKP PKPpre 23 07 58.0
VNA2 Neumayer--Watz 138.05 195 *e*SKP **SKPbc 23 11 36.6 -0.9**
VNA1 Neumayer--Stat 138.44 195 *e*PKP PKPpre 23 07 59.7
VNA1 Neumayer--Stat 138.44 195 *e*SKP **SKPbc 23 11 39.3 +0.7**
PMSA Palmer Station 144.66 162 PKP **PKPdf 23 08 20.4 -0.4**
PMSA *e*PKPdf PKPbc 23 08 20.7 +1.0
PMSA LR LR
comp=Z,5μm,20.0s
PMSA Palmer Station 144.66 162 PKP **PKPdf 23 08 20.4 -0.4**
comp=Z,142nm,0.6s,baz=195,slow=2.6,SNR=66
SHEL Horse Pasture 145.12 291 *e*PKIKP **PKPbc 23 08 22.8 +0.1**
SHEL MLR MLR
comp=Z,5μm,22.0s
SHEL Horse Pasture 145.12 291 *e*PKPdf **PKPbc 23 08 22.8 +0.1**
SHEL LR LR
comp=Z,5μm,22.0s
ASCN Ascension 145.96 311 *e*PKPdf **PKPdf 23 08 24.6 -0.1**
ASCN LR LR
comp=Z,3μm,22.0s
SAML Samuel 147.74 48 *e*PKPdf **PKPdf 23 08 27.9 +0.2**
SAML LR LR
comp=Z,5μm,22.0s
LPAZ La Paz 149.39 64 PKP **PKPdf 23 08 31.5 +0.5**
LPAZ *e*PKPdf **PKPbc 23 08 32.1 -3.3**
LPAZ PKPbc **PKiKP 23 08 36.7 +0.2**
LPAZ *e*PKPbc **PKiKP 23 08 36.8 +0.2**
LPAZ La Paz 149.39 64 PKP **PKPdf 23 08 31.5 +0.5**
comp=Z,77nm,0.6s,baz=355,slow=2.0,SNR=122
LPAZ PKPbc **PKiKP 23 08 36.7 +0.2**
comp=Z,172nm,0.6s,baz=8.1,slow=7.1,SNR=137
PSGC Pisagua 149.71 72 *e*P **PKPdf 23 08 31.0 +0.2**
MNMC Minimini 149.89 71⇑*i*P **PKPdf 23 08 32.6 +1.3**
HMBC Humberstone 150.26 73 *e*P **PKPdf 23 08 32.4 +0.7**
PB01 Plate Boundary 150.97 74 *e*P **PKPdf 23 08 31.6 -1.1**
PB10 Plate Boundary 151.24 79 *e*P **PKPdf 23 08 33.9 +1.0**
ANCH Antofagasta 151.44 79 *e*P **PKPbc 23 08 40.0 +0.7**
CEN1 Los Morros 151.48 79‖ *e*P **PKPdf 23 08 35.0 +1.6**
PB09 Plate Boundary 151.53 75 *e*P **PKPdf 23 08 35.5 +1.8**
COYC Coyhaique 151.97 127⇑*i*P **PKPbc 23 08 41.4 +1.5**
LVC Limon Verde 152.19 76 *e*PKPdf **PKPdf 23 08 35.7 +0.9**
LVC *e*PKPbc **PKiKP 23 08 42.5 +0.8**
LVC LR LR
comp=Z,6μm,20.0s
RCBR Riachuelo 152.93 352 *e*PKPdf **PKPdf 23 08 35.9 0.0**
RCBR LR LR
comp=Z,5μm,22.0s
LCO Las Campanas 153.08 90 *e*PKPdf **PKPdf 23 08 36.5 +0.6**
LCO *e*PKPbc **PKiKP 23 08 43.6 +0.2**
LCO LR LR
comp=Z,13μm,19.0s
TLL Tololo Astrono 153.28 93 *e*P **PKPdf 23 08 39.5 +3.4**
LMEL Las Melosas 154.43 101 *e*P **PKPbc 23 08 45.6 -0.3**
CFAA Coronel Fontan 155.74 95 PKP **PKPdf 23 08 39.9 +0.7**
CFAA PKPbc PKPbc 23 08 49.2
CFAA Coronel Fontan 155.74 95 PKP **PKPdf 23 08 39.9 +0.7**
comp=Z,1.8nm,1.1s,baz=283,slow=2.6,SNR=15
CFAA PKPbc PKPbc 23 08 49.2
comp=Z,4.9nm,0.5s,baz=264,slow=3.1,SNR=14
EFI East Falkland 156.82 150 PFAKE 23 08 50.0 +10
EFI LR LR
comp=Z,6μm,20.0s
TRIS Tristan da Cun 157.29 252 PFAKE 23 08 50.0 +9.1
TRIS LR LR
comp=Z,6μm,20.0s
TRQA Tornquist 161.02 112 *e*PKPdf **PKPdf 23 08 45.6 +0.3**
TRQA *e*PKPab **PKPab 23 09 29.8 +1.1**
TRQA LR LR
comp=Z,7μm,21.0s
BDFB Brasilia 161.27 26 PKP **PKPdf 23 08 46.9 +0.6**
BDFB Brasilia 161.27 26 PKP **PKPdf 23 08 46.9 +0.6**
comp=Z,46nm,1.1s,baz=36,slow=1.0,SNR=15
CPUP Villa Florida 163.26 72 *e*PKPdf **PKPdf 23 08 48.1 +0.2**
CPUP PKP PKP 23 08 49.3
CPUP *e*PKPab **PKPab 23 09 38.8 +0.1**
CPUP PKPab PKPab 23 09 39.2 +0.4
CPUP Villa Florida 163.26 72 PKP **PKPdf 23 08 49.3 +1.4**
comp=Z,7.8nm,0.6s,baz=270,slow=1.5,SNR=41
CPUP PKPab **PKPab 23 09 39.2 +0.5**
comp=Z,44nm,0.6s,baz=286,slow=3.5,SNR=24
LPA La Plata 164.60 103 PKP **PKPab 23 09 44.0 -0.4**
LPA PP **PP 23 13 34.0 +2.7**

JMA 12 22:52:11.2±0.2, 32°.87N×140°.66E, h66km±4km, M5.2, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.75**	**289**	P	Pn	22 52 26.6	+0.2
JHJ2				S	Sn	22 52 37.7	+0.1
JHCJ	**Hachijojimakas**	**0.75**	**286**	P	Pn	22 52 26.4	0.0
JHCJ				S	Sn	22 52 37.5	-0.2
JMY	**Miyakejima3**	**1.54**	**322**	P	Pn	22 52 36.8	+0.2
JKO	**Kozu shima**	**1.83**	**316**	P	Pn	22 52 41.4	+1.0
JKO				S	Sn	22 53 03.3	+0.7
JIM2	**Oshima 3**	**2.11**	**331**	P	Pn	22 52 44.4	+0.1
JIM2				S	Sn	22 53 08.7	-0.8
JIZS	**Izushimoda**	**2.37**	**322**	‖P	Pn	22 52 48.7	+1.0
JOD2	**Odawara 2**	**2.72**	**332**	P	Pn	22 52 53.0	+0.4
JOD2				S	Sn	22 53 23.3	-1.1

ISCJB ***12*** *22:55:13.0±1.0, 23°.6S±0°.1×180°.0W±0°.2, h532km, mb4.5/11, Error ellipse: s-maj=23.9km s-min=11.0km az=149.8*
NEIC ***12*** *22:55:13.7±0.8, 23°.59S×179°.95E, h519km±8km, mb4.6/6, Error ellipse: s-maj=19.7km s-min=9.6km az=63.0*
IDC ***12*** *22:55:14.1±5.7, 23°.59S×179°.98E, h518km±50km, mb4.0/8, mb1 4.1/10, mb1mx3.8/21, mbtmp4.0/10, Error ellipse: s-maj=58.1km s-min=19.5km az=52.0*

ISC 12 22:55:13.5±0.9, 23°.5S±0°.1×179°.8W±0°.2, h532km, n38, σ0 92/37, mb4.6/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.96**	**164**	*e*P	**P**	**22 56 49.9**	**-0.9**
MSVF	**Nonsavu**	**6.08**	**341**	*e*P	**P**	**22 56 52.2**	**-0.1**
50nm,0.7s							
DZM	**Mont Dzumac**	**12.73**	**274**	*e*P	P	22 58 04.3	+4.6
DZM	**Mont Dzumac**	**12.73**	**274**	P	**P**	**22 58 00.6**	**+0.9**
0.3nm,0.3s,baz=270,slow=20,SNR=5.9							
URZ	**Urewera**	**14.92**	**189**	*e*P	**P**	**22 58 21.1**	**-1.1**
URZ	**Urewera**	**14.92**	**189**	P	**P**	**22 58 20.7**	**-1.5**
3.9nm,0.3s,baz=324,slow=2.1,SNR=15							
CTA	**Charters Tower**	**31.62**	**270**	P	**P**	**23 00 53.7**	**+0.7**
CTA	**Charters Tower**	**31.62**	**270**	P	**P**	**23 00 53.7**	**+0.7**
36nm,0.6s,baz=91,slow=13,SNR=3.2							
CTAO	**Charters Tower**	**31.62**	**270**	*e*P	**P**	**23 00 53.0**	**-0.1**
33nm,0.6s							
PMG	**Port Moresby**	**34.51**	**288**	P	**P**	**23 01 17.1**	**-0.4**
PMG	**Port Moresby**	**34.51**	**288**	P	**P**	**23 01 17.1**	**-0.4**
37nm,0.7s,baz=166,slow=3.6,SNR=3.7							
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**23 02 20.2**	**0.0**
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**23 02 20.2**	**0.0**
22nm,0.8s,baz=92,slow=7.6,SNR=7.6							
WRAB	**Tennant Creek**	**42.57**	**266**	*e*P	**P**	**23 02 22.2**	**-0.7**
51nm,1.0s							
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**23 02 22.2**	**-0.7**
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**23 02 22.2**	**-0.7**
21nm,0.6s,baz=91,slow=8.5,SNR=5.0							
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	**P**	**23 03 27.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	**P**	**23 03 27.1**	**+0.6**
16nm,0.9s,baz=82,slow=7.1,SNR=7.6							
SBA	**Scott Base**	**54.76**	**183**	*e*P	**P**	**23 03 53.2**	**+0.8**
VNDA	**Vanda**	**54.77**	**185**	P	**P**	**23 03 53.8**	**+1.4**
NWAO	**Narrogin (SRO)**	**55.52**	**245**	*e*P	**P**	**23 03 57.6**	**-0.8**
MBWA	**Marble Bar**	**55.58**	**260**	*e*P	**P**	**23 03 58.5**	**-0.6**
23nm,0.8s							
CASY	**Casey**	**60.52**	**206**	*e*P	**P**	**23 04 31.5**	**-0.2**
QSPA	**South Pole Qui**	**66.56**	**180**	*e*P	**P**	**23 05 11.9**	**+1.4**
8.9nm,1.1s							
QSPA	**South Pole Qui**	**66.56**	**180**	P	**P**	**23 05 12.0**	**+1.5**
5.5nm,0.8s,baz=18,slow=3.7,SNR=11							
KKM	**Kota Kinabalu**	**68.93**	**287**	*e*P	**P**	**23 05 24.5**	**-1.3**
4.5nm,0.5s							
KSM	**Kuching**	**72.18**	**280**	*e*P	**P**	**23 05 44.0**	**-0.9**
YULB	**Yu-li**	**73.77**	**305**	P	**P**	**23 05 55.0**	**+1.1**
MAW	**Mawson**	**78.16**	**200**	P	**P**	**23 06 18.2**	**+0.9**
MAW	**Mawson**	**78.16**	**200**	P	**P**	**23 06 18.2**	**+0.9**
2.6nm,0.7s,baz=120,slow=8.1,SNR=5.0							
KULM	**Kulim**	**82.52**	**279**	*e*P	**P**	**23 06 40.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**23 07 15.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**23 07 15.8**	**+1.2**
3.6nm,1.0s,baz=138,slow=2.1,SNR=4.1							
ASF	**Jabal al Asfar**	**146.52**	**293**	PKPbc	**PKPbc**	**23 13 55.4**	**-0.3**
ASF	**Jabal al Asfar**	**146.52**	**293**	PKPbc	**PKPbc**	**23 13 55.4**	**-0.3**
3.6nm,0.8s,baz=18,slow=5.4,SNR=4.9							
BRTR	**Keskin Array B**	**147.46**	**308**	PKPbc	**PKPab**	**23 14 00.7**	**-1.2**
BRTR	**Keskin Array B**	**147.46**	**308**	PKPbc	**PKPab**	**23 14 00.7**	**-1.2**
2.3nm,0.8s,baz=84,slow=4.2,SNR=5.4							
CLL	**Collm**	**150.53**	**344**	*i* PKPbc	**PKPbc**	**23 14 03.9**	**-1.0**

PRE 12 22:56:55.6±2.8, 26°.41S×27°.50E, h2km, ML3.1, MS3.5, 1C-2D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**60**	*e*P	Pg	22 56 58.6	+0.4
KLOF				*e*S	Sg	22 57 00.0	+0.1
KLOF				AML	AML	22 57 00.6	
comp=Z,4μm,0.3s							
KLOF	**Kloof**	**0.12**	**60**⇑	*i*P	Pg	22 56 58.7	+0.5
KLOF				*e*S	Sg	22 57 00.2	+0.3
KLOF				AML	AML	22 57 02.6	
comp=Z,3μm,0.8s							
PRYS	**Parys**	**0.53**	**193**	*e*P	Pg	22 57 06.3	+0.3
PRYS				*e*S	Sg	22 57 13.0	0.0
PRYS				AML	AML	22 57 18.8	
comp=Z,829nm,0.5s							
PRYS	**Parys**	**0.53**	**193**	*e*P	Pg	22 57 06.2	+0.2
PRYS				*e*S	Sg	22 57 13.5	+0.5
PRYS				AML	AML	22 57 18.9	
comp=Z,814nm,0.6s							
ERPM	**east rand prop**	**0.67**	**85**	*e*P	Pg	22 57 08.6	-0.1
ERPM				*e*S	Sg	22 57 18.0	+0.4
ERPM				AML	AML	22 57 26.3	
comp=Z,111nm,0.5s							
ERPM	**east rand prop**	**0.67**	**85**‖	*i*P	Pg	22 57 08.9	+0.2
ERPM				*e*S	Sg	22 57 16.7	-1.0
ERPM				AML	AML	22 57 26.4	
comp=Z,104nm,0.5s							
BFSD	**Buffelsfontein**	**0.78**	**234**	*e*P	Pg	22 57 10.1	-0.8
BFSD				*e*S	Sg	22 57 20.1	-1.1
BFSD				AML	AML	22 57 21.8	
comp=Z,238nm,0.3s							
TLEK	**Tau Lekoa**	**0.92**	**233**	*e*P	Pg	22 57 12.8	-0.7
TLEK				*e*S	Sg	22 57 24.7	-0.9
TLEK				AML	AML	22 57 26.3	
comp=Z,109nm,0.4s							
SLR	**Silverton**	**0.97**	**47**	*e*P	Pg	22 57 13.7	-0.8
SLR				*e*S	Sg	22 57 26.9	-0.4
SLR				AML	AML	22 57 33.1	
comp=Z,114nm,0.4s							
SLR	**Silverton**	**0.97**	**47**	*e*P	Pg	22 57 14.0	-0.5
SLR				*e*S	Sg	22 57 27.0	-0.3
SLR				AML	AML	22 57 35.3	
comp=Z,120nm,1.0s							
SEK	**Senekal**	**1.91**	**177**	*e*P	Pb	22 57 31.1	-0.4
SEK				*e*S	Sn	22 57 54.8	+0.5
SEK				AML	AML	22 57 56.9	
comp=Z,274nm,0.4s							
SWZ	**Schweizer**	**2.08**	**248**	*e*P	Pn	22 57 31.4	-0.4
SWZ				*e*S	Sn	22 57 57.6	-0.8
SWZ				AML	AML	22 58 01.4	
comp=Z,131nm,0.6s							
SWZ	**Schweizer**	**2.08**	**248**	*e*P	Pn	22 57 31.6	-0.1
SWZ				*e*S	Sb	22 57 59.7	-1.2
SWZ				AML	AML	22 58 00.9	
comp=Z,135nm,0.6s							
LBTB	**Lobatse**	**2.21**	**309**	*e*P	Pn	22 57 32.6	-0.8
LBTB				*e*S	Sn	22 58 01.6	+0.2
LBTB				AML	AML	22 58 05.0	
comp=Z,141nm,0.3s							
LBTB	**Lobatse**	**2.21**	**309**‖	*i*P	Pn	22 57 34.1	+0.7
LBTB				*e*S	Sn	22 58 02.5	+1.1
LBTB				AML	AML	22 58 05.1	
comp=Z,141nm,0.3s							
BOSA	**Boshof**	**2.96**	**222**	*e*P	Pn	22 57 43.0	-0.9
BOSA				*e*S	Sn	22 58 19.2	-0.9
BOSA				AML	AML	22 58 26.7	
comp=Z,48nm,0.3s							
BOSA	**Boshof**	**2.96**	**222**	*e*P	Pn	22 57 43.8	-0.1
BOSA				*e*S	Sn	22 58 18.8	-1.4
BOSA				AML	AML	22 58 26.6	
comp=Z,48nm,0.3s							
BOSA				AMS	AMS	23 52 32.6	
comp=Z,8μm,28.4s							
KSD	**Kokstad**	**4.45**	**158**	*e*P	Pn	22 58 07.9	+3.6
KSD				*e*S	Sn	22 58 55.1	-1.8
KSD				AML	AML	22 59 17.6	
comp=Z,41nm,0.5s							
HVD	**Gariep Dam**	**4.54**	**202**	*e*S	Sn	22 58 55.5	-3.5
HVD				AML	AML	22 59 16.1	
comp=Z,18nm,0.4s							
SUR	**Sutherland**	**8.33**	**223**	*e*S	Sn	23 00 29.1	-3.4
SUR				AML	AML	23 01 32.7	
comp=Z,5.8nm,0.5s							
CVNA	**Calvinia**	**

mb1 3.9/10, mb1mx3.7/19, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=45.3km s-min=24.6km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.85**	**245**	P	Pn	23 05 59.3	-1.0
	16nm,0.3s,baz=58,slow=6.9,SNR=24						
PMG				S	Sn	23 06 34.6	+1.1
	58nm,0.3s,baz=128,slow=19,SNR=8.6						
WRA	**Warramunga Arr**	**18.96**	**230**	P	P	23 09 32.5	-0.8
	0.3nm,0.3s,baz=48,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**21.63**	**223**	P	P	23 10 03.5	+1.5
	1.5nm,0.5s,baz=54,slow=9.3,SNR=14						
FITZ	**Fitzroy Crossi**	**25.45**	**245**	P	P	23 10 37.5	-1.5
	3.2nm,0.6s,baz=78,slow=9.3,SNR=6.4						
CMAR	**Chiang Mai Arr**	**56.71**	**298**	P	P	23 14 54.5	+0.2
	1.1nm,0.7s,baz=125,slow=6.3,SNR=5.3						
PETK	**Petropavlovsk-**	**61.44**	**5**	P	P	23 15 27.1	+0.7
	2.1nm,0.7s,baz=178,slow=5.0,SNR=3.5						
SONM	**Songino Array**	**67.66**	**330**	P	P	23 16 07.7	+0.4
	0.9nm,0.5s,baz=163,slow=6.3,SNR=5.0						
MKAR	**Makanchi Array**	**80.94**	**320**	P	P	23 17 23.9	-0.5
	0.4nm,0.7s,baz=92,slow=7.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**82.33**	**327**	P	P	23 17 30.7	-0.7
	0.4nm,0.5s,baz=145,slow=5.4,SNR=2.7						
ILAR	**Eielson Array**	**86.42**	**23**	P	P	23 17 51.5	-0.5
	0.6nm,0.7s,baz=252,slow=4.5,SNR=6.2						
GERES	**GERESS Array B**	**125.26**	**326**	PKP	PKPdf	23 24 09.6	-0.8
	0.2nm,0.6s,baz=29,slow=2.2,SNR=2.3						
MDT	**Midelt**	**145.90**	**320**	PKPbc	PKPab	23 24 50.5	+0.2
	1.8nm,0.8s,baz=5.3,slow=4.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.26**	**282**	PKPbc	PKPbc	23 24 56.5	-0.2
	1.8nm,0.6s,baz=66,slow=2.8,SNR=31						

*IDC **12** 23:07:17.9±1.8, 36°.87S×178°.73E, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.3/16, mbtmp4.5/4, MS4.5/1, Ms1 4.5/1, ms1mx4.2/30, Error ellipse: s-maj=38.9km s-min=36.7km az=166.0*

*WEL **12** 23:07:20.4±0.3, 37°.30S×178°.99E, h12km, ML4.4/49, Error ellipse: s-maj=2.7km s-min=2.5km az=90.0*

WEL Felt in the Gisborne region, maximum reported intensity MM 4.

*NEIC **12** 23:07:22.1, 37°.32S×178°.90E, h23km, ML4.4(WEL), After WEL.*

NEIC Felt at Makarika.

*AUST **12** 23:07:32.4±1.0, 37°.70S×177°.60E, h52km, Error ellipse: s-maj=2.1km s-min=1.2km az=274.0*

ISC 12 23:07:18.6±0.9, 37°.45S±0°.05×179°.27E±0°.07, h29km, n215, σ1§39/209, mb4.5/4, 2C-7D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.78**	**262**	⇑P*	Pb	23 07 32.6	-0.9
MXZ				S*	Sb	23 07 40.2	-3.5
MXZ				AML	AML	23 07 41.9	
MXZ	**Matakaoa Point**	**0.78**	**262**	⇑P*	Pb	23 07 32.6	-0.9
MXZ				S*	Sb	23 07 40.2	-3.5
PUZ	**Puketiti**	**1.01**	**232**	⇓P*	Pb	23 07 38.8	+1.2
PUZ				S*	Sb	23 07 51.1	+0.6
PUZ				AML	AML	23 07 52.6	
PUZ	**Puketiti**	**1.01**	**232**	⇓P*	Pb	23 07 38.8	+1.2
PUZ				S*	Sb	23 07 51.1	+0.6
CNGZ	**Carnagh Statio**	**1.33**	**219**	⇓PN	Pb	23 07 44.2	+1.3
CNGZ	**Carnagh Statio**	**1.33**	**219**	⇓Pn	Pb	23 07 44.2	+1.3
MWZ	**Matawai**	**1.64**	**237**	PN	Pn	23 07 46.7	+1.2
MWZ				SN	Sn	23 08 05.1	-0.4
MWZ				AML	AML	23 08 10.2	
MWZ				AML	AML	23 08 13.8	
MWZ				AML	AML	23 08 13.8	
MWZ	**Matawai**	**1.64**	**237**	Pn	Pn	23 07 46.8	+1.3
MWZ				Sn	Sn	23 08 05.1	-0.4
WIZ	**White Island**	**1.66**	**267**	PN	Pn	23 07 45.7	0.0
WIZ	**White Island**	**1.66**	**267**	Pn	Pn	23 07 45.3	-0.4
PRGZ	**Paritu Road**	**1.83**	**216**	PN	Pb	23 07 50.3	-1.2
URZ	**Urewera**	**1.89**	**244**	PN	Pn	23 07 50.1	+1.1
URZ				AML	AML	23 08 12.3	
URZ				AML	AML	23 08 25.2	
URZ	**Urewera**	**1.89**	**244**	Pn	Pn	23 07 50.0	+1.1
URZ				Sn	Sn	23 08 11.1	-0.6
URZ	**Urewera**	**1.89**	**244**	Pn	Pn	23 07 50.0	+1.1
	181nm,0.3s,baz=30,slow=3.3,SNR=1201						
URZ				Sn	Sn	23 08 11.1	-0.6
	250nm,0.3s,baz=250,slow=18,SNR=18						
KNZ	**Kokohu**	**2.01**	**218**	PN	Pn	23 07 51.9	+1.4
KNZ	**Kokohu**	**2.01**	**218**	Pn	Pn	23 07 51.9	+1.4
MHGZ	**Mahia Peninsul**	**2.01**	**212**	PN	Pb	23 07 52.7	-1.7
MHGZ	**Mahia Peninsul**	**2.01**	**212**	Pn	Pb	23 07 52.9	-1.6
EDRZ	**Edgecumbe**	**2.11**	**251**	PN	Pn	23 07 52.9	+0.9
EDRZ				AML	AML	23 08 19.0	
EDRZ				AML	AML	23 08 20.7	
EDRZ	**Edgecumbe**	**2.11**	**251**	Pn	Pn	23 07 53.0	+0.9
MARZ	**Manawahe**	**2.13**	**255**	PN	Pn	23 07 52.5	+0.3
MARZ	**Manawahe**	**2.13**	**255**	Pn	Pn	23 07 52.5	+0.3
OPRZ	**Ohinepanea**	**2.19**	**258**	PN	Pn	23 07 52.9	-0.1
OPRZ	**Ohinepanea**	**2.19**	**259**	Pn	Pn	23 07 53.0	-0.1
RAHZ	**Arahi**	**2.26**	**229**	PN	Pn	23 07 55.5	+1.5
RAHZ	**Arahi**	**2.26**	**229**	Pn	Pn	23 07 55.5	+1.5
MKRZ	**Makatiti**	**2.32**	**252**	PN	Pn	23 07 56.4	+1.5
MKRZ				AML	AML	23 08 26.6	
MKRZ				AML	AML	23 08 26.7	
MKRZ	**Makatiti**	**2.32**	**252**	Pn	Pn	23 07 56.4	+1.5
TARZ	**Mount Tarawera**	**2.32**	**250**	PN	Pn	23 07 55.8	+0.8
TARZ	**Mount Tarawera**	**2.32**	**250**	Pn	Pn	23 07 56.0	+1.0
RRRZ	**Republican Roa**	**2.35**	**247**	PN	Pn	23 07 56.0	+0.7
RRRZ	**Republican Roa**	**2.35**	**247**	Pn	Pn	23 07 56.2	+0.9
LIRZ	**Lichensteins R**	**2.35**	**256**	PN	Pn	23 07 55.8	+0.5
LIRZ	**Lichensteins R**	**2.35**	**256**	Pn	Pn	23 07 56.1	+0.8
OMRZ	**Omania**	**2.39**	**253**	PN	Pn	23 07 56.5	+0.7
OMRZ	**Omania**	**2.39**	**253**	Pn	Pn	23 07 56.6	+0.8
TGRZ	**Tauranga**	**2.41**	**262**	PN	Pn	23 07 55.9	-0.1
TGRZ				AML	AML	23 08 25.0	
TGRZ				AML	AML	23 08 27.0	
TGRZ	**Tauranga**	**2.41**	**262**	Pn	Pn	23 07 56.0	0.0
MYRZ	**Mayor Island**	**2.42**	**273**	PN	Pn	23 07 55.9	-0.3
PRRZ	**Plateau Road**	**2.50**	**244**	PN	Pn	23 07 57.9	+0.6
PRRZ	**Plateau Road**	**2.50**	**244**	Pn	Pn	23 07 58.2	+0.9
HRRZ	**Handcock Road**	**2.54**	**247**	PN	Pn	23 07 58.6	+0.7
HRRZ	**Handcock Road**	**2.54**	**247**	Pn	Pn	23 07 58.6	+0.7
NMHZ	**Naumai**	**2.54**	**229**	PN	Pn	23 07 59.3	+1.4
NMHZ	**Naumai**	**2.54**	**229**	Pn	Pn	23 07 59.6	+1.7
ALRZ	**Allen Road**	**2.56**	**243**	PN	Pn	23 07 59.3	+1.1
ALRZ	**Allen Road**	**2.56**	**243**	Pn	Pn	23 07 59.3	+1.1
BKZ	**Black Stump Fm**	**2.78**	**231**	PN	Pn	23 08 02.2	+1.0
BKZ				AML	AML	23 08 34.7	
BKZ				AML	AML	23 08 59.7	
BKZ	**Black Stump Fm**	**2.78**	**231**	Pn	Pn	23 08 02.2	+1.0
CKHZ	**Cape Kidnapper**	**2.79**	**217**	PN	Pn	23 08 02.0	+0.6
CKHZ	**Cape Kidnapper**	**2.79**	**217**	Pn	Pn	23 08 02.2	+0.8
MCHZ	**McNeill Hill**	**2.83**	**225**	PN	Pn	23 08 03.1	+1.1
MCHZ	**McNeill Hill**	**2.83**	**225**	Pn	Pn	23 08 03.0	+1.1
WHTZ	**Whakaora**	**2.88**	**244**	PN	Pn	23 08 04.6	+1.9
WHTZ	**Whakaora**	**2.88**	**244**	Pn	Pn	23 08 04.6	+1.9
HATZ	**Hinemaiaia**	**2.89**	**239**	PN	Pn	23 08 03.7	+1.0
HATZ				AML	AML	23 08 36.9	
HATZ				AML	AML	23 08 38.3	
KUZ	**Kuaotunu**	**2.92**	**283**	PN	Pn	23 08 01.3	-1.8
KUZ				AML	AML	23 08 03.1	
KUZ				AML	AML	23 08 33.6	
KUZ	**Kuaotunu**	**2.92**	**283**	Pn	Pn	23 08 01.4	-1.7
KAHZ	**Kahuranaki**	**3.00**	**218**	PN	Pn	23 08 04.7	+0.5
KAHZ	**Kahuranaki**	**3.00**	**218**	Pn	Pn	23 08 04.8	+0.6
TOZ	**Tahuroa Road**	**3.01**	**264**	PN	Pn	23 08 04.0	-0.2
TOZ	**Tahuroa Road**	**3.01**	**264**	Pn	Pn	23 08 04.0	-0.2
WATZ	**Wairara**	**3.06**	**245**	PN	Pn	23 08 06.0	+1.0
WATZ	**Wairara**	**3.06**	**245**	Pn	Pn	23 08 06.4	+1.4
RITZ	**Rihia Road**	**3.09**	**239**	PN	Pn	23 08 06.6	+1.2
RITZ				AML	AML	23 08 44.3	
RITZ				AML	AML	23 08 49.0	
RITZ	**Rihia Road**	**3.09**	**239**	Pn	Pn	23 08 06.7	+1.3
RATZ	**Rangitukua**	**3.10**	**242**	PN	Pn	23 08 06.7	+1.1
RATZ				AML	AML	23 08 43.6	
RATZ				AML	AML	23 09 05.6	
RATZ	**Rangitukua**	**3.10**	**242**	Pn	Pn	23 08 06.9	+1.3
PXZ	**Pawanui**	**3.19**	**215**	PN	Pn	23 08 06.9	+0.1
PXZ				AML	AML	23 08 44.1	
PXZ				AML	AML	23 08 44.2	
PXZ				AML	AML	23 08 45.7	
PXZ				AML	AML	23 08 45.7	
PXZ	**Pawanui**	**3.19**	**215**	Pn	Pn	23 08 06.9	+0.1
KATZ	**Kakaramea**	**3.20**	**241**	PN	Pn	23 08 08.2	+1.2
KATZ				AML	AML	23 08 28.6	
KATZ				AML	AML	23 08 49.8	
KATZ	**Kakaramea**	**3.20**	**241**	Pn	Pn	23 08 08.3	+1.3
BHHZ	**Black Hill Sta**	**3.24**	**230**	PN	Pn	23 08 08.1	+0.6
BHHZ	**Black Hill Sta**	**3.24**	**230**	Pn	Pn	23 08 08.1	+0.6
MKAZ	**Moumakai**	**3.29**	**275**	PN	Pn	23 08 07.4	-0.8
MKAZ				AML	AML	23 08 08.3	
MKAZ				AML	AML	23 08 08.8	
MKAZ	**Moumakai**	**3.29**	**275**	Pn	Pn	23 08 07.4	-0.8
KRVZ	**Karewarewa**	**3.29**	**239**	PN	Pn	23 08 08.9	+0.6
KRVZ				AML	AML	23 08 48.6	
KRVZ				AML	AML	23 08 48.6	
KRVZ	**Karewarewa**	**3.29**	**239**	Pn	Pn	23 08 08.9	+0.6
OTVZ	**Oturere**	**3.31**	**238**	PN	Pn	23 08 09.1	+0.6
OTVZ				AML	AML	23 08 50.3	
OTVZ				AML	AML	23 08 57.1	
OTVZ	**Oturere**	**3.31**	**238**	Pn	Pn	23 08 09.2	+0.6
WTVZ	**West Tongariro**	**3.34**	**239**	PN	Pn	23 08 09.9	+0.9
WTVZ				AML	AML	23 08 53.5	
WTVZ				AML	AML	23 08 54.0	
WTVZ	**West Tongariro**	**3.34**	**239**	Pn	Pn	23 08 10.0	+1.0
NGZ	**Ngauruhoe**	**3.36**	**238**	PN	Pn	23 08 09.8	+0.5
NGZ				AML	AML	23 08 47.7	
NGZ				AML	AML	23 08 48.2	
NGZ	**Ngauruhoe**	**3.36**	**238**	Pn	Pn	23 08 09.8	+0.5
TUVZ	**Tukino**	**3.37**	**236**	PN	Pn	23 08 09.9	+0.5
TUVZ				AML	AML	23 08 47.5	
TUVZ				AML	AML	23 08 47.6	
TUVZ	**Tukino**	**3.37**	**236**	Pn	Pn	23 08 09.9	+0.5
MOVZ	**Moawhango**	**3.38**	**234**	PN	Pn	23 08 09.8	+0.3
MOVZ				AML	AML	23 08 46.3	
MOVZ				AML	AML	23 08 47.1	
MOVZ	**Moawhango**	**3.38**	**234**	Pn	Pn	23 08 10.0	+0.5
WPVZ	**Whakapapa**	**3.41**	**238**	PN	Pn	23 08 10.6	+0.6
WPVZ				AML	AML	23 08 47.8	
WPVZ				AML	AML	23 08 54.4	
WPVZ	**Whakapapa**	**3.41**	**238**	Pn	Pn	23 08 10.6	+0.6
WPHZ	**Waipukurau**	**3.42**	**219**	PN	Pn	23 08 10.1	+0.1
WPHZ	**Waipukurau**	**3.42**	**219**	Pn	Pn	23 08 10.4	+0.4
TWVZ	**Taurewa**	**3.42**	**241**	PN	Pn	23 08 11.5	+1.4
TWVZ				AML	AML	23 08 48.8	
TWVZ	**Taurewa**	**3.42**	**241**	Pn	Pn	23 08 10.8	+0.7
FWVZ	**Far West T-bar**	**3.43**	**237**	PN	Pn	23 08 11.0	+0.7
FWVZ				AML	AML	23 08 49.9	
FWVZ				AML	AML	23 08 54.0	
FWVZ	**Far West T-bar**	**3.43**	**237**	Pn	Pn	23 08 11.0	+0.7
DRZ	**Dome Shelter**	**3.44**	**237**	PN	Pn	23 08 11.1	+0.7
DRZ				AML	AML	23 08 49.2	
DRZ				AML	AML	23 09 10.5	
DRZ	**Dome Shelter**	**3.44**	**237**	Pn	Pn	23 08 11.1	+0.7
PNHZ	**Pukenui**	**3.44**	**223**	PN	Pn	23 08 09.7	-0.5
PNHZ	**Pukenui**	**3.44**	**223**	Pn	Pn	23 08 09.9	-0.3
WNVZ	**Wahianoa**	**3.44**	**236**	PN	Pn	23 08 10.7	+0.4
WNVZ				AML	AML	23 08 50.7	
WNVZ				AML	AML	23 08 58.8	
WNVZ	**Wahianoa**	**3.44**	**236**	Pn	Pn	23 08 10.8	+0.4
PRHZ	**Porangahau**	**3.48**	**215**	PN	Pn	23 08 10.6	-0.2
PRHZ	**Porangahau**	**3.48**	**215**	Pn	Pn	23 08 10.6	-0.2
OTAZ	**Otara**	**3.51**	**277**	PN	Pn	23 08 11.4	+0.3
OTAZ	**Otara**	**3.51**	**277**	Pn	Pn	23 08 11.5	+0.4
MTVZ	**Mangateitei**	**3.55**	**236**	PN	Pn	23 08 12.8	+1.0
MTVZ				AML	AML	23 08 51.3	
MTVZ				AML	AML	23 08 56.4	
MTVZ	**Mangateitei**	**3.55**	**236**	Pn	Pn	23 08 12.8	+1.0
HIZ	**Hauiti**	**3.65**	**252**	PN	Pn	23 08 14.4	+1.3
HIZ				AML	AML	23 08 15.5	
HIZ				AML	AML	23 08 18.2	
HIZ	**Hauiti**	**3.65**	**252**	Pn	Pn	23 08 14.2	+1.1
ABAZ	**Army Bay**	**3.65**	**282**	PN	Pn	23 08 13.0	-0.2
TSZ	**Takapari Road**	**3.67**	**224**	PN	Pn	23 08 12.7	-0.7
TSZ				AML	AML	23 08 57.9	
TSZ				AML	AML	23 08 58.5	
TSZ	**Takapari Road**	**3.67**	**224**	Pn	Pn	23 08 12.8	-0.7
KAAZ	**Kauri Point**	**3.70**	**278**	PN	Pn	23 08 14.5	+0.7
DVHZ	**Dannevirke**	**3.73**	**219**	PN	Pn	23 08 13.9	-0.4
DVHZ	**Dannevirke**	**3.73**	**219**	Pn	Pn	23 08 14.0	-0.3
WTAZ	**Waiatarua**	**3.79**	**276**	PN	Pn	23 08 15.1	+0.1
WTAZ	**Waiatarua**	**3.79**	**276**	Pn	Pn	23 08 15.1	+0.1
RVAZ	**Riverhead Bore**	**3.81**	**279**	PN	Pn	23 08 15.0	-0.3
VRZ	**Vera Road**	**3.92**	**243**	PN	Pn	23 08 17.8	+1.0
VRZ				AML	AML	23 08 28.4	
BFZ	**Birch Farm**	**3.99**	**215**	PN	Pn	23 08 17.0	-0.8
POWZ	**Post Office Ro**	**4.01**	**222**	PN	Pn	23 08 17.9	-0.1
POWZ	**Post Office Ro**	**4.01**	**222**	Pn	Pn	23 08 17.9	-0.1
WAZ	**Wanganui**	**4.07**	**234**	PN	Pn	23 08 19.5	+0.6
WAZ				AML	AML	23 09 04.5	
WAZ				AML	AML	23 09 10.8	
WAZ	**Wanganui**	**4.07**	**234**	Pn	Pn	23 08 19.7	+0.8
TIWZ	**Tintock**	**4.24**	**217**	PN	Pn	23 08 20.2	-1.0
TIWZ	**Tintock**	**4.24**	**217**	Pn	Pn	23 08 20.2	-1.0
WCZ	**Waipu Caves**	**4.24**	**289**	PN	Pn	23 08 20.6	-0.5
WCZ				AML	AML	23 08 22.1	
WCZ	**Waipu Caves**	**4.24**	**289**	Pn	Pn	23 08 20.6	-0.5
RAEZ	**Rainy Point**	**4.25**	**243**	Pn	Pb	23 08 35.6	+3.1
MRZ	**Mangatainoka R**	**4.30**	**221**	PN	Pn	23 08 20.9	-1.2
MRZ				AML	AML	23 09 10.6	
MRZ				AML	AML	23 09 11.0	
MRZ	**Mangatainoka R**	**4.30**	**221**	Pn	Pn	23 08 20.9	-1.2
NEZ	**North Egmont**	**4.45**	**244**	Pn	Pn	23 08 26.4	+2.1
TMWZ	**Te Maipa**	**4.49**	**215**	PN	Pn	23 08 23.3	-1.4
TMWZ	**Te Maipa**	**4.49**	**215**	Pn	Pn	23 08 23.4	-1.4
PKE	**Pukeiti**	**4.50**	**246**	PN	Pn	23 08 27.5	+2.7
PKE	**Pukeiti**	**4.50**	**246**	Pn	Pn	23 08 27.5	+2.7
HOWZ	**Holdsworth Sta**	**4.51**	**219**	PN	Pn	23 08 23.2	-1.8
HOWZ	**Holdsworth Sta**	**4.51**	**219**	Pn	Pn	23 08 23.7	-1.3
OGWZ	**Otaki Gorge**	**4.63**	**222**	PN	Pn	23 08 24.7	-1.9
OGWZ	**Otaki Gorge**	**4.63**	**222**	Pn	Pn	23 08 25.3	-1.3
MTW	**Mount Morrison**	**4.71**	**217**	PN	Pn	23 08 26.3	-1.5
MTW				AML	AML	23 09 18.9	
MTW				AML	AML	23 09 19.1	
MTW	**Mount Morrison**	**4.71**	**217**	Pn	Pn	23 08 26.3	-1.5
KIW	**Kapiti Island**	**4.80**	**224**	PN	Pn	23 08 27.0	-2.0
KIW				AML	AML	23 09 21.1	
KIW				AML	AML	23 09 21.2	
KIW	**Kapiti Island**	**4.80**	**224**	Pn	Pn	23 08 27.2	-1.8
TRWZ	**Traveller**	**4.82**	**214**	PN	Pn	23 08 26.9	-2.3
TRWZ				AML	AML	23 09 22.6	
TRWZ				AML	AML	23 09 27.0	
TRWZ	**Traveller**	**4.82**	**214**	Pn	Pn	23 08 26.9	-2.3
CAW	**Cannon Point**	**4.89**	**220**	PN	Pn	23 08 28.3	-1.9
CAW				AML	AML	23 09 23.9	
CAW				AML	AML	23 09 24.9	
CAW	**Cannon Point**	**4.89**	**220**	Pn	Pn	23 08 28.3	-1.9
PAWZ	**Paruwai Farm**	**4.92**	**216**	PN	Pn	23 08 29.3	-1.3
PAWZ				AML	AML	23 09 26.3	
PAWZ				AML	AML	23 09 29.3	
PAWZ	**Paruwai Farm**	**4.92**	**216**	Pn	Pn	23 08 29.1	-1.5
MSWZ	**Moikau Station**	**5.03**	**217**	PN	Pn	23 08 30.0	-2.1
MSWZ				AML	AML	23 09 26.5	
MSWZ				AML	AML	23 09 30.3	
MSWZ	**Moikau Station**	**5.03**	**217**	Pn	Pn	23 08 30.4	-1.7
OUZ	**Omahuta**	**5.09**	**294**	PN	Pn	23 08 33.1	+0.1
OUZ				AML	AML	23 08 35.9	
OUZ	**Omahuta**	**5.09**	**294**	Pn	Pn	23 08 33.0	+0.1
PLWZ	**Palliser**	**5.15**	**216**	PN	Pn	23 08 31.3	-2.5
PLWZ	**Palliser**	**5.15**	**216**	Pn	Pn	23 08 31.3	-2.5
BHW	**Baring Head**	**5.21**	**219**	PN	Pn	23 08 32.5	-2.1
BHW				AML	AML	23 09 29.7	
BHW				AML	AML	23 09 30.2	
BHW	**Baring Head**	**5.21**	**219**	Pn	Pn	23 08 32.5	-2.1
SNZO	**South Karori**	**5.23**	**221**	PN	Pn	23 08 32.6	-2.1
SNZO				AML	AML	23 09 29.6	
SNZO				AML	AML	23 09 32.9	
SNZO	**South Karori**	**5.23**	**221**	Pn	Pn	23 08 32.6	-2.1
DUWZ	**D'Urville Isla**	**5.34**	**230**	PN	Pn	23 08 35.0	-1.3
DUWZ	**D'Urville Isla**	**5.34**	**230**	Pn	Pn	23 08 35.0	-1.3
TCW	**Tory Channel**	**5.39**	**224**	PN	Pn	23 08 34.9	-2.1
TCW				AML	AML	23 09 35.6	
TCW				AML	AML	23 09 38.2	
TCW	**Tory Channel**	**5.39**	**224**	Pn	Pn	23 08 35.6	-1.4
TUWZ	**Tuamarina**	**5.72**	**224**	PN	Pn	23 08 39.6	-2.0
TUWZ				AML	AML	23 09 42.5	
TUWZ				AML	AML	23 09 42.9	
TUWZ	**Tuamarina**	**5.72**	**224**	Pn	Pn	23 08 40.0	-1.6
NNZ	**Nelson**	**5.92**	**229**	PN	Pn	23 08 41.8	-2.4
NNZ				AML	AML	23 11 02.3	
NNZ				AML	AML	23 11 08.3	
NNZ	**Nelson**	**5.92**	**229**	Pn	Pn	23 08 42.0	-2.2
BSWZ	**Blackbirch Sta**	**5.96**	**223**	PN	Pn	23 08 41.9	-2.8
BSWZ	**Blackbirch Sta**	**5.96**	**223**	Pn	Pn	23 08 42.7	-2.0
THZ	**Tophouse**	**6.53**	**227**	PN	Pn	23 08 50.0	-2.8
THZ				AML	AML	23 10 07.6	
THZ				AML	AML	23 10 07.7	
THZ	**Tophouse**	**6.53**	**227**	Pn	Pn	23 08 50.3	-2.5
KHZ	**Kahutara**	**6.63**	**220**	PN	Pn	23 08 51.7	-2.3
KHZ				AML	AML	23 10 05.2	
KHZ				AML	AML	23 10 05.9	
KHZ	**Kahutara**	**6.63**	**220**	Pn	Pn	23 08 51.7	-2.3
CTZ	**Chatham Island**	**7.01**	**155**	PN	Pn	23 09 05.1	+5.8
CTZ	**Chatham Island**	**7.01**	**155**	Pn	Pn	23 09 04.8	+5.5
LTZ	**Lake Taylor**	**7.55**	**223**	PN	Pn	23 09 03.7	-3.1
LTZ				AML	AML	23 10 24.5	
LTZ				AML	AML	23 10 25.2	
LTZ	**Lake Taylor**	**7.55**	**223**	Pn	Pn	23 09 03.5	-3.3
MQZ	**McQueen's Vall**	**8.02**	**217**	PN	Pn	23 09 10.2	-2.9
MQZ	**McQueen's Vall**	**8.02**	**217**	Pn	Pn	23 09 10.2	-2.9
RAO	**Raoul Island**	**8.51**	**17**	LR	LR	23 11 44.5	
	comp=Z,4μm,21.5s,baz=68,slow=33						
RPZ	**Rata Peaks**	**8.84**	**222**	Sn	Sn	23 10 53.1	-10
RPZ	**Rata Peaks**	**8.84**	**222**	Sn	Sn	23 10 53.1	-10
	7.7nm,0.3s,baz=145,slow=16,SNR=7.2						
FOZ	**Fox Glacier**	**9.51**	**227**	PN	Pn	23 09 29.4	-4.0
FOZ	**Fox Glacier**	**9.51**	**227**	Pn	Pn	23 09 29.4	-4.0
LBZ	**Lake Benmore**	**9.76**	**222**	PN	Pn	23 09 34.2	-2.7
LBZ				AML	AML	23 12 05.7	
LBZ	**Lake Benmore**	**9.76**	**222**	Pn	Pn	23 09 34.2	-2.7
ODZ	**Otahua Downs**	**9.98**	**218**	PN	Pn	23 09 36.2	-3.8
ODZ	**Otahua Downs**	**9.98**	**218**	Pn	Pn	23 09 37.3	-2.7
TUZ	**Tuapeka**	**11.13**	**217**	PN	Pn	23 09 55.0	-0.7
TUZ	**Tuapeka**	**11.13**	**217**	Pn	Pn	23 09 54.5	-1.2
STKA	**Stephens Creek**	**31.34**	**269**	P	P	23 13 37.5	+0.9
STKA	**Stephens Creek**	**31.34**	**269**	P	P	23 13 37.5	+0.9
	5.1nm,0.7s,baz=112,slow=12,SNR=7.7						
STKA	**Stephens Creek**	**31.34**	**269**	P	P	23 13 37.6	+1.1
	baz=30,SNR=6.3						
BBOO	**Buckleboo**	**35.41**	**264**	P	P	23 14 11.6	-0.4
	baz=34,SNR=6.2						
COEN	**Coen**	**39.70**	**296**	P	P	23 14 48.9	+0.5
	baz=39,SNR=4.9						
ASAR	**Alice Springs**	**41.03**	**276**	P	P	23 14 58.6	-0.8
ASAR	**Alice Springs**	**41.03**	**276**	P	P	23 14 58.6	-0.8
	6.4nm,0.8s,baz=124,slow=8.5,SNR=38						
FORT	**Forrest**	**42.49**	**263**	P	P	23 15 10.8	-0.4
	baz=41,SNR=12						
WRA	**Warramunga Arr**	**42.66**	**281**	P	P	23 15 12.1	-0.7
WRA	**Warramunga Arr**	**42.66**	**281**	P	P	23 15 12.1	-0.7
	5.6nm,0.6s,baz=123,slow=7.0,SNR=60						
FITZ	**Fitzroy Crossi**	**50.52**	**277**	P	P	23 16 14.2	-0.2
FITZ	**Fitzroy Crossi**	**50.52**	**277**	P	P	23 16 14.2	-0.2
	2.8nm,0.6s,baz=135,slow=9.7,SNR=10						
MEEK	**Meekatharra**	**51.75**	**263**	P	P	23 16 22.5	-1.1
	baz=50,SNR=5.6						
MAW	**Mawson**	**64.93**	**202**	P	P	23 18 01.8	+6.9
	baz=64,SNR=8.2						
ARCES	**ARCESS Array B**	**144.88**	**344**	PKP	PKPdf	23 26 51.9	+0.3
ARCES	**ARCESS Array B**	**144.88**	**344**	PKP	P

GRW				*e*S	Sn	23 36 52.8	-0.8
TOSP	**Speyside**	**1.90**	**74**	*e*P	Pn	23 36 37.7	-0.1
TOSP				*e*S	Sn	23 36 59.9	-1.4
ORIV	**Oritupano**	**1.96**	**211**	*e*P	Pn	23 36 40.3	+1.8
ORIV				*e*S	Sn	23 37 02.3	-0.4
PCRV	**Puerto La Cruz**	**2.28**	**255**	*e*P	Pn	23 36 44.9	+2.1
SVB	**Belmont**	**2.73**	**24**	*e*P	Pn	23 36 50.6	+1.9
SVB				*e*S	Sn	23 37 20.4	-0.5
RIOV	**Rio Grande**	**2.74**	**168**	*e*P	Pn	23 36 50.2	+1.2
RIOV				*e*S	Sn	23 37 20.5	-0.9
PRGV	**PARIAGUAN**	**2.98**	**228**	*e*P	Pn	23 36 53.7	+1.5
GURV	**El Guri**	**3.07**	**193**	*e*P	Pn	23 36 54.0	+0.7
GURV				*e*S	Sn	23 37 27.3	-1.8
MCLT	**Moule a Chique**	**3.25**	**26**	*e*P	Pn	23 36 56.2	+0.4
MCLT				*e*S	Sn	23 37 31.7	-1.8
CUPV	**Cœpira**	**3.41**	**258**	*e*P	Pn	23 36 59.8	+1.8
CUPV				*e*S	Sn	23 37 37.2	-0.3
BIRV	**Birongo**	**3.82**	**266**	*e*P	Pn	23 37 05.9	+2.5
BIRV				*e*S	Sn	23 37 46.5	-0.8
MERV	**Las Mercedes**	**4.13**	**249**	*e*P	Pn	23 37 08.9	+1.3
MERV				*e*S	Sn	23 37 53.7	-1.1
LUEV	**Luepa**	**4.98**	**169**	*e*P	Pn	23 37 19.1	-0.3
BAUV	**El Baul**	**5.85**	**252**	*e*P	Pn	23 37 31.4	+0.4
BAUV				*e*S	Sn	23 38 33.1	-3.7
MAPV	**Macapo**	**6.04**	**262**	*e*P	Pn	23 37 33.9	+0.3

ISCJB ***12*** *23:49:03.8±0.5, 33°.11N±0°.02×116°.19W±0°.03, h5km±3km, Error ellipse: s-maj=4.2km s-min=2.7km az=166.9*
NEIC ***12*** *23:49:04.9, 33°.10N×116°.21W, h8km, ML3.5(PAS), After PAS.*
NEIC Felt [III] at Borrego Springs. Also felt at Alpine, Anza, Boulevard, El Centro, Jamul, Palm Desert, Pine Valley and San Diego.
ECX ***12*** *23:49:05.1±0.7, 33°.11N×116°.22W, h7km, MD3.5, ML3.7*

ISC 12 23:49:03.7±1.1, 33°.09N±0°.02×116°.15W±0°.03, h4km±10km, n27, σ0°.76/50, 3C-6D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRR	**Carrizo Plain**	**0.25**	**144**	⇓*i*P	**Pb**	**23 49 10.4**	**-0.4**
MONP	**Monument Peak**	**0.31**	**229**	⇑*i*P	**Pg**	**23 49 10.3**	**+0.7**
COK	**Cook Ranch**	**0.43**	**124**	⇑*i*P	**Pb**	**23 49 14.2**	**+0.4**
YUH	**Yuha Desert**	**0.48**	**157**	⇓*i*P	**Pg**	**23 49 14.2**	**+1.4**
RMX	**La Rumorosa**	**0.49**	**173**	*e*P	**Pg**	**23 49 14.2**	**+1.0**
RMX				*e*S	**Sb**	**23 49 22.0**	**-0.6**
RMX				⇓*e*		23 49 24.1	
	comp=E,5μm,0.1s						
FRD	**Ford Ranch**	**0.56**	**317**	⇓*i*P	**Pg**	**23 49 14.5**	**+0.2**
SGL	**Mount Signal**	**0.56**	**141**	⇓*i*P	**Pb**	**23 49 16.1**	**-0.1**
PFO	**Pinyon Flat Ob**	**0.58**	**333**	*e*P	**Pg**	**23 49 14.7**	**-0.1**
PFO				*e*S	**Sg**	**23 49 21.8**	**-0.6**
BAR	**Barrett**	**0.60**	**227**	*e*P	**Pg**	**23 49 15.3**	**0.0**
BAR				*e*S	**Sg**	**23 49 23.0**	**-0.1**
CBX	**Cerro Bola**	**0.89**	**210**	*e*P	**Pg**	**23 49 20.8**	**+0.1**
CBX				*e*S	**Sg**	**23 49 32.2**	**-0.1**
CPBX	**Cerro Prieto**	**0.98**	**133**	*e*P	**Pg**	**23 49 23.0**	**+0.6**
CPBX				*e*S	**Sb**	**23 49 37.3**	**+0.8**
CPBX				*e*		23 49 50.4	
	comp=E,5μm,0.5s						
GLA	**Glamis**	**1.11**	**92**	*e*P	**Pg**	**23 49 24.2**	**-0.7**
GLA				*e*S	**Sb**	**23 49 41.0**	**+0.7**
RDX	**Rancho Dawling**	**1.17**	**172**	*e*P	**Pg**	**23 49 25.9**	**-0.2**
RDX				*e*S	**Sg**	**23 49 41.3**	**0.0**
RDX				⇑*e*		23 49 49.2	
	comp=N,554nm,0.3s						
EMX	**El Mayor**	**1.34**	**145**	*e*P	**Pn**	**23 49 28.6**	**-0.5**
EMX				*e*S	**Sb**	**23 49 47.1**	**+0.2**
EMX				⇓*e*		23 49 48.5	
	comp=E,934nm,0.2s						
PBX	**Punta Banda**	**1.43**	**200**	*e*P	**Pn**	**23 49 30.1**	**-0.4**
PBX				*e*S	**Sb**	**23 49 48.5**	**-1.1**
ECNX	**Esteban Cantu**	**1.48**	**195**	*e*P	**Pn**	**23 49 30.9**	**-0.3**
ECNX				*e*S	**Sn**	**23 49 50.4**	**-0.8**
ZAX	**El Zacaton**	**1.58**	**184**	*e*P	**Pn**	**23 49 32.7**	**+0.2**
ZAX				*e*S	**Sn**	**23 49 53.6**	**+0.1**
ECBX	**El Chinero**	**1.86**	**150**	*e*P	**Pn**	**23 49 37.0**	**+0.6**
ECBX				*e*S	**Sb**	**23 50 02.4**	**+0.5**
MWC	**Mount Wilson**	**1.96**	**306**	*e*Pn	**Pn**	**23 49 38.7**	**+0.8**
MWC				*e*Sn	**Sn**	**23 50 02.2**	**-0.7**
PASC	**Pasadena Art C**	**2.01**	**303**	*e*Pn	**Pn**	**23 49 39.2**	**+0.7**
PASC				*e*Sn	**Sn**	**23 50 03.9**	**-0.3**
SPX	**San Pedro Mart**	**2.12**	**164**	*e*P	**Pb**	**23 49 42.3**	**-0.6**
SPX				*e*S	**Sb**	**23 50 10.6**	**+0.9**
LDFC	**Landfair**	**2.16**	**23**	*e*Pn	**Pn**	**23 49 41.5**	**+0.9**
LDFC				*e*Sn	**Sn**	**23 50 07.7**	**-0.3**
LDFC				*e*Sg	**Sg**	**23 50 14.5**	**+1.4**
GSC	**Goldstone**	**2.27**	**346**	*e*Pn	**Pn**	**23 49 42.9**	**+0.8**
GSC				*e*Sn	**Sn**	**23 50 11.9**	**+1.2**
ISA	**Isabella**	**3.21**	**324**	*e*Pn	**Pn**	**23 49 55.5**	**+0.5**
ISA				*e*Sn	**Sn**	**23 50 33.8**	**+0.1**
SHPR	**Sheep Range**	**3.50**	**13**	*e*Pn	**Pn**	**23 50 00.3**	**+1.1**
SHPR				*e*Pg	**Pg**	**23 50 09.6**	**-1.2**
SHPR				*e*Sg	**Sg**	**23 50 55.4**	**-0.8**
TUC	**Tucson**	**4.59**	**98**	*e*Pn	**Pn**	**23 50 13.6**	**-0.3**
TUC				*e*Sg	**Sg**	**23 51 29.4**	**-1.6**
ARUT	**Antelope Range**	**5.18**	**24**	*e*Pn	**Pn**	**23 50 23.5**	**+1.3**
	comp=E,7.2nm,0.6s						
ARUT				*e*Pg	**Pg**	**23 50 42.0**	**-1.0**

MAN 12 23:57:07, 7°.36N×124°.58E, h34km, mb3.7, ML2.4, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.36**	**247**	⇑*i*P	Pn	23 57 17.2	+1.3
CTBH				*i*S	Sb	23 57 23.9	+2.4
BUKP	**Musuan**	**0.70**	**43**	*e*P	Pb	23 57 21.6	+0.6
BUKP				*e*S	Sb	23 57 31.3	+0.8
PAGZ	**Pagadian**	**1.28**	**292**	*e*P	Pn	23 57 28.9	+0.4
PAGZ				*e*S	Sn	23 57 41.3	-3.2

IDC ***13*** *00:09:56.1±1.2, 6°.24N×126°.68E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, ML4.3/1, Error ellipse: s-maj=56.2km s-min=23.2km az=84.0*
ISCJB ***13*** *00:10:05.7±0.8, 5°.84N±0°.06×126°.56E±0°.08, h71km, mb3.3/5, Error ellipse: s-maj=12.7km s-min=6.4km az=155.5*
MAN ***13*** *00:10:06, 6°.00N×126°.56E, h91km, mb4.7, ML3.6, MS3.6*

ISC 13 00:10:05.9±1.0, 5°.87N±0°.07×126°.58E±0°.10, h71km, n13, σ1°.54/16, mb3.4/5, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.11**	**343**	*e*P	**Pn**	**00 10 26.5**	**+0.7**
MATI				*e*S	**Sn**	**00 10 42.5**	**+1.7**
DAV	**Davao City (W)**	**1.55**	**320**	Pg	Pn	00 10 26.8	-4.7
	68nm,0.3s,baz=117,slow=6.8,SNR=2.8						
DAV				Lg	Lg	00 10 50.3	
	77nm,0.3s,baz=292,slow=19,SNR=14						
GSPH	**General Santos**	**1.63**	**278**	⇓*e*P	**Pn**	**00 10 32.0**	**-0.7**
GSPH				*e*S	**Sn**	**00 10 54.0**	**+1.0**
KCP	**Kidapawan**	**1.86**	**307**	⇓*e*P	**Pn**	**00 10 36.6**	**+0.9**
KCP				*i*S	**Sn**	**00 10 58.4**	**0.0**
BUKP	**Musuan**	**2.50**	**323**	*e*P	**Pn**	**00 10 45.1**	**+0.8**
CGP	**Cagayan de Oro**	**3.17**	**324**	*e*P	**Pn**	**00 10 54.1**	**+0.6**
CGP				*i*S	**Sn**	**00 11 30.7**	**+0.5**
PAGZ	**Pagadian**	**3.73**	**302**	*e*P	**Pn**	**00 11 02.8**	**+1.7**
KAPI	**Kappang**	**12.78**	**212**	Pn	**Pn**	**00 13 04.6**	**-0.1**
	1.6nm,0.3s,baz=72,slow=10,SNR=3.6						
FITZ	**Fitzroy Crossi**	**23.84**	**182**	P	**P**	**00 15 13.1**	**+0.4**
	0.7nm,0.4s,baz=10,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**26.77**	**164**	P	**P**	**00 15 41.9**	**+2.7**
	0.2nm,0.4s,baz=345,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**30.22**	**167**	P	**P**	**00 16 11.9**	**+2.0**
	0.3nm,0.4s,baz=356,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**00 19 33.1**	**-2.1**
	0.2nm,0.5s,baz=125,slow=6.9,SNR=3.1						
ILAR	**Eielson Array**	**83.25**	**26**	P	**P**	**00 22 22.1**	**-2.3**
	0.2nm,0.5s,baz=253,slow=4.6,SNR=4.9						

FUNV 13 00:36:39.4, 6°.77N×73°.14W, h166km, MW3.6, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.36**	**37**	⇓*e*P	Pn	00 37 08.5	-0.7
CAPV				*e*S	Sn	00 37 29.6	-2.5
VIGV	**El Vigia**	**2.71**	**41**	*e*P	Pn	00 37 23.0	-0.9
VIGV				*e*S	Sn	00 37 55.0	-3.4
SOCV	**Socops**	**2.72**	**56**	*e*P	Pn	00 37 22.6	-1.4
SOCV				*e*S	Sn	00 37 54.5	-4.2
ELOV	**Elorza**	**3.64**	**86**	*e*P	Pn	00 37 34.5	-1.0
ELOV				*e*S	Sn	00 38 15.2	-4.0
VIRV	**Villa del Rosa**	**3.78**	**11**	*e*P	Pn	00 37 35.3	-2.0
VIRV				*e*S	Sn	00 38 18.0	-4.5
CURV	**Curarigua**	**4.50**	**44**	*e*P	Pn	00 37 45.3	-1.5
CURV				*e*S	Sn	00 38 34.3	-5.1
TEPV	**Terepaima**	**5.04**	**51**	*e*P	Pn	00 37 52.7	-0.9
BAUV	**El Baul**	**5.50**	**67**	*e*P	Pn	00 37 56.8	-2.8
BAUV				*e*S	Sn	00 38 55.4	-7.1
MONV	**Montecano**	**6.03**	**31**	*e*P	Pn	00 38 04.5	-2.1

MDD ***13*** *00:40:57.6±1.0, 32°.15N×5°.94W, h0km, mb3.5/4, Error ellipse: s-maj=9.3km s-min=4.5km az=136.0, PRXIMO*
CSEM ***13*** *00:40:58.8±0.3, 32°.26N×6°.07W, h15km, MD2.8, Error ellipse: s-maj=10.9km s-min=3.5km az=133.0*
CNRM ***13*** *00:40:58.5, 32°.14N×5°.98W, h0km, MD2.8*
ISCJB ***13*** *00:41:00.3±0.6, 32°.40N±0°.06×6°.24W±0°.08, h24km±6km, Error ellipse: s-maj=13.7km s-min=4.5km az=41.9*

ISC 13 00:40:59.9±1.2, 32°.29N±0°.06×6°.12W±0°.07, h18km±5km, n21, σ1°.02/39, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIB	**El Ksiba**	**0.29**	**13**	P	**Pg**	**00 41 05.5**	**-0.8**
KIB				S	**Sg**	**00 41 12.0**	**+1.3**
KIB	**El Ksiba**	**0.29**	**13**	*i*P	**Pg**	**00 41 05.5**	**-0.8**
KIB				*i*S	**Sg**	**00 41 12.0**	**+1.3**
TZC	**Tazercounte**	**0.35**	**246**	P	**Pg**	**00 41 06.5**	**-0.8**
TZC				S	**Sg**	**00 41 13.0**	**+0.6**
TZC	**Tazercounte**	**0.35**	**246**	*i*P	**Pg**	**00 41 06.5**	**-0.8**
TZC				*i*S	**Sg**	**00 41 13.0**	**+0.6**
MIF	**Mishlifen**	**1.34**	**34**	P	**Pn**	**00 41 23.0**	**-0.9**
MIF				S	**Sb**	**00 41 42.0**	**+0.4**
MIF	**Mishlifen**	**1.34**	**34**	*e*P	**Pn**	**00 41 23.0**	**-0.9**
MIF				*e*S	**Sb**	**00 41 42.0**	**+0.4**
OUK	**Oukaimeden**	**1.84**	**235**	P	**Pn**	**00 41 31.0**	**+0.1**
OUK				S	**Sn**	**00 41 54.0**	**+0.1**
OUK	**Oukaimeden**	**1.84**	**235**	*i*P	**Pn**	**00 41 31.0**	**+0.1**
OUK				*i*S	**Sn**	**00 41 54.0**	**+0.1**
TGT	**Taghat**	**1.98**	**26**	P	**Pb**	**00 41 36.0**	**+0.5**
TGT				S	**Sb**	**00 42 01.0**	**+1.1**
TGT	**Taghat**	**1.98**	**26**	P	**Pb**	**00 41 36.0**	**+0.5**
TGT				S	**Sb**	**00 42 01.0**	**+1.1**
CIA	**Chichaoua**	**2.36**	**253**	P	**Pn**	**00 41 37.0**	**-0.8**
CIA				S	**Sn**	**00 42 06.0**	**-0.3**
CIA	**Chichaoua**	**2.36**	**253**	*e*P	**Pn**	**00 41 37.0**	**-0.8**
CIA				*e*S	**Sn**	**00 42 06.0**	**-0.3**
TZK	**Tazeka**	**2.42**	**42**	P	**Pn**	**00 41 38.0**	**-0.7**
TZK				S	**Sn**	**00 42 08.0**	**0.0**
TZK	**Tazeka**	**2.42**	**42**	*e*P	**Pn**	**00 41 38.0**	**-0.7**
TZK				*e*S	**Sn**	**00 42 08.0**	**0.0**
ECEU	**Ceuta**	**3.65**	**9**	P	**Pn**	**00 41 54.6**	**-0.8**
	13nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**3.65**	**9**	P	**Pn**	**00 41 54.6**	**-0.8**
	13nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.35**	**348**	P	**Pn**	**00 42 19.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**00 43 18.8**	**-1.1**
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.48**	**355**	P	**Pn**	**00 42 21.2**	**+0.6**
	0.0nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**00 43 23.4**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.48**	**355**	P	**Pn**	**00 42 21.2**	**+0.6**
	SNR=7.9						
EMIN				S	**Sn**	**00 43 23.4**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.49**	**354**	P	**Pn**	**00 42 34.9**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**00 43 43.8**	**-4.2**
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.49**	**354**	P	**Pn**	**00 42 34.9**	**+0.4**
	0.8nm,0.2s,SNR=7.9						

IDC ***13*** *00:54:42.5±0.5, 14°.03N×93°.02E, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.6/28, mbtmp4.5/23, ML4.4/1, MS4.2/2, Ms1 4.2/2, ms1mx3.7/26, Error ellipse: s-maj=17.4km s-min=12.8km az=44.0*
BJI ***13*** *00:54:44.1, 13°.71N×93°.15E, h46km, mB5.1/8, mb4.6/22, Ms4.5/3, Ms7 4.4/3*
MOS ***13*** *00:54:45.9±0.9, 14°.08N×93°.11E, h33km, mb4.9/30, Error ellipse: s-maj=9.3km s-min=5.0km az=116.4*
ISCJB ***13*** *00:54:46.1±1.0, 14°.23N±0°.03×93°.05E±0°.03, h29km±7km, mb4.6/105, MS4.5/4, Error ellipse: s-maj=4.9km s-min=4.6km az=175.5*
NEIC ***13*** *00:54:48.4±0.3, 14°.14N×93°.10E, h35km, mb4.7/18, Error ellipse: s-maj=7.4km s-min=6.4km az=48.0*
BKK ***13*** *00:54:57.2±1.9, 15°.N±5°.×9°.4E±1°.9, h10km, M4.4/11, mb4.5/11, mB4.9/8, MLv4.7/11, Mw(mB)4.2/8*

ISC 13 00:54:49.0±0.5, 14°.24N±0°.04×93°.07E±0°.05, h37km±1km, h37km:pP-P, n266, σ1°.14/285, mb4.6/105, MS4.5/4, 31C-24D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.06**	**187**	*e*P	**Pn**	**00 55 05.8**	**-1.6**
DGPR				*e*S	**Sn**	**00 55 19.4**	**-1.5**
PBA	**Port Blair**	**2.59**	**187**	*e*P	Pn	00 55 26.4	-2.0
PBA				*e*S	Sn	00 55 57.3	-1.3
PHET	**Kaeng Krachan**	**6.51**	**101**	P	**Pn**	**00 56 25.0**	**+2.6**
	182nm,0.7s,5μm1.6nm						
CM31	**Chiang Mai Arr**	**7.03**	**53**	*e*Pn	**Pn**	**00 56 28.7**	**-0.7**
	12nm,0.4s						
CM31				*e*Sn	**Sn**	**00 57 43.6**	**-4.5**
CMAR	**Chiang Mai Arr**	**7.03**	**53**	Pn	**Pn**	**00 56 30.1**	**+0.7**
CMAR				Sn	**Sn**	**00 57 47.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**7.03**	**53**	Pn	**Pn**	**00 56 30.1**	**+0.7**
	1.9nm,0.3s,baz=241,slow=15,SNR=35						
CMAR				Sn	**Sn**	**00 57 47.4**	**-0.7**
	3.0nm,0.3s,baz=236,slow=27,SNR=5.0						
CMAR				LR	LR	01 00 03.8	
	comp=Z,601nm,18.3s,baz=49,slow=45						
CMBY	**CAMPBELL BAY**	**7.23**	**173**	*e*P	**Pn**	**00 56 29.9**	**-2.3**
CMBY				AMB	AMB	00 56 32.8	
	comp=Z,152nm,0.8s						
CHTO	**Chiang Mai**	**7.24**	**50**	*e*P	**Pn**	**00 56 31.8**	**-0.6**
CHTO				*e*		00 57 49.2	
CHTO	**Chiang Mai**	**7.24**	**50**	*e*Pn	**Pn**	**00 56 31.8**	**-0.6**
CHTO				*e*Sn	**Sn**	**00 57 49.2**	**-4.2**
CHTO	**Chiang Mai**	**7.24**	**50**	P	**Pn**	**00 56 33.2**	**+0.8**
	comp=Z,12nm,0.6s,comp=Z,619nmcomp=Z,0.2nm						
CMMT	**Chiang Mai**	**7.24**	**50**	P	**Pn**	**00 56 32.8**	**+0.4**
	comp=Z,20nm,0.6s,comp=Z,674nmcomp=Z,0.2nm						
LAMP	**Lampang**	**7.60**	**55**	P	**Pn**	**00 56 38.3**	**+1.0**
	comp=Z,10nm,0.6s,comp=Z,142nmcomp=Z,0.1nm						
PBKT	**Sadao Pong**	**7.96**	**72**	P	**Pn**	**00 56 43.2**	**+0.9**
	comp=Z,25nm,0.6s,comp=Z,0.1nm						
NAYO	**Nakonayok**	**8.00**	**88**	P	Pn	00 56 53.0	+10
CMAI	**Chiengmai2**	**8.04**	**44**	P	**Pn**	**00 56 46.1**	**+2.6**
	comp=Z,26nm,0.4s,comp=Z,0.3nm						
PKDT	**Phuket**	**8.15**	**140**	P	Pn	00 56 56.5	+12
PAYA	**Payao**	**8.27**	**51**	P	**Pn**	**00 56 47.8**	**+1.4**
	comp=Z,17nm,0.7s,comp=Z,579nmcomp=Z,0.1nm						
LOEI	**Loei**	**8.53**	**67**	P	Pn	00 56 55.7	+5.6
	comp=Z,104nm,1.1s,comp=Z,0.4nm						
CHAI	**Chaiyaphum**	**8.77**	**78**	P	Pn	00 56 56.7	+3.3
	comp=Z,3.4nm,1.2s,comp=Z,127nmcomp=Z,0.0nm						
VIS	**Vishakhapatnam**	**9.99**	**292**	*e*P	**Pn**	**00 57 08.6**	**-1.4**
VIS				AMB	AMB	00 57 10.1	
	comp=Z,119nm,0.3s						
SHL	**Shillong**	**11.32**	**355**	*ex*	**Sn**	**00 59 28.8**	**-5.1**
SHL				*e*S	**Sn**	**00 59 29.0**	**-4.9**
SHL				AMB	AMB	00 59 34.6	
	comp=Z,16nm,1.0s						
BOK	**Bokaro**	**11.68**	**326**	*e*P	**Pn**	**00 57 32.3**	**-0.9**
BOK				AMB	AMB	00 57 35.0	
	comp=Z,12nm,0.0s						
PSI	**Prapat**	**12.75**	**153**	Pn	**Pn**	**00 57 49.2**	**+1.2**
PSI	**Prapat**	**12.75**	**153**	Pn	**Pn**	**00 57 49.2**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=330,slow=14,SNR=18						
ODAN	**Odare**	**13.63**	**338**	*e*P	**Pn**	**00 57 59.9**	**-0.2**
	comp=Z,52nm,0.4s						
TAPN	**Taplejung**	**13.97**	**340**	*e*P	**Pn**	**00 58 04.3**	**-0.5**
	comp=Z,31nm,0.4s						
RAMN	**Ramite**	**14.02**	**335**	*e*P	**Pn**	**00 58 04.2**	**-1.1**
	comp=Z,51nm,0.5s						
HYB	**Hyderabad**	**14.32**	**285**	*i*P	**Pn**	**00 58 07.0**	**-2.4**
HYB				*e*S	**Sn**	**01 00 48.0**	**+1.0**
JIRN	**Jiri**	**14.81**	**335**	*e*P	**Pn**	**00 58 15.1**	**-1.2**
PKI	**Pulchoki**	**15.06**	**333**	*e*P	**Pn**	**00 58 17.5**	**-2.1**
	comp=Z,55nm,0.6s						
PKIN	**Phulchoki**	**15.07**	**333**	*e*P	**Pn**	**00 58 17.8**	**-1.9**
	comp=Z,53nm,0.6s						
DMN	**Daman**	**15.23**	**332**	*e*P	**Pn**	**00 58 20.2**	**-1.5**
KKN	**Kakani**	**15.31**	**333**	*e*P	**Pn**	**00 58 21.8**	**-0.9**
	comp=Z,34nm,0.6s						
LSA	**Lhasa**	**15.49**	**354**	P	**P**	**00 58 30.9**	**+1.6**
LSA				pmax	pmax		
	comp=Z,40nm,0.5s						
LSA	**Lhasa**	**15.49**	**354**	*e*P	**Pn**	**00 58 26.7**	**+1.4**
LSA				pmax	pmax		
	comp=Z,21nm,0.6s						
LSA	**Lhasa**	**15.49**	**354**	*e*Pn	**Pn**	**00 58 26.7**	**+1.4**
	comp=Z,21nm,0.6s						
KOLN	**Koldanda**	**16.09**	**328**	*e*P	**Pn**	**00 58 31.1**	**-1.7**
	comp=Z,75nm,0.7s						
DANN	**Dangsing**	**16.49**	**330**	*e*P	**Pn**	**00 58 35.9**	**-2.0**
	comp=Z,32nm,0.5s						
BHPL	**Bhopal**	**17.30**	**303**	*e*P	**P**	**00 58 49.7**	**+0.7**
ENH	**Enshi**	**21.99**	**41**	*e*P	**P**	**00 59 38.2**	**-1.8**
	comp=Z,12nm,0.6s						
SMLA	**Simla**	**22.27**	**322**	*e*P	**P**	**00 59 44.3**	**+1.4**
SMLA				AMB	AMB	00 59 46.1	
	comp=Z,22nm,2.4s						
DHRM	**DHARAMSHALA**	**23.58**	**322**	*e*P	**P**	**00 59 57.8**	**+1.1**
DHRM				AMB	AMB	00 59 58.9	
	comp=Z,42nm,0.8s						
XAN	**Xi'an**	**24.39**	**33**	P	**P**	**01 00 03.8**	**-0.2**
XAN				pP	**pP**	**01 00 15.5**	**+1.1**
XAN				sP	**sP**	**01 00 21.3**	**+2.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GTA	**Gaotai**	**25.77**	**12**	*e*P	**P**	**01 00 18.0**	**+1.5**
GTA				pP	**pP**	**01 00 28.5**	**+1.6**
GTA				sP	**sP**	**01 00 33.1**	**+1.7**
GTA				PcP	**PcP**	**01 03 47.0**	**+1.2**
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH	**Kashi**	**29.33**	**332**	P	**P**	**01 00 47.9**	**-0.5**
KSH				sP	**sP**	**01 01 03.0**	**-0.4**
KSH				pmax	pmax		
	comp=Z,12nm,1.1s						
KSH				pmax	pmax		
	comp=Z,190nm,10.8s						
DGAR	**Diego Garcia**	**29.69**	**225**	⇓*e*P	P	01 00 48.3	-3.3
HHC	**Hu-ho-hao-te**	**31.03**	**28**	*e*P	**P**	**01 01 04.8**	**+1.3**
HHC				S	**S**	**01 06 04.2**	**-2.0**
HHC				pmax	pmax		
	comp=Z,44nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,5.3s						
TKM2	**Tokmak 2**	**32.30**	**336**	*e*P	**P**	**01 01 16.3**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TKM2	**Tokmak 2**	**32.30**	**336**	*e*P	**P**	**01 01 16.3**	**+1.6**
	comp=Z,3.5nm,0.6s						
AAK	**Ala-Archa**	**32.52**	**334**	⇓*e*P	**P**	**01 01 18.2**	**+1.7**
AAK				pmax	pmax		
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**32.52**	**334**	*e*P	**P**	**01 01 17.8**	**+1.2**
	comp=Z,4.5nm,0.7s						
EKS2	**Erkin-Say**	**32.85**	**333**	*e*P	**P**	**01 01 21.5**	**+2.1**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EKS2	**Erkin-Say**	**32.85**	**333**	*e*P	**P**	**01 01 21.5**	**+2.1**
	comp=Z,7.7nm,0.8s						
MK31	**Makanchi Array**	**33.69**	**347**	*e*P	**P**	**01 01 27.4**	**+0.8**
MK31	**Makanchi Array**	**33.69**	**347**	*e*P	**P**	**01 01 27.4**	**+0.8**
MKAR	**Makanchi Array**	**33.69**	**347**	*ce*P	**P**	**01 01 27.7**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MKAR	**Makanchi Array**	**33.69**	**347**	*e*P	**P**	**01 01 25.9**	**-0.7**
MKAR				PcP	**PcP**	**01 04 05.6**	**-0.2**
MKAR	**Makanchi Array**	**33.69**	**347**	P	**P**	**01 01 27.7**	**+1.1**
	comp=Z,8.6nm,0.5s,baz=168,slow=8.4,SNR=85						
MKAR				PcP	**PcP**	**01 04 05.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=211,slow=1.7,SNR=4.4						
KK31	**Karatay Array**	**34.69**	**330**	*i*P	**P**	**01 01 36.2**	**+0.9**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**34.69**	**330**

SVE pmax pmax
comp=Z,36nm,1.1s
GNI Garni 49.37 311 *eP* **P 01 03 37.0 +1.7**
comp=Z,20nm,1.1s
ARU Arti 49.67 336*d iP* **P 01 03 37.4 +0.4**
ARU 01 05 27.4
ARU S **S 01 10 41.8 -1.3**
ARU pmax pmax
comp=Z,23nm,1.7s
ZEI Tsey 50.79 314 *eP* **P 01 03 46.5 +0.5**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 51.79 315 P **P 01 03 53.8 +0.6**
KBZ Khabaz 51.79 315 P **P 01 03 53.8 +0.6**
KBZ Khabaz 51.79 315 P **P 01 03 53.8 +0.6**
comp=Z,3.6nm,0.8s,baz=111,slow=8.1,SNR=8.0
KIV Kislovodsk 52.00 315 *eP* **P 01 03 55.7 +0.8**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,322nm,16.0s
WRA Warramunga Arr 52.93 129 P **P 01 03 59.5 -2.5**
WRA PcP **PcP 01 05 09.6 -1.1**
WRA Warramunga Arr 52.93 129 P **P 01 03 59.5 -2.5**
comp=Z,5.2nm,0.8s,baz=313,slow=8.1,SNR=50
WRA PcP **PcP 01 05 09.6 -1.1**
comp=Z,1.7nm,0.6s,baz=320,slow=3.2,SNR=10
WRA LR LR 01 25 33.6
comp=Z,586nm,21.5s,baz=170,slow=35
WRAB Tennant Creek 52.93 129 *eP* **P 01 04 00.1 -1.9**
YAK Yakutsk 54.37 20 *eP* **P 01 04 12.2 +0.3**
ASAR Alice Springs 54.89 133 P **P 01 04 14.2 -2.1**
ASAR Alice Springs 54.89 133 P **P 01 04 14.2 -2.1**
comp=Z,5.6nm,0.8s,baz=306,slow=6.7,SNR=65
AS31 Alice Springs 54.89 133 *eP* **P 01 04 13.6 -2.7**
VORD Divnogorie 56.52 322 *eP* **P 01 04 26.9 -0.6**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 56.68 323 *eP* **P 01 04 27.9 -0.8**
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,5.0nm,0.7s
BR131 Keskin Array S 57.59 308 *eP* **P 01 04 34.7 -0.9**
comp=Z,6.1nm,0.7s
BRTR Keskin Array B 57.59 308 P **P 01 04 35.0 -0.6**
BRTR Keskin Array B 57.59 308 P **P 01 04 35.0 -0.6**
comp=Z,7.4nm,0.7s,baz=120,slow=7.6,SNR=62
ANTO Ankara 58.26 308 ⇑*P* **P 01 04 38.7 -1.4**
ANTO Ankara 58.26 308 ⇓*iP* **P 01 04 38.7 -1.4**
OBN Obninsk 59.50 326 ⇓*eP* **P 01 04 48.1 -0.2**
OBN 01 05 36.8
OBN pmax pmax
comp=Z,17nm,1.7s
TIXI Tiksi 61.25 12 ⇓*eP* **P 01 04 59.6 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI MLR MLR
comp=Z,586nm,18.0s
TLCR 61.92 314 ⇑*P* **P 01 05 04.6 -0.4**
TLCR 61.92 314 ⇑*iP* **P 01 05 04.6 -0.4**
TIRR Tirgusor 62.11 313 ⇑*P* **P 01 05 05.9 -0.4**
TIRR Tirgusor 62.11 313 ⇑*iP* **P 01 05 05.9 -0.4**
CFR Carcaliu 62.40 314 ⇓*P* **P 01 05 08.4 +0.2**
CFR Carcaliu 62.40 314 ⇓*iP* **P 01 05 08.4 +0.2**
AKASG Malin Array Be 62.58 320 P **P 01 05 08.2 -1.2**
AKASG Malin Array Be 62.58 320 P **P 01 05 08.2 -1.2**
AKASG Malin Array Be 62.58 320 P **P 01 05 08.2 -1.2**
comp=Z,0.9nm,0.3s,baz=83,slow=6.5,SNR=1.7
KIEV Kiev 62.59 320 *eP* **P 01 05 08.7 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 62.59 320 *eP* **P 01 05 08.7 -0.7**
comp=Z,4.2nm,0.6s
VRI Vrincioaia 63.47 314 ⇑*P* **P 01 05 16.6 +1.2**
VRI Vrincioaia 63.47 314 ⇑*iP* **P 01 05 16.6 +1.2**
ISR Istrita 63.51 313 ⇑*P* **P 01 05 16.5 +0.8**
ISR Istrita 63.51 313 ⇑*iP* **P 01 05 16.5 +0.8**
PLOR Plostina 63.52 314 ⇑*P* **P 01 05 17.0 +1.3**
PLOR Plostina 63.52 314 ⇑*iP* **P 01 05 17.0 +1.3**
MLR Muntele Rosu 63.97 314 ⇑*iP* **P 01 05 20.0 +1.2**
HUMR Humele 64.56 313 ⇑*iP* **P 01 05 21.9 -0.6**
VOIR 64.59 314 ⇑*P* **P 01 05 22.7 -0.1**
VOIR 64.59 314 ⇑*iP* **P 01 05 22.7 -0.1**
BURAR Bucovina Array 64.70 316 ⇓*P* **P 01 05 24.1 +0.5**
BURAR Bucovina Array 64.70 316 ⇓*iP* **P 01 05 24.1 +0.5**
BUR08 Bucovina Ar. S 64.72 316 *eP* **P 01 05 23.8 +0.2**
ARR Arges 64.88 314 ⇑*iP* **P 01 05 24.6 -0.1**
STKA Stephens Creek 65.30 135 P **P 01 05 25.9 -1.5**
STKA Stephens Creek 65.30 135 P **P 01 05 25.9 -1.5**
comp=Z,3.6nm,0.7s,baz=311,slow=7.3,SNR=10.0
LOT Lotru 65.49 314 ⇑*iP* **P 01 05 28.1 -0.6**
VTS Vitosha 65.71 310 ⇑*P* **P 01 05 29.8 -0.5**
VTS Vitosha 65.71 310 ⇑*iP* **P 01 05 29.8 -0.5**
DRGR 66.33 315 ⇓*P* **P 01 05 34.6 +0.6**
DRGR 66.33 315 ⇓*iP* **P 01 05 34.6 +0.6**
TRPA Tarpa 66.55 316 ⇑*iP* P 01 05 39.0 +3.7
KWP Kalwaria Pacla 66.57 318 ⇓*P* **P 01 05 36.0 +0.5**
KWP Kalwaria Pacla 66.57 318 ⇓*iP* **P 01 05 36.0 +0.5**
KWP Kalwaria Pacla 66.57 318 *eP* **P 01 05 35.8 +0.3**
FINES FINESS Array B 66.64 331 P **P 01 05 35.7 +0.1**
FINES FINESS Array B 66.64 331 P **P 01 05 35.7 +0.1**
comp=Z,6.2nm,0.6s,baz=98,slow=5.3,SNR=40
SUW Suwalki 66.79 323 *eP* **P 01 05 36.7 0.0**
KOLS Kolonicke sedl 66.79 317 *eP* **P 01 05 37.5 +0.6**
KOLS pmax pmax
comp=Z,8.0nm,1.7s
KOLS Kolonicke sedl 66.79 317 *eP* **P 01 05 37.5 +0.6**
CRVS Cervenica-Dubn 67.32 317 *eP* **P 01 05 40.9 +0.6**
CRVS pmax pmax
comp=Z,9.0nm,1.1s
CRVS Cervenica-Dubn 67.32 317 *eP* **P 01 05 40.8 +0.5**
STHS Stebnicka Huta 67.50 318 *eP* **P 01 05 41.8 +0.4**
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 67.50 318 *eP* **P 01 05 41.8 +0.4**
KECS Kecovo 67.94 317 *eP* **P 01 05 43.5 -0.7**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 67.94 317 *eP* **P 01 05 43.5 -0.7**
BEL Belsk 67.99 320 *eP* **P 01 05 44.7 +0.4**
OJC Ojcow 68.49 319 *eP* **P 01 05 47.6 0.0**
ARCES ARCESS Array B 68.96 340 P **P 01 05 50.5 +0.3**
ARCES ARCESS Array B 68.96 340 P **P 01 05 50.5 +0.3**
comp=Z,2.1nm,0.7s,baz=91,slow=6.0,SNR=11
ARE0 ARCESS Array S 68.96 340 *eP* **P 01 05 50.3 +0.1**
PKSM Moragy 69.11 314 ⇑*P* **P 01 05 51.1 -0.4**
PKSM Moragy 69.11 314 ⇑*iP* **P 01 05 51.1 -0.4**
MORC Moravsky Berou 69.93 318 *eP* **P 01 05 57.0 +0.5**
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 69.93 318 *eP* **P 01 05 57.0 +0.5**
comp=Z,9.6nm,1.1s
LSZ Lusaka 70.53 248 *eP* **P 01 06 01.3 +0.4**
comp=Z,5.1nm,0.8s
DPC Dobruska-Polom 70.73 319 *iP* **P 01 06 02.0 +0.6**
DPC Dobruska-Polom 70.73 319 *iP* **P 01 06 02.0 +0.6**
DPC Dobruska-Polom 70.73 319 *eP* **P 01 06 02.3 +0.8**
comp=Z,33nm,1.2s
KSP Ksiaz 70.75 319 *eP* **P 01 06 01.8 +0.3**
UPC Upice 70.93 319 *iP* **P 01 06 04.0 +1.4**
UPC Upice 70.93 319 ⇓*iP* **P 01 06 04.0 +1.4**
CONA Conrad Observa 71.02 316 ⇓*iP* **P 01 06 03.3 0.0**
comp=Z,2.3nm,0.9s
TREC Trest 71.26 318 *iP* **P 01 06 04.9 +0.3**
TREC Trest 71.26 318 ⇓*iP* **P 01 06 04.9 +0.3**
SOKA Soboth 71.60 315 ⇓*iP* **P 01 06 07.0 +0.1**
comp=Z,6.0nm,1.2s,SNR=4.8
PRU Pruhonice 71.87 318 ⇓*iP* **P 01 06 08.7 +0.4**
PRU Pruhonice 71.87 318 ⇓*iP* **P 01 06 08.7 +0.4**
OBKA Obir 71.94 315 ⇓*iP* **P 01 06 09.1 +0.2**
comp=Z,4.1nm,0.7s
MOA Molln 72.09 316 ⇓*iP* **P 01 06 09.5 -0.2**
comp=Z,4.2nm,1.1s
BRG Berggiesshubel 72.24 319 *iP* **P 01 06 10.8 +0.3**
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 72.24 319 *iP* **P 01 06 10.8 +0.3**
BRG pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 72.44 317 P **P 01 06 11.9 +0.1**
GERES GERESS Array B 72.44 317 P **P 01 06 11.9 +0.1**
comp=Z,5.0nm,0.7s,baz=87,slow=5.5,SNR=38
KHC Kasperske Hory 72.51 317 *eP* **P 01 06 12.0 -0.2**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 72.51 317 *iP* **P 01 06 12.0 -0.2**
KHC Kasperske Hory 72.51 317 *eP* **P 01 06 12.0 -0.2**
comp=Z,3.3nm,1.0s
CLL Collm 72.83 320 *iP* **P 01 06 13.8 -0.1**
CLL *e* 01 06 19.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 72.83 320 *iP* **P 01 06 13.8 -0.1**
comp=Z,5.0nm,0.9s
NKC Novy Kostel 73.21 319 *iP* **P 01 06 16.6 +0.3**
NKC Novy Kostel 73.21 319 *iP* **P 01 06 16.6 +0.3**
NB2 NORSAR Subarra 73.72 330 P **P 01 06 18.3 -0.8**
comp=Z,2.3nm,0.6s,baz=89,slow=5.9
NOA NORSAR Array B 73.72 330 P **P 01 06 18.6 -0.5**
NOA NORSAR Array B 73.72 330 P **P 01 06 18.6 -0.5**
comp=Z,3.7nm,0.7s,baz=90,slow=5.8,SNR=13
WTTA Wattenberg 73.90 315 ⇑*iP* **P 01 06 19.7 -0.9**
comp=Z,5.2nm,0.4s
MOTA Moosalm 74.25 316 ⇑*iP* **P 01 06 20.9 -1.7**
comp=Z,9.4nm,1.1s
RETA Reutte 74.48 316 ⇑*iP* **P 01 06 23.1 -0.7**
comp=Z,3.8nm,0.5s,SNR=9.1
FETA Feichten 74.53 315 ⇓*iP* **P 01 06 23.7 -0.6**
comp=Z,5.5nm,1.1s,SNR=5.3
DAVA Damuels 75.09 316 ⇑*iP* **P 01 06 27.0 -0.5**
comp=Z,6.7nm,0.6s,SNR=7.5
PGF Pioggiola 76.19 311 *eP* **P 01 06 33.0 -0.8**
comp=Z,10nm,0.9s
CDF Champ du Feu 76.72 317 *eP* **P 01 06 35.9 -0.8**
KEST Kesra 76.80 304 P **P 01 06 35.9 -1.4**
KEST Kesra 76.80 304 P **P 01 06 35.9 -1.4**
comp=Z,2.4nm,0.9s,baz=314,slow=5.9,SNR=5.2
SENIN Lac Senin/Sane 76.95 315 *eP* **P 01 06 38.0 -0.1**
HINF Hinteralfeld 77.07 316 *eP* **P 01 06 37.9 -0.7**
SBF Sospel 77.16 312 *eP* **P 01 06 38.6 -0.6**
comp=Z,7.9nm,0.7s
HAU Haudompre 77.39 317 *eP* **P 01 06 39.6 -0.8**
LPG La Plagne 77.44 314 *eP* **P 01 06 40.8 -0.2**
comp=Z,23nm,0.7s
LPL La Plagne 77.45 314 *eP* **P 01 06 40.9 -0.1**
comp=Z,25nm,0.7s
MBDF Montbardon 77.52 313 *eP* **P 01 06 40.2 -1.1**
comp=Z,11nm,0.8s
BNI Bardonecchia 77.55 314 *eP* **P 01 06 40.6 -0.8**
BNI pmax pmax
comp=Z,6.0nm,0.7s
BNI Bardonecchia 77.55 314 *eP* **P 01 06 40.6 -0.8**
comp=Z,5.6nm,0.7s
PAGF Fort de Pagny 77.73 317 *eP* **P 01 06 41.9 -0.3**
comp=Z,1.2nm,0.7s
CABF La Chapelle 77.75 315 *eP* **P 01 06 42.2 -0.3**
comp=Z,5.8nm,0.7s
FRF La Foret Royal 77.77 312 *eP* **P 01 06 42.1 -0.4**
comp=Z,11nm,0.6s
LMR La Mourre 77.90 312 *eP* **P 01 06 42.8 -0.5**
comp=Z,6.4nm,0.6s
GIVF Givet 78.11 319 *eP* **P 01 06 44.0 -0.3**
ORIF Oris-en-Rattie 78.12 314 *eP* **P 01 06 43.7 -0.9**
comp=Z,3.7nm,0.7s
BOSA Boshof 78.14 236 P **P 01 06 44.6 -0.3**
BOSA Boshof 78.14 236 P **P 01 06 44.6 -0.3**
comp=Z,4.6nm,0.9s,baz=79,slow=5.2,SNR=4.1
MEZF Maizieres J'vi 78.18 317 *eP* **P 01 06 44.1 -0.6**
comp=Z,16nm,1.1s
SFTF Sexfontaines 78.23 317 *eP* **P 01 06 44.3 -0.7**
comp=Z,11nm,0.9s
SMRF Simiane la Rot 78.48 313 *eP* **P 01 06 46.5 0.0**
comp=Z,6.5nm,0.7s
BAIF Baives 78.50 319 *eP* **P 01 06 46.4 -0.1**
comp=Z,6.9nm,0.8s
VIVF Saint-Julien-l 78.98 314 *eP* **P 01 06 48.8 -0.5**
comp=Z,18nm,1.2s
LOR Lormes 79.16 316 *eP* **P 01 06 49.4 -0.8**
comp=Z,8.3nm,0.9s
SMF Signal de Mont 79.27 315 *eP* **P 01 06 50.0 -0.8**
comp=Z,9.8nm,0.7s
SSF Saint Saulge 79.43 316 *eP* **P 01 06 51.1 -0.5**
comp=Z,5.7nm,0.8s
AVF Avril sur Loir 79.58 316 *eP* **P 01 06 51.7 -0.7**
comp=Z,5.9nm,0.7s
LASF Ste Croix 79.69 313 *eP* **P 01 06 53.0 -0.1**
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 80.44 315 *eP* **P 01 06 56.9 -0.3**
comp=Z,9.6nm,0.9s
CAF Calviac 80.80 314 *eP* **P 01 06 58.8 -0.3**
comp=Z,6.7nm,0.9s
MTLF Montolieu 80.99 312 *eP* **P 01 06 59.8 -0.3**
comp=Z,8.3nm,0.9s
RJF Les Rejaudoux 81.11 314 *eP* **P 01 07 00.7 0.0**
comp=Z,6.1nm,0.7s
LDF La Drutiere 81.55 318 *eP* **P 01 07 02.4 -0.6**
comp=Z,10nm,0.7s
LFF La Frestale 81.72 314 *eP* **P 01 07 03.8 -0.1**
FLN La Foliniere 81.75 318 *eP* **P 01 07 03.5 -0.5**
MFF Saint Martin d 81.98 316 *eP* **P 01 07 04.7 -0.6**
comp=Z,8.0nm,0.8s
GRR Gorron 82.07 318 *eP* **P 01 07 05.1 -0.6**
ETSF Etsaut 83.07 312 *eP* **P 01 07 11.0 -0.1**
comp=Z,8.7nm,1.0s
SGMF Saint Gilles 83.21 318 *eP* **P 01 07 11.1 -0.5**
comp=Z,13nm,0.9s
ROSF Rostrenen 83.65 318 *eP* **P 01 07 13.5 -0.4**
QUIF Quistinic 83.68 318 *eP* **P 01 07 13.2 -0.8**
ESDC Sonseca Array 86.34 310 P **P 01 07 27.2 -0.5**
ESDC Sonseca Array 86.34 310 P **P 01 07 27.2 -0.5**
comp=Z,0.3nm,0.3s,baz=56,slow=4.5,SNR=14
ESLA Sonseca Array 86.34 310 *eP* **P 01 07 27.5 -0.2**
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 88.13 283 P **P 01 07 36.5 -0.2**
TORD Torodi Ar. Bea 88.13 283 P **P 01 07 36.5 -0.2**
comp=Z,3.9nm,0.8s,baz=84,slow=4.2,SNR=20
ILAR Eielson Array 89.27 22 P **P 01 07 40.1 -1.0**
ILAR Eielson Array 89.27 22 P **P 01 07 40.1 -1.0**
comp=Z,2.3nm,0.7s,baz=298,slow=4.3,SNR=8.8
INK Inuvik 91.19 16 *eP* **P 01 07 49.8 -0.2**
comp=Z,6.0nm,1.1s
DAWY Dawson 92.31 20 *eP* **P 01 07 55.5 +0.2**
PDAR Pinedale Array 119.59 19 PKP **PKPdf 01 13 34.9 -0.6**
PDAR Pinedale Array 119.59 19 PKP **PKPdf 01 13 34.9 -0.6**
comp=Z,0.6nm,0.7s,baz=116,slow=2.1,SNR=4.0
NVAR Mina Array Bea 119.93 28 PKP **PKPdf 01 13 36.9 +0.6**
NVAR Mina Array Bea 119.93 28 PKP **PKPdf 01 13 36.9 +0.6**
comp=Z,1.0nm,0.7s,baz=320,slow=2.4,SNR=6.0
TXAR Lajitas Array 133.76 20 PKP **PKPdf 01 14 03.6 +0.7**
TXAR Lajitas Array 133.76 20 PKP **PKPdf 01 14 03.6 +0.7**
comp=Z,0.4nm,0.6s,baz=107,slow=0.9,SNR=6.4
CPUP Villa Florida 149.82 242 PKPbc **PKPbc 01 14 34.3 -1.6**
CPUP Villa Florida 149.82 242 PKPbc **PKPbc 01 14 34.3 -1.6**
comp=Z,0.5nm,0.5s,baz=191,slow=2.0,SNR=3.4
LPAZ La Paz 161.75 261 PKPab **PKPab 01 15 32.2 -1.1**
LPAZ La Paz 161.75 261 PKPab **PKPab 01 15 32.2 -1.1**
comp=Z,0.4nm,0.5s,baz=150,slow=5.9,SNR=4.0

KRSC 13 00:56:38.0±0.6, 55°.28N×162°.62E, h3km±2km, ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.89**	**216**	*iP*	Pb	00 56 56.5	+0.5
MKZ				*eS*	Sb	00 57 09.4	+1.2
KBTR	**Krutoberegovo**	**0.94**	**7**	*eP*	Pb	00 56 57.2	+0.3
KBTR				*eS*	Sn	00 57 11.4	-0.6
KBG	**Krutoberegovo**	**0.98**	**3**	*eP*	Pn	00 56 59.0	+0.4
KBG				*eS*	Sn	00 57 13.7	+0.7
ZLN	**Zelenaya**	**1.27**	**306**	*eP*	Pb	00 57 02.6	-0.1
ZLN				*eS*	Sn	00 57 20.0	-0.4
BZGR	**Bezymyannyi-Gr**	**1.28**	**302**	*eS*	Sn	00 57 21.2	+0.6
CIRR	**Tsirk**	**1.35**	**309**	*eP*	Pn	00 57 03.6	-0.3
BZMR	**Bezymyannaya**	**1.38**	**299**	*eP*	Pg	00 57 04.6	0.0
BZMR				*eS*	Sn	00 57 23.5	+0.4
TUMR	**Tumrok**	**1.42**	**271**	*eP*	Pg	00 57 05.5	+0.2
TUMR				*eS*	Sn	00 57 25.4	+1.3
KMNR	**Kamenistaya**	**1.44**	**290**	*eP*	Pg	00 57 06.2	+0.5
KMNR				*eS*	Sn	00 57 26.3	+1.7
SMKR	**Semkarok**	**1.46**	**334**	*eP*	Pg	00 57 06.2	+0.1
SMKR				*eS*	Sg	00 57 27.1	+2.1
KIRR	**Kirishev**	**1.46**	**298**	*eP*	Pn	00 57 05.4	0.0
KIRR				*eS*	Sg	00 57 25.8	+0.6
KRSR	**Krestovskiy**	**1.49**	**310**	*eP*	Pn	00 57 05.5	-0.4
BDR	**Baidarnaya**	**1.52**	**329**	*eP*	Pb	00 57 06.6	-0.3
BDR				*eS*	Sg	00 57 27.2	+0.3
KLY	**Klyuchi**	**1.52**	**314**	*eP*	Pn	00 57 04.8	-1.2
KLY				*eS*	Sn	00 57 24.5	-1.8
KPT	**Kopyto**	**1.52**	**298**	*eP*	Pg	00 57 07.4	0.0
KPT				*eS*	Sg	00 57 28.4	+1.2
SRKR	**Sorokina**	**1.60**	**330**	*eP*	Pb	00 57 07.9	-0.4
SRKR				*eS*	Sg	00 57 30.0	+0.4
KOZ	**Kozyrevsk**	**1.74**	**298**	P	Pg	00 57 11.8	+0.4
BKI	**Bering**	**1.92**	**91**	*eP*	Pn	00 57 12.0	+0.5
BKI				*eS*	Sn	00 57 36.6	+0.4
SRDR	**Sredinnyy**	**1.94**	**304**	*eP*	Pb	00 57 13.5	-0.6
SRDR				*eS*	Sb	00 57 39.1	+0.3
KII	**Karymskiy**	**2.22**	**237**	*eP*	Pn	00 57 16.0	+0.1
ESO	**Esso**	**2.32**	**288**	*eP*	Pb	00 57 18.8	-1.6
SPN	**Mys Shipunski**	**2.67**	**216**	*eP*	Pn	00 57 22.2	+0.4
SPN				*eS*	Sn	00 57 54.3	-0.3
SDLR	**Sedlovina**	**2.97**	**229**	*eP*	Pn	00 57 27.6	+1.4
KRER	**Koryakskii**	**3.01**	**230**	*eP*	Pn	00 57 28.6	+1.8
SMAR	**Somma**	**3.02**	**229**	*eP*	Pn	00 57 28.1	+1.2
AVH	**Avacha**	**3.04**	**230**	*eP*	Pb	00 57 30.1	-2.8
UGLR	**Uglovaya**	**3.04**	**229**	*eP*	Pn	00 57 28.7	+1.5
UGLR				*eS*	Sn	00 58 04.9	+0.7
KOK	**Koryaka**	**3.07**	**231**	*eP*	Pb	00 57 30.6	-2.8
GNL	**Ganaly**	**3.16**	**242**	*eP*	Pn	00 57 30.6	+1.9
RUS	**Russkaya**	**3.75**	**222**	*eP*	Pn	00 57 38.7	+2.1
MTVR	**Mutnovka**	**3.84**	**225**	*eP*	Pn	00 57 39.3	+1.2
APC	**Apacha**	**3.99**	**236**	P	Pn	00 57 43.7	+3.8
ASAK	**Asacha**	**4.03**	**226**	*eP*	Pn	00 57 43.3	+2.6

KRSC 13 01:34:37.7±0.3, 53°.31N×160°.51E, h39km±29km, ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.36**	**234**	*eP*	Pn	01 34 47.0	+0.5
SPN				*iS*	Sn	01 34 53.7	+0.7
NLC	**Nalytchevo**	**0.71**	**259**	*iP*	Pn	01 34 51.5	+0.2
NLC				*eS*	Sn	01 35 01.5	+0.5
KII	**Karymskiy**	**0.96**	**319**	*iP*	Pn	01 34 54.4	-0.4
KII				*eS*	Sn	01 35 07.0	-0.4
SDLR	**Sedlovina**	**0.98**	**269**	*iP*	Pn	01 34 55.1	0.0
SDLR				*eS*	Sn	01 35 08.2	+0.4
UGLR	**Uglovaya**	**1.02**	**265**	*eP*	Pn	01 34 56.2	+0.6
UGLR				*eS*	Sn	01 35 09.9	+1.1
SMAR	**Somma**	**1.03**	**268**	*iP*	Pn	01 34 55.7	-0.2
SMAR				*eS*	Sn	01 35 09.6	+0.4
KRER	**Koryakskii**	**1.06**	**270**	*iP*	Pn	01 34 56.4	+0.1
KRER				*iS*	Sn	01 35 10.5	+0.6
AVH	**Avacha**	**1.06**	**268**	*eP*	Pn	01 34 56.8	+0.6
AVH				*eS*	Sn	01 35 11.5	+1.6
KOK	**Koryaka**	**1.12**	**270**	*iP*	Pn	01 34 57.3	+0.2
KOK				*eS*	Sn	01 35 12.3	+0.9
PET	**Petropavlovsk**	**1.15**	**256**	*eP*	Pn	01 34 57.7	+0.4
PET				*eS*	Sn	01 35 12.6	+0.8
MKZ	**Mys Kozlova**	**1.44**	**30**	*eP*	Pn	01 35 00.4	-0.8
MKZ				*eS*	Sn	01 35 17.2	-1.7
RUS	**Russkaya**	**1.50**	**235**	*eP*	Pn	01 35 02.0	0.0
RUS				*eS*	Sn	01 35 20.3	+0.1
GNL	**Ganaly**	**1.58**	**285**	*eP*	Pn	01 35 03.9	+0.5
GNL				*eS*	Sn	01 35 23.7	+1.0
MTVR	**Mutnovka**	**1.64**	**240**	*eP*	Pn	01 35 04.8	+0.7
MTVR				*eS*	Sn	01 35 24.9	+0.9
GRL	**Gorelyy**	**1.66**	**244**	*eP*	Pn	01 35 05.0	+0.6
GRL				*eS*	Sn	01 35 25.4	+0.8
ASAK	**Asacha**	**1.83**	**241**	*eP*	Pn	01 35 08.0	+1.2
ASAK				*eS*	Sn	01 35 30.2	+1.4
TUMR	**Tumrok**	**1.99**	**354**	*iP*	Pn	01 35 09.7	+0.8
TUMR				*eS*	Sn	01 35 33.7	+1.0
APC	**Apacha**	**2.06**	**261**	*eP*	Pn	01 35 11.4	+1.7
APC				*eS*	Sn	01 35 36.4	+2.3
KMNR	**Kamenistaya**	**2.46**	**356**	*eP*	Pn	01 35 17.2	+1.9
KMNR				*eS*	Sn	01 35 46.6	+2.4
MIPR	**Malaya Ipel'ka**	**2.50**	**247**	*eP*	Pn	01 35 17.6	+1.7
BZMR	**Bezymyannaya**	**2.63**	**360**	*eP*	Pn	01 35 19.0	+1.2
BZGR	**Bezymyannyi-Gr**	**2.64**	**2**	*eP*	Pn	01 35 20.2	+2.4
KIRR	**Kirishev**	**2.65**	**358**	*eP*	Pn	01 35 19.4	+1.3
KIRR				*eS*	Sn	01 35 50.6	+1.5
KPT	**Kopyto**	**2.67**	**357**	*eP*	Pn	01 35 20.2	+2.0
KPT				*eS*	Sn	01 35 51.9	+2.5
KOZ	**Kozyrevsk**	**2.78**	**353**	*eP*	Pn	01 35 20.8	+1.1
KOZ				*eS*	Sn	01 35 52.5	+0.6
ESO	**Esso**	**2.82**	**339**	*eP*	Pn	01 35 21.3	+1.0
KRSR	**Krestovskiy**	**2.91**	**1**	*eS*	Sn	01 35 55.6	+0.1
SRDR	**Sredinnyy**	**3.05**	**352**	*eP*	Pn	01 35 25.1	+1.7
KBTR	**Krutoberegovo**	**3.20**	**24**	*eP*	Pn	01 35 26.1	+0.7
KBTR				*eS*	Sn	01 36 01.9	-0.3
KBG	**Krutoberegovo**	**3.21**	**22**	*eS*	Sn	01 36 07.5	+5.0
BDR	**Baidarnaya**	**3.29**	**7**	*eP*	Pn	01 35 28.4	+1.6
SMKR	**Semkarok**	**3.33**	**9**	*eP*	Pn	01 35 29.8	+2.6
SMKR				*eS*	Sn	01 36 08.3	+2.8
SRKR	**Sorokina**	**3.37**	**6**	*eP*	Pn	01 35 30.0	+2.1
SRKR				*eS*	Sn	01 36 08.5	+1.8
BKI	**Bering**	**3.72**	**57**	*eP*	Pn	01 35 32.2	-0.3
BKI				*eS*	Sn	01 36 10.5	-4.6

IDC ***13*** *01:39:11.0±0.8, 13°.93N×93°.04E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/28, mbtmp3.8/12, ML4.2/1, Error ellipse: s-maj=31.5km s-min=16.6km az=53.0*
ISCJB ***13*** *01:39:14.3±0.6, 14°.02N±0°.09×93°.23E±0°.08, h32km, mb3.8/13, Error ellipse: s-maj=13.9km s-min=10.4km az=152.7*

ISC 13 01:39:16.1±0.8, 14°.0N±0°.1×93°.2E±0°.1, h32km, n14, σ0s49/16, mb3.9/13, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.11**	**51**	Pn	**Pn**	**01 40 58.1**	**+0.2**
	1.0nm,0.3s,baz=241,slow=15,SNR=9.0						
CMAR				Sn	**Sn**	**01 42 17.1**	**-0.6**
	0.9nm,0.3s,baz=248,slow=26,SNR=3.4						
MKAR	**Makanchi Array**	**33.94**	**347**	P	**P**	**01 45 56.8**	**+0.4**
	1.4nm,0.7s,baz=160,slow=8.3,SNR=8.1						
SONM	**Songino Array**	**35.49**	**15**	P	**P**	**01 46 10.8**	**+0.9**
	0.3nm,0.4s,baz=202,slow=7.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.40**	**352**	P	**P**	**01 46 50.9**	**-0.1**
	1.9nm,0.6s,baz=174,slow=7.4,SNR=8.5						
FITZ	**Fitzroy Crossi**	**45.21**	**134**	P	**P**	**01 47 30.4**	**-0.1**
	0.8nm,0.8s,baz=332,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**52.72**	**129**	P	**P**	**01 48 28.1**	**0.0**
	0.3nm,0.9s,baz=318,slow=8.7,SNR=5.6						
WRA				PcP	**PcP**	**01 49 37.7**	**0.0**
	0.5nm,0.5s,baz=318,slow=2.9,SNR=11						
ASAR	**Alice Springs**	**54.67**	**133**	P	**P**	**01 48 42.5**	**+0.1**
	0.2nm,0.4s,baz=308,slow=7.2,SNR=3.6						
BRTR	**Keskin Array B**	**57.81**	**308**	P	**P**	**01 49 03.7**	**-1.0**
	0.8nm,0.7s,baz=120,slow=7.2,SNR=7.8						
FINES	**FINESS Array B**	**66.89**	**331**	P	**P**	**01 50 04.9**	**0.0**
	2.7nm,0.9s,baz=132,slow=28,SNR=3.6						
GERES	**GERESS Array B**	**72.67**	**317**

*NEIC **13** 01:53:10.0±0.8, 32°.74N×140°.50E, h77km±6km, mb4.7/45, Error ellipse: s-maj=5.3km s-min=3.9km az=143.0*
NEIC Felt at Kakegawa and Yokosuka, Honshu. Recorded [2 JMA] on Hachijo-jima and [1 JMA] on Aogo-shima. Also recorded [2 JMA] in Chiba, Honshu.
ISC 13 01:53:07.5±0.5, 32.72N±0°.04×140°.67E±0°.03, h58km±3km, h57km:pP-P, n342, σ1$45/379, mb4.7/125, MS4.3/8, 17C-43D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.81**	**296**	P	**Pn**	**01 53 25.0**	**+2.0**
JHCJ				S	**Sn**	**01 53 36.0**	**+1.6**
JHJ2	**Mitsune**	**0.82**	**299**	⇓P	**Pn**	**01 53 25.2**	**+2.2**
JHJ2				*e*S	**Sn**	**01 53 36.6**	**+2.1**
JMY	**Miyakejima3**	**1.66**	**325**	⇓P	**Pn**	**01 53 35.6**	**+1.3**
JMY				*e*S	**Sn**	**01 53 55.3**	**+0.7**
JKO	**Kozu shima**	**1.95**	**319**	⇓P	**Pn**	**01 53 39.9**	**+1.8**
JKO				*e*S	**Sn**	**01 54 03.0**	**+1.5**
BSO1	**Boso 1**	**1.95**	**7**	⇓P	**Pn**	**01 53 38.2**	**+0.5**
BSO1				S	**Sn**	**01 54 01.5**	**+0.8**
BSO3	**Boso 3**	**2.08**	**356**	⇓P	**Pn**	**01 53 40.6**	**+0.8**
BSO3				*e*S	**Sn**	**01 54 04.3**	**-0.1**
JIM2	**Oshima 3**	**2.25**	**333**	⇓P	**Pn**	**01 53 43.3**	**+1.0**
JIM2				S	**Sn**	**01 54 08.0**	**-0.8**
JIZS	**Izushimoda**	**2.49**	**324**	⇓P	**Pn**	**01 53 47.6**	**+2.0**
JIZS				S	**Sn**	**01 54 15.4**	**+0.6**
TK02	**Tokai 2**	**2.73**	**297**	P	Pn	01 53 51.6	+3.0
JOD2	**Odawara 2**	**2.86**	**333**	⇓P	**Pn**	**01 53 51.9**	**+1.3**
JOD2				S	**Sn**	**01 54 22.9**	**-1.0**
TK04	**Tokai 4**	**2.87**	**306**	P	Pn	01 53 53.6	+3.0
HMMJ	**Hamamatsu 2**	**3.25**	**312**	⇓P	**Pn**	**01 53 58.4**	**+2.4**
JYN	**Shimob**	**3.29**	**328**	P	**Pn**	**01 53 58.9**	**+2.4**
JYZW	**Yoshizawa**	**3.34**	**314**	P	**Pn**	**01 53 59.6**	**+2.5**
JAA	**Atsumi**	**3.51**	**304**	⇓P	**Pn**	**01 54 02.0**	**+2.6**
JRY	**Ryogami san**	**3.60**	**337**	P	**Pn**	**01 54 02.4**	**+1.6**
JIE	**Ise**	**3.71**	**298**	⇓P	**Pn**	**01 54 04.8**	**+2.6**
JNT	**Takato**	**3.78**	**327**	P	Pn	01 54 06.3	+2.9
JAO	**Obara**	**3.81**	**313**	⇓P	Pn	01 54 06.5	+2.9
JKN2	**Miekihoku**	**3.98**	**294**	⇓P	**Pn**	**01 54 08.6**	**+2.7**
JGF	**Kuroka**	**3.98**	**317**	⇓P	Pn	01 54 09.1	+3.2
JNG	**Nsakai**	**4.25**	**331**	⇓P	**Pn**	**01 54 11.8**	**+2.1**
JEG	**Eigenji**	**4.30**	**305**	⇓P	Pn	01 54 13.7	+3.4
MJAR	**Matsushiro Arr**	**4.32**	**333**	P	**Pn**	**01 54 12.0**	**+1.3**
MJAR				S	**Sn**	**01 55 01.1**	**+1.4**
MJAR	**Matsushiro Arr**	**4.32**	**333**	P	**Pn**	**01 54 12.0**	**+1.3**
	33nm,0.3s,baz=156,slow=14,SNR=177						
MJAR				S	**Sn**	**01 55 01.1**	**+1.4**
	20nm,0.3s,baz=150,slow=24,SNR=5.2						
MAT	**Matsushiro**	**4.32**	**333**	P	**Pn**	**01 54 12.4**	**+1.7**
MAT				S	**Sn**	**01 55 02.4**	**+2.6**
JGN	**Niukaw**	**4.46**	**323**	⇓P	Pn	01 54 15.8	+3.2
JWY	**Kouya**	**4.50**	**291**	P	Pn	01 54 16.5	+3.4
JHE	**Heguri**	**4.58**	**296**	⇓P	Pn	01 54 17.2	+3.0
JWT	**Wachi**	**5.07**	**302**	⇓P	Pn	01 54 24.2	+3.3
JAJ2	**Tsuna**	**5.12**	**291**	⇓P	Pn	01 54 25.4	+3.9
JMIK	**Miki**	**5.12**	**296**	⇓P	Pn	01 54 25.3	+3.7
JKY	**Yasaka**	**5.45**	**304**	P	Pn	01 54 29.2	+3.1
MRT2	**Murotomisaki 2**	**5.52**	**279**	⇓P	Pn	01 54 30.4	+3.3
JKSM	**Kasumi**	**5.74**	**302**	P	Pn	01 54 33.0	+2.9
JAD	**Aida**	**5.85**	**294**	⇓P	Pn	01 54 34.9	+3.4
JJS	**Sakaide**	**5.86**	**288**	⇓P	Pn	01 54 35.3	+3.5
JKU	**Kubokawa**	**6.42**	**277**	⇓P	Pn	01 54 43.0	+3.6
JJG	**Jouge**	**6.55**	**289**	⇓P	Pn	01 54 44.9	+3.7
UWA2	**Uwa jima 2**	**6.78**	**276**	⇓P	Pn	01 54 48.2	+3.9
JHT	**Toyohira**	**7.14**	**288**	P	Pn	01 54 52.8	+3.5
JNU	**Nakatsue**	**8.24**	**275**	*e*Pn	Pn	01 55 08.4	+4.0
JNU	**Nakatsue**	**8.24**	**275**	P	**Pn**	**01 55 06.4**	**+2.0**
	8.5nm,0.3s,baz=85,slow=12,SNR=64						
ERM	**Erimo**	**9.49**	**11**	*ce*P	**Pn**	**01 55 19.8**	**-1.5**
ERM	**Erimo**	**9.49**	**11**	*e*Pn	**Pn**	**01 55 18.8**	**-2.5**
ERM				*e*Sn	Sn	01 56 57.9	-8.5
KSRS	**Korea Array**	**11.46**	**298**	P	Pn	01 55 51.1	+2.9
	0.9nm,0.3s,baz=113,slow=13,SNR=28						
ASAJ	**Asahikawa**	**11.48**	**7**	*e*Pn	Pn	01 55 45.7	-2.8
ASAJ				*e*Sn	Sn	01 57 49.6	-5.6
ASAJ	**Asahikawa**	**11.48**	**7**	P	**Pn**	**01 55 46.2**	**-2.3**
	8.6nm,0.3s,baz=220,slow=9.3,SNR=14						
ASAJ				S	Sn	01 57 45.2	-10
	4.1nm,0.3s,baz=102,slow=20,SNR=5.3						
KSAR	**Wonju Array Be**	**11.48**	**298**	P	**Pn**	**01 55 51.1**	**+2.5**
YUK	**Yuzh-Kuril'sk**	**12.01**	**18**	*c i*P	**Pn**	**01 55 53.2**	**-2.5**
YUK				pmax	pmax		
	comp=N,22nm,0.4s						
YUK				pmax	pmax		
	comp=E,14nm,0.4s						
YUK				pmax	pmax		
	comp=Z,72nm,0.4s						
JOW	**Kunigami**	**12.26**	**245**	*e*Pn	**Pn**	**01 55 57.6**	**-1.7**
JOW	**Kunigami**	**12.26**	**245**	P	**Pn**	**01 56 01.8**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=90,slow=8.1,SNR=22						
USRK	**Ussuriysk Arra**	**13.31**	**332**	P	**Pn**	**01 56 12.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=145,slow=13,SNR=15						
YSS	**Yuzh-Sakhalins**	**14.31**	**6**	*e*P	**Pn**	**01 56 25.6**	**-1.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
MDJ	**Mudanjiang**	**14.68**	**327**	P	**Pn**	**01 56 30.6**	**-1.1**
MDJ				pP	**P**	**01 56 36.3**	**-0.3**
MDJ				sP		01 56 43.5	
MDJ				S	**Sn**	**01 59 08.6**	**-4.4**
MDJ				PcP	**PcP**	**02 01 42.0**	**+1.3**
MDJ				ScP	**ScP**	**02 05 12.4**	**+2.8**
MDJ				pmax	pmax		
	comp=Z,16nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,230nm,13.9s						
MDJ				LR	LR		
	comp=N,350nm,26.8s						
MDJ				LR	LR		
	comp=E,280nm,34.0s						
MDJ				LR	LR		
	comp=Z,310nm,30.9s						
CN2	**Changchun**	**16.26**	**317**	*e*P	**Pn**	**01 56 49.9**	**-2.1**
CN2				*es*P	sP	01 57 04.0	-10
CN2				*e*S	**Sn**	**01 59 46.7**	**-4.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,17.0s						
CN2				LR	LR		
	comp=E,400nm,17.0s						
CN2				LR	LR		
	comp=Z,400nm,18.0s						
HABR	**Khabarovsk**	**16.30**	**347**	*e*P	**P**	**01 56 55.8**	**+1.3**
HABR				pmax	pmax		
	comp=Z,77nm,0.9s						
HABR				pmax	pmax		
	comp=N,45nm,0.9s						
HABR				pmax	pmax		
	comp=E,36nm,0.9s						
SNY	**Shenyang**	**16.34**	**309**	⇑P	**P**	**01 56 58.4**	**+3.4**
SNY				pmax	pmax		
	comp=Z,18nm,2.1s						
SNY				pmax	pmax		
	comp=Z,350nm,3.7s						
SNY				LR	LR		
	comp=N,450nm,21.6s						
SNY				LR	LR		
	comp=E,320nm,18.5s						
SNY				LR	LR		
	comp=Z,420nm,23.9s						
KLR	**Kul'dur**	**17.80**	**341**	*e*P	Pn	01 57 03.7	-7.2
NJ2	**Nanjing**	**18.44**	**274**	*e*P	Pn	01 57 27.7	+8.8
NJ2				S	**Sn**	**02 00 41.2**	**-3.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.9s						
NJ2				LR	LR		
	comp=N,400nm,14.3s						
NJ2				LR	LR		
	comp=E,460nm,13.0s						
NJ2				LR	LR		
	comp=Z,690nm,10.0s						
YHNB	**Yeheng**	**18.71**	**250**	*e*P	**Pn**	**01 57 21.9**	**-0.4**
	comp=Z,59nm,0.9s						
SSLB	**Suanglung**	**19.49**	**248**	*e*P	**P**	**01 57 30.2**	**+0.4**
	comp=Z,36nm,1.0s						
WHN	**Wuhan**	**22.50**	**272**	P	**P**	**01 58 02.2**	**0.0**
PETK	**Petropavlovsk-**	**23.78**	**26**	P	**P**	**01 58 14.6**	**0.0**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PETK	**Petropavlovsk-**	**23.78**	**26**	P	**P**	**01 58 14.6**	**0.0**
	comp=Z,8.2nm,0.8s,baz=207,slow=9.6,SNR=8.2						
PET	**Petropavlovsk**	**24.07**	**27**	*e*P	**P**	**01 58 18.6**	**+1.4**
HHC	**Hu-ho-hao-te**	**24.60**	**298**	*e*P	**P**	**01 58 20.4**	**-1.9**
HHC				sP	sP	01 58 34.2	-9.2
HHC				S	**S**	**02 02 34.4**	**-5.1**
HHC				sS	sS	02 02 53.4	-10
HHC				SS	**SnSn**	**02 03 30.3**	**+0.8**
HHC				ScP	**ScP**	**02 05 33.9**	**+1.3**
HHC				ScS	**ScS**	**02 09 22.6**	**+2.0**
HHC				pmax	pmax		
	comp=Z,43nm,0.6s						
HHC				pmax	pmax		
	comp=Z,760nm,4.8s						
HHC				LR	LR		
	comp=N,360nm,13.6s						
HHC				LR	LR		
	comp=E,690nm,12.2s						
HHC				LR	LR		
	comp=Z,650nm,12.7s						
CLNS	**Chul'man**	**26.46**	**340**	*e*P	P	01 58 34.0	-4.9
CLNS				*e*PP	pP	01 58 48.0	-5.1
CLNS				*e*		02 09 34.2	
CLNS				pmax	pmax		
	comp=Z,62nm,0.8s						
CLNS				pmax	pmax		
	comp=N,31nm,0.8s						
CLNS				pmax	pmax		
	comp=E,14nm,0.7s						
XAN	**Xi'an**	**26.49**	**282**	P	**P**	**01 58 37.7**	**-1.8**
XAN				pP	**pP**	**01 58 49.8**	**-3.9**
XAN				sP	sP	01 58 55.7	-4.8
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**29.50**	**311**	*e*P	**P**	**01 59 06.9**	**+0.7**
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**29.91**	**310**	P	**P**	**01 59 09.9**	**+0.1**
SONM				ScP	**ScP**	**02 05 46.1**	**-2.5**
SONM	**Songino Array**	**29.91**	**310**	P	**P**	**01 59 09.9**	**+0.1**
	comp=Z,8.2nm,0.6s,baz=110,slow=8.4,SNR=48						
SONM				ScP	**ScP**	**02 05 46.1**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=98,slow=2.9,SNR=3.6						
GYA	**Guiyang**	**30.14**	**267**	*e*P	**P**	**01 59 12.8**	**+0.7**
GYA				pP	**pP**	**01 59 24.6**	**-1.8**
GYA				sP	**sP**	**01 59 31.2**	**-2.0**
GYA				PP	**PnPn**	**02 00 12.0**	**+0.7**
GYA				S	**S**	**02 04 06.7**	**-0.4**
GYA				sS	sS	02 04 26.8	-4.7
GYA				SS	**SnSn**	**02 05 44.3**	**-0.4**
GYA				ScP	**ScP**	**02 05 51.4**	**+1.7**
GYA				PcS	**PcS**	**02 05 58.5**	**+2.4**
GYA				ScS	**ScS**	**02 09 46.0**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
YAK	**Yakutsk**	**30.17**	**350**	*e*P	**P**	**01 59 10.5**	**-1.3**
YAK				*e*PP	pP	01 59 19.8	-6.4
YAK				*e*PPP	PPP	02 00 11.7	
YAK				*e*		02 02 11.4	
YAK				*e*S	**S**	**02 04 05.6**	**-1.0**
YAK				*e*		02 05 59.7	
YAK				*e*		02 09 39.5	
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,18nm,1.5s						
YAK				smax	smax		
	comp=N,28nm,2.0s						
YAK				smax	smax		
	comp=E,33nm,2.2s						
LZH	**Lanzhou**	**30.45**	**287**	*e*P	**P**	**01 59 15.2**	**+0.3**
LZH				pP	**pP**	**01 59 27.5**	**-1.7**
LZH				sP	**sP**	**01 59 32.4**	**-3.6**
LZH				PP	**PnPn**	**02 00 15.7**	**+0.3**
LZH				*e*S	**S**	**02 04 10.3**	**-1.7**
LZH				sS	sS	02 04 29.8	-6.6
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.2s						
LZH				LR	LR		
	comp=N,320nm,15.3s						
LZH				LR	LR		
	comp=E,380nm,13.9s						
LZH				LR	LR		
	comp=Z,540nm,16.3s						
FX1	**Attu Island--F**	**30.82**	**39**	*e*P	**P**	**01 59 20.2**	**+2.6**
SEY	**Seymchan**	**31.14**	**10**	⇓*e*P	**P**	**01 59 21.2**	**+0.9**
CD2	**Chengdu**	**31.32**	**277**	*e*P	**P**	**01 59 22.3**	**-0.1**
CD2				pP	**pP**	**01 59 33.9**	**-2.9**
CD2				sP	sP	01 59 38.9	-4.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAK	**Zakamensk**	**32.64**	**314**	*e*P	**P**	**01 59 33.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA	**Gaotai**	**33.48**	**293**	*e*P	**P**	**01 59 40.6**	**-0.7**
GTA				pP	pP	01 59 50.2	-5.6
GTA				sP	sP	01 59 54.0	-8.6
GTA				S	**S**	**02 04 56.3**	**-2.7**
GTA				sS	sS	02 05 17.0	-6.5
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				LR	LR		
	comp=N,320nm,19.0s						
GTA				LR	LR		
	comp=E,270nm,20.4s						
GTA				LR	LR		
	comp=Z,310nm,24.7s						
KMI	**Kunming**	**33.91**	**267**	P	**P**	**01 59 43.9**	**-1.4**
KMI				pP	**pP**	**01 59 55.9**	**-3.9**
KMI				sP	**sP**	**02 00 02.8**	**-3.8**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LOEI	**Loei**	**38.52**	**257**	P	P	02 00 20.6	-3.8
	comp=Z,66nm,0.7s						
HVS	**Khovu-Aksy**	**38.72**	**313**	*d i*P	**P**	**02 00 25.8**	**-0.1**
HVS				pmax	pmax		
	comp=Z,171nm,1.0s						
CHAI	**Chaiyaphum**	**38.77**	**254**	P	**P**	**02 00 25.5**	**-1.1**
	comp=Z,6.9nm,0.8s,comp=Z,137nm						
PBKT	**Sadao Pong**	**39.24**	**256**	P	**P**	**02 00 29.9**	**-0.6**
	comp=Z,21nm,0.9s,comp=Z,2μm						
LAMP	**Lampang**	**39.36**	**259**	P	**P**	**02 00 31.4**	**-0.1**
	comp=Z,5.3nm,0.8s						
TIXI	**Tiksi**	**39.50**	**354**	⇑*e*P	**P**	**02 00 31.0**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIXI				MLR	MLR		
	comp=Z,292nm,23.0s						
CMMT	**Chiang Mai**	**39.79**	**260**	P	**P**	**02 00 34.3**	**-0.7**
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**39.79**	**260**	*e*P	**P**	**02 00 34.3**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**39.79**	**260**	*e*P	**P**	**02 00 34.3**	**-0.8**
	comp=Z,9.2nm,0.8s						
CHTO	**Chiang Mai**	**39.79**	**260**	P	**P**	**02 00 34.5**	**-0.6**
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.96**	**260**	P	**P**	**02 00 35.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**39.96**	**260**	P	**P**	**02 00 35.5**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=50,slow=7.3,SNR=19						
KRAR	**Krasnoyarsk**	**40.26**	**320**	⇑*e*P	**P**	**02 00 37.3**	**-1.2**
KRAR				pmax	pmax		
	comp=Z,41nm,0.5s						
WMQ	**Urumqi**	**42.39**	**301**	*e*P	**P**	**02 00 56.4**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,15nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,250nm,5.0s						
ZAA0	**Zalesovo Array**	**44.47**	**316**	*e*P	**P**	**02 01 12.0**	**-0.7**
ZALV	**Zalesovo Beam**	**44.47**	**316**	P	**P**	**02 01 12.0**	**-0.7**
ZALV						02 02 53.7	
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**44.47**	**316**	P	**P**	**02 01 12.1**	**-0.7**
ZALV				PcP	**PcP**	**02 02 53.7**	**-1.6**
ZALV				ScP	**ScP**	**02 06 39.2**	**-3.2**
ZALV	**Zalesovo Beam**	**44.47**	**316**	P	**P**	**02 01 12.0**	**-0.7**
	comp=Z,4.4nm,0.3s,baz=116,slow=8.6,SNR=30						
ZALV				PcP	**PcP**	**02 02 53.7**	**-1.6**
	comp=Z,2.5nm,0.7s,baz=110,slow=2.9,SNR=4.4						
ZALV				ScP	**ScP**	**02 06 39.2**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=99,slow=4.5,SNR=3.7						
NVS	**Novosibirsk**	**45.47**	**317**	*e*P	**P**	**02 01 18.4**	**-2.2**
NVS				pmax	pmax		
	comp=Z,30nm,0.9s						
NVS				pmax	pmax		
	comp=E,27nm,1.1s						
TAPN	**Taplejung**	**45.77**	**278**	*e*P	**P**	**02 01 23.0**	**-0.8**
	comp=E,15nm,0.4s						
MK31	**Makanchi Array**	**46.01**	**306**	*i*P	**P**	**02 01 24.8**	**-0.3**
MK31				pmax	pmax		
	comp=Z,15nm,0.4s						
MK31	**Makanchi Array**	**46.01**	**306**	*e*P	**P**	**02 01 24.6**	**-0.5**
MKAR	**Makanchi Array**	**46.01**	**306**	P	**P**	**02 01 24.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,36nm,0.7s						
MKAR				pmax	pmax		
	comp=N,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.01**	**306**	P	**P**	**02 01 24.6**	**-0.4**
MKAR				ScP	**ScP**	**02 06 46.0**	**-3.1**
MKAR	**Makanchi Array**	**46.01**	**306**	P	**P**	**02 01 24.6**	**-0.4**
	comp=N,36nm,0.7s,baz=90,slow=9.8,SNR=204						
MKAR				ScP	**ScP**	**02 06 45.9**	**-3.1**
	comp=N,1.7nm,0.8s,baz=79,slow=6.0,SNR=7.9						
ODAN	**Odare**	**46.21**	**277**	*e*P	**P**	**02 01 25.7**	**-1.5**
	comp=N,21nm,0.5s						
RAMN	**Ramite**	**46.84**	**278**	*e*P	**P**	**02 01 30.9**	**-1.2**
	comp=N,14nm,0.4s						
JIRN	**Jiri**	**46.94**	**279**	*e*P	**P**	**02 01 32.2**	**-0.8**
	comp=N,22nm,0.4s						
GUN	**Gumba**	**47.11**	**279**	*e*P	**P**	**02 01 33.4**	**-0.9**
KKN	**Kakani**	**47.65**	**279**	*e*P	**P**	**02 01 37.2**	**-1.1**
DANN	**Dangsing**	**48.72**	**281**	*e*P	**P**	**02 01 46.9**	**+0.2**
	comp=N,25nm,0.6s						
KOLN	**Koldanda**	**49.05**	**280**	*e*P	**P**	**02 01 48.6**	**-0.5**
	comp=N,10nm,0.4s						
OHAK	**Old Harbor**	**50.39**	**40**	*e*P	**P**	**02 01 59.2**	**+0.6**
	comp=N,16nm,0.6s						
IM04	**Indian Mountai**	**50.68**	**29**	*e*P	**P**	**02 02 01.6**	**+0.9**
RSO	**Redoubt South**	**50.71**	**36**	*e*P	**P**	**02 02 02.5**	**+1.3**
IMA2	**Indian Mountai**	**50.73**	**29**	*e*P	**P**	**02 02 01.9**	**+0.7**
IMA2				*e*PcP	**PcP**	**02 03 18.8**	**+1.2**
KDAK	**Kodiak Island**	**50.76**	**39**	*e*P	**P**	**02 02 02.2**	**+0.8**
	comp=N,35nm,0.8s						
KDAK	**Kodiak Island**	**50.76**	**39**	P	**P**	**02 02 02.2**	**+0.8**
	comp=N,34nm,0.7s,baz=261,slow=7.6,SNR=28						
ULHL	**Ulahol**	**50.91**	**300**	P	**P**	**02 02 03.0**	**0.0**
	SNR=8.0						
SPU	**Mount Spurr**	**51.07**	**35**	*e*P	**P**	**02 02 05.6**	**+1.8**
TKM2	**Tokmak 2**	**51.25**	**301**	*e*P	**P**	**02 02 05.6**	**0.0**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TKM2	**Tokmak 2**	**51.25**	**301**	P	**P**	**02 02 05.1**	**-0.5**
	SNR=14						
TKM2	**Tokmak 2**	**51.25**	**301**	*e*P	**P**	**02 02 05.6**	**0.0**
	comp=Z,8.2nm,0.7s						
KSH	**Kashi**	**51.71**	**297**	P	P	02 02 12.1	+3.1
KSH				sP	sP	02 02 26.2	-4.6
KSH				PP	**PP**	**02 04 10.1**	**+3.2**
KSH				S	**S**	**02 09 28.5**	**+2.0**
KSH				SS	**SS**	**02 13 03.6**	**+0.4**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,140nm,4.9s						
KSH				LR	LR		
	comp=N,80nm,6.7s						
KSH				LR	LR		
	comp=E,92nm,6.7s						
KSH				LR	LR		
	comp=Z,190nm,10.8s						
KBK	**Karagaybulak**	**51.77**	**301**	P	**P**	**02 02 09.5**	**+0.1**
	SNR=13						
USP	**Ospenovka**	**51.96**	**302**	P	**P**	**02 02 10.6**	**-0.1**
	SNR=8.8						
AAK	**Ala-Archa**	**52.10**	**301**	*de*P	**P**	**02 02 11.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,20nm,0.8s						
AAK	**Ala-Archa**	**52.10**	**301**	*e*P	**P**	**02 02 11.8**	**-0.1**
	comp=Z,7.5nm,0.8s						
PMR	**Palmer**	**52.48**	**35**	*e*P	**P**	**02 02 15.0**	**+0.8**
PMR				pmax	pmax		
	comp=Z,12nm,1.0s						
PMR	**Palmer**	**52.48**	**35**	*e*P	**P**	**02 02 15.0**	**+0.8**
	comp=Z,12nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.54**	**198**	P	**P**	**02 02 15.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.54**	**198**	P	**P**	**02 02 15.9**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=1.7,slow=9.6,SNR=6.4						
EKS2	**Erkin-Say**	**52.61**	**301**	*e*P	**P**	**02 02 15.1**	**-0.5**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**52.61**	**301**	*e*P	**P**	**02 02 15.1**	**-0.5**
	comp=Z,4.4nm,0.8s						
WRAB	**Tennant Creek**	**52.70**	**187**	*e*P	**P**	**02 02 16.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRAB	**Tennant Creek**	**52.70**	**187**	*e*P	**P**	**02 02 16.2**	**0.0**
	comp=Z,8.5nm,0.8s						
WRA	**Warramunga Arr**	**52.71**	**187**	P	**P**	**02 02 16.4**	**+0.1**
WRA				ScP	**ScP**	**02 07 15.6**	**-2.1**
WRA	**Warramunga Arr**	**52.71**	**187**	P	**P**	**02 02 16.4**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=5.7,slow=7.6,SNR=61						
WRA				ScP	**ScP**	**02 07 15.6**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=2.8,slow=4.8,SNR=4.1						
CTAO	**Charters Tower**	**52.78**	**173**	*e*P	**P**	**02 02 18.7**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**52.78**	**173**	*e*P	**P**	**02 02 18.7**	**+1.9**
	comp=Z,11nm,1.1s						
AML	**Almayashu**	**52.79**	**301**	P	**P**	**02 02 17.4**	**+0.1**
	SNR=34						
COLA	**College**	**53.08**	**30**	*e*P	**P**	**02 02 19.5**	**+1.0**
COLA				pmax	pmax		
	comp=Z,30nm,0.6s						
COLA	**College**	**53.08**	**30**	*e*P	**P**	**02 02 19.5**	**+1.0**
	comp=Z,30nm,0.6s						
BVA0	**Borovoye Array**	**53.09**	**315**	P	**P**	**02 02 18.3**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR	**Borovoye Array**	**53.09

comp=Z,5.0nm,0.6s
INK Inuvik 58.52 26 *e*P **P 02 02 58.1 +0.7**
comp=Z,11nm,0.6s
ARU Arti 59.23 320 *d i*P **P 02 03 01.5 -1.0**
ARU S **S 02 11 06.9 +0.9**
ARU pmax pmax
comp=Z,22nm,1.0s
SKAG Skagway 59.50 36 *e*P **P 02 03 04.5 +0.1**
comp=Z,13nm,1.0s
AB31 Akbulak array 60.30 312 *i* P **P 02 03 09.2 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 60.30 312 *e*P **P 02 03 09.2 -0.8**
comp=Z,7.1nm,0.4s
PALK Pallekele 60.91 259 *e*P **P 02 03 14.2 -0.5**
DLBC Dease Lake 62.43 36 *e*P **P 02 03 25.5 +1.2**
STKA Stephens Creek 64.25 179 P **P 02 03 37.6 +1.2**
STKA Stephens Creek 64.25 179 P **P 02 03 37.6 +1.2**
comp=Z,1.2nm,0.8s,baz=12,slow=14,SNR=2.2
YKW3 Yellowknife Ar 67.82 29 *e*P **P 02 03 59.2 +0.2**
ARCES ARCESS Array B 67.82 340 P **P 02 03 58.1 -0.8**
ARCES ARCESS Array B 67.82 340 P **P 02 03 58.1 -0.8**
comp=Z,3.0nm,0.7s,baz=43,slow=6.7,SNR=10.0
YKA Yellowknife Ar 67.86 29 P **P 02 03 59.4 +0.1**
YKA Yellowknife Ar 67.86 29 P **P 02 03 59.3 +0.1**
comp=Z,1.7nm,0.7s,baz=304,slow=6.5,SNR=5.3
DAG Danmarks Havn 70.01 355 *i* P **P 02 04 14.4 +2.0**
comp=Z,4.4nm,1.0s
VRHR Novokhopersk 70.49 319 *e*P **P 02 04 13.8 -2.0**
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,6.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
MBW Mount Baker 70.65 44 P **P 02 04 18.6 +1.6**
JCW Jim Creek 70.91 45 P **P 02 04 20.3 +1.8**
RPW Rockport 71.03 44 P **P 02 04 20.9 +1.6**
OBN Obninsk 71.20 324⇓*e*P **P 02 04 19.4 -0.6**
OBN 02 04 38.0
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,21.0s
TDL Tradedollar La 71.60 46 P **P 02 04 24.9 +2.1**
VSR Storozhevoye 71.79 320 *e*P **P 02 04 22.3 -1.4**
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
KAF Kangasniemi 71.87 333 *e*P **P 02 04 23.1 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 71.87 333 *e*p **P 02 04 23.1 -0.8**
comp=Z,4.4nm,0.5s
FINES FINESS Array B 72.35 333 P **P 02 04 26.1 -0.7**
FINES pP **PcP 02 04 45.7 +1.2**
FINES FINESS Array B 72.35 333 P **P 02 04 26.1 -0.7**
comp=Z,13nm,1.0s,baz=45,slow=6.0,SNR=26
FINES pP **PcP 02 04 45.7 +1.2**
comp=Z,2.5nm,0.4s,baz=67,slow=5.6,SNR=2.9
ZEI Tsey 73.08 310 *e*P **P 02 04 30.4 -1.4**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
KBZ Khabaz 73.27 311 P **P 02 04 32.9 +0.3**
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 73.27 311 P **P 02 04 32.9 +0.3**
KBZ Khabaz 73.27 311 P **P 02 04 32.9 +0.3**
comp=Z,13nm,0.8s,baz=59,slow=4.1,SNR=22
KIV Kislovodsk 73.29 312 *e*P **P 02 04 33.4 +0.5**
KIV pmax pmax
comp=Z,20nm,0.9s
NEW Newport 73.67 43 *e*P **P 02 04 35.9 +0.9**
comp=Z,5.2nm,1.0s
GNI Garni 73.81 307 *e*P **P 02 04 36.6 +0.5**
comp=Z,13nm,0.9s
SUMG Summit 74.99 360 *i* P **P 02 04 44.3 +1.7**
comp=Z,7.3nm,0.7s
BMO Blue Mountains 75.33 46 *e*P **P 02 04 45.6 +0.9**
comp=Z,2.3nm,0.6s
BEKR Beckworth 75.98 52 *e*P **P 02 04 48.5 -0.2**
comp=Z,3.8nm,1.4s
ANN Anapa 76.09 314 *e*P **P 02 04 47.8 -1.1**
ANN pmax pmax
comp=Z,24nm,1.2s
UMR Umm Al-Rimmam 76.93 297 *e*P **P 02 04 53.0 -1.0**
UMR AMb AMB 02 04 54.0
comp=Z,29nm,0.4s
MIB Mutribah 77.09 297 *e*P **P 02 04 53.8 -1.1**
MIB AMb AMB 02 04 54.6
comp=Z,41nm,0.5s
KBD Kabd 77.14 296 *e*P **P 02 04 54.2 -0.9**
KBD AMb AMB 02 04 55.1
comp=Z,32nm,0.5s
AKASG Malin Array Be 77.34 323 P **P 02 04 55.1 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 77.34 323 P **P 02 04 55.1 -0.7**
AKASG Malin Array Be 77.34 323 P **P 02 04 55.1 -0.7**
comp=Z,1.6nm,0.3s,baz=47,slow=5.9,SNR=2.9
KIEV Kiev 77.35 323 *e*P **P 02 04 55.1 -0.8**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 77.35 323 *e*P **P 02 04 55.1 -0.8**
comp=Z,3.4nm,0.6s
RDF Al-Radifah 77.37 296 *e*P **P 02 04 55.6 -0.8**
RDF AMb AMB 02 04 56.6
comp=Z,60nm,0.7s
NAY Al-Naaiem 77.44 297 *e*P **P 02 04 55.8 -1.0**
NAY AMb AMB 02 04 56.6
comp=Z,22nm,0.5s
LRM Limekiln Ridge 77.68 43 *e*P **P 02 04 59.0 +0.8**
comp=Z,36nm,0.7s
HLID Hailey 77.78 46 *e*P **P 02 05 00.1 +1.4**
comp=Z,2.2nm,1.0s
NB2 NORSAR Subarra 77.92 337 P **P 02 04 58.1 -0.9**
comp=Z,9.6nm,1.1s,baz=41,slow=5.9
NOA NORSAR Array B 77.92 337 P **P 02 04 58.3 -0.6**
NOA NORSAR Array B 77.92 337 P **P 02 04 58.3 -0.6**
comp=Z,5.1nm,0.9s,baz=41,slow=5.4,SNR=9.8
NVAR Mina Array Bea 78.09 52 P **P 02 05 01.2 +0.6**
NVAR Mina Array Bea 78.09 52 P **P 02 05 01.2 +0.6**
comp=Z,1.5nm,0.7s,baz=296,slow=5.5,SNR=11
FCC Fort Churchill 78.14 26 *e*P **P 02 04 59.5 -0.6**
FCC Fort Churchill 78.14 26 *e*P **P 02 04 59.5 -0.6**
comp=Z,0.3nm,0.9s
BOZ Bozeman (W) 78.25 43 *e*P **P 02 05 02.4 +1.1**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 78.25 43 *e*P **P 02 05 02.4 +1.1**
comp=Z,2.2nm,0.8s
HWUT Hardware Ranch 80.62 46 *e*P **P 02 05 15.2 +1.0**
comp=Z,6.2nm,1.3s
DUG Dugway 80.66 48 *e*P **P 02 05 15.7 +1.2**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway 80.66 48 *e*P **P 02 05 15.7 +1.2**
comp=Z,2.8nm,0.8s
PDAR Pinedale Array 81.14 45 P **P 02 05 17.2 +0.1**
PDAR Pinedale Array 81.14 45 P **P 02 05 17.2 +0.1**
comp=Z,0.8nm,0.7s,baz=270,slow=1.8,SNR=7.6
TESR Tescani 81.25 320 ⇓*i*P **P 02 05 17.2 -0.1**
BR131 Keskin Array S 81.26 312 *e*P **P 02 05 17.6 -0.1**
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 81.26 312 P **P 02 05 17.4 -0.1**
BRTR Keskin Array B 81.26 312 P **P 02 05 17.4 -0.1**
comp=Z,8.3nm,0.9s,baz=101,slow=3.1,SNR=33
CFR Carcaliu 81.27 319 ⇑P **P 02 05 17.3 0.0**
CFR Carcaliu 81.27 319 ⇑*i*P **P 02 05 17.3 0.0**
KWP Kalwaria Pacla 81.28 324 ⇑P **P 02 05 18.0 +0.7**
KWP Kalwaria Pacla 81.28 324 ⇑*i*P **P 02 05 18.0 +0.7**
KWP Kalwaria Pacla 81.28 324 *e*P **P 02 05 17.3 -0.1**
comp=Z,15nm,0.9s
KWP Kalwaria Pacla 81.28 324 *e*P **P 02 05 17.7 +0.4**
BUR08 Bucovina Ar. S 81.31 322 *e*P **P 02 05 17.3 -0.3**
BURAR Bucovina Array 81.32 322 ⇓P P 02 05 12.5 -5.3
BURAR Bucovina Array 81.32 322 ⇓*i*P P 02 05 12.4 -5.3
VRI Vrincioaia 81.62 320 ⇑P **P 02 05 20.3 +1.1**
VRI Vrincioaia 81.62 320 ⇑*i*P **P 02 05 20.3 +1.1**
PLOR Plostina 81.67 320 ⇑P **P 02 05 20.0 +0.5**
PLOR Plostina 81.67 320 ⇑*i*P **P 02 05 20.0 +0.5**
KOLS Kolonicke sedl 81.95 324 *e*P **P 02 05 21.3 +0.4**
KOLS pmax pmax
comp=Z,21nm,2.4s
KOLS Kolonicke sedl 81.95 324 *e*P **P 02 05 21.3 +0.4**
PFO Pinyon Flat Ob 81.97 55 *e*P **P 02 05 21.7 +0.2**
comp=Z,9.0nm,1.4s
MVU Marysvale 82.02 49 *e*P **P 02 05 23.0 +1.2**
comp=Z,3.5nm,0.9s
MSU Marysvale 82.04 49 *e*P **P 02 05 23.2 +1.4**
MSU pmax pmax
comp=Z,2.0nm,0.7s
MSU Marysvale 82.04 49 *e*P **P 02 05 23.2 +1.4**
comp=Z,2.2nm,0.7s
STHS Stebnicka Huta 82.13 325 *e*P **P 02 05 22.6 +0.7**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 82.13 325 *e*P **P 02 05 22.6 +0.7**
TRPA Tarpa 82.35 323 ⇑*i*P **P 02 05 24.3 +1.3**
CRVS Cervenica-Dubn 82.37 324 *e*P **P 02 05 26.0 +2.9**
CRVS pmax pmax
comp=Z,6.0nm,1.5s
CRVS Cervenica-Dubn 82.37 324 *e*P **P 02 05 26.0 +2.9**
SRU San Rafael 82.73 48 *e*P **P 02 05 26.3 +0.9**
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael 82.73 48 *e*P **P 02 05 26.3 +0.9**
comp=Z,7.7nm,0.7s
VOIR 82.80 320 ⇓⇓P **P 02 05 27.7 +2.2**
VOIR 82.80 320 ⇓⇓*i*P **P 02 05 27.7 +2.2**
ARR Arges 83.07 320 ⇑⇑*i*P **P 02 05 28.1 +1.2**
KECS Kecovo 83.13 325 *e*P P 02 05 23.9 -3.1
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 83.13 325 *e*P P 02 05 23.9 -3.1
DRGR 83.15 322 ⇓⇓P **P 02 05 27.3 0.0**
DRGR 83.15 322 ⇓⇓*i*P **P 02 05 27.3 0.0**
LOT Lotru 83.48 321 ⇓⇓*i*P **P 02 05 29.7 +0.7**
MORC Moravsky Berou 83.63 327 *e*P **P 02 05 29.6 0.0**
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 83.63 327 *e*P **P 02 05 29.6 0.0**
comp=Z,4.5nm,0.9s
DPC Dobruska-Polom 83.78 328 *e*P **P 02 05 30.8 +0.4**
DPC Dobruska-Polom 83.78 328 *e*P **P 02 05 30.8 +0.4**
PSZ Piszkesteto 83.81 324 ⇑P **P 02 05 31.2 +0.6**
PSZ Piszkesteto 83.81 324 ⇑*i*P **P 02 05 31.2 +0.6**
PSZ Piszkesteto 83.81 324 *e*P **P 02 05 30.8 +0.2**
comp=Z,9.2nm,1.1s
UPC Upice 83.81 328 *e*P **P 02 05 30.8 +0.3**
UPC Upice 83.81 328 *e*P **P 02 05 30.8 +0.3**
CSS Prodhromos 84.23 308 *e*P **P 02 05 32.6 -0.3**
comp=Z,8.2nm,0.8s
WUAZ Wupatki 84.31 51 *e*P **P 02 05 34.2 +0.7**
comp=Z,5.1nm,0.9s
PVCC Panska Ves 84.43 329 *e*P **P 02 05 34.0 +0.4**
PVCC Panska Ves 84.43 329 *e*P **P 02 05 34.0 +0.4**
PVCC *e*PCP **PcP 02 05 37.9 +0.7**
BRG Berggiesshubel 84.45 329 *i* P **P 02 05 33.7 0.0**
comp=Z,3.9nm,0.7s
BRG *e* 02 05 36.9
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 84.45 329 *i* P **P 02 05 33.7 0.0**
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 84.53 330 ⇓⇓*i*P **P 02 05 33.6 -0.5**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 84.53 330 ⇓⇓*i*P **P 02 05 33.6 -0.5**
comp=Z,11nm,1.0s
CLL *i* PcP **PcP 02 05 37.1 -0.5**
PV01 Paradox Valley 84.54 48 *e*P **P 02 05 35.4 +0.6**
comp=Z,1μm,1.1s
SMOL Smolenice 84.58 326 *e*P **P 02 05 34.2 -0.2**
SMOL Smolenice 84.58 326 *e*P **P 02 05 34.2 -0.2**
PRU Pruhonice 84.83 328 *e*P **P 02 05 35.8 +0.1**
PRU MLR MLR
comp=Z,200nm,23.8s
PRU Pruhonice 84.83 328 *e*P **P 02 05 35.8 +0.1**
PRU *e*PCP **PcP 02 05 39.3 +0.3**
PRU *e*pP **pP 02 05 56.7 +4.7**
PRU AMS AMS 02 46 20.0
comp=Z,200nm,23.8s
SMCO Snowmass 84.88 46 *e*P **P 02 05 36.9 +0.2**
comp=Z,5.1nm,0.9s
TREC Trest 84.92 328 *e*P **P 02 05 36.1 0.0**
TREC Trest 84.92 328 *e*P **P 02 05 36.1 0.0**
ISCO Idaho Springs 85.31 45 *e*P **P 02 05 39.8 +1.1**
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 85.31 45 *e*P **P 02 05 39.8 +1.1**
comp=Z,1.5nm,0.8s
KHC Kasperske Hory 85.89 328 *e*P **P 02 05 41.0 0.0**
KHC MLR MLR
comp=Z,200nm,21.2s
KHC Kasperske Hory 85.89 328 *e*P **P 02 05 41.0 0.0**
KHC *e*pP **pP 02 06 00.4 +3.0**
KHC AMS AMS 02 51 10.0
comp=Z,200nm,21.2s
KHC Kasperske Hory 85.89 328 *e*P **P 02 05 40.0 -1.1**
comp=Z,1.8nm,0.7s
GERES GERESS Array B 86.05 328 P **P 02 05 41.4 -0.5**
GERES pP **pP 02 06 01.8 +3.5**
GERES P **PP 02 09 02.0 +0.1**
GERES GERESS Array B 86.05 328 P **P 02 05 41.4 -0.5**
comp=Z,1.5nm,0.8s,baz=39,slow=6.3,SNR=11
GERES pP **pP 02 06 01.8 +3.5**
comp=Z,0.9nm,0.6s,baz=32,slow=6.3,SNR=3.8
GERES PP **PP 02 09 02.0 +0.1**
comp=Z,0.7nm,0.7s,baz=50,slow=6.5,SNR=4.7
ECSD EROS Data Cent 87.69 38 *e*P **P 02 05 49.2 -0.7**
comp=Z,3.5nm,1.1s
GIVF Givet 88.73 333 *e*P **P 02 05 52.3 -2.3**
BAIF Baives 89.00 334 *e*P **P 02 05 54.2 -1.7**
CDF Champ du Feu 89.12 331 *e*P **P 02 05 55.4 -1.2**
PAGF Fort de Pagny 89.63 332 *e*P **P 02 05 58.1 -0.8**
SCHQ Schefferville 89.65 15 P **P 02 05 59.1 +0.3**
SCHQ Schefferville 89.65 15 P **P 02 05 59.1 +0.3**
comp=Z,2.6nm,0.8s,baz=28,slow=7.3,SNR=4.0
MEZF Maizieres J'vi 89.94 332 *e*P **P 02 05 59.6 -0.7**
CABF La Chapelle 91.05 331 *e*P **P 02 06 04.9 -0.7**
LOR Lormes 91.41 332 *e*P **P 02 06 06.2 -1.0**
LPL La Plagne 91.65 330 *e*P **P 02 06 07.7 -0.9**
comp=Z,8.0nm,1.0s
LPG La Plagne 91.65 330 *e*P **P 02 06 07.9 -0.8**
comp=Z,10nm,1.0s
SSF Saint Saulge 91.72 332 *e*P **P 02 06 07.8 -0.8**
FLN La Foliniere 91.78 335 *e*P **P 02 06 07.8 -1.1**
comp=Z,28nm,1.3s
LDF La Druitiere 91.80 335 *e*P **P 02 06 07.7 -1.2**
comp=Z,13nm,0.9s
SMF Signal de Mont 91.93 332 *e*P **P 02 06 08.5 -1.1**
AVF Avril sur Loir 92.00 332 *e*P **P 02 06 09.0 -0.9**
BNI Bardonecchia 92.04 329 *e*P **P 02 06 11.0 +0.7**
BNI pmax pmax
comp=Z,4.0nm,0.9s
BNI Bardonecchia 92.04 329 *e*P **P 02 06 11.0 +0.7**
comp=Z,3.6nm,0.9s
GRR Gorron 92.23 335 *e*P **P 02 06 10.0 -0.9**
MBDF Montbardon 92.26 329 *e*P **P 02 06 09.8 -1.6**
comp=Z,4.3nm,0.6s
BGF Bois d'Agland 92.39 332 *e*P **P 02 06 10.4 -1.4**
ORIF Oris-en-Rattie 92.49 330 *e*P **P 02 06 11.4 -0.9**
comp=Z,7.3nm,0.9s
SBF Sospel 92.65 328 *e*P **P 02 06 11.3 -1.8**
comp=Z,5.9nm,0.7s
TCF Toulx Ste Croi 92.86 333 *e*P **P 02 06 13.2 -0.8**
comp=Z,16nm,1.3s
VIVF Saint-Julien-l 93.05 330 *e*P **P 02 06 13.9 -0.9**
comp=Z,12nm,1.0s
FRF La Foret Royal 93.24 328 *e*P **P 02 06 13.9 -1.8**
TXAR Lajitas Array 93.25 52 P **P 02 06 17.1 +0.9**
TXAR Lajitas Array 93.25 52 P **P 02 06 17.1 +0.9**
comp=Z,5.1nm,0.7s,baz=298,slow=3.2,SNR=86
LMR La Mourre 93.48 328 *e*P **P 02 06 15.3 -1.5**
comp=Z,2.6nm,0.6s
LASF Ste Croix 94.02 330 *e*P **P 02 06 18.6 -0.7**
comp=Z,24nm,1.4s
CAF Calviac 94.05 332 *e*P **P 02 06 19.0 -0.5**
comp=Z,15nm,1.2s
LFF La Frestale 94.56 333 *e*P **P 02 06 21.1 -0.6**
ESDC Sonseca Array 100.86 333 PP PP 02 10 53.9 -3.8
ESDC Sonseca Array 100.86 333 PP PP 02 10 53.9 -3.8
comp=Z,0.2nm,0.3s,baz=19,slow=6.4,SNR=4.2
TORD Torodi Ar. Bea 119.86 312 PKP **PKPdf 02 11 51.0 -0.9**
TORD pPKP **pPKPdf 02 12 12.1 +3.1**
TORD Torodi Ar. Bea 119.86 312 PKP **PKPdf 02 11 51.0 -0.9**
comp=Z,0.5nm,0.7s,baz=39,slow=2.1,SNR=9.5
TORD pPKP **pPKPdf 02 12 12.1 +3.1**
comp=Z,0.3nm,0.5s,baz=53,slow=1.3,SNR=2.2
SAML Samuel 147.66 48 *e*PKPbc **PKPbc 02 12 46.0 -0.1**
LPAZ La Paz 149.25 65 *e*PKPbc **PKPbc 02 12 51.3 +0.4**
LPAZ La Paz 149.25 65 PKPbc **PKPbc 02 12 51.7 +0.8**
comp=Z,3.6nm,0.5s,baz=311,slow=4.9,SNR=21
LVC Limon Verde 152.02 76 *e*PKPdf **PKPdf 02 12 52.0 +1.7**
LVC *e*PKPbc **PKiKP 02 12 58.3 +1.0**
CPUP Villa Florida 163.10 73 *e*PKPdf **PKPdf 02 13 04.3 +0.7**
CPUP PKPab **PKPab 02 13 53.5 -0.3**
CPUP *e*PKPab PKPab 02 13 54.0 +0.2
CPUP Villa Florida 163.10 73 PKPab **PKPab 02 13 53.5 -0.3**
comp=Z,1.2nm,0.6s,baz=73,slow=1.8,SNR=4.5

KRSC 13 02:18:17.0±0.6, 53°.38N×160°.80E, h43km±43km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.55**	**239**	P	Pn	02 18 29.4	+1.0
SPN				S	Sn	02 18 38.1	+1.5
KII	**Karymskiy**	**1.04**	**310**	P	Pn	02 18 35.6	+0.4
KII				S	Sn	02 18 49.0	+0.4
SDLR	**Sedlovina**	**1.15**	**266**	P	Pn	02 18 37.7	+0.9
SDLR				S	Sn	02 18 52.9	+1.4
UGLR	**Uglovaya**	**1.20**	**263**	P	Pn	02 18 38.7	+1.3
UGLR				S	Sn	02 18 54.2	+1.6
SMAR	**Somma**	**1.21**	**265**	P	Pn	02 18 38.6	+0.9
SMAR				S	Sn	02 18 54.0	+1.0
KRER	**Koryakskii**	**1.23**	**267**	P	Pn	02 18 39.1	+1.1
KRER				S	Sn	02 18 55.0	+1.4
AVH	**Avacha**	**1.24**	**266**	P	Pn	02 18 39.1	+1.1
AVH				S	Sn	02 18 54.9	+1.3
MKZ	**Mys Kozlova**	**1.30**	**25**	P	Pn	02 18 39.2	+0.6
MKZ				S	Sn	02 18 55.4	+0.6
KOK	**Koryaka**	**1.30**	**267**	P	Pn	02 18 39.7	+0.9
KOK				S	Sn	02 18 56.0	+0.9
PET	**Petropavlovsk**	**1.34**	**255**	P	Pn	02 18 40.2	+1.0
PET				S	Sn	02 18 56.8	+1.0
RUS	**Russkaya**	**1.68**	**237**	P	Pn	02 18 44.7	+0.9
RUS				S	Sn	02 19 04.6	+0.5
GNL	**Ganaly**	**1.73**	**282**	P	Pn	02 18 45.9	+1.1
GNL				S	Sn	02 19 07.2	+1.4
MTVR	**Mutnovka**	**1.82**	**241**	P	Pn	02 18 47.4	+1.4
MTVR				S	Sn	02 19 09.0	+1.0
GRL	**Gorelyy**	**1.85**	**244**	P	Pn	02 18 47.8	+1.5
TUMR	**Tumrok**	**1.94**	**349**	P	Pn	02 18 49.3	+1.6
TUMR				S	Sn	02 19 12.9	+1.9
ASAK	**Asacha**	**2.02**	**242**	P	Pn	02 18 50.5	+1.8
ASAK				S	Sn	02 19 15.1	+2.3
APC	**Apacha**	**2.24**	**260**	P	Pn	02 18 53.7	+2.2
APC				S	Sn	02 19 20.4	+2.5
KMNR	**Kamenistaya**	**2.40**	**352**	P	Pn	02 18 56.4	+2.4
KMNR				S	Sn	02 19 25.0	+2.8
ESO	**Esso**	**2.83**	**335**	P	Pn	02 19 01.2	+1.5
KBTR	**Krutoberegovo**	**3.07**	**22**	P	Pn	02 19 03.6	+0.7
KBTR				S	Sn	02 19 38.5	+0.2
SRKR	**Sorokina**	**3.29**	**4**	S	Sn	02 19 45.8	+1.9
BKI	**Bering**	**3.54**	**57**	S	Sn	02 19 45.9	-4.0

*IDC **13** 02:19:59.9±1.1, 13°.89N×92°.70E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/28, mbtmp3.9/10, ML4.2/1, MS3.5/3, Ms1 3.6/3, ms1mx3.2/41, Error ellipse: s-maj=39.1km s-min=18.8km az=56.0*
*ISCJB **13** 02:20:03.2±0.7, 14°.27N±0°.07×92°.90E±0°.07, h32km, mb3.9/9, MS4.0/1, Error ellipse: s-maj=11.3km s-min=8.5km az=44.9*
ISC 13 02:20:05.7±0.9, 14°.22N±0°.09×92°.9E±0°.1, h32km, n19, σ1 77/18, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.21**	**53**	Pn	**Pn**	**02 21 50.5**	**+1.5**
	1.1nm,0.3s,baz=241,slow=16,SNR=5.5						
CMAR				Sn	**Sn**	**02 23 07.7**	**-2.2**
	1.1nm,0.3s,baz=240,slow=26,SNR=6.4						
CMAR				LR	LR	02 25 26.6	
	comp=Z,105nm,18.3s,baz=345,slow=44						
PSI	**Prapat**	**12.83**	**152**	Pn	**Pn**	**02 23 06.7**	**+0.6**
	baz=327,slow=16,SNR=5.2						
PSI				LR	LR	02 28 21.3	
	comp=Z,267nm,19.1s,baz=235,slow=39						
ODAN	**Odare**	**13.57**	**339**	*e*P	**Pn**	**02 23 14.7**	**-1.6**
	5.8nm,0.2s						
TAPN	**Taplejung**	**13.92**	**341**	*e*P	**Pn**	**02 23 19.7**	**-1.4**
RAMN	**Ramite**	**13.95**	**336**	*e*P	**Pn**	**02 23 19.6**	**-1.9**
	14nm,0.4s						
PKI	**Pulchoki**	**14.99**	**334**	*e*P	**Pn**	**02 23 32.8**	**-2.9**
PKIN	**Phulchoki**	**15.00**	**334**	*e*P	Pn	02 23 32.8	-2.9
	18nm,0.6s						
DMN	**Daman**	**15.15**	**333**	*e*P	**Pn**	**02 23 35.5**	**-2.3**
	27nm,0.9s						
KOLN	**Koldanda**	**16.00**	**329**	*e*P	**Pn**	**02 23 48.0**	**-0.7**
	23nm,0.6s						
MKAR	**Makanchi Array**	**33.66**	**347**	P	**P**	**02 26 45.5**	**+1.9**
	1.3nm,0.7s,baz=165,slow=7.1,SNR=6.6						
SONM	**Songino Array**	**35.36**	**16**	P	**P**	**02 27 00.6**	**+2.1**
	0.8nm,0.6s,baz=197,slow=9.9,SNR=6.7						
KURBB	**Kurchatov Arra**	**38.13**	**345**	P	**P**	**02 27 23.2**	**+1.4**
	1.4nm,0.5s,baz=160,slow=8.0,SNR=9.9						
ZALV	**Zalesovo Beam**	**40.14**	**353**	P	**P**	**02 27 39.3**	**+0.7**
	1.7nm,0.6s,baz=174,slow=8.6,SNR=8.0						
WRA	**Warramunga Arr**	**53.08**	**129**	P	**P**	**02 29 18.4**	**-2.1**
	0.5nm,0.7s,baz=306,slow=8.2,SNR=6.0						
ASAR	**Alice Springs**	**55.03**	**133**	P	**P**	**02 29 33.2**	**-1.4**
	0.6nm,0.6s,baz=312,slow=6.9,SNR=9.0						
BRTR	**Keskin Array B**	**57.44**	**308**	P	**P**	**02 29 51.6**	**-0.1**
	0.7nm,0.8s,baz=98,slow=7.2,SNR=4.4						
FINES	**FINESS Array B**	**66.56**	**331**	P	**P**	**02 30 52.5**	**0.0**
	0.9nm,0.6s,baz=155,slow=4.6,SNR=3.7						
ARCES	**ARCESS Array B**	**68.91**	**340**	P	**P**	**02 31 07.7**	**+0.5**
	2.1nm,0.8s,baz=96,slow=7.3,SNR=4.6						
HFS	**Hagfors**	**72.39**	**329**	LR	LR	03 08 22.7	
	comp=Z,83nm,20.0s,baz=83,slow=40						

*ISCJB **13** 02:20:11.4±0.6, 26°.8S±0°.1×114°.6W±0°.2, h10km, mb4.1/13, MS3.8/3, Error ellipse: s-maj=29.7km s-min=15.7km az=171.9*
*IDC **13** 02:20:11.3±1.0, 26°.75S×114°.50W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/17, mbtmp3.9/7, MS3.8/3, Ms1 3.8/3, ms1mx3.5/23, Error ellipse: s-maj=39.8km s-min=32.9km az=116.0*
*NEIC **13** 02:20:12.7±0.6, 26°.86S×114°.49W, h10km, mb4.5/6, Error ellipse: s-maj=22.7km s-min=18.0km az=98.0*
ISC 13 02:20:12.5±0.7, 26°.8S±0°.2×114°.6W±0°.2, h10km, n38, σ0 83/35, mb4.2/13, MS4.0/3, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**33.57**	**279**	LR	LR	02 37 26.5	
	comp=Z,56nm,21.0s,baz=104,slow=31						
LPAZ	**La Paz**	**44.26**	**86**	P	**P**	**02 28 23.1**	**-0.2**
LPAZ	**La Paz**	**44.26**	**86**	P	**P**	**02 28 23.1**	**-0.2**
	1.6nm,1.0s,baz=246,slow=7.3,SNR=3.5						
TXAR	**Lajitas Array**	**56.79**	**11**	P	**P**	**02 29 57.8**	**+0.8**
TXAR	**Lajitas Array**	**56.79**	**11**	P	**P**	**02 29 57.8**	**+0.8**
	0.5nm,0.8s,baz=185,slow=10.0,SNR=6.8						
SHPR	**Sheep Range**	**62.97**	**359**	*e*P	**P**	**02 30 41.3**	**+1.8**
	6.6nm,1.2s						
NVAR	**Mina Array Bea**	**64.98**	**357**	P	**P**	**02 30 54.0**	**+1.3**
NVAR	**Mina Array Bea**	**64.98**	**357**	P	**P**	**02 30 54.0**	**+1.3**
	1.7nm,0.9s,baz=166,slow=8.1,SNR=9.6						
SRU	**San Rafael**	**65.68**	**3**	*e*P	**P**	**02 30 57.8**	**+0.5**
	4.2nm,1.0s						
DUG	**Dugway**	**66.67**	**1**	*e*P	**P**	**02 31 04.6**	**+1.0**
	4.2nm,1.1s						
BCG	**Bois Riant Cap**	**66.81**	**57**	*e*P	P	02 30 59.0	-5.8
PDAR	**Pinedale Array**	**69.38**	**4**	P	**P**	**02 31 20.0**	**-0.6**
PDAR	**Pinedale Array**	**69.38**	**4**	P	**P**	**02 31 20.0**	**-0.6**
	1.4nm,0.9s,baz=168,slow=7.6,SNR=9.1						
RRI2	**Red Ridge**	**69.86**	**3**	*e*P	**P**	**02 31 23.3**	**-0.4**
	2.4nm,1.0s						
HLID	**Hailey**	**70.01**	**0**	*e*P	**P**	**02 31 25.6**	**+1.1**
	4.5nm,1.0s						
TPAW	**Teton Pass**	**70.02**	**3**	*e*P	**P**	**02 31 24.9**	**+0.3**
	3.4nm,1.0s						
VNA2	**Neumayer--Watz**	**70.33**	**161**	*e*P	**P**	**02 31 27.0**	**+1.0**

MCMT	McKenzie Canyo	71.30	1	eP	P	02 31 33.5	+1.1
SNAA	Sanae	71.31	162	eP	P	02 31 32.5	+0.5
NEW	Newport	74.75	358	LR	LR	03 00 49.6	
	comp=Z,73nm,18.5s,baz=296,slow=33						
DLBC	Dease Lake	85.88	352	eP	P	02 32 53.1	+1.0
STKA	Stephens Creek	86.89	236	P	P	02 32 58.2	+0.3
STKA	Stephens Creek	86.89	236	P	P	02 32 58.2	+0.3
	1.1nm,0.6s,baz=143,slow=5.1,SNR=3.5						
YKA	Yellowknife Ar	88.98	360	P	P	02 33 05.9	-1.0
YKA	Yellowknife Ar	88.98	360	P	P	02 33 05.9	-1.0
	0.8nm,0.7s,baz=167,slow=5.9,SNR=2.7						
ILAR	Eielson Array	94.66	347	P	P	02 33 32.6	-0.7
ILAR	Eielson Array	94.66	347	P	P	02 33 32.6	-0.7
	0.2nm,0.8s,baz=159,slow=3.8,SNR=3.2						
ILAR				LR	LR	03 08 40.3	
	comp=Z,61nm,18.0s,baz=120,slow=31						
SONM	Songino Array	141.80	314	PKPpre	PKPpre	02 39 40.4	
SONM	Songino Array	141.80	314	PKhKP	PKPpre	02 39 40.4	
	0.7nm,1.0s,baz=111,slow=3.2,SNR=2.7						
CMAR	Chiang Mai Arr	148.02	262	PKPbc	PKPab	02 40 00.9	-0.7
CMAR	Chiang Mai Arr	148.02	262	PKPbc	PKPab	02 40 00.9	-0.7
	0.8nm,0.3s,baz=107,slow=0.9,SNR=8.4						
ZALV	Zalesovo Beam	149.31	337	PKPbc	PKPbc	02 40 00.8	-0.4
ZALV	Zalesovo Beam	149.31	337	PKPbc	PKPbc	02 40 00.8	-0.4
	1.7nm,0.6s,baz=25,slow=2.3,SNR=9.7						
BR131	Keskin Array S	150.64	56	ePKPbc	PKPbc	02 40 05.1	0.0
BRTR	Keskin Array B	150.65	56	PKPbc	PKPbc	02 40 04.8	-0.4
BRTR	Keskin Array B	150.65	56	PKPbc	PKPbc	02 40 04.8	-0.4
	2.3nm,0.9s,baz=251,slow=1.8,SNR=11						
BVAR	Borovoye Array	153.54	353	PKPbc	PKPbc	02 40 11.2	+0.1
BVAR				PKPab	PKPab	02 40 22.2	-1.2
BVAR	Borovoye Array	153.54	353	PKPbc	PKPbc	02 40 11.2	+0.1
	0.8nm,0.4s,baz=336,slow=3.2,SNR=5.3						
BVAR				PKPab	PKPab	02 40 22.2	-1.2
	1.0nm,0.7s,baz=66,slow=3.5,SNR=4.9						

*IDC **13** 02:44:34.0±2.5, 32°.49N×140°.26E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.4/25, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=92.7km s-min=22.6km az=72.0*
*ISCJB **13** 02:44:39.4±1.0, 32°.80N±0°.05×140°.7E±0°.1, h72km±9km, mb3.4/3, Error ellipse: s-maj=15.1km s-min=8.4km az=9.6*
*JMA **13** 02:44:40.8±0.2, 32°.87N×140°.72E, h60km, M3.7*
ISC 13 02:44:39.5±1.9, 32°.76N±0°.09×140°.8E±0°.1, h57km±17km, n16, σ1§02/24, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	0.90	291	P	Pn	02 44 56.6	+0.5
JHCJ				S	Sn	02 45 07.4	-0.9
JHJ2	Mitsune	0.90	293	P	Pn	02 44 56.7	+0.6
JHJ2				S	Sn	02 45 07.5	-0.8
BSO1	Boso 1	1.90	4	P	Pn	02 45 09.5	+0.5
BSO1				S	Sn	02 45 32.1	+0.6
JKO	Kozu shima	1.99	316	P	Pn	02 45 11.3	+0.5
BSO3	Boso 3	2.05	353	P	Pn	02 45 11.9	+0.5
BSO3				S	Sn	02 45 35.6	-0.1
JIM2	Oshima 3	2.26	330	P	Pn	02 45 14.6	+0.1
JIM2				eS	Sn	02 45 39.8	-1.4
JIZS	Izushimoda	2.52	321	P	Pn	02 45 19.0	+0.9
TK02	Tokai 2	2.81	296	P	Pn	02 45 23.2	+1.5
JOD2	Odawara 2	2.87	331	P	Pn	02 45 23.2	+0.3
JOD2				S	Sn	02 45 54.3	-1.9
TK04	Tokai 4	2.93	304	P	Pn	02 45 25.1	+1.6
SHZ3	Shizuoka 3	3.15	318	P	Pn	02 45 28.7	+2.0
MJAR	Matsushiro Arr	4.33	331	Pn	Pn	02 45 43.5	+0.6
	1.5nm,0.3s,baz=162,slow=14,SNR=16						
MJAR				Sn	Sn	02 46 32.4	+0.2
	1.1nm,0.3s,baz=151,slow=24,SNR=4.9						
MAT	Matsushiro	4.34	331	P	Pn	02 45 43.8	+0.9
MAT				S	Sn	02 46 32.8	+0.6
MKAR	Makanchi Array	46.07	306	P	P	02 52 57.2	-0.5
	0.2nm,0.4s,baz=74,slow=11,SNR=2.9						
WRA	Warramunga Arr	52.77	188	P	P	02 53 48.2	-0.6
	0.2nm,0.3s,baz=6.0,slow=7.5,SNR=8.0						
ASAR	Alice Springs	56.49	188	P	P	02 54 16.0	+0.2
	0.1nm,0.3s,baz=10,slow=5.7,SNR=3.7						

*IDC **13** 02:51:28.5±0.8, 3°.18S×135°.67E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=43.8km s-min=17.4km az=76.0*
*ISCJB **13** 02:51:29.7±0.4, 3°.37S±0°.03×135°.74E±0°.05, h22km, mb3.8/6, MS3.5/2, Error ellipse: s-maj=7.2km s-min=4.4km az=174.1*
*DJA **13** 02:51:31.6±1.6, 3°.S±8°.×13°.6E±°., h22km±26km, M4.5/4, mb5.0/1, mB5.5/1, MLv4.2/4, Mw(mB)5.0/1*
*NEIC **13** 02:51:33.9±0.8, 3°.39S×135°.48E, h35km, mb4.2/3, Error ellipse: s-maj=25.0km s-min=12.8km az=81.0*
*AUST **13** 02:51:34.5, 3°.46S×135°.52E, h35km*
ISC 13 02:51:31.6±0.6, 3°.28S±0°.05×135°.73E±0°.06, h22km, n42, σ1§24/47, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.49	20	P	Pn	02 51 56.5	-0.6
BAKI	Biak	2.11	10	P	Pn	02 52 05.9	+0.3
BAKI				S	Sn	02 52 32.1	+0.9
RKPI	Ransiki, Papua	2.34	319	P	Pn	02 52 08.7	-0.2
RKPI				S	Sn	02 52 38.8	+1.8
FAKI	Fak Fak	3.49	276	P	Pn	02 52 25.2	+0.5
FAKI	Fak Fak	3.49	276	P	Pn	02 52 24.6	-0.1
	baz=3.3,SNR=11						
FAKI				S	Sn	02 53 06.1	+0.7
	baz=3.3,SNR=5.7						
SWI	Sorong	5.07	298	P	Pn	02 52 45.9	-0.5
SWI	Sorong	5.07	298	P	Pn	02 52 46.7	+0.3
	baz=5.0,SNR=6.7						
SWI				S	Sn	02 53 41.6	-2.7
	baz=5.0,SNR=17						
KDU	Kakadu	9.89	199	P	Pn	02 53 53.8	+1.3
	baz=9.7,SNR=3.2						
MTN	Manton Dam	10.53	205	P	Pn	02 54 02.0	+0.6
	baz=10,SNR=6.6						
MTN				S	Sn	02 55 58.0	-0.8
	baz=10,SNR=3.7						
COEN	Coen	12.91	146	P	Pn	02 54 33.7	-0.2
	baz=13,SNR=9.9						
COEN				S	Sn	02 56 50.2	-6.8
	baz=13,SNR=4.6						
KNRA	Kununurra	14.10	209	P	Pn	02 54 50.2	+0.1
	baz=14,SNR=3.9						
KNRA				S	Sn	02 57 17.2	-8.8
	baz=14,SNR=8.5						
WRAB	Tennant Creek	16.61	185	ePn	Pn	02 55 19.8	-3.4
	26nm,0.8s						
WRA	Warramunga Arr	16.62	185	Pn	Pn	02 55 19.8	-3.5
WRA				Sn	Sn	02 58 14.6	-13
WRA	Warramunga Arr	16.62	185	Pn	Pn	02 55 19.8	-3.5
	0.4nm,0.3s,baz=5.8,slow=13,SNR=15						
WRA				Sn	Sn	02 58 14.6	-13
	0.4nm,0.3s,baz=10,slow=23,SNR=8.4						
MTSU	Mount Surprise	16.99	151	P	Pn	02 55 27.2	-0.8
	baz=17,SNR=5.3						
FITZ	Fitzroy Crossi	17.74	213	P	Pn	02 55 36.3	-1.0
FITZ				S	Sn	02 58 40.2	-14
FITZ	Fitzroy Crossi	17.74	213	P	Pn	02 55 36.3	-1.0
	0.3nm,0.3s,baz=34,slow=12,SNR=14						
FITZ				S	Sn	02 58 40.2	-14
	0.5nm,0.3s,baz=180,slow=13,SNR=12						
FITZ	Fitzroy Crossi	17.74	213	P	Pn	02 55 36.7	-0.7
	baz=18,SNR=5.0						
CTA	Charters Tower	19.61	149	P	Pn	02 56 01.2	+1.2
CTA	Charters Tower	19.61	149	P	Pn	02 56 01.2	+1.2
	0.6nm,0.3s,baz=338,slow=5.4,SNR=14						
CTAO	Charters Tower	19.61	149	eP	P	02 55 59.2	+0.6
	14nm,0.9s						
AS31	Alice Springs	20.34	185	eP	P	02 56 07.6	+1.0
ASAR	Alice Springs	20.34	185	P	P	02 56 07.7	+1.0
ASAR				S	S	02 59 46.2	-7.7
ASAR	Alice Springs	20.34	185	P	P	02 56 07.7	+1.0
	22nm,0.8s,baz=11,slow=10,SNR=137						
ASAR				S	S	02 59 46.2	-7.7
	0.9nm,0.7s,baz=8.2,slow=27,SNR=4.7						
ASAR				LR	LR	03 04 36.7	
	comp=Z,168nm,18.2s,baz=77,slow=39						
MBWA	Marble Bar	23.62	220	eP	P	02 56 40.5	-0.8
	4.9nm,0.9s						
STKA	Stephens Creek	28.98	170	P	P	02 57 30.2	+0.5
STKA	Stephens Creek	28.98	170	P	P	02 57 30.2	+0.5
	1.8nm,0.7s,baz=348,slow=12,SNR=6.5						
STKA				LR	LR	03 09 28.6	
	comp=Z,117nm,20.0s,baz=213,slow=37						
STKA	Stephens Creek	28.98	170	P	P	02 57 30.4	+0.7
	baz=29,SNR=4.7						
SONM	Songino Array	57.02	337	P	P	03 01 15.5	-0.4
SONM	Songino Array	57.02	337	P	P	03 01 15.5	-0.4
	0.2nm,0.5s,baz=160,slow=4.6,SNR=2.5						
MKAR	Makanchi Array	68.45	324	P	P	03 02 32.1	+0.1
MKAR	Makanchi Array	68.45	324	P	P	03 02 32.1	+0.1
	0.9nm,0.7s,baz=115,slow=8.1,SNR=11						
ZALV	Zalesovo Beam	70.96	331	P	P	03 02 47.4	+0.1
ZALV	Zalesovo Beam	70.96	331	P	P	03 02 47.4	+0.1
	0.5nm,0.4s,baz=108,slow=4.7,SNR=3.2						
ILAR	Eielson Array	87.59	25	P	P	03 04 16.9	-1.0
ILAR	Eielson Array	87.59	25	P	P	03 04 16.9	-1.0
	0.7nm,0.5s,baz=260,slow=4.4,SNR=18						
TORD	Torodi Ar. Bea	133.54	285	PKP	PKPdf	03 10 47.7	+0.2
TORD	Torodi Ar. Bea	133.54	285	PKP	PKPdf	03 10 47.7	+0.2
	0.3nm,0.6s,baz=74,slow=1.6,SNR=3.2						
CPUP	Villa Florida	147.97	158	PKPbc	PKPbc	03 11 16.1	+0.1
CPUP	Villa Florida	147.97	158	PKPbc	PKPbc	03 11 16.1	+0.1
	1.8nm,0.6s,baz=225,slow=1.4,SNR=7.4						
LPAZ	La Paz	149.43	130	PKPbc	PKPbc	03 11 21.8	+0.9
LPAZ	La Paz	149.43	130	PKPbc	PKPbc	03 11 21.8	+0.9
	0.7nm,0.5s,baz=300,slow=2.5,SNR=6.0						

*ISCJB **13** 03:09:24.1±0.5, 34°.82N±0°.03×19°.19E±0°.05, h10km, Error ellipse: s-maj=6.0km s-min=4.2km az=19.8*
*CSEM **13** 03:09:27.3±0.2, 34°.70N×19°.21E, h30km, ML2.6, Error ellipse: s-maj=6.0km s-min=4.2km az=110.0*
*THE **13** 03:09:29.0, 34°.83N×19°.32E, h31km±56km, ML3.1/5, Error ellipse: s-maj=56.3km s-min=2.3km az=0.0*
*ATH **13** 03:09:30.5, 34°.95N×19°.71E, h25km±6km, MD3.9/21*
ISC 13 03:09:26.0±1.3, 34°.79N±0°.05×19°.33E±0°.06, h10km, n106, σ1§87/145, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	2.88	42	P	Pn	03 10 11.8	-0.1
PYL				S	Sn	03 10 47.2	+0.7
PYL	PYLOS	2.88	42	ePN	Pn	03 10 11.9	0.0
PYL				eSN	Sn	03 10 43.0	-3.5
PYL	PYLOS	2.88	42	ePn	Pn	03 10 11.9	0.0
PYL				eSn	Sn	03 10 43.0	-3.5
PYL				S	Sn	03 10 47.2	+0.7
DYR	Agios Nikonas	3.14	50	P	Pn	03 10 15.4	-0.1
DYR				S	Sn	03 10 52.0	-1.1
DYR	Agios Nikonas	3.14	50	ePN	Pn	03 10 15.4	-0.1
DYR				eSN	Sn	03 10 50.0	-3.1
DYR	Agios Nikonas	3.14	50	P	Pn	03 10 15.4	-0.1
DYR				eSn	Sn	03 10 50.0	-3.1
DYR				S	Sn	03 10 52.0	-1.1
ITM	Ithomi	3.18	41	P	Pn	03 10 16.5	+0.3
ITM				S	Sn	03 10 53.0	-1.2
ITM	Ithomi	3.18	41	ePN	Pn	03 10 16.0	-0.2
ITM				eSN	Sn	03 10 51.1	-3.1
ITM	Ithomi	3.18	41	ePn	Pn	03 10 16.0	-0.2
ITM	Ithomi	3.18	41	P	Pn	03 10 16.5	+0.3
ITM				eSn	Sn	03 10 51.1	-3.1
ITM				S	Sn	03 10 53.0	-1.2
AMT	Artemida-Makis	3.35	34	P	Pn	03 10 19.1	+0.7
AMT				S	Sn	03 10 57.8	-0.5
AMT	Artemida-Makis	3.35	34	ePN	Pn	03 10 20.1	+1.7
AMT				eSN	Sn	03 10 55.0	-3.3
AMT	Artemida-Makis	3.35	34	P	Pn	03 10 19.1	+0.7
AMT	Artemida-Makis	3.35	34	ePn	Pn	03 10 20.1	+1.7
AMT				eSn	Sn	03 10 55.0	-3.3
AMT				S	Sn	03 10 57.8	-0.5
KYTH	Kithira	3.37	63	ePN	Pn	03 10 19.1	+0.4
KYTH	Kithira	3.37	63	ePn	Pn	03 10 19.1	+0.4
ANKY	Antikythira Is	3.42	71	ePN	Pn	03 10 20.1	+0.7
ANKY	Antikythira Is	3.42	71	ePn	Pn	03 10 20.1	+0.7
VLI	Veliai	3.51	56	P	Pn	03 10 21.4	+0.8
VLI				S	Sn	03 11 01.5	-0.7
VLI	Veliai	3.51	56	ePN	Pn	03 10 21.5	+0.8
VLI	Veliai	3.51	56	P	Pn	03 10 21.4	+0.8
VLI				S	Sn	03 11 01.5	-0.7
KFL	Anninata	3.52	19	P	Pn	03 10 20.7	0.0
KFL				S	Sn	03 11 01.6	-0.8
KFL	Anninata	3.52	19	P	Pn	03 10 20.7	0.0
KFL				S	Sn	03 11 01.6	-0.8
VLS	Valsamata	3.53	16	P	Pn	03 10 20.8	-0.1
VLS				S	Sn	03 11 00.9	-1.9
VLS	Valsamata	3.53	16	ePN	Pn	03 10 20.9	0.0
VLS	Valsamata	3.53	16	ePn	Pn	03 10 20.9	0.0
VLS				S	Sn	03 11 00.9	-1.9
VLX	Vlachokerasia	3.57	43	P	Pn	03 10 22.3	+0.7
VLX	Vlachokerasia	3.57	43	ePN	Pn	03 10 22.2	+0.7
VLX	Vlachokerasia	3.57	43	P	Pn	03 10 22.3	+0.7
RLS	Riolos of Patr	3.69	27	P	Pn	03 10 24.0	+0.9
RLS	Riolos of Patr	3.69	27	P	Pn	03 10 24.0	+0.9
AXS	Araxos	3.78	25	P	Pn	03 10 25.3	+1.0
AXS				S	Sn	03 11 09.0	+0.1
AXS	Araxos	3.78	25	P	Pn	03 10 25.3	+1.0
AXS				S	Sn	03 11 09.0	+0.1
KARN	Karanos	3.81	79	P	Pn	03 10 25.4	+0.6
KARN	Karanos	3.81	79	ePN	Pn	03 10 26.0	+1.2
KARN				eSN	Sn	03 11 06.2	-3.5
KARN	Karanos	3.81	79	P	Pn	03 10 25.4	+0.6
KARN	Karanos	3.81	79	ePn	Pn	03 10 26.0	+1.2
KARN				eSn	Sn	03 11 06.2	-3.5
LJBD	Adjabya	3.93	169	i P	Pn	03 10 23.9	-2.5
	SNR=48						
KLV	Kalavryta, Ach	3.97	34	ePN	Pn	03 10 28.9	+1.9
KLV	Kalavryta, Ach	3.97	34	ePn	Pn	03 10 28.9	+1.9
GUR	Goura	3.97	37	P	Pn	03 10 29.0	+1.9
GUR				S	Sn	03 11 14.1	+0.3
GUR	Goura	3.97	37	ePN	Pn	03 10 28.3	+1.2
GUR				eSN	Sn	03 11 09.3	-4.5
GUR	Goura	3.97	37	ePn	Pn	03 10 28.3	+1.2
GUR	Goura	3.97	37	P	Pn	03 10 29.0	+1.9
GUR				eSn	Sn	03 11 09.3	-4.5
GUR				S	Sn	03 11 14.1	+0.3
VAM	Vamos	4.04	80	P	Pn	03 10 28.7	+0.8
VAM	Vamos	4.04	80	ePN	Pn	03 10 29.1	+1.2
VAM				eSN	Sn	03 11 10.8	-4.5
VAM	Vamos	4.04	80	P	Pn	03 10 28.7	+0.8
VAM	Vamos	4.04	80	ePn	Pn	03 10 29.1	+1.2
VAM				eSn	Sn	03 11 10.8	-4.5
LAKA	Lakka	4.05	31	P	Pn	03 10 30.2	+2.1
LAKA	Lakka	4.05	31	ePN	Pn	03 10 29.7	+1.6
LAKA				eSN	Sn	03 11 13.2	-2.4
LAKA	Lakka	4.05	31	ePn	Pn	03 10 29.7	+1.6
LAKA	Lakka	4.05	31	P	Pn	03 10 30.2	+2.1
LAKA				eSn	Sn	03 11 13.2	-2.4
LKD2	Lefkada island	4.13	15	P	Pn	03 10 30.4	+1.2
LKD2				S	Sn	03 11 17.5	-0.1
LKD2	Lefkada island	4.13	15	ePN	Pn	03 10 31.8	+2.6
LKD2	Lefkada island	4.13	15	P	Pn	03 10 30.4	+1.2
LKD2	Lefkada island	4.13	15	ePn	Pn	03 10 31.8	+2.6
LKD2				S	Sn	03 11 17.5	-0.1
DID	Didima	4.17	48	ePN	Pn	03 10 29.8	+0.1
DID				eSN	Sn	03 11 14.7	-3.7
DID	Didima	4.17	48	ePn	Pn	03 10 29.8	+0.1
DID				eSn	Sn	03 11 14.7	-3.7
EFP	Efpalio	4.18	29	ePN	Pn	03 10 31.3	+1.5
EFP	Efpalio	4.18	29	ePn	Pn	03 10 31.3	+1.5
TRIZ	Trizonia	4.20	31	ePN	Pn	03 10 32.5	+2.4
TRIZ	Trizonia	4.20	31	ePn	Pn	03 10 32.5	+2.4
KALE	Kalithea	4.25	31	ePN	Pn	03 10 33.0	+2.2
KALE	Kalithea	4.25	31	ePn	Pn	03 10 33.0	+2.2
LSRT	Sirt	4.33	212	i P	Pn	03 10 29.1	-2.7
	SNR=48						
LTK	Loutraki	4.36	41	ePN	Pn	03 10 32.8	+0.4
LTK	Loutraki	4.36	41	ePn	Pn	03 10 32.8	+0.4
LMSR	Misrath	4.37	237	i P	Pn	03 10 30.7	-1.8
	SNR=48						
DSF	Desfina	4.44	34	P	Pn	03 10 34.7	+1.3
DSF	Desfina	4.44	34	P	Pn	03 10 34.7	+1.3
SIVA	Sivas	4.51	86	ePN	Pn	03 10 36.1	+1.7
SIVA	Sivas	4.51	86	ePn	Pn	03 10 36.1	+1.7
EVR	Evrytania	4.58	25	ePN	Pn	03 10 37.5	+2.1
EVR				eSN	Sn	03 11 26.4	-2.2
EVR	Evrytania	4.58	25	ePn	Pn	03 10 37.5	+2.1
EVR				eSn	Sn	03 11 26.4	-2.2
IDI	Anoyia	4.59	82	ePN	Pn	03 10 36.5	+1.0
IDI				eSN	Sn	03 11 24.3	-4.6
IDI	Anoyia	4.59	82	ePn	Pn	03 10 36.5	+1.0
IDI				eSn	Sn	03 11 24.3	-4.6
LTBQ	Tobruq	4.71	124	i P	Pn	03 10 36.7	-0.4
	SNR=48						
IGT	Igoumenitsa	4.80	9	P	Pn	03 10 38.4	0.0
IGT				S	Sn	03 11 33.1	-1.0
IGT	Igoumenitsa	4.80	9	P	Pn	03 10 38.4	0.0
IGT				S	Sn	03 11 33.1	-1.0
AGG	Agios Georgios	4.86	29	ePN	Pn	03 10 41.0	+1.8
AGG	Agios Georgios	4.86	29	ePn	Pn	03 10 41.0	+1.8
KEK	Kerkira	4.93	4	P	Pn	03 10 39.9	-0.3
KEK	Kerkira	4.93	4	ePN	Pn	03 10 43.3	+3.1
KEK				eSN	Sn	03 11 36.9	-0.4
KEK	Kerkira	4.93	4	P	Pn	03 10 39.9	-0.3
KEK	Kerkira	4.93	4	ePn	Pn	03 10 43.3	+3.1
KEK				eSn	Sn	03 11 36.9	-0.4
JAN	Janina	5.01	14	ePN	Pn	03 10 43.2	+1.9
JAN				eSN	Sn	03 11 37.3	-1.9
JAN	Janina	5.01	14	ePn	Pn	03 10 43.2	+1.9
JAN				eSn	Sn	03 11 37.3	-1.9
LAST	Lasithi	5.06	84	ePN	Pn	03 10 43.6	+1.6
LAST	Lasithi	5.06	84	ePn	Pn	03 10 43.6	+1.6
THL	Klokotos Trika	5.23	23	P	Pn	03 10 45.5	+1.3
THL	Klokotos Trika	5.23	23	ePN	Pn	03 10 46.1	+1.9
THL				eSN	Sn	03 11 41.0	-3.5
THL	Klokotos Trika	5.23	23	P	Pn	03 10 45.5	+1.3
THL	Klokotos Trika	5.23	23	ePn	Pn	03 10 46.1	+1.9
THL				eSn	Sn	03 11 41.0	-3.5
XOR	Xorichti	5.51	33	P	Pn	03 10 49.1	+0.9
XOR	Xorichti	5.51	33	P	Pn	03 10 49.1	+0.9
KZN	Kozani	5.84	19	P	Pn	03 10 54.0	+1.3
KZN	Kozani	5.84	19	ePN	Pn	03 10 54.2	+1.5
KZN				eSN	Sn	03 11 57.2	-2.6
KZN	Kozani	5.84	19	P	Pn	03 10 54.0	+1.3
GHAR	Gharyan	5.86	245	i P	Pn	03 10 51.2	-1.8
	SNR=48						
LJFR	Jufra	6.41	209	i P	Pn	03 10 56.8	-3.7
	SNR=46						
STON	Ston	8.17	352	i Pn	Pn	03 11 22.9	-1.8
STON				Sn	Sn	03 12 50.0	-7.0
STON	Ston	8.17	352	i Pn	Pn	03 11 22.8	-1.8
UDBI	Udbina	10.11	345	ePn	Pn	03 11 51.2	-0.1
UDBI				Sn	Sn	03 13 39.8	-4.9
UDBI	Udbina	10.11	345	ePn	Pn	03 11 51.1	-0.1
NVLJ	Novalja	10.35	342	ePn	Pn	03 11 53.0	-1.5
NVLJ				Sn	Sn	03 13 41.8	-8.7
NVLJ	Novalja	10.35	342	ePn	Pn	03 11 52.9	-1.5

*CSEM **13** 03:11:48.5, 36°.88N×24°.17W, h10km, ML2.9, After PDA*
PDA 13 03:11:48.5±0.7, 36°.88N×24°.17W, h10km, MD4.0, ML2.9, Error ellipse: s-maj=5.7km s-min=3.5km az=46.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.72	280	eP	Pg	03 11 59.8	-2.7
PSMN				eS	Sg	03 12 08.9	-3.1
PSMN				A	A	03 12 09.6	
	100nm,0.1s						
PSMN	Pico do Norte,	0.72	280	eP	Pg	03 11 59.8	-2.7
PSMN				eS	Sg	03 12 08.9	-3.1
BART	Pico Bartolome	1.20	319	eP	Pb	03 12 06.6	-4.8
BART				eS	Sb	03 12 20.4	-6.6
BART				A	A	03 12 23.8	
	119nm,0.2s						
BART	Pico Bartolome	1.20	319	eP	Pb	03 12 06.6	-4.8
BART				eS	Sb	03 12 20.4	-6.6
CMLA	Cha da Macela	1.39	310	eP	Pn	03 12 09.3	-4.7
CMLA				eS	Sn	03 12 24.9	-7.6
CMLA				A	A	03 12 28.6	
	214nm,0.2s						
CMLA	Cha da Macela	1.39	310	eP	Pn	03 12 09.3	-4.7
CMLA				eS	Sn	03 12 24.9	-7.6
PDA	Ponta Delgada	1.47	306	eP	Pn	03 12 10.2	-4.8
PDA				eS	Sn	03 12 26.9	-7.4
PDA				A	A	03 12 28.0	
	38nm,0.1s						
PDA	Ponta Delgada	1.47	306	eP	Pn	03 12 10.2	-4.8
PDA				eS	Sn	03 12 26.9	-7.4
PSET	Sete Cidades	1.55	308	eS	Sn	03 12 29.1	-7.3
PSET				A	A	03 12 32.5	
	48nm,0.4s						
PSET	Sete Cidades	1.55	308	eS	Sn	03 12 29.1	-7.3
PID	Ribeirinha	3.50	298	eP	Pn	03 12 38.5	-4.5
PID				eS	Sn	03 13 16.0	-8.5
PID	Ribeirinha	3.50	298	eP	Pn	03 12 38.5	-4.5
PID				eS	Sn	03 13 16.0	-8.5
PMAN	Manadas	3.56	301	eP	Pn	03 12 39.3	-4.5
PMAN				eS	Sn	03 13 17.8	-8.2
PMAN				A	A	03 13 18.2	
	3.0nm,0.1s						
PMAN	Manadas	3.56	301	eP	Pn	03 12 39.3	-4.5
PMAN				eS	Sn	03 13 17.8	-8.2
PGRA	Graciosa	3.69	307	eP	Pn	03 12 41.4	-4.3
PGRA				eS	Sn	03 13 20.8	-8.5
PGRA				A	A	03 13 23.5	
	7.6n

baz=255
ENA Nanau 0.79 236 *i* P **Pg 03 26 28.8 0.0**
baz=233
ENA *e*S **Sg 03 26 38.9 -0.1**
baz=233
PCYT Pengchaiyu 0.83 335 ⇓*i*P **Pg 03 26 29.3 -0.3**
baz=336
ENTT Nioudou 0.84 254 *i* P **Pg 03 26 29.8 0.0**
baz=238
ENTT S **Sg 03 26 41.1 +0.3**
baz=238
TAP1 Taipei 0.86 281 *e*P **Pg 03 26 30.2 0.0**
baz=279
TAP1 *e*S **Sb 03 26 42.0 -0.3**
baz=279
TWY Chenhua 0.87 298 *e*P **Pg 03 26 30.4 0.0**
baz=296
TWY S **Sb 03 26 42.2 -0.5**
baz=296
TAP Taipei 0.88 281 *e*P **Pb 03 26 31.1 +0.2**
baz=279
TAP *e*S **Sg 03 26 42.2 +0.3**
baz=279
NSK Sanguang 1.02 259 *i* P **Pg 03 26 33.0 -0.1**
baz=271
NSK S **Sg 03 26 46.0 -0.4**
baz=271
NNS Nan Shan 1.07 247 P **Pb 03 26 33.9 -0.5**
baz=233
NNS S **Sg 03 26 47.9 -0.3**
baz=233
TWD Chiawan 1.11 225 *e*P **Pb 03 26 34.5 -0.4**
baz=231
TWD *e*S **Sg 03 26 49.9 +0.5**
baz=231
HWA Hwalien 1.18 221 *e*P **Pg 03 26 36.2 -0.1**
baz=219
IRIF Iriomote-Funau 1.28 114 P **Pg 03 26 38.3 +0.2**
IRIF S **Sb 03 26 54.3 +0.1**
WHF Hehuan Shan 1.30 237 P **Pn 03 26 37.7 -0.6**
baz=234
WHF S **Sb 03 26 54.9 -0.6**
baz=234
TWT Tachien 1.32 242 *e*P **Pb 03 26 38.5 0.0**
baz=241
TWT *e*S **Sg 03 26 56.1 0.0**
baz=241
HATJ Hateruma jima 1.47 123 P **Pb 03 26 41.3 +0.2**
HATJ *e*S **Sb 03 27 00.2 +0.3**
JKRS Kuro-shima 1.55 114 P **Pn 03 26 41.1 -0.2**
JIJ Ishigaki jima 1.62 108 P **Pb 03 26 42.8 -0.8**
JIJ *e*S **Sn 03 27 03.2 +0.1**
TWQ1 Liyutan 1.62 252 *e*P **Pb 03 26 43.1 -0.5**
baz=250
TWQ1 *e*S **Sb 03 27 03.9 -0.2**
baz=250
EHY Hungye 1.71 218 *e*P **Pb 03 26 44.4 -0.7**
baz=216
SMLT Sun Moon Lake 1.73 236 *e*P **Pb 03 26 44.8 -0.7**
baz=244
SMLT *e*S **Sb 03 27 07.0 -0.3**
baz=244
TYC Yuchr 1.75 237 *e*P **Pb 03 26 45.0 -0.8**
baz=219
TCU Taichung 1.77 246 *e*P **Pn 03 26 45.1 +0.8**
baz=262
TCU *e*S **Sn 03 27 07.3 +0.3**
baz=262
TWF1 Yuli 1.85 215 *e*P **Pn 03 26 44.4 -1.0**
baz=214
YUS Yu-Shan 1.94 225 P **Pn 03 26 47.4 +0.2**
baz=208
YUS *e*S **Sn 03 27 11.9 0.0**
baz=208
JTJ Tarama 2.06 96 P **Pb 03 26 50.4 -0.6**
CHN5 Tsauling 2.06 232 *e*P **Pb 03 26 49.8 -1.4**
baz=215
CHN5 *e*S **Sb 03 27 18.0 +1.1**
baz=215
CHN1 Nanshi 2.44 227 *e*P **Pn 03 26 55.1 +1.6**
baz=227
CHN1 *e*S **Sn 03 27 24.6 +1.3**
baz=227

NIED ***13*** *03:42:00, 34.°80N×138.°50E, h20km, Mw3.9 Best double couple: M0 6.72000×10^14 NP1:*ϕ_s*38.00000°,* δ*89.00000°,* λ*10.00000°. NP2:*ϕ_s*308.00000°,* δ*80.00000°,* λ*179.00000°.*
IDC ***13*** *03:42:45.0±1.4, 34.°70N×138.°49E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, ML3.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/15, Error ellipse: s-maj=38.4km s-min=15.2km az=90.0*
ISCJB ***13*** *03:42:47.9±0.5, 34.°76N±0.°05×138.°49E±0.°04, h23km, mb3.4/2, Error ellipse: s-maj=6.6km s-min=5.0km az=7.7*
JMA ***13*** *03:42:48.5±0.1, 34.°81N×138.°49E, h19km±3km, M4.3 Broadband fault plane solution: P waves. NP1:* ϕ_s*218.00000°,* δ*77.00000°,* λ*-17.00000°. NP2:* ϕ_s*311.00000°,* δ*74.00000°,* λ*-166.00000°. Principal axes: T Plg2.0000°, Azm265.0000°; N Plg69.0000°, Azm0.0000°; P Plg21.0000°, Azm174.0000°;*
JMA Felt III J1.

ISC 13 03:42:48.0±0.9,**34.°80N**±0.°04×**138.°48E**±0.°04,**h23**km,**n15,** σ0.9**83**/18,**4C-3D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.27**	**243**	⇑P	**Pb**	**03 42 54.9**	**+0.4**
JSG				*e*S	**Sn**	**03 43 00.3**	**-1.7**
JIZS	**Izushimoda**	**0.34**	**103**	⇑P	**Pb**	**03 42 55.2**	**-0.2**
JIZS				*e*S	**Sb**	**03 43 00.5**	**0.0**
SHZ3	**Shizuoka 3**	**0.35**	**320**	⇓P	**Pb**	**03 42 55.5**	**-0.2**
SHZ3				*e*S	**Sb**	**03 43 01.0**	**0.0**
KTJJ	**Kamata 2**	**0.49**	**75**	⇑P	**Pb**	**03 42 58.0**	**-0.1**
TK04	**Tokai 4**	**0.65**	**231**	P	**Pb**	**03 43 00.5**	**-0.1**
JOD2	**Odawara 2**	**0.68**	**47**	⇑P	**Pb**	**03 43 00.9**	**-0.4**
JYN	**Shimob**	**0.70**	**4**	⇓P	**Pb**	**03 43 01.2**	**-0.4**
JIM2	**Oshima 3**	**0.79**	**96**	P	**Pb**	**03 43 02.8**	**-0.2**
JMY	**Miyakejima3**	**1.12**	**130**	⇓P	**Pb**	**03 43 08.5**	**-0.2**
MJAR	**Matsushiro Arr**	**1.75**	**353**	Pn	**Pb**	**03 43 19.0**	**-0.5**
	101nm,0.3s,baz=176,slow=12,SNR=796						
MJAR				Lg	Lg	03 43 42.2	
	78nm,0.3s,baz=56,slow=19,SNR=12						
MAT	**Matsushiro**	**1.76**	**353**	P	**Pb**	**03 43 18.5**	**-1.1**
MAT				S	**Sb**	**03 43 43.0**	**+1.8**
JNU	**Nakatsue**	**6.54**	**257**	Pn	**Pn**	**03 44 23.0**	**+0.3**
	0.3nm,0.3s,baz=36,slow=8.7,SNR=3.3						
KSRS	**Korea Array**	**8.95**	**290**	LR	LR	03 48 20.0	
	comp=Z,59nm,19.8s,baz=170,slow=37						
ILAR	**Eielson Array**	**52.65**	**31**	P	**P**	**03 52 01.1**	**+1.2**
	0.2nm,0.7s,baz=267,slow=6.3,SNR=3.4						
WRA	**Warramunga Arr**	**54.58**	**185**	P	**P**	**03 52 13.9**	**-0.7**
	0.3nm,0.5s,baz=0.9,slow=7.6,SNR=7.1						

ISCJB ***13*** *03:46:51.9±0.2, 26.°69S±0.°04×114.°27W±0.°06, h10km, mb5.2/146, MS5.0/150, Error ellipse: s-maj=7.7km s-min=6.3km az=166.8*
IDC ***13*** *03:46:51.8±0.4, 26.°70S×114.°36W, h0km, mb4.7/22, mb1 4.8/22, mb1mx4.8/23, mbtmp4.7/22, MS4.9/17, Ms1 4.9/17, ms1mx4.9/18, Error ellipse: s-maj=17.0km s-min=14.9km az=87.0*
MOS ***13*** *03:46:52.7±1.1, 26.°59S×114.°20W, h10km, mb5.6/39, MS4.9/23, Error ellipse: s-maj=12.8km s-min=7.1km az=80.9*
NEIC ***13*** *03:46:53.5±0.2, 26.°76S×114.°26W, h10km, mb5.3/124, MS5.0/114, Error ellipse: s-maj=5.8km s-min=4.4km az=83.0*
BJI ***13*** *03:46:54.7, 26.°70S×114.°20W, h10km, mB5.5/24, Ms5.5/21, Ms7 5.1/24*
GCMT ***13*** *03:46:57.5±0.1, 26.°90S×114.°21W, h12km, MW5.5, Moment Tensor Solution. s76,c139; s99,c203; Moment tensor: Scale 10^17 Nm; Mrr-1.74±.03; Mθθ0.28±.03; Mφφ1.46±.03; Mrθ0.07±.07; Mrφ-1.15±.02; Mθφ0.00±.07; Best double couple: M0 2.00000×10^17 NP1:*ϕ_s*326.00000°,* δ*46.00000°,* λ*-94.00000°. NP2:*ϕ_s*151.00000°,* δ*45.00000°,* λ*-86.00000°. Principal axes: T 2.1600, Plg0.0000°, Azm59.0000°; N -0.4200, Plg3.0000°, Azm329.0000°; P -1.7400, Plg87.0000°, Azm159.0000°; Data Used: IU II IC G CN. Surface waves from 107 sta.*

ISC 13 03:46:53.4±0.3,**26.°80S**±0.°07×**114.°32W**±0.°06,**h10**km,
n897, σ0.9**93**/865,**mb5.3**/146,**MS5.0**/150,**213C-254D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.46**	**95**	*e*Pn	**Pn**	**03 47 58.5**	**-2.6**
RKT	**Rikitea**	**19.08**	**277**	*e*LQ	LQ	03 54 47.6	
	11μm,28.0s						
RKT				*e*LR	LR	03 55 39.7	
	10μm,29.0s,baz=108						
TBI	**Tubuai**	**31.95**	**268**	*e*S	**S**	**03 58 25.6**	**-5.4**
	610nm,32.7s						
TBI				*e*LQ	LQ	04 00 13.7	
	3μm,33.8s						
TBI				*e*LR	LR	04 01 33.7	
	6μm,28.8s						
PAE	**Paea**	**33.79**	**278**	*e*P	**P**	**03 53 35.1**	**-0.6**
	30nm,1.3s						
PPT2	**Papeete2**	**33.81**	**278**	*e*P	**P**	**03 53 35.5**	**-0.5**
	159nm,1.3s						
PPT2				*e*S	**S**	**03 58 54.8**	**-5.3**
	755nm,26.2s						
PPT2				*e*LQ	LQ	04 01 00.6	
	3μm,31.1s						
PPT2				*e*LR	LR	04 02 26.4	
	11μm,26.0s,baz=107						
PPT	**Papeete**	**33.82**	**278**	LR	LR	04 03 28.0	
	comp=Z,3μm,18.4s,baz=108,slow=30						
PAYG	**Puerto Ayora**	**34.77**	**46**	PFAKE		03 54 00.0	+16
PAYG				LR	LR		
	comp=Z,3μm,22.0s						
LCO	**Las Campanas**	**38.45**	**104**	*e*P	**P**	**03 54 17.3**	**+1.5**
	comp=Z,21nm,1.0s						
LCO				LR	LR		
	comp=Z,2μm,19.0s						
CFAA	**Coronel Fontan**	**40.28**	**108**	P	**P**	**03 54 32.3**	**+1.4**
CFAA	**Coronel Fontan**	**40.28**	**108**	P	**P**	**03 54 32.3**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=272,slow=8.3,SNR=13						
LVC	**Limon Verde**	**41.30**	**94**	*e*P	**P**	**03 54 41.2**	**+1.6**
	comp=Z,28nm,1.1s						
LVC				LR	LR		
	comp=Z,4μm,20.0s						
RAR	**Rarotonga**	**41.72**	**268**	PFAKE		03 54 50.0	+7.3
RAR				LR	LR		
	comp=Z,3μm,22.0s						
OTAV	**Otavalo**	**43.75**	**58**	*e*P	**P**	**03 54 59.2**	**-0.5**
	comp=Z,252nm,2.9s						
OTAV				LR	LR		
	comp=Z,2μm,19.0s						
LPAZ	**La Paz**	**44.01**	**86**	*e*P	**P**	**03 55 03.1**	**+1.0**
	comp=Z,14nm,1.0s						
LPAZ				*e*PcP	**PcP**	**03 56 47.7**	**-0.1**
LPAZ	**La Paz**	**44.01**	**86**	P	**P**	**03 55 02.7**	**+0.6**
	comp=Z,8.3nm,1.1s,baz=242,slow=7.9,SNR=14						
LPAZ				LR	LR	04 09 12.3	
	comp=Z,2μm,20.9s,baz=247,slow=30						
TRQA	**Tornquist**	**45.06**	**118**	*e*P	**P**	**03 55 11.2**	**+1.7**
	comp=Z,29nm,1.2s						
TRQA				LR	LR		
	comp=Z,1μm,21.0s						
BCIP	**Isla Barro Col**	**48.97**	**48**	PFAKE		03 55 50.0	+10
BCIP				LR	LR		
	comp=Z,3μm,22.0s						
ROSC	**El Rosal**	**49.86**	**57**	*e*P	P	03 55 50.8	+3.2
ROSC	**El Rosal**	**49.86**	**57**	P	**P**	**03 55 48.4**	**+0.8**
	comp=Z,5.2nm,0.4s,baz=244,slow=6.3,SNR=15						
ROSC				LR	LR	04 12 25.3	
	comp=Z,2μm,20.6s,baz=201,slow=31						
XMAS	**Kiritimati**	**50.50**	**298**	PFAKE		03 56 00.0	+8.0
XMAS				LR	LR		
	comp=Z,2μm,20.0s						
CPUP	**Villa Florida**	**50.59**	**103**	*e*P	**P**	**03 55 52.9**	**+0.4**
	comp=Z,28nm,1.1s						
CPUP	**Villa Florida**	**50.59**	**103**	P	**P**	**03 55 53.0**	**+0.4**
	comp=Z,7.8nm,1.1s,baz=248,slow=11,SNR=6.8						
CPUP				LR	LR	04 13 37.5	
	comp=Z,2μm,20.9s,baz=244,slow=32						
SAML	**Samuel**	**51.44**	**80**	*e*P	**P**	**03 55 57.6**	**-1.4**
	comp=Z,56nm,2.1s						
SAML				LR	LR		
	comp=Z,2μm,19.0s						
TEIG	**Tepich**	**53.13**	**31**	PFAKE		03 56 20.0	+8.6
TEIG				LR	LR		
	comp=Z,1μm,21.0s						
AFI	**Afiamalu**	**54.97**	**271**	PFAKE		03 56 40.0	+15
AFI				LR	LR		
	comp=Z,1μm,19.0s						
SDV	**Santo Domingo**	**55.26**	**56**	*e*P	**P**	**03 56 27.1**	**-0.3**
	comp=Z,25nm,1.0s						
SDV				LR	LR		
	comp=Z,292nm,20.0s						
RAO	**Raoul Island**	**55.57**	**252**	PFAKE		03 56 40.0	+11
RAO				LR	LR		
	comp=Z,2μm,21.0s						
KVTX	**Kingsville**	**56.30**	**18**	*e*P	**P**	**03 56 35.0**	**+0.7**
	comp=Z,2μm,2.8s						
KVTX				LR	LR		
	comp=Z,820nm,20.0s						
TXAR	**Lajitas Array**	**56.74**	**11**	P	**P**	**03 56 37.1**	**-0.4**
TXAR	**Lajitas Array**	**56.74**	**11**	P	**P**	**03 56 37.1**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=193,slow=8.0,SNR=32						
TXAR				LR	LR	04 16 28.4	
	comp=Z,1μm,18.3s,baz=215,slow=31						
626A	**Big Bend Ranch**	**56.88**	**11**	⇓P	**P**	**03 56 38.9**	**+0.4**
	baz=57,SNR=27						
732A	**Laxson Ranch,**	**56.91**	**15**	⇑P	**P**	**03 56 37.7**	**-0.9**
	baz=57						
627A	**Terlingua Ranc**	**56.91**	**11**	⇑P	**P**	**03 56 38.8**	**+0.1**
	baz=57						
628A	**Black Gap, Mar**	**57.03**	**12**	⇓P	**P**	**03 56 39.9**	**+0.4**
	baz=57,SNR=28						
628A				⇓S	**S**	**04 04 38.0**	**+3.7**
	baz=57						
628A				⇓S	**S**	**04 04 38.0**	**+3.7**
	baz=57						
526A	**Mary Lane Ranc**	**57.38**	**11**	⇓P	**P**	**03 56 42.1**	**-0.1**
	baz=58,SNR=13						
631A	**Perdido Creek**	**57.43**	**14**	⇑P	**P**	**03 56 41.8**	**-0.5**
	baz=58,SNR=6.5						
527A	**Woodward Ranch**	**57.55**	**11**	⇑P	**P**	**03 56 43.1**	**-0.2**
	baz=58,SNR=15						
632A	**Uvalde**	**57.70**	**15**	⇓P	**P**	**03 56 43.8**	**-0.4**
	baz=58,SNR=19						
528A	**Cox Ranch, San**	**57.71**	**12**	⇓P	**P**	**03 56 44.2**	**-0.2**
	baz=58,SNR=17						
529A	**Stev Forest Ra**	**57.78**	**12**	⇑P	**P**	**03 56 44.8**	**0.0**
	baz=58,SNR=20						
425A	**Indio Mountain**	**57.96**	**9**	⇓P	**P**	**03 56 45.9**	**-0.2**
	baz=58,SNR=15						
530A	**J-C Ranch, Com**	**57.98**	**13**	⇓P	**P**	**03 56 46.3**	**+0.1**
	baz=58,SNR=65						
319A	**Douglas**	**58.05**	**5**	⇓P	**P**	**03 56 47.4**	**+0.6**
	baz=58,SNR=12						
320A	**Kipp Ranch, An**	**58.08**	**6**	⇓P	**P**	**03 56 47.4**	**+0.4**
	baz=58,SNR=16						
531A	**Rocksprings**	**58.16**	**14**	⇓P	**P**	**03 56 47.4**	**-0.1**
	baz=58,SNR=18						
532A	**Rocksprings**	**58.27**	**15**	⇓P	**P**	**03 56 48.5**	**+0.2**
	baz=58,SNR=34						
427A	**Hayter Ranch,**	**58.27**	**11**	⇑P	**P**	**03 56 48.5**	**+0.1**
	baz=58,SNR=13						
428A	**Kincaid Ranch,**	**58.28**	**12**	⇓P	**P**	**03 56 48.6**	**+0.3**
	baz=58,SNR=23						
429A	**Davenport Ranc**	**58.33**	**13**	⇑P	**P**	**03 56 48.3**	**-0.4**
	baz=59,SNR=32						
214A	**Organ Pipe Nat**	**58.45**	**2**	⇓P	**P**	**03 56 49.8**	**+0.4**
	baz=59,SNR=11						
324A	**Moseley Ranch,**	**58.53**	**9**	⇑P	**P**	**03 56 49.7**	**-0.5**
	baz=59,SNR=27						
325A	**Bean Ranch, Si**	**58.53**	**9**	⇓P	**P**	**03 56 49.7**	**-0.5**
	baz=59,SNR=15						
430A	**Baggett Ranch,**	**58.62**	**13**	⇑P	**P**	**03 56 50.4**	**-0.2**
	baz=59,SNR=14						
JCT	**Junction City**	**58.63**	**15**	*e*P	**P**	**03 56 50.4**	**-0.4**
JCT				pmax	pmax		
	comp=Z,63nm,0.8s						
JCT				MLR	MLR		
	comp=Z,1μm,21.0s						
JCT	**Junction City**	**58.63**	**15**	*e*P	**P**	**03 56 50.4**	**-0.4**
	comp=Z,63nm,0.8s						
JCT				LR	LR		
	comp=Z,1μm,21.0s						
JCT	**Junction City**	**58.63**	**15**	⇓P	**P**	**03 56 50.7**	**0.0**
	baz=59,SNR=27						
326A	**Caldwell Ranch**	**58.63**	**10**	⇑P	**P**	**03 56 50.2**	**-0.6**
	baz=59						
220A	**Playas Peak, P**	**58.64**	**6**	⇓P	**P**	**03 56 51.1**	**+0.2**
	baz=59,SNR=15						
431A	**Sonora**	**58.65**	**14**	⇓P	**P**	**03 56 50.9**	**0.0**
	baz=59,SNR=59						
327A	**Balmorhea Ranc**	**58.76**	**11**	⇑P	**P**	**03 56 51.5**	**-0.2**
	baz=59						
MNTX	**Cornudas Mount**	**58.80**	**9**	*e*P	**P**	**03 56 51.1**	**-0.8**
	comp=Z,32nm,1.6s						
MNTX				LR	LR		
	comp=Z,710nm,20.0s						
221A	**Mesquite Ranch**	**58.82**	**6**	⇑P	**P**	**03 56 52.8**	**+0.7**
	baz=59						
TUC	**Tucson**	**58.88**	**3**	*e*P	**P**	**03 56 52.9**	**+0.4**
TUC				pmax	pmax		
	comp=Z,72nm,1.0s						
TUC				MLR	MLR		
	comp=Z,857nm,20.0s						
TUC	**Tucson**	**58.88**	**3**	*e*P	**P**	**03 56 52.9**	**+0.4**
	comp=Z,72nm,1.0s						
TUC				LR	LR		
	comp=Z,857nm,20.0s						
328A	**Wristen Ranch,**	**58.89**	**12**	⇓P	**P**	**03 56 52.0**	**-0.6**
	baz=59,SNR=12						
223A	**Chaparral, Ant**	**58.96**	**8**	⇑P	**P**	**03 56 53.8**	**+0.7**
	baz=59						
222A	**Williams Famil**	**58.98**	**7**	⇑P	**P**	**03 56 53.2**	**0.0**
	baz=59						
432A	**Menard**	**59.01**	**15**	⇑P	**P**	**03 56 52.8**	**-0.6**
	baz=59,SNR=5.3						
SNZO	**South Karori**	**59.04**	**236**	PFAKE		03 57 10.0	+16
SNZO				LR	LR		
	comp=Z,3μm,20.0s						
224A	**Cornudas Mount**	**59.15**	**9**	⇑P	**P**	**03 56 54.1**	**-0.3**
	baz=59						
329A	**Wagon Wheel Ra**	**59.15**	**12**	⇓P	**P**	**03 56 54.0**	**-0.3**
	baz=59,SNR=18						
DVTC	**Desert V Tower**	**59.16**	**358**	⇓P	**P**	**03 56 54.6**	**+0.1**
	baz=59						
BAR	**Barrett**	**59.20**	**358**	*e*P	**P**	**03 56 54.6**	**0.0**
330A	**Mertzon**	**59.23**	**13**	⇓P	**P**	**03 56 54.5**	**-0.5**
	baz=60,SNR=45						
113A	**Mohawk Valley,**	**59.24**	**1**	⇓P	**P**	**03 56 54.9**	**0.0**
	baz=60						
120A	**U Bar Ranch, L**	**59.27**	**6**	⇑P	**P**	**03 56 55.4**	**+0.1**
	baz=60,SNR=12						
225A	**Deer Hill, Car**	**59.28**	**9**	⇑P	**P**	**03 56 54.8**	**-0.6**
	baz=60,SNR=16						
331A	**San Angelo**	**59.29**	**14**	⇓P	**P**	**03 56 54.6**	**-0.7**
	baz=60,SNR=17						
121A	**Cookes Peak, D**	**59.33**	**6**	⇑P	**P**	**03 56 56.3**	**+0.5**
	baz=60,SNR=36						
226B	**Tecolote Peak,**	**59.35**	**10**	⇑P	**P**	**03 56 55.1**	**-0.7**
	baz=60						
MONP	**Monument Peak**	**59.40**	**358**	⇓P	**P**	**03 56 56.7**	**+0.5**
	baz=60,SNR=9.9						
109C	**Camp Elliot, M**	**59.42**	**357**	⇓P	**P**	**03 56 56.4**	**+0.3**
	baz=60						
227A	**Bennet, Jal**	**59.43**	**11**	⇑P	**P**	**03 56 56.1**	**-0.2**
	baz=60						
SWSC	**Sam W. Stewart**	**59.43**	**359**	⇓P	**P**	**03 56 56.6**	**+0.4**
	baz=60						
332A	**Millersview**	**59.51**	**14**	⇓P	**P**	**03 56 56.1**	**-0.7**
	baz=60,SNR=27						
GLA	**Glamis**	**59.53**	**360**	*e*P	**P**	**03 56 57.3**	**+0.4**
GLA				pmax	pmax		
	comp=Z,76nm,1.7s						
GLA	**Glamis**	**59.53**	**360**	*e*P	**P**	**03 56 57.3**	**+0.4**
	comp=Z,76nm,1.7s						
GLA	**Glamis**	**59.53**	**360**	⇑P	**P**	**03 56 57.6**	**+0.7**
	baz=60						
122A	**Conniff Cattle**	**59.58**	**7**	⇓P	**P**	**03 56 58.4**	**+1.0**
	baz=60						
SCI	**San Clemente I**	**59.59**	**356**	⇓P	**P**	**03 56 57.7**	**+0.4**
	baz=60						
123A	**Bell Site, Whi**	**59.60**	**8**	⇓P	**P**	**03 56 58.0**	**+0.5**
	baz=60						
229A	**Bryant Ranch,**	**59.65**	**12**	⇓P	**P**	**03 56 57.1**	**-0.7**
	baz=60						
228A	**UT Block 9, Go**	**59.65**	**12**	⇓P	**P**	**03 56 56.8**	**-1.1**
	baz=60,SNR=8.9						
230A	**Sterling City**	**59.71**	**13**	⇓P	**P**	**03 56 58.0**	**-0.2**
	baz=60						
124A	**Stringfield Ra**	**59.77**	**9**	⇑P	**P**	**03 56 58.9**	**+0.1**
	baz=60,SNR=26						
Z20A	**Nine Sixteen R**	**59.83**	**6**	⇓P	**P**	**03 56 59.4**	**+0.2**
	baz=60,SNR=13						
125A	**Gardner Draw,**	**59.84**	**9**	⇑P	**P**	**03 56 58.7**	**-0.6**
	baz=60,SNR=53						
Z14A	**Wintersburg**	**59.85**	**1**	⇑P	**P**	**03 56 59.7**	**+0.6**
	baz=60						
231A	**Bronte**	**59.92**	**14**	⇓P	**P**	**03 56 58.7**	**-0.9**
	baz=60,SNR=11						
126A	**Clayton Basin,**	**59.93**	**10**	⇓P	**P**	**03 56 58.6**	**-1.2**
	baz=60						
CIS	**Catalina Islan**	**60.00**	**356**	⇓P	**P**	**03 57 00.1**	**0.0**
	baz=60						
232A	**Coleman**	**60.02**	**14**	⇑P	**P**	**03 56 59.5**	**-0.8**
	baz=60,SNR=28						
GTBY	**Guantanamo Bay**	**60.03**	**43**	PFAKE		03 57 10.0	+9.5
GTBY				LR	LR		
	comp=Z,2μm,21.0s						
127A	**Arkansas Junct**	**60.06**	**11**	⇓P	**P**	**03 56 59.8**	**-0.9**
	baz=60,SNR=11						
Z21A	**St. Cloud Mine**	**60.11**	**6**	⇓P	**P**	**03 57 01.7**	**+0.5**
	baz=60,SNR=22						
PFO	**Pinyon Flat Ob**	**60.12**	**358**	*e*P	**P**	**03 57 01.2**	**+0.2**
	comp=Z,16nm,1.1s						
PFO				LR	LR		
	comp=Z,167nm,22.0s						
PFO	**Pinyon Flat Ob**	**60.12**	**358**	P	**P**	**03 57 01.4**	**+0.4**
PFO	**Pinyon Flat Ob**	**60.12**	**358**	⇑P	**P**	**03 57 01.6**	**+0.5**
	baz=60,SNR=7.1						
MURC	**Murrieta**	**60.13**	**357**	⇓P	**P**	**03 57 01.6**	**+0.5**
	baz=60						
BC3	**Big Chuckawall**	**60.14**	**359**	⇓P	**P**	**03 57 01.9**	**+0.7**
	baz=60,SNR=11						
Z22A	**Elephant Butte**	**60.14**	**7**	⇑P	**P**	**03 57 01.6**	**+0.3**
	baz=60,SNR=12						
128A	**Castleberry Fa**	**60.16**	**12**	⇓P	**P**	**03 57 00.7**	**-0.7**
	baz=60,SNR=19						
Y12C	**Blythe**	**60.22**	**360**	⇓P	**P**	**03 57 02.1**	**+0.5**
	baz=60,SNR=14						
Z23A	**Rita Site, Whi**	**60.23**	**8**	⇑P	**P**	**03 57 02.4**	**+0.6**
	baz=60,SNR=7.5						
129A	**Stewart Farms,**	**60.28**	**12**	⇑P	**P**	**03 57 01.7**	**-0.4**
	baz=61,SNR=18						
FMP	**Fort Macarthur**	**60.30**	**356**	⇓P	**P**	**03 57 02.0**	**-0.2**
	baz=61						
Z24A	**Sheeppen Canyo**	**60.41**	**9**	⇓P	**P**	**03 57 02.9**	**-0.3**
	baz=61,SNR=7.2						
Y14A	**Wickenburg**	**60.42**	**1**	⇑P	**P**	**03 57 03.6**	**+0.5**
	baz=61,SNR=16						
130A	**Snyder**	**60.42**	**13**	⇓P	**P**	**03 57 02.4**	**-0.7**
	baz=61						
Z25A	**Roswell**	**60.45**	**9**	⇑P	**P**	**03 57 03.2**	**-0.2**
	baz=61,SNR=22						
BELC	**Belle Mtn. Jos**	**60.49**	**358**	⇓P	**P**	**03 57 04.2**	**+0.6**
	baz=61,SNR=18						
Z26A	**Caprock**	**60.55**	**10**	⇓P	**P**	**03 57 02.6**	**-1.4**
	baz=61,SNR=31						
131A	**Roby**	**60.62**	**13**	⇓P	**P**	**03 57 03.8**	**-0.7**
	baz=61,SNR=12						
IRM	**Iron Mountain**	**60.63**	**359**	⇑P	**P**	**03 57 05.2**	**+0.7**
	baz=61,SNR=10						
WHTX	**Lake Whitney**	**60.64**	**16**	⇓P	**P**	**03 57 03.6**	**-0.9**
	baz=61						
Y20A	**Horse Springs,**	**60.64**	**6**	⇑P	**P**	**03 57 05.4**	**+0.6**
	baz=61,SNR=21						
Z27A	**Tatum**	**60.71**	**11**	⇓P	**P**	**03 57 04.2**	**-0.9**
	baz=61,SNR=22						
ABTX	**Abilene, Hawle**	**60.73**	**14**	⇓P	**P**	**03 57 04.6**	**-0.5**
	baz=61,SNR=26						
BLG	**Laguna Peak**	**60.75**	**355**	⇓P	**P**	**03 57 05.4**	**+0.1**
	baz=61						
PDMCI	**Parker Dam,Lak**	**60.77**	**0**	⇓P	**P**	**03 57 05.9**	**+0.6**
	baz=61,SNR=7.3						
BBRC	**Big Bear Solar**	**60.78**	**358**	⇓P	**P**	**03 57 06.1**	**+0.4**
	baz=61						
BFSC	**Mount Baldy

baz=61
DECC Green Verdugo 60.84 356 ⇓P P 03 57 05.8 -0.1
baz=61
Y23A Lovelace Mesa, 60.91 8 ⇑P P 03 57 07.0 +0.4
baz=61,SNR=21
Z29A Hungry Hill Ra 60.92 12 ⇓P P 03 57 05.9 -0.7
baz=61,SNR=22
X16A Lo Mia Camp, P 60.95 3 ⇑P P 03 57 07.2 +0.4
baz=61,SNR=12
Y22D IRIS PASSCAL I 60.95 7 ⇑P P 03 57 07.8 +1.0
baz=61
Y24A Capitan 60.98 8 ⇓P P 03 57 07.3 +0.3
baz=61,SNR=25
LENM Lemitar 61.03 7 eP P 03 57 08.0 +0.6
BNM Barren Site 61.06 7 eP P 03 57 07.8 +0.2
comp=Z,48nm,1.8s
Z30A Sanderson Ranc 61.06 13 ⇑P P 03 57 06.7 -0.8
baz=61,SNR=15
SBC Santa Barbara 61.12 355 ⇓P P 03 57 07.8 +0.1
baz=61
X18A Snowflake 61.14 4 ⇑P P 03 57 08.6 +0.5
baz=61,SNR=20
POHA Pohakuloa 61.15 315 PFAKE 03 57 20.0 +11
POHA LR LR
comp=Z,1μm,21.0s
Y26A Elida 61.21 10 ⇓P P 03 57 07.6 -0.9
baz=62
OSI Osito Adit 61.23 356 ⇓P P 03 57 08.9 +0.4
baz=62
X21A Alamocita Cree 61.23 6 ⇓P P 03 57 09.2 +0.4
baz=62,SNR=20
NEE2 Needles Airpor 61.24 360 ⇓P P 03 57 09.3 +0.8
baz=62
LAZ Ladron 61.25 7 eP P 03 57 09.0 +0.1
comp=Z,22nm,1.4s
GMRC Granite Mounta 61.26 359 ⇓P P 03 57 09.6 +0.8
baz=62,SNR=21
Y27A Causey 61.28 11 ⇓P P 03 57 08.1 -0.9
baz=62,SNR=51
Z31A Sharp Cattle R 61.29 14 ⇓P P 03 57 08.6 -0.4
baz=62,SNR=31
HEC Hector,Ludlow 61.33 358 ⇓P P 03 57 09.6 +0.3
baz=62
X22A Bernardo 61.37 7 ⇓P P 03 57 10.5 +0.8
baz=62
RRX Edison Barstow 61.40 357 ⇑P P 03 57 10.3 +0.6
baz=62
Z32A Haskell 61.42 14 ⇓P P 03 57 09.6 -0.3
baz=62,SNR=42
MSTX Muleshoe 61.43 11 eP P 03 57 09.3 -0.7
comp=Z,430nm,2.5s
MSTX Muleshoe 61.43 11 ⇑P P 03 57 08.8 -1.2
baz=62,SNR=23
EDW2 Edwards Air Fo 61.45 357 ⇑P P 03 57 10.0 0.0
baz=62,SNR=8.5
Y28A McKinney Farm, 61.46 11 ⇑P P 03 57 09.3 -0.9
baz=62,SNR=14
Y29A Porterfield Fa 61.52 12 ⇑P P 03 57 09.5 -1.0
baz=62,SNR=13
X23A Hourglass Bar 61.53 8 ⇓P P 03 57 10.6 -0.2
baz=62
LDFC Landfair 61.55 359 eP P 03 57 11.8 +1.0
comp=Z,58nm,1.1s
W13A Hualapai Mount 61.57 0 ⇓P P 03 57 11.5 +0.5
baz=62,SNR=8.5
PKM Peak Mountain 61.58 355 ⇑P P 03 57 11.4 +0.3
baz=62
X24A Lazy VL Ranch, 61.61 8 ⇑P P 03 57 11.0 -0.3
baz=62
SBA Scott Base 61.66 194 PFAKE 03 57 20.0 +9.1
SBA LR LR
comp=Z,1μm,20.0s
Y30A Stafford Cattl 61.68 13 ⇓P P 03 57 10.9 -0.8
baz=62
X25A Clemmons Ranch 61.68 9 ⇓P P 03 57 11.1 -0.7
baz=62
W18A Petrified Fore 61.74 4 ⇑P P 03 57 12.5 +0.4
baz=62
ARVC Arvin 61.74 356 ⇑P P 03 57 12.0 +0.1
baz=62
SDDR Presa de Saban 61.76 47 eP P 03 57 15.2 +2.8
comp=Z,83nm,1.8s
SDDR LR LR
comp=Z,968nm,20.0s
GSC Goldstone 61.81 358 eP P 03 57 13.2 +0.7
GSC pmax pmax
comp=Z,16nm,0.9s
GSC Goldstone 61.81 358 eP P 03 57 13.2 +0.7
comp=Z,16nm,0.9s
GSC Goldstone 61.81 358 ⇑P P 03 57 13.2 +0.7
baz=62,SNR=19
X26A CR and CF Fran 61.83 10 ⇑P P 03 57 11.9 -0.8
baz=62
W20A Ramah 61.84 5 ⇓P P 03 57 13.1 +0.2
baz=62,SNR=11
ANMO Albuquerque 61.86 7 eP P 03 57 13.1 +0.1
comp=Z,164nm,2.8s
ANMO LR LR
comp=Z,1μm,19.0s
Y31A Rekieta Farm, 61.89 13 ⇓P P 03 57 12.9 -0.1
baz=62,SNR=36
W21A San Fidel 61.91 6 ⇓P P 03 57 13.6 +0.3
baz=62,SNR=6.4
TUQ Turquoise Moun 61.92 359 ⇓P P 03 57 13.8 +0.5
baz=62,SNR=10
W22A Albuquerque 61.94 7 ⇑P P 03 57 14.1 +0.6
baz=62,SNR=6.2
SMMC Simmler 62.01 355 ⇑P P 03 57 14.3 +0.6
baz=62
LRMC Laurel Mountai 62.03 357 ⇓P P 03 57 14.3 +0.3
baz=62,SNR=7.5
X27A F and S Farms, 62.03 10 ⇓P P 03 57 13.0 -1.0
baz=62,SNR=8.0
WUAZ Wupatki 62.05 3 eP P 03 57 14.8 +0.6
comp=Z,31nm,1.3s
WUAZ LR LR
comp=Z,317nm,19.0s
WUAZ Wupatki 62.05 3 ⇓P P 03 57 14.9 +0.6
baz=62,SNR=8.0
X28A Dimmitt 62.06 11 ⇓P P 03 57 13.5 -0.8
baz=62
X29A Tulia 62.08 12 ⇓P P 03 57 14.1 -0.3
baz=62
Y32A R-V Farms, Ver 62.10 14 ⇑P P 03 57 13.9 -0.5
baz=62,SNR=18
W23A Werner Place, 62.11 8 ⇓P P 03 57 14.9 +0.2
baz=62,SNR=12
BDFB Brasilia 62.21 94 P P 03 57 15.2 -0.6
BDFB Brasilia 62.21 94 P P 03 57 15.2 -0.6
comp=Z,4.0nm,0.8s,baz=253,slow=11,SNR=6.3
BDFB LR LR 04 21 53.8
comp=Z,1μm,19.3s,baz=247,slow=34
X30A Coker Ranch, T 62.23 13 ⇑P P 03 57 14.4 -1.0
baz=62,SNR=12
W24A Lazy 6 Ranch, 62.25 8 ⇑P P 03 57 15.5 -0.1
baz=62,SNR=44
ISA Isabella 62.25 356 eP P 03 57 16.1 +0.6
ISA pmax pmax
comp=Z,155nm,2.8s
ISA Isabella 62.25 356 eP P 03 57 16.1 +0.6
comp=Z,155nm,2.8s
ISA Isabella 62.25 356 ⇑P P 03 57 15.8 +0.4
baz=62,SNR=6.7
W26A Owens Ranch, T 62.36 10 ⇑P P 03 57 15.6 -0.6
baz=63,SNR=11
W25A X Bar L Ranch, 62.39 9 ⇑P P 03 57 16.2 -0.3
baz=63,SNR=18
SHOC Shoshone 62.39 358 ⇓P P 03 57 17.0 +0.7
baz=63
W27A Bowe Ranch, En 62.45 10 ⇓P P 03 57 16.7 -0.1
baz=63
VES Vestal, Richgr 62.47 356 ⇑P P 03 57 17.4 +0.6
baz=63,SNR=5.4
AMTX Amarillo 62.51 12 eP P 03 57 16.7 -0.5
comp=Z,38nm,1.0s
AMTX LR LR
comp=Z,738nm,19.0s
V20A Brimhall 62.51 5 ⇑P P 03 57 17.7 +0.4
baz=63,SNR=15
V21A Milan 62.59 6 ⇑P P 03 57 18.0 +0.1
baz=63
X31A McDonald Ranch 62.59 13 ⇓P P 03 57 17.4 -0.3
baz=63,SNR=9.9
MPMC Manual Prospec 62.60 357 ⇑P P 03 57 18.3 +0.4
baz=63,SNR=22
MSVF Nonsavu 62.61 263 eP P 03 57 19.4 +1.0
MSVF pmax pmax
comp=Z,146nm,1.9s
MSVF MLR MLR
comp=Z,3μm,22.0s
MSVF Nonsavu 62.61 263 eP P 03 57 19.4 +1.0
comp=Z,146nm,1.9s
MSVF LR LR
comp=Z,3μm,22.0s
V23A Ortiz Mt. (NFS 62.69 7 ⇓P P 03 57 18.3 -0.2
baz=63
VNDA Vanda 62.70 194 eP P 03 57 20.3 +2.4
VNDA Vanda 62.70 194 P P 03 57 18.8 +0.9
comp=Z,1.8nm,0.8s,baz=100,slow=6.4,SNR=5.5
VNDA LR LR 04 18 22.4
comp=Z,1μm,18.5s,baz=88,slow=30
W29A Amraillo 62.75 12 ⇓P P 03 57 17.9 -0.9
baz=63
V22A San Miguel Ran 62.77 7 ⇑P P 03 57 19.5 +0.4
baz=63,SNR=18
V24A Rampart Ranch, 62.78 8 ⇓P P 03 57 18.7 -0.5
baz=63
W28A Vega 62.78 11 ⇑P P 03 57 18.2 -0.9
baz=63
U15A North Rim 62.92 2 ⇓P P 03 57 21.0 +0.8
baz=63,SNR=28
VBMS Vicksburg 62.92 23 PFAKE 03 57 30.0 +10
VBMS LR LR
comp=Z,228nm,19.0s
RCTC Rector, Farmer 62.95 356 ⇓P P 03 57 19.8 -0.1
baz=63
WMOK Wichita Mounta 62.95 14 eP P 03 57 19.1 -1.0
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK MLR MLR
comp=Z,1μm,22.0s
WMOK Wichita Mounta 62.95 14 eP P 03 57 19.1 -1.0
comp=Z,7.3nm,0.9s
WMOK LR LR
comp=Z,1μm,22.0s
SHPR Sheep Range 62.98 359 eP P 03 57 21.4 +1.0
V25A Rancho No Teng 62.98 9 ⇓P P 03 57 19.6 -0.8
baz=63,SNR=14
FURC Furnace Creek, 62.98 358 ⇑P P 03 57 20.8 +0.6
baz=63,SNR=9.2
CWC Cottonwood Cre 63.00 357 ⇑P P 03 57 20.8 +0.3
baz=63
W30A Crocket Farms 63.01 13 ⇓P P 03 57 19.8 -0.7
baz=63
V26A Tequesquite Ra 63.05 10 ⇑P P 03 57 20.2 -0.6
baz=63,SNR=20
U20A Newcomb 63.08 5 ⇑P P 03 57 21.1 0.0
baz=63
BRAL Brewton 63.12 26 PFAKE 03 57 30.0 +8.8
BRAL LR LR
comp=Z,526nm,20.0s
W31A Holland Ranch, 63.14 13 ⇑P P 03 57 20.6 -0.7
baz=63
V27A Dan Oppiter Fa 63.16 10 ⇑P P 03 57 21.2 -0.4
baz=63
U21A Nageezi 63.20 6 ⇑P P 03 57 22.2 +0.2
baz=64,SNR=22
U22A Llaves 63.23 7 ⇓P P 03 57 22.8 +0.6
baz=64,SNR=20
V28A Channing 63.26 11 ⇑P P 03 57 21.7 -0.5
baz=64
U23A El Rito 63.26 7 ⇓P P 03 57 22.7 +0.3
baz=64,SNR=45
QSPA South Pole Qui 63.37 180 eP P 03 57 24.6 +1.9
comp=Z,239nm,1.8s
QSPA LR LR
comp=Z,750nm,20.0s
U24A Moreno Valley 63.45 8 ⇓P P 03 57 24.1 +0.5
baz=64
V29A Stinnett 63.50 12 ⇓P P 03 57 23.2 -0.6
baz=64
GRAC Grapevine Rang 63.53 357 ⇑P P 03 57 24.6 +0.8
baz=64,SNR=12
V30A Spur Ranch, Mi 63.55 12 ⇓P P 03 57 24.1 0.0
baz=64
U25A Circle Dot Ran 63.56 9 ⇓P P 03 57 24.0 -0.3
baz=64,SNR=23
TIN Tinemaha 63.62 357 ⇓P P 03 57 25.3 +0.7
baz=64
U26A Atchley Ranch, 63.65 10 ⇑P P 03 57 24.1 -0.8
baz=64,SNR=7.5
GRTK Grand Turk 63.69 45 PFAKE 03 57 40.0 +15
GRTK LR LR
comp=Z,1μm,20.0s
V31A Spring Creek L 63.73 13 ⇑P P 03 57 25.6 +0.4
baz=64,SNR=11
T21A Navajo Lake 63.78 6 ⇑P P 03 57 25.7 0.0
baz=64,SNR=9.8
U27A Thompson Grove 63.81 10 ⇑P P 03 57 25.5 -0.4
baz=64
T22A Edith 63.86 7 ⇓P P 03 57 26.6 +0.3
baz=64,SNR=30
U28A Mallet 63.87 11 ⇓P P 03 57 25.8 -0.5
baz=64
CRPR Cabo Rojo, PR 63.90 51 eP P 03 57 26.1 -0.5
comp=Z,143nm,1.3s
MVCO Mesa Verde 63.91 5 eP P 03 57 26.7 +0.1
comp=Z,336nm,2.5s
MVCO LR LR
comp=Z,718nm,20.0s
MVCO Mesa Verde 63.91 5 ⇓P P 03 57 26.5 -0.2
baz=64,SNR=12
MTUM Tungsten Hills 63.94 356 eP P 03 57 28.0 +1.2
T23A Casias Ranch, 63.98 7 ⇓P P 03 57 27.1 0.0
baz=64,SNR=11
CCUT Cedar City 64.02 1 eP P 03 57 28.4 +1.0
comp=Z,22nm,0.9s
MIAR Mount Ida 64.10 19 eP P 03 57 27.2 -0.5
MIAR pmax pmax
comp=Z,42nm,1.5s
MIAR Mount Ida 64.10 19 eP P 03 57 27.2 -0.5
comp=Z,42nm,1.5s
U29A Oasis Ranch, S 64.11 12 ⇑P P 03 57 27.3 -0.5
baz=64
GRGR Grenville 64.13 60 PFAKE 03 57 40.0 +12
GRGR LR LR
comp=Z,996nm,19.0s
MLAC Mammoth Lakes 64.23 356 ⇓P P 03 57 29.2 +0.4
baz=64
ARUT Antelope Range 64.26 1 eP P 03 57 29.6 +0.8
ARUT pmax pmax
comp=Z,49nm,1.6s
ARUT Antelope Range 64.26 1 eP P 03 57 29.6 +0.8
comp=Z,49nm,1.6s
T25A Trinidad 64.28 9 ⇓P P 03 57 29.0 -0.1
baz=65,SNR=10
U30A WK&E Inc. Balk 64.30 12 ⇓P P 03 57 28.3 -0.7
baz=65
U31A Nine Bar Ranch 64.30 13 ⇑P P 03 57 28.8 -0.2
baz=65
S21A Coal Bank Pass 64.42 6 ⇓P P 03 57 30.2 +0.1
baz=65,SNR=22
T26A Comanche Natio 64.43 9 ⇑P P 03 57 29.7 -0.3
baz=65,SNR=12
T27A Campo 64.46 10 ⇓P P 03 57 29.4 -0.7
baz=65,SNR=6.8
S20A Disappointment 64.53 5 ⇑P P 03 57 31.0 +0.2
baz=65,SNR=23
S22A 4UR Ranch, Cre 64.59 7 ⇓P P 03 57 30.9 -0.2
baz=65,SNR=13
TPH Tonopah 64.59 357 PFAKE 03 57 40.0 +8.9
TPH LR LR
comp=Z,213nm,19.0s
T28A Walsh 64.61 11 ⇑P P 03 57 30.5 -0.6
baz=65,SNR=8.6
S23A Nye Farm, Mont 64.64 7 ⇑P P 03 57 31.4 -0.1
baz=65
S24A Houchin Ranch, 64.67 8 ⇓P P 03 57 31.6 -0.1
baz=65,SNR=13
UALR University of 64.68 20 eP P 03 57 32.0 +0.5
comp=Z,37nm,1.3s
SDCO Great Sand Dun 64.74 8 eP P 03 57 32.1 -0.1
comp=Z,24nm,1.2s
SDCO LR LR
comp=Z,1μm,20.0s
CMB Columbia Colle 64.75 355 eP P 03 57 32.8 +0.9
CMB pmax pmax
comp=Z,13nm,0.9s
CMB Columbia Colle 64.75 355 eP P 03 57 32.8 +0.9
comp=Z,13nm,0.9s
TUL1 Tulsa 64.78 17 ⇓P P 03 57 31.3 -0.8
baz=65
T29A Hugoton 64.79 11 ⇓P P 03 57 31.5 -0.7
baz=65
S25A Robets Cordova 64.79 9 ⇑P P 03 57 32.0 -0.4
baz=65,SNR=14
PV01 Paradox Valley 64.82 5 eP P 03 57 32.4 -0.2
comp=Z,2μm,1.4s
R11A Troy Canyon, C 64.82 359 eP P 03 57 33.4 +0.9
R11A Troy Canyon, C 64.82 359 ⇓P P 03 57 33.6 +1.1
baz=65,SNR=25
T30A Plains 64.83 12 ⇑P P 03 57 32.1 -0.3
baz=65
R20A Redvale 64.89 5 ⇑P P 03 57 32.9 -0.1
baz=65,SNR=12
S26A Kim 64.89 10 ⇑P P 03 57 32.5 -0.5
baz=65,SNR=10
TIGA Tifton 64.92 29 ⇑P P 03 57 31.8 -1.2
baz=65
LRAL Lakeview Retre 64.94 25 eP P 03 57 32.5 -0.6
comp=Z,42nm,1.3s
LRAL LR LR
comp=Z,442nm,19.0s
NV11 Mina Array Sit 64.99 357 eP P 03 57 34.0 +0.4
MVU Marysvale 65.00 2 eP P 03 57 34.2 +0.5
comp=Z,31nm,1.5s
MVU LR LR
comp=Z,412nm,21.0s
NVAR Mina Array Bea 65.00 357 P P 03 57 34.4 +0.7
NVAR Mina Array Bea 65.00 357 P P 03 57 34.4 +0.7
comp=Z,14nm,0.8s,baz=186,slow=7.3,SNR=42
NVAR LR LR 04 19 18.9
comp=Z,374nm,21.2s,baz=313,slow=30
MSU Marysvale 65.00 2 eP P 03 57 34.6 +0.8
MSU Marysvale 65.00 2 eP P 03 57 34.6 +0.8
S27A Las Animas 65.04 10 ⇓P P 03 57 33.3 -0.6
baz=65
T31A Randall Ranch, 65.04 13 ⇑P P 03 57 33.5 -0.3
baz=65,SNR=8.1
PV04 Paradox Valley 65.05 5 eP P 03 57 34.5 +0.4
R22A Saguache, Gunn 65.08 7 ⇓P P 03 57 34.7 +0.4
baz=65,SNR=13
S28A Manter 65.11 11 ⇑P P 03 57 33.9 -0.4
baz=65,SNR=17
R21A Cimarron 65.14 6 ⇓P P 03 57 35.1 +0.5
baz=65,SNR=16
R23A Moffat 65.14 7 ⇑P P 03 57 34.5 -0.2
baz=65,SNR=7.4
R24A Sanders Place, 65.27 8 ⇓P P 03 57 35.4 0.0
baz=66,SNR=8.9
S29A Ulysses 65.27 12 ⇑P P 03 57 34.7 -0.7
baz=66
R25A Fountain Ranch 65.29 9 ⇓P P 03 57 35.1 -0.5
baz=66
OXF Oxford 65.39 22 PFAKE 03 57 50.0 +14
OXF LR LR
comp=Z,382nm,21.0s
S30A Montezuma 65.41 12 ⇑P P 03 57 35.4 -0.8
baz=66
Q16A Castle Valley 65.44 3 ⇑P P 03 57 36.7 +0.1
baz=66,SNR=8.7
R26A Arlington 65.56 9 ⇓P P 03 57 36.4 -0.8
baz=66,SNR=9.8
S31A Mullinville 65.58 13 ⇓P P 03 57 37.0 -0.3
baz=66
Q21A Lamborn Mesa, 65.60 6 ⇓P P 03 57 37.7 +0.2
baz=66,SNR=6.1
R27A Eads 65.64 10 ⇓P P 03 57 37.3 -0.4
baz=66,SNR=9.0
Q20A Ridgley Place, 65.66 5 ⇑P P 03 57 37.5 -0.4
baz=66,SNR=11
SRU San Rafael 65.67 3 eP P 03 57 37.9 -0.1
SRU pmax pmax
comp=Z,31nm,1.0s
SRU San Rafael 65.67 3 eP P 03 57 37.9 -0.1
comp=Z,31nm,1.0s
Q22A Crested Butte, 65.69 6 ⇑P P 03 57 38.3 0.0
baz=66,SNR=14
TMUT Trail Mountain 65.82 3 eP P 03 57 40.5 +1.4
comp=Z,19nm,0.9s
Q23A Hartsel 65.85 7 ⇑P P 03 57 39.2 -0.1
baz=66
R28A Tribune 65.86 11 ⇓P P 03 57 38.7 -0.4
baz=66,SNR=7.8
Q24A Divide 65.98 8 ⇓P P 03 57 39.8 -0.4
baz=66
SMCO Snowmass 66.00 6 eP P 03 57 40.5 +0.1
comp=Z,13nm,0.9s
Q25A Bedland, Calha 66.05 9 ⇓P P 03 57 39.6 -0.9
baz=66
R29A Marienthal 66.05 11 ⇑P P 03 57 39.9 -0.4
baz=66
R30A Dighton 66.07 12 ⇑P P 03 57 39.9 -0.5
baz=66,SNR=8.4
FDF Fort de France 66.11 58 eP P 03 57 40.1 -1.1
FDF pmax pmax
comp=Z,121nm,1.0s
FDF MLR MLR
comp=Z,948nm,22.0s
FDF Fort de France 66.11 58 eP P 03 57 40.1 -1.1
comp=Z,121nm,1.0s
FDF LR LR
comp=Z,948nm,22.0s
OHCM Honcut 66.14 354 eP P 03 57 41.9 +1.1
Q26A Hugo 66.16 9 ⇓P P 03 57 40.7 -0.5
baz=66
P20A De Beque 66.19 5 ⇑P P 03 57 40.9 -0.4
baz=66,SNR=8.2
R31A Burdett 66.22 13 ⇑P P 03 57 41.0 -0.4
baz=66
P19A Cripple Cowboy 66.28 5 ⇓P P 03 57 41.5 -0.5
baz=67,SNR=12
PLAL Pickwick Lake 66.28 23 eP P 03 57 40.8 -1.0
P21A Newcastle 66.30 6 ⇓P P 03 57 42.0 -0.1
baz=67,SNR=7.3
P23A Jefferson 66.31 7 ⇓P P 03 57 42.5 +0.2
baz=67,SNR=13
PAHR Pah Rah Range 66.33 356 eP P 03 57 44.3 +2.1
comp=Z,142nm,2.5s
BBGH Gun Hill 66.36 60 eP P 03 57 43.0 +0.3
comp=Z,392nm,1.5s
BBGH LR LR
comp=Z,2μm,21.0s
KSCO Kaye Shedlock' 66.38 10 ⇑P P 03 57 42.4 -0.1
baz=67,SNR=6.0
P22A Eagle 66.43 6 ⇓P P 03 57 43.0 0.0
baz=67,SNR=20
NLU North Lily Min 66.45 2 eP P 03 57 44.0 +1.0
comp=Z,34nm,1.2s
MPU Maple Canyon 66.52 2 eP P 03 57 45.2 +1.7
comp=Z,34nm,1.3s
Q29A Oakley 66.53 11 ⇓P P 03 57 42.9 -0.5
baz=67
Q28A Sharon Springs 66.56 11 ⇑P P 03 57 43.4 -0.2
baz=67
P24A Kohler Place, 66.56 8 ⇑P P 03 57 43.5 -0.2
baz=67
BEKR Beckworth 66.56 355 eP P 03 57 44.2 +0.5
comp=Z,14nm,1.7s
P25A Willow Gulch B 66.65 9 ⇓P P 03 57 44.3 0.0
baz=67,SNR=7.8
DUG Dugway 66.67 1 eP P 03 57 45.0 +0.6
DUG pmax pmax
comp=Z,41nm,1.3s
DUG MLR MLR
comp=Z,490nm,22.0s
DUG Dugway 66.67 1 eP P 03 57 45.0 +0.6
comp=Z,41nm,1.3s
DUG LR LR
comp=Z,490nm,22.0s
DUG Dugway 66.67 1 ⇓P P 03 57 44.7 +0.3
baz=67,SNR=30
GOGA Godfrey 66.67 28 eP P 03 57 43.3 -1.1
GOGA Godfrey 66.67 28 eP P 03 57 43.3 -1.1
Q30A Quinter 66.75 12 ⇑P P 03 57 44.4 -0.4
baz=67,SNR=9.8
ISCO Idaho Springs 66.75 7 eP P 03 57 44.8 -0.3
ISCO pmax pmax
comp=Z,150nm,2.7s
ISCO MLR MLR
comp=Z,1μm,20.0s
ISCO Idaho Springs 66.75 7 eP P 03 57 44.8 -0.3
comp=Z,150nm,2.7s
ISCO LR LR
comp=Z,1μm,20.0s
ISCO Idaho Springs 66.75 7 ⇑P P 03 57 44.8 -0.3
baz=67,SNR=9.9
P26A Davis Ranch, A 66.81 9 ⇑P P 03 57 45.1 -0.2
baz=67,SNR=13
O20A White River Ci 66.83 5 ⇓P P 03 57 45.4 -0.1
baz=67
P27A Ficken Ranch, 66.92 10 ⇓P P 03 57 45.6 -0.3
baz=67,SNR=8.3
DAU Daniels Canyon 66.93 3 eP P 03 57 46.8 +0.5

DAU Daniels Canyon 66.93 3 eP P 03 57 46.8 +0.5
O19A Miners Draw (B 66.93 4 ⇓P P 03 57 45.7 -0.4
baz=67,SNR=17
Q31A Ellis 66.94 13 ⇓P P 03 57 45.6 -0.4
baz=67,SNR=7.0
BMN Battle Mountai 66.94 358 eP P 03 57 46.2 +0.1
BMN pmax pmax
comp=Z,145nm,2.0s
BMN MLR MLR
comp=Z,224nm,21.0s
BMN Battle Mountai 66.94 358 eP P 03 57 46.2 +0.1
comp=Z,145nm,2.0s
BMN LR LR
comp=Z,224nm,21.0s
O21A Pagoda 66.98 6 ⇓P P 03 57 46.3 -0.1
baz=67
O22A Kremmling 67.01 6 ⇑P P 03 57 46.7 -0.1
baz=67,SNR=15
P28A Saint Francis 67.07 11 ⇑P P 03 57 46.8 0.0
baz=67
JLU Jordanelle 67.11 2 eP P 03 57 47.7 +0.4
comp=Z,51nm,1.3s
O23A Lake Granby, G 67.13 7 ⇓P P 03 57 47.4 -0.1
baz=67
O24A Longmont 67.14 8 ⇑P P 03 57 47.2 -0.2
baz=67
P29A Atwood 67.23 11 ⇑P P 03 57 47.7 -0.1
baz=68
PARMO Parma 67.24 21 eP P 03 57 47.5 -0.4
O25A Wiggins 67.25 8 ⇓P P 03 57 47.9 -0.2
baz=68
SWET Sewanee 67.27 25 eP P 03 57 47.1 -1.1
comp=Z,25nm,1.0s
P30A Selden 67.30 12 ⇑P P 03 57 48.0 -0.3
baz=68
WVT Waverly 67.40 23 eP P 03 57 47.5 -1.4
WVT pmax pmax
comp=Z,12nm,0.8s
WVT Waverly 67.40 23 eP P 03 57 47.5 -1.4
comp=Z,12nm,0.8s
WDC Whiskeytown Da 67.47 353 eP P 03 57 49.0 -0.3
WDC pmax pmax
comp=Z,21nm,1.0s
WDC Whiskeytown Da 67.47 353 eP P 03 57 49.0 -0.3
comp=Z,21nm,1.0s
ANWB Willy Bob 67.48 55 PFAKE 03 58 00.0 +10
ANWB LR LR
comp=Z,947nm,21.0s
O26A Horse Wrangler 67.48 9 ⇓P P 03 57 49.7 +0.2
baz=68
N21A Black Mountain 67.52 6 ⇓P P 03 57 49.6 -0.2
baz=68,SNR=9.3
N20A Spence Gulch, 67.53 5 ⇑P P 03 57 49.7 -0.2
baz=68,SNR=16
O27A Beecher Island 67.56 10 ⇓P P 03 57 49.8 -0.2
baz=68,SNR=8.4
O28A Krutsinger Ran 67.60 10 ⇓P P 03 57 50.2 0.0
baz=68
KSU1 Kansas State U 67.62 15 eP P 03 57 50.3 0.0
comp=Z,57nm,1.1s
KSU1 LR LR
comp=Z,860nm,19.0s
N22A Wattenberg Ran 67.66 6 ⇑P P 03 57 50.6 -0.2
baz=68,SNR=12
O29A 4D Ranch, Culb 67.77 11 ⇓P P 03 57 51.0 -0.2
baz=68
N23A Red Feather La 67.80 7 ⇑P P 03 57 51.5 -0.2
baz=68,SNR=14
N24A Carr 67.86 8 ⇑P P 03 57 52.0 +0.1
baz=68
KHMM Horse Mountain 67.90 352 eP P 03 57 53.5 +1.4
comp=Z,43nm,1.1s
N25A Grover 67.94 8 ⇑P P 03 57 52.4 -0.1
baz=68
O30A MW Ranch, Wils 67.95 12 ⇑P P 03 57 52.2 -0.1
baz=68
M17A Scullys Gap (B 68.02 3 ⇓P P 03 57 51.5 -1.4
baz=68
CPCT Cooper Cave 68.02 26 eP P 03 57 52.4 -0.5
N26A Koester Ranch, 68.07 9 ⇓P P 03 57 52.9 -0.3
baz=68
HWUT Hardware Ranch 68.11 2 eP P 03 57 52.7 -0.9
comp=Z,10nm,1.1s
HWUT LR LR
comp=Z,369nm,19.0s
M19A Rock Springs 68.13 4 ⇑P P 03 57 52.4 -1.3
baz=68
N27A Anderson Farm, 68.15 10 ⇑P P 03 57 53.9 +0.2
baz=68
M20A Sweetwater, Wa 68.19 5 ⇓P P 03 57 53.1 -1.0
baz=68,SNR=7.3
N28A Pribbeno Ranch 68.19 10 ⇓P P 03 57 54.0 +0.1
baz=68
M22A Cedar Creek Ra 68.24 6 ⇓P P 03 57 54.3 -0.1
baz=68
PHWY Pilot Hill 68.26 7 eP P 03 57 54.5 -0.1
comp=Z,8.7nm,1.0s
OGNE Ogallala 68.36 10 eP P 03 57 55.1 +0.1
OGNE LR LR
comp=Z,101nm,1.6s
OGNE Ogallala 68.36 10 ⇑P P 03 57 54.9 -0.1
baz=69
M21A Separation Pea 68.37 6 ⇓P P 03 57 54.0 -1.2
baz=69,SNR=8.1
SIUC Southern Illin 68.37 21 eP P 03 57 54.9 0.0
comp=Z,32nm,0.9s
M23A Laramie 68.39 7 ⇓P P 03 57 55.0 -0.4
baz=69
RWWY Rawlins 68.46 6 eP P 03 57 54.8 -1.0
comp=Z,14nm,0.9s
N29A Votaw Ranch, W 68.47 11 ⇓P P 03 57 55.5 -0.1
baz=69
M24A Cheyenne 68.49 8 ⇓P P 03 57 56.0 0.0
baz=69,SNR=7.9
L18A Fontenelle, Gr 68.50 3 ⇓P P 03 57 54.7 -1.3
baz=69,SNR=8.0
TKL Tuckaleechee C 68.50 26 eP P 03 57 55.3 -0.5
N30A Hueftle Ranch, 68.54 12 ⇓P P 03 57 55.7 -0.4
baz=69
M25A Palm-Egli Farm 68.56 8 ⇓P P 03 57 56.0 -0.3
baz=69
KRMB Red Mountain 68.56 352 eP P 03 57 58.1 +1.9
YBH Yreka Blue Hor 68.63 353 eP P 03 57 55.5 -1.2
comp=Z,6.1nm,1.1s
YBH Yreka Blue Hor 68.63 353 P P 03 57 56.0 -0.7
comp=Z,2.7nm,0.8s,baz=111,slow=5.8,SNR=9.4
YBH LR LR 04 21 44.9
comp=Z,159nm,19.0s,baz=181,slow=30
L20A Wamsutter 68.69 5 ⇑P P 03 57 56.7 -0.4
baz=69,SNR=13
M26A McRoberts Ranc 68.71 9 ⇓P P 03 57 56.7 -0.5
baz=69
L19A Farson 68.71 4 ⇓P P 03 57 56.5 -0.8
baz=69,SNR=9.6
L21A Rawlins 68.72 6 ⇓P P 03 57 56.3 -1.1
baz=69,SNR=6.4
L22A Ellis Ranch, M 68.88 6 ⇑P P 03 57 58.1 -0.2
baz=69
M27A Reverse DX Ran 68.88 10 ⇓P P 03 57 57.8 -0.4
baz=69
M28A Bar X Bar Ranc 68.91 10 ⇑P P 03 57 58.3 -0.1
baz=69
WVOR Wild Horse Val 69.01 357 eP P 03 57 59.7 +0.7
WVOR pmax pmax
comp=Z,30nm,1.0s
WVOR MLR MLR
comp=Z,276nm,21.0s
WVOR Wild Horse Val 69.01 357 eP P 03 57 59.7 +0.7
comp=Z,30nm,1.0s
WVOR LR LR
comp=Z,276nm,21.0s
L23A Garrett 69.03 7 ⇓P P 03 57 58.5 -0.9
baz=69
L24A Wheatland 69.05 7 ⇓P P 03 57 59.3 0.0
baz=69
KMSC Kings Mountain 69.06 29 eP P 03 57 59.0 -0.4
KMSC Kings Mountain 69.06 29 ⇓P P 03 57 58.9 -0.4
baz=69
M29A Burnside Ranch 69.07 11 ⇓P P 03 57 59.4 0.0
baz=69
USIN University of 69.11 22 eP P 03 57 59.0 -0.6
L25A Engebretsen Ra 69.28 8 ⇑P P 03 58 00.6 -0.1
baz=70
L26A Underwood Farm 69.28 9 ⇓P P 03 58 00.5 -0.2
baz=70
M30A Dale-Ortello V 69.30 12 ⇓P P 03 58 00.4 -0.4
baz=70

K20A Yellowstone Ra 69.33 5 ⇓P P 03 58 00.1 -1.0
baz=70,SNR=13
TZTN Tazewell 69.36 26 eP P 03 58 01.0 -0.2
comp=Z,19nm,0.9s
BW06 Boulder Array 69.36 4 eP P 03 57 59.7 -1.6
comp=Z,126nm,2.1s
BW06 LR LR
comp=Z,507nm,20.0s
PDAR Pinedale Array 69.36 4 P P 03 58 00.1 -1.3
PDAR Pinedale Array 69.36 4 P P 03 58 00.1 -1.3
comp=Z,14nm,1.1s,baz=177,slow=6.1,SNR=45
PDAR LR LR 04 23 10.5
comp=Z,451nm,20.5s,baz=194,slow=32
K21A Alcova 69.40 6 ⇓P P 03 58 00.5 -1.0
baz=70,SNR=16
L27A T5 Ranch, Ells 69.43 10 ⇓P P 03 58 01.2 -0.5
baz=70
K19A Absolon Red Bu 69.47 4 ⇓P P 03 58 00.7 -1.3
baz=70,SNR=10
K22A Casper 69.48 6 ⇓P P 03 58 01.6 -0.4
baz=70,SNR=16
L28A Connealy Angus 69.48 10 ⇑P P 03 58 01.4 -0.5
baz=70
BGNE Belgrade 69.50 13 ⇓P P 03 58 02.0 0.0
baz=70
HUMO Hull Mountain 69.52 353 eP P 03 58 02.8 +0.7
comp=Z,19nm,1.1s
K23A Bowen Ranch, D 69.67 7 ⇓P P 03 58 02.4 -0.8
baz=70,SNR=14
L29A Maesberg Ranch 69.71 11 ⇓P P 03 58 03.2 -0.1
baz=70
K24A Anderson Ranch 69.73 7 ⇑P P 03 58 03.0 -0.5
baz=70
K25A Mack Ranch, Ha 69.74 8 ⇓P P 03 58 03.6 0.0
baz=70
WCI Wyandotte Cave 69.82 23 eP P 03 58 02.8 -1.3
WCI pmax pmax
comp=Z,10.0nm,1.0s
WCI Wyandotte Cave 69.82 23 eP P 03 58 02.8 -1.3
comp=Z,9.6nm,1.0s
RRI2 Red Ridge 69.86 2 eP P 03 58 04.0 -0.5
comp=Z,64nm,1.4s
MFID Camas Ranch 69.89 359 ⇑P P 03 58 04.2 -0.2
baz=70,SNR=15
J19A Crowheart 69.89 4 ⇓P P 03 58 03.5 -1.0
baz=70,SNR=13
REDW Red Top Meadow 69.89 3 eP P 03 58 03.8 -0.8
comp=Z,23nm,1.2s
K26A Motz Farm, Whi 69.92 9 ⇓P P 03 58 04.3 -0.3
baz=70
SNOW Snow King Moun 70.00 3 eP P 03 58 04.2 -1.1
comp=Z,9.0nm,0.7s
TPAW Teton Pass 70.02 3 eP P 03 58 05.0 -0.4
comp=Z,33nm,1.0s
HLID Hailey 70.02 360 eP P 03 58 05.6 +0.3
comp=Z,25nm,0.9s
HLID LR LR
comp=Z,303nm,21.0s
HLID Hailey 70.02 360 ⇑P P 03 58 05.9 +0.5
baz=70,SNR=46
J20A Shoshoni 70.05 5 ⇑P P 03 58 05.0 -0.5
baz=70,SNR=46
K27A Flueckinger Fa 70.05 9 ⇑P P 03 58 05.3 -0.1
baz=70
J21A Lysite 70.09 5 ⇑P P 03 58 05.4 -0.4
baz=70,SNR=26
VNA1 Neumayer--Stat 70.10 160 eP P 03 58 05.7 +0.4
LOHW Long Hollow 70.15 3 eP P 03 58 05.3 -0.9
comp=Z,23nm,1.3s
K28A Ten Mile Ranch 70.19 10 ⇓P P 03 58 06.6 +0.3
baz=70
J22A Midwest 70.24 6 ⇓P P 03 58 05.7 -1.0
baz=70,SNR=12
VNA2 Neumayer--Watz 70.24 160 eP P 03 58 07.0 +0.7
VNA2 Neumayer--Watz 70.24 160 esP sP 03 58 08.7 -2.1
I18A Diamond G Ranc 70.28 3 ⇓P P 03 58 06.4 -0.6
baz=71,SNR=16
MOOW Moose Ponds 70.28 3 eP P 03 58 06.1 -0.9
comp=Z,11nm,0.9s
J23A Dilts Ranch, B 70.32 7 ⇑P P 03 58 06.9 -0.2
baz=71
J24A Dixon Ranch, L 70.35 7 ⇑P P 03 58 06.9 -0.3
baz=71
I16A Newdale 70.38 2 ⇑P P 03 58 06.9 -0.6
baz=71,SNR=5.7
K29A Lazy Trails An 70.41 11 ⇓P P 03 58 07.9 +0.3
baz=71
IMW Indian Meadow 70.42 3 eP P 03 58 07.3 -0.6
comp=Z,15nm,1.0s
I17A Pilgrim Ck. 70.46 3 ⇑P P 03 58 07.9 -0.2
baz=71
J25A Sunshine Ranch 70.51 8 ⇑P P 03 58 08.0 -0.2
baz=71,SNR=23
J26A Sides Ranch, S 70.53 9 ⇑P P 03 58 08.0 -0.3
baz=71,SNR=10.0
I21A Big Trails, Te 70.56 5 ⇓P P 03 58 07.9 -0.7
baz=71,SNR=50
J27A Elkhorn Farm, 70.62 10 ⇑P P 03 58 09.1 +0.2
baz=71
I20A Worland 70.64 5 ⇑P P 03 58 08.3 -0.7
baz=71,SNR=18
I19A Meeteetse 70.66 4 ⇓P P 03 58 08.6 -0.6
baz=71,SNR=16
CNNC Cliffs of the 70.67 31 PFAKE 03 58 20.0 +11
CNNC LR LR
comp=Z,663nm,19.0s
I22A 9 Mile Ranch, 70.72 6 ⇓P P 03 58 09.1 -0.5
baz=71,SNR=14
I24A Kuemmerle Ranc 70.88 7 ⇓P P 03 58 09.4 -1.1
baz=71
I23A Meade Ranch, G 70.88 7 ⇓P P 03 58 09.3 -1.2
baz=71
J28A Allard Ranch, 70.91 10 ⇑P P 03 58 10.5 -0.1
baz=71,SNR=5.7
H17A Grant Village 70.93 3 ⇓P P 03 58 11.5 +0.5
baz=71
HDIL Hopedale 70.94 20 eP P 03 58 10.7 -0.1
comp=Z,29nm,0.9s
HDIL LR LR
comp=Z,823nm,20.0s
LKWY Lake 71.11 3 PFAKE 03 58 20.0 +7.9
LKWY LR LR
comp=Z,545nm,21.0s
I25A Rochford 71.14 8 ⇑P P 03 58 11.7 -0.4
baz=71,SNR=13
H20A Greybull 71.18 5 ⇑P P 03 58 11.1 -1.2
baz=72,SNR=6.8
DZM Mont Dzumac 71.19 254 eS S 04 07 25.4 -5.1
comp=Z,712nm,25.7s
DZM Mont Dzumac 71.19 254 eLR LR 04 19 42.5
comp=Z,3µm,27.0s
YMR Madison River 71.19 3 eP P 03 58 12.8 +0.2
comp=Z,106nm,1.7s
RSSD Black Hills 71.20 8 eP P 03 58 11.8 -0.8
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD Black Hills 71.20 8 eP P 03 58 11.8 -0.8
comp=Z,12nm,0.9s
BLA Blacksburg 71.21 28 eP P 03 58 12.2 -0.3
BLA pmax pmax
comp=Z,26nm,1.1s
BLA MLR MLR
comp=Z,643nm,21.0s
BLA Blacksburg 71.21 28 eP P 03 58 12.2 -0.3
comp=Z,26nm,1.1s
BLA LR LR
comp=Z,643nm,21.0s
H16A Russell Place, 71.22 2 ⇑P P 03 58 12.8 +0.1
baz=72,SNR=31
SNAA Sanae 71.22 162 eP P 03 58 12.7 +0.4
SNAA Sanae 71.22 162 eP P 03 58 12.5 +0.2
comp=Z,79nm,1.5s
H18A Shoshone NF, C 71.26 4 ⇓P P 03 58 12.0 -0.9
baz=72,SNR=14
I26A New Underwood 71.27 9 ⇓P P 03 58 12.9 +0.1
baz=72
H19A Powell 71.29 4 ⇑P P 03 58 12.1 -0.9
baz=72,SNR=6.6
MCMT McKenzie Canyo 71.30 1 eP P 03 58 13.1 -0.1
comp=Z,10nm,1.1s
QLMT Earthquake Lak 71.34 2 eP P 03 58 13.9 +0.6
BMO Blue Mountains 71.36 358 eP P 03 58 13.3 0.0
comp=Z,107nm,2.0s
BMO LR LR
comp=Z,284nm,21.0s
H21A Big Horn, Sher 71.39 5 ⇓P P 03 58 12.7 -0.9
baz=72
I27A Quinn 71.42 9 ⇓P P 03 58 13.8 +0.1

baz=72,SNR=10
H22A Clearmont 71.42 6 ⇓P P 03 58 13.1 -0.7
baz=72
SFIN Scholer Farm 71.48 22 ⇑P P 03 58 13.0 -1.0
baz=72
I28A Midland 71.48 10 ⇓P P 03 58 13.9 -0.2
baz=72
H23A Clabaugh Cattl 71.49 7 ⇑P P 03 58 12.8 -1.3
baz=72
DRV Dumont d'Urvil 71.62 204 P P 03 58 01.0 -14
DRV S S 04 06 46.0 -48
DRV L L 04 15 00.0
DRV R 04 20 00.0
RLMT Red Lodge 71.73 4 eP P 03 58 15.0 -0.8
comp=Z,17nm,0.9s
RLMT LR LR
comp=Z,369nm,22.0s
H25A Fruitdale 71.75 8 ⇑P P 03 58 15.4 -0.3
baz=72,SNR=7.1
H24A Dirks Ranch, A 71.76 7 ⇓P P 03 58 14.7 -1.1
baz=72,SNR=6.6
DLMT Dillon 71.84 1 eP P 03 58 16.0 -0.3
comp=Z,42nm,1.5s
G17A Pierce Place, 71.85 3 ⇓P P 03 58 16.8 +0.4
baz=72,SNR=7.5
H26A Fairpoint 71.85 9 ⇑P P 03 58 16.1 -0.2
baz=72,SNR=7.4
G20A Bridger 71.89 5 ⇑P P 03 58 15.6 -1.1
baz=72,SNR=21
G18A Lazy EL Ranch, 71.90 4 ⇓P P 03 58 16.4 -0.3
baz=72,SNR=38
H27A Howes 71.97 9 ⇑P P 03 58 16.2 -0.8
baz=72
G21A Lodge Grass 71.97 5 ⇓P P 03 58 16.0 -1.0
baz=72,SNR=5.6
G22A Birney 72.05 6 ⇑P P 03 58 16.5 -1.0
baz=72
ECSD EROS Data Cent 72.05 13 eP P 03 58 17.0 -0.4
comp=Z,15nm,1.0s
ECSD LR LR
comp=Z,456nm,19.0s
G23A Biddle 72.12 7 ⇓P P 03 58 16.8 -1.1
baz=72,SNR=12
BOZ Bozeman (W) 72.14 2 eP P 03 58 17.9 -0.3
BOZ pmax pmax
comp=Z,66nm,2.0s
BOZ MLR MLR
comp=Z,287nm,20.0s
BOZ Bozeman (W) 72.14 2 eP P 03 58 17.9 -0.3
comp=Z,66nm,2.0s
BOZ LR LR
comp=Z,287nm,20.0s
H28A Mission Ridge 72.16 10 ⇑P P 03 58 17.5 -0.6
baz=72
BRSD Miller 72.28 11 ⇑P P 03 58 17.8 -1.0
baz=73
LRM Limekiln Ridge 72.30 1 eP P 03 58 19.4 +0.2
comp=Z,136nm,1.3s
G25A Newell 72.34 8 ⇑P P 03 58 18.7 -0.5
baz=73,SNR=6.0
G24A Alzada 72.35 7 ⇓P P 03 58 17.9 -1.4
baz=73,SNR=6.0
GCMT Greycliff 72.37 3 eP P 03 58 18.6 -0.8
comp=Z,36nm,1.8s
F17A Fitzpatrick Pl 72.44 3 ⇑P P 03 58 19.9 +0.1
baz=73,SNR=18
F19A Roth Farm, Mol 72.47 4 ⇑P P 03 58 19.0 -1.0
baz=73,SNR=12
F20A Billings 72.47 5 ⇓P P 03 58 19.2 -0.9
baz=73,SNR=8.2
F18A Big Timber 72.48 3 ⇑P P 03 58 19.3 -0.8
baz=73,SNR=11
G26A Maurine 72.54 9 ⇑P P 03 58 20.0 -0.4
baz=73,SNR=9.7
G28A Parade 72.57 10 ⇓P P 03 58 20.0 -0.5
baz=73
F21A Absaloka Mine, 72.58 5 ⇑P P 03 58 19.7 -0.9
baz=73
F22A Rosebud 72.61 6 ⇓P P 03 58 19.8 -1.0
baz=73,SNR=5.9
F23A Volborg 72.63 7 ⇓P P 03 58 19.9 -1.0
baz=73,SNR=12
JSRW J. Sargeant Re 72.71 30 eP P 03 58 19.4 -2.0
G27A Dupree 72.72 9 ⇑P P 03 58 21.0 -0.4
baz=73,SNR=8.8
F24A Ekalaka 72.86 7 ⇓P P 03 58 21.4 -0.9
baz=73,SNR=6.1
E17A Martinsdale 72.99 3 ⇓P P 03 58 22.5 -0.7
baz=73,SNR=6.5
F25A Bowman 73.05 8 ⇓P P 03 58 23.2 -0.3
baz=73
F26A Lodgepole 73.08 8 ⇑P P 03 58 23.1 -0.5
baz=73,SNR=9.5
E19A Rath Farm, Rou 73.09 4 ⇓P P 03 58 22.9 -0.7
baz=73,SNR=9.4
E18A Harlowton 73.13 3 ⇑P P 03 58 23.8 -0.2
baz=73,SNR=7.6
E20A Meyer Farm, Mu 73.18 4 ⇑P P 03 58 23.6 -0.6
baz=74,SNR=6.1
F27A Lemmon 73.19 9 ⇓P P 03 58 23.8 -0.4
baz=74,SNR=9.0
HRY Holter Researc 73.20 2 eP P 03 58 24.0 -0.4
MSO Missoula 73.29 0 ⇑P P 03 58 24.9 0.0
baz=74,SNR=20
E22A Miles City 73.29 6 ⇑P P 03 58 24.2 -0.6
baz=74
E21A Keefer Ranch, 73.29 5 ⇑P P 03 58 24.2 -0.6
baz=74
CBN Corbin 73.35 30 PFAKE 03 58 40.0 +15
CBN LR LR
comp=Z,649nm,19.0s
CHMT Chamberlain Mo 73.38 1 eP P 03 58 25.4 -0.1
comp=Z,8.5nm,0.7s
E23A Ismay 73.41 6 ⇓P P 03 58 24.5 -1.0
baz=74
LON Longmire 73.52 355 eP P 03 58 25.7 -0.5
LON pmax pmax
comp=Z,15nm,1.1s
LON Longmire 73.52 355 eP P 03 58 25.6 -0.5
comp=Z,15nm,1.1s
E24A Baker 73.58 7 ⇑P P 03 58 25.9 -0.6
baz=74
E25A Miller Ranch, 73.63 8 ⇑P P 03 58 26.4 -0.4
baz=74,SNR=6.6
D17A Six Diamond Ra 73.68 3 ⇑P P 03 58 27.3 +0.1
baz=74,SNR=13
SLMT Seeley Lake 73.70 1 eP P 03 58 27.2 -0.1
comp=Z,18nm,0.9s
E26A Carlson Angus 73.72 9 ⇑P P 03 58 27.0 -0.3
baz=74,SNR=15
D20A Manuel Ranch, 73.76 4 ⇑P P 03 58 27.1 -0.5
baz=74,SNR=9.7
D18A Linhart Farms, 73.77 3 ⇑P P 03 58 28.1 +0.5
baz=74,SNR=9.6
D19A Cripps Ranch, 73.78 4 ⇓P P 03 58 27.6 -0.1
baz=74,SNR=6.8
E27A Carson 73.80 9 ⇑P P 03 58 27.4 -0.4
baz=74
D21A La Casta Ranch 73.82 5 ⇑P P 03 58 27.6 -0.4
baz=74,SNR=20
SWMT Swartz Lake 73.97 0 eP P 03 58 28.8 -0.1
comp=Z,12nm,1.2s
D22A Cohagen 73.97 6 ⇑P P 03 58 28.8 0.0
baz=74,SNR=11
D23A Lindsay 74.09 6 ⇑P P 03 58 29.7 +0.3
baz=74,SNR=6.6
D24A Glendive 74.12 7 ⇑P P 03 58 29.1 -0.6
baz=74
C17A Wharram Farm, 74.16 3 ⇑P P 03 58 30.1 +0.2
baz=74,SNR=14
JTMT Jette 74.20 0 eP P 03 58 30.0 -0.3
comp=Z,19nm,1.0s
C15A Salmond Ranch, 74.25 1 ⇑P P 03 58 30.4 -0.2
baz=74,SNR=14
D26A Manning 74.27 8 ⇑P P 03 58 30.5 0.0
baz=75,SNR=12
D25A Fairfield 74.28 8 ⇑P P 03 58 30.6 0.0
baz=75
BSMT Bassoo Peak 74.31 360 eP P 03 58 30.4 -0.5
comp=Z,15nm,1.0s
SPMN St. Paul 74.32 16 ⇑P P 03 58 30.3 -0.5
baz=75
YBMT Yellow Bay 74.32 0 eP P 03 58 30.5 -0.4
comp=Z,13nm,1.0s
C19A Slack Wire Ran 74.34 4 ⇓P P 03 58 31.3 +0.3
baz=75,SNR=13
NLWA Neilton Lookou 74.35 353 eP P 03 58 31.2 +0.2
comp=Z,27nm,1.0s

NLWA					LR	LR		
	comp=Z,183nm,19.0s							
C20A	**Veseth Ranch,**	**74.39**	**4**	⇑P		**P**	**03 58 30.8**	**-0.4**
	baz=75,SNR=7.6							
BLMT	**Blacktail Moun**	**74.47**	**360**	*e*P		**P**	**03 58 31.7**	**-0.1**
	comp=Z,18nm,1.0s							
D27A	**Center**	**74.47**	**9**	⇑P		**P**	**03 58 31.5**	**-0.1**
	baz=75							
C24A	**Savage**	**74.52**	**7**	⇑P		**P**	**03 58 31.9**	**-0.1**
	baz=75							
C21A	**Desert Coulee**	**74.57**	**5**	⇑P		**P**	**03 58 31.7**	**-0.6**
	baz=75,SNR=8.2							
C22A	**Vida**	**74.59**	**6**	⇓P		**P**	**03 58 32.3**	**-0.1**
	baz=75,SNR=15							
EGMT	**Eagleton**	**74.59**	**3**	*e*P		**P**	**03 58 32.8**	**+0.4**
	comp=Z,222nm,2.0s							
EGMT					LR	LR		
	comp=Z,328nm,22.0s							
EGMT	**Eagleton**	**74.59**	**3**	⇓P		**P**	**03 58 33.0**	**+0.5**
	baz=75,SNR=8.8							
C23A	**Lambert**	**74.71**	**6**	⇓P		**P**	**03 58 33.0**	**-0.1**
	baz=75							
NEW	**Newport**	**74.76**	**358**	*e*P		**P**	**03 58 33.3**	**-0.1**
	comp=Z,45nm,1.3s							
NEW	**Newport**	**74.76**	**358**	P		**P**	**03 58 33.1**	**-0.2**
	comp=Z,17nm,1.0s,baz=191,slow=5.5,SNR=28							
NEW					LR	LR	04 25 21.5	
	comp=Z,226nm,18.2s,baz=183,slow=31							
NEW	**Newport**	**74.76**	**358**	⇑P		**P**	**03 58 33.2**	**-0.1**
	baz=75,SNR=22							
B15A	**Bradely Ranch,**	**74.79**	**1**	⇑P		**P**	**03 58 33.2**	**-0.3**
	baz=75,SNR=14							
B17A	**L&G Farms, Che**	**74.82**	**2**	⇓P		**P**	**03 58 34.0**	**+0.3**
	baz=75							
C25A	**Freed Ranch, W**	**74.84**	**8**	⇓P		**P**	**03 58 33.6**	**-0.2**
	baz=75							
B18A	**Beardsley Farm**	**74.96**	**3**	⇑P		**P**	**03 58 35.3**	**+0.8**
	baz=75,SNR=12							
C27A	**Sayler Ranch,**	**75.06**	**9**	⇑P		**P**	**03 58 35.1**	**0.0**
	baz=75							
B19A	**Brinkman Farms**	**75.07**	**4**	⇓P		**P**	**03 58 35.4**	**+0.3**
	baz=75							
C26A	**Wahner Farm, P**	**75.09**	**8**	⇓P		**P**	**03 58 35.2**	**-0.1**
	baz=75,SNR=8.1							
B20A	**Solberg Farm,**	**75.11**	**4**	⇑P		**P**	**03 58 35.3**	**-0.1**
	baz=75							
B22A	**Reddig Ranch S**	**75.13**	**6**	⇓P		**P**	**03 58 35.2**	**-0.3**
	baz=75							
B21A	**Ellsworth Farm**	**75.17**	**5**	⇑P		**P**	**03 58 35.6**	**-0.1**
	baz=76,SNR=7.4							
B23A	**Brockton**	**75.39**	**6**	⇑P		**P**	**03 58 37.0**	**0.0**
	baz=76							
B25A	**Knox Farm, Ray**	**75.40**	**8**	⇓P		**P**	**03 58 37.2**	**+0.1**
	baz=76							
A14A	**Double T Ranch**	**75.44**	**1**	⇓P		**P**	**03 58 37.5**	**+0.1**
	baz=76,SNR=22							
A15A	**Johnson Ranch,**	**75.45**	**1**	⇓P		**P**	**03 58 37.0**	**-0.3**
	baz=76,SNR=5.5							
BBSR	**BB Station**	**75.47**	**42**	PFAKE			03 58 50.0	+12
BBSR					LR	LR		
	comp=Z,985nm,21.0s							
A17A	**Triple J Farms**	**75.47**	**2**	⇑P		**P**	**03 58 37.9**	**+0.4**
	baz=76							
DGMT	**Dagmar**	**75.48**	**7**	*e*P		**P**	**03 58 37.2**	**-0.2**
	comp=Z,69nm,1.1s							
DGMT					LR	LR		
	comp=Z,794nm,20.0s							
DGMT	**Dagmar**	**75.48**	**7**	⇓P		**P**	**03 58 37.5**	**0.0**
	baz=76							
MDND	**Maddock**	**75.48**	**10**	⇑P		**P**	**03 58 36.5**	**-1.0**
	baz=76							
A18A	**Metzger Ranch,**	**75.48**	**3**	⇓P		**P**	**03 58 37.8**	**+0.3**
	baz=76,SNR=12							
WALA	**Waterton Lakes**	**75.52**	**0**	*e*P		**P**	**03 58 37.8**	**0.0**
	comp=Z,0.6nm,1.0s							
A19A	**Klindworth Far**	**75.55**	**4**	⇓P		**P**	**03 58 38.3**	**+0.4**
	baz=76,SNR=7.7							
PGC	**Sidney**	**75.55**	**354**	*e*P		**P**	**03 58 37.9**	**+0.1**
	comp=Z,2.8nm,1.0s							
A20A	**Cobblestone Ra**	**75.56**	**4**	⇓P		**P**	**03 58 38.0**	**0.0**
	baz=76,SNR=9.4							
B26A	**Jensen Ranch,**	**75.62**	**8**	⇓P		**P**	**03 58 38.2**	**-0.1**
	baz=76							
A21A	**Bergtoll Ranch**	**75.74**	**5**	⇓P		**P**	**03 58 38.8**	**-0.2**
	baz=76							
B27A	**Peters Farms,**	**75.77**	**9**	⇓P		**P**	**03 58 39.0**	**-0.1**
	baz=76							
A22A	**Carney Farms,**	**75.82**	**6**	⇓P		**P**	**03 58 39.2**	**-0.2**
	baz=76							
A23A	**Redstone**	**75.89**	**6**	⇑P		**P**	**03 58 39.5**	**-0.3**
	baz=76							
A24A	**Westby**	**75.95**	**7**	⇑P		**P**	**03 58 40.2**	**0.0**
	baz=76							
B28A	**Dugan Ranch, T**	**75.95**	**10**	⇑P		**P**	**03 58 39.9**	**-0.2**
	baz=76							
A25A	**Svangstu Ranch**	**76.06**	**8**	⇓P		**P**	**03 58 41.1**	**+0.3**
	baz=76							
COWI	**Conover**	**76.08**	**18**	*e*P		**P**	**03 58 40.6**	**-0.3**
	comp=Z,19nm,1.0s							
COWI					LR	LR		
	comp=Z,473nm,22.0s							
A26A	**Wade Farm, Ken**	**76.15**	**8**	⇑P		**P**	**03 58 41.1**	**-0.2**
	baz=76,SNR=7.5							
A28A	**Rude Farm, Bot**	**76.41**	**9**	⇓P		**P**	**03 58 42.4**	**-0.4**
	baz=77							
AGMN	**Agassiz Nation**	**76.57**	**13**	*e*P		**P**	**03 58 43.3**	**-0.4**
	comp=Z,127nm,2.0s							
AGMN					LR	LR		
	comp=Z,360nm,19.0s							
RCBR	**Riachuelo**	**77.07**	**90**	PFAKE			03 59 00.0	+13
RCBR					LR	LR		
	comp=Z,781nm,19.0s							
EYMN	**Ely**	**77.19**	**16**	*e*P		**P**	**03 58 46.6**	**-0.5**
	comp=Z,23nm,1.2s							
EYMN					LR	LR		
	comp=Z,1μm,21.0s							
BINY	**Binghamton**	**77.25**	**28**	*e*P		**P**	**03 58 47.6**	**-0.1**
	comp=Z,55nm,1.4s							
BINY					LR	LR		
	comp=Z,480nm,20.0s							
TAU	**Tasmania Unive**	**77.95**	**228**	PFAKE			03 59 00.0	+8.2
TAU					LR	LR		
	comp=Z,4μm,20.0s							
ULM	**Lac du Bonnet**	**78.44**	**12**	*e*P		**P**	**03 58 53.3**	**-0.7**
	comp=Z,62nm,1.5s							
ULM	**Lac du Bonnet**	**78.44**	**12**	P		**P**	**03 58 53.2**	**-0.9**
	comp=Z,15nm,1.1s,baz=203,slow=4.8,SNR=9.4							
ULM					LR	LR	04 30 07.5	
	comp=Z,410nm,18.3s,baz=48,slow=33							
ACCN	**Adirondack Com**	**79.20**	**29**	*e*P		**P**	**03 58 58.3**	**-0.1**
	comp=Z,122nm,2.0s							
NCB	**Newcomb**	**79.44**	**28**	*e*P		**P**	**03 58 59.4**	**-0.4**
	comp=Z,44nm,1.4s							
NCB					LR	LR		
	comp=Z,420nm,20.0s							
BBB	**Bella Bella**	**79.57**	**351**	P		**P**	**03 59 00.2**	**0.0**
BBB	**Bella Bella**	**79.57**	**351**	P		**P**	**03 59 00.2**	**0.0**
	comp=Z,19nm,1.0s,baz=185,slow=4.2,SNR=7.2							
EDM	**Edmonton**	**79.69**	**1**	*e*P		**P**	**03 59 00.1**	**-0.8**
EDM	**Edmonton**	**79.69**	**1**	*e*P		**P**	**03 59 00.1**	**-0.8**
LONY	**Lake Ozonia**	**79.81**	**28**	*e*P		**P**	**03 59 01.3**	**-0.4**
	comp=Z,30nm,1.3s							
LONY					LR	LR		
	comp=Z,340nm,21.0s							
CAN	**Canberra**	**80.03**	**236**	PFAKE			03 59 20.0	+17
CAN					LR	LR		
	comp=Z,2μm,20.0s							
FFD	**Franklin Falls**	**80.16**	**30**	*e*P		**P**	**03 59 03.6**	**0.0**
	comp=Z,155nm,1.6s							
FRNY	**Flat Rock**	**80.40**	**28**	*e*P		**P**	**03 59 04.6**	**-0.3**
	comp=Z,80nm,1.9s							
LBNH	**Lisbon**	**80.64**	**29**	*e*P		**P**	**03 59 06.3**	**+0.1**
LBNH					pmax	pmax		
	comp=Z,39nm,1.6s							
LBNH					MLR	MLR		
	comp=Z,407nm,19.0s							
LBNH	**Lisbon**	**80.64**	**29**	*e*P		**P**	**03 59 06.3**	**+0.1**
	comp=Z,39nm,1.6s							
LBNH					LR	LR		
	comp=Z,407nm,19.0s							
CASY	**Casey**	**81.15**	**197**	*e*P		**P**	**03 59 09.0**	**+0.3**
	comp=Z,62nm,1.7s							
CASY					LR	LR		
	comp=Z,878nm,19.0s							
WVL	**Waterville**	**81.91**	**30**	*e*P		**P**	**03 59 12.2**	**-0.7**
	comp=Z,243nm,1.6s							
HNR	**Honiara**	**82.03**	**263**	PFAKE			03 59 30.0	+16
HNR					LR	LR		
	comp=Z,628nm,22.0s							
SYO	**Syowa Base**	**82.58**	**171**	⇓*e*P		**P**	**03 59 15.2**	**-1.0**
SYO	**Syowa Base**	**82.58**	**171**	⇓*e*P		**P**	**03 59 17.6**	**+1.4**
PKME	**Peaks-Kenny Pk**	**82.61**	**30**	*e*P		**P**	**03 59 16.4**	**-0.2**
	comp=Z,22nm,1.3s							
PKME					LR	LR		
	comp=Z,442nm,19.0s							
PQI	**Presque Isle**	**84.26**	**30**	*e*P		**P**	**03 59 24.5**	**-0.5**
	comp=Z,110nm,1.4s							
WRAK	**Wrangell Islan**	**84.30**	**350**	*e*P		**P**	**03 59 25.1**	**+0.1**
	comp=Z,55nm,1.6s							
WRAK					LR	LR		
	comp=Z,346nm,19.0s							
SIT	**Sitka**	**85.40**	**349**	*e*P		**P**	**03 59 30.2**	**-0.3**
SIT					pmax	pmax		
	comp=Z,146nm,2.0s							
SIT	**Sitka**	**85.40**	**349**	*e*P		**P**	**03 59 30.2**	**-0.3**
	comp=Z,146nm,2.0s							
MAW	**Mawson**	**85.86**	**179**	*e*P		**P**	**03 59 33.7**	**+0.8**
	comp=Z,18nm,1.9s							
MAW	**Mawson**	**85.86**	**179**	P		**P**	**03 59 33.8**	**+0.9**
	comp=Z,12nm,1.3s,baz=181,slow=7.6,SNR=9.2							
MAW					LR	LR	04 34 24.8	
	comp=Z,964nm,18.3s,baz=173,slow=33							
DLBC	**Dease Lake**	**85.92**	**352**	*e*P		**P**	**03 59 33.1**	**-0.1**
DLBC	**Dease Lake**	**85.92**	**352**	P		**P**	**03 59 33.3**	**+0.1**
	comp=Z,15nm,0.8s,baz=165,slow=5.4,SNR=42							
STKA	**Stephens Creek**	**87.09**	**236**	P		**P**	**03 59 40.1**	**+0.3**
STKA	**Stephens Creek**	**87.09**	**236**	P		**P**	**03 59 40.1**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=104,slow=5.3,SNR=9.1							
STKA					LR	LR	04 33 04.9	
	comp=Z,1μm,18.1s,baz=92,slow=32							
SKAG	**Skagway**	**87.68**	**349**	*e*P		**P**	**03 59 41.1**	**-0.5**
	comp=Z,21nm,1.3s							
YKA	**Yellowknife Ar**	**88.98**	**360**	P		**P**	**03 59 46.4**	**-1.3**
YKA	**Yellowknife Ar**	**88.98**	**360**	P		**P**	**03 59 46.4**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=174,slow=5.1,SNR=10							
YKW3	**Yellowknife Ar**	**89.05**	**360**	*e*P		**P**	**03 59 45.2**	**-2.9**
CTA	**Charters Tower**	**89.11**	**248**	P		**P**	**03 59 50.3**	**+0.8**
CTA	**Charters Tower**	**89.11**	**248**	P		**P**	**03 59 50.3**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=101,slow=4.2,SNR=12							
CTAO	**Charters Tower**	**89.11**	**248**	*e*P		**P**	**03 59 49.7**	**+0.2**
CTAO					pmax	pmax		
	comp=Z,84nm,1.8s							
CTAO					MLR	MLR		
	comp=Z,845nm,19.0s							
CTAO	**Charters Tower**	**89.11**	**248**	*e*P		**P**	**03 59 49.7**	**+0.2**
	comp=Z,84nm,1.8s							
CTAO					LR	LR		
	comp=Z,845nm,19.0s							
HYT	**Haines Junctio**	**89.34**	**349**	*e*P		**P**	**03 59 49.1**	**-0.6**
OHAK	**Old Harbor**	**89.91**	**340**	*e*P		**P**	**03 59 51.5**	**-0.7**
	comp=Z,124nm,2.0s							
KDAK	**Kodiak Island**	**90.16**	**341**	PFAKE			04 00 00.0	+6.7
KDAK					LR	LR		
	comp=Z,222nm,19.0s							
BMRM	**Bremner River**	**90.86**	**346**	*e*P		**P**	**03 59 55.8**	**-0.9**
	comp=Z,19nm,1.3s							
SCHQ	**Schefferville**	**90.94**	**25**	P		**P**	**03 59 55.9**	**-1.2**
SCHQ	**Schefferville**	**90.94**	**25**	P		**P**	**03 59 55.9**	**-1.2**
	comp=Z,5.8nm,0.9s,baz=220,slow=3.3,SNR=5.9							
SCHQ					LR	LR	04 37 09.7	
	comp=Z,516nm,21.5s,baz=264,slow=33							
DAWY	**Dawson**	**92.68**	**349**	*e*P		**P**	**04 00 04.0**	**-1.1**
PMG	**Port Moresby**	**93.31**	**258**	PFAKE			04 00 20.0	+11
PMG					LR	LR		
	comp=Z,594nm,20.0s							
EGAK	**Eagle**	**93.64**	**349**	PFAKE			04 00 20.0	+11
EGAK					LR	LR		
	comp=Z,138nm,21.0s							
PPLA	**Purkeypile**	**94.33**	**344**	*e*P		**P**	**04 00 11.6**	**-1.2**
	comp=Z,22nm,1.3s							
TRF	**Thorofare Moun**	**94.34**	**345**	*e*P		**P**	**04 00 11.3**	**-1.5**
	comp=Z,71nm,1.9s							
ILAR	**Eielson Array**	**94.73**	**347**	P		**P**	**04 00 13.7**	**-0.6**
ILAR	**Eielson Array**	**94.73**	**347**	P		**P**	**04 00 13.7**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=175,slow=3.7,SNR=10							
COLA	**College**	**95.02**	**346**	*e*P		**P**	**04 00 15.2**	**-0.4**
COLA					pmax	pmax		
	comp=Z,22nm,0.7s							
COLA					MLR	MLR		
	comp=Z,113nm,20.0s							
COLA	**College**	**95.02**	**346**	*e*P		**P**	**04 00 15.2**	**-0.4**
	comp=Z,22nm,0.7s							
COLA					LR	LR		
	comp=Z,113nm,20.0s							
INK	**Inuvik**	**95.89**	**353**	*e*P		**P**	**04 00 18.0**	**-1.5**
	comp=Z,10nm,1.5s							
INK	**Inuvik**	**95.89**	**353**	P		**P**	**04 00 17.9**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=173,slow=6.2,SNR=5.0							
ASAR	**Alice Springs**	**97.18**	**239**	P		**P**	**04 00 26.3**	**-0.4**
ASAR	**Alice Springs**	**97.18**	**239**	P		**P**	**04 00 26.3**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=121,slow=3.8,SNR=7.0							
ASAR					LR	LR	04 40 21.5	
	comp=Z,2μm,19.1s,baz=130,slow=33							
SACV	**Santiago Islan**	**97.23**	**77**	PFAKE			04 00 40.0	+13
SACV					LR	LR		
	comp=Z,483nm,22.0s							
WRAB	**Tennant Creek**	**98.85**	**242**	*e*P		Pdif	04 00 34.9	+0.7
WRAB					MLR	MLR		
	comp=Z,1μm,19.0s							
WRAB	**Tennant Creek**	**98.85**	**242**	*e*P		Pdif	04 00 34.9	+0.6
WRAB					LR	LR		
	comp=Z,1μm,19.0s							
WRA	**Warramunga Arr**	**98.85**	**242**	P		**P**	**04 00 34.3**	**+0.1**
WRA	**Warramunga Arr**	**98.85**	**242**	P		**P**	**04 00 34.3**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=122,slow=4.5,SNR=7.0							
WRA					LR	LR	04 42 51.2	
	comp=Z,579nm,18.0s,baz=135,slow=34							
NWAO	**Narrogin (SRO)**	**102.99**	**223**	PFAKE			04 01 00.0	+7.6
NWAO					LR	LR		
	comp=Z,1μm,20.0s							
SFJD	**Kangerlussuaq**	**104.88**	**21**	PFAKE			04 01 10.0	+10
SFJD					LR	LR		
	comp=Z,501nm,22.0s							
GUMO	**Guam**	**105.53**	**278**	PFAKE			04 05 30.0	
GUMO					LR	LR		
	comp=Z,790nm,21.0s							
MBWA	**Marble Bar**	**109.19**	**233**	PFAKE			04 05 40.0	
MBWA					LR	LR		
	comp=Z,2μm,19.0s							
BORG	**Borgarnes**	**115.16**	**28**	PFAKE			04 05 50.0	+16
BORG					LR	LR		
	comp=Z,736nm,20.0s							
ERM	**Erimo**	**116.33**	**306**	PFAKE			04 05 50.0	+13
ERM					LR	LR		
	comp=Z,429nm,20.0s							
RTC	**Rabat Centre**	**118.19**	**64**	PFAKE			04 05 50.0	+9.0
RTC					LR	LR		
	comp=Z,378nm,22.0s							
TOA0	**Torodi Ar. Sit**	**118.90**	**89**	*e*PKPdf		**PKPdf**	**04 05 42.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**118.90**	**89**	PKP		**PKPdf**	**04 05 41.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**118.90**	**89**	PKP		**PKPdf**	**04 05 41.5**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=211,slow=1.7,SNR=9.4							
KAPI	**Kappang**	**118.91**	**247**	PFAKE			04 05 50.0	+7.0
KAPI					LR	LR		
	comp=Z,801nm,19.0s							
MTE	**Manteigas**	**119.12**	**57**	PFAKE			04 05 50.0	+7.3
MTE					LR	LR		
	comp=Z,469nm,22.0s							
DAV	**Davao City (W)**	**119.98**	**262**	PFAKE			04 06 00.0	+15
DAV					LR	LR		
	comp=Z,434nm,20.0s							
PAB	**San Pablo**	**121.36**	**58**	PFAKE			04 06 00.0	+13
PAB					LR	LR		
	comp=Z,497nm,21.0s							
ESDC	**Sonseca Array**	**121.68**	**58**	PKP		**PKPdf**	**04 05 47.0**	**-0.6**
ESDC	**Sonseca Array**	**121.68**	**58**	PKP		**PKPdf**	**04 05 47.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=251,slow=2.3,SNR=6.4							
KBS	**Kingsbay**	**122.84**	**11**	PFAKE			04 06 00.0	+11
KBS					LR	LR		
	comp=Z,379nm,20.0s							
LSZ	**Lusaka**	**124.54**	**135**	PFAKE			04 06 10.0	+16
LSZ					LR	LR		
	comp=Z,305nm,19.0s							
USRK	**Ussuriysk Arra**	**124.74**	**307**	PKP		**PKPdf**	**04 05 53.0**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=194,slow=6.1,SNR=5.4							
KLR	**Kul'dur**	**125.19**	**313**	*e*PKIKP		**PKPdf**	**04 05 49.6**	**-4.3**
TAM	**Tamanrasset**	**125.68**	**80**	PFAKE			04 06 10.0	+14
TAM					LR	LR		
	comp=Z,1μm,21.0s							
MDJ	**Mudanjiang**	**126.48**	**307**	PKP		**PKPdf**	**04 05 56.8**	**+0.2**
MDJ					PP	**PP**	**04 07 53.5**	**+0.8**
MDJ					SS	SS	04 25 05.0	+7.3
MDJ					AMB	AMB		
	comp=Z,55nm,5.2s							
MDJ					LR	LR		
	comp=Z,230nm,35.1s							
KSRS	**Korea Array**	**127.07**	**298**	PKP		**PKPdf**	**04 05 58.3**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=108,slow=2.7,SNR=9.0							
KSAR	**Wonju Array Be**	**127.10**	**298**	PKP		**PKPdf**	**04 05 58.4**	**+0.4**
INCN	**Inchon**	**128.09**	**298**	PFAKE			04 06 10.0	+10
INCN					LR	LR		
	comp=Z,552nm,21.0s							
SSB	**Saint Sauveur**	**128.48**	**52**	PFAKE			04 06 10.0	+10
SSB					LR	LR		
	comp=Z,314nm,19.0s							
CN2	**Changchun**	**129.43**	**306**	*e*PKP		**PKPdf**	**04 05 59.1**	**-3.1**
CN2				*es*PKP			04 06 14.0	
CN2				*e*PP		**PP**	**04 08 13.3**	**+1.2**
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2					LR	LR		
	comp=N,300nm,22.0s							
CN2					LR	LR		
	comp=E,500nm,22.0s							
CN2					LR	LR		
	comp=Z,600nm,23.0s							
WLF	**Walferdange**	**129.46**	**46**	*e*PKIKP		**PKPdf**	**04 06 03.1**	**+1.1**
WLF					MLR	MLR		
	comp=Z,349nm,22.0s							
WLF	**Walferdange**	**129.46**	**46**	*e*PKPdf		**PKPdf**	**04 06 03.1**	**+1.1**
WLF					LR	LR		
	comp=Z,349nm,22.0s							
KONO	**Kongsberg**	**129.77**	**33**	PFAKE			04 06 10.0	+7.7
KONO					LR	LR		
	comp=Z,319nm,20.0s							
BNI	**Bardonecchia**	**129.99**	**52**	*e*PKIKP		**PKPdf**	**04 06 03.7**	**+0.3**
BNI	**Bardonecchia**	**129.99**	**52**	*e*PKPdf		**PKPdf**	**04 06 03.7**	**+0.3**
TATO	**Taipei**	**130.10**	**281**	PFAKE			04 06 20.0	+16
TATO					LR	LR		
	comp=Z,272nm,20.0s							
NOA	**NORSAR Array B**	**130.14**	**31**	PKP		**PKPdf**	**04 06 00.6**	**-2.5**
NOA	**NORSAR Array B**	**130.14**	**31**	PKP		**PKPdf**	**04 06 00.6**	**-2.5**
	comp=Z,1.2nm,0.9s,baz=273,slow=2.6,SNR=2.7							
ECH	**Echery**	**130.21**	**48**	PFAKE			04 06 20.0	+16
ECH					LR	LR		
	comp=Z,299nm,20.0s							
KSM	**Kuching**	**130.34**	**247**	PFAKE			04 06 20.0	+15
KSM					LR	LR		
	comp=Z,468nm,22.0s							
BFO	**Black Forest**	**130.98**	**48**	PFAKE			04 06 20.0	+15
BFO					LR	LR		
	comp=Z,308nm,19.0s							
TUE	**Stuetta**	**131.81**	**51**	*e*PKPdf		**PKPdf**	**04 06 08.0**	**+1.0**
VSL	**Villasalto**	**131.90**	**60**	PFAKE			04 06 20.0	+13
VSL					LR	LR		
	comp=Z,306nm,22.0s							
DAVOX	**Davos/Dischmat**	**132.15**	**50**	PKP		**PKPdf**	**04 06 07.5**	**-0.1**
DAVOX	**Davos/Dischmat**	**132.15**	**50**	PKP		**PKPdf**	**04 06 07.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=332,slow=19,SNR=7.4							
RETA	**Reutte**	**132.69**	**49**	⇑*i*PKiKP		**PKiKP**	**04 06 09.1**	**-0.5**
	comp=Z,6.1nm,1.5s							
FETA	**Feichten**	**132.71**	**50**	⇓*i*PKiKP		**PKiKP**	**04 06 09.2**	**-0.5**
	comp=Z,9.3nm,1.5s,SNR=6.1							
WTTA	**Wattenberg**	**133.30**	**49**	⇑*i*PKiKP		**PKPdf**	**04 06 10.1**	**+0.4**
	comp=Z,25nm,1.8s,SNR=7.1							
NKC	**Novy Kostel**	**133.42**	**45**	*e*PKIKP		**PKPdf**	**04 06 10.3**	**+0.7**
NKC					MLR	MLR		
	comp=Z,300nm,24.9s							
NKC	**Novy Kostel**	**133.42**	**45**	*e*PKPdf		**PKPdf**	**04 06 10.3**	**+0.7**
NKC					AMS	AMS	04 55 00.0	
	comp=Z,300nm,24.9s							
CLL	**Collm**	**133.58**	**44**	*e*PKIKP		PKPpre	04 06 05.0	
CLL				*i*			04 06 09.6	
CLL				pmax		pmax		
	comp=Z,40nm,2.1s							
CLL				MLR		MLR		
	comp=Z,300nm,21.6s							
CLL	**Collm**	**133.58**	**44**	*e*PKPpre		PKPpre	04 06 05.0	
CLL				*i* PKPdf		**PKPdf**	**04 06 09.6**	**-0.2**
	comp=Z,40nm,2.1s							
CLL				*e*(SS)			04 26 54.0	
CLL				*e*SSS		SSS	04 31 36.0	
CLL				*e*SSSS			04 35 18.0	
CLL				LmV			04 57 00.0	
	comp=Z,300nm,21.6s							
NJ2	**Nanjing**	**133.77**	**290**	*e*PKP		**PKPdf**	**04 06 11.0**	**+0.2**
BRG	**Berggiesshubel**	**134.24**	**44**	*e*(P)		**PKPdf**	**04 06 12.3**	**+1.2**
	comp=Z,42nm,2.2s							
BRG								
	comp=Z,365nm,21.2s							
BRG								
	comp=N,408nm,25.7s							
BRG								
	comp=E,216nm,25.7s							
BRG	**Berggiesshubel**	**134.24**	**44**	*e*PKIKP		**PKPdf**	**04 06 12.3**	**+1.2**
BRG				pmax		pmax		
	comp=Z,42nm,2.2s							
BRG				MLR		MLR		
	comp=Z,365nm,21.2s							
BRG				MLR		MLR		
	comp=N,408nm,25.7s							
BRG				MLR		MLR		
	comp=E,216nm,25.7s							
KHC	**Kasperske Hory**	**134.33**	**46**	*e*PKIKP		**PKPdf**	**04 06 11.6**	**+0.2**
KHC				*e*SS		SS	04 26 29.1	-4.6
KHC				MLR		MLR		
	comp=Z,500nm,25.1s							
KHC	**Kasperske Hory**	**134.33**	**46**	*e*PKPdf		**PKPdf**	**04 06 11.6**	**+0.2**
KHC				*ex*		x	04 06 22.6	
KHC				*e*SS		SS	04 26 29.1	-4

HHC	**Hu-ho-hao-te**	**139.84**	**302**	*e*PKP	**PKPdf**	**04 06 20.8**	**-1.1**
HHC				PP	**PP**	**04 09 21.9**	**+3.6**
HHC				PKS	**PKSdf**	**04 09 55.3**	**-2.7**
HHC				SKS	**SKSdf**	**04 13 28.4**	**-4.1**
HHC				SKKS	**SKKSac**	**04 16 11.0**	**-1.2**
HHC				SS	**SS**	**04 27 41.3**	**+1.4**
HHC				AMB	AMB		
	comp=Z,190nm,9.1s						
HHC				LR	LR		
	comp=N,180nm,21.0s						
HHC				LR	LR		
	comp=E,370nm,22.6s						
HHC				LR	LR		
	comp=Z,470nm,21.6s						
KOLS	**Kolonicke sedl**	**139.94**	**45**	*e*PKIKP	**PKPdf**	**04 06 22.0**	**+0.3**
KOLS	**Kolonicke sedl**	**139.94**	**45**	*e*PKP	**PKPdf**	**04 06 22.0**	**+0.3**
KWP	**Kalwaria Pacla**	**140.00**	**44**	PFAKE		04 06 30.0	+8.2
KWP				LR	LR		
	comp=Z,422nm,21.0s						
UZH	**Uzhgorod**	**140.04**	**45**	*e*PKHKP	PKPpre	04 06 15.5	
UZH				*e*		04 06 20.3	
KULM	**Kulim**	**140.39**	**244**	*e*PKPdf	**PKPdf**	**04 06 24.2**	**+0.6**
KULM				LR	LR		
	comp=Z,138nm,21.0s						
DRGR		**140.83**	**48**	⇑PKIKP	**PKPdf**	**04 06 22.2**	**-1.3**
DRGR		**140.83**	**48**	⇑*i*P	**PKPdf**	**04 06 22.2**	**-1.3**
KMBO	**Kilima Mbogo**	**141.00**	**131**	PFAKE		04 06 40.0	+15
KMBO				LR	LR		
	comp=Z,324nm,19.0s						
ULN	**Ulaanbaatar**	**141.56**	**314**	*e*PKPpre	PKPpre	04 06 20.3	
ULN				LR	LR		
	comp=Z,214nm,20.0s						
IRK	**Irkutsk**	**141.56**	**322**	*e*PKHKP	PKPpre	04 06 12.6	
IRK				pmax	pmax		
	comp=Z,53nm,1.7s						
SONM	**Songino Array**	**141.99**	**314**	PKPpre	PKPpre	04 06 20.2	
SONM	**Songino Array**	**141.99**	**314**	PKhKP	PKPpre	04 06 20.2	
	comp=Z,4.5nm,1.1s,baz=92,slow=2,2,SNR=7.6						
VTS	**Vitosha**	**142.12**	**54**	⇑PKIKP	**PKPdf**	**04 06 29.4**	**+3.4**
VTS	**Vitosha**	**142.12**	**54**	⇑*i*P	**PKPdf**	**04 06 29.4**	**+3.4**
BUR08	**Bucovina Ar. S**	**142.20**	**46**	*e*PKPdf	**PKPdf**	**04 06 26.3**	**+0.3**
XAN	**Xi'an**	**142.24**	**292**	PKP	**PKPdf**	**04 06 22.8**	**-3.6**
XAN				pPKP	**pPKPdf**	**04 06 34.1**	**+4.3**
XAN				AMB	AMB		
	comp=Z,50nm,6.9s						
XAN				LR	LR		
	comp=N,110nm,18.4s						
XAN				LR	LR		
	comp=Z,69nm,15.3s						
MPEP	**Malo Peshtene**	**142.35**	**53**	*e*P	PKPdf	04 06 19.2	-7.0
VOIR		**142.76**	**49**	⇓PKIKP	**PKPdf**	**04 06 24.4**	**-2.6**
VOIR		**142.76**	**49**	⇓*i*P	**PKPdf**	**04 06 24.4**	**-2.6**
ZAK	**Zakamensk**	**142.93**	**320**	*e*PKHKP	PKPpre	04 06 22.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MLR	**Muntele Rosu**	**143.35**	**49**	PKPpre	PKPpre	04 06 24.1	
MLR	**Muntele Rosu**	**143.35**	**49**	PKhKP	PKPpre	04 06 24.1	
	comp=Z,2.3nm,1.1s,baz=9.6,slow=1.2,SNR=17						
AKASG	**Malin Array Be**	**143.45**	**39**	PKIKP	PKPab	04 06 24.3	+0.2
AKASG	**Malin Array Be**	**143.45**	**39**	PKPpre	PKPpre	04 06 24.3	
AKASG	**Malin Array Be**	**143.45**	**39**	PKhKP	PKPpre	04 06 24.3	
	comp=Z,0.2nm,0.3s,baz=301,slow=3.0,SNR=7.4						
GYA	**Guiyang**	**143.47**	**279**	PKP	**PKPdf**	**04 06 28.8**	**-0.1**
GYA				PP	**PP**	**04 09 44.0**	**+3.0**
GYA				PKS	**PKSdf**	**04 10 02.6**	**-2.2**
GYA				SKKS		04 16 33.0	
GYA				AMB	AMB		
	comp=Z,140nm,7.8s						
GYA				LR	LR		
	comp=N,150nm,24.5s						
GYA				LR	LR		
	comp=E,140nm,25.9s						
GYA				LR	LR		
	comp=Z,160nm,24.1s						
VRI	**Vrincioaia**	**143.76**	**48**	⇓PKIKP	**PKPdf**	**04 06 27.4**	**-1.2**
VRI	**Vrincioaia**	**143.76**	**48**	⇓*i*P	**PKPdf**	**04 06 27.4**	**-1.2**
SZH	**Strazhica**	**143.93**	**52**	*e*P	PKPbc	04 06 27.0	+0.2
IDI	**Anoyia**	**144.25**	**66**	*e*PKPdf	PKPbc	04 06 28.9	+0.8
JMB	**Yambol**	**144.59**	**54**	*e*P	**PKPab**	**04 06 28.3**	**-0.4**
SANT	**Santorini**	**144.65**	**64**	PFAKE		04 06 40.0	+9.5
SANT				LR	LR		
	comp=Z,332nm,20.0s						
OBN	**Obninsk**	**144.66**	**29**	*d*PKIKP	**PKPab**	**04 06 28.2**	**-0.3**
OBN				*e*		04 06 36.2	
OBN				pmax	pmax		
	comp=Z,146nm,1.7s						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s						
MOS	**Moscow**	**144.69**	**27**	*e*PKIKP	**PKPab**	**04 06 27.3**	**-1.3**
MOS				pmax	pmax		
	comp=Z,105nm,1.5s						
MOS				pmax	pmax		
	comp=Z,125nm,1.0s						
MOS				pmax	pmax		
	comp=N,67nm,0.8s						
KIS	**Kishinev**	**144.73**	**45**	*e*PKP	**PKPab**	**04 06 28.0**	**-1.1**
	comp=N,400nm,2.0s						
KIS				*e*L	L	04 54 48.0	
KIS				LRM	MLR	05 02 40.0	
	comp=N,300nm,22.0s						
KIS	**Kishinev**	**144.73**	**45**	*e*PKIKP	**PKPab**	**04 06 28.0**	**-1.1**
KIS				*i*		04 06 35.0	
KIS				pmax	pmax		
	comp=Z,400nm,2.0s						
KIS				pmax	pmax		
	comp=Z,600nm,6.0s						
KRAR	**Krasnoyarsk**	**144.84**	**334**	⇓*e*PKIKP	**PKPdf**	**04 06 30.6**	**+0.5**
CFR	**Carcaliu**	**144.92**	**49**	⇓PKIKP	**PKPab**	**04 06 29.6**	**-0.2**
CFR	**Carcaliu**	**144.92**	**49**	⇓*i*P	**PKPab**	**04 06 29.6**	**-0.2**
PRD	**Provadia**	**144.99**	**52**	*e*P	**PKPab**	**04 06 29.3**	**-0.8**
TIRR	**Tirgusor**	**145.33**	**50**	⇓PKIKP	**PKPdf**	**04 06 31.9**	**+0.5**
TIRR	**Tirgusor**	**145.33**	**50**	⇓*i*P	**PKPdf**	**04 06 31.9**	**+0.5**
TIRR	**Tirgusor**	**145.33**	**50**	*e*PKPbc	**PKPab**	**04 06 31.2**	**-0.2**
PSN	**Preselentsi**	**145.40**	**51**	*e*P	**PKPab**	**04 06 31.5**	**-0.1**
LZH	**Lanzhou**	**146.33**	**295**	*e*PKPbc	**PKPbc**	**04 06 34.8**	**0.0**
LZH				PKPbc	**PKiKP**	**04 06 39.1**	**+1.2**
LZH				PP	**PP**	**04 09 59.3**	**+1.6**
LZH				AMB	AMB		
	comp=Z,210nm,6.6s						
LZH				LR	LR		
	comp=N,440nm,16.3s						
LZH				LR	LR		
	comp=E,400nm,15.0s						
LZH				LR	LR		
	comp=Z,510nm,17.8s						
CD2	**Chengdu**	**146.50**	**286**	*e*PKPbc	**PKPdf**	**04 06 34.4**	**+0.5**
CD2				PKPab	**PKiKP**	**04 06 38.9**	**+0.7**
CD2				PP	**PP**	**04 10 03.3**	**+4.4**
CD2				SKS	**SKSdf**	**04 13 41.0**	**-2.1**
CD2				SKKS	**SKKSac**	**04 16 51.3**	**+0.4**
CD2				SS	**SS**	**04 28 58.8**	**+1.3**
CD2				AMB	AMB		
	comp=Z,150nm,10.2s						
CD2				LR	LR		
	comp=N,370nm,19.0s						
CD2				LR	LR		
	comp=Z,380nm,22.6s						
KMI	**Kunming**	**146.71**	**276**	PKPbc	**PKPdf**	**04 06 34.1**	**-0.5**
KMI				pPKP	**PKPab**	**04 06 37.3**	**-0.2**
KMI				sPKP		04 06 39.4	
KMI				PP	**PP**	**04 10 03.8**	**+3.4**
KMI				SS	SS	04 29 00.8	+0.3
KMI				AMB	AMB		
	comp=Z,180nm,6.2s						
KMI				LR	LR		
	comp=N,130nm,18.1s						
KMI				LR	LR		
	comp=E,280nm,20.5s						
KMI				LR	LR		
	comp=Z,280nm,25.6s						
HVS	**Khovu-Aksy**	**147.71**	**326**	*d*PKIKP	**PKPdf**	**04 06 35.2**	**-0.1**
VOR	**Voronezh**	**148.08**	**32**	*e*PKIKP	**PKPdf**	**04 06 36.0**	**+0.2**
VOR				pmax	pmax		
	comp=Z,350nm,2.0s						
CMAR	**Chiang Mai Arr**	**148.27**	**262**	PKP	**PKPdf**	**04 06 36.5**	**-0.7**
CMAR				PKPbc	**PKPbc**	**04 06 40.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**148.27**	**262**	PKP	**PKPdf**	**04 06 36.5**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=243,slow=0.8,SNR=2.7						
CMAR				PKPbc	**PKPbc**	**04 06 40.8**	**+0.3**
	comp=Z,6.0nm,0.9s,baz=116,slow=1.1,SNR=21						
CHTO	**Chiang Mai**	**148.39**	**262**	*e*PKP2	**PKPbc**	**04 06 41.3**	**+0.5**
CHTO	**Chiang Mai**	**148.39**	**262**	*e*PKPbc	**PKPbc**	**04 06 41.3**	**+0.5**
VSR	**Storozhevoye**	**148.40**	**32**	*e*PKP2	**PKPbc**	**04 06 38.9**	**-0.9**
VSR				pmax	pmax		
	comp=N,20nm,1.3s						
VSR				pmax	pmax		
	comp=E,20nm,1.3s						
VSR				pmax	pmax		
	comp=Z,80nm,1.3s						
VORD	**Divnogorie**	**148.62**	**33**	*e*PKP2	**PKPbc**	**04 06 39.7**	**-0.7**
VORD				pmax	pmax		
	comp=N,20nm,1.3s						
VORD				pmax	pmax		
	comp=Z,40nm,1.3s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
GTA	**Gaotai**	**148.95**	**303**	PKPbc	**PKPbc**	**04 06 42.3**	**+0.5**
GTA				pPKP	**PKPab**	**04 06 46.0**	**+0.1**
GTA				PKS	**PP**	**04 10 16.6**	**+3.7**
GTA				SKS	**SKSdf**	**04 13 48.0**	**+1.7**
GTA				SS	**SS**	**04 29 27.0**	**+2.5**
GTA				AMB	AMB		
	comp=Z,180nm,6.2s						
GTA				LR	LR		
	comp=N,320nm,23.7s						
GTA				LR	LR		
	comp=E,410nm,26.6s						
GTA				LR	LR		
	comp=Z,430nm,25.7s						
NVS	**Novosibirsk**	**149.18**	**340**	*e*PKIKP	**PKPdf**	**04 06 36.6**	**-0.8**
NVS				*e*		04 10 11.0	
NVS				pmax	pmax		
	comp=Z,114nm,2.0s						
NVS				pmax	pmax		
	comp=E,35nm,1.8s						
ZAA0	**Zalesovo Array**	**149.41**	**338**	*e*PKPdf	**PKPdf**	**04 06 37.6**	**-0.2**
ZAA0				*e*PKPbc	**PKPbc**	**04 06 41.6**	**-0.7**
ZAA0				*e*PKPab	**PKPab**	**04 06 47.6**	**+0.6**
ZALV	**Zalesovo Beam**	**149.41**	**338**	PKP2	**PKPbc**	**04 06 41.0**	**-1.3**
ZALV	**Zalesovo Beam**	**149.41**	**338**	PKPbc	**PKPbc**	**04 06 41.0**	**-1.3**
ZALV	**Zalesovo Beam**	**149.41**	**338**	PKPbc	**PKPbc**	**04 06 41.0**	**-1.3**
	comp=E,9.3nm,0.7s,baz=31,slow=3.4,SNR=10						
VRHR	**Novokhopersk**	**149.63**	**31**	*e*PKP2	**PKPbc**	**04 06 42.5**	**-0.4**
VRHR				pmax	pmax		
	comp=N,20nm,1.1s						
VRHR				pmax	pmax		
	comp=E,40nm,1.1s						
VRHR				pmax	pmax		
	comp=Z,110nm,1.1s						
ANTO	**Ankara**	**149.77**	**56**	*e*PKP2	**PKPbc**	**04 06 43.6**	**-0.1**
ANTO	**Ankara**	**149.77**	**56**	*e*PKPbc	**PKPbc**	**04 06 43.6**	**-0.1**
SVE	**Sverdlovsk**	**149.78**	**6**	*e*PKP2	**PKPbc**	**04 06 43.0**	**-0.1**
SVE				pmax	pmax		
	comp=Z,73nm,2.0s						
ARU	**Arti**	**149.96**	**8**	*i*PKHKP	PKPpre	04 06 39.6	
BR131	**Keskin Array S**	**150.44**	**56**	*e*PKPbc	**PKPbc**	**04 06 44.9**	**-0.5**
BR131				*e*PKPab	**PKPab**	**04 06 52.5**	**+0.6**
BRTR	**Keskin Array B**	**150.44**	**56**	PKPbc	**PKPbc**	**04 06 44.8**	**-0.7**
BRTR	**Keskin Array B**	**150.44**	**56**	PKPbc	**PKPbc**	**04 06 44.8**	**-0.7**
	comp=Z,14nm,0.9s,baz=254,slow=1.5,SNR=37						
ANN	**Anapa**	**151.11**	**44**	*i*PKIKP	**PKPbc**	**04 06 44.9**	**-1.7**
ANN				pmax	pmax		
	comp=Z,62nm,1.7s						
CSS	**Prodhromos**	**151.17**	**66**	*e*PKPdf	**PKPdf**	**04 06 41.6**	**+0.3**
CSS				*e*PKPbc	**PKPbc**	**04 06 47.2**	**+0.1**
SOC	**Sochi**	**153.13**	**45**	*e*PKIKP	PKPdf	04 06 37.0	-6.9
SOC				pmax	pmax		
	comp=Z,23nm,0.9s						
BRVK	**Borovoye**	**153.55**	**354**	*d*PKIKP	**PKPdf**	**04 06 44.2**	**0.0**
BRVK	**Borovoye**	**153.55**	**354**	*e*PKPdf	**PKPdf**	**04 06 44.5**	**+0.4**
BRVK				*e*PKPbc	**PKiKP**	**04 06 51.9**	**0.0**
BRVK				*e*PKPab	**PKPab**	**04 07 03.0**	**-1.2**
KURK	**Kurchatov**	**154.15**	**341**	PKIKP	**PKPdf**	**04 06 44.3**	**-0.8**
KURK						04 06 52.5	
KURK	**Kurchatov**	**154.15**	**341**	PKP	**PKPdf**	**04 06 44.3**	**-0.8**
KURK				PKPbc	**PKPbc**	**04 06 52.5**	**-0.7**
KURK				PKPab	**PKPab**	**04 07 07.3**	**+0.4**
KURBB	**Kurchatov Arra**	**154.26**	**341**	PKP	**PKPdf**	**04 06 44.3**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=13,slow=1.7,SNR=6.0						
KURBB				PKPbc	**PKPbc**	**04 06 52.5**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=17,slow=1.6,SNR=15						
KURBB				PKPab	**PKPab**	**04 07 07.3**	**-0.1**
	comp=Z,8.4nm,1.0s,baz=23,slow=3.1,SNR=13						
MALT	**Malatya**	**154.42**	**57**	⇑PKP2	**PKPab**	**04 07 10.0**	**+1.3**
MALT	**Malatya**	**154.42**	**57**	⇑*i*P	**PKPab**	**04 07 10.0**	**+1.3**
KIV	**Kislovodsk**	**154.75**	**41**	*e*PKIKP	**PKPdf**	**04 06 46.2**	**-0.1**
KIV				*e*		04 10 46.4	
KIV				*e*PPP	PPP	04 14 14.6	
KIV				*e*SS	SS	04 30 28.6	+1.2
KIV				*e*SSS	SSS	04 36 21.8	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**155.00**	**42**	PKIKP	**PKPdf**	**04 06 46.6**	**+0.1**
KBZ	**Khabaz**	**155.00**	**42**	PKP	**PKPdf**	**04 06 46.6**	**+0.1**
KBZ	**Khabaz**	**155.00**	**42**	PKP	**PKPdf**	**04 06 46.6**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=297,slow=2.3,SNR=7.0						
WMQ	**Urumqi**	**155.40**	**319**	*e*PKP	**PKPdf**	**04 06 47.0**	**-0.2**
WMQ				PKPab	**PKPab**	**04 07 12.8**	**+0.2**
WMQ				PKS	**PKSdf**	**04 10 19.9**	**-1.3**
WMQ				PP	**PP**	**04 10 51.5**	**+2.5**
WMQ				SKS	**SKSdf**	**04 13 52.6**	**-1.2**
WMQ				SKKS	**SKKSac**	**04 17 40.9**	**+1.9**
WMQ				SS	**SS**	**04 30 33.3**	**-1.0**
WMQ				AMB	AMB		
	comp=Z,68nm,18.0s						
WMQ				LR	LR		
	comp=N,290nm,28.0s						
WMQ				LR	LR		
	comp=E,170nm,24.0s						
WMQ				LR	LR		
	comp=Z,240nm,22.0s						
PALK	**Pallekele**	**155.89**	**219**	*e*PKPab	**PKPab**	**04 07 16.1**	**+0.8**
MK31	**Makanchi Array**	**156.11**	**331**	*e*PKIKP	**PKPdf**	**04 06 46.9**	**-1.1**
MK31	**Makanchi Array**	**156.11**	**331**	*e*PKPdf	**PKPdf**	**04 06 46.9**	**-1.1**
MKAR	**Makanchi Array**	**156.11**	**331**	PKIKP	**PKPdf**	**04 06 46.9**	**-1.1**
MKAR	**Makanchi Array**	**156.11**	**331**	PKP	**PKPdf**	**04 06 46.9**	**-1.1**
MKAR				PKPbc	PKPbc	04 06 57.3	
MKAR	**Makanchi Array**	**156.11**	**331**	PKP	**PKPdf**	**04 06 46.9**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=48,slow=1.8,SNR=9.3						
MKAR				PKPbc	PKPbc	04 06 57.3	
	comp=Z,1.8nm,0.7s,baz=17,slow=1.5,SNR=12						
ABKAR	**Akbulak array**	**157.15**	**10**	*e*PKPdf	**PKPdf**	**04 06 49.5**	**+0.3**
ABKAR				*e*PKPab	**PKPab**	**04 07 19.7**	**0.0**
GNI	**Garni**	**158.11**	**47**	*e*PKPdf	**PKPdf**	**04 06 50.3**	**-0.6**
MAK	**Makhachkala**	**158.12**	**38**	*e*PKIKP	**PKPdf**	**04 06 50.1**	**-0.5**
MAK				*e*		04 11 04.2	
MAK				*e*SS	SS	04 31 00.0	-3.1
MAK				pmax	pmax		
	comp=Z,204nm,1.1s						
TKM2	**Tokmak 2**	**162.00**	**336**	*e*PKIKP	**PKPdf**	**04 06 55.2**	**-0.1**
TKM2	**Tokmak 2**	**162.00**	**336**	*e*PKPdf	**PKPdf**	**04 06 55.2**	**-0.1**
AAK	**Ala-Archa**	**162.64**	**338**	*e*PKIKP	**PKPdf**	**04 06 55.8**	**0.0**
AAK	**Ala-Archa**	**162.64**	**338**	*e*PKPdf	**PKPdf**	**04 06 55.8**	**0.0**
EKS2	**Erkin-Say**	**162.85**	**339**	*e*PKIKP	**PKPdf**	**04 06 56.0**	**0.0**
EKS2				*e*		04 07 45.1	
EKS2	**Erkin-Say**	**162.85**	**339**	*e*PKPdf	**PKPdf**	**04 06 56.0**	**0.0**
EKS2				*e*PKPab	**PKPab**	**04 07 45.1**	**+0.1**
KSH	**Kashi**	**164.68**	**328**	PKP	**PKPdf**	**04 06 59.1**	**+1.3**
KSH				PKS	**PKSdf**	**04 10 30.1**	**-0.6**
KSH				PP	PP	04 11 46.0	+7.1
KSH				SKS	**SKSdf**	**04 14 02.1**	**-0.3**
KSH				SKKS	**SKKSac**	**04 18 32.3**	**+4.9**
KSH				SS	SS	04 32 20.3	+8.6
KSH				AMB	AMB		
	comp=Z,170nm,7.0s						
KSH				LR	LR		
	comp=N,380nm,13.9s						
KSH				LR	LR		
	comp=E,170nm,9.2s						
KSH				LR	LR		
	comp=Z,110nm,8.8s						
HSP	**Hornsund**	**3.07**	**27**	*e*P	**Pn**	**03 51 02.6**	**+0.3**
HSP				*e*S	**Sn**	**03 51 35.7**	**-3.3**
SPA0	**Spitsbergen Ar**	**4.18**	**20**	*i*P	**Pn**	**03 51 18.8**	**+1.3**
SPA0				*e*S	**Sn**	**03 52 05.4**	**-1.0**
SPITS	**Spitsbergen Ar**	**4.18**	**20**	Pn	**Pn**	**03 51 18.9**	**+1.3**
	baz=193,slow=18,SNR=434						
SPITS				Sn	**Sn**	**03 52 05.0**	**-1.4**
	baz=188,slow=32,SNR=0.9						
KBS	**Kingsbay**	**4.63**	**6**	*e*P	**Pn**	**03 51 23.5**	**-0.3**
KBS				*e*S	**Sn**	**03 52 14.7**	**-2.8**
KBS				AML	AML	03 52 16.1	
	comp=Z,5.3nm,0.6s						
TRO	**Tromso**	**5.59**	**143**	*e*P	**Pn**	**03 51 38.5**	**+1.6**
TRO				*e*S	**Sn**	**03 52 37.6**	**-3.4**
TRO				AML	AML	03 52 41.7	
	comp=Z,4.6nm,0.4s						
JNE	**Jan Mayen East**	**6.26**	**246**	*e*P	**Pn**	**03 51 43.2**	**-2.9**
JNW	**Jan Mayen West**	**6.26**	**247**	*e*P	**Pn**	**03 51 44.0**	**-2.2**
JMI	**Jan Mayen**	**6.41**	**246**	*e*P	**Pn**	**03 51 46.2**	**-1.9**
ARCES	**ARCESS Array B**	**6.94**	**126**	Pn	**Pn**	**03 51 56.3**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=325,slow=11,SNR=44						
ARCES				Sn	**Sn**	**03 53 09.8**	**-4.7**
	comp=Z,0.7nm,0.3s,baz=317,slow=20,SNR=4.4						
ARCES				LR	LR	03 54 45.9	
	comp=Z,71nm,20.3s,baz=152,slow=39						
FINES	**FINESS Array B**	**14.31**	**146**	Pn	**Pn**	**03 53 36.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=340,slow=15,SNR=5.5						
FINES				LR	LR	03 59 55.9	
	comp=Z,48nm,20.8s,baz=236,slow=41						
HFS	**Hagfors**	**14.38**	**171**	Pn	**Pn**	**03 53 40.0**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=358,slow=8.7,SNR=2.5						
GERES	**GERESS Array B**	**25.67**	**173**	P	**P**	**03 55 45.8**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=15,slow=8.1,SNR=2.1						
INK	**Inuvik**	**35.60**	**337**	P	**P**	**03 57 11.6**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=2.2,slow=3.9,SNR=3.7						
ILAR	**Eielson Array**	**40.25**	**345**	P	**P**	**03 57 52.5**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=8.9,slow=6.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**61.35**	**189**	P	**P**	**04 00 30.9**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=1.8,slow=7.6,SNR=5.1						
LPIG	**La Paz**	**74.45**	**305**	LR	LR	04 35 02.1	
	comp=Z,13nm,19.1s,baz=40,slow=36						

ISCJB ***13*** *03:50:11.7±0.5, 74°.44N±0°.04×9°.0E±0°.3, h10km, mb3.4/4, MS3.2/1, Error ellipse: s-maj=10.0km s-min=5.3km az=13.6*

IDC ***13*** *03:50:14.5±1.0, 74°.35N×9°.28E, h0km, mb3.5/4, mb1 3.7/8, mb1mx3.5/31, mbtmp3.6/8, ML3.0/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/37, Error ellipse: s-maj=23.0km s-min=10.4km az=84.0*

BER ***13*** *03:50:16.3±1.2, 74°.34N×8°.82E, h14km±16km, MD2.3, ML2.0*

ISC 13 03:50:13.9±0.8, 74°.36N±0°.05×9°.40E±0°.09, h10km, n16, σ2°.33/21, mb3.4/4, Greenland Sea

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

IDC ***13*** *04:19:25.1±1.1, 26°.77S×114°.25W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.0/8, MS3.9/1, Ms1 3.9/1, ms1mx3.4/16, Error ellipse: s-maj=34.8km s-min=28.6km az=38.0*

NEIC ***13*** *04:19:26.4±0.6, 26°.84S×114°.29W, h10km, mb4.4/2, Error ellipse: s-maj=20.5km s-min=17.7km az=50.0*

ISC 13 04:19:25.9±1.1, 27°.0S±0°.2×114°.4W±0°.2, h10km, n211, σ0°48/208, mb4.2/10, 99C-81D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**33.80**	**279**	LR	LR	04 37 06.5	
	comp=Z,176nm,19.0s,baz=108,slow=31						
LPAZ	**La Paz**	**44.07**	**86**	P	**P**	**04 27 34.2**	**-0.9**
LPAZ	**La Paz**	**44.07**	**86**	P	**P**	**04 27 34.2**	**-0.9**
	0.8nm,0.8s,baz=186,slow=10,SNR=2.7						
CPUP	**Villa Florida**	**50.60**	**103**	P	**P**	**04 28 26.3**	**+1.1**
CPUP	**Villa Florida**	**50.60**	**103**	P	**P**	**04 28 26.3**	**+1.1**
	2.9nm,1.1s,baz=246,slow=10.0,SNR=3.3						
TXAR	**Lajitas Array**	**56.92**	**11**	P	**P**	**04 29 10.5**	**-0.8**
TXAR	**Lajitas Array**	**56.92**	**11**	P	**P**	**04 29 10.5**	**-0.8**
	0.5nm,0.9s,baz=179,slow=11,SNR=4.9						
626A	**Big Bend Ranch**	**57.05**	**11**	⇓P	**P**	**04 29 11.9**	**-0.4**
	baz=57,SNR=5.3						
627A	**Terlingua Ranc**	**57.08**	**11**	⇑P	**P**	**04 29 12.6**	**0.0**
	baz=57						
628A	**Black Gap, Mar**	**57.21**	**12**	⇑P	**P**	**04 29 13.1**	**-0.2**
	baz=57,SNR=5.3						
632A	**Uvalde**	**57.87**	**15**	⇑P	**P**	**04 29 18.0**	**0.0**
	baz=58						
528A	**Cox Ranch, San**	**57.88**	**12**	⇑P	**P**	**04 29 18.4**	**+0.2**
	baz=58						
529A	**Stev Forest Ra**	**57.95**	**12**	⇓P	**P**	**04 29 18.9**	**+0.2**
	baz=58						
530A	**J-C Ranch, Com**	**58.15**	**13**	⇓P	**P**	**04 29 20.0**	**0.0**
	baz=58,SNR=9.3						
319A	**Douglas**	**58.22**	**5**	⇑P	**P**	**04 29 21.2**	**+0.6**
	baz=58						
531A	**Rocksprings**	**58.33**	**14**	⇑P	**P**	**04 29 21.5**	**+0.2**
	baz=58						
532A	**Rocksprings**	**58.44**	**15**	⇑P	**P**	**04 29 22.0**	**0.0**
	baz=59,SNR=8.0						
427A	**Hayter Ranch,**	**58.45**	**11**	⇓P	**P**	**04 29 22.0**	**-0.1**
	baz=59						
428A	**Kincaid Ranch,**	**58.45**	**12**	⇓P	**P**	**04 29 22.1**	**0.0**
	baz=59						
429A	**Davenport Ranc**	**58.50**	**13**	⇑P	**P**	**04 29 22.0**	**-0.4**
	baz=59,SNR=6.2						
214A	**Organ Pipe Nat**	**58.62**	**2**	⇓P	**P**	**04 29 23.6**	**+0.4**
	baz=59						
324A	**Moseley Ranch,**	**58.70**	**9**	⇓P	**P**	**04 29 23.7**	**-0.2**
	baz=59						
325A	**Bean Ranch, Si**	**58.71**	**9**	⇑P	**P**	**04 29 23.8**	**-0.2**
	baz=59						
430A	**Baggett Ranch,**	**58.79**	**13**	⇓P	**P**	**04 29 24.0**	**-0.5**
	baz=59						
JCT	**Junction

Z27A	Tatum	60.89	11	⇑P	P	04 29 38.6	-0.3
	baz=61						
ABTX	Abilene, Hawle	60.90	14	⇑P	P	04 29 38.5	-0.4
	baz=61,SNR=5.3						
BFSC	Mount Baldy Ra	60.96	357	⇓P	P	04 29 40.0	+0.6
	baz=61						
Y21A	Point of Rocks	60.98	6	⇓P	P	04 29 40.2	+0.6
	baz=61,SNR=6.4						
Y22A	Socorro	60.98	7	⇓P	P	04 29 39.7	+0.1
	baz=61						
Y23A	Lovelace Mesa,	61.08	8	⇓P	P	04 29 40.4	+0.1
	baz=61						
Z29A	Hungry Hill Ra	61.10	12	⇑P	P	04 29 39.5	-0.8
	baz=61,SNR=5.1						
X16A	Lo Mia Camp, P	61.12	3	⇓P	P	04 29 40.9	+0.3
	baz=61						
Y24A	Capitan	61.16	8	⇑P	P	04 29 40.7	-0.1
	baz=61						
X18A	Snowflake	61.31	4	⇑P	P	04 29 42.1	+0.2
	baz=62,SNR=5.4						
X21A	Alamocita Cree	61.40	6	⇑P	P	04 29 42.4	-0.1
	baz=62						
GMRC	Granite Mounta	61.43	359	⇑P	P	04 29 43.3	+0.8
	baz=62						
Y27A	Causey	61.45	11	⇑P	P	04 29 41.6	-1.1
	baz=62,SNR=6.8						
Z31A	Sharp Cattle R	61.46	14	⇑P	P	04 29 42.2	-0.5
	baz=62,SNR=5.4						
Z32A	Haskell	61.59	14	⇓P	P	04 29 43.5	-0.1
	baz=62,SNR=8.4						
MSTX	Muleshoe	61.60	11	⇑P	P	04 29 43.2	-0.6
	baz=62						
Y28A	McKinney Farm,	61.63	11	⇑P	P	04 29 43.3	-0.6
	baz=62						
W13A	Hualapai Mount	61.74	0	⇓P	P	04 29 45.2	+0.4
	baz=62						
GSC	Goldstone	61.98	358	⇑P	P	04 29 46.8	+0.6
	baz=62						
W20A	Ramah	62.01	5	⇑P	P	04 29 46.7	+0.1
	baz=62						
TUQ	Turquoise Moun	62.09	359	⇑P	P	04 29 47.7	+0.7
	baz=62						
LRMC	Laurel Mountai	62.19	357	⇑P	P	04 29 48.5	+0.8
	baz=62						
X27A	F and S Farms,	62.21	11	⇓P	P	04 29 47.8	-0.1
	baz=62						
Y32A	R-V Farms, Ver	62.27	14	⇑P	P	04 29 47.8	-0.3
	baz=62						
W23A	Werner Place,	62.28	8	⇓P	P	04 29 48.3	-0.1
	baz=62						
X30A	Coker Ranch, T	62.41	13	⇓P	P	04 29 48.9	-0.1
	baz=63						
ISA	Isabella	62.42	356	⇑P	P	04 29 49.8	+0.6
	baz=63						
W24A	Lazy 6 Ranch,	62.42	8	⇓P	P	04 29 49.4	+0.1
	baz=63,SNR=6.5						
W26A	Owens Ranch, T	62.53	10	⇑P	P	04 29 49.6	-0.4
	baz=63						
SHOC	Shoshone	62.56	358	⇓P	P	04 29 50.6	+0.6
	baz=63						
W25A	X Bar L Ranch,	62.56	9	⇓P	P	04 29 50.1	-0.1
	baz=63						
VES	Vestal, Richgr	62.63	356	⇑P	P	04 29 51.4	+0.9
	baz=63						
V20A	Brimhall	62.68	5	⇓P	P	04 29 51.0	0.0
	baz=63						
MPMC	Manual Prospec	62.76	357	⇑P	P	04 29 52.1	+0.5
	baz=63						
V22A	San Miguel Ran	62.94	7	⇑P	P	04 29 53.0	+0.2
	baz=63						
U15A	North Rim	63.09	2	⇑P	P	04 29 54.3	+0.4
	baz=63,SNR=6.5						
FURC	Furnace Creek,	63.15	358	⇑P	P	04 29 54.9	+1.1
	baz=63						
V25A	Rancho No Teng	63.15	9	⇓P	P	04 29 54.2	+0.1
	baz=63						
V26A	Tequesquite Ra	63.23	10	⇑P	P	04 29 54.2	-0.4
	baz=63						
U21A	Nageezi	63.38	6	⇑P	P	04 29 55.8	+0.1
	baz=64						
U23A	El Rito	63.43	7	⇑P	P	04 29 56.3	+0.2
	baz=64,SNR=6.9						
GRAC	Grapevine Rang	63.69	357	⇑P	P	04 29 58.4	+0.8
	baz=64						
U25A	Circle Dot Ran	63.73	9	⇑P	P	04 29 57.8	-0.2
	baz=64						
T21A	Navajo Lake	63.95	6	⇓P	P	04 29 59.3	-0.2
	baz=64						
T22A	Edith	64.03	7	⇓P	P	04 30 00.3	+0.3
	baz=64						
MVCO	Mesa Verde	64.08	5	⇓P	P	04 30 00.3	0.0
	baz=64						
T25A	Trinidad	64.45	9	⇑P	P	04 30 02.7	-0.1
	baz=65						
S21A	Coal Bank Pass	64.59	6	⇑P	P	04 30 03.8	+0.1
	baz=65						
T26A	Comanche Natio	64.61	10	⇓P	P	04 30 03.3	-0.4
	baz=65						
S20A	Disappointment	64.71	5	⇑P	P	04 30 04.6	+0.2
	baz=65						
S22A	4UR Ranch, Cre	64.77	7	⇑P	P	04 30 05.1	+0.2
	baz=65						
S24A	Houchin Ranch,	64.84	8	⇑P	P	04 30 05.4	-0.1
	baz=65						
SDCO	Great Sand Dun	64.91	8	eP	P	04 30 04.6	-1.2
	2.5nm,1.1s						
R11A	Troy Canyon, C	64.99	359	⇑P	P	04 30 06.8	+0.6
	baz=65,SNR=5.5						
NVAR	Mina Array Bea	65.16	357	P	P	04 30 07.7	+0.4
NVAR	Mina Array Bea	65.16	357	P	P	04 30 07.7	+0.4
	2.3nm,0.8s,baz=187,slow=8.9,SNR=15						
S28A	Manter	65.28	11	⇑P	P	04 30 07.7	-0.3
	baz=66						
R21A	Cimarron	65.31	6	⇓P	P	04 30 08.6	+0.3
	baz=66						
R26A	Arlington	65.73	9	⇓P	P	04 30 11.0	0.0
	baz=66						
Q22A	Crested Butte,	65.86	6	⇓P	P	04 30 12.0	0.0
	baz=66						
R28A	Tribune	66.03	11	⇑P	P	04 30 12.8	-0.1
	baz=66						
P20A	De Beque	66.36	5	⇑P	P	04 30 15.0	0.0
	baz=67						
P19A	Cripple Cowboy	66.45	5	⇓P	P	04 30 15.7	+0.1
	baz=67						
P23A	Jefferson	66.48	7	⇑P	P	04 30 16.1	+0.1
	baz=67						
P22A	Eagle	66.60	6	⇓P	P	04 30 16.8	+0.2
	baz=67						
Q29A	Oakley	66.71	11	⇓P	P	04 30 17.2	0.0
	baz=67						
DUG	Dugway	66.84	1	eP	P	04 30 18.8	+0.8
	3.8nm,1.0s						
DUG	Dugway	66.84	1	⇑P	P	04 30 18.6	+0.6
	baz=67,SNR=6.1						
ISCO	Idaho Springs	66.93	7	⇓P	P	04 30 18.4	-0.4
	baz=67						
Q30A	Quinter	66.93	12	⇑P	P	04 30 18.1	-0.4
	baz=67						
P26A	Davis Ranch, A	66.98	9	⇓P	P	04 30 18.8	-0.2
	baz=67						
O20A	White River Ci	67.00	5	⇑P	P	04 30 19.2	+0.1
	baz=67						
O19A	Miners Draw (B	67.10	4	⇓P	P	04 30 19.5	-0.2
	baz=67						
O22A	Kremmling	67.19	7	⇑P	P	04 30 20.7	+0.3
	baz=67						
N20A	Spence Gulch,	67.70	5	⇓P	P	04 30 23.8	+0.2
	baz=68						
N22A	Wattenberg Ran	67.83	6	⇑P	P	04 30 24.5	+0.1
	baz=68						
N23A	Red Feather La	67.97	7	⇓P	P	04 30 25.3	-0.1
	baz=68						
M20A	Sweetwater, Wa	68.36	5	⇓P	P	04 30 27.5	-0.2
	baz=69						
M24A	Cheyenne	68.67	8	⇑P	P	04 30 29.6	+0.1
	baz=69						
L19A	Farson	68.88	4	⇑P	P	04 30 30.6	-0.4
	baz=69						
PDAR	Pinedale Array	69.53	4	P	P	04 30 33.9	-1.1
PDAR	Pinedale Array	69.53	4	P	P	04 30 33.9	-1.1
	1.5nm,0.9s,baz=175,slow=6.9,SNR=11						
K21A	Alcova	69.57	6	⇑P	P	04 30 34.7	-0.5
	baz=70						
K19A	Absolon Red Bu	69.64	4	⇑P	P	04 30 34.8	-0.8
	baz=70						
K22A	Casper	69.65	6	⇑P	P	04 30 35.2	-0.5
	baz=70						
K23A	Bowen Ranch, D	69.85	7	⇑P	P	04 30 36.6	-0.3
	baz=70						
MFID	Camas Ranch	70.05	359	⇓P	P	04 30 38.1	+0.1
	baz=70						
J19A	Crowheart	70.06	4	⇑P	P	04 30 37.9	-0.2
	baz=70						
HLID	Hailey	70.19	360	⇓P	P	04 30 39.2	+0.3
	baz=70,SNR=9.8						
J20A	Shoshoni	70.22	5	⇓P	P	04 30 38.7	-0.4
	baz=70						
J21A	Lysite	70.26	5	⇓P	P	04 30 39.4	0.0
	baz=70						
K28A	Ten Mile Ranch	70.37	10	⇑P	P	04 30 39.9	0.0
	baz=71						
J22A	Midwest	70.41	6	⇓P	P	04 30 40.0	-0.2
	baz=71						
I18A	Diamond G Ranc	70.45	4	⇓P	P	04 30 40.4	-0.2
	baz=71						
I16A	Newdale	70.55	2	⇑P	P	04 30 40.9	-0.3
	baz=71						
J25A	Sunshine Ranch	70.69	8	⇓P	P	04 30 42.2	+0.3
	baz=71						
I21A	Big Trails, Te	70.73	5	⇑P	P	04 30 41.6	-0.6
	baz=71						
I20A	Worland	70.81	5	⇑P	P	04 30 42.3	-0.4
	baz=71						
I19A	Meeteetse	70.83	4	⇓P	P	04 30 42.9	+0.1
	baz=71						
I22A	9 Mile Ranch,	70.89	6	⇓P	P	04 30 42.9	-0.2
	baz=71						
H16A	Russell Place,	71.39	2	⇑P	P	04 30 46.5	+0.2
	baz=72						
H18A	Shoshone NF, C	71.43	4	⇑P	P	04 30 46.3	-0.2
	baz=72						
H19A	Powell	71.46	4	⇑P	P	04 30 46.1	-0.5
	baz=72						
I27A	Quinn	71.59	9	⇑P	P	04 30 47.3	0.0
	baz=72						
H23A	Clabaugh Cattl	71.66	7	⇓P	P	04 30 47.4	-0.4
	baz=72						
G20A	Bridger	72.06	5	⇓P	P	04 30 49.6	-0.6
	baz=72						
G18A	Lazy EL Ranch,	72.07	4	⇓P	P	04 30 50.0	-0.3
	baz=72						
G23A	Biddle	72.29	7	⇓P	P	04 30 51.0	-0.5
	baz=72						
F17A	Fitzpatrick Pl	72.61	3	⇓P	P	04 30 53.7	+0.2
	baz=73						
F19A	Roth Farm, Mol	72.65	4	⇑P	P	04 30 53.1	-0.5
	baz=73						
F18A	Big Timber	72.65	3	⇓P	P	04 30 53.2	-0.5
	baz=73						
F22A	Rosebud	72.78	6	⇑P	P	04 30 54.3	-0.1
	baz=73						
F23A	Volborg	72.80	7	⇑P	P	04 30 54.0	-0.6
	baz=73						
F24A	Ekalaka	73.03	7	⇓P	P	04 30 55.2	-0.7
	baz=73						
E19A	Rath Farm, Rou	73.26	4	⇑P	P	04 30 56.7	-0.5
	baz=74						
F27A	Lemmon	73.36	9	⇑P	P	04 30 57.6	-0.2
	baz=74						
MSO	Missoula	73.45	0	⇓P	P	04 30 57.8	-0.6
	baz=74						
D17A	Six Diamond Ra	73.85	3	⇓P	P	04 31 00.7	-0.1
	baz=74						
D20A	Manuel Ranch,	73.93	4	⇑P	P	04 31 01.1	-0.1
	baz=74						
D19A	Cripps Ranch,	73.96	4	⇑P	P	04 31 01.5	+0.2
	baz=74						
D21A	La Casta Ranch	73.99	5	⇓P	P	04 31 01.6	+0.1
	baz=74						
D22A	Cohagen	74.14	6	⇓P	P	04 31 02.6	+0.2
	baz=74						
D23A	Lindsay	74.26	6	⇓P	P	04 31 03.2	+0.2
	baz=74						
JTMT	Jette	74.37	0	eP	P	04 31 04.0	+0.2
C15A	Salmond Ranch,	74.42	1	⇑P	P	04 31 04.1	+0.1
	baz=75						
C19A	Slack Wire Ran	74.51	4	⇑P	P	04 31 04.6	+0.1
	baz=75						
C21A	Desert Coulee	74.74	5	⇑P	P	04 31 05.6	-0.2
	baz=75						
C22A	Vida	74.76	6	⇓P	P	04 31 05.9	0.0
	baz=75						
NEW	Newport	74.93	358	⇓P	P	04 31 07.1	+0.2
	baz=75						
B15A	Bradely Ranch,	74.95	1	⇑P	P	04 31 07.1	0.0
	baz=75						
B20A	Solberg Farm,	75.28	4	⇑P	P	04 31 09.1	+0.1
	baz=76						
A14A	Double T Ranch	75.60	1	⇓P	P	04 31 11.0	+0.1
	baz=76						
A15A	Johnson Ranch,	75.62	1	⇓P	P	04 31 10.9	0.0
	baz=76						
A17A	Triple J Farms	75.64	2	⇓P	P	04 31 11.5	+0.4
	baz=76						
A18A	Metzger Ranch,	75.65	3	⇓P	P	04 31 11.5	+0.4
	baz=76						
A19A	Klindworth Far	75.72	4	⇓P	P	04 31 11.6	+0.1
	baz=76						
A20A	Cobblestone Ra	75.73	4	⇓P	P	04 31 11.6	+0.1
	baz=76						
ULM	Lac du Bonnet	78.61	12	P	P	04 31 27.8	+0.2
ULM	Lac du Bonnet	78.61	12	P	P	04 31 27.8	+0.2
	2.3nm,0.8s,baz=141,slow=8.3,SNR=2.6						
EDM	Edmonton	79.86	1	eP	P	04 31 34.1	-0.3
DLBC	Dease Lake	86.08	352	eP	P	04 32 07.2	+0.6
ILAR	Eielson Array	94.88	347	P	P	04 32 47.5	-0.2
ILAR	Eielson Array	94.88	347	P	P	04 32 47.5	-0.2
	0.6nm,1.0s,baz=184,slow=6.2,SNR=3.2						
WRA	Warramunga Arr	98.73	242	P	Pdif	04 33 08.3	+1.9
WRA	Warramunga Arr	98.73	242	P	Pdif	04 33 08.3	+1.9
	0.8nm,1.0s,baz=130,slow=4.8,SNR=4.0						
SONM	Songino Array	142.07	314	PKP	PKPdf	04 38 57.2	-1.1
SONM	Songino Array	142.07	314	PKP	PKPdf	04 38 57.2	-1.1
	0.8nm,0.7s,baz=48,slow=2.1,SNR=2.9						
CMAR	Chiang Mai Arr	148.19	262	PKPbc	PKPbc	04 39 13.7	+0.8
CMAR	Chiang Mai Arr	148.19	262	PKPbc	PKPbc	04 39 13.7	+0.8
	1.1nm,0.6s,baz=153,slow=0.2,SNR=5.6						
ZALV	Zalesovo Beam	149.55	337	PKPbc	PKPbc	04 39 14.0	-1.2
ZALV	Zalesovo Beam	149.55	337	PKPbc	PKPbc	04 39 14.0	-1.2
	1.7nm,0.6s,baz=11,slow=3.0,SNR=7.3						
BRTR	Keskin Array B	150.57	56	PKPbc	PKPbc	04 39 18.4	+0.1
BRTR	Keskin Array B	150.57	56	PKPbc	PKPbc	04 39 18.4	+0.1
	1.4nm,0.9s,baz=186,slow=1.1,SNR=4.6						

WEL 13 04:30:14.8±0.6, 35°.49S×178°.67E, h233km±13km, ML4.1/13, Error ellipse: s-maj=13.3km s-min=8.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.60	187	PN	Pn	04 31 01.8	-0.1
PUZ				SN	S	04 31 38.1	-0.9
PUZ				AML	AML	04 31 40.5	
MWZ	Matawai	2.98	198	PN	Pn	04 31 06.5	+0.5
MWZ				SN	S	04 31 47.1	+0.6
MWZ				AML	AML	04 31 52.0	
CNGZ	Carnagh Statio	3.01	187	PN	Pn	04 31 06.6	+0.3
URZ	Urewera	3.04	204	PN	Pn	04 31 06.4	-0.2
URZ				AML	AML	04 31 49.1	
PRRZ	Plateau Road	3.51	211	PN	Pn	04 31 13.0	+0.9
KNZ	Kokohu	3.61	192	PN	Pn	04 31 12.6	-0.6
MHGZ	Mahia Peninsul	3.71	189	PN	Pn	04 31 14.9	+0.5
NMHZ	Naumai	3.90	202	PN	Pn	04 31 17.5	+0.8
BKZ	Black Stump Fm	4.06	205	PN	Pn	04 31 19.0	+0.4
BKZ				SN	S	04 32 08.7	-0.4
MCHZ	McNeill Hill	4.25	201	PN	Pn	04 31 21.3	+0.5
CKHZ	Cape Kidnapper	4.35	196	PN	Pn	04 31 21.8	-0.2
OTVZ	Oturere	4.38	212	PN	Pn	04 31 23.0	+0.4
TUVZ	Tukino	4.47	212	PN	Pn	04 31 24.2	+0.5
BHHZ	Black Hill Sta	4.50	207	PN	Pn	04 31 23.7	-0.2
FWVZ	Far West T-bar	4.50	213	PN	Pn	04 31 24.3	+0.1
KAHZ	Kahuranaki	4.53	198	PN	Pn	04 31 23.9	-0.3
WNVZ	Wahianoa	4.54	212	PN	Pn	04 31 25.1	+0.5
MOVZ	Moawhango	4.55	210	PN	Pn	04 31 24.2	-0.3
PXZ	Pawanui	4.75	197	PN	Pn	04 31 25.6	-1.3
PXZ				SN	S	04 32 21.7	-2.5
PNHZ	Pukenui	4.83	203	PN	Pn	04 31 27.4	-0.6
PRHZ	Porangahau	5.03	198	PN	Pn	04 31 29.7	-0.7
TSZ	Takapari Road	5.04	204	PN	Pn	04 31 29.7	-0.9
WAZ	Wanganui	5.17	213	PN	Pn	04 31 32.6	+0.5
DVHZ	Dannevirke	5.19	202	PN	Pn	04 31 31.6	-0.9
POWZ	Post Office Ro	5.41	204	PN	Pn	04 31 34.5	-0.6
BFZ	Birch Farm	5.52	200	PN	Pn	04 31 35.5	-1.0
TIWZ	Tintock	5.72	202	PN	Pn	04 31 37.8	-1.2
HOWZ	Holdsworth Sta	5.94	204	PN	Pn	04 31 40.1	-1.8
OGWZ	Otaki Gorge	5.99	206	PN	Pn	04 31 41.1	-1.3
TMWZ	Te Maipa	6.02	200	PN	Pn	04 31 41.4	-1.4
KIW	Kapiti Island	6.13	208	PN	Pn	04 31 42.6	-1.5
MTW	Mount Morrison	6.18	203	PN	Pn	04 31 43.3	-1.5
DUWZ	D'Urville Isla	6.49	214	PN	Pn	04 31 47.3	-1.5
MSWZ	Moikau Station	6.50	203	PN	Pn	04 31 47.2	-1.6
SNZO	South Karori	6.59	207	PN	Pn	04 31 47.9	-2.1
PLWZ	Palliser	6.63	203	PN	Pn	04 31 48.6	-2.0
TCW	Tory Channel	6.67	210	PN	Pn	04 31 49.1	-2.0
TUWZ	Tuamarina	7.00	211	PN	Pn	04 31 53.1	-2.0
NNZ	Nelson	7.07	214	PN	Pn	04 31 54.3	-1.8
QRZ	Quartz Range	7.20	220	PN	Pn	04 31 55.8	-1.9
BSWZ	Blackbirch Sta	7.26	210	PN	Pn	04 31 57.2	-1.3
THZ	Tophouse	7.72	214	PN	Pn	04 32 01.2	-3.2
LTZ	Lake Taylor	8.81	212	PN	Pn	04 32 16.5	-2.0

DHMR 13 05:00:27.5±0.4, 12°.42N×46°.20E, h12km±50km, ML3.5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	1.66	338	i P	Pn	05 00 57.4	+0.5
BDHA				i S	Sb	05 01 20.6	+1.0
BDHA				AML	AML	05 01 22.8	
	comp=E,605nm,0.4s						
LBOS		1.71	327	i P	Pn	05 00 58.0	+0.4
LBOS				i S	Sg	05 01 22.3	-1.1
TRBA	At Turbah	2.19	292	i P	Pb	05 01 05.8	-1.5
TRBA				i S	Sb	05 01 35.3	+0.6

IDC 13 05:13:14.8±6.8, 6°.93S×148°.82E, h91km±50km, mb3.7/2, mb1 3.8/4, mb1mx3.3/19, mbtmp3.6/4, Error ellipse: s-maj=93.3km s-min=52.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.96	214	P	Pn	05 13 59.1	-0.8
	8.3nm,0.3s,baz=43,slow=4.3,SNR=8.7						
PMG				S	Sn	05 14 35.6	+1.1
	34nm,0.3s,baz=58,slow=14,SNR=19						
WRA	Warramunga Arr	19.10	226	P	P	05 17 29.9	-0.7
	0.5nm,0.3s,baz=51,slow=11,SNR=30						
ASAR	Alice Springs	21.96	219	P	P	05 18 01.1	-0.2
	1.0nm,0.5s,baz=55,slow=9.3,SNR=16						
FITZ	Fitzroy Crossi	25.17	242	P	P	05 18 31.7	-0.3
	4.8nm,0.7s,baz=78,slow=7.2,SNR=24						
TORD	Torodi Ar. Bea	147.07	283	PKPbc	PKPbc	05 32 48.2	-0.1
	0.5nm,0.6s,baz=60,slow=3.2,SNR=5.1						

IDC 13 05:46:36.1±3.5, 3°.90S×152°.37E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.5/18, mbtmp4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=155.0km s-min=44.1km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.73	226	P	P	05 51 51.0	+0.8
	4.5nm,0.6s,baz=52,slow=10.0,SNR=62						
ASAR	Alice Springs	26.54	221	P	P	05 52 15.6	-0.2
	0.7nm,0.5s,baz=54,slow=8.6,SNR=12						
AFI	Afiamalu	36.74	108	LR	LR	06 06 30.9	
	comp=Z,86nm,20.2s,baz=189,slow=32						
TORD	Torodi Ar. Bea	149.61	289	PKPbc	PKPbc	06 06 27.9	-0.9
	0.6nm,0.3s,baz=83,slow=2.1,SNR=13						

*IDC **13** 05:57:45.1±3.0, 32°.31N×139°.70E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=108.7km s-min=25.3km az=76.0*
*ISCJB **13** 05:57:49.3±1.0, 32°.76N±0°.06×140°.74E±0°.08, h73km±8km, mb3.5/2, Error ellipse: s-maj=11.6km s-min=9.1km az=19.3*
*JMA **13** 05:57:50.5±0.2, 32°.82N×140°.73E, h61km±5km, M3.5*
ISC 13 05:57:49.4±1.8, 32°.73N±0°.09×140°.79E±0°.10, h61km±15km, n15, σ1°.21/26, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	0.90	293	P	Pn	05 58 06.5	+0.3
JHCJ				S	Sn	05 58 17.6	-1.1
JHJ2	Mitsune	0.91	295	P	Pn	05 58 06.6	+0.4
JHJ2				S	Sn	05 58 18.6	-0.1
JMY	Miyakejima3	1.71	322	P	Pn	05 58 17.4	+0.4
BSO1	Boso 1	1.93	5	P	Pn	05 58 20.0	+0.6
BSO1				S	Sn	05 58 43.2	+1.0
JKO	Kozu shima	2.01	317	P	Pn	05 58 21.5	+0.5
JKO				S	Sn	05 58 44.0	-1.0
BSO3	Boso 3	2.08	354	P	Pn	05 58 22.3	+0.6
BSO3				S	Sn	05 58 46.4	0.0
JIM2	Oshima 3	2.29	331	P	Pn	05 58 25.8	+1.0
JIM2				S	Sn	05 58 49.7	-2.1
JIZS	Izushimoda	2.54	322	P	Pn	05 58 29.1	+0.8
TK02	Tokai 2	2.82	296	P	Pn	05 58 33.5	+1.7
TK02				S	Sn	05 59 05.2	+0.8
JOD2	Odawara 2	2.90	331	P	Pn	05 58 33.5	+0.4
JOD2				S	Sn	05 59 03.9	-2.9
TK04	Tokai 4	2.94	305	P	Pn	05 58 35.1	+1.5
TK04				S	Sn	05 59 08.1	+0.4
MJAR	Matsushiro Arr	4.36	331	Pn	Pn	05 58 53.7	+0.5
	1.4nm,0.3s,baz=160,slow=11,SNR=9.6						
MJAR				Sn	Sn	05 59 44.9	+2.3
	0.9nm,0.3s,baz=36,slow=24,SNR=5.7						
MAT	Matsushiro	4.36	331	P	Pn	05 58 54.0	+0.9
MAT				S	Sn	05 59 42.7	0.0
MKAR	Makanchi Array	46.09	306	P	P	06 06 06.5	-0.8
	1.2nm,0.7s,baz=89,slow=9.5,SNR=14						
WRA	Warramunga Arr	52.74	188	P	P	06 06 57.9	-0.2
	0.1nm,0.3s,baz=5.9,slow=7.5,SNR=7.0						

*TEH **13** 06:12:42.6, 31°.61N×49°.88E, h6km, ML4.3*
*BJI **13** 06:12:43.3, 31°.60N×49°.90E, h14km, mB4.7/4, mb4.5/10, Ms4.3/1, Ms7 4.1/1*
*NEIC **13** 06:12:44.3, 31°.61N×49°.86E, h14km, mb4.2/14, ML4.1(THR), MN4.3(TEH), After THR.*
*CSEM **13** 06:12:44.4±0.2, 31°.58N×49°.79E, h10km, mb4.5/37, Ms3.4, Error ellipse: s-maj=7.3km s-min=4.0km az=174.0*
*ISCJB **13** 06:12:44.8±0.2, 31°.56N±0°.03×49°.83E±0°.02, h26km, mb4.4/70, MS3.6/7, Error ellipse: s-maj=4.5km s-min=2.6km az=5.5*
*THR **13** 06:12:44.6±1.0, 31°.61N×49°.87E, h15km±10km, ML4.1*
*MOS **13** 06:12:46.1±1.1, 31°.65N×49°.96E, h33km, mb4.5/15, Error ellipse: s-maj=8.3km s-min=

NASN Na'in 2.80 63 *e*Pn **Pn 06 13 30.8 +1.1**
NASN Na'in 2.80 63 *e*Pn **Pn 06 13 30.0 +0.3**
NASN Na'in 2.80 63 *e*Pn **Pn 06 13 30.8 +1.1**
ASAO Ashtian 2.97 3 *e*Pn **Pn 06 13 33.8 +1.9**
ASAO AML AML 06 14 22.1
comp=N,699nm,0.5s
ASAO Ashtian 2.97 3 *e*Pn **Pn 06 13 33.8 +1.9**
KBD Kabd 3.02 218 *e*P **Pb 06 13 36.9 -2.5**
KBD AML AML 06 14 19.4
comp=Z,294nm,0.5s
KBD Kabd 3.02 218 *e*P **Pb 06 13 36.9 -2.5**
NAY Al-Naaiem 3.22 225 *e*P Pb 06 13 39.7 -3.1
NAY Al-Naaiem 3.22 225 *e*P Pb 06 13 39.7 -3.1
IKOM Komasi 3.24 324 *e*Pn **Pn 06 13 37.0 +1.4**
IKOM *e* 06 14 40.8
comp=Z,9μm,0.3s
IKOM Komasi 3.24 324 *e*Pn **Pn 06 13 37.0 +1.4**
IPAR Pars 3.27 121 *e*Pn **Pn 06 13 37.8 +1.7**
IPAR *e* 06 14 21.4
comp=Z,8μm,0.4s
IPAR Pars 3.27 121 *e*Pn **Pn 06 13 37.8 +1.7**
RDF Al-Radifah 3.30 217 *e*P Pn 06 13 40.5 +4.3
RDF AML AML 06 14 27.7
comp=Z,310nm,0.5s
RDF Al-Radifah 3.30 217 *e*P Pn 06 13 40.5 +4.3
ISAD Sadrabad 3.30 83 *e*Pn **Pn 06 13 37.7 +1.2**
ISAD *e* 06 14 44.0
comp=Z,7μm,0.4s
ISAD Sadrabad 3.30 83 *e*Pn **Pn 06 13 37.7 +1.2**
ISFB Sefidab 3.43 36 *e*Pn **Pn 06 13 38.9 +0.8**
ISFB *e* 06 14 34.2
comp=Z,4μm,0.3s
ISFB Sefidab 3.43 36 *e*Pn **Pn 06 13 38.9 +0.8**
ISRV Sarvestan 3.58 127 *e*Pn **Pn 06 13 41.8 +1.4**
ISRV *e* 06 15 13.8
comp=Z,12μm,0.6s
ISRV Sarvestan 3.58 127 *e*Pn **Pn 06 13 41.8 +1.4**
IBDR Badra 3.64 296 *e*Pn Pn 06 13 38.0 -2.8
IBDR *i* Pg **Pb 06 13 52.0 +2.2**
IBDR *i* Sn **Sn 06 14 18.0 -4.9**
IR5 Iran Long-Peri 3.68 10 *e*Pn **Pn 06 13 42.8 +1.2**
IR5 Iran Long-Peri 3.68 10 *e*Pn **Pn 06 13 42.8 +1.2**
IVRN Varamin 3.76 24 *e*Pn **Pn 06 13 43.7 +1.0**
IVRN *e* 06 13 44.4
comp=Z,3μm,0.2s
IVRN Varamin 3.76 24 *e*Pn **Pn 06 13 43.7 +1.0**
IRAZ Razeghan 3.82 1 *e*Pn **Pn 06 13 44.7 +1.1**
IRAZ *e* 06 14 57.1
comp=Z,7μm,0.4s
IRAZ Razeghan 3.82 1 *e*Pn **Pn 06 13 44.7 +1.1**
IVIS Veis 3.86 320 *e*Pn **Pn 06 13 45.5 +1.4**
IVIS *e* 06 14 40.3
comp=Z,3μm,0.2s
IVIS Veis 3.86 320 *e*Pn **Pn 06 13 45.5 +1.4**
IGHG Ghaleghazi 3.88 316 *e*Pn **Pn 06 13 45.9 +1.5**
IGHG *e* 06 15 13.7
comp=Z,9μm,0.5s
IGHG Ghaleghazi 3.88 316 *e*Pn **Pn 06 13 45.9 +1.5**
ICHK Chekchek 3.95 79 *e*Pn **Pn 06 13 46.5 +1.1**
ICHK *e* 06 13 47.1
comp=Z,4μm,0.2s
ICHK Chekchek 3.95 79 *e*Pn **Pn 06 13 46.5 +1.1**
IR3 Iran Long-Peri 4.01 14 *e*Pn **Pn 06 13 47.0 +0.9**
IR3 *e*Sg Sb 06 14 54.1 +10
IR3 Iran Long-Peri 4.01 14 *e*Pn **Pn 06 13 47.0 +0.9**
SNGE Sanandaj 4.08 330 *e*Pn **Pn 06 13 48.6 +1.5**
SNGE Sanandaj 4.08 330 *e*Pn **Pn 06 13 48.0 +0.9**
SNGE Sanandaj 4.08 330 *e*Pn **Pn 06 13 48.6 +1.5**
IMEH Mehriz 4.09 91 *e*Pn **Pn 06 13 48.6 +1.2**
IMEH *e* 06 13 49.5
comp=Z,2μm,0.2s
IMEH Mehriz 4.09 91 *e*Pn **Pn 06 13 48.6 +1.2**
ILIN Lien 4.11 325 *e*Pn **Pn 06 13 49.1 +1.5**
ILIN *e* 06 14 40.1
comp=Z,7μm,0.2s
ILIN Lien 4.11 325 *e*Pn **Pn 06 13 49.1 +1.5**
IDHR Dehrash 4.25 318 *e*Pn **Pn 06 13 50.7 +1.3**
IDHR *e* 06 14 51.7
comp=Z,7μm,0.1s
IDHR Dehrash 4.25 318 *e*Pn **Pn 06 13 50.7 +1.3**
GHIR Ghir-Karzin 4.28 139 *e*Pn **Pn 06 13 51.3 +1.5**
GHIR Ghir-Karzin 4.28 139 *e*Pn **Pn 06 13 51.0 +1.2**
GHIR Ghir-Karzin 4.28 139 *e*Pn **Pn 06 13 51.3 +1.5**
IDMV Damavand 4.39 24 *e*Pn **Pn 06 13 52.4 +0.9**
IDMV *e* 06 15 29.3
comp=Z,3μm,0.4s
IDMV Damavand 4.39 24 *e*Pn **Pn 06 13 52.4 +0.9**
THKV Tehran--Karaj 4.42 11 *e*Pn **Pn 06 13 52.7 +1.0**
THKV AML AML 06 15 28.0
comp=N,190nm,0.8s
THKV Tehran--Karaj 4.42 11 *e*Pn **Pn 06 13 52.0 +0.3**
THKV Tehran--Karaj 4.42 11 *e*Pn **Pn 06 13 52.7 +1.0**
DAMV Damavand 4.42 23 *e*Pn **Pn 06 13 52.8 +0.9**
DAMV AML AML 06 15 14.0
comp=E,212nm,0.8s
DAMV AML AML 06 15 14.6
comp=N,210nm,0.6s
DAMV Damavand 4.42 23 *e*Pn **Pn 06 13 52.0 +0.1**
DAMV Damavand 4.42 23 *e*Pn **Pn 06 13 52.8 +0.9**
CHTH Charan 4.45 14 *e*Pn **Pn 06 13 53.2 +0.9**
CHTH Charan 4.45 14 *e*Pn **Pn 06 13 53.0 +0.7**
CHTH Charan 4.45 14 *e*Pn **Pn 06 13 53.2 +0.9**
ILAS Lasjerd 4.61 34 *e*Pn **Pn 06 13 55.3 +0.8**
ILAS *e* 06 13 55.9
comp=Z,3μm,0.1s
ILAS Lasjerd 4.61 34 *e*Pn **Pn 06 13 55.3 +0.8**
IFIR Firoozkooh 4.73 30 *e*Pn **Pn 06 13 57.1 +0.9**
IFIR *e* 06 13 58.5
comp=Z,2μm,0.1s
IFIR Firoozkooh 4.73 30 *e*Pn **Pn 06 13 57.1 +0.9**
IBAF Bafgh 4.90 88 *e*Pn **Pn 06 13 59.3 +0.9**
IBAF *e* 06 14 00.3
comp=Z,2μm,0.2s
IBAF Bafgh 4.90 88 *e*Pn **Pn 06 13 59.3 +0.9**
BHD Baghdad 4.91 292 *e*Pn **Pn 06 13 57.0 -1.3**
BHD *i* Pg Pb 06 14 20.0 +8.6
BHD *e*Sn **Sn 06 14 52.0 -2.2**
BHD *e*Sb **Sb 06 15 09.0 -1.0**
BHD *e*Sg 06 15 23.0
BHD Baghdad 4.91 292 *e*Pn **Pn 06 13 57.0 -1.3**
BHD *e*Sn **Sn 06 14 52.0 -2.2**
ISHM Shahmirzad 5.11 33 *e*Pn **Pn 06 14 02.3 +0.9**
ISHM *e* 06 14 31.2
comp=Z,3μm,0.3s
ISHM Shahmirzad 5.11 33 *e*Pn **Pn 06 14 02.3 +0.9**
IANJ Anjilo 5.17 40 *e*Pn **Pn 06 14 02.1 0.0**
IANJ *e* 06 15 43.8
comp=Z,1μm,0.4s
IANJ Anjilo 5.17 40 *e*Pn **Pn 06 14 02.1 0.0**
KRBR Kerman 6.17 103 *e*Pn **Pn 06 14 17.3 +1.3**
KRBR Kerman 6.17 103 *e*Pn **Pn 06 14 17.0 +1.0**
KRBR Kerman 6.17 103 *e*Pn **Pn 06 14 17.3 +1.3**
TABS Tabas 6.49 70 *e*Pn **Pn 06 14 21.1 +0.9**
TABS Tabas 6.49 70 *e*Pn **Pn 06 14 21.1 +0.9**
SHRO Shahrood 6.77 48 *e*Pn **Pn 06 14 25.6 +1.6**
SHRO Shahrood 6.77 48 *e*Pn **Pn 06 14 25.6 +1.6**
BNDS Bandar-Abbas 6.92 125 *e*Pn **Pn 06 14 27.5 +1.4**
BNDS Bandar-Abbas 6.92 125 *e*Pn **Pn 06 14 27.0 +0.8**
BNDS Bandar-Abbas 6.92 125 *e*Pn **Pn 06 14 27.5 +1.4**
MRVT Maraveh tapeh 7.96 39 *e*Pn **Pn 06 14 41.3 +1.0**
MRVT Maraveh tapeh 7.96 39 *e*P **Pn 06 14 41.0 +0.6**
MRVT Maraveh tapeh 7.96 39 *e*P **Pn 06 14 41.0 +0.6**
MRVT Maraveh tapeh 7.96 39 *e*Pn **Pn 06 14 41.3 +1.0**
ASF Jabal al Asfar 11.01 276 Pn **Pn 06 15 20.7 -1.5**
ASF Jabal al Asfar 11.01 276 Pn **Pn 06 15 20.7 -1.5**
comp=Z,1.8nm,0.3s,baz=44,slow=11,SNR=12
ASF LR LR 06 19 37.4
comp=Z,39nm,20.0s,baz=243,slow=37
MMAI Mount Meron Ar 12.29 281 Pn **Pn 06 15 39.2 -0.4**
MMAI Mount Meron Ar 12.29 281 Pn **Pn 06 15 39.2 -0.4**
comp=Z,1.7nm,0.3s,baz=82,slow=13,SNR=2.6
MMAI LR LR 06 21 24.5
comp=Z,152nm,20.1s,baz=60,slow=42
MMAI Mount Meron Ar 12.29 281 Pn **Pn 06 15 39.2 -0.4**
EIL Elat 12.95 265 Pn **Pn 06 15 47.5 -1.1**
EIL Elat 12.95 265 Pn **Pn 06 15 47.5 -1.1**
comp=Z,0.8nm,0.3s,baz=124,slow=5.9,SNR=6.7
EIL LR LR 06 21 19.1
comp=Z,139nm,21.5s,baz=96,slow=40
EIL Elat 12.95 265 Pn **Pn 06 15 47.5 -1.1**
KBZ Khabaz 13.31 338 P **P 06 16 00.4 -2.4**
KBZ Khabaz 13.31 338 Pn **P 06 16 00.4 -2.4**
KBZ Khabaz 13.31 338 Pn **P 06 16 00.4 -2.4**
comp=Z,0.1nm,0.3s,baz=252,slow=16,SNR=2.1
KIV Kislovodsk 13.58 338 *e*P **Pn 06 15 57.4 +0.2**
KIV *e*S **Sn 06 18 23.4 -3.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 13.58 338 *e*P **Pn 06 15 57.4 +0.2**
comp=Z,7.0nm,1.1s
CSS Prodhromos 14.21 288 *e*Pn **Pn 06 16 08.3 +2.5**
CSS Prodhromos 14.21 288 *e*Pn **Pn 06 16 08.3 +2.5**
BRTR Keskin Array B 15.45 306 Pn **Pn 06 16 23.0 +0.4**
BRTR Keskin Array B 15.45 306 Pn **Pn 06 16 23.0 +0.4**
comp=Z,0.3nm,0.3s,baz=122,slow=12,SNR=16
BRTR Keskin Array B 15.45 306 Pn **Pn 06 16 23.0 +0.4**
BRTR Keskin Array B 15.45 306 *e*P **P 06 16 27.0 +0.1**
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 15.45 306 *e*Pn **Pn 06 16 24.7 +2.1**
comp=Z,3.5nm,0.6s
BR131 Keskin Array S 15.45 306 *e*Pn **Pn 06 16 24.7 +2.1**
comp=Z,3.5nm,0.6s
ANTO Ankara 16.10 306 *e*P **P 06 16 33.4 -0.6**
ANTO pmax pmax
comp=Z,24nm,1.3s
ANTO Ankara 16.10 306 *e*Pn **P 06 16 33.4 -0.6**
comp=Z,24nm,1.3s
ANTO Ankara 16.10 306 *e*P **P 06 16 33.4 -0.6**
comp=Z,24nm,1.3s
KBL Kabul 16.38 74 P **Pn 06 16 34.5 -0.1**
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL Kabul 16.38 74 Pn **Pn 06 16 34.5 -0.1**
comp=Z,7.1nm,0.7s
KBL Kabul 16.38 74 Pn **Pn 06 16 34.5 -0.1**
comp=Z,7.1nm,0.7s
ANN Anapa 16.38 327 *e*P **P 06 16 37.2 +0.3**
ANN *e*S **Sn 06 19 35.9 +0.7**
ANN pmax pmax
comp=Z,22nm,1.3s
ANN Anapa 16.38 327 *e*P **P 06 16 37.2 +0.3**
comp=Z,22nm,1.3s
ISP Isparta 17.04 297 *e*P **P 06 16 45.0 +0.5**
ISP pmax pmax
comp=Z,31nm,0.8s
ISP Isparta 17.04 297 *e*Pn **P 06 16 45.0 +0.5**
comp=Z,30nm,0.8s
ISP Isparta 17.04 297 *e*P **P 06 16 45.0 +0.5**
comp=Z,31nm,0.8s
AB31 Akbulak array 19.23 20 *i* P **P 06 17 08.1 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
AB31 Akbulak array 19.23 20 *i* P **P 06 17 08.1 -0.3**
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 19.23 20 *e*P **P 06 17 08.0 -0.4**
comp=Z,2.6nm,0.5s
ABKAR Akbulak array 19.23 20 *e*P **P 06 17 08.0 -0.4**
comp=Z,2.6nm,0.5s
AKTK Aktyubinsk 19.80 16 P **P 06 17 12.7 -1.9**
AKTO Aktyubinsk 19.80 16 P **P 06 17 12.7 -1.9**
AKTO Aktyubinsk 19.80 16 P **P 06 17 12.7 -1.9**
AKTO Aktyubinsk 19.80 16 P **P 06 17 12.7 -1.9**
comp=Z,0.3nm,0.3s,baz=206,slow=10,SNR=10.0
AKTO Aktyubinsk 19.80 16 P **P 06 17 12.7 -1.9**
KK31 Karatay Array 20.01 49 *i* P **P 06 17 16.7 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KK31 Karatay Array 20.01 49 *i* P **P 06 17 16.7 -0.3**
comp=Z,2.0nm,0.3s
KKAR Karatay Array 20.01 49 *e*P **P 06 17 16.3 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 20.01 49 *e*P **P 06 17 16.3 -0.7**
comp=Z,4.1nm,0.5s
KKAR Karatay Array 20.01 49 *e*P **P 06 17 16.3 -0.7**
comp=Z,4.1nm,0.5s
VRHR Novokhopersk 20.43 345 *e*P Pn 06 17 23.4 -0.1
VRHR *e*S **S 06 21 01.9 -6.8**
VRHR *e**SS Sn 06 21 15.1 +2.2
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,5.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s
VRHR smax smax
comp=N,30nm,1.5s
VRHR smax smax
comp=Z,4.0nm,0.3s
VRHR smax smax
comp=E,10.0nm,0.8s
VRHR Novokhopersk 20.43 345 *e*P Pn 06 17 23.4 -0.1
VORD Divnogorie 20.89 341 *e*P **P 06 17 27.6 +1.3**
VORD *e*S S 06 21 08.3 -9.5
VORD *e**SS Sn 06 21 22.8 -1.1
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD smax smax
comp=N,20nm,0.9s
VORD smax smax
comp=E,10.0nm,0.9s
VORD smax smax
comp=Z,6.0nm,0.9s
VORD Divnogorie 20.89 341 *e*P **P 06 17 27.6 +1.3**
ATD Arta Tunnel 20.97 199 LR LR 06 26 11.8
comp=Z,123nm,18.6s,baz=243,slow=38
IDI Anoyia 21.12 287 *e*P **P 06 17 31.3 +2.2**
comp=Z,42nm,0.9s
IDI Anoyia 21.12 287 *e*P **P 06 17 31.3 +2.2**
comp=Z,42nm,0.9s
TIRR Tirgusor 21.14 314 ⇓P P 06 17 34.1 +5.0
TIRR Tirgusor 21.14 314 ⇓*i*P P 06 17 34.1 +5.0
TIRR Tirgusor 21.14 314 *e*P **P 06 17 32.1 +3.0**
comp=Z,20nm,1.2s
VSR Storozhevoye 21.15 341 *e*P **P 06 17 31.2 +2.1**
VSR pmax pmax
comp=N,30nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 21.15 341 *e*P **P 06 17 31.2 +2.1**
CFR Carcaliu 21.68 315 ⇑P **P 06 17 35.0 +0.2**
CFR Carcaliu 21.68 315 ⇑*i*P **P 06 17 35.0 +0.2**
CFR Carcaliu 21.68 315 P **P 06 17 35.0 +0.2**
EKS2 Erkin-Say 22.00 53 *e*P **P 06 17 36.4 -2.1**
EKS2 pmax pmax
comp=Z,11nm,1.3s
EKS2 Erkin-Say 22.00 53 *e*P **P 06 17 36.4 -2.1**
comp=Z,11nm,1.3s
EKS2 Erkin-Say 22.00 53 *e*P **P 06 17 36.4 -2.1**
comp=Z,11nm,1.3s
AAK Ala-Archa 22.48 54 ⇓*e*P **P 06 17 43.6 -0.1**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 22.48 54 *e*P **P 06 17 42.8 -0.9**
comp=Z,7.9nm,0.9s
AAK Ala-Archa 22.48 54 P **P 06 17 43.0 -0.7**
comp=Z,2.2nm,0.3s,baz=245,slow=1.3,SNR=4.4
AAK LR LR 06 27 49.6
comp=Z,143nm,21.3s,baz=62,slow=40
AAK Ala-Archa 22.48 54 *e*P **P 06 17 43.6 -0.1**
comp=Z,9.0nm,1.0s
ISR Istrita 22.62 313 ⇓P P 06 17 57.6 +12
ISR Istrita 22.62 313 ⇓*i*P P 06 17 57.6 +12
DID Didima 22.65 292 *e*P **P 06 17 44.1 -1.3**
VLI Veliai 22.80 290 *e*P **P 06 17 46.5 -0.5**
VRI Vrincioaia 22.88 315 ⇑P **P 06 17 52.0 +4.3**
VRI Vrincioaia 22.88 315 ⇑*i*P **P 06 17 52.0 +4.3**
LTK Loutraki 22.93 294 *e*P **P 06 17 47.6 -0.8**
MLR Muntele Rosu 23.17 314 ⇑*i*P **P 06 17 55.2 +4.3**
MLR Muntele Rosu 23.17 314 P **P 06 17 49.7 -1.2**
MLR Muntele Rosu 23.17 314 P **P 06 17 49.7 -1.2**
comp=Z,0.2nm,0.4s,baz=150,slow=16,SNR=1.9
MLR Muntele Rosu 23.17 314 P **P 06 17 49.7 -1.2**
DYR Agios Nikonas 23.29 290 *e*P **P 06 17 52.4 +0.4**
VLX Vlachokerasia 23.31 292 *e*P **P 06 17 52.2 -0.1**
TKM2 Tokmak 2 23.34 54 *e*P **P 06 17 51.6 -1.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 23.34 54 *e*P **P 06 17 51.6 -1.1**
comp=Z,5.1nm,0.8s
TKM2 Tokmak 2 23.34 54 *e*P **P 06 17 51.6 -1.1**
comp=Z,5.1nm,0.8s
GUR Goura 23.41 293 *e*P **P 06 17 53.4 +0.1**
KLV Kalavryta, Ach 23.57 293 *e*P **P 06 17 55.2 +0.4**
AGG Agios Georgios 23.58 296 *e*P **P 06 17 55.9 +1.0**
KALE Kalithea 23.63 294 *e*P **P 06 17 55.9 +0.5**
ITM Ithomi 23.65 291 *e*P **P 06 17 55.9 +0.4**
TRIZ Trizonia 23.68 294 *e*P **P 06 17 56.0 +0.3**
VOIR 23.70 313 ⇑P **P 06 17 57.1 +1.1**
VOIR 23.70 313 ⇑*i*P **P 06 17 57.1 +1.1**
VOIR 23.70 313 P **P 06 17 57.1 +1.1**
LAKA Lakka 23.73 294 *e*P **P 06 17 57.2 +0.9**
PYL PYLOS 23.77 291 *e*P **P 06 17 55.9 -0.8**
EFP Efpalio 23.82 294 *e*P **P 06 17 56.6 -0.5**
VTS Vitosha 23.82 305 ⇑P **P 06 17 57.1 -0.1**
VTS Vitosha 23.82 305 ⇑*i*P **P 06 17 57.1 -0.1**
VTS Vitosha 23.82 305 P **P 06 17 57.1 -0.1**
AMT Artemida-Makis 23.86 292 *e*P **P 06 18 00.2 +2.7**
THL Klokotos Trika 23.92 297 *e*P **P 06 17 59.1 +1.1**
RLS Riolos of Patr 24.11 293 *e*P **P 06 18 00.4 +0.6**
AKASG Malin Array Be 24.47 327 P **P 06 18 00.9 -2.1**
AKASG Malin Array Be 24.47 327 P **P 06 18 00.8 -2.1**
AKASG Malin Array Be 24.47 327 P **P 06 18 00.8 -2.1**
comp=Z,15nm,0.3s,baz=135,slow=9.2,SNR=2.8
AKASG Malin Array Be 24.47 327 P **P 06 18 00.9 -2.1**
BURAR Bucovina Array 24.67 318 ⇓P **P 06 18 06.0 +1.0**
BURAR Bucovina Array 24.67 318 ⇓*i*P **P 06 18 06.0 +1.0**
BUR08 Bucovina Ar. S 24.70 318 *e*P **P 06 18 05.9 +0.7**
BUR08 Bucovina Ar. S 24.70 318 *e*P **P 06 18 05.9 +0.7**
VLS Valsamata 24.81 293 *e*P **P 06 18 06.3 +0.1**
OBN Obninsk 25.34 342 ⇑*e*P P 06 18 18.5 +7.8
OBN pmax pmax
comp=Z,16nm,0.5s
ARU Arti 25.59 11 *d i*P P 06 18 18.0 +5.0
ARU 06 18 52.3
ARU SS SS 06 23 38.7
ARU pmax pmax
comp=Z,4.0nm,0.8s
DRGR 25.77 314 ⇑P **P 06 18 17.8 +2.9**
DRGR 25.77 314 ⇑*i*P **P 06 18 17.8 +2.9**
TIR Tirane 25.89 301 *e*P **P 06 18 17.5 +1.6**
TIR pmax pmax
comp=Z,22nm,0.6s
TIR Tirane 25.89 301 *e*P **P 06 18 17.5 +1.6**
comp=Z,22nm,0.6s
TIR Tirane 25.89 301 *e*P **P 06 18 17.5 +1.6**
comp=Z,22nm,0.6s
BRVK Borovoye 26.08 29 ⇓*e*P **P 06 18 16.9 -0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 26.08 29 *e*P **P 06 18 17.6 0.0**
comp=Z,8.5nm,1.1s
BRVK Borovoye 26.08 29 *e*P **P 06 18 17.6 0.0**
comp=Z,8.5nm,1.1s
BVA0 Borovoye Array 26.10 29 P **P 06 18 17.3 -0.5**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVA0 Borovoye Array 26.10 29 P **P 06 18 17.3 -0.5**
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 26.10 29 P **P 06 18 16.5 -1.3**
BVAR Borovoye Array 26.10 29 P **P 06 18 16.5 -1.3**
BVAR ScP **ScP 06 25 21.2 -1.6**
BVAR Borovoye Array 26.10 29 P **P 06 18 16.5 -1.3**
comp=Z,5.8nm,0.7s,baz=212,slow=5.3,SNR=11
BVAR ScP **ScP 06 25 21.2 -1.6**
comp=Z,1.0nm,0.6s,baz=212,slow=2.2,SNR=5.6
BVAR Borovoye Array 26.10 29 P **P 06 18 16.5 -1.3**
TRPA Tarpa 26.49 316 ⇓*i*P P 06 18 27.9 +6.6
KOLS Kolonicke sedl 27.04 318 *e*P P 06 18 35.5 +9.3
KOLS Kolonicke sedl 27.04 318 *e*pP P 06 18 35.5 +9.3
CRVS Cervenica-Dubn 27.49 317 *e*P P 06 18 37.8 +7.5
CRVS Cervenica-Dubn 27.49 317 *e*pP P 06 18 37.8 +7.5
STHS Stebnicka Huta 27.86 318 *e*P P 06 18 39.6 +5.9
STHS Stebnicka Huta 27.86 318 *e*P P 06 18 39.6 +5.9
KECS Kecovo 27.87 316 *e*P **P 06 18 38.4 +4.7**
KECS Kecovo 27.87 316 *e*P **P 06 18 38.4 +4.7**
KURBB Kurchatov Arra 28.53 40 P **P 06 18 40.3 +0.8**
comp=Z,1.9nm,0.9s,baz=242,slow=9.4,SNR=9.6
KURBB ScP **ScP 06 25 27.6 -2.5**
comp=Z,0.2nm,0.3s,baz=243,slow=3.1,SNR=2.4
KURK Kurchatov 28.63 40 P **P 06 18 40.3 -0.1**
KURK Kurchatov 28.63 40 P **P 06 18 40.3 -0.1**
KURK ScP **ScP 06 25 27.6 -2.8**
KURK Kurchatov 28.63 40 P **P 06 18 40.3 -0.1**
OJC Ojcow 29.07 319 *e*P P 06 18 51.2 +6.8
MK31 Makanchi Array 29.14 49 *i* P **P 06 18 45.3 +0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 29.14 49 *e*P **P 06 18 45.4 +0.2**
MK31 Makanchi Array 29.14 49 *i* P **P 06 18 45.3 +0.2**
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 29.14 49 *e*P **P 06 18 45.5 +0.4**
MKAR Makanchi Array 29.14 49 *e*P **P 06 18 45.5 +0.4**
MKAR Makanchi Array 29.14 49 P **P 06 18 45.6 +0.5**
comp=Z,3.7nm,0.6s,baz=244,slow=9.3,SNR=41
MKAR LR LR 06 32 12.9
comp=Z,96nm,18.9s,baz=185,slow=40
MKAR Makanchi Array 29.14 49 *e*P **P 06 18 45.5 +0.4**
DANN Dangsing 29.50 87 *e*P **P 06 18 49.4 +0.6**
comp=Z,31nm,0.8s
DMN Daman 30.85 88 *e*P **P 06 19 00.7 0.0**
comp=Z,15nm,0.7s
KKN Kakani 30.95 88 *e*P **P 06 19 01.7 +0.2**
comp=Z,16nm,0.6s
PKIN Phulchoki 31.10 88 *e*P **P 06 19 03.0 +0.1**
comp=Z,11nm,0.5s
PKI Pulchoki 31.12 88 *e*P **P 06 19 03.1 0.0**
comp=Z,16nm,0.6s
GUN Gumba 31.43 87 *e*P **P 06 19 06.2 +0.4**
MOA Molln 31.48 311 ⇑*i*sP pP 06 19 12.2 -1.3
comp=Z,4.4nm,0.6s
JIRN Jiri 31.76 88 *e*P **P 06 19 09.1 +0.3**
comp=Z,21nm,0.6s
GERES GERESS Array B 32.16 313 P **P 06 19 11.2 -0.5**
GERES GERESS Array B 32.16 313 P **P 06 19 11.2 -0.5**
comp=Z,0.3nm,0.4s,baz=115,slow=8.7,SNR=3.1
GERES GERESS Array B 32.16 313 P **P 06 19 11.3 -0.5**
RAMN Ramite 32.31 89 *e*P **P 06 19 13.0 -0.5**
comp=Z,15nm,0.7s
WTTA Wattenberg 33.03 309 ⇑*i*P **P 06 19 20.0 +0.5**
comp=Z,12nm,0.6s
TAPN Taplejung 33.14 87 *e*P **P 06 19 20.7 -0.1**
TMCR Tamitsa 33.44 351 *e*P P 06 19 26.7 +4.1
TMCR pmax pmax
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 33.53 38 *e*P **P 06 19 23.2 -0.3**
ZAA0 Zalesovo Array 33.53 38 *e*P **P 06 19 23.2 -0.3**
ZALV Zalesovo Beam 33.53 38 P **P 06 19 23.5 -0.1**
ZALV Zalesovo Beam 33.53 38 P **P 06 19 23.4 -0.1**
ZALV Zalesovo Beam 33.53 38 P **P 06 19 23.4 -0.1**
comp=Z,2.5nm,0.5s,baz=247,slow=9.4,SNR=13
ZALV Zalesovo Beam 33.53 38 P **P 06 19 23.5 -0.1**
FETA Feichten 33.57 309 ⇑*i*P **P 06 19 24.7 +0.4**
comp=Z,10nm,0.7s
FINES FINESS Array B 33.66 340 P **P 06 19 24.5 0.0**
FINES FINESS Array B 33.66 340 P **P 06 19 24.5 0.0**
comp=Z,1.9nm,0.4s,baz=149,slow=9.4,SNR=12
FINES FINESS Array B 33.66 340 P **P 06 19 24.5 0.0**
PGF Pioggiola 34.07 300 *e*P **P 06 19 27.0 -1.6**
comp=Z,12nm,1.0s
PGF Pioggiola 34.07 300 *e*P **P 06 19 27.0 -1.6**
comp=Z,6.0nm,1.0s
KAF Kangasniemi 34.12 340 *e*P **P 06 19 30.9 +2.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 34.12 340 *e*p **P 06 19 30.9 +2.3**
comp=Z,3.8nm,0.6s
KAF Kangasniemi 34.12 340 *e*P **P 06 19 30.9 +2.3**
comp=Z,4.0nm,0.6s
SBF Sospel 35.34 303 *e*P **P 06 19 38.6 -0.8**
comp=Z,14nm,0.7s
SBF Sospel 35.34 303 *e*P **P 06 19 38.6 -0.8**
comp=Z,6.8nm,0.7s
MBDF Montbardon 35.90 304 *e*P **P 06 19 43.1 -1.3**
comp=Z,7.2nm,0.6s
MBDF Montbardon 35.90 304 *e*P **P 06 19 43.1 -1.3**
comp=Z,3.6nm,0.6s
BNI Bardonecchia 36.01 304 *e*P **P 06 19 45.2 0.0**
BNI pmax pmax
comp=Z,7.0nm,0.7s
BNI Bardonecchia 36.01 304 *e*P **P 06 19 45.2 0.0**
comp=Z,6.7nm,0.7s
BNI Bardonecchia 36.01 304 *e*P **P 06 19 45.2 0.0**
comp=Z,6.7nm,0.7s
LPG La Plagne 36.01 305 *e*P **P 06 19 44.0 -1.5**
comp=Z,11nm,0.6s
LPG La Plagne 36.01 305 *e*P **P 06 19 44.0 -1.5**

	comp=Z,5.4nm,0.6s						
LPL	La Plagne	36.03	305	eP		P	06 19 44.1 -1.4
	comp=Z,8.9nm,0.6s						
LPL	La Plagne	36.03	305	eP		P	06 19 44.1 -1.4
	comp=Z,4.4nm,0.6s						
CABF	La Chapelle	36.62	307	eP		P	06 19 49.3 -1.1
	comp=Z,12nm,0.6s						
CABF	La Chapelle	36.62	307	eP		P	06 19 49.3 -1.1
	comp=Z,5.8nm,0.6s						
MBAR	Mbarara	36.77	213	P		P	06 19 54.0 +2.0
MBAR	Mbarara	36.77	213	P		P	06 19 54.0 +2.0
	comp=Z,1.9nm,0.3s,baz=0.2,slow=21,SNR=4.6						
MBAR	Mbarara	36.77	213	P		P	06 19 54.0 +2.0
SFTF	Sexfontaines	37.58	309	eP		P	06 19 56.8 -1.6
	comp=Z,8.5nm,0.5s						
SFTF	Sexfontaines	37.58	309	eP		P	06 19 56.8 -1.6
	comp=Z,4.2nm,0.5s						
SMF	Signal de Mont	38.16	307	eP		P	06 20 01.6 -1.8
	comp=Z,15nm,0.5s						
SMF	Signal de Mont	38.16	307	eP		P	06 20 01.6 -1.8
	comp=Z,7.6nm,0.5s						
SSF	Saint Saulge	38.44	307	eP		P	06 20 04.1 -1.6
	comp=Z,4.0nm,0.6s						
SSF	Saint Saulge	38.44	307	eP		P	06 20 04.1 -1.6
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	38.76	331	P		P	06 20 07.7 -0.5
	comp=Z,2.3nm,0.6s,baz=123,slow=8.6						
NB2	NORSAR Subarra	38.76	331	P		P	06 20 07.7 -0.5
	comp=Z,2.3nm,0.6s,SNR=8.0						
NOA	NORSAR Array B	38.76	331	P		P	06 20 09.1 +0.9
NOA	NORSAR Array B	38.76	331	P		P	06 20 09.1 +0.9
	comp=Z,2.1nm,0.8s,baz=122,slow=8.3,SNR=7.5						
NOA				LR		LR	06 37 26.4
	comp=Z,21nm,19.8s,baz=200,slow=38						
NOA	NORSAR Array B	38.76	331	P		P	06 20 09.1 +0.9
TCF	Toulx Ste Croi	39.25	306	eP		P	06 20 11.0 -1.5
TCF	Toulx Ste Croi	39.25	306	eP		P	06 20 11.0 -1.5
CAF	Calviac	39.26	304	eP		P	06 20 11.9 -0.7
CAF	Calviac	39.26	304	eP		P	06 20 11.9 -0.7
LFF	La Frestale	40.20	304	eP		P	06 20 19.2 -1.2
	comp=Z,6.4nm,0.6s						
LFF	La Frestale	40.20	304	eP		P	06 20 19.2 -1.2
	comp=Z,3.2nm,0.6s						
ARCES	ARCESS Array B	40.42	347	P		P	06 20 21.2 -0.7
ARCES	ARCESS Array B	40.42	347	P		P	06 20 21.2 -0.7
	comp=Z,1.7nm,0.7s,baz=155,slow=9.4,SNR=8.1						
ARCES	ARCESS Array B	40.42	347	P		P	06 20 21.2 -0.7
MFF	Saint Martin d	40.90	306	eP		P	06 20 24.8 -1.3
	comp=Z,4.8nm,0.7s						
MFF	Saint Martin d	40.90	306	eP		P	06 20 24.8 -1.3
	comp=Z,2.4nm,0.7s						
GTA	Gaotai	41.01	65	P		P	06 20 28.8 +1.5
GTA				pP		pP	06 20 32.8 -2.4
GTA				sP		sP	06 20 35.8 -2.5
GTA				pmax		pmax	
	comp=Z,11nm,0.7s						
GTA				pmax		pmax	
	comp=Z,64nm,5.2s						
LDF	La Druitiere	41.04	309	eP		P	06 20 25.0 -2.3
	comp=Z,6.8nm,0.6s						
LDF	La Druitiere	41.04	309	eP		P	06 20 25.0 -2.3
	comp=Z,3.4nm,0.6s						
ETSF	Etsaut	41.12	301	eP		P	06 20 28.7 +0.5
ETSF	Etsaut	41.12	301	eP		P	06 20 28.7 +0.5
FLN	La Foliniere	41.29	310	eP		P	06 20 27.2 -2.1
	comp=Z,8.1nm,0.6s						
FLN	La Foliniere	41.29	310	eP		P	06 20 27.2 -2.1
	comp=Z,4.1nm,0.6s						
GRR	Gorron	41.51	309	eP		P	06 20 29.2 -1.9
	comp=Z,12nm,0.7s						
GRR	Gorron	41.51	309	eP		P	06 20 29.2 -1.9
	comp=Z,5.9nm,0.7s						
SJPF	Ste Jean	41.60	301	eP		P	06 20 30.1 -1.9
SJPF	Ste Jean	41.60	301	eP		P	06 20 30.1 -1.9
SGMF	Saint Gilles	42.63	309	eP		P	06 20 38.5 -1.8
	comp=Z,14nm,0.6s						
SGMF	Saint Gilles	42.63	309	eP		P	06 20 38.5 -1.8
	comp=Z,7.1nm,0.6s						
QUIF	Quistinic	43.02	308	eP		P	06 20 41.4 -2.0
	comp=Z,13nm,0.6s						
QUIF	Quistinic	43.02	308	eP		P	06 20 41.4 -2.0
	comp=Z,6.7nm,0.6s						
ROSF	Rostrenen	43.11	309	eP		P	06 20 42.3 -1.9
	comp=Z,18nm,0.9s						
ROSF	Rostrenen	43.11	309	eP		P	06 20 42.3 -1.9
	comp=Z,9.2nm,0.9s						
ESDC	Sonseca Array	43.91	296	P		P	06 20 50.5 -0.3
ESDC	Sonseca Array	43.91	296	P		P	06 20 50.5 -0.3
	comp=Z,0.3nm,0.4s,baz=70,slow=6.8,SNR=5.5						
ESDC	Sonseca Array	43.91	296	P		P	06 20 50.5 -0.3
SONM	Songino Array	45.42	52	P		P	06 21 02.4 -0.5
SONM	Songino Array	45.42	52	P		P	06 21 02.4 -0.5
	comp=Z,0.8nm,0.7s,baz=271,slow=11,SNR=4.7						
SONM	Songino Array	45.42	52	P		P	06 21 02.4 -0.5
MDT	Midelt	45.65	287	P		P	06 21 05.3 +0.4
MDT	Midelt	45.65	287	P		P	06 21 05.3 +0.4
	comp=Z,1.7nm,0.7s,baz=44,slow=7.7,SNR=5.0						
MDT	Midelt	45.65	287	P		P	06 21 05.3 +0.4
CMAR	Chiang Mai Arr	46.03	94	P		P	06 21 08.1 +0.2
CMAR	Chiang Mai Arr	46.03	94	P		P	06 21 08.1 +0.2
	comp=Z,1.8nm,0.7s,baz=294,slow=8.5,SNR=9.3						
CMAR				LR		LR	06 42 57.9
	comp=Z,31nm,18.6s,baz=205,slow=39						
CMAR	Chiang Mai Arr	46.03	94	P		P	06 21 08.1 +0.2
PBAR	Barrancos	46.50	295	eP		P	06 21 12.4 +1.1
	comp=Z,19nm,1.7s						
PBAR	Barrancos	46.50	295	eS		SKiKP	06 33 19.3 +8.5
PBAR	Barrancos	46.50	295	eP		P	06 21 12.4 +1.1
	comp=Z,19nm,1.7s						
MTE	Manteigas	46.54	298	eP		P	06 21 13.7 +2.0
	comp=Z,19nm,1.9s						
MTE	Manteigas	46.54	298	eS		x	06 31 43.4
MTE	Manteigas	46.54	298	eP		P	06 21 13.7 +2.0
	comp=Z,19nm,1.9s						
PMRV	Marv??o	46.57	296	eS		x	06 32 00.9
PCBR	Castelo Branco	46.57	297	eP		P	06 21 13.5 +1.6
	comp=Z,20nm,1.5s						
PCBR	Castelo Branco	46.57	297	eP		P	06 21 13.5 +1.6
	comp=Z,20nm,1.5s						
POLO	Lamas de Olo	46.60	299	eP		P	06 21 13.6 +1.4
	comp=Z,9.1nm,1.6s						
POLO	Lamas de Olo	46.60	299	eS		x	06 32 23.6
POLO	Lamas de Olo	46.60	299	eP		P	06 21 13.6 +1.4
	comp=Z,9.1nm,1.6s						
KMI	Kunming	46.64	84	P		P	06 21 13.3 +0.4
KMI				pmax		pmax	
	comp=Z,13nm,1.0s						
PVIS	Viseu	46.76	298	eP		P	06 21 15.2 +1.8
	comp=Z,21nm,1.2s						
PVIS	Viseu	46.76	298	eP		P	06 21 15.2 +1.8
	comp=Z,21nm,1.2s						
PGAV	Gavieira, Arco	46.88	300	eP		P	06 21 15.7 +1.3
	comp=Z,26nm,1.6s						
PGAV	Gavieira, Arco	46.88	300	eS		x	06 31 49.8
PGAV	Gavieira, Arco	46.88	300	eP		P	06 21 15.7 +1.3
	comp=Z,26nm,1.6s						
PVAQ	Vaqueiros	47.16	294	eP		P	06 21 17.7 +1.2
	comp=Z,26nm,2.0s						
PVAQ	Vaqueiros	47.16	294	eS		x	06 32 04.0
PVAQ	Vaqueiros	47.16	294	eP		P	06 21 17.7 +1.2
	comp=Z,26nm,2.0s						
PBEJ	Beja	47.16	294	eP		P	06 21 17.8 +1.2
	comp=Z,15nm,1.5s						
PBEJ	Beja	47.16	294	eP		P	06 21 17.8 +1.2
	comp=Z,15nm,1.5s						
PCAS	Casmilo, Conde	47.31	297	eS		x	06 31 55.9
PTOM	Tomar	47.31	297	eP		P	06 21 19.4 +1.7
	comp=Z,21nm,1.7s						
PTOM	Tomar	47.31	297	eP		P	06 21 19.4 +1.7
	comp=Z,21nm,1.7s						
PBDV	Barranco-do-Ve	47.36	293	eS		x	06 31 55.8
PCVE	Castro Verde	47.37	294	eS		x	06 31 39.7
PNCL	Nicolau / Gran	47.66	295	eS		x	06 31 46.6
TOA0	Torodi Ar. Sit	47.73	259	eP		P	06 21 22.0 +0.8
TORD	Torodi Ar. Bea	47.73	259	P		P	06 21 22.3 +1.1
TORD	Torodi Ar. Bea	47.73	259	P		P	06 21 22.3 +1.1
	comp=Z,3.0nm,0.5s,baz=55,slow=8.5,SNR=35						
PMAFR	Mafra	48.09	296	eS		x	06 31 42.0
XAN	Xi'an	49.13	70	P		P	06 21 31.5 -0.3
XAN				pP		pP	06 21 41.9 +2.1
XAN				sP		sP	06 21 47.0 +4.1
XAN				pmax		pmax	
	comp=Z,3.0nm,0.9s						
HHC	Hu-ho-hao-te	49.75	61	eP		P	06 21 34.8 -1.8
HHC				S		S	06 28 41.5 -2.8
DBIC	Dimbokro	56.62	256	P		P	06 22 27.9 +0.7
DBIC	Dimbokro	56.62	256	P		P	06 22 27.9 +0.7
	comp=Z,3.2nm,0.6s,baz=100,slow=2.9,SNR=4.6						
DBIC				LR		LR	06 49 36.2
	comp=Z,186nm,19.0s,baz=208,slow=39						
LBTB	Lobatse	60.86	205	eP		P	06 22 59.2 +2.6
	comp=Z,3.2nm,0.4s						
KSAR	Wonju Array Be	62.87	61	P		P	06 23 09.8 -0.2
KSRS	Korea Array	62.89	61	P		P	06 23 09.8 -0.4
	comp=Z,1.5nm,0.5s,baz=279,slow=7.6,SNR=9.7						
USRK	Ussuriysk Arra	63.53	53	P		P	06 23 12.9 -1.4
	comp=Z,1.4nm,0.8s,baz=256,slow=5.3,SNR=4.0						
BOSA	Boshof	64.27	204	P		P	06 23 19.8 +0.5
BOSA	Boshof	64.27	204	P		P	06 23 19.8 +0.5
	comp=Z,3.5nm,0.6s,baz=13,slow=4.3,SNR=11						
SEY	Seymchan	67.76	29	eP		P	06 23 42.6 +1.3
DAV	Davao City (W)	74.20	91	LR		LR	06 57 26.5
	comp=Z,556nm,18.5s,baz=278,slow=36						
SCHQ	Schefferville	78.26	328	P		P	06 24 43.6 0.0
SCHQ	Schefferville	78.26	328	P		P	06 24 43.6 0.0
	comp=Z,3.6nm,0.7s,baz=60,slow=4.2,SNR=6.1						
IMA2	Indian Mountai	81.00	9	P		P	06 24 56.8 -1.6
ILAR	Eielson Array	83.08	7	P		P	06 25 08.5 -0.7
ILAR	Eielson Array	83.08	7	P		P	06 25 08.5 -0.7
	comp=Z,0.4nm,0.7s,baz=311,slow=3.8,SNR=6.3						
YKA	Yellowknife Ar	85.42	353	P		P	06 25 20.1 -1.0
YKA	Yellowknife Ar	85.42	353	P		P	06 25 20.1 -1.0
	comp=Z,1.0nm,0.8s,baz=30,slow=6.3,SNR=3.1						

GUC 13 06:13:58.4±0.6, 23°.72S×67°.20W, h230km, ML4.3, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	2.56	304	↑	iP	Pn	06 14 52.5	+7.7
PB04					eS	S	06 15 33.8	+13
PB04					AML	AML	06 15 38.6	
	comp=N,318nm,0.3s							
PB09	Plate Boundary	2.69	315	↑	eP	Pn	06 14 48.7	+2.2
PB09					eS	S	06 15 26.8	+2.6
PB09					AML	AML	06 15 31.4	
	comp=E,617nm,0.7s							
CEN1	Los Morros	2.77	276	eP		Pn	06 14 48.4	+1.1
CEN1					eS	S	06 15 26.0	+0.4
CEN1					AML	AML	06 15 28.2	
	comp=N,160nm,0.5s							
ANCH	Antofagasta	2.94	270	↑	eP	Pn	06 14 51.1	+2.1
ANCH					eS	S	06 15 30.4	+1.8
ANCH					AML	AML	06 15 34.5	
	comp=E,440nm,0.1s							
PB10	Plate Boundary	3.08	273	↑	iP	Pn	06 14 52.5	+2.0
PB10					eS	S	06 15 34.1	+2.6
PB10					AML	AML	06 15 38.1	
	comp=E,505nm,0.3s							
PB07	Plate Boundary	3.17	308	↑	iP	Pn	06 14 53.9	+2.0
PB07					eS	S	06 15 36.2	+2.3
PB07					AML	AML	06 15 37.5	
	comp=N,314nm,0.2s							
PB01	Plate Boundary	3.40	321	↓	eP	Pn	06 14 56.3	+1.9
PB01					eS	S	06 15 40.8	+2.3

IDC 13 06:22:54.2±3.1, 35°.36N×34°.45W, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/31, mbtmp3.6/9, MS3.7/5, Ms1 3.6/5, ms1mx3.1/30, Error ellipse: s-maj=108.5km s-min=21.5km az=176.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MDT	Midelt	24.80	87		LR	LR	06 35 30.4	
	comp=Z,49nm,21.4s,baz=274,slow=30							
SCHQ	Schefferville	29.63	321		LR	LR	06 39 51.8	
	comp=Z,76nm,19.6s,baz=352,slow=34							
ULM	Lac du Bonnet	46.16	309		LR	LR	06 49 52.7	
	comp=Z,88nm,18.1s,baz=91,slow=35							
BRTR	Keskin Array B	52.99	64		P	P	06 32 12.3	-0.5
	0.3nm,0.4s,baz=336,slow=3.2,SNR=3.5							
PDAR	Pinedale Array	57.02	302		P	P	06 32 42.0	-0.1
	0.4nm,0.8s,baz=70,slow=7.8,SNR=3.2							
TXAR	Lajitas Array	57.72	285		P	P	06 32 47.1	+0.1
	0.2nm,0.7s,baz=77,slow=7.8,SNR=4.3							
NVAR	Mina Array Bea	64.83	300		P	P	06 33 35.2	-0.1
	0.1nm,0.3s,baz=60,slow=5.3,SNR=3.5							
NVAR					LR	LR	07 02 45.6	
	comp=Z,65nm,18.8s,baz=288,slow=37							
AKTO	Aktyubinsk	65.14	45		P	P	06 33 37.3	+0.5
	1.4nm,0.8s,baz=273,slow=18,SNR=4.4							
ILAR	Eielson Array	67.25	335		P	P	06 33 50.0	-0.1
	0.3nm,0.9s,baz=21,slow=5.2,SNR=3.6							
KURBB	Kurchatov Arra	76.06	37		P	P	06 34 43.8	+0.4
	1.1nm,0.7s,baz=306,slow=5.4,SNR=8.7							
ZALV	Zalesovo Beam	76.79	32		P	P	06 34 47.0	-0.4
	0.3nm,0.3s,baz=305,slow=13,SNR=2.2							
MKAR	Makanchi Array	80.45	38		P	P	06 35 08.1	+0.3
	0.5nm,0.8s,baz=299,slow=5.0,SNR=6.2							
SONM	Songino Array	90.08	25		LR	LR	07 17 49.9	
	comp=Z,126nm,18.2s,baz=50,slow=37							

IDC 13 06:26:00.4±1.9, 2°.77N×128°.49E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=138.0km s-min=23.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.29	166		P	P	06 31 09.3	-0.7
	2.9nm,0.8s,baz=345,slow=10,SNR=29							
ASAR	Alice Springs	26.80	169		P	P	06 31 43.2	+0.8
	0.2nm,0.5s,baz=352,slow=13,SNR=4.2							
STKA	Stephens Creek	36.64	161		P	P	06 33 08.1	-0.6
	0.6nm,0.4s,baz=328,slow=13,SNR=2.5							
MKAR	Makanchi Array	59.34	325		P	P	06 36 04.6	+0.2
	0.2nm,0.6s,baz=126,slow=9.1,SNR=2.8							

MEX 13 06:30:05.7±0.8, 17°.98N×102°.00W, h5km±10km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.64	126		eP	Pg	06 30 16.6	-1.3
ZIIG					iS	Sg	06 30 26.2	0.0
MMIG	Aquila	1.31	284		eP	Pn	06 30 27.0	-3.7
MMIG					iS	Sg	06 30 43.0	-4.9
ARIG	Puente Sto Nin	1.60	79		eP	Pn	06 30 30.6	-4.2
ARIG					eS	Sn	06 30 50.0	-5.9
CAIG	El Cayaco	1.90	119		eP	Pn	06 30 35.7	-3.1
CAIG					iS	Sn	06 30 59.1	-4.1
MEIG	Mezcala	2.27	91		eP	Pn	06 30 41.2	-2.8
MEIG					eS	Sn	06 31 08.5	-4.0
ACX	Acapulco	2.33	118		eP	Pn	06 30 41.7	-3.0
ACX					iS	Sn	06 31 08.6	-5.2
PLIG	Platanillo	2.41	80		eP	Pn	06 30 43.4	-2.6
PLIG					eS	Sn	06 31 12.2	-3.9

CSEM 13 06:38:36.0, 42°.69N×47°.70E, h16km, mb4.0, After OBN

MOS 13 06:38:36.3±0.7, 42°.69N×47°.70E, h16km, mb4.0/1, 2D, Error ellipse: s-maj=14.4km s-min=12.3km az=40.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNSR	Manas	0.02	59		iPG	Pg	06 38 40.0	+0.9
MNSR					iS	Sg	06 38 47.0	+6.0
MNSR					pmax	pmax		
	comp=Z,238nm,0.1s							
MNSR	Manas	0.02	59		iPg	Pg	06 38 40.0	+0.9
	comp=Z,238nm,0.1s							
MNSR					iSg	Sg	06 38 47.0	+6.0
BUJR	Buynaksk	0.46	287		PG	Pb	06 38 47.0	+1.0
BUJR					eS	Sn	06 38 58.0	+1.9
BUJR	Buynaksk	0.46	287		Pg	Pb	06 38 47.0	+1.0
BUJR					eSg	Sn	06 38 58.0	+1.9
URKR	Urkarakh	0.53	185		iPG	Pg	06 38 46.5	-0.5
URKR					eS	Sn	06 38 57.5	-0.7
URKR					pmax	pmax		
	comp=Z,80nm,0.2s							
URKR	Urkarakh	0.53	185		iPg	Pg	06 38 46.5	-0.5
	comp=Z,80nm,0.2s							
URKR					eSg	Sn	06 38 57.5	-0.7
KRNR	Karanay	0.60	283		ePG	Pb	06 38 48.8	+0.2
KRNR					eS	Sn	06 39 01.5	+1.7
KRNR					pmax	pmax		
	comp=Z,29nm,0.2s							
KRNR	Karanay	0.60	283		ePg	Pb	06 38 48.8	+0.2
	comp=Z,29nm,0.2s							
KRNR					eSg	Sn	06 39 01.5	+1.7
UNCR	Uncukul	0.67	272	↓	iPG	Pn	06 38 50.5	-0.7
UNCR					eS	Sn	06 39 04.0	+2.6
UNCR					pmax	pmax		
	comp=Z,34nm,0.2s							
UNCR	Uncukul	0.67	272		iPg	Pn	06 38 50.5	-0.7
	comp=Z,34nm,0.2s							
UNCR					eSg	Sn	06 39 04.0	+2.6
KMKR	Kumukh	0.72	219		ePG	Pn	06 38 51.7	-0.4
KMKR					eS	Sn	06 39 07.0	+4.0
KMKR					pmax	pmax		
	comp=Z,42nm,0.2s							
KMKR	Kumukh	0.72	219		ePg	Pn	06 38 51.7	-0.4
	comp=Z,42nm,0.2s							
KMKR					eSg	Sn	06 39 07.0	+4.0
DBC	Dubki	0.72	297	↓	iPG	Pg	06 38 50.4	-0.1
DBC					iS	Sn	06 39 03.7	+1.0
DBC	Dubki	0.72	297		iPg	Pg	06 38 50.4	-0.1
DBC					iSg	Sn	06 39 03.7	+1.0
XNZR	Khunzakh	0.75	259		PG	Pb	06 38 51.5	+0.3
XNZR					eS	Sn	06 39 08.0	+4.3
XNZR	Khunzakh	0.75	259		Pg	Pb	06 38 51.5	+0.3
XNZR					eSg	Sn	06 39 08.0	+4.3
DLMR	Dylym	0.87	296		PG	Pb	06 38 53.0	-0.1
DLMR					eS	Sn	06 39 09.0	+2.6
DLMR					pmax	pmax		
	comp=Z,49nm,0.3s							
DLMR	Dylym	0.87	296		Pg	Pb	06 38 53.0	-0.1
	comp=Z,49nm,0.3s							
DLMR					eSg	Sn	06 39 09.0	+2.6
KSMR	Kasumkent	1.14	164		ePG	Pb	06 38 58.0	+0.3
KSMR					eS	Sg	06 39 17.0	+3.7
KSMR	Kasumkent	1.14	164		ePg	Pb	06 38 58.0	+0.3
KSMR					eSg	Sg	06 39 17.0	+3.7

IDC 13 06:48:49.3±1.2, 12°.68N×120°.83E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.5/25, mbtmp3.5/5, Error ellipse: s-maj=58.6km s-min=20.1km az=61.0

ISCJB 13 06:48:51.9±0.7, 12°.52N±0°.07×120°.56E±0°.06, h23km, mb3.4/5, Error ellipse: s-maj=10.4km s-min=8.3km az=29.3

MAN 13 06:48:52, 12°.48N×120°.58E, h12km, mb4.2, ML3.0, MS2.7

ISC 13 06:48:52.8±0.9, 12°.59N±0°.07×120°.69E±0°.08, h23km, n11, σ1§13/12, mb3.4/5, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	0.44	108		eP	Pn	06 49 03.5	-0.2
SJMP					eS	Sn	06 49 09.4	-1.5
PGP	Puerto Galera	0.94	16	↓	iP	Pb	06 49 09.5	-0.9
OTRP	Odiongan	1.32	100		eP	Pb	06 49 17.8	+0.9
BOAC	Boac	1.41	52		eP	Pb	06 49 19.8	+1.3
TGY	Tagaytay City	1.52	9	↑	iP	Pb	06 49 21.5	+1.2
CUYO	Cuyo Island	1.76	170		eP	Pn	06 49 21.4	-0.5
CMAR	Chiang Mai Arr	21.74	288		P	P	06 53 44.5	+1.7
	1.1nm,0.4s,baz=99,slow=9.3,SNR=7.7							
WRA	Warramunga Arr	35.01	157		P	P	06 55 43.3	-0.5
	0.3nm,0.7s,baz=332,slow=10,SNR=5.0							
SONM	Songino Array	37.11	344		P	P	06 56 01.3	-0.3
	0.3nm,0.5s,baz=167,slow=7.0,SNR=2.7							
ASAR	Alice Springs	38.28	160		P	P	06 56 12.4	+0.7
	0.2nm,0.4s,baz=339,slow=7.2,SNR=5.1							
MKAR	Makanchi Array	46.92	324		P	P	06 57 20.9	-0.7
	0.4nm,0.8s,baz=117,slow=8.5,SNR=5.1							

WEL 13 06:52:05.5±0.5, 36°.32S×177°.92E, h203km±5km, ML3.7/11, 1C-1D, Error ellipse: s-maj=8.9km s-min=5.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	1.77	171		PN	Pn	06 52 41.7	-0.2
PUZ					SN	S	06 53 09.4	-0.6
PUZ					AML	AML	06 53 10.7	
MWZ	Matawai	2.04	189		PN	Pn	06 52 44.8	+0.2
MWZ					SN	S	06 53 15.4	+0.6
MWZ					AML	AML	06 53 22.0	
URZ	Urewera	2.04	198		PN	Pn	06 52 44.8	+0.3
URZ					AML	AML	06 53 17.7	
URZ					AML	AML	06 53 18.2	
CNGZ	Carnagh Statio	2.17	174		PN	Pn	06 52 46.4	+0.5
PRGZ	Paritu Road	2.60	181		PN	Pn	06 52 50.7	0.0
RAHZ	Arahi	2.68	194		PN	Pn	06 52 52.0	+0.4
KNZ	Kokohu	2.71	184		PN	Pn	06 52 51.5	-0.2
KNZ					SN	S	06 53 28.0	+0.5
MHGZ	Mahia Peninsul	2.83	180		PN	Pn	06 52 53.4	+0.2
NMHZ	Naumai	2.91	197		PN	Pn	06 52 55.1	+0.8
BKZ	Black Stump Fm	3.06	201		PN	Pn	06 52 55.8	-0.2
MCHZ	McNeill Hill	3.27	197		PN	Pn	06 52 59.0	+0.6
CKHZ	Cape Kidnapper	3.40	191		PN	Pn	06 52 59.9	0.0
KAHZ	Kahuranaki	3.57	193		PN	Pn	06 53 01.9	-0.2
PXZ	Pawanui	3.80	192	↑	PN	Pn	06 53 03.9	-0.9
PXZ					SN	S	06 53 50.4	-0.6
PNHZ	Pukenui	3.84	200		PN	Pn	06 53 04.5	-0.9
WPHZ	Waipukurau	3.92	197		PN	Pn	06 53 05.8	-0.6
TSZ	Takapari Road	4.04	202		PN	Pn	06 53 06.6	-1.2
PRHZ	Porangahau	4.07	194		PN	Pn	06 53 06.8	-1.4
POWZ	Post Office Ro	4.41	202		PN	Pn	06 53 11.4	-1.0
BFZ	Birch Farm	4.55	196	↓	PN	Pn	06 53 13.0	-1.2
MRZ	Mangatainoka R	4.71	202		PN	Pn	06 53 14.2	-2.0
TIWZ	Tintock	4.73	199		PN	Pn	06 53 15.1	-1.4
HOWZ	Holdsworth Sta	4.95	202		PN	Pn	06 53 17.4	-1.9

comp=Z,172nm,18.9s,baz=193,slow=40
FITZ Fitzroy Crossi 30.97 171 P P 06 58 48.9 +0.8
FITZ Fitzroy Crossi 30.97 171 P P 06 58 48.9 +0.8
1.6nm,0.8s,baz=357,slow=17,SNR=2.2
USRK Ussuriysk Arra 32.87 15 LR LR 07 11 49.7
comp=Z,96nm,19.9s,baz=309,slow=36
PMG Port Moresby 34.23 129 LR LR 07 13 40.7
comp=Z,76nm,19.1s,baz=208,slow=37
WRAB Tennant Creek 35.08 157 *eP* **P 06 59 23.3 -0.8**
5.7nm,0.9s
WRA Warramunga Arr 35.08 157 P **P 06 59 22.4 -1.7**
WRA Warramunga Arr 35.08 157 P **P 06 59 22.4 -1.7**
2.4nm,0.8s,baz=339,slow=9.3,SNR=20
ASAJ Asahikawa 36.53 27 LR LR 07 17 04.3
comp=Z,105nm,18.1s,baz=126,slow=41
SONM Songino Array 37.03 344 P **P 06 59 39.9 -0.8**
SONM Songino Array 37.03 344 P **P 06 59 39.9 -0.8**
1.2nm,0.7s,baz=154,slow=9.3,SNR=5.4
ASAR Alice Springs 38.36 160 P **P 06 59 52.2 +0.2**
ASAR Alice Springs 38.36 160 P **P 06 59 52.2 +0.2**
0.7nm,0.5s,baz=338,slow=6.6,SNR=12
ASAR LR LR 07 17 58.7
comp=Z,89nm,19.3s,baz=348,slow=40
MK31 Makanchi Array 46.86 324 Pn **P 07 01 01.9 +1.1**
1.4nm,0.8s,baz=109,slow=8.9,SNR=11
MK31 ⇑Lg Lg 07 02 42.6
0.5nm,0.6s,baz=104,slow=24,SNR=4.0
MK31 Makanchi Array 46.86 324 *eP* **P 07 01 02.1 +1.3**
MKAR Makanchi Array 46.86 324 P **P 07 01 00.2 -0.6**
MKAR Makanchi Array 46.86 324 P **P 07 01 00.2 -0.6**
0.8nm,0.7s,baz=127,slow=8.4,SNR=9.1
MKAR LR LR 07 22 18.9
comp=Z,73nm,18.2s,baz=340,slow=38
PETK Petropavlovsk- 49.91 28 LR LR 07 22 17.6
comp=Z,32nm,18.4s,baz=250,slow=36
ZALV Zalesovo Beam 49.96 333 P **P 07 01 24.5 -0.1**
ZALV Zalesovo Beam 49.96 333 P **P 07 01 24.5 -0.1**
0.9nm,0.3s,baz=161,slow=6.3,SNR=4.8
ZALV LR LR 07 23 55.3
comp=Z,127nm,19.0s,baz=75,slow=38
KURBB Kurchatov Arra 51.04 327 P **P 07 01 33.7 +1.0**
1.8nm,0.6s,baz=124,slow=7.8,SNR=12
KURK Kurchatov 51.04 327 P **P 07 01 33.7 +1.0**
KKAR Karatay Array 52.69 315 *eP* **P 07 01 46.4 +1.1**
1.8nm,0.8s
BVAR Borovoye Array 56.62 326 LR LR 07 28 20.8
comp=Z,67nm,20.4s,baz=101,slow=38
ABKAR Akbulak array 61.51 319 P **P 07 02 47.5 0.0**
0.5nm,0.4s
AKTO Aktyubinsk 63.00 320 P **P 07 02 58.0 +0.5**
AKTO Aktyubinsk 63.00 320 P **P 07 02 58.0 +0.5**
0.5nm,0.3s,baz=96,slow=5.7,SNR=4.2
AKTO LR LR 07 32 32.6
comp=Z,100nm,18.2s,baz=273,slow=38
KBZ Khabaz 72.56 312 LR LR 07 42 31.7
comp=Z,59nm,18.1s,baz=216,slow=41
ILAR Eielson Array 79.66 26 P **P 07 04 37.5 -0.4**
ILAR Eielson Array 79.66 26 P **P 07 04 37.5 -0.4**
0.2nm,0.7s,baz=280,slow=5.4,SNR=2.9
BRTR Keskin Array B 79.78 308 P **P 07 04 40.5 +1.2**
BRTR Keskin Array B 79.78 308 P **P 07 04 40.5 +1.2**
0.2nm,0.3s,baz=94,slow=8.7,SNR=2.9
ARCES ARCESS Array B 80.03 339 LR LR 07 44 31.9
comp=Z,57nm,18.8s,baz=256,slow=39
FINES FINESS Array B 81.17 331 LR LR 07 44 21.0
comp=Z,70nm,18.3s,baz=97,slow=38
KMBO Kilima Mbogo 83.86 267 LR LR 07 38 54.6
comp=Z,60nm,18.2s,baz=275,slow=33
BUR08 Bucovina Ar. S 84.41 317 *eP* **P 07 05 04.2 +0.8**
MAW Mawson 90.14 199 LR LR 07 38 00.8
comp=Z,47nm,20.8s,baz=50,slow=30

JMA ***13*** *06:54:43.7±0.5, 22°.77N×123°.06E, h26km, M2.5*
TAP ***13*** *06:54:44.6, 22°.88N×122°.62E, h9km±2km, ML3.3, D*
ISC 13 06:54:40.2±2.6, 22°.82N±0°.07×122°.80E±0°.06, h3km±17km, n24, σ1°33/36, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**1.35**	**282**	P	**Pb**	**06 55 06.6**	**+0.5**
	baz=280						
CHKT				*e*S	**Sn**	06 55 23.5	-0.8
	baz=280						
TWF1	**Yuli**	**1.48**	**291**	P	**Pb**	**06 55 09.0**	**+0.7**
	baz=291						
EHY	**Hungye**	**1.52**	**297**	*e*P	**Pb**	**06 55 09.7**	**+0.7**
	baz=297						
EHY				*e*S	**Sg**	**06 55 27.9**	**-1.3**
	baz=297						
HATJ	**Hateruma jima**	**1.54**	**37**	P	Pn	06 55 08.7	+0.2
HATJ				S	**Sn**	**06 55 27.5**	**-1.6**
TWG	**Pinlang**	**1.59**	**271**	P	**Pb**	**06 55 11.0**	**+0.8**
	baz=267						
TWG				*e*S	**Sg**	**06 55 30.7**	**-0.7**
	baz=267						
YOJ	**Yonaguni jima**	**1.65**	**7**	P	**Pn**	**06 55 12.4**	**+2.4**
YOJ				*e*S	**Sn**	**06 55 33.1**	**+1.4**
TWD	**Chiawan**	**1.68**	**319**	*e*P	**Pn**	**06 55 11.7**	**+1.3**
	baz=322						
TWD				*e*S	**Sb**	**06 55 32.5**	**-0.6**
	baz=322						
IRIF	**Iriomote-Funau**	**1.74**	**29**	P	**Pn**	**06 55 11.9**	**+0.7**
IRIF				S	**Sn**	**06 55 32.8**	**-1.1**
JKRS	**Kuro-shima**	**1.80**	**38**	P	**Pn**	**06 55 13.1**	**+1.0**
JKRS				S	**Sn**	**06 55 33.8**	**-1.6**
YUS	**Yu-Shan**	**1.83**	**292**	*e*P	**Pb**	**06 55 15.0**	**+0.5**
	baz=291						
YUS				*e*S	**Sb**	**06 55 36.4**	**-1.5**
	baz=291						
ENA	**Nanau**	**1.88**	**329**	*e*P	**Pb**	**06 55 15.5**	**+0.5**
	baz=332						
WHF	**Hehuan Shan**	**1.93**	**314⇑**	*i*P	**Pn**	**06 55 16.3**	**+2.1**
	baz=315						
WHF				*e*S	**Sb**	**06 55 40.3**	**-0.7**
	baz=315						
ALS	**Alishan**	**1.96**	**291**	*e*P	**Pb**	**06 55 17.4**	**+0.7**
	baz=290						
ALS				*e*S	**Sb**	**06 55 39.8**	**-1.8**
	baz=290						
JIJ	**Ishigaki jima**	**1.97**	**38**	P	Pn	06 55 15.0	+0.5
JIJ				S	Sn	06 55 37.1	-2.6
SMLT	**Sun Moon Lake**	**2.04**	**302**	*e*P	**Pb**	**06 55 17.7**	**-0.2**
	baz=302						
SMLT				*e*S	**Sb**	**06 55 41.6**	**-2.2**
	baz=302						
SGST	**Jiashian**	**2.06**	**278**	*e*P	**Pb**	**06 55 18.2**	**0.0**
	baz=276						
SCZT	**Fangliau**	**2.06**	**258**	*e*P	**Pb**	**06 55 18.3**	**+0.1**
	baz=254						
SCZT				*e*S	**Sb**	**06 55 43.3**	**-0.9**
	baz=254						
NNS	**Nan Shan**	**2.08**	**321**	*e*P	**Pn**	**06 55 18.2**	**+2.1**
	baz=323						
TYC	**Yuchr**	**2.09**	**302**	*e*P	**Pb**	**06 55 18.7**	**+0.1**
	baz=302						
TYC				*e*S	**Sb**	**06 55 44.1**	**-0.9**
	baz=302						
CHN5	**Tsauling**	**2.10**	**292**	*e*P	**Pb**	**06 55 18.7**	**-0.2**
	baz=291						
CHN1	**Nanshi**	**2.12**	**280**	*e*P	**Pb**	**06 55 19.7**	**+0.4**
	baz=279						
NSK	**Sanguang**	**2.27**	**325**	*e*P	**Pn**	**06 55 21.4**	**+2.7**
	baz=327						
NSK				*e*S	**Sb**	**06 55 48.5**	**-2.0**
	baz=327						
TWQ1	**Liyutan**	**2.40**	**310**	*e*P	**Pb**	**06 55 24.9**	**+0.8**
	baz=310						
JTJ	**Tarama**	**2.52**	**43**	P	Pn	06 55 22.0	0.0
JTJ				*e*S	Sn	06 55 50.7	-2.5

IDC 13 07:02:45.2±6.2, 18°.94N×145°.29E, h298km±63km, mb3.6/18, mb1 3.7/18, mb1mx3.6/30, mbtmp3.6/18, Error ellipse: s-maj=19.5km s-min=9.7km az=77.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.90**	**324**	P	P	07 07 32.9	+0.3
	2.3nm,0.7s,baz=143,slow=9.0,SNR=10.0						
KAPI	**Kappang**	**34.63**	**229**	P	P	07 09 06.2	-1.0
	3.3nm,0.3s,baz=108,slow=3.6,SNR=6.2						
WRA	**Warramunga Arr**	**40.10**	**196**	P	P	07 09 52.7	0.0
	5.9nm,0.7s,baz=14,slow=8.7,SNR=50						
FITZ	**Fitzroy Crossi**	**41.57**	**209**	P	P	07 10 04.5	-0.1
	18nm,0.7s,baz=29,slow=9.2,SNR=74						
SONM	**Songino Array**	**42.72**	**321**	P	P	07 10 13.6	-0.1
	1.7nm,0.7s,baz=136,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**43.78**	**195**	P	P	07 10 21.9	-0.3
	1.0nm,0.4s,baz=19,slow=7.2,SNR=17						
CMAR	**Chiang Mai Arr**	**43.81**	**277**	P	P	07 10 23.8	+1.2
	2.8nm,0.6s,baz=96,slow=4.4,SNR=16						
DZM	**Mont Dzumac**	**45.71**	**152**	P	P	07 10 37.4	-0.1
	3.6nm,0.5s,baz=96,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**50.65**	**184**	P	P	07 11 14.5	-0.2
	1.0nm,0.3s,baz=348,slow=8.6,SNR=7.2						
ZALV	**Zalesovo Beam**	**57.59**	**322**	P	P	07 12 03.5	-0.8
	0.6nm,0.4s,baz=96,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**58.02**	**314**	P	P	07 12 07.5	0.0
	0.8nm,0.5s,baz=92,slow=8.7,SNR=11						
KURBB	**Kurchatov Arra**	**60.88**	**318**	P	P	07 12 27.0	+0.2
	1.6nm,0.4s,baz=94,slow=7.4,SNR=19						
ILAR	**Eielson Array**	**63.60**	**26**	P	P	07 12 44.2	-0.2
	0.9nm,0.8s,baz=255,slow=5.2,SNR=10						
INK	**Inuvik**	**69.31**	**23**	P	P	07 13 20.1	-0.2
	1.3nm,0.7s,baz=294,slow=5.2,SNR=6.1						
YKA	**Yellowknife Ar**	**77.96**	**28**	P	P	07 14 09.9	-0.5
	2.1nm,0.7s,baz=292,slow=5.5,SNR=5.9						
NVAR	**Mina Array Bea**	**83.29**	**52**	P	P	07 14 41.1	+1.6
	1.5nm,0.7s,baz=262,slow=6.1,SNR=14						
FINES	**FINESS Array B**	**86.51**	**335**	P	P	07 14 53.0	-1.5
	0.8nm,0.5s,baz=62,slow=4.5,SNR=5.7						
PDAR	**Pinedale Array**	**87.93**	**45**	P	P	07 15 01.4	-0.7
	0.3nm,0.4s,baz=140,slow=1.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**132.01**	**309**	PKP	PKPdf	07 21 23.7	-0.7
	0.5nm,0.8s,baz=31,slow=1.5,SNR=3.3						
LPAZ	**La Paz**	**148.06**	**91**	PKPbc	PKPbc	07 21 57.4	0.0
	1.3nm,0.7s,baz=153,slow=2.6,SNR=8.0						

IDC 13 07:04:55.0±2.1, 13°.10N×92°.70E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=64.6km s-min=26.6km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.04**	**48**	Pn	Pn	07 06 52.6	-0.5
	0.2nm,0.3s,baz=234,slow=18,SNR=4.9						
MKAR	**Makanchi Array**	**34.72**	**347**	P	P	07 11 46.6	-0.1
	0.1nm,0.4s,baz=173,slow=7.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**44.91**	**133**	P	P	07 13 12.0	+0.2
	0.5nm,0.4s,baz=337,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**52.51**	**128**	P	P	07 14 09.9	-0.4
	0.3nm,0.3s,baz=303,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**54.39**	**132**	P	P	07 14 24.1	0.0
	0.5nm,0.3s,baz=312,slow=7.1,SNR=6.2						

NEIC ***13*** *07:11:11.7, 37°.33S×74°.28W, h31km, ML4.4(GUC), After GUC.*
GUC 13 07:11:11.7±1.1, 37°.33S×74°.28W, h31km±5km, ML4.4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.05**	**63**	*e*P	Pn	07 11 30.5	+0.2
CCSP				*e*S	Sb	07 11 44.5	-0.3
COCH	**Cobquecura**	**1.69**	**46**	*e*P	Pn	07 11 40.5	+1.4
COCH				*e*S	Sb	07 12 02.3	-0.7
COCH	**Cobquecura**	**1.69**	**46**	*e*P	Pn	07 11 40.5	+1.4
COCH				*e*S	Sb	07 12 02.3	-0.7
CCHI	**Chillan**	**1.91**	**68**	*e*P	Pn	07 11 42.7	+0.6
CCHI				*e*S	Sb	07 12 07.4	-1.8
CCHI	**Chillan**	**1.91**	**68**	*e*P	Pn	07 11 42.7	+0.6
CCHI				*e*S	Sb	07 12 07.4	-1.8
CCHI				AML	AML	07 12 19.6	
	comp=N,1μm,0.9s						
VLCH	**Valdivia**	**2.60**	**162**	*e*P	Pn	07 11 47.0	-4.6
VLCH				*e*S	Sn	07 12 18.8	-3.4
VLCH	**Valdivia**	**2.60**	**162**	*e*P	Pn	07 11 47.0	-4.6
VLCH				*e*S	Sn	07 12 18.8	-3.4
VLCH				AML	AML	07 12 28.2	
	comp=N,4μm,0.5s						
TALC	**Talca**	**2.87**	**49**	*e*P	Pn	07 11 55.6	+0.2
TALC				*e*S	Sn	07 12 29.3	+0.4
TALC	**Talca**	**2.87**	**49**	*e*P	Pn	07 11 55.6	+0.2
TALC				*e*S	Sn	07 12 29.3	+0.4
TALC				AML	AML	07 12 45.6	
	comp=E,3μm,0.7s						
LNV	**Longovilo**	**4.09**	**36**	P	Pn	07 12 14.7	+2.5
LNV	**Longovilo**	**4.09**	**36**	*e*P	Pn	07 12 14.7	+2.5
CACH	**El Canelo**	**4.38**	**44**	*e*P	Pn	07 12 17.5	+1.2
CACH	**El Canelo**	**4.38**	**44**	*e*P	Pn	07 12 17.5	+1.2
CHCH	**Chadas Angostu**	**4.49**	**42**	*e*P	Pn	07 12 18.9	+1.2
CHCH	**Chadas Angostu**	**4.49**	**42**	*e*P	Pn	07 12 18.9	+1.2
LMEL	**Las Melosas**	**4.80**	**45**	*e*P	Pn	07 12 23.7	+1.6
LMEL	**Las Melosas**	**4.80**	**45**	*e*P	Pn	07 12 23.7	+1.6
CLCH	**Cerro Calan**	**4.97**	**39**	*e*P	Pn	07 12 26.2	+1.9

IDC 13 07:21:38.1±13.0, 17°.51S×178°.68W, h586km±139km, mb3.1/4, mb1 3.3/4, mb1mx2.9/18, mbtmp3.1/4, Error ellipse: s-maj=145.8km s-min=57.0km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.60**	**241**	P	P	07 28 12.2	-0.1
	2.2nm,0.8s,baz=91,slow=8.6,SNR=4.5						
WRA	**Warramunga Arr**	**44.45**	**259**	P	P	07 28 58.2	-0.4
	1.1nm,0.6s,baz=96,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**44.65**	**254**	P	P	07 29 00.1	0.0
	6.7nm,0.6s,baz=88,slow=8.4,SNR=122						
ILAR	**Eielson Array**	**85.56**	**13**	P	P	07 33 14.5	-0.2
	0.2nm,0.4s,baz=222,slow=5.3,SNR=8.1						
BRTR	**Keskin Array B**	**144.32**	**315**	PKP	PKPbc	07 40 07.2	-1.5
	0.4nm,0.3s,baz=80,slow=1.6,SNR=3.0						
GERES	**GERESS Array B**	**147.16**	**345**	PKPbc	PKPbc	07 40 16.5	+0.2
	0.5nm,0.5s,baz=0.0,slow=3.3,SNR=3.6						

NEIC ***13*** *07:23:15.9±1.0, 5°.70N×126°.44E, h93km±9km, mb4.2/3, Error ellipse: s-maj=14.0km s-min=5.8km az=75.0*
IDC ***13*** *07:23:15.5±1.7, 5°.67N×126°.39E, h90km±14km, mb3.8/13, mb1 3.9/14, mb1mx3.7/28, mbtmp3.8/14, Error ellipse: s-maj=34.8km s-min=10.7km az=71.0*
ISCJB ***13*** *07:23:17.3±0.5, 5°.62N±0°.03×126°.31E±0°.07, h120km±5km, mb3.9/15, Error ellipse: s-maj=11.6km s-min=5.6km az=174.2*
MAN ***13*** *07:23:17, 5°.47N×126°.32E, h80km, mb4.9, ML3.9, MS4.0*
DJA ***13*** *07:23:21.4±1.0, 5°.N±9°×12°.6E±1°.3, h100km±65km, M4.8/7, mB5.2/4, mb4.8/7, MLv4.9/6, Mw(mB)4.5/4*
AUST ***13*** *07:23:48.2, 4°.00N×126°.50E, h300km*
ISC 13 07:23:17.6±0.9, 5°.61N±0°.05×126°.32E±0°.08, h103km±7km, n66, σ1°37/76, mb4.0/15, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.33**	**358**	*e*P	**Pn**	**07 23 43.0**	**+1.0**
MATI				*e*S	**Sn**	**07 24 02.2**	**+1.7**
GSPH	**General Santos**	**1.44**	**289⇓**	*e*P	**Pn**	**07 23 41.5**	**-1.8**
GSPH				*e*S	**Sn**	**07 24 01.0**	**-1.9**
DAV	**Davao City (W)**	**1.63**	**333**	*e*Pn	**Pn**	**07 23 43.2**	**-2.4**
DAV				*e*Sn	**Sn**	**07 24 03.5**	**-3.4**
DAV	**Davao City (W)**	**1.63**	**333**	P	Pn	07 23 51.9	+6.3
DAV	**Davao City (W)**	**1.63**	**333**	P	Pn	07 23 42.2	-3.4
	49nm,0.3s,baz=82,slow=0.8,SNR=2.2						
DAV				S	**Sn**	**07 24 08.8**	**+2.0**
	337nm,0.3s,baz=27,slow=15,SNR=8.7						
DMPH	**Davao City--Mi**	**1.67**	**331⇑**	*e*P	**Pn**	**07 23 46.8**	**+0.7**
DMPH				*e*S	**Sn**	**07 24 02.9**	**-4.9**
KCP	**Kidapawan**	**1.85**	**319⇑**	*e*P	**Pn**	**07 23 48.7**	**+0.2**
KCP				*i* S	**Sn**	**07 24 13.4**	**+1.4**
BUKP	**Musuan**	**2.58**	**331**	*e*P	**Pn**	**07 23 59.5**	**+1.7**
CGP	**Cagayan de Oro**	**3.26**	**330**	*e*P	**Pn**	**07 24 09.1**	**+2.3**
CGP				*i* S	**Sn**	**07 24 48.3**	**+3.4**
BUTP	**Butuan**	**3.41**	**348**	*e*P	Pn	07 24 12.5	+3.6
PAGZ	**Pagadian**	**3.67**	**308**	*e*P	**Pn**	**07 24 13.5**	**+1.2**
TNTI	**Ternate**	**4.92**	**168**	P	**Pn**	**07 24 29.0**	**-0.2**
GTOI	**Gorontalo**	**5.94**	**214**	P	**Pn**	**07 24 43.0**	**-0.1**
	258nm,0.8s,2μm0.8nm						
MRSI	**Marisa**	**6.71**	**221**	P	**Pn**	**07 24 54.3**	**+0.7**
	348nm,0.7s,3μm1.1nm						
LUWI	**Luwuk**	**7.49**	**208**	P	**Pn**	**07 25 06.9**	**+2.7**
	146nm,1.3s,1μm0.5nm						
MYLDM	**Lahad Datu**	**7.79**	**267**	P	**Pn**	**07 25 10.8**	**+2.5**
	35nm,0.9s,0.3nm						
SKSI	**Soroako, Sulaw**	**9.49**	**212**	P	**Pn**	**07 25 32.0**	**+0.6**
	25nm,0.8s,2μm						
TTSI	**Tana Toraja**	**10.77**	**217**	P	**Pn**	**07 25 51.2**	**+2.5**
	37nm,1.0s						
KAPI	**Kappang**	**12.42**	**212**	*e*Pn	**Pn**	**07 26 10.0**	**-0.8**
KAPI	**Kappang**	**12.42**	**212**	P	**Pn**	**07 26 10.0**	**-0.8**
KAPI	**Kappang**	**12.42**	**212**	P	**Pn**	**07 26 09.7**	**-1.1**
	1.1nm,0.3s,baz=22,slow=12,SNR=8.3						
SOEI	**Soe**	**15.39**	**188**	P	**P**	**07 26 53.0**	**+1.2**
	baz=14,SNR=7.3						
BATI	**Baumata**	**15.93**	**190**	P	**Pn**	**07 26 56.0**	**+0.1**
BATI	**Baumata**	**15.93**	**190**	P	**Pn**	**07 26 56.0**	**+0.1**
	13nm,0.3s,baz=304,slow=1.8,SNR=13						
KSM	**Kuching**	**16.49**	**256**	*e*Pn	**P**	**07 27 05.5**	**+1.8**
	16nm,0.8s						
KNRA	**Kununurra**	**21.28**	**173**	P	**P**	**07 27 55.9**	**0.0**
	baz=20,SNR=12						
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P	**P**	**07 28 18.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P	**P**	**07 28 18.9**	**-0.1**
	3.6nm,0.6s,baz=22,slow=5.7,SNR=12						
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P	**P**	**07 28 18.9**	**-0.1**
	baz=22,SNR=5.8						
COEN	**Coen**	**25.65**	**139**	P	**P**	**07 28 38.5**	**+0.6**
	baz=24,SNR=6.7						
WRAB	**Tennant Creek**	**26.58**	**163**	*e*P	**P**	**07 28 46.8**	**+0.6**
	10nm,1.0s						
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**07 28 45.8**	**-0.6**
WRA				ScP	**ScP**	**07 35 39.0**	**-0.2**
WRA	**Warramunga Arr**	**26.59**	**163**	P	**P**	**07 28 45.8**	**-0.6**
	0.7nm,0.5s,baz=343,slow=10.0,SNR=9.2						
WRA				ScP	**ScP**	**07 35 39.0**	**-0.2**
	1.0nm,0.9s,baz=334,slow=3.0,SNR=5.2						
CMAR	**Chiang Mai Arr**	**29.60**	**298**	P	**P**	**07 29 13.2**	**0.0**
CMAR	**Chiang Mai Arr**	**29.60**	**298**	P	**P**	**07 29 13.2**	**0.0**
	0.7nm,0.5s,baz=103,slow=6.9,SNR=4.0						
AS31	**Alice Springs**	**30.02**	**166**	*e*P	**P**	**07 29 16.8**	**-0.1**
ASAR	**Alice Springs**	**30.02**	**166**	P	**P**	**07 29 16.7**	**-0.2**
ASAR				PcP	**PcP**	**07 32 17.2**	**+0.4**
ASAR				ScP	**ScP**	**07 35 49.7**	**-0.1**
ASAR	**Alice Springs**	**30.02**	**166**	P	**P**	**07 29 16.7**	**-0.2**
	2.0nm,0.6s,baz=344,slow=7.0,SNR=24						
ASAR				PcP	**PcP**	**07 32 17.2**	**+0.4**
	0.8nm,0.6s,baz=344,slow=2.4,SNR=6.1						
ASAR				ScP	**ScP**	**07 35 49.7**	**-0.1**
	0.3nm,0.7s,baz=305,slow=2.9,SNR=4.8						
MEEK	**Meekatharra**	**32.91**	**193**	P	**P**	**07 29 41.2**	**-1.0**
	baz=32,SNR=4.6						
BBOO	**Buckleboo**	**39.31**	**167**	P	**P**	**07 30 37.1**	**+0.5**
	baz=38,SNR=18						
STKA	**Stephens Creek**	**40.02**	**160**	*e*P	**P**	**07 30 42.7**	**+0.2**
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**07 30 41.0**	**-1.6**
	3.5nm,0.5s,baz=326,slow=10,SNR=18						
STKA	**Stephens Creek**	**40.02**	**160**	P	**P**	**07 30 42.8**	**+0.2**
	baz=39,SNR=11						
ARPS	**Mount Arapiles**	**44.59**	**162**	P	**P**	**07 31 20.7**	**+1.2**
	baz=43,SNR=5.6						
MK31	**Makanchi Array**	**55.79**	**325**	*e*P	**P**	**07 32 43.5**	**-0.5**
MKAR	**Makanchi Array**	**55.79**	**325**	P	**P**	**07 32 43.4**	**-0.7**
MKAR	**Makanchi Array**	**55.79**	**325**	P	**P**	**07 32 43.4**	**-0.7**
	1.2nm,0.5s,baz=121,slow=7.6,SNR=31						
ZALV	**Zalesovo Beam**	**58.74**	**333**	P	**P**	**07 33 03.2**	**-1.4**
ZALV	**Zalesovo Beam**	**58.74**	**333**	P	**P**	**07 33 03.2**	**-1.4**
	0.6nm,0.3s,baz=114,slow=7.2,SNR=3.0						
KURBB	**Kurchatov Arra**	**59.95**	**327**	P	**P**	**07 33 11.9**	**-1.0**
	1.3nm,0.4s,baz=127,slow=6.7,SNR=9.8						
KURK	**Kurchatov**	**59.95**	**327**	P	**P**	**07 33 11.9**	**-1.0**
BVAR	**Borovoye Array**	**65.53**	**327**	P	**P**	**07 33 49.3**	**-0.8**
BVAR	**Borovoye Array**	**65.53**	**327**	P	**P**	**07 33 49.3**	**-0.8**
	0.6nm,0.4s,baz=122,slow=7.4,SNR=3.6						
ABKAR	**Akbulak array**	**70.45**	**320**	*e*P	**P**	**07 34 19.6**	**-1.3**
	1.3nm,0.7s						
AKTO	**Aktyubinsk**	**71.94**	**321**	P	**P**	**07 34 28.9**	**-0.9**
AKTO	**Aktyubinsk**	**71.94**	**321**	P	**P**	**07 34 28.9**	**-0.9**
	1.5nm,0.5s,baz=86,slow=7.7,SNR=6.5						
IMA2	**Indian Mountai**	**80.84**	**24**	*e*P	**P**	**07 35 19.6**	**-0.4**
ILAR	**Eielson Array**	**83.60**	**26**	P	**P**	**07 35 33.6**	**-0.6**
ILAR	**Eielson Array**	**83.60**	**26**	P	**P**	**07 35 33.6**	**-0.6**
	0.8nm,0.9s,baz=236,slow=6.2,SNR=9.3						
VNDA	**Vanda**	**85.33**	**173**	P	**P**	**07 35 43.0**	**+0.3**
VNDA	**Vanda**	**85.33**	**173**	P	**P**	**07 35 43.0**	**+0.3**
	0.6nm,0.6s,baz=352,slow=5.4,SNR=3.6						
MAW	**Mawson**	**85.36**	**200**	P	**P**	**07 35 45.2**	**+2.3**
	baz=84,SNR=9.9						
ARCES	**ARCESS Array B**	**88.56**	**340**	P	**P**	**07 35 57.8**	**-0.7**
ARCES	**ARCESS Array B**	**88.56**	**340**	P	**P**	**07 35 57.8**	**-0.7**
	1.4nm,0.8s,baz=82,slow=6.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**121.93**	**289**	PKP	**PKPdf**	**07 42 00.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**121.93**	**289**	PKP	**PKPdf**	**07 42 00.1**	**-0.8**
	0.4nm,0.6s,baz=59,slow=1.5,SNR=7.1						

JMA ***13*** *07:29:34.0±0.8, 45°.53N×149°.76E, h30km, M4.3*
IDC ***13*** *07:29:34.5±5.0, 45°.38N×149°.58E, h83km±56km, mb3.2/5, mb1 3.5/7, mb1mx3.3/26, mbtmp3.2/7, ML3.0/1, Error ellipse: s-maj=107.3km s-min=19.8km az=131.0*
ISC 13 07:29:30.7±0.8, 44°.7N±0°.1×150°.48E±0°.10, h35km, n24, σ2°46/28, mb3.6/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.66**	**251**	P	**Pn**	**07 30 26.5**	**+1.8**
NEM2				*e*S	**Sn**	**07 31 05.4**	**-1.3**
JRA	**Rausu**	**

KKN	Kakani	6.84	208	eP	Pn	07 43 31.1	+1.9
PKIN	Phulchoki	6.99	206	eP	Pn	07 43 31.5	+0.2
	15nm,0.6s						
PKI	Pulchoki	6.99	206	eP	Pn	07 43 31.7	+0.3
	29nm,0.8s						
DANN	Dangsing	7.07	220	eP	Pn	07 43 30.6	-1.8
	20nm,0.6s						
DMN	Daman	7.07	208	eP	Pn	07 43 33.1	+0.7
	21nm,0.5s						
ODAN	Odare	7.15	191	eP	Pn	07 43 34.5	+1.0
	41nm,0.5s						
RAMN	Ramite	7.22	196	eP	Pn	07 43 34.3	-0.1
	93nm,1.0s						
KOLN	Koldanda	7.62	218	eP	Pn	07 43 37.2	-2.7
GTA	Gaotai	10.36	55	eP	Pn	07 44 10.4	-6.9
GTA				pP		07 44 14.0	
GTA				sP		07 44 16.5	
GTA				S	Sn	07 46 10.5	-2.5
GTA				sS		07 46 15.8	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GTA				LR	LR		
	comp=N,820nm,17.6s						
GTA				LR	LR		
	comp=E,500nm,15.2s						
GTA				LR	LR		
	comp=Z,690nm,9.5s						
TKM2	Tokmak 2	13.73	315	ePn	Pn	07 45 02.3	-1.2
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	13.80	341	ePn	Pn	07 45 06.6	+2.4
MK31				eSn	Sn	07 47 39.2	+2.3
MKAR	Makanchi Array	13.80	341	Pn	Pn	07 45 01.4	-2.7
MKAR	Makanchi Array	13.80	341	Pn	Pn	07 45 01.4	-2.7
	comp=Z,0.1nm,0.3s,baz=145,slow=10,SNR=2.6						
MKAR				LR	LR	07 50 10.4	
	comp=Z,41nm,20.9s,baz=155,slow=36						
AAK	Ala-Archa	14.24	312	LR	LR	07 51 14.2	
	comp=Z,183nm,19.2s,baz=109,slow=40						
XAN	Xi'an	16.64	84	P	P	07 45 45.0	+0.8
XAN				LR	LR		
	comp=N,660nm,14.3s						
XAN				LR	LR		
	comp=E,89nm,16.3s						
CMAR	Chiang Mai Arr	17.84	147	P	Pn	07 45 55.3	-1.6
CMAR	Chiang Mai Arr	17.84	147	P	Pn	07 45 55.3	-1.6
	comp=E,1.0nm,0.3s,baz=330,slow=11,SNR=8.0						
KURBB	Kurchatov Arra	18.33	339	P	P	07 46 03.0	+0.3
	comp=E,0.1nm,0.3s,baz=150,slow=12,SNR=37						
KURK	Kurchatov	18.39	339	P	P	07 46 03.0	-0.3
SONM	Songino Array	19.14	38	P	Pn	07 46 13.0	+0.2
SONM	Songino Array	19.14	38	P	Pn	07 46 13.0	+0.2
	comp=E,0.1nm,0.3s,baz=227,slow=12,SNR=9.3						
SONM				LR	LR	07 54 16.7	
	comp=E,183nm,22.0s,baz=10,slow=39						
ULN	Ulaanbaatar	19.50	39	eP	Pn	07 46 18.5	+1.4
	comp=E,5.5nm,0.9s						
ZAA0	Zalesovo Array	20.23	353	eP	Pn	07 46 24.8	-0.6
ZALV	Zalesovo Beam	20.23	353	P	Pn	07 46 24.7	-0.7
ZALV	Zalesovo Beam	20.23	353	P	Pn	07 46 24.7	-0.7
	comp=E,7.0nm,0.8s,baz=163,slow=11,SNR=14						
ZALV				LR	LR	07 55 12.6	
	comp=E,128nm,19.9s,baz=254,slow=40						
BVAR	Borovoye Array	23.21	331	P	P	07 46 56.2	+0.8
BVAR	Borovoye Array	23.21	331	P	P	07 46 56.2	+0.8
	comp=E,0.8nm,0.6s,baz=119,slow=12,SNR=5.6						
BVAR				LR	LR	07 56 04.0	
	comp=E,45nm,21.8s,baz=307,slow=37						
AKTO	Aktyubinsk	27.93	316	LR	LR	08 00 19.2	
	comp=E,154nm,21.4s,baz=120,slow=40						
KSRS	Korea Array	31.76	72	LR	LR	08 02 22.4	
	comp=E,98nm,18.5s,baz=265,slow=39						
KBZ	Khabaz	36.72	299	LR	LR	08 06 48.4	
	comp=E,69nm,18.3s,baz=298,slow=41						
FINES	FINESS Array B	47.95	325	LR	LR	08 12 15.5	
	comp=E,111nm,18.6s,baz=86,slow=38						
ARCES	ARCESS Array B	49.38	336	LR	LR	08 14 01.6	
	comp=E,48nm,18.2s,baz=42,slow=39						
PETK	Petropavlovsk-	51.38	46	LR	LR	08 14 50.7	
	comp=E,62nm,18.5s,baz=268,slow=38						
NOA	NORSAR Array B	55.13	325	P	P	07 51 20.2	-0.3
NOA	NORSAR Array B	55.13	325	P	P	07 51 20.2	-0.3
	comp=E,0.7nm,0.7s,baz=84,slow=7.2,SNR=2.8						
NOA				LR	LR	08 16 35.5	
	comp=E,120nm,18.6s,baz=85,slow=38						
GERES	GERESS Array B	56.11	310	P	P	07 51 28.6	+0.8
GERES	GERESS Array B	56.11	310	P	P	07 51 28.6	+0.8
	comp=E,0.7nm,0.6s,baz=69,slow=4.6,SNR=6.6						
GERES				LR	LR	08 20 48.8	
	comp=E,58nm,19.4s,baz=47,slow=42						
WRAB	Tennant Creek	68.88	134	eP	P	07 52 56.4	+3.1
	comp=E,4.1nm,0.9s						
WRA	Warramunga Arr	68.88	134	P	P	07 52 52.2	-1.2
WRA	Warramunga Arr	68.88	134	P	P	07 52 52.2	-1.2
	comp=E,2.3nm,0.8s,baz=325,slow=6.5,SNR=14						
ASAR	Alice Springs	71.51	137	P	P	07 53 09.3	-0.1
ASAR	Alice Springs	71.51	137	P	P	07 53 09.3	-0.1
	comp=E,1.8nm,0.9s,baz=322,slow=6.1,SNR=14						
TORD	Torodi Ar. Bea	80.48	279	P	P	07 54 01.0	+0.1
TORD	Torodi Ar. Bea	80.48	279	P	P	07 54 01.0	+0.1
	comp=E,0.5nm,0.9s,baz=48,slow=6.2,SNR=2.7						

IDC 13 08:09:21.5±5.8, 6°.62S×147°.03E, h70km±47km, mb3.6/3, mb1 3.8/5, mb1mx3.4/19, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=49.3km s-min=42.9km az=79.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.77	177	P	Pn	08 10 03.9	+0.3
	9.8nm,0.3s,baz=345,slow=4.3,SNR=27						
PMG				S	Sn	08 10 36.6	+0.6
	15nm,0.3s,baz=329,slow=8.0,SNR=4.7						
WRA	Warramunga Arr	18.09	222	P	Pn	08 13 28.1	-0.1
	0.5nm,0.3s,baz=45,slow=12,SNR=32						
ASAR	Alice Springs	21.13	215	P	P	08 14 01.3	+0.5
	1.8nm,0.5s,baz=53,slow=8.7,SNR=49						
FITZ	Fitzroy Crossi	23.77	239	P	P	08 14 27.3	-0.5
	0.9nm,0.3s,baz=53,slow=6.0,SNR=22						
FITZ				pP	pP	08 14 44.9	+1.0
	0.8nm,0.4s,baz=70,slow=11,SNR=4.2						
STKA	Stephens Creek	25.64	191	P	P	08 14 44.4	-0.2
	2.2nm,0.6s,baz=38,slow=12,SNR=10						
TORD	Torodi Ar. Bea	145.26	283	PKPbc	PKPbc	08 28 51.4	-0.7
	0.2nm,0.4s,baz=70,slow=4.2,SNR=4.2						
TORD				pPKPbc	pPKPbc	08 29 14.0	+1.9
	1.1nm,0.7s,baz=78,slow=3.8,SNR=6.3						

MEX 13 08:10:02.6±0.9, 15°.92N×99°.45W, h16km±22km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	1.02	338	eP	Pb	08 10 18.0	-3.9
ACX				i S	Sb	08 10 30.4	-4.8
PNIG	Pinotepa	1.36	70	eP	Pn	08 10 23.1	-3.9
PNIG				i S	Sn	08 10 39.1	-5.6
CAIG	El Cayaco	1.37	325	eP	Pn	08 10 24.0	-3.0
CAIG				i S	Sn	08 10 39.4	-5.4
MEIG	Mezcala	2.00	355	i P	Pn	08 10 33.3	-2.5
MEIG				i S	Sn	08 10 56.7	-4.0
UTMO	Huajuapan	2.47	40	i P	Pn	08 10 39.6	-2.9
UTMO				i S	Sn	08 11 08.2	-4.3
ARIG	Puente Sto Nin	2.50	340	i P	Pn	08 10 39.5	-3.1
ARIG				i S	Sn	08 11 08.4	-4.4
YAIG	Yautepec	2.95	7	i P	Pn	08 10 47.0	-2.1
YAIG				i S	Sn	08 11 20.2	-4.0

IDC 13 08:17:57.4±1.9, 33°.25N×87°.84E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/28, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=70.1km s-min=22.0km az=71.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.17	344	Pn	Pn	08 21 19.3	-0.1
	0.1nm,0.3s,baz=174,slow=16,SNR=4.2						
KURBB	Kurchatov Arra	18.66	341	P	P	08 22 16.6	-0.1
	0.0nm,0.3s,baz=145,slow=12,SNR=5.0						
SONM	Songino Array	20.20	38	P	P	08 22 33.8	0.0
	0.9nm,0.6s,baz=212,slow=14,SNR=2.9						
ZALV	Zalesovo Beam	20.80	355	P	P	08 22 38.9	-1.2
	0.5nm,0.5s,baz=163,slow=10,SNR=4.3						
WRA	Warramunga Arr	69.05	133	P	P	08 29 05.4	+0.2
	0.5nm,0.9s,baz=326,slow=6.2,SNR=6.5						
ASAR	Alice Springs	71.62	136	P	P	08 29 20.9	0.0
	0.5nm,0.5s,baz=309,slow=6.7,SNR=12						

NIED ***13*** *08:32:00, 32°.90N×136°.10E, h5km, Mw3.7 Best double couple: M0=3.67000×10^14 NP1:φ0=219.00000°, δ87.00000°, λ-129.00000°. NP2:φ0=124.00000°, δ39.00000°, λ-5.00000°.*

JMA 13 08:32:08.2±0.1, 32°.87N×136°.08E, h37km±1km, M3.5, 7C, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	0.73	335	⇑P	Pn	08 32 22.0	0.0
JWZ				S	Sn	08 32 31.9	+0.1
TTO1	TONANKAI O.B.S	0.95	38	P	Pn	08 32 25.3	+0.6
TTO1				S	Sn	08 32 38.5	+1.7
JWM	Minabe	1.15	328	⇑P	Pn	08 32 28.5	+0.8
JWM				S	Sn	08 32 42.8	+0.6
JKN2	Miekihoku	1.38	7	⇑P	Pn	08 32 31.5	+0.7
JKN2				S	Sn	08 32 48.4	+0.6
JWY	Kouya	1.41	343	⇑P	Pn	08 32 32.5	+1.1
JWY				S	Sn	08 32 50.3	+1.6
JIE	Ise	1.60	19	⇑P	Pn	08 32 34.9	+0.9
JIE				S	Sn	08 32 53.4	-0.1
JAI	Aioi	1.65	304	⇑P	Pn	08 32 35.3	+0.8
TSUJ	Tsu 2	1.86	9	⇑P	Pn	08 32 38.6	+1.2

IDC 13 08:33:37.9±5.9, 5°.62S×147°.24E, h179km±61km, mb3.3/2, mb1 3.4/4, mb1mx3.0/19, mbtmp3.2/4, Error ellipse: s-maj=90.6km s-min=43.3km az=129.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.77	181	P	Pn	08 34 37.4	+1.4
	7.8nm,0.3s,baz=347,slow=7.4,SNR=27						
PMG				S	Sn	08 35 21.3	-0.3
	3.1nm,0.3s,baz=290,slow=12,SNR=2.5						
WRA	Warramunga Arr	18.98	220	P	P	08 37 46.1	+0.1
	0.3nm,0.3s,baz=38,slow=11,SNR=31						
ASAR	Alice Springs	22.07	214	P	P	08 38 19.2	+0.5
	0.8nm,0.5s,baz=50,slow=8.1,SNR=25						
FITZ	Fitzroy Crossi	24.48	238	P	P	08 38 40.2	-0.4
	1.6nm,0.5s,baz=59,slow=11,SNR=11						
TORD	Torodi Ar. Bea	145.23	285	PKPbc	PKPdf	08 52 54.2	-1.0
	0.2nm,0.7s,baz=71,slow=2.7,SNR=2.2						

ISCJB ***13*** *08:45:36.9±1.1, 13°.1S±0°.2×167°.2E±0°.2, h180km, mb3.8/8, Error ellipse: s-maj=27.4km s-min=17.7km az=35.0*
IDC ***13*** *08:45:44.2±4.3, 13°.23S×167°.00E, h235km±38km, mb3.5/8, mb1 3.6/9, mb1mx3.4/23, mbtmp3.5/9, Error ellipse: s-maj=27.8km s-min=22.7km az=17.0*
AUST ***13*** *08:46:17.5, 14°.89S×164°.35E, h300km*

ISC 13 08:45:38.2±1.2, 13°.2S±0°.2×167°.2E±0°.2, h180km, n22, σ1°33/21, mb3.9/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.83	185	P	Pn	08 47 48.2	+5.7
	0.7nm,0.3s,baz=153,slow=14,SNR=8.1						
EIDS	Eidsvold	19.41	229	P	Pn	08 49 52.7	-1.1
	baz=16,SNR=4.9						
CTA	Charters Tower	21.19	248	P	P	08 50 10.1	+0.3
	1.7nm,0.5s,baz=88,slow=12,SNR=5.0						
RMQ	Roma	21.76	230	P	P	08 50 17.1	+1.4
	baz=19,SNR=8.9						
PATS	Pohnpei	21.80	336	P	pP	08 50 48.2	+0.8
	baz=22,SNR=3.4						
PATS				S	Sn	08 54 36.0	+5.9
	baz=22,SNR=4.2						
ARMA	Armidale	22.36	218	P	P	08 50 23.0	+1.4
	baz=19,SNR=7.6						
MTSU	Mount Surprise	22.56	255	P	P	08 50 24.6	+1.1
	baz=20,SNR=5.9						
CMSA	Cobar Meteorol	26.89	224	P	P	08 51 06.7	+4.3
	baz=24,SNR=8.0						
STKA	Stephens Creek	29.94	227	P	P	08 51 30.2	+0.7
	4.7nm,0.5s,baz=43,slow=8.8,SNR=19						
STKA	Stephens Creek	29.94	227	P	P	08 51 30.1	+0.7
	baz=27,SNR=11						
TOO	Toolangi	31.03	215	P	P	08 51 39.9	+0.8
	baz=28,SNR=5.7						
WRA	Warramunga Arr	32.16	254	P	P	08 51 47.5	-1.7
	0.9nm,0.5s,baz=85,slow=9.4,SNR=23						
ASAR	Alice Springs	33.17	247	P	P	08 51 57.0	-1.0
	1.3nm,0.3s,baz=75,slow=9.2,SNR=72						
ASAR				PcP	PcP	08 54 36.1	-0.5
	0.2nm,0.6s,baz=87,slow=1.6,SNR=4.8						
BBOO	Buckleboo	34.47	230	P	P	08 52 09.0	0.0
	baz=31,SNR=8.4						
KNRA	Kununurra	37.27	261	P	P	08 52 33.0	0.0
	baz=34,SNR=6.0						
FITZ	Fitzroy Crossi	40.25	258	P	P	08 52 57.5	-0.3
	0.9nm,0.7s,baz=117,slow=9.0,SNR=5.4						
FITZ	Fitzroy Crossi	40.25	258	P	P	08 52 58.1	+0.3
	baz=37,SNR=3.3						
MEEK	Meekatharra	47.32	246	P	P	08 53 54.2	+0.1
	baz=44,SNR=7.8						
PMBI	Palembang	62.51	274	P	P	08 55 53.6	+10
	baz=60,SNR=4.4						
QSPA	South Pole Qui	76.80	180	P	P	08 57 09.5	-0.3
	2.9nm,0.8s,baz=108,slow=0.7,SNR=21						
ILAR	Eielson Array	85.12	18	P	P	08 57 53.4	-0.1
	0.5nm,0.6s,baz=240,slow=5.5,SNR=12						
MKAR	Makanchi Array	96.07	317	P	P	08 58 45.0	-0.3
	0.4nm,0.6s,baz=105,slow=6.0,SNR=4.4						

ISCJB ***13*** *08:56:37.2±0.8, 11°.74S±0°.07×166°.79E±0°.08, h100km, mb4.2/13, Error ellipse: s-maj=13.1km s-min=7.6km az=143.6*
AUST ***13*** *08:56:39.4, 11°.97S×166°.97E, h100km*
IDC ***13*** *08:56:42.3±3.2, 11°.75S×166°.64E, h131km±27km, mb4.0/12, mb1 4.1/14, mb1mx3.9/25, mbtmp4.0/14, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=22.8km s-min=14.2km az=65.0*
NEIC ***13*** *08:56:44.0±1.9, 11°.80S×166°.68E, h149km±15km, mb4.3/4, Error ellipse: s-maj=17.6km s-min=10.7km az=58.0*

ISC 13 08:56:38.5±0.7, 11°.69S±0°.07×166°.90E±0°.09, h100km, n52, σ1°45/57, mb4.2/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.19	287	ePn	Pn	08 58 25.6	+4.6
HNR				eSn	Sn	08 59 39.5	-1.7
HNR	Honiara	7.19	287	P	Pn	08 58 22.4	+1.4
	3.3nm,0.3s,baz=201,slow=8.6,SNR=1.7						
DZM	Mont Dzumac	10.34	182	eP	Pn	08 59 07.1	+3.2
DZM				eS	Sn	09 00 55.1	-2.7
DZM	Mont Dzumac	10.34	182	ePn	Pn	08 59 06.0	+2.1
	15nm,0.6s						
DZM				eSn	Sn	09 00 58.0	+0.2
DZM	Mont Dzumac	10.34	182	P	Pn	08 59 06.8	+3.0
	3.5nm,0.3s,baz=34,slow=20,SNR=33						
DZM				S	Sn	09 00 55.5	-2.4
	0.7nm,0.3s,baz=311,slow=19,SNR=5.3						
PMG	Port Moresby	19.54	275	eP	P	09 00 57.1	-1.3
PMG	Port Moresby	19.54	275	LR	LR	09 07 24.2	
	comp=Z,115nm,21.6s,baz=200,slow=33						
EIDS	Eidsvold	20.22	226	P	P	09 01 06.4	+0.8
	baz=20,SNR=8.7						
CTA	Charters Tower	21.52	245	P	P	09 01 19.4	-0.3
CTA	Charters Tower	21.52	245	P	P	09 01 19.4	-0.3
	4.9nm,0.6s,baz=78,slow=12,SNR=12						
CTAO	Charters Tower	21.52	245	eP	P	09 01 19.4	-0.3
	5.2nm,0.7s						
RMQ	Roma	22.55	227	P	P	09 01 30.5	+0.1
	baz=22,SNR=9.2						
MTSU	Mount Surprise	22.73	251	P	P	09 01 33.1	+0.8
	baz=23,SNR=6.2						
ARMA	Armidale	23.41	215	P	P	09 01 38.9	+0.1
	baz=23,SNR=15						
CMSA	Cobar Meteorol	27.81	221	P	P	09 02 17.4	-0.9
	baz=28,SNR=24						
URZ	Urewera	27.99	163	eP	P	09 02 20.3	+0.5
	7.6nm,0.7s						
URZ	Urewera	27.99	163	P	P	09 02 21.2	+1.4
	3.8nm,0.4s,baz=354,slow=23,SNR=7.0						
YNG	Young	28.13	214	P	P	09 02 21.0	-0.1
	baz=28,SNR=5.9						
STKA	Stephens Creek	30.78	225	eP	P	09 02 44.1	-0.5
STKA	Stephens Creek	30.78	225	P	P	09 02 43.5	-1.2
	7.6nm,0.7s,baz=47,slow=8.3,SNR=23						
STKA	Stephens Creek	30.78	225	P	P	09 02 44.1	-0.5
	baz=31,SNR=20						
RPZ	Rata Peaks	32.12	174	eP	P	09 02 56.3	0.0
RPZ	Rata Peaks	32.12	174	P	P	09 02 56.0	-0.2
	24nm,0.6s,baz=290,slow=1.8,SNR=27						
TOO	Toolangi	32.13	213	P	P	09 02 56.1	-0.4
	baz=32,SNR=11						
WRAB	Tennant Creek	32.33	251	eP	P	09 02 56.5	-1.9
	1.3nm,0.4s						
WRA	Warramunga Arr	32.34	251	P	P	09 02 56.5	-2.0
WRA				PcP	PcP	09 05 43.9	-0.4
WRA	Warramunga Arr	32.34	251	P	P	09 02 56.5	-2.0
	1.7nm,0.6s,baz=82,slow=8.9,SNR=40						
WRA				PcP	PcP	09 05 43.9	-0.4
	0.6nm,0.6s,baz=82,slow=3.4,SNR=5.2						
ASAR	Alice Springs	33.53	245	P	P	09 03 06.5	-2.4
ASAR				pP	pP	09 03 38.4	+6.9
ASAR				PcP	PcP	09 05 47.0	-0.6
ASAR	Alice Springs	33.53	245	P	P	09 03 06.5	-2.4
	4.1nm,0.7s,baz=70,slow=9.7,SNR=72						
ASAR				pP	pP	09 03 38.4	+6.9
	2.7nm,0.9s,baz=74,slow=9.8,SNR=8.3						
ASAR				PcP	PcP	09 05 47.0	-0.6
	1.3nm,0.7s,baz=70,slow=2.4,SNR=12						
KDU	Kakadu	33.65	265	S	S	09 08 28.9	+3.1
	baz=34,SNR=58						
MTN	Manton Dam	34.95	264	P	P	09 03 21.1	-0.1
	baz=35,SNR=3.1						
MTN				S	S	09 08 25.9	-20
	baz=35,SNR=5.4						
BBOO	Buckleboo	35.24	228	P	P	09 03 22.5	-0.9
	baz=35,SNR=53						
FAKI	Fak Fak	35.42	282	S	S	09 08 53.4	+0.3
	baz=36,SNR=12						
KNRA	Kununurra	37.23	259	P	P	09 03 39.6	-1.0
	baz=37,SNR=8.2						
KNRA				S	S	09 09 00.4	-20
	baz=37,SNR=9.0						
FITZ	Fitzroy Crossi	40.31	256	P	P	09 04 05.2	-1.2
	baz=40,SNR=6.2						
FORT	Forrest	40.61	236	P	P	09 04 07.8	-0.9
	baz=40,SNR=18						
MEEK	Meekatharra	47.69	245	P	P	09 05 04.4	-0.9
	baz=48,SNR=13						
MJAR	Matsushiro Arr	55.06	332	P	P	09 05 58.0	-2.0
MJAR	Matsushiro Arr	55.06	332	P	P	09 05 58.0	-2.0
	1.6nm,1.2s,baz=171,slow=8.6,SNR=4.5						
PMBI	Palembang	62.12	273	S	S	09 15 12.3	+4.9
	baz=62,SNR=3.5						
VNDA	Vanda	65.88	181	eP	P	09 07 13.3	+0.3
VNDA	Vanda	65.88	181	P	P	09 07 12.9	-0.1
	1.5nm,0.5s,baz=357,slow=6.8,SNR=16						
CMAR	Chiang Mai Arr	73.41	293	P	P	09 08 00.3	+0.1
CMAR	Chiang Mai Arr	73.41	293	P	P	09 08 00.3	+0.1
	1.1nm,0.3s,baz=126,slow=4.6,SNR=4.9						
QSPA	South Pole Qui	78.32	180	eP	P	09 08 27.5	-0.1
QSPA	South Pole Qui	78.32	180	P	P	09 08 27.4	-0.1
	5.5nm,0.6s,baz=1.7,slow=1.5,SNR=72						
ILAR	Eielson Array	83.76	18	P	P	09 08 57.3	+1.2
ILAR	Eielson Array	83.76	18	P	P	09 08 57.3	+1.2
	0.4nm,0.5s,baz=240,slow=4.8,SNR=8.7						
MKAR	Makanchi Array	94.76	317	P	P	09 09 49.1	+0.2
MKAR	Makanchi Array	94.76	317	P	P	09 09 49.1	+0.2
	0.8nm,0.5s,baz=95,slow=5.4,SNR=11						
ARCES	ARCESS Array B	117.23	346	PKP	PKPdf	09 15 11.3	-0.2
ARCES	ARCESS Array B	117.23	346	PKP	PKPdf	09 15 11.3	-0.2
	7.4nm,1.1s,baz=64,slow=2.8,SNR=5.4						

IDC ***13*** *09:04:01.8±2.5, 8°.10S×110°.72E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=145.7km s-min=24.6km az=50.0*
ISCJB ***13*** *09:04:05.1±0.8, 8°.70S±0°.06×109°.88E±0°.05, h60km, mb3.4/4, Error ellipse: s-maj=9.3km s-min=6.5km az=17.8*
DJA ***13*** *09:04:06.2±0.9, 9°S±7°×11°0E±°, h28km±9km, M3.7/9, MLv3.7/9*

ISC 13 09:04:06.8±1.1, 8°.63S±0°.09×109°.89E±0°.05, h60km, n13, σ1°01/17, mb3.2/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	Yogyakarta	0.90	26	P	Pn	09 04 22.0	-1.6
YOGI				S	Sn	09 04 35.7	-0.2
UGM	Wanagama	0.95	41	P	Pn	09 04 24.2	0.0
UGM				S	Sn	09 04 37.4	+0.4
CLJI	Cilicap	1.26	316	P	Pn	09 04 27.7	-0.5
CLJI				S	Sn	09 04 42.7	-1.5
BJII	Banjamegara	1.30	352	P	Pn	09 04 28.9	0.0
PCJI	Pacitan	1.34	71	P	Pn	09 04 28.6	-0.7
PCJI				S	Sn	09 04 45.6	-0.7
TGJI	Tegal	1.91	336	P	Pn	09 04 37.2	+0.1
PWJI	Pagerwojo	1.99	72	P	Pn	09 04 37.8	-0.2
SJI	Sawahan	2.06	64	P	Pn	09 04 40.8	+1.7
CISI	Cisompet, Garu	2.32	297	P	Pn	09 04 43.1	+0.5
WRA	Warramunga Arr	26.18	118	P	P	09 09 34.9	-1.1
	0.6nm,0.8s,baz=295,slow=11,SNR=11						
ASAR	Alice Springs	27.41	126	P	P	09 09 46.5	-0.6
	0.4nm,0.7s,baz=303,slow=9.3,SNR=5.5						
STKA	Stephens Creek	37.43	133	P	P	09 11 14.1	-0.3
	1.5nm,0.5s,baz=311,slow=10,SNR=4.1						
MKAR	Makanchi Array	60.41	339	P	P	09 14 11.8	+1.8
	0.1nm,0.4s,baz=143,slow=7.5,SNR=2.6						

ISCJB ***13*** *09:07:07.7±1.0, 20°.86S±0°.05×68°.0W±0°.1, h183km±8km, mb3.7/4, Error ellipse: s-maj=21.3km s-min=8.5km az=6.8*
GUC ***13*** *09:07:07.9±0.7, 20°.87S×68°.28W, h197km±7km, ML4.1*
IDC ***13*** *09:07:11.2±4.9, 20°.54S×67°.49W, h192km±35km, mb3.5/4, mb1 3.8/6, mb1mx3.5/18, mbtmp3.5/6, Error ellipse: s-maj=56.9km s-min=21.9km az=24.0*

ISC 13 09:07:08.2±1.3, 20°.88S±0°.06×68°.0W±0°.1, h173km±11km, n17, σ1°28/22, mb3.7/4, 4C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	Plate Boundary	1.45	263	⇑iP	Pn	09 07 39.2	0.0
PB01				eS	Sn	09 08 03.2	+0.2
PB01				AML	AML	09 08 05.9

comp=E,0.7nm,1.2s,baz=193,slow=3.8,SNR=4.1
WRA Warramunga Arr 133.94 210 PKP **PKPdf 09 26 07.5 +2.0**
comp=E,0.2nm,0.7s,baz=147,slow=1.8,SNR=3.2
MKAR Makanchi Array 144.61 36 PKP PKPbc 09 26 23.6 +0.4
comp=E,0.9nm,0.7s,baz=318,slow=4.2,SNR=9.1

NIED ***13*** *09:11:00,34°.80N×138°.40E,h14km,Mw4.4 Best double couple: M₀3.90000×10¹⁵ NP1:φ₀93.00000°,δ63.00000°, λ79.00000°. NP2:φ₀296.00000°,δ29.00000°,λ110.00000°.*
IDC ***13*** *09:11:01.2±0.5,34°.73N×138°.43E,h0km,mb4.2/24, mb1 4.3/28,mb1mx4.2/37,mbtmp4.1/28,ML3.2/4,MS3.6/3, Ms1 3.6/3,ms1mx3.4/55,Error ellipse: s-maj=14.6km s-min=11.6km az=100.0*
NEIC ***13*** *09:11:02.9±0.4,34°.75N×138°.44E,h10km,mb4.5/7, MW4.3(NIED),Error ellipse: s-maj=9.9km s-min=6.4km az=155.0*
NEIC Recorded [3 JMA] in Shizuoka; [2 JMA] in Aichi, Nagano and Yamanashi; [1 JMA] in Chiba, Gifu, Kanagawa, Saitama and Tokyo.
JMA ***13*** *09:11:04.7±0.1,34°.84N×138°.41E,h23km±1km,M4.5 Broadband fault plane solution: P waves. NP1: φ₀89.00000°,δ67.00000°,λ52.00000°. NP2:φ₀333.00000°, δ43.00000°,λ146.00000°. Principal axes: T Plg52.0000°, Azm314.0000°; N Plg35.0000°, Azm106.0000°; P Plg14.0000°, Azm206.0000°;*
JMA Felt III J1.
ISCJB ***13*** *09:11:04.2±0.4,34°.81N±0°.04×138°.38E±0°.04,h30km±2km, mb4.4/45,MS3.8/2 Error ellipse: s-maj=6.5km s-min=5.3km az=170.8*
MOS ***13*** *09:11:04.4±0.9,34°.76N×138°.37E,h33km,mb4.7/22,Error ellipse: s-maj=11.3km s-min=6.5km az=104.5*
BJI ***13*** *09:11:06.0,35°.13N×138°.21E,h27km,mB4.6/2,mb4.6/5*
ISC 13 09:11:04.9±0.8,34°.82N±0°.04×138°.42E±0°.03,h23km±6km, n127,σ0:90/135,mb4.6/45,3C-4D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.24**	**234**	⇓P	**Pb**	**09 11 10.7**	**-0.2**
JSG				S	**Sb**	**09 11 15.7**	**+0.7**
SHZ3	**Shizuoka 3**	**0.30**	**325**	⇓P	**Pb**	**09 11 11.4**	**-0.6**
SHZ3				S	**Sb**	**09 11 16.2**	**-0.5**
JKKG	**Kakegawa**	**0.37**	**266**	P	**Pb**	**09 11 12.2**	**-0.7**
JKKG				S	**Sb**	**09 11 17.8**	**-0.4**
JIZS	**Izushimoda**	**0.39**	**104**	P	**Pb**	**09 11 12.8**	**-0.4**
JIZS				S	**Sb**	**09 11 18.9**	**0.0**
TK04	**Tokai 4**	**0.62**	**227**	P	**Pb**	**09 11 16.8**	**-0.3**
JYN	**Shimob**	**0.69**	**8**	⇓P	**Pb**	**09 11 17.7**	**-0.6**
JMY	**Miyakejima3**	**1.17**	**129**	P	**Pb**	**09 11 25.7**	**-0.8**
MJAR	**Matsushiro Arr**	**1.73**	**354**	Pn	**Pn**	**09 11 34.3**	**+0.7**
MJAR				Lg	Lg	09 11 58.2	
MJAR	**Matsushiro Arr**	**1.73**	**354**	Pn	**Pn**	**09 11 34.3**	**+0.7**
	207nm,0.3s,baz=274,slow=31,SNR=1776						
MJAR				Lg	Lg	09 11 58.2	
	557nm,0.3s,baz=217,slow=24,SNR=21						
MAT	**Matsushiro**	**1.73**	**354**	P	**Pn**	**09 11 35.2**	**+1.6**
MAT				S	**Sb**	**09 11 58.3**	**+0.9**
JNU	**Nakatsue**	**6.49**	**257**	Pn	**Pn**	**09 12 39.4**	**+0.3**
JNU	**Nakatsue**	**6.49**	**257**	Pn	**Pn**	**09 12 39.4**	**+0.3**
	0.5nm,0.3s,baz=100,slow=12,SNR=4.5						
KSRS	**Korea Array**	**8.89**	**290**	Pn	**Pn**	**09 13 13.4**	**+1.5**
	0.3nm,0.3s,baz=107,slow=16,SNR=4.2						
KSRS				LR	LR	09 16 35.3	
	comp=Z,293nm,18.1s,baz=100,slow=37						
KSAR	**Wonju Array Be**	**8.92**	**290**	Pn	**Pn**	**09 13 13.4**	**+1.1**
ASAJ	**Asahikawa**	**9.83**	**18**	Pn	**Pn**	**09 13 25.8**	**+0.9**
ASAJ	**Asahikawa**	**9.83**	**18**	Pn	**Pn**	**09 13 25.8**	**+0.9**
	0.7nm,0.3s,baz=217,slow=24,SNR=5.7						
ASAJ				LR	LR	09 17 40.9	
	comp=Z,306nm,18.2s,baz=4.5,slow=40						
USRK	**Ussuriysk Arra**	**10.60**	**334**	Pn	**Pn**	**09 13 37.5**	**+2.2**
	0.2nm,0.3s,baz=150,slow=13,SNR=7.4						
USRK				LR	LR	09 17 36.2	
	comp=Z,383nm,19.2s,baz=276,slow=37						
YSS	**Yuzh-Sakhalins**	**12.56**	**14**	*e*P	**Pn**	**09 14 03.3**	**+1.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
HABR	**Khabarovsk**	**13.88**	**351**	*e*P	Pn	09 14 23.4	+3.4
HABR				*e*		09 16 45.8	
HABR				pmax	pmax		
	comp=N,27nm,2.2s						
HABR				pmax	pmax		
	comp=E,47nm,3.3s						
HABR				pmax	pmax		
	comp=Z,44nm,2.2s						
KLR	**Kul'dur**	**15.22**	**343**	*e*P	**Pn**	**09 14 35.9**	**-2.4**
WHN	**Wuhan**	**20.69**	**265**	*e*P	Pn	09 15 45.8	0.0
HHC	**Hu-ho-hao-te**	**22.00**	**294**	*e*P	**P**	**09 15 56.3**	**-1.3**
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,4.7s						
PEA0B	**Petropavlovsk-**	**22.83**	**31**	*e*P	**P**	**09 16 06.6**	**+0.5**
PETK	**Petropavlovsk-**	**22.83**	**31**	P	**P**	**09 16 05.6**	**-0.5**
PETK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PETK	**Petropavlovsk-**	**22.83**	**31**	P	**P**	**09 16 05.5**	**-0.5**
PETK	**Petropavlovsk-**	**22.83**	**31**	P	**P**	**09 16 05.5**	**-0.5**
	comp=Z,6.7nm,1.0s,baz=214,slow=6.8,SNR=12						
PETK				LR	LR	09 25 20.5	
	comp=Z,35nm,19.9s,baz=18,slow=38						
PET	**Petropavlovsk**	**23.18**	**32**	*e*P	**P**	**09 16 09.9**	**+0.2**
PET				pmax	pmax		
	comp=Z,18nm,1.0s						
ENH	**Enshi**	**24.77**	**268**	*e*P	**P**	**09 16 25.2**	**+0.2**
	comp=Z,7.9nm,0.9s						
SONM	**Songino Array**	**27.13**	**308**	P	**P**	**09 16 45.8**	**-0.5**
SONM	**Songino Array**	**27.13**	**308**	P	**P**	**09 16 45.8**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=116,slow=10,SNR=6.4						
YAK	**Yakutsk**	**27.80**	**351**	*e*P	**P**	**09 16 51.6**	**-0.3**
SEY	**Seymchan**	**29.46**	**13**	*e*P	**P**	**09 17 07.4**	**+0.7**
FX1	**Attu Island--F**	**30.48**	**43**	*e*P	**P**	**09 17 13.2**	**-2.6**
TIXI	**Tiksi**	**37.24**	**355**	*e*P	**P**	**09 18 13.9**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.59**	**255**	P	**P**	**09 18 25.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**38.59**	**255**	P	**P**	**09 18 25.8**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=42,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**41.67**	**314**	P	**P**	**09 18 50.6**	**-0.8**
ZALV						09 20 46.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.67**	**314**	P	**P**	**09 18 50.6**	**-0.8**
ZALV				PcP	**PcP**	**09 20 46.9**	**-0.9**
ZALV	**Zalesovo Beam**	**41.67**	**314**	P	**P**	**09 18 50.6**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=100,slow=7.7,SNR=4.2						
ZALV				PcP	**PcP**	**09 20 46.9**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=90,slow=3.0,SNR=7.1						
MK31	**Makanchi Array**	**43.28**	**304**	*e*P	**P**	**09 19 04.5**	**-0.2**
MK31	**Makanchi Array**	**43.28**	**304**	*e*P	**P**	**09 19 04.5**	**-0.2**
MKAR	**Makanchi Array**	**43.28**	**304**	P	**P**	**09 19 04.8**	**+0.1**
MKAR						09 20 53.5	
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**43.28**	**304**	P	**P**	**09 19 04.8**	**+0.1**
MKAR				PcP	**PcP**	**09 20 53.5**	**+0.1**
MKAR	**Makanchi Array**	**43.28**	**304**	P	**P**	**09 19 04.8**	**+0.1**
	comp=Z,3.0nm,1.1s,baz=82,slow=11,SNR=10						
MKAR				PcP	**PcP**	**09 20 53.5**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=84,slow=4.5,SNR=4.6						
TKM2	**Tokmak 2**	**48.57**	**299**	*e*P	**P**	**09 19 46.8**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TKM2	**Tokmak 2**	**48.57**	**299**	*e*P	**P**	**09 19 46.8**	**+0.1**
	comp=Z,3.3nm,0.9s						
AAK	**Ala-Archa**	**49.43**	**299**	*e*P	**P**	**09 19 52.1**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**50.35**	**313**	*c i*P	**P**	**09 19 59.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BRVK	**Borovoye**	**50.35**	**313**	*e*P	**P**	**09 19 59.2**	**-0.7**
	comp=Z,4.8nm,0.9s						
KDAK	**Kodiak Island**	**50.37**	**40**	P	**P**	**09 19 59.5**	**-0.3**
KDAK	**Kodiak Island**	**50.37**	**40**	P	**P**	**09 19 59.5**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=335,slow=3.8,SNR=5.5						
KKAR	**Karatay Array**	**52.15**	**301**	*e*P	**P**	**09 20 13.7**	**+0.2**
KKAR	**Karatay Array**	**52.15**	**301**	*e*P	**P**	**09 20 13.7**	**+0.2**
ILAR	**Eielson Array**	**52.66**	**31**	P	**P**	**09 20 17.2**	**+0.3**
ILAR	**Eielson Array**	**52.66**	**31**	P	**P**	**09 20 17.2**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=272,slow=5.8,SNR=11						
WRAB	**Tennant Creek**	**54.58**	**185**	*e*P	P	09 20 35.6	+4.1
WRA	**Warramunga Arr**	**54.59**	**185**	P	**P**	**09 20 30.6**	**-0.9**
WRA	**Warramunga Arr**	**54.59**	**185**	P	**P**	**09 20 30.6**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=0.5,slow=7.4,SNR=16						
ARU	**Arti**	**56.42**	**319**	*c i*P	**P**	**09 20 44.1**	**-0.2**
ARU						09 22 48.1	
ARU				S	**S**	**09 28 32.8**	**-0.8**
ARU				SS	**SS**	**09 32 19.7**	**-0.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**57.45**	**26**	*e*P	**P**	**09 20 54.0**	**+2.6**
INK	**Inuvik**	**57.45**	**26**	P	**P**	**09 20 51.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=256,slow=7.0,SNR=6.1						
HYT	**Haines Junctio**	**57.52**	**35**	*e*P	**P**	**09 20 54.2**	**+2.0**
ABKAR	**Akbulak array**	**57.52**	**310**	*e*P	**P**	**09 20 51.9**	**-0.4**
	comp=Z,6.7nm,0.7s						
ASAR	**Alice Springs**	**58.32**	**185**	P	**P**	**09 20 57.5**	**-0.6**
ASAR	**Alice Springs**	**58.32**	**185**	P	**P**	**09 20 57.5**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=17,slow=12,SNR=11						
AKTO	**Aktyubinsk**	**58.35**	**312**	P	**P**	**09 20 58.0**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKTO	**Aktyubinsk**	**58.35**	**312**	P	**P**	**09 20 58.0**	**-0.1**
AKTO	**Aktyubinsk**	**58.35**	**312**	P	**P**	**09 20 58.0**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=83,slow=10,SNR=15						
SPITS	**Spitsbergen Ar**	**62.22**	**349**	P	**P**	**09 21 23.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**62.22**	**349**	P	**P**	**09 21 23.9**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=76,slow=7.1,SNR=4.7						
ARCES	**ARCESS Array B**	**65.21**	**339**	P	**P**	**09 21 44.4**	**+0.5**
ARCES	**ARCESS Array B**	**65.21**	**339**	P	**P**	**09 21 44.4**	**+0.5**
	comp=Z,3.9nm,0.6s,baz=64,slow=8.2,SNR=11						
DAG	**Danmarks Havn**	**67.76**	**354**	⇑*i*P	**P**	**09 22 00.2**	**+0.1**
	comp=Z,7.6nm,0.8s						
OBN	**Obninsk**	**68.40**	**323**	⇓*e*P	**P**	**09 22 04.5**	**+0.1**
OBN				*e*		09 22 11.3	
OBN						09 22 27.0	
OBN				SS	SS	09 35 21.0	-6.2
OBN				pmax	pmax		
	comp=Z,11nm,1.3s						
OBN				MLR	MLR		
	comp=Z,800nm,24.0s						
KAF	**Kangasniemi**	**69.15**	**332**	*e*P	**P**	**09 22 09.1**	**+0.1**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KAF	**Kangasniemi**	**69.15**	**332**	*e*p	**P**	**09 22 09.1**	**+0.1**
	comp=Z,8.9nm,0.6s						
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**09 22 12.2**	**+0.2**
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**09 22 12.2**	**+0.2**
	comp=Z,13nm,0.7s,baz=76,slow=8.0,SNR=34						
KBZ	**Khabaz**	**70.48**	**310**	P	**P**	**09 22 18.6**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBZ	**Khabaz**	**70.48**	**310**	P	**P**	**09 22 18.6**	**+1.0**
KBZ	**Khabaz**	**70.48**	**310**	P	**P**	**09 22 18.6**	**+1.0**
	comp=Z,8.9nm,0.9s,baz=59,slow=3.5,SNR=18						
KIV	**Kislovodsk**	**70.50**	**310**	*e*P	**P**	**09 22 16.7**	**-1.1**
KIV				pmax	pmax		
	comp=Z,20nm,0.9s						
GNI	**Garni**	**71.06**	**306**	P	**P**	**09 22 22.7**	**+1.3**
GNI	**Garni**	**71.06**	**306**	P	**P**	**09 22 22.7**	**+1.3**
	comp=Z,3.1nm,0.4s,baz=71,slow=18,SNR=3.5						
VSU	**Vasula**	**71.11**	**329**	*e*P	**P**	**09 22 19.9**	**-1.2**
VSU				pmax	pmax		
	comp=Z,43nm,0.9s						
SUMG	**Summit**	**72.88**	**359**	*e*P	**P**	**09 22 33.2**	**+1.2**
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SUMG	**Summit**	**72.88**	**359**	*i* P	**P**	**09 22 33.0**	**+1.0**
	comp=Z,8.8nm,0.9s						
SUMG	**Summit**	**72.88**	**359**	*e*P	**P**	**09 22 33.2**	**+1.2**
	comp=Z,9.2nm,0.8s						
ANN	**Anapa**	**73.29**	**313**	*e*P	**P**	**09 22 31.6**	**-2.8**
ANN				pmax	pmax		
	comp=Z,19nm,1.4s						
YBH	**Yreka Blue Hor**	**73.62**	**50**	P	**P**	**09 22 38.1**	**+1.5**
YBH	**Yreka Blue Hor**	**73.62**	**50**	P	**P**	**09 22 38.1**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=83,slow=5.6,SNR=3.7						
KIEV	**Kiev**	**74.55**	**321**	*e*P	**P**	**09 22 40.4**	**-1.2**
NB2	**NORSAR Subarra**	**75.27**	**336**	P	**P**	**09 22 45.6**	**-0.1**
	comp=Z,9.6nm,0.8s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.27**	**336**	P	**P**	**09 22 45.9**	**+0.2**
NOA	**NORSAR Array B**	**75.27**	**336**	P	**P**	**09 22 45.9**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=40,slow=5.8,SNR=18						
SLMT	**Seeley Lake**	**76.00**	**42**	*e*P	**P**	**09 22 51.0**	**+0.8**
	comp=Z,2.6nm,1.0s						
NVAR	**Mina Array Bea**	**78.26**	**51**	P	**P**	**09 23 03.5**	**+0.3**
NVAR	**Mina Array Bea**	**78.26**	**51**	P	**P**	**09 23 03.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=291,slow=5.7,SNR=8.8						
BR131	**Keskin Array S**	**78.47**	**310**	*e*P	**P**	**09 23 05.0**	**+0.7**
	comp=Z,5.6nm,0.9s						
BRTR	**Keskin Array B**	**78.47**	**310**	P	**P**	**09 23 05.1**	**+0.8**
BRTR	**Keskin Array B**	**78.47**	**310**	P	**P**	**09 23 05.1**	**+0.8**
	comp=Z,5.9nm,0.9s,baz=97,slow=5.0,SNR=26						
KOLS	**Kolonicke sedl**	**79.16**	**323**	*e*P	**P**	**09 23 08.4**	**+0.7**
KOLS	**Kolonicke sedl**	**79.16**	**323**	*e*P	**P**	**09 23 08.4**	**+0.7**
STHS	**Stebnicka Huta**	**79.34**	**324**	*e*P	**P**	**09 23 10.0**	**+1.3**
STHS	**Stebnicka Huta**	**79.34**	**324**	*e*P	**P**	**09 23 10.0**	**+1.3**
KECS	**Kecovo**	**80.34**	**323**	*e*P	**P**	**09 23 14.5**	**+0.4**
KECS	**Kecovo**	**80.34**	**323**	*e*P	**P**	**09 23 14.5**	**+0.4**
PDAR	**Pinedale Array**	**80.95**	**44**	P	**P**	**09 23 18.4**	**+0.6**
PDAR	**Pinedale Array**	**80.95**	**44**	P	**P**	**09 23 18.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=342,slow=3.3,SNR=3.8						
MMAI	**Mount Meron Ar**	**81.23**	**304**	P	**P**	**09 23 20.0**	**+0.8**
MMAI	**Mount Meron Ar**	**81.23**	**304**	P	**P**	**09 23 20.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=48,slow=12,SNR=4.1						
CLL	**Collm**	**81.77**	**329**	*e*P	**P**	**09 23 21.0**	**-0.6**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
CLL	**Collm**	**81.77**	**329**	*e*P	**P**	**09 23 21.0**	**-0.6**
	comp=Z,5.0nm,0.4s						
KHC	**Kasperske Hory**	**83.12**	**327**	*e*P	**P**	**09 23 27.4**	**-1.4**
GERES	**GERESS Array B**	**83.28**	**327**	P	**P**	**09 23 29.6**	**0.0**
GERES	**GERESS Array B**	**83.28**	**327**	P	**P**	**09 23 29.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=39,slow=8.6,SNR=5.5						
BFO	**Black Forest**	**86.00**	**329**	*e*P	**P**	**09 23 43.9**	**+0.5**
LPG	**La Plagne**	**88.89**	**328**	*e*P	**P**	**09 23 56.5**	**-1.2**
AVF	**Avril sur Loir**	**89.27**	**331**	*e*P	**P**	**09 23 58.6**	**-0.5**
	comp=Z,5.4nm,0.7s						
MBDF	**Montbardon**	**89.49**	**328**	*e*P	**P**	**09 23 58.6**	**-1.8**
	comp=Z,7.7nm,0.9s						
VIVF	**Saint-Julien-l**	**90.30**	**329**	*e*P	**P**	**09 24 02.8**	**-1.1**
	comp=Z,7.6nm,0.8s						
TXAR	**Lajitas Array**	**93.40**	**51**	P	**P**	**09 24 19.6**	**+0.9**
TXAR	**Lajitas Array**	**93.40**	**51**	P	**P**	**09 24 19.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=294,slow=3.3,SNR=9.2						
TORD	**Torodi Ar. Bea**	**117.07**	**311**	PKP	**PKPdf**	**09 29 47.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**117.07**	**311**	PKP	**PKPdf**	**09 29 47.6**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=11,slow=2.9,SNR=2.8						
LPAZ	**La Paz**	**149.91**	**59**	PKPbc	**PKPbc**	**09 30 54.8**	**+0.3**
LPAZ	**La Paz**	**149.91**	**59**	PKPbc	**PKPbc**	**09 30 54.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=21,slow=6.3,SNR=4.9						

IDC ***13*** *09:12:51.4±1.9,34°.69N×138°.46E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/26,mbtmp3.8/5,MS4.6/1,Ms1 4.8/1, ms1mx3.6/56,Error ellipse: s-maj=123.5km s-min=13.9km az=86.0*
ISCJB ***13*** *09:12:55.0±0.5,34°.78N±0°.04×138°.45E±0°.04,h30km±4km, mb3.8/5,MS4.5/1,Error ellipse: s-maj=7.0km s-min=5.3km az=146.2*
JMA ***13*** *09:12:55.6±0.1,34°.82N×138°.42E,h19km±2km,M3.7*
JMA Felt II J1.
ISC 13 09:12:55.3±0.9,34°.82N±0°.04×138°.43E±0°.04,h24km±7km, n15,σ0:64/22,mb4.0/5,3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSG	**Sagara**	**0.25**	**235**	⇓P	**Pb**	**09 13 01.4**	**-0.1**
JSG				S	**Sb**	**09 13 06.3**	**+0.6**
SHZ3	**Shizuoka 3**	**0.31**	**324**	P	**Pb**	**09 13 02.1**	**-0.4**
SHZ3				S	**Sb**	**09 13 07.1**	**-0.2**
JIZS	**Izushimoda**	**0.38**	**105**	⇓P	**Pb**	**09 13 03.3**	**-0.3**
JIZS				S	**Sb**	**09 13 09.3**	**+0.1**
KTJJ	**Kamata 2**	**0.53**	**78**	⇓P	**Pb**	**09 13 05.9**	**-0.2**
KTJJ				S	**Sb**	**09 13 13.8**	**+0.4**
TK04	**Tokai 4**	**0.63**	**227**	P	**Pb**	**09 13 07.6**	**0.0**
TK04				*e*S	**Sn**	**09 13 18.0**	**+0.1**
JYN	**Shimob**	**0.69**	**8**	P	**Pb**	**09 13 08.4**	**-0.3**
JYN				S	**Sb**	**09 13 18.2**	**+0.4**
JOD2	**Odawara 2**	**0.70**	**50**	P	**Pb**	**09 13 08.9**	**0.0**
JOD2				*e*S	**Sb**	**09 13 18.7**	**+0.5**
MJAR	**Matsushiro Arr**	**1.73**	**354**	Pn	**Pb**	**09 13 25.9**	**-0.6**
	83nm,0.3s,baz=170,slow=12,SNR=15						
MJAR				Lg	Lg	09 13 48.9	
	98nm,0.3s,baz=249,slow=26,SNR=4.3						
MAT	**Matsushiro**	**1.73**	**354**	P	**Pb**	**09 13 25.9**	**-0.6**
MAT				S	**Sb**	**09 13 48.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**38.59**	**255**	LR	LR	09 38 06.3	
	comp=Z,752nm,18.5s,baz=220,slow=39						
WRA	**Warramunga Arr**	**54.60**	**185**	P	**P**	**09 22 20.6**	**-1.3**
	0.5nm,0.7s,baz=0.0,slow=7.4,SNR=3.3						
ASAR	**Alice Springs**	**58.32**	**185**	P	**P**	**09 22 47.2**	**-1.2**
	0.2nm,0.7s,baz=19,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**69.63**	**332**	P	**P**	**09 24 02.7**	**+0.4**
	2.9nm,0.6s,baz=84,slow=4.9,SNR=6.0						
NOA	**NORSAR Array B**	**75.27**	**336**	P	**P**	**09 24 36.3**	**+0.3**
	1.1nm,0.7s,baz=40,slow=5.7,SNR=3.0						
BRTR	**Keskin Array B**	**78.47**	**310**	P	**P**	**09 24 55.6**	**+1.0**
	1.5nm,1.0s,baz=90,slow=5.8,SNR=3.9						

IDC ***13*** *09:21:30.0±0.3,14°.02N×92°.85E,h0km,mb5.1/41, mb1 5.2/43,mb1mx5.2/43,mbtmp5.1/43,ML5.1/2,MS5.2/29, Ms1 5.2/29,ms1mx5.0/52,Error ellipse: s-maj=11.9km s-min=9.3km az=37.0*
ISCJB ***13*** *09:21:32.2±0.6,14°.04N±0°.02×92°.83E±0°.02,h26km±4km, mb5.4/302,MS5.3/212,Error ellipse: s-maj=3.3km s-min=2.5km az=21.6*
MOS ***13*** *09:21:33.5±1.0,14°.06N×92°.86E,h33km,mb5.5/81, MS5.2/70,Error ellipse: s-maj=6.3km s-min=3.7km az=114.8*
BKK ***13*** *09:21:33.5±0.2,14°.N±2°.×9°.3E±°,h10km,M5.6/47, mb5.7/47,mB5.9/34,MLv6.0/9,Mw(mB)5.5/34,Mwp5.7/6*
BJI ***13*** *09:21:34.2,14°.20N×92°.78E,h36km,mB5.7/50,mb5.3/66, Ms5.5/75,Ms7 5.3/68*
NEIC ***13*** *09:21:35.8±0.1,14°.05N×92°.82E,h35km,mb5.6/62, MS5.4/135,MW5.7,MW5.8,Error ellipse: s-maj=4.4km s-min=3.5km az=219.0,Moment Tensor Solution. s56 Moment tensor: Scale 10¹⁷Nm; Mrr-1.05; Mθθ-1.25; Mφφ2.30; Mrθ0.32; Mrφ4.57; Mθr-0.94; Best double couple: M₀5.10000×10¹⁷ NP1:φ₀350.00000°,δ85.00000°, λ-167.00000°. NP2:φ₀259.00000°,δ77.00000°, λ-5.00000°. Principal axes: T 5.4800, Plg5.0000°, Azm123.0000°; N -0.9200, Plg76.0000°, Azm12.0000°; P -4.5600, Plg12.0000°, Azm215.0000°;*
DJA ***13*** *09:21:37.8±0.5,14°.N±4°.×9°.3E±°,h60km±5km,M5.7/59, mb5.8/59,mB6.0/47,MLv6.1/1,Mw(mB)5.7/47,Mwp5.8/7*
GCMT ***13*** *09:21:37.1±0.1,14°.04N×92°.76E,h33km,MW5.9,Moment Tensor Solution. s95,c188; s66,c90; Moment tensor: Scale 10¹⁷Nm; Mrr-0.81±.07; Mθθ-2.81±.07; Mφφ3.61±.07; Mrθ1.09±.11; Mφθ6.62±.06; Mφr-0.76±.11; Best double couple: M₀7.50000×10¹⁷ NP1:φ₀348.00000°,δ82.00000°, λ-171.00000°. NP2:φ₀256.00000°,δ81.00000°, λ-8.00000°. Principal axes: T 7.7600, Plg0.0000°, Azm122.0000°; N -0.5400, Plg78.0000°, Azm30.0000°; P -7.2300, Plg12.0000°, Azm212.0000°; Data Used: II IU IC G CN. Surface waves: sta=107, comp=240, per= 50.*
SZGRF ***13*** *09:21:45.7,15°.33N×90°.35E,h44km,mb4.7,Bay of Bengal*
NEIC ***13*** *09:21:46.0±0.0,14°.02N×92°.84E,h32km,Moment Tensor Solution. s121 Moment tensor: Scale 10¹⁷Nm; Mrr-1.39; Mθθ-2.12; Mφφ3.51; Mrθ-2.79; Mφφ5.20; Mφr-0.89; Best double couple: M₀6.60000×10¹⁷ NP1:φ₀167.00000°, δ62.00000°,λ-172.00000°. NP2:φ₀73.00000°,δ84.00000°, λ-27.00000°. Principal axes: T 7.1900, Plg14.0000°, Azm123.0000°; N -1.1000, Plg61.0000°, Azm241.0000°; P -6.0900, Plg24.0000°, Azm26.0000°;*
ISC 13 09:21:35.9±0.2,14°.10N±0°.03×92°.83E±0°.03,h39km±1km, h39km:pP-P,n1628,σ1:33/1671,mb5.4/296,MS5.3/213, 398C-369D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.93**	**174**	*e*P	**Pn**	**09 21 52.9**	**+0.4**
DGPR				AMB	AMB	09 22 10.9	
	comp=Z,235μm,0.5s						
PBA	**Port Blair**	**2.43**	**182**	*e*P	Pn	09 22 13.6	+0.5
PHET	**Kaeng Krachan**	**6.72**	**99**	P	**Pn**	**09 23 12.8**	**+0.7**
	comp=Z,14μm,0.9s,comp=Z,136μmcomp

KTGM	**Kuala Trenggan**	**13.38 130**	P	**Pn**	**09 24 44.8**	**+1.5**
ODAN	**Odare**	**13.67 339**	*e*P	Pn	09 24 42.7	-4.8
	comp=Z,408nm,0.2s					
PALK	**Pallekele**	**13.71 242**	Pn	**Pn**	**09 24 46.2**	**-1.8**
	SNR=25					
PALK	**Pallekele**	**13.71 242**	*e*Pn	**Pn**	**09 24 45.6**	**-2.3**
PALK	**Pallekele**	**13.71 242**	P	**Pn**	**09 24 45.8**	**-2.1**
	comp=Z,444nm,1.1s,comp=Z,5μm					
FRIM	**Kepong**	**13.85 140**	P	**Pn**	**09 24 50.1**	**+0.3**
TAPN	**Taplejung**	**14.02 341**	*e*P	Pn	09 24 47.5	-4.8
	comp=Z,386nm,0.3s					
RAMN	**Ramite**	**14.05 336**	*e*P	Pn	09 24 48.2	-4.4
	comp=Z,368nm,0.2s					
HYB	**Hyderabad**	**14.13 285**	*i* P	Pn	09 24 50.0	-3.6
	comp=Z,460nm,1.0s					
HYB			*e*S	**Sn**	**09 27 32.0**	**+2.7**
HYB			LR	LR	09 31 56.0	
	comp=Z,12nm,16.0s					
HYB	**Hyderabad**	**14.13 285**	*e*P	**Pn**	**09 24 51.1**	**-2.6**
KMI	**Kunming**	**14.39 39**	P	**Pn**	**09 24 58.9**	**+1.6**
KMI			pP	**P**	**09 25 06.6**	**+3.0**
KMI			sP		09 25 12.0	
KMI			S	**Sn**	**09 27 38.4**	**+2.7**
KMI			sS	**S**	**09 27 51.5**	**-3.1**
KMI			pmax	pmax		
	comp=Z,67nm,1.1s					
KMI			pmax	pmax		
	comp=Z,3μm,6.8s					
KMI			LR	LR		
	comp=N,19μm,14.4s					
KMI			LR	LR		
	comp=E,12μm,20.2s					
KMI			LR	LR		
	comp=Z,16μm,16.4s					
JIRN	**Jiri**	**14.84 336**	*e*P	Pn	09 24 58.9	-4.6
	comp=Z,406nm,0.3s					
NGP	**Nagpur**	**14.88 300**	*e*x	Pn	09 24 55.8	-7.9
NGP			*e*x	x	09 27 33.2	
PKI	**Pulchoki**	**15.08 334**	*e*P	Pn	09 25 01.6	-5.0
	comp=Z,514nm,0.3s					
PKIN	**Phulchoki**	**15.09 334**	*e*P	Pn	09 25 01.8	-4.9
	comp=Z,646nm,0.4s					
GUN	**Gumba**	**15.19 336**	*e*P	**Pn**	**09 25 03.6**	**-4.4**
DMN	**Daman**	**15.25 333**	*e*P	Pn	09 25 03.7	-5.0
	comp=Z,929nm,0.7s					
KKN	**Kakani**	**15.33 334**	*e*P	Pn	09 25 04.9	-4.8
	comp=Z,656nm,0.7s					
LSA	**Lhasa**	**15.60 355**	P	**Pn**	**09 25 09.5**	**-4.0**
LSA			LR	LR		
	comp=N,8μm,28.0s					
LSA			LR	LR		
	comp=E,15μm,18.4s					
LSA			LR	LR		
	comp=Z,12μm,19.3s					
LSA	**Lhasa**	**15.60 355**	*e*P	**Pn**	**09 25 10.4**	**-3.1**
LSA			pmax	pmax		
	comp=Z,163nm,0.7s					
LSA	**Lhasa**	**15.60 355**	*e*Pn	**Pn**	**09 25 10.4**	**-3.1**
	comp=Z,163nm,0.7s					
LSA			*e*Sn	Sn	09 27 55.6	-10
KGM	**Kluang**	**15.86 138**	P	**Pn**	**09 25 15.5**	**-1.0**
BKNI	**Bangkinang**	**15.92 149**	P	**Pn**	**09 25 15.9**	**-1.3**
	comp=Z,571nm,1.4s,comp=Z,7μm					
KOLN	**Koldanda**	**16.09 329**	*e*P	Pn	09 25 14.6	-4.9
LATR	**Latur**	**16.20 288**	*e*P	**Pn**	**09 25 19.3**	**-1.5**
LATR			AMB	AMB	09 25 21.0	
	comp=Z,441nm,1.4s					
LATR			*e*x	x	09 28 00.8	
PPI	**Padang Panjang**	**16.29 152**	P	**Pn**	**09 25 20.0**	**-1.9**
	comp=Z,156nm,1.1s,comp=Z,4μm					
MYKOM	**Kota Tinggi**	**16.38 137**	P	**Pn**	**09 25 22.5**	**-0.6**
MYKOM	**Kota Tinggi**	**16.38 137**	P	**Pn**	**09 25 23.1**	**0.0**
	comp=Z,376nm,0.9s,comp=Z,5μmcomp=Z,23μm					
AKL	**Akola**	**16.45 296**	⇓*i*P	**Pn**	**09 25 24.6**	**+0.7**
AKL			AMP		09 25 37.3	
	comp=Z,1μm,1.0s					
AKL			*i* S	Sn	09 28 11.1	-15
AKL	**Akola**	**16.45 296**	*e*P	**Pn**	**09 25 24.4**	**+0.4**
DANN	**Dangsing**	**16.49 331**	*e*P	Pn	09 25 19.8	-4.9
	comp=Z,1μm,0.8s					
TRD	**Trivandrum**	**16.52 252**	*e*P	**Pn**	**09 25 24.2**	**-0.7**
TRD			AMB	AMB	09 25 29.0	
	comp=Z,426nm,3.5s					
PYUN	**Piuthan**	**16.67 328**	*e*P	**Pn**	**09 25 22.8**	**-4.0**
	comp=Z,2μm,0.8s					
QIZ	**Qiongzhong**	**17.02 71**	P	**P**	**09 25 32.8**	**+0.2**
QIZ			S	**Sn**	**09 28 42.3**	**+2.8**
QIZ			pmax	pmax		
	comp=Z,42nm,1.7s					
QIZ			pmax	pmax		
	comp=Z,2μm,10.8s					
QIZ			LR	LR		
	comp=N,14μm,27.4s					
QIZ			LR	LR		
	comp=Z,9μm,15.3s					
QIZ	**Qiongzhong**	**17.02 71**	*e*Pn	**P**	**09 25 32.8**	**+0.2**
	comp=Z,133nm,1.2s					
QIZ			*e*Sn	**Sn**	**09 28 42.7**	**+3.2**
RGRI	**Rengat**	**17.17 146**	P	Pn	09 25 26.6	-6.4
BHPL	**Bhopal**	**17.18 304**	*e*P	**Pn**	**09 25 32.3**	**-0.8**
GYA	**Guiyang**	**17.85 44**	⇓*i*P	**P**	**09 25 44.0**	**+2.1**
GYA			pP	**pP**	**09 25 52.4**	**+0.7**
GYA			S	**Sn**	**09 29 01.4**	**+1.7**
GYA			pmax	pmax		
	comp=Z,150nm,0.8s					
GYA			LR	LR		
	comp=N,9μm,17.5s					
GYA			LR	LR		
	comp=E,7μm,16.9s					
GYA			LR	LR		
	comp=Z,9μm,16.1s					
GOA	**Goa**	**18.43 277**	*e*P	**Pn**	**09 25 48.3**	**-0.2**
GOA			AMB	AMB	09 25 59.6	
	comp=Z,236nm,1.1s					
POO	**Poona**	**18.74 286**	*e*P	**Pn**	**09 25 52.5**	**+0.2**
POO			*i* x	x	09 29 04.0	
PTH	**Pithoragarh**	**19.30 325**	*e*x	**P**	**09 25 53.8**	**-4.0**
PTH			*e*x	x	09 29 14.9	
MASI	**Maura Aman, Be**	**19.51 151**	P	**P**	**09 25 58.0**	**-2.0**
	comp=Z,702nm,0.9s,comp=Z,7μm					
CD2	**Chengdu**	**19.51 29**	P	**Pn**	**09 26 01.3**	**-0.2**
CD2			pP	**pP**	**09 26 09.5**	**-0.3**
CD2			sP	**sP**	**09 26 14.5**	**-0.3**
CD2			PP	**PnPn**	**09 26 19.8**	**+4.2**
CD2			S	**S**	**09 29 35.3**	**-3.2**
CD2			sS	sS	09 29 48.4	-5.7
CD2			SS	**SnSn**	**09 30 02.9**	**+8.6**
CD2			pmax	pmax		
	comp=Z,900nm,0.8s					
CD2			pmax	pmax		
	comp=Z,450nm,6.0s					
CD2			LR	LR		
	comp=N,16μm,17.8s					
CD2			LR	LR		
	comp=E,20μm,19.0s					
CD2			LR	LR		
	comp=Z,14μm,15.4s					
KSI	**Kapahiang**	**20.12 151**	P	**P**	**09 26 04.3**	**-2.4**
	comp=Z,470nm,0.8s,comp=Z,9μm					
MNCY	**Minicoy**	**20.26 255**	*i* x	Pn	09 26 15.0	+4.6
MNCY			*i* x	x	09 27 52.0	
NDI	**New Delhi**	**20.50 318**	*e*P	**P**	**09 26 09.5**	**-1.2**
NDI			*e*x	x	09 26 33.1	
NDI			AMB	AMB	09 26 35.7	
	comp=Z,307nm,1.6s					
NDI			*e*x	x	09 29 46.0	
HMDM	**Hanimaadhoo**	**20.64 251**	P	**P**	**09 26 12.7**	**+0.4**
	comp=Z,572nm,1.8s					
PMBI	**Palembang**	**20.65 144**	P	**P**	**09 26 11.1**	**-1.3**
	comp=Z,966nm,1.1s,comp=Z,11μm					
PPBI	**Pangkal Pinang**	**20.86 140**	P	**P**	**09 26 14.0**	**-0.7**
	comp=Z,298nm,1.0s					
DDI	**Dehra Dun**	**21.12 322**	*e*x	**P**	**09 26 16.8**	**-0.6**
DDI			*e*P	**P**	**09 26 19.6**	**+2.2**
KSM	**Kuching**	**21.36 124**	*e*P	**P**	**09 26 19.1**	**-0.9**
	comp=Z,175nm,0.9s					
KSM			LR	LR		
	comp=Z,7μm,20.0s					
KSM	**Kuching**	**21.36 124**	P	**P**	**09 26 19.4**	**-0.6**
KSM	**Kuching**	**21.36 124**	P	**P**	**09 26 18.9**	**-1.1**
	comp=Z,208nm,0.9s,comp=Z,3μm					
GZH	**Guangzhou**	**21.38 62**	P	P	09 26 25.3	+5.1
GZH			LR	LR		
	comp=N,12μm,23.7s					
GZH			LR	LR		
	comp=E,4μm,24.0s					
GZH			LR	LR		
	comp=Z,11μm,18.5s					
KLSI		**22.09 147**	P	P	09 26 22.4	-5.5
	comp=Z,97nm,1.3s,comp=Z,1μm					
SMLA	**Simla**	**22.23 322**	*i* P	**P**	**09 26 30.5**	**+1.3**
SMLA			AMB	AMB	09 26 40.8	
	comp=Z,543nm,1.8s					
SMLA			*i* x	x	09 30 26.2	
ENH	**Enshi**	**22.24 41**	*e*P	**P**	**09 26 28.7**	**-0.7**
	comp=Z,302nm,0.8s					
TPI	**Tanjungpandan**	**22.28 138**	P	**P**	**09 26 29.0**	**-1.0**
	comp=Z,88nm,1.0s,comp=Z,1μm					
SBUM	**Sibu**	**22.38 119**	P	**P**	**09 26 30.7**	**-0.3**
SBUM	**Sibu**	**22.38 119**	P	**P**	**09 26 30.7**	**-0.3**
SBUM	**Sibu**	**22.38 119**	P	**P**	**09 26 30.3**	**-0.7**
	comp=Z,207nm,1.1s,comp=Z,3μm					
SDNR	**Sundarnagar**	**22.61 323**	*e*P	**P**	**09 26 35.0**	**+1.6**
SDNR			*e*S	**S**	**09 30 41.0**	**+2.3**
KASI	**Kota Agung**	**22.68 149**	P	P	09 26 28.5	-5.7
	comp=Z,138nm,1.1s,comp=Z,2μm					
BTM	**Bintulu**	**22.74 117**	P	**P**	**09 26 35.1**	**+0.3**
BHK	**Bhakra**	**22.88 322**	*e*P	**P**	**09 26 38.0**	**+1.8**
BHK			*e*S	**S**	**09 30 48.0**	**+4.7**
STKI	**Sintang**	**23.13 126**	P	**P**	**09 26 38.0**	**-0.9**
	comp=Z,265nm,1.1s					
PONG	**Pong**	**23.54 322**	*e*P	**P**	**09 26 43.0**	**+0.3**
DHRM	**DHARAMSHALA**	**23.55 323**	*e*P	**P**	**09 26 43.8**	**+0.7**
DHRM			AMB	AMB	09 26 58.6	
	comp=Z,982nm,1.9s					
BHJ	**Bhuj**	**23.74 296**	*e*P	**P**	**09 26 45.2**	**+0.5**
BHJ			AMB	AMB	09 27 02.3	
	comp=Z,473nm,0.9s					
KAAM	**Kaadhehdhoo**	**23.84 237**	P	**P**	**09 26 45.1**	**-0.6**
	comp=Z,373nm,1.6s					
DLH	**Dalhousie**	**23.95 323**	*e*P	**P**	**09 26 49.0**	**+2.1**
DLH			*e*x	x	09 31 10.0	
LZH	**Lanzhou**	**24.02 22**	⇓P	**P**	**09 26 48.4**	**+1.0**
LZH			pP	**pP**	**09 26 57.6**	**-0.5**
LZH			sP	**sP**	**09 27 00.4**	**-2.4**
LZH			PP	**PnPn**	**09 27 22.4**	**+5.2**
LZH			S	**S**	**09 31 02.1**	**+0.1**
LZH			sS	sS	09 31 14.5	-5.3
LZH			SS	**SnSn**	**09 31 53.0**	**+8.2**
LZH			pmax	pmax		
	comp=Z,370nm,1.4s					
LZH			pmax	pmax		
	comp=Z,2μm,4.9s					
LZH			LR	LR		
	comp=N,6μm,12.4s					
LZH			LR	LR		
	comp=E,6μm,15.1s					
LZH			LR	LR		
	comp=Z,7μm,16.2s					
THN	**Thein Dam**	**24.02 322**	*e*x	P	09 26 38.7	-8.5
KKM	**Kota Kinabalu**	**24.36 107**	*e*P	**P**	**09 26 50.4**	**-0.2**
KKM			LR	LR		
	comp=Z,6μm,20.0s					
KKM	**Kota Kinabalu**	**24.36 107**	P	**P**	**09 26 50.4**	**-0.2**
KKM	**Kota Kinabalu**	**24.36 107**	P	**P**	**09 26 50.2**	**-0.4**
	comp=Z,139nm,1.4s,comp=Z,3μm					
XAN	**Xi'an**	**24.63 34**	P	**P**	**09 26 52.1**	**-0.7**
XAN			pP	**pP**	**09 27 02.6**	**-1.0**
XAN			sP	**sP**	**09 27 07.8**	**-0.5**
XAN			S	**S**	**09 31 15.9**	**+4.2**
XAN			pmax	pmax		
	comp=Z,95nm,0.8s					
XAN			pmax	pmax		
	comp=Z,380nm,6.9s					
XAN			LR	LR		
	comp=N,5μm,25.5s					
XAN			LR	LR		
	comp=E,2μm,25.5s					
XAN			LR	LR		
	comp=Z,2μm,16.3s					
KDM	**Kudat**	**24.64 104**	P	**P**	**09 26 53.2**	**+0.1**
SDKM	**Sandakan**	**25.41 107**	P	**P**	**09 26 59.9**	**-0.2**
LEM	**Lembang**	**25.45 144**	P	**P**	**09 27 03.7**	**+3.2**
WHN	**Wuhan**	**25.69 47**	P	**P**	**09 27 00.8**	**-1.6**
WHN			pP	**pP**	**09 27 14.3**	**+1.1**
WHN			S	**S**	**09 31 26.9**	**-1.6**
WHN			LR	LR		
	comp=N,11μm,8.5s					
WHN			LR	LR		
	comp=E,7μm,11.5s					
WHN			LR	LR		
	comp=Z,18μm,17.0s					
GTA	**Gaotai**	**25.95 12**	⇓P	**P**	**09 27 06.3**	**+1.5**
GTA			pP	**pP**	**09 27 16.0**	**+0.4**
GTA			sP	**sP**	**09 27 19.5**	**-0.8**
GTA			PP	**PnPn**	**09 27 46.8**	**+3.2**
GTA			PcP	**PcP**	**09 30 36.0**	**+3.2**
GTA			S	**S**	**09 31 33.6**	**+0.9**
GTA			sS	**sS**	**09 31 46.1**	**-4.6**
GTA			SS	**SnSn**	**09 32 39.3**	**+7.4**
GTA			pmax	pmax		
	comp=Z,110nm,0.8s					
GTA			pmax	pmax		
	comp=Z,1μm,5.2s					
GTA			LR	LR		
	comp=N,4μm,21.9s					
GTA			LR	LR		
	comp=E,5μm,24.7s					
GTA			LR	LR		
	comp=Z,6μm,29.9s					
CHCP	**Chirah Chowk**	**26.35 321**	P	**P**	**09 27 08.9**	**+0.4**
COCO	**West Island**	**26.42 171**	*e*P	**P**	**09 27 08.8**	**-0.3**
COCO			*e**PP	**pP**	**09 27 24.1**	**+4.2**
COCO			pmax	pmax		
	comp=Z,336nm,0.4s					
COCO			MLR	MLR		
	comp=Z,4μm,21.0s					
COCO	**West Island**	**26.42 171**	*e*P	**P**	**09 27 08.8**	**-0.3**
	comp=Z,336nm,0.4s					
COCO			*e*pP	**pP**	**09 27 24.1**	**+4.2**
COCO			LR	LR		
	comp=Z,4μm,21.0s					
MTKI	**Muara Teweh, K**	**26.48 123**	P	**P**	**09 27 08.4**	**-1.3**
	comp=Z,228nm,0.9s					
QZH	**Quanzhou**	**26.52 62**	⇓*i*P	**P**	**09 27 10.5**	**+0.5**
QZH			sP	**sP**	**09 27 22.5**	**-2.9**
QZH			S	**S**	**09 31 42.4**	**+0.7**
QZH			pmax	pmax		
	comp=Z,300nm,1.3s					
QZH			LR	LR		
	comp=N,6μm,10.3s					
QZH			LR	LR		
	comp=E,9μm,14.8s					
QZH			LR	LR		
	comp=Z,10μm,18.8s					
TSM	**Tawau**	**26.54 109**	P	**P**	**09 27 09.2**	**-1.1**
MYLDM	**Lahad Datu**	**26.79 107**	P	**P**	**09 27 12.8**	**+0.2**
MYLDM	**Lahad Datu**	**26.79 107**	P	**P**	**09 27 12.6**	**+0.1**
	comp=Z,245nm,1.1s,comp=Z,3μmcomp=Z,13μm					
BJII	**Banjamegara**	**27.09 141**	P	**P**	**09 27 15.0**	**-0.3**
	comp=Z,202nm,1.2s,comp=Z,3μm					
CEP	**Cherat**	**27.30 320**	P	**P**	**09 27 17.0**	**-0.1**
CEP			S	S	09 32 20.0	+26
APYP	**Conner**	**27.55 78**	*e*P	**P**	**09 27 19.6**	**+0.2**
BALP	**Baler**	**27.82 83**	*e*P	**P**	**09 27 22.9**	**+1.2**
BBKI	**Banjar Baru**	**27.95 127**	P	**P**	**09 27 22.7**	**-0.2**
	comp=Z,265nm,1.1s					
UGM	**Wanagama**	**28.05 140**	*e*P	**P**	**09 27 24.2**	**+0.4**
CAUP	**Cauayan**	**28.07 80**	*e*P	**P**	**09 27 24.6**	**+0.7**
TWG	**Pinlang**	**28.11 68**	*e*P	**P**	**09 27 26.6**	**+2.3**
	comp=Z,440nm,0.9s					
SSLB	**Suanglung**	**28.24 66**	*e*P	**P**	**09 27 27.1**	**+1.6**
	comp=Z,158nm,1.0s					
BKB	**Balikpapan**	**28.31 121**	P	**P**	**09 27 25.5**	**-0.6**
	comp=Z,462nm,0.8s,comp=Z,4μm					
SGKI	**Sangatta, Kali**	**28.51 119**	P	P	09 27 22.4	-5.6
SJI	**Sawahan**	**28.70 138**	P	**P**	**09 27 28.8**	**-0.9**
	comp=Z,84nm,0.5s,comp=Z,7μm					
YHNB	**Yeheng**	**28.85 64**	PFAKE		09 27 40.0	+9.1
YHNB			LR	LR		
	comp=Z,4μm,19.0s					
NACB	**Ninganchiao**	**28.91 65**	*e*P	**P**	**09 27 33.9**	**+2.5**
	comp=Z,43nm,0.9s					
NACB			*e*pP	**pP**	**09 27 43.8**	**+1.6**
PWJI	**Pagerwojo**	**28.94 138**	P	P	09 27 28.4	-3.3
	comp=Z,56nm,0.7s,comp=Z,7μm					
TATO	**Taipei**	**29.03 64**	PFAKE		09 27 50.0	+18
TATO			LR	LR		
	comp=Z,4μm,19.0s					
KSH	**Kashi**	**29.34 333**	P	**P**	**09 27 34.3**	**-0.9**
KSH			sP	**sP**	**09 27 48.3**	**-2.5**
KSH			PP	**PnPn**	**09 28 30.3**	**+0.5**
KSH			S	**S**	**09 32 20.9**	**-5.3**
KSH			sS	sS	09 32 36.9	-7.3
KSH			SS	**SnSn**	**09 33 53.8**	**-0.8**
KSH			pmax	pmax		
	comp=Z,31nm,0.7s					
KSH			pmax	pmax		
	comp=Z,230nm,3.3s					
KSH			LR	LR		
	comp=N,2μm,11.1s					
KSH			LR	LR		
	comp=E,5μm,15.0s					
KSH			LR	LR		
	comp=Z,3μm,14.6s					
DGAR	**Diego Garcia**	**29.43 225**	PFAKE		09 27 50.0	+14
DGAR			LR	LR		
	comp=Z,4μm,21.0s					
KBL	**Kabul**	**29.59 318**	*e*P	**P**	**09 27 38.2**	**+0.6**
KBL			pmax	pmax		
	comp=Z,106nm,1.1s					
KBL	**Kabul**	**29.59 318**	*e*P	**P**	**09 27 38.2**	**+0.6**
	comp=Z,106nm,1.1s					
NJ2	**Nanjing**	**29.75 49**	*e*P	**P**	**09 27 39.8**	**+1.1**
NJ2			pP	**pP**	**09 27 51.3**	**+1.8**
NJ2			sP	**sP**	**09 27 53.4**	**-0.8**
NJ2			S	**S**	**09 32 34.8**	**+2.4**
NJ2			PcS	**PcS**	**09 34 27.6**	**+2.3**
NJ2			pmax	pmax		
	comp=Z,24nm,1.0s					
NJ2			pmax	pmax		
	comp=Z,1μm,5.8s					
NJ2			LR	LR		
	comp=N,880nm,23.3s					
NJ2			LR	LR		
	comp=E,940nm,20.0s					
NJ2			LR	LR		
	comp=Z,990nm,23.0s					
BLJI	**Banyuglugur**	**29.93 135**	P	**P**	**09 27 40.0**	**-0.5**
	comp=Z,103nm,0.9s					
WMQ	**Urumqi**	**29.94 353**	P	**P**	**09 27 42.3**	**+1.9**
WMQ			pP	**pP**	**09 27 53.6**	**+2.3**
WMQ			PP	**PnPn**	**09 28 41.3**	**+3.5**
WMQ			S	**S**	**09 32 36.3**	**+0.9**
WMQ			sS	**sS**	**09 32 54.1**	**+0.7**
WMQ			ScS	**ScS**	**09 38 14.8**	**-2.1**
WMQ			pmax	pmax		
	comp=Z,52nm,1.2s					
WMQ			pmax	pmax		
	comp=Z,670nm,4.6s					
WMQ			LR	LR		
	comp=N,5μm,18.0s					
WMQ			LR	LR		
	comp=E,7μm,22.0s					
WMQ			LR	LR		
	comp=Z,5μm,21.0s					
GMJI	**Gumukmas**	**30.21 136**	P	**P**	**09 27 41.7**	**-1.3**
	comp=Z,54nm,1.1s,comp=Z,2μm					
BTO	**Baotou**	**30.38 26**	*e*P	**P**	**09 27 43.9**	**-0.5**
MMSI	**Mamuju**	**30.77 121**	P	**P**	**09 27 48.3**	**+0.3**
	comp=Z,825nm,0.9s,comp=Z,6μm					
TIA	**Tai'an**	**30.95 40**	⇓P	**P**	**09 27 49.6**	**+0.2**
TIA			S	**S**	**09 32 51.3**	**0.0**
TIA			pmax	pmax		
	comp=Z,40nm,0.9s					
TIA			pmax	pmax		
	comp=Z,1μm,9.8s					
TIA			LR	LR		
	comp=N,10μm,23.1s					
TIA			LR	LR		
	comp=E,7μm,21.8s					
TIA			LR	LR		
	comp=Z,2μm,23.5s					
SSE	**Sheshan**	**31.03 52**	*e*P	**P**	**09 27 51.6**	**+1.5**
SSE			pP	**pP**	**09 28 03.1**	**+2.2**
SSE			sP	**sP**	**09 28 07.4**	**+1.8**
SSE			S	**S**	**09 32 54.3**	**+1.7**
SSE			sS	**sS**	**09 33 12.1**	**+1.5**
SSE			pmax	pmax		
	comp=Z,51nm,0.8s					
SSE			pmax	pmax		
	comp=Z,64nm,3.5s					
SSE			LR	LR		
	comp=N,8μm,20.3s					
SSE			LR	LR		
	comp=E,3μm,20.3s					
SSE			LR	LR		
	comp=Z,7μm,14.4s					
HHC	**Hu-ho-hao-te**	**31.26 28**	*e*P	**P**	**09 27 52.3**	**+0.1**
HHC			pP	**pP**	**09 28 02.3**	**-0.7**
HHC			PP	**PnPn**	**09 28 56.9**	**+1.7**
HHC			PcP	**PcP**	**09 30 45.8**	**-0.2**
HHC			S	**S**	**09 32 56.3**	**+0.1**
HHC			sS	**sS**	**09 33 12.9**	**-1.4**
HHC			ScP	**ScP**	**09 34 24.9**	**-1.2**
HHC			SS	**SnSn**	**09 34 43.0**	**+1.7**
HHC			ScS	**ScS**	**09 38 21.8**	**-1.7**
HHC			pmax	pmax		
	comp=Z,89nm,1.0s					
HHC			pmax	pmax		
	comp=Z,840nm,5.6s					
HHC			LR	LR		
	comp=N,10μm,14.1s					
HHC			LR	LR		
	comp=E,14μm,13.8s					
HHC			LR	LR		
	comp=Z,12μm,15.7s					
SRBI	**Singaraja**	**31.29 133**	P	**P**	**09 27 52.1**	**-0.4**
	comp=Z,184nm,1.3s,comp=Z,2μm					
ULHL	**Ulahol**	**31.50 336**	*i* P	**P**	**09 27 54.9**	**+0.6**
ULHL	**Ulahol**	**31.50 336**	P	**P**	**09 27 55.0**	**+0.6**
	SNR=9.8					
TTSI	**Tana Toraja**	**31.72 120**	P	**P**	**09 27 56.1**	**-0.2**
	comp=Z,143nm,1.1s,comp=Z,2μmcomp=Z,4μm					
KZA	**Kyzart**	**31.76 335**	*i* P	**P**	**09 27 58.1**	**+1.2**
KZA	**Kyzart**	**31.76 335**	P	**P**	**09 27 58.1**	**+1.2**
	SNR=17					
AAA	**Alma-Ata**	**32.11 338**	*e*P	**P**	**09 27 59.9**	**+0.3**
AAA			*e*S	**S**	**09 33 09.0**	**-0.4**
AAA			pmax	pmax		
	comp=Z,2μm,3.7s					
AAA			smax	smax		
	comp=E,6μm,8.8s					
AAA			MLR	MLR		
	comp=Z,3μm,18.0s					
SPSI	**Sidrap Palu**	**32.19 122**	P	**P**	**09 27 59.6**	**-0.8**
	comp=Z,150nm,0.9s,comp=Z,2μm					
TKM2	**Tokmak 2**	**32.33 336**	*i* P	**P**	**09 28 02.6**	**+1.0**
TKM2	**Tokmak 2**	**32.33 336**	P	**P**	**09 28 02.7**	**+1.0**
	SNR=17					
TKM2	**Tokmak 2**	**32.33 336**	*e*P	**P**	**09 28 02.8**	**+1.2**
	comp=Z,36nm,1.0s					
TKM2			LR	LR		
	comp=Z,3μm,22.0s					
MTNI	**Mataram**	**32.35 133**	P	P	09 27 58.5	-3.4
	comp=Z,78nm,1.1s					
AAK	**Ala-Archa**	**32.54 334**	*i* P	**P**	**09 28 03.7**	**+0.3**
AAK	**Ala-Archa**	**32.54 334**	P	**P**	**09 28 05.2**	**+1.8**
	SNR=23					
AAK	**Ala-Archa**	**32.54 334**	P	**P**	**09 28 05.0**	**+1.6**
	SNR=7.2					
AAK	**Ala-Archa**	**32.54 334**	*e*P	**P**	**09 28 05.0**	**+1.6**
	comp=Z,88nm,1.3s					
AAK	**Ala-Archa**	**32.54 334**	P	**P**	**09 28 04.6**	**+1.2**
	comp=Z,12nm,0.9s,baz=157,slow=5.5,SNR=18					
AAK			LR	LR	09 43 14.4	
	comp=Z,7μm,20.4s,baz=138,slow=40					
FRU	**Bishkek**	**32.65 335**	*e*P	**P**	**09 28 06.0**	**+1.8**
FRU			*i*		09 28 16.0	
FRU			*e*S	**S**	**09 33 16.0**	**-1.7**
FRU			pmax	pmax		
	comp=Z,370nm,2.0s					
FRU			MLR	MLR		
	comp=Z,6μm,20.0s					
GTOI	**Gorontalo**	**32.72 112**	P	**P**	**09 28 03.0**	**-2.1**
	comp=Z,346nm,0.9s,comp=Z,3μmcomp=Z,14μm					
CHMS	**Chumysh**	**32.73 335**	*i* P	**P**	**09 28 06.0**	**+1.0**
CHMS	**Chumysh**	**32.73 335**	P	**P**	**09 28 06.0**	**+1.0**
	SNR=7.1					
SKSI	**Soroako, Sulaw**	**32.73 118**	P	**P**	**09 28 05.0**	**-0.3**
	comp=Z,80nm,1.2s					
KAPI	**Kappang**	**32.77 124**	*e*P	**P**	**09 28 03.7**	**-1.8**
	comp=Z,84nm,1.1s					
KAPI			LR	LR		
	comp=Z,5μm,22.0s					
KAPI	**Kappang**	**32.77 124**	P	**P**	**09 28 03.8**	**-1.8**

comp=Z,74nm,1.2s,comp=Z,1μm
KAPI Kappang 32.77 124 P P 09 28 03.4 -2.2
comp=Z,189nm,1.4s,baz=335,slow=9.8
EKS2 Erkin-Say 32.86 334 *e*P **P 09 28 07.8 +1.6**
EKS2 pmax pmax
comp=Z,42nm,0.8s
EKS2 MLR MLR
comp=Z,6μm,20.0s
EKS2 Erkin-Say 32.86 334 P **P 09 28 08.0 +1.8**
SNR=26
EKS2 Erkin-Say 32.86 334 *e*P **P 09 28 07.8 +1.6**
comp=Z,42nm,0.8s
EKS2 LR LR
comp=Z,6μm,20.0s
DAV Davao City (W) 32.91 99 P **P 09 28 06.3 -0.5**
DAV Davao City (W) 32.91 99 P **P 09 28 06.3 -0.5**
comp=Z,199nm,0.4s,baz=2.2,slow=12,SNR=4.3
DAV LR LR 09 41 08.5
comp=Z,3μm,22.0s,baz=95,slow=36
BJT Baijiatuau 32.94 34 *e*P **P 09 28 07.7 +1.0**
comp=Z,97nm,0.8s
BJT LR LR
comp=Z,5μm,19.0s
BJI Beijing 32.96 34 P **P 09 28 07.9 +1.0**
BJI S **S 09 33 23.8 +1.3**
BJI pmax pmax
comp=Z,51nm,1.0s
BJI pmax pmax
comp=Z,540nm,7.3s
BJI LR LR
comp=N,7μm,26.5s
BJI LR LR
comp=E,8μm,23.9s
BJI LR LR
comp=Z,4μm,24.9s
USP Ospenovka 33.06 335 *i* P **P 09 28 08.8 +1.0**
USP Ospenovka 33.06 335 P **P 09 28 08.8 +1.0**
SNR=28
BKSI Bulukumba 33.25 124 P **P 09 28 08.9 -0.8**
comp=Z,96nm,1.1s,comp=Z,1μm
LUWI Luwuk 33.25 114 P **P 09 28 09.6 -0.2**
comp=Z,1μm,1.0s,comp=Z,7μm
KMSI Cibinong 33.62 111 P **P 09 28 11.9 -1.1**
comp=Z,663nm,1.1s,comp=Z,14μm
MK31 Makanchi Array 33.77 347 *e*P **P 09 28 14.9 +1.0**
MK31 Makanchi Array 33.77 347 *e*P **P 09 28 14.9 +1.0**
MKAR Makanchi Array 33.77 347 *ce*P **P 09 28 14.8 +0.9**
MKAR pmax pmax
comp=Z,26nm,0.6s
MKAR Makanchi Array 33.77 347 P **P 09 28 14.8 +0.9**
MKAR Makanchi Array 33.77 347 P **P 09 28 14.8 +0.9**
comp=Z,26nm,0.6s,baz=175,slow=7.1,SNR=208
MKAR LR LR 09 45 40.1
comp=Z,3μm,21.4s,baz=161,slow=43
BSSI Bau Bau, Buton 34.03 124 P **P 09 28 15.3 -1.2**
comp=Z,163nm,1.1s
KK31 Karatay Array 34.69 331 *i* P **P 09 28 22.4 +0.4**
KK31 pmax pmax
comp=Z,31nm,0.8s
KKAR Karatay Array 34.69 331 *e*P **P 09 28 22.7 +0.7**
KKAR Karatay Array 34.69 331 *e*P **P 09 28 22.7 +0.7**
LBFI Labuhan Bajo, 34.99 128 P **P 09 28 22.8 -2.0**
comp=Z,290nm,0.7s,comp=Z,3μm
JOW Kunigami 35.41 63 *e*P **P 09 28 29.3 +0.9**
comp=Z,58nm,1.3s
DL2 Dalian 35.43 40 ⇑P **P 09 28 27.9 -0.4**
DL2 PP **PP 09 29 51.4 +2.2**
DL2 S **S 09 34 01.5 +0.9**
DL2 pmax pmax
comp=Z,230nm,0.9s
DL2 pmax pmax
comp=Z,500nm,6.3s
DL2 LR LR
comp=N,2μm,14.7s
DL2 LR LR
comp=Z,3μm,17.7s
SONM Songino Array 35.47 16 P **P 09 28 29.2 +0.5**
SONM Songino Array 35.47 16 P **P 09 28 29.2 +0.5**
comp=Z,36nm,0.8s,baz=196,slow=7.6,SNR=56
SONM LR LR 09 46 03.8
comp=Z,6μm,19.1s,baz=196,slow=42
ULN Ulaanbaatar 35.68 16 P **P 09 28 31.4 +0.9**
SNR=42
ULN Ulaanbaatar 35.68 16 *e*P **P 09 28 31.0 +0.4**
ULN LR LR
comp=Z,6μm,21.0s
ULN Ulaanbaatar 35.68 16 P **P 09 28 31.0 +0.4**
comp=Z,94nm,1.6s,comp=Z,1μm
TNTI Ternate 36.64 108 P P 09 28 35.7 -3.3
comp=Z,124nm,1.1s,comp=Z,2μm
HVS Khovu-Aksy 36.94 1 *d i*P **P 09 28 41.7 +0.5**
HVS pmax pmax
comp=Z,225nm,1.3s
ZAK Zakamensk 37.17 11 ⇓*i*P **P 09 28 43.8 +0.6**
ZAK *e* 09 28 53.8
ZAK *e* 09 31 03.2
ZAK pmax pmax
comp=Z,27nm,1.2s
INCN Inchon 37.99 46 PFAKE 09 29 00.0 +10
INCN LR LR
comp=Z,4μm,21.0s
MOY Mondy 38.04 8 *e*P **P 09 28 52.1 +1.6**
MOY pmax pmax
comp=Z,44nm,2.1s
NLAI Namlea 38.10 114 P **P 09 28 49.6 -1.7**
comp=Z,132nm,0.9s,comp=Z,2μm
KURBB Kurchatov Arra 38.23 345 P **P 09 28 52.6 +0.6**
comp=Z,44nm,0.8s,baz=162,slow=7.9,SNR=80
KURK Kurchatov 38.30 345 P **P 09 28 52.6 +0.1**
KURK pmax pmax
comp=Z,44nm,0.8s
KURK Kurchatov 38.30 345 P **P 09 28 52.6 +0.1**
SNY Shenyang 38.37 38 ⇓P **P 09 28 53.3 +0.1**
SNY sP **sP 09 29 06.1 -2.8**
SNY PP **PnPn 09 30 23.3 -0.2**
SNY S **S 09 34 43.8 -1.5**
SNY pmax pmax
comp=Z,46nm,1.2s
SNY pmax pmax
comp=Z,1μm,8.6s
SNY LR LR
comp=N,6μm,19.4s
SNY LR LR
comp=E,4μm,21.0s
SNY LR LR
comp=Z,5μm,17.4s
KSAR Wonju Array Be 38.85 47 P **P 09 28 57.2 -0.2**
KSRS Korea Array 38.89 47 P **P 09 28 57.2 -0.4**
comp=Z,21nm,0.7s,baz=245,slow=8.9,SNR=44
KSRS LR LR 09 46 07.4
comp=Z,4μm,20.8s,baz=240,slow=38
BATI Baumata 38.97 127 P P 09 28 54.8 -3.9
comp=Z,77nm,0.9s,comp=Z,1μm
IRK Irkutsk 39.13 11 *e*P **P 09 29 02.4 +2.8**
IRK *e* 09 30 40.8
IRK pmax pmax
comp=Z,242nm,2.0s
SOEI Soe 39.17 126 P P 09 28 57.3 -3.2
comp=Z,151nm,0.8s,comp=Z,2μm
AAI Ambon 39.27 114 P **P 09 29 00.5 -0.7**
comp=Z,349nm,0.8s,comp=Z,4μm
JNU Nakatsue 39.39 55 *e*P **P 09 29 04.0 +2.0**
comp=Z,27nm,1.2s
JNU *e*pP **pP 09 29 12.9 -0.1**
JNU Nakatsue 39.39 55 P **P 09 29 03.5 +1.5**
comp=Z,23nm,1.0s,baz=240,slow=6.2,SNR=9.1
JNU LR LR 09 47 23.3
comp=Z,6μm,19.4s,baz=248,slow=39
MSAI Masohi 39.77 113 P **P 09 29 04.7 -0.7**
comp=Z,130nm,0.6s,comp=Z,1μm
ZAA0 Zalesovo Array 40.25 353 *e*P **P 09 29 09.0 +0.2**
ZALV Zalesovo Beam 40.25 353 P **P 09 29 09.1 +0.3**
ZALV pmax pmax
comp=Z,45nm,0.6s
ZALV MLR MLR
comp=Z,4μm,20.9s
ZALV Zalesovo Beam 40.25 353 P **P 09 29 09.1 +0.3**
ZALV Zalesovo Beam 40.25 353 P **P 09 29 09.1 +0.3**
comp=Z,45nm,0.6s,baz=177,slow=8.3,SNR=60
ZALV LR LR 09 48 24.4
comp=Z,4μm,20.9s,baz=347,slow=40
CN2 Changchun 40.65 37 ⇓P **P 09 29 12.6 +0.3**
CN2 *e*sP **sP 09 29 27.5 -0.5**
CN2 *e*PP **PP 09 30 46.5 +0.1**
CN2 *e*S **S 09 35 21.4 +1.9**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,4μm,16.0s
CN2 LR LR
comp=E,6μm,16.0s
CN2 LR LR
comp=Z,4μm,17.0s
BNDI Bandanaira 41.17 114 P P 09 29 13.3 -3.6
comp=Z,583nm,0.9s
CIT Chita 41.31 19 *e*P **P 09 29 17.3 -0.4**
CIT *e* 09 29 30.6
CIT *e* 09 30 58.0
CIT *e* 09 31 14.0
CIT *e* 09 31 29.4
CIT pmax pmax
comp=Z,375nm,1.6s
NVS Novosibirsk 41.33 352 ⇓*e*P **P 09 29 17.5 -0.2**
NVS *e* 09 29 29.2
NVS *e* 09 31 01.3
NVS pmax pmax
comp=Z,51nm,1.3s
NVS pmax pmax
comp=N,31nm,1.1s
NVS pmax pmax
comp=E,17nm,1.0s
NVS pmax pmax
comp=N,113nm,2.0s
NVS pmax pmax
comp=Z,89nm,2.0s
HIA Hailar 41.44 27 *e*P **P 09 29 18.9 +0.2**
comp=Z,17nm,0.6s
HIA LR LR
comp=Z,6μm,19.0s
MSEY Mahe Island 41.48 246 PFAKE 09 29 30.0 +10
MSEY LR LR
comp=Z,3μm,20.0s
KRAR Krasnoyarsk 41.82 0 *e*P **P 09 29 22.2 +0.5**
KRAR pmax pmax
comp=Z,59nm,1.4s
VOSK Vostochnaya 42.27 340 P **P 09 29 25.3 -0.2**
VOSK pmax pmax
comp=Z,82nm,1.3s
FAKI Fak Fak 42.58 110 P **P 09 29 27.2 -1.3**
comp=Z,237nm,1.0s,comp=Z,2μm
BVA0 Borovoye Array 42.72 340 P **P 09 29 29.6 +0.5**
BVA0 pmax pmax
comp=Z,38nm,1.0s
BVAR Borovoye Array 42.72 340 P **P 09 29 29.5 +0.4**
BVAR pmax pmax
comp=Z,8.0nm,0.4s
BVAR Borovoye Array 42.72 340 P **P 09 29 29.5 +0.4**
BVAR Borovoye Array 42.72 340 P **P 09 29 29.5 +0.4**
comp=Z,8.3nm,0.5s,baz=134,slow=8.5,SNR=39
BRVK Borovoye 42.78 340 *d i*P **P 09 29 30.1 +0.5**
BRVK pmax pmax
comp=Z,34nm,1.2s
BRVK Borovoye 42.78 340 P **P 09 29 30.5 +0.9**
SNR=19
BRVK Borovoye 42.78 340 *e*P **P 09 29 30.1 +0.5**
comp=Z,26nm,0.9s
BRVK LR LR
comp=Z,3μm,21.0s
MDJ Mudanjiang 43.56 38 P **P 09 29 36.8 +0.8**
MDJ sP **sP 09 29 49.3 -2.5**
MDJ PP **PP 09 31 17.5 -0.3**
MDJ PcP **PcP 09 31 22.9 -0.4**
MDJ ScP **ScP 09 35 13.0 +1.1**
MDJ S **S 09 36 01.5 -1.1**
MDJ SS **SS 09 39 15.8 -2.4**
MDJ pmax pmax
comp=Z,33nm,1.7s
MDJ pmax pmax
comp=Z,650nm,10.5s
MDJ LR LR
comp=N,4μm,23.5s
MDJ LR LR
comp=E,2μm,22.5s
MDJ LR LR
comp=Z,4μm,20.6s
MDJ Mudanjiang 43.56 38 *e*P **P 09 29 37.6 +1.6**
comp=Z,21nm,0.8s
MDJ LR LR
comp=Z,4μm,19.0s
MBWA Marble Bar 43.88 142 P **P 09 29 37.4 -1.4**
SNR=6.3
MBWA Marble Bar 43.88 142 *e*P **P 09 29 37.0 -1.8**
MBWA LR LR
comp=Z,3μm,21.0s
TLE Tual 44.19 114 P **P 09 29 40.8 -0.6**
AB31 Akbulak array 44.21 329 P **P 09 29 41.8 +0.6**
AB31 pmax pmax
comp=Z,68nm,0.7s
ABKAR Akbulak array 44.21 329 *e*P **P 09 29 42.0 +0.8**
VLA Vladivostok 44.23 41 *e*P **P 09 29 40.8 -0.6**
VLA pmax pmax
comp=Z,27nm,1.0s
KBD Kabd 44.28 297 *e*P **P 09 29 43.5 +1.5**
KBD AMb AMB 09 29 56.6
comp=Z,93nm,1.2s
NAY Al-Naaiem 44.68 297 *e*P **P 09 29 45.0 -0.2**
NAY AMb AMB 09 29 55.1
comp=Z,38nm,1.1s
USRK Ussuriysk Arra 44.82 40 P **P 09 29 45.9 -0.2**
comp=Z,11nm,0.6s,baz=251,slow=6.1,SNR=29
FITZ Fitzroy Crossi 45.51 134 LR LR 09 49 59.1
comp=Z,2μm,20.9s,baz=309,slow=38
AKTO Aktyubinsk 45.93 329 P **P 09 29 55.1 +0.3**
AKTO pmax pmax
comp=Z,15nm,0.6s
AKTO Aktyubinsk 45.93 329 P **P 09 29 55.1 +0.3**
AKTO Aktyubinsk 45.93 329 P **P 09 29 55.1 +0.3**
comp=Z,15nm,0.6s,baz=125,slow=7.8,SNR=36
MAT Matsushiro 46.18 53 P **P 09 29 56.5 -0.5**
MAT S **S 09 36 35.4 -5.4**
MJAR Matsushiro Arr 46.18 53 P **P 09 29 56.7 -0.4**
MJAR PcP **PcP 09 31 32.4 -0.1**
MJAR Matsushiro Arr 46.18 53 P **P 09 29 56.7 -0.4**
comp=Z,8.6nm,0.8s,baz=265,slow=9.3,SNR=25
MJAR PcP **PcP 09 31 32.4 -0.1**
comp=Z,9.6nm,0.8s,baz=228,slow=2.2,SNR=9.5
MJAR LR LR 09 50 59.2
comp=Z,3μm,19.9s,baz=255,slow=38
IBDR Badra 46.52 302 *i* P **P 09 29 59.0 -0.8**
IBDR *i* PP **PP 09 31 54.0 +4.5**
IBDR *i* S **S 09 36 48.0 +2.3**
KLR Kul'dur 47.34 34 *e*P P 09 30 01.7 -4.1
KLR *e* 09 30 16.0
KLR *e* 09 31 53.5
KLR *e*S S 09 36 48.5 -8.4
KLR *e*SS **ScS 09 40 00.0 +3.3**
KLR MLR MLR
comp=N,3μm,12.5s
KLR MLR MLR
comp=E,3μm,12.5s
KLR MLR MLR
comp=Z,5μm,12.5s
BHD Baghdad 47.83 302 *e*P P 09 30 02.0 -7.9
BHD *i* PP **PP 09 31 57.0 -5.0**
BHD *i* S **S 09 37 02.0 -2.3**
MAK Makhachkala 48.30 316 *e*P **P 09 30 11.5 -1.9**
MAK *e* 09 31 42.6
MAK *e* 09 32 05.1
MAK *e*PPP PPP 09 32 51.0
MAK *e*S **S 09 37 11.2 +0.5**
MAK *e*SS **SS 09 40 38.0 -2.5**
MAK *e*SSS SSS 09 41 47.5
MAK pmax pmax
comp=Z,180nm,1.3s
MAK MLR MLR
comp=Z,2μm,16.0s
ATD Arta Tunnel 48.74 273 LR LR 09 47 56.8
comp=Z,1μm,20.4s,baz=83,slow=32
HABR Khabarovsk 48.78 36 *de*P **P 09 30 15.5 -1.5**
HABR *e**PP **pP 09 30 25.3 -3.0**
HABR *e**SP **sP 09 30 29.6 -3.3**
HABR *e*S **S 09 37 17.8 +0.5**
HABR *e**SS **sS 09 37 34.8 -1.2**
HABR *e* 09 40 04.9
HABR *e*SS **SS 09 40 50.4 +2.3**
HABR pmax pmax
comp=Z,74nm,2.1s
HABR pmax pmax
comp=E,36nm,1.7s
HABR pmax pmax
comp=N,11nm,1.4s
HABR MLR MLR
comp=Z,4μm,18.0s
CLNS Chul'man 49.14 23 *e*P **P 09 30 20.8 +1.1**
CLNS pmax pmax
comp=Z,46nm,1.0s
CLNS pmax pmax
comp=E,26nm,1.1s
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS MLR MLR
comp=N,1μm,12.0s
CLNS MLR MLR
comp=E,1μm,12.0s
CLNS MLR MLR
comp=Z,902nm,13.0s
SVE Sverdlovsk 49.18 337 ⇑*e*P **P 09 30 21.0 +1.0**
SVE *e* 09 32 18.7
SVE *e*S **S 09 37 20.4 -2.3**
SVE *e* 09 42 12.5
SVE pmax pmax
comp=Z,158nm,0.9s
SVE MLR MLR
comp=Z,3μm,18.0s
DGRG David-gareji 49.24 313 P **P 09 30 22.1 +1.3**
GNI Garni 49.29 311 P **P 09 30 23.5 +2.2**
SNR=53
GNI Garni 49.29 311 *e*P **P 09 30 23.2 +2.0**
GNI LR LR
comp=Z,4μm,20.0s
GNI Garni 49.29 311 P **P 09 30 22.6 +1.3**
comp=Z,34nm,0.9s,baz=292,slow=1.7,SNR=24
ARU Arti 49.70 336 *c i*P **P 09 30 24.0 +0.1**
ARU 09 31 42.3
ARU 09 32 21.0
ARU PPP PPP 09 33 10.8
ARU S **S 09 37 30.8 +0.8**
ARU SS **SS 09 41 01.5 -1.1**
ARU pmax pmax
comp=Z,50nm,1.2s
ARU MLR MLR
comp=Z,3μm,25.0s
TBLG Delisi 49.79 313 P **P 09 30 25.9 +1.0**
TBLG Delisi 49.79 313 P **P 09 30 25.9 +1.0**
GUMO Guam 50.44 84 PFAKE 09 30 40.0 +10
GUMO LR LR
comp=Z,1μm,19.0s
RER Riviere de l'E 50.54 227 PFAKE 09 30 40.0 +9.2
RER LR LR
comp=Z,2μm,20.0s
ZEI Tsey 50.72 314 *e*P **P 09 30 32.8 +0.7**
ZEI pmax pmax
comp=Z,99nm,1.3s
ONI Oni 50.97 314 P **P 09 30 35.0 +1.1**
ONI Oni 50.97 314 P **P 09 30 35.0 +1.1**
ERM Erimo 51.46 47 *e*P **P 09 30 37.7 +0.3**
ERM Erimo 51.46 47 PFAKE 09 30 50.0 +13
ERM LR LR
comp=Z,2μm,19.0s
KBZ Khabaz 51.72 315 P **P 09 30 40.2 +0.9**
KBZ pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 51.72 315 P **P 09 30 40.1 +0.9**
KBZ Khabaz 51.72 315 P **P 09 30 40.1 +0.9**
comp=Z,11nm,1.0s,baz=104,slow=6.4,SNR=14
ASAJ Asahikawa 51.73 44 *e*P **P 09 30 40.3 +0.9**
ASAJ Asahikawa 51.73 44 P **P 09 30 40.0 +0.6**
comp=Z,14nm,0.6s,baz=256,slow=9.8,SNR=10
ASAJ LR LR 09 55 24.2
comp=Z,3μm,18.4s,baz=4.7,slow=39
KIV Kislovodsk 51.94 315 *e*P **P 09 30 42.0 +0.9**
KIV *e* 09 31 53.8
KIV *e* 09 32 41.5
KIV *e*S **S 09 38 03.5 +1.9**
KIV *e*SS **SS 09 41 43.5 +4.7**
KIV pmax pmax
comp=Z,119nm,1.1s
KIV pmax pmax
comp=Z,97nm,5.0s
KIV MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 51.94 315 P **P 09 30 42.7 +1.6**
comp=Z,599nm,0.7s,SNR=6.4
NWAO Narrogin (SRO) 52.26 154 *e*P **P 09 30 42.1 -1.3**
comp=Z,169nm,0.9s
NWAO LR LR
comp=Z,3μm,21.0s
SOKR Solikamsk 52.59 338 *c i*P **P 09 30 47.5 +2.0**
SOKR S **S 09 38 08.2 -1.5**
SOKR SS **SS 09 41 52.4 +4.2**
SOKR pmax pmax
comp=Z,90nm,1.2s
SOKR MLR MLR
comp=Z,4μm,18.0s
YSS Yuzh-Sakhalins 52.82 41 ⇓*e*P **P 09 30 48.0 +0.6**
YSS *e**SP **sP 09 31 02.0 -1.4**
YSS *e* 09 32 52.0
YSS *e*S **S 09 38 13.0 -0.3**
YSS *e*SS **SS 09 41 46.0 -6.4**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,300nm,6.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS MLR MLR
comp=E,2μm,18.0s
WRA Warramunga Arr 53.03 129 P **P 09 30 48.0 -1.3**
WRA PcP **PcP 09 31 57.0 -0.6**
WRA S S 09 38 09.9 -7.0
WRA ⇑*e* 10 01 22.2
WRA Warramunga Arr 53.03 129 P **P 09 30 48.0 -1.3**
comp=E,105nm,0.8s,baz=308,slow=7.6,SNR=434
WRA PcP **PcP 09 31 57.0 -0.6**
comp=E,12nm,0.8s,baz=317,slow=3.1,SNR=4.7
WRA S S 09 38 09.9 -7.0
comp=E,9.7nm,1.1s,baz=305,slow=14,SNR=10
WRA PKP2bc 10 01 22.2
comp=E,0.7nm,0.9s,baz=125,slow=1.6,SNR=5.1
WRAB Tennant Creek 53.03 129 *e*P **P 09 30 48.1 -1.3**
WRAB pmax pmax
comp=Z,128nm,0.8s
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 53.03 129 *e*P **P 09 30 48.1 -1.3**
comp=Z,128nm,0.8s
WRAB LR LR
comp=Z,2μm,20.0s
SOC Sochi 53.88 314 *c i*P **P 09 30 54.5 -0.8**
SOC *e**SP sP 09 31 05.5 -5.7
SOC *e*PPP PPP 09 34 02.2
SOC *i* S **S 09 38 29.5 +1.7**
SOC *e**SS **sS 09 38 43.9 -2.8**
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,1μm,18.0s
ASF Jabal al Asfar 53.90 300 LR LR 09 58 28.5
comp=Z,2μm,19.0s,baz=53,slow=41
YUK Yuzh-Kuril'sk 53.95 45 *d i*P P 09 31 09.7 +14
YUK *i* S **S 09 38 31.0 +2.3**
YUK MLR MLR
comp=N,546nm,20.0s
YUK MLR MLR
comp=E,3μm,20.0s
YUK MLR MLR
comp=Z,3μm,20.0s
YAK Yakutsk 54.58 20 *e*P **P 09 30 59.4 -0.6**
YAK *e**PP **pP 09 31 08.2 -3.3**
YAK *e* 09 31 58.6
YAK *e* 09 33 03.4
YAK *e*S **S 09 38 36.5 -0.1**
YAK pmax pmax
comp=Z,48nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,45nm,1.8s

YAK pmax pmax
comp=E,21nm,1.5s
YAK smax smax
comp=N,810nm,8.3s
YAK smax smax
comp=E,2μm,9.9s
YAK MLR MLR
comp=Z,4μm,19.0s
YAK MLR MLR
comp=E,2μm,20.0s
YAK MLR MLR
comp=N,2μm,20.0s
AS31 Alice Springs 54.97 133 *e*P **P 09 31 02.5 -1.1**
ASAR Alice Springs 54.97 133 P **P 09 31 02.5 -1.0**
ASAR S **S 09 38 38.2 -4.9**
ASAR ⇑*e* 10 01 29.6
ASAR Alice Springs 54.97 133 P **P 09 31 02.5 -1.0**
comp=N,101nm,0.6s,baz=307,slow=6.7,SNR=2154
ASAR S **S 09 38 38.2 -4.9**
comp=N,11nm,1.0s,baz=305,slow=13,SNR=23
ASAR LR LR 09 55 32.7
comp=N,1μm,20.3s,baz=298,slow=37
ASAR PKP2bc 10 01 29.6
comp=N,0.7nm,1.0s,baz=161,slow=1.9,SNR=4.3
VRHR Novokhopersk 55.16 323 *e*P **P 09 31 03.8 -0.7**
VRHR *e**SP sP 09 31 14.9 -5.6
VRHR *e*S **S 09 38 43.1 -1.7**
VRHR *e**SS **sS 09 39 02.6 -1.2**
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,50nm,1.3s
VRHR pmax pmax
comp=Z,50nm,1.3s
VRHR smax smax
comp=E,100nm,1.4s
VRHR smax smax
comp=Z,30nm,1.3s
VRHR smax smax
comp=N,80nm,1.4s
VRHR MLR MLR
comp=Z,2μm,24.0s
VRHR MLR MLR
comp=N,120nm,12.0s
VRHR MLR MLR
comp=E,2μm,24.0s
MMAI Mount Meron Ar 55.24 300 P **P 09 31 05.5 +0.1**
MMAI PcP **PcP 09 32 08.3 +2.3**
MMAI Mount Meron Ar 55.24 300 P **P 09 31 05.5 +0.1**
comp=E,0.5nm,0.3s,baz=165,slow=17,SNR=2.3
MMAI PcP **PcP 09 32 08.3 +2.3**
comp=E,3.2nm,0.5s,baz=102,slow=6.9,SNR=5.2
EIL Elat 55.37 296 LR LR 09 57 57.3
comp=E,2μm,19.7s,baz=94,slow=40
OPO Ambohidratompo 55.47 235 LR LR 09 52 25.3
comp=E,4μm,18.7s,baz=53,slow=34
KUR Kuril'sk 55.65 45 *e*P **P 09 31 11.0 +2.9**
KUR *e*S **S 09 38 53.1 +1.6**
KUR pmax pmax
comp=Z,388nm,1.6s
ABPO Ambohimpanom 55.68 235 *e*P **P 09 31 09.2 +0.3**
ABPO pmax pmax
comp=Z,85nm,1.3s
ABPO MLR MLR
comp=Z,3μm,20.0s
ABPO Ambohimpanom 55.68 235 *e*P **P 09 31 09.2 +0.3**
comp=Z,85nm,1.3s
ABPO LR LR
comp=Z,3μm,20.0s
ANN Anapa 55.79 315 *e*P **P 09 31 07.9 -1.2**
ANN *e* 09 33 10.5
ANN *e*S **S 09 38 54.9 +1.6**
ANN pmax pmax
comp=Z,35nm,1.3s
VORD Divnogorie 56.48 322 *e*P **P 09 31 13.2 -0.7**
VORD *e**SP **sP 09 31 27.4 -2.5**
VORD *e*S **S 09 38 59.3 -3.1**
VORD *e**SS **sS 09 39 19.9 -1.5**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=Z,150nm,3.2s
VORD pmax pmax
comp=N,70nm,0.8s
VORD pmax pmax
comp=E,90nm,0.8s
VORD smax smax
comp=N,360nm,4.8s
VORD smax smax
comp=E,430nm,4.8s
VORD smax smax
comp=Z,90nm,4.8s
VSR Storozhevoye 56.65 323 *e*P **P 09 31 14.0 -1.1**
VSR *e**PP **pP 09 31 24.0 -2.6**
VSR *e**SP **sP 09 31 28.2 -2.9**
VSR *e*S **S 09 39 02.0 -2.6**
VSR *e**SS **sS 09 39 21.0 -2.6**
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.3s
VSR smax smax
comp=N,370nm,4.0s
VSR smax smax
comp=E,200nm,4.0s
VSR smax smax
comp=Z,150nm,4.0s
VSR MLR MLR
comp=N,1μm,22.0s
VSR MLR MLR
comp=E,980nm,22.0s
VSR MLR MLR
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 57.07 259 *e*P **P 09 31 19.9 +0.9**
KMBO Kilima Mbogo 57.07 259 P **P 09 31 21.1 +2.1**
SNR=5.9
KMBO Kilima Mbogo 57.07 259 *e*P **P 09 31 19.5 +0.5**
KMBO Kilima Mbogo 57.07 259 P **P 09 31 19.0 0.0**
comp=Z,13nm,1.0s,baz=44,slow=10,SNR=23
KMBO LR LR 09 54 14.5
comp=Z,2μm,21.4s,baz=348,slow=34
CSS Prodhromos 57.14 303 *e*P **P 09 31 20.9 +2.0**
comp=Z,55nm,1.1s
CSS LR LR
comp=Z,3μm,20.0s
BR131 Keskin Array S 57.49 308 *e*P **P 09 31 20.9 -0.5**
comp=Z,31nm,0.8s
BRTR Keskin Array B 57.49 308 P **P 09 31 21.0 -0.6**
BRTR Keskin Array B 57.49 308 P **P 09 31 21.0 -0.6**
comp=Z,13nm,0.8s,baz=120,slow=7.9,SNR=46
SIM Simferopol' 58.11 314 *e*P **P 09 31 25.5 -0.1**
ANTO Ankara 58.16 308 ⇑P **P 09 31 25.6 -0.5**
ANTO Ankara 58.16 308 P **P 09 31 26.6 +0.6**
SNR=10
ANTO Ankara 58.16 308 ⇑*i*P **P 09 31 25.6 -0.5**
ANTO Ankara 58.16 308 *e*P **P 09 31 26.7 +0.6**
comp=Z,41nm,1.4s
ANTO LR LR
comp=Z,2μm,20.0s
PMG Port Moresby 58.74 110 *e*P **P 09 31 30.1 -0.3**
comp=Z,169nm,1.0s
PMG LR LR
comp=Z,966nm,21.0s
PMG Port Moresby 58.74 110 P **P 09 31 30.6 +0.2**
comp=Z,139nm,0.9s,baz=326,slow=2.9,SNR=20
MOS Moscow 59.15 327 *e*P **P 09 31 31.5 -1.1**
MOS *i* 09 31 43.4
MOS *e* 09 32 18.5
MOS *e*S **S 09 39 32.4 -4.8**
MOS *i* 09 39 55.2
MOS *e* 09 41 17.2
MOS pmax pmax
comp=Z,92nm,1.3s
OBN Obninsk 59.48 326 ⇑*e*P **P 09 31 35.5 +0.6**
OBN *i* *PP **pP 09 31 45.8 -0.6**
OBN *i* *SP **sP 09 31 48.6 -2.3**
OBN 09 32 23.0
OBN *i* S S 09 40 00.7 +19
OBN SS **SS 09 43 31.7 -5.2**
OBN pmax pmax
comp=Z,82nm,1.7s
OBN MLR MLR
comp=Z,2μm,17.0s
ISP Isparta 59.67 306 PFAKE 09 31 50.0 +13
ISP LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 61.43 12*d i*P **P 09 31 49.2 +1.3**
TIXI pmax pmax
comp=Z,20nm,0.6s
TIRR Tirgusor 62.03 313 ⇑P **P 09 31 52.3 -0.1**
TIRR Tirgusor 62.03 313 ⇑*i*P **P 09 31 52.3 -0.1**
TIRR Tirgusor 62.03 313 *e*P **P 09 31 52.4 -0.1**
comp=Z,65nm,1.1s
PSN Preselentsi 62.09 312 P **P 09 31 53.6 +0.7**
KIS Kishinev 62.13 316 *e*P **P 09 31 53.0 0.0**
KIS Kishinev 62.13 316 *e*PcP PcP 09 32 26.0 -7.0
KIS Kishinev 62.13 316 *e*PP PP 09 34 16.0 +6.1
KIS Kishinev 62.13 316 *e*PPP PPP 09 35 44.0
KIS *e*S **S 09 40 13.0 -2.5**
KIS Kishinev 62.13 316 *e*PS 09 40 34.0
KIS *e*ScS SKiKP 09 41 24.0 -52
KIS *e*SSS SSS 09 47 06.0
KIS LRM MLR 10 02 58.0
comp=Z,1μm,18.0s
KIS Kishinev 62.13 316 *e*P **P 09 31 53.0 0.0**
KIS *e* 09 32 00.0
KIS *e* 09 32 26.0
KIS *e* 09 34 16.0
KIS *e*PPP PPP 09 35 44.0
KIS *e*S **S 09 40 13.0 -2.5**
KIS *e*PS **PnS 09 40 34.0 -0.3**
KIS *e*SSS SSS 09 47 06.0
KIS MLR MLR
comp=Z,1μm,18.0s
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,1μm,18.0s
KIS MLR MLR
comp=Z,1μm,18.0s
CFR Carcaliu 62.32 314 ⇑P **P 09 31 54.4 0.0**
CFR Carcaliu 62.32 314 ⇑*i*P **P 09 31 54.3 -0.1**
SKR Severo-Kuril's 62.34 40 *e*P P 09 31 51.0 -3.3
SKR *e* 09 32 05.0
SKR *e*S S 09 40 42.0 +24
SKR pmax pmax
comp=Z,400nm,1.5s
SKR pmax pmax
comp=E,1μm,14.0s
SKR pmax pmax
comp=Z,1μm,14.0s
SKR smax smax
comp=N,800nm,10.0s
SKR smax smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=N,2μm,20.0s
SKR MLR MLR
comp=E,1μm,20.0s
SKR MLR MLR
comp=Z,2μm,20.0s
HARR Harsova 62.40 313 ⇑P **P 09 31 55.7 +0.8**
HARR Harsova 62.40 313 ⇑*i*P **P 09 31 55.7 +0.8**
TMCR Tamitsa 62.44 336 *e*P **P 09 31 56.0 +1.3**
TMCR *e* 09 32 31.7
TMCR pmax pmax
comp=Z,55nm,1.3s
AKASG Malin Array Be 62.54 320 *c e*P **P 09 31 55.0 -0.6**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 62.54 320 P **P 09 31 55.1 -0.6**
AKASG Malin Array Be 62.54 320 P **P 09 31 55.1 -0.6**
comp=Z,15nm,0.3s,baz=92,slow=4.8,SNR=9.8
AKASG LR LR 10 02 50.8
comp=Z,2μm,20.1s,baz=85,slow=40
KIEV Kiev 62.55 320 *e*P **P 09 31 54.6 -1.1**
KIEV pmax pmax
comp=Z,20nm,0.8s
KIEV MLR MLR
comp=Z,2μm,20.0s
KIEV Kiev 62.55 320 *e*P **P 09 31 54.6 -1.1**
comp=Z,20nm,0.8s
KIEV LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 62.56 122 *e*P **P 09 31 55.9 -0.5**
CTAO pmax pmax
comp=Z,57nm,0.9s
CTAO MLR MLR
comp=Z,2μm,21.0s
CTAO Charters Tower 62.56 122 *e*P **P 09 31 55.9 -0.5**
comp=Z,57nm,0.9s
CTAO LR LR
comp=Z,2μm,21.0s
PRD Provadia 62.60 311 P **P 09 31 56.3 0.0**
JMB Yambol 63.13 311 P **P 09 32 00.3 +0.5**
MBAR Mbarara 63.16 262 *e*P **P 09 32 01.6 +1.0**
CHOS Chios island 63.23 306 *e*P P 09 32 05.0 +4.3
VRI Vrincioaia 63.40 314 ⇑P **P 09 32 02.6 +1.1**
VRI Vrincioaia 63.40 314 ⇑*i*P **P 09 32 02.6 +1.1**
ISR Istrita 63.43 314 ⇑P **P 09 32 04.0 +2.1**
ISR Istrita 63.43 314 ⇑*i*P **P 09 32 04.0 +2.1**
PLOR Plostina 63.45 314 ⇑P **P 09 32 02.8 +0.9**
PLOR Plostina 63.45 314 ⇑*i*P **P 09 32 02.8 +0.9**
TESR Tescani 63.53 315 ⇓*i*P **P 09 32 02.8 +0.4**
LAST Lasithi 63.58 302 *e*P **P 09 32 03.0 -0.1**
SANT Santorini 63.62 304 PFAKE 09 32 20.0 +17
SANT LR LR
comp=Z,905nm,21.0s
PEA0B Petropavlovsk- 63.79 37 *e*P **P 09 32 04.1 +0.1**
PETK Petropavlovsk- 63.79 37 P **P 09 32 03.1 -0.9**
PETK pmax pmax
comp=Z,2.0nm,0.5s
PETK MLR MLR
comp=Z,2μm,18.7s
PETK Petropavlovsk- 63.79 37 P **P 09 32 03.1 -0.9**
PETK ⇑*e* 10 01 02.9
PETK Petropavlovsk- 63.79 37 P **P 09 32 03.1 -0.9**
comp=Z,1.5nm,0.5s,baz=230,slow=4.3,SNR=18
PETK PKP2bc 10 01 02.9
comp=Z,6.2nm,1.2s,baz=117,slow=2.0,SNR=4.2
PETK LR LR 10 05 15.8
comp=Z,2μm,18.7s,baz=96,slow=41
SEY Seymchan 63.88 26 *e*P **P 09 32 03.2 -1.2**
IDI Anoyia 64.06 303 P **P 09 32 05.6 -0.6**
IDI Anoyia 64.06 303 *e*P **P 09 32 06.0 -0.2**
IDI Anoyia 64.06 303 *e*P **P 09 32 05.7 -0.6**
comp=Z,45nm,0.7s
SIVA Sivas 64.13 302 *e*P **P 09 32 05.0 -1.5**
MICGM Minsk 64.13 324 *e*P **P 09 32 06.0 -0.2**
MNK Minsk 64.16 324 *e*P **P 09 32 06.0 -0.4**
MNK *e* 09 34 30.0
MNK *e*S **S 09 40 40.0 -0.7**
MNK MLR MLR
comp=Z,4μm,16.0s
PET Petropavlovsk 64.34 38 *e*P **P 09 32 09.9 +2.3**
PET *e*S **S 09 40 42.5 -0.4**
PET pmax pmax
comp=Z,500nm,11.5s
PET pmax pmax
comp=Z,39nm,1.0s
PET pmax pmax
comp=Z,400nm,17.0s
PET MLR MLR
comp=Z,3μm,20.0s
PET MLR MLR
comp=Z,2μm,18.0s
VOIR 64.52 314 ⇓P **P 09 32 09.1 +0.1**
VOIR 64.52 314 ⇓*i*P **P 09 32 09.1 +0.1**
KAVA Kavala 64.56 309 P **P 09 32 09.4 +0.2**
BURAR Bucovina Array 64.64 316 ⇑P **P 09 32 07.6 -2.2**
BURAR Bucovina Array 64.64 316 ⇑*i*P **P 09 32 07.6 -2.2**
BUR08 Bucovina Ar. S 64.66 316 *e*P **P 09 32 10.1 +0.2**
ARR Arges 64.80 314 ⇓*i*P **P 09 32 11.0 +0.2**
NACGM Naroch 64.84 324 *e*P **P 09 32 09.0 -1.8**
KARN Karanos 64.86 303 *e*P **P 09 32 13.0 +1.6**
PTL Penteli 64.94 306 *e*P P 09 32 24.0 +12
IDID Didziasalis 64.95 325 *e*P **P 09 32 12.0 +0.5**
IDID AMB AMB 09 32 32.0
comp=Z,40nm,0.9s
AOS Alonnisos 64.96 307 *e*P **P 09 32 10.0 -1.9**
NVR Nevrokopi 65.07 309 P **P 09 32 11.8 -0.8**
PAIG Paliouri 65.14 308 P **P 09 32 13.0 -0.1**
PAIG Paliouri 65.14 308 *e*P **P 09 32 13.0 -0.1**
IIGN Ignalina 65.24 325 *e*P **P 09 32 14.0 +0.6**
IIGN AMB AMB 09 32 33.9
comp=Z,43nm,0.8s
MPEP Malo Peshtene 65.28 311 P **P 09 32 14.0 +0.1**
LVZ Lovozero 65.31 339*d i*P **P 09 32 15.1 +1.4**
LVZ pmax pmax
comp=Z,53nm,1.2s
LVZ Lovozero 65.31 339 P **P 09 32 15.8 +2.1**
comp=Z,270nm,0.9s,SNR=5.5
STKA Stephens Creek 65.36 135 P **P 09 32 13.9 -0.6**
STKA Stephens Creek 65.36 135 P **P 09 32 13.9 -0.6**
comp=Z,63nm,0.6s,baz=313,slow=5.9,SNR=303
STKA LR LR 10 04 27.5
comp=Z,2μm,21.1s,baz=300,slow=40
ANKY Antikythira Is 65.36 303 *e*P **P 09 32 14.0 -0.6**
DID Didima 65.43 305 *e*P **P 09 32 13.5 -1.5**
KYTH Kithira 65.58 304 *e*P **P 09 32 14.5 -1.5**
APA Apatity 65.61 339 ⇑*i*P **P 09 32 16.2 +0.7**
APA *i* 09 32 34.0
APA *i* S **S 09 40 58.0 -0.1**
APA *i* PS **PnS 09 41 18.0 -3.3**
APA *i* 09 42 00.0
APA pmax pmax
comp=Z,36nm,1.0s
APA MLR MLR
comp=Z,3μm,28.0s
VTS Vitosha 65.62 311 P **P 09 32 15.9 -0.4**
VTS Vitosha 65.62 311 ⇓P **P 09 32 16.2 -0.1**
VTS Vitosha 65.62 311 P **P 09 32 15.4 -0.9**
VTS Vitosha 65.62 311 ⇓*i*P **P 09 32 16.2 -0.1**
VSU Vasula 65.63 328 *e*P **P 09 32 15.3 -0.5**
VSU pmax pmax
comp=Z,51nm,0.9s
LTK Loutraki 65.65 306 *e*P P 09 32 24.0 +7.6
VLI Veliai 65.66 304 *e*P **P 09 32 16.5 0.0**
LVV L'vov 65.69 318 *e*P **P 09 32 16.1 -0.3**
LVV *e*S **S 09 40 57.9 -1.7**
LVV *e* 09 41 20.3
LVV *e* 09 45 12.3
LVV MLR MLR
comp=Z,1μm,20.0s
LVV MLR MLR
comp=N,3μm,18.0s
LVV MLR MLR
comp=E,2μm,19.0s
KNT Kendrikon 65.79 309 P **P 09 32 17.2 0.0**
VAY Valandovo 66.04 309 *i* P **P 09 32 17.9 -1.0**
VLX Vlachokerasia 66.11 305 P **P 09 32 18.9 -0.6**
VLX Vlachokerasia 66.11 305 *e*P **P 09 32 19.0 -0.6**
GUR Goura 66.14 305 P **P 09 32 18.8 -0.9**
GUR Goura 66.14 305 *e*P **P 09 32 19.5 -0.2**
DYR Agios Nikonas 66.15 304 P **P 09 32 18.6 -1.1**
DYR Agios Nikonas 66.15 304 *e*P **P 09 32 18.5 -1.1**
AGG Agios Georgios 66.17 307 *e*P **P 09 32 18.0 -1.7**
DRGR 66.26 315 ⇓P **P 09 32 20.3 +0.1**
DRGR 66.26 315 ⇓*i*P **P 09 32 20.3 +0.1**
KLV Kalavryta, Ach 66.30 306 P **P 09 32 19.3 -1.3**
KLV Kalavryta, Ach 66.30 306 *e*P **P 09 32 19.5 -1.1**
TRIZ Trizonía 66.36 306 *e*P **P 09 32 19.0 -1.9**
THL Klokotos Trika 66.42 307 P **P 09 32 19.6 -1.7**
THL Klokotos Trika 66.42 307 *e*P **P 09 32 20.0 -1.3**
LAKA Lakka 66.43 306 P **P 09 32 20.3 -1.2**
LAKA Lakka 66.43 306 *e*P **P 09 32 20.0 -1.5**
ITM Ithomi 66.47 305 P **P 09 32 20.7 -1.0**
ITM Ithomi 66.47 305 *e*P **P 09 32 20.5 -1.2**
TRPA Tarpa 66.49 317 ⇑*i*P **P 09 32 22.5 +0.9**
TRPA Tarpa 66.49 317 ⇓*i*P **P 09 32 22.4 +0.9**
EFP Efpalio 66.49 306 *e*P **P 09 32 23.5 +1.7**
KWP Kalwaria Pacla 66.52 318 *e*P **P 09 32 22.7 +0.9**
KWP pmax pmax
comp=Z,58nm,0.4s
KWP MLR MLR
comp=Z,2μm,22.0s
KWP Kalwaria Pacla 66.52 318 *e*P **P 09 32 22.7 +0.9**
comp=Z,58nm,0.4s
KWP LR LR
comp=Z,2μm,22.0s
KWP Kalwaria Pacla 66.52 318 *e*P **P 09 32 22.4 +0.6**
KWP LMZ LR 10 05 27.9
EVR Evrytania 66.57 306 *e*P **P 09 32 22.0 -0.4**
PYL PYLOS 66.62 304 *e*P **P 09 32 21.0 -1.6**
AMT Artemida-Makis 66.64 305 *e*P P 09 32 15.5 -7.3
FIA1 FINESS Array S 66.65 331 *e*P **P 09 32 22.1 -0.3**
FINES FINESS Array B 66.65 331 P **P 09 32 22.3 0.0**
FINES FINESS Array B 66.65 331 P **P 09 32 22.3 0.0**
comp=Z,21nm,0.6s,baz=102,slow=6.6,SNR=54
FINES LR LR 10 06 20.5
comp=Z,3μm,18.4s,baz=107,slow=40
UZH Uzhgorod 66.69 317 *e*P **P 09 32 23.3 +0.4**
UZH *e* 09 32 32.0
UZH *e**PP **pP 09 32 36.7 +2.1**
UZH *e* 09 32 54.0
UZH *e* 09 34 53.9
UZH *e*PPP PPP 09 36 36.7
UZH *e*S **S 09 41 09.7 -2.2**
UZH *e*PS **PnS 09 41 37.9 +1.2**
UZH *e* 09 42 12.5
UZH *e*SSS SSS 09 48 33.0
UZH MLR MLR
comp=N,700nm,20.0s
UZH MLR MLR
comp=E,1μm,20.0s
UZH MLR MLR
comp=Z,310nm,20.0s
KAF Kangasniemi 66.71 332 *e*P **P 09 32 23.4 +0.7**
KAF pmax pmax
comp=Z,14nm,0.7s
KAF Kangasniemi 66.71 332 *e*pkp **P 09 32 23.4 +0.7**
comp=Z,14nm,0.7s
KOLS Kolonicke sedl 66.73 317 *e*P **P 09 32 23.7 +0.5**
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 66.73 317 *e*P **P 09 32 23.7 +0.5**
KOLS *e*pP **pP 09 32 38.3 +3.4**
SUW Suwalki 66.76 323 *e*P **P 09 32 23.0 -0.2**
SUW pmax pmax
comp=Z,177nm,0.9s
SUW Suwalki 66.76 323 *e*P **P 09 32 23.0 -0.2**
comp=Z,176nm,0.9s
SUW Suwalki 66.76 323 *e*P **P 09 32 22.9 -0.2**
SUW *e*pP **pP 09 32 30.6 -4.3**
SUW *e*PcP **PcP 09 32 50.6 -1.3**
SUW *e*S **S 09 41 10.7 -1.8**
SUW *e*sS **sS 09 41 31.5 -0.3**
SUW LMZ LR 10 07 18.0
RLS Riolos of Patr 66.83 306 P **P 09 32 24.6 +0.6**
RLS Riolos of Patr 66.83 306 *e*P **P 09 32 25.0 +1.0**
AXS Araxos 66.91 306 P **P 09 32 24.0 -0.4**
SKO Skopje 66.91 310 *e*P **P 09 32 22.5 -1.9**
BZS Buzias 66.94 314 ⇑P **P 09 32 25.6 +1.1**
BZS Buzias 66.94 314 ⇑*i*P **P 09 32 25.6 +1.1**
CRVS Cervenica-Dubn 67.27 317 *e*P **P 09 32 27.0 +0.5**
CRVS pmax pmax
comp=Z,44nm,1.1s
CRVS Cervenica-Dubn 67.27 317 *e*P **P 09 32 27.0 +0.5**
CRVS *e*pP **pP 09 32 40.8 +2.6**
STHS Stebnicka Huta 67.45 318 *e*P **P 09 32 28.2 +0.5**
STHS pmax pmax
comp=Z,9.0nm,1.3s
STHS Stebnicka Huta 67.45 318 *e*P **P 09 32 28.1 +0.4**
STHS *e*pP **pP 09 32 41.4 +2.0**
LKD2 Lefkada island 67.47 306 P P 09 32 24.7 -3.3
LKD2 Lefkada island 67.47 306 *e*P **P 09 32 27.0 -1.0**
VLS Valsamata 67.53 306 *e*P **P 09 32 28.0 -0.4**
KECS Kecovo 67.88 317 *e*P **P 09 32 30.8 +0.4**
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 67.88 317 *e*P **P 09 32 30.8 +0.4**
KECS *e*pP **pP 09 32 43.7 +1.6**
NIE Niedzica 68.06 318 *e*P P 09 32 35.6 +4.1
NIE *e**PP pP 09 32 48.5 +5.2
NIE *e*S **S 09 41 29.6 +1.2**
TIR Tirane 68.08 309 *e*P **P 09 32 31.5 -0.3**
TIR MLR MLR
comp=Z,1μm,21.0s
TIR Tirane 68.08 309 *e*P **P 09 32 31.5 -0.3**
TIR LR LR
comp=Z,1μm,21.0s
KEK Kerkira 68.13 307 *e*P **P 09 32 31.5 -0.7**
PSZ Piszkesteto 68.24 316 ⇓P **P 09 32 34.0 +1.2**
PSZ Piszkesteto 68.24 316 ⇓*i*P **P 09 32 34.0 +1.2**
PSZ Piszkesteto 68.24 316 *e*P **P 09 32 33.1 +0.3**
comp=Z,24nm,0.8s
PSZ LR LR

comp=Z,897nm,19.0s
PSZ Piszkesteto 68.24 316 *e*P **P** **09 32 31.8 -1.0**
OJC Ojcow 68.44 319 *e*P **P** **09 32 33.2 -0.7**
OJC *e* 09 32 58.7
OJC *e*S **S** **09 41 31.2 -1.7**
ARCES ARCESS Array B 69.01 340 P **P** **09 32 37.8 +0.7**
ARCES ARCESS Array B 69.01 340 P **P** **09 32 37.8 +0.7**
comp=Z,19nm,0.7s,baz=90,slow=5.7,SNR=45
ARCES LR LR 10 08 08.5
comp=Z,4μm,18.4s,baz=113,slow=40
ARE0 ARCESS Array S 69.01 340 *e*P **P** **09 32 37.5 +0.4**
ARE0 ARCESS Array S 69.01 340 *e*P **P** **09 32 37.5 +0.4**
PKSM Moragy 69.03 314 ⇑P **P** **09 32 37.4 -0.3**
PKSM Moragy 69.03 314 ⇑*i*P **P** **09 32 37.4 -0.3**
PKSM Moragy 69.03 314 *e*P **P** **09 32 37.1 -0.6**
OKC Ostrava-Krasne 69.48 318 *e*P **P** **09 32 41.9 +1.5**
OKC *e**PP **pP** **09 32 52.0 -0.1**
OKC *e* 09 36 58.9
OKC *e*S **S** **09 41 40.5 -4.7**
OKC MLR MLR
comp=Z,600nm,21.3s
OKC Ostrava-Krasne 69.48 318 *e*P **P** **09 32 41.9 +1.5**
OKC *e*pP **pP** **09 32 52.0 -0.1**
OKC *e*x x 09 36 58.9
OKC *e*S **S** **09 41 40.5 -4.7**
OKC AMS AMS 10 08 20.0
comp=Z,600nm,21.3s
KTK1 Kautokeino 69.65 339 *e*P **P** **09 32 42.1 +1.0**
KTK1 AMB AMB 09 32 44.2
comp=Z,396nm,1.1s
MORC Moravsky Berou 69.87 318 *e*P **P** **09 32 43.2 +0.3**
MORC pmax pmax
comp=Z,59nm,0.9s
MORC Moravsky Berou 69.87 318 *e*P **P** **09 32 43.2 +0.3**
comp=Z,59nm,0.9s
ZST Bratislava 70.12 316 *e*P **P** **09 32 45.6 +1.3**
ZST *e* 09 32 57.2
ZST *e* 09 35 24.3
ZST Bratislava 70.12 316 *e*P **P** **09 32 45.6 +1.3**
ZST *e*pP **pP** **09 32 57.2 +1.1**
ZST *e*PP **PP** **09 35 24.3 +4.6**
LSZ Lusaka 70.27 248 *e*P **P** **09 32 46.5 +0.6**
LSZ Lusaka 70.27 248 P **P** **09 32 47.8 +1.9**
SNR=13
LSZ Lusaka 70.27 248 *e*P **P** **09 32 46.5 +0.6**
comp=Z,89nm,0.9s
LSZ LR LR
comp=Z,3μm,21.0s
BEHE Becsehely 70.33 315 *e*P **P** **09 32 46.5 +0.8**
HNR Honiara 70.56 105 *e*P **P** **09 32 46.2 -1.4**
comp=Z,128nm,0.9s
HNR LR LR
comp=Z,1μm,20.0s
DPC Dobruska-Polom 70.67 319 *e*P **P** **09 32 48.3 +0.6**
DPC *e**PP **pP** **09 33 00.5 +1.0**
DPC *e*S **S** **09 41 54.1 -5.1**
DPC Dobruska-Polom 70.67 319 *e*P **P** **09 32 48.3 +0.6**
DPC *e*pP **pP** **09 33 00.5 +1.0**
DPC *e*S **S** **09 41 54.1 -5.1**
DPC AMS AMS 10 10 00.0
KSP Ksiaz 70.70 319 *e*P **P** **09 32 48.2 +0.4**
KSP *e**PP **pP** **09 32 59.5 -0.1**
KSP *e*S **S** **09 41 57.0 -2.4**
KSP MLR MLR
comp=Z,3μm,23.9s
KSP Ksiaz 70.70 319 *e*P **P** **09 32 48.1 +0.3**
KSP *e*S **S** **09 41 57.9 -1.5**
KSP LMZ LR 10 08 39.8
UPC Upice 70.88 319 *e*P **P** **09 32 50.4 +1.5**
UPC *e**PP **pP** **09 33 01.3 +0.6**
UPC Upice 70.88 319 *e*P **P** **09 32 50.4 +1.5**
UPC *e*pP **pP** **09 33 01.3 +0.6**
CONA Conrad Observa 70.95 316 ⇑*i*P **P** **09 32 49.4 -0.2**
comp=Z,42nm,1.9s,SNR=8.9
ARSA Arzberg 71.19 315 ⇑*i*P **P** **09 32 50.9 +0.1**
comp=Z,30nm,1.2s,SNR=8.0
CUC Castrocucco 71.19 308 *e*P **P** **09 32 50.8 -0.3**
comp=Z,62nm,1.2s
CUC LR LR
comp=Z,1μm,20.0s
TREC Trest 71.20 318 *e*P **P** **09 32 51.4 +0.5**
TREC *e*S **S** **09 42 00.5 -4.9**
TREC MLR MLR
comp=Z,2μm,22.6s
TREC Trest 71.20 318 *e*P **P** **09 32 51.4 +0.5**
TREC *e*S **S** **09 42 00.5 -4.9**
TREC AMS AMS 10 07 10.0
comp=Z,2μm,22.6s
CEL Celeste 71.22 306 *e*P **P** **09 32 51.5 +0.2**
comp=Z,125nm,1.0s
CEL LR LR
comp=Z,1μm,22.0s
TRO Tromso 71.28 339 *e*P **P** **09 32 51.0 0.0**
BOJS Bojanci 71.40 314 *i*P **P** **09 32 51.9 -0.3**
PERS Pernice 71.47 315 *i*P **P** **09 32 53.1 +0.4**
PERS *e*S **SKiKP** **09 42 29.5 +0.1**
SOKA Soboth 71.53 315 ⇓*i*P **P** **09 32 53.2 +0.1**
comp=Z,58nm,1.3s,SNR=14
BSD Bornholm Skovb 71.65 324 *i*P **pP** **09 33 06.9 +1.7**
comp=Z,27nm,0.9s
BSD *i* 09 35 35.4
BSD
comp=Z,2μm,17.0s
VISS Visnje 71.69 314 *i*P **P** **09 32 54.3 +0.4**
PVCC Panska Ves 71.80 319 *e*P **P** **09 32 54.6 +0.1**
PVCC *e**PP **pP** **09 33 07.1 +0.9**
PVCC MLR MLR
comp=Z,1μm,18.1s
PVCC Panska Ves 71.80 319 *e*P **P** **09 32 54.6 +0.1**
PVCC *e*pP **pP** **09 33 07.1 +0.9**
PVCC AMS AMS 10 10 30.0
comp=Z,1μm,18.1s
PRU Pruhonice 71.82 318 *e*P **P** **09 32 55.3 +0.7**
PRU *e**PP **pP** **09 33 05.8 -0.6**
PRU *e* 09 37 15.2
PRU *e*S S 09 42 03.5 -8.8
PRU MLR MLR
comp=Z,1μm,20.8s
PRU Pruhonice 71.82 318 *e*P **P** **09 32 55.3 +0.7**
PRU *e*pP **pP** **09 33 05.8 -0.6**
PRU *e*x x 09 37 15.2
PRU *e*x x 09 42 03.5
PRU AMS AMS 10 09 00.0
comp=Z,1μm,20.8s
OBKA Obir 71.87 315 ⇓*i*P **P** **09 32 55.3 +0.3**
comp=Z,60nm,1.1s,SNR=10
PRA Prague 71.89 318 P **P** **09 32 55.0 0.0**
PRA AMS AMS 10 10 00.0
MOA Molln 72.03 316 ⇑*i*P **P** **09 32 55.7 -0.3**
comp=Z,39nm,0.9s,SNR=13
BRG Berggiesshubel 72.19 319 *i*P **P** **09 32 57.4 +0.5**
comp=Z,33nm,1.2s
BRG *e* 09 33 13.2
comp=Z,77nm,1.3s
BRG PPP PPP 09 37 27.0
BRG S **S** **09 42 17.0 +0.4**
BRG SP **SKSac** **09 42 54.0 -4.2**
BRG SS SS 09 47 11.0 +17
BRG
comp=Z,2μm,21.5s
BRG
comp=N,1μm,21.8s
BRG
comp=E,2μm,21.8s
BRG Berggiesshubel 72.19 319 *e*P **P** **09 32 57.3 +0.5**
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 72.19 319 *i*P **P** **09 32 57.4 +0.5**
BRG *e* 09 33 13.2
BRG PPP PPP 09 37 27.0
BRG S **S** **09 42 17.0 +0.4**
BRG SP **SKSac** **09 42 54.0 -4.2**
BRG pmax pmax
comp=Z,33nm,1.2s
BRG pmax pmax
comp=Z,77nm,1.3s
BRG MLR MLR
comp=Z,2μm,21.5s
BRG MLR MLR
comp=N,1μm,21.8s
BRG MLR MLR
comp=E,2μm,21.8s
JAVS Javornik 72.22 314 *i*P **P** **09 32 57.7 +0.5**
JAVS *e*S S 09 42 10.3 -7.0
POGA Pongola 72.26 235 *e*P **P** **09 32 57.6 +0.1**

POGA AMB AMB 09 32 58.6
comp=Z,115nm,1.1s
VOY Vojsko 72.34 314 *e*P **P** **09 32 57.4 -0.5**
VOY *e* 09 33 03.0
VOY *e* 09 33 07.2
VOY *e* 09 33 11.0
VOY *e* 09 33 36.0
STEI Steigen 72.36 337 *e*P **P** **09 32 58.1 +0.7**
GEC2 GERESS Array S 72.38 317 *e*P **P** **09 32 58.5 +0.4**
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 72.38 317 *e*P **P** **09 32 58.5 +0.4**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 72.38 317 P **P** **09 32 58.6 +0.4**
GERES GERESS Array B 72.38 317 P **P** **09 32 58.6 +0.4**
comp=Z,12nm,0.7s,baz=90,slow=5.3,SNR=44
TRI Trieste 72.44 314 *e*P **P** **09 32 57.8 -0.6**
TRI pmax pmax
comp=Z,16nm,0.6s
TRI Trieste 72.44 314 *e*P **P** **09 32 57.8 -0.6**
comp=Z,16nm,0.6s
KHC Kasperske Hory 72.46 317 *e*P **P** **09 32 58.6 +0.1**
KHC *e**PP **pP** **09 33 10.0 -0.3**
KHC *e*S **S** **09 42 17.8 -2.0**
KHC MLR MLR
comp=Z,1μm,20.2s
KHC Kasperske Hory 72.46 317 *e*P **P** **09 32 58.6 +0.1**
KHC *e*pP **pP** **09 33 10.0 -0.3**
KHC *e*x x 09 37 16.0
KHC *e*S **S** **09 42 17.8 -2.0**
KHC AMS AMS 10 09 30.0
comp=Z,1μm,20.2s
KHC Kasperske Hory 72.46 317 *e*P **P** **09 32 58.4 -0.1**
comp=Z,24nm,0.8s
WDD Wield Dalam 72.49 303 PFAKE 09 33 10.0 +11
WDD LR LR
comp=Z,656nm,21.0s
MOR8 Moi Rana 72.51 335 *e*P **P** **09 32 58.3 -0.1**
MOR8 AMB AMB 09 32 59.7
comp=Z,40nm,1.1s
MOR8 *e*sP **sP** **09 33 13.7 -1.0**
CLL Collm 72.78 320 *e*P **P** **09 33 01.9 +1.6**
comp=Z,8.0nm,0.9s
CLL Collm 72.78 320 *i*P **P** **09 33 00.9 +0.6**
CLL *i* 09 33 11.3
CLL *i* 09 33 15.8
CLL *e*S **S** **09 42 22.0 -1.3**
CLL pmax pmax
comp=Z,26nm,1.2s
CLL MLR MLR
comp=Z,1μm,20.4s
CLL Collm 72.78 320 *i*P **P** **09 33 00.9 +0.6**
comp=Z,26nm,1.2s
CLL *i*pP **pP** **09 33 11.3 -0.8**
CLL *i*sP **sP** **09 33 15.8 -0.8**
comp=Z,72nm,1.5s
CLL *e* 09 36 12.0
CLL *e*PPP PPP 09 37 24.0
CLL *e*S **S** **09 42 22.0 -1.3**
CLL *e*sS **sS** **09 42 41.0 -1.9**
CLL *e* 09 43 33.0
CLL *e*SS SS 09 47 12.0 +8.7
CLL *e* 09 48 11.0
CLL *e*SSS SSS 09 50 36.0
CLL LmV 10 12 00.0
comp=Z,1μm,20.4s
WET Wettzell 72.92 317 *e*P **P** **09 33 01.6 +0.4**
comp=Z,3.0nm,0.8s
WET *e*pP **pP** **09 33 14.2 +1.2**
WET Wettzell 72.92 317 *e*P **P** **09 33 01.6 +0.4**
WET *e**PP **pP** **09 33 14.2 +1.2**
WET pmax pmax
comp=Z,3.0nm,0.8s
FLOS Flostrand 72.95 335 *e*P **P** **09 33 02.2 +1.2**
RJOB Jochberg 73.02 316 *e*P **P** **09 33 02.9 +1.0**
comp=Z,2.0nm,0.6s
FX1 Attu Island--F 73.06 39 P **P** **09 33 02.5 +0.5**
FX1 Attu Island--F 73.06 39 P **P** **09 33 02.5 +0.5**
comp=Z,10.0nm,0.5s,baz=308,slow=1.7,SNR=12
COP Copenhagen 73.07 324 *i*P P 09 33 12.8 +11
comp=Z,31nm,0.8s
COP *i* 09 35 50.5
COP
comp=Z,630nm,20.0s
TANN Tannenbergstha 73.15 319 *e*P **P** **09 33 03.3 +0.7**
comp=Z,2.0nm,0.8s
NKC Novy Kostel 73.16 319 *e*P **P** **09 33 04.1 +1.5**
NKC *e**PP **pP** **09 33 14.0 -0.4**
NKC *e* 09 37 31.3
NKC *e*S **S** **09 42 25.8 -2.0**
NKC MLR MLR
comp=Z,1μm,19.1s
NKC Novy Kostel 73.16 319 *e*P **P** **09 33 04.1 +1.5**
NKC *e*pP **pP** **09 33 14.0 -0.4**
NKC *e*x x 09 37 31.3
NKC *e*S **S** **09 42 25.8 -2.0**
NKC AMS AMS 10 10 00.0
comp=Z,1μm,19.1s
ABTA Abfaltersbach 73.26 315 ⇑*i*P **P** **09 33 02.5 -0.8**
comp=Z,24nm,1.1s,SNR=6.6
ROTZ Rotzenmuhle 73.33 318 *e*P **P** **09 33 05.0 +1.4**
comp=Z,4.0nm,0.8s
NSS Namsos 73.44 334 *e*P **P** **09 33 04.7 +0.7**
NSS *e*sP **sP** **09 33 19.9 -0.3**
SPA0 Spitsbergen Ar 73.52 348 *e*P **P** **09 33 04.7 +0.5**
SPITS Spitsbergen Ar 73.52 348 P **P** **09 33 05.0 +0.8**
SPITS Spitsbergen Ar 73.52 348 P **P** **09 33 05.0 +0.8**
comp=Z,6.5nm,0.6s,baz=106,slow=9.3,SNR=11
MOX Moxa 73.68 319 *e*P **P** **09 33 06.3 +0.7**
comp=Z,3.0nm,0.8s
MOX Moxa 73.68 319 *e*P **P** **09 33 06.3 +0.7**
MOX pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 73.72 330 P **P** **09 33 05.3 -0.4**
comp=Z,41nm,1.0s,baz=90,slow=5.9
NB2 NORSAR Subarra 73.72 330 P **P** **09 33 05.3 -0.4**
baz=90,slow=5.9
NOA NORSAR Array B 73.72 330 P **P** **09 33 05.3 -0.4**
NOA NORSAR Array B 73.72 330 P **P** **09 33 05.3 -0.4**
comp=Z,8.3nm,0.6s,baz=89,slow=5.8,SNR=30
NOA LR LR 10 12 19.3
comp=Z,2μm,20.6s,baz=260,slow=41
WTTA Wattenberg 73.83 316 ⇑*i*P **P** **09 33 06.0 -0.9**
comp=Z,51nm,0.7s,SNR=10
NAO01 NORSAR Array S 73.88 330 *e*P **P** **09 33 06.5 -0.1**
comp=Z,20nm,0.7s
GRF Grafenberg Arr 73.97 318 *e*P **P** **09 33 08.5 +1.1**
comp=Z,3.0nm,0.7s
GRF Grafenberg Arr 73.97 318 *e*P **P** **09 33 08.5 +1.1**
GRF pmax pmax
comp=Z,3.0nm,0.7s
GRFO Grafenberg 73.97 318 *e*P **P** **09 33 08.3 +0.9**
GRFO pmax pmax
comp=Z,74nm,1.2s
GRFO Grafenberg 73.97 318 *e*P **P** **09 33 08.3 +0.9**
comp=Z,74nm,1.2s
FUR Furstenfeldbru 74.02 316 *e*P **P** **09 33 09.4 +1.7**
comp=Z,17nm,0.6s
FUR Furstenfeldbru 74.02 316 *e*P **P** **09 33 09.4 +1.7**
FUR pmax pmax
comp=Z,17nm,0.6s
TBLU Trondheim 74.17 332 *e*P **P** **09 33 07.0 -1.2**
MOTA Moosalm 74.19 316 ⇑*i*P **P** **09 33 07.9 -1.0**
comp=Z,78nm,1.2s,SNR=12
SLR Silverton 74.25 238 *e*P **P** **09 33 10.2 +0.7**
SLR AMB AMB 09 33 11.1
comp=Z,109nm,1.2s
BSEG Bad Segeberg 74.33 322 *e*P **P** **09 33 11.9 +2.6**
comp=Z,21nm,0.8s
BSEG Bad Segeberg 74.33 322 *e*P **P** **09 33 11.9 +2.6**
BSEG pmax pmax
comp=Z,21nm,0.8s
RETA Reutte 74.41 316 *i*P **P** **09 33 09.5 -0.5**
comp=Z,30nm,0.6s,SNR=16
FETA Feichten 74.47 315 ⇑*i*P **P** **09 33 09.7 -0.8**
comp=Z,52nm,1.0s,SNR=15
KBS Kingsbay 74.50 349 *e*P **P** **09 33 10.4 +0.5**
KBS Kingsbay 74.50 349 PFAKE 09 33 20.0 +10
KBS LR LR
comp=Z,3μm,19.0s
NRDL Niedersach Rie 74.53 321 *e*P **P** **09 33 11.9 +1.5**
comp=Z,3.0nm,0.9s
ERPM east rand prop 74.53 237 *e*P **P** **09 33 11.8 +0.6**
ERPM AMB AMB 09 33 13.0
comp=Z,70nm,1.4s

KONO Kongsberg 74.53 328 *e*P **P** **09 33 12.3 +1.9**
KONO pmax pmax
comp=Z,189nm,2.1s
KONO MLR MLR
comp=Z,2μm,20.0s
KONO Kongsberg 74.53 328 *e*P **P** **09 33 12.3 +1.9**
comp=Z,189nm,2.1s
KONO LR LR
comp=Z,2μm,20.0s
UBBA Unterbreizbach 74.69 319 *e*P **P** **09 33 12.8 +1.4**
comp=Z,2.0nm,0.7s
MUD Monsted U'grnd 74.88 325 *i*P **pP** **09 33 26.0 +1.7**
comp=Z,34nm,0.9s
MUD
comp=Z,2μm,14.0s
VLC Villacollemand 74.94 312 *e*P **P** **09 33 12.3 -0.8**
comp=Z,17nm,0.8s
VLC LR LR
comp=Z,1μm,20.0s
DAVA Damuels 75.02 316 *i*P **P** **09 33 13.4 -0.4**
comp=Z,85nm,1.0s,SNR=12
DAVOX Davos/Dischmat 75.07 315 LR LR 10 11 14.9
comp=Z,1μm,21.9s,baz=240,slow=40
KSD Kokstad 75.39 233 *e*P sP 09 33 31.6 -0.7
MOL Molde 75.43 332 *e*P **P** **09 33 16.3 +0.8**
KSR Koster 75.43 238 *e*P **P** **09 33 17.6 +1.2**
KSR AMB AMB 09 33 17.9
comp=Z,74nm,4.0s
TUE Stuetta 75.46 315 *e*P **P** **09 33 16.2 -0.1**
comp=Z,31nm,0.8s
TUE LR LR
comp=Z,1μm,19.0s
PRYS Parys 75.49 237 *e*P **P** **09 33 16.9 +0.2**
PRYS AMB AMB 09 33 18.0
comp=Z,119nm,1.2s
TAU Tasmania Unive 75.53 142 *e*P **P** **09 33 15.6 -0.8**
TAU pmax pmax
comp=Z,39nm,1.0s
TAU Tasmania Unive 75.53 142 *e*P **P** **09 33 15.6 -0.8**
comp=Z,39nm,1.0s
TNS Taunus Mts 75.73 319 *e*P **P** **09 33 18.1 +0.5**
comp=Z,3.0nm,0.7s
TNS Taunus Mts 75.73 319 *e*P **P** **09 33 18.1 +0.5**
TNS pmax pmax
comp=Z,3.0nm,0.7s
SEK Senekal 75.85 236 *e*P **P** **09 33 18.2 -0.6**
SEK AMB AMB 09 33 20.7
comp=Z,93nm,1.0s
BFO Black Forest 75.97 317 *e*P **P** **09 33 20.0 +1.0**
comp=Z,11nm,1.2s
BFO Black Forest 75.97 317 *e*P **P** **09 33 19.2 +0.2**
BFO pmax pmax
comp=Z,16nm,1.0s
BFO MLR MLR
comp=Z,1μm,19.0s
BFO Black Forest 75.97 317 *e*P **P** **09 33 19.2 +0.2**
comp=Z,16nm,1.0s
BFO LR LR
comp=Z,1μm,19.0s
IBBN Ibbenburen 75.98 321 *e*P **P** **09 33 20.8 +1.9**
comp=Z,10.0nm,0.8s
PGF Pioggiola 76.10 311 *e*P **P** **09 33 19.1 -0.8**
comp=Z,72nm,1.1s
VSL Villasalto 76.17 308 PFAKE 09 33 30.0 +10
VSL LR LR
comp=Z,883nm,22.0s
LBTB Lobatse 76.18 239 ⇑*i*P **P** **09 33 20.8 +0.1**
LBTB AMB AMB 09 33 22.4
comp=Z,107nm,1.2s
LBTB Lobatse 76.18 239 *e*P **P** **09 33 20.9 +0.3**
comp=Z,149nm,1.2s
LANF Langenberg 76.26 317 *e*P **P** **09 33 20.4 -0.2**
BUG Bochum--Univer 76.36 320 *e*P **P** **09 33 23.4 +2.4**
comp=Z,16nm,0.9s
CDF Champ du Feu 76.66 317 *e*P **P** **09 33 22.3 -0.7**
comp=Z,48nm,1.0s
KEST Kesra 76.68 304 *e*P **P** **09 33 23.4 +0.1**
KEST Kesra 76.68 304 P **P** **09 33 22.8 -0.6**
comp=Z,6.1nm,1.1s,baz=130,slow=1.2,SNR=6.6
MOF Molkenrain 76.82 316 *e*P **P** **09 33 23.0 -0.9**
SAOF Saorge 76.98 312 *e*P **P** **09 33 24.1 -0.7**
HINF Hinteralfeld 77.01 316 *e*P **P** **09 33 24.1 -0.8**
comp=Z,20nm,0.8s
LOMF Lomont 77.08 316 *e*P **P** **09 33 25.8 +0.4**
SBF Sospel 77.08 312 *e*P **P** **09 33 24.8 -0.6**
comp=Z,60nm,0.7s
LUCF Luceram 77.14 312 *e*P **P** **09 33 25.2 -0.6**
MEM Membach 77.24 319 P **P** **09 33 26.8 +0.7**
comp=Z,7.1nm,1.3s
SWZ Schweizer 77.25 238 *e*P **P** **09 33 27.1 +0.5**
SWZ AMB AMB 09 33 28.2
comp=Z,181nm,1.3s
WLF Walferdange 77.26 318 P **P** **09 33 27.2 +1.1**
comp=Z,38nm,2.4s
WLF Walferdange 77.26 318 PFAKE 09 33 40.0 +14
WLF LR LR
comp=Z,2μm,20.0s
HAU Haudompre 77.33 317 *e*P **P** **09 33 25.9 -0.7**
comp=Z,88nm,1.1s
HAU *e*R
comp=Z,2μm,20.0s
LPG La Plagne 77.36 314 *e*P **P** **09 33 26.8 -0.4**
comp=Z,180nm,0.8s
LPL La Plagne 77.37 314 *e*P **P** **09 33 26.9 -0.3**
comp=Z,149nm,0.7s
BEBN Eben Emael 77.43 320 P **P** **09 33 28.3 +1.2**
MBDF Montbardon 77.45 313 *e*P **P** **09 33 26.5 -1.0**
comp=Z,52nm,0.7s
SURF Saint Ours 77.45 313 *e*P **P** **09 33 27.2 -0.4**
BNI Bardonecchia 77.47 314 *e*P **P** **09 33 28.1 +0.5**
BNI pmax pmax
comp=Z,48nm,0.8s
BNI MLR MLR
comp=Z,1μm,22.0s
BNI Bardonecchia 77.47 314 *e*P **P** **09 33 28.1 +0.5**
comp=Z,48nm,0.8s
BNI LR LR
comp=Z,1μm,22.0s
CALN Calern 77.49 312 *e*P **P** **09 33 27.3 -0.5**
THEF They Montfort 77.54 317 *e*P **P** **09 33 27.1 -0.7**
PAGF Fort de Pagny 77.67 317 *e*P **P** **09 33 28.1 -0.4**
comp=Z,10nm,0.8s
CABF La Chapelle 77.68 315 *e*P **P** **09 33 28.4 -0.3**
comp=Z,88nm,1.0s
FRF La Foret Royal 77.69 312 *e*P **P** **09 33 28.3 -0.4**
comp=Z,147nm,1.2s
LMR La Mourre 77.82 312 *e*P **P** **09 33 29.0 -0.4**
comp=Z,43nm,0.8s
GDM Grand'Maison 77.84 314 *e*P **P** **09 33 29.3 -0.5**
BOSA Boshof 77.87 236 *e*P **P** **09 33 30.6 +0.4**
BOSA AMB AMB 09 33 31.6
comp=Z,128nm,1.1s
BOSA Boshof 77.87 236 P **P** **09 33 30.5 +0.4**
BOSA Boshof 77.87 236 P **P** **09 33 30.5 +0.4**
comp=Z,75nm,0.7s,baz=73,slow=5.0,SNR=106
BOSA LR LR 10 06 11.5
comp=Z,1μm,19.5s,baz=334,slow=34
ORIF Oris-en-Rattie 78.05 314 *e*P **P** **09 33 29.9 -0.9**
comp=Z,37nm,0.7s
ORIF *e*R
comp=Z,2μm,21.0s
GIVF Givet 78.06 319 *e*P **P** **09 33 30.2 -0.4**
comp=Z,71nm,1.2s
CMAH Djebel Manchou 78.10 305 P sP 09 33 45.1 -2.5
GRN Grenoble 78.10 314 *e*P **P** **09 33 30.7 -0.4**
MEZF Maizieres J'vi 78.12 317 *e*P **P** **09 33 30.7 -0.3**
SFTF Sexfontaines 78.17 317 *e*P **P** **09 33 30.6 -0.7**
comp=Z,94nm,1.1s
DOU Dourbes 78.20 319 P **P** **09 33 32.5 +1.1**
comp=Z,7.7nm,1.5s
SMRF Simiane la Rot 78.40 313 *e*P **P** **09 33 32.7 0.0**
comp=Z,58nm,0.8s
BAIF Baives 78.45 319 *e*P **P** **09 33 32.7 -0.1**
comp=Z,77nm,1.1s
HVD Gariep Dam 78.48 234 *e*P **P** **09 33 34.5 +1.0**
HVD AMB AMB 09 33 36.4
comp=Z,133nm,1.3s
RUDU RUNDU 78.79 248 *e*P **P** **09 33 37.2 +1.8**
RUDU AMB AMB 09 33 37.7
comp=Z,126nm,1.1s
GRM Grahamstown 78.82 231 *e*P **P** **09 33 36.0 +0.9**
GRM AMB AMB 09 33 36.9
comp=Z,144nm,2.9s
VIVF Saint-Julien-l 78.91 314 *e*P **P** **09 33 35.0 -0.5**
comp=Z,123nm,1.2s
SSB Saint Sauveur 78.94 314 PFAKE 09 33 50.0 +14

SSB LR LR
comp=Z,1µm,20.0s
SSB Saint Sauveur 78.94 314 *eP* **P 09 33 35.5 -0.1**
LOR Lormes 79.10 316 *eP* **P 09 33 35.6 -0.8**
comp=Z,97nm,1.2s
LOR *eR*
comp=Z,1µm,22.0s
SMF Signal de Mont 79.21 315 *eP* **P 09 33 36.3 -0.8**
comp=Z,47nm,0.7s
DFRA Djebel Bou Aff 79.33 305 P P 09 33 44.3 +6.2
ADK Adak 79.34 39 PFAKE 09 33 50.0 +12
ADK LR LR
comp=Z,1µm,22.0s
SSF Saint Saulge 79.37 316 *eP* **P 09 33 37.4 -0.5**
comp=Z,94nm,1.3s
AVF Avril sur Loir 79.51 316 *eP* **P 09 33 38.0 -0.7**
comp=Z,62nm,1.0s
LASF Ste Croix 79.61 313 *eP* **P 09 33 39.2 -0.1**
comp=Z,151nm,1.1s
CKHR Kef el Ahmar 79.72 305 P P 09 33 49.6 +9.4
AGO Saint Agoulin 79.79 315 *eP* **P 09 33 39.6 -0.6**
LBL Lubilhac 79.84 314 *eP* **P 09 33 40.4 -0.2**
BGF Bois d'Agland 79.90 315 *eP* **P 09 33 40.4 -0.4**
comp=Z,62nm,1.0s
PYM Petit Puy Mans 79.92 315 *eP* **P 09 33 40.7 -0.4**
MSKU Masuku 79.95 266 PFAKE 09 33 50.0 +8.3
MSKU LR LR
comp=Z,3.0nm,22.0s
TCF Toulx Ste Croi 80.38 315 *eP* **P 09 33 43.2 -0.2**
comp=Z,67nm,1.1s
BUFB Buffelsbos 80.50 231 *eP* **P 09 33 45.0 +0.8**
BUFB AMB AMB 09 33 49.5
comp=Z,132nm,3.4s
CAF Calviac 80.72 314 *eP* **P 09 33 45.1 -0.2**
comp=Z,62nm,1.2s
MTLF Montolieu 80.91 312 *eP* **P 09 33 45.9 -0.4**
comp=Z,69nm,1.1s
RJF Les Rejaudoux 81.03 314 *eP* **P 09 33 46.9 0.0**
comp=Z,110nm,1.3s
RJF *eR*
comp=Z,2µm,21.5s
TSUM Tsumeb 81.12 248 *eP* **P 09 33 49.0 +1.1**
TSUM Tsumeb 81.12 248 PFAKE 09 34 00.0 +12
TSUM LR LR
comp=Z,3µm,22.0s
DAG Danmarks Havn 81.15 347⇑ *iP* **P 09 33 47.5 +0.6**
comp=Z,6.9nm,0.8s
DAG *i* 09 33 59.0
DAG
comp=Z,2µm,21.0s
CASY Casey 81.23 173 PFAKE 09 34 00.0 +13
CASY LR LR
comp=Z,2µm,20.0s
LDF La Druitiere 81.50 318 *eP* **P 09 33 48.7 -0.6**
comp=Z,32nm,0.6s
LFF La Frestale 81.64 314 *eP* **P 09 33 50.1 0.0**
comp=Z,34nm,0.9s
FLN La Foliniere 81.69 318 *eP* **P 09 33 49.8 -0.5**
comp=Z,63nm,0.9s
FLN *eR*
comp=Z,2µm,22.8s
MLS Moulis 81.79 312 *eP* **P 09 33 50.3 -0.7**
MFF Saint Martin d 81.92 316 *eP* **P 09 33 51.0 -0.6**
comp=Z,71nm,1.0s
ESK Eskdalemuir 81.93 325 P **P 09 33 52.0 +0.6**
ESK pmax pmax
comp=Z,23nm,0.9s
ESK MLR MLR
comp=Z,2µm,19.0s
ESK Eskdalemuir 81.93 325 P **P 09 33 52.0 +0.6**
comp=Z,23nm,0.9s
ESK LR LR
comp=Z,2µm,19.0s
GRR Gorron 82.02 318 *eP* **P 09 33 51.5 -0.5**
comp=Z,13nm,0.6s
TAM Tamanrasset 82.22 292 PFAKE 09 34 10.0 +16
TAM LR LR
comp=Z,851nm,21.0s
EPF Esparros 82.32 312 *eP* **P 09 33 52.8 -1.0**
comp=Z,24nm,1.0s
WIN Windhoek 82.61 245 *eP* **P 09 33 57.3 +1.5**
WIN AMB AMB 09 33 58.7
comp=Z,25nm,1.1s
EBNR Beni Rached 82.83 306 P sP 09 34 09.4 -3.6
ALE Alert 82.86 357 P **P 09 33 57.0 +1.2**
comp=Z,91nm,0.9s,SNR=6.8
SUR Sutherland 82.86 234 *eP* **P 09 33 57.9 +1.0**
SUR AMB AMB 09 33 58.0
comp=Z,92nm,2.2s
SUR Sutherland 82.86 234 *eP* **P 09 33 56.3 -0.6**
comp=Z,45nm,0.9s
SUR LR LR
comp=Z,2µm,22.0s
ETSF Etsaut 82.99 312 *eP* **P 09 33 57.1 -0.2**
comp=Z,31nm,0.9s
SGMF Saint Gilles 83.15 318 *eP* **P 09 33 57.3 -0.7**
comp=Z,46nm,0.8s
ETRT Tiaret 83.20 305 P P 09 34 05.6 +7.0
EANR 'Ain N'Sour 83.24 305 P **P 09 34 00.3 +1.5**
CVNA Calvinia 83.36 235⇑ *iP* **P 09 34 00.7 +1.2**
CVNA AMB AMB 09 34 01.3
comp=Z,98nm,1.6s
SJPF Ste Jean 83.42 313 *eP* **P 09 33 59.3 -0.2**
comp=Z,68nm,1.3s
ROSF Rostrenen 83.60 318 *eP* **P 09 33 59.7 -0.5**
comp=Z,81nm,1.2s
QUIF Quistinic 83.63 318 *eP* **P 09 33 59.6 -0.8**
comp=Z,38nm,0.9s
MAW Mawson 84.35 191 P **P 09 34 03.1 -0.4**
MAW Mawson 84.35 191 P **P 09 34 03.1 -0.4**
comp=Z,28nm,1.1s,baz=16,slow=6.1,SNR=4.5
MAW LR LR 10 05 29.7
comp=Z,580nm,21.5s,baz=356,slow=31
ELIM Elim 84.49 232 *eP* **P 09 34 04.2 -0.8**
ELIM AMB AMB 09 34 05.3
comp=Z,234nm,1.7s
KOMG Komaggas 84.63 238 *eP* **P 09 34 05.7 -0.1**
KOMG AMB AMB 09 34 07.7
comp=Z,67nm,1.2s
ESDC Sonseca Array 86.25 310 P **P 09 34 14.1 +0.2**
ESDC Sonseca Array 86.25 310 P **P 09 34 14.1 +0.2**
comp=Z,2.6nm,0.6s,baz=60,slow=4.9,SNR=15
ESLA Sonseca Array 86.25 310 *eP* **P 09 34 14.0 +0.1**
comp=Z,1.9nm,0.7s
IMA2 Indian Mountai 86.37 22 *eP* **P 09 34 14.3 +0.3**
IM04 Indian Mountai 86.38 22 *eP* **P 09 34 14.4 +0.5**
PAB San Pablo 86.57 310 PFAKE 09 34 30.0 +15
PAB LR LR
comp=Z,1µm,20.0s
BORG Borgarnes 87.23 337 *eP* **P 09 34 20.4 +2.4**
comp=Z,85nm,1.7s
BORG LR LR
comp=Z,2µm,20.0s
DRV Dumont d'Urvil 87.67 163 P P 09 34 31.0 +11
DRV S S 09 44 19.0 -40
DRV SS SS 09 50 26.0 -20
SDPT Sand Point 87.73 33 *eP* **P 09 34 21.1 +0.5**
comp=Z,40nm,0.8s
SUMG Summit 87.82 347 *eP* **P 09 34 20.9 -0.3**
SUMG pmax pmax
comp=Z,47nm,0.9s
SUMG Summit 87.82 347 *i P* **P 09 34 21.8 +0.6**
comp=Z,16nm,1.0s
SUMG *i* 09 34 34.4
SUMG
comp=Z,3µm,20.0s
SUMG Summit 87.82 347 *eP* **P 09 34 20.9 -0.3**
comp=Z,47nm,0.9s
TOA0 Torodi Ar. Sit 87.94 283 *eP* **P 09 34 22.9 +0.5**
TORD Torodi Ar. Bea 87.94 283 P **P 09 34 22.9 +0.4**
TORD PP PP 09 37 56.6 +7.6
TORD Torodi Ar. Bea 87.94 283 P **P 09 34 22.9 +0.4**
comp=Z,16nm,0.9s,baz=79,slow=4.3,SNR=72
TORD PP PP 09 37 56.6 +7.6
comp=Z,16nm,1.1s,baz=59,slow=5.3,SNR=5.0
MVO Moncorvo 88.09 312 *eP* P 09 34 28.0 +5.3
comp=Z,26nm,1.2s
CHGN Chignik 88.44 32 *eP* **P 09 34 23.5 -0.4**
MDT Midelt 88.58 303 P **P 09 34 25.2 -0.1**
MDT Midelt 88.58 303 P **P 09 34 25.2 -0.1**
comp=Z,1.7nm,0.7s,baz=33,slow=7.2,SNR=4.9
PCAB Cabril 88.64 313 *eP* **P 09 34 27.2 +1.9**
comp=Z,31nm,1.3s
MTE Manteigas 88.69 311 *eP* P 09 34 32.0 +6.4
comp=Z,35nm,1.4s
MTE Manteigas 88.69 311 *eP* **P 09 34 26.6 +1.0**
comp=Z,44nm,1.4s
MTE LR LR
comp=Z,1µm,22.0s
PCBR Castelo Branco 88.81 311 *eP* **P 09 34 27.7 +1.7**
comp=Z,15nm,1.2s
PMRV Marv??o 88.87 310 *eP* P 09 34 32.8 +6.4
PBAR Barrancos 88.97 309 *eP* **P 09 34 27.7 +0.8**
comp=Z,40nm,1.6s
COLA College 89.08 22 *eP* **P 09 34 27.0 +0.2**
COLA pmax pmax
comp=Z,69nm,1.0s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA College 89.08 22 *eP* **P 09 34 27.0 +0.2**
comp=Z,69nm,1.0s
COLA LR LR
comp=Z,1µm,19.0s
RSO Redoubt South 89.34 27 *eP* **P 09 34 29.6 +1.2**
comp=Z,56nm,0.8s
ILAR Eielson Array 89.48 22 P **P 09 34 27.9 -0.8**
ILAR PP PP 09 38 06.5 +6.8
ILAR Eielson Array 89.48 22 P **P 09 34 27.9 -0.8**
comp=Z,6.3nm,0.7s,baz=290,slow=4.7,SNR=70
ILAR PP PP 09 38 06.5 +6.8
comp=Z,2.2nm,0.8s,baz=292,slow=6.5,SNR=4.6
ILAR LR LR 10 22 48.8
comp=Z,1µm,18.6s,baz=117,slow=41
PMTG Montargil 89.59 310 *eP* **P 09 34 31.7 +2.0**
comp=Z,26nm,1.7s
EVO Evora 89.60 310 *eP* **P 09 34 30.1 +0.3**
comp=Z,20nm,0.9s
PBEJ Beja 89.64 309 *eP* P 09 34 36.7 +6.7
comp=Z,43nm,1.4s
PVAQ Vaqueiros 89.71 308 *eP* **P 09 34 32.0 +1.6**
comp=Z,44nm,1.6s
MSVF Nonsavu 89.78 108 PFAKE 09 34 40.0 +8.9
MSVF LR LR
comp=Z,1µm,19.0s
PBDV Barranco-do-Ve 89.92 308 *eP* P 09 34 34.4 +3.0
comp=Z,46nm,1.4s
RTC Rabat Centre 90.05 305 PFAKE 09 34 40.0 +8.0
RTC LR LR
comp=Z,1µm,20.0s
PNCL Nicolau / Gran 90.11 309 *eP* **P 09 34 33.2 +1.0**
comp=Z,23nm,1.5s
PMR Palmer 90.31 25 *eP* **P 09 34 32.7 +0.1**
PMR pmax pmax
comp=Z,108nm,1.2s
PMR Palmer 90.31 25 *eP* **P 09 34 32.7 +0.1**
comp=Z,108nm,1.2s
LIS Lisbon 90.39 310 *eP* **P 09 34 33.8 +0.3**
LIS AMb AMB 09 34 36.9
comp=Z,76nm,1.3s
LIS Lisbon 90.39 310 *eP* **P 09 34 33.8 +0.3**
MORF Marmelete 90.45 309 *eP* **P 09 34 34.0 +0.1**
MORF *eS* **SKSac 09 45 01.7 -0.9**
OHAK Old Harbor 90.60 30 *eP* **P 09 34 34.2 +0.2**
comp=Z,97nm,1.3s
KDAK Kodiak Island 90.67 29 *eP* **P 09 34 36.3 +1.9**
KDAK LR LR
comp=Z,8µm,19.0s
KDAK Kodiak Island 90.67 29 P **P 09 34 34.6 +0.2**
comp=Z,145nm,0.7s,SNR=6.3
KDAK Kodiak Island 90.67 29 P **P 09 34 33.8 -0.5**
comp=Z,13nm,0.6s,baz=344,slow=4.1,SNR=22
SYO Syowa Base 90.95 197⇑ *eP* P 09 34 31.0 -4.2
SYO Syowa Base 90.95 197⇓ *iP* **P 09 34 35.0 -0.2**
RES Resolute Bay 91.27 2 P **P 09 34 37.2 +0.4**
RES Resolute Bay 91.27 2 P **P 09 34 37.2 +0.4**
comp=Z,16nm,0.9s,baz=167,slow=4.1,SNR=3.8
RPZ Rat Peaks 91.33 135 LR LR 10 13 45.9
comp=Z,1µm,20.9s,baz=43,slow=34
INK Inuvik 91.39 16 *eP* **P 09 34 37.1 -0.4**
comp=Z,39nm,1.1s
INK Inuvik 91.39 16 P **P 09 34 37.3 -0.1**
comp=Z,12nm,0.9s,baz=333,slow=4.6,SNR=23
EGAK Eagle 91.47 20 *eP* **P 09 34 39.9 +1.9**
comp=Z,22nm,1.0s
EGAK LR LR
comp=Z,2µm,22.0s
MENT Mentasta 91.68 22 *eP* **P 09 34 39.5 +0.4**
DAWY Dawson 92.52 20 *eP* **P 09 34 43.2 +0.3**
SNZO South Karori 93.20 132 PFAKE 09 35 00.0 +14
SNZO LR LR
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 94.80 346 PFAKE 09 35 10.0 +17
SFJD LR LR
comp=Z,3µm,19.0s
HYT Haines Junctio 95.30 22 *eP* **P 09 34 57.6 +1.8**
KIC Kosan Boka 95.76 278 *eP* sP 09 35 11.4 -3.9
comp=Z,88nm,1.2s
DBIC Dimbokro 95.80 278 *eP* **P 09 35 00.1 +1.2**
DBIC Dimbokro 95.80 278 P **P 09 34 58.9 +0.1**
comp=Z,1.9nm,0.4s,baz=108,slow=7.8,SNR=3.0
TIC Toumodi 95.96 278 *eP* sP 09 35 14.9 -1.3
comp=Z,9.7nm,0.3s
LIC Lamto 96.07 278 *eP* **P 09 35 01.0 +0.9**
comp=Z,21nm,0.9s
LIC Lamto 96.07 278 *eP* sP 09 35 14.7 -2.0
comp=Z,78nm,1.7s
SKAG Skagway 97.03 23 *eP* Pdif 09 35 04.5 +0.9
comp=Z,69nm,1.6s
VNDA Vanda 99.25 168 P **Pdif 09 35 14.0 +1.0**
VNDA Vanda 99.25 168 P **Pdif 09 35 14.0 +1.0**
comp=Z,0.6nm,0.5s,baz=315,slow=7.1,SNR=4.3
VNDA LR LR 10 17 48.0
comp=Z,708nm,19.6s,baz=294,slow=34
WRAK Wrangell Islan 100.30 24 PFAKE 09 35 30.0 +12
WRAK LR LR
comp=Z,2µm,20.0s
SBA Scott Base 100.35 168 PFAKE 09 35 30.0 +12
SBA LR LR
comp=Z,872nm,19.0s
YKA Yellowknife Ar 100.68 13 P **Pdif 09 35 19.6 -0.2**
YKA PP PKiKP 09 39 39.0 -6.8
YKA Yellowknife Ar 100.68 13 P **Pdif 09 35 19.5 -0.2**
comp=Z,2.3nm,0.9s,baz=328,slow=4.2,SNR=3.7
YKA PP PKiKP 09 39 38.9 -6.8
comp=Z,3.6nm,0.9s,baz=330,slow=7.9,SNR=5.1
SHEL Horse Pasture 101.85 256 PFAKE 09 35 40.0 +14
SHEL LR LR
comp=Z,2µm,22.0s
KIP Kipapa 102.05 64 PFAKE 09 35 40.0 +13
KIP LR LR
comp=Z,1µm,19.0s
CMLA Cha da Macela 102.56 314 PFAKE 09 35 40.0 +11
CMLA LR LR
comp=Z,1µm,21.0s
QSPA South Pole Qui 103.97 180 PFAKE 09 35 50.0 +16
QSPA LR LR
comp=Z,2µm,20.0s
SNAA Sanae 105.07 199 *e*Pdiff **Pdif 09 35 44.9 +5.8**
VNA2 Neumayer--Watz 106.58 200 *e*Pdiff **Pdif 09 35 54.4 +8.7**
ASCN Ascension 108.50 266 PFAKE 09 40 10.0
ASCN LR LR
comp=Z,732nm,20.0s
XMAS Kiritimati 108.58 83 PFAKE 09 40 10.0
XMAS LR LR
comp=Z,1µm,21.0s
NLWA Neilton Lookou 110.54 26 PFAKE 09 40 20.0
NLWA LR LR
comp=Z,1µm,20.0s
SACV Santiago Islan 110.82 292 PFAKE 09 40 20.0
SACV LR LR
comp=Z,1µm,19.0s
NEW Newport 112.43 21 PFAKE 09 40 20.0
NEW LR LR
comp=Z,2µm,22.0s
NEW Newport 112.43 21⇑PKiKP **PKiKP 09 40 11.2 +3.2**
baz=112
NEW Newport 112.43 21⇑PKiKP **PKiKP 09 40 11.2 +3.2**
baz=112
A14A Double T Ranch 113.03 18⇓PKiKP **PKiKP 09 40 10.7 +1.5**
baz=113
A14A Double T Ranch 113.03 18⇓PKiKP **PKiKP 09 40 10.7 +1.5**
baz=113
A15A Johnson Ranch, 113.24 18⇓PKiKP **PKiKP 09 40 10.5 +0.9**
baz=113
A15A Johnson Ranch, 113.24 18⇓PKiKP **PKiKP 09 40 10.5 +0.9**
baz=113
BSMT Bassoo Peak 113.58 20 *e*PKPdf **PKiKP 09 40 11.8 +1.3**
A17A Triple J Farms 113.86 17⇓PKiKP **PKiKP 09 40 11.7 +1.0**
baz=114
A17A Triple J Farms 113.86 17⇓PKiKP **PKiKP 09 40 11.7 +1.0**
baz=114
B15A Bradely Ranch, 113.88 18⇑PKiKP **PKiKP 09 40 11.3 +0.5**
baz=114
B15A Bradely Ranch, 113.88 18⇑PKiKP **PKiKP 09 40 11.3 +0.5**
baz=114
A18A Metzger Ranch, 114.11 16⇑PKiKP PKPdf 09 40 12.1 +0.9
baz=114
A18A Metzger Ranch, 114.11 16⇑PKiKP PKPdf 09 40 12.1 +0.9
baz=114
SWMT Swartz Lake 114.14 20 *e*PKPdf PKPdf 09 40 10.1 -1.3
C15A Salmond Ranch, 114.35 19⇑PKiKP PKPdf 09 40 12.6 +0.8
baz=114
C15A Salmond Ranch, 114.35 19⇑PKiKP PKPdf 09 40 12.6 +0.8
baz=114
A19A Klindworth Far 114.40 15⇑PKiKP PKPdf 09 40 12.8 +1.0
baz=114
A19A Klindworth Far 114.40 15⇑PKiKP PKPdf 09 40 12.8 +1.0
baz=114
B17A L&G Farms, Che 114.42 17⇑PKiKP PKPdf 09 40 12.8 +1.0
baz=114
B17A L&G Farms, Che 114.42 17⇑PKiKP PKPdf 09 40 12.8 +1.0
baz=114
SLMT Seeley Lake 114.54 19 *e*PKPdf PKPdf 09 40 13.1 +0.8
B18A Beardsley Farm 114.61 16⇑PKiKP PKPdf 09 40 13.0 +0.8
baz=114
B18A Beardsley Farm 114.61 16⇑PKiKP PKPdf 09 40 13.0 +0.8
baz=114
A20A Cobblestone Ra 114.65 15⇑PKiKP PKPdf 09 40 12.9 +0.6
baz=114
A20A Cobblestone Ra 114.65 15⇑PKiKP PKPdf 09 40 12.9 +0.6
baz=114
HUMO Hull Mountain 114.69 28 *e*PKPdf PKPdf 09 40 13.1 +0.6
MSO Missoula 114.75 20⇑PKiKP PKPdf 09 40 13.2 +0.6
baz=115
MSO Missoula 114.75 20⇑PKiKP PKPdf 09 40 13.2 +0.6
baz=115
B19A Brinkman Farms 114.78 16⇑PKiKP PKPdf 09 40 13.2 +0.7
baz=115
B19A Brinkman Farms 114.78 16⇑PKiKP PKPdf 09 40 13.2 +0.7
baz=115
A21A Bergtoll Ranch 114.79 14⇓PKiKP PKPdf 09 40 13.3 +0.8
baz=115
A21A Bergtoll Ranch 114.79 14⇓PKiKP PKPdf 09 40 13.3 +0.8
baz=115
EGMT Eagleton 114.95 17 *e*PKPdf PKPdf 09 40 14.2 +1.3
EGMT LR LR
comp=Z,1µm,21.0s
EGMT Eagleton 114.95 17⇓PKiKP PKPdf 09 40 13.7 +0.8
baz=115
EGMT Eagleton 114.95 17⇓PKiKP PKPdf 09 40 13.7 +0.8
baz=115
A22A Carney Farms, 115.02 14⇓PKiKP **PKPdf 09 40 14.0 +1.0**
baz=115
A22A Carney Farms, 115.02 14⇓PKiKP **PKPdf 09 40 14.0 +1.0**
baz=115
C17A Wharram Farm, 115.03 17⇓PKiKP **PKPdf 09 40 13.9 +0.8**
baz=115
C17A Wharram Farm, 115.03 17⇓PKiKP **PKPdf 09 40 13.9 +0.8**
baz=115
B20A Solberg Farm, 115.03 15⇓PKiKP **PKPdf 09 40 13.8 +0.8**
baz=115
B20A Solberg Farm, 115.03 15⇓PKiKP **PKPdf 09 40 13.8 +0.8**
baz=115
BMO Blue Mountains 115.25 23 PFAKE 09 40 30.0 +16
BMO LR LR
comp=Z,932nm,21.0s
B21A Ellsworth Farm 115.29 14⇑PKiKP **PKPdf 09 40 14.3 +0.8**
baz=115
B21A Ellsworth Farm 115.29 14⇑PKiKP **PKPdf 09 40 14.3 +0.8**
baz=115
C19A Slack Wire Ran 115.41 16⇓PKiKP **PKPdf 09 40 14.5 +0.8**
baz=115
C19A Slack Wire Ran 115.41 16⇓PKiKP **PKPdf 09 40 14.5 +0.8**
baz=115
D17A Six Diamond Ra 115.48 18⇑PKiKP **PKPdf 09 40 14.7 +0.6**
baz=115
D17A Six Diamond Ra 115.48 18⇑PKiKP **PKPdf 09 40 14.7 +0.6**
baz=115
A24A Westby 115.50 12⇑PKiKP **PKPdf 09 40 14.8 +0.9**
baz=115
A24A Westby 115.50 12⇑PKiKP **PKPdf 09 40 14.8 +0.9**
baz=115
B22A Reddig Ranch S 115.65 14⇓PKiKP **PKPdf 09 40 15.4 +1.1**
baz=115
B22A Reddig Ranch S 115.65 14⇓PKiKP **PKPdf 09 40 15.4 +1.1**
baz=115
D18A Linhart Farms, 115.70 17⇓PKiKP **PKPdf 09 40 15.1 +0.7**
baz=116
D18A Linhart Farms, 115.70 17⇓PKiKP **PKPdf 09 40 15.1 +0.7**
baz=116
C20A Veseth Ranch, 115.71 15⇓PKiKP **PKPdf 09 40 15.1 +0.8**
baz=116
C20A Veseth Ranch, 115.71 15⇓PKiKP **PKPdf 09 40 15.1 +0.8**
baz=116
B23A Brockton 115.73 13⇑PKiKP **PKPdf 09 40 15.5 +1.2**
baz=116
B23A Brockton 115.73 13⇑PKiKP **PKPdf 09 40 15.5 +1.2**
baz=116
DGMT Dagmar 115.89 13 PFAKE 09 40 30.0 +15
DGMT LR LR
comp=Z,1µm,20.0s
DGMT Dagmar 115.89 13⇑PKiKP **PKPdf 09 40 15.8 +1.2**
baz=116
DGMT Dagmar 115.89 13⇑PKiKP **PKPdf 09 40 15.8 +1.2**
baz=116
A26A Wade Farm, Ken 115.91 11⇓PKiKP **PKPdf 09 40 15.6 +1.0**
baz=116
A26A Wade Farm, Ken 115.91 11⇓PKiKP **PKPdf 09 40 15.6 +1.0**
baz=116
D19A Cripps Ranch, 115.98 16⇑PKiKP **PKPdf 09 40 16.0 +1.1**
baz=116
D19A Cripps Ranch, 115.98 16⇑PKiKP **PKPdf 09 40 16.0 +1.1**
baz=116
C22A Vida 116.20 14⇑PKiKP **PKPdf 09 40 16.3 +1.1**
baz=116
C22A Vida 116.20 14⇑PKiKP **PKPdf 09 40 16.3 +1.1**
baz=116
D20A Manuel Ranch, 116.25 16⇓PKiKP **PKPdf 09 40 16.4 +1.0**
baz=116
D20A Manuel Ranch, 116.25 16⇓PKiKP **PKPdf 09 40 16.4 +1.0**
baz=116
C23A Lambert 116.31 13⇓PKiKP **PKPdf 09 40 16.6 +1.1**
baz=116
C23A Lambert 116.31 13⇓PKiKP **PKPdf 09 40 16.6 +1.1**
baz=116
DLMT Dillon 116.49 20 *e*PKPdf **PKPdf 09 40 17.5 +1.4**
BOZ Bozeman (W) 116.55 19 *e*PKIKP **PKPdf 09 40 16.1 0.0**
BOZ MLR MLR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 116.55 19 *e*PKPdf **PKPdf 09 40 16.1 0.0**
BOZ LR LR
comp=Z,1µm,19.0s
D21A La Casta Ranch 116.57 15⇓PKiKP **PKiKP 09 40 17.0 +1.0**
baz=116
D21A La Casta Ranch 116.57 15⇓PKiKP **PKiKP 09 40 17.0 +1.0**
baz=116
F17A Fitzpatrick Pl 116.62 18⇓PKiKP **PKiKP 09 40 17.1 +0.9**
baz=116
F17A Fitzpatrick Pl 116.62 18⇓PKiKP **PKiKP 09 40 17.1 +0.9**
baz=116
E19A Rath Farm, Rou 116.65 17⇑PKiKP **PKiKP 09 40 17.1 +0.9**
baz=116
E19A Rath Farm, Rou 116.65 17⇑PKiKP **PKiKP 09 40 17.1 +0.9**
baz=116
D22A Cohagen 116.69 14⇓PKiKP **PKiKP 09 40 17.3 +1.1**
baz=116
D22A Cohagen 116.69 14⇓PKiKP **PKiKP 09 40 17.3 +1.1**
baz=116
C24A Savage 116.73 13⇓PKiKP **PKiKP 09 40 17.2 +0.9**
baz=116
C24A Savage 116.73 13⇓PKiKP **PKiKP 09 40 17.2 +0.9**
baz=116
WVOR Wild Horse Val 116.73 26 *e*PKIKP **PKPdf 09 40 16.9 +0.4**
WVOR MLR MLR
comp=Z,718nm,20.0s
WVOR Wild Horse Val 116.73 26 *e*PKPdf **PKPdf 09 40 16.9 +0.4**
WVOR LR LR
comp=Z,718nm,20.0s
E20A Meyer Farm, Mu 116.79 16⇑PKiKP **PKiKP 09 40 17.5 +1.1**
baz=117
E20A Meyer Farm, Mu 116.79 16⇑PKiKP **PKiKP 09 40 17.5 +1.1**
baz=117
MCMT McKenzie Canyo 116.88 20 *e*PKPdf **PKPdf 09 40 18.6 +1.7**
D23A Lindsay 116.90 14⇓PKiKP **PKiKP 09 40 17.9 +1.3**
baz=117
D23A Lindsay 116.90 14⇓PKiKP **PKiKP 09 40 17.9 +1.3**
baz=117
F18A Big Timber 116.90 17⇓PKiKP **PKiKP 09 40 18.0 +1.3**
baz=117
F18A Big Timber 116.90 17⇓PKiKP **PKiKP 09 40 18.0 +1.3**

	baz=117						
GCMT	Greycliff	117.01	17	ePKPdf	PKPdf	09 40 17.3	+0.3
E21A	Keefer Ranch,	117.03	15	⇑PKiKP	PKiKP	09 40 18.4	+1.4
	baz=117						
E21A	Keefer Ranch,	117.03	15	⇑PKiKP	PKiKP	09 40 18.4	+1.4
	baz=117						
MFID	Camas Ranch	117.04	23	⇑PKiKP	PKiKP	09 40 18.4	+1.3
	baz=117						
MFID	Camas Ranch	117.04	23	⇑PKiKP	PKiKP	09 40 18.4	+1.3
	baz=117						
G17A	Pierce Place,	117.12	18	⇑PKiKP	PKiKP	09 40 18.9	+1.7
	baz=117						
G17A	Pierce Place,	117.12	18	⇑PKiKP	PKiKP	09 40 18.9	+1.7
	baz=117						
F19A	Roth Farm, Mol	117.16	17	⇑PKiKP	PKiKP	09 40 18.6	+1.4
	baz=117						
F19A	Roth Farm, Mol	117.16	17	⇑PKiKP	PKiKP	09 40 18.6	+1.4
	baz=117						
MDND	Maddock	117.34	9	⇓PKiKP	PKiKP	09 40 18.7	+1.3
	baz=117						
MDND	Maddock	117.34	9	⇓PKiKP	PKiKP	09 40 18.7	+1.3
	baz=117						
AGMN	Agassiz Nation	117.40	7	PFAKE		09 40 30.0	+13
AGMN				LR	LR		
	comp=Z,1μm,22.0s						
F20A	Billings	117.43	16	⇑PKiKP	PKiKP	09 40 18.8	+1.0
	baz=117						
F20A	Billings	117.43	16	⇑PKiKP	PKiKP	09 40 18.8	+1.0
	baz=117						
HLID	Hailey	117.44	22	ePKPdf	PKPdf	09 40 18.4	+0.5
HLID				LR	LR		
	comp=Z,1μm,20.0s						
HLID	Hailey	117.44	22	⇑PKiKP	PKiKP	09 40 19.0	+1.0
	baz=117						
HLID	Hailey	117.44	22	⇑PKiKP	PKiKP	09 40 19.0	+1.0
	baz=117						
E23A	Ismay	117.51	14	⇓PKiKP	PKiKP	09 40 19.3	+1.4
	baz=117						
E23A	Ismay	117.51	14	⇓PKiKP	PKiKP	09 40 19.3	+1.4
	baz=117						
H16A	Russell Place,	117.51	19	⇓PKiKP	PKiKP	09 40 19.3	+1.2
	baz=117						
H16A	Russell Place,	117.51	19	⇓PKiKP	PKiKP	09 40 19.3	+1.2
	baz=117						
D26A	Manning	117.62	12	⇓PKiKP	PKiKP	09 40 19.7	+1.6
	baz=117						
D26A	Manning	117.62	12	⇓PKiKP	PKiKP	09 40 19.7	+1.6
	baz=117						
E24A	Baker	117.68	13	⇑PKiKP	PKiKP	09 40 19.7	+1.5
	baz=118						
E24A	Baker	117.68	13	⇑PKiKP	PKiKP	09 40 19.7	+1.5
	baz=118						
RLMT	Red Lodge	117.74	18	ePKPdf	PKPdf	09 40 19.6	+1.1
RLMT				LR	LR		
	comp=Z,1μm,19.0s						
LKWY	Lake	117.90	19	PFAKE		09 40 30.0	+11
LKWY				LR	LR		
	comp=Z,2μm,22.0s						
E25A	Miller Ranch,	117.93	13	⇓PKiKP	PKiKP	09 40 20.3	+1.6
	baz=118						
E25A	Miller Ranch,	117.93	13	⇓PKiKP	PKiKP	09 40 20.3	+1.6
	baz=118						
G20A	Bridger	117.95	17	⇓PKiKP	PKiKP	09 40 20.1	+1.3
	baz=118						
G20A	Bridger	117.95	17	⇓PKiKP	PKiKP	09 40 20.1	+1.3
	baz=118						
F22A	Rosebud	117.95	15	⇑PKiKP	PKiKP	09 40 20.3	+1.6
	baz=118						
F22A	Rosebud	117.95	15	⇑PKiKP	PKiKP	09 40 20.3	+1.6
	baz=118						
H17A	Grant Village	118.00	19	⇓PKiKP	PKiKP	09 40 21.3	+2.2
	baz=118						
H17A	Grant Village	118.00	19	⇓PKiKP	PKiKP	09 40 21.3	+2.2
	baz=118						
H18A	Shoshone NF, C	118.03	18	⇑PKiKP	PKiKP	09 40 21.0	+1.9
	baz=118						
H18A	Shoshone NF, C	118.03	18	⇑PKiKP	PKiKP	09 40 21.0	+1.9
	baz=118						
BEKR	Beckworth	118.06	29	ePKPdf	PKPdf	09 40 19.9	+0.7
EYMN	Ely	118.11	3	PFAKE		09 40 30.0	+11
EYMN				LR	LR		
	comp=Z,1μm,21.0s						
E26A	Carlson Angus	118.15	12	⇑PKiKP	PKiKP	09 40 20.7	+1.6
	baz=118						
E26A	Carlson Angus	118.15	12	⇑PKiKP	PKiKP	09 40 20.7	+1.6
	baz=118						
I16A	Newdale	118.17	20	⇑PKiKP	PKiKP	09 40 20.8	+1.4
	baz=118						
I16A	Newdale	118.17	20	⇑PKiKP	PKiKP	09 40 20.8	+1.4
	baz=118						
F23A	Volborg	118.22	14	⇓PKiKP	PKiKP	09 40 20.7	+1.5
	baz=118						
F23A	Volborg	118.22	14	⇓PKiKP	PKiKP	09 40 20.7	+1.5
	baz=118						
G21A	Lodge Grass	118.22	16	⇑PKiKP	PKiKP	09 40 20.6	+1.3
	baz=118						
G21A	Lodge Grass	118.22	16	⇑PKiKP	PKiKP	09 40 20.6	+1.3
	baz=118						
H19A	Powell	118.23	18	⇑PKiKP	PKiKP	09 40 20.9	+1.4
	baz=118						
H19A	Powell	118.23	18	⇑PKiKP	PKiKP	09 40 20.9	+1.4
	baz=118						
F24A	Ekalaka	118.32	14	⇑PKiKP	PKiKP	09 40 20.6	+1.1
	baz=118						
F24A	Ekalaka	118.32	14	⇑PKiKP	PKiKP	09 40 20.6	+1.1
	baz=118						
IMW	Indian Meadow	118.33	19	ePKPdf	PKPdf	09 40 21.7	+1.9
E27A	Carson	118.37	11	⇑PKiKP	PKiKP	09 40 20.7	+1.2
	baz=118						
E27A	Carson	118.37	11	⇑PKiKP	PKiKP	09 40 20.7	+1.2
	baz=118						
G22A	Birney	118.47	15	⇓PKiKP	PKiKP	09 40 21.2	+1.4
	baz=118						
G22A	Birney	118.47	15	⇓PKiKP	PKiKP	09 40 21.2	+1.4
	baz=118						
F25A	Bowman	118.47	13	⇓PKiKP	PKiKP	09 40 22.0	+2.3
	baz=118						
F25A	Bowman	118.47	13	⇓PKiKP	PKiKP	09 40 22.0	+2.3
	baz=118						
MOOW	Moose Ponds	118.53	19	ePKPdf	PKPdf	09 40 20.3	+0.2
H20A	Greybull	118.68	17	⇑PKiKP	PKiKP	09 40 21.3	+1.1
	baz=118						
H20A	Greybull	118.68	17	⇑PKiKP	PKiKP	09 40 21.3	+1.1
	baz=118						
TPAW	Teton Pass	118.69	20	ePKPdf	PKPdf	09 40 21.8	+1.3
LOHW	Long Hollow	118.70	19	ePKPdf	PKPdf	09 40 20.7	+0.3
RRI2	Red Ridge	118.70	20	ePKPdf	PKPdf	09 40 20.9	+0.4
F26A	Lodgepole	118.70	12	⇓PKiKP	PKiKP	09 40 21.6	+1.4
	baz=118						
F26A	Lodgepole	118.70	12	⇓PKiKP	PKiKP	09 40 21.6	+1.4
	baz=118						
G23A	Biddle	118.71	15	⇑PKiKP	PKiKP	09 40 21.5	+1.2
	baz=118						
G23A	Biddle	118.71	15	⇑PKiKP	PKiKP	09 40 21.5	+1.2
	baz=118						
PKME	Peaks-Kenny Pk	118.73	346	PFAKE		09 40 30.0	+10
PKME				LR	LR		
	comp=Z,1μm,22.0s						
SNOW	Snow King Moun	118.78	19	ePKPdf	PKPdf	09 40 21.3	+0.6
I19A	Meeteetse	118.81	18	⇓PKiKP	PKiKP	09 40 22.0	+1.3
	baz=119						
I19A	Meeteetse	118.81	18	⇓PKiKP	PKiKP	09 40 22.0	+1.3
	baz=119						
F27A	Lemmon	118.82	12	⇓PKiKP	PKiKP	09 40 21.5	+1.1
	baz=119						
F27A	Lemmon	118.82	12	⇓PKiKP	PKiKP	09 40 21.5	+1.1
	baz=119						
G24A	Alzada	118.82	14	⇓PKiKP	PKiKP	09 40 21.4	+0.9
	baz=119						
G24A	Alzada	118.82	14	⇓PKiKP	PKiKP	09 40 21.4	+0.9
	baz=119						
REDW	Red Top Meadow	118.84	20	ePKPdf	PKPdf	09 40 21.1	+0.3
BMN	Battle Mountai	118.99	26	PFAKE		09 40 30.0	+9.0
BMN				LR	LR		
	comp=Z,750nm,20.0s						
H22A	Clearmont	119.03	16	⇓PKiKP	PKiKP	09 40 22.4	+1.4
	baz=119						
H22A	Clearmont	119.03	16	⇓PKiKP	PKiKP	09 40 22.4	+1.4
	baz=119						
I20A	Worland	119.14	17	⇑PKiKP	PKiKP	09 40 21.6	+0.4
	baz=119						
I20A	Worland	119.14	17	⇑PKiKP	PKiKP	09 40 21.6	+0.4
	baz=119						
G25A	Newell	119.17	13	⇑PKiKP	PKiKP	09 40 22.0	+0.9
	baz=119						
G25A	Newell	119.17	13	⇑PKiKP	PKiKP	09 40 22.0	+0.9
	baz=119						
G26A	Maurine	119.25	12	⇑PKiKP	PKiKP	09 40 22.1	+0.9
	baz=119						
G26A	Maurine	119.25	12	⇑PKiKP	PKiKP	09 40 22.1	+0.9
	baz=119						
G27A	Dupree	119.31	12	⇑PKiKP	PKiKP	09 40 22.2	+0.9
	baz=119						
G27A	Dupree	119.31	12	⇑PKiKP	PKiKP	09 40 22.2	+0.9
	baz=119						
H24A	Dirks Ranch, A	119.33	14	⇓PKiKP	PKiKP	09 40 22.3	+0.8
	baz=119						
H24A	Dirks Ranch, A	119.33	14	⇓PKiKP	PKiKP	09 40 22.3	+0.8
	baz=119						
J19A	Crowheart	119.49	18	⇑PKiKP	PKiKP	09 40 23.3	+1.3
	baz=119						
J19A	Crowheart	119.49	18	⇑PKiKP	PKiKP	09 40 23.3	+1.3
	baz=119						
CMB	Columbia Colle	119.50	30	ePKIKP	PKPdf	09 40 21.7	-0.2
CMB	Columbia Colle	119.50	30	ePKPdf	PKPdf	09 40 21.7	-0.2
I21A	Big Trails, Te	119.50	17	⇑PKiKP	PKiKP	09 40 22.8	+0.9
	baz=119						
I21A	Big Trails, Te	119.50	17	⇑PKiKP	PKiKP	09 40 22.8	+0.9
	baz=119						
I22A	9 Mile Ranch,	119.65	16	⇓PKiKP	PKiKP	09 40 22.9	+0.7
	baz=119						
I22A	9 Mile Ranch,	119.65	16	⇓PKiKP	PKiKP	09 40 22.9	+0.7
	baz=119						
H25A	Fruitdale	119.67	13	⇑PKiKP	PKiKP	09 40 23.1	+1.0
	baz=120						
H25A	Fruitdale	119.67	13	⇑PKiKP	PKiKP	09 40 23.1	+1.0
	baz=120						
J20A	Shoshoni	119.70	17	⇓PKiKP	PKiKP	09 40 23.2	+0.9
	baz=120						
J20A	Shoshoni	119.70	17	⇓PKiKP	PKiKP	09 40 23.2	+0.9
	baz=120						
BW06	Boulder Array	119.79	19	ePKPdf	PKPdf	09 40 21.9	-0.6
BW06				LR	LR		
	comp=Z,1μm,21.0s						
PDAR	Pinedale Array	119.79	19	PKP	PKPdf	09 40 22.2	-0.4
PDAR	Pinedale Array	119.79	19	PKP	PKPdf	09 40 22.2	-0.4
	comp=Z,3.2nm,0.6s,baz=58,slow=1.1,SNR=29						
G28A	Parade	119.80	11	⇓PKiKP	PKiKP	09 40 23.4	+1.0
	baz=120						
G28A	Parade	119.80	11	⇓PKiKP	PKiKP	09 40 23.4	+1.0
	baz=120						
H26A	Fairpoint	119.86	13	⇑PKiKP	PKiKP	09 40 23.3	+0.8
	baz=120						
H26A	Fairpoint	119.86	13	⇑PKiKP	PKiKP	09 40 23.3	+0.8
	baz=120						
J21A	Lysite	119.89	17	⇓PKiKP	PKiKP	09 40 23.3	+0.5
	baz=120						
J21A	Lysite	119.89	17	⇓PKiKP	PKiKP	09 40 23.3	+0.5
	baz=120						
K19A	Absolon Red Bu	119.96	18	⇓PKiKP	PKiKP	09 40 23.3	+0.4
	baz=120						
K19A	Absolon Red Bu	119.96	18	⇓PKiKP	PKiKP	09 40 23.3	+0.4
	baz=120						
H27A	Howes	119.99	12	⇑PKiKP	PKiKP	09 40 23.3	+0.5
	baz=120						
H27A	Howes	119.99	12	⇑PKiKP	PKiKP	09 40 23.3	+0.5
	baz=120						
RSSD	Black Hills	120.05	14	ePKIKP	PKPdf	09 40 23.6	+0.6
RSSD	Black Hills	120.05	14	ePKPdf	PKPdf	09 40 23.6	+0.6
COWI	Conover	120.05	2	PFAKE		09 40 30.0	+7.3
COWI				LR	LR		
	comp=Z,678nm,19.0s						
J22A	Midwest	120.10	16	⇑PKiKP	PKiKP	09 40 23.6	+0.5
	baz=120						
J22A	Midwest	120.10	16	⇑PKiKP	PKiKP	09 40 23.6	+0.5
	baz=120						
I24A	Kuemmerle Ranc	120.15	15	⇓PKiKP	PKiKP	09 40 23.7	+0.5
	baz=120						
I24A	Kuemmerle Ranc	120.15	15	⇓PKiKP	PKiKP	09 40 23.7	+0.5
	baz=120						
NVAR	Mina Array Bea	120.16	28	PKP	PKPdf	09 40 24.3	+0.9
NVAR				PKKPbc	PKKPab	09 50 33.0	-1.5
NVAR	Mina Array Bea	120.16	28	PKP	PKPdf	09 40 24.3	+0.9
	comp=Z,6.4nm,0.7s,baz=282,slow=1.8,SNR=41						
NVAR				PKKPbc	PKKPab	09 50 33.0	-1.5
	comp=Z,1.0nm,0.9s,baz=171,slow=4.2,SNR=4.6						
H28A	Mission Ridge	120.16	11	⇑PKiKP	PKiKP	09 40 23.6	+0.6
	baz=120						
H28A	Mission Ridge	120.16	11	⇑PKiKP	PKiKP	09 40 23.6	+0.6
	baz=120						
HWUT	Hardware Ranch	120.16	21	ePKPdf	PKPdf	09 40 23.2	0.0
HWUT				LR	LR		
	comp=Z,1μm,20.0s						
I25A	Rochford	120.22	14	⇑PKiKP	PKiKP	09 40 23.7	+0.3
	baz=120						
I25A	Rochford	120.22	14	⇑PKiKP	PKiKP	09 40 23.7	+0.3
	baz=120						
NV11	Mina Array Sit	120.22	28	ePKPdf	PKPdf	09 40 24.2	+0.8
K20A	Yellowstone Ra	120.26	18	⇓PKiKP	PKiKP	09 40 23.5	0.0
	baz=120						
K20A	Yellowstone Ra	120.26	18	⇓PKiKP	PKiKP	09 40 23.5	0.0
	baz=120						
LBNH	Lisbon	120.30	347	PFAKE		09 40 40.0	+17
LBNH				LR	LR		
	comp=Z,3μm,22.0s						
L18A	Fontenelle, Gr	120.40	20	⇓PKiKP	PKiKP	09 40 24.7	+0.9
	baz=120						
L18A	Fontenelle, Gr	120.40	20	⇓PKiKP	PKiKP	09 40 24.7	+0.9
	baz=120						
LONY	Lake Ozonia	120.45	350	PFAKE		09 40 40.0	+17
LONY				LR	LR		
	comp=Z,871nm,21.0s						
L19A	Farson	120.45	19	⇑PKiKP	PKiKP	09 40 24.8	+0.9
	baz=120						
L19A	Farson	120.45	19	⇑PKiKP	PKiKP	09 40 24.8	+0.9
	baz=120						
I27A	Quinn	120.54	12	⇓PKiKP	PKiKP	09 40 24.7	+0.9
	baz=120						
I27A	Quinn	120.54	12	⇓PKiKP	PKiKP	09 40 24.7	+0.9
	baz=120						
M17A	Scullys Gap (B	120.59	20	⇑PKiKP	PKiKP	09 40 25.0	+0.8
	baz=120						
M17A	Scullys Gap (B	120.59	20	⇑PKiKP	PKiKP	09 40 25.0	+0.8
	baz=120						
K21A	Alcova	120.60	17	⇑PKiKP	PKiKP	09 40 24.8	+0.6
	baz=120						
K21A	Alcova	120.60	17	⇑PKiKP	PKiKP	09 40 24.8	+0.6
	baz=120						
J24A	Dixon Ranch, L	120.64	15	⇑PKiKP	PKiKP	09 40 25.1	+0.9
	baz=120						
J24A	Dixon Ranch, L	120.64	15	⇑PKiKP	PKiKP	09 40 25.1	+0.9
	baz=120						
SPMN	St. Paul	120.73	5	⇑PKiKP	PKiKP	09 40 25.2	+1.1
	baz=120						
SPMN	St. Paul	120.73	5	⇑PKiKP	PKiKP	09 40 25.2	+1.1
	baz=120						
BRSD	Miller	120.75	10	⇑PKiKP	PKiKP	09 40 25.2	+1.0
	baz=120						
BRSD	Miller	120.75	10	⇑PKiKP	PKiKP	09 40 25.2	+1.0
	baz=120						
I28A	Midland	120.78	12	⇑PKiKP	PKiKP	09 40 25.2	+1.0
	baz=121						
I28A	Midland	120.78	12	⇑PKiKP	PKiKP	09 40 25.2	+1.0
	baz=121						
K22A	Casper	120.79	17	⇑PKiKP	PKiKP	09 40 24.7	+0.2
	baz=121						
K22A	Casper	120.79	17	⇑PKiKP	PKiKP	09 40 24.7	+0.2
	baz=121						
J25A	Sunshine Ranch	120.79	14	⇑PKiKP	PKiKP	09 40 25.5	+1.0
	baz=121						
J25A	Sunshine Ranch	120.79	14	⇑PKiKP	PKiKP	09 40 25.5	+1.0
	baz=121						
L20A	Wamsutter	120.86	18	⇓PKiKP	PKiKP	09 40 24.9	+0.2
	baz=121						
L20A	Wamsutter	120.86	18	⇓PKiKP	PKiKP	09 40 24.9	+0.2
	baz=121						
TPH	Tonopah	120.94	27	PFAKE		09 40 40.0	+15
TPH				LR	LR		
	comp=Z,650nm,20.0s						
K23A	Bowen Ranch, D	120.94	16	⇑PKiKP	PKiKP	09 40 25.2	+0.4
	baz=121						
K23A	Bowen Ranch, D	120.94	16	⇑PKiKP	PKiKP	09 40 25.2	+0.4
	baz=121						
DUG	Dugway	120.95	23	ePKIKP	PKPdf	09 40 25.5	+0.8
DUG				MLR	MLR		
	comp=Z,1μm,21.0s						
DUG	Dugway	120.95	23	ePKPdf	PKPdf	09 40 25.5	+0.8
DUG				LR	LR		
	comp=Z,1μm,21.0s						
DUG	Dugway	120.95	23	⇑PKiKP	PKiKP	09 40 25.3	+0.5
	baz=121						
DUG	Dugway	120.95	23	⇑PKiKP	PKiKP	09 40 25.3	+0.5
	baz=121						
NCB	Newcomb	121.01	349	PFAKE		09 40 40.0	+15
NCB				LR	LR		
	comp=Z,1μm,20.0s						
J26A	Sides Ranch, S	121.04	14	⇑PKiKP	PKiKP	09 40 25.7	+0.9
	baz=121						
J26A	Sides Ranch, S	121.04	14	⇑PKiKP	PKiKP	09 40 25.7	+0.9
	baz=121						
M19A	Rock Springs	121.06	19	⇑PKiKP	PKiKP	09 40 25.7	+0.6
	baz=121						
M19A	Rock Springs	121.06	19	⇑PKiKP	PKiKP	09 40 25.7	+0.6
	baz=121						
JLU	Jordanelle	121.09	21	ePKPdf	PKPdf	09 40 27.0	+1.9
K24A	Anderson Ranch	121.18	15	⇓PKiKP	PKiKP	09 40 25.9	+0.7
	baz=121						
K24A	Anderson Ranch	121.18	15	⇓PKiKP	PKiKP	09 40 25.9	+0.7
	baz=121						
L21A	Rawlins	121.18	18	⇓PKiKP	PKiKP	09 40 25.8	+0.4
	baz=121						
L21A	Rawlins	121.18	18	⇓PKiKP	PKiKP	09 40 25.8	+0.4
	baz=121						
J28A	Allard Ranch,	121.32	12	⇑PKiKP	PKiKP	09 40 26.0	+0.6
	baz=121						
J28A	Allard Ranch,	121.32	12	⇑PKiKP	PKiKP	09 40 26.0	+0.6
	baz=121						
J27A	Elkhorn Farm,	121.33	13	⇑PKiKP	PKiKP	09 40 26.0	+0.6
	baz=121						
J27A	Elkhorn Farm,	121.33	13	⇑PKiKP	PKiKP	09 40 26.0	+0.6
	baz=121						
DAU	Daniels Canyon	121.33	21	ePKIKP	PKPdf	09 40 26.8	+1.1
DAU	Daniels Canyon	121.33	21	ePKPdf	PKPdf	09 40 26.8	+1.1
M20A	Sweetwater, Wa	121.37	18	⇓PKiKP	PKiKP	09 40 26.8	+1.0
	baz=121						
M20A	Sweetwater, Wa	121.37	18	⇓PKiKP	PKiKP	09 40 26.8	+1.0
	baz=121						
L22A	Ellis Ranch, M	121.39	17	⇓PKiKP	PKiKP	09 40 26.3	+0.6
	baz=121						
L22A	Ellis Ranch, M	121.39	17	⇓PKiKP	PKiKP	09 40 26.3	+0.6
	baz=121						
RCTC	Rector, Farmer	121.42	30	⇓PKiKP	PKiKP	09 40 26.2	+0.5
	baz=121						
RCTC	Rector, Farmer	121.42	30	⇓PKiKP	PKiKP	09 40 26.2	+0.5
	baz=121						
R11A	Troy Canyon, C	121.42	26	⇓PKiKP	PKiKP	09 40 26.4	+0.5
	baz=121						
R11A	Troy Canyon, C	121.42	26	⇓PKiKP	PKiKP	09 40 26.4	+0.5
	baz=121						
L23A	Garrett	121.51	16	⇑PKiKP	PKiKP	09 40 26.3	+0.3
	baz=121						
L23A	Garrett	121.51	16	⇑PKiKP	PKiKP	09 40 26.3	+0.3
	baz=121						
K25A	Mack Ranch, Ha	121.51	14	⇑PKiKP	PKiKP	09 40 26.6	+0.7
	baz=121						
K25A	Mack Ranch, Ha	121.51	14	⇑PKiKP	PKiKP	09 40 26.6	+0.7
	baz=121						
M21A	Separation Pea	121.51	18	⇑PKiKP	PKiKP	09 40 26.9	+0.9
	baz=121						
M21A	Separation Pea	121.51	18	⇑PKiKP	PKiKP	09 40 26.9	+0.9
	baz=121						
K26A	Motz Farm, Whi	121.59	14	⇑PKiKP	PKiKP	09 40 26.8	+0.8
	baz=121						
K26A	Motz Farm, Whi	121.59	14	⇑PKiKP	PKiKP	09 40 26.8	+0.8
	baz=121						
GRAC	Grapevine Rang	121.75	28	⇑PKiKP	PKiKP	09 40 27.7	+1.2
	baz=122						
GRAC	Grapevine Rang	121.75	28	⇑PKiKP	PKiKP	09 40 27.7	+1.2
	baz=122						
L24A	Wheatland	121.78	16	⇓PKiKP	PKiKP	09 40 27.3	+0.8
	baz=122						
L24A	Wheatland	121.78	16	⇓PKiKP	PKiKP	09 40 27.3	+0.8
	baz=122						
ECSD	EROS Data Cent	121.80	8	ePKPdf	PKPdf	09 40 25.9	-0.3
ECSD				LR	LR		
	comp=Z,1μm,21.0s						
K27A	Flueckinger Fa	121.80	13	⇑PKiKP	PKiKP	09 40 27.4	+1.0
	baz=122						
K27A	Flueckinger Fa	121.80	13	⇑PKiKP	PKiKP	09 40 27.4	+1.0
	baz=122						
SMMC	Simmler	121.83	31	⇓PKiKP	PKiKP	09 40 27.7	+1.1
	baz=122						
SMMC	Simmler	121.83	31	⇓PKiKP	PKiKP	09 40 27.7	+1.1
	baz=122						
VES	Vestal, Richgr	121.87	30	⇑PKiKP	PKiKP	09 40 27.4	+0.8
	baz=122						
VES	Vestal, Richgr	121.87	30	⇑PKiKP	PKiKP	09 40 27.4	+0.8
	baz=122						
CWC	Cottonwood Cre	121.88	29	⇓PKiKP	PKiKP	09 40 28.0	+1.2
	baz=122						
CWC	Cottonwood Cre	121.88	29	⇓PKiKP	PKiKP	09 40 28.0	+1.2
	baz=122						
L25A	Engebretsen Ra	121.92	15	⇑PKiKP	PKiKP	09 40 27.6	+0.9
	baz=122						
L25A	Engebretsen Ra	121.92	15	⇑PKiKP	PKiKP	09 40 27.6	+0.9
	baz=122						
M22A	Cedar Creek Ra	121.92	17	⇑PKiKP	PKiKP	09 40 27.5	+0.6
	baz=122						
M22A	Cedar Creek Ra	121.92	17	⇑PKiKP	PKiKP	09 40 27.5	+0.6
	baz=122						
N20A	Spence Gulch,	121.95	19	⇓PKiKP	PKiKP	09 40 27.4	+0.5
	baz=122						
N20A	Spence Gulch,	121.95	19	⇓PKiKP	PKiKP	09 40 27.4	+0.5
	baz=122						
K28A	Ten Mile Ranch	121.98	12	⇓PKiKP	PKiKP	09 40 27.3	+0.5
	baz=122						
K28A	Ten Mile Ranch	121.98	12	⇓PKiKP	PKiKP	09 40 27.3	+0.5
	baz=122						
M23A	Laramie	122.11	16	⇑PKiKP	PKiKP	09 40 27.7	+0.5
	baz=122						
M23A	Laramie	122.11	16	⇑PKiKP	PKiKP	09 40 27.7	+0.5
	baz=122						
K29A	Lazy Trails An	122.14	11	⇓PKiKP	PKiKP	09 40 27.7	+0.7
	baz=122						
K29A	Lazy Trails An	122.14	11	⇓PKiKP	PKiKP	09 40 27.7	+0.7
	baz=122						
O19A	Miners Draw (B	122.16	20	⇓PKiKP	PKiKP	09 40 27.8	+0.5
	baz=122						
O19A	Miners Draw (B	122.16	20	⇓PKiKP	PKiKP	09 40 27.8	+0.5

O21A	Pagoda	122.76	18	⇓PKiKP	PKiKP	09 40 28.9	+0.3
	baz=122						
L29A	Maesberg Ranch	122.78	12	⇑PKiKP	PKiKP	09 40 28.9	+0.6
	baz=123						
L29A	Maesberg Ranch	122.78	12	⇑PKiKP	PKiKP	09 40 28.9	+0.6
	baz=123						
ARUT	Antelope Range	122.79	25	*e*PKIKP	PKPdf	09 40 30.7	+2.3
ARUT	Antelope Range	122.79	25	*e*PKPdf	PKPdf	09 40 30.7	+2.3
P19A	Cripple Cowboy	122.81	20	⇓PKiKP	PKiKP	09 40 29.0	+0.3
	baz=123						
P19A	Cripple Cowboy	122.81	20	⇓PKiKP	PKiKP	09 40 29.0	+0.3
	baz=123						
LRMC	Laurel Mountai	122.84	30	⇑PKiKP	PKiKP	09 40 29.4	+0.7
	baz=123						
LRMC	Laurel Mountai	122.84	30	⇑PKiKP	PKiKP	09 40 29.4	+0.7
	baz=123						
N24A	Carr	122.93	16	⇓PKiKP	PKiKP	09 40 29.4	+0.6
	baz=123						
N24A	Carr	122.93	16	⇓PKiKP	PKiKP	09 40 29.4	+0.6
	baz=123						
CCUT	Cedar City	123.03	25	*e*PKPdf	PKPdf	09 40 30.2	+1.3
BINY	Binghamton	123.04	350	PFAKE		09 40 40.0	+11
BINY				LR	LR		
	comp=Z,2μm,22.0s						
O22A	Kremmling	123.08	18	⇑PKiKP	PKiKP	09 40 29.6	+0.3
	baz=123						
O22A	Kremmling	123.08	18	⇑PKiKP	PKiKP	09 40 29.6	+0.3
	baz=123						
P20A	De Beque	123.12	20	⇑PKiKP	PKiKP	09 40 29.6	+0.3
	baz=123						
P20A	De Beque	123.12	20	⇑PKiKP	PKiKP	09 40 29.6	+0.3
	baz=123						
SHPR	Sheep Range	123.15	27	*e*PKPdf	PKPdf	09 40 30.3	+1.2
SHOC	Shoshone	123.15	28	⇑PKiKP	PKiKP	09 40 29.9	+0.7
	baz=123						
SHOC	Shoshone	123.15	28	⇑PKiKP	PKiKP	09 40 29.9	+0.7
	baz=123						
EDW2	Edwards Air Fo	123.17	30	⇓PKiKP	PKiKP	09 40 29.9	+0.6
	baz=123						
EDW2	Edwards Air Fo	123.17	30	⇓PKiKP	PKiKP	09 40 29.9	+0.6
	baz=123						
O23A	Lake Granby, G	123.22	17	⇑PKiKP	PKiKP	09 40 29.8	+0.3
	baz=123						
O23A	Lake Granby, G	123.22	17	⇑PKiKP	PKiKP	09 40 29.8	+0.3
	baz=123						
N26A	Koester Ranch,	123.36	15	⇑PKiKP	PKiKP	09 40 30.4	+0.9
	baz=123						
N26A	Koester Ranch,	123.36	15	⇑PKiKP	PKiKP	09 40 30.4	+0.9
	baz=123						
GSC	Goldstone	123.40	29	*e*PKIKP	PKPdf	09 40 30.9	+1.4
GSC	Goldstone	123.40	29	*e*PKPdf	PKPdf	09 40 30.9	+1.4
GSC	Goldstone	123.40	29	⇑PKiKP	PKPdf	09 40 30.9	+1.4
	baz=123						
GSC	Goldstone	123.40	29	⇑PKiKP	PKPdf	09 40 30.9	+1.4
	baz=123						
M30A	Dale-Ortello V	123.41	11	⇓PKiKP	PKiKP	09 40 30.5	+1.0
	baz=123						
M30A	Dale-Ortello V	123.41	11	⇓PKiKP	PKiKP	09 40 30.5	+1.0
	baz=123						
OGNE	Ogallala	123.53	13	PFAKE		09 40 40.0	+10
OGNE				LR	LR		
	comp=Z,887nm,21.0s						
O24A	Longmont	123.54	16	⇓PKiKP	PKiKP	09 40 30.4	+0.4
	baz=123						
O24A	Longmont	123.54	16	⇓PKiKP	PKiKP	09 40 30.4	+0.4
	baz=123						
N27A	Anderson Farm,	123.54	14	⇑PKiKP	PKiKP	09 40 31.0	+1.1
	baz=123						
N27A	Anderson Farm,	123.54	14	⇑PKiKP	PKiKP	09 40 31.0	+1.1
	baz=123						
P22A	Eagle	123.54	18	⇓PKiKP	PKiKP	09 40 30.7	+0.6
	baz=123						
P22A	Eagle	123.54	18	⇓PKiKP	PKiKP	09 40 30.7	+0.6
	baz=123						
Q20A	Ridgley Place,	123.64	20	⇓PKiKP	PKiKP	09 40 30.8	+0.6
	baz=123						
Q20A	Ridgley Place,	123.64	20	⇓PKiKP	PKiKP	09 40 30.8	+0.6
	baz=123						
ISCO	Idaho Springs	123.69	17	*e*PKIKP	PKPdf	09 40 31.7	+1.4
ISCO				MLR	MLR		
	comp=Z,1μm,22.0s						
ISCO	Idaho Springs	123.69	17	*e*PKPdf	PKPdf	09 40 31.7	+1.4
ISCO				LR	LR		
	comp=Z,1μm,22.0s						
ISCO	Idaho Springs	123.69	17	⇑PKiKP	PKiKP	09 40 31.2	+0.7
	baz=124						
ISCO	Idaho Springs	123.69	17	⇑PKiKP	PKiKP	09 40 31.2	+0.7
	baz=124						
O25A	Wiggins	123.81	16	⇑PKiKP	PKiKP	09 40 30.9	+0.4
	baz=124						
O25A	Wiggins	123.81	16	⇑PKiKP	PKiKP	09 40 30.9	+0.4
	baz=124						
BGNE	Belgrade	123.84	10	⇑PKiKP	PKiKP	09 40 31.0	+0.6
	baz=124						
BGNE	Belgrade	123.84	10	⇑PKiKP	PKiKP	09 40 31.0	+0.6
	baz=124						
BFSC	Mount Baldy Ra	123.85	30	⇓PKiKP	PKiKP	09 40 32.0	+1.3
	baz=124						
BFSC	Mount Baldy Ra	123.85	30	⇓PKiKP	PKiKP	09 40 32.0	+1.3
	baz=124						
SMCO	Snowmass	123.86	18	*e*PKPdf	PKPdf	09 40 30.7	0.0
N28A	Pribbeno Ranch	123.88	13	⇓PKiKP	PKiKP	09 40 31.0	+0.4
	baz=124						
N28A	Pribbeno Ranch	123.88	13	⇓PKiKP	PKiKP	09 40 31.0	+0.4
	baz=124						
O26A	Horse Wrangler	123.89	15	⇑PKiKP	PKiKP	09 40 31.0	+0.3
	baz=124						
O26A	Horse Wrangler	123.89	15	⇑PKiKP	PKiKP	09 40 31.0	+0.3
	baz=124						
Q21A	Lamborn Mesa,	123.99	19	⇑PKiKP	PKiKP	09 40 31.7	+0.7
	baz=124						
Q21A	Lamborn Mesa,	123.99	19	⇑PKiKP	PKiKP	09 40 31.7	+0.7
	baz=124						
HEC	Hector,Ludlow	124.01	29	⇑PKiKP	PKiKP	09 40 32.0	+1.1
	baz=124						
HEC	Hector,Ludlow	124.01	29	⇑PKiKP	PKiKP	09 40 32.0	+1.1
	baz=124						
P23A	Jefferson	124.02	17	⇓PKiKP	PKiKP	09 40 31.8	+0.6
	baz=124						
P23A	Jefferson	124.02	17	⇓PKiKP	PKiKP	09 40 31.8	+0.6
	baz=124						
O27A	Beecher Island	124.14	14	⇑PKiKP	PKiKP	09 40 31.6	+0.5
	baz=124						
O27A	Beecher Island	124.14	14	⇑PKiKP	PKiKP	09 40 31.6	+0.5
	baz=124						
CIS	Catalina Islan	124.14	32	⇓PKiKP	PKiKP	09 40 32.0	+0.7
	baz=124						
CIS	Catalina Islan	124.14	32	⇓PKiKP	PKiKP	09 40 32.0	+0.7
	baz=124						
Q22A	Crested Butte,	124.17	19	⇓PKiKP	PKiKP	09 40 31.8	+0.4
	baz=124						
Q22A	Crested Butte,	124.17	19	⇓PKiKP	PKiKP	09 40 31.8	+0.4
	baz=124						
BBRC	Big Bear Solar	124.19	30	⇑PKiKP	PKiKP	09 40 32.4	+0.9
	baz=124						
BBRC	Big Bear Solar	124.19	30	⇑PKiKP	PKiKP	09 40 32.4	+0.9
	baz=124						
PV01	Paradox Valley	124.30	20	*e*PKPdf	PKPdf	09 40 32.7	+1.3
R20A	Redvale	124.31	20	⇓PKiKP	PKiKP	09 40 32.4	+0.7
	baz=124						
R20A	Redvale	124.31	20	⇓PKiKP	PKiKP	09 40 32.4	+0.7
	baz=124						
P25A	Willow Gulch B	124.36	16	⇓PKiKP	PKiKP	09 40 32.4	+0.7
	baz=124						
P25A	Willow Gulch B	124.36	16	⇓PKiKP	PKiKP	09 40 32.4	+0.7
	baz=124						
GMRC	Granite Mounta	124.36	28	⇓PKiKP	PKiKP	09 40 33.0	+1.3
	baz=124						
GMRC	Granite Mounta	124.36	28	⇓PKiKP	PKiKP	09 40 33.0	+1.3
	baz=124						
O28A	Krutsinger Ran	124.36	14	⇑PKiKP	PKiKP	09 40 32.4	+0.8
	baz=124						
O28A	Krutsinger Ran	124.36	14	⇑PKiKP	PKiKP	09 40 32.4	+0.8
	baz=124						
R21A	Cimarron	124.42	19	⇓PKiKP	PKiKP	09 40 33.1	+1.1
	baz=124						
R21A	Cimarron	124.42	19	⇓PKiKP	PKiKP	09 40 33.1	+1.1
	baz=124						
U15A	North Rim	124.42	25	⇓PKiKP	PKiKP	09 40 33.4	+1.4
	baz=124						
U15A	North Rim	124.42	25	⇓PKiKP	PKiKP	09 40 33.4	+1.4
	baz=124						
P26A	Davis Ranch, A	124.52	15	⇑PKiKP	PKiKP	09 40 32.5	+0.5
	baz=124						
P26A	Davis Ranch, A	124.52	15	⇑PKiKP	PKiKP	09 40 32.5	+0.5
	baz=124						
MURC	Murrieta	124.59	30	⇑PKiKP	PKiKP	09 40 32.9	+0.8
	baz=124						
MURC	Murrieta	124.59	30	⇑PKiKP	PKiKP	09 40 32.9	+0.8
	baz=124						
Q24A	Divide	124.60	17	⇑PKiKP	PKiKP	09 40 32.8	+0.5
	baz=124						
Q24A	Divide	124.60	17	⇑PKiKP	PKiKP	09 40 32.8	+0.5
	baz=124						
S20A	Disappointment	124.64	20	⇑PKiKP	PKiKP	09 40 32.9	+0.5
	baz=124						
S20A	Disappointment	124.64	20	⇑PKiKP	PKiKP	09 40 32.9	+0.5
	baz=124						
O30A	MW Ranch, Wils	124.68	12	⇑PKiKP	PKiKP	09 40 32.5	+0.4
	baz=124						
O30A	MW Ranch, Wils	124.68	12	⇑PKiKP	PKiKP	09 40 32.5	+0.4
	baz=124						
P27A	Ficken Ranch,	124.72	14	⇓PKiKP	PKiKP	09 40 32.7	+0.4
	baz=124						
P27A	Ficken Ranch,	124.72	14	⇓PKiKP	PKiKP	09 40 32.7	+0.4
	baz=124						
R22A	Saguache, Gunn	124.80	19	⇑PKiKP	PKiKP	09 40 33.4	+0.6
	baz=125						
R22A	Saguache, Gunn	124.80	19	⇑PKiKP	PKiKP	09 40 33.4	+0.6
	baz=125						
BELC	Belle Mtn. Jos	124.85	29	⇑PKiKP	PKiKP	09 40 33.6	+0.8
	baz=125						
BELC	Belle Mtn. Jos	124.85	29	⇑PKiKP	PKiKP	09 40 33.6	+0.8
	baz=125						
W13A	Hualapai Mount	124.89	27	⇓PKiKP	PKiKP	09 40 33.8	+0.9
	baz=125						
W13A	Hualapai Mount	124.89	27	⇓PKiKP	PKiKP	09 40 33.8	+0.9
	baz=125						
Q25A	Bedland, Calha	124.89	16	⇓PKiKP	PKiKP	09 40 33.4	+0.6
	baz=125						
Q25A	Bedland, Calha	124.89	16	⇓PKiKP	PKiKP	09 40 33.4	+0.6
	baz=125						
P28A	Saint Francis	124.90	14	⇓PKiKP	PKiKP	09 40 33.3	+0.7
	baz=125						
P28A	Saint Francis	124.90	14	⇓PKiKP	PKiKP	09 40 33.3	+0.7
	baz=125						
PFO	Pinyon Flat Ob	124.95	30	PFAKE		09 40 40.0	+7.4
PFO				LR	LR		
	comp=Z,573nm,21.0s						
PFO	Pinyon Flat Ob	124.95	30	⇓PKiKP	PKiKP	09 40 33.9	+1.0
	baz=125						
PFO	Pinyon Flat Ob	124.95	30	⇓PKiKP	PKiKP	09 40 33.9	+1.0
	baz=125						
S21A	Coal Bank Pass	124.98	20	⇑PKiKP	PKiKP	09 40 34.2	+1.1
	baz=125						
S21A	Coal Bank Pass	124.98	20	⇑PKiKP	PKiKP	09 40 34.2	+1.1
	baz=125						
P29A	Atwood	125.05	13	⇓PKiKP	PKiKP	09 40 33.3	+0.4
	baz=125						
P29A	Atwood	125.05	13	⇓PKiKP	PKiKP	09 40 33.3	+0.4
	baz=125						
Q26A	Hugo	125.08	16	⇓PKiKP	PKiKP	09 40 33.5	+0.4
	baz=125						
Q26A	Hugo	125.08	16	⇓PKiKP	PKiKP	09 40 33.5	+0.4
	baz=125						
IRM	Iron Mountain	125.11	28	⇑PKiKP	PKiKP	09 40 34.4	+1.3
	baz=125						
IRM	Iron Mountain	125.11	28	⇑PKiKP	PKiKP	09 40 34.4	+1.3
	baz=125						
R23A	Moffat	125.12	18	⇑PKiKP	PKiKP	09 40 34.1	+0.8
	baz=125						
R23A	Moffat	125.12	18	⇑PKiKP	PKiKP	09 40 34.1	+0.8
	baz=125						
MVCO	Mesa Verde	125.15	21	*e*PKPdf	PKPdf	09 40 33.8	+0.8
MVCO				LR	LR		
	comp=Z,789nm,20.0s						
MVCO	Mesa Verde	125.15	21	⇓PKiKP	PKiKP	09 40 34.3	+0.9
	baz=125						
MVCO	Mesa Verde	125.15	21	⇓PKiKP	PKiKP	09 40 34.3	+0.9
	baz=125						
S22A	4UR Ranch, Cre	125.22	19	⇑PKiKP	PKiKP	09 40 34.2	+0.6
	baz=125						
S22A	4UR Ranch, Cre	125.22	19	⇑PKiKP	PKiKP	09 40 34.2	+0.6
	baz=125						
KSCO	Kaye Shedlock'	125.22	15	⇑PKiKP	PKiKP	09 40 34.4	+1.0
	baz=125						
KSCO	Kaye Shedlock'	125.22	15	⇑PKiKP	PKiKP	09 40 34.4	+1.0
	baz=125						
P30A	Selden	125.25	12	⇓PKiKP	PKiKP	09 40 34.1	+0.8
	baz=125						
P30A	Selden	125.25	12	⇓PKiKP	PKiKP	09 40 34.1	+0.8
	baz=125						
R24A	Sanders Place,	125.29	17	⇓PKiKP	PKiKP	09 40 34.4	+0.8
	baz=125						
R24A	Sanders Place,	125.29	17	⇓PKiKP	PKiKP	09 40 34.4	+0.8
	baz=125						
Q28A	Sharon Springs	125.37	14	⇑PKiKP	PKiKP	09 40 34.3	+0.7
	baz=125						
Q28A	Sharon Springs	125.37	14	⇑PKiKP	PKiKP	09 40 34.3	+0.7
	baz=125						
BC3	Big Chuckawall	125.39	29	⇓PKiKP	PKiKP	09 40 34.4	+0.6
	baz=125						
BC3	Big Chuckawall	125.39	29	⇓PKiKP	PKiKP	09 40 34.4	+0.6
	baz=125						
PDMCI	Parker Dam,Lak	125.45	27	⇑PKiKP	PKiKP	09 40 34.9	+1.2
	baz=125						
PDMCI	Parker Dam,Lak	125.45	27	⇑PKiKP	PKiKP	09 40 34.9	+1.2
	baz=125						
S23A	Nye Farm, Mont	125.51	18	⇓PKiKP	PKiKP	09 40 34.9	+0.7
	baz=125						
S23A	Nye Farm, Mont	125.51	18	⇓PKiKP	PKiKP	09 40 34.9	+0.7
	baz=125						
MONP	Monument Peak	125.55	30	⇑PKiKP	PKiKP	09 40 35.7	+1.5
	baz=125						
MONP	Monument Peak	125.55	30	⇑PKiKP	PKiKP	09 40 35.7	+1.5
	baz=125						
WUAZ	Wupatki	125.58	24	*e*PKPdf	PKPdf	09 40 35.5	+1.7
WUAZ				LR	LR		
	comp=Z,815nm,20.0s						
WUAZ	Wupatki	125.58	24	⇓PKiKP	PKiKP	09 40 35.7	+1.5
	baz=125						
WUAZ	Wupatki	125.58	24	⇓PKiKP	PKiKP	09 40 35.7	+1.5
	baz=125						
R25A	Fountain Ranch	125.60	17	⇓PKiKP	PKiKP	09 40 34.9	+0.8
	baz=125						
R25A	Fountain Ranch	125.60	17	⇓PKiKP	PKiKP	09 40 34.9	+0.8
	baz=125						
SDCO	Great Sand Dun	125.63	18	*e*PKPdf	PKPdf	09 40 34.2	+0.2
SDCO				LR	LR		
	comp=Z,2μm,22.0s						
T21A	Navajo Lake	125.68	20	⇓PKiKP	PKiKP	09 40 35.4	+1.0
	baz=126						
T21A	Navajo Lake	125.68	20	⇓PKiKP	PKiKP	09 40 35.4	+1.0
	baz=126						
R26A	Arlington	125.69	16	⇑PKiKP	PKiKP	09 40 35.1	+0.8
	baz=126						
R26A	Arlington	125.69	16	⇑PKiKP	PKiKP	09 40 35.1	+0.8
	baz=126						
Q29A	Oakley	125.72	13	⇓PKiKP	PKiKP	09 40 35.2	+1.0
	baz=126						
Q29A	Oakley	125.72	13	⇓PKiKP	PKiKP	09 40 35.2	+1.0
	baz=126						
Y12C	Blythe	125.74	28	⇑PKiKP	PKiKP	09 40 35.9	+1.6
	baz=126						
Y12C	Blythe	125.74	28	⇑PKiKP	PKiKP	09 40 35.9	+1.6
	baz=126						
Q30A	Quinter	125.81	13	⇑PKiKP	PKiKP	09 40 34.9	+0.5
	baz=126						
Q30A	Quinter	125.81	13	⇑PKiKP	PKiKP	09 40 34.9	+0.5
	baz=126						
S24A	Houchin Ranch,	125.81	18	⇑PKiKP	PKiKP	09 40 35.0	+0.3
	baz=126						
S24A	Houchin Ranch,	125.81	18	⇑PKiKP	PKiKP	09 40 35.0	+0.3
	baz=126						
SWSC	Sam W. Stewart	125.81	30	⇑PKiKP	PKiKP	09 40 35.2	+0.7
	baz=126						
SWSC	Sam W. Stewart	125.81	30	⇑PKiKP	PKiKP	09 40 35.2	+0.7
	baz=126						
T22A	Edith	125.86	19	⇓PKiKP	PKiKP	09 40 36.1	+1.3
	baz=126						
T22A	Edith	125.86	19	⇓PKiKP	PKiKP	09 40 36.1	+1.3
	baz=126						
R27A	Eads	125.87	15	⇑PKiKP	PKiKP	09 40 35.3	+0.7
	baz=126						
R27A	Eads	125.87	15	⇑PKiKP	PKiKP	09 40 35.3	+0.7
	baz=126						
DVTC	Desert V Tower	125.89	30	⇑PKiKP	PKiKP	09 40 36.1	+1.3
	baz=126						
DVTC	Desert V Tower	125.89	30	⇑PKiKP	PKiKP	09 40 36.1	+1.3
	baz=126						
U20A	Newcomb	125.89	21	⇑PKiKP	PKiKP	09 40 35.7	+0.9
	baz=126						
U20A	Newcomb	125.89	21	⇑PKiKP	PKiKP	09 40 35.7	+0.9
	baz=126						
Q31A	Ellis	125.95	12	⇓PKiKP	PKiKP	09 40 35.6	+0.9
	baz=126						
Q31A	Ellis	125.95	12	⇓PKiKP	PKiKP	09 40 35.6	+0.9
	baz=126						
S25A	Robets Cordova	126.02	17	⇑PKiKP	PKiKP	09 40 35.2	+0.2
	baz=126						
S25A	Robets Cordova	126.02	17	⇑PKiKP	PKiKP	09 40 35.2	+0.2
	baz=126						
R28A	Tribune	126.06	14	⇓PKiKP	PKiKP	09 40 35.0	+0.1
	baz=126						
R28A	Tribune	126.06	14	⇓PKiKP	PKiKP	09 40 35.0	+0.1
	baz=126						
T23A	Casias Ranch,	126.12	19	⇓PKiKP	PKiKP	09 40 35.2	-0.2
	baz=126						
T23A	Casias Ranch,	126.12	19	⇓PKiKP	PKiKP	09 40 35.2	-0.2
	baz=126						
U21A	Nageezi	126.15	20	⇑PKiKP	PKiKP	09 40 36.2	+0.8
	baz=126						
U21A	Nageezi	126.15	20	⇑PKiKP	PKiKP	09 40 36.2	+0.8
	baz=126						
GLA	Glamis	126.18	29	*e*PKIKP	PKPdf	09 40 36.6	+1.8
GLA	Glamis	126.18	29	*e*PKPdf	PKPdf	09 40 36.6	+1.8
GLA	Glamis	126.18	29	⇑PKiKP	PKiKP	09 40 36.3	+1.0
	baz=126						
GLA	Glamis	126.18	29	⇑PKiKP	PKiKP	09 40 36.3	+1.0
	baz=126						
Y14A	Wickenburg	126.26	27	⇓PKiKP	PKiKP	09 40 36.5	+1.1
	baz=126						
Y14A	Wickenburg	126.26	27	⇓PKiKP	PKiKP	09 40 36.5	+1.1
	baz=126						
S26A	Kim	126.32	16	⇑PKiKP	PKiKP	09 40 36.1	+0.5
	baz=126						
S26A	Kim	126.32	16	⇑PKiKP	PKiKP	09 40 36.1	+0.5
	baz=126						
KSU1	Kansas State U	126.34	9	*e*PKPdf	PKPdf	09 40 36.1	+1.2
KSU1				LR	LR		
	comp=Z,2μm,20.0s						
V20A	Brimhall	126.43	22	⇓PKiKP	PKiKP	09 40 36.6	+0.7
	baz=126						
V20A	Brimhall	126.43	22	⇓PKiKP	PKiKP	09 40 36.6	+0.7
	baz=126						
R30A	Dighton	126.46	13	⇑PKiKP	PKiKP	09 40 36.2	+0.5
	baz=126						
R30A	Dighton	126.46	13	⇑PKiKP	PKiKP	09 40 36.2	+0.5
	baz=126						
U22A	Llaves	126.46	20	⇑PKiKP	PKiKP	09 40 36.7	+0.7
	baz=126						
U22A	Llaves	126.46	20	⇑PKiKP	PKiKP	09 40 36.7	+0.7
	baz=126						
T25A	Trinidad	126.51	17	⇓PKiKP	PKiKP	09 40 36.7	+0.7
	baz=126						
T25A	Trinidad	126.51	17	⇓PKiKP	PKiKP	09 40 36.7	+0.7
	baz=126						
X16A	Lo Mia Camp, P	126.51	25	⇓PKiKP	PKiKP	09 40 37.1	+1.0
	baz=126						
X16A	Lo Mia Camp, P	126.51	25	⇓PKiKP	PKiKP	09 40 37.1	+1.0
	baz=126						
W18A	Petrified Fore	126.57	23	⇓PKiKP	PKiKP	09 40 37.3	+1.1
	baz=126						
W18A	Petrified Fore	126.57	23	⇓PKiKP	PKiKP	09 40 37.3	+1.1
	baz=126						
R31A	Burdett	126.61	12	⇓PKiKP	PKiKP	09 40 36.6	+0.6
	baz=126						
R31A	Burdett	126.61	12	⇓PKiKP	PKiKP	09 40 36.6	+0.6
	baz=126						
T26A	Comanche Natio	126.70	16	⇓PKiKP	PKiKP	09 40 36.9	+0.5
	baz=126						
T26A	Comanche Natio	126.70	16	⇓PKiKP	PKiKP	09 40 36.9	+0.5
	baz=126						
V21A	Milan	126.72	21	⇑PKiKP	PKiKP	09 40 37.4	+0.9
	baz=126						
V21A	Milan	126.72	21	⇑PKiKP	PKiKP	09 40 37.4	+0.9
	baz=126						
U23A	El Rito	126.72	19	⇓PKiKP	PKiKP	09 40 37.2	+0.7
	baz=126						
U23A	El Rito	126.72	19	⇓PKiKP	PKiKP	09 40 37.2	+0.7
	baz=126						
S28A	Manter	126.75	15	⇑PKiKP	PKiKP	09 40 36.8	+0.5
	baz=126						
S28A	Manter	126.75	15	⇑PKiKP	PKiKP	09 40 36.8	+0.5
	baz=126						
Z14A	Wintersburg	126.77	27	⇑PKiKP	PKiKP	09 40 37.6	+1.2
	baz=127						
Z14A	Wintersburg	126.77	27	⇑PKiKP	PKiKP	09 40 37.6	+1.2
	baz=127						
V22A	San Miguel Ran	126.86	20	⇑PKiKP	PKiKP	09 40 37.9	+1.1
	baz=127						
V22A	San Miguel Ran	126.86	20	⇑PKiKP	PKiKP	09 40 37.9	+1.1
	baz=127						
113A	Mohawk Valley,	126.91	28	⇓PKiKP	PKiKP	09 40 38.1	+1.5
	baz=127						
113A	Mohawk Valley,	126.91	28	⇓PKiKP	PKiKP	09 40 38.1	+1.5
	baz=127						
U24A	Moreno Valley	126.93	18	⇓PKiKP	PKiKP	09 40 38.0	+1.0
	baz=127						
U24A	Moreno Valley	126.93	18	⇓PKiKP	PKiKP	09 40 38.0	+1.0
	baz=127						
PMSA	Palmer Station	126.95	192	PFAKE		09 40 50.0	+15
PMSA				LR	LR		
	comp=Z,1μm,21.0s						
X18A	Snowflake	127.01	24	⇓PKiKP	PKiKP	09 40 38.0	+0.9
	baz=127						
X18A	Snowflake	127.01	24	⇓PKiKP	PKiKP	09 40 38.0	+0.9
	baz=127						
W20A	Ramah	127.02	22	⇓PKiKP	PKiKP	09 40 38.0	+0.9
	baz=127						
W20A	Ramah	127.02	22	⇓PKiKP	PKiKP	09 40 38.0	+0.9
	baz=127						
T27A	Campo	127.04	16	⇑PKiKP	PKiKP	09 40 37.5	+0.5
	baz=127						
T27A	Campo	127.04	16	⇑PKiKP	PKiKP	09 40 37.5	+0.5
	baz=127						
T28A	Walsh	127.14	15	⇓PKiKP	PKiKP	09 40 37.4	+0.2
	baz=127						
T28A	Wal

	baz=128						
W24A	Lazy 6 Ranch,	128.00	19	⇑PKiKP	PKiKP	09 40 39.7	+0.6
	baz=128						
W24A	Lazy 6 Ranch,	128.00	19	⇑PKiKP	PKiKP	09 40 39.7	+0.6
	baz=128						
214A	Organ Pipe Nat	128.02	28	⇑PKiKP	PKiKP	09 40 40.3	+1.3
	baz=128						
214A	Organ Pipe Nat	128.02	28	⇑PKiKP	PKiKP	09 40 40.3	+1.3
	baz=128						
U30A	WK&E Inc. Balk	128.06	14	⇓PKiKP	PKiKP	09 40 39.9	+1.0
	baz=128						
U30A	WK&E Inc. Balk	128.06	14	⇓PKiKP	PKiKP	09 40 39.9	+1.0
	baz=128						
X22A	Bernardo	128.11	21	⇑PKiKP	PKiKP	09 40 40.4	+1.2
	baz=128						
X22A	Bernardo	128.11	21	⇑PKiKP	PKiKP	09 40 40.4	+1.2
	baz=128						
Y20A	Horse Springs,	128.16	22	⇓PKiKP	PKiKP	09 40 40.4	+0.9
	baz=128						
Y20A	Horse Springs,	128.16	22	⇓PKiKP	PKiKP	09 40 40.4	+0.9
	baz=128						
LAZ	Ladron	128.16	21	*e*PKPdf	PKPdf	09 40 40.9	+2.0
V27A	Dan Oppiter Fa	128.24	16	⇓PKiKP	PKiKP	09 40 40.0	+0.6
	baz=128						
V27A	Dan Oppiter Fa	128.24	16	⇓PKiKP	PKiKP	09 40 40.0	+0.6
	baz=128						
W25A	X Bar L Ranch,	128.28	18	⇓PKiKP	PKiKP	09 40 40.0	+0.5
	baz=128						
W25A	X Bar L Ranch,	128.28	18	⇓PKiKP	PKiKP	09 40 40.0	+0.5
	baz=128						
X23A	Hourglass Bar	128.32	20	⇓PKiKP	PKiKP	09 40 40.5	+0.7
	baz=128						
X23A	Hourglass Bar	128.32	20	⇓PKiKP	PKiKP	09 40 40.5	+0.7
	baz=128						
Y21A	Point of Rocks	128.32	22	⇑PKiKP	PKiKP	09 40 40.9	+1.1
	baz=128						
Y21A	Point of Rocks	128.32	22	⇑PKiKP	PKiKP	09 40 40.9	+1.1
	baz=128						
U31A	Nine Bar Ranch	128.39	13	⇑PKiKP	PKiKP	09 40 40.5	+0.9
	baz=128						
U31A	Nine Bar Ranch	128.39	13	⇑PKiKP	PKiKP	09 40 40.5	+0.9
	baz=128						
LPM	Los Pinos Moun	128.41	21	*e*PKPdf	PKPdf	09 40 41.3	+2.0
LENM	Lemitar	128.43	21	*e*PKPdf	PKPdf	09 40 41.2	+1.9
BNM	Barren Site	128.56	21	*e*PKPdf	PKPdf	09 40 41.8	+2.2
BLA	Blacksburg	128.57	353	PFAKE		09 40 50.0	+11
BLA				LR	LR		
	comp=Z,1μm,21.0s						
X24A	Lazy VL Ranch,	128.58	19	⇑PKiKP	PKiKP	09 40 40.9	+0.6
	baz=128						
X24A	Lazy VL Ranch,	128.58	19	⇑PKiKP	PKiKP	09 40 40.9	+0.6
	baz=128						
W26A	Owens Ranch, T	128.61	17	⇓PKiKP	PKiKP	09 40 40.8	+0.6
	baz=128						
W26A	Owens Ranch, T	128.61	17	⇓PKiKP	PKiKP	09 40 40.8	+0.6
	baz=128						
TUC	Tucson	128.61	26	*e*PKIKP	PKPdf	09 40 40.9	+1.3
TUC				MLR	MLR		
	comp=Z,760nm,21.0s						
TUC	Tucson	128.61	26	*e*PKPdf	PKPdf	09 40 40.9	+1.3
TUC				LR	LR		
	comp=Z,760nm,21.0s						
Y22A	Socorro	128.64	21	⇓PKiKP	PKiKP	09 40 41.4	+1.0
	baz=128						
Y22A	Socorro	128.64	21	⇓PKiKP	PKiKP	09 40 41.4	+1.0
	baz=128						
Z20A	Nine Sixteen R	128.78	23	⇓PKiKP	PKiKP	09 40 41.3	+0.6
	baz=129						
Z20A	Nine Sixteen R	128.78	23	⇓PKiKP	PKiKP	09 40 41.3	+0.6
	baz=129						
W27A	Bowe Ranch, En	128.83	17	⇑PKiKP	PKiKP	09 40 41.1	+0.5
	baz=129						
W27A	Bowe Ranch, En	128.83	17	⇑PKiKP	PKiKP	09 40 41.1	+0.5
	baz=129						
X25A	Clemmons Ranch	128.86	19	⇑PKiKP	PKiKP	09 40 41.1	+0.4
	baz=129						
X25A	Clemmons Ranch	128.86	19	⇑PKiKP	PKiKP	09 40 41.1	+0.4
	baz=129						
RCBR	Riachuelo	128.93	274	PFAKE		09 40 50.0	+9.5
RCBR				LR	LR		
	comp=Z,850nm,20.0s						
Z21A	St. Cloud Mine	128.95	22	⇑PKiKP	PKiKP	09 40 42.2	+1.2
	baz=129						
Z21A	St. Cloud Mine	128.95	22	⇑PKiKP	PKiKP	09 40 42.2	+1.2
	baz=129						
Y23A	Lovelace Mesa,	128.96	20	⇑PKiKP	PKiKP	09 40 42.0	+0.9
	baz=129						
Y23A	Lovelace Mesa,	128.96	20	⇑PKiKP	PKiKP	09 40 42.0	+0.9
	baz=129						
V31A	Spring Creek L	128.97	13	⇓PKiKP	PKiKP	09 40 41.5	+0.7
	baz=129						
V31A	Spring Creek L	128.97	13	⇓PKiKP	PKiKP	09 40 41.5	+0.7
	baz=129						
BBSR	BB Station	129.03	335	PFAKE		09 40 50.0	+10
BBSR				LR	LR		
	comp=Z,752nm,22.0s						
X26A	CR and CF Fran	129.09	18	⇑PKiKP	PKiKP	09 40 41.7	+0.5
	baz=129						
X26A	CR and CF Fran	129.09	18	⇑PKiKP	PKiKP	09 40 41.7	+0.5
	baz=129						
Y24A	Capitan	129.17	20	⇓PKiKP	PKiKP	09 40 41.8	+0.4
	baz=129						
Y24A	Capitan	129.17	20	⇓PKiKP	PKiKP	09 40 41.8	+0.4
	baz=129						
Z22A	Elephant Butte	129.26	21	⇓PKiKP	PKiKP	09 40 42.6	+1.0
	baz=129						
Z22A	Elephant Butte	129.26	21	⇓PKiKP	PKiKP	09 40 42.6	+1.0
	baz=129						
AMTX	Amarillo	129.37	15	PFAKE		09 40 50.0	+9.0
AMTX				LR	LR		
	comp=Z,879nm,20.0s						
W31A	Holland Ranch,	129.51	14	⇑PKiKP	PKiKP	09 40 42.6	+0.7
	baz=129						
W31A	Holland Ranch,	129.51	14	⇑PKiKP	PKiKP	09 40 42.6	+0.7
	baz=129						
Z23A	Rita Site, Whi	129.51	21	⇓PKiKP	PKiKP	09 40 43.3	+1.2
	baz=129						
Z23A	Rita Site, Whi	129.51	21	⇓PKiKP	PKiKP	09 40 43.3	+1.2
	baz=129						
121A	Cookes Peak, D	129.61	23	⇓PKiKP	PKiKP	09 40 43.5	+1.1
	baz=129						
121A	Cookes Peak, D	129.61	23	⇓PKiKP	PKiKP	09 40 43.5	+1.1
	baz=129						
Y26A	Elida	129.67	18	⇑PKiKP	PKiKP	09 40 42.7	+0.3
	baz=130						
Y26A	Elida	129.67	18	⇑PKiKP	PKiKP	09 40 42.7	+0.3
	baz=130						
Z24A	Sheeppen Canyo	129.74	20	⇑PKiKP	PKiKP	09 40 43.8	+1.2
	baz=130						
Z24A	Sheeppen Canyo	129.74	20	⇑PKiKP	PKiKP	09 40 43.8	+1.2
	baz=130						
122A	Conniff Cattle	129.75	22	⇓PKiKP	PKiKP	09 40 43.9	+1.4
	baz=130						
122A	Conniff Cattle	129.75	22	⇓PKiKP	PKiKP	09 40 43.9	+1.4
	baz=130						
220A	Playas Peak, P	129.88	24	⇓PKiKP	PKiKP	09 40 44.0	+1.1
	baz=130						
220A	Playas Peak, P	129.88	24	⇓PKiKP	PKiKP	09 40 44.0	+1.1
	baz=130						
MSTX	Muleshoe	129.94	17	⇓PKiKP	PKiKP	09 40 43.6	+0.7
	baz=130						
MSTX	Muleshoe	129.94	17	⇓PKiKP	PKiKP	09 40 43.6	+0.7
	baz=130						
Z25A	Roswell	129.99	19	⇑PKiKP	PKiKP	09 40 44.3	+1.3
	baz=130						
Z25A	Roswell	129.99	19	⇑PKiKP	PKiKP	09 40 44.3	+1.3
	baz=130						
WVT	Waverly	130.04	1	*e*PKIKP	PKPdf	09 40 42.9	+0.9
WVT	Waverly	130.04	1	*e*PKPdf	PKPdf	09 40 42.9	+0.9
319A	Douglas	130.04	25	⇓PKiKP	PKiKP	09 40 44.4	+1.2
	baz=130						
319A	Douglas	130.04	25	⇓PKiKP	PKiKP	09 40 44.4	+1.2
	baz=130						
221A	Mesquite Ranch	130.08	23	⇑PKiKP	PKiKP	09 40 44.8	+1.6
	baz=130						
221A	Mesquite Ranch	130.08	23	⇑PKiKP	PKiKP	09 40 44.8	+1.6
	baz=130						
CNNC	Cliffs of the	130.15	350	PFAKE		09 40 50.0	+7.7
CNNC				LR	LR		
	comp=Z,1μm,19.0s						
WMOK	Wichita Mounta	130.19	13	*e*PKIKP	PKPdf	09 40 38.7	-3.7
WMOK				MLR	MLR		
	comp=Z,966nm,20.0s						
WMOK	Wichita Mounta	130.19	13	*e*PKPdf	PKPdf	09 40 38.7	-3.7
WMOK				LR	LR		
	comp=Z,966nm,20.0s						
Z26A	Caprock	130.23	19	⇓PKiKP	PKiKP	09 40 44.4	+0.9
	baz=130						
Z26A	Caprock	130.23	19	⇓PKiKP	PKiKP	09 40 44.4	+0.9
	baz=130						
124A	Stringfield Ra	130.28	20	⇓PKiKP	PKiKP	09 40 44.8	+1.1
	baz=130						
124A	Stringfield Ra	130.28	20	⇓PKiKP	PKiKP	09 40 44.8	+1.1
	baz=130						
320A	Kipp Ranch, An	130.38	24	⇑PKiKP	PKiKP	09 40 45.0	+1.2
	baz=130						
320A	Kipp Ranch, An	130.38	24	⇑PKiKP	PKiKP	09 40 45.0	+1.2
	baz=130						
TKL	Tuckaleechee C	130.41	356	PKP	PKPdf	09 40 42.7	-0.1
TKL				*e*PKPdf	PKiKP	09 40 43.1	-0.5
TKL	Tuckaleechee C	130.41	356	PKP	PKPdf	09 40 42.7	-0.1
	comp=Z,1.7nm,0.6s,baz=148,slow=4.6,SNR=4.4						
Z27A	Tatum	130.42	18	⇑PKiKP	PKiKP	09 40 44.8	+0.9
	baz=130						
Z27A	Tatum	130.42	18	⇑PKiKP	PKiKP	09 40 44.8	+0.9
	baz=130						
125A	Gardner Draw,	130.59	19	⇓PKiKP	PKiKP	09 40 44.8	+0.6
	baz=130						
125A	Gardner Draw,	130.59	19	⇓PKiKP	PKiKP	09 40 44.8	+0.6
	baz=130						
Y31A	Rekieta Farm,	130.60	14	⇑PKiKP	PKiKP	09 40 44.6	+0.5
	baz=130						
Y31A	Rekieta Farm,	130.60	14	⇑PKiKP	PKiKP	09 40 44.6	+0.5
	baz=130						
CPCT	Cooper Cave	130.66	357	*e*PKPdf	PKPdf	09 40 44.2	+0.9
Z28A	Tucker Farm, M	130.69	17	⇓PKiKP	PKiKP	09 40 44.9	+0.5
	baz=130						
Z28A	Tucker Farm, M	130.69	17	⇓PKiKP	PKiKP	09 40 44.9	+0.5
	baz=130						
KMSC	Kings Mountain	130.71	354	⇓PKiKP	PKiKP	09 40 44.8	+0.6
	baz=130						
KMSC	Kings Mountain	130.71	354	⇓PKiKP	PKiKP	09 40 44.8	+0.6
	baz=130						
Y32A	R-V Farms, Ver	130.75	13	⇓PKiKP	PKiKP	09 40 44.9	+0.5
	baz=130						
Y32A	R-V Farms, Ver	130.75	13	⇓PKiKP	PKiKP	09 40 44.9	+0.5
	baz=130						
Z29A	Hungry Hill Ra	130.90	16	⇑PKiKP	PKiKP	09 40 45.3	+0.5
	baz=131						
Z29A	Hungry Hill Ra	130.90	16	⇑PKiKP	PKiKP	09 40 45.3	+0.5
	baz=131						
127A	Arkansas Junct	130.97	18	⇑PKiKP	PKiKP	09 40 45.5	+0.5
	baz=131						
127A	Arkansas Junct	130.97	18	⇑PKiKP	PKiKP	09 40 45.5	+0.5
	baz=131						
Z30A	Sanderson Ranc	131.03	16	⇓PKiKP	PKiKP	09 40 45.3	+0.3
	baz=131						
Z30A	Sanderson Ranc	131.03	16	⇓PKiKP	PKiKP	09 40 45.3	+0.3
	baz=131						
225A	Deer Hill, Car	131.03	20	⇓PKiKP	PKiKP	09 40 45.0	-0.2
	baz=131						
225A	Deer Hill, Car	131.03	20	⇓PKiKP	PKiKP	09 40 45.0	-0.2
	baz=131						
GDL2	Guadalupe Moun	131.10	19	*e*PKPdf	PKPdf	09 40 46.4	+2.0
MNTX	Cornudas Mount	131.22	21	*e*PKPdf	PKPdf	09 40 45.2	+0.8
MNTX				LR	LR		
	comp=Z,707nm,21.0s						
MIAR	Mount Ida	131.24	7	PFAKE		09 41 00.0	+16
MIAR				LR	LR		
	comp=Z,1μm,20.0s						
Z31A	Sharp Cattle R	131.25	14	⇑PKiKP	PKiKP	09 40 45.7	+0.3
	baz=131						
Z31A	Sharp Cattle R	131.25	14	⇑PKiKP	PKiKP	09 40 45.7	+0.3
	baz=131						
226B	Tecolote Peak,	131.28	19	⇓PKiKP	PKiKP	09 40 45.7	+0.1
	baz=131						
226B	Tecolote Peak,	131.28	19	⇓PKiKP	PKiKP	09 40 45.7	+0.1
	baz=131						
128A	Castleberry Fa	131.28	17	⇓PKiKP	PKiKP	09 40 45.7	+0.1
	baz=131						
128A	Castleberry Fa	131.28	17	⇓PKiKP	PKiKP	09 40 45.7	+0.1
	baz=131						
Z32A	Haskell	131.41	14	⇓PKiKP	PKiKP	09 40 46.0	+0.3
	baz=131						
Z32A	Haskell	131.41	14	⇓PKiKP	PKiKP	09 40 46.0	+0.3
	baz=131						
324A	Moseley Ranch,	131.42	21	⇓PKiKP	PKiKP	09 40 46.1	+0.1
	baz=131						
324A	Moseley Ranch,	131.42	21	⇓PKiKP	PKiKP	09 40 46.1	+0.1
	baz=131						
129A	Stewart Farms,	131.45	17	⇑PKiKP	PKiKP	09 40 46.4	+0.5
	baz=131						
129A	Stewart Farms,	131.45	17	⇑PKiKP	PKiKP	09 40 46.4	+0.5
	baz=131						
OXF	Oxford	131.61	2	PFAKE		09 41 00.0	+15
OXF				LR	LR		
	comp=Z,1μm,20.0s						
227A	Bennet, Jal	131.61	18	⇓PKiKP	PKiKP	09 40 46.7	+0.4
	baz=131						
227A	Bennet, Jal	131.61	18	⇓PKiKP	PKiKP	09 40 46.7	+0.4
	baz=131						
325A	Bean Ranch, Si	131.66	20	⇑PKiKP	PKiKP	09 40 46.4	-0.1
	baz=132						
325A	Bean Ranch, Si	131.66	20	⇑PKiKP	PKiKP	09 40 46.4	-0.1
	baz=132						
228A	UT Block 9, Go	131.72	18	⇓PKiKP	PKiKP	09 40 46.2	-0.3
	baz=132						
228A	UT Block 9, Go	131.72	18	⇓PKiKP	PKiKP	09 40 46.2	-0.3
	baz=132						
130A	Snyder	131.72	16	⇑PKiKP	PKiKP	09 40 46.8	+0.4
	baz=132						
130A	Snyder	131.72	16	⇑PKiKP	PKiKP	09 40 46.8	+0.4
	baz=132						
131A	Roby	131.80	15	⇓PKiKP	PKiKP	09 40 46.8	+0.3
	baz=132						
131A	Roby	131.80	15	⇓PKiKP	PKiKP	09 40 46.8	+0.3
	baz=132						
ABTX	Abilene, Hawle	132.03	14	⇓PKiKP	PKiKP	09 40 47.3	+0.2
	baz=132						
ABTX	Abilene, Hawle	132.03	14	⇓PKiKP	PKiKP	09 40 47.3	+0.2
	baz=132						
326A	Caldwell Ranch	132.04	19	⇓PKiKP	PKiKP	09 40 46.9	-0.2
	baz=132						
326A	Caldwell Ranch	132.04	19	⇓PKiKP	PKiKP	09 40 46.9	-0.2
	baz=132						
229A	Bryant Ranch,	132.09	17	⇓PKiKP	PKiKP	09 40 47.2	0.0
	baz=132						
229A	Bryant Ranch,	132.09	17	⇓PKiKP	PKiKP	09 40 47.2	0.0
	baz=132						
425A	Indio Mountain	132.19	21	⇑PKiKP	PKiKP	09 40 47.3	-0.2
	baz=132						
425A	Indio Mountain	132.19	21	⇑PKiKP	PKiKP	09 40 47.3	-0.2
	baz=132						
328A	Wristen Ranch,	132.35	18	⇑PKiKP	PKiKP	09 40 47.7	0.0
	baz=132						
328A	Wristen Ranch,	132.35	18	⇑PKiKP	PKiKP	09 40 47.7	0.0
	baz=132						
230A	Sterling City	132.36	16	⇑PKiKP	PKiKP	09 40 48.0	+0.2
	baz=132						
230A	Sterling City	132.36	16	⇑PKiKP	PKiKP	09 40 48.0	+0.2
	baz=132						
329A	Wagon Wheel Ra	132.49	17	⇑PKiKP	PKiKP	09 40 47.9	-0.2
	baz=132						
329A	Wagon Wheel Ra	132.49	17	⇑PKiKP	PKiKP	09 40 47.9	-0.2
	baz=132						
231A	Bronte	132.52	15	⇑PKiKP	PKiKP	09 40 48.1	+0.1
	baz=132						
231A	Bronte	132.52	15	⇑PKiKP	PKiKP	09 40 48.1	+0.1
	baz=132						
427A	Hayter Ranch,	132.66	19	⇓PKiKP	PKiKP	09 40 48.4	-0.1
	baz=132						
427A	Hayter Ranch,	132.66	19	⇓PKiKP	PKiKP	09 40 48.4	-0.1
	baz=132						
232A	Coleman	132.73	14	⇓PKiKP	PKiKP	09 40 48.4	-0.1
	baz=132						
232A	Coleman	132.73	14	⇓PKiKP	PKiKP	09 40 48.4	-0.1
	baz=132						
330A	Mertzon	132.79	16	⇓PKiKP	PKiKP	09 40 48.3	-0.3
	baz=133						
330A	Mertzon	132.79	16	⇓PKiKP	PKiKP	09 40 48.3	-0.3
	baz=133						
428A	Kincaid Ranch,	133.00	18	⇓PKiKP	PKiKP	09 40 48.8	-0.3
	baz=133						
428A	Kincaid Ranch,	133.00	18	⇓PKiKP	PKiKP	09 40 48.8	-0.3
	baz=133						
331A	San Angelo	133.09	16	⇓PKiKP	PKiKP	09 40 49.0	-0.2
	baz=133						
331A	San Angelo	133.09	16	⇓PKiKP	PKiKP	09 40 49.0	-0.2
	baz=133						
LRAL	Lakeview Retre	133.13	360	PFAKE		09 41 00.0	+12
LRAL				LR	LR		
	comp=Z,1μm,20.0s						
526A	Mary Lane Ranc	133.16	20	⇑PKiKP	PKiKP	09 40 49.3	-0.2
	baz=133						
526A	Mary Lane Ranc	133.16	20	⇑PKiKP	PKiKP	09 40 49.3	-0.2
	baz=133						
332A	Millersview	133.19	15	⇑PKiKP	PKiKP	09 40 49.5	+0.1
	baz=133						
332A	Millersview	133.19	15	⇑PKiKP	PKiKP	09 40 49.5	+0.1
	baz=133						
527A	Woodward Ranch	133.24	20	⇓PKiKP	PKiKP	09 40 49.7	+0.1
	baz=133						
527A	Woodward Ranch	133.24	20	⇓PKiKP	PKiKP	09 40 49.7	+0.1
	baz=133						
429A	Davenport Ranc	133.33	18	⇓PKiKP	PKiKP	09 40 49.4	-0.3
	baz=133						
429A	Davenport Ranc	133.33	18	⇓PKiKP	PKiKP	09 40 49.4	-0.3
	baz=133						
430A	Baggett Ranch,	133.36	17	⇑PKiKP	PKiKP	09 40 49.3	-0.5
	baz=133						
430A	Baggett Ranch,	133.36	17	⇑PKiKP	PKiKP	09 40 49.3	-0.5
	baz=133						
528A	Cox Ranch, San	133.49	19	⇑PKiKP	PKiKP	09 40 49.7	-0.4
	baz=133						
528A	Cox Ranch, San	133.49	19	⇑PKiKP	PKiKP	09 40 49.7	-0.4
	baz=133						
626A	Big Bend Ranch	133.61	21	⇓PKiKP	PKiKP	09 40 49.5	-0.9
	baz=133						
626A	Big Bend Ranch	133.61	21	⇓PKiKP	PKiKP	09 40 49.5	-0.9
	baz=133						
431A	Sonora	133.63	16	⇑PKiKP	PKiKP	09 40 49.7	-0.6
	baz=133						
431A	Sonora	133.63	16	⇑PKiKP	PKiKP	09 40 49.7	-0.6
	baz=133						
432A	Menard	133.66	15	⇓PKiKP	PKiKP	09 40 49.9	-0.5
	baz=134						
432A	Menard	133.66	15	⇓PKiKP	PKiKP	09 40 49.9	-0.5
	baz=134						
529A	Stev Forest Ra	133.70	18	⇓PKiKP	PKiKP	09 40 50.0	-0.5
	baz=134						
529A	Stev Forest Ra	133.70	18	⇓PKiKP	PKiKP	09 40 50.0	-0.5
	baz=134						
VBMS	Vicksburg	133.83	4	PFAKE		09 41 00.0	+11
VBMS				LR	LR		
	comp=Z,1μm,21.0s						
530A	J-C Ranch, Com	133.94	17	⇓PKiKP	PKiKP	09 40 50.6	-0.4
	baz=134						
530A	J-C Ranch, Com	133.94	17	⇓PKiKP	PKiKP	09 40 50.6	-0.4
	baz=134						
627A	Terlingua Ranc	133.95	20	⇓PKiKP	PKiKP	09 40 51.0	-0.1
	baz=134						
627A	Terlingua Ranc	133.95	20	⇓PKiKP	PKiKP	09 40 51.0	-0.1
	baz=134						
TXAR	Lajitas Array	133.97	20	PKP	PKPdf	09 40 50.0	+0.2
TXAR	Lajitas Array	133.97	20	PKhKP	PKPpre	09 40 37.4	
	comp=Z,0.2nm,0.5s,baz=230,slow=1.6,SNR=4.8						
TXAR				PKP	PKPdf	09 40 50.0	+0.2
	comp=Z,2.6nm,0.5s,baz=151,slow=0.7,SNR=9.8						
JCT	Junction City	134.04	15	PFAKE		09 41 00.0	+10
JCT				LR	LR		
	comp=Z,966nm,20.0s						
JCT	Junction City	134.04	15	⇑PKiKP	PKiKP	09 40 51.1	0.0
	baz=134						
JCT	Junction City	134.04	15	⇑PKiKP	PKiKP	09 40 51.1	0.0
	baz=134						
628A	Black Gap, Mar	134.09	19	⇑PKiKP	PKiKP	09 40 51.2	-0.1
	baz=134						
628A	Black Gap, Mar	134.09	19	⇑PKiKP	PKiKP	09 40 51.2	-0.1
	baz=134						
531A	Rocksprings	134.14	16	⇑PKiKP	PKiKP	09 40 50.8	-0.5
	baz=134						
531A	Rocksprings	134.14	16	⇑PKiKP	PKiKP	09 40 50.8	-0.5
	baz=134						
532A	Rocksprings	134.34	15	⇑PKiKP	PKiKP	09 40 51.6	-0.2
	baz=134						
532A	Rocksprings	134.34	15	⇑PKiKP	PKiKP	09 40 51.6	-0.2
	baz=134						
631A	Perdido Creek	134.84	17	⇑PKiKP	PKiKP	09 40 52.3	-0.4
	baz=135						
631A	Perdido Creek	134.84	17	⇑PKiKP	PKiKP	09 40 52.3	-0.4
	baz=135						
632A	Uvalde	134.97	16	⇓PKiKP	PKiKP	09 40 52.9	-0.1
	baz=135						
632A	Uvalde	134.97	16	⇓PKiKP	PKiKP	09 40 52.9	-0.1
	baz=135						
BRAL	Brewton	135.15	360	PFAKE		09 41 00.0	+8.2
BRAL				LR	LR		
	comp=Z,2μm,22.0s						
KVTX	Kingsville	137.31	14	PFAKE		09 41 10.0	+14
KVTX				LR	LR		
	comp=Z,899nm,19.0s						
ANWB	Willy Bob	139.70	321	PFAKE		09 41 10.0	+9.5
ANWB				LR	LR		
	comp=Z,748nm,21.0s						
GRTK	Grand Turk	141.26	336	PFAKE		09 41 20.0	+17
GRTK				LR	LR		
	comp=Z,971nm,22.0s						
BBGH	Gun Hill	141.52	313	PFAKE		09 41 20.0	+16
BBGH				LR	LR		
	comp=Z,939nm,20.0s						
BDFB	Brasilia	142.16	263	PKP	PKPdf	09 41 05.2	+0.1
BDFB	Brasilia	142.16	263	PKP	PKPdf	09 41 05.2	+0.1
	comp=Z,8.1nm,0.9s,baz=24,slow=2.0,SNR=4.9						
SDDR	Presa de Saban	143.59	334	PFAKE		09 41 20.0	+12
SDDR				LR	LR		
	comp=Z,853nm,22.0s						
GRGR	Grenville	143.68	315	PFAKE		09 41 20.0	+12
GRGR				LR	LR		
	comp=Z,431nm,22.0s						
GTBY	Guantanamo Bay	144.16	340	*e*PKPdf	PKPdf	09 41 16.0	+7.6
GTBY				LR	LR		
	comp=Z,863nm,21.0s						
TEIG	Tepich	145.87	2	PKPbc	PKPab	09 41 13.4	+1.1
TEIG				LR	LR		
	comp=Z,1μm,20.0s						
TEIG	Tepich	145.87	2	PKPbc	PKPab	09 41 13.4	+1.1
	comp=Z,107nm,0.8s,baz=82,slow=7.3,SNR=5.1	

KURBB	Kurchatov Arra	38.43	345	P	P	09 35 15.5	-0.1
	1.3nm,0.7s,baz=157,slow=9.8,SNR=3.6						
FITZ	Fitzroy Crossi	45.33	134	P	P	09 36 12.2	-0.3
	1.7nm,0.3s,baz=339,slow=10,SNR=8.2						
WRA	Warramunga Arr	52.86	129	P	P	09 37 10.1	-0.2
	0.5nm,0.3s,baz=308,slow=9.4,SNR=9.2						
ASAR	Alice Springs	54.79	133	P	P	09 37 24.6	+0.2
	1.0nm,0.5s,baz=308,slow=7.1,SNR=4.1						

*MOS **13** 09:32:27.9±0.9, 46˚.09N×150˚.71E, h125km, mb3.5/5, Error ellipse: s-maj=24.6km s-min=13.7km az=52.1*
*IDC **13** 09:32:29.1±2.6, 45˚.97N×150˚.76E, h122km±24km, mb3.4/10, mb1 3.5/14, mb1mx3.5/30, mbtmp3.4/14, Error ellipse: s-maj=22.4km s-min=13.9km az=135.0*
*JMA **13** 09:32:31.0±0.5, 45˚.02N×150˚.82E, h130km, M3.9*
ISC 13 09:32:26.1±0.9, 45˚.7N±0˚.1×151˚.0E±0˚.1, h100km, n45, σ1§72/40, mb3.7/10, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	2.27	259	*d i* PN	Pn	09 33 04.5	+2.4
KUR				*i* S	Sn	09 33 32.1	+2.3
KUR				pmax	pmax		
	comp=N,17nm,0.1s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,86nm,0.1s						
KUR				smax	smax		
	comp=N,754nm,0.4s						
KUR				smax	smax		
	comp=E,760nm,0.8s						
YUK	Yuzh-Kuril'sk	4.04	247	*d i* PN	Pn	09 33 27.9	+2.3
YUK				*i* S	Sn	09 34 12.8	+0.9
YUK				pmax	pmax		
	comp=N,20nm,0.2s						
YUK				pmax	pmax		
	comp=E,6.0nm,0.2s						
YUK				pmax	pmax		
	comp=Z,59nm,0.2s						
YUK				smax	smax		
	comp=N,69nm,0.2s						
YUK				smax	smax		
	comp=E,227nm,0.4s						
NEM2	Nemuro 2	4.45	240	P	Pn	09 33 31.6	+0.4
NEM2				*e*S	Sn	09 34 17.9	-3.9
JRA	Rausu	4.56	249	P	Pn	09 33 34.8	+2.1
JNK	Nakash	4.98	247	P	Pn	09 33 40.2	+1.8
JAK	Akkeshi	5.29	241	P	Pn	09 33 42.7	+0.1
JAK				*e*S	Sn	09 34 38.3	-3.9
JTKR	Abashiri--Toko	5.35	254	P	Pn	09 33 45.4	+1.9
JMP	Maruseppu	5.71	255	P	Pn	09 33 50.5	+2.1
JAR	Ashorobuto	5.72	248	P	Pn	09 33 50.2	+1.7
JOB	Onbets	5.87	244	*e*S	Sn	09 34 54.3	-2.2
JKK2	Kamakawa 2	6.17	256	P	Pn	09 33 56.9	+2.3
ASAJ	Asahikawa	6.19	258	P	Pn	09 33 58.2	+3.3
ASAJ	Asahikawa	6.19	258	P	Pn	09 33 57.7	+2.8
	comp=E,1.9nm,0.3s,baz=83,slow=16,SNR=16						
JCH	Churui	6.32	243	P	Pn	09 33 57.2	+0.6
JCH				*e*S	Sn	09 35 03.5	-3.9
JFR	Furan	6.55	250	*e*S	Sn	09 35 12.1	-0.9
JEM	Erimo	6.78	240	*e*S	Sn	09 35 12.6	-5.9
JBT2	Biratori 2	6.88	248	P	Pn	09 34 05.3	+1.1
JNBK	Urakawa-nobuka	6.88	243	P	Pn	09 34 04.1	-0.1
JNB	Noboribetsu	7.88	249	P	Pn	09 34 19.1	+1.2
JNB				*e*S	Sn	09 35 42.3	-3.1
JKB	Kayabe	8.18	246	P	Pn	09 34 22.1	+0.3
JKB				*e*S	Sn	09 35 46.6	-5.9
JYM2	Yakumo 2	8.49	249	P	Pn	09 34 26.6	+0.5
PETK	Petropavlovsk-	8.58	28	PN	Pn	09 34 26.6	-0.7
PETK	Petropavlovsk-	8.58	28	P	Pn	09 34 26.6	-0.7
	comp=E,0.2nm,0.3s,baz=214,slow=16,SNR=5.0						
JSR	Shiriuchi	8.75	245	P	Pn	09 34 30.3	+0.6
JSR				*e*S	Sn	09 36 00.0	-6.6
JANG	Nango	8.77	236	P	Pn	09 34 28.2	-1.7
JANG				*e*S	Sn	09 35 58.9	-8.1
JTM	Tenmabayashi	8.77	239	*e*S	Sn	09 35 59.4	-7.7
JTH	Tanohata	8.86	233	*e*S	Sn	09 36 01.4	-7.9
JOSM	Okushiri--Mats	9.09	251	P	Pn	09 34 34.9	+0.6
OFUJ	Ofunato	9.58	230	*e*S	Sn	09 36 19.8	-6.8
JRG	Rokugo	9.92	234	*e*S	Sn	09 36 29.2	-5.9
JIO	Ouri	10.21	228	*e*S	Sn	09 36 33.0	-8.9
USRK	Ussuriysk Arra	13.56	270	P	Pn	09 35 33.3	-0.8
	comp=E,0.1nm,0.3s,baz=73,slow=9.7,SNR=4.4						
KSRS	Korea Array	19.10	253	P	P	09 36 42.3	+1.5
	comp=E,0.1nm,0.3s,baz=54,slow=12,SNR=5.2						
ILAR	Eielson Array	38.26	38	P	P	09 39 36.1	0.0
	comp=E,0.6nm,0.8s,baz=260,slow=6.5,SNR=5.3						
INK	Inuvik	43.30	32	P	P	09 40 17.8	+0.5
	comp=E,2.0nm,0.7s,baz=273,slow=2.8,SNR=7.1						
MKAR	Makanchi Array	46.13	297	P	P	09 40 38.8	-1.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	46.13	297	P	P	09 40 38.8	-1.4
	comp=Z,0.5nm,0.8s,baz=63,slow=6.6,SNR=2.8						
KURK	Kurchatov	46.73	304	P	P	09 40 43.4	-1.4
KURBB	Kurchatov Arra	46.82	304	P	P	09 40 43.4	-2.1
	comp=Z,0.4nm,0.4s,baz=74,slow=8.0,SNR=2.4						
YKA	Yellowknife Ar	52.62	36	P	P	09 41 29.5	+0.3
	comp=Z,0.6nm,0.6s,baz=300,slow=6.7,SNR=4.1						
FINES	FINESS Array B	64.35	334	P	P	09 42 49.0	-1.6
	comp=Z,2.3nm,0.9s,baz=22,slow=7.7,SNR=5.0						
PDAR	Pinedale Array	66.53	52	P	P	09 43 06.2	+0.8
	comp=Z,1.5nm,0.7s,baz=284,slow=2.4,SNR=3.7						
WRA	Warramunga Arr	67.08	197	P	P	09 43 09.4	+0.8
	comp=Z,0.3nm,0.6s,baz=14,slow=6.3,SNR=4.3						
NOA	NORSAR Array B	68.73	340	P	P	09 43 16.9	-1.7
	comp=Z,1.1nm,0.6s,baz=27,slow=6.4,SNR=3.7						
ASAR	Alice Springs	70.78	197	P	P	09 43 33.8	+2.2
	comp=Z,0.4nm,1.1s,baz=13,slow=4.8,SNR=5.3						

*ISCJB **13** 09:37:34.0±0.9, 8˚.03N±0˚.02×85˚.59W±0˚.02, h10km±5km, mb5.2/213, MS5.1/33, Error ellipse: s-maj=3.9km s-min=3.0km az=22.7*
*IDC **13** 09:37:33.5±0.4, 8˚.05N×85˚.54W, h0km, mb4.7/32, mb1 4.9/35, mb1mx4.9/37, mbtmp4.8/35, ML4.5/3, MS5.0/17, Ms1 5.0/17, ms1mx4.8/29, Error ellipse: s-maj=18.5km s-min=9.4km az=64.0*
*CASC **13** 09:37:35.9±2.8, 8˚.18N×85˚.51W, h4km±13km, MD5.3, ML5.0, mb5.3(NEIC)*
*NEIC **13** 09:37:35.4±0.2, 7˚.95N×85˚.63W, h10km, mb5.3/138, Error ellipse: s-maj=4.1km s-min=3.0km az=38.0*
NEIC Felt at Alajuela, Alajuelita, Escazu, Guacimo, Nandayure, Quepos, San Jose, Santiago and Turrialba.
*MOS **13** 09:37:38.7±0.9, 8˚.26N×85˚.57W, h33km, mb5.4/44, Error ellipse: s-maj=10.8km s-min=5.3km az=105.2*
*GCMT **13** 09:37:38.9±0.1, 7˚.84N×85˚.83W, h27km, MW5.8, Moment Tensor Solution. s95,c174; s66,c81; Moment tensor: Scale 10^{17}Nm; M_{rr}0.08±.08; $M_{\theta\theta}$2.27±.07; $M_{\phi\phi}$-2.35±.08; $M_{r\theta}$0.14±.15; $M_{\theta\phi}$5.99±.07; $M_{\phi r}$-1.18±.18; Best double couple: $M_0$6.50000×10^{17} NP1:ϕ_s11.00000°, δ87.00000°, λ-170.00000°. NP2:ϕ_s280.00000°, δ80.00000°, λ-3.00000°. Principal axes: T 6.4300, Plg5.0000°, Azm145.0000°; N 0.2000, Plg80.0000°, Azm26.0000°; P -6.6300, Plg9.0000°, Azm236.0000°; Data Used: II IU CN IC G. Surface waves: sta=103, comp=216, per= 50.*
ISC 13 09:37:35.0±1.2, 8˚.08N±0˚.03×85˚.55W±0˚.04, h6km±6km, n987, σ1§17/1003, mb5.2/212, MS5.2/34, 229C-224D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCR	Jicaral	1.81	14	⇓*i* P	Pn	09 38 05.3	-1.5
JCR				*e*S	Sg	09 38 31.8	-1.5
QCR	Quepos	1.91	46	⇓*i* P	Pn	09 38 06.7	-1.4
QCR				*e*S	Sg	09 38 33.7	-2.9
VCR	Vista de Mar	2.04	358	⇑*i* P	Pn	09 38 07.5	-2.4
JTS	JuntasAbangare	2.27	15	*e*Pn	Pn	09 38 13.1	-0.1
JTS				Sn	Sn	09 38 40.2	-1.3
JTS	JuntasAbangare	2.27	15	Pn	Pn	09 38 12.0	-1.2
	385nm,0.3s,baz=141,slow=3.6,SNR=1418						
JTS				Sn	Sn	09 38 40.2	-1.3
	2μm,0.3s,baz=300,slow=20,SNR=16						
BUS	Buena Vista	2.30	50	⇓*i* P	Pn	09 38 13.0	-0.9
SJS	Escuela Geolog	2.37	39	⇓*i* P	Pn	09 38 14.5	0.0
SJS				*e*S	Sb	09 38 45.3	-2.4
ACR	Cerro Adams	2.43	76	⇓*i* P	Pn	09 38 13.6	-1.7
ACR				*e*S	Sn	09 38 45.2	-0.2
CHPA	Chiripa	2.43	15	*i* P	Pn	09 38 15.6	+0.2
URSC	Urasca	2.47	45	⇓*i* P	Pn	09 38 15.6	-0.4
CASO	Castillo	2.47	19	*i* P	Pb	09 38 16.8	-3.2
CEDE	Laguna Cedeˆ–o	2.53	19	*i* P	Pb	09 38 17.8	-3.2
CEDE				*i* S	Sb	09 38 49.4	-3.1
NY14	Universidad de	2.55	0	*i* P	Pn	09 38 15.8	-1.1
LIM1	Limonal	2.62	6	*i* P	Pn	09 38 17.4	-0.5
LIM1				*i* S	Sn	09 38 48.0	-2.1
GUAB	Guayabo de Bag	2.63	7	*i* P	Pn	09 38 17.6	-0.5
GUAB				*i* S	Sn	09 38 49.1	-1.3
GPS2	Hotel Rincˆ±n	2.66	4	*i* P	Pn	09 38 17.6	-0.9
GPS3	Bodega del ICE	2.66	4	*i* P	Pn	09 38 17.7	-0.8
LAPC	Finca la Perla	2.67	3	*i* P	Pn	09 38 17.7	-0.9
GPS1	Guardaparques	2.69	4	*i* P	Pn	09 38 18.0	-0.9
GPS1				*i* S	Sn	09 38 49.5	-2.3
BUEV	Buena Vista	2.70	3	*i* P	Pn	09 38 18.3	-0.9
GB1A	Boringuen Arri	2.73	3	*i* P	Pn	09 38 18.5	-0.9
BRU2	Volcan	2.92	76	*e* P	Pn	09 38 21.6	-0.5
BRU2				*e*S	Sb	09 39 00.3	-3.3
ICCO	Coco Island	2.93	211	⇓*e* P	Pn	09 38 12.1	-10
ICCO				*e*S	Sn	09 38 41.4	-16
TBS2		2.95	76	⇓*e* P	Pn	09 38 23.5	+0.9
TBS2				*e*S	Sn	09 38 58.4	0.0
BRU	Baru	3.05	76	⇓*e* P	Pn	09 38 24.1	0.0
COPN	Copaltepe	4.20	346	*e* P	Pn	09 38 41.3	+1.6
HUEN		4.27	352	*e* P	Pn	09 38 42.7	+2.0
PINA	Piqa, Costa Ab	5.55	77	*e* P	Pn	09 38 58.9	+0.7
CNCH	Conchagua	5.63	337	*e* P	Pn	09 39 00.8	+1.4
CNCH				*e*S	Sn	09 40 03.4	-1.1
ZANG	Zanguenga, Cho	5.69	81	*e* P	Pn	09 39 00.8	+0.7
BCIP	Isla Barro Col	5.75	79	*e* P	Pn	09 39 01.3	+0.3
BCIP				*e*S	Sb	09 40 24.3	-0.8
BCIP	Isla Barro Col	5.75	79	*e*Pn	Pn	09 39 02.0	+1.0
BLLM	Bellamira	5.95	334	*e* P	Pn	09 39 05.1	+1.4
VSM	San Miguel	5.95	334	*e* P	Pn	09 39 05.8	+1.8
UPIG		6.02	81	*i* P	Pn	09 39 05.3	+0.6
UPIG				*e*S	Sb	09 40 26.1	-6.7
CAHU	Cacacuatique	6.23	335	*e* P	Pn	09 39 08.7	+1.0
SNVI	San Vicente	6.38	330	*e* P	Pn	09 39 11.3	+1.6
LFRS	El Faro	6.50	328	*e* P	Pn	09 39 11.4	0.0
LFU	La Fuente	6.63	328	*e* P	Pn	09 39 14.7	+1.6
SNET	Serv Nac Est T	6.64	327	*e* P	Pn	09 39 13.7	+0.5
SNET				AML	AML	09 39 39.5	
	comp=Z,2μm,0.8s						
SNET				*e*S	Sn	09 40 25.9	-3.5
SBLS	San Blas	6.98	325	*e* P	Pn	09 39 18.9	+0.8
SNJE	San Jose	6.99	326	*e* P	Pn	09 39 18.4	+0.2
RBDL	Robledal	7.24	326	*e* P	Pn	09 39 21.6	0.0
PAYG	Puerto Ayora	9.89	209	*e*Pn	Pn	09 39 56.7	-1.2
	comp=Z,297nm,0.8s						
OTAV	Otavalo	10.53	137	*e*Pn	Pn	09 40 07.5	+0.5
ROSC	El Rosal	11.60	105	*e*Pn	Pn	09 40 27.7	+6.0
ROSC	El Rosal	11.60	105	Pn	Pn	09 40 25.4	+3.8
	comp=Z,2.2nm,0.3s,baz=100,slow=22,SNR=25						
TEIG	Tepich	12.36	348	*e*Pn	Pn	09 40 33.6	+1.9
TEIG	Tepich	12.36	348	Pn	Pn	09 40 32.9	+1.3
	comp=Z,2.2nm,0.3s,baz=167,slow=9.6,SNR=30						
TEIG				LR	LR	09 44 53.1	
	comp=Z,8μm,20.8s,baz=345,slow=36						
MTDJ	Mount Denham	12.75	37	*e*Pn	Pn	09 40 39.2	+2.2
SDV	Santo Domingo	14.78	86	*e*Pn	Pn	09 41 07.1	+2.2
ATAH	Atahualpa	16.71	155	Pn	Pn	09 41 30.1	-0.3
ATAH	Atahualpa	16.71	155	Pn	Pn	09 41 30.1	-0.3
	comp=Z,0.9nm,0.3s,baz=353,slow=11,SNR=36						
SDDR	Presa de Saban	17.58	51	*e*Pn	P	09 41 43.3	+1.3
	comp=Z,1μm,2.0s						
GRTK	Grand Turk	19.28	45	*e* P	Pn	09 42 02.7	+1.1
	comp=Z,1μm,1.7s						
DWPF	Disney	20.30	11	*e* P	Pn	09 42 13.3	-0.3
	comp=Z,140nm,1.1s						
MPR	Mayaguez	20.54	59	*e* P	Pn	09 42 16.2	-0.4
	comp=Z,1μm,1.7s						
LSP	Las Mesas	20.57	59	*e* P	Pn	09 42 17.1	+0.1
AGP	Aguadilla	20.63	58	*e*Pn	Pn	09 42 23.5	+5.8
AGPR	Aguadilla, PR	20.68	58	*e* P	Pn	09 42 18.1	-0.1
	comp=Z,940nm,1.0s						
LRS	Lares	20.83	59	*e* P	Pn	09 42 19.8	-0.3
OBIP	Obispado Ponce	20.92	60	*e* P	Pn	09 42 21.0	-0.1
	comp=Z,505nm,1.0s						
AOPR	Arecibo Observ	20.93	59	*e* P	Pn	09 42 20.9	-0.3
	comp=Z,3μm,2.2s						
CELP	Cerrillos	20.96	60	*e* P	Pn	09 42 21.7	+0.2
HUMP	Col San Antoni	21.62	60	*e* P	P	09 42 28.1	+2.1
	comp=Z,2μm,1.9s						
CBYP	Canovanas	21.66	60	*e* P	P	09 42 28.7	+2.1
	comp=Z,2μm,1.9s						
MTP	Monte Pirata	21.85	61	*e* P	P	09 42 30.3	+1.7
	comp=Z,410nm,1.1s						
CDVI	St. Croix	22.40	63	*e* P	P	09 42 37.0	+2.5
	comp=Z,426nm,0.8s						
STVI	Saint Thomas	22.48	61	*e* P	P	09 42 38.8	+3.5
	comp=Z,1μm,2.1s						
KVTX	Kingsville	22.61	330	*e* P	P	09 42 37.4	+0.8
	comp=Z,1μm,2.0s						
BRAL	Brewton	22.86	357	*e* P	P	09 42 41.0	+1.8
	comp=Z,71nm,0.8s						
TIGA	Tifton	23.31	4	⇑P	P	09 42 45.7	+1.8
	baz=24,SNR=7.0						
TCE	Chacachacare	23.62	82	*e*	P	09 42 49.7	+2.5
GRW	Mount Saint Ca	23.86	78	*e*	P	09 42 53.0	+3.4
GRGR	Grenville	23.86	78	*e* P	P	09 42 50.8	+1.4
	comp=Z,632nm,1.1s						
TPP	Pointe-a-Pierr	23.89	83	*e*	P	09 42 52.8	+3.0
TRN	Trinidad (W)	23.96	82	*e*	P	09 42 52.3	+1.9
TRN	Trinidad (W)	23.96	82	*e*	P	09 43 00.5	+10
SKI	Saint Kitts	24.05	65	*e* P	P	09 42 49.9	-1.4
TBH	Brigand Hill	24.28	82	*e*	P	09 42 56.8	+3.4
SVB	Belmont	24.42	76	*e* P	P	09 42 56.2	+1.5
VBMS	Vicksburg	24.46	350	*e* P	P	09 42 56.2	+1.4
	comp=Z,335nm,1.4s						
732A	Laxson Ranch,	24.63	328	⇑P	P	09 42 55.8	-0.6
	baz=25,SNR=65						
MCLT	Moule a Chique	24.80	75	*e* P	P	09 42 53.2	-4.9
TOSP	Speyside	24.86	81	*e* P	P	09 42 57.2	-1.4
632A	Uvalde	25.16	330	⇑P	P	09 43 01.0	-0.2
	baz=25,SNR=46						
GOGA	Godfrey	25.28	4	*e* P	P	09 43 03.1	+0.9
GOGA				pmax	pmax		
	comp=Z,79nm,0.8s						
GOGA	Godfrey	25.28	4	*e* P	P	09 43 03.1	+0.9
	comp=Z,79nm,0.8s						
631A	Perdido Creek	25.49	328	⇑P	P	09 43 03.7	-0.5
	baz=26,SNR=92						
532A	Rocksprings	25.73	330	⇓P	P	09 43 06.5	+0.1
	baz=26,SNR=95						
532A				⇑S	S	09 47 36.6	+0.7
	baz=26						
532A				⇑S	S	09 47 36.6	+0.7
	baz=26						
JCT	Junction City	25.97	331	*e* P	P	09 43 09.1	+0.5
JCT				pmax	pmax		
	comp=Z,190nm,1.0s						
JCT	Junction City	25.97	331	*e* P	P	09 43 09.1	+0.5
	comp=Z,190nm,1.0s						
JCT	Junction City	25.97	331	⇑P	P	09 43 08.6	0.0
	baz=26,SNR=62						
531A	Rocksprings	26.08	329	⇑P	P	09 43 09.7	+0.1
	baz=26,SNR=36						
WHTX	Lake Whitney	26.24	337	⇓P	P	09 43 10.8	-0.2
	baz=26,SNR=12						
432A	Menard	26.30	331	⇓P	P	09 43 11.2	-0.4
	baz=26,SNR=81						
530A	J-C Ranch, Com	26.48	328	⇓P	P	09 43 13.0	-0.2
	baz=27,SNR=54						
431A	Sonora	26.53	330	⇓P	P	09 43 13.6	-0.1
	baz=27,SNR=84						
OXF	Oxford	26.54	353	*e* P	P	09 43 13.3	-0.4
OXF				pmax	pmax		
	comp=Z,103nm,0.9s						
OXF	Oxford	26.54	353	*e* P	P	09 43 13.3	-0.4
	comp=Z,103nm,0.9s						
332A	Millersview	26.70	332	⇓P	P	09 43 15.1	0.0
	baz=27,SNR=92						
628A	Black Gap, Mar	26.81	325	⇓P	P	09 43 16.4	+0.2
	baz=27,SNR=29						
PLAL	Pickwick Lake	26.88	355	*e* P	P	09 43 15.7	-0.9
	comp=Z,24nm,1.0s						
529A	Stev Forest Ra	26.93	327	⇑P	P	09 43 17.1	-0.1
	baz=27						
430A	Baggett Ranch,	26.93	329	⇓P	P	09 43 17.2	-0.1
	baz=27,SNR=22						
331A	San Angelo	26.96	331	⇑P	P	09 43 17.4	-0.1
	baz=27,SNR=85						
SWET	Sewanee	27.01	359	*e* P	P	09 43 18.9	+1.0
	comp=Z,28nm,0.7s						
627A	Terlingua Ranc	27.07	324	⇑P	P	09 43 18.8	+0.1
	baz=27,SNR=20						
232A	Coleman	27.08	333	⇑P	P	09 43 18.4	-0.2
	baz=27,SNR=118						
429A	Davenport Ranc	27.14	328	⇑P	P	09 43 18.6	-0.6
	baz=27,SNR=32						
TXAR	Lajitas Array	27.15	323	P	P	09 43 18.2	-1.1
TXAR				PcP	PcP	09 46 38.7	-1.4
TXAR	Lajitas Array	27.15	323	P	P	09 43 18.2	-1.1
	comp=Z,5.7nm,1.0s,baz=148,slow=7.0,SNR=5.0						
TXAR				PcP	PcP	09 46 38.7	-1.4
	comp=Z,0.8nm,0.8s,baz=129,slow=2.4,SNR=2.5						
KMSC	Kings Mountain	27.21	8	*e* P	P	09 43 20.7	+1.0
	comp=Z,54nm,1.0s						
KMSC	Kings Mountain	27.21	8	⇑P	P	09 43 20.6	+1.0
	baz=28,SNR=9.1						
CPCT	Cooper Cave	27.26	2	*e* P	P	09 43 24.6	+4.5
528A	Cox Ranch, San	27.27	326	⇑P	P	09 43 20.2	-0.2
	baz=27,SNR=10						
UALR	University of	27.29	348	*e* P	P	09 43 20.6	+0.2
	comp=Z,110nm,1.0s						
MIAR	Mount Ida	27.35	345	*e* P	P	09 43 21.4	+0.4
MIAR				pmax	pmax		
	comp=Z,122nm,0.9s						
MIAR	Mount Ida	27.35	345	*e* P	P	09 43 21.4	+0.4
	comp=Z,122nm,0.9s						
330A	Mertzon	27.40	330	⇓P	P	09 43 21.2	-0.3
	baz=28,SNR=30						
231A	Bronte	27.43	332	⇓P	P	09 43 21.3	-0.4
	baz=28,SNR=17						
TKL	Tuckaleechee C	27.50	3	*e* P	P	09 43 22.9	+0.6
TKL	Tuckaleechee C	27.50	3	P	P	09 43 23.4	+1.1
	comp=Z,30nm,1.0s,baz=186,slow=9.3,SNR=8.9						
626A	Big Bend Ranch	27.59	323	⇑P	P	09 43 22.7	-0.6
	baz=28,SNR=11						
428A	Kincaid Ranch,	27.64	327	⇑P	P	09 43 23.8	0.0
	baz=28,SNR=12						
ABTX	Abilene, Hawle	27.70	334	⇓P	P	09 43 23.9	-0.2
	baz=28,SNR=15						
527A	Woodward Ranch	27.72	325	⇑P	P	09 43 24.2	-0.3
	baz=28,SNR=9.7						
HBAR	Harrisburg	27.74	351	*e* P	P	09 43 25.1	+0.7
230A	Sterling City	27.76	331	⇑P	P	09 43 24.2	-0.6
	baz=28,SNR=24						
329A	Wagon Wheel Ra	27.87	329	⇓P	P	09 43 25.3	-0.5
	baz=28,SNR=22						
HALT	Halls	27.92	353	*e* P	P	09 43 26.3	+0.3
526A	Mary Lane Ranc	27.93	324	⇑P	P	09 43 25.7	-0.7
	baz=28						
WVT	Waverly	28.00	356	*e* P	P	09 43 26.8	+0.1
WVT				pmax	pmax		
	comp=Z,23nm,0.8s						
WVT	Waverly	28.00	356	*e* P	P	09 43 26.8	+0.1
	comp=Z,23nm,0.8s						
131A	Roby	28.08	333	⇓P	P	09 43 27.3	-0.2
	baz=28,SNR=6.3						
427A	Hayter Ranch,	28.13	326	⇓P	P	09 43 27.8	-0.4
	baz=28						
229A	Bryant Ranch,	28.17	330	⇑P	P	09 43 28.1	-0.3
	baz=28,SNR=9.1						
Z32A	Haskell	28.22	335	⇑P	P	09 43 28.6	-0.1
	baz=28,SNR=6.3						
328A	Wristen Ranch,	28.22	328	⇑P	P	09 43 28.6	-0.2
	baz=28,SNR=23						
GLAT	Glass	28.27	354	*e* P	P	09 43 29.6	+0.5
130A	Snyder	28.28	332	⇓P	P	09 43 29.1	-0.2
	baz=28,SNR=24						
TZTN	Tazewell	28.39	3	*e* P	P	09 43 38.5	+8.2
	comp=Z,31nm,0.9s						
Z31A	Sharp Cattle R	28.51	334	⇑P	P	09 43 31.2	-0.2
	baz=29,SNR=21						
327A	Balmorhea Ranc	28.58	327	⇑P	P	09 43 31.6	-0.4
	baz=29						
228A	UT Block 9, Go	28.69	329	⇑P	P	09 43 32.3	-0.7
	baz=29						
PARMO	Parma	28.71	353	*e* P	P	09 43 34.4	+1.4
129A	Stewart Farms,	28.74	330	⇓P	P	09 43 33.1	-0.3
	baz=29,SNR=16						
Y32A	R-V Farms, Ver	28.80	336	⇑P	P	09 43 33.8	-0.1
	baz=29,SNR=28						
326A	Caldwell Ranch	28.81	326	⇑P	P	09 43 33.6	-0.5
	baz=29						
Z30A	Sanderson Ranc	28.93	332	⇓P	P	09 43 34.9	-0.3
	baz=29,SNR=29						
227A	Bennet, Jal	28.97	328	⇑P	P	09 43 35.4	-0.1
	baz=29,SNR=7.2						
425A	Indio Mountain	28.99	324	⇑P	P	09 43 35.4	-0.4
	baz=29						
128A	Castleberry Fa	29.04	330	⇓P	P	09 43 35.4	-0.7
	baz=29						
Y31A	Rekieta Farm,	29.11	334	⇓P	P	09 43 36.7	0.0
	baz=29,SNR=32						
Z29A	Hungry Hill Ra	29.18	331	⇑P	P	09 43 36.8	-0.5
	baz=29,SNR=27						
WMOK	Wichita Mounta	29.18	337	*e* P	P	09 43 37.8

V31A Spring Creek L 30.51 337 ⇑P P 09 43 48.8 -0.2
baz=31,SNR=16
AMTX Amarillo 30.51 333 eP P 09 43 49.3 +0.1
comp=Z,94nm,1.0s
124A Stringfield Ra 30.67 326 ⇓P P 09 43 50.9 +0.2
baz=31,SNR=14
W29A Amraillo 30.70 334 ⇑P P 09 43 50.1 -0.8
baz=31
Z25A Roswell 30.71 327 ⇓P P 09 43 50.9 -0.1
baz=31,SNR=8.9
SLM Saint Louis 30.71 353 eP P 09 43 49.9 -0.9
SLM pmax pmax
comp=Z,108nm,1.3s
SLM Saint Louis 30.71 353 eP P 09 43 49.9 -0.9
comp=Z,108nm,1.3s
223A Chaparral, Ant 30.72 324 ⇓P P 09 43 50.7 -0.4
baz=31
Y26A Elida 30.75 329 ⇓P P 09 43 51.0 -0.4
baz=31
V30A Spur Ranch, Mi 30.84 336 ⇓P P 09 43 51.7 -0.4
baz=31
CBN Corbin 30.89 13 eP P 09 43 53.7 +1.4
comp=Z,46nm,0.8s
BLO Bloomington 30.97 359 eP P 09 43 53.0 0.0
BLO pmax pmax
comp=Z,23nm,0.7s
BLO Bloomington 30.97 359 eP P 09 43 53.0 0.0
comp=Z,23nm,0.7s
BBSR BB Station 30.97 36 eP P 09 43 54.5 +1.4
comp=Z,80nm,1.3s
X27A F and S Farms, 30.97 331 ⇓P P 09 43 53.0 -0.3
baz=31,SNR=5.9
U31A Nine Bar Ranch 31.03 337 ⇑P P 09 43 53.3 -0.5
baz=31,SNR=6.7
W28A Vega 31.06 333 ⇑P P 09 43 53.7 -0.4
baz=31
123A Bell Site, Whi 31.08 325 ⇓P P 09 43 54.4 +0.1
baz=31
Z24A Sheeppen Canyo 31.10 327 ⇑P P 09 43 54.8 +0.3
baz=31,SNR=10
222A Williams Famil 31.19 323 ⇓P P 09 43 54.8 -0.4
baz=31
X26A CR and CF Fran 31.24 330 ⇑P P 09 43 55.4 -0.2
baz=31,SNR=9.3
V29A Stinnett 31.28 335 ⇑P P 09 43 55.4 -0.6
baz=32
W27A Bowe Ranch, En 31.30 332 ⇓P P 09 43 55.9 -0.2
baz=32,SNR=32
V28A Channing 31.48 333 ⇓P P 09 43 57.4 -0.4
baz=32,SNR=12
U30A WK&E Inc. Balk 31.48 336 ⇓P P 09 43 57.5 -0.2
baz=32,SNR=17
Z23A Rita Site, Whi 31.52 326 ⇑P P 09 43 58.6 +0.4
baz=32
221A Mesquite Ranch 31.53 322 ⇑P P 09 43 59.0 +0.8
baz=32
320A Kipp Ranch, An 31.53 320 ⇑P P 09 43 59.1 +0.8
baz=32,SNR=21
122A Conniff Cattle 31.55 324 ⇑P P 09 43 58.5 0.0
baz=32
Y24A Capitan 31.59 327 ⇑P P 09 43 59.1 +0.3
baz=32,SNR=19
T31A Randall Ranch, 31.61 338 ⇓P P 09 43 57.9 -0.9
baz=32,SNR=9.2
X25A Clemmons Ranch 31.65 329 ⇓P P 09 43 59.0 -0.3
baz=32,SNR=6.8
W26A Owens Ranch, T 31.65 331 ⇑P P 09 43 58.9 -0.4
baz=32,SNR=10
U29A Oasis Ranch, S 31.67 335 ⇑P P 09 43 59.3 0.0
baz=32,SNR=13
V27A Dan Oppiter Fa 31.76 333 ⇓P P 09 44 00.1 -0.2
baz=32
T30A Plains 31.89 337 ⇑P P 09 44 01.0 -0.3
baz=32,SNR=6.1
121A Cookes Peak, D 31.90 323 ⇓P P 09 44 02.5 +0.9
baz=32,SNR=12
220A Playas Peak, P 31.91 321 ⇑P P 09 44 02.6 +0.9
baz=32,SNR=39
Y23A Lovelace Mesa, 31.93 327 ⇑P P 09 44 02.4 +0.6
baz=32,SNR=29
Z22A Elephant Butte 31.93 325 ⇓P P 09 44 02.3 +0.4
baz=32
S31A Mullinville 32.00 339 ⇑P P 09 44 01.5 -0.7
baz=32
U28A Mallet 32.01 334 ⇓P P 09 44 02.2 -0.2
baz=32
319A Douglas 32.04 320 ⇓P P 09 44 03.6 +0.9
baz=32,SNR=13
X24A Lazy VL Ranch, 32.08 328 ⇑P P 09 44 03.1 -0.1
baz=32,SNR=6.9
W25A X Bar L Ranch, 32.09 330 ⇓P P 09 44 03.4 +0.2
baz=32,SNR=22
SDMD Soldier's Deli 32.16 13 eP P 09 44 05.2 +1.6
comp=Z,454nm,2.6s
SFIN Scholer Farm 32.19 358 eP P 09 44 03.0 -0.8
comp=Z,25nm,0.8s
SFIN Scholer Farm 32.19 358 ⇓P P 09 44 02.8 -0.9
baz=32,SNR=6.7
V26A Tequesquite Ra 32.23 332 ⇑P P 09 44 04.6 +0.2
baz=32,SNR=14
T29A Hugoton 32.28 336 ⇑P P 09 44 04.4 -0.4
baz=32,SNR=5.7
U27A Thompson Grove 32.31 333 ⇑P P 09 44 04.6 -0.5
baz=32,SNR=19
S30A Montezuma 32.38 338 ⇓P P 09 44 05.4 -0.2
baz=33,SNR=8.3
Z21A St. Cloud Mine 32.38 324 ⇑P P 09 44 06.7 +0.9
baz=32
BNM Barren Site 32.40 326 eP P 09 44 06.7 +0.6
Y22A Socorro 32.43 326 ⇑P P 09 44 07.2 +0.9
baz=33,SNR=15
KSU1 Kansas State U 32.45 344 eP P 09 44 06.6 +0.6
comp=Z,102nm,1.0s
X23A Hourglass Bar 32.49 327 ⇑P P 09 44 07.3 +0.5
baz=33
Y22D IRIS PASSCAL I 32.51 326 ⇓P P 09 44 07.5 +0.6
baz=33
LPM Los Pinos Moun 32.53 326 eP P 09 44 08.3 +1.3
W24A Lazy 6 Ranch, 32.56 329 ⇓P P 09 44 07.9 +0.5
baz=33,SNR=18
T28A Walsh 32.59 335 ⇑P P 09 44 06.7 -0.8
baz=33,SNR=22
LENM Lemitar 32.61 326 eP P 09 44 07.8 0.0
S29A Ulysses 32.61 337 ⇓P P 09 44 07.6 0.0
baz=33,SNR=8.6
R31A Burdett 32.62 339 ⇓P P 09 44 07.0 -0.6
baz=33,SNR=10
V25A Rancho No Teng 32.66 331 ⇓P P 09 44 08.6 +0.4
baz=33,SNR=17
U26A Atchley Ranch, 32.70 332 ⇑P P 09 44 08.6 +0.1
baz=33,SNR=21
Z20A Nine Sixteen R 32.79 323 ⇓P P 09 44 10.4 +1.1
baz=33,SNR=24
T27A Campo 32.80 334 ⇑P P 09 44 08.8 -0.5
baz=33,SNR=19
MVL Millersville 32.83 13 eP P 09 44 10.7 +1.3
comp=Z,351nm,2.6s
LAZ Ladron 32.87 326 eP P 09 44 11.2 +1.1
R30A Dighton 32.88 338 ⇓P P 09 44 09.8 -0.1
baz=33,SNR=35
X22A Bernardo 32.88 326 ⇑P P 09 44 11.3 +1.2
baz=33
Y21A Point of Rocks 32.89 325 ⇓P P 09 44 11.7 +1.4
baz=33,SNR=23
V24A Rampart Ranch, 32.90 330 ⇓P P 09 44 10.7 +0.3
baz=33,SNR=14
S28A Manter 32.90 336 ⇓P P 09 44 09.7 -0.5
baz=33,SNR=5.5
ANMO Albuquerque 32.91 327 eP P 09 44 11.7 +1.3
ANMO Albuquerque 32.91 327 P P 09 44 10.9 +0.5
comp=Z,12nm,0.9s,baz=154,slow=9.3,SNR=12
W23A Werner Place, 32.91 328 ⇑P P 09 44 11.2 +0.7
baz=33,SNR=55
U25A Circle Dot Ran 33.02 331 ⇓P P 09 44 11.9 +0.6
baz=33,SNR=7.1
Q31A Ellis 33.21 340 ⇓P P 09 44 12.4 -0.4
baz=33,SNR=10
Y20A Horse Springs, 33.22 324 ⇓P P 09 44 14.3 +1.1
baz=33,SNR=29
W22A Albuquerque 33.23 327 ⇑P P 09 44 13.8 +0.6
baz=33
X21A Alamocita Cree 33.27 325 ⇑P P 09 44 14.6 +1.0
baz=33,SNR=15
T26A Comanche Natio 33.27 333 ⇑P P 09 44 13.6 0.0
baz=34
R29A Marienthal 33.32 337 ⇑P P 09 44 13.7 -0.2
baz=34
V23A Ortiz Mt. (NFS 33.38 329 ⇓P P 09 44 14.8 +0.3
baz=34
S27A Las Animas 33.40 335 ⇓P P 09 44 14.2 -0.4
baz=34
U24A Moreno Valley 33.44 330 ⇓P P 09 44 16.0 +0.9
baz=34
Q30A Quinter 33.47 339 ⇓P P 09 44 14.9 -0.3
baz=34,SNR=20
R28A Tribune 33.51 337 ⇑P P 09 44 15.2 -0.3
baz=34,SNR=32
S26A Kim 33.59 334 ⇑P P 09 44 16.6 +0.3
baz=34,SNR=20
T25A Trinidad 33.62 332 ⇓P P 09 44 17.6 +1.0
baz=34,SNR=34
TUC Tucson 33.62 319 eP P 09 44 16.7 +0.2
TUC pmax pmax
comp=Z,109nm,1.1s
TUC Tucson 33.62 319 eP P 09 44 16.6 +0.2
comp=Z,109nm,1.1s
Q29A Oakley 33.67 338 ⇑P P 09 44 16.8 -0.1
baz=34,SNR=16
W21A San Fidel 33.68 326 ⇓P P 09 44 17.8 +0.6
baz=34
ALLY Alegheny Colle 33.77 7 eP P 09 44 20.3 +2.7
comp=Z,26nm,0.2s
U23A El Rito 33.83 329 ⇑P P 09 44 19.5 +1.0
baz=34,SNR=45
R27A Eads 33.86 335 ⇑P P 09 44 18.3 -0.3
baz=34,SNR=12
V22A San Miguel Ran 33.88 328 ⇓P P 09 44 19.6 +0.6
baz=34,SNR=17
P30A Selden 33.99 339 ⇑P P 09 44 19.5 -0.1
baz=34,SNR=19
S25A Robets Cordova 34.05 333 ⇓P P 09 44 21.0 +0.7
baz=34,SNR=15
SIV San Ignacio 34.05 135 P P 09 44 19.2 -1.2
SIV San Ignacio 34.05 135 P P 09 44 19.2 -1.2
comp=Z,16nm,0.9s,baz=322,slow=8.0,SNR=13
SIV LR LR 09 58 15.7
comp=Z,5µm,18.4s,slow=36
Q28A Sharon Springs 34.14 337 ⇑P P 09 44 21.0 0.0
baz=34,SNR=12
R26A Arlington 34.15 334 ⇓P P 09 44 21.4 +0.3
baz=34,SNR=20
W20A Ramah 34.16 325 ⇓P P 09 44 22.3 +0.8
baz=34,SNR=10
V21A Milan 34.19 327 ⇓P P 09 44 22.4 +0.8
baz=34,SNR=16
U22A Llaves 34.21 329 ⇓P P 09 44 22.8 +1.0
baz=34,SNR=13
P29A Atwood 34.28 339 ⇓P P 09 44 22.0 -0.1
baz=34,SNR=27
T23A Casias Ranch, 34.31 330 ⇑P P 09 44 23.5 +0.8
baz=34,SNR=26
R25A Fountain Ranch 34.38 333 ⇑P P 09 44 23.9 +0.7
baz=35,SNR=7.0
S24A Houchin Ranch, 34.40 332 ⇑P P 09 44 24.5 +1.0
baz=35,SNR=14
KSCO Kaye Shedlock' 34.41 336 ⇑P P 09 44 23.7 +0.3
baz=35,SNR=27
O30A MW Ranch, Wils 34.49 340 ⇓P P 09 44 23.9 0.0
baz=35,SNR=25
P28A Saint Francis 34.56 338 ⇓P P 09 44 24.8 +0.2
baz=35,SNR=16
X18A Snowflake 34.58 323 ⇑P P 09 44 25.8 +0.9
baz=35,SNR=31
LVC Limon Verde 34.59 152 eP P 09 44 25.7 +0.5
comp=Z,91nm,1.5s
SDCO Great Sand Dun 34.62 332 eP P 09 44 26.0 +0.6
comp=Z,74nm,1.3s
V20A Brimhall 34.64 326 ⇑P P 09 44 26.1 +0.7
baz=35
U21A Nageezi 34.67 328 ⇑P P 09 44 26.8 +1.0
baz=35
O29A 4D Ranch, Culb 34.70 339 ⇓P P 09 44 25.8 +0.1
baz=35,SNR=12
Q26A Hugo 34.70 335 ⇑P P 09 44 26.6 +0.7
baz=35,SNR=45
T22A Edith 34.73 329 ⇑P P 09 44 27.2 +0.9
baz=35,SNR=6.4
214A Organ Pipe Nat 34.73 317 ⇓P P 09 44 26.3 +0.1
baz=35,SNR=8.9
S23A Nye Farm, Mont 34.82 331 ⇑P P 09 44 27.9 +0.8
baz=35
R24A Sanders Place, 34.83 333 ⇓P P 09 44 27.9 +0.8
baz=35,SNR=16
P27A Ficken Ranch, 34.86 337 ⇑P P 09 44 27.6 +0.3
baz=35,SNR=40
W18A Petrified Fore 34.87 324 eP P 09 44 29.8 +2.4
comp=Z,128nm,1.0s
W18A Petrified Fore 34.87 324 ⇓P P 09 44 28.2 +0.7
baz=35
Q25A Bedland, Calha 35.01 334 ⇓P P 09 44 28.9 +0.3
baz=35,SNR=37
BINY Binghamton 35.02 12 eP P 09 44 29.0 +0.6
comp=Z,48nm,0.9s
BGNE Belgrade 35.02 343 eP P 09 44 30.5 +2.0
comp=Z,42nm,0.8s
BGNE Belgrade 35.02 343 ⇓P P 09 44 27.9 -0.6
baz=35
T21A Navajo Lake 35.03 329 ⇑P P 09 44 29.8 +0.9
baz=35,SNR=7.6
O28A Krutsinger Ran 35.05 338 ⇓P P 09 44 28.9 +0.1
baz=35
N30A Hueftle Ranch, 35.06 341 ⇓P P 09 44 29.0 +0.1
baz=35
U20A Newcomb 35.09 327 ⇓P P 09 44 29.8 +0.5
baz=35
R23A Moffat 35.13 332 ⇓P P 09 44 30.6 +0.8
baz=35,SNR=39
P26A Davis Ranch, A 35.17 336 ⇑P P 09 44 30.6 +0.6
baz=35,SNR=17
N29A Votaw Ranch, W 35.26 340 ⇓P P 09 44 30.8 +0.2
baz=36
S22A 4UR Ranch, Cre 35.26 330 ⇑P P 09 44 31.3 +0.4
baz=35,SNR=27
O27A Beecher Island 35.37 337 ⇑P P 09 44 31.8 +0.1
baz=36,SNR=17
X16A Lo Mia Camp, P 35.41 321 ⇑P P 09 44 32.4 +0.3
baz=36,SNR=41
Q24A Divide 35.44 333 ⇑P P 09 44 32.3 -0.2
baz=36,SNR=9.1
N28A Pribbeno Ranch 35.46 339 ⇓P P 09 44 32.3 0.0
baz=36,SNR=36
P25A Willow Gulch B 35.47 335 ⇓P P 09 44 32.6 +0.1
baz=36,SNR=14
R22A Saguache, Gunn 35.60 331 ⇓P P 09 44 34.5 +0.7
baz=36,SNR=7.6
M30A Dale-Ortello V 35.66 341 ⇑P P 09 44 33.4 -0.6
baz=36
S21A Coal Bank Pass 35.67 329 ⇓P P 09 44 34.8 +0.3
baz=36,SNR=22
Z14A Wintersburg 35.69 319 ⇓P P 09 44 34.6 +0.3
baz=36
MVCO Mesa Verde 35.70 328 eP P 09 44 35.8 +1.2
comp=Z,841nm,2.7s
MVCO Mesa Verde 35.70 328 ⇑P P 09 44 35.2 +0.6
baz=36,SNR=22
Q23A Hartsel 35.70 332 ⇑P P 09 44 35.1 +0.3
baz=36,SNR=13
O26A Horse Wrangler 35.74 336 ⇓P P 09 44 35.0 +0.2
baz=36,SNR=26
P24A Kohler Place, 35.79 334 ⇑P P 09 44 35.9 +0.6
baz=36
M29A Burnside Ranch 35.84 340 ⇓P P 09 44 35.5 -0.1
baz=36,SNR=8.8
OGNE Ogallala 35.86 338 eP P 09 44 36.2 +0.4
comp=Z,136nm,1.0s
OGNE Ogallala 35.86 338 ⇑P P 09 44 36.0 +0.2
baz=36,SNR=10.0
113A Mohawk Valley, 35.87 317 ⇓P P 09 44 36.1 +0.3
baz=36,SNR=8.9
N27A Anderson Farm, 35.93 338 ⇑P P 09 44 36.5 +0.2
baz=36,SNR=21
O25A Wiggins 35.95 335 ⇑P P 09 44 37.4 +0.7
baz=36,SNR=23
M28A Bar X Bar Ranc 36.02 340 ⇓P P 09 44 37.3 +0.1
baz=36
P23A Jefferson 36.09 333 ⇓P P 09 44 38.8 +0.7
baz=36,SNR=40
Y14A Wickenburg 36.09 319 ⇓P P 09 44 37.8 0.0
baz=36,SNR=12
S20A Disappointment 36.09 329 ⇓P P 09 44 38.8 +0.7
baz=36,SNR=11
R21A Cimarron 36.10 330 ⇓P P 09 44 38.3 +0.3
baz=36,SNR=5.8
WUAZ Wupatki 36.11 323 eP P 09 44 39.1 +1.1
comp=Z,86nm,0.9s
WUAZ Wupatki 36.11 323 ⇑P P 09 44 38.7 +0.6
baz=36,SNR=48
Q22A Crested Butte, 36.17 331 ⇓P P 09 44 39.3 +0.5
baz=36,SNR=20
N26A Koester Ranch, 36.21 337 ⇓P P 09 44 39.2 +0.4
baz=36,SNR=6.2
L29A Maesberg Ranch 36.33 341 ⇑P P 09 44 39.8 +0.1
baz=36
ISCO Idaho Springs 36.33 334 eP P 09 44 41.2 +1.1
ISCO pmax pmax
comp=Z,36nm,0.9s
ISCO Idaho Springs 36.33 334 eP P 09 44 41.2 +1.1
comp=Z,36nm,0.9s
ISCO Idaho Springs 36.33 334 ⇑P P 09 44 40.5 +0.4
baz=36,SNR=31
O24A Longmont 36.36 334 ⇑P P 09 44 40.4 +0.2
baz=37,SNR=26
R20A Redvale 36.38 329 ⇓P P 09 44 41.1 +0.7
baz=36,SNR=14
PV01 Paradox Valley 36.43 329 eP P 09 44 41.8 +0.9
comp=Z,25µm,2.5s
SMCO Snowmass 36.45 331 eP P 09 44 42.5 +1.3
comp=Z,91nm,1.3s
Q21A Lamborn Mesa, 36.47 330 ⇓P P 09 44 41.7 +0.5
baz=37
M27A Reverse DX Ran 36.50 339 ⇑P P 09 44 41.7 +0.5
baz=37
N25A Grover 36.53 336 ⇑P P 09 44 42.3 +0.7
baz=37
L28A Connealy Angus 36.62 340 ⇑P P 09 44 43.0 +0.7
baz=37,SNR=11
ACCN Adirondack Com 36.68 15 eP P 09 44 43.8 +1.2
comp=Z,102nm,1.9s
P22A Eagle 36.69 332 ⇓P P 09 44 43.8 +0.8
baz=37,SNR=14
M26A McRoberts Ranc 36.73 338 ⇑P P 09 44 43.5 +0.3
baz=37
GLA Glamis 36.75 317 eP P 09 44 43.9 +0.4
GLA pmax pmax
comp=Z,50nm,1.2s
GLA Glamis 36.75 317 eP P 09 44 43.9 +0.4
comp=Z,50nm,1.2s
GLA Glamis 36.75 317 ⇑P P 09 44 43.6 +0.1
baz=37
PV04 Paradox Valley 36.80 329 eP P 09 44 45.1 +1.2
O23A Lake Granby, G 36.80 334 ⇑P P 09 44 44.6 +0.5
baz=37,SNR=26
ECSD EROS Data Cent 36.81 347 eP P 09 44 42.8 -1.0
comp=Z,131nm,1.4s
N24A Carr 36.87 335 ⇑P P 09 44 45.6 +1.0
baz=37,SNR=34
K29A Lazy Trails An 36.91 342 ⇓P P 09 44 44.8 +0.1
baz=37,SNR=21
Q20A Ridgley Place, 36.92 330 ⇑P P 09 44 45.4 +0.5
baz=37
P21A Newcastle 36.95 331 ⇓P P 09 44 46.3 +1.0
baz=37,SNR=9.0
L27A T5 Ranch, Ells 36.96 339 ⇓P P 09 44 45.3 +0.1
baz=37
Y12C Blythe 36.97 318 ⇑P P 09 44 45.3 +0.1
baz=37
SADO Sadowa 36.97 8 P P 09 44 44.6 -0.4
SADO Sadowa 36.97 8 P P 09 44 44.6 -0.4
comp=Z,13nm,0.7s,baz=205,slow=8.5,SNR=12
SADO LR LR 10 00 01.1
comp=Z,3µm,18.9s,baz=197,slow=36
O22A Kremmling 37.04 333 ⇓P P 09 44 46.4 +0.2
baz=37,SNR=24
PDMCI Parker Dam,Lak 37.05 319 ⇓P P 09 44 46.0 +0.1
baz=37,SNR=14
M25A Palm-Egli Farm 37.05 337 ⇑P P 09 44 47.0 +1.0
baz=37
NCB Newcomb 37.10 14 eP P 09 44 48.1 +1.9
comp=Z,276nm,2.9s
L26A Underwood Farm 37.20 338 ⇓P P 09 44 47.2 0.0
baz=37
K28A Ten Mile Ranch 37.20 341 ⇓P P 09 44 47.5 +0.3
baz=37
U15A North Rim 37.27 323 ⇓P P 09 44 49.2 +1.1
baz=37,SNR=27
HNH Hanover 37.34 16 eP P 09 44 53.1 +4.9
SWSC Sam W. Stewart 37.35 316 ⇓P P 09 44 48.9 +0.4
baz=38
N23A Red Feather La 37.38 334 ⇓P P 09 44 49.5 +0.6
baz=38,SNR=17
W13A Hualapai Mount 37.38 320 ⇑P P 09 44 49.7 +0.7
baz=38,SNR=20
M24A Cheyenne 37.38 336 ⇑P P 09 44 49.3 +0.4
baz=38,SNR=19
P20A De Beque 37.39 330 ⇑P P 09 44 49.6 +0.6
baz=38,SNR=9.3
DVTC Desert V Tower 37.41 315 ⇓P P 09 44 48.9 -0.2
baz=38
K27A Flueckinger Fa 37.48 340 ⇑P P 09 44 49.6 0.0
baz=38,SNR=8.5
PHWY Pilot Hill 37.51 335 eP P 09 44 50.6 +0.6
comp=Z,89nm,1.5s
O21A Pagoda 37.51 332 ⇑P P 09 44 51.1 +1.0
baz=38,SNR=13
N22A Wattenberg Ran 37.52 334 ⇑P P 09 44 50.7 +0.5
baz=38,SNR=16
BC3 Big Chuckawall 37.53 317 ⇓P P 09 44 50.4 +0.2
baz=38,SNR=12
SPMN St. Paul 37.53 352 eP P 09 44 48.2 -1.7
SPMN St. Paul 37.53 352 ⇑P P 09 44 48.5 -1.3
baz=38,SNR=58
IRM Iron Mountain 37.63 318 ⇑P P 09 44 51.2 +0.3
baz=38,SNR=12
LONY Lake Ozonia 37.63 13 eP P 09 44 50.5 -0.2
L25A Engebretsen Ra 37.63 337 ⇑P P 09 44 51.4 +0.5
baz=38
NEE2 Needles Airpor 37.65 319 ⇑P P 09 44 51.0 0.0
baz=38
M23A Laramie 37.75 335 ⇓P P 09 44 52.6 +0.5
baz=38
MONP Monument Peak 37.76 315 ⇓P P 09 44 52.4 +0.1
baz=38
P19A Cripple Cowboy 37.78 330 ⇑P P 09 44 52.7 +0.4
baz=38
J28A Allard Ranch, 37.79 341 ⇓P P 09 44 52.2 +0.1
baz=38,SNR=24
O20A White River Ci 37.81 331 ⇓P P 09 44 53.2 +0.6
baz=38,SNR=14
K26A Motz Farm, Whi 37.81 339 ⇑P P 09 44 52.2 -0.2
baz=38
BAR Barrett 37.82 315 eP P 09 44 53.2 +0.6
comp=Z,95nm,2.3s
J27A Elkhorn Farm, 37.89 340 ⇓P P 09 44 53.6 +0.5
baz=38,SNR=12
L24A Wheatland 37.91 336 ⇑P P 09 44 53.9 +0.6
baz=38
LBNH Lisbon 37.93 16 eP P 09 44 55.7 +2.5
LBNH pmax pmax
comp=Z,185nm,1.9s
LBNH Lisbon 37.93 16 eP P 09 44 55.7 +2.5
comp=Z,185nm,1.9s
MSNY Massena 37.93 12 eP P 09 44 53.3 +0.1
comp=Z,280nm,0.8s
N21A Black Mountain 37.97 332 ⇓P P 09 44 54.8 +0.9
baz=38,SNR=22
K25A Mack Ranch, Ha 37.99 338 ⇑P P 09 44 54.0 +0.1
baz=38,SNR=5.8
COWI Conover 38.01 356 eP P 09 44 52.1 -1.8
comp=Z,27nm,1.0s
BRSD Miller 38.06 344 eP P 09 44 54.7 +0.3
comp=Z,131nm,0.9s
BRSD Miller 38.06 344 ⇑P P 09 44 52.9 -1.4
baz=38,SNR=25
FRNY Flat Rock 38.06 14 eP P 09 44 54.5 +0.1
comp=Z,98nm,1.8s
M22A Cedar Creek Ra 38.07 334 ⇓P P 09 44 55.1 +0.3
baz=38
BELC Belle Mtn. Jos 38.10 317 ⇓P P 09 44 54.8 -0.3
baz=38,SNR=17
LDFC Landfair 38.16 319 eP P 09 44 56.6 +1.2
comp=Z,29nm,0.9s
SRU San Rafael 38.18 328 eP P 09 44 56.6 +0.9
SRU pmax pmax
comp=Z,68nm,1.0s
SRU San Rafael 38.18 328 eP P 09 44 56.6 +0.9
comp=Z,68nm,1.0s
PFO Pinyon Flat Ob 38.19 316 eP P 09 44 56.1 +0.4
PFO Pinyon Flat Ob 38.19 316 P P 09 44 55.7 -0.1
comp=Z,9.9nm,1.1s,baz=128,slow=7.1,SNR=9.0
PFO LR LR 10 00 16.2
comp=Z,1µm,20.4s,baz=130,slow=36
PFO Pinyon Flat Ob 38.19 316 ⇓P P 09 44 55.9 +0.1
baz=38
109C Camp Elliot, M 38.24 315 ⇓P P 09 44 55.4 -0.6

baz=38
L23A Garrett 38.28 336 ⇓P P 09 44 56.8 +0.3
baz=38,SNR=33
I28A Midland 38.29 342 ⇑P P 09 44 56.0 -0.3
baz=38,SNR=22
J26A Sides Ranch, S 38.31 339 ⇑P P 09 44 57.3 +0.8
baz=38,SNR=26
GMRC Granite Mounta 38.34 318 ⇑P P 09 44 57.1 +0.1
baz=38,SNR=15
O19A Miners Draw (B 38.36 330 ⇓P P 09 44 57.5 +0.3
baz=38,SNR=5.6
N20A Spence Gulch, 38.37 332 ⇑P P 09 44 57.9 +0.6
baz=38
Q16A Castle Valley 38.38 327 ⇓P P 09 44 57.8 +0.4
baz=38,SNR=16
K24A Anderson Ranch 38.44 337 ⇑P P 09 44 58.2 +0.4
baz=39
L22A Ellis Ranch, M 38.52 335 ⇑P P 09 44 59.6 +1.1
baz=39,SNR=11
RWWY Rawlins 38.57 334 eP P 09 45 00.3 +1.3
comp=Z,61nm,1.0s
M21A Separation Pea 38.57 333 ⇑P P 09 44 59.6 +0.5
baz=39,SNR=15
I27A Quinn 38.63 341 ⇓P P 09 44 59.3 0.0
baz=39,SNR=36
J25A Sunshine Ranch 38.64 339 ⇑P P 09 45 00.0 +0.7
baz=39,SNR=29
MSU Marysvale 38.64 326 eP P 09 45 00.4 +0.8
MSU Marysvale 38.64 326 eP P 09 45 00.4 +0.8
MVU Marysvale 38.66 326 eP P 09 45 00.4 +0.6
CCUT Cedar City 38.66 324 eP P 09 45 01.5 +1.7
comp=Z,36nm,1.0s
TMUT Trail Mountain 38.68 327 eP P 09 45 00.7 +0.7
comp=Z,98nm,1.6s
MURC Murrieta 38.70 316 ⇑P P 09 44 59.8 -0.1
baz=39
K23A Bowen Ranch, D 38.79 336 ⇑P P 09 45 00.8 +0.1
baz=39,SNR=12
HEC Hector,Ludlow 38.81 318 ⇓P P 09 45 01.3 +0.4
baz=39
M20A Sweetwater, Wa 38.85 333 ⇓P P 09 45 01.7 +0.4
baz=39
H28A Mission Ridge 38.86 342 ⇑P P 09 45 00.4 -0.7
baz=39,SNR=20
L21A Rawlins 38.87 334 ⇓P P 09 45 01.5 0.0
baz=39,SNR=18
ARUT Antelope Range 38.87 324 eP P 09 45 02.4 +0.9
ARUT pmax pmax
comp=Z,42nm,1.0s
ARUT Antelope Range 38.87 324 eP P 09 45 02.4 +0.9
comp=Z,42nm,1.0s
BBRC Big Bear Solar 38.88 317 ⇓P P 09 45 02.2 +0.5
baz=39,SNR=8.7
WVL Waterville 38.89 18 eP P 09 45 01.9 +0.6
comp=Z,386nm,1.6s
TUQ Turquoise Moun 38.90 319 ⇓P P 09 45 01.8 +0.1
baz=39
J24A Dixon Ranch, L 38.90 338 ⇓P P 09 45 02.4 +0.8
baz=39
K22A Casper 39.07 335 ⇑P P 09 45 03.5 +0.4
baz=39,SNR=9.9
SHPR Sheep Range 39.07 321 eP P 09 45 03.9 +0.7
H27A Howes 39.15 341 ⇓P P 09 45 03.4 -0.1
baz=39,SNR=86
I25A Rochford 39.16 339 ⇓P P 09 45 04.7 +0.9
baz=39,SNR=37
G28A Parade 39.19 343 ⇓P P 09 45 03.4 -0.4
baz=39
RRX Edison Barstow 39.28 317 ⇓P P 09 45 04.4 -0.4
baz=39
J23A Dilts Ranch, B 39.31 337 ⇑P P 09 45 05.4 +0.4
baz=40
SCI San Clemente I 39.31 314 ⇓P P 09 45 04.6 -0.5
baz=39
M19A Rock Springs 39.31 332 ⇓P P 09 45 04.9 -0.2
baz=40
L20A Wamsutter 39.33 333 ⇓P P 09 45 05.3 0.0
baz=40
I24A Kuemmerle Ranc 39.34 338 ⇓P P 09 45 05.8 +0.5
baz=40,SNR=12
RSSD Black Hills 39.35 339 eP P 09 45 05.9 +0.4
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD Black Hills 39.35 339 eP P 09 45 05.9 +0.4
comp=Z,29nm,0.9s
H26A Fairpoint 39.36 341 ⇑P P 09 45 05.2 -0.1
baz=40,SNR=22
K21A Alcova 39.36 335 ⇓P P 09 45 05.5 -0.1
baz=40,SNR=10
BFSC Mount Baldy Ra 39.37 316 ⇑P P 09 45 05.4 -0.2
baz=40
GSC Goldstone 39.40 318 eP P 09 45 06.0 +0.2
GSC Goldstone 39.40 318 eP P 09 45 06.0 +0.2
GSC Goldstone 39.40 318 ⇓P P 09 45 05.8 0.0
baz=40,SNR=6.6
SHOC Shoshone 39.41 319 ⇓P P 09 45 05.9 +0.1
baz=40
MPU Maple Canyon 39.42 328 eP P 09 45 07.0 +0.9
comp=Z,55nm,1.1s
CIS Catalina Islan 39.43 314 ⇓P P 09 45 06.2 +0.1
baz=40
DAU Daniels Canyon 39.52 329 eP P 09 45 07.8 +0.8
DAU Daniels Canyon 39.52 329 eP P 09 45 07.8 +0.8
FMP Fort Macarthur 39.52 315 ⇓P P 09 45 06.5 -0.2
baz=40
LCO Las Campanas 39.56 159 eP P 09 45 05.4 -2.0
comp=Z,87nm,1.4s
NLU North Lily Min 39.61 327 eP P 09 45 09.6 +1.9
comp=Z,36nm,1.2s
PKME Peaks-Kenny Pk 39.63 18 eP P 09 45 08.7 +1.2
comp=Z,51nm,1.0s
MWC Mount Wilson 39.63 316 eP P 09 45 08.0 +0.1
MWC pmax pmax
comp=Z,73nm,1.6s
MWC Mount Wilson 39.63 316 eP P 09 45 08.0 +0.1
comp=Z,73nm,1.6s
H25A Fruitdale 39.64 340 ⇑P P 09 45 08.0 +0.4
baz=40,SNR=19
J22A Midwest 39.68 336 ⇓P P 09 45 08.2 +0.1
baz=40,SNR=22
PASC Pasadena Art C 39.70 316 eP P 09 45 08.2 0.0
comp=Z,43nm,1.3s
EMMW East Machias 39.73 20 eP P 09 45 09.0 +0.7
comp=Z,65nm,1.3s
I23A Meade Ranch, G 39.74 337 ⇑P P 09 45 08.8 +0.2
baz=40
JLU Jordanelle 39.76 329 eP P 09 45 10.0 +1.0
comp=Z,63nm,1.6s
G27A Dupree 39.77 342 ⇓P P 09 45 08.4 -0.3
baz=40,SNR=22
DECC Green Verdugo 39.84 316 ⇓P P 09 45 09.5 +0.1
baz=40
K20A Yellowstone Ra 39.85 334 ⇓P P 09 45 09.1 -0.5
baz=40,SNR=15
L19A Farson 39.87 332 ⇑P P 09 45 09.9 +0.1
baz=40
G26A Maurine 39.90 341 ⇑P P 09 45 09.4 -0.4
baz=40,SNR=29
EDW2 Edwards Air Fo 39.95 317 ⇑P P 09 45 09.9 -0.5
baz=40,SNR=7.0
M17A Scullys Gap (B 40.01 330 ⇓P P 09 45 10.8 -0.2
baz=40,SNR=16
J21A Lysite 40.02 335 ⇓P P 09 45 11.4 +0.4
baz=40,SNR=40
EYMN Ely 40.05 354 eP P 09 45 10.1 -0.8
comp=Z,23nm,1.0s
L18A Fontenelle, Gr 40.05 331 ⇓P P 09 45 11.2 -0.1
baz=40,SNR=38
G25A Newell 40.08 340 ⇑P P 09 45 11.4 +0.1
baz=40,SNR=52
H24A Dirks Ranch, A 40.08 339 ⇓P P 09 45 11.5 +0.1
baz=40,SNR=37
I22A 9 Mile Ranch, 40.08 336 ⇓P P 09 45 11.7 +0.2
baz=40,SNR=19
LRMC Laurel Mountai 40.09 318 ⇓P P 09 45 11.9 +0.3
baz=40
FURC Furnace Creek, 40.13 319 ⇑P P 09 45 11.9 +0.2
baz=40,SNR=14
DUG Dugway 40.18 327 eP P 09 45 13.3 +1.0
DUG pmax pmax
comp=Z,27nm,1.0s
DUG Dugway 40.18 327 eP P 09 45 13.3 +1.0
comp=Z,27nm,1.0s
DUG Dugway 40.18 327 ⇑P P 09 45 12.2 -0.1
baz=40,SNR=25
K19A Absolon Red Bu 40.21 333 ⇓P P 09 45 12.2 -0.4
baz=40,SNR=41
H23A Clabaugh Cattl 40.23 338 ⇑P P 09 45 13.0 +0.4
baz=40
F27A Lemmon 40.24 342 ⇑P P 09 45 12.6 -0.1
baz=40
BLG Laguna Peak 40.27 315 ⇑P P 09 45 12.8 -0.3
baz=40
MPMC Manual Prospec 40.30 318 ⇑P P 09 45 13.0 -0.5
baz=40,SNR=11
J20A Shoshoni 40.30 334 ⇓P P 09 45 14.0 +0.7
baz=40,SNR=20
OSI Osito Adit 40.31 316 ⇓P P 09 45 13.2 -0.1
baz=40
I21A Big Trails, Te 40.34 336 ⇑P P 09 45 13.4 -0.3
baz=40,SNR=20
F26A Lodgepole 40.42 342 ⇑P P 09 45 13.6 -0.5
baz=41,SNR=23
BW06 Boulder Array 40.48 333 eP P 09 45 15.2 +0.3
comp=Z,36nm,1.1s
PDAR Pinedale Array 40.48 333 P P 09 45 14.6 -0.4
PDAR PcP PcP 09 47 17.0 -0.7
PDAR PKiKP PKiKP 09 54 31.1 +3.7
PDAR Pinedale Array 40.48 333 P P 09 45 14.6 -0.4
comp=Z,12nm,0.9s,baz=129,slow=8.5,SNR=25
PDAR PcP PcP 09 47 17.0 -0.7
comp=Z,4.7nm,0.9s,baz=139,slow=6.3,SNR=3.7
PDAR PKiKP PKiKP 09 54 31.1 +3.7
comp=Z,0.7nm,1.0s,baz=176,slow=4.3,SNR=3.6
PDAR LR LR 10 04 43.4
comp=Z,1μm,20.0s,baz=15,slow=40
R11A Troy Canyon, C 40.51 323 eP P 09 45 16.2 +1.1
R11A Troy Canyon, C 40.51 323 ⇑P P 09 45 15.7 +0.5
baz=41,SNR=19
G24A Alzada 40.54 339 ⇑P P 09 45 15.6 +0.4
baz=41,SNR=7.9
HWUT Hardware Ranch 40.56 330 eP P 09 45 16.0 +0.5
E27A Carson 40.61 343 ⇓P P 09 45 15.4 -0.3
baz=41,SNR=21
H22A Clearmont 40.62 337 ⇑P P 09 45 15.6 -0.3
baz=41,SNR=14
J19A Crowheart 40.65 333 ⇓P P 09 45 16.1 -0.1
baz=41,SNR=20
ARVC Arvin 40.66 316 ⇑P P 09 45 16.5 +0.2
baz=41
ISA Isabella 40.72 317 eP P 09 45 17.1 +0.3
ISA pmax pmax
comp=Z,29nm,1.4s
ISA Isabella 40.72 317 eP P 09 45 17.1 +0.3
comp=Z,29nm,1.4s
ISA Isabella 40.72 317 ⇑P P 09 45 16.8 0.0
baz=41
F25A Bowman 40.74 341 ⇓P P 09 45 16.8 0.0
baz=41,SNR=6.6
G23A Biddle 40.77 338 ⇑P P 09 45 17.1 0.0
baz=41
GRAC Grapevine Rang 40.77 320 ⇓P P 09 45 17.7 +0.5
baz=41,SNR=17
I20A Worland 40.80 335 ⇑P P 09 45 17.8 +0.4
baz=41,SNR=32
CWC Cottonwood Cre 40.90 319 ⇓P P 09 45 18.4 0.0
baz=41
SBC Santa Barbara 40.91 315 ⇓P P 09 45 17.8 -0.4
baz=41
E26A Carlson Angus 40.91 342 ⇑P P 09 45 17.8 -0.4
baz=41,SNR=9.6
H21A Big Horn, Sher 40.92 336 ⇑P P 09 45 18.2 -0.2
baz=41,SNR=15
F24A Ekalaka 41.00 340 ⇑P P 09 45 18.7 -0.2
baz=41,SNR=25
AGMN Agassiz Nation 41.02 350 eP P 09 45 18.7 -0.3
comp=Z,146nm,1.1s
G22A Birney 41.12 338 ⇑P P 09 45 19.6 -0.4
baz=41,SNR=9.5
H20A Greybull 41.19 335 ⇓P P 09 45 20.1 -0.5
baz=41,SNR=17
D27A Center 41.21 343 ⇑P P 09 45 20.6 0.0
baz=41
PKM Peak Mountain 41.22 315 ⇓P P 09 45 20.7 -0.4
baz=41
F23A Volborg 41.23 339 ⇑P P 09 45 21.0 +0.1
baz=41,SNR=19
E25A Miller Ranch, 41.23 341 ⇓P P 09 45 20.7 -0.1
baz=42,SNR=26
VES Vestal, Richgr 41.23 317 ⇑P P 09 45 21.0 +0.1
baz=41,SNR=6.7
I19A Meteetse 41.24 334 ⇓P P 09 45 21.3 +0.2
baz=41,SNR=17
PQI Presque Isle 41.28 18 eP P 09 45 21.3 +0.1
comp=Z,90nm,1.2s
HVU Hansel Valley 41.30 329 eP P 09 45 22.2 +0.6
HVU pmax pmax
comp=Z,102nm,1.6s
HVU Hansel Valley 41.30 329 eP P 09 45 22.2 +0.6
comp=Z,102nm,1.6s
I18A Diamond G Ranc 41.34 333 ⇑P P 09 45 21.9 -0.1
baz=42,SNR=23
TIN Tinemaha 41.36 319 ⇓P P 09 45 22.3 +0.2
baz=42
MDND Maddock 41.39 346 eP P 09 45 23.0 +1.0
MDND Maddock 41.39 346 ⇓P P 09 45 21.5 -0.6
baz=42,SNR=12
D26A Manning 41.41 343 ⇑P P 09 45 21.6 -0.6
baz=42,SNR=19
G21A Lodge Grass 41.48 337 ⇑P P 09 45 22.7 -0.3
baz=42
REDW Red Top Meadow 41.54 332 eP P 09 45 23.7 0.0
comp=Z,97nm,1.0s
SMMC Simmler 41.57 316 ⇓P P 09 45 23.3 -0.4
baz=42
SNOW Snow King Moun 41.58 332 eP P 09 45 24.2 +0.3
comp=Z,77nm,1.0s
E24A Baker 41.58 340 ⇑P P 09 45 23.8 +0.1
baz=42,SNR=12
F22A Rosebud 41.59 338 ⇓P P 09 45 23.4 -0.3
baz=42,SNR=18
RCTC Rector, Farmer 41.60 318 ⇓P P 09 45 23.4 -0.5
baz=42
LOHW Long Hollow 41.62 332 eP P 09 45 24.8 +0.5
comp=Z,312nm,2.5s
TPAW Teton Pass 41.69 332 eP P 09 45 25.5 +0.7
comp=Z,53nm,1.0s
H19A Powell 41.75 335 ⇑P P 09 45 25.2 0.0
baz=42,SNR=8.1
MTUM Tungsten Hills 41.75 319 eP P 09 45 26.6 +1.2
RRI2 Red Ridge 41.75 332 eP P 09 45 25.5 +0.1
comp=Z,60nm,1.3s
C27A Sayler Ranch, 41.76 344 ⇑P P 09 45 25.0 -0.1
baz=42
D25A Fairfield 41.78 342 ⇑P P 09 45 25.6 +0.3
baz=42
I17A Pilgrim Ck. 41.85 333 ⇑P P 09 45 26.6 +0.5
baz=42,SNR=8.8
E23A Ismay 41.86 340 ⇓P P 09 45 25.8 -0.2
baz=42,SNR=33
G20A Bridger 41.88 336 ⇓P P 09 45 25.6 -0.6
baz=42,SNR=19
PTRM Twissleman Ran 41.90 316 eP P 09 45 28.2 +1.7
F21A Absaloka Mine, 41.95 337 ⇑P P 09 45 26.4 -0.4
baz=42
IMW Indian Meadow 42.00 332 eP P 09 45 27.5 +0.1
comp=Z,22nm,1.0s
C26A Wahner Farm, P 42.03 343 ⇑P P 09 45 27.0 -0.3
baz=42
FLWY Flagg Ranch 42.03 333 eP P 09 45 28.3 +0.7
comp=Z,581nm,2.8s
E22A Miles City 42.04 339 ⇑P P 09 45 27.0 -0.4
baz=42
H18A Shoshone NF, C 42.04 334 ⇓P P 09 45 27.3 -0.5
baz=42,SNR=12
D24A Glendive 42.07 341 ⇑P P 09 45 28.1 +0.4
baz=42,SNR=21
MLAC Mammoth Lakes 42.09 319 ⇑P P 09 45 28.2 0.0
baz=42
NV11 Mina Array Sit 42.13 321 eP P 09 45 28.9 +0.4
B28A Dugan Ranch, T 42.14 345 ⇓P P 09 45 27.7 -0.5
baz=42,SNR=9.1
H17A Grant Village 42.22 333 ⇑P P 09 45 30.0 +0.8
baz=42
NVAR Mina Array Bea 42.23 321 P P 09 45 29.8 +0.5
NVAR PcP PcP 09 47 24.2 +0.8
NVAR Mina Array Bea 42.23 321 P P 09 45 29.8 +0.5
comp=Z,17nm,1.0s,baz=144,slow=5.2,SNR=26
NVAR PcP PcP 09 47 24.2 +0.8
comp=Z,5.5nm,0.8s,baz=115,slow=3.6,SNR=4.4
NVAR LR LR 10 03 46.0
comp=Z,1μm,21.2s,baz=228,slow=37
RLMT Red Lodge 42.23 335 eP P 09 45 28.9 -0.3
comp=Z,19nm,0.9s
I16A Newdale 42.23 332 ⇓P P 09 45 29.4 +0.2
baz=42,SNR=10
C25A Freed Ranch, W 42.27 342 ⇑P P 09 45 29.2 -0.1
baz=42,SNR=19
B27A Peters Farms, 42.33 344 ⇓P P 09 45 29.6 -0.1
baz=43,SNR=6.1
F20A Billings 42.33 336 ⇓P P 09 45 29.5 -0.3
baz=42,SNR=14
YFT Old Faithful 42.38 333 eP P 09 45 31.3 +0.8
comp=Z,42nm,1.1s
D23A Lindsay 42.41 340 ⇓P P 09 45 30.5 +0.1
baz=43,SNR=28
C24A Savage 42.47 341 ⇑P P 09 45 31.0 +0.1
baz=43,SNR=41
G18A Lazy EL Ranch, 42.51 335 ⇓P P 09 45 31.2 -0.2
baz=43,SNR=20
YNR Norris Junctio 42.52 333 eP P 09 45 33.0 +1.5
comp=Z,30nm,1.1s
E21A Keefer Ranch, 42.53 338 ⇑P P 09 45 31.6 +0.1
baz=43
A28A Rude Farm, Bot 42.54 346 ⇓P P 09 45 31.0 -0.5
baz=43
B26A Jensen Ranch, 42.57 344 ⇓P P 09 45 31.7 0.0
baz=43
YMR Madison River 42.61 333 eP P 09 45 33.1 +0.8
comp=Z,35nm,0.9s
F19A Roth Farm, Mol 42.69 336 ⇓P P 09 45 32.4 -0.4
baz=43,SNR=18
D22A Cohagen 42.73 339 ⇑P P 09 45 33.3 +0.3
baz=43,SNR=22
B25A Knox Farm, Ray 42.74 343 ⇑P P 09 45 33.1 +0.1
baz=43,SNR=15
H16A Russell Place, 42.76 333 ⇑P P 09 45 34.1 +0.6
baz=43,SNR=15
CFAA Coronel Fontan 42.80 158 P P 09 45 32.7 -1.1
CFAA Coronel Fontan 42.80 158 P P 09 45 32.7 -1.1
comp=Z,2.9nm,1.1s,baz=330,slow=6.9,SNR=15
BMN Battle Mountai 42.82 324 eP P 09 45 34.3 +0.3
BMN pmax pmax
comp=Z,66nm,1.2s
BMN Battle Mountai 42.82 324 eP P 09 45 34.2 +0.3
comp=Z,66nm,1.2s
E20A Meyer Farm, Mu 42.90 337 ⇓P P 09 45 34.9 +0.4
baz=43,SNR=39
ULM Lac du Bonnet 42.91 350 eP P 09 45 33.1 -1.2
comp=Z,92nm,1.1s
ULM Lac du Bonnet 42.91 350 P P 09 45 33.7 -0.7
comp=Z,86nm,1.0s,baz=168,slow=8.2,SNR=23
ULM LR LR 10 04 52.5
comp=Z,2μm,21.9s,baz=163,slow=38
GCMT Greycliff 42.94 335 eP P 09 45 34.9 0.0
comp=Z,16nm,1.0s
QLMT Earthquake Lak 42.94 333 eP P 09 45 36.6 +1.6
D21A La Casta Ranch 42.95 338 ⇑P P 09 45 35.2 +0.4
baz=43,SNR=13
C23A Lambert 42.95 341 ⇑P P 09 45 35.1 +0.2
baz=43,SNR=42
A26A Wade Farm, Ken 42.99 344 ⇓P P 09 45 34.9 -0.1
baz=43,SNR=15
G17A Pierce Place, 43.02 334 ⇓P P 09 45 36.7 +1.1
baz=43,SNR=68
F18A Big Timber 43.05 335 ⇑P P 09 45 35.7 0.0
baz=43,SNR=20
E19A Rath Farm, Rou 43.12 336 ⇓P P 09 45 36.5 +0.2
baz=43,SNR=19
C22A Vida 43.14 340 ⇑P P 09 45 36.5 +0.2
baz=43,SNR=47
DGMT Dagmar 43.23 342 eP P 09 45 37.2 +0.2
comp=Z,96nm,1.0s
DGMT Dagmar 43.23 342 ⇑P P 09 45 37.3 +0.3
baz=43,SNR=37
A25A Svangstu Ranch 43.33 343 ⇑P P 09 45 37.8 -0.1
baz=44
CMB Columbia Colle 43.33 319 eP P 09 45 38.1 +0.1
CMB pmax pmax
comp=Z,39nm,1.6s
CMB Columbia Colle 43.33 319 eP P 09 45 38.1 +0.1
comp=Z,39nm,1.6s
D20A Manuel Ranch, 43.39 338 ⇑P P 09 45 38.8 +0.3
baz=44,SNR=17
HLID Hailey 43.42 329 eP P 09 45 39.5 +0.6
comp=Z,69nm,1.3s
HLID Hailey 43.42 329 ⇑P P 09 45 38.9 0.0
baz=44,SNR=41
F17A Fitzpatrick Pl 43.44 334 ⇑P P 09 45 39.6 +0.6
baz=44,SNR=31
B23A Brockton 43.47 341 ⇑P P 09 45 39.5 +0.5
baz=44,SNR=62
A24A Westby 43.57 342 ⇑P P 09 45 40.1 +0.3
baz=44,SNR=32
MCMT McKenzie Canyo 43.59 332 P P 09 45 40.9 +0.6
C21A Desert Coulee 43.63 339 ⇑P P 09 45 40.9 +0.5
baz=44
B22A Reddig Ranch S 43.66 340 ⇑P P 09 45 40.7 +0.2
baz=44,SNR=14
BOZ Bozeman (W) 43.66 333 eP P 09 45 40.8 0.0
BOZ pmax pmax
comp=Z,35nm,1.2s
BOZ Bozeman (W) 43.66 333 eP P 09 45 40.8 0.0
comp=Z,35nm,1.2s
PAHR Pah Rah Range 43.66 322 eP P 09 45 41.2 +0.3
D19A Cripps Ranch, 43.74 337 ⇓P P 09 45 41.5 +0.3
baz=44,SNR=36
CPUP Villa Florida 43.83 142 eP P 09 45 40.2 -1.9
CPUP Villa Florida 43.83 142 P P 09 45 40.8 -1.3
comp=Z,7.5nm,0.8s,baz=323,slow=10,SNR=4.5
CPUP LR LR 10 05 59.7
comp=Z,2μm,20.9s,baz=303,slow=39
C20A Veseth Ranch, 43.86 338 ⇑P P 09 45 42.4 +0.2
baz=44,SNR=14
A23A Redstone 43.87 342 ⇓P P 09 45 42.8 +0.5
baz=44,SNR=19
DLMT Dillon 43.88 332 eP P 09 45 43.4 +0.9
E17A Martinsdale 43.97 335 ⇑P P 09 45 43.3 0.0
baz=44,SNR=11
BDFB Brasilia 44.02 122 P P 09 45 43.3 -0.7
BDFB Brasilia 44.02 122 P P 09 45 43.3 -0.7
comp=Z,9.4nm,0.9s,baz=275,slow=13,SNR=4.7
BDFB LR LR 10 03 04.5
comp=Z,3μm,19.4s,baz=92,slow=35
MFID Camas Ranch 44.05 328 ⇓P P 09 45 44.0 +0.1
baz=44,SNR=10
B21A Ellsworth Farm 44.12 340 ⇑P P 09 45 44.2 0.0
baz=44
D18A Linhart Farms, 44.13 336 ⇓P P 09 45 44.7 +0.3
baz=44,SNR=38
LRM Limekiln Ridge 44.16 333 eP P 09 45 45.5 +0.6
A22A Carney Farms, 44.23 341 ⇑P P 09 45 45.6 +0.5
baz=44
C19A Slack Wire Ran 44.27 337 ⇑P P 09 45 45.8 +0.3
baz=44,SNR=35
BEKR Beckworth 44.36 321 eP P 09 45 46.6 +0.1
comp=Z,11nm,1.1s
D17A Six Diamond Ra 44.45 336 ⇑P P 09 45 47.1 +0.1
baz=45,SNR=30
B20A Solberg Farm, 44.48 339 ⇓P P 09 45 47.5 +0.4
baz=45,SNR=16
A21A Bergtoll Ranch 44.57 340 ⇓P P 09 45 48.5 +0.7
baz=45,SNR=24
HRY Holter Researc 44.58 334 eP P 09 45 48.5 +0.5
OHCM Honcut 44.77 320 eP P 09 45 49.7 +0.2
EGMT Eagleton 44.78 337 eP P 09 45 50.1 +0.5
comp=Z,436nm,2.6s
EGMT Eagleton 44.78 337 ⇑P P 09 45 49.7 +0.1
baz=45,SNR=11
A20A Cobblestone Ra 44.82 339 ⇑P P 09 45 50.2 +0.4
baz=45,SNR=21
B19A Brinkman Farms 44.83 338 ⇑P P 09 45 50.1 +0.2
baz=45
C17A Wharram Farm, 44.86 336 ⇑P P 09 45 50.3 0.0
baz=45,SNR=34
WVOR Wild Horse Val 44.92 325 eP P 09 45 50.2 -0.6
WVOR pmax pmax
comp=Z,83nm,1.1s
WVOR Wild Horse Val 44.92 325 eP P 09 45 50.2 -0.6
comp=Z,83nm,1.1s
B18A Beardsley Farm 45.09 337 ⇓P P 09 45 52.5 +0.4
baz=45,SNR=22
A19A Klindworth Far 45.15 339 ⇓P P 09 45 52.7 +0.2
baz=45,SNR=9.6
CHMT Chamberlain Mo 45.36 333 eP P 09 45 54.5 +0.1
B17A L&G Farms, Che 45.41 336 ⇓P P 09 45 54.1 -0.5
baz=46,SNR=13
J08A Circle Bar Ran 45.43 326 P P 09 45 54.2 -0.7
A18A Metzger Ranch, 45.55 338 ⇑P P 09 45 55.7 0.0
baz=46,SNR=32
MSO Missoula 45.60 333 eP P 09 45 55.8 -0.3
MSO Missoula 45.60 333 ⇑P P 09 45 55.8 -0.3
baz=46,SNR=56

SLMT **Seeley Lake** 45.71 334 eP P 09 45 57.9 +0.8
C15A **Salmond Ranch,** 45.74 335 ⇓P P 09 45 57.3 0.0
baz=46,SNR=12
BMO **Blue Mountains** 45.81 329 eP P 09 45 56.7 -1.1
comp=Z,31nm,1.0s
A17A **Triple J Farms** 45.90 337 ⇓P P 09 45 58.2 -0.2
baz=46,SNR=40
SWMT **Swartz Lake** 46.14 333 eP P 09 46 02.6 +2.2
B15A **Bradely Ranch,** 46.14 335 ⇑P P 09 45 59.8 -0.6
baz=46,SNR=20
KIPM **Iron Peak** 46.31 319 eP P 09 46 01.2 -0.7
comp=Z,53nm,1.2s
JTMT **Jette** 46.45 333 eP P 09 46 04.7 +1.9
BLMT **Blacktail Moun** 46.68 334 eP P 09 46 05.8 +1.0
A15A **Johnson Ranch,** 46.73 336 ⇑P P 09 46 05.0 -0.1
baz=47,SNR=48
BSMT **Bassoo Peak** 46.75 333 eP P 09 46 05.8 +0.5
YBH **Yreka Blue Hor** 46.90 322 eP P 09 46 05.2 -1.3
comp=Z,16nm,1.1s
YBH **Yreka Blue Hor** 46.90 322 P P 09 46 05.1 -1.3
comp=Z,7.2nm,0.9s,baz=92,slow=5.8,SNR=8.5
YBH LR LR 10 09 54.7
comp=Z,1µm,18.5s,baz=129,slow=41
A14A **Double T Ranch** 47.01 335 ⇓P P 09 46 07.4 +0.2
baz=47,SNR=34
KHMM **Horse Mountain** 47.05 320 eP P 09 46 07.5 -0.3
WALA **Waterton Lakes** 47.28 335 eP P 09 46 09.6 +0.2
comp=Z,0.8nm,1.1s
KRMB **Red Mountain** 47.52 321 eP P 09 46 12.2 +0.8
HUMO **Hull Mountain** 47.55 323 eP P 09 46 13.7 +2.2
comp=Z,8.1nm,1.0s
BLTW **Bickleton** 48.02 328 P P 09 46 15.3 +0.2
KBO **Bosley Butte** 48.10 321 eP P 09 46 17.5 +1.7
comp=Z,159nm,1.4s
NEW **Newport** 48.12 332 eP P 09 46 16.1 +0.4
NEW **Newport** 48.12 332 P P 09 46 15.2 -0.5
comp=Z,7.8nm,0.9s,baz=156,slow=7.7,SNR=15
NEW LR LR 10 07 59.9
comp=Z,1µm,21.0s,baz=324,slow=38
NEW **Newport** 48.12 332 ⇑P P 09 46 15.0 -0.8
baz=48,SNR=12
OD2 **Odessa Site #2** 48.26 330 P P 09 46 17.3 +0.4
VFP **Flag Point** 48.33 326 P P 09 46 17.4 -0.3
KEBM **Edson Butte** 48.54 322 eP P 09 46 21.0 +1.9
comp=Z,119nm,1.4s
ASR **Mount Adams--S** 48.93 327 P P 09 46 22.1 -0.1
SCHQ **Schefferville** 48.97 14 eP P 09 46 20.9 -1.2
comp=Z,24nm,0.7s
SCHQ **Schefferville** 48.97 14 P P 09 46 20.9 -1.2
comp=Z,22nm,0.8s,baz=178,slow=5.3,SNR=16
ETW **Entiat** 49.22 329 P P 09 46 25.3 +0.9
LON **Longmire** 49.43 328 eP P 09 46 25.9 0.0
LON pmax pmax
comp=Z,19nm,1.1s
LON **Longmire** 49.43 328 eP P 09 46 25.9 0.0
comp=Z,19nm,1.1s
EDM **Edmonton** 50.34 339 eP P 09 46 32.3 -0.3
EDM **Edmonton** 50.34 339 eP P 09 46 32.3 -0.3
NLWA **Neilton Lookou** 50.93 327 eP P 09 46 35.8 -1.4
comp=Z,40nm,1.2s
FCC **Fort Churchill** 50.99 354 eP P 09 46 38.8 +1.4
FCC **Fort Churchill** 50.99 354 eP P 09 46 38.8 +1.4
comp=Z,1.0nm,0.9s
RKT **Rikitea** 57.42 236 eS S 09 55 15.7 -6.9
comp=Z,2µm,28.0s
RKT eLQ LQ 10 01 45.6
comp=Z,774nm,28.5s
RKT eLR LR 10 04 11.0
comp=Z,5µm,29.8s,baz=59
YKA **Yellowknife Ar** 58.29 345 P P 09 47 29.8 -0.6
YKA PP PP 09 49 43.3 +3.9
YKA **Yellowknife Ar** 58.29 345 P P 09 47 29.7 -0.6
comp=Z,8.5nm,0.8s,baz=144,slow=6.7,SNR=14
YKA PP PP 09 49 43.3 +3.9
comp=Z,3.7nm,0.9s,baz=135,slow=9.7,SNR=5.9
YKW3 **Yellowknife Ar** 58.35 345 eP P 09 47 30.6 -0.2
comp=Z,0.4nm,0.8s
CRAG **Craig** 60.32 331 eP P 09 47 44.8 +0.3
comp=Z,18nm,1.0s
WRAK **Wrangell Islan** 60.48 332 eP P 09 47 44.9 -0.7
DLBC **Dease Lake** 60.63 335 eP P 09 47 47.1 +0.3
SFJD **Kangerlussuaq** 63.42 15 i P P 09 48 08.0 +2.8
comp=Z,8.1nm,0.7s
SFJD **Kangerlussuaq** 63.42 15 P P 09 48 04.1 -1.0
SFJD **Kangerlussuaq** 63.42 15 P P 09 48 04.1 -1.0
comp=Z,6.3nm,0.7s,baz=270,slow=10,SNR=2.3
SKAG **Skagway** 63.47 334 eP P 09 48 06.4 +0.7
comp=Z,34nm,1.6s
USHA **Ushuaia** 64.30 169 P P 09 48 10.3 -0.8
USHA **Ushuaia** 64.30 169 P P 09 48 10.3 -0.8
comp=Z,21nm,1.1s,baz=349,slow=16,SNR=2.3
HYT **Haines Junctio** 65.12 335 eP P 09 48 17.5 +0.9
DAWY **Dawson** 67.52 337 eP P 09 48 31.8 -0.1
INK **Inuvik** 67.91 343 eP P 09 48 34.3 +0.2
comp=Z,45nm,1.1s
PPT **Papeete** 68.17 247 LR LR 10 10 00.8
comp=Z,701nm,18.6s,baz=188,slow=29
PPT2 **Papeete2** 68.18 247 eS S 09 57 28.5 -10
comp=Z,3µm,26.0s
PPT2 **Papeete2** 68.18 247 eLR LR 10 09 08.1
comp=Z,2µm,27.5s,baz=73
EGAK **Eagle** 68.54 338 eP P 09 48 38.1 -0.1
comp=Z,11nm,0.9s
MENT **Mentasta** 68.71 335 eP P 09 48 40.2 +0.9
TBI **Tubuai** 69.80 242 eS S 09 57 50.0 -7.0
comp=Z,1µm,28.8s
TBI **Tubuai** 69.80 242 eLR LR 10 09 55.1
comp=Z,2µm,29.5s,baz=65
SUMG **Summit** 70.35 14 eP P 09 48 49.5 -0.3
SUMG pmax pmax
comp=Z,38nm,0.9s
SUMG **Summit** 70.35 14 i P P 09 48 49.2 -0.6
comp=Z,38nm,1.0s
SUMG **Summit** 70.35 14 eP P 09 48 49.5 -0.3
comp=Z,38nm,0.9s
PMR **Palmer** 70.53 333 eP P 09 48 50.7 +0.2
PMR pmax pmax
comp=Z,68nm,1.7s
PMR **Palmer** 70.53 333 eP P 09 48 50.7 +0.2
comp=Z,68nm,1.7s
ILAR **Eielson Array** 70.75 337 P P 09 48 51.3 -0.5
ILAR **Eielson Array** 70.75 337 P P 09 48 51.3 -0.5
comp=Z,10nm,0.9s,baz=117,slow=4.4,SNR=56
KDAK **Kodiak Island** 71.04 329 eP P 09 48 54.0 +0.3
comp=Z,43nm,1.5s
KDAK **Kodiak Island** 71.04 329 P P 09 48 54.0 +0.3
comp=Z,18nm,1.1s,baz=101,slow=10,SNR=6.0
OHAK **Old Harbor** 71.26 328 eP P 09 48 55.3 +0.2
comp=Z,25nm,1.0s
RSO **Redoubt South** 71.86 331 eP P 09 48 59.1 +0.3
comp=Z,65nm,0.9s
SCO **Scoresbysund** 73.77 18 i P P 09 49 13.3 +3.5
comp=Z,7.2nm,1.1s
CHGN **Chignik** 73.82 326 eP P 09 49 10.4 0.0
IMA2 **Indian Mountai** 73.86 337 eP P 09 49 10.4 -0.2
IM04 **Indian Mountai** 73.87 337 eP P 09 49 10.2 -0.3
LIS **Lisbon** 74.39 52 eP P 09 49 15.0 +1.0
LIS AMb AMB 09 49 16.8
comp=Z,68nm,0.6s
LIS **Lisbon** 74.39 52 eP P 09 49 15.0 +1.0
MORF **Marmelete** 74.74 54 eP P 09 49 16.7 +0.5
MORF eS S 09 58 55.3 +1.9
MORF **Marmelete** 74.74 54 eP P 09 49 17.4 +1.2
comp=Z,76nm,1.7s
MORF epP PcP 09 49 24.6 -5.8
PCAS **Casmilo, Conde** 74.94 51 epP pP 09 49 26.5 +7.2
ALE **Alert** 75.05 3 P P 09 49 16.5 -0.6
comp=Z,113nm,1.1s,SNR=6.0
PMTG **Montargil** 75.12 52 epP pP 09 49 25.0 +4.7
PGAV **Gavieira, Arco** 75.19 49 epP pP 09 49 27.2 +6.4
EVO **Evora** 75.27 52 eP P 09 49 16.1 -3.1
comp=Z,32nm,0.9s
EVO eR
comp=Z,2µm,21.8s
PBEJ **Beja** 75.38 53 epP pP 09 49 27.9 +6.1
PVIS **Viseu** 75.43 50 epP pP 09 49 28.4 +6.3
POLO **Lamas de Olo** 75.53 49 eP P 09 49 21.1 +0.4
comp=Z,11nm,1.5s
POLO epP PcP 09 49 29.3 -4.4
PESTR **Estremoz** 75.61 52 eP P 09 49 22.0 +0.8
comp=Z,28nm,1.6s
PESTR epP PcP 09 49 29.7 -4.3
PCBR **Castelo Branco** 75.72 51 eP P 09 49 22.3 +0.6
comp=Z,18nm,1.6s
PCBR epP PcP 09 49 29.6 -4.9
PMRV **Marv??o** 75.78 51 eP P 09 49 21.9 -0.2
comp=Z,13nm,1.3s
PMRV epP PcP 09 49 30.4 -4.3
PBAR **Barrancos** 76.03 53 eP P 09 49 23.4 -0.1
comp=Z,23nm,1.8s
PBAR epP PcP 09 49 31.8 -4.0
MVO **Moncorvo** 76.09 50 eP P 09 49 24.5 +0.6
comp=Z,23nm,1.2s
MVO epP PcP 09 49 31.7 -4.5
PBRG **Braganca** 76.33 49 eP P 09 49 25.7 +0.5
comp=Z,33nm,1.7s
PBRG epP PcP 09 49 33.7 -3.4
DAG **Danmarks Havn** 76.98 13 i P P 09 49 30.7 +2.6
comp=Z,8.9nm,0.9s
PAB **San Pablo** 78.13 51 eP P 09 49 34.9 -0.5
PAB pmax pmax
comp=Z,9.0nm,0.9s
PAB **San Pablo** 78.13 51 eP P 09 49 34.9 -0.5
comp=Z,8.6nm,0.9s
ESDC **Sonseca Array** 78.43 51 P P 09 49 36.8 -0.2
ESDC **Sonseca Array** 78.43 51 P P 09 49 36.8 -0.2
comp=Z,2.9nm,0.6s,baz=282,slow=5.7,SNR=21
ESDC LR LR 10 22 05.9
comp=Z,735nm,18.7s,baz=285,slow=34
ESLA **Sonseca Array** 78.43 51 eP P 09 49 37.0 0.0
comp=Z,3.9nm,0.9s
ROSF **Rostrenen** 78.89 42 eP P 09 49 38.8 -0.5
comp=Z,106nm,1.6s
QUIF **Quistinic** 78.96 43 eP P 09 49 39.2 -0.5
comp=Z,12nm,0.6s
TIC **Tomodi** 79.76 85 eP P 09 49 50.0 +5.3
comp=Z,89nm,1.1s
LIC **Lamto** 79.80 85 eP P 09 49 45.2 +0.2
comp=Z,24nm,0.7s
LIC eR
comp=Z,1µm,19.0s
LIC **Lamto** 79.80 85 eP P 09 49 45.2 +0.2
comp=Z,39nm,0.7s
DBIC **Dimbokro** 79.91 85 P P 09 49 46.6 +1.1
DBIC **Dimbokro** 79.91 85 P P 09 49 46.6 +1.1
comp=Z,7.7nm,0.9s,baz=270,slow=15,SNR=2.8
KIC **Kosan Boka** 80.06 85 eP P 09 49 47.7 +1.3
comp=Z,171nm,1.6s
SJPF **Ste Jean** 80.40 48 eP P 09 49 47.8 +0.1
comp=Z,29nm,1.0s
GRR **Gorron** 80.50 42 eP P 09 49 47.5 -0.5
comp=Z,14nm,0.6s
FLN **La Foliniere** 80.73 42 eP P 09 49 49.0 -0.3
comp=Z,28nm,1.0s
FLN eR
comp=Z,2µm,22.2s
ETSF **Etsaut** 80.90 48 eP P 09 49 50.6 +0.2
comp=Z,39nm,1.6s
LDF **La Druitiere** 80.98 42 eP P 09 49 50.2 -0.4
comp=Z,33nm,1.0s
MFF **Saint Martin d** 81.04 44 eP P 09 49 50.4 -0.6
comp=Z,12nm,0.6s
EPF **Esparros** 81.55 48 eP P 09 49 53.8 -0.1
comp=Z,23nm,1.0s
LFF **La Frestale** 81.73 46 eP P 09 49 54.4 -0.3
RJF **Les Rejaudoux** 82.26 45 eP P 09 49 56.9 -0.6
RJF eR
comp=Z,1µm,21.8s
CAF **Calviac** 82.67 46 eP P 09 49 59.1 -0.6
comp=Z,39nm,1.3s
TCF **Toulx Ste Croi** 82.68 44 eP P 09 49 58.9 -0.8
comp=Z,12nm,0.9s
MTLF **Montolieu** 82.90 47 eP P 09 50 00.4 -0.5
comp=Z,50nm,1.4s
BGF **Bois d'Agland** 83.10 44 eP P 09 50 01.2 -0.6
AVF **Avril sur Loir** 83.43 44 eP P 09 50 02.4 -1.1
comp=Z,14nm,1.0s
SSF **Saint Saulge** 83.51 43 eP P 09 50 02.7 -1.2
KBS **Kingsbay** 83.57 11 eP P 09 50 05.4 +1.8
KBS pmax pmax
comp=Z,32nm,1.1s
KBS **Kingsbay** 83.57 11 eP P 09 50 05.4 +1.8
comp=Z,32nm,1.1s
LOR **Lormes** 83.73 43 eP P 09 50 04.1 -1.0
LOR eR
comp=Z,2µm,22.2s
SMF **Signal de Mont** 83.78 44 eP P 09 50 04.2 -1.1
comp=Z,10.0nm,0.8s
DOU **Dourbes** 83.96 40 P P 09 50 14.1 +8.0
LASF **Ste Croix** 84.02 46 eP P 09 50 06.7 0.0
comp=Z,40nm,1.4s
GIVF **Givet** 84.11 40 eP P 09 50 06.4 -0.5
ADK **Adak** 84.41 321 eP P 09 50 07.2 -1.2
ADK pmax pmax
comp=Z,354nm,1.1s
ADK **Adak** 84.41 321 eP P 09 50 07.2 -1.2
comp=Z,354nm,1.1s
VIVF **Saint-Julien-l** 84.53 46 eP P 09 50 09.4 +0.2
comp=Z,34nm,1.1s
THEF **They Montfort** 85.06 42 eP P 09 50 10.7 -1.1
SMRF **Simiane la Rot** 85.27 46 eP P 09 50 13.2 +0.2
comp=Z,39nm,1.4s
CABF **La Chapelle** 85.32 44 eP P 09 50 12.7 -0.5
comp=Z,47nm,1.3s
HAU **Haudompre** 85.33 42 eP P 09 50 12.6 -0.6
comp=Z,44nm,1.2s
HAU eR
comp=Z,2µm,22.2s
ORIF **Oris-en-Rattie** 85.37 45 eP P 09 50 13.9 +0.3
ORIF eR
comp=Z,2µm,21.8s
TORD **Torodi Ar. Bea** 85.53 77 P P 09 50 15.5 +0.7
TORD **Torodi Ar. Bea** 85.53 77 P P 09 50 15.5 +0.7
comp=Z,1.5nm,0.7s,baz=293,slow=5.6,SNR=6.8
HINF **Hinteralfeld** 85.69 42 eP P 09 50 14.1 -0.9
comp=Z,49nm,1.4s
ECH **Echery** 85.84 42 eP P 09 50 15.2 -0.6
ECH pmax pmax
comp=Z,23nm,1.2s
ECH **Echery** 85.84 42 eP P 09 50 15.2 -0.6
comp=Z,24nm,1.2s
ECH **Echery** 85.84 42 eP P 09 50 14.3 -1.4
MOF **Molkenrain** 85.87 42 eP P 09 50 14.3 -1.7
CDF **Champ du Feu** 85.90 42 eP P 09 50 15.5 -0.6
comp=Z,103nm,1.8s
LPL **La Plagne** 85.90 45 eP P 09 50 16.1 -0.2
LPG **La Plagne** 85.91 45 eP P 09 50 16.7 +0.2
BNI **Bardonecchia** 85.92 45 eP P 09 50 16.2 -0.1
BNI pmax pmax
comp=Z,28nm,1.5s
BNI **Bardonecchia** 85.92 45 eP P 09 50 16.2 -0.1
comp=Z,28nm,1.5s
LMR **La Mourre** 86.02 47 eP P 09 50 16.3 -0.3
comp=Z,90nm,1.4s
MBDF **Montbardon** 86.03 46 eP P 09 50 16.9 0.0
comp=Z,35nm,1.2s
FRF **La Foret Royal** 86.09 47 eP P 09 50 16.5 -0.5
comp=Z,28nm,1.0s
LANF **Langenberg** 86.17 41 eP P 09 50 16.5 -0.8
NB2 **NORSAR Subarra** 86.26 29 P P 09 50 16.7 -0.8
comp=Z,32nm,1.2s,baz=278,slow=4.8
NB2 **NORSAR Subarra** 86.26 29 P P 09 50 16.7 -0.8
baz=278,slow=4.8
NOA **NORSAR Array B** 86.26 29 P P 09 50 16.6 -1.0
NOA **NORSAR Array B** 86.26 29 P P 09 50 16.6 -1.0
comp=Z,6.4nm,0.8s,baz=276,slow=4.7,SNR=12
NOA LR LR 10 26 08.6
comp=Z,717nm,19.7s,baz=280,slow=34
MVIF **Mont Vial** 86.41 46 eP P 09 50 17.4 -1.4
LUCF **Luceram** 86.55 46 eP P 09 50 18.0 -1.4
BFO **Black Forest** 86.60 42 eP P 09 50 18.5 -1.0
BFO pmax pmax
comp=Z,4.0nm,0.9s
BFO **Black Forest** 86.60 42 eP P 09 50 18.4 -1.0
comp=Z,4.0nm,0.9s
SBF **Sospel** 86.61 46 eP P 09 50 19.1 -0.6
SAOF **Saorge** 86.68 46 eP P 09 50 19.3 -0.7
TUE **Stuetta** 87.57 44 eP P 09 50 24.1 -0.3
comp=Z,17nm,1.1s
DAVA **Damuels** 87.80 43 ⇓i P P 09 50 25.2 -0.2
comp=Z,26nm,1.0s,SNR=7.4
TAM **Tamanrasset** 87.90 67 eP P 09 50 27.0 +0.5
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM **Tamanrasset** 87.90 67 eP P 09 50 26.9 +0.5
comp=Z,8.0nm,0.9s
PGF **Pioggiola** 87.94 47 eP P 09 50 25.4 -0.8
comp=Z,33nm,1.0s
RETA **Reutte** 88.35 42 ⇓i P P 09 50 27.5 -0.5
comp=Z,20nm,0.9s,SNR=5.3
FETA **Feichten** 88.41 43 ⇓i P P 09 50 28.0 -0.4
comp=Z,24nm,1.0s,SNR=6.8
NKC **Novy Kostel** 88.94 39 eP P 09 50 30.5 -0.1
NKC e 09 50 38.7
NKC MLR MLR
comp=Z,700nm,22.3s
NKC **Novy Kostel** 88.94 39 eP P 09 50 30.5 -0.1
NKC ex x 09 50 38.7
NKC AMS AMS 10 24 30.0
comp=Z,700nm,22.3s
CLL **Collm** 89.07 38 ⇓i P P 09 50 30.4 -0.8
CLL i 09 50 38.9
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,900nm,18.2s
CLL **Collm** 89.07 38 ⇓i P P 09 50 30.4 -0.8
comp=Z,12nm,1.1s
CLL i pP PcP 09 50 36.8 +4.2
CLL i sP sP 09 50 38.9 +5.0
CLL LmV 10 33 00.0
comp=Z,900nm,18.2s
KEST **Kesra** 89.29 54 P P 09 50 31.3 -1.4
KEST **Kesra** 89.29 54 P P 09 50 31.3 -1.4
comp=Z,1.1nm,0.6s,baz=69,slow=2.9,SNR=3.8
ABTA **Abfaltersbach** 89.67 43 ⇓i P P 09 50 33.8 -0.4
comp=Z,17nm,1.0s,SNR=6.6
ARCES **ARCESS Array B** 89.68 19 P P 09 50 32.0 -1.7
ARCES **ARCESS Array B** 89.68 19 P P 09 50 32.0 -1.7
comp=Z,4.6nm,0.7s,baz=292,slow=3.8,SNR=9.5
BRG **Berggiesshubel** 89.74 39 i P P 09 50 34.8 +0.5
comp=Z,6.3nm,0.8s
BRG i 09 50 42.3
comp=Z,15nm,1.3s
BRG **Berggiesshubel** 89.74 39 i P P 09 50 34.8 +0.5
BRG i 09 50 42.3
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,15nm,1.3s
KHC **Kasperske Hory** 89.88 40 eP P 09 50 35.3 +0.2
KHC e 09 50 41.9
KHC MLR MLR
comp=Z,2µm,20.5s
KHC **Kasperske Hory** 89.88 40 eP P 09 50 35.3 +0.2
KHC epP PcP 09 50 41.9 +5.5
KHC AMS AMS 10 25 10.0
comp=Z,2µm,20.5s
KHC **Kasperske Hory** 89.88 40 eP P 09 50 35.2 +0.1
comp=Z,9.0nm,1.4s
GERES **GERESS Array B** 90.02 41 P P 09 50 34.7 -1.1
GERES **GERESS Array B** 90.02 41 P P 09 50 34.7 -1.1
comp=Z,1.2nm,0.6s,baz=266,slow=4.0,SNR=9.5
GERES LR LR 10 24 34.9
comp=Z,2µm,21.6s,baz=272,slow=31
PVCC **Panska Ves** 90.20 39 AMS AMS 10 23 40.0
comp=Z,900nm,19.2s
PRU **Pruhonice** 90.31 39 eP P 09 50 32.3 -4.7
PRU MLR MLR
comp=Z,1µm,20.4s
PRU **Pruhonice** 90.31 39 eP P 09 50 32.3 -4.7
PRU AMS AMS 10 25 20.0
comp=Z,1µm,20.4s
JAVS **Javornik** 90.89 44 i P P 09 50 40.6 +0.6
SKDS **Skadanscina** 90.93 44 i P P 09 50 48.1 +8.1
TREC **Trest** 91.06 40 AMS AMS 10 24 00.0
comp=Z,2µm,21.0s
UPC **Upice** 91.11 39 eP P 09 50 40.9 +0.2
UPC e 09 50 47.7
UPC **Upice** 91.11 39 eP P 09 50 40.9 +0.2
UPC epP pP 09 50 47.7 +4.9
DPC **Dobruska-Polom** 91.34 39 eP P 09 50 41.9 0.0
DPC e 09 50 49.1
DPC **Dobruska-Polom** 91.34 39 eP P 09 50 41.9 0.0
DPC epP pP 09 50 49.1 +5.2
DPC AMS AMS 10 31 20.0
PERS **Pernice** 91.44 43 i P P 09 50 49.7 +7.2
MORC **Moravsky Berou** 92.24 39 eP P 09 50 46.7 +0.6
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC **Moravsky Berou** 92.24 39 eP P 09 50 46.7 +0.6
comp=Z,7.4nm,1.1s
OKC **Ostrava-Krasne** 92.60 39 AMS AMS 10 27 20.0
comp=Z,900nm,19.7s
FINES **FINESS Array B** 93.03 27 P P 09 50 48.3 -1.1
FINES **FINESS Array B** 93.03 27 P P 09 50 48.3 -1.1
comp=Z,8.7nm,1.1s,baz=323,slow=1.0,SNR=6.6
FINES LR LR 10 31 34.0
comp=Z,1µm,21.6s,baz=172,slow=35
FIA1 **FINESS Array S** 93.03 27 eP P 09 50 49.9 +0.5
APA **Apatity** 93.16 20 ⇓i P P 09 50 55.0 +5.2
APA i PS PS 10 03 16.0 +6.3
APA i PPS PPS 10 03 51.0
APA i SS SS 10 08 16.0 +5.0
APA pmax pmax
comp=Z,54nm,1.4s
VNA1 **Neumayer--Stat** 93.39 161 eP P 09 50 52.8 +2.1
OJC **Ojcow** 93.52 38 eP P 09 50 51.5 -0.4
VNA2 **Neumayer--Watz** 93.73 161 eP P 09 50 50.1 -2.2
CRVS **Cervenica-Dubn** 94.95 39 eP P 09 50 59.1 +0.6
CRVS pmax pmax
comp=Z,6.0nm,1.3s
CRVS **Cervenica-Dubn** 94.95 39 eP P 09 50 59.1 +0.6
SNAA **Sanae** 95.32 162 eP P 09 50 57.8 -1.9
SNAA **Sanae** 95.32 162 eP P 09 50 57.2 -2.5
comp=Z,4.5nm,0.8s
SNAA **Sanae** 95.32 162 P P 09 50 57.9 -1.9
comp=Z,0.8nm,1.1s,baz=253,slow=4.4,SNR=5.8
KOLS **Kolonicke sedl** 95.45 39 eP P 09 51 01.3 +0.5
KOLS pmax pmax
comp=Z,11nm,1.6s
KOLS **Kolonicke sedl** 95.45 39 eP P 09 51 01.3 +0.5
UZH **Uzhgorod** 95.56 39 eP P 09 50 58.0 -3.2
SEY **Seymchan** 96.68 337 eP P 09 51 08.6 +2.6
QSPA **South Pole Qui** 98.07 180 eP P 09 51 08.8 -3.5
comp=Z,6.6nm,1.0s
QSPA **South Pole Qui** 98.07 180 P P 09 51 10.1 -2.2
comp=Z,1.1nm,0.6s,baz=102,slow=0.6,SNR=11
AKASG **Malin Array Be** 98.98 36 LR LR 10 32 49.8
comp=Z,1µm,21.5s,baz=310,slow=34
PETK **Petropavlovsk-** 99.05 327 P Pdif 09 51 17.4 +0.5
PETK **Petropavlovsk-** 99.05 327 P Pdif 09 51 17.4 +0.4
PETK **Petropavlovsk-** 99.05 327 P Pdif 09 51 17.4 +0.4
comp=Z,1.4nm,0.8s,baz=152,slow=6.6,SNR=3.9
VSR **Storozhevoye** 104.25 32 eP **Pdif** 09 51 46.5 +6.4
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.2s
VSR pmax pmax
comp=E,3.0nm,0.3s
ABKAR **Akbulak array** 115.41 24 ePKPdf **PKPdf** 09 56 17.6 -0.3
BRVK **Borovoye** 115.72 16 i PKIKP **PKPdf** 09 56 23.0 +4.6
BRVK pmax pmax
comp=Z,7.0nm,2.5s
ZALV **Zalesovo Beam** 117.67 6 PKIKP **PKPdf** 09 56 21.6 -0.5
ZALV 09 57 36.5
ZALV **Zalesovo Beam** 117.67 6 PKP **PKPdf** 09 56 21.6 -0.5
ZALV PP **PP** 09 57 36.5 +2.8
ZALV **Zalesovo Beam** 117.67 6 PKP **PKPdf** 09 56 21.6 -0.5
comp=Z,0.5nm,0.4s,baz=0.0,slow=1.6,SNR=3.3
ZALV PP **PP** 09 57 36.5 +2.8
comp=Z,1.0nm,0.4s,baz=336,slow=7.0,SNR=4.9
USRK **Ussuriysk Arra** 117.89 330 PKP **PKPdf** 09 56 24.1 +1.3
comp=Z,1.5nm,0.6s,baz=329,slow=1.7,SNR=2.6
MDJ **Mudanjiang** 118.72 332 PKP **PKPdf** 09 56 23.1 -1.3
MDJ sPKP 09 56 28.0
MDJ AMB AMB
comp=Z,710nm,13.5s
MDJ LR LR
comp=N,310nm,58.8s
MDJ LR LR
comp=E,320nm,57.4s
MDJ LR LR
comp=Z,540nm,35.5s
MJAR **Matsushiro Arr** 119.55 320 PKP **PKPdf** 09 56 27.5 +1.1
MJAR **Matsushiro Arr** 119.55 320 PKP **PKPdf** 09 56 27.5 +1.1
comp=Z,1.8nm,1.0s,baz=15,slow=1.6,SNR=3.1
KURK **Kurchatov** 119.86 12 PKIKP **PKPdf** 09 56 26.3 -0.1
KURK 09 57 46.9
KURK **Kurchatov** 119.86 12 PKP **PKPdf** 09 56 26.3 -0.1
KURK PP **PP** 09 57 46.9 -2.0
KURK PKKPbc **PKKPab** 10 06 40.0 +1.0
KURBB **Kurchatov Arra** 119.93 12 PKP **PKPdf** 09 56 26.3 -0.2
comp=Z,1.6nm,0.7s,baz=337,slow=2.2,SNR=12
KURBB PP **PP** 09 57 46.9 -2.5
comp=Z,0.8nm,0.3s,baz=338,slow=7.2,SNR=4.1
KURBB PKKPbc **PKKPab** 10 06 40.0 +1.3

comp=Z,0.3nm,0.3s,baz=167,slow=2.9,SNR=5.1
HVS Khovu-Aksy 121.02 1 *i* PKIKP **PKPdf 09 56 33.6 +4.8**
CN2 Changchun 121.21 334 *e*PKP **PKPdf 09 56 25.3 -4.0**
CN2 *es*PKP 09 56 39.0
CN2 *e*PP **PP 09 57 59.4 +0.9**
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,300nm,20.0s
CN2 LR LR
comp=E,600nm,20.0s
CN2 LR LR
comp=Z,500nm,21.0s
ZAK Zakamensk 121.28 353 *e*PKIKP PKPdf 09 56 34.6 +5.3
ZAK *e* 09 58 03.9
ZAK pmax pmax
comp=Z,1.0nm,1.1s
ULN Ulaanbaatar 123.19 350 *e*PKPdf **PKPdf 09 56 33.5 +0.3**
SONM Songino Array 123.33 350 PKP **PKPdf 09 56 32.5 -0.9**
SONM PP **PP 09 58 17.6 +4.9**
SONM Songino Array 123.33 350 PKP **PKPdf 09 56 32.6 -0.9**
comp=Z,1.1nm,0.8s,baz=66,slow=3.6,SNR=3.2
SONM PP **PP 09 58 17.6 +4.9**
comp=Z,1.5nm,0.9s,baz=1.9,slow=4.3,SNR=4.2
MK31 Makanchi Array 124.31 10 *e*PKIKP **PKPdf 09 56 34.0 -1.2**
MK31 Makanchi Array 124.31 10 *e*PKPdf **PKPdf 09 56 34.0 -1.2**
MKAR Makanchi Array 124.31 10 PKIKP **PKPdf 09 56 34.3 -0.9**
MKAR Makanchi Array 124.31 10 PKP **PKPdf 09 56 34.3 -0.9**
MKAR Makanchi Array 124.31 10 PKP **PKPdf 09 56 34.3 -0.9**
comp=Z,3.1nm,0.8s,baz=7.6,slow=3.7,SNR=11
KSRS Korea Array 124.94 328 PKP **PKPdf 09 56 35.5 -1.0**
comp=Z,2.2nm,0.7s,baz=45,slow=0.9,SNR=11
KSAR Wonju Array Be 124.97 328 PKP **PKPdf 09 56 35.5 -1.1**
EKS2 Erkin-Say 126.09 19 *e*PKIKP **PKPdf 09 56 39.3 +0.5**
EKS2 Erkin-Say 126.09 19 *e*PKPdf **PKPdf 09 56 39.3 +0.5**
AAK Ala-Archa 126.34 18 PKIKP **PKPdf 09 56 39.6 +0.2**
AAK Ala-Archa 126.34 18 PKP **PKPdf 09 56 39.6 +0.2**
AAK Ala-Archa 126.34 18 PKP **PKPdf 09 56 39.6 +0.2**
comp=Z,1.2nm,0.3s,baz=202,slow=14,SNR=4.1
TKM2 Tokmak 2 126.41 17 *e*PKIKP **PKPdf 09 56 39.5 -0.1**
TKM2 Tokmak 2 126.41 17 *e*PKPdf **PKPdf 09 56 39.5 -0.1**
WMQ Urumqi 127.98 6 *e*PKP **PKPdf 09 56 44.5 +2.1**
WMQ LR LR
comp=N,750nm,28.0s
WMQ LR LR
comp=E,550nm,23.0s
WMQ LR LR
comp=Z,940nm,20.0s
CTA Charters Tower 128.55 251 PKP **PKPdf 09 56 42.7 -1.3**
CTA Charters Tower 128.55 251 PKP **PKPdf 09 56 42.7 -1.3**
comp=Z,1.6nm,0.8s,baz=321,slow=6.5,SNR=2.6
HHC Hu-ho-hao-te 128.82 343 *e*PKP **PKPdf 09 56 42.9 -1.2**
HHC PP **PP 09 58 53.3 +4.0**
HHC PKS **PKSdf 10 00 18.5 -2.2**
HHC SKS **SKSdf 10 03 53.3 -3.4**
HHC SKKS **SKKSac 10 05 44.4 -4.3**
HHC SS **SS 10 16 08.4 +1.0**
HHC AMB AMB
comp=Z,1μm,9.1s
HHC LR LR
comp=N,580nm,21.7s
HHC LR LR
comp=E,1μm,21.7s
HHC LR LR
comp=Z,1μm,22.5s
KSH Kashi 129.64 19 PKP **PKPdf 09 56 49.8 +4.1**
KSH PP PP 09 59 04.8 +10
KSH PKS **PKSdf 10 00 24.8 +2.4**
KSH SKS **SKSdf 10 03 59.9 +1.6**
KSH SKKS **SKKSac 10 05 56.9 +3.0**
KSH SS SS 10 16 26.8 +9.2
KSH AMB AMB
comp=Z,170nm,7.0s
KSH LR LR
comp=N,260nm,8.6s
KSH LR LR
comp=E,340nm,14.3s
KSH LR LR
comp=Z,830nm,20.7s
STKA Stephens Creek 130.27 235 PKP **PKPdf 09 56 45.2 -1.7**
STKA Stephens Creek 130.27 235 PKP **PKPdf 09 56 45.2 -1.7**
comp=Z,1.9nm,0.9s,baz=170,slow=5.3,SNR=3.3
GTA Gaotai 132.49 354 PKP **PKPdf 09 56 54.4 +3.3**
GTA PP PP 09 59 20.5 +7.6
GTA SKKS 10 06 10.4
GTA AMB AMB
comp=Z,390nm,13.8s
GTA LR LR
comp=N,420nm,25.7s
GTA LR LR
comp=E,500nm,19.5s
GTA LR LR
comp=Z,740nm,24.2s
NJ2 Nanjing 133.78 331 *e*PKP **PKPdf 09 56 52.3 -1.3**
NJ2 sPKP 09 56 57.4
NJ2 PKS **PKSdf 10 00 29.4 -0.6**
NJ2 SKS **SKSdf 10 04 04.8 -0.9**
NJ2 AMB AMB
comp=Z,230nm,6.9s
NJ2 LR LR
comp=N,480nm,20.3s
NJ2 LR LR
comp=E,370nm,27.0s
NJ2 LR LR
comp=Z,510nm,25.1s
LZH Lanzhou 135.19 349 *e*PKP **PKPdf 09 56 53.3 -3.0**
LZH PP **PP 09 59 33.3 +3.1**
LZH SKS SKSdf 10 03 59.3 -9.1
LZH SKKS SKKSac 10 06 20.1 -7.8
LZH SS **SS 10 17 23.5 -1.4**
LZH AMB AMB
comp=Z,210nm,6.8s
LZH LR LR
comp=N,470nm,16.5s
LZH LR LR
comp=E,420nm,15.9s
LZH LR LR
comp=Z,580nm,17.2s
AS31 Alice Springs 139.18 243 *e*PKPdf **PKPdf 09 57 03.7 -0.1**
ASAR Alice Springs 139.18 243 PKP **PKPdf 09 57 03.1 -0.7**
ASAR Alice Springs 139.18 243 PKP **PKPdf 09 57 03.1 -0.7**
comp=Z,2.0nm,0.9s,baz=119,slow=3.2,SNR=6.7
ENH Enshi 139.22 340 *e*PKPdf **PKPdf 09 57 03.2 -0.5**
WRAB Tennant Creek 139.64 249 *e*PKIKP **PKPdf 09 57 04.3 -0.5**
WRAB Tennant Creek 139.64 249 *e*PKPdf **PKPdf 09 57 04.2 -0.5**
WRA Warramunga Arr 139.65 249 PKP **PKPdf 09 57 03.7 -1.1**
WRA Warramunga Arr 139.65 249 PKP **PKPdf 09 57 03.7 -1.1**
comp=Z,3.2nm,0.9s,baz=105,slow=1.9,SNR=12
CD2 Chengdu 140.22 347 *e*PKP **PKPdf 09 57 05.4 -0.2**
CD2 PP **PP 10 00 06.3 +4.9**
CD2 PKS **PKSdf 10 00 39.8 -2.0**
CD2 SKS **SKSdf 10 04 12.8 -4.1**
CD2 SKKS **SKKSac 10 06 55.0 -2.7**
CD2 SS **SS 10 18 25.4 +1.1**
CD2 AMB AMB
comp=Z,640nm,10.6s
CD2 LR LR
comp=N,600nm,22.6s
CD2 LR LR
comp=E,1μm,28.5s
CD2 LR LR
comp=Z,380nm,25.0s
DMN Daman 143.39 14 *e*P PKPab 09 57 06.3 -1.3
comp=Z,76nm,1.4s
PKI Pulchoki 143.50 14 *e*P PKPab 09 57 07.7 -0.4
JIRN Jiri 143.58 12 *e*P PKPab 09 57 08.5 0.0
GYA Guiyang 143.68 341 PKP **PKPdf 09 57 11.0 -1.0**
GYA PP **PP 10 00 26.4 +3.7**
GYA PKS **PKSdf 10 00 44.3 -3.6**
GYA SKKS 10 07 15.3
GYA SS **SS 10 19 05.3 +0.4**
GYA AMB AMB
comp=Z,170nm,7.8s
GYA LR LR
comp=N,180nm,25.5s
GYA LR LR
comp=E,150nm,24.4s
GYA LR LR
comp=Z,190nm,24.1s
TAPN Taplejung 144.18 10 *e*P **PKPab 09 57 10.4 -0.3**
comp=Z,78nm,1.0s
RAMN Ramite 144.36 12 *e*P **PKPab 09 57 10.7 -0.6**
comp=Z,52nm,0.9s
ODAN Odare 144.60 11 *e*P **PKPab 09 57 11.4 -0.7**
comp=Z,72nm,1.1s

KMI Kunming 146.02 346 PKPbc **PKPdf 09 57 14.8 -1.4**
KMI pPKP **PKiKP 09 57 19.9 -0.5**
KMI sPKP 09 57 22.8
KMI PP **PP 10 00 40.4 +3.7**
KMI SS SS 10 19 32.9 +1.1
KMI AMB AMB
comp=Z,220nm,9.3s
KMI LR LR
comp=N,240nm,31.8s
KMI LR LR
comp=E,470nm,23.9s
KMI LR LR
comp=Z,520nm,27.9s
NWAO Narrogin (SRO) 147.49 217 PKPbc **PKPdf 09 57 19.7 +1.6**
NWAO Narrogin (SRO) 147.49 217 PKPbc **PKPdf 09 57 19.7 +1.6**
comp=Z,24nm,1.0s,baz=135,slow=5.3,SNR=3.6
FITZ Fitzroy Crossi 148.08 249 PKPbc **PKPdf 09 57 21.1 +1.6**
FITZ Fitzroy Crossi 148.08 249 PKPbc **PKPdf 09 57 21.1 +1.6**
comp=Z,7.0nm,1.0s,baz=262,slow=6.5,SNR=5.7
QIZ Qiongzhong 149.08 331 *e*PKPbc **PKPbc 09 57 24.9 -0.3**
HYB Hyderabad 150.19 32 *i* PKP **PKPdf 09 57 21.5 -1.5**
CHTO Chiang Mai 152.91 351 *e*PKIKP **PKPbc 09 57 35.4 +1.2**
CHTO Chiang Mai 152.91 351 *e*PKPbc **PKPbc 09 57 35.4 +1.2**
CMAR Chiang Mai Arr 153.26 350 PKPbc **PKPbc 09 57 32.5 -2.4**
CMAR Chiang Mai Arr 153.26 350 PKPbc **PKPbc 09 57 32.5 -2.4**
comp=Z,4.6nm,0.8s,baz=300,slow=2.2,SNR=10

*IDC **13** 09:51:09.7±1.6, 7°.75S×118°.85E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML3.5/2, MS4.4/1, Ms1 4.4/1, ms1mx3.6/42, Error ellipse: s-maj=60.4km s-min=21.4km az=63.0*
*ISCJB **13** 09:51:14.0±0.6, 7°.71S±0°.05×119°.08E±0°.09, h33km, mb3.8/3, Error ellipse: s-maj=12.7km s-min=6.5km az=10.0*
*DJA **13** 09:51:14.6±1.0, 8°S±9°×11°9E±°, h21km±19km, M3.6/6, MLv3.6/6*
*AUST **13** 09:52:58.4±4.9, 4°.69S×119°.47E, h112km±2km, Error ellipse: s-maj=4.0km s-min=1.4km az=16.0*
ISC 13 09:51:14.9±0.9, 7.75S±0°.05×119°.09E±0°.07, h35km, n18, σ1°36/16, mb3.9/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**0.88**	**207**	P	**Pn**	**09 51 30.9**	**+0.1**
LBFI	**Labuhan Bajo,**	**1.07**	**133**	P	**Pn**	**09 51 34.2**	**+0.8**
BSSI	**Bau Bau, Buton**	**2.11**	**41**	P	**Pn**	**09 51 49.1**	**+1.3**
TWSI	**Taliwang, Sumb**	**2.40**	**246**	P	**Pn**	**09 51 52.5**	**+0.8**
BKSI	**Bulukumba**	**2.62**	**23**	P	**Pn**	**09 51 55.3**	**+0.6**
KAPI	**Kappang**	**2.79**	**14**	P	**Pn**	**09 51 56.6**	**-0.5**
KAPI	**Kappang**	**2.79**	**14**	Pn	**Pn**	**09 51 56.5**	**-0.6**
	3.5nm,0.3s,baz=199,slow=7.4,SNR=22						
KAPI				Sn	**Sn**	**09 52 28.8**	**-0.8**
	15nm,0.3s,baz=180,slow=23,SNR=13						
SPSI	**Sidrap Palu**	**3.82**	**10**	P	**Pn**	**09 52 13.1**	**+1.9**
BATI	**Baumata**	**5.13**	**119**	LR	LR	09 55 05.5	
	comp=Z,4μm,20.7s,baz=267,slow=44						
CISI	**Cisompet, Garu**	**11.18**	**270**	P	Sn	09 55 46.3	-10
	baz=12,SNR=4.8						
FITZ	**Fitzroy Crossi**	**12.10**	**149**	P	**Sn**	**09 56 18.0**	**-0.7**
	baz=15,SNR=4.9						
KNRA	**Kununurra**	**12.31**	**131**	P	**Sn**	**09 56 20.6**	**-3.2**
	baz=14,SNR=4.2						
MTN	**Manton Dam**	**12.88**	**114**	P	Sn	09 56 12.1	-26
	baz=14,SNR=4.2						
WRA	**Warramunga Arr**	**19.11**	**131**	P	**Pn**	**09 55 36.5**	**+0.6**
	0.2nm,0.3s,baz=304,slow=12,SNR=21						
ASAR	**Alice Springs**	**21.27**	**140**	P	**P**	**09 55 59.4**	**+1.0**
	1.6nm,0.3s,baz=316,slow=8.7,SNR=36						
STKA	**Stephens Creek**	**31.86**	**142**	P	**P**	**09 57 38.0**	**+1.2**
	1.6nm,0.8s,baz=318,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**63.39**	**333**	P	**P**	**10 01 40.2**	**-0.6**
	0.4nm,0.6s,baz=148,slow=6.6,SNR=3.6						
MKAR				pP	**pP**	**10 01 50.4**	**-1.2**
	0.5nm,0.7s,baz=154,slow=6.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**67.91**	**339**	pP	pP	10 02 19.8	-0.9
	0.6nm,0.3s,baz=156,slow=7.6,SNR=3.2						

CASC 13 10:22:26.9±2.8, 8°30N×85°.46W, h0km±8km, MD4.1, 2C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO	**Cobano**	**1.44**	**14**	*e*P	Pn	10 22 53.5	-0.8
CAO				*e*S	Sg	10 23 12.0	-1.2
JCR	**Jicaral**	**1.58**	**12**	*e*P	Pn	10 22 55.5	-0.7
JCR				*e*S	Sg	10 23 18.6	+0.8
QCR	**Quepos**	**1.70**	**49**	*i* P	Pn	10 22 57.3	-0.5
QCR				*e*S	Sg	10 23 21.9	+0.4
VCR	**Vista de Mar**	**1.82**	**355**	*e*P	Pn	10 22 57.4	-2.3
BUS	**Buena Vista**	**2.09**	**53**	↓*i*P	Pn	10 23 03.8	-0.1
BUS				*e*S	Sb	10 23 33.3	0.0
SJS	**Escuela Geolog**	**2.14**	**40**	↓*i*P	Pn	10 23 04.8	+0.7
SJS				*e*S	Sb	10 23 33.9	0.0
URSC	**Urasca**	**2.25**	**47**	*e*P	Pn	10 23 06.1	+0.4
ACR	**Cerro Adams**	**2.29**	**81**	↑*i*P	Pn	10 23 04.1	-2.0
AMAS	**Alto Masis**	**2.34**	**11**	*i* P	Pn	10 23 07.1	+0.2
CUI	**Cuipilapa**	**2.36**	**7**	*i* P	Pn	10 23 06.9	-0.1
CUI				*i* S	Sn	10 23 37.7	+0.9
COLC	**Colonia**	**2.36**	**6**	*i* P	Pn	10 23 07.2	+0.2
LIM1	**Limonal**	**2.39**	**5**	*i* P	Pn	10 23 07.5	0.0
LIM1				*i* S	Sn	10 23 38.0	+0.5
MESS	**Mesas**	**2.44**	**6**	*i* P	Pn	10 23 08.5	+0.4
LAPC	**Finca la Perla**	**2.45**	**1**	*i* P	Pn	10 23 07.5	-0.7
GBS3	**Finca Las Im¨¡**	**2.46**	**0**	*i* P	Pn	10 23 08.0	-0.5
GBS3				*i* S	Sn	10 23 39.1	-0.3
GB1A	**Borinquen Arri**	**2.50**	**1**	*i* P	Pn	10 23 08.5	-0.6
GBS2	**Las Lilas**	**2.52**	**0**	*i* P	Pn	10 23 08.9	-0.3
CTCR	**Cotoan**	**2.73**	**77**	*e*P	Pn	10 23 11.4	-1.0
CTCR				*e*S	Sn	10 23 47.3	+0.9
BRU2	**Volcan**	**2.78**	**80**	↑*e*P	Pn	10 23 12.2	-0.8
BRU2				*e*S	Sb	10 23 51.4	-1.2
BRU	**Baru**	**2.91**	**80**	*e*P	Pn	10 23 14.7	-0.4
BRU				*e*S	Sb	10 23 55.0	-1.8
HUEN		**4.07**	**350**	*e*P	Pn	10 23 32.9	+2.4
CNCH	**Conchagua**	**5.47**	**335**	*e*P	Pn	10 23 50.6	+0.7
BLLM	**Bellamira**	**5.79**	**332**	*e*P	Pn	10 23 56.7	+2.5
VSM	**San Miguel**	**5.80**	**332**	*e*P	Pn	10 23 56.1	+1.5
LBRS	**Las Brisas**	**6.45**	**327**	*e*P	Pn	10 24 04.3	+1.0
SBLS	**San Blas**	**6.86**	**324**	*e*P	Pn	10 24 10.0	+0.9
RTR	**El Retiro**	**6.92**	**324**	*e*P	Pn	10 24 11.0	+1.2

*AUST **13** 10:23:45.0, 15°.25S×175°.05W, h200km*
*ISCJB **13** 10:23:46.4±0.5, 15°.25S±0°.1×174°.98W±0°.07, h250km, mb3.7/10, Error ellipse: s-maj=18.9km s-min=7.5km az=163.2*
*IDC **13** 10:23:47.4±1.1, 15°.25S×174°.87W, h251km±13km, mb3.4/9, mb1 3.7/11, mb1mx3.5/21, mbtmp3.4/11, Error ellipse: s-maj=43.9km s-min=11.0km az=150.0*
ISC 13 10:23:47.3±0.7, 15°.1S±0°.1×174°.96W±0°.09, h250km, n21, σ0°94/20, mb3.7/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.31**	**69**	P	**Pn**	**10 24 41.6**	**-1.8**
	49nm,0.3s,baz=247,slow=22,SNR=44						
AFI				S	**S**	**10 25 28.1**	**+0.4**
	13nm,0.3s,baz=319,slow=20,SNR=3.0						
NIUE	**Niue**	**6.21**	**130**	P	**Pn**	**10 25 18.1**	**0.0**
	baz=6.2,SNR=5.3						
DZM	**Mont Dzumac**	**18.92**	**246**	P	**Pn**	**10 27 51.2**	**-2.7**
	0.2nm,0.3s,baz=268,slow=23,SNR=33						
PMG	**Port Moresby**	**37.41**	**274**	P	P	10 30 38.1	+1.1
	12nm,0.8s,baz=98,slow=14,SNR=2.7						
MTSU	**Mount Surprise**	**39.08**	**260**	P	**P**	**10 30 51.8**	**+0.9**
	baz=39,SNR=24						
COEN	**Coen**	**40.49**	**266**	P	P	10 31 04.3	+1.8
	baz=40,SNR=5.4						
STKA	**Stephens Creek**	**42.87**	**239**	P	**P**	**10 31 21.3**	**-0.2**
	1.1nm,0.3s,baz=90,slow=3.0,SNR=3.5						
BBOO	**Buckleboo**	**47.65**	**239**	P	**P**	**10 31 58.7**	**-0.1**
	baz=48,SNR=21						
WRA	**Warramunga Arr**	**48.44**	**257**	P	**P**	**10 32 04.8**	**-0.3**
	2.8nm,0.7s,baz=81,slow=5.9,SNR=78						
ASAR	**Alice Springs**	**48.76**	**252**	P	**P**	**10 32 08.0**	**+0.4**
	29nm,0.5s,baz=87,slow=8.0,SNR=72						
KDU	**Kakadu**	**50.98**	**266**	P	**P**	**10 32 25.3**	**+1.1**
	baz=51,SNR=3.5						
MTN	**Manton Dam**	**52.25**	**265**	P	**P**	**10 32 34.0**	**+0.4**
	baz=52,SNR=3.7						

KNRA Kununurra 54.12 261 P **P 10 32 46.9 -0.2**
baz=54,SNR=5.1
FITZ Fitzroy Crossi 56.79 258 P **P 10 33 06.5 +0.3**
0.3nm,0.3s,baz=108,slow=13,SNR=6.2
FITZ Fitzroy Crossi 56.79 258 P **P 10 33 06.6 +0.5**
baz=57,SNR=3.5
PETK Petropavlovsk- 71.92 343 P **P 10 34 43.8 +0.6**
2.1nm,0.7s,baz=140,slow=10,SNR=7.6
NVAR Mina Array Bea 75.14 43 P **P 10 35 03.3 +0.7**
0.7nm,0.7s,baz=228,slow=9.7,SNR=5.1
TXAR Lajitas Array 81.72 57 P **P 10 35 38.3 -0.2**
0.4nm,0.8s,baz=219,slow=9.0,SNR=5.7
ILAR Eielson Array 82.48 12 P **P 10 35 42.0 +0.5**
0.2nm,0.5s,baz=220,slow=5.3,SNR=2.6
PDAR Pinedale Array 83.08 42 P **P 10 35 45.5 +0.1**
1.5nm,0.7s,baz=209,slow=2.9,SNR=14
BRTR Keskin Array B 144.99 320 PKPbc **PKPdf 10 42 55.6 +0.4**
1.0nm,0.9s,baz=48,slow=3.7,SNR=4.0

*ISCJB **13** 10:42:18.9±0.4, 23°.99N±0°.03×122°.40E±0°.02, h21km±4km, Error ellipse: s-maj=4.5km s-min=2.7km az=162.6*
*JMA **13** 10:42:18.7±0.3, 24°.36N×122°.26E, h49km, M2.2*
*TAP **13** 10:42:19.2, 24°.06N×122°.42E, h30km, ML2.9, C*
ISC 13 10:42:19.0±1.1, 24°.02N±0°.03×122°.40E±0°.02, h29km±12km, n32, σ0°84/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**52**	P	**Pb**	**10 42 32.3**	**-0.5**
YOJ				*e*S	**Sn**	**10 42 42.3**	**-0.7**
ENA	**Nanau**	**0.72**	**304**	P	**Pb**	**10 42 32.5**	**-0.7**
	baz=309						
ENA				*e*S	**Sn**	**10 42 43.2**	**-0.3**
	baz=309						
TWD	**Chiawan**	**0.74**	**274**	*e*P	**Pn**	**10 42 33.0**	**-0.5**
	baz=271						
TWD				S	**Sb**	**10 42 43.6**	**+0.5**
	baz=271						
TWC	**Suao**	**0.77**	**319**	*i* P	**Pn**	**10 42 33.3**	**-0.6**
	baz=317						
TWC				S	**Sn**	**10 42 43.9**	**-0.7**
	baz=317						
ESL	**Shilin**	**0.91**	**257**	*e*P	**Pn**	**10 42 35.0**	**-0.9**
	baz=245						
ESL				*e*S	**Sn**	**10 42 47.7**	**-0.3**
	baz=245						
TWE	**Neicheng**	**0.96**	**316**	*e*P	**Pb**	**10 42 37.0**	**-0.2**
	baz=314						
TWE				S	**Sb**	**10 42 50.5**	**+0.9**
	baz=314						
ENTT	**Nioudou**	**0.98**	**309**	*e*P	**Pb**	**10 42 37.3**	**-0.1**
	baz=306						
ENTT				*e*S	**Sb**	**10 42 50.9**	**+0.9**
	baz=306						
NNS	**Nan Shan**	**1.03**	**294**	*e*P	**Pb**	**10 42 38.8**	**+0.5**
	baz=291						
NNS				*e*S	**Sb**	**10 42 51.7**	**+0.2**
	baz=291						
WHF	**Hehuan Shan**	**1.05**	**277**	*e*P	**Pn**	**10 42 38.2**	**+0.1**
	baz=261						
WHF				*e*S	**Sn**	**10 42 51.9**	**-0.1**
	baz=261						
TWB1	**Santiao Chiao**	**1.05**	**339**	*e*P	**Pb**	**10 42 37.9**	**-0.7**
	baz=353						
TWB1				S	**Sb**	**10 42 52.4**	**+0.4**
	baz=353						
EHY	**Hungye**	**1.12**	**243**	P	**Pn**	**10 42 38.8**	**+0.1**
	baz=241						
EHY				*e*S	**Sn**	**10 42 53.4**	**+0.3**
	baz=241						
NSK	**Sanguang**	**1.15**	**305**	*e*P	**Pb**	**10 42 40.5**	**+0.1**
	baz=291						
NSK				*e*S	**Sb**	**10 42 54.6**	**-0.4**
	baz=291						
NWF	**Wu-fen Shan**	**1.19**	**332**	P	**Pn**	**10 42 40.0**	**+0.2**
	baz=329						
NWF				S	**Sb**	**10 42 55.8**	**-0.2**
	baz=329						
TWA	**Mucha**	**1.21**	**322**	*e*P	**Pb**	**10 42 40.7**	**-0.6**
	baz=320						
TWA				*e*S	**Sb**	**10 42 57.4**	**+0.8**
	baz=320						
TWF1	**Yuli**	**1.21**	**237**	*i* P	**Pn**	**10 42 40.3**	**+0.3**
	baz=224						
TWF1				*e*S	**Sn**	**10 42 55.8**	**+0.3**
	baz=224						
IRIF	**Iriomote-Funau**	**1.25**	**75**	P	**Pb**	**10 42 41.4**	**-0.6**
IRIF				*e*S	**Sb**	**10 42 58.1**	**+0.4**
HATJ	**Hateruma jima**	**1.28**	**88**	*e*S	**Sb**	**10 43 00.0**	**+1.4**
CHKT	**Chengkung**	**1.32**	**226**	*e*P	**Pn**	**10 42 41.6**	**+0.1**
	baz=224						
CHKT				*e*S	**Sn**	**10 42 56.7**	**-1.5**
	baz=224						
SMLT	**Sun Moon Lake**	**1.38**	**264**	*e*P	**Pn**	**10 42 43.1**	**+0.6**
	baz=262						
TYC	**Yuchr**	**1.42**	**265**	*e*P	**Pn**	**10 42 43.9**	**+1.1**
	baz=263						
TYC				*e*S	**Sn**	**10 43 01.1**	**+0.6**
	baz=263						
YUS	**Yu-Shan**	**1.43**	**248**	*e*P	**Pn**	**10 42 43.9**	**+0.5**
	baz=247						
YUS				*e*S	**Sn**	**10 43 01.6**	**+0.1**
	baz=247						
JKRS	**Kuro-shima**	**1.48**	**81**	P	**Pb**	**10 42 45.8**	**-0.1**
JKRS				*e*S	**Sb**	**10 43 05.4**	**+1.0**
TWQ1	**Liyutan**	**1.52**	**283**	*e*P	**Pn**	**10 42 44.4**	**+0.1**
	baz=280						
TWQ1				*e*S	**Sb**	**10 43 05.1**	**-0.4**
	baz=280						
ALS	**Alishan**	**1.55**	**251**	*e*P	**Pn**	**10 42 45.4**	**+0.5**
	baz=249						
ALS				*e*S	**Sn**	**10 43 04.6**	**+0.4**
	baz=249						
JIJ	**Ishigaki jima**	**1.62**	**78**	P	**Pn**	**10 42 46.5**	**+0.8**
JIJ				S	**Sn**	**10 43 06.3**	**+0.6**
CHN5	**Tsauling**	**1.64**	**255**	*e*P	**Pn**	**10 42 47.5**	**+1.6**
	baz=244						
CHN5				*e*S	**Sb**	**10 43 08.5**	**-0.4**
	baz=244						
TWG	**Pinlang**	**1.71**	**226**	*e*P	**Pn**	**10 42 46.4**	**-0.5**
	baz=236						
TWG				*e*S	**Sn**	**10 43 08.2**	**+0.4**
	baz=236						
CHN1	**Nanshi**	**1.91**	**244**	*e*P	**Pb**	**10 42 51.8**	**-1.4**
	baz=243						
CHN1				*e*S	**Sb**	**10 43 15.5**	**-1.2**
	baz=243						
SGST	**Jiashian**	**1.91**	**241**	*e*P	**Pn**	**10 42 51.6**	**+1.9**
	baz=229						
SGST				*e*S	**Sn**	**10 43 14.8**	**+2.0**
	baz=229						
LAY	**Lan-yu**	**2.13**	**202**	*e*P	**Pn**	**10 42 52.6**	**0.0**
	baz=201						
JTJ	**Tarama**	**2.19**	**73**	*e*S	**Sb**	**10 43 21.8**	**-2.8**
SCZT	**Fangliau**	**2.32**	**225**	*e*P	**Pn**	**10 42 55.8**	**+0.5**
	baz=218						
SCZT				*e*S	**Sn**	**10 43 23.5**	**+0.7**
	baz=218						

*IDC **13** 10:48:13.3±0.8, 8°.84S×111°.31E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/27, mbtmp4.2/19, ML4.1/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/36, Error ellipse: s-maj=31.2km s-min=13.6km az=49.0*
*AUST **13** 10:48:15.5±2.0, 9°.24S×111°.26E, h0km, Error ellipse: s-maj=1.1km s-min=0.6km az=31.0*
*NEIC **13** 10:48:18.0±0.5, 9°.01S×111°.23E, h35km, mb4.0/3, Error ellipse: s-maj=13.9km s-min=6.5km az=223.0*
*ISCJB **13** 10:48:20.3±0.5, 9°.00S±0°.05×111°.28E±0°.03, h77km±4km, mb4.2/20, Error ellipse: s-maj=8.7km s-min=4.6km az=15.0*
*DJA **13** 10:48:20.5±0.7, 9°S±4°×11°1E±°, h21km±7km, M4.7/17, MLv4.7/17*
ISC 13 10:48:20.1±0.9, 9°.03S±0°.06×111°.31E±0°.04, h55km±8km, n89, σ1°45/93, mb4.3/20, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.84**	**351**	P	**Pn**	**10 48 36.0**	**+0.1**
PCJI				S	**Sn**	**10 48 48.8**	**+1.4**
PWJI	**Pagerwojo**	**1.11**	**26**	P	**Pn**	**10 48 40.1**	**+0.6**
PWJI				S	**Sn**	**10 48 54.1**	**+0.3**
UGM	**Wanagama**	**1.36**	**325**	P	**Pn**	**10 48 43.9**	**+1.1**
UGM				S	**Sn**	**10 49 01.6**	**+1.8**

UGM	**Wanagama**	**1.36**	**325**	P	**Pn**	**10 48 43.8 +1.1**
	baz=1.5,SNR=441					
UGM				S	**Sn**	**10 49 02.1 +2.3**
	baz=1.5,SNR=9.8					
SJI	**Sawahan**	**1.36**	**19**	P	**Pn**	**10 48 44.2 +1.3**
SJI				S	**Sn**	**10 49 02.5 +2.5**
KRKI	**Karangkates**	**1.42**	**53**	P	**Pn**	**10 48 44.7 +1.1**
KRKI				S	**Sn**	**10 49 03.6 +2.3**
YOGI	**Yogyakarta**	**1.57**	**320**	P	**Pn**	**10 48 47.0 +1.4**
YOGI				S	**Sn**	**10 49 08.6 +3.7**
NGJI	**Ngawi**	**1.66**	**5**	P	Pn	10 48 52.0 +5.2
GMJI	**Gumukmas**	**2.24**	**71**	P	**Pn**	**10 48 55.2 +0.5**
GMJI				S	**Sn**	**10 49 24.5 +3.3**
BJII	**Banjamegara**	**2.31**	**317**	P	**Pn**	**10 48 58.4 +2.5**
BLJI	**Banyuglugur**	**2.59**	**61**	P	**Pn**	**10 49 01.6 +2.0**
CLJI	**Cilicap**	**2.62**	**300**	P	**Pn**	**10 48 59.5 -0.5**
TGJI	**Tegal**	**3.05**	**315**	P	**Pn**	**10 49 07.4 +1.5**
BYJI	**Banyuwangi**	**3.12**	**75**	P	Pn	10 49 10.8 +4.0
KMMI	**Kalianget**	**3.28**	**53**	P	**Pn**	**10 49 11.5 +2.4**
CISI	**Cisompet, Garu**	**3.76**	**293**	P	**Pn**	**10 49 16.6 +1.0**
CISI	**Cisompet, Garu**	**3.76**	**293**	P	**Pn**	**10 49 17.4 +1.7**
	baz=3.8,SNR=4.8					
CISI				S	**Sn**	**10 49 58.6 -0.1**
	baz=3.8,SNR=7.6					
IGBI	**Denpasar**	**3.79**	**87**	P	**Pn**	**10 49 17.7 +1.6**
SRBI	**Singaraja**	**3.97**	**77**	P	**Pn**	**10 49 20.6 +2.1**
LEM	**Lembang**	**4.26**	**301**	P	Pn	10 49 25.9 +3.2
LEM	**Lembang**	**4.26**	**301**	P	Pn	10 49 28.5 +5.8
	baz=4.3,SNR=4.9					
XMI	**Christmas Isla**	**5.72**	**255**	P	**Pn**	**10 49 43.5 +1.0**
	baz=5.6,SNR=3.7					
XMIS	**Christmas Isla**	**5.76**	**255**	P	Pn	10 49 39.3 -3.8
	baz=5.7,SNR=8.6					
BBKI	**Banjar Baru**	**6.55**	**33**	P	Pn	10 49 59.3 +5.4
WSI	**Waingapu**	**8.89**	**95**	S	Sn	10 51 52.5 -12
	baz=8.9,SNR=6.1					
KAPI	**Kappang**	**9.28**	**65**	Pn	**Pn**	**10 50 30.9 -0.4**
KAPI	**Kappang**	**9.28**	**65**	Pn	**Pn**	**10 50 30.9 -0.4**
	0.4nm,0.3s,baz=219,slow=7.6,SNR=2.5					
KAPI				LR	LR	10 54 43.1
	comp=Z,171nm,20.3s,baz=316,slow=42					
KSM	**Kuching**	**10.48**	**354**	Pn	**Pn**	**10 50 47.1 -0.6**
	14nm,1.0s					
BATI	**Baumata**	**12.24**	**96**	Pn	**Pn**	**10 51 10.8 -0.9**
BATI				Sn	**Sn**	**10 53 23.2 -3.5**
BATI	**Baumata**	**12.24**	**96**	Pn	**Pn**	**10 51 10.8 -0.9**
	6.2nm,0.3s,baz=304,slow=3.6,SNR=3.5					
BATI				Sn	**Sn**	**10 53 23.2 -3.5**
	4.7nm,0.3s,baz=257,slow=18,SNR=3.5					
KKM	**Kota Kinabalu**	**15.75**	**18**	P	**P**	**10 52 02.2 +0.5**
	baz=16,SNR=3.0					
FITZ	**Fitzroy Crossi**	**16.58**	**124**	Pn	**Pn**	**10 52 08.1 -0.9**
FITZ				Sn	Sn	10 54 55.1 -17
FITZ	**Fitzroy Crossi**	**16.58**	**124**	Pn	**Pn**	**10 52 08.1 -0.9**
	0.2nm,0.3s,baz=297,slow=11,SNR=7.9					
FITZ				Sn	Sn	10 54 55.1 -17
	0.1nm,0.3s,baz=282,slow=20,SNR=4.3					
FITZ	**Fitzroy Crossi**	**16.58**	**124**	P	**Pn**	**10 52 07.4 -1.6**
	baz=16,SNR=5.6					
FITZ				S	Sn	10 54 56.8 -16
	baz=16,SNR=3.4					
KULM	**Kulim**	**17.76**	**323**	Pn	**Pn**	**10 52 21.1 -2.5**
KNRA	**Kununurra**	**18.27**	**113**	P	**Pn**	**10 52 30.7 +0.8**
	baz=18,SNR=8.1					
MEEK	**Meekatharra**	**18.83**	**159**	P	**P**	**10 52 35.3 -0.2**
	baz=19,SNR=11					
MEEK				S	S	10 55 50.6 -16
	baz=19,SNR=10					
BNDI	**Bandanaira**	**18.99**	**78**	P	Pn	10 52 51.2 +13
	baz=19,SNR=3.9					
MTN	**Manton Dam**	**19.82**	**103**	P	**Pn**	**10 52 49.7 +1.2**
	baz=20,SNR=6.6					
LHMI	**Lhok Sumawe**	**20.14**	**314**	P	Pn	10 53 04.9 +13
	baz=20,SNR=3.2					
KDU	**Kakadu**	**21.09**	**102**	P	P	10 53 08.7 +8.5
	baz=21,SNR=3.2					
WRA	**Warramunga Arr**	**24.76**	**119**	P	**P**	**10 53 37.3 +0.4**
WRA	**Warramunga Arr**	**24.76**	**119**	P	**P**	**10 53 37.3 +0.4**
	0.7nm,0.3s,baz=298,slow=11,SNR=24					
WRAB	**Tennant Creek**	**24.77**	**118**	P	**P**	**10 53 37.5 +0.6**
	2.5nm,0.7s					
ASAR	**Alice Springs**	**26.05**	**127**	P	**P**	**10 53 49.4 +0.8**
ASAR				PcP	**PcP**	**10 57 17.1 +1.6**
ASAR	**Alice Springs**	**26.05**	**127**	P	**P**	**10 53 49.4 +0.8**
	1.4nm,0.7s,baz=302,slow=8.9,SNR=21					
ASAR				PcP	**PcP**	**10 57 17.1 +1.6**
	0.8nm,0.5s,baz=311,slow=1.9,SNR=9.4					
CMAR	**Chiang Mai Arr**	**29.92**	**336**	P	**P**	**10 54 22.5 -0.5**
CMAR				PcP	**PcP**	**10 57 26.5 +1.6**
CMAR	**Chiang Mai Arr**	**29.92**	**336**	P	**P**	**10 54 22.5 -0.5**
	1.0nm,0.4s,baz=170,slow=8.0,SNR=8.5					
CMAR				PcP	**PcP**	**10 57 26.5 +1.6**
	0.5nm,0.4s,baz=200,slow=2.7,SNR=4.3					
COEN	**Coen**	**31.59**	**102**	P	P	10 54 44.5 +6.6
	baz=32,SNR=7.2					
MTSU	**Mount Surprise**	**33.28**	**109**	P	**P**	**10 54 54.8 +2.0**
	baz=33,SNR=5.5					
STKA	**Stephens Creek**	**36.13**	**133**	*eP*	**P**	**10 55 17.6 +0.4**
	0.5nm,1.0s					
STKA	**Stephens Creek**	**36.13**	**133**	P	**P**	**10 55 18.6 +1.4**
	0.8nm,0.5s,baz=316,slow=9.0,SNR=5.6					
STKA	**Stephens Creek**	**36.13**	**133**	P	**P**	**10 55 18.7 +1.5**
	baz=36,SNR=4.6					
KSAR	**Wonju Array Be**	**48.77**	**18**	P	**P**	**10 56 59.5 0.0**
KSRS	**Korea Array**	**48.79**	**18**	P	**P**	**10 56 59.5 -0.2**
	1.2nm,0.7s,baz=199,slow=9.1,SNR=5.1					
HHC	**Hu-ho-hao-te**	**49.63**	**0**	*eP*	P	10 57 10.4 +4.2
HHC				S	**S**	**11 04 13.1 +2.3**
HHC				pmax	pmax	
	comp=Z,60nm,0.7s					
HHC				pmax	pmax	
	comp=Z,1μm,6.5s					
MJAR	**Matsushiro Arr**	**51.90**	**28**	P	**P**	**10 57 21.7 -1.6**
MJAR	**Matsushiro Arr**	**51.90**	**28**	P	**P**	**10 57 21.7 -1.6**
	comp=Z,1.8nm,0.7s,baz=208,slow=8.8,SNR=7.1					
USRK	**Ussuriysk Arra**	**56.20**	**18**	P	**P**	**10 57 53.7 -0.7**
	comp=Z,4.5nm,0.8s,baz=216,slow=4.4,SNR=7.0					
SONM	**Songino Array**	**56.78**	**356**	P	**P**	**10 57 57.3 -1.4**
SONM	**Songino Array**	**56.78**	**356**	P	**P**	**10 57 57.3 -1.4**
	comp=Z,2.0nm,0.5s,baz=179,slow=8.7,SNR=5.8					
ASAJ	**Asahikawa**	**60.01**	**26**	P	**P**	**10 58 20.2 -0.9**
ASAJ	**Asahikawa**	**60.01**	**26**	P	**P**	**10 58 20.2 -0.9**
	comp=Z,4.1nm,0.7s,baz=243,slow=14,SNR=3.0					
MKAR	**Makanchi Array**	**61.30**	**338**	P	**P**	**10 58 29.4 -0.6**
MKAR	**Makanchi Array**	**61.30**	**338**	P	**P**	**10 58 29.4 -0.6**
	comp=Z,2.0nm,0.5s,baz=147,slow=7.7,SNR=19					
KURBB	**Kurchatov Arra**	**65.87**	**338**	P	**P**	**10 58 59.2 -0.7**
	comp=Z,2.3nm,0.7s,baz=154,slow=5.5,SNR=12					
KURK	**Kurchatov**	**65.91**	**338**	P	**P**	**10 58 59.2 -1.0**
ZAA0	**Zalesovo Array**	**66.62**	**343**	P	**P**	**10 59 03.9 -0.7**
ZALV	**Zalesovo Beam**	**66.62**	**343**	P	**P**	**10 59 04.0 -0.6**
ZALV	**Zalesovo Beam**	**66.62**	**343**	P	**P**	**10 59 04.0 -0.6**
	comp=Z,1.2nm,0.4s,baz=127,slow=3.9,SNR=10					
BVAR	**Borovoye Array**	**70.94**	**335**	P	**P**	**10 59 31.3 -0.3**
BVAR	**Borovoye Array**	**70.94**	**335**	P	**P**	**10 59 31.3 -0.3**
	comp=Z,3.3nm,0.7s,baz=138,slow=8.7,SNR=16					
BVAR				LR	LR	11 32 08.9
	comp=Z,117nm,21.3s,baz=333,slow=37					
PETK	**Petropavlovsk-**	**73.36**	**27**	P	**P**	**10 59 46.7 +0.7**
PETK	**Petropavlovsk-**	**73.36**	**27**	P	**P**	**10 59 46.7 +0.7**
	comp=Z,1.8nm,0.6s,baz=234,slow=5.0,SNR=2.7					
ABKAR	**Akbulak array**	**73.37**	**328**	*eP*	**P**	**10 59 45.7 -0.4**
	comp=Z,10nm,0.7s					
AKTO	**Aktyubinsk**	**75.07**	**328**	P	**P**	**10 59 55.9 -0.2**
AKTO	**Aktyubinsk**	**75.07**	**328**	P	**P**	**10 59 55.9 -0.2**
	comp=Z,3.0nm,0.6s,baz=49,slow=2.7,SNR=15					
KBZ	**Khabaz**	**81.02**	**317**	P	**P**	**11 00 30.1 +0.9**
KBZ	**Khabaz**	**81.02**	**317**	P	**P**	**11 00 30.1 +0.9**
	comp=Z,2.4nm,0.7s,baz=92,slow=6.3,SNR=4.9					
BRTR	**Keskin Array B**	**86.37**	**311**	P	**P**	**11 00 56.9 0.0**
BRTR	**Keskin Array B**	**86.37**	**311**	P	**P**	**11 00 56.9 0.0**
	comp=Z,1.6nm,0.7s,baz=125,slow=6.5,SNR=8.8					
STHS	**Stebnicka Huta**	**96.83**	**319**	*eP*	**P**	**11 01 43.3 -1.8**
NVAR	**Mina Array Bea**	**126.81**	**48**	PKP	**PKPdf**	**11 07 21.0 +2.7**
NVAR	**Mina Array Bea**	**126.81**	**48**	PKP	**PKPdf**	**11 07 21.0 +2.7**
	comp=Z,0.4nm,0.8s,baz=222,slow=1.2,SNR=4.2					
TXAR	**Lajitas Array**	**141.51**	**54**	PKPpre	PKPpre	11 07 40.9
TXAR				PKP	**PKiKP**	**11 07 48.3 -0.5**
TXAR	**Lajitas Array**	**141.51**	**54**	PKhKP	PKPpre	11 07 40.9
	comp=Z,0.2nm,0.7s,baz=72,slow=2.9,SNR=3.0					
TXAR				PKP	**PKiKP**	**11 07 48.3 -0.5**
	comp=Z,0.2nm,0.7s,baz=192,slow=0.5,SNR=4.1					
CPUP	**Villa Florida**	**143.16**	**197**	PKP	**PKPdf**	**11 07 48.5 -0.3**
CPUP	**Villa Florida**	**143.16**	**197**	PKP	**PKPdf**	**11 07 48.5 -0.3**
	comp=Z,2.3nm,0.9s,baz=127,slow=5.1,SNR=2.9					
MIAR	**Mount Ida**	**145.86**	**38**	*e*PKPdf	**PKPab**	**11 07 54.6 +0.2**

MAN 13 10:52:31,18°.23N×120°.65E,h6km,mb4.0,ML2.8,MS2.5,2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.10**	**342**	||*iP*	Pg	10 52 35.1	+1.9
SIPP	**Brgy, Tapao**	**0.36**	**211**	⇑*eP*	Pg	10 52 38.4	+0.5
ABRA	**Dolores**	**0.58**	**174**	*eP*	Pb	10 52 43.4	-0.2
APYP	**Conner**	**0.67**	**123**	*eP*	Pb	10 52 45.8	+0.6
APYP				*e*S	Sb	10 52 55.9	+1.2
CVP	**Callao Caves**	**1.23**	**115**	⇑*eP*	Pg	10 52 54.5	-0.2
CAUP	**Cauayan**	**1.70**	**139**	*eP*	Pb	10 53 03.1	+0.4
PALP	**Palanan**	**2.05**	**124**	*eP*	Pb	10 53 08.6	-0.1
BALP	**Baler**	**2.63**	**160**	*eP*	Pb	10 53 16.4	-2.1

IDC 13 10:54:12.4±4.3,14°.23S×166°.72E,h141km±23km,mb3.4/5,mb1 3.6/7,mb1mx3.4/22,mbtmp3.6/7,Error ellipse: s-maj=61.7km s-min=17.6km az=67.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.81**	**182**	P	Pn	10 56 03.0	-0.4
	2.2nm,0.3s,baz=13,slow=17,SNR=21						
DZM				S	Sn	10 57 30.4	-0.1
	0.4nm,0.3s,baz=330,slow=20,SNR=2.4						
HNR	**Honiara**	**8.16**	**305**	P	Pn	10 56 08.2	+0.1
	15nm,0.3s,baz=155,slow=5.2,SNR=7.2						
HNR				S	Sn	10 57 40.4	+1.4
	3.3nm,0.3s,baz=144,slow=19,SNR=2.4						
STKA	**Stephens Creek**	**28.92**	**228**	P	P	10 59 59.6	+1.3
	1.8nm,0.4s,baz=53,slow=11,SNR=15						
WRA	**Warramunga Arr**	**31.44**	**255**	P	P	11 00 19.4	-1.3
	0.3nm,0.5s,baz=85,slow=9.4,SNR=5.8						
ASAR	**Alice Springs**	**32.36**	**248**	P	P	11 00 27.8	-1.0
	0.4nm,0.6s,baz=74,slow=9.5,SNR=8.8						
FITZ	**Fitzroy Crossi**	**39.59**	**259**	P	P	11 01 30.6	+0.3
	1.2nm,0.9s,baz=94,slow=15,SNR=2.4						
CMAR	**Chiang Mai Arr**	**74.26**	**294**	P	P	11 05 34.6	0.0
	0.6nm,0.4s,baz=128,slow=4.3,SNR=4.3						

DJA 13 11:02:15.8±1.2,9°S±4°×11°9E±°,h26km±14km,M3.5/4,MLv3.5/4,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.02**	**35**	P	Pn	11 02 33.6	-0.8
LBFI				S	Sb	11 02 47.5	-0.3
WSI	**Waingapu**	**1.04**	**109**	P	Pn	11 02 34.2	-0.6
WSI				S	Sn	11 02 48.1	-0.4
BASI	**Baing, Sumba**	**1.54**	**125**	P	Pn	11 02 41.4	-0.3
BKSI	**Bulukumba**	**4.05**	**12**	P	Pn	11 03 16.3	+0.1

AUST ***13*** *11:16:56.9±2.4,21°.62S×173°.96W,h0km, Error ellipse: s-maj=1.3km s-min=0.9km az=292.0*
SZGRF ***13*** *11:16:59.7,21°.84S×172°.51W,h33km,mb5.6,Tonga Islands region*
BJI ***13*** *11:16:59.3,21°.40S×174°.24W,h6km,mB5.9/27,mb5.2/33, Ms5.5/43,Ms7 5.1/40*
IDC ***13*** *11:16:59.1±0.4,21°.55S×174°.49W,h0km,mb5.0/20, mb1 5.1/23,mb1mx5.1/25,mbtmp5.0/23,ML5.0/3,MS5.2/21, Ms1 5.2/21,ms1mx5.1/31,Error ellipse: s-maj=16.4km s-min=11.5km az=122.0*
BGS ***13*** *11:16:59.9±3.2,21°.66S×174°.57W,h10km,MS5.6*
NEIC ***13*** *11:17:01.0±0.1,21°.66S×174°.57W,h10km,mb5.3/85, Error ellipse: s-maj=8.0km s-min=4.4km az=135.0*
MOS ***13*** *11:17:03.7±1.4,21°.54S×174°.62W,h33km,mb5.4/52, MS5.3/25,Error ellipse: s-maj=10.8km s-min=8.8km az=56.9*
ISCJB ***13*** *11:17:03.3±0.2,21°.76S±0°.04×174°.50W±0°.04,h33km, mb5.2/137,MS5.3/71,Error ellipse: s-maj=7.1km s-min=3.8km az=145.4*
GCMT ***13*** *11:17:05.5±0.1,21°.72S×173°.80W,h14km,MW5.6, Moment Tensor Solution. s76,c144; s31,c33; Moment tensor: Scale 10^17^Nm; Mrr2.04±.04; Mθθ0.09±.03; Mφφ-2.13±.03; Mrθ0.22±.06; Mθφ-0.36±.02; Mφr1.59±.08; Best double couple: M0 2.70000×10^17^ NP1:φs8.00000°, δ64.00000°,λ89.00000°. NP2:φs190.00000°,δ26.00000°, λ91.00000°. Principal axes: T 2.5800, Plg71.0000°, Azm277.0000°; N 0.1500, Plg1.0000°, Azm9.0000°; P -2.7300, Plg19.0000°, Azm99.0000°; Data Used: II IU IC CN G. Surface waves: sta=102, comp=211, per= 50.*
BKK ***13*** *11:17:05.2±0.6,22°S±11°×17°5W±3°3,h10km,M5.8/27, mB6.2/17,mb5.5/27,Mw(mB)5.8/17*
DJA ***13*** *11:18:12.4±5.6,22°S±21°×17°8W±3°8,h484km±47km, M5.0/10,mB5.5/6,mb4.9/10,Mw(mB)5.0/6*

ISC 13 11:17:02.0±0.4,21°.76S±0°.04×174°.38W±0°.05,h18km±1km,h17km;pP-P,n954,σ1§26/995,mb5.4/137,MS5.3/73,249C-226D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.96**	**58**	P	Pn	11 18 06.0	-10
	baz=4.6,SNR=23						
RAO	**Raoul Island**	**8.12**	**202**	Pn	**Pn**	**11 18 59.4 +0.3**
RAO				Sn	**Sn**	**11 20 27.6 -2.8**
RAO	**Raoul Island**	**8.12**	**202**	Pn	**Pn**	**11 18 59.4 +0.3**
	76nm,0.3s,baz=143,slow=20,SNR=2.3					
RAO				Sn	**Sn**	**11 20 27.6 -2.8**
	169nm,0.3s,baz=61,slow=23,SNR=9.1					
RAO				LR	LR	11 21 05.9
	comp=Z,888nm,20.2s,baz=38,slow=30					
MSVF	**Nonsavu**	**8.17**	**298**	*eP*	Pn	11 19 05.0 +5.1
MSVF	**Nonsavu**	**8.17**	**298**	*e*Pn	Pn	11 19 05.0 +5.1
MSVF				*e*Sn	Sn	11 20 40.4 +8.4
AFI	**Afiamalu**	**8.19**	**18**	*e*Pn	Pn	11 18 53.7 -6.4
AFI				Sn	Sn	11 20 15.8 -16
AFI				*e*Sn	Sn	11 20 19.8 -13
AFI	**Afiamalu**	**8.19**	**18**	Pn	Pn	11 18 53.0 -7.2
	3.3nm,0.3s,baz=194,slow=21,SNR=7.6					
AFI				Sn	Sn	11 20 15.8 -17
	16nm,0.3s,baz=187,slow=16,SNR=3.8					
RAR	**Rarotonga**	**13.61**	**90**	Pn	Pn	11 20 05.0 -9.3
	34nm,0.3s,baz=270,slow=9.6,SNR=14					
RAR				Sn	Sn	11 22 23.2 -22
	6.7nm,0.3s,baz=90,slow=20,SNR=4.7					
DZM	**Mont Dzumac**	**17.80**	**265**	*eP*	**P**	**11 21 12.1 +2.4**
	109nm,0.8s					
DZM				*e*LR	LR	11 25 18.8
	7μm,29.2s					
DZM	**Mont Dzumac**	**17.80**	**265**	*eP*	**P**	**11 21 10.8 +1.0**
DZM	**Mont Dzumac**	**17.80**	**265**	P	**Pn**	**11 21 09.0 0.0**
	1.6nm,0.3s,baz=80,slow=18,SNR=36					
NOUC	**Port Laguerre**	**17.93**	**265**	*eP*	**P**	**11 21 13.9 +2.8**
URZ	**Urewera**	**18.01**	**202**	*eP*	**P**	**11 21 12.7 +0.8**
	41nm,0.8s					
URZ				*e*S	Sn	11 24 16.2 -16
URZ				S	Sn	11 24 17.6 -14
URZ	**Urewera**	**18.01**	**202**	P	**P**	**11 21 13.1 +1.3**
	3.0nm,0.3s,baz=346,slow=11,SNR=15					
URZ				S	Sn	11 24 17.6 -14
	0.8nm,0.3s,baz=153,slow=18,SNR=4.1					
URZ				LR	LR	11 26 56.6
	comp=Z,6μm,19.0s,baz=15,slow=33					
SNZO	**South Karori**	**21.57**	**203**	*eP*	**P**	**11 21 50.6 0.0**
	66nm,0.7s					
KHZ	**Kahutara**	**22.96**	**203**	*eP*	**P**	**11 22 04.4 -1.0**
	40nm,0.8s					
TBI	**Tubuai**	**23.06**	**99**	*e*LQ	LQ	11 26 24.5
	6μm,27.0s					
TBI				*e*LR	LR	11 27 10.5
	8μm,32.5s					
PPT2	**Papeete2**	**23.71**	**84**	*eP*	**P**	**11 22 10.3 -3.0**
	134nm,1.3s					
PPT2				*e*LQ	LQ	11 26 33.7
	2μm,22.5s					
PPT2				*e*LR	LR	11 27 25.8
	12μm,28.0s,baz=250					
PPT	**Papeete**	**23.72**	**84**	P	**P**	**11 22 13.1 -0.1**
PPT	**Papeete**	**23.72**	**84**	P	**P**	**11 22 13.1 -0.1**
	110nm,1.1s,baz=21,slow=2.4,SNR=3.6					
PPT				LR	LR	11 29 34.1
	comp=Z,7μm,18.9s,baz=252,slow=32					
TIAR	**Tiarei**	**23.93**	**84**	*eP*	**P**	**11 22 12.1 -3.2**
	129nm,0.9s					
RPZ	**Rata Peaks**	**25.02**	**206**	*eP*	**P**	**11 22 24.9 -0.1**
RPZ				S	**S**	**11 26 53.5 +5.3**
RPZ	**Rata Peaks**	**25.02**	**206**	P	**P**	**11 22 24.4 -0.6**
	33nm,0.8s,baz=265,slow=3.3,SNR=12					
RPZ				S	**S**	**11 26 53.5 +5.3**
	8.5nm,0.8s,baz=342,slow=20,SNR=4.0					
PMOR	**Pomariorio Ree**	**25.99**	**80**	*eP*	**P**	**11 22 32.0 -2.1**
	110nm,1.3s					
ODZ	**Otahua Downs**	**26.29**	**204**	*eP*	**P**	**11 22 36.3 -0.2**
	182nm,1.7s					
HNR	**Honiara**	**27.54**	**292**	P	**P**	**11 22 47.5 -0.6**
HNR	**Honiara**	**27.54**	**292**	P	**P**	**11 22 47.4 -0.6**
	14nm,0.3s,baz=148,slow=9.5,SNR=2.8					
ARMA	**Armidale**	**31.63**	**247**	P	**P**	**11 23 24.4 +0.1**
	baz=32,SNR=12					
EIDS	**Eidsvold**	**31.81**	**257**	P	**P**	**11 23 26.1 +0.3**
	baz=32,SNR=3.9					
RMQ	**Roma**	**33.89**	**255**	P	**P**	**11 23 45.2 +1.1**
	baz=34,SNR=13					
RKT	**Rikitea**	**36.38**	**100**	*e*S	**S**	**11 29 40.5 -5.7**
	692nm,26.8s					
RKT				*e*LQ	LQ	11 32 12.1
	704nm,25.8s					
RKT				*e*LR	LR	11 33 19.1
	6μm,31.8s,baz=266					
CTAO	**Charters Tower**	**36.74**	**265**	*eP*	**P**	**11 24 07.4 -1.3**
CTAO				pmax	pmax	
	comp=Z,24nm,0.8s					
CTAO	**Charters Tower**	**36.74**	**265**	*eP*	**P**	**11 24 07.4 -1.3**
	comp=Z,24nm,0.8s					
CMSA	**Cobar Meteorol**	**36.82**	**246**	P	**P**	**11 24 08.7 -0.5**
	baz=37,SNR=15					
RABL	**Rabaul**	**36.84**	**294**	S	S	11 30 17.3 +24
	baz=37,SNR=3.1					
TOO	**Toolangi**	**37.95**	**236**	P	**P**	**11 24 18.7 -0.1**
	baz=38,SNR=6.5					
MOO	**Moorlands**	**38.11**	**228**	P	**P**	**11 24 21.8 +1.8**
	baz=38,SNR=5.8					
MTSU	**Mount Surprise**	**38.91**	**268**	P	**P**	**11 24 25.4 -1.7**
	baz=39,SNR=23					
PMG	**Port Moresby**	**38.91**	**282**	*eP*	**P**	**11 24 26.6 -0.4**
	comp=Z,59nm,1.0s					
PMG	**Port Moresby**	**38.91**	**282**	P	**P**	**11 24 27.9 +0.9**
	comp=Z,63nm,1.0s					
STKA	**Stephens Creek**	**40.33**	**246**	P	**P**	**11 24 37.9 -0.8**
STKA	**Stephens Creek**	**40.33**	**246**	P	**P**	**11 24 37.9 -0.8**
	comp=Z,9.8nm,0.8s,baz=88,slow=9.6,SNR=23					
STKA				LR	LR	11 39 24.8
	comp=Z,4μm,20.2s,baz=81,slow=33					
STKA	**Stephens Creek**	**40.33**	**246**	P	**P**	**11 24 37.8 -0.8**
	baz=41,SNR=19					
ARPS	**Mount Arapiles**	**40.66**	**239**	P	**P**	**11 24 42.6 +1.3**
	baz=41,SNR=6.7					
COEN	**Coen**	**41.03**	**274**	P	**P**	**11 24 44.2 -0.5**
	baz=41,SNR=8.3					
BBOO	**Buckleboo**	**45.05**	**245**	P	**P**	**11 25 16.3 -0.7**
	baz=45,SNR=12					
ASAR	**Alice Springs**	**47.53**	**257**	P	**P**	**11 25 35.0 -1.7**
ASAR				PcP	**PcP**	**11 27 07.0 +0.2**
ASAR				S	**S**	**11 32 27.4 -3.8**
ASAR	**Alice Springs**	**47.53**	**257**	P	**P**	**11 25 35.0 -1.7**
	comp=Z,35nm,0.8s,baz=103,slow=8.0,SNR=221					
ASAR				PcP	**PcP**	**11 27 07.0 +0.2**
	comp=Z,5.7nm,0.6s,baz=111,slow=3.7,SNR=6.5					
ASAR				S	**S**	**11 32 27.4 -3.8**
	comp=Z,1.8nm,1.0s,baz=93,slow=15,SNR=5.5					
ASAR				LR	LR	11 45 38.0
	comp=Z,4μm,18.4s,baz=124,slow=36					
WRAB	**Tennant Creek**	**47.77**	**262**	*eP*	**P**	**11 25 35.5 -3.1**
WRAB				pmax	pmax	
	comp=Z,40nm,0.8s					
WRAB	**Tennant Creek**	**47.77**	**262**	*eP*	**P**	**11 25 35.5 -3.1**
	comp=Z,40nm,0.8s					
WRA	**Warramunga Arr**	**47.78**	**262**	P	**P**	**11 25 36.3 -2.4**
WRA				PcP	**PcP**	**11 27 08.2 +0.6**
WRA				S	**S**	**11 32 29.7 -5.1**
WRA	**Warramunga Arr**	**47.78**	**262**	P	**P**	**11 25 36.3 -2.4**
	comp=Z,31nm,0.9s,baz=90,slow=5.9,SNR=167					
WRA				PcP	**PcP**	**11 27 08.2 +0.6**
	comp=Z,8.7nm,0.9s,baz=94,slow=4.1,SNR=4.5					
WRA				S	**S**	**11 32 29.7 -5.1**
	comp=Z,0.9nm,0.8s,baz=98,slow=14,SNR=3.7					
WRA				LR	LR	11 45 10.2
	comp=Z,2μm,20.7s,baz=95,slow=36					
KDU	**Kakadu**	**51.35**	**271**	P	**P**	**11 26 04.7 -1.2**
	baz=52,SNR=9.3					
FORT	**Forrest**	**51.92**	**247**	P	**P**	**11 26 08.4 -1.6**
	baz=52,SNR=48					
MTN	**Manton Dam**	**52.55**	**270**	P	**P**	**11 26 13.5 -1.3**
	baz=53,SNR=6.1					
DRV	**Dumont d'Urvil**	**53.34**	**201**	PP	PP	11 28 27.0 +7.0
DRV				S	**S**	**11 33 48.0 -2.6**
DRV				SS	**SS**	**11 37 28.0 -2.3**
DRV				R		11 42 00.0
KNRA	**Kununurra**	**53.95**	**266**	P	**P**	**11 26 23.4 -1.7**
	baz=54,SNR=17					
FITZ	**Fitzroy Crossi**	**56.21**

baz=77
SMMC Simmler 76.66 43 ⇓P P 11 28 53.1 +1.0
baz=77
SMMC ⇓S **S 11 38 42.0 +4.0**
baz=77
SMMC ⇓S **S 11 38 42.0 +4.0**
baz=77
SKR Severo-Kuril's 76.68 341 *e*P **P 11 28 50.0 -1.7**
SKR *e*S **S 11 38 39.0 +1.6**
SKR *e*PS **PnS 11 39 12.0 -4.9**
SKR *e*SS **SS 11 43 32.0 -1.8**
SKR pmax pmax
comp=Z,1μm,12.0s
SKR smax smax
comp=N,2μm,12.0s
SKR smax smax
comp=E,2μm,12.0s
SKR MLR MLR
comp=N,1μm,18.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
FMP Fort Macarthur 76.78 45 ⇑P P 11 28 53.0 +0.4
baz=77
KSM Kuching 76.92 277 *e*P **P 11 28 53.6 -0.3**
comp=Z,40nm,0.8s
KSM Kuching 76.92 277 P **P 11 28 55.7 +1.7**
comp=Z,64nm,0.8s,comp=Z,1μm
KSM Kuching 76.92 277 P **P 11 28 54.3 +0.3**
baz=77,SNR=16
OSI Osito Adit 77.05 44 ⇑P P 11 28 54.9 +0.7
baz=77
109C Camp Elliot, M 77.08 47 ⇓P P 11 28 54.9 +0.6
baz=77
DECC Green Verdugo 77.08 45 ⇓P P 11 28 55.0 +0.6
baz=77
ARVC Arvin 77.29 44 ⇑P P 11 28 56.3 +0.8
baz=78
MURC Murrieta 77.44 46 ⇓P P 11 28 56.9 +0.4
baz=78
BFSC Mount Baldy Ra 77.52 45 ⇑P P 11 28 57.4 +0.4
baz=78
MONP Monument Peak 77.54 47 ⇓P P 11 28 57.6 +0.4
baz=78
DVTC Desert V Tower 77.62 47 ⇓P P 11 28 58.0 +0.4
baz=78
EDW2 Edwards Air Fo 77.69 44 ⇓P P 11 28 58.2 +0.4
baz=78
RCTC Rector, Farmer 77.77 43 ⇑P P 11 28 58.7 +0.5
baz=78
ISA Isabella 77.85 44 *e*P **P 11 28 58.7 -0.1**
ISA pmax pmax
comp=Z,57nm,1.8s
ISA Isabella 77.85 44 *e*P **P 11 28 58.6 -0.1**
comp=Z,58nm,1.8s
ISA Isabella 77.85 44 ⇓P P 11 28 59.4 +0.7
baz=78
PFO Pinyon Flat Ob 77.94 46 *e*P **P 11 28 59.8 +0.4**
comp=Z,6.1nm,1.1s
PFO Pinyon Flat Ob 77.94 46 ⇑P P 11 29 00.1 +0.8
baz=78
SWSC Sam W. Stewart 77.99 47 ⇑P P 11 28 59.9 +0.4
baz=78
BBRC Big Bear Solar 78.02 46 ⇓P P 11 29 00.4 +0.5
baz=78
PET Petropavlovsk 78.06 344 *e*P **P 11 28 57.1 -2.3**
PET *e*S **S 11 38 49.3 -3.0**
PET *e*PS PnS 11 39 18.1 -16
PET *e*PPS PPS 11 39 48.4
PET pmax pmax
comp=Z,400nm,10.1s
PET pmax pmax
comp=Z,600nm,10.2s
PET pmax pmax
comp=Z,14nm,1.0s
PET MLR MLR
comp=Z,700nm,19.0s
PET MLR MLR
comp=Z,600nm,16.0s
KHMM Horse Mountain 78.07 37 *e*P **P 11 29 00.7 +0.7**
CMB Columbia Colle 78.15 41 *e*P **P 11 29 00.4 +0.1**
CMB pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 78.15 41 *e*P **P 11 29 00.4 +0.1**
comp=Z,21nm,1.3s
LRMC Laurel Mountai 78.25 44 ⇓P P 11 29 01.8 +0.7
baz=78
OHCM Honcut 78.33 39 *e*P **P 11 29 01.8 +0.6**
RRX Edison Barstow 78.33 45 ⇑P P 11 29 01.8 +0.4
baz=79
PEA0B Petropavlovsk- 78.39 343 *e*P **P 11 28 59.0 -2.2**
PETK Petropavlovsk- 78.39 343 P **P 11 28 59.3 -1.9**
PETK pmax pmax
comp=Z,27nm,1.0s
PETK Petropavlovsk- 78.39 343 P **P 11 28 59.3 -1.9**
PETK Petropavlovsk- 78.39 343 P **P 11 28 59.3 -1.9**
comp=Z,25nm,1.0s,baz=119,slow=8.6,SNR=22
PETK LR LR 11 59 19.5
comp=Z,1μm,19.8s,baz=156,slow=32
KRMB Red Mountain 78.41 36 *e*P **P 11 29 02.7 +1.0**
comp=Z,116nm,2.6s
BELC Belle Mtn. Jos 78.48 46 ⇓P P 11 29 02.6 +0.2
baz=79
WDC Whiskeytown Da 78.54 38 *e*P **P 11 29 02.0 -0.4**
WDC pmax pmax
comp=Z,58nm,1.6s
WDC Whiskeytown Da 78.54 38 *e*P **P 11 29 02.0 -0.4**
comp=Z,58nm,1.6s
YSS Yuzh-Sakhalins 78.56 332⇑ *e*P **P 11 29 03.0 +0.7**
YSS *e*S **S 11 38 58.0 0.0**
YSS *e*PS **PnS 11 39 32.0 -9.0**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,900nm,8.0s
YSS smax smax
comp=N,2μm,13.0s
YSS smax smax
comp=E,800nm,12.0s
YSS MLR MLR
comp=N,500nm,17.0s
YSS MLR MLR
comp=E,500nm,17.0s
YSS MLR MLR
comp=Z,1μm,17.0s
CWC Cottonwood Cre 78.58 43 ⇑P P 11 29 03.7 +0.8
baz=79
BC3 Big Chuckawall 78.64 47 ⇑P P 11 29 04.0 +0.8
baz=79
GSC Goldstone 78.71 45 *e*P **P 11 29 04.5 +0.9**
GSC pmax pmax
comp=Z,109nm,2.6s
GSC Goldstone 78.71 45 *e*P **P 11 29 04.5 +0.9**
comp=Z,109nm,2.6s
GSC Goldstone 78.71 45 ⇓P P 11 29 04.0 +0.5
baz=79
GLA Glamis 78.72 48 ⇓P P 11 29 04.5 +0.9
baz=79
MPMC Manual Prospec 78.73 44 ⇑P P 11 29 04.2 +0.5
baz=79
HEC Hector,Ludlow 78.75 45 ⇑P P 11 29 04.3 +0.6
baz=79
MTUM Tungsten Hills 78.84 42 *e*P **P 11 29 05.1 +0.7**
MLAC Mammoth Lakes 78.84 42 ⇑P P 11 29 04.8 +0.4
baz=79
TIN Tinemaha 78.86 43 ⇓P P 11 29 05.3 +0.9
baz=79
CHGN Chignik 78.92 9 *e*P **P 11 29 03.1 -0.9**
IRM Iron Mountain 79.14 47 ⇓P P 11 29 07.0 +1.1
baz=79
GMRC Granite Mounta 79.16 46 ⇓P P 11 29 06.5 +0.4
baz=79
YBH Yreka Blue Hor 79.21 37 *e*P **P 11 29 06.4 +0.2**
comp=Z,50nm,1.7s
113A Mohawk Valley, 79.29 48 ⇑P P 11 29 07.1 +0.5
baz=80
Y12C Blythe 79.33 47 ⇓P P 11 29 07.4 +0.5
baz=80
BEKR Beckworth 79.34 39 *e*P **P 11 29 06.7 -0.3**
comp=Z,28nm,1.7s
TUQ Turquoise Moun 79.37 45 ⇓P P 11 29 08.0 +0.8
baz=80
GRAC Grapevine Rang 79.37 43 ⇓P P 11 29 08.2 +1.1
baz=80
FURC Furnace Creek, 79.38 44 ⇓P P 11 29 08.0 +1.0
baz=80

SHOC Shoshone 79.41 45 ⇑P P 11 29 07.9 +0.6
baz=80
214A Organ Pipe Nat 79.51 49 ⇓P P 11 29 08.4 +0.5
baz=80
HUMO Hull Mountain 79.67 36 *e*P **P 11 29 09.9 +1.4**
comp=Z,29nm,1.4s
NVAR Mina Array Bea 79.67 41 P **P 11 29 08.2 -0.7**
NVAR Mina Array Bea 79.67 41 P **P 11 29 08.2 -0.7**
comp=Z,4.0nm,0.7s,baz=224,slow=8.9,SNR=39
NVAR LR LR 11 59 28.8
comp=Z,1μm,18.7s,baz=121,slow=32
PAHR Pah Rah Range 79.81 40 *e*P **P 11 29 09.9 +0.4**
comp=Z,108nm,2.1s
NEE2 Needles Airpor 79.85 46 ⇓P P 11 29 10.6 +0.9
baz=80
PDMCI Parker Dam,Lak 79.91 47 ⇓P P 11 29 10.7 +0.8
baz=80
QZH Quanzhou 79.93 302⇑ *i*P **P 11 29 08.9 -1.4**
QZH S **S 11 39 12.5 -1.0**
QZH LR LR
comp=N,700nm,14.1s
QZH LR LR
comp=E,540nm,14.1s
QZH LR LR
comp=Z,910nm,19.5s
KSRS Korea Array 80.08 317 P **P 11 29 10.4 -0.4**
comp=Z,9.7nm,1.0s,baz=136,slow=5.8,SNR=29
KSRS LR LR 12 00 47.4
comp=Z,616nm,19.4s,baz=135,slow=33
KSAR Wonju Array Be 80.10 317 P **P 11 29 10.4 -0.5**
Z14A Wintersburg 80.19 48 ⇑P P 11 29 12.9 +1.3
baz=80
Y14A Wickenburg 80.48 48 ⇓P P 11 29 13.4 +0.3
baz=81
SHPR Sheep Range 80.50 45 *e*P **P 11 29 13.4 0.0**
W13A Hualapai Mount 80.53 46 ⇑P P 11 29 13.7 +0.1
baz=81
OHAK Old Harbor 80.64 11 *e*P **P 11 29 15.1 +1.8**
comp=Z,54nm,1.4s
TUC Tucson 81.14 50 *e*P **P 11 29 16.7 -0.1**
TUC pmax pmax
comp=Z,87nm,1.3s
TUC Tucson 81.14 50 *e*P **P 11 29 16.6 -0.1**
comp=Z,87nm,1.3s
KDAK Kodiak Island 81.30 12 *e*P **P 11 29 18.2 +1.4**
comp=Z,43nm,1.3s
KDAK Kodiak Island 81.30 12 P **P 11 29 18.1 +1.2**
comp=Z,118nm,0.9s,SNR=5.0
R11A Troy Canyon, C 81.31 43 *e*P **P 11 29 19.1 +1.4**
comp=Z,91nm,2.5s
R11A Troy Canyon, C 81.31 43 ⇓P P 11 29 18.2 +0.5
baz=82,SNR=5.8
MAW Mawson 81.51 199 P **P 11 29 19.0 +1.0**
MAW Mawson 81.51 199 P **P 11 29 19.0 +1.0**
comp=Z,14nm,0.8s,baz=120,slow=4.0,SNR=24
MAW LR LR 12 04 12.4
comp=Z,3μm,18.9s,baz=112,slow=35
MAW Mawson 81.51 199 P **P 11 29 19.0 +1.0**
baz=82,SNR=20
319A Douglas 81.73 52 ⇓P P 11 29 20.1 +0.1
baz=82
X16A Lo Mia Camp, P 81.82 48 ⇑P P 11 29 20.6 +0.2
baz=82
USRK Ussuriysk Arra 81.92 324 P **P 11 29 19.9 -0.6**
comp=Z,8.5nm,0.8s,baz=132,slow=2.9,SNR=12
USRK LR LR 12 03 13.5
comp=Z,3μm,19.6s,baz=117,slow=34
WVOR Wild Horse Val 81.97 38 *e*P **P 11 29 21.3 +0.3**
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 81.97 38 *e*P **P 11 29 21.2 +0.3**
comp=Z,13nm,1.1s
320A Kipp Ranch, An 82.26 52 ⇑P P 11 29 23.2 +0.5
baz=82
CCUT Cedar City 82.28 45 *e*P **P 11 29 23.6 +0.7**
comp=Z,31nm,1.6s
VFP Flag Point 82.28 35 P **P 11 29 24.1 +1.6**
U15A North Rim 82.35 46 ⇑P P 11 29 24.7 +1.4
baz=83,SNR=16
ARUT Antelope Range 82.36 44 *e*P **P 11 29 26.4 +3.2**
ARUT pmax pmax
comp=Z,5.0nm,0.9s
ARUT Antelope Range 82.36 44 *e*P **P 11 29 26.4 +3.2**
comp=Z,5.3nm,0.9s
FL2 Flat Top 2 82.41 34 P **P 11 29 24.5 +1.4**
NLWA Neilton Lookou 82.46 32 *e*P **P 11 29 24.8 +1.5**
comp=Z,38nm,1.4s
WUAZ Wupatki 82.47 47 *e*P **P 11 29 24.3 +0.5**
comp=Z,87nm,2.2s
WUAZ Wupatki 82.47 47 ⇑P P 11 29 24.4 +0.6
baz=83
220A Playas Peak, P 82.55 52 ⇓P P 11 29 24.9 +0.6
baz=83,SNR=5.8
TDL Tradedollar La 82.58 33 P **P 11 29 23.9 -0.2**
X18A Snowflake 82.92 49 ⇓P P 11 29 27.2 +1.0
baz=83
BTDF Bukit Timah Da 82.93 274 P **P 11 29 27.6 +1.1**
baz=83,SNR=3.1
BTDF P **P 11 29 27.6 +1.1**
baz=83,SNR=3.1
MYKOM Kota Tinggi 83.02 275 P **P 11 29 28.3 +1.4**
comp=Z,45nm,0.8s,comp=Z,1μm
LON Longmire 83.05 33 *e*P **P 11 29 26.6 +0.2**
LON pmax pmax
comp=Z,12nm,1.1s
LON Longmire 83.05 33 *e*P **P 11 29 26.6 +0.2**
comp=Z,12nm,1.1s
Z20A Nine Sixteen R 83.13 50 ⇓P P 11 29 28.1 +0.8
baz=83
221A Mesquite Ranch 83.15 52 ⇓P P 11 29 28.1 +0.7
baz=83
WPW White Pass 83.15 34 P **P 11 29 28.1 +1.1**
HABR Khabarovsk 83.23 329 *ce*P **P 11 29 26.6 -0.6**
HABR *e**PP **pP 11 29 37.1 +4.0**
HABR 11 32 38.9
HABR *e*PPP PPP 11 34 30.0
HABR S **S 11 39 44.9 -1.7**
HABR *e*SS **SS 11 45 11.6 -0.4**
HABR *e*SSS SSS 11 48 41.0
HABR pmax pmax
comp=Z,35nm,1.0s
HABR MLR MLR
comp=Z,986nm,19.0s
NJ2 Nanjing 83.29 308 *e*P **P 11 29 29.8 +1.9**
NJ2 pP **pP 11 29 33.3 -0.5**
NJ2 sP **sP 11 29 34.4 -1.5**
NJ2 S **SKKSac 11 39 51.8 -2.0**
NJ2 sS **sS 11 39 57.6 -0.1**
NJ2 LR LR
comp=N,880nm,23.3s
NJ2 LR LR
comp=E,940nm,25.6s
NJ2 LR LR
comp=Z,990nm,23.0s
W18A Petrified Fore 83.38 48 *e*P **P 11 29 28.6 0.0**
comp=Z,70nm,1.9s
W18A Petrified Fore 83.38 48 ⇑P P 11 29 29.4 +0.9
baz=84
121A Cookes Peak, D 83.41 51 ⇓P P 11 29 30.0 +1.2
baz=84
MDJ Mudanjiang 83.51 323 P **P 11 29 28.8 +0.1**
MDJ sP **sP 11 29 33.3 -3.4**
MDJ PP **PP 11 32 37.3 -4.2**
MDJ S **S 11 39 48.6 -1.0**
MDJ SS **SS 11 45 17.8 +1.4**
MDJ pmax pmax
comp=Z,32nm,1.5s
MDJ pmax pmax
comp=Z,710nm,7.8s
MDJ LR LR
comp=N,600nm,21.1s
MDJ LR LR
comp=E,890nm,19.5s
MDJ LR LR
comp=Z,2μm,19.5s
MDJ Mudanjiang 83.51 323 *e*P **P 11 29 29.4 +0.6**
comp=Z,24nm,0.9s
MVU Marysvale 83.57 44 *e*P **P 11 29 30.4 +0.9**
MSU Marysvale 83.59 44 *e*P **P 11 29 30.7 +1.1**
MSU Marysvale 83.59 44 *e*P **P 11 29 30.7 +1.1**
222A Williams Famil 83.70 52 ⇑P P 11 29 31.1 +0.9
baz=84
Y20A Horse Springs, 83.70 50 ⇑P P 11 29 31.1 +0.7
baz=84
Z21A St. Cloud Mine 83.89 51 ⇑P P 11 29 32.3 +1.0
baz=84,SNR=7.4

122A Conniff Cattle 84.07 51 ⇑P P 11 29 33.3 +1.2
baz=84
DUG Dugway 84.14 43 *e*P **P 11 29 31.7 -0.6**
DUG pmax pmax
comp=Z,20nm,1.6s
DUG Dugway 84.14 43 *e*P **P 11 29 31.6 -0.6**
comp=Z,20nm,1.6s
DUG Dugway 84.14 43 ⇑P P 11 29 33.1 +0.8
baz=84
223A Chaparral, Ant 84.14 52 ⇓P P 11 29 33.6 +1.2
baz=84
MFID Camas Ranch 84.20 39 ⇑P P 11 29 33.2 +0.7
baz=84
BMO Blue Mountains 84.24 37 *e*P **P 11 29 32.2 -0.4**
comp=Z,9.9nm,0.9s
W20A Ramah 84.24 49 ⇓P P 11 29 33.8 +0.8
baz=84,SNR=14
Y21A Point of Rocks 84.25 50 ⇓P P 11 29 33.8 +0.7
baz=84,SNR=7.0
ETW Entiat 84.38 33 P **P 11 29 33.4 +0.1**
Z22A Elephant Butte 84.38 51 ⇓P P 11 29 34.6 +0.9
baz=85,SNR=18
X21A Alamocita Cree 84.39 50 ⇑P P 11 29 34.2 +0.4
baz=85,SNR=5.8
QIZ Qiongzhong 84.45 293 P **P 11 29 33.4 -0.8**
QIZ S **S 11 40 02.9 +2.7**
QIZ sS **sS 11 40 08.3 -1.6**
QIZ pmax pmax
comp=Z,480nm,10.4s
QIZ LR LR
comp=Z,350nm,19.6s
NLU North Lily Min 84.47 43 *e*P **P 11 29 35.5 +1.4**
comp=Z,42nm,1.9s
Q16A Castle Valley 84.47 44 ⇑P P 11 29 34.9 +0.8
baz=85
324A Moseley Ranch, 84.56 53 ⇑P P 11 29 34.8 +0.1
baz=85,SNR=6.3
123A Bell Site, Whi 84.58 52 ⇑P P 11 29 35.0 +0.3
baz=85
425A Indio Mountain 84.61 54 ⇑P P 11 29 35.3 +0.3
baz=85
V20A Brimhall 84.62 48 ⇑P P 11 29 35.3 +0.4
baz=85
WTV Waterville 84.63 33 P **P 11 29 35.4 +0.9**
TMUT Trail Mountain 84.66 44 *e*P **P 11 29 35.5 +0.3**
comp=Z,50nm,1.2s
626A Big Bend Ranch 84.67 55 ⇓P P 11 29 35.0 -0.1
baz=85
Y22A Socorro 84.72 50 ⇓P P 11 29 35.8 +0.4
baz=85
MNTX Cornudas Mount 84.76 53 *e*P **P 11 29 35.2 -0.3**
comp=Z,128nm,2.7s
MPU Maple Canyon 84.78 43 *e*P **P 11 29 36.7 +1.0**
comp=Z,30nm,1.5s
Y22D IRIS PASSCAL I 84.82 50 ⇑P P 11 29 36.5 +0.6
baz=85
LAZ Ladron 84.83 50 *e*P **P 11 29 35.8 -0.2**
comp=Z,53nm,2.0s
W21A San Fidel 84.84 49 ⇑P P 11 29 36.7 +0.6
baz=85
224A Cornudas Mount 84.84 53 ⇓P P 11 29 37.0 +1.0
baz=85
U20A Newcomb 84.88 48 ⇑P P 11 29 36.9 +0.7
baz=85
325A Bean Ranch, Si 84.91 54 ⇓P P 11 29 36.7 +0.3
baz=85
Z23A Rita Site, Whi 84.91 51 ⇓P P 11 29 37.1 +0.8
baz=85
TXAR Lajitas Array 84.92 56 P **P 11 29 35.9 -0.6**
TXAR Lajitas Array 84.92 56 P **P 11 29 35.8 -0.6**
comp=Z,1.5nm,0.7s,baz=210,slow=7.2,SNR=16
TXAR LR LR 12 02 58.0
comp=Z,2μm,18.0s,baz=355,slow=32
526A Mary Lane Ranc 84.94 55 ⇓P P 11 29 37.3 +0.7
baz=85
X22A Bernardo 84.97 50 ⇓P P 11 29 37.6 +0.9
baz=85
DL2 Dalian 84.98 315 ⇑P P 11 29 36.4 +0.1
DL2 S **S 11 40 03.5 -1.0**
DL2 pmax pmax
comp=Z,21nm,0.8s
DL2 pmax pmax
comp=Z,800nm,4.8s
DL2 LR LR
comp=N,490nm,17.7s
DL2 LR LR
comp=Z,370nm,19.1s
SRU San Rafael 85.00 45 *e*P **P 11 29 37.1 +0.3**
SRU pmax pmax
comp=Z,72nm,1.7s
SRU San Rafael 85.00 45 *e*P **P 11 29 37.0 +0.3**
comp=Z,72nm,1.7s
HVU Hansel Valley 85.06 41 *e*P **P 11 29 36.9 0.0**
HVU pmax pmax
comp=Z,28nm,1.6s
HVU Hansel Valley 85.06 41 *e*P **P 11 29 36.9 0.0**
comp=Z,28nm,1.6s
BNM Barren Site 85.07 50 *e*P **P 11 29 36.9 -0.4**
comp=Z,80nm,2.0s
OD2 Odessa Site #2 85.08 34 P **P 11 29 37.5 +0.8**
SIT Sitka 85.08 20 *e*P **P 11 29 36.8 +0.4**
SIT Sitka 85.08 20 *e*P **P 11 29 36.8 +0.4**
HLID Hailey 85.11 39 *e*P **P 11 29 36.4 -0.8**
comp=Z,15nm,1.2s
HLID Hailey 85.11 39 ⇑P P 11 29 37.5 +0.4
baz=85
LPM Los Pinos Moun 85.15 50 *e*P **P 11 29 39.2 +1.6**
627A Terlingua Ranc 85.19 56 ⇑P P 11 29 37.6 -0.2
baz=85
V21A Milan 85.20 49 ⇓P P 11 29 37.7 -0.1
baz=85
124A Stringfield Ra 85.20 52 ⇓P P 11 29 37.8 -0.1
baz=85,SNR=5.6
JLU Jordanelle 85.23 43 *e*P **P 11 29 39.0 +1.1**
comp=Z,42nm,1.8s
DAU Daniels Canyon 85.25 43 *e*P **P 11 29 39.8 +1.7**
DAU Daniels Canyon 85.25 43 *e*P **P 11 29 39.8 +1.7**
MVCO Mesa Verde 85.33 47 *e*P **P 11 29 40.8 +2.2**
comp=Z,30nm,1.6s
MVCO Mesa Verde 85.33 47 ⇓P P 11 29 39.1 +0.5
baz=86
527A Woodward Ranch 85.35 55 ⇑P P 11 29 38.7 0.0
baz=86
KLR Kul'dur 85.35 328 *e*P P 11 29 34.4 -3.6
KLR *e*S **S 11 40 07.5 -0.3**
KLR pmax pmax
comp=Z,260nm,3.0s
KLR pmax pmax
comp=Z,1μm,11.0s
KLR smax smax
comp=N,2μm,13.0s
KLR smax smax
comp=E,700nm,13.0s
SNY Shenyang 85.36 319 ⇓P P 11 29 39.8 +1.6
SNY pmax pmax
comp=Z,29nm,2.5s
SNY pmax pmax
comp=Z,980nm,6.8s
SNY LR LR
comp=N,600nm,16.0s
SNY LR LR
comp=E,380nm,22.2s
SNY LR LR
comp=Z,420nm,25.0s
W22A Albuquerque 85.36 49 ⇓P P 11 29 39.3 +0.7
baz=86
Y23A Lovelace Mesa, 85.37 51 ⇓P P 11 29 38.7 0.0
baz=86,SNR=11
CN2 Changchun 85.37 321 *e*P **P 11 29 40.9 +2.7**
CN2 *es*P **sP 11 29 48.0 +1.8**
CN2 *e*S **SKKSac 11 40 10.5 +1.5**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=E,400nm,17.0s
CN2 LR LR
comp=Z,500nm,18.0s
225A Deer Hill, Car 85.38 53 ⇑P P 11 29 38.8 +0.1
baz=86
PMR Palmer 85.50 12 *e*P **P 11 29 37.9 -0.5**
PMR pmax pmax
comp=Z,61nm,1.6s
PMR Palmer 85.50 12 *e*P **P 11 29 37.9 -0.5**

comp=Z,61nm,1.6s
U21A **Nageezi** 85.50 48 ⇑P P 11 29 39.8 +0.4
baz=86,SNR=35
WRAK **Wrangell Islan** 85.57 22 eP P 11 29 39.6 +0.8
comp=Z,84nm,2.0s
Z24A **Sheeppen Canyo** 85.57 52 ⇑P P 11 29 39.9 +0.2
baz=86
ANMO **Albuquerque** 85.59 50 eP P 11 29 39.2 -0.6
comp=Z,36nm,1.3s
628A **Black Gap, Mar** 85.59 56 ⇓P P 11 29 39.9 +0.1
baz=86
X23A **Hourglass Bar** 85.60 50 ⇓P P 11 29 40.2 +0.3
baz=86,SNR=5.3
326A **Caldwell Ranch** 85.63 54 ⇑P P 11 29 40.0 +0.1
baz=86
PV04 **Paradox Valley** 85.68 46 eP P 11 29 41.0 +0.8
HWUT **Hardware Ranch** 85.72 42 eP P 11 29 39.9 -0.3
comp=Z,7.7nm,1.1s
S20A **Disappointment** 85.75 47 ⇓P P 11 29 41.5 +0.9
baz=86,SNR=5.2
V22A **San Miguel Ran** 85.76 49 ⇑P P 11 29 40.6 0.0
baz=86
GDL2 **Guadalupe Moun** 85.76 53 eP P 11 29 40.8 +0.2
125A **Gardner Draw,** 85.77 53 ⇑P P 11 29 41.5 +0.9
baz=86
PV01 **Paradox Valley** 85.77 46 eP P 11 29 41.1 +0.4
comp=Z,3μm,1.8s
Y24A **Capitan** 85.81 51 ⇑P P 11 29 40.8 -0.2
baz=86,SNR=38
427A **Hayter Ranch,** 85.84 55 ⇓P P 11 29 41.0 0.0
baz=86,SNR=22
226B **Tecolote Peak,** 85.85 53 ⇑P P 11 29 41.3 +0.3
baz=86,SNR=8.1
SML **Sawmill** 85.85 12 eP P 11 29 45.4 +5.2
SML pmax pmax
comp=Z,31nm,2.3s
SML **Sawmill** 85.85 12 eP P 11 29 45.4 +5.2
comp=Z,31nm,2.3s
BMRM **Bremner River** 85.88 14 eP P 11 29 41.5 +1.1
comp=Z,50nm,1.3s
T21A **Navajo Lake** 85.88 48 ⇑P P 11 29 41.6 +0.4
baz=86
W23A **Werner Place,** 85.92 50 ⇓P P 11 29 41.9 +0.5
baz=86
WHN **Wuhan** 85.92 305 P P 11 29 40.8 -0.4
WHN S S 11 40 13.3 -0.9
WHN LR LR
comp=N,790nm,10.6s
WHN LR LR
comp=E,880nm,16.2s
WHN LR LR
comp=Z,2μm,19.3s
R20A **Redvale** 85.93 46 ⇑P P 11 29 41.6 +0.2
baz=86
528A **Cox Ranch, San** 85.99 55 ⇑P P 11 29 41.4 -0.3
baz=86,SNR=7.7
327A **Balmorhea Ranc** 86.02 54 ⇑P P 11 29 41.7 -0.1
baz=86
Z25A **Roswell** 86.02 52 ⇑P P 11 29 41.9 0.0
baz=86,SNR=5.2
U22A **Llaves** 86.03 48 ⇓P P 11 29 42.7 +0.7
baz=86
S21A **Coal Bank Pass** 86.05 47 ⇑P P 11 29 42.5 +0.3
baz=86,SNR=5.2
X24A **Lazy VL Ranch,** 86.13 51 ⇓P P 11 29 42.6 +0.1
baz=86
V23A **Ortiz Mt. (NFS** 86.19 49 ⇑P P 11 29 43.1 +0.4
baz=86,SNR=18
M17A **Scullys Gap (B** 86.20 42 ⇑P P 11 29 43.3 +0.6
baz=86
126A **Clayton Basin,** 86.23 53 ⇓P P 11 29 42.7 -0.2
baz=86
P19A **Cripple Cowboy** 86.29 45 ⇓P P 11 29 43.3 +0.1
baz=86
T22A **Edith** 86.32 48 ⇑P P 11 29 44.0 +0.6
baz=87
428A **Kincaid Ranch,** 86.33 55 ⇓P P 11 29 43.6 +0.2
baz=87
Q20A **Ridgley Place,** 86.38 46 ⇑P P 11 29 44.4 +0.8
baz=87
529A **Stev Forest Ra** 86.40 56 ⇓P P 11 29 44.1 +0.3
baz=87
NEW **Newport** 86.46 34 eP P 11 29 44.0 +0.5
comp=Z,60nm,2.5s
NEW **Newport** 86.46 34 ⇑P P 11 29 44.3 +0.8
baz=87
W24A **Lazy 6 Ranch,** 86.47 50 ⇑P P 11 29 44.0 -0.2
baz=87,SNR=13
227A **Bennet, Jal** 86.47 54 ⇑P P 11 29 44.2 +0.1
baz=87
U23A **El Rito** 86.47 49 ⇓P P 11 29 44.5 +0.4
baz=87,SNR=9.2
328A **Wristen Ranch,** 86.54 54 ⇓P P 11 29 44.5 +0.1
baz=87
O19A **Miners Draw (B** 86.55 44 ⇓P P 11 29 44.7 +0.3
baz=87
Z26A **Caprock** 86.56 52 ⇑P P 11 29 44.3 -0.2
baz=87,SNR=16
R21A **Cimarron** 86.58 46 ⇓P P 11 29 45.5 +0.9
baz=87
P20A **De Beque** 86.61 45 ⇑P P 11 29 44.7 0.0
baz=87,SNR=9.2
IPM **Ipoh** 86.63 276 eP P 11 29 44.6 -0.6
IPM **Ipoh** 86.63 276 P P 11 29 46.6 +1.4
comp=Z,54nm,1.1s,comp=Z,1μm
SNAA **Sanae** 86.64 177 eP P 11 29 44.5 +0.3
SNAA **Sanae** 86.64 177 epP pP 11 29 49.8 -0.4
SNAA **Sanae** 86.64 177 eP P 11 29 44.8 +0.5
comp=Z,24nm,1.1s
X25A **Clemmons Ranch** 86.67 51 ⇓P P 11 29 45.2 +0.1
baz=87
UBPT **Khong Chiam** 86.73 288 P P 11 29 47.3 +1.7
comp=Z,48nm,1.4s,comp=Z,1μm
127A **Arkansas Junct** 86.74 53 ⇑P P 11 29 45.4 0.0
baz=87
S22A **4UR Ranch, Cre** 86.75 47 ⇑P P 11 29 45.9 +0.3
baz=87,SNR=15
MCMT **McKenzie Canyo** 86.77 39 eP P 11 29 45.7 +0.3
comp=Z,2.7nm,1.1s
Q21A **Lamborn Mesa,** 86.80 46 ⇑P P 11 29 46.5 +0.8
baz=87
V24A **Rampart Ranch,** 86.82 50 ⇑P P 11 29 45.7 -0.2
baz=87,SNR=16
RRI2 **Red Ridge** 86.84 41 eP P 11 29 46.5 +0.6
comp=Z,37nm,1.9s
L18A **Fontenelle, Gr** 86.84 42 ⇓P P 11 29 46.5 +0.7
baz=87
429A **Davenport Ranc** 86.89 55 ⇓P P 11 29 44.8 -1.3
baz=87,SNR=23
T23A **Casias Ranch,** 86.93 48 ⇑P P 11 29 46.5 +0.1
baz=87
Y26A **Elida** 86.98 52 ⇑P P 11 29 46.7 +0.1
baz=87
TRF **Thorofare Moun** 87.01 11 eP P 11 29 44.5 -1.6
comp=Z,40nm,1.0s
SKAG **Skagway** 87.03 19 eP P 11 29 45.9 -0.1
I16A **Newdale** 87.03 40 ⇓P P 11 29 47.2 +0.5
baz=87,SNR=13
O20A **White River Ci** 87.04 45 ⇓P P 11 29 47.7 +0.9
baz=87
R22A **Saguache, Gunn** 87.04 47 ⇑P P 11 29 47.8 +0.8
baz=87
228A **UT Block 9, Go** 87.05 54 ⇓P P 11 29 47.0 +0.1
baz=87
530A **J-C Ranch, Com** 87.09 56 ⇓P P 11 29 47.4 +0.3
baz=87,SNR=5.5
VNA2 **Neumayer--Watz** 87.12 176 eP P 11 29 47.3 +0.8
REDW **Red Top Meadow** 87.13 41 eP P 11 29 48.0 +0.8
Z27A **Tatum** 87.14 53 ⇓P P 11 29 47.5 +0.1
baz=87,SNR=5.6
W25A **X Bar L Ranch,** 87.15 50 ⇓P P 11 29 48.0 +0.6
baz=87,SNR=6.0
U24A **Moreno Valley** 87.15 49 ⇑P P 11 29 48.2 +0.6
baz=87
M19A **Rock Springs** 87.17 43 ⇑P P 11 29 47.8 +0.4
baz=87
329A **Wagon Wheel Ra** 87.21 55 ⇓P P 11 29 47.4 -0.3
baz=88
DLMT **Dillon** 87.22 38 eP P 11 29 48.1 +0.7
comp=Z,80nm,2.6s
P21A **Newcastle** 87.24 45 ⇓P P 11 29 48.9 +1.1
baz=88
SNOW **Snow King Moun** 87.24 41 eP P 11 29 48.5 +0.7
comp=Z,80nm,2.1s
Q22A **Crested Butte,** 87.26 46 ⇓P P 11 29 48.7 +0.7
baz=88,SNR=9.1
KULM **Kulim** 87.28 277 eP P 11 29 48.6 +0.3
comp=Z,19nm,0.7s
KULM **Kulim** 87.28 277 P P 11 29 50.8 +2.5
S23A **Nye Farm, Mont** 87.29 48 ⇑P P 11 29 48.9 +0.7
baz=88
X26A **CR and CF Fran** 87.30 51 ⇓P P 11 29 48.7 +0.6
baz=88
MSO **Missoula** 87.31 37 eP P 11 29 51.0 +3.1
comp=Z,80nm,2.8s
MSO **Missoula** 87.31 37 ⇑P P 11 29 48.1 +0.3
baz=88
VNA1 **Neumayer--Stat** 87.33 175 eP P 11 29 49.0 +1.5
V25A **Rancho No Teng** 87.34 50 ⇓P P 11 29 49.1 +0.7
baz=88,SNR=11
631A **Perdido Creek** 87.35 57 ⇓P P 11 29 47.9 -0.4
baz=88,SNR=14
128A **Castleberry Fa** 87.36 53 ⇑P P 11 29 48.4 0.0
baz=88
L19A **Farson** 87.36 42 ⇓P P 11 29 48.3 -0.1
baz=88,SNR=9.7
SMCO **Snowmass** 87.38 46 eP P 11 29 48.9 +0.2
comp=Z,11nm,1.0s
N20A **Spence Gulch,** 87.39 44 ⇑P P 11 29 49.0 +0.5
baz=88
MOOW **Moose Ponds** 87.41 41 eP P 11 29 51.7 +3.2
comp=Z,36nm,2.3s
BSMT **Bassoo Peak** 87.45 36 eP P 11 29 50.9 +2.3
Y27A **Causey** 87.45 52 ⇓P P 11 29 49.1 +0.2
baz=88,SNR=12
430A **Baggett Ranch,** 87.46 56 ⇑P P 11 29 48.6 -0.3
baz=88
MCK **McKinley** 87.51 11 eP P 11 29 47.3 -1.0
MCK pmax pmax
comp=Z,42nm,1.1s
MCK **McKinley** 87.51 11 eP P 11 29 47.3 -1.0
comp=Z,42nm,1.1s
732A **Laxson Ranch,** 87.52 58 ⇑P P 11 29 49.0 -0.2
baz=88
HYT **Haines Junctio** 87.53 17 eP P 11 29 50.2 +1.6
229A **Bryant Ranch,** 87.56 54 ⇑P P 11 29 49.7 +0.3
baz=88
LRM **Limekiln Ridge** 87.57 38 eP P 11 29 49.6 +0.3
O21A **Pagoda** 87.58 45 ⇓P P 11 29 49.5 0.0
baz=88
W26A **Owens Ranch, T** 87.58 51 ⇓P P 11 29 49.5 0.0
baz=88
BW06 **Boulder Array** 87.60 42 eP P 11 29 48.7 -0.8
comp=Z,3.0nm,0.8s
PDAR **Pinedale Array** 87.60 42 P P 11 29 48.2 -1.3
PDAR **Pinedale Array** 87.60 42 P P 11 29 48.2 -1.3
comp=Z,3.1nm,0.7s,baz=212,slow=2.9,SNR=31
PDAR LR LR 12 06 48.5
comp=Z,792nm,18.1s,baz=253,slow=34
QLMT **Earthquake Lak** 87.60 39 eP P 11 29 51.0 +1.5
I17A **Pilgrim Ck.** 87.60 40 ⇓P P 11 29 50.3 +0.8
baz=88
FLWY **Flagg Ranch** 87.62 40 eP P 11 29 51.6 +2.1
comp=Z,12nm,0.4s
T24A **Torres, Weston** 87.64 48 ⇑P P 11 29 50.5 +0.6
baz=88
H16A **Russell Place,** 87.64 40 ⇓P P 11 29 50.4 +0.8
baz=88
R23A **Moffat** 87.66 47 ⇓P P 11 29 50.6 +0.7
baz=88,SNR=5.9
SDCO **Great Sand Dun** 87.66 48 eP P 11 29 49.5 -0.4
comp=Z,2.0nm,0.8s
531A **Rocksprings** 87.71 56 ⇑P P 11 29 50.4 +0.3
baz=88,SNR=12
P22A **Eagle** 87.73 46 ⇑P P 11 29 50.4 +0.1
baz=88
CHMT **Chamberlain Mo** 87.74 37 eP P 11 29 50.2 +0.2
Z28A **Tucker Farm, M** 87.74 53 ⇓P P 11 29 50.3 +0.1
baz=88
U25A **Circle Dot Ran** 87.76 49 ⇓P P 11 29 50.6 +0.2
baz=88
MSTX **Muleshoe** 87.78 52 eP P 11 29 49.8 -0.6
MSTX **Muleshoe** 87.78 52 ⇑P P 11 29 50.6 +0.2
baz=88,SNR=8.3
M20A **Sweetwater, Wa** 87.78 43 ⇑P P 11 29 50.6 +0.2
baz=88
330A **Mertzon** 87.79 55 ⇑P P 11 29 50.3 -0.2
baz=88
S24A **Houchin Ranch,** 87.80 48 ⇓P P 11 29 51.7 +1.0
baz=88
MENT **Mentasta** 87.82 13 eP P 11 29 50.9 +1.1
129A **Stewart Farms,** 87.83 54 ⇓P P 11 29 51.1 +0.5
baz=88
N21A **Black Mountain** 87.83 44 ⇓P P 11 29 51.0 +0.3
baz=88
X27A **F and S Farms,** 87.86 51 ⇓P P 11 29 51.1 +0.3
baz=88
H17A **Grant Village** 87.86 40 ⇓P P 11 29 52.4 +1.6
baz=88
431A **Sonora** 87.90 56 ⇓P P 11 29 50.5 -0.5
baz=88
V26A **Tequesquite Ra** 87.91 50 ⇑P P 11 29 51.0 0.0
baz=88
DLBC **Dease Lake** 87.92 22 eP P 11 29 50.7 +0.3
BOZ **Bozeman (W)** 87.94 39 eP P 11 29 50.9 -0.1
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ **Bozeman (W)** 87.94 39 eP P 11 29 50.9 -0.1
comp=Z,3.4nm,0.8s
I18A **Diamond G Ranc** 87.94 41 ⇑P P 11 29 50.9 -0.3
baz=88
L20A **Wamsutter** 87.96 43 ⇑P P 11 29 51.6 +0.4
baz=88,SNR=9.6
PSI **Prapat** 87.96 274 P P 11 29 51.2 -0.5
baz=88,SNR=12
Q23A **Hartsel** 88.01 47 ⇓P P 11 29 52.1 +0.5
baz=88
SKLT **Songkhla** 88.01 278 P P 11 29 53.6 +1.8
comp=Z,101nm,1.2s,comp=Z,2μm
632A **Uvalde** 88.01 57 ⇑P P 11 29 51.5 0.0
baz=88
230A **Sterling City** 88.06 55 ⇓P P 11 29 51.3 -0.4
baz=88
K19A **Absolon Red Bu** 88.07 42 ⇓P P 11 29 51.7 0.0
baz=88
W27A **Bowe Ranch, En** 88.08 51 ⇑P P 11 29 52.1 +0.2
baz=88
T25A **Trinidad** 88.11 49 ⇑P P 11 29 52.5 +0.4
baz=88
Y28A **McKinney Farm,** 88.13 52 ⇑P P 11 29 52.3 +0.2
baz=88
O22A **Kremmling** 88.16 45 ⇑P P 11 29 53.0 +0.7
baz=88,SNR=8.2
R24A **Sanders Place,** 88.17 47 ⇑P P 11 29 53.0 +0.7
baz=88,SNR=8.2
J19A **Crowheart** 88.18 42 ⇑P P 11 29 51.7 -0.4
baz=88
532A **Rocksprings** 88.19 57 ⇓P P 11 29 51.9 -0.5
baz=88,SNR=18
U26A **Atchley Ranch,** 88.22 50 ⇑P P 11 29 52.5 -0.1
baz=88,SNR=8.8
PANO **Nakornpanom** 88.23 289 P P 11 29 53.4 +0.7
comp=Z,37nm,1.8s
Z29A **Hungry Hill Ra** 88.23 53 ⇑P P 11 29 51.9 -0.7
baz=88
P23A **Jefferson** 88.24 46 ⇓P P 11 29 52.2 -0.5
baz=88
G17A **Pierce Place,** 88.28 39 ⇓P P 11 29 53.2 +0.7
baz=88
K20A **Yellowstone Ra** 88.30 42 ⇑P P 11 29 52.7 -0.1
baz=88
331A **San Angelo** 88.32 55 ⇑P P 11 29 52.9 -0.1
baz=89
S25A **Robets Cordova** 88.35 48 ⇓P P 11 29 53.2 +0.1
baz=89,SNR=6.8
M21A **Separation Pea** 88.37 44 ⇑P P 11 29 53.6 +0.4
baz=89
SEY **Seymchan** 88.39 345 ci P P 11 29 51.6 -0.8
HRY **Holter Researc** 88.42 38 eP P 11 29 53.6 +0.4
JCT **Junction City** 88.43 56 eP P 11 29 55.2 +1.7
JCT pmax pmax
comp=Z,155nm,2.8s
JCT **Junction City** 88.43 56 eP P 11 29 55.2 +1.7
comp=Z,155nm,2.8s
JCT **Junction City** 88.43 56 ⇓P P 11 29 53.5 0.0
baz=89
X28A **Dimmitt** 88.45 52 ⇑P P 11 29 53.7 +0.1
baz=89
130A **Snyder** 88.49 54 ⇓P P 11 29 53.4 -0.3
baz=89
Q24A **Divide** 88.50 47 ⇑P P 11 29 54.6 +0.6
baz=89
RWWY **Rawlins** 88.51 44 eP P 11 29 56.6 +2.7
comp=Z,28nm,1.6s
Y29A **Porterfield Fa** 88.54 53 ⇑P P 11 29 54.3 +0.3
baz=89
N22A **Wattenberg Ran** 88.55 45 ⇑P P 11 29 54.4 +0.3
baz=89,SNR=5.5
L21A **Rawlins** 88.55 43 ⇑P P 11 29 54.0 0.0
baz=89
H18A **Shoshone NF, C** 88.56 40 ⇑P P 11 29 54.4 +0.4
baz=89
V27A **Dan Oppiter Fa** 88.57 51 ⇑P P 11 29 54.1 0.0
baz=89
C15A **Salmond Ranch,** 88.60 36 ⇓P P 11 29 54.2 +0.2
baz=89
ISCO **Idaho Springs** 88.60 46 eP P 11 29 54.5 +0.1
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO **Idaho Springs** 88.60 46 eP P 11 29 54.5 +0.1
comp=Z,2.5nm,0.9s
ISCO **Idaho Springs** 88.60 46 ⇑P P 11 29 54.7 +0.3
baz=89
O23A **Lake Granby, G** 88.60 45 ⇑P P 11 29 54.5 0.0
baz=89
432A **Menard** 88.61 56 ⇑P P 11 29 54.5 +0.2
baz=89
I19A **Meeteetse** 88.63 41 ⇓P P 11 29 55.1 +0.8
baz=89
WALA **Waterton Lakes** 88.63 35 eP P 11 29 54.5 +0.4
comp=Z,0.4nm,1.2s
F17A **Fitzpatrick Pl** 88.65 39 ⇓P P 11 29 55.6 +1.3
baz=89
Z30A **Sanderson Ranc** 88.68 53 ⇑P P 11 29 54.6 0.0
baz=89
231A **Bronte** 88.68 55 ⇓P P 11 29 53.9 -0.8
baz=89
R25A **Fountain Ranch** 88.69 48 ⇑P P 11 29 54.7 0.0
baz=89
T26A **Comanche Natio** 88.70 49 ⇓P P 11 29 55.0 +0.2
baz=89
COLA **College** 88.75 11 eP P 11 29 54.2 +0.1
COLA pmax pmax
comp=Z,174nm,1.4s
COLA **College** 88.75 11 eP P 11 29 54.2 +0.1
comp=Z,174nm,1.4s
M22A **Cedar Creek Ra** 88.76 44 ⇑P P 11 29 55.4 +0.4
baz=89
X29A **Tulia** 88.78 52 ⇑P P 11 29 55.0 -0.2
baz=89
W28A **Vega** 88.79 51 ⇑P P 11 29 55.1 0.0
baz=89
J20A **Shoshoni** 88.82 42 ⇓P P 11 29 55.4 +0.2
baz=89,SNR=5.6
ILAR **Eielson Array** 88.83 11 P P 11 29 53.6 -0.9
ILAR **Eielson Array** 88.83 11 P P 11 29 53.6 -0.9
comp=Z,3.5nm,0.9s,baz=217,slow=5.5,SNR=31
E17A **Martinsdale** 88.84 38 ⇓P P 11 29 55.7 +0.5
baz=89
A14A **Double T Ranch** 88.84 35 ⇑P P 11 29 54.9 -0.2
baz=89,SNR=13
IM04 **Indian Mountai** 88.85 8 eP P 11 29 53.5 -1.1
332A **Millersview** 88.87 56 ⇓P P 11 29 55.6 +0.1
baz=89,SNR=7.6
B15A **Bradely Ranch,** 88.93 36 ⇓P P 11 29 55.4 -0.1
baz=89
N23A **Red Feather La** 88.93 45 ⇑P P 11 29 56.0 +0.1
baz=89
P24A **Kohler Place,** 88.93 46 ⇑P P 11 29 56.2 +0.4
baz=89
IMA2 **Indian Mountai** 88.95 8 eP P 11 29 55.4 +0.2
131A **Roby** 88.96 54 ⇑P P 11 29 55.5 -0.4
baz=89
H19A **Powell** 88.97 40 ⇑P P 11 29 57.1 +1.2
baz=89
G18A **Lazy EL Ranch,** 88.97 40 ⇓P P 11 29 56.2 +0.4
baz=89
K21A **Alcova** 88.97 43 ⇓P P 11 29 56.2 +0.2
baz=89
S26A **Kim** 89.00 49 ⇓P P 11 29 55.8 -0.4
baz=89
V28A **Channing** 89.01 51 ⇑P P 11 29 56.3 +0.1
baz=89
Q25A **Bedland, Calha** 89.09 47 ⇑P P 11 29 56.6 0.0
baz=89
I20A **Worland** 89.11 41 ⇑P P 11 29 56.7 +0.2
baz=89
Y30A **Stafford Cattl** 89.12 53 ⇑P P 11 29 56.8 +0.1
baz=89
O24A **Longmont** 89.12 46 ⇑P P 11 29 56.5 -0.2
baz=89
W29A **Amraillo** 89.13 52 ⇓P P 11 29 57.1 +0.4
baz=89
232A **Coleman** 89.17 55 ⇓P P 11 29 56.8 -0.2
baz=89
BJI **Beijing** 89.17 314 P P 11 29 58.1 +1.5
BJI SS SS 11 46 33.8 -5.8
BJI pmax pmax
comp=Z,22nm,2.0s
BJI LR LR
comp=N,580nm,22.3s
BJI LR LR
comp=E,440nm,28.1s
BJI LR LR
comp=Z,630nm,20.4s
L22A **Ellis Ranch, M** 89.19 44 ⇑P P 11 29 57.2 +0.2
baz=89
F18A **Big Timber** 89.20 39 ⇓P P 11 29 57.7 +0.8
baz=89
A15A **Johnson Ranch,** 89.22 35 ⇑P P 11 29 56.6 -0.2
baz=90,SNR=12
J21A **Lysite** 89.22 42 ⇓P P 11 29 57.2 +0.1
baz=90
T27A **Campo** 89.26 49 ⇑P P 11 29 56.8 -0.6
baz=90
U28A **Mallet** 89.30 50 ⇑P P 11 29 56.9 -0.6
baz=90
D17A **Six Diamond Ra** 89.32 38 ⇓P P 11 29 57.6 +0.2
baz=90,SNR=9.3
R26A **Arlington** 89.34 48 ⇓P P 11 29 57.1 -0.6
baz=90
M23A **Laramie** 89.36 44 ⇓P P 11 29 57.6 -0.2
baz=90
X30A **Coker Ranch, T** 89.39 52 ⇓P P 11 29 57.7 -0.2
baz=90
Z31A **Sharp Cattle R** 89.43 54 ⇓P P 11 29 57.5 -0.6
baz=90
P25A **Willow Gulch B** 89.43 47 ⇑P P 11 29 57.7 -0.5
baz=90
S27A **Las Animas** 89.43 49 ⇑P P 11 29 58.8 +0.6
baz=90
K22A **Casper** 89.44 43 ⇓P P 11 29 57.8 -0.4
baz=90
H20A **Greybull** 89.47 41 ⇓P P 11 29 58.0 -0.1
baz=90
ABTX **Abilene, Hawle** 89.50 55 ⇓P P 11 29 57.9 -0.5
baz=90
C17A **Wharram Farm,** 89.55 37 ⇑P P 11 29 58.9 +0.5
baz=90,SNR=5.4
ENH **Enshi** 89.55 303 eP P 11 29 58.9 +0.1
comp=Z,19nm,0.9s
I21A **Big Trails, Te** 89.56 42 ⇓P P 11 29 59.0 +0.4
baz=90
V29A **Stinnett** 89.57 51 ⇓P P 11 29 59.7 +0.9
baz=90
Q26A **Hugo** 89.59 47 ⇑P P 11 29 59.5 +0.6
baz=90
N24A **Carr** 89.59 45 ⇓P P 11 29 59.2 +0.3
baz=90
F19A **Roth Farm, Mol** 89.63 39 ⇓P P 11 29 59.9 +1.1
baz=90
Y31A **Rekieta Farm,** 89.63 53 ⇓P P 11 29 59.8 +0.8
baz=90
L23A **Garrett** 89.70 44 ⇓P P 11 29 59.9 +0.5
baz=90
T28A **Walsh** 89.72 50 ⇓P P 11 30 00.1 +0.6
baz=90
G20A **Bridger** 89.73 40 ⇓P P 11 30 00.1 +0.8
baz=90
O25A **Wiggins** 89.75 46 ⇓P P 11 29 59.8 +0.2
baz=90
DAWY **Dawson** 89.78 15 eP P 11 29 58.4 -0.6
R27A **Eads** 89.78 48 ⇑P P 11 30 00.3 +0.6
baz=90
D18A **Linhart Farms,** 89.85 38 ⇑P P 11 30 01.1 +1.2
baz=90
J22A **Midwest** 89.86 42 ⇓P P 11 30 00.3 +0.3
baz=90
B17A **L&G Farms, Che** 89.89 37 ⇑P P 11 30 00.5 +0.6
baz=90
Z32A **Haskell** 89.92 54 ⇑P P 11 30 00.4 0.0
baz=90
W30A **Crocket Farms** 89.94 52 ⇑P P 11 30 01.4 +0.9
baz=90

M24A	Cheyenne	89.95	45	⇓P	P	11 30 00.7	+0.2
	baz=90						
EGAK	Eagle	89.98	14	eP	P	11 29 59.9	0.0
	comp=Z,78nm,2.0s						
P26A	Davis Ranch, A	90.01	47	⇑P	P	11 30 01.0	+0.2
	baz=90						
U29A	Oasis Ranch, S	90.01	50	⇑P	P	11 30 01.2	+0.4
	baz=90						
E19A	Rath Farm, Rou	90.04	39	⇓P	P	11 30 01.8	+1.1
	baz=90						
NAYO	Nakonayok	90.06	285	P	P	11 30 03.3	+1.9
	comp=Z,28nm,0.9s						
CHAI	Chaiyaphum	90.06	287	P	P	11 30 02.7	+1.3
	comp=Z,6.6nm,0.9s						
K23A	Bowen Ranch, D	90.07	43	⇑P	P	11 30 01.2	+0.1
	baz=90						
F20A	Billings	90.07	40	⇓P	P	11 30 02.1	+1.2
	baz=90						
S28A	Manter	90.09	49	⇑P	P	11 30 01.5	+0.3
	baz=90						
I22A	9 Mile Ranch,	90.10	42	⇑P	P	11 30 01.3	+0.2
	baz=90						
N25A	Grover	90.11	46	⇑P	P	11 30 02.2	+0.9
	baz=90						
V30A	Spur Ranch, Mi	90.12	51	⇑P	P	11 30 02.0	+0.6
	baz=90						
H21A	Big Horn, Sher	90.13	41	⇑P	P	11 30 01.8	+0.6
	baz=90						
X31A	McDonald Ranch	90.13	53	⇓P	P	11 30 00.9	-0.5
	baz=90						
L24A	Wheatland	90.16	44	⇑P	P	11 30 01.8	+0.4
	baz=90						
GYA	Guiyang	90.21	298	P	P	11 30 03.0	+1.0
GYA				pP	pP	11 30 08.3	+0.3
GYA				PP	PP	11 33 38.9	+2.8
GYA				SKS	SKSac	11 40 31.6	-1.2
GYA				S	S	11 40 54.0	-1.6
GYA				SS	SS	11 46 57.8	+2.3
GYA				pmax	pmax		
	comp=Z,50nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.8s						
GYA				LR	LR		
	comp=N,880nm,19.5s						
GYA				LR	LR		
	comp=E,650nm,20.4s						
GYA				LR	LR		
	comp=Z,790nm,21.1s						
KSCO	Kaye Shedlock'	90.24	48	⇓P	P	11 30 02.8	+0.9
	baz=90						
Y32A	R-V Farms, Ver	90.26	53	⇑P	P	11 30 02.0	0.0
	baz=90						
A17A	Triple J Farms	90.31	36	⇑P	P	11 30 02.2	+0.3
	baz=90,SNR=6.8						
T29A	Hugoton	90.32	50	⇑P	P	11 30 01.9	-0.3
	baz=91						
EGMT	Eagleton	90.33	37	eP	P	11 30 02.9	+0.9
	comp=Z,81nm,2.3s						
EGMT	Eagleton	90.33	37	⇓P	P	11 30 02.5	+0.5
	baz=91						
G21A	Lodge Grass	90.34	41	⇑P	P	11 30 02.6	+0.4
	baz=91						
O26A	Horse Wrangler	90.36	46	⇑P	P	11 30 03.2	+0.8
	baz=91						
D19A	Cripps Ranch,	90.36	38	⇓P	P	11 30 03.3	+1.1
	baz=91						
W31A	Holland Ranch,	90.41	52	⇑P	P	11 30 02.8	+0.1
	baz=91						
J23A	Dilts Ranch, B	90.44	43	⇑P	P	11 30 02.8	0.0
	baz=91						
M25A	Palm-Egli Farm	90.44	45	⇑P	P	11 30 02.7	-0.1
	baz=91						
E20A	Meyer Farm, Mu	90.45	39	⇓P	P	11 30 03.1	+0.5
	baz=91						
U30A	WK&E Inc. Balk	90.49	51	⇑P	P	11 30 02.8	-0.2
	baz=91						
R28A	Tribune	90.50	49	⇓P	P	11 30 03.0	-0.1
	baz=91						
B18A	Beardsley Farm	90.52	37	⇑P	P	11 30 03.7	+0.8
	baz=91						
COLD	Coldfoot	90.53	9	eP	P	11 30 04.2	+1.8
	comp=Z,91nm,2.6s						
P27A	Ficken Ranch,	90.53	47	⇑P	P	11 30 03.9	+0.7
	baz=91						
H22A	Clearmont	90.54	41	⇑P	P	11 30 03.8	+0.7
	baz=91						
K24A	Anderson Ranch	90.57	44	⇓P	P	11 30 03.7	+0.4
	baz=91						
C19A	Slack Wire Ran	90.57	38	⇑P	P	11 30 03.5	+0.4
	baz=91,SNR=9.7						
S29A	Ulysses	90.65	50	⇑P	P	11 30 04.6	+0.8
	baz=91						
F21A	Absaloka Mine,	90.69	40	⇑P	P	11 30 04.8	+1.1
	baz=91						
N26A	Koester Ranch,	90.70	46	⇓P	P	11 30 05.6	+1.6
	baz=91						
V31A	Spring Creek L	90.74	52	⇓P	P	11 30 04.6	+0.4
	baz=91						
D20A	Manuel Ranch,	90.76	39	⇓P	P	11 30 04.4	+0.4
	baz=91						
A18A	Metzger Ranch,	90.76	37	⇓P	P	11 30 04.4	+0.4
	baz=91,SNR=5.1						
I23A	Meade Ranch, G	90.77	42	⇑P	P	11 30 04.4	+0.2
	baz=91						
Q28A	Sharon Springs	90.82	48	⇑P	P	11 30 05.2	+0.7
	baz=91						
T30A	Plains	90.82	50	⇑P	P	11 30 04.3	-0.2
	baz=91						
L25A	Engebretsen Ra	90.84	44	⇓P	P	11 30 05.4	+0.7
	baz=91						
G22A	Birney	90.89	41	⇓P	P	11 30 05.0	+0.3
	baz=91						
WHTX	Lake Whitney	90.89	56	⇑P	P	11 30 04.9	0.0
	baz=91						
O27A	Beecher Island	90.90	47	⇑P	P	11 30 05.7	+0.8
	baz=91						
J24A	Dixon Ranch, L	90.97	43	⇑P	P	11 30 05.6	+0.4
	baz=91						
U31A	Nine Bar Ranch	91.00	51	⇑P	P	11 30 05.5	+0.2
	baz=91						
R29A	Marienthal	91.01	49	⇑P	P	11 30 05.7	+0.3
	baz=91						
B19A	Brinkman Farms	91.02	37	⇓P	P	11 30 06.1	+0.9
	baz=91						
M26A	McRoberts Ranc	91.05	45	⇓P	P	11 30 06.2	+0.6
	baz=91						
PHET	Kaeng Krachan	91.05	283	P	P	11 30 09.3	+3.3
	comp=Z,78nm,0.9s						
E21A	Keefer Ranch,	91.09	40	⇑P	P	11 30 06.7	+1.1
	baz=91						
P28A	Saint Francis	91.11	48	⇑P	P	11 30 06.3	+0.4
	baz=91						
K25A	Mack Ranch, Ha	91.12	44	⇓P	P	11 30 06.8	+0.9
	baz=91						
S30A	Montezuma	91.13	50	⇓P	P	11 30 05.9	-0.1
	baz=91						
N27A	Anderson Farm,	91.15	46	⇓P	P	11 30 06.9	+0.8
	baz=91						
C20A	Veseth Ranch,	91.16	38	⇑P	P	11 30 07.0	+1.1
	baz=91						
F22A	Rosebud	91.19	41	⇑P	P	11 30 06.5	+0.4
	baz=91						
PBKT	Sadao Pong	91.22	287	P	P	11 30 08.2	+1.5
	comp=Z,54nm,1.1s,comp=Z,1µm						
I24A	Kuemmerle Ranc	91.25	43	⇓P	P	11 30 06.9	+0.4
	baz=92						
LOEI	Loei	91.31	288	P	P	11 30 06.6	-0.6
	comp=Z,38nm,0.7s,comp=Z,3µm						
Q29A	Oakley	91.33	48	⇑P	P	11 30 07.8	+0.9
	baz=92						
O28A	Krutsinger Ran	91.35	47	⇓P	P	11 30 08.3	+1.3
	baz=92						
EDM	Edmonton	91.36	32	eP	P	11 30 06.6	0.0
EDM	Edmonton	91.36	32	eP	P	11 30 06.6	0.0
L26A	Underwood Farm	91.36	45	⇓P	P	11 30 07.7	+0.6
	baz=92						
A19A	Klindworth Far	91.38	37	⇑P	P	11 30 07.4	+0.5
	baz=92						
D21A	La Casta Ranch	91.41	39	⇓P	P	11 30 08.0	+1.0
	baz=92						
G23A	Biddle	91.43	41	⇓P	P	11 30 07.7	+0.5
	baz=92						
T31A	Randall Ranch,	91.45	50	⇑P	P	11 30 08.1	+0.7
	baz=92						
B20A	Solberg Farm,	91.53	38	⇑P	P	11 30 08.2	+0.6
	baz=92						
J25A	Sunshine Ranch	91.54	43	⇑P	P	11 30 08.5	+0.7
	baz=92						
R30A	Dighton	91.55	49	⇑P	P	11 30 08.5	+0.6
	baz=92						
OGNE	Ogallala	91.55	46	⇓P	P	11 30 07.9	0.0
	baz=92						
M27A	Reverse DX Ran	91.58	46	⇓P	P	11 30 08.8	+0.7
	baz=92						
XAN	Xi'an	91.59	306	P	P	11 30 08.4	+0.2
XAN				pP	pP	11 30 14.3	+0.2
XAN				sP	sP	11 30 17.1	+0.9
XAN				SKS	SKSac	11 40 38.8	-1.4
XAN				S	ScS	11 41 11.5	+1.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,94nm,7.4s						
XAN				LR	LR		
	comp=N,150nm,18.4s						
XAN				LR	LR		
	comp=E,48nm,16.4s						
XAN				LR	LR		
	comp=Z,110nm,18.4s						
K26A	Motz Farm, Whi	91.62	44	⇓P	P	11 30 08.8	+0.7
	baz=92						
F23A	Volborg	91.68	41	⇓P	P	11 30 08.8	+0.4
	baz=92						
P29A	Atwood	91.68	48	⇓P	P	11 30 08.7	+0.2
	baz=92						
E22A	Miles City	91.71	40	⇑P	P	11 30 09.3	+0.8
	baz=92						
H24A	Dirks Ranch, A	91.73	42	⇓P	P	11 30 09.1	+0.5
	baz=92						
C21A	Desert Coulee	91.74	38	⇓P	P	11 30 09.8	+1.2
	baz=92						
RSSD	Black Hills	91.75	43	eP	P	11 30 08.5	-0.4
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RSSD	Black Hills	91.75	43	eP	P	11 30 08.5	-0.4
	comp=Z,7.1nm,1.0s						
N28A	Pribeno Ranch	91.76	47	⇓P	P	11 30 08.7	-0.1
	baz=92						
A20A	Cobblestone Ra	91.81	37	⇓P	P	11 30 09.4	+0.5
	baz=92,SNR=10						
S31A	Mullinville	91.81	50	⇑P	P	11 30 10.1	+0.9
	baz=92						
I25A	Rochford	91.89	43	⇑P	P	11 30 09.7	+0.2
	baz=92						
L27A	T5 Ranch, Ells	91.89	45	⇓P	P	11 30 10.6	+1.1
	baz=92						
Q30A	Quinter	91.90	49	⇑P	P	11 30 09.8	+0.3
	baz=92						
D22A	Cohagen	91.93	39	⇑P	P	11 30 10.5	+1.1
	baz=92						
J26A	Sides Ranch, S	91.97	44	⇑P	P	11 30 10.8	+1.1
	baz=92						
O29A	4D Ranch, Culb	92.01	47	⇓P	P	11 30 10.6	+0.6
	baz=92						
R31A	Burdett	92.08	49	⇓P	P	11 30 11.2	+0.8
	baz=92						
G24A	Alzada	92.09	42	⇓P	P	11 30 10.5	+0.2
	baz=92						
B21A	Ellsworth Farm	92.10	38	⇓P	P	11 30 10.7	+0.5
	baz=92						
E23A	Ismay	92.12	40	⇓P	P	11 30 11.1	+0.7
	baz=92						
P30A	Selden	92.13	48	⇓P	P	11 30 11.2	+0.6
	baz=92						
K27A	Flueckinger Fa	92.23	45	⇓P	P	11 30 11.5	+0.5
	baz=92						
H25A	Fruitdale	92.26	42	⇓P	P	11 30 11.4	+0.4
	baz=92						
NANT	Nan	92.30	289	P	P	11 30 12.8	+1.1
	comp=Z,81nm,0.9s,comp=Z,5µm						
F24A	Ekalaka	92.33	41	⇓P	P	11 30 12.7	+1.4
	baz=93						
L28A	Connealy Angus	92.38	45	⇑P	P	11 30 12.6	+0.9
	baz=93						
C22A	Vida	92.41	39	⇑P	P	11 30 12.6	+1.0
	baz=93						
A21A	Bergtoll Ranch	92.44	38	⇓P	P	11 30 12.5	+0.8
	baz=93						
N29A	Votaw Ranch, W	92.44	47	⇑P	P	11 30 12.8	+0.9
	baz=93						
Q31A	Ellis	92.48	49	⇓P	P	11 30 13.5	+1.3
	baz=93						
D23A	Lindsay	92.52	40	⇓P	P	11 30 13.4	+1.2
	baz=93						
O30A	MW Ranch, Wils	92.54	48	⇑P	P	11 30 12.8	+0.4
	baz=93						
B22A	Reddig Ranch S	92.62	38	⇑P	P	11 30 13.6	+1.0
	baz=93						
J27A	Elkhorn Farm,	92.63	44	⇓P	P	11 30 14.4	+1.5
	baz=93						
G25A	Newell	92.65	42	⇓P	P	11 30 12.8	0.0
	baz=93						
HHC	Hu-ho-hao-te	92.66	313	eP	P	11 30 14.4	+1.4
HHC				sP	sP	11 30 21.4	+0.3
HHC				PP	PP	11 33 59.3	+4.1
HHC				SKS	SKSac	11 40 47.0	+1.0
HHC				S	S	11 41 16.8	-0.3
HHC				sS	sS	11 41 28.1	+1.1
HHC				pmax	pmax		
	comp=Z,68nm,0.8s						
HHC				pmax	pmax		
	comp=Z,800nm,7.0s						
HHC				LR	LR		
	comp=N,400nm,18.7s						
HHC				LR	LR		
	comp=E,290nm,18.1s						
HHC				LR	LR		
	comp=Z,480nm,18.6s						
M29A	Burnside Ranch	92.68	46	⇑P	P	11 30 14.4	+1.4
	baz=93						
E24A	Baker	92.76	41	⇓P	P	11 30 14.0	+0.7
	baz=93						
H26A	Fairpoint	92.78	43	⇓P	P	11 30 13.8	+0.3
	baz=93						
N30A	Hueftle Ranch,	92.79	47	⇓P	P	11 30 14.6	+1.0
	baz=93						
K28A	Ten Mile Ranch	92.80	45	⇓P	P	11 30 14.8	+1.1
	baz=93						
C23A	Lambert	92.84	39	⇓P	P	11 30 15.0	+1.3
	baz=93						
KMI	Kunming	92.93	296	P	P	11 30 15.5	+0.7
KMI				pP	pP	11 30 22.9	+2.2
KMI				sP	sP	11 30 25.8	+3.0
KMI				PP	PP	11 34 00.6	+2.8
KMI				SKS	SKSac	11 40 50.3	+1.8
KMI				S	S	11 41 20.1	-0.4
KMI				sS	sS	11 41 30.9	+0.6
KMI				SS	SS	11 47 38.9	+3.9
KMI				pmax	pmax		
	comp=Z,18nm,0.9s						
KMI				pmax	pmax		
	comp=Z,390nm,5.7s						
KMI				LR	LR		
	comp=N,400nm,17.6s						
KMI				LR	LR		
	comp=E,800nm,18.2s						
KMI				LR	LR		
	comp=Z,950nm,18.2s						
F25A	Bowman	92.97	41	⇑P	P	11 30 15.7	+1.4
	baz=93						
I27A	Quinn	92.98	43	⇓P	P	11 30 14.8	+0.5
	baz=93						
A22A	Carney Farms,	93.01	38	⇓P	P	11 30 15.4	+1.0
	baz=93						
D24A	Glendive	93.01	40	⇓P	P	11 30 15.4	+0.9
	baz=93						
L29A	Maesberg Ranch	93.10	46	⇑P	P	11 30 16.2	+1.2
	baz=93						
LAMP	Lampang	93.13	289	P	P	11 30 16.8	+1.2
	comp=Z,15nm,0.8s,comp=Z,112nm						
C24A	Savage	93.16	40	⇑P	P	11 30 15.7	+0.6
	baz=93						
G26A	Maurine	93.20	42	⇓P	P	11 30 15.6	+0.2
	baz=93						
J28A	Allard Ranch,	93.21	44	⇑P	P	11 30 16.3	+0.8
	baz=93						
H27A	Howes	93.22	43	⇑P	P	11 30 15.7	+0.2
	baz=94						
M30A	Dale-Ortello V	93.27	46	⇓P	P	11 30 16.3	+0.5
	baz=94						
E25A	Miller Ranch,	93.28	41	⇑P	P	11 30 16.5	+0.8
	baz=94						
B23A	Brockton	93.28	39	⇓P	P	11 30 16.1	+0.5
	baz=94						
F26A	Lodgepole	93.42	42	⇓P	P	11 30 17.1	+0.7
	baz=94						
K29A	Lazy Trails An	93.52	45	⇓P	P	11 30 17.8	+0.9
	baz=94						
I28A	Midland	93.52	44	⇑P	P	11 30 17.3	+0.5
	baz=94						
A23A	Redstone	93.59	38	⇓P	P	11 30 17.8	+0.7
	baz=94						
D25A	Fairfield	93.64	40	⇓P	P	11 30 18.6	+1.3
	baz=94						
G27A	Dupree	93.66	42	⇑P	P	11 30 17.7	+0.2
	baz=94						
CMAR	Chiang Mai Arr	93.72	288	P	P	11 30 18.8	+0.5
CMAR	Chiang Mai Arr	93.72	288	P	P	11 30 18.8	+0.5
	comp=Z,12nm,0.9s,baz=122,slow=2.9,SNR=50						
CMAR				LR	LR	12 11 43.5	
	comp=Z,301nm,18.7s,baz=115,slow=35						
DGMT	Dagmar	93.75	39	eP	P	11 30 18.1	+0.3
	comp=Z,40nm,1.1s						
DGMT	Dagmar	93.75	39	⇑P	P	11 30 18.9	+1.1
	baz=94						
TUL1	Tulsa	93.78	53	⇑P	P	11 30 18.5	+0.4
	baz=94						
F27A	Lemmon	93.83	42	⇑P	P	11 30 18.9	+0.6
	baz=94						
E26A	Carlson Angus	93.84	41	⇓P	P	11 30 19.3	+1.0
	baz=94						
CMMT	Chiang Mai	93.84	289	P	P	11 30 19.5	+0.6
	comp=Z,20nm,0.9s,comp=Z,582nm						
CHTO	Chiang Mai	93.84	289	eP	P	11 30 18.4	-0.5
CHTO				pmax	pmax		
	comp=Z,12nm,0.7s						
CHTO	Chiang Mai	93.84	289	eP	P	11 30 18.4	-0.5
	comp=Z,12nm,0.7s						
CHTO	Chiang Mai	93.84	289	P	P	11 30 19.2	+0.3
CHTO	Chiang Mai	93.84	289	P	P	11 30 19.9	+1.0
	comp=Z,22nm,0.9s,comp=Z,674nm						
H28A	Mission Ridge	93.92	43	⇓P	P	11 30 19.4	+0.7
	baz=94						
C25A	Freed Ranch, W	93.94	40	⇓P	P	11 30 19.4	+0.7
	baz=94						
A24A	Westby	94.08	39	⇑P	P	11 30 20.5	+1.2
	baz=94						
D26A	Manning	94.11	41	⇓P	P	11 30 20.4	+0.9
	baz=94						
G28A	Parade	94.16	43	⇑P	P	11 30 20.2	+0.5
	baz=94						
CMAI	Chiengmai2	94.16	290	P	P	11 30 21.7	+1.2
	comp=Z,25nm,1.0s,comp=Z,2µm						
B25A	Knox Farm, Ray	94.26	39	⇓P	P	11 30 21.8	+1.7
	baz=94						
CD2	Chengdu	94.31	301	P	P	11 30 22.1	+1.3
CD2				pP	pP	11 30 27.1	+0.3
CD2				sP	sP	11 30 29.5	+0.6
CD2				PP	PP	11 34 12.3	+4.0
CD2				SKS	SKSac	11 40 55.6	+0.1
CD2				S	S	11 41 30.4	-1.6
CD2				sS	sS	11 41 39.8	-2.1
CD2				SS	SS	11 47 56.8	+2.6
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,570nm,10.8s						
CD2				LR	LR		
	comp=N,630nm,15.6s						
CD2				LR	LR		
	comp=E,850nm,17.8s						
CD2				LR	LR		
	comp=Z,620nm,17.8s						
E27A	Carson	94.37	42	⇑P	P	11 30 21.7	+1.0
	baz=95						
BGNE	Belgrade	94.38	47	⇑P	P	11 30 21.7	+0.8
	baz=95						
KSU1	Kansas State U	94.49	50	eP	P	11 30 21.6	+0.2
	comp=Z,8.5nm,0.6s						
YAK	Yakutsk	94.56	337	eP	P	11 30 21.6	+0.5
A25A	Svangstu Ranch	94.60	39	⇑P	P	11 30 23.1	+1.4
	baz=95						
INK	Inuvik	94.63	14	eP	P	11 30 21.1	-0.2
	comp=Z,4.8nm,0.9s						
C26A	Wahner Farm, P	94.68	40	⇑P	P	11 30 23.6	+1.5
	baz=95						
D27A	Center	94.70	41	⇑P	P	11 30 23.2	+1.0
	baz=95						
B26A	Jensen Ranch,	94.86	40	⇓P	P	11 30 24.3	+1.4
	baz=95						
C27A	Sayler Ranch,	94.99	40	⇓P	P	11 30 24.8	+1.3
	baz=95						
BRSD	Miller	95.14	44	⇑P	P	11 30 24.9	+0.7
	baz=95						
A26A	Wade Farm, Ken	95.21	39	⇑P	P	11 30 25.9	+1.4
	baz=95						
MDND	Maddock	96.20	41	eP	P	11 30 29.0	0.0
	comp=Z,14nm,0.8s						
MDND	Maddock	96.20	41	⇑P	P	11 30 29.0	0.0
	baz=96						
LZH	Lanzhou	96.22	306	eP	P	11 30 31.5	+1.9
LZH				pP	pP	11 30 35.0	-0.5
LZH				sP	sP	11 30 38.3	+0.7
LZH				PP	PP	11 34 25.4	+2.2
LZH				SKS	SKSac	11 41 06.0	+0.4
LZH				eS	S	11 41 42.3	-6.3
LZH				SS	SS	11 48 25.0	+3.6
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,310nm,6.5s						
LZH				LR	LR		
	comp=N,560nm,15.0s						
LZH				LR	LR		
	comp=E,440nm,16.2s						
LZH				LR	LR		
	comp=Z,790nm,18.5s						
A28A	Rude Farm, Bot	96.26	40	⇑P	P	11 30 29.6	+0.3
	baz=96						
YKA	Yellowknife Ar	96.26	24	P	P	11 30 28.8	-0.1
YKA	Yellowknife Ar	96.26	24	P	P	11 30 28.8	-0.1
	comp=Z,1.9nm,0.8s,baz=231,slow=3.9,SNR=8.7						
ECSD	EROS Data Cent	96.38	45	eP	P	11 30 29.8	-0.1
	comp=Z,23nm,1.2s						
LPAZ	La Paz	98.46	111	P	Pdif	11 30 43.3	+2.5
LPAZ	La Paz	98.46	111	P	Pdif	11 30 43.3	+2.5
	comp=Z,2.1nm,0.8s,baz=202,slow=4.2,SNR=7.9						
LPAZ				LR	LR	12 08 22.3	
	comp=Z,3µm,18.0s,baz=323,slow=31						
ULN	Ulaanbaatar	98.53	318	eP	Pdif	11 30 40.9	+1.1
SONM	Songino Array	98.93	318	LR	LR	12 15 06.7	
	comp=Z,474nm,18.3s,baz=236,slow=35						
ULM	Lac du Bonnet	99.42	40	LR	LR	12 11 44.2	
	comp=Z,3µm,18.8s,baz=255,slow=33						
SPMN	St. Paul	99.47	45	⇑Pdiff	Pdif	11 30 44.8	+1.1
	baz=100						
SPMN	St. Paul	99.47	45	⇑Pdiff	Pdif	11 30 44.8	+1.1
	baz=100						
GTA	Gaotai	100.39	308	eP	Pdif	11 30 51.8	+3.6
GTA				pP	pP	11 30 56.4	+2.2
GTA				sP	sP	11 30 58.8	+2.5
GTA				PP	PP	11 35 00.8	+5.8
GTA				SKS	SKSac	11 41 29.3	+2.8
GTA				S	Sdif	11 42 25.8	+2.0
GTA				sS	sS	11 42 32.5	-1.2
GTA				SS	SS	11 49 22.0	+2.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,200nm,6.7s						
GTA				LR	LR		
	comp=N,380nm,17.6s						
GTA				LR	LR		
	comp=E,380nm,19.9s						
GTA				LR	LR		
	comp=Z,530nm,18.5s						
WMQ	Urumqi	110.31	310	ePdif	Pdif	11 31 32.4	+0.3
WMQ				PP	PP	11 36 10.0	+1.8
WMQ	Urumqi	110.31	310	SKS	SKSdf	11 42 42.4	-2.1
WMQ	Urumqi	110.31	310	SS	SS	11 51 34.5	-0.5
WMQ				AMB	AMB		
	comp=Z,63nm,15.0s						
WMQ				LR	LR		
	comp=N,310nm,21.0s						
WMQ				LR	LR		
	comp=E,170nm,22.0s						
WMQ				LR	LR		
	comp=Z,360nm,25.0s						
ZALV	Zalesovo Beam	113.59	321	PKiKP	PKiKP	11 35 37.6	-1.4
ZALV	Zalesovo Beam	113.59	321	PKiKP	PKiKP	11 35 37.6	-1.4
	comp=Z,1.0nm,0.6s,baz=188,slow=2.9,SNR=4.6						

MKAR Makanchi Array 114.52 313 PKIKP PKPdf 11 35 38.9 -2.1
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 114.52 313 PKP PKPdf 11 35 38.9 -2.2
MKAR Makanchi Array 114.52 313 PKP PKPdf 11 35 38.9 -2.2
comp=Z,0.8nm,0.9s,baz=83,slow=5.0,SNR=4.2
AAK Ala-Archa 119.73 308 *i* PKIKP **PKPdf 11 35 50.1 -1.3**
BVAR Borovoye Array 122.21 320 PKIKP **PKPdf 11 35 54.6 -1.0**
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 122.21 320 PKP **PKPdf 11 35 54.6 -1.0**
BVAR Borovoye Array 122.21 320 PKP **PKPdf 11 35 54.6 -1.0**
comp=Z,3.4nm,0.9s,baz=106,slow=3.2,SNR=11
BRVK Borovoye 122.27 320 *i* PKIKP **PKPdf 11 35 54.3 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 122.67 308 *e*PKIKP **PKPdf 11 35 55.8 -1.0**
KKAR Karatay Array 122.67 308 *e*PKPdf **PKPdf 11 35 55.8 -1.0**
SUMG Summit 123.55 15⇑*i* P **PKPdf 11 36 00.3 +2.2**
comp=Z,5.6nm,1.0s
SUMG
comp=Z,950nm,18.0s
DAG Danmarks Havn 123.63 7 *i* P **PKPdf 11 35 56.3 -1.4**
comp=Z,4.0nm,0.9s
DAG
comp=Z,660nm,17.0s
BOSA Boshof 126.46 202 PKP **PKPdf 11 36 05.4 +0.6**
BOSA Boshof 126.46 202 PKP **PKPdf 11 36 05.4 +0.6**
comp=Z,9.5nm,1.0s,baz=97,slow=2.5,SNR=4.9
SVE Sverdlovsk 126.93 326 *i* PKIKP **PKPdf 11 36 04.5 0.0**
SVE *e*PPP PPP 11 40 43.7
SVE *e*SP SP 11 47 53.1 -11
SVE *e* 11 49 39.0
SVE pmax pmax
comp=Z,12nm,0.6s
SVE MLR MLR
comp=Z,961nm,19.0s
ARU Arti 128.14 326 *i* PKIKP **PKPdf 11 36 06.0 -0.8**
ARU 11 38 07.4
ARU 11 43 09.1
ARU SP SP 11 48 13.4 -1.0
ARU MLR MLR
comp=Z,1μm,20.0s
SCO Scoresbysund 128.61 11 *i* P **PKPdf 11 36 06.9 -0.4**
comp=Z,5.5nm,0.9s
SCO
comp=Z,800nm,18.0s
ABKAR Akbulak array 129.32 317 *e*PKPdf **PKPdf 11 36 09.6 +0.3**
ARCES ARCESS Array B 130.72 351 PKP **PKPdf 11 36 11.2 -0.2**
ARCES ARCESS Array B 130.72 351 PKP **PKPdf 11 36 11.2 -0.2**
comp=Z,5.3nm,0.7s,baz=48,slow=1.8,SNR=11
APA Apatity 130.99 346⇓*i* PKIKP **PKPdf 11 36 14.4 +2.5**
APA MLR MLR
comp=Z,800nm,18.0s
KAF Kangasniemi 137.24 346 *e*PKIKP **PKPdf 11 36 22.3 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 137.24 346 *e*pkp **PKPdf 11 36 22.3 -1.5**
comp=Z,2.7nm,0.6s
FINES FINESS Array B 137.88 345 PKP **PKPdf 11 36 24.3 -0.7**
FINES FINESS Array B 137.88 345 PKhKP PKPpre 11 36 15.3
comp=Z,1.3nm,0.8s,baz=55,slow=11,SNR=2.8
FINES PKP **PKPdf 11 36 24.3 -0.7**
comp=Z,4.5nm,0.7s,baz=81,slow=3.0,SNR=9.8
MAK Makhachkala 139.31 311 *i* PKIKP **PKPdf 11 36 30.0 +1.8**
MAK *e* 11 39 21.9
MAK *e*PPP PPP 11 42 21.0
MAK *e*SS SS 11 57 37.5 -2.2
MAK pmax pmax
comp=Z,28nm,0.3s
OBN Obninsk 139.44 333 *i* PKIKP **PKPdf 11 36 29.0 +1.0**
OBN *e* 11 36 36.5
OBN *e* 11 36 43.8
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,700nm,18.0s
VRHR Novokhopersk 139.48 325 *e*PKIKP PKPpre 11 36 22.9
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=Z,1μm,23.0s
VRHR MLR MLR
comp=N,70nm,11.0s
VRHR MLR MLR
comp=E,1μm,23.0s
NB2 NORSAR Subarra140.55 356 PKP PKPpre 11 36 22.8
comp=Z,2.1nm,0.9s,baz=17,slow=2.6
NOA NORSAR Array B140.55 356 PKP **PKPdf 11 36 28.1 -1.8**
NOA NORSAR Array B140.55 356 PKhKP PKPpre 11 36 19.2
comp=Z,1.6nm,0.9s,baz=16,slow=4.2,SNR=3.6
NOA PKP **PKPdf 11 36 28.2 -1.8**
comp=Z,1.4nm,0.7s,baz=16,slow=2.0,SNR=4.8
VSR Storozhevoye 140.69 327 *e*PKIKP **PKPdf 11 36 25.6 -4.8**
VSR pmax pmax
comp=Z,70nm,2.4s
VSR pmax pmax
comp=N,9.0nm,0.3s
VSR pmax pmax
comp=E,6.0nm,0.3s
VSR MLR MLR
comp=N,460nm,22.0s
VSR MLR MLR
comp=E,240nm,22.0s
VSR MLR MLR
comp=Z,640nm,22.0s
VORD Divnogorie 140.78 326 *e*PKIKP **PKPdf 11 36 30.7 +0.1**
VORD pmax pmax
comp=Z,80nm,2.9s
VORD pmax pmax
comp=N,10.0nm,1.4s
VORD pmax pmax
comp=E,70nm,2.9s
VORD MLR MLR
comp=N,490nm,20.0s
VORD MLR MLR
comp=E,380nm,20.0s
VORD MLR MLR
comp=Z,690nm,20.0s
DGRG David-gareji 141.28 310 P **PKPdf 11 36 29.1 -2.8**
KMBO Kilima Mbogo 141.64 238 PKPpre PKPpre 11 36 26.5
KMBO *e*PKPdf **PKPdf 11 36 29.0 -4.6**
KMBO Kilima Mbogo 141.64 238 PKhKP PKPpre 11 36 26.5
comp=Z,8.1nm,0.9s,baz=87,slow=3.3,SNR=15
TBLG Delisi 141.65 310 *e*PKHKP PKPpre 11 36 26.4
TBLG Delisi 141.65 310 P PKPpre 11 36 26.4
KIV Kislovodsk 142.24 315 *i* PKIKP **PKPdf 11 36 34.6 +1.0**
KIV *e* 11 43 38.0
KIV *e*SS SS 11 58 11.6 -2.3
KIV *e*SSS SSS 12 03 30.7
KIV pmax pmax
comp=Z,6.0nm,1.1s
ONI Oni 142.25 312 P **PKPdf 11 36 29.7 -3.9**
KAC Achnashellach 143.42 10 *e*P PKPbc 11 36 31.8 -0.5
BHD Baghdad 143.95 297 *i* PKP **PKPdf 11 36 36.0 -0.8**
BHD *i* SKS **SKSdf 11 43 46.0 +0.3**
SOC Sochi 144.35 316*c i*PKIKP **PKPab 11 36 34.1 -1.1**
SOC *e*PPP PPP 11 43 33.8
SOC pmax pmax
comp=Z,24nm,0.9s
SOC MLR MLR
comp=Z,577nm,22.0s
EAB Aberfoyle 144.83 10 *e*P **PKPab 11 36 35.7 -0.9**
SUW Suwalki 145.14 342 *e*PKIKP **PKPbc 11 36 37.1 -0.6**
SUW Suwalki 145.14 342 *e*PKPbc **PKPbc 11 36 37.1 -0.6**
SUW Suwalki 145.14 342 *e*PKPdf **PKPbc 11 36 36.8 -0.9**
SUW *e*PKPbc **PKPdf 11 36 39.1 +0.9**
PGBU Glenifferbraes 145.17 10 AMS AMS 12 43 19.0
comp=Z,647nm,15.4s
ANN Anapa 145.20 319 *i* PKIKP **PKPbc 11 36 37.4 -0.8**
ANN pmax pmax
comp=Z,81nm,1.0s
MUD Monsted U'grnd 145.25 357 *i* P **PKPdf 11 36 39.0 +0.7**
comp=Z,46nm,0.9s
MUD
comp=Z,810nm,18.0s
EDI Edinburgh 145.25 9 AMS AMS 12 44 01.8
comp=Z,671nm,18.3s
ESY Stoneypath 145.34 8 *e*P **PKPbc 11 36 36.3 -2.0**
EBL Broad Law 145.42 9 *e*P **PKPbc 11 36 37.3 -1.3**
AKASG Malin Array Be 145.70 333 PKIKP **PKPdf 11 36 38.1 -1.1**
AKASG pmax pmax
comp=Z,21nm,0.8s
AKASG Malin Array Be 145.70 333 PKPbc **PKPdf 11 36 38.1 -1.1**
AKASG Malin Array Be 145.70 333 PKPbc **PKPdf 11 36 38.1 -1.1**
comp=Z,21nm,0.8s,baz=38,slow=4.3,SNR=41
KIEV Kiev 145.71 333 *e*PKIKP **PKPdf 11 36 38.8 -0.5**
KIEV Kiev 145.71 333 *e*PKPbc **PKPdf 11 36 38.8 -0.5**
COP Copenhagen 145.74 353 *i* P **PKPdf 11 36 39.0 -0.2**
COP
comp=Z,280nm,14.0s
ESK Eskdalemuir 145.84 9 AMS AMS 12 41 13.3
comp=Z,753nm,21.2s
BSD Bornholm Skovb 145.97 350 *i* P **PKPab 11 36 40.9 +0.1**
comp=Z,36nm,0.9s
BSD
comp=Z,810nm,17.0s
ECK Cauldkaine Hil 145.98 9 *e*P **PKPdf 11 36 39.5 -0.2**
GAL1 Galloway 146.03 11 AMS AMS 12 45 23.2
comp=Z,1μm,17.4s
KESW Keswick, Cumbr 146.56 9 AMS AMS 12 45 20.4
comp=Z,952nm,18.7s
GKP Gorka Klasztor 147.30 347 *e*PKP **PKPab 11 36 46.1 +0.1**
HPK Haverah Park 147.38 8 AMS AMS 12 50 21.4
comp=Z,814nm,16.7s
VAL Valentia 147.46 18 *e*P **PKPbc 11 36 43.9 -0.8**
WLF1 Llynfaes 147.60 11 AMS AMS 12 55 23.5
comp=Z,873nm,15.9s
BSEG Bad Segeberg 147.67 355 *e*PKPbc **PKPbc 11 36 45.5 +0.3**
BSEG Bad Segeberg 147.67 355 *e*PKP2 **PKPbc 11 36 45.5 +0.3**
BEL Belsk 147.75 342 *e*PKP **PKPbc 11 36 46.3 +0.8**
STNC Stoke 148.15 9 AMS AMS 12 48 01.2
comp=Z,848nm,16.5s
FOEL Foel Wylfa 148.19 10 AMS AMS 12 45 25.2
comp=Z,811nm,19.1s
LVV L'vov 148.44 337 *e*PKP2 **PKPbc 11 36 46.9 -0.5**
LVV *e* 11 40 14.3
KIS Kishinev 148.59 329 *e*PKP **PKPdf 11 36 44.0 -0.2**
comp=Z,400nm,3.0s
KIS Kishinev 148.59 329 *e*PP PP 11 40 28.0 +11
KIS Kishinev 148.59 329 *e*PKIKP **PKPdf 11 36 44.0 -0.2**
KIS *e* 11 36 49.0
KIS *e*PPP PPP 11 43 35.0
KIS pmax pmax
comp=Z,400nm,3.0s
KIS pmax pmax
comp=Z,700nm,7.0s
KIS MLR MLR
comp=N,500nm,20.0s
KIS MLR MLR
comp=E,500nm,20.0s
KIS MLR MLR
comp=Z,800nm,20.0s
KIS MLR MLR
comp=Z,900nm,21.0s
HLM1 Long Mynd 148.60 10 *e*P **PKPdf 11 36 42.6 -1.5**
LPW Lampeter 148.78 12 AMS AMS 12 43 15.8
comp=Z,6μm,20.9s
KWP Kalwaria Pacla 149.06 338 *e*PKIKP **PKPdf 11 36 43.7 -1.3**
KWP Kalwaria Pacla 149.06 338 *e*PKPdf **PKPdf 11 36 43.7 -1.3**
KWP Kalwaria Pacla 149.06 338 *e*PKP **PKPdf 11 36 44.6 -0.4**
MCH1 Michaelchurch 149.08 10 AMS AMS 12 47 44.0
comp=Z,835nm,20.2s
NRDL Niedersach Rie 149.12 355 *e*PKPbc **PKPbc 11 36 49.8 +0.8**
OJC Ojcow 149.47 342 *e*PKHKP **PKPbc 11 36 47.1 -3.0**
BUR08 Bucovina Ar. S 149.74 333 *e*PKPbc **PKPbc 11 36 51.1 +0.2**
STHS Stebnicka Huta 149.74 340 *e*PKP **PKPbc 11 36 48.8 -2.0**
STHS *e* 11 36 59.3
BURAR Bucovina Array 149.76 333⇓⇓PKP2 **PKPbc 11 36 51.7 +0.7**
BURAR Bucovina Array 149.76 333⇓⇓*i*P **PKPbc 11 36 51.7 +0.7**
KSP Ksiaz 149.79 347 *e*PKP2 **PKPbc 11 36 50.6 -0.2**
KSP Ksiaz 149.79 347 *e*PKP **PKPbc 11 36 49.3 -1.5**
KSP *e*PKPbc **PKiKP 11 36 52.9 +1.1**
KOLS Kolonicke sedl 149.81 338 *e*PKP **PKPdf 11 36 48.4 +2.2**
KOLS *e* 11 36 51.6
KOLS *e* 11 36 58.2
CLL Collm 149.94 351 *e*PKHKP **PKPdf 11 36 48.0 +1.7**
CLL *i* 11 36 52.8
CLL pmax pmax
comp=Z,18nm,0.8s
CLL MLR MLR
comp=Z,900nm,19.4s
CLL Collm 149.94 351 *e*PKPdf **PKPdf 11 36 48.0 +1.7**
CLL *i* PKPbc **PKPbc 11 36 51.4 +0.3**
comp=Z,18nm,0.8s
CLL *i* PKiKP **PKiKP 11 36 52.8 +0.7**
comp=Z,39nm,1.0s
CLL *i* PKPab **PKPab 11 36 55.5 -1.2**
comp=Z,36nm,1.0s
CLL *i* pPKPab **pPKPab 11 36 59.3 -3.4**
CLL L L 12 51 00.0
comp=N,300nm,19.9s
CLL L L 12 51 00.0
comp=E,300nm,20.9s
CLL L L 12 51 00.0
comp=Z,900nm,19.4s
WOL Wolverton 150.02 9 AMS AMS 12 44 29.2
comp=Z,856nm,18.8s
NIE Niedzica 150.03 341 *e*PKP2 **PKPbc 11 36 50.6 -0.9**
UZH Uzhgorod 150.06 338 *i* PKHKP **PKPbc 11 36 49.3 -2.2**
UZH *e* 11 43 50.7
CRVS Cervenica-Dubn 150.11 339 *e*PKP **PKPdf 11 36 49.1 +2.4**
UPC Upice 150.16 347 *e*PKP2 **PKPbc 11 36 52.3 +0.6**
UPC Upice 150.16 347⇑*e*PKP **PKPbc 11 36 52.3 +0.6**
UPC *e*PKPAB **PKPab 11 36 57.9 +0.2**
BRTR Keskin Array B 150.17 313 PKPbc **PKPbc 11 36 51.5 -0.7**
BRTR Keskin Array B 150.17 313 PKPbc **PKPbc 11 36 51.5 -0.7**
comp=Z,7.7nm,0.8s,baz=124,slow=2.2,SNR=30
CFR Carcaliu 150.21 327⇓⇓PKP2 **PKPbc 11 36 51.8 -0.2**
CFR Carcaliu 150.21 327⇓⇓*i*P **PKPbc 11 36 51.8 -0.2**
BRG Berggiesshubel 150.22 349 *i* PKP **PKPbc 11 36 52.3 +0.5**
comp=Z,37nm,1.0s
BRG
comp=Z,1μm,16.0s
BRG
comp=N,265nm,16.0s
BRG
comp=E,655nm,16.0s
BRG Berggiesshubel 150.22 349 *e*PKPbc **PKPbc 11 36 52.0 +0.2**
BRG Berggiesshubel 150.22 349 *i* PKP2 **PKPbc 11 36 52.3 +0.5**
BRG pmax pmax
comp=Z,37nm,1.0s
BRG MLR MLR
comp=N,265nm,16.0s
BRG MLR MLR
comp=E,655nm,16.0s
BRG MLR MLR
comp=Z,1μm,16.0s
DPC Dobruska-Polom 150.24 346 *e*PKP2 **PKPbc 11 36 52.1 +0.1**
DPC *e*SS SS 11 59 44.5 +1.6
DPC Dobruska-Polom 150.24 346⇑*e*PKP **PKPbc 11 36 52.1 +0.1**
DPC *e*PKPAB **PKPab 11 36 59.0 +0.9**
DPC *e*SS SS 11 59 44.5 +1.6
DPC AMS AMS 12 48 30.0
OKC Ostrava-Krasne 150.28 344 *e*PKIKP **PKPbc 11 36 52.5 +0.5**
OKC *e* 11 36 59.6
OKC *e*SS SS 11 59 46.1 +2.9
OKC MLR MLR
comp=Z,600nm,22.6s
OKC Ostrava-Krasne 150.28 344⇑*e*PKP **PKPbc 11 36 52.5 +0.5**
OKC *e*PKPAB **PKPab 11 36 59.6 +1.4**
OKC *e*SS SS 11 59 46.1 +2.9
OKC AMS AMS 12 44 50.0
comp=Z,600nm,22.6s
TRPA Tarpa 150.39 337⇓⇓*i*P **PKPbc 11 36 51.9 -0.4**
TRPA Tarpa 150.39 337 *e*PKPdf **PKPbc 11 36 50.3 -2.0**
DYA Yadsworthy 150.41 12 AMS AMS 12 45 29.1
comp=Z,498nm,17.3s
VRI Vrincioaia 150.41 329⇓⇓PKIKP **PKPbc 11 36 52.1 -0.4**
VRI Vrincioaia 150.41 329⇓⇓*i*P **PKPbc 11 36 52.1 -0.4**
PVCC Panska Ves 150.43 348 *e*PKIKP **PKPbc 11 36 52.3 -0.1**
PVCC MLR MLR
comp=Z,900nm,19.0s
PVCC Panska Ves 150.43 348⇑*e*PKP **PKPbc 11 36 52.3 -0.1**
PVCC AMS AMS 12 49 30.0
comp=Z,900nm,19.0s
PLOR Plostina 150.46 329⇓⇓PKIKP **PKPbc 11 36 52.8 +0.2**
PLOR Plostina 150.46 329⇓⇓*i*P **PKPbc 11 36 52.8 +0.2**
MORC Moravsky Berou 150.49 344 *e*PKIKP **PKPdf 11 36 49.2 +1.9**
MORC Moravsky Berou 150.49 344 *e*PKPdf **PKPdf 11 36 49.1 +1.9**
MORC *e*PKPbc **PKPbc 11 36 52.9 +0.3**
TIRR Tirgusor 150.57 326 *e*PKIKP **PKPbc 11 36 52.9 0.0**
TIRR Tirgusor 150.57 326 *e*PKPbc **PKPbc 11 36 52.9 0.0**
ANTO Ankara 150.67 314⇓⇓PKIKP **PKPbc 11 36 53.8 +0.4**
ANTO Ankara 150.67 314⇓⇓*i*P **PKPbc 11 36 53.8 +0.4**
ANTO Ankara 150.67 314 *e*PKPbc **PKPbc 11 36 53.9 +0.4**
MOX Moxa 150.78 352 *e*PKPbc **PKPbc 11 36 53.6 +0.4**
MOX *e*L L 12 45 31.4
comp=Z,853nm,19.8s
MOX Moxa 150.78 352 *e*PKIKP **PKPbc 11 36 53.6 +0.4**
UBBA Unterbreizbach 150.79 354 *e*PKPbc **PKPbc 11 36 54.5 +1.4**
KECS Kecovo 150.80 340 *e*PKIKP **PKPbc 11 36 53.5 +0.2**
KECS Kecovo 150.80 340 *e*PKP **PKPbc 11 36 53.5 +0.2**
TANN Tannenbergstha 150.90 351 *e*PKPbc **PKPbc 11 36 53.4 -0.1**
PRA Prague 150.90 348⇑PKP **PKPbc 11 36 54.0 +0.5**
PRU Pruhonice 150.96 348 *e*PKIKP **PKPbc 11 36 53.3 -0.3**
PRU *e* 11 37 01.4
PRU *e*SS SS 11 59 52.8 +2.1
PRU MLR MLR
comp=Z,800nm,19.1s
PRU Pruhonice 150.96 348⇑*e*PKP **PKPbc 11 36 53.3 -0.3**
PRU *e*PKPAB **PKPab 11 37 01.4 +0.4**
PRU *e*SS SS 11 59 52.8 +2.1
PRU AMS AMS 12 54 10.0
comp=Z,800nm,19.1s
UCC Uccle 151.00 2 PKPbc **PKPbc 11 36 56.8 +3.1**
BEBN Eben Emael 151.02 360 PKPbc **PKPbc 11 36 55.4 +1.7**
MLR Muntele Rosu 151.06 330⇑*i*P **PKPbc 11 36 54.2 0.0**
NKC Novy Kostel 151.07 351 *e*PKIKP **PKPbc 11 36 54.4 +0.5**
NKC *e* 11 37 01.6
NKC MLR MLR
comp=Z,500nm,22.1s
NKC Novy Kostel 151.07 351⇑*e*PKP **PKPbc 11 36 54.4 +0.5**
NKC *e*PKPAB **PKPab 11 37 01.6 +0.1**
NKC AMS AMS 12 44 40.0
comp=Z,500nm,22.1s
MEM Membach 151.20 359 PKPbc **PKPbc 11 36 53.1 -1.0**
TREC Trest 151.42 346 *e*PKIKP **PKPbc 11 36 55.1 +0.3**
TREC MLR MLR
comp=Z,1μm,19.6s
TREC Trest 151.42 346⇑*e*PKP **PKPbc 11 36 55.1 +0.3**
TREC AMS AMS 12 46 30.0
comp=Z,1μm,19.6s
DRGR 151.44 335⇑PKIKP **PKPbc 11 36 55.2 +0.3**
DRGR 151.44 335⇑*i*P **PKPbc 11 36 55.2 +0.3**
PSZ Piszkesteto 151.49 340 *e*PKIKP **PKPdf 11 36 51.5 +2.6**
PSZ Piszkesteto 151.49 340 *e*PKPdf **PKPdf 11 36 51.5 +2.6**
PSZ Piszkesteto 151.49 340 *e*PKPdf **PKPbc 11 36 52.0 -3.0**
TNS Taunus Mts 151.50 356 *e*PKPbc **PKPbc 11 36 54.8 -0.2**
TNS Taunus Mts 151.50 356 *e*PKIKP **PKPbc 11 36 54.8 -0.2**
VOIR 151.51 331⇑PKIKP **PKPbc 11 36 56.1 +0.9**
VOIR 151.51 331⇑*i*P **PKPbc 11 36 56.1 +0.9**
ROTZ Rotzenmuhle 151.56 351 *e*PKPbc **PKPbc 11 36 55.2 +0.1**
SMOL Smolenice 151.68 343 *e*PKIKP **PKPdf 11 36 45.4 -3.7**
SMOL Smolenice 151.68 343 *e*PG **PKPdf 11 36 45.4 -3.7**
SMOL *e*SG x 11 36 46.2
DOU Dourbes 151.71 1 PKP **PKPbc 11 36 52.2 -3.1**
DOU Dourbes 151.71 1 PKPbc **PKPbc 11 36 54.7 -0.6**
ARR Arges 151.76 331⇓*i*P **PKPbc 11 36 56.3 +0.6**
GRF Grafenberg Arr 151.77 352 *e*PKPbc **PKPbc 11 36 57.4 +1.9**
GRF *e*L L 12 46 01.5
comp=Z,817nm,21.2s
GRF Grafenberg Arr 151.77 352 *e*PKIKP **PKPbc 11 36 57.4 +1.9**
JSA Saint Aubin 151.93 11 AMS AMS 12 54 51.8
comp=Z,869nm,18.1s
KHC Kasperske Hory 151.96 349 *e*PKIKP **PKPdf 11 36 51.0 +1.5**
KHC MLR MLR
comp=Z,600nm,17.3s
KHC Kasperske Hory 151.96 349 *e*PKPDF **PKPdf 11 36 51.0 +1.5**
KHC ⇑*e*PKP **PKPbc 11 36 55.1 -0.9**
KHC AMS AMS 12 50 50.0
comp=Z,600nm,17.3s
KHC Kasperske Hory 151.96 349 *e*PKPdf **PKPdf 11 36 52.1 +2.5**
ZST Bratislava 152.06 343 *e*PKP **PKPbc 11 36 59.2 +3.0**
WET Wettzell 152.06 350 *e*PKPbc **PKPbc 11 36 57.9 +1.6**
WET Wettzell 152.06 350 *e*PKIKP **PKPbc 11 36 57.9 +1.6**
WLF Walferdange 152.15 359 PKPbc **PKPbc 11 36 56.5 +0.1**
WLF Walferdange 152.15 359 *e*PKPbc **PKPbc 11 36 56.5 +0.1**
WLF Walferdange 152.15 359 *e*PKIKP **PKPbc 11 36 56.7 +0.3**
WLF Walferdange 152.15 359 *e*PKPbc **PKPbc 11 36 56.7 +0.3**
GEC2 GERESS Array S 152.21 349 *e*PKPbc **PKPbc 11 36 58.1 +1.4**
GEC2 GERESS Array S 152.21 349 *e*PKIKP **PKPbc 11 36 58.1 +1.4**
GERES GERESS Array B 152.21 349 PKPbc **PKPbc 11 36 55.9 -0.8**
GERES GERESS Array B 152.21 349 PKPbc **PKPbc 11 36 55.9 -0.8**
comp=Z,8.0nm,0.8s,baz=22,slow=1.4,SNR=12
CONA Conrad Observa 152.62 345⇑*e*PKPdf **PKPdf 11 36 51.3 +0.7**
comp=Z,26nm,1.4s
LANF Langenberg 152.78 357 PKP **PKPdf 11 36 52.7 +2.0**
BZS Buzias 152.83 335⇑PKIKP **PKPbc 11 36 58.0 0.0**
BZS Buzias 152.83 335⇑*i*P **PKPbc 11 36 58.0 0.0**
PKSM Moragy 153.39 340⇑PKIKP **PKPdf 11 36 52.4 +0.8**
PKSM Moragy 153.39 340⇑*i*P **PKPdf 11 36 52.4 +0.8**
PKSM Moragy 153.39 340 *e*PKPdf **PKPdf 11 36 49.6 -2.0**
BFO Black Forest 153.40 356 *e*PKIKP **PKPdf 11 36 52.3 +0.6**
BFO *e* 11 36 59.3
BFO Black Forest 153.40 356 *e*PKPdf **PKPdf 11 36 52.3 +0.6**
BFO *e*PKPbc **PKPbc 11 36 59.3 +0.1**
RJOB Jochberg 153.44 349 *e*PKPbc **PKPbc 11 37 00.3 +0.9**
SOKA Soboth 153.99 345⇑*i*PKIKP **PKPbc 11 37 00.4 -0.2**
comp=Z,11nm,1.0s
MOTA Moosalm 154.09 351⇓⇓*i*pPKPdf **PKPdf 11 36 54.6 +1.8**
comp=Z,9.1nm,1.0s
WTTA Wattenberg 154.09 351⇑*i*PKIKP **PKPbc 11 37 01.0 0.0**
comp=Z,9.3nm,0.8s
LOMF Lomont 154.45 358 PKP **PKPdf 11 36 53.7 +0.5**
FETA Feichten 154.46 352⇑*i*pPKPdf **PKPdf 11 36 54.4 +1.0**
comp=Z,5.3nm,1.0s
VISS Visnje 154.85 345 *i* PKPdf **PKPbc 11 37 03.9 +1.5**
VISS *i* 11 37 17.1
JAVS Javornik 154.95 346 *i* PKPdf **PKPbc 11 37 03.7 +1.0**
JAVS *i* 11 37 18.3
BOJS Bojanci 155.03 344 *i* PKPdf PKPdf 11 37 03.0 +9.0
BOJS *i* 11 37 19.9
TUE Stuetta 155.16 354 *e*PKPdf **PKPdf 11 36 52.2 -2.2**
TUE *e*PKPbc PKPbc 11 37 04.9
TUE *e*PKPab **PKPab 11 37 18.4 -0.6**
PGAV Gavieira, Arco 156.71 27 *e*PKPdf **PKPdf 11 36 57.7 +1.2**
PGAV Gavieira, Arco 156.71 27 *e*LR LR 12 41 31.1
comp=Z,1μm,20.0s
BNI Bardonecchia 156.75 358 *e*PKIKP **PKPdf 11 36 57.1 +0.6**
BNI Bardonecchia 156.75 358 *e*PKPdf **PKPdf 11 36 57.1 +0.6**
PMOZ Porto Moniz, M 156.97 57 *e*LR LR 12 40 33.7
comp=Z,783nm,20.0s
PCAB Cabril 157.02 27 *e*PKPdf **PKPdf 11 36 59.3 +2.5**
POLO Lamas de Olo 157.40 27 *e*PKPdf **PKPdf 11 36 59.5 +2.1**
POLO Lamas de Olo 157.40 27 *e*SKS x 12 00 12.2
MVO Moncorvo 157.89 26 *e*PKPdf **PKPdf 11 36 58.3 +0.3**
MVO Moncorvo 157.89 26 *e*LR LR 12 41 57.1
comp=Z,1μm,20.0s
PVIS Viseu 157.90 28 *e*PKPdf **PKPdf 11 36 58.8 +0.9**
PCAS Casmilo, Conde 158.16 30 *e*SKS x 12 01 12.3
MTE Manteigas 158.31 28 *e*PKPdf **PKPdf 11 37 00.4 +1.9**
MTE Manteigas 158.31 28 *e*SKS x 11 51 26.7
MTE Manteigas 158.31 28 *e*LR LR 12 41 30.1
comp=Z,1μm,18.0s
PMAFR Mafra 158.62 33 *e*SKS x 12 01 27.1
PCBR Castelo Branco 158.79 29 *e*PKPdf **PKPdf 11 37 00.8 +1.8**
PMTG Montargil 159.06 31 *e*SKS x 12 00 50.9
PMRV Marv??o 159.17 29 *e*PKPdf **PKPdf 11 37 00.5 +1.0**
PMRV Marv??o 159.17 29 *e*SKS x 12 01 34.4
PMRV Marv??o 159.17 29 *e*LR LR 12 38 07.9
comp=Z,2μm,16.0s
PNCL Nicolau / Gran 159.65 34 *e*SKS x 12 01 32.8
MORF Marmelete 160.18 35 *e*PKIKP **PKPdf 11 37 00.5 -0.2**
MORF *e*SS SS 12 01 34.5 +2.9
MORF Marmelete 160.18 35 *e*PKPdf **PKPdf 11 37 03.3 +2.6**
PBAR Barrancos 160.34 31 *e*SKS x 12 00 08.1
ESDC Sonseca Array 160.35 22 PKP **PKPdf 11 37 01.3 +0.4**
ESDC PKPab **PKPab 11 37 39.5 -2.0**
ESDC Sonseca Array 160.35 22 PKP **PKPdf 11 37 01.3 +0.4**
comp=Z,1.6nm,0.8s,baz=4.8,slow=2.2,SNR=7.9
ESDC PKPab **PKPab 11 37 39.5 -2.0**
comp=Z,1.0nm,0.5s,baz=323,slow=3.7,SNR=5.7
PVAQ Vaqueiros 160.60 34 *e*LR LR 12 43 24.6
comp=Z,953nm,18.0s
PBDV Barranco-do-Ve 160.61 34 *e*SKS x 12 01 50.5
KEST Kesra 165.70 348 PKP **PKPdf 11 37 07.7 +1.5**
KEST PKPab **PKPab 11 38 05.0 0.0**
KEST Kesra 165.70 348 PKP **PKPdf 11 37 07.7 +1.5**
comp=Z,1.6nm,1.0s,baz=47,slow=9.6,SNR=2.9
KEST PKPab **PKPab 11 38 05.0 0.0**
comp=Z,2.0nm,0.9s,baz=339,slow=7.9,SNR=4.3
TORD Torodi Ar. Bea 170.66 156 PKP **PKPdf 11 37 09.9 -0.1**
TORD PKPab **PKPab 11 38 28.9 +1.6**
TORD Torodi Ar. Bea 170.66 156 PKP **PKPdf 11 37 09.9 -0.1**
comp=Z,1.4nm,0.9s,baz=333,slow=1.7,SNR=5.1
TORD PKPab **PKPab 11 38 28.9 +1.6**

comp=Z,3.8nm,0.8s,baz=208,slow=4.3,SNR=9.5

IDC 13 11:44:52.4±9.3, 25°.57N×141°.11E, h113km±87km, mb3.2/8, mb1 3.5/9, mb1mx3.3/25, mbtmp3.3/9, ML3.2/1, Error ellipse: s-maj=38.7km s-min=18.5km az=92.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**16.32**	**320**	P	P	11 48 36.6	+1.0
	0.1nm,0.3s,baz=132,slow=11,SNR=15						
WRA	**Warramunga Arr**	**45.71**	**189**	P	P	11 53 01.2	-1.1
	3.3nm,0.8s,baz=9.0,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**49.44**	**189**	P	P	11 53 32.4	+1.3
	0.3nm,0.9s,baz=8.9,slow=7.4,SNR=4.1						
MKAR	**Makanchi Array**	**50.72**	**311**	P	P	11 53 41.0	+0.4
	0.4nm,0.6s,baz=98,slow=8.4,SNR=4.8						
ILAR	**Eielson Array**	**59.51**	**28**	P	P	11 54 42.3	-1.1
	0.3nm,0.7s,baz=261,slow=6.0,SNR=6.1						
YKA	**Yellowknife Ar**	**73.94**	**28**	P	P	11 56 14.6	-0.3
	0.5nm,0.7s,baz=298,slow=7.0,SNR=3.1						
FINES	**FINESS Array B**	**78.89**	**334**	P	P	11 56 41.9	-1.0
	0.6nm,0.4s,baz=77,slow=6.0,SNR=4.4						
NVAR	**Mina Array Bea**	**82.22**	**51**	P	P	11 57 02.8	+1.3
	0.2nm,0.7s,baz=258,slow=4.5,SNR=2.4						
PDAR	**Pinedale Array**	**85.97**	**44**	P	P	11 57 22.0	+1.5
	0.1nm,0.4s,baz=333,slow=7.1,SNR=2.3						

*IDC **13** 11:54:57.6±1.1, 46°.62N×153°.61E, h0km, mb3.7/11, mb1 3.8/14, mb1mx3.7/28, mbtmp3.7/14, ML3.1/2, Error ellipse: s-maj=30.9km s-min=19.6km az=117.0*
*ISCJB **13** 11:54:59.3±0.8, 46°.6N±0°.1×153°.6E±0°.2, h25km, mb3.6/11, Error ellipse: s-maj=21.7km s-min=8.7km az=41.6*
*MOS **13** 11:55:00.6±0.9, 46°.64N×153°.54E, h34km, mb4.1/6, Error ellipse: s-maj=19.5km s-min=11.8km az=63.3*

ISC 13 11:55:00.5±1.0, 46°.6N±0°.1×153°.8E±0°.1, h25km, n23, σ1§25/22, mb3.6/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.36**	**254**	*i* PN	**Pn**	**11 56 04.5**	**-0.7**
KUR				pmax	pmax		
	comp=E,10.0nm,0.5s						
KUR				pmax	pmax		
	comp=Z,59nm,0.5s						
KUR				pmax	pmax		
	comp=N,21nm,0.5s						
KUR				MLR	MLR		
	comp=E,2μm,19.0s						
KUR				MLR	MLR		
	comp=Z,995nm,18.0s						
KUR				MLR	MLR		
	comp=N,2μm,19.0s						
SKR	**Severo-Kuril's**	**4.40**	**19**	*e*PN	**Pn**	**11 56 06.9**	**+1.3**
SKR				*e*		11 56 56.5	
PETK	**Petropavlovsk-**	**7.02**	**19**	PN	**Pn**	**11 56 42.3**	**+0.7**
PETK	**Petropavlovsk-**	**7.02**	**19**	Pn	**Pn**	**11 56 42.3**	**+0.7**
	comp=N,0.2nm,0.3s,baz=186,slow=13,SNR=4.0						
PET	**Petropavlovsk**	**7.18**	**24**	*e*PN	Pb	11 56 59.3	-5.1
ASAJ	**Asahikawa**	**8.28**	**257**	Pn	**Pn**	**11 56 58.4**	**-0.5**
	comp=N,0.3nm,0.3s,baz=6.4,slow=29,SNR=4.6						
FX1	**Attu Island--F**	**14.00**	**56**	Sn	**Sn**	**12 00 48.4**	**-3.1**
	comp=N,0.4nm,0.3s,baz=279,slow=19,SNR=3.9						
MJAR	**Matsushiro Arr**	**15.36**	**235**	Pn	**Pn**	**11 58 33.7**	**-1.8**
	baz=32,slow=8.5,SNR=3.7						
KSRS	**Korea Array**	**21.21**	**254**	P	**P**	**11 59 44.2**	**0.0**
	comp=N,0.8nm,0.7s,baz=60,slow=9.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**43.12**	**306**	P	**P**	**12 02 58.2**	**-0.2**
ZALV	**Zalesovo Beam**	**43.12**	**306**	P	**P**	**12 02 58.2**	**-0.2**
	comp=N,0.4nm,0.5s,baz=68,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**47.46**	**298**	P	**P**	**12 03 31.6**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.46**	**298**	P	**P**	**12 03 31.6**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=68,slow=8.1,SNR=8.8						
YKA	**Yellowknife Ar**	**50.78**	**37**	P	**P**	**12 03 59.6**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=298,slow=10,SNR=2.7						
CMAR	**Chiang Mai Arr**	**52.80**	**257**	P	**P**	**12 04 14.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=31,slow=7.8,SNR=5.9						
FINES	**FINESS Array B**	**64.42**	**335**	P	**P**	**12 05 34.7**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=46,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**68.49**	**200**	P	**P**	**12 06 01.6**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=15,slow=6.9,SNR=3.1						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**12 06 01.7**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**12 06 01.7**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=29,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**71.98**	**327**	P	**P**	**12 06 21.3**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.98**	**327**	P	**P**	**12 06 21.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=32,slow=6.3,SNR=2.6						
ASAR	**Alice Springs**	**72.19**	**199**	P	**P**	**12 06 23.9**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=14,slow=6.1,SNR=5.7						
BRTR	**Keskin Array B**	**78.86**	**317**	P	**P**	**12 07 00.3**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=46,slow=8.6,SNR=2.5						

JMA 13 11:56:11.2±0.4, 41°.97N×142°.38E, h45km±4km, M1.3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.42**	**42**	P	Pn	11 56 20.8	-0.3
JNBK				*e*S	Sn	11 56 28.5	+0.3
JEM	**Erimo**	**0.58**	**85**	P	Pn	11 56 22.7	-0.5
JEM				*e*S	Sn	11 56 30.6	-1.2
JCH	**Churui**	**0.97**	**48**	P	Pn	11 56 29.2	+0.8
JKB	**Kayabe**	**1.01**	**266**	*e*S	Sn	11 56 44.3	+2.4

*IDC **13** 11:56:56.6±3.1, 46°.48S×166°.25E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=82.0km s-min=35.2km az=173.0*
*ISCJB **13** 11:56:58.5±1.0, 46°.30S±0°.10×166°.06E±0°.09, h13km, mb3.7/2, Error ellipse: s-maj=13.9km s-min=8.6km az=175.6*
*WEL **13** 11:57:02.4±0.2, 46°.15S×166°.29E, h33km, ML4.0/17, Error ellipse: s-maj=3.0km s-min=1.1km az=90.0*

ISC 13 11:56:59.8±1.2, 46°.26S±0°.07×166°.24E±0°.07, h13km, n20, σ1§04/22, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**39**	PN	**Pb**	**11 57 18.4**	**-0.7**
DCZ				AML	AML	11 57 32.6	
DCZ				AML	AML	11 57 32.6	
DCZ				AML	AML	11 57 36.2	
WHZ	**Wether Hill Ro**	**1.24**	**74**	PN	**Pg**	**11 57 23.7**	**0.0**
WHZ				SN	**Sg**	**11 57 40.2**	**+0.3**
WHZ				AML	AML	11 57 40.9	
APZ	**The Paps**	**1.33**	**116**	PN	**Pb**	**11 57 24.7**	**0.0**
MLZ	**Mavora Lakes**	**1.63**	**57**	PN	**Pb**	**11 57 29.1**	**-0.6**
MLZ				SN	**Sg**	**11 57 52.8**	**+0.5**
MLZ				AML	AML	11 57 57.1	
MSZ	**Milford Sound**	**1.98**	**37**	PN	**Pn**	**11 57 33.8**	**+0.8**
MSZ				AML	AML	11 58 10.7	
MSZ				AML	AML	11 58 11.0	
MSZ				AML	AML	11 58 12.5	
MSZ				AML	AML	11 58 12.6	
SYZ	**Scrubby Hill**	**2.02**	**99**	PN	**Pb**	**11 57 35.1**	**-1.3**
TUZ	**Tuapeka**	**2.38**	**84**	*e*PN	**Pn**	**11 57 40.0**	**+1.5**
TUZ				AML	AML	11 58 12.0	
TUZ				AML	AML	11 58 15.7	
EAZ	**Earnscleugh**	**2.38**	**66**	PN	**Pb**	**11 57 40.8**	**-1.7**
EAZ				AML	AML	11 58 13.7	
EAZ				AML	AML	11 58 16.1	
EAZ				AML	AML	11 58 24.3	
EAZ				AML	AML	11 58 25.9	
WKZ	**Wanaka**	**2.42**	**55**	PN	**Pb**	**11 57 42.4**	**-0.8**
WKZ				AML	AML	11 58 18.9	
WKZ				AML	AML	11 58 20.3	
WKZ				AML	AML	11 58 20.3	
WKZ				AML	AML	11 58 22.5	
JCZ	**Jackson Bay**	**2.82**	**40**	*e*PN	**Pn**	**11 57 46.6**	**+2.0**
JCZ				AML	AML	11 58 35.6	
JCZ				AML	AML	11 58 41.8	
ODZ	**Otahua Downs**	**3.32**	**70**	PN	**Pn**	**11 57 51.7**	**+0.3**
LBZ	**Lake Benmore**	**3.35**	**57**	*e*PN	**Pn**	**11 57 53.4**	**+1.5**
LBZ				AML	AML	11 58 36.0	
LBZ				AML	AML	11 58 38.7	
FOZ	**Fox Glacier**	**3.64**	**43**	PN	Pn	11 57 59.1	+3.3
FOZ				AML	AML	11 59 04.3	
RPZ	**Rata Peaks**	**4.25**	**55**	PN	**Pn**	**11 58 05.0**	**+0.7**
RPZ				AML	AML	11 59 27.0	
RPZ	**Rata Peaks**	**4.25**	**55**	Pn	**Pn**	**11 58 04.6**	**+0.3**
	3.2nm,0.3s,baz=285,slow=3.3,SNR=21						
RPZ				Sn	**Sn**	**11 58 53.4**	**-0.4**
	5.7nm,0.3s,baz=29,slow=20,SNR=7.4						
WVZ	**Waitaha Valley**	**4.52**	**47**	PN	**Pn**	**11 58 09.5**	**+1.6**
LTZ	**Lake Taylor**	**5.54**	**53**	PN	**Pn**	**11 58 22.8**	**+0.9**
ASAR	**Alice Springs**	**34.42**	**300**	P	**P**	**12 03 47.0**	**+0.1**
	0.7nm,0.6s,baz=131,slow=8.5,SNR=14						
WRA	**Warramunga Arr**	**37.03**	**304**	P	**P**	**12 04 08.8**	**-0.6**
	0.8nm,0.8s,baz=136,slow=7.9,SNR=9.0						
TORD	**Torodi Ar. Bea**	**144.51**	**207**	PKP	**PKPab**	**12 16 34.1**	**-0.4**
	0.3nm,0.7s,baz=139,slow=3.4,SNR=2.8						

*AUST **13** 12:02:12.8, 46°.96S×166°.41E, h0km*
*IDC **13** 12:02:17.9±2.2, 46°.18S×166°.15E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, ML3.5/1, MS3.9/1, Ms1 3.9/1, ms1mx3.3/22, Error ellipse: s-maj=61.6km s-min=27.9km az=170.0*
*ISCJB **13** 12:02:18.3±0.6, 46°.25S±0°.06×166°.05E±0°.05, h12km, mb4.0/2, Error ellipse: s-maj=8.9km s-min=4.4km az=170.1*
*WEL **13** 12:02:21.3±0.4, 46°.20S×166°.17E, h33km, ML4.3/20, Error ellipse: s-maj=5.1km s-min=1.6km az=90.0*
*NEIC **13** 12:02:22.4, 46°.34S×166°.35E, h12km, ML4.3(WEL), After WEL.*

ISC 13 12:02:18.9±0.8, 46°.24S±0°.06×166°.12E±0°.05, h12km, n47, σ1§26/50, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.05**	**44**	⇓PN	**Pb**	**12 02 38.7**	**-0.3**
DCZ				SN	**Sn**	**12 02 53.6**	**-0.4**
DCZ				AML	AML	12 02 57.2	
DCZ				AML	AML	12 03 00.2	
DCZ				AML	AML	12 03 00.2	
DCZ	**Deep Cove**	**1.05**	**44**	P*	**Pb**	**12 02 38.7**	**-0.3**
DCZ				S*	**Sg**	**12 02 52.7**	**0.0**
WHZ	**Wether Hill Ro**	**1.32**	**76**	PN	**Pg**	**12 02 43.9**	**-0.3**
WHZ				SN	**Sg**	**12 03 01.3**	**0.0**
WHZ				AML	AML	12 03 05.2	
WHZ	**Wether Hill Ro**	**1.32**	**76**	P*	**Pb**	**12 02 43.6**	**0.0**
WHZ				S*	**Sg**	**12 03 01.4**	**0.0**
APZ	**The Paps**	**1.42**	**115**	PN	**Pn**	**12 02 44.4**	**-0.2**
APZ	**The Paps**	**1.42**	**115**	P*	**Pn**	**12 02 44.4**	**-0.2**
MLZ	**Mavora Lakes**	**1.69**	**59**	PN	**Pb**	**12 02 49.3**	**-0.6**
MLZ				SN	**Sn**	**12 03 10.3**	**+0.4**
MLZ				AML	AML	12 03 21.0	
MLZ	**Mavora Lakes**	**1.69**	**59**	Pn	**Pb**	**12 02 49.8**	**-0.1**
MSZ	**Milford Sound**	**2.02**	**40**	PN	**Pn**	**12 02 54.0**	**+1.3**
MSZ				AML	AML	12 03 32.5	
MSZ				AML	AML	12 03 33.3	
MSZ				AML	AML	12 03 36.0	
MSZ				AML	AML	12 03 39.6	
MSZ	**Milford Sound**	**2.02**	**40**	Pn	**Pb**	**12 02 55.0**	**-0.5**
SYZ	**Scrubby Hill**	**2.11**	**99**	PN	**Pn**	**12 02 54.6**	**+0.6**
SYZ	**Scrubby Hill**	**2.11**	**99**	Pn	**Pn**	**12 02 54.6**	**+0.6**
EAZ	**Earnscleugh**	**2.45**	**67**	PN	**Pn**	**12 03 00.6**	**+1.9**
EAZ				AML	AML	12 03 34.2	
EAZ				AML	AML	12 03 34.2	
EAZ				AML	AML	12 03 36.4	
EAZ	**Earnscleugh**	**2.45**	**67**	Pn	**Pn**	**12 03 00.7**	**+2.1**
TUZ	**Tuapeka**	**2.46**	**85**	PN	**Pn**	**12 02 59.7**	**+0.9**
TUZ				AML	AML	12 03 41.2	
TUZ				AML	AML	12 03 47.5	
TUZ	**Tuapeka**	**2.46**	**85**	Pn	**Pn**	**12 02 59.7**	**+0.9**
WKZ	**Wanaka**	**2.48**	**56**	PN	**Pb**	**12 03 02.0**	**-1.3**
WKZ				AML	AML	12 03 43.3	
WKZ				AML	AML	12 03 43.3	
WKZ				AML	AML	12 03 56.8	
WKZ	**Wanaka**	**2.48**	**56**	Pn	**Pb**	**12 03 02.4**	**-0.9**
JCZ	**Jackson Bay**	**2.86**	**42**	*e*PN	**Pb**	**12 03 08.2**	**-1.7**
JCZ				AML	AML	12 03 56.9	
JCZ				AML	AML	12 04 01.1	
JCZ	**Jackson Bay**	**2.86**	**42**	Pn	**Pb**	**12 03 08.5**	**-1.4**
ODZ	**Otahua Downs**	**3.39**	**71**	PN	**Pn**	**12 03 11.6**	**0.0**
ODZ	**Otahua Downs**	**3.39**	**71**	Pn	**Pn**	**12 03 11.7**	**+0.1**
LBZ	**Lake Benmore**	**3.42**	**59**	PN	**Pn**	**12 03 13.2**	**+1.3**
LBZ				AML	AML	12 03 57.9	
LBZ				AML	AML	12 04 08.5	
LBZ	**Lake Benmore**	**3.42**	**59**	Pn	**Pn**	**12 03 13.2**	**+1.3**
FOZ	**Fox Glacier**	**3.69**	**45**	PN	**Pn**	**12 03 18.5**	**+2.9**
FOZ				AML	AML	12 04 26.0	
FOZ				AML	AML	12 04 28.9	
FOZ	**Fox Glacier**	**3.69**	**45**	Pn	Pn	12 03 19.0	+3.4
RPZ	**Rata Peaks**	**4.32**	**56**	PN	**Pn**	**12 03 24.4**	**+0.1**
RPZ				AML	AML	12 04 48.2	
RPZ				AML	AML	12 04 48.8	
RPZ	**Rata Peaks**	**4.32**	**56**	Pn	**Pn**	**12 03 24.4**	**+0.1**
RPZ				Sn	**Sn**	**12 04 15.0**	**+0.4**
RPZ	**Rata Peaks**	**4.32**	**56**	Pn	**Pn**	**12 03 24.5**	**+0.1**
	2.4nm,0.3s,baz=261,slow=1.9,SNR=16						
RPZ				Sn	**Sn**	**12 04 15.0**	**+0.4**
	6.8nm,0.3s,baz=48,slow=17,SNR=6.5						
RPZ				LR	LR	12 05 18.2	
	comp=Z,1μm,18.4s,baz=237,slow=42						
WVZ	**Waitaha Valley**	**4.57**	**48**	PN	**Pn**	**12 03 29.8**	**+2.1**
WVZ				AML	AML	12 04 55.3	
LTZ	**Lake Taylor**	**5.59**	**54**	PN	**Pn**	**12 03 42.1**	**+0.2**
LTZ				AML	AML	12 05 09.5	
LTZ				AML	AML	12 05 36.4	
LTZ	**Lake Taylor**	**5.59**	**54**	Pn	**Pn**	**12 03 42.1**	**+0.2**
QRZ	**Quartz Range**	**7.14**	**43**	AML	AML	12 05 27.0	
QRZ				AML	AML	12 05 27.4	
MOO	**Moorlands**	**14.06**	**279**	P	**Pn**	**12 05 37.7**	**-0.1**
	baz=14,SNR=4.9						
MILA	**Mila**	**15.62**	**300**	P	**Pn**	**12 05 59.2**	**+0.3**
	baz=16,SNR=7.5						
LHI	**Lord Howe Isla**	**15.68**	**337**	S	**Sn**	**12 08 47.4**	**-5.8**
	baz=16,SNR=3.3						
TOO	**Toolangi**	**17.59**	**292**	P	**P**	**12 06 25.6**	**+0.8**
	baz=18,SNR=7.8						
ASAR	**Alice Springs**	**34.33**	**300**	P	**P**	**12 09 06.0**	**+0.6**
ASAR	**Alice Springs**	**34.33**	**300**	P	**P**	**12 09 06.0**	**+0.6**
	1.3nm,0.6s,baz=131,slow=8.1,SNR=34						
WRA	**Warramunga Arr**	**36.95**	**304**	P	**P**	**12 09 28.4**	**+0.5**
WRA	**Warramunga Arr**	**36.95**	**304**	P	**P**	**12 09 28.4**	**+0.5**
	2.2nm,0.8s,baz=138,slow=7.8,SNR=23						
FITZ	**Fitzroy Crossi**	**43.58**	**296**	P	**P**	**12 10 23.6**	**+0.8**
	baz=44,SNR=3.5						
MTN	**Manton Dam**	**44.47**	**307**	P	**P**	**12 10 30.9**	**+1.0**
	baz=45,SNR=3.4						
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	PKPbc	12 21 54.9	+1.0
TORD	**Torodi Ar. Bea**	**144.49**	**207**	PKP	PKPbc	12 21 54.9	+1.0
	0.4nm,0.7s,baz=138,slow=2.6,SNR=3.2						
BRTR	**Keskin Array B**	**145.06**	**277**	PKPbc	**PKPdf**	**12 21 56.3**	**+0.5**
BRTR	**Keskin Array B**	**145.06**	**277**	PKPbc	**PKPdf**	**12 21 56.3**	**+0.5**
	0.9nm,0.8s,baz=121,slow=4.8,SNR=5.2						

*IDC **13** 12:14:41.5±2.9, 56°.18S×141°.10W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, MS4.2/8, Ms1 4.1/8, ms1mx4.1/16, Error ellipse: s-maj=90.1km s-min=30.5km az=44.0*
*ISCJB **13** 12:14:43.4±1.1, 56°.5S±0°.2×141°.6W±0°.4, h10km, mb3.9/4, MS4.2/8, Error ellipse: s-maj=37.0km s-min=16.4km az=154.6*

ISC 13 12:14:45.0±1.3, 56°.5S±0°.2×141°.5W±0°.3, h10km, n15, σ0§84/9, mb3.9/4, MS4.2/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.54**	**202**	LR	LR	12 30 49.3	
	comp=Z,277nm,19.2s,baz=77,slow=34						
TBI	**Tubuai**	**33.60**	**347**	*e*LR	LR	12 30 13.7	
	1μm,29.2s,baz=174						
RKT	**Rikitea**	**33.67**	**11**	*e*LQ	LQ	12 28 55.8	
	642nm,33.0s						
RKT				*e*LR	LR	12 30 20.9	
	770nm,30.0s,baz=187						
QSPA	**South Pole Qui**	**33.68**	**180**	P	**P**	**12 21 26.6**	**+0.8**
	2.8nm,1.0s,baz=18,slow=2.7,SNR=4.4						
QSPA				LR	LR	12 32 12.6	
	comp=Z,672nm,20.0s,baz=71,slow=31						
PPT2	**Papeete2**	**39.29**	**348**	*e*S	**S**	**12 28 15.3**	**+0.6**
	192nm,25.2s						
PPT2				*e*LR	LR	12 32 48.7	
	1μm,29.0s,baz=180						
PPT	**Papeete**	**39.31**	**348**	LR	LR	12 34 10.5	
	comp=Z,270nm,21.4s,baz=188,slow=30						
VNA2	**Neumayer--Watz**	**48.80**	**162**	*e*P	**P**	**12 23 29.6**	**0.0**
VNA1	**Neumayer--Stat**	**48.88**	**161**	*e*P	**P**	**12 23 30.3**	**+0.1**
SNAA	**Sanae**	**48.90**	**164**	*e*P	**P**	**12 23 30.0**	**-0.5**
SNAA	**Sanae**	**48.90**	**164**	P	**P**	**12 23 29.9**	**-0.6**
	0.8nm,0.5s,baz=228,slow=5.2,SNR=41						
SNAA				LR	LR	12 41 43.0	
	comp=Z,84nm,18.8s,baz=344,slow=33						
MAW	**Mawson**	**54.91**	**191**	LR	LR	12 45 39.0	
	comp=Z,174nm,18.2s,baz=339,slow=34						
STKA	**Stephens Creek**	**57.01**	**261**	P	**P**	**12 24 31.5**	**+0.8**
	0.8nm,0.8s,baz=160,slow=4.7,SNR=2.3						
STKA				LR	LR	12 47 08.3	
	comp=Z,213nm,18.8s,baz=203,slow=34						
ASAR	**Alice Springs**	**67.64**	**261**	P	**P**	**12 25 41.2**	**-0.9**
	0.6nm,0.7s,baz=142,slow=6.1,SNR=9.3						
ASAR				LR	LR	12 52 15.3	
	comp=Z,210nm,21.5s,baz=166,slow=33						
WRA	**Warramunga Arr**	**70.39**	**263**	LR	LR	12 53 10.8	
	comp=Z,238nm,20.6s,baz=0.0,slow=33						
MKAR	**Makanchi Array**	**151.58**	**269**	PKPbc	**PKPbc**	**12 34 37.3**	**-1.1**
	0.4nm,0.8s,baz=101,slow=3.1,SNR=2.4						

*IDC **13** 12:15:22.7±2.6, 6°.81N×72°.73W, h157km±23km, mb3.5/10, mb1 3.7/12, mb1mx3.5/24, mbtmp3.5/12, Error ellipse: s-maj=38.2km s-min=13.7km az=71.0*
*ISCJB **13** 12:15:23.5±0.5, 6°.87N±0°.06×72°.99W±0°.07, h169km±6km, mb3.6/9, Error ellipse: s-maj=12.8km s-min=8.3km az=34.0*
*FUNV **13** 12:15:28.7, 7°.01N×72°.86W, h154km, MW3.7*

ISC 13 12:15:23.7±0.8, 6°.86N±0°.06×72°.97W±0°.08, h161km±8km, n33, σ1§57/38, mb3.6/9, 11C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**33**	⇓*i*P	Pn	12 15 53.6	+2.1
CAPV				*e*S	**Sn**	**12 16 11.8**	**-1.0**
ROSC	**El Rosal**	**2.41**	**214**	P	**Pn**	**12 16 05.2**	**+0.5**
	60nm,0.3s,baz=86,slow=16,SNR=81						
ROSC				S	**Sn**	**12 16 33.2**	**-3.1**
	127nm,0.3s,baz=103,slow=16,SNR=14						
SOCV	**Socops**	**2.53**	**56**	⇑*i*P	**Pn**	**12 16 07.7**	**+1.9**
SOCV				*e*S	**Sn**	**12 16 35.6**	**-2.7**
VIGV	**El Vigia**	**2.53**	**39**	⇑*i*P	**Pn**	**12 16 07.8**	**+2.0**
VIGV				*e*S	**Sn**	**12 16 35.9**	**-2.5**
ELOV	**Elorza**	**3.46**	**87**	⇑*e*P	**Pn**	**12 16 19.4**	**+2.1**
VIRV	**Villa del Rosa**	**3.67**	**9**	⇑*i*P	**Pn**	**12 16 20.4**	**+0.4**
VIRV				*e*S	**Sn**	**12 17 00.3**	**-3.6**
QARV	**Quebrada Arrib**	**4.11**	**36**	*e*P	**Pn**	**12 16 26.1**	**+0.3**
SANV	**Sanarito**	**4.29**	**52**	⇑*e*P	**Pn**	**12 16 29.7**	**+1.5**
CURV	**Curarigua**	**4.32**	**43**	⇑*i*P	**Pn**	**12 16 30.0**	**+1.5**
DABV	**Dabajuro**	**4.65**	**29**	⇑*e*P	**Pn**	**12 16 34.2**	**+1.5**
TEPV	**Terepaima**	**4.84**	**50**	⇑*i*P	**Pn**	**12 16 36.8**	**+1.5**
SIQV	**Siquisique**	**4.89**	**39**	⇑*i*P	**Pn**	**12 16 37.1**	**+1.2**
BAUV	**El Baul**	**5.30**	**67**	⇑*i*P	**Pn**	**12 16 41.5**	**+0.2**
MAPV	**Macapo**	**5.35**	**56**	⇑*i*P	**Pn**	**12 16 43.1**	**+1.2**
IMOV	**Isla Los Monje**	**5.83**	**20**	*e*P	**Pn**	**12 16 48.8**	**+0.5**
MONV	**Montecano**	**5.86**	**30**	⇓*i*P	**Pn**	**12 16 49.2**	**+0.4**
TURV	**Turiamo**	**6.20**	**54**	*e*P	**Pn**	**12 16 53.5**	**+0.3**
MERV	**Las Mercedes**	**7.02**	**70**	*e*P	**Pn**	**12 17 04.7**	**+0.6**
BIRV	**Birongo**	**7.53**	**61**	*e*P	**Pn**	**12 17 11.1**	**+0.2**
ATAH	**Atahualpa**	**14.92**	**201**	P	**P**	**12 18 48.2**	**-0.5**
	0.4nm,0.3s,baz=20,slow=15,SNR=3.1						
TEIG	**Tepich**	**19.93**	**313**	P	**P**	**12 19 44.6**	**+1.5**
	6.9nm,0.5s,baz=30,slow=1.7,SNR=9.8						
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**12 20 18.1**	**-1.7**
	2.0nm,0.8s,baz=349,slow=6.3,SNR=5.5						
LPAZ				pP	**pP**	**12 20 52.6**	**+2.0**
	2.5nm,0.7s,baz=346,slow=7.3,SNR=8.7						
SIV	**San Ignacio**	**25.57**	**153**	P	**P**	**12 20 35.2**	**-2.8**
	0.9nm,0.9s,baz=286,slow=7.4,SNR=3.1						
BDFB	**Brasilia**	**33.32**	**132**	pP	pP	12 22 19.7	-1.1
	3.0nm,0.6s,baz=247,slow=7.7,SNR=3.2						
TXAR	**Lajitas Array**	**36.55**	**312**	P	**P**	**12 22 14.1**	**-0.2**
	0.9nm,0.6s,baz=125,slow=8.8,SNR=13						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**12 23 41.1**	**+0.2**
	2.5nm,0.4s,baz=132,slow=8.8,SNR=5.2						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**12 23 46.5**	**-0.4**
	4.0nm,0.8s,baz=238,slow=15,SNR=3.6						
PDAR	**Pinedale Array**	**48.14**	**324**	P	**P**	**12 23 48.5**	**+0.8**
	0.8nm,0.6s,baz=125,slow=8.6,SNR=6.9						
NVAR	**Mina Array Bea**	**51.57**	**315**	P	**P**	**12 24 15.1**	**+1.4**
	0.3nm,0.5s,baz=139,slow=7.6,SNR=4.1						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**12 25 35.6**	**+0.6**
	1.8nm,0.5s,baz=134,slow=6.5,

PALU	**Palau**	**7.48**	**55**	P		**Pn**	**13 24 14.7**	**+1.9**
	baz=7.4,SNR=7.7							
PALU				S		**Sn**	**13 25 37.2**	**+0.8**
	baz=7.4,SNR=3.4							
KKM	**Kota Kinabalu**	**12.44**	**284**	S		Sn	13 27 44.7	+6.4
	baz=13,SNR=3.3							
MTN	**Manton Dam**	**16.00**	**170**	P		**P**	**13 26 09.4**	**-2.3**
	baz=16,SNR=6.7							
KDU	**Kakadu**	**16.14**	**165**	P		**Pn**	**13 26 09.7**	**-0.6**
	baz=16,SNR=5.0							
KNRA	**Kununurra**	**18.58**	**179**	P		**Pn**	**13 26 39.8**	**-0.8**
	baz=19,SNR=8.9							
FITZ	**Fitzroy Crossi**	**21.15**	**187**	P		**P**	**13 27 05.3**	**-2.9**
	1.1nm,0.6s,baz=12,slow=11,SNR=5.8							
FITZ	**Fitzroy Crossi**	**21.15**	**187**	P		**P**	**13 27 06.3**	**-1.9**
	baz=21,SNR=5.2							
WRA	**Warramunga Arr**	**23.57**	**166**	P		**P**	**13 27 32.0**	**-1.6**
	1.7nm,0.3s,baz=345,slow=11,SNR=79							
ASAR	**Alice Springs**	**27.07**	**169**	P		**P**	**13 28 03.6**	**-1.9**
	0.4nm,0.4s,baz=351,slow=7.7,SNR=25							
PATS	**Pohnpei**	**30.11**	**82**	S		S	13 33 10.9	-18
	baz=30,SNR=3.0							
BBOO	**Buckleboo**	**36.38**	**169**	P		**P**	**13 29 25.1**	**-1.9**
	baz=36,SNR=5.5							
STKA	**Stephens Creek**	**36.92**	**161**	P		**P**	**13 29 30.1**	**-1.6**
	2.1nm,0.4s,baz=345,slow=7.8,SNR=30							
STKA	**Stephens Creek**	**36.92**	**161**	P		**P**	**13 29 30.1**	**-1.6**
	baz=37,SNR=20							
MKAR	**Makanchi Array**	**59.05**	**325**	P		**P**	**13 32 21.4**	**-1.2**
	0.4nm,0.5s,baz=117,slow=7.7,SNR=6.0							

*IDC **13** 13:28:23.3±7.5, 12°.95N×125°.72E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=223.3km s-min=29.2km az=47.0*
*ISCJB **13** 13:28:25.0±1.2, 13°.06N±0°.09×125°.78E±0°.09, h28km, mb3.4/4, Error ellipse: s-maj=13.2km s-min=12.2km az=143.9*
*MAN **13** 13:28:28, 13°.03N×125°.54E, h46km, mb4.3, ML3.1, MS2.9*
ISC 13 13:28:27.1±1.5, 12°.94N±0°.09×125°.7E±0°.1, h28km, n8, σ1§27/10, mb3.4/4, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.09**	**247**	*e*P	**Pb**	**13 28 47.7**	**+0.3**
CNP				*e*S	**Sb**	**13 29 00.2**	**-1.0**
PVCP	**Virac**	**1.63**	**294**	‖ *i*P	**Pn**	**13 28 53.0**	**-1.0**
PLP	**Palo**	**1.90**	**202**	‖ *e*P	**Pb**	**13 28 59.4**	**-1.7**
PLP				*e*S	**Sb**	**13 29 23.2**	**-1.2**
GUIM	**Jordan**	**3.81**	**233**	*e*P	**Pn**	**13 29 26.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**26.31**	**285**	P	**P**	**13 34 01.2**	**+0.5**
	0.9nm,0.6s,baz=98,slow=6.9,SNR=6.1						
FITZ	**Fitzroy Crossi**	**30.85**	**180**	P	**P**	**13 34 41.7**	**+0.7**
	1.2nm,0.8s,baz=356,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**33.77**	**165**	P	**P**	**13 35 07.1**	**+0.4**
	0.3nm,0.9s,baz=344,slow=8.8,SNR=2.7						
ASAR	**Alice Springs**	**37.26**	**168**	P	**P**	**13 35 36.5**	**-0.2**
	0.2nm,0.5s,baz=354,slow=7.6,SNR=5.4						

*IDC **13** 13:29:22.8±1.1, 35°.44N×28°.66E, h0km, mb3.6/4, mb1 3.8/11, mb1mx3.6/31, mbtmp3.7/11, ML3.8/7, Error ellipse: s-maj=23.7km s-min=18.1km az=2.0*
*ISCJB **13** 13:29:26.6±0.2, 35°.43N±0°.02×28°.75E±0°.02, h70km±5km, mb3.6/5, Error ellipse: s-maj=3.3km s-min=2.2km az=25.7*
*ATH **13** 13:29:27.6, 35°.48N×28°.64E, h35km±2km, MD3.4/11*
*DDA **13** 13:29:29.0, 35°.64N×28°.61E, h35km, ML4.1*
*CSEM **13** 13:29:28.2±0.1, 35°.43N×28°.72E, h50km±3km, MD3.4, Mw3.3, Error ellipse: s-maj=2.9km s-min=1.8km az=36.0*
*THE **13** 13:29:29.5, 35°.53N×28°.75E, h50km±3km, ML3.7/4, Error ellipse: s-maj=3.1km s-min=0.7km az=277.0*
*NIC **13** 13:29:29.4±0.2, 35°.36N×28°.84E, h40km, mb4.2, ML3.8, MW3.3*
*ISK **13** 13:29:30.4, 35°.86N×28°.63E, h20km, MD3.7, ML3.7*
*NSSC **13** 13:29:30.8±1.6, 35°.69N×29°.42E, h0km±162km, ML2.9*
*HLW **13** 13:29:31.8, 35°.30N×28°.79E, h32km±5km, Md3.9, Ml0.0*
ISC 13 13:29:28.0±0.9, 35°.48N±0°.03×28°.71E±0°.02, h47km±13km, n215, σ1§53/270, mb3.7/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.88**	**327**	P	**Pn**	**13 29 44.6**	**+0.6**
ARG				S	**Sn**	**13 29 56.6**	**+0.9**
ARG	**Arkhangelos**	**0.88**	**327**	*e*PN	**Pn**	**13 29 44.5**	**+0.6**
ARG				*e*SN	**Sn**	**13 29 56.4**	**+0.7**
ARG	**Arkhangelos**	**0.88**	**327**	P	**Pn**	**13 29 44.6**	**+0.6**
ARG				S	**Sn**	**13 29 56.6**	**+0.9**
KSL	**Kastellorizon**	**0.97**	**46**	*e*PN	**Pn**	**13 29 46.9**	**+1.6**
AKAS	**Kas**	**1.05**	**44**	*i*P	**Pn**	**13 29 47.5**	**+1.1**
AKAS				*i*S	**Sn**	**13 30 02.4**	**+2.4**
AKAS	**Kas**	**1.05**	**44**	*i*P	**Pn**	**13 29 47.5**	**+1.1**
AKAS				*i*S	**Sn**	**13 30 02.4**	**+2.4**
FETY	**Fethiye**	**1.19**	**14**	*e*PG	**Pn**	**13 29 47.5**	**-0.8**
FETY	**Fethiye**	**1.19**	**14**	*e*Pg	**Pn**	**13 29 47.5**	**-0.8**
KARP	**Karpathos**	**1.27**	**274**	P	**Pn**	**13 29 50.4**	**+1.1**
KARP				S	**Sn**	**13 30 06.8**	**+1.6**
KARP	**Karpathos**	**1.27**	**274**	*e*PN	**Pn**	**13 29 50.5**	**+1.1**
KARP				*e*SN	**Sn**	**13 30 06.6**	**+1.4**
KARP	**Karpathos**	**1.27**	**274**	P	**Pn**	**13 29 50.4**	**+1.1**
KARP				*e*Sn	**Sn**	**13 30 06.6**	**+1.4**
DALY	**Dalyan (Mu¨la**	**1.34**	**358**	*e*PG	**Pn**	**13 29 49.2**	**-1.0**
DALY	**Dalyan (Mu¨la**	**1.34**	**358**	*e*Pg	**Pn**	**13 29 49.2**	**-1.0**
TURN	**Turunc**	**1.40**	**356**	*i*P	**Pn**	**13 29 51.5**	**+0.5**
TURN				*i*S	**Sn**	**13 30 09.0**	**+0.7**
TURN	**Turunc**	**1.40**	**356**	*i*P	**Pn**	**13 29 51.5**	**+0.5**
TURN				*i*S	**Sn**	**13 30 09.0**	**+0.7**
DAT	**Datca**	**1.55**	**324**	*e*PN	**Pn**	**13 29 52.9**	**-0.4**
DAT				*e*SN	**Sn**	**13 30 09.2**	**-3.1**
DAT	**Datca**	**1.55**	**324**	*e*Pn	**Pn**	**13 29 52.9**	**-0.4**
DAT				*e*Sn	**Sn**	**13 30 09.2**	**-3.1**
ELL	**Elmali**	**1.60**	**37**	*e*PN	**Pn**	**13 29 55.1**	**+1.2**
ELL	**Elmali**	**1.60**	**37**	*e*Pn	**Pn**	**13 29 55.1**	**+1.2**
NIS1	**Nisyros Isl.**	**1.68**	**313**	P	**Pn**	**13 29 55.4**	**+0.5**
NIS1				S	**Sn**	**13 30 15.9**	**+0.7**
NIS1	**Nisyros Isl.**	**1.68**	**313**	*e*PN	**Pn**	**13 29 55.6**	**+0.7**
NIS1	**Nisyros Isl.**	**1.68**	**313**	*e*Pn	**Pn**	**13 29 55.6**	**+0.7**
NIS1				S	**Sn**	**13 30 15.9**	**+0.7**
YER	**Yerkesik**	**1.69**	**348**	*e*PN	**Pn**	**13 29 54.2**	**-0.9**
YER	**Yerkesik**	**1.69**	**348**	*e*Pn	**Pn**	**13 29 54.2**	**-0.9**
GOLH	**Golhisar**	**1.89**	**21**	*i*P	**Pn**	**13 30 00.6**	**+2.8**
GOLH				*i*S	**Sn**	**13 30 22.7**	**+2.3**
GOLH	**Golhisar**	**1.89**	**21**	*i*P	**Pn**	**13 30 00.6**	**+2.8**
GOLH				*i*S	**Sn**	**13 30 22.7**	**+2.3**
BDRM	**Kayabasi**	**1.89**	**327**	*i*P	**Pn**	**13 29 58.4**	**+0.6**
BDRM				*i*S	**Sn**	**13 30 19.1**	**-1.3**
BDRM	**Kayabasi**	**1.89**	**327**	*i*P	**Pn**	**13 29 58.4**	**+0.6**
BDRM				*i*S	**Sn**	**13 30 19.1**	**-1.3**
BODT	**Bodrum**	**1.95**	**325**	*e*PN	**Pn**	**13 29 58.4**	**-0.2**
BODT	**Bodrum**	**1.95**	**325**	*e*Pn	**Pn**	**13 29 58.4**	**-0.2**
MLSB	**Milas**	**1.96**	**338**	*e*PN	**Pn**	**13 29 58.2**	**-0.7**
MLSB	**Milas**	**1.96**	**338**	*e*Pn	**Pn**	**13 29 58.2**	**-0.7**
KORT	**Korkueli**	**2.02**	**41**	*i*P	Pn	13 30 03.4	+3.7
KORT				*i*S	**Sn**	**13 30 28.8**	**+5.1**
KORT	**Korkueli**	**2.02**	**41**	*i*P	Pn	13 30 03.4	+3.7
KORT				*i*S	**Sn**	**13 30 28.8**	**+5.1**
ZKR	**Zakros**	**2.07**	**261**	*e*PN	**Pn**	**13 30 00.8**	**+0.5**
ZKR				*e*SN	**Sn**	**13 30 25.7**	**+0.8**
ZKR	**Zakros**	**2.07**	**261**	*e*Pn	**Pn**	**13 30 00.8**	**+0.5**
ZKR				*e*Sn	**Sn**	**13 30 25.7**	**+0.8**
DNZL	**Cakiroluk**	**2.22**	**7**	*i*P	**Pn**	**13 30 04.0**	**+1.4**
DNZL				*i*S	**Sn**	**13 30 26.6**	**-2.3**
DNZL	**Cakiroluk**	**2.22**	**7**	*i*P	**Pn**	**13 30 04.0**	**+1.4**
DNZL				*i*S	**Sn**	**13 30 26.6**	**-2.3**
AYDN	**Tasoluk**	**2.28**	**343**	*i*P	**Pn**	**13 30 05.7**	**+2.5**
AYDN				*i*S	**Sn**	**13 30 29.2**	**-0.9**
AYDN	**Tasoluk**	**2.28**	**343**	*i*P	**Pn**	**13 30 05.7**	**+2.5**
BCK	**Bucak**	**2.49**	**37**	*e*PN	**Pn**	**13 30 07.7**	**+1.6**
BCK	**Bucak**	**2.49**	**37**	*e*Pn	**Pn**	**13 30 07.7**	**+1.6**
GCAM	**G?zelcaml?**	**2.52**	**332**	*i*P	**Pn**	**13 30 06.9**	**+0.5**
GCAM				*i*S	**Sn**	**13 30 34.2**	**-1.6**
GCAM	**G?zelcaml?**	**2.52**	**332**	*i*P	**Pn**	**13 30 06.9**	**+0.5**
GCAM				*i*S	**Sn**	**13 30 34.2**	**-1.6**
NPS	**Neapolis**	**2.54**	**266**	P	**Pn**	**13 30 08.5**	**+1.7**
NPS				S	**Sn**	**13 30 37.6**	**+1.1**
NPS	**Neapolis**	**2.54**	**266**	*e*PN	**Pn**	**13 30 07.7**	**+0.9**
NPS	**Neapolis**	**2.54**	**266**	*e*Pn	**Pn**	**13 30 07.7**	**+0.9**
NPS	**Neapolis**	**2.54**	**266**	P	**Pn**	**13 30 08.5**	**+1.7**
NPS				S	**Sn**	**13 30 37.6**	**+1.1**
XRY	**Khrisi**	**2.54**	**257**	*e*PN	**Pn**	**13 30 08.2**	**+1.5**
XRY	**Khrisi**	**2.54**	**257**	*e*Pn	**Pn**	**13 30 08.2**	**+1.5**
LAST	**Lasithi**	**2.66**	**264**	*e*PN	**Pn**	**13 30 09.3**	**+0.8**
LAST				*e*SN	**Sn**	**13 30 40.0**	**+0.4**
LAST	**Lasithi**	**2.66**	**264**	*e*Pn	**Pn**	**13 30 09.3**	**+0.8**
LAST				*e*Sn	**Sn**	**13 30 40.0**	**+0.4**
SMG	**Samos**	**2.69**	**326**	P	**Pn**	**13 30 09.2**	**+0.4**
SMG				S	**Sn**	**13 30 39.6**	**-0.5**
SMG	**Samos**	**2.69**	**326**	*e*PN	**Pn**	**13 30 10.3**	**+1.5**
SMG				*e*SN	**Sn**	**13 30 41.5**	**+1.4**
SMG	**Samos**	**2.69**	**326**	P	**Pn**	**13 30 09.2**	**+0.4**
SMG	**Samos**	**2.69**	**326**	*e*Pn	**Pn**	**13 30 10.3**	**+1.5**
SMG				S	**Sn**	**13 30 39.6**	**-0.5**
SMG				*e*Sn	Sn	13 30 41.5	+1.3
SUTC	**Sutluce-Ispart**	**2.72**	**42**	*e*PN	**Pn**	**13 30 11.1**	**+1.9**
SUTC	**Sutluce-Ispart**	**2.72**	**42**	*e*Pn	**Pn**	**13 30 11.1**	**+1.9**
ISP	**Isparta**	**2.76**	**31**	*e*PN	**Pn**	**13 30 11.2**	**+1.4**
ISP	**Isparta**	**2.76**	**31**	*e*Pn	**Pn**	**13 30 11.2**	**+1.4**
SANT	**Santorini**	**2.79**	**290**	*e*PN	**Pn**	**13 30 11.0**	**+0.9**
SANT	**Santorini**	**2.79**	**290**	*e*Pn	**Pn**	**13 30 11.0**	**+0.9**
THR3	**Thira Island,**	**2.84**	**290**	P	**Pn**	**13 30 11.7**	**+0.8**
THR3	**Thira Island,**	**2.84**	**290**	P	**Pn**	**13 30 11.7**	**+0.8**
KHL	**Karahalli**	**2.91**	**13**	*e*PN	**Pn**	**13 30 11.9**	**0.0**
KHL	**Karahalli**	**2.91**	**13**	*e*Pn	**Pn**	**13 30 11.9**	**0.0**
KHAL	**Karahalli**	**2.95**	**12**	*i*P	**Pn**	**13 30 13.4**	**+0.9**
KHAL				*i*S	**Sn**	**13 30 43.2**	**-3.5**
KHAL	**Karahalli**	**2.95**	**12**	*i*P	**Pn**	**13 30 13.4**	**+0.9**
AKMC	**Akamas**	**2.99**	**98**	P	**Pn**	**13 30 13.4**	**+0.4**
AKMC	**Akamas**	**2.99**	**98**	P	**Pn**	**13 30 13.4**	**+0.4**
MANT	**Manisa**	**3.01**	**358**	*i*P	**Pn**	**13 30 14.6**	**+1.2**
MANT				*i*S	**Sn**	**13 30 45.2**	**-3.2**
MANT	**Manisa**	**3.01**	**358**	*i*P	**Pn**	**13 30 14.6**	**+1.2**
APE	**Apeiranthos**	**3.02**	**303**	*e*PN	**Pn**	**13 30 14.9**	**+1.5**
APE	**Apeiranthos**	**3.02**	**303**	P	**Pn**	**13 30 14.0**	**+0.6**
APE				S	**Sn**	**13 30 49.1**	**+0.7**
APE	**Apeiranthos**	**3.02**	**303**	*e*PN	**Pn**	**13 30 14.9**	**+1.5**
APE	**Apeiranthos**	**3.02**	**303**	P	**Pn**	**13 30 14.0**	**+0.6**
APE	**Apeiranthos**	**3.02**	**303**	*e*Pn	**Pn**	**13 30 14.9**	**+1.5**
APE				S	**Sn**	**13 30 49.1**	**+0.7**
GAZI	**Gazipasa**	**3.02**	**74**	*i*P	**Pn**	**13 30 13.4**	**0.0**
GAZI				*i*S	**Sn**	**13 30 42.4**	**-6.0**
GAZI	**Gazipasa**	**3.02**	**74**	*i*P	**Pn**	**13 30 13.4**	**0.0**
KULA	**Kula-Manisa**	**3.03**	**359**	*e*PN	**Pn**	**13 30 13.1**	**-0.4**
KULA	**Kula-Manisa**	**3.03**	**359**	*e*Pn	**Pn**	**13 30 13.1**	**-0.4**
PPCY	**Paphos**	**3.03**	**100**	P	**Pn**	**13 30 13.9**	**+0.4**
PPCY	**Paphos**	**3.03**	**100**	P	**Pn**	**13 30 13.9**	**+0.4**
IDI	**Anoyia**	**3.13**	**268**	P	**Pn**	**13 30 15.8**	**+0.9**
IDI	**Anoyia**	**3.13**	**268**	*e*PN	**Pn**	**13 30 15.9**	**+1.0**
IDI				*e*SN	**Sn**	**13 30 51.5**	**+0.5**
IDI	**Anoyia**	**3.13**	**268**	P	**Pn**	**13 30 15.8**	**+0.9**
IDI				*e*Sn	**Sn**	**13 30 51.5**	**+0.5**
IZM	**Izmir**	**3.14**	**339**	*e*PN	**Pn**	**13 30 14.7**	**-0.3**
IZM	**Izmir**	**3.14**	**339**	*e*Pn	**Pn**	**13 30 14.7**	**-0.3**
ALFC	**Alevga**	**3.19**	**95**	P	**Pn**	**13 30 16.1**	**+0.4**
	14nm,0.2s						
ALFC				S	**Sn**	**13 30 52.7**	**+0.1**
ALFC	**Alevga**	**3.19**	**95**	P	**Pn**	**13 30 16.1**	**+0.4**
	14nm,0.2s						
ALFC				S	**Sn**	**13 30 52.7**	**+0.1**
SHUT	**Suhut-Afyon**	**3.40**	**25**	*e*PN	**Pn**	**13 30 19.4**	**+0.7**
SHUT	**Suhut-Afyon**	**3.40**	**25**	*e*Pn	**Pn**	**13 30 19.4**	**+0.7**
AKHS	**Akhisar**	**3.47**	**348**	*i*P	**Pn**	**13 30 19.5**	**0.0**
AKHS				*i*S	**Sn**	**13 30 56.2**	**-3.1**
AKHS	**Akhisar**	**3.47**	**348**	*i*P	**Pn**	**13 30 19.5**	**0.0**
AKHS				*i*S	**Sn**	**13 30 56.2**	**-3.1**
ERMK	**Ermenek**	**3.60**	**70**	*i*P	Pn	13 30 24.7	+3.3
ERMK				*e*S	Sn	13 30 52.8	-10
ERMK	**Ermenek**	**3.60**	**70**	*i*P	Pn	13 30 24.7	+3.3
CHOS	**Chios island**	**3.60**	**325**	P	**Pn**	**13 30 22.0**	**+0.7**
CHOS				S	**Sn**	**13 31 01.5**	**-1.1**
CHOS	**Chios island**	**3.60**	**325**	*e*PG	**Pn**	**13 30 22.1**	**+0.8**
CHOS	**Chios island**	**3.60**	**325**	*e*Pg	**Pn**	**13 30 22.1**	**+0.8**
CHOS	**Chios island**	**3.60**	**325**	P	**Pn**	**13 30 22.0**	**+0.7**
CHOS				S	**Sn**	**13 31 01.5**	**-1.1**
VAM	**Vamos**	**3.69**	**270**	P	**Pn**	**13 30 23.4**	**+1.0**
VAM	**Vamos**	**3.69**	**270**	*e*PN	**Pn**	**13 30 24.4**	**+2.0**
VAM	**Vamos**	**3.69**	**270**	P	**Pn**	**13 30 23.4**	**+1.0**
VAM	**Vamos**	**3.69**	**270**	*e*Pn	**Pn**	**13 30 24.4**	**+2.0**
MAMC	**Mammari**	**3.70**	**93**	P	**Pn**	**13 30 23.6**	**+1.0**
MAMC	**Mammari**	**3.70**	**93**	P	**Pn**	**13 30 23.6**	**+1.0**
CSS	**Prodhromos**	**3.81**	**96**	P	**Pn**	**13 30 24.4**	**+0.2**
	2.1nm,0.2s						
CSS				S	**Sn**	**13 31 08.4**	**+0.6**
CSS	**Prodhromos**	**3.81**	**96**	P	**Pn**	**13 30 24.3**	**+0.1**
CSS				S	**Sn**	**13 31 07.3**	**-0.5**
CSS	**Prodhromos**	**3.81**	**96**	P	**Pn**	**13 30 24.3**	**+0.1**
CSS				S	**Sn**	**13 31 07.3**	**-0.5**
CSS				Sn	Sn	13 31 08.2	+0.3
KONT	**Konya--Tatoy**	**3.83**	**49**	*e*PN	Pn	13 30 27.5	+3.1
KONT	**Konya--Tatoy**	**3.83**	**49**	*e*Pn	Pn	13 30 27.5	+3.1
KARN	**Karanos**	**3.92**	**270**	P	**Pn**	**13 30 26.9**	**+1.3**
KARN	**Karanos**	**3.92**	**270**	P	**Pn**	**13 30 26.9**	**+1.3**
LADK	**Ladik-KONYA**	**4.00**	**46**	*e*PN	**Pn**	**13 30 29.2**	**+2.5**
LADK	**Ladik-KONYA**	**4.00**	**46**	*e*Pn	**Pn**	**13 30 29.3**	**+2.5**
KDHN	**Kadinhani**	**4.08**	**41**	*i*P	**Pn**	**13 30 30.4**	**+2.5**
KDHN				*i*S	**Sn**	**13 31 12.8**	**-1.7**
KDHN	**Kadinhani**	**4.08**	**41**	*i*P	**Pn**	**13 30 30.4**	**+2.5**
KDHN				*i*S	**Sn**	**13 31 12.8**	**-1.7**
KIZT	**Kizilcal**	**4.23**	**36**	*e*PN	**Pn**	**13 30 31.9**	**+1.9**
KIZT	**Kizilcal**	**4.23**	**36**	*e*Pn	**Pn**	**13 30 32.0**	**+1.9**
PRK	**Paraskevi**	**4.24**	**333**	P	**Pn**	**13 30 30.0**	**+0.1**
PRK				S	**Sn**	**13 31 17.7**	**-0.4**
PRK	**Paraskevi**	**4.24**	**333**	*e*PB	**Pn**	**13 30 29.6**	**-0.3**
PRK	**Paraskevi**	**4.24**	**333**	*e*Pb	**Pn**	**13 30 29.6**	**-0.3**
PRK	**Paraskevi**	**4.24**	**333**	P	**Pn**	**13 30 30.0**	**+0.1**
PRK				S	**Sn**	**13 31 17.7**	**-0.4**
PHNC	**Paralimni**	**4.38**	**95**	P	**Pn**	**13 30 33.9**	**+2.0**
	4.1nm,1.0s						
PHNC				S	**Sn**	**13 31 23.8**	**+2.1**
PHNC	**Paralimni**	**4.38**	**95**	P	**Pn**	**13 30 33.9**	**+2.0**
	4.1nm,1.0s						
PHNC				S	**Sn**	**13 31 23.8**	**+2.1**
ANKY	**Antikythira Is**	**4.42**	**277**	P	**Pn**	**13 30 33.2**	**+0.7**
ANKY	**Antikythira Is**	**4.42**	**277**	P	**Pn**	**13 30 33.2**	**+0.7**
HMAT	**Matruh**	**4.58**	**198**	S	**Sn**	**13 31 22.4**	**-4.2**
GONE	**Gonen-Balikesi**	**4.63**	**350**	*e*PN	**Pn**	**13 30 35.2**	**-0.2**
GONE	**Gonen-Balikesi**	**4.63**	**350**	*e*Pn	**Pn**	**13 30 35.2**	**-0.2**
KYTH	**Kithira**	**4.68**	**282**	*e*PN	**Pn**	**13 30 37.7**	**+1.6**
KYTH	**Kithira**	**4.68**	**282**	*e*Pn	**Pn**	**13 30 37.7**	**+1.6**
VLI	**Veliai**	**4.84**	**287**	P	**Pn**	**13 30 39.4**	**+1.2**
VLI	**Veliai**	**4.84**	**287**	P	**Pn**	**13 30 39.4**	**+1.2**
HBRG	**Burj al 'Arab**	**4.98**	**169**	P	**Pn**	**13 30 39.9**	**-0.3**
HBRG				S	**Sn**	**13 31 31.5**	**-5.0**
GELI	**Tayfur-Gelibol**	**5.22**	**341**	*e*PN	**Pn**	**13 30 43.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**5.22**	**341**	*e*Pn	**Pn**	**13 30 43.7**	**+0.2**
LTBQ	**Tobruq**	**5.25**	**231**	*i*P	**Pn**	**13 30 43.0**	**-0.9**
	SNR=23						
BRTR	**Keskin Array B**	**5.77**	**41**	Pn	**Pn**	**13 30 51.1**	**0.0**
	0.4nm,0.3s,baz=219,slow=14,SNR=21						
BRTR				Sn	**Sn**	**13 31 56.1**	**0.0**
	1.0nm,0.3s,baz=214,slow=27,SNR=9.9						
HNTI	**Hanita**	**5.86**	**112**	Pn	**Pn**	**13 30 52.9**	**+0.6**
HNTI				Sn	**Sn**	**13 31 55.4**	**-2.7**
ARNB	**Al Arnab**	**5.92**	**84**	*e*P	**Pn**	**13 30 53.0**	**-0.3**
ARNB				*e*S	Sn	13 31 51.1	-8.7
ARNB				AML	AML	13 32 01.6	
	comp=N,19nm,0.5s						
ARNB				AML	AML	13 32 03.1	
	comp=E,60nm,0.6s						
ARNB	**Al Arnab**	**5.92**	**84**	*e*P	**Pn**	**13 30 53.4**	**+0.2**
ARNB				*e*S	Sn	13 31 51.8	-8.0
ARNB				AML	AML	13 32 01.5	
	comp=N,19nm,0.5s						
ARNB				AML	AML	13 32 03.1	
	comp=E,60nm,0.6s						
ARNB	**Al Arnab**	**5.92**	**84**	*e*P	**Pn**	**13 30 53.4**	**+0.2**
	SNR=112						
HNAT	**Natroun**	**6.04**	**164**	P	**Pn**	**13 30 54.2**	**-0.7**
MMAI	**Mount Meron Ar**	**6.06**	**112**	Pn	**Pn**	**13 30 54.4**	**-0.7**
	comp=E,12nm,0.3s,baz=308,slow=11,SNR=28						
MMAI				Sn	**Sn**	**13 32 00.4**	**-2.8**
	comp=E,5.7nm,0.3s,baz=309,slow=24,SNR=3.4						
MMA1	**Mount Meron ar**	**6.06**	**112**	Pn	**Pn**	**13 30 54.7**	**-0.4**
MMA1				Sn	**Sn**	**13 32 00.3**	**-2.9**
HWQ	**Hawqa**	**6.07**	**99**	*e*P	**Pn**	**13 30 55.2**	**0.0**
HWQ	**Hawqa**	**6.07**	**99**	*e*P	**Pn**	**13 30 55.2**	**0.0**
KOT	**Kottamia**	**6.12**	**154**	P	**Pn**	**13 30 55.2**	**-0.8**
RSH		**6.16**	**136**	P	**Pn**	**13 30 55.5**	**-0.9**
SLTI	**Sal'it**	**6.17**	**120**	Sn	**Sn**	**13 32 02.7**	**-3.2**
KSDI	**Kefar Szold**	**6.18**	**110**	Pn	**Pn**	**13 30 56.7**	**0.0**
KSDI				Sn	**Sn**	**13 32 03.4**	**-2.7**
RCY	**Rachaya**	**6.21**	**107**	*e*P	**Pn**	**13 30 56.8**	**-0.4**
HSAF	**As Saff**	**6.32**	**157**	P	**Pn**	**13 30 57.6**	**-1.0**
BTCH	**Batrach**	**6.32**	**83**	*e*P	**Pn**	**13 30 58.5**	**-0.1**
BTCH				*e*S	Sn	13 32 00.2	-9.4
BTCH				AML	AML	13 32 14.1	
	comp=N,71nm,0.7s						
BTCH				AML	AML	13 32 18.8	
	comp=E,35nm,0.5s						
BTCH	**Batrach**	**6.32**	**83**	*e*P	**Pn**	**13 30 58.6**	**-0.1**
BTCH				*e*S	Sn	13 31 59.7	-10
BTCH				AML	AML	13 32 14.1	
	comp=N,71nm,0.7s						
BTCH				AML	AML	13 32 18.8	
	comp=E,35nm,0.5s						
BTCH	**Batrach**	**6.32**	**83**	*e*P	**Pn**	**13 30 58.6**	**-0.1**
	SNR=110						
BRBR	**Barbar**	**6.33**	**107**	*e*P	**Pn**	**13 30 59.0**	**+0.2**
BRBR				*e*S	**Sn**	**13 32 04.9**	**-5.0**
BRBR				AML	AML	13 32 09.1	
	comp=N,14nm,0.3s						
BRBR				AML	AML	13 32 16.6	
	comp=E,21nm,0.3s						
BRBR	**Barbar**	**6.33**	**107**	*e*P	**Pn**	**13 30 59.0**	**+0.2**
BRBR				*e*S	Sn	13 31 58.9	-11
BRBR				AML	AML	13 32 09.0	
	comp=N,14nm,0.3s						
BRBR				AML	AML	13 32 16.6	
	comp=E,21nm,0.3s						
BRBR	**Barbar**	**6.33**	**107**	*e*P	**Pn**	**13 30 59.0**	**+0.2**
	SNR=110						
MMLI	**Mount Malkishu**	**6.34**	**117**	Pn	**Pn**	**13 30 59.2**	**+0.2**
HAWK	**Haweek**	**6.38**	**96**	*e*P	**Pn**	**13 30 59.2**	**-0.4**
HAWK				*e*S	Sn	13 32 03.0	-8.2
HAWK				AML	AML	13 32 08.9	
	comp=N,89nm,0.8s						
HAWK				AML	AML	13 32 11.5	
	comp=E,44nm,0.4s						
HAWK	**Haweek**	**6.38**	**96**	*e*P	**Pn**	**13 30 59.2**	**-0.3**
HAWK				*e*S	Sn	13 32 02.0	-9.2
HAWK				AML	AML	13 32 08.9	
	comp=N,89nm,0.8s						
HAWK				AML	AML	13 32 11.4	
	comp=E,44nm,0.4s						
HAWK	**Haweek**	**6.38**	**96**	*e*P	**Pn**	**13 30 59.2**	**-0.4**
	SNR=110						
GLL	**Jalalah**	**6.40**	**156**	P	**Pn**	**13 30 59.0**	**-0.8**
HMDT	**Nahal Hemdat**	**6.51**	**118**	Pn	**Pn**	**13 31 01.5**	**+0.2**
KZIT	**Kziot**

GUR	**Goura**	**1.81 253**	*e*Pn	Pb	13 30 33.0	-0.5
KLV	**Kalavryta, Ach**	**1.93 258**	*e*PG	Pb	13 30 35.4	0.0
KLV	**Kalavryta, Ach**	**1.93 258**	*e*Pg	Pb	13 30 35.4	0.0
TRIZ	**Trizonia**	**1.94 267**	*e*PN	Pb	13 30 35.5	0.0
TRIZ	**Trizonia**	**1.94 267**	*e*Pn	Pb	13 30 35.5	0.0
LAKA	**Lakka**	**2.03 264**	*e*PN	Pb	13 30 36.0	-1.0
LAKA	**Lakka**	**2.03 264**	*e*Pn	Pb	13 30 36.0	-1.0
VLX	**Vlachokerasia**	**2.04 238**	*e*PN	Pb	13 30 36.0	-1.3
VLX	**Vlachokerasia**	**2.04 238**	*e*Pg	Pb	13 30 36.0	-1.3
EFP	**Efpalio**	**2.07 269**	*e*PN	Pb	13 30 37.1	-0.6
EFP	**Efpalio**	**2.07 269**	*e*Pn	Pb	13 30 37.1	-0.6
SMTH	**Samothraki Isl**	**2.13 21**	*e*PN	Pb	13 30 37.9	-0.9
SMTH	**Samothraki Isl**	**2.13 21**	*e*Pn	Pb	13 30 37.9	-0.9
THL	**Klokotos Trika**	**2.25 300**	*e*PN	Pb	13 30 40.1	-0.6
THL	**Klokotos Trika**	**2.25 300**	*e*Pn	Pb	13 30 40.1	-0.6
AMT	**Artemida-Makis**	**2.43 248**	*e*PN	Pb	13 30 42.8	-1.1
AMT	**Artemida-Makis**	**2.43 248**	*e*Pn	Pb	13 30 42.8	-1.1
DYR	**Agios Nikonas**	**2.45 226**	*e*PN	Pb	13 30 43.1	-1.1
DYR	**Agios Nikonas**	**2.45 226**	*e*Pn	Pb	13 30 43.1	-1.1
PYL	**PYLOS**	**2.73 235**	*e*PN	Pb	13 30 47.1	-1.8
PYL	**PYLOS**	**2.73 235**	*e*Pn	Pb	13 30 47.1	-1.8

PRE ***13*** *13:37:29.9±1.5, 26°.42S×27°.44E, h2km, ML3.7*
ISCJB ***13*** *13:37:30.0±0.6, 26°.40S±0°.02×27°.43E±0°.03, h9km±4km, mb3.8/6, Error ellipse: s-maj=4.6km s-min=3.4km az=136.6*
IDC ***13*** *13:37:30.8±0.9, 26°.42S×27°.38E, h0km, mb3.7/6, mb1 4.0/11, mb1mx3.8/28, mbtmp3.9/11, ML4.0/3, Error ellipse: s-maj=16.2km s-min=12.5km az=83.0*
ISC 13 13:37:30.7±0.9,**26°.41S**±0°.02×**27°.44E**±0°.02,**h10**km±6km,
n55, σ2=**01**/96,**mb3.9**/6,**3C-2D,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.17**	**68**	*e*P	**Pg**	**13 37 34.2**	**-0.3**
KLOF				*e*S	**Sg**	**13 37 35.6**	**-1.4**
KLOF				AML	AML	13 37 35.9	
	comp=Z,38μm,0.2s						
KLOF	**Kloof**	**0.17**	**68**	⇑*i*P	**Pg**	**13 37 34.2**	**-0.3**
KLOF				*e*S	**Sg**	**13 37 35.7**	**-1.4**
KLOF				AML	AML	13 37 36.0	
	comp=Z,35μm,0.2s						
PRYS	**Parys**	**0.52**	**188**	*e*P	**Pg**	**13 37 41.2**	**+0.4**
PRYS				*e*S	**Sg**	**13 37 47.5**	**-0.1**
PRYS				AML	AML	13 37 53.6	
	comp=Z,1μm,0.6s						
PRYS	**Parys**	**0.52**	**188**	*e*P	**Pg**	**13 37 41.2**	**+0.4**
PRYS				*e*S	**Sb**	**13 37 48.7**	**-0.9**
PRYS				AML	AML	13 37 53.7	
	comp=Z,1μm,0.6s						
ERPM	**east rand prop**	**0.73**	**85**	*e*P	**Pg**	**13 37 43.8**	**-1.0**
ERPM				*e*S	**Sg**	**13 37 54.2**	**-0.1**
ERPM				AML	AML	13 38 00.2	
	comp=Z,826nm,0.7s						
ERPM	**east rand prop**	**0.73**	**85**	⇓*i*P	**Pg**	**13 37 44.5**	**-0.3**
ERPM				*e*S	**Sg**	**13 37 52.2**	**-2.1**
ERPM				AML	AML	13 38 00.4	
	comp=Z,787nm,0.9s						
BFSD	**Buffelsfontein**	**0.73**	**232**	*e*P	**Pg**	**13 37 44.8**	**-0.2**
BFSD				*e*S	**Sg**	**13 37 54.4**	**-0.2**
BFSD				AML	AML	13 38 03.1	
	comp=Z,812nm,0.4s						
KSR	**Koster**	**0.74**	**319**	*e*P	**Pg**	**13 37 44.0**	**-1.0**
KSR				*e*S	**Sg**	**13 37 54.6**	**-0.1**
KSR				AML	AML	13 37 55.5	
	comp=Z,1μm,0.6s						
KSR	**Koster**	**0.74**	**319**	⇑*i*P	**Pg**	**13 37 45.4**	**+0.4**
KSR				*e*S	**Sg**	**13 37 54.8**	**+0.1**
KSR				AML	AML	13 37 55.6	
	comp=Z,1μm,0.7s						
MOAB	**Moab Khotsong**	**0.81**	**225**	*e*P	**Pg**	**13 37 45.7**	**-0.6**
MOAB				*e*S	**Sg**	**13 37 56.1**	**-0.7**
MOAB				AML	AML	13 38 02.7	
	comp=Z,732nm,0.2s						
TLEK	**Tau Lekoa**	**0.88**	**231**	*e*P	**Pg**	**13 37 47.8**	**+0.1**
TLEK				*e*S	**Sg**	**13 37 58.7**	**-0.4**
TLEK				AML	AML	13 38 06.0	
	comp=Z,855nm,0.2s						
SLR	**Silverton**	**1.02**	**49**	*e*P	**Pg**	**13 37 49.4**	**-0.8**
SLR				*e*S	**Sg**	**13 38 03.2**	**-0.4**
SLR				AML	AML	13 38 08.0	
	comp=Z,642nm,0.2s						
SLR	**Silverton**	**1.02**	**49**	*e*P	**Pg**	**13 37 49.5**	**-0.8**
SLR				*e*S	**Sg**	**13 38 02.6**	**-0.9**
SLR				AML	AML	13 38 08.0	
	comp=Z,494nm,0.3s						
SEK	**Senekal**	**1.91**	**175**	*e*P	**Pb**	**13 38 05.2**	**-0.6**
SEK				*e*S	**Sn**	**13 38 29.1**	**+1.3**
SEK				AML	AML	13 38 31.5	
	comp=Z,426nm,0.5s						
SEK	**Senekal**	**1.91**	**175**	*e*P	**Pb**	**13 38 06.1**	**+0.3**
SEK				*e*S	**Sb**	**13 38 30.3**	**+0.5**
SEK				AML	AML	13 38 31.5	
	comp=Z,391nm,0.4s						
SWZ	**Schweizer**	**2.03**	**247**	*e*P	**Pn**	**13 38 05.9**	**+0.7**
SWZ				*e*S	**Sn**	**13 38 32.2**	**+1.5**
SWZ				AML	AML	13 38 37.5	
	comp=Z,421nm,0.2s						
SWZ	**Schweizer**	**2.03**	**247**	*e*P	**Pb**	**13 38 06.9**	**-0.9**
SWZ				*e*S	**Sb**	**13 38 34.2**	**+1.0**
SWZ				AML	AML	13 38 37.4	
	comp=Z,603nm,0.4s						
LBTB	**Lobatse**	**2.17**	**310**	*e*P	**Pn**	**13 38 08.0**	**+1.0**
LBTB				*e*S	**Sn**	**13 38 35.5**	**+1.5**
LBTB				AML	AML	13 38 40.1	
	comp=Z,574nm,0.3s						
LBTB	**Lobatse**	**2.17**	**310**	⇓*i*P	**Pb**	**13 38 09.4**	**-0.7**
LBTB				*e*S	**Sb**	**13 38 38.4**	**+1.3**
LBTB				AML	AML	13 38 40.1	
	comp=Z,574nm,0.3s						
LBTB	**Lobatse**	**2.17**	**310**	Pn	**Pn**	**13 38 08.9**	**+1.9**
	comp=Z,86nm,0.3s,baz=144,slow=16,SNR=648						
LBTB				Pg	**Pb**	**13 38 10.7**	**+0.6**
	comp=Z,86nm,0.3s,baz=142,slow=15,SNR=652						
LBTB				Lg	Lg	13 38 38.4	
	comp=Z,237nm,0.3s,baz=240,slow=18,SNR=50						
BOSA	**Boshof**	**2.92**	**221**	*e*P	**Pn**	**13 38 18.1**	**+0.6**
BOSA				*e*S	**Sn**	**13 38 53.6**	**+0.8**
BOSA				AML	AML	13 39 01.9	
	comp=Z,120nm,0.5s						
BOSA	**Boshof**	**2.92**	**221**	⇑*i*P	**Pn**	**13 38 18.8**	**+1.4**
BOSA				*e*S	**Sn**	**13 38 53.2**	**+0.5**
BOSA				AML	AML	13 39 01.7	
	comp=Z,120nm,0.5s						
BOSA	**Boshof**	**2.92**	**221**	Pn	**Pn**	**13 38 18.7**	**+1.2**
	comp=Z,11nm,0.3s,baz=45,slow=13,SNR=231						
BOSA				Lg	Lg	13 39 01.3	
	comp=Z,46nm,0.3s,baz=315,slow=22,SNR=22						
POGA	**Pongola**	**3.85**	**105**	*e*P	**Pn**	**13 38 31.7**	**+1.6**
POGA				*e*S	**Sn**	**13 39 16.2**	**+0.7**
POGA				AML	AML	13 39 33.5	
	comp=Z,273nm,0.4s						
POGA	**Pongola**	**3.85**	**105**	*e*P	**Pn**	**13 38 31.7**	**+1.6**
POGA				*e*S	**Sn**	**13 39 18.6**	**+3.2**
POGA				AML	AML	13 39 33.4	
	comp=Z,268nm,0.4s						
KSD	**Kokstad**	**4.47**	**157**	*e*P	**Pn**	**13 38 39.1**	**+0.4**
KSD				*e*S	**Sn**	**13 39 29.8**	**-1.1**
KSD				AML	AML	13 39 52.4	
	comp=Z,61nm,0.4s						
KSD	**Kokstad**	**4.47**	**157**	*e*P	**Pn**	**13 38 41.1**	**+2.4**
KSD				*e*S	**Sn**	**13 39 27.4**	**-3.4**
KSD				AML	AML	13 39 52.2	
	comp=Z,211nm,0.4s						
HVD	**Gariep Dam**	**4.51**	**202**	*e*P	**Pn**	**13 38 39.1**	**-0.2**
HVD				*e*S	**Sn**	**13 39 30.2**	**-1.7**
HVD				AML	AML	13 40 02.3	
	comp=Z,72nm,0.5s						
HVD	**Gariep Dam**	**4.51**	**202**	*e*P	**Pn**	**13 38 39.8**	**+0.5**
HVD				*e*S	**Sn**	**13 39 30.3**	**-1.7**
HVD				AML	AML	13 40 02.1	
	comp=Z,73nm,0.5s						
SOE	**Somerset East**	**6.49**	**194**	*e*P	Pn	13 39 10.2	+3.8
SOE				*e*S	**Sn**	**13 40 18.5**	**-2.0**
SOE				AML	AML	13 41 00.5	
	comp=Z,23nm,0.5s						
GRM	**Grahamstown**	**6.92**	**186**	*e*P	**Pn**	**13 39 12.9**	**+0.6**
GRM				*e*S	**Sn**	**13 40 29.2**	**-2.0**
GRM				AML	AML	13 41 20.5	
	comp=Z,30nm,0.6s						
GRM	**Grahamstown**	**6.92**	**186**	*e*P	**Pn**	**13 39 15.1**	**+2.8**
GRM				*e*S	**Sn**	**13 40 31.4**	**+0.2**
GRM				AML	AML	13 41 20.1	
	comp=Z,30nm,0.5s						
BUFB	**Buffelsbos**	**8.06**	**196**	*e*P	**Pn**	**13 39 28.5**	**+0.6**
BUFB				*e*S	**Sn**	**13 40 53.8**	**-5.2**
BUFB				AML	AML	13 40 55.8	
	comp=Z,9.7nm,0.9s						
BUFB	**Buffelsbos**	**8.06**	**196**	*e*P	**Pn**	**13 39 27.8**	**-0.1**
BUFB				*e*S	**Sn**	**13 40 55.0**	**-4.0**
BUFB				AML	AML	13 41 43.9	
	comp=Z,23nm,0.6s						
SUR	**Sutherland**	**8.29**	**223**	*e*P	**Pn**	**13 39 32.1**	**+0.9**
SUR				*e*S	**Sn**	**13 41 01.9**	**-3.1**
SUR				AML	AML	13 41 52.3	
	comp=Z,44nm,0.6s						
SUR	**Sutherland**	**8.29**	**223**	*e*P	**Pn**	**13 39 32.9**	**+1.7**
SUR				*e*S	**Sn**	**13 41 00.8**	**-4.3**
SUR				AML	AML	13 41 52.0	
	comp=Z,34nm,0.6s						
SUR	**Sutherland**	**8.29**	**223**	Pn	**Pn**	**13 39 32.2**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=61,slow=17,SNR=24						
SUR				Sn	**Sn**	**13 41 00.5**	**-4.5**
	comp=Z,1.2nm,0.3s,baz=16,slow=18,SNR=4.2						
SUR				Lg	Lg	13 41 51.2	
	comp=Z,10nm,0.3s,baz=324,slow=16,SNR=9.0						
CVNA	**Calvinia**	**8.41**	**231**	*e*P	**Pn**	**13 39 33.6**	**+0.8**
CVNA				*e*S	**Sn**	**13 41 04.5**	**-3.3**
CVNA				AML	AML	13 41 56.7	
	comp=Z,89nm,0.7s						
CVNA	**Calvinia**	**8.41**	**231**	*e*P	**Pn**	**13 39 34.2**	**+1.4**
CVNA				*e*S	**Sn**	**13 41 03.3**	**-4.6**
CVNA				AML	AML	13 41 56.6	
	comp=Z,88nm,0.7s						
KOMG	**Komaggas**	**9.41**	**247**	*e*P	**Pn**	**13 39 47.3**	**+0.8**
KOMG				*e*S	**Sn**	**13 41 28.4**	**-4.1**
KOMG				AML	AML	13 42 38.9	
	comp=Z,33nm,0.6s						
KOMG	**Komaggas**	**9.41**	**247**	*e*P	Pn	13 39 50.7	+4.3
KOMG				*e*S	**Sn**	**13 41 27.7**	**-4.7**
KOMG				AML	AML	13 42 38.6	
	comp=Z,32nm,0.5s						
WIN	**Windhoek**	**10.16**	**290**	*e*S	**Sn**	**13 41 49.6**	**-1.5**
WIN				AML	AML	13 43 05.1	
	comp=Z,4.2nm,0.6s						
ELIM	**Elim**	**10.51**	**217**	*e*S	**Sn**	**13 41 54.4**	**-4.9**
ELIM				AML	AML	13 43 01.1	
	comp=Z,29nm,0.6s						
LSZ	**Lusaka**	**11.10**	**4**	*e*P	**Pn**	**13 40 11.1**	**+1.3**
LSZ				*e*S	**Sn**	**13 42 09.2**	**-5.0**
LSZ	**Lusaka**	**11.10**	**4**	*e*P	**Pn**	**13 40 09.3**	**-0.5**
LSZ				*e*S	**Sn**	**13 42 09.5**	**-4.6**
LSZ	**Lusaka**	**11.10**	**4**	Pn	**Pn**	**13 40 09.6**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=180,slow=15,SNR=14						
LSZ				Sn	Sn	13 42 06.7	-7.5
	comp=Z,0.7nm,0.3s,baz=61,slow=18,SNR=4.0						
LSZ				Lg	Lg	13 43 14.2	
	comp=Z,0.7nm,0.3s,baz=114,slow=14,SNR=3.7						
TSUM	**Tsumeb**	**11.57**	**306**	*e*P	**Pn**	**13 40 17.0**	**+0.8**
TSUM				*e*S	**Sn**	**13 42 21.7**	**-4.0**
TSUM	**Tsumeb**	**11.57**	**306**	Pn	**Pn**	**13 40 17.0**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=124,slow=11,SNR=11						
TSUM				Sn	Sn	13 42 19.2	-6.5
	comp=Z,0.2nm,0.3s,baz=204,slow=20,SNR=2.7						
TSUM				Lg	Lg	13 43 34.2	
	comp=Z,1.5nm,0.3s,baz=56,slow=23,SNR=6.0						
TORD	**Torodi Ar. Bea**	**46.61**	**324**	P	**P**	**13 46 00.3**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=127,slow=5.6,SNR=14						
QSPA	**South Pole Qui**	**63.77**	**180**	P	**P**	**13 48 04.2**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=276,slow=4.5,SNR=18						
BRTR	**Keskin Array B**	**66.05**	**5**	P	**P**	**13 48 19.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=179,slow=9.9,SNR=2.6						
ESDC	**Sonseca Array**	**71.97**	**335**	P	**P**	**13 48 56.1**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=151,slow=6.1,SNR=4.1						
AKASG	**Malin Array Be**	**76.79**	**1**	P	**P**	**13 49 22.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=187,slow=4.7,SNR=2.5						
MKAR	**Makanchi Array**	**88.10**	**34**	P	**P**	**13 50 23.3**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=222,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**148.87**	**301**	PKPbc	**PKPab**	**13 57 22.1**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=50,slow=6.0,SNR=3.9						

JMA ***13*** *13:41:28.8±0.2, 33°.10N×138°.44E, h334km, M3.3*
ISCJB ***13*** *13:41:31.1±0.5, 33°.09N±0°.06×138°.36E±0°.07, h311km±4km, mb3.6/10, Error ellipse: s-maj=9.6km s-min=9.3km az=171.5*
IDC ***13*** *13:41:32.0±1.1, 33°.09N×138°.37E, h304km±11km, mb3.4/10, mb1 3.4/15, mb1mx3.2/32, mbtmp3.4/15, Error ellipse: s-maj=24.2km s-min=11.3km az=78.0*
ISC 13 13:41:32.1±0.8,**33°.13N**±0°.07×**138°.38E**±0°.07,**h306**km±7km,
n33, σ0=**80**/40,**mb3.8**/10,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**1.12**	**321**	P	**Pn**	**13 42 13.4**	**+0.1**
JHJ2	**Mitsune**	**1.21**	**91**	P	**Pn**	**13 42 14.8**	**+0.7**
JHJ2				*e*S	**S**	**13 42 48.9**	**+1.3**
TTO5	**TONANKAI O.B.S**	**1.25**	**334**	P	**Pn**	**13 42 14.5**	**+0.4**
TTO2	**TONANKAI O.B.S**	**1.28**	**298**	P	**Pn**	**13 42 14.6**	**+0.5**
TTO1	**TONANKAI O.B.S**	**1.42**	**290**	P	**Pn**	**13 42 15.1**	**+0.1**
JIE	**Ise**	**1.88**	**312**	P	**Pn**	**13 42 18.2**	**-0.2**
JOD2	**Odawara 2**	**2.20**	**15**	P	**Pn**	**13 42 20.8**	**-0.2**
JWZ	**Kozaga**	**2.27**	**281**	P	**Pn**	**13 42 20.5**	**-1.0**
JYN	**Shimob**	**2.36**	**3**	P	**Pn**	**13 42 22.7**	**+0.3**
JWY	**Kouya**	**2.56**	**296**	P	**Pn**	**13 42 23.9**	**-0.3**
BSO1	**Boso 1**	**2.64**	**54**	P	**Pn**	**13 42 22.8**	**-1.3**
BSO1				*e*S	**S**	**13 43 03.4**	**-2.4**
JGM	**Miyama**	**2.91**	**332**	P	**Pn**	**13 42 27.5**	**+0.2**
JGM				*e*S	**S**	**13 43 12.2**	**+0.8**
JRY	**Ryogami san**	**2.91**	**8**	P	**Pn**	**13 42 27.6**	**+0.3**
JRY				*e*S	**S**	**13 43 11.1**	**-0.4**
JWT	**Wachi**	**3.27**	**312**	P	**Pn**	**13 42 30.6**	**-0.3**
JWT				*e*S	**S**	**13 43 16.2**	**-1.7**
JAI	**Aioi**	**3.35**	**282**	P	**Pn**	**13 42 30.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.40**	**358**	P	**Pn**	**13 42 32.1**	**-0.1**
	13nm,0.3s,baz=174,slow=12,SNR=285						
MJAR				S	**S**	**13 43 20.8**	**+0.4**
	baz=197,slow=16,SNR=1.4						
MAT	**Matsushiro**	**3.40**	**358**	P	**Pn**	**13 42 32.3**	**+0.1**
MAT				S	**S**	**13 43 20.6**	**+0.2**
JMN	**Monobe**	**3.81**	**280**	P	**Pn**	**13 42 35.9**	**-0.7**
JHS	**Saijyo**	**4.75**	**295**	P	**Pn**	**13 42 46.8**	**-0.1**
JNU	**Nakatsue**	**6.29**	**272**	P	**Pn**	**13 43 04.6**	**-0.5**
	0.6nm,0.3s,baz=121,slow=18,SNR=9.5						
KSRS	**Korea Array**	**9.57**	**300**	P	**Pn**	**13 43 45.5**	**+0.7**
	0.9nm,0.3s,baz=114,slow=12,SNR=35						
ASAJ	**Asahikawa**	**11.45**	**15**	P	**P**	**13 44 08.2**	**-1.2**
	1.0nm,0.3s,baz=221,slow=17,SNR=15						
USRK	**Ussuriysk Arra**	**12.12**	**338**	P	**P**	**13 44 17.0**	**+0.2**
	0.3nm,0.3s,baz=152,slow=8.6,SNR=5.5						
SONM	**Songino Array**	**28.18**	**311**	P	**P**	**13 46 57.6**	**+0.6**
	2.2nm,0.7s,baz=114,slow=9.3,SNR=7.1						
ZALV	**Zalesovo Beam**	**42.83**	**316**	P	**P**	**13 49 00.3**	**0.0**
	0.6nm,0.4s,baz=93,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**44.20**	**305**	P	**P**	**13 49 11.2**	**-0.1**
	0.6nm,0.4s,baz=87,slow=9.4,SNR=8.6						
WRA	**Warramunga Arr**	**52.92**	**185**	P	**P**	**13 50 16.9**	**-0.6**
	1.0nm,0.3s,baz=0.2,slow=7.6,SNR=68						
ASAR	**Alice Springs**	**56.64**	**185**	P	**P**	**13 50 43.6**	**-0.4**
	0.7nm,0.5s,baz=18,slow=11,SNR=34						
STKA	**Stephens Creek**	**64.73**	**177**	P	**P**	**13 51 38.5**	**+0.5**
	0.9nm,0.4s,baz=333,slow=6.7,SNR=6.9						
ARCES	**ARCESS Array B**	**66.76**	**339**	P	**P**	**13 51 51.9**	**+1.4**
	3.1nm,0.9s,baz=62,slow=13,SNR=4.3						
FINES	**FINESS Array B**	**71.09**	**332**	P	**P**	**13 52 17.6**	**+0.5**
	1.0nm,0.5s,baz=45,slow=5.9,SNR=5.8						
HFS	**Hagfors**	**76.59**	**335**	P	**P**	**13 52 48.9**	**+0.1**
	3.3nm,1.0s,baz=60,slow=7.3,SNR=6.5						
NOA	**NORSAR Array B**	**76.79**	**337**	P	**P**	**13 52 49.2**	**-0.8**
	0.5nm,0.5s,baz=55,slow=7.7,SNR=4.1						

NIED ***13*** *13:47:00, 43°.00N×145°.40E, h47km, Mw3.9 Best double couple: M0=6.83000×10^14 NP1:φs=48.00000°, δ=68.00000°, λ=102.00000°. NP2:φs=198.00000°, δ=25.00000°, λ=62.00000°.*
ISCJB ***13*** *13:47:24.4±0.7, 42°.95N±0°.06×145°.42E±0°.06, h52km±5km, mb3.7/16, Error ellipse: s-maj=11.0km s-min=6.5km az=150.4*
JMA ***13*** *13:47:25.4±0.1, 42°.98N×145°.41E, h47km±1km, M3.7*
JMA Felt II J1.
IDC ***13*** *13:47:27.0±2.3, 42°.97N×145°.36E, h60km±21km, mb3.5/16, mb1 3.6/21, mb1mx3.6/32, mbtmp3.5/21, ML3.4/4, Error ellipse: s-maj=19.7km s-min=16.9km az=147.0*
ISC 13 13:47:25.4±1.1,**42°.97N**±0°.08×**145°.42E**±0°.06,**h45**km±9km,

n30, σ0=**73**/36,**mb3.7**/16,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.46**	**31**	P	**Pn**	**13 47 35.7**	**-0.2**
NEM2				*e*S	**Sn**	**13 47 43.0**	**-0.3**
JAK	**Akkeshi**	**0.53**	**273**	P	**Pn**	**13 47 36.7**	**-0.1**
JAK				*e*S	**Sn**	**13 47 44.9**	**+0.1**
JNK	**Nakash**	**0.80**	**321**	P	**Pn**	**13 47 40.0**	**-0.4**
JNK				*e*S	**Sn**	**13 47 49.8**	**-1.4**
JRA	**Rausu**	**0.99**	**348**	P	**Pn**	**13 47 42.8**	**-0.1**
JRA				*e*S	**Sn**	**13 47 55.6**	**-0.2**
JOB	**Onbets**	**1.17**	**267**	P	**Pn**	**13 47 45.1**	**-0.2**
JOB				*e*S	**Sn**	**13 47 59.9**	**-0.1**
JAR	**Ashorobuto**	**1.25**	**286**	P	**Pn**	**13 47 46.6**	**+0.1**
JAR				*e*S	**Sn**	**13 48 02.0**	**-0.1**
JTKR	**Abashiri--Toko**	**1.49**	**313**	P	**Pn**	**13 47 50.2**	**+0.5**
ASAJ	**Asahikawa**	**2.35**	**300**	P	**Pn**	**13 48 03.1**	**+1.6**
	15nm,0.3s,baz=130,slow=13,SNR=80						
MJAR	**Matsushiro Arr**	**8.48**	**223**	P	**Pn**	**13 49 25.4**	**-0.3**
	0.4nm,0.3s,baz=28,slow=14,SNR=12						
USRK	**Ussuriysk Arra**	**9.82**	**282**	P	**Pn**	**13 49 46.5**	**+2.6**
	0.1nm,0.3s,baz=99,slow=16,SNR=2.5						
PETK	**Petropavlovsk-**	**13.04**	**35**	P	**Pn**	**13 50 28.6**	**+0.8**
	0.0nm,0.3s,baz=215,slow=19,SNR=2.6						
KSRS	**Korea Array**	**14.45**	**253**	P	**Pn**	**13 50 46.5**	**-0.6**
	0.1nm,0.3s,baz=60,slow=15,SNR=3.7						
SONM	**Songino Array**	**27.62**	**294**	P	**P**	**13 53 09.2**	**+0.6**
	1.2nm,0.6s,baz=90,slow=8.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**40.47**	**307**	PcP	**PcP**	**13 57 01.5**	**+0.2**
	0.6nm,0.4s,baz=116,slow=3.4,SNR=4.4						
ILAR	**Eielson Array**	**42.86**	**36**	P	**P**	**13 55 19.2**	**+0.3**
	0.4nm,0.7s,baz=258,slow=5.6,SNR=8.4						
MKAR	**Makanchi Array**	**43.83**	**298**	P	**P**	**13 55 26.6**	**-0.4**
	0.9nm,0.7s,baz=79,slow=8.4,SNR=8.8						
KURBB	**Kurchatov Arra**	**45.00**	**304**	P	**P**	**13 55 36.1**	**-0.1**
	0.4nm,0.3s,baz=72,slow=8.5,SNR=3.5						
INK	**Inuvik**	**47.71**	**30**	P	**P**	**13 55 56.8**	**-0.4**
	0.8nm,0.6s,baz=352,slow=6.3,SNR=4.3						
BVAR	**Borovoye Array**	**49.02**	**309**	P	**P**	**13 56 07.8**	**+0.3**
	0.4nm,0.4s,baz=90,slow=8.6,SNR=2.9						
WRA	**Warramunga Arr**	**63.42**	**192**	P	**P**	**13 57 50.4**	**-0.1**
	0.5nm,0.9s,baz=7.6,slow=6.8,SNR=3.6						
FINES	**FINESS Array B**	**64.99**	**332**	P	**P**	**13 57 59.7**	**-0.6**
	1.0nm,0.6s,baz=47,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**67.15**	**191**	P	**P**	**13 58 14.6**	**+0.1**
	0.2nm,0.8s,baz=11,slow=6.0,SNR=2.8						
NVAR	**Mina Array Bea**	**69.06**	**57**	P	**P**	**13 58 27.7**	**+0.9**
	0.2nm,0.6s,baz=302,slow=5.2,SNR=2.9						
NB2	**NORSAR Subarra**	**69.87**	**338**	P	**P**	**13 58 30.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**69.87**	**338**	P	**P**	**13 58 30.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=37,slow=6.1,SNR=4.2						
HFS	**Hagfors**	**69.91**	**337**	P	**P**	**13 58 30.8**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=54,slow=7.5,SNR=6.7						
PDAR	**Pinedale Array**	**71.38**	**49**	P	**P**	**13 58 41.2**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=70,slow=2.2,SNR=5.1						
AKASG	**Malin Array Be**	**71.45**	**323**	P	**P**	**13 58 40.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=40,slow=6.3,SNR=6.6						
GERES	**GERESS Array B**	**79.21**	**330**	P	**P**	**13 59 24.8**	**-0.8**
	comp=Z,0.3nm,0.2s,baz=31,slow=8.0,SNR=2.2						
TXAR	**Lajitas Array**	**84.13**	**55**	P	**P**	**13 59 52.4**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=352,slow=1.8,SNR=2.5						

ISCJB ***13*** *13:57:26.0±0.5, 26°.62S±0°.08×114°.4W±0°.1, h14km, mb4.8/40, MS4.1/7, Error ellipse: s-maj=17.5km s-min=10.6km az=170.8*
IDC ***13*** *13:57:25.5±0.8, 26°.67S×114°.49W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.4/16, mbtmp4.2/10, MS4.1/7, Ms1 4.1/7, ms1mx3.8/20, Error ellipse: s-maj=36.8km s-min=25.9km az=123.0*
NEIC ***13*** *13:57:26.2±0.5, 26°.83S×114°.13W, h10km,

328A	Wristen Ranch,	58.81	12	⇓P	P	14 07 26.0	+0.3
	baz=59						
222A	Williams Famil	58.89	7	⇑P	P	14 07 27.3	+1.0
	baz=59						
432A	Menard	58.93	15	⇓P	P	14 07 26.0	-0.5
	baz=59						
DVTC	Desert V Tower	59.05	358	⇑P	P	14 07 28.9	+1.6
	baz=60						
224A	Cornudas Mount	59.06	9	⇑P	P	14 07 28.0	+0.5
	baz=60						
329A	Wagon Wheel Ra	59.07	12	⇓P	P	14 07 28.1	+0.6
	baz=60,SNR=6.3						
BAR	Barrett	59.09	358	eP	P	14 07 28.9	+1.4
	17nm,1.3s						
113A	Mohawk Valley,	59.14	1	⇑P	P	14 07 29.0	+1.2
	baz=60,SNR=5.7						
330A	Mertzon	59.15	13	⇑P	P	14 07 28.2	+0.3
	baz=60,SNR=6.7						
225A	Deer Hill, Car	59.19	9	⇑P	P	14 07 28.0	-0.4
	baz=60						
331A	San Angelo	59.21	14	⇑P	P	14 07 28.3	-0.1
	baz=60						
121A	Cookes Peak, D	59.24	7	⇑P	P	14 07 29.8	+1.1
	baz=60,SNR=6.3						
226B	Tecolote Peak,	59.26	10	⇑P	P	14 07 29.0	+0.2
	baz=60						
MONP	Monument Peak	59.29	358	⇓P	P	14 07 30.6	+1.4
	baz=60						
109C	Camp Elliot, M	59.31	357	⇓P	P	14 07 29.9	+0.9
	baz=60						
SWSC	Sam W. Stewart	59.32	359	⇑P	P	14 07 30.0	+0.9
	baz=60						
227A	Bennet, Jal	59.34	11	⇓P	P	14 07 29.5	+0.1
	baz=60						
GLA	Glamis	59.42	360	⇓P	P	14 07 30.9	+1.1
	baz=60						
332A	Millersview	59.43	15	⇓P	P	14 07 29.6	-0.3
	baz=60,SNR=9.4						
SCI	San Clemente I	59.48	356	⇓P	P	14 07 31.2	+1.1
	baz=60						
122A	Conniff Cattle	59.49	7	⇑P	P	14 07 31.1	+0.7
	baz=60						
123A	Bell Site, Whi	59.51	8	⇑P	P	14 07 31.4	+0.9
	baz=60						
229A	Bryant Ranch,	59.56	12	⇑P	P	14 07 32.1	+1.2
	baz=60						
228A	UT Block 9, Go	59.57	12	⇑P	P	14 07 30.6	-0.3
	baz=60						
230A	Sterling City	59.63	13	⇓P	P	14 07 31.1	-0.1
	baz=60						
124A	Stringfield Ra	59.68	9	⇑P	P	14 07 32.7	+0.8
	baz=60,SNR=8.5						
Z20A	Nine Sixteen R	59.74	6	⇓P	P	14 07 33.2	+1.0
	baz=60,SNR=6.8						
Z14A	Wintersburg	59.75	1	⇑P	P	14 07 33.3	+1.3
	baz=60						
125A	Gardner Draw,	59.76	10	⇓P	P	14 07 32.4	+0.1
	baz=60,SNR=18						
231A	Bronte	59.84	14	⇑P	P	14 07 32.5	-0.2
	baz=60						
CIS	Catalina Islan	59.89	356	⇑P	P	14 07 34.8	+1.7
	baz=60						
232A	Coleman	59.94	15	⇑P	P	14 07 33.2	-0.2
	baz=60,SNR=7.9						
127A	Arkansas Junct	59.98	11	⇓P	P	14 07 33.6	-0.1
	baz=60						
PFO	Pinyon Flat Ob	60.01	358	⇓P	P	14 07 35.4	+1.4
	baz=60						
Z21A	St. Cloud Mine	60.02	7	⇑P	P	14 07 35.3	+1.1
	baz=60,SNR=9.2						
MURC	Murrieta	60.02	357	⇑P	P	14 07 35.2	+1.2
	baz=60						
BC3	Big Chuckawall	60.03	359	⇓P	P	14 07 35.6	+1.6
	baz=60,SNR=8.3						
Z22A	Elephant Butte	60.04	7	⇑P	P	14 07 35.0	+0.7
	baz=60,SNR=7.0						
128A	Castleberry Fa	60.08	12	⇑P	P	14 07 34.5	+0.1
	baz=60,SNR=6.3						
Y12C	Blythe	60.12	360	⇓P	P	14 07 35.7	+1.2
	baz=61						
Z23A	Rita Site, Whi	60.14	8	⇑P	P	14 07 36.0	+1.2
	baz=61						
FMP	Fort Macarthur	60.19	356	⇓P	P	14 07 36.2	+1.2
	baz=61						
129A	Stewart Farms,	60.20	12	⇑P	P	14 07 35.4	+0.1
	baz=61						
Z24A	Sheeppen Canyo	60.31	9	⇓P	P	14 07 36.3	+0.2
	baz=61						
Y14A	Wickenburg	60.32	1	⇓P	P	14 07 37.5	+1.5
	baz=61						
130A	Snyder	60.34	13	⇓P	P	14 07 36.4	+0.2
	baz=61						
Z25A	Roswell	60.36	9	⇑P	P	14 07 36.5	+0.1
	baz=61,SNR=6.3						
BELC	Belle Mtn. Jos	60.38	358	⇓P	P	14 07 38.1	+1.5
	baz=61,SNR=8.7						
Z26A	Caprock	60.46	10	⇓P	P	14 07 36.4	-0.7
	baz=61,SNR=9.3						
IRM	Iron Mountain	60.53	359	⇓P	P	14 07 38.7	+1.3
	baz=61,SNR=7.3						
131A	Roby	60.54	14	⇓P	P	14 07 37.8	+0.3
	baz=61						
Y20A	Horse Springs,	60.55	6	⇑P	P	14 07 39.3	+1.5
	baz=61,SNR=11						
BSC	Santa Cruz Isl	60.56	355	⇑P	P	14 07 39.3	+1.7
	baz=61						
WHTX	Lake Whitney	60.56	17	⇑P	P	14 07 37.8	+0.2
	baz=61						
Z27A	Tatum	60.63	11	⇓P	P	14 07 37.7	-0.5
	baz=61,SNR=8.4						
BLG	Laguna Peak	60.63	356	⇓P	P	14 07 39.8	+1.7
	baz=61						
ABTX	Abilene, Hawle	60.65	14	⇑P	P	14 07 38.6	+0.3
	baz=61						
PDMCI	Parker Dam,Lak	60.66	0	⇓P	P	14 07 39.8	+1.5
	baz=61						
BBRC	Big Bear Solar	60.67	358	⇑P	P	14 07 40.1	+1.5
	baz=61						
BFSC	Mount Baldy Ra	60.68	357	⇑P	P	14 07 39.6	+1.0
	baz=61						
Y21A	Point of Rocks	60.71	6	⇑P	P	14 07 40.1	+1.2
	baz=61,SNR=12						
Y22A	Socorro	60.72	7	⇓P	P	14 07 39.8	+0.9
	baz=61,SNR=6.0						
DECC	Green Verdugo	60.73	356	⇑P	P	14 07 40.2	+1.4
	baz=61						
Z28A	Tucker Farm, M	60.74	12	⇑P	P	14 07 39.1	+0.2
	baz=61						
Y23A	Lovelace Mesa,	60.82	8	⇓P	P	14 07 40.7	+1.1
	baz=61,SNR=10						
Z29A	Hungry Hill Ra	60.84	12	⇓P	P	14 07 39.4	-0.2
	baz=61						
X16A	Lo Mia Camp, P	60.85	3	⇑P	P	14 07 40.8	+1.1
	baz=61						
Y22D	IRIS PASSCAL I	60.86	7	⇑P	P	14 07 40.3	+0.6
	baz=61						
Y24A	Capitan	60.89	9	⇑P	P	14 07 40.9	+0.8
	baz=61,SNR=9.8						
LENM	Lemitar	60.94	7	eP	P	14 07 39.8	-0.6
Z30A	Sanderson Ranc	60.98	13	⇑P	P	14 07 40.4	-0.1
	baz=61,SNR=5.5						
SBC	Santa Barbara	61.01	355	⇓P	P	14 07 42.1	+1.5
	baz=62						
X18A	Snowflake	61.04	4	⇓P	P	14 07 42.4	+1.3
	baz=62,SNR=5.1						
OSI	Osito Adit	61.11	356	⇓P	P	14 07 42.7	+1.3
	baz=62						
Y26A	Elida	61.12	10	⇑P	P	14 07 41.6	0.0
	baz=62						
NEE2	Needles Airpor	61.13	360	⇑P	P	14 07 43.0	+1.5
	baz=62						
X21A	Alamocita Cree	61.13	6	⇑P	P	14 07 42.8	+1.1
	baz=62,SNR=9.9						
GMRC	Granite Mounta	61.15	359	⇓P	P	14 07 43.3	+1.5
	baz=62,SNR=6.0						
LAZ	Ladron	61.16	7	eP	P	14 07 41.9	0.0
	6.4nm,1.3s						
Y27A	Causey	61.19	11	⇑P	P	14 07 41.8	-0.2
	baz=62,SNR=11						
Z31A	Sharp Cattle R	61.21	14	⇓P	P	14 07 42.2	+0.2
	baz=62,SNR=9.0						
HEC	Hector,Ludlow	61.22	358	⇑P	P	14 07 43.6	+1.4
	baz=62						
X22A	Bernardo	61.27	7	⇑P	P	14 07 42.4	-0.2
	baz=62						
RRX	Edison Barstow	61.29	358	⇓P	P	14 07 43.8	+1.3
	baz=62						
EDW2	Edwards Air Fo	61.34	357	⇑P	P	14 07 43.9	+1.0
	baz=62						
MSTX	Muleshoe	61.34	11	eP	P	14 07 42.8	-0.2
	12nm,1.0s						
MSTX	Muleshoe	61.34	11	⇓P	P	14 07 42.7	-0.4
	baz=62,SNR=5.1						
Z32A	Haskell	61.34	14	⇓P	P	14 07 43.4	+0.5
	baz=62,SNR=12						
Y28A	McKinney Farm,	61.37	12	⇓P	P	14 07 43.0	-0.2
	baz=62						
Y29A	Porterfield Fa	61.43	12	⇓P	P	14 07 43.6	0.0
	baz=62						
X23A	Hourglass Bar	61.44	8	⇓P	P	14 07 44.6	+0.8
	baz=62						
LDFC	Landfair	61.44	359	eP	P	14 07 43.8	+0.1
	35nm,1.2s						
W13A	Hualapai Mount	61.46	1	⇓P	P	14 07 45.5	+1.5
	baz=62						
PKM	Peak Mountain	61.47	355	⇓P	P	14 07 45.2	+1.2
	baz=62						
X24A	Lazy VL Ranch,	61.52	8	⇓P	P	14 07 44.6	+0.3
	baz=62						
X25A	Clemmons Ranch	61.59	9	⇓P	P	14 07 44.8	+0.1
	baz=62						
Y30A	Stafford Cattl	61.60	13	⇑P	P	14 07 45.2	+0.5
	baz=62						
W18A	Petrified Fore	61.64	4	⇑P	P	14 07 46.3	+1.2
	baz=62						
GSC	Goldstone	61.70	358	eP	P	14 07 46.7	+1.2
	18nm,1.3s						
GSC	Goldstone	61.70	358	⇓P	P	14 07 46.6	+1.2
	baz=62,SNR=7.8						
X26A	CR and CF Fran	61.74	10	⇑P	P	14 07 45.7	0.0
	baz=62						
W20A	Ramah	61.74	6	⇑P	P	14 07 46.8	+0.9
	baz=62						
Y31A	Rekieta Farm,	61.81	13	⇓P	P	14 07 46.1	+0.1
	baz=62						
W21A	San Fidel	61.81	6	⇑P	P	14 07 47.1	+0.8
	baz=62						
TUQ	Turquoise Moun	61.81	359	⇑P	P	14 07 47.3	+1.1
	baz=62						
W22A	Albuquerque	61.85	7	⇑P	P	14 07 47.4	+0.8
	baz=62						
SMMC	Simmler	61.90	355	⇓P	P	14 07 48.6	+1.9
	baz=62						
LRMC	Laurel Mountai	61.92	357	⇑P	P	14 07 48.2	+1.3
	baz=62						
WUAZ	Wupatki	61.95	3	eP	P	14 07 46.6	-0.5
	22nm,1.4s						
WUAZ	Wupatki	61.95	3	⇓P	P	14 07 48.8	+1.6
	baz=62						
X27A	F and S Farms,	61.95	11	⇑P	P	14 07 47.0	-0.1
	baz=62						
X28A	Dimmitt	61.98	11	⇓P	P	14 07 47.4	+0.1
	baz=62						
W23A	Werner Place,	62.02	8	⇑P	P	14 07 48.3	+0.6
	baz=62						
Y32A	R-V Farms, Ver	62.02	14	⇓P	P	14 07 47.7	+0.2
	baz=62,SNR=6.2						
ISA	Isabella	62.14	356	⇑P	P	14 07 49.8	+1.4
	baz=63						
X30A	Coker Ranch, T	62.15	13	⇓P	P	14 07 48.4	0.0
	baz=62						
W24A	Lazy 6 Ranch,	62.16	8	⇓P	P	14 07 49.1	+0.5
	baz=63,SNR=10						
W26A	Owens Ranch, T	62.27	10	⇓P	P	14 07 49.7	+0.3
	baz=63						
SHOC	Shoshone	62.28	358	⇓P	P	14 07 50.9	+1.7
	baz=63						
W25A	X Bar L Ranch,	62.30	9	⇑P	P	14 07 49.7	+0.3
	baz=63,SNR=9.3						
BDFB	Brasilia	62.31	94	LR	LR	14 30 17.8	
	comp=Z,159nm,19.9s,baz=269,slow=32						
VES	Vestal, Richgr	62.36	356	⇓P	P	14 07 51.5	+1.8
	baz=63						
W27A	Bowe Ranch, En	62.36	11	⇑P	P	14 07 50.4	+0.5
	baz=63						
V20A	Brimhall	62.41	5	⇓P	P	14 07 51.3	+0.9
	baz=63						
MPMC	Manual Prospec	62.49	357	⇑P	P	14 07 51.8	+1.0
	baz=63,SNR=8.3						
V21A	Milan	62.50	6	⇓P	P	14 07 52.1	+1.2
	baz=63						
X31A	McDonald Ranch	62.51	13	⇑P	P	14 07 51.1	+0.3
	baz=63						
V22A	San Miguel Ran	62.68	7	⇓P	P	14 07 53.2	+1.1
	baz=63						
V24A	Rampart Ranch,	62.69	8	⇑P	P	14 07 52.7	+0.5
	baz=63						
U15A	North Rim	62.82	2	⇑P	P	14 07 54.6	+1.5
	baz=63,SNR=5.7						
SHPR	Sheep Range	62.87	359	eP	P	14 07 54.1	+0.8
FURC	Furnace Creek,	62.87	358	⇓P	P	14 07 54.6	+1.6
	baz=63						
V25A	Rancho No Teng	62.88	9	⇓P	P	14 07 53.3	-0.1
	baz=63,SNR=6.5						
CWC	Cottonwood Cre	62.89	357	⇓P	P	14 07 55.0	+1.5
	baz=63						
V26A	Tequesquite Ra	62.97	10	⇓P	P	14 07 53.7	-0.2
	baz=63,SNR=6.4						
U21A	Nageezi	63.11	6	⇑P	P	14 07 55.7	+0.8
	baz=64,SNR=5.1						
U22A	Llaves	63.14	7	⇑P	P	14 07 56.1	+0.9
	baz=64						
U23A	El Rito	63.17	7	⇓P	P	14 07 56.2	+0.8
	baz=64,SNR=6.8						
V30A	Spur Ranch, Mi	63.46	12	⇑P	P	14 07 57.4	+0.3
	baz=64						
U25A	Circle Dot Ran	63.47	9	⇓P	P	14 07 58.0	+0.6
	baz=64						
TIN	Tinemaha	63.51	357	⇓P	P	14 07 59.2	+1.7
	baz=64						
V31A	Spring Creek L	63.64	13	⇓P	P	14 07 59.2	+0.9
	baz=64						
T21A	Navajo Lake	63.68	6	⇓P	P	14 07 59.7	+1.0
	baz=64						
T22A	Edith	63.77	7	⇑P	P	14 08 00.8	+1.4
	baz=64						
KIP	Kipapa	63.80	314	eP	P	14 08 03.5	+4.0
	683nm,2.3s						
CCUT	Cedar City	63.92	1	eP	P	14 08 00.7	+0.4
	15nm,1.2s						
MIAR	Mount Ida	64.03	19	eP	P	14 08 00.5	-0.3
	9.9nm,1.4s						
T24A	Torres, Weston	64.04	8	⇑P	P	14 08 02.3	+1.1
	baz=64						
T25A	Trinidad	64.19	9	⇑P	P	14 08 02.9	+0.8
	baz=65						
U30A	WK&E Inc. Balk	64.22	12	⇑P	P	14 08 02.6	+0.5
	baz=65						
U31A	Nine Bar Ranch	64.22	13	⇑P	P	14 08 03.1	+1.0
	baz=65						
S21A	Coal Bank Pass	64.32	6	⇓P	P	14 08 03.2	+0.2
	baz=65						
T26A	Comanche Natio	64.34	10	⇑P	P	14 08 03.7	+0.6
	baz=65						
T27A	Campo	64.37	10	⇓P	P	14 08 03.9	+0.7
	baz=65						
S20A	Disappointment	64.44	5	⇓P	P	14 08 04.5	+0.7
	baz=65						
S22A	4UR Ranch, Cre	64.50	7	⇓P	P	14 08 05.0	+0.8
	baz=65						
T28A	Walsh	64.53	11	⇓P	P	14 08 04.8	+0.6
	baz=65						
CMB	Columbia Colle	64.63	355	eP	P	14 08 05.8	+1.0
	19nm,1.4s						
S25A	Robets Cordova	64.70	9	⇑P	P	14 08 06.3	+0.9
	baz=65						
R11A	Troy Canyon, C	64.71	359	eP	P	14 08 05.9	+0.5
	14nm,1.3s						
R11A	Troy Canyon, C	64.71	359	⇓P	P	14 08 07.0	+1.6
	baz=65,SNR=14						
R20A	Redvale	64.79	5	⇑P	P	14 08 06.9	+0.9
	baz=65						
S26A	Kim	64.80	10	⇑P	P	14 08 06.0	0.0
	baz=65,SNR=5.5						
NVAR	Mina Array Bea	64.89	357	P	P	14 08 07.2	+0.6
NVAR	Mina Array Bea	64.89	357	P	P	14 08 07.2	+0.6
	7.9nm,1.0s,baz=182,slow=9.0,SNR=33						
NVAR				LR	LR	14 30 09.3	
	comp=Z,124nm,19.3s,baz=298,slow=30						
T31A	Randall Ranch,	64.96	13	⇑P	P	14 08 07.6	+0.7
	baz=65						
R22A	Saguache, Gunn	64.98	7	⇑P	P	14 08 08.5	+1.1
	baz=65						
S28A	Manter	65.02	11	⇑P	P	14 08 08.0	+0.6
	baz=65						
R21A	Cimarron	65.05	6	⇑P	P	14 08 08.9	+1.2
	baz=66						
R23A	Moffat	65.05	7	⇓P	P	14 08 08.8	+1.1
	baz=66						
R24A	Sanders Place,	65.18	8	⇓P	P	14 08 09.7	+1.2
	baz=66						
R26A	Arlington	65.47	9	⇑P	P	14 08 11.1	+0.8
	baz=66						
S31A	Mullinville	65.50	13	⇓P	P	14 08 11.2	+0.8
	baz=66						
R27A	Eads	65.56	10	⇓P	P	14 08 11.6	+0.7
	baz=66						
Q23A	Hartsel	65.75	7	⇓P	P	14 08 13.2	+0.8
	baz=66						
R28A	Tribune	65.77	11	⇑P	P	14 08 12.8	+0.6
	baz=66						
P23A	Jefferson	66.22	7	⇑P	P	14 08 16.2	+0.9
	baz=67						
P22A	Eagle	66.34	6	⇑P	P	14 08 17.1	+1.1
	baz=67						
Q29A	Oakley	66.45	11	⇓P	P	14 08 17.4	+0.9
	baz=67						
DUG	Dugway	66.57	1	⇓P	P	14 08 18.9	+1.6
	baz=67						
P26A	Davis Ranch, A	66.72	9	⇑P	P	14 08 19.3	+0.9
	baz=67						
BMN	Battle Mountai	66.84	358	eP	P	14 08 19.0	-0.1
	20nm,1.4s						
O22A	Kremmling	66.92	7	⇓P	P	14 08 20.5	+0.7
	baz=67						
O27A	Beecher Island	67.47	10	⇓P	P	14 08 23.9	+0.8
	baz=68						
O28A	Krutsinger Ran	67.52	10	⇓P	P	14 08 24.2	+0.9
	baz=68						
KSU1	Kansas State U	67.54	15	eP	P	14 08 21.8	-1.6
	31nm,1.1s						
N22A	Wattenberg Ran	67.56	7	⇑P	P	14 08 25.0	+1.2
	baz=68						
N23A	Red Feather La	67.71	7	⇓P	P	14 08 25.5	+0.7
	baz=68						
KHMM	Horse Mountain	67.78	352	eP	P	14 08 26.2	+1.2
	30nm,1.2s						
M20A	Sweetwater, Wa	68.09	5	⇑P	P	14 08 27.8	+0.7
	baz=68						
M24A	Cheyenne	68.40	8	⇓P	P	14 08 30.1	+1.1
	baz=69						
L21A	Rawlins	68.63	6	⇑P	P	14 08 31.1	+0.7
	baz=69						
L22A	Ellis Ranch, M	68.78	6	⇓P	P	14 08 32.3	+0.9
	baz=69						
L25A	Engebretsen Ra	69.19	8	⇑P	P	14 08 34.3	+0.6
	baz=70						
K20A	Yellowstone Ra	69.24	5	⇓P	P	14 08 34.7	+0.5
	baz=70						
PDAR	Pinedale Array	69.26	4	P	P	14 08 34.1	-0.2
PDAR	Pinedale Array	69.26	4	P	P	14 08 34.1	-0.2
	4.3nm,1.0s,baz=163,slow=6.2,SNR=6.5						
K21A	Alcova	69.30	6	⇑P	P	14 08 35.2	+0.7
	baz=70						
K22A	Casper	69.39	6	⇑P	P	14 08 35.9	+0.9
	baz=70						
HUMO	Hull Mountain	69.41	353	eP	P	14 08 35.3	+0.3
	13nm,1.2s						
K23A	Bowen Ranch, D	69.58	7	⇑P	P	14 08 37.1	+0.8
	baz=70						
MFID	Camas Ranch	69.78	359	⇓P	P	14 08 38.9	+1.5
	baz=70						
K26A	Motz Farm, Whi	69.83	9	⇑P	P	14 08 38.6	+0.9
	baz=70						
HLID	Hailey	69.91	0	eP	P	14 08 38.3	0.0
	17nm,1.1s						
HLID	Hailey	69.91	0	⇑P	P	14 08 39.6	+1.3
	baz=70						
J20A	Shoshoni	69.95	5	⇓P	P	14 08 39.2	+0.8
	baz=70						
J21A	Lysite	69.99	5	⇓P	P	14 08 39.4	+0.6
	baz=70						
J22A	Midwest	70.15	6	⇓P	P	14 08 40.1	+0.5
	baz=71						
VNA1	Neumayer--Stat	70.23	160	eP	P	14 08 40.5	+0.8
J24A	Dixon Ranch, L	70.26	8	⇑P	P	14 08 41.4	+1.0
	baz=71						
VNA2	Neumayer--Watz	70.37	161	eP	P	14 08 41.4	+0.7
J25A	Sunshine Ranch	70.42	8	⇓P	P	14 08 42.1	+0.8
	baz=71						
J26A	Sides Ranch, S	70.44	9	⇑P	P	14 08 41.9	+0.5
	baz=71						
I21A	Big Trails, Te	70.47	5	⇑P	P	14 08 42.0	+0.4
	baz=71						
I20A	Worland	70.54	5	⇑P	P	14 08 42.5	+0.5
	baz=71						
I19A	Meeteetse	70.56	4	⇓P	P	14 08 42.8	+0.5
	baz=71						
I22A	9 Mile Ranch,	70.62	6	⇑P	P	14 08 43.1	+0.6
	baz=71						
J28A	Allard Ranch,	70.82	10	⇑P	P	14 08 44.6	+0.9
	baz=71						
I25A	Rochford	71.05	8	⇑P	P	14 08 45.9	+0.7
	baz=72						
H16A	Russell Place,	71.11	2	⇑P	P	14 08 46.8	+1.2
	baz=72						
H21A	Big Horn, Sher	71.30	6	⇑P	P	14 08 47.0	+0.4
	baz=72						
H22A	Clearmont	71.33	6	⇓P	P	14 08 47.2	+0.4
	baz=72						
SNAA	Sanae	71.35	162	eP	P	14 08 47.0	+0.3
I28A	Midland	71.39	10	⇑P	P	14 08 47.7	+0.6
	baz=72						
DLMT	Dillon	71.73	1	eP	P	14 08 48.8	-0.5
	11nm,0.6s						
G20A	Bridger	71.80	5	⇓P	P	14 08 50.1	+0.4
	baz=72						
G18A	Lazy EL Ranch,	71.81	4	⇑P	P	14 08 50.4	+0.7
	baz=72						
G22A	Birney	71.95	6	⇓P	P	14 08 51.1	+0.6
	baz=72						
ECSD	EROS Data Cent	71.97	13	eP	P	14 08 48.2	-2.4
	7.0nm,1.1s						
G23A	Biddle	72.03	7	⇓P	P	14 08 51.3	+0.3
	baz=72						
G25A	Newell	72.25	8	⇑P	P	14 08 52.6	+0.4
	baz=73						
F17A	Fitzpatrick Pl	72.34	3	⇓P	P	14 08 53.7	+0.9
	baz=73						
F19A	Roth Farm, Mol	72.38	4	⇓P	P	14 08 53.2	+0.2
	baz=73						
F18A	Big Timber	72.38	3	⇓P	P	14 08 53.7	+0.6
	baz=73						
F22A	Rosebud	72.51	6	⇓P	P	14 08 54.3	+0.5
	baz=73						
F23A	Volborg	72.54	7	⇑P	P	14 08 54.5	+0.5
	baz=73						
G27A	Dupree	72.63	9	⇑P	P	14 08 54.7	+0.2
	baz=73						
F24A	Ekalaka	72.77	7	⇓P	P	14 08 55.6	+0.3
	baz=73						
E19A	Rath Farm, Rou	72.99	4	⇓P	P	14 08 57.2	+0.5
	baz=74						
E20A	Meyer Farm, Mu	73.08	5	⇑P	P	14 08 57.9	+0.7
	baz=74						
HRY	Holter Researc	73.10	2	eP	P	14 08 52.5	-4.9
E21A	Keefer Ranch,	73.20	5	⇑P	P	14 08 58.5	+0.7
	baz=74						
E23A	Ismay	73.32	7	⇑P	P	14 08 59.3	+0.7
	baz=74						
E24A	Baker	73.49	7	⇓P	P	14 09 00.1	+0.5
	baz=74						
E25A	Miller Ranch,	73.53	8	⇓P	P	14 09 00.4	+0.6
	baz=74						
D17A	Six Diamond Ra	73.58	3	⇑P	P	14 09 01.1	+0.9
	baz=74						
E26A	Carlson Angus	73.63	9	⇑P	P	14 09 00.9	+0.5
	baz=74						
D20

D26A	Manning	74.18	8	⇓P	P	14 09 04.6	+1.0
	baz=75						
NLWA	Neilton Lookou	74.23	353	eP	P	14 09 04.0	+0.1
	21nm,1.2s						
C19A	Slack Wire Ran	74.24	4	⇓P	P	14 09 05.0	+1.0
	baz=75						
C24A	Savage	74.43	7	⇓P	P	14 09 06.0	+1.0
	baz=75						
C21A	Desert Coulee	74.47	5	⇓P	P	14 09 05.9	+0.6
	baz=75						
EGMT	Eagleton	74.50	3	eP	P	14 09 05.1	-0.4
	19nm,1.3s						
EGMT	Eagleton	74.50	3	⇑P	P	14 09 06.7	+1.2
	baz=75						
C22A	Vida	74.50	6	⇓P	P	14 09 05.9	+0.4
	baz=75						
NEW	Newport	74.66	358	eP	P	14 09 06.3	-0.1
	7.7nm,0.6s						
NEW	Newport	74.66	358	⇑P	P	14 09 07.2	+0.8
	baz=75						
B17A	L&G Farms, Che	74.72	3	⇓P	P	14 09 07.7	+1.0
	baz=75						
B18A	Beardsley Farm	74.86	3	⇓P	P	14 09 08.8	+1.2
	baz=75						
B19A	Brinkman Farms	74.97	4	⇓P	P	14 09 09.1	+0.9
	baz=75						
B20A	Solberg Farm,	75.01	4	⇑P	P	14 09 09.4	+1.0
	baz=76						
B21A	Ellsworth Farm	75.08	5	⇑P	P	14 09 09.5	+0.8
	baz=76						
B23A	Brockton	75.29	6	⇓P	P	14 09 10.8	+0.8
	baz=76						
B25A	Knox Farm, Ray	75.31	8	⇑P	P	14 09 10.8	+0.7
	baz=76						
A14A	Double T Ranch	75.33	1	⇑P	P	14 09 11.2	+0.8
	baz=76						
A15A	Johnson Ranch,	75.35	1	⇑P	P	14 09 11.0	+0.6
	baz=76						
A17A	Triple J Farms	75.37	3	⇓P	P	14 09 11.8	+1.3
	baz=76						
A18A	Metzger Ranch,	75.38	3	⇓P	P	14 09 11.7	+1.2
	baz=76						
DGMT	Dagmar	75.38	7	eP	P	14 09 09.5	-1.0
	23nm,1.1s						
DGMT	Dagmar	75.38	7	⇓P	P	14 09 11.4	+0.8
	baz=76						
A19A	Klindworth Far	75.45	4	⇓P	P	14 09 12.3	+1.3
	baz=76						
A20A	Cobblestone Ra	75.46	4	⇓P	P	14 09 12.3	+1.3
	baz=76						
A21A	Bergtoll Ranch	75.64	5	⇑P	P	14 09 13.0	+0.9
	baz=76						
A22A	Carney Farms,	75.73	6	⇑P	P	14 09 13.5	+1.0
	baz=76						
A24A	Westby	75.85	7	⇓P	P	14 09 14.3	+1.0
	baz=76						
A25A	Svangstu Ranch	75.97	8	⇓P	P	14 09 14.9	+1.0
	baz=76						
A26A	Wade Farm, Ken	76.06	8	⇑P	P	14 09 15.2	+0.8
	baz=76						
EYMN	Ely	77.11	16	eP	P	14 09 18.6	-1.7
	14nm,1.3s						
ULM	Lac du Bonnet	78.36	12	P	P	14 09 27.1	-0.1
ULM	Lac du Bonnet	78.36	12	P	P	14 09 27.1	-0.1
	3.6nm,0.8s,baz=200,slow=8.1,SNR=3.3						
EDM	Edmonton	79.59	1	eP	P	14 09 33.2	-0.8
SIT	Sitka	85.28	349	eP	P	14 10 02.6	-0.9
STKA	Stephens Creek	87.08	236	P	P	14 10 13.4	+0.2
STKA	Stephens Creek	87.08	236	P	P	14 10 13.4	+0.2
	2.6nm,1.1s,baz=150,slow=15,SNR=2.9						
STKA				LR	LR	14 44 05.4	
	comp=Z,93nm,19.1s,baz=107,slow=32						
YKA	Yellowknife Ar	88.88	360	P	P	14 10 20.7	-0.1
YKA	Yellowknife Ar	88.88	360	P	P	14 10 20.7	-0.1
	1.1nm,0.7s,baz=168,slow=4.5,SNR=7.4						
ILAR	Eielson Array	94.60	347	P	P	14 10 46.1	-1.2
ILAR	Eielson Array	94.60	347	P	P	14 10 46.1	-1.2
	0.5nm,0.8s,baz=193,slow=4.9,SNR=5.8						
ASAR	Alice Springs	97.15	239	P	P	14 10 58.3	-1.9
ASAR	Alice Springs	97.15	239	P	P	14 10 58.3	-1.9
	0.3nm,0.9s,baz=120,slow=5.5,SNR=3.0						
ASAR				LR	LR	14 49 15.3	
	comp=Z,197nm,19.8s,baz=202,slow=32						
WRA	Warramunga Arr	98.82	243	P	P	14 11 07.3	-0.4
WRA	Warramunga Arr	98.82	243	P	P	14 11 07.3	-0.4
	0.8nm,1.0s,baz=128,slow=4.9,SNR=4.7						
SONM	Songino Array	141.84	315	PKPpre	PKPpre	14 16 55.7	
SONM	Songino Array	141.84	315	PKhKP	PKPpre	14 16 55.7	
	1.2nm,0.8s,baz=96,slow=4.3,SNR=4.2						
MLR	Muntele Rosu	143.35	49	PKPpre	PKPpre	14 16 58.1	
MLR	Muntele Rosu	143.35	49	PKhKP	PKPpre	14 16 58.1	
	0.4nm,0.6s,baz=55,slow=5.6,SNR=2.0						
CMAR	Chiang Mai Arr	148.19	262	PKPbc	PKPbc	14 17 15.2	+1.3
CMAR	Chiang Mai Arr	148.19	262	PKPbc	PKPbc	14 17 15.2	+1.3
	1.2nm,0.5s,baz=140,slow=0.8,SNR=17						
ZALV	Zalesovo Beam	149.28	338	PKPbc	PKPbc	14 17 15.2	-0.3
ZALV	Zalesovo Beam	149.28	338	PKPbc	PKPbc	14 17 15.2	-0.3
	4.2nm,0.8s,baz=18,slow=1.8,SNR=16						
BRTR	Keskin Array B	150.46	56	PKPbc	PKPbc	14 17 19.1	0.0
BRTR	Keskin Array B	150.46	56	PKPbc	PKPbc	14 17 19.1	0.0
	4.7nm,1.0s,baz=279,slow=2.4,SNR=16						
BVAR	Borovoye Array	153.46	353	PKPbc	PKPbc	14 17 24.9	-0.4
BVAR	Borovoye Array	153.46	353	PKPbc	PKPbc	14 17 24.9	-0.4
	2.7nm,1.0s,baz=343,slow=1.5,SNR=8.8						
KURK	Kurchatov	154.03	341	PKP	PKPdf	14 17 19.1	+0.6
KURK				PKPbc	PKPbc	14 17 26.7	+0.2
KURBB	Kurchatov Arra	154.13	341	PKP	PKPdf	14 17 19.1	+0.4
	0.9nm,0.2s,baz=28,slow=2.6,SNR=3.4						
KURBB				PKPbc	PKPbc	14 17 26.7	-0.1
	0.8nm,0.2s,baz=18,slow=2.0,SNR=7.2						

AZER ***13*** *13:57:35.7, 35°.77N×52°.04E, h20km*
IDC ***13*** *13:57:41.9±1.4, 36°.36N×52°.02E, h0km, mb3.7/10, mb1 3.9/15, mb1mx3.8/34, mbtmp3.8/15, ML3.6/4, MS3.2/6, Ms1 3.2/6, ms1mx2.8/51, Error ellipse: s-maj=30.3km s-min=14.7km az=10.0*
CSEM ***13*** *13:57:43.1±0.1, 36°.40N×52°.04E, h2km, mb4.0/11, Error ellipse: s-maj=3.6km s-min=2.9km az=65.0*
TEH ***13*** *13:57:43.4, 36°.46N×52°.05E, h4km, ML4.1*
MOS ***13*** *13:57:45.8±1.8, 36°.63N×52°.07E, h33km, mb4.2/9, Error ellipse: s-maj=12.0km s-min=6.8km az=116.9*
THR ***13*** *13:57:45.4±1.1, 36°.29N×51°.93E, h14km±10km, ML3.9*
NNC ***13*** *13:57:54.2±6.9, 37°.26N×52°.75E, h12km±63km, mb4.1, Error ellipse: s-maj=54.4km s-min=28.1km az=65.0*

ISC 13 13:57:43.2±1.1, 36°.37N±0°.03×52°.00E±0°.02, h9km±7km, n130, σ1§54/147, mb4.1/16, MS3.3/4, 13C-18D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	Peran	0.30	115	⇓ePg	Pg	13 57 48.6	-0.6
IPRN				eSg	Sg	13 57 53.4	+0.2
IPRN				eSg	Sg	13 57 53.5	+0.2
IPRN				e		13 57 53.9	
	comp=Z,2272μm,0.1s						
IAFJ	Afjeh	0.57	205	ePg	Pb	13 57 55.2	-0.3
IAFJ				e		13 58 05.3	
	comp=Z,726nm,0.0s						
IAFJ	Afjeh	0.57	205	ePg	Pb	13 57 55.2	-0.3
IALA	Alasht	0.71	114	ePg	Pg	13 57 56.4	-0.6
IALA				eSg	Sg	13 58 06.3	-0.1
IALA				e		13 58 09.1	
	comp=Z,32μm,0.2s						
IALA	Alasht	0.71	114	ePg	Pg	13 57 56.4	-0.6
IALA				eSg	Sg	13 58 06.3	-0.1
DAMV	Damavand	0.74	182	ePg	Pg	13 57 57.8	+0.3
DAMV	Damavand	0.74	182	ePg	Pg	13 57 57.8	+0.3
IDMV	Damavand	0.79	178	ePg	Pg	13 57 59.0	+0.5
IDMV				e		13 58 11.7	
	comp=Z,26μm,0.1s						
IDMV	Damavand	0.79	178	ePg	Pg	13 57 59.0	+0.5
CHTH	Charan	0.85	237	ePg	Pg	13 57 59.8	+0.3
CHTH	Charan	0.85	237	ePg	Pg	13 57 59.8	+0.3
IFIR	Firoozkooh	0.95	140	ePg	Pb	13 58 01.0	-1.0
IFIR				eSg	Sb	13 58 14.5	-0.3
IFIR				e		13 58 15.4	
	comp=Z,15μm,0.1s						
IFIR	Firoozkooh	0.95	140	ePg	Pb	13 58 01.0	-1.0
IFIR				eSg	Sb	13 58 14.5	-0.3
THKV	Tehran--Karaj	1.02	244	ePg	Pb	13 58 03.1	0.0
THKV	Tehran--Karaj	1.02	244	ePg	Pb	13 58 03.1	0.0
ISHM	Shahmirzad	1.19	118	e		13 58 29.5	
	comp=Z,14μm,0.2s						
ISHM				ePg	Pn	13 58 05.0	-1.3
IR3	Iran Long-Peri	1.20	222	eSg	Sn	13 58 23.5	+0.9
IR3				ePg	Pg	13 58 06.5	+0.3
IR3	Iran Long-Peri	1.20	222	ePg	Pg	13 58 06.5	+0.3
IR3				eSg	Sn	13 58 23.5	+0.9
ILAS	Lasjerd	1.26	142	eSg	Sb	13 58 24.3	+0.7
ILAS				ePg	Pn	13 58 06.6	-0.6
ILAS				e		13 58 25.7	
	comp=Z,67μm,0.2s						
IMHD	Mahdasht	1.28	238	e	Sn	13 58 29.0	+4.2
	comp=Z,9μm,0.2s						
IMHD				ePg	Pg	13 58 08.2	+0.4
IVRN	Varamin	1.39	189	⇑ePn	Pg	13 58 10.2	+0.3
IVRN				e		13 58 37.2	
	comp=Z,21μm,0.2s						
IVRN	Varamin	1.39	189	⇑ePn	Pg	13 58 10.2	+0.3
IGZV	Ghazvin	1.44	271	ePn	Pb	13 58 11.2	+0.8
IGZV				e		13 58 42.1	
	comp=Z,13μm,0.2s						
IGZV	Ghazvin	1.44	271	ePn	Pb	13 58 11.2	+0.8
IGLO	Ghaloghah	1.48	84	e		13 58 37.5	
	comp=Z,71μm,0.2s						
IGLO				ePn	Pn	13 58 09.4	-0.8
IR5	Iran Long-Peri	1.64	225	ePn	Pg	13 58 14.2	-0.4
IR5	Iran Long-Peri	1.64	225	ePn	Pg	13 58 14.2	-0.4
IANJ	Anjilo	1.79	120	ePn	Pn	13 58 16.2	+1.6
IANJ				e		13 58 45.9	
	comp=Z,41μm,0.2s						
IANJ	Anjilo	1.79	120	ePn	Pn	13 58 16.2	+1.6
IRAZ	Razeghan	1.94	241	ePn	Pb	13 58 18.6	-0.3
IRAZ				e		13 58 53.1	
	comp=Z,12μm,0.2s						
IRAZ	Razeghan	1.94	241	ePn	Pb	13 58 18.6	-0.3
GHVR	GHOM	1.97	197	ePg	Pg	13 58 20.6	-0.5
GHVR				AML	AML	13 58 51.8	
	comp=N,1μm,0.5s						
GHVR				AML	AML	13 58 52.4	
	comp=E,1μm,0.8s						
GHVR	GHOM	1.97	197	ePg	Pg	13 58 20.6	-0.5
ISFB	Sefidab	2.02	174	ePn	Pb	13 58 20.7	+0.5
ISFB				eSg	Sg	13 58 48.7	+0.4
ISFB				e		13 58 50.9	
	comp=Z,26μm,0.3s						
ISFB	Sefidab	2.02	174	ePn	Pb	13 58 20.7	+0.5
ISFB				eSg	Sg	13 58 48.7	+0.4
ASAO	Ashtian	2.43	222	ePn	Pb	13 58 25.9	-1.4
ASAO				eSg	Sg	13 58 58.8	-2.6
ASAO				AML	AML	13 59 04.0	
	comp=E,454nm,0.4s						
ASAO	Ashtian	2.43	222	ePn	Pb	13 58 25.9	-1.4
ASAO				eSg	Sg	13 58 58.8	-2.6
IMND	Minoodasht	2.87	71	ePn	Pn	13 58 30.5	+1.3
IMND	Minoodasht	2.87	71	ePn	Pn	13 58 30.5	+1.3
LKRN	Lenkeran, Azer	3.47	313	⇓P	Pn	13 58 37.2	-0.1
	SNR=5.7						
LKRN				⇓S	Sn	13 59 15.8	-2.7
LKRN	Lenkeran, Azer	3.47	313	P	Pn	13 58 37.2	-0.1
	SNR=5.7						
LKRN				S	Sn	13 59 15.8	-2.7
NASN	Na'in	3.62	169	ePn	Pn	13 58 42.4	+2.5
NASN				eSg	Sg	13 59 36.4	-3.3
NASN				AML	AML	13 59 50.8	
	comp=E,218nm,0.6s						
NASN				AML	AML	13 59 51.4	
	comp=N,208nm,0.6s						
NASN	Na'in	3.62	169	ePn	Pn	13 58 42.4	+2.5
NASN				eSg	Sg	13 59 36.4	-3.3
GLBA	Clilabad	4.05	316	⇓P	Pn	13 58 45.8	+0.5
GLBA				⇓S	Sn	13 59 32.3	-0.6
GLBA	Clilabad	4.05	316	P	Pn	13 58 45.8	+0.5
GLBA				S	Sn	13 59 32.3	-0.6
ALIB	Äli-Bayra	4.29	327	⇓P	Pn	13 58 51.5	+2.9
	SNR=4.2						
ALIB				⇑S	Sn	13 59 42.6	+3.8
ALIB	Äli-Bayra	4.29	327	P	Pn	13 58 51.5	+2.9
	SNR=4.2						
ALIB				S	Sn	13 59 42.6	+3.8
GOBA	Gobu	4.40	337	⇓P	Pn	13 58 53.2	+3.0
	SNR=3.5						
GOBA				⇑S	Sn	13 59 49.5	+7.9
GOBA	Gobu	4.40	337	P	Pn	13 58 53.2	+3.0
	SNR=3.5						
PQL	Pirkuli	5.16	330	⇑P	Pn	13 59 01.7	+1.0
	SNR=20						
PQL				⇑S	Sn	14 00 00.7	+0.3
PQL	Pirkuli	5.16	330	P	Pn	13 59 01.7	+1.0
	SNR=20						
PQL				S	Sn	14 00 00.7	+0.3
SIZA	Siyzn	5.29	334	⇓P	Pn	13 59 04.0	+1.6
	SNR=5.6						
SIZA				⇓S	Sn	14 00 05.1	+1.6
SIZA	Siyzn	5.29	334	P	Pn	13 59 04.0	+1.6
	SNR=5.6						
SIZA				S	Sn	14 00 05.1	+1.6
IML	Ismayilli	5.33	327	⇓S	Sn	14 00 02.5	-2.1
IML	Ismayilli	5.33	327	S	Sn	14 00 02.5	-2.1
QUBA	Quba, Azerbaij	5.68	332	⇓P	Pn	13 59 09.1	+1.3
	SNR=7.3						
QUBA				⇓S	Sn	14 00 10.7	-2.4
QUBA	Quba, Azerbaij	5.68	332	P	Pn	13 59 09.1	+1.3
	SNR=7.3						
SEKA	Sheki	6.12	324	P	Pn	13 59 13.8	0.0
	SNR=9.1						
SEKA				⇑S	Sn	14 00 21.6	-2.3
SEKA	Sheki	6.12	324	P	Pn	13 59 13.8	0.0
	SNR=9.1						
GANJ	Ganja	6.17	315	⇑P	Pn	13 59 14.9	+0.4
	SNR=6.3						
GANJ				⇑S	Sn	14 00 22.2	-3.0
GANJ	Ganja	6.17	315	P	Pn	13 59 14.9	+0.4
	SNR=6.3						
GNI	Garni	6.84	306	Pn	Pn	13 59 28.8	+4.9
	comp=N,0.3nm,0.3s,baz=140,slow=19,SNR=2.5						
BHD	Baghdad	6.99	246	ePn	Pn	13 59 18.0	-7.8
BHD				eSn	Sn	14 00 32.0	-13
MAK	Makhachkala	7.44	334	eP	Pn	13 59 32.5	+0.6
MAK	Makhachkala	7.44	334	eP	Pn	13 59 32.5	+0.6
ZEI	Tsey	8.95	318	eP	Pn	13 59 53.2	+0.4
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZEI	Tsey	8.95	318	eP	Pn	13 59 53.2	+0.4
	comp=Z,8.0nm,0.6s						
KBZ	Khabaz	10.13	319	P	Pn	14 00 11.2	+2.4
KBZ	Khabaz	10.13	319	Pn	Pn	14 00 11.2	+2.4
	comp=Z,0.1nm,0.3s,baz=266,slow=1.4,SNR=2.1						
KBZ	Khabaz	10.13	319	P	Pn	14 00 11.2	+2.4
KIV	Kislovodsk	10.40	320	eP	Pn	14 00 10.5	-2.0
KIV				eS	Sn	14 02 02.5	-6.7
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ASF	Jabal al Asfar	13.18	256	LR	LR	14 05 44.7	
	comp=Z,71nm,18.5s,baz=113,slow=37						
AB31	Akbulak array	14.12	22	⇓P	Pn	14 00 59.1	-4.2
	comp=Z,2.2nm,0.7s,baz=210,slow=13,SNR=23						
AB31				⇓S	Sn	14 03 25.6	-14
	comp=Z,3.1nm,0.7s,baz=198,slow=23,SNR=6.1						
AKTO	Aktyubinsk	14.71	15	⇑P	Pn	14 01 05.6	-5.8
	comp=Z,6.1nm,0.7s						
AKTO				⇓S	Sn	14 03 40.6	-14
	comp=Z,12nm,1.1s						
AKTO	Aktyubinsk	14.71	15	P	Pn	14 01 06.6	-4.8
AKTO						14 03 41.4	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	Aktyubinsk	14.71	15	Pn	Pn	14 01 06.6	-4.8
	comp=N,0.5nm,0.3s,baz=203,slow=13,SNR=20						
AKTO				Sn	Sn	14 03 41.4	-13
	comp=N,0.7nm,0.3s,baz=82,slow=20,SNR=4.4						
AKTO				LR	LR	14 08 31.4	
	comp=N,132nm,18.0s,baz=80,slow=44						
BRTR	Keskin Array B	14.85	289	Pn	Pn	14 01 13.8	+0.3
	comp=N,0.1nm,0.3s,baz=113,slow=13,SNR=2.4						
SUDU	Sudak	15.44	309	eP	P	14 01 36.3	+11
KK31	Karatay Array	15.73	59	P	Pn	14 01 21.1	-3.9
	comp=N,5.5nm,1.1s,baz=246,slow=15,SNR=17						
KK31				⇓S	Sn	14 04 08.0	-11
	comp=N,2.2nm,0.6s,baz=255,slow=22,SNR=4.8						
YAL	Yalta	15.80	306	eP	Pn	14 01 26.5	+0.7
SEV	Sevastopol'	16.14	306	eP	Pn	14 01 29.8	-0.4
VRHR	Novokhopersk	16.49	336	eP	Pn	14 01 33.1	-1.5
VRHR				eS	Sn	14 04 29.7	-8.0
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,6.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VRHR				smax	smax		
	comp=N,10.0nm,0.8s						
VRHR				smax	smax		
	comp=E,30nm,0.8s						
VRHR				smax	smax		
	comp=Z,9.0nm,0.8s						
VORD	Divnogorie	17.21	332	eP	Pn	14 01 40.2	-3.4
VORD				pmax	pmax		
	comp=N,30nm,1.0s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	Storozhevoye	17.45	332	eP	Pn	14 01 42.6	-4.1
VSR				eS	Sn	14 04 46.6	-14
VSR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.3s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSR				smax	smax		
	comp=E,40nm,2.0s						
VSR				smax	smax		
	comp=Z,30nm,2.0s						
VSR				smax	smax		
	comp=N,20nm,1.0s						
AAK	Ala-Archa	18.42	63	eP	P	14 01 59.0	0.0
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	Ala-Archa	18.42	63	P	P	14 01 58.5	-0.5
	comp=Z,0.3nm,0.3s,baz=247,slow=7.7,SNR=2.0						
AAK				LR	LR	14 09 48.0	
	comp=Z,51nm,20.8s,baz=24,slow=39						
AAK	Ala-Archa	18.42	63	eP	P	14 01 59.0	0.0
	comp=Z,5.0nm,1.0s						
TKM2	Tokmak 2	19.28	63	⇑P	P	14 02 10.2	+1.8
	comp=Z,5.9nm,1.1s						
TKM2	Tokmak 2	19.28	63	P	P	14 02 10.2	+1.8
	comp=Z,5.9nm,1.1s						
ARU	Arti	20.55	10c	iP	P	14 02 21.2	-0.6
ARU						14 02 37.4	
ARU				PPP	PPP	14 02 47.7	
ARU				S	S	14 06 08.5	-3.1
ARU				SS	SnSn	14 06 29.3	-1.0
ARU				pmax	pmax		
	comp=Z,22nm,1.0s						
ARU	Arti	20.55	10	iP	P	14 02 21.2	-0.6
	comp=Z,22nm,1.0s						
BRVK	Borovoye	21.04	32	eP	P	14 02 28.2	+1.0
BRVK				pmax	pmax		
	comp=Z,24nm,1.2s						
BRVK	Borovoye	21.04	32	eP	P	14 02 28.2	+1.0
	comp=Z,24nm,1.2s						
BVA0	Borovoye Array	21.06	32	⇑P	P	14 02 27.6	+0.1
	comp=Z,11nm,0.8s,baz=220,slow=11,SNR=47						
BVA0	Borovoye Array	21.06	32	P	P	14 02 27.6	+0.1
	comp=Z,11nm,0.8s,baz=220,SNR=47						
BVAR	Borovoye Array	21.06	32	P	P	14 02 27.9	+0.4
BVAR				S	S	14 06 06.7	-15
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BVAR				smax	smax		
	comp=N,1.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,50nm,20.9s						
BVAR	Borovoye Array	21.06	32	P	P	14 02 27.9	+0.4
	comp=Z,9.8nm,0.7s,baz=219,slow=9.2,SNR=50						
BVAR				S	S	14 06 06.7	-15
	comp=Z,1.2nm,0.7s,baz=216,slow=34,SNR=2.3						
BVAR				LR	LR	14 11 48.6	
	comp=Z,50nm,20.9s,baz=32,slow=40						
BVAR	Borovoye Array	21.06	32	P	P	14 02 27.9	+0.4
	comp=Z,10.0nm,0.7s						
VOSK	Vostochnaya	21.11	33	⇓P	P	14 02 27.5	-0.5
	comp=Z,10nm,0.8s						
SVE	Sverdlovsk	21.27	13	eP	P	14 02 33.9	+4.3
OBN	Obninsk	21.53	335	⇓eP	P	14 02 33.2	+0.8
OBN				e		14 02 59.5	
OBN				pmax	pmax		
	comp=Z,12nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
OBN	Obninsk	21.53	335	eP	P	14 02 33.2	+0.8
	comp=Z,100nm,17.0s						
MLR	Muntele Rosu	21.61	303	P	P	14 02 34.7	+1.1
	comp=Z,0.9nm,0.9s,baz=166,slow=8.3,SNR=4.0						
MLR	Muntele Rosu	21.61	303	P	P	14 02 34.7	+1.1
	comp=Z,1.0nm,0.9s						
AKASG	Malin Array Be	21.74	318	P	P	14 02 34.3	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	21.74	318	P	P	14 02 34.2	-0.4
	comp=Z,0.5nm,0.4s,baz=122,slow=11,SNR=5.1						
AKASG	Malin Array Be	21.74	318	P	P	14 02 34.3	-0.4
	comp=Z,1.0nm,0.4s						
KURBB	Kurchatov Arra	23.78	45	P	P	14 02 56.6	+0.7
	comp=Z,2.4nm,0.2s,baz=250,slow=12,SNR=7.8						
KURK	Kurchatov	23.87	45	P	P	14 02 56.6	-0.2
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	23.87	45	P	P	14 02 56.6	-0.2
	comp=Z,6.0nm,0.8s						
MK31	Makanchi Array	24.79	56	P	P	14 03 05.6	+0.2
	comp=Z,4.4nm,0.8s,baz=250,slow=48,SNR=29						
MK31	Makanchi Array	24.79	56	P	P	14 03 05.6	+0.2
	comp=Z,4.4nm,0.8s,baz=250,SNR=29						
MKAR	Makanchi Array	24.79	56	P	P	14 03 06.8	+1.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	24.79	56	P	P	14 03 06.8	+1.4
	comp=Z,1.7nm,0.6s,baz=245,slow=10.0,SNR=22						
MKAR	Makanchi Array	24.79	56	P	P	14 03 06.8	+1.4
	comp=Z,2.0nm,0.6s						
KOLS	Kolonicke sedl	25.04	309	eP	P	14 03 09.6	+2.0
KOLS	Kolonicke sedl	25.04	309	eP	P	14 03 09.5	+2.0
KOLS	Kolonicke sedl	25.04	309	eP	P	14 03 09.6	+2.0
BEY	Berane	25.47	295	eSn	S	14 07 39.8	+1.0
CRV

KMSI	Cibinong	2.32 112	P	Pb	14 00 32.8	-0.5
LUWI	Luwuk	2.66 159	P	Pn	14 00 34.3	+0.1
LUWI			S	Sb	14 01 10.5	-1.2

*ATH **13** 14:10:12.6,36°.63N×27°.03E, h159km±1km*
*ISCJB **13** 14:10:12.7±0.2,36°.55N±0°.02×27°.09E±0°.02, h157km±3km, mb3.7/6, Error ellipse: s-maj=3.6km s-min=2.6km az=6.1*
*NIC **13** 14:10:12.0±0.1,36°.61N×27°.01E, h60km, mb4.2, ML3.7, MW3.5*
*HLW **13** 14:10:12.9,36°.70N×27°.10E, h16km±2km, Md4.1, Ml4.2*
*CSEM **13** 14:10:13.4±0.1,36°.56N×27°.07E, h152km±1km, Mw3.5, Error ellipse: s-maj=2.5km s-min=1.8km az=12.0*
*IDC **13** 14:10:14.2±1.9,36°.52N×27°.16E, h159km±20km, mb3.5/6, mb1 3.7/11, mb1mx3.4/31, mbtmp3.6/11, Error ellipse: s-maj=16.2km s-min=14.8km az=129.0*
*THE **13** 14:10:15.8,36°.60N×26°.98E, h177km±2km, ML3.7/3, Error ellipse: s-maj=2.8km s-min=0.6km az=133.0*
*ISK **13** 14:10:15.5,36°.75N×27°.08E, h134km, ML3.4*
*DDA **13** 14:10:21.1,36°.90N×27°.02E, h26km, ML3.7*

ISC 13 14:10:13.1±0.7,36°.61N±0°.03×27°.09E±0°.03, h150km±5km, n184, σ1§30/237, mb3.7/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	Nisyros Isl.	0.07	97	eP	Pn	14 10 34.4	+1.2
NIS1	Nisyros Isl.	0.07	97	eP	Pn	14 10 34.4	+1.2
DAT	Datca	0.41	73	ePG	Pn	14 10 35.3	+1.1
DAT	Datca	0.41	73	ePg	Pn	14 10 35.3	+1.1
BODT	Bodrum	0.48	22	ePG	Pn	14 10 35.3	+0.9
BODT				eSG	Sn	14 10 48.3	-2.4
BODT	Bodrum	0.48	22	ePg	Pn	14 10 35.0	+0.6
BODT				eSg	Sn	14 10 48.3	-2.4
BDRM	Kayabasi	0.54	32	i P	Pn	14 10 35.7	+1.1
BDRM	Kayabasi	0.54	32	i P	Pn	14 10 35.7	+1.1
MLSB	Milas	0.88	39	ePG	Pn	14 10 38.1	+1.3
MLSB	Milas	0.88	39	ePg	Pn	14 10 37.7	+0.8
ARG	Arkhangelos	0.93	115	P	Pn	14 10 39.0	+1.8
ARG				S	Sn	14 10 56.8	+1.2
ARG	Arkhangelos	0.93	115	eP	Pn	14 10 39.0	+1.8
ARG				eS	Sn	14 10 57.9	+2.3
ARG	Arkhangelos	0.93	115	eP	Pn	14 10 39.0	+1.8
ARG				S	Sn	14 10 56.8	+1.2
KARP	Karpathos	1.06	177	P	Pn	14 10 39.3	+0.8
KARP				S	Sn	14 10 57.6	-0.2
KARP	Karpathos	1.06	177	eP	Pn	14 10 39.4	+0.9
KARP				eS	Sn	14 10 58.7	+0.9
KARP	Karpathos	1.06	177	P	Pn	14 10 39.3	+0.8
KARP				S	Sn	14 10 57.6	-0.2
YER	Yerkesik	1.09	61	ePG	Pn	14 10 40.2	+1.5
YER				eSG	Sn	14 10 57.4	-0.9
YER	Yerkesik	1.09	61	ePg	Pn	14 10 40.0	+1.3
SMG	Samos	1.11	350	P	Pn	14 10 39.4	+0.6
SMG	Samos	1.11	350	eP	Pn	14 10 39.3	+0.5
SMG	Samos	1.11	350	P	Pn	14 10 39.4	+0.6
AYDN	Tasoluk	1.23	31	i P	Pn	14 10 41.4	+1.5
AYDN	Tasoluk	1.23	31	i P	Pn	14 10 41.4	+1.5
TURN	Turunc	1.25	77	i P	Pn	14 10 38.4	-1.6
TURN				i S	Sn	14 10 53.1	-7.5
TURN	Turunc	1.25	77	i P	Pn	14 10 38.4	-1.6
DALY	Dalyan (Mu¨la	1.28	80	ePN	Pn	14 10 41.9	+1.6
DALY	Dalyan (Mu¨la	1.28	80	ePn	Pn	14 10 41.4	+1.1
APE	Apeiranthos	1.33	291	ePN	Pn	14 10 41.7	+0.8
APE	Apeiranthos	1.33	291	P	Pn	14 10 41.6	+0.6
APE				S	Sn	14 11 01.7	-0.5
APE	Apeiranthos	1.33	291	eP	Pn	14 10 41.5	+0.6
APE	Apeiranthos	1.33	291	ePn	Pn	14 10 41.7	+0.8
APE				S	Sn	14 11 01.7	-0.5
FETY	Fethiye	1.61	89	ePN	Pn	14 10 45.5	+1.7
FETY	Fethiye	1.61	89	ePn	Pn	14 10 45.5	+1.7
ZKR	Zakros	1.65	206	P	Pn	14 10 44.8	+0.5
ZKR	Zakros	1.65	206	eP	Pn	14 10 45.1	+0.8
ZKR				eS	Sn	14 11 08.8	+0.6
ZKR	Zakros	1.65	206	P	Pn	14 10 44.8	+0.5
IZM	Izmir	1.79	4	ePN	Pn	14 10 46.4	+0.6
IZM	Izmir	1.79	4	ePn	Pn	14 10 46.4	+0.6
NPS	Neapolis	1.80	222	P	Pn	14 10 46.4	+0.5
NPS				S	Sn	14 11 10.1	-1.0
NPS	Neapolis	1.80	222	eP	Pn	14 10 46.5	+0.5
NPS				eS	Sn	14 11 11.2	+0.1
NPS	Neapolis	1.80	222	P	Pn	14 10 46.4	+0.5
NPS				eS	Sn	14 11 11.2	+0.1
DNZL	Cakiroluk	1.90	55	i P	Pn	14 10 48.4	+1.2
DNZL				i S	Sn	14 11 12.2	-1.3
DNZL	Cakiroluk	1.90	55	i P	Pn	14 10 48.4	+1.2
DNZL				i S	Sn	14 11 12.2	-1.3
LAST	Lasithi	1.95	223	P	Pn	14 10 48.1	+0.4
LAST				S	Sn	14 11 13.2	-1.0
LAST	Lasithi	1.95	223	eP	Pn	14 10 48.4	+0.7
LAST				eS	Sn	14 11 14.4	+0.2
LAST	Lasithi	1.95	223	P	Pn	14 10 48.1	+0.4
LAST				eS	Sn	14 11 14.4	+0.2
CHOS	Chios island	1.95	335	P	Pn	14 10 48.3	+0.6
CHOS	Chios island	1.95	335	eP	Pn	14 10 48.5	+0.8
CHOS	Chios island	1.95	335	eP	Pn	14 10 48.5	+0.8
AKAS	Kas	2.07	100	i P	Pn	14 10 50.4	+1.3
AKAS				i S	Sn	14 11 16.1	-0.7
AKAS	Kas	2.07	100	i P	Pn	14 10 50.4	+1.3
AKAS				i S	Sn	14 11 16.1	-0.7
KSL	Kastellorizon	2.07	102	eP	Pn	14 10 50.5	+1.5
KSL	Kastellorizon	2.07	102	eP	Pn	14 10 50.5	+1.5
XRY	Khrisi	2.07	214	eP	Pn	14 10 49.5	+0.5
XRY	Khrisi	2.07	214	eP	Pn	14 10 49.5	+0.5
GOLH	Golhisar	2.08	72	i P	Pn	14 10 51.1	+1.9
GOLH				i S	Sn	14 11 14.9	-2.1
GOLH	Golhisar	2.08	72	i P	Pn	14 10 51.1	+1.9
GOLH				i S	Sn	14 11 14.9	-2.1
MANT	Manisa	2.21	32	i P	Pn	14 10 51.6	+0.7
MANT				i S	Sn	14 11 17.9	-2.1
MANT	Manisa	2.21	32	i P	Pn	14 10 51.6	+0.7
MANT				i S	Sn	14 11 17.9	-2.1
IDI	Anoyia	2.22	234	P	Pn	14 10 50.9	+0.1
IDI				S	Sn	14 11 18.1	-1.8
IDI	Anoyia	2.22	234	eP	Pn	14 10 51.2	+0.4
IDI				eS	Sn	14 11 19.7	-0.2
IDI	Anoyia	2.22	234	eP	Pn	14 10 51.2	+0.4
IDI				eS	Sn	14 11 19.7	-0.2
ELL	Elmali	2.27	86	ePN	Pn	14 10 54.5	+3.0
ELL	Elmali	2.27	86	ePn	Pn	14 10 53.1	+1.6
KULA	Kula-Manisa	2.27	33	ePN	Pn	14 10 52.5	+1.0
KULA	Kula-Manisa	2.27	33	ePn	Pn	14 10 52.5	+1.0
SIVA	Sivas	2.44	230	eP	Pn	14 10 54.7	+1.3
SIVA				eS	Sn	14 11 24.8	+0.3
SIVA	Sivas	2.44	230	eP	Pn	14 10 54.7	+1.3
SIVA				eS	Sn	14 11 24.8	+0.3
KHL	Karahalli	2.58	48	ePN	Pn	14 10 56.9	+1.6
KHL	Karahalli	2.58	48	ePn	Pn	14 10 56.9	+1.6
KHAL	Karahalli	2.60	47	i P	Pn	14 10 56.8	+1.3
KHAL				i S	Sn	14 11 23.1	-5.1
KHAL	Karahalli	2.60	47	i P	Pn	14 10 56.8	+1.3
VAM	Vamos	2.63	244	P	Pn	14 10 56.1	+0.3
VAM				S	Sn	14 11 27.2	-1.5
VAM	Vamos	2.63	244	eP	Pn	14 10 56.3	+0.5
VAM	Vamos	2.63	244	eP	Pn	14 10 56.3	+0.5
VAM				S	Sn	14 11 27.2	-1.5
KORT	Korkueli	2.65	81	i P	Pn	14 10 59.2	+3.1
KORT				i S	Sn	14 11 22.4	-6.9
KORT	Korkueli	2.65	81	i P	Pn	14 10 59.2	+3.1
PRK	Paraskevi	2.71	346	P	Pn	14 10 57.6	+0.9
PRK				S	Sn	14 11 29.8	-0.7
PRK	Paraskevi	2.71	346	eP	Pn	14 10 57.5	+0.9
PRK	Paraskevi	2.71	346	P	Pn	14 10 57.6	+0.9
PRK				S	Sn	14 11 29.8	-0.7
SIGR	SIGRI	2.77	340	P	Pn	14 10 58.3	+0.8
SIGR	SIGRI	2.77	340	P	Pn	14 10 58.3	+0.8
KARN	Karanos	2.84	246	eP	Pn	14 10 59.3	+0.9
KARN				eS	Sn	14 11 33.4	0.0
KARN	Karanos	2.84	246	eP	Pn	14 10 59.3	+0.9
KARN				eS	Sn	14 11 33.4	0.0
BCK	Bucak	2.93	72	ePN	Pn	14 11 01.3	+1.7
BCK	Bucak	2.93	72	ePn	Pn	14 11 01.3	+1.7
ISP	Isparta	3.00	65	ePN	Pn	14 11 02.1	+1.6
ISP	Isparta	3.00	65	ePn	Pn	14 11 02.1	+1.6
ANKY	Antikythira Is	3.15	257	P	Pn	14 11 02.3	0.0
ANKY				S	Sn	14 11 37.8	-2.6
ANKY	Antikythira Is	3.15	257	eP	Pn	14 11 02.5	+0.2
ANKY	Antikythira Is	3.15	257	eP	Pn	14 11 02.5	+0.2
ANKY				S	Sn	14 11 37.8	-2.6
DID	Didima	3.21	287	eP	Pn	14 11 03.9	+0.9
DID	Didima	3.21	287	eP	Pn	14 11 03.9	+0.9
DST	Dursunbey	3.22	22	ePN	Pn	14 11 04.3	+1.0
DST	Dursunbey	3.22	22	ePn	Pn	14 11 04.3	+1.0
SUTC	Sutluce-Ispart	3.25	73	ePN	Pn	14 11 06.4	+2.7
SUTC	Sutluce-Ispart	3.25	73	ePn	Pn	14 11 06.4	+2.7
KYTH	Kithira	3.28	265	eP	Pn	14 11 04.7	+0.7
KYTH	Kithira	3.28	265	eP	Pn	14 11 04.7	+0.7
GONE	Gonen-Balikesi	3.46	8	ePN	Pn	14 11 07.2	+0.9
GONE	Gonen-Balikesi	3.46	8	ePn	Pn	14 11 07.2	+0.9
LTK	Loutraki	3.57	294	eP	Pn	14 11 08.9	+1.2
LTK	Loutraki	3.57	294	eP	Pn	14 11 08.9	+1.2
KRBG	Karabiga-Canak	3.78	2	ePN	Pn	14 11 12.2	+1.8
KRBG	Karabiga-Canak	3.78	2	ePn	Pn	14 11 11.5	+1.1
GELI	Tayfur-Gelibol	3.81	353	ePN	Pn	14 11 11.8	+1.0
GELI	Tayfur-Gelibol	3.81	353	ePn	Pn	14 11 11.8	+1.0
DYR	Agios Nikonas	3.82	274	eP	Pn	14 11 11.8	+0.8
DYR	Agios Nikonas	3.82	274	eP	Pn	14 11 11.8	+0.8
VLX	Vlachokerasia	3.84	283	eP	Pn	14 11 12.2	+0.9
VLX	Vlachokerasia	3.84	283	eP	Pn	14 11 12.2	+0.9
GUR	Goura	4.01	291	eP	Pn	14 11 14.3	+0.8
GUR	Goura	4.01	291	eP	Pn	14 11 14.3	+0.8
GAZI	Gazipasa	4.24	94	i P	Pn	14 11 15.8	-0.6
GAZI				i S	Sn	14 12 03.4	-2.2
GAZI	Gazipasa	4.24	94	i P	Pn	14 11 15.8	-0.6
GAZI				i S	Sn	14 12 03.4	-2.2
PYL	PYLOS	4.30	275	eP	Pn	14 11 17.9	+0.7
PYL	PYLOS	4.30	275	eP	Pn	14 11 17.9	+0.7
KALE	Kalithea	4.32	296	eP	Pn	14 11 18.5	+1.0
KALE	Kalithea	4.32	296	eP	Pn	14 11 18.5	+1.0
TRIZ	Trizonia	4.35	295	eP	Pn	14 11 18.8	+0.9
TRIZ	Trizonia	4.35	295	eP	Pn	14 11 18.8	+0.9
LAKA	Lakka	4.38	293	eP	Pn	14 11 19.4	+1.1
LAKA	Lakka	4.38	293	eP	Pn	14 11 19.4	+1.1
AMT	Artemida-Makis	4.40	284	eP	Pn	14 11 19.2	+0.7
AMT	Artemida-Makis	4.40	284	eP	Pn	14 11 19.2	+0.7
KONT	Konya--Tatoy	4.41	71	ePN	Pn	14 11 20.9	+2.3
KONT	Konya--Tatoy	4.41	71	ePn	Pn	14 11 21.0	+2.3
KIZT	Kizilcal	4.42	58	ePN	Pn	14 11 21.4	+2.5
KIZT	Kizilcal	4.42	58	ePn	Pn	14 11 20.9	+2.0
EFP	Efpalio	4.50	295	eP	Pn	14 11 20.9	+1.1
EFP	Efpalio	4.50	295	eP	Pn	14 11 20.9	+1.1
AKMC	Akamas	4.54	109	P	Pn	14 11 20.3	-0.2
AKMC	Akamas	4.54	109	P	Pn	14 11 20.3	-0.2
PPCY	Paphos	4.61	110	P	Pn	14 11 21.1	-0.2
PPCY	Paphos	4.61	110	P	Pn	14 11 21.1	-0.2
ALFC	Alevga	4.71	106	P	Pn	14 11 22.4	-0.2
ALFC				S	Sn	14 12 17.4	+0.6
ALFC	Alevga	4.71	106	P	Pn	14 11 22.4	-0.2
ALFC				S	Sn	14 12 17.4	+0.6
SFD	Strofades	4.90	279	eP	Pn	14 11 26.3	+1.2
SFD	Strofades	4.90	279	eP	Pn	14 11 26.3	+1.2
CSS	Prodhromos	5.34	106	P	Pn	14 11 31.1	+0.2
CSS				S	Sn	14 12 33.5	+1.8
CSS	Prodhromos	5.34	106	P	Pn	14 11 31.1	+0.2
CSS	Prodhromos	5.34	106	P	Pn	14 11 31.1	+0.2
CSS				S	Sn	14 12 33.5	+1.8
CSS	Prodhromos	5.34	106	Pn	Pn	14 11 31.4	+0.5
CSS				Sn	Sn	14 12 30.1	-1.6
CSS				S	Sn	14 12 33.5	+1.8
BRTR	Keskin Array B	6.03	57	P	Pn	14 11 42.1	+1.9
BRTR				S	Sn	14 12 51.9	+3.5
SWA2		7.47	191	P	Pn	14 11 59.1	-0.4
HWQ	Hawqa	7.60	105	eP	Pn	14 12 01.1	-0.1
HWQ	Hawqa	7.60	105	eP	Pn	14 12 01.1	-0.1
MMC7	Mount Meron ar	7.71	115	Pn	Pn	14 12 02.4	-0.3
MMAI	Mount Meron Ar	7.72	115	P	Pn	14 12 02.5	-0.3
MMAI				S	Sn	14 13 25.7	-3.3
KOT	Kottamia	7.76	148	P	Pn	14 12 02.9	-0.4
RCY	Rachaya	7.82	111	eP	Pn	14 12 03.7	-0.5
RCY	Rachaya	7.82	111	eP	Pn	14 12 03.7	-0.5
KSDI	Kefar Szold	7.83	113	Pn	Pn	14 12 04.1	0.0
KSDI				Sn	Sn	14 13 29.4	-2.0
AMAG	Maghara	7.84	138	P	Pn	14 12 03.7	-0.7
SLTI	Sal'it	7.88	121	Pn	Pn	14 12 05.0	+0.1
RSH		7.89	134	P	Pn	14 12 04.6	-0.4
HSAF	As Saff	7.92	150	P	Pn	14 12 05.0	-0.4
GLL	Jalalah	8.01	150	P	Pn	14 12 06.4	-0.3
MMLI	Mount Malkishu	8.04	119	Pn	Pn	14 12 07.2	+0.2
HMDT	Nahal Hemdat	8.21	119	Pn	Pn	14 12 09.8	+0.5
HMDT				Sn	Sn	14 13 38.5	-2.3
KZIT	Kziot	8.33	131	Pn	Pn	14 12 10.6	-0.3
RTMI	Retamim	8.41	129	Pn	Pn	14 12 11.6	-0.3
DSI	Dead Sea	8.52	124	Pn	Pn	14 12 13.3	-0.1
ZAF		8.63	146	P	Pn	14 12 14.6	-0.3
MZDA	Masada	8.67	125	Pn	Pn	14 12 15.5	+0.1
MZDA				Sn	Sn	14 13 49.6	-2.1
HNKL	Nakhl	8.81	137	P	Pn	14 12 17.0	-0.3
PRNI	Paran	9.09	131	Pn	Pn	14 12 20.6	-0.4
KRMI	Paran Flat	9.09	133	Pn	Pn	14 12 20.5	-0.6
ASF	Jabal al Asfar	9.24	116	P	Pn	14 12 24.3	+1.3
HRFI	Mount Harif	9.34	132	Pn	Pn	14 12 24.3	0.0
MBRI	Mt Berech	9.44	134	Pn	Pn	14 12 25.4	-0.4
EIL	Elat	9.56	134	P	Pn	14 12 26.9	-0.4
EIL				S	Sn	14 14 08.4	-4.7
EIL	Elat	9.56	134	Pn	Pn	14 12 26.8	-0.4
GERES	GERESS Array B	15.66	325	P	P	14 13 46.5	0.0
KHC	Kasperske Hory	15.92	326	eP	P	14 13 50.5	+1.2
KHC	Kasperske Hory	15.92	326	P	P	14 13 50.5	+1.2
ESDC	Sonseca Array	24.55	287	P	P	14 15 19.7	+0.8
HFS	Hagfors	25.06	344	P	P	14 15 23.5	+0.3
TORD	Torodi Ar. Bea	32.62	231	P	P	14 16 31.9	+1.2
MKAR	Makanchi Array	41.68	58	P	P	14 17 47.9	+1.2
ZALV	Zalesovo Beam	42.87	47	P	P	14 17 55.7	-0.5
NVAR	Mina Array Bea	98.78	333	P	P	14 23 34.5	-1.4
WRA	Warramunga Arr	115.20	97	PKP	PKPdf	14 28 36.6	-0.3
ASAR	Alice Springs	116.77	101	PKP	PKPdf	14 28 40.0	+0.1

*NIED **13** 14:13:00,34°.30N×140°.40E, h71km, Mw3.8 Best double couple: M0=4.99000×10^14 NP1:φ=239.00000°, δ=87.00000°, λ=150.00000°. NP2:φ=331.00000°, δ=61.00000°, λ=4.00000°.*
*ISCJB **13** 14:13:29.5±0.5,34°.32N±0°.04×140°.41E±0°.05, h70km±4km, mb3.8/8, Error ellipse: s-maj=7.0km s-min=6.3km az=15.4*
*IDC **13** 14:13:29.3±2.7,34°.44N×140°.74E, h61km±22km, mb3.6/8, mb1 3.7/12, mb1mx3.5/31, mbtmp3.6/12, ML3.7/4, MS2.4/1, Ms1 2.4/1, ms1mx2.3/47, Error ellipse: s-maj=29.2km s-min=15.8km az=74.0*
*JMA **13** 14:13:30.3±0.1,34°.34N×140°.39E, h62km±2km, M4.0*
JMA Felt I J1.

ISC 13 14:13:30.7±0.9,34°.33N±0°.04×140°.41E±0°.05, h64km±8km, n26, σ1§07/37, mb3.9/8, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	Boso 3	0.48	10	⇑P	Pn	14 13 42.4	-0.1
BSO3				eS	Sn	14 13 51.0	-0.2
BSO2	Boso 2	0.51	34	eS	Sn	14 13 52.1	+0.4
BSO1	Boso 1	0.57	55	P	Pn	14 13 43.1	-0.1
BSO4	Boso 4	0.67	355	⇑P	Pn	14 13 44.7	0.0
JMY	Miyakejima3	0.79	251	P	Pn	14 13 46.1	-0.2
JMY				eS	Sn	14 13 57.2	-0.6
KTR	Katsuura	0.82	354	⇑P	Pn	14 13 46.3	-0.4
TATJ	Tateyama 2	0.82	329	⇑P	Pn	14 13 46.8	+0.1
TATJ				S	Sn	14 13 59.5	+1.0
JIM2	Oshima 3	0.90	296	⇓P	Pn	14 13 46.9	-0.8
JIM2				S	Sn	14 13 58.5	-1.7
JKO	Kozu shima	1.06	263	P	Pn	14 13 49.5	-0.2
JKO				eS	Sn	14 14 03.8	-0.1
KTJJ	Kamata 2	1.26	299	⇓P	Pn	14 13 51.7	-0.6
KTJJ				S	Sn	14 14 06.8	-1.7
JHJ2	Mitsune	1.31	202	⇑P	Pn	14 13 52.8	-0.1
JHJ2				eS	Sn	14 14 09.3	-0.3
JIZS	Izushimoda	1.32	288	⇓P	Pn	14 13 52.8	-0.3
JIZS				eS	Sn	14 14 09.4	-0.6
JOD2	Odawara 2	1.44	311	P	Pn	14 13 54.2	-0.4
JOD2				S	Sn	14 14 11.3	-1.4
MJAR	Matsushiro Arr	2.85	321	P	Pn	14 14 14.8	+1.0
MJAR				S	Sn	14 14 46.9	-0.1
MAT	Matsushiro	2.85	321	P	Pn	14 14 15.2	+1.4
MAT				S	Sn	14 14 48.4	+1.4
JNU	Nakatsue	8.03	264	P	Pn	14 15 27.3	+2.6
ASAJ	Asahikawa	9.92	9	P	Pn	14 15 48.2	-2.2
ASAJ				S	Sn	14 17 33.4	-6.7
KSRS	Korea Array	10.60	291	P	Pn	14 16 02.6	+2.9
KSRS				LR	LR	14 20 20.6	
SONM	Songino Array	28.72	308	P	P	14 19 22.5	+0.6
ZALV	Zalesovo Beam	43.18	315	P	P	14 21 25.4	+0.4
MKAR	Makanchi Array	44.92	304	P	P	14 21 39.2	+0.2
KURBB	Kurchatov Arra	47.07	310	P	P	14 21 55.5	-0.2
BVAR	Borovoye Array	51.82	314	P	P	14 22 31.7	-0.3
WRA	Warramunga Arr	54.27	187	P	P	14 22 49.5	-0.8
ASAR	Alice Springs	58.00	187	P	P	14 23 16.7	-0.1
AKASG	Malin Array Be	75.94	322	P	P	14 25 09.6	-0.8

*BJI **13** 14:37:27.1,5°.10N×94°.85E, h41km, mB4.8/4, mb4.6/14*
*ISCJB **13** 14:37:30.4±0.8,5°.12N±0°.04×94°.74E±0°.06, h65km±7km, mb4.4/52, Error ellipse: s-maj=10.3km s-min=5.8km az=148.3*
*IDC **13** 14:37:30.9±0.7,5°.18N×94°.68E, h54km±5km, mb4.2/26, mb1 4.3/28, mb1mx4.2/36, mbtmp4.2/28, MS3.8/8, Ms1 3.8/8, ms1mx3.5/43, Error ellipse: s-maj=19.4km s-min=8.5km az=43.0*
*DJA **13** 14:37:30.8±0.9,5°.N±4°.×9°.5E±°, h10km, M4.7/8, mb4.8/5, mB5.0/2, MLv4.7/8, Mw(mB)4.3/2*
*NEIC **13** 14:37:31.5±0.6,5°.21N×94°.74E, h61km±5km, mb4.5/11, Error ellipse: s-maj=9.7km s-min=5.5km az=216.0*
*AUST **13** 14:37:33.7±3.8,5°.32N×94°.83E, h84km, Error ellipse: s-maj=4.0km s-min=1.8km az=235.0*
*BKK **13** 14:37:36.8±1.0,5°.N±5°.×9°.5E±1°.0, h10km, M4.6/16, mB5.1/5, mb4.6/16, MLv4.6/7, Mw(mB)4.4/5*

ISC 13 14:37:30.3±0.5,5°.17N±0°.05×94°.63E±0°.06, h50km±3km, h50km:pP-P, n165, σ1§21/182, mb4.5/52, MS3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.74	64	P	Pn	14 37 44.3	-0.3
BSI				S	Sn	14 37 54.4	-0.6
LHMI	Lhok Sumawe	2.31	88	P	Pn	14 38 06.6	+0.7
LHMI				S	Sn	14 38 34.1	+0.9
LHMI	Lhok Sumawe	2.31	88	P	Pn	14 38 06.7	+0.7
SNSI	Sinabang, Aceh	3.22	148	P	Pn	14 38 17.4	-1.0
SNSI				S	Sn	14 38 51.5	-4.1
KCSI	Kotacane, Aceh	3.54	117	P	Pn	14 38 24.5	+1.8
TSI	Tuntungan	4.26	113	P	Pn	14 38 31.7	-1.0
PKDT	Phuket	4.57	53	P	Pn	14 38 37.7	+0.7
PSI	Prapat	4.89	119	P	Pn	14 38 42.3	+0.9
PSI				S	Sn	14 39 40.4	+3.6
PSI	Prapat	4.89	119	P	Pn	14 38 42.3	+0.9
PSI				S	Sn	14 39 40.4	+3.6
PSI				LR	LR	14 40 53.3	
PSI	Prapat	4.89	119	P	Pn	14 38 43.8	+2.4
KULM	Kulim	6.00	89	ePn	Pn	14 38 55.5	-1.1
KULM				ePn	Pn	14 38 56.0	-0.6
KULM	Kulim	6.00	89	P	Pn	14 38 57.0	+0.4
KULM	Kulim	6.00	89	P	Pn	14 38 57.1	+0.5
SKLT	Songkhla	6.28	71	P	Pn	14 39 02.1	+1.7
IPM	Ipoh	6.42	96	ePn	Pn	14 39 02.1	-0.2
IPM	Ipoh	6.42	96	P	Pn	14 39 02.9	+0.7
IPM	Ipoh	6.42	96	P	Pn	14 39 02.9	+0.7
IPM	Ipoh	6.42	96	P	Pn	14 39 03.3	+1.1
FRIM	Kepong	7.24	105	P	Pn	14 39 14.2	+0.6
PPI	Padang Panjang	8.03	134	P	Pn	14 39 23.7	-0.6
RGRI	Rengat	9.45	125	P	Pn	14 39 39.5	-4.3
NAYO	Nakonayok	11.23	35	P	Pn	14 40 11.9	+3.7
CHAI	Chaiyaphum	12.89	34	P	P	14 40 41.2	+1.0
CMAR	Chiang Mai Arr	13.87	17	P	Pn	14 40 46.0	+1.8
CMAR	Chiang Mai Arr	13.87	17	P	Pn	14 40 46.0	+1.8
LOEI	Loei	13.88	27	P	P	14 40 49.5	-1.8
LAMP	Lampang	14.15	20	P	P	14 40 55.1	+0.9
CHTO	Chiang Mai	14.21	17	eP	P	14 40 53.6	-1.3
CHTO	Chiang Mai	14.21	17	P	P	14 40 54.3	-0.6
CHTO	Chiang Mai	14.21	17	P	P	14 40 54.3	-0.6
CMMT	Chiang Mai	14.21	17	P	P	14 40 53.9	-1.0
UBPT	Khong Chiam	14.65	46	P	P	14 41 01.3	+1.4
CMAI	Chiengmai2	15.30	16	P	P	14 41 05.8	-1.4
PANO	Nakornpanom	15.41	39	P	P	14 41 09.1	+0.8
KSM	Kuching	16.08	103	ePn	Pn	14 41 12.9	-0.2
KSM	Kuching	16.08	103	P	P	14 41 15.2	-0.5
KSM	Kuching	16.08	103	P	P	14 41 17.3

FITZ	**Fitzroy Crossi**	**38.35 128**	P	**P**	**14 44 45.6**	**-1.1**
FITZ			PcP	**PcP**	**14 46 59.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**38.35 128**	P	**P**	**14 44 45.6**	**-1.1**
comp=Z,3.4nm,0.7s,baz=314,slow=8.4,SNR=11						
FITZ			PcP	**PcP**	**14 46 59.9**	**+0.1**
comp=Z,2.5nm,0.9s,baz=315,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**38.35 128**	P	**P**	**14 44 45.7**	**-1.1**
baz=38,SNR=8.8						
FAKI	**Fak Fak**	**38.43 101**	P	**P**	**14 44 46.5**	**-1.0**
baz=38,SNR=5.7						
ULHL	**Ulahol**	**40.38 339**	P	**P**	**14 45 04.8**	**+1.1**
SNR=7.7						
MTN	**Manton Dam**	**40.45 117**	P	**P**	**14 45 02.6**	**-1.7**
baz=40,SNR=12						
KZA	**Kyzart**	**40.61 338**	P	**P**	**14 45 07.4**	**+1.7**
SNR=5.8						
TKM2	**Tokmak 2**	**41.21 339**	P	**P**	**14 45 11.7**	**+1.3**
SNR=11						
TKM2	**Tokmak 2**	**41.21 339**	*e*P	**P**	**14 45 10.0**	**-0.4**
comp=Z,6.5nm,0.9s						
KBK	**Karagaybulak**	**41.22 338**	P	**P**	**14 45 12.3**	**+1.8**
SNR=11						
AML	**Almayashu**	**41.26 336**	P	**P**	**14 45 12.2**	**+1.2**
SNR=15						
AAK	**Ala-Archa**	**41.37 337**	*e*P	**P**	**14 45 10.5**	**-1.2**
comp=Z,6.9nm,0.7s						
AAK	**Ala-Archa**	**41.37 337**	P	**P**	**14 45 13.6**	**+1.9**
comp=Z,6.5nm,0.7s,baz=151,slow=9.5,SNR=9.6						
KDU	**Kakadu**	**41.58 116**	P	**P**	**14 45 12.1**	**-1.5**
baz=42,SNR=7.7						
EKS2	**Erkin-Say**	**41.67 337**	P	**P**	**14 45 15.9**	**+1.7**
SNR=9.7						
EKS2	**Erkin-Say**	**41.67 337**	*e*P	**P**	**14 45 13.1**	**-1.0**
comp=Z,6.6nm,0.6s						
USP	**Ospenovka**	**41.91 338**	P	**P**	**14 45 17.2**	**+1.2**
SNR=12						
MKAR	**Makanchi Array**	**42.82 348**	*e*P	**P**	**14 45 23.2**	**-0.1**
MKAR			PcP	**PcP**	**14 47 14.7**	**+0.9**
MKAR	**Makanchi Array**	**42.82 348**	P	**P**	**14 45 23.4**	**+0.1**
comp=Z,6.0nm,0.4s,baz=168,slow=7.6,SNR=105						
MKAR			PcP	**PcP**	**14 47 14.7**	**+0.9**
comp=Z,0.7nm,0.5s,baz=185,slow=3.5,SNR=3.1						
KKAR	**Karatay Array**	**43.39 334**	*e*P	**P**	**14 45 27.6**	**-0.3**
SONM	**Songino Array**	**43.70 11**	P	**P**	**14 45 29.9**	**-0.6**
SONM			PcP	**PcP**	**14 47 17.1**	**+0.3**
SONM			pPcP		14 47 32.1	
SONM	**Songino Array**	**43.70 11**	P	**P**	**14 45 29.9**	**-0.6**
comp=Z,5.7nm,0.7s,baz=191,slow=8.9,SNR=41						
SONM			PcP	**PcP**	**14 47 17.1**	**+0.3**
comp=Z,1.9nm,0.5s,baz=198,slow=3.5,SNR=7.6						
SONM			pPcP		14 47 32.1	
comp=Z,2.3nm,0.7s,baz=195,slow=3.4,SNR=6.6						
JNU	**Nakatsue**	**43.73 46**	P	**P**	**14 45 30.3**	**-0.5**
JNU	**Nakatsue**	**43.73 46**	P	**P**	**14 45 30.3**	**-0.5**
comp=Z,8.7nm,0.9s,baz=238,slow=5.2,SNR=4.5						
ULN	**Ulaanbaatar**	**43.86 12**	*e*P	**P**	**14 45 30.5**	**-1.3**
comp=Z,4.3nm,0.6s						
KSAR	**Wonju Array Be**	**44.19 39**	P	**P**	**14 45 33.8**	**-0.6**
KSRS	**Korea Array**	**44.22 39**	P	**P**	**14 45 33.8**	**-0.8**
comp=Z,3.8nm,0.7s,baz=220,slow=9.0,SNR=23						
WRA	**Warramunga Arr**	**46.33 124**	P	**P**	**14 45 51.2**	**-0.5**
WRA	**Warramunga Arr**	**46.33 124**	P	**P**	**14 45 51.2**	**-0.5**
comp=Z,16nm,0.8s,baz=304,slow=9.1,SNR=145						
WRAB	**Tennant Creek**	**46.34 124**	*e*P	**P**	**14 45 50.3**	**-1.5**
comp=Z,25nm,0.8s						
KURBB	**Kurchatov Arra**	**47.27 346**	P	**P**	**14 45 59.2**	**+0.7**
comp=Z,15nm,0.6s,baz=168,slow=7.1,SNR=192						
KURBB			PcP	**PcP**	**14 47 29.6**	**+0.5**
comp=Z,1.8nm,0.6s,baz=162,slow=2.9,SNR=5.5						
KURK	**Kurchatov**	**47.34 346**	P	**P**	**14 45 59.2**	**+0.2**
KURK			PcP	**PcP**	**14 47 29.6**	**+0.3**
ASAR	**Alice Springs**	**47.84 128**	P	**P**	**14 46 03.2**	**-0.2**
ASAR	**Alice Springs**	**47.84 128**	P	**P**	**14 46 03.2**	**-0.2**
comp=Z,5.5nm,0.8s,baz=305,slow=7.7,SNR=81						
ZALV	**Zalesovo Beam**	**49.29 352**	P	**P**	**14 46 14.1**	**+0.1**
ZALV	**Zalesovo Beam**	**49.29 352**	P	**P**	**14 46 14.1**	**+0.1**
comp=Z,16nm,0.5s,baz=174,slow=7.3,SNR=78						
MDJ	**Mudanjiang**	**49.80 32**	P	**P**	**14 46 18.3**	**+0.2**
MDJ			pmax	pmax		
comp=Z,10.0nm,2.0s						
MDJ			pmax	pmax		
comp=Z,60nm,6.0s						
MJAR	**Matsushiro Arr**	**50.65 46**	P	**P**	**14 46 25.1**	**+0.3**
MJAR	**Matsushiro Arr**	**50.65 46**	P	**P**	**14 46 25.1**	**+0.3**
comp=Z,1.7nm,0.7s,baz=246,slow=7.8,SNR=9.4						
MJAR			LR	LR	15 09 08.9	
comp=Z,81nm,19.8s,baz=270,slow=38						
USRK	**Ussuriysk Arra**	**50.84 34**	P	**P**	**14 46 25.4**	**-0.5**
comp=Z,1.1nm,0.6s,baz=263,slow=4.4,SNR=4.2						
BVAR	**Borovoye Array**	**51.69 342**	P	**P**	**14 46 32.4**	**+0.2**
BVAR			pP	**pP**	**14 46 45.5**	**-0.3**
BVAR	**Borovoye Array**	**51.69 342**	P	**P**	**14 46 32.4**	**+0.2**
comp=Z,6.8nm,0.7s,baz=146,slow=9.4,SNR=35						
BVAR			pP	**pP**	**14 46 45.5**	**-0.3**
comp=Z,2.1nm,0.6s,baz=127,slow=9.5,SNR=5.0						
BRVK	**Borovoye**	**51.76 342**	*e*P	**P**	**14 46 32.6**	**-0.1**
comp=Z,24nm,1.4s						
ABKAR	**Akbulak array**	**52.83 332**	*e*P	**P**	**14 46 41.1**	**+0.4**
AKTO	**Aktyubinsk**	**54.55 332**	P	**P**	**14 46 53.2**	**-0.1**
AKTO	**Aktyubinsk**	**54.55 332**	P	**P**	**14 46 53.2**	**-0.1**
comp=Z,2.6nm,0.5s,baz=111,slow=6.7,SNR=12						
ASAJ	**Asahikawa**	**57.16 40**	P	**P**	**14 47 11.6**	**-0.5**
ASAJ	**Asahikawa**	**57.16 40**	P	**P**	**14 47 11.6**	**-0.5**
comp=Z,7.0nm,0.9s,baz=257,slow=9.8,SNR=12						
ASAJ			LR	LR	15 11 21.0	
comp=Z,72nm,18.9s,baz=2.2,slow=36						
KMBO	**Kilima Mbogo**	**57.65 265**	LR	LR	15 06 28.5	
comp=Z,102nm,21.5s,baz=110,slow=30						
STKA	**Stephens Creek**	**57.91 133**	P	**P**	**14 47 17.4**	**-0.2**
STKA			pP	**pP**	**14 47 32.3**	**+0.9**
STKA	**Stephens Creek**	**57.91 133**	P	**P**	**14 47 17.4**	**-0.2**
comp=Z,2.9nm,0.9s,baz=308,slow=9.6,SNR=6.1						
STKA			pP	**pP**	**14 47 32.3**	**+0.9**
comp=Z,1.7nm,0.7s,baz=319,slow=10.0,SNR=3.0						
STKA	**Stephens Creek**	**57.91 133**	P	**P**	**14 47 17.9**	**+0.4**
baz=58,SNR=4.5						
KBZ	**Khabaz**	**59.41 319**	P	**P**	**14 47 28.2**	**+0.5**
KBZ	**Khabaz**	**59.41 319**	P	**P**	**14 47 28.2**	**+0.5**
comp=Z,1.0nm,0.4s,baz=108,slow=7.9,SNR=3.9						
CMSA	**Cobar Meteorol**	**60.80 130**	P	**P**	**14 47 38.0**	**+0.5**
baz=61,SNR=14						
RMQ	**Roma**	**61.10 124**	P	**P**	**14 47 40.7**	**+1.0**
baz=61,SNR=6.3						
BRTR	**Keskin Array B**	**64.56 312**	P	**P**	**14 48 02.5**	**-0.2**
BRTR			pP	**pP**	**14 48 18.6**	**+1.9**
BRTR	**Keskin Array B**	**64.56 312**	P	**P**	**14 48 02.5**	**-0.2**
comp=Z,2.2nm,0.8s,baz=124,slow=6.8,SNR=13						
BRTR			pP	**pP**	**14 48 18.6**	**+1.9**
comp=Z,1.2nm,0.7s,baz=134,slow=7.0,SNR=4.1						
PETK	**Petropavlovsk-**	**69.92 35**	LR	LR	15 23 11.2	
comp=Z,56nm,19.2s,baz=120,slow=39						
AKASG	**Malin Array Be**	**70.57 322**	P	**P**	**14 48 39.1**	**-1.0**
AKASG			pP	**pP**	**14 48 55.9**	**+1.5**
AKASG	**Malin Array Be**	**70.57 322**	P	**P**	**14 48 39.1**	**-1.0**
comp=Z,1.6nm,0.6s,baz=96,slow=5.0,SNR=6.1						
AKASG			pP	**pP**	**14 48 55.9**	**+1.5**
comp=Z,0.8nm,0.5s,baz=88,slow=5.0,SNR=2.3						
KOLS	**Kolonicke sedl**	**74.55 319**	*e*P	**P**	**14 49 05.9**	**+2.0**
BOSA	**Boshof**	**74.58 239**	pP	pP	14 49 21.9	+3.0
BOSA	**Boshof**	**74.58 239**	pP	**pP**	**14 49 21.9**	**+3.0**
comp=Z,2.7nm,0.7s,baz=76,slow=4.2,SNR=1.6						
BOSA			LR	LR	15 16 08.7	
comp=Z,100nm,21.6s,baz=100,slow=31						
CRVS	**Cervenica-Dubn**	**75.08 319**	*e*P	**P**	**14 49 08.6**	**+1.7**
STHS	**Stebnicka Huta**	**75.30 320**	*e*P	**P**	**14 49 10.2**	**+2.0**
FINES	**FINESS Array B**	**75.32 332**	P	**P**	**14 49 07.8**	**-0.2**
FINES	**FINESS Array B**	**75.32 332**	P	**P**	**14 49 07.8**	**-0.2**
comp=Z,3.3nm,1.0s,baz=104,slow=5.9,SNR=7.9						
KAF	**Kangasniemi**	**75.41 333**	*e*pkp	**P**	**14 49 09.3**	**+0.8**
comp=Z,1.5nm,0.5s						
KECS	**Kecovo**	**75.65 319**	*e*P	**P**	**14 49 11.0**	**+0.8**
MORC	**Moravsky Berou**	**77.73 320**	*e*P	**P**	**14 49 22.2**	**+0.2**
ARCES	**ARCESS Array B**	**77.96 340**	P	**P**	**14 49 23.3**	**+0.5**
ARCES	**ARCESS Array B**	**77.96 340**	P	**P**	**14 49 23.3**	**+0.5**
comp=Z,3.1nm,0.7s,baz=106,slow=6.7,SNR=15						
GEC2	**GERESS Array S**	**80.16 319**	*e*P	**P**	**14 49 36.9**	**+1.5**
GERES	**GERESS Array B**	**80.16 319**	P	**P**	**14 49 36.2**	**+0.8**
GERES			pP	**pP**	**14 49 51.5**	**+1.6**
GERES	**GERESS Array B**	**80.16 319**	P	**P**	**14 49 36.2**	**+0.8**
comp=Z,3.0nm,0.6s,baz=92,slow=5.9,SNR=26						
GERES			pP	**pP**	**14 49 51.5**	**+1.6**
comp=Z,1.2nm,0.6s,baz=100,slow=6.9,SNR=3.5						
GERES			LR	LR	15 26 36.0	
comp=Z,104nm,18.8s,baz=204,slow=37						
KHC	**Kasperske Hory**	**80.25 319**	*e*P	**P**	**14 49 37.4**	**+1.6**
comp=Z,2.6nm,0.7s						

NOA	**NORSAR Array B**	**82.31 331**	P	**P**	**14 49 45.6**	**-0.9**
NOA	**NORSAR Array B**	**82.31 331**	P	**P**	**14 49 45.6**	**-0.9**
comp=Z,1.4nm,1.0s,baz=100,slow=5.4,SNR=2.9						
FUORN	**Ofenpass-Fuorn**	**82.40 316**	*e*P	**P**	**14 49 48.9**	**+1.3**
comp=Z,8.5nm,1.3s						
DAVOX	**Davos/Dischmat**	**82.67 316**	P	**P**	**14 49 49.9**	**+1.1**
DAVOX	**Davos/Dischmat**	**82.67 316**	P	**P**	**14 49 49.9**	**+1.1**
comp=Z,3.9nm,0.3s,baz=119,slow=5.9,SNR=16						
TUE	**Stuetta**	**83.03 316**	*e*P	**P**	**14 49 50.7**	**-0.1**
PGF	**Pioggiola**	**83.32 312**	*e*P	**P**	**14 49 52.8**	**+0.6**
CDF	**Champ du Feu**	**84.41 318**	*e*P	**P**	**14 49 57.6**	**0.0**
SBF	**Sospel**	**84.43 313**	*e*P	**P**	**14 49 58.4**	**+0.6**
SENIN	**Lac Senin/Sane**	**84.45 316**	*e*P	**P**	**14 49 59.5**	**+1.5**
comp=Z,4.6nm,0.8s						
LPG	**La Plagne**	**84.86 315**	*e*P	**P**	**14 50 00.9**	**+0.7**
comp=Z,11nm,0.8s						
LPL	**La Plagne**	**84.87 315**	*e*P	**P**	**14 50 00.9**	**+0.7**
MBDF	**Montbardon**	**84.88 314**	*e*P	**P**	**14 50 00.0**	**-0.1**
FRF	**La Foret Royal**	**85.01 313**	*e*P	**P**	**14 50 01.4**	**+0.8**
comp=Z,15nm,0.8s						
HAU	**Haudompre**	**85.04 318**	*e*P	**P**	**14 50 00.9**	**+0.1**
comp=Z,7.2nm,0.7s						
HAU			*e*R			
comp=Z,172nm,19.8s						
LMR	**La Mourre**	**85.12 313**	*e*P	**P**	**14 50 01.8**	**+0.6**
comp=Z,27nm,1.0s						
CABF	**La Chapelle**	**85.28 316**	*e*P	**P**	**14 50 02.0**	**0.0**
comp=Z,6.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**85.50 315**	*e*P	**P**	**14 50 04.0**	**+0.8**
comp=Z,3.1nm,0.5s						
ORIF			*e*R			
comp=Z,152nm,19.5s						
SMRF	**Simiane la Rot**	**85.77 314**	*e*P	**P**	**14 50 04.8**	**+0.3**
VIVF	**Saint-Julien-l**	**86.36 315**	*e*P	**P**	**14 50 07.9**	**+0.5**
comp=Z,5.4nm,0.7s						
LOR	**Lormes**	**86.77 317**	*e*P	**P**	**14 50 09.6**	**+0.3**
LOR			*e*R			
comp=Z,161nm,19.2s						
SMF	**Signal de Mont**	**86.82 316**	*e*P	**P**	**14 50 09.8**	**+0.2**
comp=Z,11nm,0.9s						
LASF	**Ste Croix**	**87.00 314**	*e*P	**P**	**14 50 10.7**	**+0.2**
SSF	**Saint Saulge**	**87.02 317**	*e*P	**P**	**14 50 11.2**	**+0.7**
comp=Z,4.2nm,0.7s						
AVF	**Avril sur Loir**	**87.15 317**	*e*P	**P**	**14 50 11.5**	**+0.4**
TCF	**Toulx Ste Croi**	**87.97 316**	*e*P	**P**	**14 50 15.8**	**+0.7**
MTLF	**Montolieu**	**88.24 313**	*e*P	**P**	**14 50 17.4**	**+1.0**
LDF	**La Druitiere**	**89.30 319**	*e*P	**P**	**14 50 21.9**	**+0.6**
FLN	**La Foliniere**	**89.52 319**	*e*P	**P**	**14 50 23.0**	**+0.7**
FLN			*e*R			
comp=Z,145nm,18.0s						
MFF	**Saint Martin d**	**89.56 317**	*e*P	**P**	**14 50 22.8**	**+0.3**
ETSF	**Etsaut**	**90.31 313**	*e*P	P	14 50 30.1	+3.8
comp=Z,4.3nm,0.7s						
SGMF	**Saint Gilles**	**90.96 318**	*e*P	**P**	**14 50 29.8**	**+0.8**
IMA2	**Indian Mountai**	**93.93 22**	*e*P	**P**	**14 50 42.4**	**-0.1**
ILAR	**Eielson Array**	**97.05 22**	P	**P**	**14 50 55.2**	**-1.4**
ILAR	**Eielson Array**	**97.05 22**	P	**P**	**14 50 55.2**	**-1.4**
comp=Z,0.2nm,0.6s,baz=295,slow=4.8,SNR=5.0						
NVAR	**Mina Array Bea**	**126.96 32**	PKP	**PKPdf**	**14 56 30.7**	**+1.2**
NVAR	**Mina Array Bea**	**126.96 32**	PKP	**PKPdf**	**14 56 30.7**	**+1.2**
comp=Z,0.7nm,0.7s,baz=326,slow=2.7,SNR=6.5						
PDAR	**Pinedale Array**	**127.49 22**	PKP	**PKPdf**	**14 56 30.7**	**+0.3**
PDAR	**Pinedale Array**	**127.49 22**	PKP	**PKPdf**	**14 56 30.7**	**+0.3**
comp=Z,0.9nm,0.7s,baz=343,slow=0.9,SNR=6.6						

SZGRF ***13*** *14:43:08.1, 10°.72N×97°.66E, h36km, mb5.0, MS4.3, Andaman Islands, India, region*
BKK ***13*** *14:43:21.8±2.0, 15°.N±7°×.9°.1E±2°.0, h10km, M4.8/12, mB5.0/5, mb4.6/12, MLv5.1/3, Mw(mB)4.3/5*
IDC ***13*** *14:43:33.6±0.4, 14°.20N×93°.13E, h0km, mb4.6/39, mb1 4.7/40, mb1mx4.7/43, mbtmp4.6/40, ML4.2/1, MS3.7/6, Ms1 3.8/6, ms1mx3.4/40, Error ellipse: s-maj=14.1km s-min=9.4km az=44.0*
BJI ***13*** *14:43:35.7, 13°.97N×93°.13E, h38km, mB4.8/33, mb4.7/39, Ms4.4/25, Ms7 4.2/17*
MOS ***13*** *14:43:37.2±0.9, 14°.29N×93°.16E, h33km, mb5.1/43, MS4.0/5, Error ellipse: s-maj=8.4km s-min=4.5km az=115.6*
ISCJB ***13*** *14:43:38.4±0.6, 14°.22N±0°.03×93°.10E±0°.03, h44km±5km, mb4.8/134, MS4.1/16, Error ellipse: s-maj=5.4km s-min=4.1km az=165.1*
NEIC ***13*** *14:43:39.1±0.2, 14°.30N×93°.14E, h35km, mb4.8/23, Error ellipse: s-maj=6.3km s-min=4.5km az=224.0*
ISC 13 14:43:39.0±0.4, 14°.22N±0°.04×93°.10E±0°.04, h33km±1km, h33km:pP-P, n320, σ1§38/400, mb4.8/134, MS4.1/16, 11C-18D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.05**	**189**	*e*P	**Pb**	**14 43 58.9**	**+0.2**
PBA	**Port Blair**	**2.57**	**188**	*e*P	Pn	14 44 19.2	+1.0
PHET	**Kaeng Krachan**	**6.49**	**101**	P	**Pn**	**14 45 15.2**	**+3.1**
CMAR	**Chiang Mai Arr**	**7.02**	**52**	Pn	**Pn**	**14 45 18.3**	**-1.2**
CMAR				Sn	**Sn**	**14 46 33.9**	**-4.3**
CMAR	**Chiang Mai Arr**	**7.02**	**52**	Pn	**Pn**	**14 45 18.3**	**-1.2**
1.0nm,0.3s,baz=244,slow=15,SNR=18							
CMAR				Sn	**Sn**	**14 46 33.9**	**-4.3**
2.9nm,0.3s,baz=246,slow=24,SNR=6.8							
CMAR				LR	LR	14 48 37.7	
comp=Z,450nm,19.2s,baz=10,slow=43							
CMBY	**CAMPBELL BAY**	**7.21**	**173**	*e*P	**Pn**	**14 45 22.6**	**+0.5**
CMBY				AMB	AMB	14 45 23.5	
comp=Z,193nm,0.2s							
CHTO	**Chiang Mai**	**7.24**	**50**	*e*P	**Pn**	**14 45 20.3**	**-2.1**
CHTO	**Chiang Mai**	**7.24**	**50**	*e*Pn	**Pn**	**14 45 20.2**	**-2.1**
CHTO	**Chiang Mai**	**7.24**	**50**	P	**Pn**	**14 45 22.6**	**+0.2**
comp=Z,21nm,0.9s,comp=Z,350nmcomp=Z,0.2nm							
CMMT	**Chiang Mai**	**7.24**	**50**	P	**Pn**	**14 45 22.2**	**-0.3**
comp=Z,40nm,0.9s,comp=Z,765nmcomp=Z,0.2nm							
LAMP	**Lampang**	**7.59**	**55**	P	Pn	14 45 33.7	+6.3
comp=Z,16nm,0.8s,comp=Z,162nm							
NAYO	**Nakonayok**	**7.97**	**88**	P	Pn	14 45 42.5	+10
comp=Z,21nm,0.8s							
CMAI	**Chiengmai2**	**8.04**	**44**	P	**Pn**	**14 45 36.1**	**+2.5**
comp=Z,59nm,0.8s,comp=Z,3μm							
LOEI	**Loei**	**8.51**	**66**	P	Pn	14 45 46.2	+6.2
comp=Z,40nm,0.8s							
CHAI	**Chaiyaphum**	**8.75**	**78**	P	Pn	14 45 54.7	+11
comp=Z,6.9nm,0.9s							
VIS	**Vishakhapatnam**	**10.02**	**292**	*e*P	**Pn**	**14 45 59.7**	**-0.9**
VIS				AMB	AMB	14 46 03.0	
comp=Z,60nm,1.3s							
PANO	**Nakornpanom**	**11.47**	**74**	P	Pn	14 46 31.6	+11
comp=Z,18nm,1.3s							
KULM	**Kulim**	**11.58**	**139**	*e*Pn	**Pn**	**14 46 24.1**	**+2.1**
BOK	**Bokaro**	**11.71**	**326**	*e*P	**Pn**	**14 46 24.5**	**+0.7**
BOK				AMB	AMB	14 46 32.2	
comp=Z,46nm,0.4s							
PSI	**Prapat**	**12.72**	**153**	Pn	Pn	14 46 41.5	+3.7
PSI	**Prapat**	**12.72**	**153**	Pn	Pn	14 46 41.5	+3.7
comp=Z,1.3nm,0.3s,baz=332,slow=12,SNR=18							
PSI				LR	LR	14 52 05.6	
comp=Z,387nm,19.4s,baz=145,slow=40							
KMI	**Kunming**	**14.14**	**38**	P	**Pn**	**14 46 58.8**	**+1.6**
KMI				pP	**P**	**14 47 06.8**	**+2.5**
KMI				PP	**PnPn**	**14 47 09.8**	**+4.5**
KMI				sP		14 47 13.3	
KMI				S	**Sn**	**14 49 36.1**	**+3.0**
KMI				SS	**S**	**14 49 52.3**	**-1.0**
KMI				pmax	pmax		
comp=Z,5.0nm,1.2s							
KMI				pmax	pmax		
comp=Z,82nm,3.8s							
HYB	**Hyderabad**	**14.35**	**285**	*i* P	**P**	**14 47 07.5**	**+1.0**
HYB				*e*		14 49 24.0	
HYB				*e*S	**Sn**	**14 49 38.0**	**0.0**
HYB	**Hyderabad**	**14.35**	**285**	*ex*	**P**	**14 47 07.9**	**+1.4**
HYB				AMB	AMB	14 47 09.2	
comp=Z,18nm,0.7s							
NGP	**Nagpur**	**15.05**	**299**	*ex*	**Pn**	**14 47 04.7**	**-4.5**
NGP				*ex*	x	14 47 19.8	
comp=Z,41nm,1.2s							
NGP				*ex*	x	14 49 36.9	
JBP	**Jabalpur**	**15.27**	**308**	⇑*i*P	**Pn**	**14 47 13.9**	**+1.7**
JBP				*i* x	x	14 47 20.9	
comp=Z,23nm,0.9s							
JBP				*ex*	Sn	14 49 52.5	-7.8
LSA	**Lhasa**	**15.51**	**354**	P	**P**	**14 47 18.1**	**-1.7**
LATR	**Latur**	**16.41**	**287**	*e*P	**P**	**14 47 29.0**	**-0.3**
LATR				AMB	AMB	14 47 30.1	
comp=Z,29nm,0.8s							

AKL	**Akola**	**16.64 295**	*e*P	**Pn**	**14 47 30.5**	**+0.8**
AKL			AMB	AMB	14 47 34.5	
comp=Z,34nm,0.8s						
QIZ	**Qiongzhong**	**16.74 71**	P	**Pn**	**14 47 29.9**	**-1.2**
QIZ			S	**Sn**	**14 50 35.8**	**-0.4**
QIZ			pmax	pmax		
comp=Z,78nm,4.4s						
BHPL	**Bhopal**	**17.33 303**	*e*P	**Pn**	**14 47 38.4**	**0.0**
BHPL			AMB	AMB	14 47 42.2	
comp=Z,20nm,0.7s						
GYA	**Guiyang**	**17.59 44**	⇓*i*P	**Pn**	**14 47 42.0**	**+0.3**
GYA			pP	**pP**	**14 47 51.0**	**-0.3**
GYA			PP	**PnPn**	**14 47 56.3**	**+3.7**
GYA			S	**Sn**	**14 50 53.8**	**-3.0**
GYA			sS	**S**	**14 51 07.3**	**+3.6**
GYA			SS	**SnSn**	**14 51 16.0**	**+5.4**
GYA			pmax	pmax		
comp=Z,10.0nm,0.8s						
GYA			pmax	pmax		
comp=Z,110nm,4.8s						
GYA			LR	LR		
comp=N,550nm,17.0s						
GYA			LR	LR		
comp=E,440nm,16.3s						
POO	**Poona**	**18.95 286**	*e*P	**Pn**	**14 48 00.2**	**+1.9**
POO			AMB	AMB	14 48 01.1	
comp=Z,36nm,3.0s						
CD2	**Chengdu**	**19.29 29**	*e*P	**Pn**	**14 48 01.8**	**-0.5**
CD2			pP	**pP**	**14 48 10.9**	**+1.0**
CD2			sP	**sP**	**14 48 16.3**	**+2.1**
CD2			PP	**PnPn**	**14 48 19.9**	**+4.2**
CD2			S	**Sn**	**14 51 31.8**	**-5.9**
CD2			sS	sS	14 51 45.3	-6.6
CD2			SS	**SnSn**	**14 51 58.9**	**+6.7**
CD2			pmax	pmax		
comp=Z,30nm,1.1s						
CD2			pmax	pmax		
comp=Z,120nm,4.8s						
CD2			LR	LR		
comp=N,350nm,12.0s						
CD2			LR	LR		
comp=E,450nm,15.4s						
CD2			LR	LR		
comp=Z,370nm,12.0s						
DDI	**Dehra Dun**	**21.19 322**	*e*P	**P**	**14 48 20.5**	**-1.3**
DDI			AMB	AMB	14 48 23.7	
comp=Z,156nm,0.3s						
ENH	**Enshi**	**21.99 41**	*e*P	P	14 48 24.1	-6.1
comp=Z,17nm,0.8s						
SMLA	**Simla**	**22.30 322**	*e*P	**P**	**14 48 34.5**	**+1.0**
SMLA			AMB	AMB	14 48 36.8	
comp=Z,27nm,1.2s						
SDNR	**Sundarnagar**	**22.68 322**	*ex*	**S**	**14 52 41.0**	**-2.9**
DHRM	**DHARAMSHALA**	**23.61 322**	*e*P	**P**	**14 48 47.5**	**+0.2**
DHRM			AMB	AMB	14 48 48.9	
comp=Z,56nm,0.8s						
LZH	**Lanzhou**	**23.82 22**	⇑P	**P**	**14 48 50.3**	**+1.2**
LZH			pP	**pP**	**14 49 00.1**	**+1.5**
LZH			sP	**sP**	**14 49 06.3**	**+3.6**
LZH			PP	**PnPn**	**14 49 21.0**	**+3.2**
LZH			S	**S**	**14 53 00.1**	**-2.7**
LZH			sS	**sS**	**14 53 15.0**	**-3.6**
LZH			SS	**SnSn**	**14 53 50.3**	**+7.0**
LZH			pmax	pmax		
comp=Z,35nm,1.1s						
LZH			pmax	pmax		
comp=Z,150nm,4.8s						
LZH			LR	LR		
comp=N,590nm,14.8s						
LZH			LR	LR		
comp=E,490nm,11.2s						
LZH			LR	LR		
comp=Z,660nm,16.4s						
XAN	**Xi'an**	**24.39 33**	P	**P**	**14 48 53.3**	**-1.0**
XAN			pP	**pP**	**14 49 02.8**	**-1.2**
XAN			S	**S**	**14 53 13.9**	**+2.0**
XAN			sS	**sS**	**14 53 28.3**	**+0.6**
GTA	**Gaotai**	**25.78 12**	*e*P	**P**	**14 49 07.9**	**+0.9**
GTA			pP	**pP**	**14 49 17.0**	**+0.4**
GTA			sP	**sP**	**14 49 21.8**	**+1.2**
GTA			PcP	**PcP**	**14 52 37.6**	**+1.4**
GTA			S	**S**	**14 53 33.1**	**-1.1**
GTA			sS	**sS**	**14 53 47.8**	**-2.3**
GTA			SS	**SnSn**	**14 54 38.8**	**+7.5**
GTA			PcS	**PcS**	**14 56 18.0**	**+1.0**
GTA			pmax	pmax		
comp=Z,16nm,0.7s						
GTA			pmax	pmax		
comp=Z,120nm,4.8s						
KSH	**Kashi**

BJI Beijing 32.72 34 P **P** **14 50 09.1 +0.6**
BJI S **S** **14 55 23.3 +0.4**
BJI pmax pmax
comp=Z,19nm,0.7s
BJI pmax pmax
comp=Z,120nm,4.3s
BJI LR LR
comp=N,210nm,14.3s
BJI LR LR
comp=E,150nm,15.0s
CHMS Chumysh 32.74 335 *i* P **P** **14 50 09.7 +1.0**
CHMS Chumysh 32.74 335 P **P** **14 50 09.7 +1.0**
SNR=6.2
EKS2 Erkin-Say 32.88 333 *e*P **P** **14 50 09.7 -0.3**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 32.88 333 P **P** **14 50 11.8 +1.8**
SNR=14
EKS2 Erkin-Say 32.88 333 *e*P **P** **14 50 09.7 -0.3**
comp=Z,9.8nm,0.8s
USP Ospenovka 33.06 335 *i* P **P** **14 50 12.5 +1.0**
USP Ospenovka 33.06 335 P **P** **14 50 12.5 +1.0**
SNR=5.4
MK31 Makanchi Array 33.72 347 *e*P **P** **14 50 17.4 +0.3**
MK31 pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 33.72 347 P **P** **14 50 17.3 +0.2**
MKAR Makanchi Array 33.72 347 P **P** **14 50 17.2 +0.2**
MKAR Makanchi Array 33.72 347 P **P** **14 50 17.2 +0.2**
comp=Z,9.5nm,0.7s,baz=160,slow=8.8,SNR=55
KK31 Karatay Array 34.72 330 *i* P **P** **14 50 26.3 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 34.72 330 *e*P **P** **14 50 25.9 +0.1**
KKAR Karatay Array 34.72 330 *e*P **P** **14 50 25.9 +0.1**
SONM Songino Array 35.29 16 P **P** **14 50 31.4 +0.6**
SONM PcP **PcP** **14 53 01.2 +0.3**
SONM Songino Array 35.29 16 P **P** **14 50 31.4 +0.6**
comp=Z,8.3nm,0.9s,baz=206,slow=7.6,SNR=32
SONM PcP **PcP** **14 53 01.2 +0.3**
comp=Z,2.4nm,0.7s,baz=193,slow=4.0,SNR=7.1
ULN Ulaanbaatar 35.50 16 *e*P **P** **14 50 31.9 -0.8**
comp=Z,21nm,1.5s
HVS Khovu-Aksy 36.83 1*d* *i*P **P** **14 50 44.2 +0.3**
HVS pmax pmax
comp=Z,72nm,1.3s
ZAK Zakamensk 37.01 11 *e*P **P** **14 50 46.1 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KURBB Kurchatov Arra 38.19 345 P **P** **14 50 55.5 +0.2**
comp=Z,14nm,0.8s,baz=165,slow=8.1,SNR=83
KURK Kurchatov 38.25 345 P **P** **14 50 55.5 -0.3**
KURK Kurchatov 38.25 345 P **P** **14 50 55.5 -0.3**
KSAR Wonju Array Be 38.59 47 P **P** **14 50 57.9 -0.9**
KSRS Korea Array 38.62 47 P **P** **14 50 57.9 -1.2**
comp=Z,2.1nm,0.7s,baz=239,slow=8.8,SNR=9.2
BATI Baumata 38.83 127 P **P** **14 50 59.4 -1.8**
BATI Baumata 38.83 127 P **P** **14 50 59.4 -1.8**
comp=Z,20nm,0.9s,baz=22,slow=9.1,SNR=4.1
ZALV Zalesovo Beam 40.17 352 *i* P **P** **14 51 11.8 0.0**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam 40.17 352 P **P** **14 51 11.6 -0.2**
ZALV Zalesovo Beam 40.17 352 P **P** **14 51 11.6 -0.2**
comp=Z,8.4nm,0.7s,baz=175,slow=8.3,SNR=30
CN2 Changchun 40.40 37 *e*P **P** **14 51 14.3 +0.4**
CN2 *es*P **sP** **14 51 29.1 +1.3**
CN2 *e*S **S** **14 57 18.4 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
KRAR Krasnoyarsk 41.71 360 *e*P **P** **14 51 25.0 +0.6**
KRAR pmax pmax
comp=Z,15nm,1.4s
VOSK Vostochnaya 42.25 340 P **P** **14 51 28.8 -0.2**
VOSK pmax pmax
comp=Z,10.0nm,0.7s
BVA0 Borovoye Array 42.70 340 *i* P **P** **14 51 32.2 -0.4**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 42.70 340 P **P** **14 51 32.1 -0.5**
BVAR Borovoye Array 42.70 340 P **P** **14 51 32.1 -0.5**
BVAR Borovoye Array 42.70 340 P **P** **14 51 32.1 -0.5**
comp=Z,3.8nm,0.8s,baz=134,slow=8.3,SNR=18
BRVK Borovoye 42.77 340*d* *i*P **P** **14 51 33.1 0.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 42.77 340 *e*P **P** **14 51 32.8 -0.4**
comp=Z,8.6nm,1.1s
MDJ Mudanjiang 43.31 38 P **P** **14 51 37.9 +0.2**
MDJ pmax pmax
comp=Z,6.0nm,1.1s
MDJ pmax pmax
comp=Z,39nm,4.1s
AB31 Akbulak array 44.25 329 *i* P **P** **14 51 45.7 +0.6**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 44.25 329 *e*P **P** **14 51 45.0 -0.2**
RDF Al-Radifah 44.54 297 *e*P **P** **14 51 49.1 +1.3**
RDF AMb AMB 14 51 49.7
comp=Z,43nm,0.7s
USRK Ussuriysk Arra 44.57 40 P **P** **14 51 47.0 -0.7**
comp=Z,2.1nm,0.8s,baz=254,slow=8.4,SNR=4.7
NAY Al-Naaiem 44.85 297 *e*P **P** **14 51 50.4 +0.1**
NAY AMb AMB 14 51 51.2
comp=Z,15nm,0.9s
FITZ Fitzroy Crossi 45.40 134 P **P** **14 51 53.5 -1.1**
FITZ Fitzroy Crossi 45.40 134 P **P** **14 51 53.5 -1.1**
comp=Z,7.3nm,0.7s,baz=327,slow=7.5,SNR=31
RAYN Ar Rayn 45.80 289 *e*P **P** **14 51 58.2 +0.2**
comp=Z,6.5nm,1.0s
MJAR Matsushiro Arr 45.91 53 P **P** **14 51 59.1 +0.5**
MJAR PcP **PcP** **14 53 35.1 -0.2**
MJAR Matsushiro Arr 45.91 53 P **P** **14 51 59.1 +0.5**
comp=Z,2.8nm,0.8s,baz=263,slow=9.9,SNR=12
MJAR PcP **PcP** **14 53 35.1 -0.2**
comp=Z,2.9nm,0.8s,baz=243,slow=3.0,SNR=11
AKTO Aktyubinsk 45.96 329 P **P** **14 51 57.4 -1.3**
AKTO pmax pmax
comp=Z,11nm,0.6s
AKTO Aktyubinsk 45.96 329 P **P** **14 51 59.1 +0.3**
AKTO Aktyubinsk 45.96 329 P **P** **14 51 59.1 +0.3**
comp=Z,8.6nm,0.5s,baz=101,slow=7.1,SNR=30
MAK Makhachkala 48.40 315*c* *i*P **P** **14 52 15.9 -1.9**
MAK *e* 14 53 41.1
MAK *e* 14 54 08.4
MAK *e*S **S** **14 59 15.4 -0.8**
MAK pmax pmax
comp=Z,66nm,0.5s
MAK MLR MLR
comp=Z,50nm,5.0s
HABR Khabarovsk 48.54 36 *e*P **P** **14 52 16.9 -1.9**
HABR *e**PP **pP** **14 52 26.6 -2.2**
HABR *e**SP **sP** **14 52 30.9 -1.9**
HABR *e* 14 54 10.0
HABR *e*PPP PPP 14 54 59.7
HABR S **S** **14 59 17.3 -0.7**
HABR *e**SS **sS** **14 59 33.9 -0.6**
HABR *e*SSS SSS 15 04 02.2
HABR pmax pmax
comp=E,22nm,1.8s
HABR pmax pmax
comp=Z,49nm,2.8s
HABR pmax pmax
comp=N,31nm,2.8s
HABR MLR MLR
comp=Z,121nm,19.0s
CLNS Chul'man 48.94 23 *e*P **P** **14 52 21.8 0.0**
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.1s
SVE Sverdlovsk 49.18 337*c* *i*P **P** **14 52 24.4 +0.8**
SVE pmax pmax
comp=Z,53nm,1.0s
GNI Garni 49.41 311 *e*P **P** **14 52 27.8 +2.0**

GNI Garni 49.41 311 P **P** **14 52 27.4 +1.5**
comp=Z,12nm,0.6s,baz=116,slow=1.6,SNR=7.9
GNI LR LR 15 16 38.1
comp=Z,74nm,18.6s,baz=221,slow=40
ARU Arti 49.70 336*d* *i*P **P** **14 52 27.7 +0.1**
ARU 14 54 21.3
ARU S **S** **14 59 36.8 +2.7**
ARU pmax pmax
comp=Z,22nm,1.0s
ZEI Tsey 50.82 314 *e*P **P** **14 52 37.1 +0.5**
ZEI pmax pmax
comp=Z,12nm,0.8s
ERM Erimo 51.20 47 *e*P **P** **14 52 40.3 +1.2**
ERM pmax pmax
comp=Z,40nm,1.5s
KBZ Khabaz 51.82 315 P **P** **14 52 44.1 +0.3**
KBZ Khabaz 51.82 315 P **P** **14 52 44.1 +0.3**
KBZ Khabaz 51.82 315 P **P** **14 52 44.1 +0.3**
comp=Z,4.7nm,0.8s,baz=104,slow=8.7,SNR=12
KIV Kislovodsk 52.04 315 *e*P **P** **14 52 46.7 +1.2**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,68nm,15.0s
SOKR Solikamsk 52.56 338*c* *i*P **P** **14 52 49.8 +0.8**
SOKR pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 52.57 41 *e*P **P** **14 52 50.0 +0.7**
WRA Warramunga Arr 52.90 129 P **P** **14 52 51.3 -0.8**
WRA PcP **PcP** **14 54 00.2 -0.7**
WRA Warramunga Arr 52.90 129 P **P** **14 52 51.3 -0.8**
comp=Z,5.7nm,0.8s,baz=312,slow=8.2,SNR=27
WRA PcP **PcP** **14 54 00.2 -0.7**
comp=Z,3.4nm,0.7s,baz=319,slow=3.0,SNR=13
WRAB Tennant Creek 52.90 129 *i* P **P** **14 52 52.2 +0.1**
ASF Jabal al Asfar 54.07 300 P **P** **14 53 01.0 +0.3**
ASF Jabal al Asfar 54.07 300 P **P** **14 53 01.0 +0.3**
comp=Z,3.1nm,0.6s,baz=63,slow=6.0,SNR=5.7
YAK Yakutsk 54.38 20 *i* P **P** **14 53 01.7 -0.6**
ASAR Alice Springs 54.86 133 P **P** **14 53 06.2 -0.3**
ASAR PcP **PcP** **14 54 07.6 -0.8**
ASAR ScP **ScP** **14 58 04.2 -0.4**
ASAR Alice Springs 54.86 133 P **P** **14 53 06.2 -0.3**
comp=Z,3.8nm,0.8s,baz=307,slow=6.7,SNR=8.3
ASAR PcP **PcP** **14 54 07.6 -0.8**
comp=Z,2.1nm,0.8s,baz=319,slow=4.0,SNR=9.3
ASAR ScP **ScP** **14 58 04.2 -0.4**
comp=Z,0.8nm,0.9s,baz=306,slow=4.9,SNR=5.0
ASAR LR LR 15 20 50.2
comp=Z,55nm,18.7s,baz=107,slow=41
VRHR Novokhopersk 55.23 323 *e*P **P** **14 53 08.3 -0.3**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR pmax pmax
comp=E,6.0nm,0.3s
EIL Elat 55.55 296 P **P** **14 53 11.4 0.0**
EIL Elat 55.55 296 P **P** **14 53 11.4 0.0**
comp=E,3.8nm,0.6s,baz=108,slow=6.4,SNR=4.4
ANN Anapa 55.89 315 *e*P **P** **14 53 11.3 -2.2**
ANN pmax pmax
comp=Z,22nm,0.9s
VSR Storozhevoye 56.71 323 *e*P **P** **14 53 18.5 -0.8**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
BR131 Keskin Array S 57.63 308 *e*P **P** **14 53 25.4 -0.7**
comp=Z,13nm,0.8s
BRTR Keskin Array B 57.63 308 P **P** **14 53 25.3 -0.8**
BRTR Keskin Array B 57.63 308 P **P** **14 53 25.3 -0.8**
comp=Z,14nm,0.7s,baz=121,slow=7.6,SNR=55
OBN Obninsk 59.53 326⇓ *i*P **P** **14 53 39.4 +0.5**
OBN *e**PP **pP** **14 53 48.6 -0.5**
OBN 14 54 26.0
OBN S S 15 01 37.0 -9.3
OBN pmax pmax
comp=Z,62nm,2.5s
OBN MLR MLR
comp=Z,100nm,18.0s
GOLH Golhisar 60.53 305 *i* P **P** **14 53 45.1 -1.2**
TIXI Tiksi 61.27 12*d* *i*P **P** **14 53 49.7 -0.8**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIRR Tirgusor 62.14 313⇓ P **P** **14 53 57.0 +0.1**
TIRR Tirgusor 62.14 313⇓ *i*P **P** **14 53 57.0 +0.1**
CTA Charters Tower 62.41 122 P **P** **14 53 59.6 +0.6**
CTA Charters Tower 62.41 122 P **P** **14 53 59.6 +0.6**
comp=Z,1.6nm,0.6s,baz=311,slow=10,SNR=5.3
CFR Carcaliu 62.43 314⇓ P **P** **14 53 58.9 +0.1**
CFR Carcaliu 62.43 314⇓ *i*P **P** **14 53 58.9 +0.1**
AKASG Malin Array Be 62.62 320*ce*P **P** **14 53 59.2 -0.7**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 62.62 320 P **P** **14 53 58.8 -1.1**
AKASG Malin Array Be 62.62 320 P **P** **14 53 58.8 -1.1**
comp=Z,6.0nm,0.7s,baz=82,slow=5.3,SNR=18
KIEV Kiev 62.63 320 *e*P **P** **14 53 58.7 -1.3**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 62.63 320 *e*P **P** **14 53 58.7 -1.3**
comp=Z,6.3nm,0.9s
MBAR Mbarara 63.43 262 P **P** **14 54 06.0 -0.1**
MBAR Mbarara 63.43 262 P **P** **14 54 06.0 -0.1**
comp=Z,5.8nm,0.2s,baz=297,slow=2.9,SNR=4.5
VRI Vrincioaia 63.50 314⇑ P **P** **14 54 07.1 +1.2**
VRI Vrincioaia 63.50 314⇑ *i*P **P** **14 54 07.1 +1.2**
PETK Petropavlovsk- 63.55 37 P **P** **14 54 05.2 -0.9**
PETK Petropavlovsk- 63.55 37 P **P** **14 54 05.2 -0.9**
PETK Petropavlovsk- 63.55 37 P **P** **14 54 05.2 -0.9**
comp=Z,1.4nm,0.9s,baz=235,slow=5.1,SNR=3.2
PLOR Plostina 63.55 314⇑ P **P** **14 54 07.6 +1.3**
PLOR Plostina 63.55 314⇑ *i*P **P** **14 54 07.6 +1.3**
SEY Seymchan 63.67 26⇑ *i*P **P** **14 54 06.1 -0.6**
MLR Muntele Rosu 64.00 314⇓ *i*P **P** **14 54 10.3 +0.9**
MLR Muntele Rosu 64.00 314 P **P** **14 54 09.9 +0.5**
MLR Muntele Rosu 64.00 314 P **P** **14 54 09.9 +0.5**
comp=Z,3.7nm,0.9s,baz=69,slow=3.7,SNR=24
BURAR Bucovina Array 64.74 316⇓ P **P** **14 54 14.7 +0.6**
BURAR Bucovina Array 64.74 316⇓ *i*P **P** **14 54 14.7 +0.6**
STKA Stephens Creek 65.27 135 P **P** **14 54 17.0 -0.6**
STKA Stephens Creek 65.27 135 P **P** **14 54 17.0 -0.6**
comp=Z,2.3nm,0.6s,baz=317,slow=8.6,SNR=12
STKA LR LR 15 22 41.8
comp=Z,127nm,21.9s,baz=27,slow=36
VSU Vasula 65.67 328 *e*P **P** **14 54 19.6 -0.2**
VSU pmax pmax
comp=Z,38nm,1.0s
VTS Vitosha 65.74 310⇓ P **P** **14 54 21.0 +0.2**
VTS Vitosha 65.74 310⇓ *i*P **P** **14 54 21.0 +0.2**
FINES FINESS Array B 66.67 331 P **P** **14 54 25.7 -0.5**
FINES FINESS Array B 66.67 331 P **P** **14 54 25.7 -0.5**
comp=Z,14nm,0.7s,baz=98,slow=6.0,SNR=48
KAF Kangasniemi 66.73 332 *e*P **P** **14 54 26.5 0.0**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 66.73 332 *ep* **P** **14 54 26.5 0.0**
comp=Z,7.3nm,0.7s
SUW Suwalki 66.82 323 *e*P **P** **14 54 26.8 -0.5**
SUW pmax pmax
comp=Z,61nm,1.2s
SUW Suwalki 66.82 323 *e*P **P** **14 54 26.8 -0.5**
comp=Z,60nm,1.2s
SUW Suwalki 66.82 323 *e*P **P** **14 54 27.1 -0.2**
SUW *ep*P **pP** **14 54 36.9 -0.7**
KOLS Kolonicke sedl 66.83 317 *e*P **P** **14 54 28.2 +0.7**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 66.83 317 *e*P **P** **14 54 28.2 +0.7**
CRVS Cervenica-Dubn 67.36 317 *e*P **P** **14 54 31.6 +0.8**
CRVS pmax pmax
comp=Z,16nm,1.0s
CRVS Cervenica-Dubn 67.36 317 *e*P **P** **14 54 31.6 +0.8**
STHS Stebnicka Huta 67.54 318 *e*P **P** **14 54 32.5 +0.5**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 67.54 318 *e*P **P** **14 54 32.5 +0.5**
KECS Kecovo 67.97 317 *e*P **P** **14 54 34.8 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 67.97 317 *e*P **P** **14 54 34.8 +0.1**
KECS *ep*P **pP** **14 54 45.1 0.0**

NIE Niedzica 68.14 318 *e*P **P** **14 54 38.6 +2.8**
OJC Ojcow 68.53 319 *e*P **P** **14 54 38.1 0.0**
OJC pmax pmax
comp=Z,12nm,0.8s
OJC Ojcow 68.53 319 *e*P **P** **14 54 38.1 0.0**
comp=Z,12nm,0.8s
ARCES ARCESS Array B 68.99 340 P **P** **14 54 41.0 +0.3**
ARCES ARCESS Array B 68.99 340 P **P** **14 54 41.0 +0.3**
comp=Z,7.7nm,0.6s,baz=99,slow=7.3,SNR=34
OKC Ostrava-Krasne 69.57 318 *i* P **P** **14 54 45.3 +0.7**
OKC *e* 14 54 53.1
OKC MLR MLR
comp=Z,200nm,20.0s
OKC Ostrava-Krasne 69.57 318 *i* P **P** **14 54 45.3 +0.7**
OKC *ep*P **pP** **14 54 53.1 -1.9**
OKC AMS AMS 15 41 20.0
comp=Z,200nm,20.0s
MORC Moravsky Berou 69.96 318 *e*P **P** **14 54 47.3 +0.2**
MORC pmax pmax
comp=Z,15nm,1.0s
MORC Moravsky Berou 69.96 318 *e*P **P** **14 54 47.3 +0.2**
comp=Z,15nm,1.0s
ZST Bratislava 70.22 316 *e*P **P** **14 54 49.0 +0.4**
ZST *e* 14 54 58.5
ZST Bratislava 70.22 316 *e*P **P** **14 54 49.0 +0.4**
ZST *ep*P **pP** **14 54 58.5 -0.5**
DPC Dobruska-Polom 70.76 319 *e*P **P** **14 54 52.2 +0.2**
DPC *e* 14 55 02.1
DPC Dobruska-Polom 70.76 319 *e*P **P** **14 54 52.2 +0.2**
DPC *ep*P **pP** **14 55 02.1 -0.3**
DPC AMS AMS 15 35 50.0
DPC Dobruska-Polom 70.76 319 *e*P **P** **14 54 51.5 -0.5**
comp=Z,75nm,1.3s
KSP Ksiaz 70.78 319 *e*P **P** **14 54 52.1 0.0**
KSP *e**PP **pP** **14 55 02.5 0.0**
KSP Ksiaz 70.78 319 *e*P **P** **14 54 52.6 +0.5**
KSP *e* 14 55 02.4
UPC Upice 70.96 319 *e*P **P** **14 54 53.6 +0.5**
UPC *e* 14 55 03.5
UPC Upice 70.96 319 *e*P **P** **14 54 53.6 +0.5**
UPC *ep*P **pP** **14 55 03.5 0.0**
TREC Trest 71.29 318 *e*P **P** **14 54 55.8 +0.6**
TREC MLR MLR
comp=Z,200nm,17.4s
TREC Trest 71.29 318 *e*P **P** **14 54 55.8 +0.6**
TREC AMS AMS 15 40 30.0
comp=Z,200nm,17.4s
PVCC Panska Ves 71.88 319 *i* P **P** **14 54 59.7 +1.0**
PVCC *e* 14 55 09.5
PVCC Panska Ves 71.88 319 *i* P **P** **14 54 59.7 +1.0**
PVCC *ep*P **pP** **14 55 09.5 +0.4**
PRU Pruhonice 71.90 318 *e*P **P** **14 54 59.3 +0.5**
PRU *e* 14 55 08.9
PRU MLR MLR
comp=Z,200nm,15.2s
PRU Pruhonice 71.90 318 *e*P **P** **14 54 59.3 +0.5**
PRU *ep*P **pP** **14 55 08.9 -0.4**
PRU AMS AMS 15 39 00.0
comp=Z,200nm,15.2s
BRG Berggiesshubel 72.28 319 *i* P **P** **14 55 01.8 +0.8**
comp=Z,12nm,1.0s
BRG *e* 14 55 11.7
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 72.28 319 *i* P **P** **14 55 01.8 +0.8**
BRG *e* 14 55 11.7
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 72.47 317 *e*P **P** **14 55 01.3 -1.1**
GEC2 GERESS Array S 72.47 317 *e*P **P** **14 55 01.3 -1.1**
GERES GERESS Array B 72.47 317 P **P** **14 55 02.4 0.0**
GERES GERESS Array B 72.47 317 P **P** **14 55 02.4 0.0**
comp=Z,9.1nm,0.7s,baz=90,slow=5.9,SNR=45
HFS Hagfors 72.51 329 P **P** **14 55 02.1 -0.2**
HFS Hagfors 72.51 329 P **P** **14 55 02.1 -0.2**
comp=Z,18nm,0.8s,baz=90,slow=7.2,SNR=38
KHC Kasperske Hory 72.55 317 *e*P **P** **14 55 02.5 -0.3**
KHC pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 72.55 317 *e*P **P** **14 55 02.5 -0.3**
KHC *ep*P **pP** **14 55 12.8 -0.4**
KHC AMS AMS 15 39 30.0
comp=Z,300nm,17.3s
KHC Kasperske Hory 72.55 317 *e*P **P** **14 55 02.5 -0.3**
comp=Z,4.3nm,0.9s
CLL Collm 72.86 320⇓ *i*P **P** **14 55 04.3 -0.2**
CLL *i* 14 55 14.7
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 72.86 320⇓ *i*P **P** **14 55 04.3 -0.2**
comp=Z,11nm,1.1s
CLL *i* pP **pP** **14 55 14.7 -0.2**
NKC Novy Kostel 73.25 319 *e*P **P** **14 55 07.2 +0.4**
NKC *e* 14 55 17.1
NKC Novy Kostel 73.25 319 *e*P **P** **14 55 07.2 +0.4**
NKC *ep*P **pP** **14 55 17.1 -0.2**
NB2 NORSAR Subarra 73.75 330 P **P** **14 55 08.9 -0.7**
comp=Z,7.0nm,0.6s,baz=88,slow=5.9
NOA NORSAR Array B 73.75 330 P **P** **14 55 08.8 -0.9**
NOA NORSAR Array B 73.75 330 P **P** **14 55 08.8 -0.9**
comp=Z,6.7nm,0.7s,baz=90,slow=5.8,SNR=21
GRF Grafenberg Arr 74.06 318 *e*P **P** **14 55 12.2 +0.6**
comp=Z,30nm,1.5s
GRF *ep*P **pP** **14 55 22.6 +0.5**
GRF *e*L L 15 23 11.7
comp=Z,142nm,21.4s
GRF Grafenberg Arr 74.06 318 *e*P **P** **14 55 12.2 +0.6**
GRF *e**PP **pP** **14 55 22.6 +0.5**
GRF pmax pmax
comp=Z,30nm,1.5s
FUORN Ofenpass-Fuorn 74.92 315 *e*P **P** **14 55 17.1 +0.1**
comp=Z,4.3nm,0.8s
DAVOX Davos/Dischmat 75.17 315 P **P** **14 55 17.8 -0.5**
DAVOX Davos/Dischmat 75.17 315 P **P** **14 55 17.8 -0.5**
comp=Z,4.5nm,0.6s,baz=122,slow=6.6,SNR=7.3
TUE Stuetta 75.56 315 *e*P **P** **14 55 19.4 -1.2**
comp=Z,30nm,1.8s
PGF Pioggiola 76.22 311 *e*P **P** **14 55 23.8 -0.6**
comp=Z,19nm,1.0s
CDF Champ du Feu 76.76 317 *e*P **P** **14 55 26.6 -0.6**
comp=Z,15nm,1.0s
KEST Kesra 76.83 304 P **P** **14 55 27.7 -0.2**
KEST Kesra 76.83 304 P **P** **14 55 27.7 -0.2**
comp=Z,0.9nm,0.6s,baz=323,slow=3.5,SNR=5.0
SENIN Lac Senin/Sane 76.98 315 *e*P **P** **14 55 27.1 -1.6**
comp=Z,23nm,1.5s
SBF Sospel 77.20 312 *e*P **P** **14 55 29.4 -0.4**
comp=Z,22nm,0.8s
HAU Haudompre 77.42 317 *e*P **P** **14 55 30.3 -0.6**
comp=Z,17nm,0.8s
LPG La Plagne 77.47 314 *e*P **P** **14 55 31.4 -0.1**
comp=Z,34nm,0.8s
LPL La Plagne 77.48 314 *e*P **P** **14 55 31.4 -0.1**
comp=Z,39nm,0.7s
MBDF Montbardon 77.56 313 *e*P **P** **14 55 30.8 -1.1**
comp=Z,17nm,0.9s
BNI Bardonecchia 77.58 314 *e*P **P** **14 55 29.5 -2.5**
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 77.58 314 *e*P **P** **14 55 29.5 -2.5**
comp=Z,8.6nm,0.8s
CABF La Chapelle 77.78 315 *e*P **P** **14 55 32.9 -0.1**
comp=Z,18nm,0.9s
FRF La Foret Royal 77.80 312 *e*P **P** **14 55 32.9 -0.2**
comp=Z,37nm,1.1s
LMR La Mourre 77.94 312 *e*P **P** **14 55 33.4 -0.4**
comp=Z,33nm,1.0s
GIVF Givet 78.14 319 *e*P **P** **14 55 34.7 -0.1**
BOSA Boshof 78.15 236 P **P** **14 55 36.1 +0.8**
BOSA Boshof 78.15 236 P **P** **14 55 36.1 +0.8**
comp=Z,14nm,0.8s,baz=71,slow=5.8,SNR=19
ORIF Oris-en-Rattie 78.16 314 *e*P **P** **14 55 34.3 -0.9**
comp=Z,4.5nm,0.5s
SFTF Sexfontaines 78.26 317 *e*P **P** **14 55 35.1 -0.5**
SMRF Simiane la Rot 78.51 313 *e*P **P** **14 55 37.3 +0.2**
comp=Z,10nm,0.6s
BAIF Baives 78.54 319 *e*P **P** **14 55 37.0 0.0**
comp=Z,22nm,1.1s
VIVF Saint-Julien-l 79.02 314 *e*P **P** **14 55 39.5 -0.3**
comp=Z,20nm,1.1s
LOR Lormes 79.19 316 *e*P **P** **14 55 40.0 -0.7**
comp=Z,17nm,1.0s
SMF Signal de Mont 79.30 315 *e*P **P** **14 55 40.6 -0.7**
comp=Z,17nm,0.7s

SSF	Saint Saulge	79.46	316	*e*P		P	14 55 41.7	-0.5
	comp=Z,11nm,0.9s							
AVF	Avril sur Loir	79.61	316	*e*P		P	14 55 42.4	-0.6
	comp=Z,12nm,0.9s							
LASF	Ste Croix	79.72	313	*e*P		P	14 55 43.8	+0.2
	comp=Z,40nm,1.4s							
BGF	Bois d'Agland	80.00	316	*e*P		P	14 55 44.9	-0.2
TCF	Toulx Ste Croi	80.48	315	*e*P		P	14 55 47.6	-0.1
	comp=Z,22nm,1.0s							
CAF	Calviac	80.83	314	*e*P		P	14 55 49.6	0.0
	comp=Z,7.5nm,0.6s							
MTLF	Montolieu	81.02	312	*e*P		P	14 55 50.6	0.0
	comp=Z,14nm,0.9s							
RJF	Les Rejaudoux	81.14	314	*e*P		P	14 55 51.3	+0.1
	comp=Z,18nm,0.8s							
LDF	La Druitiere	81.58	318	*e*P		P	14 55 53.1	-0.4
	comp=Z,13nm,0.7s							
LFF	La Frestale	81.75	314	*e*P		P	14 55 54.5	+0.1
	comp=Z,31nm,1.1s							
FLN	La Foliniere	81.78	318	*e*P		P	14 55 54.1	-0.4
	comp=Z,18nm,0.9s							
EKA	Eskdalemuir Ar	81.96	325	P		P	14 55 54.8	-0.5
EKA	Eskdalemuir Ar	81.96	325	P		P	14 55 54.8	-0.5
	comp=Z,6.5nm,0.8s,baz=85,slow=5.9,SNR=17							
MFF	Saint Martin d	82.01	316	*e*P		P	14 55 55.4	-0.4
	comp=Z,22nm,0.9s							
GRR	Gorron	82.11	318	*e*P		P	14 55 55.7	-0.5
ETSF	Etsaut	83.10	312	*e*P		P	14 56 01.7	0.0
	comp=Z,13nm,0.9s							
SGMF	Saint Gilles	83.24	318	*e*P		P	14 56 01.9	-0.2
	comp=Z,11nm,0.7s							
SJPF	Ste Jean	83.53	313	*e*P		P	14 56 04.1	+0.3
ROSF	Rostrenen	83.68	318	*e*P		P	14 56 04.2	-0.2
	comp=Z,18nm,0.9s							
QUIF	Quistinic	83.72	318	*e*P		P	14 56 03.9	-0.7
MAW	Mawson	84.51	191	P		P	14 56 08.6	+0.6
MAW	Mawson	84.51	191	P		P	14 56 08.6	+0.6
	comp=Z,3.8nm,0.4s,baz=329,slow=5.9,SNR=4.6							
IMA2	Indian Mountai	86.17	22	*e*P		P	14 56 16.7	0.0
ESDC	Sonseca Array	86.38	310	P		P	14 56 17.9	-0.4
ESDC	Sonseca Array	86.38	310	P		P	14 56 17.9	-0.4
	comp=Z,3.0nm,0.7s,baz=51,slow=4.2,SNR=14							
SUMG	Summit	87.77	347	*e*P		P	14 56 23.5	-1.2
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SUMG	Summit	87.77	347	*e*P		P	14 56 23.5	-1.2
	comp=Z,7.5nm,0.8s							
TORD	Torodi Ar. Bea	88.16	283	P		P	14 56 27.4	+0.2
TORD	Torodi Ar. Bea	88.16	283	P		P	14 56 27.4	+0.2
	comp=Z,8.8nm,0.8s,baz=82,slow=4.5,SNR=42							
TRF	Thorofare Moun	88.69	24	*e*P		P	14 56 28.7	-0.3
	comp=Z,5.5nm,0.7s							
MDT	Midelt	88.73	303	P		P	14 56 29.3	-0.5
MDT	Midelt	88.73	303	P		P	14 56 29.3	-0.5
	comp=Z,1.4nm,0.8s,baz=84,slow=5.9,SNR=4.6							
ILAR	Eielson Array	89.28	22	P		P	14 56 30.4	-1.2
ILAR	Eielson Array	89.28	22	P		P	14 56 30.4	-1.2
	comp=Z,2.8nm,0.8s,baz=298,slow=4.3,SNR=24							
PMR	Palmer	90.10	25	*e*P		P	14 56 34.3	-1.1
PMR				pmax	pmax			
	comp=Z,11nm,0.8s							
PMR	Palmer	90.10	25	*e*P		P	14 56 34.3	-1.1
	comp=Z,12nm,0.8s							
SML	Sawmill	90.31	25	*e*P		P	14 56 36.3	-0.2
SML				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SML	Sawmill	90.31	25	*e*P		P	14 56 36.3	-0.2
	comp=Z,2.6nm,0.8s							
BMRM	Bremner River	92.28	24	*e*P		P	14 56 45.8	+0.2
	comp=Z,12nm,1.1s							
HYT	Haines Junctio	95.10	22	*e*P		P	14 56 57.2	-1.5
LIC	Lamto	96.31	278	*e*P		P	14 57 05.4	+0.4
PDAR	Pinedale Array	119.60	19	PKP		PKPdf	15 02 25.6	-0.4
PDAR	Pinedale Array	119.60	19	PKP		PKPdf	15 02 25.6	-0.4
	comp=Z,1.4nm,0.7s,baz=108,slow=2.0,SNR=8.9							
NVAR	Mina Array Bea	119.94	28	PKP		PKPdf	15 02 27.0	+0.3
NVAR	Mina Array Bea	119.94	28	PKP		PKPdf	15 02 27.0	+0.3
	comp=Z,1.6nm,0.6s,baz=313,slow=2.5,SNR=16							
ECSD	EROS Data Cent	121.65	8	*e*PKPdf		PKPdf	15 02 29.8	+0.2
MVU	Marysvale	122.45	23	*e*PKPdf		PKPdf	15 02 31.5	-0.1
MSU	Marysvale	122.45	23	*e*PKIKP		PKPdf	15 02 31.6	0.0
MSU	Marysvale	122.45	23	*e*PKPdf		PKPdf	15 02 31.6	0.0
TXAR	Lajitas Array	133.78	20	PKP		PKPdf	15 02 53.6	+0.4
TXAR	Lajitas Array	133.78	20	PKP		PKPdf	15 02 53.6	+0.4
	comp=Z,0.9nm,0.6s,baz=117,slow=1.0,SNR=8.9							
BDFB	Brasilia	142.43	263	PKP		PKPdf	15 03 09.7	+0.3
BDFB	Brasilia	142.43	263	PKP		PKPdf	15 03 09.7	+0.3
	comp=Z,1.1nm,0.4s,baz=172,slow=8.3,SNR=3.4							
TEIG	Tepich	145.75	2	PKPbc		PKPab	15 03 15.8	+0.2
TEIG	Tepich	145.75	2	PKPbc		PKPab	15 03 15.8	+0.2
	comp=Z,72nm,1.0s,baz=354,slow=1.8,SNR=46							
SIV	San Ignacio	155.00	263	PKPab		PKPab	15 03 54.9	+1.0
SIV	San Ignacio	155.00	263	PKPab		PKPab	15 03 54.9	+1.0
	comp=Z,1.7nm,0.9s,baz=355,slow=4.9,SNR=3.1							
LPAZ	La Paz	161.77	261	PKPab		PKPab	15 04 23.8	0.0
LPAZ	La Paz	161.77	261	PKPab		PKPab	15 04 23.8	0.0
	comp=Z,2.1nm,0.8s,baz=120,slow=5.4,SNR=3.8							

NIED ***13*** *14:44:00,22.°50N×121.°10E,h35km,Mw4.3 Best double couple: M0:3.03000×10¹⁵ NP1:φ=52.00000°,δ86.00000°, λ75.00000°. NP2:φ=307.00000°,δ16.00000°,λ165.00000°.*
IDC ***13*** *14:44:13.0±0.9,22.°13N×121.°00E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.7/27,mbtmp3.7/8,Error ellipse: s-maj=38.4km s-min=16.8km az=70.0*
ISCJB ***13*** *14:44:15.0±0.5,22.°24N±0.°03×121.°22E±0.°03,h19km±4km, mb3.8/6,Error ellipse: s-maj=4.4km s-min=4.3km az=162.2*
TAP ***13*** *14:44:16.6,22.°39N×121.°03E,h18km,ML4.2,C*
JMA ***13*** *14:44:16.3±0.3,22.°50N×121.°12E,h16km,M3.9*
ISC 13 14:44:15.5±1.1,22.°34N±0.°03×121.°15E±0.°03,h14km±7km, n62,σ1=09/89,mb3.7/6,5C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	Taimali	0.31	326	*e*P		Pg	14 44 21.3	-0.7
	baz=344							
TTN	Taitung	0.41	0	⇓*i*P		Pb	14 44 25.3	+0.8
	baz=6.0							
TTN				*e*S		Sb	14 44 32.8	+2.0
	baz=6.0							
LAY	Lan-yu	0.48	128	P		Pb	14 44 26.9	+1.2
	baz=114							
TWG	Pinlang	0.49	352	⇓*i*P		Pg	14 44 25.0	-0.2
	baz=358							
TWG				S		Sg	14 44 32.2	+0.5
	baz=358							
SCZT	Fangliau	0.49	274	⇑*i*P		Pg	14 44 24.6	-0.6
	baz=275							
SCZT				S		Sg	14 44 30.1	-1.5
	baz=275							
TSEB	Hengchuen, Pin	0.49	208	⇑*i*P		Pb	14 44 27.1	+1.2
	baz=189							
TSEB				S		Sn	14 44 35.2	-1.1
	baz=189							
HEN	Hengchun	0.50	229	⇓*i*P		Pb	14 44 26.4	+0.3
	baz=214							
HEN				*i* S		Sb	14 44 33.8	+0.6
	baz=214							
SGLT	Jiouru	0.72	303	⇑*e*P		Pg	14 44 29.4	0.0
	baz=310							
SGLT				*e*S		Sg	14 44 38.6	-0.3
	baz=310							
CHKT	Chengkung	0.79	15	P		Pg	14 44 30.2	-0.5
	baz=12							
KAU	Kaohsiung	0.81	287	*e*P		Pn	14 44 32.2	-0.2
	baz=288							
SGST	Jiashian	0.91	325	⇑*i*P		Pb	14 44 32.9	-0.1
	baz=332							
CHN1	Nanshi	1.02	326	⇓*i*P		Pn	14 44 35.5	+0.2
	baz=331							
CHN1				*e*S		Sn	14 44 50.7	+1.2
	baz=331							
TWF1	Yuli	1.02	8	*e*P		Pb	14 44 32.5	-2.5
	baz=15							
CHN3	Shinhua	1.03	316	⇓*i*P		Pn	14 44 36.8	+1.3
	baz=320							
CHN3				*e*S		Sn	14 44 53.1	+3.4
	baz=320							
TAI1	Yung-k'ang	1.10	310	*e*P		Pg	14 44 37.6	+0.9
	baz=312							
YUS	Yu-Shan	1.16	351	⇓*e*P		Pn	14 44 36.2	-1.5
	baz=5.0							
EHY	Hungye	1.17	8	*e*P		Pn	14 44 37.4	-0.1
	baz=26							
ALS	Alishan	1.21	345	*e*P		Pn	14 44 37.7	-0.6
	baz=359							
ALS				*e*S		Sg	14 44 56.0	+1.4
	baz=359							
SCLT	Jiali	1.21	314	*e*P		Pb	14 44 38.2	+0.1
	baz=317							
SCLT				*e*S		Sg	14 44 56.3	+1.7
	baz=317							
CHN5	Tsauling	1.33	341	*e*P		Pb	14 44 40.5	+0.3
	baz=356							
CHN5				*e*S		Sg	14 44 59.7	+1.4
	baz=356							
CHY	Chiayi	1.33	330	P		Pn	14 44 40.0	+0.3
	baz=336							
CHY				*e*S		Sg	14 44 59.1	+0.6
	baz=336							
WGK	Gukeng	1.45	338	*e*P		Pb	14 44 41.9	-0.3
	baz=346							
WGK				*e*S		Sg	14 45 01.9	-0.2
	baz=346							
ESL	Shilin	1.49	10	*e*P		Pn	14 44 41.9	0.0
	baz=27							
WSF	Szhu	1.55	327	*e*P		Pn	14 44 42.5	-0.1
	baz=331							
SMLT	Sun Moon Lake	1.56	352	P		Pb	14 44 44.0	-0.1
	baz=12							
SMLT				*e*S		Sg	14 45 05.3	-0.3
	baz=12							
TYC	Yuchr	1.58	350	⇑P		Pb	14 44 44.2	-0.3
	baz=11							
TYC				*e*S		Sg	14 45 07.4	+1.0
	baz=11							
WNT	Mingjian	1.59	345	P		Pb	14 44 44.4	-0.3
	baz=352							
WNT				*e*S		Sg	14 45 07.0	+0.3
	baz=352							
WDGT	Dungji	1.65	304	*e*P		Pn	14 44 43.6	-0.4
	baz=305							
HWA	Hwalien	1.69	14	*e*P		Pn	14 44 45.7	+1.2
	baz=20							
WTCT	Ta-ch'eng	1.72	332	*e*P		Pn	14 44 44.5	-0.4
	baz=338							
TWD	Chiawan	1.78	13	*e*P		Pn	14 44 46.4	+0.6
	baz=18							
WHF	Hehuan Shan	1.80	3	*e*P		Pn	14 44 45.8	-0.7
	baz=23							
TCU	Taichung	1.85	347	*e*P		Pn	14 44 47.8	+1.0
	baz=355							
TCU				*e*S		Sb	14 45 13.3	+1.2
	baz=355							
TWT	Tachien	1.91	1	*e*P		Pb	14 44 49.3	-0.9
	baz=6.0							
TWQ1	Liyutan	2.03	350	*e*P		Pn	14 44 50.7	+1.4
	baz=342							
TWQ1				*e*S		Sb	14 45 17.9	+0.6
	baz=342							
NSY	Sanyi	2.10	350	*e*P		Pn	14 44 51.9	+1.7
	baz=341							
NSY				*e*S		Sb	14 45 19.8	+0.6
	baz=341							
NNS	Nan Shan	2.10	6	*e*P		Pb	14 44 52.6	-0.8
	baz=28							
ENA	Nanau	2.15	15	*e*P		Pn	14 44 50.5	-0.5
	baz=30							
ENTT	Nioudou	2.32	9	*e*P		Pn	14 44 53.2	-0.1
	baz=26							
NSK	Sanguang	2.34	5	*e*P		Pb	14 44 56.1	-1.3
	baz=28							
NSK				*e*S		Sb	14 45 24.7	-1.4
	baz=28							
TWC	Suao	2.35	16	*e*P		Pn	14 44 54.1	+0.5
	baz=21							
TWC				*e*S		Sn	14 45 22.9	+0.5
	baz=21							
TWE	Neicheng	2.42	11	*e*P		Pn	14 44 56.3	+1.7
	baz=27							
TWA	Mucha	2.66	9	*e*P		Pn	14 45 00.5	+2.5
	baz=25							
YOJ	Yonaguni jima	2.72	39	*e*P		Pn	14 44 59.0	+0.3
	baz=44							
YOJ	Yonaguni jima	2.72	39	P		Pn	14 44 59.1	+0.3
YOJ				*e*S		Sn	14 45 30.6	-0.9
TWB1	Santiao Chiao	2.77	16	*e*P		Pn	14 45 00.7	+1.3
	baz=21							
NWF	Wu-fen Shan	2.78	12	*e*P		Pn	14 45 01.1	+1.4
	baz=26							
HATJ	Hateruma jima	2.98	55	P		Pn	14 45 03.2	+0.8
HATJ				*e*S		Sn	14 45 37.9	-0.1
IRIF	Iriomote-Funau	3.10	50	P		Pn	14 45 05.1	+1.2
IRIF				*e*S		Sn	14 45 41.3	+0.6
JKRS	Kuro-shima	3.24	54	P		Pn	14 45 07.3	+1.4
JKRS				*e*S		Sn	14 45 44.8	+0.5
JIJ	Ishigaki jima	3.41	53	P		Pn	14 45 09.3	+1.0
JIJ				*e*S		Sn	14 45 48.6	+0.1
JTJ	Tarama	3.99	54	P		Pn	14 45 17.6	+1.4
JTJ				*e*S		Sn	14 46 03.2	+0.5
JOGS	Gusukube	4.59	58	P		Pn	14 45 26.0	+1.5
NJ2	Nanjing	9.89	349	*e*P		Pn	14 46 37.5	+0.3
NJ2				pP			14 46 40.3	
NJ2				sP			14 46 43.4	
NJ2				S		Sn	14 48 25.3	-2.7
NJ2				sS			14 48 33.4	
NJ2				pmax	pmax			
	comp=Z,450nm,1.0s							
NJ2				smax	smax			
	comp=N,460nm,0.8s							
NJ2				smax	smax			
	comp=E,860nm,0.6s							
NJ2				LR	LR			
	comp=N,560nm,7.3s							
NJ2				LR	LR			
	comp=E,860nm,9.2s							
NJ2				LR	LR			
	comp=Z,940nm,9.5s							
KSRS	Korea Array	16.16	20	Pn		P	14 48 05.4	+0.1
	baz=193,slow=10,SNR=3.0							
MJAR	Matsushiro Arr	20.48	42	P		Pn	14 48 54.9	-0.1
	comp=Z,2.4nm,1.0s,baz=231,slow=8.7,SNR=3.4							
SONM	Songino Array	28.06	339	P		P	14 50 07.4	+0.9
	comp=Z,0.7nm,0.7s,baz=148,slow=8.5,SNR=3.6							
MKAR	Makanchi Array	39.65	318	P		P	14 51 47.1	+0.2
	comp=Z,1.6nm,0.7s,baz=118,slow=10.0,SNR=2.5							
KURBB	Kurchatov Arra	43.51	321	P		P	14 52 18.6	+0.3
	comp=Z,1.6nm,0.8s,baz=128,slow=6.7,SNR=3.3							
WRA	Warramunga Arr	43.95	162	P		P	14 52 20.2	-2.1
	comp=Z,0.5nm,0.5s,baz=344,slow=8.7,SNR=13							
ASAR	Alice Springs	47.38	164	P		P	14 52 48.2	-1.2
	comp=Z,0.2nm,0.3s,baz=344,slow=7.2,SNR=14							
STKA	Stephens Creek	57.35	159	P		P	14 54 02.3	-1.0
	comp=Z,5.8nm,1.4s,baz=319,slow=11,SNR=3.7							

LDG ***13*** *14:48:33.0±0.4,19.°28N×66.°04W,h10km,Mb4.7/11, Ms4.2/12,Error ellipse: s-maj=21.1km s-min=13.4km az=77.0*
IDC ***13*** *14:48:35.0±0.4,19.°30N×65.°65W,h0km,mb4.4/27, mb1 4.6/28,mb1mx4.5/33,mbtmp4.4/28,ML3.5/1,MS4.4/15, Ms1 4.4/15,ms1mx4.1/34,Error ellipse: s-maj=12.2km s-min=11.9km az=137.0*
ISCJB ***13*** *14:48:36.2±0.1,19.°44N±0.°02×65.°75W±0.°02,h16km, mb4.7/102,MS4.4/20,Error ellipse: s-maj=2.6km s-min=2.3km az=159.8*
MOS ***13*** *14:48:38.7±1.3,19.°37N×65.°85W,h33km,mb5.2/25,Error ellipse: s-maj=9.5km s-min=6.3km az=117.4*
RSPR ***13*** *14:48:39.7,19.°38N×65.°70W,h10km±31km,MD4.8/12*
NEIC ***13*** *14:48:40.2±0.5,19.°31N×65.°78W,h39km±5km,mb4.9/66, MD4.7(RSPR),Error ellipse: s-maj=5.8km s-min=4.1km az=212.0*
NEIC Felt at Guaynabo, Mayaguez, Morovis and Vega Alta.
GCMT ***13*** *14:48:42.6±0.4,19.°53N×65.°81W,h19km±1km,MW4.9, Moment Tensor Solution. s30,c32; s62,c83; Moment tensor: Scale 10¹⁶Nm; Mrr-2.56±.17; Mθθ2.11±.11; Mφφ0.44±.11; Mrθ0.39±.21; Mθφ0.87±.07; Mφr0.44±.26; Best double couple: M0:2.60000×10¹⁶ NP1:φ=242.00000°, δ51.00000°,λ-97.00000°. NP2:φ=72.00000°,δ39.00000°, λ-82.00000°. Principal axes: T 2.5300, Plg6.0000°, Azm336.0000°; N 0.1000, Plg5.0000°, Azm246.0000°; P -2.6400, Plg82.0000°, Azm116.0000°; Data Used: II IU IC CN G.*
BJI ***13*** *14:48:43.1,19.°20N×65.°80W,h53km,mB5.2/4,Ms5.0/2, Ms7 4.8/2*
ISC 13 14:48:37.8±0.3,19.°33N±0.°03×65.°74W±0.°02,h16km,n661, σ0=95/686,mb4.8/102,MS4.4/20,194C-215D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.05	186	⇑*e*P		Pb	14 48 57.4	-0.3
CBYP	Canovanas	1.05	186	⇑*e*P		Pb	14 48 57.4	-0.3
CBYP	Canovanas	1.05	186	*e*S		Sn	14 49 12.2	-0.2
CBYP	Canovanas	1.05	186	⇑*e*P		Pb	14 48 57.4	-0.3
CBYP				*e*S		Sn	14 49 12.2	-0.2
CBYP	Canovanas	1.05	186	⇑*e*P		Pb	14 48 57.4	-0.3
CBYP				*e*S		Sn	14 49 12.2	-0.2
HUMP	Col San Antoni	1.18	185	⇑*e*P		Pn	14 48 59.2	-0.5
HUMP	Col San Antoni	1.18	185	*e*S		Sg	14 49 15.7	-0.4
HUMP	Col San Antoni	1.18	185	⇑*e*P		Pn	14 48 59.3	-0.3
HUMP	Col San Antoni	1.18	185	*e*Pg		Pn	14 48 59.1	-0.5
HUMP	Col San Antoni	1.18	185	⇑*e*P		Pn	14 48 59.2	-0.5
HUMP	Col San Antoni	1.18	185	⇑*e*P		Pn	14 48 59.3	-0.3
HUMP				*e*S		Sg	14 49 15.7	-0.4
STVI	Saint Thomas	1.22	142	⇓*e*P		Pn	14 49 00.0	-0.2
STVI	Saint Thomas	1.22	142	⇓*e*P		Pb	14 49 00.8	+0.3
STVI	Saint Thomas	1.22	142	*e*S		Sn	14 49 16.6	+0.2
STVI	Saint Thomas	1.22	142	⇓*e*P		Pn	14 49 00.0	-0.2
STVI	Saint Thomas	1.22	142	⇓*e*P		Pn	14 49 00.3	+0.1
STVI	Saint Thomas	1.22	142	⇓*e*P		Pb	14 49 00.8	+0.3
STVI				*e*S		Sn	14 49 16.6	+0.2
SJG	San Juan	1.27	198	⇑*i*P		Pn	14 49 00.8	0.0
SJG	San Juan	1.27	198	*i* Pu			14 49 00.8	
SJG	San Juan	1.27	198	⇑*i*P		Pn	14 49 00.8	0.0
CPD	Cerro la Pandu	1.29	187	⇑*e*P		Pn	14 49 01.2	0.0
CPD	Cerro la Pandu	1.29	187	⇑*e*P		Pn	14 49 01.3	0.0
CPD				*e*S		Sn	14 49 18.6	+0.4
CPD	Cerro la Pandu	1.29	187	⇑*e*P		Pn	14 49 01.2	0.0
CPD				*e*S		Sn	14 49 18.6	+0.4
CPD	Cerro la Pandu	1.29	187	⇑*e*P		Pn	14 49 01.2	0.0
CPD				*e*S		Sn	14 49 18.6	+0.4
AOPR	Arecibo Observ	1.37	225	⇑*e*P		Pb	14 49 02.7	-0.3
AOPR	Arecibo Observ	1.37	225	⇑*e*P		Pb	14 49 02.8	-0.3
AOPR	Arecibo Observ	1.37	225	*e*S		Sb	14 49 20.7	+0.4
AOPR	Arecibo Observ	1.37	225	*e*Pn		Pb	14 49 02.7	-0.3
AOPR				*e*S		Sb	14 49 20.7	+0.4
AOPR	Arecibo Observ	1.37	225	⇑*e*P		Pb	14 49 02.7	-0.3
AOPR	Arecibo Observ	1.37	225	⇑*e*P		Pb	14 49 02.8	-0.3
AOPR				*e*S		Sb	14 49 20.7	+0.4
TBVI	Tortola	1.40	130	⇑*i*P		Pn	14 49 02.1	-0.5
TBVI	Tortola	1.40	130	*i* Pu		Pn	14 49 02.1	-0.5
TBVI	Tortola	1.40	130	⇑*i*P		Pn	14 49 02.1	-0.5
ABVI	Anegada Island	1.46	114	⇑*e*P		Pn	14 49 03.0	-0.4
ABVI				*e*S		Sn	14 49 21.4	-0.9
ABV	Anegada	1.46	114	*e*S		Sn	14 49 21.4	-0.9
ABV	Anegada	1.46	114	⇑*e*P		Pn	14 49 03.0	-0.4
ABV	Anegada	1.46	114	⇑*e*P		Pn	14 49 03.1	-0.4
ABV				*e*S		Sn	14 49 21.4	-0.9
LRS	Lares	1.47	226	⇑*i*P		Pn	14 49 03.9	+0.2
LRS	Lares	1.47	226	*i* Pu			14 49 03.9	
LRS	Lares	1.47	226	⇑*i*P		Pn	14 49 03.9	+0.2
CELP	Cerrillos	1.48	213	⇑*e*P		Pn	14 49 04.0	+0.3
CELP	Cerrillos	1.48	213	*e*Pn		Pn	14 49 03.8	+0.1
CELP	Cerrillos	1.48	213	⇑*e*P		Pn	14 49 04.3	+0.6
OBIP	Obispado Ponce	1.52	213	*e*S		Sb	14 49 24.4	-0.1
OBIP	Obispado Ponce	1.52	213	⇑*e*P		Pn	14 49 04.9	+0.6
OBIP	Obispado Ponce	1.52	213	⇑*e*P		Pn	14 49 04.9	+0.6
OBIP				*e*S		Sb	14 49 24.4	-0.1
OBIP	Obispado Ponce	1.52	213	⇑*e*P		Pn	14 49 04.9	+0.6
OBIP				*e*S		Sb	14 49 24.4	-0.1
AGPR	Aguadilla, PR	1.55	237	*e*S		Sb	14 49 25.4	-0.2
AGPR	Aguadilla, PR	1.55	237	⇓*e*P		Pn	14 49 05.1	+0.3
AGPR	Aguadilla, PR	1.55	237	⇓*e*P		Pn	14 49 05.1	+0.3
AGPR				*e*S		Sb	14 49 25.4	-0.2
AGPR	Aguadilla, PR	1.55	237	⇓*e*P		Pn	14 49 05.1	+0.3
AGPR				*e*S		Sb	14 49 25.4	-0.2
AGP	Aguadilla	1.61	236	*e*Pn		Pn	14 49 05.4	-0.1
LSP	Las Mesas	1.71	228	⇑*i*P		Pn	14 49 07.8	+0.8
LSP	Las Mesas	1.71	228	*e*Pn		Pn	14 49 07.6	+0.6
LSP	Las Mesas	1.71	228	⇑*i*P		Pn	14 49 07.8	+0.8
GBPR	Guanica, Bosqu	1.72	219	*e*S		Sn	14 49 29.0	+0.2
GBPR	Guanica, Bosqu	1.72	219	⇓*i*P		Pb	14 49 08.3	-0.8
GBPR	Guanica, Bosqu	1.72	219	⇓*i*P		Pb	14 49 08.3	-0.8
GBPR				*e*S		Sn	14 49 29.0	+0.2
GBPR	Guanica, Bosqu	1.72	219	⇓*i*P		Pb	14 49 08.3	-0.8
GBPR				*e*S		Sn	14 49 29.0	+0.2
MPR	Mayaguez	1.73	230	*e*S		Sb	14 49 30.1	-0.5
MPR	Mayaguez	1.73	230	⇑*e*P		Pn	14 49 07.6	+0.5
MPR	Mayaguez	1.73	230	*e*Pn		Pn	14 49 07.8	+0.6
MPR	Mayaguez	1.73	230	⇑*e*P		Pn	14 49 07.6	+0.5
MPR				*e*S		Sb	14 49 30.1	-0.5
CDVI	St. Croix	1.82	149	⇑*e*P		Pb	14 49 10.5	-0.2
CDVI	St. Croix	1.82	149	⇑*e*P		Pb	14 49 10.5	-0.2
CDVI	St. Croix	1.82	149	⇑*e*P		Pb	14 49 10.5	-0.2
IDE	Isla Desecheo	1.89	241	⇑*e*P		Pn	14 49 09.8	+0.4
IDE	Isla Desecheo	1.89	241	⇑*e*P		Pn	14 49 09.8	+0.4
IDE	Isla Desecheo	1.89	241	⇑*e*P		Pn	14 49 09.8	+0.4
IMO	Isla Mona	2.38

OTAV **Otavalo** 22.70 215 eP P 14 53 38.1 -1.4
comp=Z,118nm,1.3s
TKL **Tuckaleechee C** 22.75 319 P P 14 53 40.1 +0.7
TKL S S 14 57 45.0 -2.7
TKL **Tuckaleechee C** 22.75 319 P P 14 53 40.1 +0.7
comp=Z,8.4nm,0.9s,baz=123,slow=11,SNR=7.3
TKL S S 14 57 45.0 -2.7
comp=Z,7.8nm,0.5s,baz=40,slow=17,SNR=3.4
TKL LR LR 15 02 00.4
comp=Z,963nm,19.5s,baz=130,slow=35
CPCT **Cooper Cave** 23.09 318 eP P 14 53 43.3 +0.4
TZTN **Tazewell** 23.21 321 eP P 14 53 44.4 +0.3
comp=Z,27nm,0.8s
LRAL **Lakeview Retre** 23.40 310 eP P 14 53 44.8 -1.2
comp=Z,77nm,1.4s
WES **Weston** 23.47 350 eP P 14 53 46.5 -0.1
WES pmax pmax
comp=Z,164nm,1.5s
WES **Weston** 23.47 350 eP P 14 53 46.5 -0.1
comp=Z,164nm,1.5s
HRV **Adam Dziewonsk** 23.63 349 eP P 14 53 47.9 -0.3
HRV eS S 14 58 02.6 +0.5
HRV pmax pmax
comp=Z,92nm,1.6s
HRV **Adam Dziewonsk** 23.63 349 eP P 14 53 47.9 -0.3
comp=Z,92nm,1.6s
HRV eS S 14 58 02.6 +0.5
SWET **Sewanee** 23.86 316 eP P 14 53 50.8 +0.3
comp=Z,14nm,0.5s
ACCN **Adirondack Com** 24.90 346 eP P 14 54 00.9 +1.0
comp=Z,101nm,2.1s
EMMW **East Machias** 25.35 357 eP P 14 54 04.5 +0.6
comp=Z,107nm,1.3s
WVL **Waterville** 25.38 353 eP P 14 54 05.8 +1.6
comp=Z,132nm,1.4s
NCB **Newcomb** 25.58 346 eP P 14 54 02.6 -3.5
comp=Z,66nm,1.6s
WVT **Waverly** 25.64 315 eP P 14 54 06.1 -0.7
WVT pmax pmax
comp=Z,18nm,0.8s
WVT **Waverly** 25.64 315 eP P 14 54 06.1 -0.7
comp=Z,18nm,0.8s
OXF **Oxford** 25.88 311 eP P 14 54 07.2 -1.7
OXF pmax pmax
comp=Z,121nm,1.1s
OXF **Oxford** 25.88 311 eP P 14 54 07.2 -1.7
comp=Z,121nm,1.1s
WCI **Wyandotte Cave** 25.96 321 eP P 14 54 09.5 -0.2
WCI pmax pmax
comp=Z,87nm,1.6s
WCI **Wyandotte Cave** 25.96 321 eP P 14 54 09.5 -0.2
comp=Z,87nm,1.6s
PKME **Peaks-Kenny Pk** 26.03 354 eP P 14 54 11.2 +1.0
comp=Z,66nm,1.8s
FRNY **Flat Rock** 26.26 347 eP P 14 54 13.1 +0.8
comp=Z,25nm,1.5s
SADO **Sadowa** 27.72 339 P P 14 54 24.1 -1.2
SADO **Sadowa** 27.72 339 P P 14 54 24.1 -1.2
comp=Z,2.1nm,0.6s,baz=172,slow=7.1,SNR=3.2
SADO LR LR 15 05 28.1
comp=Z,865nm,18.7s,baz=161,slow=36
SFIN **Scholer Farm** 27.85 323 ⇓P P 14 54 27.2 +0.6
baz=28
SAML **Samuel** 28.21 175 eP P 14 54 27.3 -2.6
comp=Z,8.6nm,0.9s
ATAH **Atahualpa** 29.10 207 P P 14 54 38.0 -0.4
ATAH **Atahualpa** 29.10 207 P P 14 54 38.0 -0.4
comp=Z,6.2nm,0.7s,baz=21,slow=8.6,SNR=3.9
WHTX **Lake Whitney** 31.13 300 ⇓P P 14 54 56.3 +0.5
baz=31
TUL1 **Tulsa** 31.17 308 ⇓P P 14 54 56.4 +0.3
baz=31
632A **Uvalde** 32.51 295 ⇓P P 14 55 08.1 +0.1
baz=32,SNR=7.5
732A **Laxson Ranch,** 32.54 293 ⇑P P 14 55 08.1 -0.1
baz=32
JCT **Junction City** 32.71 297 eP P 14 55 08.4 -1.4
JCT pmax pmax
comp=Z,43nm,1.2s
JCT **Junction City** 32.71 297 eP P 14 55 08.4 -1.4
comp=Z,43nm,1.2s
JCT **Junction City** 32.71 297 ⇓P P 14 55 09.8 0.0
baz=33,SNR=7.0
532A **Rocksprings** 32.73 296 ⇑P P 14 55 10.2 +0.2
baz=33,SNR=19
432A **Menard** 32.79 297 ⇓P P 14 55 10.3 -0.2
baz=33,SNR=12
332A **Millersview** 32.86 298 ⇓P P 14 55 10.8 -0.3
baz=33,SNR=7.0
232A **Coleman** 32.90 299 ⇑P P 14 55 11.3 -0.1
baz=33
COWI **Conover** 32.93 329 eP P 14 55 12.2 +0.7
comp=Z,19nm,1.3s
WMOK **Wichita Mounta** 33.01 304 eP P 14 55 10.2 -2.2
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 33.01 304 eP P 14 55 10.2 -2.2
comp=Z,5.9nm,0.9s
ABTX **Abilene, Hawle** 33.08 300 ⇑P P 14 55 13.1 +0.1
baz=33,SNR=5.9
Z32A **Haskell** 33.13 302 ⇑P P 14 55 13.6 +0.2
baz=33,SNR=7.5
631A **Perdido Creek** 33.17 294 ⇑P P 14 55 13.6 -0.2
baz=33,SNR=7.2
531A **Rocksprings** 33.28 296 ⇑P P 14 55 14.9 +0.1
baz=33,SNR=9.4
Y32A **R-V Farms, Ver** 33.30 303 ⇓P P 14 55 15.0 +0.1
baz=33
331A **San Angelo** 33.41 298 ⇑P P 14 55 15.7 -0.2
baz=33
431A **Sonora** 33.43 297 ⇓P P 14 55 16.2 +0.1
baz=33,SNR=14
231A **Bronte** 33.46 299 ⇑P P 14 55 16.0 -0.3
baz=33
Z31A **Sharp Cattle R** 33.67 301 ⇑P P 14 55 18.0 -0.2
baz=34
131A **Roby** 33.70 300 ⇓P P 14 55 18.2 -0.2
baz=34
X31A **McDonald Ranch** 33.92 304 ⇓P P 14 55 20.1 -0.2
baz=34,SNR=7.6
Y31A **Rekieta Farm,** 33.94 302 ⇑P P 14 55 20.5 0.0
baz=34,SNR=6.1
530A **J-C Ranch, Com** 33.95 295 ⇑P P 14 55 20.6 -0.1
baz=34,SNR=14
430A **Baggett Ranch,** 33.98 297 ⇓P P 14 55 20.5 -0.5
baz=34
W31A **Holland Ranch,** 34.06 305 ⇑P P 14 55 21.3 -0.2
baz=34
230A **Sterling City** 34.11 299 ⇑P P 14 55 21.7 -0.3
baz=34
130A **Snyder** 34.15 300 ⇓P P 14 55 22.2 -0.2
baz=34
V31A **Spring Creek L** 34.17 306 ⇑P P 14 55 23.1 +0.5
baz=34,SNR=5.6
SPMN **St. Paul** 34.20 325 ⇓P P 14 55 22.6 0.0
baz=34
U31A **Nine Bar Ranch** 34.38 307 ⇓P P 14 55 24.8 +0.5
baz=34
Y30A **Stafford Cattl** 34.43 302 ⇓P P 14 55 24.8 0.0
baz=34
Z30A **Sanderson Ranc** 34.46 301 ⇑P P 14 55 24.7 -0.3
baz=34,SNR=6.3
429A **Davenport Ranc** 34.51 296 ⇓P P 14 55 24.9 -0.6
baz=34,SNR=8.9
T31A **Randall Ranch,** 34.51 308 ⇓P P 14 55 26.0 +0.6
baz=34
W30A **Crocket Farms** 34.55 304 ⇓P P 14 55 25.9 +0.1
baz=34
S31A **Mullinville** 34.56 309 ⇓P P 14 55 26.7 +0.8
baz=34
X30A **Coker Ranch, T** 34.57 303 ⇑P P 14 55 25.8 -0.2
baz=34
529A **Stev Forest Ra** 34.70 295 ⇑P P 14 55 26.7 -0.5
baz=35,SNR=24
229A **Bryant Ranch,** 34.71 298 ⇑P P 14 55 27.0 -0.2
baz=35
329A **Wagon Wheel Ra** 34.75 298 ⇓P P 14 55 27.3 -0.3
baz=35,SNR=7.7
V30A **Spur Ranch, Mi** 34.82 305 ⇓P P 14 55 28.5 +0.4
baz=35
R31A **Burdett** 34.85 310 ⇓P P 14 55 28.7 +0.3
baz=35
129A **Stewart Farms,** 34.90 300 ⇓P P 14 55 28.7 -0.1
baz=35
Z29A **Hungry Hill Ra** 34.92 301 ⇑P P 14 55 28.6 -0.4
baz=35
Y29A **Porterfield Fa** 35.04 302 ⇑P P 14 55 30.0 -0.1
baz=35

U30A **WK&E Inc. Balk** 35.05 307 ⇓P P 14 55 30.7 +0.7
baz=35,SNR=5.1
Q31A **Ellis** 35.05 311 ⇓P P 14 55 30.1 +0.1
baz=35
T30A **Plains** 35.13 308 ⇓P P 14 55 31.4 +0.6
baz=35,SNR=7.6
628A **Black Gap, Mar** 35.18 294 ⇑P P 14 55 31.9 +0.6
baz=35,SNR=44
528A **Cox Ranch, San** 35.19 295 ⇑P P 14 55 31.6 +0.2
baz=35,SNR=17
428A **Kincaid Ranch,** 35.20 296 ⇓P P 14 55 32.0 +0.6
baz=35,SNR=22
X29A **Tulia** 35.22 303 ⇓P P 14 55 31.2 -0.5
baz=35
BGNE **Belgrade** 35.27 316 ⇑P P 14 55 31.5 -0.4
baz=35
S30A **Montezuma** 35.29 308 ⇑P P 14 55 32.8 +0.6
baz=35,SNR=8.2
AMTX **Amarillo** 35.33 303 eP P 14 55 31.5 -1.1
comp=Z,49nm,1.7s
W29A **Amraillo** 35.37 304 ⇓P P 14 55 32.9 0.0
baz=35
228A **UT Block 9, Go** 35.39 298 ⇓P P 14 55 32.6 -0.5
baz=35
SIV **San Ignacio** 35.39 172 P P 14 55 31.5 -1.6
SIV **San Ignacio** 35.39 172 P P 14 55 31.5 -1.6
comp=Z,3.2nm,0.7s,baz=338,slow=9.2,SNR=13
R30A **Dighton** 35.40 310 ⇑P P 14 55 33.6 +0.5
baz=35,SNR=6.4
128A **Castleberry Fa** 35.41 299 ⇓P P 14 55 32.9 -0.3
baz=35
328A **Wristen Ranch,** 35.42 297 ⇑P P 14 55 32.9 -0.4
baz=35
SCHQ **Schefferville** 35.45 359 P P 14 55 33.6 +0.4
SCHQ **Schefferville** 35.45 359 P P 14 55 33.6 +0.4
comp=Z,6.6nm,0.5s,baz=176,slow=6.9,SNR=14
SCHQ LR LR 15 08 50.3
comp=Z,445nm,19.6s,baz=265,slow=34
LPAZ **La Paz** 35.47 184 P P 14 55 32.8 -1.6
LPAZ **La Paz** 35.47 184 P P 14 55 32.8 -1.6
comp=Z,8.3nm,0.9s,baz=12,slow=9.2,SNR=19
LPAZ LR LR 15 11 36.8
comp=Z,270nm,21.1s,baz=338,slow=39
Z28A **Tucker Farm, M** 35.48 301 ⇓P P 14 55 33.5 -0.4
baz=35
U29A **Oasis Ranch, S** 35.49 306 ⇑P P 14 55 34.3 +0.4
baz=36
ECSD **EROS Data Cent** 35.50 320 eP P 14 55 31.8 -2.0
comp=Z,46nm,1.6s
V29A **Stinnett** 35.50 305 ⇓P P 14 55 34.4 +0.4
baz=36
Y28A **McKinney Farm,** 35.52 302 ⇑P P 14 55 33.8 -0.4
baz=36
627A **Terlingua Ranc** 35.60 294 ⇓P P 14 55 35.5 +0.5
baz=36,SNR=41
X28A **Dimmitt** 35.64 303 ⇑P P 14 55 34.9 -0.3
baz=36
T29A **Hugoton** 35.74 307 ⇓P P 14 55 36.7 +0.7
baz=36,SNR=5.2
S29A **Ulysses** 35.77 308 ⇓P P 14 55 36.8 +0.5
baz=36
427A **Hayter Ranch,** 35.83 296 ⇑P P 14 55 37.0 +0.1
baz=36,SNR=17
TXAR **Lajitas Array** 35.83 294 P P 14 55 38.1 +1.2
TXAR PcP PcP 14 58 05.4 +1.0
TXAR ScP ScP 15 01 51.4 +1.3
TXAR **Lajitas Array** 35.83 294 P P 14 55 38.1 +1.2
comp=Z,9.2nm,1.0s,baz=99,slow=8.1,SNR=49
TXAR PcP PcP 14 58 05.4 +1.0
comp=Z,5.0nm,1.0s,baz=126,slow=4.6,SNR=8.6
TXAR ScP ScP 15 01 51.4 +1.3
comp=Z,0.4nm,0.8s,baz=128,slow=5.8,SNR=3.2
TXAR LR LR 15 12 06.9
comp=Z,188nm,21.0s,baz=0.0,slow=39
W28A **Vega** 35.85 304 ⇓P P 14 55 36.8 -0.2
baz=36
P30A **Selden** 35.87 312 ⇓P P 14 55 37.2 +0.1
baz=36,SNR=6.3
527A **Woodward Ranch** 35.90 295 ⇑P P 14 55 37.7 +0.1
baz=36,SNR=25
227A **Bennet, Jal** 35.95 298 ⇓P P 14 55 37.6 -0.3
baz=36
MSTX **Muleshoe** 35.96 302 ⇓P P 14 55 37.5 -0.5
baz=36
327A **Balmorhea Ranc** 35.99 297 ⇓P P 14 55 38.2 -0.1
baz=36
O30A **MW Ranch, Wils** 36.00 313 ⇓P P 14 55 38.3 +0.1
baz=36
V28A **Channing** 36.01 305 ⇑P P 14 55 38.6 +0.2
baz=36
R29A **Marienthal** 36.08 309 ⇓P P 14 55 39.3 +0.4
baz=36
127A **Arkansas Junct** 36.14 299 ⇓P P 14 55 38.9 -0.7
baz=36
Q29A **Oakley** 36.14 310 ⇓P P 14 55 39.7 +0.3
baz=36,SNR=8.8
Z27A **Tatum** 36.16 300 ⇑P P 14 55 38.9 -0.8
baz=36
U28A **Mallet** 36.20 306 ⇑P P 14 55 40.3 +0.2
baz=36
Y27A **Causey** 36.25 301 ⇑P P 14 55 40.2 -0.3
baz=36
626A **Big Bend Ranch** 36.26 294 ⇓P P 14 55 41.1 +0.5
baz=36,SNR=12
526A **Mary Lane Ranc** 36.29 295 ⇓P P 14 55 41.4 +0.5
baz=36,SNR=33
N30A **Hueftle Ranch,** 36.30 314 ⇓P P 14 55 40.8 0.0
baz=36
S28A **Manter** 36.34 308 ⇓P P 14 55 41.5 +0.2
baz=36
T28A **Walsh** 36.35 307 ⇓P P 14 55 41.5 +0.2
baz=36,SNR=7.0
P29A **Atwood** 36.38 311 ⇑P P 14 55 41.7 +0.2
baz=36
X27A **F and S Farms,** 36.39 303 ⇑P P 14 55 41.5 -0.2
baz=36
326A **Caldwell Ranch** 36.39 297 ⇓P P 14 55 41.5 -0.3
baz=36
W27A **Bowe Ranch, En** 36.47 303 ⇓P P 14 55 42.3 -0.1
baz=36
M30A **Dale-Ortello V** 36.47 315 ⇑P P 14 55 42.3 0.0
baz=36
V27A **Dan Oppiter Fa** 36.48 304 ⇓P P 14 55 42.6 +0.1
baz=36
O29A **4D Ranch, Culb** 36.50 312 ⇓P P 14 55 42.6 +0.1
baz=36
R28A **Tribune** 36.54 309 ⇓P P 14 55 43.2 +0.4
baz=36,SNR=13
N29A **Votaw Ranch, W** 36.67 313 ⇑P P 14 55 44.0 +0.1
baz=37
U27A **Thompson Grove** 36.67 305 ⇓P P 14 55 44.1 0.0
baz=37
126A **Clayton Basin,** 36.68 299 ⇓P P 14 55 43.6 -0.6
baz=37
226B **Tecolote Peak,** 36.69 298 ⇓P P 14 55 43.9 -0.3
baz=37
Z26A **Caprock** 36.77 300 ⇓P P 14 55 44.3 -0.6
baz=37
T27A **Campo** 36.79 307 ⇓P P 14 55 45.1 0.0
baz=37,SNR=7.2
Y26A **Elida** 36.79 301 ⇑P P 14 55 44.7 -0.4
baz=37
Q28A **Sharon Springs** 36.82 310 ⇑P P 14 55 45.5 +0.2
baz=37
X26A **CR and CF Fran** 36.93 302 ⇑P P 14 55 46.1 -0.2
baz=37
P28A **Saint Francis** 36.95 311 ⇓P P 14 55 46.8 +0.4
baz=37
M29A **Burnside Ranch** 36.98 314 ⇑P P 14 55 46.5 -0.1
baz=37
W26A **Owens Ranch, T** 37.03 303 ⇑P P 14 55 47.4 +0.2
baz=37
L29A **Maesberg Ranch** 37.12 315 ⇑P P 14 55 47.8 +0.1
baz=37
S27A **Las Animas** 37.12 307 ⇑P P 14 55 47.9 0.0
baz=37
425A **Indio Mountain** 37.16 296 ⇑P P 14 55 49.0 +0.6
baz=37,SNR=39
O28A **Krutsinger Ran** 37.18 312 ⇑P P 14 55 48.5 +0.2
baz=37
125A **Gardner Draw,** 37.21 299 ⇑P P 14 55 48.4 -0.3
baz=37
V26A **Tequesquite Ra** 37.24 304 ⇑P P 14 55 49.0 +0.1
baz=37,SNR=15
325A **Bean Ranch, Si** 37.24 297 ⇓P P 14 55 49.3 +0.3
baz=37,SNR=30
225A **Deer Hill, Car** 37.24 298 ⇑P P 14 55 49.1 +0.1
baz=37,SNR=7.3

N28A **Pribbeno Ranch** 37.24 313 ⇑P P 14 55 48.6 -0.2
baz=37
R27A **Eads** 37.25 308 ⇓P P 14 55 49.0 +0.1
baz=37,SNR=9.8
BRSD **Miller** 37.30 320 ⇓P P 14 55 49.2 0.0
baz=37
K29A **Lazy Trails An** 37.33 316 ⇓P P 14 55 49.6 +0.1
baz=37
U26A **Atchley Ranch,** 37.37 305 ⇑P P 14 55 50.1 0.0
baz=37,SNR=9.0
KSCO **Kaye Shedlock'** 37.38 310 ⇓P P 14 55 50.4 +0.4
baz=37
Z25A **Roswell** 37.38 300 ⇓P P 14 55 49.9 -0.2
baz=37
M28A **Bar X Bar Ranc** 37.42 314 ⇓P P 14 55 50.6 +0.2
baz=37
T26A **Comanche Natio** 37.49 306 ⇑P P 14 55 51.0 -0.1
baz=38,SNR=7.7
S26A **Kim** 37.53 307 ⇓P P 14 55 51.5 +0.1
baz=38,SNR=5.9
P27A **Ficken Ranch,** 37.54 310 ⇑P P 14 55 51.9 +0.5
baz=38
X25A **Clemmons Ranch** 37.61 302 ⇓P P 14 55 52.6 +0.5
baz=38
W25A **X Bar L Ranch,** 37.62 303 ⇓P P 14 55 52.4 +0.2
baz=38,SNR=9.4
MNTX **Cornudas Mount** 37.64 297 eP P 14 55 50.9 -1.4
comp=Z,33nm,1.8s
324A **Moseley Ranch,** 37.68 297 ⇓P P 14 55 52.9 +0.1
baz=38,SNR=11
OGNE **Ogallala** 37.69 313 ⇑P P 14 55 53.0 +0.4
baz=38
O27A **Beecher Island** 37.71 311 ⇓P P 14 55 53.0 +0.2
baz=38
R26A **Arlington** 37.73 308 ⇓P P 14 55 53.1 +0.1
baz=38,SNR=8.8
224A **Cornudas Mount** 37.82 298 ⇑P P 14 55 53.9 0.0
baz=38
124A **Stringfield Ra** 37.87 299 ⇓P P 14 55 54.8 +0.3
baz=38,SNR=9.2
U25A **Circle Dot Ran** 37.89 305 ⇓P P 14 55 54.9 +0.4
baz=38,SNR=18
V25A **Rancho No Teng** 37.90 304 ⇑P P 14 55 55.2 +0.6
baz=38,SNR=22
Z24A **Sheeppen Canyo** 37.92 300 ⇓P P 14 55 55.2 +0.4
baz=38
N27A **Anderson Farm,** 37.98 312 ⇓P P 14 55 55.3 +0.1
baz=38
K28A **Ten Mile Ranch** 37.99 316 ⇓P P 14 55 55.1 -0.1
baz=38,SNR=5.2
Q26A **Hugo** 38.00 309 ⇑P P 14 55 56.2 +0.8
baz=38,SNR=5.9
P26A **Davis Ranch, A** 38.09 310 ⇓P P 14 55 56.8 +0.7
baz=38
T25A **Trinidad** 38.10 306 ⇑P P 14 55 56.8 +0.5
baz=38,SNR=15
M27A **Reverse DX Ran** 38.17 314 ⇑P P 14 55 57.0 +0.3
baz=38
J28A **Allard Ranch,** 38.23 317 ⇑P P 14 55 57.3 +0.2
baz=38
X24A **Lazy VL Ranch,** 38.24 302 ⇓P P 14 55 57.9 +0.4
baz=38
S25A **Robets Cordova** 38.27 307 ⇓P P 14 55 58.5 +0.8
baz=38,SNR=23
R25A **Fountain Ranch** 38.31 308 ⇑P P 14 55 58.1 +0.2
baz=38,SNR=8.4
W24A **Lazy 6 Ranch,** 38.37 303 ⇓P P 14 55 59.6 +1.1
baz=38,SNR=7.1
V24A **Rampart Ranch,** 38.38 303 ⇓P P 14 55 59.9 +1.1
baz=38,SNR=13
I28A **Midland** 38.46 318 ⇑P P 14 55 59.0 0.0
baz=38,SNR=6.5
N26A **Koester Ranch,** 38.47 312 ⇓P P 14 55 59.6 +0.3
baz=38
Q25A **Bedland, Calha** 38.53 309 ⇓P P 14 56 00.3 +0.5
baz=38,SNR=5.6
K27A **Flueckinger Fa** 38.57 315 ⇓P P 14 55 59.6 -0.4
baz=38
T24A **Torres, Weston** 38.57 306 ⇓P P 14 56 01.5 +1.1
baz=38
Z23A **Rita Site, Whi** 38.62 299 ⇓P P 14 56 01.1 +0.4
baz=39
J27A **Elkhorn Farm,** 38.66 316 ⇓P P 14 56 00.8 0.0
baz=39
M26A **McRoberts Ranc** 38.67 313 ⇓P P 14 56 01.1 +0.2
baz=39
P25A **Willow Gulch B** 38.67 310 ⇑P P 14 56 01.6 +0.6
baz=39
H28A **Mission Ridge** 38.69 319 ⇓P P 14 56 01.1 +0.2
baz=39,SNR=9.8
G28A **Parade** 38.83 319 ⇑P P 14 56 02.6 +0.5
baz=39
O25A **Wiggins** 38.85 311 ⇓P P 14 56 03.0 +0.6
baz=39
L26A **Underwood Farm** 38.85 314 ⇑P P 14 56 02.7 +0.3
baz=39
S24A **Houchin Ranch,** 38.86 306 ⇑P P 14 56 03.7 +1.0
baz=39,SNR=18
BDFB **Brasilia** 38.88 152 P P 14 56 02.7 -0.2
BDFB **Brasilia** 38.88 152 P P 14 56 02.7 -0.2
comp=Z,7.1nm,0.7s,baz=321,slow=6.5,SNR=6.8
BDFB LR LR 15 13 12.2
comp=Z,744nm,19.9s,baz=250,slow=38
W23A **Werner Place,** 38.95 302 ⇓P P 14 56 04.5 +1.0
baz=39
R24A **Sanders Place,** 38.95 307 ⇑P P 14 56 04.4 +1.0
baz=39,SNR=19
ULM **Lac du Bonnet** 39.06 329 P P 14 56 03.4 -0.4
ULM **Lac du Bonnet** 39.06 329 P P 14 56 03.4 -0.4
comp=Z,3.1nm,0.5s,baz=132,slow=9.4,SNR=4.8
ULM LR LR 15 11 52.9
comp=Z,901nm,20.5s,baz=104,slow=36
I27A **Quinn** 39.06 317 ⇑P P 14 56 04.3 +0.2
baz=39
N25A **Grover** 39.08 312 ⇑P P 14 56 04.6 +0.2
baz=39
SDCO **Great Sand Dun** 39.10 307 eP P 14 56 04.3 -0.5
comp=Z,21nm,0.8s
V23A **Ortiz Mt. (NFS** 39.11 303 ⇓P P 14 56 06.1 +1.3
baz=39
BNM **Barren Site** 39.12 301 eP P 14 56 02.0 -2.9
comp=Z,16nm,1.4s
222A **Williams Famil** 39.15 297 ⇓P P 14 56 05.6 +0.5
baz=39
122A **Conniff Cattle** 39.16 298 ⇑P P 14 56 06.0 +0.8
baz=39
K26A **Motz Farm, Whi** 39.19 315 ⇓P P 14 56 05.2 0.0
baz=39
Q24A **Divide** 39.21 308 ⇑P P 14 56 05.9 +0.2
baz=39,SNR=9.3
U23A **El Rito** 39.26 304 ⇓P P 14 56 07.3 +1.3
baz=39,SNR=12
T23A **Casias Ranch,** 39.32 305 ⇓P P 14 56 07.7 +1.1
baz=39
Y22A **Socorro** 39.35 300 ⇑P P 14 56 07.3 +0.5
baz=39
J26A **Sides Ranch, S** 39.38 316 ⇑P P 14 56 07.8 +1.0
baz=39
R23A **Moffat** 39.48 307 ⇓P P 14 56 08.6 +0.6
baz=39,SNR=6.3
L25A **Engebretsen Ra** 39.50 314 ⇓P P 14 56 08.9 +1.0
baz=40
G27A **Dupree** 39.60 319 ⇑P P 14 56 09.0 +0.4
baz=40,SNR=9.4
N24A **Carr** 39.64 311 ⇑P P 14 56 09.8 +0.7
baz=40
Q23A **Hartsel** 39.70 308 ⇓P P 14 56 10.5 +0.7
baz=40
V22A **San Miguel Ran** 39.72 303 ⇓P P 14 56 11.4 +1.5
baz=40,SNR=14
121A **Cookes Peak, D** 39.78 298 ⇓P P 14 56 11.5 +1.1
baz=40
U22A **Llaves** 39.79 304 ⇑P P 14 56 12.0 +1.6
baz=40
ISCO **Idaho Springs** 39.82 310 eP P 14 56 10.7 -0.1
ISCO pmax pmax
comp=Z,25nm,1.2s
ISCO **Idaho Springs** 39.82 310 eP P 14 56 10.7 -0.1
comp=Z,25nm,1.2s
ISCO **Idaho Springs** 39.82 310 ⇓P P 14 56 11.6 +0.8
baz=40,SNR=20
M24A **Cheyenne** 39.84 312 ⇑P P 14 56 11.6 +0.9
baz=40
P23A **Jefferson** 39.85 309 ⇓P P 14 56 11.9 +0.9
baz=40
F27A **Lemmon** 39.90 320 ⇑P P 14 56 12.1 +1.1
baz=40
J25A **Sunshine Ranch** 39.90 316 ⇓P P 14 56 12.3 +1.2

baz=40
Y21A **Point of Rocks** 39.94 300 ⇓P P 14 56 12.8 +1.0
baz=40,SNR=6.8
G26A **Maurine** 39.97 319 ⇑P P 14 56 12.8 +1.1
baz=40
T22A **Edith** 39.98 305 ⇓P P 14 56 13.2 +1.1
baz=40,SNR=14
X21A **Alamocita Cree** 40.11 301 ⇓P P 14 56 14.4 +1.2
baz=40,SNR=8.3
S22A **4UR Ranch, Cre** 40.12 306 ⇓P P 14 56 13.9 +0.6
baz=40,SNR=13
I25A **Rochford** 40.12 316 ⇓P P 14 56 14.0 +1.0
baz=40
L24A **Wheatland** 40.12 313 ⇑P P 14 56 14.3 +1.2
baz=40
O23A **Lake Granby, G** 40.17 310 ⇓P P 14 56 14.6 +0.9
baz=40,SNR=6.1
R22A **Saguache, Gunn** 40.19 307 ⇑P P 14 56 14.7 +0.8
baz=40
PHWY **Pilot Hill** 40.22 312 *e*P P 14 56 12.4 -1.6
comp=Z,43nm,1.4s
320A **Kipp Ranch, An** 40.25 296 ⇑P P 14 56 15.4 +1.2
baz=40
V21A **Milan** 40.27 303 ⇑P P 14 56 15.8 +1.3
baz=40,SNR=6.9
K24A **Anderson Ranch** 40.30 314 ⇓P P 14 56 15.4 +0.8
baz=40
220A **Playas Peak, P** 40.32 297 ⇑P P 14 56 15.6 +0.8
baz=40
N23A **Red Feather La** 40.42 311 ⇓P P 14 56 16.7 +1.0
baz=40
U21A **Nageezi** 40.43 304 ⇓P P 14 56 16.9 +1.1
baz=40,SNR=22
G25A **Newell** 40.44 318 ⇓P P 14 56 15.9 +0.4
baz=40,SNR=8.0
M23A **Laramie** 40.46 312 ⇓P P 14 56 16.5 +0.5
baz=40,SNR=10
T21A **Navajo Lake** 40.47 305 ⇑P P 14 56 17.1 +1.0
baz=40
Q22A **Crested Butte,** 40.49 308 ⇓P P 14 56 16.8 +0.4
baz=40
Y20A **Horse Springs,** 40.50 300 ⇓P P 14 56 17.4 +0.9
baz=40,SNR=6.0
Z20A **Nine Sixteen R** 40.55 299 ⇓P P 14 56 17.8 +1.1
baz=40
P22A **Eagle** 40.59 309 ⇑P P 14 56 18.2 +1.1
baz=41
O22A **Kremmling** 40.61 310 ⇑P P 14 56 17.7 +0.4
baz=41,SNR=22
L23A **Garrett** 40.68 313 ⇓P P 14 56 19.2 +1.4
baz=41
N22A **Wattenberg Ran** 40.76 311 ⇓P P 14 56 19.1 +0.6
baz=41,SNR=6.4
B27A **Peters Farms,** 40.76 324 ⇓P P 14 56 20.1 +2.0
baz=41
W20A **Ramah** 40.82 302 ⇓P P 14 56 20.0 +0.9
baz=41
S21A **Coal Bank Pass** 40.83 306 ⇑P P 14 56 19.7 +0.5
baz=41,SNR=9.9
R21A **Cimarron** 40.83 307 ⇓P P 14 56 19.9 +0.8
baz=41,SNR=11
K23A **Bowen Ranch, D** 40.87 314 ⇑P P 14 56 20.3 +1.1
baz=41
319A **Douglas** 40.89 296 ⇓P P 14 56 20.8 +1.2
baz=41
V20A **Brimhall** 40.93 303 ⇑P P 14 56 20.6 +0.7
baz=41
H24A **Dirks Ranch, A** 40.96 317 ⇑P P 14 56 20.5 +0.5
baz=41
Q21A **Lamborn Mesa,** 40.98 307 ⇓P P 14 56 21.4 +1.2
baz=41,SNR=13
M22A **Cedar Creek Ra** 41.06 311 ⇓P P 14 56 22.2 +1.3
baz=41
P21A **Newcastle** 41.08 308 ⇓P P 14 56 21.8 +0.6
baz=41,SNR=8.3
U20A **Newcomb** 41.09 303 ⇓P P 14 56 22.1 +0.9
baz=41
L22A **Ellis Ranch, M** 41.16 312 ⇑P P 14 56 22.8 +1.1
baz=41
MVCO **Mesa Verde** 41.27 305 ⇓P P 14 56 23.1 +0.4
baz=41
O21A **Pagoda** 41.30 309 ⇓P P 14 56 23.7 +0.7
baz=41,SNR=5.8
S20A **Disappointment** 41.31 306 ⇑P P 14 56 24.0 +0.9
baz=41,SNR=15
F24A **Ekalaka** 41.38 319 ⇓P P 14 56 24.2 +0.9
baz=41
K22A **Casper** 41.45 313 ⇓P P 14 56 25.0 +1.0
baz=41
A26A **Wade Farm, Ken** 41.46 324 ⇑P P 14 56 25.3 +1.4
baz=42
N21A **Black Mountain** 41.51 310 ⇓P P 14 56 25.6 +0.9
baz=42,SNR=7.3
LPIG **La Paz** 41.55 285 LR LR 15 13 45.5
comp=Z,16nm,21.6s,baz=203,slow=36
Q20A **Ridgley Place,** 41.55 307 ⇓P P 14 56 25.9 +0.9
baz=42,SNR=16
RWWY **Rawlins** 41.59 312 *e*P P 14 56 24.4 -0.9
comp=Z,45nm,1.3s
M21A **Separation Pea** 41.67 311 ⇓P P 14 56 26.5 +0.5
baz=42,SNR=10.0
G23A **Biddle** 41.70 317 ⇑P P 14 56 26.9 +1.0
baz=42
J22A **Midwest** 41.70 314 ⇑P P 14 56 26.4 +0.4
baz=42
P20A **De Beque** 41.77 308 ⇓P P 14 56 27.6 +0.8
baz=42,SNR=5.3
L21A **Rawlins** 41.79 312 ⇓P P 14 56 27.2 +0.3
baz=42,SNR=12
LVC **Limon Verde** 41.80 184 *e*P P 14 56 23.4 -3.7
O20A **White River Ci** 41.84 309 ⇑P P 14 56 28.5 +1.1
baz=42
PV04 **Paradox Valley** 41.87 306 *e*P P 14 56 26.5 -1.0
I22A **9 Mile Ranch,** 41.88 315 ⇑P P 14 56 28.1 +0.6
baz=42
D24A **Glendive** 41.89 320 ⇓P P 14 56 28.3 +0.8
baz=42
F23A **Volborg** 41.93 318 ⇓P P 14 56 28.8 +1.0
baz=42
K21A **Alcova** 41.94 313 ⇓P P 14 56 28.8 +0.7
baz=42,SNR=26
N20A **Spence Gulch,** 42.07 310 ⇑P P 14 56 29.8 +0.6
baz=42,SNR=6.8
E23A **Ismay** 42.20 319 ⇑P P 14 56 31.2 +1.2
baz=42
M20A **Sweetwater, Wa** 42.22 311 ⇓P P 14 56 31.2 +0.8
baz=42,SNR=6.8
P19A **Cripple Cowboy** 42.25 308 ⇓P P 14 56 30.8 +0.2
baz=42,SNR=5.5
TUC **Tucson** 42.27 297 *e*P P 14 56 31.2 +0.4
TUC pmax pmax
comp=Z,25nm,1.5s
TUC **Tucson** 42.27 297 *e*P P 14 56 31.2 +0.4
comp=Z,25nm,1.5s
G22A **Birney** 42.28 317 ⇑P P 14 56 31.3 +0.5
baz=42,SNR=7.0
J21A **Lysite** 42.33 314 ⇑P P 14 56 31.4 +0.1
baz=42,SNR=7.2
I21A **Big Trails, Te** 42.39 315 ⇓P P 14 56 30.9 -0.8
baz=42
L20A **Wamsutter** 42.49 312 ⇑P P 14 56 33.3 +0.7
baz=42,SNR=11
F22A **Rosebud** 42.49 318 ⇓P P 14 56 33.2 +0.9
baz=42
H21A **Big Horn, Sher** 42.53 316 ⇓P P 14 56 33.3 +0.4
baz=42
O19A **Miners Draw (B** 42.54 309 ⇓P P 14 56 33.1 +0.2
baz=42,SNR=9.3
K20A **Yellowstone Ra** 42.70 313 ⇓P P 14 56 34.7 +0.4
baz=43,SNR=9.7
J20A **Shoshoni** 42.76 314 ⇑P P 14 56 35.4 +0.6
baz=43,SNR=8.7
G21A **Lodge Grass** 42.88 317 ⇓P P 14 56 36.2 +0.6
baz=43
I20A **Worland** 43.01 314 ⇓P P 14 56 37.5 +0.8
baz=43
D22A **Cohagen** 43.03 320 ⇑P P 14 56 38.1 +1.3
baz=43
K19A **Absolon Red Bu** 43.11 313 ⇓P P 14 56 37.5 -0.1
baz=43,SNR=5.3
WUAZ **Wupatki** 43.20 302 *e*P P 14 56 35.7 -2.8
comp=Z,38nm,1.4s
WUAZ **Wupatki** 43.20 302 ⇓P P 14 56 39.5 +1.1
baz=43,SNR=9.3
L19A **Farson** 43.24 311 ⇑P P 14 56 39.0 +0.3
baz=43
SRU **San Rafael** 43.27 307 *e*P P 14 56 38.9 0.0
SRU pmax pmax
comp=Z,5.0nm,0.6s
SRU **San Rafael** 43.27 307 *e*P P 14 56 38.9 0.0
comp=Z,4.6nm,0.6s
E21A **Keefer Ranch,** 43.33 318 ⇑P P 14 56 40.3 +1.2
baz=43
J19A **Crowheart** 43.40 313 ⇑P P 14 56 40.3 +0.4
baz=43,SNR=31
D21A **La Casita Ranch** 43.50 319 ⇓P P 14 56 41.7 +1.2
baz=44,SNR=13
G20A **Bridger** 43.53 316 ⇓P P 14 56 41.3 +0.4
baz=44
BW06 **Boulder Array** 43.59 312 *e*P P 14 56 38.1 -3.5
comp=Z,24nm,1.4s
PDAR **Pinedale Array** 43.59 312 P P 14 56 41.8 +0.2
PDAR **Pinedale Array** 43.59 312 P P 14 56 41.8 +0.2
comp=Z,6.5nm,0.9s,baz=108,slow=8.6,SNR=29
PDAR LR LR 15 14 46.8
comp=Z,530nm,19.9s,baz=111,slow=36
I19A **Meeteetse** 43.62 314 ⇑P P 14 56 41.9 +0.2
baz=44,SNR=5.4
L18A **Fontenelle, Gr** 43.67 311 ⇑P P 14 56 42.9 +0.7
baz=44
F20A **Billings** 43.71 317 ⇓P P 14 56 43.2 +0.9
baz=44
Q16A **Castle Valley** 43.72 306 ⇑P P 14 56 43.3 +0.8
baz=44
TMUT **Trail Mountain** 43.83 307 *e*P P 14 56 42.2 -1.4
comp=Z,35nm,1.3s
C21A **Desert Coulee** 43.89 320 ⇓P P 14 56 45.1 +1.5
baz=44
214A **Organ Pipe Nat** 43.95 296 ⇑P P 14 56 45.6 +1.3
baz=44,SNR=5.5
E20A **Meyer Farm, Mu** 43.98 318 ⇑P P 14 56 45.1 +0.7
baz=44,SNR=7.1
M17A **Scullys Gap (B** 43.99 310 ⇑P P 14 56 44.8 0.0
baz=44,SNR=7.9
I18A **Diamond G Ranc** 44.07 313 ⇑P P 14 56 45.9 +0.6
baz=44,SNR=17
U15A **North Rim** 44.09 303 ⇓P P 14 56 46.8 +1.1
baz=44,SNR=5.7
B21A **Ellsworth Farm** 44.10 321 ⇓P P 14 56 46.7 +1.4
baz=44
DAU **Daniels Canyon** 44.14 309 *e*P P 14 56 44.7 -1.3
DAU pmax pmax
comp=Z,50nm,1.6s
DAU **Daniels Canyon** 44.14 309 *e*P P 14 56 44.7 -1.3
comp=Z,50nm,1.6s
RLMT **Red Lodge** 44.19 316 *e*P P 14 56 45.3 -1.0
comp=Z,40nm,1.6s
D20A **Manuel Ranch,** 44.22 319 ⇓P P 14 56 47.1 +0.8
baz=44,SNR=11
F19A **Roth Farm, Mol** 44.24 317 ⇑P P 14 56 47.1 +0.5
baz=44,SNR=6.5
H18A **Shoshone NF, C** 44.29 315 ⇑P P 14 56 46.9 -0.3
baz=44,SNR=8.0
A21A **Bergtoll Ranch** 44.30 322 ⇓P P 14 56 47.9 +1.0
baz=44
Y14A **Wickenburg** 44.31 299 ⇑P P 14 56 47.8 +0.6
baz=44
JLU **Jordanelle** 44.33 309 *e*P P 14 56 47.7 +0.2
comp=Z,49nm,1.7s
E19A **Rath Farm, Rou** 44.38 318 ⇑P P 14 56 48.4 +0.8
baz=44,SNR=14
C20A **Veseth Ranch,** 44.39 320 ⇑P P 14 56 48.6 +0.9
baz=44
MSU **Marysvale** 44.39 306 *e*P P 14 56 48.5 +0.5
MSU pmax pmax
comp=Z,15nm,1.3s
MSU **Marysvale** 44.39 306 *e*P P 14 56 48.5 +0.5
comp=Z,15nm,1.3s
MVU **Marysvale** 44.42 306 *e*P P 14 56 46.9 -1.4
comp=Z,23nm,1.5s
G18A **Lazy EL Ranch,** 44.45 316 ⇓P P 14 56 49.1 +0.8
baz=44
I17A **Pilgrim Ck.** 44.66 314 ⇑P P 14 56 51.0 +0.9
baz=45
REDW **Red Top Meadow** 44.67 313 *e*P P 14 56 49.0 -1.2
comp=Z,104nm,1.5s
D19A **Cripps Ranch,** 44.71 318 ⇓P P 14 56 51.0 +0.7
baz=45,SNR=7.5
MOOW **Moose Ponds** 44.72 313 *e*P P 14 56 46.3 -4.3
F18A **Big Timber** 44.76 316 ⇓P P 14 56 51.6 +0.9
baz=45,SNR=12
TPAW **Teton Pass** 44.78 313 *e*P P 14 56 50.1 -1.0
comp=Z,57nm,1.7s
FLWY **Flagg Ranch** 44.80 314 *e*P P 14 56 51.2 +0.1
comp=Z,6.8nm,0.8s
H17A **Grant Village** 44.81 314 ⇑P P 14 56 52.9 +1.6
baz=45
113A **Mohawk Valley,** 44.82 297 ⇓P P 14 56 52.0 +0.8
baz=45
A20A **Cobblestone Ra** 44.84 321 ⇑P P 14 56 52.2 +0.9
baz=45,SNR=5.5
IMW **Indian Meadow** 44.90 313 *e*P P 14 56 51.1 -1.0
comp=Z,6.1nm,0.6s
RRI2 **Red Ridge** 44.99 313 *e*P P 14 56 52.0 -0.8
comp=Z,16nm,1.0s
C19A **Slack Wire Ran** 45.04 319 ⇑P P 14 56 54.6 +1.7
baz=45
CCUT **Cedar City** 45.13 304 *e*P P 14 56 53.0 -0.9
comp=Z,18nm,1.5s
W13A **Hualapai Mount** 45.17 301 ⇓P P 14 56 55.3 +1.0
baz=45
DUG **Dugway** 45.24 308 *e*P P 14 56 54.7 0.0
DUG pmax pmax
comp=Z,24nm,1.3s
DUG **Dugway** 45.24 308 *e*P P 14 56 54.6 0.0
comp=Z,24nm,1.3s
DUG **Dugway** 45.24 308 ⇑P P 14 56 55.4 +0.7
baz=45,SNR=5.7
I16A **Newdale** 45.27 313 ⇑P P 14 56 55.6 +0.7
baz=45,SNR=7.8
B19A **Brinkman Farms** 45.27 320 ⇑P P 14 56 56.5 +1.8
baz=45
PDMCI **Parker Dam,Lak** 45.29 299 ⇓P P 14 56 56.0 +1.1
baz=45
D18A **Linhart Farms,** 45.30 318 ⇓P P 14 56 56.5 +1.5
baz=45
H16A **Russell Place,** 45.37 314 ⇑P P 14 56 57.2 +1.5
baz=45,SNR=11
F17A **Fitzpatrick Pl** 45.38 316 ⇓P P 14 56 56.8 +1.1
baz=45,SNR=12
Y12C **Blythe** 45.55 299 ⇓P P 14 56 58.2 +1.2
baz=46
HVU **Hansel Valley** 45.59 310 *e*P P 14 56 56.1 -1.4
HVU pmax pmax
comp=Z,40nm,1.6s
HVU **Hansel Valley** 45.59 310 *e*P P 14 56 56.1 -1.4
comp=Z,40nm,1.6s
EGMT **Eagleton** 45.59 319 ⇓P P 14 56 58.2 +0.9
baz=46,SNR=7.4
E17A **Martinsdale** 45.70 317 ⇑P P 14 56 59.2 +0.9
baz=46
GLA **Glamis** 45.73 298 *e*P P 14 56 57.9 -0.7
GLA pmax pmax
comp=Z,6.0nm,0.8s
GLA **Glamis** 45.73 298 *e*P P 14 56 57.9 -0.7
comp=Z,6.3nm,0.8s
GLA **Glamis** 45.73 298 ⇑P P 14 56 59.8 +1.3
baz=46
B18A **Beardsley Farm** 45.76 320 ⇑P P 14 56 60.0 +1.4
baz=46
D17A **Six Diamond Ra** 45.85 318 ⇓P P 14 57 00.1 +0.7
baz=46,SNR=8.5
BOZ **Bozeman (W)** 45.93 315 *e*P P 14 56 57.1 -2.9
BOZ pmax pmax
comp=Z,20nm,1.6s
BOZ **Bozeman (W)** 45.93 315 *e*P P 14 56 57.1 -2.9
comp=Z,20nm,1.6s
A18A **Metzger Ranch,** 46.01 320 ⇓P P 14 57 02.1 +1.6
baz=46
C17A **Wharram Farm,** 46.07 318 ⇓P P 14 57 01.7 +0.7
baz=46,SNR=7.7
IRM **Iron Mountain** 46.10 299 ⇓P P 14 57 03.0 +1.6
baz=46,SNR=15
LDFC **Landfair** 46.17 300 *e*P P 14 57 02.4 +0.3
comp=Z,47nm,1.5s
BC3 **Big Chuckawall** 46.31 298 ⇑P P 14 57 04.5 +1.3
baz=46,SNR=9.0
B17A **L&G Farms, Che** 46.34 319 ⇓P P 14 57 03.6 +0.5
baz=46,SNR=5.9
DLMT **Dillon** 46.48 315 *e*P P 14 57 03.4 -1.0
comp=Z,58nm,1.6s
MCMT **McKenzie Canyo** 46.49 314 *e*P P 14 57 02.5 -2.1
comp=Z,1.5nm,0.6s
A17A **Triple J Farms** 46.54 320 ⇑P P 14 57 06.1 +1.4
baz=46
SWSC **Sam W. Stewart** 46.54 297 ⇓P P 14 57 06.6 +1.8
baz=46
GMRC **Granite Mounta** 46.59 300 ⇓P P 14 57 06.8 +1.5
baz=46
DVTC **Desert V Tower** 46.77 297 ⇑P P 14 57 08.7 +1.9
baz=47
BELC **Belle Mtn. Jos** 46.79 299 ⇓P P 14 57 08.3 +1.3
baz=47
TUQ **Turquoise Moun** 46.87 301 ⇓P P 14 57 08.9 +1.4
baz=47
R11A **Troy Canyon, C** 46.99 305 ⇑P P 14 57 09.6 +1.1
baz=47,SNR=13
MONP **Monument Peak** 47.06 297 ⇓P P 14 57 11.0 +1.8
baz=47,SNR=20
PFO **Pinyon Flat Ob** 47.14 298 LR LR 15 20 21.0
comp=Z,213nm,18.1s,baz=122,slow=40
PFO **Pinyon Flat Ob** 47.14 298 ⇑P P 14 57 11.2 +1.5
baz=47
HEC **Hector,Ludlow** 47.14 300 ⇑P P 14 57 11.2 +1.6
baz=47
SHOC **Shoshone** 47.21 301 ⇓P P 14 57 11.7 +1.6
baz=47
HLID **Hailey** 47.22 312 *e*P P 14 57 08.0 -2.3
comp=Z,70nm,1.7s
HLID **Hailey** 47.22 312 ⇓P P 14 57 11.3 +1.1
baz=47,SNR=17
C15A **Salmond Ranch,** 47.28 318 ⇑P P 14 57 11.2 +0.6
baz=47,SNR=12
B15A **Bradely Ranch,** 47.45 319 ⇓P P 14 57 11.9 +0.1
baz=47,SNR=7.9
GSC **Goldstone** 47.57 300 ⇑P P 14 57 14.4 +1.4
baz=48,SNR=6.5
MURC **Murrieta** 47.76 298 ⇑P P 14 57 15.6 +1.3
baz=48
A15A **Johnson Ranch,** 47.79 319 ⇓P P 14 57 15.1 +0.6
baz=48,SNR=16
MSO **Missoula** 47.83 316 ⇓P P 14 57 15.7 +0.8
baz=48
SWMT **Swartz Lake** 48.08 317 *e*P P 14 57 14.2 -2.6
comp=Z,10nm,1.2s
MFID **Camas Ranch** 48.18 311 ⇑P P 14 57 18.4 +0.8
baz=48,SNR=17
BFSC **Mount Baldy Ra** 48.18 299 ⇑P P 14 57 18.5 +0.8
baz=48
MPMC **Manual Prospec** 48.20 301 ⇑P P 14 57 19.2 +1.2
baz=48,SNR=6.8
A14A **Double T Ranch** 48.21 319 ⇓P P 14 57 17.9 +0.1
baz=48,SNR=14
LRMC **Laurel Mountai** 48.31 301 ⇓P P 14 57 19.5 +0.8
baz=48
EDW2 **Edwards Air Fo** 48.50 300 ⇓P P 14 57 21.6 +1.4
baz=48,SNR=7.6
BMN **Battle Mountai** 48.59 307 *e*P P 14 57 19.5 -1.4
BMN pmax pmax
comp=Z,39nm,1.6s
BMN **Battle Mountai** 48.59 307 *e*P P 14 57 19.5 -1.4
comp=Z,39nm,1.6s
BSMT **Bassoo Peak** 48.70 317 *e*P P 14 57 22.2 +0.6
comp=Z,7.1nm,1.2s
CWC **Cottonwood Cre** 48.72 302 ⇑P P 14 57 23.5 +1.6
baz=49,SNR=5.9
CIS **Catalina Islan** 48.75 298 ⇓P P 14 57 24.0 +1.9
baz=49
ISA **Isabella** 48.96 301 ⇑P P 14 57 25.3 +1.6
baz=49
NVAR **Mina Array Bea** 49.12 304 P P 14 57 25.6 +0.6
NVAR **Mina Array Bea** 49.12 304 P P 14 57 25.6 +0.6
comp=Z,5.0nm,0.9s,baz=92,slow=6.2,SNR=32
NVAR LR LR 15 19 22.0
comp=Z,460nm,19.9s,baz=120,slow=38
VES **Vestal, Richgr** 49.47 301 ⇓P P 14 57 29.2 +1.7
baz=49
WVOR **Wild Horse Val** 49.99 310 *e*P P 14 57 29.3 -2.2
WVOR pmax pmax
comp=Z,47nm,1.5s
WVOR **Wild Horse Val** 49.99 310 *e*P P 14 57 29.3 -2.2
comp=Z,47nm,1.5s
PKM **Peak Mountain** 50.00 300 ⇓P P 14 57 32.5 +0.7
baz=50
NEW **Newport** 50.32 317 *e*P P 14 57 31.3 -2.5
comp=Z,11nm,0.7s
NEW **Newport** 50.32 317 ⇓P P 14 57 33.9 +0.1
baz=50,SNR=14
YBH **Yreka Blue Hor** 52.88 308 *e*P P 14 57 50.0 -3.2
comp=Z,4.1nm,1.0s
YBH **Yreka Blue Hor** 52.88 308 LR LR 15 21 34.5
comp=Z,181nm,18.3s,baz=236,slow=37
HUMO **Hull Mountain** 53.17 309 *e*P P 14 57 53.4 -1.8
comp=Z,16nm,1.4s
YKA **Yellowknife Ar** 54.56 335 P P 14 58 04.5 -0.5
YKA **Yellowknife Ar** 54.56 335 P P 14 58 04.5 -0.5
comp=Z,3.9nm,0.5s,baz=109,slow=7.2,SNR=18
SUMG **Summit** 55.49 10 *i* P P 14 58 12.9 +0.9
comp=Z,8.6nm,0.7s
MDT **Midelt** 55.85 63 P P 14 58 15.8 +0.9
MDT **Midelt** 55.85 63 P P 14 58 15.8 +0.9
comp=Z,2.0nm,0.7s,baz=281,slow=7.5,SNR=5.4
ESDC **Sonseca Array** 56.37 55 P P 14 58 18.9 +0.5
ESDC **Sonseca Array** 56.37 55 P P 14 58 18.9 +0.5
comp=Z,0.5nm,0.5s,baz=267,slow=7.1,SNR=6.5
ROSF **Rostrenen** 57.57 45 *e*P P 14 58 26.6 -0.1
QUIF **Quistinic** 57.59 45 *e*P P 14 58 26.7 -0.2
SJPF **Ste Jean** 58.56 51 *e*P P 14 58 34.1 +0.3
comp=Z,7.4nm,0.8s
EKA **Eskdalemuir Ar** 58.77 36 P P 14 58 34.8 -0.2
EKA **Eskdalemuir Ar** 58.77 36 P P 14 58 34.8 -0.2
comp=Z,1.4nm,0.5s,baz=270,slow=6.1,SNR=13
GRR **Gorron** 59.17 45 *e*P P 14 58 37.4 -0.5
comp=Z,26nm,1.1s
MFF **Saint Martin d** 59.52 47 *e*P P 14 58 40.2 -0.1
comp=Z,33nm,1.4s
LDF **La Druitiere** 59.68 44 *e*P P 14 58 41.6 +0.2
comp=Z,19nm,1.0s
EPF **Esparros** 59.71 51 *e*P P 14 58 42.1 +0.3
comp=Z,6.1nm,0.6s
DLBC **Dease Lake** 60.31 327 *e*P P 14 58 45.4 -0.3
DBIC **Dimbokro** 60.37 93 P P 14 58 46.8 +0.1
DBIC **Dimbokro** 60.37 93 P P 14 58 46.8 +0.1
comp=Z,8.6nm,0.8s,baz=282,slow=8.9,SNR=7.5
CAF **Calviac** 60.99 49 *e*P P 14 58 50.6 +0.1
TCF **Toulx Ste Croi** 61.13 47 *e*P P 14 58 51.4 0.0
AVF **Avril sur Loir** 61.93 47 *e*P P 14 58 56.6 -0.2
SSF **Saint Saulge** 62.04 46 *e*P P 14 58 57.1 -0.4
DAG **Danmarks Havn** 62.08 11 *i* P P 14 58 57.7 +0.4
SMF **Signal de Mont** 62.26 47 *e*P P 14 58 58.7 -0.4
LASF **Ste Croix** 62.27 50 *e*P P 14 58 59.5 +0.3
comp=Z,12nm,1.1s
VIVF **Saint-Julien-l** 62.84 49 *e*P P 14 59 02.9 -0.1
SMRF **Simiane la Rot** 63.51 50 *e*P P 14 59 07.4 0.0
CABF **La Chapelle** 63.81 47 *e*P P 14 59 08.8 -0.6
comp=Z,14nm,1.1s
INK **Inuvik** 64.01 337 *e*P P 14 59 07.5 -2.7
comp=Z,38nm,1.3s
HYT **Haines Junctio** 64.43 329 *e*P P 14 59 12.9 -0.4
TORD **Torodi Ar. Bea** 64.70 84 P P 14 59 14.2 -1.4
TORD **Torodi Ar. Bea** 64.70 84 P P 14 59 14.2 -1.4
comp=Z,7.8nm,0.9s,baz=287,slow=6.5,SNR=36
DAWY **Dawson** 65.65 332 *e*P P 14 59 20.0 -1.0
NOA **NORSAR Array B** 66.98 31 P P 14 59 29.4 -0.2
NOA **NORSAR Array B** 66.98 31 P P 14 59 29.4 -0.2
comp=Z,1.5nm,0.9s,baz=270,slow=6.5,SNR=3.3
KHC **Kasperske Hory** 68.71 44 *e*P P 14 59 40.8 0.0
KHC *e* 15 00 06.0
KHC **Kasperske Hory** 68.71 44 *e*P P 14 59 40.8 0.0
KHC *e*PCP PcP 15 00 06.0 +0.5
GERES **GERESS Array B** 68.82 44 P P 14 59 41.4 -0.2
GERES **GERESS Array B** 68.82 44 P P 14 59 41.4 -0.2
comp=Z,1.0nm,0.5s,baz=255,slow=7.0,SNR=5.6
ILAR **Eielson Array** 68.93 333 P P 14 59 41.6 -0.2
ILAR **Eielson Array** 68.93 333 P P 14 59 41.6 -0.2
comp=Z,8.6nm,0.9s,baz=108,slow=5.1,SNR=54
ILAR LR LR 15 29 51.5
comp=Z,640nm,19.9s,baz=276,slow=36
PRU **Pruhonice** 69.26 43 *e*P P 14 59 45.4 +1.3
PRU **Pruhonice** 69.26 43 *e*P P 14 59 45.4 +1.3
TREC **Trest** 69.94 44 *e*P P 14 59 48.9 +0.5
TREC **Trest** 69.94 44 *e*P P 14 59 48.9 +0.5
PMR **Palmer** 70.07 330 *e*P P 14 59 47.2 -1.6
PMR pmax pmax
comp=Z,35nm,1.5s
PMR **Palmer** 70.07 330 *e*P P 14 59 47.2 -1.6
comp=Z,36nm,1.5s
UPC **Upice** 70.14 42 *e*P P 14 59 50.0 +0.5
UPC **Upice** 70.14 42 *e*P P 14 59 50.0 +0.5
DPC **Dobruska-Polom** 70.36 42 *e*P P 14 59 51.2 +0.3
DPC *e* 15 00 05.0
DPC **Dobruska-Polom** 70.36 42 *e*P P 14 59 51.2 +0.3

DPC				*e*pP	PcP	15 00 05.0	-7.4
IMA2	**Indian Mountai**	**71.69**	**335**	*e*P	**P**	**14 59 56.5**	**-2.3**
IM04	**Indian Mountai**	**71.74**	**334**	*e*P	**P**	**14 59 57.6**	**-1.4**
ARCES	**ARCESS Array B**	**72.50**	**22**	P	**P**	**15 00 03.0**	**-0.5**
ARCES	**ARCESS Array B**	**72.50**	**22**	P	**P**	**15 00 03.0**	**-0.5**
comp=Z,4.8nm,0.9s,baz=290,slow=5.3,SNR=7.6							
CRVS	**Cervenica-Dubn**	**73.88**	**43**	*e*P	**P**	**15 00 13.4**	**+1.4**
CRVS				pmax	pmax		
comp=Z,25nm,2.3s							
CRVS	**Cervenica-Dubn**	**73.88**	**43**	*e*P	**P**	**15 00 13.4**	**+1.4**
FINES	**FINESS Array B**	**74.09**	**30**	P	**P**	**15 00 12.2**	**-0.7**
FINES	**FINESS Array B**	**74.09**	**30**	P	**P**	**15 00 12.2**	**-0.7**
comp=Z,1.8nm,0.6s,baz=290,slow=4.1,SNR=11							
FINES				LR	LR	15 27 07.1	
comp=Z,217nm,21.8s,baz=112,slow=31							
MLR	**Muntele Rosu**	**77.63**	**46**	P	**P**	**15 00 32.3**	**-1.3**
MLR	**Muntele Rosu**	**77.63**	**46**	P	**P**	**15 00 32.3**	**-1.3**
comp=Z,1.7nm,1.1s,baz=246,slow=5.8,SNR=11							
AKASG	**Malin Array Be**	**78.35**	**40**	*c*e*e*P	**P**	**15 00 38.4**	**+1.0**
AKASG	**Malin Array Be**	**78.35**	**40**	P	**P**	**15 00 36.7**	**-0.7**
AKASG	**Malin Array Be**	**78.35**	**40**	P	**P**	**15 00 36.7**	**-0.7**
comp=Z,0.4nm,0.4s,baz=287,slow=4.9,SNR=4.9							
OBN	**Obninsk**	**81.17**	**35**	P	**P**	**15 00 53.0**	**+0.5**
OBN						15 11 11.6	
OBN				pmax	pmax		
comp=Z,13nm,1.7s							
OBN				MLR	MLR		
comp=Z,300nm,17.0s							
BRTR	**Keskin Array B**	**84.80**	**50**	P	**P**	**15 01 10.7**	**-1.3**
BRTR	**Keskin Array B**	**84.80**	**50**	P	**P**	**15 01 10.7**	**-1.3**
comp=Z,1.3nm,0.9s,baz=276,slow=5.7,SNR=8.0							
ANN	**Anapa**	**85.54**	**44**	*e*P	**P**	**15 01 14.3**	**-1.0**
ANN				pmax	pmax		
comp=Z,22nm,1.0s							
TIXI	**Tiksi**	**88.71**	**355**	*e*P	**P**	**15 01 30.0**	**-0.1**
TIXI				pmax	pmax		
comp=Z,25nm,1.7s							
SEY	**Seymchan**	**92.71**	**344**	*d i*P	**P**	**15 01 50.1**	**+1.2**
MBAR	**Mbarara**	**96.31**	**88**	LR	LR	15 44 41.1	
comp=Z,229nm,19.1s,baz=220,slow=35							
YAK	**Yakutsk**	**98.00**	**353**	*e*P	Pdif	15 02 13.7	+0.7
BRVK	**Borovoye**	**98.50**	**25**	*e*P	**P**	**15 02 14.9**	**-0.6**
BRVK				pmax	pmax		
comp=Z,2.0nm,1.6s							
PETK	**Petropavlovsk-**	**98.68**	**335**	LR	LR	15 49 42.4	
comp=Z,101nm,20.0s,baz=221,slow=37							
KSH	**Kashi**	**111.40**	**31**	*e*PKP	**PKiKP**	**15 07 15.3**	**+3.6**
WMQ	**Urumqi**	**112.61**	**21**	*e*PKP	**PKiKP**	**15 07 14.3**	**+0.5**
WMQ				LR	LR		
comp=N,92nm,22.0s							
WMQ				LR	LR		
comp=E,56nm,20.0s							
WMQ				LR	LR		
comp=Z,110nm,20.0s							
CN2	**Changchun**	**116.35**	**351**	*e*PKP	**PKPdf**	**15 07 19.0**	**-1.9**
HHC	**Hu-ho-hao-te**	**120.08**	**2**	*e*PKP	**PKPdf**	**15 07 27.6**	**-0.7**
HHC				PP	**PP**	**15 08 55.3**	**+3.7**
HHC				SS	SS	15 25 18.5	+1.7
HHC				AMB	AMB		
comp=Z,190nm,9.8s							
HHC				LR	LR		
comp=N,360nm,21.3s							
HHC				LR	LR		
comp=E,290nm,20.6s							
HHC				LR	LR		
comp=Z,450nm,21.0s							
KSRS	**Korea Array**	**122.08**	**347**	PKP	**PKPdf**	**15 07 32.5**	**+0.5**
comp=Z,0.5nm,0.3s,baz=259,slow=0.4,SNR=5.7							
KSAR	**Wonju Array Be**	**122.10**	**347**	PKP	**PKPdf**	**15 07 32.5**	**+0.4**
LZH	**Lanzhou**	**124.02**	**10**	*e*PKP	PKPdf	15 07 27.3	-8.8
LZH				pPKP	**PKiKP**	**15 07 36.3**	**0.0**
LZH				sPKP		15 07 39.6	
LZH				PP	PP	15 09 11.8	-6.6
LZH				SKS	SKSdf	15 14 31.0	-17
LZH				SKKS	SKKSac	15 15 58.3	-20
LZH	**Lanzhou**	**124.02**	**10**	SS	SS	15 25 57.0	-10
LZH				AMB	AMB		
comp=Z,110nm,5.4s							
LZH				LR	LR		
comp=N,290nm,16.8s							
LZH				LR	LR		
comp=E,340nm,17.6s							
LZH				LR	LR		
comp=Z,460nm,19.0s							
CD2	**Chengdu**	**129.04**	**12**	*e*PKP	**PKPdf**	**15 07 47.8**	**+2.1**
GYA	**Guiyang**	**133.90**	**9**	*e*Pdif	**Pdif**	**15 04 53.8**	**+0.1**
GYA				PKP	**PKiKP**	**15 07 56.8**	**+0.5**
GYA				PP	PP	15 10 28.8	+5.7
GYA				AMB	AMB		
comp=Z,90nm,7.6s							
KMI	**Kunming**	**134.42**	**15**	PKP	**PKPdf**	**15 07 57.3**	**+1.1**
PMG	**Port Moresby**	**146.70**	**283**	PKPbc	**PKPbc**	**15 08 19.8**	**-0.1**
PMG	**Port Moresby**	**146.70**	**283**	PKPbc	**PKPbc**	**15 08 19.8**	**-0.1**
comp=Z,30nm,0.9s,baz=204,slow=1.1,SNR=5.7							
CTA	**Charters Tower**	**149.89**	**263**	PKP	**PKPdf**	**15 08 23.8**	**+0.5**
CTA				PKPbc	**PKPbc**	**15 08 28.3**	**+0.2**
CTA	**Charters Tower**	**149.89**	**263**	PKP	**PKPdf**	**15 08 23.8**	**+0.5**
comp=Z,9.0nm,0.8s,baz=42,slow=4.9,SNR=6.3							
CTA				PKPbc	**PKPbc**	**15 08 28.3**	**+0.2**
comp=Z,9.6nm,0.7s,baz=108,slow=3.2,SNR=6.3							
STKA	**Stephens Creek**	**152.45**	**238**	PKP	**PKPdf**	**15 08 26.3**	**-0.5**
STKA				PKPbc	**PKPbc**	**15 08 33.5**	**-0.3**
STKA	**Stephens Creek**	**152.45**	**238**	PKP	**PKPdf**	**15 08 26.3**	**-0.5**
comp=Z,1.3nm,0.9s,baz=311,slow=7.9,SNR=3.1							
STKA				PKPbc	**PKPbc**	**15 08 33.5**	**-0.3**
comp=Z,5.9nm,0.8s,baz=92,slow=3.9,SNR=18							
WRA	**Warramunga Arr**	**161.07**	**265**	PKP	**PKPdf**	**15 08 37.8**	**-0.5**
WRA				PKPab	**PKPab**	**15 09 21.6**	**+0.2**
WRA	**Warramunga Arr**	**161.07**	**265**	PKP	**PKPdf**	**15 08 37.8**	**-0.5**
comp=Z,3.3nm,0.8s,baz=58,slow=1.0,SNR=22							
WRA				PKPab	**PKPab**	**15 09 21.6**	**+0.2**
comp=Z,3.2nm,1.0s,baz=88,slow=4.2,SNR=4.9							
ASAR	**Alice Springs**	**161.22**	**253**	PKP	**PKPdf**	**15 08 37.6**	**-0.7**
ASAR				PKPab	**PKPab**	**15 09 22.0**	**-0.1**
ASAR	**Alice Springs**	**161.22**	**253**	PKP	**PKPdf**	**15 08 37.6**	**-0.7**
comp=Z,2.6nm,1.0s,baz=95,slow=1.7,SNR=16							
ASAR				PKPab	**PKPab**	**15 09 22.0**	**-0.1**
comp=Z,3.7nm,0.5s,baz=109,slow=3.7,SNR=175							

*ISCJB **13** 14:53:25.7±0.9, 46°.39N±0°.04×15°.11E±0°.08, h0km, Error ellipse: s-maj=7.8km s-min=5.8km az=25.2*
*VIE **13** 14:53:26.0±0.3, 46°.39N×15°.10E, h0km, mb1.1/3, ML1.5/3, Error ellipse: s-maj=2.3km s-min=1.3km az=176.0 22 km NW of Celje Suspected Mining induced.*
*LJU **13** 14:53:25.8, 46°.39N×15°.07E, h0km Rockburst*
*CSEM **13** 14:53:26.1±0.2, 46°.39N×15°.10E, h1km, ML1.5/3, Error ellipse: s-maj=4.0km s-min=2.8km az=105.0, Suspected Mining induced.*

ISC 13 14:53:26.4±1.4, 46°.40N±0°.03×15°.10E±0°.04, h0km, n12, σ0.42/18, 5C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.24**	**3**	*i* Pg	**Pg**	**14 53 31.1**	**+0.1**
PERS	**Pernice**	**0.24**	**3**	*i* Pg	**Pg**	**14 53 31.1**	**+0.1**
SOKA	**Soboth**	**0.29**	**351**	*e*Pg	**Pg**	**14 53 31.9**	**0.0**
SOKA	SNR=12			⇑*i*Sg	**Sg**	**14 53 36.2**	**+0.6**
SOKA	**Soboth**	**0.29**	**351**	Pg	**Pg**	**14 53 31.9**	**0.0**
SOKA	SNR=12			Sg	**Sg**	**14 53 36.2**	**+0.6**
OBKA	**Obir**	**0.40**	**287**	⇑*i*Pg	**Pg**	**14 53 33.5**	**-0.5**
OBKA				⇑*i*Sg	**Sg**	**14 53 39.3**	**+0.2**
OBKA	**Obir**	**0.40**	**287**	Pg	**Pg**	**14 53 33.5**	**-0.5**
OBKA				Sg	**Sg**	**14 53 39.3**	**+0.2**
LEGS	**Legarje**	**0.47**	**161**	*i* Pg	**Pg**	**14 53 35.3**	**-0.2**
LEGS	**Legarje**	**0.47**	**161**	*i* Pg	**Pg**	**14 53 35.3**	**-0.2**
ARSA	**Arzberg**	**0.91**	**19**	⇑*e*Pg	**Pg**	**14 53 43.0**	**-0.8**
ARSA	SNR=6.9			⇑*i*Sg	**Sg**	**14 53 55.8**	**+0.3**
ARSA	**Arzberg**	**0.91**	**19**	Pg	**Pg**	**14 53 43.0**	**-0.8**
ARSA	SNR=6.9			Sg	**Sg**	**14 53 55.8**	**+0.3**
VOY	**Vojsko**	**0.91**	**247**	*e*Pg	**Pg**	**14 53 43.8**	**-0.1**
VOY				*e*		14 53 45.7	
VOY				*e*		14 54 00.3	
VOY	**Vojsko**	**0.91**	**247**	*e*Pg	**Pg**	**14 53 43.8**	**-0.1**

*NEIC **13** 14:54:44.7, 19°.39N×65°.74W, h71km, MD3.2(RSPR), After RSPR.*

RSPR 13 14:54:44.7, 19°.39N×65°.74W, h71km±24km, MD3.2/6, 17C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.11**	**186**	⇑*e*P	Pn	14 55 03.0	-1.7
CBYP	**Canovanas**	**1.11**	**186**	⇑*e*P	Pn	14 55 03.0	-1.7
CBYP	**Canovanas**	**1.11**	**186**	⇑*e*P	Pn	14 55 03.3	-1.5
HUMP	**Col San Antoni**	**1.24**	**185**	*e*S	Sn	14 55 22.1	-0.4
HUMP	**Col San Antoni**	**1.24**	**185**	*e*S	Sn	14 55 22.6	+0.1
STVI	**Saint Thomas**	**1.27**	**144**	⇑*e*P	Pn	14 55 06.5	-0.2
STVI	**Saint Thomas**	**1.27**	**144**	*e*S	Sn	14 55 22.8	-0.3
STVI	**Saint Thomas**	**1.27**	**144**	⇑*e*P	Pn	14 55 06.5	-0.2
STVI				*e*S	Sn	14 55 22.8	-0.3
STVI	**Saint Thomas**	**1.27**	**144**	⇑*e*P	Pn	14 55 06.5	-0.2
STVI				*e*S	Sn	14 55 22.8	-0.3
SJG	**San Juan**	**1.32**	**197**	⇑*e*P	Pn	14 55 06.1	-1.3
SJG				*e*S	Sn	14 55 23.6	-0.8
SJG	**San Juan**	**1.32**	**197**	⇑*e*P	Pn	14 55 06.1	-1.3
SJG				*e*S	Sn	14 55 23.6	-0.8
SJG	**San Juan**	**1.32**	**197**	⇑*e*P	Pn	14 55 06.6	-0.8
CPD	**Cerro la Pandu**	**1.35**	**187**	⇑*e*P	Pn	14 55 06.4	-1.4
CPD	**Cerro la Pandu**	**1.35**	**187**	⇑*e*P	Pn	14 55 06.4	-1.4
CPD	**Cerro la Pandu**	**1.35**	**187**	⇑*e*P	Pn	14 55 06.4	-1.4
AOPR	**Arecibo Observ**	**1.41**	**223**	⇑*e*P	Pn	14 55 08.5	-0.1
AOPR	**Arecibo Observ**	**1.41**	**223**	*e*S	Sn	14 55 25.4	-1.1
AOPR	**Arecibo Observ**	**1.41**	**223**	⇑*e*P	Pn	14 55 08.5	-0.1
AOPR				*e*S	Sn	14 55 25.4	-1.1
AOPR	**Arecibo Observ**	**1.41**	**223**	⇑*e*P	Pn	14 55 08.5	-0.1
AOPR				*e*S	Sn	14 55 25.4	-1.1
LRS	**Lares**	**1.51**	**224**	*e*Pn	Pn	14 55 08.1	-1.8
LRS				*e*Sn	Sn	14 55 26.1	-2.8
CELP	**Cerrillos**	**1.53**	**212**	⇑*e*P	Pn	14 55 10.1	0.0
CELP				*e*S	Sn	14 55 29.5	+0.3
CELP	**Cerrillos**	**1.53**	**212**	*e*Pn	Pn	14 55 09.5	-0.6
CELP				*e*S	Sn	14 55 29.5	+0.3
CELP	**Cerrillos**	**1.53**	**212**	⇑*e*P	Pn	14 55 10.1	0.0
CELP				*e*S	Sn	14 55 29.5	+0.3
LSP	**Las Mesas**	**1.75**	**227**	*e*Pn	Pn	14 55 12.3	-0.8

*IDC **13** 14:59:44.7±1.1, 13°.81N×92°.52E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/27, mbtmp3.9/8, Error ellipse: s-maj=51.1km s-min=17.0km az=59.0*
*ISCJB **13** 14:59:47.2±1.0, 14°.0N±0°.2×92°.5E±0°.3, h33km, mb3.9/8, Error ellipse: s-maj=42.8km s-min=10.1km az=148.0*

ISC 13 14:59:49.9±1.1, 14°.0N±0°.2×92°.6E±0°.3, h35km, n15, σ19.63/15, mb3.6/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**13.67**	**340**	*e*P	**Pn**	**15 02 59.4**	**-2.2**
TAPN	15nm,0.2s **Taplejung**	**14.03**	**342**	*e*P	**Pn**	**15 03 04.0**	**-2.5**
RAMN	**Ramite**	**14.03**	**337**	*e*P	**Pn**	**15 03 04.6**	**-2.0**
JIRN	21nm,0.2s **Jiri**	**14.83**	**337**	*e*P	**Pn**	**15 03 15.4**	**-2.1**
PKI	**Pulchoki**	**15.06**	**335**	*e*P	**Pn**	**15 03 19.9**	**-0.6**
PKIN	14nm,0.3s **Phulchoki**	**15.07**	**335**	*e*P	**Pn**	**15 03 19.7**	**-0.9**
KOLN	12nm,0.3s **Koldanda**	**16.04**	**330**	*e*P	**Pn**	**15 03 32.3**	**-0.8**
MKAR	16nm,0.3s **Makanchi Array**	**33.80**	**347**	P	**P**	**15 06 30.4**	**+1.8**
SONM	0.7nm,0.7s,baz=170,slow=8.1,SNR=4.9 **Songino Array**	**35.63**	**16**	P	**P**	**15 06 46.1**	**+1.5**
KURBB	0.2nm,0.4s,baz=195,slow=10,SNR=3.2 **Kurchatov Arra**	**38.26**	**346**	P	**P**	**15 07 08.4**	**+1.7**
ZALV	0.4nm,0.6s,baz=169,slow=6.8,SNR=4.0 **Zalesovo Beam**	**40.31**	**353**	P	**P**	**15 07 24.5**	**+0.7**
WRA	0.3nm,0.3s,baz=188,slow=5.8,SNR=2.6 **Warramunga Arr**	**53.17**	**128**	P	**P**	**15 09 03.9**	**-1.0**
ASAR	2.4nm,0.7s,baz=309,slow=7.8,SNR=34 **Alice Springs**	**55.09**	**132**	P	**P**	**15 09 18.2**	**-0.6**
BRTR	3.7nm,0.5s,baz=309,slow=6.8,SNR=170 **Keskin Array B**	**57.35**	**308**	P	**P**	**15 09 35.5**	**+0.5**
STKA	0.2nm,0.4s,baz=79,slow=3.1,SNR=2.4 **Stephens Creek**	**65.48**	**135**	P	**P**	**15 10 29.6**	**-0.2**
	3.3nm,0.6s,baz=334,slow=7.4,SNR=4.6						

*ISCJB **13** 15:00:11.5±0.4, 37°.14N±0°.03×72°.00E±0°.07, h200km, mb3.6/6, Error ellipse: s-maj=7.9km s-min=4.2km az=172.2*
*IDC **13** 15:00:12.2±4.8, 37°.17N×72°.09E, h184km±40km, mb3.5/6, mb1 3.4/12, mb1mx3.1/32, mbtmp3.4/12, Error ellipse: s-maj=39.9km s-min=25.8km az=11.0*
*NNC **13** 15:00:19.1±3.1, 37°.67N×71°.62E, h169km±32km, mb3.0, mpv4.0, Error ellipse: s-maj=27.0km s-min=15.3km az=13.0*

ISC 13 15:00:12.4±0.7, 37°.19N±0°.05×71°.95E±0°.08, h200km, n32, σ2.21/41, mb3.7/6, 6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.36**	**181**	P	**Pn**	**15 01 05.4**	**-1.1**
CEP				S	**Sn**	**15 01 45.0**	**-3.8**
CHCP	**Chirah Chowk**	**3.68**	**163**	P	**Pn**	**15 01 10.4**	**+0.1**
THW	**Thamme Wali**	**4.38**	**182**	P	**Pn**	**15 01 17.8**	**-1.3**
AML	**Almayashu**	**5.12**	**15**	P	**Pn**	**15 01 28.7**	**+0.1**
UCH	SNR=76 **Uchtor**	**5.41**	**21**	P	**Pn**	**15 01 32.7**	**+0.3**
KZA	SNR=6.7 **Kyzart**	**5.51**	**27**	P	**Pn**	**15 01 33.3**	**-0.3**
EKS2	SNR=8.7 **Erkin-Say**	**5.64**	**14**	P	**Pn**	**15 01 36.2**	**+1.1**
DLH	SNR=12 **Dalhousie**	**5.69**	**143**	*e*P	**Pn**	**15 01 35.0**	**-0.9**
DLH				*e*S	**Sn**	**15 02 39.0**	**-2.8**
AAK	**Ala-Archa**	**5.78**	**19**	P	**Pn**	**15 01 37.7**	**+0.8**
AAK	SNR=18 **Ala-Archa**	**5.78**	**19**	P	**Pn**	**15 01 37.6**	**+0.8**
AAK	6.6nm,0.3s,baz=174,slow=7.1,SNR=43			S	**Sn**	**15 02 41.2**	**-2.5**
KBK	1.6nm,0.3s,baz=108,slow=18,SNR=3.7 **Karagaybulak**	**5.93**	**22**	P	**Pn**	**15 01 40.4**	**+1.6**
KK31	SNR=6.8 **Karatay Array**	**6.01**	**350**	⇓P	**Pn**	**15 01 39.8**	**+0.1**
KK31	6.8nm,0.3s,baz=171,slow=12,SNR=134			S	**Sn**	**15 02 43.5**	**-5.5**
ULHL	33nm,0.5s,baz=172,slow=22,SNR=29 **Ulahol**	**6.04**	**32**	P	**Pn**	**15 01 40.3**	**0.0**
CHMS	SNR=6.3 **Chumysh**	**6.19**	**19**	P	**Pn**	**15 01 43.0**	**+1.0**
TKM2	SNR=10 **Tokmak 2**	**6.37**	**25**	⇓P	**Pn**	**15 01 45.8**	**+1.2**
TKM2	6.3nm,0.5s			⇓S	**Sn**	**15 02 55.4**	**-2.2**
TKM2	3.5nm,0.5s **Tokmak 2**	**6.37**	**25**	P	**Pn**	**15 01 46.0**	**+1.4**
MK31	SNR=5.3 **Makanchi Array**	**12.29**	**35**	⇓P	**P**	**15 03 07.2**	**+2.1**
MKAR	1.0nm,0.7s,baz=201,slow=9.3,SNR=6.0 **Makanchi Array**	**12.29**	**35**	P	**Pn**	**15 03 00.5**	**-0.3**
MKAR	**Makanchi Array**	**12.29**	**35**	P	**Pn**	**15 03 00.5**	**-0.3**
KURBB	0.1nm,0.3s,baz=215,slow=12,SNR=3.9 **Kurchatov Arra**	**14.23**	**17**	P	**Pn**	**15 03 25.1**	**+0.2**
AB31	0.1nm,0.3s,baz=206,slow=11,SNR=5.1 **Akbulak array**	**14.88**	**328**	P	**Pn**	**15 03 32.6**	**-0.3**
AB31	0.7nm,0.5s,baz=142,slow=11,SNR=15			S	**S**	**15 06 13.6**	**-4.4**
BVA0	1.8nm,0.5s,baz=153,slow=21,SNR=9.4 **Borovoye Array**	**15.88**	**357**	P	**Pn**	**15 03 49.2**	**+4.2**
BVA0	1.1nm,0.6s,baz=169,slow=13,SNR=5.7			S	**S**	**15 06 38.0**	**-2.8**
BVAR	0.1nm,0.9s,baz=163,slow=26,SNR=4.3 **Borovoye Array**	**15.88**	**357**	P	**Pn**	**15 03 45.4**	**+0.5**
AKTO	0.2nm,0.3s,baz=161,slow=10,SNR=5.8 **Aktyubinsk**	**16.59**	**327**	⇓P	**Pn**	**15 03 55.0**	**+1.5**
AKTO	1.8nm,0.4s			⇓S	**S**	**15 06 52.1**	**-3.6**
AKTO	**Aktyubinsk**	**16.59**	**327**	P	**P**	**15 03 53.5**	**+0.9**
AKTO	1.1nm,0.3s,baz=138,slow=10,SNR=11			S	**S**	**15 06 51.0**	**-4.7**
ZALV	0.1nm,0.3s,baz=68,slow=19,SNR=3.6 **Zalesovo Beam**	**18.98**	**24**	P	**Pn**	**15 04 19.6**	**-2.0**
BRTR	1.6nm,0.3s,baz=205,slow=10,SNR=27 **Keskin Array B**	**29.96**	**287**	P	**P**	**15 06 04.6**	**+2.5**
AKASG	0.6nm,0.6s,baz=93,slow=9.4,SNR=3.8 **Malin Array Be**	**33.12**	**308**	P	**P**	**15 06 30.4**	**+1.0**
	0.4nm,0.4s,baz=109,slow=8.5,SNR=2.1						
ARCES	**ARCESS Array B**	**40.81**	**337**	P	**P**	**15 07 36.1**	**+2.3**
HFS	3.9nm,1.1s,baz=115,slow=6.4,SNR=6.4 **Hagfors**	**43.00**	**321**	P	**P**	**15 07 53.6**	**+2.0**
NOA	1.7nm,0.5s,baz=100,slow=8.1,SNR=10 **NORSAR Array B**	**44.30**	**323**	P	**P**	**15 08 03.5**	**+1.5**
STKA	1.1nm,0.9s,baz=104,slow=7.4,SNR=2.8 **Stephens Creek**	**94.59**	**127**	P	**P**	**15 13 10.4**	**+0.2**
	2.9nm,1.1s,baz=296,slow=4.0,SNR=2.9						

*NEIC **13** 15:05:18.6, 19°.01N×64°.75W, h6km, MD3.2(RSPR), After RSPR.*

RSPR 13 15:05:18.6, 19°.01N×64°.75W, h6km±1km, MD3.2/10, 21C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.48**	**125**	⇓*e*P	Pg	15 05 27.6	-0.2
ABVI				*e*S	Sg	15 05 35.4	+1.2
ABV	**Anegada**	**0.48**	**125**	⇓*e*P	Pg	15 05 27.6	-0.2
ABV	**Anegada**	**0.48**	**125**	*e*S	Sg	15 05 35.4	+1.2
ABV	**Anegada**	**0.48**	**125**	⇓*e*P	Pg	15 05 27.6	-0.2
ABV				*e*S	Sg	15 05 35.4	+1.2
TBVI	**Tortola**	**0.60**	**168**	⇑*e*P	Pg	15 05 29.7	-0.4
TBVI	**Tortola**	**0.60**	**168**	⇑*e*P	Pg	15 05 29.7	-0.4
TBVI	**Tortola**	**0.60**	**168**	⇑*e*P	Pg	15 05 29.7	-0.4
STVI	**Saint Thomas**	**0.68**	**197**	⇑*e*P	Pg	15 05 31.2	-0.4
STVI	**Saint Thomas**	**0.68**	**197**	*e*S	Sg	15 05 41.1	+0.7
STVI	**Saint Thomas**	**0.68**	**197**	⇑*e*P	Pg	15 05 31.2	-0.4
STVI				*e*S	Sg	15 05 41.1	+0.7
STVI	**Saint Thomas**	**0.68**	**197**	⇑*e*P	Pg	15 05 31.2	-0.4
STVI				*e*S	Sg	15 05 41.1	+0.7
CBYP	**Canovanas**	**1.28**	**235**	⇑*e*P	Pn	15 05 39.6	-3.4
CBYP	**Canovanas**	**1.28**	**235**	*e*S	Sg	15 05 56.5	-3.3
CBYP	**Canovanas**	**1.28**	**235**	⇑*e*P	Pn	15 05 39.6	-3.4
CBYP				*e*S	Sg	15 05 56.5	-3.3
CBYP	**Canovanas**	**1.28**	**235**	⇑*e*P	Pn	15 05 39.6	-3.4
CBYP				*e*S	Sg	15 05 56.5	-3.3
HUMP	**Col San Antoni**	**1.35**	**231**	⇑*e*P	Pn	15 05 41.0	-3.0
HUMP	**Col San Antoni**	**1.35**	**231**	*e*S	Sb	15 05 58.0	-3.8
HUMP	**Col San Antoni**	**1.35**	**231**	⇑*e*P	Pn	15 05 41.0	-3.0
HUMP				*e*S	Sb	15 05 58.0	-3.8
HUMP	**Col San Antoni**	**1.35**	**231**	⇑*e*P	Pn	15 05 41.0	-3.0
HUMP				*e*S	Sb	15 05 58.4	-3.4
CPD	**Cerro la Pandu**	**1.47**	**229**	⇓*e*P	Pn	15 05 42.9	-2.8
CPD	**Cerro la Pandu**	**1.47**	**229**	*e*S	Sn	15 06 01.5	-3.6
CPD	**Cerro la Pandu**	**1.47**	**229**	⇓*e*P	Pn	15 05 42.9	-2.8
CPD				*e*S	Sn	15 06 01.5	-3.6
CPD	**Cerro la Pandu**	**1.47**	**229**	⇓*e*P	Pn	15 05 42.9	-2.8
CPD				*e*S	Sn	15 06 01.5	-3.6
SJG	**San Juan**	**1.60**	**236**	⇑*e*P	Pn	15 05 43.9	-3.4
SJG				*e*S	Sn	15 06 04.2	-4.1
SJG	**San Juan**	**1.60**	**236**	⇑*e*P	Pn	15 05 43.9	-3.4
SJG				*e*S	Sn	15 06 04.2	-4.1
SJG	**San Juan**	**1.60**	**236**	⇑*e*P	Pn	15 05 43.9	-3.4
SJG				*e*S	Sn	15 06 04.2	-4.1
CELP	**Cerrillos**	**1.97**	**242**	⇑*e*P	Pn	15 05 49.8	-2.6
CELP				*e*S	Sn	15 06 13.1	-4.4
CELP	**Cerrillos**	**1.97**	**242**	⇑*e*P	Pn	15 05 49.8	-2.6
CELP				*e*S	Sn	15 06 13.1	-4.4
CELP	**Cerrillos**	**1.97**	**242**	⇑*e*P	Pn	15 05 49.8	-2.6
CELP				*e*S	Sn	15 06 13.1	-4.4
OBIP	**Obispado Ponce**	**2.00**	**242**	*e*S	Sn	15 06 14.4	-4.0
OBIP	**Obispado Ponce**	**2.00**	**242**	*e*S	Sn	15 06 14.4	-4.0
AOPR	**Arecibo Observ**	**2.01**	**251**	⇓*e*P	Pn	15 05 50.3	-2.8
AOPR	**Arecibo Observ**	**2.01**	**251**	⇓*e*P	Pn	15 05 50.3	-2.8
AOPR	**Arecibo Observ**	**2.01**	**251**	⇓*e*P	Pn	15 05 50.3	-2.8
LSP	**Las Mesas**	**2.36**	**250**	⇑*e*P	Pn	15 05 55.2	-2.8
LSP	**Las Mesas**	**2.36**	**250**	⇑*e*P	Pn	15 05 55.2	-2.8
LSP	**Las Mesas**	**2.36**	**250**	⇑*e*P	Pn	15 05 55.2	-2.8

IDC 13 15:14:25.4±2.0, 7°.29S×157°.70E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=44.5km s-min=27.7km az=32.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.08**	**134**	Pn	Pn	15 15 15.5	+0.2
HNR	5.1nm,0.3s,baz=177,slow=7.5,SNR=7.5			Sn	Sn	15 15 52.4	-0.5
WRA	20nm,0.3s,baz=142,slow=18,SNR=4.5 **Warramunga Arr**	**25.91**	**239**	P	P	15 19 60.0	+0.4
ASAR	0.7nm,0.7s,baz=63,slow=9.7,SNR=7.3 **Alice Springs**	**28.05**	**232**	P	P	15 20 18.2	-0.6
MKAR	0.7nm,1.1s,baz=63,slow=9.6,SNR=5.2 **Makanchi Array**	**85.40**	**318**	P	P	15 27 05.0	+0.1

TBVI	Tortola	1.42	132⇑	eP		Pn	15 23 39.9	-0.7
ABV	Anegada	1.47	116⇑	eP		Pn	15 23 40.7	-0.5
ABV	Anegada	1.47	116⇑	eP		Pn	15 23 40.7	-0.5
ABVI	Anegada Island	1.47	116⇑	eP		Pn	15 23 40.7	-0.4
LRS	Lares	1.52	225⇑	eP		Pn	15 23 40.9	-1.0
LRS				eS		Sn	15 24 01.3	-0.1
LRS	Lares	1.52	225⇑	eP		Pn	15 23 40.9	-1.0
LRS				eS		Sn	15 24 01.3	-0.1
LRS	Lares	1.52	225⇑	eP		Pn	15 23 40.9	-1.0
LRS				eS		Sn	15 24 01.3	-0.1
CELP	Cerrillos	1.53	212⇑	eP		Pn	15 23 41.3	-0.7
CELP				eS		Sn	15 24 01.0	-0.7
CELP	Cerrillos	1.53	212⇑	eP		Pn	15 23 41.3	-0.7
CELP				eS		Sn	15 24 01.0	-0.7
CELP	Cerrillos	1.53	212⇑	eP		Pn	15 23 41.3	-0.7
CELP				eS		Sn	15 24 01.0	-0.7
OBIP	Obispado Ponce	1.57	212⇓	eP		Pn	15 23 42.1	-0.4
OBIP	Obispado Ponce	1.57	212⇓	eP		Pn	15 23 42.1	-0.4
OBIP	Obispado Ponce	1.57	212⇓	eP		Pn	15 23 42.1	-0.4
LSP	Las Mesas	1.76	227⇑	eP		Pn	15 23 45.0	0.0
LSP	Las Mesas	1.76	227⇑	eP		Pn	15 23 45.0	0.0
LSP	Las Mesas	1.76	227⇑	eP		Pn	15 23 45.0	0.0
GBPR	Guanica, Bosqu	1.78	218⇑	eP		Pn	15 23 45.1	-0.1
GBPR	Guanica, Bosqu	1.78	218⇑	eP		Pn	15 23 45.1	-0.1
GBPR	Guanica, Bosqu	1.78	218⇑	eP		Pn	15 23 45.6	+0.4
CDVI	St. Croix	1.86	151	eP		Pn	15 23 47.8	+1.5
CRPR	Cabo Rojo, PR	1.90	224	eP		Pn	15 23 46.8	+0.1
SDDR	Presa de Saban	5.27	267	eP		Pn	15 24 34.2	+1.8
	34nm,0.6s							
BBSR	BB Station	12.97	4	eP		Pn	15 26 15.7	-1.2
	12nm,0.4s							

*NEIC **13** 15:27:11.1±1.0, 1°.46S×14°.97W, h10km, mb4.6/3, Error ellipse: s-maj=22.6km s-min=19.4km az=114.0*
*IDC **13** 15:27:12.0±1.3, 1°.44S×14°.60W, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/26, mbtmp4.1/12, ML4.4/1, MS4.0/25, Ms1 4.0/25, ms1mx3.8/48, Error ellipse: s-maj=40.7km s-min=17.9km az=87.0*
*GCMT **13** 15:27:14.9±0.3, 1°.19S×15°.11W, h16km±1km, MW4.9, Moment Tensor Solution. s31,c37; s73,c105; Moment tensor: Scale 10^16^Nm; Mrr-0.13±.13; Mθθ1.06±.11; Mφφ-0.93±.12; Mrθ-0.10±.31; Mθφ-2.70±.09; Mφr0.90±.34; Best double couple: M0 3.00000×10^16^ NP1:φs170.00000°, δ88.00000°, λ-17.00000°. NP2:φs260.00000°, δ73.00000°, λ-178.00000°. Principal axes: T 3.0600, Plg11.0000°, Azm216.0000°; N -0.0900, Plg72.0000°, Azm343.0000°; P -2.9800, Plg14.0000°, Azm123.0000°; Data Used: II IU IC G CN.*

ISC 13 15:27:16.2±0.9, 1°.3S±0°.1×14°.3W±0°.1, h12km, n63, σ1§09/51, mb4.2/17, MS4.0/23, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	Lamto	11.84	51	ePn	Pn	15 30 06.3	+1.3
	baz=242						
LIC				eSn	Sn	15 32 16.8	-0.4
	79nm,0.5s						
LIC	Lamto	11.84	51	eP	Pn	15 30 09.4	+4.4
	18nm,0.3s						
TIC	Toumodi	12.11	49	eP	Pn	15 30 11.0	+2.3
	26nm,0.2s						
KIC	Kosan Boka	12.15	51	eP	Pn	15 30 11.6	+2.4
	197nm,1.4s						
DBIC	Dimbokro	12.25	50	Pn	Pn	15 30 12.0	+1.4
DBIC				eSn	Sn	15 32 25.5	-1.7
DBIC				Sn	Sn	15 32 27.4	+0.2
DBIC	Dimbokro	12.25	50	Pn	Pn	15 30 12.0	+1.4
	2.2nm,0.3s,baz=240,slow=16,SNR=26						
DBIC				Sn	Sn	15 32 27.4	+0.2
	2.7nm,0.3s,baz=315,slow=20,SNR=6.2						
DBIC				LR	LR	15 34 16.3	
	comp=Z,1μm,18.7s,baz=213,slow=34						
BBTS	Babate	15.99	352	LR	LR	15 36 32.5	
	comp=Z,797nm,18.4s,baz=326,slow=35						
TOA0	Torodi Ar. Sit	21.34	47	eP	P	15 32 04.9	+1.6
TOA0				eS	S	15 35 57.6	-2.7
TORD	Torodi Ar. Bea	21.34	47	P	P	15 32 04.8	+1.5
TORD				S	S	15 35 59.0	-1.4
TORD	Torodi Ar. Bea	21.34	47	P	P	15 32 04.8	+1.5
	18nm,1.1s,baz=235,slow=9.5,SNR=21						
TORD				S	S	15 35 59.0	-1.4
	4.8nm,0.7s,baz=234,slow=22,SNR=7.2						
TORD				LR	LR	15 39 42.4	
	comp=Z,879nm,18.0s,baz=240,slow=35						
MDT	Midelt	35.10	14	P	P	15 34 09.3	-0.3
MDT	Midelt	35.10	14	P	P	15 34 09.3	-0.3
	1.4nm,0.7s,baz=265,slow=6.2,SNR=2.9						
MDT				LR	LR	15 49 36.2	
	comp=Z,127nm,19.2s,baz=13,slow=38						
BDFB	Brasilia	36.23	245	LR	LR	15 45 46.0	
	comp=Z,198nm,19.5s,baz=357,slow=31						
ESDC	Sonseca Array	41.82	12	LR	LR	15 52 20.9	
	comp=Z,216nm,20.3s,baz=165,slow=36						
KEST	Kesra	42.89	29	LR	LR	15 55 38.5	
	comp=Z,101nm,19.5s,baz=209,slow=40						
LSZ	Lusaka	44.12	111	P	P	15 35 25.8	+0.7
LSZ	Lusaka	44.12	111	P	P	15 35 25.8	+0.7
	1.1nm,0.4s,baz=301,slow=5.9,SNR=2.7						
LBTB	Lobatse	45.12	125	eP	P	15 35 32.9	0.0
	16nm,1.2s						
ETSF	Etsaut	45.66	14	eP	P	15 35 36.7	-0.2
EPF	Esparros	46.01	15	eP	P	15 35 39.5	-0.1
BOSA	Boshof	46.48	130	eP	P	15 35 42.3	-1.3
	4.2nm,0.7s						
BOSA	Boshof	46.48	130	P	P	15 35 42.7	-0.9
	3.3nm,0.6s,baz=306,slow=9.2,SNR=8.3						
VIVF	Saint-Julien-l	48.91	18	eP	P	15 36 02.0	-0.1
	14nm,1.2s						
SAML	Samuel	49.29	259	eP	P	15 35 52.1	-13
	1.7nm,0.8s						
ORIF	Oris-en-Rattie	49.35	19	eP	P	15 36 06.1	+0.6
TCF	Toulx Ste Croi	49.53	15	eP	P	15 36 06.5	-0.3
LPG	La Plagne	50.15	19	eP	P	15 36 12.4	+0.6
	7.3nm,0.8s						
LPL	La Plagne	50.16	19	eP	P	15 36 12.3	+0.5
	3.6nm,0.5s						
SSF	Saint Saulge	50.59	16	eP	P	15 36 14.4	-0.4
CABF	La Chapelle	50.92	18	eP	P	15 36 16.8	-0.7
	29nm,1.5s						
KMBO	Kilima Mbogo	51.49	90	LR	LR	15 57 25.4	
	comp=Z,266nm,18.6s,baz=99,slow=35						
DAVOX	Davos/Dischmat	52.33	21	LR	LR	15 58 35.7	
	comp=Z,213nm,18.5s,baz=113,slow=36						
CDF	Champ du Feu	52.90	18	eP	P	15 36 30.9	-1.2
BAIF	Baives	53.53	15	eP	P	15 36 35.4	-1.2
LPAZ	La Paz	55.10	251	LR	LR	15 58 43.9	
	comp=Z,224nm,18.2s,baz=246,slow=35						
GERES	GERESS Array B	55.47	22	P	P	15 36 50.8	-0.1
GERES	GERESS Array B	55.47	22	P	P	15 36 50.8	-0.1
	1.0nm,0.6s,baz=202,slow=6.9,SNR=7.6						
GERES				LR	LR	16 02 05.5	
	comp=Z,111nm,18.7s,baz=21,slow=38						
EIL	Elat	56.10	53	LR	LR	16 02 02.0	
	comp=Z,207nm,18.5s,baz=280,slow=37						
VRAC	Vranov	56.96	24	LR	LR	16 01 32.6	
	comp=Z,94nm,19.2s,baz=354,slow=36						
ESK	Eskdalemuir	57.12	7	P	P	15 37 01.2	-1.2
MMAI	Mount Meron Ar	57.87	49	LR	LR	16 05 24.5	
	comp=Z,96nm,18.5s,baz=245,slow=39						
ASF	Jabal al Asfar	58.65	51	LR	LR	16 01 53.6	
	comp=Z,78nm,19.3s,baz=176,slow=35						
BRTR	Keskin Array B	59.80	41	P	P	15 37 21.6	0.0
BRTR	Keskin Array B	59.80	41	P	P	15 37 21.6	0.0
	0.9nm,0.8s,baz=221,slow=7.7,SNR=4.0						
BRTR				LR	LR	16 05 06.8	
	comp=Z,61nm,20.1s,baz=77,slow=38						
ROSC	El Rosal	60.33	276	LR	LR	16 03 35.9	
	comp=Z,99nm,18.1s,baz=201,slow=36						
AKASG	Malin Array Be	63.62	29	P	P	15 37 45.9	-1.0
AKASG	Malin Array Be	63.62	29	P	P	15 37 45.9	-1.0
	0.5nm,0.5s,baz=230,slow=7.3,SNR=5.4						
AKASG				LR	LR	16 07 46.0	
	comp=Z,156nm,18.2s,baz=225,slow=38						
HFS	Hagfors	64.97	15	LR	LR	16 05 49.0	
	comp=Z,118nm,19.3s,baz=207,slow=36						
NOA	NORSAR Array B	65.16	13	P	P	15 37 57.4	+0.4
NOA	NORSAR Array B	65.16	13	P	P	15 37 57.4	+0.4
	1.6nm,0.9s,baz=208,slow=6.7,SNR=2.7						
NOA				LR	LR	16 07 56.4	
	comp=Z,76nm,19.0s,baz=205,slow=37						
GNI	Garni	67.62	45	LR	LR	16 06 59.1	
	comp=Z,58nm,19.3s,baz=78,slow=35						
KBZ	Khabaz	67.79	41	P	P	15 38 13.5	-0.5
KBZ	Khabaz	67.79	41	P	P	15 38 13.5	-0.5
	0.6nm,0.4s,baz=252,slow=20,SNR=1.8						
FINES	FINESS Array B	69.70	19	P	P	15 38 24.1	-1.4
FINES	FINESS Array B	69.70	19	P	P	15 38 24.1	-1.4
	1.7nm,0.9s,baz=250,slow=4.1,SNR=2.7						
FINES				LR	LR	16 07 29.3	
	comp=Z,104nm,21.6s,baz=108,slow=34						
ARCES	ARCESS Array B	75.54	13	P	P	15 39 00.8	+0.6
ARCES	ARCESS Array B	75.54	13	P	P	15 39 00.8	+0.6
	3.9nm,1.0s,baz=224,slow=2.5,SNR=3.2						
ARCES				LR	LR	16 14 05.6	
	comp=Z,95nm,18.6s,baz=42,slow=37						
ULM	Lac du Bonnet	85.61	320	LR	LR	16 14 33.3	
	comp=Z,60nm,19.7s,baz=78,slow=33						
PDAR	Pinedale Array	94.76	313	LR	LR	16 21 44.5	
	comp=Z,45nm,18.1s,baz=190,slow=35						
ASAR	Alice Springs	140.34	131	PKPpre	PKPpre	15 46 36.5	
ASAR				PKP	PKPdf	15 46 45.8	-0.4
ASAR	Alice Springs	140.34	131	PKhKP	PKPpre	15 46 36.5	
	0.4nm,0.7s,baz=212,slow=3.3,SNR=3.7						
ASAR				PKP	PKPdf	15 46 45.8	-0.4
	0.8nm,0.7s,baz=218,slow=3.4,SNR=6.5						
WRA	Warramunga Arr	142.68	126	PKPpre	PKPpre	15 46 41.2	
WRA				PKP	PKPdf	15 46 49.6	-0.8
WRA	Warramunga Arr	142.68	126	PKhKP	PKPpre	15 46 41.2	
	0.3nm,0.6s,baz=241,slow=2.6,SNR=5.9						
WRA				PKP	PKPdf	15 46 49.6	-0.8
	0.3nm,0.5s,baz=236,slow=2.9,SNR=8.9						

CASC 13 15:39:54.4±2.2, 10°.94N×86°.15W, h18km±7km, MD3.7, 2C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	Las Lilas	0.69	98	iP	Pb	15 40 07.8	-0.2
GBS3	Finca Las lm¯¡	0.70	103	iP	Pb	15 40 07.9	-0.2
LAPC	Finca la Perla	0.74	104	⇓iP	Pb	15 40 08.1	-0.4
GB1A	Borinquen Arri	0.75	99	iP	Pb	15 40 08.8	-0.3
GPS1	Guardaparques	0.80	102	iP	Pb	15 40 09.3	-0.7
GPS1				iS	Sb	15 40 19.4	-1.2
GPS2	Hotel Rinc¯‡n	0.81	103	iP	Pb	15 40 09.5	-0.5
LIM1	Limonal	0.91	105	iP	Pb	15 40 11.0	-0.8
LIM1				iS	Sb	15 40 22.7	-1.1
GUAB	Guayabo de Bag	0.93	104	iP	Pb	15 40 11.3	-0.9
VCR	Vista de Mar	0.96	148	⇑iP	Pb	15 40 12.1	-0.6
VCR				eS	Sb	15 40 24.2	-0.9
MESS	Mesas	0.96	102	iP	Pb	15 40 12.1	-0.5
COLC	Colonia	0.97	106	iP	Pb	15 40 12.0	-0.7
HORNC	Hornillas	0.98	103	iP	Pb	15 40 12.0	-1.0
CUI	Cuipilapa	1.01	106	iP	Pb	15 40 12.5	-1.0
AMAS	Alto Masis	1.18	106	⇑iP	Pb	15 40 14.8	-1.4
MGAN	Managua	1.20	355	eP	Pn	15 40 16.4	0.0
MGAN				eS	Sn	15 40 32.2	-0.1
COPN	Copaltepe	1.31	341	⇓eP	Pb	15 40 18.6	+0.1
COPN				eS	Sn	15 40 34.5	-0.3
HUEN		1.39	359	eP	Pn	15 40 19.3	+0.4
HUEN				eS	Sn	15 40 36.9	+0.1
JCR	Jicaral	1.49	137	eP	Pn	15 40 18.9	-1.5
JCR				eS	Sb	15 40 40.6	+0.4
CGA2	Cerro Gallo 2	1.89	119	eP	Pn	15 40 25.8	-0.3
CGA2				eS	Sb	15 40 51.8	-0.4
URSC	Urasca	2.58	115	eP	Pn	15 40 35.4	-0.2
BUS	Buena Vista	2.73	120	eP	Pn	15 40 39.5	+1.6
CNCH	Conchagua	2.85	325	eP	Pn	15 40 40.0	+0.8
LFRS	El Faro	3.90	313	eP	Pn	15 40 54.0	+0.4
LFRS				eS	Sn	15 41 38.4	-0.7

MEX 13 15:40:41.3±0.7, 29°.97N×113°.76W, h10km, MD4.4, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	San Pedro Mart	1.82	307	iP	Pn	15 41 10.4	-2.8
SPIG				iS	Sn	15 41 31.2	-5.4
HSIG		2.63	110	iP	Pn	15 41 21.2	-2.7
HSIG				iS	Sn	15 41 52.7	-3.1
SRIG	Santa Rosalia	2.96	153	iP	Pn	15 41 25.5	-2.8
SRIG				iS	Sn	15 41 58.6	-5.3
CGIG		5.03	84	eP	Pn	15 41 53.9	-3.1
CGIG				iS	Sn	15 42 52.0	-3.3

IDC 13 15:49:32.4±1.4, 26°.61S×71°.61E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, MS4.0/9, Ms1 4.0/9, ms1mx3.7/31, Error ellipse: s-maj=50.5km s-min=24.6km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	40.93	256	LR	LR	16 11 23.1	
	comp=Z,309nm,18.6s,baz=102,slow=32						
MAW	Mawson	41.36	185	LR	LR	16 10 37.9	
	comp=Z,297nm,20.0s,baz=12,slow=31						
FITZ	Fitzroy Crossi	50.37	92	LR	LR	16 16 34.7	
	comp=Z,136nm,19.4s,baz=192,slow=32						
KAPI	Kappang	50.66	74	LR	LR	16 14 52.5	
	comp=Z,84nm,21.4s,baz=280,slow=30						
CMAR	Chiang Mai Arr	52.06	34	P	P	15 58 45.5	+1.3
	0.6nm,0.8s,baz=209,slow=7.2,SNR=5.4						
CMAR				LR	LR	16 19 10.4	
	comp=Z,156nm,18.6s,baz=67,slow=34						
ASAR	Alice Springs	55.98	102	P	P	15 59 12.9	-0.1
	0.4nm,0.7s,baz=255,slow=6.7,SNR=9.9						
WRA	Warramunga Arr	57.52	98	P	P	15 59 23.8	-0.1
	0.4nm,0.7s,baz=254,slow=6.5,SNR=3.3						
STKA	Stephens Creek	60.34	113	P	P	15 59 43.1	-0.3
	0.5nm,0.4s,baz=180,slow=2.0,SNR=3.4						
MKAR	Makanchi Array	73.69	8	P	P	16 01 06.8	-1.0
	0.7nm,0.7s,baz=206,slow=6.3,SNR=5.3						
KBZ	Khabaz	74.79	339	LR	LR	16 30 10.8	
	comp=Z,46nm,18.5s,baz=359,slow=33						
BRTR	Keskin Array B	74.89	331	P	P	16 01 14.5	-0.6
	0.4nm,0.7s,baz=152,slow=6.5,SNR=3.9						
TORD	Torodi Ar. Bea	78.53	291	P	P	16 01 37.1	+1.1
	0.5nm,0.8s,baz=106,slow=5.1,SNR=2.5						
DBIC	Dimbokro	80.99	282	LR	LR	16 32 48.5	
	comp=Z,128nm,21.2s,baz=109,slow=32						
ZALV	Zalesovo Beam	81.03	8	P	P	16 01 48.6	-0.1
	0.2nm,0.2s,baz=132,slow=2.1,SNR=2.6						
JNU	Nakatsue	81.85	47	LR	LR	16 36 15.9	
	comp=Z,64nm,18.9s,baz=53,slow=34						
KSRS	Korea Array	82.79	42	LR	LR	16 36 10.8	
	comp=Z,73nm,19.5s,baz=66,slow=34						

JMA 13 15:49:36.7±0.2, 43°.27N×146°.68E, h45km±2km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.69	278	P	Pn	15 49 50.2	+0.1
NEM2				eS	Sn	15 50 00.2	+0.4
JRA	Rausu	1.31	301	P	Pn	15 49 59.1	+0.5
JRA				eS	Sn	15 50 15.4	+0.5
JNK	Nakash	1.46	283	P	Pn	15 50 00.9	+0.3
JNK				eS	Sn	15 50 18.9	+0.3
JAK	Akkeshi	1.48	260	P	Pn	15 50 01.4	+0.6
JAK				eS	Sn	15 50 19.3	+0.4
JOB	Onbets	2.12	261	P	Pn	15 50 11.0	+1.4
JOB				eS	Sn	15 50 36.0	+1.4
JAR	Ashorobuto	2.12	272	P	Pn	15 50 11.1	+1.4
JAR				eS	Sn	15 50 36.2	+1.3
JTKR	Abashiri--Toko	2.13	290	P	Pn	15 50 11.3	+1.5
JMP	Maruseppu	2.52	288	P	Pn	15 50 16.9	+1.7
JCH	Churui	2.52	256	P	Pn	15 50 16.4	+1.2
JCH				eS	Sn	15 50 45.9	+1.3

*TIR **13** 15:49:31.4±5.5, 41°.13N×19°.52E, h0km±999km, ML3.7*
*ATH **13** 15:49:35.9, 41°.31N×19°.40E, h26km±6km, MD3.7/17*
*IDC **13** 15:49:36.0±1.3, 41°.13N×19°.45E, h0km, mb3.5/4, mb1 3.5/7, mb1mx3.4/28, mbtmp3.4/7, ML3.3/3, Error ellipse: s-maj=19.6km s-min=15.6km az=46.0*
*ROM **13** 15:49:38.0±0.1, 41°.12N×19°.53E, h8km, Ml3.7/36, Error ellipse: s-maj=2.7km s-min=1.7km az=129.0*
*BEO **13** 15:49:38.0±0.7, 41°.06N×19°.52E, h10km±2km, ML3.7/1*
*PDG **13** 15:49:38.1±0.4, 41°.10N×19°.50E, h19km±1km, MD3.8/7, ML3.9/11, Error ellipse: s-maj=1.3km s-min=1.5km az=0.0*
*ISCJB **13** 15:49:38.8±0.4, 41°.13N±0°.01×19°.49E±0°.02, h19km±4km, mb3.5/3, Error ellipse: s-maj=2.4km s-min=1.9km az=33.2*
*CSEM **13** 15:49:38.1±0.1, 41°.15N×19°.49E, h5km, ML3.6/9, Error ellipse: s-maj=2.3km s-min=1.5km az=60.0*
*THE **13** 15:49:39.9, 41°.18N×19°.62E, h8km±1km, ML3.6/9, Error ellipse: s-maj=1.8km s-min=0.9km az=43.0*

ISC 13 15:49:38.7±0.9, 41°.15N±0°.01×19°.52E±0°.02, h15km±6km, n303, σ1§12/420, mb3.5/3, 13C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.33	53	ePG	Pg	15 49 45.1	-0.4
TIR				iSG	Sb	15 49 50.8	-0.5
TIR	Tirane	0.33	53	P	Pg	15 49 45.0	-0.4
TIR				S	Sg	15 49 48.7	-1.4
TIR	Tirane	0.33	53	Pg	Pg	15 49 45.2	-0.2
TIR				Sg	Sb	15 49 50.8	-0.5
	14μm,0.9s						
TIR	Tirane	0.33	53	ePg	Pg	15 49 45.7	+0.2
TIR				iSg	Sb	15 49 51.0	-0.2
TIR	Tirane	0.33	53	P	Pg	15 49 45.0	-0.4
TIR	Tirane	0.33	53	ePb	Pg	15 49 45.3	-0.2
TIR	Tirane	0.33	53	ePg	Pg	15 49 45.7	+0.2
TIR				S	Sg	15 49 48.7	-1.4
TIR				iSg	Sb	15 49 51.0	-0.2
ULC	Ulcinj	0.84	346	⇓iPg	Pb	15 49 55.2	+0.3
ULC				eSg	Sn	15 50 08.9	+1.0
ULC	Ulcinj	0.84	346	⇓iPg	Pb	15 49 55.2	+0.3
ULC				eSg	Sn	15 50 08.9	+1.0
PHP	Peshkopia	0.88	52	ePG	Pg	15 49 53.6	-2.1
PHP				iSG	Sn	15 50 08.7	-0.2
PHP	Peshkopia	0.88	52	P	Pg	15 49 54.1	-1.6
PHP				S	Sb	15 50 08.2	+1.1
PHP	Peshkopia	0.88	52	ePg	Pg	15 49 53.6	-2.1
	SNR=9.0						
PHP	Peshkopia	0.88	52	P	Pg	15 49 54.1	-1.6
PHP				S	Sb	15 50 08.2	+1.1
PUK	Puka	0.93	17	ePG	Pg	15 49 56.8	0.0
PUK				iSG	Sn	15 50 12.7	+2.3
PUK	Puka	0.93	17	ePg	Pg	15 49 56.8	0.0
	SNR=9.0						
PUK				iSg	Sn	15 50 12.7	+2.3
	SNR=9.0						
DRME	Dracevica, Mon	1.06	347	⇑iPg	Pg	15 49 59.3	+0.1
DRME				eSg	Sn	15 50 16.5	+3.0
DRME	Dracevica, Mon	1.06	347	⇑iPg	Pg	15 49 59.3	+0.1
DRME				eSg	Sn	15 50 16.5	+3.0
KBN	Korca	1.10	118	ePG	Pb	15 49 59.1	-0.3
KBN				iSG	Sn	15 50 16.0	+1.5
KBN	Korca	1.10	118	P	Pb	15 49 58.9	-0.5
KBN				S	Sn	15 50 15.5	+1.0
KBN	Korca	1.10	118	P	Pb	15 49 58.9	-0.5
KBN				S	Sn	15 50 15.5	+1.0
KBN				iSg	Sn	15 50 16.0	+1.5
	SNR=9.0						
BUM	Brajici-Budva	1.24	338	⇓iPg	Pb	15 50 02.1	+0.3
BUM				eSg	Sg	15 50 20.8	+2.1
BUM	Brajici-Budva	1.24	338	⇓iPg	Pb	15 50 02.1	+0.3
BUM				eSg	Sg	15 50 20.8	+2.1
BCI	Bajram Curri	1.28	19	ePG	Pb	15 50 02.6	+0.1
BCI	Bajram Curri	1.28	19	ePg	Pb	15 50 02.6	+0.1
	SNR=9.0						
PDG	Podgorica	1.29	351	P	Pg	15 50 03.3	-0.3
PDG				S	Sg	15 50 22.1	+1.7
PDG	Podgorica	1.29	351	Pg	Pg	15 50 03.5	-0.1
PDG				Sg	Sg	15 50 21.9	+1.5
	1μm,0.5s						
PDG	Podgorica	1.29	351	iPg	Pg	15 50 03.5	-0.1
PDG				iSg	Sg	15 50 22.4	+2.0
PDG	Podgorica	1.29	351	P	Pg	15 50 03.3	-0.3
PDG				S	Sg	15 50 22.1	+1.7
TTG	Podgorica	1.29	351	⇓iPg	Pg	15 50 03.4	-0.1
TTG				eSg	Sg	15 50 22.1	+1.7
SRN	Sarande	1.32	164	ePG	Pb	15 50 03.1	0.0
SRN				iSG	Sg	15 50 22.8	+1.4
SRN	Sarande	1.32	164	P	Pb	15 50 03.3	+0.2
SRN				S	Sg	15 50 23.8	+2.4
SRN	Sarande	1.32	164	P	Pb	15 50 03.3	+0.2
SRN				iSg	Sg	15 50 22.8	+1.4
	SNR=9.0						
SRN				S	Sg	15 50 23.8	+2.4
SCTE	Santa Cesarea	1.34	217	Pg	Pn	15 50 02.7	-0.1
SCTE				Sg	Sg	15 50 22.7	+0.7
	2μm,0.6s						
SCTE	Santa Cesarea	1.34	217	Pg	Pn	15 50 02.7	-0.1
SCTE				Sg	Sg	15 50 22.7	+0.7
	2μm,0.6s						
BIA	Bitola	1.37	95	P	Pn	15 50 03.1	-0.2
BIA				S	Sn	15 50 21.3	+0.1
BIA	Bitola	1.37	95	ePn	Pn	15 50 01.9	-1.5
BIA				eSg	Sg	15 50 23.0	0.0
BIA	Bitola	1.37	95	ePn	Pn	15 50 01.8	-1.5
BIA	Bitola	1.37	95	P	Pn	15 50 03.1	-0.2
BIA				S	Sn	15 50 21.3	+0.1
BIA				eSg	Sg	15 50 23.0	0.0
NEST	Nestorio	1.38	122	P	Pb	15 50 04.1	0.0
NEST				S	Sg	15 50 24.0	+0.9
NEST	Nestorio	1.38	122	P	Pb	15 50 04.1	0.0
NEST				S	Sg	15 50 24.0	+0.9
MESG	Mesagne	1.38	247	Pg	Pn	15 50 03.5	+0.1
	2μm,0.8s						
MESG	Mesagne	1.38	247	Pg	Pn	15 50 03.5	+0.1
	2μm,0.8s						
KEK	Kerkira	1.45	171	P	Pn	15 50 04.7	+0.3
KEK				S	Sg	15 50 26.9	+1.4
KEK	Kerkira	1.45	171	Pg	Pn	15 50 04.7	+0.3
KEK				Sg

JAN	Janina	1.81 145	ePn	Pn	15 50 09.9	+0.6
JAN	Janina	1.81 145	P	Pb	15 50 11.0	-0.4
JAN			S	Sb	15 50 33.8	-0.1
JAN			eSn	Sb	15 50 34.6	+0.7
NOCI	Noci 589nm,0.3s	1.89 260	Pg	Pn	15 50 10.3	-0.1
NOCI	Noci 589nm,0.3s	1.89 260	Pg	Pn	15 50 10.3	-0.1
BRY	Bratogost	1.89 338	⇑iPn	Pn	15 50 11.1	+0.6
BRY			eSn	Sb	15 50 37.4	+0.9
BRY	Bratogost	1.89 338	⇑iPn	Pn	15 50 11.1	+0.6
BRY			eSn	Sb	15 50 37.4	+0.9
KZN	Kozani	1.91 116	P	Pn	15 50 11.3	+0.6
KZN			S	Sb	15 50 36.9	0.0
KZN	Kozani	1.91 116	ePB	Pn	15 50 11.4	+0.7
KZN			eSN	Sb	15 50 37.1	+0.2
KZN	Kozani	1.91 116	P	Pn	15 50 11.3	+0.6
KZN			S	Sb	15 50 36.9	0.0
BAI	Bari	1.99 270	ePn	Pn	15 50 11.7	0.0
UPM	Unac-Piva	2.10 348	⇑iPn	Pn	15 50 14.4	+1.0
UPM			eSn	Sb	15 50 42.0	-0.5
UPM	Unac-Piva	2.10 348	⇑iPn	Pn	15 50 14.4	+1.0
UPM			eSn	Sb	15 50 42.0	-0.5
SJES	Sjenica	2.13 9	ePn	Pn	15 50 15.1	+1.3
SJES	Sjenica	2.13 9	ePn	Pn	15 50 15.1	+1.3
PLE	Pljevlja	2.18 358	⇓iPn	Pn	15 50 16.2	+1.8
PLE			eSn	Sb	15 50 44.0	-0.7
PLE	Pljevlja	2.18 358	⇓iPn	Pn	15 50 16.2	+1.8
PLE			eSn	Sb	15 50 44.0	-0.7
STON	Ston	2.19 322	iPn	Pn	15 50 14.2	-0.2
STON			Sn	Sn	15 50 41.5	+0.2
STON	Ston	2.19 322	iPn	Pn	15 50 14.2	-0.2
STON			Sn	Sn	15 50 41.4	+0.2
AMUR	Altamura 325nm,0.6s	2.22 265	Pg	Pn	15 50 14.9	0.0
AMUR	Altamura 325nm,0.6s	2.22 265	Pg	Pn	15 50 14.9	0.0
VAY	Valandovo	2.31 85	P	Pn	15 50 15.5	-0.5
VAY	Valandovo	2.31 85	ePn	Pn	15 50 15.6	-0.5
VAY	Valandovo	2.31 85	ePn	Pn	15 50 15.6	-0.5
VAY			eSn	Sn	15 50 43.9	-0.3
VAY	Valandovo	2.31 85	P	Pn	15 50 15.5	-0.5
VAY			eSn	Sn	15 50 43.9	-0.3
SELS	Selova	2.38 29	ePn	Pn	15 50 18.4	+1.2
SELS			iSn	Sn	15 50 47.7	+1.6
BARS	Barje	2.39 45	ePn	Pn	15 50 18.7	+1.5
BARS			eSn	Sb	15 50 49.3	-1.3
BARS	Barje	2.39 45	ePn	Pn	15 50 18.7	+1.5
BARS			eSn	Sb	15 50 49.3	-1.3
MIGL	Miglionico	2.40 258	Pg	Pn	15 50 18.1	+0.8
MIGL	Miglionico	2.40 258	Pg	Pn	15 50 18.1	+0.8
THL	Klokotos Trika	2.48 129	P	Pn	15 50 19.8	+1.3
THL	Klokotos Trika	2.48 129	ePN	Pn	15 50 19.2	+0.7
THL			eSN	Sb	15 50 51.2	-2.0
THL	Klokotos Trika	2.48 129	ePn	Pn	15 50 19.2	+0.7
THL	Klokotos Trika	2.48 129	P	Pn	15 50 19.8	+1.3
THL			eSn	Sb	15 50 51.2	-2.0
MRVN	Minervino Murg 376nm,0.9s	2.51 269	Pg	Pn	15 50 19.1	+0.2
MRVN	Minervino Murg 376nm,0.9s	2.51 269	Pg	Pn	15 50 19.1	+0.2
LKD2	Lefkada island	2.52 159	ePN	Pn	15 50 19.3	+0.3
LKD2	Lefkada island	2.52 159	ePn	Pn	15 50 19.3	+0.3
KNT	Kendrikon	2.55 89	P	Pn	15 50 19.8	+0.3
KNT			S	Sn	15 50 51.3	+1.0
KNT	Kendrikon	2.55 89	P	Pn	15 50 19.8	+0.3
KNT			S	Sn	15 50 51.3	+1.0
ORI	Oriolo Calabro 534nm,0.4s	2.58 246	Pg	Pn	15 50 20.6	+0.8
ORI	Oriolo Calabro 534nm,0.4s	2.58 246	Pg	Pn	15 50 20.6	+0.8
PALZ	Palazzo San Ge	2.70 267	Pg	Pn	15 50 22.9	+1.4
PALZ	Palazzo San Ge	2.70 267	Pg	Pn	15 50 22.9	+1.4
BBLS	Lazići	2.71 358	iPn	Pn	15 50 23.2	+1.5
BBLS			iSn	Sn	15 50 56.9	+2.6
BBLS	Lazići	2.71 358	iPn	Pn	15 50 23.2	+1.5
BBLS			iSn	Sn	15 50 56.9	+2.6
ACER	Acerenza 919nm,0.8s	2.73 263	Pg	Pn	15 50 23.0	+1.0
ACER	Acerenza 919nm,0.8s	2.73 263	Pg	Pn	15 50 23.0	+1.0
MS1	Monte Sant'Ang	2.74 283	ePn	Pn	15 50 22.3	+0.1
MSAG	Monte S. Angel 376nm,0.7s	2.77 283	Pg	Pn	15 50 22.5	0.0
MSAG	Monte S. Angel 376nm,0.7s	2.77 283	Pg	Pn	15 50 22.5	0.0
HORT	Hortiatis	2.77 100	P	Pn	15 50 23.1	+0.5
HORT			S	Sn	15 50 56.2	+0.4
HORT	Hortiatis	2.77 100	P	Pn	15 50 23.1	+0.5
HORT			S	Sn	15 50 56.2	+0.4
SCHR	S. Chirico Rap 162nm,0.7s	2.79 251	Pg	Pn	15 50 23.2	+0.5
SCHR	S. Chirico Rap 162nm,0.7s	2.79 251	Pg	Pn	15 50 23.2	+0.5
EVR	Evrytania	2.84 141	ePN	Pn	15 50 24.7	+1.2
EVR	Evrytania	2.84 141	ePn	Pn	15 50 24.7	+1.2
TDS	Terranova Siba 37nm,0.7s	2.85 239	Pg	Pn	15 50 24.2	+0.7
TDS	Terranova Siba 37nm,0.7s	2.85 239	Pg	Pn	15 50 24.2	+0.7
GRUS	Gruza	2.87 18	iSn	Sn	15 51 00.0	+1.8
GRUS	Gruza	2.87 18	iSn	Sn	15 51 00.0	+1.8
SGRT	San Giovanni R 234nm,0.8s	2.90 283	Pg	Pn	15 50 24.2	-0.1
SGRT	San Giovanni R 234nm,0.8s	2.90 283	Pg	Pn	15 50 24.2	-0.1
SOH	Sokhos	2.92 95	ePN	Pn	15 50 24.6	0.0
SOH	Sokhos	2.92 95	ePn	Pn	15 50 24.6	0.0
SIRI	Monte Sirino - 193nm,0.6s	2.94 252	Pg	Pn	15 50 25.1	+0.2
SIRI	Monte Sirino - 193nm,0.6s	2.94 252	Pg	Pn	15 50 25.1	+0.2
MCEL	Monticello 101nm,1.1s	2.94 255	Pg	Pn	15 50 25.5	+0.6
MCEL	Monticello 101nm,1.1s	2.94 255	Pg	Pn	15 50 25.5	+0.6
VULT	Monte Vulture	2.96 267	Pg	Pn	15 50 27.1	+2.0
VULT	Monte Vulture	2.96 267	Pg	Pn	15 50 27.1	+2.0
DIVS	Divibare	2.96 7	P	Pn	15 50 26.0	+0.8
DIVS	Divibare	2.96 7	iPn	Pn	15 50 26.0	+0.8
DIVS			iSn	Sn	15 51 02.6	+2.1
DIVS	Divibare	2.96 7	P	Pn	15 50 26.0	+0.8
DIVS			iSn	Sn	15 51 02.6	+2.1
MMN	Mormanno 152nm,1.1s	2.97 246	Pg	Pn	15 50 24.7	-0.5
MMN	Mormanno 152nm,1.1s	2.97 246	Pg	Pn	15 50 24.7	-0.5
MTSN	Montesano sull 263nm,0.7s	3.00 254	Pg	Pn	15 50 25.9	+0.2
MTSN	Montesano sull 263nm,0.7s	3.00 254	Pg	Pn	15 50 25.9	+0.2
SERS	Sersale 186nm,1.0s	3.03 227	Pg	Pn	15 50 25.8	-0.3
SERS	Sersale 186nm,1.0s	3.03 227	Pg	Pn	15 50 25.8	-0.3
AGG	Agios Georgios	3.03 134	P	Pn	15 50 27.5	+1.4
AGG	Agios Georgios	3.03 134	ePN	Pn	15 50 27.5	+1.4
AGG	Agios Georgios	3.03 134	P	Pn	15 50 27.5	+1.4
CUC	Castrocucco 233nm,1.0s	3.05 249	Pg	Pn	15 50 26.8	+0.5
CUC	Castrocucco 233nm,1.0s	3.05 249	Pg	Pn	15 50 26.8	+0.5
MRLC	Muro Lucano 420nm,1.2s	3.08 264	Pg	Pn	15 50 27.8	+1.1
MRLC	Muro Lucano 420nm,1.2s	3.08 264	Pg	Pn	15 50 27.8	+1.1
SRS	Serrai	3.08 89	P	Pn	15 50 27.1	+0.4
SRS	Serrai	3.08 89	P	Pn	15 50 27.1	+0.4
PLG	Polygyros	3.08 103	P	Pn	15 50 27.7	+0.9
PLG	Polygyros	3.08 103	P	Pn	15 50 27.7	+0.9
VLS	Valsamata	3.08 164	ePN	Pn	15 50 27.0	+0.2
VLS	Valsamata	3.08 164	ePn	Pn	15 50 27.0	+0.2
VTS	Vitosha	3.11 61	P	Pn	15 50 27.2	-0.1
VTS	Vitosha	3.11 61	⇓iP	Pn	15 50 28.7	+1.4
VTS	Vitosha	3.11 61	P	Pn	15 50 27.2	-0.1
ZAPS	Zavoj	3.14 46	ePn	Pn	15 50 29.3	+1.7
ZAPS	Zavoj	3.14 46	ePn	Pn	15 50 29.3	+1.7
MGR	Morigerati 509nm,1.6s	3.18 253	Pg	Pn	15 50 29.2	+1.1
MGR	Morigerati 509nm,1.6s	3.18 253	Pg	Pn	15 50 29.2	+1.1
CAFE	Carife 671nm,1.5s	3.24 269	Pg	Pn	15 50 29.9	+0.9
CAFE	Carife 671nm,1.5s	3.24 269	Pg	Pn	15 50 29.9	+0.9
CDRU	Civita di Ruta 109nm,0.9s	3.27 260	Pg	Pn	15 50 29.5	+0.2
CDRU	Civita di Ruta 109nm,0.9s	3.27 260	Pg	Pn	15 50 29.5	+0.2
EFP	Efpalio	3.29 145	ePN	Pn	15 50 30.8	+1.3
EFP	Efpalio	3.29 145	ePn	Pn	15 50 30.8	+1.3
MOCO	Biccari - m.te	3.29 275	Pg	Pn	15 50 30.8	+1.1
CMPR	Campora 148nm,0.7s	3.31 257	Pg	Pn	15 50 30.4	+0.5
CMPR	Campora 148nm,0.7s	3.31 257	Pg	Pn	15 50 30.4	+0.5
MCRV	Calabrutti - M 186nm,0.8s	3.31 265	Pg	Pn	15 50 30.6	+0.6
MCRV	Calabrutti - M 186nm,0.8s	3.31 265	Pg	Pn	15 50 30.6	+0.6
BULG	Bulgheria - Ca 225nm,0.7s	3.33 253	Pg	Pn	15 50 30.7	+0.5
BULG	Bulgheria - Ca 225nm,0.7s	3.33 253	Pg	Pn	15 50 30.7	+0.5
XOR	Xorichti	3.33 121	P	Pn	15 50 30.7	+0.5
XOR	Xorichti	3.33 121	P	Pn	15 50 30.7	+0.5
MELA	Melanico ??? S 678nm,1.1s	3.35 281	Pg	Pn	15 50 30.8	+0.4
MELA	Melanico ??? S 678nm,1.1s	3.35 281	Pg	Pn	15 50 30.8	+0.4
NEO	Neokhori	3.38 122	ePN	Pn	15 50 31.8	+0.9
NEO	Neokhori	3.38 122	ePn	Pn	15 50 31.8	+0.9
PAIG	Paliouri	3.40 110	ePN	Pn	15 50 32.2	+1.1
PAIG			eSN	Sn	15 51 12.7	+1.6
PAIG	Paliouri	3.40 110	ePn	Pn	15 50 32.2	+1.1
PAIG			eSn	Sn	15 51 12.7	+1.6
TRIZ	Trizonia	3.41 144	ePN	Pn	15 50 33.2	+2.0
TRIZ	Trizonia	3.41 144	ePn	Pn	15 50 33.2	+2.0
LAKA	Lakka	3.47 146	ePN	Pn	15 50 33.2	+1.0
LAKA	Lakka	3.47 146	ePn	Pn	15 50 33.2	+1.0
PLAC	Placanica	3.59 222	Pg	Pn	15 50 33.5	-0.3
PLAC	Placanica	3.59 222	Pg	Pn	15 50 33.5	-0.3
LKR	Lokris	3.66 132	ePN	Pn	15 50 36.0	+1.3
LKR	Lokris	3.66 132	ePn	Pn	15 50 36.0	+1.3
PTRJ	Pietraroja 228nm,0.7s	3.77 275	Pg	Pn	15 50 37.3	+1.1
PTRJ	Pietraroja 228nm,0.7s	3.77 275	Pg	Pn	15 50 37.3	+1.1
KAVA	Kavala	3.78 91	P	Pn	15 50 36.7	+0.4
KAVA			S	Sn	15 51 21.3	+0.8
KAVA	Kavala	3.78 91	P	Pn	15 50 36.7	+0.4
KAVA			S	Sn	15 51 21.3	+0.8
SGG	Gregorio Mates 92nm,0.5s	3.88 275	Pg	Pn	15 50 39.1	+1.3
SGG	Gregorio Mates 92nm,0.5s	3.88 275	Pg	Pn	15 50 39.1	+1.3
GUR	Goura	3.88 145	ePN	Pn	15 50 39.1	+1.2
GUR	Goura	3.88 145	ePn	Pn	15 50 39.1	+1.2
AOS	Alonnisos	3.88 119	ePN	Pn	15 50 38.0	+0.2
AOS			eSN	Sn	15 51 24.7	+1.6
AOS	Alonnisos	3.88 119	ePn	Pn	15 50 38.0	+0.2
AOS			eSn	Sn	15 51 24.7	+1.6
BLY	Banja Luka	3.98 335	ePn	Pn	15 50 40.1	+1.0
BLY	Banja Luka	3.98 335	ePn	Pn	15 50 40.1	+1.0
MIDA	Miranda 76nm,0.5s	3.99 279	Pg	Pn	15 50 40.1	+0.8
MIDA	Miranda 76nm,0.5s	3.99 279	Pg	Pn	15 50 40.1	+0.8
VAGA	Valle Agricola 76nm,0.4s	3.99 276	Pg	Pn	15 50 40.7	+1.4
VAGA	Valle Agricola 76nm,0.4s	3.99 276	Pg	Pn	15 50 40.7	+1.4
AMT	Artemida-Makis	3.99 154	ePN	Pn	15 50 40.0	+0.7
AMT	Artemida-Makis	3.99 154	ePn	Pn	15 50 40.0	+0.7
SOI	Samo 74nm,1.0s	4.08 222	Pg	Pn	15 50 40.0	-0.4
SOI	Samo 74nm,1.0s	4.08 222	Pg	Pn	15 50 40.0	-0.4
LTK	Loutraki	4.11 138	ePN	Pn	15 50 42.2	+1.3
LTK	Loutraki	4.11 138	ePn	Pn	15 50 42.2	+1.3
CERA	Filignano 305nm,1.1s	4.16 278	Pg	Pn	15 50 43.4	+1.8
CERA	Filignano 305nm,1.1s	4.16 278	Pg	Pn	15 50 43.4	+1.8
INTR	Introdacqua 133nm,0.7s	4.30 283	Pg	Pn	15 50 44.4	+0.9
INTR	Introdacqua 133nm,0.7s	4.30 283	Pg	Pn	15 50 44.4	+0.9
UDBI	Udbina	4.36 322	ePn	Pn	15 50 45.5	+1.2
UDBI			Sn	Sn	15 51 36.1	+1.2
UDBI	Udbina	4.36 322	ePn	Pn	15 50 45.5	+1.2
UDBI			Sn	Sn	15 51 36.0	+1.2
VLX	Vlachokerasia	4.38 149	ePN	Pn	15 50 45.6	+0.9
VLX	Vlachokerasia	4.38 149	ePn	Pn	15 50 45.6	+0.9
ITM	Ithomi	4.39 154	ePN	Pn	15 50 45.8	+1.1
ITM	Ithomi	4.39 154	ePn	Pn	15 50 45.8	+1.1
POFI	Posta Fibreno	4.40 279	Pg	Pn	15 50 46.2	+1.3
POFI	Posta Fibreno	4.40 279	Pg	Pn	15 50 46.2	+1.3
VVLD	Villa Vallelon 53nm,0.5s	4.48 281	Pg	Pn	15 50 47.2	+1.1
VVLD	Villa Vallelon 53nm,0.5s	4.48 281	Pg	Pn	15 50 47.2	+1.1
LIA	Limnos Island	4.50 104	ePN	Pn	15 50 46.9	+0.8
LIA	Limnos Island	4.50 104	ePn	Pn	15 50 46.9	+0.8
RDO	Rodhopi	4.55 88	ePN	Pn	15 50 47.2	+0.4
RDO	Rodhopi	4.55 88	ePn	Pn	15 50 47.2	+0.4
PTL	Penteli	4.57 131	ePN	Pn	15 50 47.8	+0.6
PTL	Penteli	4.57 131	ePn	Pn	15 50 47.8	+0.6
PYL	PYLOS	4.59 157	ePN	Pn	15 50 49.2	+1.7
PYL	PYLOS	4.59 157	ePn	Pn	15 50 49.2	+1.7
SMTH	Samothraki Isl	4.61 97	ePN	Pn	15 50 48.4	+0.6
SMTH	Samothraki Isl	4.61 97	ePn	Pn	15 50 48.4	+0.6
DID	Didima	4.64 140	ePN	Pn	15 50 49.7	+1.4
DID	Didima	4.64 140	ePn	Pn	15 50 49.7	+1.4
TERO	Teramo 54nm,0.6s	4.65 290	Pg	Pn	15 50 49.0	+0.6
TERO	Teramo 54nm,0.6s	4.65 290	Pg	Pn	15 50 49.0	+0.6
BZS	Buzias	4.72 18	⇑iP	Pn	15 50 49.5	+0.3
NVLJ	Novalja	4.83 316	ePn	Pn	15 50 50.3	-0.3
NVLJ			Sn	Sn	15 51 43.9	-2.3
NVLJ	Novalja	4.83 316	ePn	Pn	15 50 50.3	-0.3
NVLJ			Sn	Sn	15 51 43.9	-2.3
GZR	Gura Zlata	4.86 28	⇓iP	Pn	15 50 53.7	+2.5
DYR	Agios Nikonas	4.90 153	ePN	Pn	15 50 53.3	+1.5
DYR	Agios Nikonas	4.90 153	ePn	Pn	15 50 53.3	+1.5
ALN	Alexandroupoli	4.95 91	ePN	Pn	15 50 52.9	+0.6
ALN	Alexandroupoli	4.95 91	ePn	Pn	15 50 52.9	+0.6
PKSM	Moragy	5.10 353	⇓iP	Pn	15 50 59.3	+4.9
PKSM	Moragy	5.10 353	e	Pn	15 50 54.4	0.0
PKSM	Moragy	5.10 353	eP	Pn	15 50 54.4	0.0
VLI	Veliai	5.17 148	ePN	Pn	15 50 56.8	+1.4
VLI	Veliai	5.17 148	ePn	Pn	15 50 56.8	+1.4
BOJS	Bojanci	5.35 326	iPn	Pn	15 50 58.2	+0.3
BOJS			iSn	Sn	15 51 59.7	+0.6
BOJS	Bojanci	5.35 326	iPn	Pn	15 50 58.2	+0.3
BOJS			iSn	Sn	15 51 59.7	+0.6
KYTH	Kithira	5.59 149	ePN	Pn	15 51 02.7	+1.5
KYTH	Kithira	5.59 149	ePn	Pn	15 51 02.7	+1.5
BEHE	Becsehely	5.67 340	e	Pb	15 51 13.4	-3.9
CHOS	Chios island	5.74 117	ePN	Pn	15 51 05.0	+1.6
CHOS	Chios island	5.74 117	ePn	Pn	15 51 05.0	+1.6
VOIR		5.88 41	⇓iP	Pn	15 51 07.4	+2.1
CEY	Cerknica	5.89 323	iPn	Pn	15 51 05.8	+0.4
CEY	comp=Z,18nm,0.3s					
CEY	Cerknica	5.89 323	iPn	Pn	15 51 05.8	+0.4
CEY			iSn	Sn	15 52 12.5	-0.1
	comp=Z,18nm,0.3s					
PDKS	Podkum	5.90 328	iPn	Pn	15 51 05.8	+0.3
PDKS			eSn	Sn	15 52 09.4	-3.5
PDKS	Podkum	5.90 328	iPn	Pn	15 51 05.8	+0.3
SKDS	Skadanscina	5.95 319	iPn	Pn	15 51 05.9	-0.2
SKDS			iSn	Sn	15 52 11.7	-2.2
SKDS	Skadanscina	5.95 319	iPn	Pn	15 51 05.9	-0.2
SKDS			iSn	Sn	15 52 11.7	-2.2
ANKY	Antikythira Is	6.05 149	ePN	Pn	15 51 08.9	+1.3
ANKY	Antikythira Is	6.05 149	ePn	Pn	15 51 08.9	+1.3
JAVS	Javornik	6.18 322	iPn	Pn	15 51 09.6	+0.2
JAVS			iSn	Sn	15 52 17.5	-2.2
JAVS	Javornik	6.18 322	iPn	Pn	15 51 09.6	+0.2
JAVS			iSn	Sn	15 52 17.5	-2.2
VOY	Vojsko	6.36 322	ePn	Pn	15 51 12.0	+0.2
VOY			e		15 51 19.7	
VOY			eSn	Sn	15 52 22.1	-2.1
VOY			e		15 52 22.8	
VOY	Vojsko	6.36 322	ePn	Pn	15 51 12.0	+0.2
VOY			eSn	Sn	15 52 22.1	-2.1
MLR	Muntele Rosu	6.38 45	⇑iP	Pn	15 51 15.3	+3.1
MLR	Muntele Rosu comp=Z,0.2nm,0.3s,baz=180,slow=5.1,SNR=7.8	6.38 45	Pn	Pn	15 51 15.0	+2.8
OBKA	Obir	6.45 328	⇑iPn	Pn	15 51 12.9	-0.2
OBKA			⇓iSn	Sn	15 52 24.4	-1.9
OBKA	Obir	6.45 328	Pn	Pn	15 51 12.9	-0.2
OBKA			Sn	Sn	15 52 24.4	-1.9
KECS	Kecovo	7.36 5	ePN	Pn	15 51 27.5	+2.0
KECS			e		15 52 52.8	
KECS	Kecovo	7.36 5	ePn	Pn	15 51 27.5	+2.0
CRVS	Cervenica-Dubn	7.87 9	ePN	Pn	15 51 33.8	+1.3
CRVS	Cervenica-Dubn	7.87 9	ePn	Pn	15 51 33.8	+1.3
KOLS	Kolonicke sedl	8.02 13	ePN	Pn	15 51 36.8	+2.2
KOLS			eSN	Sn	15 53 03.8	-1.1
KOLS	Kolonicke sedl	8.02 13	ePn	Pn	15 51 36.9	+2.3
KOLS			eSn	Sn	15 53 03.8	-1.1
WTTA	Wattenberg	8.33 320	⇓iPn	Pn	15 51 39.4	+0.5
WTTA	Wattenberg	8.33 320	Pn	Pn	15 51 39.4	+0.5
STHS	Stebnicka Huta	8.35 8	ePN	Pn	15 51 45.7	+6.6
GERES	GERESS Array B comp=Z,0.3nm,0.3s,baz=161,slow=12,SNR=6.9	8.72 334	Pn	Pn	15 51 45.9	+1.6
GERES			Sn	Sn	15 53 20.5	-1.8
KHC	Kasperske Hory comp=Z,0.7nm,0.3s,baz=156,slow=24,SNR=6.1	9.01 334	ePN	Pn	15 51 48.5	+0.3
KHC			eSN	Sn	15 53 25.4	-3.9
KHC	Kasperske Hory	9.01 334	Pn	Pn	15 51 48.5	+0.3
BRTR	Keskin Array B comp=Z,0.2nm,0.3s,baz=280,slow=12,SNR=7.4	10.86 93	Pn	Pn	15 52 14.8	+1.2
FINES	FINESS Array B comp=Z,1.2nm,0.7s,baz=194,slow=11,SNR=4.8	20.71 9	P	P	15 54 17.2	-0.8
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.9s,baz=26,slow=9.6,SNR=2.5	31.95 214	P	P	15 56 03.5	-0.4
ZALV	Zalesovo Beam comp=Z,1.0nm,0.4s,baz=290,slow=8.9,SNR=6.0	44.33 50	P	P	15 57 46.3	-1.5
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=284,slow=7.2,SNR=5.7	44.46 61	P	P	15 57 47.6	-1.4

*NEIC **13** 15:50:11.9, 18.°98N×65.°79W, h103km, MD2.8(RSPR), After RSPR.*

RSPR 13 15:50:11.9, 18.°98N×65.°79W, h103km±8km, MD2.8/3, 12C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.71	185	eP	Pn	15 50 27.6	-2.1
CBYP	Canovanas	0.71	185	eS	Sn	15 50 42.1	-0.9
CBYP	Canovanas	0.71	185	eP	Pn	15 50 27.6	-2.1
CBYP				eS	Sn	15 50 42.1	-0.9
CBYP	Canovanas	0.71	185	eP	Pn	15 50 27.6	-2.1
CBYP				eS	Sn	15 50 42.1	-0.9
HUMP	Col San Antoni	0.83	184	eP	Pn	15 50 30.4	-0.4
HUMP	Col San Antoni	0.83	184	eS	Sn	15 50 44.3	-0.7
HUMP	Col San Antoni	0.83	184	eP	Pn	15 50 30.4	-0.4
HUMP				eS	Sn	15 50 44.3	-0.7
HUMP	Col San Antoni	0.83	184	eP	Pn	15 50 30.4	-0.4
HUMP				eS	Sn	15 50 44.3	-0.7
STVI	Saint Thomas	1.01	128	eP	Pn	15 50 32.3	-0.3
STVI	Saint Thomas	1.01	128	eS	Sn	15 50 48.2	+0.1
STVI	Saint Thomas	1.01	128	eP	Pn	15 50 32.3	-0.3
STVI				eS	Sn	15 50 48.2	+0.1
STVI	Saint Thomas	1.01	128	eP	Pn	15 50 32.3	-0.3
STVI				eS	Sn	15 50 48.2	+0.1
AOPR	Arecibo Observ	1.11	236	eP	Pn	15 50 32.9	-0.8
AOPR	Arecibo Observ	1.11	236	eS	Sn	15 50 50.5	+0.3
AOPR	Arecibo Observ	1.11	236	eP	Pn	15 50 32.9	-0.8
AOPR				eS	Sn	15 50 50.5	+0.3
AOPR	Arecibo Observ	1.11	236	eP	Pn	15 50 32.9	-0.8
AOPR				eS	Sn	15 50 50.5	+0.3

*NEIC **13** 15:50:50.0, 18.°95N×65.°78W, h112km, MD3.0(RSPR), After RSPR.*

RSPR 13 15:50:50.0, 18.°95N×65.°78W, h112km±10km, MD3.0/4, 9C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	0.68	186	eS	Sn	15 51 21.5	-0.9
CBYP	Canovanas	0.68	186	eS	Sn	15 51 21.5	-0.9
HUMP	Col San Antoni	0.81	185	eS	Sn	15 51 24.8	+0.6
HUMP	Col San Antoni	0.81	185	eP	Pn	15 51 09.5	0.0
HUMP	Col San Antoni	0.81	185	eP	Pn	15 51 09.5	0.0
HUMP				eS	Sn	15 51 24.8	+0.6
HUMP	Col San Antoni	0.81	185	eP	Pn	15 51 09.5	0.0
HUMP				eS	Sn	15 51 24.8	+0.6
SJG	San Juan	0.91	203	eP	Pn	15 51 09.5	-0.9
SJG				eS	Sn	15 51 25.2	-0.5
SJG	San Juan	0.91	203	eP	Pn	15 51 09.5	-0.9
SJG				eS	Sn	15 51 25.2	-0.5
SJG	San Juan	0.91	203	eP	Pn	15 51 09.5	-0.9
SJG				eS	Sn	15 51 25.2	-0.5
STVI	Saint Thomas	0.99	127	eP	Pn	15 51 10.9	-0.3
STVI	Saint Thomas	0.99	127	eP	Pn	15 51 10.9	-0.3
STVI	Saint Thomas	0.99	127	eP	Pn	15 51 10.9	-0.3
AOPR	Arecibo Observ	1.10	237	eP	Pn	15 51 12.0	-0.4
AOPR	Arecibo Observ	1.10	237	eS	Sn	15 51 29.4	+0.1
AOPR	Arecibo Observ	1.10	237	eP	Pn	15 51 12.0	-0.4
AOPR				eS	Sn	15 51 29.4	+0.1
AOPR	Arecibo Observ	1.10	237	eP	Pn	15 51 12.0	-0.4
AOPR				eS	Sn	15 51 29.4	+0.1

*ISCJB **13** 16:04:38.7±0.5, 2.°82S±0.°05×138.°40E±0.°05, h62km, mb3.7/7, Error ellipse: s-maj=7.4km s-min=5.7km az=136.4*

*AUST **13** 16:04:39.5, 2.°94S×138.°52E, h35km*

*DJA **13** 16:04:40.0±2.6, 2.°S±7.°×13.°8E±.°, h22km±33km, M5.0/6, mb5.1/3, mB5.2/1, MLv4.9/6, Mw(mB)4.5/1*

*IDC **13** 16:04:42.6±3.8, 2.°80S×138.°35E, h85km±38km, mb3.

0.7nm,0.3s,baz=12,slow=22,SNR=12
CTA Charters Tower 18.76 156 P **Pn 16 08 55.3 +0.1**
0.2nm,0.3s,baz=327,slow=12,SNR=4.6
FITZ Fitzroy Crossi 19.62 219 P **P 16 09 04.5 +0.9**
0.3nm,0.3s,baz=51,slow=15,SNR=10
FITZ S **S 16 12 35.3 -6.6**
0.6nm,0.3s,baz=324,slow=19,SNR=6.1
FITZ Fitzroy Crossi 19.62 219 P **Pn 16 09 05.0 -0.5**
FITZ S **S 16 12 37.2 -4.7**
baz=20,SNR=5.7
ASAR Alice Springs 21.12 191 P **P 16 09 21.2 +1.4**
4.0nm,0.6s,baz=21,slow=11,SNR=76
ASAR S **S 16 13 09.0 -2.5**
4.2nm,0.8s,baz=13,slow=21,SNR=13
PATS Pohnpei 22.11 64 S Sn 16 13 44.3 -0.8
baz=22,SNR=3.7
STKA Stephens Creek 29.01 174 P **P 16 10 35.2 +1.1**
0.7nm,0.4s,baz=350,slow=8.4,SNR=10
STKA Stephens Creek 29.01 174 P **P 16 10 35.8 +1.6**
baz=29,SNR=7.9
KSRS Korea Array 41.28 347 P **P 16 12 19.4 +0.1**
1.1nm,0.8s,baz=165,slow=9.4,SNR=6.7
PETK Petropavlovsk- 58.10 14 P **P 16 14 26.9 0.0**
1.2nm,0.7s,baz=165,slow=6.2,SNR=4.4
MKAR Makanchi Array 69.72 323 P **P 16 15 43.0 -0.5**
0.9nm,0.9s,baz=120,slow=7.4,SNR=5.6
VNDA Vanda 75.65 175 P **P 16 16 19.3 +1.2**
0.7nm,0.6s,baz=325,slow=7.1,SNR=8.6
MAW Mawson 81.85 202 P P 16 16 57.3 +5.0
baz=82,SNR=41
ILAR Eielson Array 86.12 24 P **P 16 17 12.1 -2.0**
0.1nm,0.5s,baz=244,slow=5.6,SNR=4.6

WEL 13 16:08:32.9±0.3, 45°.34S×166°.77E, h27km±1km, ML3.7/18, 2D, Error ellipse: s-maj=2.6km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**117**	⇓P*	Pb	16 08 39.8	-0.4
DCZ				S*	Sb	16 08 44.3	-0.8
DCZ				AML	AML	16 08 44.7	
MLZ	**Mavora Lakes**	**0.99**	**91**	PN	Pn	16 08 50.0	-1.2
MLZ				AML	AML	16 09 04.7	
MLZ				AML	AML	16 09 05.4	
WHZ	**Wether Hill Ro**	**1.00**	**124**	PN	Pn	16 08 51.0	-0.2
WHZ				SN	Sb	16 09 04.3	-0.1
WHZ				AML	AML	16 09 04.5	
MSZ	**Milford Sound**	**1.06**	**51**	PN	Pn	16 08 50.6	-1.3
MSZ				AML	AML	16 09 07.3	
MSZ				AML	AML	16 09 07.3	
MSZ				AML	AML	16 09 07.4	
MSZ				AML	AML	16 09 07.5	
WKZ	**Wanaka**	**1.67**	**73**	PN	Pn	16 09 01.8	+1.3
WKZ				AML	AML	16 09 24.7	
WKZ				AML	AML	16 09 24.8	
WKZ				AML	AML	16 09 30.8	
APZ	**The Paps**	**1.72**	**151**	PN	Pb	16 09 02.9	-1.0
EAZ	**Earnscleugh**	**1.80**	**87**	PN	Pn	16 09 03.4	+1.2
EAZ				AML	AML	16 09 26.1	
EAZ				AML	AML	16 09 26.1	
EAZ				AML	AML	16 09 27.3	
EAZ				AML	AML	16 09 29.3	
JCZ	**Jackson Bay**	**1.90**	**49**	PN	Pn	16 09 05.4	+1.7
JCZ				AML	AML	16 09 34.5	
JCZ				AML	AML	16 09 35.5	
SYZ	**Scrubby Hill**	**2.04**	**127**	⇓PN	Pn	16 09 06.5	+1.0
TUZ	**Tuapeka**	**2.10**	**108**	PN	Pn	16 09 07.9	+1.5
TUZ				SN	Sn	16 09 33.1	+1.6
TUZ				AML	AML	16 09 42.9	
LBZ	**Lake Benmore**	**2.61**	**70**	PN	Pn	16 09 13.6	+0.2
LBZ				AML	AML	16 09 49.4	
LBZ				AML	AML	16 09 51.0	
FOZ	**Fox Glacier**	**2.74**	**51**	PN	Pn	16 09 16.2	+1.1
FOZ				AML	AML	16 10 02.0	
FOZ				AML	AML	16 10 02.9	
ODZ	**Otahua Downs**	**2.76**	**85**	PN	Pn	16 09 15.4	+0.1
RPZ	**Rata Peaks**	**3.47**	**64**	PN	Pn	16 09 25.4	+0.2
RPZ				AML	AML	16 10 12.7	
MQZ	**McQueen's Vall**	**4.51**	**71**	PN	Pn	16 09 38.9	-0.6
LTZ	**Lake Taylor**	**4.72**	**59**	PN	Pn	16 09 42.0	-0.4
THZ	**Tophouse**	**5.71**	**53**	PN	Pn	16 09 55.9	-0.2
QRZ	**Quartz Range**	**6.17**	**45**	PN	Pn	16 10 01.4	-0.9
QRZ				AML	AML	16 10 55.9	
NNZ	**Nelson**	**6.34**	**52**	PN	Pn	16 10 05.1	+0.5

*ISCJB **13** 16:18:41.8±0.2, 43°.53N±0°.01×105°.35W±0°.02, h0km, Error ellipse: s-maj=1.9km s-min=1.7km az=29.0*
*IDC **13** 16:18:41.4±1.9, 43°.55N×105°.51W, h0km, mb1 3.7/3, mb1mx3.4/28, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=47.2km s-min=9.7km az=151.0*
*NEIC **13** 16:18:43.4±0.4, 43°.56N×105°.26W, h10km, ML3.3, Error ellipse: s-maj=6.3km s-min=5.4km az=173.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] SSE of Gillette.

ISC 13 16:18:42.3±0.7, 43°.53N±0°.02×105°.36W±0°.01, h0km, n202, σ1§08/239, 82C-98D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.18**	**229**	⇓P	Pg	16 18 46.8	+1.0
J23A	baz=0.3			⇓S	Sg	16 18 49.9	+1.7
J23A	**Dilts Ranch, B**	**0.18**	**229**	⇓P	Pg	16 18 46.8	+1.0
J23A	baz=0.3			⇓S	Sg	16 18 49.9	+1.7
I23A	**Meade Ranch, G**	**0.44**	**351**	P	Pg	16 18 52.0	+1.2
I23A	baz=0.4,SNR=22			⇑S	Sg	16 18 57.6	+1.1
I23A	**Meade Ranch, G**	**0.44**	**351**	P	Pg	16 18 52.0	+1.2
I23A	baz=0.4,SNR=22			⇑S	Sg	16 18 57.6	+1.1
J24A	**Dixon Ranch, L**	**0.55**	**111**	P	Pg	16 18 53.5	+0.7
J24A	**Dixon Ranch, L**	**0.55**	**111**	P	Pg	16 18 53.5	+0.7
I24A	**Kuemmerle Ranc**	**0.63**	**58**	⇑P	Pg	16 18 54.9	+0.5
I24A	**Kuemmerle Ranc**	**0.63**	**58**	⇑P	Pg	16 18 54.9	+0.5
K23A	**Bowen Ranch, D**	**0.79**	**194**	⇓P	Pg	16 18 57.5	0.0
K23A	**Bowen Ranch, D**	**0.79**	**194**	⇓P	Pg	16 18 57.5	0.0
J22A	**Midwest**	**0.82**	**263**	⇓P	Pg	16 18 58.1	+0.1
J22A	baz=0.9			⇑S	Sg	16 19 09.8	+1.2
J22A	**Midwest**	**0.82**	**263**	⇓P	Pg	16 18 58.1	+0.1
J22A	baz=0.9			⇑S	Sg	16 19 09.8	+1.2
I22A	**9 Mile Ranch,**	**0.89**	**295**	P	Pg	16 18 59.8	+0.4
I22A	baz=0.9,SNR=63			⇓S	Sb	16 19 12.4	-0.8
I22A	**9 Mile Ranch,**	**0.89**	**295**	P	Pg	16 18 59.8	+0.4
I22A	baz=0.9,SNR=63			⇓S	Sb	16 19 12.4	-0.8
K24A	**Anderson Ranch**	**0.90**	**153**	⇑P	Pg	16 18 59.5	0.0
K24A	**Anderson Ranch**	**0.90**	**153**	⇑P	Pg	16 18 59.5	0.0
H23A	**Clabaugh Cattl**	**1.04**	**359**	P	Pg	16 19 02.2	0.0
H23A	**Clabaugh Cattl**	**1.04**	**359**	P	Pg	16 19 02.2	0.0
RSSD	**Black Hills**	**1.13**	**58**	*e*Pg	Pg	16 19 01.7	-2.3
J25A	**Sunshine Ranch**	**1.14**	**96**	⇑P	Pg	16 19 04.3	+0.1
J25A	**Sunshine Ranch**	**1.14**	**96**	⇑P	Pg	16 19 04.3	+0.1
K22A	**Casper**	**1.22**	**225**	⇓P	Pg	16 19 04.9	-0.7
K22A	**Casper**	**1.22**	**225**	⇓P	Pg	16 19 04.9	-0.7
I25A	**Rochford**	**1.28**	**67**	⇓P	Pg	16 19 06.1	-0.8
I25A	baz=1.2,SNR=56			⇓S	Sg	16 19 23.7	+0.3
I25A	**Rochford**	**1.28**	**67**	⇓P	Pg	16 19 06.1	-0.8
I25A	baz=1.2,SNR=56			⇓S	Sg	16 19 23.7	+0.3
H22A	**Clearmont**	**1.28**	**327**	⇑Pg	Pg	16 19 07.3	+0.4
H22A	**Clearmont**	**1.28**	**327**	⇑Pg	Pg	16 19 07.3	+0.4
H24A	**Dirks Ranch, A**	**1.35**	**25**	⇓P	Pg	16 19 07.2	-1.0
H24A	baz=1.3			⇓S	Sg	16 19 26.1	+0.2
H24A	**Dirks Ranch, A**	**1.35**	**25**	⇓P	Pg	16 19 07.2	-1.0
H24A	baz=1.3			⇓S	Sg	16 19 26.1	+0.2
K25A	**Mack Ranch, Ha**	**1.43**	**129**	⇓Pg	Pg	16 19 09.8	+0.3
K25A	**Mack Ranch, Ha**	**1.43**	**129**	⇓Pg	Pg	16 19 09.8	+0.3
I21A	**Big Trails, Te**	**1.43**	**282**	⇑Pb	Pn	16 19 08.7	-1.0
I21A	baz=1.5			⇓S	Sg	16 19 27.9	-0.2
I21A	**Big Trails, Te**	**1.43**	**282**	⇑Pb	Pn	16 19 08.7	-1.0
I21A	baz=1.5			⇓S	Sg	16 19 27.9	-0.2
L23A	**Garrett**	**1.43**	**190**	⇑Pb	Pn	16 19 08.7	-1.1
L23A	**Garrett**	**1.43**	**190**	⇑Pb	Pn	16 19 08.7	-1.1
L24A	**Wheatland**	**1.52**	**168**	⇑Pb	Pn	16 19 10.3	-0.5
L24A	**Wheatland**	**1.52**	**168**	⇑Pb	Pn	16 19 10.3	-0.5
J21A	**Lysite**	**1.53**	**264**	⇑Pb	Pn	16 19 10.4	-0.7
J21A	baz=1.6			⇓Sb	Sn	16 19 31.4	-0.3
J21A	**Lysite**	**1.53**	**264**	⇑Pb	Pn	16 19 10.4	-0.7
J21A	baz=1.6			⇓Sb	Sn	16 19 31.4	-0.3
H21A	**Big Horn, Sher**	**1.64**	**313**	⇓Pb	Pn	16 19 12.9	+0.4
H21A	baz=1.7,SNR=54			⇑Sg	Sg	16 19 36.8	+1.9
H21A	**Big Horn, Sher**	**1.64**	**313**	⇓Pb	Pn	16 19 12.9	+0.4
H21A	baz=1.7,SNR=54			⇑Sg	Sg	16 19 36.8	+1.9
K21A	**Alcova**	**1.65**	**238**	⇓Pb	Pn	16 19 12.6	-0.1
K21A	baz=1.7			⇑Sb	Sn	16 19 35.1	+0.5
K21A	**Alcova**	**1.65**	**238**	⇓Pb	Pn	16 19 12.6	-0.1
K21A	baz=1.7			⇑Sb	Sn	16 19 35.1	+0.5
G23A	**Biddle**	**1.68**	**359**	⇓Pb	Pn	16 19 13.5	+0.5
G23A	baz=1.6			⇑Sg	Sg	16 19 38.1	+1.9
G23A	**Biddle**	**1.68**	**359**	⇓Pb	Pn	16 19 13.5	+0.5
G23A	baz=1.6			⇑Sg	Sg	16 19 38.1	+1.9
H25A	**Fruitdale**	**1.68**	**49**	⇑Pb	Pn	16 19 13.6	+0.6
H25A	baz=1.6			⇓Sg	Sg	16 19 38.1	+1.9
H25A	**Fruitdale**	**1.68**	**49**	⇑Pb	Pn	16 19 13.6	+0.6
H25A	baz=1.6			⇓Sg	Sg	16 19 38.1	+1.9
J26A	**Sides Ranch, S**	**1.68**	**96**	⇓Pb	Pn	16 19 13.2	+0.2
J26A	baz=1.6			⇓Sg	Sg	16 19 37.9	+1.6
J26A	**Sides Ranch, S**	**1.68**	**96**	⇓Pb	Pn	16 19 13.2	+0.2
J26A	baz=1.6			⇓Sg	Sg	16 19 37.9	+1.6
L22A	**Ellis Ranch, M**	**1.69**	**208**	⇓Pb	Pn	16 19 13.2	-0.1
L22A	baz=1.8			⇑Sb	Sn	16 19 36.2	+0.5
L22A	**Ellis Ranch, M**	**1.69**	**208**	⇓Pb	Pn	16 19 13.2	-0.1
L22A	baz=1.8			⇑Sb	Sn	16 19 36.2	+0.5
L25A	**Engebretsen Ra**	**1.71**	**143**	⇑Pb	Pn	16 19 14.1	+0.6
L25A	baz=1.7			⇑Sg	Sg	16 19 38.9	+1.6
L25A	**Engebretsen Ra**	**1.71**	**143**	⇑Pb	Pn	16 19 14.1	+0.6
L25A	baz=1.7			⇑Sg	Sg	16 19 38.9	+1.6
K26A	**Motz Farm, Whi**	**1.80**	**116**	⇓Pb	Pn	16 19 15.7	+1.0
K26A	baz=1.7			⇑Sg	Sg	16 19 41.8	+1.7
K26A	**Motz Farm, Whi**	**1.80**	**116**	⇓Pb	Pn	16 19 15.7	+1.0
K26A	baz=1.7			⇑Sg	Sg	16 19 41.8	+1.7
G22A	**Birney**	**1.82**	**339**	⇑Pb	Pn	16 19 15.8	+0.8
G22A	baz=1.8			⇑Sg	Sg	16 19 43.0	+2.2
G22A	**Birney**	**1.82**	**339**	⇑Pb	Pn	16 19 15.8	+0.8
G22A	baz=1.8			⇑Sg	Sg	16 19 43.0	+2.2
G24A	**Alzada**	**1.93**	**20**	⇓Pb	Pb	16 19 17.8	-0.6
G24A	**Alzada**	**1.93**	**20**	⇓Pb	Pb	16 19 17.8	-0.6
J20A	**Shoshoni**	**1.99**	**266**	⇓Pb	Pb	16 19 19.2	-0.2
J20A	**Shoshoni**	**1.99**	**266**	⇓Pb	Pb	16 19 19.2	-0.2
I20A	**Worland**	**2.05**	**283**	⇓Pb	Pn	16 19 19.4	+1.2
I20A	baz=2.1			⇓Sb	Sb	16 19 47.1	+0.6
I20A	**Worland**	**2.05**	**283**	⇓Pb	Pn	16 19 19.4	+1.2
I20A	baz=2.1			⇓Sb	Sb	16 19 47.1	+0.6
M23A	**Laramie**	**2.07**	**187**	⇓Pb	Pn	16 19 19.5	+1.0
M23A	**Laramie**	**2.07**	**187**	⇓Pb	Pn	16 19 19.5	+1.0
M24A	**Cheyenne**	**2.09**	**169**	⇓Pb	Pb	16 19 20.3	-1.0
M24A	**Cheyenne**	**2.09**	**169**	⇓Pb	Pb	16 19 20.3	-1.0
H20A	**Greybull**	**2.13**	**298**	⇑Pb	Pn	16 19 20.6	+1.3
H20A	baz=2.2,SNR=58			⇓Sb	Sb	16 19 49.5	+0.6
H20A	**Greybull**	**2.13**	**298**	⇑Pb	Pn	16 19 20.6	+1.3
H20A	baz=2.2,SNR=58			⇓Sb	Sb	16 19 49.5	+0.6
L21A	**Rawlins**	**2.15**	**224**	⇑Pb	Pn	16 19 20.7	+1.1
L21A	**Rawlins**	**2.15**	**224**	⇑Pb	Pn	16 19 20.7	+1.1
G21A	**Lodge Grass**	**2.15**	**323**	⇑Pb	Pn	16 19 20.4	+0.8
G21A	**Lodge Grass**	**2.15**	**323**	⇑Pb	Pn	16 19 20.4	+0.8
H26A	**Fairpoint**	**2.16**	**59**	⇓Pb	Pn	16 19 21.2	+1.5
H26A	**Fairpoint**	**2.16**	**59**	⇓Pb	Pn	16 19 21.2	+1.5
G25A	**Newell**	**2.17**	**39**	⇑Pb	Pb	16 19 21.4	-1.1
G25A	**Newell**	**2.17**	**39**	⇑Pb	Pb	16 19 21.4	-1.1
F23A	**Volborg**	**2.20**	**359**	⇓P	Pn	16 19 20.5	+0.4
F23A	**Volborg**	**2.20**	**359**	⇓P	Pn	16 19 20.5	+0.4
PHWY	**Pilot Hill**	**2.22**	**182**	*e*Pn	Pn	16 19 20.9	+0.2
L26A	**Underwood Farm**	**2.25**	**131**	⇓Pb	Pb	16 19 23.0	-0.8
L26A	**Underwood Farm**	**2.25**	**131**	⇓Pb	Pb	16 19 23.0	-0.8
RWWY	**Rawlins**	**2.29**	**217**	*e*Pn	Pn	16 19 19.8	-1.8
M25A	**Palm-Egli Farm**	**2.30**	**155**	⇑Pb	Pn	16 19 23.2	+1.5
M25A	**Palm-Egli Farm**	**2.30**	**155**	⇑Pb	Pn	16 19 23.2	+1.5
M22A	**Cedar Creek Ra**	**2.31**	**204**	⇓Pb	Pb	16 19 23.9	-1.1
M22A	**Cedar Creek Ra**	**2.31**	**204**	⇓Pb	Pb	16 19 23.9	-1.1
F22A	**Rosebud**	**2.34**	**345**	P	Pn	16 19 22.2	+0.1
F22A	**Rosebud**	**2.34**	**345**	P	Pn	16 19 22.2	+0.1
K20A	**Yellowstone Ra**	**2.35**	**249**	⇑Pb	Pb	16 19 24.5	-1.0
K20A	**Yellowstone Ra**	**2.35**	**249**	⇑Pb	Pb	16 19 24.5	-1.0
F24A	**Ekalaka**	**2.41**	**15**	⇑P	Pn	16 19 23.9	+0.8
F24A	**Ekalaka**	**2.41**	**15**	⇑P	Pn	16 19 23.9	+0.8
M21A	**Separation Pea**	**2.42**	**218**	⇓Pb	Pn	16 19 25.3	+1.9
M21A	**Separation Pea**	**2.42**	**218**	⇓Pb	Pn	16 19 25.3	+1.9
K27A	**Flueckinger Fa**	**2.43**	**109**	⇑Pb	Pb	16 19 25.8	-1.2
K27A	**Flueckinger Fa**	**2.43**	**109**	⇑Pb	Pb	16 19 25.8	-1.2
I27A	**Quinn**	**2.46**	**76**	⇓Pb	Pb	16 19 26.1	-1.3
I27A	**Quinn**	**2.46**	**76**	⇓Pb	Pb	16 19 26.1	-1.3
J27A	**Elkhorn Farm,**	**2.46**	**95**	⇑Pb	Pb	16 19 26.1	-1.3
J27A	**Elkhorn Farm,**	**2.46**	**95**	⇑Pb	Pb	16 19 26.1	-1.3
K19A	**Absolon Red Bu**	**2.64**	**256**	⇓Pb	Pb	16 19 29.4	-1.2
K19A	**Absolon Red Bu**	**2.64**	**256**	⇓Pb	Pb	16 19 29.4	-1.2
G20A	**Bridger**	**2.66**	**311**	P	Pn	16 19 26.6	+0.1
G20A	**Bridger**	**2.66**	**311**	P	Pn	16 19 26.6	+0.1
N23A	**Red Feather La**	**2.66**	**190**	⇓P	Pn	16 19 27.7	+1.0
N23A	**Red Feather La**	**2.66**	**190**	⇓P	Pn	16 19 27.7	+1.0
I19A	**Meeteetse**	**2.68**	**282**	⇑P	Pn	16 19 28.5	+1.7
I19A	**Meeteetse**	**2.68**	**282**	⇑P	Pn	16 19 28.5	+1.7
J19A	**Crowheart**	**2.70**	**266**	⇓Pb	Pb	16 19 30.8	-0.8
J19A	**Crowheart**	**2.70**	**266**	⇓Pb	Pb	16 19 30.8	-0.8
N24A	**Carr**	**2.72**	**172**	⇓Pb	Pb	16 19 31.6	-0.3
N24A	**Carr**	**2.72**	**172**	⇓Pb	Pb	16 19 31.6	-0.3
N22A	**Wattenberg Ran**	**2.84**	**197**	⇓P	Pn	16 19 31.1	+1.9
N22A	**Wattenberg Ran**	**2.84**	**197**	⇓P	Pn	16 19 31.1	+1.9
M20A	**Sweetwater, Wa**	**2.91**	**227**	⇑Pb	Pb	16 19 34.7	-0.6
M20A	**Sweetwater, Wa**	**2.91**	**227**	⇑Pb	Pb	16 19 34.7	-0.6
F20A	**Billings**	**3.02**	**320**	⇓P	Pn	16 19 31.6	+0.1
F20A	**Billings**	**3.02**	**320**	⇓P	Pn	16 19 31.6	+0.1
E24A	**Baker**	**3.13**	**13**	⇓P	Pn	16 19 34.1	+1.2
E24A	**Baker**	**3.13**	**13**	⇓P	Pn	16 19 34.1	+1.2
BW06	**Boulder Array**	**3.16**	**258**	*e*Pn	Pn	16 19 33.6	+0.1
PDAR	**Pinedale Array**	**3.16**	**258**	Pn	Pn	16 19 34.7	+1.2
PDAR				Lg	Lg	16 20 16.5	
PDAR	**Pinedale Array**	**3.16**	**258**	Pn	Pn	16 19 34.7	+1.2
PDAR	2.5nm,0.3s,baz=78,slow=15,SNR=43			Lg	Lg	16 20 16.5	
	6.5nm,0.3s,baz=79,slow=34,SNR=8.7						
RLMT	**Red Lodge**	**3.23**	**301**	*e*Pn	Pn	16 19 35.1	+0.7
E21A	**Keefer Ranch,**	**3.25**	**339**	⇑P	Pn	16 19 33.8	-0.8
E21A	**Keefer Ranch,**	**3.25**	**339**	⇑P	Pn	16 19 33.8	-0.8
H18A	**Shoshone NF, C**	**3.31**	**292**	⇓P	Pn	16 19 36.2	+0.7
H18A	**Shoshone NF, C**	**3.31**	**292**	⇓P	Pn	16 19 36.2	+0.7
N20A	**Spence Gulch,**	**3.45**	**220**	⇓P	Pn	16 19 38.9	+1.5
N20A	**Spence Gulch,**	**3.45**	**220**	⇓P	Pn	16 19 38.9	+1.5
F19A	**Roth Farm, Mol**	**3.46**	**314**	⇓P	Pn	16 19 38.1	+0.6
F19A	**Roth Farm, Mol**	**3.46**	**314**	⇓P	Pn	16 19 38.1	+0.6
G18A	**Lazy EL Ranch,**	**3.50**	**302**	⇓P	Pn	16 19 38.9	+0.7
G18A	**Lazy EL Ranch,**	**3.50**	**302**	⇓P	Pn	16 19 38.9	+0.7
OGNE	**Ogallala**	**3.57**	**135**	*e*Pn	Pn	16 19 38.7	-0.3
OGNE	**Ogallala**	**3.57**	**135**	⇑P	Pn	16 19 40.1	+1.0
OGNE	**Ogallala**	**3.57**	**135**	⇑P	Pn	16 19 40.1	+1.0
D21A	**La Casta Ranch**	**3.72**	**343**	⇑P	Pn	16 19 41.2	+0.1
D21A	**La Casta Ranch**	**3.72**	**343**	⇑P	Pn	16 19 41.2	+0.1
ISCO	**Idaho Springs**	**3.73**	**183**	*e*Pn	Pn	16 19 42.3	+0.9
LKWY	**Lake**	**3.78**	**288**	*e*Pn	Pn	16 19 42.2	+0.2
E19A	**Rath Farm, Rou**	**3.81**	**322**	⇑P	Pn	16 19 42.5	+0.2
E19A	**Rath Farm, Rou**	**3.81**	**322**	⇑P	Pn	16 19 42.5	+0.2
LOHW	**Long Hollow**	**3.81**	**273**	*e*Pn	Pn	16 19 41.1	-1.3
GCMT	**Greycliff**	**3.82**	**308**	*e*Pn	Pn	16 19 42.9	+0.4
FLWY	**Flagg Ranch**	**3.90**	**280**	*e*Pn	Pn	16 19 46.0	+2.3
MOOW	**Moose Ponds**	**3.91**	**275**	*e*Pn	Pn	16 19 45.2	+1.4
SNOW	**Snow King Moun**	**3.92**	**271**	Pn	Pn	16 19 46.3	+2.3
O27A	**Beecher Island**	**3.97**	**146**	⇓P	Pn	16 19 45.5	+1.0
O27A	**Beecher Island**	**3.97**	**146**	⇓P	Pn	16 19 45.5	+1.0
REDW	**Red Top Meadow**	**4.00**	**270**	*e*Pn	Pb	16 19 50.0	-3.8
YNR	**Norris Junctio**	**4.01**	**289**	*e*Pn	Pn	16 19 44.6	-0.6
YFT	**Old Faithful**	**4.06**	**285**	*e*Pn	Pn	16 19 46.9	+1.1
IMW	**Indian Meadow**	**4.06**	**277**	*e*Pn	Pn	16 19 47.2	+1.3
TPAW	**Teton Pass**	**4.07**	**271**	*e*P	Pn	16 19 48.9	+2.9
D20A	**Manuel Ranch,**	**4.07**	**332**	⇓P	Pn	16 19 45.7	-0.1
D20A	**Manuel Ranch,**	**4.07**	**332**	⇓P	Pn	16 19 45.7	-0.1
P25A	**Willow Gulch B**	**4.11**	**167**	⇑P	Pn	16 19 47.6	+1.1
P25A	**Willow Gulch B**	**4.11**	**167**	⇑P	Pn	16 19 47.6	+1.1
P26A	**Davis Ranch, A**	**4.24**	**158**	⇓P	Pn	16 19 49.2	+0.9
P26A	**Davis Ranch, A**	**4.24**	**158**	⇓P	Pn	16 19 49.2	+0.9
RRI2	**Red Ridge**	**4.34**	**270**	*e*P	Pn	16 19 50.6	+0.8
D19A	**Cripps Ranch,**	**4.40**	**327**	P	Pn	16 19 50.3	-0.1
D19A	**Cripps Ranch,**	**4.40**	**327**	P	Pn	16 19 50.3	-0.1
F17A	**Fitzpatrick Pl**	**4.46**	**304**	⇑P	Pn	16 19 52.5	+1.2
F17A	**Fitzpatrick Pl**	**4.46**	**304**	⇑P	Pn	16 19 52.5	+1.2
P27A	**Ficken Ranch,**	**4.48**	**151**	⇑P	Pn	16 19 52.2	+0.6
P27A	**Ficken Ranch,**	**4.48**	**151**	⇑P	Pn	16 19 52.2	+0.6

baz=4.5,SNR=7.3
QLMT Earthquake Lak 4.55 289 *e*Pn **Pn 16 19 53.7 +1.0**
P28A Saint Francis 4.79 144 ⇑P **Pn 16 19 56.4 +0.7**
baz=4.8,SNR=8.8
P28A Saint Francis 4.79 144 ⇑P **Pn 16 19 56.4 +0.7**
baz=4.8,SNR=8.8
Q26A Hugo 4.80 163 ⇓P **Pn 16 19 56.7 +0.7**
baz=4.8,SNR=8.5
Q26A Hugo 4.80 163 ⇓P **Pn 16 19 56.7 +0.7**
baz=4.8,SNR=8.5
BOZ Bozeman (W) 4.95 298 *e*Pn **Pn 16 19 58.9 +0.9**
7.4nm,0.6s
HWUT Hardware Ranch 4.96 249 *e*Pn **Pn 16 19 59.3 +1.0**
15nm,0.6s
DGMT Dagmar 5.01 9 *e*Pn **Pn 16 20 00.2 +1.5**
D17A Six Diamond Ra 5.22 316 ⇑P **Pn 16 20 02.2 +0.5**
baz=5.2,SNR=16
D17A Six Diamond Ra 5.22 316 ⇑P **Pn 16 20 02.2 +0.5**
baz=5.2,SNR=16
DAU Daniels Canyon 5.38 237 *e*Pn **Pn 16 20 05.8 +1.7**
15nm,0.6s
JLU Jordanelle 5.39 239 Pn **Pb 16 20 15.3 -2.2**
R26A Arlington 5.42 164 P **Pn 16 20 05.0 +0.6**
baz=5.4,SNR=25
R26A Arlington 5.42 164 P **Pn 16 20 05.0 +0.6**
baz=5.4,SNR=25
EGMT Eagleton 5.45 327 *e*Pn **Pn 16 20 05.8 +1.0**
18nm,0.6s
DLMT Dillon 5.50 292 Pn **Pn 16 20 03.2 -2.3**
3.6nm,0.5s
MCMT McKenzie Canyo 5.54 286 *e*Pn **Pn 16 20 06.7 +0.5**
3.5nm,0.8s
LRM Limekiln Ridge 5.55 297 Pn **Pn 16 20 07.8 +1.4**
29nm,0.5s
HRY Holter Researc 5.58 307 *e*Pn **Pn 16 20 06.8 +0.2**
14nm,0.6s
R27A Eads 5.58 159 ⇑P **Pn 16 20 07.8 +1.1**
baz=5.6,SNR=8.7
R27A Eads 5.58 159 ⇑P **Pn 16 20 07.8 +1.1**
baz=5.6,SNR=8.7
HVU Hansel Valley 5.74 255 *e*Pn **Pn 16 20 09.4 +0.6**
8.3nm,0.7s
SDCO Great Sand Dun 5.77 181 *e*Pn **Pn 16 20 11.3 +1.8**
1.7nm,0.8s
PV01 Paradox Valley 5.91 205 *e*Pn **Pn 16 20 13.2 +1.9**
676nm,0.8s
ECSD EROS Data Cent 6.35 85 *e*Pn **Pn 16 20 16.9 -0.3**
4.8nm,0.6s
DUG Dugway 6.48 242 *e*Pn **Pn 16 20 18.6 -0.5**
4.3nm,0.7s
CHMT Chamberlain Mo 6.52 304 *e*P **Pn 16 20 19.6 -0.1**
3.1nm,0.7s
HLID Hailey 6.58 273 *e*Pn **Pn 16 20 22.6 +2.2**
4.2nm,0.7s
AGMN Agassiz Nation 8.16 51 *e*Pn **Pn 16 20 40.9 -1.1**
3.6nm,0.5s
ULM Lac du Bonnet 9.35 41 Pn **Pn 16 20 55.4 -2.8**
ULM Pg 16 21 33.8
ULM Lg Lg 16 23 32.8
ULM Lac du Bonnet 9.35 41 Pn **Pn 16 20 55.4 -2.8**
0.6nm,0.3s,baz=234,slow=13,SNR=4.6
ULM Pg 16 21 33.8
0.7nm,0.3s,baz=225,slow=16,SNR=3.5
ULM Lg Lg 16 23 32.8
0.3nm,0.3s,baz=288,slow=16,SNR=2.0
NVAR Mina Array Bea 11.02 247 Pn **Pn 16 21 22.1 +0.7**
NVAR Mina Array Bea 11.02 247 Pn **Pn 16 21 22.1 +0.7**
0.1nm,0.3s,baz=62,slow=11,SNR=2.2

*ISCJB **13** 16:29:54.7±0.7,31°.05S±0°.03×71°.43W±0°.09,h66km±5km, mb4.1/5,Error ellipse: s-maj=12.3km s-min=4.7km az=5.0*
*NEIC **13** 16:29:55.5,31°.07S×71°.41W,h46km,mb4.4/2,After GUC.*
NEIC Felt [III] at Punitaqui and [II] at Combarbala and Ovalle.
*GUC **13** 16:29:55.5±0.5,31°.07S×71°.41W,h46km±1km,MD4.3, ML4.4*
*IDC **13** 16:29:55.6±1.0,30°.99S×71°.43W,h58km±5km,mb4.0/3, mb1 4.0/6,mb1mx3.7/17,mbtmp3.9/6,MS3.5/1,Ms1 3.4/1, ms1mx2.5/29,Error ellipse: s-maj=34.8km s-min=12.3km az=18.0*

ISC 13 16:29:55.3±0.6,31°.06S±0°.03×71°.41W±0°.07,h56km±4km, n57,σ1°04/83,mb4.2/5,9C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.37**	**109**	⇓*i*P	**Pn**	**16 30 05.3**	**-0.4**
CMCH				*i* S	**Sn**	**16 30 12.7**	**-0.5**
CMCH	**Combarbala**	**0.37**	**109**	⇓*i*P	**Pn**	**16 30 05.3**	**-0.4**
CMCH				*i* S	**Sn**	**16 30 12.7**	**-0.5**
CMCH				AML	AML	16 30 13.9	
	comp=N,42μm,0.7s						
TLL	**Tololo Astrono**	**1.03**	**31**	AML	AML	16 30 33.6	
	comp=N,13μm,0.5s						
PACH	**Papudo**	**1.48**	**181**	⇑*i*P	**Pn**	**16 30 20.2**	**+0.5**
PACH				*i* S	**Sn**	**16 30 39.1**	**+1.1**
PACH	**Papudo**	**1.48**	**181**	⇑*i*P	**Pn**	**16 30 20.2**	**+0.5**
PACH				*i* S	**Sn**	**16 30 39.1**	**+1.1**
JACH	**Jahuel**	**1.76**	**157**	*i* P	**Pn**	**16 30 24.5**	**+0.9**
JACH				*i* S	**Sn**	**16 30 46.0**	**+1.0**
JACH	**Jahuel**	**1.76**	**157**	*i* P	**Pn**	**16 30 24.5**	**+0.9**
JACH				*i* S	**Sn**	**16 30 46.0**	**+1.0**
LCO	**Las Campanas**	**2.13**	**17**	⇑*i*P	**Pn**	**16 30 30.0**	**+1.2**
LCO				*i* S	**Sn**	**16 30 56.3**	**+2.1**
LCO	**Las Campanas**	**2.13**	**17**	⇑*i*P	**Pn**	**16 30 30.0**	**+1.2**
LCO				*i* S	**Sn**	**16 30 56.3**	**+2.1**
LCO				AML	AML	16 30 57.8	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**2.17**	**164**	*e*P	**Pn**	**16 30 29.7**	**+0.6**
PEL				*i* S	**Sn**	**16 30 55.7**	**+0.8**
PEL				AML	AML	16 31 01.8	
	comp=E,4μm,0.3s						
CLCH	**Cerro Calan**	**2.45**	**163**	⇑*i*P	**Pn**	**16 30 33.7**	**+0.8**
CLCH				*i* S	**Sn**	**16 31 02.7**	**+1.0**
CLCH				AML	AML	16 31 11.4	
	comp=E,3μm,0.6s						
CLCH				AML	AML	16 31 12.0	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**2.46**	**165**	*e*S	**Sn**	**16 31 02.8**	**+0.8**
ANTU	**Antumapu**	**2.59**	**166**	*e*P	**Pn**	**16 30 35.7**	**+0.8**
ANTU				*i* S	**Sn**	**16 31 05.8**	**+0.6**
ANTU	**Antumapu**	**2.59**	**166**	*e*P	**Pn**	**16 30 35.7**	**+0.8**
ANTU				*i* S	**Sn**	**16 31 05.8**	**+0.6**
ANTU				AML	AML	16 31 14.7	
	comp=E,2μm,0.4s						
TACH	**Talagante**	**2.62**	**171**	⇑*i*P	**Pn**	**16 30 35.9**	**+0.7**
TACH				*i* S	**Sn**	**16 31 06.3**	**+0.4**
TACH	**Talagante**	**2.62**	**171**	⇑*i*P	**Pn**	**16 30 35.9**	**+0.7**
TACH				*i* S	**Sn**	**16 31 06.3**	**+0.4**
PCH	**Pirque**	**2.67**	**164**	⇑*i*P	**Pn**	**16 30 36.7**	**+0.8**
PCH				*i* S	**Sn**	**16 31 07.9**	**+0.7**
PCH	**Pirque**	**2.67**	**164**	⇑*i*P	**Pn**	**16 30 36.7**	**+0.8**
PCH				*i* S	**Sn**	**16 31 07.9**	**+0.7**
SJCH	**San Jose de Ma**	**2.73**	**161**	*e*P	**Pn**	**16 30 37.0**	**+0.2**
SJCH				*e*S	**Sn**	**16 31 09.4**	**+0.8**
SJCH	**San Jose de Ma**	**2.73**	**161**	*e*P	**Pn**	**16 30 37.0**	**+0.2**
SJCH				*e*S	**Sn**	**16 31 09.4**	**+0.8**
CFAA	**Coronel Fontan**	**2.77**	**102**	P	**Pn**	**16 30 39.0**	**+1.8**
CFAA				S	**Sn**	**16 31 11.4**	**+1.9**
CFAA	**Coronel Fontan**	**2.77**	**102**	P	**Pn**	**16 30 39.0**	**+1.8**
	comp=E,12nm,0.3s,baz=279,slow=11,SNR=254						
CFAA				S	**Sn**	**16 31 11.4**	**+1.9**
	comp=E,11nm,0.3s,baz=354,slow=12,SNR=10						
LNV	**Longovilo**	**2.89**	**180**	P	**Pn**	**16 30 38.3**	**-0.7**
LNV	**Longovilo**	**2.89**	**180**	*e*P	**Pn**	**16 30 38.3**	**-0.7**
CHCH	**Chadas Angostu**	**2.94**	**168**	*i* P	**Pn**	**16 30 40.4**	**+0.7**
CHCH	**Chadas Angostu**	**2.94**	**168**	*i* P	**Pn**	**16 30 40.4**	**+0.7**
CACH	**El Canelo**	**3.13**	**168**	*i* P	**Pn**	**16 30 43.5**	**+1.2**
CACH				*i* S	**Sn**	**16 31 20.2**	**+1.7**
CACH	**El Canelo**	**3.13**	**168**	*i* P	**Pn**	**16 30 43.5**	**+1.2**
CACH				*i* S	**Sn**	**16 31 20.2**	**+1.7**
LVC	**Limon Verde**	**8.70**	**15**	*e*Pn	**Pn**	**16 31 56.6**	**-2.2**
	comp=E,11nm,0.6s						
TRQA	**Tornquist**	**10.44**	**134**	*e*Pn	**Pn**	**16 32 21.6**	**-0.8**
	comp=E,7.8nm,0.6s						
CPUP	**Villa Florida**	**13.22**	**73**	*e*Pn	Pn	16 32 56.5	-3.8
CPUP	**Villa Florida**	**13.22**	**73**	P	Pn	16 32 56.6	-3.8
	comp=E,0.8nm,0.3s,baz=221,slow=11,SNR=6.2						
LPAZ	**La Paz**	**15.00**	**12**	*e*Pn	**Pn**	**16 33 24.9**	**+0.3**
LPAZ	**La Paz**	**15.00**	**12**	P	**Pn**	**16 33 25.3**	**+0.6**
	comp=E,0.3nm,0.3s,baz=175,slow=7.2,SNR=10						
SIV	**San Ignacio**	**17.72**	**35**	P	**Pn**	**16 33 58.3**	**0.0**
SIV	**San Ignacio**	**17.72**	**35**	P	**Pn**	**16 33 58.3**	**0.0**
	comp=E,0.3nm,0.3s,baz=228,slow=12,SNR=5.0						
SAML	**Samuel**	**23.29**	**21**	*e*P	**P**	**16 34 55.4**	**-3.0**
BDFB	**Brasilia**	**26.31**	**60**	P	**P**	**16 35 24.9**	**-1.2**
BDFB	**Brasilia**	**26.31**	**60**	P	**P**	**16 35 24.9**	**-1.2**
	comp=E,4.3nm,0.8s,baz=221,slow=6.9,SNR=4.8						
BDFB				LR	LR	16 46 30.0	
	comp=E,94nm,18.4s,baz=34,slow=38						
SNAA	**Sanae**	**54.11**	**159**	*e*P	**P**	**16 39 14.1**	**-0.1**
	comp=E,2.2nm,0.8s						
QSPA	**South Pole Qui**	**59.17**	**180**	*e*P	**P**	**16 39 50.8**	**+0.5**
	comp=E,5.5nm,1.2s						
VNDA	**Vanda**	**67.08**	**191**	P	**P**	**16 40 43.5**	**+1.1**
TXAR	**Lajitas Array**	**67.45**	**330**	pP	pP	16 41 03.0	+2.3
TXAR	**Lajitas Array**	**67.45**	**330**	pP	pP	16 41 03.0	+2.3
	comp=E,0.2nm,0.6s,baz=140,slow=7.1,SNR=3.6						
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**16 41 23.1**	**-0.8**
DBIC	**Dimbokro**	**73.74**	**72**	P	**P**	**16 41 23.8**	**-0.1**
	comp=E,3.9nm,0.9s,baz=219,slow=4.4,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**82.70**	**70**	P	**P**	**16 42 13.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P	**P**	**16 42 13.2**	**-0.2**
TORD				pP	**pP**	**16 42 29.1**	**-0.1**
TORD				sP	**sP**	**16 42 35.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**82.70**	**70**	P	**P**	**16 42 13.2**	**-0.2**
	comp=E,1.1nm,0.7s,baz=266,slow=5.1,SNR=8.9						
TORD				pP	**pP**	**16 42 29.1**	**-0.1**
	comp=E,0.9nm,0.6s,baz=277,slow=6.1,SNR=3.5						
TORD				sP	**sP**	**16 42 35.9**	**+0.5**
	comp=E,1.5nm,0.6s,baz=262,slow=5.4,SNR=6.1						
ASAR	**Alice Springs**	**120.43**	**207**	pPKP	pPKPdf	16 48 57.4	-0.2
	comp=E,0.2nm,0.9s,baz=145,slow=1.4,SNR=3.0						
WRA	**Warramunga Arr**	**123.58**	**209**	PKP	**PKPdf**	**16 48 46.3**	**-0.9**
WRA				pPKP	**pPKPdf**	**16 49 03.6**	**-0.1**
WRA	**Warramunga Arr**	**123.58**	**209**	PKP	**PKPdf**	**16 48 46.3**	**-0.9**
	comp=E,0.4nm,1.0s,baz=153,slow=1.8,SNR=4.1						
WRA				pPKP	**pPKPdf**	**16 49 03.6**	**-0.1**
	comp=E,0.1nm,0.4s,baz=159,slow=1.8,SNR=1.8						
ZAA0	**Zalesovo Array**	**151.44**	**30**	*e*PKPdf	**PKPdf**	**16 49 36.5**	**+0.2**
ZAA0				*e*PKPab	PKPab	16 49 59.3	+8.3
ZALV	**Zalesovo Beam**	**151.44**	**30**	PKPbc	**PKPbc**	**16 49 43.6**	**+1.1**
ZALV				pPKPbc	**pPKPbc**	**16 49 59.8**	**+0.9**
ZALV	**Zalesovo Beam**	**151.44**	**30**	PKPbc	**PKPbc**	**16 49 43.6**	**+1.1**
	comp=E,1.7nm,0.7s,baz=284,slow=4.0,SNR=7.2						
ZALV				pPKPbc	**pPKPbc**	**16 49 59.8**	**+0.9**
	comp=E,3.9nm,0.5s,baz=306,slow=3.6,SNR=15						
MKAR	**Makanchi Array**	**154.37**	**45**	PKPab	**PKPab**	**16 50 02.1**	**-1.5**
MKAR				pPKPab	**pPKPab**	**16 50 19.9**	**+0.3**
MKAR	**Makanchi Array**	**154.37**	**45**	PKPab	**PKPab**	**16 50 02.1**	**-1.5**
	comp=E,0.3nm,0.6s,baz=304,slow=1.0,SNR=2.4						
MKAR				pPKPab	**pPKPab**	**16 50 19.9**	**+0.3**
	comp=E,1.3nm,0.8s,baz=320,slow=3.6,SNR=6.2						

*IDC **13** 16:59:19.8±1.3,27°.31S×113°.88W,h0km,mb3.9/4, mb1 4.3/4,mb1mx3.9/18,mbtmp3.9/4,MS3.6/5,Ms1 3.6/5, ms1mx3.3/19,Error ellipse: s-maj=81.0km s-min=42.2km az=97.0*

ISC 13 16:59:21.5±1.0,27°.2S±0°.2×114°.7W±0°.5,h10km,n20, σ0°97/11,mb4.0/4,MS3.8/5,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**18.84**	**278**	*e*LR	LR	17 08 08.4	
	229nm,33.8s						
TBI	**Tubuai**	**31.65**	**269**	*e*LR	LR	17 14 02.3	
	141nm,29.0s						
PPT2	**Papeete2**	**33.59**	**279**	*e*LR	LR	17 14 57.2	
	265nm,26.5s						
PPT	**Papeete**	**33.60**	**279**	LR	LR	17 15 47.2	
	comp=Z,211nm,18.0s,baz=11,slow=29						
ATAH	**Atahualpa**	**39.76**	**67**	LR	LR	17 19 11.4	
	comp=Z,49nm,21.3s,baz=60,slow=30						
RAR	**Rarotonga**	**41.42**	**268**	LR	LR	17 20 15.8	
	comp=Z,123nm,18.7s,baz=267,slow=30						
LPAZ	**La Paz**	**44.33**	**86**	LR	LR	17 19 51.9	
	comp=Z,30nm,21.5s,baz=228,slow=28						
TXAR	**Lajitas Array**	**57.22**	**11**	P	**P**	**17 09 09.4**	**+0.4**
	0.5nm,0.9s,baz=190,slow=9.9,SNR=4.3						
BDFB	**Brasilia**	**62.47**	**94**	LR	LR	17 34 27.3	
	comp=Z,81nm,21.2s,baz=53,slow=34						
NVAR	**Mina Array Bea**	**65.40**	**357**	P	**P**	**17 10 05.2**	**+0.8**
	1.7nm,0.9s,baz=190,slow=8.7,SNR=7.6						
PDAR	**Pinedale Array**	**69.81**	**4**	P	**P**	**17 10 32.4**	**+0.2**
	0.6nm,0.9s,baz=197,slow=8.7,SNR=4.1						
VNA2	**Neumayer--Watz**	**69.94**	**160**	*e*P	P	17 10 38.7	+6.2
SNAA	**Sanae**	**70.91**	**162**	*e*P	**P**	**17 10 39.6**	**+1.1**
DLBC	**Dease Lake**	**86.30**	**352**	P	**P**	**17 12 03.3**	**+0.1**
	2.0nm,0.7s,baz=179,slow=3.3,SNR=7.5						
TORD	**Torodi Ar. Bea**	**119.19**	**90**	PKP	**PKPdf**	**17 18 10.6**	**-0.9**
	0.8nm,1.0s,baz=241,slow=5.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**147.92**	**261**	PKPbc	**PKPab**	**17 19 09.6**	**-0.6**
	0.6nm,0.4s,baz=161,slow=1.2,SNR=7.5						
ZALV	**Zalesovo Beam**	**149.69**	**337**	PKPbc	**PKPbc**	**17 19 10.8**	**-0.2**
	1.1nm,0.6s,baz=25,slow=2.7,SNR=6.2						
BRTR	**Keskin Array B**	**150.91**	**57**	PKPbc	**PKPbc**	**17 19 12.7**	**-2.0**
	1.9nm,0.9s,baz=325,slow=1.8,SNR=7.8						
BVAR	**Borovoye Array**	**153.96**	**353**	PKPbc	**PKPbc**	**17 19 20.7**	**-0.2**
	0.5nm,0.5s,baz=80,slow=1.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**154.57**	**340**	PKPbc	**PKPbc**	**17 19 22.7**	**+0.5**
	0.9nm,1.1s,baz=355,slow=1.7,SNR=3.6						

PRE 13 17:02:43.2±1.3,26°.42S×27°.47E,h2km,ML2.0,1C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.14**	**63**	*e*P	Pg	17 02 47.0	+0.8
KLOF				*e*S	Sg	17 02 48.6	+0.3
KLOF				AML	AML	17 02 49.5	
	comp=Z,1μm,0.1s						
KLOF	**Kloof**	**0.14**	**63**	*e*P	Pg	17 02 47.2	+0.9
KLOF				*e*S	Sg	17 02 48.8	+0.5
KLOF				AML	AML	17 02 49.4	
	comp=Z,786nm,0.3s						
PRYS	**Parys**	**0.52**	**191**	*e*P	Pg	17 02 53.5	+0.1
PRYS				*e*S	Sg	17 03 00.1	-0.1
PRYS				AML	AML	17 03 05.0	
	comp=Z,34nm,0.2s						
PRYS	**Parys**	**0.52**	**191**	⇑*i*P	Pb	17 02 54.6	-0.7
PRYS				*e*S	Sb	17 03 02.1	-1.3
PRYS				AML	AML	17 03 06.6	
	comp=Z,37nm,0.5s						
ERPM	**east rand prop**	**0.70**	**84**	*e*P	Pg	17 02 56.7	-0.2
ERPM				*e*S	Sg	17 03 05.9	-0.2
ERPM				AML	AML	17 03 06.2	
	comp=Z,26nm,0.2s						
ERPM	**east rand prop**	**0.70**	**84**	*e*P	Pg	17 02 57.3	+0.4
ERPM				*e*S	Sg	17 03 05.1	-1.0
ERPM				AML	AML	17 03 06.3	
	comp=Z,25nm,0.7s						
BFSD	**Buffelsfontein**	**0.76**	**234**	*e*P	Pg	17 02 58.1	+0.2
BFSD				*e*S	Sg	17 03 08.1	+0.1
BFSD				AML	AML	17 03 15.6	
	comp=Z,43nm,0.1s						
KSR	**Koster**	**0.76**	**317**	*e*P	Pg	17 02 57.7	-0.4
KSR				*e*S	Sg	17 03 07.7	-0.4
KSR				AML	AML	17 03 09.2	
	comp=Z,53nm,0.6s						
KSR	**Koster**	**0.76**	**317**	*e*P	Pb	17 02 59.1	-0.4
KSR				*e*S	Sg	17 03 07.7	-0.5
KSR				AML	AML	17 03 09.2	
	comp=Z,55nm,0.6s						
TLEK	**Tau Lekoa**	**0.90**	**232**	*e*P	Pg	17 03 00.6	-0.1
TLEK				*e*S	Sg	17 03 11.8	-0.7
TLEK				AML	AML	17 03 19.2	
	comp=Z,35nm,0.2s						
SLR	**Silverton**	**1.00**	**47**	*e*P	Pg	17 03 02.0	-0.6
SLR				*e*S	Sg	17 03 15.7	0.0
SLR				AML	AML	17 03 20.9	
	comp=Z,31nm,0.5s						
SLR	**Silverton**	**1.00**	**47**	*e*P	Pn	17 03 05.5	+1.1
SLR				*e*S	Sb	17 03 16.4	-0.7
SLR				AML	AML	17 03 20.9	
	comp=Z,25nm,0.5s						
SEK	**Senekal**	**1.91**	**176**	*e*P	Pn	17 03 17.7	+0.7
SEK				*e*S	Sn	17 03 42.4	+0.7
SEK				AML	AML	17 03 44.7	
	comp=Z,33nm,0.3s						
SEK	**Senekal**	**1.91**	**176**	*e*P	Pb	17 03 18.8	-0.2
SEK				*e*S	Sb	17 03 43.1	-0.3
SEK				AML	AML	17 03 44.7	
	comp=Z,32nm,0.7s						
SWZ	**Schweizer**	**2.06**	**248**	*e*P	Pn	17 03 19.3	+0.3
SWZ				*e*S	Sn	17 03 46.1	+0.7
SWZ				AML	AML	17 03 49.3	
	comp=Z,27nm,0.3s						
SWZ	**Schweizer**	**2.06**	**248**	*e*P	Pn	17 03 20.2	+1.2
SWZ				*e*S	Sb	17 03 46.9	-0.8
SWZ				AML	AML	17 03 49.4	
	comp=Z,27nm,0.6s						
LBTB	**Lobatse**	**2.19**	**309**	*e*P	Pn	17 03 21.5	+0.7
LBTB				*e*S	Sn	17 03 49.6	+1.1
LBTB				AML	AML	17 03 54.3	
	comp=Z,22nm,0.5s						
LBTB	**Lobatse**	**2.19**	**309**	⇓*i*P	Pb	17 03 22.8	-0.9
LBTB				*e*S	Sb	17 03 50.4	-1.1
LBTB				AML	AML	17 03 54.3	
	comp=Z,22nm,0.5s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	17 03 31.6	+0.4
BOSA				*e*S	Sn	17 04 07.3	0.0
BOSA				AML	AML	17 04 26.7	
	comp=Z,3.9nm,0.5s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	17 03 32.0	+0.9
BOSA				AML	AML	17 04 26.7	
	comp=Z,3.9nm,0.5s						

*JMA **13** 17:09:59.4±0.3,23°.92N×121°.65E,h75km,M2.4*
*ISCJB **13** 17:10:00.1±0.4,23°.90N±0°.02×121°.79E±0°.02,h16km±5km, Error ellipse: s-maj=3.9km s-min=2.2km az=39.1*
*TAP **13** 17:10:00.2,23°.95N×121°.70E,h20km,ML3.6,B*

ISC 13 17:10:00.1±0.9,23°.92N±0°.02×121°.75E±0°.02,h17km±6km, n54,σ0°64/92,10C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.15**	**294**	⇑*i*P	**Pg**	**17 10 04.3**	**0.0**
HWA				S	**Sg**	**17 10 07.4**	**+0.4**
	baz=289						
TWD	**Chiawan**	**0.22**	**319**	⇑*i*P	**Pb**	**17 10 05.0**	**-0.7**
TWD				*i* S	**Sb**	**17 10 08.1**	**-1.2**
	baz=334						
TEGC	**Jichi Village**	**0.28**	**223**	P	**Pb**	**17 10 07.2**	**+0.5**
TEGC				*e*S	**Sb**	**17 10 12.9**	**+1.8**
	baz=202						
ESL	**Shilin**	**0.31**	**251**	⇑*i*P	**Pg**	**17 10 06.4**	**-0.3**
	baz=245						
EHP	**Heping Village**	**0.39**	**359**	P	**Pg**	**17 10 08.0**	**-0.2**
EHP				*e*S	**Sg**	**17 10 14.0**	**+0.3**
	baz=2.0						
WHF	**Hehuan Shan**	**0.50**	**297**	⇑*i*P	**Pg**	**17 10 09.8**	**-0.5**
WHF				*i* S	**Sg**	**17 10 16.6**	**-0.6**
	baz=286						
ENA	**Nanau**	**0.51**	**359**	⇑*i*P	**Pg**	**17 10 10.0**	**-0.4**
ENA				*e*S	**Sg**	**17 10 17.4**	**+0.2**
	baz=4.0						
EHY	**Hungye**	**0.57**	**224**	⇑P	**Pb**	**17 10 10.9**	**-0.7**
EHY				*e*S	**Sg**	**17 10 19.4**	**+0.4**
	baz=226						
TWT	**Tachien**	**0.62**	**303**	P	**Pb**	**17 10 12.4**	**-0.3**
TWT				S	**Sb**	**17 10 20.8**	**-0.4**
	baz=301						
NNS	**Nan Shan**	**0.63**	**327**	⇑*i*P	**Pb**	**17 10 12.0**	**-0.7**
NNS				*e*S	**Sb**	**17 10 20.2**	**-1.0**
	baz=329						
TWC	**Suao**	**0.70**	**7**	⇑*i*P	**Pb**	**17 10 13.5**	**-0.3**
TWC				S	**Sg**	**17 10 23.4**	**+0.3**
	baz=9.0						
TWF1	**Yuli**	**0.70**	**217**	⇑*e*P	**Pb**	**17 10 13.0**	**-0.8**
	baz=225						
ENTT	**Nioudou**	**0.74**	**347**	*i* P	**Pb**	**17 10 14.1**	**-0.5**
ENTT				*e*S	**Sb**	**17 10 24.3**	**-0.1**
	baz=341						
SMLT	**Sun Moon Lake**	**0.78**	**268**	⇓*i*P	**Pb**	**17 10 14.7**	**-0.6**
SMLT				*e*S	**Sb**	**17 10 24.9**	**-0.7**
	baz=264						
TWE	**Neicheng**	**0.81**	**355**	P	**Pb**	**17 10 15.4**	**-0.2**
TWE				S	**Sb**	**17 10 26.3**	**0.0**
	baz=3.0						
TYC	**Yuchr**	**0.82**	**269**	P	**Pb**	**17 10 15.1**	**-0.8**
TYC				*e*S	**Sb**	**17 10 25.6**	**-1.0**
	baz=265						
NSK	**Sanguang**	**0.84**	**335**	⇑P	**Pb**	**17 10 15.7**	**-0.5**
NSK				S	**Sb**	**17 10 26.3**	**-0.9**
	baz=336						
ILA	**Ilan**	**0.85**	**360**	*e*P	**Pb**	**17 10 16.6**	**+0.3**
ILA				*e*S	**Sb**	**17 10 30.6**	**-0.3**
	baz=3.0						
YUS	**Yu-Shan**	**0.85**	**240**	⇓*i*P	**Pb**	**17 10 16.4**	**-0.2**
YUS				S	**Sb**	**17 10 27.6**	**-0.3**
	baz=235						
CHKT	**Chengkung**	**0.89**	**204**	*e*P	**Pb**	**17 10 15.7**	**-1.4**
ALS				*e*S	**Sb**	**17 10 30.6**	**-0.3**
	baz=188						
ALS	**Alishan**	**0.96**	**245**	*e*P	**Pb**	**17 10 18.3**	**-0.1**
ALS				*e*S	**Sb**	**17 10 30.6**	**-0.3**
	baz=240						
WNT	**Mingjian**	**0.98**	**268**	P	**Pb**	**17 10 18.9**	**+0.3**
WNT				S	**Sg**	**17 10 32.5**	**+0.5**
	baz=268						
TWQ1	**Liyutan**	**0.99**	**296**	P	**Pb**	**17 10 19.2**	**+0.4**
TWQ1				*e*S	**Sb**	**17 10 32.3**	**+0.7**
	baz=303						
TCU	**Taichung**	**1.01**	**283**	P	**Pb**	**17 10 19.4**	**+0.2**
TCU				*e*S	**Sn**	**17 10 34.2**	**+1.0**
	baz=275						
NSY	**Sanyi**	**1.03**	**299**	*e*P	**Pn**	**17 10 20.3**	**+0.5**
NSY				*e*S	**Sn**	**17 10 34.0**	**+0.1**
	baz=297						
CHN5	**Tsauling**	**1.03**	**252**	P	**Pb**	**17 10 19.8**	**+0.2**
CHN5				S	**Sn**	**17 10 34.1**	**+0.1**
	baz=236						
TWB1	**Santiao Chiao**	**1.11**	**11**	*e*P	**Pn**	**17 10 20.8**	**0.0**
TWB1				*e*S	**Sn**	**17 10

CHN1 *e*S **Sb** **17 10 42.9 +1.3**
baz=233
WTCT Ta-ch'eng 1.35 268 *e*P **Pn** **17 10 24.2 +0.1**
baz=263
WTCT *e*S **Sg** **17 10 43.9 +0.2**
baz=263
SGST Jiashian 1.36 232 *e*P **Pn** **17 10 24.0 -0.3**
baz=228
SGST *e*S **Sb** **17 10 43.0 +0.9**
baz=228
TWY Chenhua 1.36 354 *e*P **Pb** **17 10 25.0 -0.1**
baz=356
WSF Szhu 1.43 259 *e*P **Pn** **17 10 25.9 +0.7**
baz=253
WSF *e*S **Sg** **17 10 46.0 -0.3**
baz=253
CHN3 Shinhua 1.52 237 *e*P **Pb** **17 10 28.2 +0.3**
baz=230
SGLT Jiouru 1.66 225 *e*P **Pg** **17 10 31.7 -0.4**
baz=210
PCYT Pengchaiyu 1.73 10 *e*P **Pn** **17 10 30.3 +0.9**
baz=9.0
IRIF Iriomote-Funau 1.85 77 P **Pn** **17 10 31.1 0.0**
IRIF *e*S **Sn** **17 10 55.1 +1.0**
SCZT Fangliau 1.86 214 *e*P **Pn** **17 10 31.9 +0.8**
baz=201
LAY Lan-yu 1.88 186 *e*P Pn 17 10 28.2 -3.2
baz=188
HATJ Hateruma jima 1.88 85 *e*S **Sn** **17 10 54.7 -0.1**
WDGT Dungji 2.03 252 *e*P **Pn** **17 10 33.5 +0.1**
baz=228
WDGT *e*S **Sn** **17 10 58.9 +0.6**
baz=228
JKRS Kuro-shima 2.09 81 P **Pn** **17 10 34.6 +0.3**
JKRS *e*S **Sn** **17 11 00.4 +0.5**
JIJ Ishigaki jima 2.23 78 P **Pn** **17 10 35.7 -0.6**
JIJ *e*S **Sn** **17 11 02.9 -0.5**
JTJ Tarama 2.79 74 P **Pn** **17 10 43.9 0.0**
JTJ *e*S **Sn** **17 11 18.2 +1.0**

IDC 13 17:21:48.0±1.9, 1°.49N×127°.01E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, MS3.6/1, Ms1 3.5/1, ms1mx2.8/7, Error ellipse: s-maj=180.2km s-min=21.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**162**	P	P	17 26 48.9	-0.3
	0.9nm,0.6s,baz=340,slow=11,SNR=19						
ASAR	**Alice Springs**	**25.89**	**165**	P	P	17 27 22.2	+0.3
	0.3nm,0.7s,baz=345,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**35.96**	**159**	LR	LR	17 42 55.4	
	comp=Z,82nm,19.8s,baz=205,slow=35						
MKAR	**Makanchi Array**	**59.54**	**326**	P	P	17 31 53.1	-0.4
	0.2nm,0.6s,baz=115,slow=8.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**63.76**	**328**	P	P	17 32 22.1	+0.3
	0.2nm,0.4s,baz=133,slow=5.9,SNR=4.1						

*IDC **13** 17:48:23.2±0.5, 20°.84S×173°.96W, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.5/27, mbtmp4.3/22, ML4.0/2, Error ellipse: s-maj=21.2km s-min=14.1km az=131.0*
*ISCJB **13** 17:48:26.0±0.3, 20°.82S±0°.06×174°.07W±0°.06, h26km, mb4.3/29, Error ellipse: s-maj=10.1km s-min=6.5km az=44.7*
*NEIC **13** 17:48:30.8±1.6, 20°.91S×174°.02W, h55km±13km, mb4.5/11, Error ellipse: s-maj=10.9km s-min=7.7km az=129.0*
*AUST **13** 17:49:00.4±5.1, 21°.05S×176°.18W, h195km, Error ellipse: s-maj=4.2km s-min=2.1km az=326.0*
ISC 13 17:48:27.5±0.4, 20°.91S±0°.08×174°.03W±0°.09, h26km, n132, σ0°.93/136, mb4.4/29, 8C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.29**	**18**	Pn	Pn	17 50 03.8	-8.6
AFI				Sn	Sn	17 51 17.1	-17
AFI	**Afiamalu**	**7.29**	**18**	Pn	Pn	17 50 03.8	-8.6
	17nm,0.3s,baz=211,slow=17,SNR=16						
AFI				Sn	Sn	17 51 17.1	-17
	12nm,0.3s,baz=186,slow=18,SNR=3.6						
MSVF	**Nonsavu**	**8.12**	**292**	*e*P	Pn	17 50 27.5	+3.7
	65nm,0.9s						
DZM	**Mont Dzumac**	**18.21**	**263**	*e*LR	LR	17 56 57.6	
	262nm,22.9s						
DZM	**Mont Dzumac**	**18.21**	**263**	P	**P**	**17 52 38.9**	**+0.2**
DZM	**Mont Dzumac**	**18.21**	**263**	P	**P**	**17 52 38.9**	**+0.2**
	0.4nm,0.3s,baz=97,slow=10,SNR=6.3						
URZ	**Urewera**	**18.91**	**202**	P	**Pn**	**17 52 47.4**	**+0.4**
URZ				S	**Sn**	**17 56 16.0**	**-1.9**
URZ	**Urewera**	**18.91**	**202**	P	**Pn**	**17 52 47.4**	**+0.4**
	0.5nm,0.3s,baz=45,slow=20,SNR=4.5						
URZ				S	**Sn**	**17 56 16.0**	**-1.9**
	0.2nm,0.3s,baz=333,slow=16,SNR=2.2						
PPT2	**Papeete2**	**23.32**	**86**	*e*LR	LR	17 58 56.7	
	185nm,24.5s						
RPZ	**Rata Peaks**	**25.92**	**205**	P	**P**	**17 53 57.0**	**-0.5**
RPZ	**Rata Peaks**	**25.92**	**205**	P	**P**	**17 53 57.0**	**-0.5**
	3.5nm,0.6s,baz=306,slow=8.7,SNR=3.4						
CTA	**Charters Tower**	**37.14**	**264**	P	**P**	**17 55 36.0**	**-0.4**
CTA	**Charters Tower**	**37.14**	**264**	P	**P**	**17 55 36.0**	**-0.4**
	3.2nm,0.4s,baz=86,slow=11,SNR=4.7						
CTAO	**Charters Tower**	**37.14**	**264**	*e*P	**P**	**17 55 35.7**	**-0.7**
	3.6nm,0.5s						
CMSA	**Cobar Meteorol**	**37.46**	**245**	P	**P**	**17 55 39.6**	**+0.6**
	baz=36,SNR=8.6						
MTSU	**Mount Surprise**	**39.28**	**267**	P	**P**	**17 55 54.5**	**0.0**
	baz=37,SNR=10.0						
STKA	**Stephens Creek**	**40.97**	**245**	P	P	17 56 04.3	-4.0
	baz=39,SNR=14						
COEN	**Coen**	**41.31**	**272**	P	**P**	**17 56 11.7**	**+0.4**
	baz=39,SNR=6.0						
MANU	**Manus Island**	**42.03**	**291**	S	S	18 01 49.5	-46
	baz=40,SNR=3.9						
JAY	**Jayapura**	**47.71**	**286**	P	**P**	**17 57 02.2**	**-0.3**
	baz=46,SNR=9.0						
ASAR	**Alice Springs**	**48.04**	**257**	P	**P**	**17 57 04.3**	**-0.6**
ASAR				PcP	**PcP**	**17 58 33.5**	**+0.8**
ASAR				S	**S**	**18 03 59.4**	**-2.6**
ASAR	**Alice Springs**	**48.04**	**257**	P	**P**	**17 57 04.3**	**-0.6**
	3.1nm,0.6s,baz=95,slow=7.9,SNR=14						
ASAR				PcP	**PcP**	**17 58 33.5**	**+0.8**
	1.7nm,0.9s,baz=102,slow=3.6,SNR=4.6						
ASAR				S	**S**	**18 03 59.4**	**-2.6**
	0.4nm,0.9s,baz=95,slow=14,SNR=4.0						
WRAB	**Tennant Creek**	**48.21**	**262**	*e*P	**P**	**17 57 04.7**	**-1.7**
	5.4nm,0.8s						
WRA	**Warramunga Arr**	**48.22**	**262**	P	**P**	**17 57 05.5**	**-0.9**
WRA				PcP	**PcP**	**17 58 34.5**	**+1.1**
WRA	**Warramunga Arr**	**48.22**	**262**	P	**P**	**17 57 05.5**	**-0.9**
	2.3nm,0.8s,baz=95,slow=7.6,SNR=17						
WRA				PcP	**PcP**	**17 58 34.5**	**+1.1**
	2.1nm,0.9s,baz=97,slow=3.2,SNR=4.4						
KDU	**Kakadu**	**51.67**	**270**	P	**P**	**17 57 32.3**	**-0.3**
	baz=50,SNR=5.1						
KDU				S	**S**	**18 04 52.0**	**-0.7**
	baz=50,SNR=4.9						
MTN	**Manton Dam**	**52.88**	**269**	P	**P**	**17 57 40.6**	**-0.9**
	baz=51,SNR=3.7						
MTN				S	S	18 04 46.1	-23
	baz=51,SNR=7.4						
KNRA	**Kununurra**	**54.33**	**265**	P	**P**	**17 57 52.0**	**-0.3**
	baz=52,SNR=5.7						
FITZ	**Fitzroy Crossi**	**56.65**	**262**	P	**P**	**17 58 09.0**	**+0.1**
	baz=55,SNR=4.8						
SWI	**Sorong**	**56.95**	**283**	P	**P**	**17 58 11.4**	**+0.3**
	baz=55,SNR=4.0						
VNDA	**Vanda**	**57.86**	**186**	P	**P**	**17 58 16.9**	**+0.3**
VNDA	**Vanda**	**57.86**	**186**	P	**P**	**17 58 16.9**	**+0.3**
	3.1nm,0.9s,baz=14,slow=6.3,SNR=10						
SOEI	**Soe**	**60.22**	**271**	P	**P**	**17 58 35.5**	**+1.4**
	baz=58,SNR=6.3						
KLBR	**Kellerberrin**	**61.24**	**245**	P	**P**	**17 58 41.6**	**+0.9**
	baz=59,SNR=5.1						
MJAR	**Matsushiro Arr**	**72.79**	**321**	P	**P**	**17 59 53.4**	**-0.4**
MJAR	**Matsushiro Arr**	**72.79**	**321**	P	**P**	**17 59 53.4**	**-0.4**
	2.2nm,0.6s,baz=160,slow=6.0,SNR=22						
KSM	**Kuching**	**77.15**	**277**	P	**P**	**18 00 20.9**	**+1.4**
	baz=75,SNR=4.9						
PEA0B	**Petropavlovsk-**	**77.68**	**343**	*e*P	**P**	**18 00 21.0**	**-0.5**
PETK	**Petropavlovsk-**	**77.68**	**343**	P	**P**	**18 00 21.0**	**-0.5**
PETK	**Petropavlovsk-**	**77.68**	**343**	P	**P**	**18 00 21.0**	**-0.5**
	6.2nm,0.7s,baz=143,slow=8.7,SNR=29						
GSC	**Goldstone**	**77.89**	**45**	*e*P	**P**	**18 00 22.7**	**-0.6**
	2.4nm,0.9s						
NVAR	**Mina Array Bea**	**78.82**	**41**	P	**P**	**18 00 27.7**	**-0.8**
NVAR	**Mina Array Bea**	**78.82**	**41**	P	**P**	**18 00 27.7**	**-0.8**
	3.8nm,0.8s,baz=219,slow=9.0,SNR=15						
KSRS	**Korea Array**	**79.69**	**317**	P	**P**	**18 00 33.7**	**+0.7**
	0.8nm,0.6s,baz=125,slow=6.3,SNR=4.1						
KSAR	**Wonju Array Be**	**79.71**	**317**	P	**P**	**18 00 33.7**	**+0.6**
KDAK	**Kodiak Island**	**80.41**	**11**	P	**P**	**18 00 37.4**	**+1.1**
KDAK	**Kodiak Island**	**80.41**	**11**	P	**P**	**18 00 37.4**	**+1.1**
	1.7nm,0.6s,baz=246,slow=4.8,SNR=8.9						
USRK	**Ussurisk Arra**	**81.43**	**324**	P	**P**	**18 00 43.1**	**+1.0**
	1.5nm,0.8s,baz=121,slow=5.6,SNR=2.9						
MAW	**Mawson**	**82.41**	**199**	*e*P	**P**	**18 00 49.0**	**+1.9**
	1.9nm,1.1s						
MAW	**Mawson**	**82.41**	**199**	P	**P**	**18 00 48.7**	**+1.7**
	4.8nm,0.9s,baz=135,slow=6.0,SNR=5.9						
MSU	**Marysvale**	**82.77**	**44**	*e*P	**P**	**18 00 50.1**	**+0.4**
	12nm,1.6s						
BMO	**Blue Mountains**	**83.37**	**37**	*e*P	**P**	**18 00 51.4**	**-1.0**
	4.5nm,1.4s						
SRU	**San Rafael**	**84.17**	**44**	*e*P	**P**	**18 00 56.5**	**-0.3**
	7.7nm,1.1s						
TXAR	**Lajitas Array**	**84.18**	**56**	P	**P**	**18 00 56.3**	**-0.7**
TXAR	**Lajitas Array**	**84.18**	**56**	P	**P**	**18 00 56.3**	**-0.7**
	0.6nm,0.8s,baz=219,slow=7.6,SNR=6.0						
HLID	**Hailey**	**84.26**	**39**	*e*P	**P**	**18 00 56.6**	**-0.5**
	5.7nm,1.0s						
ANMO	**Albuquerque**	**84.80**	**50**	P	**P**	**18 00 59.9**	**-0.1**
ANMO	**Albuquerque**	**84.80**	**50**	P	**P**	**18 00 59.9**	**-0.1**
	3.3nm,1.0s,baz=208,slow=5.5,SNR=7.0						
MCMT	**McKenzie Canyo**	**85.91**	**39**	*e*P	**P**	**18 01 04.9**	**-0.6**
	1.7nm,1.0s						
BW06	**Boulder Array**	**86.75**	**42**	*e*P	**P**	**18 01 08.1**	**-1.6**
	2.6nm,1.1s						
PDAR	**Pinedale Array**	**86.75**	**42**	P	**P**	**18 01 08.3**	**-1.3**
PDAR	**Pinedale Array**	**86.75**	**42**	P	**P**	**18 01 08.3**	**-1.3**
	1.9nm,0.9s,baz=210,slow=3.9,SNR=10						
IPM	**Ipoh**	**86.87**	**276**	*e*P	**P**	**18 01 11.9**	**+1.3**
	7.3nm,0.8s						
DLBC	**Dease Lake**	**87.02**	**21**	P	**P**	**18 01 09.7**	**-0.6**
DLBC	**Dease Lake**	**87.02**	**21**	P	**P**	**18 01 09.7**	**-0.6**
	1.0nm,0.7s,baz=209,slow=12,SNR=4.0						
SNAA	**Sanae**	**87.46**	**177**	*e*P	**P**	**18 01 13.1**	**+0.6**
VNA2	**Neumayer--Watz**	**87.94**	**176**	*e*P	**P**	**18 01 15.6**	**+0.9**
ILAR	**Eielson Array**	**87.94**	**11**	P	**P**	**18 01 13.1**	**-1.4**
ILAR	**Eielson Array**	**87.94**	**11**	P	**P**	**18 01 13.1**	**-1.4**
	2.0nm,1.0s,baz=215,slow=5.6,SNR=15						
VNA1	**Neumayer--Stat**	**88.14**	**175**	*e*P	**P**	**18 01 17.4**	**+1.8**
DAWY	**Dawson**	**88.88**	**14**	*e*P	**P**	**18 01 18.9**	**-0.1**
INK	**Inuvik**	**93.73**	**14**	P	**P**	**18 01 40.4**	**-1.0**
INK	**Inuvik**	**93.73**	**14**	P	**P**	**18 01 40.4**	**-1.0**
	3.2nm,1.1s,baz=197,slow=4.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**93.76**	**288**	P	**P**	**18 01 43.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**93.76**	**288**	P	**P**	**18 01 43.3**	**+0.6**
	1.5nm,0.9s,baz=117,slow=2.9,SNR=6.4						
YKA	**Yellowknife Ar**	**95.36**	**24**	P	**P**	**18 01 48.1**	**-0.9**
YKA	**Yellowknife Ar**	**95.36**	**24**	P	**P**	**18 01 48.1**	**-0.9**
	1.0nm,0.7s,baz=239,slow=4.2,SNR=4.2						
TKL	**Tuckaleechee C**	**102.08**	**56**	P	**Pdif**	**18 02 18.9**	**-1.0**
TKL	**Tuckaleechee C**	**102.08**	**56**	P	**Pdif**	**18 02 18.9**	**-1.0**
	baz=209,slow=19						
ZALV	**Zalesovo Beam**	**113.14**	**321**	PKiKP	**PKiKP**	**18 07 01.5**	**-0.8**
ZALV	**Zalesovo Beam**	**113.14**	**321**	PKiKP	**PKiKP**	**18 07 01.5**	**-0.8**
	0.8nm,0.5s,baz=132,slow=2.1,SNR=4.7						
MKAR	**Makanchi Array**	**114.19**	**313**	PKP	PKPdf	18 07 03.7	-0.9
MKAR	**Makanchi Array**	**114.19**	**313**	PKP	PKPdf	18 07 03.7	-0.9
	0.8nm,0.6s,baz=78,slow=1.7,SNR=7.6						
KURK	**Kurchatov**	**116.81**	**317**	PKP	**PKPdf**	**18 07 08.4**	**-1.0**
KURBB	**Kurchatov Arra**	**116.87**	**317**	PKP	**PKPdf**	**18 07 08.4**	**-1.1**
	1.1nm,0.7s,baz=91,slow=1.9,SNR=15						
BVAR	**Borovoye Array**	**121.78**	**320**	PKP	**PKPdf**	**18 07 18.5**	**-0.4**
BVAR	**Borovoye Array**	**121.78**	**320**	PKP	**PKPdf**	**18 07 18.5**	**-0.4**
	1.6nm,0.7s,baz=80,slow=3.6,SNR=11						
KKAR	**Karaganda Array**	**122.40**	**308**	*e*PKPdf	**PKPdf**	**18 07 19.8**	**-0.7**
SPITS	**Spitsbergen Ar**	**122.47**	**357**	PKP	**PKPdf**	**18 07 19.1**	**-0.5**
SPITS	**Spitsbergen Ar**	**122.47**	**357**	PKP	**PKPdf**	**18 07 19.2**	**-0.5**
	5.5nm,0.9s,baz=22,slow=5.1,SNR=3.5						
AKTO	**Aktyubinsk**	**129.83**	**319**	PKP	**PKPdf**	**18 07 34.6**	**+0.1**
AKTO	**Aktyubinsk**	**129.83**	**319**	PKP	**PKPdf**	**18 07 34.6**	**+0.1**
	0.7nm,0.6s,baz=135,slow=4.3,SNR=4.0						
ARCES	**ARCESS Array B**	**129.94**	**351**	PKP	**PKPdf**	**18 07 33.9**	**-0.2**
ARCES	**ARCESS Array B**	**129.94**	**351**	PKP	**PKPdf**	**18 07 33.9**	**-0.2**
	2.6nm,0.7s,baz=29,slow=2.8,SNR=7.8						
FINES	**FINESS Array B**	**137.14**	**346**	PKP	**PKPdf**	**18 07 48.7**	**+0.9**
FINES	**FINESS Array B**	**137.14**	**346**	PKP	**PKPdf**	**18 07 48.7**	**+0.9**
	0.6nm,0.5s,baz=352,slow=3.9,SNR=3.6						
EKA	**Eskdalemuir Ar**	**144.95**	**9**	PKP	**PKPab**	**18 08 00.3**	**-1.0**
EKA	**Eskdalemuir Ar**	**144.95**	**9**	PKP	**PKPab**	**18 08 00.3**	**-1.0**
	1.5nm,0.7s,baz=350,slow=4.2,SNR=7.1						
AKASG	**Malin Array Be**	**145.09**	**334**	PKPbc	**PKPbc**	**18 08 01.1**	**-0.7**
AKASG	**Malin Array Be**	**145.09**	**334**	PKPbc	**PKPbc**	**18 08 01.1**	**-0.7**
	4.0nm,0.6s,baz=38,slow=4.3,SNR=22						
KIEV	**Kiev**	**145.10**	**334**	*e*PKPdf	**PKPbc**	**18 08 00.7**	**-1.3**
STHS	**Stebnicka Huta**	**149.06**	**340**	*e*PKP	**PKPbc**	**18 08 15.2**	**+1.9**
BUR08	**Bucovina Ar. S**	**149.13**	**334**	*e*PKPbc	**PKPbc**	**18 08 13.5**	**-0.2**
KOLS	**Kolonicke sedl**	**149.15**	**339**	*e*PKP	**PKPbc**	**18 08 14.6**	**+1.1**
CLL	**Collm**	**149.16**	**351**	*i*PKPbc	**PKPbc**	**18 08 13.2**	**-0.2**
	comp=Z,10.0nm,1.0s						
CLL				*i* PKPab	**PKPab**	**18 08 17.1**	**-0.7**
CLL				*e*PKPbc	pPKPbc	18 08 30.0	+7.9
UPC	**Upice**	**149.42**	**347**	*e*PKP	**PKPbc**	**18 08 14.7**	**+0.6**
UPC				*e*PKPAB	**PKPab**	**18 08 21.9**	**+3.0**
CRVS	**Cervenica-Dubn**	**149.44**	**340**	*e*PKP	**PKPbc**	**18 08 14.8**	**+0.6**
BRG	**Berggiesshubel**	**149.44**	**350**	*i*P	**PKPbc**	**18 08 14.7**	**+0.5**
	comp=Z,13nm,1.4s						
BRG				*e*		18 08 32.1	
	comp=Z,5.3nm,0.9s						
DPC	**Dobruska-Polom**	**149.50**	**347**	*e*PKP	**PKPbc**	**18 08 15.0**	**+0.6**
DPC				*e*PKPAB	**PKPab**	**18 08 19.2**	**-0.1**
PVCC	**Panska Ves**	**149.67**	**349**	*e*PKP	**PKPbc**	**18 08 16.1**	**+1.4**
MORC	**Moravsky Berou**	**149.76**	**345**	*e*PKPbc	**PKPbc**	**18 08 14.9**	**-0.2**
BR131	**Keskin Array S**	**149.82**	**315**	*e*PKPbc	**PKPbc**	**18 08 15.8**	**+0.1**
BRTR	**Keskin Array B**	**149.82**	**315**	PKPbc	**PKPbc**	**18 08 15.7**	**+0.1**
BRTR	**Keskin Array B**	**149.82**	**315**	PKPbc	**PKPbc**	**18 08 15.7**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=126,slow=2.1,SNR=21						
KECS	**Kecovo**	**150.12**	**340**	*e*PKP	**PKPbc**	**18 08 15.4**	**-0.5**
PRU	**Pruhonice**	**150.20**	**349**	*e*PKP	**PKPbc**	**18 08 16.1**	**+0.1**
ASF	**Jabal al Asfar**	**150.24**	**299**	PKPbc	**PKPbc**	**18 08 16.4**	**-0.4**
ASF	**Jabal al Asfar**	**150.24**	**299**	PKPbc	**PKPbc**	**18 08 16.4**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=30,slow=2.9,SNR=8.5						
NKC	**Novy Kostel**	**150.29**	**352**	*e*PKP	**PKPbc**	**18 08 16.3**	**0.0**
MLR	**Muntele Rosu**	**150.49**	**331**	PKPbc	**PKPbc**	**18 08 17.4**	**+0.4**
MLR	**Muntele Rosu**	**150.49**	**331**	PKPbc	**PKPbc**	**18 08 17.4**	**+0.4**
	baz=24,slow=6.9						
TREC	**Trest**	**150.68**	**347**	*e*PKP	**PKPbc**	**18 08 17.3**	**+0.1**
KHC	**Kasperske Hory**	**151.19**	**350**	*e*PKP	**PKPbc**	**18 08 18.6**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**18 08 28.4**	**+2.1**
KHC	**Kasperske Hory**	**151.19**	**350**	*e*PKPbc	**PKPbc**	**18 08 18.6**	**+0.1**
MMAI	**Mount Meron Ar**	**151.23**	**301**	PKPbc	**PKPbc**	**18 08 20.0**	**+0.9**
MMAI	**Mount Meron Ar**	**151.23**	**301**	PKPbc	**PKPbc**	**18 08 20.0**	**+0.9**
	comp=Z,9.0nm,0.8s,baz=99,slow=10,SNR=9.7						
GERES	**GERESS Array B**	**151.45**	**349**	PKPbc	**PKPbc**	**18 08 19.1**	**-0.1**
GERES	**GERESS Array B**	**151.45**	**349**	PKPbc	**PKPbc**	**18 08 19.1**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=48,slow=2.0,SNR=15						
DAVOX	**Davos/Dischmat**	**154.00**	**354**	PKPbc	**PKPbc**	**18 08 24.6**	**-0.4**
DAVOX	**Davos/Dischmat**	**154.00**	**354**	PKPbc	**PKPbc**	**18 08 24.6**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=315,slow=10.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**171.27**	**151**	PKPab	**PKPab**	**18 09 53.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**171.27**	**151**	PKPab	**PKPab**	**18 09 53.3**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=231,slow=6.4,SNR=3.6						

IDC 13 17:50:12.4±0.9, 7°.10S×155°.07E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.2/24, mbtmp4.2/15, ML3.7/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=34.0km s-min=16.3km az=128.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.35**	**116**	Pn	Pn	17 51 39.2	+5.5
	1.6nm,0.3s,baz=225,slow=11,SNR=2.1						
HNR				Sn	Sb	17 52 56.8	+5.1
	1.3nm,0.3s,baz=250,slow=12,SNR=3.2						
HNR				LR	LR	17 53 25.7	
	comp=Z,121nm,18.9s,baz=141,slow=36						
PMG	**Port Moresby**	**8.16**	**253**	Pn	Pn	17 52 13.0	+0.7
	2.1nm,0.3s,baz=62,slow=6.8,SNR=7.3						
PMG				Sn	Sn	17 53 45.7	+0.4
	1.1nm,0.3s,baz=54,slow=19,SNR=4.5						
CTA	**Charters Tower**	**15.49**	**213**	Pn	Pn	17 53 53.9	+1.5
	0.5nm,0.3s,baz=3.5,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**23.82**	**236**	P	P	17 55 26.0	-1.4
	4.2nm,0.9s,baz=58,slow=9.8,SNR=21						
ASAR	**Alice Springs**	**26.16**	**229**	P	P	17 55 47.6	-1.2
	1.9nm,0.8s,baz=62,slow=8.5,SNR=17						
ASAR				LR	LR	18 06 01.4	
	comp=Z,115nm,19.6s,baz=11,slow=36						
STKA	**Stephens Creek**	**27.67**	**205**	P	P	17 56 03.8	+1.6
	8.9nm,0.8s,baz=15,slow=11,SNR=17						
STKA				LR	LR	18 05 29.6	
	comp=Z,120nm,18.6s,baz=27,slow=33						
CMAR	**Chiang Mai Arr**	**60.90**	**296**	P	P	18 00 28.7	+1.1
	3.4nm,0.9s,baz=122,slow=5.1,SNR=23						
SONM	**Songino Array**	**69.47**	**327**	P	P	18 01 23.2	+0.4
	1.6nm,0.8s,baz=134,slow=6.6,SNR=5.9						
KDAK	**Kodiak Island**	**77.23**	**26**	P	P	18 02 08.7	+0.5
	4.7nm,0.9s,baz=64,slow=4.0,SNR=3.6						
ILAR	**Eielson Array**	**83.44**	**21**	P	P	18 02 40.7	-0.9
	2.2nm,0.9s,baz=249,slow=5.5,SNR=9.6						
ILAR				LR	LR	18 35 05.2	
	comp=Z,27nm,19.1s,baz=328,slow=32						
MKAR	**Makanchi Array**	**83.53**	**319**	P	P	18 02 42.9	+0.4
	0.6nm,0.8s,baz=126,slow=4.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**84.31**	**326**	P	P	18 02 45.6	-0.6
	0.3nm,0.3s,baz=106,slow=5.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**86.99**	**322**	P	P	18 02 58.7	-0.9
	0.1nm,0.4s,baz=101,slow=4.9,SNR=2.6						
DLBC	**Dease Lake**	**88.19**	**31**	P	P	18 03 05.0	-0.4
	1.7nm,0.9s,baz=268,slow=6.7,SNR=3.8						
INK	**Inuvik**	**89.79**	**21**	P	P	18 03 12.8	+0.3
	1.2nm,0.6s,baz=297,slow=3.2,SNR=4.3						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	P	18 03 43.5	+0.4
	1.2nm,0.9s,baz=281,slow=4.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**153.13**	**285**	PKPbc	PKPbc	18 10 12.5	-0.8
	1.5nm,0.8s,baz=59,slow=1.7,SNR=6.7						

*IDC **13** 18:29:02.5±2.2, 6°.04N×127°.18E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=121.7km s-min=26.2km az=69.0*
*MAN **13** 18:29:13.5°.38N×126°.54E, h97km, mb4.3, ML3.2, MS3.0*
*ISCJB **13** 18:29:14.0±0.9, 5°.31N±0°.10×126°.4E±0°.1, h66km, mb3.2/4, Error ellipse: s-maj=20.7km s-min=9.1km az=145.0*
ISC 13 18:29:15.9±1.2, 5°.23N±0°.09×126°.3E±0°.1, h66km, n8, σ1°.83/9, mb3.3/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.56**	**303**	*e*P	**Pn**	**18 29 40.4**	**-1.2**
GSPH				*e*S	**Sn**	**18 30 00.3**	**-0.7**
MATI	**Mati**	**1.70**	**360**	*e*P	**Pn**	**18 29 41.0**	**-2.6**
MATI				*e*S	**Sn**	**18 30 07.6**	**+3.2**
BUKP	**Musuan**	**2.89**	**336**	*e*P	**Pn**	**18 29 58.7**	**-0.9**
PAGZ	**Pagadian**	**3.86**	**312**	*e*P	**Pn**	**18 30 13.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.19**	**181**	P	**P**	**18 34 17.8**	**+0.6**
	1.5nm,1.0s,baz=352,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**26.25**	**163**	P	**P**	**18 34 45.0**	**-0.1**
	0.9nm,1.1s,baz=347,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**29.67**	**166**	P	**P**	**18 35 15.9**	**+0.3**
	0.3nm,0.6s,baz=348,slow=7.2,SNR=7.1						
MKAR	**Makanchi Array**	**56.06**	**325**	P	P	18 38 42.4	-5.8
	0.2nm,0.5s,baz=117,slow=6.9,SNR=5.0						

*IDC **13** 18:31:47.6±0.9, 19°.49N×65°.70W, h0km, mb3.9/11, mb1 4.2/11, mb1mx4.0/27, mbtmp3.9/11, MS3.2/2, Ms1 3.2/2, ms1mx2.7/48, Error ellipse: s-maj=29.7km s-min=19.1km az=59.0*
*ISCJB **13** 18:31:48.4±0.4, 19°.44N±

2.5nm,0.7s,baz=212,slow=13,SNR=3.1
LPAZ La Paz 35.49 184 P **P 18 38 46.6 +0.2**
LPAZ La Paz 35.49 184 P **P 18 38 46.6 +0.2**
0.7nm,0.5s,baz=8.1,slow=7.1,SNR=3.4
TXAR Lajitas Array 35.83 293 P **P 18 38 49.7 +0.8**
TXAR Lajitas Array 35.83 293 P **P 18 38 49.7 +0.8**
0.8nm,0.9s,baz=118,slow=10,SNR=5.9
SDCO Great Sand Dun 39.10 306 *eP* **P 18 39 15.5 -1.2**
2.6nm,0.8s
CPUP Villa Florida 46.13 170 P **P 18 40 16.3 +2.9**
CPUP Villa Florida 46.13 170 P **P 18 40 16.3 +2.9**
0.4nm,0.4s,baz=326,slow=7.3,SNR=4.3
PFO Pinyon Flat Ob 47.14 298 P **P 18 40 20.6 -1.0**
PFO Pinyon Flat Ob 47.14 298 P **P 18 40 20.6 -1.0**
2.5nm,0.3s,baz=146,slow=12,SNR=4.5
NVAR Mina Array Bea 49.12 304 P **P 18 40 36.9 0.0**
NVAR Mina Array Bea 49.12 304 P **P 18 40 36.9 0.0**
0.3nm,0.5s,baz=98,slow=5.5,SNR=3.4
NEW Newport 50.31 317 P **P 18 40 45.8 +0.1**
NEW Newport 50.31 317 P **P 18 40 45.8 +0.1**
2.9nm,0.5s,baz=128,slow=6.0,SNR=4.5
NEW LR LR 19 03 15.9
comp=Z,43nm,18.1s,baz=257,slow=38
YKA Yellowknife Ar 54.55 335 P **P 18 41 16.3 -0.5**
YKA Yellowknife Ar 54.55 335 P **P 18 41 16.3 -0.5**
0.8nm,0.7s,baz=105,slow=7.0,SNR=3.0
DLBC Dease Lake 60.30 327 P **P 18 41 57.7 +0.2**
DLBC Dease Lake 60.30 327 P **P 18 41 57.7 +0.2**
1.1nm,0.5s,baz=4.0,slow=7.4,SNR=4.5
TORD Torodi Ar. Bea 64.68 84 P **P 18 42 27.8 +0.3**
TORD Torodi Ar. Bea 64.68 84 P **P 18 42 27.8 +0.3**
1.0nm,0.7s,baz=282,slow=6.6,SNR=6.3
ILAR Eielson Array 68.92 333 P **P 18 42 53.3 -0.3**
ILAR Eielson Array 68.92 333 P **P 18 42 53.3 -0.3**
0.9nm,0.8s,baz=107,slow=3.8,SNR=10
ASAR Alice Springs 161.24 253 PKPab **PKPab 18 52 33.5 -0.5**
ASAR Alice Springs 161.24 253 PKPab **PKPab 18 52 33.5 -0.5**
0.3nm,0.8s,baz=108,slow=4.0,SNR=5.0

IDC 13 18:34:22.1±2.0, 15°20S×173°53W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.6/6, ML2.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=118.1km s-min=20.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**53**	Pn	Pn	18 34 58.0	-1.1
	90nm,0.3s,baz=222,slow=16,SNR=46						
AFI				Sn	Sn	18 35 18.1	-8.3
	355nm,0.3s,baz=300,slow=20,SNR=33						
URZ	**Urewera**	**24.41**	**198**	LR	LR	18 48 20.7	
	comp=Z,93nm,19.4s,baz=298,slow=34						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	18 43 16.4	-0.5
	0.4nm,0.9s,baz=98,slow=5.9,SNR=22						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	18 43 18.7	-0.3
	1.3nm,0.7s,baz=86,slow=7.9,SNR=25						
NVAR	**Mina Array Bea**	**74.27**	**42**	P	P	18 46 02.5	+0.9
	0.5nm,0.7s,baz=227,slow=12,SNR=3.6						
TXAR	**Lajitas Array**	**80.61**	**56**	P	P	18 46 37.1	-0.1
	0.2nm,0.5s,baz=235,slow=4.4,SNR=4.3						
ILAR	**Eielson Array**	**82.28**	**11**	P	P	18 46 44.6	-0.5
	0.3nm,0.8s,baz=181,slow=3.6,SNR=3.1						
BRTR	**Keskin Array B**	**145.93**	**321**	PKPbc	PKPab	18 54 04.5	-0.1
	1.0nm,0.8s,baz=28,slow=2.9,SNR=4.9						

IDC 13 18:38:23.8±28.0, 17°81S×174°39W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=547.6km s-min=157.3km az=87.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.04**	**242**	P	P	18 46 17.6	+0.3
	1.2nm,0.9s,baz=85,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**48.41**	**259**	P	P	18 47 07.9	-0.2
	0.4nm,0.5s,baz=98,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**48.50**	**254**	P	P	18 47 08.7	-0.1
	0.7nm,0.7s,baz=88,slow=8.0,SNR=17						
FITZ	**Fitzroy Crossi**	**56.81**	**260**	P	P	18 48 10.1	-0.3
	2.7nm,1.1s,baz=117,slow=6.8,SNR=7.3						

*IDC **13** 18:53:25.9±0.6, 35°56N×76°72E, h0km, mb4.0/19, mb1 4.1/24, mb1mx4.1/33, mbtmp4.0/24, ML3.8/5, MS3.4/12, Ms1 3.4/12, ms1mx3.1/54, Error ellipse: s-maj=17.4km s-min=12.4km az=45.0*
*BJI **13** 18:53:28.6, 35°78N×76°76E, h7km, mB4.5/8, mb4.3/13, ML4.2/4*
*ISCJB **13** 18:53:29.5±0.3, 35°73N±0°03×76°84E±0°06, h33km, mb4.0/25, MS3.4/10, Error ellipse: s-maj=7.0km s-min=3.5km az=153.7*
*NNC **13** 18:53:34.4±3.2, 35°78N×76°63E, h53km±31km, mb4.0, mpv4.1, Error ellipse: s-maj=28.0km s-min=19.5km az=39.0*

ISC 13 18:53:31.8±0.4, 35°80N±0°04×76°79E±0°05, h35km, n65, σ1§68/67, mb4.1/25, MS3.4/9, 7C-5D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.32**	**192**	*eP*	Pn	18 54 25.0	+3.5
DLH				*ex*	x	18 55 12.0	
DHRM	**DHARAMSHALA**	**3.57**	**187**	*eP*	**Pn**	**18 54 26.6 +1.8**	
DHRM				*eS*	**Sn**	**18 55 08.1 +2.3**	
DHRM				AML	AML	18 55 19.5	
	comp=E,173nm,1.0s						
DHRM				AML	AML	18 55 23.4	
	comp=N,160nm,0.4s						
KSH	**Kashi**	**3.77**	**350**	*e*Pn	**Pn**	**18 54 27.8 +0.4**	
KSH				Sn	**Sn**	**18 55 11.1 +0.5**	
KSH				smax	smax		
	comp=N,490nm,0.6s						
KSH				smax	smax		
	comp=E,600nm,1.0s						
SDNR	**Sundarnagar**	**4.29**	**178**	*eP*	**Pn**	**18 54 36.0 +1.4**	
SDNR				*e*4		18 55 39.0	
BHK	**Bhakra**	**4.38**	**184**	*ex*	x	18 54 47.0	
SMLA	**Simla**	**4.67**	**176**	*eP*	**Pn**	**18 54 40.7 +0.9**	
SMLA				*eP*		18 54 40.9	
SMLA				*eS*	**Sn**	**18 55 34.2 +1.5**	
SMLA				AML	AML	18 55 57.8	
	comp=E,113nm,0.4s						
SMLA				AML	AML	18 56 01.5	
	comp=N,113nm,2.1s						
AAK	**Ala-Archa**	**7.05**	**346**	Pn	Pn	18 55 19.2	+6.6
	comp=N,1.0nm,0.3s,baz=150,slow=6.3,SNR=8.5						
AAK				Sn	Sn	18 56 39.9	+8.3
	comp=N,0.8nm,0.3s,baz=168,slow=19,SNR=3.8						
AAK				LR	LR	18 58 13.4	
	comp=N,176nm,19.4s,baz=153,slow=40						
TKM2	**Tokmak 2**	**7.17**	**353**	⇑P	Pn	18 55 17.7	+3.5
	comp=N,24nm,1.1s						
TKM2				⇑S	**Sn**	**18 56 38.0 +3.4**	
	comp=N,34nm,1.1s						
KK31	**Karatay Array**	**8.76**	**328**	⇓P	**Pn**	**18 55 37.7 +1.8**	
	comp=N,2.2nm,0.4s,baz=137,slow=12,SNR=53						
KK31				⇓S	**Sn**	**18 57 15.3 +2.0**	
	comp=N,19nm,0.8s,baz=159,slow=25,SNR=9.0						
PYUN	**Piuthan**	**9.31**	**144**	*eP*	**Pn**	**18 55 43.5 -0.2**	
	comp=N,65nm,0.4s						
KOLN	**Koldanda**	**9.88**	**142**	*eP*	**Pn**	**18 55 51.4 -0.1**	
	comp=N,19nm,0.5s						
KKN	**Kakani**	**10.77**	**136**	*eP*	**Pn**	**18 56 01.4 -2.2**	
	comp=N,13nm,0.6s						
DMN	**Daman**	**10.81**	**137**	*eP*	**Pn**	**18 56 02.9 -1.3**	
	comp=N,16nm,0.4s						
PKIN	**Phulchoki**	**10.99**	**136**	*eP*	**Pn**	**18 56 05.3 -1.5**	
	comp=N,9.1nm,0.3s						
PKI	**Pulchoki**	**11.01**	**136**	*eP*	**Pn**	**18 56 05.2 -1.8**	
	comp=N,15nm,0.5s						
JIRN	**Jiri**	**11.39**	**133**	*eP*	**Pn**	**18 56 10.3 -2.1**	
	comp=N,34nm,0.5s						
WMQ	**Urumqi**	**11.59**	**43**	*eP*	Pn	18 56 21.1	+6.4
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MK31	**Makanchi Array**	**11.73**	**19**	⇑P	**Pn**	**18 56 17.7 +1.2**	
	comp=Z,6.6nm,1.0s,baz=196,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**11.73**	**19**	Pn	**Pn**	**18 56 18.5 +1.9**	
	comp=Z,0.5nm,0.3s,baz=198,slow=12,SNR=17						
MKAR				Sn	**Sn**	**18 58 23.3 -2.9**	
	comp=Z,0.2nm,0.3s,baz=183,slow=17,SNR=4.6						
RAMN	**Ramite**	**12.16**	**134**	*eP*	**Pn**	**18 56 19.7 -3.1**	
	comp=Z,11nm,0.4s						
ODAN	**Odare**	**12.70**	**132**	*eP*	Pn	18 56 26.7	-3.4
	comp=Z,8.6nm,0.4s						

KURBB	**Kurchatov Arra**	**14.87**	**4**	⇓P	**P**	**18 57 02.9 -1.6**	
	comp=Z,3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**14.87**	**4**	Pn	**Pn**	**18 57 01.4 +2.2**	
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=6.8						
VOSK	**Vostochnaya**	**17.41**	**348**	⇓P	**P**	**18 57 32.8 0.0**	
	comp=Z,2.7nm,0.7s						
BVA0	**Borovoye Array**	**17.80**	**347**	⇓P	**P**	**18 57 39.3 +2.2**	
	comp=Z,3.4nm,0.6s						
BVAR	**Borovoye Array**	**17.80**	**347**	P	**P**	**18 57 39.0 +1.9**	
	comp=Z,0.9nm,0.3s,baz=158,slow=12,SNR=18						
BVAR				Lg	Lg	19 02 44.3	
	comp=Z,0.1nm,0.3s,baz=148,slow=26,SNR=2.4						
AB31	**Akbulak array**	**18.24**	**323**	⇑P	**P**	**18 57 41.7 -0.3**	
	comp=Z,1.1nm,0.3s,baz=130,slow=12,SNR=18						
AB31				S	**Sn**	**19 01 04.0 -0.5**	
	comp=Z,0.6nm,0.4s,baz=273,slow=66,SNR=4.3						
GTA	**Gaotai**	**18.59**	**72**	*eP*	**Pn**	**18 57 46.8 +0.4**	
GTA				pP	**pP**	**18 57 54.8 -0.3**	
GTA				sP	**sP**	**18 57 57.5 -2.1**	
GTA				PP	**PnPn**	**18 58 03.3 +4.8**	
GTA				S	**Sn**	**19 01 13.8 +0.6**	
GTA				sS	**S**	**19 01 18.9 +2.9**	
GTA				SS	SnSn	19 01 41.8	+15
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,80nm,4.3s						
ZALV	**Zalesovo Beam**	**18.99**	**15**	P	**Pn**	**18 57 52.7 +1.6**	
	comp=Z,0.5nm,0.3s,baz=210,slow=9.2,SNR=9.1						
ZALV				S	S	19 01 35.9	+12
	comp=Z,0.1nm,0.3s,baz=206,slow=16,SNR=4.5						
ZALV				LR	LR	19 05 37.1	
	comp=Z,56nm,18.6s,baz=160,slow=38						
AKTO	**Aktyubinsk**	**19.96**	**323**	⇑P	**P**	**18 58 01.5 +0.8**	
	comp=Z,6.7nm,0.9s						
AKTO	**Aktyubinsk**	**19.96**	**323**	P	**Pn**	**18 58 01.7 -0.9**	
	comp=Z,6.9nm,0.9s,baz=114,slow=12,SNR=12						
AKTO				S	**S**	**19 01 37.2 -6.0**	
	comp=Z,0.6nm,0.3s,baz=79,slow=19,SNR=2.7						
AKTO				LR	LR	19 06 32.6	
	comp=Z,124nm,21.3s,baz=140,slow=39						
SONM	**Songino Array**	**24.97**	**52**	P	**P**	**18 58 53.8 +1.8**	
	comp=Z,4.8nm,1.0s,baz=248,slow=9.5,SNR=16						
SONM				LR	LR	19 10 02.3	
	comp=Z,53nm,20.9s,baz=32,slow=40						
MIB	**Mutribah**	**25.41**	**265**	*eP*	**P**	**18 58 57.3 +1.3**	
MIB				AMb	AMB	18 59 09.8	
	comp=Z,18nm,1.3s						
NAY	**Al-Naaiem**	**25.69**	**264**	*eP*	**P**	**18 58 57.9 -0.7**	
NAY				AMb	AMB	18 59 01.3	
	comp=Z,11nm,1.3s						
CMAR	**Chiang Mai Arr**	**26.11**	**126**	P	**P**	**18 59 01.1 -1.4**	
	comp=Z,3.0nm,0.8s,baz=309,slow=10,SNR=24						
KBZ	**Khabaz**	**27.08**	**297**	LR	LR	19 12 24.1	
	comp=Z,41nm,20.0s,baz=222,slow=42						
BRTR	**Keskin Array B**	**34.09**	**290**	P	**P**	**19 00 13.5 +0.3**	
	comp=Z,0.3nm,0.6s,baz=99,slow=8.9,SNR=2.4						
AKASG	**Malin Array Be**	**37.03**	**309**	P	**P**	**19 00 37.8 -0.2**	
	comp=Z,0.3nm,0.3s,baz=113,slow=7.2,SNR=3.0						
KSRS	**Korea Array**	**40.66**	**72**	P	**P**	**19 01 08.8 +0.3**	
	comp=Z,1.0nm,0.8s,baz=224,slow=8.8,SNR=5.5						
FINES	**FINESS Array B**	**40.70**	**325**	P	**P**	**19 01 09.2 +0.7**	
	comp=Z,2.1nm,0.4s,baz=111,slow=8.7,SNR=21						
FINES				LR	LR	19 18 49.4	
	comp=Z,60nm,21.4s,baz=283,slow=37						
KAF	**Kangasniemi**	**40.78**	**326**	*ep*	P	19 01 12.9	+3.7
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**43.61**	**337**	P	**P**	**19 01 32.6 +0.4**	
	comp=Z,2.7nm,0.7s,baz=99,slow=7.6,SNR=11						
ARCES				LR	LR	19 23 12.8	
	comp=Z,30nm,21.8s,baz=258,slow=41						
HFS	**Hagfors**	**46.50**	**322**	LR	LR	19 22 21.6	
	comp=Z,75nm,21.2s,baz=98,slow=37						
GERES	**GERESS Array B**	**47.13**	**307**	P	**P**	**19 02 00.3 -0.2**	
	comp=Z,0.2nm,0.2s,baz=34,slow=7.2,SNR=2.1						
NB2	**NORSAR Subarra**	**47.75**	**323**	P	**P**	**19 02 05.0 -0.1**	
	comp=Z,0.7nm,0.6s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**47.75**	**323**	P	**P**	**19 02 04.8 -0.3**	
	comp=Z,0.8nm,0.5s,baz=92,slow=7.6,SNR=4.4						
NOA				LR	LR	19 23 20.1	
	comp=Z,53nm,21.6s,baz=85,slow=38						
MJAR	**Matsushiro Arr**	**48.82**	**70**	P	**P**	**19 02 12.8 -0.9**	
	comp=Z,2.3nm,0.9s,baz=303,slow=11,SNR=8.2						
SPITS	**Spitsbergen Ar**	**49.26**	**346**	LR	LR	19 24 02.8	
	comp=Z,38nm,21.1s,baz=125,slow=37						
CDF	**Champ du Feu**	**51.40**	**307**	*eP*	**P**	**19 02 34.1 +1.0**	
HINF	**Hinterzarten**	**51.81**	**306**	*eP*	**P**	**19 02 36.5 +0.3**	
LPG	**La Plagne**	**52.47**	**304**	*eP*	**P**	**19 02 42.2 +0.8**	
SMF	**Signal de Mont**	**54.10**	**306**	⇑*iP*	**P**	**19 02 53.2 +0.2**	
	comp=Z,5.5nm,0.8s						
SSF	**Saint Saulge**	**54.20**	**306**	*eP*	**P**	**19 02 54.0 +0.3**	
AVF	**Avril sur Loir**	**54.38**	**306**	⇑*iP*	**P**	**19 02 55.3 +0.3**	
	comp=Z,3.1nm,0.6s						
TCF	**Toulx Ste Croi**	**55.28**	**306**	*eP*	**P**	**19 03 01.5 -0.1**	
	comp=Z,3.3nm,0.8s						
LDF	**La Druitiere**	**56.10**	**309**	*eP*	**P**	**19 03 07.5 +0.1**	
	comp=Z,7.4nm,0.9s						
ESDC	**Sonseca Array**	**61.89**	**300**	LR	LR	19 32 08.5	
	comp=Z,53nm,18.5s,baz=120,slow=38						
TORD	**Torodi Ar. Bea**	**70.41**	**272**	P	**P**	**19 04 41.0 -1.6**	
	comp=Z,0.8nm,0.9s,baz=42,slow=4.6,SNR=3.6						
ILAR	**Eielson Array**	**74.08**	**18**	P	**P**	**19 05 04.1 +0.3**	
	comp=Z,1.4nm,0.9s,baz=311,slow=4.9,SNR=11						
ILAR				LR	LR	19 43 35.8	
	comp=Z,37nm,18.4s,baz=144,slow=40						
WRA	**Warramunga Arr**	**77.71**	**126**	P	**P**	**19 05 24.2 -0.9**	
	comp=Z,1.9nm,0.9s,baz=322,slow=4.9,SNR=11						
DBIC	**Dimbokro**	**79.37**	**271**	P	**P**	**19 05 34.0 -0.4**	
	comp=Z,6.6nm,1.0s,baz=100,slow=18,SNR=3.1						
ASAR	**Alice Springs**	**80.08**	**129**	P	**P**	**19 05 37.4 -0.8**	
	comp=Z,0.8nm,0.7s,baz=314,slow=5.9,SNR=11						
BOSA	**Boshof**	**80.38**	**224**	P	**P**	**19 05 38.7 -1.0**	
	comp=Z,4.6nm,1.1s,baz=56,slow=3.6,SNR=3.5						
YKA	**Yellowknife Ar**	**81.61**	**5**	P	**P**	**19 05 45.9 +0.2**	
	comp=Z,1.1nm,0.8s,baz=344,slow=4.7,SNR=4.0						
CTA	**Charters Tower**	**86.03**	**118**	P	**P**	**19 06 08.5 -0.4**	
	comp=Z,0.8nm,0.3s,baz=282,slow=2.1,SNR=4.8						

*IDC **13** 18:54:15.3±1.2, 3°33S×101°15E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.0/30, mbtmp4.1/13, ML4.0/1, Error ellipse: s-maj=44.8km s-min=14.6km az=52.0*
*DJA **13** 18:54:20.0±1.4, 4°S±11°×10°1E±1°3, h30km, M4.4/7, MLv4.4/7*

ISC 13 18:54:19.9±1.0, 3°3S±0°2×101°1E±0°2, h32km, n21, σ1§11/20, mb4.1/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.20**	**82**	P	Pb	18 54 48.1	+6.0
KSI	**Kapahiang**	**1.57**	**102**	P	**Pb**	**18 54 48.2 -0.2**	
MNAI	**Manna**	**2.16**	**119**	P	**Pn**	**18 54 53.4 -0.3**	
PPI	**Padang Panjang**	**2.91**	**347**	P	**Pb**	**18 55 10.6 -0.6**	
LWLI	**Liwa**	**3.44**	**120**	P	**Pn**	**18 55 14.1 +2.7**	
KLSI		**3.92**	**111**	P	**Pn**	**18 55 20.1 +2.3**	
KASI	**Kota Agung**	**4.08**	**123**	P	**Pn**	**18 55 21.0 +1.0**	
KAPI	**Kappang**	**18.73**	**96**	P	**P**	**18 58 35.3 -0.8**	
	0.5nm,0.3s,baz=241,slow=19,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.21**	**123**	P	**P**	**19 00 08.7 -1.3**	
	1.0nm,0.5s,baz=308,slow=7.5,SNR=7.7						
WRA	**Warramunga Arr**	**36.43**	**120**	P	**P**	**19 01 20.6 -1.4**	
	1.5nm,0.5s,baz=308,slow=8.7,SNR=35						
ASAR	**Alice Springs**	**37.63**	**125**	P	**P**	**19 01 31.8 -0.5**	
	1.2nm,0.4s,baz=302,slow=7.8,SNR=35						
CTA	**Charters Tower**	**47.09**	**114**	P	**P**	**19 02 48.4 -0.8**	
	3.8nm,0.7s,baz=300,slow=10,SNR=6.8						
STKA	**Stephens Creek**	**47.50**	**131**	P	**P**	**19 02 52.3 +0.1**	
	0.6nm,0.4s,baz=303,slow=9.1,SNR=6.3						
SONM	**Songino Array**	**51.15**	**5**	P	**P**	**19 03 20.4 +0.4**	
	0.6nm,0.6s,baz=190,slow=9.3,SNR=4.0						
USRK	**Ussuriysk Arra**	**54.84**	**27**	P	**P**	**19 03 46.7 -0.3**	
	3.9nm,0.8s,baz=226,slow=5.9,SNR=10						
KURBB	**Kurchatov Arra**	**57.10**	**343**	P	**P**	**19 04 03.9 +0.8**	
	0.6nm,0.3s,baz=163,slow=7.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**58.65**	**349**	P	**P**	**19 04 14.2 +0.2**	
	1.4nm,0.4s,baz=157,slow=3.7,SNR=10.0						
ASAJ	**Asahikawa**	**60.11**	**33**	P	**P**	**19 04 24.2 0.0**	
	4.6nm,0.9s,baz=217,slow=20,SNR=3.6						
BVAR	**Borovoye Array**	**61.77**	**340**	P	**P**	**19 04 35.5 +0.2**	
	0.6nm,0.4s,baz=142,slow=8.3,SNR=5.3						
BRTR	**Keskin Array B**	**74.98**	**313**	P	**P**	**19 05 59.4 +0.9**	
	0.6nm,0.6s,baz=146,slow=5.2,SNR=4.0						
TXAR	**Lajitas Array**	**145.07**	**40**	PKPbc	**PKPdf**	**19 13 54.7 -0.2**	
	0.8nm,0.6s,baz=310,slow=0.7,SNR=9.3						

MAN 13 18:54:38, 10°30N×122°14E, h29km, mb3.9, ML2.7, MS2.3, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.55**	**53**	*eP*	Pn	18 54 50.0	+0.1
GUIM				*e*S	Sn	18 55 02.4	+4.3
CUYO	**Cuyo Island**	**1.23**	**296**	*eP*	Pn	18 54 59.7	+0.4
SJMP	**San Jose**	**2.37**	**335**	*eP*	Pn	18 55 16.2	+1.2

IDC 13 18:55:29.6±1.0, 7°03S×154°98E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, MS3.0/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=41.3km s-min=20.1km az=125.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.47**	**116**	Pn	Pn	18 56 58.6	+6.3
	4.6nm,0.3s,baz=259,slow=10,SNR=2.8						
HNR				Sn	Sb	18 58 06.2	-6.0
	3.1nm,0.3s,baz=323,slow=20,SNR=3.2						
PMG	**Port Moresby**	**8.09**	**252**	LR	LR	19 00 23.1	
	comp=Z,102nm,21.1s,baz=341,slow=36						
WRA	**Warramunga Arr**	**23.79**	**235**	P	P	19 00 42.9	-1.3
	1.6nm,0.8s,baz=58,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**26.14**	**228**	P	P	19 01 05.0	-0.8
	0.7nm,0.8s,baz=59,slow=9.9,SNR=10						
STKA	**Stephens Creek**	**27.70**	**205**	P	P	19 01 20.6	+1.0
	2.9nm,0.8s,baz=23,slow=11,SNR=6.2						
CMAR	**Chiang Mai Arr**	**60.78**	**296**	P	P	19 05 45.6	+1.7
	0.7nm,0.4s,baz=118,slow=5.2,SNR=7.2						
SONM	**Songino Array**	**69.35**	**327**	P	P	19 06 39.3	0.0
	0.8nm,0.8s,baz=120,slow=5.2,SNR=3.4						
ILAR	**Eielson Array**	**83.41**	**21**	P	P	19 07 57.0	-1.6
	1.0nm,0.9s,baz=251,slow=5.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**84.20**	**326**	P	P	19 08 01.6	-1.2
	0.5nm,0.4s,baz=125,slow=6.3,SNR=3.4						
INK	**Inuvik**	**89.75**	**21**	P	P	19 08 28.8	-0.7
	1.0nm,0.6s,baz=317,slow=7.2,SNR=4.5						
NVAR	**Mina Array Bea**	**91.75**	**52**	P	P	19 08 40.8	+1.0
	0.7nm,0.9s,baz=267,slow=7.5,SNR=4.2						
YKA	**Yellowknife Ar**	**96.37**	**28**	P	P	19 09 01.0	+0.8
	0.8nm,0.8s,baz=274,slow=5.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**153.02**	**285**	PKP	PKPdf	19 15 24.5	+1.6
	0.6nm,1.1s,baz=56,slow=3.6,SNR=1.9						
TORD				PKPbc	PKPbc	19 15 29.5	-0.7
	0.5nm,0.8s,baz=103,slow=1.8,SNR=3.2						

*NEIC **13** 19:03:52.7±0.9, 25°67S×177°03W, h90km±7km, mb4.5/13, Error ellipse: s-maj=7.7km s-min=7.0km az=161.0*
*IDC **13** 19:03:52.5±0.7, 25°59S×177°09W, h85km±5km, mb4.1/18, mb1 4.3/20, mb1mx4.3/22, mbtmp4.1/20, MS3.6/11, Ms1 3.6/11, ms1mx3.3/32, Error ellipse: s-maj=12.1km s-min=10.7km az=132.0*
*ISCJB **13** 19:03:55.8±0.3, 25°61S±0°07×177°10W±0°06, h126km, mb4.3/28, Error ellipse: s-maj=10.7km s-min=7.9km az=161.9*
*AUST **13** 19:03:58.1, 24°83S×176°20W, h200km*

ISC 13 19:03:53.7±0.3, 25°70S±0°06×177°11W±0°07, h100km, n218, σ1§20/200, mb4.4/27, 47C-40D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.62**	**191**	*e*Pn	**Pn**	**19 04 47.2 -0.4**	
RAO				*e*Sn	**Sn**	**19 05 27.9 -1.4**	
RAO	**Raoul Island**	**3.62**	**191**	P	**Pn**	**19 04 45.9 -1.7**	
	557nm,0.3s,baz=280,slow=23,SNR=8.8						
RAO				S	**Sn**	**19 05 31.5 +2.1**	
	1μm,0.3s,baz=107,slow=22,SNR=6.8						
RAO				LR	LR	19 05 38.4	
	comp=Z,510nm,21.4s,baz=3.3,slow=28						
MSVF	**Nonsavu**	**9.11**	**329**	*e*Pn	Pn	19 06 03.3	+0.9
	376nm,1.2s						
NIUE	**Niue**	**9.36**	**47**	P	Pn	19 05 55.9	-10
	baz=8.2,SNR=8.9						
NIUE				S	Sn	19 07 28.7	-20
	baz=8.2,SNR=6.6						
AFI	**Afiamalu**	**12.75**	**24**	P	Pn	19 06 40.8	-11
AFI				S	Sn	19 08 49.6	-22
AFI	**Afiamalu**	**12.75**	**24**	P	Pn	19 06 40.8	-11
	14nm,0.3s,baz=319,slow=0.6,SNR=9.6						
AFI				S	Sn	19 08 49.6	-22
	14nm,0.3s,baz=233,slow=20,SNR=6.2						
URZ	**Urewera**	**13.45**	**200**	P	**Pn**	**19 06 58.3 -2.0**	
URZ				S	Sn	19 09 17.5	-11
URZ	**Urewera**	**13.45**	**200**	P	**Pn**	**19 06 58.3 -2.0**	
	0.7nm,0.3s,baz=101,slow=19,SNR=4.3						
URZ				S	Sn	19 09 17.5	-11
	4.2nm,0.3s,baz=69,slow=17,SNR=4.8						
DZM	**Mont Dzumac**	**15.47**	**280**	*e*LR	LR	19 11 25.2	
	612nm,29.4s						
DZM	**Mont D

baz=49,SNR=11
MTN Manton Dam 50.21 275 S S 19 19 37.4 -7.2
baz=51,SNR=4.1
KNRA Kununurra 51.31 270 P P 19 12 49.8 +1.9
baz=52,SNR=21
VNDA Vanda 52.84 186 P P 19 12 59.5 +1.1
VNDA pP pP 19 13 18.9 -3.7
VNDA Vanda 52.84 186 P P 19 12 59.5 +1.1
1.5nm,0.8s,baz=353,slow=11,SNR=7.1
VNDA pP pP 19 13 18.9 -3.7
2.2nm,0.6s,baz=62,slow=7.9,SNR=5.6
FITZ Fitzroy Crossi 53.31 266 P P 19 13 03.5 +0.8
FITZ pP pP 19 13 23.3 -3.7
FITZ Fitzroy Crossi 53.31 266 P P 19 13 03.5 +0.8
4.3nm,0.8s,baz=121,slow=9.5,SNR=11
FITZ pP pP 19 13 23.3 -3.7
6.7nm,0.9s,baz=130,slow=6.3,SNR=6.0
FITZ Fitzroy Crossi 53.31 266 P P 19 13 04.0 +1.2
baz=54,SNR=5.4
MORW Morawa 58.74 250 P P 19 13 42.0 +0.7
baz=60,SNR=4.1
QSPA South Pole Qui 64.40 180 eP P 19 14 20.8 +1.9
27nm,1.3s
MJAR Matsushiro Arr 74.87 324 P P 19 15 22.6 -0.8
MJAR Matsushiro Arr 74.87 324 P P 19 15 22.6 -0.8
0.5nm,0.5s,baz=156,slow=6.3,SNR=7.6
MJAR LR LR 19 41 46.5
comp=Z,71nm,20.1s,baz=220,slow=30
MAW Mawson 76.98 200 eP P 19 15 35.6 +0.7
1.0nm,0.6s
ASAJ Asahikawa 78.66 332 P P 19 15 44.8 +0.3
ASAJ Asahikawa 78.66 332 P P 19 15 44.8 +0.3
10nm,1.1s,baz=186,slow=14,SNR=6.0
ASAJ LR LR 19 47 56.3
comp=Z,33nm,19.2s,baz=150,slow=34
FX1 Attu Island--F 78.70 354 LR LR 19 43 01.9
comp=Z,25nm,20.5s,baz=244,slow=30
KSRS Korea Array 81.31 319 P P 19 15 59.4 +0.5
1.2nm,0.7s,baz=133,slow=5.3,SNR=6.1
KSRS LR LR 19 46 09.7
comp=Z,34nm,20.8s,baz=168,slow=31
KSAR Wonju Array Be 81.33 319 P P 19 15 59.4 +0.4
PETK Petropavlovsk- 81.48 345 P P 19 15 59.5 +0.1
PETK Petropavlovsk- 81.48 345 P P 19 15 59.5 +0.1
4.3nm,0.7s,baz=134,slow=8.5,SNR=11
PETK LR LR 19 45 57.4
comp=Z,25nm,21.2s,baz=192,slow=31
MONP Monument Peak 82.04 48 ⇓P P 19 16 03.0 -0.1
baz=82
BFSC Mount Baldy Ra 82.05 46 ⇑P P 19 16 03.1 0.0
baz=82
EDW2 Edwards Air Fo 82.23 45 ⇓P P 19 16 04.8 +0.9
baz=82,SNR=5.7
ISA Isabella 82.41 45 ⇓P P 19 16 05.0 +0.2
baz=83
SNAA Sanae 82.82 178 eP P 19 16 07.0 +0.5
SNAA Sanae 82.82 178 eP P 19 16 07.1 +0.5
3.2nm,0.8s
BELC Belle Mtn. Jos 82.99 47 ⇓P P 19 16 08.8 +0.8
baz=83,SNR=6.9
BC3 Big Chuckawall 83.14 48 ⇑P P 19 16 09.8 +1.0
baz=83
GLA Glamis 83.20 48 ⇑P P 19 16 10.1 +1.1
baz=83
GSC Goldstone 83.25 46 ⇓P P 19 16 09.7 +0.5
baz=83
HEC Hector,Ludlow 83.27 46 ⇑P P 19 16 10.2 +0.8
baz=83,SNR=5.9
MPMC Manual Prospec 83.28 45 ⇑P P 19 16 10.3 +0.8
baz=83,SNR=6.8
VNA2 Neumayer--Watz 83.38 177 eP P 19 16 10.4 +1.1
VNA1 Neumayer--Stat 83.60 176 eP P 19 16 11.5 +1.1
IRM Iron Mountain 83.65 47 ⇑P P 19 16 11.8 +0.5
baz=84
GMRC Granite Mounta 83.68 47 ⇓P P 19 16 12.0 +0.5
baz=84,SNR=5.3
USRK Ussuriysk Arra 83.70 326 P P 19 16 12.2 +1.0
1.8nm,0.8s,baz=130,slow=3.0,SNR=6.2
113A Mohawk Valley, 83.76 49 ⇑P P 19 16 12.0 +0.2
baz=84
Y12C Blythe 83.82 48 ⇑P P 19 16 13.0 +0.9
baz=84
YBH Yreka Blue Hor 83.85 38 eP P 19 16 12.1 -0.1
6.1nm,1.1s
TUQ Turquoise Moun 83.91 46 ⇑P P 19 16 13.4 +0.8
baz=84
NVAR Mina Array Bea 84.26 42 P P 19 16 15.1 +0.6
NVAR Mina Array Bea 84.26 42 P P 19 16 15.1 +0.6
4.1nm,0.8s,baz=223,slow=8.6,SNR=18
PDMCI Parker Dam,Lak 84.40 48 ⇑P P 19 16 16.0 +0.9
baz=84
W13A Hualapai Mount 85.04 47 ⇑P P 19 16 19.2 +0.7
baz=85
SHPR Sheep Range 85.04 46 eP P 19 16 18.2 -0.2
7.2nm,1.3s
TUC Tucson 85.56 51 eP P 19 16 21.1 +0.1
3.7nm,0.8s
319A Douglas 86.11 53 ⇓P P 19 16 25.0 +1.3
baz=86
X16A Lo Mia Camp, P 86.29 49 ⇓P P 19 16 26.7 +2.0
baz=86
320A Kipp Ranch, An 86.63 53 ⇑P P 19 16 28.0 +1.6
baz=87
U15A North Rim 86.87 47 ⇓P P 19 16 28.9 +1.3
baz=87,SNR=12
220A Playas Peak, P 86.94 52 ⇓P P 19 16 29.9 +2.0
baz=87
WUAZ Wupatki 86.96 48 ⇓P P 19 16 29.4 +1.5
baz=87
X18A Snowflake 87.38 50 ⇑P P 19 16 31.1 +1.1
baz=88
Z20A Nine Sixteen R 87.55 51 ⇑P P 19 16 32.2 +1.5
baz=88,SNR=5.5
121A Cookes Peak, D 87.81 52 ⇑P P 19 16 33.2 +1.1
baz=88
222A Williams Famil 88.07 53 ⇓P P 19 16 35.1 +1.8
baz=88
MSU Marysvale 88.14 45 eP P 19 16 34.1 +0.6
1.5nm,0.7s
Y21A Point of Rocks 88.67 51 ⇓P P 19 16 37.6 +1.4
baz=89,SNR=9.1
W20A Ramah 88.70 50 ⇓P P 19 16 37.1 +0.9
baz=89
Z22A Elephant Butte 88.78 52 ⇓P P 19 16 37.7 +1.2
baz=89,SNR=12
MFID Camas Ranch 88.82 40 ⇑P P 19 16 37.2 +0.7
baz=89
X21A Alamocita Cree 88.83 51 ⇑P P 19 16 38.5 +1.6
baz=89,SNR=6.5
324A Moseley Ranch, 88.90 54 ⇑P P 19 16 37.4 +0.2
baz=89
425A Indio Mountain 88.93 55 ⇓P P 19 16 38.2 +0.9
baz=89
626A Big Bend Ranch 88.94 56 ⇑P P 19 16 38.2 +0.9
baz=89
Y22A Socorro 89.13 51 ⇓P P 19 16 38.8 +0.6
baz=89
TXAR Lajitas Array 89.18 57 P P 19 16 39.1 +0.7
TXAR Lajitas Array 89.18 57 P P 19 16 39.1 +0.7
1.2nm,0.8s,baz=210,slow=7.2,SNR=10.0
224A Cornudas Mount 89.20 54 ⇑P P 19 16 38.2 -0.4
baz=89
526A Mary Lane Ranc 89.23 56 ⇓P P 19 16 39.6 +0.9
baz=89
Z23A Rita Site, Whi 89.30 52 ⇑P P 19 16 40.3 +1.3
baz=89
X22A Bernardo 89.40 51 ⇑P P 19 16 41.9 +2.4
baz=90
627A Terlingua Ranc 89.45 57 ⇑P P 19 16 40.6 +0.9
baz=90,SNR=5.2
124A Stringfield Ra 89.57 53 ⇓P P 19 16 41.2 +0.8
baz=90
527A Woodward Ranch 89.63 56 ⇓P P 19 16 40.8 +0.2
baz=90
Y23A Lovelace Mesa, 89.78 52 ⇓P P 19 16 41.8 +0.5
baz=90,SNR=5.3
628A Black Gap, Mar 89.84 57 ⇑P P 19 16 41.9 +0.3
baz=90
Z24A Sheeppen Canyo 89.96 53 ⇓P P 19 16 42.4 +0.2
baz=90
U21A Nageezi 89.97 49 ⇑P P 19 16 43.3 +1.1
baz=90
X23A Hourglass Bar 90.02 51 ⇑P P 19 16 43.6 +1.2
baz=90
ANMO Albuquerque 90.02 51 eP P 19 16 42.3 -0.1
5.6nm,1.3s
125A Gardner Draw, 90.12 54 ⇑P P 19 16 43.8 +1.0
baz=90

427A Hayter Ranch, 90.14 56 ⇑P P 19 16 43.6 +0.7
baz=90,SNR=5.3
226B Tecolote Peak, 90.19 54 ⇓P P 19 16 43.5 +0.4
baz=90
Y24A Capitan 90.21 52 ⇑P P 19 16 44.2 +0.8
baz=90,SNR=16
Z25A Roswell 90.40 53 ⇓P P 19 16 45.1 +1.0
baz=90
S21A Coal Bank Pass 90.55 48 ⇓P P 19 16 46.1 +1.2
baz=91
428A Kincaid Ranch, 90.61 56 ⇑P P 19 16 45.8 +0.6
baz=91
529A Stev Forest Ra 90.66 57 ⇑P P 19 16 46.3 +1.0
baz=91
W24A Lazy 6 Ranch, 90.89 51 ⇓P P 19 16 47.1 +0.6
baz=91
Z26A Caprock 90.92 53 ⇑P P 19 16 47.2 +0.7
baz=91
127A Arkansas Junct 91.08 54 ⇑P P 19 16 47.6 +0.3
baz=91
429A Davenport Ranc 91.15 56 ⇓P P 19 16 47.7 +0.1
baz=91,SNR=11
530A J-C Ranch, Com 91.34 57 ⇓P P 19 16 49.5 +1.0
baz=91
329A Wagon Wheel Ra 91.51 56 ⇑P P 19 16 50.9 +1.6
baz=92
R22A Saguache, Gunn 91.54 48 ⇑P P 19 16 51.3 +1.8
baz=92
W25A X Bar L Ranch, 91.56 51 ⇑P P 19 16 49.9 +0.4
baz=92
631A Perdido Creek 91.57 58 ⇑P P 19 16 49.9 +0.4
baz=92
I16A Newdale 91.64 41 ⇓P P 19 16 51.5 +1.9
baz=92
X26A CR and CF Fran 91.69 52 ⇓P P 19 16 51.7 +1.6
baz=92
128A Castleberry Fa 91.69 54 ⇓P P 19 16 50.8 +0.7
baz=92
430A Baggett Ranch, 91.73 57 ⇓P P 19 16 50.6 +0.4
baz=92
TPAW Teton Pass 91.74 42 eP P 19 16 49.8 -0.5
V25A Rancho No Teng 91.77 51 ⇓P P 19 16 50.5 0.0
baz=92
Y27A Causey 91.82 53 ⇑P P 19 16 51.4 +0.7
baz=92
L19A Farson 91.94 44 ⇓P P 19 16 51.3 +0.2
baz=92
531A Rocksprings 91.95 57 ⇑P P 19 16 52.0 +0.7
baz=92
PDAR Pinedale Array 92.18 43 P P 19 16 52.5 +0.2
PDAR Pinedale Array 92.18 43 P P 19 16 52.5 +0.2
2.0nm,0.8s,baz=212,slow=2.6,SNR=19
PDAR LR LR 19 55 19.3
comp=Z,31nm,18.2s,baz=74,slow=34
X27A F and S Farms, 92.25 52 ⇓P P 19 16 53.0 +0.4
baz=92
H16A Russell Place, 92.25 41 ⇓P P 19 16 53.1 +0.6
baz=92
532A Rocksprings 92.42 58 ⇑P P 19 16 54.2 +0.7
baz=92
H17A Grant Village 92.47 41 ⇑P P 19 16 54.8 +1.2
baz=93
W27A Bowe Ranch, En 92.48 52 ⇑P P 19 16 54.7 +1.0
baz=93
L20A Wamsutter 92.52 44 ⇓P P 19 16 54.3 +0.5
baz=93
CMAR Chiang Mai Arr 92.60 289 P P 19 16 56.1 +1.7
CMAR Chiang Mai Arr 92.60 289 P P 19 16 56.1 +1.7
2.5nm,1.0s,baz=138,slow=3.3,SNR=12
CHTO Chiang Mai 92.75 289 eP P 19 16 55.6 +0.4
3.3nm,0.9s
J19A Crowheart 92.76 43 ⇑P P 19 16 54.8 -0.1
baz=93
Z30A Sandverson Ranc 93.01 54 ⇓P P 19 16 56.5 +0.4
baz=93
332A Millersview 93.14 57 ⇓P P 19 16 57.1 +0.4
baz=93
ILAR Eielson Array 93.18 12 P P 19 16 54.4 -1.7
ILAR Eielson Array 93.18 12 P P 19 16 54.4 -1.7
0.3nm,0.6s,baz=218,slow=6.8,SNR=4.5
C15A Salmond Ranch, 93.23 38 ⇑P P 19 16 57.7 +0.8
baz=93
131A Roby 93.26 55 ⇑P P 19 16 57.1 -0.2
baz=93
F17A Fitzpatrick Pl 93.27 40 ⇓P P 19 16 57.8 +0.7
baz=93
232A Coleman 93.45 56 ⇑P P 19 16 57.6 -0.5
baz=94
S26A Kim 93.46 50 ⇑P P 19 16 58.0 -0.2
baz=94
LPAZ La Paz 99.30 113 P Pdif 19 17 27.9 +2.1
LPAZ La Paz 99.30 113 P Pdif 19 17 27.9 +2.1
0.9nm,0.7s,baz=305,slow=3.3,SNR=3.8
LPAZ LR LR 19 56 23.9
comp=Z,31nm,18.9s,baz=123,slow=32
ZALV Zalesovo Beam 115.00 320 PKP PKPdf 19 22 22.2 -0.3
ZALV Zalesovo Beam 115.00 320 PKP PKPdf 19 22 22.2 -0.3
0.8nm,0.5s,baz=122,slow=1.4,SNR=5.6
MKAR Makanchi Array 115.30 312 PKP PKPdf 19 22 23.0 -0.4
MKAR Makanchi Array 115.30 312 PKP PKPdf 19 22 23.0 -0.4
1.0nm,0.6s,baz=230,slow=2.6,SNR=9.6
KURK Kurchatov 118.31 316 PKP PKPdf 19 22 29.4 +0.4
KURBB Kurchatov Arra 118.35 315 PKP PKPdf 19 22 29.4 +0.3
1.2nm,0.2s,baz=101,slow=2.0,SNR=6.4
KKAR Karatay Array 123.03 306 ePKPdf PKPdf 19 22 38.1 -0.2
BVAR Borovoye Array 123.52 318 PKP PKPdf 19 22 39.1 +0.1
BVAR Borovoye Array 123.52 318 PKP PKPdf 19 22 39.1 +0.1
1.6nm,0.6s,baz=84,slow=1.4,SNR=13
SPITS Spitsbergen Ar 127.08 357 PKP PKPdf 19 22 44.9 -0.2
SPITS Spitsbergen Ar 127.08 357 PKP PKPdf 19 22 44.9 -0.2
5.7nm,0.9s,baz=335,slow=6.4,SNR=3.2
AKTO Aktyubinsk 131.41 316 PKP PKPdf 19 22 55.6 +1.6
AKTO Aktyubinsk 131.41 316 PKP PKPdf 19 22 55.6 +1.6
1.5nm,0.6s,baz=112,slow=5.4,SNR=3.3
ARCES ARCESS Array B 134.15 349 PKP PKPdf 19 22 59.5 +0.8
ARCES ARCESS Array B 134.15 349 PKP PKPdf 19 22 59.5 +0.8
3.5nm,0.7s,baz=0.0,slow=2.9,SNR=8.4
FINES FINESS Array B 140.96 343 PKPpre PKPpre 19 23 04.4
FINES PKP PKiKP 19 23 13.6 -0.5
FINES FINESS Array B 140.96 343 PKhKP PKPpre 19 23 04.4
1.1nm,0.5s,baz=62,slow=3.7,SNR=8.3
FINES PKP PKiKP 19 23 13.6 -0.5
1.8nm,0.6s,baz=75,slow=2.2,SNR=5.5
NB2 NORSAR Subarra 144.21 353 PKP PKPab 19 23 15.2 -0.1
comp=Z,1.8nm,0.7s,baz=11,slow=3.5
NOA NORSAR Array B 144.21 353 PKP PKPdf 19 23 16.1 -1.2
NOA NORSAR Array B 144.21 353 PKP PKPdf 19 23 16.1 -1.2
comp=Z,1.2nm,0.7s,baz=18,slow=2.8,SNR=8.2
HFS Hagfors 144.77 351 PKP PKPdf 19 23 16.9 -1.4
HFS Hagfors 144.77 351 PKP PKPdf 19 23 16.9 -1.4
comp=Z,6.1nm,0.6s,baz=46,slow=2.3,SNR=36
MICGM Minsk 145.82 334 eP PKPab 19 23 22.0 +0.6
AKASG Malin Array Be 147.89 328 PKPbc PKPab 19 23 26.6 -3.1
AKASG Malin Array Be 147.89 328 PKPbc PKPab 19 23 26.6 -3.1
comp=Z,2.6nm,0.4s,baz=42,slow=4.5,SNR=13
ASF Jabal al Asfar 149.63 290 PKPbc PKPbc 19 23 32.5 +0.5
ASF Jabal al Asfar 149.63 290 PKPbc PKPbc 19 23 32.5 +0.5
comp=Z,0.8nm,0.4s,baz=275,slow=3.9,SNR=2.6
EKA Eskdalemuir Ar 150.06 7 PKPbc PKPbc 19 23 31.5 -0.7
EKA Eskdalemuir Ar 150.06 7 PKPbc PKPbc 19 23 31.5 -0.7
comp=Z,0.5nm,0.4s,baz=330,slow=1.4,SNR=5.7
BR131 Keskin Array S 150.75 306 ePKPdf PKPdf 19 23 29.2 +0.3
BR131 ePKPbc PKiKP 19 23 34.8 -0.4
BRTR Keskin Array B 150.75 306 PKPbc PKPbc 19 23 34.6 0.0
BRTR Keskin Array B 150.75 306 PKPbc PKPbc 19 23 34.6 0.0
comp=Z,2.7nm,0.6s,baz=101,slow=3.1,SNR=21
MMAI Mount Meron Ar 150.82 292 PKPbc PKPbc 19 23 36.6 +1.7
MMAI Mount Meron Ar 150.82 292 PKPbc PKPbc 19 23 36.6 +1.7
comp=Z,4.1nm,0.5s,baz=92,slow=8.3,SNR=8.7
ANTO Ankara 151.31 307 ePKPdf PKPdf 19 23 30.5 +0.8
ANTO ePKPbc PKiKP 19 23 36.5 +0.3
BUR08 Bucovina Ar. S 151.90 327 ePKPdf PKPdf 19 23 29.2 -1.2
BUR08 ePKPbc PKiKP 19 23 38.1 +0.9
MLR Muntele Rosu 152.93 323 PKPbc PKPbc 19 23 40.1 +0.8
MLR Muntele Rosu 152.93 323 PKPbc PKPbc 19 23 40.1 +0.8
comp=Z,0.5nm,0.6s,baz=7.5,slow=16,SNR=4.0
OKC Ostrava-Krasne 153.15 338 ePKPAB PKPab 19 23 46.4 -5.0
CLL Collm 153.28 346 i PKPbc PKPbc 19 23 40.5 +0.8
comp=Z,5.0nm,0.7s
CLL i PKiKP PKiKP 19 23 42.0 +2.2
CLL ePKPab PKPab 19 23 52.0 +0.1
DPC Dobruska-Polom 153.29 341 ePKPAB PKPab 19 23 52.8 +0.7
BRG Berggiesshubel 153.47 344 e(P) PKPbc 19 23 41.2 +1.1
comp=Z,3.6nm,0.7s
BRG e 19 23 53.5
comp=Z,3.9nm,0.8s

PRU Pruhonice 154.12 343 ePKPAB PKPab 19 23 57.6 +2.1
KHC Kasperske Hory 155.16 343 ePKPAB PKPab 19 24 00.0 0.0
GERES GERESS Array B 155.39 343 PKPbc PKPdf 19 23 44.4 +9.1
GERES PKPab PKPab 19 23 59.1 -2.0
GERES GERESS Array B 155.39 343 PKPbc PKPdf 19 23 44.4 +9.1
comp=Z,0.2nm,0.4s,baz=46,slow=5.7,SNR=4.2
GERES PKPab PKPab 19 23 59.1 -2.0
comp=Z,0.5nm,0.7s,baz=349,slow=2.0,SNR=3.9
DAVOX Davos/Dischmat 158.23 347 PKPab PKPab 19 24 13.6 +0.1
DAVOX Davos/Dischmat 158.23 347 PKPab PKPab 19 24 13.6 +0.1
comp=Z,2.1nm,0.6s,baz=341,slow=3.5,SNR=6.8
DBIC Dimbokro 159.69 157 PKPab PKPab 19 24 21.0 +0.6
DBIC Dimbokro 159.69 157 PKPab PKPab 19 24 21.0 +0.6
comp=Z,3.8nm,0.8s,baz=198,slow=5.4,SNR=3.0
TORD Torodi Ar. Bea 167.47 175 PKP PKPdf 19 23 48.6 -0.2
TORD PKPab PKPab 19 24 55.7 +1.3
TORD Torodi Ar. Bea 167.47 175 PKP PKPdf 19 23 48.6 -0.2
comp=Z,0.4nm,0.6s,baz=183,slow=1.5,SNR=2.9
TORD PKPab PKPab 19 24 55.7 +1.3
comp=Z,2.1nm,0.9s,baz=191,slow=4.6,SNR=7.0

NEIC ***13*** *19:05:40.0, 19°.48N×65°.68W, h73km, MD3.3(RSPR), After RSPR.*

RSPR 13 19:05:40.0, 19°.48N×65°.68W, h73km±22km, MD3.3/7, 16C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.21	188	eP	Pn	19 05 58.8	-2.6
CBYP				eS	Sn	19 06 13.3	-4.2
STVI	Saint Thomas	1.31	148	eS	Sn	19 06 19.3	-0.3
STVI	Saint Thomas	1.31	148	⇑eP	Pn	19 06 02.8	+0.1
STVI	Saint Thomas	1.31	148	⇑eP	Pn	19 06 02.8	+0.1
STVI				eS	Sn	19 06 19.3	-0.3
STVI	Saint Thomas	1.31	148	⇑eP	Pn	19 06 02.8	+0.1
STVI				eS	Sn	19 06 19.3	-0.3
HUMP	Col San Antoni	1.34	187	⇑eP	Pn	19 06 02.1	-0.9
HUMP	Col San Antoni	1.34	187	⇑eP	Pn	19 06 02.1	-0.9
HUMP	Col San Antoni	1.34	187	⇑eP	Pn	19 06 02.1	-0.9
SJG	San Juan	1.43	198	⇑iP	Pn	19 06 02.8	-1.4
SJG				eS	Sn	19 06 21.4	-1.0
SJG	San Juan	1.43	198	i Pu	Pn	19 06 02.8	-1.4
SJG				eS	Sn	19 06 21.4	-1.0
SJG	San Juan	1.43	198	⇑iP	Pn	19 06 02.8	-1.4
SJG				eS	Sn	19 06 21.4	-1.0
AOPR	Arecibo Observ	1.52	222	eS	Sn	19 06 23.7	-0.8
AOPR	Arecibo Observ	1.52	222	⇓eP	Pn	19 06 04.2	-1.1
AOPR	Arecibo Observ	1.52	222	⇓eP	Pn	19 06 04.2	-1.1
AOPR				eS	Sn	19 06 23.7	-0.8
AOPR	Arecibo Observ	1.52	222	⇓eP	Pn	19 06 04.2	-1.1
AOPR				eS	Sn	19 06 23.7	-0.8
LRS	Lares	1.62	223	⇓eP	Pn	19 06 06.7	-0.1
LRS				eS	Sn	19 06 25.7	-1.2
LRS	Lares	1.62	223	⇓eP	Pn	19 06 06.7	-0.1
LRS				eS	Sn	19 06 25.7	-1.2
LRS	Lares	1.62	223	⇓eP	Pn	19 06 06.7	-0.1
LRS				eS	Sn	19 06 25.7	-1.2
CELP	Cerrillos	1.64	212	⇑eP	Pn	19 06 06.1	-0.8
CELP				eS	Sn	19 06 27.3	+0.1
CELP	Cerrillos	1.64	212	⇑eP	Pn	19 06 06.1	-0.8
CELP				eS	Sn	19 06 27.3	+0.1
CELP	Cerrillos	1.64	212	⇑eP	Pn	19 06 06.1	-0.8
CELP				eS	Sn	19 06 27.3	+0.1
OBIP	Obispado Ponce	1.68	212	⇑eP	Pn	19 06 07.5	+0.1
OBIP	Obispado Ponce	1.68	212	⇑eP	Pn	19 06 07.5	+0.1
OBIP	Obispado Ponce	1.68	212	⇑eP	Pn	19 06 07.5	+0.1
LSP	Las Mesas	1.86	226	eS	Sn	19 06 32.0	-0.6
LSP	Las Mesas	1.86	226	⇑eP	Pn	19 06 09.9	0.0
LSP	Las Mesas	1.86	226	⇑eP	Pn	19 06 09.9	0.0
LSP				eS	Sn	19 06 32.0	-0.6
LSP	Las Mesas	1.86	226	⇑eP	Pn	19 06 09.9	0.0
LSP				eS	Sn	19 06 32.0	-0.6
GBPR	Guanica, Bosqu	1.88	218	eS	Sn	19 06 33.1	+0.2
GBPR	Guanica, Bosqu	1.88	218	eS	Sn	19 06 33.1	+0.2

ISCJB ***13*** *19:05:49.1±0.3, 35°.64N±0°.03×76°.66E±0°.06, h10km, mb3.9/20, MS3.2/3, Error ellipse: s-maj=7.2km s-min=3.5km az=160.0*

IDC ***13*** *19:05:49.1±0.6, 35°.57N×76°.74E, h0km, mb3.9/21, mb1 4.1/26, mb1mx4.0/38, mbtmp3.9/26, ML3.8/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/50, Error ellipse: s-maj=17.1km s-min=12.2km az=48.0*

BJI ***13*** *19:05:52.2, 35°.70N×76°.70E, h10km, mb4.2/7, ML4.0/4*

NNC ***13*** *19:05:57.8±2.0, 36°.10N×76°.37E, h10km±11km, mb4.0, mpv3.8, Error ellipse: s-maj=15.2km s-min=13.3km az=175.0*

ISC 13 19:05:50.8±0.4, 35°.67N±0°.03×76°.58E±0°.07, h10km, n54, σ1°59/55, mb4.0/20, 4C-5D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	3.16	189	eP	Pn	19 06 40.0	-0.8
DLH				eS	Sg	19 07 32.0	-0.3
KSH	Kashi	3.87	353	ePn	Pn	19 06 51.5	+0.9
KSH				Sn	Sn	19 07 34.3	-1.9
KSH				smax	smax		
comp=N,260nm,0.6s							
KSH				smax	smax		
comp=E,230nm,0.7s							
SDNR	Sundarnagar	4.17	175	eP	Pb	19 07 00.0	-4.3
BHK	Bhakra	4.24	182	eS	Sb	19 07 59.0	+2.2
SMLA	Simla	4.55	174	i P	Pb	19 07 04.8	-6.0
NDI	New Delhi	6.98	175	e4	Sn	19 08 52.0	-0.7
AAK	Ala-Archa	7.14	348	Pn	Pn	19 07 41.4	+5.9
comp=E,0.6nm,0.3s,baz=184,slow=14,SNR=3.5							
AAK				Sn	Sn	19 09 03.4	+6.6
comp=E,1.1nm,0.3s,baz=166,slow=4.2,SNR=3.5							
AAK				Lg	Lg	19 09 35.2	
comp=E,1.3nm,0.3s,baz=198,slow=16,SNR=3.2							
AAK				LR	LR	19 10 38.8	
comp=E,66nm,21.0s,baz=354,slow=40							
AYAN	Aya Nagar	7.18	176	eP	Pn	19 07 34.7	-1.2
AYAN				eS	Sn	19 08 58.4	+1.0
TKM2	Tokmak 2	7.29	354	⇓Pn	Pn	19 07 38.4	+0.9
comp=E,2.5nm,0.5s							
TKM2				⇑Pg	Pb	19 08 01.9	+4.4
comp=E,10.0nm,0.8s							
TKM2				⇓Lg	Lg	19 09 35.1	
comp=E,65nm,1.6s							
SONA	Sohna	7.41	177	eP	Pn	19 07 35.7	-3.3
SONA				eS	Sn	19 09 03.5	+0.4
SONA				AML	AML	19 09 07.5	
comp=E,20nm,0.6s							
SONA				AML	AML	19 09 07.9	
comp=N,10nm,0.3s							
KUDL	Kundal	7.50	181	eP	Pn	19 07 33.0	-7.3
KUDL				eS	Sn	19 09 01.0	-4.4
KUDL				AML	AML	19 09 17.4	
comp=N,8.0nm,0.5s							
KUDL				AML	AML	19 09 17.5	
comp=E,8.0nm,0.5s							
KHET	Khetri	7.60	185	e4	Pn	19 07 46.5	+4.9
KHET				eS	Sn	19 08 55.0	-13
KHET				AML	AML	19 09 10.3	
comp=N,116nm,0.1s							
KHET				AML	AML	19 09 10.6	
comp=E,135nm,0.1s							
KK31	Karatay Array	8.79	330	⇑Pn	Pn	19 07 59.6	+1.6
comp=E,2.2nm,0.6s,baz=144,slow=12,SNR=28							
KK31				⇑Sn	Sn	19 09 33.7	-3.3
comp=E,3.7nm,0.5s,baz=155,slow=24,SNR=7.4							
PYUN	Piuthan	9.30	142	eP	Pn	19 08 06.2	+1.0
comp=E,43nm,0.4s							
DANN	Dangsing	9.50	138	eP	Pn	19 08 08.6	+0.6
comp=E,17nm,0.4s							
KOLN	Koldanda	9.88	141	eP	Pn	19 08 14.7	+1.6
comp=E,10nm,0.3s							
DMN	Daman	10.82	136	eP	Pn	19 08 26.6	+0.5
comp=E,12nm,0.4s							
PKIN	Phulchoki	11.02	135	eP	Pn	19 08 28.3	-0.5
comp=E,9.0nm,0.4s							
PKI	Pulchoki	11.03	135	eP	Pn	19 08 28.7	-0.3
comp=E,14nm,0.6s							
JIRN	Jiri	11.43	132	eP	Pn	19 08 33.7	-0.8
comp=E,22nm,0.4s							
WMQ	Urumqi	11.80	43	P	Pn	19 08 40.3	+1.1
WMQ				pmax	pmax		
comp=Z,7.0nm,1.1s							
MK31	Makanchi Array	11.91	19	Pn	Pn	19 08 42.7	+2.0
comp=Z,1.7nm,0.6s,baz=0.0,slow=0.1,SNR=37							

MK31 ⇓Sn **Sn** **19 10 52.7 -1.0**
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 11.91 19 Pn **Pn** **19 08 42.3 +1.6**
comp=Z,2.6nm,0.3s,baz=230,slow=14,SNR=15
MKAR Sn **Sn** **19 10 51.3 -2.4**
comp=Z,0.7nm,0.3s,baz=189,slow=22,SNR=6.0
TAPN Taplejung 12.60 128 *e*P **Pn** **19 08 48.6 -1.8**
comp=Z,14nm,0.6s
KURBB Kurchatov Arra 15.02 5 Pn **Pn** **19 09 23.1 +0.1**
baz=193,slow=12,SNR=3.0
KURBB Lg Lg 19 13 51.5
baz=192,slow=33,SNR=5.2
BVA0 Borovoye Array 17.90 348 ⇓P **P** **19 10 01.7 +1.3**
comp=Z,7.0nm,1.3s,baz=168,slow=11,SNR=20
BVAR Borovoye Array 17.90 348 P **P** **19 10 02.7 +2.3**
comp=Z,0.8nm,0.3s,baz=151,slow=10,SNR=17
AB31 Akbulak array 18.25 323 ⇑P **Pn** **19 10 04.3 +0.2**
comp=Z,1.2nm,0.6s,baz=215,slow=7.8,SNR=19
AB31 S **Sn** **19 13 24.1 -3.7**
comp=Z,0.7nm,1.0s,baz=148,slow=23,SNR=6.9
GTA Gaotai 18.79 72 P **Pn** **19 10 11.3 +0.4**
GTA pP pP 19 10 19.3 +6.1
GTA sP sP 19 10 23.3 +8.8
GTA pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 19.17 15 P **P** **19 10 13.8 -0.5**
comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=2.7
AKTO Aktyubinsk 19.97 323 ⇓P Pn 19 10 24.5 -0.3
comp=Z,5.6nm,0.9s
AKTO Aktyubinsk 19.97 323 P Pn 19 10 24.2 -0.5
comp=Z,2.2nm,0.4s,baz=112,slow=11,SNR=14
AKTO S **S** **19 14 03.1 -4.5**
comp=Z,1.0nm,0.8s,baz=221,slow=20,SNR=2.8
AKTO LR LR 19 18 56.6
comp=Z,52nm,20.0s,baz=92,slow=39
SONM Songino Array 25.18 52 P **P** **19 11 16.6 +0.1**
comp=Z,2.6nm,0.9s,baz=254,slow=10,SNR=9.3
CMAR Chiang Mai Arr 26.17 125 P **P** **19 11 24.1 -1.5**
comp=Z,1.4nm,0.3s,baz=308,slow=10,SNR=9.7
BRTR Keskin Array B 33.98 290 P **P** **19 12 37.1 +2.4**
comp=Z,0.6nm,0.8s,baz=76,slow=7.9,SNR=3.6
AKASG Malin Array Be 36.99 309 P **P** **19 13 01.5 +1.2**
comp=Z,0.2nm,0.3s,baz=78,slow=8.1,SNR=3.2
MLR Muntele Rosu 39.12 300 P **P** **19 13 19.8 +1.3**
comp=Z,0.2nm,0.4s,baz=126,slow=17,SNR=2.1
FINES FINESS Array B 40.72 325 P **P** **19 13 32.7 +1.3**
comp=Z,1.9nm,0.6s,baz=108,slow=8.7,SNR=21
ARCES ARCESS Array B 43.67 337 P **P** **19 13 56.5 +1.2**
comp=Z,3.3nm,0.8s,baz=118,slow=7.0,SNR=6.0
JNU Nakatsue 44.40 77 P **P** **19 14 01.1 -0.6**
comp=Z,3.5nm,0.8s,baz=246,slow=10.0,SNR=3.1
HFS Hagfors 46.51 322 P **P** **19 14 18.7 +0.6**
comp=Z,1.3nm,0.6s,baz=92,slow=8.8,SNR=4.3
HFS LR LR 19 33 54.5
comp=Z,23nm,22.0s,baz=355,slow=36
NB2 NORSAR Subarra 47.76 323 P **P** **19 14 28.0 +0.2**
comp=Z,0.7nm,0.6s,baz=90,slow=7.9
NOA NORSAR Array B 47.76 323 P **P** **19 14 28.3 +0.5**
comp=Z,0.8nm,0.6s,baz=91,slow=7.5,SNR=3.7
MJAR Matsushiro Arr 49.02 70 P **P** **19 14 37.4 -0.5**
comp=Z,0.8nm,0.7s,baz=293,slow=11,SNR=5.2
SPITS Spitsbergen Ar 49.35 346 P **P** **19 14 41.2 +1.3**
comp=Z,7.0nm,1.0s,baz=54,slow=14,SNR=5.7
JMIC Jan Mayen 55.16 337 LR LR 19 38 60.0
comp=Z,52nm,19.4s,baz=71,slow=36
EKA Eskdalemuir Ar 56.00 317 P **P** **19 15 30.2 +0.9**
comp=Z,0.7nm,0.5s,baz=93,slow=6.9,SNR=6.3
TORD Torodi Ar. Bea 70.25 272 P **P** **19 17 04.5 0.0**
comp=Z,0.7nm,0.8s,baz=48,slow=5.1,SNR=5.2
ILAR Eielson Array 74.26 18 P **P** **19 17 26.7 -1.1**
comp=Z,0.6nm,0.9s,baz=316,slow=3.8,SNR=4.7
WRA Warramunga Arr 77.77 125 P **P** **19 17 46.9 -1.4**
comp=Z,1.2nm,0.7s,baz=310,slow=4.6,SNR=7.6
ASAR Alice Springs 80.13 128 P **P** **19 18 00.6 -0.7**
comp=Z,0.4nm,0.6s,baz=313,slow=5.9,SNR=7.5
BOSA Boshof 80.17 224 P **P** **19 18 01.2 -0.2**
comp=Z,4.8nm,1.0s,baz=90,slow=0.2,SNR=3.0
YKA Yellowknife Ar 81.77 5 P **P** **19 18 08.8 -0.6**
comp=Z,0.7nm,0.8s,baz=354,slow=5.4,SNR=3.1
CTA Charters Tower 86.12 118 P **P** **19 18 32.4 +0.1**
comp=Z,1.7nm,0.7s,baz=244,slow=7.5,SNR=3.9

---

*IDC **13** 19:14:56.2±8.3, 35°.52N×77°.01E, h0km, mb3.9/1, mb1 3.4/4, mb1mx3.2/29, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=140.4km s-min=46.6km az=138.0*

ISC 13 19:15:03.6±2.8, 35°.8N±0°.2×76°.9E±0°.2, h35km, n6, σ0°84/7, 3C-1D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**7.23**	**353**	⇑Pn	Pn	19 16 51.3	+4.4
	2.2nm,0.8s						
TKM2				⇑Lg	Lg	19 18 48.6	
	9.9nm,1.5s						
KK31	**Karatay Array**	**8.83**	**328**	⇓Pn	**Pn**	**19 17 09.4**	**+0.7**
	0.7nm,0.6s,baz=141,slow=11,SNR=4.0						
KK31				⇑Sn	**Sn**	**19 18 46.5**	**-0.5**
	1.9nm,0.8s,baz=146,slow=22,SNR=3.1						
MKAR	**Makanchi Array**	**11.77**	**19**	Pn	**Pn**	**19 17 48.9**	**0.0**
	0.3nm,0.3s,baz=204,slow=12,SNR=12						
MKAR				Sn	**Sn**	**19 19 58.6**	**-0.3**
	0.1nm,0.3s,baz=198,slow=25,SNR=3.7						
BVAR	**Borovoye Array**	**17.87**	**347**	P	**P**	**19 19 10.7**	**+1.1**
	0.2nm,0.3s,baz=156,slow=11,SNR=4.4						
ZALV	**Zalesovo Beam**	**19.03**	**15**	P	**Pn**	**19 19 23.2**	**-0.1**
	0.1nm,0.3s,baz=196,slow=10,SNR=2.4						
FINES	**FINESS Array B**	**40.78**	**325**	P	**P**	**19 22 40.1**	**-1.0**
	1.4nm,0.8s,baz=111,slow=7.6,SNR=4.1						

IDC 13 19:17:11.1±9.6, 13°.94N×93°.12E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=565.1km s-min=31.4km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.99**	**347**	P	P	19 23 56.5	-0.1
	0.3nm,0.6s,baz=168,slow=9.9,SNR=2.5						
WRA	**Warramunga Arr**	**52.70**	**129**	P	P	19 26 27.5	-0.4
	0.3nm,0.7s,baz=306,slow=7.8,SNR=3.9						
ASAR	**Alice Springs**	**54.65**	**133**	P	P	19 26 42.3	+0.1
	0.4nm,0.6s,baz=309,slow=7.1,SNR=11						

IDC 13 19:28:14.1±3.5, 3°.71N×123°.28E, h632km±59km, mb2.7/5, mb1 2.8/5, mb1mx2.5/23, mbtmp2.7/5, Error ellipse: s-maj=114.7km s-min=11.8km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.90**	**156**	P	P	19 32 58.0	-0.8
	0.6nm,0.4s,baz=336,slow=9.6,SNR=23						
WRA				S	S	19 36 47.3	+0.7
	0.3nm,0.8s,baz=335,slow=16,SNR=3.4						
ASAR	**Alice Springs**	**29.12**	**160**	P	P	19 33 27.1	+0.4
	0.3nm,0.4s,baz=337,slow=7.2,SNR=21						
STKA	**Stephens Creek**	**39.45**	**155**	P	P	19 34 53.6	+1.4
	2.0nm,0.8s,baz=349,slow=10,SNR=4.1						
SONM	**Songino Array**	**46.30**	**344**	P	P	19 35 45.9	+0.7
	0.3nm,0.4s,baz=147,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**55.65**	**327**	P	P	19 36 51.9	-0.5
	0.9nm,0.6s,baz=131,slow=7.5,SNR=9.9						

IDC 13 19:28:31.7±29.0, 22°.82S×173°.32W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=533.0km s-min=151.1km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.65**	**266**	P	P	19 35 48.8	0.0
	0.7nm,0.3s,baz=77,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**40.81**	**247**	P	P	19 36 15.1	0.0
	1.2nm,1.0s,baz=100,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**48.27**	**258**	P	P	19 37 14.9	+0.1
	0.6nm,1.1s,baz=96,slow=7.5,SNR=6.6						
WRA	**Warramunga Arr**	**48.62**	**263**	P	P	19 37 17.1	-0.5
	0.4nm,0.5s,baz=104,slow=8.1,SNR=9.9						

---

*IDC **13** 19:29:55.6±0.6, 14°.09N×93°.19E, h0km, mb3.9/17, mb1 4.0/18, mb1mx3.9/30, mbtmp3.9/18, ML3.8/1, Error ellipse: s-maj=25.3km s-min=12.7km az=55.0*
*ISCJB **13** 19:29:59.5±0.4, 14°.16N±0°.06×93°.33E±0°.05, h41km, mb3.9/24, Error ellipse: s-maj=9.0km s-min=6.1km az=153.5*
*NEIC **13** 19:30:00.6±0.3, 14°.10N×93°.22E, h35km, mb4.0/4, Error ellipse: s-maj=7.8km s-min=6.2km az=45.0*

ISC 13 19:30:01.5±0.6, 14°.16N±0°.09×93°.28E±0°.08, h41km, n48, σ0°72/56, mb4.0/24, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**6.92**	**51**	*e*Pn	**Pn**	**19 31 40.4**	**-0.2**
CM31				*e*Sn	**Sn**	**19 32 59.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**6.92**	**51**	Pn	**Pn**	**19 31 40.5**	**0.0**
CMAR				Sn	**Sn**	**19 32 56.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**6.92**	**51**	Pn	**Pn**	**19 31 40.5**	**0.0**
	0.4nm,0.3s,baz=243,slow=15,SNR=5.0						
CMAR				Sn	**Sn**	**19 32 56.8**	**-1.2**
	0.7nm,0.3s,baz=235,slow=22,SNR=4.0						
CHTO	**Chiang Mai**	**7.14**	**49**	*e*Pn	**Pn**	**19 31 44.9**	**+1.3**
	3.3nm,0.6s						
CHTO				*e*Sn	**Sn**	**19 33 02.6**	**-0.9**
MKAR	**Makanchi Array**	**33.82**	**346**	P	**P**	**19 36 40.4**	**+0.6**
MKAR	**Makanchi Array**	**33.82**	**346**	P	**P**	**19 36 40.4**	**+0.6**
	1.4nm,0.7s,baz=167,slow=7.0,SNR=9.0						
KK31	**Karatay Array**	**34.86**	**330**	P	**P**	**19 36 48.4**	**-0.4**
	1.1nm,0.8s,baz=187,slow=15,SNR=5.5						
KK31				S	Px	19 38 00.9	
	0.4nm,0.3s,baz=186,slow=24,SNR=7.8						
KKAR	**Karatay Array**	**34.86**	**330**	*e*P	**P**	**19 36 48.2**	**-0.7**
	0.9nm,0.6s						
SONM	**Songino Array**	**35.31**	**15**	P	**P**	**19 36 53.8**	**+1.0**
SONM	**Songino Array**	**35.31**	**15**	P	**P**	**19 36 53.8**	**+1.0**
	0.9nm,0.7s,baz=205,slow=6.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**38.29**	**345**	P	**P**	**19 37 18.1**	**+0.2**
	1.7nm,0.7s,baz=164,slow=8.0,SNR=9.3						
KURK	**Kurchatov**	**38.35**	**345**	P	**P**	**19 37 18.1**	**-0.3**
ZALV	**Zalesovo Beam**	**40.26**	**352**	P	**P**	**19 37 34.3**	**0.0**
ZALV	**Zalesovo Beam**	**40.26**	**352**	P	**P**	**19 37 34.3**	**0.0**
	0.9nm,0.6s,baz=161,slow=8.2,SNR=6.3						
BVAR	**Borovoye Array**	**42.82**	**340**	P	**P**	**19 37 55.1**	**-0.2**
BVAR	**Borovoye Array**	**42.82**	**340**	P	**P**	**19 37 55.1**	**-0.2**
	0.3nm,0.4s,baz=151,slow=6.8,SNR=3.7						
BRVK	**Borovoye**	**42.88**	**340**	*e*P	**P**	**19 37 54.6**	**-1.3**
ABKAR	**Akbulak array**	**44.39**	**329**	*e*P	**P**	**19 38 07.3**	**-0.7**
	3.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.23**	**134**	P	**P**	**19 38 14.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**45.23**	**134**	P	**P**	**19 38 14.7**	**-0.4**
	1.0nm,0.4s,baz=341,slow=12,SNR=9.7						
WRA	**Warramunga Arr**	**52.72**	**129**	P	**P**	**19 39 11.3**	**-1.2**
WRA				PcP	**PcP**	**19 40 22.6**	**+0.7**
WRA	**Warramunga Arr**	**52.72**	**129**	P	**P**	**19 39 11.3**	**-1.2**
	0.2nm,0.3s,baz=308,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**19 40 22.6**	**+0.7**
	0.3nm,0.6s,baz=312,slow=3.6,SNR=5.6						
WRAB	**Tennant Creek**	**52.73**	**129**	*e*P	**P**	**19 39 12.3**	**-0.2**
	2.5nm,1.0s						
ASAR	**Alice Springs**	**54.69**	**133**	P	**P**	**19 39 26.9**	**0.0**
ASAR				PcP	**PcP**	**19 40 31.1**	**+1.7**
ASAR	**Alice Springs**	**54.69**	**133**	P	**P**	**19 39 26.9**	**0.0**
	0.3nm,0.4s,baz=310,slow=6.8,SNR=13						
ASAR				PcP	**PcP**	**19 40 31.1**	**+1.7**
	0.3nm,0.7s,baz=315,slow=4.1,SNR=4.9						
BRTR	**Keskin Array B**	**57.80**	**308**	P	**P**	**19 39 48.4**	**-0.7**
BRTR	**Keskin Array B**	**57.80**	**308**	P	**P**	**19 39 48.4**	**-0.7**
	1.7nm,0.8s,baz=102,slow=8.1,SNR=10						
CTAO	**Charters Tower**	**62.23**	**122**	P	**P**	**19 40 19.1**	**-0.4**
MLR	**Muntele Rosu**	**64.17**	**314**	P	**P**	**19 40 31.9**	**-0.3**
MLR	**Muntele Rosu**	**64.17**	**314**	P	**P**	**19 40 31.9**	**-0.3**
	0.2nm,0.5s,baz=75,slow=8.4,SNR=3.1						
STKA	**Stephens Creek**	**65.10**	**136**	*e*P	**P**	**19 40 37.8**	**-0.4**
	0.8nm,1.0s						
STKA	**Stephens Creek**	**65.10**	**136**	P	**P**	**19 40 38.4**	**+0.1**
	1.0nm,0.8s,baz=330,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**66.81**	**331**	P	**P**	**19 40 48.4**	**-0.3**
FINES	**FINESS Array B**	**66.81**	**331**	P	**P**	**19 40 48.4**	**-0.3**
	4.2nm,1.0s,baz=86,slow=6.0,SNR=12						
ARCES	**ARCESS Array B**	**69.11**	**340**	P	**P**	**19 41 03.6**	**+0.5**
ARCES	**ARCESS Array B**	**69.11**	**340**	P	**P**	**19 41 03.6**	**+0.5**
	10nm,1.2s,baz=88,slow=6.5,SNR=7.9						
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**19 41 25.4**	**+0.3**
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**19 41 25.4**	**+0.3**
	0.7nm,0.5s,baz=93,slow=5.9,SNR=10						
NOA	**NORSAR Array B**	**73.89**	**330**	P	**P**	**19 41 31.5**	**-0.6**
NOA	**NORSAR Array B**	**73.89**	**330**	P	**P**	**19 41 31.5**	**-0.6**
	0.7nm,0.7s,baz=94,slow=5.8,SNR=3.2						
LPG	**La Plagne**	**77.64**	**314**	*e*P	**P**	**19 41 54.1**	**-0.1**
	4.3nm,0.8s						
LPL	**La Plagne**	**77.65**	**314**	*e*P	**P**	**19 41 54.2**	**+0.1**
	5.3nm,0.8s						
BOSA	**Boshof**	**78.26**	**236**	P	**P**	**19 41 57.9**	**+0.3**
BOSA	**Boshof**	**78.26**	**236**	P	**P**	**19 41 57.9**	**+0.3**
	2.1nm,0.7s,baz=135,slow=1.4,SNR=3.6						
VIVF	**Saint-Julien-l**	**79.18**	**314**	*e*P	**P**	**19 42 02.4**	**0.0**
SMF	**Signal de Mont**	**79.47**	**316**	*e*P	**P**	**19 42 03.4**	**-0.5**
	1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**88.35**	**283**	P	**P**	**19 42 50.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**88.35**	**283**	P	**P**	**19 42 50.2**	**+0.5**
	0.8nm,0.7s,baz=76,slow=4.5,SNR=5.8						

---

*NIED **13** 19:30:00, 38°.30N×138°.80E, h11km, Mw3.4 Best double couple: M$_0$1.23000×10^{14} NP1:$\phi_0$240.00000°, δ61.00000°, λ99.00000°. NP2:$\phi_0$41.00000°, δ30.00000°, λ74.00000°.*
*IDC **13** 19:30:20.6±2.1, 38°.23N×138°.80E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=42.6km s-min=22.1km az=101.0*
*ISCJB **13** 19:30:23.0±0.7, 38°.31N±0°.05×138°.75E±0°.05, h30km±5km, mb3.6/2, Error ellipse: s-maj=9.6km s-min=5.1km az=147.0*
*JMA **13** 19:30:23.8±0.1, 38°.30N×138°.77E, h25km±2km, M3.7*

ISC 13 19:30:23.8±1.1, 38°.27N±0°.06×138°.80E±0°.04, h23km±11km, n12, σ0°50/19, 3C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.40**	**62**	⇑P	**Pb**	**19 30 32.2**	**0.0**
JAW				S	**Sb**	**19 30 38.2**	**+0.2**
JSD	**Sado**	**0.48**	**242**	P	**Pb**	**19 30 33.6**	**0.0**
JSD				S	**Sb**	**19 30 39.5**	**-0.8**
JNS	**Sasagawa**	**0.61**	**137**	⇓P	**Pb**	**19 30 35.6**	**-0.1**
JNS				*e*S	**Sb**	**19 30 44.3**	**+0.5**
JIZZ	**Izumozaki**	**0.74**	**186**	P	**Pb**	**19 30 38.2**	**+0.3**
JIZZ				*e*S	**Sn**	**19 30 48.7**	**-0.5**
JYA	**Atsumi**	**0.79**	**65**	⇑P	**Pb**	**19 30 38.7**	**-0.1**
JYA				*e*S	**Sb**	**19 30 49.3**	**+0.2**
JYS	**Shiratake**	**1.00**	**92**	P	**Pn**	**19 30 42.0**	**-0.4**
JYS				*e*S	**Sn**	**19 30 55.8**	**+0.1**
JHK	**Hiroka**	**1.03**	**170**	⇑P	**Pn**	**19 30 42.4**	**-0.4**
MAT	**Matsushiro**	**1.79**	**196**	P	**Pn**	**19 30 53.6**	**+0.4**
MAT				S	**Sn**	**19 31 15.4**	**+0.2**
MJAR	**Matsushiro Arr**	**1.79**	**195**	Pn	**Pn**	**19 30 52.6**	**-0.6**
	7.2nm,0.3s,baz=9.8,slow=15,SNR=159						
MJAR				Lg	Lg	19 31 16.5	
	57nm,0.3s,baz=7.5,slow=26,SNR=54						
KSRS	**Korea Array**	**8.64**	**268**	Pn	**Pn**	**19 32 28.6**	**+1.2**
	0.2nm,0.3s,baz=82,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**58.05**	**185**	P	**P**	**19 40 14.9**	**-0.1**
	0.6nm,0.7s,baz=0.5,slow=7.4,SNR=6.3						
ASAR	**Alice Springs**	**61.78**	**185**	P	**P**	**19 40 40.5**	**0.0**
	0.3nm,0.8s,baz=11,slow=14,SNR=4.9						

---

*ISCJB **13** 20:03:13.9±0.2, 43°.77N±0°.01×105°.37W±0°.02, h0km, mb3.8/1, Error ellipse: s-maj=2.1km s-min=1.9km az=11.5*
*NEIC **13** 20:03:14.9±0.5, 43°.87N×105°.39W, h0km, ML3.2, Error ellipse: s-maj=7.1km s-min=6.4km az=187.0, Suspected Mining explosion.*
NEIC 50 km [30 miles] S of Gillette.
*IDC **13** 20:03:15.0±1.6, 43°.97N×105°.65W, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.5/28, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=49.1km s-min=8.7km az=147.0*

ISC 13 20:03:15.0±0.6, 43°.74N±0°.01×105°.35W±0°.01, h0km, n233, σ1°27/302, 80C-98D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.24**	**339**	⇑P	**Pg**	**20 03 20.1**	**+0.6**
	baz=0.1,SNR=490						
I23A				⇓S	**Sg**	**20 03 22.4**	**-0.1**
	baz=0.1						
I23A	**Meade Ranch, G**	**0.24**	**339**	⇑P	**Pg**	**20 03 20.1**	**+0.6**
	baz=0.1,SNR=490						
I23A				⇓S	**Sg**	**20 03 22.4**	**-0.1**
	baz=0.1						
J23A	**Dilts Ranch, B**	**0.37**	**204**	P	**Pg**	**20 03 22.4**	**+0.4**
	baz=0.5,SNR=316						
J23A				⇑S	**Sg**	**20 03 27.3**	**+0.5**
	baz=0.5						
J23A	**Dilts Ranch, B**	**0.37**	**204**	P	**Pg**	**20 03 22.4**	**+0.4**
	baz=0.5,SNR=316						
J23A				⇑S	**Sg**	**20 03 27.3**	**+0.5**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.53**	**77**	⇑P	**Pg**	**20 03 24.6**	**-0.6**
	baz=0.6,SNR=628						
I24A				⇓S	**Sg**	**20 03 31.7**	**-0.4**
	baz=0.6						
I24A	**Kuemmerle Ranc**	**0.53**	**77**	⇑P	**Pg**	**20 03 24.6**	**-0.6**
	baz=0.6,SNR=628						
I24A				⇓S	**Sg**	**20 03 31.7**	**-0.4**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.64**	**129**	P	**Pg**	**20 03 26.6**	**-0.6**
	baz=0.8,SNR=154						
J24A	**Dixon Ranch, L**	**0.64**	**129**	P	**Pg**	**20 03 26.6**	**-0.6**
	baz=0.8,SNR=154						
H23A	**Clabaugh Cattl**	**0.82**	**357**	P	**Pg**	**20 03 30.1**	**-0.7**
	baz=0.7,SNR=55						
H23A	**Clabaugh Cattl**	**0.82**	**357**	P	**Pg**	**20 03 30.1**	**-0.7**
	baz=0.7,SNR=55						
I22A	**9 Mile Ranch,**	**0.84**	**281**	P	**Pg**	**20 03 31.1**	**0.0**
	baz=0.8,SNR=585						
I22A	**9 Mile Ranch,**	**0.84**	**281**	P	**Pg**	**20 03 31.1**	**0.0**
	baz=0.8,SNR=585						
J22A	**Midwest**	**0.89**	**249**	P	**Pg**	**20 03 31.4**	**-0.5**
	baz=0.9,SNR=196						
J22A	**Midwest**	**0.89**	**249**	P	**Pg**	**20 03 31.4**	**-0.5**
	baz=0.9,SNR=196						
K23A	**Bowen Ranch, D**	**1.01**	**192**	⇑P	**Pg**	**20 03 33.5**	**-0.8**
	baz=1.1						
K23A	**Bowen Ranch, D**	**1.01**	**192**	⇑P	**Pg**	**20 03 33.5**	**-0.8**
	baz=1.1						
RSSD	**Black Hills**	**1.02**	**68**	*e*P	**Pg**	**20 03 33.1**	**-1.4**
K24A	**Anderson Ranch**	**1.09**	**159**	⇓P	**Pg**	**20 03 34.8**	**-1.0**
	baz=1.2,SNR=27						
K24A	**Anderson Ranch**	**1.09**	**159**	⇓P	**Pg**	**20 03 34.8**	**-1.0**
	baz=1.2,SNR=27						
H22A	**Clearmont**	**1.12**	**320**	P	**Pg**	**20 03 36.0**	**-0.4**
	baz=1.0,SNR=84						
H22A	**Clearmont**	**1.12**	**320**	P	**Pg**	**20 03 36.0**	**-0.4**
	baz=1.0,SNR=84						
H24A	**Dirks Ranch, A**	**1.16**	**29**	⇑P	**Pg**	**20 03 35.4**	**-1.7**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.16**	**29**	⇑P	**Pg**	**20 03 35.4**	**-1.7**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.18**	**107**	P	**Pg**	**20 03 36.0**	**-1.4**
	baz=1.2,SNR=190						
J25A	**Sunshine Ranch**	**1.18**	**107**	P	**Pg**	**20 03 36.0**	**-1.4**
	baz=1.2,SNR=190						
I25A	**Rochford**	**1.20**	**76**	P	**Pg**	**20 03 36.3**	**-1.6**
	baz=1.2,SNR=118						
I25A	**Rochford**	**1.20**	**76**	P	**Pg**	**20 03 36.3**	**-1.6**
	baz=1.2,SNR=118						
K22A	**Casper**	**1.39**	**219**	P	**Pn**	**20 03 40.3**	**-1.4**
	baz=1.5,SNR=488						
K22A				⇓S	**Sn**	**20 04 00.6**	**-0.3**
	baz=1.5						
K22A	**Casper**	**1.39**	**219**	P	**Pn**	**20 03 40.3**	**-1.4**
	baz=1.5,SNR=488						
K22A				⇓S	**Sn**	**20 04 00.6**	**-0.3**
	baz=1.5						
I21A	**Big Trails, Te**	**1.41**	**274**	⇓P	**Pn**	**20 03 40.1**	**-2.0**
	baz=1.4						
I21A				⇓S	**Sb**	**20 04 00.9**	**0.0**
	baz=1.4						
I21A	**Big Trails, Te**	**1.41**	**274**	⇓P	**Pn**	**20 03 40.1**	**-2.0**
	baz=1.4						
I21A				⇓S	**Sb**	**20 04 00.9**	**0.0**
	baz=1.4						
G23A	**Biddle**	**1.46**	**359**	P	**Pn**	**20 03 41.2**	**-1.4**
	baz=1.3,SNR=178						
G23A	**Biddle**	**1.46**	**359**	P	**Pn**	**20 03 41.2**	**-1.4**
	baz=1.3,SNR=178						
H21A	**Big Horn, Sher**	**1.51**	**307**	P	**Pn**	**20 03 43.0**	**-0.4**
	baz=1.4,SNR=333						
H21A	**Big Horn, Sher**	**1.51**	**307**	P	**Pn**	**20 03 43.0**	**-0.4**
	baz=1.4,SNR=333						
H25A	**Fruitdale**	**1.54**	**54**	⇓P	**Pn**	**20 03 42.4**	**-1.3**
	baz=1.5,SNR=39						
H25A	**Fruitdale**	**1.54**	**54**	⇓P	**Pn**	**20 03 42.4**	**-1.3**
	baz=1.5,SNR=39						
K25A	**Mack Ranch, Ha**	**1.56**	**136**	⇑P	**Pn**	**20 03 43.5**	**-0.6**
	baz=1.7,SNR=61						
K25A	**Mack Ranch, Ha**	**1.56**	**136**	⇑P	**Pn**	**20 03 43.5**	**-0.6**
	baz=1.7,SNR=61						
J21A	**Lysite**	**1.58**	**256**	P	**Pn**	**20 03 43.3**	**-1.1**
	baz=1.6,SNR=147						
J21A				⇑S	**Sn**	**20 04 05.6**	**0.0**
	baz=1.6						
J21A	**Lysite**	**1.58**	**256**	P	**Pn**	**20 03 43.3**	**-1.1**
	baz=1.6,SNR=147						
J21A				⇑S	**Sn**	**20 04 05.6**	**0.0**
	baz=1.6						
G22A	**Birney**	**1.63**	**336**	P	**Pn**	**20 03 44.6**	**-0.3**
	baz=1.5,SNR=96						
G22A	**Birney**	**1.63**	**336**	P	**Pn**	**20 03 44.6**	**-0.3**
	baz=1.5,SNR=96						
L23A	**Garrett**	**1.65**	**189**	⇑P	**Pn**	**20 03 44.5**	**-0.9**
	baz=1.8,SNR=616						
L23A	**Garrett**	**1.65**	**189**

I20A	**Worland**	2.02 277	P	Pn	20 03 50.9	+0.4
	baz=2.0,SNR=339					
J20A	**Shoshoni**	2.03 260	⇓P	Pb	20 03 52.0	-0.8
	baz=2.0					
J20A			⇓Sb	Sg	20 04 19.8	-0.3
	baz=2.0					
J20A	**Shoshoni**	2.03 260	⇓P	Pb	20 03 52.0	-0.8
	baz=2.0					
J20A			⇓Sb	Sg	20 04 19.8	-0.3
	baz=2.0					
H26A	**Fairpoint**	2.05 64	⇓P	Pn	20 03 51.1	+0.4
	baz=2.0,SNR=90					
H26A	**Fairpoint**	2.05 64	⇓P	Pn	20 03 51.1	+0.4
	baz=2.0,SNR=90					
H20A	**Greybull**	2.05 292	⇓P	Pn	20 03 50.5	-0.3
	baz=2.0,SNR=46					
H20A	**Greybull**	2.05 292	⇓P	Pn	20 03 50.5	-0.3
	baz=2.0,SNR=46					
F22A	**Rosebud**	2.14 343	P	Pn	20 03 51.2	-0.8
	baz=2.0,SNR=250					
F22A	**Rosebud**	2.14 343	P	Pn	20 03 51.2	-0.8
	baz=2.0,SNR=250					
F24A	**Ekalaka**	2.20 17	⇑P	Pn	20 03 52.7	-0.2
	baz=2.1,SNR=49					
F24A	**Ekalaka**	2.20 17	⇑P	Pn	20 03 52.7	-0.2
	baz=2.1,SNR=49					
L21A	**Rawlins**	2.32 221	P	Pn	20 03 55.0	+0.5
	baz=2.4,SNR=131					
L21A	**Rawlins**	2.32 221	P	Pn	20 03 55.0	+0.5
	baz=2.4,SNR=131					
F21A	**Absaloka Mine,**	2.44 329	⇑P	Pn	20 03 55.2	-0.9
	baz=2.3					
F21A	**Absaloka Mine,**	2.44 329	⇑P	Pn	20 03 55.2	-0.9
	baz=2.3					
PHWY	**Pilot Hill**	2.44 182	*e*Pn	Pn	20 03 56.3	-0.1
PHWY			*e*Sn	Sb	20 04 30.0	-0.6
K20A	**Yellowstone Ra**	2.44 245	⇓Sb	Sb	20 04 31.4	+0.8
	baz=2.5					
K20A	**Yellowstone Ra**	2.44 245	⇓Sb	Sb	20 04 31.4	+0.8
	baz=2.5					
RWWY	**Rawlins**	2.47 214	*e*Pn	Pn	20 03 57.8	+1.1
RWWY			*e*Sn	Sn	20 04 29.4	+1.8
G26A	**Maurine**	2.50 51	⇑P	Pn	20 03 57.0	0.0
	baz=2.4,SNR=49					
G26A			⇓Sb	Sb	20 04 32.7	+0.5
	baz=2.4					
G26A	**Maurine**	2.50 51	⇑P	Pn	20 03 57.0	0.0
	baz=2.4,SNR=49					
G26A			⇓Sb	Sb	20 04 32.7	+0.5
	baz=2.4					
G20A	**Bridger**	2.53 307	P	Pn	20 03 56.8	-0.7
	baz=2.4,SNR=194					
G20A	**Bridger**	2.53 307	P	Pn	20 03 56.8	-0.7
	baz=2.4,SNR=194					
F25A	**Bowman**	2.56 31	⇑P	Pn	20 03 57.6	-0.2
	baz=2.5,SNR=25					
F25A	**Bowman**	2.56 31	⇑P	Pn	20 03 57.6	-0.2
	baz=2.5,SNR=25					
I19A	**Meeteetse**	2.66 278	⇓P	Pn	20 03 59.5	+0.3
	baz=2.6,SNR=30					
I19A	**Meeteetse**	2.66 278	⇓P	Pn	20 03 59.5	+0.3
	baz=2.6,SNR=30					
K19A	**Absolon Red Bu**	2.72 252	⇑P	Pn	20 04 01.0	+1.0
	baz=2.7					
K19A	**Absolon Red Bu**	2.72 252	⇑P	Pn	20 04 01.0	+1.0
	baz=2.7					
E22A	**Miles City**	2.73 351	⇑P	Pn	20 03 59.1	-1.0
	baz=2.6,SNR=9.7					
E22A	**Miles City**	2.73 351	⇑P	Pn	20 03 59.1	-1.0
	baz=2.6,SNR=9.7					
E23A	**Ismay**	2.76 1	⇑P	Pn	20 03 59.9	-0.5
	baz=2.6,SNR=50					
E23A	**Ismay**	2.76 1	⇑P	Pn	20 03 59.9	-0.5
	baz=2.6,SNR=50					
H19A	**Powell**	2.78 291	⇓P	Pn	20 04 01.2	+0.4
	baz=2.7,SNR=20					
H19A	**Powell**	2.78 291	⇓P	Pn	20 04 01.2	+0.4
	baz=2.7,SNR=20					
M26A	**McRoberts Ranc**	2.79 144	⇓P	Pn	20 04 01.0	0.0
	baz=2.9					
M26A	**McRoberts Ranc**	2.79 144	⇓P	Pn	20 04 01.0	0.0
	baz=2.9					
F26A	**Lodgepole**	2.84 41	⇓P	Pn	20 04 00.8	-0.8
	baz=2.8					
F26A	**Lodgepole**	2.84 41	⇓P	Pn	20 04 00.8	-0.8
	baz=2.8					
F20A	**Billings**	2.87 317	⇓P	Pn	20 04 01.3	-0.7
	baz=2.7,SNR=35					
F20A	**Billings**	2.87 317	⇓P	Pn	20 04 01.3	-0.7
	baz=2.7,SNR=35					
N23A	**Red Feather La**	2.88 189	⇓P	Pn	20 04 02.9	+0.5
	baz=3.0					
N23A	**Red Feather La**	2.88 189	⇓P	Pn	20 04 02.9	+0.5
	baz=3.0					
E24A	**Baker**	2.91 14	⇑P	Pn	20 04 02.4	-0.2
	baz=2.8,SNR=79					
E24A	**Baker**	2.91 14	⇑P	Pn	20 04 02.4	-0.2
	baz=2.8,SNR=79					
G27A	**Dupree**	2.94 55	⇑P	Pn	20 04 02.6	-0.3
	baz=2.9,SNR=12					
G27A	**Dupree**	2.94 55	⇑P	Pn	20 04 02.6	-0.3
	baz=2.9,SNR=12					
E21A	**Keefer Ranch,**	3.06 337	⇓P	Pn	20 04 03.1	-1.4
	baz=2.9,SNR=14					
E21A	**Keefer Ranch,**	3.06 337	⇓P	Pn	20 04 03.1	-1.4
	baz=2.9,SNR=14					
N25A	**Grover**	3.07 162	⇑P	Pn	20 04 05.1	+0.2
	baz=3.2					
N25A	**Grover**	3.07 162	⇑P	Pn	20 04 05.1	+0.2
	baz=3.2					
E25A	**Miller Ranch,**	3.08 26	⇓P	Pn	20 04 05.6	+0.7
	baz=3.0,SNR=9.8					
E25A	**Miller Ranch,**	3.08 26	⇓P	Pn	20 04 05.6	+0.7
	baz=3.0,SNR=9.8					
K28A	**Ten Mile Ranch**	3.08 108	⇓P	Pn	20 04 05.0	0.0
	baz=3.1					
K28A	**Ten Mile Ranch**	3.08 108	⇓P	Pn	20 04 05.0	0.0
	baz=3.1					
RLMT	**Red Lodge**	3.13 298	*e*Pn	Pn	20 04 06.0	+0.2
RLMT			*e*Pg	Pb	20 04 12.0	+0.4
RLMT			*e*Sg	Sb	20 04 47.2	-3.2
BW06	**Boulder Array**	3.23 254	*e*Pn	Pn	20 04 07.6	+0.5
BW06			*e*Sg	Sb	20 04 54.9	+1.7
PDAR	**Pinedale Array**	3.23 254	Pn	Pn	20 04 07.3	+0.2
PDAR			Lg	Lg	20 04 52.8	
PDAR	**Pinedale Array**	3.23 254	Pn	Pn	20 04 07.3	+0.2
	4.5nm,0.3s,baz=71,slow=16,SNR=61					
PDAR			Lg	Lg	20 04 52.8	
	14nm,0.3s,baz=68,slow=36,SNR=14					
H18A	**Shoshone NF, C**	3.24 288	⇑P	Pn	20 04 06.9	-0.4
	baz=3.2,SNR=23					
H18A	**Shoshone NF, C**	3.24 288	⇑P	Pn	20 04 06.9	-0.4
	baz=3.2,SNR=23					
F19A	**Roth Farm, Mol**	3.32 311	⇑P	Pn	20 04 08.2	0.0
	baz=3.2,SNR=105					
F19A	**Roth Farm, Mol**	3.32 311	⇑P	Pn	20 04 08.2	0.0
	baz=3.2,SNR=105					
E20A	**Meyer Farm, Mu**	3.39 325	⇓P	Pn	20 04 07.8	-1.5
	baz=3.3,SNR=9.5					
E20A	**Meyer Farm, Mu**	3.39 325	⇓P	Pn	20 04 07.8	-1.5
	baz=3.3,SNR=9.5					
G18A	**Lazy EL Ranch,**	3.40 299	⇓P	Pn	20 04 09.5	0.0
	baz=3.3,SNR=14					
G18A	**Lazy EL Ranch,**	3.40 299	⇓P	Pn	20 04 09.5	0.0
	baz=3.3,SNR=14					
D23A	**Lindsay**	3.43 2	⇓P	Pn	20 04 09.7	-0.1
	baz=3.3,SNR=26					
D23A	**Lindsay**	3.43 2	⇓P	Pn	20 04 09.7	-0.1
	baz=3.3,SNR=26					
D24A	**Glendive**	3.45 12	⇑P	Pn	20 04 10.4	+0.4
	baz=3.3,SNR=40					
D24A	**Glendive**	3.45 12	⇑P	Pn	20 04 10.4	+0.4
	baz=3.3,SNR=40					
E19A	**Rath Farm, Rou**	3.65 319	⇓P	Pn	20 04 11.9	-0.9
	baz=3.5,SNR=48					
E19A	**Rath Farm, Rou**	3.65 319	⇓P	Pn	20 04 11.9	-0.9
	baz=3.5,SNR=48					
D25A	**Fairfield**	3.70 22	⇑P	Pn	20 04 14.0	+0.7
	baz=3.6,SNR=12					
D25A	**Fairfield**	3.70 22	⇑P	Pn	20 04 14.0	+0.7
	baz=3.6,SNR=12					
GCMT	**Greycliff**	3.70 305	*e*Pn	Pn	20 04 13.9	+0.4
GCMT			*e*Pg	Pb	20 04 23.4	+2.1
GCMT			*e*Sg	Sb	20 05 05.2	-1.5
OGNE	**Ogallala**	3.72 138	*e*Pn	Pn	20 04 17.3	+3.5
OGNE			*e*Pg	Pg	20 04 24.1	-2.1
OGNE			*e*Sg	Sg	20 05 20.2	+5.8
F18A	**Big Timber**	3.79 306	⇓P	Pn	20 04 14.9	+0.2
	baz=3.7,SNR=26					
F18A	**Big Timber**	3.79 306	⇓P	Pn	20 04 14.9	+0.2
	baz=3.7,SNR=26					
LOHW	**Long Hollow**	3.82 270	Pn	Pn	20 04 12.3	-2.8
LOHW			*e*Pg	Pb	20 04 24.5	+1.2
LOHW			*e*Sg	Sb	20 05 10.6	+0.4
C24A	**Savage**	3.84 9	⇓P	Pn	20 04 15.7	+0.3
	baz=3.7,SNR=16					
C24A	**Savage**	3.84 9	⇓P	Pn	20 04 15.7	+0.3
	baz=3.7,SNR=16					
D20A	**Manuel Ranch,**	3.88 331	⇑P	Pn	20 04 15.2	-0.7
	baz=3.8,SNR=37					
D20A	**Manuel Ranch,**	3.88 331	⇑P	Pn	20 04 15.2	-0.7
	baz=3.8,SNR=37					
FLWY	**Flagg Ranch**	3.88 277	*e*Pn	Pn	20 04 14.9	-1.2
FLWY			*e*Pg	Pb	20 04 26.7	+2.3
FLWY			*e*Sg	Sb	20 05 11.7	-0.4
MOOW	**Moose Ponds**	3.91 272	*e*Pn	Pn	20 04 13.4	-3.1
MOOW			*e*Pg	Pb	20 04 25.0	0.0
MOOW			*e*Sn	Sn	20 04 58.2	-5.1
MOOW			*e*Sg	Sb	20 05 14.2	+1.2
SNOW	**Snow King Moun**	3.94 268	*e*Pn	Pn	20 04 14.4	-2.5
SNOW			*e*Pg	Pb	20 04 27.0	+1.6
ISCO	**Idaho Springs**	3.94 183	*e*Pn	Pn	20 04 17.1	0.0
ISCO			*e*S	Sg	20 05 18.5	-3.1
ISCO	**Idaho Springs**	3.94 183	⇓P	Pn	20 04 16.8	-0.3
	baz=4.1					
ISCO	**Idaho Springs**	3.94 183	⇓P	Pn	20 04 16.8	-0.3
	baz=4.1					
L29A	**Maesberg Ranch**	3.95 113	⇓P	Pn	20 04 15.8	-1.0
	baz=4.0					
L29A	**Maesberg Ranch**	3.95 113	⇓P	Pn	20 04 15.8	-1.0
	baz=4.0					
REDW	**Red Top Meadow**	4.02 267	*e*Pn	Pn	20 04 19.0	+1.0
REDW			*e*Pg	Pb	20 04 28.7	+1.9
REDW			*e*Sg	Sb	20 05 17.6	+1.6
C22A	**Vida**	4.02 355	⇓P	Pn	20 04 18.2	+0.3
	baz=3.9,SNR=12					
C22A	**Vida**	4.02 355	⇓P	Pn	20 04 18.2	+0.3
	baz=3.9,SNR=12					
IMW	**Indian Meadow**	4.05 274	*e*Pn	Pn	20 04 19.5	+1.0
IMW			*e*Pg	Pb	20 04 29.3	+2.0
IMW			*e*Sg	Sb	20 05 18.1	+1.2
C23A	**Lambert**	4.06 2	⇑P	Pn	20 04 18.7	+0.2
	baz=3.9,SNR=72					
C23A	**Lambert**	4.06 2	⇑P	Pn	20 04 18.7	+0.2
	baz=3.9,SNR=72					
TPAW	**Teton Pass**	4.08 268	*e*Pn	Pn	20 04 19.2	+0.3
TPAW			*e*Pg	Pb	20 04 30.0	+2.2
TPAW			*e*Sg	Sb	20 05 19.2	+1.4
D19A	**Cripps Ranch,**	4.23 325	⇓P	Pn	20 04 19.6	-1.2
	baz=4.1,SNR=12					
D19A	**Cripps Ranch,**	4.23 325	⇓P	Pn	20 04 19.6	-1.2
	baz=4.1,SNR=12					
C25A	**Freed Ranch, W**	4.23 19	⇑P	Pn	20 04 20.0	-0.7
	baz=4.1,SNR=20					
C25A	**Freed Ranch, W**	4.23 19	⇑P	Pn	20 04 20.0	-0.7
	baz=4.1,SNR=20					
C21A	**Desert Coulee**	4.27 344	⇓P	Pn	20 04 20.1	-1.1
	baz=4.1,SNR=15					
C21A	**Desert Coulee**	4.27 344	⇓P	Pn	20 04 20.1	-1.1
	baz=4.1,SNR=15					
RRI2	**Red Ridge**	4.36 267	*e*Pn	Pn	20 04 23.3	+0.5
RRI2			*e*Pg	Pb	20 04 33.5	+0.9
RRI2			*e*Sg	Sg	20 05 33.0	-2.1
C20A	**Veseth Ranch,**	4.39 336	⇓P	Pn	20 04 22.3	-0.5
	baz=4.3					
C20A	**Veseth Ranch,**	4.39 336	⇓P	Pn	20 04 22.3	-0.5
	baz=4.3					
P26A	**Davis Ranch, A**	4.44 160	⇓P	Pn	20 04 23.7	+0.1
	baz=4.6,SNR=12					
P26A	**Davis Ranch, A**	4.44 160	⇓P	Pn	20 04 23.7	+0.1
	baz=4.6,SNR=12					
P27A	**Ficken Ranch,**	4.67 153	⇓P	Pn	20 04 26.4	-0.3
	baz=4.8,SNR=11					
P27A	**Ficken Ranch,**	4.67 153	⇓P	Pn	20 04 26.4	-0.3
	baz=4.8,SNR=11					
SMCO	**Snowmass**	4.72 196	*e*Pn	Pn	20 04 30.6	+2.8
SMCO			*e*Pg	Pb	20 04 41.7	+2.9
SMCO			*e*S	Sg	20 05 44.2	-2.4
B23A	**Brockton**	4.73 3	⇓P	Pn	20 04 27.8	+0.2
	baz=4.6,SNR=27					
B23A	**Brockton**	4.73 3	⇓P	Pn	20 04 27.8	+0.2
	baz=4.6,SNR=27					
E17A	**Martinsdale**	4.76 307	⇑P	Pn	20 04 28.1	+0.1
	baz=4.6,SNR=13					
E17A	**Martinsdale**	4.76 307	⇑P	Pn	20 04 28.1	+0.1
	baz=4.6,SNR=13					
B25A	**Knox Farm, Ray**	4.78 18	⇓P	Pn	20 04 28.6	+0.4
	baz=4.7,SNR=43					
B25A	**Knox Farm, Ray**	4.78 18	⇓P	Pn	20 04 28.6	+0.4
	baz=4.7,SNR=43					
DGMT	**Dagmar**	4.80 9	*e*Pn	Pn	20 04 28.5	0.0
DGMT			*e*Pg	Pb	20 04 42.4	+2.5
DGMT			*e*Sg	Sb	20 05 41.9	+3.7
DGMT	**Dagmar**	4.80 9	⇑P	Pn	20 04 28.8	+0.3
	baz=4.7,SNR=24					
DGMT	**Dagmar**	4.80 9	⇑P	Pn	20 04 28.8	+0.3
	baz=4.7,SNR=24					
BOZ	**Bozeman (W)**	4.87 295	*e*Pn	Pn	20 04 27.3	-2.3
BOZ			*e*Pg	Pb	20 04 41.8	+0.6
BOZ			*e*Sg	Sb	20 05 42.2	+1.8
P28A	**Saint Francis**	4.96 146	⇓P	Pn	20 04 29.9	-0.8
	baz=5.1,SNR=8.6					
P28A	**Saint Francis**	4.96 146	⇓P	Pn	20 04 29.9	-0.8
	baz=5.1,SNR=8.6					
B20A	**Solberg Farm,**	5.05 339	⇓P	Pn	20 04 31.5	-0.6
	baz=4.9,SNR=7.4					
B20A	**Solberg Farm,**	5.05 339	⇓P	Pn	20 04 31.5	-0.6
	baz=4.9,SNR=7.4					
HWUT	**Hardware Ranch**	5.06 247	*e*Pn	Pn	20 04 32.5	+0.3
	9.3nm,0.4s					
HWUT			*e*Pg	Pg	20 04 49.4	-2.5
HWUT			*e*Sg	Sg	20 05 53.6	-3.7
D17A	**Six Diamond Ra**	5.08 314	⇑P	Pn	20 04 31.8	-0.6
	baz=5.0,SNR=41					
D17A	**Six Diamond Ra**	5.08 314	⇑P	Pn	20 04 31.8	-0.6
	baz=5.0,SNR=41					
A22A	**Carney Farms,**	5.27 356	⇑P	Pn	20 04 34.1	-0.9
	baz=5.1,SNR=8.5					
A22A	**Carney Farms,**	5.27 356	⇑P	Pn	20 04 34.1	-0.9
	baz=5.1,SNR=8.5					
A25A	**Svangstu Ranch**	5.42 16	⇓P	Pn	20 04 36.8	-0.2
	baz=5.3,SNR=7.9					
A25A	**Svangstu Ranch**	5.42 16	⇓P	Pn	20 04 36.8	-0.2
	baz=5.3,SNR=7.9					
C17A	**Wharram Farm,**	5.44 318	⇑P	Pn	20 04 36.6	-0.7
	baz=5.3,SNR=5.1					
C17A	**Wharram Farm,**	5.44 318	⇑P	Pn	20 04 36.6	-0.7
	baz=5.3,SNR=5.1					
LRM	**Limekiln Ridge**	5.47 295	*e*Pn	Pn	20 04 37.2	-0.7
	39nm,0.6s					
LRM			*e*Pg	Pb	20 04 55.1	+3.6
LRM			*e*Sg	Sb	20 06 01.2	+3.5
DAU	**Daniels Canyon**	5.51 235	*e*Pn	Pn	20 04 41.0	+2.4
	6.1nm,0.4s					
DAU			*e*Pg	Pg	20 05 00.6	0.0
R26A	**Arlington**	5.62 165	⇑P	Pn	20 04 39.0	-0.9
	baz=5.8,SNR=26					
R26A	**Arlington**	5.62 165	⇑P	Pn	20 04 39.0	-0.9
	baz=5.8,SNR=26					
A26A	**Wade Farm, Ken**	5.64 23	⇑P	Pn	20 04 38.8	-1.3
	baz=5.5,SNR=9.2					
A26A	**Wade Farm, Ken**	5.64 23	⇑P	Pn	20 04 38.8	-1.3
	baz=5.5,SNR=9.2					
HVU	**Hansel Valley**	5.81 253	*e*Pn	Pn	20 04 41.7	-0.8
	5.1nm,0.6s					
HVU			*e*Sn	Sn	20 05 45.9	-4.0
PV04	**Paradox Valley**	5.98 208	*e*Pn	Pn	20 04 46.4	+1.5
PV04			*e*Pg	Pg	20 05 07.1	-2.4
PV04			*e*Sg	Sg	20 06 25.0	-2.1
SDCO	**Great Sand Dun**	5.99 181	*e*Pn	Pn	20 04 46.3	+1.2
	2.0nm,0.6s					
SDCO			*e*Sn	Sn	20 05 58.4	+3.8
R28A	**Tribune**	6.02 152	⇓P	Pn	20 04 44.2	-1.1
	baz=6.1,SNR=5.2					
R28A	**Tribune**	6.02 152	⇓P	Pn	20 04 44.2	-1.1
	baz=6.1,SNR=5.2					
SRU	**San Rafael**	6.04 222	*e*Pn	Pn	20 04 46.1	+0.3
	12nm,0.4s					
SRU			*e*Sg	Sg	20 06 26.0	-3.1
TMUT	**Trail Mountain**	6.25 227	*e*Pn	Pn	20 04 48.4	-0.3
	5.8nm,0.4s					
TMUT			*e*Pg	Pg	20 05 11.5	-3.3
TMUT			*e*Sg	Sg	20 06 36.3	+0.6
ECSD	**EROS Data Cent**	6.33 87	*e*Pn	Pn	20 04 49.0	-0.5
	6.0nm,0.4s					
ECSD			*e*S	Sg	20 06 33.8	-4.3
BGU	**Big Grassy Mou**	6.35 246	*e*Pn	Pn	20 04 48.9	-1.0
	1.8nm,0.3s					
BGU			*e*Sg	Sg	20 06 36.8	-2.1
DUG	**Dugway**	6.60 240	*e*Pn	Pn	20 04 52.1	-1.2
	2.7nm,0.3s					
DUG			*e*Sg	Sg	20 06 45.3	-1.5
B15A	**Bradely Ranch,**	6.79 315	⇑P	Pn	20 04 54.8	-1.1
	baz=6.7,SNR=7.6					
B15A	**Bradely Ranch,**	6.79 315	⇑P	Pn	20 04 54.8	-1.1
	baz=6.7,SNR=7.6					
MVCO	**Mesa Verde**	6.95 201	*e*Pn	Pn	20 05 01.1	+2.8
	5.9nm,0.5s					
SWMT	**Swartz Lake**	7.14 305	*e*Pn	Pn	20 04 56.0	-4.8
SWMT			*e*Sn	Sn	20 06 15.5	-7.1
A15A	**Johnson Ranch,**	7.32 318	⇓P	Pn	20 05 01.5	-1.6
	baz=7.2,SNR=11					
A15A	**Johnson Ranch,**	7.32 318	⇓P	Pn	20 05 01.5	-1.6
	baz=7.2,SNR=11					
MSU	**Marysvale**	7.34 227	*e*Pn	Pn	20 05 04.0	+0.4
	5.2nm,0.7s					
CCUT	**Cedar City**	8.68 227	*e*Pn	Pn	20 05 22.5	+0.5
	2.2nm,0.6s					
ULM	**Lac du Bonnet**	9.18 41	*e*Pn	Pn	20 05 26.9	-1.6
ULM			Pg		20 05 56.6	
ULM			Lg	Lg	20 07 57.5	
ULM	**Lac du Bonnet**	9.18 41	Pn	Pn	20 05 26.8	-1.7
	1.1nm,0.3s,baz=235,slow=13,SNR=6.6					
ULM			Pg		20 05 56.6	
	1.0nm,0.3s,baz=226,slow=17,SNR=3.5					
ULM			Lg	Lg	20 07 57.5	
	0.5nm,0.3s,baz=319,slow=20,SNR=2.5					
AMTX	**Amarillo**	9.29 161	Pn	Pn	20 05 32.1	+1.9
WUAZ	**Wupatki**	9.44 212	*e*Pn	Pn	20 05 34.1	+1.9
	3.6nm,0.4s					
NVAR	**Mina Array Bea**	11.12 246	Pn	Pn	20 05 57.3	+1.9
NVAR	**Mina Array Bea**	11.12 246	Pn	Pn	20 05 57.3	+1.9
	0.1nm,0.3s,baz=60,slow=14,SNR=3.8					
MKAR	**Makanchi Array**	89.60 355	P	P	20 16 12.6	-1.7
	0.4nm,0.7s,baz=354,slow=4.3,SNR=3.1					

IDC 13 20:03:16.2±0.7, 13°.94N×93°.00E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=26.1km s-min=17.3km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	7.26	51	Pn	Pn	20 05 05.0	+1.4
	0.1nm,0.3s,baz=241,slow=15,SNR=3.2						
CMAR				Sn	Sn	20 06 22.0	-4.9
	0.2nm,0.3s,baz=240,slow=29,SNR=6.1						
PSI	**Prapat**	12.52	152	LR	LR	20 11 13.2	
	comp=Z,100nm,18.9s,baz=264,slow=38						
MKAR	**Makanchi Array**	33.96	347	P	P	20 10 02.3	+0.9
	1.2nm,0.8s,baz=159,slow=11,SNR=5.8						
SONM	**Songino Array**	35.58	16	P	P	20 10 15.9	+0.4
	0.7nm,0.8s,baz=182,slow=5.3,SNR=3.6						
ZALV	**Zalesovo Bzam**	40.43	353	P	P	20 10 55.9	-0.3
	0.7nm,0.5s,baz=177,slow=9.3,SNR=7.3						
WRA	**Warramunga Arr**	52.80	129	P	P	20 12 33.1	-0.6
	0.2nm,0.5s,baz=313,slow=9.6,SNR=13						
WRA				PcP	PcP	20 13 43.4	+0.1
	0.4nm,0.8s,baz=320,slow=3.1,SNR=3.3						
ASAR	**Alice Springs**	54.74	133	P	P	20 12 47.4	-0.5
	0.5nm,0.5s,baz=307,slow=6.6,SNR=20						
BRTR	**Keskin Array B**	57.72	308	P	P	20 13 08.4	-0.8
	0.5nm,0.6s,baz=102,slow=9.2,SNR=3.5						
FINES	**FINESS Array B**	66.87	331	P	P	20 14 09.0	-0.9
	2.6nm,0.9s,baz=83,slow=4.6,SNR=5.0						
GERES	**GERESS Array B**	72.61	317	P	P	20 14 45.5	-0.3
	0.3nm,0.5s,baz=97,slow=6.9,SNR=4.8						
BOSA	**Boshof**	77.92	236	P	P	20 15 17.9	+1.3
	3.0nm,1.1s,baz=67,slow=7.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	88.14	283	P	P	20 16 09.6	0.0
	0.7nm,0.9s,baz=95,slow=3.2,SNR=2.7						

*IDC **13** 20:10:59.5±1.8, 14°.43N×122°.84E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=74.2km s-min=20.1km az=52.0*

*ISCJB **13** 20:11:03.7±0.6, 14°.95N±0°.05×122°.92E±0°.08, h28km, mb3.7/5, Error ellipse: s-maj=11.7km s-min=5.6km az=155.7*

*MAN **13** 20:11:04, 14°.92N×122°.88E, h54km, mb5.0, ML3.9, MS4.0*

MAN INTENSITY III - GUINAYANGAN QUEZON.

ISC 13 20:11:04.9±1.1, 14°.92N±0°.05×122°.89E±0°.07, h28km, n19, σ1°37/18, mb3.6/5, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	1.50	303	*e*P	Pn	20 11 27.8	-2.3
BALP				*e*S	Sn	20 11 48.5	-0.2
AUQP	**San Andres**	1.60	187	*e*P	Pb	20 11 31.8	-2.1
AUQP				*e*S	Sb	20 11 54.3	+0.5
PVCP	**Virac**	1.80	137	⇓*i*P	Pn	20 11 33.3	-0.8
TGY	**Tagaytay City**	2.06	247	⇑*i*P	Pn	20 11 37.4	-0.3
PALP	**Palanan**	2.17	348	⇓*i*P	Pn	20 11 38.9	-0.4
CAUP	**Cauayan**	2.26	333	*e*P	Pn	20 11 40.2	-0.1
OTRP	**Odiongan**	2.68	198	*e*P	Pn	20 11 45.3	-1.0
CVP	**Callao Caves**	2.95	340	*e*P	Pn	20 11 49.7	-0.2
CNP	**Catarman**	2.95	144	*e*

PAU	**Pauzhetka**	**2.05**	**15**	PN	**Pn**	**20 29 40.2 +0.5**
PAU				S	**Sn**	**20 30 05.3 +1.2**
PAU	**Pauzhetka**	**2.05**	**15**	*i* P	**Pn**	**20 29 40.2 +0.5**
PAU				*i* S	**Sn**	**20 30 05.3 +1.2**
MIPR	**Malaya Ipel'ka**	**2.84**	**10**	*e*P	**Pn**	**20 29 51.3 +0.8**
ASAK	**Asacha**	**3.15**	**22**	*e*P	**Pn**	**20 29 55.6 +0.8**
MTVR	**Mutnovka**	**3.31**	**24**	*e*P	**Pn**	**20 29 57.2 +0.1**
MTVR				*e*S	**Sn**	**20 30 35.1 -0.1**
GRL	**Gorelyy**	**3.34**	**23**	*e*P	**Pn**	**20 29 58.0 +0.5**
GRL				*e*S	**Sn**	**20 30 35.8 -0.2**
RUS	**Russkaya**	**3.36**	**28**	PN	**Pn**	**20 29 57.0 -0.6**
RUS				S	**Sn**	**20 30 35.5 -0.7**
RUS	**Russkaya**	**3.36**	**28**	*e*P	**Pn**	**20 29 57.0 -0.6**
RUS				*e*S	**Sn**	**20 30 35.5 -0.7**
APC	**Apacha**	**3.52**	**12**	*e*P	**Pn**	**20 30 01.5 +1.7**
APC				*e*S	**Sn**	**20 30 42.1 +1.9**
PEA0B	**Petropavlovsk-**	**3.79**	**16**	*e*Pn	**Pn**	**20 30 05.0 +1.6**
PEA0B				*e*Sn	**Sn**	**20 30 44.8 -1.9**
PETK	**Petropavlovsk-**	**3.79**	**16**	PN	**Pn**	**20 30 04.9 +1.5**
PETK				S	Sn	20 30 53.3 +6.6
PETK				pmax	pmax	
	comp=Z,15nm,0.3s					
PETK				smax	smax	
	comp=N,8.0nm,0.3s					
PETK	**Petropavlovsk-**	**3.79**	**16**	P	**Pn**	**20 30 04.9 +1.5**
PETK				S	Sn	20 30 53.3 +6.6
PETK	**Petropavlovsk-**	**3.79**	**16**	P	**Pn**	**20 30 04.9 +1.5**
	comp=N,15nm,0.3s,baz=178,slow=14,SNR=117					
PETK				S	Sn	20 30 53.3 +6.6
	comp=N,7.5nm,0.3s,baz=224,slow=20,SNR=2.5					
PETK				LR	LR	20 31 55.6
	comp=N,3μm,19.1s,baz=203,slow=45					
PET	**Petropavlovsk**	**3.92**	**24**	⇑*i*PN	**Pn**	**20 30 06.2 +1.0**
PET				*e*S	**Sn**	**20 30 52.5 +2.5**
PET				pmax	pmax	
	comp=Z,308nm,0.7s					
PET				smax	smax	
	comp=N,2μm,0.7s					
PET	**Petropavlovsk**	**3.92**	**24**	*e*P	**Pn**	**20 30 06.3 +1.0**
PET				*e*S	**Sn**	**20 30 48.9 -1.1**
UGLR	**Uglovaya**	**4.13**	**24**	*e*P	**Pn**	**20 30 09.9 +1.6**
UGLR				*e*S	**Sn**	**20 30 54.8 -0.6**
KOK	**Koryaka**	**4.16**	**23**	*i* P	**Pn**	**20 30 11.3 +2.6**
AVH	**Avacha**	**4.16**	**23**	*e*P	**Pn**	**20 30 10.9 +2.2**
SMAR	**Somma**	**4.18**	**24**	*e*P	**Pn**	**20 30 10.8 +1.8**
KRER	**Koryakskii**	**4.20**	**23**	*e*P	**Pn**	**20 30 11.3 +2.0**
SDLR	**Sedlovina**	**4.21**	**24**	*e*P	**Pn**	**20 30 10.5 +1.1**
GNL	**Ganaly**	**4.39**	**15**	*e*P	**Pn**	**20 30 13.8 +1.9**
SPN	**Mys Shipunski**	**4.42**	**34**	PN	**Pn**	**20 30 12.1 0.0**
SPN	**Mys Shipunski**	**4.42**	**34**	*e*P	**Pn**	**20 30 12.1 0.0**
SPN				*e*S	**Sn**	**20 31 00.3 -2.0**
KII	**Karymskiy**	**5.04**	**24**	*e*P	**Pn**	**20 30 22.3 +1.6**
KII				*e*S	**Sn**	**20 31 17.3 -0.4**
MKZ	**Mys Kozlova**	**6.20**	**33**	PN	**Pn**	**20 30 35.6 -0.9**
MKZ	**Mys Kozlova**	**6.20**	**33**	*e*P	**Pn**	**20 30 35.6 -0.9**
MKZ				*e*S	**Sn**	**20 31 41.8 -4.1**
ESO	**Esso**	**6.66**	**13**	PN	**Pn**	**20 30 45.6 +2.7**
ESO	**Esso**	**6.66**	**13**	*e*P	**Pn**	**20 30 45.6 +2.7**
KMNR	**Kamenistaya**	**6.79**	**21**	*e*P	**Pn**	**20 30 46.8 +2.0**
KUR	**Kuril'sk**	**6.96**	**235**	*c i*PN	**Pn**	**20 30 49.6 +2.6**
KUR				*i* S	**Sn**	**20 32 08.0 +3.2**
KUR				pmax	pmax	
	comp=N,61nm,0.6s					
KUR				pmax	pmax	
	comp=Z,121nm,0.7s					
KUR				pmax	pmax	
	comp=E,36nm,0.6s					
KUR				smax	smax	
	comp=E,174μm,1.0s					
KUR				smax	smax	
	comp=N,105μm,0.5s					
KUR				MLR	MLR	
	comp=N,771nm,18.0s					
KUR				MLR	MLR	
	comp=Z,723nm,18.0s					
KPT	**Kopyto**	**6.98**	**20**	*e*P	**Pn**	**20 30 48.7 +1.3**
KOZ	**Kozyrevsk**	**6.99**	**18**	*e*P	**Pn**	**20 30 49.2 +1.7**
KIRR	**Kirishev**	**7.00**	**21**	*e*P	**Pn**	**20 30 49.4 +1.8**
KOZR	**Kozyr**	**7.01**	**18**	PN	**Pn**	**20 30 49.2 +1.6**
BZMR	**Bezymyannaya**	**7.02**	**21**	*e*P	**Pn**	**20 30 49.0 +1.1**
BZGR	**Bezymyannyi-Gr**	**7.07**	**22**	*e*P	**Pn**	**20 30 51.2 +2.6**
ZLN	**Zelenaya**	**7.17**	**22**	*e*P	**Pn**	**20 30 51.2 +1.3**
SRDR	**Sredinnyy**	**7.21**	**17**	*e*P	**Pn**	**20 30 53.2 +2.8**
KRSR	**Krestovskiy**	**7.29**	**21**	*e*P	**Pn**	**20 30 53.1 +1.5**
BDR	**Baidarnaya**	**7.76**	**22**	*e*P	**Pn**	**20 30 59.4 +1.4**
SRKR	**Sorokina**	**7.83**	**22**	*e*P	**Pn**	**20 31 00.1 +1.1**
SMKR	**Semkarok**	**7.84**	**23**	*e*P	**Pn**	**20 31 00.2 +1.1**
KBTR	**Krutoberegovo**	**7.90**	**29**	PN	**Pn**	**20 30 59.8 -0.1**
KBTR	**Krutoberegovo**	**7.90**	**29**	*e*P	**Pn**	**20 30 59.8 -0.1**
KBG	**Krutoberegovo**	**7.91**	**28**	*e*S	**Sn**	**20 32 31.4 +3.5**
BKI	**Bering**	**8.38**	**43**	PN	**Pn**	**20 31 04.5 -1.8**
BKI	**Bering**	**8.38**	**43**	*e*P	**Pn**	**20 31 04.5 -1.8**
YUK	**Yuzh-Kuril'sk**	**8.82**	**236**	⇓*i*PN	**Pn**	**20 31 13.9 +1.3**
YUK				*i* S	**Sn**	**20 32 54.7 +4.1**
YUK				pmax	pmax	
	comp=N,86nm,0.2s					
YUK				pmax	pmax	
	comp=E,133nm,0.2s					
YUK				pmax	pmax	
	comp=Z,271nm,0.5s					
YUK				MLR	MLR	
	comp=E,769nm,16.0s					
UGL	**Uglegorsk**	**9.11**	**273**	*e*PN	Pn	20 31 21.0 +4.6
UGL				pmax	pmax	
	comp=Z,164nm,0.9s					
UGL				pmax	pmax	
	comp=Z,500nm,3.0s					
UGL				MLR	MLR	
	comp=N,2μm,14.0s					
UGL				MLR	MLR	
	comp=E,2μm,14.0s					
UGL				MLR	MLR	
	comp=Z,2μm,14.0s					
YSS	**Yuzh-Sakhalins**	**9.19**	**259**	⇑*e*PN	Pn	20 31 21.5 +4.0
YSS				pmax	pmax	
	comp=N,40nm,1.0s					
YSS				pmax	pmax	
	comp=E,120nm,1.0s					
YSS				pmax	pmax	
	comp=Z,90nm,1.0s					
ASAJ	**Asahikawa**	**10.62**	**245**	P	**Pn**	**20 31 39.5 +2.3**
	comp=Z,14nm,0.8s					
ASAJ				S	Sn	20 33 49.6 +15
ASAJ	**Asahikawa**	**10.62**	**245**	P	**Pn**	**20 31 39.5 +2.3**
	comp=Z,3.3nm,0.3s,baz=72,slow=13,SNR=34					
ASAJ				S	Sn	20 33 49.6 +15
	comp=Z,0.3nm,0.3s,baz=287,slow=19,SNR=3.9					
ASAJ				LR	LR	20 35 23.1
	comp=Z,745nm,19.9s,baz=20,slow=36					
FX1	**Attu Island--F**	**11.31**	**66**	*e*Pn	**Pn**	**20 31 44.7 -1.8**
FX1				S	Sn	20 33 38.0 -13
FX1	**Attu Island--F**	**11.31**	**66**	P	Pn	20 31 44.2 -2.3
	comp=Z,3.0nm,0.3s,baz=164,slow=5.3,SNR=43					
FX1				S	Sn	20 33 38.0 -13
	comp=Z,12nm,0.3s,baz=307,slow=23,SNR=13					
FX1				LR	LR	20 35 48.7
	comp=Z,309nm,21.6s,baz=283,slow=35					
ERM	**Erimo**	**11.65**	**235**	*e*PN	**Pn**	**20 31 52.1 +0.9**
ERM	**Erimo**	**11.65**	**235**	*e*Pn	**Pn**	**20 31 51.2 0.0**
	comp=Z,55nm,0.5s					
SEY	**Seymchan**	**13.62**	**353**	*c i*P	**Pn**	**20 32 17.4 -0.6**
HABR	**Khabarovsk**	**13.78**	**274**	*de*P	**Pn**	**20 32 23.0 +2.8**
HABR				S	**Sn**	**20 34 53.8 +2.1**
HABR				pmax	pmax	
	comp=E,38nm,1.2s					
HABR				pmax	pmax	
	comp=Z,93nm,2.0s					
HABR				pmax	pmax	
	comp=N,29nm,2.0s					
HABR				MLR	MLR	
	comp=Z,832nm,16.0s					
KLR	**Kul'dur**	**15.78**	**278**	*e*P	**Pn**	**20 32 47.0 +0.3**
KLR				pmax	pmax	
	comp=E,68nm,1.6s					
KLR				pmax	pmax	
	comp=Z,50nm,1.6s					
KLR				MLR	MLR	
	comp=N,700nm,15.0s					
KLR				MLR	MLR	
	comp=E,900nm,15.0s					
KLR				MLR	MLR	
	comp=Z,1μm,15.0s					
USRK	**Ussuriysk Arra**	**17.21**	**261**	P	**Pn**	**20 33 04.6 -0.1**
	comp=Z,0.7nm,0.3s,baz=63,slow=12,SNR=17					
USRK				LR	LR	20 39 24.1
	comp=Z,195nm,19.0s,baz=211,slow=36					
MAT	**Matsushiro**	**18.27**	**232**	P	**P**	**20 33 17.5 -0.2**
MAT				S	**S**	**20 36 44.0 -0.4**
MJAR	**Matsushiro Arr**	**18.27**	**232**	P	**P**	**20 33 17.2 -0.5**
MJAR	**Matsushiro Arr**	**18.27**	**232**	P	**P**	**20 33 17.2 -0.5**
	comp=Z,1.1nm,0.3s,baz=25,slow=9.9,SNR=48					
MJAR				LR	LR	20 41 08.2
	comp=Z,332nm,19.7s,baz=55,slow=40					
MDJ	**Mudanjiang**	**18.58**	**265**	P	**Pn**	**20 33 22.4 +0.8**
MDJ				sP	**sP**	**20 33 35.8 -0.8**
MDJ				S	**S**	**20 36 52.4 +1.9**
MDJ				pmax	pmax	
	comp=Z,37nm,1.1s					
MDJ				pmax	pmax	
	comp=Z,95nm,3.8s					
MDJ				LR	LR	
	comp=N,300nm,23.0s					
MDJ				LR	LR	
	comp=E,150nm,27.4s					
MDJ				LR	LR	
	comp=Z,350nm,23.0s					
MDJ	**Mudanjiang**	**18.58**	**265**	*e*P	**P**	**20 33 20.8 -0.2**
	comp=Z,39nm,1.0s					
YAK	**Yakutsk**	**19.23**	**321**	*e*P	**P**	**20 33 27.3 -0.6**
YAK				*e*S	**S**	**20 37 00.8 -2.5**
YAK				pmax	pmax	
	comp=Z,88nm,1.5s					
YAK				pmax	pmax	
	comp=N,19nm,1.3s					
YAK				pmax	pmax	
	comp=E,31nm,1.2s					
YAK				pmax	pmax	
	comp=Z,67nm,1.2s					
YAK				pmax	pmax	
	comp=N,38nm,1.5s					
YAK				pmax	pmax	
	comp=E,109nm,1.6s					
YAK				smax	smax	
	comp=N,68nm,2.0s					
YAK				smax	smax	
	comp=E,45nm,1.6s					
YAK				MLR	MLR	
	comp=Z,576nm,24.0s					
YAK				MLR	MLR	
	comp=N,507nm,24.0s					
YAK				MLR	MLR	
	comp=E,375nm,20.0s					
CLNS	**Chul'man**	**19.90**	**304**	*e*P	**Pn**	**20 33 39.6 +2.3**
CLNS				pmax	pmax	
	comp=Z,110nm,0.8s					
CLNS				pmax	pmax	
	comp=E,67nm,0.9s					
CLNS				pmax	pmax	
	comp=N,69nm,1.3s					
CLNS				pmax	pmax	
	comp=Z,27nm,1.1s					
CLNS				pmax	pmax	
	comp=E,18nm,1.0s					
CLNS				pmax	pmax	
	comp=N,48nm,1.5s					
CLNS				MLR	MLR	
	comp=N,256nm,15.0s					
CLNS				MLR	MLR	
	comp=Z,787nm,19.0s					
CLNS				MLR	MLR	
	comp=E,467nm,19.0s					
HIA	**Hailar**	**23.46**	**283**	*e*P	**P**	**20 34 13.4 +0.3**
	comp=E,17nm,0.9s					
KSRS	**Korea Array**	**23.50**	**250**	P	**P**	**20 34 12.9 -0.6**
	comp=E,15nm,0.9s,baz=55,slow=8.9,SNR=42					
KSRS				PcP	**PcP**	**20 37 57.7 -0.4**
	comp=E,1.3nm,0.7s,baz=344,slow=1.4,SNR=4.8					
KSRS				LR	LR	20 43 51.6
	comp=E,278nm,18.5s,baz=50,slow=38					
KSAR	**Wonju Array Be**	**23.53**	**250**	P	**P**	**20 34 12.9 -0.9**
KSAR				PcP	**PcP**	**20 37 57.7 -0.5**
JNU	**Nakatsue**	**24.79**	**238**	P	**P**	**20 34 25.7 +0.3**
JNU	**Nakatsue**	**24.79**	**238**	P	**P**	**20 34 25.7 +0.3**
	comp=E,44nm,0.9s,baz=39,slow=7.3,SNR=23					
JNU				LR	LR	20 44 24.4
	comp=E,118nm,20.3s,baz=139,slow=37					
TIXI	**Tiksi**	**25.46**	**340**	*e*P	**P**	**20 34 28.8 -2.3**
TIXI				pmax	pmax	
	comp=Z,15nm,1.2s					
BJI	**Beijing**	**29.49**	**267**	P	**P**	**20 35 08.6 +1.0**
BJI				S	**S**	**20 40 00.8 +1.8**
BJI				pmax	pmax	
	comp=Z,10.0nm,0.4s					
BJI				pmax	pmax	
	comp=Z,84nm,3.6s					
BJI				LR	LR	
	comp=N,340nm,20.1s					
BJI				LR	LR	
	comp=E,270nm,18.8s					
BJI				LR	LR	
	comp=Z,170nm,22.2s					
IM04	**Indian Mountai**	**30.41**	**38**	*e*P	**P**	**20 35 15.1 -0.4**
IMA2	**Indian Mountai**	**30.46**	**38**	*e*P	**P**	**20 35 16.4 +0.3**
HHC	**Hu-ho-hao-te**	**32.08**	**272**	*e*P	**P**	**20 35 30.3 -0.2**
HHC				pP	**pP**	**20 35 40.3 -1.7**
HHC				PP	**PnPn**	**20 36 37.1 +0.2**
HHC				S	**S**	**20 40 39.3 -0.4**
HHC				sS	**sS**	**20 40 57.6 -1.3**
HHC				ScP	**ScP**	**20 42 00.0 +1.1**
HHC				SS	**SnSn**	**20 42 36.8 +4.8**
HHC				ScS	**ScS**	**20 45 57.8 +0.1**
HHC				pmax	pmax	
	comp=Z,26nm,0.7s					
HHC				pmax	pmax	
	comp=Z,140nm,5.4s					
HHC				LR	LR	
	comp=N,870nm,14.2s					
HHC				LR	LR	
	comp=E,610nm,14.7s					
HHC				LR	LR	
	comp=Z,830nm,13.3s					
SONM	**Songino Array**	**32.32**	**286**	P	**P**	**20 35 31.5 -1.1**
SONM				PcP	**PcP**	**20 38 19.1 -0.6**
SONM	**Songino Array**	**32.32**	**286**	P	**P**	**20 35 31.5 -1.1**
	comp=Z,0.3nm,0.3s,baz=92,slow=10,SNR=2.6					
SONM				PcP	**PcP**	**20 38 19.1 -0.6**
	comp=Z,2.8nm,0.8s,baz=109,slow=1.1,SNR=6.7					
SONM				LR	LR	20 50 03.4
	comp=Z,361nm,18.6s,baz=56,slow=39					
NJ2	**Nanjing**	**32.66**	**252**	*e*P	**P**	**20 35 37.3 +1.8**
COLA	**College**	**32.80**	**41**	*e*P	**P**	**20 35 36.9 +0.4**
COLA				*e*		20 36 51.4
COLA				pmax	pmax	
	comp=Z,168nm,0.9s					
COLA	**College**	**32.80**	**41**	*e*P	**P**	**20 35 36.9 +0.4**
	comp=Z,168nm,0.9s					
COLA				*e*PP	**PP**	**20 36 51.4 +0.5**
ILAR	**Eielson Array**	**33.22**	**41**	P	**P**	**20 35 39.8 -0.3**
ILAR	**Eielson Array**	**33.22**	**41**	P	**P**	**20 35 39.8 -0.3**
	comp=Z,11nm,0.8s,baz=254,slow=7.8,SNR=114					
ILAR				LR	LR	20 48 18.9
	comp=Z,139nm,21.6s,baz=285,slow=35					
ZAK	**Zakamensk**	**33.34**	**292**	*e*P	**P**	**20 35 41.0 -0.5**
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.1s					
MENT	**Mentasta**	**34.72**	**44**	*e*P	**P**	**20 35 52.8 -0.5**
EGAK	**Eagle**	**35.67**	**41**	*e*P	**P**	**20 36 01.1 -0.2**
	comp=Z,42nm,0.9s					
DAWY	**Dawson**	**36.51**	**42**	*e*P	**P**	**20 36 08.2 -0.4**
DAWY				*e*PcP	**PcP**	**20 38 31.6 +0.3**
HYT	**Haines Junctio**	**37.98**	**47**	*e*P	**P**	**20 36 22.0 +0.8**
INK	**Inuvik**	**38.31**	**34**	*e*P	**P**	**20 36 24.4 +0.8**
	comp=Z,28nm,1.3s					
INK				*e*PcP	**PcP**	**20 38 36.8 +0.2**
SKAG	**Skagway**	**39.40**	**49**	*e*P	**P**	**20 36 33.0 +0.2**
LZH	**Lanzhou**	**39.75**	**270**	*e*P	**P**	**20 36 37.1 +0.8**
LZH				pP	**pP**	**20 36 46.6 -1.4**
LZH				sP	**sP**	**20 36 50.8 -2.2**
LZH				PP	**PnPn**	**20 38 14.3 +2.9**
LZH				S	**S**	**20 42 34.5 -2.8**
LZH				pmax	pmax	
	comp=Z,17nm,1.0s					
LZH				pmax	pmax	
	comp=Z,110nm,4.2s					
LZH				LR	LR	
	comp=N,230nm,15.4s					
LZH				LR	LR	
	comp=E,380nm,15.6s					
LZH				LR	LR	
	comp=Z,460nm,17.3s					
GTA	**Gaotai**	**40.48**	**278**	P	**P**	**20 36 42.3 +0.1**
GTA				pP	**pP**	**20 36 52.3 -1.6**
GTA				sP	**sP**	**20 36 56.6 -2.3**
GTA				S	**S**	**20 42 48.1 +0.1**
GTA				sS	**sS**	**20 43 04.8 -2.7**
GTA				pmax	pmax	
	comp=Z,3.0nm,0.8s					
GTA				pmax	pmax	
	comp=Z,78nm,4.3s					
GTA				LR	LR	
	comp=N,210nm,14.2s					
GTA				LR	LR	
	comp=E,390nm,15.7s					
GTA				LR	LR	
	comp=Z,490nm,14.7s					
DLBC	**Dease Lake**	**42.33**	**49**	*e*P	**P**	**20 36 57.6 +0.5**
DLBC				*e*PcP	**PcP**	**20 38 50.4 +0.6**
ZAA0	**Zalesovo Array**	**42.61**	**304**	*e*P	**P**	**20 36 58.0 -1.3**
ZALV	**Zalesovo Beam**	**42.61**	**304**	*i* P	**P**	**20 36 58.7 -0.6**
ZALV				pmax	pmax	
	comp=Z,3.0nm,0.9s					
ZALV	**Zalesovo Beam**	**42.61**	**304**	P	**P**	**20 36 58.2 -1.1**
ZALV				PcP	**PcP**	**20 38 50.9 +0.1**
ZALV	**Zalesovo Beam**	**42.61**	**304**	P	**P**	**20 36 58.2 -1.1**
	comp=Z,2.8nm,0.9s,baz=58,slow=8.0,SNR=9.3					
ZALV				PcP	**PcP**	**20 38 50.9 +0.1**
	comp=Z,5.8nm,0.9s,baz=63,slow=3.6,SNR=14					
ZALV				LR	LR	20 56 01.0
	comp=Z,136nm,18.2s,baz=70,slow=38					
CD2	**Chengdu**	**43.04**	**264**	*e*P	**P**	**20 37 04.8 +1.7**
CD2				pP	**pP**	**20 37 15.3 +0.4**
CD2				sP	**sP**	**20 37 19.6 -0.3**
CD2				PP	**PP**	**20 38 47.6 +4.1**
CD2				S	**S**	**20 43 27.3 +1.4**
CD2				sS	**sS**	**20 43 44.5 -1.0**
CD2				SS	**SS**	**20 46 33.3 -5.5**
CD2				pmax	pmax	
	comp=Z,30nm,0.8s					
CD2				pmax	pmax	
	comp=Z,80nm,5.8s					
CD2				LR	LR	
	comp=N,260nm,17.8s					
CD2				LR	LR	
	comp=E,210nm,16.6s					
CD2				LR	LR	
	comp=Z,200nm,17.8s					
NVS	**Novosibirsk**	**43.09**	**306**	⇓*i*P	**P**	**20 37 02.3 -0.9**
NVS				*i*		20 37 21.2
NVS				*i*		20 38 43.1
NVS				*e*S	**S**	**20 43 20.9 -5.0**
NVS				pmax	pmax	
	comp=Z,13nm,1.3s					
NVS				pmax	pmax	
	comp=N,7.0nm,1.5s					
NVS				pmax	pmax	
	comp=E,8.0nm,1.3s					
NVS				pmax	pmax	
	comp=Z,10.0nm,1.0s					
NVS				pmax	pmax	
	comp=N,3.0nm,1.4s					
NVS				pmax	pmax	
	comp=E,8.0nm,1.2s					
NVS				smax	smax	
	comp=N,12nm,2.2s					
NVS				smax	smax	
	comp=E,19nm,2.6s					
GYA	**Guiyang**	**44.19**	**257**	*e*P	**P**	**20 37 14.3 +1.8**
GYA				pP	**pP**	**20 37 24.6 +0.3**
GYA				sP	**sP**	**20 37 30.4 +1.1**
GYA				PP	**PcP**	**20 38 58.3 +1.6**
GYA				ScP	**ScP**	**20 42 47.0 +2.1**
GYA				S	**S**	**20 43 42.9 +0.1**
GYA				sS	**sS**	**20 44 01.3 -1.2**
GYA				SS	SS	20 46 54.0 -7.6
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
GYA				pmax	pmax	
	comp=Z,90nm,4.8s					
GYA				LR	LR	
	comp=N,540nm,17.8s					
GYA				LR	LR	
	comp=E,460nm,16.9s					
GYA				LR	LR	
	comp=Z,510nm,16.7s					
WMQ	**Urumqi**	**45.75**	**290**	*e*P	**P**	**20 37 26.6 +1.9**
WMQ				PcP	**PcP**	**20 39 03.3 +1.5**
WMQ				PP	**PP**	**20 39 14.5 +2.3**
WMQ				ScP	**ScP**	**20 42 53.5 +2.4**
WMQ				PcS	**PcS**	**20 42 56.9 +0.9**
WMQ				S	**S**	**20 44 06.8 +1.7**
WMQ				sS	**sS**	**20 44 23.1 -1.7**
WMQ				SS	**SS**	**20 47 23.4 -6.0**
WMQ				pmax	pmax	
	comp=Z,6.0nm,0.8s					
WMQ				pmax	pmax	
	comp=Z,73nm,4.0s					
WMQ				LR	LR	
	comp=N,140nm,20.0s					
WMQ				LR	LR	
	comp=E,130nm,22.0s					
WMQ				LR	LR	
	comp=Z,120nm,18.0s					
BBB	**Bella Bella**	**45.96**	**56**	LR	LR	20 55 11.1
	comp=Z,70nm,19.2s,baz=295,slow=34					
MK31	**Makanchi Array**	**47.42**	**296**	*e*P	**P**	**20 37 37.1 -0.5**
MK31				*e*		20 39 08.0
MK31	**Makanchi Array**	**47.42**	**296**	*e*P	**P**	**20 37 37.1 -0.5**
MK31				*e*PcP	**PcP**	**20 39 08.0 +0.4**
MKAR	**Makanchi Array**	**47.42**	**296**	*c e*P	**P**	**20 37 37.2 -0.4**
MKAR				pmax	pmax	
	comp=Z,4.0nm,0.8s					
MKAR	**Makanchi Array**	**47.42**	**296**	P	**P**	**20 37 37.0 -0.7**
MKAR				PcP	**PcP**	**20 39 06.8 -0.7**
MKAR	**Makanchi Array**	**47.42**	**296**	P	**P**	**20 37 37.0 -0.7**
	comp=Z,4.3nm,0.8s,baz=58,slow=6.9,SNR=22					
MKAR				PcP	**PcP**	**20 39 06.8 -0.7**
	comp=Z,3.6nm,0.9s,baz=46,slow=5.2,SNR=4.3					
MKAR				LR	LR	20 59 01.0
	comp=Z,566nm,18.5s,baz=34,slow=38					
YKA	**Yellowknife Ar**	**47.59**	**39**	P	**P**	**20 37 38.8 +0.1**
YKA				pP	**pP**	**20 37 50.8 +0.2**
YKA	**Yellowknife Ar**	**47.59**	**39**	P	**P**	**20 37 38.8 +0.1**
	comp=Z,11nm,1.0s,baz=297,slow=7.7,SNR=18					
YKA				pP	**pP**	**20 37 50.7 +0.2**
	comp=Z,4.7nm,0.9s,baz=297,slow=7.9,SNR=6.1					
KMI	**Kunming**	**47.63**	**259**	P	**P**	**20 37 39.6 -0.2**
KMI				pP	**pP**	**20 37 50.3 -1.4**
KMI				sP	**sP**	**20 37 55.5 -1.2**
KMI				S	**S**	**20 44 31.8 -0.8**
KMI				sS	**sS**	**20 44 51.4 -1.0**
KMI				SS	**SS**	**20 47 58.1 -2.7**
KMI				pmax	pmax	
	comp=Z,6.0nm,1.4s					
KMI				pmax	pmax	
	comp=Z,51nm,4.8s					
KMI				LR	LR	
	comp=N,590nm,15.3s					
KMI				LR	LR	
	comp=E,350nm,15.3s					
KMI				LR	LR	
	comp=Z,700nm,15.6s					
QIZ	**Qiongzhong**	**47.68**	**247**	P	**P**	**20 37 42.1 +2.1**
QIZ				S	**S**	**20 44 35.4 +2.5**
QIZ				LR	LR	
	comp=N,470nm,17.5s					
QIZ				LR	LR	
	comp=Z,800nm,15.6s					
BVAR	**Borovoye Array**	**50.62**	**309**	LR	LR	21 00 30.5
	comp=Z,230nm,20.6s,baz=80,slow=37					
BRVK	**Borovoye**	**50.66**	**309**	*e*P	**P**	**20 38 01.8 -0.5**
BRVK				*e*		20 39 19.1
BRVK				pmax	pmax	
	comp=Z,17nm,1.1s					
BRVK	**Borovoye**	**50.66**	**309**	*e*P	**P**	**20 38 01.8 -0.5**
	comp=Z,17nm,1.1s					
BRVK				*e*PcP	**PcP**	**20 39 19.1 -0.1**
NLWA	**Neilton Lookou**	**50.80**	**60**	*e*P	**P**	**20 38 04.0 +0.5**
	comp=Z,8.0nm,0.9s					
EDM	**Edmonton**	**53.05**	**49**	*e*P	**P**	**20 38 20.2 0.0**
EDM	**Edmonton**	**53.05**	**49**	*e*P	**P**	**20 38 20.2 0.0**
SVE	**Sverdlovsk**	**53.14**	**317**	⇑*e*P	**P**	**20 38 19.8 -0.9**
SVE				pmax	pmax	
	comp=Z,17nm,1.2s					
SVE				MLR	MLR	
	comp=Z,194nm,20.0s					

NEW	Newport	54.02	56	LR	LR	20 58 51.5
	comp=Z,67nm,20.0s,baz=237,slow=33					
NEW	Newport	54.02	56	⇑P	P	20 38 26.5 -0.9
	baz=54					
HUMO	Hull Mountain	54.12	64	eP	P	20 38 28.6 +0.4
	comp=Z,6.3nm,1.1s					
HUMO				ePcP	PcP	20 39 31.8 -0.6
ARU	Arti	54.30	317	c /P	P	20 38 27.5 -1.7
ARU				*PP	pP	20 38 41.7 +0.4
ARU				S	S	20 46 02.1 -1.4
ARU				SS	SS	20 49 42.2 -3.0
ARU				pmax	pmax	
	comp=Z,28nm,1.7s					
ARU				MLR	MLR	
	comp=Z,217nm,20.0s					
AAK	Ala-Archa	54.35	296	eP	P	20 38 29.2 -0.8
AAK				pmax	pmax	
	comp=Z,12nm,1.2s					
CHTO	Chiang Mai	54.61	257	eP	P	20 38 32.6 +0.7
CHTO				pmax	pmax	
	comp=Z,30nm,1.0s					
CHTO	Chiang Mai	54.61	257	eP	P	20 38 32.6 +0.7
	comp=Z,30nm,1.0s					
YBH	Yreka Blue Hor	54.80	65	eP	P	20 38 33.8 +0.6
	comp=Z,12nm,1.1s					
YBH	Yreka Blue Hor	54.80	65	LR	LR	20 57 30.8
	comp=Z,95nm,20.0s,baz=337,slow=31					
CM31	Chiang Mai Arr	54.87	257	eP	P	20 38 34.4 +0.5
	comp=Z,14nm,0.8s					
CMAR	Chiang Mai Arr	54.87	257	P	P	20 38 34.8 +0.9
CMAR	Chiang Mai Arr	54.87	257	P	P	20 38 34.8 +0.9
	comp=Z,12nm,0.8s,baz=26,slow=7.3,SNR=75					
WALA	Waterton Lakes	55.24	53	eP	P	20 38 36.5 +0.3
	comp=Z,0.4nm,1.2s					
KSH	Kashi	55.39	292	eP	P	20 38 41.0 +3.5
KSH				pmax	pmax	
	comp=Z,3.0nm,0.6s					
KSH				pmax	pmax	
	comp=Z,96nm,6.0s					
BSMT	Bassoo Peak	55.51	55	eP	P	20 38 38.8 +0.4
	comp=Z,12nm,1.2s					
BSMT				ePcP	PcP	20 39 38.2 +0.3
WDC	Whiskeytown Da	55.61	66	eP	P	20 38 39.1 +0.2
WDC				pmax	pmax	
	comp=Z,6.0nm,1.0s					
WDC	Whiskeytown Da	55.61	66	eP	P	20 38 39.0 +0.2
	comp=Z,6.0nm,1.0s					
ARCES	ARCESS Array B	55.89	341	P	P	20 38 39.6 -0.9
ARCES	ARCESS Array B	55.89	341	P	P	20 38 39.6 -0.9
	comp=Z,5.5nm,1.0s,baz=27,slow=7.7,SNR=7.3					
ARCES				LR	LR	21 05 47.6
	comp=Z,192nm,20.2s,baz=29,slow=39					
A15A	Johnson Ranch,	55.90	53	⇑P	P	20 38 40.7 -0.4
	baz=56,SNR=6.3					
BMO	Blue Mountains	55.98	59	eP	P	20 38 41.9 +0.3
	comp=Z,11nm,1.3s					
B15A	Bradely Ranch,	56.40	53	⇓P	P	20 38 44.4 -0.2
	baz=56					
SLMT	Seeley Lake	56.58	55	eP	P	20 38 46.1 +0.2
	comp=Z,6.4nm,0.9s					
MSO	Missoula	56.60	55	⇑P	P	20 38 45.9 -0.1
	baz=56					
C15A	Salmond Ranch,	56.72	54	⇓P	P	20 38 47.5 +0.6
	baz=56,SNR=23					
WVOR	Wild Horse Val	56.74	62	eP	P	20 38 47.2 +0.1
WVOR				e		20 40 52.2
WVOR				pmax	pmax	
	comp=Z,11nm,1.0s					
WVOR	Wild Horse Val	56.74	62	eP	P	20 38 47.2 +0.1
	comp=Z,11nm,1.0s					
WVOR				ePP	PP	20 40 52.2 -1.0
CHMT	Chamberlain Mo	56.91	55	eP	P	20 38 48.1 -0.3
	comp=Z,7.0nm,1.4s					
A17A	Triple J Farms	56.97	52	⇓P	P	20 38 48.3 -0.3
	baz=57,SNR=9.2					
B17A	L&G Farms, Che	57.33	52	⇑P	P	20 38 51.4 +0.2
	baz=57					
FFC	Flin Flon	57.41	42	eP	P	20 38 52.2 +0.7
FFC				pmax	pmax	
	comp=Z,23nm,1.0s					
FFC	Flin Flon	57.41	42	eP	P	20 38 52.2 +0.7
	comp=Z,24nm,1.0s					
A18A	Metzger Ranch,	57.42	51	⇑P	P	20 38 51.7 -0.1
	baz=57					
MFID	Camas Ranch	57.72	59	⇑P	P	20 38 54.3 +0.3
	baz=58					
C17A	Wharram Farm,	57.77	53	⇑P	P	20 38 54.6 +0.4
	baz=58,SNR=7.9					
B18A	Beardsley Farm	57.79	52	⇓P	P	20 38 54.7 +0.3
	baz=58					
SUMG	Summit	57.82	5	eP	P	20 38 54.0 -0.6
SUMG				pmax	pmax	
	comp=Z,28nm,1.0s					
SUMG	Summit	57.82	5	eP	P	20 38 54.0 -0.6
	comp=Z,28nm,1.0s					
A19A	Klindworth Far	57.98	51	⇓P	P	20 38 55.9 +0.2
	baz=58					
LRM	Limekiln Ridge	58.03	55	eP	P	20 38 56.5 +0.2
	comp=Z,65nm,1.3s					
D17A	Six Diamond Ra	58.12	53	⇑P	P	20 38 56.9 +0.2
	baz=58,SNR=7.8					
B19A	Brinkman Farms	58.18	51	⇓P	P	20 38 57.4 +0.3
	baz=58					
HLID	Hailey	58.41	59	eP	P	20 38 59.8 +0.8
	comp=Z,11nm,1.2s					
HLID	Hailey	58.41	59	⇑P	P	20 38 59.6 +0.6
	baz=58					
A20A	Cobblestone Ra	58.42	50	⇓P	P	20 38 58.9 +0.2
	baz=58,SNR=5.2					
MCMT	McKenzie Canyo	58.46	57	eP	P	20 38 59.6 +0.3
	comp=Z,2.7nm,1.1s					
E17A	Martinsdale	58.47	54	⇓P	P	20 39 00.1 +0.8
	baz=58,SNR=8.2					
D18A	Linhart Farms,	58.55	53	⇓P	P	20 39 00.5 +0.8
	baz=58					
BOZ	Bozeman (W)	58.59	55	eP	P	20 39 00.9 +0.8
BOZ				pmax	pmax	
	comp=Z,22nm,1.5s					
BOZ	Bozeman (W)	58.59	55	eP	P	20 39 00.8 +0.8
	comp=Z,22nm,1.5s					
C19A	Slack Wire Ran	58.59	52	⇓P	P	20 39 00.5 +0.5
	baz=58,SNR=9.7					
B20A	Solberg Farm,	58.66	51	⇑P	P	20 39 00.7 +0.3
	baz=58					
A21A	Bergtoll Ranch	58.85	50	⇑P	P	20 39 02.3 +0.6
	baz=59,SNR=7.9					
E18A	Harlowton	58.90	53	⇓P	P	20 39 03.3 +1.1
	baz=59					
F17A	Fitzpatrick Pl	58.94	54	⇓P	P	20 39 03.3 +0.8
	baz=59,SNR=7.3					
D19A	Cripps Ranch,	59.05	52	⇓P	P	20 39 03.7 +0.6
	baz=59					
C20A	Veseth Ranch,	59.14	51	⇑P	P	20 39 04.4 +0.7
	baz=59,SNR=9.4					
B21A	Ellsworth Farm	59.17	50	⇑P	P	20 39 04.8 +0.9
	baz=59					
G17A	Pierce Place,	59.28	55	⇑P	P	20 39 05.7 +0.8
	baz=59					
A22A	Carney Farms,	59.35	49	⇓P	P	20 39 05.4 +0.2
	baz=59,SNR=5.6					
H16A	Russell Place,	59.41	56	⇑P	P	20 39 06.5 +0.6
	baz=59					
F18A	Big Timber	59.44	54	⇑P	P	20 39 06.7 +0.8
	baz=59,SNR=16					
D20A	Manuel Ranch,	59.48	52	⇓P	P	20 39 06.9 +0.7
	baz=59,SNR=7.3					
NVAR	Mina Array Bea	59.50	65	P	P	20 39 06.9 +0.3
NVAR				PcP	PcP	20 39 54.5 +0.7
NVAR	Mina Array Bea	59.50	65	P	P	20 39 06.9 +0.3
	comp=Z,4.9nm,0.7s,baz=295,slow=7.3,SNR=34					
NVAR				PcP	PcP	20 39 54.5 +0.7
	comp=Z,0.6nm,0.6s,baz=288,slow=5.0,SNR=3.6					
NVAR				LR	LR	21 03 05.3
	comp=Z,48nm,18.9s,baz=275,slow=34					
C21A	Desert Coulee	59.53	51	⇑P	P	20 39 07.2 +0.8
	baz=59					
E19A	Rath Farm, Rou	59.56	53	⇑P	P	20 39 07.5 +0.8
	baz=59,SNR=6.3					
MLAC	Mammoth Lakes	59.71	66	⇑P	P	20 39 08.5 +0.4
	baz=60					
B22A	Reddig Ranch S	59.77	50	⇓P	P	20 39 08.9 +0.8
	baz=60					
I16A	Newdale	59.82	57	⇓P	P	20 39 09.9 +1.2
	baz=60					
E20A	Meyer Farm, Mu	59.87	53	⇑P	P	20 39 09.8 +1.0
	baz=60					
F19A	Roth Farm, Mol	59.88	54	⇑P	P	20 39 09.6 +0.7
	baz=60,SNR=13					
A23A	Redstone	59.88	49	⇓P	P	20 39 09.2 +0.3
	baz=60					
G18A	Lazy EL Ranch,	59.91	54	⇓P	P	20 39 09.5 +0.2
	baz=60					
H17A	Grant Village	59.97	56	eP	P	20 39 11.6 +1.8
H17A	Grant Village	59.97	56	⇑P	P	20 39 11.8 +2.0
	baz=60					
D21A	La Casta Ranch	60.08	52	⇑P	P	20 39 11.3 +1.0
	baz=60					
B23A	Brockton	60.16	49	⇓P	P	20 39 11.2 +0.5
	baz=60					
C22A	Vida	60.19	50	⇓P	P	20 39 11.2 +0.2
	baz=60					
RRI2	Red Ridge	60.26	57	eP	P	20 39 12.5 +0.7
	comp=Z,4.5nm,0.6s					
H18A	Shoshone NF, C	60.27	55	⇓P	P	20 39 12.7 +0.8
	baz=60					
MOOW	Moose Ponds	60.31	56	eP	P	20 39 12.6 +0.5
	comp=Z,7.1nm,1.2s					
F20A	Billings	60.33	53	⇑P	P	20 39 12.7 +0.7
	baz=60					
A24A	Westby	60.33	48	⇑P	P	20 39 12.5 +0.6
	baz=60					
TPAW	Teton Pass	60.37	57	eP	P	20 39 13.3 +0.8
	comp=Z,18nm,1.3s					
E21A	Keefer Ranch,	60.39	52	⇑P	P	20 39 13.4 +1.0
	baz=60,SNR=6.5					
D22A	Cohagen	60.44	51	⇓P	P	20 39 13.4 +0.7
	baz=60,SNR=6.2					
LOHW	Long Hollow	60.47	56	eP	P	20 39 14.2 +0.9
	comp=Z,5.6nm,0.3s					
C23A	Lambert	60.51	50	⇑P	P	20 39 13.8 +0.7
	baz=60					
REDW	Red Top Meadow	60.51	57	eP	P	20 39 14.0 +0.6
	comp=Z,23nm,1.3s					
DGMT	Dagmar	60.54	49	⇑P	P	20 39 13.9 +0.6
	baz=60					
H19A	Powell	60.64	55	⇑P	P	20 39 15.3 +1.1
	baz=60					
G20A	Bridger	60.68	54	⇓P	P	20 39 14.6 +0.1
	baz=60,SNR=9.0					
A25A	Svangstu Ranch	60.76	48	⇑P	P	20 39 15.4 +0.7
	baz=60					
I18A	Diamond G Ranc	60.84	56	⇓P	P	20 39 16.9 +1.2
	baz=61					
D23A	Lindsay	60.92	50	⇑P	P	20 39 16.8 +0.8
	baz=61					
E22A	Miles City	61.04	51	⇓P	P	20 39 17.4 +0.7
	baz=61					
R11A	Troy Canyon, C	61.16	64	eP	P	20 39 17.7 -0.2
R11A	Troy Canyon, C	61.16	64	⇓P	P	20 39 18.0 +0.1
	baz=61,SNR=17					
B25A	Knox Farm, Ray	61.19	48	⇓P	P	20 39 18.8 +1.0
	baz=61					
HWUT	Hardware Ranch	61.28	59	eP	P	20 39 18.9 +0.3
	comp=Z,9.0nm,1.1s					
H20A	Greybull	61.29	54	⇓P	P	20 39 18.8 +0.3
	baz=61					
A26A	Wade Farm, Ken	61.30	47	⇓P	P	20 39 19.0 +0.6
	baz=61					
E23A	Ismay	61.33	51	⇑P	P	20 39 19.6 +0.9
	baz=61,SNR=12					
F22A	Rosebud	61.33	52	⇑P	P	20 39 19.2 +0.4
	baz=61,SNR=5.6					
D24A	Glendive	61.40	50	⇑P	P	20 39 20.1 +0.9
	baz=61,SNR=8.0					
C25A	Freed Ranch, W	61.52	49	⇑P	P	20 39 20.9 +0.9
	baz=61					
DUG	Dugway	61.52	61	eP	P	20 39 20.1 -0.2
DUG				pmax	pmax	
	comp=Z,12nm,1.2s					
DUG	Dugway	61.52	61	eP	P	20 39 20.1 -0.2
	comp=Z,12nm,1.2s					
DUG	Dugway	61.52	61	⇓P	P	20 39 21.0 +0.8
	baz=61					
J19A	Crowheart	61.55	56	⇑P	P	20 39 21.1 +0.6
	baz=61					
MPMC	Manual Prospec	61.56	67	⇑P	P	20 39 20.9 +0.3
	baz=61,SNR=6.3					
I20A	Worland	61.58	55	⇑P	P	20 39 21.4 +0.8
	baz=61,SNR=5.3					
BW06	Boulder Array	61.61	57	eP	P	20 39 20.9 0.0
	comp=Z,14nm,1.2s					
PDAR	Pinedale Array	61.61	57	P	P	20 39 21.4 +0.5
PDAR				pP	pP	20 39 34.2 +1.0
PDAR	Pinedale Array	61.61	57	P	P	20 39 21.4 +0.5
	comp=Z,8.1nm,1.0s,baz=305,slow=3.1,SNR=45					
PDAR				pP	pP	20 39 34.2 +1.0
	comp=Z,4.2nm,0.9s,baz=307,slow=2.3,SNR=6.8					
BSC	Santa Cruz Isl	61.65	70	⇑P	P	20 39 22.0 +1.0
	baz=62					
FURC	Furnace Creek,	61.66	66	⇑P	P	20 39 21.8 +0.8
	baz=62					
G22A	Birney	61.69	53	⇑P	P	20 39 21.8 +0.6
	baz=62					
H21A	Big Horn, Sher	61.70	54	⇓P	P	20 39 21.9 +0.6
	baz=62,SNR=6.8					
E24A	Baker	61.79	51	⇑P	P	20 39 22.5 +0.6
	baz=62					
F23A	Volborg	61.80	52	⇓P	P	20 39 22.6 +0.6
	baz=62					
FRB	Frobisher Bay	61.82	21	LR	LR	21 05 08.2
	comp=Z,75nm,21.4s,baz=49,slow=35					
M17A	Scullys Gap (B	61.87	58	⇓P	P	20 39 23.0 +0.3
	baz=62					
L18A	Fontenelle, Gr	61.91	58	⇓P	P	20 39 23.5 +0.6
	baz=62					
BLG	Laguna Peak	61.92	70	⇓P	P	20 39 23.6 +0.7
	baz=62					
K19A	Absolon Red Bu	61.95	56	⇑P	P	20 39 23.4 +0.2
	baz=62					
J20A	Shoshoni	62.01	55	⇓P	P	20 39 24.0 +0.5
	baz=62					
C26A	Wahner Farm, P	62.01	48	⇓P	P	20 39 24.3 +1.0
	baz=62					
EDW2	Edwards Air Fo	62.05	68	⇓P	P	20 39 24.1 +0.2
	baz=62,SNR=6.3					
H22A	Clearmont	62.08	53	⇑P	P	20 39 24.5 +0.6
	baz=62					
SFJD	Kangerlussuaq	62.10	11	LR	LR	21 05 35.1
	comp=Z,82nm,21.3s,baz=340,slow=35					
I21A	Big Trails, Te	62.12	54	⇑P	P	20 39 24.7 +0.5
	baz=62,SNR=11					
A28A	Rude Farm, Bot	62.14	46	⇑P	P	20 39 24.9 +0.8
	baz=62					
G23A	Biddle	62.16	52	⇑P	P	20 39 24.8 +0.4
	baz=62,SNR=5.6					
L19A	Farson	62.17	57	⇑P	P	20 39 24.9 +0.2
	baz=62					
F24A	Ekalaka	62.21	51	⇑P	P	20 39 25.2 +0.5
	baz=62					
E25A	Miller Ranch,	62.28	50	⇑P	P	20 39 25.8 +0.6
	baz=62					
J21A	Lysite	62.35	55	⇑P	P	20 39 26.3 +0.5
	baz=62,SNR=9.5					
FINES	FINESS Array B	62.37	335	P	P	20 39 23.8 -1.6
FINES	FINESS Array B	62.37	335	P	P	20 39 23.8 -1.6
	comp=Z,2.6nm,0.9s,baz=36,slow=10,SNR=10					
FINES				LR	LR	21 09 38.5
	comp=Z,210nm,19.8s,baz=26,slow=39					
C27A	Sayler Ranch,	62.38	48	⇑P	P	20 39 26.7 +1.0
	baz=62					
B28A	Dugan Ranch, T	62.41	47	⇑P	P	20 39 26.8 +0.9
	baz=62					
GSC	Goldstone	62.48	67	eP	P	20 39 26.6 -0.1
GSC				pmax	pmax	
	comp=Z,6.0nm,0.9s					
GSC	Goldstone	62.48	67	eP	P	20 39 26.6 -0.1
	comp=Z,6.2nm,0.9s					
GSC	Goldstone	62.48	67	⇑P	P	20 39 26.8 +0.1
	baz=62,SNR=5.9					
I22A	9 Mile Ranch,	62.49	54	⇑P	P	20 39 27.5 +0.8
	baz=62,SNR=5.8					
SHPR	Sheep Range	62.65	65	eP	P	20 39 28.2 +0.4
	comp=Z,5.6nm,1.2s					
F25A	Bowman	62.65	51	⇑P	P	20 39 28.3 +0.6
	baz=62					
M19A	Rock Springs	62.68	57	⇑P	P	20 39 28.2 +0.1
	baz=62					
D27A	Center	62.79	49	⇓P	P	20 39 29.2 +0.7
	baz=62					
J22A	Midwest	62.82	54	⇓P	P	20 39 29.2 +0.3
	baz=63,SNR=11					
H24A	Dirks Ranch, A	62.91	52	⇑P	P	20 39 29.5 0.0
	baz=63					
TUQ	Turquoise Moun	62.92	66	⇓P	P	20 39 30.0 +0.3
	baz=63					
K21A	Alcova	62.95	55	⇓P	P	20 39 29.9 0.0
	baz=63,SNR=11					
CCUT	Cedar City	62.99	63	eP	P	20 39 30.8 +0.5
	comp=Z,7.2nm,1.0s					
MVU	Marysvale	63.01	62	eP	P	20 39 30.2 -0.1
	comp=Z,6.0nm,1.1s					
MSU	Marysvale	63.02	62	eP	P	20 39 31.0 +0.6
MSU				pmax	pmax	
	comp=Z,16nm,1.7s					
MSU	Marysvale	63.02	62	eP	P	20 39 31.0 +0.6
	comp=Z,16nm,1.7s					
HEC	Hector,Ludlow	63.09	67	⇑P	P	20 39 30.7 0.0
	baz=63,SNR=8.5					
F26A	Lodgepole	63.10	50	⇑P	P	20 39 31.0 +0.4
	baz=63					
G25A	Newell	63.18	51	⇑P	P	20 39 31.2 0.0
	baz=63					
MDND	Maddock	63.20	47	⇓P	P	20 39 31.9 +0.8
	baz=63					
ULM	Lac du Bonnet	63.20	43	P	P	20 39 30.8 -0.3
ULM	Lac du Bonnet	63.20	43	P	P	20 39 30.8 -0.3
	comp=Z,4.7nm,0.8s,baz=338,slow=5.3,SNR=4.5					
ULM				LR	LR	21 10 20.4
	comp=Z,118nm,18.6s,baz=328,slow=39					
M20A	Sweetwater, Wa	63.22	57	⇓P	P	20 39 32.1 +0.4
	baz=63					
E27A	Carson	63.24	49	⇓P	P	20 39 32.0 +0.4
	baz=63					
Q16A	Castle Valley	63.32	61	⇑P	P	20 39 32.6 +0.2
	baz=63					
K22A	Casper	63.32	55	⇑P	P	20 39 32.6 +0.3
	baz=63					
L21A	Rawlins	63.34	56	⇓P	P	20 39 32.6 +0.2
	baz=63,SNR=5.7					
MURC	Murrieta	63.40	69	⇓P	P	20 39 33.0 +0.3
	baz=63					
F27A	Lemmon	63.41	50	⇑P	P	20 39 32.9 +0.3
	baz=63					
I24A	Kuemmerle Ranc	63.49	53	⇑P	P	20 39 33.3 0.0
	baz=63					
H25A	Fruitdale	63.49	52	⇓P	P	20 39 33.4 +0.2
	baz=63					
G26A	Maurine	63.52	51	⇓P	P	20 39 33.7 +0.3
	baz=63,SNR=5.7					
GMRC	Granite Mounta	63.52	67	⇓P	P	20 39 33.7 0.0
	baz=63,SNR=7.5					
O19A	Miners Draw (B	63.53	58	⇑P	P	20 39 33.8 +0.2
	baz=63					
SRU	San Rafael	63.56	60	eP	P	20 39 34.2 +0.3
SRU				pmax	pmax	
	comp=Z,17nm,1.0s					
SRU	San Rafael	63.56	60	eP	P	20 39 34.2 +0.3
	comp=Z,17nm,1.0s					
M21A	Separation Pea	63.59	56	⇓P	P	20 39 34.4 +0.2
	baz=63					
RSSD	Black Hills	63.61	52	eP	P	20 39 34.6 +0.4
RSSD				pmax	pmax	
	comp=Z,25nm,1.1s					
RSSD	Black Hills	63.61	52	eP	P	20 39 34.6 +0.4
	comp=Z,25nm,1.1s					
N20A	Spence Gulch,	63.63	57	⇓P	P	20 39 35.3 +0.9
	baz=63,SNR=13					
K23A	Bowen Ranch, D	63.73	54	⇓P	P	20 39 35.2 +0.3
	baz=64					
G27A	Dupree	63.80	50	⇓P	P	20 39 35.1 -0.1
	baz=64					
L22A	Ellis Ranch, M	63.80	55	⇓P	P	20 39 36.4 +0.9
	baz=64					
J24A	Dixon Ranch, L	63.84	53	⇓P	P	20 39 35.4 -0.2
	baz=64					
I25A	Rochford	63.84	52	⇑P	P	20 39 35.7 0.0
	baz=64,SNR=7.6					
PFO	Pinyon Flat Ob	63.85	68	LR	LR	21 02 46.0
	comp=Z,75nm,20.2s,baz=345,slow=32					
PFO	Pinyon Flat Ob	63.85	68	⇑P	P	20 39 36.0 +0.2
	baz=64					
BELC	Belle Mtn. Jos	63.85	68	⇓P	P	20 39 35.9 0.0
	baz=64					
H26A	Fairpoint	63.91	51	⇑P	P	20 39 36.5 +0.5
	baz=64					
P19A	Cripple Cowboy	64.06	59	⇓P	P	20 39 37.4 +0.1
	baz=64,SNR=7.5					
N21A	Black Mountain	64.09	57	⇑P	P	20 39 37.3 -0.1
	baz=64					
OBN	Obninsk	64.12	326	P	P	20 39 35.0 -2.0
OBN						20 40 10.6
OBN				pmax	pmax	
	comp=Z,5.0nm,1.2s					
OBN				MLR	MLR	
	comp=Z,100nm,19.0s					
L23A	Garrett	64.13	55	⇑P	P	20 39 37.6 -0.1
	baz=64,SNR=5.4					
M22A	Cedar Creek Ra	64.15	56	⇑P	P	20 39 37.9 +0.1
	baz=64,SNR=6.8					
J25A	Sunshine Ranch	64.24	53	⇑P	P	20 39 38.2 0.0
	baz=64					
H27A	Howes	64.25	51	⇑P	P	20 39 38.5 +0.2
	baz=64					
IRM	Iron Mountain	64.26	67	⇑P	P	20 39 38.8 +0.4
	baz=64					
I26A	New Underwood	64.28	52	⇑P	P	20 39 38.5 +0.1
	baz=64					
MONP	Monument Peak	64.36	69	⇓P	P	20 39 39.5 +0.1
	baz=64					
W13A	Hualapai Mount	64.36	65	⇓P	P	20 39 39.6 +0.3
	baz=64,SNR=6.3					
U15A	North Rim	64.39	63	⇑P	P	20 39 39.8 +0.3
	baz=64,SNR=9.4					
BC3	Big Chuckawall	64.42	68	⇓P	P	20 39 39.7 +0.1
	baz=64					
M23A	Laramie	64.57	55	⇓P	P	20 39 40.7 +0.2
	baz=64					
N22A	Wattenberg Ran	64.64	56	⇓P	P	20 39 41.5 +0.4
	baz=64,SNR=7.9					
J26A	Sides Ranch, S	64.67	52	⇓P	P	20 39 41.5 +0.5
	baz=64					
DVTC	Desert V Tower	64.72	69	⇑P	P	20 39 41.7 +0.3
	baz=65					
H28A	Mission Ridge	64.75	50	⇓P	P	20 39 41.9 +0.4
	baz=64					
PDMCI	Parker Dam,Lak	64.76	66	⇓P	P	20 39 42.1 +0.5
	baz=65					
N23A	Red Feather La	64.86	56	⇓P	P	20 39 43.0 +0.5
	baz=65,SNR=7.2					
Y12C	Blythe	64.92	67	⇓P	P	20 39 43.0 +0.4
	baz=65					
Q20A	Ridgley Place,	64.92	59	⇑P	P	20 39 42.7 -0.1
	baz=65					
O22A	Kremmling	65.04	57	⇑P	P	20 39 44.0 +0.3
	baz=65					
K26A	Motz Farm, Whi	65.05	53	⇓P	P	20 39 43.5 0.0
	baz=65					
I28A	Midland	65.16	51	⇓P	P	20 39 44.2 +0.1
	baz=65					
GLA	Glamis	65.22	68	⇓P	P	20 39 45.0 +0.3
	baz=65					
J27A	Elkhorn Farm,	65.27	52	⇓P	P	20 39 45.2 +0.3
	baz=65					
P22A	Eagle	65.32	58	⇓P	P	20 39 45.6 +0.2
	baz=65					
PV01	Paradox Valley	65.33	60	eP	P	20 39 46.0 +0.4
	comp=Z,189nm,0.6s					
O23A	Lake Granby, G	65.35	57	⇑P	P	20 39 46.3 +0.6
	baz=65					
Q21A	Lamborn Mesa,	65.40	59	⇓P	P	20 39 46.4 +0.4
	baz=65,SNR=7.4					
R20A	Redvale	65.41	60	⇓P	P	20 39 46.2 +0.2
	baz=65					
N24A	Carr	65.47	55	⇑P	P	20 39 46.8 +0.4
	baz=65					
SMCO	Snowmass	65.50	58	eP	P	20 39 47.0 +0.2
	comp=Z,9.9nm,1.1s					
J28A	Allard Ranch,	65.54	51	⇓P	P	20 39 46.9 +0.2
	baz=65,SNR=5.6					
WUAZ	Wupatki	65.55	64	eP	P	20 39 47.1 +0.2
	comp=Z,7.2nm,1.2s					
WUAZ	Wupatki	65.55	64	⇑P	P	20 39 47.5 +0.5
	baz=65					
S20A	Disappointment	65.67	60	⇑P	P	20 39 48.0 +0.2
	baz=66,SNR=7.8					
Y14A	Wick

comp=Z,19nm,1.2s
ISCO Idaho Springs 65.81 57 eP P 20 39 49.4 +0.7
comp=Z,19nm,1.2s
ISCO Idaho Springs 65.81 57 ⇑P P 20 39 49.6 +0.9
baz=66
N25A Grover 65.91 55 ⇓P P 20 39 50.0 +0.8
baz=66
P23A Jefferson 65.98 57 ⇓P P 20 39 50.0 +0.1
baz=66
MVCO Mesa Verde 66.02 60 eP P 20 39 50.1 +0.1
comp=Z,12nm,1.2s
MVCO Mesa Verde 66.02 60 ⇓P P 20 39 50.4 +0.3
baz=66
S21A Coal Bank Pass 66.11 60 ⇑P P 20 39 51.7 +1.0
baz=66,SNR=10
NOA NORSAR Array B 66.23 342 P P 20 39 49.6 -1.2
NOA NORSAR Array B 66.23 342 P P 20 39 49.6 -1.2
comp=Z,0.6nm,0.6s,baz=27,slow=6.7,SNR=3.9
NOA LR LR 21 13 31.1
comp=Z,172nm,19.0s,baz=35,slow=40
X16A Lo Mia Camp, P 66.28 64 ⇓P P 20 39 52.3 +0.6
baz=66
R22A Saguache, Gunn 66.28 59 ⇓P P 20 39 52.8 +0.9
baz=66,SNR=8.6
Q23A Hartsel 66.32 57 ⇑P P 20 39 52.6 +0.6
baz=66
N26A Koester Ranch, 66.36 54 ⇑P P 20 39 52.7 +0.7
baz=66
O25A Wiggins 66.39 56 ⇓P P 20 39 52.4 +0.2
baz=66
K29A Lazy Trails An 66.48 51 ⇓P P 20 39 53.0 +0.3
baz=66
S22A 4UR Ranch, Cre 66.58 59 ⇑P P 20 39 54.4 +0.7
baz=66,SNR=12
U20A Newcomb 66.60 61 ⇓P P 20 39 54.0 +0.3
baz=66
Q24A Divide 66.65 57 ⇑P P 20 39 54.5 +0.3
baz=66
T21A Navajo Lake 66.72 60 ⇑P P 20 39 54.7 +0.2
baz=66
N27A Anderson Farm, 66.74 54 ⇓P P 20 39 54.9 +0.5
baz=66
W18A Petrified Fore 66.79 63 ⇓P P 20 39 55.6 +0.7
baz=67
P25A Willow Gulch B 66.79 56 ⇓P P 20 39 55.3 +0.4
baz=67
R23A Moffat 66.83 58 ⇑P P 20 39 55.7 +0.4
baz=67
L29A Maesberg Ranch 66.90 52 ⇑P P 20 39 55.4 0.0
baz=67
OGNE Ogallala 66.91 54 eP P 20 39 55.6 +0.1
comp=Z,43nm,1.0s
OGNE Ogallala 66.91 54 ⇓P P 20 39 56.1 +0.7
baz=67
M28A Bar X Bar Ranc 66.93 53 ⇓P P 20 39 56.0 +0.4
baz=67
V20A Brimhall 67.04 61 ⇑P P 20 39 56.8 +0.3
baz=67
U21A Nageezi 67.05 61 ⇑P P 20 39 57.1 +0.4
baz=67,SNR=6.2
T22A Edith 67.06 60 ⇓P P 20 39 57.4 +0.7
baz=67,SNR=7.9
X18A Snowflake 67.08 63 ⇓P P 20 39 57.5 +0.8
baz=67,SNR=5.2
Q25A Bedland, Calha 67.18 57 ⇓P P 20 39 57.8 +0.4
baz=67,SNR=6.5
R24A Sanders Place, 67.19 58 ⇓P P 20 39 57.9 +0.4
baz=67
214A Organ Pipe Nat 67.20 67 ⇑P P 20 39 57.8 +0.4
baz=67
P26A Davis Ranch, A 67.20 55 ⇑P P 20 39 58.1 +0.6
baz=67
SDCO Great Sand Dun 67.33 58 eP P 20 39 58.7 +0.3
comp=Z,10.0nm,1.4s
N28A Pribbeno Ranch 67.35 54 ⇓P P 20 39 58.5 +0.3
baz=67
W20A Ramah 67.49 62 ⇓P P 20 39 59.8 +0.4
baz=67
V21A Milan 67.51 61 ⇑P P 20 39 59.9 +0.4
baz=67
T23A Casias Ranch, 67.53 59 ⇑P P 20 40 00.3 +0.6
baz=67
U22A Llaves 67.54 60 ⇑P P 20 40 00.3 +0.6
baz=67
S24A Houchin Ranch, 67.56 58 ⇑P P 20 40 00.4 +0.5
baz=67,SNR=6.7
Q26A Hugo 67.57 56 ⇑P P 20 39 59.9 +0.1
baz=67
ECSD EROS Data Cent 67.62 48 eP P 20 39 59.3 -0.5
comp=Z,21nm,1.1s
R25A Fountain Ranch 67.71 57 ⇑P P 20 40 01.0 +0.4
baz=68
V22A San Miguel Ran 67.84 60 ⇑P P 20 40 01.7 0.0
baz=68
U23A El Rito 67.95 60 ⇓P P 20 40 03.1 +0.7
baz=68
S25A Robets Cordova 67.97 58 ⇑P P 20 40 02.7 +0.3
baz=68
R26A Arlington 68.05 56 ⇓P P 20 40 02.8 +0.1
baz=68,SNR=16
T24A Torres, Weston 68.06 58 ⇓P P 20 40 03.8 +0.8
baz=68
T25A Trinidad 68.36 58 ⇑P P 20 40 05.1 +0.2
baz=68,SNR=5.2
V23A Ortiz Mt. (NFS 68.38 60 ⇓P P 20 40 05.6 +0.6
baz=68
X21A Alamocita Cree 68.39 62 ⇑P P 20 40 06.0 +0.9
baz=68,SNR=13
R27A Eads 68.42 56 ⇓P P 20 40 05.2 +0.2
baz=68
Y20A Horse Springs, 68.43 63 ⇑P P 20 40 06.4 +1.0
baz=68,SNR=9.8
O30A MW Ranch, Wils 68.50 53 ⇓P P 20 40 05.9 +0.5
baz=68
S26A Kim 68.53 57 ⇓P P 20 40 05.6 -0.2
baz=68
Y21A Point of Rocks 68.77 62 ⇓P P 20 40 07.8 +0.4
baz=69
T26A Comanche Natio 68.79 57 ⇓P P 20 40 07.1 -0.4
baz=69,SNR=6.7
ANMO Albuquerque 68.79 61 eP P 20 40 07.2 -0.3
comp=Z,4.2nm,1.0s
X22A Bernardo 68.79 62 ⇑P P 20 40 08.8 +1.2
baz=69
W23A Werner Place, 68.81 61 ⇓P P 20 40 07.9 +0.2
baz=69
HYB Hyderabad 68.83 272 i P P 20 40 07.5 -0.3
P30A Selden 68.86 54 ⇓P P 20 40 08.1 +0.4
baz=69
Z20A Nine Sixteen R 68.88 64 ⇑P P 20 40 08.4 +0.3
baz=69
U25A Circle Dot Ran 68.90 58 ⇑P P 20 40 08.3 +0.1
baz=69,SNR=11
V24A Rampart Ranch, 68.90 60 ⇑P P 20 40 08.9 +0.6
baz=69
R28A Tribune 68.91 55 ⇑P P 20 40 08.5 +0.4
baz=69
Q29A Oakley 68.95 55 ⇑P P 20 40 08.8 +0.4
baz=69
V25A Rancho No Teng 69.19 59 ⇑P P 20 40 10.7 +0.7
baz=69
W24A Lazy 6 Ranch, 69.20 60 ⇑P P 20 40 10.9 +0.9
baz=69,SNR=8.3
R29A Marienthal 69.21 55 ⇑P P 20 40 10.3 +0.4
baz=69
Y22A Socorro 69.23 62 ⇓P P 20 40 10.5 +0.3
baz=69
U26A Atchley Ranch, 69.27 58 ⇑P P 20 40 10.7 +0.2
baz=69
Z21A St. Cloud Mine 69.27 63 ⇑P P 20 40 11.4 +0.9
baz=69
Q30A Quinter 69.29 54 ⇑P P 20 40 10.3 -0.1
baz=69
P31A Stockton 69.33 53 ⇑P P 20 40 11.0 +0.4
baz=69
T28A Walsh 69.64 57 ⇑P P 20 40 12.6 0.0
baz=69
V26A Tequesquite Ra 69.68 59 ⇓P P 20 40 13.1 +0.1
baz=70
319A Douglas 69.72 65 ⇓P P 20 40 13.7 +0.5
baz=70,SNR=11
Z22A Elephant Butte 69.72 62 ⇓P P 20 40 13.8 +0.5
baz=70
W25A X Bar L Ranch, 69.73 59 ⇑P P 20 40 13.6 +0.3
baz=70,SNR=9.3
Y23A Lovelace Mesa, 69.75 61 ⇓P P 20 40 13.9 +0.4
baz=70,SNR=8.3
U27A Thompson Grove 69.76 57 ⇑P P 20 40 13.2 -0.2
baz=70
121A Cookes Peak, D 69.77 64 ⇑P P 20 40 14.3 +0.8
baz=70
220A Playas Peak, P 69.78 64 ⇑P P 20 40 14.0 +0.4
baz=70
SCHQ Schefferville 70.03 25 P P 20 40 14.3 -0.3
SCHQ Schefferville 70.03 25 P P 20 40 14.3 -0.3
comp=Z,7.9nm,0.9s,baz=314,slow=6.4,SNR=6.3
SCHQ LR LR 21 13 49.5
comp=Z,115nm,20.7s,baz=308,slow=38
122A Conniff Cattle 70.10 63 ⇓P P 20 40 16.1 +0.6
baz=70
Y24A Capitan 70.11 61 ⇓P P 20 40 16.1 +0.3
baz=70,SNR=8.8
X25A Clemmons Ranch 70.11 60 ⇓P P 20 40 16.4 +0.7
baz=70,SNR=8.5
U28A Mallet 70.12 57 ⇓P P 20 40 15.8 +0.2
baz=70
Z23A Rita Site, Whi 70.14 62 ⇓P P 20 40 16.2 +0.5
baz=70
221A Mesquite Ranch 70.15 64 ⇑P P 20 40 16.6 +0.7
baz=70
R31A Burdett 70.16 54 ⇑P P 20 40 15.8 0.0
baz=70
320A Kipp Ranch, An 70.19 65 ⇓P P 20 40 16.8 +0.6
baz=70
W26A Owens Ranch, T 70.21 59 ⇑P P 20 40 16.6 +0.4
baz=70
KIV Kislovodsk 70.24 315 eP P 20 40 17.0 +0.8
KIV eS S 20 49 24.1 -0.6
KIV eSS SS 20 53 54.9 +0.5
KIV pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 70.31 327 ceP P 20 40 14.6 -1.8
AKASG Malin Array Be 70.31 327 P P 20 40 13.8 -2.6
AKASG Malin Array Be 70.31 327 P P 20 40 13.8 -2.6
comp=Z,0.9nm,0.5s,baz=33,slow=6.1,SNR=9.1
AKASG LR LR 21 13 22.5
comp=Z,178nm,21.4s,baz=30,slow=38
KBZ Khabaz 70.32 315 P P 20 40 16.1 -0.4
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ MLR MLR
comp=Z,147nm,18.8s
KBZ Khabaz 70.32 315 P P 20 40 16.1 -0.4
KBZ Khabaz 70.32 315 P P 20 40 16.1 -0.4
comp=Z,4.8nm,0.9s,baz=175,slow=0.8,SNR=9.0
KBZ LR LR 21 15 40.1
comp=Z,146nm,18.8s,baz=314,slow=40
KIEV Kiev 70.32 327 eP P 20 40 14.8 -1.6
222A Williams Famil 70.47 63 ⇓P P 20 40 18.4 +0.5
baz=70
Y25A Mesa, Roswell 70.54 60 ⇑P P 20 40 18.7 +0.4
baz=70
X26A CR and CF Fran 70.58 59 ⇓P P 20 40 18.8 +0.3
baz=70,SNR=7.3
Z24A Sheeppen Canyo 70.59 61 ⇑P P 20 40 19.0 +0.4
baz=70,SNR=6.2
W27A Bowe Ranch, En 70.62 59 ⇓P P 20 40 19.2 +0.5
baz=70
T31A Randall Ranch, 70.97 55 ⇓P P 20 40 20.4 -0.3
baz=71
Z25A Roswell 70.99 61 ⇑P P 20 40 21.3 +0.4
baz=71
124A Stringfield Ra 70.99 62 ⇑P P 20 40 21.2 0.0
baz=71
Y26A Elida 71.03 60 ⇓P P 20 40 21.5 +0.3
baz=71
224A Cornudas Mount 71.41 62 ⇓P P 20 40 23.9 +0.4
baz=71,SNR=6.4
V30A Spur Ranch, Mi 71.41 57 ⇓P P 20 40 23.7 +0.3
baz=71
Z26A Caprock 71.42 60 ⇑P P 20 40 23.6 0.0
baz=71,SNR=11
Y27A Causey 71.43 60 ⇓P P 20 40 23.8 +0.1
baz=71,SNR=7.1
125A Gardner Draw, 71.48 61 ⇓P P 20 40 24.3 +0.3
baz=71,SNR=7.9
MSTX Muleshoe 71.59 59 eP P 20 40 24.8 +0.3
MSTX Muleshoe 71.59 59 ⇑P P 20 40 24.6 0.0
baz=71,SNR=5.3
WRAB Tennant Creek 71.73 201 eP P 20 40 24.3 -0.9
WRAB pmax pmax
comp=Z,14nm,1.0s
WRAB Tennant Creek 71.73 201 eP P 20 40 24.3 -0.9
comp=Z,14nm,1.0s
WRA Warramunga Arr 71.74 201 P P 20 40 24.6 -0.7
WRA pP pP 20 40 37.5 -0.4
WRA Warramunga Arr 71.74 201 P P 20 40 24.6 -0.7
comp=Z,10nm,0.9s,baz=13,slow=5.9,SNR=35
WRA pP pP 20 40 37.5 -0.4
comp=Z,9.5nm,0.9s,baz=18,slow=6.6,SNR=13
MNTX Cornudas Mount 71.77 63 eP P 20 40 25.9 +0.3
comp=Z,8.3nm,1.3s
225A Deer Hill, Car 71.79 62 ⇑P P 20 40 26.3 +0.4
baz=72
Z27A Tatum 71.82 60 ⇑P P 20 40 25.9 -0.1
baz=72,SNR=15
X29A Tulia 71.83 58 ⇓P P 20 40 26.3 +0.3
baz=72
V31A Spring Creek L 71.86 56 ⇑P P 20 40 26.4 +0.3
baz=72
324A Moseley Ranch, 71.90 63 ⇓P P 20 40 26.6 +0.1
baz=72
226B Tecolote Peak, 72.19 61 ⇑P P 20 40 28.4 +0.2
baz=72,SNR=10
325A Bean Ranch, Si 72.25 62 ⇑P P 20 40 28.5 -0.1
baz=72,SNR=5.5
W31A Holland Ranch, 72.25 57 ⇑P P 20 40 28.6 +0.2
baz=72
X30A Coker Ranch, T 72.29 58 ⇓P P 20 40 28.9 +0.2
baz=72
X31A McDonald Ranch 72.64 57 ⇑P P 20 40 30.9 +0.2
baz=72
425A Indio Mountain 72.67 63 ⇓P P 20 40 31.3 +0.2
baz=72,SNR=13
Y30A Stafford Cattl 72.70 58 ⇓P P 20 40 31.7 +0.5
baz=72
Z29A Hungry Hill Ra 72.71 59 ⇑P P 20 40 31.5 +0.2
baz=72
326A Caldwell Ranch 72.86 62 ⇓P P 20 40 32.2 +0.1
baz=73,SNR=8.7
Z30A Sanderson Ranc 73.01 59 ⇓P P 20 40 32.9 0.0
baz=73,SNR=12
228A UT Block 9, Go 73.06 60 ⇓P P 20 40 33.4 +0.1
baz=73
129A Stewart Farms, 73.08 60 ⇓P P 20 40 33.5 +0.1
baz=73
WMOK Wichita Mounta 73.21 56 eP P 20 40 34.2 +0.1
WMOK pmax pmax
comp=Z,14nm,1.0s
WMOK Wichita Mounta 73.21 56 eP P 20 40 34.2 +0.1
comp=Z,14nm,1.0s
426A McDonald Obser 73.31 62 ⇓P P 20 40 34.8 -0.2
baz=73
Y32A R-V Farms, Ver 73.41 57 ⇓P P 20 40 35.0 -0.2
baz=73
328A Wristen Ranch, 73.48 61 ⇓P P 20 40 35.8 +0.1
baz=73,SNR=13
Z31A Sharp Cattle R 73.53 58 ⇑P P 20 40 35.9 -0.1
baz=73,SNR=7.5
427A Hayter Ranch, 73.53 62 ⇑P P 20 40 36.1 -0.1
baz=73
HDIL Hopedale 73.55 46 eP P 20 40 35.6 -0.4
comp=Z,33nm,0.7s
229A Bryant Ranch, 73.61 60 ⇑P P 20 40 36.8 +0.2
baz=73
130A Snyder 73.62 59 ⇓P P 20 40 36.7 +0.2
baz=73
526A Mary Lane Ranc 73.72 63 ⇓P P 20 40 37.6 +0.2
baz=74,SNR=8.8
329A Wagon Wheel Ra 73.87 60 ⇑P P 20 40 38.3 +0.2
baz=74,SNR=5.7
131A Roby 73.88 59 ⇓P P 20 40 38.3 +0.3
baz=74
Z32A Haskell 73.91 58 ⇓P P 20 40 38.0 -0.2
baz=74,SNR=5.4
TUL1 Tulsa 73.92 53 eP P 20 40 37.9 -0.3
TUL1 Tulsa 73.92 53 ⇓P P 20 40 38.0 -0.2
baz=74
527A Woodward Ranch 73.94 62 ⇓P P 20 40 38.5 -0.1
baz=74,SNR=5.0
428A Kincaid Ranch, 74.04 61 ⇓P P 20 40 39.6 +0.5
baz=74,SNR=6.3
230A Sterling City 74.06 60 ⇑P P 20 40 39.3 +0.1
baz=74
626A Big Bend Ranch 74.07 63 ⇑P P 20 40 39.5 +0.2
baz=74,SNR=12
STHS Stebnicka Huta 74.08 331 eP P 20 40 39.4 +0.5
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 74.08 331 eP P 20 40 39.4 +0.5
KOLS Kolonicke sedl 74.17 330 eP P 20 40 39.7 +0.2
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 74.17 330 eP P 20 40 39.7 +0.2
BURAR Bucovina Array 74.33 328 ⇑P P 20 40 39.6 -0.9
BURAR Bucovina Array 74.33 328 ⇑i P P 20 40 39.6 -0.9
ABTX Abilene, Hawle 74.33 58 ⇑P P 20 40 40.7 0.0
baz=74
LPIG La Paz 74.38 71 LR LR 21 06 21.4
comp=Z,4.6nm,20.3s,baz=263,slow=30
330A Mertzon 74.39 60 ⇓P P 20 40 41.1 0.0
baz=74
528A Cox Ranch, San 74.40 62 ⇓P P 20 40 41.7 +0.4
baz=74
CRVS Cervenica-Dubn 74.46 331 eP P 20 40 41.2 0.0
CRVS Cervenica-Dubn 74.46 331 eP P 20 40 41.2 0.0
231A Bronte 74.47 59 ⇓P P 20 40 41.5 -0.1
baz=74
TXAR Lajitas Array 74.51 63 P P 20 40 42.1 +0.3
TXAR pP pP 20 40 54.2 -0.2
TXAR Lajitas Array 74.51 63 P P 20 40 42.1 +0.3
comp=Z,8.7nm,0.8s,baz=298,slow=4.3,SNR=86
TXAR pP pP 20 40 54.2 -0.2
comp=Z,3.3nm,0.7s,baz=298,slow=4.1,SNR=7.6
429A Davenport Ranc 74.56 61 ⇓P P 20 40 42.0 -0.2
baz=74,SNR=5.9
627A Terlingua Ranc 74.58 63 ⇑P P 20 40 42.4 +0.1
baz=74,SNR=11
OKC Ostrava-Krasne 74.65 333 AMS AMS 21 16 10.0
comp=Z,300nm,22.9s
DPC Dobruska-Polom 74.71 335 i P P 20 40 43.2 +0.6
DPC Dobruska-Polom 74.71 335 i P P 20 40 43.2 +0.6
DPC ex x 20 40 47.6
DPC AMS AMS 21 17 20.0
SFIN Scholer Farm 74.72 45 eP P 20 40 42.2 -0.5
SFIN Scholer Farm 74.72 45 ⇓P P 20 40 42.7 -0.1
baz=74
CLL Collm 74.73 337 ⇓i P P 20 40 42.1 -0.6
CLL i *SP sP 20 41 02.7 +2.6
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 74.73 337 ⇓i P P 20 40 42.1 -0.6
comp=Z,6.0nm,0.9s
CLL i P(2) 20 40 45.0
comp=Z,8.0nm,1.1s
CLL i (pP) sP 20 41 02.7 +2.6
CLL eSS SS 20 55 36.0 +34
CLL LmV 21 19 00.0
comp=Z,100nm,18.9s
529A Stev Forest Ra 74.75 62 ⇑P P 20 40 43.3 0.0
baz=75,SNR=10.0
TESR Tescani 74.76 326 ⇑i P P 20 40 40.0 -3.0
430A Baggett Ranch, 74.82 60 ⇑P P 20 40 43.5 -0.1
baz=75,SNR=7.4
628A Black Gap, Mar 74.84 62 ⇓P P 20 40 44.0 +0.2
baz=75,SNR=5.5
MORC Moravsky Berou 74.88 334 eP P 20 40 44.1 +0.5
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 74.88 334 eP P 20 40 44.1 +0.5
comp=Z,5.2nm,1.0s
232A Coleman 74.88 59 ⇓P P 20 40 43.7 -0.2
baz=75,SNR=9.3
331A San Angelo 74.88 60 ⇓P P 20 40 43.8 -0.2
baz=75
PVCC Panska Ves 75.03 336 AMS AMS 21 17 00.0
comp=Z,300nm,20.8s
KECS Kecovo 75.14 331 eP P 20 40 46.2 +1.1
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 75.14 331 eP P 20 40 46.2 +1.1
332A Millersview 75.21 59 ⇑P P 20 40 45.8 0.0
baz=75,SNR=6.4
530A J-C Ranch, Com 75.24 61 ⇑P P 20 40 46.2 +0.2
baz=75,SNR=11
431A Sonora 75.25 60 ⇑P P 20 40 45.9 -0.2
baz=75,SNR=8.3
CFR Carcaliu 75.35 325 ⇓P P 20 40 45.1 -1.2
CFR Carcaliu 75.35 325 ⇓i P P 20 40 45.1 -1.2
AS31 Alice Springs 75.43 201 eP P 20 40 47.3 +0.3
ASAR Alice Springs 75.43 201 P P 20 40 47.3 +0.4
ASAR pP PcP 20 40 60.0 +0.1
ASAR Alice Springs 75.43 201 P P 20 40 47.3 +0.4
comp=Z,4.8nm,0.8s,baz=15,slow=5.5,SNR=50
ASAR pP PcP 20 40 60.0 +0.1
comp=Z,3.1nm,0.6s,baz=14,slow=5.3,SNR=8.8
ASAR LR LR 21 14 03.7
comp=Z,105nm,20.7s,baz=320,slow=36
PRU Pruhonice 75.53 335 i P P 20 40 47.4 +0.1
PRU MLR MLR
comp=Z,300nm,21.0s
PRU Pruhonice 75.53 335 i P P 20 40 47.4 +0.1
PRU ex x 20 40 51.9
PRU AMS AMS 21 17 20.0
comp=Z,300nm,21.0s
432A Menard 75.56 59 ⇓P P 20 40 47.7 -0.1
baz=75
531A Rocksprings 75.68 60 ⇓P P 20 40 48.6 +0.1
baz=76,SNR=8.8
JCT Junction City 75.86 60 eP P 20 40 49.6 0.0
JCT pmax pmax
comp=Z,21nm,1.2s
JCT Junction City 75.86 60 eP P 20 40 49.6 0.0
comp=Z,21nm,1.2s
JCT Junction City 75.86 60 ⇑P P 20 40 49.8 +0.3
baz=76
TREC Trest 75.90 335 i P P 20 40 49.3 -0.1
TREC MLR MLR
comp=Z,200nm,17.6s
TREC Trest 75.90 335 i P P 20 40 49.3 -0.1
TREC AMS AMS 21 18 10.0
comp=Z,200nm,17.6s
WHTX Lake Whitney 76.01 57 eP P 20 40 49.4 -1.0
WHTX Lake Whitney 76.01 57 ⇓P P 20 40 50.2 -0.1
baz=76
532A Rocksprings 76.07 60 ⇑P P 20 40 50.7 -0.1
baz=76,SNR=8.8
631A Perdido Creek 76.23 61 ⇑P P 20 40 52.0 +0.4
baz=76
VOIR 76.26 327 ⇑P P 20 40 51.6 0.0
VOIR 76.26 327 ⇑i P P 20 40 51.6 0.0
KHC Kasperske Hory 76.57 336 eP P 20 40 53.7 +0.4
KHC pmax pmax
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 76.57 336 i P P 20 40 53.6 +0.4
KHC ex x 20 40 58.4
KHC AMS AMS 21 17 50.0
comp=Z,400nm,22.1s
KHC Kasperske Hory 76.57 336 eP P 20 40 53.7 +0.4
comp=Z,3.9nm,0.8s
632A Uvalde 76.60 60 ⇑P P 20 40 53.8 0.0
baz=76
GRFO Grafenberg 76.67 337 eP P 20 40 53.9 +0.1
GRFO pmax pmax
comp=Z,11nm,1.1s
GRFO Grafenberg 76.67 337 eP P 20 40 53.9 +0.1
comp=Z,11nm,1.1s
GERES GERESS Array B 76.80 335 P P 20 40 53.4 -1.3
GERES GERESS Array B 76.80 335 P P 20 40 53.4 -1.3
comp=Z,0.6nm,0.5s,baz=32,slow=5.5,SNR=11
GERES LR LR 21 18 58.7
comp=Z,361nm,19.6s,baz=18,slow=39
CONA Conrad Observa 77.03 334 ⇑i P P 20 40 55.9 -0.1
comp=Z,5.0nm,0.9s
732A Laxson Ranch, 77.09 61 ⇓P P 20 40 57.0 +0.5
baz=77,SNR=8.5
BZS Buzias 77.29 329 ⇑P P 20 40 57.1 -0.2
BZS Buzias 77.29 329 ⇑i P P 20 40 57.1 -0.2
BR131 Keskin Array S 77.67 318 eP P 20 40 59.9 +0.1
comp=Z,13nm,1.3s
BRTR Keskin Array B 77.67 318 P P 20 40 59.1 -0.6
BRTR Keskin Array B 77.67 318 P P 20 40 59.1 -0.6
comp=Z,7.0nm,1.0s,baz=62,slow=3.2,SNR=24
GIVF Givet 77.75 341 eP P 20 40 59.5 -0.3
SZH Strazhica 77.81 325 eP P 20 40 58.4 -1.9
BAIF Baives 77.92 342 eP P 20 41 00.7 0.0
comp=Z,9.5nm,0.9s
OXF Oxford 78.27 50 eP P 20 41 02.3 -0.7
OXF pmax pmax
comp=Z,22nm,0.4s
OXF Oxford 78.27 50 eP P 20 41 02.3 -0.7
comp=Z,22nm,0.4s

SOKA	Soboth	78.40	334	⇓iP	P	20 41 03.2	-0.4
	comp=Z,15nm,1.3s,SNR=10						
KBA	Koelnbreinsper	78.51	335	⇑iP	P	20 41 04.3	0.0
	comp=Z,34nm,1.3s,SNR=18						
MPEP	Malo Peshtene	78.53	327	eP	P	20 41 02.8	-1.5
BFO	Black Forest	78.64	339	eP	P	20 41 05.4	+0.6
BFO	Black Forest	78.64	339	eP	P	20 41 04.5	-0.3
	comp=Z,3.7nm,1.0s						
WTTA	Wattenberg	78.80	336	⇑iP	P	20 41 06.4	+0.5
	comp=Z,24nm,1.1s,SNR=15						
CDF	Champ du Feu	78.81	339	eP	P	20 41 05.6	-0.2
	comp=Z,22nm,1.3s						
RETA	Reutte	78.83	337	⇑iP	P	20 41 05.6	-0.3
	comp=Z,10nm,1.9s,SNR=5.6						
MIB	Mutribah	78.83	303	eP	P	20 41 05.4	-0.7
MIB				AMb	AMB	20 41 07.5	
	comp=Z,65nm,1.1s						
ECH	Echery	79.02	339	eP	P	20 41 07.0	+0.1
PAGF	Fort de Pagny	79.03	340	eP	P	20 41 07.2	+0.3
	comp=Z,14nm,1.3s						
ABTA	Abfaltersbach	79.04	335	⇓iP	P	20 41 06.6	-0.5
	comp=Z,12nm,1.5s,SNR=6.0						
KBD	Kabd	79.12	302	eP	P	20 41 07.2	-0.5
KBD				AMb	AMB	20 41 08.8	
	comp=Z,39nm,1.1s						
MEZF	Maizieres J'vi	79.22	341	eP	P	20 41 08.1	+0.2
FETA	Feichten	79.27	337	⇓iP	P	20 41 08.3	-0.2
	comp=Z,14nm,1.3s,SNR=10						
THEF	They Montfort	79.28	340	eP	P	20 41 08.5	+0.2
NAY	Al-Naaiem	79.31	303	eP	P	20 41 08.2	-0.6
NAY				AMb	AMB	20 41 10.1	
	comp=Z,43nm,1.4s						
MOF	Molkenrain	79.37	339	eP	P	20 41 08.3	-0.6
VTS	Vitosha	79.39	327	⇑P	P	20 41 08.3	-0.9
VTS	Vitosha	79.39	327	eP	P	20 41 07.9	-1.3
VTS	Vitosha	79.39	327	⇑iP	P	20 41 08.3	-0.9
RDF	Al-Radifah	79.39	302	eP	P	20 41 08.7	-0.6
RDF				AMb	AMB	20 41 10.9	
	comp=Z,129nm,1.2s						
HAU	Haudompre	79.41	340	eP	P	20 41 08.7	-0.3
	comp=Z,43nm,1.6s						
HAU				eR			
	comp=Z,110nm,19.0s						
HINF	Hinteralfeld	79.47	339	eP	P	20 41 08.8	-0.6
SFTF	Sexfontaines	79.51	341	eP	P	20 41 09.5	0.0
	comp=Z,15nm,0.7s						
LOMF	Lomont	79.91	339	eP	P	20 41 12.0	+0.2
FLN	La Foliniere	80.05	344	⇑iP	P	20 41 12.2	-0.2
	comp=Z,30nm,0.9s						
FLN				eR			
	comp=Z,197nm,19.8s						
MMB	Musomiste	80.07	326	eP	P	20 41 11.4	-1.4
TUE	Stuetta	80.13	337	eP	P	20 41 12.9	-0.2
	comp=Z,6.9nm,0.8s						
LDF	La Druitiere	80.15	344	⇑iP	P	20 41 12.7	-0.3
	comp=Z,25nm,1.0s						
GRR	Gorron	80.48	345	⇑iP	P	20 41 14.8	+0.1
	comp=Z,36nm,0.8s						
LOR	Lormes	80.65	341	eP	P	20 41 15.5	-0.2
	comp=Z,38nm,1.3s						
LOR				eR			
	comp=Z,175nm,21.8s						
CABF	La Chapelle	80.78	339	eP	P	20 41 16.6	+0.1
	comp=Z,33nm,1.4s						
SGMF	Saint Gilles	80.89	346	⇑iP	P	20 41 17.1	+0.1
	comp=Z,23nm,0.7s						
HYF	Humbligny	80.90	342	eP	P	20 41 17.3	+0.3
SSF	Saint Saulge	80.92	341	eP	P	20 41 17.0	-0.1
	comp=Z,24nm,1.4s						
ROSF	Rostrenen	80.93	346	⇑iP	P	20 41 17.3	+0.2
	comp=Z,86nm,1.3s						
AVF	Avril sur Loir	81.21	341	eP	P	20 41 18.7	0.0
	comp=Z,38nm,1.2s						
SMF	Signal de Mont	81.24	341	eP	P	20 41 18.9	0.0
	comp=Z,61nm,1.3s						
QUIF	Quistinic	81.32	346	⇑iP	P	20 41 19.2	0.0
	comp=Z,13nm,0.9s						
RSL	Roselend	81.53	339	eP	P	20 41 20.6	0.0
BGF	Bois d'Agland	81.53	342	eP	P	20 41 20.8	+0.4
KMSC	Kings Mountain	81.62	44	⇑P	P	20 41 21.5	+0.5
	baz=81						
LPL	La Plagne	81.66	339	⇑iP	P	20 41 21.9	+0.5
	comp=Z,18nm,0.8s						
LPG	La Plagne	81.67	339	⇑iP	P	20 41 22.2	+0.6
	comp=Z,21nm,0.7s						
TCF	Toulx Ste Croi	81.92	342	eP	P	20 41 22.7	+0.2
AGO	Saint Agoulin	81.96	341	eP	P	20 41 24.2	+1.5
STKA	Stephens Creek	82.01	192	P	P	20 41 22.7	-0.1
STKA	Stephens Creek	82.01	192	P	P	20 41 22.7	-0.1
	comp=Z,3.7nm,0.9s,baz=353,slow=6.0,SNR=7.0						
STKA				LR	LR	21 16 06.1	
	comp=Z,133nm,19.9s,baz=25,slow=34						
VLC	Villacollemand	82.01	336	eP	P	20 41 23.0	0.0
	comp=Z,26nm,1.4s						
MFF	Saint Martin d	82.07	344	⇑iP	P	20 41 23.6	+0.4
	comp=Z,22nm,0.9s						
BNI	Bardonecchia	82.11	339	eP	P	20 41 23.8	+0.2
BNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BNI	Bardonecchia	82.11	339	eP	P	20 41 23.8	+0.2
	comp=Z,6.6nm,0.9s						
PYM	Petit Puy Mans	82.27	341	eP	P	20 41 25.6	+1.2
MBDF	Montbardon	82.40	338	eP	P	20 41 25.3	+0.1
	comp=Z,13nm,0.9s						
ORIF	Oris-en-Rattie	82.43	339	⇑iP	P	20 41 25.9	+0.6
	comp=Z,14nm,0.8s						
ORIF				eR			
	comp=Z,134nm,19.8s						
LBL	Lubilhac	82.72	341	eP	P	20 41 28.4	+1.7
VIVF	Saint-Julien-l	82.76	340	eP	P	20 41 27.4	+0.5
	comp=Z,54nm,1.4s						
AQU	L'Aquila	82.82	333	eP	P	20 41 27.0	-0.3
	comp=Z,26nm,0.9s						
OG25	Le Caire	82.90	339	eP	P	20 41 27.9	+0.2
SAOF	Saorge	82.90	338	eP	P	20 41 26.9	-0.8
AUTN	L'Aution	82.92	338	eP	P	20 41 28.3	+0.3
TOUF	Mont Tournerai	82.95	338	eP	P	20 41 27.8	-0.3
RJF	Les Rejaudoux	83.00	342	eP	P	20 41 28.3	+0.2
	comp=Z,56nm,1.4s						
RJF				eR			
	comp=Z,151nm,20.8s						
LUCF	Luceram	83.04	338	eP	P	20 41 28.0	-0.5
SBF	Sospel	83.05	338	eP	P	20 41 28.2	-0.3
	comp=Z,76nm,1.3s						
REVF	Revere	83.18	338	eP	P	20 41 28.7	-0.4
CAF	Calviac	83.25	342	⇑iP	P	20 41 30.1	+0.6
	comp=Z,53nm,1.3s						
CALN	Calern	83.28	338	eP	P	20 41 29.1	-0.7
SMRF	Simiane la Rot	83.39	339	eP	P	20 41 30.9	+0.7
	comp=Z,43nm,1.3s						
LFF	La Frestale	83.51	343	eP	P	20 41 31.2	+0.5
	comp=Z,65nm,1.3s						
FRF	La Foret Royal	83.52	338	eP	P	20 41 30.7	-0.1
	comp=Z,54nm,1.4s						
TIGA	Tifton	83.62	48	⇓P	P	20 41 32.1	+0.6
	baz=83						
LASF	Ste Croix	83.68	340	eP	P	20 41 32.3	+0.6
	comp=Z,38nm,1.5s						
LMR	La Mourre	83.77	338	eP	P	20 41 32.2	+0.1
	comp=Z,75nm,1.3s						
PGF	Pioggiola	83.88	336	⇑iP	P	20 41 32.5	-0.3
	comp=Z,55nm,1.3s						
MTLF	Montolieu	84.74	341	eP	P	20 41 37.6	+0.6
	comp=Z,13nm,1.1s						
EPF	Esparros	85.42	342	eP	P	20 41 40.4	-0.1
ETSF	Etsaut	85.72	343	eP	P	20 41 42.6	+0.6
	comp=Z,6.1nm,0.8s						
VSL	Villasalto	86.62	335	eP	P	20 41 46.5	0.0
	comp=Z,24nm,1.1s						
ESDC	Sonseca Array	89.47	345	P	P	20 41 58.4	-1.7
ESDC	Sonseca Array	89.47	345	P	P	20 41 58.4	-1.7
	comp=Z,0.9nm,0.5s,baz=19,slow=4.2,SNR=11						
ESDC				LR	LR	21 27 58.3	
	comp=Z,91nm,18.9s,baz=115,slow=40						
KEST	Kesra	90.14	333	P	P	20 42 02.3	-1.0
KEST	Kesra	90.14	333	P	P	20 42 02.3	-1.0
	comp=Z,3.4nm,1.0s,baz=50,slow=14,SNR=3.5						
KEST				LR	LR	21 26 45.7	
	comp=Z,106nm,18.9s,baz=343,slow=38						
VNDA	Vanda	126.78	178	PKP	PKPdf	20 48 04.3	-0.5
VNDA	Vanda	126.78	178	PKP	PKPdf	20 48 04.3	-0.5
	comp=Z,1.3nm,0.9s,baz=286,slow=4.8,SNR=3.6						
LPAZ	La Paz	131.38	63	PKP	PKPdf	20 48 16.1	-0.1
LPAZ	La Paz	131.38	63	PKP	PKPdf	20 48 16.1	-0.1
	comp=Z,0.5nm,0.4s,baz=301,slow=2.8,SNR=4.2						
QSPA	South Pole Qui	139.22	180	ePKPdf	PKPdf	20 48 29.3	+0.7
SYO	Syowa Base	144.25	214	⇑iP	PKPab	20 48 34.0	-1.4
SYO	Syowa Base	144.25	214	⇓eP	PKPdf	20 48 45.3	+7.9
CPUP	Villa Florida	145.44	60	ePKPdf	PKPdf	20 48 40.3	-0.5
CPUP				PKPbc	PKPdf	20 48 40.5	-0.3
CPUP	Villa Florida	145.44	60	PKPbc	PKPdf	20 48 40.5	-0.3
	comp=Z,12nm,0.9s,baz=281,slow=3.1,SNR=20						
SNAA	Sanae	155.72	196	ePKPab	PKPab	20 49 21.6	-0.5
VNA2	Neumayer--Watz	157.13	194	ePKPab	PKPab	20 49 24.4	-3.7

IDC 13 20:31:47.5±61.0, 21°.14S×176°.47W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=1126.0km s-min=161.2km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.81	245	P	P	20 39 13.6	-0.7
	1.8nm,0.9s,baz=84,slow=11,SNR=3.6						
ASAR	Alice Springs	45.77	257	P	P	20 40 11.6	+0.3
	0.9nm,0.8s,baz=100,slow=7.1,SNR=12						
WRA	Warramunga Arr	45.93	262	P	P	20 40 12.5	-0.1
	1.6nm,1.0s,baz=96,slow=8.3,SNR=23						

IDC 13 20:49:25.6±0.4, 13°.97N×93°.03E, h0km, mb4.4/26, mb1 4.6/27, mb1mx4.6/29, mbtmp4.4/27, ML4.2/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/35, Error ellipse: s-maj=13.3km s-min=12.1km az=43.0

BJI 13 20:49:26.4, 13°.67N×93°.13E, h28km, mB4.8/5, mb4.4/20, Ms4.1/9, Ms7 4.0/8

MOS 13 20:49:29.0±0.9, 14°.00N×93°.07E, h33km, mb4.9/27, Error ellipse: s-maj=9.5km s-min=5.6km az=113.5

ISCJB 13 20:49:29.3±1.3, 14°.07N±0°.04×92°.95E±0°.03, h33km±9km, mb4.6/100, MS3.9/13, Error ellipse: s-maj=6.6km s-min=5.4km az=1.5

NEIC 13 20:49:30.8±0.2, 13°.95N×93°.05E, h35km, mb4.7/16, Error ellipse: s-maj=5.3km s-min=4.8km az=171.0

BKK 13 20:49:40.0±0.4, 15°N±5°×9°4E±°, h10km, M4.4/14, mB4.8/7, mb4.7/14, MLv4.7/9, Mw(mB)4.0/7

ISC 13 20:49:30.5±0.4, 13°.98N±0°.04×93°.00E±0°.05, h32km±2km, h32km:pP-P, n255, σ1°43/275, mb4.6/100, MS3.9/13, 17C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.80	185	eP	Pb	20 49 47.3	+1.3
PBA	Port Blair	2.32	186	eP	Pn	20 50 07.4	+0.8
CMBY	CAMPBELL BAY	6.99	172	eP	Pn	20 51 09.9	-0.8
CMBY				AMB	AMB	20 51 11.1	
	comp=Z,96nm,3.1s						
CM31	Chiang Mai Arr	7.24	51	ePn	Pn	20 51 14.4	+0.2
	comp=Z,9.8nm,0.4s						
CM31				eSn	Sn	20 52 32.2	-3.1
CMAR	Chiang Mai Arr	7.24	51	Pn	Pn	20 51 14.6	+0.4
CMAR				Sn	Sn	20 52 31.6	-3.7
CMAR	Chiang Mai Arr	7.24	51	Pn	Pn	20 51 14.6	+0.4
	comp=Z,1.1nm,0.3s,baz=242,slow=16,SNR=19						
CMAR				Sn	Sn	20 52 31.6	-3.7
	comp=Z,3.0nm,0.3s,baz=229,slow=26,SNR=10.0						
CMAR				LR	LR	20 54 43.4	
	comp=Z,1μm,19.2s,baz=241,slow=44						
CHTO	Chiang Mai	7.46	49	eP	Pn	20 51 17.1	-0.1
CHTO				e		20 52 34.5	
CHTO				pmax	pmax		
	comp=Z,16nm,0.5s						
CHTO	Chiang Mai	7.46	49	ePn	Pn	20 51 17.1	-0.1
	comp=Z,16nm,0.5s						
CHTO				eSn	Sn	20 52 34.5	-6.3
CHTO	Chiang Mai	7.46	49	P	Pn	20 51 18.7	+1.5
	comp=Z,30nm,1.1s,comp=Z,496nmcomp=Z,0.2nm						
CMMT	Chiang Mai	7.46	49	P	Pn	20 51 18.3	+1.1
	comp=Z,40nm,1.0s,comp=Z,588nmcomp=Z,0.2nm						
LAMP	Lampang	7.81	54	P	Pn	20 51 24.0	+2.0
	comp=Z,13nm,0.8s,comp=Z,152nmcomp=Z,0.1nm						
NAYO	Nakonayok	8.08	87	P	Pn	20 51 28.7	+3.0
	comp=Z,75nm,0.7s,comp=Z,0.4nm						
CMAI	Chiengmai2	8.27	44	P	Pn	20 51 30.1	+1.6
	comp=Z,91nm,0.7s,comp=Z,14μmcomp=Z,0.4nm						
PAYA	Payao	8.48	50	P	Pn	20 51 34.6	+3.4
	comp=Z,20nm,0.6s,comp=Z,208nmcomp=Z,0.1nm						
LOEI	Loei	8.70	65	P	Pn	20 51 42.8	+8.6
CHAI	Chaiyaphum	8.89	76	P	Pn	20 51 39.8	+2.9
	comp=Z,14nm,0.9s,comp=Z,96nmcomp=Z,0.0nm						
VIS	Vishakhapatnam	10.02	293	iP	Pn	20 51 52.0	-0.3
VIS				AMB	AMB	20 51 53.1	
	comp=Z,216nm,0.6s						
VIS				ix	x	20 53 34.4	
SHL	Shillong	11.57	355	ex	Pn	20 52 09.5	-4.2
SHL				AMB	AMB	20 52 21.2	
	comp=Z,26nm,0.0s						
PANO	Nakornpanom	11.62	73	P	Pn	20 52 26.3	+12
BOK	Bokaro	11.86	326	eP	Pn	20 52 16.6	-0.9
BOK				AMB	AMB	20 52 26.8	
	comp=Z,63nm,4.0s						
UBPT	Khong Chiam	12.14	82	P	P	20 52 32.8	-0.8
PSI	Prapat	12.55	152	Pn	Pn	20 52 31.6	+4.4
PSI	Prapat	12.55	152	Pn	Pn	20 52 31.6	+4.4
	comp=Z,1.4nm,0.3s,baz=322,slow=14,SNR=6.6						
PSI				LR	LR	20 58 16.2	
	comp=Z,262nm,18.4s,baz=316,slow=42						
ODAN	Odare	13.85	339	eP	Pn	20 52 39.8	-5.1
	comp=Z,91nm,0.5s						
TAPN	Taplejung	14.19	340	eP	Pn	20 52 45.7	-3.9
	comp=Z,62nm,0.5s						
RAMN	Ramite	14.22	336	eP	Pn	20 52 45.3	-4.7
	comp=Z,80nm,0.4s						
HYB	Hyderabad	14.32	286	iP	Pn	20 52 54.0	+2.7
HYB				e		20 55 17.0	
HYB				eS	Sn	20 55 28.0	-1.1
HYB	Hyderabad	14.32	286	ex	x	20 55 18.0	
HYB				AMB	AMB	20 55 37.6	
	comp=Z,75nm,3.5s						
KMI	Kunming	14.38	38	P	P	20 53 08.6	+10
KMI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
JIRN	Jiri	15.02	336	eP	Pn	20 52 56.5	-4.4
	comp=Z,48nm,0.3s						
NGP	Nagpur	15.09	300	ex	Pn	20 52 57.9	-3.6
NGP				ex	x	20 53 08.1	
	comp=Z,71nm,0.8s						
NGP				ex	x	20 55 33.2	
PKI	Pulchoki	15.26	334	eP	Pn	20 52 58.5	-5.6
	comp=Z,79nm,0.6s						
PKIN	Phulchoki	15.28	334	eP	Pn	20 52 58.6	-5.6
	comp=Z,62nm,0.4s						
JBP	Jabalpur	15.35	308	⇑iP	Pn	20 53 06.0	+1.1
JBP				ix	x	20 53 06.4	
	comp=Z,41nm,0.7s						
JBP				ex	x	20 55 46.1	
GUN	Gumba	15.37	336	eP	Pn	20 53 00.1	-5.4
	comp=Z,51nm,0.4s						
DMN	Daman	15.43	333	eP	Pn	20 53 01.1	-5.1
	comp=Z,196nm,0.8s						
KKN	Kakani	15.51	334	eP	Pn	20 53 02.5	-4.7
	comp=Z,64nm,0.8s						
LSA	Lhasa	15.74	354	P	P	20 53 13.1	-1.0
LSA				pmax	pmax		
	comp=Z,30nm,0.6s						
LSA	Lhasa	15.74	354	eP	Pn	20 53 10.7	+0.3
LSA				e		20 55 54.7	
LSA				pmax	pmax		
	comp=Z,18nm,0.6s						
LSA	Lhasa	15.74	354	ePn	Pn	20 53 10.7	+0.3
	comp=Z,18nm,0.6s						
LSA				eSn	Sn	20 55 54.7	-9.4
KOLN	Koldanda	16.28	329	eP	Pn	20 53 12.7	-4.4
	comp=Z,168nm,0.6s						
LATR	Latur	16.39	288	eP	Pn	20 53 16.0	-2.3
LATR				AMB	AMB	20 53 30.0	
	comp=Z,40nm,1.7s						
LATR				ex	x	20 56 03.9	
AKL	Akola	16.65	296	ex	Pn	20 53 19.1	-2.6
AKL				AMB	AMB	20 53 25.4	
	comp=Z,26nm,1.0s						
DANN	Dangsing	16.68	330	eP	Pn	20 53 18.0	-4.2
	comp=Z,107nm,0.6s						
PYUN	Piuthan	16.86	328	eP	Pn	20 53 20.7	-3.7
	comp=Z,204nm,0.7s						
BHPL	Bhopal	17.39	304	eP	P	20 53 32.4	+0.5
BHPL				AMB	AMB	20 53 41.9	
	comp=Z,43nm,2.0s						
POO	Poona	18.93	286	ex	x	20 57 03.8	
POO				AMB	AMB	20 57 33.9	
	comp=Z,36nm,1.7s						
NDI	New Delhi	20.71	317	eP	P	20 54 09.0	+0.8
NDI				e4		20 57 56.0	
ENH	Enshi	22.23	40	eP	P	20 54 23.9	-0.7
	comp=Z,30nm,1.0s						
SMLA	Simla	22.43	322	eP	P	20 54 27.7	+1.0
SMLA				AMB	AMB	20 54 41.6	
	comp=Z,63nm,3.9s						
SDNR	Sundarnagar	22.81	323	eP	P	20 54 32.0	+1.2
DHRM	DHARAMSHALA	23.75	323	eP	P	20 54 40.8	+0.5
DHRM				AMB	AMB	20 54 59.5	
	comp=Z,76nm,3.6s						
LZH	Lanzhou	24.07	22	eP	P	20 54 46.0	+2.8
LZH				pP	pP	20 54 55.0	+2.5
LZH				sP	sP	20 54 59.1	+2.7
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
XAN	Xi'an	24.64	33	P	P	20 54 47.4	-0.9
XAN				pP	pP	20 54 56.4	-1.2
XAN				S	S	20 59 12.4	+4.6
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA	Gaotai	26.03	12	P	P	20 55 03.5	+2.5
GTA				pP	pP	20 55 13.0	+2.7
GTA				sP	sP	20 55 17.6	+3.4
GTA				PcP	PcP	20 58 30.1	+1.5
GTA				S	S	20 59 29.3	-0.7
GTA				sS	sS	20 59 44.5	-0.9
GTA				SS	SnSn	21 00 37.3	+8.1
GTA				PcS	PcS	21 02 10.6	+1.1
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				LR	LR		
	comp=N,300nm,14.3s						
GTA				LR	LR		
	comp=E,170nm,14.7s						
GTA				LR	LR		
	comp=Z,260nm,15.7s						
COCO	West Island	26.28	172	iP	P	20 55 04.2	+1.0
KSH	Kashi	29.53	333	eP	P	20 55 31.5	-0.7
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,120nm,5.0s						
KBL	Kabul	29.80	318	eP	P	20 55 35.2	+0.4
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	Kabul	29.80	318	eP	P	20 55 35.2	+0.4
	comp=Z,3.7nm,0.8s						
HHC	Hu-ho-hao-te	31.29	28	eP	P	20 55 50.0	+2.2
HHC				S	S	21 00 55.3	+2.6
HHC				pmax	pmax		
	comp=Z,30nm,0.6s						
AAK	Ala-Archa	32.72	334	eP	P	20 56 00.7	+0.3
AAK				pmax	pmax		
	comp=Z,16nm,1.2s						
MK31	Makanchi Array	33.92	347	eP	P	20 56 12.3	+1.6
MK31	Makanchi Array	33.92	347	eP	P	20 56 12.3	+1.6
MKAR	Makanchi Array	33.92	347	ceP	P	20 56 12.3	+1.6
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	33.92	347	P	P	20 56 10.8	+0.1
MKAR	Makanchi Array	33.92	347	P	P	20 56 10.8	+0.1
	comp=Z,3.2nm,0.6s,baz=167,slow=8.9,SNR=35						
MKAR				LR	LR	21 14 06.2	
	comp=Z,160nm,18.8s,baz=162,slow=44						
SONM	Songino Array	35.55	16	P	P	20 56 24.7	-0.1
SONM				PcP	PcP	20 58 53.8	+0.3
SONM	Songino Array	35.55	16	P	P	20 56 24.7	-0.1
	comp=Z,4.2nm,0.9s,baz=201,slow=7.9,SNR=9.3						
SONM				PcP	PcP	20 58 53.8	+0.3
	comp=Z,2.3nm,0.8s,baz=178,slow=3.9,SNR=4.6						
SONM				LR	LR	21 14 00.6	
	comp=Z,130nm,19.4s,baz=52,slow=42						
ULN	Ulaanbaatar	35.75	16	eP	P	20 56 26.8	+0.3
	comp=Z,8.8nm,1.1s						
HVS	Khovu-Aksy	37.06	1	eP	P	20 56 38.3	+0.7
HVS				pmax	pmax		
	comp=Z,22nm,1.1s						
ZAK	Zakamensk	37.26	11	eP	P	20 56 48.4	+9.1
ZAK				e		20 58 55.9	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
KSAR	Wonju Array Be	38.82	47	P	P	20 56 52.1	-0.4
KSRS	Korea Array	38.85	47	P	P	20 56 52.1	-0.7
	comp=Z,2.8nm,0.9s,baz=244,slow=8.4,SNR=11						
KSRS				LR	LR	21 15 22.4	
	comp=Z,344nm,18.7s,baz=224,slow=40						
JNU	Nakatsue	39.32	54	P	P	20 56 57.6	+0.7
JNU	Nakatsue	39.32	54	P	P	20 56 57.6	+0.7
	baz=239,slow=3.0						
ZAA0	Zalesovo Array	40.39	353	eP	P	20 57 05.3	-0.1
ZAA0				e		20 57 13.2	
ZALV	Zalesovo Beam	40.39	353	P	P	20 57 05.8	+0.4
ZALV	Zalesovo Beam	40.39	353	P	P	20 57 05.8	+0.4
ZALV	Zalesovo Beam	40.39	353	P	P	20 57 05.8	+0.4
	comp=Z,1.6nm,0.5s,baz=171,slow=10,SNR=14						
ZALV				LR	LR	21 17 53.2	
	comp=Z,85nm,18.7s,baz=340,slow=42						
NVS	Novosibirsk	41.48	351	eP	P	20 57 15.3	+1.0
NVS				e		20 59 01.4	
NVS				pmax	pmax		
	comp=Z,12nm,1.7s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,2.1s						
BVAR	Borovoye Array	42.89	340	P	P	20 57 25.9	-0.1
BVAR	Borovoye Array	42.89	340	P	P	20 57 25.9	-0.1
BVAR	Borovoye Array	42.89	340	P	P	20 57 25.9	-0.1
	comp=E,1.3nm,0.7s,baz=147,slow=8.9,SNR=7.6						
BRVK	Borovoye	42.96	340	ciP	P	20 57 26.7	+0.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	Borovoye	42.96	340	eP	P	20 57 26.5	0.0
	comp=Z,7.0nm,1.0s						
BRVK				e		20 57 34.9	
RDF	Al-Radifah	44.56	297	eP	P	20 57 40.0	+0.3
RDF				AMb	AMB	20 57 42.5	
	comp=Z,31nm,1.1s						
USRK	Ussuriysk Arra	44.81	40	P	P	20 57 41.0	-0.4
	comp=Z,2.2nm,0.7s,baz=243,slow=7.2,SNR=6.8						
USRK				LR	LR	21 19 10.3	
	comp=Z,124nm,18.1s,baz=224,slow=40						
NAY	Al-Naaiem	44.88	297	eP	P	20 57 42.0	-0.2
NAY				AMb	AMB	20 57 44.1	
	comp=Z,11nm,1.2s						
MIB	Mutribah	44.90

WRA				PcP	PcP	20 59 52.2	-0.2
WRA	**Warramunga Arr**	**52.82**	**129**	P	P	20 58 42.1	-1.2
comp=Z,10nm,0.9s,baz=298,slow=9.6,SNR=79							
WRA				PcP	PcP	20 59 52.2	-0.2
comp=Z,7.1nm,0.7s,baz=316,slow=3.2,SNR=20							
WRAB	**Tennant Creek**	**52.82**	**129**	*e*P	P	20 58 42.1	-1.2
WRAB				*e*		20 59 51.9	
WRAB				pmax	pmax		
comp=Z,15nm,0.9s							
WRAB	**Tennant Creek**	**52.82**	**129**	*e*P	P	20 58 42.1	-1.2
comp=Z,15nm,0.9s							
WRAB				*e*PcP	PcP	20 59 51.9	-0.6
YAK	**Yakutsk**	**54.64**	**20**	*e*P	P	20 58 55.2	-0.7
AS31	**Alice Springs**	**54.77**	**133**	*e*P	P	20 58 55.6	-1.9
AS31				*e*PcP	PcP	20 59 59.8	-0.1
ASAR	**Alice Springs**	**54.77**	**133**	P	P	20 58 56.7	-0.8
ASAR				PcP	PcP	20 59 59.8	0.0
ASAR				S	S	21 06 32.0	-4.4
ASAR	**Alice Springs**	**54.77**	**133**	P	P	20 58 56.7	-0.8
comp=Z,8.6nm,0.5s,baz=307,slow=6.7,SNR=240							
ASAR				PcP	PcP	20 59 59.8	0.0
comp=Z,4.9nm,0.8s,baz=313,slow=3.4,SNR=10							
ASAR				S	S	21 06 32.0	-4.4
comp=Z,0.9nm,0.9s,baz=297,slow=12,SNR=7.4							
KMBO	**Kilima Mbogo**	**57.21**	**259**	P	P	20 59 16.9	+1.5
KMBO	**Kilima Mbogo**	**57.21**	**259**	P	P	20 59 16.9	+1.5
comp=Z,1.3nm,0.3s,baz=254,slow=19,SNR=6.0							
BR131	**Keskin Array S**	**57.70**	**308**	*e*P	P	20 59 18.4	0.0
comp=Z,5.5nm,0.8s							
BRTR	**Keskin Array B**	**57.70**	**308**	P	P	20 59 18.4	0.0
BRTR	**Keskin Array B**	**57.70**	**308**	P	P	20 59 18.4	0.0
comp=Z,5.3nm,0.8s,baz=109,slow=7.8,SNR=33							
OBN	**Obninsk**	**59.68**	**326⇑**	*e*P	P	20 59 31.6	-0.1
OBN				*e**PP	pP	20 59 39.4	-2.1
OBN				*SP	sP	20 59 44.0	-1.3
OBN				pmax	pmax		
comp=Z,15nm,2.5s							
CFR	**Carcaliu**	**62.53**	**314⇑**	P	P	20 59 51.7	+0.5
CFR	**Carcaliu**	**62.53**	**314⇑**	*i*P	P	20 59 51.7	+0.5
AKASG	**Malin Array Be**	**62.74**	**320**	*ce*P	P	20 59 52.0	-0.5
AKASG				pmax	pmax		
comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**62.74**	**320**	P	P	20 59 51.9	-0.7
AKASG	**Malin Array Be**	**62.74**	**320**	P	P	20 59 51.9	-0.7
comp=Z,0.4nm,0.4s,baz=88,slow=4.7,SNR=9.5							
KIEV	**Kiev**	**62.75**	**320**	*e*P	P	20 59 51.5	-1.1
VRI	**Vrincioaia**	**63.60**	**314⇑**	P	P	21 00 00.0	+1.6
VRI	**Vrincioaia**	**63.60**	**314⇑**	*i*P	P	21 00 00.0	+1.6
PLOR	**Plostina**	**63.65**	**314⇑**	P	P	21 00 00.1	+1.4
PLOR	**Plostina**	**63.65**	**314⇑**	*i*P	P	21 00 00.1	+1.4
PETK	**Petropavlovsk-**	**63.79**	**37**	P	P	20 59 59.1	-0.4
PETK	**Petropavlovsk-**	**63.79**	**37**	P	P	20 59 59.1	-0.4
PETK	**Petropavlovsk-**	**63.79**	**37**	P	P	20 59 59.1	-0.4
comp=Z,1.3nm,0.9s,baz=213,slow=7.7,SNR=2.9							
PETK				LR	LR	21 32 09.9	
comp=Z,70nm,19.1s,baz=25,slow=40							
SEY	**Seymchan**	**63.92**	**26**	*e*P	P	20 59 59.4	-0.7
MLR	**Muntele Rosu**	**64.10**	**314⇑**	*i*P	P	21 00 02.8	+1.0
STKA	**Stephens Creek**	**65.16**	**135**	P	P	21 00 08.0	-0.7
STKA	**Stephens Creek**	**65.16**	**135**	P	P	21 00 08.0	-0.7
comp=Z,5.1nm,0.7s,baz=317,slow=4.9,SNR=12							
MPEP	**Malo Peshtene**	**65.48**	**311**	*e*P	P	21 00 10.6	-0.1
VSU	**Vasula**	**65.82**	**328**	*e*P	P	21 00 12.4	-0.1
VSU				pmax	pmax		
comp=Z,31nm,1.0s							
VTS	**Vitosha**	**65.83**	**311⇑**	P	P	21 00 12.8	-0.3
VTS	**Vitosha**	**65.83**	**311**	*e*P	P	21 00 12.6	-0.5
VTS	**Vitosha**	**65.83**	**311⇑**	*i*P	P	21 00 12.8	-0.3
KKB	**Krupnik**	**65.88**	**310**	*e*P	P	21 00 12.3	-1.0
DRGR		**66.46**	**315⇑**	P	P	21 00 17.8	+0.8
DRGR		**66.46**	**315⇑**	*i*P	P	21 00 17.8	+0.8
FINES	**FINESS Array B**	**66.84**	**331**	P	P	21 00 18.6	-0.4
FINES	**FINESS Array B**	**66.84**	**331**	P	P	21 00 18.6	-0.4
comp=Z,1.7nm,0.5s,baz=100,slow=6.5,SNR=22							
FINES				LR	LR	21 35 24.0	
comp=Z,93nm,20.2s,baz=297,slow=41							
KAF	**Kangasniemi**	**66.89**	**332**	*e*P	P	21 00 20.2	+0.8
KAF				pmax	pmax		
comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**66.89**	**332**	*e*pkp	P	21 00 20.2	+0.8
comp=Z,0.5nm,0.3s							
SUW	**Suwalki**	**66.96**	**323**	*e*P	P	21 00 20.1	+0.2
SUW				pmax	pmax		
comp=Z,31nm,1.0s							
SUW	**Suwalki**	**66.96**	**323**	*e*P	P	21 00 20.1	+0.2
comp=Z,31nm,1.0s							
CRVS	**Cervenica-Dubn**	**67.47**	**317**	*e*P	P	21 00 24.4	+1.1
CRVS				pmax	pmax		
comp=Z,9.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**67.47**	**317**	*e*P	P	21 00 24.4	+1.1
STHS	**Stebnicka Huta**	**67.65**	**318**	*e*P	P	21 00 25.7	+1.2
STHS				pmax	pmax		
comp=Z,3.0nm,0.9s							
STHS	**Stebnicka Huta**	**67.65**	**318**	*e*P	P	21 00 25.7	+1.2
KECS	**Kecovo**	**68.08**	**317**	*e*P	P	21 00 26.7	-0.5
KECS				pmax	pmax		
comp=Z,3.0nm,1.0s							
KECS	**Kecovo**	**68.08**	**317**	*e*P	P	21 00 26.7	-0.5
ARCES	**ARCESS Array B**	**69.18**	**340**	P	P	21 00 33.5	-0.1
ARCES	**ARCESS Array B**	**69.18**	**340**	P	P	21 00 33.5	-0.1
comp=Z,4.4nm,0.8s,baz=88,slow=6.0,SNR=8.5							
ARCES				LR	LR	21 34 04.5	
comp=Z,130nm,18.8s,baz=329,slow=39							
OKC	**Ostrava-Krasne**	**69.69**	**318**	*i*P	P	21 00 37.9	+0.8
OKC	**Ostrava-Krasne**	**69.69**	**318**	*i*P	P	21 00 37.9	+0.8
MORC	**Moravsky Berou**	**70.07**	**318**	*e*P	P	21 00 39.7	+0.1
MORC				pmax	pmax		
comp=Z,11nm,1.1s							
MORC	**Moravsky Berou**	**70.07**	**318**	*e*P	P	21 00 39.7	+0.1
comp=Z,11nm,1.1s							
LSZ	**Lusaka**	**70.38**	**248**	*e*P	P	21 00 42.5	+0.4
comp=Z,20nm,0.9s							
DPC	**Dobruska-Polom**	**70.88**	**319**	*i*P	P	21 00 45.5	+1.0
DPC				*e*		21 00 53.6	
DPC	**Dobruska-Polom**	**70.88**	**319**	*i*P	P	21 00 45.5	+1.0
DPC				*ep*P	pP	21 00 53.6	-0.9
SOKA	**Soboth**	**71.73**	**315**	*i*P	P	21 00 50.0	+0.3
comp=Z,7.5nm,1.2s,SNR=5.1							
PRU	**Pruhonice**	**72.02**	**318**	*i*P	P	21 00 51.9	+0.6
PRU				*e*		21 01 00.3	
PRU	**Pruhonice**	**72.02**	**318**	*i*P	P	21 00 51.9	+0.6
PRU				*ep*P	pP	21 01 00.3	-1.0
BRG	**Berggiesshubel**	**72.39**	**319**	*i*P	P	21 00 54.4	+0.9
comp=Z,6.0nm,1.0s							
BRG				*e*		21 01 02.6	
comp=Z,9.0nm,1.1s							
BRG	**Berggiesshubel**	**72.39**	**319**	*i*P	P	21 00 54.4	+0.9
BRG				*e*		21 01 02.6	
BRG				pmax	pmax		
comp=Z,6.0nm,1.0s							
BRG				pmax	pmax		
comp=Z,9.0nm,1.1s							
GERES	**GERESS Array B**	**72.58**	**317**	P	P	21 00 55.2	+0.4
GERES	**GERESS Array B**	**72.58**	**317**	P	P	21 00 55.2	+0.4
comp=Z,4.5nm,0.8s,baz=84,slow=5.5,SNR=44							
KHC	**Kasperske Hory**	**72.66**	**317**	*i*P	P	21 00 55.0	-0.2
KHC				*e*		21 01 02.7	
KHC	**Kasperske Hory**	**72.66**	**317**	*e*P	P	21 00 55.4	+0.2
KHC	**Kasperske Hory**	**72.66**	**317**	*i*P	P	21 00 55.0	-0.2
KHC				*ep*P	pP	21 01 02.7	-2.6
KHC	**Kasperske Hory**	**72.66**	**317**	*e*P	P	21 00 55.6	+0.4
comp=Z,4.9nm,1.0s							
CLL	**Collm**	**72.98**	**320**	*i*P	P	21 00 57.2	+0.2
CLL				*i*		21 01 05.5	
CLL				pmax	pmax		
comp=Z,5.0nm,1.0s							
CLL	**Collm**	**72.98**	**320**	*i*P	P	21 00 57.2	+0.2
comp=Z,5.0nm,1.0s							
CLL				*i*pP	pP	21 01 05.5	-1.5
CLL				*i*sP	sP	21 01 08.7	-2.1
NB2	**NORSAR Subarra**	**73.91**	**330**	P	P	21 01 01.6	-0.7
comp=Z,1.5nm,0.6s,baz=89,slow=5.9							
NOA	**NORSAR Array B**	**73.91**	**330**	P	P	21 01 01.4	-0.9
NOA	**NORSAR Array B**	**73.91**	**330**	P	P	21 01 01.4	-0.9
comp=Z,2.5nm,0.8s,baz=90,slow=5.8,SNR=8.7							
GRFO	**Grafenberg**	**74.18**	**318**	*e*P	P	21 01 04.4	+0.3
GRFO				pmax	pmax		
comp=Z,8.0nm,1.2s							
GRFO	**Grafenberg**	**74.18**	**318**	*e*P	P	21 01 04.4	+0.3
comp=Z,7.6nm,1.2s							
RETA	**Reutte**	**74.61**	**316⇓**	*i*P	P	21 01 06.5	-0.3
comp=Z,10nm,1.1s,SNR=6.2							
FETA	**Feichten**	**74.67**	**315⇓**	*i*P	P	21 01 06.9	-0.3
comp=Z,6.0nm,0.9s,SNR=8.1							
DAVA	**Damuels**	**75.23**	**316⇓**	*i*P	P	21 01 10.5	+0.1
comp=Z,12nm,0.9s,SNR=5.2							
TUE	**Stuetta**	**75.66**	**315**	*e*P	P	21 01 12.8	-0.2
comp=Z,6.1nm,0.9s							
BFO	**Black Forest**	**76.17**	**317**	*e*P	P	21 01 16.6	+1.0
PGF	**Pioggiola**	**76.31**	**311**	*e*P	P	21 01 15.8	-0.8
comp=Z,17nm,1.1s							
CDF	**Champ du Feu**	**76.87**	**317**	*e*P	P	21 01 18.6	-1.0
comp=Z,14nm,1.2s							
KEST	**Kesra**	**76.89**	**304**	P	P	21 01 19.9	-0.1
KEST	**Kesra**	**76.89**	**304**	P	P	21 01 19.9	-0.1
comp=Z,3.2nm,0.9s,baz=294,slow=9.4,SNR=4.0							
SBF	**Sospel**	**77.29**	**312**	*e*P	P	21 01 20.8	-1.3
HAU	**Haudompre**	**77.53**	**317**	*e*P	P	21 01 22.3	-1.0
comp=Z,9.8nm,0.9s							
LPG	**La Plagne**	**77.57**	**314**	*e*P	P	21 01 23.4	-0.5
comp=Z,29nm,0.9s							
LPL	**La Plagne**	**77.58**	**314**	*e*P	P	21 01 23.4	-0.5
comp=Z,31nm,0.8s							
MBDF	**Montbardon**	**77.65**	**313**	*e*P	P	21 01 22.8	-1.4
comp=Z,20nm,1.0s							
BNI	**Bardonecchia**	**77.67**	**314**	*e*P	P	21 01 24.1	-0.2
BNI				pmax	pmax		
comp=Z,11nm,1.0s							
BNI	**Bardonecchia**	**77.67**	**314**	*e*P	P	21 01 24.1	-0.2
comp=Z,11nm,1.0s							
PAGF	**Fort de Pagny**	**77.87**	**317**	*e*P	P	21 01 24.4	-0.8
comp=Z,3.8nm,1.1s							
CABF	**La Chapelle**	**77.88**	**315**	*e*P	P	21 01 24.9	-0.5
comp=Z,18nm,1.0s							
FRF	**La Foret Royal**	**77.89**	**312**	*e*P	P	21 01 24.8	-0.6
comp=Z,21nm,1.0s							
BOSA	**Boshof**	**77.94**	**236**	*e*P	P	21 01 26.5	+0.5
comp=Z,22nm,1.0s							
BOSA	**Boshof**	**77.94**	**236**	P	P	21 01 27.1	+1.1
comp=Z,21nm,0.8s,baz=80,slow=5.2,SNR=38							
LMR	**La Mourre**	**78.02**	**312**	*e*P	P	21 01 25.4	-0.7
comp=Z,8.7nm,0.9s							
ORIF	**Oris-en-Rattie**	**78.25**	**314**	*e*P	P	21 01 26.4	-1.1
comp=Z,8.3nm,0.8s							
MEZF	**Maizieres J'vi**	**78.32**	**317**	*e*P	P	21 01 27.0	-0.6
SFTF	**Sexfontaines**	**78.37**	**317**	*e*P	P	21 01 27.0	-0.9
comp=Z,31nm,1.3s							
SMRF	**Simiane la Rot**	**78.60**	**313**	*e*P	P	21 01 29.2	-0.1
comp=Z,18nm,1.1s							
BAIF	**Baives**	**78.65**	**319**	*e*P	P	21 01 29.1	-0.3
comp=Z,24nm,1.2s							
VIVF	**Saint-Julien-l**	**79.11**	**314**	*e*P	P	21 01 31.4	-0.7
comp=Z,21nm,1.2s							
LOR	**Lormes**	**79.30**	**316**	*e*P	P	21 01 32.1	-1.0
comp=Z,16nm,1.2s							
SMF	**Signal de Mont**	**79.41**	**316**	*e*P	P	21 01 32.7	-1.0
comp=Z,12nm,0.9s							
SSF	**Saint Saulge**	**79.57**	**316**	*e*P	P	21 01 33.7	-0.8
comp=Z,12nm,1.2s							
AVF	**Avril sur Loir**	**79.72**	**316**	*e*P	P	21 01 34.3	-1.0
comp=Z,7.2nm,0.7s							
LASF	**Ste Croix**	**79.81**	**313**	*e*P	P	21 01 35.7	-0.2
comp=Z,29nm,1.2s							
BGF	**Bois d'Agland**	**80.10**	**316**	*e*P	P	21 01 37.0	-0.4
TCF	**Toulx Ste Croi**	**80.58**	**315**	*e*P	P	21 01 39.5	-0.5
comp=Z,15nm,1.0s							
CAF	**Calviac**	**80.93**	**314**	*e*P	P	21 01 41.6	-0.3
comp=Z,11nm,1.0s							
MTLF	**Montolieu**	**81.11**	**312**	*e*P	P	21 01 42.4	-0.5
comp=Z,15nm,1.1s							
RJF	**Les Rejaudoux**	**81.24**	**314**	*e*P	P	21 01 43.3	-0.2
comp=Z,17nm,1.1s							
LDF	**La Druitiere**	**81.70**	**318**	*e*P	P	21 01 45.1	-0.8
comp=Z,9.7nm,0.8s							
LFF	**La Frestale**	**81.85**	**314**	*e*P	P	21 01 46.5	-0.2
comp=Z,11nm,1.0s							
FLN	**La Foliniere**	**81.90**	**318**	*e*P	P	21 01 46.1	-0.8
comp=Z,16nm,1.0s							
MFF	**Saint Martin d**	**82.12**	**316**	*e*P	P	21 01 47.3	-0.8
comp=Z,18nm,1.0s							
GRR	**Gorron**	**82.22**	**318**	*e*P	P	21 01 47.8	-0.8
comp=Z,24nm,1.5s							
EPF	**Esparros**	**82.52**	**312**	*e*P	P	21 01 49.2	-1.2
ETSF	**Etsaut**	**83.19**	**312**	*e*P	P	21 01 53.6	-0.3
comp=Z,6.9nm,0.9s							
SGMF	**Saint Gilles**	**83.35**	**318**	*e*P	P	21 01 53.9	-0.6
comp=Z,16nm,0.9s							
SJPF	**Ste Jean**	**83.62**	**313**	*e*P	P	21 01 55.9	-0.1
ROSF	**Rostrenen**	**83.80**	**318**	*e*P	P	21 01 56.1	-0.7
comp=Z,11nm,0.9s							
QUIF	**Quistinic**	**83.83**	**318**	*e*P	P	21 01 55.8	-1.1
comp=Z,8.0nm,0.9s							
MAW	**Mawson**	**84.26**	**191**	P	P	21 01 59.6	+1.1
MAW	**Mawson**	**84.26**	**191**	P	P	21 01 59.6	+1.1
comp=Z,6.8nm,0.8s,baz=27,slow=8.5,SNR=6.2							
IMA2	**Indian Mountai**	**86.42**	**22**	*e*P	P	21 02 09.3	-0.4
IMA2				*e*		21 02 17.3	
IM04	**Indian Mountai**	**86.43**	**22**	*e*P	P	21 02 09.4	-0.2
ESDC	**Sonseca Array**	**86.46**	**310**	P	P	21 02 10.1	-0.3
ESDC	**Sonseca Array**	**86.46**	**310**	P	P	21 02 10.1	-0.3
comp=Z,1.4nm,0.6s,baz=51,slow=4.6,SNR=15							
TORD	**Torodi Ar. Bea**	**88.13**	**283**	P	P	21 02 19.4	+0.5
TORD	**Torodi Ar. Bea**	**88.13**	**283**	P	P	21 02 19.4	+0.5
comp=Z,7.6nm,0.9s,baz=85,slow=4.4,SNR=32							
ILAR	**Eielson Array**	**89.53**	**22**	P	P	21 02 23.9	-0.6
ILAR	**Eielson Array**	**89.53**	**22**	P	P	21 02 23.9	-0.6
comp=Z,2.9nm,0.8s,baz=297,slow=4.3,SNR=33							
ILAR				LR	LR	21 46 03.8	
comp=Z,54nm,19.5s,baz=287,slow=38							
KDAK	**Kodiak Island**	**90.70**	**29**	P	P	21 02 30.5	+0.5
KDAK	**Kodiak Island**	**90.70**	**29**	P	P	21 02 30.5	+0.5
comp=Z,5.6nm,0.8s,baz=315,slow=5.7,SNR=5.7							
INK	**Inuvik**	**91.46**	**16**	*e*P	P	21 02 33.5	+0.2
comp=Z,5.8nm,1.0s							
INK				*e*		21 02 41.6	
DAWY	**Dawson**	**92.57**	**20**	*e*P	P	21 02 38.8	+0.1
DAWY				*e*		21 02 47.7	
YKA	**Yellowknife Ar**	**100.77**	**13**	P	**Pdif**	21 03 16.2	+0.5
YKA	**Yellowknife Ar**	**100.77**	**13**	P	**Pdif**	21 03 16.2	+0.5
comp=Z,1.3nm,0.8s,baz=334,slow=4.3,SNR=3.6							
PDAR	**Pinedale Array**	**119.85**	**19**	PKP	**PKPdf**	21 08 18.1	-0.1
PDAR	**Pinedale Array**	**119.85**	**19**	PKP	**PKPdf**	21 08 18.1	-0.1
comp=Z,1.5nm,0.8s,baz=271,slow=0.6,SNR=8.0							
NVAR	**Mina Array Bea**	**120.19**	**28**	PKP	**PKPdf**	21 08 20.2	+1.2
NVAR	**Mina Array Bea**	**120.19**	**28**	PKP	**PKPdf**	21 08 20.2	+1.2
comp=Z,2.3nm,0.7s,baz=286,slow=2.0,SNR=14							
TXAR	**Lajitas Array**	**134.03**	**20**	PKP	**PKPdf**	21 08 45.9	+0.4
TXAR	**Lajitas Array**	**134.03**	**20**	PKP	**PKPdf**	21 08 45.9	+0.4
comp=Z,1.3nm,0.8s,baz=238,slow=1.6,SNR=13							
BDFB	**Brasilia**	**142.31**	**262**	PKPpre	PKPpre	21 08 57.3	
BDFB	**Brasilia**	**142.31**	**262**	PKhKP	PKPpre	21 08 57.3	
comp=Z,2.1nm,0.5s,baz=55,slow=1.8,SNR=3.6							
CPUP	**Villa Florida**	**149.64**	**242**	PKPbc	**PKPbc**	21 09 17.1	-0.6
CPUP				PKPab	**PKPab**	21 09 22.6	-0.1
CPUP	**Villa Florida**	**149.64**	**242**	PKPbc	**PKPbc**	21 09 17.1	-0.6
comp=Z,2.6nm,0.6s,baz=83,slow=2.7,SNR=7.5							
CPUP				PKPab	**PKPab**	21 09 22.6	-0.1
comp=Z,3.1nm,0.7s,baz=92,slow=4.9,SNR=9.0							
LPAZ	**La Paz**	**161.64**	**260**	PKP	**PKPdf**	21 09 30.3	+0.3
LPAZ				PKPab	**PKPab**	21 10 14.6	-0.5
LPAZ	**La Paz**	**161.64**	**260**	PKP	**PKPdf**	21 09 30.3	+0.3
comp=Z,0.7nm,0.7s,baz=87,slow=4.6,SNR=4.0							
LPAZ				PKPab	**PKPab**	21 10 14.6	-0.5
comp=Z,2.9nm,0.9s,baz=119,slow=3.8,SNR=8.0							

NEIC ***13*** *21:15:17.3±0.8, 20°.94S×173°.94W, h35km, mb4.7/3, Error ellipse: s-maj=25.8km s-min=15.5km az=132.0*

ISC 13 21:15:17.9±0.8, 20°.6S±0°.1×174°.3W±0°.2, h27km, n58, σ1♀43/55, mb4.3/17, MS3.3/3, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.05**	**20**	Pn	**Pn**	**21 16 57.0**	**-2.4**
AFI				Sn	Sn	21 18 09.3	-9.4
AFI	**Afiamalu**	**7.05**	**20**	Pn	**Pn**	**21 16 57.0**	**-2.4**
8.2nm,0.3s,baz=314,slow=23,SNR=6.4							
AFI				Sn	Sn	21 18 09.3	-9.4
5.2nm,0.3s,baz=93,slow=19,SNR=2.4							
MSVF	**Nonsavu**	**7.77**	**290**	*e*Pn	Pn	21 17 18.5	+9.2
41nm,0.9s							
RAR	**Rarotonga**	**13.59**	**95**	LR	LR	21 22 37.9	
comp=Z,179nm,20.4s,baz=271,slow=33							
DZM	**Mont Dzumac**	**18.01**	**262**	*e*LR	LR	21 23 46.0	
222nm,22.1s							
DZM	**Mont Dzumac**	**18.01**	**262**	P	**P**	**21 19 28.4**	**+1.6**
DZM	**Mont Dzumac**	**18.01**	**262**	P	**P**	**21 19 28.4**	**+1.6**
0.3nm,0.3s,baz=87,slow=15,SNR=3.9							
URZ	**Urewera**	**19.14**	**201**	P	**P**	**21 19 36.9**	**-2.0**
URZ	**Urewera**	**19.14**	**201**	P	**P**	**21 19 36.9**	**-2.0**
0.9nm,0.3s,baz=45,slow=5.7,SNR=3.6							
PPT2	**Papeete2**	**23.54**	**87**	*e*LR	LR	21 25 55.7	
201nm,27.0s							
PPT	**Papeete**	**23.55**	**87**	LR	LR	21 26 12.6	
comp=Z,117nm,22.0s,baz=310,slow=28							
RPZ	**Rata Peaks**	**26.12**	**205**	P	**P**	**21 20 52.8**	**+3.2**
RPZ	**Rata Peaks**	**26.12**	**205**	P	**P**	**21 20 52.8**	**+3.2**
7.8nm,0.7s,baz=138,slow=5.0,SNR=3.7							
CTA	**Charters Tower**	**36.94**	**264**	P	**P**	**21 22 24.4**	**-0.6**
CTA	**Charters Tower**	**36.94**	**264**	P	**P**	**21 22 24.4**	**-0.6**
1.0nm,0.3s,baz=111,slow=3.7,SNR=3.8							
STKA	**Stephens Creek**	**40.89**	**245**	*e*P	**P**	**21 22 55.6**	**-2.4**
0.6nm,0.8s							
STKA	**Stephens Creek**	**40.89**	**245**	P	**P**	**21 22 56.0**	**-2.0**
1.4nm,0.5s,baz=86,slow=8.4,SNR=4.9							
AS31	**Alice Springs**	**47.88**	**256**	*e*P	**P**	**21 23 52.1**	**-1.9**
ASAR	**Alice Springs**	**47.88**	**256**	P	**P**	**21 23 52.3**	**-1.7**
ASAR	**Alice Springs**	**47.88**	**256**	P	**P**	**21 23 52.3**	**-1.7**
2.4nm,0.7s,baz=98,slow=7.8,SNR=46							
ASAR				LR	LR	21 42 49.1	
comp=Z,83nm,20.1s,baz=106,slow=35							
WRAB	**Tennant Creek**	**48.02**	**261**	*e*P	**P**	**21 23 54.5**	**-0.6**
2.1nm,0.7s							
WRA	**Warramunga Arr**	**48.03**	**261**	P	**P**	**21 23 53.0**	**-2.1**
WRA				PcP	**PcP**	**21 25 23.0**	**0.0**
WRA	**Warramunga Arr**	**48.03**	**261**	P	**P**	**21 23 53.0**	**-2.1**
1.8nm,0.6s,baz=97,slow=7.3,SNR=13							
WRA				PcP	**PcP**	**21 25 23.0**	**0.0**
0.7nm,0.7s,baz=99,slow=3.0,SNR=3.7							
FITZ	**Fitzroy Crossi**	**56.46**	**261**	P	**P**	**21 24 56.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**56.46**	**261**	P	**P**	**21 24 56.7**	**-1.0**
0.5nm,0.4s,baz=291,slow=22,SNR=9.3							
CASY	**Casey**	**65.39**	**205**	*e*P	P	21 25 53.1	-4.6
18nm,0.5s							
MJAR	**Matsushiro Arr**	**72.38**	**321**	P	**P**	**21 26 42.3**	**+0.7**
MJAR	**Matsushiro Arr**	**72.38**	**321**	P	**P**	**21 26 42.3**	**+0.7**
2.3nm,0.8s,baz=157,slow=6.5,SNR=8.6							
JNU	**Nakatsue**	**74.75**	**315**	P	**P**	**21 26 56.1**	**+0.5**
JNU	**Nakatsue**	**74.75**	**315**	P	**P**	**21 26 56.1**	**+0.5**
6.4nm,0.9s,baz=125,slow=9.1,SNR=3.6							
ASAJ	**Asahikawa**	**75.50**	**329**	P	**P**	**21 27 00.6**	**+1.0**
ASAJ	**Asahikawa**	**75.50**	**329**	P	**P**	**21 27 00.6**	**+1.0**
8.6nm,0.9s,baz=157,slow=13,SNR=2.8							
LPIG	**La Paz**	**76.48**	**58**	LR	LR	21 55 58.5	
comp=Z,4.9nm,18.8s,baz=193,slow=32							
PETK	**Petropavlovsk-**	**77.28**	**343**	P	**P**	**21 27 10.2**	**+0.6**
PETK	**Petropavlovsk-**	**77.28**	**343**	P	**P**	**21 27 10.2**	**+0.6**
1.4nm,0.6s,baz=145,slow=9.0,SNR=5.4							
NVAR	**Mina Array Bea**	**78.73**	**42**	P	**P**	**21 27 19.1**	**+0.8**
NVAR	**Mina Array Bea**	**78.73**	**42**	P	**P**	**21 27 19.1**	**+0.8**
1.4nm,0.6s,baz=227,slow=9.2,SNR=12							
KSRS	**Korea Array**	**79.28**	**317**	P	**P**	**21 27 22.7**	**+1.8**
1.1nm,0.7s,baz=138,slow=6.7,SNR=7.2							
KSAR	**Wonju Array Be**	**79.30**	**317**	P	**P**	**21 27 22.7**	**+1.6**
ILAR	**Eielson Array**	**87.65**	**11**	P	**P**	**21 28 03.0**	**-0.3**
ILAR	**Eielson Array**	**87.65**	**11**	P	**P**	**21 28 03.0**	**-0.3**
0.5nm,0.6s,baz=213,slow=6.2,SNR=7.1							
CMAR	**Chiang Mai Arr**	**93.42**	**288**	P	**P**	**21 28 33.2**	**+1.8**
**CMAR

BBOO	Buckleboo	39.42	167	P	P	21 31 23.7	+0.4
	baz=40,SNR=18						
STKA	Stephens Creek	40.15	159	P	P	21 31 29.7	+0.3
	5.8nm,0.8s,baz=323,slow=6.3,SNR=11						
STKA	Stephens Creek	40.15	159	P	P	21 31 30.1	+0.7
	baz=41,SNR=5.7						
MKAR	Makanchi Array	55.62	325	P	P	21 33 27.6	-1.0
	0.9nm,0.4s,baz=117,slow=7.5,SNR=24						
ZALV	Zalesovo Beam	58.59	333	P	P	21 33 47.3	-2.1
	0.6nm,0.4s,baz=126,slow=7.3,SNR=3.0						
TORD	Torodi Ar. Bea	121.70	289	PKP	PKPdf	21 42 45.5	-0.9
	0.5nm,0.6s,baz=55,slow=2.9,SNR=3.7						

DJA ***13*** *21:47:55.9±0.6, 3°S±9°×12°4E±°, h59km±53km, M4.9/7, mb5.5/3, mB5.6/3, MLv4.5/7, Mw(mB)5.2/3*
ISCJB ***13*** *21:47:56.1±0.7, 2°74S±0°06×123°88E±0°06, h33km, mb4.0/7, Error ellipse: s-maj=9.4km s-min=8.3km az=152.8*
IDC ***13*** *21:48:08.7±2.8, 3°23S×123°22E, h135km±30km, mb3.5/6, mb1 3.8/9, mb1mx3.5/23, mbtmp3.6/9, Error ellipse: s-maj=34.1km s-min=14.8km az=62.0*
ISC 13 21:47:57.3±0.9, 2°65S±0°07×123°91E±0°10, h35km, n20, σ0°96/16, mb4.0/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.96	324	P	Pn	21 48 27.8	-0.4
SKSI	Soroako, Sulaw	2.58	273	P	Pn	21 48 36.9	+0.2
GTOI	Gorontalo	3.39	345	P	Pn	21 48 49.0	+1.2
TTSI	Tana Toraja	4.11	264	P	Pn	21 48 57.4	-0.2
KAPI	Kappang	4.77	240	P	Pn	21 49 07.8	+1.0
KAPI	Kappang	4.77	240	P	Pn	21 49 08.0	+1.3
	23nm,0.3s,baz=81,slow=3.2,SNR=51						
KAPI				S	Sn	21 49 59.5	-1.4
	13nm,0.3s,baz=96,slow=20,SNR=8.2						
MMSI	Mamuju	5.00	269	P	Pn	21 49 11.0	+1.1
	148nm,0.5s,2μm0.7nm						
SOEI	Soe	7.07	177	P	Pn	21 49 47.4	+8.9
BATI	Baumata	7.51	182	P	Pn	21 49 48.5	+4.0
	6.0nm,0.3s,baz=46,slow=1.4,SNR=8.3						
WSI	Waingapu	7.84	207	P	Pn	21 49 49.7	+0.7
	1μm,0.4s,29μm6.4nm						
BAKI	Biak	12.27	83	P	Pn	21 50 43.8	-6.0
FITZ	Fitzroy Crossi	15.45	174	P	Pn	21 51 31.0	-1.7
	0.1nm,0.3s,baz=167,slow=5.7,SNR=5.1						
WRA	Warramunga Arr	19.98	150	P	P	21 52 27.4	+0.6
	0.6nm,0.3s,baz=327,slow=10,SNR=34						
ASAR	Alice Springs	23.02	156	P	P	21 52 59.5	0.0
	4.4nm,0.8s,baz=330,slow=7.4,SNR=40						
ASAR				PcP	PcP	21 56 48.6	+0.1
	0.8nm,0.5s,baz=355,slow=2.2,SNR=11						
CMAR	Chiang Mai Arr	32.32	311	P	P	21 54 23.9	+0.5
	0.6nm,0.3s,baz=123,slow=7.8,SNR=5.0						
STKA	Stephens Creek	33.50	152	P	P	21 54 34.1	+0.5
	3.4nm,0.9s,baz=314,slow=8.9,SNR=6.5						
MJAR	Matsushiro Arr	41.21	18	P	P	21 55 47.2	+8.4
	1.7nm,0.7s,baz=194,slow=9.6,SNR=6.6						
USRK	Ussuriysk Arra	47.20	8	P	P	21 56 37.0	+10
	2.9nm,0.8s,baz=195,slow=8.5,SNR=7.1						
MKAR	Makanchi Array	61.34	329	P	P	21 58 09.2	-0.4
	0.3nm,0.5s,baz=116,slow=7.0,SNR=5.5						
PETK	Petropavlovsk-	62.36	22	P	P	21 58 21.9	+5.6
	0.9nm,0.7s,baz=182,slow=9.8,SNR=3.4						

MDD ***13*** *21:52:32.6±1.5, 32°46N×4°96W, h0km, mb3.5/5, Error ellipse: s-maj=15.7km s-min=7.7km az=126.0, PRXIMO*
CNRM ***13*** *21:52:33.7, 34°41N×4°76W, h10km, MD3.2*
INMG ***13*** *21:52:34.5±1.3, 32°64N×5°07W, h0km, ML2.1, Error ellipse: s-maj=16.8km s-min=10.6km az=89.0*
CSEM ***13*** *21:52:35.0±0.6, 32°65N×5°17W, h10km, mb3.5/5, Error ellipse: s-maj=13.1km s-min=7.2km az=124.0*
ISC 13 21:52:35.3±1.7, 32°65N±0°07×5°01W±0°07, h10km, n39, σ1°89/61, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIF	Mishlifen	0.78	347	P	Pg	21 52 51.0	+0.6
MIF				S	Sb	21 53 05.0	+3.2
MIF	Mishlifen	0.78	347	P	Pg	21 52 51.0	+0.6
MIF				S	Sb	21 53 05.0	+3.2
KIB	El Ksiba	0.87	265	P	Pn	21 52 55.0	+1.3
KIB				S	Sn	21 53 09.0	+2.6
KIB	El Ksiba	0.87	265	P	Pn	21 52 55.0	+1.3
KIB				*i* S	Sn	21 53 09.0	+2.6
TZC	Tazercounte	1.35	249	P	Pn	21 52 57.0	-3.3
TZC				S	Sb	21 53 16.0	-2.1
TZC	Tazercounte	1.35	249	*i* P	Pn	21 52 57.0	-3.3
TZC				S	Sb	21 53 16.0	-2.1
TGT	Taghat	1.42	359	P	Pn	21 53 02.5	+1.3
TGT				S	Sb	21 53 23.0	+3.0
TGT	Taghat	1.42	359	P	Pn	21 53 02.5	+1.3
TGT				*i* S	Sb	21 53 23.0	+3.0
TZK	Tazeka	1.59	26	P	Pn	21 53 03.0	-0.8
TZK				S	Sn	21 53 24.0	-0.5
TZK	Tazeka	1.59	26	P	Pn	21 53 03.0	-0.8
TZK				S	Sn	21 53 24.0	-0.5
PBDV	Barranco-do-Ve	5.17	333	*e*Sn	Sn	21 54 50.9	-1.6
PBDV	Barranco-do-Ve	5.17	333	S	Sn	21 54 50.9	-1.6
PBDV	Barranco-do-Ve	5.17	333	S	Sn	21 54 50.9	-1.6
PVAQ	Vaqueiros	5.24	336	*e*Pn	Pn	21 53 53.1	-0.5
PVAQ				*e*Sn	Sn	21 54 51.1	-3.0
PVAQ				A	A	21 55 01.0	
	1.9nm,0.4s						
PVAQ	Vaqueiros	5.24	336	P	Pn	21 53 53.1	-0.5
PVAQ				S	Sn	21 54 51.1	-3.0
	1.9nm,0.4s						
PVAQ	Vaqueiros	5.24	336	P	Pn	21 53 53.1	-0.5
PVAQ				S	Sn	21 54 51.1	-3.0
	1.9nm,0.4s						
EGRO	El Granado	5.28	338	P	Pn	21 53 53.4	-0.8
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	21 54 52.4	-2.7
	1.1nm,0.2s,SNR=7.9						
EGRO	El Granado	5.28	338	P	Pn	21 53 53.4	-0.8
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	21 54 52.4	-2.7
	1.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.29	346	P	Pn	21 53 52.5	-1.7
	0.5nm,0.3s,SNR=7.9						
EMIN				S	Sn	21 54 52.9	-2.3
	0.5nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	5.29	346	P	Pn	21 53 52.5	-1.7
	0.5nm,0.3s,SNR=7.9						
EMIN				S	Sn	21 54 52.9	-2.3
	0.5nm,0.3s,SNR=7.9						
ECAB	El Cabril	5.42	357	P	Pn	21 53 56.3	+0.1
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	21 54 57.8	-0.9
	0.5nm,0.2s,SNR=7.9						
ECAB	El Cabril	5.42	357	P	Pn	21 53 56.3	+0.1
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	21 54 57.8	-0.9
	0.5nm,0.2s,SNR=7.9						
PFVI	Vila Bisbo	5.46	326	*e*Pn	Pn	21 53 56.3	-0.4
PFVI	Vila Bisbo	5.46	326	*e*Pn	Pn	21 53 56.3	-0.4
EADA	Adamuz	5.52	4	P	Pn	21 53 58.1	+0.6
	0.3nm,0.3s,SNR=7.9						
EADA				S	Sn	21 54 59.4	-1.6
	0.7nm,0.2s,SNR=7.9						
EADA	Adamuz	5.52	4	P	Pn	21 53 58.1	+0.6
	0.3nm,0.3s,SNR=7.9						
EADA				S	Sn	21 54 59.4	-1.6
	0.7nm,0.2s,SNR=7.9						
PCVE	Castro Verde	5.56	334	*e*Sn	Sn	21 54 59.2	-2.7
PCVE				A	A	21 55 02.5	
	0.7nm,0.2s						
PCVE	Castro Verde	5.56	334	S	Sn	21 54 59.2	-2.7
	0.7nm,0.2s						
PCVE	Castro Verde	5.56	334	S	Sn	21 54 59.2	-2.7
	0.7nm,0.2s						
PBAR	Barrancos	5.76	344	*e*Pn	Pn	21 54 00.3	-0.5
PBAR				*e*Sn	Sn	21 55 04.0	-2.9
PBAR				A	A	21 55 11.1	
	1.2nm,0.4s						
PBAR	Barrancos	5.76	344	P	Pn	21 54 00.3	-0.5
PBAR				S	Sn	21 55 04.0	-2.9
	1.2nm,0.4s						
PBAR	Barrancos	5.76	344	P	Pn	21 54 00.3	-0.5
PBAR				S	Sn	21 55 04.0	-2.9
	1.2nm,0.4s						
PNCL	Nicolau / Gran	6.16	333	*e*Sn	Sn	21 55 15.2	-1.6
PNCL	Nicolau / Gran	6.16	333	*e*Sn	Sn	21 55 15.2	-1.6

EBAD	Badajoz	6.31	346	P	Pn	21 54 07.2	-1.1
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 55 17.9	-2.5
	0.8nm,0.2s,SNR=7.9						
EBAD	Badajoz	6.31	346	P	Pn	21 54 07.2	-1.1
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	21 55 17.9	-2.5
	0.8nm,0.2s,SNR=7.9						
PMRV	Marv??o	7.03	345	*e*Pn	Pn	21 54 17.6	-0.7
PMRV	Marv??o	7.03	345	P	Pn	21 54 17.6	-0.7
PMRV	Marv??o	7.03	345	P	Pn	21 54 17.6	-0.7

WEL 13 22:10:54.3±0.2, 45°53S×166°67E, h21km±1km, ML4.1/18, Error ellipse: s-maj=2.2km s-min=1.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.35	82	P*	Pb	22 11 01.7	0.0
DCZ				S*	Sb	22 11 06.6	-0.1
DCZ				AML	AML	22 11 06.7	
DCZ				AML	AML	22 11 06.8	
DCZ				AML	AML	22 11 07.1	
WHZ	Wether Hill Ro	0.97	113	P*	Pb	22 11 12.0	-0.4
WHZ				AML	AML	22 11 32.0	
WHZ				AML	AML	22 11 39.3	
MLZ	Mavora Lakes	1.08	81	PN	Pn	22 11 13.1	-1.1
MLZ				SN	Sb	22 11 26.8	-1.1
MLZ				AML	AML	22 11 42.2	
MSZ	Milford Sound	1.24	47	PN	Pn	22 11 15.3	-1.0
MSZ				AML	AML	22 11 36.2	
MSZ				AML	AML	22 11 36.2	
MSZ				AML	AML	22 11 47.5	
MSZ				AML	AML	22 11 47.6	
APZ	The Paps	1.59	145	PN	Pn	22 11 21.5	+0.3
WKZ	Wanaka	1.81	68	PN	Pn	22 11 24.8	+0.6
WKZ				AML	AML	22 11 55.0	
WKZ				AML	AML	22 11 55.0	
WKZ				AML	AML	22 11 57.9	
WKZ				AML	AML	22 11 57.9	
EAZ	Earnscleugh	1.89	82	PN	Pn	22 11 26.4	+1.2
EAZ				AML	AML	22 12 09.0	
EAZ				AML	AML	22 12 09.0	
EAZ				AML	AML	22 12 09.9	
SYZ	Scrubby Hill	2.00	121	PN	Pb	22 11 28.5	-1.3
JCZ	Jackson Bay	2.08	46	PN	Pb	22 11 30.1	-1.3
JCZ				AML	AML	22 12 07.5	
JCZ				AML	AML	22 12 07.7	
TUZ	Tuapeka	2.12	103	PN	Pb	22 11 30.3	-1.6
TUZ				AML	AML	22 12 01.7	
TUZ				AML	AML	22 12 09.1	
LBZ	Lake Benmore	2.75	67	PN	Pn	22 11 37.3	+0.2
LBZ				AML	AML	22 12 15.8	
LBZ				AML	AML	22 12 17.3	
ODZ	Otahua Downs	2.85	82	PN	Pn	22 11 38.6	+0.1
FOZ	Fox Glacier	2.92	49	PN	Pb	22 11 43.0	-2.6
FOZ				AML	AML	22 12 32.0	
FOZ				AML	AML	22 12 35.3	
RPZ	Rata Peaks	3.62	61	PN	Pn	22 11 49.5	+0.4
RPZ				AML	AML	22 12 35.3	
RPZ				AML	AML	22 12 36.8	
WVZ	Waitaha Valley	3.81	51	PN	Pb	22 11 56.7	-4.2
LTZ	Lake Taylor	4.88	58	PN	Pn	22 12 11.3	+4.9
THZ	Tophouse	5.89	52	PN	Pn	22 12 22.5	+2.2
QRZ	Quartz Range	6.36	44	PN	Pn	22 12 28.2	+1.5
QRZ				AML	AML	22 13 49.9	
QRZ				AML	AML	22 13 54.3	

ISCJB ***13*** *22:25:03.8±0.7, 49°5S±0°1×115°9W±0°2, h10km, mb4.1/11, MS4.0/7, Error ellipse: s-maj=23.9km s-min=15.8km az=39.6*
IDC ***13*** *22:25:03.6±0.6, 49°50S×116°04W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/15, mbtmp4.1/8, MS3.9/7, Ms1 3.9/7, ms1mx3.7/18, Error ellipse: s-maj=25.1km s-min=19.8km az=142.0*
NEIC ***13*** *22:25:04.9±0.4, 49°39S×115°94W, h10km, mb4.5/2, Error ellipse: s-maj=19.6km s-min=14.7km az=140.0*
ISC 13 22:25:05.1±0.5, 49°4S±0°1×115°9W±0°1, h10km, n61, σ0°93/60, mb4.2/11, MS4.1/7, 13C-2D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	39.65	81	P	P	22 32 36.9	-0.1
CFAA	Coronel Fontan	39.65	81	P	P	22 32 36.9	-0.1
	0.2nm,0.7s,baz=225,slow=7.6,SNR=6.1						
VNDA	Vanda	40.68	199	P	P	22 32 46.9	+2.0
VNDA	Vanda	40.68	199	P	P	22 32 46.9	+2.0
	1.5nm,1.0s,baz=95,slow=7.7,SNR=4.7						
QSPA	South Pole Qui	40.78	180	*e*P	P	22 32 46.6	+0.4
	9.9nm,1.0s						
QSPA				PcP	PcP	22 34 47.5	+0.4
QSPA	South Pole Qui	40.78	180	P	P	22 32 46.6	+0.4
	8.2nm,1.0s,baz=125,slow=5.0,SNR=16						
QSPA				PcP	PcP	22 34 47.4	+0.4
	2.2nm,1.0s,baz=58,slow=2.9,SNR=3.3						
CPUP	Villa Florida	50.25	85	P	P	22 34 00.8	-0.6
CPUP	Villa Florida	50.25	85	P	P	22 34 00.8	-0.6
	2.2nm,0.7s,baz=230,slow=8.5,SNR=5.7						
CPUP				LR	LR	22 51 48.3	
	comp=Z,167nm,19.0s,baz=188,slow=32						
SNAA	Sanae	50.41	158	P	P	22 34 01.8	-0.3
SNAA				PcP	PcP	22 35 18.6	-1.7
SNAA	Sanae	50.41	158	P	P	22 34 01.8	-0.3
	1.1nm,1.2s,baz=246,slow=10.0,SNR=3.5						
SNAA				PcP	PcP	22 35 18.6	-1.7
	0.4nm,0.8s,baz=270,slow=3.0,SNR=3.2						
LPAZ	La Paz	50.78	67	*e*P	P	22 34 05.2	-0.9
	8.2nm,1.4s						
LPAZ	La Paz	50.78	67	P	P	22 34 07.4	+1.3
	3.6nm,1.1s,baz=201,slow=7.6,SNR=8.2						
LPAZ				LR	LR	22 50 33.3	
	comp=Z,98nm,21.1s,baz=249,slow=30						
MSVF	Nonsavu	61.17	276	*e*P	P	22 35 12.7	-7.2
	50nm,0.8s						
BDFB	Brasilia	63.93	84	LR	LR	23 01 35.0	
	comp=Z,127nm,20.4s,baz=136,slow=34						
ROSC	El Rosal	64.98	47	LR	LR	22 58 26.8	
	comp=Z,55nm,19.1s,baz=196,slow=31						
STKA	Stephens Creek	73.86	240	LR	LR	23 06 06.3	
	comp=Z,98nm,18.1s,baz=204,slow=33						
TXAR	Lajitas Array	79.16	11	P	P	22 37 11.1	+1.3
TXAR	Lajitas Array	79.16	11	P	P	22 37 11.1	+1.3
	0.6nm,0.8s,baz=184,slow=8.8,SNR=5.4						
ASAR	Alice Springs	84.50	240	P	P	22 37 37.2	-1.1
ASAR	Alice Springs	84.50	240	P	P	22 37 37.2	-1.1
	2.8nm,1.0s,baz=143,slow=4.9,SNR=14						
ASAR				LR	LR	23 13 11.0	
	comp=Z,104nm,18.8s,baz=170,slow=34						
WRA	Warramunga Arr	87.17	242	P	P	22 37 49.5	-2.0
WRA	Warramunga Arr	87.17	242	P	P	22 37 49.5	-2.0
	1.1nm,1.1s,baz=156,slow=6.5,SNR=4.6						
NVAR	Mina Array Bea	87.49	358	LR	LR	23 09 46.5	
	comp=Z,45nm,19.0s,baz=301,slow=31						
PDAR	Pinedale Array	91.97	5	P	P	22 38 14.4	+0.8
PDAR	Pinedale Array	91.97	5	P	P	22 38 14.4	+0.8
	1.4nm,0.9s,baz=168,slow=4.6,SNR=9.2						
DIB	Dawson Inlet,	103.20	350	T	T	00 34 31.9	
	SNR=8.7						
DAVA	Damuels	144.57	72	*i*PKPab	PKPbc	22 44 40.2	+0.2
	14nm,1.5s						
STU	Stuttgart	144.74	70	*e*PKPdf	PKPbc	22 44 40.7	+0.5
CUC	Castrocucco	144.97	87	*e*PKPbc	PKPab	22 44 39.8	-1.5
FETA	Feichten	145.00	73	*i*PKPab	PKPab	22 44 41.4	+0.1
	23nm,1.1s,SNR=13						
RETA	Reutte	145.20	72	*i*PKPbc	PKPab	22 44 42.0	0.0
	15nm,1.7s,SNR=8.4						
MOTA	Moosalm	145.36	73	*i*PKPbc	PKPbc	22 44 42.3	-0.1
	28nm,1.5s,SNR=11						
WTTA	Wattenberg	145.66	73	*i*PKPab	PKPab	22 44 43.8	0.0
	15nm,1.3s,SNR=6.5						
OBKA	Obir	147.19	76	*i*PKPbc	PKPbc	22 44 47.9	+0.1
	18nm,1.4s,SNR=7.8						
NKC	Novy Kostel	147.24	68	*e*PKP	PKPbc	22 44 48.6	+0.8
MOA	Molln	147.53	73	*i*PKPbc	PKPbc	22 44 48.7	0.0
	13nm,1.5s,SNR=5.6						
GERES	GERESS Array B	147.54	71	PKPbc	PKPbc	22 44 48.6	-0.1
GERES	GERESS Array B	147.54	71	PKPbc	PKPbc	22 44 48.6	-0.1
	3.3nm,0.9s,baz=222,slow=1.8,SNR=25						
KHC	Kasperske Hory	147.56	71	*e*PKP	PKPbc	22 44 48.0	-0.7
KHC	Kasperske Hory	147.56	71	*e*PKPdf	PKPdf	22 44 47.2	+1.1

CLL	Collm	147.90	67	*i*PKPbc	PKPbc	22 44 50.2	+0.7
	comp=Z,15nm,1.2s						
ARSA	Arzberg	148.10	75	*i*PKPbc	PKPbc	22 44 50.3	+0.1
	comp=Z,10.0nm,1.3s,SNR=5.1						
BRG	Berggiesshubel	148.34	68	*i* P	PKPbc	22 44 51.4	+0.7
	comp=Z,16nm,1.3s						
PRU	Pruhonice	148.43	70	*e*PKP	PKPbc	22 44 51.3	+0.4
PRU				*ex*	x	22 45 02.3	
PVCC	Panska Ves	148.62	69	*e*PKP	PKPbc	22 44 52.1	+0.7
TREC	Trest	148.79	71	*e*PKP	PKPbc	22 44 52.0	+0.1
UPC	Upice	149.49	69	*e*PKP	PKPbc	22 44 54.9	+1.3
DPC	Dobruska-Polom	149.63	70	*e*PKP	PKPbc	22 44 54.5	+0.5
MORC	Moravsky Berou	150.22	71	*e*PKPbc	PKPbc	22 44 55.7	+0.3
OKC	Ostrava-Krasne	150.61	71	*e*PKP	PKPbc	22 44 57.1	+0.8
LSA	Lhasa	151.55	236	*e*PKPbc	PKPbc	22 45 00.0	+0.3
ULN	Ulaanbaatar	151.83	283	*e*PKPdf	PKPdf	22 44 51.1	-1.9
ULN				*e*PKPbc	PKPbc	22 44 58.8	-0.7
BRTR	Keskin Array B	156.40	103	PKP	PKPdf	22 45 00.1	+0.3
BRTR				PKPab	PKPab	22 45 28.5	+0.3
BRTR	Keskin Array B	156.40	103	PKP	PKPdf	22 45 00.1	+0.3
	comp=Z,0.9nm,0.9s,baz=220,slow=3.1,SNR=4.9						
BRTR				PKPab	PKPab	22 45 28.5	+0.3
	comp=Z,1.5nm,0.9s,baz=225,slow=3.5,SNR=7.8						
AKASG	Malin Array Be	157.71	73	PKP	PKPdf	22 45 00.5	-0.3
AKASG	Malin Array Be	157.71	73	PKP	PKPdf	22 45 00.5	-0.3
	comp=Z,0.2nm,0.3s,baz=326,slow=1.9,SNR=5.6						
ZALV	Zalesovo Beam	166.37	297	PKPab	PKPab	22 46 10.8	-0.4
ZALV	Zalesovo Beam	166.37	297	PKPab	PKPab	22 46 10.8	-0.4
	comp=Z,0.6nm,0.6s,baz=96,slow=4.5,SNR=3.6						
MK31	Makanchi Array	167.54	265	*e*PKPdf	PKPdf	22 45 09.4	-1.2
MKAR	Makanchi Array	167.54	265	PKPab	PKPab	22 46 17.4	+0.7
MKAR	Makanchi Array	167.54	265	PKPab	PKPab	22 46 17.4	+0.7
	comp=Z,0.9nm,1.0s,baz=96,slow=5.8,SNR=4.7						

IDC 13 22:27:23.8±10.0, 14°29N×93°90E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/27, mbtmp3.6/4, Error ellipse: s-maj=638.0km s-min=26.8km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.83	346	P	P	22 34 07.7	-0.1
	0.5nm,0.6s,baz=158,slow=8.3,SNR=6.0						
FITZ	Fitzroy Crossi	44.90	135	P	P	22 35 39.8	-0.6
	0.9nm,0.4s,baz=318,slow=9.6,SNR=8.2						
WRA	Warramunga Arr	52.34	130	P	P	22 36 38.3	+0.4
	0.3nm,0.6s,baz=309,slow=8.0,SNR=3.8						
ASAR	Alice Springs	54.34	133	P	P	22 36 52.5	-0.1
	0.2nm,0.3s,baz=316,slow=6.8,SNR=4.1						

IDC 13 22:48:53.9±0.7, 28°06S×63°26E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, Error ellipse: s-maj=25.6km s-min=21.4km az=82.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	56.14	200	P	P	22 58 34.9	0.0
	0.3nm,0.9s,baz=63,slow=2.3,SNR=3.1						
CMAR	Chiang Mai Arr	57.71	41	P	P	22 58 47.4	+0.7
	0.7nm,0.3s,baz=224,slow=7.6,SNR=4.6						
QSPA	South Pole Qui	62.09	180	P	P	22 59 16.4	0.0
	0.7nm,0.8s,baz=214,slow=2.7,SNR=4.9						
ASAR	Alice Springs	62.91	104	P	P	22 59 22.3	-0.1
	0.7nm,0.7s,baz=251,slow=6.0,SNR=7.5						
WRA	Warramunga Arr	64.64	100	P	P	22 59 33.8	-0.1
	1.0nm,0.7s,baz=246,slow=5.6,SNR=9.6						
TORD	Torodi Ar. Bea	72.29	296	P	P	23 00 21.6	0.0
	0.4nm,0.8s,baz=110,slow=7.2,SNR=2.9						
BRTR	Keskin Array B	72.86	336	P	P	23 00 25.0	+0.3
	0.3nm,0.5s,baz=155,slow=4.8,SNR=3.1						
MKAR	Makanchi Array	76.46	13	P	P	23 00 44.7	-0.6
	0.6nm,0.7s,baz=174,slow=4.4,SNR=6.2						
ZALV	Zalesovo Beam	83.77	13	P	P	23 01 24.4	-0.2
	2.3nm,0.8s,baz=195,slow=4.7,SNR=11						

IDC 13 23:14:34.0±3.5, 24°32S×178°98E, h586km±40km, mb3.3/9, mb1 3.5/10, mb1mx3.4/17, mbtmp3.3/10, Error ellipse: s-maj=25.6km s-min=21.1km az=66.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.74	278	P	P	23 17 09.7	-0.5
	2.1nm,0.3s,baz=82,slow=17,SNR=37						
URZ	Urewera	13.98	186	P	P	23 17 25.1	-7.5
	1.9nm,0.3s,baz=15,slow=3.7,SNR=10						
RPZ	Rata Peaks	20.41	197	P	P	23 18 32.5	+0.6
	3.5nm,0.5s,baz=0.0,slow=2.0,SNR=3.6						
STKA	Stephens Creek	33.70	249	P	P	23 20 27.8	-0.1
	2.9nm,0.5s,baz=96,slow=10,SNR=14						
ASAR	Alice Springs	41.05	261	P	P	23 21 27.4	-0.4
	4.3nm,0.8s,baz=96,slow=7.3,SNR=40						
WRA	Warramunga Arr	41.45	267	P	P	23 21 30.4	-0.6
	5.2nm,0.4s,baz=98,slow=8.4,SNR=201						
MJAR	Matsushiro Arr	71.72	326	P	P	23 24 57.1	-0.6
	1.2nm,0.5s,baz=168,slow=6.2,SNR=6.6						
KSRS	Korea Array	77.98	321	P	P	23 25 33.6	+1.1
	0.6nm,0.5s,baz=104,slow=3.9,SNR=3.5						
USRK	Ussuriysk Arra	80.61	328	P	P	23 25 47.0	+0.8
	1.8nm,0.6s,baz=134,slow=6.2,SNR=3.5						

	SNR=24							
ULHL	Ulahol	2.98	32	P		Pb	00 10 02.8	+0.5
	SNR=8.3							
CHMS	Chumysh	3.29	9	P		Pb	00 10 05.4	-2.0
	SNR=9.4							
TKM2	Tokmak 2	3.37	19	⇓Pn		Pb	00 10 06.7	-2.2
	8.0nm,0.6s							
TKM2				⇓Lg		Lg	00 11 00.7	
TKM2	Tokmak 2	3.37	19	P		Pb	00 10 07.0	-1.8
	SNR=14							
USP	Ospenovka	3.53	5	P		Pg	00 10 15.3	-1.2
	SNR=5.3							
KNDC	Almaty	4.09	31	⇑Pg		Pg	00 10 27.2	0.0
	19nm,0.4s							
KNDC				⇓Lg		Lg	00 11 24.2	
	89nm,0.6s							
KK31	Karatay Array	4.30	322	⇑Pn		Pn	00 10 15.6	+1.2
	1.7nm,0.3s,baz=133,slow=12,SNR=62							
KK31				⇓Pg		Pb	00 10 25.5	+1.0
	2.9nm,0.3s,baz=154,slow=17,SNR=7.1							
KK31				⇑Sn		Sn	00 11 08.3	+3.7
	6.7nm,0.5s							
KK31				⇑Lg		Lg	00 11 24.4	
	11nm,0.5s,baz=133,slow=29,SNR=3.9							
MK31	Makanchi Array	9.24	38	⇑Pn		Pn	00 11 25.9	+3.8
	0.8nm,0.8s							
MK31				⇓Lg		Lg	00 14 08.2	
	7.0nm,1.4s							
MKAR	Makanchi Array	9.24	38	Pn		Pn	00 11 27.3	+5.1
	0.0nm,0.3s,baz=223,slow=14,SNR=2.5							
MKAR				Lg		Lg	00 14 09.9	
	0.1nm,0.3s,baz=232,slow=25,SNR=3.5							
KURBB	Kurchatov Arra	11.32	15	⇑Lg		Lg	00 15 11.3	
	9.5nm,0.8s							
KURBB	Kurchatov Arra	11.32	15	Pn		Pn	00 11 53.5	+3.0
	0.1nm,0.3s,baz=201,slow=13,SNR=2.0							
KURBB				Lg		Lg	00 15 14.7	
	0.1nm,0.3s,baz=210,slow=29,SNR=8.6							
VOSK	Vostochnaya	13.15	352	⇓Pn		Pn	00 12 15.8	+0.1
	2.1nm,1.4s							
VOSK				⇑Lg		Lg	00 16 07.1	
	7.6nm,1.4s							
BVA0	Borovoye Array	13.52	350	⇑Pn		Pn	00 12 21.3	+0.6
	2.1nm,1.1s,baz=176,slow=12,SNR=7.0							
BVA0				⇓Lg		Lg	00 16 17.6	
	5.9nm,1.3s							
BVAR	Borovoye Array	13.52	350	Pn		Pn	00 12 20.3	-0.4
	0.1nm,0.3s,baz=172,slow=12,SNR=7.6							
BVAR				Lg		Lg	00 16 19.9	
	0.2nm,0.3s,baz=167,slow=30,SNR=4.0							
BVAR				LR		LR	00 17 49.8	
	comp=Z,29nm,19.5s,baz=131,slow=38							
BRVK	Borovoye	13.57	350	⇑Pn		Pn	00 12 23.4	+2.1
	4.3nm,1.0s							
BRVK				⇑Lg		Lg	00 16 20.5	
	11nm,1.1s							
AB31	Akbulak array	13.84	318	Pn		Pn	00 12 24.2	-0.9
	0.6nm,0.5s,baz=131,slow=12,SNR=19							
AB31				⇑Sn		Sn	00 14 57.1	-1.7
	1.0nm,0.7s							
AKTO	Aktyubinsk	15.55	319	⇑Pn		Pn	00 12 47.9	-0.3
	3.4nm,1.0s							
AKTO				⇑Sn		Sn	00 15 37.9	-2.6
	1.2nm,0.8s							
AKTO	Aktyubinsk	15.55	319	Pn		Pn	00 12 45.0	-3.2
	0.1nm,0.3s,baz=117,slow=15,SNR=2.9							
ZALV	Zalesovo Beam	15.96	24	Pn		Pn	00 12 55.4	+1.9
	0.0nm,0.3s,baz=217,slow=14,SNR=2.7							
FINES	FINESS Array B	36.26	323	P		P	00 16 11.3	-0.7
	2.6nm,1.0s,baz=117,slow=9.6,SNR=12							
ARCES	ARCESS Array B	39.15	335	P		P	00 16 35.9	-0.4
	7.2nm,1.1s,baz=96,slow=8.3,SNR=4.1							
GERES	GERESS Array B	43.13	303	P		P	00 17 08.7	-0.7
	0.2nm,0.5s,baz=92,slow=7.9,SNR=2.9							
NOA	NORSAR Array B	43.33	321	LR		LR	00 36 54.7	
	comp=Z,11nm,19.1s,baz=200,slow=38							
TORD	Torodi Ar. Bea	68.21	269	P		P	00 20 06.7	-3.2
	0.3nm,0.5s,baz=43,slow=4.8,SNR=9.5							
TSUM	Tsumeb	78.82	233	LR		LR	00 59 59.9	
	comp=Z,166nm,20.7s,baz=0.0,slow=39							
WRA	Warramunga Arr	81.72	124	P		P	00 21 25.6	-2.3
	0.5nm,0.9s,baz=325,slow=4.9,SNR=3.5							
ASAR	Alice Springs	84.19	127	P		P	00 21 40.8	+0.2
	0.1nm,0.3s,baz=321,slow=7.1,SNR=3.2							

*ISCJB **14** 00:14:18.7±1.1,39°.16S±0°.04×173°.52E±0°.07,h18km±7km, Error ellipse: s-maj=9.7km s-min=6.6km az=23.5*
*WEL **14** 00:14:19.3±0.1,39°.18S×173°.54E,h12km,ML3.5/24,Error ellipse: s-maj=1.2km s-min=0.8km az=90.0*
WEL Felt in the Taranaki region, maximum reported intensity MM 3.
*NEIC **14** 00:14:19.2,39°.18S×173°.53E,h12km,ML3.5(WEL),After WEL.*
NEIC Felt at Waipukurau.

ISC 14 00:14:19.0±1.6,39°.17S±0°.05×173°.55E±0°.06,h16km±9km, n38,σ0°57/40,2C-3D,Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWEZ	Newall Road	0.27	114	P*	Pb	00 14 25.3	-0.1
NWEZ				S*	Sg	00 14 29.2	+0.3
PKE	Pukeiti	0.34	95	⇓P*	Pb	00 14 26.7	0.0
PKE				S*	Sb	00 14 31.6	-0.2
PKE				AML	AML	00 14 31.7	
NEZ	North Egmont	0.43	104	P*	Pg	00 14 27.9	+0.1
NEZ				S*	Sg	00 14 33.8	0.0
DFE	Dawson Falls	0.46	111	⇑P*	Pg	00 14 28.0	-0.2
DREZ	Durham Road	0.50	93	⇓P*	Pb	00 14 29.4	0.0
DREZ				S*	Sb	00 14 36.5	-0.1
MHEZ	Mangahewa	0.61	82	P*	Pb	00 14 31.4	+0.2
VRZ	Vera Road	0.94	88	P*	Pb	00 14 36.6	-0.3
VRZ				AML	AML	00 14 50.1	
VRZ				AML	AML	00 14 51.1	
HIZ	Hauiti	1.21	58	⇓P*	Pn	00 14 40.7	-0.5
HIZ				AML	AML	00 14 58.2	
HIZ				AML	AML	00 14 58.4	
WAZ	Wanganui	1.26	118	⇑P*	Pn	00 14 41.8	-0.1
WAZ				S*	Sb	00 14 58.3	+0.1
WAZ				AML	AML	00 15 00.4	
TWVZ	Taurewa	1.47	87	PN	Pn	00 14 44.5	-0.4
TWVZ				AML	AML	00 15 04.2	
TWVZ				AML	AML	00 15 07.0	
MTVZ	Mangateitei	1.50	99	PN	Pn	00 14 45.5	+0.2
MTVZ				AML	AML	00 15 07.4	
MTVZ				AML	AML	00 15 09.3	
WPVZ	Whakapapa	1.55	92	PN	Pn	00 14 45.7	-0.3
WPVZ				AML	AML	00 15 09.6	
WPVZ				AML	AML	00 15 11.4	
FWVZ	Far West T-bar	1.56	94	PN	Pn	00 14 46.2	0.0
FWVZ				AML	AML	00 15 07.8	
FWVZ				AML	AML	00 15 09.4	
DRZ	Dome Shelter	1.57	95	AML	AML	00 15 09.6	
DRZ				AML	AML	00 15 12.0	
WTVZ	West Tongariro	1.58	89	AML	AML	00 15 10.4	
WTVZ				AML	AML	00 15 11.0	
NGZ	Ngauruhoe	1.59	91	AML	AML	00 15 10.5	
NGZ				AML	AML	00 15 10.5	
WNVZ	Wahianoa	1.60	96	PN	Pn	00 14 46.7	0.0
WNVZ				AML	AML	00 15 09.5	
WNVZ				AML	AML	00 15 12.8	
KRVZ	Karewarewa	1.63	88	PN	Pn	00 14 47.0	0.0
KRVZ				AML	AML	00 15 08.1	
KRVZ				AML	AML	00 15 12.3	
OTVZ	Oturere	1.64	91	PN	Pn	00 14 47.3	0.0
OTVZ				AML	AML	00 15 08.5	
OTVZ				AML	AML	00 15 18.4	
DUWZ	D'Urville Isla	1.66	170	PN	Pn	00 14 47.4	-0.1
KATZ	Kakaramea	1.68	84	PN	Pn	00 14 47.9	+0.1
KATZ				AML	AML	00 15 08.9	
KATZ				AML	AML	00 15 13.7	
MOVZ	Moawhango	1.72	99	PN	Pn	00 14 48.6	+0.2
MOVZ				AML	AML	00 15 11.2	
MOVZ				AML	AML	00 15 12.2	
RATZ	Rangitukua	1.75	81	PN	Pn	00 14 48.9	+0.2
RATZ				AML	AML	00 15 14.9	
RATZ				AML	AML	00 15 18.6	
WATZ	Wairara	1.76	76	PN	Pn	00 14 49.3	+0.4
QRZ	Quartz Range	1.83	205	PN	Pn	00 14 49.5	-0.3
QRZ				AML	AML	00 15 18.3	
QRZ				AML	AML	00 15 24.0	
BHHZ	Black Hill Sta	1.97	100	*e*PN	Pn	00 14 52.1	+0.3
KIW	Kapiti Island	1.99	149	PN	Pn	00 14 52.4	+0.4
KIW				AML	AML	00 15 20.6	
NNZ	Nelson	2.05	184	PN	Pn	00 14 52.9	+0.1
NNZ				AML	AML	00 15 31.5	
TSZ	Takapari Road	2.06	116	PN	Pb	00 14 54.7	-1.4
OGWZ	Otaki Gorge	2.06	144	PN	Pn	00 14 54.0	+1.0
TCW	Tory Channel	2.12	165	PN	Pn	00 14 54.5	+0.8
TCW				AML	AML	00 15 35.0	
TCW				AML	AML	00 15 35.3	
MRZ	Mangatainoka R	2.16	134	PN	Pn	00 14 55.8	+1.5
MRZ				AML	AML	00 15 26.1	
MRZ				AML	AML	00 15 26.9	
CAW	Cannon Point	2.26	150	AML	AML	00 15 30.8	
CAW				AML	AML	00 15 31.2	
TUWZ	Tuamarina	2.28	173	*e*PN	Pn	00 14 57.4	+1.5
TUWZ				AML	AML	00 15 38.7	
SNZO	South Karori	2.31	158	*e*Pn	Pn	00 14 57.0	+0.6
SNZO				*e*Sn	Sn	00 15 24.4	-0.1
URZ	Urewera	2.93	73	*e*PN	Pn	00 15 05.9	+1.1
KHZ	Kahutara	3.25	180	*e*Pn	Pn	00 15 09.2	0.0
OUZ	Omahuta	3.94	1	*e*Pn	Pn	00 15 19.4	+0.6

*ISCJB **14** 00:38:39.9±0.6,23°.13S±0°.05×68°.23W±0°.06,h125km±7km, mb3.5/2,Error ellipse: s-maj=8.5km s-min=8.0km az=20.9*
*IDC **14** 00:38:41.0±2.4,23°.32S×67°.91W,h95km±21km,mb3.5/2, mb1 3.8/4,mb1mx3.4/18,mbtmp3.6/4,Error ellipse: s-maj=36.3km s-min=23.0km az=108.0*
*GUC **14** 00:38:41.2±0.8,23°.19S×68°.38W,h107km±6km,ML4.0*

ISC 14 00:38:40.9±0.9,23°.16S±0°.06×68°.25W±0°.06,h116km±8km, n16,σ1°60/22,3C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.26	10	⇑*i*P	Pn	00 38 57.8	+0.2
SPCH				*i* S	Sn	00 39 09.8	-0.2
SPCH				AML	AML	00 39 10.7	
	comp=E,11μm,0.1s						
PB04	Plate Boundary	1.45	308	⇓*i*P	Pn	00 39 12.7	+5.3
PB04				*i* S	Sn	00 39 37.5	+10
PB04				AML	AML	00 39 42.6	
	comp=N,1μm,0.6s						
PB09	Plate Boundary	1.64	326	⇓*i*P	Pn	00 39 10.9	+0.9
PB09				*i* S	Sn	00 39 33.1	+1.2
PB09				AML	AML	00 39 36.4	
	comp=E,2μm,0.6s						
CEN1	Los Morros	1.81	262	⇑*i*P	Pn	00 39 14.0	+2.2
CEN1				*i* S	Sn	00 39 37.5	+2.1
CEN1				AML	AML	00 39 40.9	
	comp=N,703nm,0.7s						
ANCH	Antofagasta	2.05	255	⇓*i*P	Pn	00 39 13.8	-0.9
ANCH				*i* S	Sn	00 39 38.6	-2.1
ANCH				AML	AML	00 39 46.1	
	comp=E,1μm,0.2s						
PB07	Plate Boundary	2.08	313	⇓*i*P	Pn	00 39 15.4	0.0
PB07				*i* S	Sn	00 39 41.3	-0.4
PB07				AML	AML	00 39 44.7	
	comp=E,1μm,0.3s						
PB10	Plate Boundary	2.15	260	⇑*i*P	Pn	00 39 15.2	-0.8
PB10				AML	AML	00 39 49.6	
	comp=N,3μm,0.6s						
PSGC	Pisagua	3.95	333	*e*P	Pn	00 39 37.8	-2.1
PSGC				*e*S	Sn	00 40 23.8	-1.8
MNMC	Minimini	4.20	342	*e*P	Pn	00 39 42.8	-0.6
MNMC				*i* S	Sn	00 40 31.3	-0.5
LPAZ	La Paz	6.84	1	P	Pn	00 40 22.1	+2.9
	comp=N,1.0nm,0.3s,baz=163,slow=2.8,SNR=21						
CFAA	Coronel Fontan	8.41	180	P	Pn	00 40 38.0	-2.0
	comp=N,0.1nm,0.3s,baz=5.7,slow=14,SNR=11						
SIV	San Ignacio	9.83	45	P	Pn	00 40 57.4	-1.8
	comp=N,2.7nm,0.3s,baz=245,slow=10,SNR=48						
SIV				S	Sn	00 42 46.1	-1.7
	comp=N,0.3nm,0.3s,baz=139,slow=20,SNR=5.3						
CPUP	Villa Florida	10.41	110	P	Pn	00 41 07.8	+0.7
	comp=N,0.2nm,0.3s,baz=270,slow=20,SNR=4.1						
PDAR	Pinedale Array	75.85	330	P	P	00 50 18.3	+3.6
	comp=N,0.2nm,0.5s,baz=131,slow=6.1,SNR=2.9						
TORD	Torodi Ar. Bea	77.35	70	P	P	00 50 24.6	+1.2
	comp=N,1.2nm,0.4s,baz=255,slow=5.7,SNR=37						
MKAR	Makanchi Array	146.59	38	PKPbc	PKPab	00 58 10.7	+0.5
	comp=N,0.5nm,0.7s,baz=309,slow=3.9,SNR=4.4						

TAP 14 00:51:41.0,24°.61N×121°.81E,h71km,ML3.7,4C-6D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.04	88	⇓*i*P	Pn	00 51 51.9	+0.7
	baz=76						
TWC				S	Sn	00 51 59.7	+1.0
	baz=76						
ILA	Ilan	0.17	341	*e*P	Pn	00 51 52.4	+0.9
	baz=335						
ILA				*e*S	Sn	00 52 00.9	+1.6
	baz=335						
TWE	Neicheng	0.17	311	⇓*i*P	Pn	00 51 52.3	+0.8
	baz=306						
TWE				S	Sn	00 52 00.3	+1.0
	baz=306						
ENA	Nanau	0.19	199	⇓*i*P	Pn	00 51 52.2	+0.5
	baz=203						
ENA				S	Sn	00 52 00.7	+1.3
	baz=203						
ENTT	Nioudou	0.22	278	⇓*i*P	Pn	00 51 52.5	+0.7
	baz=278						
ENTT				S	Sn	00 52 00.8	+1.0
	baz=278						
NSK	Sanguang	0.42	279	⇑P	Pn	00 51 53.4	+0.2
	baz=289						
NSK				*i* S	Sn	00 52 02.1	-0.1
	baz=289						
NNS	Nan Shan	0.43	247	P	Pn	00 51 54.1	+0.7
	baz=246						
NNS				S	Sn	00 52 02.9	+0.4
	baz=246						
TWB1	Santiao Chiao	0.43	22	⇓*i*P	Pn	00 51 53.6	+0.4
	baz=32						
TWB1				*i* S	Sn	00 52 02.5	+0.3
	baz=32						
NWF	Wu-fen Shan	0.46	357	*i* P	Pn	00 51 54.2	+0.5
	baz=356						
NWF				*i* S	Sn	00 52 03.4	+0.5
	baz=356						
TAP1	Taipei	0.50	329	*e*P	Pn	00 51 54.0	+0.1
	baz=320						
TAP1				*e*S	Sn	00 52 03.7	+0.4
	baz=320						
TAP	Taipei	0.51	327	*e*P	Pn	00 51 54.4	+0.5
	baz=320						
TAP				S	Sn	00 52 04.1	+0.6
	baz=320						
TWD	Chiawan	0.56	200	*e*P	Pn	00 51 54.1	-0.3
	baz=208						
TWD				*e*S	Sn	00 52 03.9	-0.4
	baz=208						
HWA	Hwalien	0.66	197	*e*P	Pn	00 51 56.6	+1.2
	baz=206						
NCU	National Centr	0.67	303	P	Pn	00 51 56.0	+0.4
	baz=292						
NCU				S	Sn	00 52 06.9	+0.5
	baz=292						
TWT	Tachien	0.68	239	*e*P	Pn	00 51 56.7	+0.8
	baz=232						
TWT				*e*S	Sn	00 52 08.1	+1.2
	baz=232						
WHF	Hehuan Shan	0.68	227	⇓P	Pn	00 51 56.7	+0.5
	baz=222						
WHF				S	Sn	00 52 07.8	+0.3
	baz=222						
TWY	Chenhua	0.69	344	⇑*i*P	Pn	00 51 56.4	+0.5
	baz=335						
TWY				*e*S	Sn	00 52 07.4	+0.6
	baz=335						
HSN	Hsinchu	0.79	284	*e*P	Pn	00 51 57.1	+0.2
	baz=285						
HSN				S	Sn	00 52 08.7	0.0
	baz=285						
ESL	Shilin	0.86	204	*e*P	Pn	00 51 59.2	+1.4
	baz=202						
NSY	Sanyi	0.97	259	*e*P	Pn	00 52 00.1	+0.9
	baz=257						
NSY				*e*S	Sn	00 52 14.0	+1.2
	baz=257						
TWQ1	Liyutan	0.98	255	⇑*i*P	Pn	00 51 59.9	+0.6
	baz=253						
TWQ1				*e*S	Sn	00 52 13.2	+0.3
	baz=253						
PCYT	Pengchaiyu	1.04	13	*i* P	Pn	00 52 00.6	+0.5
	baz=14						
PCYT				S	Sn	00 52 14.4	+0.1
	baz=14						
SMLT	Sun Moon Lake	1.10	229	P	Pn	00 52 01.9	+1.0
	baz=223						
SMLT				S	Sn	00 52 17.6	+1.9
	baz=223						
TYC	Yuchr	1.12	231	⇑*i*P	Pn	00 52 02.0	+1.0
	baz=238						
TYC				S	Sn	00 52 17.6	+1.8
	baz=238						
EHY	Hungye	1.18	202	*e*P	Pn	00 52 03.1	+1.3
	baz=200						
WNT	Mingjian	1.26	235	P	Pn	00 52 03.7	+0.9
	baz=244						
WNT				S	Sn	00 52 20.7	+1.5
	baz=244						
TWF1	Yuli	1.33	201	*e*P	Pn	00 52 03.6	-0.2
	baz=199						
YUS	Yu-Shan	1.36	215	*e*P	Pn	00 52 05.5	+0.7
	baz=208						
YUS				*e*S	Sn	00 52 23.5	+0.8
	baz=208						
CHN5	Tsauling	1.44	226	P	Pn	00 52 05.9	+0.6
	baz=234						
CHN5				S	Sn	00 52 25.3	+1.7
	baz=234						
CHKT	Chengkung	1.56	195	*e*P	Pn	00 52 08.8	+2.1
	baz=185						
CHY	Chiayi	1.68	229	*e*P	Pn	00 52 08.7	+0.3
	baz=237						
CHY				*e*S	Sn	00 52 30.2	+1.2
	baz=237						
WSF	Szhu	1.74	237	*e*P	Pn	00 52 09.6	+0.4
	baz=235						
WSF				*e*S	Sn	00 52 31.6	+1.0
	baz=235						
CHN1	Nanshi	1.84	220	*e*P	Pn	00 52 11.7	+1.2
	baz=231						
CHN1				*e*S	Sn	00 52 34.7	+1.7
	baz=231						
TWG	Pinlang	1.90	201	*e*P	Pn	00 52 10.7	-0.6
	baz=192						
WDGT	Dungji	2.38	236	*e*P	Pn	00 52 17.0	-0.7
	baz=234						
WDGT				*e*S	Sn	00 52 44.2	-1.7
	baz=234						
SCZT	Fangliau	2.48	206	*e*P	Pn	00 52 20.0	+0.9
	baz=204						

*NEIC **14** 01:01:32.4,19°.31N×65°.68W,h57km,MD3.7(RSPR), After RSPR.*

RSPR 14 01:01:32.4,19°.31N×65°.68W,h57km±8km,MD3.7/14, 30C-21D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.05	189	⇑*e*P	Pn	01 01 49.2	-1.8
CBYP	Canovanas	1.05	189	⇑*e*P	Pn	01 01 49.2	-1.8
CBYP	Canovanas	1.05	189	⇑*e*P	Pn	01 01 49.2	-1.8
HUMP	Col San Antoni	1.18	188	⇓*e*P	Pn	01 01 51.5	-1.2
HUMP	Col San Antoni	1.18	188	*e*S	Sn	01 02 06.8	-0.9
HUMP	Col San Antoni	1.18	188	⇓*e*P	Pn	01 01 51.5	-1.2
HUMP				*e*S	Sn	01 02 06.8	-0.9
HUMP	Col San Antoni	1.18	188	⇓*e*P	Pn	01 01 51.5	-1.2
HUMP				*e*S	Sn	01 02 06.8	-0.9
STVI	Saint Thomas	1.18	144	⇑*e*P	Pn	01 01 52.4	-0.3
STVI	Saint Thomas	1.18	144	*e*S	Sn	01 02 06.6	-1.2
STVI	Saint Thomas	1.18	144	⇑*e*P	Pn	01 01 52.4	-0.3
STVI				*e*S	Sn	01 02 06.6	-1.2
STVI	Saint Thomas	1.18	144	⇑*e*P	Pn	01 01 52.4	-0.3
STVI				*e*S	Sn	01 02 06.6	-1.2
MTP	Monte Pirata	1.22	174	⇑*e*P	Pn	01 01 52.1	-1.1
MTP	Monte Pirata	1.22	174	*e*S	Sn	01 02 07.5	-1.2
MTP	Monte Pirata	1.22	174	⇑*e*P	Pn	01 01 52.1	-1.1
MTP				*e*S	Sn	01 02 07.5	-1.2
MTP	Monte Pirata	1.22	174	⇑*e*P	Pn	01 01 52.7	-0.5
MTP				*e*S	Sn	01 02 07.5	-1.2
SJG	San Juan	1.27	200	⇑*e*P	Pn	01 01 53.4	-0.5
SJG	San Juan	1.27	200	⇑*e*P	Pn	01 01 53.4	-0.5
SJG	San Juan	1.27	200	⇑*e*P	Pn	01 01 53.4	-0.5
CPD	Cerro la Pandu	1.29	190	⇓*e*P	Pn	01 01 52.9	-1.3
CPD	Cerro la Pandu	1.29	190	*e*S	Sn	01 02 09.6	-0.9
CPD	Cerro la Pandu	1.29	190	⇓*e*P	Pn	01 01 52.9	-1.3
CPD				*e*S	Sn	01 02 09.6	-0.9
CPD	Cerro la Pandu	1.29	190	⇓*e*P	Pn	01 01 52.9	-1.3
CPD				*e*S	Sn	01 02 09.6	-0.9
TBVI	Tortola	1.35	131	⇓*e*P	Pn	01 01 54.2	-0.7
TBVI				*e*S	Sn	01 02 11.5	-0.3
TBVI	Tortola	1.35	131	⇓*e*P	Pn	01 01 54.2	-0.7
TBVI				*e*S	Sn	01 02 11.5	-0.3
TBVI	Tortola	1.35	131	⇓*e*P	Pn	01 01 54.2	-0.7
TBVI				*e*S	Sn	01 02 11.5	-0.3
AOPR	Arecibo Observ	1.40	227	⇓*e*P	Pn	01 01 54.4	-1.3
AOPR	Arecibo Observ	1.40	227	*e*S	Sn	01 02 12.9	-0.2
AOPR	Arecibo Observ	1.40	227	⇓*e*P	Pn	01 01 54.4	-1.3
AOPR				*e*S	Sn	01 02 12.9	-0.2
AOPR	Arecibo Observ	1.40	227	⇓*e*P	Pn	01 01 54.4	-1.3
AOPR				*e*S	Sn	01 02 12.9	-0.2
ABV	Anegada	1.40	114	⇓*e*P	Pn	01 01 55.0	-0.7
ABV	Anegada	1.40	114	⇓*e*P	Pn	01 01 55.0	-0.7
ABVI	Anegada Island	1.40	114	⇓*e*P	Pn	01 01 55.0	-0.7
CELP	Cerrillos	1.50	215	⇑*e*P	Pn	01 01 56.0	-1.0
CELP				*e*S	Sn	01 02 14.7	-0.8
CELP	Cerrillos	1.50	215	⇑*e*P	Pn	01 01 56.0	-1.0
CELP				*e*S	Sn	01 02 14.7	-0.8
CELP	Cerrillos	1.50	215	⇑*e*P	Pn	01 01 56.0	-1.0
CELP				*e*S	Sn	01 02 14.7	-0.8
LRS	Lares	1.50	227	⇑*e*P	Pn	01 01 55.9	-1.1
LRS	Lares	1.50	227	⇑*e*P	Pn	01 01 55.9	-1.1
LRS	Lares	1.50	227	⇑*e*P	Pn	01 01 55.9	-1.1
OBIP	Obispado Ponce	1.54	215	⇑*e*P	Pn	01 01 56.5	-1.0
OBIP	Obispado Ponce	1.54	215	*e*S	Sn	01 02 15.7	-0.7
OBIP	Obispado Ponce	1.54	215	⇑*e*P	Pn	01 01 56.5	-1.0
OBIP				*e*S	Sn	01 02 15.7	-0.7
OBIP	Obispado Ponce	1.54	215	⇑*e*P	Pn	01 01 56.5	-1.0
OBIP				*e*S	Sn	01 02 15.7	-0.7
AGPR	Aguadilla, PR	1.59	238	⇑*e*P	Pn	01 01 56.7	-1.5
AGPR	Aguadilla, PR	1.59	238	*e*S	Sn	01 02 16.5	-1.3
AGPR	Aguadilla, PR	1.59	238	⇑*e*P	Pn	01 01 56.7	-1.5
AGPR				*e*S	Sn	01 02 16.5	-1.3
AGPR	Aguadilla, PR	1.59	238	⇑*e*P	Pn	01 01 56.7	-1.5
AGPR				*e*S	Sn	01 02 16.5	-1.3
LSP	Las Mesas	1.75	230	⇑*e*P	Pn	01

SKR	**Severo-Kuril's**	**1.16**	**345**	*e*PN	Pg	01 20 29.5	-3.6
SKR				*e*S	Sg	01 20 46.0	-2.1
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,770nm,0.2s						
SKR				smax	smax		
	comp=E,590nm,0.2s						
SKR	**Severo-Kuril's**	**1.16**	**345**	*e*P	Pg	01 20 32.4	-0.7
SKR				*e*S	Sg	01 20 48.2	+0.1
PAU	**Pauzhetka**	**1.91**	**4**	PN	Pn	01 20 44.8	+0.7
PAU				S	Sb	01 21 09.4	-0.9
PAU	**Pauzhetka**	**1.91**	**4**	*e*P	Pn	01 20 44.8	+0.7
PAU				*e*S	Sb	01 21 09.4	-0.9
MIPR	**Malaya Ipel'ka**	**2.71**	**2**	P	Pn	01 20 56.5	+1.3
ASAK	**Asacha**	**2.94**	**16**	*e*P	Pn	01 21 00.4	+2.0
ASAK				*e*S	Sn	01 21 36.3	+2.2
MTVR	**Mutnovka**	**3.08**	**18**	*e*S	Sn	01 21 39.1	+1.2
RUS	**Russkaya**	**3.11**	**22**	PN	Pn	01 21 01.7	+1.0
RUS				S	Sn	01 21 38.6	+0.3
RUS	**Russkaya**	**3.11**	**22**	*e*P	Pn	01 21 01.7	+1.0
RUS				*e*S	Sn	01 21 38.6	+0.3
APC	**Apacha**	**3.38**	**6**	P	Pn	01 21 05.5	+1.1
UGLR	**Uglovaya**	**3.90**	**20**	*e*P	Pn	01 21 14.6	+2.9
UGLR				S	Sn	01 22 00.9	+2.9
SDLR	**Sedlovina**	**3.98**	**20**	P	Pn	01 21 14.8	+2.0
SDLR				*e*S	Sn	01 22 01.1	+1.1
SPN	**Mys Shipunski**	**4.14**	**30**	PN	Pn	01 21 16.7	+1.9
SPN	**Mys Shipunski**	**4.14**	**30**	*e*P	Pn	01 21 16.7	+1.9
SPN				*e*S	Sn	01 22 04.4	+0.9
GNL	**Ganaly**	**4.22**	**11**	*e*P	Pn	01 21 19.9	+3.9
MKZ	**Mys Kozlova**	**5.91**	**30**	PN	Pn	01 21 39.8	+0.7
MKZ	**Mys Kozlova**	**5.91**	**30**	*e*P	Pn	01 21 39.8	+0.7
KBTR	**Krutoberegovo**	**7.64**	**27**	PN	Pn	01 22 04.2	+1.4
KBTR	**Krutoberegovo**	**7.64**	**27**	*e*P	Pn	01 22 04.2	+1.4

IDC 14 01:25:37.3±10.0, 22°62.N×142°10.E, h282km±100km, mb3.4/8, mb1 3.5/8, mb1mx3.2/25, mbtmp3.4/8, Error ellipse: s-maj=38.4km s-min=22.8km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.97**	**191**	P	P	01 33 09.1	-0.2
	0.2nm,0.3s,baz=8.2,slow=7.9,SNR=8.0						
ZALV	**Zalesovo Beam**	**52.87**	**321**	P	P	01 34 23.6	-0.8
	0.8nm,0.3s,baz=118,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**53.34**	**312**	P	P	01 34 28.4	+0.5
	0.4nm,0.4s,baz=87,slow=9.5,SNR=8.4						
MKAR				PcP	PcP	01 35 32.4	+1.0
	0.3nm,0.6s,baz=81,slow=4.5,SNR=3.4						
ILAR	**Eielson Array**	**61.69**	**27**	P	P	01 35 25.9	+0.3
	0.3nm,0.6s,baz=256,slow=6.1,SNR=4.6						
ARCES	**ARCESS Array B**	**77.74**	**341**	P	P	01 37 03.1	+0.2
	5.7nm,0.9s,baz=64,slow=8.4,SNR=3.8						
KAF	**Kangasniemi**	**81.47**	**335**	*e*p	P	01 37 22.4	-0.6
	2.1nm,0.4s						
FINES	**FINESS Array B**	**81.92**	**334**	P	P	01 37 25.0	-0.3
	2.2nm,0.3s,baz=66,slow=4.5,SNR=40						
HFS	**Hagfors**	**87.50**	**337**	P	P	01 37 51.9	-1.1
	3.5nm,1.0s,baz=84,slow=4.5,SNR=5.8						
BRTR	**Keskin Array B**	**88.99**	**313**	P	P	01 38 00.2	-0.5
	0.2nm,0.4s,baz=82,slow=5.8,SNR=3.6						

*ISCJB **14** 02:00:24.2±0.6, 37°.88N±0°.02×36°.45E±0°.03, h5km±5km, Error ellipse: s-maj=4.1km s-min=3.2km az=144.3*
*ISK **14** 02:00:24.0, 37°.88N×36°.47E, h7km, MD3.7*
*DDA **14** 02:00:24.0, 37°.90N×36°.45E, h7km, MD3.6*
*NSSC **14** 02:00:25.5±1.5, 37°.72N×36°.24E, h117km±20km, ML3.2*
*CSEM **14** 02:00:25.2±0.1, 37°.86N×36°.47E, h8km, MD3.7, Error ellipse: s-maj=3.1km s-min=2.8km az=61.0*
ISC 14 02:00:24.7±1.0, 37°.86N±0°.02×36°.45E±0°.02, h14km±9km, n98, σ1°41/117, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.51**	**135**	*e*PG	**Pg**	**02 00 34.9**	**+0.2**
KMRS				*e*SG	**Sb**	**02 00 42.0**	**-0.7**
KMRS	**Kahramanmaras**	**0.51**	**135**	*e*Pg	**Pg**	**02 00 34.9**	**+0.2**
KMRS				*e*Sg	**Sb**	**02 00 42.0**	**-0.7**
AYKD	**Aykdinkavak**	**0.53**	**147**	*i* P	**Pg**	**02 00 35.3**	**+0.2**
AYKD				*i* S	**Sg**	**02 00 42.5**	**+0.3**
KOZT	**Kozan**	**0.62**	**233**	*e*PG	**Pg**	**02 00 37.2**	**+0.3**
KOZT	**Kozan**	**0.62**	**233**	*e*Pg	**Pg**	**02 00 37.2**	**+0.3**
PINB	**Pinarbasi**	**0.81**	**358**	*i* P	**Pg**	**02 00 39.1**	**-1.5**
PINB				*i* S	**Sg**	**02 00 50.9**	**-0.4**
PINB	**Pinarbasi**	**0.81**	**358**	*i* P	**Pg**	**02 00 39.1**	**-1.5**
PINB				*i* S	**Sg**	**02 00 50.9**	**-0.4**
CEYT	**Ceyhan**	**1.02**	**213**	*e*PG	**Pg**	**02 00 44.5**	**+0.2**
CEYT	**Ceyhan**	**1.02**	**213**	*e*Pg	**Pg**	**02 00 44.5**	**+0.2**
GZT	**Gaziantep**	**1.02**	**119**	*i* P	**Pg**	**02 00 44.5**	**+0.1**
GZT				*i* S	**Sn**	**02 00 60.0**	**+0.9**
DARE	**Darende-Malaty**	**1.08**	**49**	*e*PG	**Pb**	**02 00 43.9**	**-1.4**
BNN	**Bunyan**	**1.10**	**335**	*e*PN	**Pb**	**02 00 44.5**	**-1.0**
KUZU	**Kuzuini**	**1.20**	**155**	*i* P	**Pg**	**02 00 47.9**	**+0.2**
KUZU				*i* S	**Sn**	**02 01 06.0**	**+2.8**
KUZU	**Kuzuini**	**1.20**	**155**	*i* P	**Pg**	**02 00 47.9**	**+0.2**
KUZU				*i* S	**Sn**	**02 01 06.0**	**+2.8**
DRWC	**Darouich**	**1.25**	**172**	*e*P	**Pg**	**02 00 49.6**	**+0.8**
DRWC				*e*S	**Sg**	**02 01 05.5**	**+0.4**
DRWC				AML	AML	02 01 10.8	
	comp=N,658nm,0.4s						
DRWC				AML	AML	02 01 12.6	
	comp=E,709nm,0.4s						
DRWC	**Darouich**	**1.25**	**172**	*e*P	**Pg**	**02 00 49.6**	**+0.8**
	SNR=129						
DRWC				*e*S	**Sg**	**02 01 05.5**	**+0.4**
	comp=E,709nm,0.4s,SNR=129						
KARA	**Karaisali**	**1.26**	**242**	*e*PN	**Pg**	**02 00 49.0**	**+0.1**
KARA	**Karaisali**	**1.26**	**242**	*e*Pn	**Pg**	**02 00 49.0**	**+0.1**
NIG	**Nigde**	**1.47**	**280**	*e*PN	**Pn**	**02 00 51.5**	**+0.4**
NIG	**Nigde**	**1.47**	**280**	*e*Pn	**Pn**	**02 00 51.5**	**+0.4**
ATAB	**Bozova**	**1.52**	**104**	*i* P	**Pn**	**02 00 51.6**	**+0.1**
ATAB				*i* S	**Sg**	**02 01 14.0**	**+0.4**
ATAB	**Bozova**	**1.52**	**104**	*i* P	**Pn**	**02 00 51.6**	**+0.1**
ATAB				*i* S	**Sg**	**02 01 14.0**	**+0.4**
MYA	**Malataya**	**1.63**	**73**	*e*PN	**Pn**	**02 00 53.7**	**+0.6**
MYA	**Malataya**	**1.63**	**73**	*e*Pn	**Pn**	**02 00 53.7**	**+0.6**
HTY	**Hatay**	**1.75**	**188**	*e*PN	**Pb**	**02 00 55.9**	**-0.8**
HTY	**Hatay**	**1.75**	**188**	*e*Pn	**Pb**	**02 00 55.9**	**-0.8**
BTCH	**Batrach**	**1.82**	**180**	*e*P	**Pn**	**02 00 56.1**	**+0.4**
BTCH				*e*S	**Sn**	**02 01 16.5**	**-2.1**
BTCH				AML	AML	02 01 25.5	
	comp=E,213nm,0.5s						
BTCH				AML	AML	02 01 31.0	
	comp=N,539nm,0.4s						
BTCH	**Batrach**	**1.82**	**180**	*e*P	**Pn**	**02 00 56.1**	**+0.4**
	SNR=118						
BTCH				*e*S	**Sn**	**02 01 16.5**	**-2.1**
	comp=N,539nm,0.4s,SNR=118						
URFA	**Urfa**	**1.93**	**102**	*e*PN	**Pn**	**02 00 57.3**	**+0.1**
URFA	**Urfa**	**1.93**	**102**	*e*Pn	**Pn**	**02 00 57.3**	**+0.1**
YOZ	**Yozgat**	**1.98**	**334**	*e*PN	**Pn**	**02 00 58.9**	**+0.9**
YOZ	**Yozgat**	**1.98**	**334**	*e*Pn	**Pn**	**02 00 58.9**	**+0.9**
SLMH	**Al Salmeh**	**2.03**	**144**	*e*P	**Pn**	**02 00 58.7**	**+0.2**
SLMH				*e*S	**Sn**	**02 01 24.8**	**+1.1**
SLMH				AML	AML	02 01 41.3	
	comp=Z,197nm,0.5s						
SLMH	**Al Salmeh**	**2.03**	**144**	*e*P	**Pn**	**02 00 58.7**	**+0.2**
	SNR=113						
SLMH				*e*S	**Sn**	**02 01 24.8**	**+1.1**
	comp=Z,197nm,0.5s,SNR=113						
ARNB	**Al Arnab**	**2.03**	**191**	*e*P	**Pn**	**02 00 57.0**	**-1.7**
ARNB				*e*S	**Sn**	**02 01 21.4**	**-2.5**
ARNB				AML	AML	02 01 29.9	
	comp=E,146nm,0.4s						
ARNB				AML	AML	02 01 31.4	
	comp=N,79nm,0.6s						
ARNB	**Al Arnab**	**2.03**	**191**	*e*P	**Pn**	**02 00 57.0**	**-1.7**
	SNR=115						
ARNB				*e*S	**Sn**	**02 01 21.4**	**-2.5**
	comp=N,79nm,0.6s,SNR=115						
SVSK	**Karacayir**	**2.10**	**12**	*e*PN	**Pn**	**02 01 00.6**	**+1.1**
SVSK	**Karacayir**	**2.10**	**12**	*e*Pn	**Pn**	**02 01 00.6**	**+1.1**
ILIC	**ilic-Erzincan**	**2.30**	**46**	*e*PN	**Pn**	**02 01 03.0**	**+0.7**
ILIC	**ilic-Erzincan**	**2.30**	**46**	*e*Pn	**Pn**	**02 01 03.0**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.31**	**76**	*e*PN	**Pn**	**02 01 03.3**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.31**	**76**	*e*Pn	**Pn**	**02 01 03.3**	**+0.7**
SULT	**Sultanhani-AKS**	**2.34**	**279**	*e*PN	**Pn**	**02 01 04.2**	**+1.3**
SULT	**Sultanhani-AKS**	**2.34**	**279**	*e*Pn	**Pn**	**02 01 04.2**	**+1.3**
TOKT	**Tokat**	**2.46**	**2**	*e*PN	**Pn**	**02 01 05.4**	**+0.9**
TOKT	**Tokat**	**2.46**	**2**	*e*Pn	**Pn**	**02 01 05.4**	**+0.9**
PTK	**Pertek**	**2.53**	**65**	*e*PN	**Pn**	**02 01 06.4**	**+0.8**
PTK	**Pertek**	**2.53**	**65**	*e*Pn	**Pn**	**02 01 06.4**	**+0.8**
KAMT	**Kaman**	**2.62**	**306**	*e*PN	**Pn**	**02 01 08.1**	**+1.4**
KAMT	**Kaman**	**2.62**	**306**	*e*Pn	**Pn**	**02 01 08.1**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.62**	**15**	*e*PN	**Pn**	**02 01 08.0**	**+1.3**
RSDY	**Resadiye-TOKAT**	**2.62**	**15**	*e*Pn	**Pn**	**02 01 08.0**	**+1.3**
KFRA	**Kufra**	**2.66**	**174**	*e*P	**Pn**	**02 01 06.5**	**-0.8**
KFRA				*e*S	**Sn**	**02 01 35.2**	**-4.1**
KFRA				AML	AML	02 01 57.3	
	comp=E,232nm,0.8s						
KFRA				AML	AML	02 01 57.4	
	comp=N,541nm,0.3s						
KFRA	**Kufra**	**2.66**	**174**	*e*P	**Pn**	**02 01 06.5**	**-0.8**
	SNR=108						
JHLN	**Al Jahlan**	**2.71**	**143**	*e*P	**Pn**	**02 01 08.3**	**+0.4**
JHLN	**Al Jahlan**	**2.71**	**143**	*e*P	**Pn**	**02 01 08.3**	**+0.4**
	SNR=107						
CORM	**Corum**	**2.71**	**329**	*e*PN	**Pn**	**02 01 09.4**	**+1.4**
CORM	**Corum**	**2.71**	**329**	*e*Pn	**Pn**	**02 01 09.4**	**+1.4**
IKL	**Isikli**	**2.74**	**235**	*e*PN	**Pn**	**02 01 09.5**	**+1.2**
IKL	**Isikli**	**2.74**	**235**	*e*Pn	**Pn**	**02 01 09.5**	**+1.2**
EZC	**Erzincan**	**2.95**	**49**	*e*PN	**Pn**	**02 01 12.2**	**+0.8**
EZC	**Erzincan**	**2.95**	**49**	*e*Pn	**Pn**	**02 01 12.2**	**+0.8**
EREN	**Erenkoy**	**2.96**	**219**	*e*PN	**Pn**	**02 01 12.9**	**+1.6**
EREN	**Erenkoy**	**2.96**	**219**	*e*Pn	**Pn**	**02 01 12.9**	**+1.6**
DIY	**Diyarbakir**	**2.99**	**88**	*e*PN	**Pn**	**02 01 12.8**	**+1.0**
DIY	**Diyarbakir**	**2.99**	**88**	*e*Pn	**Pn**	**02 01 12.8**	**+1.0**
AFSR	**Af¨ar-Bala (A**	**3.08**	**302**	*e*PN	**Pn**	**02 01 15.0**	**+1.9**
AFSR	**Af¨ar-Bala (A**	**3.08**	**302**	*e*Pn	**Pn**	**02 01 15.0**	**+1.9**
ERZN	**Erzincan**	**3.09**	**55**	*e*PN	**Pn**	**02 01 14.2**	**+1.1**
KVT	**Kavak**	**3.23**	**355**	*e*PN	**Pn**	**02 01 16.7**	**+1.6**
KVT	**Kavak**	**3.23**	**355**	*e*Pn	**Pn**	**02 01 16.7**	**+1.6**
KONT	**Konya--Tatoy**	**3.23**	**273**	*e*PN	**Pn**	**02 01 17.0**	**+1.9**
KONT	**Konya--Tatoy**	**3.23**	**273**	*e*Pn	**Pn**	**02 01 17.0**	**+1.9**
LADK	**Ladik-KONYA**	**3.24**	**277**	*e*PN	**Pn**	**02 01 16.9**	**+1.6**
LADK	**Ladik-KONYA**	**3.24**	**277**	*e*Pn	**Pn**	**02 01 16.9**	**+1.6**
ANTO	**Ankara**	**3.49**	**306**	*e*PN	**Pn**	**02 01 20.7**	**+2.1**
ANTO	**Ankara**	**3.49**	**306**	*e*Pn	**Pn**	**02 01 20.7**	**+2.1**
GUMT	**Gumushane**	**3.51**	**41**	*e*PN	**Pn**	**02 01 20.6**	**+1.7**
GUMT	**Gumushane**	**3.51**	**41**	*e*Pn	**Pn**	**02 01 20.6**	**+1.7**
BNGB	**Bing¨¶l**	**3.51**	**70**	*e*PN	**Pn**	**02 01 20.5**	**+1.5**
CANT	**Cankiri**	**3.51**	**322**	*e*PN	**Pn**	**02 01 20.7**	**+1.8**
LOD	**Lodumlu**	**3.52**	**306**	*e*PN	**Pn**	**02 01 21.0**	**+1.9**
LOD	**Lodumlu**	**3.52**	**306**	*e*Pn	**Pn**	**02 01 21.0**	**+1.9**
TOS	**Tosya**	**3.68**	**330**	*e*PN	**Pn**	**02 01 23.0**	**+1.7**
TOS	**Tosya**	**3.68**	**330**	*e*Pn	**Pn**	**02 01 23.0**	**+1.7**
KIZT	**Kizilcal**	**3.73**	**287**	*e*PN	**Pn**	**02 01 24.0**	**+2.0**
KIZT	**Kizilcal**	**3.73**	**287**	*e*Pn	**Pn**	**02 01 24.0**	**+2.0**
BAYT	**Ayd¨–ntepe-Bay**	**3.83**	**47**	*e*PN	**Pn**	**02 01 25.1**	**+1.7**
BAYT	**Ayd¨–ntepe-Bay**	**3.83**	**47**	*e*Pn	**Pn**	**02 01 25.1**	**+1.7**
BYBT	**Boyabat**	**3.83**	**341**	*e*PN	**Pn**	**02 01 25.5**	**+2.3**
BYBT	**Boyabat**	**3.83**	**341**	*e*Pn	**Pn**	**02 01 25.5**	**+2.3**
CSS	**Prodhromos**	**3.83**	**222**	*e*PN	**Pn**	**02 01 25.2**	**+1.9**
CSS	**Prodhromos**	**3.83**	**222**	*e*Pn	**Pn**	**02 01 25.2**	**+1.9**
DIKM	**Dikmen**	**3.89**	**347**	*e*PN	**Pn**	**02 01 26.4**	**+2.2**
DIKM	**Dikmen**	**3.89**	**347**	*e*Pn	**Pn**	**02 01 26.4**	**+2.2**
EZM	**Erzurum**	**4.34**	**60**	*e*PN	**Pn**	**02 01 32.0**	**+1.4**
SIRT	**Sirnak**	**4.77**	**92**	*e*PN	**Pn**	**02 01 38.4**	**+2.2**
SIRT	**Sirnak**	**4.77**	**92**	*e*Pn	**Pn**	**02 01 38.4**	**+2.2**

IDC 14 02:03:51.5±8.8, 14°20N×93°64E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/26, mbtmp3.6/4, Error ellipse: s-maj=544.5km s-min=25.8km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.86**	**346**	P	P	02 10 35.7	-0.1
	0.2nm,0.5s,baz=160,slow=10,SNR=2.6						
FITZ	**Fitzroy Crossi**	**45.01**	**135**	P	P	02 12 08.4	-0.7
	0.7nm,0.4s,baz=332,slow=9.8,SNR=8.6						
WRA	**Warramunga Arr**	**52.48**	**129**	P	P	02 13 06.5	-0.1
	0.6nm,0.9s,baz=311,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**54.46**	**133**	P	P	02 13 21.6	+0.4
	0.6nm,0.4s,baz=309,slow=6.9,SNR=14						

*ISCJB **14** 02:17:19.5±0.2, 17°.61N±0°.04×95°.07W±0°.02, h132km±2km, mb3.8/28, Error ellipse: s-maj=6.2km s-min=3.1km az=15.8*
*MEX **14** 02:17:20.7±1.3, 17°.63N×95°.09W, h139km±9km, MD4.5*
*IDC **14** 02:17:22.0±0.9, 17°.76N×94°.84W, h135km±7km, mb3.6/18, mb1 3.8/21, mb1mx3.8/26, mbtmp3.6/21, MS2.9/2, Ms1 2.9/2, ms1mx2.3/42, Error ellipse: s-maj=16.1km s-min=10.5km az=46.0*
ISC 14 02:17:20.7±0.6, 17°62N±0°.04×95°.07W±0°.03, h132km±5km, n76, σ1°29/99, mb4.0/28, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.55**	**161**	*e*P	**Pn**	**02 17 40.3**	**0.0**
CMIG				*i* S	**Sn**	**02 17 54.4**	**-0.7**
TUIG	**Tuzandepetl**	**0.74**	**56**	*i* P	**Pn**	**02 17 41.5**	**-0.1**
TUIG				*i* S	**Sn**	**02 17 56.9**	**-0.5**
OXBJ	**Oaxaca**	**1.67**	**251**	*e*P	**Pn**	**02 17 50.6**	**-0.5**
OXBJ				*i* S	**Sn**	**02 18 13.0**	**-1.2**
VHO	**Vista Hermosa**	**1.68**	**251**	*e*P	**Pn**	**02 17 51.0**	**-0.1**
VHO				*i* S	**Sn**	**02 18 13.3**	**-1.0**
TGIG		**2.04**	**114**	*e*P	**Pn**	**02 17 55.2**	**-0.1**
TGIG				*e*S	**Sn**	**02 18 20.9**	**-0.9**
TGBT	**Tuxtla Gutierr**	**2.07**	**114**	*e*P	**Pn**	**02 17 54.1**	**-1.4**
TGBT				*e*S	**Sn**	**02 18 20.4**	**-1.8**
HUIG	**Huatulco**	**2.09**	**209**	*e*P	**Pn**	**02 17 54.7**	**-1.2**
HUIG				*e*S	**Sn**	**02 18 22.1**	**-0.8**
TPIG	**Tehuac#an**	**2.32**	**290**	*e*P	**Pn**	**02 17 58.1**	**-0.8**
TPIG				*e*S	**Sn**	**02 18 27.6**	**-0.7**
LVIG	**Laguna Verde**	**2.45**	**329**	*e*P	**Pn**	**02 17 58.2**	**-2.1**
LVIG				*i* S	**Sn**	**02 18 28.5**	**-2.4**
CCIG	**Comitan**	**3.10**	**115**	*e*P	**Pn**	**02 18 09.5**	**+0.6**
CCIG				*i* S	**Sn**	**02 18 45.8**	**-0.3**
PNIG	**Pinotepa**	**3.17**	**248**	*e*P	**Pn**	**02 18 07.0**	**-2.6**
PNIG				*i* S	**Sn**	**02 18 44.6**	**-2.7**
PPM	**Popocatepetl**	**3.67**	**294**	*e*P	**Pn**	**02 18 18.0**	**+1.4**
PPM				*i* S	**Sn**	**02 18 58.2**	**-1.7**
THIG		**3.81**	**135**	*i* P	**Pn**	**02 18 17.0**	**-0.9**
THIG				*i* S	**Sn**	**02 19 01.8**	**-0.5**
AMVM	**AMECAMECA**	**3.84**	**294**	*e*P	**Pn**	**02 18 19.2**	**+0.6**
SCIG	**Sabancuy**	**3.93**	**69**	*e*P	**Pn**	**02 18 19.0**	**-0.5**
SCIG				*i* S	**Sn**	**02 19 04.1**	**-1.0**
IIO	**Organos**	**3.98**	**300**	*e*P	**Pn**	**02 18 21.7**	**+1.1**
VTVM	**Tizayuca**	**4.11**	**302**	*i* P	**Pn**	**02 18 23.4**	**+1.2**
PBVM	**Pinon**	**4.22**	**296**	*i* P	**Pn**	**02 18 24.8**	**+1.5**
MZVM		**4.25**	**292**	*e*P	**Pn**	**02 18 25.3**	**+1.6**
PLIG	**Platanillo**	**4.29**	**281**	*e*P	**Pn**	**02 18 24.5**	**+0.1**
PLIG				*i* S	**Sn**	**02 19 11.0**	**-2.9**
PTVM	**Pico Tres Padr**	**4.31**	**298**	*e*P	**Pn**	**02 18 26.0**	**+1.1**
MEIG	**Mezcala**	**4.35**	**275**	*e*P	**Pn**	**02 18 24.7**	**-0.4**
MEIG				*i* S	**Sn**	**02 19 13.1**	**-2.2**
ZUVM	**ZUMPANGO**	**4.39**	**301**	*i* P	**Pn**	**02 18 26.8**	**+0.9**
MAVM	**Malinalco, Edo**	**4.41**	**288**	*e*P	**Pn**	**02 18 27.1**	**+1.0**
AZVM	**Cuida Lopez Ma**	**4.45**	**297**	*i* P	**Pn**	**02 18 26.7**	**0.0**
TOVM	**TOLUCA**	**4.68**	**291**	*i* P	**Pn**	**02 18 30.0**	**+0.2**
CAIG	**El Cayaco**	**5.00**	**264**	*e*P	**Pn**	**02 18 31.8**	**-2.0**
CAIG				*i* S	**Sn**	**02 19 28.3**	**-2.3**
ATVM	**ATLACOMULCO**	**5.00**	**296**	*e*P	**Pn**	**02 18 36.1**	**+2.0**
ARIG	**Puente Sto Nin**	**5.07**	**278**	*e*P	**Pn**	**02 18 35.1**	**+0.4**
ARIG				*i* S	**Sn**	**02 19 30.1**	**-2.4**
TEIG	**Tepich**	**6.93**	**67**	P	**Pn**	**02 18 58.0**	**-1.7**
	50nm,0.3s,baz=270,slow=8.4,SNR=240						
TEIG				S	**Sn**	**02 20 12.7**	**-4.6**
	baz=343,slow=19,SNR=4.0						
TEIG				LR	LR	02 22 18.9	
	comp=Z,81nm,18.4s,baz=332,slow=44						
JTS	**JuntasAbangare**	**12.22**	**125**	P	**Pn**	**02 20 10.7**	**+0.2**
	3.2nm,0.3s,baz=324,slow=18,SNR=10						
JTS				S	**Sn**	**02 22 26.7**	**+1.4**
	0.4nm,0.3s,baz=9.0,slow=19,SNR=2.1						
TXAR	**Lajitas Array**	**14.07**	**328**	P	**P**	**02 20 36.2**	**-1.7**
	0.1nm,0.3s,baz=153,slow=13,SNR=7.3						
LPIG	**La Paz**	**15.63**	**297**	P	**P**	**02 20 56.0**	**+0.8**
	2.2nm,0.3s,baz=117,slow=2.3,SNR=4.7						
ANMO	**Albuquerque**	**20.02**	**332**	P	**P**	**02 21 44.9**	**+1.5**
	1.7nm,0.6s,baz=142,slow=13,SNR=8.0						
TKL	**Tuckaleechee C**	**20.58**	**27**	P	**P**	**02 21 47.0**	**-2.1**
	3.9nm,0.4s,baz=185,slow=9.1,SNR=15						
PDAR	**Pinedale Array**	**27.94**	**337**	P	**P**	**02 22 58.9**	**+0.1**
	0.4nm,0.5s,baz=137,slow=10,SNR=4.4						
NVAR	**Mina Array Bea**	**29.02**	**320**	P	**P**	**02 23 11.1**	**+2.7**
	2.1nm,0.7s,baz=134,slow=9.4,SNR=9.9						
NVAR				pP	**pP**	**02 23 38.1**	**+1.4**
	3.9nm,0.7s,baz=138,slow=9.5,SNR=9.0						
SADO	**Sadowa**	**30.19**	**23**	P	**P**	**02 23 16.4**	**-2.0**
	1.7nm,0.3s,baz=259,slow=7.8,SNR=5.8						
ULM	**Lac du Bonnet**	**32.56**	**359**	P	**P**	**02 23 39.0**	**-0.2**
	1.1nm,0.3s,baz=159,slow=11,SNR=4.0						
YBH	**Yreka Blue Hor**	**33.71**	**321**	LR	LR	02 39 08.1	
	comp=Z,22nm,20.5s,baz=344,slow=39						
LPAZ	**La Paz**	**42.89**	**140**	P	**P**	**02 25 08.1**	**+1.0**
	2.9nm,0.7s,baz=330,slow=7.5,SNR=14						
SCHQ	**Schefferville**	**42.99**	**24**	P	**P**	**02 25 05.6**	**-1.1**
	3.0nm,0.6s,baz=247,slow=6.0,SNR=5.8						
YKA	**Yellowknife Ar**	**46.87**	**348**	P	**P**	**02 25 36.5**	**-0.7**
	1.4nm,0.5s,baz=152,slow=7.3,SNR=5.6						
BDFB	**Brasilia**	**56.95**	**123**	P	**P**	**02 26 53.1**	**+0.4**
	1.7nm,0.6s,baz=286,slow=17,SNR=3.5						
CPUP	**Villa Florida**	**57.04**	**139**	P	**P**	**02 26 53.2**	**+0.2**
	1.7nm,0.7s,baz=320,slow=12,SNR=6.2						
ILAR	**Eielson Array**	**58.37**	**337**	P	**P**	**02 27 02.6**	**+0.7**
	1.1nm,0.8s,baz=133,slow=5.1,SNR=18						
ILAR				pP	**pP**	**02 27 35.0**	**+1.9**
	0.6nm,1.0s,baz=104,slow=6.8,SNR=3.1						
ILAR				PcP	**PcP**	**02 27 51.5**	**+0.3**
	0.5nm,0.6s,baz=138,slow=2.4,SNR=5.7						
GRR	**Gorron**	**79.77**	**42**	*e*P	**P**	**02 29 14.0**	**-0.2**
	3.4nm,0.6s						
ESDC	**Sonseca Array**	**79.80**	**52**	P	**P**	**02 29 14.2**	**-0.4**
	0.1nm,0.3s,baz=290,slow=5.2,SNR=4.1						
FLN	**La Foliniere**	**79.92**	**42**	*e*P	**P**	**02 29 15.5**	**+0.5**
	12nm,1.2s						
LDF	**La Druitiere**	**80.19**	**42**	*e*P	**P**	**02 29 16.2**	**-0.3**
ETSF	**Etsaut**	**81.44**	**48**	*e*P	**P**	**02 29 23.2**	**-0.1**
	2.9nm,0.7s						
LFF	**La Frestale**	**81.77**	**46**	*e*P	**P**	**02 29 24.6**	**-0.3**
	3.7nm,0.5s						
RJF	**Les Rejaudoux**	**82.19**	**45**	*e*P	**P**	**02 29 26.5**	**-0.6**
	5.2nm,0.9s						
TCF	**Toulx Ste Croi**	**82.36**	**44**	*e*P	**P**	**02 29 27.4**	**-0.6**
	3.3nm,0.8s						
NOA	**NORSAR Array B**	**82.38**	**28**	P	**P**	**02 29 28.6**	**+0.8**
	1.0nm,0.7s,baz=293,slow=5.3,SNR=4.8						
BAIF	**Baives**	**82.48**	**40**	*e*P	**P**	**02 29 28.2**	**-0.3**
CAF	**Calviac**	**82.67**	**45**	*e*P	**P**	**02 29 29.7**	**0.0**
	2.0nm,0.6s					

WRA Warramunga Arr 49.48 257 P P 02 39 55.0 -1.0
WRA Warramunga Arr 49.48 257 P P 02 39 55.0 -1.0
12nm,0.7s,baz=96,slow=6.4,SNR=308
AS31 Alice Springs 49.76 252 eP P 02 39 57.1 -0.9
AS31 e 02 40 24.1
ASAR Alice Springs 49.76 252 P P 02 39 57.5 -0.6
ASAR Alice Springs 49.76 252 P P 02 39 57.5 -0.6
16nm,0.4s,baz=87,slow=7.7,SNR=317
ASAR LR LR 02 57 23.6
comp=Z,89nm,21.0s,baz=264,slow=32
KDU Kakadu 52.10 266 P P 02 40 15.2 -0.3
baz=52,SNR=3.7
MTN Manton Dam 53.36 265 P P 02 40 24.4 -0.5
baz=54,SNR=4.1
FORT Forrest 55.09 243 P P 02 40 36.3 -1.0
baz=55,SNR=18
KNRA Kununurra 55.20 261 P P 02 40 39.1 +0.9
baz=55,SNR=3.8
FITZ Fitzroy Crossi 57.85 258 P P 02 40 57.9 +0.9
baz=58,SNR=6.8
MBWA Marble Bar 63.01 254 eP P 02 41 31.4 -0.7
14nm,1.1s
VNDA Vanda 63.36 186 eP P 02 41 34.6 +1.1
4.6nm,0.9s
VNDA Vanda 63.36 186 P P 02 41 35.0 +1.5
5.2nm,0.8s,baz=6.3,slow=6.2,SNR=23
MEEK Meekatharra 63.47 248 P P 02 41 34.7 -0.5
baz=64,SNR=3.5
MJAR Matsushiro Art 68.68 320 P P 02 42 08.3 +0.1
MJAR Matsushiro Art 68.68 320 P P 02 42 08.3 +0.1
0.4nm,0.4s,baz=151,slow=5.2,SNR=2.9
SCI San Clemente I 71.37 47 ⇑P P 02 42 24.7 0.0
baz=72
JNU Nakatsue 71.51 313 LR LR 03 09 02.7
comp=Z,24nm,18.8s,baz=220,slow=32
CIS Catalina Islan 71.70 46 ⇑P P 02 42 26.6 -0.2
baz=72
PETK Petropavlovsk- 72.50 342 P P 02 42 31.3 +0.3
PETK Petropavlovsk- 72.50 342 P P 02 42 31.3 +0.3
9.0nm,0.7s,baz=140,slow=8.7,SNR=36
VES Vestal, Richgr 72.59 44 ⇑P P 02 42 32.1 +0.1
baz=73
EDW2 Edwards Air Fo 72.80 45 ⇓P P 02 42 33.3 0.0
baz=73,SNR=5.4
MONP Monument Peak 72.83 48 ⇑P P 02 42 34.1 +0.4
baz=73
ISA Isabella 72.90 44 ⇓P P 02 42 34.4 +0.5
baz=73
CMB Columbia Colle 73.00 42 eP P 02 42 33.9 -0.5
6.3nm,0.9s
PFO Pinyon Flat Ob 73.19 47 ⇑P P 02 42 35.6 -0.1
baz=73
BELC Belle Mtn. Jos 73.71 47 ⇑P P 02 42 38.8 +0.1
baz=74
MPMC Manual Prospec 73.79 45 ⇓P P 02 42 39.4 +0.2
baz=74,SNR=6.4
YBH Yreka Blue Hor 73.81 37 P P 02 42 38.8 -0.3
YBH Yreka Blue Hor 73.81 37 P P 02 42 38.8 -0.3
8.8nm,0.9s,baz=216,slow=1.7,SNR=19
GSC Goldstone 73.84 46 eP P 02 42 39.2 -0.2
2.4nm,0.8s
GSC Goldstone 73.84 46 ⇓P P 02 42 39.5 +0.1
baz=74
HEC Hector,Ludlow 73.92 46 ⇓P P 02 42 40.0 +0.1
baz=74
BC3 Big Chuckawall 73.92 48 ⇑P P 02 42 40.2 +0.3
baz=74
BEKR Beckworth 74.09 40 eP P 02 42 40.7 -0.2
3.3nm,0.9s
GMRC Granite Mounta 74.36 47 ⇓P P 02 42 42.9 +0.3
baz=74
GRAC Grapevine Rang 74.38 44 ⇑P P 02 42 43.2 +0.7
baz=74
IRM Iron Mountain 74.40 47 ⇑P P 02 42 43.0 +0.3
baz=74
FURC Furnace Creek, 74.44 45 ⇓P P 02 42 43.0 +0.3
baz=75
SHOC Shoshone 74.53 45 ⇑P P 02 42 43.4 +0.1
baz=75
NVAR Mina Array Bea 74.57 42 P P 02 42 43.8 0.0
NVAR Mina Array Bea 74.57 42 P P 02 42 43.8 0.0
7.0nm,0.7s,baz=227,slow=10,SNR=27
Y12C Blythe 74.63 48 ⇓P P 02 42 44.2 +0.2
baz=75
QSPA South Pole Qui 74.66 180 eP P 02 42 44.5 +0.7
18nm,1.1s
NV11 Mina Array Sit 74.66 42 eP P 02 42 44.0 -0.3
113A Mohawk Valley, 74.69 49 ⇑P P 02 42 44.8 +0.6
baz=75
214A Organ Pipe Nat 74.99 50 ⇓P P 02 42 46.8 +0.7
baz=75
PDMCI Parker Dam,Lak 75.19 48 ⇓P P 02 42 47.4 +0.3
baz=75
Z14A Wintersburg 75.58 49 ⇑P P 02 42 50.0 +0.6
baz=76
SHPR Sheep Range 75.61 45 eP P 02 42 49.7 0.0
1.2nm,0.7s
W13A Hualapai Mount 75.77 47 ⇓P P 02 42 51.2 +0.5
baz=76
Y14A Wickenburg 75.82 48 ⇑P P 02 42 51.4 +0.5
baz=76
KSRS Korea Array 75.88 316 P P 02 42 54.4 +3.4
0.5nm,0.3s,baz=139,slow=5.8,SNR=4.4
KSAR Wonju Array Be 75.90 316 P P 02 42 54.4 +3.3
R11A Troy Canyon, C 76.30 43 ⇓P P 02 42 53.7 +0.1
baz=76
WVOR Wild Horse Val 76.65 39 eP P 02 42 55.6 +0.2
6.7nm,0.9s
TUC Tucson 76.67 51 eP P 02 42 55.8 +0.1
5.7nm,1.0s
X16A Lo Mia Camp, P 77.19 49 ⇓P P 02 42 59.3 +0.6
baz=77
319A Douglas 77.38 52 ⇓P P 02 43 00.5 +0.8
baz=78
U15A North Rim 77.56 47 ⇑P P 02 43 01.2 +0.3
baz=78,SNR=9.7
WUAZ Wupatki 77.76 48 ⇓P P 02 43 03.0 +1.1
baz=78
220A Playas Peak, P 78.19 52 ⇓P P 02 43 05.0 +0.7
baz=78
X18A Snowflake 78.32 49 ⇑P P 02 43 05.4 +0.4
baz=78
MSU Marysvale 78.68 45 eP P 02 43 07.7 +0.7
3.1nm,1.1s
Z20A Nine Sixteen R 78.68 51 ⇑P P 02 43 07.2 +0.2
baz=79,SNR=5.3
MDJ Mudanjiang 78.78 323 P P 02 43 08.1 +1.0
MDJ pP pP 02 43 31.8 +0.4
MDJ sP sP 02 43 41.5 -0.1
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,46nm,3.8s
MDJ LR LR
comp=N,17nm,29.9s
MDJ LR LR
comp=E,23nm,29.9s
MDJ LR LR
comp=Z,23nm,29.9s
BMO Blue Mountains 78.84 37 eP P 02 43 06.7 -0.8
comp=Z,2.3nm,1.0s
BMO epP pP 02 43 30.3 -1.6
MFID Camas Ranch 78.91 39 ⇓P P 02 43 08.0 0.0
baz=79
121A Cookes Peak, D 79.03 52 ⇑P P 02 43 09.2 +0.3
baz=79
DUG Dugway 79.10 43 eP P 02 43 08.9 -0.2
comp=Z,3.0nm,1.2s
DUG epP pP 02 43 34.7 +1.2
DUG Dugway 79.10 43 ⇑P P 02 43 09.4 +0.3
baz=79
Y20A Horse Springs, 79.20 50 ⇑P P 02 43 10.5 +0.6
baz=79
Z21A St. Cloud Mine 79.46 51 ⇓P P 02 43 11.8 +0.5
baz=80,SNR=5.5
W20A Ramah 79.66 49 ⇓P P 02 43 12.7 +0.3
baz=80,SNR=6.5
HLID Hailey 79.85 39 eP P 02 43 13.1 -0.1
comp=Z,6.1nm,0.9s
HLID epP pP 02 43 35.7 -1.9
HLID Hailey 79.85 39 ⇑P P 02 43 13.5 +0.3
baz=80
Y22A Socorro 80.26 51 ⇑P P 02 43 15.7 +0.1
baz=80
324A Moseley Ranch, 80.33 54 ⇓P P 02 43 15.9 -0.1
baz=80
425A Indio Mountain 80.45 54 ⇓P P 02 43 16.7 +0.1
baz=80,SNR=9.9

X22A Bernardo 80.48 50 ⇓P P 02 43 17.6 +0.9
baz=81
Z23A Rita Site, Whi 80.52 52 ⇓P P 02 43 17.1 +0.2
baz=81
224A Cornudas Mount 80.56 53 ⇓P P 02 43 17.4 +0.2
baz=81
626A Big Bend Ranch 80.63 56 ⇓P P 02 43 18.1 +0.6
baz=81
325A Bean Ranch, Si 80.70 54 ⇑P P 02 43 17.9 -0.1
baz=81,SNR=8.0
U21A Nageezi 80.85 48 ⇑P P 02 43 18.8 0.0
baz=81,SNR=6.2
526A Mary Lane Ranc 80.86 55 ⇑P P 02 43 19.0 +0.1
baz=81,SNR=5.3
124A Stringfield Ra 80.88 53 ⇓P P 02 43 19.2 +0.2
baz=81
NEW Newport 80.91 34 ⇓P P 02 43 18.7 +0.2
baz=81
TXAR Lajitas Array 80.91 56 P P 02 43 18.4 -0.6
TXAR Lajitas Array 80.91 56 P P 02 43 18.4 -0.6
comp=Z,1.5nm,0.9s,baz=216,slow=6.2,SNR=14
Y23A Lovelace Mesa, 80.94 51 ⇓P P 02 43 19.5 +0.2
baz=81
PMBI Palembang 80.98 269 P P 02 43 28.4 +8.8
baz=81,SNR=4.9
S20A Disappointment 80.99 47 ⇑P P 02 43 19.4 -0.1
baz=81
ANMO Albuquerque 81.08 50 eP P 02 43 19.9 -0.1
comp=Z,16nm,1.9s
ANMO Albuquerque 81.08 50 P P 02 43 19.8 -0.1
comp=Z,1.1nm,0.8s,baz=207,slow=7.1,SNR=6.4
225A Deer Hill, Car 81.12 53 ⇓P P 02 43 20.3 +0.1
baz=81,SNR=6.1
426A McDonald Obser 81.16 55 ⇑P P 02 43 20.6 +0.2
baz=81
MCK McKinley 81.18 11 eP P 02 43 19.3 -0.3
comp=Z,15nm,0.8s
627A Terlingua Ranc 81.18 56 ⇓P P 02 43 20.8 +0.3
baz=81,SNR=7.1
Z24A Sheeppen Canyo 81.21 52 ⇑P P 02 43 20.7 +0.1
baz=81
527A Woodward Ranch 81.28 56 ⇓P P 02 43 21.3 +0.3
baz=81
S21A Coal Bank Pass 81.31 47 ⇓P P 02 43 21.3 +0.1
baz=81,SNR=5.8
W23A Werner Place, 81.40 50 ⇑P P 02 43 22.3 +0.6
baz=82
Y24A Capitan 81.41 51 ⇓P P 02 43 21.9 +0.2
baz=82
125A Gardner Draw, 81.47 53 ⇑P P 02 43 22.6 +0.7
baz=82
Q20A Ridgley Place, 81.55 46 ⇓P P 02 43 22.6 +0.3
baz=82
628A Black Gap, Mar 81.60 56 ⇓P P 02 43 22.8 +0.2
baz=82,SNR=5.2
226B Tecolote Peak, 81.61 54 ⇓P P 02 43 22.5 -0.2
baz=82,SNR=5.3
V23A Ortiz Mt. (NFS 81.62 49 ⇑P P 02 43 23.3 +0.4
baz=82
T22A Edith 81.66 48 ⇑P P 02 43 22.4 -0.6
baz=82
RRI2 Red Ridge 81.66 41 eP P 02 43 22.1 -0.8
comp=Z,4.5nm,1.3s
RRI2 epP pP 02 43 48.0 +0.5
Z25A Roswell 81.68 52 ⇓P P 02 43 23.7 +0.6
baz=82
427A Hayter Ranch, 81.72 55 ⇓P P 02 43 23.5 +0.2
baz=82,SNR=5.4
P20A De Beque 81.74 45 ⇓P P 02 43 23.5 +0.2
baz=82
L18A Fontenelle, Gr 81.78 43 ⇑P P 02 43 23.7 +0.2
baz=82
R21A Cimarron 81.80 47 ⇓P P 02 43 24.2 +0.5
baz=82
I16A Newdale 81.83 40 ⇑P P 02 43 24.2 +0.5
baz=82
U23A El Rito 81.87 49 ⇑P P 02 43 24.5 +0.4
baz=82
MSO Missoula 81.89 37 ⇓P P 02 43 23.2 -0.6
baz=82
528A Cox Ranch, San 81.94 56 ⇓P P 02 43 24.8 +0.3
baz=82
126A Clayton Basin, 81.96 53 ⇓P P 02 43 24.7 +0.2
baz=82
Y25A Mesa, Roswell 81.97 52 ⇑P P 02 43 24.8 +0.2
baz=82
REDW Red Top Meadow 81.97 41 eP P 02 43 24.3 -0.2
comp=Z,1.7nm,0.9s
REDW epP pP 02 43 49.2 +0.2
TPAW Teton Pass 81.97 41 eP P 02 43 24.2 -0.3
comp=Z,4.0nm,1.0s
TPAW epP pP 02 43 47.5 -1.5
W24A Lazy 6 Ranch, 81.97 50 ⇑P P 02 43 24.6 0.0
baz=82
Q21A Lamborn Mesa, 82.00 46 ⇓P P 02 43 25.1 +0.4
baz=82
S22A 4UR Ranch, Cre 82.03 47 ⇑P P 02 43 25.2 +0.1
baz=82,SNR=9.7
O20A White River Ci 82.13 45 ⇑P P 02 43 26.0 +0.7
baz=82
IMW Indian Meadow 82.18 40 eP P 02 43 25.4 -0.2
comp=Z,1.4nm,0.6s
IMW epP pP 02 43 50.1 -0.1
428A Kincaid Ranch, 82.24 55 ⇓P P 02 43 26.6 +0.6
baz=82
Z26A Caprock 82.24 53 ⇑P P 02 43 26.1 +0.1
baz=82
LOHW Long Hollow 82.25 41 eP P 02 43 26.0 +0.1
comp=Z,2.1nm,0.9s
V24A Rampart Ranch, 82.29 50 ⇓P P 02 43 26.5 +0.2
baz=82
R22A Saguache, Gunn 82.30 47 ⇓P P 02 43 27.3 +0.8
baz=82
L19A Farson 82.31 43 ⇓P P 02 43 26.3 0.0
baz=82
529A Stev Forest Ra 82.38 56 ⇑P P 02 43 26.9 +0.2
baz=82
H16A Russell Place, 82.39 40 ⇑P P 02 43 27.2 +0.6
baz=82,SNR=6.2
P21A Newcastle 82.39 46 ⇑P P 02 43 27.1 +0.3
baz=82
328A Wristen Ranch, 82.40 55 ⇓P P 02 43 26.7 -0.1
baz=82
COLA College 82.41 11 eP P 02 43 25.6 -0.4
comp=Z,67nm,0.9s
I17A Pilgrim Ck. 82.42 41 ⇓P P 02 43 27.5 +0.7
baz=83
N20A Spence Gulch, 82.44 44 ⇑P P 02 43 26.8 -0.2
baz=83
Q22A Crested Butte, 82.47 46 ⇑P P 02 43 27.4 +0.1
baz=83,SNR=6.1
127A Arkansas Junct 82.48 53 ⇑P P 02 43 27.6 +0.3
baz=83
ILAR Eielson Array 82.50 11 P P 02 43 25.6 -0.9
ILAR Eielson Array 82.50 11 P P 02 43 25.6 -0.9
comp=Z,2.6nm,0.7s,baz=217,slow=4.4,SNR=2.0
PDAR Pinedale Array 82.50 42 P P 02 43 26.3 -1.0
PDAR Pinedale Array 82.50 42 P P 02 43 26.3 -1.0
comp=Z,2.9nm,0.7s,baz=206,slow=3.1,SNR=32
SMCO Snowmass 82.57 46 eP P 02 43 27.7 -0.3
comp=Z,3.8nm,0.9s
H17A Grant Village 82.65 40 ⇓P P 02 43 29.4 +1.4
baz=83
W25A X Bar L Ranch, 82.68 51 ⇑P P 02 43 28.2 0.0
baz=83
O21A Pagoda 82.69 45 ⇑P P 02 43 28.3 -0.1
baz=83
M20A Sweetwater, Wa 82.80 44 ⇓P P 02 43 29.1 +0.3
baz=83
V25A Rancho No Teng 82.82 50 ⇓P P 02 43 29.3 +0.2
baz=83
429A Davenport Ranc 82.83 56 ⇓P P 02 43 28.5 -0.6
baz=83,SNR=7.9
Z27A Tatum 82.85 53 ⇑P P 02 43 29.6 +0.4
baz=83
X26A CR and CF Fran 82.89 51 ⇓P P 02 43 29.9 +0.5
baz=83
P22A Eagle 82.90 46 ⇑P P 02 43 29.5 +0.1
baz=83
N21A Black Mountain 82.91 44 ⇓P P 02 43 29.9 +0.4
baz=83
L20A Wamsutter 82.94 43 ⇑P P 02 43 29.6 0.0
baz=83,SNR=12
R23A Moffat 82.94 47 ⇑P P 02 43 29.8 +0.1
baz=83
SDCO Great Sand Dun 82.98 48 eP P 02 43 29.2 -0.8
comp=Z,2.3nm,1.2s
K19A Absolon Red Bu 82.99 42 ⇑P P 02 43 29.4 -0.4

baz=83
J19A Crowheart 83.07 42 ⇑P P 02 43 29.4 -0.8
baz=83,SNR=5.5
329A Wagon Wheel Ra 83.09 55 ⇑P P 02 43 30.3 -0.1
baz=83
530A J-C Ranch, Com 83.10 56 ⇓P P 02 43 30.6 +0.1
baz=83
Y27A Causey 83.11 52 ⇑P P 02 43 30.1 -0.4
baz=83
128A Castleberry Fa 83.14 54 ⇓P P 02 43 31.2 +0.6
baz=83
S24A Houchin Ranch, 83.14 48 ⇑P P 02 43 30.7 -0.1
baz=83
C15A Salmond Ranch, 83.16 37 ⇑P P 02 43 30.2 -0.3
baz=83
U25A Circle Dot Ran 83.20 50 ⇓P P 02 43 31.2 +0.2
baz=83
K20A Yellowstone Ra 83.24 43 ⇑P P 02 43 30.8 -0.2
baz=83
Q23A Hartsel 83.25 47 ⇓P P 02 43 31.4 +0.1
baz=83
O22A Kremmling 83.30 45 ⇑P P 02 43 31.2 -0.3
baz=83,SNR=5.3
F17A Fitzpatrick Pl 83.35 39 ⇓P P 02 43 31.7 +0.2
baz=84
H18A Shoshone NF, C 83.36 40 ⇑P P 02 43 31.8 +0.1
baz=84,SNR=5.8
M21A Separation Pea 83.40 44 ⇓P P 02 43 31.7 -0.3
baz=84
229A Bryant Ranch, 83.41 54 ⇑P P 02 43 32.1 +0.1
baz=84
631A Perdido Creek 83.44 57 ⇓P P 02 43 32.5 +0.4
baz=84
MSTX Muleshoe 83.44 52 eP P 02 43 31.6 -0.6
MSTX Muleshoe 83.44 52 ⇑P P 02 43 32.1 -0.1
baz=84
X27A F and S Farms, 83.47 52 ⇑P P 02 43 31.8 -0.5
baz=84
R24A Sanders Place, 83.47 48 ⇑P P 02 43 32.5 +0.1
baz=84
B15A Bradely Ranch, 83.47 36 ⇑P P 02 43 31.3 -0.7
baz=84
I19A Meeteetse 83.47 41 ⇓P P 02 43 32.0 -0.2
baz=84
Z28A Tucker Farm, M 83.47 53 ⇑P P 02 43 32.3 -0.1
baz=84
T25A Trinidad 83.51 49 ⇑P P 02 43 32.6 0.0
baz=84
E17A Martinsdale 83.51 38 ⇑P P 02 43 32.5 +0.1
baz=84
L21A Rawlins 83.56 43 ⇓P P 02 43 32.3 -0.4
baz=84
N22A Wattenberg Ran 83.65 45 ⇓P P 02 43 33.5 +0.2
baz=84
W27A Bowe Ranch, En 83.66 51 ⇓P P 02 43 32.6 -0.7
baz=84
732A Laxson Ranch, 83.68 58 ⇓P P 02 43 34.3 +0.9
baz=84
U26A Atchley Ranch, 83.69 50 ⇑P P 02 43 33.4 -0.2
baz=84
330A Mertzon 83.70 55 ⇓P P 02 43 32.9 -0.6
baz=84
S25A Robets Cordova 83.71 48 ⇑P P 02 43 33.2 -0.3
baz=84
J20A Shoshoni 83.73 42 ⇓P P 02 43 33.2 -0.3
baz=84,SNR=9.7
G18A Lazy EL Ranch, 83.73 40 ⇓P P 02 43 33.3 -0.2
baz=84,SNR=5.3
531A Rocksprings 83.74 57 ⇑P P 02 43 33.7 0.0
baz=84
Q24A Divide 83.75 47 ⇓P P 02 43 33.7 -0.2
baz=84
O23A Lake Granby, G 83.76 46 ⇓P P 02 43 33.5 -0.4
baz=84
H19A Powell 83.78 40 ⇑P P 02 43 33.8 +0.1
baz=84,SNR=5.3
ISCO Idaho Springs 83.79 46 ⇑P P 02 43 34.2 +0.1
baz=84
Y28A McKinney Farm, 83.82 53 ⇓P P 02 43 33.7 -0.4
baz=84
M22A Cedar Creek Ra 83.82 44 ⇑P P 02 43 34.0 -0.2
baz=84
RLMT Red Lodge 83.82 40 eP P 02 43 33.6 -0.4
comp=Z,4.2nm,0.9s
RLMT epP pP 02 43 57.8 -0.9
F18A Big Timber 83.93 39 ⇑P P 02 43 34.6 +0.2
baz=84
K21A Alcova 83.94 43 ⇓P P 02 43 34.2 -0.4
baz=84
D17A Six Diamond Ra 83.96 38 ⇑P P 02 43 34.2 -0.4
baz=84,SNR=7.0
I20A Worland 83.98 41 ⇓P P 02 43 34.1 -0.6
baz=84,SNR=6.9
Z29A Hungry Hill Ra 83.99 53 ⇓P P 02 43 34.7 -0.2
baz=84
R25A Fountain Ranch 84.02 48 ⇑P P 02 43 35.0 -0.1
baz=84
N23A Red Feather La 84.04 45 ⇑P P 02 43 35.6 +0.3
baz=84
632A Uvalde 84.11 57 ⇓P P 02 43 35.8 +0.2
baz=84
J21A Lysite 84.14 42 ⇑P P 02 43 35.2 -0.4
baz=84,SNR=9.6
C17A Wharram Farm, 84.16 37 ⇓P P 02 43 35.1 -0.4
baz=84,SNR=7.4
COLD Coldfoot 84.18 9 eP P 02 43 35.4 +0.4
L22A Ellis Ranch, M 84.21 44 ⇓P P 02 43 35.9 -0.1
baz=84
532A Rocksprings 84.24 57 ⇑P P 02 43 36.4 +0.1
baz=84
Y29A Porterfield Fa 84.24 53 ⇑P P 02 43 36.5 +0.2
baz=84
F19A Roth Farm, Mol 84.37 39 ⇓P P 02 43 36.8 +0.2
baz=84
U27A Thompson Grove 84.38 50 ⇑P P 02 43 37.0 0.0
baz=84
S26A Kim 84.39 49 ⇑P P 02 43 36.7 -0.3
baz=84
Z30A Sanderson Ranc 84.44 53 ⇑P P 02 43 36.8 -0.4
baz=84
I21A Big Trails, Te 84.45 42 ⇓P P 02 43 36.3 -0.9
baz=85,SNR=5.6
G20A Bridger 84.52 40 ⇑P P 02 43 37.2 -0.3
baz=85
231A Bronte 84.57 55 ⇓P P 02 43 37.3 -0.6
baz=85
R26A Arlington 84.69 48 ⇑P P 02 43 38.3 -0.2
baz=85
N24A Carr 84.73 45 ⇓P P 02 43 38.9 +0.2
baz=85
L23A Garrett 84.74 44 ⇓P P 02 43 38.5 -0.2
baz=85
E19A Rath Farm, Rou 84.76 39 ⇓P P 02 43 38.9 +0.3
baz=85
131A Roby 84.79 54 ⇑P P 02 43 38.7 -0.3
baz=85
J22A Midwest 84.80 42 ⇑P P 02 43 38.5 -0.4
baz=85
332A Millersview 84.83 56 ⇓P P 02 43 39.0 -0.1
baz=85
A17A Triple J Farms 84.86 36 ⇑P P 02 43 38.9 -0.1
baz=85
232A Coleman 85.09 55 ⇓P P 02 43 40.3 -0.2
baz=85
B18A Beardsley Farm 85.11 37 ⇑P P 02 43 40.1 -0.1
baz=85
T28A Walsh 85.18 50 ⇑P P 02 43 41.4 +0.5
baz=85
C19A Slack Wire Ran 85.22 38 ⇓P P 02 43 40.6 -0.1
baz=85
Z31A Sharp Cattle R 85.22 54 ⇓P P 02 43 40.9 -0.2
baz=85
ABTX Abilene, Hawle 85.36 55 ⇓P P 02 43 41.7 0.0
baz=85
D20A Manuel Ranch, 85.45 39 ⇓P P 02 43 41.7 -0.3
baz=86
B19A Brinkman Farms 85.63 37 ⇑P P 02 43 43.0 +0.2
baz=86
Z32A Haskell 85.73 54 ⇑P P 02 43 43.6 -0.1
baz=86
D21A La Casta Ranch 86.13 39 ⇓P P 02 43 45.6 +0.3
baz=86
C23A Lambert 87.56 39 ⇓P P 02 43 52.3 +0.1
baz=88
GYA Guiyang 87.70 298 eP P 02 43 52.8 -0.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
A23A Redstone 88.25 38 ⇑P P 02 43 55.0 -0.4

	baz=88						
J28A	Allard Ranch, baz=88	88.27	44	⇑P	P	02 43 55.4	-0.3
INK	Inuvik comp=Z,3.3nm,0.9s	88.34	14	eP	P	02 43 55.2	-0.2
DGMT	Dagmar baz=89	88.45	39	⇓P	P	02 43 56.8	+0.4
HHC	Hu-ho-hao-te	88.74	313	eP	P	02 43 58.0	0.0
HHC				pP	pP	02 44 23.3	+0.4
HHC				sP	sP	02 44 34.0	+1.1
HHC				PP	PP	02 47 30.0	+1.6
HHC				SKS	SKSac	02 54 16.8	-2.3
HHC				S	S	02 54 35.8	-1.8
HHC				sS	sS	02 55 19.8	-0.5
HHC				SS	SS	03 00 32.5	+0.8
HHC	comp=Z,62nm,0.7s			pmax	pmax		
HHC	comp=Z,120nm,6.3s			pmax	pmax		
HHC	comp=N,260nm,17.8s			LR	LR		
HHC	comp=E,200nm,16.7s			LR	LR		
HHC	comp=Z,190nm,16.7s			LR	LR		
YKA	Yellowknife Ar	90.23	24	P	P	02 44 04.1	-0.2
YKA	Yellowknife Ar	90.23	24	P	P	02 44 04.1	-0.2
	comp=Z,2.2nm,0.9s,baz=243,slow=4.6,SNR=4.6						
KMI	Kunming	90.68	296	P	P	02 44 08.8	+1.2
KMI	comp=Z,7.0nm,0.9s			pmax	pmax		
CMAR	Chiang Mai Arr	92.25	288	P	P	02 44 16.1	+1.4
CMAR	Chiang Mai Arr	92.25	288	P	P	02 44 16.1	+1.4
	comp=Z,1.0nm,0.4s,baz=111,slow=4.9,SNR=3.6						
SYO	Syowa Base	92.54	191	⇓eP	P	02 44 13.0	-2.1
SYO	Syowa Base	92.54	191	⇓ePcP	P	02 44 14.8	-0.3
SNAA	Sanae	92.94	177	eP	P	02 44 17.5	+0.5
SNAA	Sanae	92.94	177	e	pP	02 44 42.8	+0.8
SNAA	Sanae	92.94	177	eP	P	02 44 17.1	+0.1
SNAA	comp=Z,5.5nm,1.1s			epP	pP	02 44 42.5	+0.5
VNA2	Neumayer--Watz	93.40	176	eP	P	02 44 19.6	+0.5
VNA2	Neumayer--Watz	93.40	176	e	pP	02 44 43.8	-0.2
VNA1	Neumayer--Stat	93.60	175	eP	P	02 44 21.2	+1.3
VNA1	Neumayer--Stat	93.60	175	e	pP	02 44 44.7	-0.2
MK31	Makanchi Array	110.55	315	ePKP	PKiKP	02 49 35.9	-0.4
MKAR	Makanchi Array	110.55	315	PKiKP	PKiKP	02 49 35.2	-1.1
MKAR	Makanchi Array	110.55	315	PKiKP	PKiKP	02 49 35.2	-1.1
	comp=Z,0.3nm,0.6s,baz=94,slow=2.6,SNR=4.6						
SPITS	Spitsbergen Ar	116.98	358	PKP	PKPdf	02 49 47.0	-0.8
SPITS	Spitsbergen Ar	116.98	358	PKP	PKPdf	02 49 47.0	-0.8
	comp=Z,1.7nm,0.6s,baz=96,slow=2.9,SNR=4.3						
BVAR	Borovoye Array	117.64	322	PKP	PKPdf	02 49 48.7	-0.9
BVAR	Borovoye Array	117.64	322	PKP	PKPdf	02 49 48.7	-0.9
	comp=Z,0.7nm,0.4s,baz=101,slow=7.7,SNR=3.9						
ARCES	ARCESS Array B	124.54	352	PKP	PKPdf	02 50 02.1	-0.3
ARCES	ARCESS Array B	124.54	352	PKP	PKPdf	02 50 02.1	-0.3
	comp=Z,3.3nm,0.6s,baz=0.1,slow=1.6,SNR=19						
FINES	FINESS Array B	131.84	347	PKP	PKPdf	02 50 16.4	-0.2
FINES	FINESS Array B	131.84	347	PKP	PKPdf	02 50 16.4	-0.2
	comp=Z,2.4nm,1.0s,baz=94,slow=4.2,SNR=5.7						
BOSA	Boshof	132.54	203	PKP	PKPdf	02 50 19.8	+0.7
BOSA	Boshof	132.54	203	PKP	PKPdf	02 50 19.8	+0.7
	comp=Z,6.6nm,1.2s,baz=144,slow=8.7,SNR=3.6						
NAO01	NORSAR Array S	134.48	357	ePKPdf	PKPdf	02 50 22.8	+1.3
HFS	Hagfors	134.98	355	PKP	PKPdf	02 50 22.1	-0.4
HFS	Hagfors	134.98	355	PKP	PKPdf	02 50 22.1	-0.4
	comp=Z,1.8nm,0.9s,baz=318,slow=2.0,SNR=1.1						
LSZ	Lusaka	142.59	216	ePKPdf	PKPdf	02 50 39.7	+1.8
CLL	Collm	143.75	353	ePKPbc	PKPab	02 50 36.4	+0.7
CLL	Collm	143.75	353	i PKPdf	PKPab	02 50 36.0	+0.3
	comp=Z,4.0nm,0.6s						
TSUM	Tsumeb	143.86	198	ePKPdf	PKPbc	02 50 38.2	+0.3
STHS	Stebnicka Huta	143.90	343	ePKP	PKPbc	02 50 38.2	+1.1
KOLS	Kolonicke sedl	144.04	342	ePKP	PKPdf	02 50 42.3	+3.0
BRG	Berggiesshubel	144.05	352	ePKP	PKPbc	02 50 37.5	+0.1
	comp=Z,7.1nm,1.4s						
BRG	Berggiesshubel	144.05	352	ePKPbc	PKPab	02 50 36.9	0.0
UPC	Upice	144.08	349	ePKP	PKPbc	02 50 37.9	+0.4
DPC	Dobruska-Polom	144.17	349	ePKP	PKPbc	02 50 38.2	+0.3
BURAR	Bucovina Array	144.21	338	⇑P	PKPdf	02 50 39.3	-0.5
OKC	Ostrava-Krasne	144.29	347	ePKP	PKPbc	02 50 38.5	+0.3
PVCC	Panska Ves	144.30	351	ePKP	PKPbc	02 50 38.8	+0.6
CRVS	Cervenica-Dubn	144.31	343	ePKP	PKPbc	02 50 38.5	+0.2
MORC	Moravsky Berou	144.48	347	ePKPdf	PKPab	02 50 38.8	+0.2
MOX	Moxa	144.56	354	ePKPbc	PKPab	02 50 39.0	+0.2
MOX				epPKPbc	pPKPdf	02 51 02.3	-3.9
TESR	Tescani	144.58	335	⇑P	PKPbc	02 50 39.9	+0.7
BEBN	Eben Emael	144.67	1	PKP	PKPbc	02 50 39.6	+0.3
TANN	Tannenbergstha	144.69	353	epPKPbc	pPKPdf	02 51 03.6	-2.9
PRU	Pruhonice	144.83	351	ePKP	PKPab	02 50 39.9	+0.1
MEM	Membach	144.86	0	PKP	PKPbc	02 50 39.9	0.0
NKC	Novy Kostel	144.87	353	ePKP	PKPab	02 50 40.5	+0.5
SNF	Seneffe	144.93	2	PKP	PKPab	02 50 40.5	+0.4
KECS	Kecovo	144.96	343	ePKP	PKPab	02 50 40.8	+0.4
CFR	Carcaliu	145.01	333	⇓P	PKPab	02 50 41.1	+0.5
VRI	Vrincioaia	145.07	335	⇑P	PKPbc	02 50 41.2	+0.4
PLOR	Plostina	145.11	335	⇓P	PKPbc	02 50 40.9	-0.1
VRAC	Vranov	145.12	348	PKPbc	PKPab	02 50 41.3	+0.4
VRAC	Vranov	145.12	348	PKPbc	PKPab	02 50 41.3	+0.4
	comp=Z,4.7nm,0.8s,baz=34,slow=7.3,SNR=10.0						
TNS	Taunus Mts	145.20	357	ePKPbc	PKPab	02 50 41.6	+0.3
TNS				epPKPbc	pPKPbc	02 51 07.2	+0.3
KMBO	Kilima Mbogo	145.20	245	ePKPbc	PKPdf	02 50 43.1	+0.4
KMBO	Kilima Mbogo	145.20	245	PKPbc	PKPdf	02 50 43.3	+0.6
	comp=Z,7.8nm,1.0s,baz=45,slow=10,SNR=13						
TREC	Trest	145.34	349	ePKP	PKPdf	02 50 41.5	-0.1
DOU	Dourbes	145.35	2	PKP	PKPdf	02 50 41.7	+0.2
DOU				APKP	pPKPdf	02 51 08.3	+0.8
ROTZ	Rotzenmuhle	145.36	353	ePKPbc	PKPdf	02 50 41.7	+0.1
GRF	Grafenberg Arr	145.54	354	ePKPbc	PKPab	02 50 42.9	+0.4
PSZ	Pisztesteto	145.64	344	ePKPbc	PKPab	02 50 43.4	+0.4
MLR	Muntele Rosu	145.69	335	⇓P	PKPbc	02 50 43.5	+0.6
MLR	Muntele Rosu	145.69	335	PKPbc	PKPbc	02 50 43.4	+0.5
MLR	Muntele Rosu	145.69	335	PKPbc	PKPbc	02 50 43.4	+0.5
	comp=Z,2.0nm,0.9s,baz=64,slow=5.2,SNR=11						
SMOL	Smolenice	145.69	347	ePKP	PKPbc	02 50 43.0	+0.3
DRGR		145.79	340	⇓P	PKPdf	02 50 42.9	+0.4
KHC	Kasperske Hory	145.81	351	ePKP	PKPbc	02 50 43.2	+0.1
KHC				esPKP		02 51 07.0	
KHC	Kasperske Hory	145.81	351	ePKPbc	PKPbc	02 50 43.1	+0.1
KHC				epPKPdf	pPKPdf	02 51 05.4	-3.0
WLF	Walferdange	145.81	0	PKP	PKPab	02 50 43.8	+0.3
WLF				APKP	pPKPdf	02 51 10.2	+1.9
WLF	Walferdange	145.81	0	ePKPbc	PKPab	02 50 44.0	+0.5
WLF	Walferdange	145.81	0	ePKPbc	PKPbc	02 50 43.4	+0.4
WLF				epPKPdf	pPKPdf	02 51 10.9	+2.6
BR131	Keskin Array S	145.91	321	ePKPbc	PKPbc	02 50 44.2	+0.3
BRTR	Keskin Array B	145.91	321	PKPbc	PKPbc	02 50 44.1	+0.3
BRTR	Keskin Array B	145.91	321	PKPbc	PKPbc	02 50 44.1	+0.3
	comp=Z,10nm,0.8s,baz=91,slow=3.8,SNR=60						
GEC2	GERESS Array S	146.07	351	ePKPbc	PKPbc	02 50 43.7	-0.2
GERES	GERESS Array B	146.07	351	PKPbc	PKPbc	02 50 43.9	0.0
GERES	GERESS Array B	146.07	351	PKPbc	PKPbc	02 50 43.9	0.0
	comp=Z,3.1nm,0.8s,baz=19,slow=3.2,SNR=30						
VOIR		146.10	336	⇓P	PKPab	02 50 44.9	+0.1
ARR	Arges	146.32	336	⇓P	PKPab	02 50 46.1	+0.4
CONA	Conrad Observa	146.58	348	⇑PKPab	PKPbc	02 50 45.8	+0.4
STU	Stuttgart	146.61	356	ePKPbc	PKPbc	02 50 45.6	+0.2
STU	Stuttgart	146.61	356	ePKPbc	PKPbc	02 50 45.1	-0.3
MOA	Molln	146.95	350	⇑PKPab	PKPbc	02 50 46.6	+0.2
	comp=Z,4.3nm,0.6s,SNR=6.1						
FUR	Furstenfeldbru	147.04	354	ePKPbc	PKPbc	02 50 46.5	-0.2
BFO	Black Forest	147.10	357	ePKPbc	PKPbc	02 50 46.9	+0.1
BFO	Black Forest	147.10	357	ePKPbc	PKPbc	02 50 46.5	-0.4
BFO				epPKPdf	pPKPdf	02 51 10.2	-0.4
BZS	Buzias	147.19	340	⇑P	PKPbc	02 50 46.5	-0.6
THEF	They Montfort	147.25	0	PKP	PKPbc	02 50 47.3	+0.1
ECH	Echery	147.25	359	ePKPbc	PKPbc	02 50 46.7	-0.5
ECH				epPKPdf	pPKPdf	02 51 11.2	+0.3
ECH	Echery	147.25	359	PKP	PKPbc	02 50 46.7	-0.5
RJOB	Jochberg	147.28	352	ePKPbc	PKPbc	02 50 47.9	+0.5
RJOB				epPKPbc	pPKPbc	02 51 11.9	-1.2
ASF	Jabal al Asfar	147.48	306	PKPbc	PKPbc	02 50 47.8	-0.6
ASF	Jabal al Asfar	147.48	306	PKPbc	PKPbc	02 50 47.8	-0.6
	comp=Z,2.0nm,0.5s,baz=309,slow=2.9,SNR=6.1						
PKSM	Moragy	147.55	344	⇓P	PKPdf	02 50 45.1	-0.2
MOF	Molkenrain	147.61	359	PKP	PKPbc	02 50 48.0	-0.3
RETA	Reutte	147.77	354	⇓P	PKPbc	02 50 48.8	+0.1
MOTA	Moosalm	147.87	354	⇓PKPbc	PKPbc	02 50 49.0	-0.2
	comp=Z,14nm,1.1s,SNR=6.0						
WTTA	Wattenberg	147.89	353	⇑PKiKP	PKPbc	02 50 49.3	+0.1
DAVA	Damuels	148.04	355	⇓PKiKP	PKPbc	02 50 49.9	+0.3
MMAI	Mount Meron Ar	148.26	309	PKPbc	PKPbc	02 50 50.8	+0.3
MMAI	Mount Meron Ar	148.26	309	PKPbc	PKPbc	02 50 50.8	+0.3
	comp=Z,6.7nm,0.6s,baz=70,slow=7.2,SNR=15						
ABTA	Abfaltersbach	148.29	352	⇑PKPbc	PKPbc	02 50 49.5	-0.7
	comp=Z,7.4nm,0.6s,SNR=7.2						
DAVOX	Davos/Dischmat	148.54	355	PKP	PKPdf	02 50 48.1	+0.8
DAVOX				PKPbc	PKPbc	02 50 51.4	+0.4
DAVOX	Davos/Dischmat	148.54	355	PKP	PKPdf	02 50 48.1	+0.8
	comp=Z,9.1nm,0.6s,baz=318,slow=2.7,SNR=28						
DAVOX				PKPbc	PKPbc	02 50 51.4	+0.4
	comp=Z,9.1nm,0.6s,baz=276,slow=2.8,SNR=36						
CSS	Prodhromos	148.82	314	ePKPdf	PKPdf	02 50 47.4	-0.4
CSS				ePKPbc	PKPbc	02 50 51.9	+0.1
CSS				ePKPab	PKPab	02 50 55.1	-0.7
TUE	Stuetta	148.89	356	ePKPbc	PKPbc	02 50 51.9	0.0
TUE				epPKPdf	pPKPdf	02 51 16.2	+2.4
VTS	Vitosha	149.20	335	⇓iP	PKPbc	02 50 53.1	+0.4
AGO	Saint Agoulin	149.31	4	PKP	PKPbc	02 50 52.9	+0.2
OG35	Corcelles	149.43	1	PKP	PKPbc	02 50 53.5	+0.5
PYM	Petit Puy Mans	149.61	4	PKP	PKPbc	02 50 53.9	+0.4
RSL	Roselend	149.78	359	PKP	PKPbc	02 50 54.6	+0.6
EIL	Elat	149.99	303	PKPbc	PKPbc	02 50 54.8	-0.1
EIL	Elat	149.99	303	PKPbc	PKPbc	02 50 54.8	-0.1
	comp=Z,7.9nm,0.9s,baz=58,slow=5.2,SNR=5.7						
LBL	Lubilhac	150.14	4	PKP	PKPbc	02 50 55.1	+0.3
SSB	Saint Sauveur	150.16	2	ePKPbc	PKPbc	02 50 54.9	+0.1
SSB	Saint Sauveur	150.16	2	PKP	PKPbc	02 50 55.2	+0.4
BNI	Bardonecchia	150.42	359	ePKPbc	PKPbc	02 50 56.0	+0.4
TOUF	Mont Tournerai	151.45	358	PKP	PKPbc	02 50 58.1	0.0
SAOF	Saorge	151.47	358	PKP	PKPbc	02 50 57.7	-0.2
LUCF	Luceram	151.57	358	PKP	PKPbc	02 50 57.9	-0.3
CALN	Calern	151.72	359	PKP	PKPbc	02 50 58.3	-0.3
REVF	Revere	151.72	358	PKP	PKPbc	02 50 58.3	-0.2
LARF	Larrau	151.75	11	PKP	PKPbc	02 50 59.1	+0.5
ATE	Arette	151.76	11	PKP	PKPbc	02 50 58.6	0.0
AQU	L'Aquila	152.42	348	ePKPbc	PKPbc	02 50 58.7	-1.4
ESDC	Sonseca Array	154.21	18	PKP	PKPdf	02 50 57.0	+1.1
ESDC				PKPbc	PKPbc	02 51 04.1	0.0
ESDC				PKPab	PKPab	02 51 18.4	+0.2
ESDC	Sonseca Array	154.21	18	PKP	PKPdf	02 50 57.0	+1.1
	comp=Z,0.1nm,0.3s,baz=342,slow=3.3,SNR=4.4						
ESDC				PKPbc	PKPbc	02 51 04.1	0.0
	comp=Z,0.1nm,0.3s,baz=324,slow=2.0,SNR=7.9						
ESDC				PKPab	PKPab	02 51 18.4	+0.2
	comp=Z,1.2nm,0.6s,baz=331,slow=3.8,SNR=9.3						
MDT	Midelt	160.05	28	PKP	PKPdf	02 51 05.2	+1.6
MDT				PKPab	PKPab	02 51 44.8	+1.2
MDT	Midelt	160.05	28	PKP	PKPdf	02 51 05.2	+1.6
	comp=Z,1.2nm,0.6s,baz=292,slow=5.0,SNR=3.5						
MDT				PKPab	PKPab	02 51 44.8	+1.2
	comp=Z,1.8nm,0.9s,baz=320,slow=8.6,SNR=3.8						
TORD	Torodi Ar. Bea	175.09	116	PKP	PKPdf	02 51 12.8	-1.7
TORD	Torodi Ar. Bea	175.09	116	PKP	PKPdf	02 51 12.8	-1.7
	comp=Z,1.1nm,1.0s,baz=7.8,slow=1.3,SNR=3.8						

KRSC 14 02:33:30.1±0.5, 49°.84N×156°.96E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.00	328	P	Pg	02 33 49.3	0.0
SKR				i S	Sg	02 34 02.5	+0.2
PAU	Pauzhetka	1.63	357	P	Pb	02 34 00.7	0.0
PAU				i S	Sg	02 34 23.3	+0.8
ASAK	Asacha	2.62	13	P	Pn	02 34 14.4	+1.3
MTVR	Mutnovka	2.76	16	eP	Pn	02 34 16.6	+1.5
MTVR				i S	Sb	02 34 51.7	-2.6
RUS	Russkaya	2.77	20	P	Pn	02 34 16.2	+1.0
APC	Apacha	3.09	2	P	Pn	02 34 21.9	+2.4
UGLR	Uglovaya	3.57	18	P	Pn	02 34 28.6	+2.4
KOK	Koryaka	3.61	16	P	Pn	02 34 30.0	+3.2
SPN	Mys Shipunski	3.78	29	P	Pn	02 34 30.6	+1.6
SPN				i S	Sn	02 35 14.9	+1.0
GNL	Ganaly	3.91	9	P	Pn	02 34 33.8	+2.9
MKZ	Mys Kozlova	5.56	30	P	Pn	02 34 53.9	+0.5
KBTR	Krutoberegovo	7.29	27	P	Pn	02 35 18.1	+1.0

ISK 14 02:49:52.6, 38°.10N×30°.98E, h8km, MD3.3
ISCJB 14 02:49:53.0±0.5, 38°.09N±0°.03×30°.99E±0°.04, h9km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=19.3
CSEM 14 02:49:53.3±0.1, 38°.08N×31°.00E, h10km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.3km az=123.0
DDA 14 02:49:53.8, 38°.09N×30°.96E, h7km, MD3.2
ISC 14 02:49:53.8±1.1, 38°.10N±0°.02×30°.99E±0°.02, h4km±11km, n70, σ1°.08/85, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.46	233	ePg	Pg	02 50 01.6	-1.1
ISP				eSg	Sg	02 50 09.3	+0.6
ISP	Isparta	0.46	233	⇓iP	Pg	02 50 01.6	-1.1
ISP	Isparta	0.46	233	ePg	Pg	02 50 01.6	-1.1
ISP				eSg	Sg	02 50 09.3	+0.6
SHUT	Suhut-Afyon	0.57	323	ePG	Pg	02 50 03.6	-1.1
SHUT	Suhut-Afyon	0.57	323	ePg	Pg	02 50 03.6	-1.1
BOLV	Bolvadin	0.62	357	i P	Pg	02 50 05.4	-0.2
BOLV				i S	Sb	02 50 15.5	-0.9
BOLV	Bolvadin	0.62	357	i P	Pg	02 50 05.4	-0.3
BOLV				i S	Sb	02 50 15.5	-0.9
SUTC	Sutluce-Ispart	0.62	179	ePG	Pg	02 50 05.7	-0.1
SUTC				eSG	Sg	02 50 14.3	+0.5
SUTC	Sutluce-Ispart	0.62	179	ePg	Pg	02 50 05.7	0.0
SUTC				eSg	Sg	02 50 14.3	+0.5
BCK	Bucak	0.71	207	ePG	Pg	02 50 06.7	-0.7
BCK	Bucak	0.71	207	ePg	Pg	02 50 06.7	-0.7
KDHN	Kadinhani	0.98	64	i P	Pg	02 50 12.4	-0.2
KDHN				i S	Sn	02 50 28.2	-0.6
KDHN	Kadinhani	0.98	64	i P	Pg	02 50 12.4	-0.2
KDHN				i S	Sn	02 50 28.2	-0.6
KIZT	Kizilcal	1.05	42	ePG	Pg	02 50 13.4	-0.5
KIZT	Kizilcal	1.05	42	ePg	Pg	02 50 13.4	-0.5
LADK	Ladik-KONYA	1.09	84	ePN	Pg	02 50 13.7	-1.0
LADK				eSN	Sg	02 50 29.8	+1.0
LADK	Ladik-KONYA	1.09	84	ePn	Pg	02 50 13.7	-0.9
LADK				eSn	Sg	02 50 29.8	+1.0
KONT	Konya--Tatoy	1.09	98	ePN	Pg	02 50 14.1	-0.7
KONT	Konya--Tatoy	1.09	98	ePn	Pg	02 50 14.1	-0.6
KHL	Karahalli	1.18	281	ePN	Pg	02 50 15.5	-0.8
KHL	Karahalli	1.18	281	ePn	Pg	02 50 15.5	-0.8
KHAL	Karahalli	1.21	283	i P	Pg	02 50 16.0	-1.0
KHAL				i S	Sn	02 50 37.4	+2.9
KHAL	Karahalli	1.21	283	i P	Pg	02 50 16.0	-1.0
KHAL				i S	Sn	02 50 37.4	+2.9
SVRH	Sivrihisar-ESK	1.41	17	ePN	Pn	02 50 19.1	-1.2
SVRH	Sivrihisar-ESK	1.41	17	ePn	Pn	02 50 19.1	-1.2
ESKT	Eskisehir	1.42	356	ePN	Pn	02 50 19.0	-1.5
ESKT	Eskisehir	1.42	356	ePn	Pn	02 50 19.0	-1.5
GDZ	Gediz	1.54	310	i P	Pn	02 50 21.8	-0.4
GDZ				i S	Sg	02 50 45.0	+1.7
GDZ	Gediz	1.54	310	i P	Pn	02 50 21.8	-0.4
GDZ				i S	Sg	02 50 45.0	+1.7
ELL	Elmali	1.60	213	ePN	Pn	02 50 21.6	-1.4
ELL	Elmali	1.60	213	ePn	Pn	02 50 21.6	-1.4
KULA	Kula-Manisa	1.88	283	ePN	Pn	02 50 26.0	-0.8
KULA	Kula-Manisa	1.88	283	ePn	Pn	02 50 26.0	-0.8
SULT	Sultanhani-AKS	1.99	86	ePN	Pn	02 50 27.2	-1.2
SULT	Sultanhani-AKS	1.99	86	ePn	Pn	02 50 27.2	-1.2
FETY	Fethiye	2.11	227	ePN	Pn	02 50 29.0	-0.8
FETY	Fethiye	2.11	227	ePn	Pn	02 50 29.0	-0.9
AFSR	Af`ar-Bala (A	2.11	50	ePN	Pn	02 50 28.9	-1.1
AFSR	Af`ar-Bala (A	2.11	50	ePn	Pn	02 50 28.9	-1.1
ERMK	Ermenek	2.11	133	i P	Pb	02 50 32.9	+0.2
ERMK				i S	Sg	02 51 06.2	+4.5
ERMK	Ermenek	2.11	133	i P	Pb	02 50 32.9	+0.1
GPA	Golpazari	2.25	347	ePN	Pn	02 50 31.0	-0.9
GPA	Golpazari	2.25	347	ePn	Pn	02 50 31.0	-0.8
ANTO	Ankara	2.26	38	ePN	Pn	02 50 31.8	-0.2
ANTO	Ankara	2.26	38	⇓iP	Pb	02 50 35.1	-0.1
ANTO	Ankara	2.26	38	ePn	Pn	02 50 31.8	-0.2
DALY	Dalyan (Mu¨la	2.26	236	ePN	Pn	02 50 31.0	-0.8
DALY	Dalyan (Mu¨la	2.26	236	ePn	Pn	02 50 31.0	-0.9
LOD	Lodumlu	2.26	37	ePN	Pn	02 50 31.1	-0.9
LOD	Lodumlu	2.26	37	ePn	Pn	02 50 31.1	-0.9
CAVI	Cavuskoy	2.28	337	ePN	Pn	02 50 31.8	-0.5
CAVI	Cavuskoy	2.28	337	ePn	Pn	02 50 31.8	-0.5
YER	Yerkesik	2.36	247	ePN	Pn	02 50 32.2	-1.1
YER	Yerkesik	2.36	247	ePn	Pn	02 50 32.2	-1.1
GULT	Gulveren	2.36	351	ePN	Pn	02 50 32.8	-0.6
GULT	Gulveren	2.36	351	ePn	Pn	02 50 32.8	-0.6
MDUB	Mudurnu	2.37	4	ePN	Pn	02 50 33.1	-0.5
MDUB	Mudurnu	2.37	4	ePn	Pn	02 50 33.1	-0.5
ADVT	Abdulvahap	2.52	338	ePN	Pn	02 50 34.9	-0.6
ADVT	Abdulvahap	2.52	338	ePn	Pn	02 50 34.9	-0.7
ORLT	Orhaneli	2.54	321	ePN	Pn	02 50 35.5	-0.3
ORLT	Orhaneli	2.54	321	ePn	Pn	02 50 35.5	-0.3
YLV	Yalova	2.76	334	ePN	Pn	02 50 38.7	-0.2
YLV	Yalova	2.76	334	ePn	Pn	02 50 38.7	-0.2
MDNY	Mudanya-Bursa	2.79	325	ePN	Pn	02 50 38.9	-0.4
MDNY	Mudanya-Bursa	2.79	325	ePn	Pn	02 50 38.9	-0.4
IKL	Isikli	2.84	130	ePN	Pn	02 50 39.0	-0.9
IKL	Isikli	2.84	130	ePn	Pn	02 50 39.1	-0.9
GONE	Gonen-Balikesi	3.22	308	ePN	Pn	02 50 44.1	-1.0
GONE	Gonen-Balikesi	3.22	308	ePn	Pn	02 50 44.1	-1.0

CSEM 14 02:50:52.3, 38°.07N×31°.11E, h7km, MD3.1, After DDA
DDA 14 02:50:52.3, 38°.07N×31°.11E, h7km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	Bolvadin	0.65	349	i P	Pg	02 51 04.3	-0.8
BOLV				i S	Sg	02 51 14.6	+0.8
BOLV	Bolvadin	0.65	349	i P	Pg	02 51 04.3	-0.8
BOLV				i S	Sg	02 51 14.6	+0.8
KDHN	Kadinhani	0.91	60	i P	Pb	02 51 10.7	+0.1
KDHN				i S	Sn	02 51 31.3	+6.1
KDHN	Kadinhani	0.91	60	i P	Pb	02 51 10.7	+0.1
KDHN				i S	Sn	02 51 31.3	+6.1
KHAL	Karahalli	1.30	284	i P	Pn	02 51 15.0	-2.1
KHAL				i S	Sn	02 51 36.3	+1.4
KHAL	Karahalli	1.30	284	i P	Pn	02 51 15.0	-2.1
KHAL				i S	Sn	02 51 36.3	+1.4
SEYT	Eskypehyr	1.46	352	i P	Pn	02 51 16.1	-3.1
SEYT				i S	Sg	02 51 40.2	+0.7
SEYT	Eskypehyr	1.46	352	i P	Pn	02 51 16.1	-3.1
SEYT				i S	Sg	02 51 40.2	+0.7

MAN 14 02:52:07, 11°.40N×124°.13E, h33km, mb3.7, ML2.4, MS2.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.59	127	eP	Pn	02 52 20.4	+1.4
OCLP				eS	Sn	02 52 27.8	+0.3
PLP	Palo	0.87	106	⇓eP	Pb	02 52 27.8	+4.2
PLP				eS	Sb	02 52 41.3	+6.3
LLP	Lapu-Lapu	1.09	188	eP	Pn	02 52 21.7	-4.3
LLP				eS	Sn	02 52 33.2	-6.7
MSLP	Maasin	1.45	150	eP	Pn	02

IDC 14 03:53:27.8±0.5, 13°.97N×92°.92E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.1/34, mbtmp4.1/23, ML3.8/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/48, Error ellipse: s-maj=22.8km s-min=12.5km az=57.0
NEIC 14 03:53:32.2±0.3, 13°.91N×92°.91E, mb4.5/7, Error ellipse: s-maj=6.8km s-min=5.6km az=53.0
ISC 14 03:53:32.3±0.7, 14°.01N±0°.06×93°.02E±0°.06, h30km±4km, h30km:pP-P, n117, σ0:91/119, mb4.5/56, MS3.3/4, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.20**	**51**	*e*Pn	Pn	03 55 20.5	+4.8
	10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.20**	**51**	Pn	**Pn**	**03 55 17.1**	**+1.4**
CMAR				Sn	**Sn**	**03 56 34.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**7.20**	**51**	Pn	**Pn**	**03 55 17.1**	**+1.4**
	0.2nm,0.3s,baz=238,slow=14,SNR=7.7						
CMAR				Sn	**Sn**	**03 56 34.3**	**-2.2**
	0.7nm,0.3s,baz=241,slow=26,SNR=5.4						
CMAR				LR	LR	03 58 44.8	
	comp=Z,414nm,18.9s,baz=307,slow=43						
CHTO	**Chiang Mai**	**7.42**	**49**	*e*Pn	**Pn**	**03 55 20.6**	**+1.9**
	14nm,0.6s						
CHTO				*e*Sn	Sn	03 56 30.9	-11
KULM	**Kulim**	**11.47**	**138**	*e*Pn	**Pn**	**03 56 12.0**	**-2.1**
PSI	**Prapat**	**12.57**	**152**	Pn	**Pn**	**03 56 30.0**	**+0.7**
PSI	**Prapat**	**12.57**	**152**	Pn	**Pn**	**03 56 30.0**	**+0.7**
	1.0nm,0.3s,baz=342,slow=20,SNR=1.8						
ODAN	**Odare**	**13.83**	**338**	*e*P	**Pn**	**03 56 44.7**	**-1.9**
	25nm,0.5s						
PALK	**Pallekele**	**13.83**	**242**	*e*Pn	**Pn**	**03 56 45.1**	**-1.4**
TAPN	**Taplejung**	**14.17**	**340**	*e*P	**Pn**	**03 56 48.6**	**-2.7**
RAMN	**Ramite**	**14.21**	**336**	*e*P	**Pn**	**03 56 51.0**	**-0.8**
	29nm,0.6s						
HYB	**Hyderabad**	**14.34**	**286**	*i* P	P	03 57 04.0	+3.9
HYB				*e*		03 59 17.0	
HYB				*e*S	**Sn**	**03 59 31.0**	**-0.5**
PKI	**Pulchoki**	**15.25**	**333**	*e*P	**Pn**	**03 57 08.4**	**+2.5**
	18nm,0.6s						
DMN	**Daman**	**15.42**	**333**	*e*P	**P**	**03 57 11.1**	**-1.2**
	44nm,0.8s						
KOLN	**Koldanda**	**16.27**	**329**	*e*P	**P**	**03 57 26.5**	**+4.8**
	50nm,0.6s						
AAK	**Ala-Archa**	**32.70**	**334**	LR	LR	04 14 42.6	
	comp=Z,68nm,19.9s,baz=62,slow=39						
EKS2	**Erkin-Say**	**33.03**	**334**	*e*P	**P**	**04 00 04.8**	**-0.4**
	2.5nm,0.7s						
MK31	**Makanchi Array**	**33.90**	**347**	*e*P	**P**	**04 00 12.7**	**+0.1**
MK31				*e*pP	**pP**	**04 00 21.5**	**+0.1**
MKAR	**Makanchi Array**	**33.90**	**347**	P	**P**	**04 00 13.8**	**+1.2**
MKAR	**Makanchi Array**	**33.90**	**347**	P	**P**	**04 00 13.8**	**+1.2**
	1.6nm,0.8s,baz=166,slow=8.4,SNR=13						
KKAR	**Karatay Array**	**34.87**	**331**	*e*P	**P**	**04 00 21.5**	**+0.6**
	1.2nm,0.7s						
SONM	**Songino Array**	**35.51**	**16**	P	**P**	**04 00 28.0**	**+1.4**
SONM	**Songino Array**	**35.51**	**16**	P	**P**	**04 00 28.0**	**+1.4**
	0.6nm,0.4s,baz=215,slow=9.8,SNR=2.5						
SONM				LR	LR	04 18 27.0	
	comp=Z,54nm,18.5s,baz=30,slow=42						
KURBB	**Kurchatov Arra**	**38.37**	**345**	P	**P**	**04 00 51.0**	**+0.3**
	1.0nm,0.4s,baz=162,slow=7.9,SNR=12						
KURK	**Kurchatov**	**38.43**	**345**	P	**P**	**04 00 51.0**	**-0.2**
ZAA0	**Zalesovo Array**	**40.37**	**353**	*e*P	**P**	**04 01 07.6**	**+0.3**
ZAA0				*e*pP	**pP**	**04 01 16.2**	**0.0**
ZALV	**Zalesovo Beam**	**40.37**	**353**	P	**P**	**04 01 07.1**	**-0.2**
ZALV	**Zalesovo Beam**	**40.37**	**353**	P	**P**	**04 01 07.1**	**-0.2**
	1.9nm,0.8s,baz=186,slow=8.9,SNR=6.9						
BVAR	**Borovoye Array**	**42.88**	**340**	P	**P**	**04 01 27.3**	**-0.5**
BVAR	**Borovoye Array**	**42.88**	**340**	P	**P**	**04 01 27.3**	**-0.5**
	0.3nm,0.4s,baz=157,slow=15,SNR=2.4						
ABKAR	**Akbulak array**	**44.39**	**329**	*e*P	**P**	**04 01 40.6**	**+0.5**
	1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.30**	**134**	P	**P**	**04 01 47.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**45.30**	**134**	P	**P**	**04 01 47.5**	**-0.3**
	1.3nm,0.6s,baz=325,slow=6.6,SNR=5.3						
AKTO	**Aktyubinsk**	**46.10**	**329**	P	**P**	**04 01 53.6**	**-0.1**
AKTO	**Aktyubinsk**	**46.10**	**329**	P	**P**	**04 01 53.6**	**-0.1**
	0.8nm,0.3s,baz=133,slow=14,SNR=4.6						
GNI	**Garni**	**49.49**	**311**	LR	LR	04 27 17.5	
	comp=Z,34nm,21.7s,baz=282,slow=41						
WRA	**Warramunga Arr**	**52.82**	**129**	P	**P**	**04 02 45.4**	**0.0**
WRA	**Warramunga Arr**	**52.82**	**129**	P	**P**	**04 02 45.4**	**0.0**
	1.4nm,0.7s,baz=310,slow=7.9,SNR=8.7						
ASAR	**Alice Springs**	**54.77**	**133**	P	**P**	**04 02 59.9**	**+0.2**
ASAR				PcP	**PcP**	**04 04 02.2**	**+0.3**
ASAR	**Alice Springs**	**54.77**	**133**	P	**P**	**04 02 59.9**	**+0.2**
	0.9nm,0.5s,baz=306,slow=6.6,SNR=12						
ASAR				PcP	**PcP**	**04 04 02.2**	**+0.3**
	0.9nm,0.9s,baz=322,slow=3.4,SNR=4.1						
BR131	**Keskin Array S**	**57.70**	**308**	*e*P	**P**	**04 03 19.9**	**-0.7**
	1.1nm,0.6s						
BR131				*e*pP	**pP**	**04 03 29.4**	**-0.4**
BRTR	**Keskin Array B**	**57.70**	**308**	P	**P**	**04 03 20.1**	**-0.4**
BRTR	**Keskin Array B**	**57.70**	**308**	P	**P**	**04 03 20.1**	**-0.4**
	2.4nm,0.8s,baz=119,slow=7.8,SNR=14						
MBAR	**Mbarara**	**63.33**	**262**	LR	LR	04 31 56.3	
	comp=Z,66nm,19.1s,baz=50,slow=36						
MLR	**Muntele Rosu**	**64.09**	**314**	P	**P**	**04 04 03.4**	**-0.5**
MLR	**Muntele Rosu**	**64.09**	**314**	P	**P**	**04 04 03.4**	**-0.5**
	1.0nm,0.9s,baz=103,slow=9.9,SNR=5.6						
BUR08	**Bucovina Ar. S**	**64.85**	**316**	*e*P	**P**	**04 04 09.4**	**+0.6**
BUR08				*e*pP	**pP**	**04 04 18.2**	**+0.1**
STKA	**Stephens Creek**	**65.17**	**135**	P	**P**	**04 04 11.0**	**+0.2**
STKA	**Stephens Creek**	**65.17**	**135**	P	**P**	**04 04 11.0**	**+0.2**
	1.8nm,0.7s,baz=328,slow=9.5,SNR=3.6						
FINES	**FINESS Array B**	**66.82**	**331**	P	**P**	**04 04 20.1**	**-0.9**
FINES	**FINESS Array B**	**66.82**	**331**	P	**P**	**04 04 20.1**	**-0.9**
	3.6nm,0.9s,baz=105,slow=7.1,SNR=4.1						
PSZ	**Piszkesteto**	**68.44**	**316**	*e*P	**P**	**04 04 31.4**	**-0.2**
	5.2nm,0.7s						
ARCES	**ARCESS Array B**	**69.16**	**340**	P	**P**	**04 04 35.1**	**-0.5**
ARCES	**ARCESS Array B**	**69.16**	**340**	P	**P**	**04 04 35.1**	**-0.5**
	6.2nm,1.0s,baz=104,slow=9.8,SNR=3.0						
MORC	**Moravsky Berou**	**70.07**	**318**	*e*P	**P**	**04 04 41.0**	**-0.6**
	6.3nm,0.8s						
MORC				*e*pP	**pP**	**04 04 51.3**	**+0.3**
DPC	**Dobruska-Polom**	**70.87**	**319**	*e*pP	pP	04 04 56.6	+0.7
PRU	**Pruhonice**	**72.01**	**318**	*e*pP	pP	04 05 03.1	+0.3
BRG	**Berggiesshubel**	**72.39**	**319**	*i* P	P	04 05 05.3	+10
	7.3nm,0.8s						
GERES	**GERESS Array B**	**72.58**	**317**	P	**P**	**04 04 57.2**	**+0.4**
GERES	**GERESS Array B**	**72.58**	**317**	P	**P**	**04 04 57.2**	**+0.4**
	1.4nm,0.6s,baz=93,slow=5.5,SNR=8.9						
HFS	**Hagfors**	**72.65**	**329**	P	**P**	**04 04 56.0**	**-1.0**
HFS	**Hagfors**	**72.65**	**329**	P	**P**	**04 04 56.0**	**-1.0**
	3.9nm,1.0s,baz=116,slow=6.8,SNR=2.4						
KHC	**Kasperske Hory**	**72.65**	**317**	*e*pP	pP	04 05 07.1	+0.4
CLL	**Collm**	**72.97**	**320**	*e*P	**P**	**04 04 59.0**	**0.0**
CLL				⇓*i*pP	**pP**	**04 05 08.6**	**+0.1**
	comp=Z,7.0nm,0.9s						
NB2	**NORSAR Subarra**	**73.89**	**330**	P	P	04 05 12.9	+8.6
	comp=Z,1.8nm,0.5s,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**73.89**	**330**	P	**P**	**04 05 03.9**	**-0.5**
NOA	**NORSAR Array B**	**73.89**	**330**	P	**P**	**04 05 03.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=90,slow=5.8,SNR=3.2						
PGF	**Pioggiola**	**76.31**	**311**	*e*P	**P**	**04 05 18.1**	**-0.6**
	comp=Z,15nm,1.2s						
CDF	**Champ du Feu**	**76.86**	**317**	*e*P	**P**	**04 05 20.9**	**-0.8**
	comp=Z,13nm,1.3s						
SBF	**Sospel**	**77.28**	**312**	*e*P	**P**	**04 05 23.6**	**-0.6**
	comp=Z,17nm,0.8s						
HAU	**Haudompre**	**77.52**	**317**	*e*P	**P**	**04 05 24.5**	**-0.9**
	comp=Z,9.1nm,1.0s						
HAU				*e*R			
	comp=Z,60nm,19.2s						
LPG	**La Plagne**	**77.56**	**314**	*e*P	**P**	**04 05 25.8**	**-0.2**
	comp=Z,20nm,0.7s						
LPL	**La Plagne**	**77.57**	**314**	*e*P	**P**	**04 05 25.7**	**-0.2**
	comp=Z,22nm,0.6s						
MBDF	**Montbardon**	**77.65**	**313**	*e*P	**P**	**04 05 25.2**	**-1.1**
	comp=Z,12nm,0.8s						
PAGF	**Fort de Pagny**	**77.87**	**317**	*e*P	**P**	**04 05 26.8**	**-0.4**
CABF	**La Chapelle**	**77.88**	**315**	*e*P	**P**	**04 05 27.1**	**-0.3**
	comp=Z,11nm,0.9s						
FRF	**La Foret Royal**	**77.89**	**312**	*e*P	**P**	**04 05 27.1**	**-0.4**
	comp=Z,11nm,0.8s						
BOSA	**Boshof**	**77.98**	**236**	P	**P**	**04 05 29.1**	**+0.8**
BOSA	**Boshof**	**77.98**	**236**	P	**P**	**04 05 29.1**	**+0.8**
	comp=Z,5.2nm,0.6s,baz=50,slow=4.0,SNR=16						
LMR	**La Mourre**	**78.02**	**312**	*e*P	**P**	**04 05 27.7**	**-0.5**
	comp=Z,8.9nm,0.8s						
GIVF	**Givet**	**78.25**	**319**	*e*P	**P**	**04 05 28.9**	**-0.4**
ORIF	**Oris-en-Rattie**	**78.25**	**314**	*e*P	**P**	**04 05 28.7**	**-0.8**
	comp=Z,4.9nm,0.7s						
ORIF				*e*R			
	comp=Z,52nm,22.5s						
SFTF	**Sexfontaines**	**78.37**	**317**	*e*P	**P**	**04 05 29.5**	**-0.5**
SMRF	**Simiane la Rot**	**78.60**	**313**	*e*P	**P**	**04 05 31.5**	**+0.1**
	comp=Z,12nm,0.9s						
BAIF	**Baives**	**78.65**	**319**	*e*P	**P**	**04 05 31.3**	**-0.2**
VIVF	**Saint-Julien-I**	**79.11**	**314**	*e*P	**P**	**04 05 33.8**	**-0.4**
	comp=Z,19nm,1.3s						
LOR	**Lormes**	**79.29**	**316**	*e*P	**P**	**04 05 34.4**	**-0.7**
	comp=Z,4.4nm,0.7s						
LOR				*e*R			
	comp=Z,38nm,19.8s						
SMF	**Signal de Mont**	**79.40**	**316**	*e*P	**P**	**04 05 35.0**	**-0.7**
	comp=Z,11nm,0.8s						
SSF	**Saint Saulge**	**79.56**	**316**	*e*P	**P**	**04 05 36.0**	**-0.6**
	comp=Z,6.4nm,0.9s						
AVF	**Avril sur Loir**	**79.71**	**316**	*e*P	**P**	**04 05 36.7**	**-0.7**
	comp=Z,7.2nm,0.7s						
LASF	**Ste Croix**	**79.81**	**313**	*e*P	**P**	**04 05 38.0**	**0.0**
	comp=Z,7.5nm,1.0s						
BGF	**Bois d'Agland**	**80.09**	**316**	*e*P	**P**	**04 05 39.3**	**-0.2**
TCF	**Toulx Ste Croi**	**80.58**	**315**	*e*P	**P**	**04 05 41.8**	**-0.3**
	comp=Z,11nm,1.1s						
CAF	**Calviac**	**80.92**	**314**	*e*P	**P**	**04 05 44.0**	**0.0**
	comp=Z,6.0nm,0.9s						
MTLF	**Montolieu**	**81.11**	**312**	*e*P	**P**	**04 05 44.8**	**-0.2**
	comp=Z,5.5nm,0.8s						
RJF	**Les Rejaudoux**	**81.23**	**314**	*e*P	**P**	**04 05 45.6**	**0.0**
	comp=Z,10nm,0.9s						
RJF				*e*R			
	comp=Z,49nm,17.2s						
LDF	**La Druitiere**	**81.69**	**318**	*e*P	**P**	**04 05 47.4**	**-0.5**
	comp=Z,9.3nm,0.7s						
LFF	**La Frestale**	**81.84**	**314**	*e*P	**P**	**04 05 48.9**	**+0.1**
	comp=Z,7.1nm,0.8s						
FLN	**La Foliniere**	**81.89**	**318**	*e*P	**P**	**04 05 48.5**	**-0.5**
	comp=Z,6.9nm,0.8s						
FLN				*e*R			
	comp=Z,59nm,19.0s						
EKA	**Eskdalemuir Ar**	**82.09**	**325**	P	**P**	**04 05 50.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**82.09**	**325**	P	**P**	**04 05 50.3**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=85,slow=5.8,SNR=3.1						
MFF	**Saint Martin d**	**82.11**	**316**	*e*P	**P**	**04 05 49.7**	**-0.5**
	comp=Z,7.7nm,0.9s						
GRR	**Gorron**	**82.21**	**318**	*e*P	**P**	**04 05 50.2**	**-0.5**
ETSF	**Etsaut**	**83.19**	**312**	*e*P	**P**	**04 05 55.8**	**-0.2**
	comp=Z,19nm,1.2s						
SGMF	**Saint Gilles**	**83.35**	**318**	*e*P	**P**	**04 05 56.2**	**-0.4**
ROSF	**Rostrenen**	**83.79**	**318**	*e*P	**P**	**04 05 58.5**	**-0.4**
	comp=Z,7.8nm,0.9s						
QUIF	**Quistinic**	**83.82**	**318**	*e*P	**P**	**04 05 58.8**	**-0.2**
ESDC	**Sonseca Array**	**86.45**	**310**	P	**P**	**04 06 12.5**	**0.0**
ESDC	**Sonseca Array**	**86.45**	**310**	P	**P**	**04 06 12.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=45,slow=4.6,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**88.14**	**283**	*e*P	**P**	**04 06 21.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**88.14**	**283**	P	**P**	**04 06 20.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**88.14**	**283**	P	**P**	**04 06 20.6**	**-0.4**
	comp=Z,2.5nm,1.0s,baz=89,slow=3.4,SNR=10						
MCK	**McKinley**	**89.29**	**23**	*e*P	**P**	**04 06 25.5**	**0.0**
	comp=Z,5.8nm,0.8s						
MCK				*e*pP	**pP**	**04 06 35.3**	**+0.2**
CPUP	**Villa Florida**	**149.67**	**242**	PKPbc	**PKPbc**	**04 13 19.8**	**0.0**
CPUP	**Villa Florida**	**149.67**	**242**	PKPbc	**PKPbc**	**04 13 19.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=135,slow=7.1,SNR=2.8						
LPAZ	**La Paz**	**161.67**	**260**	PKPab	**PKPab**	**04 14 16.8**	**-0.5**
LPAZ	**La Paz**	**161.67**	**260**	PKPab	**PKPab**	**04 14 16.8**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=80,slow=9.7,SNR=3.7						

ISCJB 14 03:56:00.7±0.9, 57°.19N±0°.03×151°.00W±0°.04, h7km±5km, mb4.2/55, MS3.3/10, Error ellipse: s-maj=4.9km s-min=3.1km az=168.7
IDC 14 03:56:00.7±0.6, 57°.03N×151°.21W, h0km, mb4.2/21, mb1 4.3/24, mb1mx4.2/35, mbtmp4.2/24, ML3.9/3, MS3.3/11, Ms1 3.3/11, ms1mx3.1/48, Error ellipse: s-maj=15.4km s-min=13.2km az=24.0
NEIC 14 03:56:01.5, 56°.87N×150°.87W, h15km, mb4.3/22, ML3.9(AEIC), After AEIC.
ISC 14 03:56:01.6±1.5, 57°.11N±0°.05×151°.11W±0°.04, h7km±9km, n211, σ1:26/225, mb4.3/55, MS3.3/10, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.04**	**311**	Pn	**Pb**	**03 56 21.8**	**-0.2**
KDAK				Sn	**Sg**	**03 56 34.9**	**-0.2**
KDAK	**Kodiak Island**	**1.04**	**311**	Pn	**Pb**	**03 56 21.8**	**-0.2**
	46nm,0.3s,baz=141,slow=7.0,SNR=504						
KDAK				Sn	**Sg**	**03 56 34.9**	**-0.2**
	192nm,0.3s,baz=316,slow=18,SNR=54						
OHAK	**Old Harbor**	**1.19**	**276**	P	**Pg**	**03 56 23.6**	**-0.9**
KAPH	**Katmai Pasha**	**2.28**	**312**	P	**Pn**	**03 56 41.0**	**+1.3**
KABR	**Katmai Barrier**	**2.31**	**298**	P	**Pn**	**03 56 40.6**	**+0.4**
MGLS	**Mageik Landsli**	**2.41**	**297**	P	**Pn**	**03 56 42.1**	**+0.6**
KAKN	**Katmai Knife C**	**2.43**	**301**	P	**Pn**	**03 56 42.5**	**+0.7**
CAHL	**Cahill**	**2.44**	**294**	P	**Pn**	**03 56 42.4**	**+0.4**
AUI	**Augustine Isla**	**2.54**	**332**	P	**Pn**	**03 56 45.2**	**+1.9**
AUE	**Augustine Isla**	**2.55**	**333**	P	**Pb**	**03 56 45.5**	**-2.2**
HOM	**Homer**	**2.57**	**354**	P	**Pn**	**03 56 44.6**	**+1.0**
HOM				S	**Sn**	**03 57 17.1**	**+2.0**
KJL	**Kejulik**	**2.58**	**293**	P	**Pn**	**03 56 45.0**	**+1.1**
AUW	**Augustine West**	**2.58**	**332**	P	**Pb**	**03 56 46.0**	**-2.3**
AUL	**Augustine Lava**	**2.59**	**333**	P	**Pb**	**03 56 46.1**	**-2.2**
MCNL	**McNeil River**	**2.69**	**322**	P	**Pn**	**03 56 46.6**	**+1.3**
OPT	**Oil Point**	**2.78**	**337**	P	**Pn**	**03 56 48.3**	**+1.7**
KELA	**Mount Kelaz**	**2.81**	**300**	P	**Pn**	**03 56 48.0**	**+0.9**
PLK3	**Peulik 3**	**2.85**	**284**	P	**Pn**	**03 56 47.8**	**+0.3**
ILIM	**Iliamna**	**3.13**	**343**	P	**Pn**	**03 56 52.4**	**+0.9**
PDB	**Pedro Bay**	**3.13**	**330**	P	**Pn**	**03 56 52.3**	**+0.9**
PLBL	**Peulik Blue Cr**	**3.14**	**283**	P	**Pn**	**03 56 52.2**	**+0.6**
MID	**Middleton Isla**	**3.43**	**45**	*e*Pn	**Pn**	**03 56 53.9**	**-1.5**
MID				S	**Sn**	**03 57 33.2**	**-3.0**
SLKM	**Skilak Lake**	**3.44**	**7**	P	**Pn**	**03 56 55.8**	**+0.2**
RSO	**Redoubt South**	**3.47**	**346**	*e*Pn	**Pn**	**03 56 56.2**	**0.0**
REF	**Redoubt East F**	**3.49**	**347**	P	**Pn**	**03 56 56.8**	**+0.4**
RDT	**Redoubt**	**3.54**	**350**	P	**Pn**	**03 56 58.0**	**+1.0**
DFR	**Drift River**	**3.58**	**347**	P	**Pn**	**03 56 58.1**	**+0.4**
NCT	**North Crescent**	**3.59**	**346**	P	**Pn**	**03 56 58.2**	**+0.5**
ANPK	**Aniakchak Peak**	**3.85**	**269**	P	**Pn**	**03 57 00.3**	**-0.9**
ANNW	**Aniakchak Nort**	**3.88**	**271**	P	**Pn**	**03 57 01.6**	**-0.2**
ANPB	**Aniakchak Plen**	**3.94**	**268**	P	**Pn**	**03 57 02.0**	**-0.5**
CHGN	**Chignik**	**4.11**	**262**	*e*Pn	**Pn**	**03 57 02.9**	**-1.8**
CHGN				*e*Pg	**Pg**	**03 57 20.5**	**+0.3**
CHGN				*e*Sn	**Sn**	**03 57 48.9**	**-4.0**
SPU	**Mount Spurr**	**4.11**	**354**	P	**Pn**	**03 57 04.8**	**-0.1**
CKL	**Chakachamna La**	**4.15**	**352**	P	**Pn**	**03 57 05.8**	**+0.4**
SPBG	**Spurr Blockage**	**4.21**	**352**	P	**Pn**	**03 57 06.7**	**+0.4**
BGL	**Barrier Glacie**	**4.22**	**352**	P	**Pn**	**03 57 06.9**	**+0.6**
GLI	**Glacier Island**	**4.31**	**27**	P	**Pn**	**03 57 06.7**	**-0.8**
FID	**Port Fidalgo**	**4.37**	**31**	P	**Pn**	**03 57 07.2**	**-1.1**
STLK	**Strandline Lak**	**4.42**	**356**	P	**Pn**	**03 57 09.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.43**	**37**	P	**Pn**	**03 57 08.5**	**-0.7**
VNHG	**Veniaminof 1**	**4.53**	**262**	P	**Pn**	**03 57 09.9**	**-0.7**
JPK	**Jack Peak**	**4.59**	**29**	P	**Pn**	**03 57 10.9**	**-0.5**
PMR	**Palmer**	**4.61**	**12**	*e*Pn	**Pn**	**03 57 10.7**	**-0.9**
SVW2	**Sparrevohn**	**4.61**	**332**	P	**Pn**	**03 57 12.4**	**+0.7**
RAGM	**Ragged Mountai**	**4.69**	**43**	P	**Pn**	**03 57 12.4**	**-0.5**
VLZ	**Valdez**	**4.72**	**29**	P	**Pn**	**03 57 12.9**	**-0.2**
GOAT	**Goat Mountain**	**4.80**	**41**	P	**Pn**	**03 57 14.2**	**-0.2**
SUCK	**Suckling Hills**	**4.85**	**49**	P	**Pn**	**03 57 14.6**	**-0.4**
SUCK				S	**Sn**	**03 58 08.8**	**-2.6**
NICHA	**Nichawak Mount**	**4.87**	**47**	P	**Pn**	**03 57 14.7**	**-0.6**
NICHA				S	**Sn**	**03 58 09.8**	**-2.0**
DIV	**Divide**	**4.88**	**32**	P	**Pn**	**03 57 15.2**	**-0.3**
SML	**Sawmill**	**4.92**	**16**	*e*Pn	**Pn**	**03 57 15.5**	**-0.5**
BGLC	**Bering Glacier**	**5.08**	**50**	P	**Pn**	**03 57 18.1**	**0.0**
BMRM	**Bremner River**	**5.12**	**38**	P	**Pn**	**03 57 18.4**	**-0.4**
KLU	**Klutina**	**5.14**	**29**	P	**Pn**	**03 57 18.5**	**-0.4**
GRIN	**Grindle Hills**	**5.16**	**49**	P	**Pn**	**03 57 18.7**	**-0.5**
GRIN				S	**Sn**	**03 58 17.5**	**-1.4**
KHIT	**Khitrov Hills**	**5.28**	**47**	P	**Pn**	**03 57 20.1**	**-0.9**
KHIT				S	**Sn**	**03 58 19.3**	**-2.8**
KULT	**Kultieth River**	**5.39**	**51**	P	**Pn**	**03 57 22.0**	**-0.5**
SDPT	**Sand Point**	**5.51**	**255**	P	**Pn**	**03 57 23.4**	**-0.7**
SDPT				S	**Sn**	**03 58 24.2**	**-3.4**
BARK	**Barkley Ridge**	**5.57**	**50**	P	**Pn**	**03 57 24.6**	**-0.3**
VRDI	**Verde Repeater**	**5.70**	**40**	P	**Pn**	**03 57 26.5**	**-0.4**
GLB	**Gilahina Butte**	**5.73**	**38**	P	**Pn**	**03 57 26.8**	**-0.3**
ISLE	**Juniper Island**	**5.74**	**49**	P	**Pn**	**03 57 26.9**	**-0.4**
BAGL	**Bagley Icefiel**	**5.78**	**50**	P	**Pn**	**03 57 27.5**	**-0.2**
PPLA	**Purkeypile**	**5.83**	**355**	*e*Pn	**Pn**	**03 57 28.7**	**+0.2**
	58nm,0.8s						
PPLA				*e*Pb	**Pb**	**03 57 46.1**	**+2.5**
PPLA				*e*Pg	**Pg**	**03 57 52.8**	**-0.4**
YAH	**Yahtse**	**5.87**	**52**	P	**Pn**	**03 57 28.9**	**-0.3**
KIAG	**Kiagna River**	**5.92**	**46**	P	**Pn**	**03 57 29.3**	**-0.5**
MCARA	**McCarthy VSAT**	**5.96**	**41**	P	**Pn**	**03 57 30.2**	**0.0**
PTPK	**Patty Peak**	**6.04**	**44**	P	**Pn**	**03 57 31.2**	**-0.2**
GRNC	**Granite Creek**	**6.05**	**49**	P	**Pn**	**03 57 31.3**	**-0.4**
WANC	**Wrangell North**	**6.07**	**33**	P	**Pn**	**03 57 32.4**	**+0.3**
HARP	**HAARP**	**6.10**	**27**	P	**Pn**	**03 57 32.4**	**+0.2**
TABL	**Table Mountain**	**6.17**	**53**	P	**Pn**	**03 57 32.7**	**-0.5**
BARN	**Barnard Glacie**	**6.28**	**47**	P	**Pn**	**03 57 33.7**	**-1.0**
TT01	**Tatalina**	**6.31**	**339**	P	**Pn**	**03 57 34.9**	**-0.1**
TRF	**Thorofare Moun**	**6.37**	**3**	P	**Pn**	**03 57 35.6**	**-0.4**
KTH	**Kantishna Hill**	**6.46**	**1**	P	**Pn**	**03 57 37.9**	**+0.8**
PNL	**Peninsula**	**6.67**	**63**	P	**Pn**	**03 57 39.0**	**-1.0**
MCK	**McKinley**	**6.73**	**8**	*e*Pn	**Pn**	**03 57 40.9**	**+0.1**
	33nm,0.8s						
MCK				*e*Sn	**Sn**	**03 58 56.6**	**-1.0**
MENT	**Mentasta**	**6.92**	**29**	*e*Pn	**Pn**	**03 57 44.0**	**+0.7**
MENT				*e*Sn	**Sn**	**03 58 58.0**	**-4.2**
WRH	**Wood River Hil**	**7.53**	**10**	P	**Pn**	**03 57 52.0**	**+0.3**
BCA3	**Beaver Creek A**	**7.57**	**34**	P	**Pn**	**03 57 49.5**	**-2.8**
CCB	**Clear Creek Bu**	**7.73**	**11**	P	**Pn**	**03 57 54.6**	**+0.2**
COLA	**College**	**7.95**	**10**	P	**Pn**	**03 57 57.6**	**+0.2**
HYT	**Haines Junctio**	**7.95**	**56**	P	**Pn**	**03 57 56.0**	**-1.7**
IL1	**Eielson Array**	**7.95**	**13**	P	**Pn**	**03 57 56.2**	**-1.3**
ILAR	**Eielson Array**	**7.95**	**13**	Pn	**Pn**	**03 57 55.1**	**-2.4**
ILAR				Sn	**Sn**	**03 59 22.2**	**-5.4**
ILAR	**Eielson Array**	**7.95**	**13**	Pn	**Pn**	**03 57 55.1**	**-2.4**
	0.7nm,0.3s,baz=196,slow=13,SNR=46						
ILAR				Sn	**Sn**	**03 59 22.2**	**-5.4**
	1.4nm,0.3s,baz=204,slow=22,SNR=7.2						
MDM	**Murphy Dome**	**8.00**	**9**	P	**Pn**	**03 57 57.9**	**-0.2**
SIT	**Sitka**	**8.60**	**84**	P	Pn	03 58 01.7	-4.6
SKAG	**Skagway**	**8.64**	**68**	*e*Pn	**Pn**	**03 58 07.4**	**+0.5**
	42nm,0.7s						
AKUT	**Akutan**	**8.81**	**256**	*e*Pn	**Pn**	**03 58 08.7**	**-0.6**
IM04	**Indian Mountai**	**8.98**	**353**	*e*Pn	**Pn**	**03 58 10.3**	**-1.4**

2.8nm,0.6s,baz=9.6,slow=5.2,SNR=4.4
ABKAR Akbulak array 70.92 339 *e*P **P 04 07 18.8 -0.3**
7.1nm,0.8s
FLN La Foliniere 71.71 20 *e*P **P 04 07 23.9 +0.1**
5.2nm,0.9s
LDF La Druitiere 71.94 20 *e*P **P 04 07 25.9 +0.7**
8.9nm,1.1s
KIEV Kiev 72.56 360 *e*P **P 04 07 28.6 -0.3**
3.3nm,0.7s
TKM2 Tokmak 2 72.91 326 *e*P **P 04 07 31.5 +0.1**
4.0nm,0.9s
GERES GERESS Array B 73.66 10 P **P 04 07 36.0 +0.4**
GERES GERESS Array B 73.66 10 P **P 04 07 36.0 +0.4**
0.6nm,0.5s,baz=9.2,slow=4.2,SNR=3.7
EKS2 Erkin-Say 73.69 327 *e*P **P 04 07 36.6 +0.7**
2.1nm,0.9s
MFF Saint Martin d 73.85 20 *e*P **P 04 07 36.8 +0.2**
4.3nm,0.8s
LOR Lormes 73.92 17 *e*P **P 04 07 37.3 +0.3**
3.7nm,0.7s
SSF Saint Saulge 74.06 18 *e*P **P 04 07 38.2 +0.4**
2.8nm,0.7s
KKAR Karatay Array 74.22 330 *e*P **P 04 07 38.4 -0.4**
4.5nm,0.9s
AVF Avril sur Loir 74.30 18 *e*P **P 04 07 39.3 +0.1**
4.3nm,0.8s
SMF Signal de Mont 74.52 18 *e*P **P 04 07 40.5 0.0**
CABF La Chapelle 74.91 16 *e*P **P 04 07 43.5 +0.6**
9.8nm,1.0s
PSZ Piszkesteto 75.07 6 *e*P **P 04 07 41.6 -2.1**
5.4nm,1.0s
RJF Les Rejaudoux 75.41 20 *e*P **P 04 07 45.7 0.0**
BUR08 Bucovina Ar. S 75.57 3 *e*P **P 04 07 46.3 -0.4**
LFF La Frestale 75.62 20 *e*P **P 04 07 47.3 +0.4**
LPL La Plagne 76.07 16 *e*P **P 04 07 51.1 +1.4**
LPG La Plagne 76.09 16 *e*P **P 04 07 51.4 +1.5**
VIVF Saint-Julien-l 76.40 17 *e*P **P 04 07 51.9 +0.6**
3.3nm,0.8s
BNI Bardonecchia 76.52 16 *e*P **P 04 07 53.6 +1.4**
6.6nm,1.3s
ORIF Oris-en-Rattie 76.53 17 *e*P **P 04 07 52.0 -0.2**
4.1nm,0.8s
MBDF Montbardon 76.85 16 *e*P **P 04 07 54.0 -0.1**
LASF Ste Croix 77.02 18 *e*P **P 04 07 55.1 +0.2**
ETSF Etsaut 77.33 22 *e*P **P 04 07 57.5 +0.8**
3.2nm,0.7s
EPF Esparros 77.38 21 *e*P **P 04 07 57.3 +0.3**
SMRF Simiane la Rot 77.40 17 *e*P **P 04 07 57.6 +0.6**
6.9nm,0.9s
MTLF Montolieu 77.44 20 *e*P **P 04 07 57.7 +0.5**
4.6nm,0.8s
HNR Honiara 77.46 230 LR LR 04 37 44.0
comp=Z,51nm,18.9s,baz=132,slow=32
SBF Sospel 77.80 16 *e*P **P 04 07 59.8 +0.5**
KBZ Khabaz 78.84 350 P **P 04 08 06.3 +1.4**
KBZ Khabaz 78.84 350 P **P 04 08 06.3 +1.4**
4.4nm,0.8s,baz=351,slow=4.0,SNR=3.9
PGF Pioggiola 79.31 15 *e*P **P 04 08 08.0 +0.3**
3.6nm,0.6s
ESDC Sonseca Array 79.68 25 P **P 04 08 10.3 +0.7**
ESDC Sonseca Array 79.68 25 P **P 04 08 10.3 +0.7**
3.0nm,0.8s,baz=337,slow=5.4,SNR=13
MDT Midelt 86.05 28 P **P 04 08 44.1 +1.1**
MDT Midelt 86.05 28 P **P 04 08 44.1 +1.1**
4.3nm,0.8s,baz=338,slow=5.6,SNR=10.0
KEST Kesra 86.05 16 *e*P **P 04 08 44.2 +1.4**
KEST Kesra 86.05 16 P **P 04 08 44.2 +1.4**
1.8nm,1.1s,baz=40,slow=6.3,SNR=3.7
OPO Ambohidratompo139.17 333 PKP **PKPdf 04 15 29.8 +0.6**
OPO Ambohidratompo139.17 333 PKP **PKPdf 04 15 29.8 +0.6**
1.1nm,0.4s,baz=6.2,slow=4.6,SNR=3.6
QSPA South Pole Qui 146.90 180 *e*PKPbc **PKPbc 04 15 42.9 -0.3**
QSPA South Pole Qui 146.90 180 PKPbc **PKPbc 04 15 42.6 -0.6**
9.1nm,1.0s,baz=50,slow=1.8,SNR=13
LBTB Lobatse 147.84 6 *e*PKPbc **PKPbc 04 15 46.8 -0.4**
BOSA Boshof 151.40 7 *e*PKPbc **PKPbc 04 15 55.0 -0.8**
BOSA PKPab **PKPab 04 16 04.2 +0.2**
BOSA Boshof 151.40 7 PKPbc **PKPbc 04 15 55.3 -0.5**
4.4nm,1.0s,baz=324,slow=3.7,SNR=8.9
BOSA PKPab **PKPab 04 16 04.2 +0.2**
2.2nm,0.8s,baz=54,slow=21,SNR=3.1

NIED ***14*** *03:56:00,31°.00N×138°.50E,h460km,Mw4.6 Best double couple: M0=8.01000×10^15 NP1:φs=138.00000°, δ=66.00000°,λ=79.00000°. NP2:φs=343.00000°,δ=26.00000°, λ=113.00000°.*
DJA ***14*** *03:56:58.6±5.2,31°.11N±11°×13°.9E±3°.5,h473km±86km, M4.7/7,mB5.0/2,mb4.7/7,Mw(mB)4.3/2*
JMA ***14*** *03:56:58.6±0.2,31°.03N×138°.45E,h460km,M4.5*
BJI ***14*** *03:56:59.6,30°.91N×138°.06E,h455km,mB4.5/17, mb4.6/33*
ISCJB ***14*** *03:56:59.8±0.3,31°.02N±0°.03×138°.02E±0°.03, h444km±2km,mb4.4/203, Error ellipse: s-maj=5.0km s-min=3.3km az=143.4*
IDC ***14*** *03:57:00.6±1.0,30°.96N×138°.00E,h443km±10km, mb4.1/47,mb1 4.1/51,mb1mx4.1/54,mbtmp4.0/51,Error ellipse: s-maj=7.9km s-min=6.4km az=110.0*
NEIC ***14*** *03:57:00.8±0.4,30°.96N×137°.98E,h446km±4km,mb4.5/92, MW4.5(NIED),Error ellipse: s-maj=4.3km s-min=2.9km az=139.0*
MOS ***14*** *03:57:03.3±0.8,31°.40N×137°.94E,h464km,mb4.5/58, Error ellipse: s-maj=8.6km s-min=5.1km az=112.2*
ISC 14 03:57:00.1±0.4,30°.98N±0°.04×138°.12E±0°.04,h440km±3km, h440km:pP-P,n762,σ1°.07/872,mb4.5/214,186C-146D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.53**	**34**	P	**P**	**03 58 02.8**	**-0.1**
JHCJ				S	**S**	**03 58 51.6**	**-2.3**
JHJ2	**Mitsune**	**2.57**	**34**	P	**P**	**03 58 03.0**	**-0.1**
JHJ2				S	**S**	**03 58 49.1**	**-5.3**
TTO1	**TONANKAI O.B.S**	**2.87**	**337**	P	**P**	**03 58 06.9**	**+2.0**
TK02	**Tokai 2**	**2.98**	**354**	P	**P**	**03 58 07.5**	**+1.7**
TTO4	**TONANKAI O.B.S**	**3.06**	**351**	P	**P**	**03 58 08.2**	**+1.8**
JWZ	**Kozaga**	**3.26**	**322**	P	**P**	**03 58 09.7**	**+1.4**
JWZ				S	**S**	**03 59 04.5**	**+0.7**
JIE	**Ise**	**3.61**	**341**	P	**P**	**03 58 12.6**	**+1.5**
JIE				*e*S	**S**	**03 59 08.9**	**0.0**
JOD2	**Odawara 2**	**4.35**	**10**	P	**P**	**03 58 16.8**	**-0.9**
JOD2				S	**S**	**03 59 19.5**	**-1.4**
BSO1	**Boso 1**	**4.38**	**33**	P	**P**	**03 58 16.1**	**-1.2**
BSO1				S	**S**	**03 59 17.1**	**-3.4**
JTO	**Tosashimizu**	**4.90**	**294**	P	**P**	**03 58 24.3**	**+1.4**
JTO				S	**S**	**03 59 31.7**	**+1.3**
JRY	**Ryogami san**	**5.07**	**7**	P	**P**	**03 58 24.0**	**-0.5**
JRY				S	**S**	**03 59 30.0**	**-3.5**
CBIJ	**Chichi jima**	**5.26**	**136**	P	**P**	**03 58 23.9**	**-2.6**
MAT	**Matsushiro**	**5.55**	**1**	P	**P**	**03 58 28.6**	**-0.7**
MAT				S	**S**	**03 59 40.3**	**-1.9**
MJAR	**Matsushiro Arr**	**5.55**	**1**	P	**P**	**03 58 28.4**	**-0.9**
MJAR				S	**S**	**03 59 40.3**	**-1.9**
MJAR	**Matsushiro Arr**	**5.55**	**1**	P	**P**	**03 58 28.4**	**-0.9**
10nm,0.3s,baz=180,slow=11,SNR=246							
MJAR				S	**S**	**03 59 40.3**	**-1.9**
2.7nm,0.3s,baz=172,slow=20,SNR=4.9							
JHS	**Saijyo**	**5.81**	**315**	P	**P**	**03 58 33.6**	**+1.6**
JNU	**Nakatsue**	**6.51**	**291**	*e*P	**P**	**03 58 40.9**	**+1.4**
33nm,0.7s							
JNU				*e*S	**S**	**03 59 57.7**	**-2.8**
JNU	**Nakatsue**	**6.51**	**291**	P	**P**	**03 58 41.2**	**+1.8**
6.4nm,0.3s,baz=96,slow=5.0,SNR=116							
JNU				S	**S**	**04 00 02.8**	**+2.3**
0.9nm,0.3s,baz=183,slow=19,SNR=5.0							
JSJ	**Shimokoshiki**	**7.22**	**278**	P	**P**	**03 58 48.6**	**+1.6**
JAM	**Amami Oshima**	**7.84**	**253**	P	**P**	**03 58 54.4**	**+0.7**
JMZ	**Minamidaito 2**	**7.96**	**231**	P	P	03 58 58.4	+3.4
JMK	**Ichinoseki**	**8.35**	**17**	P	**P**	**03 58 58.6**	**-0.4**
JMK				*e*S	S	04 00 30.0	-6.7
JOW	**Kunigami**	**9.57**	**247**	*e*P	**P**	**03 59 14.1**	**+1.5**
73nm,0.6s							
JOW	**Kunigami**	**9.57**	**247**	P	**P**	**03 59 14.2**	**+1.7**
KSRS	**Korea Array**	**10.62**	**310**	P	**P**	**03 59 25.1**	**+1.2**
1.2nm,0.3s,baz=123,slow=11,SNR=27							
KSRS				S	S	04 01 16.1	-6.5
1.1nm,0.3s,baz=198,slow=30,SNR=4.7							
KSRS				PcP	**PcP**	**04 04 44.3**	**+0.6**
0.2nm,0.3s,baz=123,slow=2.1,SNR=4.5							
KSAR	**Wonju Array Be**	**10.64**	**310**	P	**P**	**03 59 25.1**	**+1.0**
KSAR				S	S	04 01 16.1	-6.9
KSAR				PcP	**PcP**	**04 04 44.3**	**+0.6**
JOT	**Ohata**	**10.65**	**12**	P	**P**	**03 59 24.7**	**+0.6**
JKE	**Kume jima 2**	**10.98**	**248**	P	**P**	**03 59 28.5**	**+0.5**
JKB	**Kayabe**	**11.13**	**11**	P	**P**	**03 59 30.5**	**+1.1**
JOSM	**Okushiri--Mats**	**11.13**	**5**	P	**P**	**03 59 30.6**	**+1.2**
ERM	**Erimo**	**11.73**	**19**	*e*P	**P**	**03 59 36.6**	**+0.7**
ERM	**Erimo**	**11.73**	**19**	*e*P	**P**	**03 59 37.3**	**+1.4**
49nm,0.9s							
ASAJ	**Asahikawa**	**13.58**	**14**	P	**P**	**03 59 56.8**	**+0.8**
ASAJ				S	**S**	**04 02 22.1**	**+0.8**
ASAJ	**Asahikawa**	**13.58**	**14**	P	**P**	**03 59 56.8**	**+0.8**
1.8nm,0.3s,baz=334,slow=29,SNR=13							
ASAJ				S	**S**	**04 02 22.1**	**+0.8**
0.9nm,0.3s,baz=134,slow=23,SNR=6.6							
USRK	**Ussuriysk Arra**	**14.06**	**342**	P	**P**	**04 00 01.5**	**+0.4**
1.5nm,0.3s,baz=151,slow=11,SNR=24							
MDJ	**Mudanjiang**	**15.18**	**336**	P	**P**	**04 00 13.8**	**+0.7**
MDJ				S	**S**	**04 02 53.9**	**+1.2**
MDJ				PcP	**PcP**	**04 04 49.8**	**+0.5**
MDJ				ScP	**ScP**	**04 07 41.5**	**+0.4**
MDJ				PcS	**PcS**	**04 08 25.1**	**+0.5**
MDJ				ScS	**ScS**	**04 11 22.4**	**+3.1**
YHNB	**Yeheng**	**16.09**	**251**	*e*P	**P**	**04 00 21.3**	**-1.9**
46nm,0.7s							
NACB	**Ninganchiao**	**16.14**	**249**	*e*P	**P**	**04 00 20.9**	**-2.7**
27nm,0.4s							
CN2	**Changchun**	**16.26**	**325**	*e*P	**P**	**04 00 24.8**	**+0.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
YSS	**Yuzh-Sakhalins**	**16.35**	**11**	*e*P	**P**	**04 00 28.4**	**+2.9**
YSS				pmax	pmax		
comp=Z,30nm,0.6s							
NJ2	**Nanjing**	**16.47**	**279**	*e*P	**P**	**04 00 26.3**	**-0.7**
NJ2				pmax	pmax		
comp=Z,30nm,1.1s							
YULB	**Yu-li**	**16.76**	**247**	*e*P	**P**	**04 00 28.0**	**-2.2**
comp=Z,34nm,0.6s							
SSLB	**Suanglung**	**16.84**	**249**	*e*P	**P**	**04 00 29.6**	**-1.5**
comp=Z,55nm,0.8s							
SSLB				*e*S	**S**	**04 03 22.6**	**-2.8**
HABR	**Khabarovsk**	**17.63**	**353**	*e*P	**P**	**04 00 38.8**	**-0.2**
HABR				pmax	pmax		
comp=Z,63nm,1.0s							
HABR				pmax	pmax		
comp=N,45nm,1.5s							
HABR				pmax	pmax		
comp=E,11nm,0.6s							
KLR	**Kul'dur**	**18.86**	**347**	*e*P	**P**	**04 00 47.0**	**-4.3**
KLR				*e*S	**S**	**04 03 57.0**	**-3.2**
KLR				pmax	pmax		
comp=Z,43nm,1.4s							
BJI	**Beijing**	**19.98**	**303**	P	**P**	**04 01 02.0**	**+0.3**
BJI				S	**S**	**04 04 21.3**	**+2.5**
BJI				pmax	pmax		
comp=Z,8.0nm,0.9s							
HIA	**Hailar**	**22.94**	**328**	*e*P	**P**	**04 01 28.5**	**0.0**
comp=Z,11nm,0.6s							
HHC	**Hu-ho-hao-te**	**23.58**	**302**	*e*P	**P**	**04 01 31.8**	**-2.7**
HHC				sP	**sP**	**04 03 37.4**	**-2.0**
HHC				PcP	**PcP**	**04 05 04.3**	**-0.5**
HHC				S	**S**	**04 05 12.5**	**-3.8**
HHC				ScP	**ScP**	**04 07 59.4**	**-1.3**
HHC				PcS	**PcS**	**04 08 41.8**	**-2.9**
HHC				ScS	**ScS**	**04 11 46.8**	**-1.2**
HHC				pmax	pmax		
comp=Z,52nm,0.6s							
HHC				pmax	pmax		
comp=Z,150nm,4.6s							
ENH	**Enshi**	**24.63**	**276**	*e*P	**P**	**04 01 43.4**	**-0.5**
comp=Z,30nm,0.6s							
XAN	**Xi'an**	**24.78**	**285**	P	**P**	**04 01 44.6**	**-0.6**
XAN				pmax	pmax		
comp=Z,9.0nm,0.9s							
PETK	**Petropavlovsk-**	**26.30**	**27**	P	**P**	**04 01 59.6**	**+1.2**
PETK						04 05 10.7	
PETK	**Petropavlovsk-**	**26.30**	**27**	P	**P**	**04 01 59.5**	**+1.2**
PETK				PcP	**PcP**	**04 05 10.7**	**+0.1**
PETK	**Petropavlovsk-**	**26.30**	**27**	P	**P**	**04 01 59.5**	**+1.2**
comp=Z,2.0nm,0.5s,baz=189,slow=4.8,SNR=15							
PETK				PcP	**PcP**	**04 05 10.7**	**+0.1**
comp=Z,0.4nm,0.4s,baz=189,slow=2.8,SNR=5.2							
GYA	**Guiyang**	**27.90**	**269**	⇓*i*P	**P**	**04 02 12.3**	**-0.7**
GYA				pP	**pP**	**04 03 31.0**	**+0.7**
GYA				sP	**sP**	**04 04 21.3**	**-0.5**
GYA				PcP	**PcP**	**04 05 16.5**	**+1.3**
GYA				S	**S**	**04 06 20.5**	**-4.1**
GYA				ScP	**ScP**	**04 08 14.1**	**+0.5**
GYA				ScS	**ScS**	**04 12 05.5**	**-1.6**
GYA				pmax	pmax		
comp=Z,30nm,0.7s							
GYA				pmax	pmax		
comp=Z,180nm,4.6s							
LZH	**Lanzhou**	**28.93**	**289**	⇑P	**P**	**04 02 21.8**	**-0.1**
LZH				sP	**sP**	**04 04 31.0**	**-0.1**
LZH				*e*S	**S**	**04 06 39.0**	**-1.5**
LZH				ScP	**ScP**	**04 08 17.4**	**+0.6**
LZH				pmax	pmax		
comp=Z,15nm,0.9s							
ULN	**Ulaanbaatar**	**29.07**	**314**	*e*P	**P**	**04 02 23.2**	**+0.3**
comp=Z,4.0nm,0.4s							
ULN				*e*PcP	**PcP**	**04 05 18.2**	**+0.5**
ULN	**Ulaanbaatar**	**29.07**	**314**	P	**P**	**04 02 22.4**	**-0.6**
comp=Z,16nm,1.0s							
SONM	**Songino Array**	**29.46**	**314**	P	**P**	**04 02 26.8**	**+0.4**
SONM				PcP	**PcP**	**04 05 18.6**	**-0.2**
SONM	**Songino Array**	**29.46**	**314**	P	**P**	**04 02 26.8**	**+0.4**
comp=Z,3.0nm,0.4s,baz=122,slow=8.6,SNR=11							
SONM				PcP	**PcP**	**04 05 18.6**	**-0.2**
comp=Z,1.5nm,0.3s,baz=112,slow=2.1,SNR=5.6							
KDM	**Kudat**	**31.15**	**224**	P	**P**	**04 02 42.2**	**+0.9**
YAK	**Yakutsk**	**31.55**	**352**	*e*P	**P**	**04 02 43.2**	**-0.8**
YAK				pmax	pmax		
comp=Z,28nm,0.8s							
YAK				pmax	pmax		
comp=E,5.0nm,1.3s							
YAK				pmax	pmax		
comp=N,12nm,1.1s							
MYLDM	**Lahad Datu**	**31.61**	**220**	P	**P**	**04 02 46.8**	**+1.6**
MYLDM	**Lahad Datu**	**31.61**	**220**	P	**P**	**04 02 47.0**	**+1.8**
MYLDM	**Lahad Datu**	**31.61**	**220**	P	**P**	**04 02 45.7**	**+0.5**
comp=N,41nm,1.0s							
KMI	**Kunming**	**31.68**	**268**	P	**P**	**04 02 45.8**	**-0.2**
KMI				pP	**pP**	**04 04 06.6**	**+1.9**
KMI				pmax	pmax		
comp=Z,13nm,1.1s							
SDKM	**Sandakan**	**31.96**	**222**	P	**P**	**04 02 48.6**	**+0.3**
KKM	**Kota Kinabalu**	**32.21**	**224**	*e*P	**P**	**04 02 50.2**	**-0.3**
comp=Z,20nm,0.8s							
KKM	**Kota Kinabalu**	**32.21**	**224**	P	**P**	**04 02 52.6**	**+2.1**
GTA	**Gaotai**	**32.22**	**296**	⇓P	**P**	**04 02 51.4**	**+1.0**
GTA				pP	**PP**	**04 04 14.8**	**-0.1**
GTA				sP	**sP**	**04 05 03.5**	**+3.2**
GTA				PcP	**PcP**	**04 05 27.1**	**+0.7**
GTA				ScP	**ScP**	**04 08 27.9**	**+0.3**
GTA				ScS	**ScS**	**04 12 22.9**	**-5.0**
GTA				pmax	pmax		
comp=Z,7.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,49nm,3.5s							
ZAK	**Zakamensk**	**32.35**	**317**	*e*P	**P**	**04 02 51.3**	**0.0**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.2s							
SEY	**Seymchan**	**33.25**	**12**	*c i*P	**P**	**04 02 59.5**	**+0.8**
PANO	**Nakornpanom**	**33.41**	**253**	P	**P**	**04 03 01.2**	**+0.6**
comp=Z,49nm,0.8s,comp=Z,712nm							
FX1	**Attu Island--F**	**33.53**	**39**	P	**P**	**04 03 03.0**	**+1.9**
FX1	**Attu Island--F**	**33.53**	**39**	P	**P**	**04 03 03.0**	**+1.9**
comp=Z,8.7nm,0.5s,baz=312,slow=1.9,SNR=13							
UBPT	**Khong Chiam**	**33.69**	**250**	P	**P**	**04 03 03.7**	**+0.7**
comp=Z,31nm,1.0s,comp=Z,2μm							
LOEI	**Loei**	**36.01**	**257**	P	P	04 03 19.3	-3.2
comp=Z,124nm,0.8s,comp=Z,1μm							
BTM	**Bintulu**	**36.35**	**225**	P	**P**	**04 03 26.2**	**+0.8**
PBKT	**Sadao Pong**	**36.71**	**256**	P	**P**	**04 03 28.4**	**+0.1**
comp=Z,56nm,0.8s,comp=Z,1μm							
CMMT	**Chiang Mai**	**37.36**	**260**	P	**P**	**04 03 33.2**	**-0.5**
comp=Z,30nm,0.9s							
CHTO	**Chiang Mai**	**37.36**	**260**	*e*P	**P**	**04 03 33.5**	**-0.2**
CHTO				pmax	pmax		
comp=Z,21nm,0.8s							
CHTO	**Chiang Mai**	**37.36**	**260**	*e*P	**P**	**04 03 33.5**	**-0.2**
comp=Z,21nm,0.8s							
CHTO	**Chiang Mai**	**37.36**	**260**	P	**P**	**04 03 33.2**	**-0.5**
comp=Z,33nm,0.9s							
CHTO	**Chiang Mai**	**37.36**	**260**	P	**P**	**04 03 33.6**	**-0.2**
comp=Z,33nm,0.9s							
SBUM	**Sibu**	**37.47**	**226**	P	**P**	**04 03 35.5**	**+0.8**
SBUM	**Sibu**	**37.47**	**226**	P	**P**	**04 03 33.9**	**-0.8**
comp=Z,19nm,1.0s							
CM31	**Chiang Mai Arr**	**37.52**	**260**	*e*P	**P**	**04 03 35.3**	**+0.2**
comp=Z,9.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**37.52**	**260**	P	**P**	**04 03 35.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**37.52**	**260**	P	**P**	**04 03 35.3**	**+0.2**
comp=Z,8.4nm,0.7s,baz=56,slow=6.8,SNR=12							
NAYO	**Nakonayok**	**37.58**	**252**	P	**P**	**04 03 36.3**	**+0.7**
comp=Z,27nm,1.1s							
HVS	**Khovu-Aksy**	**38.35**	**315**	*c i*P	**P**	**04 03 42.1**	**+0.6**
HVS				pmax	pmax		
comp=Z,80nm,1.0s							
KSM	**Kuching**	**39.42**	**227**	*e*P	**P**	**04 03 51.4**	**+0.8**
comp=Z,65nm,0.6s							
KSM	**Kuching**	**39.42**	**227**	P	**P**	**04 03 51.7**	**+1.0**
KSM	**Kuching**	**39.42**	**227**	P	**P**	**04 03 51.9**	**+1.3**
KSM	**Kuching**	**39.42**	**227**	P	**P**	**04 03 51.6**	**+1.0**
comp=Z,106nm,0.7s,comp=Z,881nm							
PHET	**Kaeng Krachan**	**39.72**	**252**	P	**P**	**04 03 53.8**	**+0.7**
comp=Z,104nm,0.8s							
KAPI	**Kappang**	**39.87**	**209**	*e*P	**P**	**04 03 53.1**	**-1.0**
comp=Z,50nm,1.1s							
KAPI	**Kappang**	**39.87**	**209**	P	**P**	**04 03 52.6**	**-1.6**
comp=Z,40nm,1.3s							
KAPI	**Kappang**	**39.87**	**209**	P	**P**	**04 03 53.3**	**-0.9**
comp=Z,18nm,0.5s,baz=182,slow=15,SNR=7.7							
TIXI	**Tiksi**	**41.03**	**356**	*c i*P	**P**	**04 04 02.4**	**-0.4**
TIXI				pmax	pmax		
comp=Z,9.0nm,0.8s							
KTGM	**Kuala Trenggan**	**41.59**	**239**	P	**P**	**04 04 09.3**	**+1.2**
SKLT	**Songkhla**	**42.30**	**244**	P	**P**	**04 04 14.4**	**+0.7**
comp=Z,45nm,0.8s							
BATI	**Baumata**	**43.24**	**201**	P	**P**	**04 04 21.4**	**+0.3**
BATI	**Baumata**	**43.24**	**201**	P	**P**	**04 04 21.4**	**+0.3**
comp=Z,73nm,0.6s,baz=239,slow=1.1,SNR=6.7							
KULM	**Kulim**	**43.47**	**242**	*e*P	**P**	**04 04 23.0**	**0.0**
comp=Z,32nm,0.8s							
KULM	**Kulim**	**43.47**	**242**	P	**P**	**04 04 23.7**	**+0.7**
KULM	**Kulim**	**43.47**	**242**	P	**P**	**04 04 23.9**	**+0.9**
KULM	**Kulim**	**43.47**	**242**	P	**P**	**04 04 23.2**	**+0.2**
MYKOM	**Kota Tinggi**	**43.51**	**235**	P	**P**	**04 04 24.4**	**+1.2**
PKDT	**Phuket**	**43.64**	**247**	P	**P**	**04 04 25.5**	**+1.2**
comp=Z,40nm,0.9s							
IPM	**Ipoh**	**43.72**	**240**	*e*P	**P**	**04 04 24.4**	**-0.5**
comp=Z,40nm,1.0s							
IPM	**Ipoh**	**43.72**	**240**	P	**P**	**04 04 24.8**	**-0.1**
IPM	**Ipoh**	**43.72**	**240**	P	**P**	**04 04 24.9**	**0.0**
TAPN	**Taplejung**	**43.87**	**278**	*e*P	**P**	**04 04 25.7**	**-0.6**
comp=Z,11nm,0.4s							
ZAA0	**Zalesovo Array**	**44.23**	**317**	*e*P	**P**	**04 04 27.9**	**-0.4**
ZAA0				*e*PcP	**PcP**	**04 06 03.2**	**-0.5**
ZAA0				*e*ScP	**ScP**	**04 09 12.2**	**-0.9**
ZALV	**Zalesovo Beam**	**44.23**	**317**	*i*P	**P**	**04 04 28.0**	**-0.4**
ZALV	**Zalesovo Beam**	**44.23**	**317**	P	**P**	**04 04 27.9**	**-0.4**
ZALV				PcP	**PcP**	**04 06 03.4**	**-0.3**
ZALV				ScP	**ScP**	**04 09 12.3**	**-0.7**
ZALV	**Zalesovo Beam**	**44.23**	**317**	P	**P**	**04 04 27.9**	**-0.4**
comp=Z,7.0nm,0.4s,baz=93,slow=8.4,SNR=26							
ZALV				PcP	**PcP**	**04 06 03.4**	**-0.3**
comp=Z,12nm,0.6s,baz=107,slow=3.3,SNR=30							
ZALV				ScP	**ScP**	**04 09 12.3**	**-0.7**
comp=Z,3.6nm,0.7s,baz=103,slow=4.5,SNR=8.7							
ODAN	**Odare**	**44.29**	**278**	*e*P	**P**	**04 04 29.1**	**-0.4**
comp=Z,19nm,0.4s							
RAMN	**Ramite**	**44.93**	**278**	*e*P	**P**	**04 04 34.1**	**-0.5**
comp=Z,19nm,0.3s							
JIRN	**Jiri**	**45.07**	**279**	*e*P	**P**	**04 04 36.0**	**+0.3**
comp=Z,72nm,0.4s							
GUN	**Gumba**	**45.26**	**280**	*e*P	**P**	**04 04 37.4**	**+0.2**
comp=Z,40nm,0.5s							
MK31	**Makanchi Array**	**45.28**	**307**	*ce*P	**P**	**04 04 36.7**	**0.0**
MK31				pmax	pmax		
comp=Z,3.0nm,0.4s							
MK31	**Makanchi Array**	**45.28**	**307**	*e*P	**P**	**04 04 36.3**	**-0.4**
MK31				*e*PcP	**PcP**	**04 06 07.6**	**0.0**
MK31				*e*ScP	**ScP**	**04 09 16.8**	**-0.9**
MKAR	**Makanchi Array**	**45.29**	**307**	P	**P**	**04 04 36.8**	**+0.1**
MKAR						04 06 07.3	
MKAR	**Makanchi Array**	**45.29**	**307**	P	**P**	**04 04 36.8**	**+0.1**
MKAR				PcP	**PcP**	**04 06 07.3**	**-0.3**
MKAR				ScP	**ScP**	**04 09 16.7**	**-1.0**
MKAR				S	**S**	**04 10 42.2**	**-1.5**
MKAR	**Makanchi Array**	**45.29**	**307**	P	**P**	**04 04 36.8**	**+0.1**
comp=Z,5.8nm,0.7s,baz=91,slow=9.8,SNR=43							
MKAR				PcP	**PcP**	**04 06 07.3**	**-0.3**
comp=Z,3.4nm,0.6s,baz=79,slow=5.1,SNR=14							
MKAR				ScP	**ScP**	**04 09 16.7**	**-1.0**
comp=Z,1.2nm,0.7s,baz=81,slow=5.5,SNR=6.1							
MKAR				S	**S**	**04 10 42.2**	**-1.5**
comp=Z,0.3nm,0.6s,baz=86,slow=20,SNR=2.7							
NVS	**Novosibirsk**	**45.29**	**318**	⇑*i*P	**P**	**04 04 36.1**	**-0.4**
NVS				pmax	pmax		
comp=N,2.0nm,0.7s							
NVS				pmax	pmax		
comp=Z,6.0nm,0.7s							
NVS				pmax	pmax		
comp=E,6.0nm,1.0s							
PKI	**Pulchoki**	**45.76**	**280**	*e*P	**P**	**04 04 40.7**	**-0.3**
comp=E,7.5nm,0.5s							
PKIN	**Phulchoki**	**45.77**	**280**	*e*P	**P**	**04 04 40.7**	**-0.3**
comp=E,4.9nm,0.3s							
KKN	**Kakani**	**45.80**	**280**	*e*P	**P**	**04 04 41.1**	**-0.1**
comp=E,12nm,0.4s							
DMN	**Daman**	**46.00**	**280**	*e*P	**P**	**04 04 42.5**	**-0.3**
PSI	**Prapat**	**46.40**	**241**	P	**P**	**04 04 44.8**	**-1.0**
PSI	**Prapat**	**46.40**	**241**	P	**P**	**04 04 44.8**	**-1.0**
comp=E,9.9n

AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 51.16 302 *e*P **P 04 05 21.0 -0.3**
comp=Z,2.8nm,0.6s
AAK *e*PcP **PcP 04 06 29.0 -0.3**
AAK Ala-Archa 51.16 302 P **P 04 05 21.1 0.0**
comp=Z,4.2nm,0.6s,baz=131,slow=7.7,SNR=5.3
AAK PcP **PcP 04 06 29.0 -0.3**
comp=Z,3.1nm,0.4s,baz=103,slow=14,SNR=2.8
EKS2 Erkin-Say 51.67 302 *e*P **P 04 05 24.7 -0.1**
EKS2 *e* 04 06 31.0
EKS2 pmax pmax
comp=Z,3.0nm,0.9s
EKS2 Erkin-Say 51.67 302 *e*P **P 04 05 24.7 -0.1**
comp=Z,3.2nm,0.9s
EKS2 *e*PcP **PcP 04 06 31.0 -0.2**
AML Almayashu 51.82 301 *i* P **P 04 05 27.3 +1.1**
AML Almayashu 51.82 301 P **P 04 05 27.3 +1.1**
SNR=14
VOSK Vostochnaya 52.45 315 P **P 04 05 29.4 -0.7**
VOSK pmax pmax
comp=Z,17nm,0.9s
BVA0 Borovoye Array 52.79 315 *i* P **P 04 05 32.3 -0.2**
BVA0 pmax pmax
comp=Z,13nm,0.6s
BVAR Borovoye Array 52.79 315 P **P 04 05 32.4 -0.1**
BVAR 04 06 35.0
BVAR S **S 04 12 23.8 -2.7**
BVAR Borovoye Array 52.79 315 P **P 04 05 32.4 -0.1**
BVAR PcP **PcP 04 06 35.0 0.0**
BVAR S **S 04 12 23.8 -2.7**
BVAR Borovoye Array 52.79 315 P **P 04 05 32.4 -0.1**
comp=Z,14nm,0.6s,baz=94,slow=8.4,SNR=57
BVAR PcP **PcP 04 06 35.0 0.0**
comp=Z,9.5nm,0.6s,baz=88,slow=4.1,SNR=13
BVAR S **S 04 12 23.8 -2.7**
comp=Z,1.5nm,0.7s,baz=97,slow=12,SNR=6.5
BRVK Borovoye 52.85 315*c i*P **P 04 05 32.9 0.0**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 52.85 315 *e*P **P 04 05 32.5 -0.4**
comp=Z,17nm,0.8s
BRVK *e*PcP **PcP 04 06 35.2 0.0**
IM04 Indian Mountai 53.24 28 *e*P **P 04 05 36.3 +0.7**
IMA2 Indian Mountai 53.29 28 *e*P **P 04 05 36.5 +0.5**
IMA2 *e*PcP **PcP 04 06 37.4 +0.6**
RSO Redoubt South 53.38 35 *e*P **P 04 05 37.6 +0.7**
comp=Z,84nm,0.7s
KDAK Kodiak Island 53.48 39 *e*P **P 04 05 37.6 +0.3**
comp=Z,38nm,0.8s
KDAK Kodiak Island 53.48 39 P **P 04 05 37.8 +0.5**
comp=Z,16nm,0.3s,baz=278,slow=3.1,SNR=41
PPLA Purkeypile 53.71 32 *e*P **P 04 05 40.4 +1.2**
comp=Z,22nm,0.7s
KK31 Karatay Array 53.96 303*c e*P **P 04 05 41.0 -0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 53.96 303 *e*P **P 04 05 40.9 -0.2**
KKAR *e* 04 06 38.9
KKAR pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 53.96 303 *e*P **P 04 05 40.9 -0.2**
comp=Z,14nm,0.8s
KKAR *e*PcP **PcP 04 06 38.9 -0.8**
AS31 Alice Springs 54.48 185 *e*P **P 04 05 44.4 -0.5**
ASAR Alice Springs 54.48 185 P **P 04 05 45.0 0.0**
ASAR ScP **ScP 04 09 58.0 +0.7**
ASAR S **S 04 12 49.5 -0.1**
ASAR Alice Springs 54.48 185 P **P 04 05 45.0 0.0**
comp=Z,2.8nm,0.7s,baz=19,slow=12,SNR=52
ASAR ScP **ScP 04 09 58.0 +0.7**
comp=Z,2.7nm,0.8s,baz=359,slow=4.8,SNR=11
ASAR S **S 04 12 49.6 -0.1**
comp=Z,0.7nm,0.7s,baz=20,slow=19,SNR=4.5
TRF Thorofare Moun 54.59 32 *e*P **P 04 05 45.8 +0.4**
comp=Z,8.1nm,0.7s
MBWA Marble Bar 54.77 201 *e*P **P 04 05 46.4 -0.5**
comp=Z,5.4nm,0.5s
COLD Coldfoot 54.77 27 *e*P **P 04 05 47.5 +1.1**
comp=Z,6.2nm,0.7s
PMR Palmer 55.13 34 *e*P **P 04 05 48.6 -0.4**
PMR *e* 04 06 44.2
PMR pmax pmax
comp=Z,27nm,1.0s
PMR Palmer 55.13 34 *e*P **P 04 05 48.6 -0.4**
comp=Z,27nm,1.0s
PMR *e*PcP **PcP 04 06 44.2 +0.3**
MCK McKinley 55.20 31 *e*P **P 04 05 50.0 +0.5**
MCK pmax pmax
comp=Z,34nm,1.1s
MCK McKinley 55.20 31 *e*P **P 04 05 50.0 +0.5**
comp=Z,34nm,1.1s
SML Sawmill 55.51 34 *e*P **P 04 05 52.1 +0.4**
SML *e* 04 06 45.8
SML pmax pmax
comp=Z,6.0nm,0.9s
SML Sawmill 55.51 34 *e*P **P 04 05 52.0 +0.4**
comp=Z,5.7nm,0.9s
SML *e*PcP **PcP 04 06 45.8 +0.4**
COLA College 55.66 30 *e*P **P 04 05 53.3 +0.7**
COLA pmax pmax
comp=Z,30nm,0.8s
COLA College 55.66 30 *e*P **P 04 05 53.3 +0.7**
comp=Z,30nm,0.8s
ILAR Eielson Array 56.08 30 P **P 04 05 55.3 -0.3**
ILAR PcP **PcP 04 06 47.1 -0.4**
ILAR Eielson Array 56.08 30 P **P 04 05 55.3 -0.3**
comp=Z,3.8nm,0.6s,baz=257,slow=5.0,SNR=63
ILAR PcP **PcP 04 06 47.1 -0.4**
comp=Z,1.1nm,0.6s,baz=259,slow=4.0,SNR=4.8
KBL Kabul 57.16 293 *e*P **P 04 06 03.6 -0.3**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 57.16 293 *e*P **P 04 06 03.6 -0.3**
comp=Z,4.7nm,0.7s
BMRM Bremner River 57.36 34 *e*P **P 04 06 05.6 +1.0**
comp=Z,35nm,0.8s
BMRM *e*PcP **PcP 04 06 53.7 +1.0**
SVE Sverdlovsk 57.98 321 *e*P **P 04 06 09.3 +0.5**
EGAK Eagle 58.52 30 *e*P **P 04 06 12.3 -0.1**
comp=Z,4.3nm,0.6s
ARU Arti 59.18 320*c i*P **P 04 06 16.6 -0.4**
ARU 04 06 58.4
ARU 04 08 30.3
ARU S **S 04 13 50.8 +1.3**
ARU SS **SS 04 17 48.4 -3.9**
ARU pmax pmax
comp=Z,21nm,0.7s
DZM Mont Dzumac 59.34 149 *e*P **P 04 06 19.4 +0.9**
comp=Z,8.6nm,0.8s
DAWY Dawson 59.38 30 *e*P **P 04 06 18.9 +0.6**
AB31 Akbulak array 59.85 312 *i* P **P 04 06 21.2 -0.4**
AB31 pmax pmax
comp=Z,11nm,0.5s
ABKAR Akbulak array 59.85 312 *e*P **P 04 06 21.1 -0.6**
comp=Z,13nm,0.5s
ABKAR *e*PcP **PcP 04 07 02.1 -0.8**
AKTO Aktyubinsk 60.78 314 P **P 04 06 27.1 -0.7**
AKTO Aktyubinsk 60.78 314 P **P 04 06 27.1 -0.7**
AKTO Aktyubinsk 60.78 314 P **P 04 06 27.1 -0.7**
comp=Z,9.2nm,0.6s,baz=75,slow=13,SNR=23
HYT Haines Junctio 60.81 34 *e*P **P 04 06 29.3 +1.3**
INK Inuvik 61.01 25 *e*P **P 04 06 29.3 +0.4**
comp=Z,16nm,0.6s
INK *e*PcP **PcP 04 07 07.9 +0.8**
INK Inuvik 61.01 25 P **P 04 06 29.4 +0.4**
comp=Z,11nm,0.3s,baz=286,slow=5.7,SNR=150
STKA Stephens Creek 62.60 177 P **P 04 06 40.0 +0.1**
STKA Stephens Creek 62.60 177 P **P 04 06 40.0 +0.1**
comp=Z,2.0nm,0.5s,baz=344,slow=6.7,SNR=6.5
DLBC Dease Lake 65.10 35 *e*P **P 04 06 56.9 +1.2**
DLBC Dease Lake 65.10 35 P **P 04 06 57.0 +1.3**
comp=Z,7.7nm,0.8s,baz=288,slow=6.5,SNR=16
SPA0 Spitsbergen Ar 65.92 349 *e*P **P 04 07 00.3 -0.2**
SPITS Spitsbergen Ar 65.92 349 P **P 04 07 00.8 +0.3**
SPITS PcP **PcP 04 07 27.5 +0.2**
SPITS Spitsbergen Ar 65.92 349 P **P 04 07 00.8 +0.3**
comp=Z,5.4nm,0.5s,baz=108,slow=8.0,SNR=17
SPITS PcP **PcP 04 07 27.5 +0.2**
comp=Z,4.4nm,0.8s,baz=108,slow=4.7,SNR=5.5
KBS Kingsbay 66.14 350 *e*P **P 04 07 02.9 +1.1**
ARCES ARCESS Array B 68.70 340 P **P 04 07 18.2 +0.4**
ARCES ARCESS Array B 68.70 340 P **P 04 07 18.2 +0.4**
comp=Z,14nm,0.5s,baz=66,slow=8.4,SNR=85
ARE0 ARCESS Array S 68.70 340 *e*P **P 04 07 17.0 -0.8**
ARE0 ARCESS Array S 68.70 340 *e*P **P 04 07 18.1 +0.3**
KTK1 Kautokeino 69.66 340 *e*P **P 04 07 23.9 +0.3**
VRHR Novokhopersk 70.35 318 *e*P **P 04 07 26.7 -1.3**
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=E,3.0nm,0.4s
YKW3 Yellowknife Ar 70.38 28 *e*P **P 04 07 27.6 -0.3**
comp=E,0.2nm,1.3s
YKA Yellowknife Ar 70.41 28 P **P 04 07 28.4 +0.2**
YKA PcP **PcP 04 07 47.2 +0.8**
YKA Yellowknife Ar 70.41 28 P **P 04 07 28.4 +0.2**
comp=E,6.4nm,0.6s,baz=301,slow=6.0,SNR=28
YKA PcP **PcP 04 07 47.2 +0.8**
comp=E,2.1nm,0.6s,baz=301,slow=4.1,SNR=5.5
TRO Tromso 70.54 341 *e*P **P 04 07 28.1 -0.7**
TRO AMB AMB 04 07 31.3
comp=Z,108nm,2.2s
OBN Obninsk 71.31 324*c i*P **P 04 07 32.5 -1.1**
OBN *e**PP **pP 04 09 08.7 +0.2**
OBN *e*SS SS 04 21 02.1 +2.9
OBN pmax pmax
comp=Z,22nm,1.2s
DAG Danmarks Havn 71.54 355 *i* P **P 04 07 34.9 +0.3**
comp=Z,17nm,0.8s
VSR Storozhevoye 71.69 319 *e*P **P 04 07 35.6 -0.4**
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
VORD Divnogorie 71.73 319 *e*P **P 04 07 35.5 -0.7**
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,9.0nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
DGRG David-gareji 72.13 308 P **P 04 07 39.8 +1.0**
DGRG David-gareji 72.13 308 P **P 04 07 41.6 +2.8**
GUDG Gudauri 72.29 309 P **P 04 07 39.8 -0.2**
DUS Dusheti 72.31 309 P **P 04 07 41.0 +1.2**
KAF Kangasniemi 72.42 333 *e*P **P 04 07 39.1 -0.9**
KAF pmax pmax
comp=Z,28nm,0.5s
KAF Kangasniemi 72.42 333 *e*p **P 04 07 39.1 -0.9**
comp=Z,28nm,0.5s
ZEI Tsey 72.53 310 *e*P **P 04 07 40.2 -1.1**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
STEI Steigen 72.66 341 *e*P **P 04 07 41.4 +0.1**
KBZ Khabaz 72.78 311 P **P 04 07 42.9 +0.5**
KBZ Khabaz 72.78 311 P **P 04 07 42.9 +0.5**
KBZ Khabaz 72.78 311 P **P 04 07 42.9 +0.5**
comp=Z,20nm,0.8s,baz=91,slow=4.3,SNR=40
KIV Kislovodsk 72.81 311*d i*P **P 04 07 42.7 -0.1**
KIV *e* 04 07 57.4
KIV *e**PP **pP 04 09 19.3 +1.2**
KIV *e* 04 10 31.6
KIV pmax pmax
comp=Z,17nm,1.0s
FINES FINESS Array B 72.89 332 P **P 04 07 42.6 -0.1**
FINES FINESS Array B 72.89 332 P **P 04 07 42.6 -0.1**
comp=Z,20nm,0.4s,baz=64,slow=5.5,SNR=196
ONI Oni 72.92 310 P **P 04 07 44.6 +1.2**
GNI Garni 73.13 307 *e*P **P 04 07 44.4 -0.4**
comp=Z,12nm,0.7s
GNI Garni 73.13 307 P **P 04 07 44.4 -0.4**
comp=Z,4.3nm,0.4s,baz=353,slow=22,SNR=3.1
JCW Jim Creek 73.66 43 P **P 04 07 48.8 +1.3**
RPW Rockport 73.78 43 P **P 04 07 49.0 +0.8**
MOR8 Moi Rana 74.07 339⇑*i*P **P 04 07 48.4 -1.1**
MOR8 AMB AMB 04 07 48.9
comp=Z,49nm,0.6s
VSU Vasula 74.27 329 *e*P **P 04 07 49.8 -0.9**
VSU pmax pmax
comp=Z,87nm,1.3s
FLOS Flostrand 74.28 340 *e*P **P 04 07 50.8 +0.2**
STOK Stokkvaagen 74.38 340 *e*P **P 04 07 50.3 -0.9**
ETW Entiat 74.89 43 P **P 04 07 55.6 +1.0**
VLL Laurance Lake 75.12 46 P **P 04 07 57.4 +1.5**
FRIS Frissel Point 75.46 47 P **P 04 07 59.3 +1.3**
IRO Indian Ridge 75.47 47 P **P 04 07 59.1 +1.1**
HUMO Hull Mountain 75.69 49 *e*P **P 04 08 00.7 +1.6**
comp=Z,7.9nm,1.3s
BLTW Bickleton 75.81 45 P **P 04 08 01.0 +1.2**
OD2 Odessa Site #2 75.94 43 P **P 04 08 01.1 +0.7**
KBD Kabd 75.95 296 *e*P **P 04 08 00.3 -0.4**
KBD AMb AMb 04 08 00.9
comp=Z,20nm,0.4s
NSS Namsos 75.95 339 *e*P **P 04 07 59.7 -0.3**
D08A Wollman Farm, 75.99 43 P **P 04 08 01.7 +1.0**
RDF Al-Radifah 76.18 295 *e*P **P 04 08 02.1 +0.1**
RDF AMb AMb 04 08 02.9
comp=Z,47nm,0.7s
NAY Al-Naaiem 76.26 296 *e*P **P 04 08 01.8 -0.7**
NAY AMb AMb 04 08 02.5
comp=Z,23nm,0.5s
YBH Yreka Blue Hor 76.28 50 *e*P **P 04 08 03.4 +1.0**
comp=Z,5.8nm,1.0s
YBH Yreka Blue Hor 76.28 50 P **P 04 08 03.6 +1.1**
comp=Z,6.2nm,0.9s,baz=308,slow=2.9,SNR=13
NEW Newport 76.41 42 *e*P **P 04 08 03.6 +0.6**
comp=Z,10nm,0.9s
NEW Newport 76.41 42 P **P 04 08 04.0 +0.9**
comp=Z,8.0nm,0.5s,baz=297,slow=5.0,SNR=26
NEW Newport 76.41 42 ⇓P **P 04 08 03.9 +0.9**
baz=76
SUMG Summit 76.70 359 *e*P **P 04 08 05.4 +0.8**
SUMG pmax pmax
comp=Z,34nm,1.0s
SUMG Summit 76.70 359⇑*i*P **P 04 08 05.7 +1.1**
comp=Z,20nm,1.0s
SUMG Summit 76.70 359 *e*P **P 04 08 05.4 +0.8**
comp=Z,34nm,1.0s
KIEV Kiev 77.40 322 *e*P **P 04 08 07.5 -0.8**
KIEV pmax pmax
comp=Z,21nm,0.6s
KIEV Kiev 77.40 322 *e*P **P 04 08 07.5 -0.8**
comp=Z,21nm,0.6s
WALA Waterton Lakes 77.79 40 *e*P **P 04 08 11.6 +0.9**
comp=Z,0.3nm,0.6s
SCO Scoresbysund 77.82 353 *i* P **P 04 08 11.4 +1.2**
comp=Z,16nm,0.8s
BMO Blue Mountains 78.09 45 *e*P **P 04 08 13.2 +0.9**
comp=Z,9.3nm,0.6s
J08A Circle Bar Ran 78.16 46 P **P 04 08 14.2 +1.4**
HFS Hagfors 78.44 335 P **P 04 08 13.3 -0.5**
HFS Hagfors 78.44 335 P **P 04 08 13.3 -0.5**
comp=Z,18nm,0.5s,baz=113,slow=3.9,SNR=115
NB2 NORSAR Subarra 78.67 337 P **P 04 08 14.3 -0.8**
comp=Z,32nm,1.1s,baz=43,slow=5.3
NB2 NORSAR Subarra 78.67 337 P **P 04 08 14.3 -0.8**
baz=43,slow=5.3
NOA NORSAR Array B 78.67 337 P **P 04 08 14.7 -0.4**
NOA NORSAR Array B 78.67 337 P **P 04 08 14.7 -0.4**
comp=Z,9.1nm,0.6s,baz=45,slow=5.4,SNR=31
BEKR Beckworth 78.75 50 *e*P **P 04 08 16.4 +0.2**
comp=Z,6.2nm,0.9s
NC602 NORSAR Array S 78.78 336 *e*P **P 04 08 14.6 -0.9**
NAO01 NORSAR Array S 78.92 337 *e*P **P 04 08 15.6 -0.8**
comp=Z,5.7nm,0.7s
B15A Bradely Ranch, 78.95 40 ⇓P **P 04 08 17.8 +0.9**
baz=79,SNR=16
MSO Missoula 79.00 42 ⇓P **P 04 08 17.6 +0.4**
baz=79
C15A Salmond Ranch, 79.23 40 ⇓P **P 04 08 19.4 +1.0**
baz=79,SNR=18
A17A Triple J Farms 79.60 39 ⇓P **P 04 08 21.0 +0.6**
baz=79,SNR=24
CMB Columbia Colle 79.68 52 *e*P **P 04 08 21.3 +0.4**
CMB pmax pmax
comp=Z,11nm,0.9s
CMB Columbia Colle 79.68 52 *e*P **P 04 08 21.3 +0.4**
comp=Z,11nm,0.9s
MFID Camas Ranch 79.76 45 ⇓P **P 04 08 22.4 +1.0**
baz=80
B17A L&G Farms, Che 79.92 39 ⇑P **P 04 08 23.0 +1.0**
baz=80,SNR=37
A18A Metzger Ranch, 80.07 38 ⇓P **P 04 08 23.4 +0.6**
baz=80,SNR=21
KONO Kongsberg 80.24 336 *e*P **P 04 08 22.8 -0.5**
FFC Flin Flon 80.28 31 *e*P **P 04 08 23.6 -0.1**
FFC pmax pmax
comp=Z,35nm,1.0s
FFC Flin Flon 80.28 31 *e*P **P 04 08 23.6 -0.1**
comp=Z,35nm,1.0s
C17A Wharram Farm, 80.33 40 ⇑P **P 04 08 24.4 +0.2**
baz=80,SNR=12
B18A Beardsley Farm 80.42 39 ⇑P **P 04 08 25.4 +0.7**
baz=80,SNR=32
HLID Hailey 80.54 45 *e*P **P 04 08 26.4 +0.8**
comp=Z,3.9nm,0.7s
HLID Hailey 80.54 45 ⇑P **P 04 08 26.7 +1.2**
baz=80
DLMT Dillon 80.60 42 *e*P **P 04 08 26.5 +0.7**
comp=Z,6.6nm,0.6s
EGMT Eagleton 80.65 39 *e*P **P 04 08 26.4 +0.5**
comp=Z,37nm,1.0s
EGMT Eagleton 80.65 39 ⇓P **P 04 08 26.7 +0.8**
baz=80,SNR=19
A19A Klindworth Far 80.65 38 ⇑P **P 04 08 26.6 +0.8**
baz=80,SNR=11
D17A Six Diamond Ra 80.65 40 ⇑P **P 04 08 26.6 +0.7**
baz=80,SNR=18
BR131 Keskin Array S 80.77 311 *e*P **P 04 08 26.5 -0.2**
comp=Z,4.1nm,0.6s
BRTR Keskin Array B 80.77 311 P **P 04 08 26.7 0.0**
BRTR PP **PP 04 11 37.5 -0.3**
BRTR Keskin Array B 80.77 311 P **P 04 08 26.7 0.0**
comp=Z,5.3nm,0.7s,baz=98,slow=3.2,SNR=31
BRTR PP **PP 04 11 37.5 -0.3**
comp=Z,0.9nm,0.8s,baz=91,slow=5.1,SNR=3.9
B19A Brinkman Farms 80.83 38 ⇓P **P 04 08 27.6 +0.8**
baz=81,SNR=11
NVAR Mina Array Bea 80.87 51 P **P 04 08 28.5 +1.1**
NVAR Mina Array Bea 80.87 51 P **P 04 08 28.5 +1.1**
comp=Z,6.0nm,0.7s,baz=291,slow=5.5,SNR=24
E17A Martinsdale 80.96 41 ⇑P **P 04 08 28.7 +1.1**
baz=81,SNR=17
BOZ Bozeman (W) 81.00 42 *e*P **P 04 08 28.3 +0.5**
BOZ pmax pmax
comp=Z,4.0nm,0.5s
BOZ Bozeman (W) 81.00 42 *e*P **P 04 08 28.3 +0.5**
comp=Z,4.0nm,0.5s
ODD1 Odda 81.04 338 *e*P **P 04 08 27.4 -0.2**
RUND Rundenannen 81.06 338 *e*P **P 04 08 26.9 -0.8**
A20A Cobblestone Ra 81.11 38 ⇓P **P 04 08 28.7 +0.5**
baz=81,SNR=5.2
D18A Linhart Farms, 81.11 40 ⇑P **P 04 08 29.4 +1.0**
baz=81
C19A Slack Wire Ran 81.20 39 ⇓P **P 04 08 29.8 +1.0**
baz=81,SNR=19
BUR08 Bucovina Ar. S 81.31 321 *e*P **P 04 08 29.6 +0.3**
BURAR Bucovina Array 81.31 321 ⇑P **P 04 08 29.4 0.0**
BURAR Bucovina Array 81.31 321⇑*i*P **P 04 08 29.4 0.0**
F17A Fitzpatrick Pl 81.40 41 ⇑P **P 04 08 30.8 +1.0**
baz=81,SNR=7.7
E18A Harlowton 81.42 40 ⇓P **P 04 08 31.2 +1.2**
baz=81,SNR=14
VRI Vrincioaia 81.52 319 ⇑P **P 04 08 31.5 +1.2**
VRI Vrincioaia 81.52 319⇑*i*P **P 04 08 31.5 +1.2**
A21A Bergtoll Ranch 81.56 37 ⇑P **P 04 08 31.5 +0.9**
baz=81
PLOR Plostina 81.57 319 ⇑P **P 04 08 31.6 +1.0**
PLOR Plostina 81.57 319⇑*i*P **P 04 08 31.6 +1.0**
D19A Cripps Ranch, 81.64 39 ⇓P **P 04 08 32.1 +1.1**
baz=82
G17A Pierce Place, 81.69 42 ⇑P **P 04 08 32.7 +1.2**
baz=82,SNR=7.7
PKM Peak Mountain 81.71 54 ⇓P **P 04 08 32.7 +0.9**
baz=82
VES Vestal, Richgr 81.72 53 ⇓P **P 04 08 32.1 +0.6**
baz=82
H16A Russell Place, 81.76 42 ⇓P **P 04 08 33.0 +1.1**
baz=82
C20A Veseth Ranch, 81.78 39 ⇓P **P 04 08 32.7 +1.1**
baz=82
B21A Ellsworth Farm 81.86 38 ⇓P **P 04 08 32.6 +0.5**
baz=82,SNR=8.4
F18A Big Timber 81.93 41 ⇑P **P 04 08 33.5 +0.9**
baz=82,SNR=14
KOLS Kolonicke sedl 82.06 323 *e*P **P 04 08 33.0 -0.1**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 82.06 323 *e*P **P 04 08 33.0 -0.1**
A22A Carney Farms, 82.08 37 ⇑P **P 04 08 33.4 +0.2**
baz=82,SNR=9.3
D20A Manuel Ranch, 82.09 39 ⇓P **P 04 08 34.3 +1.1**
baz=82,SNR=11
I16A Newdale 82.11 43 ⇑P **P 04 08 35.6 +2.0**
baz=82
E19A Rath Farm, Rou 82.11 40 ⇑P **P 04 08 34.4 +1.0**
baz=82,SNR=9.9
MLR Muntele Rosu 82.18 319⇑*i*P **P 04 08 35.0 +1.1**
MLR Muntele Rosu 82.18 319 P **P 04 08 34.2 +0.3**
MLR Muntele Rosu 82.18 319 P **P 04 08 34.2 +0.3**
comp=Z,0.9nm,0.5s,baz=353,slow=7.9,SNR=11
C21A Desert Coulee 82.19 38 ⇓P **P 04 08 34.9 +1.1**
baz=82
DOPR Dopca 82.21 320⇓*i*P **P 04 08 34.9 +1.0**
ISA Isabella 82.23 53 ⇓P **P 04 08 34.1 -0.2**
baz=82,SNR=5.2
GRAC Grapevine Rang 82.26 51 ⇑P **P 04 08 35.5 +1.1**
baz=82
ARVC Arvin 82.27 54 ⇓P **P 04 08 35.7 +1.3**
baz=82
STHS Stebnicka Huta 82.28 324 *e*P **P 04 08 34.3 +0.1**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 82.28 324 *e*P **P 04 08 34.3 +0.1**
H17A Grant Village 82.33 42 *e*P **P 04 08 37.6 +2.8**
H17A Grant Village 82.33 42 ⇑P **P 04 08 37.8 +2.9**
baz=82
LKWY Lake 82.33 42 *e*P **P 04 08 37.5 +2.6**
LKWY pmax pmax
comp=Z,21nm,1.0s
LKWY Lake 82.33 42 *e*P **P 04 08 37.5 +2.6**
comp=Z,21nm,1.0s
IMW Indian Meadow 82.42 43 *e*P **P 04 08 36.8 +1.5**
comp=Z,8.8nm,0.9s
TRPA Tarpa 82.43 322⇓*i*P **P 04 08 35.2 +0.3**
E20A Meyer Farm, Mu 82.45 40 ⇑P **P 04 08 36.1 +1.0**
baz=82,SNR=12
B22A Reddig Ranch S 82.47 37 ⇑P **P 04 08 35.8 +0.5**
baz=82
OJC Ojcow 82.49 325 *e*P **P 04 08 35.1 -0.1**
CRVS Cervenica-Dubn 82.50 324 *e*P **P 04 08 35.1 -0.2**
CRVS pmax pmax
comp=Z,12nm,1.6s
CRVS Cervenica-Dubn 82.50 324 *e*P **P 04 08 35.1 -0.2**
RRI2 Red Ridge 82.51 44 *e*P **P 04 08 36.5 +0.6**
comp=Z,3.3nm,0.7s
HVU Hansel Valley 82.55 45 *e*P **P 04 08 37.3 +1.4**
HVU pmax pmax
comp=Z,6.0nm,0.6s
HVU Hansel Valley 82.55 45 *e*P **P 04 08 37.3 +1.4**
comp=Z,6.1nm,0.6s
ASF Jabal al Asfar 82.55 303 P **P 04 08 36.1 +0.2**
ASF Jabal al Asfar 82.55 303 P **P 04 08 36.1 +0.2**
comp=Z,4.6nm,0.8s,baz=1.5,slow=4.8,SNR=9.5
I17A Pilgrim Ck. 82.61 43 ⇑P **P 04 08 38.3 +2.0**
baz=82,SNR=7.1
MOOW Moose Ponds 82.62 43 *e*P **P 04 08 37.7 +1.5**
comp=Z,5.3nm,1.0s
TPAW Teton Pass 82.65 43 *e*P **P 04 08 37.4 +0.9**
comp=Z,11nm,1.1s
RLMT Red Lodge 82.65 41 *e*P **P 04 08 37.4 +1.0**
comp=Z,8.8nm,0.9s
BLG Laguna Peak 82.66 55 ⇑P **P 04 08 37.1 +0.7**
baz=83
H18A Shoshone NF, C 82.69 42 ⇑P **P 04 08 37.9 +1.3**
baz=82,SNR=8.2
MPMC Manual Prospec 82.69 52 ⇓P **P 04 08 37.5 +0.7**
baz=83,SNR=5.5
R11A Troy Canyon, C 82.70 50 *e*P **P 04 08 37.2 +0.4**
R11A Troy Canyon, C 82.70 50 ⇑P **P 04 08 37.5 +0.7**
baz=83,SNR=14
VOIR 82.72 319 ⇑P **P 04 08 36.9 +0.3**
VOIR 82.72 319⇑*i*P **P 04 08 36.9 +0.3**
NIE Niedzica 82.75 324 *e*P **P 04 08 38.8 +2.2**
LOHW Long Hollow 82.78 43 *e*P **P 04 08 38.1 +1.0**
comp=Z,4.2nm,1.0s
REDW Red Top Meadow 82.78 43 *e*P **P 04 08 38.1 +1.0**
comp=Z,8.4nm,1.3s
BGU Big Grassy Mou 82.88 46 *e*P **P 04 08 38.6 +1.0**
comp=Z,2.4nm,0.6s
B23A Brockton 82.89 37 ⇓P **P 04 08 37.8 +0.5**
baz=83,SNR=6.0

FURC Furnace Creek, 82.89 52 ⇑P P 04 08 38.4 +0.9
baz=83
EDW2 Edwards Air Fo 82.99 54 ⇑P P 04 08 39.0 +0.9
baz=83,SNR=8.7
H19A Powell 83.08 41 ⇓P P 04 08 39.8 +1.3
baz=83,SNR=7.0
D22A Cohagen 83.10 38 ⇓P P 04 08 39.2 +0.8
baz=83,SNR=9.7
A24A Westby 83.10 36 ⇑P P 04 08 39.0 +0.6
baz=83
DRGR 83.17 321 ⇑P P 04 08 38.8 0.0
DRGR 83.17 321⇑*i*P P 04 08 38.8 0.0
MMAI Mount Meron Ar 83.17 304 P P 04 08 39.1 0.0
MMAI Mount Meron Ar 83.17 304 P P 04 08 39.1 0.0
comp=Z,12nm,0.7s,baz=40,slow=6.6,SNR=15
G20A Bridger 83.18 41 ⇑P P 04 08 39.3 +0.3
baz=83,SNR=5.2
I18A Diamond G Ranc 83.19 43 ⇓P P 04 08 41.0 +1.9
baz=83
C23A Lambert 83.21 37 ⇓P P 04 08 39.7 +0.7
baz=83
BORG Borgarnes 83.24 351 *e*P P 04 08 40.0 +1.3
comp=Z,17nm,0.9s
BORG Borgarnes 83.24 351 P P 04 08 40.0 +1.3
comp=Z,11nm,0.9s,baz=62,slow=5.9,SNR=7.8
FRB Frobisher Bay 83.26 12 P P 04 08 38.5 -0.2
FRB Frobisher Bay 83.26 12 P P 04 08 38.5 -0.2
comp=Z,7.4nm,0.5s,baz=343,slow=6.1,SNR=12
MWC Mount Wilson 83.30 54 *e*P P 04 08 40.2 +0.4
MWC pmax pmax
comp=Z,22nm,1.3s
MWC Mount Wilson 83.30 54 *e*P P 04 08 40.2 +0.4
comp=Z,22nm,1.3s
HWUT Hardware Ranch 83.38 45 *e*P P 04 08 41.2 +1.0
comp=Z,26nm,1.2s
DUG Dugway 83.43 47 *e*P P 04 08 41.2 +0.8
DUG pmax pmax
comp=Z,9.0nm,0.6s
DUG Dugway 83.43 47 *e*P P 04 08 41.2 +0.8
comp=Z,9.4nm,0.6s
DUG Dugway 83.43 47 ⇑P P 04 08 41.4 +1.1
baz=83,SNR=17
I19A Meeteetse 83.46 42 ⇑P P 04 08 41.7 +1.2
baz=83
CIS Catalina Islan 83.50 55 ⇓P P 04 08 41.0 +0.4
baz=83
A25A Svangstu Ranch 83.54 36 ⇑P P 04 08 41.5 +1.0
baz=83
CSS Prodhromos 83.56 307 *e*P P 04 08 40.0 -1.0
comp=Z,11nm,0.8s
BFSC Mount Baldy Ra 83.56 54 ⇑P P 04 08 41.3 +0.2
baz=84,SNR=7.2
GSC Goldstone 83.57 53 *e*P P 04 08 41.7 +0.6
GSC pmax pmax
comp=Z,18nm,1.0s
GSC Goldstone 83.57 53 *e*P P 04 08 41.7 +0.6
comp=Z,18nm,1.0s
GSC Goldstone 83.57 53 ⇓P P 04 08 41.6 +0.6
baz=84,SNR=17
SHOC Shoshone 83.60 52 ⇓P P 04 08 41.8 +0.7
baz=84
D23A Lindsay 83.60 38 ⇓P P 04 08 41.7 +0.8
baz=83
SCI San Clemente I 83.62 55 ⇓P P 04 08 42.0 +0.8
baz=84
RRX Edison Barstow 83.67 53 ⇑P P 04 08 42.1 +0.6
baz=84
E22A Miles City 83.67 39 ⇑P P 04 08 42.3 +1.0
baz=84
G21A Lodge Grass 83.74 40 ⇑P P 04 08 42.5 +0.8
baz=84
KSP Ksiaz 83.75 327⇑*e*P P 04 08 41.4 -0.1
H20A Greybull 83.75 41 ⇑P P 04 08 42.6 +0.8
baz=84,SNR=5.3
C24A Savage 83.78 37 ⇓P P 04 08 42.8 +1.0
baz=84
MORC Moravsky Berou 83.87 326 *e*P P 04 08 41.9 -0.3
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 83.87 326 *e*P P 04 08 41.9 -0.3
comp=Z,4.2nm,0.7s
J19A Crowheart 83.89 43 ⇓P P 04 08 43.6 +1.0
baz=84,SNR=16
BW06 Boulder Array 83.90 43 *e*P P 04 08 43.1 +0.4
comp=Z,9.0nm,1.2s
PDAR Pinedale Array 83.90 43 P P 04 08 43.0 +0.3
PDAR Pinedale Array 83.90 43 P P 04 08 43.0 +0.3
comp=Z,4.2nm,1.0s,baz=318,slow=2.0,SNR=22
F22A Rosebud 83.92 39 ⇓P P 04 08 43.2 +0.6
baz=84
PSZ Piszkesteto 83.93 323 ⇓P P 04 08 43.5 +0.9
PSZ Piszkesteto 83.93 323 ⇓*i*P P 04 08 43.5 +0.9
PSZ Piszkesteto 83.93 323 *e*P P 04 08 42.5 0.0
comp=Z,3.2nm,0.7s
E23A Ismay 83.98 38 ⇓P P 04 08 43.7 +0.9
baz=84,SNR=14
M17A Scullys Gap (B 84.01 45 ⇓P P 04 08 44.0 +0.7
baz=84,SNR=5.2
I20A Worland 84.01 42 ⇑P P 04 08 44.3 +1.2
baz=84,SNR=9.1
SHPR Sheep Range 84.01 51 *e*P P 04 08 44.0 +0.7
comp=Z,9.8nm,0.9s
NLU North Lily Min 84.03 47 *e*P P 04 08 44.1 +0.7
comp=Z,8.2nm,1.0s
JLU Jordanelle 84.04 46 *e*P P 04 08 44.5 +0.9
comp=Z,5.2nm,0.8s
BBRC Big Bear Solar 84.06 54 ⇓P P 04 08 44.3 +0.6
baz=84
TUQ Turquoise Moun 84.10 52 ⇑P P 04 08 44.7 +0.9
baz=84
A26A Wade Farm, Ken 84.10 35 ⇓P P 04 08 44.3 +1.0
baz=84
D24A Glendive 84.10 37 ⇓P P 04 08 44.2 +0.8
baz=84,SNR=5.2
L18A Fontenelle, Gr 84.12 44 ⇑P P 04 08 44.6 +0.7
baz=84,SNR=5.1
HEC Hector,Ludlow 84.16 53 ⇓P P 04 08 44.6 +0.7
baz=84
H21A Big Horn, Sher 84.20 41 ⇑P P 04 08 44.8 +0.7
baz=84,SNR=5.6
MURC Murrieta 84.23 54 ⇓P P 04 08 44.9 +0.6
baz=84
G22A Birney 84.25 40 ⇑P P 04 08 45.0 +0.8
baz=84
C25A Freed Ranch, W 84.27 37 ⇑P P 04 08 45.4 +1.1
baz=84
DAU Daniels Canyon 84.27 46 *e*P P 04 08 45.8 +1.0
DAU pmax pmax
comp=Z,7.0nm,0.5s
DAU Daniels Canyon 84.27 46 *e*P P 04 08 45.8 +1.0
comp=Z,7.3nm,0.5s
K19A Absolon Red Bu 84.28 43 ⇓P P 04 08 45.2 +0.6
baz=84
J20A Shoshoni 84.40 42 ⇑P P 04 08 46.2 +1.1
baz=84
ARUT Antelope Range 84.42 49 *e*P P 04 08 45.5 +0.2
ARUT pmax pmax
comp=Z,3.0nm,0.7s
ARUT Antelope Range 84.42 49 *e*P P 04 08 45.5 +0.2
comp=Z,3.3nm,0.7s
L19A Farson 84.42 44 ⇑P P 04 08 46.1 +0.8
baz=84,SNR=10.0
F23A Volborg 84.42 39 ⇑P P 04 08 45.5 +0.5
baz=84,SNR=7.1
E24A Baker 84.47 38 ⇓P P 04 08 46.2 +1.0
baz=84
BZS Buzias 84.50 321 ⇓P P 04 08 44.5 -0.8
BZS Buzias 84.50 321 ⇓*i*P P 04 08 44.5 -0.8
I21A Big Trails, Te 84.57 41 ⇑P P 04 08 46.7 +0.7
baz=84,SNR=8.0
D25A Fairfield 84.60 37 ⇓P P 04 08 47.0 +1.1
baz=84
GMRC Granite Mounta 84.64 53 ⇓P P 04 08 47.1 +0.7
baz=84,SNR=14
K20A Yellowstone Ra 84.67 43 ⇓P P 04 08 46.8 +0.3
baz=84,SNR=5.5
PFO Pinyon Flat Ob 84.75 54 *e*P P 04 08 47.2 +0.2
comp=Z,19nm,0.9s
PFO Pinyon Flat Ob 84.75 54 P P 04 08 47.6 +0.7
comp=Z,17nm,0.9s,baz=292,slow=4.3,SNR=22
PFO Pinyon Flat Ob 84.75 54 ⇓P P 04 08 47.5 +0.5
baz=85,SNR=12
G23A Biddle 84.76 39 ⇑P P 04 08 47.4 +0.7
baz=85
J21A Lysite 84.77 42 ⇓P P 04 08 47.5 +0.5
baz=85,SNR=13
BRG Berggiesshubel 84.80 328 *i*P P 04 08 46.3 -0.4
comp=Z,6.1nm,0.7s
BRG Berggiesshubel 84.80 328 *i*P P 04 08 46.3 -0.4
BRG pmax pmax
comp=Z,6.0nm,0.7s
MSU Marysvale 84.81 48 *e*P P 04 08 48.5 +1.2
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 84.81 48 *e*P P 04 08 48.5 +1.2
comp=Z,2.9nm,0.7s
BELC Belle Mtn. Jos 84.84 53 ⇑P P 04 08 47.9 +0.4
baz=85
F24A Ekalaka 84.86 39 ⇑P P 04 08 47.9 +0.7
baz=85
CLL Collm 84.92 329⇑*i*P P 04 08 46.5 -0.8
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 84.92 329⇑*i*P P 04 08 46.5 -0.8
comp=Z,15nm,1.1s
A28A Rude Farm, Bot 84.96 34 ⇓P P 04 08 48.3 +0.7
baz=85
I22A 9 Mile Ranch, 84.98 41 ⇑P P 04 08 48.6 +0.7
baz=85,SNR=8.3
E25A Miller Ranch, 84.98 38 ⇑P P 04 08 48.8 +1.0
baz=85
L20A Wamsutter 85.08 43 ⇓P P 04 08 49.4 +0.8
baz=85
D26A Manning 85.14 37 ⇓P P 04 08 49.5 +1.0
baz=85
C27A Sayler Ranch, 85.15 36 ⇑P P 04 08 49.7 +1.1
baz=85
MONP Monument Peak 85.17 54 ⇓P P 04 08 49.7 +0.5
baz=85
G24A Alzada 85.20 39 ⇓P P 04 08 49.1 +0.2
baz=85
Q16A Castle Valley 85.21 47 ⇓P P 04 08 50.4 +1.1
baz=85
B28A Dugan Ranch, T 85.22 35 ⇓P P 04 08 49.8 +0.9
baz=85
J22A Midwest 85.28 41 ⇓P P 04 08 49.9 +0.5
baz=85,SNR=22
K21A Alcova 85.32 42 ⇓P P 04 08 50.4 +0.6
baz=85,SNR=19
F25A Bowman 85.33 38 ⇑P P 04 08 50.5 +1.0
baz=85
M20A Sweetwater, Wa 85.48 44 ⇓P P 04 08 51.7 +1.1
baz=85
E26A Carlson Angus 85.49 37 ⇓P P 04 08 50.7 +0.5
baz=85,SNR=5.3
SRU San Rafael 85.50 47 *e*P P 04 08 51.3 +0.7
SRU pmax pmax
comp=Z,5.0nm,0.5s
SRU San Rafael 85.50 47 *e*P P 04 08 51.3 +0.7
comp=Z,5.5nm,0.5s
H24A Dirks Ranch, A 85.50 39 ⇑P P 04 08 50.5 0.0
baz=85,SNR=5.1
VTS Vitosha 85.52 318 ⇓P P 04 08 50.2 -0.4
VTS Vitosha 85.52 318 ⇓*i*P P 04 08 50.2 -0.4
D27A Center 85.55 36 ⇓P P 04 08 51.7 +1.2
baz=85
O19A Miners Draw (B 85.65 45 ⇑P P 04 08 52.0 +0.7
baz=86
W13A Hualapai Mount 85.66 51 ⇓P P 04 08 52.0 +0.4
baz=86,SNR=6.5
L21A Rawlins 85.67 43 ⇑P P 04 08 51.9 +0.4
baz=86,SNR=5.1
PKSM Moragy 85.70 323 ⇓P P 04 08 50.7 -0.5
PKSM Moragy 85.70 323 ⇓*i*P P 04 08 50.7 -0.5
K22A Casper 85.73 42 ⇑P P 04 08 52.4 +0.8
baz=86
F26A Lodgepole 85.79 38 ⇑P P 04 08 52.6 +0.9
baz=86
G25A Newell 85.83 39 ⇓P P 04 08 52.7 +0.8
baz=86
N20A Spence Gulch, 85.84 44 ⇓P P 04 08 53.4 +1.1
baz=86,SNR=12
M21A Separation Pea 85.90 43 ⇓P P 04 08 53.0 +0.4
baz=86,SNR=8.1
RWWY Rawlins 85.94 43 *e*P P 04 08 53.1 +0.3
comp=Z,13nm,1.2s
PDMCI Parker Dam,Lak 85.95 52 ⇑P P 04 08 53.9 +1.3
baz=86
U15A North Rim 85.95 50 ⇓P P 04 08 54.0 +1.0
baz=86
E27A Carson 85.98 37 ⇓P P 04 08 53.4 +0.8
baz=86,SNR=7.1
MDND Maddock 86.01 35 *e*P P 04 08 53.2 +0.6
MDND Maddock 86.01 35 ⇑P P 04 08 53.9 +1.2
baz=86
I24A Kuemmerle Ranc 86.03 40 ⇓P P 04 08 53.5 +0.5
baz=86
ULM Lac du Bonnet 86.07 31 P P 04 08 52.8 -0.1
ULM Lac du Bonnet 86.07 31 P P 04 08 52.8 -0.1
comp=Z,2.0nm,0.4s,baz=304,slow=5.4,SNR=5.3
H25A Fruitdale 86.10 39 ⇑P P 04 08 54.1 +0.8
baz=86
F27A Lemmon 86.12 37 ⇓P P 04 08 54.4 +1.1
baz=86
P19A Cripple Cowboy 86.14 45 ⇑P P 04 08 54.5 +0.8
baz=86,SNR=14
L22A Ellis Ranch, M 86.17 42 ⇑P P 04 08 55.0 +1.2
baz=86
RSSD Black Hills 86.19 40 *e*P P 04 08 54.1 +0.2
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 86.19 40 *e*P P 04 08 54.1 +0.2
comp=Z,6.6nm,0.8s
O20A White River Ci 86.28 45 ⇓P P 04 08 55.5 +1.1
baz=86
N21A Black Mountain 86.33 44 ⇑P P 04 08 55.8 +1.2
baz=86
GERES GERESS Array B 86.34 327 P P 04 08 53.4 -0.9
GERES GERESS Array B 86.34 327 P P 04 08 53.4 -0.9
comp=Z,1.8nm,0.4s,baz=41,slow=5.9,SNR=20
I25A Rochford 86.42 40 ⇑P P 04 08 55.3 +0.3
baz=86,SNR=10
M22A Cedar Creek Ra 86.47 43 ⇑P P 04 08 56.7 +1.3
baz=86
G27A Dupree 86.49 38 ⇑P P 04 08 55.8 +0.7
baz=86,SNR=19
L23A Garrett 86.54 42 ⇑P P 04 08 55.9 +0.2
baz=86,SNR=14
H26A Fairpoint 86.55 39 ⇑P P 04 08 56.0 +0.5
baz=86,SNR=8.7
P20A De Beque 86.58 45 ⇓P P 04 08 56.4 +0.6
baz=86
I26A New Underwood 86.89 39 ⇑P P 04 08 58.2 +1.2
baz=87
H27A Howes 86.91 38 ⇑P P 04 08 58.1 +1.0
baz=87
Y14A Wickenburg 86.92 52 ⇓P P 04 08 58.3 +0.9
baz=87
N22A Wattenberg Ran 86.93 43 ⇑P P 04 08 59.5 +2.0
baz=87
Q20A Ridgley Place, 86.97 46 ⇓P P 04 08 58.3 +0.6
baz=87,SNR=11
L24A Wheatland 87.03 42 ⇓P P 04 08 58.9 +1.1
baz=87
WUAZ Wupatki 87.09 50 ⇑P P 04 08 59.9 +1.7
baz=87
N23A Red Feather La 87.18 43 ⇑P P 04 08 59.7 +1.0
baz=87,SNR=9.4
PHWY Pilot Hill 87.20 42 *e*P P 04 08 59.2 +0.3
comp=Z,12nm,1.3s
PERS Pernice 87.20 325 *i*P P 04 08 57.6 -0.8
PERS *i* 04 08 58.0
SOKA Soboth 87.22 325⇓*e*P P 04 08 57.1 -1.4
G28A Parade 87.23 37 ⇑P P 04 08 59.5 +0.9
baz=87,SNR=5.1
J26A Sides Ranch, S 87.25 40 ⇓P P 04 08 59.3 +0.6
baz=87,SNR=11
O22A Kremmling 87.28 44 ⇓P P 04 08 59.8 +0.5
baz=87,SNR=8.5
I27A Quinn 87.30 39 ⇓P P 04 08 59.8 +0.8
baz=87,SNR=9.9
R20A Redvale 87.39 46 ⇑P P 04 09 00.8 +1.1
baz=87
H28A Mission Ridge 87.44 38 ⇓P P 04 09 01.2 +1.7
baz=87
M24A Cheyenne 87.46 42 ⇓P P 04 09 01.2 +1.3
baz=87,SNR=5.5
AGMN Agassiz Nation 87.48 33 *e*P P 04 08 59.6 0.0
comp=Z,1.5nm,0.6s
Q21A Lamborn Mesa, 87.49 45 ⇓P P 04 09 01.4 +1.3
baz=87
L25A Engebretsen Ra 87.51 41 ⇑P P 04 09 01.4 +1.4
baz=87
P22A Eagle 87.51 44 ⇓P P 04 09 01.2 +1.0
baz=87,SNR=8.3
K26A Motz Farm, Whi 87.59 40 ⇑P P 04 09 01.1 +0.8
baz=87
O23A Lake Granby, G 87.62 44 ⇑P P 04 09 02.1 +1.3
baz=88,SNR=5.6
S20A Disappointment 87.62 47 ⇓P P 04 09 01.9 +1.0
baz=88
PDKS Podkum 87.66 324 *i*P P 04 08 59.3 -1.3
X16A Lo Mia Camp, P 87.69 51 ⇑P P 04 09 02.6 +1.4
baz=88
R21A Cimarron 87.79 46 ⇑P P 04 09 02.8 +1.1
baz=88,SNR=6.5
I28A Midland 87.82 38 ⇑P P 04 09 02.1 +0.8
baz=88
N24A Carr 87.84 43 ⇑P P 04 09 03.1 +1.4
baz=88
EKA Eskdalemuir Ar 87.85 339 P P 04 09 00.6 -0.6
EKA Eskdalemuir Ar 87.85 339 P P 04 09 00.6 -0.6
comp=Z,0.6nm,0.3s,baz=36,slow=5.2,SNR=17
J27A Elkhorn Farm, 87.87 39 ⇓P P 04 09 02.7 +1.0
baz=88
Q22A Crested Butte, 87.88 45 ⇑P P 04 09 03.2 +1.1
baz=88,SNR=12
ESK Eskdalemuir 87.88 339 *e*P P 04 09 01.4 +0.1
ESK Eskdalemuir 87.88 339 *e*P P 04 09 01.4 +0.1
BOJS Bojanci 87.92 324 *i*P P 04 09 01.5 -0.2
BOJS *i* 04 09 01.6
VISS Visnje 87.92 324 *i*P P 04 09 00.9 -0.8
ISCO Idaho Springs 88.07 44 *e*P P 04 09 03.5 +0.6
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 88.07 44 *e*P P 04 09 03.5 +0.6
comp=Z,2.7nm,1.0s
ISCO Idaho Springs 88.07 44 ⇓P P 04 09 04.0 +1.1
baz=88,SNR=5.6
S21A Coal Bank Pass 88.08 46 ⇓P P 04 09 04.3 +1.2
baz=88
O24A Longmont 88.18 43 ⇑P P 04 09 05.2 +1.9
baz=88
P23A Jefferson 88.20 44 ⇑P P 04 09 05.2 +1.5
baz=88,SNR=5.1
JAVS Javornik 88.24 325 *i*P P 04 09 01.8 -1.5
R22A Saguache, Gunn 88.37 46 ⇓P P 04 09 06.1 +1.7
baz=88
K28A Ten Mile Ranch 88.58 39 ⇑P P 04 09 06.3 +1.3
baz=88
X18A Snowflake 88.61 50 ⇑P P 04 09 06.3 +0.9
baz=88
S22A 4UR Ranch, Cre 88.63 46 ⇑P P 04 09 06.9 +1.3
baz=88,SNR=6.2
MOTA Moosalm 88.63 327⇑*e*P P 04 09 04.0 -1.2
comp=Z,2.4nm,0.5s
P24A Kohler Place, 88.67 44 ⇓P P 04 09 06.7 +1.1
baz=88
BRSD Miller 88.68 37 *e*P P 04 09 06.1 +0.8
BRSD Miller 88.68 37 ⇑P P 04 09 06.3 +0.9
baz=88
RETA Reutte 88.69 327⇓*i*PcP P 04 09 04.6 -0.8
comp=Z,4.1nm,0.6s
O25A Wiggins 88.74 43 ⇑P P 04 09 06.5 +0.6
baz=89
V20A Brimhall 88.81 48 ⇑P P 04 09 07.2 +0.8
baz=89
Q24A Divide 88.88 44 ⇑P P 04 09 07.1 +0.3
baz=89
R23A Moffat 88.96 45 ⇑P P 04 09 08.6 +1.5
baz=89,SNR=6.2
T22A Edith 89.04 47 ⇑P P 04 09 08.7 +1.3
baz=89,SNR=7.7
FETA Feichten 89.04 327⇓*i*PcP P 04 09 06.2 -1.0
K29A Lazy Trails An 89.12 39 ⇓P P 04 09 08.3 +0.8
baz=89
BFO Black Forest 89.16 329 *e*P P 04 09 06.5 -1.0
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 89.16 329 *e*P P 04 09 06.5 -1.0
comp=Z,7.0nm,1.0s
DAVA Damuels 89.24 328⇑*i*PcP P 04 09 07.2 -0.8
comp=Z,8.5nm,0.6s,SNR=8.9
V21A Milan 89.33 48 ⇓P P 04 09 09.9 +1.1
baz=89
R24A Sanders Place, 89.37 45 ⇑P P 04 09 10.2 +1.3
baz=89
SDCO Great Sand Dun 89.44 45 *e*P P 04 09 10.1 +0.7
comp=Z,1.8nm,0.5s
P26A Davis Ranch, A 89.56 43 ⇓P P 04 09 10.5 +0.8
baz=89
CDF Champ du Feu 89.56 330 *e*P P 04 09 08.6 -0.8
comp=Z,9.0nm,0.7s
DAVOX Davos/Dischmat 89.61 327 P P 04 09 08.8 -1.0
DAVOX Davos/Dischmat 89.61 327 P P 04 09 08.8 -1.0
comp=Z,9.3nm,0.6s,baz=10,slow=2.0,SNR=28
S24A Houchin Ranch, 89.69 45 ⇑P P 04 09 11.6 +1.1
baz=90
N28A Pribbeno Ranch 89.84 41 ⇓P P 04 09 11.5 +0.6
baz=90
U23A El Rito 89.92 47 ⇓P P 04 09 12.8 +1.3
baz=90,SNR=6.5
R25A Fountain Ranch 89.92 44 ⇑P P 04 09 11.9 +0.5
baz=90
P27A Ficken Ranch, 90.00 42 ⇓P P 04 09 12.5 +0.8
baz=90
Y20A Horse Springs, 90.02 50 ⇑P P 04 09 13.5 +1.4
baz=90,SNR=13
X21A Alamocita Cree 90.08 49 ⇑P P 04 09 13.5 +1.2
baz=90,SNR=8.4
O28A Krutsinger Ran 90.09 42 ⇓P P 04 09 12.8 +0.8
baz=90
PAGF Fort de Pagny 90.11 331⇑*i*P P 04 09 11.3 -0.6
comp=Z,3.2nm,0.6s
HINF Hinteralfeld 90.20 330⇑*i*P P 04 09 11.0 -1.4
comp=Z,8.3nm,0.9s
HAU Haudompre 90.27 330 *e*P P 04 09 11.5 -1.2
V23A Ortiz Mt. (NFS 90.29 47 ⇓P P 04 09 15.0 +1.7
baz=90
R26A Arlington 90.32 44 ⇑P P 04 09 14.0 +0.8
baz=90
Z20A Nine Sixteen R 90.37 50 ⇑P P 04 09 14.9 +1.3
baz=90,SNR=34
Y21A Point of Rocks 90.42 49 ⇑P P 04 09 15.4 +1.4
baz=90,SNR=7.0
MEZF Maizieres J'vi 90.44 331 *e*P P 04 09 13.1 -0.3
comp=Z,8.5nm,0.6s
P28A Saint Francis 90.47 42 ⇑P P 04 09 14.7 +0.8
baz=90
T25A Trinidad 90.50 45 ⇑P P 04 09 15.1 +0.9
baz=90
LAZ Ladron 90.52 49 *e*P P 04 09 15.5 +1.1
comp=Z,1.2nm,0.8s
ANMO Albuquerque 90.62 48 *e*P P 04 09 16.1 +1.4
comp=Z,3.7nm,0.7s
ANMO Albuquerque 90.62 48 P P 04 09 16.4 +1.6
comp=Z,4.8nm,0.7s,baz=302,slow=3.5,SNR=24
O29A 4D Ranch, Culb 90.64 41 ⇓P P 04 09 15.4 +0.8
baz=90
SFTF Sexfontaines 90.67 331⇑*i*P P 04 09 13.7 -0.8
comp=Z,27nm,1.0s
W23A Werner Place, 90.68 48 ⇓P P 04 09 16.1 +1.0
baz=91
R27A Eads 90.72 43 ⇑P P 04 09 15.8 +0.8
baz=91
Z21A St. Cloud Mine 90.86 50 ⇑P P 04 09 17.3 +1.3
baz=91,SNR=11
V24A Rampart Ranch, 90.87 47 ⇑P P 04 09 17.4 +1.4
baz=91,SNR=5.5
Y22A Socorro 90.93 49 ⇓P P 04 09 17.0 +0.9
baz=91,SNR=5.3
319A Douglas 90.97 52 ⇓P P 04 09 17.3 +1.0
baz=91
T26A Comanche Natio 90.97 45 ⇑P P 04 09 16.9 +0.5
baz=91
U25A Circle Dot Ran 90.97 46 ⇑P P 04 09 17.4 +1.0
baz=91,SNR=9.5
W24A Lazy 6 Ranch, 91.12 47 ⇓P P 04 09 18.5 +1.4
baz=91,SNR=8.6
220A Playas Peak, P 91.16 51 ⇓P P 04 09 18.3 +1.0
baz=91,SNR=7.5
SPMN St. Paul 91.16 33 *e*P P 04 09 17.6 +0.9
SPMN St. Paul 91.16 33 ⇓P P 04 09 18.1 +1.3
baz=91
V25A Rancho No Teng 91.21 46 ⇑P P 04 09 18.6 +1.1
baz=91,SNR=5.9
BGNE Belgrade 91.22 39 ⇑P P 04 09 18.3 +1.1
baz=91
R28A Tribune 91.26 43 ⇑P P 04 09 18.0 +0.5
baz=91
121A Cookes Peak, D 91.26 50 ⇑P P 04 09 19.1 +1.3
baz=91,SNR=7.2
P30A Selden 91.35 41 ⇑P P 04 09 18.3 +0.4
baz=91

Z22A	Elephant Butte	91.35	49	⇑P		P	04 09 19.1 +0.9
	baz=91,SNR=17						
Q29A	Oakley	91.37	42	⇓P		P	04 09 18.4 +0.4
	baz=91						
U26A	Atchley Ranch,	91.39	45	⇑P		P	04 09 19.4 +1.1
	baz=91						
CABF	La Chapelle	91.46	329	⇑*i*P		P	04 09 17.2 -1.1
	comp=Z,11nm,0.8s						
320A	Kipp Ranch, An	91.50	52	⇑P		P	04 09 20.2 +1.3
	baz=91,SNR=5.2						
Y23A	Lovelace Mesa,	91.52	48	⇑P		P	04 09 19.7 +0.8
	baz=91,SNR=11						
122A	Conniff Cattle	91.68	50	⇓P		P	04 09 21.3 +1.7
	baz=92						
W25A	X Bar L Ranch,	91.71	47	⇑P		P	04 09 20.7 +1.0
	baz=92						
S28A	Manter	91.71	44	⇑P		P	04 09 20.7 +1.1
	baz=92						
Q30A	Quinter	91.75	42	⇑P		P	04 09 20.1 +0.4
	baz=92						
V26A	Tequesquite Ra	91.75	46	⇑P		P	04 09 20.9 +1.0
	baz=92						
Z23A	Rita Site, Whi	91.83	49	⇓P		P	04 09 20.9 +0.7
	baz=92						
P31A	Stockton	91.85	41	⇓P		P	04 09 20.5 +0.4
	baz=92						
SCHQ	Schefferville	91.88	14	P		P	04 09 19.9 0.0
SCHQ	Schefferville	91.88	14	P		P	04 09 19.9 0.0
	comp=Z,3.4nm,0.9s,baz=296,slow=8.0,SNR=5.1						
LOR	Lormes	91.90	331	⇑*i*P		P	04 09 19.0 -1.2
	comp=Z,9.8nm,0.8s						
Y24A	Capitan	91.92	48	⇑P		P	04 09 21.4 +0.6
	baz=92,SNR=5.2						
U27A	Thompson Grove	91.93	45	⇓P		P	04 09 21.6 +0.9
	baz=92						
222A	Williams Famil	91.98	50	⇓P		P	04 09 21.9 +0.9
	baz=92,SNR=8.6						
LPL	La Plagne	92.01	328	⇑*i*P		P	04 09 20.1 -0.9
	comp=Z,9.7nm,0.6s						
LPG	La Plagne	92.01	328	⇑*i*P		P	04 09 20.2 -0.9
	comp=Z,12nm,0.6s						
X25A	Clemmons Ranch	92.03	47	⇓P		P	04 09 22.1 +0.9
	baz=92,SNR=10						
R30A	Dighton	92.19	42	⇓P		P	04 09 22.6 +0.9
	baz=92						
SSF	Saint Saulge	92.21	331	⇑*i*P		P	04 09 20.7 -0.9
	comp=Z,9.5nm,0.7s						
Z24A	Sheeppen Canyo	92.34	49	⇓P		P	04 09 23.4 +0.6
	baz=92,SNR=6.9						
BNI	Bardonecchia	92.39	328	*e*P		P	04 09 20.9 -1.7
BNI					pmax	pmax	
	comp=Z,2.0nm,0.7s						
BNI	Bardonecchia	92.39	328	*e*P		P	04 09 20.9 -1.7
	comp=Z,2.4nm,0.7s						
Y25A	Mesa, Roswell	92.39	48	⇓P		P	04 09 23.3 +0.4
	baz=92,SNR=6.2						
SMF	Signal de Mont	92.40	330	⇑*i*P		P	04 09 21.6 -0.9
	comp=Z,21nm,0.9s						
FLN	La Foliniere	92.42	334	⇑*i*P		P	04 09 21.5 -1.0
	comp=Z,10nm,0.6s						
LDF	La Druitiere	92.43	334	⇑*i*P		P	04 09 21.6 -0.9
	comp=Z,15nm,0.7s						
AVF	Avril sur Loir	92.49	331	⇑*i*P		P	04 09 22.0 -0.9
	comp=Z,17nm,0.7s						
S30A	Montezuma	92.52	43	⇓P		P	04 09 24.1 +0.8
	baz=92						
X26A	CR and CF Fran	92.55	47	⇑P		P	04 09 24.5 +0.9
	baz=92						
MBDF	Montbardon	92.59	328	⇑*i*P		P	04 09 21.8 -1.8
	comp=Z,4.1nm,0.6s						
R31A	Burdett	92.61	42	⇑P		P	04 09 24.7 +1.0
	baz=92						
W27A	Bowe Ranch, En	92.67	46	⇓P		P	04 09 25.1 +0.9
	baz=92						
124A	Stringfield Ra	92.69	49	⇓P		P	04 09 25.1 +0.7
	baz=93,SNR=8.1						
Z25A	Roswell	92.79	48	⇑P		P	04 09 25.6 +0.9
	baz=93,SNR=15						
ORIF	Oris-en-Rattie	92.85	328	⇑*i*P		P	04 09 23.5 -1.2
	comp=Z,4.2nm,0.6s						
GRR	Gorron	92.87	334	⇑*i*P		P	04 09 23.9 -0.7
	comp=Z,20nm,0.8s						
BGF	Bois d'Agland	92.89	331	*e*P		P	04 09 23.9 -0.8
X27A	F and S Farms,	92.93	46	⇑P		P	04 09 26.0 +0.7
	baz=93						
SBF	Sospel	92.94	327	*e*P		P	04 09 23.2 -1.9
224A	Cornudas Mount	93.04	50	⇑P		P	04 09 26.8 +0.9
	baz=93						
S31A	Mullinville	93.10	42	⇑P		P	04 09 26.7 +0.8
	baz=93						
PGF	Pioggiola	93.17	325	*e*P		P	04 09 25.9 -0.4
	comp=Z,5.2nm,0.7s						
125A	Gardner Draw,	93.23	49	⇑P		P	04 09 27.4 +0.7
	baz=93						
Z26A	Caprock	93.27	48	⇑P		P	04 09 27.2 +0.3
	baz=93						
T31A	Randall Ranch,	93.34	43	⇑P		P	04 09 27.7 +0.6
	baz=93						
TCF	Toulx Ste Croi	93.37	331	⇑*i*P		P	04 09 26.3 -0.7
	comp=Z,11nm,0.7s						
Y27A	Causey	93.39	47	⇑P		P	04 09 28.3 +0.9
	baz=93						
VIVF	Saint-Julien-l	93.44	329	⇑*i*P		P	04 09 26.3 -1.0
	comp=Z,10nm,0.8s						
324A	Moseley Ranch,	93.47	50	⇓P		P	04 09 28.3 +0.4
	baz=93						
FRF	La Foret Royal	93.54	327	*e*P		P	04 09 25.8 -2.0
	comp=Z,2.0nm,0.5s						
X28A	Dimmitt	93.57	46	⇓P		P	04 09 28.6 +0.4
	baz=93						
SGMF	Saint Gilles	93.61	335	⇑*i*P		P	04 09 27.4 -0.6
	comp=Z,5.1nm,0.5s						
KSU1	Kansas State U	93.68	40	*e*P		P	04 09 28.7 +0.2
	comp=Z,15nm,0.8s						
SMRF	Simiane la Rot	93.72	328	*e*P		P	04 09 27.5 -1.1
Z27A	Tatum	93.72	47	⇓P		P	04 09 29.4 +0.4
	baz=94						
LMR	La Mourre	93.78	327	*e*P		P	04 09 28.2 -0.7
	comp=Z,2.5nm,0.5s						
ROSF	Rostrenen	93.80	335	*e*P		P	04 09 28.2 -0.7
	comp=Z,14nm,0.9s						
325A	Bean Ranch, Si	93.85	50	⇓P		P	04 09 28.9 -0.8
	baz=94						
226B	Tecolote Peak,	93.92	49	⇓P		P	04 09 30.5 +0.6
	baz=94						
MFF	Saint Martin d	94.07	333	*e*P		P	04 09 29.7 -0.4
	comp=Z,10.0nm,0.8s						
QUIF	Quistinic	94.12	335	*e*P		P	04 09 29.2 -1.1
	comp=Z,5.6nm,0.7s						
425A	Indio Mountain	94.21	50	⇓P		P	04 09 32.3 +1.0
	baz=94						
LASF	Ste Croix	94.42	329	*e*P		P	04 09 31.0 -0.8
	comp=Z,12nm,0.9s						
RJF	Les Rejaudoux	94.45	331	⇑*i*P		P	04 09 31.4 -0.5
	comp=Z,6.0nm,0.6s						
CAF	Calviac	94.52	330	*e*P		P	04 09 32.0 -0.3
326A	Caldwell Ranch	94.53	49	⇑P		P	04 09 33.4 +0.8
	baz=94						
128A	Castleberry Fa	94.64	48	⇓P		P	04 09 33.9 +0.7
	baz=94						
Z29A	Hungry Hill Ra	94.71	47	⇑P		P	04 09 34.3 +0.9
	baz=95						
426A	McDonald Obser	94.92	50	⇓P		P	04 09 35.2 +0.6
	baz=95						
Z30A	Sanderson Ranc	95.05	46	⇓P		P	04 09 36.0 +1.1
	baz=95						
LFF	La Frestale	95.07	331	⇑*i*P		P	04 09 34.3 -0.4
427A	Hayter Ranch,	95.21	49	⇑P		P	04 09 36.8 +1.0
	baz=95						
328A	Wristen Ranch,	95.25	49	⇑P		P	04 09 36.9 +1.1
	baz=95						
526A	Mary Lane Ranc	95.27	50	⇓P		P	04 09 37.4 +1.3
	baz=95						
329A	Wagon Wheel Ra	95.71	48	⇓P		P	04 09 38.8 +0.9
	baz=96						
MTLF	Montolieu	95.72	329	*e*P		P	04 09 37.0 -0.7
TXAR	Lajitas Array	96.02	51	P		P	04 09 40.4 +0.9
TXAR				pP		pP	04 11 18.2 -1.7
TXAR	Lajitas Array	96.02	51	P		P	04 09 40.4 +0.9
	comp=Z,1.4nm,0.6s,baz=300,slow=2.8,SNR=24						
TXAR				pP		pP	04 11 18.2 -1.7
	comp=Z,0.9nm,0.7s,baz=286,slow=2.7,SNR=6.8						
Z32A	Haskell	96.05	45	⇓P		P	04 09 40.7 +1.2
	baz=96						
528A	Cox Ranch, San	96.06	50	⇓P		P	04 09 40.1 +0.4
	baz=96						
627A	Terlingua Ranc	96.13	50	⇓P		P	04 09 40.6 +0.7
	baz=96						
ETSF	Etsaut	97.27	331	*e*P		Pdif	04 09 45.1 +0.3
	comp=Z,5.7nm,0.8s						
LSZ	Lusaka	114.63	266	*e*PKPdf		PKPdf	04 14 50.2 +0.1
TOA0	Torodi Ar. Sit	119.37	310	*e*PKPdf		**PKPdf**	**04 14 58.2 -0.8**
TORD	Torodi Ar. Bea	119.37	310	PKP		**PKPdf**	**04 14 57.6 -1.5**
TORD	Torodi Ar. Bea	119.37	310	PKP		**PKPdf**	**04 14 57.6 -1.5**
	comp=Z,1.6nm,0.6s,baz=64,slow=0.9,SNR=39						
QSPA	South Pole Qui	120.74	180	PKP		**PKPdf**	**04 14 59.5 -0.7**
QSPA	South Pole Qui	120.74	180	PKP		**PKPdf**	**04 14 59.5 -0.7**
	comp=Z,2.7nm,0.6s,baz=272,slow=1.3,SNR=27						
LBTB	Lobatse	120.92	258	*e*PKPdf		**PKPdf**	**04 15 01.8 -0.1**
BOSA	Boshof	122.51	254	*e*PKPdf		**PKPdf**	**04 15 04.7 -0.1**
BOSA	Boshof	122.51	254	PKP		**PKPdf**	**04 15 04.8 -0.1**
	comp=Z,5.8nm,0.9s,baz=237,slow=4.8,SNR=5.8						
DBIC	Dimbokro	128.47	310	PKP		**PKPdf**	**04 15 15.9 -0.7**
DBIC	Dimbokro	128.47	310	PKP		**PKPdf**	**04 15 15.9 -0.7**
	comp=Z,4.6nm,0.8s,baz=198,slow=5.4,SNR=5.5						
LIC	Lamto	128.91	310	*e*PKIKP		**PKPdf**	**04 15 17.0 -0.4**
SNAA	Sanae	134.18	196	*e*P		**PKPdf**	**04 15 27.0 +1.3**
SNAA	Sanae	134.18	196	*e*P		**SKPbc**	**04 18 13.2 0.0**
SNAA	Sanae	134.18	196	*e*		**SKPab**	**04 18 21.6 +4.7**
SNAA	Sanae	134.18	196	*e*PKPdf		**PKPdf**	**04 15 25.7 0.0**
VNA2	Neumayer--Watz	135.76	195	*e*P		**PKPdf**	**04 15 29.1 +0.5**
VNA2	Neumayer--Watz	135.76	195	*e*P		**SKPbc**	**04 18 18.3 +0.2**
VNA2	Neumayer--Watz	135.76	195	*e*		**SKPab**	**04 18 25.0 +1.2**
SAML	Samuel	150.43	47	*e*PKPdf		**PKPdf**	**04 15 56.0 +0.3**
SAML				*e*PKPbc		**PKPbc**	**04 16 01.3 -0.2**
SAML				*e*PKPab		**PKPab**	**04 16 08.9 -0.9**
LPAZ	La Paz	151.95	65	*e*PKPdf		**PKPdf**	**04 15 59.9 +1.2**
LPAZ				*e*PKPbc		**PKiKP**	**04 16 06.4 +0.5**
LPAZ				*e*PKPab		**PKPab**	**04 16 16.7 -0.2**
LPAZ	La Paz	151.95	65	PKP		**PKPdf**	**04 15 59.3 +0.6**
	comp=Z,0.9nm,0.8s,baz=73,slow=3.9,SNR=4.8						
LPAZ				PKPbc		**PKiKP**	**04 16 06.3 +0.4**
	comp=Z,5.1nm,0.6s,baz=333,slow=2.1,SNR=27						
LVC	Limon Verde	154.52	77	*e*PKPdf		**PKPdf**	**04 16 02.6 +0.8**
LVC				*e*PKPbc		**PKPbc**	**04 16 11.8 +1.2**
LVC				*e*PKPab		**PKPab**	**04 16 28.1 +0.8**
BDFB	Brasilia	163.73	22	PKPab		**PKPab**	**04 17 07.3 +0.1**
BDFB	Brasilia	163.73	22	PKPab		**PKPab**	**04 17 07.3 +0.1**
	comp=Z,4.3nm,0.8s,baz=62,slow=7.1,SNR=6.4						

ISCJB ***14*** *03:57:51.7±0.3,51°.47N±0°.02×16°.04E±0°.02, h0km, mb4.0/1, Error ellipse: s-maj=2.5km s-min=1.8km az=7.8*
IDC ***14*** *03:57:53.0±0.7, 51°.53N×16°.04E, h0km, mb3.9/1, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML3.3/7, Error ellipse: s-maj=14.4km s-min=5.7km az=99.0*
CSEM ***14*** *03:57:52.9±0.2, 51°.53N×16°.04E, h2km, ML4.1/13, Error ellipse: s-maj=3.5km s-min=2.3km az=10.0*
IPEC ***14*** *03:57:52.2±0.3, 51°.59N×16°.19E, h0km±1km, ML3.4/3, Error ellipse: s-maj=2.2km s-min=1.6km az=29.0*
PRU ***14*** *03:57:53.8, 51°.51N×16°.06E, h0km*
LDG ***14*** *03:57:54.4±0.4, 51°.36N×15°.97E, h1km, Ml4.1/4, Error ellipse: s-maj=10.4km s-min=3.6km az=10.0, Suspected Mining induced.*
BGR ***14*** *03:57:54.1±0.4, 51°.49N×16°.05E, h1km, ML3.5/15, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
WAR ***14*** *03:57:54.2, 51°.53N×16°.17E*
VIE ***14*** *03:57:55.6±0.9, 51°.34N×15°.98E, h1km±4km, mb3.2/8, ML3.2/10, Error ellipse: s-maj=4.8km s-min=2.4km az=19.0 77 km WNW of Wroclaw Suspected Mining induced.*
STR ***14*** *03:57:57.8±0.8, 51°.57N×15°.46E, h5km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 14 03:57:53.1±0.6, 51°.54N±0°.03×16°.12E±0°.02, h0km, n136, σ1°.28/194, 11C-9D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pg**	**03 58 07.2**	**+0.6**
KSP				*e*Sg	**Sg**	**03 58 15.8**	**+0.1**
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pg**	**03 58 07.1**	**+0.6**
KSP				*e*Sg	**Sg**	**03 58 16.7**	**+1.0**
KSP	**Ksiaz**	**0.71**	**171**	Pg	**Pg**	**03 58 07.2**	**+0.6**
KSP				Sg	**Sg**	**03 58 15.8**	**+0.1**
UPC	**Upice**	**1.03**	**184**	*i* PG	**Pg**	**03 58 13.0**	**+0.1**
UPC	**Upice**	**1.03**	**184**	Pg	**Pg**	**03 58 13.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*Pg	**Pg**	**03 58 16.0**	**-0.1**
DPC				*e*Sg	**Sg**	**03 58 31.8**	**+0.3**
DPC	**Dobruska-Polom**	**1.20**	**174**	*i* PG	**Pg**	**03 58 15.9**	**-0.1**
DPC				*e*SG	**Sg**	**03 58 31.1**	**-0.4**
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg	**Pg**	**03 58 15.9**	**-0.1**
DPC				Sg	**Sg**	**03 58 31.1**	**-0.4**
PVCC	**Panska Ves**	**1.41**	**225**	*i* PG	**Pn**	**03 58 19.4**	**-0.6**
PVCC				*e*SG	**Sg**	**03 58 38.4**	**+0.1**
	comp=Z,1μm,0.4s						
PVCC	**Panska Ves**	**1.41**	**225**	Pg	**Pn**	**03 58 19.4**	**-0.6**
PVCC				Sg	**Sg**	**03 58 38.4**	**+0.1**
	1μm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**03 58 20.1**	**-1.4**
BRG				PG	**Pb**	**03 58 22.0**	**-0.2**
BRG				SG	**Sn**	**03 58 41.9**	**-0.2**
	471nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn	**Pn**	**03 58 20.2**	**-1.4**
BRG				*e*Pg	**Pb**	**03 58 21.9**	**-0.2**
BRG				*e*Sg	**Sn**	**03 58 41.9**	**-0.2**
BRG	**Berggiesshubel**	**1.52**	**245**	Pn	**Pn**	**03 58 20.2**	**-1.4**
PRA	**Prague**	**1.82**	**217**	PG	**Pn**	**03 58 26.0**	**+0.4**
PRA				SG	**Sn**	**03 58 50.0**	**+0.7**
FBE	**Freiberg**	**1.85**	**251**	*e*Pn	**Pn**	**03 58 24.9**	**-1.1**
FBE				*e*Pg	**Pb**	**03 58 27.2**	**-0.5**
FBE				*e*Sg	**Sn**	**03 58 51.4**	**+1.4**
FBE	**Freiberg**	**1.85**	**251**	Pn	**Pn**	**03 58 24.9**	**-1.1**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**03 58 25.2**	**-0.8**
PRU				*e*PG	**Pb**	**03 58 27.1**	**-0.6**
PRU				*e*SG	**Sn**	**03 58 51.3**	**+1.2**
	comp=Z,168nm,0.3s						
PRU	**Pruhonice**	**1.85**	**213**	Pn	**Pn**	**03 58 25.2**	**-0.8**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pn**	**03 58 25.5**	**-0.7**
GKP				*e*Pg	Pg	03 58 33.0	+4.2
GKP				*e*Sg	**Sg**	**03 58 56.2**	**+3.3**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pn**	**03 58 25.6**	**-0.7**
RAC	**Raciborz**	**1.96**	**137**	*e*Pg	**Pg**	**03 58 30.8**	**+0.1**
RAC				*e*Sg	**Sg**	**03 58 56.6**	**+0.5**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**03 58 26.3**	**-1.3**
CLL				*e*Pg	**Pb**	**03 58 29.3**	**-0.4**
CLL				*e*Sg	**Sn**	**03 58 54.9**	**+1.9**
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**03 58 26.2**	**-1.4**
CLL				*e*Pg	**Pb**	**03 58 29.0**	**-0.7**
CLL				*i*		03 58 33.2	
CLL				*e*Sg	**Sn**	**03 58 55.0**	**+2.0**
	comp=Z,142nm,0.7s						
CLL	**Collm**	**1.97**	**264**	Pn	**Pn**	**03 58 26.3**	**-1.3**
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**03 58 27.5**	**-0.4**
MORC				*e*Sg	**Sn**	**03 58 54.7**	**+1.2**
MORC	**Moravsky Berou**	**1.98**	**152**	Pn	**Pn**	**03 58 27.5**	**-0.4**
MORC				*e*Sg	**Sb**	**03 58 55.1**	**-0.2**
	comp=Z,169nm,0.6s,baz=335						
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pn	**Pn**	**03 58 29.1**	**-0.9**
OKC				*e*Pg	**Pb**	**03 58 33.6**	**+1.0**
OKC				*e*Sg	**Sb**	**03 59 00.5**	**+0.9**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*PN	**Pn**	**03 58 29.1**	**-0.9**
OKC				*e*PG	**Pb**	**03 58 33.6**	**+1.0**
OKC				*e*SG	**Sg**	**03 59 01.5**	**-0.2**
	comp=Z,374nm,0.8s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pn	**Pn**	**03 58 29.1**	**-0.9**
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pg	**Pb**	**03 58 33.6**	**+1.0**
OKC				Sg	**Sg**	**03 59 01.5**	**-0.2**
	comp=Z,374nm,0.8s						
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**03 58 30.6**	**-1.0**
	comp=Z,6.1nm,0.3s,baz=343,slow=13,SNR=24						
VRAC				Lg	Lg	03 59 04.4	
	comp=Z,19nm,0.3s,baz=70,slow=18,SNR=13						
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**03 58 31.3**	**-0.3**
VRAC				*e*Sg	**Sb**	**03 59 04.1**	**+1.0**
	comp=Z,186nm,0.7s,baz=354						
TREC	**Trest**	**2.28**	**190**	*e*PG	**Pb**	**03 58 35.7**	**+0.5**
TREC				*e*SG	**Sb**	**03 59 05.1**	**+1.2**
TREC	**Trest**	**2.28**	**190**	Pg	**Pb**	**03 58 35.7**	**+0.5**
TREC				Sg	**Sb**	**03 59 05.1**	**+1.2**
KRUC	**Moravsky**	**2.49**	**176**	*e*Pn	**Pn**	**03 58 34.6**	**-0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 59 11.5**	**+1.8**
	comp=Z,151nm,1.0s,baz=357						
TANN	**Tannenbergstha**	**2.57**	**245**	*e*Pn	**Pn**	**03 58 35.4**	**-0.6**
TANN				*e*Pg	**Pb**	**03 58 41.7**	**+1.6**
TANN				*e*Sg	**Sb**	**03 59 13.2**	**+1.0**
TANN	**Tannenbergstha**	**2.57**	**245**	Pn	**Pn**	**03 58 35.4**	**-0.6**
WERD	**Werda**	**2.65**	**247**	*e*Pn	**Pn**	**03 58 36.3**	**-0.7**
WERD				*e*Pg	**Pb**	**03 58 42.2**	**+0.8**
WERD				*e*Sg	**Sb**	**03 59 16.3**	**+1.9**
WERD	**Werda**	**2.65**	**247**	Pn	**Pn**	**03 58 36.3**	**-0.7**
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	**Pn**	**03 58 36.8**	**-0.5**
NKC				*e*PG	**Pb**	**03 58 43.2**	**+1.5**
NKC				*e*SG	**Sg**	**03 59 18.9**	**+0.1**
	comp=Z,134nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**242**	Pn	**Pn**	**03 58 36.8**	**-0.5**
OJC	**Ojcow**	**2.68**	**118**	*e*Sg	**Sg**	**03 59 20.3**	**+1.2**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**03 58 44.1**	**-0.3**
OJC				*e*Sn	**Sn**	**03 59 06.7**	**-3.9**
OJC				Sg	**Sg**	**03 59 20.3**	**+1.2**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**03 58 39.8**	**-0.9**
KHC				*i* PG	**Pb**	**03 58 46.2**	**+0.4**
KHC				*e*SN	**Sn**	**03 59 15.5**	**-0.8**
KHC				*e*SG	**Sb**	**03 59 25.6**	**+3.6**
	comp=Z,64nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**03 58 39.8**	**-0.9**
KHC	**Kasperske Hory**	**2.91**	**215**	Pg	**Pb**	**03 58 46.2**	**+0.4**
KHC				Sn	**Sn**	**03 59 15.5**	**-0.8**
KHC				Sg	**Sb**	**03 59 25.6**	**+3.6**
	comp=Z,64nm,0.4s						
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**03 58 40.6**	**-0.9**
MOX				*e*Pg	**Pb**	**03 58 48.2**	**+1.2**
MOX				*e*Sg	**Sb**	**03 59 27.0**	**+3.1**
MOX	**Moxa**	**2.98**	**254**	Pn	**Pn**	**03 58 40.6**	**-0.9**
MOX	**Moxa**	**2.98**	**254**	Pg	**Pb**	**03 58 48.2**	**+1.2**
MOX				Sg	**Sb**	**03 59 27.0**	**+3.1**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn	**Pn**	**03 58 41.0**	**-0.7**
MANZ				*e*Pg	**Pb**	**03 58 49.9**	**+2.8**
MANZ				*e*Sg	**Sb**	**03 59 27.2**	**+3.1**
MANZ	**Manzenberg**	**2.98**	**240**	Pn	**Pn**	**03 58 41.0**	**-0.7**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**03 58 42.3**	**-0.4**
ROTZ				*e*Sg	**Sb**	**03 59 27.6**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	Pn	**Pn**	**03 58 42.3**	**-0.4**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**03 58 43.0**	**-0.5**
GEC2				*e*Pg	**Pb**	**03 58 50.8**	**+1.5**
GEC2				*e*Sg	**Sb**	**03 59 30.6**	**+2.7**
GEC2	**GERESS Array S**	**3.11**	**211**	Pn	**Pn**	**03 58 43.0**	**-0.5**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**03 58 42.3**	**-1.2**
	comp=Z,6.6nm,0.3s,baz=29,slow=12,SNR=176						
GERES				Pg	**Pb**	**03 58 50.1**	**+0.8**
	comp=Z,12nm,0.3s,baz=30,slow=16,SNR=52						
GERES				Lg	Lg	03 59 30.2	
	comp=Z,25nm,0.3s,baz=27,slow=26,SNR=11						
SMOL	**Smolenice**	**3.14**	**164**	*e*	**Pb**	**03 58 51.9**	**+2.1**
SMOL	**Smolenice**	**3.14**	**164**	*e*SG	**Sg**	**03 59 33.8**	**-0.2**
SMOL	**Smolenice**	**3.14**	**164**	*e*Sg	**Sg**	**03 59 33.8**	**-0.2**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**03 58 43.8**	**-0.5**
WET				*e*Sg	**Sb**	**03 59 32.8**	**+3.3**
WET	**Wettzell**	**3.17**	**222**	Pn	**Pn**	**03 58 43.8**	**-0.5**
WET				Sg	**Sb**	**03 59 32.8**	**+3.3**
ZST	**Bratislava**	**3.41**	**169**	*e*PN	**Pn**	**03 58 47.4**	**0.0**
ZST				*e*		03 58 56.9	
ZST	**Bratislava**	**3.41**	**169**	*e*SG	**Sg**	**03 59 41.7**	**-0.8**
ZST	**Bratislava**	**3.41**	**169**	*e*Pn	**Pn**	**03 58 47.5**	**0.0**
ZST				*e*Sg	**Sg**	**03 59 41.7**	**-0.8**
NIE	**Niedzica**	**3.42**	**127**	*e*Pn	**Pn**	**03 58 49.8**	**+2.2**
NIE	**Niedzica**	**3.42**	**127**	*e*Pg	**Pg**	**03 59 00.0**	**+1.5**
NIE				*e*Sg	**Sg**	**03 59 44.5**	**+1.7**
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i*Pn	**Pn**	**03 58 50.3**	**-0.2**
	SNR=14						
CONA				⇑*i*Pg	**Pb**	**03 59 01.1**	**+3.1**
CONA				⇓*i*Sg	**Sg**	**03 59 49.2**	**-0.1**
	comp=Z,55nm,0.4s						
GRA1	**Grafenberg Arr**	**3.63**	**241**	Pn	**Pn**	**03 58 50.0**	**-0.5**
GRA1				Sg	**Sb**	**03 59 47.0**	**+4.4**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**03 58 50.0**	**-0.5**
GRF				*e*Sg	**Sb**	**03 59 47.0**	**+4.4**
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**

comp=Z,0.2nm,0.3s,baz=161,slow=15,SNR=7.9
HFS Sn Sn 04 01 32.7 -6.6
comp=Z,0.3nm,0.3s,baz=171,slow=19,SNR=3.0
HFS Lg Lg 04 02 32.9
comp=Z,0.3nm,0.3s,baz=188,slow=30,SNR=3.5
LOR Lormes 9.06 247 *e*Pn Pn 04 00 02.8 -2.3
MBDF Montbardon 9.24 226 *e*P **Pn 04 00 09.2 +1.5**
MBDF Montbardon 9.24 226 *e*P **Pn 04 00 09.2 +1.5**
SSF Saint Saulge 9.39 246 *e*Pn Pn 04 00 06.9 -2.5
AVF Avril sur Loir 9.62 245 *e*Pn Pn 04 00 09.1 -3.5
SBF Sospel 9.65 221 *e*P **Pn 04 00 13.0 -0.2**
SBF Sospel 9.65 221 *e*P **Pn 04 00 13.0 -0.2**
NOA NORSAR Array B 9.90 346 Pn Pn 04 00 13.2 -3.3
comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=3.7
NOA Sn Sn 04 01 59.7 -8.7
comp=Z,0.2nm,0.3s,baz=172,slow=9.7,SNR=2.8
NOA Lg Lg 04 03 07.8
comp=Z,0.3nm,0.3s,baz=255,slow=8.7,SNR=3.6
FINES FINESS Array B 11.33 25 Pn Pn 04 00 33.1 -2.9
comp=Z,0.4nm,0.3s,baz=212,slow=11,SNR=15
FINES Sn Sn 04 02 33.4 -10
comp=Z,0.5nm,0.3s,baz=206,slow=21,SNR=5.1
KAF Kangasniemi 11.96 24 *e*p **Pn 04 00 42.3 -2.3**
comp=Z,0.9nm,0.3s
EKA Eskdalemuir Ar 12.10 296 Pn Pn 04 00 41.3 -5.2
baz=101,slow=14,SNR=6.1
ARCES ARCESS Array B 18.59 10 Pn P 04 02 06.5 -5.0
comp=Z,0.2nm,0.3s,baz=190,slow=14,SNR=9.7
YKA Yellowknife Ar 59.83 336 P **P 04 07 58.9 -0.8**
comp=Z,0.9nm,0.6s,baz=30,slow=6.8,SNR=2.6

*IDC **14** 04:07:37.5±0.8, 5°.11N×145°.91E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/25, mbtmp4.1/13, MS3.7/14, Ms1 3.7/14, ms1mx3.5/33, Error ellipse: s-maj=31.0km s-min=14.0km az=96.0*
*ISCJB **14** 04:07:41.7±0.4, 5°.08N±0°.05×145°.64E±0°.09, h33km, mb4.2/22, MS3.7/13, Error ellipse: s-maj=13.3km s-min=7.2km az=0.1*
*NEIC **14** 04:07:43.0±0.3, 5°.08N×145°.61E, mb4.6/11, Error ellipse: s-maj=11.5km s-min=6.9km az=93.0*
*AUST **14** 04:07:44.5, 4°.92N×145°.54E, h35km*
ISC 14 04:07:43.8±0.5, 5°.09N±0°.07×145°.56E±0°.10, h35km, n61, σ1§06/54, mb4.2/22, MS3.8/13, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**7.31**	**166**	P	**Pn**	**04 09 26.9**	**-1.3**
	baz=7.2,SNR=3.7						
JAY	**Jayapura**	**8.98**	**213**	P	**Pn**	**04 09 48.4**	**-2.7**
	baz=8.9,SNR=6.4						
PMG	**Port Moresby**	**14.48**	**174**	LR	LR	04 16 40.7	
	comp=Z,253nm,18.4s,baz=239,slow=38						
FAKI	**Fak Fak**	**15.50**	**239**	P	**Pn**	**04 11 20.2**	**+0.3**
	baz=15,SNR=44						
FAKI				S	**S**	**04 14 24.1**	**-1.4**
	baz=15,SNR=4.1						
COEN	**Coen**	**19.07**	**187**	P	**Pn**	**04 12 06.2**	**+1.8**
	baz=19,SNR=8.5						
HNR	**Honiara**	**20.34**	**135**	LR	LR	04 19 09.9	
	comp=Z,62nm,19.6s,baz=286,slow=34						
MTSU	**Mount Surprise**	**23.11**	**183**	P	**P**	**04 12 48.1**	**+1.2**
	baz=23,SNR=23						
LUWI	**Luwuk**	**23.57**	**256**	S	S	04 16 49.8	-14
	baz=24,SNR=3.4						
CTA	**Charters Tower**	**25.03**	**178**	P	**P**	**04 13 04.3**	**-0.5**
CTA	**Charters Tower**	**25.03**	**178**	P	**P**	**04 13 04.3**	**-0.5**
	8.5nm,0.7s,baz=351,slow=11,SNR=17						
CTAO	**Charters Tower**	**25.03**	**178**	*e*P	**P**	**04 13 05.4**	**+0.6**
	14nm,0.9s						
WRAB	**Tennant Creek**	**27.20**	**204**	*e*P	**P**	**04 13 24.0**	**-0.5**
	14nm,0.6s						
WRA	**Warramunga Arr**	**27.21**	**204**	P	**P**	**04 13 24.5**	**-0.1**
WRA	**Warramunga Arr**	**27.21**	**204**	P	**P**	**04 13 24.5**	**-0.1**
	13nm,0.8s,baz=29,slow=11,SNR=39						
WRA				LR	LR	04 23 59.2	
	comp=Z,122nm,18.9s,baz=175,slow=36						
FITZ	**Fitzroy Crossi**	**30.29**	**220**	P	**P**	**04 13 52.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.29**	**220**	P	**P**	**04 13 52.5**	**+0.5**
	2.4nm,0.8s,baz=35,slow=8.0						
FITZ				LR	LR	04 26 46.9	
	comp=Z,150nm,21.4s,baz=56,slow=38						
FITZ	**Fitzroy Crossi**	**30.29**	**220**	P	**P**	**04 13 52.7**	**+0.8**
	baz=30,SNR=5.3						
ASAR	**Alice Springs**	**30.76**	**201**	P	**P**	**04 13 55.7**	**-0.4**
ASAR	**Alice Springs**	**30.76**	**201**	P	**P**	**04 13 55.7**	**-0.4**
	0.6nm,0.5s,baz=27,slow=7.7,SNR=12						
MJAR	**Matsushiro Arr**	**32.02**	**349**	LR	LR	04 25 45.5	
	comp=Z,65nm,19.0s,baz=200,slow=34						
DZM	**Mont Dzumac**	**33.86**	**144**	*e*P	**P**	**04 14 23.4**	**0.0**
	14nm,1.1s						
KSRS	**Korea Array**	**36.02**	**336**	P	**P**	**04 14 42.0**	**+0.3**
	0.6nm,0.4s,baz=129,slow=9.6,SNR=5.2						
KSRS				LR	LR	04 29 29.8	
	comp=Z,53nm,19.1s,baz=26,slow=36						
KSAR	**Wonju Array Be**	**36.03**	**336**	P	**P**	**04 14 42.0**	**+0.2**
MBWA	**Marble Bar**	**36.37**	**223**	*e*P	**P**	**04 14 45.5**	**+0.6**
	12nm,0.9s						
STKA	**Stephens Creek**	**36.95**	**186**	P	**P**	**04 14 48.9**	**-0.9**
STKA	**Stephens Creek**	**36.95**	**186**	P	**P**	**04 14 48.9**	**-0.9**
	3.3nm,0.7s,baz=1.4,slow=12,SNR=6.8						
STKA				LR	LR	04 31 01.6	
	comp=Z,187nm,18.4s,baz=217,slow=38						
BBOO	**Buckleboo**	**38.75**	**193**	P	**P**	**04 15 04.9**	**0.0**
	baz=39,SNR=6.3						
ARPS	**Mount Arapiles**	**41.78**	**184**	P	**P**	**04 15 30.7**	**+0.7**
	baz=42,SNR=6.1						
KULM	**Kulim**	**44.72**	**272**	*e*P	**P**	**04 15 54.4**	**+0.2**
	7.2nm,0.9s						
PSI	**Prapat**	**46.58**	**269**	LR	LR	04 35 04.6	
	comp=Z,190nm,20.1s,baz=340,slow=35						
CMAR	**Chiang Mai Arr**	**47.38**	**290**	P	**P**	**04 16 15.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**47.38**	**290**	P	**P**	**04 16 15.9**	**+0.9**
	0.7nm,0.4s,baz=136,slow=8.2,SNR=4.9						
PETK	**Petropavlovsk-**	**48.90**	**10**	P	P	04 16 22.8	-3.4
PETK	**Petropavlovsk-**	**48.90**	**10**	P	P	04 16 22.8	-3.4
	0.5nm,0.6s,baz=229,slow=13,SNR=2.4						
MK31	**Makanchi Array**	**68.17**	**319**	*e*P	**P**	**04 18 41.5**	**+0.8**
MK31				*e*pP	**pP**	**04 18 50.0**	**-1.5**
MKAR	**Makanchi Array**	**68.17**	**319**	P	**P**	**04 18 41.5**	**+0.8**
MKAR	**Makanchi Array**	**68.17**	**319**	P	**P**	**04 18 41.5**	**+0.8**
	1.3nm,0.8s,baz=92,slow=8.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**68.97**	**326**	P	**P**	**04 18 45.8**	**+0.3**
ZALV	**Zalesovo Beam**	**68.97**	**326**	P	**P**	**04 18 45.8**	**+0.3**
	0.5nm,0.5s,baz=114,slow=6.5,SNR=1.9						
ZALV				LR	LR	04 48 09.9	
	comp=Z,55nm,18.6s,baz=73,slow=35						
KDAK	**Kodiak Island**	**70.97**	**30**	LR	LR	04 46 26.0	
	comp=Z,45nm,18.4s,baz=325,slow=33						
KURK	**Kurchatov**	**71.58**	**322**	P	**P**	**04 19 02.1**	**+0.7**
KURBB	**Kurchatov Arra**	**71.61**	**322**	P	**P**	**04 19 02.2**	**+0.5**
	1.6nm,0.8s,baz=102,slow=5.6,SNR=7.2						
TKM2	**Tokmak 2**	**71.92**	**313**	*e*P	**P**	**04 19 04.4**	**+0.4**
	2.1nm,0.9s						
COLD	**Coldfoot**	**75.54**	**21**	*e*P	**P**	**04 19 24.8**	**+0.3**
	5.4nm,1.0s						
COLD				*e*pP	**pP**	**04 19 33.7**	**-1.7**
COLA	**College**	**75.60**	**24**	*e*P	**P**	**04 19 24.7**	**-0.1**
	10nm,0.7s						
COLA				*e*pP	**pP**	**04 19 33.3**	**-2.5**
ILAR	**Eielson Array**	**75.96**	**24**	P	**P**	**04 19 25.3**	**-1.7**
ILAR	**Eielson Array**	**75.96**	**24**	P	**P**	**04 19 25.3**	**-1.7**
	2.0nm,0.6s,baz=251,slow=5.4,SNR=34						
BRVK	**Borovoye**	**77.11**	**323**	*e*P	**P**	**04 19 33.9**	**+0.2**
	2.3nm,0.6s						
DAWY	**Dawson**	**78.92**	**26**	*e*P	**P**	**04 19 43.8**	**+0.2**
DAWY				*e*pP	**PcP**	**04 19 52.6**	**+0.5**
INK	**Inuvik**	**81.94**	**22**	*e*P	**P**	**04 19 59.8**	**+0.2**
	2.2nm,1.0s						
DLBC	**Dease Lake**	**82.77**	**32**	P	**P**	**04 20 02.8**	**-1.4**
DLBC	**Dease Lake**	**82.77**	**32**	P	**P**	**04 20 02.8**	**-1.4**
	2.1nm,0.8s,baz=247,slow=7.7,SNR=4.7						
BBB	**Bella Bella**	**83.76**	**38**	LR	LR	04 53 38.0	
	comp=Z,40nm,18.1s,baz=83,slow=33						
NEW	**Newport**	**91.10**	**42**	LR	LR	04 58 40.6	
	comp=Z,45nm,18.8s,baz=42,slow=34						
ARCES	**ARCESS Array B**	**95.34**	**342**	LR	LR	05 05 05.4	
	comp=Z,24nm,21.3s,baz=354,slow=36						
FINES	**FINESS Array B**	**99.11**	**335**	LR	LR	05 05 46.7	
	comp=Z,39nm,20.2s,baz=213,slow=35						
FCC	**Fort Churchill**	**100.79**	**27**	*e*P	**Pdif**	**04 21 30.0**	**+1.2**
	0.6nm,1.3s						
LPAZ	**La Paz**	**145.13**	**111**	PKP	**PKPdf**	**04 27 20.7**	**+1.2**
LPAZ	**La Paz**	**145.13**	**111**	PKP	**PKPdf**	**04 27 20.7**	**+1.2**
	1.0nm,0.8s,baz=135,slow=1.4,SNR=3.5						
SIV	**San Ignacio**	**151.70**	**115**	PKPbc	**PKPbc**	**04 27 37.5**	**+1.8**
SIV	**San Ignacio**	**151.70**	**115**	PKPbc	**PKPbc**	**04 27 37.5**	**+1.8**
	1.1nm,0.9s,baz=263,slow=8.1,SNR=2.1						

*IDC **14** 04:10:18.1±5.4, 36°.16N×70°.47E, h145km±49km, mb3.4/6, mb1 3.4/11, mb1mx3.2/32, mbtmp3.3/11, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=56.7km s-min=36.0km az=128.0*
*ISCJB **14** 04:10:24.0±0.5, 36°.54N±0°.04×70°.50E±0°.10, h204km, mb3.4/5, Error ellipse: s-maj=11.2km s-min=5.3km az=175.1*
*NNC **14** 04:10:32.2±4.2, 37°.17N×70°.54E, h241km±49km, mb2.8, mpv4.0, Error ellipse: s-maj=42.8km s-min=22.0km az=9.0*
ISC 14 04:10:24.8±0.7, 36°.54N±0°.06×70°.5E±0°.1, h204km, n20, σ1§77/25, mb3.5/5, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.94**	**157**	P	**Pn**	**04 11 14.5**	**+0.4**
CEP				S	**S**	**04 11 52.0**	**0.0**
CHCP	**Chirah Chowk**	**3.64**	**141**	⇑P	**Pn**	**04 11 23.5**	**+1.1**
THW	**Thamme Wali**	**3.87**	**165**	⇑P	**Pn**	**04 11 25.1**	**-0.1**
THW				S	**S**	**04 12 09.0**	**-3.0**
SARP	**Sargodha**	**4.94**	**158**	P	**Pn**	**04 11 37.9**	**-0.6**
KK31	**Karatay Array**	**6.55**	**360**	⇓P	**Pn**	**04 11 59.1**	**-0.1**
	2.0nm,0.2s,baz=184,slow=12,SNR=126						
KK31				⇑S	**S**	**04 13 09.3**	**-4.6**
	3.3nm,0.5s,baz=192,slow=24,SNR=5.5						
AAK	**Ala-Archa**	**6.81**	**25**	P	**Pn**	**04 12 02.1**	**-0.6**
	3.5nm,0.3s,baz=181,slow=8.5,SNR=7.3						
AAK				S	**S**	**04 13 19.1**	**-1.1**
	1.5nm,0.3s,baz=316,slow=22,SNR=16						
TKM2	**Tokmak 2**	**7.47**	**30**	⇓P	**Pn**	**04 12 12.0**	**+0.7**
	12nm,0.5s						
TKM2				⇓S	**S**	**04 13 31.9**	**-3.9**
	4.0nm,0.7s						
MK31	**Makanchi Array**	**13.48**	**37**	⇓P	**Pn**	**04 13 28.6**	**+0.6**
	1.3nm,0.5s,baz=204,slow=9.7,SNR=16						
MKAR	**Makanchi Array**	**13.48**	**37**	P	**Pn**	**04 13 28.0**	**0.0**
	0.1nm,0.3s,baz=224,slow=13,SNR=6.3						
AB31	**Akbulak array**	**14.87**	**332**	⇓P	**Pn**	**04 13 44.2**	**-0.9**
	0.8nm,0.4s,baz=144,slow=13,SNR=30						
KURBB	**Kurchatov Arra**	**15.21**	**20**	P	**P**	**04 13 50.4**	**+0.8**
	0.0nm,0.3s,baz=209,slow=9.4,SNR=3.2						
BVAR	**Borovoye Array**	**16.48**	**360**	P	**Pn**	**04 14 05.7**	**+1.2**
	0.3nm,0.3s,baz=165,slow=13,SNR=3.7						
AKTO	**Aktyubinsk**	**16.56**	**331**	⇑P	**P**	**04 14 03.3**	**-1.1**
	1.8nm,0.8s						
AKTO	**Aktyubinsk**	**16.56**	**331**	P	**P**	**04 14 05.2**	**+0.8**
	0.3nm,0.3s,baz=151,slow=10,SNR=3.6						
ZALV	**Zalesovo Beam**	**20.04**	**25**	P	**P**	**04 14 43.4**	**+1.4**
	1.9nm,0.3s,baz=217,slow=9.8,SNR=7.1						
FINES	**FINESS Array B**	**37.24**	**326**	P	**P**	**04 17 17.7**	**+1.3**
	1.2nm,0.6s,baz=117,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**04 17 48.8**	**+1.6**
	2.9nm,0.8s,baz=118,slow=9.3,SNR=8.4						
ARCES				LR	LR	04 38 24.3	
	comp=Z,33nm,18.4s,baz=7.3,slow=41						
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**04 18 13.8**	**+1.1**
	0.8nm,0.7s,baz=96,slow=7.9,SNR=3.4						
SPITS	**Spitsbergen Ar**	**47.37**	**347**	P	**P**	**04 18 39.8**	**+2.0**
	0.7nm,0.4s,baz=113,slow=11,SNR=5.3						
TORD	**Torodi Ar. Bea**	**65.34**	**268**	P	**P**	**04 20 44.1**	**-1.4**
	0.2nm,0.5s,baz=45,slow=6.2,SNR=5.8						

IDC 14 04:13:04.9±2.1, 6°.60S×129°.94E, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML2.9/3, Error ellipse: s-maj=87.2km s-min=28.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.18**	**200**	Pn	Pn	04 15 59.6	-0.2
	0.1nm,0.3s,baz=24,slow=12,SNR=12						
FITZ				Sn	Sn	04 18 02.9	-14
	0.3nm,0.3s,baz=191,slow=17,SNR=8.8						
WRA	**Warramunga Arr**	**13.93**	**163**	Pn	Pn	04 16 23.2	-0.6
	0.0nm,0.3s,baz=345,slow=14,SNR=4.9						
WRA				Sn	Sn	04 18 43.2	-16
	0.4nm,0.3s,baz=338,slow=21,SNR=11						
ASAR	**Alice Springs**	**17.39**	**168**	P	Pn	04 17 09.8	+0.7
	0.1nm,0.3s,baz=352,slow=12,SNR=3.5						
ASAR				S	Sn	04 20 07.7	-16
	0.1nm,0.3s,baz=346,slow=26,SNR=2.8						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	04 24 05.2	0.0
	0.5nm,0.4s,baz=122,slow=7.8,SNR=8.6						

*NEIC **14** 04:16:35.4, 19°.37N×65°.71W, h58km, MD3.5(RSPR), After RSPR.*
RSPR 14 04:16:35.4, 19°.37N×65°.71W, h58km±9km, MD3.5/12, 33C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.10**	**187**	*e*Pn	Pn	04 16 52.5	-2.3
CBYP				*e*Sn	Sn	04 17 06.8	-2.4
STVI	**Saint Thomas**	**1.24**	**145**	⇑*e*P	Pn	04 16 56.1	-0.4
STVI	**Saint Thomas**	**1.24**	**145**	*e*S	Sn	04 17 11.9	-0.4
STVI	**Saint Thomas**	**1.24**	**145**	⇑*e*P	Pn	04 16 56.1	-0.4
STVI				*e*S	Sn	04 17 11.9	-0.4
STVI	**Saint Thomas**	**1.24**	**145**	⇑*e*P	Pn	04 16 56.1	-0.4
STVI				*e*S	Sn	04 17 11.9	-0.4
MTP	**Monte Pirata**	**1.28**	**173**	⇑*e*P	Pn	04 16 55.8	-1.2
MTP	**Monte Pirata**	**1.28**	**173**	*e*S	Sn	04 17 12.1	-1.1
MTP	**Monte Pirata**	**1.28**	**173**	⇑*e*P	Pn	04 16 55.8	-1.2
MTP				*e*S	Sn	04 17 12.1	-1.1
MTP	**Monte Pirata**	**1.28**	**173**	⇑*e*P	Pn	04 16 55.8	-1.2
MTP				*e*S	Sn	04 17 12.1	-1.1
SJG	**San Juan**	**1.32**	**198**	⇑*e*P	Pn	04 16 56.5	-1.1
SJG	**San Juan**	**1.32**	**198**	⇑*e*P	Pn	04 16 56.5	-1.1
SJG	**San Juan**	**1.32**	**198**	⇑*e*P	Pn	04 16 56.5	-1.1
CPD	**Cerro la Pandu**	**1.34**	**188**	⇑*e*P	Pn	04 16 56.7	-1.3
CPD	**Cerro la Pandu**	**1.34**	**188**	*e*S	Sn	04 17 13.7	-1.1
CPD	**Cerro la Pandu**	**1.34**	**188**	⇑*e*P	Pn	04 16 56.7	-1.3
CPD				*e*S	Sn	04 17 13.7	-1.1
CPD	**Cerro la Pandu**	**1.34**	**188**	⇑*e*P	Pn	04 16 56.7	-1.3
CPD				*e*S	Sn	04 17 13.7	-1.1
TBVI	**Tortola**	**1.41**	**132**	⇑*e*P	Pn	04 16 57.9	-0.9
TBVI	**Tortola**	**1.41**	**132**	⇑*e*P	Pn	04 16 57.9	-0.9
TBVI	**Tortola**	**1.41**	**132**	⇑*e*P	Pn	04 16 57.9	-0.9
AOPR	**Arecibo Observ**	**1.42**	**224**	⇓*e*P	Pn	04 16 57.9	-1.1
AOPR	**Arecibo Observ**	**1.42**	**224**	*e*S	Sn	04 17 16.0	-0.7
AOPR	**Arecibo Observ**	**1.42**	**224**	⇓*e*P	Pn	04 16 57.9	-1.1
AOPR				*e*S	Sn	04 17 16.0	-0.7
AOPR	**Arecibo Observ**	**1.42**	**224**	⇓*e*P	Pn	04 16 57.9	-1.1
AOPR				*e*S	Sn	04 17 16.2	-0.5
ABVI	**Anegada Island**	**1.45**	**116**	⇑*e*P	Pn	04 16 58.5	-0.8
ABV	**Anegada**	**1.45**	**116**	⇑*e*P	Pn	04 16 58.5	-0.9
ABV	**Anegada**	**1.45**	**116**	⇑*e*P	Pn	04 16 58.5	-0.9
LRS	**Lares**	**1.52**	**225**	⇑*e*P	Pn	04 16 59.3	-1.1
LRS				*e*S	Sn	04 17 18.4	-0.8
LRS	**Lares**	**1.52**	**225**	⇑*e*P	Pn	04 16 59.3	-1.1
LRS				*e*S	Sn	04 17 18.4	-0.8
LRS	**Lares**	**1.52**	**225**	⇑*e*P	Pn	04 16 59.3	-1.1
LRS				*e*S	Sn	04 17 18.4	-0.8
CELP	**Cerrillos**	**1.53**	**213**	⇑*e*P	Pn	04 16 59.8	-0.7
CELP	**Cerrillos**	**1.53**	**213**	⇑*e*P	Pn	04 16 59.8	-0.7
CELP	**Cerrillos**	**1.53**	**213**	⇑*e*P	Pn	04 16 59.8	-0.7
OBIP	**Obispado Ponce**	**1.57**	**213**	⇑*e*P	Pn	04 17 00.6	-0.4
OBIP	**Obispado Ponce**	**1.57**	**213**	*e*S	Sn	04 17 19.9	-0.4
OBIP	**Obispado Ponce**	**1.57**	**213**	⇑*e*P	Pn	04 17 00.6	-0.4
OBIP				*e*S	Sn	04 17 19.9	-0.4
OBIP	**Obispado Ponce**	**1.57**	**213**	⇑*e*P	Pn	04 17 00.6	-0.4
OBIP				*e*S	Sn	04 17 19.9	-0.4
AGPR	**Aguadilla, PR**	**1.60**	**236**	⇑*e*P	Pn	04 17 00.4	-1.0
AGPR	**Aguadilla, PR**	**1.60**	**236**	*e*S	Sn	04 17 19.9	-1.1
AGPR	**Aguadilla, PR**	**1.60**	**236**	⇑*e*P	Pn	04 17 00.4	-1.0
AGPR				*e*S	Sn	04 17 19.9	-1.1
AGPR	**Aguadilla, PR**	**1.60**	**236**	⇑*e*P	Pn	04 17 00.4	-1.0
AGPR				*e*S	Sn	04 17 19.9	-1.1
LSP	**Las Mesas**	**1.76**	**228**	*e*Pn	Pn	04 17 03.5	-0.2
CDVI	**St. Croix**	**1.84**	**151**	*e*Pn	Pn	04 17 04.2	-0.5
CRPR	**Cabo Rojo, PR**	**1.90**	**225**	⇑*e*P	Pn	04 17 05.0	-0.4
CRPR	**Cabo Rojo, PR**	**1.90**	**225**	⇑*e*P	Pn	04 17 05.0	-0.4
CRPR	**Cabo Rojo, PR**	**1.90**	**225**	⇑*e*P	Pn	04 17 05.3	-0.1
SDDR	**Presa de Saban**	**5.28**	**267**	*e*Pn	Pn	04 17 53.5	+1.6
	20nm,0.6s						

JMA 14 04:16:38.2±0.2, 30°.15N×139°.44E, h445km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.88**	**141**	P	P	04 17 52.6	+0.5
JMY	**Miyakejima3**	**3.91**	**1**	S	S	04 18 45.0	-7.5
JHHJ	**Haha-jima-NKT**	**4.26**	**145**	S	S	04 18 56.3	-1.9
BSO1	**Boso 1**	**4.67**	**16**	S	S	04 19 06.3	+2.4
BSO3	**Boso 3**	**4.73**	**11**	*e*S	S	04 19 06.7	+1.3
BSO4	**Boso 4**	**4.88**	**9**	*e*S	S	04 19 08.1	-0.4
JOD2	**Odawara 2**	**5.11**	**357**	P	P	04 18 04.5	+1.2
JHU	**Hanno**	**5.69**	**359**	P	P	04 18 09.2	+0.2
JHU				*e*S	S	04 19 21.0	-2.3
JRY	**Ryogami san**	**5.87**	**356**	P	P	04 18 12.0	+1.1
JYT	**Yasato**	**6.09**	**6**	*e*S	S	04 19 28.5	-2.3
JAG	**Ashikaga**	**6.26**	**0**	P	P	04 18 15.0	+0.2
JAG				*e*S	S	04 19 31.2	-2.8
JHO	**Hitachi**	**6.51**	**8**	P	P	04 18 20.0	+2.5
JHO				*i*S	S	04 19 37.9	-0.9
JMK	**Ichinoseki**	**8.90**	**9**	P	P	04 18 46.8	+3.6

*ISCJB **14** 04:17:08.6±0.5, 8°.16S±0°.05×123°.93E±0°.05, h182km±5km, mb4.0/10, Error ellipse: s-maj=8.5km s-min=6.9km az=139.8*
*IDC **14** 04:17:08.3±1.2, 7°.99S×123°.96E, h160km±12km, mb3.7/10, mb1 3.8/12, mb1mx3.8/20, mbtmp3.8/12, Error ellipse: s-maj=25.9km s-min=11.0km az=69.0*
*DJA **14** 04:17:11.4±1.1, 8°.S±12°×12°.4E±°, h179km±10km, M4.4/5, MLv4.4/5*
*AUST **14** 04:17:18.5, 9°.00S×124°.01E, h200km*
ISC 14 04:17:09.5±0.7, 8°.12S±0°.06×123°.96E±0°.06, h173km±7km, n42, σ1§76/44, mb4.0/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.66**	**169**	P	**Pn**	**04 17 42.3**	**-0.3**
SOEI				S	**Sn**	**04 18 06.4**	**-1.8**
SOEI	**Soe**	**1.66**	**169**	S	**Sn**	**04 18 07.9**	**-0.4**
	baz=0.8,SNR=6.3						
MMRI	**Maumere**	**1.78**	**253**	P	**Pn**	**04 17 43.3**	**-0.3**
MMRI				S	**Sn**	**04 18 13.2**	**+3.2**
BATI	**Baumata**	**2.10**	**188**	P	**Pn**	**04 17 46.8**	**-0.4**
BATI	**Baumata**	**2.10**	**188**	P	**Pn**	**04 17 46.5**	**-0.7**
	159nm,0.3s,baz=25,slow=3.7,SNR=84						
BATI				S	**Sn**	**04 18 16.6**	**+0.1**
	154nm,0.3s,baz=327,slow=21,SNR=12						
WSI	**Waingapu**	**3.93**	**247**	P	Pn	04 18 12.0	+2.5
WSI				S	**Sn**	**04 18 55.1**	**-1.2**
WSI	**Waingapu**	**3.93**	**247**	S	Sn	04 19 02.6	+6.3
	baz=3.7,SNR=3.2						
LBFI	**Labuhan Bajo,**	**4.04**	**265**	P	**Pn**	**04 18 11.3**	**+0.4**
LBFI				S	Sn	04 18 50.4	-8.5
KAPI	**Kappang**	**5.19**	**306**	P	**Pn**	**04 18 24.8**	**-1.1**
	0.3nm,0.3s,baz=138,slow=16,SNR=2.9						
MTN	**Manton Dam**	**8.48**	**124**	P	**Pn**	**04 19 08.4**	**-0.7**
	baz=8.0,SNR=47						
MTN				S	**Sn**	**04 20 38.3**	**-5.7**
	baz=8.0,SNR=11						
KNRA	**Kununurra**	**8.86**	**148**	P	**Pn**	**04 19 12.4**	**-1.8**
	baz=8.1,SNR=28						
KNRA				S	Sn	04 20 46.9	-6.3
	baz=8.1,SNR=7.6						
KDU	**Kakadu**	**9.53**	**119**	P	**Pn**	**04 19 21.7**	**-1.4**
	baz=9.1,SNR=86						
FAKI	**Fak Fak**	**9.73**	**58**	P	Pn	04 19 28.4	+2.6
	baz=10,SNR=5.1						
FITZ	**Fitzroy Crossi**	**10.06**	**171**	P	**Pn**	**04 19 27.6**	**-2.4**
	0.9nm,0.3s,baz=6.0,slow=8.6,SNR=10						
FITZ				S	Sn	04 21 13.1	-8.7
	6.7nm,0.3s,baz=114,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**10.06**	**171**	P	**Pn**	**04 19 27.9**	**-2.1**
	baz=9.2,SNR=8.9						
FITZ				S	Sn	04 21 12.8	-9.0
	baz=9.2,SNR=7.6						
SWI	**Sorong**	**10.24**	**46**	S	**S**	**04 21 26.8**	**-0.4**
	baz=11,SNR=3.5						
WRA	**Warramunga Arr**

VCR	**Vista de Mar**	**3.17 303**	*e*P	Pn	04 23 34.1	0.0
COLC	**Colonia**	**3.17 315**	*i* P	Pn	04 23 35.1	+1.0
COLC			*i* S	Sb	04 24 19.5	0.0
LIM1	**Limonal**	**3.23 315**	*i* P	Pn	04 23 35.5	+0.6
UPA	**Univ. de Panam**	**3.40 80**	*e*P	Pn	04 23 37.8	+0.6
UPA			*e*S	Sn	04 24 18.8	+0.7
LAPC	**Finca la Perla**	**3.40 314**	*i* P	Pn	04 23 38.7	+1.4

*ISCJB **14** 04:26:24.6±0.9, 24°.26S±0°.06×67°.2W±0°.1, h186km±22km, mb3.5/1, Error ellipse: s-maj=21.7km s-min=9.3km az=5.5*
*IDC **14** 04:26:24.5±1.8, 24°.35S×67°.02W, h162km±21km, mb3.4/1, mb1 3.5/4, mb1mx3.2/18, mbtmp3.5/4, Error ellipse: s-maj=42.1km s-min=16.9km az=103.0*
*GUC **14** 04:26:28.3±0.7, 24°.13S×67°.57W, h200km, ML4.2*

ISC 14 04:26:24.3±1.2, 24°.30S±0°.07×67°.1W±0°.1, h163km±21km, n14, σ1§61/21, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**3.02 312**	⇓	*i*P	Pn	04 27 19.0	+6.7
PB04				*i* S	Sn	04 27 57.6	+7.9
PB04				AML	AML	04 28 01.9	
	comp=N,233nm,0.6s						
CEN1	**Los Morros**	**3.02 287**	⇓	*i*P	**Pn**	**04 27 15.3**	**+2.8**
CEN1				*i* S	**Sn**	**04 27 50.4**	**+0.5**
CEN1				AML	AML	04 27 51.7	
	comp=N,129nm,0.5s						
ANCH	**Antofagasta**	**3.13 281**	⇑	*i*P	**Pn**	**04 27 15.1**	**+1.3**
ANCH				*i* S	**Sn**	**04 27 50.5**	**-1.6**
PB09	**Plate Boundary**	**3.20 321**	⇓	*i*P	**Pn**	**04 27 17.1**	**+2.2**
PB09				*i* S	**Sn**	**04 27 54.6**	**+0.4**
PB09				AML	AML	04 27 55.7	
	comp=N,1μm,0.6s						
PB10	**Plate Boundary**	**3.29 283**	⇑	*i*P	**Pn**	**04 27 17.1**	**+1.2**
PB10				*i* S	**Sn**	**04 27 54.5**	**-1.4**
PB10				AML	AML	04 28 02.5	
	comp=N,334nm,0.4s						
PB07	**Plate Boundary**	**3.65 314**	⇑	*i*P	**Pn**	**04 27 21.4**	**+0.7**
PB07				*i* S	**Sn**	**04 28 01.8**	**-2.6**
PB07				AML	AML	04 28 04.0	
	comp=N,360nm,0.6s						
PB01	**Plate Boundary**	**3.94 325**	*e*P		**Pn**	**04 27 25.1**	**+0.8**
PB01				*i* S	**Sn**	**04 28 09.1**	**-1.9**
PB01				AML	AML	04 28 11.3	
	comp=N,148nm,0.4s						
MNMC	**Minimini**	**5.66 335**	*e*P		**Pn**	**04 27 46.8**	**-0.1**
MNMC				*i* S	**Sn**	**04 28 49.8**	**-1.8**
CFAA	**Coronel Fontan**	**7.35 188**	P		**Pn**	**04 28 10.1**	**+1.1**
	comp=N,0.1nm,0.3s,baz=355,slow=11,SNR=24						
CFAA				S	**Sn**	**04 29 29.4**	**-2.2**
	comp=N,0.1nm,0.3s,baz=258,slow=18,SNR=7.8						
LPAZ	**La Paz**	**8.03 353**	P		**Pn**	**04 28 19.9**	**+1.1**
	comp=N,2.7nm,0.3s,baz=166,slow=9.0,SNR=61						
SIV	**San Ignacio**	**9.99 35**	P		**Pn**	**04 28 43.6**	**-0.5**
	comp=N,0.6nm,0.3s,baz=252,slow=9.3,SNR=9.8						
BDFB	**Brasilia**	**19.84 68**	P		**P**	**04 30 43.8**	**+1.0**
	comp=N,0.7nm,0.3s,baz=243,slow=12,SNR=7.5						
TORD	**Torodi Ar. Bea**	**76.72 69**	P		**P**	**04 37 58.0**	**0.0**
	comp=N,0.6nm,0.5s,baz=258,slow=6.0,SNR=11						
MKAR	**Makanchi Array**	**146.79 40**	PKPbc		**PKPbc**	**04 45 47.1**	**0.0**
	comp=N,0.5nm,0.6s,baz=291,slow=4.1,SNR=4.8						

*NEIC **14** 04:27:44.6, 19°.34N×65°.69W, h66km, MD3.5(RSPR), After RSPR.*

RSPR 14 04:27:44.6, 19°.34N×65°.69W, h66km±10km, MD3.5/12, 15C-21D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.07 189**	*e*S		Sn	04 28 17.3	-1.1
CBYP	**Canovanas**	**1.07 189**	*e*Pn		Pn	04 28 01.6	-2.4
CBYP			*e*Sn		Sn	04 28 16.0	-2.4
CBYP	**Canovanas**	**1.07 189**	*e*S		Sn	04 28 17.3	-1.1
STVI	**Saint Thomas**	**1.21 145**	*e*S		Sn	04 28 21.0	-0.2
STVI	**Saint Thomas**	**1.21 145**	⇓	*e*P	Pn	04 28 05.3	-0.3
STVI	**Saint Thomas**	**1.21 145**	⇓	*e*P	Pn	04 28 05.3	-0.3
STVI			*e*S		Sn	04 28 21.0	-0.2
STVI	**Saint Thomas**	**1.21 145**	⇓	*e*P	Pn	04 28 05.3	-0.3
STVI			*e*S		Sn	04 28 21.0	-0.2
MTP	**Monte Pirata**	**1.24 174**	*e*S		Sn	04 28 21.1	-1.1
MTP	**Monte Pirata**	**1.24 174**	⇑	*e*P	Pn	04 28 04.7	-1.4
MTP	**Monte Pirata**	**1.24 174**	⇑	*e*P	Pn	04 28 04.7	-1.4
MTP			*e*S		Sn	04 28 21.1	-1.1
MTP	**Monte Pirata**	**1.24 174**	⇑	*e*P	Pn	04 28 04.7	-1.4
MTP			*e*S		Sn	04 28 21.7	-0.4
SJG	**San Juan**	**1.30 200**	⇑	*e*P	Pn	04 28 05.8	-1.0
SJG			*e*S		Sn	04 28 23.6	+0.2
SJG	**San Juan**	**1.30 200**	⇑	*e*P	Pn	04 28 05.8	-1.0
SJG			*e*S		Sn	04 28 23.6	+0.2
SJG	**San Juan**	**1.30 200**	⇑	*e*P	Pn	04 28 05.8	-1.0
SJG			*e*S		Sn	04 28 23.6	+0.2
CPD	**Cerro la Pandu**	**1.31 189**	*e*S		Sn	04 28 23.0	-0.8
CPD	**Cerro la Pandu**	**1.31 189**	⇓	*e*P	Pn	04 28 05.7	-1.4
CPD	**Cerro la Pandu**	**1.31 189**	⇓	*e*P	Pn	04 28 05.7	-1.4
CPD			*e*S		Sn	04 28 23.0	-0.8
CPD	**Cerro la Pandu**	**1.31 189**	⇓	*e*P	Pn	04 28 05.7	-1.4
CPD			*e*S		Sn	04 28 23.3	-0.6
TBVI	**Tortola**	**1.37 132**	⇓	*e*P	Pn	04 28 07.6	-0.2
TBVI	**Tortola**	**1.37 132**	⇓	*e*P	Pn	04 28 07.6	-0.2
TBVI	**Tortola**	**1.37 132**	⇓	*e*P	Pn	04 28 07.6	-0.2
AOPR	**Arecibo Observ**	**1.41 226**	⇑	*e*P	Pn	04 28 07.2	-1.1
AOPR			*e*S		Sn	04 28 25.4	-0.8
AOPR	**Arecibo Observ**	**1.41 226**	⇑	*e*P	Pn	04 28 07.2	-1.1
AOPR			*e*S		Sn	04 28 25.4	-0.8
AOPR	**Arecibo Observ**	**1.41 226**	⇑	*e*P	Pn	04 28 07.2	-1.1
AOPR			*e*S		Sn	04 28 25.4	-0.8
ABV	**Anegada**	**1.42 115**	⇑	*e*P	Pn	04 28 07.6	-0.8
ABV	**Anegada**	**1.42 115**	⇑	*e*P	Pn	04 28 07.6	-0.8
ABVI	**Anegada Island**	**1.42 115**	⇑	*e*P	Pn	04 28 07.6	-0.8
LRS	**Lares**	**1.51 227**	⇓	*e*P	Pn	04 28 09.0	-0.7
LRS			*e*S		Sn	04 28 27.5	-1.1
LRS	**Lares**	**1.51 227**	⇓	*e*P	Pn	04 28 09.0	-0.7
LRS			*e*S		Sn	04 28 27.5	-1.1
LRS	**Lares**	**1.51 227**	⇓	*e*P	Pn	04 28 09.1	-0.6
LRS			*e*S		Sn	04 28 27.5	-1.1
CELP	**Cerrillos**	**1.52 214**	⇓	*e*P	Pn	04 28 08.7	-1.0
CELP			*e*S		Sn	04 28 28.3	-0.3
CELP	**Cerrillos**	**1.52 214**	⇓	*e*P	Pn	04 28 08.7	-1.0
CELP			*e*S		Sn	04 28 28.3	-0.3
CELP	**Cerrillos**	**1.52 214**	⇓	*e*P	Pn	04 28 08.7	-1.0
CELP			*e*S		Sn	04 28 28.3	-0.3
OBIP	**Obispado Ponce**	**1.56 214**	*e*S		Sn	04 28 29.3	-0.2
OBIP	**Obispado Ponce**	**1.56 214**	⇑	*e*P	Pn	04 28 09.4	-0.8
OBIP	**Obispado Ponce**	**1.56 214**	⇑	*e*P	Pn	04 28 09.4	-0.8
OBIP			*e*S		Sn	04 28 29.3	-0.2
OBIP	**Obispado Ponce**	**1.56 214**	⇑	*e*P	Pn	04 28 09.4	-0.8
OBIP			*e*S		Sn	04 28 29.3	-0.2
AGPR	**Aguadilla, PR**	**1.60 237**	⇓	*e*P	Pn	04 28 10.4	-0.4
AGPR	**Aguadilla, PR**	**1.60 237**	*e*S		Sn	04 28 29.9	-0.8
AGPR	**Aguadilla, PR**	**1.60 237**	⇓	*e*P	Pn	04 28 10.4	-0.4
AGPR			*e*S		Sn	04 28 29.9	-0.8
AGPR	**Aguadilla, PR**	**1.60 237**	⇓	*e*P	Pn	04 28 10.4	-0.4
AGPR			*e*S		Sn	04 28 29.9	-0.8
LSP	**Las Mesas**	**1.76 229**	*e*S		Sn	04 28 33.9	-0.6
LSP	**Las Mesas**	**1.76 229**	*e*Pn		Pn	04 28 12.2	-0.7
LSP			*e*Sn		Sn	04 28 33.5	-0.9
LSP	**Las Mesas**	**1.76 229**	*e*S		Sn	04 28 33.9	-0.6
CDVI	**St. Croix**	**1.81 151**	*e*Pn		Pn	04 28 12.5	-1.1
CRPR	**Cabo Rojo, PR**	**1.89 226**	⇓	*e*P	Pn	04 28 14.5	-0.2
CRPR	**Cabo Rojo, PR**	**1.89 226**	*e*S		Sn	04 28 37.4	-0.2
CRPR	**Cabo Rojo, PR**	**1.89 226**	⇓	*e*P	Pn	04 28 14.5	-0.2
CRPR			*e*S		Sn	04 28 37.4	-0.2
CRPR	**Cabo Rojo, PR**	**1.89 226**	⇓	*e*P	Pn	04 28 14.5	-0.2
CRPR			*e*S		Sn	04 28 37.4	-0.2
SDDR	**Presa de Saban**	**5.30 267**	*e*Pn		Pn	04 29 02.3	+0.9
	24nm,0.9s						
SDDR			*e*Sn		Sn	04 29 59.6	-1.6

IDC 14 04:29:52.5±2.0, 3°.53N×127°.07E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=115.7km s-min=24.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.54 184**	P		P	04 34 43.9	+0.3
	1.2nm,0.6s,baz=13,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**24.39 163**	P		P	04 35 12.8	+0.1
	2.0nm,0.8s,baz=341,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.84 166**	P		P	04 35 43.8	-0.1
	0.2nm,0.5s,baz=358,slow=7.7,SNR=5.7						
MKAR	**Makanchi Array**	**57.91 325**	P		P	04 39 46.3	-0.2
	0.4nm,0.4s,baz=119,slow=7.2,SNR=7.3						

*ISCJB **14** 04:32:17.8±0.9, 32°.78N±0°.05×140°.74E±0°.09, h72km±8km, mb3.6/5, Error ellipse: s-maj=12.1km s-min=7.4km az=11.8*
*JMA **14** 04:32:19.0±0.2, 32°.81N×140°.73E, h59km, M3.7*
*IDC **14** 04:32:20.0±4.3, 32°.69N×140°.59E, h78km±41km, mb3.2/5, mb1 3.5/7, mb1mx3.3/26, mbtmp3.3/7, ML3.4/2, Error ellipse: s-maj=42.0km s-min=20.1km az=99.0*

ISC 14 04:32:17.5±1.9, 32°.72N±0°.09×140°.80E±0°.10, h55km±17km, n23, σ1§18/34, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.92 293**		P	**Pn**	**04 32 34.9**	**+0.6**
JHCJ				S	**Sn**	**04 32 45.8**	**-0.8**
JHJ2	**Mitsune**	**0.92 296**		P	**Pn**	**04 32 35.0**	**+0.7**
JHJ2				S	**Sn**	**04 32 46.5**	**-0.2**
JMY	**Miyakejima3**	**1.73 322**		P	**Pn**	**04 32 45.7**	**+0.4**
BSO1	**Boso 1**	**1.94 4**		P	**Pn**	**04 32 48.5**	**+0.9**
BSO1				*e*S	**Sn**	**04 33 09.9**	**-0.6**
JKO	**Kozu shima**	**2.02 317**		P	**Pn**	**04 32 50.1**	**+0.9**
JKO				*e*S	**Sn**	**04 33 12.0**	**-1.4**
BSO2	**Boso 2**	**2.03 359**		*e*S	**Sn**	**04 33 12.9**	**-0.2**
BSO3	**Boso 3**	**2.09 353**		P	**Pn**	**04 32 50.6**	**+0.6**
BSO3				*e*S	**Sn**	**04 33 13.2**	**-1.5**
JIM2	**Oshima 3**	**2.30 331**		P	**Pn**	**04 32 53.5**	**+0.4**
JIM2				*e*S	**Sn**	**04 33 18.3**	**-1.9**
JIZS	**Izushimoda**	**2.56 322**		P	**Pn**	**04 32 57.7**	**+1.1**
JOD2	**Odawara 2**	**2.91 331**		P	**Pn**	**04 33 02.1**	**+0.7**
JOD2				S	**Sn**	**04 33 32.9**	**-2.3**
SHZ3	**Shizuoka 3**	**3.18 318**		P	**Pn**	**04 33 07.4**	**+2.2**
JYN	**Shimob**	**3.35 327**		P	**Pn**	**04 33 09.3**	**+1.9**
JYN				*e*S	**Sn**	**04 33 45.8**	**-0.2**
JRY	**Ryogami san**	**3.65 335**		P	**Pn**	**04 33 13.0**	**+1.5**
JIE	**Ise**	**3.81 297**		P	**Pn**	**04 33 14.8**	**+1.1**
JAG	**Ashikaga**	**3.86 344**		P	**Pn**	**04 33 14.3**	**-0.1**
JAG				*e*S	**Sn**	**04 33 57.3**	**-1.2**
MJAR	**Matsushiro Arr**	**4.37 331**		P	**Pn**	**04 33 22.5**	**+1.0**
	2.6nm,0.3s,baz=160,slow=12,SNR=34						
MJAR				S	**Sn**	**04 34 12.1**	**+1.0**
	1.0nm,0.3s,baz=194,slow=28,SNR=3.7						
MAT	**Matsushiro**	**4.38 331**		P	**Pn**	**04 33 22.7**	**+1.2**
MAT				S	**Sn**	**04 34 12.4**	**+1.2**
JNU	**Nakatsue**	**8.36 275**		P	**Pn**	**04 34 16.8**	**+0.8**
	0.4nm,0.3s,baz=56,slow=2.7,SNR=4.6						
MKAR	**Makanchi Array**	**46.10 306**		P	**P**	**04 40 35.0**	**-1.2**
	0.4nm,0.5s,baz=93,slow=9.1,SNR=4.4						
WRA	**Warramunga Arr**	**52.73 188**		P	**P**	**04 41 26.2**	**-0.6**
	0.4nm,0.3s,baz=5.9,slow=7.4,SNR=10						
ILAR	**Eielson Array**	**53.43 31**		P	**P**	**04 41 32.6**	**+1.0**
	0.3nm,0.7s,baz=252,slow=6.6,SNR=4.1						
ASAR	**Alice Springs**	**56.45 188**		P	**P**	**04 41 53.1**	**-0.7**
	0.2nm,0.4s,baz=10,slow=8.0,SNR=3.7						
TXAR	**Lajitas Array**	**93.16 52**		P	**P**	**04 45 26.6**	**+0.4**
	0.2nm,0.6s,baz=341,slow=1.9,SNR=3.9						

IDC 14 04:34:44.6±4.2, 6°.40N×123°.38E, h678km±58km, mb2.7/5, mb1 2.9/5, mb1mx2.5/24, mbtmp2.7/5, Error ellipse: s-maj=109.6km s-min=18.8km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.45 175**		P	P	04 39 14.9	+0.1
	3.3nm,1.2s,baz=347,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**28.31 158**		P	P	04 39 47.6	-0.8
	1.0nm,0.5s,baz=336,slow=10,SNR=17						
WRA				PcP	PcP	04 42 36.9	-0.6
	0.2nm,0.5s,baz=351,slow=3.9,SNR=3.3						
ASAR	**Alice Springs**	**31.60 161**		P	P	04 40 16.9	+0.5
	1.1nm,0.3s,baz=342,slow=6.7,SNR=17						
STKA	**Stephens Creek**	**41.84 157**		P	P	04 41 39.7	+0.6
	1.9nm,0.9s,baz=319,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**53.48 326**		P	P	04 43 04.9	+0.1
	0.3nm,0.5s,baz=128,slow=7.9,SNR=5.8						

MAN 14 04:43:48, 12°.02N×125°.43E, h1km, mb4.1, ML2.9, MS2.6, 1C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.96 207**	⇓	*e*P	Pb	04 44 07.7	+0.3
PLP				*e*S	Sg	04 44 16.3	-2.4
OCLP	**Ormoc**	**1.25 220**		*e*P	Pn	04 44 13.3	+0.6
OCLP				*e*S	Sg	04 44 20.9	-7.4
MSLP	**Maasin**	**1.96 197**		*e*P	Pb	04 44 23.9	-0.5
PVCP	**Virac**	**2.00 322**	⇓	*i*P	Pg	04 44 28.7	+2.3
RCP	**Roxas**	**2.67 260**	⇑	*i*P	Pn	04 44 34.1	+2.0
GUIM	**Jordan**	**3.11 244**		*e*P	Pn	04 44 38.6	+0.4

*THE **14** 05:24:10.9, 33°.99N×25°.05E, h95km±26km, Error ellipse: s-maj=28.2km s-min=3.6km az=352.0*
*ATH **14** 05:24:11.9, 34°.11N×25°.29E, h5km±2km, MD3.4/7*
*IDC **14** 05:24:13.0±3.9, 34°.09N×25°.27E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/26, mbtmp3.5/4, ML4.1/2, Error ellipse: s-maj=80.8km s-min=31.1km az=107.0*
*CSEM **14** 05:24:16.0±1.0, 34°.36N×25°.33E, h2km, MD3.4, Error ellipse: s-maj=18.7km s-min=9.4km az=9.0*

ISC 14 05:24:13.7±1.9, 34°.19N±0°.07×25°.25E±0°.04, h8km±10km, n36, σ1§21/45, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.90 336**		P	**Pg**	**05 24 30.8**	**-0.3**
SIVA				S	**Sn**	**05 24 45.0**	**-0.8**
SIVA	**Sivas**	**0.90 336**		*e*PB	**Pg**	**05 24 30.8**	**-0.3**
SIVA				*e*SB	**Sn**	**05 24 45.1**	**-0.8**
SIVA	**Sivas**	**0.90 336**		P	**Pg**	**05 24 30.8**	**-0.3**
SIVA				*e*Sb	**Sn**	**05 24 45.1**	**-0.8**
LAST	**Lasithi**	**0.99 11**		P	**Pg**	**05 24 32.2**	**-0.5**
LAST				S	**Sn**	**05 24 50.0**	**+1.9**
LAST	**Lasithi**	**0.99 11**		*e*PB	**Pg**	**05 24 32.5**	**-0.2**
LAST	**Lasithi**	**0.99 11**		P	**Pg**	**05 24 32.2**	**-0.5**
LAST	**Lasithi**	**0.99 11**		*e*Pb	**Pg**	**05 24 32.5**	**-0.2**
LAST				S	**Sn**	**05 24 50.0**	**+1.9**
NPS	**Neapolis**	**1.11 15**		P	**Pb**	**05 24 33.6**	**-1.6**
NPS				S	**Sn**	**05 24 51.2**	**+0.1**
NPS	**Neapolis**	**1.11 15**		*e*PB	**Pb**	**05 24 34.0**	**-1.2**
NPS				*e*SB	**Sg**	**05 24 50.2**	**+0.7**
NPS	**Neapolis**	**1.11 15**		P	**Pb**	**05 24 33.6**	**-1.6**
NPS	**Neapolis**	**1.11 15**		*e*Pb	**Pb**	**05 24 34.0**	**-1.2**
NPS				*e*Sb	**Sg**	**05 24 50.2**	**+0.7**
NPS				S	**Sn**	**05 24 51.2**	**+0.1**
IDI	**Anoyia**	**1.14 345**		P	**Pb**	**05 24 34.2**	**-1.4**
IDI				S	**Sb**	**05 24 50.7**	**+0.1**
IDI	**Anoyia**	**1.14 345**		*e*PB	**Pb**	**05 24 35.1**	**-0.5**
IDI	**Anoyia**	**1.14 345**		P	**Pb**	**05 24 34.2**	**-1.4**
IDI	**Anoyia**	**1.14 345**		*e*Pb	**Pb**	**05 24 35.1**	**-0.5**
IDI				S	**Sb**	**05 24 50.7**	**+0.1**
ZKR	**Zakros**	**1.22 40**		P	**Pn**	**05 24 35.5**	**-1.6**
ZKR	**Zakros**	**1.22 40**		*e*PB	**Pn**	**05 24 35.7**	**-1.4**
ZKR	**Zakros**	**1.22 40**		*e*Pb	**Pn**	**05 24 35.7**	**-1.4**
VAM	**Vamos**	**1.49 325**		*e*PG	**Pb**	**05 24 41.5**	**-0.2**
VAM				*e*SB	**Sg**	**05 25 03.5**	**+1.8**
VAM	**Vamos**	**1.49 325**		*e*Pg	**Pb**	**05 24 41.5**	**-0.2**
VAM				*e*Sb	**Sg**	**05 25 03.5**	**+1.8**
KARP	**Karpathos**	**2.07 49**		*e*PN	**Pb**	**05 24 50.7**	**-0.9**
KARP	**Karpathos**	**2.07 49**		*e*Pn	**Pb**	**05 24 50.7**	**-0.9**
THR1	**Thera Island**	**2.18 4**		P	Pn	05 24 45.3	-5.0
THR1	**Thera Island**	**2.18 4**		P	Pn	05 24 45.3	-5.0
SANT	**Santorini**	**2.18 4**		P	Pn	05 24 45.0	-5.3
SANT	**Santorini**	**2.18 4**		P	Pn	05 24 45.0	-5.3
ANKY	**Antikythira Is**	**2.32 317**		*e*PN	**Pb**	**05 24 54.8**	**-0.9**
ANKY	**Antikythira Is**	**2.32 317**		*e*Pn	**Pb**	**05 24 54.8**	**-0.9**
KYTH	**Kithira**	**2.77 320**		*e*PN	**Pb**	**05 25 01.3**	**-2.1**
KYTH	**Kithira**	**2.77 320**		*e*Pn	**Pb**	**05 25 01.3**	**-2.1**
ARG	**Arkhangelos**	**3.10 49**		*e*PN	**Pn**	**05 25 05.1**	**+2.2**
ARG	**Arkhangelos**	**3.10 49**		*e*Pn	**Pn**	**05 25 05.1**	**+2.2**
AKASG	**Malin Array Be**	**16.76 9**		Pn	**P**	**05 28 09.7**	**-1.2**
	0.7nm,0.3s,baz=200,slow=11,SNR=4.5						
GERES	**GERESS Array B**	**16.98 333**		P	**P**	**05 28 14.5**	**+1.0**
	0.2nm,0.3s,baz=143,slow=13,SNR=9.3						
ESDC	**Sonseca Array**	**23.93 292**		P	**P**	**05 29 28.7**	**+0.5**
	0.2nm,0.4s,baz=80,slow=9.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**29.93 231**		P	**P**	**05 30 22.5**	**+0.2**
	0.8nm,0.5s,baz=36,slow=8.8,SNR=14						

NNC 14 05:28:40.3±10.0, 54°.40N×86°.79E, h0km, mb4.0, mpv3.7, 4C-1D, Error ellipse: s-maj=92.4km s-min=53.6km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.30 236**		Pn	Pn	05 30 16.0	+1.6
	8.5nm,0.7s						
KURBB				Lg	Lg	05 32 03.7	
	25nm,0.9s						
MK31	**Makanchi Array**	**8.14 202**	⇓	Pn	Pn	05 30 40.3	+0.7
	3.1nm,1.2s,baz=26,slow=13,SNR=9.7						
MK31			⇑	Sn	Sn	05 32 13.2	+0.9
	3.1nm,0.8s,baz=25,slow=25,SNR=6.3						
MK31			⇑	Lg	Lg	05 32 57.2	
	16nm,1.2s,baz=28,slow=29,SNR=7.7						
VOSK	**Vostochnaya**	**9.56 266**	⇑	Pn	Pn	05 31 00.0	+0.9
	1.7nm,0.7s						
VOSK			⇑	Sn	Sn	05 32 42.6	-4.6
	7.2nm,0.9s						

*IDC **14** 05:53:18.4±1.8, 31°.13S×177°.22W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, ML3.3/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/27, Error ellipse: s-maj=45.4km s-min=29.2km az=123.0*
*NEIC **14** 05:53:23.2±1.1, 31°.39S×177°.16W, h35km, mb4.6/4, Error ellipse: s-maj=24.6km s-min=16.4km az=117.0*

ISC 14 05:53:24.7±1.2, 30°.98S±0°.07×177°.5W±0°.2, h35km, n30, σ1§31/24, mb4.3/6, MS3.8/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77 347**		*e*Pn	**Pn**	**05 53 52.2**	**-0.7**
RAO				*e*Sn	**Sn**	**05 54 15.7**	**+1.6**
RAO	**Raoul Island**	**1.77 347**		Pn	**Pn**	**05 53 51.7**	**-1.1**
	150nm,0.3s,baz=90,slow=20,SNR=4.5						
RAO				Sn	**Sn**	**05 54 11.9**	**-2.2**
	490nm,0.3s,baz=105,slow=23,SNR=7.7						
URZ	**Urewera**	**8.52 210**		Pn	Pn	05 55 21.1	-4.5
URZ				Sn	**Sn**	**05 56 58.5**	**-1.9**
URZ	**Urewera**	**8.52 210**		Pn	Pn	05 55 21.1	-4.5
	0.4nm,0.3s,baz=65,slow=17,SNR=3.7						
URZ				Sn	**Sn**	**05 56 58.5**	**-1.9**
	1.4nm,0.3s,baz=104,slow=23,SNR=7.9						
DZM	**Mont Dzumac**	**16.90 298**		*e*LR	LR	06 01 24.8	
	321nm,22.9s						
DZM	**Mont Dzumac**	**16.90 298**		LR	LR	06 02 45.9	
	comp=Z,382nm,18.6s,baz=28,slow=33						
PPT2	**Papeete2**	**28.61 69**		*e*LR	LR	06 06 25.5	
	69nm,24.5s						
PPT	**Papeete**	**28.62 69**		LR	LR	06 07 20.4	
	comp=Z,63nm,21.0s,baz=280,slow=30						
CTA	**Charters Tower**	**34.35 280**		P	**P**	**06 00 10.1**	**+1.7**
CTA	**Charters Tower**	**34.35 280**		P	**P**	**06 00 10.1**	**+1.7**
	2.3nm,0.7s,baz=113,slow=8.3,SNR=4.9						
CTAO	**Charters Tower**	**34.35 280**		*e*P	**P**	**06 00 09.8**	**+1.5**
	8.9nm,1.1s						
STKA	**Stephens Creek**	**34.80 258**		*e*P	**P**	**06 00 12.8**	**+0.6**
	1.8nm,1.1s						
STKA	**Stephens Creek**	**34.80 258**		P	**P**	**06 00 12.7**	**+0.6**
	1.3nm,0.4s,baz=88,slow=11,SNR=6.8						
STKA				LR	LR	06 13 44.8	
	comp=Z,145nm,18.5s,baz=144,slow=35						
PMG	**Port Moresby**	**39.27 296**		LR	LR	06 14 07.8	
	comp=Z,95nm,21.4s,baz=95,slow=32						
ASAR	**Alice Springs**	**43.54 267**		P	**P**	**06 01 25.8**	**+0.5**
ASAR	**Alice Springs**	**43.54 267**		P	**P**	**06 01 25.7**	**+0.5**
	0.7nm,0.6s,baz=106,slow=7.7,SNR=9.6						
WRAB	**Tennant Creek**	**44.57 272**		*e*P	**P**	**06 01 33.9**	**+0.3**
	8.7nm,1.1s						

2.6nm,0.9s,baz=78,slow=8.9,SNR=18
KSRS Korea Array 70.63 320 LR LR 06 44 52.1
comp=Z,29nm,19.2s,baz=216,slow=32
NVAR Mina Array Bea 80.48 46 P P 06 20 03.4 +0.1
0.7nm,0.8s,baz=232,slow=10,SNR=4.8
ILAR Eielson Array 84.65 14 P P 06 20 24.1 0.0
0.9nm,0.8s,baz=236,slow=5.7,SNR=12
TXAR Lajitas Array 87.99 59 P P 06 20 41.4 -0.2
0.1nm,0.6s,baz=236,slow=4.2,SNR=2.4
PDAR Pinedale Array 88.36 45 P P 06 20 43.1 -0.1
0.4nm,0.9s,baz=235,slow=3.2,SNR=3.0

RSPR 14 06:11:21.0, 19°.01N×66°.46W, h53km±15km, 3C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	0.72	203⇑	eP	Pn	06 11 34.1	-1.1
AOPR	Arecibo Observ	0.72	203	eS	Sn	06 11 44.9	-0.6
CBYP	Canovanas	0.93	142⇑	eP	Pn	06 11 37.0	-1.0
CBYP	Canovanas	0.93	142	eS	Sn	06 11 49.1	-1.4
MTP	Monte Pirata	1.25	136⇑	eP	Pn	06 11 41.5	-0.8
MTP	Monte Pirata	1.25	136	eS	Sn	06 11 57.5	-0.6

IDC 14 06:13:54.8±4.7, 13°.39N×92°.64E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=278.4km s-min=27.5km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	34.41	347	P	P	06 20 43.7	-0.2
	0.1nm,0.4s,baz=141,slow=5.5,SNR=2.8						
WRA	Warramunga Arr	52.73	128	P	P	06 23 11.6	-0.3
	0.2nm,0.4s,baz=307,slow=9.5,SNR=13						
WRA				PcP	PcP	06 24 21.5	-0.1
	0.2nm,0.5s,baz=324,slow=3.4,SNR=6.0						
ASAR	Alice Springs	54.63	132	P	P	06 23 25.8	+0.1
	0.5nm,0.5s,baz=309,slow=6.6,SNR=5.9						

IDC 14 06:41:22.9±1.3, 35°.22N×23°.24E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.6/29, mbtmp3.7/10, ML3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.1/42, Error ellipse: s-maj=26.8km s-min=23.6km az=119.0
ISCJB 14 06:41:29.8±0.5, 35°.16N±0°.05×23°.27E±0°.05, h75km±5km, mb3.6/7, Error ellipse: s-maj=9.1km s-min=4.4km az=39.8
ATH 14 06:41:30.1, 35°.21N×23°.27E, h68km±2km, ML3.2
CSEM 14 06:41:31.1±0.1, 35°.15N×23°.25E, h52km±2km, ML3.2/3, Error ellipse: s-maj=3.8km s-min=1.7km az=37.0
THE 14 06:41:32.6, 35°.29N×23°.41E, h64km±2km, ML3.2/3, Error ellipse: s-maj=3.5km s-min=0.7km az=42.0

ISC 14 06:41:29.8±0.9, 35°.13N±0°.04×23°.22E±0°.04, h59km±9km, n116, σ1§21/133, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	Antikythira Is	0.73	5	P	Pn	06 41 45.0	+0.6
ANKY				S	Sn	06 41 56.1	+1.0
ANKY	Antikythira Is	0.73	5	eP	Pn	06 41 45.0	+0.6
ANKY				eS	Sn	06 41 55.9	+0.8
ANKY	Antikythira Is	0.73	5	P	Pn	06 41 45.0	+0.6
ANKY				eS	Sn	06 41 55.9	+0.8
VAM	Vamos	0.84	71	P	Pn	06 41 46.3	+0.5
VAM				S	Sn	06 41 56.8	-0.8
VAM	Vamos	0.84	71	eP	Pn	06 41 46.5	+0.7
VAM				eS	Sn	06 41 59.0	+1.4
VAM	Vamos	0.84	71	eP	Pn	06 41 46.5	+0.7
VAM				S	Sn	06 41 56.8	-0.8
KYTH	Kithira	1.15	352	eP	Pn	06 41 50.9	+1.0
KYTH	Kithira	1.15	352	eP	Pn	06 41 50.9	+1.0
SIVA	Sivas	1.31	95	P	Pn	06 41 52.6	+0.8
SIVA				S	Sn	06 42 08.6	+0.3
SIVA	Sivas	1.31	95	eP	Pn	06 41 52.6	+0.8
SIVA				eS	Sn	06 42 09.9	+1.6
SIVA	Sivas	1.31	95	P	Pn	06 41 52.6	+0.8
SIVA				S	Sn	06 42 08.6	+0.3
IDI	Anoyia	1.37	83	P	Pn	06 41 53.6	+0.8
IDI				S	Sn	06 42 08.5	-1.6
IDI	Anoyia	1.37	83	eP	Pn	06 41 53.9	+1.1
IDI				eS	Sn	06 42 10.8	+0.7
IDI	Anoyia	1.37	83	P	Pn	06 41 53.6	+0.8
IDI				eS	Sn	06 42 10.8	+0.7
VLI	Veliai	1.60	352	P	Pn	06 41 57.1	+1.3
VLI	Veliai	1.60	352	eP	Pn	06 41 56.8	+1.0
VLI	Veliai	1.60	352	eP	Pn	06 41 56.8	+1.0
DYR	Agios Nikonas	1.78	336	P	Pn	06 41 59.3	+1.1
DYR	Agios Nikonas	1.78	336	eP	Pn	06 41 59.4	+1.2
DYR	Agios Nikonas	1.78	336	eP	Pn	06 41 59.4	+1.2
LAST	Lasithi	1.85	89	P	Pn	06 42 00.6	+1.4
LAST				S	Sn	06 42 21.5	-0.1
LAST	Lasithi	1.85	89	eP	Pn	06 42 00.6	+1.4
LAST				eS	Sn	06 42 22.4	+0.8
LAST	Lasithi	1.85	89	P	Pn	06 42 00.6	+1.4
LAST				eS	Sn	06 42 22.4	+0.8
NPS	Neapolis	1.96	86	eP	Pn	06 42 02.2	+1.5
NPS	Neapolis	1.96	86	eP	Pn	06 42 02.2	+1.5
XRY	Khrisi	2.04	97	eP	Pn	06 42 02.7	+0.9
XRY	Khrisi	2.04	97	eP	Pn	06 42 02.7	+0.9
PYL	PYLOS	2.13	326	eP	Pn	06 42 04.1	+1.1
PYL	PYLOS	2.13	326	eP	Pn	06 42 04.1	+1.1
ITM	Ithomi	2.30	333	eP	Pn	06 42 06.7	+1.4
ITM	Ithomi	2.30	333	eP	Pn	06 42 06.7	+1.4
VLX	Vlachokerasia	2.33	343	P	Pn	06 42 07.9	+2.0
VLX	Vlachokerasia	2.33	343	eP	Pn	06 42 06.9	+1.0
VLX	Vlachokerasia	2.33	343	eP	Pn	06 42 06.9	+1.0
DID	Didima	2.37	0	P	Pn	06 42 07.2	+1.0
DID				S	Sn	06 42 33.6	-0.6
DID	Didima	2.37	0	eP	Pn	06 42 07.3	+1.0
DID	Didima	2.37	0	eP	Pn	06 42 07.3	+1.0
DID				S	Sn	06 42 33.6	-0.6
ZKR	Zakros	2.45	90	P	Pn	06 42 08.0	+0.6
ZKR	Zakros	2.45	90	eP	Pn	06 42 09.0	+1.6
ZKR	Zakros	2.45	90	P	Pn	06 42 08.0	+0.6
NAIG	Nisos Aigina	2.63	5	eP	Pn	06 42 11.3	+1.5
NAIG	Nisos Aigina	2.63	5	eP	Pn	06 42 11.3	+1.5
APE	Apeiranthos	2.69	43	eP	Pn	06 42 11.4	+0.8
APE	Apeiranthos	2.69	43	eP	Pn	06 42 11.4	+0.8
AMT	Artemida-Makis	2.69	333	eP	Pn	06 42 11.7	+1.1
AMT	Artemida-Makis	2.69	333	eP	Pn	06 42 11.7	+1.1
SFD	Strofades	2.77	320	eP	Pn	06 42 13.1	+1.5
SFD	Strofades	2.77	320	eP	Pn	06 42 13.1	+1.5
ATH	Athens Observa	2.86	8	eP	Pn	06 42 14.2	+1.3
ATH	Athens Observa	2.86	8	eP	Pn	06 42 14.2	+1.3
GUR	Goura	2.88	346	P	Pn	06 42 14.8	+1.4
GUR	Goura	2.88	346	eP	Pn	06 42 15.5	+2.1
GUR	Goura	2.88	346	P	Pn	06 42 14.8	+1.4
LTK	Loutraki	2.89	356	P	Pn	06 42 14.4	+1.0
LTK	Loutraki	2.89	356	eP	Pn	06 42 14.4	+1.0
LTK	Loutraki	2.89	356	P	Pn	06 42 14.4	+1.0
PTL	Penteli	2.95	10	P	Pn	06 42 15.0	+0.7
PTL	Penteli	2.95	10	eP	Pn	06 42 15.2	+0.9
PTL	Penteli	2.95	10	eP	Pn	06 42 15.2	+0.9
KLV	Kalavryta, Ach	3.03	344	P	Pn	06 42 17.0	+1.7
KLV	Kalavryta, Ach	3.03	344	eP	Pn	06 42 16.6	+1.3
KLV	Kalavryta, Ach	3.03	344	eP	Pn	06 42 16.6	+1.3
LTBQ	Tobruq	3.12	169	i P	Pn	06 42 17.6	+1.0
	SNR=48						
LTBQ				eS	Sn	06 42 51.2	-1.5
	29nm,0.4s,SNR=48						
KARP	Karpathos	3.25	82	eP	Pn	06 42 19.7	+1.4
KARP	Karpathos	3.25	82	eP	Pn	06 42 19.7	+1.4
LAKA	Lakka	3.26	342	eP	Pn	06 42 19.8	+1.4
LAKA	Lakka	3.26	342	eP	Pn	06 42 19.8	+1.4
DSF	Desfina	3.32	350	P	Pn	06 42 20.1	+0.8
DSF	Desfina	3.32	350	P	Pn	06 42 20.1	+0.8
ERET	Eretria	3.33	8	P	Pn	06 42 20.3	+0.8
ERET	Eretria	3.33	8	P	Pn	06 42 20.3	+0.8
TRIZ	Trizonia	3.35	344	eP	Pn	06 42 21.3	+1.6
TRIZ	Trizonia	3.35	344	eP	Pn	06 42 21.3	+1.6
KALE	Kalithea	3.37	345	P	Pn	06 42 21.2	+1.3
KALE	Kalithea	3.37	345	eP	Pn	06 42 21.1	+1.2
KALE	Kalithea	3.37	345	eP	Pn	06 42 21.1	+1.2
EFP	Efpalio	3.45	343	eP	Pn	06 42 22.6	+1.6
EFP	Efpalio	3.45	343	eP	Pn	06 42 22.6	+1.6
LKR	Lokris	3.51	357	eP	Pn	06 42 23.4	+1.5
LKR	Lokris	3.51	357	eP	Pn	06 42 23.4	+1.5
MRKA	Markates	3.58	5	P	Pn	06 42 23.6	+0.8
MRKA	Markates	3.58	5	P	Pn	06 42 23.6	+0.8
VLS	Valsamata	3.70	326	eP	Pn	06 42 25.0	+0.5
VLS	Valsamata	3.70	326	eP	Pn	06 42 25.0	+0.5
SMG	Samos	3.88	48	eP	Pn	06 42 28.5	+1.5
SMG	Samos	3.88	48	eP	Pn	06 42 28.5	+1.5
EVR	Evrytania	3.94	344	eP	Pn	06 42 29.5	+1.7
EVR	Evrytania	3.94	344	eP	Pn	06 42 29.5	+1.7
AGG	Agios Georgios	3.95	350	P	Pn	06 42 28.9	+1.1
AGG	Agios Georgios	3.95	350	eP	Pn	06 42 28.9	+1.1
AGG	Agios Georgios	3.95	350	P	Pn	06 42 28.9	+1.1
CHOS	Chios island	3.96	34	eP	Pn	06 42 28.9	+0.8
CHOS	Chios island	3.96	34	eP	Pn	06 42 28.9	+0.8
SKIA	Skiathos	4.03	3	P	Pn	06 42 30.1	+1.1
SKIA	Skiathos	4.03	3	P	Pn	06 42 30.1	+1.1
AOS	Alonnisos	4.06	7	eP	Pn	06 42 29.8	+0.4
AOS	Alonnisos	4.06	7	eP	Pn	06 42 29.8	+0.4
NEO	Neokhori	4.17	360	eP	Pn	06 42 32.0	+1.2
NEO	Neokhori	4.17	360	eP	Pn	06 42 32.0	+1.2
LKD2	Lefkada island	4.19	331	eP	Pn	06 42 33.1	+2.0
LKD2	Lefkada island	4.19	331	eP	Pn	06 42 33.1	+2.0
PRK	Paraskevi	4.77	30	eP	Pn	06 42 39.3	+0.2
PRK	Paraskevi	4.77	30	eP	Pn	06 42 39.3	+0.2
BRTR	Keskin Array B	9.46	58	Pn	Pn	06 43 40.7	-2.7
	0.1nm,0.3s,baz=238,slow=9.7,SNR=2.6						
EIL	Elat	11.31	116	Pn	Pn	06 44 06.1	-2.5
	0.6nm,0.3s,baz=195,slow=6.5,SNR=7.7						
EIL				Sn	Sn	06 46 04.2	-9.1
	0.4nm,0.3s,baz=8.7,slow=13,SNR=3.3						
AKASG	Malin Array Be	16.16	14	Pn	Pn	06 45 10.1	-2.8
	1.1nm,0.3s,baz=200,slow=11,SNR=4.3						
HFS	Hagfors	25.77	349	P	P	06 46 54.4	-0.3
	1.7nm,0.5s,baz=141,slow=9.6,SNR=9.8						
FINES	FINESS Array B	26.39	3	P	P	06 46 59.6	-0.7
	2.0nm,0.8s,baz=163,slow=8.0,SNR=4.5						
NB2	NORSAR Subarra	27.05	347	P	P	06 47 08.2	+1.9
	comp=Z,0.2nm,0.3s,baz=156,slow=9.3						
NB2	NORSAR Subarra	27.05	347	P	P	06 47 08.2	+1.9
	comp=Z,0.2nm,0.3s,baz=156,slow=9.0,SNR=2.4						
NOA	NORSAR Array B	27.05	347	P	P	06 47 06.0	-0.3
	comp=Z,0.3nm,0.4s,baz=148,slow=9.0,SNR=6.3						
TORD	Torodi Ar. Bea	29.29	227	P	P	06 47 27.9	+1.3
	comp=Z,0.2nm,0.3s,baz=31,slow=8.4,SNR=5.5						
ARCES	ARCESS Array B	34.48	1	P	P	06 48 10.9	-0.6
	comp=Z,1.5nm,0.8s,baz=188,slow=8.1,SNR=5.1						
AAK	Ala-Archa	40.09	63	LR	LR	07 07 59.2	
	comp=Z,41nm,19.0s,baz=350,slow=40						
MKAR	Makanchi Array	45.11	56	P	P	06 49 40.3	+0.2
	comp=Z,0.4nm,0.3s,baz=269,slow=8.1,SNR=16						
ZALV	Zalesovo Beam	46.17	46	P	P	06 49 47.9	-0.4
	comp=Z,1.1nm,0.3s,baz=274,slow=8.8,SNR=4.3						

RSPR 14 06:42:44.5, 19°.38N×65°.78W, h82km±8km, MD3.0/3, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.28	142⇑	eP	Pn	06 43 06.6	-0.6
STVI	Saint Thomas	1.28	142	eS	Sn	06 43 23.9	-0.3
STVI	Saint Thomas	1.28	142⇑	eP	Pn	06 43 06.6	-0.6
STVI				eS	Sn	06 43 23.9	-0.3
MTP	Monte Pirata	1.29	170⇑	eP	Pn	06 43 06.4	-0.8
MTP	Monte Pirata	1.29	170⇑	eP	Pn	06 43 06.4	-0.8
AOPR	Arecibo Observ	1.38	222	eS	Sn	06 43 25.9	-0.5
AOPR	Arecibo Observ	1.38	222⇓	eP	Pn	06 43 07.9	-0.5
AOPR	Arecibo Observ	1.38	222⇓	eP	Pn	06 43 07.9	-0.5
AOPR				eS	Sn	06 43 25.9	-0.5

IDC 14 06:47:09.8±1.1, 13°.99N×92°.73E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=46.7km s-min=21.8km az=50.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.44	53	Pn	Pn	06 49 01.5	+1.9
	0.2nm,0.3s,baz=240,slow=16,SNR=5.5						
MKAR	Makanchi Array	33.85	347	P	P	06 53 52.9	-1.0
	0.2nm,0.5s,baz=167,slow=9.5,SNR=5.5						
WRA	Warramunga Arr	53.03	129	P	P	06 56 28.5	-0.5
	0.7nm,0.9s,baz=308,slow=8.0,SNR=4.0						
WRA				PcP	PcP	06 57 37.8	+0.2
	0.3nm,0.9s,baz=280,slow=2.5,SNR=2.3						
ASAR	Alice Springs	54.97	133	P	P	06 56 42.7	-0.3
	0.3nm,0.4s,baz=308,slow=7.0,SNR=6.2						
BRTR	Keskin Array B	57.49	308	P	P	06 57 02.5	+1.4
	0.7nm,0.7s,baz=111,slow=8.0,SNR=4.6						
FINES	FINESS Array B	66.70	331	P	P	06 58 01.4	-0.9
	0.8nm,0.5s,baz=104,slow=12,SNR=4.3						

ISCJB 14 06:47:45.0±1.0, 11°.93N±0°.04×60°.00W±0°.07, h78km±12km, Error ellipse: s-maj=12.1km s-min=6.3km az=6.0
TRN 14 06:47:45.5, 11°.97N×60°.05W, h60km, MD3.6
FUNV 14 06:47:48.0, 11°.59N×60°.10W, h1km, MW2.9

ISC 14 06:47:44.4±2.1, 11°.91N±0°.04×59°.9W±0°.1, h77km±18km, n22, σ1§73/32, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	Speyside	0.86	225	eP	Pn	06 48 02.4	+0.8
TOSP	Speyside	0.86	225	e	Pn	06 48 06.3	+4.7
TOSP				eS	Sn	06 48 13.8	-0.5
GRSS	Sisters	1.70	283	eP	Pn	06 48 12.8	+0.6
GRHS	Sauteurs	1.71	281	eP	Pn	06 48 12.6	+0.2
GRHS				eS	Sn	06 48 31.9	-1.7
GRW	Mount Saint Ca	1.72	279	eP	Pn	06 48 13.4	+0.8
GRW				eS	Sn	06 48 33.1	-0.8
SVB	Belmont	1.88	316	eP	Pn	06 48 14.6	0.0
SVB				eS	Sn	06 48 36.2	-1.4
TRN	Trinidad (W)	1.92	229	eP	Pn	06 48 16.1	+1.0
MCLT	Moule a Chique	2.05	331	eP	Pn	06 48 17.9	+1.1
MCLT				eS	Sn	06 48 40.9	-0.8
TCE	Chacachacare	2.16	236	eS	Sn	06 48 45.6	+1.2
GUIV	Guiria	2.58	241	eP	Pn	06 48 26.1	+2.0
GUIV				eS	Sn	06 48 54.1	-0.4
GUNV	Guanoco	3.44	240	eP	Pn	06 48 37.9	+2.2
GUNV				eS	Sn	06 49 15.0	-0.3
CRUV	Carupano	3.48	250	eP	Pn	06 48 37.7	+1.5
CRUV				eS	Sn	06 49 15.8	-0.4
RIOV	Rio Grande	4.25	206	eP	Pn	06 48 48.5	+1.8
RIOV				eS	Sn	06 49 31.4	-3.7
ORIV	Oritupano	4.44	231	eP	Pn	06 48 51.0	+1.7
ORIV				eS	Sn	06 49 36.5	-3.4
PCRV	Puerto La Cruz	4.94	250	eP	Pn	06 48 57.4	+1.2
GURV	El Guri	5.17	217	eP	Pn	06 49 00.3	+1.0
PRGV	PARIAGUAN	5.60	237	eP	Pn	06 49 05.9	+0.7
PRGV				eS	Sn	06 50 04.4	-3.9
SKI	Saint Kitts	6.04	333	eP	Pn	06 49 12.5	+1.3
CUPV	Cœpira	6.05	253	eP	Pn	06 49 12.8	+1.5
LUEV	Luepa	6.22	194	eP	Pn	06 49 14.4	+0.7
BIRV	Birongo	6.39	258	eP	Pn	06 49 18.4	+2.5
BAUV	El Baul	8.51	251	eP	Pn	06 49 45.8	+0.9

IDC 14 07:11:11.6±1.7, 13°.15N×93°.02E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/27, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=62.5km s-min=22.7km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.77	46	Pn	Pn	07 13 05.6	-0.6
	0.8nm,0.3s,baz=226,slow=18,SNR=4.8						
MKAR	Makanchi Array	34.73	347	P	P	07 18 03.1	-0.4
	0.5nm,0.7s,baz=153,slow=9.7,SNR=4.6						
ZALV	Zalesovo Beam	41.22	353	P	P	07 18 58.1	+0.1
	0.4nm,0.3s,baz=172,slow=11,SNR=2.6						
WRA	Warramunga Arr	52.30	128	P	P	07 20 25.4	+0.1
	0.6nm,0.9s,baz=303,slow=9.7,SNR=12						
WRA				PcP	PcP	07 21 35.7	-1.1
	0.1nm,0.3s,baz=325,slow=3.3,SNR=6.3						
ASAR	Alice Springs	54.20	132	P	P	07 20 39.8	+0.4
	0.6nm,0.4s,baz=308,slow=6.7,SNR=15						

GUC 14 07:15:51.1±0.7, 33°.88S×70°.06W, h6km±3km, MD3.5, ML2.7, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.12	284	eP	Pg	07 15 53.6	-0.3
LMEL				i S	Sg	07 15 56.2	+0.4
LMEL				AML	AML	07 15 56.9	
	comp=E,19μm,0.2s						
SJCH	San Jose de Ma	0.34	314⇑	iP	Pg	07 15 56.9	-0.9
SJCH				i S	Sg	07 16 01.9	-0.5
SJCH				AML	AML	07 16 03.0	
	comp=E,2μm,0.7s						
PCH	Pirque	0.45	304⇑	iP	Pg	07 16 00.1	+0.1
PCH				i S	Sg	07 16 06.6	+0.5
CACH	El Canelo	0.51	242⇓	iP	Pg	07 16 01.3	+0.2
CACH				i S	Sg	07 16 08.6	+0.7
ANTU	Antumapu	0.56	303⇓	iP	Pg	07 16 02.1	0.0
ANTU				i S	Sg	07 16 10.3	+0.8
ANTU				AML	AML	07 16 12.5	
	comp=E,530nm,0.5s						
LACH	Col Las Americ	0.58	317⇓	iP	Pg	07 16 02.0	-0.3
LACH				i S	Sg	07 16 10.3	+0.4
LACH				AML	AML	07 16 11.4	
	comp=E,700nm,0.5s						
FCH	Farellones	0.58	341⇑	iP	Pn	07 16 20.0	+14
FCH				i S	Sn	07 16 29.2	+13
CLCH	Cerro Calan	0.62	320	eP	Pg	07 16 02.9	-0.3
CLCH				i S	Sg	07 16 11.9	+0.6
CLCH				AML	AML	07 16 13.1	
	comp=E,895nm,0.5s						
STL	Santa Lucia	0.65	312⇑	iP	Pg	07 16 03.3	-0.5
STL				i S	Sg	07 16 12.6	+0.3
SAN	Santiago	0.65	310⇑	iP	Pg	07 16 03.5	-0.3
SAN				i S	Sg	07 16 12.7	+0.4
TACH	Talagante	0.76	287⇑	iP	Pg	07 16 05.6	-0.2
TACH				i S	Sg	07 16 16.1	+0.4
PEL	Peldehue	0.90	324⇑	iP	Pg	07 16 07.7	-0.8
PEL				i S	Sg	07 16 20.0	-0.2
PEL				AML	AML	07 16 20.9	
	comp=N,348nm,0.3s						
LNV	Longovilo	1.12	266⇓	iP	Pg	07 16 11.7	-0.9
LNV				i S	Sg	07 16 26.9	-0.4

IDC 14 07:38:16.1±50.0, 15°.77S×172°.06W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=968.4km s-min=192.4km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.98	241	P	P	07 46 34.1	+0.7
	0.7nm,0.3s,baz=99,slow=11,SNR=4.3						
WRA	Warramunga Arr	51.02	257	P	P	07 47 19.8	-0.6
	0.5nm,0.6s,baz=97,slow=7.0,SNR=6.0						
ASAR	Alice Springs	51.23	252	P	P	07 47 21.7	-0.3
	4.0nm,0.6s,baz=90,slow=7.9,SNR=75						

ISCJB 14 07:43:45.0±0.6, 51°.48N±0°.03×16°.12E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=2.9km az=13.0
CSEM 14 07:43:45.7±0.2, 51°.54N×16°.12E, h1km, ML3.5/8, Error ellipse: s-maj=4.4km s-min=3.6km az=3.0
IPEC 14 07:43:45.7±0.3, 51°.58N×16°.26E, h0km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0
WAR 14 07:43:46.9, 51°.55N×16°.13E
VIE 14 07:43:48.7±0.5, 51°.32N×16°.08E, h0km, mb2.4/4, ML2.9/4, Error ellipse: s-maj=3.1km s-min=2.6km az=0.0 69 km WNW of Wroclaw Suspected Mining induced.
PRU 14 07:43:48.1, 51°.46N×16°.08E, h0km

ISC 14 07:43:45.6±0.8, 51°.58N±0°.03×16°.09E±0°.02, h0km, n35, σ1§14/63, 1C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	170	ePg	Pg	07 44 00.2	+0.4
KSP				eSg	Sg	07 44 09.6	+0.2
KSP	Ksiaz	0.74	170⇓	iPg	Pg	07 44 00.2	+0.4
KSP				eSg	Sg	07 44 09.7	+0.3
UPC	Upice	1.07	183	ePG	Pg	07 44 06.2	+0.2
UPC	Upice	1.07	183	Pg	Pg	07 44 06.2	+0.2
DPC	Dobruska-Polom	1.23	173	ePG	Pg	07 44 09.0	-0.2
DPC				eSG	Sg	07 44 24.1	-1.1
DPC	Dobruska-Polom	1.23	173	Pg	Pg	07 44 09.0	-0.2
DPC				Sg	Sg	07 44 24.1	-1.1
PVCC	Panska Ves	1.42	223	ePG	Pn	07 44 12.7	+0.1
PVCC				eSG	Sn	07 44 32.3	+0.3
	comp=Z,249nm,0.5s						
PVCC	Panska Ves	1.42	223	Pg	Pn	07 44 12.7	+0.1
PVCC				Sg	Sn	07 44 32.3	+0.3
	249nm,0.5s						
BRG	Berggiesshubel	1.52	243	PG	Pg	07 44 15.5	+0.8
BRG				SG	Sn	07 44 35.5	+1.0
	146nm,0.4s						
PRU	Pruhonice	1.87	212	ePG	Pb	07 44 20.5	0.0
PRU				eSG	Sb	07 44 44.3	-0.1
	comp=Z,61nm,0.6s						
PRU	Pruhonice	1.87	212	Pg	Pb	07 44 20.5	0.0
PRU				Sg	Sb	07 44 44.3	-0.1
	61nm,0.6s						
CLL	Collm	1.95	263	ePn	Pn	07 44 20.0	+0.1
CLL				ePg	Pg	07 44 23.0	+0.1
CLL				e		07 44 26.0	
CLL				eSg	Sg	07 44 49.0	+0.9
	comp=Z,40nm,0.7s						
CLL				i		07 44 55.0	
MORC	Moravsky Berou	2.02	152	ePn	Pn	07 44 20.3	-0.7
	baz=336						
MORC				eSg	Sn	07 44 47.6	+0.6
	comp=Z,23nm,0.3s,baz=336						
OKC	Ostrava-Krasne	2.18	142	ePG	Pb	07 44 26.3	+0.5
OKC				eSG	Sb	07 44 53.8	+0.5
OKC	Ostrava-Krasne	2.18	142	Pg	Pb	07 44 26.3	+0.5
OKC				Sg	Sb	07 44 53.8	+0.5
VRAC	Vranov	2.29	172	ePn	Pn	07 44 24.7	+0.1
VRAC				eSg

YER	**Yerkesik**	**0.31**	**90**	*e*PG	Pg	07 59 10.2	-0.1
YER				*e*SG	Sg	07 59 15.6	+1.1
YER	**Yerkesik**	**0.31**	**90**	*e*Pg	Pg	07 59 10.2	-0.1
YER				*e*Sg	Sg	07 59 15.6	+1.1
BDRM	**Kayabasi**	**0.36 259**		*i* P	Pg	07 59 11.0	-0.3
BDRM				*i* S	Sg	07 59 17.4	+1.3
BDRM	**Kayabasi**	**0.36 259**		*i* P	Pg	07 59 11.0	-0.3
BDRM				*i* S	Sg	07 59 17.4	+1.4
BODT	**Bodrum**	**0.47 261**		*e*PG	Pg	07 59 13.2	0.0
BODT	**Bodrum**	**0.47 261**		*e*Pg	Pg	07 59 13.3	0.0
DAT	**Datca**	**0.48 212**		*e*PG	Pg	07 59 13.5	-0.1
DAT	**Datca**	**0.48 212**		*e*Pg	Pg	07 59 13.5	-0.1
AYDN	**Tasoluk**	**0.52 359**		*i* P	Pg	07 59 14.1	-0.3
AYDN				*i* S	Sg	07 59 21.4	+0.2
AYDN	**Tasoluk**	**0.52 359**		*i* P	Pg	07 59 14.1	-0.2
AYDN				*i* S	Sg	07 59 21.4	+0.2
DALY	**Dalyan (Mu¨la**	**0.69 117**		*e*PG	Pg	07 59 17.3	-0.1
DALY	**Dalyan (Mu¨la**	**0.69 117**		*e*Pg	Pg	07 59 17.3	-0.1

JMA 14 07:59:51.8±0.1, 34°.80N×138°.44E, h22km±1km, M0.6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.33 325**		S	Sb	08 00 04.1	0.0

NIED ***14*** *08:00:00, 33°.30N×138°.60E, h320km, Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φs=59.00000°, δ87.00000°, λ=-139.00000°. NP2:φs=326.00000°, δ50.00000°, λ=-5.00000°.*
ISCJB ***14*** *08:00:45.0±0.6, 33°.20N±0°.06×138°.5E±0°.1, h300km, mb3.8/12, Error ellipse: s-maj=12.7km s-min=7.9km az=14.0*
JMA ***14*** *08:00:45.4±0.1, 33°.30N×138°.57E, h310km, M3.7*
IDC ***14*** *08:00:45.4±1.1, 33°.20N×138°.51E, h296km±10km, mb3.5/12, mb1 3.6/17, mb1mx3.4/31, mbtmp3.5/17, Error ellipse: s-maj=23.7km s-min=11.5km az=78.0*

ISC 14 08:00:46.1±0.8, 33°.27N±0°.09×138°.5E±0°.1, h300km, n27, σ1§13/33, mb3.8/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.90 319**		P	**Pn**	**08 01 26.6**	**+0.9**
TK02				S	**S**	**08 01 59.3**	**+2.1**
TK03	**Tokai 3**	**0.99 335**		S	**S**	**08 02 00.8**	**+2.7**
TTO4	**TONANKAI O.B.S**	**1.07 314**		P	**Pn**	**08 01 27.1**	**+0.7**
JHJ2	**Mitsune**	**1.14 98**		P	**Pn**	**08 01 27.3**	**+0.2**
TK04	**Tokai 4**	**1.22 336**		P	**Pn**	**08 01 28.5**	**+1.1**
JIE	**Ise**	**1.85 308**		P	**Pn**	**08 01 31.8**	**+0.2**
JIE				S	**S**	**08 02 07.5**	**-0.4**
JYN	**Shimob**	**2.23 1**		P	**Pn**	**08 01 35.7**	**+1.0**
MJAR	**Matsushiro Arr**	**3.27 356**		P	**Pn**	**08 01 44.8**	**+0.3**
	21nm,0.3s,baz=173,slow=12,SNR=347						
MJAR				S	**S**	**08 02 31.2**	**0.0**
	baz=176,slow=19,SNR=1.8						
MAT	**Matsushiro**	**3.27 356**		P	**Pn**	**08 01 45.2**	**+0.7**
MAT				S	**S**	**08 02 31.9**	**+0.6**
JNU	**Nakatsue**	**6.37 271**		P	**Pn**	**08 02 19.0**	**-0.8**
	0.6nm,0.3s,baz=72,slow=6.6,SNR=11						
KSRS	**Korea Array**	**9.57 299**		P	**Pn**	**08 02 59.3**	**+0.4**
	1.5nm,0.3s,baz=111,slow=13,SNR=47						
ASAJ	**Asahikawa**	**11.30 15**		P	**Pn**	**08 03 19.4**	**-0.5**
	1.3nm,0.3s,baz=213,slow=16,SNR=13						
ASAJ				S	**S**	**08 05 22.1**	**-4.0**
	0.2nm,0.3s,baz=49,slow=19,SNR=2.4						
USRK	**Ussuriysk Arra**	**12.02 337**		P	**Pn**	**08 03 28.7**	**0.0**
	0.4nm,0.3s,baz=148,slow=11,SNR=4.1						
SONM	**Songino Array**	**28.15 311**		P	**P**	**08 06 12.2**	**+1.0**
	4.0nm,0.6s,baz=112,slow=8.7,SNR=9.1						
ZALV	**Zalesovo Beam**	**42.79 316**		P	**P**	**08 08 14.4**	**-0.1**
	2.3nm,0.5s,baz=94,slow=9.1,SNR=8.0						
ZALV				PcP	**PcP**	**08 09 59.3**	**-0.5**
	1.4nm,0.5s,baz=97,slow=1.9,SNR=4.7						
MKAR	**Makanchi Array**	**44.19 305**		P	**P**	**08 08 25.7**	**-0.2**
	2.0nm,0.5s,baz=86,slow=9.7,SNR=25						
BVAR	**Borovoye Array**	**51.39 314**		P	**P**	**08 09 20.3**	**-0.3**
	1.1nm,0.4s,baz=93,slow=5.8,SNR=5.5						
WRA	**Warramunga Arr**	**53.06 185**		P	**P**	**08 09 32.0**	**-1.2**
	1.8nm,0.3s,baz=360,slow=7.5,SNR=103						
ASAR	**Alice Springs**	**56.78 185**		P	**P**	**08 09 59.1**	**-0.5**
	0.9nm,0.5s,baz=1.0,slow=6.3,SNR=38						
ARCES	**ARCESS Array B**	**66.66 339**		P	**P**	**08 11 05.2**	**+0.7**
	5.6nm,1.1s,baz=76,slow=7.5,SNR=4.2						
FINES	**FINESS Array B**	**71.01 332**		P	**P**	**08 11 31.5**	**+0.2**
	1.5nm,0.5s,baz=65,slow=6.6,SNR=9.5						
KBZ	**Khabaz**	**71.51 310**		P	**P**	**08 11 35.1**	**+0.5**
	1.0nm,0.4s,baz=34,slow=7.3,SNR=3.9						
AKASG	**Malin Array Be**	**75.78 322**		P	**P**	**08 11 58.9**	**-0.2**
	0.8nm,0.4s,baz=50,slow=6.2,SNR=7.3						
NB2	**NORSAR Subarra**	**76.70 337**		P	**P**	**08 12 04.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=45,slow=5.6						
NOA	**NORSAR Array B**	**76.70 337**		P	**P**	**08 12 04.6**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=44,slow=5.6,SNR=4.6						
BRTR	**Keskin Array B**	**79.51 311**		P	**P**	**08 12 20.3**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=68,slow=3.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**118.12 311**		PKP	**PKPdf**	**08 18 57.5**	**-0.6**
	comp=Z,1.2nm,1.2s,baz=48,slow=2.3,SNR=2.5						

ISCJB ***14*** *08:19:07.7±0.4, 52°.1N±0°.1×179°.2W±0°.1, h250km, mb3.3/6, Error ellipse: s-maj=17.2km s-min=8.6km az=166.0*
IDC ***14*** *08:19:08.2±2.1, 52°.41N×179°.22W, h214km±32km, mb3.1/7, mb1 3.3/8, mb1mx3.0/30, mbtmp3.0/8, Error ellipse: s-maj=34.8km s-min=22.9km az=29.0*
NEIC ***14*** *08:19:10.8, 52°.26N×179°.08W, h227km, MG3.2(AEIC), After AEIC.*

ISC 14 08:19:08.5±0.9, 52°.1N±0°.2×179°.22W±0°.06, h250km, n27, σ1§72/29, mb3.3/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANE	**Gareloi Northe**	**0.38 133**		P	**Pn**	**08 19 39.8**	**-1.3**
GAEA	**Gareloi East**	**0.41 135**		P	**Pn**	**08 19 40.3**	**-0.9**
GALAA	**Gareloi Lava P**	**0.42 138**		P	**Pn**	**08 19 40.9**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.70 257**		P	**Pn**	**08 19 41.7**	**-0.4**
TANO	**Tanaga North**	**0.70 103**		P	**Pn**	**08 19 41.2**	**-0.8**
CEAP	**Semis' Anvil P**	**0.75 265**		P	**Pn**	**08 19 41.9**	**-0.3**
TASE	**Tanaga Southea**	**0.77 108**		P	**Pn**	**08 19 41.6**	**-0.8**
CESW	**Semis' Southwe**	**0.77 257**		P	**Pn**	**08 19 41.9**	**-0.4**
TAFP	**Tanaga Falls P**	**0.79 102**		P	**Pn**	**08 19 41.2**	**-1.2**
TAFP				S	**S**	**08 20 04.0**	**-5.1**
CETU	**Semis' Tuman**	**0.80 263**		P	**Pn**	**08 19 41.7**	**-0.8**
TAPA	**Tanaga Point A**	**0.91 106**		P	**Pn**	**08 19 42.0**	**-1.1**
AMKA	**Amchitka**	**1.15 233**		P	**Pn**	**08 19 45.0**	**+0.6**
AMKA				S	**S**	**08 20 10.9**	**-1.7**
KIKV	**Kanaga Island**	**1.28 98**		P	**Pn**	**08 19 44.2**	**-1.1**
KINC	**Kanaga Island**	**1.30 95**		P	**Pn**	**08 19 44.2**	**-1.1**
LSSE	**Little Sitkin**	**1.37 265**		P	**Pn**	**08 19 46.4**	**+0.5**
LSNW	**Little Sitkin**	**1.40 267**		P	**Pn**	**08 19 46.1**	**0.0**
LSSA	**Little Sitkin**	**1.41 266**		P	**Pn**	**08 19 46.5**	**+0.3**
ADAG	**Mount Adagdak**	**1.62 92**		P	**Pn**	**08 19 46.5**	**-1.2**
FX1	**Attu Island--F**	**4.72 283**		P	**Pn**	**08 20 20.6**	**-0.2**
FX1	**Attu Island--F**	**4.72 283**		P	**Pn**	**08 20 20.4**	**-0.5**
	3.3nm,0.3s,baz=327,slow=19,SNR=113						
FX1				S	**S**	**08 21 13.4**	**-5.0**
	8.2nm,0.3s,baz=336,slow=20,SNR=36						
ILAR	**Eielson Array**	**20.87 40**		P	**P**	**08 23 31.0**	**-0.3**
	0.2nm,0.5s,baz=244,slow=7.9,SNR=4.2						
INK	**Inuvik**	**27.04 36**		P	**P**	**08 24 27.5**	**+0.1**
	0.3nm,0.4s,baz=240,slow=8.1,SNR=4.1						
YKA	**Yellowknife Ar**	**34.95 47**		P	**P**	**08 25 36.6**	**+0.2**
	0.6nm,0.6s,baz=282,slow=9.5,SNR=3.3						
NVAR	**Mina Array Bea**	**43.73 83**		P		08 26 52.9	+3.6
	0.8nm,0.7s,baz=300,slow=7.2,SNR=7.2						
PDAR	**Pinedale Array**	**46.35 73**		P	**P**	**08 27 11.4**	**+1.6**
	0.8nm,0.7s,baz=319,slow=3.3,SNR=7.1						
SPITS	**Spitsbergen Ar**	**49.66 356**		P	**P**	**08 27 35.1**	**+0.8**
	1.5nm,0.4s,baz=41,slow=9.5,SNR=12						
TXAR	**Lajitas Array**	**58.81 81**		P	**P**	**08 28 43.4**	**+2.6**
	0.4nm,0.5s,baz=309,slow=5.8,SNR=13						

NOU ***14*** *08:19:51.0±1.8, 13°.20S×166°.86E, h30km, MD4.4, ML4.6, MS2.2*
IDC ***14*** *08:19:57.5±1.8, 13°.89S×166°.73E, h25km±11km, mb5.0/26, mb1 5.0/29, mb1mx5.0/30, mbtmp4.9/29, ML4.2/3, MS5.2/23, Ms1 5.2/23, ms1mx5.1/30, Error ellipse: s-maj=14.5km s-min=11.0km az=92.0*
ISCJB ***14*** *08:19:57.9±0.2, 13°.88S±0°.03×166°.61E±0°.03, h33km, mb5.3/129, MS5.3/193, Error ellipse: s-maj=4.4km s-min=3.7km az=0.1*
BJI ***14*** *08:19:57.0, 13°.72S×166°.86E, h33km, mB5.7/52, mb5.6/60, Ms5.3/57, Ms7 5.0/54*
BKK ***14*** *08:19:57.1±0.4, 14°S±6°×16°7E±°, h10km, M5.5/32, mB5.9/20, mb5.4/32, Mw(mB)5.5/20*
NEIC ***14*** *08:19:58.0±0.2, 13°.91S×166°.68E, h27km, mb5.3/70, MS5.3/137, MW5.7, MW5.8, Error ellipse: s-maj=6.9km s-min=5.8km az=133.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^17Nm; Mrr3.55; Mθθ-1.06; Mφφ-2.49; Mrθ-0.16; Mθφ1.98; Mφr-0.78; Best double couple: M0 3.80000×10^17 NP1:φs=154.00000°, δ50.00000°, λ103.00000°. NP2:φs=315.00000°, δ42.00000°, λ75.00000°. Principal axes: T 3.6900, Plg79.0000°, Azm122.0000°; N 0.2300, Plg9.0000°, Azm326.0000°; P -3.9200, Plg4.0000°, Azm235.0000°;*
MOS ***14*** *08:19:58.0±1.0, 13°.81S×166°.53E, h33km, mb5.7/43, MS5.2/40 Error ellipse: s-maj=8.8km s-min=7.7km az=122.5*
GCMT ***14*** *08:20:03.1±0.1, 13°.92S×166°.52E, h31km, MW5.7, Moment Tensor Solution. s103,c213; s65,c73; Moment tensor: Scale 10^17Nm; Mrr4.17±.05; Mθθ0.05±.04; Mφφ-4.22±.04; Mrθ1.08±.07; Mθφ1.49±.03; Mφr-0.45±.06; Best double couple: M0 4.60000×10^17 NP1:φs=150.00000°, δ51.00000°, λ74.00000°. NP2:φs=355.00000°, δ42.00000°, λ109.00000°. Principal axes: T 4.4400, Plg76.0000°, Azm2.0000°; N 0.3200, Plg13.0000°, Azm161.0000°; P -4.7500, Plg5.0000°, Azm252.0000°; Data Used: II IU CN IC G. Surface waves: sta=101, comp=209, per= 50.*
AUST ***14*** *08:20:04.7±1.2, 13°.89S×166°.48E, h65km Error ellipse: s-maj=1.0km s-min=0.9km az=266.0*
DJA ***14*** *08:20:04.8±1.7, 14°S±8°×16°7E±°, h83km±16km, M5.4/16, mB5.8/11, mb5.3/16, Mw(mB)5.4/11*
NEIC ***14*** *08:20:17.5±0.0, 13°.62S×166°.03E, h36km, Moment Tensor Solution. s136 Moment tensor: Scale 10^17Nm; Mrr4.66; Mθθ-1.13; Mφφ-3.52; Mrθ0.20; Mθφ0.61; Mφr-3.59; Best double couple: M0 5.50000×10^17 NP1:φs=173.00000°, δ65.00000°, λ94.00000°. NP2:φs=344.00000°, δ25.00000°, λ82.00000°. Principal axes: T 6.0100, Plg69.0000°, Azm90.0000°; N -1.0200, Plg3.0000°, Azm351.0000°; P -4.9800, Plg20.0000°, Azm259.0000°;*

ISC 14 08:19:58.8±0.2, 13°.89S±0°.04×166°.79E±0°.04, h35km, h35km:pP-P, n615, σ1§51/638, mb5.4/128, MS5.3/194, 44C-21D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.03 303**		*e*Pn	**Pn**	**08 21 52.4**	**-0.7**
HNR				Sn	**Sn**	**08 23 20.4**	**-2.5**
HNR	**Honiara**	**8.03 303**		Pn	**Pn**	**08 21 52.9**	**-0.2**
	27nm,0.3s,baz=190,slow=6.0,SNR=14						
HNR				Sn	**Sn**	**08 23 20.3**	**-2.5**
	19nm,0.3s,baz=311,slow=19,SNR=3.8						
HNR				LR	LR	08 24 40.4	
	comp=Z,19μm,20.6s,baz=132,slow=35						
DZM	**Mont Dzumac**	**8.15 182**		*e*Pn	**Pn**	**08 21 56.6**	**+1.8**
	112nm,0.3s						
DZM				*e*Sn	**Sn**	**08 23 24.1**	**-1.6**
	165nm,0.3s						
DZM				*e*LR	LR	08 24 15.4	
	27μm,23.6s						
DZM	**Mont Dzumac**	**8.15 182**		*e*P	**Pn**	**08 21 54.3**	**-0.5**
DZM				AMP		08 23 55.5	
	comp=Z,2μm,3.9s						
DZM	**Mont Dzumac**	**8.15 182**		*e*Pn	**Pn**	**08 21 55.1**	**+0.4**
	comp=Z,132nm,0.4s						
DZM				*e*Sn	**Sn**	**08 23 27.4**	**+1.7**
DZM	**Mont Dzumac**	**8.15 182**		Pn	**Pn**	**08 21 54.9**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=16,slow=18,SNR=49						
DZM				Sn	**Sn**	**08 23 28.2**	**+2.5**
	comp=Z,7.5nm,0.3s,baz=307,slow=20,SNR=1.8						
DZM				LR	LR	08 24 44.6	
	comp=Z,22μm,21.6s,baz=10.0,slow=35						
NOUC	**Port Laguerre**	**8.18 183**		*e*P	**Pn**	**08 21 55.8**	**+0.6**
NOUC				AMP		08 23 54.2	
	comp=Z,114nm,1.4s						
BAYA	**Yate Dam**	**8.22 179**		*e*S	**Sn**	**08 23 29.5**	**+2.0**
BAYA				AMP		08 23 48.7	
	comp=Z,23nm,10.1s						
NORM	**Noumea**	**8.30 182**		*e*P	**Pn**	**08 21 58.9**	**+2.1**
MSVF	**Nonsavu**	**11.49 111**		*e*P	Pn	08 22 47.0	+6.4
MSVF	**Nonsavu**	**11.49 111**		*e*Pn	Pn	08 22 47.0	+6.4
FUNA	**Funafuti**	**13.28 68**		Pn	**P**	**08 23 12.2**	**-2.0**
TARA	**Tarawa**	**16.32 22**		*e*P	**P**	**08 23 49.0**	**+0.9**
	comp=Z,882nm,1.2s						
EIDS	**Eidsvold**	**18.67 230**		P	**Pn**	**08 24 16.1**	**+1.5**
	baz=18,SNR=11						
PMG	**Port Moresby**	**19.73 281**		*e*P	**Pn**	**08 24 26.9**	**-0.5**
	comp=Z,125nm,1.1s						
PMG				*e*		08 24 37.5	
PMG	**Port Moresby**	**19.73 281**		P	**Pn**	**08 24 27.9**	**+0.5**
	comp=Z,125nm,1.3s,comp=Z,3μm						
PMG	**Port Moresby**	**19.73 281**		P	**P**	**08 24 26.2**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=118,slow=9.3,SNR=7.1						
CTA	**Charters Tower**	**20.58 250**		P	**P**	**08 24 35.6**	**+0.7**
CTA				ScP	**ScP**	**08 32 21.2**	**+1.9**
CTA	**Charters Tower**	**20.58 250**		P	**P**	**08 24 35.6**	**+0.7**
	comp=Z,56nm,1.1s,baz=69,slow=8.5,SNR=42						
CTA				LR	LR	08 31 15.0	
	comp=Z,5μm,21.8s,baz=60,slow=33						
CTA				ScP	**ScP**	**08 32 21.2**	**+1.9**
	comp=Z,2.7nm,0.8s,baz=44,slow=3.3,SNR=3.2						
CTAO	**Charters Tower**	**20.58 250**		*e*P	**P**	**08 24 35.9**	**+1.0**
CTAO				*e*		08 24 46.4	
CTAO				pmax	pmax		
	comp=Z,228nm,1.5s						
CTAO				MLR	MLR		
	comp=Z,8μm,22.0s						
CTAO	**Charters Tower**	**20.58 250**		*e*P	**P**	**08 24 35.9**	**+1.0**
	comp=Z,228nm,1.5s						
CTAO				*e*		08 24 46.4	
CTAO				LR	LR		
	comp=Z,8μm,22.0s						
AFI	**Afiamalu**	**20.80 93**		*e*P	Pn	08 24 44.8	+4.8
	comp=Z,179nm,0.9s						
AFI	**Afiamalu**	**20.80 93**		P	Pn	08 24 43.3	+3.3
	comp=Z,183nm,0.9s,baz=75,slow=7.4,SNR=9.5						
AFI				LR	LR	08 30 49.6	
	comp=Z,6μm,19.7s,baz=263,slow=31						
RAO	**Raoul Island**	**20.84 140**		LR	LR	08 30 59.0	
	comp=Z,5μm,21.3s,baz=329,slow=32						
RMQ	**Roma**	**21.03 231**		P	**P**	**08 24 41.9**	**+2.1**
	baz=21,SNR=118						
ARMA	**Armidale**	**21.59 218**		P	**P**	**08 24 47.5**	**+1.7**
	baz=22,SNR=11						
MTSU	**Mount Surprise**	**22.01 256**		P	**P**	**08 24 50.5**	**+0.1**
	baz=22,SNR=28						
OUZ	**Omahuta**	**22.11 165**		*e*P	**P**	**08 24 56.0**	**+4.8**
	comp=Z,193nm,1.3s						
PATS	**Pohnpei**	**22.24 337**		P	**P**	**08 24 54.5**	**+1.7**
	baz=22,SNR=6.7						
COEN	**Coen**	**22.92 267**		P	**P**	**08 25 00.8**	**+0.7**
	baz=23,SNR=9.3						
MGCD	**Mangrove Creek**	**23.96 214**		P	**P**	**08 25 12.6**	**+2.6**
	baz=24,SNR=11						
URZ	**Urewera**	**25.95 161**		P	**P**	**08 25 27.7**	**-0.2**
URZ	**Urewera**	**25.95 161**		P	**P**	**08 25 27.7**	**-0.2**
	comp=Z,21nm,1.0s,baz=5.1,slow=10,SNR=3.2						
URZ				LR	LR	08 34 34.2	
	comp=Z,8μm,19.8s,baz=160,slow=34						
CMSA	**Cobar Meteorol**	**26.14 224**		P	**P**	**08 25 30.5**	**+0.7**
	baz=26,SNR=26						
YNG	**Young**	**26.28 216**		P	**P**	**08 25 33.2**	**+2.1**
	baz=26,SNR=11						
CAN	**Canberra**	**26.69 214**		PFAKE		08 25 50.0	+15
CAN				LR	LR		
	comp=Z,6μm,19.0s						
SNZO	**South Karori**	**28.18 167**		PFAKE		08 26 00.0	+12
SNZO				LR	LR		
	comp=Z,9μm,19.0s						
STKA	**Stephens Creek**	**29.20 228**		*e*P	**P**	**08 25 58.3**	**+1.1**
	comp=Z,9.5nm,0.6s						
STKA				PcP	**PcP**	**08 29 02.3**	**-1.8**
STKA				ScP	**ScP**	**08 32 44.3**	**+1.1**
STKA	**Stephens Creek**	**29.20 228**		P	**P**	**08 25 58.5**	**+1.2**
	comp=Z,25nm,0.6s,baz=41,slow=8.0,SNR=102						
STKA				PcP	**PcP**	**08 29 02.3**	**-1.8**
	comp=Z,9.7nm,0.9s,baz=61,slow=6.1,SNR=4.7						
STKA				ScP	**ScP**	**08 32 44.3**	**+1.1**
	comp=Z,4.7nm,1.0s,baz=163,slow=19,SNR=2.8						
STKA				LR	LR	08 37 30.1	
	comp=Z,15μm,19.1s,baz=53,slow=36						
STKA	**Stephens Creek**	**29.20 228**		P	**P**	**08 25 58.3**	**+1.1**
	baz=29,SNR=78						
RPZ	**Rata Peaks**	**29.95 174**		*e*P	**P**	**08 26 06.1**	**+2.4**
	comp=Z,63nm,1.0s						
RPZ	**Rata Peaks**	**29.95 174**		P	**P**	**08 26 04.0**	**+0.2**
	comp=Z,28nm,0.8s,baz=6.1,slow=6.6,SNR=9.9						
TOO	**Toolangi**	**30.26 215**		P	**P**	**08 26 08.4**	**+1.8**
	baz=30,SNR=5.7						
ODZ	**Otahua Downs**	**31.23 175**		*e*P	**P**	**08 26 14.9**	**-0.1**
	comp=Z,45nm,1.2s						
WRAB	**Tennant Creek**	**31.58 255**		*e*P	**P**	**08 26 16.8**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,78nm,1.4s						
WRAB				MLR	MLR		
	comp=Z,7μm,20.0s						
WRAB	**Tennant Creek**	**31.58 255**		*e*P	**P**	**08 26 16.8**	**-1.6**
	comp=Z,78nm,1.4s						
WRAB				LR	LR		
	comp=Z,7μm,20.0s						
WRA	**Warramunga Arr**	**31.59 255**		P	**P**	**08 26 16.9**	**-1.7**
WRA				PcP	**PcP**	**08 29 09.3**	**-1.2**
WRA				ScP	**ScP**	**08 32 52.6**	**+1.3**
WRA				PKiKP	**PKiKP**	**08 36 38.0**	**-1.9**
WRA	**Warramunga Arr**	**31.59 255**		P	**P**	**08 26 16.9**	**-1.7**
	comp=Z,6.5nm,0.8s,baz=85,slow=9.0,SNR=40						
WRA				PcP	**PcP**	**08 29 09.3**	**-1.2**
	comp=Z,14nm,1.1s,baz=77,slow=2.9,SNR=7.3						
WRA				ScP	**ScP**	**08 32 52.6**	**+1.3**
	comp=Z,2.9nm,1.1s,baz=81,slow=4.1,SNR=4.6						
WRA				PKiKP	**PKiKP**	**08 36 38.0**	**-1.9**
	comp=Z,2.1nm,0.6s,baz=33,slow=0.6,SNR=17						
WRA				LR	LR	08 38 19.7	
	comp=Z,7μm,19.9s,baz=80,slow=35						
AS31	**Alice Springs**	**32.55 248**		*e*P	**P**	**08 26 25.7**	**-1.2**
ASAR	**Alice Springs**	**32.55 248**		P	**P**	**08 26 25.4**	**-1.5**
ASAR				PcP	**PcP**	**08 29 11.4**	**-1.8**
ASAR				ScP	**ScP**	**08 32 55.5**	**+1.0**
ASAR				PKiKP	**PKiKP**	**08 36 38.5**	**-2.0**
ASAR	**Alice Springs**	**32.55 248**		P	**P**	**08 26 25.4**	**-1.5**
	comp=Z,13nm,0.6s,baz=74,slow=9.5,SNR=187						
ASAR				PcP	**PcP**	**08 29 11.4**	**-1.8**
	comp=Z,2.7nm,0.6s,baz=72,slow=3.0,SNR=4.6						
ASAR				ScP	**ScP**	**08 32 55.5**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=79,slow=4.2,SNR=5.6						
ASAR				PKiKP	**PKiKP**	**08 36 38.5**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=96,slow=1.6,SNR=6.7						
ASAR				LR	LR	08 39 10.3	
	comp=Z,6μm,18.5s,baz=75,slow=36						
RAR	**Rarotonga**	**32.65 108**		LR	LR	08 35 58.6	
	comp=Z,1μm,21.2s,baz=270,slow=29						
WAKE	**Wake Island**	**32.96 360**		PFAKE		08 26 40.0	+10
WAKE				LR	LR		
	comp=Z,4μm,19.0s						
MOO	**Moorlands**	**33.12 207**		P	**P**	**08 26 33.0**	**+1.4**
	baz=33,SNR=4.3						
KDU	**Kakadu**	**33.41 268**		P	**P**	**08 26 34.2**	**-0.2**
	baz=33,SNR=10.0						
TAU	**Tasmania Unive**	**33.44 206**		*e*P	**P**	**08 26 35.6**	**+1.2**
TAU				pmax	pmax		
	comp=Z,45nm,1.1s						
TAU				MLR	MLR		
	comp=Z,7μm,21.0s						
TAU	**Tasmania Unive**	**33.44 206**		*e*P	**P**	**08 26 35.5**	**+1.2**
	comp=Z,45nm,1.1s						
TAU				LR	LR		
	comp=Z,7μm,21.0s						
BBOO	**Buckleboo**	**33.74 231**		P	**P**	**08 26 37.7**	**+0.5**
	baz=34,SNR=25						
GUMO	**Guam**	**34.88 321**		PFAKE		08 27 00.0	+13
GUMO				LR	LR		
	comp=Z,4μm,21.0s						
KNRA	**Kununurra**	**36.78 262**		P	**P**	**08 27 02.5**	**-1.0**
	baz=36,SNR=14						
PALU	**Palau**	**38.39 301**		P	**P**	**08 27 18.6**	**+1.4**
	baz=38,SNR=5.2						
XMAS	**Kiritimati**	**38.82 69**		PFAKE		08 27 30.0	+9.2
XMAS				LR	LR		
	comp=Z,4μm,21.0s						
FORT	**Forrest**	**39.34 238**		P	**P**	**08 27 24.8**	**-0.2**
	baz=39,SNR=15						
FITZ	**Fitzroy Crossi**	**39.72 258**		P	**P**	**08 27 27.3**	**-1.0**
	baz=39,SNR=10						
PPT	**Papeete**	**42.09 101**		LR	LR	08 41 39.3	
	comp=Z,2μm,18.4s,baz=270,slow=31						
PPT2	**Papeete2**	**42.09 101**		*e*S	**S**	**08 34 05.5**	**+0.1**
	comp=Z,2μm,28.5s						
PPT2				*e*LQ	LQ	08 38 05.0	
	comp=Z,8μm,29.5s						
PPT2				*e*LR	LR	08 40 09.2	
	comp=Z,5μm,24.5s,baz=270						
TBI	**Tubuai**	**42.37 109**		*e*S	**S**	**08 34 14.0**	**+4.7**
	comp=Z,1μm,29.5s						
TBI				*e*LQ	LQ	08 37 59.6	
	comp=Z,6μm,26.5s						
TBI				*e*LR	LR	08 40 39.3	
	comp=Z,7μm,24.2s,baz=283						
PMOR	**Pomariorio Ree**	**43.84 97**		*e*P	P	08 28 07.6	+5.6
	comp=Z,494nm,1.4s						
MIDW	**Midway**	**44.57 20**		PFAKE		08 28 20.0	+12
MI

MJAR			LR	LR	08 51 13.6
	comp=Z,873nm,19.8s,baz=135,slow=33				
MAT	**Matsushiro**	**56.95 333**	P	**P**	**08 29 40.3 -0.5**
MAT			S	**S**	**08 37 33.0 +0.4**
TWG	**Pinlang**	**57.75 309**	*e*P	**P**	**08 29 46.6 -0.1**
	comp=Z,354nm,1.7s				
YULB	**Yu-li**	**57.91 309**	*e*P	**P**	**08 29 47.5 -0.3**
	comp=Z,32nm,1.0s				
JNU	**Nakatsue**	**57.97 325**	*e*P	**P**	**08 29 48.4 +0.4**
	comp=Z,88nm,1.2s				
JNU	**Nakatsue**	**57.97 325**	P	**P**	**08 29 48.2 +0.2**
	comp=Z,121nm,1.1s,baz=126,slow=4.7,SNR=37				
KSM	**Kuching**	**58.00 281**	*e*P	**P**	**08 29 48.6 0.0**
	comp=Z,28nm,1.0s				
KSM			LR	LR	
	comp=Z,913nm,19.0s				
KSM	**Kuching**	**58.00 281**	P	**P**	**08 29 48.9 +0.3**
KSM	**Kuching**	**58.00 281**	P	**P**	**08 29 46.3 -2.3**
	comp=Z,45nm,1.3s,comp=Z,1μm				
NACB	**Ninganchiao**	**58.14 310**	*e*P	**P**	**08 29 49.8 +0.4**
	comp=Z,174nm,1.4s				
TPUB	**Ta-pu**	**58.36 309**	*e*P	**P**	**08 29 49.9 -1.1**
	comp=Z,115nm,1.3s				
SSLB	**Suanglung**	**58.39 309**	*e*P	**P**	**08 29 51.1 0.0**
	comp=Z,59nm,1.3s				
YHNB	**Yeheng**	**58.59 311**	*e*P	**P**	**08 29 52.5 -0.1**
	comp=Z,158nm,1.3s				
YHNB			LR	LR	
	comp=Z,1μm,20.0s				
TATO	**Taipei**	**58.68 311**	PFAKE		08 30 10.0 +17
TATO			LR	LR	
	comp=Z,843nm,19.0s				
ERM	**Erimo**	**59.74 340**	PFAKE		08 30 10.0 +10
ERM			LR	LR	
	comp=Z,2μm,21.0s				
YUK	**Yuzh-Kuril'sk**	**60.72 343**	*de*P	P	08 30 10.6 +3.8
YUK			*e*		08 32 18.8
YUK			*e*PPP	PPP	08 33 46.0
YUK			S	**S**	**08 38 25.4 +4.2**
YUK			MLR	MLR	
	comp=E,1μm,19.0s				
YUK			MLR	MLR	
	comp=Z,1μm,19.0s				
QZH	**Quanzhou**	**60.82 309**	⇑*i*P	**P**	**08 30 07.6 -0.2**
QZH			sP	**sP**	**08 30 22.8 +0.2**
QZH			S	**S**	**08 38 19.0 -4.1**
QZH			sS	**sS**	**08 38 37.8 -2.9**
QZH			pmax	pmax	
	comp=Z,830nm,4.1s				
QZH			LR	LR	
	comp=N,2μm,21.4s				
QZH			LR	LR	
	comp=E,1μm,18.8s				
QZH			LR	LR	
	comp=Z,1μm,16.7s				
ASAJ	**Asahikawa**	**61.80 340**	*e*P	**P**	**08 30 14.4 +0.3**
	comp=Z,16nm,0.8s				
SSE	**Sheshan**	**62.60 316**	P	**P**	**08 30 19.6 -0.1**
SSE			sP	**sP**	**08 30 35.0 +0.5**
SSE			S	**S**	**08 38 47.8 +2.3**
SSE			pmax	pmax	
	comp=Z,38nm,0.9s				
SSE			pmax	pmax	
	comp=Z,290nm,6.1s				
SSE			LR	LR	
	comp=N,420nm,17.3s				
SSE			LR	LR	
	comp=E,690nm,17.5s				
SSE			LR	LR	
	comp=Z,870nm,18.6s				
KSRS	**Korea Array**	**62.79 326**	P	**P**	**08 30 21.1 +0.3**
	comp=Z,26nm,1.1s,baz=143,slow=6.7,SNR=78				
KSAR	**Wonju Array Be**	**62.80 326**	P	**P**	**08 30 21.1 +0.2**
INCN	**Inchon**	**63.52 325**	*e*P	**P**	**08 30 26.8 +1.0**
	comp=Z,101nm,1.3s				
INCN			LR	LR	
	comp=Z,1μm,22.0s				
VNDA	**Vanda**	**63.69 181**	*e*P	**P**	**08 30 26.1 -0.1**
	comp=Z,41nm,1.3s				
VNDA			*e*		08 30 39.8
VNDA	**Vanda**	**63.69 181**	P	**P**	**08 30 26.4 +0.2**
	comp=Z,14nm,1.0s,baz=356,slow=7.3,SNR=30				
VNDA			LR	LR	08 54 37.5
	comp=Z,1μm,19.7s,baz=30,slow=33				
SBA	**Scott Base**	**63.98 180**	*e*P	**P**	**08 30 29.0 +0.9**
SBA			pmax	pmax	
	comp=Z,123nm,1.4s				
SBA			MLR	MLR	
	comp=Z,1μm,19.0s				
SBA	**Scott Base**	**63.98 180**	*e*P	**P**	**08 30 29.0 +0.9**
	comp=Z,123nm,1.4s				
SBA			LR	LR	
	comp=Z,1μm,19.0s				
CASY	**Casey**	**64.13 202**	*e*P	**P**	**08 30 29.4 0.0**
CASY			LR	LR	
	comp=Z,2μm,20.0s				
MYKOM	**Kota Tinggi**	**64.27 279**	P	**P**	**08 30 31.7 +0.6**
YSS	**Yuzh-Sakhalin**	**64.29 342**	*oe*P	**P**	**08 30 32.0 +1.5**
YSS			*e**PP	**pP**	**08 30 42.5 +1.2**
YSS			*e*		08 30 49.0
YSS			*e*S	**S**	**08 39 06.0 +0.1**
YSS			*e*PS	**PnS**	**08 39 26.0 -1.0**
YSS			pmax	pmax	
	comp=Z,40nm,1.1s				
YSS			MLR	MLR	
	comp=N,1μm,18.0s				
YSS			MLR	MLR	
	comp=E,500nm,18.0s				
YSS			MLR	MLR	
	comp=Z,2μm,18.0s				
NJ2	**Nanjing**	**64.75 316**	*e*P	**P**	**08 30 34.5 +0.6**
NJ2			pmax	pmax	
	comp=Z,50nm,0.7s				
QIZ	**Qiongzhong**	**64.93 299**	P	**P**	**08 30 35.8 +0.5**
QIZ			sP	**sP**	**08 30 48.6 -1.6**
QIZ			PP	**PP**	**08 32 58.1 -0.5**
QIZ			S	**S**	**08 39 15.1 +0.2**
QIZ			sS	**sS**	**08 39 32.6 -0.1**
QIZ			SS	**SS**	**08 43 28.6 +1.2**
QIZ			pmax	pmax	
	comp=Z,37nm,1.5s				
QIZ			pmax	pmax	
	comp=Z,430nm,7.8s				
QIZ			LR	LR	
	comp=N,480nm,21.3s				
QIZ			LR	LR	
	comp=Z,880nm,20.9s				
QIZ	**Qiongzhong**	**64.93 299**	*e*P	**P**	**08 30 36.0 +0.6**
	comp=Z,166nm,1.8s				
QIZ			LR	LR	
	comp=Z,867nm,21.0s				
SKR	**Severo-Kuril's**	**64.97 353**	*e*P	P	08 30 31.5 -3.4
SKR			*e*		08 30 43.0
SKR			*e*S	S	08 39 30.0 +16
SKR			*e*PS	PnS	08 39 52.0 +16
SKR			pmax	pmax	
	comp=Z,40nm,1.5s				
SKR			pmax	pmax	
	comp=Z,600nm,14.0s				
SKR			smax	smax	
	comp=E,1μm,14.0s				
SKR			smax	smax	
	comp=N,1.0nm,14.0s				
SKR			MLR	MLR	
	comp=N,1μm,16.0s				
SKR			MLR	MLR	
	comp=E,1μm,16.0s				
SKR			MLR	MLR	
	comp=Z,1μm,16.0s				
VLA	**Vladivostok**	**65.12 332**	*c i*P	**P**	**08 30 36.5 +0.4**
VLA			pmax	pmax	
	comp=Z,178nm,1.8s				
VLA			MLR	MLR	
	comp=Z,1μm,21.0s				
AMKA	**Amchitka**	**65.90 9**	*e*P	**P**	**08 30 42.0 +1.1**
	comp=Z,22nm,0.8s				
USRK	**Ussuriysk Arra**	**65.93 333**	P	**P**	**08 30 41.9 +0.6**
	comp=Z,76nm,1.0s,baz=144,slow=5.4,SNR=90				
USRK			LR	LR	08 56 27.2
	comp=Z,702nm,19.3s,baz=131,slow=33				
KTGM	**Kuala Trenggan**	**65.98 282**	P	**P**	**08 30 43.8 +1.5**
FRIM	**Kepong**	**66.81 280**	P	**P**	**08 30 48.0 +0.4**
PET	**Petropavlovsk**	**67.00 355**	*c i*P	**P**	**08 30 46.2 -1.7**
PET			*e**PP	**pP**	**08 30 59.8 +1.1**
PET			*e*S	**S**	**08 39 38.0 -0.9**
PET			*e*PS	**PnS**	**08 40 09.3 +5.4**
PET			pmax	pmax	
	comp=Z,400nm,8.7s				
PET			pmax	pmax	
	comp=Z,42nm,1.3s				
PET			pmax	pmax	
	comp=Z,500nm,15.9s				
PET			MLR	MLR	
	comp=Z,1μm,20.0s				
PET			MLR	MLR	
	comp=Z,900nm,20.0s				
WHN	**Wuhan**	**67.04 312**	⇓P	**P**	**08 30 49.1 +0.4**
WHN			S	S	08 39 32.9 -7.3
WHN			LR	LR	
	comp=N,690nm,16.4s				
WHN			LR	LR	
	comp=E,1μm,18.2s				
WHN			LR	LR	
	comp=Z,2μm,17.5s				
PEA0B	**Petropavlovsk-**	**67.18 354**	*e*P	**P**	**08 30 49.7 +0.6**
PETK	**Petropavlovsk-**	**67.18 354**	P	**P**	**08 30 49.2 +0.1**
PETK	**Petropavlovsk-**	**67.18 354**	P	**P**	**08 30 49.2 +0.1**
PETK	**Petropavlovsk-**	**67.18 354**	P	**P**	**08 30 49.2 +0.1**
	comp=Z,21nm,0.8s,baz=159,slow=9.1,SNR=38				
PETK			LR	LR	08 54 28.2
	comp=Z,1μm,22.0s,baz=170,slow=31				
UBPT	**Khong Chiam**	**67.21 293**	P	**P**	**08 30 50.9 +0.8**
	comp=Z,63nm,0.9s				
MDJ	**Mudanjiang**	**67.32 332**	P	**P**	**08 30 51.0 +0.8**
MDJ			pP	**pP**	**08 30 59.3 -1.7**
MDJ			sP	**sP**	**08 31 04.6 -0.5**
MDJ			PcP	**PcP**	**08 31 16.5 -1.2**
MDJ			S	**S**	**08 39 46.6 +3.5**
MDJ			sS	**sS**	**08 40 03.1 +2.2**
MDJ			ScS	**ScS**	**08 40 46.3 +0.8**
MDJ			SS	**SS**	**08 44 02.1 -1.7**
MDJ			pmax	pmax	
	comp=Z,91nm,1.2s				
MDJ			pmax	pmax	
	comp=Z,560nm,8.4s				
MDJ			LR	LR	
	comp=N,710nm,29.6s				
MDJ			LR	LR	
	comp=E,350nm,27.3s				
MDJ			LR	LR	
	comp=Z,660nm,25.1s				
MDJ	**Mudanjiang**	**67.32 332**	*e*P	**P**	**08 30 51.0 +0.8**
	comp=Z,147nm,1.3s				
MDJ			LR	LR	
	comp=Z,710nm,21.0s				
DL2	**Dalian**	**67.35 323**	⇑P	**P**	**08 30 51.1 +0.6**
DL2			S	**S**	**08 39 42.3 -1.3**
DL2			pmax	pmax	
	comp=Z,150nm,1.2s				
DL2			pmax	pmax	
	comp=Z,330nm,4.6s				
DL2			LR	LR	
	comp=N,450nm,11.2s				
DL2			LR	LR	
	comp=E,550nm,15.6s				
DL2			LR	LR	
	comp=Z,540nm,24.2s				
IPM	**Ipoh**	**67.73 281**	*e*P	**P**	**08 30 54.0 +0.5**
	comp=Z,70nm,1.2s				
IPM	**Ipoh**	**67.73 281**	P	**P**	**08 30 54.6 +1.1**
IPM	**Ipoh**	**67.73 281**	P	**P**	**08 30 53.2 -0.3**
	comp=Z,53nm,1.4s,comp=Z,851nm				
COCO	**West Island**	**67.95 262**	PFAKE		08 31 10.0 +15
COCO			LR	LR	
	comp=Z,3μm,21.0s				
HABR	**Khabarovsk**	**68.19 338**	*ce*P	**P**	**08 30 56.0 +0.5**
HABR			*e**PP	**pP**	**08 31 04.2 -2.1**
HABR			*e*		08 31 19.8
HABR			*e*		08 33 24.1
HABR			*e*S	**S**	**08 39 53.8 +0.6**
HABR			*e**SS	**sS**	**08 40 09.3 -1.8**
HABR			*e*		08 40 50.2
HABR			*e*SS	**SS**	**08 44 15.2 -1.7**
HABR			pmax	pmax	
	comp=Z,325nm,1.8s				
HABR			pmax	pmax	
	comp=N,116nm,1.8s				
HABR			pmax	pmax	
	comp=E,69nm,1.2s				
HABR			MLR	MLR	
	comp=Z,487nm,19.0s				
KULM	**Kulim**	**68.33 281**	*e*P	**P**	**08 30 56.5 -0.7**
	comp=Z,76nm,1.6s				
KULM			LR	LR	
	comp=Z,946nm,20.0s				
KULM	**Kulim**	**68.33 281**	P	**P**	**08 30 57.9 +0.7**
TIA	**Tai'an**	**68.40 318**	⇑P	**P**	**08 30 57.3 +0.1**
TIA			pmax	pmax	
	comp=Z,70nm,1.2s				
PANO	**Nakornpanom**	**68.69 295**	P	**P**	**08 30 59.9 +0.6**
	comp=Z,50nm,1.4s,comp=Z,995nm				
SKLT	**Songkhla**	**68.92 283**	P	**P**	**08 31 02.3 +1.5**
	comp=Z,32nm,1.5s,comp=Z,960nm				
PSI	**Prapat**	**69.28 278**	P	**P**	**08 31 02.9 -0.4**
	baz=69,SNR=8.5				
KLR	**Kul'dur**	**70.05 336**	⇓*i*P	P	08 31 04.0 -3.1
KLR			*e*S	**S**	**08 40 12.0 -3.3**
KLR			pmax	pmax	
	comp=E,80nm,2.0s				
KLR			pmax	pmax	
	comp=Z,220nm,2.0s				
KLR			pmax	pmax	
	comp=Z,1μm,10.0s				
KLR			MLR	MLR	
	comp=N,700nm,19.0s				
ENH	**Enshi**	**70.48 309**	*e*P	**P**	**08 31 10.3 +0.1**
	comp=N,88nm,1.1s				
CHAI	**Chaiyaphum**	**70.56 293**	P	**P**	**08 31 11.4 +0.5**
	comp=N,6.3nm,0.9s				
NAYO	**Nakonayok**	**70.60 291**	P	**P**	**08 31 12.3 +1.2**
	comp=N,37nm,1.5s,comp=N,963nm				
GYA	**Guiyang**	**70.86 305**	⇑*i*P	**P**	**08 31 13.3 +0.6**
GYA			pP	**pP**	**08 31 23.5 -0.1**
GYA			PP	**PP**	**08 33 51.8 +1.6**
GYA			S	**S**	**08 40 25.6 -0.3**
GYA			sS	**sS**	**08 40 40.4 -3.4**
GYA			SKS	**SKSac**	**08 41 09.0 -3.9**
GYA			SS	**SS**	**08 45 02.4 +3.2**
GYA			pmax	pmax	
	comp=Z,50nm,1.0s				
GYA			pmax	pmax	
	comp=Z,390nm,5.8s				
GYA			LR	LR	
	comp=N,870nm,16.5s				
GYA			LR	LR	
	comp=E,890nm,18.6s				
GYA			LR	LR	
	comp=Z,1μm,19.6s				
MIR	**Mirnyy**	**70.91 204**	⇑*i*P	**P**	**08 31 14.0 +1.9**
MIR			*i*		08 31 21.0
MIR			*i*		08 31 41.0
MIR			pmax	pmax	
	comp=Z,147nm,1.0s				
BJT	**Baijiatuau**	**71.31 321**	*e*P	**P**	**08 31 15.9 +0.9**
	comp=Z,44nm,0.9s				
BJT			LR	LR	
	comp=Z,1μm,21.0s				
BJI	**Beijing**	**71.32 321**	P	**P**	**08 31 15.8 +0.8**
BJI			PP	PP	08 33 59.1 +5.4
BJI			S	**S**	**08 40 32.0 +1.6**
BJI			pmax	pmax	
	comp=Z,71nm,1.5s				
BJI			pmax	pmax	
	comp=Z,690nm,3.8s				
BJI			LR	LR	
	comp=N,1μm,22.7s				
BJI			LR	LR	
	comp=E,550nm,25.8s				
BJI			LR	LR	
	comp=Z,980nm,25.8s				
PHET	**Kaeng Krachan**	**71.67 289**	P	**P**	**08 31 20.2 +2.6**
	comp=Z,57nm,1.4s				
PBKT	**Sadao Pong**	**71.71 293**	P	**P**	**08 31 18.7 +0.9**
	comp=Z,36nm,1.5s,comp=Z,1μm				
LOEI	**Loei**	**71.78 294**	P	**P**	**08 31 16.6 -1.7**
	comp=Z,50nm,1.6s,comp=Z,1μm				
TIY	**Taiyuan**	**72.33 317**	*e*P	**P**	**08 31 22.5 +1.2**
TIY			pP	**pP**	**08 31 32.6 +0.4**
TIY			sP	**sP**	**08 31 38.3 +2.1**
TIY			PP	**PP**	**08 34 05.3 +2.7**
TIY			S	**S**	**08 40 47.3 +4.9**
TIY			ScS	**SKSac**	**08 41 23.6 +0.2**
TIY			SS	**SS**	**08 45 22.3 +1.0**
TIY			pmax	pmax	
	comp=Z,200nm,1.2s				
TIY			pmax	pmax	
	comp=Z,630nm,4.2s				
TIY			LR	LR	
	comp=Z,130nm,10.5s				
NANT	**Nan**	**72.76 295**	P	**P**	**08 31 25.1 +1.0**
	comp=Z,78nm,1.3s				
XAN	**Xi'an**	**72.78 313**	P	**P**	**08 31 24.3 +0.3**
XAN			pP	**pP**	**08 31 36.1 +1.2**
XAN			sP	**sP**	**08 31 42.0 +3.0**
XAN			PP	**PP**	**08 34 05.6 -0.9**
XAN			S	S	08 40 41.1 -6.5
XAN			SKS	SKSac	08 41 16.8 -10
XAN			ScS	**SKKSac**	**08 41 28.0 +0.9**
XAN			SS	**SS**	**08 45 22.4 -5.9**
XAN			pmax	pmax	
	comp=Z,16nm,1.2s				
XAN			pmax	pmax	
	comp=Z,120nm,6.2s				
XAN			LR	LR	
	comp=N,460nm,37.7s				
XAN			LR	LR	
	comp=E,130nm,21.4s				
XAN			LR	LR	
	comp=Z,230nm,19.4s				
KMI	**Kunming**	**73.47 302**	P	**P**	**08 31 29.9 +1.4**
KMI			pP	**pP**	**08 31 40.8 +1.4**
KMI			sP	**sP**	**08 31 45.1 +1.7**
KMI			PP	**PP**	**08 34 16.4 +3.7**
KMI			S	**S**	**08 40 55.9 -0.2**
KMI			sS	**sS**	**08 41 15.1 +1.0**
KMI			SS	**SS**	**08 45 37.8 -1.7**
KMI			pmax	pmax	
	comp=Z,110nm,1.4s				
KMI			pmax	pmax	
	comp=Z,670nm,6.6s				
KMI			LR	LR	
	comp=N,350nm,18.4s				
KMI			LR	LR	
	comp=E,540nm,22.8s				
KMI			LR	LR	
	comp=Z,810nm,22.8s				
LAMP	**Lampang**	**73.60 294**	P	**P**	**08 31 30.3 +1.2**
	comp=Z,20nm,1.1s,comp=Z,254nm				
PAYA	**Payao**	**73.69 295**	P	**P**	**08 31 30.4 +0.8**
	comp=Z,12nm,1.0s,comp=Z,158nm				
CM31	**Chiang Mai Arr**	**74.19 294**	*e*P	**P**	**08 31 34.2 +1.7**
	comp=Z,45nm,1.0s				
CMAR	**Chiang Mai Arr**	**74.19 294**	P	**P**	**08 31 33.6 +1.1**
CMAR	**Chiang Mai Arr**	**74.19 294**	P	**P**	**08 31 33.6 +1.1**
	comp=Z,38nm,1.0s,baz=118,slow=4.3,SNR=9.2				
CMMT	**Chiang Mai**	**74.31 294**	P	**P**	**08 31 33.7 +0.5**
	comp=Z,86nm,1.0s,comp=Z,942nm				
CHTO	**Chiang Mai**	**74.31 294**	*e*P	**P**	**08 31 34.0 +0.7**
CHTO			pmax	pmax	
	comp=Z,81nm,1.3s				
CHTO			MLR	MLR	
	comp=Z,539nm,20.0s				
CHTO	**Chiang Mai**	**74.31 294**	*e*P	**P**	**08 31 34.0 +0.7**
	comp=Z,80nm,1.3s				
CHTO			LR	LR	
	comp=Z,539nm,20.0s				
CHTO	**Chiang Mai**	**74.31 294**	P	**P**	**08 31 33.6 +0.3**
	comp=Z,61nm,1.4s,comp=Z,1μm				
CHTO	**Chiang Mai**	**74.31 294**	P	**P**	**08 31 33.9 +0.7**
	comp=Z,61nm,1.4s,comp=Z,1μm				
CMAI	**Chiengmai2**	**74.62 295**	P	**P**	**08 31 36.0 +0.8**
	comp=Z,81nm,1.4s,comp=Z,1μm				
HHC	**Hu-ho-hao-te**	**74.65 320**	⇑*i*P	**P**	**08 31 36.0 +1.1**
HHC			PcP	**PcP**	**08 31 49.8 +0.8**
HHC			sP	**sP**	**08 31 50.9 +1.1**
HHC			PP	**PP**	**08 34 25.3 +3.0**
HHC			S	**S**	**08 41 09.9 +1.4**
HHC			sS	**sS**	**08 41 26.5 -0.1**
HHC			SKS	**SKSac**	**08 41 37.8 -3.0**
HHC			ScS	**SKKSac**	**08 41 41.6 +0.5**
HHC			SS	**SS**	**08 46 00.0 +3.4**
HHC			pmax	pmax	
	comp=Z,140nm,1.2s				
HHC			pmax	pmax	
	comp=Z,1μm,6.7s				
HHC			LR	LR	
	comp=N,1μm,17.8s				
HHC			LR	LR	
	comp=E,1μm,17.8s				
HHC			LR	LR	
	comp=Z,1μm,17.8s				
CD2	**Chengdu**	**75.13 308**	P	**P**	**08 31 38.5 +0.7**
CD2			pP	**pP**	**08 31 50.1 +1.3**
CD2			PcP	**PcP**	**08 31 53.0 +1.7**
CD2			PP	**PP**	**08 34 30.0 +3.5**
CD2			S	**S**	**08 41 14.1 -0.1**
CD2			sS	**sS**	**08 41 32.3 0.0**
CD2			ScS	**SKKSac**	**08 41 46.0 +0.9**
CD2			SS	**SS**	**08 46 06.1 +1.8**
CD2			pmax	pmax	
	comp=Z,90nm,1.2s				
CD2			pmax	pmax	
	comp=Z,700nm,11.0s				
CD2			LR	LR	
	comp=N,470nm,14.2s				
CD2			LR	LR	
	comp=E,520nm,17.8s				
CD2			LR	LR	
	comp=Z,540nm,16.8s				
HIA	**Hailar**	**75.33 330**	*e*P	**P**	**08 31 38.8 +0.3**
	comp=Z,118nm,1.2s				
HIA			LR	LR	
	comp=Z,829nm,21.0s				
BTO	**Baotou**	**75.49 319**	*e*P	**P**	**08 31 39.8 +0.1**
QSPA	**South Pole Qui**	**76.14 180**	PFAKE		08 32 00.0 +17
QSPA			LR	LR	
	comp=Z,1μm,21.0s				
SEY	**Seymchan**	**77.39 353**	*c i*P	**P**	**08 31 49.6 -0.3**
LZH	**Lanzhou**	**77.41 312**	⇑P	**P**	**08 31 52.3 +1.5**
LZH			pP	**pP**	**08 32 01.8 0.0**
LZH			sP	**sP**	**08 32 06.3 +0.5**
LZH			PP	**PP**	**08 34 48.0 +2.2**
LZH			S	**S**	**08 41 42.8 +3.5**
LZH			SKS	**SKSac**	**08 41 59.0 -2.6**
LZH			SS	**SS**	**08 46 42.0 +3.1**
LZH			pmax	pmax	
	comp=Z,240nm,1.2s				
LZH			pmax	pmax	
	comp=Z,780nm,5.5s				
LZH			LR	LR	
	comp=N,620nm,16.8s				
LZH			LR	LR	
	comp=E,410nm,14.3s				
LZH			LR	LR	
	comp=Z,940nm,18.2s				
OHAK	**Old Harbor**	**78.17 21**	*e*P	**P**	**08 31 55.5 +1.2**
	comp=Z,47nm,0.9s				
CLNS	**Chul'man**	**78.58 338**	*e*P	**P**	**08 31 57.5 +0.9**
CLNS			*e*		08 32 06.1
CLNS			*e**PP	**pP**	**08 32 10.4 +2.8**
CLNS			*e*		08 34 58.0
CLNS			*e*PPP	PPP	08 36 45.4
CLNS			*e*S	**S**	**08 41 55.4 +4.7**
CLNS			*e*		08 42 27.3
CLNS			pmax	pmax	
	comp=Z,60nm,1.0s				
CLNS			pmax	pmax	
	comp=N,32nm,1.2s				
CLNS			pmax	pmax	
	comp=E,12nm,1.0s				
CLNS			pmax	pmax	
	comp=E,7.0nm,1.1s				
CLNS			pmax	pmax	
	comp=N,9.0nm,1.3s				
CLNS			pmax	pmax	
	comp=Z,11nm,1.6s				
CLNS			smax	smax	
	comp=N,332nm,12.5s				
CLNS			smax	smax	
	comp=E,295nm,13.9s				
CLNS			MLR	MLR	
	comp=Z,270nm,17.0s				
CLNS			MLR	MLR	
	comp=N,115nm,18.0s				
CLNS			MLR	MLR	
	comp=E,212nm,19.0s				
KDAK	**Kodiak Island**	**78.84 21**	*e*P	**P**	**08 31 59.1 +1.1**

comp=E,22nm,0.9s
KDAK LR LR
KDAK Kodiak Island 78.84 21 P P 08 31 59.6 +1.6
comp=Z,3μm,21.0s
KDAK Kodiak Island 78.84 21 P P 08 31 59.3 +1.3
comp=Z,17nm,0.8s,baz=188,slow=3.2,SNR=18
CIT Chita 80.12 330 *eP* **P 08 32 05.8 +0.6**
CIT *e* 08 32 13.0
CIT *e* 08 32 16.9
CIT pmax pmax
comp=Z,277nm,1.4s
RSO Redoubt South 80.85 19 *eP* **P 08 32 10.3 +1.2**
comp=Z,24nm,0.8s
YAK Yakutsk 81.09 343*c i P* **P 08 32 09.6 -0.5**
YAK *e**PP **pP 08 32 19.2 -1.9**
YAK *eS* **S 08 42 13.0 -3.9**
YAK *e**SS **SKKSac 08 42 27.9 -0.7**
YAK pmax pmax
comp=Z,94nm,1.1s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.0s
YAK smax smax
comp=E,78nm,3.5s
YAK smax smax
comp=N,15nm,1.8s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,734nm,17.0s
ULN Ulaanbaatar 81.19 324 *eP* **P 08 32 11.7 +0.6**
comp=E,102nm,1.1s
ULN LR LR
comp=Z,839nm,19.0s
ULN Ulaanbaatar 81.19 324 P **P 08 32 11.3 +0.2**
comp=Z,100nm,1.3s,comp=Z,1μm
SONM Songino Array 81.55 324 P **P 08 32 13.1 +0.1**
SONM Songino Array 81.55 324 P **P 08 32 13.1 +0.1**
comp=Z,27nm,1.0s,baz=137,slow=5.7,SNR=56
SONM LR LR 09 10 22.2
comp=Z,850nm,18.8s,baz=96,slow=37
GTA Gaotai 81.75 314⇑*i P* **P 08 32 15.5 +1.2**
GTA pP **pP 08 32 26.8 +1.5**
GTA sP **sP 08 32 31.3 +1.9**
GTA PP **PP 08 35 25.6 +3.8**
GTA S **S 08 42 28.0 +3.0**
GTA SKS **SKSac 08 42 29.4 -2.5**
GTA sS **ScS 08 42 41.3 -0.5**
GTA pmax pmax
comp=Z,130nm,1.1s
GTA pmax pmax
comp=Z,580nm,9.3s
GTA LR LR
comp=N,470nm,18.5s
GTA LR LR
comp=E,470nm,20.4s
GTA LR LR
comp=Z,560nm,21.9s
MAW Mawson 82.49 202 *eP* **P 08 32 17.5 0.0**
comp=Z,5.6nm,1.0s
MAW Mawson 82.49 202 P **P 08 32 17.7 +0.2**
comp=Z,22nm,1.0s,baz=101,slow=7.2,SNR=19
MAW LR LR 09 03 09.9
comp=Z,2μm,22.0s,baz=98,slow=31
MAW Mawson 82.49 202 P **P 08 32 18.0 +0.5**
baz=82,SNR=6.8
SHL Shillong 82.76 298⇑*i P* **P 08 32 20.0 +0.1**
PMR Palmer 82.86 20 *eP* **P 08 32 20.4 +1.0**
PMR pmax pmax
comp=Z,19nm,0.9s
PMR Palmer 82.86 20 *eP* **P 08 32 20.4 +1.0**
comp=Z,19nm,0.9s
SML Sawmill 83.28 20 *eP* **P 08 32 22.9 +1.3**
SML pmax pmax
comp=Z,14nm,1.2s
SML Sawmill 83.28 20 *eP* **P 08 32 22.9 +1.3**
comp=Z,14nm,1.2s
DIV Divide 83.67 21 *eP* **P 08 32 25.1 +1.4**
comp=Z,42nm,1.2s
TRF Thorofare Moun 83.88 18 *eP* **P 08 32 24.5 -0.4**
comp=Z,43nm,1.3s
BMRM Bremner River 83.97 22 *eP* **P 08 32 26.2 +1.1**
comp=Z,55nm,1.3s
MCK McKinley 84.50 18 *eP* **P 08 32 27.3 -0.5**
MCK pmax pmax
comp=Z,70nm,1.3s
MCK McKinley 84.50 18 *eP* **P 08 32 27.3 -0.5**
comp=Z,70nm,1.3s
DIB Dawson Inlet, 84.54 32 T T 10 05 33.0
SNR=12
ZAK Zakamensk 84.60 325⇑*i P* **P 08 32 28.7 0.0**
ZAK pmax pmax
comp=Z,74nm,1.2s
LSA Lhasa 84.72 302 P **P 08 32 31.0 +0.7**
LSA pmax pmax
comp=Z,50nm,1.2s
LSA Lhasa 84.72 302 PFAKE 08 32 40.0 +10
LSA LR LR
comp=Z,516nm,21.0s
IM04 Indian Mountai 84.86 15 *eP* **P 08 32 29.6 +0.1**
IMA2 Indian Mountai 84.96 15 *eP* **P 08 32 30.9 +0.8**
IRK Irkutsk 84.98 327 *eP* **P 08 32 29.3 -1.2**
IRK pmax pmax
comp=Z,132nm,1.4s
YBH Yreka Blue Hor 85.15 45 *eP* **P 08 32 33.8 +2.1**
comp=Z,14nm,1.3s
HUMO Hull Mountain 85.33 44 *eP* **P 08 32 33.5 +1.0**
comp=Z,9.5nm,1.0s
CMB Columbia Colle 85.40 49 *eP* **P 08 32 33.0 0.0**
CMB pmax pmax
comp=Z,9.0nm,1.2s
CMB Columbia Colle 85.40 49 *eP* **P 08 32 33.0 0.0**
comp=Z,9.0nm,1.2s
COLA College 85.66 18 *eP* **P 08 32 32.1 -1.4**
COLA pmax pmax
comp=Z,137nm,1.1s
COLA MLR MLR
comp=Z,1μm,21.0s
COLA College 85.66 18 *eP* **P 08 32 32.1 -1.4**
comp=Z,137nm,1.1s
COLA LR LR
comp=Z,1μm,21.0s
MWC Mount Wilson 85.83 53 *eP* **P 08 32 36.2 +0.8**
MWC pmax pmax
comp=Z,11nm,1.0s
MWC Mount Wilson 85.83 53 *eP* **P 08 32 36.2 +0.8**
comp=Z,11nm,1.0s
ILAR Eielson Array 85.87 18 P **P 08 32 34.4 -0.3**
ILAR S S 08 42 58.3 -6.8
ILAR Eielson Array 85.87 18 P **P 08 32 34.4 -0.3**
comp=Z,10nm,0.6s,baz=238,slow=4.9,SNR=155
ILAR S S 08 42 58.3 -6.8
comp=Z,0.3nm,0.6s,baz=252,slow=5.4,SNR=4.1
ILAR LR LR 09 06 05.8
comp=Z,3μm,20.2s,baz=242,slow=32
WRAK Wrangell Islan 86.30 29 PFAKE 08 32 50.0 +13
WRAK LR LR
comp=Z,1μm,19.0s
BAR Barrett 86.41 55 *eP* P 08 32 43.0 +5.0
comp=Z,17nm,1.5s
HYT Haines Junctio 86.55 24 *eP* **P 08 32 39.4 +1.2**
HYT *e* 08 32 56.0
NLWA Neilton Lookou 86.68 40 PFAKE 08 32 50.0 +11
NLWA LR LR
comp=Z,2μm,20.0s
COLD Coldfoot 86.74 15 *eP* **P 08 32 39.8 +1.0**
comp=Z,15nm,1.1s
TAPN Taplejung 86.87 299 *eP* **P 08 32 40.8 0.0**
comp=Z,259nm,1.4s
PFO Pinyon Flat Ob 86.89 54 PFAKE 08 32 50.0 +10
PFO LR LR
comp=Z,2μm,20.0s
ODAN Odare 87.00 298 *eP* **P 08 32 41.5 +0.2**
comp=Z,415nm,1.5s
NVAR Mina Array Bea 87.07 49 P **P 08 32 42.2 +0.8**
NVAR P'P' 08 58 39.6
NVAR Mina Array Bea 87.07 49 P **P 08 32 42.2 +0.8**
comp=Z,2.5nm,0.7s,baz=220,slow=5.8,SNR=17
NVAR PKPPKP **P'P'df 08 58 39.6 -0.4**
comp=Z,1.6nm,1.0s,baz=90,slow=3.6,SNR=7.1

NVAR LR LR 09 04 23.8
comp=Z,4μm,20.1s,baz=92,slow=31
NV11 Mina Array Sit 87.18 49 *eP* **P 08 32 42.9 +1.0**
EGAK Eagle 87.68 20 *eP* **P 08 32 44.4 +1.0**
comp=Z,11nm,0.7s
EGAK LR LR
comp=Z,1μm,19.0s
RAMN Ramite 87.70 298 *eP* **P 08 32 44.4 -0.3**
comp=Z,182nm,1.4s
TPH Tonopah 87.75 50 PFAKE 08 33 00.0 +15
TPH LR LR
comp=Z,2μm,22.0s
DAWY Dawson 87.83 21 *eP* **P 08 32 44.1 -0.1**
PALK Pallekele 87.95 278 P **P 08 32 47.0 +1.0**
comp=Z,40nm,1.6s
GLA Glamis 88.00 55 *eP* **P 08 32 48.2 +2.4**
GLA pmax pmax
comp=Z,11nm,0.9s
GLA Glamis 88.00 55 *eP* **P 08 32 48.2 +2.4**
comp=Z,11nm,0.9s
WVOR Wild Horse Val 88.22 46 *eP* P 08 32 50.2 +3.5
WVOR pmax pmax
comp=Z,7.0nm,1.2s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 88.22 46 *eP* P 08 32 50.1 +3.5
comp=Z,6.9nm,1.2s
WVOR LR LR
comp=Z,1μm,20.0s
JIRN Jiri 88.25 299 *eP* **P 08 32 47.4 -0.1**
comp=Z,235nm,1.4s
LDFC Landfair 88.40 53 *eP* **P 08 32 49.6 +1.9**
comp=Z,21nm,0.9s
DLBC Dease Lake 88.42 28 P **P 08 32 47.0 -0.2**
DLBC Dease Lake 88.42 28 P **P 08 32 47.0 -0.2**
comp=Z,1.8nm,0.9s,baz=281,slow=8.4,SNR=3.7
BMN Battle Mountai 88.54 48 PFAKE 08 33 00.0 +12
BMN LR LR
comp=Z,2μm,22.0s
GUN Gumba 88.58 299 *eP* **P 08 32 48.8 -0.2**
SHPR Sheep Range 88.81 52 *eP* **P 08 32 51.4 +1.7**
comp=Z,12nm,1.2s
PKI Pulchoki 88.89 299 *eP* **P 08 32 50.1 -0.3**
comp=Z,222nm,1.3s
PKIN Phulchoki 88.90 299 *eP* **P 08 32 50.1 -0.3**
comp=Z,70nm,1.2s
KKN Kakani 89.06 299 *eP* **P 08 32 50.7 -0.4**
comp=Z,217nm,1.5s
DMN Daman 89.16 299 *eP* **P 08 32 51.5 -0.1**
comp=Z,281nm,1.2s
SYO Syowa Base 89.38 197‖*eP* **P 08 32 49.2 -2.3**
SYO Syowa Base 89.38 197‖*i P* **P 08 32 53.2 +1.7**
BMO Blue Mountains 89.96 44 PFAKE 08 33 10.0 +15
BMO LR LR
comp=Z,1μm,20.0s
HVS Khovu-Aksy 90.41 323*c i P* **P 08 32 56.5 -0.2**
HVS pmax pmax
comp=Z,294nm,1.1s
KOLN Koldanda 90.49 298 *eP* **P 08 32 56.6 -1.2**
DANN Dangsing 90.50 299 *eP* **P 08 32 56.9 -1.0**
comp=Z,194nm,1.5s
ARUT Antelope Range 90.51 51 *eP* **P 08 33 00.5 +2.9**
ARUT pmax pmax
comp=Z,8.0nm,1.0s
ARUT Antelope Range 90.51 51 *eP* **P 08 33 00.5 +2.9**
comp=Z,8.0nm,1.0s
TUC Tucson 91.06 57 PFAKE 08 33 10.0 +10
TUC LR LR
comp=Z,1μm,20.0s
NEW Newport 91.22 40 *eP* **P 08 33 01.3 +0.8**
comp=Z,3.4nm,0.9s
NEW LR LR
comp=Z,942nm,19.0s
WUAZ Wupatki 91.45 54 *eP* P 08 33 05.5 +3.5
comp=Z,12nm,1.1s
WUAZ LR LR
comp=Z,2μm,19.0s
HLID Hailey 91.52 46 *eP* **P 08 33 04.3 +2.1**
comp=Z,4.5nm,1.2s
HLID LR LR
comp=Z,1μm,20.0s
MSU Marysvale 91.67 51 *eP* **P 08 33 06.0 +3.0**
MSU pmax pmax
comp=Z,7.0nm,1.1s
MSU Marysvale 91.67 51 *eP* **P 08 33 06.0 +3.0**
comp=Z,7.5nm,1.1s
DUG Dugway 91.67 49 PFAKE 08 33 10.0 +7.1
DUG LR LR
comp=Z,3μm,20.0s
WMQ Urumqi 91.81 315 P **P 08 33 03.3 -0.1**
WMQ sP **sP 08 33 17.3 -1.2**
WMQ PP **PP 08 36 45.3 +2.5**
WMQ SKS **SKSac 08 43 32.3 -1.4**
WMQ S **S 08 43 58.8 -3.3**
WMQ sS **sS 08 44 16.8 -3.8**
WMQ SS **SS 08 50 09.8 -0.9**
WMQ pmax pmax
comp=Z,59nm,1.3s
WMQ pmax pmax
comp=Z,460nm,5.0s
WMQ LR LR
comp=N,150nm,20.0s
WMQ LR LR
comp=E,810nm,23.0s
WMQ LR LR
comp=Z,620nm,23.0s
DGAR Diego Garcia 92.43 262 PFAKE 08 33 20.0 +13
DGAR LR LR
comp=Z,3μm,22.0s
HYB Hyderabad 92.43 287 *i P* **P 08 33 05.5 -1.3**
HWUT Hardware Ranch 92.97 48 PFAKE 08 33 20.0 +11
HWUT LR LR
comp=Z,1μm,20.0s
DLMT Dillon 93.29 44 *eP* **P 08 33 11.8 +1.5**
comp=Z,7.5nm,1.3s
RRI2 Red Ridge 93.62 46 *eP* P 08 33 17.6 +5.5
comp=Z,3.3nm,1.2s
MAIT Maitri 93.82 188 *eP* P 08 33 08.8 -3.3
BOZ Bozeman (W) 94.02 44 PFAKE 08 33 30.0 +16
BOZ LR LR
comp=Z,889nm,19.0s
MVCO Mesa Verde 94.13 53 PFAKE 08 33 30.0 +16
MVCO LR LR
comp=Z,1μm,19.0s
SNAA Sanae 94.36 183 *eP* **P 08 33 13.9 -0.8**
SNAA Sanae 94.36 183 *e*pP pP 08 33 23.7 -2.1
SNAA Sanae 94.36 183 *e*sP sP 08 33 28.2 -1.6
SNAA Sanae 94.36 183 *eP* **P 08 33 13.4 -1.3**
comp=Z,52nm,1.2s
SNAA Sanae 94.36 183 P **P 08 33 13.8 -0.9**
comp=Z,12nm,1.1s,baz=183,slow=4.9,SNR=10
LKWY Lake 94.58 45 PFAKE 08 33 30.0 +14
LKWY LR LR
comp=Z,3μm,20.0s
BW06 Boulder Array 94.72 47 PFAKE 08 33 30.0 +13
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 94.72 47 P **P 08 33 17.8 +0.8**
PDAR PKKP **PKKPbc 08 50 13.2 -2.5**
PDAR Pinedale Array 94.72 47 P **P 08 33 17.8 +0.8**
comp=Z,0.8nm,0.8s,baz=240,slow=2.9,SNR=6.5
PDAR PKKP **PKKPbc 08 50 13.2 -2.5**
comp=Z,0.8nm,0.9s,baz=116,slow=2.1,SNR=3.5
PDAR LR LR 09 10 42.0
comp=Z,1μm,19.8s,baz=258,slow=32
BNM Barren Site 94.89 56 *eP* **P 08 33 19.1 +1.1**
comp=Z,3.7nm,1.1s
ANMO Albuquerque 95.21 55 *eP* **P 08 33 20.4 +1.0**
comp=Z,4.1nm,1.2s
ANMO LR LR
comp=Z,2μm,20.0s
VNA2 Neumayer--Watz 95.30 182 *eP* **P 08 33 18.4 -0.5**
VNA2 Neumayer--Watz 95.30 182 *e*pP pP 08 33 28.0 -2.1
VNA2 Neumayer--Watz 95.30 182 *e*sP sP 08 33 33.0 -1.1
MNTX Cornudas Mount 95.35 59 PFAKE 08 33 30.0 +10
MNTX LR LR
comp=Z,570nm,19.0s
RLMT Red Lodge 95.50 45 PFAKE 08 33 30.0 +9.5
RLMT LR LR
comp=Z,1μm,20.0s
VNA1 Neumayer--Stat 95.61 182 *eP* **P 08 33 20.8 +0.6**
VNA1 Neumayer--Stat 95.61 182 *e*pP pP 08 33 29.1 -2.3
EGMT Eagleton 95.88 42 PFAKE 08 33 30.0 +8.0
EGMT LR LR
comp=Z,731nm,19.0s
MK31 Makanchi Array 96.28 317 *i P* **P 08 33 23.3 -0.5**

MK31 pmax pmax
comp=Z,67nm,1.1s
MK31 Makanchi Array 96.28 317 *eP* **P 08 33 23.3 -0.5**
MKAR Makanchi Array 96.28 317*ceP* **P 08 33 23.5 -0.3**
MKAR pmax pmax
comp=Z,33nm,0.9s
MKAR Makanchi Array 96.28 317 P **P 08 33 23.4 -0.3**
MKAR PP **PP 08 37 14.9 -2.7**
MKAR S **SKSac 08 43 57.4 -0.3**
MKAR PKKP **PKKPbc 08 50 07.8 -3.6**
MKAR Makanchi Array 96.28 317 P **P 08 33 23.4 -0.3**
comp=Z,33nm,0.9s,baz=97,slow=6.4,SNR=164
MKAR PP **PP 08 37 14.9 -2.7**
comp=Z,4.0nm,1.1s,baz=89,slow=10,SNR=5.4
MKAR S **SKSac 08 43 57.4 -0.3**
comp=Z,0.6nm,0.9s,baz=84,slow=11,SNR=4.0
MKAR PKKP **PKKPbc 08 50 07.8 -3.6**
comp=Z,0.5nm,0.8s,baz=350,slow=1.5,SNR=4.4
MKAR LR LR 09 15 23.9
comp=Z,499nm,22.0s,baz=95,slow=35
TXAR Lajitas Array 96.28 61 P **P 08 33 25.7 +1.4**
TXAR PP **PP 08 37 19.7 +1.6**
TXAR PKKP **PKKPbc 08 50 08.2 -2.5**
TXAR Lajitas Array 96.28 61 P **P 08 33 25.7 +1.4**
comp=Z,0.6nm,0.8s,baz=230,slow=5.6,SNR=10
TXAR PP **PP 08 37 19.7 +1.6**
comp=Z,3.7nm,1.1s,baz=238,slow=7.1,SNR=15
TXAR PKKP **PKKPbc 08 50 08.2 -2.5**
comp=Z,0.4nm,0.9s,baz=101,slow=2.6,SNR=3.6
TXAR LR LR 09 08 26.7
comp=Z,1μm,21.4s,baz=275,slow=30
ZALV Zalesovo Beam 96.44 324 *i P* **P 08 33 23.5 -0.8**
ZALV pmax pmax
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 96.44 324 P **P 08 33 22.8 -1.5**
ZALV Zalesovo Beam 96.44 324 P **P 08 33 22.8 -1.5**
comp=Z,22nm,0.8s,baz=103,slow=4.4,SNR=26
ZALV LR LR 09 17 50.4
comp=Z,644nm,20.0s,baz=71,slow=36
SDCO Great Sand Dun 96.58 53 PFAKE 08 33 40.0 +14
SDCO LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 96.93 51 PFAKE 08 33 40.0 +13
ISCO LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 97.01 27 P **P 08 33 25.8 -0.8**
YKA Yellowknife Ar 97.01 27 P **P 08 33 25.8 -0.8**
comp=Z,1.3nm,0.7s,baz=260,slow=4.7,SNR=5.7
NVS Novosibirsk 97.56 325 *eP* **P 08 33 28.5 -0.8**
AMTX Amarillo 99.03 56 PFAKE 08 33 50.0 +13
AMTX LR LR
comp=Z,1μm,21.0s
KSH Kashi 99.32 308 *eP* **Pdif 08 33 37.3 -0.4**
KSH sP **sP 08 33 52.3 -0.6**
KSH PP **PP 08 37 44.3 +3.1**
KSH S ScS 08 45 00.1 -7.4
KSH SS **SS 08 51 55.3 -2.3**
KSH pmax pmax
comp=Z,5.0nm,0.4s
KSH pmax pmax
comp=Z,120nm,5.9s
KSH LR LR
comp=N,280nm,8.8s
KSH LR LR
comp=E,120nm,7.0s
KSH LR LR
comp=Z,150nm,8.5s
KURK Kurchatov 99.46 320 P **Pdif 08 33 36.8 -1.1**
KURK Kurchatov 99.46 320 P **Pdif 08 33 36.8 -1.1**
KURBB Kurchatov Arra 99.50 320 P **Pdif 08 33 36.8 -1.3**
comp=Z,3.7nm,0.9s,baz=110,slow=3.4,SNR=19
DGMT Dagmar 99.60 42 PFAKE 08 33 50.0 +11
DGMT LR LR
comp=Z,515nm,21.0s
JCT Junction City 99.80 61 PFAKE 08 33 50.0 +10
JCT LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 99.83 50 PFAKE 08 33 50.0 +10
OGNE LR LR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 100.18 312 *eP* **Pdif 08 33 43.2 +1.6**
TKM2 pmax pmax
comp=Z,4.0nm,1.2s
TKM2 MLR MLR
comp=Z,584nm,21.0s
TKM2 Tokmak 2 100.18 312 *e*Pdif **Pdif 08 33 43.2 +1.6**
comp=Z,3.7nm,1.2s
TKM2 LR LR
comp=Z,584nm,21.0s
KVTX Kingsville 100.93 64 PFAKE 08 34 00.0 +15
KVTX LR LR
comp=Z,481nm,19.0s
AAK Ala-Archa 100.93 311 *i P* **Pdif 08 33 44.4 -0.5**
AAK pmax pmax
comp=Z,17nm,2.5s
AAK Ala-Archa 100.93 311 PFAKE 08 34 00.0 +15
AAK LR LR
comp=Z,520nm,19.0s
WMOK Wichita Mounta 101.36 57 PFAKE 08 34 00.0 +13
WMOK LR LR
comp=Z,1μm,21.0s
EKS2 Erkin-Say 101.46 311 PFAKE 08 34 00.0 +13
EKS2 LR LR
comp=Z,476nm,20.0s
FFC Flin Flon 101.91 36 PFAKE 08 34 00.0 +11
FFC LR LR
comp=Z,619nm,20.0s
PAYG Puerto Ayora 102.38 94 PFAKE 08 34 00.0 +8.2
PAYG LR LR
comp=Z,2μm,21.0s
KSU1 Kansas State U 103.69 53 PFAKE 08 34 10.0 +13
KSU1 LR LR
comp=Z,1μm,19.0s
KKAR Karatay Array 103.90 311 *eP* **Pdif 08 33 57.1 -0.8**
KKAR pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 103.90 311 *e*Pdif **Pdif 08 33 57.1 -0.8**
comp=Z,3.1nm,0.9s
ECSD EROS Data Cent 104.19 48 PFAKE 08 34 10.0 +11
ECSD LR LR
comp=Z,429nm,19.0s
BVAR Borovoye Array 104.80 322 P **Pdif 08 33 59.7 -1.9**
BVAR Borovoye Array 104.80 322 Pdif **Pdif 08 33 59.7 -1.9**
BVAR Borovoye Array 104.80 322 Pdiff **Pdif 08 33 59.7 -1.9**
comp=Z,1.4nm,0.6s,baz=90,slow=4.3,SNR=13
BRVK Borovoye 104.87 322 PFAKE 08 34 10.0 +8.1
BRVK LR LR
comp=Z,845nm,20.0s
AGMN Agassiz Nation 105.09 43 PFAKE 08 38 30.0
AGMN LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 105.59 58 PFAKE 08 38 30.0
MIAR LR LR
comp=Z,942nm,19.0s
VBMS Vicksburg 107.90 60 PFAKE 08 38 40.0
VBMS LR LR
comp=Z,745nm,20.0s
EYMN Ely 108.00 44 PFAKE 08 38 40.0
EYMN LR LR
comp=Z,1μm,19.0s
TEIG Tepich 108.48 73 PFAKE 08 38 40.0
TEIG LR LR
comp=Z,935nm,20.0s
OXF Oxford 109.01 58 PFAKE 08 38 40.0
OXF LR LR
comp=Z,743nm,19.0s
MSEY Mahe Island 109.42 260 PFAKE 08 38 40.0
MSEY LR LR
comp=Z,1μm,19.0s
BRAL Brewton 110.74 62 PFAKE 08 38 40.0
BRAL LR LR
comp=Z,729nm,20.0s
LRAL Lakeview Retre 110.92 60 PFAKE 08 38 40.0
LRAL LR LR
comp=Z,832nm,19.0s
ABKAR Akbulak array 111.38 318 *e*PKPdf **PKiKP 08 38 28.5 -0.8**
ARU Arti 111.53 325 *i* PKIKP **PKiKP 08 38 28.6 -0.7**
ARU 08 39 09.1
ARU 08 45 06.4
ARU SP SP 08 48 38.2 -0.1
ARU SS SS 08 54 34.0 -9.1
ARU MLR MLR
comp=Z,512nm,23.0s
ABPO Ambohimpanom 112.09 243 PFAKE 08 38 40.0
ABPO LR LR

comp=Z,2μm,19.0s
KBS Kingsbay 113.82 355 PFAKE 08 38 50.0
KBS LR LR
comp=Z,759nm,21.0s
OTAV Otavalo 114.06 96 PFAKE 08 38 50.0 +14
OTAV LR LR
comp=Z,945nm,21.0s
BCIP Isla Barro Col 114.72 86 PFAKE 08 38 50.0 +13
BCIP LR LR
comp=Z,614nm,22.0s
BLA Blacksburg 116.35 55 PFAKE 08 38 50.0 +11
BLA LR LR
comp=Z,1μm,19.0s
LPAZ La Paz 118.00 117 PKP **PKPdf 08 38 43.0 -0.6**
LPAZ SKP 08 42 24.1
LPAZ PKKP **PKKPdf 08 49 31.9 +0.1**
LPAZ La Paz 118.00 117 PKP **PKPdf 08 38 43.0 -0.6**
comp=Z,0.9nm,0.6s,baz=48,slow=1.3,SNR=5.2
LPAZ SKP 08 42 24.1
comp=Z,4.5nm,1.2s,baz=8.6,slow=1.8,SNR=5.2
LPAZ PKKP **PKKPdf 08 49 31.9 +0.1**
comp=Z,4.1nm,0.4s,baz=4.1,slow=12,SNR=31
MTDJ Mount Denham 118.30 77 PFAKE 08 39 00.0 +16
MTDJ LR LR
comp=Z,429nm,20.0s
APA Apatity 118.44 342 ⇑*i*PKIKP **PKPdf 08 38 42.0 -0.2**
APA *e*PS **PS 08 49 40.0 -5.9**
APA pmax pmax
comp=Z,36nm,1.2s
CNNC Cliffs of the 118.48 57 PFAKE 08 39 00.0 +17
CNNC LR LR
comp=Z,1μm,20.0s
CBN Corbin 118.70 54 PFAKE 08 39 00.0 +16
CBN LR LR
comp=Z,2μm,20.0s
BINY Binghamton 119.32 49 PFAKE 08 39 00.0 +15
BINY LR LR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 119.32 345 PKP **PKPdf 08 38 42.9 -1.0**
ARCES PKKPbc **PKKPab 08 48 54.5 -3.5**
ARCES ARCESS Array B 119.32 345 PKP **PKPdf 08 38 42.9 -1.0**
comp=Z,11nm,0.7s,baz=62,slow=2.6,SNR=54
ARCES PKKPbc **PKKPab 08 48 54.5 -3.5**
comp=Z,4.5nm,0.9s,baz=241,slow=2.5,SNR=6.0
SUMG Summit 119.47 8 *i P* **PKKPbc 08 48 56.4 -2.5**
comp=Z,9.3nm,1.0s
LONY Lake Ozonia 119.95 46 PFAKE 08 39 00.0 +14
LONY LR LR
comp=Z,611nm,21.0s
NCB Newcomb 120.31 47 PFAKE 08 39 00.0 +13
NCB LR LR
comp=Z,1μm,21.0s
MAK Makhachkala 120.71 312 *i* PKIKP **PKPdf 08 38 47.8 +0.5**
MAK *e* 08 40 14.8
MAK pmax pmax
comp=Z,30nm,0.4s
GTBY Guantanamo Bay 120.74 75 PFAKE 08 39 00.0 +12
GTBY LR LR
comp=Z,453nm,20.0s
CPUP Villa Florida 121.36 133 PKP **PKPdf 08 38 50.1 +1.0**
CPUP SKP 08 42 29.5
CPUP PKKPab **PKKPab 08 48 52.2 +0.1**
CPUP Villa Florida 121.36 133 PKP **PKPdf 08 38 50.1 +1.0**
comp=Z,2.4nm,0.8s,baz=19,slow=1.3,SNR=6.3
CPUP SKP 08 42 29.5
comp=Z,3.5nm,1.0s,baz=160,slow=5.4,SNR=3.4
CPUP PKKPab **PKKPab 08 48 52.2 +0.1**
comp=Z,0.7nm,0.6s,baz=28,slow=8.9,SNR=2.9
SFJD Kangerlussuaq 121.50 16 PFAKE 08 39 00.0 +12
SFJD LR LR
comp=Z,1μm,20.0s
LBNH Lisbon 121.89 46 PFAKE 08 39 00.0 +10
LBNH LR LR
comp=Z,738nm,22.0s
VRHR Novokhopersk 122.53 322 *e*PKIKP **PKPdf 08 38 49.0 -1.6**
VRHR pmax pmax
comp=Z,60nm,1.5s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR MLR MLR
comp=Z,560nm,23.0s
VRHR MLR MLR
comp=N,30nm,11.0s
VRHR MLR MLR
comp=E,860nm,23.0s
GNI Garni 123.24 309 PFAKE 08 39 00.0 +7.5
GNI LR LR
comp=Z,382nm,21.0s
ZEI Tsey 123.34 312 *i* PKIKP **PKPdf 08 38 51.9 -0.8**
ZEI pmax pmax
comp=Z,14nm,1.0s
PKME Peaks-Kenny Pk 123.47 45 PFAKE 08 39 00.0 +7.5
PKME LR LR
comp=Z,726nm,19.0s
SDV Santo Domingo 123.59 88 *e*PKPdf **PKPdf 08 38 53.9 0.0**
SUR Sutherland 123.64 215 PFAKE 08 39 10.0 +16
SUR LR LR
comp=Z,2μm,19.0s
BOSA Boshof 123.71 221 PKP **PKPdf 08 38 53.5 -0.3**
BOSA Boshof 123.71 221 PKP **PKPdf 08 38 53.5 -0.3**
comp=Z,12nm,1.0s,baz=153,slow=2.2,SNR=6.0
OBN Obninsk 123.75 328 ⇓*i*PKIKP **PKPdf 08 38 52.3 -0.4**
OBN *e* 08 40 38.4
OBN pmax pmax
comp=Z,55nm,1.7s
KBZ Khabaz 123.84 314 PKIKP **PKPdf 08 38 53.0 -0.3**
KBZ Khabaz 123.84 314 PKP **PKPdf 08 38 53.0 -0.3**
KBZ Khabaz 123.84 314 PKP **PKPdf 08 38 53.0 -0.3**
comp=Z,5.1nm,0.9s,baz=129,slow=3.0,SNR=6.4
KIV Kislovodsk 123.93 314 ⇑*i*PKIKP **PKPdf 08 38 54.2 +0.6**
KIV *e* 08 40 40.6
KIV *e* 08 45 59.5
KIV *e*SS SS 08 57 21.3 -3.6
KIV pmax pmax
comp=Z,16nm,1.0s
VSR Storozhevoye 123.94 323 *e*PKIKP **PKPdf 08 38 52.3 -1.0**
VSR pmax pmax
comp=Z,50nm,1.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.4s
VORD Divnogorie 123.96 323 *e*PKIKP **PKPdf 08 38 52.4 -0.9**
VORD pmax pmax
comp=Z,30nm,1.5s
VORD pmax pmax
comp=N,8.0nm,0.5s
VORD pmax pmax
comp=E,20nm,1.5s
KAF Kangasniemi 124.25 339 *e*PKIKP **PKPdf 08 38 52.2 -1.3**
KAF pmax pmax
comp=Z,12nm,0.6s
KAF Kangasniemi 124.25 339 *ep* **PKPdf 08 38 52.2 -1.3**
comp=Z,12nm,0.6s
SDDR Presa de Saban 124.26 76 PFAKE 08 39 10.0 +15
SDDR LR LR
comp=Z,5μm,21.0s
GRTK Grand Turk 124.55 73 PFAKE 08 39 10.0 +15
GRTK LR LR
comp=Z,548nm,19.0s
FIA1 FINESS Array S 124.77 338 *e*PKPdf **PKPdf 08 38 52.9 -1.6**
FINES FINESS Array B 124.77 338 PKP **PKPdf 08 38 53.3 -1.2**
FINES FINESS Array B 124.77 338 PKP **PKPdf 08 38 53.3 -1.2**
comp=Z,20nm,1.0s,baz=52,slow=2.3,SNR=18
SAML Samuel 125.47 112 PFAKE 08 39 10.0 +13
SAML LR LR
comp=Z,438nm,20.0s
SOC Sochi 126.11 314 *i* PKIKP **PKPdf 08 38 54.7 -3.0**
SOC *e*PS **PS 08 50 54.2 -0.8**
VSU Vasula 126.46 335 *i* PKIKP **PKPdf 08 38 57.4 -0.4**
VSU MLR MLR
comp=Z,2μm,24.0s
ANN Anapa 127.30 316 *i* PKIKP PKPdf 08 38 52.4 -7.5
ANN *e* 08 39 05.2
ANN pmax pmax
comp=Z,24nm,1.6s
ANN MLR MLR
comp=N,346nm,24.0s
ANN MLR MLR
comp=E,222nm,24.0s
ANN MLR MLR
comp=Z,729nm,24.0s
KMBO Kilima Mbogo 127.84 258 PKP **PKPdf 08 39 02.0 -0.2**
KMBO *e*PKPdf **PKiKP 08 39 02.6 -0.2**
KMBO LR LR
comp=Z,963nm,21.0s
KMBO Kilima Mbogo 127.84 258 PKP **PKPdf 08 39 02.0 -0.2**
comp=Z,7.8nm,1.0s,baz=51,slow=1.4,SNR=13
BORG Borgarnes 128.89 4 PFAKE 08 39 10.0 +7.7
BORG LR LR
comp=Z,797nm,21.0s
SIM Simferopol' 129.45 317 PKIKP PKPdf 08 39 10.3 +6.3
SIM *e* 08 41 12.0
SIM pmax pmax
comp=Z,100nm,8.9s
NB2 NORSAR Subarra129.69 345 PKPdf **PKPdf 08 39 03.4 -0.6**
comp=Z,16nm,1.1s,baz=27,slow=1.8
NB2 NORSAR Subarra129.69 345 PKPdf **PKPdf 08 39 03.4 -0.6**
baz=27,slow=1.8
NOA NORSAR Array B129.69 345 PKP **PKPdf 08 39 03.5 -0.5**
NOA SKPbc SKPbc 08 42 24.9 +1.3
NOA NORSAR Array B129.69 345 PKP **PKPdf 08 39 03.5 -0.5**
comp=Z,13nm,1.0s,baz=35,slow=2.0,SNR=11
NOA SKPbc SKPbc 08 42 24.9 +1.3
comp=Z,3.5nm,0.9s,baz=37,slow=4.5,SNR=5.1
BBSR BB Station 129.70 59 PFAKE 08 39 20.0 +15
BBSR LR LR
comp=Z,603nm,19.0s
AKASG Malin Array Be 129.78 326 *c i* PKIKP **PKPdf 08 39 04.0 -0.4**
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 129.78 326 PKP **PKPdf 08 39 03.4 -1.0**
AKASG SKPbc SKPbc 08 42 25.3 +1.1
AKASG Malin Array Be 129.78 326 PKP **PKPdf 08 39 03.4 -1.0**
comp=Z,9.1nm,1.0s,baz=60,slow=1.8,SNR=21
AKASG SKPbc SKPbc 08 42 25.3 +1.1
comp=Z,1.5nm,0.6s,baz=51,slow=4.0,SNR=5.6
KIEV Kiev 129.79 326 *e*PKIKP **PKPdf 08 39 03.7 -0.7**
KIEV MLR MLR
comp=Z,829nm,20.0s
KIEV Kiev 129.79 326 *e*PKPdf **PKPdf 08 39 03.7 -0.7**
KIEV LR LR
comp=Z,829nm,20.0s
LSZ Lusaka 129.84 236 PFAKE 08 39 20.0 +14
LSZ LR LR
comp=Z,1μm,20.0s
SUW Suwalki 130.84 332 *e*PKP **SKPbc 08 42 29.7 +1.8**
KONO Kongsberg 131.30 345 PFAKE 08 39 20.0 +13
KONO LR LR
comp=Z,576nm,19.0s
BR131 Keskin Array S 131.61 311 *e*PKPdf **PKPdf 08 39 08.2 -0.3**
BRTR Keskin Array B 131.61 311 PKP **PKPdf 08 39 07.5 -1.0**
BRTR PP **PP 08 41 28.6 +0.4**
BRTR SKPbc **SKPab 08 42 33.0 +0.9**
BRTR Keskin Array B 131.61 311 PKP **PKPdf 08 39 07.5 -1.0**
comp=Z,1.8nm,0.8s,baz=93,slow=3.2,SNR=9.1
BRTR PP **PP 08 41 28.6 +0.4**
comp=Z,1.9nm,0.9s,baz=75,slow=6.7,SNR=5.9
BRTR SKPbc **SKPab 08 42 33.0 +0.9**
comp=Z,4.7nm,0.8s,baz=98,slow=3.0,SNR=12
KIS Kishinev 131.88 322 *e*PKP **PKPdf 08 39 08.0 -0.5**
KIS Kishinev 131.88 322 *e*PP PP 08 41 34.0 +4.7
KIS *e*SKP 08 42 32.0
KIS *e*SKS **SKSdf 08 46 20.0 +2.6**
KIS *e*SKKS SKKSac 08 47 37.0 -46
KIS LRM MLR 09 38 44.0
comp=Z,600nm,20.0s
KIS Kishinev 131.88 322 *e*PKIKP **PKPdf 08 39 08.0 -0.5**
KIS *e* 08 41 34.0
KIS *e* 08 44 20.0
KIS *e* 08 46 20.0
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,600nm,20.0s
ANTO Ankara 132.18 312 ⇓PKIKP **PKPdf 08 39 09.0 -0.5**
ANTO Ankara 132.18 312 ⇓*i*P **PKPdf 08 39 09.0 -0.5**
ANTO Ankara 132.18 312 *e*PKPdf **PKPdf 08 39 09.6 +0.1**
ANTO LR LR
comp=Z,360nm,21.0s
TLCR 132.75 320 ⇑PKIKP **PKPdf 08 39 09.2 -1.0**
TLCR 132.75 320 ⇑*i*P **PKPdf 08 39 09.2 -1.0**
GRGR Grenville 132.83 86 PFAKE 08 39 20.0 +8.7
GRGR LR LR
comp=Z,4μm,19.0s
CFR Carcaliu 133.18 320 ⇓PKIKP **PKPdf 08 39 10.7 -0.3**
CFR Carcaliu 133.18 320 ⇓*i*P **PKPdf 08 39 10.7 -0.3**
ANWB Willy Bob 133.20 79 PFAKE 08 39 20.0 +8.2
ANWB LR LR
comp=Z,2μm,19.0s
CSS Prodhromos 133.21 305 *e*PKPdf **PKPdf 08 39 13.4 +2.0**
CSS LR LR
comp=Z,731nm,21.0s
TIRR Tirgusor 133.34 319 ⇓PKIKP **PKPdf 08 39 10.1 -1.3**
TIRR Tirgusor 133.34 319 ⇓*i*P **PKPdf 08 39 10.1 -1.3**
BSD Bornholm Skovb 133.41 338 *i* P **PKPdf 08 39 09.3 -1.9**
BSD *i* 08 41 38.0
BSD *i* 08 48 22.3
BSD
comp=Z,850nm,23.0s
FDF Fort de France 133.61 83 PFAKE 08 39 30.0 +17
FDF LR LR
comp=Z,5μm,19.0s
BUR08 Bucovina Ar. S 133.65 325 *e*PKPdf **PKPdf 08 39 12.6 +0.6**
BURAR Bucovina Array 133.66 324 ⇑PKIKP **PKPdf 08 39 13.2 +1.2**
BURAR Bucovina Array 133.66 324 ⇑*i*P **PKPdf 08 39 13.1 +1.1**
VRI Vrincioaia 133.70 322 ⇑PKIKP **PKPdf 08 39 12.1 0.0**
VRI Vrincioaia 133.70 322 ⇑*i*P **PKPdf 08 39 12.1 0.0**
COP Copenhagen 133.82 340 *i* P **PKPdf 08 39 15.5 +3.6**
COP *i* PP **PP 08 41 40.2 -0.8**
COP
comp=Z,340nm,25.0s
KWP Kalwaria Pacla 133.84 328 PFAKE 08 39 20.0 +7.8
KWP LR LR
comp=Z,715nm,20.0s
MBAR Mbarara 134.16 255 PFAKE 08 39 30.0 +16
MBAR LR LR
comp=Z,615nm,20.0s
MUD Monsted U'grnd 134.18 343 *i* P PKPpre 08 38 56.5
MUD *i* PP PP 08 41 50.8 +7.6
MUD
comp=Z,740nm,23.0s
MLR Muntele Rosu 134.37 322 ⇑*i*P **PKPdf 08 39 13.0 -0.5**
KOLS Kolonicke sedl 134.49 328 *e*PKIKP **PKPdf 08 39 13.9 +0.5**
KOLS Kolonicke sedl 134.49 328 *e*PKP **PKPdf 08 39 13.9 +0.5**
KOLS *e*SKP 08 42 43.0
ISP Isparta 134.53 310 PFAKE 08 39 30.0 +16
ISP LR LR
comp=Z,511nm,21.0s
UZH Uzhgorod 134.66 327 *e*PKHKP PKPpre 08 39 01.7
UZH *i* 08 39 13.8
UZH *e* 08 39 23.5
UZH *e* 08 39 26.6
STHS Stebnicka Huta 134.72 329 *e*PKIKP **PKPdf 08 39 14.8 +0.9**
STHS *e* 08 41 45.4
STHS Stebnicka Huta 134.72 329 *e*PKP **PKPdf 08 39 14.8 +0.9**
STHS *e*PP **PP 08 41 45.4 -1.7**
BDFB Brasilia 134.78 129 PKP **PKPdf 08 39 17.4 +2.3**
BDFB SKPbc **SKiKP 08 42 48.9 -1.2**
BDFB Brasilia 134.78 129 PKP **PKPdf 08 39 17.4 +2.3**
comp=Z,2.0nm,0.7s,baz=162,slow=3.2,SNR=4.1
BDFB SKPbc **SKiKP 08 42 48.9 -1.2**
comp=Z,5.9nm,0.9s,baz=162,slow=3.2,SNR=5.9
TRPA Tarpa 134.84 327 ⇑*i*P **PKPdf 08 39 15.0 +1.0**
CRVS Cervenica-Dubn 134.93 328 *e*PKIKP **PKPdf 08 39 14.2 -0.1**
CRVS *e* 08 41 49.0
CRVS Cervenica-Dubn 134.93 328 *e*PKP **PKPdf 08 39 14.2 -0.1**
CRVS *e*PP **PP 08 41 49.0 +0.5**
CRVS *e*SKP 08 42 43.9
VOIR 134.93 322 ⇑PKIKP **PKPdf 08 39 15.5 +1.0**
VOIR 134.93 322 ⇑*i*P **PKPdf 08 39 15.5 +1.0**
BBGH Gun Hill 134.98 85 PFAKE 08 39 30.0 +15
BBGH LR LR
comp=Z,9μm,20.0s
ARR Arges 135.22 322 ⇑*i*P **PKPdf 08 39 14.8 -0.2**
TSUM Tsumeb 135.27 223 PFAKE 08 39 30.0 +14
TSUM LR LR
comp=Z,1μm,21.0s
DRGR 135.53 325 ⇑PKIKP **PKPdf 08 39 16.6 +1.1**
DRGR 135.53 325 ⇑*i*P **PKPdf 08 39 16.6 +1.1**
KECS Kecovo 135.69 328 *e*PKIKP **PKPdf 08 39 15.6 -0.1**
KECS Kecovo 135.69 328 *e*PKP **PKPdf 08 39 15.5 -0.1**
KECS *e*SKP 08 42 46.1
OKC Ostrava-Krasne 135.95 331 *e*PKIKP **PKPdf 08 39 14.7 -1.4**
OKC MLR MLR
comp=Z,700nm,23.0s
OKC Ostrava-Krasne 135.95 331 *e*PKPdf **PKPdf 08 39 14.7 -1.4**
OKC *e*PP PP 08 41 49.6 -5.2
OKC *e*SKP 08 42 50.6
OKC AMS AMS 09 36 20.0
comp=Z,700nm,23.0s
KSP Ksiaz 136.08 333 *e*PKIKP **PKPdf 08 39 16.2 -0.1**
KSP Ksiaz 136.08 333 *e*PKP **SKPdf 08 42 47.9 -0.9**
GZR Gura Zlata 136.30 323 ⇓PKIKP **PKPdf 08 39 16.4 -0.6**
GZR Gura Zlata 136.30 323 ⇓*i*P **PKPdf 08 39 16.4 -0.6**
PSZ Piszkesteto 136.36 328 ⇑PKIKP **PKPdf 08 39 16.9 -0.1**
PSZ Piszkesteto 136.36 328 ⇑*i*P **PKPdf 08 39 16.9 -0.1**
PSZ Piszkesteto 136.36 328 *e*PKPdf **PKPdf 08 39 16.6 -0.5**
PSZ LR LR
comp=Z,644nm,19.0s
DPC Dobruska-Polom 136.42 333 *e*PKIKP **PKPdf 08 39 14.3 -2.7**
DPC *e* 08 41 57.3
DPC Dobruska-Polom 136.42 333 *e*PKPdf **PKPdf 08 39 14.3 -2.7**
DPC *ex* x 08 39 38.8
DPC *e*PP **PP 08 41 57.3 -0.5**
DPC *e*SKP 08 42 50.5
DPC AMS AMS 09 39 00.0
UPC Upice 136.45 333 *e*PKIKP **PKPdf 08 39 17.0 0.0**
UPC Upice 136.45 333 *e*PKPdf **PKPdf 08 39 17.0 0.0**
BZS Buzias 136.84 324 ⇓PKIKP **PKPdf 08 39 17.3 -0.6**
BZS Buzias 136.84 324 ⇓*i*P **PKPdf 08 39 17.3 -0.6**
PVCC Panska Ves 137.05 334 *e*PKIKP **PKPdf 08 39 17.2 -0.9**
PVCC MLR MLR
comp=Z,700nm,24.1s
PVCC Panska Ves 137.05 334 *e*PKPdf **PKPdf 08 39 17.2 -0.9**
PVCC AMS AMS 09 36 50.0
comp=Z,700nm,24.1s
BRG Berggiesshubel 137.06 335 *e*PKP **PKPdf 08 39 16.7 -1.4**
comp=Z,18nm,1.1s
BRG *e* 08 39 31.1
comp=Z,6.8nm,1.0s
BRG PP **PP 08 42 06.0 +4.4**
BRG SKP 08 42 51.0
BRG SKKS 08 54 24.0
BRG SS SS 09 00 13.0 +8.8
BRG
comp=Z,1μm,19.0s
BRG
comp=N,706nm,19.0s
BRG
comp=E,456nm,19.0s
BRG Berggiesshubel 137.06 335 *e*PKIKP **PKPdf 08 39 16.7 -1.4**
BRG *e* 08 39 31.1
BRG 08 42 06.0
BRG pmax pmax
comp=Z,18nm,1.1s
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=N,706nm,19.0s
BRG MLR MLR
comp=E,456nm,19.0s
BRG MLR MLR
comp=Z,1μm,19.0s
CLL Collm 137.10 336 ⇓*i*PKIKP **PKPdf 08 39 17.8 -0.4**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,800nm,19.4s
CLL Collm 137.10 336 *i* PKPdf **PKPdf 08 39 17.8 -0.4**
comp=Z,12nm,1.1s
CLL ⇓*i*PKiKP **PKiKP 08 39 19.7 -0.3**
comp=Z,17nm,1.0s
CLL *i* 08 39 22.5
CLL *e*PP **PP 08 42 01.0 -0.9**
CLL *e*SKPbc **SKPbc 08 42 50.0 +1.3**
comp=Z,10.0nm,1.1s
CLL *i* (PKSdf) 08 42 55.0
CLL *e*(pSKPdf) 08 43 03.0
CLL *e*PPS PPS 08 54 11.0
CLL *e*SS SS 09 00 15.0 +10
CLL *e* 09 01 27.0
CLL *e*SSS SSS 09 05 18.0
CLL LmH 09 41 00.0
comp=Z,700nm,20.5s
CLL LmV 09 44 00.0
comp=Z,800nm,19.4s
PRU Pruhonice 137.47 334 *e*PKHKP PKPpre 08 39 10.2
PRU *e* 08 41 59.7
PRU MLR MLR
comp=Z,700nm,20.9s
PRU Pruhonice 137.47 334 *e*PKPpre PKPpre 08 39 10.2
PRU *e*PP **PP 08 41 59.7 -4.5**
PRU *e*SKP 08 42 58.0
PRU *ex* x 08 50 46.8
PRU AMS AMS 09 42 00.0
comp=Z,700nm,20.9s
VTS Vitosha 137.55 319 ⇓PKIKP **PKPdf 08 39 17.7 -1.8**
VTS Vitosha 137.55 319 ⇓*i*P **PKPdf 08 39 17.7 -1.8**
TREC Trest 137.56 332 *e*PKIKP **PKPdf 08 39 19.1 -0.1**
TREC *e* 08 42 02.1
TREC MLR MLR
comp=Z,1μm,21.8s
TREC Trest 137.56 332 *e*PKPdf **PKPdf 08 39 19.1 -0.1**
TREC *e*PP **PP 08 42 02.1 -2.8**
TREC AMS AMS 09 40 00.0
comp=Z,1μm,21.8s
ESK Eskdalemuir 137.93 351 PFAKE 08 39 30.0 +10
ESK LR LR
comp=Z,680nm,19.0s
PKSM Moragy 138.11 327 ⇑PKIKP **PKPdf 08 39 20.3 +0.1**
PKSM Moragy 138.11 327 ⇑*i*P **PKPdf 08 39 20.3 +0.1**
NKC Novy Kostel 138.16 335 *e*PP PP 08 42 08.5 0.0
NKC AMS AMS 09 38 50.0
comp=Z,500nm,24.3s
KHC Kasperske Hory 138.53 333 *e*PKHKP PKPpre 08 39 10.5
KHC *e* 08 39 21.0
KHC *e* 08 42 12.0
KHC *e* 08 54 30.9
KHC MLR MLR
comp=Z,700nm,19.6s
KHC Kasperske Hory 138.53 333 *e*PKPpre PKPpre 08 39 10.5
KHC *e*PKPdf **PKPdf 08 39 21.0 0.0**
KHC *ex* x 08 39 39.8
KHC *ex* x 08 42 04.2
KHC *e*PP **PP 08 42 12.0 +1.1**
KHC *e*SKP 08 42 52.3
KHC *ex* x 08 54 30.9
KHC AMS AMS 09 47 20.0
comp=Z,700nm,19.6s
KHC Kasperske Hory 138.53 333 *e*PKPdf **PKPdf 08 39 20.5 -0.4**
GERES GERESS Array B 138.69 333 PKPpre PKPpre 08 39 16.1
GERES SKPbc **SKPbc 08 42 54.6 +1.0**
GERES GERESS Array B 138.69 333 PKhKP PKPpre 08 39 16.1
comp=Z,0.5nm,0.3s,baz=46,slow=2.8,SNR=4.1
GERES SKPbc **SKPbc 08 42 54.6 +1.0**
comp=Z,4.4nm,0.9s,baz=34,slow=2.6,SNR=8.7
SANT Santorini 138.83 310 PFAKE 08 39 30.0 +8.1
SANT LR LR
comp=Z,429nm,20.0s
PERS Pernice 139.63 330 *i* PKPdf **PKPdf 08 39 22.6 -0.5**
PERS *i* 08 39 24.5
KBA Koelnbreinsper 140.16 332 ⇓*i*PKIKP **PKPdf 08 39 25.2 +1.0**
comp=Z,29nm,1.1s,SNR=7.5
MEM Membach 140.18 341 PKP **PKPdf 08 39 22.8 -1.1**
TIR Tirane 140.32 320 PFAKE 08 39 40.0 +16
TIR LR LR
comp=Z,668nm,21.0s
BOJS Bojanci 140.35 328 *i* PKPdf **PKPdf 08 39 24.7 +0.4**
VISS Visnje 140.35 329 *i* PKPdf **PKPdf 08 39 24.4 0.0**
VOY Vojsko 140.66 330 *e*PKPdf **PKPdf 08 39 24.2 -0.8**
VOY *e* 08 39 27.9
VOY *e* 08 39 48.7
JAVS Javornik 140.67 330 *i* PKPdf **PKPdf 08 39 24.7 -0.3**
ABTA Abfaltersbach 140.79 332 ⇑*i*PKPdf **PKPdf 08 39 23.9 -1.3**
comp=Z,35nm,1.2s,SNR=8.5
WTTA Wattenberg 140.79 333 ⇑*i*PKPdf **PKPdf 08 39 24.6 -0.8**
comp=Z,44nm,1.5s,SNR=9.5
WLF Walferdange 140.95 340 PKP **PKPdf 08 39 21.6 -3.7**
WLF Walferdange 140.95 340 *e*PKIKP **PKPdf 08 39 21.4 -3.9**
WLF MLR MLR
comp=Z,1μm,22.0s
WLF Walferdange 140.95 340 *e*PKPdf **PKPdf 08 39 21.4 -3.9**
WLF LR LR
comp=Z,1μm,22.0s
LANF Langenberg 140.96 338 PKP **PKPdf 08 39 23.8 -1.6**
MOTA Moosalm 140.96 334 ⇑*i*PKPdf **PKPdf 08 39 22.8 -2.8**
comp=Z,15nm,0.9s
DOU Dourbes 141.07 342 PKP **PKPdf 08 39 25.2 -0.3**

BFO	**Black Forest**	**141.30**	**337**	*e*PKIKP	**PKPdf**	**08 39 25.9**	**-0.1**
BFO				MLR	MLR		
comp=Z,388nm,20.0s							
BFO	**Black Forest**	**141.30**	**337**	*e*PKPdf	**PKPdf**	**08 39 25.9**	**-0.1**
BFO				LR	LR		
comp=Z,388nm,20.0s							
FETA	**Feichten**	**141.37**	**334**	⇑*i*PKPdf	PKPpre	08 39 20.1	
comp=Z,31nm,1.1s							
DAVA	**Damuels**	**141.52**	**335**	⇓*i*PKPdf	PKPpre	08 39 20.7	
comp=Z,15nm,0.9s							
ECH	**Echery**	**141.83**	**338**	*e*PKHKP	PKPpre	08 39 21.4	
ECH				MLR	MLR		
comp=Z,926nm,20.0s							
ECH	**Echery**	**141.83**	**338**	*e*PKP	PKPpre	08 39 21.4	
ECH				LR	LR		
comp=Z,926nm,20.0s							
ECH	**Echery**	**141.83**	**338**	PKP	**PKPdf**	**08 39 23.1**	**-3.9**
THEF	**They Montfort**	**142.24**	**339**	PKP	PKPdf	08 39 22.7	-5.0
TUE	**Stuetta**	**142.39**	**334**	*e*PKP	**PKPdf**	**08 39 23.4**	**-4.8**
TUE				LR	LR		
comp=Z,919nm,19.0s							
AQU	**L'Aquila**	**143.48**	**326**	*e*PKPdf	PKPbc	08 39 27.8	+0.5
AQU				LR	LR		
comp=Z,963nm,20.0s							
CUC	**Castrocucco**	**143.62**	**321**	*e*PKPdf	PKPab	08 39 25.9	-1.1
CUC				LR	LR		
comp=Z,632nm,20.0s							
VLC	**Villacollemand**	**143.72**	**331**	PFAKE		08 39 40.0	+10
VLC				LR	LR		
comp=Z,647nm,22.0s							
RSL	**Roselend**	**144.14**	**336**	PKP	**PKPab**	**08 39 28.3**	**-0.6**
CEL	**Celeste**	**144.59**	**319**	*e*PKPdf	**PKPab**	**08 39 30.0**	**-0.7**
CEL				LR	LR		
comp=Z,398nm,20.0s							
BNI	**Bardonecchia**	**144.64**	**335**	*e*PKIKP	**PKPab**	**08 39 30.8**	**0.0**
BNI				MLR	MLR		
comp=Z,965nm,21.0s							
BNI	**Bardonecchia**	**144.64**	**335**	*e*PKPdf	**PKPab**	**08 39 30.8**	**0.0**
BNI				LR	LR		
comp=Z,965nm,21.0s							
GDM	**Grand'Maison**	**144.74**	**336**	PKP	**PKPab**	**08 39 30.9**	**-0.3**
GRN	**Grenoble**	**144.85**	**337**	PKP	**PKPab**	**08 39 31.8**	**+0.3**
SURF	**Saint Ours**	**145.05**	**335**	PKP	**PKPbc**	**08 39 32.1**	**-0.3**
AGO	**Saint Agoulin**	**145.10**	**340**	PKP	**PKPbc**	**08 39 32.0**	**-0.2**
SAOF	**Saorge**	**145.14**	**333**	PKP	**PKPab**	**08 39 31.9**	**-0.5**
AUTN	**L'Aution**	**145.19**	**334**	PKP	**PKPbc**	**08 39 32.2**	**-0.6**
TOUF	**Mont Tournerai**	**145.25**	**334**	PKP	**PKPbc**	**08 39 32.4**	**-0.6**
SSB	**Saint Sauveur**	**145.28**	**338**	*e*PKIKP	**PKPbc**	**08 39 32.5**	**-0.4**
SSB				MLR	MLR		
comp=Z,411nm,20.0s							
SSB	**Saint Sauveur**	**145.28**	**338**	*e*PKPdf	**PKPbc**	**08 39 32.5**	**-0.4**
SSB				LR	LR		
comp=Z,411nm,20.0s							
LUCF	**Luceram**	**145.30**	**334**	PKP	**PKPbc**	**08 39 31.9**	**-1.2**
MVIF	**Mont Vial**	**145.38**	**334**	PKP	**PKPbc**	**08 39 32.8**	**-0.6**
REVF	**Revere**	**145.41**	**333**	PKP	**PKPbc**	**08 39 32.6**	**-0.8**
OG26	**St.-Nazaire-De**	**145.58**	**336**	PKP	**PKPdf**	**08 39 34.0**	**+0.3**
CALN	**Calern**	**145.61**	**334**	PKP	**PKPdf**	**08 39 33.7**	**-0.2**
LBL	**Lubilhac**	**145.78**	**339**	PKP	**PKPdf**	**08 39 34.4**	**+0.4**
OSPF	**L'Ospedale**	**146.17**	**329**	PKP	**PKPdf**	**08 39 35.2**	**+0.4**
WDD	**Wield Dalam**	**146.86**	**316**	PFAKE		08 39 50.0	+11
WDD				LR	LR		
comp=Z,493nm,20.0s							
VSL	**Villasalto**	**147.66**	**326**	*e*PKPbc	**PKPbc**	**08 39 39.6**	**-0.4**
VSL				LR	LR		
comp=Z,493nm,21.0s							
SHEL	**Horse Pasture**	**149.44**	**194**	*e*PKP2	**PKPbc**	**08 39 45.4**	**+0.1**
SHEL	**Horse Pasture**	**149.44**	**194**	*e*PKPbc	**PKPbc**	**08 39 45.4**	**+0.1**
SHEL				*e*PKPab	**PKPab**	**08 39 49.5**	**-0.5**
RCBR	**Riachuelo**	**150.15**	**130**	PFAKE		08 39 50.0	+2.8
RCBR				LR	LR		
comp=Z,624nm,20.0s							
KEST	**Kesra**	**150.27**	**321**	*e*PKPbc	**PKPbc**	**08 39 46.6**	**-0.3**
KEST	**Kesra**	**150.27**	**321**	PKPbc	**PKPbc**	**08 39 47.1**	**+0.3**
comp=Z,33nm,1.0s,baz=277,slow=2.3,SNR=50							
CMAH	**Djebel Manchou**	**150.79**	**324**	P	**PKPbc**	**08 39 47.4**	**-0.7**
ABSA	**Djebel Ababsia**	**151.00**	**324**	P	**PKPbc**	**08 39 48.7**	**+0.1**
CKFL	**Kef-Lekhel**	**151.34**	**325**	P	**PKPbc**	**08 39 49.2**	**-0.2**
CASM	**Ain Smara**	**151.57**	**325**	P	**PKPbc**	**08 39 50.2**	**+0.3**
PBRG	**Braganca**	**151.62**	**350**	*e*PKPbc	**PKPbc**	**08 39 49.3**	**-0.5**
PGAV	**Gavieira, Arco**	**151.70**	**352**	*e*PKPdf	**PKPdf**	**08 39 45.5**	**+1.8**
PGAV	**Gavieira, Arco**	**151.70**	**352**	*e*PKPbc	**PKPbc**	**08 39 49.5**	**-0.5**
PGAV	**Gavieira, Arco**	**151.70**	**352**	*e*LR	LR	09 34 56.9	
comp=Z,789nm,20.0s							
DFRA	**Djebel Bou Aff**	**151.70**	**326**	P	**PKPdf**	**08 39 43.8**	**-0.1**
PCAB	**Cabril**	**151.91**	**352**	*e*PKPdf	**PKPdf**	**08 39 44.0**	**0.0**
PCAB	**Cabril**	**151.91**	**352**	*e*PKPbc	**PKPbc**	**08 39 50.3**	**-0.2**
SET	**Setif**	**152.21**	**326**	P	**PKPdf**	**08 39 45.0**	**+0.3**
MVO	**Moncorvo**	**152.29**	**350**	*e*PKPdf	**PKPdf**	**08 39 44.0**	**-0.6**
MVO	**Moncorvo**	**152.29**	**350**	*e*PKPbc	**PKPbc**	**08 39 51.4**	**0.0**
MVO	**Moncorvo**	**152.29**	**350**	*e*LR	LR	09 37 55.6	
comp=Z,631nm,18.0s							
PVRL	**Vila Real**	**152.29**	**351**	*e*PKPbc	**PKPbc**	**08 39 51.5**	**+0.2**
PVIS	**Viseu**	**152.87**	**351**	*e*PKPbc	**PKPbc**	**08 39 52.7**	**0.0**
ESDC	**Sonseca Array**	**153.05**	**344**	PKP	**PKPdf**	**08 39 45.9**	**+0.1**
ESDC				PKPbc	**PKPbc**	**08 39 52.5**	**-0.6**
ESDC	**Sonseca Array**	**153.05**	**344**	PKP	**PKPdf**	**08 39 45.9**	**+0.1**
comp=Z,0.3nm,0.4s,baz=4.5,slow=2.7,SNR=8.3							
ESDC				PKPbc	**PKPbc**	**08 39 52.5**	**-0.6**
comp=Z,9.5nm,0.8s,baz=18,slow=2.5,SNR=22							
ESLA	**Sonseca Array**	**153.05**	**344**	*e*PKPbc	**PKPbc**	**08 39 52.7**	**-0.4**
MTE	**Manteigas**	**153.12**	**350**	*e*PKPdf	**PKPdf**	**08 39 45.4**	**-0.5**
MTE	**Manteigas**	**153.12**	**350**	*e*PKPbc	**PKPbc**	**08 39 53.0**	**-0.2**
MTE	**Manteigas**	**153.12**	**350**	*e*LR	LR	09 35 31.8	
comp=Z,876nm,20.0s							
MTE	**Manteigas**	**153.12**	**350**	*e*PKPdf	**PKPdf**	**08 39 45.8**	**-0.1**
MTE				*e*PKPbc	**PKPbc**	**08 39 52.9**	**-0.4**
MTE				LR	LR		
comp=Z,974nm,20.0s							
PCBR	**Castelo Branco**	**153.66**	**350**	*e*PKPdf	**PKPdf**	**08 39 46.9**	**+0.4**
PCBR	**Castelo Branco**	**153.66**	**350**	*e*PKPbc	**PKPbc**	**08 39 54.5**	**+0.2**
CMLA	**Cha da Macela**	**153.81**	**23**	PFAKE		08 40 00.0	+5.2
CMLA				LR	LR		
comp=Z,1μm,19.0s							
PTOM	**Tomar**	**154.02**	**352**	*e*PKPbc	**PKPbc**	**08 39 55.3**	**+0.2**
PMRV	**Marv??o**	**154.04**	**350**	*e*PKPdf	**PKPdf**	**08 39 47.4**	**+0.3**
PMRV	**Marv??o**	**154.04**	**350**	*e*PKPbc	**PKPbc**	**08 39 55.0**	**-0.2**
PMTG	**Montargil**	**154.53**	**351**	*e*PKPdf	**PKPdf**	**08 39 48.5**	**+0.7**
PMTG	**Montargil**	**154.53**	**351**	*e*PKPbc	**PKPbc**	**08 39 56.6**	**+0.4**
PBAR	**Barrancos**	**155.20**	**348**	*e*PKPab	**PKPab**	**08 40 14.1**	**+0.6**
PBEJ	**Beja**	**155.49**	**350**	*e*PKPab	**PKPab**	**08 40 15.7**	**+0.9**
PVAQ	**Vaqueiros**	**156.07**	**349**	*e*PKPdf	**PKPdf**	**08 39 50.1**	**+0.2**
PVAQ	**Vaqueiros**	**156.07**	**349**	*e*PKPab	**PKPab**	**08 40 18.1**	**+0.9**
PVAQ	**Vaqueiros**	**156.07**	**349**	*e*LR	LR	09 37 19.8	
comp=Z,879nm,20.0s							
MORF	**Marmelete**	**156.32**	**351**	*e*PKIKP	**PKPdf**	**08 39 49.9**	**-0.4**
MORF	**Marmelete**	**156.32**	**351**	*e*PKPdf	**PKPdf**	**08 39 52.4**	**+2.1**
RTC	**Rabat Centre**	**159.17**	**345**	PFAKE		08 40 10.0	+16
RTC				LR	LR		
comp=Z,777nm,20.0s							
TAM	**Tamanrasset**	**160.15**	**299**	*e*PKIKP	**PKPdf**	**08 39 55.4**	**-0.1**
TAM				MLR	MLR		
comp=Z,905nm,21.0s							
TAM	**Tamanrasset**	**160.15**	**299**	*e*PKPdf	**PKPdf**	**08 39 55.4**	**-0.1**
TAM				LR	LR		
comp=Z,905nm,21.0s							
PMOZ	**Porto Moniz, M**	**160.80**	**10**	*e*LR	LR	09 39 57.6	
comp=Z,588nm,18.0s							
TOA0	**Torodi Ar. Sit**	**165.49**	**269**	*e*PKPdf	**PKPdf**	**08 39 59.2**	**-1.5**
TOA0				*e*PKPab	**PKPab**	**08 40 59.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.49**	**269**	PKP	**PKPdf**	**08 39 59.7**	**-1.0**
TORD				PKPab	**PKPab**	**08 40 58.3**	**-0.9**
TORD				SKP		08 43 35.0	
TORD	**Torodi Ar. Bea**	**165.49**	**269**	PKP	**PKPdf**	**08 39 59.7**	**-1.0**
comp=Z,15nm,0.9s,baz=63,slow=0.7,SNR=42							
TORD				PKPab	**PKPab**	**08 40 58.3**	**-0.9**
comp=Z,14nm,1.0s,baz=95,slow=3.1,SNR=14							
TORD				SKP		08 43 35.0	
comp=Z,4.8nm,1.2s,baz=107,slow=1.5,SNR=3.6							
KIC	**Kosan Boka**	**168.81**	**229**	*e*P	**PKPdf**	**08 40 01.7**	**-1.5**
comp=Z,146nm,1.5s							
LIC	**Lamto**	**168.92**	**227**	*e*P	**PKPdf**	**08 40 05.0**	**+1.7**
comp=Z,60nm,1.3s							
DBIC	**Dimbokro**	**169.10**	**230**	*e*PKPdf	**PKPdf**	**08 40 01.9**	**-1.5**
DBIC				PKP		08 40 02.5	
DBIC	**Dimbokro**	**169.10**	**230**	PKP	**PKPdf**	**08 40 02.5**	**-0.9**
comp=Z,16nm,1.0s,baz=116,slow=2.2,SNR=5.3							
TIC	**Toumodi**	**169.20**	**229**	*e*P	**PKPdf**	**08 40 05.6**	**+2.1**
comp=Z,163nm,1.6s							
SACV	**Santiago Islan**	**169.87**	**83**	PFAKE		08 40 20.0	+16
SACV				LR	LR		
comp=Z,1μm,19.0s							

CSEM ***14*** *08:39:09.6±0.2, 37.°98N×21.°54E, h23km±2km, ML1.8/4, Error ellipse: s-maj=5.9km s-min=3.9km az=179.0*
THE ***14*** *08:39:11.5, 38.°10N×21.°56E, h17km, ML1.8/4, Error ellipse: s-maj=0.9km s-min=0.4km az=350.0*

ATH 14 08:39:08.8, 37.97N×21.58E, h30km±2km, MD3.0/12, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.12**	**314**	P	Pn	08 39 14.9	+0.1
RLS				S	Sb	08 39 17.6	-0.5
RLS	**Riolos of Patr**	**0.12**	**314**	*e*PB	Pn	08 39 14.9	+0.1
RLS				*e*SB	Sb	08 39 17.9	-0.2
RLS	**Riolos of Patr**	**0.12**	**314**	P	Pn	08 39 14.9	+0.1
RLS				S	Sb	08 39 17.6	-0.5
AXS	**Araxos**	**0.28**	**325**	P	Pb	08 39 15.7	-0.3
AXS				S	Sb	08 39 19.3	-1.5
AXS	**Araxos**	**0.28**	**325**	P	Pb	08 39 15.7	-0.3
AXS				S	Sb	08 39 19.3	-1.5
LAKA	**Lakka**	**0.41**	**49**	P	Pn	08 39 18.7	-0.1
LAKA				S	Sb	08 39 24.3	+0.1
LAKA	**Lakka**	**0.41**	**49**	*e*PB	Pn	08 39 19.0	+0.2
LAKA				*e*SB	Sb	08 39 24.4	+0.2
LAKA	**Lakka**	**0.41**	**49**	P	Pn	08 39 18.7	-0.1
LAKA	**Lakka**	**0.41**	**49**	*e*Pb	Pn	08 39 19.0	+0.2
LAKA				*e*Sb	Sb	08 39 24.4	+0.2
AMT	**Artemida-Makis**	**0.45**	**167**	*e*PB	Pb	08 39 18.5	0.0
AMT	**Artemida-Makis**	**0.45**	**167**	*e*Pb	Pb	08 39 18.5	0.0
KLV	**Kalavryta, Ach**	**0.46**	**81**	P	Pn	08 39 20.6	+1.2
KLV				S	Sn	08 39 28.0	+1.4
KLV	**Kalavryta, Ach**	**0.46**	**81**	*e*PB	Pn	08 39 19.7	+0.3
KLV				*e*SB	Sn	08 39 27.4	+0.8
KLV	**Kalavryta, Ach**	**0.46**	**81**	*e*Pb	Pn	08 39 19.7	+0.3
KLV	**Kalavryta, Ach**	**0.46**	**81**	P	Pn	08 39 20.6	+1.2
KLV				*e*Sb	Sn	08 39 27.4	+0.8
KLV				S	Sb	08 39 28.0	+2.6
EFP	**Efpalio**	**0.52**	**29**	P	Pb	08 39 19.7	+0.1
EFP				S	Sb	08 39 26.9	-0.1
EFP	**Efpalio**	**0.52**	**29**	*e*PN	Pb	08 39 19.8	+0.2
EFP	**Efpalio**	**0.52**	**29**	P	Pb	08 39 19.7	+0.1
EFP				S	Sb	08 39 26.9	-0.1
TRIZ	**Trizonia**	**0.55**	**44**	P	Pn	08 39 20.7	+0.1
TRIZ	**Trizonia**	**0.55**	**44**	*e*PN	Pn	08 39 20.8	+0.2
TRIZ				*e*SN	Sn	08 39 28.5	-0.4
TRIZ	**Trizonia**	**0.55**	**44**	P	Pn	08 39 20.7	+0.1
TRIZ				*e*Sn	Sn	08 39 28.5	-0.4
GUR	**Goura**	**0.60**	**93**	P	Pn	08 39 23.6	+2.1
GUR				S	Sn	08 39 33.5	+3.1
GUR	**Goura**	**0.60**	**93**	*e*PB	Pb	08 39 20.4	-0.7
GUR	**Goura**	**0.60**	**93**	*e*Pb	Pb	08 39 20.4	-0.7
GUR	**Goura**	**0.60**	**93**	P	Pn	08 39 23.6	+2.1
KALE	**Kalithea**	**0.61**	**46**	P	Pn	08 39 21.7	+0.2
KALE				S	Sn	08 39 30.6	+0.2
KALE	**Kalithea**	**0.61**	**46**	*e*PN	Pn	08 39 21.9	+0.4
KALE	**Kalithea**	**0.61**	**46**	P	Pn	08 39 21.7	+0.2
KALE				S	Sn	08 39 30.6	+0.2
KFL	**Anninata**	**0.64**	**283**	P	Pn	08 39 23.1	+1.2
KFL				S	Sn	08 39 32.8	+1.8
KFL	**Anninata**	**0.64**	**283**	P	Pn	08 39 23.1	+1.2
VLS	**Valsamata**	**0.81**	**285**	P	Pb	08 39 25.2	+0.8
VLS	**Valsamata**	**0.81**	**285**	*e*PN	Pb	08 39 24.5	+0.1
VLS				*e*SN	Sn	08 39 37.6	+2.4
VLS	**Valsamata**	**0.81**	**285**	*e*Pn	Pb	08 39 24.5	+0.1
VLS	**Valsamata**	**0.81**	**285**	P	Pb	08 39 25.2	+0.8
VLS				*e*Sn	Sn	08 39 37.6	+2.4
ITM	**Ithomi**	**0.84**	**161**	*e*PN	Pb	08 39 25.5	+0.6
ITM	**Ithomi**	**0.84**	**161**	*e*Pn	Pb	08 39 25.5	+0.6
DSF	**Desfina**	**0.87**	**59**	P	Pb	08 39 27.0	+1.6
DSF				S	Sb	08 39 38.5	+1.7
DSF	**Desfina**	**0.87**	**59**	P	Pb	08 39 27.0	+1.6
DSF				S	Sb	08 39 38.5	+1.7
EVR	**Evrytania**	**0.96**	**11**	*e*PN	Pb	08 39 27.7	+0.6
EVR	**Evrytania**	**0.96**	**11**	*e*Pn	Pb	08 39 27.7	+0.6
LKD2	**Lefkada island**	**1.09**	**319**	*e*PB	Pn	08 39 28.5	+0.4
LKD2	**Lefkada island**	**1.09**	**319**	*e*Pb	Pn	08 39 28.5	+0.4

ISCJB ***14*** *08:40:17.9±0.6, 43.°21N±0.°04×20.°95E±0.°03, h9km±5km, Error ellipse: s-maj=6.6km s-min=3.8km az=17.5*
CSEM ***14*** *08:40:19.5, 43.°21N×20.°96E, h2km, ML2.4, After BEO*
BEO ***14*** *08:40:19.5±0.4, 43.°21N×20.°96E, h2km±4km, ML2.4/8*

ISC 14 08:40:19.0±1.1, 43.°21N±0.°04×20.°95E±0.°02, h7km±8km, n19, σ0s83/33, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.12**	**87**	*i* Pg	**Pg**	**08 40 21.8**	**+0.1**
SELS				*i* Sg	**Sg**	**08 40 23.9**	**+0.3**
SELS	**Selova**	**0.12**	**87**	*i* Pg	**Pg**	**08 40 21.8**	**+0.1**
SELS				*i* Sg	**Sg**	**08 40 23.9**	**+0.3**
GRUS	**Gruza**	**0.70**	**346**	*i* Pg	**Pg**	**08 40 31.9**	**-0.5**
GRUS				*i* Sg	**Sg**	**08 40 42.3**	**+0.8**
GRUS	**Gruza**	**0.70**	**346**	*i* Pg	**Pg**	**08 40 31.9**	**-0.5**
GRUS				*i* Sg	**Sg**	**08 40 42.3**	**+0.8**
SJES	**Sjenica**	**0.71**	**274**	*e*Pg	**Pg**	**08 40 31.6**	**-1.2**
SJES				*e*Sg	**Sg**	**08 40 41.7**	**-0.4**
BARS	**Barje**	**0.75**	**122**	*i* Pg	**Pg**	**08 40 33.5**	**+0.1**
BARS				*i* Sg	**Sg**	**08 40 43.3**	**+0.1**
BARS	**Barje**	**0.75**	**122**	*i* Pg	**Pg**	**08 40 33.5**	**+0.1**
BARS				*i* Sg	**Sg**	**08 40 43.3**	**+0.1**
BOLS	**Boljevac**	**0.95**	**50**	*e*Pg	**Pg**	**08 40 35.6**	**-1.8**
BOLS				*e*Sg	**Sg**	**08 40 49.6**	**-0.2**
BOLS	**Boljevac**	**0.95**	**50**	*e*Pg	**Pg**	**08 40 35.6**	**-1.8**
BOLS				*e*Sg	**Sg**	**08 40 49.6**	**-0.2**
SVIS	**Svilajnac**	**1.07**	**10**	*e*Pg	**Pg**	**08 40 39.8**	**+0.2**
SVIS				*e*Sg	**Sg**	**08 40 52.5**	**-1.0**
DIVS	**Divibare**	**1.12**	**322**	*i* Sg	**Sg**	**08 40 56.0**	**+0.8**
DIVS	**Divibare**	**1.12**	**322**	*i* Sg	**Sg**	**08 40 56.0**	**+0.8**
ZAPS	**Zavoj**	**1.23**	**87**	*i* Pg	**Pg**	**08 40 42.1**	**-0.6**
ZAPS				*i* Sg	**Sg**	**08 40 57.9**	**-0.8**
BBLS	**Lazići**	**1.30**	**301**	*e*Pg	**Pg**	**08 40 43.5**	**-0.5**
BBLS				*i* Sg	**Sg**	**08 41 01.1**	**+0.3**
BBLS	**Lazići**	**1.30**	**301**	*e*Pg	**Pg**	**08 40 43.5**	**-0.5**
BBLS				*i* Sg	**Sg**	**08 41 01.1**	**+0.3**
BZS	**Buzias**	**2.45**	**11**	⇑*i*P	**Pn**	**08 40 58.9**	**-0.5**
BZS	**Buzias**	**2.45**	**11**	S	**Sb**	**08 41 35.1**	**+1.3**
GZR	**Gura Zlata**	**2.54**	**30**	⇑*i*P	**Pn**	**08 40 59.8**	**-1.0**
GZR				S	**Sn**	**08 41 32.8**	**+0.8**
BURAR	**Bucovina Array**	**5.33**	**33**	⇑*i*P	Pn	08 41 36.2	-2.9
BURAR				S	**Sn**	**08 42 42.4**	**+1.7**

MEX 14 08:52:23.4±0.4, 15.°94N×97.°21W, h10km±8km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.99**	**297**	*i* P	Pg	08 52 39.6	-3.0
PNIG				*i* S	Sg	08 52 51.8	-3.7
HUIG	**Huatulco**	**1.07**	**99**	*i* P	Pg	08 52 40.2	-3.8
HUIG				*i* S	Sg	08 52 54.1	-3.8
VHO	**Vista Hermosa**	**1.21**	**22**	*e*P	Pn	08 52 42.8	-3.9
VHO				*i* S	Sb	08 52 58.3	-4.4
CMIG	**Matias Romero**	**2.50**	**63**	*i* P	Pn	08 53 00.8	-3.4
CMIG				*i* S	Sn	08 53 29.7	-5.1

IDC ***14*** *08:57:47.5±0.9, 13.°90S×166.°81E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, MS4.0/5, Ms1 4.0/5, ms1mx3.6/31, Error ellipse: s-maj=29.4km s-min=17.0km az=116.0*
ISCJB ***14*** *08:57:51.4±0.6, 13.°93S±0.°05×166.°7E±0.°1, h33km, mb4.3/17, MS4.1/4, Error ellipse: s-maj=14.2km s-min=6.6km az=172.9*
NEIC ***14*** *08:57:53.0±0.5, 13.°84S×166.°76E, h35km, mb4.4/6, Error ellipse: s-maj=12.1km s-min=9.5km az=94.0*

ISC 14 08:57:53.1±0.6, 13.°87S±0.°06×166.°8E±0.°1, h35km, n62, σ1s11/63, mb4.3/17, MS4.1/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.05**	**302**	*e*Pn	**Pn**	**08 59 47.8**	**+0.2**
HNR	**Honiara**	**8.05**	**302**	Pn	Pn	08 59 52.9	+5.3
8.5nm,0.3s,baz=217,slow=5.1,SNR=2.6							
DZM	**Mont Dzumac**	**8.17**	**183**	*e*P	Pn	08 59 52.6	+3.3
DZM				*e*S	**Sn**	**09 01 19.7**	**-0.6**
DZM	**Mont Dzumac**	**8.17**	**183**	*e*Pn	**Pn**	**08 59 50.5**	**+1.3**
20nm,0.4s							
DZM				Sn	**Sn**	**09 01 19.8**	**-0.6**
DZM	**Mont Dzumac**	**8.17**	**183**	Pn	**Pn**	**08 59 51.1**	**+1.8**
2.9nm,0.3s,baz=350,slow=19,SNR=36							
DZM				Sn	**Sn**	**09 01 19.8**	**-0.6**
baz=131,slow=20,SNR=2.2							
DZM				LR	LR	09 02 02.0	
comp=Z,328nm,21.0s,baz=353,slow=31							
CTA	**Charters Tower**	**20.62**	**250**	P	**P**	**09 02 29.9**	**+0.3**
CTA	**Charters Tower**	**20.62**	**250**	P	**P**	**09 02 29.9**	**+0.3**
2.6nm,0.3s,baz=80,slow=13,SNR=10							
CTAO	**Charters Tower**	**20.62**	**250**	*e*P	**P**	**09 02 29.9**	**+0.3**
15nm,1.1s							
RMQ	**Roma**	**21.07**	**231**	P	**P**	**09 02 36.3**	**+1.9**
baz=16,SNR=13							
MTSU	**Mount Surprise**	**22.05**	**256**	P	**P**	**09 02 47.5**	**+2.5**
baz=17,SNR=4.9							
CMSA	**Cobar Meteorol**	**26.17**	**224**	P	**P**	**09 03 25.6**	**+1.2**
baz=22,SNR=5.0							
STKA	**Stephens Creek**	**29.24**	**228**	*e*P	**P**	**09 03 52.5**	**+0.6**
1.4nm,0.7s							
STKA	**Stephens Creek**	**29.24**	**228**	P	**P**	**09 03 52.5**	**+0.6**
9.0nm,0.7s,baz=33,slow=7.1,SNR=33							
STKA	**Stephens Creek**	**29.24**	**228**	P	**P**	**09 03 52.6**	**+0.8**
baz=24,SNR=26							
WRAB	**Tennant Creek**	**31.62**	**254**	*e*P	**P**	**09 04 11.6**	**-1.4**
9.5nm,1.0s							
WRA	**Warramunga Arr**	**31.63**	**254**	P	**P**	**09 04 11.7**	**-1.4**
WRA	**Warramunga Arr**	**31.63**	**254**	P	**P**	**09 04 11.7**	**-1.4**
1.6nm,0.8s,baz=85,slow=8.4,SNR=12							
WRA				LR	LR	09 16 00.9	
comp=Z,300nm,18.7s,baz=25,slow=35							
AS31	**Alice Springs**	**32.59**	**248**	*e*P	**P**	**09 04 19.7**	**-1.8**
ASAR	**Alice Springs**	**32.59**	**248**	P	**P**	**09 04 19.9**	**-1.7**
ASAR	**Alice Springs**	**32.59**	**248**	P	**P**	**09 04 19.9**	**-1.7**
2.4nm,0.6s,baz=72,slow=9.3,SNR=52							
ASAR				LR	LR	09 15 04.3	
comp=Z,248nm,21.9s,baz=90,slow=32							
KDU	**Kakadu**	**33.44**	**268**	P	**P**	**09 04 28.8**	**-0.2**
baz=29,SNR=3.1							
FITZ	**Fitzroy Crossi**	**39.76**	**258**	P	**P**	**09 05 20.2**	**-2.7**
FITZ	**Fitzroy Crossi**	**39.76**	**258**	P	**P**	**09 05 20.2**	**-2.7**
3.0nm,0.9s,baz=111,slow=8.6,SNR=4.5							
FITZ				LR	LR	09 19 30.1	
comp=Z,349nm,18.6s,baz=118,slow=33							
FITZ	**Fitzroy Crossi**	**39.76**	**258**	P	**P**	**09 05 22.7**	**-0.2**
baz=35,SNR=3.1							
WSI	**Waingapu**	**45.69**	**270**	P	P	09 06 03.9	-7.1
baz=41,SNR=4.0							
MEEK	**Meekatharra**	**46.73**	**246**	P	**P**	**09 06 18.7**	**-0.4**
baz=42,SNR=4.5							
MJAR	**Matsushiro Arr**	**56.95**	**333**	P	**P**	**09 07 34.5**	**-0.6**
MJAR	**Matsushiro Arr**	**56.95**	**333**	P	**P**	**09 07 34.5**	**-0.6**
4.6nm,1.0s,baz=165,slow=6.9,SNR=13							
VNDA	**Vanda**	**63.71**	**181**	*e*P	**P**	**09 08 21.1**	**+0.4**
2.1nm,0.9s							
VNDA	**Vanda**	**63.71**	**181**	P	**P**	**09 08 20.8**	**+0.2**
1.2nm,0.7s,baz=3.9,slow=7.6,SNR=5.9							
SBA	**Scott Base**	**63.99**	**180**	*e*P	**P**	**09 08 23.3**	**+0.8**
3.3nm,0.9s							
USRK	**Ussuriysk Arra**	**65.92**	**333**	P	**P**	**09 08 36.7**	**+1.3**
5.5nm,1.0s,baz=

0.3nm,0.6s,baz=82,slow=10,SNR=3.6
ILAR Eielson Array 62.18 27 P P 09 50 06.3 -1.2
0.4nm,0.8s,baz=258,slow=6.0,SNR=5.8
BVAR Borovoye Array 63.74 320 P P 09 50 17.6 -0.5
0.6nm,0.7s,baz=80,slow=13,SNR=3.8
NVAR Mina Array Bea 82.81 52 P P 09 52 12.5 +1.1
0.4nm,0.7s,baz=282,slow=6.1,SNR=3.5
KBZ Khabaz 83.46 314 P P 09 52 14.7 +0.5
2.8nm,0.8s,baz=86,slow=3.2,SNR=5.9

*ISCJB **14** 09:43:47.2±0.7, 59°.33N±0°.03×27°.07E±0°.09, h0km, Error ellipse: s-maj=6.7km s-min=3.9km az=9.5*
*NAO **14** 09:43:49.2±1.0, 59°.30N×26°.81E, ML2.3*
*CSEM **14** 09:43:49.2±0.4, 59°.34N×27°.08E, h2km, ML2.3, Error ellipse: s-maj=10.4km s-min=6.1km az=97.0, Mining explosion.*
*HEL **14** 09:43:49.4±0.7, 59°.34N×27°.24E, h0km, ML1.9, Explosion*
*IDC **14** 09:43:50.5±2.0, 59°.38N×27°.03E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=18.6km s-min=11.4km az=116.0*
*BER **14** 09:43:50.4±2.0, 59°.31N×26°.77E, h0km, ML2.3(NAO), Suspected explosion*

ISC 14 09:43:47.6±1.0, 59°.30N±0°.03×27°.25E±0°.06, h0km, n35, σ1§43/45, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.88**	**198**	Pg	**Pb**	**09 44 06.2**	**+0.5**
VSU				Lg	Lg	09 44 16.5	
VSU	**Vasula**	**0.88**	**198**	Pg	**Pb**	**09 44 06.2**	**+0.5**
VSU				Lg	Lg	09 44 16.5	
VSU	**Vasula**	**0.88**	**198**	Pg	**Pb**	**09 44 06.2**	**+0.5**
VSU				*e*S	**Sg**	**09 44 16.0**	**+0.2**
	2μm,0.6s,SNR=90						
VSU				Lg	Lg	09 44 16.5	
VJF	**Virojoki**	**1.26**	**7**	PG	**Pg**	**09 44 11.7**	**0.0**
VJF				SG	**Sg**	**09 44 28.7**	**+0.8**
VJF				MSG		09 44 28.7	
	comp=Z,11nm,0.1s						
VJF				RG	Rg	09 44 33.3	
VJF	**Virojoki**	**1.26**	**7**	Pg	**Pg**	**09 44 11.7**	**0.0**
PVF	**Pernaja**	**1.44**	**331**	PG	**Pn**	**09 44 14.7**	**-0.2**
PVF				SG	**Sg**	**09 44 32.8**	**-1.0**
PVF				MSG		09 44 32.8	
	comp=Z,2.8nm,0.2s						
PVF	**Pernaja**	**1.44**	**331**	Pg	**Pn**	**09 44 14.6**	**-0.2**
PVF				Sg	**Sg**	**09 44 32.7**	**-1.0**
MEF	**Metsahovi**	**1.72**	**304**	PG	**Pn**	**09 44 19.5**	**+0.8**
MEF				SG	**Sn**	**09 44 41.1**	**-0.2**
MEF				MSG		09 44 41.1	
	comp=Z,19nm,0.2s						
MEF	**Metsahovi**	**1.72**	**304**	*e*S	**Sn**	**09 44 40.6**	**-0.7**
	comp=Z,40nm,0.3s,SNR=50						
MEF				Sg	**Sn**	**09 44 41.1**	**-0.2**
MTSE	**Matsula**	**1.87**	**253**	Pn	**Pn**	**09 44 22.0**	**+1.2**
MTSE				SG	**Sn**	**09 44 45.9**	**+0.8**
MTSE	**Matsula**	**1.87**	**253**	Pn	**Pn**	**09 44 22.0**	**+1.2**
MTSE				Sg	**Sn**	**09 44 45.9**	**+0.8**
FIA0	**FINESS Array S**	**2.23**	**345**	Pn	**Pn**	**09 44 27.1**	**+1.2**
	baz=163,slow=18						
FIA0				Lg	Lg	09 44 57.2	
	baz=166,slow=37						
FIA0				Rg	Rg	09 45 11.1	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.23**	**345**	Pn	**Pn**	**09 44 27.1**	**+1.2**
	baz=163,slow=18						
FIA0				Lg	Lg	09 44 57.2	
	baz=166,slow=37						
FIA0				Rg	Rg	09 45 11.1	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.23**	**345**	PN	**Pn**	**09 44 26.9**	**+1.1**
	baz=166						
FIA0				SG	**Sb**	**09 44 57.6**	**+0.7**
FIA0				MSG		09 44 57.6	
	comp=Z,8.3nm,0.3s						
FIA0				RG	Rg	09 45 10.4	
FIA0	**FINESS Array S**	**2.23**	**345**	Pn	**Pn**	**09 44 26.9**	**+1.1**
FIA0				Lg	Lg	09 44 57.2	
	baz=166,slow=29,SNR=30						
FINES	**FINESS Array B**	**2.23**	**345**	Pn	**Pn**	**09 44 26.9**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=164,slow=15,SNR=45						
FINES				Lg	Lg	09 44 57.5	
	comp=Z,5.3nm,0.3s,baz=168,slow=28,SNR=31						
FINES				Rg	Rg	09 45 10.8	
	comp=Z,50nm,1.0s,baz=165,slow=33,SNR=16						
KAF	**Kangasniemi**	**2.86**	**351**	PN	**Pn**	**09 44 36.7**	**+2.2**
KAF				SG	**Sn**	**09 45 11.4**	**+1.8**
KAF				MSG		09 45 11.4	
	comp=Z,3.2nm,0.2s						
KEF	**Keuruu**	**3.11**	**339**	SG	**Sb**	**09 45 23.2**	**+1.1**
KEF				MSG		09 45 23.2	
	comp=Z,4.5nm,0.4s						
KEF	**Keuruu**	**3.11**	**339**	Sg	**Sb**	**09 45 23.2**	**+1.1**
RAF	**Rauma**	**3.24**	**305**	PN	**Pn**	**09 44 42.0**	**+2.2**
	baz=118						
RAF				SG	**Sb**	**09 45 25.4**	**-0.6**
RAF				MSG		09 45 25.4	
	comp=Z,3.1nm,0.4s						
RAF	**Rauma**	**3.24**	**305**	Pn	**Pn**	**09 44 41.9**	**+2.2**
RAF				*e*S	**Sn**	**09 45 20.8**	**+1.8**
	comp=Z,10nm,0.3s,SNR=50						
RAF				Sg	**Sb**	**09 45 25.4**	**-0.6**
SUF	**Sumiainen**	**3.48**	**352**	PN	**Pn**	**09 44 45.5**	**+2.5**
SUF				SG	**Sb**	**09 45 34.5**	**+1.8**
SUF				MSG		09 45 34.5	
	comp=Z,5.0nm,0.4s						
SUF	**Sumiainen**	**3.48**	**352**	Pn	**Pn**	**09 44 45.4**	**+2.5**
SUF				Sg	**Sb**	**09 45 34.5**	**+1.8**
AAL	**Aland**	**3.78**	**287**	SG	**Sb**	**09 45 44.9**	**+3.5**
AAL	**Aland**	**3.78**	**287**	Sg	**Sb**	**09 45 44.9**	**+3.5**
HFS	**Hagfors**	**6.91**	**283**	Sn	Sn	09 46 38.9	-10
	baz=90,slow=14						
HFS				Lg	Lg	09 47 16.1	
	baz=94,slow=37						
HFS	**Hagfors**	**6.91**	**283**	Sn	Sn	09 46 38.9	-10
	baz=90,slow=14						
HFS				Lg	Lg	09 47 16.1	
	baz=94,slow=37						
HFS	**Hagfors**	**6.91**	**283**	Pn	**Pn**	**09 45 29.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=2.9						
HFS				Lg	Lg	09 47 22.3	
	comp=Z,0.9nm,0.3s,baz=94,slow=32,SNR=8.5						
HFS	**Hagfors**	**6.91**	**283**	Lg	Lg	09 47 16.1	
	baz=94,slow=29,SNR=29						
NOA	**NORSAR Array B**	**8.19**	**289**	Pn	Pn	09 45 44.8	-2.8
	comp=Z,0.1nm,0.3s,baz=99,slow=13,SNR=2.7						
NOA				Lg	Lg	09 48 03.2	
	comp=Z,0.6nm,0.3s,baz=120,slow=22,SNR=5.2						
ARA0	**ARCESS Array S**	**10.31**	**357**	Pn	**Pn**	**09 46 16.1**	**-0.5**
	baz=172,slow=14						
ARA0	**ARCESS Array S**	**10.31**	**357**	Pn	**Pn**	**09 46 16.1**	**-0.5**
	baz=172,slow=14						
ARA0	**ARCESS Array S**	**10.31**	**357**	Pn	**Pn**	**09 46 16.0**	**-0.5**
	baz=172,slow=13,SNR=8.4						
ARCES	**ARCESS Array B**	**10.31**	**357**	Pn	**Pn**	**09 46 15.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=174,slow=12,SNR=6.2						
ARCES				Lg	Lg	09 49 05.2	
	comp=Z,0.4nm,0.3s,baz=158,slow=31,SNR=5.2						
KIS	**Kishinev**	**12.36**	**175**	*i*	Pn	09 46 33.0	-12

*IDC **14** 09:48:11.1±0.4, 19°.21N×65°.71W, h0km, mb4.2/22, mb1 4.4/22, mb1mx4.3/31, mbtmp4.2/22, MS4.3/1, Ms1 4.3/1, ms1mx3.6/26, Error ellipse: s-maj=13.9km s-min=12.6km az=66.0*
*MOS **14** 09:48:14.8±0.9, 19°.35N×65°.76W, h33km, mb4.9/14, Error ellipse: s-maj=14.6km s-min=9.0km az=95.4*
*ISCJB **14** 09:48:15.7±0.6, 19°.41N±0°.04×65°.75W±0°.02, h38km±7km, mb4.5/77, MS4.8/2, Error ellipse: s-maj=6.6km s-min=3.3km az=1.6*
*RSPR **14** 09:48:15.8, 19°.29N×65°.72W, h93km±8km, MD3.9/9*
*NEIC **14** 09:48:15.8, 19°.29N×65°.72W, h93km, mb4.5/50, MD3.9(RSPR), After RSPR.*

ISC 14 09:48:12.6±2.8, 19°.37N±0°.04×65°.75W±0°.03, h7km±17km, n455, σ1§15/450, mb4.6/77, 158C-117D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.10**	**185**	*e*Pn	**Pb**	**09 48 33.9**	**-0.1**
CBYP				*e*Sn	**Sb**	**09 48 48.6**	**0.0**
STVI	**Saint Thomas**	**1.26**	**143**	*e*P	**Pn**	**09 48 37.4**	**+0.7**
STVI	**Saint Thomas**	**1.26**	**143**	*e*S	**Sn**	**09 48 54.6**	**+0.6**
STVI	**Saint Thomas**	**1.26**	**143**	*e*P	**Pn**	**09 48 37.4**	**+0.7**
STVI				*e*S	**Sn**	**09 48 54.6**	**+0.6**
STVI	**Saint Thomas**	**1.26**	**143**	*e*P	**Pn**	**09 48 37.4**	**+0.7**
STVI				*e*S	**Sn**	**09 48 54.6**	**+0.6**
MTP	**Monte Pirata**	**1.28**	**172**	*e*P	**Pn**	**09 48 37.0**	**+0.1**
MTP	**Monte Pirata**	**1.28**	**172**	*e*S	**Sb**	**09 48 54.3**	**+0.5**
MTP	**Monte Pirata**	**1.28**	**172**	*e*P	**Pn**	**09 48 37.0**	**+0.1**
MTP				*e*S	**Sb**	**09 48 54.3**	**+0.5**
MTP	**Monte Pirata**	**1.28**	**172**	*e*P	**Pn**	**09 48 37.4**	**+0.4**
MTP				*e*S	**Sb**	**09 48 54.3**	**+0.5**
SJG	**San Juan**	**1.31**	**197**	*e*P	**Pn**	**09 48 37.7**	**+0.3**
SJG	**San Juan**	**1.31**	**197**	*e*P	**Pn**	**09 48 37.7**	**+0.3**
SJG	**San Juan**	**1.31**	**197**	*e*P	**Pn**	**09 48 37.7**	**+0.3**
CPD	**Cerro la Pandu**	**1.34**	**187**	*e*P	**Pn**	**09 48 37.6**	**-0.2**
CPD	**Cerro la Pandu**	**1.34**	**187**	*e*P	**Pn**	**09 48 37.6**	**-0.2**
CPD				*e*S	**Sb**	**09 48 55.6**	**+0.2**
CPD	**Cerro la Pandu**	**1.34**	**187**	*e*P	**Pn**	**09 48 37.6**	**-0.2**
CPD				*e*S	**Sb**	**09 48 55.6**	**+0.2**
CPD	**Cerro la Pandu**	**1.34**	**187**	*e*P	**Pn**	**09 48 37.6**	**-0.2**
CPD				*e*S	**Sb**	**09 48 55.6**	**+0.2**
AOPR	**Arecibo Observ**	**1.40**	**223**	*e*P	**Pn**	**09 48 39.2**	**+0.6**
AOPR	**Arecibo Observ**	**1.40**	**223**	*e*S	**Sn**	**09 48 57.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.40**	**223**	*e*P	**Pn**	**09 48 39.2**	**+0.6**
AOPR				*e*S	**Sn**	**09 48 57.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.40**	**223**	*e*P	**Pn**	**09 48 39.2**	**+0.6**
AOPR				*e*S	**Sn**	**09 48 57.8**	**+0.4**
TBVI	**Tortola**	**1.43**	**131**	*e*P	**Pn**	**09 48 39.1**	**0.0**
TBVI	**Tortola**	**1.43**	**131**	*e*P	**Pn**	**09 48 39.1**	**0.0**
TBVI	**Tortola**	**1.43**	**131**	*e*P	**Pn**	**09 48 39.7**	**+0.7**
ABVI	**Anegada Island**	**1.48**	**115**	*e*P	**Pn**	**09 48 40.4**	**+0.6**
ABVI				*e*S	**Sn**	**09 48 59.7**	**+0.3**
ABV	**Anegada**	**1.48**	**115**	*e*P	**Pn**	**09 48 40.4**	**+0.6**
ABV	**Anegada**	**1.48**	**115**	*e*S	**Sn**	**09 48 59.7**	**+0.3**
ABV	**Anegada**	**1.48**	**115**	*e*P	**Pn**	**09 48 40.4**	**+0.6**
ABV				*e*S	**Sn**	**09 48 59.7**	**+0.3**
LRS	**Lares**	**1.50**	**224**	*e*P	**Pn**	**09 48 40.2**	**+0.3**
LRS	**Lares**	**1.50**	**224**	*e*Pn	**Pn**	**09 48 40.4**	**+0.4**
LRS				*e*Sn	**Sb**	**09 49 01.3**	**+1.3**
LRS	**Lares**	**1.50**	**224**	*e*P	**Pn**	**09 48 40.2**	**+0.3**
CELP	**Cerrillos**	**1.51**	**212**	*e*P	**Pn**	**09 48 40.7**	**+0.5**
CELP	**Cerrillos**	**1.51**	**212**	*e*Pn	**Pn**	**09 48 40.6**	**+0.5**
CELP				*e*Sn	**Sb**	**09 49 01.5**	**+1.1**
CELP	**Cerrillos**	**1.51**	**212**	*e*P	**Pn**	**09 48 40.7**	**+0.5**
OBIP	**Obispado Ponce**	**1.55**	**212**	*e*P	**Pn**	**09 48 41.4**	**+0.6**
OBIP	**Obispado Ponce**	**1.55**	**212**	*e*S	**Sn**	**09 49 01.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.55**	**212**	*e*P	**Pn**	**09 48 41.4**	**+0.6**
OBIP				*e*S	**Sn**	**09 49 01.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.55**	**212**	*e*P	**Pn**	**09 48 41.4**	**+0.6**
OBIP				*e*S	**Sn**	**09 49 01.5**	**+0.3**
AGPR	**Aguadilla, PR**	**1.57**	**235**	*e*P	**Pn**	**09 48 41.4**	**+0.4**
AGPR	**Aguadilla, PR**	**1.57**	**235**	*e*P	**Pn**	**09 48 41.4**	**+0.4**
AGPR	**Aguadilla, PR**	**1.57**	**235**	*e*P	**Pn**	**09 48 41.4**	**+0.4**
AGP	**Aguadilla**	**1.63**	**234**	*e*Pn	**Pn**	**09 48 42.5**	**+0.7**
LSP	**Las Mesas**	**1.74**	**227**	*e*P	**Pn**	**09 48 44.6**	**+1.3**
LSP	**Las Mesas**	**1.74**	**227**	*e*Pn	**Pn**	**09 48 44.5**	**+1.2**
LSP				*e*Sn	**Sn**	**09 49 06.1**	**+0.3**
LSP	**Las Mesas**	**1.74**	**227**	*e*P	**Pn**	**09 48 44.6**	**+1.3**
MPR	**Mayaguez**	**1.75**	**229**	*e*Pn	**Pn**	**09 48 44.1**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.76**	**218**	*e*P	**Pn**	**09 48 44.9**	**+1.3**
GBPR	**Guanica, Bosqu**	**1.76**	**218**	*e*S	**Sn**	**09 49 06.0**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.76**	**218**	*e*P	**Pn**	**09 48 44.9**	**+1.3**
GBPR				*e*S	**Sn**	**09 49 06.0**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.76**	**218**	*e*P	**Pn**	**09 48 44.9**	**+1.3**
GBPR				*e*S	**Sn**	**09 49 06.1**	**-0.1**
CDVI	**St. Croix**	**1.86**	**150**	*e*Pn	**Pb**	**09 48 47.1**	**+0.1**
CDVI				*e*Sn	**Sn**	**09 49 09.9**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	*e*P	**Pn**	**09 48 46.3**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	*e*P	**Pn**	**09 48 46.3**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	*e*P	**Pn**	**09 48 46.3**	**+1.2**
IDE	**Isla Desecheo**	**1.91**	**239**	*e*P	**Pn**	**09 48 46.4**	**+0.8**
IDE	**Isla Desecheo**	**1.91**	**239**	*e*P	**Pn**	**09 48 46.4**	**+0.8**
IDE	**Isla Desecheo**	**1.91**	**239**	*e*P	**Pn**	**09 48 46.4**	**+0.8**
SKI	**Saint Kitts**	**3.50**	**125**	*e*P	**Pn**	**09 49 09.1**	**+1.5**
SKI				*e*S	**Sb**	**09 49 56.5**	**-1.3**
NEV	**Hard Times**	**3.75**	**126**	*e*P	**Pn**	**09 49 13.6**	**+2.7**
ANWB	**Willy Bob**	**4.12**	**114**	*e*Pn	**Pn**	**09 49 15.8**	**-0.3**
ANWB				*e*Sn	**Sn**	**09 50 07.0**	**+2.4**
ANWB	**Willy Bob**	**4.12**	**114**	*e*P	**Pn**	**09 49 18.3**	**+2.2**
BPA	**Boggy Peak**	**4.36**	**121**	*e*P	**Pn**	**09 49 22.1**	**+2.7**
LZG	**Guadaloupe-1**	**4.96**	**130**	*e*P	**Pn**	**09 49 29.9**	**+2.2**
SEG	**Port Louis**	**5.00**	**126**	*e*P	**Pn**	**09 49 30.1**	**+1.9**
MLG	**Mont-d'or**	**5.06**	**130**	*e*P	**Pn**	**09 49 31.3**	**+2.2**
SSG	**Sans Toucher**	**5.07**	**129**	*e*P	**Pn**	**09 49 31.9**	**+2.7**
BCG	**Bois Riant Cap**	**5.11**	**129**	*e*P	**Pn**	**09 49 32.2**	**+2.4**
HMG	**Houelmont**	**5.12**	**131**	*e*P	**Pn**	**09 49 32.9**	**+3.0**
PHG	**Guadaloupe-2**	**5.14**	**130**	*e*P	**Pn**	**09 49 32.6**	**+2.4**
DOG	**Dongo Capester**	**5.15**	**130**	*e*P	**Pn**	**09 49 33.2**	**+3.0**
SDDR	**Presa de Saban**	**5.25**	**267**	*e*Pn	**Pn**	**09 49 33.8**	**+2.2**
SDDR				*e*Sn	**Sn**	**09 50 35.3**	**+2.7**
DEG	**La Desirade**	**5.40**	**124**	*e*P	**Pn**	**09 49 36.3**	**+2.6**
MGG	**Marie-Galante**	**5.44**	**128**	*e*P	Pn	09 49 37.7	+3.5
MCLT	**Moule a Chique**	**7.28**	**140**	*e*P	Pn	09 50 03.5	+4.1
SVB	**Belmont**	**7.44**	**144**	*e*P	**Pn**	**09 50 04.4**	**+2.6**
TOSP	**Speyside**	**9.47**	**147**	*e*P	Pn	09 50 34.5	+5.0
SDV	**Santo Domingo**	**11.45**	**205**	*e*Pn	Pn	09 51 02.7	+5.8
BBSR	**BB Station**	**12.98**	**4**	*e*Pn	**Pn**	**09 51 15.5**	**-2.1**
	36nm,0.4s						
ROSC	**El Rosal**	**16.68**	**211**	*e*Pn	Pn	09 52 00.0	-7.4
ROSC				Pn	**Pn**	**09 52 08.9**	**+1.5**
ROSC	**El Rosal**	**16.68**	**211**	Pn	**Pn**	**09 52 08.9**	**+1.5**
	2.7nm,0.3s,baz=94,slow=13,SNR=11						
TIGA	**Tifton**	**20.07**	**310**	Pn	P	09 52 40.2	-6.5
JTS	**JuntasAbangare**	**20.63**	**247**	P	**P**	**09 52 52.6**	**-0.3**
JTS	**JuntasAbangare**	**20.63**	**247**	P	**P**	**09 52 52.6**	**-0.3**
	14nm,0.9s,baz=53,slow=9.8,SNR=10						
KMSC	**Kings Mountain**	**20.90**	**322**	*e*P	P	09 52 50.9	-4.8
JSRW	**J. Sargeant Re**	**21.10**	**332**	*e*P	**P**	**09 52 54.5**	**-3.3**
TEIG	**Tepich**	**21.21**	**276**	*e*P	**P**	**09 53 00.2**	**+1.0**
TEIG	**Tepich**	**21.21**	**276**	P	**P**	**09 52 59.7**	**+0.5**
	5.4nm,0.7s,baz=84,slow=9.9,SNR=7.3						
CBN	**Corbin**	**21.32**	**334**	*e*Pn	P	09 52 54.6	-5.5
	43nm,0.5s						
BLA	**Blacksburg**	**21.92**	**327**	*e*P	**P**	**09 53 03.4**	**-3.3**
BLA				pmax	pmax		
	comp=Z,25nm,0.6s						
BLA	**Blacksburg**	**21.92**	**327**	*e*Pn	**P**	**09 53 03.4**	**-3.3**
	comp=Z,24nm,0.6s						
MVL	**Millersville**	**22.49**	**338**	*e*pP	pP	09 53 22.9	+8.3
BRNJ	**Basking Ridge**	**22.55**	**342**	*e*Pn	P	09 53 06.0	-7.3
TKL	**Tuckaleechee C**	**22.72**	**319**	*e*P	P	09 53 06.0	-9.2
TKL				P	**P**	**09 53 16.7**	**+1.6**
TKL	**Tuckaleechee C**	**22.72**	**319**	P	**P**	**09 53 16.7**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=143,slow=16,SNR=2.4						
OTAV	**Otavalo**	**22.73**	**215**	*e*P	P	09 53 11.7	-4.2
	comp=Z,22nm,1.1s						
BRYW	**Bryant College**	**23.01**	**349**	*e*P	**P**	**09 53 16.0**	**-2.2**
	comp=Z,12nm,0.5s						
CPCT	**Cooper Cave**	**23.05**	**318**	*e*P	**P**	**09 53 15.4**	**-3.2**
TZTN	**Tazewell**	**23.17**	**321**	*e*P	**P**	**09 53 17.8**	**-2.1**
	comp=Z,18nm,0.9s						
LRAL	**Lakeview Retre**	**23.36**	**310**	*e*P	**P**	**09 53 22.8**	**+0.9**
	comp=Z,29nm,1.4s						
WES	**Weston**	**23.42**	**350**	P	**P**	**09 53 21.3**	**-1.1**
WES				pmax	pmax		
	comp=Z,21nm,0.6s						
WES	**Weston**	**23.42**	**350**	P	**P**	**09 53 21.3**	**-1.1**
	comp=Z,21nm,0.6s						
QUA2	**Belchertown**	**23.51**	**348**	*e*P	**P**	**09 53 20.6**	**-2.7**
	comp=Z,15nm,0.5s						
ACCN	**Adirondack Com**	**24.85**	**346**	*e*P	P	09 53 27.5	-8.2
	comp=Z,38nm,0.8s						
PLAL	**Pickwick Lake**	**25.14**	**313**	*e*P	**P**	**09 53 39.6**	**+1.1**
	comp=Z,15nm,1.0s						
LBNH	**Lisbon**	**25.33**	**350**	*e*P	**P**	**09 53 39.6**	**-0.5**
LBNH				pmax	pmax		
	comp=Z,12nm,0.5s						
LBNH	**Lisbon**	**25.33**	**350**	*e*P	**P**	**09 53 39.6**	**-0.5**
	comp=Z,12nm,0.5s						
WVL	**Waterville**	**25.33**	**353**	*e*P	P	09 53 33.0	-7.1
	comp=Z,15nm,0.5s						
WVT	**Waverly**	**25.61**	**315**	*e*P	**P**	**09 53 42.9**	**+0.2**
WVT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WVT	**Waverly**	**25.61**	**315**	*e*P	**P**	**09 53 42.9**	**+0.2**
	comp=Z,6.7nm,0.6s						
OXF	**Oxford**	**25.84**	**311**	*e*P	**P**	**09 53 45.6**	**+0.8**
OXF				pmax	pmax		
	comp=Z,27nm,0.8s						
OXF	**Oxford**	**25.84**	**311**	*e*P	**P**	**09 53 45.6**	**+0.8**
	comp=Z,27nm,0.8s						
PARMO	**Parma**	**27.19**	**314**	*e*P	**P**	**09 53 58.8**	**+1.8**
SIUC	**Southern Illin**	**27.43**	**317**	*e*P	**P**	**09 53 56.0**	**-3.1**
	comp=Z,23nm,1.0s						
SAML	**Samuel**	**28.25**	**175**	*e*P	P	09 53 59.2	-7.5
	comp=Z,6.6nm,1.0s						
ATAH	**Atahualpa**	**29.14**	**207**	P	**P**	**09 54 12.7**	**-2.3**
ATAH	**Atahualpa**	**29.14**	**207**	P	**P**	**09 54 12.7**	**-2.3**
	comp=Z,3.0nm,0.6s,baz=45,slow=8.6,SNR=2.7						
TUL1	**Tulsa**	**31.14**	**308**	*e*P	**P**	**09 54 33.2**	**+1.1**
TUL1	**Tulsa**	**31.14**	**308**	⇑P	**P**	**09 54 32.8**	**+0.7**
	baz=31						
632A	**Uvalde**	**32.49**	**295**	⇑P	**P**	**09 54 44.3**	**+0.2**
	baz=32						
732A	**Laxson Ranch,**	**32.52**	**293**	⇑P	**P**	**09 54 44.4**	**+0.1**
	baz=33						
JCT	**Junction City**	**32.69**	**296**	*e*P	P	09 54 40.9	-4.9
JCT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JCT	**Junction City**	**32.69**	**296**	*e*P	P	09 54 40.9	-4.9
	comp=Z,5.3nm,0.8s						
JCT	**Junction City**	**32.69**	**296**	⇑P	**P**	**09 54 46.3**	**+0.5**
	baz=33						
532A	**Rocksprings**	**32.70**	**296**	⇑P	**P**	**09 54 46.5**	**+0.5**
	baz=33,SNR=6.6						
432A	**Menard**	**32.76**	**297**	⇑P	**P**	**09 54 46.9**	**+0.3**
	baz=33						
332A	**Millersview**	**32.83**	**298**	⇓P	**P**	**09 54 47.6**	**+0.5**
	baz=33						
232A	**Coleman**	**32.87**	**299**	⇑P	**P**	**09 54 48.2**	**+0.8**
	baz=33						
ABTX	**Abilene, Hawle**	**33.05**	**300**	⇓P	**P**	**09 54 49.9**	**+0.9**
	baz=33						
Z32A	**Haskell**	**33.10**	**302**	⇓P	**P**	**09 54 50.1**	**+0.7**
	baz=33						
KSU1	**Kansas State U**	**33.10**	**313**	*e*P	P	09 54 46.0	-3.3
	comp=Z,12nm,1.0s						
631A	**Perdido Creek**	**33.15**	**294**	⇓P	**P**	**09 54 50.1**	**+0.2**
	baz=33,SNR=5.5						
531A	**Rocksprings**	**33.26**	**296**	⇓P	**P**	**09 54 51.4**	**+0.5**
	baz=33						
Y32A	**R-V Farms, Ver**	**33.27**	**303**	⇑P	**P**	**09 54 51.7**	**+0.8**
	baz=33						
331A	**San Angelo**	**33.38**	**298**	⇓P	**P**	**09 54 52.7**	**+0.7**
	baz=33						
431A	**Sonora**	**33.41**	**297**	⇓P	**P**	**09 54 52.5**	**+0.4**
	baz=34						
X31A	**McDonald Ranch**	**33.89**	**304**	⇑P	**P**	**09 54 56.8**	**+0.5**
	baz=34						
Y31A	**Rekieta Farm,**	**33.91**	**302**	⇓P	**P**	**09 54 57.3**	**+0.8**
	baz=34						
530A	**J-C Ranch, Com**	**33.93**	**295**	⇓P	**P**	**09 54 57.2**	**+0.5**
	baz=34						
430A	**Baggett Ranch,**	**33.96**	**297**	⇑P	**P**	**09 54 57.2**	**+0.2**
	baz=34						
W31A	**Holland Ranch,**	**34.03**	**305**	⇓P	**P**	**09 54 58.2**	**+0.7**
	baz=34						
330A	**Mertzon**	**34.03**	**298**	⇑P	**P**	**09 54 57.9**	**+0.3**
	baz=34						
V31A	**Spring Creek L**	**34.14**	**306**	⇑P	**P**	**09 54 59.5**	**+1.0**
	baz=34						
SPMN	**St. Paul**	**34.16**	**325**	⇓P	**P**	**09 54 60.0**	**+1.5**
	baz=34						
U31A	**Nine Bar Ranch**	**34.35**	**307**	⇓P	**P**	**09 55 01.2**	**+0.9**
	baz=34						
Z30A	**Sanderson Ranc**	**34.43**	**301**	⇑P	**P**	**09 55 01.5**	**+0.5**
	baz=34						
T31A	**Randall Ranch,**	**34.48**	**308**	⇑P	**P**	**09 55 02.4**	**+1.0**
	baz=34,SNR=7.0						
429A	**Davenport Ranc**	**34.48**	**296**	⇑P	**P**	**09 55 01.2**	**-0.3**
	baz=34,SNR=5.5						
S31A	**Mullinville**	**34.53**	**309**	⇑P	**P**	**09 55 02.8**	**+0.9**
	baz=35,SNR=6.9						
529A	**Stev Forest Ra**	**34.68**	**295**	⇑P	**P**	**09 55 03.1**	**-0.1**
	baz=35,SNR=

P28A **Saint Francis** 36.92 311 ⇓P P 09 55 23.4 +1.0
baz=37
M29A **Burnside Ranch** 36.94 314 ⇓P P 09 55 23.5 +1.0
baz=37
425A **Indio Mountain** 37.14 296 ⇑P P 09 55 25.5 +1.1
baz=37,SNR=8.3
V26A **Tequesquite Ra** 37.20 304 ⇓P P 09 55 25.4 +0.5
baz=37,SNR=7.5
R27A **Eads** 37.21 308 ⇑P P 09 55 25.4 +0.4
baz=37
225A **Deer Hill, Car** 37.22 298 ⇓P P 09 55 25.4 +0.3
baz=37
325A **Bean Ranch, Si** 37.22 297 ⇑P P 09 55 25.8 +0.7
baz=37,SNR=7.5
U26A **Atchley Ranch,** 37.34 305 ⇓P P 09 55 26.5 +0.4
baz=37,SNR=7.3
KSCO **Kaye Shedlock'** 37.34 310 eP P 09 55 26.7 +0.7
KSCO **Kaye Shedlock'** 37.34 310 ⇑P P 09 55 26.5 +0.5
baz=37
T26A **Comanche Natio** 37.45 306 ⇑P P 09 55 27.9 +0.8
baz=38
Y25A **Mesa, Roswell** 37.47 301 ⇑P P 09 55 28.0 +0.8
baz=38
S26A **Kim** 37.50 307 ⇑P P 09 55 27.9 +0.5
baz=38
MNTX **Cornudas Mount** 37.61 297 eP P 09 55 27.9 -0.4
comp=Z,4.6nm,1.3s
324A **Moseley Ranch,** 37.66 297 ⇑P P 09 55 29.3 +0.5
baz=38
R26A **Arlington** 37.70 308 ⇓P P 09 55 29.9 +0.9
baz=38
224A **Cornudas Mount** 37.79 298 ⇑P P 09 55 30.5 +0.5
baz=38
124A **Stringfield Ra** 37.85 299 ⇑P P 09 55 31.1 +0.6
baz=38
U25A **Circle Dot Ran** 37.85 305 ⇓P P 09 55 31.3 +0.8
baz=38,SNR=9.4
V25A **Rancho No Teng** 37.87 304 ⇑P P 09 55 31.3 +0.7
baz=38,SNR=7.7
K28A **Ten Mile Ranch** 37.96 316 ⇓P P 09 55 32.2 +1.1
baz=38
Q26A **Hugo** 37.96 309 ⇑P P 09 55 32.3 +1.0
baz=38,SNR=5.9
P26A **Davis Ranch, A** 38.06 310 ⇑P P 09 55 33.0 +0.9
baz=38,SNR=5.8
T25A **Trinidad** 38.07 306 ⇑P P 09 55 32.9 +0.7
baz=38,SNR=7.2
J28A **Allard Ranch,** 38.20 317 ⇓P P 09 55 34.5 +1.4
baz=38
S25A **Robets Cordova** 38.24 307 ⇓P P 09 55 34.6 +0.9
baz=38,SNR=7.3
R25A **Fountain Ranch** 38.27 308 ⇑P P 09 55 34.6 +0.7
baz=38
O26A **Horse Wrangler** 38.28 311 ⇓P P 09 55 35.2 +1.2
baz=38
W24A **Lazy 6 Ranch,** 38.34 303 ⇑P P 09 55 35.8 +1.2
baz=38
V24A **Rampart Ranch,** 38.35 303 ⇓P P 09 55 35.8 +1.1
baz=38,SNR=6.1
Q25A **Bedland, Calha** 38.49 309 ⇑P P 09 55 37.1 +1.2
baz=39
U24A **Moreno Valley** 38.53 304 ⇑P P 09 55 37.5 +1.2
baz=39
J27A **Elkhorn Farm,** 38.62 316 ⇓P P 09 55 38.2 +1.5
baz=39
P25A **Willow Gulch B** 38.64 310 ⇓P P 09 55 37.8 +0.8
baz=39
H28A **Mission Ridge** 38.65 319 ⇑P P 09 55 38.5 +1.6
baz=39
O25A **Wiggins** 38.81 311 ⇓P P 09 55 39.6 +1.1
baz=39
S24A **Houchin Ranch,** 38.82 306 ⇑P P 09 55 39.9 +1.1
baz=39,SNR=8.2
R24A **Sanders Place,** 38.92 307 ⇑P P 09 55 40.8 +1.4
baz=39
BDFB **Brasilia** 38.92 152 P P 09 55 38.1 -1.4
BDFB **Brasilia** 38.92 152 P P 09 55 38.1 -1.4
comp=Z,2.9nm,0.7s,baz=6.9,slow=3.8,SNR=4.6
V23A **Ortiz Mt. (NFS** 39.08 303 ⇑P P 09 55 42.6 +1.8
baz=39
BNM **Barren Site** 39.09 301 eP P 09 55 42.2 +1.2
comp=Z,2.6nm,1.1s
Q24A **Divide** 39.18 308 ⇓P P 09 55 42.5 +0.8
baz=39
Z22A **Elephant Butte** 39.19 299 ⇓P P 09 55 42.4 +0.6
baz=39
U23A **El Rito** 39.23 304 ⇑P P 09 55 43.5 +1.5
baz=39,SNR=7.2
T23A **Casias Ranch,** 39.29 305 ⇓P P 09 55 43.6 +1.0
baz=39,SNR=6.5
H27A **Howes** 39.30 318 ⇓P P 09 55 43.7 +1.4
baz=39
Y22A **Socorro** 39.32 300 ⇓P P 09 55 43.7 +0.8
baz=39
J26A **Sides Ranch, S** 39.35 316 ⇓P P 09 55 44.0 +1.2
baz=39
S23A **Nye Farm, Mont** 39.44 306 ⇑P P 09 55 45.5 +1.7
baz=40
R23A **Moffat** 39.45 307 ⇓P P 09 55 45.1 +1.1
baz=40
X22A **Bernardo** 39.47 301 ⇓P P 09 55 45.8 +1.8
baz=40
O24A **Longmont** 39.50 310 ⇑P P 09 55 45.2 +1.0
baz=40
I26A **New Underwood** 39.52 317 ⇓P P 09 55 45.2 +1.0
baz=40
G27A **Dupree** 39.56 319 ⇑P P 09 55 45.7 +1.2
baz=40
V22A **San Miguel Ran** 39.69 303 ⇑P P 09 55 47.4 +1.5
baz=40,SNR=8.4
U22A **Llaves** 39.76 304 ⇑P P 09 55 48.0 +1.5
baz=40,SNR=6.4
ISCO **Idaho Springs** 39.78 309 eP P 09 55 47.2 +0.4
ISCO pmax pmax
comp=Z,9.0nm,1.0s
ISCO **Idaho Springs** 39.78 309 eP P 09 55 47.2 +0.4
comp=Z,8.9nm,1.0s
ISCO **Idaho Springs** 39.78 309 ⇑P P 09 55 47.9 +1.1
baz=40,SNR=12
M24A **Cheyenne** 39.80 312 ⇑P P 09 55 47.7 +1.0
baz=40
P23A **Jefferson** 39.81 309 ⇓P P 09 55 47.8 +0.8
baz=40
Y21A **Point of Rocks** 39.91 300 ⇓P P 09 55 49.0 +1.2
baz=40
G26A **Maurine** 39.93 319 ⇑P P 09 55 49.0 +1.4
baz=40
T22A **Edith** 39.95 305 ⇑P P 09 55 49.6 +1.4
baz=40,SNR=8.8
I25A **Rochford** 40.08 316 ⇑P P 09 55 50.4 +1.4
baz=40
S22A **4UR Ranch, Cre** 40.08 306 ⇓P P 09 55 50.5 +1.2
baz=40
X21A **Alamocita Cree** 40.08 301 ⇓P P 09 55 50.2 +0.9
baz=40
W21A **San Fidel** 40.10 302 ⇓P P 09 55 50.4 +1.0
baz=40
O23A **Lake Granby, G** 40.14 310 ⇑P P 09 55 50.7 +1.0
baz=40
R22A **Saguache, Gunn** 40.16 307 ⇑P P 09 55 51.0 +1.1
baz=40,SNR=8.0
PHWY **Pilot Hill** 40.18 312 eP P 09 55 50.7 +0.6
comp=Z,11nm,1.3s
V21A **Milan** 40.24 303 ⇓P P 09 55 52.0 +1.4
baz=40
H25A **Fruitdale** 40.26 317 ⇑P P 09 55 51.4 +1.0
baz=40
N23A **Red Feather La** 40.39 311 ⇑P P 09 55 52.8 +1.1
baz=40
U21A **Nageezi** 40.40 304 ⇑P P 09 55 53.4 +1.6
baz=40,SNR=11
G25A **Newell** 40.40 318 ⇑P P 09 55 52.9 +1.4
baz=40
T21A **Navajo Lake** 40.44 305 ⇓P P 09 55 53.1 +1.0
baz=40
Q22A **Crested Butte,** 40.45 308 ⇑P P 09 55 53.2 +0.9
baz=40,SNR=6.5
Y20A **Horse Springs,** 40.47 300 ⇓P P 09 55 53.3 +0.8
baz=40
C27A **Sayler Ranch,** 40.49 323 ⇓P P 09 55 53.4 +1.3
baz=41
P22A **Eagle** 40.56 309 ⇑P P 09 55 54.2 +1.1
baz=41
O22A **Kremmling** 40.58 310 ⇑P P 09 55 54.1 +0.8
baz=41,SNR=8.3
SMCO **Snowmass** 40.59 308 eP P 09 55 54.3 +0.7
comp=Z,4.5nm,1.1s
I24A **Kuemmerle Ranc** 40.60 316 ⇓P P 09 55 54.3 +1.1
baz=41
N22A **Wattenberg Ran** 40.72 311 ⇑P P 09 55 56.0 +1.5
baz=41
W20A **Ramah** 40.79 302 ⇑P P 09 55 56.2 +1.1
baz=41
R21A **Cimarron** 40.80 307 ⇓P P 09 55 56.3 +1.2
baz=41,SNR=15
S21A **Coal Bank Pass** 40.80 306 ⇑P P 09 55 56.1 +0.8
baz=41,SNR=5.1
V20A **Brimhall** 40.90 303 ⇓P P 09 55 56.8 +0.9
baz=41
Q21A **Lamborn Mesa,** 40.94 307 ⇑P P 09 55 57.7 +1.4
baz=41,SNR=11
M22A **Cedar Creek Ra** 41.02 311 ⇑P P 09 55 58.0 +1.1
baz=41
P21A **Newcastle** 41.05 308 ⇑P P 09 55 58.3 +1.2
baz=41,SNR=9.1
O21A **Pagosa** 41.27 309 ⇑P P 09 56 00.5 +1.5
baz=41
S20A **Disappointment** 41.28 306 ⇓P P 09 56 00.3 +1.2
baz=41
R20A **Redvale** 41.38 306 ⇑P P 09 56 01.2 +1.3
baz=41
K22A **Casper** 41.41 313 ⇑P P 09 56 01.4 +1.4
baz=42
N21A **Black Mountain** 41.47 310 ⇓P P 09 56 02.5 +1.9
baz=42
PV01 **Paradox Valley** 41.51 306 eP P 09 56 02.5 +1.5
comp=Z,861nm,1.3s
Q20A **Ridgley Place,** 41.52 307 ⇑P P 09 56 02.3 +1.4
baz=42,SNR=23
M21A **Separation Pea** 41.63 311 ⇑P P 09 56 02.9 +0.9
baz=42
P20A **De Beque** 41.74 308 ⇓P P 09 56 03.9 +1.1
baz=42
L21A **Rawlins** 41.76 312 ⇑P P 09 56 04.0 +1.1
baz=42
O20A **White River Ci** 41.81 309 ⇑P P 09 56 04.5 +1.1
baz=42
LVC **Limon Verde** 41.84 184 eP P 09 56 00.8 -3.0
comp=Z,5.2nm,0.6s
D24A **Glendive** 41.85 320 ⇓P P 09 56 05.6 +2.2
baz=42
K21A **Alcova** 41.90 313 ⇓P P 09 56 05.2 +1.1
baz=42,SNR=10
PV10 **Paradox Valley** 41.93 306 eP P 09 55 51.8 -13
comp=Z,142nm,1.0s
N20A **Spence Gulch,** 42.03 310 ⇓P P 09 56 06.6 +1.4
baz=42
M20A **Sweetwater, Wa** 42.18 311 ⇑P P 09 56 07.6 +1.2
baz=42
G22A **Birney** 42.24 317 ⇑P P 09 56 08.0 +1.3
baz=42
J21A **Lysite** 42.29 314 ⇓P P 09 56 07.9 +0.7
baz=42
I21A **Big Trails, Te** 42.36 315 ⇑P P 09 56 08.6 +0.9
baz=42
L20A **Wamsutter** 42.45 312 ⇑P P 09 56 09.8 +1.2
baz=42,SNR=5.6
O19A **Miners Draw (B** 42.50 309 ⇑P P 09 56 09.9 +0.9
baz=43
E22A **Miles City** 42.54 319 ⇑P P 09 56 10.4 +1.3
baz=43
K20A **Yellowstone Ra** 42.67 313 ⇓P P 09 56 11.2 +0.9
baz=43
C23A **Lambert** 42.69 321 ⇓P P 09 56 11.4 +1.2
baz=43
J20A **Shoshoni** 42.73 314 ⇓P P 09 56 11.8 +1.1
baz=43
I20A **Worland** 42.97 314 ⇑P P 09 56 13.7 +1.0
baz=43
D22A **Cohagen** 42.99 320 ⇑P P 09 56 14.4 +1.7
baz=43
K19A **Absolon Red Bu** 43.08 313 ⇓P P 09 56 14.4 +0.8
baz=43
WUAZ **Wupatki** 43.17 302 eP P 09 56 09.7 -4.8
comp=Z,6.1nm,1.0s
WUAZ **Wupatki** 43.17 302 ⇑P P 09 56 15.6 +1.1
baz=43
L19A **Farson** 43.20 311 ⇑P P 09 56 15.1 +0.4
baz=43
J19A **Crowheart** 43.36 313 ⇓P P 09 56 16.9 +0.9
baz=43,SNR=11
D21A **La Casta Ranch** 43.46 319 ⇑P P 09 56 18.0 +1.5
baz=44,SNR=5.8
G20A **Bridger** 43.49 316 ⇑P P 09 56 17.3 +0.5
baz=44
BW06 **Boulder Array** 43.55 312 eP P 09 56 18.2 +0.7
comp=Z,3.6nm,0.9s
PDAR **Pinedale Array** 43.55 312 P P 09 56 17.5 0.0
PDAR PcP **PcP** 09 58 05.4 +0.2
PDAR **Pinedale Array** 43.55 312 P P 09 56 17.5 0.0
comp=Z,3.4nm,0.9s,baz=115,slow=10.0,SNR=26
PDAR PcP **PcP** 09 58 05.4 +0.2
comp=Z,1.4nm,0.9s,baz=106,slow=6.7,SNR=3.4
I19A **Meeteetse** 43.58 314 ⇑P P 09 56 19.0 +1.3
baz=44
L18A **Fontenelle, Gr** 43.63 311 ⇓P P 09 56 18.9 +0.8
baz=44
F20A **Billings** 43.67 317 ⇑P P 09 56 20.0 +1.8
baz=44
H19A **Powell** 43.80 315 ⇓P P 09 56 20.5 +1.1
baz=44
C21A **Desert Coulee** 43.85 320 ⇑P P 09 56 20.9 +1.3
baz=44
E20A **Meyer Farm, Mu** 43.94 318 ⇑P P 09 56 21.6 +1.2
baz=44
M17A **Scullys Gap (B** 43.95 310 ⇑P P 09 56 21.7 +1.0
baz=44
I18A **Diamond G Ranc** 44.03 313 ⇑P P 09 56 22.5 +1.1
baz=44,SNR=14
RLMT **Red Lodge** 44.15 316 eP P 09 56 19.7 -2.6
comp=Z,7.5nm,1.3s
D20A **Manuel Ranch,** 44.18 319 ⇑P P 09 56 23.5 +1.2
baz=44
F19A **Roth Farm, Mol** 44.21 317 ⇓P P 09 56 23.9 +1.4
baz=44
H18A **Shoshone NF, C** 44.26 315 ⇑P P 09 56 23.8 +0.6
baz=44
E19A **Rath Farm, Rou** 44.34 318 ⇑P P 09 56 25.0 +1.4
baz=44
FCC **Fort Churchill** 44.40 339 eP P 09 56 13.0 -11
FCC **Fort Churchill** 44.40 339 eP P 09 56 13.0 -11
LOHW **Long Hollow** 44.54 313 eP P 09 56 26.3 +0.8
comp=Z,24nm,1.6s
I17A **Pilgrim Ck.** 44.62 314 ⇓P P 09 56 27.3 +1.2
baz=45
REDW **Red Top Meadow** 44.64 313 eP P 09 56 23.1 -3.1
comp=Z,31nm,1.5s
HWUT **Hardware Ranch** 44.64 310 eP P 09 56 26.8 +0.6
comp=Z,6.2nm,1.0s
D19A **Cripps Ranch,** 44.67 318 ⇑P P 09 56 27.8 +1.6
baz=45
MOOW **Moose Ponds** 44.68 313 eP P 09 56 26.8 +0.2
comp=Z,6.4nm,0.9s
F18A **Big Timber** 44.73 316 ⇓P P 09 56 28.0 +1.3
baz=45,SNR=5.1
TPAW **Cinton Pass** 44.75 313 eP P 09 56 23.2 -3.9
comp=Z,6.5nm,1.1s
IMW **Indian Meadow** 44.86 313 eP P 09 56 21.2 -6.9
comp=Z,3.1nm,0.7s
RRI2 **Red Ridge** 44.96 312 eP P 09 56 23.7 -5.1
comp=Z,5.8nm,0.9s
C19A **Slack Wire Ran** 45.01 319 ⇓P P 09 56 30.0 +1.1
baz=45
E18A **Harlowton** 45.10 317 ⇑P P 09 56 31.2 +1.4
baz=45
DUG **Dugway** 45.21 308 eP P 09 56 25.7 -5.0
DUG pmax pmax
comp=Z,2.0nm,0.9s
DUG **Dugway** 45.21 308 eP P 09 56 25.7 -5.0
comp=Z,2.4nm,0.9s
DUG **Dugway** 45.21 308 ⇓P P 09 56 31.7 +1.0
baz=45
I16A **Newdale** 45.23 313 ⇑P P 09 56 32.1 +1.2
baz=45,SNR=5.1
B19A **Brinkman Farms** 45.23 320 ⇓P P 09 56 31.5 +0.8
baz=45
D18A **Linhart Farms,** 45.26 318 ⇑P P 09 56 32.1 +1.1
baz=45
A19A **Klindworth Far** 45.31 321 ⇑P P 09 56 33.5 +2.1
baz=45
H16A **Russell Place,** 45.33 314 ⇓P P 09 56 33.4 +1.7
baz=45
F17A **Fitzpatrick Pl** 45.34 316 ⇓P P 09 56 33.1 +1.4
baz=45
QLMT **Earthquake Lak** 45.49 314 eP P 09 56 35.2 +2.2
comp=Z,1.4nm,1.0s
BGU **Big Grassy Mou** 45.54 309 eP P 09 56 34.4 +1.0
comp=Z,14nm,1.3s
EGMT **Eagleton** 45.56 319 ⇓P P 09 56 35.0 +1.8
baz=46
E17A **Martinsdale** 45.67 317 ⇑P P 09 56 35.6 +1.3
baz=46
GLA **Glamis** 45.71 298 ⇑P P 09 56 35.9 +1.2
baz=46
B18A **Beardsley Farm** 45.72 320 ⇓P P 09 56 35.9 +1.4
baz=46
D17A **Six Diamond Ra** 45.81 318 ⇓P P 09 56 36.6 +1.2
baz=46,SNR=5.5
A18A **Metzger Ranch,** 45.97 320 ⇓P P 09 56 37.8 +1.3
baz=46
C17A **Wharram Farm,** 46.03 318 ⇓P P 09 56 38.1 +1.0
baz=46,SNR=5.2
IRM **Iron Mountain** 46.08 299 ⇓P P 09 56 39.2 +1.6
baz=46
CPUP **Villa Florida** 46.16 170 eP P 09 56 34.8 -3.2
comp=Z,41nm,1.0s
CPUP **Villa Florida** 46.16 170 P P 09 56 34.9 -3.2
comp=Z,1.9nm,0.5s,baz=341,slow=7.8,SNR=14
BC3 **Big Chuckawall** 46.28 298 ⇑P P 09 56 39.9 +0.7
baz=46
B17A **L&G Farms, Che** 46.30 319 ⇑P P 09 56 40.2 +1.1
baz=46
DLMT **Dillon** 46.45 315 eP P 09 56 42.3 +1.8
comp=Z,11nm,1.3s
MCMT **McKenzie Canyo** 46.45 314 eP P 09 56 35.5 -5.1
comp=Z,1.4nm,0.9s
A17A **Triple J Farms** 46.50 320 ⇓P P 09 56 41.7 +1.1
baz=47
SWSC **Sam W. Stewart** 46.51 297 ⇑P P 09 56 41.6 +0.7
baz=46
R11A **Troy Canyon, C** 46.96 305 ⇑P P 09 56 45.6 +0.9
baz=47,SNR=6.0
MONP **Monument Peak** 47.03 297 ⇑P P 09 56 47.1 +1.9
baz=47,SNR=8.4
HLID **Hailey** 47.18 312 eP P 09 56 47.6 +1.4
comp=Z,10nm,1.3s
HLID **Hailey** 47.18 312 ⇑P P 09 56 47.2 +1.0
baz=47,SNR=10.0
C15A **Salmond Ranch,** 47.25 318 ⇓P P 09 56 47.5 +0.9
baz=47,SNR=8.1
B15A **Bradely Ranch,** 47.41 319 ⇑P P 09 56 48.9 +1.1
baz=48
GSC **Goldstone** 47.54 300 ⇑P P 09 56 50.3 +1.2
baz=48
MURC **Murrieta** 47.73 298 ⇑P P 09 56 52.0 +1.6
baz=48
MSO **Missoula** 47.79 316 ⇓P P 09 56 51.6 +0.8
baz=48
MFID **Camas Ranch** 48.14 311 ⇓P P 09 56 54.6 +1.0
baz=48
MPMC **Manual Prospec** 48.17 301 ⇓P P 09 56 54.8 +0.7
baz=48
NV11 **Mina Array Sit** 48.97 304 eP P 09 57 01.1 +0.9
NVAR **Mina Array Bea** 49.09 304 P P 09 57 01.8 +0.7
NVAR **Mina Array Bea** 49.09 304 P P 09 57 01.8 +0.7
comp=Z,2.5nm,1.0s,baz=87,slow=7.1,SNR=13
BMO **Blue Mountains** 49.52 313 eP P 09 57 04.5 +0.3
BMO pmax pmax
comp=Z,11nm,1.5s
BMO **Blue Mountains** 49.52 313 eP P 09 57 04.5 +0.3
comp=Z,11nm,1.5s
NEW **Newport** 50.28 317 eP P 09 57 10.2 +0.3
comp=Z,8.9nm,1.0s
NEW **Newport** 50.28 317 ⇓P P 09 57 10.3 +0.5
baz=50,SNR=9.7
YKA **Yellowknife Ar** 54.52 335 P P 09 57 40.3 -0.7
YKA **Yellowknife Ar** 54.52 335 P P 09 57 40.3 -0.7
comp=Z,2.0nm,0.8s,baz=114,slow=7.8,SNR=7.1
SUMG **Summit** 55.45 10 eP P 09 57 48.7 +0.7
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG **Summit** 55.45 10 iP P 09 57 49.1 +1.1
comp=Z,8.5nm,0.9s
SUMG **Summit** 55.45 10 eP P 09 57 48.7 +0.7
comp=Z,14nm,1.1s
ESDC **Sonseca Array** 56.35 55 P P 09 57 54.1 -0.6
ESDC **Sonseca Array** 56.35 55 P P 09 57 54.1 -0.6
comp=Z,0.2nm,0.3s,baz=270,slow=8.1,SNR=7.2
EKA **Eskdalemuir Ar** 58.74 36 P P 09 58 11.3 +0.2
EKA **Eskdalemuir Ar** 58.74 36 P P 09 58 11.3 +0.2
comp=Z,0.5nm,0.5s,baz=264,slow=6.3,SNR=3.1
TIC **Toumodi** 60.23 93 eP P 09 58 22.7 +0.6
comp=Z,19nm,0.5s
DLBC **Dease Lake** 60.27 327 eP P 09 58 20.5 -1.2
LIC **Lamto** 60.36 94 eP P 09 58 23.6 +0.6
comp=Z,101nm,1.9s
DBIC **Dimbokro** 60.38 93 P P 09 58 23.7 +0.6
DBIC **Dimbokro** 60.38 93 P P 09 58 23.7 +0.6
comp=Z,13nm,0.9s,baz=283,slow=9.8,SNR=7.1
KIC **Kosan Boka** 60.59 94 eP P 09 58 25.3 +0.8
comp=Z,51nm,1.1s
INK **Inuvik** 63.97 337 eP P 09 58 46.2 0.0
comp=Z,17nm,1.3s
TORD **Torodi Ar. Bea** 64.70 84 P P 09 58 52.2 +0.2
TORD **Torodi Ar. Bea** 64.70 84 P P 09 58 52.2 +0.2
comp=Z,7.0nm,0.8s,baz=293,slow=6.7,SNR=33
DAWY **Dawson** 65.61 332 eP P 09 58 57.9 +0.8
EGAK **Eagle** 66.43 333 eP P 09 59 03.0 +0.7
comp=Z,5.0nm,0.9s
BMRM **Bremner River** 67.86 329 eP P 09 59 13.0 +1.4
comp=Z,51nm,1.8s
ILAR **Eielson Array** 68.89 333 P P 09 59 17.9 0.0
ILAR **Eielson Array** 68.89 333 P P 09 59 17.9 0.0
comp=Z,4.1nm,0.8s,baz=102,slow=4.3,SNR=51
COLA **College** 69.30 333 eP P 09 59 10.6 -10
COLA **College** 69.30 333 eP P 09 59 10.6 -10
PMR **Palmer** 70.03 330 eP P 09 59 25.5 +0.6
PMR pmax pmax
comp=Z,2.0nm,0.6s
PMR **Palmer** 70.03 330 eP P 09 59 25.5 +0.6
comp=Z,2.0nm,0.6s
TRF **Thorofare Moun** 70.43 332 eP P 09 59 27.1 -0.6
comp=Z,37nm,1.6s
IMA2 **Indian Mountai** 71.65 335 eP P 09 59 35.0 +0.1
IM04 **Indian Mountai** 71.70 334 eP P 09 59 35.5 +0.4
RSO **Redoubt South** 71.89 329 eP P 09 59 37.0 +0.5
comp=Z,19nm,0.7s
ARCES **ARCESS Array B** 72.46 22 P P 09 59 39.3 -0.3
ARCES **ARCESS Array B** 72.46 22 P P 09 59 39.3 -0.3
comp=Z,2.0nm,0.8s,baz=282,slow=4.5,SNR=6.2
ARCES LR LR 10 29 24.1
comp=Z,179nm,19.3s,baz=76,slow=34
FINES **FINESS Array B** 74.06 30 P P 09 59 48.9 -0.2
FINES **FINESS Array B** 74.06 30 P P 09 59 48.9 -0.2
comp=Z,1.7nm,0.8s,baz=284,slow=5.6,SNR=4.8
MLR **Muntele Rosu** 77.60 46 P P 10 00 09.4 -0.4
MLR **Muntele Rosu** 77.60 46 P P 10 00 09.4 -0.4
comp=Z,0.9nm,0.8s,baz=158,slow=4.0,SNR=4.4
OBN **Obninsk** 81.13 35 eP P 10 00 29.6 +0.9
OBN pmax pmax
comp=Z,7.0nm,1.2s
BRTR **Keskin Array B** 84.77 50 P P 10 00 48.5 +0.3
BRTR **Keskin Array B** 84.77 50 P P 10 00 48.5 +0.3
comp=Z,1.2nm,0.8s,baz=276,slow=6.2,SNR=7.9
KIV **Kislovodsk** 89.29 43 eP P 10 01 08.3 -1.6
KIV pmax pmax
comp=Z,6.0nm,0.8s
SEY **Seymchan** 92.67 344 eP P 10 01 27.1 +2.0
HHC **Hu-ho-hao-te** 120.04 2 ePKP PKPdf 10 06 54.3 -10
HHC sPKP 10 07 31.3
HHC PP **PP** 10 08 23.6 -4.0
HHC PKS PKSdf 10 10 30.9 -11
HHC SKS SKSdf 10 13 54.3 -23
HHC SKKS SKKSac 10 15 04.4 -25
HHC **Hu-ho-hao-te** 120.04 2 SS SS 10 24 37.8 -16
HHC AMB AMB
comp=Z,140nm,9.1s
HHC LR LR
comp=N,570nm,21.4s
HHC LR LR
comp=E,340nm,19.0s
HHC LR LR
comp=Z,640nm,22.6s
PMG **Port Moresby** 146.68 283 PKPbc **PKPbc** 10 07 56.8 +0.6
PMG **Port Moresby** 146.68 283 PKPbc **PKPbc** 10 07 56.8 +0.6
comp=Z,26nm,1.1s,baz=222,slow=6.0,SNR=3.7
CTA **Charters Tower** 149.89 263 PKPbc **PKPbc** 10 08 04.5 -0.1
CTA **Charters Tower** 149.89 263 PKP **PKPdf** 10 08 00.4 +0.7
comp=Z,7.4nm,0.9s,baz=72,slow=3.2,SNR=3.3
CTA PKPbc **PKPbc** 10 08 04.5 -0.1
comp=Z,6.3nm,0.8s,baz=63,slow=2.3,SNR=10.0
STKA **Stephens Creek** 152.47 238 PKPbc **PKPbc** 10 08 08.8 -1.4

STKA Stephens Creek 152.47 238 PKPbc **PKPbc 10 08 08.8 -1.4**
comp=Z,4.7nm,0.8s,baz=270,slow=2.0,SNR=12
WRA Warramunga Arr 161.07 265 PKP **PKPdf 10 08 13.9 -0.8**
WRA PKPab **PKPab 10 08 57.8 -0.1**
WRA Warramunga Arr 161.07 265 PKP **PKPdf 10 08 13.9 -0.8**
comp=Z,1.7nm,0.8s,baz=54,slow=1.0,SNR=14
WRA PKPab **PKPab 10 08 57.8 -0.1**
comp=Z,0.6nm,0.8s,baz=89,slow=3.6,SNR=3.0
ASAR Alice Springs 161.23 253 PKP **PKPdf 10 08 14.2 -0.6**
ASAR PKPab **PKPab 10 08 57.9 -0.6**
ASAR Alice Springs 161.23 253 PKP **PKPdf 10 08 14.2 -0.6**
comp=Z,0.5nm,0.9s,baz=48,slow=1.4,SNR=6.1
ASAR PKPab **PKPab 10 08 57.9 -0.6**
comp=Z,1.8nm,0.8s,baz=101,slow=4.4,SNR=13

---

*LDG **14** 09:50:13.9±0.2, 19°.33N×66°.36W, h10km, Mb4.9/21, Ms4.6/7, Error ellipse: s-maj=10.8km s-min=4.9km az=92.0*
*IDC **14** 09:50:17.5±0.4, 19°.27N×65°.69W, h0km, mb4.5/36, mb1 4.6/36, mb1mx4.6/40, mbtmp4.5/36, MS4.5/9, Ms1 4.5/9, ms1mx4.3/26, Error ellipse: s-maj=11.6km s-min=11.0km az=96.0*
*MOS **14** 09:50:21.4±1.0, 19°.34N×65°.73W, h33km, mb5.1/27, MS4.6/7, Error ellipse: s-maj=7.9km s-min=5.9km az=110.1*
*ISCJB **14** 09:50:23.2±0.4, 19°.24N±0°.03×65°.71W±0°.02, h54km±5km, mb4.8/138, MS4.6/24, Error ellipse: s-maj=5.6km s-min=2.9km az=9.8*
*RSPR **14** 09:50:24.1, 19°.26N×65°.72W, h47km±14km, MD4.7/9*
*NEIC **14** 09:50:24.1, 19°.26N×65°.72W, h47km, mb4.9/70, MD4.7(RSPR), After RSPR.*
NEIC Felt at Carolina, Guaynabo, Gurabo, Rio Grande, Sabana Seca, San Juan and Utuado.
*GCMT **14** 09:50:25.8±0.3, 19°.50N×65°.81W, h17km, MW5.1, Moment Tensor Solution. s38,c46; s77,c125; Moment tensor: Scale 10^16 Nm; Mrr=4.58±.25; Mθθ3.38±.15; Mφφ1.20±.16; Mrθ0.88±.35; Mθφ2.13±.11; Mφr0.75±.48; Best double couple: Mo=4.80000×10^16 NP1:φs236.00000°, δ52.00000°, λ-93.00000°. NP2:φs61.00000°, δ38.00000°, λ-87.00000°. Principal axes: T 4.8200, Plg7.0000°, Azm328.0000°; N -0.1000, Plg2.0000°, Azm238.0000°; P -4.7300, Plg83.0000°, Azm131.0000°; Data Used: II IU IC G CN.*
ISC 14 09:50:23.9±0.8, 19°.24N±0°.04×65°.73W±0°.03, h42km±7km, n747, s0°99/757, mb4.8/137, MS4.7/24, 194C-165D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.97 187**		⇑iP	**Pn**	**09 50 40.0**	**-1.1**
CBYP	**Canovanas**	**0.97 187**		*i* Pu	**Pn**	**09 50 40.0**	**-1.1**
CBYP				*e*Sn	**Sn**	**09 50 52.1**	**-1.7**
CBYP	**Canovanas**	**0.97 187**		⇑iP	**Pn**	**09 50 40.1**	**-1.1**
STVI	**Saint Thomas**	**1.15 140**		⇑*e*P	**Pn**	**09 50 42.6**	**-0.9**
STVI	**Saint Thomas**	**1.15 140**		⇑*e*P	**Pn**	**09 50 42.6**	**-0.9**
STVI	**Saint Thomas**	**1.15 140**		⇑*e*P	**Pn**	**09 50 42.6**	**-0.9**
MTP	**Monte Pirata**	**1.15 172**		⇑iP	**Pn**	**09 50 42.9**	**-0.7**
MTP	**Monte Pirata**	**1.15 172**		*i* Pu	**Pn**	**09 50 42.9**	**-0.7**
MTP	**Monte Pirata**	**1.15 172**		⇑iP	**Pn**	**09 50 42.9**	**-0.7**
SJG	**San Juan**	**1.20 200**		⇑iP	**Pn**	**09 50 43.6**	**-0.5**
SJG	**San Juan**	**1.20 200**		*i* Pu		09 50 43.6	
SJG	**San Juan**	**1.20 200**		⇑iP	**Pn**	**09 50 43.6**	**-0.5**
CPD	**Cerro la Pandu**	**1.21 188**		⇑iP	**Pn**	**09 50 43.6**	**-0.8**
CPD				*e*S	**Sn**	**09 50 59.8**	**+0.1**
CPD	**Cerro la Pandu**	**1.21 188**		*i* P	**Pn**	**09 50 43.6**	**-0.8**
CPD				*e*S	**Sn**	**09 50 59.8**	**+0.1**
CPD	**Cerro la Pandu**	**1.21 188**		*i* Pu	**Pn**	**09 50 43.6**	**-0.8**
CPD				*e*S	**Sn**	**09 50 59.8**	**+0.1**
CPD	**Cerro la Pandu**	**1.21 188**		⇑iP	**Pn**	**09 50 43.6**	**-0.8**
CPD				*e*S	**Sn**	**09 50 59.8**	**+0.1**
AOPR	**Arecibo Observ**	**1.32 228**		⇑iP	**Pn**	**09 50 45.0**	**-0.8**
AOPR				*e*S	**Sn**	**09 51 01.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.32 228**		*i* Pu	**Pn**	**09 50 45.0**	**-0.8**
AOPR				*e*S	**Sn**	**09 51 01.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.32 228**		⇑iP	**Pn**	**09 50 45.5**	**-0.4**
AOPR				*e*S	**Sn**	**09 51 01.9**	**-0.4**
TBVI	**Tortola**	**1.34 128**		⇑iP	**Pn**	**09 50 45.4**	**-0.7**
TBVI	**Tortola**	**1.34 128**		*i* Pu		09 50 45.4	
TBVI	**Tortola**	**1.34 128**		⇑iP	**Pn**	**09 50 45.4**	**-0.7**
CELP	**Cerrillos**	**1.42 215**		⇓iP	**Pn**	**09 50 46.9**	**-0.3**
CELP	**Cerrillos**	**1.42 215**		⇓iP	**Pn**	**09 50 46.9**	**-0.3**
CELP	**Cerrillos**	**1.42 215**		⇓iP	**Pn**	**09 50 46.9**	**-0.3**
ABV	**Anegada**	**1.42 111**		⇑iP	**Pn**	**09 50 46.8**	**-0.4**
ABV	**Anegada**	**1.42 111**		⇑iP	**Pn**	**09 50 46.8**	**-0.4**
ABVI	**Anegada Island**	**1.42 111**		*i* Pu	**Pn**	**09 50 46.8**	**-0.4**
LRS	**Lares**	**1.42 228**		⇑iP	**Pn**	**09 50 46.6**	**-0.7**
LRS	**Lares**	**1.42 228**		*i* Pu	**Pn**	**09 50 46.6**	**-0.7**
LRS	**Lares**	**1.42 228**		⇑iP	**Pn**	**09 50 46.6**	**-0.7**
OBIP	**Obispado Ponce**	**1.46 215**		⇑iP	**Pn**	**09 50 47.1**	**-0.6**
OBIP				*e*S	**Sn**	**09 51 05.6**	**0.0**
OBIP	**Obispado Ponce**	**1.46 215**		*i* Pu		09 50 47.1	
OBIP				*e*S	**Sn**	**09 51 05.6**	**0.0**
OBIP	**Obispado Ponce**	**1.46 215**		⇑iP	**Pn**	**09 50 47.1**	**-0.6**
OBIP				*e*S	**Sn**	**09 51 05.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.52 240**		⇑*e*P	**Pn**	**09 50 49.0**	**+0.4**
AGPR	**Aguadilla, PR**	**1.52 240**		⇑*e*P	**Pn**	**09 50 49.0**	**+0.4**
AGPR	**Aguadilla, PR**	**1.52 240**		⇑*e*P	**Pn**	**09 50 49.0**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.67 221**		⇑*e*P	**Pn**	**09 50 50.7**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.67 221**		⇑*e*P	**Pn**	**09 50 50.7**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.67 221**		⇑*e*P	**Pn**	**09 50 50.7**	**+0.1**
LSP	**Las Mesas**	**1.67 231**		⇓*e*P	**Pn**	**09 50 50.5**	**-0.1**
LSP	**Las Mesas**	**1.67 231**		⇓*e*P	**Pn**	**09 50 50.5**	**-0.1**
LSP	**Las Mesas**	**1.67 231**		⇓*e*P	**Pn**	**09 50 50.5**	**-0.1**
CDVI	**St. Croix**	**1.74 148**		*e*Pn	**Pn**	**09 50 53.3**	**+1.6**
CDVI				*e*Sn	Sn	09 51 21.1	+8.5
CRPR	**Cabo Rojo, PR**	**1.80 227**		⇓*e*P	**Pn**	**09 50 52.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.80 227**		⇓*e*P	**Pn**	**09 50 52.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.80 227**		⇓*e*P	**Pn**	**09 50 52.6**	**+0.2**
IDE	**Isla Desecheo**	**1.86 243**		⇓*e*P	**Pn**	**09 50 53.0**	**-0.2**
IDE	**Isla Desecheo**	**1.86 243**		⇓*e*P	**Pn**	**09 50 53.0**	**-0.2**
IDE	**Isla Desecheo**	**1.86 243**		⇓*e*P	**Pn**	**09 50 53.3**	**0.0**
SKI	**Saint Kitts**	**3.42 123**		*e*P	Pn	09 51 17.7	+3.0
SKI				*e*S	**Sn**	**09 51 54.8**	**+0.8**
NEV	**Hard Times**	**3.66 124**		*e*	Pn	09 51 22.5	+4.5
ANWB	**Willy Bob**	**4.06 112**		*e*Pn	**Pn**	**09 51 22.7**	**-0.7**
ANWB				*e*Sn	**Sn**	**09 52 08.2**	**-1.6**
BPA	**Boggy Peak**	**4.28 120**		*e*	Pn	09 51 29.5	+2.9
BPA	**Boggy Peak**	**4.28 120**		*e*	Pn	09 51 33.6	+7.0
LZG	**Guadaloupe-1**	**4.87 129**		*e*P	**Pn**	**09 51 35.5**	**+0.8**
SEG	**Port Louis**	**4.92 124**		*e*P	**Pn**	**09 51 35.7**	**+0.5**
MLG	**Mont-d'or**	**4.97 129**		*e*P	**Pn**	**09 51 36.8**	**+0.7**
SSG	**Sans Toucher**	**4.97 128**		*e*P	Pn	09 51 38.6	+2.4
FNG	**Fond-Bernard**	**4.99 129**		*e*P	Pn	09 51 39.4	+3.0
CRG	**Carmichael**	**5.01 129**		*e*P	**Pn**	**09 51 38.9**	**+2.2**
SCG	**Saint Claude**	**5.01 129**		*e*P	Pn	09 51 39.0	+2.3
TAG	**Tarade**	**5.02 129**		*e*P	Pn	09 51 39.9	+3.1
LKG	**Breislack**	**5.02 129**		*e*P	**Pn**	**09 51 38.4**	**+1.6**
BCG	**Bois Riant Cap**	**5.02 128**		⇑iP	**Pn**	**09 51 38.8**	**+2.0**
ECG	**Echelle**	**5.02 129**		*e*P	**Pn**	**09 51 38.7**	**+1.8**
HMG	**Houelmont**	**5.03 130**		*e*P	**Pn**	**09 51 38.8**	**+1.9**
PHG	**Guadaloupe-2**	**5.05 129**		*e*P	Pn	09 51 39.6	+2.4
DOG	**Dongo Capester**	**5.06 129**		*e*P	**Pn**	**09 51 38.8**	**+1.5**
SDDR	**Presa de Saban**	**5.26 268**		⇑iP	**Pn**	**09 51 40.4**	**+0.3**
SDDR	**Presa de Saban**	**5.26 268**		*e*Pn	**Pn**	**09 51 40.2**	**+0.1**
SDDR	**Presa de Saban**	**5.26 268**		⇑iP	**Pn**	**09 51 40.4**	**+0.3**
MGG	**Marie-Galante**	**5.35 127**		*e*P	**Pn**	**09 51 43.5**	**+2.2**
GRTK	**Grand Turk**	**5.55 295**		*e*Pn	**Pn**	**09 51 40.8**	**-3.1**
GRTK	247nm,0.6s			*e*Sn	Sn	09 52 39.2	-7.3
FDF	**Fort de France**	**6.27 135**		*e*P	**Pn**	**09 51 54.5**	**+0.6**
FDF				*e*		09 53 02.1	
FDF	comp=Z,141nm,0.8s			pmax	pmax		
FDF	**Fort de France**	**6.27 135**		*e*Pn	**Pn**	**09 51 54.5**	**+0.6**
FDF	comp=Z,141nm,0.8s			*e*Sn	**Sn**	**09 53 02.1**	**-2.3**
MCLT	**Moule a Chique**	**7.17 139**		*e*P	Pn	09 52 13.6	+7.4
SVB	**Belmont**	**7.33 143**		*e*P	**Pn**	**09 52 10.4**	**+2.0**
GRGR	**Grenville**	**8.09 150**		*e*Pn	Pn	09 52 14.9	-4.0
GRGR	comp=Z,185nm,0.8s			*e*Sn	**Sn**	**09 53 45.4**	**-3.6**
BBGH	**Gun Hill**	**8.48 135**		*e*Pn	**Pn**	**09 52 23.9**	**-0.3**
GTBY	**Guantanamo Bay**	**8.87 276**		*e*Pn	Pn	09 52 25.5	-4.0
GTBY	comp=Z,173nm,1.0s			*e*Sn	**Sn**	**09 54 07.3**	**-0.9**
TOSP	**Speyside**	**9.35 147**		*e*P	Pn	09 52 40.5	+4.4
SDV	**Santo Domingo**	**11.34 205**		*e*Pn	**Pn**	**09 53 03.7**	**+0.1**
SDV				*e*Sn	**Sn**	**09 55 12.2**	**+3.0**
BBSR	**BB Station**	**13.11 4**		*e*Pn	Pn	09 53 21.6	-5.9
ROSC	**El Rosal**	**16.58 211**		*e*P	**P**	**09 54 16.1**	**+0.3**
ROSC				*e*S	**S**	**09 57 26.7**	**-0.7**
ROSC	**El Rosal**	**16.58 211**		Pn	**P**	**09 54 17.6**	**+1.7**
	comp=Z,6.8nm,0.3s,baz=94,slow=19,SNR=16						
CNNC	**Cliffs of the**	**19.23 328**		*e*P	**P**	**09 54 44.1**	**-0.4**
	comp=Z,72nm,0.6s						
CNNC				*e*S	**S**	**09 58 20.3**	**+0.2**
TIGA	**Tifton**	**20.16 310**		*e*P	Pn	09 54 55.4	-1.5
TIGA				*e*S	**S**	**09 58 32.6**	**-6.3**
TIGA	**Tifton**	**20.16 310**		⇑P	Pn	09 54 56.4	-0.5
	baz=20						
JTS	**JuntasAbangare**	**20.59 247**		P	**P**	**09 54 58.9**	**-0.6**
JTS	**JuntasAbangare**	**20.59 247**		P	**P**	**09 54 58.9**	**-0.6**
	comp=Z,41nm,0.9s,baz=62,slow=11,SNR=16						
KMSC	**Kings Mountain**	**21.01 322**		*e*P	**P**	**09 55 07.5**	**+3.5**
KMSC	**Kings Mountain**	**21.01 322**		⇑P		09 55 06.5	
	baz=21						
GOGA	**Godfrey**	**21.21 315**		*e*P	**P**	**09 55 09.1**	**+3.1**
GOGA				pmax	pmax		
	comp=Z,92nm,1.3s						
GOGA	**Godfrey**	**21.21 315**		*e*P	**P**	**09 55 09.1**	**+3.1**
	comp=Z,92nm,1.3s						
JSRW	**J. Sargeant Re**	**21.22 333**		*e*P	**P**	**09 55 04.3**	**-1.8**
TEIG	**Tepich**	**21.25 276**		*e*P	**P**	**09 55 07.3**	**+0.8**
TEIG				*e*S	**S**	**09 59 01.5**	**+0.9**
TEIG	**Tepich**	**21.25 276**		P	**P**	**09 55 06.0**	**-0.5**
	comp=Z,19nm,0.7s,baz=68,slow=10,SNR=21						
CBN	**Corbin**	**21.44 334**		*e*P	**P**	**09 55 09.6**	**+1.1**
VWCC	**Virginia Weste**	**21.84 328**		*e*P	**P**	**09 55 11.8**	**-1.0**
BLA	**Blacksburg**	**22.04 327**		*e*P	**P**	**09 55 14.1**	**-0.9**
BLA	**Blacksburg**	**22.04 327**		*e*P	**P**	**09 55 14.1**	**-0.9**
SDMD	**Soldier's Deli**	**22.27 337**		*e*P	**P**	**09 55 17.0**	**-0.4**
	comp=Z,73nm,0.8s						
BRAL	**Brwton**	**22.54 305**		*e*P	**P**	**09 55 20.8**	**+0.4**
	comp=Z,148nm,1.2s						
CPNY	**Central Park**	**22.61 344**		*e*P	**P**	**09 55 21.4**	**+0.5**
	comp=Z,56nm,0.8s						
MVL	**Millersville**	**22.62 338**		*e*P	**P**	**09 55 21.4**	**+0.3**
	comp=Z,94nm,1.4s						
OTAV	**Otavalo**	**22.64 215**		*e*P	**P**	**09 55 23.1**	**+1.1**
	comp=Z,125nm,1.2s						
BRNJ	**Basking Ridge**	**22.67 342**		*e*P	**P**	**09 55 22.6**	**+1.0**
	comp=Z,20μm,0.8s						
PAL	**Palisades**	**22.79 344**		*e*P	**P**	**09 55 26.0**	**+3.1**
PAL				pmax	pmax		
	comp=Z,403nm,0.7s						
PAL	**Palisades**	**22.79 344**		*e*P	**P**	**09 55 26.0**	**+3.1**
	comp=Z,403nm,0.7s						
TKL	**Tuckaleechee C**	**22.82 319**		*e*P	**P**	**09 55 20.3**	**-3.0**
TKL				S	**S**	**09 59 27.7**	**-2.1**
TKL	**Tuckaleechee C**	**22.82 319**		P	**P**	**09 55 22.0**	**-1.3**
	comp=Z,3.4nm,0.5s,baz=116,slow=12,SNR=2.4						
TKL				S	**S**	**09 59 27.7**	**-2.1**
	comp=Z,41nm,0.8s,baz=222,slow=22,SNR=6.7						
TKL				LR	LR	10 03 41.6	
	comp=Z,2μm,19.8s,baz=117,slow=35						
CPCT	**Cooper Cave**	**23.16 318**		*e*P	**P**	**09 55 27.5**	**+0.8**
TZTN	**Tazewell**	**23.28 321**		*e*P	**P**	**09 55 28.9**	**+1.0**
LRAL	**Lakeview Retre**	**23.46 310**		*e*P	**P**	**09 55 28.9**	**-0.7**
	comp=Z,15nm,0.5s						
HRV	**Adam Dziewonsk**	**23.71 349**		*e*P	**P**	**09 55 31.9**	**-0.1**
HRV	**Adam Dziewonsk**	**23.71 349**		*e*P	**P**	**09 55 31.9**	**-0.1**
BINY	**Binghamton**	**24.48 341**		*e*P	**P**	**09 55 39.2**	**+0.1**
	comp=Z,86nm,1.8s						
ACCN	**Adirondack Com**	**24.98 346**		*e*P	**P**	**09 55 43.5**	**0.0**
ACCN				*e*S	**S**	**10 00 11.2**	**+6.7**
EMMW	**East Machias**	**25.43 357**		*e*P	**P**	**09 55 47.3**	**-0.3**
	comp=Z,94nm,1.1s						
NCB	**Newcomb**	**25.66 346**		*e*P	**P**	**09 55 49.9**	**+0.1**
	comp=Z,50nm,0.6s						
VBMS	**Vicksburg**	**25.73 305**		*e*P	**P**	**09 55 50.6**	**+0.2**
	comp=Z,46nm,1.0s						
OXF	**Oxford**	**25.93 311**		*e*P	**P**	**09 55 51.7**	**-0.6**
OXF	**Oxford**	**25.93 311**		*e*P	**P**	**09 55 51.7**	**-0.6**
PKME	**Peaks-Kenny Pk**	**26.12 354**		*e*P	**P**	**09 55 53.6**	**-0.2**
	comp=Z,29nm,0.6s						
FRNY	**Flat Rock**	**26.35 347**		*e*P	**P**	**09 55 55.9**	**-0.1**
	comp=Z,30nm,0.8s						
HALT	**Halls**	**26.61 313**		*e*P	**P**	**09 55 57.8**	**-0.6**
BLO	**Bloomington**	**26.79 322**		*e*P	**P**	**09 56 00.7**	**+0.8**
BLO	**Bloomington**	**26.79 322**		*e*P	**P**	**09 56 00.7**	**+0.8**
GNAR	**Gosnell**	**27.10 313**		*e*P	**P**	**09 56 03.0**	**+0.2**
	comp=Z,1μm,1.4s						
PARMO	**Parma**	**27.29 314**		*e*P	**P**	**09 56 03.9**	**-0.6**
SIUC	**Southern Illin**	**27.53 317**		*e*P	**P**	**09 56 06.8**	**+0.1**
	comp=Z,38nm,0.9s						
SADO	**Sadowa**	**27.80 339**		P	**P**	**09 56 09.8**	**+0.8**
SADO	**Sadowa**	**27.80 339**		P	**P**	**09 56 09.8**	**+0.8**
	comp=Z,9.8nm,1.0s,baz=159,slow=9.8,SNR=4.2						
SADO				LR	LR	10 07 09.2	
	comp=Z,1μm,18.4s,baz=119,slow=36						
ATAH	**Atahualpa**	**29.03 207**		P	**P**	**09 56 20.9**	**+0.2**
ATAH	**Atahualpa**	**29.03 207**		P	**P**	**09 56 20.9**	**+0.2**
	comp=Z,7.4nm,0.8s,baz=29,slow=13,SNR=2.9						
HKT	**Hockley**	**29.29 297**		*e*P	**P**	**09 56 21.9**	**-0.4**
HKT				pmax	pmax		
	comp=Z,12nm,1.1s						
HKT	**Hockley**	**29.29 297**		*e*P	**P**	**09 56 21.9**	**-0.4**
	comp=Z,12nm,1.1s						
WHTX	**Lake Whitney**	**31.18 300**		*e*P	**P**	**09 56 38.5**	**-0.6**
WHTX	**Lake Whitney**	**31.18 300**		⇑P	**P**	**09 56 38.9**	**-0.2**
	baz=31						
TUL1	**Tulsa**	**31.23 308**		*e*P	**P**	**09 56 38.9**	**-0.6**
TUL1	**Tulsa**	**31.23 308**		⇓P	**P**	**09 56 38.8**	**-0.6**
	baz=31,SNR=8.5						
632A	**Uvalde**	**32.55 295**		⇑P	**P**	**09 56 50.8**	**-0.4**
	baz=32						
732A	**Laxson Ranch,**	**32.58 293**		⇑P	**P**	**09 56 50.6**	**-0.9**
	baz=33,SNR=5.5						
JCT	**Junction City**	**32.76 297**		*e*P	**P**	**09 56 52.5**	**-0.6**
JCT				*e*		09 59 39.1	
JCT				pmax	pmax		
	comp=Z,31nm,1.0s						
JCT	**Junction City**	**32.76 297**		*e*P	**P**	**09 56 52.5**	**-0.6**
	comp=Z,31nm,1.0s						
JCT				*e*PcP	**PcP**	**09 59 39.1**	**+1.3**
JCT	**Junction City**	**32.76 297**		⇓P	**P**	**09 56 52.1**	**-0.9**
	baz=33,SNR=10						
532A	**Rocksprings**	**32.77 296**		⇑P	**P**	**09 56 52.3**	**-0.9**
	baz=33,SNR=14						
432A	**Menard**	**32.83 297**		⇑P	**P**	**09 56 53.3**	**-0.4**
	baz=33						
332A	**Millersview**	**32.91 298**		⇓P	**P**	**09 56 53.7**	**-0.6**
	baz=33						
232A	**Coleman**	**32.95 299**		⇑P	**P**	**09 56 54.1**	**-0.6**
	baz=33						
WMOK	**Wichita Mounta**	**33.07 305**		*e*P	**P**	**09 56 54.5**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMOK	**Wichita Mounta**	**33.07 305**		*e*P	**P**	**09 56 54.5**	**-1.2**
	comp=Z,5.9nm,0.9s						
ABTX	**Abilene, Hawle**	**33.13 301**		⇑P	**P**	**09 56 56.2**	**-0.1**
	baz=33						
Z32A	**Haskell**	**33.18 302**		⇓P	**P**	**09 56 56.6**	**-0.1**
	baz=33						
KSU1	**Kansas State U**	**33.20 313**		*e*P	**P**	**09 56 55.5**	**-1.3**
	comp=Z,21nm,0.9s						
631A	**Perdido Creek**	**33.22 294**		⇓P	**P**	**09 56 56.1**	**-1.0**
	baz=33,SNR=13						
531A	**Rocksprings**	**33.33 296**		⇓P	**P**	**09 56 57.3**	**-0.7**
	baz=33						
Y32A	**R-V Farms, Ver**	**33.36 303**		⇑P	**P**	**09 56 57.5**	**-0.7**
	baz=33						
331A	**San Angelo**	**33.46 298**		⇓P	**P**	**09 56 58.9**	**-0.2**
	baz=33						
431A	**Sonora**	**33.48 297**		⇑P	**P**	**09 56 58.6**	**-0.7**
	baz=34,SNR=9.7						
231A	**Bronte**	**33.51 299**		⇑P	**P**	**09 56 58.5**	**-1.1**
	baz=34						
Z31A	**Sharp Cattle R**	**33.72 302**		⇑P	**P**	**09 57 01.3**	**-0.1**
	baz=34						
X31A	**McDonald Ranch**	**33.97 304**		⇑P	**P**	**09 57 02.3**	**-1.2**
	baz=34,SNR=7.9						
Y31A	**Rekieta Farm,**	**33.99 303**		⇑P	**P**	**09 57 03.7**	**-0.1**
	baz=34						
530A	**J-C Ranch, Com**	**34.00 296**		⇑P	**P**	**09 57 03.3**	**-0.6**
	baz=34						
430A	**Baggett Ranch,**	**34.03 297**		⇓P	**P**	**09 57 03.9**	**-0.3**
	baz=34						
330A	**Mertzon**	**34.10 298**		⇓P	**P**	**09 57 04.3**	**-0.5**
	baz=34						
W31A	**Holland Ranch,**	**34.12 305**		⇑P	**P**	**09 57 04.3**	**-0.5**
	baz=34						
130A	**Snyder**	**34.20 300**		⇓P	**P**	**09 57 05.2**	**-0.5**
	baz=34						
V31A	**Spring Creek L**	**34.23 306**		⇑P	**P**	**09 57 05.1**	**-0.7**
	baz=34,SNR=7.9						
SPMN	**St. Paul**	**34.28 325**		⇑P	**P**	**09 57 06.2**	**+0.2**
	baz=34						
U31A	**Nine Bar Ranch**	**34.44 307**		⇑P	**P**	**09 57 07.8**	**+0.2**
	baz=34						
Z30A	**Sanderson Ranc**	**34.51 301**		⇓P	**P**	**09 57 07.6**	**-0.7**
	baz=34						
429A	**Davenport Ranc**	**34.55 296**		⇓P	**P**	**09 57 07.2**	**-1.5**
	baz=34,SNR=7.8						
T31A	**Randall Ranch,**	**34.57 308**		⇓P	**P**	**09 57 08.1**	**-0.7**
	baz=35,SNR=12						
X30A	**Coker Ranch, T**	**34.62 303**		⇓P	**P**	**09 57 08.8**	**-0.4**
	baz=35						
S31A	**Mullinville**	**34.62 309**		⇑P	**P**	**09 57 09.0**	**-0.2**
	baz=35,SNR=8.6						
529A	**Stev Forest Ra**	**34.74 295**		⇑P	**P**	**09 57 09.3**	**-1.1**
	baz=35,SNR=8.5						
329A	**Wagon Wheel Ra**	**34.80 298**		⇓P	**P**	**09 57 10.0**	**-0.8**
	baz=35,SNR=8.0						
V30A	**Spur Ranch, Mi**	**34.88 305**		⇓P	**P**	**09 57 11.6**	**+0.1**
	baz=35						
129A	**Stewart Farms,**	**34.95 300**		⇓P	**P**	**09 57 11.8**	**-0.3**
	baz=35						
Z29A	**Hungry Hill Ra**	**34.97 301**		⇑P	**P**	**09 57 11.5**	**-0.8**
	baz=35						
Y29A	**Porterfield Fa**	**35.09 302**		⇓P	**P**	**09 57 13.1**	**-0.3**
	baz=35						
U30A	**WK&E Inc. Balk**	**35.10 307**		⇓P	**P**	**09 57 13.0**	**-0.3**
	baz=35						
Q31A	**Ellis**	**35.11 311**		⇑P	**P**	**09 57 13.0**	**-0.4**
	baz=35						
T30A	**Plains**	**35.19 308**		⇑P	**P**	**09 57 13.8**	**-0.3**
	baz=35,SNR=8.7						
628A	**Black Gap, Mar**	**35.22 294**		⇑P	**P**	**09 57 14.5**	**0.0**
	baz=35,SNR=22						
528A	**Cox Ranch, San**	**35.24 295**		⇓P	**P**	**09 57 14.2**	**-0.5**
	baz=35,SNR=11						
428A	**Kincaid Ranch,**	**35.24 296**		⇑P	**P**	**09 57 14.7**	**0.0**
	baz=35,SNR=16						
X29A	**Tulia**	**35.27 303**		⇓P	**P**	**09 57 14.7**	**-0.3**
	baz=35						
SIV	**San Ignacio**	**35.31 172**		P	**P**	**09 57 13.7**	**-1.5**
SIV	**San Ignacio**	**35.31 172**		P	**P**	**09 57 13.7**	**-1.5**
	comp=Z,5.3nm,0.5s,baz=357,slow=10.0,SNR=16						
BGNE	**Belgrade**	**35.33 316**		⇑P	**P**	**09 57 15.0**	**-0.2**
	baz=35						
S30A	**Montezuma**	**35.35 309**		⇓P	**P**	**09 57 15.2**	**-0.3**
	baz=35,SNR=10						
LPAZ	**La Paz**	**35.39 184**		*e*P	**P**	**09 57 15.7**	**-0.8**
	comp=Z,23nm,0.9s						
LPAZ	**La Paz**	**35.39 184**		P	**P**	**09 57 15.7**	**-0.8**
	comp=Z,8.4nm,0.9s,baz=1.4,slow=9.9,SNR=7.5						
LPAZ				LR	LR	10 13 10.9	
	comp=Z,535nm,18.5s,baz=274,slow=39						
228A	**UT Block 9, Go**	**35.43 299**		⇓P	**P**	**09 57 15.7**	**-0.6**
	baz=35						
EYMN	**Ely**	**35.45 330**		*e*P	**P**	**09 57 16.5**	**+0.3**
	comp=Z,86nm,2.2s						
R30A	**Dighton**	**35.46 310**		⇓P	**P**	**09 57 16.1**	**-0.2**
	baz=35,SNR=8.5						
328A	**Wristen Ranch,**	**35.47 297**		⇑P	**P**	**09 57 16.2**	**-0.4**
	baz=35						
Z28A	**Tucker Farm, M**	**35.53 301**		⇑P	**P**	**09 57 17.2**	**+0.1**
	baz=36						
SCHQ	**Schefferville**	**

325A	Bean Ranch, Si	37.29 297	⇓P	P	09 57 31.8	-0.4
	baz=37,SNR=11					
225A	Deer Hill, Car	37.29 298	⇑P	P	09 57 31.4	-0.9
	baz=37,SNR=6.2					
V26A	Tequesquite Ra	37.29 304	⇓P	P	09 57 31.6	-0.6
	baz=37,SNR=9.4					
R27A	Eads	37.31 308	⇑P	P	09 57 31.6	-0.7
	baz=37,SNR=8.0					
BRSD	Miller	37.37 320	⇑P	P	09 57 32.6	0.0
	baz=37					
U26A	Atchley Ranch,	37.43 305	⇑P	P	09 57 32.5	-0.9
	baz=37,SNR=13					
Z25A	Roswell	37.43 300	⇓P	P	09 57 32.6	-0.7
	baz=37					
KSCO	Kaye Shedlock'	37.44 310	eP	P	09 57 33.1	-0.3
KSCO	Kaye Shedlock'	37.44 310	⇑P	P	09 57 32.4	-0.9
	baz=37,SNR=5.0					
T26A	Comanche Natio	37.54 306	⇑P	P	09 57 34.4	+0.1
	baz=38					
Y25A	Mesa, Roswell	37.55 301	⇓P	P	09 57 34.1	-0.3
	baz=38					
S26A	Kim	37.59 307	⇑P	P	09 57 34.6	-0.1
	baz=38					
W25A	X Bar L Ranch,	37.67 303	⇑P	P	09 57 35.2	-0.2
	baz=38					
MNTX	Cornudas Mount	37.69 297	eP	P	09 57 35.0	-0.5
	comp=Z,0.5nm,0.5s					
324A	Moseley Ranch,	37.73 297	⇑P	P	09 57 35.1	-0.9
	baz=38,SNR=8.4					
OGNE	Ogallala	37.75 313	⇑P	P	09 57 36.6	+0.6
	baz=38					
O27A	Beecher Island	37.77 312	⇓P	P	09 57 36.7	+0.5
	baz=38					
R26A	Arlington	37.79 308	⇓P	P	09 57 36.1	-0.3
	baz=38					
224A	Cornudas Mount	37.87 298	⇑P	P	09 57 36.5	-0.6
	baz=38					
124A	Stringfield Ra	37.92 299	⇑P	P	09 57 37.0	-0.7
	baz=38					
U25A	Circle Dot Ran	37.94 305	⇑P	P	09 57 37.0	-0.7
	baz=38,SNR=16					
V25A	Rancho No Teng	37.95 304	⇑P	P	09 57 37.3	-0.5
	baz=38,SNR=10.0					
Z24A	Sheeppen Canyo	37.97 300	⇓P	P	09 57 37.4	-0.6
	baz=38					
N27A	Anderson Farm,	38.05 312	⇑P	P	09 57 38.8	+0.3
	baz=38					
Q26A	Hugo	38.06 309	⇑P	P	09 57 38.1	-0.5
	baz=38,SNR=8.6					
K28A	Ten Mile Ranch	38.06 316	⇑P	P	09 57 38.5	0.0
	baz=38					
Y24A	Capitan	38.15 301	⇑P	P	09 57 38.9	-0.6
	baz=38					
P26A	Davis Ranch, A	38.15 310	⇓P	P	09 57 38.5	-1.0
	baz=38,SNR=8.7					
T25A	Trinidad	38.16 306	⇑P	P	09 57 39.1	-0.5
	baz=38,SNR=9.0					
J28A	Allard Ranch,	38.30 317	⇓P	P	09 57 40.3	-0.2
	baz=38					
S25A	Robets Cordova	38.33 307	⇑P	P	09 57 40.3	-0.7
	baz=38,SNR=17					
R25A	Fountain Ranch	38.37 308	⇑P	P	09 57 40.4	-0.8
	baz=38,SNR=5.5					
O26A	Horse Wrangler	38.38 311	⇑P	P	09 57 41.3	0.0
	baz=38					
W24A	Lazy 6 Ranch,	38.42 303	⇑P	P	09 57 41.4	-0.4
	baz=38					
V24A	Rampart Ranch,	38.44 304	⇓P	P	09 57 42.3	+0.3
	baz=38,SNR=11					
I28A	Midland	38.53 318	⇑P	P	09 57 42.5	+0.1
	baz=38					
Q25A	Bedland, Calha	38.59 309	⇑P	P	09 57 43.0	-0.2
	baz=39					
K27A	Flueckinger Fa	38.63 315	⇓P	P	09 57 43.5	+0.2
	baz=39					
Y23A	Lovelace Mesa,	38.66 301	⇑P	P	09 57 43.4	-0.4
	baz=39					
Z23A	Rita Site, Whi	38.67 299	⇓P	P	09 57 43.5	-0.4
	baz=39					
J27A	Elkhorn Farm,	38.72 316	⇑P	P	09 57 44.1	0.0
	baz=39					
P25A	Willow Gulch B	38.73 310	⇓P	P	09 57 44.4	+0.1
	baz=39					
H28A	Mission Ridge	38.76 319	⇓P	P	09 57 44.7	+0.4
	baz=39					
BDFB	Brasilia	38.80 152	P	P	09 57 44.7	-0.3
BDFB	Brasilia	38.80 152	P	P	09 57 44.7	-0.3
	comp=Z,7.3nm,0.7s,baz=327,slow=7.6,SNR=5.5					
BDFB			LR	LR	10 14 46.3	
	comp=Z,1µm,19.4s,baz=336,slow=38					
G28A	Parade	38.89 319	⇓P	P	09 57 46.0	+0.6
	baz=39					
X23A	Hourglass Bar	38.90 302	⇑P	P	09 57 45.2	-0.7
	baz=39					
O25A	Wiggins	38.91 311	⇓P	P	09 57 45.7	-0.1
	baz=39					
S24A	Houchin Ranch,	38.91 307	⇓P	P	09 57 45.6	-0.4
	baz=39,SNR=13					
W23A	Werner Place,	39.00 302	⇑P	P	09 57 46.5	-0.2
	baz=39					
I27A	Quinn	39.12 317	⇓P	P	09 57 46.9	-0.4
	baz=39					
ULM	Lac du Bonnet	39.13 329	P	P	09 57 47.1	-0.2
ULM	Lac du Bonnet	39.13 329	P	P	09 57 47.1	-0.2
	comp=Z,6.9nm,0.6s,baz=117,slow=9.2,SNR=6.2					
V23A	Ortiz Mt. (NFS	39.16 303	⇑P	P	09 57 47.6	-0.4
	baz=39,SNR=5.3					
SDCO	Great Sand Dun	39.16 307	eP	P	09 57 47.6	-0.4
BNM	Barren Site	39.17 301	eP	P	09 57 48.2	+0.1
	comp=Z,11nm,1.1s					
ANMO	Albuquerque	39.20 302	eP	P	09 57 47.3	-1.0
122A	Conniff Cattle	39.20 298	⇑P	P	09 57 47.9	-0.4
	baz=39					
K26A	Motz Farm, Whi	39.26 315	⇓P	P	09 57 48.5	-0.1
	baz=39					
Q24A	Divide	39.27 309	⇓P	P	09 57 48.4	-0.6
	baz=39					
P24A	Kohler Place,	39.27 309	⇑P	P	09 57 48.4	-0.4
	baz=39					
Z22A	Elephant Butte	39.27 299	⇑P	P	09 57 48.7	-0.2
	baz=39					
U23A	El Rito	39.31 304	⇑P	P	09 57 49.4	+0.1
	baz=39,SNR=12					
M25A	Palm-Egli Farm	39.35 313	⇑P	P	09 57 49.4	0.0
	baz=39					
T23A	Casias Ranch,	39.37 305	⇑P	P	09 57 49.4	-0.4
	baz=39,SNR=9.3					
Y22A	Socorro	39.40 300	⇑P	P	09 57 49.3	-0.7
	baz=39					
H27A	Howes	39.40 318	⇑P	P	09 57 49.3	-0.4
	baz=39					
J26A	Sides Ranch, S	39.45 316	⇓P	P	09 57 49.6	-0.5
	baz=39					
S23A	Nye Farm, Mont	39.53 306	⇓P	P	09 57 50.5	-0.6
	baz=40					
R23A	Moffat	39.54 307	⇑P	P	09 57 51.5	+0.3
	baz=40					
X22A	Bernardo	39.55 301	⇑P	P	09 57 51.0	-0.2
	baz=40					
L25A	Engebretsen Ra	39.57 314	⇑P	P	09 57 51.5	+0.3
	baz=40					
O24A	Longmont	39.59 310	⇑P	P	09 57 51.6	+0.1
	baz=40					
I26A	New Underwood	39.62 317	⇑P	P	09 57 52.0	+0.4
	baz=40					
G27A	Dupree	39.67 319	⇑P	P	09 57 52.7	+0.8
	baz=40					
N24A	Carr	39.70 311	⇓P	P	09 57 52.8	+0.4
	baz=40					
Q23A	Hartsel	39.76 308	⇑P	P	09 57 53.1	+0.1
	baz=40					
V22A	San Miguel Ran	39.77 303	⇑P	P	09 57 53.2	0.0
	baz=40,SNR=15					
121A	Cookes Peak, D	39.83 298	⇑P	P	09 57 53.5	-0.1
	baz=40					
H26A	Fairpoint	39.84 318	⇑P	P	09 57 53.5	+0.2
	baz=40					
U22A	Llaves	39.84 304	⇑P	P	09 57 54.2	+0.5
	baz=40,SNR=9.1					
Z21A	St. Cloud Mine	39.86 299	⇑P	P	09 57 53.4	-0.6
	baz=40					
ISCO	Idaho Springs	39.88 310	eP	P	09 57 54.0	0.0
ISCO			pmax	pmax		
	comp=Z,18nm,1.0s					
ISCO	Idaho Springs	39.88 310	eP	P	09 57 54.0	0.0
	comp=Z,18nm,1.0s					
ISCO	Idaho Springs	39.88 310	⇓P	P	09 57 53.7	-0.3
	baz=40,SNR=13					
M24A	Cheyenne	39.90 312	⇓P	P	09 57 54.2	+0.1
	baz=40					
P23A	Jefferson	39.91 309	⇓P	P	09 57 53.9	-0.4
	baz=40					
J25A	Sunshine Ranch	39.96 316	⇓P	P	09 57 54.1	-0.4
	baz=40					
F27A	Lemmon	39.96 320	⇓P	P	09 57 54.9	+0.5
	baz=40					
E27A	Carson	39.97 321	⇑P	P	09 57 54.9	+0.6
	baz=40					
Y21A	Point of Rocks	39.99 300	⇑P	P	09 57 54.4	-0.6
	baz=40,SNR=7.4					
T22A	Edith	40.04 305	⇑P	P	09 57 55.4	0.0
	baz=40,SNR=6.7					
G26A	Maurine	40.04 319	⇓P	P	09 57 55.5	+0.5
	baz=40					
X21A	Alamocita Cree	40.16 301	⇓P	P	09 57 56.1	-0.3
	baz=40					
S22A	4UR Ranch, Cre	40.17 306	⇓P	P	09 57 55.8	-0.7
	baz=40,SNR=9.8					
I25A	Rochford	40.19 316	⇓P	P	09 57 56.2	-0.2
	baz=40					
W21A	San Fidel	40.19 302	⇓P	P	09 57 56.3	-0.3
	baz=40					
O23A	Lake Granby, G	40.23 310	⇑P	P	09 57 57.1	+0.1
	baz=40					
R22A	Saguache, Gunn	40.25 307	⇑P	P	09 57 56.9	-0.2
	baz=40,SNR=9.0					
PHWY	Pilot Hill	40.28 312	eP	P	09 57 56.9	-0.5
	comp=Z,32nm,1.5s					
V21A	Milan	40.33 303	⇓P	P	09 57 57.7	0.0
	baz=40,SNR=6.2					
F26A	Lodgepole	40.35 320	⇑P	P	09 57 57.8	+0.3
	baz=40					
B28A	Dugan Ranch, T	40.36 324	⇓P	P	09 57 57.8	+0.2
	baz=40					
H25A	Fruitdale	40.36 317	⇑P	P	09 57 58.1	+0.4
	baz=40					
220A	Playas Peak, P	40.36 297	⇓P	P	09 57 56.7	-1.3
	baz=40					
U21A	Nageezi	40.48 304	⇑P	P	09 57 57.6	-1.4
	baz=40,SNR=13					
G25A	Newell	40.51 318	⇑P	P	09 57 59.1	+0.2
	baz=40					
T21A	Navajo Lake	40.52 305	⇓P	P	09 57 58.9	-0.4
	baz=40,SNR=6.0					
E26A	Carlson Angus	40.53 320	⇑P	P	09 57 59.5	+0.5
	baz=40					
M23A	Laramie	40.53 312	⇓P	P	09 57 59.3	0.0
	baz=40					
Q22A	Crested Butte,	40.55 308	⇓P	P	09 57 58.9	-0.7
	baz=40,SNR=8.0					
Z20A	Nine Sixteen R	40.59 299	⇓P	P	09 57 58.4	-1.5
	baz=41					
P22A	Eagle	40.65 309	⇓P	P	09 57 59.8	-0.6
	baz=41,SNR=6.1					
O22A	Kremmling	40.67 310	⇑P	P	09 58 00.0	-0.6
	baz=41,SNR=12					
SMCO	Snowmass	40.69 308	eP	P	09 58 00.8	0.0
N22A	Wattenberg Ran	40.82 311	⇑P	P	09 58 01.4	-0.3
	baz=41					
F25A	Bowman	40.87 319	⇑P	P	09 58 02.1	+0.2
	baz=41					
W20A	Ramah	40.87 302	⇓P	P	09 58 01.5	-0.8
	baz=41					
S21A	Coal Bank Pass	40.89 306	⇓P	P	09 58 01.4	-1.0
	baz=41,SNR=10					
R21A	Cimarron	40.89 307	⇑P	P	09 58 02.2	-0.2
	baz=41,SNR=16					
319A	Douglas	40.94 296	⇓P	P	09 58 02.4	-0.3
	baz=41					
V20A	Brimhall	40.98 303	⇓P	P	09 58 03.1	0.0
	baz=41					
Q21A	Lamborn Mesa,	41.03 307	⇓P	P	09 58 03.6	+0.1
	baz=41,SNR=15					
M22A	Cedar Creek Ra	41.12 312	⇓P	P	09 58 04.2	-0.1
	baz=41					
P21A	Newcastle	41.14 309	⇓P	P	09 58 04.0	-0.4
	baz=41,SNR=12					
L22A	Ellis Ranch, M	41.22 312	⇑P	P	09 58 04.6	-0.5
	baz=41					
I23A	Meade Ranch, G	41.30 316	⇑P	P	09 58 05.4	0.0
	baz=41					
MVCO	Mesa Verde	41.32 305	eP	P	09 58 05.8	-0.2
	comp=Z,8.5nm,1.0s					
MVCO	Mesa Verde	41.32 305	⇑P	P	09 58 05.4	-0.5
	baz=41					
O21A	Pagoda	41.36 310	⇑P	P	09 58 05.9	-0.4
	baz=41					
S20A	Disappointment	41.37 306	⇓P	P	09 58 05.8	-0.5
	baz=41,SNR=10					
R20A	Redvale	41.47 306	⇑P	P	09 58 07.4	+0.3
	baz=41					
K22A	Casper	41.51 313	⇓P	P	09 58 07.4	+0.1
	baz=42					
N21A	Black Mountain	41.57 310	⇑P	P	09 58 08.2	+0.4
	baz=42					
PV01	Paradox Valley	41.60 306	eP	P	09 58 08.8	+0.6
	comp=Z,2µm,1.2s					
Q20A	Ridgley Place,	41.61 307	⇑P	P	09 58 08.1	-0.1
	baz=42,SNR=29					
C25A	Freed Ranch, W	41.61 322	⇑P	P	09 58 08.0	0.0
	baz=42					
RWWY	Rawlins	41.65 312	eP	P	09 58 08.8	+0.2
	comp=Z,20nm,1.1s					
LVC	Limon Verde	41.72 184	eP	P	09 58 06.5	-2.6
	comp=Z,18nm,0.7s					
M21A	Separation Pea	41.73 312	⇑P	P	09 58 08.9	-0.3
	baz=42,SNR=7.5					
J22A	Midwest	41.76 314	⇓P	P	09 58 08.7	-0.6
	baz=42					
G23A	Biddle	41.76 317	⇓P	P	09 58 08.6	-0.6
	baz=42					
P20A	De Beque	41.83 308	⇑P	P	09 58 09.6	-0.4
	baz=42,SNR=7.3					
L21A	Rawlins	41.85 312	⇑P	P	09 58 09.4	-0.7
	baz=42,SNR=7.2					
O20A	White River Ci	41.90 309	eP	P	09 58 10.6	+0.1
O20A	White River Ci	41.90 309	⇓P	P	09 58 10.7	+0.1
	baz=42					
PV04	Paradox Valley	41.92 306	eP	P	09 58 10.7	-0.1
D24A	Glendive	41.96 320	⇑P	P	09 58 11.4	+0.7
	baz=42					
F23A	Volborg	41.99 318	⇓P	P	09 58 10.2	-0.8
	baz=42					
K21A	Alcova	42.00 313	⇓P	P	09 58 10.9	-0.5
	baz=42,SNR=14					
N20A	Spence Gulch,	42.13 310	⇑P	P	09 58 12.3	-0.1
	baz=42					
A25A	Svangstu Ranch	42.16 323	⇑P	P	09 58 11.9	-0.4
	baz=42					
C24A	Savage	42.22 321	⇑P	P	09 58 12.8	0.0
	baz=42					
E23A	Ismay	42.27 319	⇑P	P	09 58 13.2	-0.1
	baz=42					
M20A	Sweetwater, Wa	42.28 311	⇑P	P	09 58 13.3	-0.3
	baz=42					
P19A	Cripple Cowboy	42.31 308	⇓P	P	09 58 13.5	-0.4
	baz=42					
TUC	Tucson	42.32 297	eP	P	09 58 14.6	+0.7
TUC	Tucson	42.32 297	eP	P	09 58 14.6	+0.7
G22A	Birney	42.35 317	⇑P	P	09 58 14.3	+0.2
	baz=42					
J21A	Lysite	42.39 314	⇓P	P	09 58 14.3	-0.2
	baz=42					
I21A	Big Trails, Te	42.46 315	⇑P	P	09 58 14.4	-0.6
	baz=42					
D23A	Lindsay	42.52 320	⇓P	P	09 58 15.0	-0.3
	baz=42					
L20A	Wamsutter	42.55 312	⇓P	P	09 58 15.3	-0.6
	baz=42,SNR=8.2					
F22A	Rosebud	42.56 318	⇓P	P	09 58 15.7	+0.1
	baz=42					
O19A	Miners Draw (B	42.60 309	⇓P	P	09 58 15.6	-0.6
	baz=43					
H21A	Big Horn, Sher	42.60 316	⇑P	P	09 58 15.8	-0.3
	baz=43					
E22A	Miles City	42.65 319	⇓P	P	09 58 15.8	-0.6
	baz=43					
K20A	Yellowstone Ra	42.77 313	⇓P	P	09 58 16.8	-0.7
	baz=43,SNR=6.2					
C23A	Lambert	42.80 321	⇓P	P	09 58 18.2	+0.6
	baz=43					
J20A	Shoshoni	42.83 314	⇓P	P	09 58 17.8	-0.2
	baz=43,SNR=6.2					
G21A	Lodge Grass	42.94 317	⇑P	P	09 58 19.3	+0.4
	baz=43					
I20A	Worland	43.07 315	⇓P	P	09 58 20.0	+0.1
	baz=43					
D22A	Cohagen	43.10 320	⇑P	P	09 58 20.6	+0.6
	baz=43					
K19A	Absolon Red Bu	43.17 313	⇓P	P	09 58 20.1	-0.8
	baz=43,SNR=5.8					
H20A	Greybull	43.18 315	⇑P	P	09 58 21.1	+0.3
	baz=43					
WUAZ	Wupatki	43.25 302	eP	P	09 58 22.1	+0.5
	comp=Z,9.7nm,1.1s					
WUAZ	Wupatki	43.25 302	⇓P	P	09 58 21.4	-0.1
	baz=43					
L19A	Farson	43.30 312	⇑P	P	09 58 21.5	-0.4
	baz=43,SNR=5.5					
SRU	San Rafael	43.33 307	eP	P	09 58 22.2	+0.1
SRU			pmax	pmax		
	comp=Z,8.0nm,0.7s					
SRU	San Rafael	43.33 307	eP	P	09 58 22.2	+0.1
	comp=Z,7.7nm,0.7s					
J19A	Crowheart	43.46 313	⇓P	P	09 58 22.9	-0.3
	baz=43,SNR=12					
B22A	Reddig Ranch S	43.51 321	⇑P	P	09 58 23.2	-0.1
	baz=44					
D21A	La Casta Ranch	43.56 319	⇓P	P	09 58 24.1	+0.3
	baz=44,SNR=7.9					
G20A	Bridger	43.60 316	⇓P	P	09 58 23.1	-1.1
	baz=44					
BW06	Boulder Array	43.65 312	eP	P	09 58 24.5	-0.3
	comp=Z,25nm,1.4s					
PDAR	Pinedale Array	43.65 312	P	P	09 58 23.9	-0.8
PDAR			PcP	PcP	10 00 11.2	-0.3
PDAR	Pinedale Array	43.65 312	P	P	09 58 23.9	-0.8
	comp=Z,5.6nm,0.9s,baz=114,slow=9.4,SNR=14					
PDAR			PcP	PcP	10 00 11.2	-0.3
	comp=Z,3.5nm,1.0s,baz=121,slow=5.6,SNR=4.9					
I19A	Meeteetse	43.69 314	⇓P	P	09 58 24.0	-1.0
	baz=44					
L18A	Fontenelle, Gr	43.73 311	⇓P	P	09 58 25.0	-0.4
	baz=44,SNR=7.7					
Q16A	Castle Valley	43.77 307	⇓P	P	09 58 25.7	-0.1
	baz=44					
A22A	Carney Farms,	43.79 322	⇑P	P	09 58 26.1	+0.6
	baz=44					
TMUT	Trail Mountain	43.89 307	eP	P	09 58 27.2	+0.4
	comp=Z,30nm,1.1s					
H19A	Powell	43.90 315	⇑P	P	09 58 26.9	+0.3
	baz=44					
E20A	Meyer Farm, Mu	44.04 318	⇑P	P	09 58 27.4	-0.3
	baz=44					
M17A	Scullys Gap (B	44.05 310	⇑P	P	09 58 27.3	-0.7
	baz=44,SNR=5.7					
I18A	Diamond G Ranc	44.13 314	⇓P	P	09 58 28.0	-0.6
	baz=44,SNR=21					
U15A	North Rim	44.14 303	⇑P	P	09 58 28.3	-0.5
	baz=44					
DAU	Daniels Canyon	44.20 309	eP	P	09 58 29.7	+0.4
DAU	Daniels Canyon	44.20 309	eP	P	09 58 29.7	+0.4
RLMT	Red Lodge	44.25 316	eP	P	09 58 29.5	0.0
	comp=Z,22nm,1.3s					
D20A	Manuel Ranch,	44.28 319	⇑P	P	09 58 29.3	-0.2
	baz=44,SNR=5.5					
F19A	Roth Farm, Mol	44.31 317	⇓P	P	09 58 29.7	-0.1
	baz=44					
Y14A	Wickenburg	44.36 299	⇑P	P	09 58 30.2	-0.1
	baz=44					
H18A	Shoshone NF, C	44.36 315	⇑P	P	09 58 29.6	-0.8
	baz=44,SNR=8.3					
A21A	Bergtoll Ranch	44.38 322	⇑P	P	09 58 30.6	+0.3
	baz=44					
MPU	Maple Canyon	44.38 308	eP	P	09 58 30.6	0.0
	comp=Z,19nm,1.0s					
JLU	Jordanelle	44.39 309	eP	P	09 58 30.9	+0.2
	comp=Z,86nm,2.2s					
E19A	Rath Farm, Rou	44.44 318	⇓P	P	09 58 30.8	-0.1
	baz=44,SNR=5.6					
MSU	Marysvale	44.45 306	eP	P	09 58 31.6	+0.4
MSU	Marysvale	44.45 306	eP	P	09 58 31.6	+0.4
C20A	Veseth Ranch,	44.46 320	⇓P	P	09 58 29.8	-1.1
	baz=44					
FRB	Frobisher Bay	44.51 358	P	P	09 58 29.4	-1.5
FRB	Frobisher Bay	44.51 358	P	P	09 58 29.4	-1.5
	comp=Z,34nm,0.8s,baz=173,slow=12,SNR=12					
G18A	Lazy EL Ranch,	44.52 316	⇓P	P	09 58 31.1	-0.5
	baz=44					
LOHW	Long Hollow	44.64 313	eP	P	09 58 32.4	-0.3
NLU	North Lily Min	44.69 308	eP	P	09 58 33.2	+0.1
	comp=Z,8.0nm,1.0s					
SNOW	Snow King Moun	44.70 313	eP	P	09 58 33.2	0.0
I17A	Pilgrim Ck.	44.72 314	⇓P	P	09 58 32.7	-0.6
	baz=45					
HWUT	Hardware Ranch	44.73 310	eP	P	09 58 33.0	-0.4
	comp=Z,22nm,1.2s					
REDW	Red Top Meadow	44.74 313	eP	P	09 58 33.0	-0.4
	comp=Z,46nm,1.3s					
D19A	Cripps Ranch,	44.78 319	⇑P	P	09 58 33.5	-0.1
	baz=45					
MOOW	Moose Ponds	44.78 313	eP	P	09 58 32.4	-1.4
	comp=Z,11nm,0.8s					
F18A	Big Timber	44.83 317	⇓P	P	09 58 33.8	-0.2
	baz=45,SNR=7.2					
TPAW	Teton Pass	44.84 313	eP	P	09 58 34.2	-0.1
FFC	Flin Flon	44.86 331	eP	P	09 58 32.6	-1.3
FFC			pmax	pmax		
	comp=Z,16nm,0.9s					
FFC	Flin Flon	44.86 331	eP	P	09 58 32.6	-1.3
	comp=Z,16nm,0.9s					
113A	Mohawk Valley,	44.87 297	⇑P	P	09 58 34.2	-0.1
	baz=45					
H17A	Grant Village	44.88 314	⇑P	P	09 58 33.9	-0.7
	baz=45					
A20A	Cobblestone Ra	44.91 321	⇑P	P	09 58 34.6	0.0
	baz=45					
C19A	Slack Wire Ran	45.11 319	⇑P	P	09 58 36.1	-0.1
	baz=45					
CCUT	Cedar City	45.18 304	eP	P	09 58 37.8	+0.7
	comp=Z,7.1nm,1.1s					
E18A	Harlowton	45.20 317	⇑P	P	09 58 36.1	-0.9
	baz=45					
W13A	Hualapai Mount	45.22 301	⇑P	P	09 58 36.2	-1.3
	baz=45					
ARUT	Antelope Range	45.28 304	eP	P	09 58 38.2	+0.4
ARUT			pmax	pmax		
	comp=Z,12nm,1.1s					
ARUT	Antelope Range	45.28 304	eP	P	09 58 38.2	+0.4
	comp=Z,12nm,1.1s					
G17A	Pierce Place,	45.30 315	⇓P	P	09 58 37.7	-0.1
	baz=45					
DUG	Dugway	45.30 308	eP	P	09 58 38.1	+0.2
DUG			pmax	pmax		
	comp=Z,13nm,1.1s					
DUG	Dugway	45.30 308	eP	P	09 58 38.1	+0.2
	comp=Z,13nm,1.1s					
DUG	Dugway	45.30 308	⇓P	P	09 58 37.6	-0.3
	baz=45,SNR=7.8					
I16A	Newdale	45.33 313	⇓P	P	09 58 37.7	-0.4
	baz=45,SNR=6.2					
B19A	Brinkman Farms	45.34 320	⇓P	P	09 58 37.5	-0.5
	baz=45					
D18A	Linhart Farms,	45.37 318	⇓P	P	09 58 37.4	-0.8
	baz=45					
A19A	Klindworth Far	45.42 321	⇓P	P	09 58 38.4	-0.3
	baz=45					
H16A	Russell Place,	45.43 314	⇓P	P	09 58 39.2	+0.3
	baz=45,SNR=11					
F17A	Fitzpatrick Pl	45.45 316	⇑P	P	09 58 38.4	-0.5
	baz=45,SNR=6.7					
QLMT	Earthquake Lak	45.59 315	eP	P	09 58 41.3	+1.0
QLMT			epP	pP	09 59 09.4	+17
BGU	Big Grassy Mou	45.63 309	eP	P	09 58 40.6	+0.1
	comp=Z,19nm,1.0s					
HVU	Hansel Valley	45.65 310	eP	P	09 58 40.5	-0.2
HVU			pmax	pmax		
	comp=Z,153nm,2.7s					
HVU	Hansel Valley	45.65 310	eP	P	09 58 40.5	-0.2
	comp=Z,153nm,2.7s					
EGMT	Eagleton	45.66 319	eP	P	09 58 41.7	+1.1
	comp=Z,28nm,1.4s					
EGMT	Eagleton	45.66 319	⇓P	P	09 58 39.5	-1.0
	baz=46					
E17A	Martinsdale	45.77 317	⇓P	P	09 58 40.5	-1.0
	baz=46					
GLA	Glamis	45.78 298	⇑P	P	09 58 40.3	-1.4
	baz=46					
B18A	Beardsley Farm	45.83 320	⇑P	P	09 58 41.5	-0.3
	baz=46					
D

BOZ pmax pmax
comp=Z,10.0nm,1.3s
BOZ Bozeman (W) 46.00 316 *eP* **P 09 58 43.1 -0.2**
comp=Z,9.6nm,1.3s
CPUP Villa Florida 46.03 170 P **P 09 58 41.1 -2.4**
CPUP Villa Florida 46.03 170 P **P 09 58 41.1 -2.4**
comp=Z,8.3nm,0.6s,baz=333,slow=10,SNR=14
CPUP LR LR 10 20 25.9
comp=Z,402nm,18.2s,baz=341,slow=39
A18A Metzger Ranch, 46.08 320 ⇓P **P 09 58 44.0 +0.2**
baz=46,SNR=6.6
C17A Wharram Farm, 46.14 318 ⇑P **P 09 58 43.9 -0.4**
baz=46
IRM Iron Mountain 46.15 299 ⇑P **P 09 58 45.0 +0.5**
baz=46,SNR=7.6
BC3 Big Chuckawall 46.36 298 ⇓P **P 09 58 46.2 -0.1**
baz=46
B17A L&G Farms, Che 46.41 319 ⇓P **P 09 58 46.3 -0.1**
baz=46,SNR=5.2
HRY Holter Researc 46.49 317 *eP* **P 09 58 47.3 +0.2**
DLMT Dillon 46.55 315 *eP* **P 09 58 48.4 +0.8**
MCMT McKenzie Canyo 46.55 314 *eP* **P 09 58 48.4 +0.6**
comp=Z,10nm,1.4s
SWSC Sam W. Stewart 46.59 297 ⇑P **P 09 58 47.9 0.0**
baz=46
LRM Limekiln Ridge 46.60 316 *eP* **P 09 58 48.6 +0.5**
A17A Triple J Farms 46.60 320 ⇑P **P 09 58 47.8 -0.1**
baz=47
GMRC Granite Mounta 46.63 300 ⇓P **P 09 58 48.4 -0.1**
baz=47
R11A Troy Canyon, C 47.05 305 *eP* **P 09 58 52.3 +0.6**
R11A Troy Canyon, C 47.05 305 ⇑P **P 09 58 51.2 -0.5**
baz=47,SNR=5.3
MONP Monument Peak 47.10 297 ⇓P **P 09 58 52.7 +0.4**
baz=47,SNR=9.4
PFO Pinyon Flat Ob 47.19 298 ⇑P **P 09 58 53.1 +0.3**
baz=47
HLID Hailey 47.28 312 *eP* **P 09 58 53.6 +0.1**
comp=Z,49nm,1.8s
HLID Hailey 47.28 312 ⇓P **P 09 58 53.3 -0.1**
baz=47,SNR=15
BAR Barrett 47.30 297 *eP* **P 09 58 54.0 +0.4**
comp=Z,11nm,1.3s
C15A Salmond Ranch, 47.35 318 ⇓P **P 09 58 54.0 +0.2**
baz=47,SNR=8.7
CHMT Chamberlain Mo 47.48 317 *eP* **P 09 58 54.5 -0.4**
B15A Bradely Ranch, 47.51 319 ⇑P **P 09 58 54.6 -0.5**
baz=48
GSC Goldstone 47.62 301 *eP* **P 09 58 57.1 +1.0**
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone 47.62 301 *eP* **P 09 58 57.1 +1.0**
comp=Z,11nm,1.1s
GSC Goldstone 47.62 301 ⇓P **P 09 58 56.5 +0.4**
baz=48
SLMT Seeley Lake 47.74 317 *eP* **P 09 58 57.3 +0.4**
MURC Murrieta 47.80 298 ⇓P **P 09 58 57.4 -0.1**
baz=48
MSO Missoula 47.90 316 ⇑P **P 09 58 57.7 -0.3**
baz=48
SWMT Swartz Lake 48.15 317 *eP* **P 09 58 59.7 -0.3**
MFID Camas Ranch 48.24 311 ⇓P **P 09 59 01.0 +0.2**
baz=48,SNR=6.9
MPMC Manual Prospec 48.25 301 ⇑P **P 09 59 01.1 0.0**
baz=48
YBMT Yellow Bay 48.27 318 *eP* **P 09 59 01.1 +0.2**
comp=Z,14nm,1.2s
LRMC Laurel Mountai 48.36 301 ⇓P **P 09 59 01.9 0.0**
baz=48
JTMT Jette 48.41 317 *eP* **P 09 59 01.8 -0.2**
BLMT Blacktail Moun 48.55 318 *eP* **P 09 59 02.8 -0.4**
EDW2 Edwards Air Fo 48.55 300 ⇓P **P 09 59 03.4 +0.2**
baz=48
SFJD Kangerlussuaq 48.72 8 P **P 09 59 03.2 -0.7**
SFJD Kangerlussuaq 48.72 8 P **P 09 59 03.2 -0.7**
comp=Z,13nm,0.8s,baz=173,slow=8.1,SNR=2.7
BSMT Bassoo Peak 48.76 317 *eP* **P 09 59 05.0 +0.1**
ISA Isabella 49.01 301 *eP* P 09 59 09.6 +2.8
ISA Isabella 49.01 301 *eP* P 09 59 09.6 +2.8
NV11 Mina Array Sit 49.06 305 *eP* **P 09 59 07.6 +0.4**
NVAR Mina Array Bea 49.17 304 P **P 09 59 07.8 -0.3**
NVAR ScP **ScP 10 04 27.2 +4.2**
NVAR Mina Array Bea 49.17 304 P **P 09 59 07.8 -0.3**
comp=Z,2.3nm,0.5s,baz=88,slow=8.2,SNR=18
NVAR ScP **ScP 10 04 27.2 +4.2**
comp=Z,0.9nm,0.9s,baz=131,slow=4.1,SNR=4.3
NVAR LR LR 10 21 03.4
comp=Z,839nm,19.8s,baz=89,slow=38
BMO Blue Mountains 49.62 313 *eP* **P 09 59 09.3 -2.0**
BMO pmax pmax
comp=Z,5.0nm,0.6s
BMO Blue Mountains 49.62 313 *eP* **P 09 59 09.3 -2.0**
comp=Z,4.8nm,0.6s
EDM Edmonton 49.86 324 *eP* **P 09 59 12.0 -0.9**
EDM Edmonton 49.86 324 *eP* **P 09 59 12.0 -0.9**
WVOR Wild Horse Val 50.05 310 *eP* **P 09 59 14.3 -0.4**
WVOR pmax pmax
comp=Z,22nm,1.2s
WVOR Wild Horse Val 50.05 310 *eP* **P 09 59 14.3 -0.4**
comp=Z,22nm,1.2s
J08A Circle Bar Ran 50.11 311 P **P 09 59 14.7 -0.4**
NEW Newport 50.38 317 ⇓P **P 09 59 16.4 -0.6**
baz=50,SNR=20
I07A Izee 50.99 312 P **P 09 59 21.4 -0.3**
OHCM Honcut 51.74 305 *eP* **P 09 59 27.5 +0.3**
TRW Toppenish Ridg 52.15 314 P **P 09 59 30.3 +0.1**
CROR Criterion Ridg 52.20 312 P **P 09 59 31.3 +0.6**
FRIS Frissel Point 52.85 311 P **P 09 59 36.1 +0.5**
WPW White Pass 52.91 314 P **P 09 59 35.7 -0.3**
IRO Indian Ridge 52.92 311 P **P 09 59 36.2 0.0**
EVO Evora 53.20 56 *eP* **P 09 59 37.7 -0.4**
EVO *eR*
comp=Z,759nm,20.5s
HUMO Hull Mountain 53.23 309 *eP* **P 09 59 37.3 -1.0**
comp=Z,15nm,1.4s
MPOR Mary's Peak 53.92 311 P **P 09 59 43.6 +0.2**
KBO Bosley Butte 54.12 309 *eP* **P 09 59 45.9 +1.0**
KEBM Edson Butte 54.27 309 *eP* **P 09 59 46.8 +0.8**
comp=Z,59nm,1.0s
YKA Yellowknife Ar 54.64 335 P **P 09 59 46.1 -2.0**
YKA Yellowknife Ar 54.64 335 P **P 09 59 46.1 -2.0**
comp=Z,3.0nm,0.5s,baz=109,slow=7.2,SNR=12
SUMG Summit 55.57 10 ⇓*iP* **P 09 59 55.1 -0.1**
comp=Z,21nm,0.9s
MDT Midelt 55.87 63 P **P 09 59 57.2 -0.6**
MDT Midelt 55.87 63 P **P 09 59 57.2 -0.6**
comp=Z,2.7nm,0.9s,baz=277,slow=8.4,SNR=6.0
ESDC Sonseca Array 56.41 55 P **P 09 59 59.2 -2.2**
ESDC Sonseca Array 56.41 55 P **P 09 59 59.2 -2.2**
comp=Z,0.5nm,0.3s,baz=271,slow=8.0,SNR=11
ROSF Rostrenen 57.62 44 *eP* **P 10 00 09.3 -0.4**
comp=Z,9.7nm,0.9s
QUIF Quistinic 57.64 45 *eP* **P 10 00 09.4 -0.4**
comp=Z,41nm,1.3s
SGMF Saint Gilles 58.08 45 *eP* **P 10 00 12.3 -0.7**
comp=Z,72nm,1.6s
SJPF Ste Jean 58.61 51 *eP* **P 10 00 16.8 +0.1**
comp=Z,27nm,1.2s
EKA Eskdalemuir Ar 58.83 36 P **P 10 00 17.5 -0.5**
EKA Eskdalemuir Ar 58.83 36 P **P 10 00 17.5 -0.5**
comp=Z,1.9nm,0.5s,baz=259,slow=6.0,SNR=11
ETSF Etsaut 59.09 51 *eP* **P 10 00 20.0 -0.1**
GRR Gorron 59.23 45 *eP* **P 10 00 20.2 -0.7**
FLN La Foliniere 59.51 44 *eP* **P 10 00 22.3 -0.6**
MFF Saint Martin d 59.56 47 *eP* **P 10 00 23.0 -0.3**
comp=Z,44nm,1.3s
EPF Esparros 59.75 51 *eP* **P 10 00 24.6 -0.1**
comp=Z,8.0nm,0.5s
LFF La Frestale 60.10 49 *eP* **P 10 00 26.4 -0.6**
TIC Toumodi 60.21 93 *eP* **P 10 00 28.6 +0.4**
comp=Z,149nm,1.4s
LIC Lamto 60.33 94 *eP* **P 10 00 29.6 +0.5**
comp=Z,25nm,0.8s,baz=264
LIC *eR*
comp=Z,841nm,19.2s
LIC Lamto 60.33 94 *eP* **P 10 00 29.6 +0.5**
comp=Z,65nm,1.2s
DBIC Dimbokro 60.35 93 *eP* **P 10 00 29.8 +0.6**
comp=Z,40nm,1.2s
DBIC Dimbokro 60.35 93 P **P 10 00 29.9 +0.7**
comp=Z,14nm,0.7s,baz=276,slow=8.3,SNR=9.3
DLBC Dease Lake 60.38 327 *eP* **P 10 00 29.0 +0.2**
KIC Kosan Boka 60.56 94 *eP* **P 10 00 31.3 +0.7**
comp=Z,82nm,1.3s
RJF Les Rejaudoux 60.66 48 *eP* **P 10 00 30.1 -0.7**
comp=Z,30nm,1.4s

CAF Calviac 61.04 49 *eP* **P 10 00 32.7 -0.7**
comp=Z,29nm,1.3s
MTLF Montolieu 61.13 51 *eP* **P 10 00 33.4 -0.6**
TCF Toulx Ste Croi 61.17 47 *eP* **P 10 00 33.5 -0.8**
comp=Z,18nm,1.2s
BGF Bois d'Agland 61.62 47 *eP* **P 10 00 36.5 -0.8**
AVF Avril sur Loir 61.98 47 *eP* **P 10 00 38.6 -1.1**
comp=Z,16nm,1.1s
SSF Saint Saulge 62.09 46 *eP* **P 10 00 39.4 -1.0**
DAG Danmarks Havn 62.16 11 *iP* P 10 00 43.8 +3.4
comp=Z,8.5nm,0.9s
SMF Signal de Mont 62.31 47 *eP* **P 10 00 41.0 -1.0**
comp=Z,31nm,1.4s
LASF Ste Croix 62.31 50 *eP* **P 10 00 42.0 0.0**
comp=Z,17nm,1.0s
LOR Lormes 62.33 46 *eP* **P 10 00 40.9 -1.2**
comp=Z,6.0nm,0.6s
BAIF Baives 62.65 43 *eP* **P 10 00 43.2 -0.9**
VIVF Saint-Julien-l 62.89 49 *eP* **P 10 00 46.1 +0.2**
comp=Z,30nm,1.2s
GIVF Givet 63.05 43 *eP* **P 10 00 45.8 -1.0**
comp=Z,19nm,1.0s
SFTF Sexfontaines 63.15 45 *eP* **P 10 00 46.6 -0.9**
MEZF Maizieres J'vi 63.16 45 *eP* **P 10 00 46.9 -0.6**
SMRF Simiane la Rot 63.55 50 *eP* **P 10 00 49.1 -1.2**
PAGF Fort de Pagny 63.61 45 *eP* **P 10 00 49.5 -1.0**
CABF La Chapelle 63.86 47 *eP* **P 10 00 51.5 -0.8**
comp=Z,7.1nm,0.7s
INK Inuvik 64.09 338 *eP* **P 10 00 52.4 -0.9**
comp=Z,23nm,0.9s
LPG La Plagne 64.35 48 *eP* **P 10 00 55.6 -0.2**
HINF Hinteralfeld 64.36 46 *eP* **P 10 00 54.0 -1.6**
HYT Haines Junctio 64.51 329 *eP* **P 10 00 56.3 -0.1**
CDF Champ du Feu 64.64 45 *eP* **P 10 00 56.3 -1.1**
TORD Torodi Ar. Bea 64.70 84 P **P 10 00 58.0 -0.2**
TORD Torodi Ar. Bea 64.70 84 P **P 10 00 58.0 -0.2**
comp=Z,10nm,0.8s,baz=290,slow=6.9,SNR=29
DAWY Dawson 65.72 332 *eP* **P 10 01 04.0 -0.1**
TAM Tamanrasset 66.02 73 *eP* **P 10 01 06.8 0.0**
TAM pmax pmax
comp=Z,12nm,1.2s
TAM Tamanrasset 66.02 73 *eP* **P 10 01 06.8 0.0**
comp=Z,12nm,1.2s
PGF Pioggiola 66.13 51 *eP* **P 10 01 06.0 -1.2**
comp=Z,14nm,1.1s
DAVOX Davos/Dischmat 66.46 47 P **P 10 01 09.0 -0.3**
DAVOX Davos/Dischmat 66.46 47 P **P 10 01 09.0 -0.3**
comp=Z,2.1nm,0.6s,baz=286,slow=7.4,SNR=5.1
EGAK Eagle 66.56 333 *eP* **P 10 01 09.4 0.0**
FETA Feichten 67.03 46 ⇑*iP* **P 10 01 12.0 -0.9**
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 67.04 31 P **P 10 01 11.9 -0.7**
comp=Z,21nm,1.7s,baz=269,slow=6.2
NOA NORSAR Array B 67.04 31 P **P 10 01 12.4 -0.2**
NOA NORSAR Array B 67.04 31 P **P 10 01 12.4 -0.2**
comp=Z,1.5nm,0.8s,baz=270,slow=6.5,SNR=3.4
MENT Mentasta 67.59 331 *eP* **P 10 01 16.3 +0.3**
NKC Novy Kostel 67.95 43 *eP* **P 10 01 18.3 -0.2**
NKC Novy Kostel 67.95 43 *eP* **P 10 01 18.3 -0.2**
BMRM Bremner River 67.98 329 *eP* **P 10 01 19.1 +0.6**
comp=Z,14nm,0.7s
CLL Collm 68.23 42 *eP* **P 10 01 19.0 -1.2**
CLL pmax pmax
comp=Z,17nm,1.6s
CLL MLR MLR
comp=Z,400nm,20.4s
CLL Collm 68.23 42 *eP* **P 10 01 19.0 -1.2**
comp=Z,17nm,1.6s
CLL LmH 10 25 00.0
comp=Z,400nm,20.4s
ABTA Abfaltersbach 68.27 46 ⇑*iP* **P 10 01 20.3 -0.4**
comp=Z,9.5nm,1.4s
KHC Kasperske Hory 68.77 44 *eP* **P 10 01 23.1 -0.5**
KHC MLR MLR
comp=Z,400nm,17.8s
KHC Kasperske Hory 68.77 44 *eP* **P 10 01 23.1 -0.5**
KHC AMS AMS 10 41 00.0
comp=Z,400nm,17.8s
BRG Berggiesshubel 68.85 42 *eP* **P 10 01 24.4 +0.3**
comp=Z,4.6nm,1.0s
BRG Berggiesshubel 68.85 42 *eP* **P 10 01 24.4 +0.3**
BRG pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 68.87 44 P **P 10 01 22.8 -1.6**
GERES GERESS Array B 68.87 44 P **P 10 01 22.8 -1.6**
comp=Z,0.8nm,0.5s,baz=293,slow=5.8,SNR=4.3
ILAR Eielson Array 69.01 333 P **P 10 01 23.6 -1.2**
ILAR Eielson Array 69.01 333 P **P 10 01 23.6 -1.2**
comp=Z,6.8nm,0.7s,baz=106,slow=4.5,SNR=25
PVCC Panska Ves 69.28 42 AMS AMS 10 37 00.0
comp=Z,400nm,20.2s
PRU Pruhonice 69.31 43 *eP* **P 10 01 27.2 +0.3**
PRU MLR MLR
comp=Z,300nm,22.0s
PRU Pruhonice 69.31 43 *eP* **P 10 01 27.2 +0.3**
PRU AMS AMS 10 36 50.0
comp=Z,300nm,22.0s
COLA College 69.42 333 *eP* **P 10 01 26.9 -0.4**
COLA pmax pmax
comp=Z,89nm,1.1s
COLA College 69.42 333 *eP* **P 10 01 26.9 -0.4**
comp=Z,89nm,1.1s
SPITS Spitsbergen Ar 69.67 13 P **P 10 01 28.3 -0.4**
SPITS Spitsbergen Ar 69.67 13 P **P 10 01 28.3 -0.4**
comp=Z,2.4nm,0.7s,baz=262,slow=10.0,SNR=2.8
SML Sawmill 69.75 330 *eP* **P 10 01 29.2 -0.3**
SML pmax pmax
comp=Z,4.0nm,0.9s
SML Sawmill 69.75 330 *eP* **P 10 01 29.2 -0.3**
comp=Z,3.6nm,0.9s
MCK McKinley 69.93 332 *eP* **P 10 01 30.2 -0.3**
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 69.93 332 *eP* **P 10 01 30.2 -0.3**
comp=Z,17nm,1.0s
TREC Trest 70.00 44 *eP* **P 10 01 31.0 -0.2**
TREC MLR MLR
comp=Z,200nm,19.1s
TREC Trest 70.00 44 *eP* **P 10 01 31.0 -0.2**
TREC AMS AMS 10 32 00.0
comp=Z,200nm,19.1s
UPC Upice 70.20 42 *eP* P 10 01 24.2 -8.2
COLD Coldfoot 70.29 336 *eP* **P 10 01 32.9 +0.3**
comp=Z,10nm,1.1s
DPC Dobruska-Polom 70.41 42 *eP* **P 10 01 34.1 +0.3**
DPC Dobruska-Polom 70.41 42 *eP* **P 10 01 34.1 +0.3**
DPC AMS AMS 10 38 10.0
TRF Thorofare Moun 70.55 332 *eP* **P 10 01 33.6 -0.9**
comp=Z,22nm,1.0s
PPLA Purkeypile 71.46 331 *eP* **P 10 01 39.5 -0.5**
comp=Z,74nm,1.7s
OKC Ostrava-Krasne 71.64 43 AMS AMS 10 33 50.0
comp=Z,300nm,17.5s
IMA2 Indian Mountai 71.77 335 *eP* **P 10 01 41.4 -0.4**
IM04 Indian Mountai 71.82 334 *eP* **P 10 01 41.6 -0.4**
RSO Redoubt South 72.01 329 *eP* **P 10 01 42.8 -0.6**
comp=Z,28nm,0.8s
KDAK Kodiak Island 72.28 326 LR LR 10 33 33.9
comp=Z,741nm,20.5s,baz=58,slow=36
PKSM Moragy 72.54 46 ⇓P **P 10 01 46.8 +0.2**
PKSM Moragy 72.54 46 ⇓*iP* **P 10 01 46.8 +0.2**
ARCES ARCESS Array B 72.57 22 P **P 10 01 45.8 -0.6**
ARCES ARCESS Array B 72.57 22 P **P 10 01 45.8 -0.6**
comp=Z,2.9nm,0.7s,baz=280,slow=5.0,SNR=8.5
KECS Kecovo 73.38 44 *eP* **P 10 01 52.1 +0.6**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 73.38 44 *eP* **P 10 01 52.1 +0.6**
CRVS Cervenica-Dubn 73.94 43 *eP* **P 10 01 55.8 +1.0**
CRVS pmax pmax
comp=Z,10.0nm,1.4s
CRVS Cervenica-Dubn 73.94 43 *eP* **P 10 01 55.8 +1.0**
FINES FINESS Array B 74.16 30 P **P 10 01 55.3 -0.5**
FINES FINESS Array B 74.16 30 P **P 10 01 55.3 -0.5**
comp=Z,2.2nm,0.7s,baz=284,slow=4.4,SNR=9.5
DRGR 75.18 45 ⇑P **P 10 02 02.4 +0.2**
DRGR 75.18 45 ⇑*iP* **P 10 02 02.4 +0.2**
CHGN Chignik 75.68 325 *eP* **P 10 02 04.7 0.0**
BURAR Bucovina Array 76.66 44 ⇑P **P 10 02 11.6 +1.0**
BURAR Bucovina Array 76.66 44 ⇑*iP* **P 10 02 11.6 +1.0**
MLR Muntele Rosu 77.67 46 ⇓*iP* **P 10 02 17.1 +0.7**
KIEV Kiev 78.40 40 *eP* **P 10 02 18.1 -2.0**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 78.40 40 *eP* **P 10 02 18.1 -2.0**

comp=Z,6.5nm,0.6s
AKASG Malin Array Be 78.41 40 P **P 10 02 17.9 -2.3**
AKASG Malin Array Be 78.41 40 P **P 10 02 17.9 -2.3**
AKASG Malin Array Be 78.41 40 P **P 10 02 17.9 -2.3**
comp=Z,1.2nm,0.5s,baz=283,slow=4.2,SNR=3.1
OBN Obninsk 81.23 35 *iP* **P 10 02 36.0 +0.7**
OBN *e* 10 02 44.7
OBN *e*SS SS 10 18 02.5 +4.8
OBN pmax pmax
comp=Z,40nm,1.7s
VSR Storozhevoye 84.15 38 *eP* **P 10 02 49.3 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR MLR MLR
comp=N,300nm,22.0s
VSR MLR MLR
comp=E,280nm,22.0s
VSR MLR MLR
comp=Z,450nm,22.0s
VORD Divnogorie 84.32 38 *eP* **P 10 02 50.6 -0.9**
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD MLR MLR
comp=N,3μm,19.0s
VORD MLR MLR
comp=E,1μm,19.0s
VORD MLR MLR
comp=Z,430nm,19.0s
BR131 Keskin Array S 84.84 50 *eP* **P 10 02 54.8 +0.2**
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 84.84 50 P **P 10 02 54.3 -0.3**
BRTR Keskin Array B 84.84 50 P **P 10 02 54.3 -0.3**
comp=Z,2.6nm,1.0s,baz=274,slow=4.4,SNR=12
VRHR Novokhopersk 85.61 37 *eP* **P 10 02 57.4 -0.5**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=E,3.0nm,0.3s
VRHR MLR MLR
comp=N,100nm,19.0s
VRHR MLR MLR
comp=E,820nm,19.0s
VRHR MLR MLR
comp=Z,460nm,19.0s
MMAI Mount Meron Ar 88.60 56 P **P 10 03 13.8 +0.8**
MMAI Mount Meron Ar 88.60 56 P **P 10 03 13.8 +0.8**
comp=Z,4.0nm,0.9s,baz=250,slow=16,SNR=4.9
KIV Kislovodsk 89.37 43 *eP* **P 10 03 14.0 -2.3**
KIV *e*SS SS 10 19 59.2 +1.0
KIV pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 89.60 43 P **P 10 03 17.8 +0.5**
KBZ Khabaz 89.60 43 P **P 10 03 17.8 +0.5**
KBZ Khabaz 89.60 43 P **P 10 03 17.8 +0.5**
comp=Z,3.3nm,0.9s,baz=290,slow=6.3,SNR=6.6
KBZ LR LR 10 43 55.9
comp=Z,122nm,19.0s,baz=65,slow=36
ASF Jabal al Asfar 90.09 56 P **P 10 03 21.1 +1.2**
ASF Jabal al Asfar 90.09 56 P **P 10 03 21.1 +1.2**
comp=Z,0.7nm,0.3s,baz=197,slow=5.7,SNR=5.7
SEY Seymchan 92.79 344‖*eP* **P 10 03 32.5 +0.8**
AKTO Aktyubinsk 94.81 32 P **P 10 03 42.1 +0.9**
AKTO Aktyubinsk 94.81 32 P **P 10 03 42.1 +0.9**
AKTO Aktyubinsk 94.81 32 P **P 10 03 42.1 +0.9**
comp=Z,0.5nm,0.3s,baz=298,slow=6.1,SNR=5.1
BVAR Borovoye Array 98.64 25 P Pdif 10 03 58.6 0.0
BVAR Borovoye Array 98.64 25 P Pdif 10 03 58.6 0.0
BVAR Borovoye Array 98.64 25 P Pdif 10 03 58.6 0.0
comp=Z,0.9nm,0.6s,baz=29,slow=3.3,SNR=2.2
WMQ Urumqi 112.68 21 *e*PKP **PKiKP 10 08 53.8 -2.4**
SONM Songino Array 112.86 6 PKKPbc PKKPbc 10 19 50.3 +5.0
SONM Songino Array 112.86 6 PKKPbc PKKPbc 10 19 50.3 +5.0
comp=Z,0.9nm,0.7s,baz=170,slow=5.8,SNR=4.6
MDJ Mudanjiang 114.93 348 Pdif **Pdif 10 05 09.0 -2.2**
MDJ S **Sdif 10 17 37.3 -3.7**
MDJ SS **SS 10 25 45.8 -4.1**
MDJ LR LR
comp=N,150nm,21.9s
MDJ LR LR
comp=E,86nm,20.4s
MDJ LR LR
comp=Z,220nm,23.3s
CN2 Changchun 116.43 351 *e*PKP **PKPdf 10 09 00.8 -2.5**
MJAR Matsushiro Arr 120.08 338 PKP **PKPdf 10 09 10.6 0.0**
MJAR Matsushiro Arr 120.08 338 PKP **PKPdf 10 09 10.6 0.0**
comp=Z,0.6nm,0.7s,baz=88,slow=0.7,SNR=4.6
HHC Hu-ho-hao-te 120.16 2 *e*PKP PKPdf 10 09 05.3 -5.4
HHC PKS PKSdf 10 12 41.0 -6.5
HHC SKS SKSdf 10 16 12.6 -7.2
HHC SKKS SKKSac 10 17 22.3 -11
HHC SS **SS 10 26 53.3 -4.8**
HHC AMB AMB
comp=Z,260nm,9.1s
HHC LR LR
comp=N,260nm,20.0s
HHC LR LR
comp=E,240nm,20.5s
HHC LR LR
comp=Z,230nm,20.7s
BJI Beijing 121.00 358 PKP PKPdf 10 09 06.8 -5.4
BJI LR LR
comp=N,160nm,19.4s
BJI LR LR
comp=E,190nm,18.5s
BJI LR LR
comp=Z,160nm,22.9s
MAW Mawson 121.90 159 PKP **PKPdf 10 09 13.7 +0.7**
MAW Mawson 121.90 159 PKP **PKPdf 10 09 13.7 +0.7**
comp=Z,0.9nm,0.4s,baz=284,slow=4.2,SNR=4.9
KSRS Korea Array 122.16 347 PKP **PKPdf 10 09 14.3 -0.1**
comp=Z,0.6nm,0.7s,baz=48,slow=1.8,SNR=3.1
KSAR Wonju Array Be 122.18 347 PKP **PKPdf 10 09 14.3 -0.2**
LZH Lanzhou 124.09 10 *e*PKP **PKPdf 10 09 18.4 -0.1**
LZH sPKP 10 09 56.1
XAN Xi'an 126.77 6 PKP PKPdf 10 09 31.0 +7.5
XAN AMB AMB
comp=Z,41nm,12.5s
XAN LR LR
comp=N,150nm,20.4s
XAN LR LR
comp=Z,64nm,20.4s
CD2 Chengdu 129.12 12 *e*PKP **PKPdf 10 09 24.5 -3.6**
CD2 sPKP 10 10 09.8
CD2 PP **PP 10 11 37.5 +2.7**
CD2 SKS SKSdf 10 16 22.3 -14
CD2 SKKS SKKSac 10 18 14.4 -16
CD2 SS SS 10 28 43.3 -7.7
CD2 AMB AMB
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,150nm,21.0s
CD2 LR LR
comp=Z,130nm,18.2s
GYA Guiyang 133.97 9 *e*Pdif **Pdif 10 06 32.3 -4.2**
GYA PKP **PKPdf 10 09 35.0 -2.5**
GYA PP **PP 10 12 08.9 +2.8**
GYA AMB AMB
comp=Z,90nm,8.0s
KMI Kunming 134.49 15 PKP **PKPdf 10 09 37.1 -1.5**
KMI LR LR
comp=N,180nm,19.8s
KMI LR LR
comp=E,110nm,16.8s
KMI LR LR
comp=Z,170nm,17.8s
PMG Port Moresby 146.73 282 PKPbc **PKPbc 10 10 02.6 +0.4**
PMG Port Moresby 146.73 282 PKPbc **PKPbc 10 10 02.6 +0.4**
comp=Z,14nm,0.6s,baz=8.1,slow=7.1,SNR=3.7
CTA Charters Tower 149.89 263 PKPbc **PKPbc 10 10 11.1 +0.7**
CTA Charters Tower 149.89 263 PKPbc **PKPbc 10 10 11.1 +0.7**
comp=Z,8.2nm,0.5s,baz=77,slow=3.3,SNR=17
CTAO Charters Tower 149.89 263 *e*PKP2 **PKPbc 10 10 10.9 +0.5**
CTAO Charters Tower 149.89 263 *e*P **PKPbc 10 10 10.9 +0.5**
STKA Stephens Creek 152.41 237 *e*PKPbc **PKPbc 10 10 16.3 +0.3**
STKA Stephens Creek 152.41 237 PKPbc **PKPbc 10 10 16.1 +0.1**

comp=Z,7.2nm,0.6s,baz=72,slow=3.7,SNR=20
WRA Warramunga Arr 161.08 265 PKP **PKPdf 10 10 20.1 -0.5**
WRA PKPab **PKPab 10 11 04.1 +0.2**
WRA Warramunga Arr 161.08 265 PKP **PKPdf 10 10 20.1 -0.5**
comp=Z,2.3nm,0.7s,baz=53,slow=0.8,SNR=16
WRA PKPab **PKPab 10 11 04.1 +0.2**
comp=Z,1.7nm,0.8s,baz=88,slow=4.2,SNR=5.3
ASAR Alice Springs 161.21 253 PKP **PKPdf 10 10 20.4 -0.2**
ASAR PKPab **PKPab 10 11 04.0 -0.4**
ASAR Alice Springs 161.21 253 PKP **PKPdf 10 10 20.4 -0.2**
comp=Z,1.0nm,0.8s,baz=99,slow=1.4,SNR=8.0
ASAR PKPab **PKPab 10 11 04.0 -0.4**
comp=Z,4.7nm,0.8s,baz=102,slow=4.3,SNR=13

*ISCJB **14** 09:53:24.1±0.8, 24°.07N±0°.02×122°.31E±0°.02, h11km±6km, Error ellipse: s-maj=2.9km s-min=2.6km az=150.9*
*TAP **14** 09:53:24.9, 24°.12N×122°.28E, h24km, ML3.7, C*
*JMA **14** 09:53:25.7±0.3, 24°.59N×122°.28E, h53km, M3.3*
ISC 14 09:53:21.7±11.2, 24°.06N±0°.02×122°.28E±0°.02, h4km±10km, n51, σ1°912/93, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.62**	**307**	*i* P	**Pn**	**09 53 36.2**	**-1.2**
	baz=309						
ENA				*e*S	**Sn**	**09 53 44.9**	**-2.9**
	baz=309						
HWA	**Hwalien**	**0.62**	**263**	*e*P	**Pn**	**09 53 37.7**	**+0.3**
	baz=257						
HWA				*e*S	**Sn**	**09 53 47.3**	**-0.6**
	baz=257						
TWD	**Chiawan**	**0.63**	**272**	P	**Pn**	**09 53 37.3**	**-0.2**
	baz=252						
TWD				*e*S	**Sn**	**09 53 46.8**	**-1.2**
	baz=252						
TWC	**Suao**	**0.68**	**324**	*i* P	**Pn**	**09 53 36.8**	**-1.4**
	baz=321						
TWC				*e*S	**Sb**	**09 53 45.3**	**-0.7**
	baz=321						
YOJ	**Yonaguni jima**	**0.78**	**58**	P	**Pn**	**09 53 39.3**	**-0.2**
YOJ				S	**Sb**	**09 53 49.1**	**+0.3**
ESL	**Shilin**	**0.81**	**253**	*e*P	**Pn**	**09 53 39.7**	**-0.3**
	baz=240						
ESL				*e*S	**Sn**	**09 53 51.4**	**-1.2**
	baz=240						
ILA	**Ilan**	**0.86**	**325**	*e*P	**Pn**	**09 53 40.2**	**-0.4**
	baz=322						
ILA				*e*S	**Sn**	**09 53 51.9**	**-1.8**
	baz=322						
TWE	**Neicheng**	**0.87**	**320**	P	**Pn**	**09 53 40.4**	**-0.3**
	baz=323						
TWE				S	**Sn**	**09 53 51.7**	**-2.2**
	baz=323						
ENTT	**Nioudou**	**0.88**	**312**	P	**Pn**	**09 53 40.9**	**0.0**
	baz=308						
ENTT				*e*S	**Sn**	**09 53 52.6**	**-1.5**
	baz=308						
NNS	**Nan Shan**	**0.92**	**295**	*e*P	**Pn**	**09 53 41.7**	**+0.2**
	baz=290						
NNS				*e*S	**Sb**	**09 53 53.0**	**+0.1**
	baz=290						
WHF	**Hehuan Shan**	**0.94**	**276**	⇓P	**Pn**	**09 53 42.0**	**-0.1**
	baz=260						
WHF				*e*S	**Sn**	**09 53 55.7**	**-0.5**
	baz=260						
TWB1	**Santiao Chiao**	**0.99**	**344**	P	**Pn**	**09 53 42.4**	**0.0**
	baz=330						
TWB1				*e*S	**Sb**	**09 53 54.6**	**-0.2**
	baz=330						
TWT	**Tachien**	**1.03**	**281**	*e*P	**Pn**	**09 53 44.4**	**+1.2**
	baz=265						
EHY	**Hungye**	**1.04**	**238**	*e*P	**Pn**	**09 53 44.3**	**+1.2**
	baz=228						
EHY				*e*S	**Sn**	**09 53 57.1**	**-1.0**
	baz=228						
NSK	**Sanguang**	**1.05**	**306**	⇓*i* P	**Pn**	**09 53 43.7**	**+0.4**
	baz=290						
NSK				*e*S	**Sn**	**09 53 57.2**	**-1.3**
	baz=290						
NWF	**Wu-fen Shan**	**1.11**	**336**	P	**Pn**	**09 53 44.5**	**+0.3**
	baz=332						
NWF				S	**Sn**	**09 53 58.5**	**-1.5**
	baz=332						
TWA	**Mucha**	**1.12**	**325**	*e*P	**Pn**	**09 53 45.4**	**+1.1**
	baz=322						
TWA				*e*S	**Sn**	**09 53 59.8**	**-0.4**
	baz=322						
TWF1	**Yuli**	**1.14**	**232**	*e*P	**Pn**	**09 53 45.2**	**+0.7**
	baz=220						
TWF1				*e*S	**Sn**	**09 54 00.7**	**0.0**
	baz=220						
TAP1	**Taipei**	**1.20**	**325**	*e*P	**Pn**	**09 53 46.9**	**+1.5**
	baz=321						
TAP1				*e*S	**Sn**	**09 54 02.4**	**+0.3**
	baz=321						
TAP	**Taipei**	**1.21**	**324**	*e*P	**Pn**	**09 53 47.1**	**+1.7**
	baz=321						
TAP				*e*S	**Sn**	**09 54 02.4**	**+0.1**
	baz=321						
CHKT	**Chengkung**	**1.27**	**222**	*e*P	**Pn**	**09 53 46.3**	**0.0**
	baz=220						
SMLT	**Sun Moon Lake**	**1.28**	**263**	⇓P	**Pn**	**09 53 47.5**	**+1.0**
	baz=260						
SMLT				*e*S	**Sn**	**09 54 04.2**	**0.0**
	baz=260						
TYC	**Yuchr**	**1.31**	**264**	*e*P	**Pn**	**09 53 47.6**	**+0.7**
	baz=261						
TYC				*e*S	**Sn**	**09 54 05.7**	**+0.8**
	baz=261						
YUS	**Yu-Shan**	**1.34**	**245**	P	**Pb**	**09 53 49.1**	**+1.4**
	baz=244						
YUS				S	**Sn**	**09 54 05.8**	**-0.5**
	baz=244						
IRIF	**Iriomote-Funau**	**1.35**	**78**	P	**Pb**	**09 53 48.3**	**+0.7**
NCU	**National Centr**	**1.35**	**313**	*e*P	**Pb**	**09 53 49.3**	**+1.6**
	baz=309						
NCU				*e*S	**Sn**	**09 54 07.1**	**+1.2**
	baz=309						
TWY	**Chenhua**	**1.36**	**333**	*e*P	**Pb**	**09 53 49.2**	**+1.4**
	baz=330						
TWY				*e*S	**Sn**	**09 54 06.1**	**-0.1**
	baz=330						
HATJ	**Hateruma jima**	**1.39**	**90**	P	**Pb**	**09 53 50.7**	**+2.4**
HATJ				S	**Sn**	**09 54 09.7**	**+2.9**
HSN	**Hsinchu**	**1.41**	**302**	*e*P	Pb	09 53 50.8	+2.1
	baz=300						
HSN				*e*S	**Sn**	**09 54 07.3**	**0.0**
	baz=300						
TWQ1	**Liyutan**	**1.41**	**282**	P	**Pb**	**09 53 50.3**	**+1.7**
	baz=267						
TWQ1				*e*S	**Sn**	**09 54 08.9**	**+1.6**
	baz=267						
NSY	**Sanyi**	**1.44**	**285**	*e*P	**Pb**	**09 53 50.7**	**+1.6**
	baz=282						
NSY				*e*S	**Sn**	**09 54 09.4**	**+1.5**
	baz=282						
ALS	**Alishan**	**1.46**	**248**	P	**Pg**	**09 53 50.9**	**+1.2**
	baz=247						
ALS				*e*S	**Sn**	**09 54 09.2**	**+0.3**
	baz=247						
TCU	**Taichung**	**1.47**	**274**	*e*P	**Pg**	**09 53 51.5**	**+1.6**
	baz=272						
TCU				*e*S	**Sn**	**09 54 10.6**	**+1.7**
	baz=272						
CHN5	**Tsauling**	**1.54**	**253**	P	**Pg**	**09 53 52.5**	**+1.2**
	baz=241						
CHN5				*e*S	**Sg**	**09 54 12.1**	**+0.8**
	baz=241						
PCYT	**Pengchaiyu**	**1.58**	**353**	P	**Pg**	**09 53 50.7**	**-1.4**
	baz=350						
JKRS	**Kuro-shima**	**1.59**	**83**	P	**Pg**	**09 53 52.1**	**0.0**
JKRS				S	**Sg**	**09 54 13.0**	**+0.3**
WGK	**Gukeng**	**1.62**	**257**	*e*P	**Pg**	**09 53 53.6**	**+0.8**
	baz=256						
WGK				*e*S	**Sg**	**09 54 14.6**	**+0.8**
	baz=256						
TWG	**Pinlang**	**1.66**	**222**	*e*P	**Pb**	**09 53 52.2**	**-0.6**
	baz=222						
JIJ	**Ishigaki jima**	**1.73**	**79**	P	**Pb**	**09 53 53.4**	**-0.6**
JIJ				S	**Sn**	**09 54 14.7**	**-0.4**
CHY	**Chiayi**	**1.79**	**252**	*e*P	**Pg**	**09 53 55.5**	**-0.6**
	baz=251						
CHY				*e*S	**Sg**	**09 54 18.9**	**-0.4**
	baz=251						
CHN1	**Nanshi**	**1.83**	**242**	*e*P	**Pg**	**09 53 57.2**	**+0.4**
	baz=241						
CHN1				*e*S	**Sg**	**09 54 20.2**	**-0.3**
	baz=241						
SGST	**Jiashian**	**1.84**	**239**	*e*P	**Pg**	**09 53 57.0**	**+0.1**
	baz=238						
SGST				S	**Sg**	**09 54 20.6**	**-0.2**
	baz=238						
WSF	**Szhu**	**1.93**	**258**	*e*P	**Pg**	**09 53 58.1**	**-0.6**
	baz=257						
WSF				*e*S	**Sg**	**09 54 22.7**	**-1.1**
	baz=257						
SCLT	**Jiali**	**2.11**	**246**	*e*P	**Pg**	**09 54 00.7**	**-1.4**
	baz=246						
SCLT				*e*S	**Sb**	**09 54 26.4**	**-0.7**
	baz=246						
LAY	**Lan-yu**	**2.12**	**199**	*e*P	**Pn**	**09 53 58.1**	**+0.1**
	baz=200						
SCZT	**Fangliau**	**2.27**	**223**	*e*P	**Pg**	**09 54 03.5**	**-1.8**
	baz=218						
SCZT				*e*S	**Sb**	**09 54 31.4**	**-0.3**
	baz=218						
JTJ	**Tarama**	**2.28**	**75**	P	**Pb**	**09 54 01.3**	**-2.2**
HEN	**Hengchun**	**2.49**	**215**	*e*P	**Pb**	**09 54 06.8**	**-0.2**
	baz=217						
HEN				*e*S	**Sb**	**09 54 37.2**	**-0.8**
	baz=217						
TSEB	**Hengchuen, Pin**	**2.50**	**211**	*e*P	**Pb**	**09 54 07.1**	**0.0**
	baz=214						
TSEB				*e*S	**Sn**	**09 54 34.8**	**+0.8**
	baz=214						
WDGT	**Dungji**	**2.53**	**252**	*e*P	**Pb**	**09 54 05.1**	**-2.6**
	baz=240						
WDGT				*e*S	**Sn**	**09 54 35.2**	**+0.2**
	baz=240						
JOGS	**Gusukube**	**2.93**	**76**	P	**Pn**	**09 54 10.0**	**+0.8**

*NEIC **14** 09:56:05.1, 19°.37N×65°.70W, h59km, MD3.5(RSPR), After RSPR.*
RSPR 14 09:56:05.1, 19°.37N×65°.70W, h59km±7km, 9C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.10**	**188**	*e*P	Pn	09 56 23.1	-1.4
CBYP	**Canovanas**	**1.10**	**188**	*e*S	Sn	09 56 38.2	-0.8
CBYP	**Canovanas**	**1.10**	**188**	*e*P	Pn	09 56 23.1	-1.4
CBYP				*e*S	Sn	09 56 38.2	-0.8
CBYP	**Canovanas**	**1.10**	**188**	*e*P	Pn	09 56 23.1	-1.4
CBYP				*e*S	Sn	09 56 38.2	-0.8
MTP	**Monte Pirata**	**1.27**	**174**	*e*P	Pn	09 56 25.9	-0.8
MTP	**Monte Pirata**	**1.27**	**174**	*e*S	Sn	09 56 42.0	-0.9
MTP	**Monte Pirata**	**1.27**	**174**	*e*P	Pn	09 56 25.9	-0.8
MTP				*e*S	Sn	09 56 42.0	-0.9
MTP	**Monte Pirata**	**1.27**	**174**	*e*P	Pn	09 56 25.9	-0.8
MTP				*e*S	Sn	09 56 42.0	-0.9
CPD	**Cerro la Pandu**	**1.34**	**189**	⇓*e*P	Pn	09 56 26.7	-1.0
CPD	**Cerro la Pandu**	**1.34**	**189**	*e*S	Sn	09 56 43.8	-0.8
CPD	**Cerro la Pandu**	**1.34**	**189**	⇓*e*P	Pn	09 56 26.7	-1.0
CPD				*e*S	Sn	09 56 43.8	-0.8
CPD	**Cerro la Pandu**	**1.34**	**189**	⇓*e*P	Pn	09 56 26.7	-1.0
CPD				*e*S	Sn	09 56 43.8	-0.8
AOPR	**Arecibo Observ**	**1.42**	**225**	*e*P	Pn	09 56 28.1	-0.8
AOPR	**Arecibo Observ**	**1.42**	**225**	*e*S	Sn	09 56 45.7	-0.9
AOPR	**Arecibo Observ**	**1.42**	**225**	*e*P	Pn	09 56 28.1	-0.8
AOPR				*e*S	Sn	09 56 45.7	-0.9
AOPR	**Arecibo Observ**	**1.42**	**225**	*e*P	Pn	09 56 28.7	-0.1
AOPR				*e*S	Sn	09 56 45.7	-0.9

*IDC **14** 10:16:20.6±0.7, 21°.50N×144°.07E, h0km, mb3.9/11, mb1 4.1/12, mb1mx4.0/24, mbtmp3.9/12, ML2.9/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/44, Error ellipse: s-maj=25.6km s-min=19.1km az=89.0*
*NEIC **14** 10:16:22.2±0.5, 21°.49N×144°.16E, h10km, mb4.4/2, Error ellipse: s-maj=18.7km s-min=11.3km az=79.0*
*ISCJB **14** 10:16:24.2±0.6, 21°.45N±0°.08×144°.1E±0°.2, h33km, mb4.0/16, MS3.4/3, Error ellipse: s-maj=20.4km s-min=11.7km az=169.6*
ISC 14 10:16:25.7±0.8, 21°.5N±0°.1×144°.1E±0°.2, h33km, n36, σ1°908/37, mb4.0/16, MS3.5/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.86**	**342**	Pn	**Pn**	**10 20 04.7**	**-1.9**
MJAR	**Matsushiro Arr**	**15.86**	**342**	Pn	**Pn**	**10 20 04.6**	**-1.9**
	0.1nm,0.3s,baz=168,slow=12,SNR=4.0						
MAT	**Matsushiro**	**15.86**	**342**	P	**P**	**10 20 11.2**	**+1.3**
KSRS	**Korea Array**	**21.21**	**322**	P	**P**	**10 21 11.2**	**+2.6**
	3.5nm,0.6s,baz=147,slow=8.9,SNR=21						
KSRS				LR	LR	10 28 03.2	
	comp=Z,50nm,18.0s,baz=156,slow=33						
KSAR	**Wonju Array Be**	**21.23**	**322**	P	**P**	**10 21 11.2**	**+2.5**
USRK	**Ussuriysk Arra**	**24.78**	**339**	P	**P**	**10 21 46.6**	**+2.2**
	2.3nm,0.8s,baz=111,slow=8.0,SNR=4.0						
HNR	**Honiara**	**34.43**	**152**	LR	LR	10 35 44.2	
	comp=Z,88nm,20.6s,baz=270,slow=34						
SONM	**Songino Array**	**40.06**	**320**	P	**P**	**10 23 58.0**	**+0.1**
SONM	**Songino Array**	**40.06**	**320**	P	**P**	**10 23 58.0**	**+0.1**
	1.0nm,0.7s,baz=130,slow=8.4,SNR=4.5						
WRAB	**Tennant Creek**	**42.26**	**194**	*e*P	**P**	**10 24 16.7**	**+0.6**
	3.8nm,0.9s						
WRA	**Warramunga Arr**	**42.27**	**194**	P	**P**	**10 24 16.1**	**-0.2**
WRA	**Warramunga Arr**	**42.27**	**194**	P	**P**	**10 24 16.1**	**-0.2**
	2.5nm,1.0s,baz=17,slow=8.8,SNR=9.9						
ASAR	**Alice Springs**	**45.97**	**193**	P	**P**	**10 24 45.4**	**-0.5**
ASAR	**Alice Springs**	**45.97**	**193**	P	**P**	**10 24 45.4**	**-0.5**
	0.5nm,0.6s,baz=15,slow=9.2,SNR=9.3						
ASAR				LR	LR	10 42 26.2	
	comp=Z,71nm,19.3s,baz=304,slow=34						
ZALV	**Zalesovo Beam**	**54.92**	**322**	P	**P**	**10 25 52.0**	**-1.1**
ZALV	**Zalesovo Beam**	**54.92**	**322**	P	**P**	**10 25 52.0**	**-1.1**
	1.0nm,0.6s,baz=99,slow=8.9,SNR=4.1						
MK31	**Makanchi Array**	**55.48**	**313**	*e*P	**P**	**10 25 58.0**	**+0.7**
MKAR	**Makanchi Array**	**55.48**	**313**	P	**P**	**10 25 57.8**	**+0.4**
MKAR				PcP	**PcP**	**10 26 57.0**	**-0.2**
MKAR	**Makanchi Array**	**55.48**	**313**	P	**P**	**10 25 57.8**	**+0.4**
	0.9nm,0.6s,baz=87,slow=8.8,SNR=12						
MKAR				PcP	**PcP**	**10 26 57.0**	**-0.2**
	1.0nm,0.7s,baz=88,slow=6.4,SNR=6.5						
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**10 26 40.7**	**-0.5**
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**10 26 40.7**	**-0.5**
	1.3nm,0.7s,baz=256,slow=5.7,SNR=22						
ABKAR	**Akbulak array**	**70.31**	**316**	*e*P	**P**	**10 27 35.8**	**-0.2**
	4.1nm,0.7s						
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**10 28 11.2**	**+0.7**
YKA	**Yellowknife Ar**	**76.23**	**28**	P	**P**	**10 28 11.2**	**+0.7**
	1.1nm,0.7s,baz=288,slow=5.9,SNR=3.5						
ARCES	**ARCESS Array B**	**79.39**	**342**	P	**P**	**10 28 27.5**	**-0.6**
ARCES	**ARCESS Array B**	**79.39**	**342**	P	**P**	**10 28 27.5**	**-0.6**
	1.6nm,0.7s,baz=57,slow=8.8,SNR=5.1						
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**10 28 46.9**	**+0.9**
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**10 28 46.9**	**+0.9**
	1.2nm,0.7s,baz=293,slow=4.8,SNR=10						
KBZ	**Khabaz**	**83.14**	**314**	P	**P**	**10 28 48.8**	**+0.4**
KBZ	**Khabaz**	**83.14**	**314**	P	**P**	**10 28 48.8**	**+0.4**
	8.3nm,0.8s,baz=97,slow=3.6,SNR=18						
PDAR	**Pinedale Array**	**86.92**	**45**	P	**P**	**10 29 08.2**	**+0.4**
PDAR	**Pinedale Array**	**86.92**	**45**	P	**P**	**10 29 08.2**	**+0.4**
	0.4nm,0.8s,baz=289,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**91.12**	**314**	P	**P**	**10 29 25.9**	**-1.6**
BRTR	**Keskin Array B**	**91.12**	**314**	P	**P**	**10 29 25.9**	**-1.6**
	0.7nm,0.7s,baz=118,slow=4.1,SNR=4.7						
LPAZ	**La Paz**	**149.08**	**86**	PKPbc	**PKPbc**	**10 36 12.2**	**+0.1**
LPAZ	**La Paz**	**149.08**	**86**	PKPbc	**PKPbc**	**10 36 12.2**	**+0.1**
	2.2nm,0.5s,baz=342,slow=4.4,SNR=18						

*NEIC **14** 10:32:14.6, 19°.26N×65°.79W, h2km, MD3.0(RSPR), After RSPR.*
RSPR 14 10:32:14.6, 19°.26N×65°.79W, h2km±2km, MD3.0/3, 15C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.98**	**184**	*e*P	Pg	10 32 31.9	-1.6
CBYP	**Canovanas**	**0.98**	**184**	*e*S	Sg	10 32 46.0	-0.3
CBYP	**Canovanas**	**0.98**	**184**	*e*P	Pg	10 32 31.9	-1.6
CBYP				*e*S	Sg	10 32 46.0	-0.3
CBYP	**Canovanas**	**0.98**	**184**	*e*P	Pg	10 32 31.9	-1.6
CBYP				*e*S	Sg	10 32 46.2	-0.1
MTP	**Monte Pirata**	**1.17**	**169**	*e*P	Pg	10 32 34.5	-2.7
MTP	**Monte Pirata**	**1.17**	**169**	*e*S	Sg	10 32 50.7	-1.7
MTP	**Monte Pirata**	**1.17**	**169**	*e*P	Pg	10 32 34.5	-2.7
MTP				*e*S	Sg	10 32 50.7	-1.7
MTP	**Monte Pirata**	**1.17**	**169**	*e*P	Pg	10 32 34.5	-2.7
MTP				*e*S	Sg	10 32 50.7	-1.7
STVI	**Saint Thomas**	**1.20**	**138**	*e*P	Pg	10 32 35.0	-2.5
STVI	**Saint Thomas**	**1.20**	**138**	*e*S	Sg	10 32 51.6	-1.6
STVI	**Saint Thomas**	**1.20**	**138**	*e*P	Pg	10 32 35.0	-2.5
STVI				*e*S	Sg	10 32 51.6	-1.6
STVI	**Saint Thomas**	**1.20**	**138**	*e*P	Pg	10 32 35.5	-2.1
STVI				*e*S	Sg	10 32 51.6	-1.6
CPD	**Cerro la Pandu**	**1.22**	**186**	*e*P	Pg	10 32 35.8	-2.2
CPD	**Cerro la Pandu**	**1.22**	**186**	*e*S	Sg	10 32 51.9	-1.9
CPD	**Cerro la Pandu**	**1.22**	**186**	*e*P	Pg	10 32 35.8	-2.2
CPD				*e*S	Sg	10 32 51.9	-1.9
CPD	**Cerro la Pandu**	**1.22**	**186**	*e*P	Pg	10 32 35.8	-2.2
CPD				*e*S	Sg	10 32 51.9	-1.9
AOPR	**Arecibo Observ**	**1.28**	**225**	*e*P	Pg	10 32 37.0	-2.3
AOPR	**Arecibo Observ**	**1.28**	**225**	*e*S	Sg	10 32 53.1	-2.8
AOPR	**Arecibo Observ**	**1.28**	**225**	*e*P	Pg	10 32 37.0	-2.3
AOPR				*e*S	Sg	10 32 53.1	-2.8
AOPR	**Arecibo Observ**	**1.28**	**225**	*e*P	Pg	10 32 37.0	-2.3
AOPR				*e*S	Sg	10 32 53.1	-2.8

IDC 14 10:33:10.0±7.7, 19°.78S×177°.12W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.5/3, Error ellipse: s-maj=335.0km s-min=38.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.49**	**256**	P	P	10 41 31.7	+0.3
	0.4nm,0.5s,baz=90,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**45.52**	**261**	P	P	10 41 31.2	-0.5
	0.2nm,0.3s,baz=99,slow=8.7,SNR=17						
ILAR	**Eielson Array**	**87.44**	**12**	P	P	10 45 58.8	-0.1
	0.2nm,0.5s,baz=217,slow=5.0,SNR=4.9						

*NEIC **14** 10:35:40.5, 18°.62N×65°.47W, h171km, MD3.2(RSPR), After RSPR.*
RSPR 14 10:35:40.5, 18°.62N×65°.47W, h171km±6km, 18C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.53**	**189**	*e*P	Pn	10 36 04.8	+0.3
MTP	**Monte Pirata**	**0.53**	**189**	*e*P	Pn	10 36 04.8	+0.3
MTP	**Monte Pirata**	**0.53**	**189**	*e*P	Pn	10 36 04.8	+0.3
STVI	**Saint Thomas**	**0.55**	**119**	*e*S	Sn	10 36 23.0	+0.1
STVI	**Saint Thomas**	**0.55**	**119**	*e*P	Pn	10 36 04.3	-0.3
STVI	**Saint Thomas**	**0.55**	**119**	*e*P	Pn	10 36 04.3	-0.3
STVI				*e*S	Sn	10 36 23.0	+0.1
STVI	**Saint Thomas**	**0.55**	**119**	*e*P	Pn	10 36 04.3	-0.3
STVI				*e*S	Sn	10 36 23.1	+0.2
CPD	**Cerro la Pandu**	**0.72**	**216**	*e*P	Pn	10 36 04.9	-0.6
CPD	**Cerro la Pandu**	**0.72**	**216**	*e*P	Pn	10 36 04.9	-0.6
CPD	**Cerro la Pandu**	**0.72**	**216**	*e*P	Pn	10 36 04.9	-0.6
SJG	**San Juan**	**0.82**	**232**	*e*P	Pn	10 36 05.4	-0.7
SJG	**San Juan**	**0.82**	**232**	*e*P	Pn	10 36 05.4	-0.7
SJG	**San Juan**	**0.82**	**232**	*e*P	Pn	10 36 05.4	-0.7
TBVI	**Tortola**	**0.83**	**104**	*e*S	Sn	10 36 26.0	+0.2
TBVI	**Tortola**	**0.83**	**104**	*e*S	Sn	10 36 26.0	+0.2
ABVI	**Anegada Island**	**1.08**	**84**	*e*P	Pn	10 36 07.9	-0.1
ABV	**Anegada**	**1.08**	**84**	*e*P	Pn	10 36 07.9	-0.1
ABV	**Anegada**	**1.08**	**84**	*e*P	Pn	10 36 07.9	-0.1
CRPR	**Cabo Rojo, PR**	**1.68**	**249**	*e*P	Pn	10 36 14.1	+0.6
CRPR	**Cabo Rojo, PR**	**1.68**	**249**	*e*P	Pn	10 36 14.1	+0.6
CRPR	**Cabo Rojo, PR**	**1.68**	**249**	*e*P	Pn	10 36 14.1	+0.6

*IDC **14** 10:37:28.4±0.9, 19°.45N×65°.70W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.7/9, Error ellipse: s-maj=28.4km s-min=20.3km az=54.0*
*ISCJB **14** 10:37:31.0±1.5, 19°.44N±0°.04×65°.76W±0°.03, h30km±12km, mb3.7/9, Error ellipse: s-maj=6.1km s-min=4.8km az=1.5*
*RSPR **14** 10:37:31.9, 19°.30N×65°.72W, h93km±8km, MD3.8/22*
*NEIC **14** 10:37:31.9, 19°.30N×65°.72W, h93km, MD3.8(RSPR), After RSPR.*
ISC 14 10:37:31.1±1.8, 19°.34N±0°.04×65°.76W±0°.03, h15km±11km, n94, σ0°882/122, mb3.8/9, 30C-30D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.06**	**185**	⇓*e*P	**Pb**	**10 37 50.5**	**-0.8**
CBYP	**Canovanas**	**1.06**	**185**	⇓*e*P	**Pb**	**10 37 50.6**	**-0.7**
CBYP	**Canovanas**	**1.06**	**185**	⇓*e*P	**Pb**	**10 37 50.5**	**-0.8**
CBYP	**Canovanas**	**1.06**	**185**	⇓*e*P	**Pb**	**10 37 50.5**	**-0.8**
CBYP	**Canovanas**	**1.06**	**185**	⇓*e*P	**Pb**	**10 37 50.6**	**-0.7**
STVI	**Saint Thomas**	**1.24**	**142**	⇓*e*P	**Pn**	**10 37 53.6**	**-0.4**
STVI	**Saint Thomas**	**1.24**	**142**	⇓*e*P	**Pn**	**10 37 54.0**	**0.0**
STVI				*e*S	**Sg**	**10 38 11.3**	**0.0**
STVI	**Saint Thomas**	**1.24**	**142**	⇓*e*P	**Pn**	**10 37 54.0**	**0.0**
STVI				*e*S	**Sg**	**10 38 11.3**	**0.0**
STVI	**Saint Thomas**	**1.24**	**142**	⇓*e*P	**Pn**	**10 37 53.6**	**-0.4**
STVI	**Saint Thomas**	**1.24**	**142**	⇓*e*P	**Pn**	**10 37 54.0**	**0.0**
STVI				*e*S	**Sg**	**10 38 11.3**	**0.0**
STVI				*e*S	**Sg**	**10 38 11.3**	**0.0**
MTP	**Monte Pirata**	**1.25**	**171**	⇓*e*P	**Pn**	**10 37 53.4**	**-0.7**
MTP	**Monte Pirata**	**1.25**	**171**	*e*S	**Sb**	**10 38 10.1**	**-0.2**
MTP	**Monte Pirata**	**1.25**	**171**	⇓*e*P	**Pn**	**10 37 53.4**	**-0.7**
MTP				*e*S	**Sb**	**10 38 10.1**	**-0.2**
MTP	**Monte Pirata**	**1.25**	**171**	⇓*e*P	**Pn**	**10 37 53.4**	**-0.7**
MTP				*e*S	**Sb**	**10 38 10.1**	**-0.2**
SJG	**San Juan**	**1.27**	**197**	⇓*i* P	**Pn**	**10 37 54.1**	**-0.3**
SJG	**San Juan**	**1.27**	**197**	⇓*i* P	**

CRPR				eS	Sb	10 38 26.7	-0.6
IDE	**Isla Desecheo**	**1.88 240**		eP	Pn	10 38 02.9	+0.2
IDE	**Isla Desecheo**	**1.88 240**		eP	Pn	10 38 02.9	+0.2
IDE	**Isla Desecheo**	**1.88 240**		eP	Pn	10 38 02.9	+0.2
DR12	**Loma Pena Alta**	**3.46 262**		eP	Pn	10 38 24.0	-0.7
DR12	**Loma Pena Alta**	**3.46 262**		eP	Pn	10 38 24.0	-0.7
DR12	**Loma Pena Alta**	**3.46 262**		eP	Pn	10 38 24.0	-0.7
SKI	**Saint Kitts**	**3.50 124**		eP	Pn	10 38 26.0	+1.0
SKI				eS	Sn	10 39 08.0	+1.8
LZG	**Guadaloupe-1**	**4.95 129**		eP	Pn	10 38 46.6	+1.5
MLG	**Mont-d'or**	**5.05 130**		eP	Pn	10 38 47.6	+1.1
BCG	**Bois Riant Cap**	**5.10 129**		eP	Pn	10 38 47.8	+0.6
SDDR	**Presa de Saban**	**5.23 267**		eP	Pn	10 38 50.4	+1.4
SDDR	**Presa de Saban**	**5.23 267**		eS	Sn	10 39 48.6	-0.6
SDDR	**Presa de Saban**	**5.23 267**		eP	Pn	10 38 50.4	+1.4
SDDR				eS	Sn	10 39 48.6	-0.6
SDDR	**Presa de Saban**	**5.23 267**		eP	Pn	10 38 50.4	+1.4
SDDR				eS	Sn	10 39 48.6	-0.6
BBSR	**BB Station**	**13.02 4**		ePn	Pn	10 40 31.6	-4.0
16nm,0.4s							
ROSC	**El Rosal**	**16.64 211**	Pn		**P**	**10 41 28.3**	**+1.4**
ROSC	**El Rosal**	**16.64 211**	Pn		**P**	**10 41 28.3**	**+1.4**
0.8nm,0.3s,baz=287,slow=19,SNR=2.2							
JTS	**JuntasAbangare**	**20.60 247**	P		**P**	**10 42 09.6**	**-0.3**
JTS	**JuntasAbangare**	**20.60 247**	P		**P**	**10 42 09.6**	**-0.3**
3.3nm,0.8s,baz=38,slow=12,SNR=2.4							
TKL	**Tuckaleechee C**	**22.73 319**	P		**P**	**10 42 36.3**	**+3.6**
TKL			S		**S**	**10 46 41.2**	**+0.2**
TKL	**Tuckaleechee C**	**22.73 319**	P		**P**	**10 42 36.3**	**+3.6**
0.6nm,0.3s,baz=98,slow=15,SNR=2.0							
TKL			S		**S**	**10 46 41.2**	**+0.2**
1.7nm,0.5s,baz=175,slow=10,SNR=4.1							
LPAZ	**La Paz**	**35.48 184**	P		**P**	**10 44 28.4**	**+0.4**
LPAZ	**La Paz**	**35.48 184**	P		**P**	**10 44 28.4**	**+0.4**
1.2nm,1.0s,baz=14,slow=12,SNR=4.0							
TXAR	**Lajitas Array**	**35.80 294**	P		**P**	**10 44 30.6**	**+0.4**
TXAR			PcP		**PcP**	**10 46 58.4**	**+0.5**
TXAR	**Lajitas Array**	**35.80 294**	P		**P**	**10 44 30.6**	**+0.4**
0.2nm,0.5s,baz=104,slow=9.7,SNR=6.5							
TXAR			PcP		**PcP**	**10 46 58.4**	**+0.5**
0.3nm,0.8s,baz=123,slow=4.4,SNR=2.6							
PDAR	**Pinedale Array**	**43.56 312**	P		**P**	**10 45 34.2**	**-0.6**
PDAR	**Pinedale Array**	**43.56 312**	P		**P**	**10 45 34.2**	**-0.6**
0.6nm,0.8s,baz=108,slow=10,SNR=5.4							
CPUP	**Villa Florida**	**46.13 169**	P		**P**	**10 45 55.2**	**+0.2**
CPUP	**Villa Florida**	**46.13 169**	P		**P**	**10 45 55.2**	**+0.2**
0.4nm,0.4s,baz=307,slow=10,SNR=3.8							
NVAR	**Mina Array Bea**	**49.10 304**	P		**P**	**10 46 17.6**	**-0.8**
NVAR	**Mina Array Bea**	**49.10 304**	P		**P**	**10 46 17.6**	**-0.8**
0.3nm,0.5s,baz=100,slow=7.5,SNR=4.4							
YKA	**Yellowknife Ar**	**54.55 335**	P		**P**	**10 46 56.7**	**-1.7**
YKA	**Yellowknife Ar**	**54.55 335**	P		**P**	**10 46 56.7**	**-1.7**
0.6nm,0.5s,baz=115,slow=7.3,SNR=2.5							
TORD	**Torodi Ar. Bea**	**64.72 84**	P		**P**	**10 48 08.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**64.72 84**	P		**P**	**10 48 08.7**	**-0.7**
0.9nm,0.6s,baz=290,slow=7.1,SNR=6.0							
ILAR	**Eielson Array**	**68.91 333**	P		**P**	**10 48 34.1**	**-1.1**
ILAR	**Eielson Array**	**68.91 333**	P		**P**	**10 48 34.1**	**-1.1**
1.0nm,0.7s,baz=106,slow=4.8,SNR=15							

*IDC **14** 10:52:52.0±1.1, 13°.92N×92°.86E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, Error ellipse: s-maj=53.4km s-min=18.4km az=60.0*
*ISCJB **14** 10:52:53.8±0.5, 13°.90N±0°.08×92°.78E±0°.10, h32km, mb4.0/13, Error ellipse: s-maj=16.0km s-min=7.8km az=144.2*
*NEIC **14** 10:52:56.6±0.4, 13°.87N×92°.84E, h35km, mb4.3/5, Error ellipse: s-maj=13.4km s-min=8.7km az=49.0*
ISC 14 10:52:56.0±0.7, 13°.9N±0°.1×92°.8E±0°.1, h32km, n28, σ1§20/27, mb4.0/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.61**	**242**	ePn	**Pn**	**10 56 06.3**	**-0.7**
ODAN	**Odare**	**13.84**	**339**	eP	**Pn**	**10 56 09.6**	**-0.7**
6.7nm,0.2s							
RAMN	**Ramite**	**14.21**	**337**	eP	**Pn**	**10 56 14.5**	**-0.9**
PKI	**Pulchoki**	**15.24**	**334**	eP	Pn	10 56 24.8	-4.5
PKIN	**Phulchoki**	**15.25**	**334**	eP	**Pn**	**10 56 25.9**	**-3.5**
9.0nm,0.3s							
KOLN	**Koldanda**	**16.24**	**330**	eP	**Pn**	**10 56 40.1**	**-2.0**
KSM	**Kuching**	**21.27**	**124**	eP	**P**	**10 57 40.2**	**+0.4**
16nm,1.1s							
KKM	**Kota Kinabalu**	**24.32**	**106**	eP	**P**	**10 58 08.9**	**-2.3**
13nm,1.1s							
KAPI	**Kappang**	**32.69**	**123**	eP	**P**	**10 59 25.2**	**-0.5**
5.9nm,0.8s							
MK31	**Makanchi Array**	**33.95**	**347**	eP	**P**	**10 59 37.1**	**+0.8**
MKAR	**Makanchi Array**	**33.95**	**347**	P	**P**	**10 59 37.1**	**+0.8**
MKAR	**Makanchi Array**	**33.95**	**347**	P	**P**	**10 59 37.2**	**+0.8**
0.7nm,0.5s,baz=161,slow=8.2,SNR=10							
SONM	**Songino Array**	**35.66**	**16**	P	**P**	**10 59 51.8**	**+0.5**
SONM	**Songino Array**	**35.66**	**16**	P	**P**	**10 59 51.8**	**+0.5**
0.8nm,0.8s,baz=198,slow=8.8,SNR=3.6							
KURBB	**Kurchatov Arra**	**38.41**	**345**	P	**P**	**11 00 15.3**	**+0.9**
1.0nm,0.6s,baz=162,slow=8.4,SNR=8.0							
KURK	**Kurchatov**	**38.47**	**345**	P	**P**	**11 00 15.3**	**+0.3**
ZALV	**Zalesovo Beam**	**40.43**	**353**	P	**P**	**11 00 31.9**	**+0.6**
ZALV	**Zalesovo Beam**	**40.43**	**353**	P	**P**	**11 00 31.9**	**+0.6**
0.9nm,0.5s,baz=169,slow=8.5,SNR=5.1							
WRA	**Warramunga Arr**	**52.92**	**129**	P	**P**	**11 02 09.9**	**+0.4**
WRA	**Warramunga Arr**	**52.92**	**129**	P	**P**	**11 02 09.9**	**+0.4**
0.6nm,0.7s,baz=312,slow=7.6,SNR=15							
WRAB	**Tennant Creek**	**52.93**	**129**	eP	**P**	**11 02 10.1**	**+0.5**
1.5nm,0.7s							
ASAR	**Alice Springs**	**54.86**	**133**	P	**P**	**11 02 24.2**	**+0.6**
ASAR	**Alice Springs**	**54.86**	**133**	P	**P**	**11 02 24.2**	**+0.6**
0.6nm,0.4s,baz=310,slow=7.0,SNR=25							
CTAO	**Charters Tower**	**62.48**	**122**	eP	**P**	**11 03 16.2**	**-0.6**
1.5nm,0.6s							
FINES	**FINESS Array B**	**66.81**	**331**	P	**P**	**11 03 44.7**	**+0.3**
FINES	**FINESS Array B**	**66.81**	**331**	P	**P**	**11 03 44.7**	**+0.3**
1.9nm,0.9s,baz=101,slow=7.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**87.96**	**283**	P	**P**	**11 05 45.2**	**+1.6**
TORD	**Torodi Ar. Bea**	**87.96**	**283**	P	**P**	**11 05 45.2**	**+1.6**
0.6nm,1.1s,baz=64,slow=4.0,SNR=2.8							

*NEIC **14** 11:03:36.9, 19°.36N×65°.73W, h70km, MD3.5(RSPR), After RSPR.*
RSPR 14 11:03:36.9, 19°.36N×65°.73W, h70km±12km, MD3.5/15, 40C-14D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.09**	**186**	eP	Pn	11 03 54.7	-2.0
CBYP	**Canovanas**	**1.09**	**186**	eP	Pn	11 03 55.0	-1.6
CBYP	**Canovanas**	**1.09**	**186**	eS	Sn	11 04 10.9	-0.4
CBYP	**Canovanas**	**1.09**	**186**	eP	Pn	11 03 55.0	-1.6
CBYP				eS	Sn	11 04 10.9	-0.4
CBYP	**Canovanas**	**1.09**	**186**	eP	Pn	11 03 54.7	-2.0
CBYP	**Canovanas**	**1.09**	**186**	eP	Pn	11 03 55.3	-1.4
CBYP				eS	Sn	11 04 10.9	-0.4
STVI	**Saint Thomas**	**1.25**	**144**	eP	Pn	11 03 58.2	-0.4
STVI				eS	Sn	11 04 14.9	+0.2
STVI	**Saint Thomas**	**1.25**	**144**	eP	Pn	11 03 58.3	-0.2
STVI	**Saint Thomas**	**1.25**	**144**	eP	Pn	11 03 58.3	-0.2
STVI				eS	Sn	11 04 14.8	0.0
STVI	**Saint Thomas**	**1.25**	**144**	eP	Pn	11 03 58.2	-0.4
STVI	**Saint Thomas**	**1.25**	**144**	eP	Pn	11 03 58.3	-0.2
STVI				eS	Sn	11 04 14.8	0.0
STVI				eS		11 04 14.9	
MTP	**Monte Pirata**	**1.27**	**172**	eP	Pn	11 03 57.9	-1.0
MTP	**Monte Pirata**	**1.27**	**172**	eS	Sn	11 04 14.3	-1.0
MTP	**Monte Pirata**	**1.27**	**172**	eP	Pn	11 03 57.9	-1.0
MTP				eS	Sn	11 04 14.3	-1.0
MTP	**Monte Pirata**	**1.27**	**172**	eP	Pn	11 03 57.9	-1.0
MTP				eS	Sn	11 04 14.3	-1.0
SJG	**San Juan**	**1.30**	**198**	eP	Pn	11 03 58.2	-1.1
SJG	**San Juan**	**1.30**	**198**	eP	Pn	11 03 58.2	-1.1
SJG	**San Juan**	**1.30**	**198**	eP	Pn	11 03 58.2	-1.1
CPD	**Cerro la Pandu**	**1.33**	**187**	eP	Pn	11 03 58.1	-1.6
CPD	**Cerro la Pandu**	**1.33**	**187**	eS	Sn	11 04 15.7	-1.1
CPD	**Cerro la Pandu**	**1.33**	**187**	eP	Pn	11 03 58.1	-1.6
CPD				eS	Sn	11 04 15.7	-1.1
CPD	**Cerro la Pandu**	**1.33**	**187**	eP	Pn	11 03 58.6	-1.1
CPD				eS	Sn	11 04 15.7	-1.1
AOPR	**Arecibo Observ**	**1.40**	**224**	eP	Pn	11 03 59.3	-1.3
AOPR	**Arecibo Observ**	**1.40**	**224**	eP	Pn	11 03 59.5	-1.1
AOPR				eS	Sn	11 04 17.0	-1.4
AOPR	**Arecibo Observ**	**1.40**	**224**	eS	Sn	11 04 17.3	-1.1
AOPR	**Arecibo Observ**	**1.40**	**224**	eP	Pn	11 03 59.5	-1.1
AOPR	**Arecibo Observ**	**1.40**	**224**	eP	Pn	11 03 59.3	-1.3
AOPR	**Arecibo Observ**	**1.40**	**224**	eP	Pn	11 03 59.5	-1.1
AOPR				eS	Sn	11 04 17.0	-1.4
AOPR				eS		11 04 17.3	
TBVI	**Tortola**	**1.41**	**131**	eP	Pn	11 03 59.8	-0.9
TBVI	**Tortola**	**1.41**	**131**	eP	Pn	11 03 59.8	-0.9
TBVI	**Tortola**	**1.41**	**131**	eP	Pn	11 03 59.8	-0.9
ABVI	**Anegada Island**	**1.47**	**115**	eP	Pn	11 04 00.9	-0.5
ABV	**Anegada**	**1.47**	**115**	eP	Pn	11 04 00.9	-0.5
ABV	**Anegada**	**1.47**	**115**	eP	Pn	11 04 00.9	-0.5
LRS	**Lares**	**1.50**	**225**	eP	Pn	11 04 01.0	-1.0
LRS	**Lares**	**1.50**	**225**	eP	Pn	11 04 01.0	-1.0
LRS	**Lares**	**1.50**	**225**	eP	Pn	11 04 01.0	-1.0
CELP	**Cerrillos**	**1.51**	**212**	eP	Pn	11 04 01.2	-0.9
CELP				eS	Sn	11 04 20.8	-0.2
CELP	**Cerrillos**	**1.51**	**212**	eP	Pn	11 04 01.2	-0.9
CELP				eS	Sn	11 04 20.8	-0.2
CELP	**Cerrillos**	**1.51**	**212**	eP	Pn	11 04 01.2	-0.9
CELP				eS	Sn	11 04 20.8	-0.2
OBIP	**Obispado Ponce**	**1.55**	**212**	eP	Pn	11 04 01.7	-0.9
OBIP	**Obispado Ponce**	**1.55**	**212**	eS	Sn	11 04 21.4	-0.5
OBIP	**Obispado Ponce**	**1.55**	**212**	eP	Pn	11 04 01.7	-0.9
OBIP				eS	Sn	11 04 21.4	-0.5
OBIP	**Obispado Ponce**	**1.55**	**212**	eP	Pn	11 04 01.7	-0.9
OBIP				eS	Sn	11 04 21.4	-0.5
AGPR	**Aguadilla, PR**	**1.58**	**236**	eP	Pn	11 04 02.3	-0.6
AGPR	**Aguadilla, PR**	**1.58**	**236**	eP	Pn	11 04 02.3	-0.6
AGPR	**Aguadilla, PR**	**1.58**	**236**	eP	Pn	11 04 02.3	-0.6
LSP	**Las Mesas**	**1.74**	**228**	eP	Pn	11 04 04.8	-0.4
LSP	**Las Mesas**	**1.74**	**228**	eP	Pn	11 04 04.8	-0.4
LSP	**Las Mesas**	**1.74**	**228**	eP	Pn	11 04 04.8	-0.4
GBPR	**Guanica, Bosqu**	**1.75**	**218**	eP	Pn	11 04 05.4	+0.1
GBPR	**Guanica, Bosqu**	**1.75**	**218**	eP	Pn	11 04 05.4	+0.1
GBPR	**Guanica, Bosqu**	**1.75**	**218**	eP	Pn	11 04 05.4	+0.1
CRPR	**Cabo Rojo, PR**	**1.88**	**224**	eS	Sn	11 04 29.8	+0.1
CRPR	**Cabo Rojo, PR**	**1.88**	**224**	eP	Pn	11 04 06.3	-0.6
CRPR	**Cabo Rojo, PR**	**1.88**	**224**	eP	Pn	11 04 06.3	-0.6
CRPR				eS	Sn	11 04 29.8	+0.1
CRPR	**Cabo Rojo, PR**	**1.88**	**224**	eP	Pn	11 04 06.3	-0.6
CRPR				eS	Sn	11 04 29.8	+0.1
IDE	**Isla Desecheo**	**1.91**	**240**	eP	Pn	11 04 07.6	+0.2
IDE	**Isla Desecheo**	**1.91**	**240**	eP	Pn	11 04 07.6	+0.2
IDE	**Isla Desecheo**	**1.91**	**240**	eP	Pn	11 04 07.6	+0.2

IDC 14 11:53:39.4±9.2, 15°.13S×167°.17E, h93km±75km, mb3.6/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=129.9km s-min=55.4km az=76.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.94**	**186**	eP	Pn	11 55 18.8	+0.2
DZM				eS	Sn	11 56 35.4	-0.7
DZM	**Mont Dzumac**	**6.94**	**186**	P	Pn	11 55 19.0	+0.4
2.8nm,0.3s,baz=176,slow=22,SNR=67							
DZM				S	Sn	11 56 35.4	-0.7
1.8nm,0.3s,baz=107,slow=19,SNR=3.9							
CTA	**Charters Tower**	**20.54**	**253**	P	P	11 58 11.8	+1.3
1.9nm,0.7s,baz=74,slow=13,SNR=4.1							
STKA	**Stephens Creek**	**28.67**	**230**	P	P	11 59 28.6	+1.1
1.1nm,0.7s,baz=64,slow=7.7,SNR=3.7							
WRA	**Warramunga Arr**	**31.64**	**257**	P	P	11 59 53.1	-0.8
0.6nm,0.6s,baz=85,slow=9.0,SNR=14							
ASAR	**Alice Springs**	**32.45**	**250**	P	P	12 00 00.5	-0.6
0.8nm,0.4s,baz=79,slow=9.0,SNR=26							
FITZ	**Fitzroy Crossi**	**39.85**	**260**	P	P	12 01 04.2	0.0
2.1nm,0.7s,baz=88,slow=8.9,SNR=12							

MAN 14 11:54:12, 17°.91N×119°.50E, h6km, mb4.3, ML3.1, MS2.9, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.91**	**89**	eP	Pb	11 54 30.2	-0.1
PIP	**Pasuquin**	**1.14**	**69**	eP	Pg	11 54 34.0	0.0
ABRA	**Dolores**	**1.19**	**103**	eP	Pg	11 54 34.2	-0.5
APYP	**Conner**	**1.66**	**91**	eP	Pn	11 54 41.9	+0.3
APYP				eS	Sb	11 55 04.8	+0.6
CAUP	**Cauayan**	**2.42**	**113**	eP	Pn	11 54 53.9	+1.8
BALP	**Baler**	**2.94**	**137**	eP	Pn	11 54 59.5	+0.3

*ISCJB **14** 12:05:49.0±0.4, 38°.43N±0°.02×21°.98E±0°.03, h12km±2km, Error ellipse: s-maj=4.2km s-min=3.4km az=174.7*
*CSEM **14** 12:05:48.7±0.1, 38°.44N×21°.99E, h13km±1km, ML1.4/3, Error ellipse: s-maj=2.4km s-min=2.1km az=102.0*
*ATH **14** 12:05:49.1, 38°.43N×21°.96E, h10km*
*THE **14** 12:05:49.6, 38°.43N×21°.98E, h11km±2km, ML1.4/3, Error ellipse: s-maj=2.1km s-min=0.6km az=134.0*
ISC 14 12:05:49.0±0.9, 38°.43N±0°.02×21°.97E±0°.02, h11km±4km, n41, σ0§33/71, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.05**	**267**	ePG	**Pg**	**12 05 51.1**	**-0.1**
EFP				eSG	**Sg**	**12 05 52.4**	**-0.4**
EFP	**Efpalio**	**0.05**	**267**	ePg	**Pg**	**12 05 51.1**	**-0.1**
EFP				eSg	**Sg**	**12 05 52.4**	**-0.4**
TRIZ	**Trizonia**	**0.10**	**130**	P	**Pg**	**12 05 51.9**	**+0.2**
TRIZ				S	**Sg**	**12 05 54.1**	**+0.4**
TRIZ	**Trizonia**	**0.10**	**130**	ePG	**Pg**	**12 05 51.9**	**+0.2**
TRIZ				eSG	**Sg**	**12 05 54.2**	**+0.5**
TRIZ	**Trizonia**	**0.10**	**130**	P	**Pg**	**12 05 51.9**	**+0.2**
TRIZ				S	**Sg**	**12 05 54.1**	**+0.4**
PSA1	**Psathopyrgos**	**0.13**	**214**	ePG	**Pg**	**12 05 52.0**	**-0.1**
PSA1				eSG	**Sg**	**12 05 54.2**	**-0.1**
LAKA	**Lakka**	**0.19**	**179**	P	**Pg**	**12 05 53.4**	**+0.3**
LAKA				S	**Sg**	**12 05 56.6**	**+0.7**
LAKA	**Lakka**	**0.19**	**179**	ePG	**Pg**	**12 05 53.4**	**+0.3**
LAKA				eSG	**Sg**	**12 05 56.2**	**+0.2**
LAKA	**Lakka**	**0.19**	**179**	P	**Pg**	**12 05 53.4**	**+0.3**
LAKA				eSg	**Sg**	**12 05 56.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.41**	**160**	P	**Pg**	**12 05 57.0**	**-0.1**
KLV				S	**Sb**	**12 06 04.1**	**-0.4**
KLV	**Kalavryta, Ach**	**0.41**	**160**	ePG	**Pg**	**12 05 56.9**	**-0.1**
KLV				eSB	**Sg**	**12 06 02.9**	**+0.4**
KLV	**Kalavryta, Ach**	**0.41**	**160**	P	**Pg**	**12 05 57.0**	**-0.1**
KLV				eSb	**Sg**	**12 06 02.9**	**+0.4**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**12 05 57.5**	**-0.1**
DSF				S	**Sb**	**12 06 04.7**	**-0.5**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**12 05 57.5**	**-0.1**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**12 05 59.2**	**+0.3**
EVR				S	**Sb**	**12 06 07.3**	**0.0**
EVR	**Evrytania**	**0.50**	**345**	ePB	**Pg**	**12 05 59.1**	**+0.2**
EVR	**Evrytania**	**0.50**	**345**	eSB	**Sg**	**12 06 06.4**	**+0.8**
EVR	**Evrytania**	**0.50**	**345**	ePb	**Pg**	**12 05 59.1**	**+0.2**
EVR				eSb	**Sg**	**12 06 06.4**	**+0.8**
EVR				S	**Sb**	**12 06 07.3**	**0.0**
AXS	**Araxos**	**0.53**	**244**	P	**Pg**	**12 05 59.2**	**0.0**
AXS				S	**Sb**	**12 06 07.7**	**0.0**
AXS	**Araxos**	**0.53**	**244**	P	**Pg**	**12 05 59.2**	**0.0**
AXS				S	**Sb**	**12 06 07.7**	**0.0**
RLS	**Riolos of Patr**	**0.55**	**227**	P	**Pb**	**12 06 00.4**	**-0.1**
RLS				S	**Sb**	**12 06 08.4**	**+0.1**
RLS	**Riolos of Patr**	**0.55**	**227**	ePB	**Pg**	**12 05 59.7**	**+0.1**
RLS				eSB	**Sg**	**12 06 07.3**	**+0.5**
RLS	**Riolos of Patr**	**0.55**	**227**	ePb	**Pg**	**12 05 59.7**	**+0.1**
RLS	**Riolos of Patr**	**0.55**	**227**	P	**Pb**	**12 06 00.4**	**-0.1**
RLS				eSb	**Sg**	**12 06 07.3**	**+0.5**
RLS				S	**Sb**	**12 06 08.4**	**+0.1**
GUR	**Goura**	**0.57**	**149**	P	**Pg**	**12 06 00.1**	**-0.1**
GUR				S	**Sb**	**12 06 09.3**	**+0.1**
GUR	**Goura**	**0.57**	**149**	ePG	**Pg**	**12 06 00.0**	**-0.1**
GUR				eSB	**Sg**	**12 06 08.3**	**+0.6**
GUR	**Goura**	**0.57**	**149**	P	**Pg**	**12 06 00.1**	**-0.1**
GUR				eSb	**Sg**	**12 06 08.3**	**+0.6**
AGG	**Agios Georgios**	**0.65**	**25**	P	**Pg**	**12 06 01.5**	**-0.2**
AGG	**Agios Georgios**	**0.65**	**25**	ePB	**Pg**	**12 06 01.7**	**0.0**
AGG				eSB	**Sg**	**12 06 10.5**	**+0.2**
AGG	**Agios Georgios**	**0.65**	**25**	ePb	**Pg**	**12 06 01.7**	**0.0**
AGG				eSb	**Sg**	**12 06 10.5**	**+0.2**
LKR	**Lokris**	**0.83**	**74**	ePB	**Pb**	**12 06 05.2**	**-0.3**
LKR	**Lokris**	**0.83**	**74**	ePb	**Pb**	**12 06 05.2**	**-0.3**
AMT	**Artemida-Makis**	**0.92**	**193**	ePG	**Pg**	**12 06 06.3**	**-0.4**
AMT				eSB	**Sb**	**12 06 19.4**	**+0.2**
AMT	**Artemida-Makis**	**0.92**	**193**	ePg	**Pg**	**12 06 06.3**	**-0.4**
AMT				eSb	**Sb**	**12 06 19.4**	**+0.2**
LKD2	**Lefkada island**	**1.09**	**290**	ePB	**Pb**	**12 06 09.5**	**-0.4**
LKD2	**Lefkada island**	**1.09**	**290**	ePb	**Pb**	**12 06 09.5**	**-0.4**
VLS	**Valsamata**	**1.12**	**257**	ePN	**Pb**	**12 06 09.9**	**-0.4**
VLS	**Valsamata**	**1.12**	**257**	ePn	**Pb**	**12 06 09.9**	**-0.4**
ITM	**Ithomi**	**1.25**	**182**	ePB	**Pb**	**12 06 12.6**	**+0.1**
ITM	**Ithomi**	**1.25**	**182**	ePb	**Pb**	**12 06 12.6**	**+0.1**
DID	**Didima**	**1.36**	**132**	ePG	**Pg**	**12 06 14.6**	**-0.5**
DID	**Didima**	**1.36**	**132**	ePg	**Pg**	**12 06 14.6**	**-0.5**

*CSEM **14** 12:06:16.6, 38°.41N×21°.95E, h8km, After ATH*
ATH 14 12:06:16.6, 38°.41N×21°.95E, h8km±1km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**296**	ePG	Pg	12 06 18.1	-0.1
EFP				eSG	Sg	12 06 19.4	+0.1
EFP	**Efpalio**	**0.04**	**296**	ePg	Pg	12 06 18.1	-0.1
EFP				eSg	Sg	12 06 19.4	+0.1
PSA1	**Psathopyrgos**	**0.10**	**212**	ePG	Pg	12 06 19.3	+0.4
PSA1				eSG	Sg	12 06 20.8	+0.2
TRIZ	**Trizonia**	**0.11**	**115**	ePG	Pg	12 06 19.0	-0.1
TRIZ				eSG	Sg	12 06 21.2	+0.4
TRIZ	**Trizonia**	**0.11**	**115**	ePg	Pg	12 06 19.0	-0.1
TRIZ				eSg	Sg	12 06 21.2	+0.4
LAKA	**Lakka**	**0.17**	**172**	ePG	Pg	12 06 20.1	-0.1
LAKA				eSG	Sg	12 06 23.1	+0.4
LAKA	**Lakka**	**0.17**	**172**	ePg	Pg	12 06 20.1	-0.1
LAKA				eSg	Sg	12 06 23.1	+0.4
KLV	**Kalavryta, Ach**	**0.40**	**157**	ePB	Pg	12 06 24.3	-0.2
KLV				eSB	Sg	12 06 30.8	+1.0
KLV	**Kalavryta, Ach**	**0.40**	**157**	ePb	Pg	12 06 24.3	-0.2
KLV				eSb	Sg	12 06 30.8	+1.0
EVR	**Evrytania**	**0.52**	**348**	ePB	Pg	12 06 26.2	-0.6
EVR				eSB	Sg	12 06 34.3	+0.6
EVR	**Evrytania**	**0.52**	**348**	ePb	Pg	12 06 26.2	-0.6
EVR				eSb	Sg	12 06 34.3	+0.6
RLS	**Riolos of Patr**	**0.52**	**227**	ePB	Pg	12 06 26.6	0.0
RLS	**Riolos of Patr**	**0.52**	**227**	ePb	Pg	12 06 26.6	0.0

*ISCJB **14** 12:06:53.7±0.3, 5°.47S±0°.05×29°.96E±0°.05, h33km, mb4.5/53, MS4.0/24, Error ellipse: s-maj=6.9km s-min=6.6km az=20.7*
*BUL **14** 12:06:55.4±6.8, 5°.90S×30°.07E, h102km±999km, MD3.7*
*NEIC **14** 12:06:56.0±0.3, 5°.48S×29°.80E, mb4.6/10, Error ellipse: s-maj=8.7km s-min=5.8km az=91.0*
*IDC **14** 12:06:56.4±0.5, 5°.42S×29°.90E, h33km±2km, mb4.0/20, mb1 4.1/23, mb1mx4.1/33, mbtmp4.0/23, ML4.4/3, MS3.9/29, Ms1 3.9/29, ms1mx3.8/41, Error ellipse: s-maj=15.6km s-min=10.3km az=99.0*
ISC 14 12:06:55.8±0.3, 5°.51S±0°.04×29°.91E±0°.06, h33km, h33km:pP-P, n126, σ1§43/146, mb4.5/31, MS4.0/24, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**4.94**	**10**	Pn	**Pn**	**12 08 07.6**	**-0.4**
MBAR				Pg	**Pb**	**12 08 23.8**	**+2.0**
MBAR				Sn	**Sn**	**12 08 58.6**	**-5.6**
MBAR				Lg	Lg	12 09 27.7	
MBAR	**Mbarara**	**4.94**	**10**	Pn	**Pn**	**12 08 07.6**	**-0.4**
136nm,0.3s,baz=176,slow=16,SNR=93							
MBAR				Pg	**Pb**	**12 08 23.8**	**+2.0**

310nm,19.2s
LIC Lamto 36.78 288 *e*P P **12 14 00.9 +0.1**
81nm,1.7s
TAM Tamanrasset 36.88 321 *e*P P **12 14 00.1 -1.5**
3.3nm,1.0s
TIC Toumodi 36.90 289 *e*P P **12 14 01.4 -0.4**
31nm,0.6s
BRTR Keskin Array B 45.14 4 P P **12 15 10.2 +0.7**
BRTR pP **pP 12 15 19.1 0.0**
BRTR Keskin Array B 45.14 4 P P **12 15 10.2 +0.7**
5.0nm,0.8s,baz=179,slow=8.6,SNR=26
BRTR pP **pP 12 15 19.1 0.0**
5.9nm,0.8s,baz=177,slow=7.3,SNR=9.2
BR131 Keskin Array S 45.14 4 *e*P P **12 15 10.4 +1.0**
5.3nm,0.8s
KEST Kesra 45.34 336 P P **12 15 11.6 +0.5**
KEST pP **pP 12 15 21.6 +0.8**
KEST Kesra 45.34 336 P P **12 15 11.6 +0.5**
0.5nm,0.5s,baz=120,slow=8.1,SNR=2.3
KEST pP **pP 12 15 21.6 +0.8**
2.5nm,0.9s,baz=214,slow=3.7,SNR=4.2
KEST LR LR 12 33 55.1
comp=Z,93nm,20.1s,baz=340,slow=36
CEL Celeste 45.45 344 *e*P P **12 15 12.0 +0.2**
18nm,1.0s
CEL *e*pP **pP 12 15 22.2 +0.6**
GNI Garni 47.44 15 LR LR 12 35 20.7
comp=Z,66nm,18.4s,baz=183,slow=36
KBZ Khabaz 50.40 12 P P **12 15 49.0 -0.8**
KBZ pP **pP 12 15 59.7 -0.1**
KBZ Khabaz 50.40 12 P P **12 15 49.0 -0.8**
0.8nm,0.4s,baz=180,slow=9.1,SNR=2.5
KBZ pP **pP 12 15 59.7 -0.1**
1.6nm,0.6s,baz=157,slow=4.7,SNR=3.8
MLR Muntele Rosu 50.90 356 P P **12 15 53.0 -0.8**
MLR Muntele Rosu 50.90 356 P P **12 15 53.0 -0.8**
0.4nm,0.6s,baz=160,slow=12,SNR=2.3
LMR La Mourre 53.03 339 *e*P pP 12 16 19.2 -0.3
27nm,0.9s
MBDF Montbardon 54.15 340 *e*P pP 12 16 28.2 +0.2
28nm,1.2s
BNI Bardonecchia 54.47 340 *e*P P **12 16 18.8 -1.5**
6.4nm,1.0s
ORIF Oris-en-Rattie 54.63 339 *e*P **pP 12 16 31.4 0.0**
11nm,1.1s
ORIF *e*R
153nm,18.5s
LASF Ste Croix 54.66 337 *e*P pP 12 16 31.9 +0.4
25nm,1.2s
MTLF Montolieu 54.70 335 *e*P pP 12 16 31.8 0.0
15nm,1.4s
ESDC Sonseca Array 54.74 328 pP pP 12 16 31.3 -1.0
ESDC Sonseca Array 54.74 328 pP **pP 12 16 31.3 -1.0**
4.8nm,0.9s,baz=142,slow=8.0,SNR=6.7
ESDC LR LR 12 42 05.2
comp=Z,120nm,21.0s,baz=145,slow=39
LPG La Plagne 54.84 340 *e*P pP 12 16 33.2 +0.1
18nm,0.9s
TUE Stuetta 54.88 343 *e*P P **12 16 24.2 +0.8**
12nm,1.0s
TUE *e*pP **pP 12 16 33.3 0.0**
VIVF Saint-Julien-l 55.01 338 *e*P pP 12 16 34.7 +0.6
19nm,1.2s
EPF Esparros 55.25 334 *e*P pP 12 16 36.3 +0.4
22nm,1.0s
SSB Saint Sauveur 55.42 338 *e*P P **12 16 28.0 +0.9**
16nm,1.1s
SSB *e*pP **pP 12 16 38.0 +0.9**
ETSF Etsaut 55.54 333 *e*P pP 12 16 38.5 +0.5
13nm,1.0s
VRAC Vranov 55.81 349 P P **12 16 29.1 -0.7**
VRAC pP **pP 12 16 39.0 -0.8**
VRAC Vranov 55.81 349 P P **12 16 29.1 -0.7**
1.8nm,0.4s,baz=113,slow=12,SNR=2.8
VRAC pP **pP 12 16 39.0 -0.8**
3.2nm,0.6s,baz=108,slow=15,SNR=1.6
GERES GERESS Array B 55.95 347 P P **12 16 30.2 -0.7**
GERES pP **pP 12 16 40.6 -0.2**
GERES sP **sP 12 16 44.6 -0.1**
GERES GERESS Array B 55.95 347 P P **12 16 30.2 -0.7**
3.3nm,0.2s,baz=157,slow=5.2,SNR=5.0
GERES pP **pP 12 16 40.6 -0.2**
0.7nm,0.3s,baz=166,slow=8.3,SNR=4.7
GERES sP **sP 12 16 44.6 -0.1**
1.2nm,0.6s,baz=166,slow=6.6,SNR=4.9
GERES LR LR 12 43 16.2
comp=Z,71nm,18.7s,baz=15,slow=39
AKASG Malin Array Be 55.99 359 P P **12 16 31.0 +0.1**
AKASG pP **pP 12 16 41.5 +0.6**
AKASG Malin Array Be 55.99 359 P P **12 16 31.0 +0.1**
0.4nm,0.5s,baz=176,slow=5.3,SNR=3.3
AKASG pP **pP 12 16 41.5 +0.6**
2.1nm,0.6s,baz=184,slow=6.8,SNR=4.1
SJPF Ste Jean 56.01 333 *e*P pP 12 16 41.8 +0.5
15nm,0.9s
CABF La Chapelle 56.04 340 *e*P pP 12 16 41.1 -0.4
8.5nm,0.8s
CAF Calviac 56.07 336 *e*P pP 12 16 42.1 +0.4
18nm,1.0s
KHC Kasperske Hory 56.25 347 *e*P P **12 16 32.5 -0.4**
KHC Kasperske Hory 56.25 347 *e*P P **12 16 32.2 -0.7**
KHC *e*pP **pP 12 16 42.8 -0.1**
KHC *e*sP **sP 12 16 47.6 +0.8**
RJF Les Rejaudoux 56.60 336 *e*P **pP 12 16 45.8 +0.3**
22nm,1.1s
RJF *e*R
142nm,20.2s
LFF La Frestale 56.62 336 *e*P pP 12 16 46.0 +0.4
28nm,0.8s
SMF Signal de Mont 56.84 339 *e*P pP 12 16 47.0 -0.2
17nm,1.0s
HINF Hinteralfeld 56.85 342 *e*P pP 12 16 46.8 -0.4
9.7nm,0.9s
BGF Bois d'Agland 57.13 338 *e*P pP 12 16 49.5 +0.3
AVF Avril sur Loir 57.15 339 *e*P pP 12 16 49.3 0.0
18nm,1.1s
TCF Toulx Ste Croi 57.15 337 *e*P pP 12 16 50.1 +0.7
32nm,1.2s
HAU Haudompre 57.17 341 *e*P **pP 12 16 49.3 -0.2**
HAU *e*R
80nm,19.2s
CDF Champ du Feu 57.25 342 *e*P pP 12 16 49.5 -0.6
12nm,0.9s
SSF Saint Saulge 57.32 339 *e*P pP 12 16 50.1 -0.4
LOR Lormes 57.37 339 *e*P **pP 12 16 50.5 -0.4**
16nm,1.1s
LOR *e*R
131nm,17.2s
SFTF Sexfontaines 57.77 341 *e*P pP 12 16 54.0 +0.3
PAGF Fort de Pagny 57.86 341 *e*P pP 12 16 54.3 0.0
2.4nm,0.6s
MFF Saint Martin d 58.33 336 *e*P pP 12 16 57.9 +0.3
GIVF Givet 59.50 342 *e*P pP 12 17 05.4 -0.3
BAIF Baives 59.66 341 *e*P pP 12 17 06.4 -0.4
GRR Gorron 60.06 337 *e*P pP 12 17 09.3 -0.3
6.6nm,0.7s
KKAR Karatay Array 60.75 33 *e*P P **12 17 03.7 -0.7**
5.4nm,1.1s
KKAR *e*pP **pP 12 17 15.2 +0.7**
AKTO Aktyubinsk 60.78 20 P P **12 17 04.8 +0.4**
AKTO pP **pP 12 17 14.1 -0.4**
AKTO sP **sP 12 17 19.1 +0.8**
AKTO Aktyubinsk 60.78 20 P P **12 17 04.8 +0.4**
1.4nm,0.7s,baz=235,slow=9.4,SNR=5.4
AKTO pP **pP 12 17 14.1 -0.4**
0.8nm,0.3s,baz=215,slow=7.7,SNR=3.0
AKTO sP **sP 12 17 19.1 +0.8**
1.5nm,0.5s,baz=266,slow=4.9,SNR=2.9
AAK Ala-Archa 62.69 36 LR LR 12 45 51.9
comp=Z,153nm,19.7s,baz=228,slow=37
TKM2 Tokmak 2 63.50 36 *e*P P **12 17 24.4 +1.3**
5.3nm,1.0s
TKM2 *e*pP **pP 12 17 34.1 +0.8**
MAW Mawson 65.91 167 LR LR 12 45 52.3
comp=Z,87nm,18.8s,baz=247,slow=35
EKA Eskdalemuir Ar 66.52 340 pP pP 12 17 51.8 -0.6
EKA Eskdalemuir Ar 66.52 340 pP pP 12 17 51.8 -0.6
2.4nm,0.8s,baz=125,slow=7.2,SNR=3.7
FINES FINESS Array B 66.82 358 P P **12 17 44.3 +0.4**
FINES FINESS Array B 66.82 358 P P **12 17 44.3 +0.4**
2.4nm,0.9s,baz=194,slow=14,SNR=2.7
FINES LR LR 12 49 04.2
comp=Z,53nm,20.1s,baz=39,slow=38
BVAR Borovoye Array 67.58 25 P P **12 17 49.0 0.0**
BVAR pP **pP 12 17 58.2 -1.0**
BVAR sP **sP 12 18 03.8 +0.8**
BVAR Borovoye Array 67.58 25 P P **12 17 49.0 0.0**
0.3nm,0.4s,baz=204,slow=3.2,SNR=3.3
BVAR pP **pP 12 17 58.2 -1.0**
1.1nm,0.7s,baz=207,slow=6.3,SNR=4.7
BVAR sP **sP 12 18 03.8 +0.8**
1.8nm,0.8s,baz=222,slow=2.0,SNR=3.4
BVAR LR LR 12 49 31.9
comp=Z,53nm,21.9s,baz=89,slow=38
NB2 NORSAR Subarra 67.94 350 P P **12 17 51.1 0.0**
comp=Z,8.6nm,1.1s,baz=159,slow=6.9
NOA NORSAR Array B 67.94 350 P P **12 17 51.9 +0.7**
NOA pP **pP 12 18 01.6 +0.3**
NOA NORSAR Array B 67.94 350 P P **12 17 51.9 +0.7**
comp=Z,2.6nm,0.9s,baz=162,slow=6.4,SNR=3.8
NOA pP **pP 12 18 01.6 +0.3**
comp=Z,3.6nm,1.0s,baz=164,slow=5.8,SNR=6.6
NOA LR LR 12 50 31.6
comp=Z,23nm,20.5s,baz=90,slow=38
SNAA Sanae 69.19 191 P P **12 18 00.9 +2.0**
SNAA Sanae 69.19 191 P P **12 18 00.9 +2.0**
comp=Z,0.9nm,1.1s,baz=46,slow=5.1,SNR=4.8
MK31 Makanchi Array 69.62 35 *e*P P **12 18 02.5 +0.6**
MK31 *e*pP **pP 12 18 12.7 +0.6**
MKAR Makanchi Array 69.62 35 P P **12 18 02.4 +0.5**
MKAR pP **pP 12 18 12.3 +0.2**
MKAR Makanchi Array 69.62 35 P P **12 18 02.4 +0.5**
comp=Z,2.0nm,0.9s,baz=237,slow=5.6,SNR=14
MKAR pP **pP 12 18 12.3 +0.2**
comp=Z,2.8nm,0.8s,baz=235,slow=5.1,SNR=14
MKAR LR LR 12 47 39.2
comp=Z,83nm,21.7s,baz=62,slow=35
KURBB Kurchatov Arra 69.78 31 P P **12 18 03.0 +0.3**
comp=Z,4.9nm,0.2s,baz=238,slow=6.9,SNR=7.4
KURBB pP **pP 12 18 13.4 +0.4**
comp=Z,2.6nm,0.6s,baz=238,slow=6.7,SNR=2.7
KURBB sP **sP 12 18 17.8 +1.0**
comp=Z,1.2nm,0.2s,baz=240,slow=6.6,SNR=2.4
KURK Kurchatov 69.88 31 P P **12 18 03.0 -0.3**
KURK pP **pP 12 18 13.4 -0.2**
KURK sP **sP 12 18 17.8 +0.4**
ZALV Zalesovo Beam 74.85 30 P P **12 18 32.1 -0.8**
ZALV pP **pP 12 18 42.5 -0.8**
ZALV Zalesovo Beam 74.85 30 P P **12 18 32.1 -0.8**
comp=Z,0.4nm,0.4s,baz=222,slow=7.8,SNR=3.3
ZALV pP **pP 12 18 42.5 -0.8**
comp=Z,1.2nm,0.8s,baz=265,slow=5.4,SNR=4.0
ZALV LR LR 12 53 18.7
comp=Z,62nm,21.1s,baz=250,slow=37
ARCES ARCESS Array B 74.94 358 LR LR 12 54 21.8
comp=Z,69nm,18.1s,baz=282,slow=38
QSPA South Pole Qui 84.56 180 P P **12 19 27.2 +1.6**
QSPA pP **pP 12 19 36.8 +0.8**
QSPA South Pole Qui 84.56 180 P P **12 19 27.2 +1.6**
comp=Z,2.7nm,1.0s,baz=230,slow=3.9,SNR=9.6
QSPA pP **pP 12 19 36.8 +0.8**
comp=Z,1.9nm,0.9s,baz=237,slow=3.3,SNR=3.7
SONM Songino Array 85.05 41 pP pP 12 19 40.3 +1.4
SONM Songino Array 85.05 41 pP **pP 12 19 40.3 +1.4**
comp=Z,0.9nm,0.8s,baz=260,slow=7.4,SNR=1.8
SONM LR LR 12 57 17.7
comp=Z,77nm,21.4s,baz=355,slow=36
CPUP Villa Florida 85.12 244 LR LR 12 56 30.8
comp=Z,70nm,18.1s,baz=181,slow=35
VNDA Vanda 92.96 171 LR LR 13 02 07.5
comp=Z,65nm,18.8s,baz=270,slow=36
PLCA Paso Flores 94.32 229 LR LR 12 58 14.1
comp=Z,106nm,18.1s,baz=136,slow=33
LPAZ La Paz 96.15 253 LR LR 13 03 32.9
comp=Z,74nm,19.2s,baz=266,slow=35
SCHQ Schefferville 98.36 324 LR LR 13 07 45.6
comp=Z,68nm,18.6s,baz=34,slow=37
KSRS Korea Array 99.68 53 LR LR 13 08 00.7
comp=Z,71nm,19.9s,baz=268,slow=37
PDAR Pinedale Array 128.44 322 PKP **PKPdf 12 25 59.9 0.0**
PDAR pPKP **pPKPdf 12 26 11.8 +1.2**
PDAR Pinedale Array 128.44 322 PKP **PKPdf 12 25 59.9 0.0**
comp=Z,0.5nm,0.8s,baz=116,slow=3.4,SNR=3.7
PDAR pPKP **pPKPdf 12 26 11.8 +1.2**
comp=Z,0.7nm,0.9s,baz=79,slow=3.2,SNR=4.6
TXAR Lajitas Array 130.22 304 PKP **PKPdf 12 26 05.2 +1.8**
TXAR pPKP **pPKPdf 12 26 15.4 +1.2**
TXAR Lajitas Array 130.22 304 PKP **PKPdf 12 26 05.2 +1.8**
comp=Z,0.1nm,0.5s,baz=78,slow=4.7,SNR=3.9
TXAR pPKP **pPKPdf 12 26 15.4 +1.2**
comp=Z,0.2nm,0.5s,baz=98,slow=2.5,SNR=4.0
NVAR Mina Array Bea 136.35 323 PKP **PKPdf 12 26 13.5 -1.4**
NVAR pPKP **pPKPdf 12 26 26.6 +0.9**
NVAR Mina Array Bea 136.35 323 PKP **PKPdf 12 26 13.5 -1.4**
comp=Z,0.1nm,0.3s,baz=45,slow=2.3,SNR=2.5
NVAR pPKP **pPKPdf 12 26 26.6 +0.9**
comp=Z,0.8nm,0.8s,baz=22,slow=4.8,SNR=3.5

*TAP **14** 12:33:37.6, 25°.14N×122°.22E, h172km, ML3.9, C*
*ISCJB **14** 12:33:38.1±0.7, 25°.06N±0°.05×122°.25E±0°.03,*
h164km±5km, Error ellipse: s-maj=8.3km s-min=3.6km
az=162.3
*JMA **14** 12:33:38.7±0.4, 25°.21N×122°.29E, h158km, M2.5*
ISC 14 12:33:38.0±1.7, 25°.08N±0°.07×122°.23E±0°.04,
h168km±10km, n40, σ0§69/71, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=231	**0.23**	**251**	*i* P	**Pn**	**12 34 00.6**	**+0.1**
NWF	**Wu-fen Shan** baz=258	**0.41**	**268**	*i* P	**Pn**	**12 34 01.1**	**0.0**
NWF				*e*S	**Sn**	**12 34 18.3**	**-0.5**
baz=258							
PCYT	**Pengchaiyu** baz=350	**0.56**	**345**	*e*P	**Pn**	**12 34 02.0**	**+0.3**
TWC	**Suao** baz=209	**0.58**	**216**	P	**Pn**	**12 34 01.7**	**-0.2**
TWA	**Mucha** baz=249	**0.59**	**260**	*e*P	**Pn**	**12 34 01.8**	**-0.1**
TWA				*e*S	**Sn**	**12 34 20.4**	**+0.3**
baz=249							
TWY	**Chenhua** baz=274	**0.60**	**289**	P	**Pn**	**12 34 01.8**	**-0.1**
TWE	**Neicheng** baz=222	**0.62**	**235**	P	**Pn**	**12 34 02.0**	**0.0**
TWE				*e*S	**Sn**	**12 34 22.0**	**+1.6**
baz=222							
ENTT	**Nioudou** baz=223	**0.75**	**234**	*i* P	**Pn**	**12 34 02.9**	**+0.2**
ENTT				*e*S	**Sn**	**12 34 22.4**	**+0.7**
baz=223							
ENA	**Nanau** baz=200	**0.79**	**214**	P	**Pn**	**12 34 03.6**	**+0.6**
ENA				S	**Sn**	**12 34 22.3**	**+0.1**
baz=200							
NSK	**Sanguang** baz=227	**0.89**	**243**	*i* P	**Pn**	**12 34 03.5**	**-0.3**
NSK				*e*S	**Sn**	**12 34 22.2**	**-1.4**
baz=227							
YOJ	**Yonaguni jima**	**0.94**	**131**	P	**Pn**	**12 34 04.3**	**+0.2**
YOJ				S	**Sn**	**12 34 24.1**	**0.0**
NCU	**National Centr** baz=264	**0.95**	**263**	*e*P	**Pn**	**12 34 04.3**	**+0.2**
NCU				*e*S	**Sn**	**12 34 24.4**	**+0.3**
baz=264							
NNS	**Nan Shan** baz=222	**1.01**	**231**	*i* P	**Pn**	**12 34 04.9**	**+0.1**
NNS				*e*S	**Sn**	**12 34 24.6**	**-0.7**
baz=222							
TWD	**Chiawan** baz=203	**1.15**	**210**	P	**Pn**	**12 34 05.5**	**-0.2**
TWD				*e*S	**Sn**	**12 34 26.4**	**-0.7**
baz=203							
HSN	**Hsinchu** baz=245	**1.18**	**257**	*e*P	**Pn**	**12 34 06.2**	**+0.2**
HSN				*e*S	**Sn**	**12 34 26.7**	**-0.7**
baz=245							
TWT	**Tachien** baz=222	**1.27**	**229**	*e*P	**Pn**	**12 34 07.9**	**+0.9**
TWT				S	**Sn**	**12 34 29.7**	**+0.5**
baz=222							
WHF	**Hehuan Shan** baz=219	**1.28**	**223⇑**	*i* P	**Pn**	**12 34 07.8**	**+0.4**
WHF				S	**Sn**	**12 34 29.8**	**-0.2**
baz=219							
ESL	**Shilin** baz=202	**1.46**	**210**	*e*P	**Pn**	**12 34 08.0**	**-0.6**
ESL				*e*S	**Sn**	**12 34 30.9**	**-1.2**
baz=202							
NSY	**Sanyi** baz=237	**1.49**	**244**	*e*P	**Pn**	**12 34 09.2**	**+0.3**
NSY				*e*S	**Sn**	**12 34 32.6**	**-0.1**
baz=237							
TWQ1	**Liyutan** baz=235	**1.51**	**241**	P	**Pn**	**12 34 09.0**	**-0.1**
TWQ1				*e*S	**Sn**	**12 34 32.4**	**-0.7**
baz=235							
IRIF	**Iriomote-Funau**	**1.56**	**118**	P	**Pn**	**12 34 09.5**	**0.0**
IRIF				S	**Sn**	**12 34 33.9**	**+0.1**
SMLT	**Sun Moon Lake** baz=226	**1.70**	**226**	P	**Pn**	**12 34 11.6**	**+0.4**
SMLT				*e*S	**Sn**	**12 34 37.1**	**+0.4**
baz=226							
TYC	**Yuchr** baz=228	**1.71**	**227**	P	**Pn**	**12 34 11.5**	**+0.4**
TYC				S	**Sn**	**12 34 36.7**	**-0.1**
baz=228							
EHY	**Hungye** baz=196	**1.77**	**208**	*e*P	**Pn**	**12 34 12.7**	**+0.9**
EHY				*e*S	**Sn**	**12 34 36.2**	**-1.8**
baz=196							
JKRS	**Kuro-shima**	**1.82**	**117**	P	**Pn**	**12 34 13.2**	**+0.9**
JKRS				S	**Sn**	**12 34 39.5**	**+0.7**
JIJ	**Ishigaki jima**	**1.88**	**112**	P	**Pn**	**12 34 13.0**	**+0.1**
JIJ				S	**Sn**	**12 34 38.6**	**-1.3**
TWF1	**Yuli** baz=199	**1.92**	**206**	*e*P	**Pn**	**12 34 13.5**	**0.0**
TWF1				*e*S	**Sn**	**12 34 39.4**	**-1.4**
baz=199							
YUS	**Yu-Shan** baz=204	**1.97**	**217**	*e*P	**Pn**	**12 34 15.6**	**+1.1**
YUS				*e*S	**Sn**	**12 34 43.9**	**+1.3**
baz=204							
ALS	**Alishan** baz=220	**2.03**	**220**	*e*P	**Pn**	**12 34 15.3**	**+0.3**
ALS				*e*S	**Sn**	**12 34 43.5**	**0.0**
baz=220							
CHN5	**Tsauling** baz=217	**2.05**	**224**	P	**Pn**	**12 34 14.8**	**-0.1**
CHN5				*e*S	**Sn**	**12 34 43.6**	**+0.2**
baz=217							
WGK	**Gukeng** baz=228	**2.06**	**228**	*e*S	**Sn**	**12 34 44.0**	**+0.5**
WTCT	**Ta-ch'eng** baz=224	**2.15**	**236**	*e*S	**Sn**	**12 34 44.9**	**-0.4**
CHY	**Chiayi** baz=226	**2.28**	**227**	*e*S	**Sn**	**12 34 47.9**	**-0.1**
JTJ	**Tarama**	**2.29**	**101**	P	**Pn**	**12 34 17.8**	**+0.3**
JTJ				S	**Sn**	**12 34 47.1**	**-1.0**
CHN1	**Nanshi** baz=207	**2.45**	**220**	*e*P	**Pn**	**12 34 19.8**	**+0.3**
CHN1				*e*S	**Sn**	**12 34 51.0**	**-0.6**
baz=207							
SGST	**Jiashian** baz=214	**2.50**	**217**	*e*S	**Sn**	**12 34 53.2**	**+0.6**
JMJ	**Miyako jima 2**	**2.79**	**95**	S	**Sn**	**12 34 58.5**	**-0.4**
JOGS	**Gusukube**	**2.90**	**96**	P	**Pn**	**12 34 25.7**	**+0.8**
JOGS				S	**Sn**	**12 35 00.4**	**-0.9**
WDGT	**Dungji** baz=221	**2.97**	**233**	*e*P	**Pn**	**12 34 25.6**	**-0.1**
WDGT				*e*S	**Sn**	**12 35 01.3**	**-1.4**
baz=221							
JKE	**Kume jima 2**	**4.29**	**72**	P	**Pn**	**12 34 43.4**	**+0.9**
JKE				S	**Sn**	**12 35 31.7**	**-1.2**

*ISCJB **14** 13:06:15.6±0.6, 13°.69N±0°.08×119°.68E±0°.08, h30km,*
mb4.1/10, MS3.2/1, Error ellipse: s-maj=14.3km
s-min=8.0km az=42.1
*IDC **14** 13:06:22.9±0.7, 13°.77N×120°.85E, h108km±7km, mb3.6/10,*
mb1 3.7/11, mb1mx3.5/26, mbtmp3.6/11, MS3.3/1,
Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=27.3km
s-min=12.8km az=71.0
*MAN **14** 13:06:24, 13°.70N×120°.58E, h62km, mb4.2, ML3.1, MS2.9*
ISC 14 13:06:16.7±0.8, 13°.68N±0°.08×119°.75E±0°.09, h30km, n19,
σ1§15/14, mb4.0/10, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**1.18**	**98⇑**	*i*P	**Pn**	**13 06 37.3**	**+0.1**
TGY	**Tagaytay City**	**1.22**	**70⇑**	*i*P	**Pb**	**13 06 39.3**	**0.0**
TGY	**Tagaytay City**	**1.22**	**70**	P	**Pb**	**13 06 39.5**	**+0.2**
1µm,0.3s,baz=246,slow=1.4,SNR=116							
SJMP	**San Jose**	**1.80**	**132**	*e*P	**Pb**	**13 06 48.4**	**-0.6**
SJMP				*e*S	**Sn**	**13 07 06.2**	**-1.3**
OTRP	**Odiongan**	**2.57**	**120**	*e*P	**Pn**	**13 06 56.7**	**+0.5**
AUQP	**San Andres**	**2.86**	**97**	*e*P	**Pn**	**13 07 01.7**	**+1.4**
CUYO	**Cuyo Island**	**3.07**	**156**	*e*P	Pb	13 07 07.3	-3.3
KAPI	**Kappang**	**18.57**	**180**	P	**Pn**	**13 10 34.3**	**+2.5**
0.7nm,0.3s,baz=264,slow=9.2,SNR=2.9							
CMAR	**Chiang Mai Arr**	**20.55**	**286**	P	Pn	13 11 04.1	+8.7
1.7nm,0.8s,baz=92,slow=7.3,SNR=14							
BATI	**Baumata**	**24.04**	**171**	P	**P**	**13 11 28.7**	**-0.7**
24nm,0.4s,baz=355,slow=1.3,SNR=6.7							
SONM	**Songino Array**	**35.83**	**345**	P	**P**	**13 13 13.5**	**-0.2**
1.4nm,0.7s,baz=161,slow=9.6,SNR=4.2							
WRA	**Warramunga Arr**	**36.36**	**156**	P	P	13 13 13.3	-5.0
0.7nm,0.5s,baz=332,slow=10.0,SNR=6.9							
ASAR	**Alice Springs**	**39.61**	**159**	P	P	13 13 40.6	-5.2
0.5nm,0.5s,baz=339,slow=6.9,SNR=6.6							
MKAR	**Makanchi Array**	**45.51**	**324**	P	P	13 14 36.7	+3.2
0.5nm,0.3s,baz=126,slow=8.5,SNR=13							
MKAR				LR	LR	13 35 06.1	
comp=Z,33nm,20.6s,baz=146,slow=37							
ZALV	**Zalesovo Beam**	**48.66**	**333**	P	**P**	**13 14 57.7**	**-0.2**
1.1nm,0.3s,baz=127,slow=7.3,SNR=6.0							
PETK	**Petropavlovsk-**	**49.49**	**29**	P	P	13 14 58.5	-5.9
3.6nm,0.5s,baz=270,slow=1.5,SNR=9.6							
BRTR	**Keskin Array B**	**78.44**	**308**	P	**P**	**13 18 15.9**	**+0.7**
0.5nm,0.6s,baz=104,slow=6.1,SNR=3.1							
ARCES	**ARCESS Array B**	**78.78**	**339**	P	**P**	**13 18 14.9**	**-1.4**
2.0nm,0.8s,baz=71,slow=5.9,SNR=7.3							
FINES	**FINESS Array B**	**79.86**	**331**	P	**P**	**13 18 21.3**	**-0.9**
1.9nm,1.1s,baz=64,slow=9.4,SNR=2.8							

*BJI **14** 13:21:12.5, 9°.82S×111°.63E, h175km, mB4.7/12, mb4.5/28*
*AUST **14** 13:21:16.2±0.0, 8°.69S×112°.49E, h78km, Error ellipse:*
s-maj=1.5km s-min=0.7km az=3.0
*NEIC **14** 13:21:17.1±1.0, 8°.31S×112°.45E, h132km±10km, mb4.5/6,*
Error ellipse: s-maj=13.9km s-min=7.9km az=223.0
NEIC Felt [III] at Blitar and Nganjuk; [II] at Karangkates.
*ISCJB **14** 13:21:17.1±0.3, 8°.53S±0°.04×112°.42E±0°.02, h134km±2km,*
mb4.3/36, Error ellipse: s-maj=7.4km s-min=3.4km
az=14.4
*DJA **14** 13:21:18.6±0.2, 9°.S±4°×11°.2E±°, h103km±3km, M4.9/18,*
mb5.1/12, mB5.8/2, MLv4.8/18, Mw(mB)5.3/2
*IDC **14** 13:21:18.4±2.1, 8°.27S×112°.53E, h135km±18km, mb4.0/15,*
mb1 4.1/18, mb1mx4.0/25, mbtmp4.0/18, Error ellipse:
s-maj=19.5km s-min=10.1km az=63.0
*BKK **14** 13:21:23.6±0.6, 9°.S±8°×11°.2E±1°.0, h194km±7km, M4.6/12,*
mB5.0/3, mb4.6/12, MLv4.7/2, Mw(mB)4.3/3
ISC 14 13:21:18.0±0.6, 8°.50S±0°.05×112°.42E±0°.04, h135km±5km,
n115, σ1§54/128, mb4.4/36, 1C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.34**	**6**	P	**Pn**	**13 21 37.3**	**+0.4**
PWJI	**Pagerwojo**	**0.77**	**308**	P	**Pn**	**13 21 39.3**	**-0.1**
SJI	**Sawahan**	**0.99**	**319**	P	**Pn**	**13 21 41.7**	**+0.3**
SJI				S	**Sn**	**13 21 58.5**	**-0.6**
GMJI	**Gumukmas**	**1.04**	**78**	P	**Pn**	**13 21 42.1**	**+0.4**
GMJI				S	**Sn**	**13 21 58.1**	**-1.5**
PCJI	**Pacitan**	**1.26**	**284**	P	**Pn**	**13 21 43.8**	**-0.1**
PCJI				S	**Sn**	**13 22 02.0**	**-1.6**
BYJI	**Banyuwangi**	**1.94**	**82**	P	**Pn**	**13 21 52.8**	**+1.3**
BYJI				S	**Sn**	**13 22 18.8**	**+1.7**
UGM	**Wanagama**	**1.96**	**287**	*e*Pn	**Pn**	**13 21 51.3**	**-0.6**
UGM	**Wanagama**	**1.96**	**287**	P	**Pn**	**13 21 51.9**	**+0.1**
UGM				S	**Sn**	**13 22 16.9**	**-0.8**
UGM	**Wanagama** baz=2.1,SNR=81	**1.96**	**287**	P	**Pn**	**13 21 52.1**	**+0.2**
UGM				S	**Sn**	**13 22 16.6**	**-1.1**
baz=2.1,SNR=8.9							
KMMI	**Kalianget**	**2.10**	**47**	P	**Pn**	**13 21 54.8**	**+1.3**
YOGI	**Yogyakarta**	**2.21**	**288**	P	**Pn**	**13 21 54.7**	**-0.1**
IGBI	**Denpasar**	**2.71**	**97**	P	**Pn**	**13 22 00.9**	**-0.2**
IGBI				S	**Sn**	**13 22 33.3**	**-1.0**
DNP	**Denpasar**	**2.77**	**94**	P	Pn	13 22 06.5	+4.7
SRBI	**Singaraja**	**2.79**	**82**	P	**Pn**	**13 22 02.6**	**+0.5**
SRBI				S	**Sn**	**13 22 35.3**	**-0.9**
BJII	**Banjamegara**	**2.92**	**293**	P	**Pn**	**13 22 04.5**	**+0.6**

CLJI	**Cilicap**	**3.46 283**	P	**Pn**	**13 22 09.1**	**-1.6**
CLJI			S	Sn	13 22 44.9	-6.6
MTNI	**Mataram**	**3.71 92**	P	**Pn**	**13 22 12.2**	**-1.9**
CISI	**Cisompet, Garu**	**4.65 281**	P	**Pn**	**13 22 26.2**	**-0.4**
CISI			S	**Sn**	**13 23 16.4**	**-3.6**
CISI	**Cisompet, Garu**	**4.65 281**	P	**Pn**	**13 22 26.1**	**-0.6**
baz=4.8,SNR=36						
LEM	**Lembang**	**5.04 289**	P	**Pn**	**13 22 33.2**	**+1.4**
baz=5.2,SNR=5.0						
BBKI	**Banjar Baru**	**5.55 26**	P	Pn	13 22 43.7	+5.1
111nm,0.7s,0.4nm						
PBKI	**Pangkalan Bun**	**5.80 353**	P	**Pn**	**13 22 44.5**	**+2.6**
199nm,0.8s,0.7nm						
DBJI	**Dramaga**	**5.94 289**	P	**Pn**	**13 22 46.1**	**+2.3**
141nm,0.9s,0.6nm						
XMI	**Christmas Isla**	**6.92 253**	P	**Pn**	**13 22 55.2**	**-1.8**
baz=6.9,SNR=3.6						
XMI			S	Sn	13 24 04.3	-10
baz=6.9,SNR=7.2						
XMIS	**Christmas Isla**	**6.96 253**	P	**Pn**	**13 22 55.2**	**-2.3**
baz=7.0,SNR=6.4						
XMIS			S	Sn	13 24 02.7	-13
baz=7.0,SNR=10.0						
KAPI	**Kappang**	**8.06 65**	P	**Pn**	**13 23 11.7**	**-0.6**
KAPI			S	**Sn**	**13 24 41.3**	**-0.7**
KAPI	**Kappang**	**8.06 65**	P	**Pn**	**13 23 11.7**	**-0.6**
2.2nm,0.3s,baz=174,slow=7.2,SNR=4.5						
KAPI			S	**Sn**	**13 24 41.3**	**-0.7**
0.3nm,0.3s,baz=248,slow=19,SNR=1.9						
KASI	**Kota Agung**	**8.40 290**	P	**Pn**	**13 23 18.0**	**+1.1**
150nm,0.5s,4μm1.0nm						
KLSI		**8.52 296**	P	**Pn**	**13 23 20.1**	**+1.6**
32nm,0.8s,0.1nm						
STKI	**Sintang**	**8.56 354**	P	Pn	13 23 22.5	+3.5
37nm,0.7s,0.5nm						
MNAI	**Manna**	**10.26 293**	P	**Pn**	**13 23 41.1**	**-0.7**
1μm,0.6s						
MNAI	**Manna**	**10.26 293**	P	**Pn**	**13 23 40.9**	**-0.9**
baz=10,SNR=56						
KSI	**Kapahiang**	**10.89 296**	P	**Pn**	**13 23 50.4**	**+0.1**
639nm,0.7s,7μm						
BATI	**Baumata**	**11.23 100**	P	**Pn**	**13 23 52.5**	**-2.2**
BATI			S	Sn	13 25 49.0	-10
BATI	**Baumata**	**11.23 100**	P	**Pn**	**13 23 56.0**	**+1.3**
36nm,0.7s						
BATI	**Baumata**	**11.23 100**	P	**Pn**	**13 23 52.5**	**-2.2**
10nm,0.3s,baz=270,slow=6.3,SNR=14						
BATI			S	Sn	13 25 49.0	-10
8.6nm,0.3s,baz=47,slow=22,SNR=5.6						
MASI	**Maura Aman, Be**	**11.44 297**	P	**Pn**	**13 23 57.3**	**-0.2**
471nm,0.7s						
SOEI	**Soe**	**11.77 97**	P	**Pn**	**13 24 00.3**	**-1.6**
baz=12,SNR=4.2						
MBWA	**Marble Bar**	**14.43 152**	*e*Pn	**Pn**	**13 24 34.6**	**-1.5**
41nm,0.3s						
FITZ	**Fitzroy Crossi**	**16.01 128**	P	**Pn**	**13 24 55.4**	**-0.4**
FITZ			S	Sn	13 27 43.0	-11
FITZ	**Fitzroy Crossi**	**16.01 128**	P	**Pn**	**13 24 55.4**	**-0.4**
3.0nm,0.3s,baz=307,slow=10,SNR=86						
FITZ			S	Sn	13 27 42.9	-11
0.7nm,0.3s,baz=161,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**16.01 128**	P	**P**	**13 24 55.5**	**-1.0**
baz=16,SNR=110						
KNRA	**Kununurra**	**17.50 116**	P	**Pn**	**13 25 13.8**	**0.0**
baz=17,SNR=26						
MTN	**Manton Dam**	**18.89 105**	P	**Pn**	**13 25 29.1**	**-1.2**
baz=19,SNR=26						
MTN			S	**S**	**13 28 50.7**	**-5.3**
baz=19,SNR=4.6						
MEEK	**Meekatharra**	**18.98 163**	P	**Pn**	**13 25 34.7**	**+3.4**
baz=19,SNR=17						
MEEK			S	**S**	**13 28 57.7**	**+0.1**
baz=19,SNR=3.7						
KDU	**Kakadu**	**20.14 104**	P	**P**	**13 25 41.8**	**0.0**
baz=20,SNR=6.0						
KDU			S	**S**	**13 29 23.8**	**+3.0**
baz=20,SNR=3.4						
WRA	**Warramunga Arr**	**24.07 121**	P	**P**	**13 26 21.8**	**+0.7**
WRA			PcP	**PcP**	**13 29 59.5**	**+0.3**
WRA			ScP	**ScP**	**13 33 24.4**	**-1.0**
WRA	**Warramunga Arr**	**24.07 121**	P	**P**	**13 26 21.8**	**+0.7**
2.7nm,0.5s,baz=293,slow=11,SNR=59						
WRA			PcP	**PcP**	**13 29 59.5**	**+0.3**
0.5nm,0.5s,baz=303,slow=3.5,SNR=4.8						
WRA			ScP	**ScP**	**13 33 24.4**	**-1.0**
0.4nm,0.5s,baz=307,slow=1.7,SNR=3.4						
WRAB	**Tennant Creek**	**24.07 121**	*e*P	**P**	**13 26 21.3**	**+0.2**
7.0nm,0.6s						
PHET	**Kaeng Krachan**	**24.77 329**	P	**P**	**13 26 28.7**	**+1.3**
80nm,0.8s						
AS31	**Alice Springs**	**25.51 129**	*e*P	**P**	**13 26 34.6**	**+0.5**
ASAR	**Alice Springs**	**25.51 129**	P	**P**	**13 26 35.0**	**+0.9**
ASAR			PcP	**PcP**	**13 30 03.0**	**+0.6**
ASAR			ScP	**ScP**	**13 33 29.2**	**-0.2**
ASAR	**Alice Springs**	**25.51 129**	P	**P**	**13 26 35.0**	**+0.9**
6.0nm,0.6s,baz=305,slow=9.3,SNR=160						
ASAR			PcP	**PcP**	**13 30 03.0**	**+0.6**
1.1nm,0.3s,baz=314,slow=1.7,SNR=6.3						
ASAR			ScP	**ScP**	**13 33 29.2**	**-0.2**
0.7nm,0.8s,baz=319,slow=2.7,SNR=4.2						
PBKT	**Sadao Pong**	**27.36 336**	P	**P**	**13 26 51.3**	**+0.6**
7.9nm,0.9s						
QIZ	**Qiongzhong**	**27.47 355**	P	**P**	**13 26 52.8**	**+1.1**
QIZ			sP	sP	13 27 50.1	+14
QIZ			S	S	13 31 37.4	+15
QIZ			sS	sS	13 32 38.0	+25
QIZ			pmax	pmax		
comp=Z,13nm,1.7s						
QIZ			pmax	pmax		
comp=Z,98nm,5.0s						
MMPI	**Meraukе**	**27.66 92**	S	**S**	**13 31 26.0**	**+0.2**
baz=28,SNR=3.0						
LAMP	**Lampang**	**29.66 335**	P	**P**	**13 27 12.4**	**+1.2**
comp=Z,7.0nm,0.7s,comp=Z,86nm						
CMAR	**Chiang Mai Arr**	**29.90 334**	P	**P**	**13 27 11.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**29.90 334**	P	**P**	**13 27 11.9**	**-1.4**
comp=Z,7.7nm,0.7s,baz=168,slow=8.3,SNR=59						
CHTO	**Chiang Mai**	**30.22 334**	P	**P**	**13 27 16.7**	**+0.7**
CHTO	**Chiang Mai**	**30.22 334**	P	**P**	**13 27 16.7**	**+0.7**
comp=Z,8.1nm,1.7s						
MTSU	**Mount Surprise**	**32.44 110**	P	**P**	**13 27 37.2**	**+1.6**
baz=32,SNR=36						
CTA	**Charters Tower**	**34.68 113**	P	**P**	**13 27 55.2**	**+0.2**
CTA	**Charters Tower**	**34.68 113**	P	**P**	**13 27 55.2**	**+0.2**
comp=Z,3.3nm,0.7s,baz=288,slow=10,SNR=5.9						
CTAO	**Charters Tower**	**34.68 113**	*e*P	**P**	**13 27 55.8**	**+0.8**
KMI	**Kunming**	**34.72 344**	P	**P**	**13 27 57.4**	**+1.9**
KMI			pmax	pmax		
comp=Z,6.0nm,0.9s						
GYA	**Guiyang**	**35.19 351**	*e*P	P	13 28 03.3	+3.9
GYA			pP	pP	13 28 42.0	+13
GYA			sP	sP	13 29 03.0	+19
GYA			PcP	PcP	13 30 21.8	-5.9
GYA			S	S	13 33 35.5	+12
GYA			ScP	ScP	13 33 51.9	-9.1
GYA			PcS	PcS	13 34 08.8	-6.2
GYA			ScS	ScS	13 37 56.5	-9.1
GYA			pmax	pmax		
comp=Z,10.0nm,0.8s						
STKA	**Stephens Creek**	**35.72 135**	*e*P	**P**	**13 28 04.1**	**+0.3**
STKA	**Stephens Creek**	**35.72 135**	P	**P**	**13 28 05.2**	**+1.4**
comp=Z,4.6nm,0.3s,baz=308,slow=9.1,SNR=54						
STKA			PcP	**PcP**	**13 30 29.6**	**+0.6**
comp=Z,2.0nm,0.4s,baz=3.9,slow=2.0,SNR=3.7						
STKA	**Stephens Creek**	**35.72 135**	P	**P**	**13 28 05.2**	**+1.4**
baz=36,SNR=30						
CMSA	**Cobar Meteorol**	**38.51 131**	P	**P**	**13 28 29.8**	**+2.4**
baz=38,SNR=6.0						
RMQ	**Roma**	**38.81 122**	P	**P**	**13 28 32.5**	**+2.5**
baz=39,SNR=4.8						
SHL	**Shillong**	**39.32 330**	⇑*i*P	**P**	**13 28 35.0**	**+0.7**
CD2	**Chengdu**	**40.05 348**	*e*P	**P**	**13 28 43.0**	**+2.8**
CD2			pP	pP	13 29 21.5	+11
CD2			sP	sP	13 29 41.4	+16
CD2			PP	**PnPn**	**13 30 25.3**	**+5.4**
CD2			S	S	13 34 46.3	+10
CD2			pmax	pmax		
comp=Z,10.0nm,0.8s						
CD2			pmax	pmax		
comp=Z,30nm,5.2s						
NJ2	**Nanjing**	**40.78 8**	*e*P	P	13 28 53.3	+7.2
NJ2			pmax	pmax		
comp=Z,10.0nm,1.1s						
YNG	**Young**	**41.84 133**	P	**P**	**13 28 56.7**	**+1.9**
baz=42,SNR=8.8						
XAN	**Xi'an**	**42.43 356**	P	**P**	**13 28 59.3**	**-0.2**
XAN			pmax	pmax		
comp=Z,3.0nm,0.7s						
CAN	**Canberra**	**42.77 134**	*e*P	**P**	**13 29 02.0**	**-0.4**
LSA	**Lhasa**	**43.14 333**	P	**P**	**13 29 06.8**	**+0.9**
LSA			pmax	pmax		
comp=Z,20nm,0.6s						
LZH	**Lanzhou**	**45.07 350**	*e*P	**P**	**13 29 21.8**	**+1.0**
LZH			pP	pP	13 29 58.3	+7.0
LZH			sP	sP	13 30 18.9	+12
LZH			pmax	pmax		
comp=Z,22nm,1.1s						
KSAR	**Wonju Array Be**	**47.94 17**	P	**P**	**13 29 40.7**	**-2.2**
KSRS	**Korea Array**	**47.96 17**	P	**P**	**13 29 40.7**	**-2.4**
comp=Z,1.0nm,0.5s,baz=202,slow=7.9,SNR=8.0						
BJI	**Beijing**	**48.41 4**	P	P	13 29 50.4	+3.9
BJI			pmax	pmax		
comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**49.10 359**	*e*P	P	13 29 57.3	+5.4
HHC			pP	pP	13 30 36.3	+13
HHC			sP	sP	13 30 57.8	+20
HHC			PcP	**PcP**	**13 31 10.8**	**-2.7**
HHC			PP	PP	13 31 57.3	+10
HHC			ScP	ScP	13 34 48.5	-7.7
HHC			S	S	13 37 00.5	+14
HHC			ScS	**ScS**	**13 39 26.8**	**-3.6**
HHC			pmax	pmax		
comp=Z,33nm,0.8s						
HHC			pmax	pmax		
comp=Z,180nm,6.3s						
HHC			LR	LR		
comp=N,220nm,16.7s						
HHC			LR	LR		
comp=E,250nm,16.1s						
HHC			LR	LR		
comp=Z,210nm,16.7s						
MJAR	**Matsushiro Arr**	**50.93 27**	P	**P**	**13 30 03.2**	**-2.5**
MJAR	**Matsushiro Arr**	**50.93 27**	P	**P**	**13 30 03.2**	**-2.5**
comp=Z,0.7nm,0.6s,baz=194,slow=8.3,SNR=5.0						
CN2	**Changchun**	**53.38 12**	*e*P	P	13 30 30.0	+6.4
CN2			pmax	pmax		
comp=Z,10.0nm,0.6s						
MDJ	**Mudanjiang**	**55.09 15**	P	P	13 30 41.8	+5.8
MDJ			pP	pP	13 31 20.8	+13
MDJ			PcP	**PcP**	**13 31 33.8**	**-1.9**
MDJ			sP	sP	13 31 40.0	+18
MDJ			PP	PP	13 32 51.3	+10
MDJ			PcS	**PcS**	**13 35 33.0**	**-2.7**
MDJ			pmax	pmax		
comp=Z,6.0nm,1.4s						
MDJ			pmax	pmax		
comp=Z,63nm,3.7s						
MDJ			LR	LR		
comp=N,63nm,6.0s						
MDJ			LR	LR		
comp=E,41nm,6.9s						
MDJ			LR	LR		
comp=Z,82nm,4.9s						
USRK	**Ussuriysk Arra**	**55.37 17**	P	**P**	**13 30 36.4**	**-1.5**
comp=Z,1.2nm,0.4s,baz=233,slow=6.3,SNR=5.8						
SONM	**Songino Array**	**56.34 355**	P	**P**	**13 30 44.4**	**-0.6**
SONM	**Songino Array**	**56.34 355**	P	**P**	**13 30 44.4**	**-0.6**
comp=Z,2.1nm,0.5s,baz=175,slow=8.4,SNR=8.7						
WMQ	**Urumqi**	**56.70 339**	*e*P	**P**	**13 30 47.6**	**+0.1**
WMQ			pmax	pmax		
comp=Z,9.0nm,1.0s						
KSH	**Kashi**	**58.50 327**	*e*P	P	13 30 55.4	-4.9
TKM2	**Tokmak 2**	**61.18 330**	*e*P	**P**	**13 31 17.3**	**-1.4**
comp=Z,11nm,1.3s						
MK31	**Makanchi Array**	**61.24 337**	*e*P	P	13 31 15.7	-3.0
MKAR	**Makanchi Array**	**61.24 337**	*e*P	P	13 31 12.8	-6.0
MKAR	**Makanchi Array**	**61.24 337**	P	**P**	**13 31 18.1**	**-0.7**
comp=Z,2.1nm,0.3s,baz=150,slow=7.1,SNR=60						
EKS2	**Erkin-Say**	**61.91 329**	*e*P	P	13 31 20.4	-3.1
comp=Z,3.5nm,0.8s						
KKAR	**Karatay Array**	**63.94 327**	*e*P	P	13 31 32.9	-3.9
ZALV	**Zalesovo Beam**	**66.44 343**	P	**P**	**13 31 51.2**	**-1.4**
ZALV	**Zalesovo Beam**	**66.44 343**	P	**P**	**13 31 51.2**	**-1.4**
comp=Z,2.5nm,0.5s,baz=155,slow=4.2,SNR=11						
MAW	**Mawson**	**67.57 198**	P	**P**	**13 32 01.2**	**+1.6**
MAW	**Mawson**	**67.57 198**	P	**P**	**13 32 01.2**	**+1.6**
comp=Z,1.9nm,0.4s,baz=25,slow=6.1,SNR=6.3						
ABKAR	**Akbulak array**	**73.51 327**	*e*P	P	13 32 32.0	-3.9
comp=Z,5.9nm,0.6s						
VNDA	**Vanda**	**73.55 170**	*e*P	**P**	**13 32 36.8**	**+1.1**
comp=Z,1.6nm,0.7s						
VNDA	**Vanda**	**73.55 170**	P	**P**	**13 32 36.9**	**+1.1**
comp=Z,1.4nm,0.4s,baz=314,slow=6.9,SNR=34						
KBZ	**Khabaz**	**81.39 317**	P	**P**	**13 33 20.1**	**+0.2**
KBZ	**Khabaz**	**81.39 317**	P	**P**	**13 33 20.1**	**+0.2**
comp=Z,2.3nm,0.8s,baz=125,slow=6.4,SNR=6.3						
BOSA	**Boshof**	**83.51 242**	P	**P**	**13 33 33.1**	**+1.6**
BOSA	**Boshof**	**83.51 242**	P	**P**	**13 33 33.1**	**+1.6**
comp=Z,1.7nm,0.6s,baz=91,slow=2.6,SNR=3.4						
SNAA	**Sanae**	**89.67 197**	*e*P	**P**	**13 34 02.3**	**+1.8**
NVAR	**Mina Array Bea**	**125.64 48**	PKP	**PKPdf**	**13 40 04.1**	**-0.1**
NVAR	**Mina Array Bea**	**125.64 48**	PKP	**PKPdf**	**13 40 04.1**	**-0.1**
comp=Z,0.3nm,0.6s,baz=236,slow=3.4,SNR=4.0						
CPUP	**Villa Florida**	**143.98 196**	PKP	**PKPdf**	**13 40 38.0**	**-0.3**
CPUP	**Villa Florida**	**143.98 196**	PKP	**PKPdf**	**13 40 38.0**	**-0.3**
comp=Z,3.5nm,0.4s,baz=150,slow=2.3,SNR=17						

IDC 14 14:07:10.5±1.8, 4°82N×127°30E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=172.9km s-min=21.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.57 164**		P	P	14 12 41.9	+0.5
0.1nm,0.6s,baz=345,slow=10,SNR=3.4							
ASAR	**Alice Springs**	**29.04 167**		P	P	14 13 12.2	-0.5
0.1nm,0.7s,baz=354,slow=7.5,SNR=3.7							
MKAR	**Makanchi Array**	**56.99 325**		P	P	14 16 57.6	-0.5
0.4nm,0.5s,baz=123,slow=8.0,SNR=6.4							
ZALV	**Zalesovo Beam**	**59.88 333**		P	P	14 17 18.4	+0.3
0.4nm,0.4s,baz=129,slow=5.7,SNR=2.5							

IDC 14 14:12:15.5±1.9, 20°90S×174°66W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/21, mbtmp4.0/7, ML2.2/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/36, Error ellipse: s-maj=68.8km s-min=21.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.48**	**22**	Pn	Pn	14 14 03.9	-2.1
2.1nm,0.3s,baz=313,slow=16,SNR=2.9							
AFI				Sn	Sn	14 15 30.1	-1.6
2.3nm,0.3s,baz=179,slow=22,SNR=2.8							
DZM	**Mont Dzumac**	**17.63**	**263**	*e*LR	LR	14 20 19.6	
77nm,23.9s							
TBI	**Tubuai**	**23.46**	**101**	*e*LR	LR	14 22 47.7	
192nm,26.2s							
PPT2	**Papeete2**	**23.90**	**86**	*e*LR	LR	14 22 59.9	
78nm,24.5s							
ASAR	**Alice Springs**	**47.47**	**257**	P	P	14 20 51.2	-1.3
1.6nm,0.8s,baz=99,slow=7.4,SNR=27							
WRA	**Warramunga Arr**	**47.64**	**262**	P	P	14 20 53.5	-0.4
0.9nm,0.6s,baz=96,slow=8.4,SNR=15							
FITZ	**Fitzroy Crossi**	**56.07**	**262**	P	P	14 21 57.1	+0.3
1.2nm,0.9s,baz=122,slow=9.5,SNR=3.4							
MJAR	**Matsushiro Arr**	**72.42**	**322**	P	P	14 23 44.8	+1.0
0.8nm,0.9s,baz=143,slow=6.6,SNR=5.6							
LPIG	**La Paz**	**76.95**	**58**	LR	LR	14 53 38.4	
comp=Z,42nm,18.8s,baz=255,slow=32							
PETK	**Petropavlovsk-**	**77.50**	**343**	LR	LR	14 53 42.6	
comp=Z,14nm,19.7s,baz=296,slow=32							
NVAR	**Mina Array Bea**	**79.21**	**42**	P	P	14 24 22.8	0.0
1.1nm,1.0s,baz=227,slow=8.7,SNR=5.0							
ANMO	**Albuquerque**	**85.24**	**50**	LR	LR	14 58 32.0	
comp=Z,29nm,18.3s,baz=46,slow=33							
ILAR	**Eielson Array**	**88.05**	**12**	P	P	14 25 08.0	+0.8
0.2nm,0.5s,baz=196,slow=6.1,SNR=4.2							
CMAR	**Chiang Mai Arr**	**93.20**	**288**	P	P	14 25 35.0	+2.7
0.3nm,0.4s,baz=145,slow=3.0,SNR=5.2							
AKASG	**Malin Array Be**	**144.82**	**333**	PKP	PKPbc	14 31 53.5	+0.2
0.7nm,0.3s,baz=39,slow=4.6,SNR=4.5							

ISCJB ***14*** *14:25:27.3±1.0, 32°84N±0°06×140°7E±0°1, h76km±8km, mb3.4/4, Error ellipse: s-maj=14.9km s-min=8.2km az=20.5*

IDC ***14*** *14:25:27.9±5.0, 32°86N×140°91E, h68km±41km, mb3.1/4, mb1 3.2/5, mb1mx3.0/25, mbtmp3.0/5, ML2.9/1, Error ellipse: s-maj=97.9km s-min=22.4km az=75.0*

JMA ***14*** *14:25:28.5±0.1, 32°89N×140°68E, h67km±3km, M3.3*

ISC 14 14:25:28.5±1.6, 32°84N±0°09×140°7E±0°1, h68km±12km, n14, σ0°59/21, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.76 291**		P	**Pn**	**14 25 44.1**	**+0.1**
JHJ2				S	**Sn**	**14 25 55.5**	**+0.1**
JHCJ	**Hachijojimakas**	**0.76 288**		P	**Pn**	**14 25 44.0**	**0.0**
JHCJ				S	**Sn**	**14 25 55.2**	**-0.2**
BSO1	**Boso 1**	**1.83 8**		P	**Pn**	**14 25 58.5**	**+1.2**
BSO1				*e*S	**Sn**	**14 26 18.8**	**-0.5**
JKO	**Kozu shima**	**1.85 317**		P	**Pn**	**14 25 58.7**	**+0.6**
JKO				*e*S	**Sn**	**14 26 20.9**	**+0.3**
BSO2	**Boso 2**	**1.91 2**		S	**Sn**	**14 26 21.4**	**-0.2**
BSO3	**Boso 3**	**1.96 356**		P	**Pn**	**14 25 59.0**	**-0.4**
BSO3				S	**Sn**	**14 26 22.2**	**-0.7**
JIM2	**Oshima 3**	**2.13 332**		P	**Pn**	**14 26 01.8**	**-0.2**
JIM2				S	**Sn**	**14 26 26.2**	**-1.3**
BSO4	**Boso 4**	**2.16 353**		*e*S	**Sn**	**14 26 27.9**	**-0.1**
JIZS	**Izushimoda**	**2.39 322**		P	**Pn**	**14 26 06.2**	**+0.8**
JIZS				S	**Sn**	**14 26 33.3**	**-0.3**
MJAR	**Matsushiro Arr**	**4.21 332**		P	**Pn**	**14 26 30.3**	**+0.1**
0.6nm,0.3s,baz=157,slow=13,SNR=9.4							
MKAR	**Makanchi Array**	**45.93 305**		P	**P**	**14 33 45.1**	**+0.7**
0.2nm,0.3s,baz=91,slow=8.6,SNR=3.5							
WRA	**Warramunga Arr**	**52.83 187**		P	**P**	**14 34 36.6**	**-0.5**
0.1nm,0.3s,baz=7.4,slow=7.6,SNR=7.0							
ASAR	**Alice Springs**	**56.56 187**		P	**P**	**14 35 03.9**	**-0.2**
0.1nm,0.3s,baz=1.5,slow=6.9,SNR=3.7							
FINES	**FINESS Array B**	**72.24 333**		P	**P**	**14 36 45.8**	**-0.2**
0.9nm,0.8s,baz=70,slow=4.6,SNR=2.3							

IDC 14 14:41:13.3±10.0, 13°67N×94°35E, h170km±91km, mb3.1/4, mb1 3.2/5, mb1mx2.9/28, mbtmp3.0/5, Error ellipse: s-maj=90.4km s-min=17.7km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.50 42**		P	Pn	14 42 47.5	+0.7
0.2nm,0.3s,baz=238,slow=14,SNR=4.1							
CMAR				S	Sn	14 43 59.9	-0.4
0.5nm,0.3s,baz=226,slow=24,SNR=16							
MKAR	**Makanchi Array**	**34.54 345**		P	P	14 47 44.8	-0.7
0.8nm,0.8s,baz=173,slow=8.2,SNR=5.9							
KURBB	**Kurchatov Arra**	**39.04 344**		P	P	14 48 23.9	+0.6
0.2nm,0.4s,baz=159,slow=8.9,SNR=4.5							
WRA	**Warramunga Arr**	**51.61 130**		P	P	14 50 02.7	0.0
0.3nm,0.6s,baz=299,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**53.60 133**		P	P	14 50 17.1	-0.2
0.3nm,0.4s,baz=311,slow=7.1,SNR=29							

ISCJB ***14*** *14:46:09.9±0.2, 37°91N±0°02×72°74E±0°04, h119km, mb4.0/31, Error ellipse: s-maj=4.4km s-min=2.7km az=172.3*

IDC ***14*** *14:46:10.5±2.9, 37°87N×72°51E, h106km±26km, mb3.7/20, mb1 3.9/25, mb1mx3.8/35, mbtmp3.8/25, MS3.4/1, Ms1 3.4/1, ms1mx2.2/52, Error ellipse: s-maj=20.1km s-min=10.2km az=10.0*

MOS ***14*** *14:46:11.1±0.9, 37°97N×72°53E, h125km, mb4.1/20, Error ellipse: s-maj=9.8km s-min=5.3km az=85.5*

BJI ***14*** *14:46:12.3, 38°23N×72°60E, h130km, mB4.8/10, mb4.6/14*

NNC ***14*** *14:46:18.0±2.3, 38°55N×72°36E, h189km±18km, mb3.9, mpv4.5, Error ellipse: s-maj=19.4km s-min=11.7km az=7.0*

ISC 14 14:46:11.8±0.4, 37°99N±0°04×72°75E±0°05, h119km, n122, σ1°96/125, mb4.1/31, 14C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.95**	**58**	P	**Pn**	**14 46 56.0**	**-1.4**
KSH				S	**Sn**	**14 47 28.8**	**-3.8**
KSH				smax	smax		
comp=N,5μm,0.5s							
KSH				smax	smax		
comp=E,4μm,0.5s							
AML	**Almayashu**	**4.20**	**10**	*i* PN	**Pn**	**14 47 15.4**	**+1.1**
AML	**Almayashu**	**4.20**	**10**	P	**Pn**	**14 47 15.4**	**+1.1**
SNR=204							
CEP	**Cherat**	**4.21**	**190**	⇑P	**Pn**	**14 47 14.4**	**+0.1**
CEP				S	**Sn**	**14 48 01.0**	**-1.8**
CHCP	**Chirah Chowk**	**4.34**	**174**	P	**Pn**	**14 47 17.5**	**+1.6**
UCH	**Uchtor**	**4.44**	**17**	*i* PN	**Pn**	**14 47 19.5**	**+1.9**
UCH	**Uchtor**	**4.44**	**17**	P	**Pn**	**14 47 19.5**	**+1.9**
SNR=16							
KZA	**Kyzart**	**4.51**	**24**	*i* PN	**Pn**	**14 47 19.8**	**+1.3**
KZA	**Kyzart**	**4.51**	**24**	P	**Pn**	**14 47 19.8**	**+1.3**
SNR=56							
EKS2	**Erkin-Say**	**4.73**	**9**	P	**Pn**	**14 47 22.7**	**+1.6**
SNR=140							
AAK	**Ala-Archa**	**4.83**	**16**	*c i* PN	**Pn**	**14 47 24.3**	**+1.9**
AAK				pmax	pmax		
comp=Z,202nm,0.8s							
AAK	**Ala-Archa**	**4.83**	**16**	P	**Pn**	**14 47 24.4**	**+2.0**
SNR=58							
AAK	**Ala-Archa**	**4.83**	**16**	P	**Pn**	**14 47 24.6**	**+2.2**
comp=Z,30nm,0.3s,baz=171,slow=5.9,SNR=91							
AAK				S	**Sn**	**14 48 17.9**	**+0.5**
comp=Z,15nm,0.3s,baz=134,slow=23,SNR=39							
KBK	**Karagaybulak**	**4.95**	**19**	*i* PN	**Pn**	**14 47 26.4**	**+2.2**
KBK	**Karagaybulak**	**4.95**	**19**	P	**Pn**	**14 47 26.4**	**+2.2**
SNR=16							
ULHL	**Ulahol**	**5.02**	**31**	*i* PN	**Pn**	**14 47 26.9**	**+1.8**
ULHL	**Ulahol**	**5.02**	**31**	P	**Pn**	**14 47 26.9**	**+1.8**
SNR=12							
FRU	**Bishkek**

WMQ	**Urumqi**	**12.71**	**58**	P	**Pn**	**14 49 08.8**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMQ				LR	LR		
	comp=N,25nm,16.0s						
WMQ				LR	LR		
	comp=E,30nm,20.0s						
WMQ				LR	LR		
	comp=Z,24nm,18.0s						
KURBB	**Kurchatov Arra**	**13.28**	**16**	⇑P	**Pn**	**14 49 12.7**	**-2.8**
	comp=Z,18nm,0.8s						
KURBB				⇑S	**Sn**	**14 51 39.0**	**-2.7**
	comp=Z,17nm,1.1s						
KURBB	**Kurchatov Arra**	**13.28**	**16**	P	**Pn**	**14 49 13.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=18						
KURBB				S	**Sn**	**14 51 42.4**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=212,slow=17,SNR=2.8						
DANN	**Dangsing**	**13.31**	**133**	*e*P	**Pn**	**14 49 14.0**	**-2.4**
	comp=Z,104nm,0.7s						
KURK	**Kurchatov**	**13.39**	**16**	P	**Pn**	**14 49 13.8**	**-3.1**
KURK				S	**Sn**	**14 51 42.4**	**-1.9**
KOLN	**Koldanda**	**13.67**	**135**	*e*P	**Pn**	**14 49 19.1**	**-1.7**
	comp=Z,38nm,0.5s						
AB31	**Akbulak array**	**14.56**	**325**	P	Pn	14 49 28.0	-3.9
	comp=Z,40nm,0.5s,baz=132,slow=13,SNR=486						
AB31				⇓S	Sn	14 51 57.7	-15
	comp=Z,35nm,0.9s,baz=132,slow=24,SNR=12						
KKN	**Kakani**	**14.63**	**130**	*e*P	Pn	14 49 29.3	-3.8
	comp=Z,28nm,0.5s						
DMN	**Daman**	**14.66**	**131**	*e*P	Pn	14 49 30.1	-3.4
	comp=Z,37nm,0.6s						
DMN				*e*S	Sn	14 52 04.9	-11
VOSK	**Vostochnaya**	**14.78**	**356**	⇑P	**Pn**	**14 49 32.0**	**-2.6**
	comp=Z,12nm,0.9s						
VOSK				⇓S	Sn	14 52 08.4	-10
	comp=Z,7.4nm,1.4s						
PKIN	**Phulchoki**	**14.85**	**131**	*e*P	**Pn**	**14 49 33.5**	**-2.5**
PKI	**Pulchoki**	**14.87**	**131**	*e*P	Pn	14 49 32.7	-3.5
	comp=Z,57nm,0.8s						
GUN	**Gumba**	**14.90**	**129**	*e*P	Pn	14 49 33.0	-3.8
BVA0	**Borovoye Array**	**15.12**	**355**	⇑P	**Pn**	**14 49 35.9**	**-3.0**
	comp=Z,17nm,0.8s,baz=157,slow=13,SNR=64						
BVA0				⇑S	Sn	14 52 18.5	-7.6
	comp=Z,6.7nm,0.8s,baz=164,slow=20,SNR=5.8						
BVAR	**Borovoye Array**	**15.12**	**355**	P	**Pn**	**14 49 37.8**	**-1.1**
BVAR				S	Sn	14 52 18.2	-7.9
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**15.12**	**355**	P	**Pn**	**14 49 37.8**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=161,slow=13,SNR=30						
BVAR				S	Sn	14 52 18.2	-7.9
	comp=Z,0.2nm,0.3s,baz=168,slow=23,SNR=5.7						
BRVK	**Borovoye**	**15.16**	**354**	⇓P	**Pn**	**14 49 36.3**	**-3.2**
	comp=Z,32nm,0.7s						
BRVK				⇓S	Sn	14 52 18.1	-8.9
	comp=Z,23nm,1.1s						
BRVK	**Borovoye**	**15.16**	**354**	*d i*P	**Pn**	**14 49 37.8**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,13nm,1.0s						
BHPL	**Bhopal**	**15.24**	**163**	*e*P	Pn	14 49 34.4	-6.3
BHPL				*e*S	Sn	14 52 16.4	-13
JIRN	**Jiri**	**15.28**	**128**	*e*P	**Pn**	**14 49 37.7**	**-3.7**
	comp=Z,57nm,0.4s						
RAMN	**Ramite**	**16.04**	**129**	*e*P	**Pn**	**14 49 48.8**	**-2.0**
	comp=Z,54nm,0.6s						
AKTO	**Aktyubinsk**	**16.28**	**325**	⇑P	**Pn**	**14 49 50.2**	**-3.1**
	comp=Z,53nm,0.9s						
AKTO				⇓S	Sn	14 52 40.5	-13
	comp=Z,18nm,1.2s						
AKTO	**Aktyubinsk**	**16.28**	**325**	P	**Pn**	**14 49 51.1**	**-2.2**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.28**	**325**	P	**Pn**	**14 49 51.1**	**-2.2**
	comp=Z,4.4nm,0.3s,baz=138,slow=13,SNR=63						
TAPN	**Taplejung**	**16.45**	**126**	*e*P	**Pn**	**14 49 52.4**	**-3.5**
ODAN	**Odare**	**16.59**	**128**	*e*P	**Pn**	**14 49 55.1**	**-2.5**
	comp=Z,50nm,0.6s						
LSA	**Lhasa**	**17.36**	**113**	P	**Pn**	**14 50 09.9**	**+2.7**
NGP	**Nagpur**	**17.65**	**160**	*ex*	P	14 50 03.9	-5.5
NGP				*e*S	S	14 53 17.0	-10
ZALV	**Zalesovo Beam**	**17.99**	**24**	P	**Pn**	**14 50 14.0**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	**Zalesovo Beam**	**17.99**	**24**	P	**Pn**	**14 50 14.0**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=216,slow=10,SNR=57						
BOK	**Bokaro**	**18.07**	**138**	*ex*	**P**	**14 50 14.3**	**+0.4**
BOK				*e*S	Sn	14 53 50.2	+13
NVS	**Novosibirsk**	**18.30**	**20**	*e*P	**P**	**14 50 15.4**	**-0.9**
NVS				*e*S	**S**	**14 53 35.9**	**-3.4**
NVS				pmax	pmax		
	comp=Z,14nm,1.2s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				smax	smax		
	comp=N,22nm,2.0s						
NVS				smax	smax		
	comp=E,20nm,2.1s						
HVS	**Khovu-Aksy**	**19.80**	**42**	⇑*e*P	**Pn**	**14 50 34.8**	**-0.6**
HVS				pmax	pmax		
	comp=Z,103nm,1.2s						
HVS				MLR	MLR		
	comp=Z,2μm,22.0s						
SHL	**Shillong**	**20.40**	**122**	*ex*	**P**	**14 50 42.0**	**+2.5**
SVE	**Sverdlovsk**	**20.49**	**341**	⇓*i*P	**P**	**14 50 40.5**	**+0.5**
SVE				pmax	pmax		
	comp=Z,32nm,0.9s						
ARU	**Arti**	**20.73**	**337**	*d i*P	**P**	**14 50 42.4**	**-0.2**
ARU						14 51 07.9	
ARU				S	**S**	**14 54 25.7**	**-1.6**
ARU				pmax	pmax		
	comp=Z,28nm,1.2s						
GTA	**Gaotai**	**21.15**	**78**	*e*P	**P**	**14 50 50.3**	**+2.9**
GTA				pP	pP	14 51 16.8	+7.4
GTA				sP	sP	14 51 31.3	+7.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
DGRG	**David-gareji**	**21.30**	**288**	P	**P**	**14 50 49.4**	**+0.5**
TBLG	**Delisi**	**21.78**	**289**	*e*P	P	14 50 48.7	-5.3
TBLG	**Delisi**	**21.78**	**289**	P	P	14 50 48.7	-5.3
DUS	**Dusheti**	**21.81**	**290**	P	**P**	**14 50 55.7**	**+1.3**
GNI	**Garni**	**21.82**	**284**	P	**P**	**14 50 52.6**	**-1.9**
	comp=Z,25nm,0.8s,baz=83,slow=8.1,SNR=6.4						
KZR	**Kazreti**	**22.02**	**288**	P	P	14 50 51.5	-5.0
AKH	**Akhalkalaki**	**22.71**	**288**	P	P	14 50 55.0	-8.7
ONI	**Oni**	**22.75**	**291**	P	**P**	**14 51 03.9**	**+0.1**
KBZ	**Khabaz**	**23.22**	**294**	P	**P**	**14 51 07.1**	**-1.0**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**23.22**	**294**	P	**P**	**14 51 07.1**	**-1.0**
	comp=Z,4.5nm,0.9s,baz=119,slow=7.1,SNR=9.6						
KIV	**Kislovodsk**	**23.39**	**294**	*e*P	**P**	**14 51 10.3**	**+0.5**
KIV				*e**PP	**pP**	**14 51 37.8**	**+4.3**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
ZAK	**Zakamensk**	**24.96**	**50**	*e*P	**P**	**14 51 26.1**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VRHR	**Novokhopersk**	**25.54**	**311**	*e*P	P	14 51 41.4	+12
VRHR				pmax	pmax		
	comp=Z,20nm,0.9s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,50nm,0.9s						
SONM	**Songino Array**	**26.35**	**57**	P	**P**	**14 51 39.1**	**+2.5**
	comp=E,2.6nm,0.8s,baz=252,slow=9.5,SNR=9.9						
VORD	**Divnogorie**	**26.91**	**310**	*e*P	**P**	**14 51 40.2**	**-1.3**
VORD				pmax	pmax		
	comp=N,30nm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
VORD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VSR	**Storozhevoye**	**27.06**	**310**	*e*P	**P**	**14 51 42.1**	**-0.7**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.3s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.6s						
OBN	**Obninsk**	**29.76**	**317**	⇑*e*P	**P**	**14 52 07.5**	**+0.8**
OBN				*e*		14 55 04.7	
OBN				pmax	pmax		
	comp=Z,27nm,2.0s						
HHC	**Hu-ho-hao-te**	**29.96**	**72**	*e*P	**P**	**14 52 09.5**	**+0.7**
HHC				S	**S**	**14 56 55.6**	**-2.2**
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,5.5s						
CMAR	**Chiang Mai Arr**	**30.02**	**123**	P	**P**	**14 52 10.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=313,slow=8.2,SNR=7.8						
BRTR	**Keskin Array B**	**30.34**	**286**	P	**P**	**14 52 11.1**	**-1.2**
	comp=Z,3.2nm,0.9s,baz=96,slow=6.7,SNR=16						
AKASG	**Malin Array Be**	**33.13**	**307**	P	**P**	**14 52 36.0**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**33.13**	**307**	P	**P**	**14 52 36.0**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=77,slow=7.2,SNR=7.6						
KIEV	**Kiev**	**33.14**	**307**	*i* P	**P**	**14 52 34.9**	**-1.5**
FINES	**FINESS Array B**	**37.05**	**325**	P	**P**	**14 53 10.2**	**+0.4**
	comp=Z,3.6nm,0.7s,baz=108,slow=9.4,SNR=11						
KAF	**Kangasniemi**	**37.16**	**326**	*e*P	**P**	**14 53 10.6**	**-0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	**Kangasniemi**	**37.16**	**326**	*ep*	**P**	**14 53 10.6**	**-0.1**
	comp=Z,1.6nm,0.6s						
ARCES	**ARCESS Array B**	**40.32**	**336**	P	**P**	**14 53 37.4**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=120,slow=7.3,SNR=13						
YAK	**Yakutsk**	**41.94**	**36**	*e*P	**P**	**14 53 50.5**	**+0.2**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.2s						
BRG	**Berggiesshubel**	**42.81**	**307**	*e*P	**P**	**14 53 58.1**	**+0.5**
	comp=N,4.5nm,0.9s						
BRG	**Berggiesshubel**	**42.81**	**307**	*e*P	**P**	**14 53 58.1**	**+0.5**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**43.09**	**73**	P	**P**	**14 54 01.3**	**+1.3**
	comp=Z,1.1nm,0.9s,baz=271,slow=8.2,SNR=5.0						
GERES	**GERESS Array B**	**43.23**	**304**	P	**P**	**14 53 58.6**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=74,slow=5.7,SNR=4.4						
KHC	**Kasperske Hory**	**43.26**	**305**	*i* P	**P**	**14 54 02.3**	**+1.0**
NB2	**NORSAR Subarra**	**44.05**	**322**	P	**P**	**14 54 06.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**44.05**	**322**	P	**P**	**14 54 07.3**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=93,slow=7.7,SNR=5.1						
DAVOX	**Davos/Dischmat**	**46.14**	**302**	P	**P**	**14 54 23.8**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=95,slow=8.7,SNR=5.7						
JNU	**Nakatsue**	**46.89**	**77**	P	**P**	**14 54 32.3**	**+2.1**
	comp=Z,6.6nm,1.0s,baz=312,slow=1.9,SNR=5.4						
MJAR	**Matsushiro Arr**	**51.12**	**70**	P	**P**	**14 55 04.2**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=288,slow=10,SNR=5.4						
ASAJ	**Asahikawa**	**51.59**	**60**	LR	LR	15 18 01.2	
	comp=Z,39nm,19.2s,baz=250,slow=37						
SEY	**Seymchan**	**52.40**	**35**	⇑*e*P	**P**	**14 55 13.7**	**+2.3**
PETK	**Petropavlovsk-**	**57.93**	**45**	P	**P**	**14 55 51.7**	**+0.4**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**57.93**	**45**	P	**P**	**14 55 51.7**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=235,slow=4.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**67.14**	**269**	P	**P**	**14 56 51.9**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=47,slow=5.8,SNR=34						
ILAR	**Eielson Array**	**72.96**	**17**	P	**P**	**14 57 28.7**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=317,slow=4.3,SNR=12						
YKA	**Yellowknife Ar**	**79.68**	**3**	P	**P**	**14 58 07.5**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=348,slow=6.1,SNR=5.2						
WRA	**Warramunga Arr**	**81.62**	**123**	P	**P**	**14 58 17.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=324,slow=4.8,SNR=7.4						
ASAR	**Alice Springs**	**83.99**	**126**	P	**P**	**14 58 29.5**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=310,slow=4.7,SNR=4.3						

*CSEM **14** 14:51:15.8, 42°.36N×13°.49E, h9km, MD1.8/5, After ROM*
ROM 14 14:51:15.8±0.4, 42°.36N×13°.49E, h9km±5km, Md1.8/5, Ml1.5/1, Error ellipse: s-maj=2.3km s-min=2.0km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.07**	**261**	Pg	Pg	14 51 18.2	+0.2
AQU				Sg	Sg	14 51 20.0	+0.5
	91nm,0.3s						
AQU	**L'Aquila**	**0.07**	**261**	Pg	Pg	14 51 18.2	+0.2
AQU				Sg	Sg	14 51 20.0	+0.5
	91nm,0.3s						
FAGN	**Fagnano**	**0.12**	**145**	Pg	Pg	14 51 18.7	0.0
FAGN				Sg	Sg	14 51 21.0	+0.3
	123nm,0.4s						
FAGN	**Fagnano**	**0.12**	**145**	Pg	Pg	14 51 18.7	0.0
FAGN				Sg	Sg	14 51 21.0	+0.3
	123nm,0.4s						
VCEL	**Villa Celiera**	**0.26**	**83**	Pg	Pb	14 51 22.6	-0.2
VCEL				Sg	Sb	14 51 26.7	-0.9
VCEL	**Villa Celiera**	**0.26**	**83**	Pg	Pb	14 51 22.6	-0.2
VCEL				Sg	Sb	14 51 26.7	-0.9
TERO	**Teramo**	**0.27**	**18**	Pg	Pg	14 51 21.9	+0.5
TERO				Sg	Sb	14 51 26.6	-1.2
TERO	**Teramo**	**0.27**	**18**	Pg	Pg	14 51 21.9	+0.5
TERO				Sg	Sb	14 51 26.6	-1.2

*CSEM **14** 14:52:15.9±0.3, 38°.72N×34°.87E, h2km, MD3.1, Error ellipse: s-maj=9.9km s-min=6.8km az=90.0*
ISK 14 14:52:16.0, 38°.73N×34°.93E, h7km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.96**	**18**	*e*PG	Pg	14 52 34.9	+0.2
YOZ				*e*SG	Sb	14 52 48.5	+0.2
YOZ	**Yozgat**	**0.96**	**18**	*e*Pg	Pg	14 52 34.9	+0.2
YOZ				*e*Sg	Sb	14 52 48.5	+0.3
CDAG	**Cicekdag**	**0.99**	**334**	*i* P	Pg	14 52 33.8	-1.4
CDAG				*i* S	Sb	14 52 49.1	0.0
CDAG	**Cicekdag**	**0.99**	**334**	*i* P	Pg	14 52 33.8	-1.5
CDAG				*i* S	Sb	14 52 49.1	0.0
SULT	**Sultanhani-AKS**	**1.23**	**245**	*e*PN	Pg	14 52 39.9	+0.1
SULT	**Sultanhani-AKS**	**1.23**	**245**	*e*Pn	Pg	14 52 39.9	+0.1
KOZT	**Kozan**	**1.43**	**150**	*e*PN	Pb	14 52 43.1	0.0
KOZT	**Kozan**	**1.43**	**150**	*e*Pn	Pb	14 52 43.1	0.0
CORM	**Corum**	**1.47**	**351**	*e*PN	Pb	14 52 43.6	-0.2
CORM	**Corum**	**1.47**	**351**	*e*Pn	Pb	14 52 43.6	-0.2
CTKT	**Corum**	**1.90**	**357**	*i* P	Pb	14 52 50.5	-0.7
CTKT				*i* S	Sg	14 53 21.2	+3.8
CTKT	**Corum**	**1.90**	**357**	*i* P	Pb	14 52 50.5	-0.7
SVSK	**Karacayir**	**2.00**	**53**	*e*PN	Pn	14 52 51.0	+0.9
SVSK	**Karacayir**	**2.00**	**53**	*e*Pn	Pn	14 52 51.0	+0.9

*NEIC **14** 14:53:17.5, 19°.32N×65°.74W, h75km, MD3.2(RSPR), After RSPR.*
RSPR 14 14:53:17.5, 19°.32N×65°.74W, h75km±13km, MD3.2/8, 27C-16D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.04**	**186**	⇑*e*P	Pn	14 53 34.8	-2.2
CBYP	**Canovanas**	**1.04**	**186**	⇑*e*P	Pn	14 53 35.2	-1.7
CBYP	**Canovanas**	**1.04**	**186**	⇑*e*P	Pn	14 53 35.2	-1.7
CBYP	**Canovanas**	**1.04**	**186**	⇑*e*P	Pn	14 53 34.8	-2.2
CBYP	**Canovanas**	**1.04**	**186**	⇑*e*P	Pn	14 53 35.2	-1.7
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.6	-0.3
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.7	-0.2
STVI	**Saint Thomas**	**1.22**	**142**	*e*S	Sn	14 53 54.7	-0.3
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.7	-0.2
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.6	-0.3
STVI				*e*S	Sn	14 53 54.7	-0.3
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.6	-0.3
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.7	-0.2
STVI	**Saint Thomas**	**1.22**	**142**	⇑*e*P	Pn	14 53 38.7	-0.2
STVI				*e*S	Sn	14 53 54.7	-0.3
SJG	**San Juan**	**1.26**	**198**	⇑*e*P	Pn	14 53 38.3	-1.2
SJG	**San Juan**	**1.26**	**198**	⇑*e*P	Pn	14 53 38.6	-0.9
SJG	**San Juan**	**1.26**	**198**	⇑*e*P	Pn	14 53 38.6	-0.9
SJG	**San Juan**	**1.26**	**198**	⇑*e*P	Pn	14 53 38.3	-1.2
SJG	**San Juan**	**1.26**	**198**	⇑*e*P	Pn	14 53 38.6	-0.9
CPD	**Cerro la Pandu**	**1.28**	**187**	⇑*e*P	Pn	14 53 38.6	-1.3
CPD	**Cerro la Pandu**	**1.28**	**187**	*e*S	Sn	14 53 55.6	-1.0
CPD	**Cerro la Pandu**	**1.28**	**187**	⇓*e*P	Pn	14 53 39.4	-0.5
CPD	**Cerro la Pandu**	**1.28**	**187**	⇓*e*P	Pn	14 53 39.4	-0.5
CPD				*e*S	Sn	14 53 55.6	-1.0
CPD	**Cerro la Pandu**	**1.28**	**187**	⇑*e*P	Pn	14 53 38.6	-1.3
CPD	**Cerro la Pandu**	**1.28**	**187**	⇓*e*P	Pn	14 53 39.4	-0.5
CPD				*e*S	Sn	14 53 55.6	-1.0
AOPR	**Arecibo Observ**	**1.36**	**225**	⇑*e*P	Pn	14 53 39.9	-0.9
AOPR	**Arecibo Observ**	**1.36**	**225**	⇑*e*P	Pn	14 53 40.0	-0.9
AOPR	**Arecibo Observ**	**1.36**	**225**	*e*S	Sn	14 53 57.9	-0.5
AOPR	**Arecibo Observ**	**1.36**	**225**	⇑*e*P	Pn	14 53 39.9	-0.9
AOPR				*e*S	Sn	14 53 57.6	-0.7
AOPR				*e*S		14 53 57.9	
AOPR	**Arecibo Observ**	**1.36**	**225**	⇑*e*P	Pn	14 53 39.9	-0.9
AOPR	**Arecibo Observ**	**1.36**	**225**	⇑*e*P	Pn	14 53 40.0	-0.9
AOPR				*e*S	Sn	14 53 57.6	-0.7
AOPR				*e*S		14 53 57.9	
ABV	**Anegada**	**1.46**	**113**	⇑*e*P	Pn	14 53 41.2	-0.8
ABV	**Anegada**	**1.46**	**113**	⇑*e*P	Pn	14 53 41.2	-0.8
ABVI	**Anegada Island**	**1.46**	**113**	⇑*e*P	Pn	14 53 41.2	-0.8
LRS	**Lares**	**1.46**	**226**	⇓*e*P	Pn	14 53 41.6	-0.5
LRS	**Lares**	**1.46**	**226**	⇓*e*P	Pn	14 53 41.8	-0.4
LRS	**Lares**	**1.46**	**226**	⇓*e*P	Pn	14 53 41.8	-0.4
LRS	**Lares**	**1.46**	**226**	⇓*e*P	Pn	14 53 41.6	-0.5
LRS	**Lares**	**1.46**	**226**	⇓*e*P	Pn	14 53 41.8	-0.4
CELP	**Cerrillos**	**1.47**	**213**	⇓*e*P	Pn	14 53 41.6	-0.6
CELP	**Cerrillos**	**1.47**	**213**	⇓*e*P	Pn	14 53 42.0	-0.3
CELP	**Cerrillos**	**1.47**	**213**	⇓*e*P	Pn	14 53 42.0	-0.3
CELP	**Cerrillos**	**1.47**	**213**	⇓*e*P	Pn	14 53 41.6	-0.6
CELP	**Cerrillos**	**1.47**	**213**	⇓*e*P	Pn	14 53 42.0	-0.3
OBIP	**Obispado Ponce**	**1.51**	**213**	*e*P	Pn	14 53 42.4	-0.3
GBPR	**Guanica, Bosqu**	**1.71**	**219**	⇓*e*P	Pn	14 53 45.0	-0.5
GBPR	**Guanica, Bosqu**	**1.71**	**219**	*e*S	Sn	14 54 07.1	+0.5
GBPR	**Guanica, Bosqu**	**1.71**	**219**	⇓*e*P	Pn	14 53 45.0	-0.5
GBPR				*e*S	Sn	14 54 07.1	+0.5
GBPR	**Guanica, Bosqu**	**1.71**	**219**	⇓*e*P	Pn	14 53 45.0	-0.5
GBPR				*e*S	Sn	14 54 07.0	+0.4
GBPR				*e*S		14 54 07.1	

*IDC **14** 14:56:41.1±2.9, 9°.35N×126°.67E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=243.9km s-min=22.2km az=66.0*
*MAN **14** 14:56:46, 8°.89N×125°.83E, h70km, mb4.4, ML3.3, MS3.2*
*ISCJB **14** 14:56:48.0±0.9, 8°.90N±0°.06×125°.81E±0°.08, h66km, mb3.2/4, Error ellipse: s-maj=11.8km s-min=8.0km az=161.0*
ISC 14 14:56:49.7±1.1, 8°.91N±0°.06×125°.81E±0°.10, h66km, n11, σ1§81/13, mb3.3/4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.19**	**248**	*e*P	**Pn**	**14 57 07.8**	**-2.7**
CGP				*i* S	**Sn**	**14 57 25.4**	**-0.6**
BUKP	**Musuan**	**1.26**	**216**	*e*P	**Pn**	**14 57 09.4**	**-2.1**
MSLP	**Maasin**	**1.54**	**323**	*e*P	**Pn**	**14 57 12.5**	**-2.6**
MSLP				*e*S	**Sn**	**14 57 34.2**	**0.0**
MATI	**Mati**	**2.00**	**167**	*e*P	**Pn**	**14 57 19.2**	**-2.1**
CTBH	**Cotabato--PC H**	**2.28**	**223**	⇑*i*P	**Pn**	**14 57 23.8**	**-1.3**
PAGZ	**Pagadian**	**2.62**	**247**	*e*P	**Pn**	**14 57 30.4**	**+0.6**
GUIM	**Jordan**	**3.60**	**299**	*e*P	**Pn**	**14 57 42.4**	**-0.8**
WRA	**Warramunga Arr**	**29.87**	**164**	P	**P**	**15 02 52.9**	**+1.7**
	0.3nm,0.9s,baz=349,slow=9.4,SNR=3.2						
ASAR	**Alice Springs**	**33.33**	**166**	P	**P**	**15 03 22.4**	**+0.8**
	0.2nm,0.5s,baz=345,slow=7.4,SNR=8.0						
MKAR	**Makanchi Array**	**52.84**	**324**	P	**P**	**15 05 58.5**	**-0.1**
	0.3nm,0.8s,baz=122,slow=7.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**56.94**	**326**	P	**P**	**15 06 30.0**	**+1.9**
	0.1nm,0.4s,baz=128,slow=6.2,SNR=4.2						

*IDC **14** 14:56:48.5±7.7, 5°.99N×76°.73W, h82km±89km, mb1 4.2/1, mb1mx3.1/22, mbtmp4.5/1, ML3.1/1, Error ellipse: s-maj=373.5km s-min=63.3km az=27.0*
*FUNV **14** 14:56:51.7, 6°.98N×72°.98W, h157km, MW3.8*
ISC 14 14:56:50.1±1.2, 7°.00N±0°.07×72°.93W±0°.08, h158km±10km, n18, σ1§86/27, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.05**	**36**	⇑*i*P	**Pn**	**14 57 17.6**	**+1.2**
CAPV				*e*S	**Sn**	**14 57 36.4**	**-0.1**
VIGV	**El Vigia**	**2.40**	**40**	*e*P	**Pn**	**14 57 32.2**	**+1.8**
VIGV				*e*S	**Sn**	**14 58 02.0**	**+0.4**
SOCV	**Socops**	**2.42**	**58**	*e*P	**Pn**	**14 57 31.8**	**+1.1**
SOCV				*e*S	**Sn**	**14 58 01.5**	**-0.6**
ROSC	**El Rosal**	**2.54**	**213**	P	Pn	14 57 29.6	-3.0
	69nm,0.3s,baz=281,slow=16,SNR=40						
ROSC				S	**Sn

BATI				S	Sn	15 12 44.6	-7.4
	2.2nm,0.3s,baz=357,slow=18,SNR=3.7						
MTN	**Manton Dam**	**7.01**	**160**	P	**Pn**	**15 11 51.0**	**+2.4**
	baz=10,SNR=7.3						
KDU	**Kakadu**	**7.44**	**150**	P	Pn	15 11 57.9	+3.7
	baz=11,SNR=9.5						
KNRA	**Kununurra**	**9.39**	**179**	P	**Pn**	**15 12 18.9**	**-0.6**
	baz=13,SNR=5.6						
FITZ	**Fitzroy Crossi**	**12.16**	**194**	P	**Pn**	**15 12 55.4**	**+0.3**
	0.2nm,0.3s,baz=12,slow=9.5,SNR=20						
FITZ				S	Sn	15 14 59.7	-11
	0.1nm,0.3s,baz=180,slow=19,SNR=3.5						
FITZ	**Fitzroy Crossi**	**12.16**	**194**	P	**Pn**	**15 12 56.4**	**+1.2**
	baz=15,SNR=7.9						
WRA	**Warramunga Arr**	**14.71**	**158**	P	**Pn**	**15 13 26.1**	**-0.9**
	0.5nm,0.3s,baz=333,slow=12,SNR=30						
WRA				S	S	15 16 03.2	-7.3
	0.0nm,0.3s,baz=331,slow=21,SNR=4.0						
ASAR	**Alice Springs**	**18.06**	**164**	P	**P**	**15 14 03.7**	**-1.1**
	0.5nm,0.3s,baz=341,slow=10,SNR=72						
MKAR	**Makanchi Array**	**66.85**	**327**	P	**P**	**15 20 38.8**	**+0.2**
	0.2nm,0.4s,baz=115,slow=9.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**71.16**	**329**	P	**P**	**15 21 04.5**	**-0.5**
	0.2nm,0.5s,baz=135,slow=4.9,SNR=4.1						

FUNV 14 15:11:25.5, 10°.36N×72°.79W, h15km, MW3.8, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.40**	**69**	↑*eP*	Pg	15 11 33.1	-0.6
VIRV				*eS*	Sg	15 11 39.1	-0.1
VIGV	**El Vigia**	**2.06**	**137**	*eP*	Pn	15 11 59.2	-0.4
VIGV				*eS*	Sn	15 12 23.4	-1.6
DABV	**Dabajuro**	**2.19**	**75**	*eP*	Pn	15 12 01.0	-0.4
DABV				*eS*	Sn	15 12 27.1	-1.2
QARV	**Quebrada Arrib**	**2.23**	**94**	*eP*	Pn	15 12 00.5	-1.5
QARV				*eS*	Sn	15 12 27.3	-2.1
CAPV	**Capacho**	**2.52**	**169**	*eP*	Pn	15 12 04.8	-1.4
CAPV				*eS*	Sn	15 12 34.7	-2.1
IMOV	**Isla Los Monje**	**2.72**	**43**	*eP*	Pn	15 12 07.0	-1.7
CURV	**Curarigua**	**2.80**	**97**	*eP*	Pn	15 12 09.7	-0.2
CURV				*eS*	Sn	15 12 40.8	-2.8
SOCV	**Socops**	**2.81**	**137**	*eP*	Pn	15 12 09.3	-0.5
SOCV				*eS*	Sn	15 12 41.6	-1.9
SIQV	**Siquisique**	**2.94**	**84**	*eP*	Pn	15 12 11.0	-0.8
SIQV				*eS*	Sn	15 12 44.4	-2.6
MONV	**Montecano**	**3.19**	**60**	*eP*	Pn	15 12 14.6	-0.6
SANV	**Sanarito**	**3.31**	**105**	*eP*	Pn	15 12 16.2	-0.8
SANV				*eS*	Sn	15 12 53.8	-2.4
TEPV	**Terepaima**	**3.56**	**96**	*eP*	Pn	15 12 19.9	-0.4
MAPV	**Macapo**	**4.29**	**97**	*eP*	Pn	15 12 29.7	-0.7
ELOV	**Elorza**	**4.67**	**135**	*eP*	Pn	15 12 33.7	-1.7
TURV	**Turiamo**	**4.87**	**88**	*eP*	Pn	15 12 36.3	-1.9
BAUV	**El Baul**	**4.88**	**106**	*eP*	Pn	15 12 36.9	-1.5
BIRV	**Birongo**	**6.41**	**88**	*eP*	Pn	15 12 57.9	-1.6
CUPV	**Cępira**	**6.90**	**92**	*eP*	Pn	15 13 04.4	-1.8

IDC 14 15:19:17.8±2.2, 20°.54S×178°.35W, h523km±23km, mb3.1/11, mb1 3.3/12, mb1mx3.2/21, mbtmp3.1/12, Error ellipse: s-maj=21.9km s-min=17.2km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.26**	**261**	P	P	15 22 23.1	+3.0
	0.4nm,0.3s,baz=86,slow=19,SNR=7.5						
URZ	**Urewera**	**18.09**	**192**	P	P	15 22 57.1	-0.6
	0.7nm,0.3s,baz=323,slow=5.1,SNR=3.9						
CTA	**Charters Tower**	**33.16**	**264**	P	P	15 25 11.9	+0.9
	1.8nm,0.4s,baz=84,slow=11,SNR=9.5						
STKA	**Stephens Creek**	**37.48**	**244**	P	P	15 25 47.4	+0.5
	0.8nm,0.5s,baz=93,slow=14,SNR=3.9						
ASAR	**Alice Springs**	**44.19**	**257**	P	P	15 26 40.2	-0.3
	3.5nm,0.6s,baz=94,slow=7.6,SNR=106						
ASAR				ScP	ScP	15 31 15.1	-1.0
	0.9nm,0.8s,baz=115,slow=1.4,SNR=10						
WRA	**Warramunga Arr**	**44.27**	**262**	P	P	15 26 40.4	-0.7
	2.1nm,0.3s,baz=97,slow=7.5,SNR=36						
WRA				ScP	ScP	15 31 17.4	+0.9
	1.2nm,0.5s,baz=104,slow=2.7,SNR=30						
FITZ	**Fitzroy Crossi**	**52.70**	**262**	P	P	15 27 43.3	-0.5
	2.0nm,0.9s,baz=77,slow=11,SNR=8.6						
VNDA	**Vanda**	**57.84**	**185**	P	P	15 28 19.0	+0.3
	0.2nm,0.4s,baz=352,slow=8.8,SNR=5.2						
MJAR	**Matsushiro Arr**	**70.05**	**324**	P	P	15 29 37.2	+0.1
	0.4nm,0.5s,baz=154,slow=6.1,SNR=5.2						
PETK	**Petropavlovsk-**	**76.23**	**345**	P	P	15 30 12.4	+0.3
	0.6nm,0.6s,baz=139,slow=8.8,SNR=5.0						
ILAR	**Eielson Array**	**88.43**	**13**	P	P	15 31 13.2	-0.4
	0.3nm,0.5s,baz=223,slow=5.4,SNR=3.7						
PDAR	**Pinedale Array**	**89.22**	**43**	P	P	15 31 19.2	+1.1
	0.3nm,0.5s,baz=222,slow=2.4,SNR=2.6						
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P	P	15 31 21.2	+0.1
	0.4nm,0.5s,baz=142,slow=4.5,SNR=4.4						
AKASG	**Malin Array Be**	**142.89**	**331**	PKhKP	PKPpre	15 37 47.5	
	1.8nm,0.4s,baz=43,slow=4.3,SNR=9.6						
BRTR	**Keskin Array B**	**146.63**	**312**	PKPbc	PKPbc	15 37 60.0	-1.1
	0.4nm,0.5s,baz=106,slow=4.7,SNR=2.7						
GERES	**GERESS Array B**	**150.15**	**344**	PKPbc	PKPbc	15 38 08.0	-1.5
	0.4nm,0.3s,baz=299,slow=4.0,SNR=3.0						

*IDC **14** 15:21:21.6±1.1, 0°.72S×122°.57E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML4.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/21, Error ellipse: s-maj=47.2km s-min=18.3km az=65.0*
*ISCJB **14** 15:21:23.0±0.5, 0°.73S±0°.05×122°.47E±0°.05, h26km, mb3.4/5, Error ellipse: s-maj=7.9km s-min=6.6km az=164.0*
*DJA **14** 15:21:23.0±0.3, 1°S±2°×12°3E±°, h16km±5km, M4.3/13, mb4.5/3, mB4.6/2, MLv4.1/13, Mw(mB)3.8/2*
ISC 14 15:21:24.8±0.8, 0°.79S±0°.05×122°.60E±0°.06, h26km, n20, σ1°30/19, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.31**	**145**	P	**Pb**	**15 21 32.2**	**+0.2**
LUWI				S	**Sn**	**15 21 39.0**	**-0.3**
MRSI	**Marisa**	**1.42**	**332**	P	Pn	15 21 43.9	-5.0
MRSI				S	Sn	15 21 58.2	-8.5
GTOI	**Gorontalo**	**1.47**	**16**	P	**Pn**	**15 21 47.6**	**-2.1**
SKSI	**Soroako, Sulaw**	**2.14**	**216**	P	**Pn**	**15 21 58.1**	**-0.8**
TOLI	**Toli-Toli**	**2.62**	**316**	P	**Pn**	**15 22 06.2**	**+0.8**
KKSI	**Kolaka, Sulawe**	**3.49**	**196**	P	Pb	15 22 29.3	+3.3
TTSI	**Tana Toraja**	**3.57**	**231**	P	**Pn**	**15 22 17.7**	**-0.8**
MMSI	**Mamuju**	**4.14**	**243**	P	**Pn**	**15 22 25.1**	**-1.3**
SPSI	**Sidrap Palu**	**4.24**	**222**	P	**Pn**	**15 22 27.2**	**-0.5**
BBSI	**Bau Bau**	**4.67**	**180**	P	**Pn**	**15 22 33.9**	**+0.2**
LBMI	**Labuha**	**4.91**	**88**	P	**Pn**	**15 22 35.9**	**-1.1**
KAPI	**Kappang**	**5.07**	**214**	P	**Pn**	**15 22 37.4**	**-1.8**
	40nm,0.5s,616nm0.2nm						
KAPI	**Kappang**	**5.07**	**214**	Pn	**Pn**	**15 22 38.0**	**-1.2**
	10nm,0.3s,baz=37,slow=3.0,SNR=27						
KAPI				Sn	**Sn**	**15 23 34.3**	**-2.6**
	3.4nm,0.3s,baz=229,slow=19,SNR=4.2						
KAPI				LR	LR	15 24 36.5	
	comp=Z,81nm,20.5s,baz=164,slow=38						
BKSI	**Bulukumba**	**5.14**	**209**	P	**Pn**	**15 22 40.3**	**+0.2**
	20nm,0.8s,527nm0.1nm						
MYLDM	**Lahad Datu**	**7.20**	**325**	P	Pn	15 23 11.5	+3.0
WRA	**Warramunga Arr**	**22.24**	**150**	P	**P**	**15 26 21.4**	**+1.6**
	0.6nm,0.7s,baz=332,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**25.25**	**155**	P	**P**	**15 26 50.4**	**+1.4**
	0.9nm,0.5s,baz=345,slow=14,SNR=21						
CMAR	**Chiang Mai Arr**	**30.11**	**311**	P	**P**	**15 27 33.8**	**+1.2**
	0.4nm,0.4s,baz=123,slow=7.6,SNR=3.8						
SONM	**Songino Array**	**50.44**	**346**	P	**P**	**15 30 20.4**	**0.0**
	0.3nm,0.6s,baz=169,slow=8.4,SNR=2.4						
MKAR	**Makanchi Array**	**59.07**	**329**	P	**P**	**15 31 22.6**	**-0.3**
	0.1nm,0.3s,baz=130,slow=7.4,SNR=4.3						

KRSC 14 15:30:49.6±0.8, 49°.62N×156°.55E, h5km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.10**	**345**	*eP*	Pb	15 31 10.9	-0.2
SKR				*i* S	Sb	15 31 25.8	+0.1
PAU	**Pauzhetka**	**1.86**	**5**	P	Pn	15 31 23.0	+0.9
PAU				*i* S	Sb	15 31 47.1	-0.4
ASAK	**Asacha**	**2.90**	**17**	*eP*	Pn	15 31 37.9	+1.4
ASAK				*e*S	Sn	15 32 12.6	+0.9
MTVR	**Mutnovka**	**3.05**	**19**	P	Pn	15 31 39.8	+1.2
MTVR				*i* S	Sn	15 32 16.8	+1.2
RUS	**Russkaya**	**3.08**	**23**	*eP*	Pn	15 31 39.3	+0.5
RUS				*i* S	Sn	15 32 16.6	+0.6
SMAR	**Somma**	**3.91**	**20**	P	Pn	15 31 51.7	+1.1
SDLR	**Sedlovina**	**3.94**	**21**	P	Pn	15 31 52.9	+2.0
SPN	**Mys Shipunski**	**4.11**	**31**	P	Pn	15 31 54.3	+1.3
SPN				*i* S	Sn	15 32 42.6	+1.3
GNL	**Ganaly**	**4.17**	**11**	P	Pn	15 31 56.4	+2.4
MKZ	**Mys Kozlova**	**5.88**	**31**	P	Pn	15 32 18.0	+0.7
KBTR	**Krutoberegovo**	**7.61**	**27**	P	Pn	15 32 42.9	+1.9

*ISCJB **14** 15:31:09.8±1.0, 10°.6S±0°.1×124°.1E±0°.1, h10km, mb3.6/1, Error ellipse: s-maj=23.3km s-min=5.9km az=139.5*
*IDC **14** 15:31:10.2±1.8, 10°.31S×124°.26E, h0km, mb3.5/1, mb1 3.3/4, mb1mx3.2/20, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=36.9km s-min=11.8km az=17.0*
*DJA **14** 15:31:13.1±0.5, 10°S±5°×12°3E±°, h10km, M3.0/4, MLv3.0/4*
ISC 14 15:31:10.8±1.3, 10°.5S±0°.1×124°.2E±0°.1, h10km, n9, σ2°61/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.60**	**294**	P	**Pg**	**15 31 21.7**	**-0.7**
BATI				S	**Sg**	**15 31 29.3**	**-1.0**
BATI	**Baumata**	**0.60**	**294**	Pg	**Pg**	**15 31 21.9**	**-0.6**
	78nm,0.3s,baz=151,slow=4.4,SNR=124						
BATI				Lg	Lg	15 31 30.0	
	279nm,0.3s,baz=40,slow=17,SNR=40						
SOEI	**Soe**	**0.69**	**4**	P	Pn	15 31 30.1	+3.3
MMRI	**Maumere**	**2.66**	**312**	P	Pn	15 31 40.8	-13
LBFI	**Labuhan Bajo,**	**4.70**	**294**	P	Pn	15 32 12.1	-10
FITZ	**Fitzroy Crossi**	**7.73**	**170**	Pn	**Pn**	**15 33 06.2**	**+2.7**
	0.2nm,0.3s,baz=358,slow=12,SNR=13						
FITZ				Sn	**Sn**	**15 34 30.7**	**-0.5**
	0.2nm,0.3s,baz=126,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	**13.57**	**135**	Pn	**Pn**	**15 34 24.9**	**+1.3**
	0.1nm,0.3s,baz=308,slow=11,SNR=5.7						
WRA				Sn	**Sn**	**15 36 50.9**	**-3.7**
	0.1nm,0.3s,baz=312,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**16.07**	**146**	Pn	**Pn**	**15 34 58.7**	**+1.7**
	0.1nm,0.3s,baz=318,slow=12,SNR=8.9						
ASAR				Sn	**Sn**	**15 37 50.9**	**-4.5**
	0.0nm,0.3s,baz=312,slow=21,SNR=3.2						
MKAR	**Makanchi Array**	**68.17**	**330**	P	**P**	**15 42 11.6**	**+0.3**
	0.4nm,0.7s,baz=149,slow=6.7,SNR=4.0						

*IDC **14** 15:53:20.0±2.3, 24°.41N×125°.33E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, Error ellipse: s-maj=170.4km s-min=20.7km az=65.0*
*ISCJB **14** 15:53:23.6±0.7, 24°.21N±0°.05×125°.24E±0°.05, h29km, mb3.4/5, Error ellipse: s-maj=8.4km s-min=5.5km az=42.9*
*JMA **14** 15:53:25.3±0.2, 24°.32N×125°.17E, h41km, M3.0*
ISC 14 15:53:24.9±1.0, 24°.33N±0°.09×125°.15E±0°.06, h29km, n15, σ0°66/19, mb3.4/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.49**	**28**	P	**Pn**	**15 53 35.9**	**0.0**
JOGS				S	**Sn**	**15 53 43.9**	**+0.4**
JMJ	**Miyako jima 2**	**0.50**	**15**	P	**Pn**	**15 53 35.9**	**-0.2**
JMJ				S	**Sn**	**15 53 43.9**	**+0.1**
JTJ	**Tarama**	**0.51**	**307**	P	**Pn**	**15 53 36.3**	**+0.1**
JTJ				S	**Sn**	**15 53 44.4**	**+0.3**
JIJ	**Ishigaki jima**	**0.92**	**272**	P	**Pb**	**15 53 42.2**	**0.0**
JKRS	**Kuro-shima**	**1.04**	**265**	P	**Pb**	**15 53 45.0**	**+0.6**
HATJ	**Hateruma jima**	**1.26**	**258**	P	**Pb**	**15 53 47.2**	**-0.8**
IRIF	**Iriomote-Funau**	**1.30**	**271**	P	**Pb**	**15 53 48.1**	**-0.5**
YOJ	**Yonaguni jima**	**1.96**	**274**	P	**Pn**	**15 53 57.2**	**+1.1**
JKE	**Kume jima 2**	**2.48**	**36**	P	**Pn**	**15 54 03.7**	**+0.4**
JKE				S	**Sn**	**15 54 32.7**	**+0.1**
JAGN	**Aguni-jima**	**2.94**	**40**	P	**Pn**	**15 54 11.2**	**+1.6**
MKAR	**Makanchi Array**	**40.79**	**314**	P	**P**	**16 01 03.8**	**+0.2**
	0.4nm,0.4s,baz=102,slow=9.5,SNR=13						
ZALV	**Zalesovo Beam**	**42.14**	**325**	P	**P**	**16 01 13.6**	**-0.9**
	0.3nm,0.4s,baz=105,slow=8.1,SNR=2.5						
WRA	**Warramunga Arr**	**44.91**	**168**	P	**P**	**16 01 36.3**	**-0.8**
	0.3nm,0.6s,baz=348,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	**48.46**	**169**	P	**P**	**16 02 05.1**	**+0.1**
	0.2nm,1.0s,baz=357,slow=7.7,SNR=3.5						
FINES	**FINESS Array B**	**73.13**	**330**	P	**P**	**16 04 52.3**	**0.0**
	2.1nm,1.1s,baz=90,slow=9.7,SNR=4.4						

*IDC **14** 16:24:04.8±1.8, 43°.10S×170°.77E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.5/3, Error ellipse: s-maj=102.4km s-min=38.9km az=30.0*
*ISCJB **14** 16:24:05.3±0.6, 43°.25S±0°.03×170°.74E±0°.05, h12km±4km, mb3.5/3, Error ellipse: s-maj=6.7km s-min=4.5km az=28.8*
*WEL **14** 16:24:05.8±0.1, 43°.26S×170°.79E, h3km, ML4.1/23, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.
ISC 14 16:24:05.6±1.0, 43°.26S±0°.03×170°.76E±0°.04, h9km±8km, n34, σ0°82/35, mb3.4/3, 4C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.19**	**355**	↓↓PG	**Pg**	**16 24 09.4**	**0.0**
WVZ				SG	**Sg**	**16 24 12.0**	**+0.1**
WVZ				AML	AML	16 24 12.1	
WVZ				AML	AML	16 24 12.1	
WVZ				AML	AML	16 24 12.2	
RPZ	**Rata Peaks**	**0.50**	**155**	↑PG	**Pg**	**16 24 15.8**	**+0.5**
RPZ				SG	**Sg**	**16 24 22.7**	**+0.8**
RPZ				AML	AML	16 24 23.1	
FOZ	**Fox Glacier**	**0.83**	**248**	P*	**Pg**	**16 24 20.4**	**-1.2**
FOZ				AML	AML	16 24 34.7	
FOZ				AML	AML	16 24 34.7	
FOZ				AML	AML	16 24 35.1	
FOZ				AML	AML	16 24 35.1	
LBZ	**Lake Benmore**	**1.20**	**200**	↑↑P*	**Pb**	**16 24 28.3**	**-0.2**
LBZ				AML	AML	16 24 49.8	
LBZ				AML	AML	16 24 49.9	
LBZ				AML	AML	16 24 52.6	
LBZ				AML	AML	16 24 53.6	
LTZ	**Lake Taylor**	**1.21**	**67**	↑↑P*	**Pb**	**16 24 28.0**	**-0.6**
LTZ				AML	AML	16 24 47.5	
LTZ				AML	AML	16 24 49.0	
CRLZ	**Canterbury Las**	**1.39**	**104**	Pn	**Pn**	**16 24 31.1**	**-0.1**
CRLZ				AML	AML	16 24 38.6	
CRLZ				AML	AML	16 24 51.5	
MQZ	**McQueen's Vall**	**1.45**	**109**	↓↓PN	**Pn**	**16 24 31.8**	**-0.2**
JCZ	**Jackson Bay**	**1.66**	**240**	↓↓PN	**Pn**	**16 24 35.4**	**+0.4**
JCZ				AML	AML	16 25 05.2	
JCZ				AML	AML	16 25 07.2	
ODZ	**Otahua Downs**	**1.79**	**183**	PN	**Pn**	**16 24 37.4**	**+0.8**
WKZ	**Wanaka**	**2.01**	**218**	PN	**Pn**	**16 24 40.5**	**+0.8**
WKZ				AML	AML	16 25 15.0	
WKZ				AML	AML	16 25 19.3	
WKZ				AML	AML	16 25 20.5	
WKZ				AML	AML	16 25 21.9	
THZ	**Tophouse**	**2.18**	**47**	PN	**Pn**	**16 24 42.8**	**+0.7**
THZ				AML	AML	16 25 13.4	
THZ				AML	AML	16 25 14.0	
KHZ	**Kahutara**	**2.21**	**69**	PN	**Pn**	**16 24 42.5**	**0.0**
KHZ				AML	AML	16 24 51.7	
KHZ				AML	AML	16 25 14.5	
EAZ	**Earnscleugh**	**2.23**	**207**	↑↑PN	**Pn**	**16 24 42.7**	**0.0**
EAZ				AML	AML	16 24 52.6	
EAZ				AML	AML	16 24 52.7	
EAZ				AML	AML	16 25 32.4	
EAZ				AML	AML	16 25 32.4	
MSZ	**Milford Sound**	**2.48**	**234**	PN	**Pn**	**16 24 48.2**	**+2.0**
MSZ				AML	AML	16 25 29.3	
MSZ				AML	AML	16 25 31.9	
MSZ				AML	AML	16 25 32.4	
MSZ				AML	AML	16 25 32.5	
QRZ	**Quartz Range**	**2.77**	**29**	PN	**Pn**	**16 24 50.1**	**0.0**
QRZ				AML	AML	16 24 57.5	
QRZ				AML	AML	16 25 36.8	
MLZ	**Mavora Lakes**	**2.79**	**221**	PN	**Pn**	**16 24 51.6**	**+1.2**
MLZ				AML	AML	16 25 49.6	
MLZ				AML	AML	16 25 49.8	
TUZ	**Tuapeka**	**2.81**	**196**	PN	**Pn**	**16 24 51.0**	**+0.3**
TUZ				AML	AML	16 25 46.3	
TUZ				AML	AML	16 25 52.4	
NNZ	**Nelson**	**2.82**	**45**	PN	**Pn**	**16 24 52.1**	**+1.3**
NNZ				AML	AML	16 25 32.2	
NNZ				AML	AML	16 25 44.8	
TUWZ	**Tuamarina**	**2.99**	**53**	PN	**Pn**	**16 24 53.9**	**+0.8**
TUWZ				AML	AML	16 25 04.3	
TUWZ				AML	AML	16 25 34.6	
WHZ	**Wether Hill Ro**	**3.31**	**216**	PN	**Pn**	**16 24 57.1**	**-0.5**
WHZ				AML	AML	16 25 40.6	
WHZ				AML	AML	16 26 01.3	
TCW	**Tory Channel**	**3.32**	**53**	PN	**Pn**	**16 24 58.7**	**+1.0**
TCW				AML	AML	16 25 45.6	
TCW				AML	AML	16 25 46.6	
DUWZ	**D'Urville Isla**	**3.40**	**45**	PN	**Pn**	**16 25 00.1**	**+1.2**
DUWZ				AML	AML	16 25 43.2	
DUWZ				AML	AML	16 25 46.9	
SYZ	**Scrubby Hill**	**3.47**	**199**	PN	**Pn**	**16 24 59.3**	**-0.5**
SNZO	**South Karori**	**3.52**	**58**	PN	**Pn**	**16 25 00.2**	**-0.2**
CAW	**Cannon Point**	**3.86**	**58**	PN	**Pn**	**16 25 04.6**	**-0.5**
CAW				AML	AML	16 25 52.1	
CAW				AML	AML	16 26 10.7	
KIW	**Kapiti Island**	**3.91**	**54**	AML	AML	16 26 02.8	
APZ	**The Paps**	**4.08**	**208**	PN	**Pn**	**16 25 06.5**	**-1.6**
MRZ	**Mangataiinoka R**	**4.43**	**56**	PN	**Pn**	**16 25 11.6**	**-1.4**
MRZ				AML	AML	16 26 24.5	
MRZ				AML	AML	16 26 30.3	
ASAR	**Alice Springs**	**36.05**	**291**	P	**P**	**16 31 07.5**	**+0.1**
	0.3nm,0.5s,baz=129,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**38.32**	**296**	P	**P**	**16 31 26.9**	**+0.2**
	0.3nm,0.5s,baz=135,slow=7.5,SNR=9.2						
FITZ	**Fitzroy Crossi**	**45.48**	**289**	P	**P**	**16 32 25.3**	**+0.1**
	1.6nm,1.1s,baz=119,slow=13,SNR=2.6						
BRTR	**Keskin Array B**	**147.94**	**279**	PKPbc	**PKPbc**	**16 43 50.5**	**-0.6**
	0.8nm,0.6s,baz=134,slow=4.2,SNR=5.9						
ARCES	**ARCESS Array B**	**148.25**	**338**	PKPbc	**PKPbc**	**16 43 50.8**	**-0.1**
	3.8nm,1.0s,baz=27,slow=4.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**148.54**	**201**	PKPbc	**PKPbc**	**16 43 53.9**	**+0.7**
	0.5nm,0.5s,baz=169,slow=1.1,SNR=8.0						

IDC 14 16:28:38.8±3.7, 22°.36N×143°.34E, h112km±31km, mb3.5/13, mb1 3.6/13, mb1mx3.5/29, mbtmp3.5/13, Error ellipse: s-maj=31.0km s-min=11.8km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.82**	**344**	P	Pn	16 31 59.6	-3.0
	0.2nm,0.3s,baz=162,slow=9.8,SNR=5.2						
KSRS	**Korea Array**	**20.08**	**322**	P	P	16 33 03.3	-0.1
	1.3nm,0.7s,baz=135,slow=12,SNR=14						
SONM	**Songino Array**	**38.93**	**320**	P	P	16 35 53.8	0.0
	0.5nm,0.4s,baz=126,slow=7.8,SNR=5.6						
CTA	**Charters Tower**	**42.28**	**176**	P	P	16 36 21.9	+0.5
	0.5nm,0.3s,baz=0.0,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**42.95**	**192**	P	P	16 36 26.6	-0.3
	0.4nm,0.3s,baz=17,slow=9.0,SNR=22						
FITZ	**Fitzroy Crossi**	**43.78**	**205**	P	P	16 36 33.4	-0.1
	0.8nm,0.5s,baz=30,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**46.66**	**192**	P	P	16 36 55.6	-0.7
	0.3nm,0.5s,baz=12,slow=7.1,SNR=11						
ASAR				ScP	ScP	16 42 11.3	-0.4
	0.4nm,0.9s,baz=14,slow=4.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**53.79**	**321**	P	P	16 37 49.5	-0.1
	1.2nm,0.5s,baz=116,slow=7.6,SNR=6.2						
STKA	**Stephens Creek**	**53.95**	**182**	P	P	16 37 50.5	-0.5
	1.1nm,0.8s,baz=350,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**54.36**	**312**	P	P	16 37 54.7	+0.7
	0.9nm,0.6s,baz=92,slow=8.4,SNR=12						
MKAR				pP	pP	16 38 18.5	-2.2
	0.3nm,0.5s,baz=90,slow=8.6,SNR=3.0						
BVAR	**Borovoye Array**	**62.27**	**319**	P	P	16 38 49.5	+0.7
	4.7nm,0.6s,baz=93,slow=7.4,SNR=28						
BVAR				pP	pP	16 39 12.4	-3.7
	1.0nm,0.4s,baz=92,slow=7.3,SNR=5.0						
NVAR	**Mina Array Bea**	**82.62**	**52**	P	P	16 40 50.3	+0.2
	0.6nm,0.7s,baz=285,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**82.65**	**334**	P	P	16 40 48.5	-1.0
	0.8nm,0.3s,baz=59,slow=4.4,SNR=15						
HFS	**Hagfors**	**88.18**	**337**	P	P	16 41 15.1	-1.8
	0.8nm,0.3s,baz=357,slow=2.9,SNR=6.6						
PLCA	**Paso Flores**	**146.08**	**131**	PKPbc	PKPbc	16 48 05.8	-0.2
	2.7nm,0.7s,baz=236,slow=4.1,SNR=4.7						
LPAZ	**La Paz**	**149.73**	**84**	PKPbc	PKPbc	16 48 17.2	+0.1
	0.7nm,0.6s,baz=270,slow=6.1,SNR=3.6						

**IDC 14 16:37:26.1±1.1, 15°.

17nm,0.3s,baz=129,slow=6.5,SNR=23
PSI S Sn 16 42 56.5 -1.3
1.4nm,0.3s,baz=291,slow=20,SNR=5.9
WRA Warramunga Arr 40.36 124 P P 16 49 28.5 +0.2
1.5nm,0.3s,baz=303,slow=8.9,SNR=51
ASAR Alice Springs 41.89 129 P P 16 49 40.4 -0.5
0.3nm,0.4s,baz=301,slow=7.3,SNR=22
MKAR Makanchi Array 47.26 344 P P 16 50 23.3 +0.3
1.0nm,0.3s,baz=160,slow=7.9,SNR=26
ZALV Zalesovo Beam 53.35 349 P P 16 51 07.8 -0.7

IDC 14 16:53:17.1±7.6, 5°.94S×128°.68E, h280km±83km, mb2.7/1, mb1 2.7/4, mb1mx2.5/20, mbtmp2.5/4, Error ellipse: s-maj=80.4km s-min=23.5km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.54**	**229**	P	Pn	16 54 53.5	+1.0
	7.1nm,0.3s,baz=54,slow=5.8,SNR=16						
BATI				S	S	16 56 08.2	-1.1
	0.7nm,0.3s,baz=72,slow=20,SNR=3.0						
FITZ	**Fitzroy Crossi**	**12.45**	**194**	P	Pn	16 56 06.2	+0.7
	0.1nm,0.3s,baz=20,slow=12,SNR=6.5						
FITZ				S	S	16 58 21.0	-3.1
	0.0nm,0.3s,baz=143,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**14.97**	**159**	P	P	16 56 34.6	-0.3
	0.2nm,0.3s,baz=340,slow=12,SNR=14						
WRA				S	S	16 59 11.6	-7.8
	0.1nm,0.3s,baz=337,slow=18,SNR=4.8						
ASAR	**Alice Springs**	**18.33**	**165**	P	P	16 57 11.6	0.0
	0.1nm,0.3s,baz=346,slow=12,SNR=12						
ASAR				S		17 00 20.6	-5.7
	0.1nm,0.3s,baz=346,slow=19,SNR=6.9						
MKAR	**Makanchi Array**	**66.63**	**327**	P	P	17 03 37.8	0.0
	0.1nm,0.4s,baz=133,slow=9.4,SNR=3.6						

---

*ISCJB **14** 17:03:05.3±0.7, 18°.86S±0°.10×169°.3E±0°.1, h246km, mb3.9/13, Error ellipse: s-maj=18.2km s-min=10.1km az=37.5*
*IDC **14** 17:03:07.7±2.6, 19°.11S×169°.37E, h265km±25km, mb3.6/12, mb1 3.7/13, mb1mx3.6/20, mbtmp3.5/13, Error ellipse: s-maj=19.6km s-min=16.8km az=148.0*
*AUST **14** 17:03:10.7±2.9, 19°.04S×169°.54E, h306km, Error ellipse: s-maj=1.9km s-min=1.7km az=335.0*
ISC 14 17:03:05.9±0.8, 18°.9S±0°.1×169°.5E±0°.1, h246km, n32, σ1°31/32, mb3.9/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.25**	**221**	P	**Pn**	**17 04 11.3**	**-1.3**
	4.5nm,0.3s,baz=58,slow=17,SNR=65						
DZM				S	**S**	**17 05 10.4**	**+4.7**
	baz=114,slow=16,SNR=1.8						
NOUC	**Port Laguerre**	**4.36**	**222**	*e*P	**Pn**	**17 04 13.1**	**-0.8**
LHI	**Lord Howe Isla**	**15.70**	**215**	P	**Pn**	**17 06 35.5**	**+0.9**
	baz=16,SNR=3.2						
EIDS	**Eidsvold**	**18.20**	**246**	P	**P**	**17 07 01.5**	**+0.4**
	baz=18,SNR=4.5						
ARMA	**Armidale**	**19.84**	**231**	P	**P**	**17 07 18.7**	**+0.1**
	baz=20,SNR=5.7						
RMQ	**Roma**	**20.53**	**245**	P	**P**	**17 07 26.1**	**+0.1**
	baz=20,SNR=11						
MGCD	**Mangrove Creek**	**21.76**	**225**	P	**P**	**17 07 38.0**	**0.0**
	baz=22,SNR=5.5						
CTA	**Charters Tower**	**21.91**	**263**	P	**P**	**17 07 39.1**	**-0.5**
	2.7nm,0.4s,baz=84,slow=12,SNR=19						
PMG	**Port Moresby**	**23.56**	**290**	P	**P**	**17 07 55.3**	**+0.6**
	13nm,0.9s,baz=114,slow=10,SNR=3.7						
MTSU	**Mount Surprise**	**23.85**	**268**	P	**P**	**17 07 58.0**	**+0.7**
	baz=24,SNR=35						
CMSA	**Cobar Meteorol**	**24.86**	**235**	P	**P**	**17 08 05.4**	**-0.9**
	baz=25,SNR=9.2						
MANU	**Manus Island**	**27.36**	**305**	S	S	17 12 37.0	-13
	baz=28,SNR=3.7						
STKA	**Stephens Creek**	**28.21**	**237**	P	**P**	**17 08 35.5**	**-0.7**
	5.5nm,0.6s,baz=67,slow=7.7,SNR=25						
STKA	**Stephens Creek**	**28.21**	**237**	P	**P**	**17 08 36.0**	**-0.2**
	baz=28,SNR=22						
WRA	**Warramunga Arr**	**33.11**	**262**	P	**P**	**17 09 17.3**	**-2.0**
	1.2nm,0.3s,baz=84,slow=6.6,SNR=70						
ASAR	**Alice Springs**	**33.42**	**255**	P	**P**	**17 09 20.6**	**-1.3**
	22nm,0.5s,baz=81,slow=8.9,SNR=1006						
KDU	**Kakadu**	**36.07**	**274**	P	**P**	**17 09 44.1**	**-0.5**
	baz=36,SNR=3.1						
MTN	**Manton Dam**	**37.30**	**273**	P	**P**	**17 09 54.6**	**-0.3**
	baz=37,SNR=4.7						
KNRA	**Kununurra**	**38.93**	**268**	P	**P**	**17 10 07.5**	**-1.0**
	baz=39,SNR=9.2						
FITZ	**Fitzroy Crossi**	**41.49**	**264**	P	**P**	**17 10 29.0**	**-0.4**
	6.9nm,0.6s,baz=108,slow=6.8,SNR=63						
FITZ	**Fitzroy Crossi**	**41.49**	**264**	P	**P**	**17 10 29.1**	**-0.3**
	baz=42,SNR=29						
MEEK	**Meekatharra**	**47.27**	**251**	P	**P**	**17 11 13.9**	**-1.1**
	baz=47,SNR=10.0						
VNDA	**Vanda**	**58.80**	**182**	P	**P**	**17 12 36.2**	**-1.8**
	0.7nm,0.6s,baz=7.3,slow=7.1,SNR=5.3						
MJAR	**Matsushiro Arr**	**62.53**	**332**	P	**P**	**17 13 04.0**	**+0.2**
	1.8nm,1.2s,baz=170,slow=7.2,SNR=4.5						
PETK	**Petropavlovsk-**	**72.41**	**353**	P	**P**	**17 14 06.8**	**+1.7**
	1.9nm,0.7s,baz=153,slow=10.0,SNR=9.2						
SONM	**Songino Array**	**87.06**	**323**	P	**P**	**17 15 24.4**	**+0.6**
	0.6nm,0.6s,baz=152,slow=6.7,SNR=5.0						
NVAR	**Mina Array Bea**	**88.41**	**48**	P	**P**	**17 15 31.8**	**+1.3**
	0.6nm,0.7s,baz=224,slow=8.2,SNR=5.0						
ILAR	**Eielson Array**	**89.83**	**17**	P	**P**	**17 15 35.5**	**-0.8**
	0.7nm,0.8s,baz=233,slow=5.8,SNR=7.6						
TXAR	**Lajitas Array**	**96.41**	**61**	P	**P**	**17 16 08.9**	**+1.4**
	0.2nm,0.6s,baz=180,slow=6.3,SNR=3.0						
ARCES	**ARCESS Array B**	**124.77**	**345**	PKP	**PKPdf**	**17 21 34.6**	**-1.1**
	0.4nm,0.3s,baz=73,slow=2.6,SNR=10						
FINES	**FINESS Array B**	**130.33**	**338**	SKPbc	**SKPbc**	**17 24 45.5**	**-0.8**
	1.5nm,0.9s,baz=106,slow=4.9,SNR=4.2						
GERES	**GERESS Array B**	**144.27**	**332**	PKP	**PKPab**	**17 22 11.0**	**-0.2**
	0.8nm,0.6s,baz=64,slow=6.1,SNR=5.6						

IGQ 14 17:04:29.2, 0°.07N×78°.44W, h9km±53km, Mb4.0, Ms3.8, 12C-15D, Error ellipse: s-maj=0.9km s-min=0.7km az=2.9, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**0.17**	**357**	⇑P	Pg	17 04 32.8	-0.6
YANA	**Yana**	**0.23**	**214**	S	Sg	17 04 37.6	-0.5
YANA	**Yana**	**0.23**	**214**	P	Pg	17 04 34.1	-0.4
QTOE	**Estacion Edusi**	**0.24**	**191**	⇓P	Pg	17 04 35.4	+0.7
PINO	**Pino**	**0.28**	**216**	⇑P	Pg	17 04 35.4	-0.2
COTA	**Cotacachi**	**0.28**	**22**	⇓P	Pg	17 04 35.5	-0.1
GGP	**Refugio Guagua**	**0.29**	**212**	⇑P	Pg	17 04 35.5	-0.3
TERV	**Terraza Guagua**	**0.29**	**214**	⇑P	Pg	17 04 35.6	-0.2
QUEM	**Puengasi**	**0.31**	**190**	⇑P	Pb	17 04 37.5	0.0
JUA2	**San Juan 2**	**0.33**	**210**	⇑P	Pg	17 04 35.8	-0.5
ANGU	**Angureal**	**0.44**	**93**	⇓P	Pg	17 04 38.6	+0.1
CAYA	**Cayambe**	**0.45**	**90**	⇑P	Pg	17 04 38.9	+0.1
ANTI	**Antisana**	**0.59**	**151**	⇓P	Pg	17 04 41.2	-0.2
PITA	**Cotopaxi Volc**	**0.62**	**179**	⇓P	Pg	17 04 42.1	+0.1
GOLV	**Golondrinas**	**0.71**	**281**	⇓S	Sg	17 04 51.8	-0.5
GOLV	**Golondrinas**	**0.71**	**281**	⇓P	Pg	17 04 42.8	-0.1
VC1	**Cotopaxi 1**	**0.71**	**177**	P	Pg	17 04 43.7	+0.1
NAS2	**Nasa**	**0.71**	**182**	S	Sg	17 04 53.5	+0.1
NAS2	**Nasa**	**0.71**	**182**	P	Pg	17 04 43.9	+0.2
COV1	**Cotopaxi Volc**	**0.73**	**172**	⇓S	Sb	17 04 55.3	-0.5
COV1	**Cotopaxi Volc**	**0.73**	**172**	⇓P	Pg	17 04 44.5	+0.3
BREF	**Cotopaxi Volca**	**0.73**	**180**	⇑P	Pg	17 04 44.2	-0.1
BREF	**Cotopaxi Volca**	**0.73**	**180**	⇑S	Sg	17 04 54.5	+0.1
BNAS	**Cotopaxi Volca**	**0.74**	**183**	⇑P	Pg	17 04 44.4	+0.2
BTAM	**Cotopaxi Volca**	**0.74**	**176**	P	Pg	17 04 44.3	0.0
CAMI	**Rancho Maria**	**0.74**	**185**	P	Pg	17 04 44.5	+0.3
CAMI	**Rancho Maria**	**0.74**	**185**	S	Sg	17 04 54.8	+0.4
TAMB	**Tambo**	**0.76**	**174**	⇑P	Pg	17 04 44.5	-0.2
MOV1	**Cotopaxi Vol s**	**0.78**	**180**	P	Pg	17 04 44.7	-0.3
CHAR	**Charly**	**0.79**	**101**	⇓S	Sg	17 04 55.6	-0.1
CHAR	**Charly**	**0.79**	**101**	⇓P	Pg	17 04 45.2	+0.2
BMOR	**Cotopaxi Volca**	**0.80**	**181**	P	Pg	17 04 44.8	-0.5
CONE	**Cono NE Rev Vo**	**0.81**	**100**	⇓S	Sg	17 04 55.6	-0.7
CONE	**Cono NE Rev Vo**	**0.81**	**100**	⇓P	Pg	17 04 45.4	+0.1
LAV4	**Lava4-Reventad**	**0.83**	**101**	⇓P	Pg	17 04 45.5	-0.1
LAV4	**Lava4-Reventad**	**0.83**	**101**	⇓S	Sg	17 04 56.2	-0.5
MAG1	**Magdalena**	**1.34**	**264**	⇑P	Pn	17 04 54.2	+0.1
BULB	**Ulba Tungurahu**	**1.50**	**179**	P	Pg	17 04 58.2	-0.3
BMAS	**Trigal station**	**1.56**	**181**	S	Sg	17 05 19.9	-0.5
BMAS	**Trigal station**	**1.56**	**181**	P	Pn	17 04 57.8	+0.1
ARRY	**Arrayan**	**1.57**	**180**	S	Sn	17 05 17.9	-0.5
ARRY	**Arrayan**	**1.57**	**180**	P	Pb	17 04 58.3	-0.5

---

*ISCJB **14** 17:08:21.0±0.7, 33°.21N±0°.08×138°.4E±0°.1, h300km, mb2.6/2, Error ellipse: s-maj=12.9km s-min=9.9km az=24.1*
*JMA **14** 17:08:21.8±0.2, 33°.42N×138°.34E, h314km, M2.8*
*IDC **14** 17:08:21.7±6.2, 33°.25N×138°.27E, h300km±184km, mb2.5/2, mb1 2.7/4, mb1mx2.4/28, mbtmp2.4/4, Error ellipse: s-maj=222.3km s-min=44.9km az=13.0*
ISC 14 17:08:22.0±1.1, 33°.29N±0°.10×138°.3E±0°.1, h300km, n10, σ1°16/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.31**	**97**	P	**Pn**	**17 09 05.5**	**+1.6**
JIE	**Ise**	**1.71**	**311**	P	**Pn**	**17 09 07.6**	**+1.2**
JWY	**Kouya**	**2.42**	**293**	P	**Pn**	**17 09 12.5**	**+0.2**
BSO1	**Boso 1**	**2.63**	**58**	P	**Pn**	**17 09 13.0**	**-0.4**
BSO1				S	**S**	**17 09 53.9**	**-0.7**
JRY	**Ryogami san**	**2.77**	**11**	P	**Pn**	**17 09 17.4**	**+2.0**
MJAR	**Matsushiro Arr**	**3.24**	**359**	P	**Pn**	**17 09 21.0**	**+0.9**
	0.4nm,0.3s,baz=173,slow=11,SNR=9.1						
MJAR				S	**S**	**17 10 06.8**	**+0.2**
	baz=209,slow=17,SNR=3.0						
JAG	**Ashikaga**	**3.27**	**17**	P	**Pn**	**17 09 20.8**	**+0.4**
JAG				*e*S	**S**	**17 10 05.5**	**-1.6**
KSRS	**Korea Array**	**9.42**	**299**	P	**Pn**	**17 10 33.1**	**+0.3**
	0.2nm,0.3s,baz=116,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**53.07**	**185**	P	**P**	**17 17 07.9**	**-1.1**
	0.3nm,0.8s,baz=0.1,slow=7.6,SNR=4.4						
ASAR	**Alice Springs**	**56.79**	**185**	P	**P**	**17 17 35.5**	**-0.1**
	0.2nm,0.8s,baz=4.4,slow=5.2,SNR=4.7						

---

*IDC **14** 17:11:33.1±4.7, 28°.11N×141°.28E, h201km±40km, mb3.2/3, mb1 3.2/5, mb1mx2.8/25, mbtmp3.0/5, Error ellipse: s-maj=107.4km s-min=19.5km az=82.0*
*ISCJB **14** 17:11:36.3±0.6, 28°.07N±0°.06×141°.2E±0°.2, h250km, mb3.2/3, Error ellipse: s-maj=21.9km s-min=6.1km az=163.1*
*JMA **14** 17:11:38.2±0.2, 28°.03N×140°.85E, h222km, M3.9*
ISC 14 17:11:37.1±0.8, 28°.11N±0°.09×141°.3E±0°.2, h250km, n12, σ1°91/14, mb3.4/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.29**	**141**	P	**Pn**	**17 12 14.1**	**+0.1**
CBIJ				S	**S**	**17 12 42.3**	**-0.7**
JHHJ	**Haha-jima-NKT**	**1.68**	**151**	P	**Pn**	**17 12 16.7**	**-0.2**
JHHJ				S	**S**	**17 12 46.2**	**-1.9**
JHJ2	**Mitsune**	**5.14**	**346**	*e*S	**S**	**17 13 54.6**	**-1.8**
BSO1	**Boso 1**	**6.53**	**358**	*e*S	**S**	**17 14 27.7**	**+0.8**
JHU	**Hanno**	**7.91**	**348**	P	**Pn**	**17 13 30.3**	**+1.2**
JHU				*e*S	**S**	**17 14 54.6**	**-4.7**
JAO	**Obara**	**7.92**	**335**	P	**Pn**	**17 13 30.8**	**+1.5**
JHO	**Hitachi**	**8.50**	**356**	P	**Pn**	**17 13 37.8**	**+1.2**
MJAR	**Matsushiro Arr**	**8.80**	**344**	P	Pn	17 13 36.1	-4.4
	0.1nm,0.3s,baz=174,slow=7.3,SNR=3.7						
MJAR				S	S	17 15 09.2	-11
	0.1nm,0.3s,baz=145,slow=15,SNR=3.6						
KSRS	**Korea Array**	**14.58**	**313**	P	**P**	**17 14 51.0**	**-1.2**
	0.1nm,0.3s,baz=118,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**48.23**	**189**	P	**P**	**17 19 53.8**	**+0.8**
	0.8nm,0.5s,baz=5.8,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**51.96**	**189**	P	**P**	**17 20 21.6**	**+0.7**
	0.2nm,0.7s,baz=6.9,slow=6.2,SNR=8.9						
FINES	**FINESS Array B**	**76.69**	**333**	P	**P**	**17 23 01.6**	**+1.4**
	0.6nm,0.3s,baz=72,slow=4.5,SNR=7.0						

DJA 14 17:16:40.9±0.9, 8°S±5°×107°E±°, h10km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**1.07**	**11**	P	Pn	17 17 02.3	+0.3
DBJI				S	Sg	17 17 13.6	-1.8
CISI	**Cisompet, Garu**	**1.26**	**88**	P	Pn	17 17 02.0	-2.6
LEM	**Lembang**	**1.31**	**54**	P	Pb	17 17 05.9	0.0
SBJI	**Serang**	**1.54**	**344**	P	Pn	17 17 08.7	+0.3
KASI	**Kota Agung**	**2.91**	**315**	P	Pn	17 17 27.4	+0.1

IDC 14 17:37:47.5±1.0, 13°.51N×93°.39E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/29, mbtmp3.7/10, ML3.2/1, Error ellipse: s-maj=42.5km s-min=19.0km az=52.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.26**	**47**	Pn	Pn	17 39 35.4	+0.4
	0.1nm,0.3s,baz=246,slow=15,SNR=2.6						
CMAR				Sn	Sn	17 40 51.2	-7.0
	0.1nm,0.3s,baz=233,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**34.46**	**346**	P	P	17 44 36.6	-0.4
	0.8nm,0.6s,baz=166,slow=8.7,SNR=10						
ZALV	**Zalesovo Beam**	**40.91**	**352**	P	P	17 45 30.4	-1.0
	0.4nm,0.4s,baz=170,slow=9.9,SNR=3.6						
FITZ	**Fitzroy Crossi**	**44.71**	**134**	P	P	17 46 02.6	-0.1
	1.0nm,0.7s,baz=338,slow=5.4,SNR=2.9						
ASAR	**Alice Springs**	**54.17**	**133**	P	P	17 47 14.8	-0.3
	0.3nm,0.5s,baz=310,slow=6.7,SNR=6.2						
BRTR	**Keskin Array B**	**58.28**	**308**	P	P	17 47 43.6	-0.8
	0.2nm,0.5s,baz=97,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**67.43**	**331**	P	P	17 48 44.9	+0.1
	2.4nm,0.9s,baz=101,slow=5.9,SNR=7.2						
ARCES	**ARCESS Array B**	**69.75**	**340**	P	P	17 48 59.8	+0.7
	3.8nm,1.1s,baz=88,slow=6.5,SNR=3.1						
GERES	**GERESS Array B**	**73.18**	**317**	P	P	17 49 20.9	+0.4
	0.7nm,0.8s,baz=84,slow=5.5,SNR=4.1						
HFS	**Hagfors**	**73.26**	**329**	P	P	17 49 20.7	+0.3
	1.7nm,1.0s,baz=91,slow=12,SNR=3.3						

---

*IDC **14** 17:41:11.7±13.0, 4°.35S×130°.14E, h119km±128km, mb3.2/1, mb1 3.5/5, mb1mx3.2/21, mbtmp3.4/5, ML3.9/4, Error ellipse: s-maj=127.1km s-min=31.1km az=52.0*
*ISCJB **14** 17:41:21.6±0.7, 5°.05S±0°.04×129°.56E±0°.06, h182km, mb3.4/1, Error ellipse: s-maj=8.8km s-min=5.6km az=11.8*
*AUST **14** 17:41:21.6, 4°.99S×129°.52E, h200km*
ISC 14 17:41:20.9±0.8, 5°.05S±0°.06×129°.50E±0°.08, h182km, n16, σ2°24/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.67**	**37**	P	Pn	17 41 52.0	+5.3
	baz=0.6,SNR=12						
AAI	**Ambon**	**1.88**	**316**	P	**Pn**	**17 41 59.2**	**+2.3**
	baz=1.9,SNR=8.8						
TLE	**Tual**	**3.28**	**100**	P	Pn	17 42 18.1	+5.1
	baz=3.3,SNR=7.3						
TLE				S	**Sn**	**17 42 54.6**	**+0.9**
	baz=3.3,SNR=7.6						
FAKI	**Fak Fak**	**3.47**	**52**	P	**Pn**	**17 42 17.3**	**+1.8**
	baz=3.4,SNR=13						
FAKI				S	**Sn**	**17 42 57.8**	**-0.2**
	baz=3.4,SNR=7.3						
SWI	**Sorong**	**4.52**	**23**	P	**Pn**	**17 42 28.4**	**-0.4**
	baz=4.5,SNR=33						
SWI				S	**Sn**	**17 43 18.3**	**-3.7**
	baz=4.5,SNR=12						
BATI	**Baumata**	**7.72**	**228**	P	Pn	17 43 14.2	+3.6
	5.6nm,0.3s,baz=107,slow=2.1,SNR=7.6						
MTN	**Manton Dam**	**7.91**	**168**	P	**Pn**	**17 43 15.2**	**+2.1**
	baz=8.0,SNR=13						
MTN				S	**Sn**	**17 44 42.9**	**+1.0**
	baz=8.0,SNR=8.0						
KDU	**Kakadu**	**8.13**	**159**	P	**Pn**	**17 43 18.1**	**+2.1**
	baz=8.2,SNR=37						
KDU				S	**Sn**	**17 44 46.2**	**-1.1**
	baz=8.2,SNR=8.9						
KNRA	**Kununurra**	**10.58**	**184**	P	**Pn**	**17 43 49.4**	**+1.4**
	baz=11,SNR=4.9						
KNRA				S	**Sn**	**17 45 42.5**	**-3.3**
	baz=11,SNR=4.3						
FITZ	**Fitzroy Crossi**	**13.51**	**196**	P	**P**	**17 44 28.9**	**+0.5**
	0.4nm,0.3s,baz=21,slow=9.7,SNR=19						
FITZ				S	Sn	17 46 48.7	-7.1
	0.1nm,0.3s,baz=61,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	**13.51**	**196**	P	**P**	**17 44 29.2**	**+0.8**
	baz=14,SNR=9.1						
WRA	**Warramunga Arr**	**15.53**	**163**	P	**P**	**17 44 50.8**	**-0.1**
	0.2nm,0.3s,baz=349,slow=12,SNR=11						
WRA				S	**S**	**17 47 38.7**	**-5.3**
	0.2nm,0.3s,baz=338,slow=23,SNR=6.5						
COEN	**Coen**	**16.12**	**124**	P	**Pn**	**17 44 59.7**	**+2.0**
	baz=16,SNR=13						
ASAR	**Alice Springs**	**18.99**	**167**	P	**Pn**	**17 45 30.2**	**-1.4**
	0.4nm,0.3s,baz=344,slow=9.9,SNR=33						
ASAR				S	**S**	**17 48 53.1**	**-1.7**
	0.1nm,0.3s,baz=345,slow=27,SNR=7.9						
LHMI	**Lhok Sumawe**	**34.08**	**287**	P	**P**	**17 47 47.6**	**-0.7**
	baz=34,SNR=3.1						
MKAR	**Makanchi Array**	**66.34**	**327**	P	P	17 51 46.1	-3.9
	0.3nm,0.5s,baz=112,slow=7.9,SNR=7.2						

IDC 14 17:44:34.8±5.7, 15°.47S×173°.44W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/43, Error ellipse: s-maj=315.7km s-min=26.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**46**	Pn	Pn	17 45 12.2	-0.9
	83nm,0.3s,baz=158,slow=0.8,SNR=73						
AFI				Sn	Sn	17 45 32.5	-8.9
	57nm,0.3s,baz=192,slow=18,SNR=3.6						
URZ	**Urewera**	**24.19**	**198**	LR	LR	17 57 17.6	
	comp=Z,58nm,21.8s,baz=59,slow=32						
WRA	**Warramunga Arr**	**49.80**	**257**	P	P	17 53 28.5	-1.2
	0.2nm,0.3s,baz=91,slow=6.6,SNR=8.1						
ASAR	**Alice Springs**	**50.06**	**252**	P	P	17 53 31.9	+0.1
	1.6nm,0.6s,baz=87,slow=7.9,SNR=35						
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	PKPab	18 04 18.2	0.0
	0.6nm,0.7s,baz=49,slow=1.4,SNR=4.8						

GUC 14 17:46:52.2±1.0, 33°.18S×70°.30W, h22km±4km, MD4.0, ML3.6, 11C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.15**	**178**	⇑*i*P	Pb	17 46 52.5	-5.3
FCH				*i* S	Sb	17 46 55.6	-6.0
FCH				AML	AML	17 46 56.0	
	comp=E,98μm,0.2s						
CLCH	**Cerro Calan**	**0.30**	**222**	⇑*i*P	Pb	17 46 58.8	-0.3
CLCH				*i* S	Sb	17 47 03.8	0.0
CLCH				AML	AML	17 47 04.5	
	comp=N,18μm,0.6s						
PEL	**Peldehue**	**0.33**	**276**	⇑*i*P	Pb	17 46 59.1	-0.4
PEL				*i* S	Sb	17 47 04.2	-0.3
PEL				AML	AML	17 47 04.5	
	comp=N,17μm,0.2s						
STL	**Santa Lucia**	**0.39**	**228**	⇑*i*P	Pb	17 47 00.3	-0.2
STL				*i* S	Sb	17 47 06.1	0.0
SAN	**Santiago**	**0.41**	**228**	⇑*i*P	Pb	17 47 00.8	-0.1
SAN				*i* S	Sb	17 47 07.0	+0.2
SAN				AML	AML	17 47 07.6	
	comp=N,6μm,0.4s						
SJCH	**San Jose de Ma**	**0.47**	**186**	⇑*i*P	Pb	17 47 00.2	-1.7
SJCH				*i* S	Sb	17 47 06.9	-1.6
SJCH				AML	AML	17 47 07.1	
	comp=N,4μm,0.3s						
PCH	**Pirque**	**0.48**	**202**	⇓*i*P	Pb	17 47 01.8	-0.3
ANTU	**Antumapu**	**0.48**	**216**	⇑*i*P	Pb	17 47 01.9	-0.2
ANTU				*i* S	Sb	17 47 09.0	+0.1
ANTU				AML	AML	17 47 15.0	
	comp=N,5μm,0.6s						
JACH	**Jahuel**	**0.55**	**333**	⇑*i*P	Pb	17 47 02.6	-0.7
LMEL	**Las Melosas**	**0.67**	**173**	⇑*i*P	Pb	17 47 04.8	-0.8
LMEL				*i* S	Sb	17 47 14.2	-0.5
LMEL				AML	AML	17 47 17.7	
	comp=N,7μm,0.1s						
CACH	**El Canelo**	**0.97**	**195**	⇑*i*P	Pn	17 47 10.7	0.0
CACH				*i* S	Sn	17 47 24.5	+0.5
PTCH	**Petorca**	**1.05**	**329**	⇓*i*P	Pn	17 47 11.7	0.0
PTCH				*i* S	Sn	17 47 26.0	+0.3
PTCH				AML	AML	17 47 27.2	
	comp=N,3μm,0.2s						
PACH	**Papudo**	**1.15**	**303**	*e*P	Pn	17 47 13.1	0.0
LNV	**Longovilo**	**1.21**	**230**	⇑*i*P	Pb	17 47 14.2	-0.3

---

*ISCJB **14** 17:52:10.4±0.3, 67°.05N±0°.02×20°.91E±0°.09, h0km, Error ellipse: s-maj=5.5km s-min=2.5km az=23.9*
*CSEM **14** 17:52:11.9±0.1, 67°.09N×20°.88E, h2km, ML1.6, Error ellipse: s-maj=4.3km s-min=2.0km az=117.0, Mining explosion.*
*HEL **14** 17:52:12.1±0.1, 67°.07N×20°.89E, h0km, ML1.6, ML1.6(UPP), Explosion*
*NAO **14** 17:52:12.4±1.1, 67°.07N×21°.10E, ML2.4*
*UPP **14** 17:52:12.2, 67°.08N×20°.98E, h0km, ML1.6, Mining explosion.*
*IDC **14** 17:52:12.4±0.9, 67°.02N×21°.23E, h0km, mb1 2.8/4, mb1mx2.8/29, mbtmp2.8/4, ML2.2/4, Error ellipse: s-maj=14.8km s-min=7.7km az=109.0*
*BER **14** 17:52:14.7±3.7, 67°.11N×20°.89E, h0km, ML2.1, ML2.4(NAO),

baz=210
ARA0 eSB **Sb** 17 53 41.4 -1.8
ARA0 MSG 17 53 41.4
comp=Z,3.0nm,0.2s
ARA0 ARCESS Array S 3.02 33 P **Pn** 17 53 00.5 +0.2
ARA0 ARCESS Array S 3.02 33 Pn **Pn** 17 53 00.8 +0.5
baz=215,slow=14,SNR=50
ARA0 Sn **Sn** 17 53 37.9 +0.8
baz=214,slow=24,SNR=50
ARA0 Sb **Sb** 17 53 41.4 -1.8
comp=Z,3.0nm,0.2s
ARCES ARCESS Array B 3.02 33 Pn **Pn** 17 53 00.7 +0.4
comp=Z,0.4nm,0.3s,baz=218,slow=13,SNR=54
ARCES Sn **Sn** 17 53 38.1 +1.0
comp=Z,0.5nm,0.3s,baz=214,slow=24,SNR=4.6
UMAU Umeaa 3.20 182 eP **Pn** 17 53 03.6 +1.0
UMAU eS **Sn** 17 53 42.8 +1.4
UMAU Umeaa 3.20 182 P **Pn** 17 53 03.6 +1.0
UMAU S **Sn** 17 53 42.8 +1.4
BREU Bredtraesk 3.33 198 eP **Pn** 17 53 05.1 +0.6
BREU Bredtraesk 3.33 198 P **Pn** 17 53 05.1 +0.6
VRF Varrio 3.44 74 eP **Pn** 17 53 08.0 +2.0
VRF MSG **Sb** 17 53 57.9 +2.7
comp=Z,1.0nm,0.4s
VRF eSG **Sb** 17 53 57.9 +2.7
VRF Varrio 3.44 74 P **Pn** 17 53 08.0 +2.0
VRF Sg **Sb** 17 53 57.9 +2.7
MSF Maaselka 3.47 106 eP **Pn** 17 53 07.4 +1.0
MSF Maaselka 3.47 106 P **Pn** 17 53 07.4 +1.0
KU6 Riekki 3.75 102 eP **Pn** 17 53 10.6 +0.3
baz=286
KU6 MSG **Sg** 17 54 10.3 -1.3
comp=Z,1.5nm,0.4s
KU6 eSG **Sg** 17 54 10.3 -1.3
KU6 Riekki 3.75 102 P **Pn** 17 53 10.6 +0.3
KU6 Sg **Sg** 17 54 10.3 -1.3
HUSU Husum 3.80 191 eP **Pn** 17 53 12.2 +1.2
HUSU eS **Sn** 17 53 57.3 +0.9
HUSU Husum 3.80 191 P **Pn** 17 53 12.2 +1.2
HUSU S **Sn** 17 53 57.3 +0.9
VAF Ylistaro 4.11 169 eP **Pn** 17 53 15.9 +0.6
VAF Ylistaro 4.11 169 P **Pn** 17 53 15.8 +0.6
SOLU Sollefteaa 4.13 203 eP **Pn** 17 53 16.2 +0.8
SOLU Sollefteaa 4.13 203 P **Pn** 17 53 16.2 +0.8
NOD Norderasen 4.43 218 eP **Pn** 17 53 21.1 +1.5
NOD Norderasen 4.43 218 P **Pn** 17 53 21.1 +1.5
HEMU Hemsoen 4.57 197 eP **Pn** 17 53 23.2 +1.7
HEMU Hemsoen 4.57 197 P **Pn** 17 53 23.2 +1.7
APA0 Apatity Array 4.72 78 Pn **Pn** 17 53 23.2 -0.4
baz=261,slow=12
APA0 Apatity Array 4.72 78 Pn **Pn** 17 53 23.2 -0.4
baz=261,slow=12
APA0 Apatity Array 4.72 78 Pn **Pn** 17 53 23.2 -0.4
baz=261,slow=11,SNR=50
HASU Hassela 5.26 202 eP **Pn** 17 53 32.8 +1.7
HASU Hassela 5.26 202 P **Pn** 17 53 32.7 +1.7
ARNU Arnoeviken 5.60 197 eP **Pn** 17 53 35.8 +0.1
ARNU Arnoeviken 5.60 197 P **Pn** 17 53 35.8 +0.1
FIA0 FINESS Array S 6.08 156 Pn **Pn** 17 53 43.3 +1.1
baz=344,slow=14
FIA0 Sn **Sn** 17 54 53.3 +0.9
baz=341,slow=28
FIA0 FINESS Array S 6.08 156 Pn **Pn** 17 53 43.3 +1.1
baz=344,slow=14
FIA0 Sn **Sn** 17 54 53.3 +0.9
baz=341,slow=28
FIA0 FINESS Array S 6.08 156 Pn **Pn** 17 53 43.3 +1.1
baz=344,slow=13,SNR=50
FIA0 Sn **Sn** 17 54 53.3 +0.9
baz=341,slow=26,SNR=50
FINES FINESS Array B 6.08 156 Pn **Pn** 17 53 43.0 +0.8
comp=Z,0.1nm,0.3s,baz=349,slow=12,SNR=17
FINES Pg Pb 17 53 54.8 -3.1
comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=4.6
FINES Sn **Sn** 17 54 49.4 -3.0
comp=Z,0.1nm,0.3s,baz=349,slow=21,SNR=3.0
FINES Lg Lg 17 55 21.1
comp=Z,0.1nm,0.3s,baz=348,slow=27,SNR=2.7
IGGU Iggoen 6.41 196 eP **Pn** 17 53 47.6 +0.8
IGGU Iggoen 6.41 196 P **Pn** 17 53 47.6 +0.8
FLYU Flymyra 7.09 192 eP **Pn** 17 53 56.8 +0.7
FLYU Flymyra 7.09 192 P **Pn** 17 53 56.8 +0.7
NB2 NORSAR Subarra 7.38 220 Pn **Pn** 17 54 00.2 +0.1
baz=21,slow=14
NB2 Sn **Sn** 17 55 24.6 +0.1
NB2 NORSAR Subarra 7.38 220 Pn **Pn** 17 54 00.2 +0.1
baz=21,slow=14
NB2 Sn **Sn** 17 55 24.6 +0.1
NB2 NORSAR Subarra 7.38 220 Pn **Pn** 17 54 00.2 +0.1
baz=21,slow=13,SNR=50
NB2 Sn **Sn** 17 55 24.5 +0.1
SNR=50
NOA NORSAR Array B 7.38 220 Pn **Pn** 17 54 00.5 +0.4
comp=Z,0.1nm,0.3s,baz=10,slow=15,SNR=2.5
NOA Sn Sn 17 55 13.7 -11
comp=Z,0.1nm,0.3s,baz=34,slow=16,SNR=2.7
NOA Lg Lg 17 56 00.9
comp=Z,0.1nm,0.3s,baz=46,slow=26,SNR=2.3
HFS Hagfors 7.65 208 Pn **Pn** 17 54 04.3 +0.5
baz=26,slow=16
HFS Sn **Sn** 17 55 29.3 -1.8
baz=35,slow=37
HFS Hagfors 7.65 208 Pn **Pn** 17 54 04.3 +0.5
baz=26,slow=16
HFS Sn **Sn** 17 55 29.3 -1.8
baz=35,slow=37
HFS Hagfors 7.65 208 Pn **Pn** 17 54 04.3 +0.5
comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=5.7
HFS Sn **Sn** 17 55 27.0 -4.1
comp=Z,0.1nm,0.3s,baz=34,slow=28,SNR=2.9
HFS Lg Lg 17 56 11.4
comp=Z,0.1nm,0.3s,baz=25,slow=24,SNR=3.1
HFS Hagfors 7.65 208 Pn **Pn** 17 54 04.3 +0.5
baz=26,slow=14,SNR=50

---

*IDC **14** 18:03:05.8±2.9, 3°.29S×140°.12E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=96.2km s-min=27.7km az=94.0*
*ISCJB **14** 18:03:11.1±0.8, 3°.19S±0°.09×139°.54E±0°.09, h46km, mb3.6/2, Error ellipse: s-maj=16.8km s-min=7.4km az=136.3*
*AUST **14** 18:03:14.4±0.0, 3°.31S×139°.85E, h70km, Error ellipse: s-maj=1.4km s-min=1.1km az=5.0*
ISC 14 18:03:13.4±0.9, 3°.25S±0°.10×139°.7E±0°.1, h46km, n16, σ1§48/15, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.24**	**54**	P	**Pn**	**18 03 33.6**	**-0.8**
	baz=1.2,SNR=52						
JAY				S	**Sn**	**18 03 49.9**	**0.0**
	baz=1.2,SNR=6.0						
MMPI	**Merauke**	**5.23**	**173**	P	**Pn**	**18 04 30.9**	**+1.7**
	baz=5.2,SNR=3.7						
TLE	**Tual**	**7.34**	**251**	P	Pn	18 05 03.0	+4.9
	baz=7.5,SNR=4.0						
FAKI	**Fak Fak**	**7.45**	**272**	P	Pn	18 05 06.1	+6.5
	baz=7.6,SNR=3.6						
COEN	**Coen**	**11.18**	**162**	P	**Pn**	**18 05 52.9**	**+2.1**
	baz=11,SNR=7.1						
KDU	**Kakadu**	**11.80**	**217**	P	**Pn**	**18 05 57.4**	**-1.8**
	baz=12,SNR=52						
MTN	**Manton Dam**	**12.76**	**221**	P	**Pn**	**18 06 10.4**	**-1.9**
	baz=13,SNR=36						
MTSU	**Mount Surprise**	**15.47**	**163**	P	**P**	**18 06 51.2**	**-1.3**
	baz=16,SNR=5.3						
KNRA	**Kununurra**	**16.39**	**220**	P	**Pn**	**18 06 59.8**	**-0.6**
	baz=16,SNR=35						
WRA	**Warramunga Arr**	**17.40**	**197**	P	**Pn**	**18 07 10.8**	**-2.2**
	0.6nm,0.3s,baz=20,slow=13,SNR=23						
WRA				S	Sn	18 10 16.1	-10
	0.1nm,0.3s,baz=4.3,slow=23,SNR=3.5						
FITZ	**Fitzroy Crossi**	**20.20**	**222**	P	**P**	**18 07 44.0**	**-0.4**
	2.3nm,0.3s,baz=54,slow=9.3,SNR=50						
FITZ	**Fitzroy Crossi**	**20.20**	**222**	P	**P**	**18 07 44.6**	**+0.1**
	baz=20,SNR=28						
WSI	**Waingapu**	**20.30**	**251**	S	**S**	**18 11 32.5**	**+1.5**
	baz=20,SNR=3.7						
ASAR	**Alice Springs**	**21.06**	**195**	P	**P**	**18 07 53.4**	**-0.5**
	1.4nm,0.6s,baz=27,slow=10,SNR=25						
MKAR	**Makanchi Array**	**70.81**	**322**	P	**P**	**18 14 26.4**	**+1.0**
	0.7nm,0.8s,baz=103,slow=6.7,SNR=7.0						
DBIC	**Dimbokro**	**144.53**	**277**	PKP	**PKPab**	**18 22 45.3**	**+0.8**
	1.6nm,0.5s,baz=72,slow=3.2,SNR=3.5						

MAN 14 18:21:05, 12°.52N×120°.49E, h14km, mb4.2, ML3.0, MS2.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.61**	**96**	*e*P	Pb	18 21 17.6	+0.1
SJMP				*e*S	Sg	18 21 24.8	-0.4
PGP	**Puerto Galera**	**1.07**	**25**	||*e*P	Pb	18 21 23.7	-1.7
OTRP	**Odiongan**	**1.50**	**96**	*e*P	Pb	18 21 32.2	-0.4
BOAC	**Boac**	**1.61**	**55**	*e*P	Pb	18 21 34.3	-0.2
CUYO	**Cuyo Island**	**1.74**	**163**	*e*P	Pn	18 21 35.6	+0.7

---

*IDC **14** 18:31:40.7±1.4, 5°.21S×129°.87E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.4/20, mbtmp3.4/6, ML3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/22, Error ellipse: s-maj=78.8km s-min=22.7km az=82.0*
*ISCJB **14** 18:31:42.3±0.5, 5°.18S±0°.04×130°.07E±0°.07, h28km, mb3.4/3, Error ellipse: s-maj=10.6km s-min=5.4km az=0.5*
*AUST **14** 18:31:44.3±0.0, 5°.07S×129°.93E, h48km, Error ellipse: s-maj=1.2km s-min=0.8km az=286.0*
ISC 14 18:31:44.1±0.8, 5°.09S±0°.06×129°.90E±0°.08, h28km, n16, σ1§55/17, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.57**	**1**	P	**Pb**	**18 31 55.2**	**-0.4**
	baz=0.5,SNR=40						
BNDI				S	**Sn**	**18 32 05.1**	**+0.3**
	baz=0.5,SNR=9.1						
AAI	**Ambon**	**2.20**	**309**	P	**Pb**	**18 32 21.2**	**-2.0**
	baz=2.2,SNR=3.1						
TLE	**Tual**	**2.88**	**101**	P	**Pn**	**18 32 28.8**	**+0.6**
	baz=2.8,SNR=20						
FAKI	**Fak Fak**	**3.19**	**47**	P	**Pn**	**18 32 31.4**	**-1.0**
	baz=3.2,SNR=17						
FAKI				S	**Sn**	**18 33 07.9**	**-1.6**
	baz=3.2,SNR=5.7						
SWI	**Sorong**	**4.42**	**18**	P	**Pn**	**18 32 48.8**	**-0.5**
	baz=4.4,SNR=26						
SWI				S	**Sn**	**18 33 38.1**	**-1.7**
	baz=4.4,SNR=5.4						
MTN	**Manton Dam**	**7.80**	**171**	P	Pn	18 33 38.0	+2.2
	baz=7.9,SNR=5.2						
KDU	**Kakadu**	**7.96**	**162**	P	**Pn**	**18 33 38.4**	**+0.4**
	baz=8.0,SNR=13						
BATI	**Baumata**	**8.00**	**230**	LR	LR	18 36 46.6	
	comp=Z,399nm,18.6s,baz=314,slow=39						
KNRA	**Kununurra**	**10.58**	**186**	P	**Pn**	**18 34 14.1**	**+0.2**
	baz=11,SNR=5.5						
FITZ	**Fitzroy Crossi**	**13.58**	**198**	Pn	**Pn**	**18 34 53.6**	**-1.4**
	0.2nm,0.3s,baz=20,slow=15,SNR=4.4						
FITZ				Sn	Sn	18 37 16.9	-8.2
	0.1nm,0.3s,baz=156,slow=20,SNR=2.0						
FITZ	**Fitzroy Crossi**	**13.58**	**198**	P	**Pn**	**18 34 53.9**	**-1.1**
	baz=14,SNR=4.9						
WRA	**Warramunga Arr**	**15.38**	**164**	Pn	**Pn**	**18 35 16.1**	**-3.2**
	0.2nm,0.3s,baz=346,slow=13,SNR=8.8						
WRA				Sn	Sn	18 37 59.0	-10
	0.1nm,0.3s,baz=356,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**18.86**	**169**	P	**Pn**	**18 36 01.8**	**-1.1**
	0.2nm,0.3s,baz=344,slow=9.5,SNR=15						
KSRS	**Korea Array**	**42.37**	**358**	P	**P**	**18 39 37.5**	**+1.6**
	0.4nm,0.5s,baz=174,slow=7.8,SNR=3.3						
SONM	**Songino Array**	**56.62**	**341**	P	**P**	**18 41 26.0**	**+1.3**
	0.2nm,0.6s,baz=158,slow=8.7,SNR=2.7						
MKAR	**Makanchi Array**	**66.59**	**326**	P	**P**	**18 42 33.6**	**+1.8**
	0.3nm,0.6s,baz=122,slow=7.0,SNR=4.3						

IDC 14 18:39:48.4±2.0, 13°.42N×93°.35E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/28, mbtmp3.5/5, Error ellipse: s-maj=66.1km s-min=24.5km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.35**	**46**	Pn	Pn	18 41 36.5	-0.5
	baz=239,slow=17,SNR=2.9						
CMAR				Sn	Sn	18 42 57.4	-3.8
	0.2nm,0.3s,baz=233,slow=33,SNR=3.3						
ZALV	**Zalesovo Beam**	**40.99**	**352**	P	P	18 47 33.3	+0.3
	0.2nm,0.4s,baz=155,slow=7.2,SNR=2.5						
FITZ	**Fitzroy Crossi**	**44.67**	**134**	P	P	18 48 03.2	-0.1
	1.1nm,0.5s,baz=326,slow=3.6,SNR=9.0						
WRA	**Warramunga Arr**	**52.21**	**129**	P	P	18 49 01.2	-0.3
	0.6nm,0.9s,baz=315,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**54.14**	**133**	P	P	18 49 15.4	-0.3
	0.5nm,0.6s,baz=309,slow=6.6,SNR=12						

IDC 14 18:41:18.0±58.0, 22°.46S×176°.87W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=1066.0km s-min=171.5km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.94**	**247**	P	P	18 48 37.4	0.0
	0.5nm,0.4s,baz=118,slow=9.9,SNR=3.8						
ASAR	**Alice Springs**	**45.13**	**258**	P	P	18 49 36.0	-0.6
	0.2nm,0.9s,baz=99,slow=7.2,SNR=5.8						
WRA	**Warramunga Arr**	**45.41**	**264**	P	P	18 49 38.9	+0.1
	0.4nm,0.7s,baz=101,slow=8.4,SNR=12						

---

*ISCJB **14** 18:43:07.9±0.2, 40°.87N±0°.02×30°.82E±0°.02, h11km, Error ellipse: s-maj=3.0km s-min=2.4km az=28.2*
*CSEM **14** 18:43:07.9±0.1, 40°.82N×30°.82E, h2km, MD3.7, Error ellipse: s-maj=2.4km s-min=1.4km az=6.0*
*ISK **14** 18:43:07.4, 40°.82N×30°.83E, h8km, MD3.7*
*DDA **14** 18:43:07.5, 40°.82N×30°.83E, h8km, MD3.6*
ISC 14 18:43:07.8±0.7, 40°.81N±0°.02×30°.81E±0°.02, h11km, n159, σ1§24/166, 10C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.40**	**252**	*e*PG	**Pb**	**18 43 16.8**	**-0.2**
SPNC				*e*SG	**Sb**	**18 43 22.5**	**-0.6**
SPNC	**Sapanca-Adapaz**	**0.40**	**252**	*e*Pg	**Pb**	**18 43 16.8**	**-0.2**
SPNC				*e*Sg	**Sb**	**18 43 22.5**	**-0.6**
GULT	**Gulveren**	**0.44**	**211**	*e*PG	**Pg**	**18 43 17.1**	**+0.6**
GULT	**Gulveren**	**0.44**	**211**	*e*Pg	**Pg**	**18 43 17.1**	**+0.6**
MDUB	**Mudurnu**	**0.45**	**139**	*e*PG	**Pg**	**18 43 16.5**	**-0.1**
MDUB	**Mudurnu**	**0.45**	**139**	*e*Pg	**Pg**	**18 43 16.5**	**-0.1**
GPA	**Golpazari**	**0.65**	**217**	*e*PG	**Pg**	**18 43 20.6**	**+0.2**
GPA	**Golpazari**	**0.65**	**217**	*e*Pg	**Pg**	**18 43 20.6**	**+0.2**
KDZE	**Karadeniz Ereo**	**0.69**	**43**	*e*PG	**Pg**	**18 43 20.6**	**-0.7**
KDZE	**Karadeniz Ereo**	**0.69**	**43**	*e*Pg	**Pg**	**18 43 20.6**	**-0.7**
HRT	**Hereke**	**0.87**	**271**	*e*PG	**Pn**	**18 43 25.7**	**-0.4**
HRT	**Hereke**	**0.87**	**271**	*e*Pg	**Pn**	**18 43 25.7**	**-0.4**
ADVT	**Abdulvahap**	**0.90**	**246**	*e*PG	**Pg**	**18 43 25.1**	**-0.1**
ADVT	**Abdulvahap**	**0.90**	**246**	*e*Pg	**Pg**	**18 43 25.1**	**-0.1**
SILT	**Sile**	**0.95**	**292**	*e*PG	**Pb**	**18 43 26.5**	**+0.2**
SILT	**Sile**	**0.95**	**292**	*e*Pg	**Pb**	**18 43 26.5**	**+0.2**
CAVI	**Cavuskoy**	**0.96**	**231**	*e*PG	**Pg**	**18 43 26.4**	**+0.1**
CAVI	**Cavuskoy**	**0.96**	**231**	*e*Pg	**Pg**	**18 43 26.4**	**+0.1**
BORA	**Eskisehir**	**0.97**	**197**	*i* P	**Pg**	**18 43 26.1**	**-0.4**
BORA	**Eskisehir**	**0.97**	**197**	*i* P	**Pg**	**18 43 26.1**	**-0.4**
YLV	**Yalova**	**1.12**	**258**	*e*PN	**Pb**	**18 43 28.7**	**-0.6**
YLV	**Yalova**	**1.12**	**258**	*e*Pn	**Pb**	**18 43 28.7**	**-0.6**
BUY	**Buyukada**	**1.29**	**273**	*i* P	**Pb**	**18 43 32.2**	**+0.2**
BUY				*i* S	**Sg**	**18 43 50.3**	**+1.1**
BUY	**Buyukada**	**1.29**	**273**	*i* P	**Pb**	**18 43 32.2**	**+0.2**
BUY				*i* S	**Sg**	**18 43 50.3**	**+1.1**
ESKT	**Eskisehir**	**1.29**	**179**	*e*PN	**Pn**	**18 43 32.2**	**+0.3**
ESKT	**Eskisehir**	**1.29**	**179**	*e*Pn	**Pn**	**18 43 32.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.35**	**282**	*e*PN	**Pb**	**18 43 33.1**	**-0.1**
ISK	**Istanbul-Kandi**	**1.35**	**282**	*e*Pn	**Pb**	**18 43 33.1**	**-0.1**
KLYT	**Kilyos**	**1.41**	**289**	*e*PN	**Pb**	**18 43 34.1**	**-0.1**
KLYT	**Kilyos**	**1.41**	**289**	*e*Pn	**Pb**	**18 43 34.1**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.47**	**158**	*e*PN	**Pb**	**18 43 35.2**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.47**	**158**	*e*Pn	**Pb**	**18 43 35.2**	**0.0**
SAFT	**Safranbolu**	**1.48**	**72**	*e*PN	**Pb**	**18 43 35.1**	**-0.2**
SAFT	**Safranbolu**	**1.48**	**72**	*e*Pn	**Pb**	**18 43 35.2**	**-0.2**
ARMT	**Armutlu**	**1.50**	**261**	*e*PN	**Pb**	**18 43 35.5**	**-0.3**
ARMT	**Armutlu**	**1.50**	**261**	*e*Pn	**Pb**	**18 43 35.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.53**	**254**	*e*PN	**Pb**	**18 43 36.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.53**	**254**	*e*Pn	**Pb**	**18 43 36.3**	**0.0**
BGKT	**Bogazkoy**	**1.59**	**284**	*e*PN	**Pb**	**18 43 37.0**	**-0.2**
BGKT	**Bogazkoy**	**1.59**	**284**	*e*Pn	**Pb**	**18 43 37.0**	**-0.2**
ORLT	**Orhaneli**	**1.65**	**243**	*e*PN	**Pn**	**18 43 37.6**	**+0.8**
ORLT	**Orhaneli**	**1.65**	**243**	*e*Pn	**Pn**	**18 43 37.6**	**+0.8**
LOD	**Lodumlu**	**1.75**	**121**	*e*PN	**Pn**	**18 43 39.3**	**+1.1**
LOD	**Lodumlu**	**1.75**	**121**	*e*Pn	**Pn**	**18 43 39.3**	**+1.1**
ANTO	**Ankara**	**1.78**	**121**	*e*PN	**Pn**	**18 43 39.7**	**+1.1**
ANTO	**Ankara**	**1.78**	**121**	||*i*P	**Pb**	**18 43 40.7**	**+0.1**
ANTO	**Ankara**	**1.78**	**121**	S	**Sg**	**18 44 04.7**	**-0.4**
ANTO	**Ankara**	**1.78**	**121**	*e*Pn	**Pn**	**18 43 39.7**	**+1.1**
CTKS	**Kestanelik-??a**	**1.80**	**285**	*e*PN	**Pn**	**18 43 39.7**	**+0.9**
CTKS	**Kestanelik-??a**	**1.80**	**285**	*e*Pn	**Pn**	**18 43 39.7**	**+0.9**
ALT	**Altintas**	**1.83**	**197**	*i* P	**Pn**	**18 43 37.3**	**-2.1**
ALT				*i* S	**Sn**	**18 43 59.6**	**-3.0**
ELBA	**Catalca**	**1.83**	**281**	*i* P	**Pb**	**18 43 40.6**	**-0.8**
ELBA				*i* S	**Sg**	**18 44 06.4**	**-0.4**
ELBA	**Catalca**	**1.83**	**281**	*i* P	**Pb**	**18 43 40.6**	**-0.8**
ELBA				*i* S	**Sg**	**18 44 06.4**	**-0.4**
KCTX	**Karacabey (Bur**	**1.95**	**255**	*e*PN	**Pb**	**18 43 42.4**	**-1.0**
KCTX	**Karacabey (Bur**	**1.95**	**255**	*e*Pn	**Pb**	**18 43 42.4**	**-1.0**
SLVT	**Silivri**	**2.01**	**283**	*e*PN	**Pn**	**18 43 42.7**	**+1.0**
SLVT	**Silivri**	**2.01**	**283**	*e*Pn	**Pn**	**18 43 42.7**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.02**	**290**	*e*PN	**Pn**	**18 43 42.8**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.02**	**290**	*e*Pn	**Pn**	**18 43 42.8**	**+1.0**
DST	**Dursunbey**	**2.07**	**235**	*e*PN	**Pn**	**18 43 43.6**	**+1.1**
DST	**Dursunbey**	**2.07**	**235**	*e*Pn	**Pn**	**18 43 43.6**	**+1.1**
KIZT	**Kizilcal**	**2.09**	**157**	*e*PN	**Pn**	**18 43 43.3**	**+0.3**
KIZT	**Kizilcal**	**2.09**	**157**	*e*Pn	**Pn**	**18 43 43.3**	**+0.3**
CANT	**Cankiri**	**2.14**	**94**	*e*PN	**Pn**	**18 43 44.4**	**+0.7**
AFSR	**Af¨ar-Bala (A**	**2.20**	**127**	*e*PN	**Pn**	**18 43 45.5**	**+1.1**
AFSR	**Af¨ar-Bala (A**	**2.20**	**127**	*e*Pn	**Pn**	**18 43 45.5**	**+1.1**
BNT	**Bandirma**	**2.25**	**259**	*e*PN	**Pn**	**18 43 46.6**	**+1.6**
BNT	**Bandirma**	**2.25**	**259**	*e*Pn	**Pn**	**18 43 46.6**	**+1.6**
SHUT	**Suhut-Afyon**	**2.26**	**185**	*e*PN	**Pn**	**18 43 46.1**	**+0.9**
SHUT	**Suhut-Afyon**	**2.26**	**185**	*e*Pn	**Pn**	**18 43 46.2**	**+0.9**
TOS	**Tosya**	**2.44**	**84**	*e*PN	**Pn**	**18 43 48.8**	**+1.0**
TOS	**Tosya**	**2.44**	**84**	*e*Pn	**Pn**	**18 43 48.8**	**+1.0**
TKR	**Tekirdag**	**2.49**	**275**	*e*PN	**Pn**	**18 43 49.6**	**+1.3**
TKR	**Tekirdag**	**2.49**	**275**	*e*Pn	**Pn**	**18 43 49.6**	**+1.3**
GONE	**Gonen-Balikesi**	**2.50**	**253**	*e*PN	**Pn**	**18 43 48.9**	**+0.4**
GONE	**Gonen-Balikesi**	**2.50**	**253**	*e*Pn	**Pn**	**18 43 48.9**	**+0.4**
BALB	**Balikesir**	**2.53**	**243**	*e*PN	**Pn**	**18 43 50.2**	**+1.4**
BALB	**Balikesir**	**2.53**	**243**	*e*Pn	**Pn**	**18 43 50.2**	**+1.4**
PHSR	**Pinarhisar**	**2.61**	**289**	*e*PN	**Pn**	**18 43 51.1**	**+1.1**
PHSR	**Pinarhisar**	**2.61**	**289**	*e*Pn	**Pn**	**18 43 51.1**	**+1.1**
KAMT	**Kaman**	**2.65**	**122**	*e*PN	**Pn**	**18 43 51.3**	**+0.7**
KAMT	**Kaman**	**2.65**	**122**	*e*Pn	**Pn**	**18 43 51.3**	**+0.7**
BZK	**Bozkurt**	**2.66**	**63**	*e*PN	**Pn**	**18 43 51.6**	**+1.0**
BZK	**Bozkurt**	**2.66**	**63**	*e*Pn	**Pn**	**18 43 51.6**	**+1.0**
KHL	**Karahalli**	**2.67**	**202**	*e*PN	**Pn**	**18 43 52.1**	**+1.2**
KHL	**Karahalli**	**2.67**	**202**	*e*Pn	**Pn**	**18 43 52.1**	**+1.2**
MFT	**Murefte**	**2.68**	**271**	*e*PN	**Pn**	**18 43 52.8**	**+1.8**
MFT	**Murefte**	**2.68**	**271**	*e*Pn	**Pn**	**18 43 52.8**	**+1.8**
KRBG	**Karabiga-Canak**	**2.71**	**262**	*e*PN	**Pn**	**18 43 52.8**	**+1.5**
KRBG	**Karabiga-Canak**	**2.71**	**262**	*e*Pn	**Pn**	**18 43 52.8**	**+1.5**
RKY	**Sarkoy-Tekirda**	**2.76**	**269**	*e*PN	**Pn**	**18 43 53.4**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.76**	**269**	*e*Pn	**Pn**	**18 43 53.4**	**+1.3**
KULA	**Kula-Manisa**	**2.83**	**217**	*e*PN	**Pn**	**18 43 54.4**	**+1.4**
KULA	**Kula-Manisa**	**2.83**	**217**	*e*Pn	**Pn**	**18 43 54.4**	**+1.4**
LADK	**Ladik-KONYA**	**2.87**	**155**	*e*PN	**Pn**	**18 43 55.2**	**+1.6**
LADK	**Ladik-KONYA**	**2.87**	**155**	*e*Pn	**Pn**	**18 43 55.2**	**+1.6**
CORM	**Corum**	**2.98**	**101**	*e*PN	**Pn**	**18 43 56.4**	**+1.3**
CORM	**Corum**	**2.98**	**101**	*e*Pn	**Pn**	**18 43 56.4**	**+1.3**
ISP	**Isparta**	**2.99**	**184**	*e*PN	**Pn**	**18 43 57.2**	**+1.9**
ISP	**Isparta**	**2.99**	**184**	||*i*P	**Pb**	**18 44 02.6**	**+1.4**
ISP	**Isparta**	**2.99**	**184**	*e*Pn	**Pn**	**18 43 57.2**	**+1.9**
BYBT	**Boyabat**	**3.06**	**76**	*e*PN	**Pn**	**18 43 57.5**	**+1.4**
BYBT	**Boyabat**	**3.06**	**76**	*e*Pn	**Pn**	**18 43 57.5**	**+1.4**
KONT	**Konya--Tatoy**	**3.10**	**157**	*e*PN	**Pn**	**18 43 58.4**	**+1.7**
KONT	**Konya--Tatoy**	**3.10**	**157**	*e*Pn	**Pn**	**18 43 58.4**	**+1.7**
LPK	**Lapseki**	**3.12**	**263**	*e*PN	**Pn**	**18 43 58.5**	**+1.6**
LPK	**Lapseki**	**3.12**	**263**	*e*Pn	**Pn**	**18 43 58.5**	**+1.6**
EDRB	**Edirne**	**3.23**	**290**	*e*PN	**Pn**	**18 43 59.2**	**+0.7**
EDRB	**Edirne**	**3.23**	**290**	*e*Pn	**Pn**	**18 43 59.2**	**+0.7**
GELI	**Tayfur-Gelibol**	**3.33**	**264**	*e*PN	**Pn**	**18 44 01.4**	**+1.6**
GELI	**Tayfur-Gelibol**	**3.33**	**264**	*e*Pn	**Pn**	**18 44 01.4**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.33**	**177**	*e*PN	**Pn**	**18 44 01.2**	**+1.2**
SUTC	**Sutluce-Ispart**	**3.33**	**177**	*e*Pn	**Pn**	**18 44 01.2**	**+1.2**
SULT	**Sultanhani-AKS**	**3.34**	**140**	*e*PN	**Pn**	**18 44 01.7**	**+1.6**
SULT	**Sultanhani-AKS**	**3.34**	**140**	*e*Pn	**Pn**	**18 44 01.7**	**+1.6**

JCZ				AML	AML	18 59 10.1	
LBZ	**Lake Benmore**	**2.96**	**63**	PN	Pn	18 58 36.2	+1.8
ODZ	**Otahua Downs**	**3.01**	**77**	PN	Pn	18 58 35.8	+0.7
FOZ	**Fox Glacier**	**3.18**	**46**	PN	Pb	18 58 42.5	-2.1

MEX 14 19:04:24.5±0.8, 19°.91N×105°.83W, h25km±19km, MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.85**	**119**	*e*P	Pb	19 04 38.1	-2.5
CJM				*i*S	Sb	19 04 47.8	-3.7
PUVA	**Puert Vallarta**	**0.91**	**39**	*e*P	Pb	19 04 39.0	-2.7
PUVA				*i*S	Sb	19 04 49.8	-3.6
ANIG	**Ahuacatlan**	**1.67**	**47**	*e*P	Pn	19 04 50.0	-2.4
ANIG				*i*S	Sn	19 05 10.9	-2.2
R15V		**1.89**	**113**	*i*P	Pn	19 04 53.5	-1.9
R15V				*i*S	Sn	19 05 14.8	-3.7
EZ5V		**2.14**	**101**	*i*P	Pn	19 04 57.5	-1.5
EZ5V				*i*S	Sn	19 05 22.2	-2.9
SFJM	**Santa Fe**	**2.68**	**77**	*e*P	Pn	19 05 04.4	-2.0
SFJM				*i*S	Sn	19 05 34.8	-3.4
MAIG	**Mazatlaan**	**3.31**	**350**	*i*P	Pn	19 05 13.2	-1.5
MAIG				*i*S	Sn	19 05 49.8	-3.5
ZAIG	**Zacatecas**	**4.16**	**46**	*i*P	Pb	19 05 36.6	-0.9
ZAIG				*i*S	Sb	19 06 24.5	-3.1

*IDC **14** 19:14:04.6±1.1, 13°.85N×92°.84E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML3.9/1, Error ellipse: s-maj=38.0km s-min=15.6km az=64.0*
*ISCJB **14** 19:14:07.4±0.8, 13°.94N±0°.10×92°.9E±0°.1, h32km, mb3.8/10, Error ellipse: s-maj=20.4km s-min=9.6km az=143.5*

ISC 14 19:14:09.8±1.0, 14°.12N±0°.10×93°.0E±0°.1, h32km, n15, σ2°.9 14/17, mb3.8/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.19**	**52**	Pn	**Pn**	**19 15 54.4**	**+1.6**
	0.5nm,0.3s,baz=242,slow=15,SNR=24						
CMAR				Sn	**Sn**	**19 17 11.1**	**-2.3**
	0.4nm,0.3s,baz=229,slow=15,SNR=3.3						
ODAN	**Odare**	**13.70**	**339**	*e*P	**Pn**	**19 17 23.1**	**+0.9**
ODAN				*e*S	**Sn**	**19 19 47.7**	**-5.7**
PKI	**Pulchoki**	**15.12**	**333**	*e*P	**Pn**	**19 17 41.7**	**+0.2**
PKIN	**Phulchoki**	**15.13**	**333**	*e*P	**Pn**	**19 17 42.4**	**+0.8**
	14nm,0.4s						
PKIN				*e*S	Sn	19 20 19.3	-9.0
DMN	**Daman**	**15.28**	**333**	*e*P	**Pn**	**19 17 44.4**	**+0.8**
MKAR	**Makanchi Array**	**33.78**	**347**	P	**P**	**19 20 50.8**	**+2.0**
	0.3nm,0.4s,baz=174,slow=8.7,SNR=6.7						
SONM	**Songino Array**	**35.42**	**16**	P	**P**	**19 21 05.2**	**+2.1**
	1.0nm,0.8s,baz=191,slow=7.4,SNR=6.8						
KURBB	**Kurchatov Arra**	**38.24**	**345**	P	**P**	**19 21 28.4**	**+1.5**
	0.6nm,0.7s,baz=162,slow=8.2,SNR=5.5						
KSRS	**Korea Array**	**38.79**	**47**	P	**P**	**19 21 32.3**	**+0.7**
	0.5nm,0.6s,baz=250,slow=7.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**40.25**	**353**	P	**P**	**19 21 45.0**	**+1.5**
	0.7nm,0.4s,baz=176,slow=11,SNR=5.0						
FITZ	**Fitzroy Crossi**	**45.43**	**134**	P	**P**	**19 22 24.7**	**-1.3**
	1.1nm,0.4s,baz=327,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**52.95**	**129**	P	**P**	**19 23 22.7**	**-0.9**
	1.5nm,0.8s,baz=308,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**19 23 37.5**	**-0.3**
	1.3nm,0.4s,baz=310,slow=7.1,SNR=70						
STKA	**Stephens Creek**	**65.29**	**135**	P	**P**	**19 24 46.5**	**-2.3**
	2.5nm,0.9s,baz=308,slow=9.2,SNR=5.0						
GERES	**GERESS Array B**	**72.45**	**317**	P	**P**	**19 25 33.4**	**0.0**
	0.1nm,0.3s,baz=73,slow=10,SNR=2.1						

*AUST **14** 19:22:52.0±7.2, 2°.23N×126°.79E, h15km, Error ellipse: s-maj=1.6km s-min=1.4km az=329.0*
*IDC **14** 19:23:04.8±0.5, 0°.70N×126°.10E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.0/28, mbtmp4.0/18, ML3.9/3, Error ellipse: s-maj=29.0km s-min=11.6km az=81.0*
*ISCJB **14** 19:23:09.1±0.3, 0°.72N±0°.04×126°.16E±0°.06, h44km, mb4.1/21, Error ellipse: s-maj=8.7km s-min=5.8km az=172.3*
*NEIC **14** 19:23:09.1±3.3, 0°.69N×126°.17E, h29km±24km, mb4.3/9, Error ellipse: s-maj=13.2km s-min=6.0km az=73.0*
*DJA **14** 19:23:11.2±2.6, 1°.N±23°.×12°.6E±1°.3, h63km±56km, M4.2/4, mb4.6/3, MLv4.1/4*

ISC 14 19:23:10.8±0.4, 0°.67N±0°.06×126°.14E±0°.06, h44km, n66, σ0°.99/67, mb4.1/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**85**	P	**Pn**	**19 23 31.2**	**-0.4**
LBMI	**Labuha**	**1.88**	**134**	P	**Pn**	**19 23 42.7**	**+2.1**
LUWI	**Luwuk**	**3.77**	**243**	P	Pn	19 24 10.7	+4.1
LUWI	**Luwuk**	**3.77**	**243**	P	Pn	19 24 11.3	+4.7
	baz=5.2,SNR=25						
MRSI	**Marisa**	**4.20**	**267**	P	**Pn**	**19 24 15.1**	**+2.6**
BBSI	**Bau Bau**	**7.08**	**210**	P	Pn	19 24 56.6	+4.6
	91nm,1.0s						
TTSI	**Tana Toraja**	**7.32**	**240**	P	**Pn**	**19 24 57.5**	**+2.2**
	20nm,1.0s						
KAPI	**Kappang**	**8.52**	**228**	Pn	**Pn**	**19 25 10.8**	**-0.9**
KAPI	**Kappang**	**8.52**	**228**	Pn	**Pn**	**19 25 10.8**	**-0.9**
	1.3nm,0.3s,baz=12,slow=11,SNR=7.0						
SOEI	**Soe**	**10.53**	**190**	P	Pn	19 25 43.1	+3.8
BATI	**Baumata**	**11.09**	**193**	Pn	**Pn**	**19 25 45.2**	**-1.7**
BATI	**Baumata**	**11.09**	**193**	Pn	**Pn**	**19 25 45.2**	**-1.7**
	0.8nm,0.3s,baz=93,slow=18,SNR=2.4						
KDU	**Kakadu**	**14.69**	**155**	P	**Pn**	**19 26 34.1**	**-1.7**
	baz=16,SNR=4.6						
KSM	**Kuching**	**15.85**	**273**	*e*Pn	**Pn**	**19 26 52.1**	**+1.0**
	12nm,0.8s						
KSM	**Kuching**	**15.85**	**273**	P	**P**	**19 26 53.3**	**-0.9**
	baz=16,SNR=4.5						
KNRA	**Kununurra**	**16.45**	**171**	P	**P**	**19 26 59.9**	**-0.9**
	baz=18,SNR=7.5						
FITZ	**Fitzroy Crossi**	**18.66**	**181**	P	**P**	**19 27 25.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.66**	**181**	P	**P**	**19 27 25.2**	**-0.1**
	0.4nm,0.3s,baz=25,slow=12,SNR=17						
FITZ	**Fitzroy Crossi**	**18.66**	**181**	P	**P**	**19 27 25.1**	**-0.1**
	baz=20,SNR=12						
WRAB	**Tennant Creek**	**22.00**	**159**	*e*P	**P**	**19 28 01.1**	**-0.4**
	12nm,0.8s						
WRA	**Warramunga Arr**	**22.01**	**159**	P	**P**	**19 28 01.3**	**-0.3**
WRA				PcP	**PcP**	**19 31 59.4**	**+0.5**
WRA	**Warramunga Arr**	**22.01**	**159**	P	**P**	**19 28 01.3**	**-0.3**
	9.4nm,0.7s,baz=337,slow=11,SNR=59						
WRA				PcP	**PcP**	**19 31 59.4**	**+0.5**
	0.6nm,0.8s,baz=319,slow=2.2,SNR=4.0						
MBWA	**Marble Bar**	**22.59**	**196**	P	**P**	**19 28 07.1**	**-0.6**
	7.3nm,1.0s						
NACB	**Ninganchiao**	**23.77**	**350**	P	**P**	**19 28 17.2**	**-2.2**
	22nm,0.9s						
AS31	**Alice Springs**	**25.34**	**163**	*e*P	**P**	**19 28 34.1**	**+0.2**
ASAR	**Alice Springs**	**25.34**	**163**	P	**P**	**19 28 34.1**	**+0.2**
ASAR				PcP	**PcP**	**19 32 06.5**	**+0.5**
ASAR	**Alice Springs**	**25.34**	**163**	P	**P**	**19 28 34.1**	**+0.2**
	2.1nm,0.4s,baz=346,slow=12,SNR=72						
ASAR				PcP	**PcP**	**19 32 06.5**	**+0.5**
	1.0nm,0.7s,baz=349,slow=2.0,SNR=10						
RABL	**Rabaul**	**26.45**	**101**	S	**S**	**19 33 17.1**	**+2.1**
	baz=26,SNR=3.3						
MEEK	**Meekatharra**	**28.11**	**194**	P	**P**	**19 28 59.5**	**+0.8**
	baz=30,SNR=3.9						
FORT	**Forrest**	**31.33**	**177**	P	**P**	**19 29 27.8**	**+0.6**
	baz=33,SNR=9.5						
KLBR	**Kellerberrin**	**33.06**	**193**	P	**P**	**19 29 43.0**	**+0.6**
	baz=35,SNR=9.0						
NWAO	**Narrogin (SRO)**	**34.46**	**193**	P	**P**	**19 29 54.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**34.46**	**193**	P	**P**	**19 29 54.9**	**+0.3**
	15nm,1.0s,baz=15,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**35.53**	**157**	*e*P	**P**	**19 30 03.7**	**0.0**
	1.2nm,0.9s						
STKA	**Stephens Creek**	**35.53**	**157**	P	**P**	**19 30 04.1**	**+0.4**
	4.0nm,0.7s,baz=329,slow=7.6,SNR=17						
STKA	**Stephens Creek**	**35.53**	**157**	P	**P**	**19 30 04.4**	**+0.7**
	baz=37,SNR=14						
KSAR	**Wonju Array Be**	**36.62**	**2**	P	**P**	**19 30 14.4**	**+1.5**
KSRS	**Korea Array**	**36.64**	**2**	P	**P**	**19 30 14.4**	**+1.4**
	0.7nm,0.7s,baz=177,slow=10,SNR=5.6						
MJAR	**Matsushiro Arr**	**37.40**	**16**	P	**P**	**19 30 19.2**	**-0.5**
MJAR	**Matsushiro Arr**	**37.40**	**16**	P	**P**	**19 30 19.2**	**-0.5**
	1.0nm,0.6s,baz=178,slow=9.6,SNR=10						
LHI	**Lord Howe Isla**	**44.70**	**139**	P	P	19 31 10.9	-8.9
	baz=46,SNR=3.6						
ULN	**Ulaanbaatar**	**49.84**	**343**	P	**P**	**19 31 59.8**	**+0.1**
	1.2nm,0.8s						
SONM	**Songino Array**	**50.01**	**343**	P	**P**	**19 32 01.2**	**+0.2**
SONM	**Songino Array**	**50.01**	**343**	P	**P**	**19 32 01.2**	**+0.2**
	0.4nm,0.5s,baz=165,slow=6.9,SNR=3.1						
PETK	**Petropavlovsk-**	**58.47**	**22**	P	**P**	**19 33 02.8**	**+0.5**
PETK	**Petropavlovsk-**	**58.47**	**22**	P	**P**	**19 33 02.8**	**+0.5**
	0.9nm,0.4s,baz=184,slow=5.9,SNR=5.5						
MK31	**Makanchi Array**	**59.74**	**327**	*e*P	**P**	**19 33 10.4**	**-0.8**
MKAR	**Makanchi Array**	**59.74**	**327**	P	**P**	**19 33 11.2**	**-0.1**
MKAR				PcP	**PcP**	**19 33 57.8**	**0.0**
MKAR	**Makanchi Array**	**59.74**	**327**	P	**P**	**19 33 11.2**	**-0.1**
	0.5nm,0.4s,baz=120,slow=7.7,SNR=18						
MKAR				PcP	**PcP**	**19 33 57.8**	**0.0**
	0.5nm,0.5s,baz=116,slow=6.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**63.04**	**334**	P	**P**	**19 33 33.2**	**-0.2**
ZALV	**Zalesovo Beam**	**63.04**	**334**	P	**P**	**19 33 33.2**	**-0.2**
	0.7nm,0.5s,baz=138,slow=7.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**64.00**	**328**	P	**P**	**19 33 38.9**	**-0.9**
	1.1nm,0.6s,baz=127,slow=6.1,SNR=11						
KURK	**Kurchatov**	**64.00**	**329**	P	**P**	**19 33 38.9**	**-0.9**
CASY	**Casey**	**67.73**	**187**	*e*P	**P**	**19 34 03.9**	**+0.5**
	4.5nm,0.7s						
BVAR	**Borovoye Array**	**69.56**	**328**	P	**P**	**19 34 16.0**	**+0.9**
BVAR	**Borovoye Array**	**69.56**	**328**	P	**P**	**19 34 16.0**	**+0.9**
	0.5nm,0.4s,baz=150,slow=3.3,SNR=5.5						
ABKAR	**Akbulak array**	**74.14**	**321**	P	**P**	**19 34 40.0**	**-2.8**
VNDA	**Vanda**	**80.49**	**173**	*e*P	**P**	**19 35 18.0**	**+0.3**
	2.0nm,0.8s						
VNDA	**Vanda**	**80.49**	**173**	P	**P**	**19 35 18.1**	**+0.3**
	2.5nm,0.8s,baz=318,slow=5.9,SNR=17						
ILAR	**Eielson Array**	**88.10**	**25**	P	**P**	**19 35 55.9**	**-0.6**
ILAR	**Eielson Array**	**88.10**	**25**	P	**P**	**19 35 55.9**	**-0.6**
	0.4nm,0.9s,baz=246,slow=4.4,SNR=4.8						
QSPA	**South Pole Qui**	**90.60**	**180**	*e*P	**P**	**19 36 08.9**	**+0.5**
	2.6nm,0.7s						
BRTR	**Keskin Array B**	**91.50**	**310**	P	**P**	**19 36 12.3**	**-0.9**
BRTR	**Keskin Array B**	**91.50**	**310**	P	**P**	**19 36 12.3**	**-0.9**
	0.3nm,0.6s,baz=123,slow=2.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**123.25**	**286**	PKP	**PKPdf**	**19 42 04.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.25**	**286**	PKP	**PKPdf**	**19 42 04.5**	**+0.5**
	1.3nm,0.8s,baz=68,slow=2.2,SNR=6.0						

FUNV 14 19:32:55.6, 7°.31N×72°.94W, h164km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.83**	**48**	*e*P	Pn	19 33 19.1	-1.6
CAPV				*e*S	Sn	19 33 38.2	-1.8
VIGV	**El Vigia**	**2.18**	**45**	*e*P	Pn	19 33 33.5	-0.2
VIGV				*e*S	Sn	19 34 00.6	-2.5
SOCV	**Socops**	**2.28**	**65**	*e*P	Pn	19 33 33.3	-1.5
SOCV				*e*S	Sn	19 34 02.2	-2.9
VIRV	**Villa del Rosa**	**3.22**	**9**	*e*P	Pn	19 33 45.7	-0.6
VIRV				*e*S	Sn	19 34 21.3	-4.4
QARV	**Quebrada Arrib**	**3.74**	**39**	*e*S	Sn	19 34 33.0	-4.7
CURV	**Curarigua**	**3.99**	**47**	*e*P	Pn	19 33 54.8	-1.4
CURV				*e*S	Sn	19 34 38.2	-5.2
DABV	**Dabajuro**	**4.25**	**32**	*e*S	Sn	19 34 43.7	-5.7
SIQV	**Siquisique**	**4.54**	**43**	*e*P	Pn	19 34 01.6	-1.7
SIQV				*e*S	Sn	19 34 50.6	-5.5

*VIE **14** 19:34:29.1±0.2, 46°.92N×10°.93E, h6km±5km, mb0.5/3, ML1.2/5, Error ellipse: s-maj=1.2km s-min=0.8km az=152.0 8 km SW of Sden*
*CSEM **14** 19:34:29.2±0.1, 46°.93N×10°.92E, h10km, ML1.4/4, Error ellipse: s-maj=2.7km s-min=1.7km az=154.0*

ROM 14 19:34:28.6±0.2, 46°.96N×10°.95E, h10km, Md2.0/4, 5C-3D, Error ellipse: s-maj=3.9km s-min=2.0km az=170.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.17**	**293**	⇓*e*Pg	Pg	19 34 33.0	+0.5
	8.8nm,0.0s,SNR=28						
FETA				⇓*i*Sg	Sg	19 34 35.5	+0.3
	6.0nm,0.1s						
FETA	**Feichten**	**0.17**	**293**	Pg	Pg	19 34 33.0	+0.5
	8.8nm,0.0s,SNR=28						
FETA				Sg	Sg	19 34 35.5	+0.3
	6.0nm,0.1s						
ABSI	**Aberstueckl**	**0.34**	**132**	Pg	Pg	19 34 36.2	+0.5
ABSI				Sg	Sg	19 34 41.2	+0.8
ABSI	**Aberstueckl**	**0.34**	**132**	Pg	Pg	19 34 36.2	+0.5
ABSI				Sg	Sg	19 34 41.2	+0.8
MOTA	**Moosalm**	**0.40**	**15**	⇑*e*Pg	Pb	19 34 38.3	+0.2
	6.9nm,0.1s,SNR=20						
MOTA				⇓*i*Sg	Sb	19 34 43.9	-0.5
	12nm,0.2s						
MOTA	**Moosalm**	**0.40**	**15**	Pg	Pb	19 34 38.3	+0.2
	6.9nm,0.1s,SNR=20						
MOTA				Sg	Sb	19 34 43.9	-0.5
	12nm,0.2s						
WTTA	**Wattenberg**	**0.56**	**56**	⇑*i*Pg	Pb	19 34 40.6	-0.2
	0.8nm,0.1s						
WTTA				⇑*i*Sg	Sb	19 34 49.0	0.0
	1.1nm,0.2s						
WTTA	**Wattenberg**	**0.56**	**56**	Pg	Pb	19 34 40.5	-0.3
WTTA				Sg	Sg	19 34 47.1	-0.2
WTTA	**Wattenberg**	**0.56**	**56**	Pg	Pb	19 34 40.6	-0.2
	0.8nm,0.1s						
WTTA				Sg	Sb	19 34 49.0	0.0
	1.1nm,0.2s						
WATA	**Walderalm**	**0.57**	**48**	⇑*e*Pg	Pb	19 34 41.2	+0.3
	1.6nm,0.2s,SNR=4.0						
WATA				⇑*i*Sg	Sb	19 34 49.6	+0.4
	1.3nm,0.2s						
WATA	**Walderalm**	**0.57**	**48**	Pg	Pb	19 34 41.2	+0.3
	1.6nm,0.2s,SNR=4.0						
WATA				Sg	Sb	19 34 49.6	+0.4
	1.3nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.58**	**235**	Pg	Pg	19 34 40.1	-0.2
FUORN				Sg	Sg	19 34 48.8	+0.6
FUORN	**Ofenpass-Fuorn**	**0.58**	**235**	Pg	Pg	19 34 40.1	-0.2
FUORN				Sg	Sg	19 34 48.8	+0.6
DAVOX	**Davos/Dischmat**	**0.76**	**257**	Pg	Pg	19 34 43.3	-0.2
DAVOX				Sg	Sg	19 34 53.1	-0.5
DAVOX	**Davos/Dischmat**	**0.76**	**257**	Pg	Pg	19 34 43.3	-0.2
DAVOX				Sg	Sg	19 34 53.1	-0.5

IDC 14 19:39:20.3±57.0, 13°.73S×168°.45E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=968.6km s-min=118.9km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.51**	**229**	P	P	19 45 35.3	-0.1
	2.9nm,1.1s,baz=57,slow=9.9,SNR=5.6						
WRA	**Tarramunga Arr**	**33.19**	**255**	P	P	19 45 59.0	-0.1
	0.1nm,0.4s,baz=85,slow=8.8,SNR=6.0						
ASAR	**Alice Springs**	**34.10**	**248**	P	P	19 46 07.1	0.0
	0.4nm,0.5s,baz=81,slow=9.4,SNR=19						

*IDC **14** 19:39:45.8±0.3, 13°.97N×93°.06E, h0km, mb5.0/28, mb1 5.1/29, mb1mx5.1/30, mbtmp5.0/29, ML4.5/1, MS4.3/27, Ms1 4.3/27, ms1mx4.1/42, Error ellipse: s-maj=13.2km s-min=10.0km az=42.0*
*BJI **14** 19:39:47.8, 13°.98N×92°.99E, h26km, mB5.0/47, mb5.0/58, Ms4.6/65, Ms7 4.4/61*
*SZGRF **14** 19:39:47.6, 13°.43N×92°.67E, h28km, mb5.3, MS4.2, Andaman Islands, India, region*
*ISCJB **14** 19:39:48.4±0.6, 14°.03N±0°.02×92°.99E±0°.02, h25km±4km, mb5.2/252, MS4.4/60, Error ellipse: s-maj=3.5km s-min=2.9km az=6.2*
*MOS **14** 19:39:49.2±0.9, 13°.99N×93°.07E, h33km, mb5.4/71, MS4.4/15, Error ellipse: s-maj=6.6km s-min=3.9km az=116.9*
*BKK **14** 19:39:49.7±0.3, 14°.N±3°.×9°.3E±°, h10km, M5.0/32, mB5.4/17, mb5.2/32, MLv5.3/10, Mw(mB)4.8/17*
*NEIC **14** 19:39:49.9±0.1, 13°.96N×93°.02E, mb5.2/71, Error ellipse: s-maj=4.2km s-min=3.4km az=198.0*
*TEH **14** 19:39:51.0, 14°.04N×92°.99E, h26km, ML5.3*
*GCMT **14** 19:39:52.8±0.2, 14°.08N×93°.02E, h20km, MW5.0, Moment Tensor Solution. s45,c62; s66,c108; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.46±.15; $M_{\theta\theta}$0.61±.10; $M_{\phi\phi}$2.85±.10; $M_{r\theta}$2.37±.23; $M_{\theta\phi}$1.52±.07; M_{rf}1.05±.18; Best double couple: M_{ϕ}4.40000×10^{16} NP1:ϕ_{ϕ}227.00000°, δ63.00000°, λ-70.00000°. NP2:ϕ_{ϕ}9.00000°, δ33.00000°, λ-124.00000°. Principal axes: T 4.1900, Plg16.0000°, Azm303.0000°; N 0.3700, Plg18.0000°, Azm38.0000°; P -4.5600, Plg66.0000°, Azm173.0000°; Data Used: IU II IC G.*
*DJA **14** 19:39:55.9±0.7, 14°.N±6°.×9°.3E±°, h99km±13km, M5.0/13, mB5.2/4, mb5.1/13, MLv5.2/1, Mw(mB)4.6/4*

ISC 14 19:39:49.9±0.2, 13°.99N±0°.03×93°.00E±0°.03, h25km±1km, h25km:pP-P, n733, σ1°.36/963, mb5.2/251, MS4.4/61, 21C-105D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.81**	**185**	*e*P	**Pn**	**19 40 07.2**	**+1.5**
DGPR				*e*S	**Sn**	**19 40 16.7**	**-0.3**
PBA	**Port Blair**	**2.33**	**186**	*e*4	Pn	19 40 27.6	+0.8
PBA				*e*S	Sn	19 40 51.5	-3.1
PHET	**Kaeng Krachan**	**6.54**	**99**	P	**Pn**	**19 41 26.5**	**+1.9**
	923nm,0.8s,9µm3.3nm						
CMBY	**CAMPBELL BAY**	**6.99**	**172**	*ex*	**Sn**	**19 42 49.9**	**+0.3**
CM31	**Chiang Mai Arr**	**7.24**	**51**	*e*Pn	**Pn**	**19 41 33.6**	**-0.6**
	94nm,0.7s						
CM31				*e*Sn	**Sn**	**19 42 49.6**	**-6.0**
CMAR	**Chiang Mai Arr**	**7.24**	**51**	Pn	**Pn**	**19 41 33.5**	**-0.7**
CMAR				Sn	**Sn**	**19 42 51.1**	**-4.5**
CMAR	**Chiang Mai Arr**	**7.24**	**51**	Pn	**Pn**	**19 41 33.5**	**-0.7**
	2.1nm,0.3s,baz=241,slow=14,SNR=194						
CMAR				Sn	**Sn**	**19 42 51.1**	**-4.5**
	6.7nm,0.3s,baz=230,slow=16,SNR=3.7						
CMAR				LR	LR	19 45 05.7	
	comp=Z,3µm,18.5s,baz=234,slow=44						
CHTO	**Chiang Mai**	**7.46**	**49**	*e*P	**Pn**	**19 41 35.8**	**-1.4**
CHTO				*e*		19 42 54.9	
CHTO	**Chiang Mai**	**7.46**	**49**	Pn	**Pn**	**19 41 37.1**	**-0.1**
	SNR=44						
CHTO	**Chiang Mai**	**7.46**	**49**	*e*Pn	**Pn**	**19 41 35.8**	**-1.4**
CHTO				*e*Sn	Sn	19 42 54.9	-6.1
CHTO	**Chiang Mai**	**7.46**	**49**	P	**Pn**	**19 41 36.6**	**-0.6**
	161nm,0.9s,2µm0.6nm						
CHTO	**Chiang Mai**	**7.46**	**49**	P	**Pn**	**19 41 36.8**	**-0.4**
	110nm,0.9s,1µm0.6nm						
CMMT	**Chiang Mai**	**7.46**	**49**	P	**Pn**	**19 41 36.5**	**-0.7**
	122nm,0.9s,2µm0.6nm						
LAMP	**Lampang**	**7.80**	**54**	P	**Pn**	**19 41 42.4**	**+0.4**
	87nm,0.7s,610nm0.2nm						
PBKT	**Sadao Pong**	**8.11**	**71**	P	**Pn**	**19 41 46.9**	**+0.7**
	193nm,0.7s,2µm0.6nm						
CMAI	**Chiengmai2**	**8.27**	**44**	P	**Pn**	**19 41 48.8**	**+0.3**
	134nm,0.7s,14µm0.7nm						
PAYA	**Payao**	**8.48**	**50**	P	**Pn**	**19 41 51.7**	**+0.5**
	55nm,0.7s,462nm0.2nm						
LOEI	**Loei**	**8.70**	**65**	P	Pn	19 41 59.4	+5.2
	218nm,0.8s,1.0nm						
BSI	**Banda Aceh**	**8.74**	**165**	P	**Pn**	**19 41 56.9**	**+2.1**
	114nm,1.1s						
CHAI	**Chaiyaphum**	**8.89**	**77**	P	**Pn**	**19 41 59.2**	**+2.3**
	77nm,1.0s,563nm0.2nm						
LHMI	**Lhok Sumawe**	**9.54**	**156**	P	**Pn**	**19 42 06.7**	**+1.0**
	168nm,1.3s						
VIS	**Vishakhapatnam**	**10.02**	**293**	*e*P	**Pn**	**19 42 11.9**	**-0.4**
VIS				AMB	AMB	19 42 13.3	
	comp=Z,434nm,5.1s						
VIS				*ex*	Sn	19 43 56.8	-7.1
SKLT	**Songkhla**	**10.10**	**131**	P	Pn	19 42 26.8	+13
KULM	**Kulim**	**11.47**	**138**	*e*Pn	**Pn**	**19 42 34.8**	**+2.6**
KULM	**Kulim**	**11.47**	**138**	P	Pn	19 42 35.8	+3.6
KULM	**Kulim**	**11.47**	**138**	P	**Pn**	**19 42 34.9**	**+2.6**
	comp=Z,62nm,1.3s						
SHL	**Shillong**	**11.57**	**355**	*e*P	**Pn**	**19 42 31.0**	**-2.7**
SHL				AMB	AMB	19 42 47.0	
	comp=Z,61nm,2.2s						
SHL				*ex*	x	19 44 35.0	
PANO	**Nakornpanom**	**11.62**	**73**	P	**Pn**	**19 42 37.0**	**+2.7**
	comp=Z,237nm,1.1s,comp=Z,15µm						
TSI	**Tuntungan**	**11.78**	**152**	P	Pn	19 42 40.6	+4.1
	comp=Z,152nm,1.5s						
BOK	**Bokaro**	**11.85**	**326**	*e*P	**Pn**	**19 42 37.0**	**-0.4**
BOK				AMB	AMB	19 42 48.2	
	comp=Z,86nm,0.0s						
BOK				*i*x	x	19 44 29.5	
UBPT	**Khong Chiam**	**12.14**	**82**	P	**Pn**	**19 42 43.0**	**+1.6**
	comp=Z,82nm,1.1s,comp=Z,1µm						
IPM	**Ipoh**	**12.33**	**139**	*e*Pn	**Pn**	**19 42 45.6**	**+1.7**
IPM	**Ipoh**	**12.33**	**139**	P	Pn	19 42 47.8	+3.8
IPM	**Ipoh**	**12.33**	**139**	P	**Pn**	**19 42 46.3**	**+2.3**
	comp=Z,59nm,1.8s,comp=Z,744nm						
PSI	**Prapat**	**12.56**	**152**	Pn	**Pn**	**19 42 49.8**	**+2.4**
PSI	**Prapat**	**12.56**	**152

comp=Z,54nm,1.0s
MYKOM **Kota Tinggi** 16.19 138 P **P** 19 43 39.8 +0.9
MYKOM **Kota Tinggi** 16.19 138 P **Pn** 19 43 36.0 +0.1
comp=Z,108nm,1.1s,comp=Z,1μm
KOLN **Koldanda** 16.27 329 *e*P **Pn** 19 43 37.4 +0.3
comp=Z,236nm,0.6s
LATR **Latur** 16.39 288 *e*P **Pn** 19 43 36.5 -1.9
LATR *ex* x 19 43 44.0
comp=Z,79nm,0.8s
LATR *ex* x 19 46 22.9
LATR *ex* x 19 46 22.9
LATR *ex* x 19 46 31.8
comp=E,68nm,0.7s
LATR *ex* x 19 46 33.2
comp=N,174nm,1.0s
AKL **Akola** 16.65 296 *e*P **Pn** 19 43 42.0 +0.3
AKL AMP 19 43 56.6
comp=Z,308nm,1.5s
AKL *i* x x 19 46 32.4
DANN **Dangsing** 16.67 330 *e*P **Pn** 19 43 41.3 -1.0
comp=Z,245nm,0.8s
QIZ **Qiongzhong** 16.91 70 P **P** 19 43 46.4 -0.5
QIZ sP **sP** 19 43 56.4 -0.4
QIZ S **Sn** 19 46 54.4 +2.0
QIZ pmax pmax
comp=Z,30nm,1.1s
QIZ pmax pmax
comp=Z,100nm,3.9s
QIZ LR LR
comp=E,1μm,15.6s
QIZ LR LR
comp=Z,3μm,15.2s
QIZ **Qiongzhong** 16.91 70 *e*Pn **P** 19 43 46.6 -0.2
comp=Z,37nm,1.1s
BHPL **Bhopal** 17.38 304 *e*P **P** 19 43 52.9 +0.9
BHPL AMB AMB 19 44 02.0
comp=Z,179nm,1.0s
GYA **Guiyang** 17.82 44⇑ *i*P **Pn** 19 43 56.3 -0.2
GYA pP **pP** 19 44 04.8 +1.0
GYA PP **PnPn** 19 44 10.8 +3.3
GYA S **Sn** 19 47 10.5 -4.1
GYA SS **SnSn** 19 47 33.0 +4.6
GYA pmax pmax
comp=Z,20nm,1.0s
GYA LR LR
comp=N,2μm,16.2s
GYA LR LR
comp=E,2μm,15.3s
GYA LR LR
comp=Z,2μm,16.5s
POO **Poona** 18.93 286⇓ *i*P **Pn** 19 44 10.0 +0.1
comp=Z,50nm,1.0s
POO *e*P **P** 19 44 11.0 +1.9
POO AMB AMB 19 44 19.6
comp=Z,62nm,1.6s
MASI **Maura Aman, Be** 19.33 151 P **P** 19 44 11.4 -2.2
comp=Z,311nm,1.0s
CD2 **Chengdu** 19.54 29 P **P** 19 44 15.8 0.0
CD2 pP **pP** 19 44 23.9 +1.3
CD2 sP **sP** 19 44 26.1 +0.3
CD2 PP **PnPn** 19 44 33.9 +3.0
CD2 S **S** 19 47 51.3 -3.8
CD2 sS **Sn** 19 48 00.3 +4.5
CD2 SS **SnSn** 19 48 16.8 +6.4
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,510nm,5.4s
CD2 LR LR
comp=N,1μm,15.4s
CD2 LR LR
comp=E,1μm,15.4s
CD2 LR LR
comp=Z,830nm,15.2s
KSI **Kapahiang** 19.94 151 P **P** 19 44 18.8 -1.5
comp=Z,190nm,1.0s
PMBI **Palembang** 20.46 144 P **P** 19 44 23.5 -2.4
NDI **New Delhi** 20.70 317 *e*P **P** 19 44 29.0 +0.6
NDI *ex* x 19 48 05.0
KSM **Kuching** 21.16 125 *e*Pn **P** 19 44 33.9 +0.5
comp=Z,56nm,1.3s
KSM **Kuching** 21.16 125 P **P** 19 44 34.7 +1.3
GZH **Guangzhou** 21.29 62 P P 19 44 39.8 +5.0
GZH LR LR
comp=N,970nm,18.2s
GZH LR LR
comp=E,670nm,19.4s
DDI **Dehra Dun** 21.31 322 *e*P **P** 19 44 34.5 -0.6
DDI AMB AMB 19 44 46.2
comp=Z,549nm,1.5s
SBUM **Sibu** 22.18 119 P **P** 19 44 46.0 +1.5
ENH **Enshi** 22.22 40 *e*P **P** 19 44 43.7 -1.1
comp=Z,64nm,0.8s
ENH *e*PcP **PcP** 19 48 40.6 -0.3
ENH *e*S **S** 19 48 49.0 +0.7
SMLA **Simla** 22.42 322 *i*P **P** 19 44 48.4 +1.6
SMLA AMB AMB 19 44 52.4
comp=Z,83nm,2.4s
SMLA *i* x x 19 48 43.1
BHK **Bhakra** 23.07 322 *ex* x 19 45 03.0
DHRM **DHARAMSHALA** 23.74 323 *e*P **P** 19 45 00.9 +0.4
DHRM AMB AMB 19 45 10.7
comp=Z,171nm,0.9s
LZH **Lanzhou** 24.06 22 ⇓P **P** 19 45 03.9 +0.4
LZH pP **pP** 19 45 11.0 +0.2
LZH sP **sP** 19 45 15.1 +1.2
LZH PcP **PcP** 19 48 46.4 +1.6
LZH S **S** 19 49 19.0 -0.6
LZH sS **sS** 19 49 28.1 -3.6
LZH SS **SnSn** 19 50 10.0 +8.6
LZH pmax pmax
comp=Z,200nm,1.1s
LZH LR LR
comp=N,2μm,14.4s
LZH LR LR
comp=E,560nm,11.2s
LZH LR LR
comp=Z,2μm,14.6s
KKM **Kota Kinabalu** 24.17 107 P **P** 19 45 03.9 -0.7
comp=Z,33nm,1.2s
KKM **Kota Kinabalu** 24.17 107 P **P** 19 45 05.9 +1.3
THN **Thein Dam** 24.21 322 *e*P **P** 19 45 05.0 +0.3
XAN **Xi'an** 24.64 33 P **P** 19 45 07.4 -1.2
XAN pP **pP** 19 45 15.4 -0.6
XAN sP **sP** 19 45 19.4 +0.4
XAN S **S** 19 49 32.9 +4.2
XAN pmax pmax
comp=Z,44nm,1.0s
XAN pmax pmax
comp=Z,47nm,5.2s
XAN LR LR
comp=N,380nm,17.4s
XAN LR LR
comp=E,280nm,15.3s
XAN LR LR
comp=Z,240nm,12.3s
SDKM **Sandakan** 25.22 107 P **P** 19 45 14.4 +0.3
GTA **Gaotai** 26.03 12 ⇓P **P** 19 45 22.1 +0.8
GTA pP **pP** 19 45 29.3 +0.7
GTA sP **sP** 19 45 32.6 +0.9
GTA PcP **PcP** 19 48 50.3 +1.3
GTA S **S** 19 49 48.8 -2.1
GTA sS **sS** 19 50 00.3 -2.7
GTA SS **SnSn** 19 50 55.8 +6.4
GTA PcS **PcS** 19 52 30.3 +0.3
GTA ScS **ScS** 19 56 17.0 0.0
GTA pmax pmax
comp=Z,47nm,1.1s
GTA pmax pmax
comp=Z,350nm,6.5s
GTA LR LR
comp=N,700nm,16.6s
GTA LR LR
comp=E,470nm,13.3s
GTA LR LR
comp=Z,770nm,16.2s
TSM **Tawau** 26.35 109 P **P** 19 45 24.8 +0.5
QZH **Quanzhou** 26.43 62 P **P** 19 45 29.0 +4.1
QZH S **S** 19 49 59.0 +1.8
QZH LR LR
comp=N,1μm,13.9s
QZH LR LR
comp=E,780nm,14.3s
QZH LR LR
comp=Z,1μm,15.0s

CHCP **Chirah Chowk** 26.54 321 P **P** 19 45 26.4 +0.5
MYLDM **Lahad Datu** 26.60 107 P **P** 19 45 27.5 +0.9
TGY **Tagaytay City** 27.10 86 P **P** 19 45 32.0 +0.9
TGY **Tagaytay City** 27.10 86 P **P** 19 45 32.0 +0.9
comp=Z,114nm,0.3s,baz=310,slow=16,SNR=7.6
CEP **Cherat** 27.49 320 P **P** 19 45 35.0 +0.4
TPUB **Ta-pu** 27.73 66 *e*P **P** 19 45 37.6 +1.0
comp=Z,46nm,1.2s
TWG **Pinlang** 28.01 68 *e*P **P** 19 45 40.9 +1.8
comp=Z,321nm,1.1s
SSLB **Suanglung** 28.14 66 *e*P **P** 19 45 41.3 +0.9
comp=Z,86nm,1.0s
YULB **Yu-li** 28.35 67 *e*P **P** 19 45 43.5 +1.4
comp=Z,47nm,0.9s
YHNB **Yeheng** 28.75 64 *e*P **P** 19 45 45.9 +0.1
comp=Z,60nm,1.1s
NACB **Ninganchiao** 28.81 65 *e*P **P** 19 45 47.2 +1.0
comp=Z,21nm,0.8s
KSH **Kashi** 29.52 333 P **P** 19 45 51.8 -0.7
KSH sP **sP** 19 46 01.8 -1.1
KSH PP **PnPn** 19 46 46.8 -0.5
KSH S **S** 19 50 40.3 -5.6
KSH sS sS 19 50 52.3 -5.7
KSH SS **SnSn** 19 52 12.1 -2.4
KSH pmax pmax
comp=Z,22nm,1.0s
KSH pmax pmax
comp=Z,82nm,4.1s
KSH LR LR
comp=N,640nm,16.0s
KSH LR LR
comp=E,440nm,14.9s
KSH LR LR
comp=Z,240nm,12.0s
NJ2 **Nanjing** 29.70 48 *e*P **P** 19 45 54.0 0.0
NJ2 pP **pP** 19 46 02.1 +0.7
NJ2 sP **sP** 19 46 04.5 0.0
NJ2 S **S** 19 50 50.0 +1.4
NJ2 sS **sS** 19 51 03.0 +2.2
NJ2 pmax pmax
comp=Z,40nm,0.6s
NJ2 LR LR
comp=N,130nm,13.2s
NJ2 LR LR
comp=E,1μm,14.7s
NJ2 LR LR
comp=Z,2μm,16.4s
KBL **Kabul** 29.79 318 *e*P **P** 19 45 55.1 0.0
KBL pmax pmax
comp=Z,18nm,0.9s
KBL **Kabul** 29.79 318 *e*P **P** 19 45 55.1 0.0
comp=Z,18nm,0.9s
WMQ **Urumqi** 30.08 352 P **P** 19 45 58.4 +1.1
WMQ sP **sP** 19 46 09.8 +2.0
WMQ PP **PnPn** 19 46 56.4 +1.6
WMQ PcP **PcP** 19 49 01.0 +2.2
WMQ S **S** 19 50 53.8 -0.6
WMQ sS **sS** 19 51 06.0 -0.6
WMQ SS **SnSn** 19 52 32.3 +4.4
WMQ ScS **ScS** 19 56 34.8 -0.2
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ LR LR
comp=N,430nm,19.0s
WMQ LR LR
comp=E,190nm,16.0s
WMQ LR LR
comp=Z,480nm,23.0s
BTO **Baotou** 30.41 26 *e*P **P** 19 45 59.8 -0.6
SSE **Sheshan** 30.98 52 P **P** 19 46 06.1 +0.8
SSE S **S** 19 51 09.5 +0.8
SSE pmax pmax
comp=Z,47nm,0.8s
SSE pmax pmax
comp=Z,68nm,4.6s
SSE LR LR
comp=N,310nm,16.9s
SSE LR LR
comp=E,440nm,16.9s
SSE LR LR
comp=Z,440nm,15.1s
HHC **Hu-ho-hao-te** 31.29 28 *e*P **P** 19 46 08.3 +0.2
HHC sP **sP** 19 46 18.6 0.0
HHC PP **PnPn** 19 47 11.4 +0.7
HHC PcP **PcP** 19 49 02.5 +0.4
HHC S **S** 19 51 11.6 -2.0
HHC sS **sS** 19 51 23.5 -2.3
HHC ScP **ScP** 19 52 42.0 -1.7
HHC SS **SnSn** 19 52 57.4 -0.1
HHC ScS **ScS** 19 56 38.5 -2.7
HHC pmax pmax
comp=Z,86nm,1.2s
HHC pmax pmax
comp=Z,410nm,5.3s
HHC LR LR
comp=N,1μm,13.6s
HHC LR LR
comp=E,1μm,16.0s
HHC LR LR
comp=Z,980nm,13.8s
KZA **Kyzart** 31.93 335 *i*P **P** 19 46 15.6 +1.5
KZA **Kyzart** 31.93 335 P **P** 19 46 15.6 +1.5
SNR=7.9
TKM2 **Tokmak 2** 32.50 336 *i*P **P** 19 46 19.5 +0.7
TKM2 **Tokmak 2** 32.50 336 P **P** 19 46 19.5 +0.7
SNR=9.3
TKM2 **Tokmak 2** 32.50 336 *e*P **P** 19 46 19.6 +0.8
comp=Z,9.6nm,0.8s
KBK **Karagaybulak** 32.54 335 *i*P **P** 19 46 20.8 +1.6
KBK **Karagaybulak** 32.54 335 P **P** 19 46 20.8 +1.6
SNR=6.2
AML **Almayashu** 32.65 333 *i*P **P** 19 46 21.5 +1.1
AML **Almayashu** 32.65 333 P **P** 19 46 21.5 +1.1
SNR=17
AAK **Ala-Archa** 32.71 334 *d*i*P **P** 19 46 22.2 +1.5
AAK pmax pmax
comp=Z,47nm,1.1s
AAK MLR MLR
comp=Z,2μm,16.0s
AAK **Ala-Archa** 32.71 334 P **P** 19 46 22.5 +1.8
SNR=15
AAK **Ala-Archa** 32.71 334 P **P** 19 46 22.4 +1.8
SNR=5.5
AAK **Ala-Archa** 32.71 334 *e*P **P** 19 46 21.8 +1.1
comp=Z,30nm,1.2s
AAK **Ala-Archa** 32.71 334 LR LR 20 02 28.5
comp=Z,847nm,18.5s,baz=135,slow=42
FRU **Bishkek** 32.82 335 *e*P **P** 19 46 23.0 +1.5
FRU *i* 19 46 31.0
FRU pmax pmax
comp=Z,50nm,2.2s
FRU MLR MLR
comp=Z,800nm,20.0s
CHMS **Chumysh** 32.90 335 *i*P **P** 19 46 23.2 +1.0
CHMS **Chumysh** 32.90 335 P **P** 19 46 23.2 +1.0
SNR=12
BJT **Baijiatuau** 32.95 34 *e*P **P** 19 46 23.2 +0.6
comp=Z,16nm,0.4s
BJI **Beijing** 32.97 34 P **P** 19 46 23.5 +0.8
BJI S **S** 19 51 44.8 +5.3
BJI pmax pmax
comp=Z,46nm,0.9s
BJI LR LR
comp=N,570nm,25.1s
BJI LR LR
comp=E,880nm,21.2s
BJI LR LR
comp=Z,220nm,23.5s
EKS2 **Erkin-Say** 33.04 334 P **P** 19 46 25.2 +1.8
SNR=14
USP **Ospenovka** 33.23 335 *i*P **P** 19 46 26.1 +1.1
USP **Ospenovka** 33.23 335 P **P** 19 46 26.1 +1.1
SNR=20
MK31 **Makanchi Array** 33.91 347 *e*P **P** 19 46 31.2 +0.2
MK31 *e**PP **pP** 19 46 38.7 +0.3
MK31 **Makanchi Array** 33.91 347 *e*P **P** 19 46 31.2 +0.2
MK31 *e*pP **pP** 19 46 38.7 +0.3
MKAR **Makanchi Array** 33.91 347 *i*P **P** 19 46 31.5 +0.5
MKAR pmax pmax
comp=Z,38nm,0.9s
MKAR **Makanchi Array** 33.91 347 *e*P **P** 19 46 31.5 +0.5
MKAR **Makanchi Array** 33.91 347 P **P** 19 46 31.5 +0.5
comp=Z,38nm,0.9s,baz=163,slow=8.4,SNR=202
MKAR LR LR 20 04 35.7
comp=Z,407nm,18.9s,baz=162,slow=44

KKAR **Karatay Array** 34.87 331 *e*P **P** 19 46 40.1 +0.8
KKAR pmax pmax
comp=Z,13nm,0.7s
KKAR **Karatay Array** 34.87 331 *e*P **P** 19 46 40.1 +0.8
comp=Z,14nm,0.7s
JOW **Kunigami** 35.32 63 *e*P **P** 19 46 43.5 +0.2
DL2 **Dalian** 35.41 40 P **P** 19 46 44.4 +0.5
DL2 S **S** 19 52 19.5 +2.2
DL2 pmax pmax
comp=Z,77nm,0.9s
DL2 pmax pmax
comp=Z,100nm,6.3s
DL2 LR LR
comp=N,300nm,12.1s
DL2 LR LR
comp=Z,280nm,19.4s
SONM **Songino Array** 35.54 16 P **P** 19 46 45.6 +0.5
SONM PcP **PcP** 19 49 14.5 +0.6
SONM **Songino Array** 35.54 16 P **P** 19 46 45.6 +0.5
comp=Z,42nm,1.0s,baz=199,slow=9.2,SNR=151
SONM PcP **PcP** 19 49 14.5 +0.6
comp=Z,9.2nm,1.0s,baz=192,slow=4.0,SNR=6.5
SONM LR LR 20 03 29.9
comp=Z,419nm,20.2s,baz=205,slow=40
ULN **Ulaanbaatar** 35.74 16 P **P** 19 46 47.6 +0.7
SNR=22
ULN **Ulaanbaatar** 35.74 16 *e*P **P** 19 46 47.2 +0.3
comp=Z,44nm,1.2s
ULN *e*PcP **PcP** 19 49 14.9 +0.3
IMYA **Miami** 36.89 313 *e*P P 19 46 52.2 -4.7
HVS **Khovu-Aksy** 37.05 1*d*i*P **P** 19 46 58.4 +0.5
HVS pmax pmax
comp=Z,283nm,1.3s
ZAK **Zakamensk** 37.25 11 *e*P **P** 19 46 58.5 -1.1
ZAK *e* 19 49 18.9
ZAK pmax pmax
comp=Z,11nm,1.1s
ISRO **Mashad** 37.32 313 *e*P **P** 19 46 57.4 -3.1
IPAY **Payeh** 37.73 313 *e*P **P** 19 47 03.8 -0.2
IAKL **Akhelmad** 37.97 313 *e*P **P** 19 47 06.5 +0.4
MOY **Mondy** 38.13 8 *e*P **P** 19 47 08.1 +1.0
MOY pmax pmax
comp=Z,30nm,2.5s
IKRD **Kardeh** 38.22 313 *e*P P 19 47 02.7 -5.5
SNY **Shenyang** 38.36 38 ⇓P **P** 19 47 08.8 -0.1
SNY S **S** 19 52 56.5 -5.6
SNY pmax pmax
comp=Z,28nm,1.2s
SNY pmax pmax
comp=Z,200nm,5.8s
SNY LR LR
comp=N,120nm,7.0s
SNY LR LR
comp=E,110nm,6.0s
SNY LR LR
comp=Z,120nm,14.4s
IEMG **Emamgholi** 38.42 314 *e*P **P** 19 47 11.0 +1.1
BATI **Baumata** 38.77 127 P **P** 19 47 09.9 -2.9
BATI PcP **PcP** 19 49 24.6 +0.4
BATI **Baumata** 38.77 127 P **P** 19 47 09.9 -2.9
comp=Z,36nm,0.9s,baz=118,slow=3.6,SNR=8.1
BATI PcP **PcP** 19 49 24.6 +0.4
comp=Z,12nm,0.6s,baz=311,slow=18,SNR=4.2
KSAR **Wonju Array Be** 38.81 47 P **P** 19 47 12.2 -0.6
KSAR PcP **PcP** 19 49 23.9 0.0
KSRS **Korea Array** 38.85 47 P **P** 19 47 12.2 -0.9
comp=Z,13nm,0.9s,baz=245,slow=9.0,SNR=61
KSRS PcP **PcP** 19 49 23.9 -0.1
comp=Z,1.3nm,0.6s,baz=246,slow=2.9,SNR=4.4
KSRS LR LR 20 04 54.1
comp=Z,629nm,19.6s,baz=240,slow=39
ISHV **Shirvan** 39.14 313 *e*P **P** 19 47 15.3 -0.6
IMEH **Mehriz** 39.17 303 *e*P **P** 19 47 16.4 +0.1
IRK **Irkutsk** 39.21 11 *e*P **P** 19 47 15.8 -0.2
IRK pmax pmax
comp=Z,46nm,1.6s
JNU **Nakatsue** 39.32 54 *e*P **P** 19 47 17.5 +0.2
comp=Z,12nm,1.0s
JNU **Nakatsue** 39.32 54 LR LR 20 03 56.7
comp=Z,365nm,20.9s,baz=243,slow=37
ZAA0 **Zalesovo Array** 40.38 353 *e*P **P** 19 47 25.5 -0.2
ZAA0 *e*pP **pP** 19 47 33.6 +0.4
ZALV **Zalesovo Beam** 40.38 353 *i*P **P** 19 47 25.7 0.0
ZALV pmax pmax
comp=Z,32nm,0.8s
ZALV **Zalesovo Beam** 40.38 353 P **P** 19 47 25.6 0.0
ZALV **Zalesovo Beam** 40.38 353 P **P** 19 47 25.6 0.0
comp=Z,32nm,0.8s,baz=174,slow=9.0,SNR=156
ZALV LR LR 20 08 14.5
comp=Z,282nm,20.7s,baz=249,slow=42
CN2 **Changchun** 40.64 37 ⇓P **P** 19 47 27.9 -0.1
CN2 *e*sP **sP** 19 47 38.6 0.0
CN2 PcP **PcP** 19 49 29.8 +0.2
CN2 *e*S **S** 19 53 36.4 -0.1
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,700nm,17.0s
CIT **Chita** 41.37 19 *e*P **P** 19 47 34.2 +0.3
CIT *e* 19 47 42.6
CIT pmax pmax
comp=Z,92nm,1.3s
HIA **Hailar** 41.47 26 *e*P **P** 19 47 34.8 0.0
comp=Z,46nm,1.6s
NVS **Novosibirsk** 41.47 351 *e*P **P** 19 47 33.6 -1.0
NVS *e*S **S** 19 53 44.1 -4.3
NVS pmax pmax
comp=Z,26nm,1.1s
NVS pmax pmax
comp=N,12nm,0.9s
NVS pmax pmax
comp=E,11nm,1.2s
NVS smax smax
comp=E,18nm,1.9s
IGLO **Ghaloghah** 41.52 310 *e*P P 19 47 31.9 -3.8
ISHM **Shahmirzad** 41.67 309 *e*P **P** 19 47 37.3 +0.3
KRAR **Krasnoyarsk** 41.94 360 *c*e*P **P** 19 47 40.7 +2.3
KRAR pmax pmax
comp=Z,46nm,1.1s
IDMV **Damavand** 42.55 308 *e*P **P** 19 47 45.5 +1.3
IVRN **Varamin** 42.60 307 *e*P **P** 19 47 43.4 -0.9
BRVK **Borovoye** 42.95 340 P **P** 19 47 46.5 -0.2
comp=Z,143nm,1.2s,SNR=9.6
BRVK **Borovoye** 42.95 340 *d*i*P **P** 19 47 46.6 -0.2
BRVK pmax pmax
comp=Z,23nm,1.2s
BRVK **Borovoye** 42.95 340 P **P** 19 47 47.0 +0.3
SNR=14
BRVK **Borovoye** 42.95 340 *e*P **P** 19 47 46.2 -0.5
comp=Z,31nm,1.1s
BRVK *e*pP **pP** 19 47 54.7 +0.4
IR3 **Iran Long-Peri** 43.30 307 *e*P **P** 19 47 50.5 +0.6
MDJ **Mudanjiang** 43.55 38 P **P** 19 47 52.3 +0.5
MDJ pP **pP** 19 47 58.3 -1.0
MDJ sP **sP** 19 48 00.9 -1.4
MDJ PP **PP** 19 49 33.8 +0.5
MDJ PcP **PcP** 19 49 39.8 +0.5
MDJ S **S** 19 54 21.9 +2.5
MDJ sS **sS** 19 54 30.8 -1.1
MDJ ScS **ScS** 19 57 51.3 +1.4
MDJ pmax pmax
comp=Z,9.0nm,1.8s
MDJ pmax pmax
comp=Z,57nm,4.4s
MDJ LR LR
comp=N,360nm,18.9s
MDJ LR LR
comp=E,190nm,20.2s
MDJ LR LR
comp=Z,390nm,16.2s
MDJ **Mudanjiang** 43.55 38 P **P** 19 47 51.7 -0.1
MBWA **Marble Bar** 43.70 143 *e*P **P** 19 47 50.1 -3.0
comp=Z,134nm,2.0s
IRAZ **Razeghan** 44.12 307 *e*P **P** 19 47 53.9 -2.9
VLA **Vladivostok** 44.21 41⇓ *e*P **P** 19 47 56.2 -0.8
VLA pmax pmax
comp=Z,48nm,1.5s
IGZV **Ghazvin** 44.21 308 *e*P **P** 19 47 58.9 +1.4
ABKAR **Akbulak array** 44.39 329 *e*P **P** 19 47 59.3 +0.9
ABKAR *e*pP **pP** 19 48 07.4 +1.4
KBD **Kabd** 44.47 297 *e*P **P** 19 48 00.1 +0.7

KBD AMb AMB 19 48 09.2
comp=Z,28nm,0.9s
RDF Al-Radifah 44.55 297 *e*P **P 19 48 00.8 +0.8**
RDF AMb AMB 19 48 09.9
comp=Z,57nm,0.6s
USRK Ussuriysk Arra 44.81 40 P **P 19 48 01.3 -0.5**
comp=Z,9.7nm,0.8s,baz=244,slow=6.7,SNR=21
USRK PcP **PcP 19 49 42.5 -1.0**
comp=Z,2.0nm,0.6s,baz=252,slow=4.2,SNR=3.6
USRK LR LR 20 09 24.1
comp=Z,418nm,18.2s,baz=27,slow=40
NAY Al-Naaiem 44.87 297 *e*P **P 19 48 02.8 +0.2**
NAY AMb AMB 19 48 12.6
comp=Z,28nm,0.9s
RAYN Ar Rayn 45.78 289 *e*P **P 19 48 10.9 +0.9**
comp=Z,19nm,1.1s
MAT Matsushiro 46.12 52 P **P 19 48 11.8 -0.6**
MAT S **S 19 54 55.4 -1.6**
MJAR Matsushiro Arr 46.12 52 P **P 19 48 12.1 -0.3**
MJAR PcP **PcP 19 49 48.6 +0.2**
MJAR Matsushiro Arr 46.12 52 P **P 19 48 12.1 -0.3**
comp=Z,25nm,0.9s,baz=264,slow=9.8,SNR=104
MJAR PcP **PcP 19 49 48.6 +0.2**
comp=Z,10nm,0.8s,baz=242,slow=3.7,SNR=16
MJAR LR LR 20 09 35.2
comp=Z,476nm,19.4s,baz=250,slow=39
ISRB Sarab 46.60 309 *e*P **P 19 48 14.8 -1.6**
IDHR Dehrash 46.72 305 *e*P **P 19 48 17.3 -0.1**
KLR Kul'dur 47.34 34 *e*P P 19 48 17.8 -3.9
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,42nm,1.8s
KLR MLR MLR
comp=E,800nm,15.0s
KLR MLR MLR
comp=Z,1μm,15.0s
ISHB Shabestar 48.28 309 *e*P **P 19 48 30.3 +0.8**
MAK Makhachkala 48.50 316 *e*P **P 19 48 29.8 -0.9**
MAK *e* 19 49 57.1
MAK *e*PPP PPP 19 51 09.4
MAK *e*S **S 19 55 28.3 -2.2**
MAK *e*SSS SSS 20 00 20.3
MAK pmax pmax
comp=Z,50nm,1.3s
MAK MLR MLR
comp=Z,281nm,15.0s
HABR Khabarovsk 48.78 36 *ce*P **P 19 48 30.6 -2.2**
HABR *e**SP **sP 19 48 41.2 -2.2**
HABR *e* 19 49 55.0
HABR *e* 19 50 23.8
HABR S **S 19 55 32.4 -1.9**
HABR *e**SS **sS 19 55 45.6 -1.3**
HABR *e* 19 58 20.9
HABR SS **SS 19 59 04.9 0.0**
HABR *e*SSS SSS 20 00 18.3
HABR pmax pmax
comp=Z,85nm,2.3s
HABR pmax pmax
comp=E,69nm,2.3s
HABR pmax pmax
comp=N,30nm,3.4s
HABR MLR MLR
comp=Z,590nm,18.0s
CLNS Chul'man 49.19 23 *e*P **P 19 48 36.0 +0.1**
CLNS *e**PP **pP 19 48 43.9 +0.4**
CLNS *e* 19 49 56.7
CLNS *e* 19 50 28.5
CLNS *e*S **S 19 55 37.2 -2.7**
CLNS *e* 19 58 29.2
CLNS pmax pmax
comp=Z,50nm,1.1s
CLNS pmax pmax
comp=E,32nm,1.3s
CLNS pmax pmax
comp=N,29nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,1.3s
CLNS smax smax
comp=N,43nm,14.7s
CLNS smax smax
comp=E,146nm,16.7s
CLNS MLR MLR
comp=Z,401nm,16.0s
CLNS MLR MLR
comp=E,475nm,17.0s
CLNS MLR MLR
comp=N,208nm,20.0s
SVE Sverdlovsk 49.35 337⇑ *i*P **P 19 48 37.7 +0.6**
SVE pmax pmax
comp=Z,119nm,1.1s
SVE MLR MLR
comp=Z,468nm,19.0s
DGRG David-gareji 49.44 313 P **P 19 48 40.2 +2.1**
GNI Garni 49.48 311 P **P 19 48 41.0 +2.4**
SNR=24
GNI Garni 49.48 311 *e*P **P 19 48 40.6 +2.0**
comp=Z,106nm,1.1s
GNI *e*pP **pP 19 48 49.0 +2.7**
ARU Arti 49.87 336 *d i*P **P 19 48 41.0 0.0**
ARU 19 50 00.6
ARU 19 50 34.6
ARU S **S 19 55 50.3 +0.9**
ARU SS SS 19 59 13.1 -9.1
ARU pmax pmax
comp=Z,30nm,1.0s
ARU Arti 49.87 336 P **P 19 48 41.0 0.0**
comp=Z,215nm,0.9s,SNR=12
TBLG Delisi 49.98 313 *e*P **P 19 48 41.7 -0.5**
TBLG Delisi 49.98 313 P **P 19 48 41.7 -0.5**
DUS Dusheti 50.12 314 P **P 19 48 46.1 +2.7**
AKH Akhalkalaki 50.77 312 P **P 19 48 50.3 +1.9**
ZEI Tsey 50.91 314 *e*P **P 19 48 50.2 +0.8**
ZEI pmax pmax
comp=Z,47nm,1.3s
ONI Oni 51.16 314 P **P 19 48 53.2 +2.1**
ASAJ Asahikawa 51.70 44 *e*P **P 19 48 55.1 +0.1**
comp=Z,15nm,1.0s
ASAJ *e*pP **pP 19 49 01.8 -0.9**
ASAJ Asahikawa 51.70 44 LR LR 20 12 01.3
comp=Z,337nm,19.4s,baz=84,slow=38
KBZ Khabaz 51.91 315 P **P 19 48 57.5 +0.9**
KBZ Khabaz 51.91 315 P **P 19 48 57.5 +0.9**
KBZ Khabaz 51.91 315 P **P 19 48 57.5 +0.9**
comp=Z,8.4nm,0.9s,baz=107,slow=6.6,SNR=19
KBZ LR LR 20 15 27.6
comp=Z,220nm,18.6s,baz=342,slow=41
NWAO Narrogin (SRO) 52.09 154 *c e*P **P 19 48 56.4 -1.6**
comp=Z,38nm,1.0s
KIV Kislovodsk 52.13 315 *c i*P **P 19 48 59.3 +0.9**
KIV *e**PP **pP 19 49 07.5 +1.4**
KIV *e*SS **SS 19 59 59.5 +0.8**
KIV pmax pmax
comp=Z,56nm,1.0s
KIV MLR MLR
comp=Z,300nm,17.0s
KIV Kislovodsk 52.13 315 P **P 19 48 59.6 +1.2**
comp=Z,516nm,1.0s,SNR=19
SOKR Solikamsk 52.76 338 *d i*P **P 19 49 02.9 +0.4**
SOKR pmax pmax
comp=Z,50nm,1.0s
SOKR MLR MLR
comp=Z,450nm,18.0s
YSS Yuzh-Sakhalins 52.80 41 *e*P **P 19 49 04.0 +0.8**
YSS *e* 19 49 10.0
YSS *e* 19 49 19.0
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,400nm,13.0s
YSS MLR MLR
comp=Z,400nm,13.0s
WRA Warramunga Arr 52.83 129 P **P 19 49 02.0 -1.7**
WRA PcP **PcP 19 50 12.4 -0.6**
WRA S S 19 56 23.9 -7.4
WRA Warramunga Arr 52.83 129 P **P 19 49 02.0 -1.7**
comp=Z,24nm,0.9s,baz=295,slow=9.6,SNR=118
WRA PcP **PcP 19 50 12.4 -0.6**
comp=Z,14nm,0.6s,baz=320,slow=3.2,SNR=20
WRA S S 19 56 23.9 -7.4
comp=Z,1.0nm,1.0s,baz=315,slow=13,SNR=3.1

WRAB Tennant Creek 52.83 129 P **P 19 49 02.0 -1.8**
comp=Z,214nm,0.8s,SNR=18
WRAB Tennant Creek 52.83 129 *e*P **P 19 49 01.9 -1.8**
WRAB *e**PP **pP 19 49 10.5 -1.0**
WRAB *e* 19 50 12.3
WRAB pmax pmax
comp=Z,36nm,0.9s
WRAB Tennant Creek 52.83 129 *e*P **P 19 49 01.9 -1.8**
comp=Z,36nm,0.9s
WRAB *e*pP **pP 19 49 10.5 -1.0**
WRAB *e*PcP **PcP 19 50 12.3 -0.6**
JHLN Al Jahlan 53.29 304 *e*P P 19 49 15.2 +8.2
ZALF Zalf 53.81 301 *e*P **P 19 49 11.9 +1.0**
YUK Yuzh-Kuril'sk 53.91 45 *i*P P 19 49 07.5 -3.8
YUK *i* 19 51 11.2
YUK *i* PPP PPP 19 52 16.5
YUK S **S 19 56 48.7 +3.4**
YUK pmax pmax
comp=E,317nm,1.5s
YUK pmax pmax
comp=Z,510nm,1.5s
YUK pmax pmax
comp=N,348nm,1.5s
YUK pmax pmax
comp=Z,911nm,1.8s
YUK MLR MLR
comp=E,764nm,20.0s
YUK MLR MLR
comp=Z,628nm,20.0s
SOC Sochi 54.07 314 *e*P **P 19 49 12.1 -0.5**
SOC *i* *SP **sP 19 49 21.2 -2.0**
SOC *e*PPP PPP 19 52 21.6
SOC *e*S **S 19 56 45.1 -2.4**
SOC *e*SS **SKiKP 20 00 19.9 -3.7**
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,152nm,16.0s
SALA Sala 54.29 300 *e*P **P 19 49 13.1 -1.5**
KFRA Kufra 54.54 303 *e*P **P 19 49 19.1 +2.9**
YAK Yakutsk 54.63 20 *d i*P **P 19 49 15.4 -0.9**
YAK *e**PP **pP 19 49 23.3 -0.7**
YAK *e* 19 50 17.1
YAK *e*S **S 19 56 52.4 -2.0**
YAK *e**SS **sS 19 57 08.4 +1.3**
YAK *e* 19 59 03.5
YAK *e*SS **SS 20 00 36.3 -1.0**
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=E,22nm,1.3s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,58nm,2.5s
YAK pmax pmax
comp=N,48nm,2.9s
YAK pmax pmax
comp=E,23nm,2.8s
YAK smax smax
comp=E,54nm,4.7s
YAK smax smax
comp=N,19nm,2.7s
YAK MLR MLR
comp=Z,413nm,18.0s
YAK MLR MLR
comp=E,247nm,16.0s
YAK MLR MLR
comp=N,151nm,15.0s
HAWK Haweek 54.77 302 *e*P **P 19 49 18.7 +0.7**
AS31 Alice Springs 54.77 133 *e*P **P 19 49 16.5 -1.5**
AS31 *e*pP **pP 19 49 24.6 -1.1**
AS31 *e*PcP **PcP 19 50 19.9 -0.4**
ASAR Alice Springs 54.77 133 P **P 19 49 16.8 -1.2**
ASAR PcP **PcP 19 50 19.9 -0.4**
ASAR S **S 19 56 53.1 -4.4**
ASAR Alice Springs 54.77 133 P **P 19 49 16.8 -1.2**
comp=N,20nm,0.7s,baz=306,slow=6.6,SNR=417
ASAR PcP **PcP 19 50 19.9 -0.4**
comp=N,13nm,0.8s,baz=316,slow=3.8,SNR=11
ASAR S **S 19 56 53.1 -4.4**
comp=N,3.6nm,1.2s,baz=300,slow=13,SNR=9.3
ASAR LR LR 20 14 59.5
comp=N,184nm,18.2s,baz=302,slow=39
BTCH Batrach 54.93 304 *e*P **P 19 49 20.6 +1.5**
ARNB Al Arnab 55.30 304 *e*P P 19 49 25.4 +3.7
VRHR Novokhopersk 55.35 323 *e*P **P 19 49 21.2 -0.5**
VRHR *e**SP **sP 19 49 28.9 -3.5**
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,3.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 56.67 322 *e*P **P 19 49 30.6 -0.5**
VORD *e**SP **sP 19 49 38.7 -3.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,4.0nm,0.3s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 56.83 323 *e*P **P 19 49 31.4 -0.9**
VSR *e**SP **sP 19 49 39.6 -3.4**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=N,170nm,17.0s
VSR MLR MLR
comp=E,90nm,17.0s
VSR MLR MLR
comp=Z,380nm,17.0s
KMBO Kilima Mbogo 57.21 259 *e*P **P 19 49 36.9 +1.0**
KMBO Kilima Mbogo 57.21 259 P **P 19 49 36.7 +0.9**
KMBO *e*pP **pP 19 49 45.3 +1.7**
KMBO *e*PcP **PcP 19 50 30.7 +0.4**
KMBO PcP **PcP 19 50 31.1 +0.8**
KMBO *e*pPcP 19 50 39.3
KMBO Kilima Mbogo 57.21 259 P **P 19 49 36.7 +0.9**
comp=Z,2.4nm,0.7s,baz=56,slow=23,SNR=8.2
KMBO PcP **PcP 19 50 31.1 +0.8**
comp=Z,3.7nm,0.9s,baz=42,slow=14,SNR=3.5
KMBO LR LR 20 12 43.0
comp=Z,344nm,19.2s,baz=92,slow=34
CSS Prodhromos 57.34 303 *e*pP pP 19 49 44.5 +0.6
BR131 Keskin Array S 57.69 308 *e*P **P 19 49 38.2 -0.5**
comp=Z,23nm,0.8s
BR131 *e*pP **pP 19 49 46.7 +0.2**
BRTR Keskin Array B 57.69 308 P **P 19 49 38.5 -0.3**
BRTR Keskin Array B 57.69 308 P **P 19 49 38.5 -0.3**
comp=Z,15nm,0.8s,baz=120,slow=7.3,SNR=81
BRTR LR LR 20 17 54.0
comp=Z,211nm,19.4s,baz=99,slow=40
SIM Simferopol' 58.31 314 *de*P **P 19 49 42.6 -0.2**
SIM *e**PP **pP 19 49 51.0 +0.4**
SIM *e*S **S 19 57 41.0 -2.8**
SIM pmax pmax
comp=Z,26nm,0.7s
ANTO Ankara 58.36 308⇓P **P 19 49 43.2 -0.2**
ANTO Ankara 58.36 308 P **P 19 49 44.0 +0.7**
SNR=8.7
ANTO Ankara 58.36 308⇓ *i*P **P 19 49 43.2 -0.2**
ANTO Ankara 58.36 308 *e*P **P 19 49 43.5 +0.1**
ANTO *e*pP **pP 19 49 51.0 -0.1**
PMG Port Moresby 58.55 110 *e*P **P 19 49 44.8 -0.1**
PMG *e*pP **pP 19 49 53.5 +0.8**
MOS Moscow 59.33 327 *e*P **P 19 49 47.3 -2.4**
MOS *i* 19 49 57.4
MOS pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 59.67 326 *d i*P **P 19 49 51.6 -0.4**
OBN *e**PP **pP 19 49 59.2 -0.6**
OBN *e* 19 50 38.9
OBN *e*SS SS 20 01 57.8 +1.1
OBN pmax pmax
comp=Z,42nm,1.4s
TIRR Tirgusor 62.23 313⇓P **P 19 50 09.6 0.0**
TIRR Tirgusor 62.23 313⇓ *i*P **P 19 50 09.6 0.0**
TIRR Tirgusor 62.23 313 *e*P **P 19 50 10.0 +0.4**
SKR Severo-Kuril's 62.32 40 *e*P P 19 50 03.9 -6.2

KIS Kishinev 62.32 316 *e* 20 05 50.0
KIS LRM MLR 20 21 36.0
comp=Z,300nm,18.0s
CTA Charters Tower 62.37 122 P **P 19 50 10.1 -0.8**
CTA PcP **PcP 19 50 50.2 -0.2**
CTA Charters Tower 62.37 122 P **P 19 50 10.1 -0.8**
comp=Z,18nm,1.1s,baz=315,slow=8.5,SNR=9.8
CTA PcP **PcP 19 50 50.2 -0.2**
comp=Z,8.6nm,0.9s,baz=296,slow=8.5,SNR=6.7
CTAO Charters Tower 62.37 122 *e*P **P 19 50 10.5 -0.4**
CTAO *e* 19 50 50.0
CTAO pmax pmax
comp=Z,29nm,1.3s
CTAO Charters Tower 62.37 122 *e*P **P 19 50 10.5 -0.4**
comp=Z,29nm,1.3s
CTAO *e*PcP **PcP 19 50 50.0 -0.5**
KARP Karpathos 62.41 303 *e*P **P 19 50 11.1 0.0**
CFR Carcaliu 62.52 314⇓P **P 19 50 11.7 +0.2**
CFR Carcaliu 62.52 314⇓ *i*P **P 19 50 11.7 +0.2**
HARR Harsova 62.60 313⇑P **P 19 50 12.5 +0.4**
HARR Harsova 62.60 313⇑ *i*P **P 19 50 12.5 +0.4**
TMCR Tamitsa 62.61 336 *e*P **P 19 50 11.5 -0.3**
TMCR pmax pmax
comp=Z,54nm,1.5s
AKASG Malin Array Be 62.73 320 *i* P **P 19 50 12.1 -0.8**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 62.73 320 P **P 19 50 12.1 -0.8**
AKASG Malin Array Be 62.73 320 P **P 19 50 12.1 -0.8**
comp=Z,2.2nm,0.5s,baz=84,slow=5.3,SNR=37
KIEV Kiev 62.74 320 *e*P **P 19 50 11.9 -1.0**
KIEV *e**PP **pP 19 50 20.0 -0.8**
KIEV pmax pmax
comp=Z,18nm,0.8s
KIEV Kiev 62.74 320 *e*P **P 19 50 11.9 -1.0**
comp=Z,18nm,0.8s
KIEV *e*pP **pP 19 50 20.0 -0.8**
MBAR Mbarara 63.30 262 *e*P **P 19 50 16.9 -0.6**
VRI Vrincioaia 63.59 314⇓P **P 19 50 19.7 +1.0**
VRI Vrincioaia 63.59 314⇓ *i*P **P 19 50 19.7 +1.0**
ISR Istrita 63.63 314⇑P **P 19 50 20.5 +1.5**
ISR Istrita 63.63 314⇑ *i*P **P 19 50 20.5 +1.5**
PLOR Plostina 63.64 314⇑P **P 19 50 20.1 +1.0**
PLOR Plostina 63.64 314⇑ *i*P **P 19 50 20.1 +1.0**
NPS Neapolis 63.67 303 *e*P **P 19 50 19.0 -0.5**
TESR Tescani 63.73 315⇓ *i*P **P 19 50 19.7 +0.1**
LAST Lasithi 63.78 302 *e*P **P 19 50 20.1 -0.1**
PETK Petropavlovsk- 63.79 37 P **P 19 50 18.6 -1.2**
PETK Petropavlovsk- 63.79 37 P **P 19 50 18.6 -1.2**
PETK Petropavlovsk- 63.79 37 P **P 19 50 18.6 -1.2**
comp=Z,6.1nm,1.0s,baz=228,slow=3.8,SNR=4.9
PETK LR LR 20 21 22.5
comp=Z,146nm,19.3s,baz=245,slow=39
SANT Santorini 63.82 304 *e*P **P 19 50 18.7 -1.8**
SANT Santorini 63.82 304 *e*P **P 19 50 19.2 -1.2**
SANT *e*pP **pP 19 50 27.3 -1.0**
SEY Seymchan 63.91 26 *d i*P **P 19 50 19.3 -1.2**
SMTH Samothraki Isl 63.95 308 *e*P **P 19 50 20.9 -0.3**
RDO Rodhopi 63.99 309 *e*P **P 19 50 20.8 -0.6**
MLR Muntele Rosu 64.09 314⇓ *i*P **P 19 50 23.0 +0.8**
LIA Limnos Island 64.19 308 *e*P **P 19 50 22.3 -0.4**
IDI Anoyia 64.26 303 *e*P **P 19 50 21.9 -1.5**
IDI Anoyia 64.26 303 *e*P **P 19 50 22.4 -1.0**
comp=Z,20nm,0.7s
IDI *e*pP **pP 19 50 29.7 -1.5**
PET Petropavlovsk 64.33 38 *i*P **P 19 50 23.5 +0.1**
MNK Minsk 64.35 324 *e*P **P 19 50 22.0 -1.5**
PUL Pulkovo 64.36 330 *i*P **P 19 50 24.9 +1.4**
PUL pmax pmax
comp=Z,39nm,0.5s
VOIR 64.71 314⇓P **P 19 50 26.5 +0.3**
VOIR 64.71 314⇓ *i*P **P 19 50 26.5 +0.3**
VAM Vamos 64.83 303 *e*P **P 19 50 26.8 -0.2**
BURAR Bucovina Array 64.83 316⇓P **P 19 50 27.5 +0.5**
BURAR Bucovina Array 64.83 316⇓ *i*P **P 19 50 27.5 +0.5**
BUR08 Bucovina Ar. S 64.85 316 *e*P **P 19 50 27.5 +0.5**
BUR08 *e*pP **pP 19 50 35.8 +0.9**
NACGM Naroch 65.03 324 *e* **P 19 50 26.0 -1.9**
IDID Didziasalis 65.13 325 *e*P **P 19 50 28.1 -0.4**
PTL Penteli 65.14 306 *e*P **P 19 50 28.2 -0.8**
AOS Alonnisos 65.16 307 *e*P **P 19 50 28.6 -0.5**
STKA Stephens Creek 65.17 135 P **P 19 50 28.6 -0.6**
STKA Stephens Creek 65.17 135 P **P 19 50 28.6 -0.6**
comp=Z,13nm,0.9s,baz=318,slow=7.1,SNR=20
STKA LR LR 20 20 09.4
comp=Z,286nm,20.9s,baz=20,slow=37
ATH Athens Observa 65.25 306 *e*P **P 19 50 28.9 -0.8**
NVR Nevrokopi 65.27 309 *e*P **P 19 50 29.0 -0.8**
PAIG Paliouri 65.34 308 *e*P **P 19 50 30.3 0.0**
IIGN Ignalina 65.43 325 *e*P **P 19 50 30.1 -0.5**
LVZ Lovozero 65.47 339 *i*P **P 19 50 29.9 -0.7**
PLG Polygyros 65.54 308 *e*P **P 19 50 31.0 -0.6**
DID Didima 65.63 305 *e*P **P 19 50 29.7 -2.5**
SOH Sokhos 65.63 309 *e*P **P 19 50 31.6 -0.6**
APA Apatity 65.77 339⇓ *i*P **P 19 50 32.6 +0.1**
APA *i* 19 50 40.6
APA *i* 19 51 07.6
APA pmax pmax
comp=Z,47nm,1.2s
APA MLR MLR
comp=Z,700nm,13.0s
KYTH Kithira 65.78 304 *e*P P 19 50 28.8 -4.4
VTS Vitosha 65.82 311⇑P **P 19 50 33.3 -0.2**
VTS Vitosha 65.82 311⇑ *i*P **P 19 50 33.3 -0.2**
LTK Loutraki 65.85 306 *e*P P 19 50 36.9 +3.3
VLI Veliai 65.86 304 *e*P **P 19 50 30.7 -3.0**
LVV L'vov 65.88 319 *e*P **P 19 50 32.8 -0.7**
LVV *e* 19 50 40.6
VAY Valandovo 66.24 309 *i*P **P 19 50 35.1 -0.9**
VAY *i* pP **pP 19 50 43.5 -0.4**
GZR Gura Zlata 66.30 314⇑P **P 19 50 34.4 -2.0**
GZR Gura Zlata 66.30 314⇑ *i*P **P 19 50 34.4 -2.0**
VLX Vlachokerasia 66.31 305 *e*P **P 19 50 35.0 -1.7**
GUR Goura 66.34 305 *e*P **P 19 50 34.8 -2.1**
DYR Agios Nikonas 66.34 304 *e*P **P 19 50 35.5 -1.3**
AGG Agios Georgios 66.36 307 *e*P **P 19 50 35.0 -1.9**
DRGR 66.45 315⇓P **P 19 50 37.8 +0.4**
DRGR 66.45 315⇓ *i*P **P 19 50 37.8 +0.4**
KLV Kalavryta, Ach 66.49 306 *e*P **P 19 50 35.9 -1.9**
KALE Kalithea 66.50 306 *e*P **P 19 50 35.7 -2.2**
TRIZ Trizonia 66.56 306 *e*P **P 19 50 36.2 -1.9**
THL Klokotos Trika 66.61 307 *e*P **P 19 50 36.6 -1.9**
LAKA Lakka 66.63 306 *e*P **P 19 50 36.8 -1.8**
ITM Ithomi 66.67 305 *e*P **P 19 50 37.6 -1.3**
TRPA Tarpa 66.68 317⇓ *i*P **P 19 50 38.9 +0.2**
EFP Efpalio 66.69 306 *e*P **P 19 50 37.8 -1.1**
KWP Kalwaria Pacla 66.71 318 *e*P **P 19 50 39.6 +0.7**
EVR Evrytania 66.77 307 *e*P **P 19 50 38.0 -1.6**
PYL PYLOS 66.82 304 *e*P **P 19 50 37.8 -2.0**
FIA1 FINESS Array S 66.83 331 *e*P **P 19 50 39.0 -0.3**
FIA1 *e*pP **pP 19 50 46.0 -1.2**
FINES FINESS Array B 66.83 331 P **P 19 50 38.9 -0.4**
FINES FINESS Array B 66.83 331 P **P 19 50 38.9 -0.4**
comp=Z,15nm,0.7s,baz=101,slow=6.4,SNR=64
FINES LR LR 20 23 17.1
comp=Z,241nm,18.7s,baz=317,slow=39
KAF Kangasniemi 66.88 332 *e*P **P 19 50 38.3 -1.4**
KAF pmax pmax
comp=Z,50nm,1.0s
KAF Kangasniemi 66.88 332 *e*p **P 19 50 38.3 -1.4**
comp=Z,50nm,1.0s
UZH Uzhgorod 66.89 317 *e*P **P 19 50 39.7 -0.3**
UZH *e* 19 50 48.5
UZH *e* 19 50 52.9
KOLS Kolonicke sedl 66.93 317 *e*P **P 19 50 40.8 +0.5**
KOLS pmax pmax
comp=Z,9.0nm,1.2s
KOLS Kolonicke sedl 66.93 317 *e*P **P 19 50 40.8 +0.5**
KOLS *e*pP **pP 19 50 48.6 +0.4**
SUW Suwalki 66.95 323 *e*P **P 19 50 39.7 -0.6**
SUW *e**PP **pP 19 50 47.6 -0.5**
SUW pmax pmax
comp=Z,117nm,0.9s
SUW Suwalki 66.95 323 *e*P **P 19 50 39.7 -0.6**
comp=Z,117nm,0.9s
SUW *e*pP **pP 19 50 47.6 -0.5**
SUW Suwalki 66.95 323 *e*P **P 19 50 39.7 -0.6**
FNA Florina 67.12 309 *e*P **P 19 50 40.4 -1.4**
BZS Buzias 67.13 314⇓P **P 19 50 41.6 0.0**
BZS Buzias 67.13 314⇓ *i*P **P 19 50 41.6 0.0**
CRVS Cervenica-Dubn 67.46 317 *e*P **P 19 50 44.5 +0.8**
CRVS pmax pmax

comp=Z,38nm,1.2s
CRVS Cervenica-Dubn 67.46 317 *e*P **P 19 50 44.5 +0.8**
CRVS *ep*P **pP 19 50 52.3 +0.7**
JAN Janina 67.52 307 *e*P **P 19 50 43.6 -0.6**
STHS Stebnicka Huta 67.64 318 *e*P **P 19 50 45.2 +0.4**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 67.64 318 *e*P **P 19 50 45.2 +0.4**
STHS *ep*P **pP 19 50 53.4 +0.7**
VLS Valsamata 67.72 306 *e*P **P 19 50 44.6 -1.0**
KECS Kecovo 68.07 317 *e*P **P 19 50 48.1 +0.6**
KECS pmax pmax
comp=Z,7.0nm,1.0s
KECS Kecovo 68.07 317 *e*P **P 19 50 48.1 +0.6**
KECS *ep*P **pP 19 50 56.4 +1.0**
BEL Belsk 68.13 320 *e*P **P 19 50 48.1 +0.3**
NIE Niedzica 68.25 318⇓*e*P **P 19 50 51.3 +2.6**
NIE *e**SP **sP 19 50 59.8 +0.3**
PSZ Piszkesteto 68.44 316 ⇓P **P 19 50 50.0 +0.1**
PSZ Piszkesteto 68.44 316⇓*i*P **P 19 50 50.0 +0.1**
PSZ Piszkesteto 68.44 316 *e*P **P 19 50 49.5 -0.5**
comp=Z,24nm,0.9s
PSZ *ep*P **pP 19 50 57.3 -0.5**
OJC Ojcow 68.63 319⇓*e*P **P 19 50 51.1 +0.1**
OJC *e**SP **sP 19 50 59.3 -2.6**
ARCES ARCESS Array B 69.17 340 P **P 19 50 54.3 +0.3**
ARCES ARCESS Array B 69.17 340 P **P 19 50 54.3 +0.3**
comp=Z,8.0nm,0.7s,baz=95,slow=7.2,SNR=22
ARCES LR LR 20 25 02.1
comp=Z,381nm,18.1s,baz=114,slow=39
ARE0 ARCESS Array S 69.17 340 *e*P **P 19 50 53.6 -0.5**
ARE0 *ep*P **pP 19 51 01.2 -0.7**
PKSM Moragy 69.23 314 ⇓P **P 19 50 54.5 -0.3**
PKSM Moragy 69.23 314⇓*i*P **P 19 50 54.5 -0.3**
OKC Ostrava-Krasne 69.68 318 *e*P **P 19 50 57.8 +0.3**
OKC *e* 19 51 05.4
OKC Ostrava-Krasne 69.68 318⇓*e*P **P 19 50 57.8 +0.3**
OKC *ep*P **pP 19 51 05.4 0.0**
MORC Moravsky Berou 70.07 318 *e*P **P 19 51 00.1 +0.1**
MORC *e**PP **pP 19 51 08.2 +0.3**
MORC pmax pmax
comp=Z,45nm,1.0s
MORC Moravsky Berou 70.07 318 *e*P **P 19 51 00.1 +0.1**
comp=Z,46nm,1.0s
MORC *ep*P **pP 19 51 08.2 +0.3**
SMOL Smolenice 70.11 317 *e*P **P 19 51 00.5 +0.3**
SMOL *e* 19 51 07.9
SMOL Smolenice 70.11 317 *e*P **P 19 51 00.5 +0.3**
SMOL *ep*P **pP 19 51 07.9 -0.2**
ZST Bratislava 70.32 316 *e*P **P 19 51 02.0 +0.6**
ZST *e* 19 51 12.6
ZST Bratislava 70.32 316 *e*P **P 19 51 02.0 +0.6**
ZST *ep*P **pP 19 51 12.6 +3.2**
HNR Honiara 70.37 105 P **P 19 51 02.0 -0.3**
HNR Honiara 70.37 105 P **P 19 51 02.0 -0.3**
comp=Z,29nm,0.3s,baz=225,slow=11,SNR=3.7
LSZ Lusaka 70.37 248 *e*P **P 19 51 03.5 +1.1**
LSZ Lusaka 70.37 248 *e*P **P 19 51 03.3 +0.9**
comp=Z,30nm,0.9s
LSZ *ep*P **pP 19 51 11.5 +1.1**
GKP Gorka Klasztor 70.40 322 *e*P P 19 51 10.3 +8.5
DPC Dobruska-Polom 70.87 319⇓*i*P **P 19 51 05.6 +0.8**
DPC *e* 19 51 13.4
DPC Dobruska-Polom 70.87 319⇓*i*P **P 19 51 05.6 +0.8**
DPC *ep*P **pP 19 51 13.4 +0.7**
DPC AMS AMS 20 26 50.0
KSP Ksiaz 70.89 319 *e*P **P 19 51 05.5 +0.5**
KSP Ksiaz 70.89 319 *e*P **P 19 51 05.4 +0.5**
UPC Upice 71.07 319⇓*i*P **P 19 51 06.4 +0.4**
UPC *e* 19 51 15.2
UPC Upice 71.07 319⇓*i*P **P 19 51 06.4 +0.4**
UPC *ep*P **pP 19 51 15.2 +1.3**
CONA Conrad Observa 71.15 316⇓*i*P **P 19 51 06.6 0.0**
comp=Z,15nm,1.6s,SNR=7.4
ARSA Arzberg 71.38 315⇓*i*P **P 19 51 07.9 -0.1**
comp=Z,10nm,1.1s,SNR=8.0
CUC Castrocucco 71.38 308 *e*P **P 19 51 06.5 -1.7**
comp=Z,18nm,0.9s
TREC Trest 71.40 318 *e*P **P 19 51 08.1 +0.1**
TREC *e* 19 51 15.9
TREC MLR MLR
comp=Z,200nm,20.9s
TREC Trest 71.40 318⇓*e*P **P 19 51 08.1 +0.1**
TREC *ep*P **pP 19 51 15.9 -0.1**
TREC AMS AMS 20 28 20.0
comp=Z,200nm,20.9s
CEL Celeste 71.42 306 *e*P **P 19 51 08.7 +0.3**
comp=Z,80nm,1.0s
CEL *e* 19 51 16.0
BOJS Bojanci 71.60 314 *i*P **P 19 51 08.5 -0.8**
BOJS *i* 19 51 16.1
PERS Pernice 71.67 315 *i*P **P 19 51 09.8 +0.1**
PERS *i* 19 51 17.9
SOKA Soboth 71.73 315 *i*P **P 19 51 10.4 +0.3**
comp=Z,28nm,1.3s,SNR=19
PDKS Podkum 71.76 314 *i*P **P 19 51 10.6 +0.3**
PDKS *i* 19 51 17.9
PVCC Panska Ves 71.99 319⇓*i*P **P 19 51 12.0 +0.5**
PVCC *e* 19 51 20.7
PVCC Panska Ves 71.99 319⇓*i*P **P 19 51 12.0 +0.5**
PVCC *ep*P **pP 19 51 20.7 +1.2**
PRU Pruhonice 72.01 318⇓*i*P **P 19 51 12.2 +0.5**
PRU *e* 19 51 19.8
PRU MLR MLR
comp=Z,200nm,20.9s
PRU Pruhonice 72.01 318⇓*i*P **P 19 51 12.2 +0.5**
PRU *ep*P **pP 19 51 19.8 +0.2**
PRU AMS AMS 20 28 20.0
comp=Z,200nm,20.9s
OBKA Obir 72.06 315⇑*i*P **P 19 51 12.4 +0.2**
comp=Z,22nm,1.0s,SNR=11
MOA Molln 72.22 316⇓*i*P **P 19 51 12.7 -0.3**
comp=Z,16nm,1.0s,SNR=9.7
BRG Berggiesshubel 72.39 319⇓*i*P **P 19 51 14.4 +0.5**
comp=Z,28nm,1.1s
BRG *i* pP **pP 19 51 22.0 +0.2**
comp=Z,37nm,1.0s
BRG
comp=Z,235nm,17.0s
BRG
comp=N,151nm,17.3s
BRG
comp=E,196nm,17.3s
BRG Berggiesshubel 72.39 319 *e*P **P 19 51 14.3 +0.4**
comp=Z,28nm,1.1s
BRG *ep*P **pP 19 51 21.9 +0.1**
BRG Berggiesshubel 72.39 319⇓*i*P **P 19 51 14.4 +0.5**
BRG *i* *PP **pP 19 51 22.0 +0.2**
BRG pmax pmax
comp=Z,28nm,1.1s
BRG pmax pmax
comp=Z,37nm,1.0s
BRG MLR MLR
comp=Z,235nm,17.0s
BRG MLR MLR
comp=N,151nm,17.3s
BRG MLR MLR
comp=E,196nm,17.3s
JAVS Javornik 72.42 314 *i*P **P 19 51 13.6 -0.7**
JAVS *i* 19 51 20.6
VOY Vojsko 72.53 314 *e*P **P 19 51 14.7 -0.3**
VOY *e* 19 51 22.3
VOY *e* 19 51 35.8
VOY *e* 19 51 43.3
GEC2 GERESS Array S 72.58 317 *e*P **P 19 51 15.5 +0.3**
comp=Z,32nm,1.1s
GEC2 *ep*P **pP 19 51 22.7 -0.4**
GEC2 GERESS Array S 72.58 317 *e*P **P 19 51 15.5 +0.3**
GEC2 *e**PP **pP 19 51 22.7 -0.4**
GEC2 pmax pmax
comp=Z,32nm,1.1s
GERES GERESS Array B 72.58 317 P **P 19 51 15.3 +0.1**
GERES GERESS Array B 72.58 317 P **P 19 51 15.3 +0.1**
comp=Z,19nm,0.9s,baz=87,slow=5.5,SNR=133
GERES LR LR 20 29 02.2
comp=Z,147nm,19.0s,baz=309,slow=41
TRI Trieste 72.64 314 *e*P **P 19 51 14.5 -1.0**
TRI *e**PP **pP 19 51 22.2 -1.2**
TRI pmax pmax
comp=Z,17nm,0.8s
TRI Trieste 72.64 314 *e*P **P 19 51 14.5 -1.0**
comp=Z,17nm,0.8s
TRI *ep*P **pP 19 51 22.2 -1.2**

KHC Kasperske Hory 72.65 317⇓*i*P **P 19 51 15.6 0.0**
KHC *e* 19 51 22.7
KHC MLR MLR
comp=Z,200nm,20.1s
KHC Kasperske Hory 72.65 317⇓*i*P **P 19 51 15.6 0.0**
KHC *ep*P **pP 19 51 22.7 -0.8**
KHC AMS AMS 20 28 10.0
comp=Z,200nm,20.1s
KHC Kasperske Hory 72.65 317 *e*P **P 19 51 15.2 -0.3**
comp=Z,17nm,0.9s
KHC *ep*P **pP 19 51 22.4 -1.1**
FBE Freiberg 72.76 319 *e*P **P 19 51 16.7 +0.6**
comp=Z,51nm,1.1s
FBE *ep*P **pP 19 51 24.5 +0.5**
KBA Koelnbreinsper 72.87 315⇓*i*P **P 19 51 16.6 -0.6**
comp=Z,14nm,1.2s,SNR=7.8
CLL Collm 72.97 320 *e*P **P 19 51 17.2 -0.1**
comp=Z,26nm,1.2s
CLL *ep*P **pP 19 51 25.4 +0.1**
CLL Collm 72.97 320 *i*P **P 19 51 17.3 -0.1**
CLL *i* *SP **pP 19 51 25.4 +0.1**
CLL pmax pmax
comp=Z,26nm,1.3s
CLL MLR MLR
comp=Z,200nm,18.0s
CLL Collm 72.97 320 *i*P **P 19 51 17.3 -0.1**
comp=Z,26nm,1.3s
CLL *i* pP **pP 19 51 25.4 +0.1**
comp=Z,28nm,1.1s
CLL *e*PcP **PcP 19 51 35.0 +0.8**
CLL *e*S **S 20 00 42.0 -0.7**
CLL *e*PPS PPS 20 01 30.0
CLL *e*SS SS 20 05 36.0 +13
CLL *e* 20 06 38.0
CLL *e*SSS SSS 20 08 48.0
CLL *e* 20 11 06.0
CLL LmH 20 27 00.0
comp=N,200nm,20.6s
CLL LmH 20 27 00.0
comp=E,100nm,20.9s
CLL LmV 20 30 00.0
comp=Z,200nm,18.0s
FX1 Attu Island--F 73.05 39 *e*P **P 19 51 16.8 -1.1**
WET Wettzell 73.11 317 *e*P **P 19 51 18.5 +0.2**
comp=Z,27nm,1.2s
WET *ep*P **pP 19 51 26.7 +0.5**
WET Wettzell 73.11 317 *e*P **P 19 51 18.5 +0.2**
WET *e**PP **pP 19 51 26.7 +0.5**
WET pmax pmax
comp=Z,27nm,1.2s
RJOB Jochberg 73.22 316 *e*P **P 19 51 18.6 -0.4**
comp=Z,18nm,1.1s
RJOB *ep*P **pP 19 51 26.8 -0.1**
TANN Tannenbergstha 73.34 319 *e*P **P 19 51 19.9 +0.3**
comp=Z,17nm,1.2s
TANN *ep*P **pP 19 51 28.1 +0.5**
NKC Novy Kostel 73.35 319 *e*P **P 19 51 20.0 +0.3**
NKC *e* 19 51 27.9
NKC Novy Kostel 73.35 319⇓*e*P **P 19 51 20.0 +0.3**
NKC *ep*P **pP 19 51 27.9 +0.3**
WERN Wernitzgruen 73.40 319 *e*P **P 19 51 20.3 +0.3**
comp=Z,13nm,1.1s
WERN *ep*P **pP 19 51 28.4 +0.5**
GUNZ Gunzen 73.42 319 *e*P **P 19 51 20.4 +0.3**
comp=Z,27nm,1.2s
GUNZ *ep*P **pP 19 51 28.6 +0.5**
WERD Werda 73.44 319 *e*P **P 19 51 20.4 +0.2**
comp=Z,24nm,1.2s
WERD *ep*P **pP 19 51 28.5 +0.4**
ABTA Abfaltersbach 73.46 315⇓*i*P **P 19 51 19.4 -1.0**
comp=Z,9.7nm,0.9s,SNR=5.9
ROTZ Rotzenmuhle 73.52 318 *e*P **P 19 51 21.5 +0.8**
comp=Z,41nm,1.2s
ROTZ *ep*P **pP 19 51 29.7 +1.1**
PLN Plauen 73.53 319 *e*P **P 19 51 20.5 -0.2**
comp=Z,94nm,1.0s
MANZ Manzenberg 73.58 318 *e*P **P 19 51 21.6 +0.6**
comp=Z,41nm,1.3s
MANZ *ep*P **pP 19 51 29.4 +0.4**
SPITS Spitsbergen Ar 73.66 348 LR LR 20 32 00.1
comp=Z,295nm,18.3s,baz=115,slow=42
NEUB Neuenburg 73.75 320 *e*P **P 19 51 22.0 +0.1**
comp=Z,41nm,1.4s
MOX Moxa 73.87 319 *e*P **P 19 51 22.9 +0.2**
comp=Z,18nm,1.0s
MOX *e*L L 20 29 06.5
comp=Z,162nm,20.0s
MOX Moxa 73.87 319 *e*P **P 19 51 22.8 +0.1**
MOX pmax pmax
comp=Z,18nm,1.0s
MOX MLR MLR
comp=Z,200nm,20.0s
NB2 NORSAR Subarra 73.90 330 P **P 19 51 22.3 -0.4**
comp=Z,4.7nm,0.7s,baz=89,slow=6.2
NOA NORSAR Array B 73.90 330 P **P 19 51 21.9 -0.8**
NOA PP **PP 19 54 12.6 +5.1**
NOA NORSAR Array B 73.90 330 P **P 19 51 21.9 -0.8**
comp=Z,10nm,0.8s,baz=89,slow=5.8,SNR=27
NOA PP **PP 19 54 12.6 +5.1**
comp=Z,3.5nm,0.9s,baz=91,slow=8.5,SNR=4.3
NOA LR LR 20 29 40.5
comp=Z,168nm,18.1s,baz=90,slow=40
WTTA Wattenberg 74.03 316⇓*i*P **P 19 51 23.1 -0.8**
comp=Z,35nm,1.3s,SNR=16
NAO01 NORSAR Array S 74.06 330 *e*P **P 19 51 22.6 -0.9**
comp=Z,31nm,1.4s
WATA Walderalm 74.06 316⇓*i*P **P 19 51 23.0 -1.1**
comp=Z,7.0nm,0.6s,SNR=7.7
GRF Grafenberg Arr 74.17 318 *e*P **P 19 51 24.9 +0.4**
comp=Z,43nm,1.3s
GRF *e*L L 20 29 31.4
comp=Z,131nm,19.7s
GRF Grafenberg Arr 74.17 318 *e*P **P 19 51 24.9 +0.4**
GRF pmax pmax
comp=Z,43nm,1.3s
GRF MLR MLR
comp=Z,100nm,19.7s
GRFO Grafenberg 74.17 318 *e*P **P 19 51 25.2 +0.7**
GRFO *e**PP **pP 19 51 32.6 +0.2**
GRFO pmax pmax
comp=Z,33nm,1.1s
GRFO Grafenberg 74.17 318 *e*P **P 19 51 25.2 +0.7**
comp=Z,33nm,1.1s
GRFO *ep*P **pP 19 51 32.6 +0.2**
FUR Furstenfeldbru 74.22 316 *e*P **P 19 51 24.7 -0.1**
comp=Z,25nm,1.1s
FUR Furstenfeldbru 74.22 316 *e*P **P 19 51 24.7 -0.1**
FUR pmax pmax
comp=Z,25nm,1.1s
SLR Silverton 74.32 238 *e*P **P 19 51 27.0 +1.1**
SLR AMB AMB 19 51 27.5
comp=Z,39nm,1.0s
MOTA Moosalm 74.38 316⇓*i*P **P 19 51 25.0 -1.0**
comp=Z,18nm,0.9s,SNR=16
BSEG Bad Segeberg 74.52 323 *e*P **P 19 51 27.0 +0.6**
comp=Z,77nm,1.1s
BSEG *ep*P **pP 19 51 34.6 +0.3**
BSEG Bad Segeberg 74.52 323 *e*P **P 19 51 27.0 +0.6**
BSEG *e**PP **pP 19 51 34.6 +0.3**
BSEG pmax pmax
comp=Z,77nm,1.1s
ERPM east rand prop 74.60 237 *e*P **P 19 51 28.2 +0.6**
ERPM AMB AMB 19 51 38.5
comp=Z,23nm,4.4s
RETA Reutte 74.61 316⇑*i*P **P 19 51 26.6 -0.6**
comp=Z,33nm,1.2s,SNR=17
FETA Feichten 74.66 315⇑*i*P **P 19 51 27.0 -0.6**
comp=Z,17nm,0.9s,SNR=13
NRDL Niedersach Rie 74.72 321 *e*P **P 19 51 28.1 +0.6**
comp=Z,58nm,1.5s
NRDL *ep*P **pP 19 51 36.2 +0.8**
UBBA Unterbreizbach 74.88 319 *e*P **P 19 51 28.5 +0.1**
comp=Z,13nm,1.4s
KLOF Kloof 75.12 238 *e*P **P 19 51 31.8 +1.2**
KLOF AMB AMB 19 51 40.5
comp=Z,46nm,0.8s
VLC Villacollemand 75.13 312 *e*P **P 19 51 29.3 -0.9**
comp=Z,17nm,0.9s
DAVA Damuels 75.22 316⇓*i*P **P 19 51 30.4 -0.4**
comp=Z,38nm,1.0s,SNR=17
TAU Tasmania Unive 75.34 142 P **P 19 51 31.3 +0.1**
TAU pmax pmax
comp=Z,19nm,0.8s
TAU Tasmania Unive 75.34 142 P **P 19 51 31.3 +0.1**
comp=Z,19nm,0.8s
KSR Koster 75.51 238 *e*P **P 19 51 34.2 +1.4**

KSR AMB AMB 19 51 39.9
comp=Z,26nm,3.6s
PRYS Parys 75.56 237 *e*P **P 19 51 33.7 +0.7**
PRYS AMB AMB 19 51 33.9
comp=Z,46nm,1.3s
TUE Stuetta 75.65 315 *e*P **P 19 51 33.1 -0.3**
comp=Z,24nm,0.9s
TNS Taunus Mts 75.92 319 *e*P **P 19 51 34.8 +0.2**
comp=Z,17nm,1.1s
TNS *ep*P **pP 19 51 42.8 +0.2**
TNS Taunus Mts 75.92 319 *e*P **P 19 51 34.8 +0.2**
TNS *e**PP **pP 19 51 42.8 +0.2**
TNS pmax pmax
comp=Z,17nm,1.1s
SEK Senekal 75.92 236 *e*P **P 19 51 35.3 +0.2**
SEK AMB AMB 19 51 37.0
comp=Z,38nm,4.7s
BFO Black Forest 76.17 317 P **P 19 51 35.1 -0.9**
comp=Z,59nm,1.3s,SNR=5.9
BFO Black Forest 76.17 317 *e*P **P 19 51 35.5 -0.5**
comp=Z,17nm,1.3s
BFO *ep*P **pP 19 51 43.8 -0.2**
BFO Black Forest 76.17 317 *e*P **P 19 51 35.5 -0.5**
BFO *e**PP **pP 19 51 43.8 -0.2**
BFO pmax pmax
comp=Z,17nm,1.3s
BFO Black Forest 76.17 317 *e*P **P 19 51 34.9 -1.1**
comp=Z,14nm,1.1s
BFO *ep*P **pP 19 51 43.0 -1.0**
IBBN Ibbenburen 76.17 321 *e*P **P 19 51 36.2 +0.3**
comp=Z,64nm,1.4s
IBBN *ep*P **pP 19 51 44.0 +0.1**
OSPF L'Ospedale 76.26 310 *e*P **P 19 51 36.0 -0.8**
LBTB Lobatse 76.26 240⇓*i*P **P 19 51 38.2 +1.2**
LBTB AMB AMB 19 51 38.2
comp=Z,52nm,2.6s
LBTB Lobatse 76.26 240 *e*P **P 19 51 38.2 +1.2**
comp=Z,25nm,0.8s
LBTB *ep*P **pP 19 51 46.1 +1.0**
PGF Pioggiola 76.30 311⇓*i*P **P 19 51 36.5 -0.5**
comp=Z,53nm,1.1s
VSL Villasalto 76.37 308 *e*P **P 19 51 36.4 -1.0**
comp=Z,27nm,0.9s
VSL *ep*P **pP 19 51 44.1 -1.2**
LANF Langenberg 76.45 318 *e*P **P 19 51 37.7 +0.1**
BUG Bochum--Univer 76.55 320 *e*P **P 19 51 38.1 0.0**
comp=Z,44nm,1.3s
BUG *ep*P **pP 19 51 46.5 +0.5**
CDF Champ du Feu 76.86 317⇓*i*P **P 19 51 39.5 -0.5**
comp=Z,40nm,1.0s
KEST Kesra 76.88 304 P **P 19 51 40.4 0.0**
KEST *ep*P **pP 19 51 48.2 -0.2**
KEST Kesra 76.88 304 P **P 19 51 40.4 0.0**
comp=Z,7.5nm,0.9s,baz=347,slow=1.0,SNR=18
ECH Echery 76.96 317 *e*P **P 19 51 40.0 -0.5**
ECH *e**PP **pP 19 51 46.8 -1.7**
ECH pmax pmax
comp=Z,25nm,1.8s
ECH Echery 76.96 317 *e*P **P 19 51 40.0 -0.5**
comp=Z,25nm,1.8s
ECH *ep*P **pP 19 51 46.8 -1.7**
ECH Echery 76.96 317 *e*P **P 19 51 39.7 -0.8**
MOF Molkenrain 77.01 316 *e*P **P 19 51 40.1 -0.8**
SAOF Saorge 77.18 312 *e*P **P 19 51 41.6 -0.2**
HINF Hinteralfeld 77.21 316 *e*P **P 19 51 41.4 -0.5**
comp=Z,29nm,1.1s
AUTN L'Aution 77.27 312 *e*P **P 19 51 42.3 -0.3**
LOMF Lomont 77.28 316 *e*P **P 19 51 41.6 -0.8**
SBF Sospel 77.28 312⇓*i*P **P 19 51 42.1 -0.4**
comp=Z,93nm,1.0s
SWZ Schweizer 77.32 238⇓*i*P **P 19 51 44.0 +0.9**
SWZ AMB AMB 19 51 45.1
comp=Z,69nm,1.6s
LUCF Luceram 77.34 312 *e*P **P 19 51 41.4 -1.4**
REVF Revere 77.34 312 *e*P **P 19 51 41.6 -1.2**
TOUF Mont Tournerai 77.39 312 *e*P **P 19 51 42.9 -0.4**
MEM Membach 77.43 319 P **P 19 51 43.8 +0.7**
comp=Z,11nm,1.3s
MEM Membach 77.43 319 AP pP 19 51 51.6 +0.6
WLF Walferdange 77.45 318 P **P 19 51 44.1 +0.9**
comp=Z,20nm,2.1s
WLF AP **pP 19 51 51.4 +0.2**
WLF Walferdange 77.45 318 *e*P **P 19 51 43.7 +0.5**
comp=Z,64nm,1.9s
WLF *ep*P **pP 19 51 51.6 +0.4**
WLF Walferdange 77.45 318 *e*P **P 19 51 43.9 +0.7**
WLF *e**PP **pP 19 51 51.6 +0.4**
WLF pmax pmax
comp=Z,37nm,1.7s
WLF Walferdange 77.45 318 *e*P **P 19 51 43.9 +0.7**
comp=Z,37nm,1.7s
WLF *ep*P **pP 19 51 51.6 +0.4**
MVIF Mont Vial 77.48 312 *e*P **P 19 51 43.6 -0.1**
OG01 Vacheresse 77.50 315 *e*P **P 19 51 43.8 +0.1**
HAU Haudompre 77.52 317⇓*i*P **P 19 51 43.0 -0.7**
comp=Z,55nm,1.0s
HAU *e*R
comp=Z,186nm,19.0s
LPG La Plagne 77.56 314⇓*i*P **P 19 51 44.2 -0.1**
comp=Z,73nm,0.8s
LPL La Plagne 77.57 314⇓*i*P **P 19 51 44.3 +0.1**
comp=Z,119nm,0.8s
RSL Roselend 77.62 314 *e*P **P 19 51 44.2 -0.3**
MBDF Montbardon 77.64 313⇓*i*P **P 19 51 43.7 -0.9**
comp=Z,58nm,0.9s
BNI Bardonecchia 77.67 314 *e*P **P 19 51 43.8 -0.9**
BNI pmax pmax
comp=Z,49nm,1.0s
BNI Bardonecchia 77.67 314 *e*P **P 19 51 43.8 -0.9**
comp=Z,49nm,1.0s
CALN Calern 77.69 312 *e*P **P 19 51 44.6 -0.2**
THEF They Montfort 77.73 317 *e*P **P 19 51 44.2 -0.6**
PAGF Fort de Pagny 77.86 317⇓*i*P **P 19 51 45.3 -0.3**
comp=Z,11nm,1.1s
CABF La Chapelle 77.87 315⇓*i*P **P 19 51 45.7 -0.1**
comp=Z,73nm,1.0s
FRF La Foret Royal 77.89 312⇓*i*P **P 19 51 45.6 -0.2**
comp=Z,108nm,1.0s
BOSA Boshof 77.94 236⇓*i*P **P 19 51 46.9 +0.5**
BOSA AMB AMB 19 51 47.9
comp=Z,50nm,1.1s
BOSA Boshof 77.94 236 *e*P **P 19 51 47.0 +0.6**
comp=Z,56nm,1.0s
BOSA *ep*P **pP 19 51 55.1 +0.7**
BOSA Boshof 77.94 236 P **P 19 51 47.3 +0.9**
comp=Z,31nm,0.9s,baz=76,slow=4.7,SNR=41
BOSA LR LR 20 26 15.9
comp=Z,201nm,18.5s,baz=88,slow=36
LMR La Mourre 78.02 312⇓*i*P **P 19 51 46.2 -0.3**
comp=Z,51nm,1.0s
ORIF Oris-en-Rattie 78.25 314⇓*i*P **P 19 51 47.2 -0.7**
comp=Z,44nm,1.0s
ORIF *e*R
comp=Z,169nm,21.8s
GIVF Givet 78.25 319⇓*i*P **P 19 51 47.4 -0.2**
comp=Z,49nm,1.3s
MEZF Maizieres J'vi 78.31 317 *e*P **P 19 51 47.7 -0.3**
comp=Z,43nm,1.1s
SFTF Sexfontaines 78.36 317⇓*i*P **P 19 51 47.9 -0.4**
comp=Z,56nm,1.0s
DOU Dourbes 78.39 319 P **P 19 51 48.5 0.0**
comp=Z,10nm,1.5s
DOU AP **pP 19 51 55.5 -0.9**
HVD Gariep Dam 78.55 234 *e*P **P 19 51 50.5 +0.7**
HVD AMB AMB 19 51 51.4
comp=Z,56nm,1.4s
SMRF Simiane la Rot 78.60 313⇓*i*P **P 19 51 49.9 +0.2**
comp=Z,77nm,1.1s
BAIF Baives 78.65 319⇓*i*P **P 19 51 49.9 +0.1**
comp=Z,65nm,1.0s
VIVF Saint-Julien-l 79.10 314⇓*i*P **P 19 51 52.2 -0.3**
comp=Z,74nm,1.1s
SSB Saint Sauveur 79.13 314 *e*P **P 19 51 51.9 -0.7**
SSB *e**PP **pP 19 51 59.9 -0.8**
SSB pmax pmax
comp=Z,25nm,1.0s
SSB Saint Sauveur 79.13 314 *e*P **P 19 51 51.9 -0.7**
comp=Z,25nm,1.0s
SSB *ep*P **pP 19 51 59.9 -0.8**
SSB Saint Sauveur 79.13 314 *e*P **P 19 51 52.6 -0.1**
LOR Lormes 79.29 316⇓*i*P **P 19 51 52.8 -0.7**
comp=Z,55nm,1.1s
LOR *e*R
comp=Z,112nm,19.8s
SMF Signal de Mont 79.40 316⇓*i*P **P 19 51 53.5 -0.6**
comp=Z,54nm,0.9s

SSF	Saint Saulge	79.56	316	⇓iP	P	19 51 54.4	-0.5
	comp=Z,40nm,1.1s						
AVF	Avril sur Loir	79.71	316	⇓iP	P	19 51 55.2	-0.5
	comp=Z,38nm,0.9s						
LASF	Ste Croix	79.80	313	⇓iP	P	19 51 56.4	+0.1
	comp=Z,76nm,1.1s						
AGO	Saint Agoulin	79.98	315	eP	P	19 51 58.4	+1.2
LBL	Lubilhac	80.04	314	eP	P	19 51 58.7	+1.0
BGF	Bois d'Agland	80.09	316	⇓iP	P	19 51 57.6	-0.2
	comp=Z,51nm,1.1s						
HYF	Humbligny	80.11	316	eP	P	19 51 58.1	+0.2
PYM	Petit Puy Mans	80.12	315	eP	P	19 51 58.9	+0.8
TCF	Toulx Ste Croi	80.57	315	⇓iP	P	19 52 00.3	-0.1
	comp=Z,78nm,1.1s						
SJAF	Saint Jean de	80.78	311	eP	P	19 52 00.8	-0.8
CAF	Calviac	80.92	314	⇓iP	P	19 52 02.4	+0.1
	comp=Z,40nm,1.0s						
LRDF	Laroque-de-Fa	80.95	312	eP	P	19 52 02.2	-0.3
FILF	Fillols	81.00	312	eP	P	19 52 03.0	+0.1
CASY	Casey	81.10	173	eP	P	19 52 02.2	-0.3
	comp=Z,101nm,1.8s						
MTLF	Montolieu	81.10	312	⇓iP	P	19 52 03.2	-0.1
	comp=Z,54nm,1.0s						
TSUM	Tsumeb	81.23	248	eP	P	19 52 05.6	+1.1
	comp=Z,7.4nm,1.1s						
TSUM				epP	pP	19 52 12.8	+0.3
RJF	Les Rejaudoux	81.23	314	⇓iP	P	19 52 04.1	+0.2
	comp=Z,65nm,1.0s						
RJF				eR			
	comp=Z,115nm,22.5s						
LFF	La Frestale	81.84	314	⇓iP	P	19 52 07.3	+0.2
	comp=Z,41nm,1.0s						
FLN	La Foliniere	81.89	318	⇓iP	P	19 52 06.9	-0.4
	comp=Z,57nm,1.0s						
FLN				eR			
	comp=Z,195nm,18.2s						
EMHD	Djebel Mahouad	81.92	305	P	P	19 52 09.0	+1.1
MLS	Moulis	81.98	312	eP	P	19 52 07.3	-0.7
MFF	Saint Martin d	82.11	316	⇓iP	P	19 52 08.1	-0.4
	comp=Z,65nm,1.0s						
GRR	Gorron	82.21	318	⇓iP	P	19 52 08.6	-0.4
	comp=Z,37nm,1.3s						
TAM	Tamanrasset	82.41	292	eP	P	19 52 11.6	+0.8
TAM				e*PP	pP	19 52 19.4	+0.6
TAM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TAM	Tamanrasset	82.41	292	eP	P	19 52 11.6	+0.8
	comp=Z,7.3nm,0.9s						
TAM				epP	pP	19 52 19.4	+0.6
EPF	Esparros	82.51	312	⇓iP	P	19 52 09.8	-1.0
	comp=Z,8.8nm,0.9s						
WIN	Windhoek	82.70	245	⇓iP	P	19 52 13.3	+1.1
WIN				AMB	AMB	19 52 23.2	
	comp=Z,12nm,1.5s						
SUR	Sutherland	82.92	234	eP	P	19 52 14.3	+1.1
SUR				epP	pP	19 52 23.0	+1.8
ALE	Alert	82.98	357	P	P	19 52 12.6	+0.2
	comp=Z,83nm,0.7s,SNR=6.0						
REYF	Montagne du Re	83.03	313	eP	P	19 52 13.8	+0.3
ETSF	Etsaut	83.18	312	⇓iP	P	19 52 14.4	+0.1
	comp=Z,36nm,0.9s						
SGMF	Saint Gilles	83.34	318	⇓iP	P	19 52 14.6	-0.3
	comp=Z,41nm,1.0s						
EANR	'Ain N'Sour	83.44	305	P	P	19 52 15.9	+0.2
LARF	Larrau	83.46	313	eP	P	19 52 15.6	-0.1
SJPF	Ste Jean	83.61	313	eP	P	19 52 16.8	+0.4
	comp=Z,43nm,1.1s						
ROSF	Rostrenen	83.79	318	⇓iP	P	19 52 17.0	-0.2
	comp=Z,51nm,1.0s						
QUIF	Quistinic	83.82	318	⇓iP	P	19 52 16.8	-0.5
	comp=Z,30nm,1.1s						
MAW	Mawson	84.27	191	P	P	19 52 19.8	+0.8
MAW	Mawson	84.27	191	P	P	19 52 19.8	+0.8
	comp=Z,16nm,1.0s,baz=2.8,slow=6.7,SNR=26						
IMA2	Indian Mountai	86.41	22	eP	P	19 52 30.2	0.0
IMA2				epP	pP	19 52 37.9	-0.3
IM04	Indian Mountai	86.42	22	eP	P	19 52 29.9	-0.1
IM04				epP	pP	19 52 38.8	+0.6
ESDC	Sonseca Array	86.45	310	P	P	19 52 30.7	-0.1
ESDC	Sonseca Array	86.45	310	P	P	19 52 30.7	-0.1
	comp=Z,6.1nm,0.7s,baz=57,slow=4.5,SNR=38						
ESLA	Sonseca Array	86.45	310	eP	P	19 52 30.1	-0.7
	comp=Z,2.8nm,0.9s						
ESLA				epP	pP	19 52 37.6	-1.3
PAB	San Pablo	86.77	310	eP	P	19 52 32.0	-0.4
PAB				e*PP	pP	19 52 38.2	-2.3
PAB				pmax	pmax		
	comp=Z,90nm,1.3s						
PAB	San Pablo	86.77	310	eP	P	19 52 31.9	-0.4
	comp=Z,90nm,1.3s						
PAB				epP	pP	19 52 38.2	-2.3
COLD	Coldfoot	87.08	20	eP	P	19 52 32.9	-0.3
	comp=Z,8.0nm,0.8s						
PBRG	Braganca	87.89	312	eP	P	19 52 37.8	0.0
	comp=Z,16nm,1.9s						
PBRG				epP	pP	19 52 46.1	+0.2
PBRG	Braganca	87.89	312	eLR	LR	20 21 11.5	
	comp=Z,22nm,18.5s						
SUMG	Summit	87.97	347	eP	P	19 52 37.8	-0.1
SUMG				pmax	pmax		
	comp=Z,18nm,0.8s						
SUMG	Summit	87.97	347	iP	P	19 52 37.8	-0.1
	comp=Z,14nm,1.0s						
SUMG				i		19 52 51.4	
SUMG	Summit	87.97	347	eP	P	19 52 37.8	-0.1
	comp=Z,18nm,0.8s						
TOA0	Torodi Ar. Sit	88.12	283	eP	P	19 52 39.4	+0.1
TOA0				epP	pP	19 52 47.0	-0.3
TORD	Torodi Ar. Bea	88.12	283	P	P	19 52 39.7	+0.4
TORD				PP	PP	19 56 11.9	+5.6
TORD	Torodi Ar. Bea	88.12	283	P	P	19 52 39.7	+0.4
	comp=Z,15nm,0.9s,baz=82,slow=4.6,SNR=70						
TORD				PP	PP	19 56 11.9	+5.6
	comp=Z,2.1nm,1.0s,baz=51,slow=7.6,SNR=6.4						
TORD				LR	LR	20 34 34.6	
	comp=Z,100nm,18.9s,baz=65,slow=37						
MVO	Moncorvo	88.29	312	eP	P	19 52 40.1	+0.4
	comp=Z,23nm,1.5s						
MVO				epP	pP	19 52 48.5	+0.7
MVO	Moncorvo	88.29	312	eLR	LR	20 21 31.4	
	comp=Z,18nm,17.0s						
PPLA	Purkeypile	88.46	25	eP	P	19 52 40.1	0.0
	comp=Z,24nm,0.9s						
PPLA				epP	pP	19 52 48.7	+0.5
POLO	Lamas de Olo	88.78	312	eP	P	19 52 42.4	+0.4
	comp=Z,7.9nm,1.7s						
POLO				epP	pP	19 52 50.0	-0.1
PCAB	Cabril	88.84	313	eP	P	19 52 42.6	+0.4
	comp=Z,28nm,1.3s						
PCAB				epP	pP	19 52 50.3	0.0
MTE	Manteigas	88.89	311	eP	P	19 52 43.2	+0.7
	comp=Z,26nm,1.4s						
MTE				epP	pP	19 52 51.9	+1.3
MTE	Manteigas	88.89	311	eS	S	20 03 21.7	-7.4
MTE	Manteigas	88.89	311	eLR	LR	20 21 14.8	
	comp=Z,25nm,16.7s						
MTE	Manteigas	88.89	311	eP	P	19 52 43.1	+0.7
	comp=Z,22nm,1.0s						
MTE				epP	pP	19 52 51.1	+0.5
PGAV	Gavieira, Arco	88.94	313	eP	P	19 52 44.1	+1.4
	comp=Z,16nm,1.7s						
PGAV				epP	pP	19 52 51.3	+0.5
TRF	Thorofare Moun	88.94	24	eP	P	19 52 41.5	-0.9
	comp=Z,21nm,0.8s						
TRF				epP	pP	19 52 50.3	-0.2
PCBR	Castelo Branco	89.00	311	eP	P	19 52 43.5	+0.5
	comp=Z,22nm,1.4s						
PCBR				epP	pP	19 52 50.9	-0.2
PVIS	Viseu	89.05	312	eP	P	19 52 44.0	+0.8
	comp=Z,25nm,1.7s						
PVIS				epP	pP	19 52 52.2	+0.9
PMRV	Marv??o	89.06	310	eP	P	19 52 43.7	+0.4
	comp=Z,26nm,1.7s						
PMRV				epP	pP	19 52 52.3	+0.9
PMRV	Marv??o	89.06	310	eLR	LR	20 21 21.8	
	comp=Z,27nm,16.7s						
COLA	College	89.12	22	eP	P	19 52 42.6	-0.4
COLA				pmax	pmax		
	comp=Z,32nm,1.0s						
COLA	College	89.12	22	eP	P	19 52 42.5	-0.4
	comp=Z,32nm,1.0s						
PBAR	Barrancos	89.17	309	eP	P	19 52 44.4	+0.6
	comp=Z,34nm,1.8s						
PBAR				epP	pP	19 52 51.4	-0.5
PBAR				eS	S	20 02 37.2	-54
MCK	McKinley	89.32	23	eP	P	19 52 44.0	0.0
MCK				e*PP	pP	19 52 52.6	+0.5
MCK				pmax	pmax		
	comp=Z,54nm,1.1s						
MCK	McKinley	89.32	23	eP	P	19 52 44.0	0.0
	comp=Z,54nm,1.1s						
MCK				epP	pP	19 52 52.6	+0.5
RSO	Redoubt South	89.36	27	eP	P	19 52 44.2	-0.3
	comp=Z,26nm,0.8s						
RSO				epP	pP	19 52 53.9	+1.3
PESTR	Estremoz	89.38	310	eS	SKSac	20 03 15.8	+2.1
ILAR	Eielson Array	89.53	22	P	P	19 52 43.9	-1.1
ILAR				PP	PP	19 56 16.0	+0.1
ILAR	Eielson Array	89.53	22	P	P	19 52 43.9	-1.1
	comp=Z,9.8nm,0.8s,baz=300,slow=4.2,SNR=71						
ILAR				PP	PP	19 56 16.0	+0.1
	comp=Z,1.3nm,0.9s,baz=298,slow=8.8,SNR=4.8						
ILAR				LR	LR	20 38 40.2	
	comp=Z,116nm,19.2s,baz=293,slow=40						
PCAS	Casmilo, Conde	89.69	311	epP	pP	19 52 54.9	+0.6
PCAS	Casmilo, Conde	89.69	311	eS	S	20 03 40.8	+4.4
PTOM	Tomar	89.76	311	eP	P	19 52 47.3	+0.8
	comp=Z,49nm,1.3s						
PTOM				epP	pP	19 52 54.8	+0.2
PMTG	Montargil	89.79	310	eP	P	19 52 46.9	+0.2
	comp=Z,17nm,1.3s						
PMTG				epP	pP	19 52 54.1	-0.7
EVO	Evora	89.79	310	eP	P	19 52 47.2	+0.5
	comp=Z,44nm,1.5s						
EVO				eR			
	comp=Z,117nm,20.5s						
EVO	Evora	89.79	310	eP	P	19 52 47.2	+0.5
	comp=Z,17nm,1.3s						
EVO				epP	pP	19 52 55.6	+0.8
PBEJ	Beja	89.83	309	eP	P	19 52 48.2	+1.3
	comp=Z,19nm,1.4s						
PBEJ				epP	pP	19 52 55.1	+0.1
PVAQ	Vaqueiros	89.91	309	eP	P	19 52 48.4	+1.1
	comp=Z,46nm,1.8s						
PVAQ				epP	pP	19 52 55.5	+0.1
PVAQ	Vaqueiros	89.91	309	eS	S	20 03 29.8	-8.8
PVAQ	Vaqueiros	89.91	309	eLR	LR	20 21 16.4	
	comp=Z,22nm,16.4s						
PCVE	Castro Verde	90.08	309	eP	P	19 52 48.8	+0.7
	comp=Z,16nm,1.4s						
PBDV	Barranco-do-Ve	90.12	308	eP	P	19 52 49.3	+1.0
	comp=Z,55nm,1.4s						
PBDV				epP	pP	19 52 57.9	+1.5
PNCL	Nicolau / Gran	90.31	309	eP	P	19 52 50.0	+0.9
	comp=Z,24nm,1.8s						
PNCL				epP	pP	19 52 57.9	+0.7
PNCL				eS	S	20 02 29.2	-73
PMR	Palmer	90.35	25	eP	P	19 52 48.5	-0.2
PMR				e*PP	pP	19 52 56.4	-0.5
PMR				pmax	pmax		
	comp=Z,50nm,1.1s						
PMR	Palmer	90.35	25	eP	P	19 52 48.5	-0.2
	comp=Z,50nm,1.1s						
PMR				epP	pP	19 52 56.4	-0.5
SML	Sawmill	90.56	25	eP	P	19 52 50.0	+0.1
SML				e*PP	pP	19 52 58.9	+0.9
SML				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SML	Sawmill	90.56	25	eP	P	19 52 50.0	+0.1
	comp=Z,10nm,0.9s						
SML				epP	pP	19 52 58.9	+0.9
OHAK	Old Harbor	90.62	30	eP	P	19 52 49.9	-0.2
	comp=Z,42nm,1.2s						
PTEO	Sao Teotonio	90.63	309	eP	P	19 52 51.5	+0.9
	comp=Z,54nm,1.4s						
PTEO				epP	pP	19 53 00.2	+1.5
MORF	Marmelete	90.65	309	epP	pP	19 53 00.4	+1.5
KDAK	Kodiak Island	90.70	29	eP	P	19 52 50.2	-0.2
	comp=Z,45nm,1.1s						
KDAK				epP	pP	19 52 59.3	+0.8
KDAK	Kodiak Island	90.70	29	P	P	19 52 50.6	+0.2
	comp=Z,196nm,1.1s,SNR=5.1						
PFVI	Vila Bisbo	90.83	309	eP	P	19 52 52.6	+1.0
	comp=Z,69nm,2.1s						
PFVI				epP	pP	19 53 01.0	+1.3
SYO	Syowa Base	90.89	197	‖eP	P	19 52 42.0	-8.9
SYO	Syowa Base	90.89	197	‖eX	P	19 52 50.3	-0.6
INK	Inuvik	91.45	16	eP	P	19 52 53.8	+0.1
	comp=Z,24nm,1.1s						
INK	Inuvik	91.45	16	LR	LR	20 34 38.4	
	comp=Z,79nm,19.5s,baz=280,slow=36						
EGAK	Eagle	91.52	20	eP	P	19 52 53.9	-0.2
	comp=Z,16nm,1.0s						
MENT	Mentasta	91.72	22	eP	P	19 52 56.4	+1.2
BMRM	Bremner River	92.52	24	eP	P	19 52 59.4	+0.5
	comp=Z,40nm,1.0s						
DAWY	Dawson	92.57	20	eP	P	19 52 59.1	0.0
DAWY				epP	pP	19 53 07.7	+0.4
HYT	Haines Junctio	95.34	22	eP	P	19 53 12.5	+0.5
DBIC	Dimbokro	95.97	278	LR	LR	20 37 30.1	
	comp=Z,103nm,19.0s,baz=73,slow=36						
VNDA	Vanda	99.11	168	P	Pdif	19 53 28.4	+0.1
VNDA	Vanda	99.11	168	P	Pdif	19 53 28.4	+0.1
	comp=Z,1.1nm,0.9s,baz=270,slow=5.1,SNR=4.8						
DLBC	Dease Lake	99.73	21	ePdif	Pdif	19 53 30.9	-0.8
SBA	Scott Base	100.21	168	eP	Pdif	19 53 37.9	+4.6
SBA	Scott Base	100.21	168	ePdif	Pdif	19 53 37.9	+4.6
QSPA	South Pole Qui	103.85	180	ePdif	Pdif	19 53 52.2	+2.4
BOZ	Bozeman (W)	116.60	19	ePKIKP	PKPdf	19 58 31.3	-1.0
BOZ	Bozeman (W)	116.60	19	ePKPdf	PKPdf	19 58 31.3	-1.0
HLID	Hailey	117.48	22	eP	PKPdf	19 58 33.9	-0.2
RLMT	Red Lodge	117.80	18	ePKPdf	PKPdf	19 58 35.0	+0.3
RLMT				ePPP	PP	19 59 46.2	-0.8
REDW	Red Top Meadow	118.89	20	ePKPdf	PKPdf	19 58 37.2	+0.3
PDAR	Pinedale Array	119.84	19	PKP	PKPdf	19 58 38.1	-0.6
PDAR	Pinedale Array	119.84	19	PKP	PKPdf	19 58 38.1	-0.6
	comp=Z,4.6nm,0.9s,baz=71,slow=0.9,SNR=24						
RSSD	Black Hills	120.12	14	ePKIKP	PKPdf	19 58 38.5	-0.7
RSSD	Black Hills	120.12	14	ePKPdf	PKPdf	19 58 38.5	-0.7
NVAR	Mina Array Bea	120.18	28	PKP	PKPdf	19 58 40.4	+0.9
NVAR	Mina Array Bea	120.18	28	PKP	PKPdf	19 58 40.4	+0.9
	comp=Z,7.6nm,0.8s,baz=298,slow=2.0,SNR=42						
HWUT	Hardware Ranch	120.21	21	ePKPdf	PKPdf	19 58 38.8	-0.7
NV11	Mina Array Sit	120.25	28	ePKPdf	PKPdf	19 58 40.0	+0.5
DUG	Dugway	121.00	23	ePKIKP	PKPdf	19 58 40.9	0.0
DUG	Dugway	121.00	23	ePKPdf	PKPdf	19 58 40.9	0.0
R11A	Troy Canyon, C	121.45	26	ePKPdf	PKPdf	19 58 42.3	+0.4
R11A				epPKPdf	pPKPdf	19 58 50.3	+0.1
ECSD	EROS Data Cent	121.89	8	ePKPdf	PKPdf	19 58 41.7	-0.6
TMUT	Trail Mountain	122.38	22	ePKPdf	PKPdf	19 58 44.2	+0.4
PHWY	Pilot Hill	122.40	16	ePKPdf	PKPdf	19 58 42.6	-1.2
O20A	White River Ci	122.65	19	ePKPdf	PKPdf	19 58 44.0	-0.1
MSU	Marysvale	122.70	23	ePKIKP	PKPdf	19 58 45.2	+0.9
MSU	Marysvale	122.70	23	ePKPdf	PKPdf	19 58 45.2	+0.9
SHPR	Sheep Range	123.18	27	ePKPdf	PKPdf	19 58 45.6	+0.4
SMCO	Snowmass	123.92	19	ePKPdf	PKPdf	19 58 46.8	0.0
PFO	Pinyon Flat Ob	124.97	30	ePKPdf	PKPdf	19 58 49.3	+0.6
MVCO	Mesa Verde	125.20	21	ePKPdf	PKPdf	19 58 49.5	+0.3
W18A	Petrified Fore	126.61	23	ePKPdf	PKPdf	19 58 52.4	+0.6
W18A				epPKPdf	pPKPdf	19 59 01.9	+1.6
ANMO	Albuquerque	127.95	20	ePKPdf	PKPdf	19 58 55.3	+0.8
LAZ	Ladron	128.21	21	ePKPdf	PKPdf	19 58 55.8	+0.8
LPM	Los Pinos Moun	128.47	21	ePKPdf	PKPdf	19 58 55.9	+0.5
LENM	Lemitar	128.48	21	ePKPdf	PKPdf	19 58 56.1	+0.7
BNM	Barren Site	128.61	21	ePKPdf	PKPdf	19 58 56.4	+0.6
TUC	Tucson	128.64	26	ePKIKP	PKPdf	19 58 57.0	+1.3
TUC	Tucson	128.64	26	ePKPdf	PKPdf	19 58 57.0	+1.3
MSTX	Muleshoe	130.00	17	ePKPdf	PKPdf	19 58 58.2	-0.1
MNTX	Cornudas Mount	131.27	21	ePKPdf	PKPdf	19 59 00.7	+0.1
MIAR	Mount Ida	131.33	7	ePKIKP	PKPdf	19 59 00.5	-0.1
MIAR	Mount Ida	131.33	7	ePKPdf	PKPdf	19 59 00.5	-0.1
TXAR	Lajitas Array	134.02	20	PKP	PKPdf	19 59 06.5	+0.5
TXAR	Lajitas Array	134.02	20	PKP	PKPdf	19 59 06.5	+0.5
	comp=Z,5.1nm,0.9s,baz=235,slow=0.7,SNR=18						
JCT	Junction City	134.10	15	ePKIKP	PKPdf	19 59 06.2	+0.2
JCT				e		19 59 15.5	
JCT	Junction City	134.10	15	ePKPdf	PKPdf	19 59 06.2	+0.2
JCT				epPKPdf	pPKPdf	19 59 15.5	+1.1
BDFB	Brasilia	142.31	262	PKPpre	PKPpre	19 59 16.5	
BDFB	Brasilia	142.31	262	PKhKP	PKPpre	19 59 16.5	
	comp=Z,5.5nm,0.7s,baz=119,slow=7.8,SNR=6.9						
TEIG	Tepich	145.98	2	ePKPdf	PKPbc	19 59 28.1	-0.2
TEIG				epPKPdf	pPKPdf	19 59 36.8	+0.8
TRQA	Tornquist	147.33	218	ePKPbc	PKPbc	19 59 31.2	-0.6
CPUP	Villa Florida	149.64	242	ePKPdf	PKPbc	19 59 37.4	-0.7
CPUP	Villa Florida	149.64	242	PKPbc	PKPbc	19 59 37.4	-0.7
	comp=Z,5.5nm,0.7s,baz=111,slow=1.8,SNR=14						
PLCA	Paso Flores	149.72	205	PKPbc	PKPbc	19 59 37.1	-0.9
PLCA	Paso Flores	149.72	205	PKPbc	PKPbc	19 59 37.1	-0.9
	comp=Z,13nm,1.0s,baz=167,slow=3.8,SNR=12						
CFAA	Coronel Fontan	155.44	221	PKP	PKPdf	19 59 42.4	+0.5
CFAA	Coronel Fontan	155.44	221	PKP	PKPdf	19 59 42.4	+0.5
	comp=Z,0.2nm,0.3s,baz=114,slow=20,SNR=3.1						
ROSC	El Rosal	157.45	325	PKPab	PKPab	20 00 17.6	+0.8
ROSC	El Rosal	157.45	325	PKPab	PKPab	20 00 17.6	+0.8
	comp=Z,3.6nm,0.4s,baz=114,slow=20,SNR=4.3						
LPAZ	La Paz	161.64	260	PKPab	PKPab	20 00 35.5	-0.1
LPAZ	La Paz	161.64	260	PKPab	PKPab	20 00 35.5	-0.1
	comp=Z,6.5nm,0.9s,baz=90,slow=2.0,SNR=3.9						

*IDC **14** 19:48:30.6±0.8, 9.°64S×75.°48W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/21, mbtmp4.0/8, ML4.4/1, MS3.8/2, Ms1 3.8/2, ms1mx2.8/32, Error ellipse: s-maj=37.8km s-min=18.3km az=46.0*

*NEIC **14** 19:48:33.7±2.7, 9.°72S×75.°39W, h22km±19km, mb4.5/1, Error ellipse: s-maj=16.8km s-min=9.3km az=224.0*

ISC 14 19:48:36.4±0.6, 9.°7S±0.°1×75.°28W±0.°09, h41km, n43, σ1§15/41, mb3.9/8, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.99	309	Pn	Pn	19 49 35.4	0.0
ATAH				Lg	Lg	19 50 31.3	
ATAH	Atahualpa	3.99	309	Pn	Pn	19 49 35.4	0.0
	5.1nm,0.3s,baz=161,slow=8.9,SNR=35						
ATAH				Lg	Lg	19 50 31.3	
	9.0nm,0.3s,baz=88,slow=18,SNR=3.0						
LPAZ	La Paz	9.57	134	Pn	Pn	19 50 56.9	+4.6
LPAZ				Lg	Lg	19 53 39.4	
LPAZ	La Paz	9.57	134	Pn	Pn	19 50 56.9	+4.6
	0.3nm,0.3s,baz=324,slow=14,SNR=6.6						
LPAZ				Lg	Lg	19 53 39.4	
	0.6nm,0.3s,baz=335,slow=13,SNR=2.6						
OTAV	Otavalo	10.35	342	Pn	Pn	19 50 53.6	-9.2
SAML	Samuel	11.96	88	ePn	Pn	19 51 24.0	-0.4
	13nm,0.4s						
SAML				eSn	Sn	19 53 34.4	-2.2
SAML				eLg	Lg	19 54 41.6	
LVC	Limon Verde	14.24	155	Pn	Pn	19 51 54.3	-1.4
	8.9nm,0.9s						
ROSC	El Rosal	14.47	4	Lg	Lg	19 56 13.4	
	0.8nm,0.3s,baz=216,slow=17,SNR=2.2						
SIV	San Ignacio	15.20	116	Pn	Pn	19 52 08.4	0.0
SIV				Lg	Lg	19 56 39.0	
SIV	San Ignacio	15.20	116	Pn	Pn	19 52 08.4	0.0
	0.9nm,0.3s,baz=306,slow=12,SNR=13						
SIV				Lg	Lg	19 56 39.0	
	0.7nm,0.3s,baz=225,slow=19,SNR=4.2						
CFAA	Coronel Fontan	22.78	164	P	P	19 53 35.8	+0.3
CFAA	Coronel Fontan	22.78	164	P	P	19 53 35.8	+0.3
	0.2nm,0.6s,baz=288,slow=13,SNR=4.0						
CPUP	Villa Florida	23.73	137	P	P	19 53 43.3	-1.6
	12nm,0.8s						
CPUP	Villa Florida	23.73	137	P	P	19 53 46.4	+1.5
	0.8nm,0.4s,baz=316,slow=11,SNR=4.1						
BDFB	Brasilia	27.24	105	P	P	19 54 17.9	+0.9
BDFB	Brasilia	27.24	105	P	P	19 54 17.9	+0.9
	1.1nm,0.3s,baz=252,slow=20,SNR=2.4						
BDFB				LR	LR	20 05 45.5	
	comp=Z,103nm,21.7s,baz=43,slow=38						
TXAR	Lajitas Array	47.47	326	P	P	19 57 05.2	-2.4
TXAR				PcP	PcP	19 58 38.0	+0.6
TXAR	Lajitas Array	47.47	326	P	P	19 57 05.2	-2.4
	0.2nm,0.5s,baz=149,slow=9.0,SNR=5.0						
TXAR				PcP	PcP	19 58 38.0	+0.6
	0.5nm,0.5s,baz=162,slow=8.4,SNR=4.4						
ULM	Lac du Bonnet	62.33	345	P	P	19 58 53.3	-1.2
ULM	Lac du Bonnet	62.33	345	P	P	19 58 53.3	-1.2
	4.0nm,0.6s,baz=150,slow=7.0,SNR=3.4						
TORD	Torodi Ar. Bea	79.70	75	P	P	20 00 41.8	+1.3
TORD	Torodi Ar. Bea	79.70	75	P	P	20 00 41.8	+1.3
	1.1nm,0.6s,baz=268,slow=3.7,SNR=8.4						
ESDC	Sonseca Array	82.09	48	P	P	20 00 54.5	+1.6
ESDC	Sonseca Array	82.09	48	P	P	20 00 54.5	+1.6
	0.2nm,0.3s,baz=257,slow=5.7,SNR=4.8						
VNDA	Vanda	87.33	191	LR	LR	20 36 09.4	
	comp=Z,100nm,18.9s,baz=240,slow=33						
ILAR	Eielson Array	91.01	336	P	P	20 01 36.1	+0.2
ILAR	Eielson Array	91.01	336	P	P	20 01 36.2	+0.2
	0.4nm,0.8s,baz=129,slow=2.4,SNR=3.1						
ZALV	Zalesovo Beam	133.06	16	PKP	PKPdf	20 07 48.2	+0.7
ZALV	Zalesovo Beam	133.06	16	PKP	PKPdf	20 07 48.2	+0.7
	1.0nm,0.5s,baz=341,slow=3.5,SNR=5.3						
KURK	Kurchatov	133.77	23	PKP	PKPdf	20 07 50.1	+1.3
KURBB	Kurchatov Arra	133.81	23	PKP	PKPdf	20 07 50.1	+1.2
	0.3nm,0.6

comp=Z,47nm,0.6s
SWZ Schweizer 2.14 250 *e*P Pn 20 01 33.8 +1.1
SWZ *e*S Sn 20 02 00.2 +0.2
SWZ AML AML 20 02 04.8
comp=Z,114nm,0.2s
SWZ Schweizer 2.14 250 *e*P Pb 20 01 34.6 -0.9
SWZ *e*S Sn 20 01 59.5 -0.5
SWZ AML AML 20 02 04.8
comp=Z,112nm,0.2s
LBTB Lobatse 2.30 308 *e*P Pn 20 01 35.6 +0.7
LBTB *e*S Sn 20 02 04.3 +0.3
LBTB AML AML 20 02 09.1
comp=Z,45nm,0.4s
LBTB Lobatse 2.30 308 *e*P Pn 20 01 36.5 +1.6
LBTB *e*S Sn 20 02 04.9 +0.9
LBTB AML AML 20 02 09.0
comp=Z,46nm,0.4s
BOSA Boshof 2.98 223 *e*P Pn 20 01 44.8 +0.5
BOSA *e*S Sn 20 02 20.2 -0.5
BOSA AML AML 20 02 32.7
comp=Z,13nm,0.4s
BOSA Boshof 2.98 223 *e*P Pn 20 01 44.4 +0.2
BOSA *e*S Sn 20 02 19.6 -1.1
BOSA AML AML 20 02 32.6
comp=Z,13nm,0.4s

IDC 14 20:01:02.0±8.5, 22°.17N×144°.52E, h106km±76km, mb3.4/7, mb1 3.5/8, mb1mx3.2/27, mbtmp3.3/8, ML3.7/1, Error ellipse: s-maj=117.7km s-min=17.1km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.34**	**340**	P	Pn	20 04 32.4	-0.4
	0.3nm,0.3s,baz=160,slow=9.7,SNR=6.6						
USRK	**Ussuriysk Arra**	**24.29**	**338**	P	P	20 06 13.3	+4.0
	1.6nm,0.6s,baz=160,slow=13,SNR=7.0						
WRA	**Warramunga Arr**	**43.02**	**194**	P	P	20 08 51.0	-0.2
	0.5nm,0.4s,baz=14,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**46.72**	**193**	P	P	20 09 20.1	-0.3
	0.3nm,0.6s,baz=13,slow=6.6,SNR=4.1						
STKA	**Stephens Creek**	**53.81**	**183**	P	P	20 10 14.1	+0.3
	1.4nm,0.8s,baz=14,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**55.30**	**312**	P	P	20 10 24.7	+0.1
	0.3nm,0.6s,baz=85,slow=8.3,SNR=4.4						
KURBB	**Kurchatov Arra**	**58.03**	**317**	P	P	20 10 43.6	-0.1
	0.6nm,0.6s,baz=91,slow=7.5,SNR=8.1						
BVAR	**Borovoye Array**	**63.12**	**319**	P	P	20 11 18.4	0.0
	0.5nm,0.4s,baz=75,slow=8.4,SNR=5.2						
FINES	**FINESS Array B**	**83.29**	**335**	P	P	20 13 16.5	-0.1
	3.7nm,1.1s,baz=49,slow=2.6,SNR=4.3						

---

*ISCJB **14** 20:15:10.0±1.0, 56°.0S±0°.2×27°.4W±0°.5, h112km, mb3.8/4, Error ellipse: s-maj=39.4km s-min=18.1km az=156.1*
*IDC **14** 20:15:10.5±12.0, 55°.95S×27°.41W, h101km±110km, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=44.3km s-min=25.8km az=59.0*
ISC 14 20:15:12.1±0.9, 56°.1S±0°.2×27°.7W±0°.3, h112km, n10, σ1§93/10, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.28**	**157**	*e*P	**P**	**20 19 04.8**	**-0.9**
VNA2	**Neumayer--Watz**	**17.28**	**157**	*e*	Pn	20 19 11.6	+5.6
SNAA	**Sanae**	**18.84**	**156**	*e*P	**P**	**20 19 21.2**	**-1.7**
SNAA	**Sanae**	**18.84**	**156**	*e*	**Pn**	**20 19 26.6**	**+2.0**
MAW	**Mawson**	**40.30**	**144**	**P**	**P**	**20 22 37.0**	**-0.7**
	1.9nm,0.6s,baz=270,slow=3.0,SNR=3.1						
VNDA	**Vanda**	**46.54**	**183**	**P**	**P**	**20 23 28.2**	**+0.6**
	1.7nm,0.7s,baz=200,slow=5.6,SNR=14						
LPAZ	**La Paz**	**50.17**	**306**	**P**	**P**	**20 23 56.6**	**-0.3**
	0.5nm,0.3s,baz=136,slow=3.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**73.20**	**30**	**P**	**P**	**20 26 29.4**	**-1.2**
	0.3nm,0.7s,baz=224,slow=8.1,SNR=3.4						
TORD				pP	**PcP**	**20 26 50.4**	**+3.9**
	0.4nm,0.7s,baz=202,slow=6.3,SNR=3.6						
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**20 34 47.1**	**-0.6**
	0.6nm,0.8s,baz=126,slow=1.8,SNR=5.3						
SONM	**Songino Array**	**151.00**	**87**	PKPbc	**PKPbc**	**20 34 50.0**	**-0.9**
	1.2nm,0.5s,baz=218,slow=3.6,SNR=18						

IDC 14 20:23:50.7±0.9, 13°.95N×93°.05E, h0km, mb3.5/7, mb1 3.5/8, mb1mx3.4/29, mbtmp3.4/8, ML3.3/1, Error ellipse: s-maj=37.8km s-min=17.6km az=51.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.21**	**51**	Pn	Pn	20 25 38.4	+0.9
	0.1nm,0.3s,baz=239,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**33.96**	**347**	P	P	20 30 36.1	+0.2
	0.1nm,0.4s,baz=156,slow=7.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**38.43**	**345**	P	P	20 31 13.3	-0.7
	0.4nm,0.9s,baz=154,slow=6.2,SNR=4.0						
FITZ	**Fitzroy Crossi**	**45.24**	**134**	P	P	20 32 10.1	-0.1
	0.8nm,0.6s,baz=327,slow=8.7,SNR=4.5						
WRA	**Warramunga Arr**	**52.76**	**129**	P	P	20 33 07.4	-0.5
	0.4nm,0.8s,baz=310,slow=7.9,SNR=3.7						
WRA				PcP	PcP	20 34 17.0	-0.5
	0.4nm,0.8s,baz=320,slow=3.3,SNR=6.5						
ASAR	**Alice Springs**	**54.71**	**133**	P	P	20 33 22.2	+0.1
	0.3nm,0.6s,baz=313,slow=7.1,SNR=7.1						
BRTR	**Keskin Array B**	**57.76**	**308**	P	P	20 33 43.6	-0.3
	0.3nm,0.6s,baz=123,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**88.18**	**283**	P	P	20 36 45.0	+0.7
	0.4nm,0.7s,baz=83,slow=4.3,SNR=3.1						

IDC 14 20:50:33.2±14.0, 20°.33S×178°.30W, h560km±160km, mb3.0/6, mb1 3.2/6, mb1mx2.9/20, mbtmp3.0/6, Error ellipse: s-maj=66.4km s-min=24.9km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.28**	**257**	P	P	20 57 54.3	+0.2
	1.3nm,0.5s,baz=96,slow=7.5,SNR=38						
WRA	**Warramunga Arr**	**44.35**	**262**	P	P	20 57 54.4	-0.2
	0.7nm,0.3s,baz=97,slow=7.5,SNR=45						
FITZ	**Fitzroy Crossi**	**52.77**	**262**	P	P	20 58 56.4	-0.7
	1.9nm,0.8s,baz=90,slow=4.0,SNR=4.7						
QSPA	**South Pole Qui**	**69.73**	**180**	P	P	21 00 47.3	0.0
	0.9nm,0.7s,baz=156,slow=3.2,SNR=5.5						
MJAR	**Matsushiro Arr**	**69.91**	**324**	P	P	21 00 48.6	0.0
	0.3nm,0.4s,baz=150,slow=5.6,SNR=3.5						
PETK	**Petropavlovsk-**	**76.04**	**345**	P	P	21 01 23.3	0.0
	0.9nm,0.6s,baz=161,slow=10,SNR=2.8						
GERES	**GERESS Array B**	**149.97**	**344**	PKPbc	PKPbc	21 09 20.6	-0.3
	0.1nm,0.3s,baz=20,slow=3.1,SNR=2.8						

---

*CSEM **14** 20:53:18.2, 43°.24N×12°.56E, h7km, MD1.7/6, After ROM*
ROM 14 20:53:18.2±0.1, 43°.24N×12°.56E, h7km±1km, Md1.7/6, Ml0.9/3, Error ellipse: s-maj=0.9km s-min=0.8km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNTG	**Esanatoglia**	**0.28**	**87**	Pg	Pb	20 53 24.7	-0.9
SNTG				Sg	Sb	20 53 29.2	-1.4
	10.0nm,0.4s						
SNTG	**Esanatoglia**	**0.28**	**87**	Pg	Pb	20 53 24.7	-0.9
SNTG				Sg	Sb	20 53 29.2	-1.4
	10.0nm,0.4s						
PIEI	**Pieia**	**0.29**	**356**	Pg	Pb	20 53 25.2	-0.7
PIEI				Sg	Sb	20 53 29.8	-1.3
PIEI	**Pieia**	**0.29**	**356**	Pg	Pb	20 53 25.2	-0.7
PIEI				Sg	Sb	20 53 29.8	-1.3
BADI	**Badiali**	**0.35**	**319**	Pg	Pg	20 53 26.0	+0.8
BADI				Sg	Sb	20 53 32.1	-0.7
	13nm,0.9s						
BADI	**Badiali**	**0.35**	**319**	Pg	Pg	20 53 26.0	+0.8
BADI				Sg	Sb	20 53 32.1	-0.7
	13nm,0.9s						
FDMO	**Fiordimonte**	**0.43**	**118**	Pg	Pg	20 53 27.3	+0.6
FDMO				Sg	Sb	20 53 34.5	-0.6
	5.0nm,0.2s						
FDMO	**Fiordimonte**	**0.43**	**118**	Pg	Pg	20 53 27.3	+0.6
FDMO				Sg	Sb	20 53 34.5	-0.6
	5.0nm,0.2s						
MGAB	**Montegabbione**	**0.47**	**225**	Pg	Pb	20 53 28.2	-0.6
MGAB				Sg	Sb	20 53 35.7	-0.3
	11nm,0.2s						
MGAB	**Montegabbione**	**0.47**	**225**	Pg	Pb	20 53 28.2	-0.6
MGAB				Sg	Sb	20 53 35.7	-0.3
	11nm,0.2s						
FSSB	**Fossombrone**	**0.48**	**19**	Pg	Pg	20 53 28.2	+0.7
FSSB				Sg	Sb	20 53 35.9	-0.4
FSSB	**Fossombrone**	**0.48**	**19**	Pg	Pg	20 53 28.2	+0.7
FSSB				Sg	Sb	20 53 35.9	-0.4

---

*BJI **14** 20:56:21.7, 13°.02N×125°.71E, h5km, mB5.1/52, mb4.8/61, Ms5.0/68, Ms7 4.8/63*
*IDC **14** 20:56:26.3±0.3, 13°.37N×125°.40E, h0km, mb4.8/36, mb1 4.9/38, mb1mx4.9/39, mbtmp4.8/38, ML5.0/2, MS4.6/32, Ms1 4.6/32, ms1mx4.5/43, Error ellipse: s-maj=14.1km s-min=8.0km az=78.0*
*TEH **14** 20:56:28.0, 13°.41N×125°.37E, h11km, ML5.2*
*ISCJB **14** 20:56:28.2±0.7, 13°.47N±0°.02×125°.43E±0°.03, h20km±5km, mb5.0/124, MS4.7/67, Error ellipse: s-maj=4.3km s-min=3.1km az=171.3*
*NEIC **14** 20:56:29.2±1.8, 13°.38N×125°.37E, h18km±11km, mb5.1/39, Error ellipse: s-maj=4.7km s-min=3.6km az=87.0*
NEIC Felt [II PIVS] at Mapanas, Samar.
*MOS **14** 20:56:29.8±0.9, 13°.40N×125°.43E, h33km, mb5.2/64, MS4.6/35, Error ellipse: s-maj=7.8km s-min=4.5km az=116.2*
*BKK **14** 20:56:30.7±0.3, 14°.N±4°.×12°.5E±°, h10km, M4.8/28, mB5.3/17, mb4.9/28, Mw(mB)4.8/17*
*MAN **14** 20:56:31, 13°.44N×125°.30E, h64km, mb5.7, ML4.7, MS5.1*
*GCMT **14** 20:56:31.0±0.1, 13°.62N×125°.40E, h16km, MW5.4, Moment Tensor Solution. s63,c99; s89,c166; Moment tensor: Scale 10^17^Nm; Mrr-0.76±.02; Mθθ0.66±.01; Mφφ0.10±.01; Mrθ-0.16±.04; Mθφ-0.60±.01; Mφr1.05±.06; Best double couple: M0 1.40000×10^17^ NP1:φs155.00000°, δ72.00000°, λ-62.00000°. NP2:φs275.00000°, δ33.00000°, λ-145.00000°. Principal axes: T 1.3300, Plg22.0000°, Azm224.0000°; N 0.1600, Plg27.0000°, Azm326.0000°; P -1.4800, Plg54.0000°, Azm100.0000°; Data Used: II IU IC G.*
*DJA **14** 20:56:34.6±2.0, 14°.N±11°.×12°.5E±°, h54km±23km, M5.0/17, mB5.5/17, mb5.1/17, Mw(mB)5.0/17*
ISC 14 20:56:30.0±0.3, 13°.43N±0°.03×125°.40E±0°.04, h22km±2km, h22km:pP-P, n433, σ1§44/508, mb5.0/124, MS4.7/67, 29C-17D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.22**	**278**	⇓*i*P	**Pn**	**20 56 50.7**	**-1.0**
MMPH	**Masbate**	**2.03**	**239**	*e*P	**Pn**	**20 57 03.3**	**+0.5**
MMPH				*e*S	**Sn**	**20 57 27.6**	**0.0**
PLP	**Palo**	**2.29**	**190**	⇓*i*P	**Pn**	**20 57 06.9**	**+0.5**
PLP				*i* S	**Sn**	**20 57 30.2**	**-3.7**
OCLP	**Ormoc**	**2.49**	**198**	*e*P	**Pn**	**20 57 11.1**	**+2.0**
OCLP				*e*S	**Sn**	**20 57 34.2**	**-4.6**
RCP	**Roxas**	**3.19**	**235**	⇑*e*P	**Pn**	**20 57 19.9**	**+1.1**
MSLP	**Maasin**	**3.32**	**189**	*e*P	**Pn**	**20 57 22.0**	**+1.4**
LLP	**Lapu-Lapu**	**3.40**	**204**	⇑*e*P	**Pn**	**20 57 22.0**	**+0.4**
LLP				*e*S	**Sn**	**20 58 00.0**	**-1.3**
GUIM	**Jordan**	**3.91**	**225**	*e*P	**Pn**	**20 57 30.2**	**+1.4**
SJMP	**San Jose**	**4.28**	**257**	*e*P	**Pn**	**20 57 36.2**	**+2.4**
TGY	**Tagaytay City**	**4.38**	**279**	Pn	**Pn**	**20 57 35.9**	**+0.6**
TGY	**Tagaytay City**	**4.38**	**279**	⇑*i*P	**Pn**	**20 57 36.0**	**+0.6**
TGY				*e*S	Sn	20 58 08.2	-18
TGY	**Tagaytay City**	**4.38**	**279**	Pn	**Pn**	**20 57 35.9**	**+0.6**
	113nm,0.3s,baz=20,slow=3.1,SNR=8.6						
PALP	**Palanan**	**4.61**	**322**	⇓*i*P	**Pn**	**20 57 37.5**	**-0.9**
PALP				*e*S	**Sn**	**20 58 25.6**	**-5.7**
CUYO	**Cuyo Island**	**4.99**	**240**	*e*P	**Pn**	**20 57 44.5**	**+0.9**
CGP	**Cagayan de Oro**	**4.99**	**188**	*e*P	**Pn**	**20 57 43.5**	**-0.1**
DCPH	**Dipolog City**	**5.22**	**203**	⇑*e*P	**Pn**	**20 57 47.0**	**+0.3**
CVP	**Callao Caves**	**5.47**	**321**	*e*P	**Pn**	**20 57 51.0**	**+0.8**
CVP				*e*S	**Sn**	**20 58 48.4**	**-4.1**
BCPH	**Baguio City Da**	**5.50**	**303**	⇑*i*P	**Pn**	**20 57 49.4**	**-1.4**
IPIL	**Ipil**	**6.26**	**207**	⇓*e*P	**Pn**	**20 58 03.8**	**+2.8**
CTBH	**Cotabato--PC H**	**6.27**	**190**	⇓*i*P	**Pn**	**20 58 04.2**	**+3.0**
SIPP	**Brgy, Tapao**	**6.52**	**314**	⇓*i*P	**Pn**	**20 58 06.0**	**+1.3**
SIPP				*e*S	**Sn**	**20 59 18.5**	**+0.1**
PIP	**Pasuquin**	**6.69**	**317**	⇓*i*P	**Pn**	**20 58 07.5**	**+0.5**
TWG	**Pinlang**	**10.20**	**337**	*e*Pn	**Pn**	**20 58 55.6**	**+0.4**
TWG				*e*Sn	Sn	21 00 36.6	-12
YULB	**Yu-li**	**10.64**	**339**	*e*Pn	Pn	20 58 56.9	-4.3
YULB				*e*Sn	Sn	21 00 44.3	-16
MYLDM	**Lahad Datu**	**10.65**	**220**	P	Pn	20 59 06.7	+5.3
TPUB	**Ta-pu**	**10.81**	**336**	*e*Pn	**Pn**	**20 59 03.2**	**-0.3**
TPUB				*e*Sn	**Sn**	**21 00 59.8**	**-4.0**
SSLB	**Suanglung**	**11.13**	**338**	*e*Pn	**Pn**	**20 59 09.2**	**+1.3**
SSLB				*e*Sn	Sn	21 00 58.5	-13
NACB	**Ninganchiao**	**11.28**	**342**	*e*Pn	**Pn**	**20 59 09.8**	**0.0**
TSM	**Tawau**	**11.73**	**220**	P	Pn	20 59 21.6	+5.5
YHNB	**Yeheng**	**11.81**	**342**	*e*Pn	**Pn**	**20 59 16.7**	**-0.5**
YHNB				*e*Sn	Sn	21 01 17.5	-11
TATO	**Taipei**	**12.06**	**343**	Pn	**Pn**	**20 59 21.5**	**+0.9**
TATO				*e*Sn	Sn	21 01 22.7	-12
GTOI	**Gorontalo**	**12.93**	**191**	P	**Pn**	**20 59 32.6**	**+0.1**
	63nm,1.4s,2μm						
TOLI	**Toli-Toli**	**13.05**	**201**	P	P	20 59 39.8	-4.6
	95nm,0.9s,1μm						
QZH	**Quanzhou**	**13.13**	**332**	P	**Pn**	**20 59 35.0**	**-0.2**
QZH				S	**Sn**	**21 02 01.3**	**+0.7**
QZH				LR	LR		
	comp=N,4μm,12.3s						
QZH				LR	LR		
	comp=E,3μm,11.8s						
QZH				LR	LR		
	comp=Z,6μm,12.8s						
MRSI	**Marisa**	**13.32**	**195**	P	P	20 59 43.7	-3.6
	comp=Z,42nm,0.7s,comp=Z,883nm						
JOW	**Kunigami**	**13.60**	**11**	*e*Pn	**Pn**	**20 59 41.0**	**-0.7**
LBMI	**Labuha**	**14.13**	**171**	P	Pn	20 59 52.6	+3.6
	comp=Z,74nm,0.7s,comp=Z,2μm						
LUWI	**Luwuk**	**14.61**	**190**	P	**P**	**21 00 01.6**	**-0.1**
	comp=Z,153nm,1.1s,comp=Z,3μm						
SWI	**Sorong**	**15.34**	**157**	P	**Pn**	**21 00 06.3**	**+1.0**
	comp=Z,112nm,1.0s,comp=Z,2μm						
BTM	**Bintulu**	**15.85**	**231**	P	**P**	**21 00 14.8**	**-0.7**
QIZ	**Qiongzhong**	**15.93**	**292**	P	**Pn**	**21 00 12.3**	**-0.7**
QIZ				S	**Sn**	**21 03 09.9**	**+0.8**
QIZ				pmax	pmax		
	comp=Z,14nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,570nm,8.4s						
QIZ				LR	LR		
	comp=N,3μm,15.5s						
QIZ				LR	LR		
	comp=Z,3μm,15.4s						
QIZ	**Qiongzhong**	**15.93**	**292**	*e*Pn	**Pn**	**21 00 12.1**	**-0.9**
	comp=Z,123nm,1.8s						
SKSI	**Soroako, Sulaw**	**16.36**	**195**	P	**P**	**21 00 20.8**	**-0.4**
	comp=Z,138nm,1.3s						
SBUM	**Sibu**	**16.99**	**231**	P	**P**	**21 00 30.1**	**+1.9**
SBUM	**Sibu**	**16.99**	**231**	P	**P**	**21 00 28.1**	**-0.1**
	comp=Z,68nm,2.3s,comp=Z,2μm						
MSAI	**Masohi**	**17.03**	**168**	P	**P**	**21 00 31.6**	**+3.0**
	comp=Z,86nm,0.9s,comp=Z,1μm						
RKPI	**Ransiki, Papua**	**17.21**	**149**	P	**P**	**21 00 32.5**	**+1.9**
	comp=Z,81nm,1.6s,comp=Z,3μm						
MMSI	**Mamuju**	**17.26**	**202**	P	**P**	**21 00 34.9**	**+3.7**
	comp=Z,270nm,0.5s,comp=Z,4μm						
TTSI	**Tana Toraja**	**17.28**	**199**	P	**P**	**21 00 33.8**	**+2.5**
	comp=Z,292nm,0.9s,comp=Z,3μm						
FAKI	**Fak Fak**	**17.61**	**157**	P	**P**	**21 00 37.0**	**+2.0**
	comp=Z,76nm,1.0s,comp=Z,2μm						
MTKI	**Muara Teweh, K**	**17.67**	**217**	P	**P**	**21 00 38.4**	**+2.7**
	comp=Z,346nm,0.7s,comp=Z,7μm						
BAKI	**Biak**	**18.00**	**143**	P	**P**	**21 00 39.8**	**+0.5**
SSE	**Sheshan**	**18.00**	**348**	P	**P**	**21 00 41.6**	**+2.4**
SSE				sP	**sP**	**21 00 52.8**	**+4.5**
SSE				S	**S**	**21 04 04.8**	**-0.1**
SSE				pmax	pmax		
	comp=Z,42nm,1.0s						
SSE				pmax	pmax		
	comp=Z,920nm,5.4s						
SSE				LR	LR		
	comp=N,2μm,14.3s						
SSE				LR	LR		
	comp=E,1μm,14.1s						
SSE				LR	LR		
	comp=Z,2μm,14.0s						
GUMO	**Guam**	**18.94**	**87**	*e*P	**Pn**	**21 00 51.5**	**+1.1**
	comp=Z,196nm,1.2s						
KSM	**Kuching**	**19.08**	**233**	*e*P	**P**	**21 00 51.1**	**-0.2**
	comp=Z,33nm,0.8s						
KSM	**Kuching**	**19.08**	**233**	P	**Pn**	**21 00 52.2**	**+0.1**
KSM	**Kuching**	**19.08**	**233**	P	**P**	**21 00 51.2**	**0.0**
	comp=Z,54nm,1.6s,comp=Z,2μm						
KAPI	**Kappang**	**19.16**	**197**	Pn	**Pn**	**21 00 55.6**	**+2.5**
	comp=Z,375nm,0.9s,SNR=5.8						
KAPI	**Kappang**	**19.16**	**197**	Pn	**P**	**21 00 51.8**	**-0.3**
KAPI	**Kappang**	**19.16**	**197**	P	**Pn**	**21 00 54.8**	**+1.7**
KAPI	**Kappang**	**19.16**	**197**	Pn	**P**	**21 00 51.8**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=20,slow=12,SNR=5.3						
KAPI				LR	LR	21 08 39.2	
	comp=Z,2μm,21.0s,baz=24,slow=38						
UBPT	**Khong Chiam**	**19.39**	**278**	P	**Pn**	**21 00 55.8**	**0.0**
	comp=Z,34nm,0.8s,comp=Z,1μm						
NJ2	**Nanjing**	**19.48**	**343**	*e*P	**Pn**	**21 00 56.3**	**-0.5**
NJ2				pP	**pP**	**21 00 59.3**	**-2.3**
NJ2				sP	**sP**	**21 01 01.0**	**-3.5**
NJ2				S	**Sn**	**21 04 35.1**	**+0.3**
NJ2				sS	**sS**	**21 04 43.0**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,40nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,510nm,8.3s						
NJ2				LR	LR		
	comp=N,230nm,16.2s						
NJ2				LR	LR		
	comp=E,2μm,15.7s						
NJ2				LR	LR		
	comp=Z,1μm,18.4s						
WHN	**Wuhan**	**19.85**	**331**	⇑P	**Pn**	**21 01 04.8**	**+3.6**
WHN				S	**Sn**	**21 04 44.5**	**+0.8**
WHN				LR	LR		
	comp=N,2μm,8.2s						
WHN				LR	LR		
	comp=E,4μm,14.3s						
WHN				LR	LR		
	comp=Z,3μm,14.0s						
JNU	**Nakatsue**	**20.23**	**13**	*e*P	**P**	**21 01 04.1**	**+0.4**
	comp=Z,26nm,1.0s						
JNU	**Nakatsue**	**20.23**	**13**	P	Pn	21 01 05.0	-0.8
	comp=Z,51nm,0.9s,baz=197,slow=5.0,SNR=18						
JNU				LR	LR	21 08 01.5	
	comp=Z,2μm,20.3s,baz=177,slow=34						
PANO	**Nakornpanom**	**20.38**	**283**	P	Pn	21 01 07.0	-0.6
	comp=Z,44nm,1.0s,comp=Z,13μm						
GYA	**Guiyang**	**21.83**	**309**	P	**P**	**21 01 22.3**	**+1.2**
GYA				PP	**PnPn**	**21 01 46.8**	**+4.2**
GYA				S	**S**	**21 05 21.5**	**-0.1**
GYA				ScP	**ScP**	**21 08 57.9**	**+1.0**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,460nm,9.2s						
GYA				LR	LR		
	comp=N,3μm,17.3s						
GYA				LR	LR		
	comp=E,2μm,17.5s						
GYA				LR	LR		
	comp=Z,4μm,18.4s						
ENH	**Enshi**	**22.29**	**321**	*e*P	**P**	**21 01 27.1**	**+1.1**
	comp=Z,32nm,0.8s						
CHAI	**Chaiyaphum**	**22.78**	**279**	P	**P**	**21 01 30.0**	**-1.2**
	comp=Z,19nm,0.9s,comp=Z,172nm						
TJN	**Taejon**	**22.92**	**4**	*e*P	**P**	**21 01 33.6**	**+1.1**
KTGM	**Kuala Trenggan**	**23.37**	**252**	P	**P**	**21 01 36.5**	**-0.9**
BATI	**Baumata**	**23.55**	**184**	P	**P**	**21 01 37.3**	**-1.7**
BATI	**Baumata**	**23.55**	**184**	P	**P**	**21 01 37.3**	**-1.7**
	comp=Z,72nm,0.4s,baz=5.2,slow=1.0,SNR=36						
BATI				LR	LR	21 11 49.1	
	comp=Z,1μm,20.8s,baz=195,slow=39						
LOEI	**Loei**	**23.60**	**283**	P	P	21 01 34.7	-4.8
PBKT	**Sadao Pong**	**23.79**	**281**	P	**P**	**21 01 41.3**	**-0.1**
	comp=Z,45nm,1.3s						
TIA	**Tai'an**	**23.87**	**343**	⇓P	**P**	**21 01 41.9**	**0.0**
TIA				S	**S**	**21 05 54.1**	**-2.8**
TIA				LR	LR		
	comp=N,1μm,14.9s						
TIA				LR	LR		
	comp=E,2μm,14.9s						
TIA				LR	LR		
	comp=Z,890nm,19.9s						
INCN	**Inchon**	**23.98**	**2**	*e*P	**P**	**21 01 42.9**	**-0.1**
	comp=Z,41nm,1.0s						
KSAR	**Wonju Array Be**	**24.02**	**5**	P	**P**	**21 01 43.2**	**0.0**
KSAR				PcP	**PcP**	**21 05 25.2**	**+0.3**
KSAR				ScP	**ScP**	**21 09 03.6**	**+1.4**
KSRS	**Korea Array**	**24.03**	**5**	P	**P**	**21 01 43.2**	**-0.1**
	comp=Z,57nm,0.9s,baz=184,slow=10,SNR=182						
KSRS				PcP	**PcP**	**21 05 25.2**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=188,slow=2.5,SNR=6.7						
KSRS				ScP	**ScP**	**21 09 03.6**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=197,slow=3.9,SNR=6.2						
KSRS				LR	LR	21 10 48.6	
	comp=Z,2μm,18.9s,baz=184,slow=36						
MYKOM	**Kota Tinggi**	**24.25**	**243**	P	**P**	**21 01 45.4**	**-0.3**
KMI	**Kunming**	**24.30**	**302**	P	**P**	**21 01 47.0**	**+0.7**
KMI				pP	**pP**	**21 01 56.4**	**+3.4**
KMI				PP	PnPn	21 02 24.6	+8.0
KMI				S	**S**	**21 06 05.3**	**+0.9**
KMI				sS	sS	21 06 20.5	+5.2
KMI				SS	SnSn	21 07 02.8	+15
KMI				pmax	pmax		
	comp=Z,21nm,1.5s						
KMI				pmax	pmax		
	comp=Z,740nm,8.1s						
KMI				LR	LR		
	comp=N,2μm,12.4s						
KMI				LR	LR		
	comp=E,960nm,18.6s						
KMI				LR	LR		
	comp=Z,2μm,15.0s						
PAYA	**Payao**	**25.17**	**287**	P	**P**	**21 01 54.1**	**+0.1**
	comp=Z,11nm,1.1s,comp=Z,142nm						
LAMP	**Lampang**	**25.27**	**285**	P	**P**	**21 01 54.8**	**-0.1**
	comp=Z,7.7nm,0.8s,comp=Z,96nm						
XAN	**Xi'an**	**25.39**	**327**	P	**P**	**21 01 55.9**	**0.0**
XAN				pP	**pP**	**21 02 02.5**	**0.0**
XAN				S	**S**	**21 06 19.6**	**-1.8**
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				pmax	pmax		
	comp=

CHTO	**Chiang Mai**	**25.95 285**	*e*P	**P**	**21 02 00.0 -1.1**
CHTO			pmax	pmax	
comp=Z,39nm,1.5s					
CHTO	**Chiang Mai**	**25.95 285**	*e*P	**P**	**21 02 00.0 -1.1**
comp=Z,39nm,1.5s					
CHTO	**Chiang Mai**	**25.95 285**	P	**P**	**21 02 00.7 -0.4**
comp=Z,22nm,1.1s,comp=Z,496nm					
CMAI	**Chiengmai2**	**26.04 288**	P	**P**	**21 02 02.4 +0.4**
comp=Z,224nm,2.0s					
CD2	**Chengdu**	**26.45 315**	P	**P**	**21 02 07.0 +1.5**
CD2			pP	**pP**	**21 02 11.3 -0.9**
CD2			sP	**sP**	**21 02 14.3 -0.6**
CD2			PP	**PnPn**	**21 02 50.3 +4.5**
CD2			PcP	**PcP**	**21 05 32.4 +1.8**
CD2			S	**S**	**21 06 37.9 -0.3**
CD2			ScS	**ScS**	**21 12 59.8 +0.1**
CD2			pmax	pmax	
comp=Z,30nm,0.8s					
CD2			pmax	pmax	
comp=Z,550nm,8.2s					
CD2			LR	LR	
comp=N,3μm,14.2s					
CD2			LR	LR	
comp=E,4μm,11.2s					
CD2			LR	LR	
comp=Z,3μm,11.9s					
BJT	**Baijiatuau**	**27.70 345**	P	**P**	**21 02 15.3 -1.3**
BJI	**Beijing**	**27.72 345**	P	**P**	**21 02 16.8 +0.1**
BJI			S	**S**	**21 06 57.4 -0.5**
BJI			pmax	pmax	
comp=Z,23nm,0.9s					
BJI			LR	LR	
comp=N,700nm,19.3s					
BJI			LR	LR	
comp=E,1μm,12.5s					
BJI			LR	LR	
comp=Z,530nm,20.4s					
PSI	**Prapat**	**28.22 250**	P	**P**	**21 02 21.0 -0.7**
PSI	**Prapat**	**28.22 250**	P	**P**	**21 02 21.0 -0.7**
comp=Z,14nm,0.6s,baz=75,slow=6.5,SNR=12					
PSI			LR	LR	21 14 39.8
comp=Z,2μm,19.0s,baz=67,slow=39					
SNY	**Shenyang**	**28.34 357**	‖P	**P**	**21 02 22.3 +0.1**
SNY			S	**S**	**21 07 02.3 -5.3**
SNY			pmax	pmax	
comp=Z,25nm,1.5s					
SNY			pmax	pmax	
comp=Z,290nm,4.5s					
SNY			LR	LR	
comp=N,1μm,17.1s					
SNY			LR	LR	
comp=E,2μm,14.7s					
SNY			LR	LR	
comp=Z,2μm,16.7s					
LZH	**Lanzhou**	**29.73 323**	*e*P	**P**	**21 02 36.0 +1.1**
LZH			pP	**pP**	**21 02 39.4 -2.2**
LZH			sP	**sP**	**21 02 41.6 -2.8**
LZH			PP	**PnPn**	**21 03 33.0 +2.4**
LZH			S	**S**	**21 07 31.0 +1.0**
LZH			pmax	pmax	
comp=Z,48nm,1.5s					
LZH			pmax	pmax	
comp=Z,100nm,5.4s					
LZH			LR	LR	
comp=N,2μm,12.9s					
LZH			LR	LR	
comp=E,1μm,10.7s					
LZH			LR	LR	
comp=Z,2μm,16.5s					
HHC	**Hu-ho-hao-te**	**29.88 339**	*e*P	**P**	**21 02 36.5 +0.4**
HHC			pP	**pP**	**21 02 40.5 -2.3**
HHC			sP	**sP**	**21 02 44.1 -1.4**
HHC			PP	**PnPn**	**21 03 34.6 +2.1**
HHC			PcP	**PcP**	**21 05 37.8 -1.1**
HHC			S	**S**	**21 07 34.3 +2.2**
HHC			SS	**SnSn**	**21 09 10.6 +6.9**
HHC			ScP	**ScP**	**21 09 17.8 -2.0**
HHC			ScS	**ScS**	**21 13 13.3 -1.8**
HHC			pmax	pmax	
comp=Z,33nm,0.7s					
HHC			pmax	pmax	
comp=Z,360nm,5.1s					
HHC			LR	LR	
comp=N,3μm,14.3s					
HHC			LR	LR	
comp=E,2μm,14.3s					
HHC			LR	LR	
comp=Z,1μm,13.1s					
VLA	**Vladivostok**	**30.11 9**	*c i*P	**P**	**21 02 38.9 +1.0**
VLA			pmax	pmax	
comp=Z,34nm,0.4s					
VLA			MLR	MLR	
comp=Z,757nm,16.0s					
BTO	**Baotou**	**30.24 336**	*e*P	**P**	**21 02 39.8 +0.5**
CN2	**Changchun**	**30.27 0**	*e*P	**P**	**21 02 39.3 0.0**
CN2			*e*pP	**pP**	**21 02 47.0 +1.0**
CN2			*e*sP	**sP**	**21 02 49.5 +0.7**
CN2			*e*S	**S**	**21 07 37.1 -0.8**
CN2			pmax	pmax	
comp=Z,10.0nm,0.8s					
CN2			pmax	pmax	
comp=Z,200nm,4.0s					
CN2			LR	LR	
comp=N,1μm,11.0s					
CN2			LR	LR	
comp=E,900nm,11.0s					
CN2			LR	LR	
comp=Z,1μm,13.0s					
USRK	**Ussuriysk Arra**	**31.18 9**	P	**P**	**21 02 47.8 +0.4**
comp=Z,16nm,0.8s,baz=194,slow=7.4,SNR=31					
USRK			LR	LR	21 14 51.9
comp=Z,959nm,18.7s,baz=180,slow=35					
MDJ	**Mudanjiang**	**31.29 6**	P	**P**	**21 02 49.3 +1.0**
MDJ			pP	**pP**	**21 02 52.6 -2.4**
MDJ			sP	**sP**	**21 02 53.9 -3.9**
MDJ			PcP	**PcP**	**21 05 39.3 -3.0**
MDJ			S	**S**	**21 07 56.3 +2.4**
MDJ			sS	**sS**	**21 08 08.0 +3.1**
MDJ			pmax	pmax	
comp=Z,17nm,1.7s					
MDJ			pmax	pmax	
comp=Z,150nm,5.0s					
MDJ			LR	LR	
comp=N,870nm,23.0s					
MDJ			LR	LR	
comp=E,860nm,19.4s					
MDJ			LR	LR	
comp=Z,1μm,24.7s					
MDJ	**Mudanjiang**	**31.29 6**	*e*P	**P**	**21 02 48.9 +0.6**
comp=Z,40nm,1.5s					
PMG	**Port Moresby**	**31.33 135**	P	**P**	**21 02 49.8 +0.8**
FITZ	**Fitzroy Crossi**	**31.33 180**	P	**P**	**21 02 47.8 -1.1**
FITZ	**Fitzroy Crossi**	**31.33 180**	P	**P**	**21 02 47.8 -1.1**
comp=Z,10.0nm,0.3s,baz=25,slow=7.7,SNR=104					
SHL	**Shillong**	**33.72 296**	*e*P	**P**	**21 03 11.0 +0.9**
ASAJ	**Asahikawa**	**33.95 22**	P	**P**	**21 03 12.2 +0.6**
ASAJ	**Asahikawa**	**33.95 22**	P	**P**	**21 03 12.2 +0.6**
comp=Z,3.3nm,0.4s,baz=258,slow=21,SNR=11					
ASAJ			LR	LR	21 16 48.5
comp=Z,1μm,19.7s,baz=191,slow=36					
WRAB	**Tennant Creek**	**34.30 165**	P	**P**	**21 03 14.0 -1.0**
comp=Z,88nm,0.5s,SNR=20					
WRAB	**Tennant Creek**	**34.30 165**	*e*P	**P**	**21 03 13.6 -1.4**
WRAB			pmax	pmax	
comp=Z,15nm,0.8s					
WRAB	**Tennant Creek**	**34.30 165**	*e*P	**P**	**21 03 13.6 -1.4**
comp=Z,14nm,0.8s					
WRA	**Warramunga Arr**	**34.31 165**	P	**P**	**21 03 14.0 -1.0**
WRA			PcP	**PcP**	**21 05 51.1 0.0**
WRA	**Warramunga Arr**	**34.31 165**	P	**P**	**21 03 14.0 -1.0**
comp=Z,6.8nm,0.5s,baz=344,slow=9.0,SNR=44					
WRA			PcP	**PcP**	**21 05 51.1 0.0**
comp=Z,2.9nm,0.8s,baz=342,slow=3.1,SNR=4.6					
GTA	**Gaotai**	**34.33 324**	P	**P**	**21 03 16.1 +0.9**
GTA			pP	**pP**	**21 03 19.8 -2.1**
GTA			sP	**sP**	**21 03 23.0 -1.7**
GTA			PcP	**PcP**	**21 05 52.3 +1.2**
GTA			S	**S**	**21 08 42.3 +0.7**
GTA			pmax	pmax	
comp=Z,9.0nm,1.4s					
GTA			pmax	pmax	
comp=Z,180nm,9.8s					
GTA			LR	LR	
comp=N,910nm,14.7s					
GTA			LR	LR	
comp=E,1μm,16.6s					
GTA			LR	LR	
comp=Z,1μm,17.1s					
MBWA	**Marble Bar**	**34.82 189**	*e*P	**P**	**21 03 16.6 -2.8**
comp=Z,114nm,2.3s					
YUK	**Yuzh-Kuril'sk**	**35.18 26**	*c i*P	P	21 03 25.8 +3.5
YUK			*e*		21 04 39.3
YUK			*e*PPP	PPP	21 04 56.2
YUK			S	**S**	**21 08 56.4 +2.1**
YUK			MLR	MLR	
comp=E,721nm,19.0s					
YUK			MLR	MLR	
comp=Z,745nm,19.0s					
LSA	**Lhasa**	**35.55 303**	P	**P**	**21 03 26.5 +0.2**
LSA			LR	LR	
comp=N,340nm,17.0s					
LSA			LR	LR	
comp=E,740nm,19.0s					
LSA			LR	LR	
comp=Z,1μm,21.0s					
LSA	**Lhasa**	**35.55 303**	*e*P	**P**	**21 03 27.2 +0.9**
LSA			pmax	pmax	
comp=Z,33nm,1.0s					
LSA	**Lhasa**	**35.55 303**	*e*P	**P**	**21 03 27.2 +0.9**
comp=Z,33nm,1.0s					
HABR	**Khabarovsk**	**35.85 11**	*c*P	**P**	**21 03 26.5 -1.4**
HABR			*e*		21 04 44.3
HABR			*e*S	**S**	**21 09 05.5 +1.1**
HABR			*e*SSS	SSS	21 11 46.7
HABR			*e*		21 13 44.6
HABR			MLR	MLR	
comp=Z,581nm,19.0s					
HIA	**Hailar**	**36.04 354**	*e*P	**P**	**21 03 29.0 -0.7**
comp=Z,16nm,1.0s					
KLR	**Kul'dur**	**36.08 7**	*e*P	P	21 03 23.7 -6.3
KLR			*e*PPP	PPP	21 04 56.5
KLR			*e*S	S	21 08 58.5 -9.5
KLR			pmax	pmax	
comp=Z,150nm,2.6s					
KLR			MLR	MLR	
comp=Z,1μm,12.0s					
YSS	**Yuzh-Sakhalins**	**36.46 20**	*e*P	**P**	**21 03 34.6 +1.4**
YSS			*e*S	**S**	**21 09 18.0 +4.2**
YSS			MLR	MLR	
comp=Z,1μm,19.0s					
YSS			MLR	MLR	
comp=N,500nm,18.0s					
YSS			MLR	MLR	
comp=E,700nm,16.0s					
ULN	**Ulaanbaatar**	**37.58 340**	*e*P	**P**	**21 03 43.6 +0.6**
comp=E,81nm,1.4s					
SONM	**Songino Array**	**37.78 339**	P	**P**	**21 03 44.8 +0.2**
SONM			PcP	**PcP**	**21 06 00.9 -0.3**
SONM	**Songino Array**	**37.78 339**	P	**P**	**21 03 44.8 +0.2**
comp=E,37nm,0.9s,baz=157,slow=8.4,SNR=141					
SONM			PcP	**PcP**	**21 06 00.9 -0.3**
comp=E,2.3nm,0.7s,baz=151,slow=3.3,SNR=4.7					
SONM			LR	LR	21 21 37.8
comp=E,941nm,18.5s,baz=153,slow=40					
TAPN	**Taplejung**	**37.78 297**	*e*P	**P**	**21 03 46.0 +0.9**
comp=E,74nm,0.9s					
AS31	**Alice Springs**	**37.80 167**	*e*P	**P**	**21 03 44.3 -0.6**
AS31			*e*S	**S**	**21 09 34.0 -0.7**
ASAR	**Alice Springs**	**37.80 167**	P	**P**	**21 03 44.9 0.0**
ASAR			S	**S**	**21 09 34.6 -0.1**
ASAR	**Alice Springs**	**37.80 167**	P	**P**	**21 03 44.9 0.0**
comp=E,13nm,0.4s,baz=351,slow=7.1,SNR=89					
ASAR			S	**S**	**21 09 34.6 -0.1**
comp=E,2.0nm,0.8s,baz=329,slow=12,SNR=7.7					
ASAR			LR	LR	21 18 13.1
comp=E,499nm,18.7s,baz=115,slow=35					
ODAN	**Odare**	**37.94 297**	*e*P	**P**	**21 03 46.6 +0.2**
comp=E,78nm,0.7s					
RAMN	**Ramite**	**38.65 296**	*e*P	**P**	**21 03 53.3 +0.9**
comp=E,51nm,0.6s					
CTAO	**Charters Tower**	**39.12 148**	*e*P	**P**	**21 03 54.9 -1.1**
CTAO			pmax	pmax	
comp=Z,17nm,0.9s					
CTAO	**Charters Tower**	**39.12 148**	*e*P	**P**	**21 03 54.9 -1.1**
comp=Z,17nm,0.9s					
JIRN	**Jiri**	**39.16 297**	*e*P	**P**	**21 03 57.6 +0.7**
comp=Z,72nm,0.6s					
GUN	**Gumba**	**39.49 298**	*e*P	**P**	**21 03 59.7 +0.2**
comp=Z,124nm,0.7s					
PKI	**Pulchoki**	**39.82 297**	*e*P	**P**	**21 04 03.2 +0.9**
comp=Z,31nm,0.6s					
PKIN	**Phulchoki**	**39.83 297**	*e*P	**P**	**21 04 04.0 +1.7**
comp=Z,19nm,0.7s					
KKN	**Kakani**	**39.98 297**	*e*P	**P**	**21 04 04.3 +0.8**
comp=Z,58nm,1.0s					
DMN	**Daman**	**40.09 297**	*e*P	**P**	**21 04 05.5 +1.0**
comp=Z,126nm,1.3s					
ZAK	**Zakamensk**	**41.03 338**	*e*P	**P**	**21 04 10.6 -1.1**
ZAK			*e*		21 06 06.4
ZAK			pmax	pmax	
comp=Z,4.0nm,1.3s					
HNR	**Honiara**	**41.14 122**	LR	LR	21 17 59.8
comp=Z,1μm,21.8s,baz=291,slow=32					
KOLN	**Koldanda**	**41.43 297**	*e*P	**P**	**21 04 16.6 +1.1**
comp=Z,45nm,0.8s					
IRK	**Irkutsk**	**42.26 341**	*e*P	**P**	**21 04 22.4 +0.8**
IRK			pmax	pmax	
comp=Z,25nm,1.8s					
MOY	**Mondy**	**42.91 338**	*e*P	**P**	**21 04 27.6 +0.6**
MOY			pmax	pmax	
comp=Z,43nm,3.6s					
CLNS	**Chul'man**	**43.32 360**	*e*P	**P**	**21 04 29.9 -0.3**
CLNS			*e**PP	pP	21 04 43.3 +6.3
CLNS			*e*		21 06 12.8
CLNS			*e*		21 06 22.6
CLNS			*e*S	**S**	**21 10 54.4 -2.0**
CLNS			*e*SS	SS	21 13 56.4 -14
CLNS			*e*		21 14 23.8
CLNS			pmax	pmax	
comp=Z,21nm,1.0s					
CLNS			pmax	pmax	
comp=E,8.0nm,0.9s					
CLNS			pmax	pmax	
comp=N,12nm,1.0s					
CLNS			pmax	pmax	
comp=E,3.0nm,1.2s					
CLNS			pmax	pmax	
comp=N,7.0nm,1.1s					
CLNS			pmax	pmax	
comp=Z,10.0nm,1.0s					
CLNS			smax	smax	
comp=E,230nm,14.3s					
CLNS			smax	smax	
comp=N,334nm,13.6s					
CLNS			MLR	MLR	
comp=Z,751nm,17.0s					
CLNS			MLR	MLR	
comp=N,529nm,15.0s					
CLNS			MLR	MLR	
comp=E,387nm,15.0s					
WMQ	**Urumqi**	**44.24 321**	P	**P**	**21 04 38.9 +1.1**
WMQ			sP	**sP**	**21 04 44.6 -2.8**
WMQ			PP	**PcP**	**21 06 23.1 +0.9**
WMQ			S	**S**	**21 11 10.9 +0.6**
WMQ			SS	**SS**	**21 14 22.1 -6.6**
WMQ			pmax	pmax	
comp=Z,12nm,1.0s					
WMQ			LR	LR	
comp=N,1μm,15.0s					
WMQ			LR	LR	
comp=E,1μm,15.6s					
WMQ			LR	LR	
comp=Z,830nm,17.0s					
PALK	**Pallekele**	**44.34 267**	P	**P**	**21 04 39.1 +0.1**
comp=Z,75nm,1.4s					
HYB	**Hyderabad**	**45.25 281**	*i* P	**P**	**21 04 46.5 +0.3**
HVS	**Khovu-Aksy**	**45.51 332**	‖*e*P	**P**	**21 04 48.6 +0.8**
HVS			pmax	pmax	
comp=Z,107nm,1.6s					
HVS			MLR	MLR	
comp=Z,3μm,17.0s					
NWAO	**Narrogin (SRO)**	**46.75 189**	P	**P**	**21 04 55.6 -2.1**
NWAO			*e*P	pP	21 04 56.3 -8.2
NWAO	**Narrogin (SRO)**	**46.75 189**	P	**P**	**21 04 55.6 -2.1**
comp=Z,21nm,0.5s,baz=30,slow=5.2,SNR=32					
LATR	**Latur**	**47.12 283**	*e*P	**P**	**21 04 59.0 -1.8**
LATR			*e*P	**P**	**21 04 59.0 -1.8**
LATR			*e*x	x	21 05 04.5
comp=Z,58nm,1.3s					
PEA0B	**Petropavlovsk-**	**47.16 26**	*e*P	**P**	**21 05 00.5 -0.2**
PETK	**Petropavlovsk-**	**47.16 26**	P	**P**	**21 05 01.1 +0.4**
PETK					21 06 32.2
PETK			pmax	pmax	
comp=Z,15nm,0.9s					
PETK			pmax	pmax	
comp=Z,3.0nm,0.6s					
PETK			MLR	MLR	
comp=Z,828nm,19.3s					
PETK	**Petropavlovsk-**	**47.16 26**	P	**P**	**21 05 01.1 +0.4**
PETK			PcP	**PcP**	**21 06 32.2 +0.1**
PETK	**Petropavlovsk-**	**47.16 26**	P	**P**	**21 05 01.1 +0.4**
comp=Z,16nm,0.9s,baz=204,slow=3.3,SNR=23					
PETK			PcP	**PcP**	**21 06 32.2 +0.1**
comp=Z,3.2nm,0.6s,baz=195,slow=4.5,SNR=3.4					
PETK			LR	LR	21 25 12.5
comp=Z,828nm,19.3s,baz=208,slow=37					
PET	**Petropavlovsk**	**47.51 27**	*d i*P	**P**	**21 05 03.6 +0.2**
PET			*e*S	**S**	**21 11 56.4 -0.5**
PET			pmax	pmax	
comp=Z,40nm,1.2s					
PET			pmax	pmax	
comp=Z,400nm,8.9s					
PET			pmax	pmax	
comp=Z,300nm,14.2s					
PET			MLR	MLR	
comp=Z,700nm,17.0s					
STKA	**Stephens Creek**	**47.65 161**	*e*P	**P**	**21 05 04.7 0.0**
comp=Z,5.0nm,0.8s					
STKA	**Stephens Creek**	**47.65 161**	P	**P**	**21 05 05.4 +0.7**
comp=Z,15nm,0.6s,baz=339,slow=6.8,SNR=46					
STKA			LR	LR	21 26 27.2
comp=Z,508nm,21.8s,baz=339,slow=38					
YAK	**Yakutsk**	**48.63 3**	*d i*P	**P**	**21 05 10.9 -0.9**
YAK			*e**PP	**pP**	**21 05 20.3 +1.6**
YAK			*e*		21 06 36.4
YAK			*e*		21 07 04.0
YAK			*e*S	**S**	**21 12 07.6 -4.8**
YAK			*e**SS	**sS**	**21 12 28.2 +4.4**
YAK			*e*		21 14 56.9
YAK			pmax	pmax	
comp=Z,52nm,1.0s					
YAK			pmax	pmax	
comp=N,21nm,1.1s					
YAK			pmax	pmax	
comp=E,2.0nm,0.9s					
YAK			pmax	pmax	
comp=Z,72nm,3.3s					
YAK			pmax	pmax	
comp=N,36nm,3.5s					
YAK			pmax	pmax	
comp=E,43nm,3.0s					
YAK			smax	smax	
comp=E,83nm,2.7s					
YAK			smax	smax	
comp=N,57nm,2.5s					
YAK			MLR	MLR	
comp=Z,859nm,16.0s					
YAK			MLR	MLR	
comp=N,713nm,17.0s					
YAK			MLR	MLR	
comp=E,321nm,17.0s					
MK31	**Makanchi Array**	**49.02 322**	*i* P	**P**	**21 05 16.1 +0.9**
MK31			pmax	pmax	
comp=Z,4.0nm,0.3s					
MK31	**Makanchi Array**	**49.02 322**	*e*P	**P**	**21 05 15.7 +0.4**
MKAR	**Makanchi Array**	**49.02 322**	P	**P**	**21 05 16.3 +1.1**
MKAR					21 06 39.0
MKAR			pmax	pmax	
comp=Z,5.0nm,0.4s					
MKAR			pmax	pmax	
comp=Z,5.0nm,0.7s					
MKAR			MLR	MLR	
comp=Z,232nm,19.3s					
MKAR	**Makanchi Array**	**49.02 322**	*e*P	**P**	**21 05 16.2 +0.9**
MKAR			PcP	**PcP**	**21 06 39.0 +0.1**
MKAR	**Makanchi Array**	**49.02 322**	P	**P**	**21 05 16.2 +1.1**
comp=Z,15nm,0.9s,baz=112,slow=8.8,SNR=97					
MKAR			PcP	**PcP**	**21 06 39.0 +0.1**
comp=Z,4.7nm,0.7s,baz=100,slow=5.5,SNR=3.6					
MKAR			LR	LR	21 26 15.1
comp=Z,232nm,19.2s,baz=122,slow=36					
KRAR	**Krasnoyarsk**	**49.33 337**	*i* P	**P**	**21 05 18.7 +1.4**
KRAR			MLR	MLR	
comp=Z,527nm,17.0s					
KSH	**Kashi**	**50.52 310**	P	**P**	**21 05 29.4 +2.5**
KSH			sP	**sP**	**21 05 36.3 -0.2**
KSH			PP	**PP**	**21 07 26.3 +3.6**
KSH			S	**S**	**21 12 42.8 +2.9**
KSH			pmax	pmax	
comp=Z,13nm,1.0s					
KSH			LR	LR	
comp=N,450nm,15.4s					
KSH			LR	LR	
comp=E,490nm,13.8s					
KSH			LR	LR	
comp=Z,1μm,25.2s					
ZAA0	**Zalesovo Array**	**51.47 331**	*e*P	**P**	**21 05 33.0 -0.5**
ZALV	**Zalesovo Beam**	**51.47 331**	P	**P**	**21 05 33.6 0.0**
ZALV			pmax	pmax	
comp=Z,9.0nm,0.6s					
ZALV			MLR	MLR	
comp=Z,613nm,18.5s					
ZALV	**Zalesovo Beam**	**51.47 331**	P	**P**	**21 05 33.5 0.0**
ZALV	**Zalesovo Beam**	**51.47 331**	P	**P**	**21 05 33.5 0.0**
comp=Z,8.5nm,0.6s,baz=118,slow=8.3,SNR=48					
ZALV			LR	LR	21 28 54.5
comp=Z,613nm,18.5s,baz=250,slow=38					
KZA	**Kyzart**	**51.81 313**	*i* P	**P**	**21 05 38.9 +2.1**
KZA	**Kyzart**	**51.81 313**	P	**P**	**21 05 38.9 +2.1**
SNR=9.5					
TKM2	**Tokmak 2**	**51.83 314**	*i* P	**P**	**21 05 38.0 +1.2**
TKM2	**Tokmak 2**	**51.83 314**	P	**P**	**21 05 38.1 +1.2**
SNR=11					
TKM2	**Tokmak 2**	**51.83 314**	*e*P	**P**	**21 05 37.2 +0.4**
comp=Z,163nm,2.6s					
KBK	**Karagaybulak**	**52.20 314**	*i* P	**P**	**21 05 41.2 +1.7**
KBK	**Karagaybulak**	**52.20 314**	P	**P**	**21 05 41.2 +1.7**
SNR=8.1					
CHMS	**Chumysh**	**52.45 314**	*i* P	**P**	**21 05 42.4 +1.3**
CHMS	**Chumysh**	**52.45 314**	P	**P**	**21 05 42.4 +1.3**
SNR=11					
FRU	**Bishkek**	**52.49 314**	*e*P	**P**	**21 05 42.0 +0.6**
FRU			*i*		21 05 55.0
AAK	**Ala-Archa**	**52.51 314**	*c i*P	**P**	**21 05 44.1 +2.3**
AAK			pmax	pmax	
comp=Z,32nm,1.7s					
AAK			MLR	MLR	
comp=Z,2μm,18.0s					
AAK	**Ala-Archa**	**52.51 314**	P	**P**	**21 05 42.8 +1.0**
AAK	**Ala-Archa**	**52.51 314**	P	**P**	**21 05 42.8 +1.0**
comp=Z,2.1nm,0.4s,baz=157,slow=8.6,SNR=8.9					
AAK			LR	LR	21 30 01.4
comp=Z,840nm,20.1s,baz=351,slow=38					
NVS	**Novosibirsk**	**52.74 331**	*e*P	**P**	**21 05 42.3 -0.7**
NVS			*e*S	**S**	**21 13 07.9 -1.8**
NVS			pmax	pmax	
comp=N,23nm,1.8s					
NVS			pmax	pmax	
comp=E,25nm,1.8s					
NVS			pmax	pmax	
comp=Z,44nm,1.8s					
NVS			smax	smax	
comp=N,33nm,3.0s					
NVS			smax	smax	
comp=E,33nm,2.4s					
AML	**Almayashu**	**52.93 313**	*i* P	**P**	**21 05 46.8 +1.7**
AML	**Almayashu**	**52.93 313**	P	**P**	**21 05 46.9 +1.7**
SNR=10					
SEY	**Seymchan**	**53.00 15**	*de*P	**P**	**21 05 45.7 +0.9**
KURK	**Kurchatov**	**53.00 325**	P	**P**	**21 05 45.7 +0.7**
KURK			pmax	pmax	
comp=Z,40nm,0.7s					
KURK	**Kurchatov**	**53.00 325**	P	**P**	**21 05 45.7 +0.7**
KURBB	**Kurchatov Arra**	**53.01 324**	P	**P**	**21 05 45.7 +0.6**
comp=Z,40nm,0.7s,baz=121,slow=7.5,SNR=386					
EKS2	**Erkin-Say**	**53.03 314**	*e*P	**P**	**21 05 45.3 -0.2**
EKS2			pmax	pmax	
comp=Z,98nm,2.3s					
EKS2	**Erkin-Say**	**53.03 314**	P	**P**	**21 05 47.1 +1.6**
SNR=11					
EKS2	**Erkin-Say**	**53.03 314**	*e*P	**P**	**21 05 45.3 -0.2**
comp=Z,98nm,2.3s					
DZM	**Mont Dzumac**	**53.53 131**	P	**P**	**21 05 49.8 +0.4**
DZM	**Mont Dzumac**	**53.53 131**	P	**P**	**21 05 49.8 +0.4**
comp=Z,5.2nm,0.6s,baz=338,slow=22,SNR=6.8					
FX1	**Attu Island--F**	**54.56 33**	*e*P	**P**	**21 05 57.0 +0.7**
KBL	**Kabul**	**54.88 303**	*e*P	**P**	**21 05 58.5 -0.8**

KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 54.88 303 *eP* **P 21 05 58.5 -0.8**
comp=Z,14nm,0.8s
KK31 Karatay Array 55.45 313 *i* P **P 21 06 03.8 +0.7**
KK31 pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 55.45 313 *eP* **P 21 06 03.6 +0.5**
KKAR Karatay Array 55.45 313 *eP* **P 21 06 03.6 +0.5**
TIXI Tiksi 58.23 1d *i P* **P 21 06 21.2 -1.0**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI MLR MLR
comp=Z,940nm,21.0s
BVAR Borovoye Array 58.60 325 P **P 21 06 25.9 +0.7**
BVAR pmax pmax
comp=Z,15nm,0.7s
BVAR Borovoye Array 58.60 325 P **P 21 06 25.9 +0.7**
BVAR Borovoye Array 58.60 325 P **P 21 06 25.9 +0.7**
comp=Z,15nm,0.7s,baz=120,slow=9.0,SNR=72
BRVK Borovoye 58.67 325 P **P 21 06 26.1 +0.4**
comp=Z,257nm,0.7s,SNR=16
BRVK Borovoye 58.67 325 *d i P* **P 21 06 26.3 +0.6**
BRVK pmax pmax
comp=Z,35nm,0.8s
BRVK MLR MLR
comp=Z,607nm,19.0s
BRVK Borovoye 58.67 325 *eP* **P 21 06 26.3 +0.6**
comp=Z,33nm,0.7s
TAU Tasmania Unive 59.56 161 *eP* **P 21 06 33.0 +1.2**
TAU Tasmania Unive 59.56 161 *eP* **P 21 06 33.0 +1.2**
MSVF Nonsavu 60.48 119 *eP* **P 21 06 40.0 +1.2**
MSVF pmax pmax
comp=Z,503nm,2.5s
MSVF Nonsavu 60.48 119 *eP* **P 21 06 40.0 +1.2**
comp=Z,503nm,2.5s
ATKA Atka Island 61.47 38 *eP* **P 21 06 43.1 -1.8**
comp=Z,52nm,0.7s
ATKA *eP* **P 21 06 43.2 -1.6**
IMYA Miami 62.32 304 *eP* **P 21 06 51.4 +0.3**
ISRO Mashad 62.83 304 *eP* **P 21 06 53.0 -1.4**
IPAY Payeh 63.22 304 *eP* **P 21 06 56.4 -0.8**
IAKL Akhelmad 63.42 304 *eP* **P 21 06 58.2 -0.4**
IKRD Kardeh 63.62 304 *eP* P 21 06 55.6 -4.3
AB31 Akbulak array 63.95 318 *i P* **P 21 07 01.4 0.0**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 63.95 318 *eP* **P 21 07 01.4 0.0**
ISHV Shirvan 64.30 305 *eP* **P 21 07 05.8 +1.5**
SVE Sverdlovsk 65.11 327⇓ *eP* **P 21 07 09.6 +0.7**
SVE *eS* **S 21 15 52.0 +1.8**
SVE *e* 21 17 04.0
SVE pmax pmax
comp=Z,19nm,0.9s
SVE MLR MLR
comp=Z,640nm,16.0s
AKTO Aktyubinsk 65.37 320 P **P 21 07 11.0 +0.2**
AKTO pmax pmax
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 65.37 320 P **P 21 07 10.9 +0.2**
AKTO Aktyubinsk 65.37 320 P **P 21 07 10.9 +0.2**
comp=Z,2.5nm,0.5s,baz=97,slow=9.8,SNR=9.8
ARU Arti 66.14 326 *d i P* **P 21 07 14.8 -0.7**
ARU 21 07 42.8
ARU 21 09 39.7
ARU PPP PPP 21 11 13.1
ARU S **S 21 16 04.7 +1.9**
ARU pmax pmax
comp=Z,12nm,0.6s
ARU MLR MLR
comp=Z,478nm,17.0s
ARU Arti 66.14 326 P **P 21 07 15.6 +0.1**
comp=Z,155nm,0.5s,SNR=10
IMEH Mehriz 66.83 299 *eP* P 21 07 15.5 -5.2
AFI Afiamalu 67.89 111 LR LR 21 30 29.9
comp=Z,444nm,21.4s,baz=314,slow=30
IKLH Kolahrood 69.31 301 *eP* **P 21 07 35.9 -0.5**
IR3 Iran Long-Peri 69.68 303 *eP* P 21 07 34.0 -4.4
RPZ Rata Peaks 70.48 147 P **P 21 07 43.0 +0.1**
RPZ Rata Peaks 70.48 147 P **P 21 07 43.0 +0.1**
comp=Z,14nm,0.9s,baz=189,slow=2.7,SNR=4.2
IRAZ Razeghan 70.58 303 *eP* P 21 07 51.2 +7.2
URZ Urewera 70.59 139 LR LR 21 39 10.1
comp=Z,419nm,18.6s,baz=317,slow=36
MAK Makhachkala 72.15 311 *eP* P 21 07 49.1 -4.0
MAK *eS* **S 21 17 12.5 -1.8**
MAK *eS* **SS 21 21 50.3 -1.4**
MAK pmax pmax
comp=Z,11nm,0.5s
SVW2 Sparrevohn 73.04 30 *eP* **P 21 07 59.0 +1.0**
comp=Z,12nm,1.0s
DGRG David-gareji 73.80 310 P **P 21 08 04.1 +1.0**
IM04 Indian Mountai 74.09 25 *eP* **P 21 08 04.8 +0.6**
IM04 *e* 21 08 16.8
OHAK Old Harbor 74.12 34 *eP* **P 21 08 04.3 -0.2**
IMA2 Indian Mountai 74.14 25 *eP* **P 21 08 05.0 +0.5**
TBLG Delisi 74.26 310 *eP* **P 21 08 06.7 +1.1**
TBLG Delisi 74.26 310 P **P 21 08 06.7 +1.1**
DUS Dusheti 74.26 310 P **P 21 08 06.4 +0.6**
GNI Garni 74.38 308 *eP* **P 21 08 07.7 +1.2**
comp=Z,49nm,1.5s
RSO Redoubt South 74.41 31 *eP* **P 21 08 05.6 -0.7**
KDAK Kodiak Island 74.50 33 P **P 21 08 06.0 -0.6**
comp=Z,118nm,0.5s,SNR=9.2
MRIV Mauritius Mete 74.69 244 *eP* **P 21 08 08.6 +0.1**
ZEI Tsey 74.80 311 *eP* **P 21 08 08.3 -0.7**
ZEI pmax pmax
comp=Z,22nm,0.9s
ONI Oni 75.15 311 P **P 21 08 12.0 +1.1**
HAKT HAKKARI 75.41 306 *i P* **P 21 08 13.6 +0.9**
KBZ Khabaz 75.46 312 P **P 21 08 13.0 +0.5**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ MLR MLR
comp=Z,247nm,18.7s
KBZ Khabaz 75.46 312 P **P 21 08 13.0 +0.5**
KBZ Khabaz 75.46 312 P **P 21 08 13.0 +0.5**
comp=Z,4.4nm,0.8s,baz=106,slow=4.7,SNR=16
KBZ LR LR 21 44 36.2
comp=Z,247nm,18.7s,baz=254,slow=38
COLD Coldfoot 75.55 24 *eP* **P 21 08 13.6 +1.0**
comp=Z,30nm,0.9s
TRF Thorofare Moun 75.56 28 *eP* **P 21 08 13.0 +0.1**
comp=Z,13nm,1.0s
KIV Kislovodsk 75.59 312 *c i P* **P 21 08 14.3 +0.9**
KIV *e* 21 08 19.7
KIV *e* 21 08 26.1
KIV *e*SS SS 21 22 44.8 +0.4
KIV pmax pmax
comp=Z,15nm,0.6s
KIV MLR MLR
comp=Z,300nm,15.0s
KIV Kislovodsk 75.59 312 P **P 21 08 14.9 +1.5**
comp=Z,137nm,0.7s,SNR=8.0
RAYN Ar Rayn 75.62 291 P **P 21 08 14.5 +0.6**
comp=Z,71nm,0.9s,SNR=8.2
RAYN Ar Rayn 75.62 291 *eP* **P 21 08 14.2 +0.3**
comp=Z,50nm,1.7s
VRHR Novokhopersk 75.78 320 *eP* **P 21 08 13.3 -0.8**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 76.15 29 P **P 21 08 15.1 -1.0**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 76.15 29 P **P 21 08 15.1 -1.0**
comp=Z,17nm,1.0s
MCK McKinley 76.15 27 *eP* **P 21 08 15.6 -0.5**
MCK *e* 21 08 30.0
MCK pmax pmax
comp=Z,37nm,0.8s
MCK McKinley 76.15 27 *eP* **P 21 08 15.6 -0.5**
comp=Z,37nm,0.8s
MCK *e* 21 08 30.0
SML Sawmill 76.52 29 *eP* **P 21 08 17.3 -0.9**
SML pmax pmax
comp=Z,6.0nm,1.0s
SML Sawmill 76.52 29 *eP* **P 21 08 17.3 -0.9**
comp=Z,5.7nm,1.0s
COLA College 76.57 26 *eP* **P 21 08 16.9 -1.5**
COLA pmax pmax
comp=Z,57nm,0.9s
COLA College 76.57 26 *eP* **P 21 08 16.9 -1.5**
comp=Z,57nm,0.9s
TMCR Tamitsa 76.88 333 *eP* **P 21 08 19.8 -0.3**
TMCR pmax pmax
comp=Z,15nm,0.8s
ILAR Eielson Array 76.99 26 P **P 21 08 19.8 -1.1**
ILAR Eielson Array 76.99 26 P **P 21 08 19.8 -1.1**
comp=Z,3.7nm,0.7s,baz=245,slow=6.1,SNR=24
ILAR LR LR 21 40 43.4
comp=Z,413nm,21.4s,baz=109,slow=34
VORD Divnogorie 77.25 320 *eP* **P 21 08 22.1 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,1.0nm,0.3s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 77.31 320 *eP* **P 21 08 22.1 -0.7**
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.3s
VSR MLR MLR
comp=Z,410nm,17.0s
VSR MLR MLR
comp=N,50nm,11.0s
VSR MLR MLR
comp=E,150nm,17.0s
PAX Paxson 77.76 28 P **P 21 08 25.6 +0.3**
PAX Paxson 77.76 28 P **P 21 08 25.6 +0.3**
SOC Sochi 77.77 312 *eP* **P 21 08 24.8 -0.8**
SOC *eS* **S 21 18 16.3 -0.7**
SOC *e* 21 18 41.1
SOC pmax pmax
comp=Z,17nm,0.8s
SOC MLR MLR
comp=Z,383nm,15.0s
MOS Moscow 77.78 325 *eP* P 21 08 21.3 -4.0
BMRM Bremner River 78.38 30 *eP* **P 21 08 28.2 -0.4**
comp=Z,16nm,0.9s
OBN Obninsk 78.44 324⇑ *eP* **P 21 08 28.8 -0.2**
OBN *e* 21 08 43.5
OBN *e*SS SS 21 23 27.8 +1.3
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,300nm,20.0s
ANN Anapa 79.24 314 *eP* P 21 08 23.7 -10
ANN *e* 21 08 33.4
ANN pmax pmax
comp=Z,22nm,1.0s
CASY Casey 80.25 186 *eP* **P 21 08 37.1 -1.3**
GZT Gaziantep 80.28 306 *i P* **P 21 08 40.3 +0.6**
DAWY Dawson 80.31 26 *eP* **P 21 08 39.5 +0.4**
DRV Dumont d'Urvil 80.60 174 S **S 21 18 45.0 -0.8**
ARCES ARCESS Array B 80.95 339 P **P 21 08 42.3 -0.1**
ARCES ARCESS Array B 80.95 339 P **P 21 08 42.3 -0.1**
comp=Z,7.4nm,0.7s,baz=83,slow=6.1,SNR=34
ARCES LR LR 21 48 05.7
comp=Z,300nm,18.2s,baz=76,slow=38
ARE0 ARCESS Array S 80.95 339 *eP* **P 21 08 42.3 -0.2**
RAR Rarotonga 81.11 114 LR LR 21 38 57.0
comp=Z,462nm,18.6s,baz=276,slow=32
SIM Simferopol' 81.54 314 *eP* **P 21 08 45.2 -0.9**
SIM *e*S S 21 18 50.0 -6.8
SIM pmax pmax
comp=Z,12nm,0.8s
SIM pmax pmax
comp=Z,50nm,8.8s
INK Inuvik 81.68 22 *eP* **P 21 08 46.1 -0.2**
comp=Z,21nm,1.1s
INK Inuvik 81.68 22 LR LR 21 43 58.2
comp=Z,331nm,21.9s,baz=88,slow=35
HYT Haines Junctio 81.82 29 *eP* **P 21 08 47.8 +0.4**
KAF Kangasniemi 82.45 332 *eP* **P 21 08 49.4 -1.0**
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 82.45 332 *ep* **P 21 08 49.4 -1.0**
comp=Z,8.3nm,0.6s
GULE Gulek 82.48 306 *i P* **P 21 08 52.3 +0.9**
FINES FINESS Array B 82.72 331 P **P 21 08 51.6 -0.3**
FINES FINESS Array B 82.72 331 P **P 21 08 51.6 -0.3**
comp=Z,9.8nm,0.7s,baz=75,slow=5.0,SNR=48
BR131 Keskin Array S 82.88 309 *eP* **P 21 08 53.0 -0.4**
comp=Z,3.9nm,0.9s
BRTR Keskin Array B 82.88 309 P **P 21 08 53.2 -0.2**
BRTR Keskin Array B 82.88 309 P **P 21 08 53.2 -0.2**
comp=Z,3.0nm,0.8s,baz=107,slow=3.3,SNR=15
BRTR LR LR 21 52 26.4
comp=Z,151nm,18.2s,baz=250,slow=40
VSU Vasula 83.15 328 *i P* **P 21 08 53.7 -0.4**
VSU pmax pmax
comp=Z,148nm,1.6s
VSU MLR MLR
comp=Z,863nm,23.0s
OPO Ambohidratompo 83.36 249 P **P 21 08 56.3 +0.1**
OPO Ambohidratompo 83.36 249 P **P 21 08 56.3 +0.1**
comp=Z,5.8nm,0.6s,baz=5.1,slow=1.7,SNR=11
AKASG Malin Array Be 83.59 320 P **P 21 08 55.8 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 83.59 320 P **P 21 08 55.8 -0.8**
AKASG Malin Array Be 83.59 320 P **P 21 08 55.8 -0.8**
comp=Z,1.8nm,0.5s,baz=65,slow=5.4,SNR=12
KIEV Kiev 83.60 320 *eP* **P 21 08 56.1 -0.6**
KIEV pmax pmax
comp=Z,50nm,2.2s
KIEV Kiev 83.60 320 *eP* **P 21 08 56.1 -0.6**
comp=Z,50nm,2.2s
SIT Sitka 83.83 33 P **P 21 08 56.0 -1.6**
SIT Sitka 83.83 33 P **P 21 08 56.0 -1.6**
NACGM Naroch 84.02 325 *e* P 21 08 54.0 -4.7
ERMK Ermenek 84.07 306 *i P* **P 21 09 00.4 +0.8**
CSS Prodhromos 84.10 304 *eP* **P 21 09 00.1 +0.5**
comp=Z,30nm,0.8s
GAZI Gazipasa 84.63 306 *i P* **P 21 09 02.4 +0.1**
TLCR 85.16 315⇑ P **P 21 09 05.0 +0.3**
TLCR 85.16 315⇑ *i P* **P 21 09 04.9 +0.3**
TIRR Tirgusor 85.62 315⇑ P **P 21 09 06.6 -0.4**
TIRR Tirgusor 85.62 315⇑ *i P* **P 21 09 06.6 -0.4**
CFR Carcaliu 85.63 315⇑ P **P 21 09 06.3 -0.7**
CFR Carcaliu 85.63 315⇑ *i P* **P 21 09 06.3 -0.7**
HARR Harsova 85.89 315⇑ P **P 21 09 09.0 +0.7**
HARR Harsova 85.89 315⇑ *i P* **P 21 09 09.0 +0.7**
DLBC Dease Lake 86.13 31 *eP* **P 21 09 10.1 +0.8**
DLBC Dease Lake 86.13 31 LR LR 21 46 27.7
comp=Z,290nm,19.9s,baz=298,slow=35
TESR Tescani 86.29 317⇑ *i P* **P 21 09 10.3 0.0**
PRAR RASCA 86.34 318⇑ *i P* **P 21 09 10.7 +0.2**
VRI Vrincioaia 86.41 316⇑ P **P 21 09 10.5 -0.4**
VRI Vrincioaia 86.41 316⇑ *i P* **P 21 09 10.5 -0.4**
PLOR Plostina 86.47 316⇑ P **P 21 09 11.8 +0.6**
PLOR Plostina 86.47 316⇑ *i P* **P 21 09 11.8 +0.6**
BURAR Bucovina Array 86.93 318⇑ P **P 21 09 14.2 +0.7**
BURAR Bucovina Array 86.93 318⇑ *i P* **P 21 09 14.2 +0.7**
BUR08 Bucovina Ar. S 86.93 318 *eP* **P 21 09 14.0 +0.4**
MLR Muntele Rosu 87.04 316⇓ *i P* **P 21 09 14.9 +0.8**
KOLS Kolonicke sedl 88.41 320 *eP* **P 21 09 20.5 0.0**
KOLS Kolonicke sedl 88.41 320 *eP* **P 21 09 20.5 0.0**
KMBO Kiiima Mbogo 88.45 268 P **P 21 09 22.9 +1.3**
KMBO Kiiima Mbogo 88.45 268 P **P 21 09 22.9 +1.3**
comp=Z,1.4nm,0.7s,baz=56,slow=13,SNR=4.6
KMBO LR LR 21 48 43.1
comp=Z,391nm,19.1s,baz=69,slow=36
UZH Uzhgorod 88.49 320 *eP* **P 21 09 20.8 0.0**
UZH *e* 21 09 34.4
UZH *e*S **S 21 20 00.0 -5.5**
UZH *e*SS SS 21 26 03.2 +7.8
RDO Rodhopi 88.54 312 *eP* **P 21 09 19.9 -1.3**
KARP Karpathos 88.86 306 *eP* **P 21 09 21.3 -1.6**
STHS Stebnicka Huta 88.89 321 *eP* **P 21 09 22.7 0.0**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 88.89 321 *eP* **P 21 09 22.7 0.0**
CRVS Cervenica-Dubn 88.92 320 *eP* **P 21 09 23.1 +0.2**
CRVS pmax pmax
comp=Z,32nm,2.1s
CRVS Cervenica-Dubn 88.92 320 *eP* **P 21 09 23.1 +0.2**
PPT Papeete 89.36 108 LR LR 21 44 37.1
comp=Z,568nm,18.1s,baz=268,slow=32
PPT2 Papeete2 89.36 108 *eS* S 21 20 05.8 -9.1
comp=Z,387nm,25.5s
OJC Ojcow 89.50 322 *eP* **P 21 09 25.6 0.0**
OJC Ojcow 89.50 322 *eP* **P 21 09 25.6 0.0**
NB2 NORSAR Subarra 89.56 334 P **P 21 09 24.1 -1.6**
comp=Z,3.7nm,0.8s,baz=63,slow=4.8
NOA NORSAR Array B 89.56 334 P **P 21 09 24.5 -1.2**
NOA NORSAR Array B 89.56 334 P **P 21 09 24.5 -1.2**
comp=Z,3.2nm,0.7s,baz=61,slow=4.7,SNR=15
KECS Kecovo 89.67 320 *eP* **P 21 09 26.9 +0.5**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 89.67 320 *eP* **P 21 09 26.8 +0.4**
NVR Nevrokopi 89.69 312 *eP* **P 21 09 25.8 -0.9**
PSZ Piszkesteto 90.24 320 P **P 21 09 28.3 -0.9**
PSZ Piszkesteto 90.24 320 P **P 21 09 28.3 -0.9**
TBI Tubuai 90.87 114 *eS* **S 21 20 23.5 -5.0**
comp=Z,431nm,27.0s
MORC Moravsky Berou 91.01 322 P **P 21 09 32.2 -0.5**
MORC Moravsky Berou 91.01 322 P **P 21 09 32.1 -0.5**
YKA Yellowknife Ar 91.23 24 P **P 21 09 33.0 -0.3**
YKA Yellowknife Ar 91.23 24 P **P 21 09 33.0 -0.3**
comp=Z,1.2nm,0.6s,baz=302,slow=4.1,SNR=3.3
DID Didima 91.32 309 *eP* **P 21 09 32.1 -2.3**
LTK Loutraki 91.36 310 *eP* P 21 09 40.4 +5.9
FNA Florina 91.65 313 *eP* **P 21 09 34.3 -1.6**
GUR Goura 91.86 310 *eP* P 21 09 33.2 -3.7
EFP Efpalio 92.03 310 *eP* **P 21 09 39.5 +1.9**
DYR Agios Nikonas 92.24 308 *eP* **P 21 09 39.9 +1.3**
MAW Mawson 92.36 200 P **P 21 09 38.3 +0.1**
MAW Mawson 92.36 200 P **P 21 09 38.3 +0.1**
comp=Z,5.2nm,0.9s,baz=63,slow=5.4,SNR=7.5
MAW LR LR 21 47 06.5
comp=Z,147nm,18.7s,baz=56,slow=33
PYL PYLOS 92.65 309 *eP* **P 21 09 39.0 -1.5**
BRG Berggiesshubel 92.69 324 *e*(P) P 21 09 52.9 +13
comp=Z,4.5nm,1.3s
BRG Berggiesshubel 92.69 324 S **S 21 20 44.0 0.0**
BRG
comp=Z,222nm,17.9s
BRG
comp=N,413nm,15.0s
BRG
comp=E,317nm,15.0s
BRG Berggiesshubel 92.69 324 *eP* pP 21 09 52.9 +5.2
BRG S **S 21 20 44.0 0.0**
BRG pmax pmax
comp=Z,5.0nm,1.3s
BRG MLR MLR
comp=Z,222nm,17.9s
BRG MLR MLR
comp=N,413nm,15.0s
BRG MLR MLR
comp=E,317nm,15.0s
BRG smax smax
comp=N,8.0nm,1.3s
CLL Collm 93.04 324 *i P* **P 21 09 41.6 -0.3**
CLL *e*S **S 21 20 48.0 +0.9**
CLL Collm 93.04 324 *i P* **P 21 09 41.6 -0.3**
CLL *e*S **S 21 20 48.0 +0.9**
CLL *e*SS SS 21 27 12.0 +11
CLL *e*SSS SSS 21 30 42.0
CLL *e* 21 33 12.0
SFD Strofades 93.08 309 *eP* **P 21 09 39.7 -2.7**
VNDA Vanda 93.15 173 *eP* **P 21 09 41.3 -0.5**
VNDA Vanda 93.15 173 P **P 21 09 41.7 -0.1**
comp=N,3.8nm,0.8s,baz=308,slow=5.7,SNR=20
VNDA LR LR 21 52 51.8
comp=N,271nm,18.1s,baz=338,slow=36
SUMG Summit 93.53 355 *eP* **P 21 09 44.6 +0.3**
SUMG Summit 93.53 355 *eP* **P 21 09 44.6 +0.3**
GERES GERESS Array B 93.69 322 P **P 21 09 44.2 -0.9**
GERES GERESS Array B 93.69 322 P **P 21 09 44.2 -0.9**
comp=N,0.4nm,0.6s,baz=84,slow=5.5,SNR=5.6
GERES LR LR 21 59 14.1
comp=N,336nm,19.1s,baz=61,slow=40
FUORN Ofenpass-Fuorn 96.75 321 *eP* **P 21 09 59.7 +0.3**
comp=N,26nm,1.8s
NEW Newport 97.37 37 LR LR 21 53 08.1
comp=N,426nm,18.0s,baz=44,slow=35
CDF Champ du Feu 97.67 324 *eP* **P 21 10 02.6 -0.7**
comp=N,5.6nm,0.9s
MEZF Maizieres J'vi 98.89 324 *eP* **P 21 10 08.2 -0.4**
comp=N,8.0nm,0.8s
AVF Avril sur Loir 100.78 324 *eP* **Pdif 21 10 16.3 -0.8**
comp=N,5.3nm,1.0s
NVAR Mina Array Bea 101.29 46 P **Pdif 21 10 20.3 +0.5**
NVAR Mina Array Bea 101.29 46 P **Pdif 21 10 20.3 +0.5**
comp=N,1.1nm,0.7s,baz=282,slow=5.3,SNR=7.6
HLID Hailey 101.37 40 *e*Pdif **Pdif 21 10 22.0 +2.0**
TCF Toulx Ste Croi 101.72 324 *eP* **Pdif 21 10 20.9 -0.4**
QSPA South Pole Qui 103.28 180 Pdif **Pdif 21 10 30.2 +2.4**
QSPA South Pole Qui 103.28 180 Pdiff **Pdif 21 10 30.2 +2.4**
comp=N,2.6nm,1.1s,baz=264,slow=1.1,SNR=5.1
RKT Rikitea 103.89 111 *e*Sdif Sdif 21 22 10.8 -10
comp=N,390nm,38.2s
PDAR Pinedale Array 104.79 39 Pdif **Pdif 21 10 37.1 +1.7**
PDAR PKiKP **PKiKP 21 14 50.5 -0.2**
PDAR Pinedale Array 104.79 39 Pdiff **Pdif 21 10 37.1 +1.7**
comp=N,0.4nm,0.8s,baz=258,slow=4.5,SNR=2.8
PDAR PKiKP **PKiKP 21 14 50.5 -0.2**
comp=N,0.6nm,0.8s,baz=302,slow=2.8,SNR=4.0
ESDC Sonseca Array 109.24 321 PP PP 21 15 25.5 -1.6
ESDC Sonseca Array 109.24 321 PP PP 21 15 25.5 -1.6
comp=N,0.2nm,0.3s,baz=33,slow=4.9,SNR=4.2
TXAR Lajitas Array 116.37 47 PKP **PKPdf 21 15 12.2 -0.5**
TXAR Lajitas Array 116.37 47 PKP **PKPdf 21 15 12.2 -0.5**
comp=N,0.8nm,0.6s,baz=247,slow=1.0,SNR=6.6
TORD Torodi Ar. Bea 118.28 293 PKP **PKPdf 21 15 15.9 -0.7**
TORD PKKPbc **PKKPbc 21 25 35.0 +0.6**
TORD Torodi Ar. Bea 118.28 293 PKP **PKPdf 21 15 15.9 -0.7**
comp=N,1.8nm,0.8s,baz=58,slow=2.6,SNR=14
TORD PKKPbc **PKKPbc 21 25 35.0 +0.6**
comp=N,1.4nm,0.8s,baz=262,slow=4.5,SNR=5.9
JCT Junction City 118.39 44 *e*PKiKP **PKPdf 21 15 16.0 -0.5**
JCT Junction City 118.39 44 *e*PKPdf **PKPdf 21 15 16.0 -0.5**
DBIC Dimbokro 126.72 289 PKP **PKPdf 21 15 32.9 +0.1**
DBIC Dimbokro 126.72 289 PKP **PKPdf 21 15 32.9 +0.1**
comp=N,4.8nm,0.8s,baz=92,slow=8.1,SNR=3.4
CELP Cerrillos 146.54 21 *e*PKPdf **PKPdf 21 16 09.6 +0.5**
PLCA Paso Flores 149.43 156 PKPbc **PKPbc 21 16 17.9 +0.1**
PLCA Paso Flores 149.43 156 PKPbc **PKPbc 21 16 17.9 +0.1**
comp=N,9.3nm,0.9s,baz=194,slow=2.1,SNR=10
OTAV Otavalo 152.75 62 PKPdf **PKPdf 21 16 18.7 -1.0**
ROSC El Rosal 153.29 48 PKPbc **PKPbc 21 16 28.4 +0.5**
ROSC El Rosal 153.29 48 PKPbc **PKPbc 21 16 28.4 +0.5**
comp=N,5.0nm,0.4s,baz=282,slow=15,SNR=3.6
LPAZ La Paz 166.62 104 PKP **PKPdf 21 16 36.0 +0.6**
LPAZ PKPab **PKPab 21 17 38.4 +0.4**
LPAZ La Paz 166.62 104 PKP **PKPdf 21 16 36.0 +0.6**
comp=N,1.6nm,0.9s,baz=229,slow=11,SNR=5.2
LPAZ PKPab **PKPab 21 17 38.4 +0.4**
comp=N,2.1nm,0.9s,baz=201,slow=1.4,SNR=5.1
CPUP Villa Florida 166.91 169 PKPab **PKPab 21 17 38.5 +0.7**
CPUP Villa Florida 166.91 169 PKPab **PKPab 21 17 38.5 +0.7**
comp=N,1.9nm,0.7s,baz=204,slow=6.7,SNR=3.8

IDC 14 20:58:15.7±2.3, 11°.72S×114°.06E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=58.2km s-min=28.9km az=51.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.72**	**41**	Pn	Pn	21 00 23.9	+0.7
	1.6nm,0.3s,baz=185,slow=11,SNR=5.2						
FITZ	**Fitzroy Crossi**	**12.86**	**121**	Pn	Pn	21 01 16.0	-3.9
	0.1nm,0.3s,baz=292,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**21.14**	**115**	P	P	21 03 01.1	-1.4
	0.5nm,0.6s,baz=289,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**22.29**	**125**	P	P	21 03 15.8	+0.9
	0.3nm,0.7s,baz=302,slow=9.7,SNR=7.4						
MKAR	**Makanchi Array**	**64.82**	**336**	P	P	21 08 56.3	-0.1
	0.4nm,0.6s,baz=130,slow=8.1,SNR=2.5						

*DJA **14** 21:10:31.4±6.4, 15°.N±36°×12°.6E±1°.8, h15km±32km, M4.8/11, mB5.7/2, mb4.8/11, Mw(mB)5.2/2*
*IDC **14** 21:10:40.0±0.4, 13°.38N×125°.48E, h0km, mb4.4/30, mb1 4.5/32, mb1mx4.5/35, mbtmp4.4/32, ML4.5/2, MS4.2/7, Ms1 4.2/7, ms1mx3.7/50, Error ellipse: s-maj=16.8km s-min=9.0km az=82.0*
*BJI **14** 21:10:43.9, 13°.40N×125°.40E, h36km, mB5.1/19, mb4.5/33, Ms4.6/20, Ms7 4.4/20*

ISCJB ***14*** *21:10:43.4±1.1, 13.˚48N±0.˚02×125.˚44E±0.˚04, h29km±8km, mb4.5/82, MS4.2/13, Error ellipse: s-maj=5.7km s-min=3.9km az=176.1*
MOS ***14*** *21:10:43.5±1.2, 13.˚41N×125.˚46E, h33km, mb4.9/30, Error ellipse: s-maj=11.4km s-min=6.3km az=117.1*
BKK ***14*** *21:10:44.0±1.7, 14.˚N±7.˚×12.˚5E±2.˚0, h10km, M4.6/16, mb4.6/16*
MAN ***14*** *21:10:45, 13.˚43N×125.˚36E, h60km, mb5.6, ML4.5, MS4.8*
MAN INTENSITY II - MAPANAS NORTHERN SAMAR.
NEIC ***14*** *21:10:45.4±2.1, 13.˚42N×125.˚43E, h35km±14km, mb4.7/17, Error ellipse: s-maj=8.3km s-min=5.3km az=86.0*
ISC 14 21:10:46.7±0.4, 13.˚43N±0.˚03×125.˚40E±0.˚05, h42km±3km, n210, σ1$46/244, mb4.5/82, MS4.2/13, 12C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.22**	**278**	⇑*i*P	**Pn**	**21 11 04.7**	**-2.7**
PVCP				*e*S	**Sn**	**21 11 20.4**	**-2.3**
MMPH	**Masbate**	**2.03**	**239**	*e*P	**Pn**	**21 11 17.8**	**-0.7**
PLP	**Palo**	**2.29**	**190**	⇓*e*P	**Pn**	**21 11 21.6**	**-0.4**
PLP				*e*S	**Sn**	**21 11 48.0**	**-1.0**
OCLP	**Ormoc**	**2.48**	**198**	*e*P	**Pn**	**21 11 25.8**	**+1.0**
OCLP				*e*S	Sn	21 11 46.0	-7.9
RCP	**Roxas**	**3.19**	**235**	⇑*e*P	**Pn**	**21 11 34.1**	**-0.2**
MSLP	**Maasin**	**3.32**	**189**	*e*P	**Pn**	**21 11 36.6**	**+0.4**
LLP	**Lapu-Lapu**	**3.39**	**204**	⇑*e*P	**Pn**	**21 11 36.5**	**-0.7**
LLP				*e*S	**Sn**	**21 12 16.4**	**+0.1**
GUIM	**Jordan**	**3.91**	**225**	*e*P	**Pn**	**21 11 44.5**	**+0.2**
SJMP	**San Jose**	**4.28**	**257**	*e*P	**Pn**	**21 11 50.2**	**+0.9**
TGY	**Tagaytay City**	**4.38**	**279**	Pn	**Pn**	**21 11 50.5**	**-0.4**
TGY	**Tagaytay City**	**4.38**	**279**	⇓*i*P	**Pn**	**21 11 50.9**	**0.0**
TGY				*e*S	Sn	21 12 03.2	-38
TGY	**Tagaytay City**	**4.38**	**279**	Pn	**Pn**	**21 11 50.5**	**-0.4**
	26nm,0.3s,baz=6.9,slow=5.9,SNR=8.1						
PALP	**Palanan**	**4.61**	**322**	⇓*i*P	**Pn**	**21 11 51.0**	**-3.0**
CUYO	**Cuyo Island**	**4.99**	**240**	*e*P	**Pn**	**21 11 58.7**	**-0.4**
DCPH	**Dipolog City**	**5.22**	**203**	*e*P	**Pn**	**21 12 01.8**	**-0.5**
BCPH	**Baguio City Da**	**5.50**	**303**	⇑*i*P	**Pn**	**21 12 03.2**	**-3.1**
ENPP	**El Nido**	**6.24**	**250**	*e*P	**Pn**	**21 12 15.8**	**-0.5**
CTBH	**Cotabato--PC H**	**6.27**	**190**	⇑*i*P	**Pn**	**21 12 18.5**	**+1.7**
YULB	**Yu-li**	**10.64**	**339**	*e*Pn	**Pn**	**21 13 14.2**	**-2.5**
YULB				*e*Sn	Sn	21 15 04.2	-10
MYLDM	**Lahad Datu**	**10.65**	**220**	P	**Pn**	**21 13 17.8**	**+1.0**
	63nm,1.0s						
TPUB	**Ta-pu**	**10.81**	**336**	*e*Pn	**Pn**	**21 13 19.1**	**+0.1**
SSLB	**Suanglung**	**11.13**	**338**	*e*Pn	**Pn**	**21 13 24.1**	**+0.7**
YHNB	**Yeheng**	**11.81**	**342**	*e*Pn	**Pn**	**21 13 30.7**	**-2.0**
	16nm,0.9s						
GTOI	**Gorontalo**	**12.93**	**191**	P	P	21 13 53.8	-4.0
	40nm,1.2s						
LBMI	**Labuha**	**14.13**	**171**	P	**Pn**	**21 14 06.8**	**+2.4**
	53nm,0.8s						
QIZ	**Qiongzhong**	**15.93**	**292**	P	**Pn**	**21 14 26.4**	**-1.7**
QIZ				S	**Sn**	**21 17 24.8**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,13nm,1.5s						
SKSI	**Soroako, Sulaw**	**16.36**	**195**	P	**Pn**	**21 14 33.7**	**+0.1**
	comp=Z,50nm,1.3s,comp=Z,11µm						
SBUM	**Sibu**	**16.99**	**231**	P	**Pn**	**21 14 41.2**	**-0.3**
	comp=Z,35nm,1.2s						
MMSI	**Mamuju**	**17.26**	**202**	P	**P**	**21 14 47.3**	**+1.4**
	comp=Z,80nm,0.9s						
TTSI	**Tana Toraja**	**17.28**	**199**	P	**P**	**21 14 47.5**	**+1.4**
	comp=Z,134nm,0.9s,comp=Z,1µm						
KKSI	**Kolaka, Sulawe**	**17.88**	**192**	P	**P**	**21 14 55.5**	**+2.8**
	comp=Z,32nm,1.2s						
KBKI	**Kotabaru**	**18.98**	**209**	P	**Pn**	**21 15 07.9**	**+2.1**
	comp=Z,42nm,0.9s						
KSM	**Kuching**	**19.08**	**233**	*e*P	**P**	**21 15 05.8**	**-0.2**
	comp=Z,26nm,1.0s						
KAPI	**Kappang**	**19.16**	**197**	*e*P	**Pn**	**21 15 07.9**	**-0.1**
KAPI	**Kappang**	**19.16**	**197**	P	**Pn**	**21 15 08.2**	**+0.2**
	comp=Z,57nm,1.2s						
KAPI	**Kappang**	**19.16**	**197**	P	**P**	**21 15 06.9**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=56,slow=15,SNR=6.2						
KAPI				LR	LR	21 22 12.7	
	comp=Z,552nm,18.8s,baz=176,slow=36						
UBPT	**Khong Chiam**	**19.39**	**278**	P	**P**	**21 15 09.4**	**0.0**
	comp=Z,32nm,1.0s						
NJ2	**Nanjing**	**19.48**	**343**	*e*P	**Pn**	**21 15 13.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
BBKI	**Banjar Baru**	**19.78**	**213**	P	**P**	**21 15 13.7**	**+0.1**
WHN	**Wuhan**	**19.85**	**331**	⇑P	Pn	21 15 26.3	+10
JNU	**Nakatsue**	**20.23**	**13**	P	**P**	**21 15 17.7**	**-0.7**
JNU	**Nakatsue**	**20.23**	**13**	P	**P**	**21 15 17.7**	**-0.7**
	comp=Z,11nm,0.9s,baz=165,slow=6.4,SNR=4.9						
JNU				LR	LR	21 22 13.8	
	comp=Z,567nm,18.6s,baz=326,slow=34						
PANO	**Nakornpanom**	**20.38**	**283**	P	**P**	**21 15 21.2**	**+1.0**
	comp=Z,33nm,1.5s						
GYA	**Guiyang**	**21.83**	**309**	*e*P	**P**	**21 15 39.8**	**+4.0**
GYA				pP	**pP**	**21 15 44.9**	**-1.2**
GYA				PP	**PnPn**	**21 16 03.4**	**+5.3**
GYA				S	**S**	**21 19 31.0**	**-4.0**
GYA				PcP	**PcP**	**21 19 37.3**	**+2.6**
GYA				sS	Sn	21 19 47.0	+0.8
GYA				SS	**SnSn**	**21 20 07.4**	**+5.5**
GYA				ScP	**ScP**	**21 23 08.0**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,370nm,16.3s						
GYA				LR	LR		
	comp=E,290nm,17.5s						
GYA				LR	LR		
	comp=Z,340nm,16.4s						
ENH	**Enshi**	**22.29**	**321**	*e*P	**P**	**21 15 39.5**	**-1.1**
	comp=Z,12nm,0.6s						
CHAI	**Chaiyaphum**	**22.78**	**279**	P	**P**	**21 15 44.3**	**-1.6**
	comp=Z,9.7nm,0.9s						
TJN	**Taejon**	**22.92**	**4**	*e*P	**P**	**21 15 47.3**	**+0.2**
BATI	**Baumata**	**23.54**	**184**	P	**P**	**21 15 51.5**	**-2.0**
BATI	**Baumata**	**23.54**	**184**	P	**P**	**21 15 51.5**	**-2.0**
	comp=Z,33nm,0.6s,baz=52,slow=3.0,SNR=8.9						
LOEI	**Loei**	**23.60**	**283**	P	P	21 15 49.0	-5.1
	comp=Z,59nm,1.9s						
PBKT	**Sadao Pong**	**23.79**	**281**	P	**P**	**21 15 55.5**	**-0.3**
	comp=Z,17nm,1.4s						
KSAR	**Wonju Array Be**	**24.02**	**5**	P	**P**	**21 15 56.7**	**-1.0**
KSRS	**Korea Array**	**24.03**	**5**	P	**P**	**21 15 56.7**	**-1.1**
	comp=Z,13nm,0.8s,baz=184,slow=11,SNR=64						
KSRS				LR	LR	21 25 11.5	
	comp=Z,349nm,18.3s,baz=190,slow=36						
KMI	**Kunming**	**24.30**	**302**	P	**P**	**21 16 01.1**	**+0.4**
KMI				pP	**pP**	**21 16 12.1**	**+0.1**
KMI				sP	**sP**	**21 16 16.4**	**-0.7**
KMI				PP	PnPn	21 16 39.8	+7.7
KMI				S	**S**	**21 20 15.3**	**-2.0**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KMI				LR	LR		
	comp=N,540nm,16.2s						
KMI				LR	LR		
	comp=E,460nm,12.2s						
KMI				LR	LR		
	comp=Z,650nm,14.2s						
PAYA	**Payao**	**25.17**	**287**	P	**P**	**21 16 07.7**	**-0.8**
	comp=Z,3.9nm,1.0s						
LAMP	**Lampang**	**25.27**	**285**	P	**P**	**21 16 09.7**	**+0.4**
	comp=Z,2.7nm,0.9s						
XAN	**Xi'an**	**25.39**	**327**	P	**P**	**21 16 11.1**	**+0.8**
XAN				pP	**pP**	**21 16 23.5**	**+1.9**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MJAR	**Matsushiro Arr**	**25.73**	**24**	P	**P**	**21 16 10.8**	**-2.5**
MJAR				PcP	**PcP**	**21 19 42.7**	**0.0**
MJAR	**Matsushiro Arr**	**25.73**	**24**	P	**P**	**21 16 10.8**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=203,slow=9.1,SNR=4.5						
MJAR				PcP	**PcP**	**21 19 42.7**	**0.0**
	comp=Z,1.0nm,0.7s,baz=177,slow=2.4,SNR=4.2						
MJAR				LR	LR	21 24 28.4	
	comp=Z,573nm,18.7s,baz=175,slow=32						
CM31	**Chiang Mai Arr**	**25.91**	**285**	*e*P	**P**	**21 16 14.2**	**-1.0**
	comp=Z,9.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.91**	**285**	P	**P**	**21 16 14.3**	**-0.8**
CMAR				PcP	**PcP**	**21 19 44.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**25.91**	**285**	P	**P**	**21 16 14.3**	**-0.8**
	comp=Z,9.6nm,0.7s,baz=96,slow=7.8,SNR=60						
CMAR				PcP	**PcP**	**21 19 44.6**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=56,slow=1.4,SNR=4.4						
CMAR				LR	LR	21 26 00.8	
	comp=Z,340nm,18.3s,baz=120,slow=35						
CMMT	**Chiang Mai**	**25.95**	**285**	P	**P**	**21 16 14.1**	**-1.4**
	comp=Z,33nm,1.5s						
CHTO	**Chiang Mai**	**25.95**	**285**	*e*P	**P**	**21 16 14.3**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHTO	**Chiang Mai**	**25.95**	**285**	*e*P	**P**	**21 16 14.3**	**-1.2**
	comp=Z,5.5nm,0.7s						
CHTO	**Chiang Mai**	**25.95**	**285**	P	**P**	**21 16 14.5**	**-1.1**
	comp=Z,19nm,0.8s						
CMAI	**Chiengmai2**	**26.04**	**288**	P	**P**	**21 16 16.7**	**+0.2**
	comp=Z,237nm,1.4s						
CD2	**Chengdu**	**26.45**	**315**	*e*P	**P**	**21 16 21.4**	**+1.4**
CD2				pP	**pP**	**21 16 31.6**	**+0.4**
CD2				sP	**sP**	**21 16 36.3**	**0.0**
CD2				PP	**PnPn**	**21 17 05.5**	**+4.3**
CD2				S	**S**	**21 20 51.3**	**+0.3**
CD2				sS	**sS**	**21 21 08.0**	**-2.0**
CD2				pmax	pmax		
	comp=Z,20nm,1.3s						
BJI	**Beijing**	**27.72**	**345**	P	**P**	**21 16 32.5**	**+1.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
PSI	**Prapat**	**28.22**	**250**	P	**P**	**21 16 35.3**	**-0.8**
PSI	**Prapat**	**28.22**	**250**	P	**P**	**21 16 35.3**	**-0.8**
	comp=Z,8.1nm,0.7s,baz=86,slow=3.1,SNR=6.6						
PSI				LR	LR	21 29 03.7	
	comp=Z,554nm,18.5s,baz=261,slow=39						
LZH	**Lanzhou**	**29.73**	**323**	*e*P	P	21 16 54.0	+4.7
LZH				pP	pP	21 16 57.6	-3.1
LZH				sP	sP	21 17 00.0	-5.7
LZH				pmax	pmax		
	comp=Z,33nm,1.4s						
LZH				pmax	pmax		
	comp=Z,150nm,4.5s						
HHC	**Hu-ho-hao-te**	**29.88**	**339**	*e*P	**P**	**21 16 53.4**	**+2.9**
HHC				pP	**pP**	**21 17 04.0**	**+2.1**
HHC				sP	**sP**	**21 17 07.6**	**+0.7**
HHC				PP	**PnPn**	**21 17 51.6**	**+3.8**
HHC				PcP	**PcP**	**21 19 55.3**	**+2.5**
HHC				S	**S**	**21 21 48.3**	**+3.4**
HHC				sS	**sS**	**21 22 02.6**	**-1.3**
HHC				SS	**ScP**	**21 23 25.8**	**-6.0**
HHC				ScP	SS	21 23 33.0	-20
HHC				ScS	**ScS**	**21 27 28.1**	**+1.1**
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,880nm,5.0s						
HHC				LR	LR		
	comp=N,980nm,14.3s						
HHC				LR	LR		
	comp=E,800nm,14.3s						
HHC				LR	LR		
	comp=Z,1µm,13.0s						
CN2	**Changchun**	**30.27**	**0**	*e*P	**P**	**21 16 55.8**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Arra**	**31.18**	**9**	P	**P**	**21 17 01.1**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=201,slow=7.8,SNR=8.6						
MDJ	**Mudanjiang**	**31.29**	**6**	P	**P**	**21 17 04.3**	**+1.5**
MDJ				pP	**pP**	**21 17 13.1**	**-1.0**
MDJ				sP	**sP**	**21 17 17.3**	**-1.9**
MDJ				PcP	**PcP**	**21 19 57.0**	**+0.7**
MDJ				S	**S**	**21 22 10.3**	**+3.6**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,410nm,8.8s						
MDJ				LR	LR		
	comp=N,520nm,15.1s						
MDJ				LR	LR		
	comp=E,330nm,15.1s						
MDJ				LR	LR		
	comp=Z,660nm,15.1s						
FITZ	**Fitzroy Crossi**	**31.33**	**180**	P	**P**	**21 17 02.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**31.33**	**180**	P	**P**	**21 17 02.0**	**-1.3**
	comp=Z,5.9nm,0.7s,baz=357,slow=7.6,SNR=16						
SHL	**Shillong**	**33.72**	**296**	*e*P	**P**	**21 17 25.0**	**+0.5**
ASAJ	**Asahikawa**	**33.95**	**22**	P	**P**	**21 17 25.9**	**-0.1**
ASAJ	**Asahikawa**	**33.95**	**22**	P	**P**	**21 17 25.9**	**-0.1**
	comp=Z,7.0nm,1.1s,baz=225,slow=19,SNR=2.4						
WRAB	**Tennant Creek**	**34.30**	**165**	*e*P	**P**	**21 17 28.6**	**-0.8**
WRA	**Warramunga Arr**	**34.31**	**165**	P	**P**	**21 17 27.1**	**-2.3**
WRA				PcP	**PcP**	**21 20 04.9**	**-0.2**
WRA	**Warramunga Arr**	**34.31**	**165**	P	**P**	**21 17 27.1**	**-2.3**
	comp=Z,5.4nm,1.0s,baz=345,slow=9.4,SNR=20						
WRA				PcP	**PcP**	**21 20 04.9**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=334,slow=3.1,SNR=3.8						
GTA	**Gaotai**	**34.33**	**324**	P	P	21 17 33.0	+3.4
GTA				pP	pP	21 17 42.6	+1.6
GTA				sP	sP	21 17 46.6	+0.6
GTA				PcP	**PcP**	**21 20 06.0**	**+0.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KLR	**Kul'dur**	**36.08**	**7**	*e*P	**P**	**21 17 44.5**	**+0.1**
ULN	**Ulaanbaatar**	**37.58**	**340**	*e*P	**P**	**21 17 57.4**	**+0.1**
	comp=Z,14nm,0.9s						
SONM	**Songino Array**	**37.78**	**339**	P	**P**	**21 17 58.5**	**-0.5**
SONM				PcP	**PcP**	**21 20 14.4**	**-0.7**
SONM	**Songino Array**	**37.78**	**339**	P	**P**	**21 17 58.5**	**-0.5**
	comp=Z,7.5nm,0.8s,baz=155,slow=9.5,SNR=27						
SONM				PcP	**PcP**	**21 20 14.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=155,slow=4.8,SNR=2.9						
TAPN	**Taplejung**	**37.78**	**297**	*e*P	**P**	**21 18 01.3**	**+1.8**
	comp=Z,41nm,0.9s						
AS31	**Alice Springs**	**37.79**	**167**	*e*P	**P**	**21 17 59.1**	**-0.1**
ASAR	**Alice Springs**	**37.80**	**167**	P	**P**	**21 17 58.8**	**-0.5**
ASAR				PcP	**PcP**	**21 20 14.9**	**-0.6**
ASAR				S	**S**	**21 23 47.6**	**+0.2**
ASAR	**Alice Springs**	**37.80**	**167**	P	**P**	**21 17 58.8**	**-0.5**
	comp=Z,5.2nm,0.8s,baz=345,slow=6.6,SNR=33						
ASAR				PcP	**PcP**	**21 20 14.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=335,slow=4.1,SNR=2.8						
ASAR				S	**S**	**21 23 47.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=339,slow=12,SNR=5.9						
ODAN	**Odare**	**37.94**	**297**	*e*P	**P**	**21 18 00.5**	**-0.3**
	comp=Z,49nm,0.8s						
RAMN	**Ramite**	**38.65**	**296**	*e*P	**P**	**21 18 05.6**	**-1.2**
CTAO	**Charters Tower**	**39.12**	**148**	*e*P	**P**	**21 18 10.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**39.12**	**148**	*e*P	**P**	**21 18 10.7**	**+0.3**
	comp=Z,13nm,0.9s						
JIRN	**Jiri**	**39.16**	**297**	*e*P	**P**	**21 18 12.2**	**+1.0**
	comp=Z,24nm,0.5s						
GUN	**Gumba**	**39.49**	**298**	*e*P	**P**	**21 18 15.1**	**+1.2**
	comp=Z,38nm,0.6s						
PKI	**Pulchoki**	**39.82**	**297**	*e*P	**P**	**21 18 15.8**	**-0.8**
	comp=Z,13nm,0.7s						
PKIN	**Phulchoki**	**39.83**	**297**	*e*P	**P**	**21 18 15.4**	**-1.3**
	comp=Z,14nm,0.8s						
KKN	**Kakani**	**39.98**	**297**	*e*P	**P**	**21 18 17.2**	**-0.6**
DMN	**Daman**	**40.09**	**297**	*e*P	**P**	**21 18 18.1**	**-0.7**
	comp=Z,33nm,1.0s						
ZAK	**Zakamensk**	**41.03**	**338**	*e*P	P	21 18 15.9	-10
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
HNR	**Honiara**	**41.14**	**122**	LR	LR	21 32 33.0	
	comp=Z,405nm,18.3s,baz=107,slow=32						
WMQ	**Urumqi**	**44.24**	**321**	*e*P	**P**	**21 18 53.8**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.4s						
WMQ				LR	LR		
	comp=N,150nm,16.0s						
WMQ				LR	LR		
	comp=E,200nm,17.0s						
WMQ				LR	LR		
	comp=Z,250nm,16.0s						
HYB	**Hyderabad**	**45.25**	**281**	*i*P	**P**	**21 19 00.0**	**-0.5**
HVS	**Khovu-Aksy**	**45.51**	**332**	*i*P	**P**	**21 19 04.3**	**+2.2**
HVS				pmax	pmax		
	comp=Z,30nm,1.5s						
PETK	**Petropavlovsk-**	**47.16**	**26**	P	**P**	**21 19 15.0**	**0.0**
PETK	**Petropavlovsk-**	**47.16**	**26**	P	**P**	**21 19 15.0**	**0.0**
PETK	**Petropavlovsk-**	**47.16**	**26**	P	**P**	**21 19 15.0**	**0.0**
	comp=Z,5.9nm,1.0s,baz=204,slow=5.8,SNR=12						
STKA	**Stephens Creek**	**47.65**	**161**	*e*P	**P**	**21 19 17.0**	**-1.9**
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**47.65**	**161**	P	**P**	**21 19 18.2**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=341,slow=9.8,SNR=9.3						
YAK	**Yakutsk**	**48.63**	**3**	*e*P	**P**	**21 19 24.4**	**-1.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
MK31	**Makanchi Array**	**49.02**	**322**	*ce*P	**P**	**21 19 29.7**	**+0.2**
MK31				pmax	pmax		
	comp=Z,12nm,0.9s						
MK31	**Makanchi Array**	**49.02**	**322**	*e*P	**P**	**21 19 29.9**	**+0.4**
MKAR	**Makanchi Array**	**49.02**	**322**	P	**P**	**21 19 29.7**	**+0.2**
MKAR	**Makanchi Array**	**49.02**	**322**	P	**P**	**21 19 29.7**	**+0.2**
MKAR	**Makanchi Array**	**49.02**	**322**	P	**P**	**21 19 29.7**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=116,slow=8.4,SNR=19						
ZAA0	**Zalesovo Array**	**51.47**	**331**	*e*P	**P**	**21 19 47.0**	**-0.8**
ZALV	**Zalesovo Beam**	**51.47**	**331**	*i*P	**P**	**21 19 47.0**	**-0.7**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**51.47**	**331**	P	**P**	**21 19 47.1**	**-0.7**
ZALV	**Zalesovo Beam**	**51.47**	**331**	P	**P**	**21 19 47.1**	**-0.7**
	comp=Z,5.6nm,1.0s,baz=116,slow=8.8,SNR=11						
TKM2	**Tokmak 2**	**51.84**	**314**	*e*P	**P**	**21 19 53.3**	**+2.2**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TKM2	**Tokmak 2**	**51.84**	**314**	*e*P	**P**	**21 19 53.2**	**+2.2**
	comp=Z,6.3nm,0.9s						
AAK	**Ala-Archa**	**52.51**	**314**	*e*P	**P**	**21 19 52.9**	**-3.1**
AAK	**Ala-Archa**	**52.51**	**314**	*e*P	**P**	**21 19 52.9**	**-3.1**
AAK	**Ala-Archa**	**52.51**	**314**	P	**P**	**21 19 57.3**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=197,slow=11,SNR=2.7						
NVS	**Novosibirsk**	**52.74**	**331**	*e*P	**P**	**21 19 55.8**	**-1.4**
NVS				pmax	pmax		
	comp=Z,31nm,2.4s						
NVS				pmax	pmax		
	comp=N,10.0nm,2.0s						
NVS				pmax	pmax		
	comp=E,12nm,2.2s						
SEY	**Seymchan**	**53.00**	**15**	⇑*e*P	**P**	**21 19 58.8**	**-0.2**
EKS2	**Erkin-Say**	**53.03**	**314**	*e*P	**P**	**21 19 59.3**	**-0.5**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EKS2	**Erkin-Say**	**53.03**	**314**	*e*P	**P**	**21 19 59.3**	**-0.5**
	comp=Z,4.5nm,0.8s						
DZM	**Mont Dzumac**	**53.53**	**131**	*e*LR	LR	21 21 08.2	
	comp=Z,571nm,22.5s						
KBL	**Kabul**	**54.88**	**303**	*e*P	**P**	**21 20 13.9**	**+0.3**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**54.88**	**303**	*e*P	**P**	**21 20 13.9**	**+0.3**
	comp=Z,6.3nm,0.7s						
KK31	**Karatay Array**	**55.45**	**313**	*ce*P	**P**	**21 20 20.2**	**+2.9**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**55.45**	**313**	*e*P	**P**	**21 20 17.3**	**0.0**
KKAR	**Karatay Array**	**55.45**	**313**	*e*P	**P**	**21 20 17.3**	**0.0**
TIXI	**Tiksi**	**58.23**	**1**	⇑*e*P	**P**	**21 20 35.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**58.60**	**325**	P	**P**	**21 20 39.7**	**+0.3**
BVAR	**Borovoye Array**	**58.60**	**325**	P	**P**	**21 20 39.7**	**+0.3**
BVAR	**Borovoye Array**	**58.60**	**325**	P	**P**	**21 20 39.7**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=126,slow=7.2,SNR=16						
BRVK	**Borovoye**	**58.67**	**325**	*de*P	**P**	**21 20 40.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
BRVK	**Borovoye**	**58.67**	**325**	*e*P	**P**	**21 20 40.4**	**+0.5**
	comp=Z,13nm,0.8s						
AB31	**Akbulak array**	**63.95**	**318**	*ce*P	**P**	**21 21 15.3**	**-0.3**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**63.95**	**318**	*e*P	**P**	**21 21 15.3**	**-0.3**
SVE	**Sverdlovsk**	**65.11**	**327**	⇓*e*P	**P**	**21 21 23.0**	**-0.1**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKTO	**Aktyubinsk**	**65.37**	**320**	*i*P	**P**	**21 21 27.3**	**+2.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**66.14**	**326**	*d*iP	**P**	**21 21 28.7**	**-1.0**
ARU				S	**S**	**21 30 16.0**	**+0.8**
ARU				pmax	pmax		
	comp=Z,13nm,1.7s						
IM04	**Indian Mountai**	**74.09**	**25**	*e*P	**P**	**21 22 16.6**	**-1.8**
IMA2	**Indian Mountai**	**74.14**	**25**	*e*P	**P**	**21 22 18.7**	**0.0**
ZEI	**Tsey**	**74.81**	**311**	*e*P	**P**	**21 22 22.1**	**-1.1**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KBZ	**Khabaz**	**75.46**	**312**	P	**P**	**21 22 26.2**	**-0.4**
KBZ	**Khabaz**	**75.46**	**312**	P	**P**	**21 22 26.1**	**-0.4**
KBZ	**Khabaz**	**75.46**	**312**	P	**P**	**21 22 26.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=155,slow=1.8,SNR=6.6						
COLD	**Coldfoot**	**75.55**	**24**	*e*P	**P**	**21 22 27.4**	**+0.7**
	comp=Z,9.9nm,0.9s						
TRF	**Thorofare Moun**	**75.56**	**28**	*e*P	**P**	**21 22 26.6**	**-0.4**
	comp=Z,65nm,2.4s						
KIV	**Kislovodsk**	**75.59**	**312**	*i*P	**P**	**21 22 28.0**	**+0.5**
KIV				*e*		21 22 40.2	
KIV				*e*		21 25

comp=Z,1.9nm,0.3s,baz=197,slow=16,SNR=4.6
BUR08 Bucovina Ar. S 86.93 318 *e*P **P 21 23 26.6 -1.0**
KOLS Kolonicke sedl 88.41 320 *e*P P 21 23 38.0 +3.5
KOLS pmax pmax
comp=Z,19nm,2.3s
KOLS Kolonicke sedl 88.41 320 *e*P P 21 23 38.0 +3.5
UZH Uzhgorod 88.49 320 *e*P **P 21 23 34.0 -0.9**
UZH *e* 21 23 42.2
UZH *e* 21 23 48.2
STHS Stebnicka Huta 88.89 321 *e*P **P 21 23 37.5 +0.7**
STHS Stebnicka Huta 88.89 321 *e*P **P 21 23 37.5 +0.7**
CRVS Cervenica-Dubn 88.92 320 *e*P **P 21 23 37.1 +0.1**
CRVS pmax pmax
comp=Z,6.0nm,1.4s
CRVS Cervenica-Dubn 88.92 320 *e*P **P 21 23 37.1 +0.1**
NB2 NORSAR Subarra 89.56 334 P **P 21 23 37.5 -2.2**
comp=Z,1.4nm,0.8s,baz=64,slow=4.8
NOA NORSAR Array B 89.56 334 P **P 21 23 38.0 -1.7**
NOA NORSAR Array B 89.56 334 P **P 21 23 38.0 -1.7**
comp=Z,1.0nm,0.8s,baz=64,slow=4.9,SNR=4.2
MAW Mawson 92.36 200 P **P 21 23 52.8 +0.5**
MAW Mawson 92.36 200 P **P 21 23 52.8 +0.5**
comp=Z,1.3nm,0.7s,baz=56,slow=7.5,SNR=3.9
VNDA Vanda 93.15 173 *e*P **P 21 23 55.4 -0.4**
comp=Z,6.2nm,1.1s
VNDA Vanda 93.15 173 P **P 21 23 55.9 +0.1**
comp=Z,1.4nm,0.8s,baz=316,slow=5.7,SNR=7.0
GERES GERESS Array B 93.69 322 P **P 21 23 58.6 -0.6**
GERES GERESS Array B 93.69 322 P **P 21 23 58.6 -0.6**
comp=Z,0.3nm,0.7s,baz=72,slow=3.2,SNR=2.7
NVAR Mina Array Bea 101.29 46 P **Pdif 21 24 33.6 -0.3**
NVAR Mina Array Bea 101.29 46 P **Pdif 21 24 33.6 -0.3**
comp=Z,0.5nm,0.7s,baz=281,slow=6.3,SNR=3.1
IMW Indian Meadow 103.33 38 *e*Pdif **Pdif 21 24 44.7 +1.8**
TXAR Lajitas Array 116.37 47 PKP **PKPdf 21 29 26.5 -0.2**
TXAR Lajitas Array 116.37 47 PKP **PKPdf 21 29 26.5 -0.2**
comp=Z,0.4nm,0.7s,baz=239,slow=5.1,SNR=4.0
TORD Torodi Ar. Bea 118.28 293 PKP **PKPdf 21 29 29.8 -0.7**
TORD Torodi Ar. Bea 118.28 293 PKP **PKPdf 21 29 29.8 -0.7**
comp=Z,0.6nm,0.9s,baz=59,slow=1.6,SNR=4.2
PLCA Paso Flores 149.43 156 PKPbc **PKPbc 21 30 31.6 -0.2**
PLCA Paso Flores 149.43 156 PKPbc **PKPbc 21 30 31.6 -0.2**
comp=Z,3.2nm,0.8s,baz=209,slow=3.0,SNR=4.6

MAN 14 21:16:03,10°.39N×125°.08E, h5km, mb4.0, ML2.8, MS2.5, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.33**	**220**	*e*P		Pb	21 16 11.7	+0.2
MSLP				*e*S		Sb	21 16 18.8	+1.7
PLP	**Palo**	**0.77**	**353**	⇓*e*P		Pn	21 16 28.4	+7.8
PLP				*e*S		Sb	21 16 29.3	-0.5
OCLP	**Ormoc**	**0.80**	**325**	*e*P		Pg	21 16 18.8	+0.4
LLP	**Lapu-Lapu**	**1.09**	**266**	⇑*e*P		Pb	21 16 24.3	-0.2
LLP				*e*S		Sn	21 16 40.9	+0.4
GUIM	**Jordan**	**2.46**	**276**	*e*P		Pn	21 16 44.7	+0.9

---

*NEIC **14** 21:18:01.0, 47°.45N×115°.96W, h2km, ML2.9(BUT), After BUT.*
*PGC **14** 21:18:03.4±3.6, 47°.55N×115°.95W, h1km, ML3.0/8, 106km east of Spokane, Wa Montana*
ISC 14 21:18:01.9±1.3, 47°.54N±0°.04×115°.93W±0°.02, h6km±12km, n37, σ1§75/55, 8D, Montana

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSMT	**Bassoo Peak**	**0.83**	**68**	*e*Pg		**Pg**	**21 18 18.0**	**+0.1**
BSMT				*e*Sg		**Sg**	**21 18 28.9**	**+0.2**
NEW	**Newport**	**1.08**	**312**	*e*Pg		**Pg**	**21 18 22.6**	**0.0**
NEW				*e*Sg		**Sg**	**21 18 36.5**	**-0.2**
JTMT	**Jette**	**1.13**	**79**	*e*Pg		**Pb**	**21 18 23.9**	**0.0**
JTMT				*e*Sg		**Sb**	**21 18 37.7**	**-1.3**
BLMT	**Blacktail Moun**	**1.16**	**65**	*e*Pg		**Pb**	**21 18 24.5**	**+0.1**
BLMT				*e*Sg		**Sb**	**21 18 39.6**	**-0.1**
SWMT	**Swartz Lake**	**1.31**	**91**	*e*Pn		**Pn**	**21 18 27.1**	**+0.3**
SWMT				*e*Sg		**Sb**	**21 18 42.9**	**-1.1**
YBMT	**Yellow Bay**	**1.33**	**75**	*e*Pn		**Pn**	**21 18 28.0**	**+0.8**
YBMT				*e*Sg		**Sb**	**21 18 44.2**	**-0.6**
DPW	**Davenport**	**1.57**	**283**	P		**Pn**	**21 18 30.2**	**-0.1**
SLMT	**Seeley Lake**	**1.68**	**99**	*e*Pn		**Pn**	**21 18 32.1**	**+0.2**
SLMT				*e*Sn		**Sn**	**21 18 52.9**	**-1.0**
F10A	**Beach Ranch, E**	**1.80**	**210**	P		**Pn**	**21 18 33.6**	**0.0**
E09A	**Wood Farm, Sta**	**1.83**	**237**	P		**Pn**	**21 18 33.0**	**-0.8**
OD2	**Odessa Site #2**	**1.89**	**267**	P		**Pn**	**21 18 34.2**	**-0.5**
CHMT	**Chamberlain Mo**	**1.93**	**108**	*e*Pn		**Pn**	**21 18 35.8**	**+0.3**
CHMT				*e*Pg		**Pb**	**21 18 37.4**	**-0.2**
CHMT				*e*Sn		**Sn**	**21 18 58.0**	**-2.1**
CHMT				*e*Sg		**Sb**	**21 19 02.2**	**+0.3**
WALA	**Waterton Lakes**	**2.03**	**41**	⇓Pn		**Pb**	**21 18 38.9**	**-0.4**
WALA				⇑Sg		**Sb**	**21 19 05.7**	**+0.9**
WALA	**Waterton Lakes**	**2.03**	**41**	*e*Pn		**Pn**	**21 18 38.7**	**+2.0**
WALA				*e*Sn		**Sb**	**21 19 05.1**	**+0.3**
SAW	**Saint Andrews**	**2.35**	**275**	P		**Pn**	**21 18 40.7**	**-0.4**
E08A	**Dider Farm, El**	**2.38**	**245**	P		**Pn**	**21 18 40.8**	**-0.7**
B08A	**Colville Reser**	**2.43**	**291**	P		**Pn**	**21 18 41.9**	**-0.3**
REDWA	**Red Mountain**	**2.71**	**244**	P		**Pn**	**21 18 45.7**	**-0.2**
BMO	**Blue Mountains**	**2.85**	**200**	*e*Pn		**Pn**	21 18 45.2	-2.8
BMO				*e*Sn		**Sn**	**21 19 21.5**	**-1.2**
HRY	**Holter Researc**	**2.92**	**105**	*e*Pn		**Pn**	**21 18 49.6**	**+0.7**
HRY				*e*Pg		**Pb**	**21 18 54.0**	**-0.3**
LRM	**Limekiln Ridge**	**2.95**	**124**	*e*Pn		**Pn**	**21 18 49.6**	**+0.2**
LRM				*e*Pg		**Pb**	**21 18 55.8**	**+0.8**
LRM				*e*Sn		**Sn**	**21 19 22.1**	**-3.1**
ETW	**Entiat**	**2.98**	**273**	P		**Pn**	**21 18 49.1**	**-0.7**
PNT	**Penticton**	**3.03**	**307**	⇓Pg		**Pb**	**21 18 57.4**	**+1.2**
PNT				⇓Sg		**Sb**	**21 19 36.4**	**+2.8**
DLMT	**Dillon**	**3.17**	**132**	*e*Pn		**Pn**	**21 18 52.2**	**-0.3**
DLMT				*e*Pg		**Pb**	**21 19 00.5**	**+1.9**
DLMT				*e*Sg		**Sb**	**21 19 40.5**	**+2.9**
LTY	**Liberty**	**3.23**	**267**	P		**Pn**	**21 18 52.9**	**-0.3**
MCMT	**McKenzie Canyo**	**3.45**	**141**	*e*Pn		**Pn**	**21 18 56.6**	**+0.2**
BOZ	**Bozeman (W)**	**3.52**	**121**	*e*Pn		**Pn**	**21 18 58.3**	**+1.1**
BOZ				*e*Pg		**Pb**	**21 19 06.3**	**+1.7**
BOZ				*e*Sg		**Sb**	**21 19 52.6**	**+5.0**
SLEB	**Sale Mountain**	**3.91**	**339**	⇑Sg		**Sg**	**21 20 07.7**	**+0.4**
LON	**Longmire**	**4.09**	**261**	*e*Pn		**Pn**	**21 19 04.7**	**-0.3**
HOPB	**Hope**	**4.09**	**299**	⇑Sg		**Sb**	**21 19 09.0**	**+5.0**
EGMT	**Eagleton**	**4.19**	**81**	*e*Pn		Pn	21 19 10.1	+3.7
DOWB	**Downie Slide**	**4.32**	**338**	⇓Sg		**Sg**	**21 20 20.8**	**+0.1**
VDB	**Vedder Mountai**	**4.38**	**292**	⇓Sg		**Sb**	**21 20 15.3**	**+3.0**
LLLB	**Lillooet**	**4.97**	**310**	⇓Sg		Sb	21 20 35.7	+6.3
BLBC	**Blue River**	**4.99**	**336**	⇑Sg		**Sg**	**21 20 41.9**	**-0.2**
WSLR	**Whistler**	**5.29**	**302**	⇓Sg		**Sg**	**21 20 47.1**	**-4.7**
SHB	**Sechelt**	**5.66**	**294**	⇓Sg		**Sg**	**21 20 59.1**	**-4.5**

MEX 14 21:21:39.6±0.5, 18°.00N×102°.36W, h10km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.94**	**115**	*e*P		Pg	21 21 54.4	-3.2
ZIIG				*i* S		Sg	21 22 07.3	-2.5
EZ5V		**1.89**	**321**	*e*P		Pn	21 22 09.3	-2.9
EZ5V				*i* S		Sn	21 22 31.4	-5.0
ARIG	**Puente Sto Nin**	**1.93**	**81**	*e*P		Pn	21 22 08.8	-3.8
ARIG				*i* S		Sn	21 22 31.9	-5.1
R15V		**1.93**	**307**	*i* P		Pn	21 22 09.4	-3.2
R15V				*i* S		Sn	21 22 33.3	-3.8
MOIG	**Morelia**	**2.00**	**33**	*i* P		Pn	21 22 10.1	-3.8
MOIG				*i* S		Sn	21 22 34.5	-4.7

IDC 14 21:35:08.2±10.0, 22°.79N×143°.39E, h75km±98km, mb3.5/11, mb1 3.6/11, mb1mx3.5/26, mbtmp3.5/11, Error ellipse: s-maj=41.4km s-min=14.8km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.78**	**321**	P		Pn	21 39 39.5	+5.0
	0.6nm,0.3s,baz=146,slow=8.8,SNR=16							
SONM	**Songino Array**	**38.63**	**320**	P		P	21 42 25.1	+0.7
	0.6nm,0.5s,baz=126,slow=8.1,SNR=4.8							
WRA	**Warramunga Arr**	**43.38**	**192**	P		P	21 43 01.8	-1.6
	0.5nm,0.4s,baz=12,slow=8.9,SNR=19							
FITZ	**Fitzroy Crossi**	**44.19**	**205**	P		P	21 43 10.4	+0.5
	0.7nm,0.5s,baz=16,slow=7.4,SNR=5.6							
ASAR	**Alice Springs**	**47.09**	**192**	P		P	21 43 33.5	+0.8
	0.3nm,0.3s,baz=12,slow=7.0,SNR=12							
ZALV	**Zalesovo Beam**	**53.49**	**321**	P		P	21 44 20.4	-0.4
	0.3nm,0.3s,baz=94,slow=5.8,SNR=2.7							
MKAR	**Makanchi Array**	**54.11**	**312**	P		P	21 44 26.2	+0.7
	0.6nm,0.5s,baz=86,slow=9.2,SNR=15							
STKA	**Stephens Creek**	**54.38**	**182**	P		P	21 44 27.2	-0.3
	2.1nm,1.0s,baz=6.3,slow=8.8,SNR=4.9							
KURBB	**Kurchatov Arra**	**56.87**	**316**	P		P	21 44 45.4	+0.2
	0.7nm,0.5s,baz=90,slow=7.9,SNR=12							
ILAR	**Eielson Array**	**60.99**	**27**	P		P	21 45 13.4	0.0
	0.2nm,0.6s,baz=252,slow=5.8,SNR=4.1							
KBZ	**Khabaz**	**81.76**	**314**	P		P	21 47 18.1	-0.7
	1.5nm,0.7s,baz=96,slow=13,SNR=4.9							
FINES	**FINESS Array B**	**82.29**	**334**	P		P	21 47 19.9	-1.4
	0.8nm,0.5s,baz=93,slow=3.8,SNR=8.0							
TORD	**Torodi Ar. Bea**	**128.21**	**310**	PKP		PKPdf	21 54 05.8	-1.0
	0.2nm,0.5s,baz=3.9,slow=1.5,SNR=5.5							
PLCA	**Paso Flores**	**146.31**	**130**	PKPbc		PKPab	21 54 41.6	+0.1
	2.1nm,0.6s,baz=237,slow=8.3,SNR=5.1							

IDC 14 21:35:08.4±2.5, 8°.16S×120°.35E, h176km±45km, mb3.1/2, mb1 3.0/5, mb1mx2.8/24, mbtmp2.9/5, Error ellipse: s-maj=108.0km s-min=35.6km az=68.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.19**	**349**	P		Pn	21 35 58.4	-0.8
	1.7nm,0.3s,baz=158,slow=5.4,SNR=7.5							
KAPI				S		Sn	21 36 30.8	-8.0
	0.7nm,0.3s,baz=178,slow=18,SNR=3.2							
FITZ	**Fitzroy Crossi**	**11.14**	**153**	P		Pn	21 37 42.6	-0.2
	0.1nm,0.3s,baz=326,slow=11,SNR=4.1							
FITZ				S		Sn	21 39 38.6	-8.0
	0.1nm,0.3s,baz=297,slow=16,SNR=3.0							
WRA	**Warramunga Arr**	**17.90**	**132**	P		Pn	21 39 06.2	-0.5
	0.1nm,0.3s,baz=304,slow=12,SNR=6.9							
ASAR	**Alice Springs**	**20.16**	**141**	P		P	21 39 29.9	+0.6
	0.5nm,0.3s,baz=315,slow=9.2,SNR=13							
ASAR				S		S	21 43 05.8	-0.2
	0.4nm,0.7s,baz=321,slow=22,SNR=3.4							
STKA	**Stephens Creek**	**30.78**	**143**	P		P	21 41 07.5	+0.1
	1.8nm,1.0s,baz=317,slow=19,SNR=3.0							

IDC 14 21:52:24.6±4.5, 5°.73N×125°.23E, h138km±60km, mb2.9/3, mb1 3.1/3, mb1mx2.9/24, mbtmp2.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/8, 1C, Error ellipse: s-maj=164.5km s-min=21.6km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.37**	**15**	P		Pn	21 52 51.4	-0.4
	136nm,0.3s,baz=336,slow=4.6,SNR=2.9							
DAV				S		Sn	21 53 12.8	0.0
	129nm,0.3s,baz=186,slow=23,SNR=13							
CTBH	**Cotabato--PC H**	**1.77**	**327**	⇑P		Pn	21 53 02.4	+6.1
WRA	**Warramunga Arr**	**27.04**	**161**	P		P	21 57 53.9	-0.3
	0.1nm,0.4s,baz=340,slow=10,SNR=7.4							
ASAR	**Alice Springs**	**30.42**	**164**	P		P	21 58 24.4	+0.3
	0.3nm,0.4s,baz=342,slow=6.8,SNR=7.5							
MJAR	**Matsushiro Arr**	**32.89**	**19**	LR		LR	22 11 00.3	
	comp=Z,28nm,19.0s,baz=225,slow=34							
MKAR	**Makanchi Array**	**55.07**	**325**	P		P	22 01 42.0	-0.1
	0.1nm,0.3s,baz=114,slow=7.3,SNR=4.5							

---

*ISCJB **14** 21:53:01.8±1.0, 36°.39N±0°.04×22°.01E±0°.05, h7km±6km, Error ellipse: s-maj=8.1km s-min=4.8km az=135.4*
*THE **14** 21:53:01.9, 36°.38N×22°.02E, h5km, ML2.1/6, Error ellipse: s-maj=1.2km s-min=0.6km az=227.0*
*CSEM **14** 21:53:01.7±0.5, 36°.38N×22°.01E, h15km, MD2.8, Error ellipse: s-maj=9.7km s-min=4.6km az=46.0*
*ATH **14** 21:53:03.3, 36°.47N×22°.03E, h17km±2km, MD2.8/7*
ISC 14 21:53:02.3±1.4, 36°.40N±0°.04×22°.03E±0°.04, h8km±9km, n38, σ0§67/61, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.44**	**34**	P		**Pg**	**21 53 10.8**	**-0.1**
DYR				S		**Sg**	**21 53 17.3**	**+0.6**
DYR	**Agios Nikonas**	**0.44**	**34**	*e*PB		**Pg**	**21 53 10.9**	**0.0**
DYR				*e*SB		**Sg**	**21 53 17.2**	**+0.6**
DYR	**Agios Nikonas**	**0.44**	**34**	P		**Pg**	**21 53 10.8**	**-0.1**
DYR				*e*Sb		**Sg**	**21 53 17.2**	**+0.6**
PYL	**PYLOS**	**0.55**	**336**	P		**Pg**	**21 53 12.3**	**-0.6**
PYL				S		**Sg**	**21 53 21.1**	**+1.1**
PYL	**PYLOS**	**0.55**	**336**	*e*PB		**Pg**	**21 53 12.6**	**-0.3**
PYL				*e*SB		**Sg**	**21 53 20.4**	**+0.4**
PYL	**PYLOS**	**0.55**	**336**	P		**Pg**	**21 53 12.3**	**-0.6**
PYL	**PYLOS**	**0.55**	**336**	*e*Pb		**Pg**	**21 53 12.6**	**-0.3**
PYL				*e*Sb		**Sg**	**21 53 20.4**	**+0.4**
PYL				S		**Sg**	**21 53 21.1**	**+1.1**
ITM	**Ithomi**	**0.79**	**354**	P		**Pg**	**21 53 17.1**	**-0.3**
ITM				S		**Sg**	**21 53 27.9**	**+0.3**
ITM	**Ithomi**	**0.79**	**354**	*e*PB		**Pg**	**21 53 16.7**	**-0.7**
ITM				*e*SN		**Sg**	**21 53 27.5**	**-0.1**
ITM	**Ithomi**	**0.79**	**354**	*e*Pb		**Pg**	**21 53 16.7**	**-0.7**
ITM	**Ithomi**	**0.79**	**354**	P		**Pg**	**21 53 17.1**	**-0.3**
ITM				*e*Sn		**Sg**	**21 53 27.5**	**-0.1**
VLI	**Veliai**	**0.80**	**66**	P		**Pg**	**21 53 17.2**	**-0.5**
VLI				S		**Sb**	**21 53 29.4**	**-0.1**
VLI	**Veliai**	**0.80**	**66**	*e*PN		**Pg**	**21 53 17.9**	**+0.2**
VLI				*e*SN		**Sb**	**21 53 29.3**	**-0.2**
VLI	**Veliai**	**0.80**	**66**	P		**Pg**	**21 53 17.2**	**-0.5**
VLI	**Veliai**	**0.80**	**66**	*e*Pn		**Pg**	**21 53 17.9**	**+0.2**
VLI				S		**Sb**	**21 53 29.4**	**-0.1**
VLX	**Vlachokerasia**	**1.01**	**16**	P		**Pg**	**21 53 20.8**	**-0.9**
VLX				S		**Sb**	**21 53 36.1**	**+0.4**
VLX	**Vlachokerasia**	**1.01**	**16**	*e*PN		**Pg**	**21 53 21.0**	**-0.7**
VLX	**Vlachokerasia**	**1.01**	**16**	P		**Pg**	**21 53 20.8**	**-0.9**
VLX				S		**Sb**	**21 53 36.1**	**+0.4**
ANKY	**Antikythira Is**	**1.16**	**117**	P		**Pg**	**21 53 23.6**	**-0.9**
ANKY				S		**Sn**	**21 53 40.5**	**-0.4**
ANKY	**Antikythira Is**	**1.16**	**117**	*e*PN		**Pn**	**21 53 26.1**	**+1.3**
ANKY	**Antikythira Is**	**1.16**	**117**	P		**Pg**	**21 53 23.6**	**-0.9**
ANKY	**Antikythira Is**	**1.16**	**117**	*e*Pn		**Pn**	**21 53 26.1**	**+1.3**
ANKY				S		**Sn**	**21 53 40.5**	**-0.4**
AMT	**Artemida-Makis**	**1.16**	**348**	P		**Pg**	**21 53 23.7**	**-0.9**
AMT				S		**Sn**	**21 53 41.2**	**+0.2**
AMT	**Artemida-Makis**	**1.16**	**348**	*e*PN		**Pg**	**21 53 24.0**	**-0.6**
AMT	**Artemida-Makis**	**1.16**	**348**	P		**Pg**	**21 53 23.7**	**-0.9**
AMT	**Artemida-Makis**	**1.16**	**348**	*e*Pn		**Pg**	**21 53 24.0**	**-0.6**
AMT				S		**Sn**	**21 53 41.2**	**+0.2**
DID	**Didima**	**1.47**	**41**	P		**Pn**	**21 53 28.0**	**-1.2**
DID				S		**Sn**	**21 53 49.0**	**+0.3**
DID	**Didima**	**1.47**	**41**	*e*PN		**Pn**	**21 53 29.5**	**+0.3**
DID	**Didima**	**1.47**	**41**	P		**Pn**	**21 53 28.0**	**-1.2**
DID	**Didima**	**1.47**	**41**	*e*Pn		**Pn**	**21 53 29.5**	**+0.3**
DID				S		**Sn**	**21 53 49.0**	**+0.3**
GUR	**Goura**	**1.56**	**9**	P		**Pn**	**21 53 29.7**	**-0.7**
GUR				S		**Sn**	**21 53 51.7**	**+0.8**
GUR	**Goura**	**1.56**	**9**	*e*PN		**Pb**	**21 53 31.3**	**-0.2**
GUR	**Goura**	**1.56**	**9**	P		**Pn**	**21 53 29.7**	**-0.7**
GUR	**Goura**	**1.56**	**9**	*e*Pn		**Pb**	**21 53 31.3**	**-0.2**
GUR				S		**Sn**	**21 53 51.7**	**+0.8**
LAKA	**Lakka**	**1.84**	**359**	*e*PN		**Pb**	**21 53 35.6**	**-0.6**
LAKA	**Lakka**	**1.84**	**359**	*e*Pn		**Pb**	**21 53 35.6**	**-0.6**
EFP	**Efpalio**	**2.03**	**357**	*e*PN		**Pn**	**21 53 38.0**	**+1.2**
EFP	**Efpalio**	**2.03**	**357**	*e*Pn		**Pn**	**21 53 38.0**	**+1.2**

---

*ISCJB **14** 22:05:00.8±0.6, 36°.48N±0°.02×52°.01E±0°.02, h2km±4km, mb4.2/39, MS3.6/11, Error ellipse: s-maj=4.2km s-min=2.8km az=20.0*
*IDC **14** 22:05:01.3±1.1, 36°.37N×51°.95E, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.9/31, mbtmp4.0/14, ML4.2/3, MS3.5/11, Ms1 3.5/11, ms1mx3.2/45, Error ellipse: s-maj=24.7km s-min=14.6km az=0.0*
*BJI **14** 22:05:01.3, 36°.47N×51°.30E, h31km, mB4.7/6, mb4.5/9, Ms4.2/4, Ms7 4.3/5*
*TEH **14** 22:05:02.8, 36°.47N×52°.07E, h2km, ML4.4*
*CSEM **14** 22:05:02.0±0.1, 36°.43N×52°.01E, h2km, mb4.2/23, Error ellipse: s-maj=3.2km s-min=2.5km az=53.0*
*NEIC **14** 22:05:03.2, 36°.45N×52°.07E, h6km, mb4.1/7, MN4.2(TEH), After TEH.*
NEIC Felt at Mahmudabad.
*THR **14** 22:05:03.6±0.8, 36°.34N×52°.01E, h14km±9km, ML4.2*
*AZER **14** 22:05:06.9, 36°.33N×51°.67E, h99km*
*MOS **14** 22:05:08.4±1.4, 37°.10N×52°.09E, h22km, mb4.3/12, Error ellipse: s-maj=8.6km s-min=5.3km az=124.0*

---

*NNC **14** 22:05:14.7±1.4, 37°.32N×53°.15E, h0km, mb4.2, Error ellipse: s-maj=24.2km s-min=10.0km az=107.0*
ISC 14 22:05:02.4±0.9, 36°.45N±0°.02×52°.08E±0°.02, h6km±6km, n339, σ1§66/385, mb4.2/39, MS3.4/11, 43C-33D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**0.82**	**186**	*e*Pg		**Pg**	**22 05 17.0**	**-1.2**
DAMV	**Damavand**	**0.82**	**186**	*e*Pg		**Pg**	**22 05 17.0**	**-1.2**
IDMV	**Damavand**	**0.87**	**183**	*e*Pg		**Pg**	**22 05 17.8**	**-1.3**
IDMV				*e*Sg		**Sg**	**22 05 30.4**	**0.0**
IDMV				*e*			22 05 30.9	
	comp=Z,60μm,0.2s							
IDMV	**Damavand**	**0.87**	**183**	Pg		**Pg**	**22 05 17.7**	**-1.3**
IDMV				Sg		**Sg**	**22 05 30.3**	**-0.1**
IDMV	**Damavand**	**0.87**	**183**	*e*Pg		**Pg**	**22 05 17.8**	**-1.3**
IDMV				Sg		**Sg**	**22 05 30.3**	**-0.1**
CHTH	**Charan**	**0.94**	**235**	*e*Pg		**Pg**	**22 05 19.0**	**-1.5**
CHTH	**Charan**	**0.94**	**235**	*e*Pg		**Pg**	**22 05 19.0**	**-1.5**
IFIR	**Firoozkooh**	**0.97**	**146**	*e*Pg		**Pg**	**22 05 20.5**	**-0.6**
IFIR				*e*Sg		**Sg**	**22 05 34.0**	**+0.3**
IFIR				*e*			22 05 36.1	
	comp=Z,91μm,0.1s							
IFIR	**Firoozkooh**	**0.97**	**146**	Pg		**Pg**	**22 05 20.4**	**-0.6**
IFIR				Sg		**Sg**	**22 05 33.9**	**+0.3**
IFIR	**Firoozkooh**	**0.97**	**146**	*e*Pg		**Pg**	**22 05 20.5**	**-0.6**
IFIR				*e*Sg		**Sg**	**22 05 34.0**	**+0.3**
THKV	**Tehran--Karaj**	**1.11**	**242**	*e*Pg		**Pg**	**22 05 22.7**	**-1.0**
THKV	**Tehran--Karaj**	**1.11**	**242**	*e*Pg		**Pg**	**22 05 22.7**	**-1.0**
ISHM	**Shahmirzad**	**1.17**	**123**	*e*Pg		**Pg**	**22 05 24.1**	**-0.7**
ISHM				*e*Sg		**Sg**	**22 05 41.0**	**+1.0**
ISHM				*e*			22 05 45.4	
	comp=Z,91μm,0.2s							
ISHM	**Shahmirzad**	**1.17**	**123**	Pg		**Pg**	**22 05 24.1**	**-0.7**
ISHM				Sg		**Sg**	**22 05 40.9**	**+1.0**
ISHM	**Shahmirzad**	**1.17**	**123**	*e*Pg		**Pg**	**22 05 24.1**	**-0.7**
ISHM				*e*Sg		**Sg**	**22 05 41.0**	**+1.0**
ILAS	**Lasjerd**	**1.28**	**146**	*e*Pg		**Pg**	**22 05 25.6**	**-1.3**
ILAS				*e*Sg		**Sg**	**22 05 43.5**	**0.0**
ILAS				*e*			22 05 45.5	
	comp=Z,57μm,0.2s							
ILAS	**Lasjerd**	**1.28**	**146**	Pg		**Pg**	**22 05 25.4**	**-1.5**
ILAS				Sg		**Sg**	**22 05 43.5**	**0.0**
ILAS	**Lasjerd**	**1.28**	**146**	*e*Pg		**Pg**	**22 05 25.6**	**-1.3**
ILAS				*e*Sg		**Sg**	**22 05 43.5**	**0.0**
IMHD	**Mahdasht**	**1.38**	**237**	*e*Pn		**Pn**	**22 05 28.3**	**0.0**
IMHD				*e*Sg		**Sg**	**22 05 46.6**	**-0.1**
IMHD				*e*			22 05 48.8	
	comp=Z,34μm,0.1s							
IMHD	**Mahdasht**	**1.38**	**237**	Pn		**Pn**	**22 05 28.3**	**0.0**
IMHD				Sg		**Sg**	**22 05 46.6**	**-0.1**
IMHD	**Mahdasht**	**1.38**	**237**	*e*Pn		**Pn**	**22 05 28.3**	**0.0**
IMHD				*e*Sg		**Sg**	**22 05 46.6**	**-0.1**
IGLO	**Ghaloghah**	**1.41**	**87**	*e*Pn		**Pn**	**22 05 29.2**	**+0.4**
IGLO				*e*			22 05 56.1	
	comp=Z,17μm,0.3s							
IGLO	**Ghaloghah**	**1.41**	**87**	Pn		**Pn**	**22 05 29.1**	**+0.3**
IVRN	**Varamin**	**1.48**	**191**	*e*Pn		**Pn**	**22 05 29.4**	**-0.2**
IVRN				*e*Sg		**Sb**	**22 05 49.1**	**-0.4**
IVRN				*e*			22 05 52.7	
	comp=Z,55μm,0.1s							
IVRN	**Varamin**	**1.48**	**191**	Pn		**Pn**	**22 05 29.3**	**-0.3**
IVRN				Sg		**Sb**	**22 05 49.0**	**-0.4**
IVRN	**Varamin**	**1.48**	**191**	*e*Pn		**Pn**	**22 05 29.4**	**-0.2**
IVRN				Sg		**Sb**	**22 05 49.0**	**-0.4**
IR5	**Iran Long-Peri**	**1.73**	**225**	*e*Pn		**Pn**	**22 05 33.4**	**+0.2**
IR5				*e*			22 05 57.8	
	comp=N,0.0nm,0.2s							
IR5	**Iran Long-Peri**	**1.73**	**225**	*e*Pn		**Pn**	**22 05 33.4**	**+0.2**
IANJ	**Anjilo**	**1.78

comp=Z,6µm,0.1s
IHRS Heris 4.43 296 Pn Pn 22 06 10.1 -0.3
IHRS Heris 4.43 296 *e*Pn Pn 22 06 10.1 -0.3
IVIS Veis 4.68 247 *e*Pn Pn 22 06 13.2 -0.5
IVIS *e* 22 07 40.7
comp=Z,2µm,0.6s
IVIS Veis 4.68 247 *e*Pn Pn 22 06 13.2 -0.5
ISFR Sfrayin 4.79 81 *e*Pn Pn 22 06 17.2 +1.8
ISFR *e* 22 07 56.1
comp=Z,3µm,0.3s
ISFR Sfrayin 4.79 81 *e*Pn Pn 22 06 17.2 +1.8
TABS Tabas 4.99 123 *e*Pn Pn 22 06 19.9 +2.0
TABS Tabas 4.99 123 *e*Pn Pn 22 06 19.9 +2.0
ITBZ Tabriz 5.05 292 *e*Pn Pn 22 06 18.9 0.0
ITBZ *e* 22 07 52.9
comp=Z,1µm,0.3s
PQL Pirkuli 5.12 329 ⇓P Pn 22 06 20.7 +0.9
SNR=12
PQL ⇑S Sn 22 07 18.6 -0.8
PQL Pirkuli 5.12 329 ⇓Pn Pn 22 06 20.7 +0.9
SNR=12
PQL ⇑Sn Sn 22 07 18.6 -0.8
PQL Pirkuli 5.12 329 P Pn 22 06 20.7 +0.9
SNR=12
PQL S Sn 22 07 18.6 -0.8
SIZA Siyzn 5.25 333 ⇓P Pn 22 06 22.9 +1.4
SNR=3.1
SIZA ⇓S Sn 22 07 21.1 -1.2
SIZA Siyzn 5.25 333 ⇓Pn Pn 22 06 22.9 +1.4
SNR=3.1
SIZA ⇓Sn Sn 22 07 21.1 -1.2
SIZA Siyzn 5.25 333 P Pn 22 06 22.9 +1.4
SNR=3.1
SIZA S Sn 22 07 21.1 -1.2
IML Ismayilli 5.31 326 ⇓P Pn 22 06 22.2 0.0
SNR=10
IML ⇑S Sn 22 07 21.1 -2.7
IML Ismayilli 5.31 326 ⇓Pn Pn 22 06 22.2 0.0
SNR=10
IML ⇑Sn Sn 22 07 21.1 -2.7
IML Ismayilli 5.31 326 P Pn 22 06 22.2 0.0
SNR=10
IML S Sn 22 07 21.1 -2.7
IAKL Akhelmad 5.38 86 *e*Pn Pn 22 06 25.2 +1.8
BRDA Brd 5.42 316 ⇓P Pn 22 06 25.1 +1.3
SNR=30
BRDA ⇓S Sn 22 07 26.8 +0.4
BRDA Brd 5.42 316 ⇓Pn Pn 22 06 25.1 +1.3
SNR=30
BRDA ⇓Sn Sn 22 07 26.8 +0.4
QUBA Quba, Azerbaij 5.64 331 ⇑P Pn 22 06 27.9 +1.0
SNR=9.1
QUBA ⇓S Sn 22 07 29.0 -3.0
QUBA Quba, Azerbaij 5.64 331 ⇑Pn Pn 22 06 27.9 +1.0
SNR=9.1
QUBA ⇓Sn Sn 22 07 29.0 -3.0
QUBA Quba, Azerbaij 5.64 331 P Pn 22 06 27.9 +1.0
SNR=9.1
NAX Nakhchivan 5.88 300 ⇑S Sn 22 07 37.1 -0.9
NAX Nakhchivan 5.88 300 ⇑Sn Sn 22 07 37.1 -0.9
NAX Nakhchivan 5.88 300 S Sn 22 07 37.1 -0.9
ISRO Mashad 5.96 89 *e*Pn Pn 22 06 31.4 +0.1
ISRO Mashad 5.96 89 *e*Pn Pn 22 06 31.4 +0.1
SEKA Sheki 6.09 323 ⇓P Pn 22 06 32.8 -0.3
SNR=107
SEKA ⇑S Sn 22 07 38.7 -4.4
SEKA Sheki 6.09 323 ⇓Pn Pn 22 06 32.8 -0.3
SNR=107
SEKA ⇑Sn Sn 22 07 38.7 -4.4
SEKA Sheki 6.09 323 P Pn 22 06 32.8 -0.3
SNR=107
GANJ Ganja 6.16 315 ⇓P Pn 22 06 33.8 -0.1
SNR=69
GANJ ⇑S Sn 22 07 41.0 -3.8
GANJ Ganja 6.16 315 ⇓Pn Pn 22 06 33.8 -0.1
SNR=69
GANJ ⇑Sn Sn 22 07 41.0 -3.8
GANJ Ganja 6.16 315 P Pn 22 06 33.8 -0.1
SNR=69
GNI Garni 6.86 305 *e*Pn Pn 22 06 45.9 +2.3
GNI Sn Sb 22 08 15.0 -9.2
GNI Garni 6.86 305 Pn Pn 22 06 50.7 +7.0
comp=Z,1.9nm,0.3s,baz=126,slow=8.7,SNR=12
GNI Sn Sb 22 08 15.0 -9.2
comp=Z,1.2nm,0.3s,baz=66,slow=20,SNR=3.0
DGRG David-gareji 7.23 316 P Pn 22 06 50.0 +1.3
DGRG S Sn 22 08 10.5 -0.6
DGRG David-gareji 7.23 316 P Pn 22 06 50.0 +1.3
DGRG S Sn 22 08 10.5 -0.6
MAK Makhachkala 7.40 333 *e*P Pn 22 06 49.8 -1.1
MAK pmax pmax
comp=Z,98nm,1.0s
MAK Makhachkala 7.40 333 *e*P Pn 22 06 49.8 -1.1
comp=Z,98nm,1.0s
DBC Dubki 7.71 330 ⇑*i*P Pn 22 06 55.7 +0.4
DBC Dubki 7.71 330 *i*P Pn 22 06 55.7 +0.4
MIB Mutribah 7.73 212 *e*P Pn 22 06 55.5 0.0
MIB AML AML 22 08 22.5
comp=Z,18nm,0.6s
MIB Mutribah 7.73 212 *e*P Pn 22 06 55.5 0.0
KZR Kazreti 7.74 312 P Pb 22 07 06.4 -11
KZR S Sn 22 08 17.3 -6.4
TBLG Delisi 7.77 315 P **Pn 22 06 55.8 -0.3**
TBLG S **Sn 22 08 19.5 -5.0**
TBLG Delisi 7.77 315 P **Pn 22 06 55.8 -0.3**
TBLG S **Sn 22 08 19.5 -5.0**
TBLG Delisi 7.77 315 P **Pn 22 06 55.8 -0.3**
DUS Dusheti 8.03 317 P **Pn 22 07 00.3 +0.7**
DUS S **Sn 22 08 26.6 -4.3**
DUS Dusheti 8.03 317 P **Pn 22 07 00.3 +0.7**
NAY Al-Naaiem 8.25 211 *e*P Pn 22 07 03.0 +0.3
NAY AML AML 22 08 17.4
comp=Z,6.2nm,0.7s
RDF Al-Radifah 8.42 208 *e*P Pn 22 07 05.9 +1.0
RDF AML AML 22 08 31.1
comp=Z,11nm,0.7s
ZEI Tsey 8.93 317 *e*P Pn 22 07 11.7 -0.4
ZEI pmax pmax
comp=Z,11nm,0.6s
ZEI Tsey 8.93 317 *e*P Pn 22 07 11.7 -0.4
comp=Z,11nm,0.6s
ONI Oni 9.06 315 P **Pn 22 07 13.6 -0.2**
ONI S **Sn 22 08 52.4 -3.7**
ONI Oni 9.06 315 P **Pn 22 07 13.6 -0.2**
KBZ Khabaz 10.11 319 P **Pn 22 07 29.8 +1.7**
KBZ 22 09 17.6
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ smax smax
comp=N,1.0nm,0.3s
KBZ Khabaz 10.11 319 Pn **Pn 22 07 29.8 +1.7**
KBZ Sn **Sn 22 09 17.6 -4.3**
KBZ Khabaz 10.11 319 Pn **Pn 22 07 29.8 +1.7**
comp=N,0.5nm,0.3s,baz=169,slow=6.5,SNR=5.5
KBZ Sn **Sn 22 09 17.6 -4.3**
comp=N,0.7nm,0.3s,baz=133,slow=14,SNR=4.1
KBZ Khabaz 10.11 319 P **Pn 22 07 29.8 +1.7**
comp=N,1.0nm,0.3s
KIV Kislovodsk 10.38 319⇑*e*P Pn 22 07 34.6 +2.7
KIV *e*S **Sn 22 09 26.9 -1.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s
ASF Jabal al Asfar 13.26 256 LR LR 22 14 03.1
comp=Z,153nm,18.4s,baz=20,slow=41
KBL Kabul 13.95 93 *e*Pn Pn 22 08 18.3 -2.6
AB31 Akbulak array 14.03 22 P **Pn 22 08 18.5 -3.1**
comp=Z,1.5nm,0.5s,baz=208,slow=14,SNR=30
AB31 S Sn 22 10 46.0 -12
comp=Z,3.5nm,0.6s,baz=194,slow=24,SNR=9.3
ABKAR Akbulak array 14.03 22 *e*Pn Pn 22 08 17.4 -4.2
RAYN Ar Rayn 14.08 206 *e*Pn Pn 22 08 20.0 -2.5
RAYN Ar Rayn 14.08 206 *e*Pn Pn 22 08 20.0 -2.5
AKTO Aktyubinsk 14.62 15 ⇓P Pn 22 08 26.3 -3.4
comp=Z,2.9nm,0.5s
AKTO ⇑S Sn 22 11 00.8 -11
comp=Z,7.2nm,0.7s
AKTO Aktyubinsk 14.62 15 P Pn 22 08 26.5 -3.2
AKTO 22 11 00.6
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,247nm,18.1s

AKTO Aktyubinsk 14.62 15 Pn Pn 22 08 26.5 -3.2
AKTO Sn Sn 22 11 00.6 -12
AKTO Aktyubinsk 14.62 15 Pn Pn 22 08 26.5 -3.2
comp=Z,1.5nm,0.3s,baz=197,slow=11,SNR=19
AKTO Sn Sn 22 11 00.6 -12
comp=Z,0.8nm,0.3s,baz=232,slow=19,SNR=5.8
AKTO LR LR 22 15 41.9
comp=Z,247nm,18.1s,baz=43,slow=44
BRTR Keskin Array B 14.89 288 Pn **P 22 08 37.5 -1.9**
BRTR Keskin Array B 14.89 288 Pn **P 22 08 37.5 -1.9**
comp=Z,0.0nm,0.3s,baz=111,slow=9.4,SNR=8.2
BRTR Keskin Array B 14.89 288 P **P 22 08 37.6 -1.9**
CSS Prodhromos 15.31 270 *e*Pn Pn 22 08 38.9 -0.3
comp=Z,17nm,0.9s
CSS Prodhromos 15.31 270 *e*Pn Pn 22 08 38.8 -0.3
comp=Z,17nm,0.9s
KK31 Karatay Array 15.63 59 P **Pn 22 08 40.5 -2.9**
comp=Z,3.9nm,0.7s,baz=249,slow=15,SNR=27
KK31 ⇑S Sn 22 11 24.1 -13
comp=Z,2.7nm,0.7s,baz=251,slow=20,SNR=3.7
KKAR Karatay Array 15.63 59 *e*P Pn 22 08 40.6 -2.7
KKAR *e* 22 11 30.0
KKAR Karatay Array 15.63 59 *e*Pn Pn 22 08 40.6 -2.7
KKAR *e*Sn **Sn 22 11 30.0 -6.8**
EIL Elat 15.87 250 LR LR 22 15 49.2
comp=Z,236nm,19.8s,baz=275,slow=41
VRHR Novokhopersk 16.45 336 *e*P Pn 22 08 52.2 -1.5
VRHR *e*S Sn 22 11 47.8 -8.6
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.3s
VRHR smax smax
comp=N,50nm,0.8s
VRHR smax smax
comp=E,60nm,0.8s
VRHR smax smax
comp=Z,9.0nm,0.8s
VORD Divnogorie 17.17 332 *e*P Pn 22 08 59.8 -3.0
VORD *e*S **Sn 22 12 09.7 -4.2**
VORD pmax pmax
comp=N,9.0nm,0.4s
VORD pmax pmax
comp=E,5.0nm,0.4s
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD smax smax
comp=E,20nm,0.7s
VORD smax smax
comp=Z,7.0nm,0.4s
VORD smax smax
comp=N,20nm,0.7s
VSR Storozhevoye 17.42 332 *e*P Pn 22 09 02.1 -3.8
VSR *e*S Sn 22 12 10.9 -9.0
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR smax smax
comp=N,80nm,2.1s
VSR smax smax
comp=E,20nm,1.0s
VSR smax smax
comp=Z,30nm,1.0s
EKS2 Erkin-Say 17.82 63 *e*P Pn 22 09 11.4 +0.3
EKS2 pmax pmax
comp=Z,9.0nm,0.9s
EKS2 Erkin-Say 17.82 63 *e*Pn Pn 22 09 11.4 +0.3
comp=Z,9.3nm,0.9s
EKS2 Erkin-Say 17.82 63 *e*P Pn 22 09 11.4 +0.3
comp=Z,9.0nm,0.9s
AAK Ala-Archa 18.33 63⇓*e*P P 22 09 20.1 +2.5
AAK pmax pmax
comp=Z,16nm,1.0s
AAK MLR MLR
comp=Z,198nm,15.0s
AAK Ala-Archa 18.33 63 *e*P P 22 09 18.3 +0.7
comp=Z,6.5nm,1.0s
AAK Ala-Archa 18.33 63 P **P 22 09 18.3 +0.7**
comp=Z,0.7nm,0.3s,baz=239,slow=4.5,SNR=5.4
AAK LR LR 22 17 09.2
comp=Z,130nm,21.7s,baz=247,slow=39
AAK Ala-Archa 18.33 63 *e*P P 22 09 18.3 +0.7
comp=Z,6.5nm,1.0s
TKM2 Tokmak 2 19.18 63 *e*P Pn 22 09 29.3 +1.4
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 19.18 63 *e*Pn Pn 22 09 29.2 +1.4
comp=Z,6.1nm,1.0s
TKM2 Tokmak 2 19.18 63 *e*Pn Pn 22 09 29.2 +1.4
comp=Z,6.1nm,1.0s
TIRR Tirgusor 19.66 301 ⇑P Pn 22 09 35.9 +2.6
TIRR Tirgusor 19.66 301 ⇑*i*P Pn 22 09 35.9 +2.6
CFR Carcaliu 20.06 303 ⇑P Pn 22 09 39.5 +1.5
CFR Carcaliu 20.06 303 ⇑*i*P Pn 22 09 39.5 +1.5
HARR Harsova 20.06 302 ⇓P Pn 22 09 38.2 +0.2
HARR Harsova 20.06 302 ⇓*i*P Pn 22 09 38.2 +0.2
HARR Harsova 20.06 302 P Pn 22 09 38.2 +0.2
ARU Arti 20.46 10 *c i*P P 22 09 40.5 0.0
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 20.46 10 *i*P P 22 09 40.5 0.0
comp=Z,13nm,1.0s
BRVK Borovoye 20.94 32 ⇑P P 22 09 46.6 +0.8
comp=Z,18nm,0.9s
BRVK ⇓S S 22 13 30.3 -9.1
comp=Z,4.7nm,0.8s
BRVK Borovoye 20.94 32⇓*e*P P 22 09 46.5 +0.7
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK Borovoye 20.94 32 *e*P P 22 09 46.8 +1.0
comp=Z,44nm,1.6s
BRVK Borovoye 20.94 32 *e*P P 22 09 46.5 +0.7
comp=Z,21nm,1.3s
BVA0 Borovoye Array 20.96 32 P **P 22 09 47.0 +1.0**
comp=Z,17nm,1.2s,baz=218,slow=9.2,SNR=58
BVA0 ⇓S S 22 13 29.9 -10
comp=Z,2.2nm,0.9s,baz=227,slow=24,SNR=3.9
BVA0 Borovoye Array 20.96 32 P **P 22 09 47.0 +1.0**
comp=Z,17nm,1.2s,baz=218,SNR=58
BVAR Borovoye Array 20.96 32 P **P 22 09 47.2 +1.2**
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 20.96 32 P **P 22 09 47.2 +1.2**
BVAR Borovoye Array 20.96 32 P **P 22 09 47.2 +1.2**
comp=Z,8.6nm,0.6s,baz=220,slow=9.2,SNR=72
BVAR LR LR 22 19 20.7
comp=Z,122nm,20.6s,baz=284,slow=41
BVAR Borovoye Array 20.96 32 P **P 22 09 47.2 +1.2**
comp=Z,9.0nm,0.6s
RDO Rodhopi 21.18 291 *e*P P 22 09 49.3 +0.9
SVE Sverdlovsk 21.18 13 *e*P P 22 09 52.4 +4.1
SVE *e*S **S 22 13 37.1 -6.9**
SVE pmax pmax
comp=Z,10.0nm,1.5s
PLOR Plostina 21.26 304 ⇑P P 22 09 50.6 +1.3
PLOR Plostina 21.26 304 ⇑*i*P P 22 09 50.6 +1.3
PLOR Plostina 21.26 304 P **P 22 09 50.6 +1.3**
LIA Limnos Island 21.40 287 *e*P P 22 09 51.8 +1.0
TESR Tescani 21.46 306 ⇑*i*P P 22 09 51.1 -0.3
OBN Obninsk 21.49 335⇑*e*P P 22 09 53.7 +2.1
OBN *e*SP sP 22 10 02.7 +8.7
OBN *e* 22 10 11.0
OBN *e*S **S 22 13 44.3 -5.7**
OBN *e* 22 13 59.3
OBN *e*SS **SnSn 22 14 08.5 -4.5**
OBN pmax pmax
comp=Z,23nm,1.2s
OBN Obninsk 21.49 335 *e*P P 22 09 53.7 +2.1
comp=Z,23nm,1.2s
MLR Muntele Rosu 21.63 303 ⇑*i*P P 22 09 55.4 +2.0
MLR Muntele Rosu 21.63 303 P **P 22 09 55.3 +1.9**
MLR Muntele Rosu 21.63 303 P **P 22 09 55.3 +1.9**
comp=Z,2.5nm,0.9s,baz=87,slow=2.7,SNR=9.6
MLR Muntele Rosu 21.63 303 P **P 22 09 55.3 +1.9**
AKASG Malin Array Be 21.73 318*c e*P P 22 09 57.2 +3.0
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 21.73 318 P **P 22 09 53.4 -0.8**
AKASG Malin Array Be 21.73 318 P **P 22 09 53.4 -0.8**
comp=Z,1.7nm,0.6s,baz=125,slow=10,SNR=9.1
AKASG Malin Array Be 21.73 318 P **P 22 09 53.4 -0.8**

KIEV Kiev 21.73 318 *e*P P 22 09 53.5 -0.8
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 21.73 318 *e*P P 22 09 53.5 -0.8
comp=Z,6.3nm,0.8s
KIEV Kiev 21.73 318 *e*P P 22 09 53.5 -0.8
comp=Z,6.0nm,0.8s
VOIR 22.22 302 ⇑P P 22 10 02.4 +2.7
VOIR 22.22 302 ⇑*i*P P 22 10 02.4 +2.7
NVR Nevrokopi 22.45 291 *e*P P 22 10 02.8 +0.6
ARR Arges 22.49 302 ⇑*i*P P 22 10 06.3 +3.7
PLG Polygyros 22.73 289 *e*P P 22 10 06.6 +1.4
BURAR Bucovina Array 22.75 308 ⇓P P 22 10 07.6 +2.3
BURAR Bucovina Array 22.75 308 ⇓*i*P P 22 10 07.6 +2.3
SOH Sokhos 22.81 290 *e*P P 22 10 06.6 +0.6
VTS Vitosha 23.04 294 ⇑P P 22 10 10.5 +2.0
VTS Vitosha 23.04 294 ⇑*i*P P 22 10 10.5 +2.0
AGG Agios Georgios 23.62 285 *e*P P 22 10 14.7 +0.4
KURBB Kurchatov Arra 23.68 45 P **P 22 10 15.5 +0.9**
comp=Z,12nm,1.4s
KURBB Kurchatov Arra 23.68 45 P **P 22 10 16.4 +1.8**
comp=Z,3.6nm,0.7s,baz=245,slow=10.0,SNR=27
KURK Kurchatov 23.77 45 P **P 22 10 16.4 +0.9**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 23.77 45 P **P 22 10 16.4 +0.9**
KURK Kurchatov 23.77 45 P **P 22 10 16.4 +0.9**
DRGR 24.14 305 ⇑P P 22 10 20.0 +0.8
DRGR 24.14 305 ⇑*i*P P 22 10 20.0 +0.8
MK31 Makanchi Array 24.69 56 P **P 22 10 25.4 +1.2**
comp=Z,4.9nm,0.8s,baz=248,slow=8.0,SNR=21
MK31 Makanchi Array 24.69 56 *i*P P 22 10 25.4 +1.2
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 24.69 56 *e*P P 22 10 25.8 +1.6
MK31 Makanchi Array 24.69 56 *e*P P 22 10 25.8 +1.6
MKAR Makanchi Array 24.69 56 *e*P P 22 10 26.1 +1.9
MKAR Makanchi Array 24.69 56 *e*P P 22 10 26.1 +1.9
MKAR Makanchi Array 24.69 56 P **P 22 10 25.8 +1.6**
comp=Z,4.0nm,0.8s,baz=248,slow=6.4,SNR=23
MKAR LR LR 22 21 26.0
comp=Z,111nm,20.0s,baz=179,slow=40
MKAR Makanchi Array 24.69 56 *e*P P 22 10 26.1 +1.9
LKD2 Lefkada island 24.94 285 *e*P P 22 10 25.7 -0.8
KOLS Kolonicke sedl 25.04 309 *e*P P 22 10 29.7 +2.5
KOLS *e* 22 10 37.7
KOLS Kolonicke sedl 25.04 309 *e*P P 22 10 29.7 +2.5
KOLS *e* 22 10 37.7
CRVS Cervenica-Dubn 25.54 309 *e*P P 22 10 33.8 +2.0
CRVS Cervenica-Dubn 25.54 309 *e*P P 22 10 33.8 +2.0
KECS Kecovo 26.04 307 *e*P P 22 10 40.9 +4.6
KECS Kecovo 26.04 307 *e*P P 22 10 40.9 +4.6
ATD Arta Tunnel 26.17 201 LR LR 22 21 04.8
comp=Z,69nm,20.8s,baz=281,slow=37
WMQ Urumqi 28.04 64 *e*P P 22 10 59.8 +5.3
WMQ pmax pmax
comp=Z,7.0nm,1.0s
WMQ LR LR
comp=N,46nm,18.0s
WMQ LR LR
comp=E,45nm,18.0s
WMQ LR LR
comp=Z,71nm,20.0s
ZALV Zalesovo Beam 28.59 42 P **P 22 10 59.9 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,83nm,18.2s
ZALV Zalesovo Beam 28.59 42 P **P 22 10 59.9 +0.7**
ZALV Zalesovo Beam 28.59 42 P **P 22 10 59.9 +0.7**
comp=Z,1.0nm,0.5s,baz=247,slow=8.8,SNR=6.6
ZALV LR LR 22 23 52.9
comp=Z,83nm,18.2s,baz=249,slow=39
ZALV Zalesovo Beam 28.59 42 P **P 22 10 59.8 +0.6**
FINES FINESS Array B 29.89 335 P **P 22 11 11.2 +0.6**
FINES FINESS Array B 29.89 335 P **P 22 11 11.2 +0.6**
comp=Z,1.7nm,0.9s,baz=170,slow=8.5,SNR=4.3
FINES LR LR 22 23 22.6
comp=Z,87nm,19.8s,baz=319,slow=37
FINES FINESS Array B 29.89 335 P **P 22 11 11.2 +0.6**
comp=Z,87nm,19.8s
GERES GERESS Array B 30.50 306 P **P 22 11 16.6 +0.3**
GERES GERESS Array B 30.50 306 P **P 22 11 16.6 +0.3**
comp=Z,0.4nm,0.6s,baz=124,slow=8.4,SNR=3.5
GERES GERESS Array B 30.50 306 P **P 22 11 16.6 +0.3**
CLL Collm 31.42 311 *e*P P 22 11 24.0 -0.2
CLL *e* 22 11 32.0
CLL pmax pmax
comp=Z,8.0nm,1.6s
CLL Collm 31.42 311 *e*P P 22 11 24.0 -0.2
CLL Collm 31.42 311 *e*P P 22 11 24.0 -0.2
comp=Z,8.0nm,1.6s
HVS Khovu-Aksy 32.95 50 *i*P P 22 11 40.6 +2.8
HVS pmax pmax
comp=Z,21nm,1.1s
PGF Pioggiola 33.52 294 *e*P P 22 11 42.6 -0.3
comp=Z,19nm,1.0s
SBF Sospel 34.58 296 *e*P P 22 11 52.1 +0.1
SBF Sospel 34.58 296 *e*P P 22 11 52.1 +0.1
LPG La Plagne 35.00 299 *e*P P 22 11 55.5 -0.4
comp=Z,5.0nm,0.8s
LPG La Plagne 35.00 299 *e*P P 22 11 55.5 -0.4
comp=Z,2.5nm,0.8s
MBDF Montbardon 35.01 298 *e*P P 22 11 55.5 -0.3
comp=Z,8.0nm,0.8s
MBDF Montbardon 35.01 298 *e*P P 22 11 55.5 -0.3
comp=Z,4.0nm,0.8s
LPL La Plagne 35.01 299 *e*P P 22 11 55.4 -0.5
LPL La Plagne 35.01 299 *e*P P 22 11 55.4 -0.5
BNI Bardonecchia 35.06 299 *e*P P 22 11 56.3 +0.1
BNI pmax pmax
comp=Z,6.0nm,1.0s
BNI Bardonecchia 35.06 299 *e*P P 22 11 56.3 +0.1
comp=Z,6.4nm,1.0s
BNI Bardonecchia 35.06 299 *e*P P 22 11 56.3 +0.1
comp=Z,6.0nm,1.0s
FRF La Foret Royal 35.17 296 *e*P P 22 11 56.7 -0.3
comp=Z,24nm,1.0s
FRF La Foret Royal 35.17 296 *e*P P 22 11 56.7 -0.3
comp=Z,12nm,1.0s
LMR La Mourre 35.28 296 *e*P P 22 11 57.4 -0.6
comp=Z,9.2nm,1.0s
LMR La Mourre 35.28 296 *e*P P 22 11 57.4 -0.6
comp=Z,4.6nm,1.0s
HAU Haudompre 35.29 304 *e*P P 22 11 58.4 +0.4
HAU Haudompre 35.29 304 *e*P P 22 11 58.4 +0.4
CABF La Chapelle 35.45 301 *e*P P 22 11 59.7 +0.2
comp=Z,17nm,1.0s
CABF La Chapelle 35.45 301 *e*P P 22 11 59.7 +0.2
comp=Z,8.4nm,1.0s
ORIF Oris-en-Rattie 35.64 298 *e*P P 22 12 00.4 -0.7
comp=Z,8.5nm,1.1s
ORIF Oris-en-Rattie 35.64 298 *e*P P 22 12 00.4 -0.7
comp=Z,4.2nm,1.1s
PAGF Fort de Pagny 35.73 305 *e*P P 22 12 00.6 -1.2
PAGF Fort de Pagny 35.73 305 *e*P P 22 12 00.6 -1.2
SMRF Simiane la Rot 35.91 297 *e*P P 22 12 03.2 -0.2
SMRF Simiane la Rot 35.91 297 *e*P P 22 12 03.2 -0.2
MEZF Maizieres J'vi 36.17 304 *e*P P 22 12 03.8 -1.8
MEZF Maizieres J'vi 36.17 304 *e*P P 22 12 03.8 -1.8
SFTF Sexfontaines 36.18 304 *e*P P 22 12 04.7 -0.9
SFTF Sexfontaines 36.18 304 *e*P P 22 12 04.7 -0.9
VIVF Saint-Julien-l 36.50 298 *e*P P 22 12 07.7 -0.7
comp=Z,4.0nm,0.8s
VIVF Saint-Julien-l 36.50 298 *e*P P 22 12 07.7 -0.7
comp=Z,2.0nm,0.8s
LOR Lormes 36.97 302 *e*P P 22 12 11.7 -0.7
LOR Lormes 36.97 302 *e*P P 22 12 11.7 -0.7
SMF Signal de Mont 37.00 301 *e*P P 22 12 11.5 -1.1
comp=Z,4.2nm,0.8s
SMF Signal de Mont 37.00 301 *e*P P 22 12 11.5 -1.1
comp=Z,2.1nm,0.8s
LASF Ste Croix 37.14 297 *e*P P 22 12 13.4 -0.5
LASF Ste Croix 37.14 297 *e*P P 22 12 13.4 -0.5
SSF Saint Saulge 37.21 302 *e*P P 22 12 13.0 -1.5
SSF Saint Saulge 37.21 302 *e*P P 22 12 13.0 -1.5
AVF Avril sur Loir 37.33 302 *e*P P 22 12 14.9 -0.5
comp=Z,4.6nm,0.8s
AVF Avril sur Loir 37.33 302 *e*P P 22 12 14.9 -0.5
comp=Z,2.3nm,0.8s
TCF Toulx Ste Croi 38.14 301 *e*P P 22 12 22.3 0.0
comp=Z,7.3nm,1.0s
TCF Toulx Ste Croi 38.14 301 *e*P P 22 12 22.3 0.0
comp=Z,3.7nm,1.0s
CAF Calviac 38.34 299 *e*P P 22 12 24.0 -0.1

CAF	**Calviac**	**38.34**	**299**	*eP*	**P**	**22 12 24.0**	**-0.1**
MTLF	**Montolieu**	**38.40**	**296**	*eP*	**P**	**22 12 24.0**	**-0.5**
	comp=Z,1.9nm,0.6s						
MTLF	**Montolieu**	**38.40**	**296**	*eP*	**P**	**22 12 24.0**	**-0.5**
	comp=Z,0.9nm,0.6s						
RJF	**Les Rejaudoux**	**38.69**	**299**	*eP*	**P**	**22 12 27.2**	**+0.2**
	comp=Z,11nm,1.0s						
RJF	**Les Rejaudoux**	**38.69**	**299**	*eP*	**P**	**22 12 27.2**	**+0.2**
	comp=Z,5.3nm,1.0s						
LFF	**La Frestale**	**39.27**	**299**	*eP*	**P**	**22 12 31.7**	**-0.1**
	comp=Z,6.3nm,0.6s						
LFF	**La Frestale**	**39.27**	**299**	*eP*	**P**	**22 12 31.7**	**-0.1**
	comp=Z,3.2nm,0.6s						
MFF	**Saint Martin d**	**39.74**	**302**	*eP*	**P**	**22 12 35.1**	**-0.6**
MFF	**Saint Martin d**	**39.74**	**302**	*eP*	**P**	**22 12 35.1**	**-0.6**
FLN	**La Foliniere**	**39.84**	**305**	*eP*	**P**	**22 12 35.7**	**-0.8**
FLN	**La Foliniere**	**39.84**	**305**	*eP*	**P**	**22 12 35.7**	**-0.8**
GRR	**Gorron**	**40.11**	**304**	*eP*	**P**	**22 12 38.1**	**-0.6**
GRR	**Gorron**	**40.11**	**304**	*eP*	**P**	**22 12 38.1**	**-0.6**
ETSF	**Etsaut**	**40.47**	**296**	*eP*	**P**	**22 12 41.7**	**-0.2**
	comp=Z,18nm,1.4s						
ETSF	**Etsaut**	**40.47**	**296**	*eP*	**P**	**22 12 41.7**	**-0.2**
	comp=Z,9.1nm,1.4s						
SJPF	**Ste Jean**	**40.92**	**296**	*eP*	**P**	**22 12 45.2**	**-0.4**
SJPF	**Ste Jean**	**40.92**	**296**	*eP*	**P**	**22 12 45.2**	**-0.4**
SONM	**Songino Array**	**41.06**	**56**	P	**P**	**22 12 47.6**	**+0.9**
SONM	**Songino Array**	**41.06**	**56**	P	**P**	**22 12 47.6**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=297,slow=9.5,SNR=3.2						
SONM				LR	LR	22 31 24.4	
	comp=Z,64nm,21.9s,baz=36,slow=38						
SONM	**Songino Array**	**41.06**	**56**	P	**P**	**22 12 47.6**	**+0.9**
	comp=Z,64nm,21.9s						
SGMF	**Saint Gilles**	**41.25**	**304**	*eP*	**P**	**22 12 47.9**	**-0.2**
SGMF	**Saint Gilles**	**41.25**	**304**	*eP*	**P**	**22 12 47.9**	**-0.2**
QUIF	**Quistinic**	**41.68**	**304**	*eP*	**P**	**22 12 51.2**	**-0.5**
QUIF	**Quistinic**	**41.68**	**304**	*eP*	**P**	**22 12 51.2**	**-0.5**
CD2	**Chengdu**	**42.94**	**82**	*eP*	**P**	**22 13 05.0**	**+2.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,40nm,5.8s						
ESDC	**Sonseca Array**	**43.64**	**292**	P	**P**	**22 13 07.1**	**-0.7**
ESDC	**Sonseca Array**	**43.64**	**292**	P	**P**	**22 13 07.1**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=65,slow=8.5,SNR=19						
ESDC	**Sonseca Array**	**43.64**	**292**	P	**P**	**22 13 07.1**	**-0.7**
KMI	**Kunming**	**44.51**	**90**	P	**P**	**22 13 17.5**	**+2.4**
KMI				pP	pP	22 13 23.6	+6.7
KMI				sP	sP	22 13 29.8	+12
KMI				PP	**PP**	**22 15 00.4**	**+1.6**
KMI				S	**S**	**22 19 51.3**	**+0.1**
KMI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KMI				LR	LR		
	comp=N,140nm,20.4s						
KMI				LR	LR		
	comp=E,90nm,13.6s						
KMI				LR	LR		
	comp=Z,120nm,17.4s						
CMAR	**Chiang Mai Arr**	**44.81**	**101**	P	**P**	**22 13 17.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.81**	**101**	P	**P**	**22 13 17.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=300,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**44.81**	**101**	P	**P**	**22 13 17.2**	**-0.2**
	comp=Z,1.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**45.89**	**66**	*eP*	**P**	**22 13 28.4**	**+2.6**
HHC				pP	pP	22 13 38.1	+10
HHC				sP	sP	22 13 41.9	+14
HHC				PcP	**PcP**	**22 15 05.1**	**+2.2**
HHC				PP	**PP**	**22 15 14.6**	**+1.5**
HHC				ScP	**ScP**	**22 18 54.6**	**-1.9**
HHC				S	**S**	**22 20 09.3**	**-1.3**
HHC				sS	sS	22 20 26.3	+13
HHC				ScS	**ScS**	**22 23 18.8**	**-3.7**
HHC				SS	SS	22 23 25.8	-9.1
HHC				pmax	pmax		
	comp=Z,230nm,6.0s						
HHC				pmax	pmax		
	comp=Z,160nm,3.6s						
HHC				LR	LR		
	comp=N,240nm,15.6s						
HHC				LR	LR		
	comp=E,250nm,15.5s						
HHC				LR	LR		
	comp=Z,260nm,15.5s						
GYA	**Guiyang**	**47.08**	**86**	*eP*	**P**	**22 13 36.0**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.62**	**256**	P	**P**	**22 14 00.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**50.62**	**256**	P	**P**	**22 14 00.8**	**-1.7**
	comp=Z,1.6nm,1.1s,baz=38,slow=4.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**50.62**	**256**	P	**P**	**22 14 00.8**	**-1.7**
MDJ	**Mudanjiang**	**57.41**	**56**	P	**P**	**22 14 52.3**	**+0.6**
MDJ				pP	pP	22 15 01.6	+8.0
MDJ				sP	sP	22 15 05.3	+11
MDJ				PcP	**PcP**	**22 15 45.3**	**-0.3**
MDJ				PP	**PP**	**22 16 59.9**	**+1.1**
MDJ				S	**S**	**22 22 46.5**	**-2.5**
MDJ				SS	**SS**	**22 26 44.6**	**+6.5**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,53nm,3.9s						
MDJ				LR	LR		
	comp=N,100nm,17.8s						
MDJ				LR	LR		
	comp=E,96nm,19.8s						
MDJ				LR	LR		
	comp=Z,100nm,8.7s						
SEY	**Seymchan**	**62.61**	**30**	*eP*	P	22 15 31.6	+4.5
PETK	**Petropavlovsk-**	**70.06**	**38**	LR	LR	22 49 15.1	
	comp=Z,38nm,19.2s,baz=356,slow=38						

*BER **14** 22:36:07.9±1.7, 78°.86N×5°.02E, h15km±399km, MD1.4, ML2.1, ML2.8(NAO)*
*CSEM **14** 22:36:07.4±0.6, 78°.94N×5°.69E, h10km, ML2.8, Error ellipse: s-maj=19.0km s-min=9.0km az=171.0*
*NAO **14** 22:36:09.3±5.1, 78°.84N×6°.17E, ML2.8*
ISC 14 22:36:07.3±4.4, 78°.8N±0°.1×5°.7E±0°.2, h10km, n7, σ0s89/13, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.23**	**79**	Pg	**Pb**	**22 36 29.9**	**-0.6**
KBS				Lg	Lg	22 36 46.3	
KBS	**Kingsbay**	**1.23**	**79**	*eP*	**Pb**	**22 36 29.9**	**-0.6**
KBS				*eS*	**Sn**	**22 36 46.3**	**-0.7**
KBS				AML	AML	22 36 47.8	
	comp=Z,44nm,0.3s						
KBS	**Kingsbay**	**1.23**	**79**	*eP*	**Pb**	**22 36 29.9**	**-0.6**
	SNR=55						
KBS				*eS*	**Sn**	**22 36 46.3**	**-0.7**
	comp=Z,44nm,0.3s,SNR=55						
KBS				Lg	Lg	22 36 46.3	
SPA0	**Spitsbergen Ar**	**2.22**	**100**	Pn	**Pn**	**22 36 45.1**	**+1.0**
	baz=292,slow=12						
SPA0				Sn	**Sn**	**22 37 12.2**	**+0.6**
	baz=286,slow=28						
SPA0	**Spitsbergen Ar**	**2.22**	**100**	Pn	**Pn**	**22 36 45.1**	**+1.0**
	baz=292,slow=12						
SPA0				Sn	**Sn**	**22 37 12.2**	**+0.6**
	baz=286,slow=28						
SPA0	**Spitsbergen Ar**	**2.22**	**100**	Pn	**Pn**	**22 36 45.1**	**+1.0**
	baz=292,slow=12,SNR=0.7						
SPA0				Sn	**Sn**	**22 37 12.2**	**+0.6**
	baz=286,slow=25,SNR=1.3						
HSP	**Hornsund**	**2.72**	**125**	*eP*	**Pn**	**22 36 51.2**	**+0.3**
HSP				*eS*	**Sn**	**22 37 22.6**	**-1.2**

IDC 14 22:38:54.0±1.4, 16°.30N×93°.73E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/27, mbtmp3.5/6, Error ellipse: s-maj=40.4km s-min=24.4km az=28.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.42**	**66**	Pn	Pn	22 40 16.6	+0.3
	baz=258,slow=15,SNR=10.0						
CMAR				Sn	Sn	22 41 19.8	+0.4
	0.7nm,0.3s,baz=258,slow=26,SNR=6.3						
MKAR	**Makanchi Array**	**31.85**	**345**	P	P	22 45 20.6	-0.1
	0.2nm,0.5s,baz=148,slow=10.0,SNR=3.6						
WRA	**Warramunga Arr**	**53.76**	**131**	P	P	22 48 18.4	-0.1
	0.4nm,0.7s,baz=312,slow=7.5,SNR=6.4						
BRTR	**Keskin Array B**	**56.84**	**307**	P	P	22 48 40.5	-0.3
	0.4nm,0.7s,baz=81,slow=8.9,SNR=3.2						
FINES	**FINESS Array B**	**65.16**	**331**	P	P	22 49 36.8	+0.1
	3.1nm,1.1s,baz=193,slow=7.8,SNR=3.6						
GERES	**GERESS Array B**	**71.38**	**317**	P	P	22 50 16.2	+0.1
	0.2nm,0.4s,baz=69,slow=7.3,SNR=3.8						

MEX 14 23:05:16.1±0.4, 17°.03N×100°.43W, h38km±5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**82**	*eP*	Pn	23 05 21.3	-5.1
CAIG				*i* S	Sn	23 05 25.9	-10
ACX	**Acapulco**	**0.57**	**106**	*eP*	Pn	23 05 31.9	+4.0
ACX				*i* S	Sn	23 05 39.7	+3.6
ZIIG	**Zihuatanejo**	**1.14**	**301**	*eP*	Pn	23 05 34.0	-1.5
ZIIG				*i* S	Sn	23 05 47.7	-2.2
MEIG	**Mezcala**	**1.19**	**41**	*eP*	Pn	23 05 34.7	-1.6
MEIG				*e*S	Sn	23 05 49.0	-2.3
ARIG	**Puente Sto Nin**	**1.25**	**4**	*eP*	Pn	23 05 35.5	-1.6
ARIG				*e*S	Sn	23 05 49.9	-2.9
PLIG	**Platanillo**	**1.62**	**33**	*i* P	Pn	23 05 40.9	-1.5
PLIG				*i* S	Sn	23 06 00.1	-2.0

*CSEM **14** 23:06:13.1±0.2, 36°.40N×52°.01E, h2km, ML3.8, Error ellipse: s-maj=4.4km s-min=3.4km az=59.0*
*TEH **14** 23:06:14.5, 36°.37N×52°.08E, h6km, ML3.5*
*IDC **14** 23:06:15.9±7.4, 36°.84N×52°.03E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=138.9km s-min=22.7km az=11.0*
*THR **14** 23:06:16.2±1.1, 36°.22N×51°.90E, h14km±11km, ML3.8*
*AZER **14** 23:06:17.3, 36°.33N×51°.56E, h154km*
*NNC **14** 23:06:20.3±3.8, 37°.24N×52°.70E, h0km, mb3.7, Error ellipse: s-maj=58.7km s-min=23.7km az=78.0*
ISC 14 23:06:12.2±1.3, 36°.44N±0°.03×52°.05E±0°.02, h4km±10km, n96, σ1s55/125, mb3.5/4, 18C-11D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**0.81**	**185**	*e*Pg	**Pg**	**23 06 27.4**	**-0.4**
DAMV	**Damavand**	**0.81**	**185**	*e*Pg	**Pg**	**23 06 27.4**	**-0.4**
IDMV	**Damavand**	**0.86**	**181**	*e*Pg	**Pg**	**23 06 28.5**	**-0.3**
IDMV				*e*Sg	**Sg**	**23 06 39.9**	**-0.1**
IDMV				*e*		23 06 43.7	
	comp=Z,16μm,0.1s						
IDMV	**Damavand**	**0.86**	**181**	*e*Pg	**Pg**	**23 06 28.5**	**-0.3**
IDMV				*e*Sg	**Sg**	**23 06 39.9**	**-0.1**
CHTH	**Charan**	**0.92**	**235**	*e*Pg	**Pg**	**23 06 29.5**	**-0.3**
CHTH	**Charan**	**0.92**	**235**	*e*Pg	**Pg**	**23 06 29.5**	**-0.3**
IFIR	**Firoozkooh**	**0.98**	**144**	*e*Pg	**Pg**	**23 06 30.7**	**-0.3**
IFIR				*e*Sg	**Sg**	**23 06 43.9**	**+0.2**
IFIR				*e*		23 06 47.2	
	comp=Z,15μm,0.1s						
IFIR	**Firoozkooh**	**0.98**	**144**	*e*Pg	**Pg**	**23 06 30.7**	**-0.3**
IFIR				*e*Sg	**Sg**	**23 06 43.9**	**+0.2**
THKV	**Tehran--Karaj**	**1.08**	**241**	*e*Pg	**Pb**	**23 06 33.0**	**-0.6**
THKV				AML	AML	23 06 50.6	
	comp=E,4μm,0.5s						
THKV				AML	AML	23 06 50.8	
	comp=N,3μm,0.5s						
THKV	**Tehran--Karaj**	**1.08**	**241**	*e*Pg	**Pb**	**23 06 33.0**	**-0.6**
ISHM	**Shahmirzad**	**1.19**	**122**	*e*Pg	**Pb**	**23 06 34.5**	**-0.9**
ISHM				*e*Sg	**Sb**	**23 06 50.4**	**-0.9**
ISHM				*e*		23 06 58.6	
	comp=Z,18μm,0.2s						
ISHM	**Shahmirzad**	**1.19**	**122**	*e*Pg	**Pb**	**23 06 34.5**	**-0.9**
ISHM				*e*Sg	**Sb**	**23 06 50.4**	**-0.9**
IR3	**Iran Long-Peri**	**1.27**	**221**	*e*Pg	**Pn**	**23 06 36.2**	**-0.6**
IR3				*e*Sg	**Sb**	**23 06 53.6**	**0.0**
IR3	**Iran Long-Peri**	**1.27**	**221**	*e*Pg	**Pn**	**23 06 36.2**	**-0.6**
IR3				*e*Sg	**Sb**	**23 06 53.6**	**0.0**
ILAS	**Lasjerd**	**1.29**	**145**	*e*Pg	**Pn**	**23 06 36.5**	**-0.7**
ILAS				*e*Sg	**Sb**	**23 06 52.5**	**-1.6**
ILAS				*e*		23 06 55.1	
	comp=Z,10μm,0.2s						
ILAS	**Lasjerd**	**1.29**	**145**	*e*Pg	**Pn**	**23 06 36.5**	**-0.7**
ILAS				*e*Sg	**Sb**	**23 06 52.5**	**-1.6**
IMHD	**Mahdasht**	**1.35**	**236**	*e*Pg	**Pn**	**23 06 38.0**	**+0.1**
IMHD				*e*Sg	**Sg**	**23 06 56.6**	**+1.0**
IMHD				*e*		23 06 59.0	
	comp=Z,13μm,0.1s						
IMHD	**Mahdasht**	**1.35**	**236**	*e*Pg	**Pn**	**23 06 38.0**	**+0.1**
IMHD				*e*Sg	**Sg**	**23 06 56.6**	**+1.0**
IGLO	**Ghaloghah**	**1.44**	**87**	*e*Pn	**Pb**	**23 06 39.3**	**-0.3**
IVRN	**Varamin**	**1.47**	**190⇑**	*e*Pn	**Pn**	**23 06 39.8**	**+0.3**
IVRN				*e*Sg	**Sn**	**23 06 58.4**	**-0.8**
IVRN				*e*		23 07 01.6	
	comp=Z,13μm,0.2s						
IVRN	**Varamin**	**1.47**	**190⇑**	*e*Pn	**Pn**	**23 06 39.8**	**+0.3**
IVRN				*e*Sg	**Sn**	**23 06 58.4**	**-0.8**
IR5	**Iran Long-Peri**	**1.71**	**225**	*e*Pn	**Pb**	**23 06 43.9**	**-0.4**
IR5	**Iran Long-Peri**	**1.71**	**225**	*e*Pn	**Pb**	**23 06 43.9**	**-0.4**
IANJ	**Anjilo**	**1.80**	**122**	*e*Pn	**Pb**	**23 06 46.0**	**+0.2**
IANJ				*e*		23 07 12.8	
	comp=Z,5μm,0.1s						
IANJ	**Anjilo**	**1.80**	**122**	*e*Pn	**Pb**	**23 06 46.0**	**+0.2**
IRAZ	**Razeghan**	**2.01**	**240**	*e*Pn	**Pb**	**23 06 48.9**	**-0.5**
IRAZ				*e*Sg	**Sg**	**23 07 16.7**	**-0.1**
IRAZ				*e*		23 07 21.1	
	comp=Z,15μm,0.3s						
IRAZ	**Razeghan**	**2.01**	**240**	*e*Pn	**Pb**	**23 06 48.9**	**-0.5**
IRAZ				*e*Sg	**Sg**	**23 07 16.7**	**-0.1**
GHVR	**GHOM**	**2.05**	**198**	*e*Pg	**Pb**	**23 06 50.0**	**-0.1**
GHVR				AML	AML	23 07 21.5	
	comp=N,798nm,0.5s						
GHVR				AML	AML	23 07 22.2	
	comp=E,816nm,0.7s						
GHVR	**GHOM**	**2.05**	**198**	*e*Pg	**Pb**	**23 06 50.0**	**-0.1**
ISFB	**Sefidab**	**2.09**	**176**	*e*Pn	**Pb**	**23 06 49.9**	**-0.8**
ISFB				*e*		23 06 51.2	
	comp=Z,9μm,0.1s						
ISFB				*e*Sg	**Sb**	**23 07 17.5**	**+0.4**
ISFB	**Sefidab**	**2.09**	**176**	*e*Pn	**Pb**	**23 06 49.9**	**-0.8**
ISFB				*e*Sg	**Sb**	**23 07 17.5**	**+0.4**
ASAO	**Ashtian**	**2.51**	**222**	*e*Pn	**Pn**	**23 06 55.7**	**+1.7**
ASAO				*e*Sg	**Sb**	**23 07 27.5**	**-1.8**
ASAO				AML	AML	23 07 33.3	
	comp=E,323nm,0.6s						
ASAO	**Ashtian**	**2.51**	**222**	*e*Pn	**Pn**	**23 06 55.7**	**+1.7**
ASAO				*e*Sg	**Sb**	**23 07 27.5**	**-1.8**
IMND	**Minoodasht**	**2.81**	**72**	*e*Pn	**Pb**	**23 07 00.5**	**-2.4**
IMND				*e*		23 07 55.6	
	comp=Z,2μm,0.2s						
IMND	**Minoodasht**	**2.81**	**72**	*e*Pn	**Pb**	**23 07 00.5**	**-2.4**
IKLH	**Kolahrood**	**3.14**	**187**	*e*Pn	**Pn**	**23 07 04.7**	**+2.0**
IKLH				*e*		23 07 49.2	
	comp=Z,3μm,0.2s						
IKLH	**Kolahrood**	**3.14**	**187**	*e*Pn	**Pn**	**23 07 04.7**	**+2.0**
LKRN	**Lenkeran, Azer**	**3.45**	**312**	⇓P	**Pn**	**23 07 06.7**	**+0.1**
	SNR=4.6						
LKRN				⇑S	**Sn**	**23 07 45.2**	**-2.7**
LKRN	**Lenkeran, Azer**	**3.45**	**312**	P	**Pn**	**23 07 06.7**	**+0.1**
	SNR=4.6						
LKRN				S	**Sn**	**23 07 45.2**	**-2.7**
IZEF	**Zefreh**	**3.55**	**176**	*e*Pn	**Pn**	**23 07 10.2**	**+2.0**
IZEF				*e*		23 08 15.3	
	comp=Z,795nm,0.2s						
IZEF	**Zefreh**	**3.55**	**176**	*e*Pn	**Pn**	**23 07 10.2**	**+2.0**
NASN	**Na'in**	**3.69**	**170**	*e*Pn	**Pn**	**23 07 12.4**	**+2.1**
NASN	**Na'in**	**3.69**	**170**	*e*Pn	**Pn**	**23 07 12.4**	**+2.1**
ISRB	**Sarab**	**3.77**	**293**	*e*Pn	**Pn**	**23 07 13.5**	**+2.3**
ISRB				*e*		23 08 02.6	
	comp=Z,877nm,0.2s						
ISRB	**Sarab**	**3.77**	**293**	*e*Pn	**Pn**	**23 07 13.5**	**+2.3**
GLBA	**Cilabad**	**4.02**	**315**	⇓P	**Pn**	**23 07 14.9**	**+0.4**
	SNR=9.9						
GLBA				⇑S	**Sn**	**23 08 00.4**	**-1.7**
GLBA	**Cilabad**	**4.02**	**315**	P	**Pn**	**23 07 14.9**	**+0.4**
	SNR=9.9						
GLBA				S	**Sn**	**23 08 00.4**	**-1.7**
IGAR	**Gharneh**	**4.03**	**180**	*e*Pn	Pn	23 07 18.2	+3.4
IGAR				*e*		23 07 30.9	
	comp=Z,662nm,0.2s						
ALIB	**Äli-Bayra**	**4.25**	**327**	⇑P	Pn	23 07 20.7	+3.0
	SNR=5.2						
ALIB				⇓S	**Sn**	**23 08 11.6**	**+3.9**
ALIB	**Äli-Bayra**	**4.25**	**327**	P	Pn	23 07 20.7	+3.0
	SNR=5.2						
ALIB				S	**Sn**	**23 08 11.6**	**+3.9**
IKOM	**Komasi**	**4.35**	**240**	*e*Pn	Pn	23 07 23.1	+3.9
IKOM				*e*		23 08 44.4	
	comp=Z,540nm,0.3s						
ISAD	**Sadrabad**	**4.72**	**163**	*e*Pn	**Pn**	**23 07 25.1**	**+0.8**
ISAD				*e*		23 08 47.5	
	comp=Z,415nm,0.2s						
ISAD	**Sadrabad**	**4.72**	**163**	*e*Pn	**Pn**	**23 07 25.1**	**+0.8**
ISFR	**Sfrayin**	**4.82**	**81**	*e*Pn	**Pn**	**23 07 27.5**	**+1.8**
ISFR				*e*		23 08 57.6	
	comp=Z,483nm,0.3s						
ISFR	**Sfrayin**	**4.82**	**81**	*e*Pn	**Pn**	**23 07 27.5**	**+1.8**
IDHR	**Dehrash**	**4.93**	**251**	*e*Pn	Pn	23 07 30.8	+3.5
PQL	**Pirkuli**	**5.11**	**329**	⇑P	**Pn**	**23 07 31.4**	**+1.7**
	SNR=21						
PQL				⇑S	**Sn**	**23 08 28.4**	**-0.8**
PQL	**Pirkuli**	**5.11**	**329**	P	**Pn**	**23 07 31.4**	**+1.7**
	SNR=21						
PQL				S	**Sn**	**23 08 28.4**	**-0.8**
IKRD	**Kardeh**	**5.21**	**84**	*e*Pn	**Pb**	**23 07 45.8**	**+1.8**
IKRD				*e*		23 07 51.2	
	comp=Z,128nm,0.2s						
SIZA	**Siyzn**	**5.24**	**333**	⇓P	**Pn**	**23 07 33.1**	**+1.8**
	SNR=17						
SIZA				⇓S	**Sn**	**23 08 31.4**	**-0.8**
SIZA	**Siyzn**	**5.24**	**333**	P	**Pn**	**23 07 33.1**	**+1.8**
	SNR=17						
SIZA				S	**Sn**	**23 08 31.4**	**-0.8**
IML	**Ismayilli**	**5.29**	**326**	⇑P	**Pn**	**23 07 32.7**	**+0.6**
	SNR=4.5						
IML				⇓S	**Sn**	**23 08 31.4**	**-2.1**
IML	**Ismayilli**	**5.29**	**326**	P	**Pn**	**23 07 32.7**	**+0.6**
	SNR=4.5						
IML				S	**Sn**	**23 08 31.4**	**-2.1**
IAKL	**Akhelmad**	**5.40**	**86**	*e*	Pb	23 07 42.7	-4.6
	comp=Z,145nm,0.2s						
BRDA	**Brd**	**5.40**	**316**	⇑P	**Pn**	**23 07 35.7**	**+2.2**
	SNR=3.2						
BRDA				⇓S	**Sn**	**23 08 37.9**	**+1.8**
BRDA	**Brd**	**5.40**	**316**	P	**Pn**	**23 07 35.7**	**+2.2**
	SNR=3.2						
BRDA				S	**Sn**	**23 08 37.9**	**+1.8**
IMEH	**Mehriz**	**5.47**	**156**	*e*Pn	**Pn**	**23 07 35.3**	**+0.6**
IMEH				*e*		23 09 15.6	
	comp=Z,204nm,0.3s						
IMEH	**Mehriz**	**5.47**	**156**	*e*Pn	**Pn**	**23 07 35.3**	**+0.6**
IPAY	**Payeh**	**5.60**	**88**	*e*Pn	**Pn**	**23 07 39.1**	**+2.7**
IPAY				*e*		23 07 48.1	
	comp=Z,125nm,0.1s						
IPAY	**Payeh**	**5.60**	**88**	*e*Pn	**Pn**	**23 07 39.1**	**+2.7**
QUBA	**Quba, Azerbaij**	**5.63**	**332**	⇑P	**Pn**	**23 07 38.2**	**+1.5**
	SNR=13						
QUBA				⇑S	**Sn**	**23 08 39.4**	**-2.5**
QUBA	**Quba, Azerbaij**	**5.63**	**332**	P	**Pn**	**23 07 38.2**	**+1.5**
	SNR=13						
IBAF	**Bafgh**	**5.65**	**148**	*e*Pn	**Pn**	**23 07 38.3**	**+1.2**
IBAF				*e*		23 07 40.6	
	comp=Z,198nm,0.2s						
IBAF	**Bafgh**	**5.65**	**148**	*e*Pn	**Pn**	**23 07 38.3**	**+1.2**
SEKA	**Sheki**	**6.08**	**323**	⇑P	**Pn**	**23 07 43.5**	**+0.6**
	SNR=27						
SEKA				⇓S	**Sn**	**23 08 49.7**	**-3.2**
SEKA	**Sheki**	**6.08**	**323**	P	**Pn**	**23 07 43.5**	**+0.6**
	SNR=27						
GANJ	**Ganja**	**6.14**	**315**	⇓P	**Pn**	**23 07 44.2**	**+0.5**
	SNR=6.8						
GANJ				⇑S	**Sn**	**23 08 51.4**	**-3.1**
GANJ	**Ganja**	**6.14**	**315**	P	**Pn**	**23 07 44.2**	**+0.5**
	SNR=6.8						
IMYA	**Miami**	**6.50**	**89**	*e*Pn	Pn	23 07 51.9	+3.2
IMYA				*e*		23 08 06.2	
	comp=Z,88nm,0.2s						
IMYA	**Miami**	**6.50**	**89**	*e*Pn	Pn	23 07 51.9	+3.2
IPAR	**Pars**	**6.64**	**172**	*e*Pn	Pn	23 07 55.9	+5.2
IPAR				*e*		23 10 17.3	
	comp=Z,59nm,0.2s						
DGRG	**David-gareji**	**7.21**	**316**	P	**Pn**	**23 08 00.0**	**+1.6**
DGRG				S	**Sn**	**23 09 19.8**	**-1.0**
DGRG	**David-gareji**	**7.21**	**316**	P	**Pn**	**23 08 00.0**	**+1.6**
DGRG				S	**Sn**	**23 09 19.8**	**-1.0**
DUS	**Dusheti**	**8.02**	**317**	P	**Pn**	**23 08 09.6**	**+0.2**
DUS				S	**Sn**	**23 09 36.4**	**-4.2**
DUS	**Dusheti**	**8.02**	**317**	P	**Pn**	**23 08 09.6**	**+0.2**
KBZ	**Khabaz**	**10.10**	**319**	Pn	**Pn**	**23 08 39.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=2.2						
AB31	**Akbulak array**	**14.04**	**22**	⇑P	**Pn**	**23 09 28.6**	**-3.2**
	comp=Z,0.4nm,0.5s,baz=206,slow=13,SNR=17						
AB31				⇑S	Sn	23 11 54.4	-14
	comp=Z,0.5nm,0.5s,baz=208,slow=24,SNR=2.8						
AKTO	**Aktyubinsk**	**14.63**	**15**	⇑P	Pn	23 09 36.2	-3.7
	comp=Z,1.8nm,0.5s						
AKTO				⇑S	Sn	23 12 09.9	-13
	comp=Z,1.9nm,0.7s						
KK31	**Karatay Array**	**15.66**	**59**	⇓P	**Pn**	**23 09 51.1**	**-2.5**
	comp=Z,0.4nm,0.5s,baz=250,slow=17,SNR=5.7						
BVA0	**Borovoye Array**	**20.98**	**32**	⇓P	**P**	**23 10 55.4**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=216,slow=9.0,SNR=19						
BVAR	**Borovoye Array**	**20.98**	**32**	P	Pn	23 10 57.8	-1.0
	comp=Z,3.

ASUD	**Al Ashush, Dub**	**3.90 205**	P	Pn	23 52 49.7	+2.8
	SNR=11					
HOQ	**Hoqain**	**4.58 178**	⇓P	**Pn**	**23 52 54.2**	**-2.1**
HOQ	**Hoqain**	**4.58 178**	P	**Pn**	**23 52 54.2**	**-2.1**
ARQ	**Araqi**	**4.86 187**	P	**Pn**	**23 53 01.1**	**+1.0**
	SNR=12					
ARQ	**Araqi**	**4.86 187**	P	**Pn**	**23 53 01.1**	**+1.0**
	SNR=12					
BSY	**Bisya**	**5.42 179**	⇓P	**Pn**	**23 53 07.7**	**-0.1**
BSYO	**Bisya**	**5.43 179**	P	**Pn**	**23 53 07.7**	**-0.3**
KBD	**Kabd**	**8.36 279**	⇓eP	**Pn**	**23 53 50.2**	**+2.1**
KBD			eS	**Sn**	**23 55 21.2**	**-0.7**
KBD			AML	AML	23 55 21.6	
	comp=Z,7.7nm,0.3s					
RDF	**Al-Radifah**	**8.47 277**	eP	**Pn**	**23 53 51.9**	**+2.2**
RDF			eS	**Sn**	**23 55 23.4**	**-1.1**
RDF			AML	AML	23 55 25.7	
	comp=Z,6.6nm,0.5s					
RDF	**Al-Radifah**	**8.47 277**	eP	**Pn**	**23 53 51.9**	**+2.2**
RDF			eS	**Sn**	**23 55 23.4**	**-1.1**
	comp=Z,6.6nm,0.5s					
MIB	**Mutribah**	**8.74 283**	eP	**Pn**	**23 53 55.4**	**+2.1**
MIB			eS	**Sn**	**23 55 29.2**	**-1.9**
MIB			AML	AML	23 55 31.9	
	comp=Z,6.8nm,0.5s					
MIB	**Mutribah**	**8.74 283**	eP	**Pn**	**23 53 55.4**	**+2.1**
MIB			eS	**Sn**	**23 55 29.2**	**-1.9**
BRTR	**Keskin Array B**	**22.57 307**	P	**P**	**23 56 46.1**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=122,slow=9.2,SNR=5.7					
BVAR	**Borovoye Array**	**26.69 18**	P	**P**	**23 57 22.9**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=200,slow=12,SNR=3.9					
MLR	**Muntele Rosu**	**30.11 313**	LR	LR	00 11 33.0	
	comp=Z,9.1nm,18.5s,baz=23,slow=39					
ZALV	**Zalesovo Beam**	**32.75 30**	P	P	23 58 15.7	-3.5
	comp=Z,0.5nm,0.3s,baz=226,slow=8.2,SNR=4.1					
TORD	**Torodi Ar. Bea**	**53.57 266**	P	**P**	**00 01 06.0**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=59,slow=7.2,SNR=9.6					

*IDC **14** 23:59:33.4±4.4, 3°.86S×131°.67E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=337.5km s-min=25.9km az=74.0*
*ISCJB **14** 23:59:35.6±0.7, 4°.08S±0°.05×131°.5E±0°.2, h29km, mb3.4/3, Error ellipse: s-maj=23.1km s-min=6.9km az=179.2*
*AUST **14** 23:59:37.2, 3°.98S×131°.52E, h60km*

ISC 14 23:59:37.3±1.0, 3°.97S±0°.07×131°.4E±0°.2, h29km, n10, σ1°78/12, mb3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.34**	**38**	P	**Pn**	**23 59 59.0**	**-1.1**
	baz=1.3,SNR=53						
KDU	**Kakadu**	**8.72**	**173**	P	**Pn**	**00 01 43.1**	**+1.5**
	baz=8.8,SNR=11						
KDU				S	**Sn**	**00 03 17.0**	**-2.0**
	baz=8.8,SNR=9.6						
MTN	**Manton Dam**	**8.82**	**182**	P	**Pn**	**00 01 45.5**	**+2.6**
	baz=8.9,SNR=7.1						
MTN				S	**Sn**	**00 03 22.0**	**+0.6**
	baz=8.9,SNR=9.3						
KNRA	**Kununurra**	**11.92**	**192**	P	**Pn**	**00 02 25.4**	**-0.1**
	baz=12,SNR=11						
FITZ	**Fitzroy Crossi**	**15.14**	**202**	P	**Pn**	**00 03 06.3**	**-2.9**
	baz=15,SNR=15						
WRA	**Warramunga Arr**	**16.13**	**170**	Pn	**Pn**	**00 03 20.8**	**-1.3**
	0.2nm,0.3s,baz=352,slow=14,SNR=20						
WRA				Sn	Sn	00 06 09.2	-11
	0.5nm,0.3s,baz=351,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**19.73**	**173**	P	**Pn**	**00 04 06.4**	**0.0**
	0.2nm,0.3s,baz=352,slow=10,SNR=25						
ASAR				S	S	00 07 37.6	-8.2
	0.1nm,0.3s,baz=358,slow=27,SNR=4.5						
MKAR	**Makanchi Array**	**66.51**	**325**	P	**P**	**00 10 24.6**	**+0.1**
	0.2nm,0.7s,baz=126,slow=7.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**70.71**	**327**	P	**P**	**00 10 51.9**	**+1.4**
	0.4nm,0.6s,baz=127,slow=5.0,SNR=5.8						
BVAR	**Borovoye Array**	**76.29**	**327**	P	**P**	**00 11 24.6**	**+1.2**
	0.2nm,0.4s,baz=124,slow=7.2,SNR=3.3						

PRE 15 00:02:37.2±3.0, 21°.03S×33°.13E, h10km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**6.46**	**223**	eP	Pn	00 04 12.3	-0.3
SLR				eS	Sn	00 05 24.7	-2.0
SLR				AML	AML	00 06 04.6	
	comp=Z,73nm,0.5s						
POGA	**Pongola**	**6.46**	**192**	eP	Pn	00 04 14.0	+1.5
POGA				eS	Sn	00 05 23.4	-3.0
POGA				AML	AML	00 06 11.3	
	comp=Z,41nm,0.6s						
ERPM	**east rand prop**	**6.93**	**219**	eP	Pn	00 04 19.2	0.0
ERPM				eS	Sn	00 05 31.2	-7.1
ERPM				AML	AML	00 06 14.8	
	comp=Z,23nm,0.5s						
LSZ	**Lusaka**	**7.40**	**320**	eP	Pn	00 04 28.5	+3.0
LSZ				eS	Sn	00 05 45.4	-4.3
KSR	**Koster**	**7.47**	**229**	eP	Pn	00 04 29.1	+2.6
KSR				eS	Sn	00 05 49.4	-2.2
KSR				AML	AML	00 06 37.1	
	comp=Z,36nm,0.4s						
KSR	**Koster**	**7.47**	**229**	eP	Pn	00 04 27.7	+1.2
KSR				eS	Sn	00 05 41.5	-10
KSR				AML	AML	00 05 55.3	
	comp=Z,20nm,0.2s						
PRYS	**Parys**	**7.89**	**221**	eP	Pn	00 04 35.5	+3.2
PRYS				eS	Sn	00 05 57.8	-4.0
PRYS				AML	AML	00 06 50.0	
	comp=Z,19nm,0.7s						
PRYS	**Parys**	**7.89**	**221**	eP	Pn	00 04 32.7	+0.4
PRYS				eS	Sn	00 05 52.4	-9.4
PRYS				AML	AML	00 06 50.4	
	comp=Z,20nm,0.7s						
LBTB	**Lobatse**	**7.99**	**239**	eP	Pn	00 04 34.4	+0.8
LBTB				eS	Sn	00 06 02.2	-2.0
LBTB				AML	AML	00 06 56.1	
	comp=Z,24nm,0.5s						
LBTB	**Lobatse**	**7.99**	**239**	eP	Pn	00 04 34.4	+0.8
LBTB				eS	Sn	00 05 52.6	-12
LBTB				AML	AML	00 06 37.0	
	comp=Z,9.2nm,0.3s						
SEK	**Senekal**	**8.82**	**213**	eP	Pn	00 04 44.9	-0.2
SEK				eS	Sn	00 06 19.4	-5.2
SEK				AML	AML	00 07 22.6	
	comp=Z,23nm,0.6s						
SWZ	**Schweizer**	**9.39**	**228**	eP	Pn	00 04 51.6	-1.3
SWZ				eS	Sn	00 06 34.0	-4.8
SWZ				AML	AML	00 07 48.8	
	comp=Z,18nm,0.6s						
BOSA	**Boshof**	**10.40**	**222**	eP	Pn	00 05 06.9	+0.3
BOSA				eS	Sn	00 06 57.6	-5.8
BOSA				AML	AML	00 08 03.5	
	comp=Z,7.2nm,0.6s						
BOSA	**Boshof**	**10.40**	**222**	eP	Pn	00 05 07.8	+1.2
BOSA				eS	Sn	00 06 51.4	-12
BOSA				AML	AML	00 07 04.8	
	comp=Z,4.0nm,0.9s						
HVD	**Gariep Dam**	**11.75**	**214**	eS	Sn	00 07 30.8	-5.9
HVD				AML	AML	00 08 45.4	
	comp=Z,9.4nm,0.7s						
TSUM	**Tsumeb**	**14.71**	**274**	eP	Pn	00 06 06.8	+1.1
TSUM				eS	Sn	00 08 41.5	-7.6
WIN	**Windhoek**	**14.97**	**261**	eP	Pn	00 06 10.7	+1.4
WIN				eS	Sn	00 08 47.1	-8.3
WIN				AML	AML	00 10 40.3	
	comp=Z,1.7nm,0.6s						
SUR	**Sutherland**	**15.76**	**222**	eP	Pn	00 06 20.0	+0.4
SUR				eS	Sn	00 09 05.6	-9.0
SUR				AML	AML	00 11 02.1	
	comp=Z,3.4nm,0.6s						
CVNA	**Calvinia**	**15.87**	**226**	eP	P	00 06 23.6	-1.0
CVNA				eS	Sn	00 09 01.4	-16
CVNA				AML	AML	00 09 47.8	
	comp=Z,7.2nm,0.2s						

WEL 15 00:03:27.6±0.7, 38°.30S×175°.75E, h172km±5km, ML3.6/10, 2C, Error ellipse: s-maj=8.0km s-min=5.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.97**	**189**	PN	Pn	00 03 55.1	+0.6
BKZ	**Black Stump Fm**	**1.04**	**147**	PN	Pn	00 03 54.8	-0.1
BKZ				SN	Sn	00 04 15.5	-0.6
BKZ				AML	AML	00 04 15.6	
URZ	**Urewera**	**1.07**	**88**	PN	Pn	00 03 54.8	-0.2
URZ				SN	Sn	00 04 16.2	+0.1
URZ				AML	AML	00 04 20.8	
MOVZ	**Moawhango**	**1.11**	**180**	PN	Pn	00 03 54.9	-0.5
NMHZ	**Naumai**	**1.15**	**134**	PN	Pn	00 03 56.6	+0.8
BHHZ	**Black Hill Sta**	**1.21**	**169**	PN	Pn	00 03 56.1	-0.2
RAHZ	**Arahi**	**1.21**	**121**	PN	Pn	00 03 56.9	+0.6
MCHZ	**McNeill Hill**	**1.36**	**147**	PN	Pn	00 03 58.1	+0.6
MWZ	**Matawai**	**1.40**	**92**	⇑PN	Pn	00 03 57.8	-0.1
MWZ				SN	Sn	00 04 20.6	-0.7
MWZ				AML	AML	00 04 22.6	
WAZ	**Wanganui**	**1.57**	**202**	PN	Pn	00 03 59.1	-0.5
WAZ				SN	Sn	00 04 24.3	-0.2
PNHZ	**Pukenui**	**1.65**	**168**	PN	Pn	00 03 59.9	-0.6
KNZ	**Kokohu**	**1.67**	**116**	PN	Pn	00 04 00.3	-0.2
KAHZ	**Kahuranaki**	**1.73**	**150**	PN	Pn	00 04 01.2	0.0
TSZ	**Takapari Road**	**1.77**	**175**	PN	Pn	00 04 00.8	-0.8
TSZ				AML	AML	00 04 28.5	
TSZ				AML	AML	00 04 29.2	
WPHZ	**Waipukurau**	**1.84**	**163**	PN	Pn	00 04 01.7	-0.7
PXZ	**Pawanui**	**1.93**	**154**	PN	Pn	00 04 02.9	-0.4
PXZ				AML	AML	00 04 32.9	
PXZ				AML	AML	00 04 33.7	
PUZ	**Puketiti**	**1.99**	**84**	PN	Pn	00 04 03.4	-0.5
DVHZ	**Danneverke**	**2.02**	**171**	PN	Pn	00 04 03.1	-1.3
POWZ	**Post Office Ro**	**2.09**	**180**	PN	Pn	00 04 03.5	-1.6
MRZ	**Mangatainoka R**	**2.36**	**183**	PN	Pn	00 04 06.1	-2.1
MRZ				AML	AML	00 04 38.7	
MRZ				AML	AML	00 04 38.8	
BFZ	**Birch Farm**	**2.41**	**171**	PN	Pn	00 04 07.0	-1.8
TIWZ	**Tintock**	**2.48**	**178**	PN	Pn	00 04 07.5	-2.1
OGWZ	**Otaki Gorge**	**2.56**	**190**	PN	Pn	00 04 08.2	-2.2
HOWZ	**Holdsworth Sta**	**2.60**	**184**	PN	Pn	00 04 08.5	-2.5
KIW	**Kapiti Island**	**2.64**	**194**	⇑PN	Pn	00 04 08.9	-2.6
KIW				AML	AML	00 04 43.4	
TMWZ	**Te Maipa**	**2.81**	**178**	PN	Pn	00 04 11.0	-2.5
CAW	**Cannon Point**	**2.85**	**190**	PN	Pn	00 04 11.3	-2.8
CAW				AML	AML	00 04 48.3	
CAW				AML	AML	00 04 48.8	
DUWZ	**D'Urville Isla**	**2.87**	**209**	PN	Pn	00 04 11.8	-2.6
PAWZ	**Paruwai Farm**	**3.09**	**185**	PN	Pn	00 04 13.7	-3.2
TRWZ	**Traveller**	**3.10**	**181**	PN	Pn	00 04 14.2	-2.9
SNZO	**South Karori**	**3.11**	**195**	PN	Pn	00 04 13.9	-3.3
TCW	**Tory Channel**	**3.12**	**201**	PN	Pn	00 04 14.3	-3.0
TCW				AML	AML	00 04 54.4	
TCW				AML	AML	00 04 54.5	
MSWZ	**Moikau Station**	**3.14**	**187**	PN	Pn	00 04 14.3	-3.2
MSWZ				AML	AML	00 04 52.9	
MSWZ				AML	AML	00 04 53.4	
BHW	**Baring Head**	**3.18**	**192**	PN	Pn	00 04 14.6	-3.3
PLWZ	**Palliser**	**3.29**	**187**	PN	Pn	00 04 15.9	-3.6
TUWZ	**Tuamarina**	**3.42**	**203**	PN	Pn	00 04 17.9	-3.2
NNZ	**Nelson**	**3.44**	**211**	PN	Pn	00 04 17.6	-3.7
BSWZ	**Blackbirch Sta**	**3.70**	**202**	PN	Pn	00 04 21.1	-3.5
THZ	**Tophouse**	**4.09**	**211**	PN	Pn	00 04 26.3	-3.4
KHZ	**Kahutara**	**4.45**	**202**	PN	Pn	00 04 30.2	-3.9
LTZ	**Lake Taylor**	**5.21**	**210**	PN	Pn	00 04 39.4	-4.7
MQZ	**McQueen's Vall**	**5.89**	**202**	PN	Pn	00 04 47.7	-5.2

*ISCJB **15** 00:07:55.8±0.4, 27°.07N±0°.05×125°.68E±0°.05, h223km±4km, mb3.6/10, Error ellipse: s-maj=10.6km s-min=4.2km az=140.4*
*JMA **15** 00:07:57.9±0.5, 27°.08N×125°.61E, h214km, M4.1*
*IDC **15** 00:08:00.8±2.3, 27°.16N×125°.62E, h258km±24km, mb3.4/10, mb1 3.5/13, mb1mx3.3/29, mbtmp3.4/13, Error ellipse: s-maj=26.4km s-min=10.3km az=64.0*

ISC 15 00:07:57.0±0.7, 27°.07N±0°.06×125°.69E±0°.05, h224km±6km, n31, σ1°76/51, mb3.7/10, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.23**	**127**	P	**Pn**	**00 08 31.4**	**+0.5**
JKE				eS	**S**	**00 08 58.6**	**+1.5**
JAGN	**Aguni-jima**	**1.46**	**109**	P	**Pn**	**00 08 33.3**	**+0.7**
JAGN				eS	**S**	**00 08 59.2**	**-1.1**
JIH	**Iheya**	**2.03**	**90**	P	**Pn**	**00 08 38.4**	**+0.7**
JIH				eS	**S**	**00 09 07.3**	**-2.0**
JJT2	**Tamagusuku 2**	**2.06**	**116**	P	**Pn**	**00 08 39.5**	**+1.5**
JJT2				eS	**S**	**00 09 09.8**	**-0.1**
JMJ	**Miyako jima 2**	**2.27**	**189**	P	**Pn**	**00 08 40.1**	**-0.1**
JMJ				eS	**S**	**00 09 12.6**	**-1.1**
JOGS	**Gusukube**	**2.31**	**186**	P	**Pn**	**00 08 41.4**	**+0.8**
JOGS				eS	**S**	**00 09 13.6**	**-0.9**
JOW	**Kunigami**	**2.32**	**95**	P	**Pn**	**00 08 41.2**	**+0.6**
JOW				eS	**S**	**00 09 12.2**	**-2.3**
JTJ	**Tarama**	**2.57**	**200**	P	**Pn**	**00 08 43.5**	**+0.2**
JTJ				eS	**S**	**00 09 17.2**	**-2.2**
JTK	**Tokunoshima**	**2.98**	**75**	P	**Pn**	**00 08 47.6**	**-0.2**
JTK				eS	**S**	**00 09 24.3**	**-3.2**
JIJ	**Ishigaki jima**	**3.03**	**208**	P	**Pn**	**00 08 48.0**	**-0.4**
JIJ				eS	**S**	**00 09 24.9**	**-3.7**
JKRS	**Kuro-shima**	**3.20**	**209**	P	**Pn**	**00 08 50.0**	**-0.3**
JKRS				eS	**S**	**00 09 28.7**	**-3.3**
IRIF	**Iriomote-Funau**	**3.24**	**213**	P	**Pn**	**00 08 50.3**	**-0.5**
IRIF				eS	**S**	**00 09 30.1**	**-2.8**
JAMN	**Amaminishikomi**	**3.31**	**68**	P	**Pn**	**00 08 51.0**	**-0.4**
JAMN				eS	**S**	**00 09 30.6**	**-3.5**
HATJ	**Hateruma jima**	**3.45**	**210**	P	**Pn**	**00 08 52.9**	**-0.3**
HATJ				eS	**S**	**00 09 34.6**	**-2.6**
YOJ	**Yonaguni jima**	**3.54**	**224**	P	**Pn**	**00 08 54.4**	**+0.1**
YOJ				eS	**S**	**00 09 38.1**	**-1.1**
JAM	**Amami Oshima**	**3.72**	**68**	P	**Pn**	**00 08 55.7**	**-0.6**
JAM				eS	**S**	**00 09 39.7**	**-3.2**
JZK	**Kikaishima**	**3.99**	**71**	eS	**S**	**00 09 46.7**	**-2.2**
JMZ	**Minamidaito 2**	**5.11**	**103**	P	**Pn**	**00 09 14.7**	**+1.3**
JMZ				eS	**S**	**00 10 09.3**	**-4.5**
JNU	**Nakatsue**	**7.52**	**35**	P	**Pn**	**00 09 46.7**	**+2.5**
	0.9nm,0.3s,baz=104,slow=5.3,SNR=8.0						
KSRS	**Korea Array**	**10.53**	**10**	P	**Pn**	**00 10 24.8**	**+2.2**
	0.3nm,0.3s,baz=187,slow=13,SNR=9.6						
USRK	**Ussuriysk Arra**	**17.84**	**15**	P	**P**	**00 11 50.0**	**+0.7**
	0.7nm,0.3s,baz=193,slow=9.1,SNR=10						
SONM	**Songino Array**	**25.65**	**329**	P	**P**	**00 13 06.1**	**-0.1**
	1.6nm,0.5s,baz=144,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**39.29**	**312**	P	**P**	**00 15 03.8**	**-0.3**
	2.9nm,0.5s,baz=98,slow=10,SNR=49						
MKAR				PcP	**PcP**	**00 17 08.2**	**0.0**
	0.5nm,0.5s,baz=72,slow=2.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**40.22**	**323**	P	**P**	**00 15 11.2**	**-0.4**
	3.5nm,0.4s,baz=117,slow=9.1,SNR=16						
KURBB	**Kurchatov Arra**	**42.69**	**316**	P	**P**	**00 15 31.5**	**-0.2**
	0.8nm,0.3s,baz=110,slow=3.3,SNR=10						
KURBB				PcP	**PcP**	**00 17 18.4**	**-0.6**
	0.2nm,0.4s,baz=98,slow=3.4,SNR=4.6						
WRA	**Warramunga Arr**	**47.48**	**169**	P	**P**	**00 16 10.8**	**+1.2**
	2.3nm,0.7s,baz=350,slow=8.8,SNR=19						
ASAR	**Alice Springs**	**51.05**	**170**	P	**P**	**00 16 38.5**	**+1.8**
	0.6nm,0.3s,baz=356,slow=14,SNR=17						
ASAR				S	**S**	**00 23 35.6**	**-1.0**
	0.3nm,0.6s,baz=354,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**60.54**	**164**	P	**P**	**00 17 44.0**	**+0.2**
	0.6nm,0.3s,baz=12,slow=8.2,SNR=4.7						
ILAR	**Eielson Array**	**64.78**	**28**	P	**P**	**00 18 12.1**	**+0.8**
	0.2nm,0.5s,baz=295,slow=9.4,SNR=4.1						
FINES	**FINESS Array B**	**71.01**	**330**	P	**P**	**00 18 49.2**	**-0.9**
	0.6nm,0.4s,baz=45,slow=4.5,SNR=11						
BRTR	**Keskin Array B**	**74.72**	**307**	P	**P**	**00 19 12.3**	**-0.2**
	0.7nm,0.8s,baz=73,slow=4.1,SNR=4.1						

*ISCJB **15** 00:14:46.6±0.8, 24°.31N±0°.09×125°.21E±0°.06, h48km±6km, mb3.5/6, Error ellipse: s-maj=16.3km s-min=5.3km az=154.4*
*JMA **15** 00:14:47.1±0.2, 24°.28N×125°.17E, h34km, M3.3*
*IDC **15** 00:14:47.6±1.1, 24°.31N×125°.23E, h38km±7km, mb3.4/6, mb1 3.5/7, mb1mx3.2/27, mbtmp3.4/7, ML3.3/1, Error ellipse: s-maj=51.6km s-min=17.8km az=64.0*

ISC 15 00:14:47.7±0.9, 24°.34N±0°.09×125°.17E±0°.06, h39km±4km, n21, σ0°63/30, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.47**	**27**	P	**Pn**	**00 14 57.9**	**-0.1**
JOGS				eS	**Sn**	**00 15 05.8**	**+0.5**
JMJ	**Miyako jima 2**	**0.49**	**13**	P	**Pn**	**00 14 57.9**	**-0.4**
JMJ				eS	**Sn**	**00 15 06.5**	**+0.8**
JTJ	**Tarama**	**0.53**	**305**	P	**Pn**	**00 14 58.1**	**-0.7**
JTJ				eS	**Sn**	**00 15 06.2**	**-0.3**
JIJ	**Ishigaki jima**	**0.94**	**272**	P	**Pn**	**00 15 04.0**	**-0.4**
JIJ				eS	**Sn**	**00 15 16.9**	**+0.2**
JKRS	**Kuro-shima**	**1.07**	**265**	P	**Pn**	**00 15 06.6**	**+0.5**
JKRS				eS	**Sn**	**00 15 19.8**	**+0.1**
HATJ	**Hateruma jima**	**1.28**	**258**	P	**Pn**	**00 15 09.1**	**0.0**
HATJ				eS	**Sn**	**00 15 25.8**	**+0.8**
IRIF	**Iriomote-Funau**	**1.32**	**270**	P	**Pn**	**00 15 10.1**	**+0.5**
YOJ	**Yonaguni jima**	**1.98**	**274**	P	**Pn**	**00 15 19.0**	**+0.4**
JAGN	**Aguni-jima**	**2.92**	**39**	P	**Pn**	**00 15 33.2**	**+1.6**
JIH	**Iheya**	**3.68**	**43**	P	**Pn**	**00 15 41.7**	**-0.4**
JOW	**Kunigami**	**3.74**	**48**	P	**Pn**	**00 15 43.6**	**+0.6**
JTK	**Tokunoshima**	**4.83**	**44**	P	**Pn**	**00 15 56.8**	**-1.1**
JAMN	**Amaminishikomi**	**5.29**	**42**	P	**Pn**	**00 16 04.5**	**+0.2**
JMZ	**Minamidaito 2**	**5.68**	**74**	P	Pn	00 16 06.0	-3.5
MJAR	**Matsushiro Arr**	**16.54**	**40**	Pn	**Pn**	**00 18 35.9**	**-0.8**
	0.1nm,0.3s,baz=231,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**40.80**	**314**	P	**P**	**00 22 25.5**	**+0.2**
	0.6nm,0.4s,baz=102,slow=9.5,SNR=21						
MKAR				pP	**pP**	**00 22 36.9**	**+0.5**
	1.1nm,0.4s,baz=100,slow=9.9,SNR=10						
ZALV	**Zalesovo Beam**	**42.15**	**325**	P	**P**	**00 22 36.1**	**-0.1**
	0.6nm,0.5s,baz=99,slow=8.9,SNR=2.8						
ZALV				pP	**pP**	**00 22 47.1**	**-0.2**
	0.9nm,0.6s,baz=118,slow=8.8,SNR=3.9						
KURBB	**Kurchatov Arra**	**44.37**	**319**	P	**P**	**00 22 54.0**	**-0.2**
	0.3nm,0.5s,baz=108,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**44.91**	**168**	P	**P**	**00 22 57.9**	**-0.8**
	0.4nm,0.7s,baz=348,slow=8.8,SNR=4.2						
WRA				pP	**pP**	**00 23 09.7**	**-0.3**
	0.6nm,0.5s,baz=348,slow=8.7,SNR=4.2						
BVAR	**Borovoye Array**	**49.89**	**320**	P	**P**	**00 23 37.7**	**+0.5**
	0.2nm,0.5s,baz=121,slow=7.6,SNR=2.8						
FINES	**FINESS Array B**	**73.14**	**330**	P	**P**	**00 26 14.7**	**+0.8**
	1.0nm,0.6s,baz=79,slow=7.2,SNR=6.1						
FINES				pP	**pP**	**00 26 25.6**	**-0.2**
	1.4nm,0.6s,baz=73,slow=6.6,SNR=2.4						

*KISR **15** 00:28:29.1±0.3, 31°.10N×56°.38E, h34km, ML3.7*
*CSEM **15** 00:28:38.7±0.1, 36°.40N×51°.99E, h2km, mb4. 1/4, Error ellipse: s-maj=3.7km s-min=3.2km az=55.0*
*IDC **15** 00:28:39.8±1.9, 36°.71N×51°.95E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/31, mbtmp3.8/10, ML3.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.4/39, Error ellipse: s-maj=32.1km s-min=17.3km az=172.0*
*TEH **15** 00:28:40.5, 36°.34N×52°.00E, h2km, ML3.8*
*THR **15** 00:28:41.4±1.1, 36°.25N×51°.90E, h14km±10km, ML3.8*
*AZER **15** 00:28:44.4, 36°.45N×51°.73E, h47km*
*NNC **15** 00:28:50.5±1.8, 37°.45N×52°.88E, h0km, mb4.0, Error ellipse: s-maj=21.6km s-min=14.8km az=81.0*

ISC 15 00:28:37.9±1.3, 36°.44N±0°.03×51°.99E±0°.02, h3km±10km, n140, σ1°37/157, mb3.9/10, 16C-18D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**0.81**	**181**	ePg	**Pg**	**00 28 53.1**	**-0.3**
DAMV	**Damavand**	**0.81**	**181**	ePg	**Pg**	**00 28 53.1**	**-0.3**
IDMV	**Damavand**	**0.86**	**178**	⇓ePg	**Pg**	**00 28 54.1**	**-0.3**
IDMV				eSg	**Sg**	**00 29 03.8**	**-1.7**
IDMV				e		00 29 09.6	
	comp=Z,24μm,0.1s						
IDMV	**Damavand**	**0.86**	**178**	⇓ePg	**Pg**	**00 28 54.1**	**-0.3**
CHTH	**Charan**	**0.88**	**233**	ePg	**Pg**	**00 28 55.0**	**+0.2**
CHTH	**Charan**	**0.88**	**233**	ePg	**Pg**	**00 28 55.0**	**+0.2**
IFIR	**Firoozkooh**	**1.00**	**142**	⇑ePg	**Pg**	**00 28 56.4**	**-0.8**
IFIR				eSg	**Sg**	**00 29 09.6**	**-0.6**
IFIR				e		00 29 11.3	
	comp=Z,70μm,0.1s						
IFIR	**Firoozkooh**	**1.00**	**142**	⇑ePg	**Pg**	**00 28 56.4**	**-0.8**
THKV	**Tehran--Karaj**	**1.04**	**240**	ePg	**Pb**	**00 28 58.4**	**-0.4**
THKV				AML	AML	00 29 16.5	
	comp=N,3μm,0.4s						
THKV				AML	AML	00 29 16.8	
	comp=E,4μm,0.6s						
THKV	**Tehran--Karaj**	**1.04**	**240**	ePg	**Pb**	**00 28 58.3**	**-0.4**
ISHM	**Shahmirzad**	**1.23**	**121**	ePg	**Pn**	**00 29 00.3**	**-1.9**
ISHM				eSg	**Sb**	**00 29 17.1**	**-1.1**
ISHM				e		00 29 20.9	
	comp=Z,56μm,0.1s						
IR3	**Iran Long-Peri**	**1.24**	**220**	ePg	**Pb**	**00 29 01.6**	**-0.4**
IR3				eSg	**Sb**	**00 29 17.1**	**-1.4**
IR3	**Iran Long-Peri**	**1.24**	**220**	ePg	**Pb**	**00 29 01.6**	**-0.4**
IR3				eSg	**Sb**	**00 29 17.1**	**-1.4**
IMHD	**Mahdasht**	**1.31**	**235**	eSg	**Sb**	**00 29 19.7**	**-0.8**
IMHD				ePg	**Pg**	**00 29 03.3**	**+0.3**
IMHD				e		00 29 23.9	
	comp=Z,10μm,0.2s						
ILAS	**Lasjerd**	**1.31**	**143**	eSg

GLBA S Sn 00 30 25.5 -1.9
IGAR Gharneh 4.02 179 *e*Pn Pn 00 29 41.5 +0.9
IGAR *e* 00 29 56.7
comp=Z,768nm,0.2s
ALIB Äli-Bayra 4.23 327 P Pn 00 29 46.1 +2.9
SNR=6.8
ALIB Äli-Bayra 4.23 327 P Pn 00 29 46.1 +2.9
SNR=6.8
IKOM Komasi 4.31 240 *e*Pn Pn 00 29 46.8 +2.4
IKOM *e* 00 31 14.3
comp=Z,896nm,0.3s
IKOM Komasi 4.31 240 *e*Pn Pn 00 29 46.8 +2.4
GOBA Gobu 4.34 337 ⇓P Pn 00 29 48.0 +3.3
SNR=4.4
GOBA Gobu 4.34 337 P Pn 00 29 48.0 +3.3
SNR=4.4
IHRS Heris 4.37 297 *e*Pn Pn 00 29 48.0 +2.6
IHRS *e* 00 30 42.5
comp=Z,858nm,0.1s
IHRS Heris 4.37 297 *e*Pn Pn 00 29 48.0 +2.6
ICHK Chekchek 4.63 154 *e*Pn Pn 00 29 49.7 +0.7
ICHK *e* 00 31 12.4
comp=Z,2µm,0.3s
ICHK Chekchek 4.63 154 *e*Pn Pn 00 29 49.7 +0.7
ISAD Sadrabad 4.72 162 *e*Pn Pn 00 29 50.9 +0.6
ISAD *e* 00 31 16.3
comp=Z,2µm,0.3s
ISAD Sadrabad 4.72 162 *e*Pn Pn 00 29 50.9 +0.6
ISFR Sfrayin 4.86 81 *e*Pn Pn 00 29 54.2 +2.0
ISFR *e* 00 31 28.8
comp=Z,1µm,0.4s
ISFR Sfrayin 4.86 81 *e*Pn Pn 00 29 54.2 +2.0
IDHR Dehrash 4.89 251 *e*Pn Pn 00 29 53.9 +1.4
IDHR *e* 00 31 25.6
comp=Z,384nm,0.5s
IDHR Dehrash 4.89 251 *e*Pn Pn 00 29 53.9 +1.4
ITBZ Tabriz 4.99 293 *e*Pn Pn 00 29 55.6 +1.7
ITBZ *e* 00 31 28.5
comp=Z,152nm,0.2s
ITBZ Tabriz 4.99 293 *e*Pn Pn 00 29 55.6 +1.7
PQL Pirkuli 5.10 330 ⇓P Pn 00 29 56.3 +1.0
SNR=52
PQL ⇑S Sn 00 30 53.9 -0.8
PQL Pirkuli 5.10 330 P Pn 00 29 56.3 +1.0
SNR=52
PQL S Sn 00 30 53.9 -0.8
SIZA Siyzn 5.22 333 ⇑P Pn 00 29 58.3 +1.3
SNR=26
SIZA Siyzn 5.22 333 P Pn 00 29 58.3 +1.3
SNR=26
IKRD Kardeh 5.26 84 *e*Pn Pb 00 30 10.5 -0.1
IKRD *e* 00 30 20.0
comp=Z,218nm,0.2s
IML Ismayilli 5.27 327 ⇓P Pn 00 29 57.8 +0.2
SNR=8.6
IML ⇑S Sn 00 30 56.5 -2.5
IML Ismayilli 5.27 327 P Pn 00 29 57.8 +0.2
SNR=8.6
IML S Sn 00 30 56.5 -2.5
BRDA Brd 5.38 317 ⇓P Pn 00 30 00.8 +1.8
SNR=6.1
BRDA ⇑S Sn 00 31 02.7 +1.3
BRDA Brd 5.38 317 P Pn 00 30 00.8 +1.8
SNR=6.1
BRDA S Sn 00 31 02.7 +1.3
ISHB Shabestar 5.40 292 *e*Pn Pn 00 30 02.0 +2.4
ISHB *e* 00 30 49.0
comp=Z,236nm,0.3s
ISHB Shabestar 5.40 292 *e*Pn Pn 00 30 02.0 +2.4
IEMG Emamgholi 5.42 78 *e*Pn Pn 00 30 01.5 +1.6
IEMG Emamgholi 5.42 78 *e*Pn Pn 00 30 01.5 +1.6
IAKL Akhelmad 5.45 86 *e*Pn Pn 00 30 01.8 +1.5
IAKL *e* 00 31 23.5
comp=Z,261nm,0.2s
IMEH Mehriz 5.49 156 *e*Pn Pn 00 30 02.1 +1.4
IMEH *e* 00 31 38.7
comp=Z,698nm,0.4s
IMEH Mehriz 5.49 156 *e*Pn Pn 00 30 02.1 +1.4
QUBA Quba, Azerbaij 5.62 332 ⇓P Pn 00 30 03.2 +0.9
SNR=24
QUBA ⇑S Sn 00 31 04.4 -3.0
QUBA Quba, Azerbaij 5.62 332 P Pn 00 30 03.2 +0.9
SNR=24
IPAY Payeh 5.64 88 *e* 00 30 08.3
comp=Z,300nm,0.2s
IPAY *e*Pn Pn 00 30 04.7 +1.8
IBAF Bafgh 5.67 147 *e*Pn Pn 00 30 04.7 +1.5
IBAF *e* 00 31 49.2
comp=Z,608nm,0.3s
IBAF Bafgh 5.67 147 *e*Pn Pn 00 30 04.7 +1.5
NAX Nakhchivan 5.83 300 ⇑P Pn 00 30 10.3 +5.0
SNR=2.8
IMOG Moghan 5.94 91 *e* 00 30 16.4
comp=Z,255nm,0.2s
IMOG *e*Pn Pn 00 30 07.0 -0.1
ISRO Mashad 6.03 89 *e*Pn Pn 00 30 09.9 +1.8
ISRO Mashad 6.03 89 *e*Pn Pn 00 30 09.9 +1.8
SEKA Sheki 6.06 323 ⇓P Pn 00 30 08.5 0.0
SNR=32
SEKA ⇓S Sn 00 31 15.2 -3.1
SEKA Sheki 6.06 323 P Pn 00 30 08.5 0.0
SNR=32
GANJ Ganja 6.12 315 ⇓P Pn 00 30 09.4 +0.2
SNR=14
GANJ ⇑S Sn 00 31 15.2 -4.5
GANJ Ganja 6.12 315 P Pn 00 30 09.4 +0.2
SNR=14
IMYA Miami 6.54 88 *e*Pn Pn 00 30 16.7 +1.5
IMYA *e* 00 32 22.1
comp=Z,271nm,0.4s
IMYA Miami 6.54 88 *e*Pn Pn 00 30 16.7 +1.5
ITEG Tejag 6.59 120 *e*Pn Pn 00 30 17.2 +1.3
ITEG Tejag 6.59 120 *e*Pn Pn 00 30 17.2 +1.3
IPAR Pars 6.64 172 *e*Pn Pn 00 30 18.3 +1.7
IPAR *e* 00 32 42.6
comp=Z,191nm,0.3s
IPAR Pars 6.64 172 *e*Pn Pn 00 30 18.3 +1.7
GNI Garni 6.80 305 Pn Pn 00 30 25.8 +7.0
comp=Z,0.9nm,0.3s,baz=139,slow=3.6,SNR=5.6
GNI Sn Sb 00 31 46.7 -12
baz=144,slow=18,SNR=1.3
IKOO Kooshah 7.04 123 *e*Pn Pn 00 30 22.9 +0.8
IKOO Kooshah 7.04 123 *e*Pn Pn 00 30 22.9 +0.8
DGRG David-gareji 7.19 316 P Pn 00 30 25.3 +1.4
DGRG S Sn 00 31 45.4 -0.7
DGRG David-gareji 7.19 316 P Pn 00 30 25.3 +1.4
DGRG S Sn 00 31 45.4 -0.7
MIB Mutribah 7.68 212 *e*P Pn 00 30 31.4 +0.7
MIB *e*S Sn 00 32 03.1 +4.9
MIB AML AML 00 32 08.5
comp=Z,7.9nm,0.6s
MIB Mutribah 7.68 212 *e*P Pn 00 30 31.4 +0.7
MIB *e*S Sn 00 32 03.1 +4.9
comp=Z,7.9nm,0.6s
TBLG Delisi 7.73 315 P Pn 00 30 34.6 +3.2
TBLG S Sn 00 31 56.4 -3.0
DUS Dusheti 7.99 317 P Pn 00 30 35.8 +0.9
DUS S Sn 00 32 04.7 -1.1
DUS Dusheti 7.99 317 P Pn 00 30 35.8 +0.9
DUS S Sn 00 32 04.7 -1.1
NAY Al-Naaiem 8.21 210 *e*P Pn 00 30 34.4 -3.5
NAY Al-Naaiem 8.21 210 *e*P Pn 00 30 34.4 -3.5
ONI Oni 9.01 316 P Pn 00 30 49.1 +0.1
ONI Oni 9.01 316 P Pn 00 30 49.1 +0.1
KBZ Khabaz 10.07 319 Pn Pn 00 31 05.2 +1.8
comp=Z,0.2nm,0.3s,baz=162,slow=7.2,SNR=4.2
KBZ Sn Sn 00 32 59.3 +2.4
comp=Z,0.2nm,0.3s,baz=106,slow=18,SNR=2.2
AB31 Akbulak array 14.06 22 P Pn 00 31 54.0 -4.0
comp=Z,0.6nm,0.4s,baz=210,slow=14,SNR=16
AB31 ⇓S Sn 00 34 19.9 -15
comp=Z,1.3nm,0.5s
AKTO Aktyubinsk 14.65 15 ⇑P Pn 00 32 00.0 -6.0
comp=Z,3.0nm,0.5s
AKTO ⇓S Sn 00 34 34.4 -14
comp=Z,3.5nm,0.8s
AKTO Aktyubinsk 14.65 15 Pn Pn 00 32 01.9 -4.1
comp=Z,1.1nm,0.3s,baz=200,slow=12,SNR=16
AKTO Sn Sn 00 34 35.9 -13
comp=Z,0.2nm,0.3s,baz=202,slow=19,SNR=3.0
BRTR Keskin Array B 14.82 288 Pn **Pn 00 32 14.5 -0.1**
comp=Z,0.1nm,0.3s,baz=104,slow=10,SNR=2.6
KK31 Karatay Array 15.70 59 ⇑P **Pn 00 32 17.4 -2.7**
comp=Z,0.4nm,0.3s,baz=236,slow=15,SNR=16
KK31 ⇑S Sn 00 35 03.1 -11
comp=Z,1.3nm,0.7s,baz=242,slow=22,SNR=3.5
BRVK Borovoye 20.99 32 ⇓P **P 00 33 22.4 +0.2**
comp=Z,26nm,1.3s
BRVK Borovoye 20.99 32 P **P 00 33 22.4 +0.2**
comp=Z,26nm,1.3s
BVA0 Borovoye Array 21.01 32 ⇓P **P 00 33 22.5 0.0**
comp=Z,12nm,1.2s,baz=216,slow=9.9,SNR=44
BVA0 Borovoye Array 21.01 32 P **P 00 33 22.5 0.0**
comp=Z,12nm,1.2s,baz=216,SNR=44
BVAR Borovoye Array 21.01 32 P **P 00 33 22.9 +0.4**
comp=Z,5.5nm,0.6s,baz=220,slow=9.1,SNR=38
MLR Muntele Rosu 21.57 303 ⇓*iP* **P 00 33 31.3 +2.6**
MLR Muntele Rosu 21.57 303 P **P 00 33 31.1 +2.4**
comp=Z,1.7nm,0.8s,baz=188,slow=5.9,SNR=13
AKASG Malin Array Be 21.68 318 P **P 00 33 28.2 -1.5**
comp=Z,1.1nm,0.5s,baz=124,slow=11,SNR=5.2
VOIR 22.17 302 ⇓*iP* **P 00 33 37.9 +2.9**
BURAR Bucovina Array 22.70 308 ⇑*iP* **P 00 33 42.4 +1.7**
KURBB Kurchatov Arra 23.73 45 ⇑P **P 00 33 52.1 +1.0**
comp=Z,5.5nm,0.9s
KURBB Kurchatov Arra 23.73 45 P **P 00 33 52.2 +1.1**
comp=Z,2.4nm,0.8s,baz=246,slow=9.8,SNR=17
KURBB Kurchatov Arra 23.73 45 P **P 00 33 52.1 +1.0**
comp=Z,5.5nm,0.9s
MK31 Makanchi Array 24.76 56 P **P 00 34 01.5 +0.8**
comp=Z,2.1nm,0.8s,baz=240,slow=9.4,SNR=12
MK31 Makanchi Array 24.76 56 P **P 00 34 01.5 +0.8**
comp=Z,2.1nm,0.8s,baz=240,SNR=12
MKAR Makanchi Array 24.76 56 P **P 00 34 01.8 +1.0**
comp=Z,2.0nm,0.8s,baz=246,slow=9.4,SNR=12
ZALV Zalesovo Beam 28.65 42 P **P 00 34 36.1 +0.5**
comp=Z,0.5nm,0.3s,baz=268,slow=10,SNR=4.0
VRAC Vranov 28.68 308 LR LR 00 48 56.6
comp=Z,30nm,20.0s,baz=359,slow=43
FINES FINESS Array B 29.87 335 P **P 00 34 46.3 0.0**
comp=Z,1.8nm,0.9s,baz=133,slow=9.9,SNR=2.4
SONM Songino Array 41.13 56 LR LR 00 55 26.3
comp=Z,51nm,18.4s,baz=252,slow=39
ESDC Sonseca Array 43.58 292 P **P 00 36 43.9 +0.6**
comp=Z,0.4nm,0.5s,baz=61,slow=7.4,SNR=5.9

NIED ***15*** *00:39:00,45.°10N×150.°70E,h101km,Mw4.4 Best double couple: M0=4.51000×10^15 NP1:φs=65.00000°, δ=88.00000°,λ=104.00000°. NP2:φs=162.00000°,δ=14.00000°, λ=8.00000°.*
BJI ***15*** *00:39:12.3,45.°76N×151.°14E,h95km,mB4.9/9,mb4.7/12*
IDC ***15*** *00:39:13.7±2.9,45.°90N×150.°65E,h82km±25km,mb3.9/18, mb1 4.0/22,mb1mx3.8/33,mbtmp3.8/22,Error ellipse: s-maj=21.7km s-min=14.6km az=157.0*
MOS ***15*** *00:39:14.5±1.2,46.°01N×150.°74E,h97km,mb4.4/23,Error ellipse: s-maj=9.8km s-min=6.7km az=95.6*
NEIC ***15*** *00:39:16.4±0.8,46.°01N×150.°68E,h101km±7km,mb4.7/10, Error ellipse: s-maj=15.6km s-min=6.3km az=149.0*
JMA ***15*** *00:39:19.5±0.5,45.°13N×150.°65E,h117km,M3.9*

ISC 15 00:39:13.5±0.6,45.°74N±0.°08×150.°96E±0.°07,h88km,n202,σ1§45/214,mb4.4/77,25C-11D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.23**	**258**	⇑*i*PN	**P**	**Sn**	**00 39 50.9**	**+2.2**
KUR				*i*S	**S**	**Sn**	**00 40 17.9**	**+2.3**
KUR	comp=Z,1µm,0.5s			pmax	pmax			
KUR	comp=N,353nm,0.3s			pmax	pmax			
KUR	comp=E,136nm,0.5s			pmax	pmax			
KUR	comp=E,817nm,0.6s			smax	smax			
KUR	comp=N,729nm,0.6s			smax	smax			
YUK	**Yuzh-Kuril'sk**	**4.00**	**247**	*d iP*N	P	Pn	00 40 14.9	+2.4
YUK				*i*S	**S**	**Sn**	**00 41 00.1**	**+1.8**
YUK	comp=N,33nm,0.4s			pmax	pmax			
YUK	comp=E,58nm,0.4s			pmax	pmax			
YUK	comp=Z,139nm,0.5s			smax	smax			
YUK	comp=N,292µm,0.6s			smax	smax			
YUK	comp=E,426µm,0.6s			smax	smax			
NEM2	**Nemuro 2**	**4.42**	**239**	P	**Pn**	**00 40 18.8**	**+0.6**
NEM2				*e*S	**Sn**	**00 41 04.8**	**-3.6**
JRA	**Rausu**	**4.53**	**249**	P	Pn	00 40 22.1	+2.5
JNK	**Nakash**	**4.95**	**246**	P	**Pn**	**00 40 27.2**	**+1.9**
JAK	**Akkeshi**	**5.26**	**241**	P	**Pn**	**00 40 30.1**	**+0.5**
JAK				*e*S	**Sn**	**00 41 25.7**	**-3.2**
JTKR	**Abashiri--Toko**	**5.32**	**253**	P	**Pn**	**00 40 32.8**	**+2.4**
JMP	**Maruseppu**	**5.67**	**255**	P	Pn	00 40 37.8	+2.5
JAR	**Ashorobuto**	**5.69**	**247**	P	**Pn**	**00 40 37.4**	**+1.9**
YSS	**Yuzh-Sakhalins**	**5.81**	**285**	⇑*i*PN	Pn	00 40 42.0	+4.9
YSS	comp=Z,50nm,0.9s			pmax	pmax			
JOB	**Onbets**	**5.84**	**244**	P	**Pn**	**00 40 39.1**	**+1.5**
JOB				*e*S	**Sn**	**00 41 40.7**	**-2.4**
SKR	**Severo-Kuril's**	**6.03**	**33**	*e*PN	**Pn**	**00 40 38.4**	**-1.6**
SKR				*e*S	**Sn**	**00 41 46.5**	**-1.0**
SKR	comp=N,30nm,0.5s			pmax	pmax			
SKR	comp=E,30nm,0.5s			pmax	pmax			
SKR	comp=Z,40nm,0.5s			pmax	pmax			
SKR	comp=N,40nm,0.5s			smax	smax			
SKR	comp=E,80nm,0.5s			smax	smax			
JKK2	**Kamakawa 2**	**6.13**	**255**	P	Pn	00 40 44.3	+2.8
ASAJ	**Asahikawa**	**6.16**	**258**	*e*Pn	Pn	00 40 45.0	+3.2
ASAJ				S	**Sn**	**00 41 51.9**	**+1.2**
ASAJ	**Asahikawa**	**6.16**	**258**	P	Pn	00 40 44.5	+2.7
ASAJ	**Asahikawa**	**6.16**	**258**	P	Pn	00 40 45.0	+3.2
ASAJ	comp=E,1.8nm,0.3s,baz=90,slow=16,SNR=23			S	**Sn**	**00 41 51.9**	**+1.2**
JCH	**Churui**	**6.29**	**243**	P	**Pn**	**00 40 44.9**	**+1.2**
JCH	comp=E,0.3nm,0.3s,baz=253,slow=17,SNR=1.6			*e*S	**Sn**	**00 41 50.1**	**-4.0**
ERM	**Erimo**	**6.75**	**239**	*e*PN	Pn	00 40 52.4	+2.4
ERM	**Erimo**	**6.75**	**239**	*e*Pn	Pn	00 40 52.4	+2.4
ERM				*e*Sn	**Sn**	**00 42 01.8**	**-3.5**
JEM	**Erimo**	**6.75**	**239**	*e*S	**Sn**	**00 42 01.7**	**-3.6**
JBT2	**Biratori 2**	**6.84**	**247**	P	**Pn**	**00 40 51.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**6.85**	**243**	P	**Pn**	**00 40 51.8**	**+0.5**
JNBK				*e*S	**Sn**	**00 42 01.8**	**-5.9**
JNB	**Noboribetsu**	**7.85**	**249**	P	**Pn**	**00 41 06.6**	**+1.7**
JNB				*e*S	**Sn**	**00 42 30.3**	**-1.8**
JKB	**Kayabe**	**8.14**	**245**	P	**Pn**	**00 41 08.7**	**-0.2**
JKB				*e*S	**Sn**	**00 42 33.3**	**-6.0**
PEA0B	**Petropavlovsk-**	**8.58**	**28**	*e*Pn	**Pn**	**00 41 15.9**	**+1.1**
PETK	**Petropavlovsk-**	**8.58**	**28**	PN	**Pn**	**00 41 13.7**	**-1.1**
PETK	comp=Z,1.0nm,0.3s			pmax	pmax			
PETK	**Petropavlovsk-**	**8.58**	**28**	P	**Pn**	**00 41 13.7**	**-1.1**
PETK	**Petropavlovsk-**	**8.58**	**28**	P	**Pn**	**00 41 13.7**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=198,slow=13,SNR=14							
JSR	**Shiriuchi**	**8.72**	**245**	*e*S	Sn	00 42 46.6	-6.8
JANG	**Nango**	**8.75**	**236**	*e*S	Sn	00 42 45.4	-8.6
JTM	**Tenmabayashi**	**8.75**	**239**	P	**Pn**	**00 41 16.5**	**-0.6**
JTM				*e*S	Sn	00 42 45.8	-8.2
JTH	**Tanohata**	**8.84**	**232**	*e*S	Sn	00 42 47.0	-9.3
OFUJ	**Ofunato**	**9.56**	**229**	P	**Pn**	**00 41 26.2**	**-2.0**
OFUJ				*e*S	Sn	00 43 05.4	-8.4
JRG	**Rokugo**	**9.90**	**234**	P	**Pn**	**00 41 31.6**	**-1.3**
JRG				*e*S	Sn	00 43 15.0	-7.2
JIO	**Ouri**	**10.19**	**228**	*e*S	Sn	00 43 19.3	-10
JFK	**Kawauchi**	**11.26**	**226**	*e*S	Sn	00 43 46.0	-9.3
MJAR	**Matsushiro Arr**	**13.28**	**231**	P	**Pn**	**00 42 16.4**	**-2.0**
MJAR	**Matsushiro Arr**	**13.28**	**231**	P	**Pn**	**00 42 16.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=3.6							
USRK	**Ussuriysk Arra**	**13.53**	**270**	P	**Pn**	**00 42 20.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=232,slow=44,SNR=2.8							
FX1	**Attu Island--F**	**16.11**	**56**	*e*Pn	**P**	**00 42 57.4**	**+1.3**
FX1				*e*Sn	Sn	00 45 44.8	-7.6
SEY	**Seymchan**	**17.25**	**2**	⇑*e*P	**Pn**	**00 43 07.9**	**-0.6**
KSRS	**Korea Array**	**19.07**	**252**	P	**Pn**	**00 43 29.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=11,SNR=5.2							
KSAR	**Wonju Array Be**	**19.10**	**252**	P	**Pn**	**00 43 29.4**	**-1.5**
YAK	**Yakutsk**	**20.42**	**331**	*e*P	**P**	**00 43 41.8**	**-1.5**
YAK	comp=Z,31nm,0.9s			pmax	pmax			
YAK	comp=N,8.0nm,0.9s			pmax	pmax			
YAK	comp=E,5.0nm,0.9s			pmax	pmax			
TIXI	**Tiksi**	**28.05**	**345**	⇑*e*P	**P**	**00 44 53.3**	**-2.7**
TIXI	comp=Z,3.0nm,0.5s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**28.88**	**275**	*e*P	**P**	**00 45 05.4**	**+1.5**
HHC				S	**S**	**00 49 50.3**	**+2.5**
HHC	comp=Z,47nm,0.7s			pmax	pmax			
HHC	comp=Z,200nm,4.9s			pmax	pmax			
IMA2	**Indian Mountai**	**35.50**	**35**	*e*P	**P**	**00 46 02.2**	**+0.8**
COLD	**Coldfoot**	**37.01**	**34**	*e*P	**P**	**00 46 15.3**	**+1.2**
	comp=Z,13nm,1.7s							
GTA	**Gaotai**	**37.66**	**279**	P	**P**	**00 46 21.1**	**+1.0**
GTA	comp=Z,11nm,0.8s			pmax	pmax			
ILAR	**Eielson Array**	**38.27**	**38**	P	**P**	**00 46 25.7**	**+0.9**
ILAR	**Eielson Array**	**38.27**	**38**	P	**P**	**00 46 25.7**	**+0.9**
	comp=Z,1.2nm,1.1s,baz=274,slow=7.7,SNR=7.0							
RAGM	**Ragged Mountai**	**39.64**	**45**	*e*P	**P**	**00 46 38.5**	**+2.2**
	comp=Z,31nm,1.1s							
RAGM				*e*ScS	ScS	00 56 40.7	+6.1
GYA	**Guiyang**	**40.03**	**257**	*e*P	**P**	**00 46 41.0**	**+1.0**
GYA				pP	**pP**	**00 47 05.4**	**+4.7**
GYA				PP	**PnPn**	**00 48 18.3**	**+0.5**
GYA				PcP	**PcP**	**00 48 46.0**	**+2.6**
GYA				ScP	**ScP**	**00 52 23.9**	**-0.4**
GYA				PcS	**PcS**	**00 52 35.3**	**+1.3**
GYA				S	**S**	**00 52 37.8**	**-1.7**
GYA				sS	**sS**	**00 53 19.0**	**+4.0**
GYA				ScS	**ScS**	**00 56 35.4**	**-2.7**
GYA	comp=Z,10.0nm,0.8s			pmax	pmax			
GYA	comp=Z,90nm,4.7s			pmax	pmax			
ZALV	**Zalesovo Beam**	**42.00**	**306**	P	**P**	**00 46 53.3**	**-2.4**
ZALV						00 48 48.5		
ZALV	comp=Z,1.0nm,0.6s			pmax	pmax			
ZALV	comp=Z,1.0nm,0.6s			pmax	pmax			
ZALV	**Zalesovo Beam**	**42.00**	**306**	P	**P**	**00 46 53.3**	**-2.4**
ZALV				PcP	**PcP**	**00 48 48.5**	**-0.6**
ZALV	**Zalesovo Beam**	**42.00**	**306**	P	**P**	**00 46 53.3**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=69,slow=7.9,SNR=3.1							
ZALV				PcP	**PcP**	**00 48 48.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=66,slow=4.9,SNR=4.1							
INK	**Inuvik**	**43.30**	**32**	P	**P**	**00 47 08.2**	**+2.2**
INK	**Inuvik**	**43.30**	**32**	P	**P**	**00 47 08.2**	**+2.2**
	comp=Z,2.5nm,0.6s,baz=293,slow=5.8,SNR=7.6							
KMI	**Kunming**	**43.59**	**259**	P	P	00 47 12.3	+3.2
KMI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
MK31	**Makanchi Array**	**46.08**	**297**	*e*P	**P**	**00 47 27.1**	**-1.4**
MK31	**Makanchi Array**	**46.08**	**297**	*e*P	**P**	**00 47 27.1**	**-1.4**
MKAR	**Makanchi Array**	**46.08**	**297**	*ce*P	P	00 47 32.7	+4.2
MKAR	**Makanchi Array**	**46.08**	**297**	P	**P**	**00 47 27.1**	**-1.3**
MKAR	**Makanchi Array**	**46.08**	**297**	P	**P**	**00 47 27.1**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=67,slow=8.5,SNR=9.0							
KURK	**Kurchatov**	**46.68**	**304**	P	**P**	**00 47 32.0**	**-1.1**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KURK	**Kurchatov**	**46.68**	**304**	P	**P**	**00 47 31.9**	**-1.1**
KURBB	**Kurchatov Arra**	**46.77**	**304**	P	**P**	**00 47 31.9**	**-1.8**
	comp=Z,3.3nm,0.7s,baz=69,slow=8.5,SNR=23							
AAK	**Ala-Archa**	**52.94**	**296**	*i* P	**P**	**00 48 21.2**	**+0.4**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SVE	**Sverdlovsk**	**53.56**	**317**	⇓*e*P	**P**	**00 48 23.2**	**-1.7**
SVE				pmax	pmax			
	comp=Z,12nm,0.9s							
KSH	**Kashi**	**53.65**	**292**	*e*P	P	00 48 29.9	+3.9
KSH				sP	sP	00 49 04.8	+7.3
KSH				PP	PP	00 50 33.8	+6.5
KSH				S	**S**	**00 55 52.6**	**-0.5**
KSH	comp=Z,7.0nm,1.3s			pmax	pmax			
KSH	comp=Z,83nm,4.8s			pmax	pmax			
KSH	comp=N,120nm,4.7s			LR	LR			
KSH	comp=E,96nm,5.5s			LR	LR			
KSH	comp=Z,110nm,6.0s			LR	LR			
ARU	**Arti**	**54.75**	**317**	*d iP*	**P**	**00 48 31.8**	**-1.7**
ARU				pmax	pmax			
	comp=Z,14nm,1.2s							
ABKAR	**Akbulak array**	**57.92**	**309**	*e*P	**P**	**00 48 55.1**	**-1.1**
ARCES	**ARCESS Array B**	**58.31**	**340**	P	**P**	**00 48 58.0**	**-0.6**
ARCES	**ARCESS Array B**	**58.31**	**340**	P	**P**	**00 48 58.0**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=34,slow=9.3,SNR=3.9							
KBL	**Kabul**	**61.05**	**291**	*e*P	**P**	**00 49 17.7**	**-0.5**
KBL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KBL	**Kabul**	**61.05**	**291**	*e*P	**P**	**00 49 17.7**	**-0.5**
	comp=Z,6.8nm,0.8s							
SUMG	**Summit**	**61.81**	**3**	*e*P	**P**	**00 49 23.5**	**+0.6**
SUMG				pmax	pmax			
	comp=Z,17nm,0.9s							
SUMG	**Summit**	**61.81**	**3**	⇓*iP*	**P**	**00 49 23.8**	**+0.9**
	comp=Z,13nm,0.8s							
SUMG	**Summit**	**61.81**	**3**	*e*P	**P**	**00 49 23.5**	**+0.6**
	comp=Z,17nm,0.9s							
FINES	**FINESS Array B**	**64.31**	**334**	P	**P**	**00 49 37.2**	**-2.0**
FINES	**FINESS Array B**	**64.31**	**334**	P	**P**	**00 49 37.2**	**-2.0**
	comp=Z,2.3nm,0.6s,baz=35,slow=5.1,SNR=14							
PDAR	**Pinedale Array**	**66.55**	**52**	P	**P**	**00 49 55.2**	**+1.0**
PDAR	**Pinedale Array**	**66.55**	**52**	P	**P**	**00 49 55.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=178,slow=0.8,SNR=6.0							
NB2	**NORSAR Subarra**	**68.69**	**340**	P	**P**	**00 50 05.7**	**-1.4**
	comp=Z,2.5nm,0.6s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.69**	**340**	P	**P**	**00 50 06.1**	**-1.0**
NOA	**NORSAR Array B**	**68.69**	**340**	P	**P**	**00 50 06.1**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=29,slow=6.4,SNR=16							
HFS	**Hagfors**	**68.87**	**339**	P	**P**	**00 50 06.6**	**-1.6**
HFS	**Hagfors**	**68.87**	**339**	P	**P**	**00 50 06.6**	**-1.6**
	comp=Z,5.0nm,0.6s,baz=58,slow=5.6,SNR=19							
KIV	**Kislovodsk**	**70.42**	**313**	⇑*e*P	**P**	**00 50 18.2**	**+0.1**
KIV				*e**PP	**PcP**	**00 50 39.6**	**+0.5**
KIV				*e*		00 52 56.2	
KIV				*e*S	**S**	**00 59 23.6**	**-0.3**
KIV	comp=Z,19nm,1.0s			pmax	pmax			
KBZ	**Khabaz**	**70.48**	**313**	P	**P**	**00 50 18.9**	**+0.6**
KBZ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KBZ	**Khabaz**	**70.48**	**313**	P	**P**	**00 50 18.9**	**+0.6**
KBZ	**Khabaz**	**70.48**	**313**	P	**P**	**00 50 18.9**	**+0.6**
	comp=Z,9.9nm,0.9s,baz=54,slow=5.9,SNR=26							
ZEI	**Tsey**	**70.62**	**312**	*e*P	**P**	**00 50 18.5**	**-1.0**
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.9s							
DUS	**Dusheti**	**70.69**	**311**	P	**P**	**00 50 21.1**	**+1.3**
DGRG	**David-gareji**	**70.78**	**310**	P	**P**	**00 50 20.6**	**+0.3**
ASAR	**Alice Springs**	**70.79**	**197**	P	**P**	**00 50 21.4**	**+1.1**
ASAR	**Alice Springs**	**70.79**	**197**	P	**P**	**00 50 21.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=9.6,slow=6.1,SNR=5.5							
TBLG	**Delisi**	**70.92**	**310**	*e*P	**P**	**00 50 21.8**	**+0.7**
TBLG	**Delisi**	**70.92**	**310**	P	**P**	**00 50 21.8**	**+0.7**
ONI	**Oni**	**71.00**	**312**	P	**P**	**00 50 22.0**	**+0.4**
AKASG	**Malin Array Be**	**71.55**	**325**	P	**P**	**00 50 22.9**	**-1.8**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**71.55**	**325**	P	**P**	**00 50 22.9**	**-1.8**
AKASG	**Malin Array Be**	**71.55**	**325**	P	**P**	**00 50 22.9**	**-1.8**
	comp=Z,2.7nm,0.6s,baz=34,slow=6.1,SNR=13							
KIEV	**Kiev**	**71.56**	**325**	*i* P	**P**	**00 50 23.4**	**-1.3**
OJC	**Ojcow**	**75.47**	**330**	*e*P	**P**	**00 50 47.6**	**-0.1**
OJC	**Ojcow**	**75.47**	**330**	*e*P	**P**	**00 50 47.0**

KOLS	Kolonicke sedl	75.65 328	eP	P	00 50 48.6	-0.2
KOLS			ePP	PP	00 53 35.6	-3.1
TESR	Tescani	75.91 324 ⇑	iP	P	00 50 49.6	-0.7
CRVS	Cervenica-Dubn	75.97 328	eP	P	00 50 50.6	0.0
CRVS			pmax	pmax		
comp=Z,4.0nm,1.2s						
CRVS	Cervenica-Dubn	75.97 328	eP	P	00 50 50.6	0.0
CRVS			ePP	PP	00 53 40.8	-0.6
TLCR		76.05 322	⇑P	P	00 50 51.4	+0.4
TLCR		76.05 322	⇑iP	P	00 50 51.4	+0.4
TRPA	Tarpa	76.21 327	⇑iP	P	00 50 52.3	+0.4
CFR	Carcaliu	76.35 322	⇓P	P	00 50 53.0	+0.3
CFR	Carcaliu	76.35 322	⇓iP	P	00 50 53.0	+0.3
OKC	Ostrava-Krasne	76.36 331	iP	P	00 50 53.2	+0.4
OKC	Ostrava-Krasne	76.36 331	iP	P	00 50 53.2	+0.4
UPC	Upice	76.50 332	iP	P	00 50 53.5	-0.1
UPC	Upice	76.50 332	iP	P	00 50 53.5	-0.1
DPC	Dobruska-Polom	76.54 332	eP	P	00 50 54.5	+0.6
DPC			pmax	pmax		
comp=Z,34nm,1.2s						
DPC	Dobruska-Polom	76.54 332	iP	P	00 50 54.3	+0.5
DPC	Dobruska-Polom	76.54 332	eP	P	00 50 54.5	+0.6
comp=Z,34nm,1.2s						
MORC	Moravsky Berou	76.62 331	eP	P	00 50 54.6	+0.3
MORC			pmax	pmax		
comp=Z,7.0nm,0.9s						
MORC	Moravsky Berou	76.62 331	eP	P	00 50 54.6	+0.3
comp=Z,6.6nm,0.9s						
KECS	Kecovo	76.68 329	eP	P	00 50 52.8	-1.8
KECS			pmax	pmax		
comp=Z,2.0nm,1.3s						
KECS	Kecovo	76.68 329	eP	P	00 50 52.8	-1.8
CLL	Collm	76.75 334	⇓iP	P	00 50 54.4	-0.5
CLL			pmax	pmax		
comp=Z,8.0nm,0.7s						
CLL	Collm	76.75 334	⇓iP	P	00 50 54.4	-0.5
comp=Z,8.0nm,0.7s						
MLR	Muntele Rosu	77.02 324	⇓iP	P	00 50 57.3	+0.6
DRGR		77.25 326	⇑P	P	00 50 57.8	-0.1
DRGR		77.25 326	⇑iP	P	00 50 57.8	-0.1
VRAC	Vranov	77.34 331	P	P	00 50 58.1	-0.2
VRAC	Vranov	77.34 331	P	P	00 50 58.1	-0.2
comp=Z,3.6nm,0.4s,baz=4.9,slow=9.5,SNR=5.7						
PRU	Pruhonice	77.43 333	iP	P	00 50 58.7	-0.1
PRU	Pruhonice	77.43 333	iP	P	00 50 58.7	-0.1
VOIR		77.43 324	⇑P	P	00 50 59.7	+0.7
VOIR		77.43 324	⇑iP	P	00 50 59.7	+0.7
MIB	Mutribah	77.90 300	eP	P	00 51 01.6	-0.1
MIB			AMb	AMB	00 51 03.5	
comp=Z,21nm,0.8s						
BRTR	Keskin Array B	78.09 316	P	P	00 51 03.0	+0.1
BRTR	Keskin Array B	78.09 316	P	P	00 51 03.0	+0.1
comp=Z,2.2nm,0.8s,baz=91,slow=4.0,SNR=12						
NAY	Al-Naaiem	78.36 300	eP	P	00 51 03.9	-0.4
NAY			AMb	AMB	00 51 06.0	
comp=Z,10nm,0.8s						
GZR	Gura Zlata	78.38 326	⇑P	P	00 51 03.8	-0.4
GZR	Gura Zlata	78.38 326	⇑iP	P	00 51 03.8	-0.4
RDF	Al-Radifah	78.40 299	eP	P	00 51 03.7	-0.9
RDF			AMb	AMB	00 51 04.4	
comp=Z,30nm,1.2s						
KHC	Kasperske Hory	78.48 333	iP	P	00 51 04.8	+0.1
KHC	Kasperske Hory	78.48 333	iP	P	00 51 04.8	+0.1
KHC	Kasperske Hory	78.48 333	eP	P	00 51 04.7	0.0
comp=Z,7.6nm,0.9s						
BZS	Buzias	78.65 326	⇓P	P	00 51 05.7	+0.1
BZS	Buzias	78.65 326	⇓iP	P	00 51 05.7	+0.1
GERES	GERESS Array B	78.69 333	P	P	00 51 05.5	-0.4
GERES	GERESS Array B	78.69 333	P	P	00 51 05.5	-0.4
comp=Z,2.1nm,0.8s,baz=32,slow=5.1,SNR=21						
TXAR	Lajitas Array	79.29 59	P	P	00 51 10.5	+1.0
TXAR	Lajitas Array	79.29 59	P	P	00 51 10.5	+1.0
comp=Z,0.7nm,0.5s,baz=306,slow=4.5,SNR=10						
MEM	Membach	79.35 338	P	P	00 51 09.8	+0.5
comp=Z,6.5nm,1.1s						
VTS	Vitosha	80.53 324	⇑P	P	00 51 16.0	0.0
VTS	Vitosha	80.53 324	⇑iP	P	00 51 16.0	0.0
BFO	Black Forest	80.79 336	iP	P	00 51 17.6	+0.5
CDF	Champ du Feu	81.01 336	eP	P	00 51 17.8	-0.6
comp=Z,6.8nm,1.0s						
PAGF	Fort de Pagny	81.31 337	eP	P	00 51 19.7	-0.2
comp=Z,2.3nm,0.7s						
MEZF	Maizieres J'vi	81.53 338	eP	P	00 51 20.7	-0.3
comp=Z,4.2nm,0.6s						
HAU	Haudompre	81.64 337	eP	P	00 51 23.3	+1.6
DAVOX	Davos/Dischmat	81.72 334	P	P	00 51 22.2	-0.1
DAVOX	Davos/Dischmat	81.72 334	P	P	00 51 22.2	-0.1
comp=Z,1.1nm,0.5s,baz=160,slow=4.1,SNR=7.5						
SFTF	Sexfontaines	81.81 338	eP	P	00 51 21.9	-0.6
comp=Z,6.6nm,0.6s						
TUE	Stuetta	82.16 334	eP	P	00 51 24.5	-0.1
comp=Z,7.5nm,1.3s						
FLN	La Foliniere	82.64 341	eP	P	00 51 26.6	-0.2
comp=Z,9.8nm,0.8s						
LOR	Lormes	82.98 338	⇑iP	P	00 51 28.4	-0.3
comp=Z,6.1nm,0.7s						
CABF	La Chapelle	82.98 336	eP	P	00 51 29.1	+0.3
GRR	Gorron	83.08 342	eP	P	00 51 28.6	-0.5
comp=Z,11nm,0.7s						
SSF	Saint Saulge	83.27 338	eP	P	00 51 29.9	-0.2
AVF	Avril sur Loir	83.56 338	⇑iP	P	00 51 31.5	-0.1
comp=Z,6.8nm,0.8s						
SMF	Signal de Mont	83.56 338	⇑iP	P	00 51 31.6	-0.1
comp=Z,18nm,1.0s						
SGMF	Saint Gilles	83.57 343	eP	P	00 51 31.7	+0.1
comp=Z,9.7nm,0.8s						
ROSF	Rostrenen	83.64 343	eP	P	00 51 32.4	+0.4
comp=Z,24nm,1.0s						
LPL	La Plagne	83.80 336	eP	P	00 51 33.4	+0.2
comp=Z,7.4nm,0.8s						
LPG	La Plagne	83.81 336	eP	P	00 51 33.6	+0.3
comp=Z,11nm,1.0s						
BGF	Bois d'Agland	83.90 338	eP	P	00 51 33.4	0.0
QUIF	Quistinic	84.02 343	eP	P	00 51 33.9	0.0
comp=Z,7.8nm,0.8s						
BNI	Bardonecchia	84.24 335	eP	P	00 51 36.8	+1.5
BNI			pmax	pmax		
comp=Z,46nm,2.6s						
BNI	Bardonecchia	84.24 335	eP	P	00 51 36.8	+1.5
comp=Z,46nm,2.6s						
TCF	Toulx Ste Croi	84.32 339	eP	P	00 51 35.7	+0.2
comp=Z,3.7nm,0.8s						
MBDF	Montbardon	84.51 335	eP	P	00 51 36.4	-0.3
comp=Z,2.8nm,0.6s						
ORIF	Oris-en-Rattie	84.59 336	⇑iP	P	00 51 37.5	+0.5
comp=Z,7.5nm,0.8s						
MFF	Saint Martin d	84.60 340	⇑iP	P	00 51 37.3	+0.4
comp=Z,17nm,1.0s						
VIVF	Saint-Julien-l	84.99 337	eP	P	00 51 39.3	+0.4
comp=Z,3.7nm,0.8s						
RJF	Les Rejaudoux	85.41 339	eP	P	00 51 41.3	+0.3
comp=Z,18nm,1.2s						
SMRF	Simiane la Rot	85.54 336	eP	P	00 51 42.4	+0.7
FRF	La Foret Royal	85.61 335	eP	P	00 51 41.5	-0.5
comp=Z,4.0nm,0.8s						
CAF	Calviac	85.62 338	eP	P	00 51 42.8	+0.7
comp=Z,6.6nm,0.7s						
PGF	Pioggiola	85.80 333	eP	P	00 51 43.1	0.0
comp=Z,4.0nm,0.7s						
LMR	La Mourre	85.86 335	eP	P	00 51 42.6	-0.6
LASF	Ste Croix	85.93 337	eP	P	00 51 43.8	+0.2
comp=Z,6.0nm,0.8s						
LFF	La Frestale	85.94 339	eP	P	00 51 44.2	+0.6
comp=Z,7.6nm,0.7s						
MTLF	Montolieu	87.06 338	eP	P	00 51 49.4	+0.3
comp=Z,3.4nm,0.7s						
EPF	Esparros	87.83 339	eP	P	00 51 53.4	+0.5
comp=Z,3.5nm,0.7s						
ETSF	Etsaut	88.18 339	eP	P	00 51 54.6	0.0
comp=Z,5.8nm,0.8s						

JMA 15 01:22:00.5±0.4, 44°.00N×148°.02E, h0km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.77	250	P	Pn	01 22 32.6	+0.3
NEM2				eS	Sb	01 22 56.3	-0.2
JRA	Rausu	2.09	269	P	Pn	01 22 37.5	+0.7
JNK	Nakash	2.43	261	P	Pn	01 22 42.2	+0.8
JNK				eS	Sn	01 23 13.0	+1.2
JAK	Akkeshi	2.62	249	P	Pn	01 22 44.8	+0.8
JAK				eS	Sn	01 23 17.7	+1.2
JTKR	Abashiri--Toko	2.97	271	P	Pn	01 22 50.9	+2.1
JAR	Ashorobuto	3.16	259	P	Pn	01 22 53.3	+1.8
JAR				eS	Sn	01 23 33.2	+3.2
JOB	Onbets	3.24	252	eS	Sn	01 23 33.5	+1.7
JCH	Churui	3.67	249	eS	Sn	01 23 44.3	+1.8
JKK2	Kamakawa 2	3.81	270	P	Pn	01 23 04.0	+3.6
JNBK	Urakawa-nobuka	4.22	248	P	Pn	01 23 07.4	+1.4
JKB	Kayabe	5.55	250	P	Pn	01 23 25.9	+1.7
JKB				eS	Sn	01 24 30.0	+1.3

IDC 15 01:54:02.1±2.1, 8°.22S×120°.67E, h148km±37km, mb3.6/1, mb1 3.1/5, mb1mx2.9/23, mbtmp2.9/5, Error ellipse: s-maj=85.6km s-min=25.5km az=67.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	3.32	344	P	Pn	01 54 52.9	-0.6
2.2nm,0.3s,baz=165,slow=7.9,SNR=7.4							
BATI	Baumata	3.55	124	S	Sn	01 55 49.6	+11
14nm,0.3s,baz=128,slow=22,SNR=6.1							
FITZ	Fitzroy Crossi	10.94	154	P	Pn	01 56 35.7	+1.0
0.1nm,0.3s,baz=334,slow=6.7,SNR=7.6							
FITZ				S	Sn	01 58 34.8	-0.9
0.3nm,0.3s,baz=189,slow=16,SNR=8.3							
WRA	Warramunga Arr	17.63	133	P	P	01 57 58.1	+0.5
0.1nm,0.3s,baz=309,slow=11,SNR=7.0							
WRA				S	S	02 01 12.8	-0.7
0.1nm,0.3s,baz=306,slow=24,SNR=8.2							
ASAR	Alice Springs	19.91	142	P	P	01 58 22.9	+0.5
0.3nm,0.3s,baz=315,slow=8.9,SNR=11							
STKA	Stephens Creek	30.54	143	P	P	02 00 01.7	0.0
2.2nm,1.0s,baz=315,slow=8.6,SNR=2.6							

GUC ***15*** *02:01:00.5±0.5, 33°.46S×70°.15W, h121km±2km, ML4.8*
NEIC ***15*** *02:01:00.5, 33°.46S×70°.15W, h121km, mb4.5/39, After GUC.*
NEIC Felt [III] at Maipo and San Jose de Maipo and [II] at Melipilla and Santiago. Also felt Mendoza, Argentina.
ISCJB ***15*** *02:01:01.1±0.3, 33°.48S±0°.04×70°.05W±0°.06, h109km±2km, mb4.5/42, Error ellipse: s-maj=8.5km s-min=7.3km az=2.6*
BJI ***15*** *02:01:02.4, 33°.40S×69°.90W, h90km, mB4.9/3, Ms5.2/2, Ms7 5.1/2*
IDC ***15*** *02:01:02.6±1.6, 33°.48S×69°.99W, h112km±14km, mb4.1/10, mb1 4.2/14, mb1mx4.0/20, mbtmp4.0/14, Error ellipse: s-maj=20.2km s-min=12.4km az=96.0*
ISC 15 02:01:02.2±0.5, 33°.44S±0°.04×70°.16W±0°.06, h109km±4km, n336, σ1$25/353, mb4.5/42, 6C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH	Cerro Calan	0.32	277	⇑iP	Pn	02 01 17.4	-0.7
CLCH				iS	Sn	02 01 30.4	+0.4
CLCH				AML	AML	02 01 32.0	
comp=N,29μm,0.8s							
CLCH				AML	AML	02 01 32.7	
comp=N,33μm,0.7s							
PCH	Pirque	0.35	238	⇓iP	Pn	02 01 17.4	-0.9
PCH				iS	Sn	02 01 30.3	0.0
PCH	Pirque	0.35	238	⇓iP	Pn	02 01 17.4	-0.9
PCH				iS	Sn	02 01 30.3	0.0
STL	Santa Lucia	0.40	270	⇑iP	Pn	02 01 17.5	-0.9
STL				iS	Sn	02 01 30.6	0.0
LMEL	Las Melosas	0.41	185	⇓iP	Pn	02 01 17.7	-1.0
LMEL				iS	Sn	02 01 31.2	+0.2
LMEL	Las Melosas	0.41	185	⇓iP	Pn	02 01 17.7	-1.0
LMEL				iS	Sn	02 01 31.2	+0.2
ANTU	Antumapu	0.42	251	⇑iP	Pn	02 01 17.7	-0.9
ANTU				iS	Sn	02 01 30.7	-0.2
ANTU	Antumapu	0.42	251	⇑iP	Pn	02 01 17.7	-0.9
ANTU				iS	Sn	02 01 30.7	-0.2
ANTU				AML	AML	02 01 31.0	
comp=E,65μm,0.6s							
SAN	Santiago	0.42	267	⇓iP	Pn	02 01 17.8	-0.7
SAN	Santiago	0.42	267	⇓iP	Pn	02 01 17.8	-0.7
PEL	Peldehue	0.53	303	⇓iP	Pn	02 01 18.8	-0.4
PEL				iS	Sn	02 01 32.1	+0.1
TACH	Talagante	0.69	251	iP	Pn	02 01 19.3	-1.1
TACH	Talagante	0.69	251	iP	Pn	02 01 19.3	-1.1
LCCH	Las Cruces	1.18	268	⇓iP	Pn	02 01 24.4	-0.8
LCCH	Las Cruces	1.18	268	⇓iP	Pn	02 01 24.4	-0.8
PTCH	Petorca	1.34	331	⇓iP	Pn	02 01 26.3	-0.8
PTCH	Petorca	1.34	331	⇓iP	Pn	02 01 26.3	-0.8
PTCH				AML	AML	02 01 46.7	
comp=N,14μm,0.5s							
PACH	Papudo	1.40	309	⇑iP	Pn	02 01 27.1	-0.8
PACH	Papudo	1.40	309	⇑iP	Pn	02 01 27.1	-0.8
CMCH	Combarbala	2.37	342	AML	AML	02 02 13.0	
comp=E,12μm,0.7s							
CFAA	Coronel Fontan	2.44	42	P	Pn	02 01 41.0	+0.1
CFAA				S	Sn	02 02 10.6	0.0
CFAA	Coronel Fontan	2.44	42	P	Pn	02 01 41.0	+0.1
comp=E,28nm,0.3s,baz=211,slow=13,SNR=520							
CFAA				S	Sn	02 02 10.6	0.0
comp=E,9.2nm,0.3s,baz=202,slow=7.2,SNR=7.3							
TLL	Tololo Astrono	3.31	350	AML	AML	02 02 43.0	
comp=N,1μm,0.3s							
LCO	Las Campanas	4.43	354	ePn	Pn	02 02 06.5	-1.2
LCO				eSn	Sn	02 02 54.2	-4.2
PLCA	Paso Flores	7.29	182	ePn	Pn	02 02 44.5	-1.6
comp=N,12nm,0.8s							
PLCA	Paso Flores	7.29	182	P	Pn	02 02 44.8	-1.3
comp=N,1.4nm,0.3s,baz=346,slow=13,SNR=18							
TRQA	Tornquist	8.09	127	ePn	Pn	02 02 54.6	-2.2
comp=N,23nm,0.6s							
LVC	Limon Verde	10.84	6	ePn	Pn	02 03 30.1	-4.4
CPUP	Villa Florida	13.19	61	ePn	Pn	02 03 59.2	-6.0
comp=N,20nm,0.6s							
CPUP	Villa Florida	13.19	61	P	Pn	02 03 59.5	-5.7
comp=N,0.7nm,0.3s,baz=201,slow=11,SNR=6.5							
LPAZ	La Paz	17.17	7	eP	P	02 04 56.5	+0.6
comp=N,9.1nm,0.9s							
LPAZ	La Paz	17.17	7	P	P	02 04 56.9	+0.9
comp=N,0.6nm,0.3s,baz=166,slow=9.7,SNR=24							
SIV	San Ignacio	19.21	27	P	P	02 05 17.1	-0.6
SIV	San Ignacio	19.21	27	P	P	02 05 17.1	-0.6
comp=N,0.9nm,0.3s,baz=228,slow=12,SNR=23							
USHA	Ushuaia	21.43	177	P	P	02 05 41.7	+0.5
USHA	Ushuaia	21.43	177	P	P	02 05 41.7	+0.5
comp=N,18nm,0.7s,baz=324,slow=9.9,SNR=9.7							
SAML	Samuel	25.20	16	eP	P	02 06 19.0	+1.3
comp=N,2.5nm,0.9s							
SAML				ePP	pP	02 06 44.2	+2.6
BDFB	Brasilia	26.73	54	P	P	02 06 30.5	-1.2
BDFB	Brasilia	26.73	54	P	P	02 06 30.5	-1.2
comp=N,7.3nm,0.4s,baz=222,slow=8.0,SNR=25							
VNA2	Neumayer--Watz	49.93	158	eP	P	02 09 44.6	+0.3
SNAA	Sanae	51.52	158	eP	P	02 09 56.6	+0.3
SNAA	Sanae	51.52	158	eP	P	02 09 55.0	-1.3
comp=N,7.0nm,1.0s							
SNAA				e	pP	02 10 23.4	+1.1
SNAA	Sanae	51.52	158	P	P	02 09 55.4	-0.9
comp=N,0.5nm,0.3s,baz=298,slow=8.3,SNR=14							
TEIG	Tepich	56.09	339	eP	P	02 10 30.6	+0.5
comp=N,23nm,0.5s							
732A	Laxson Ranch,	67.98	332	P	P	02 11 50.8	+1.3
baz=68,SNR=17							
632A	Uvalde	68.60	332	P	P	02 11 54.7	+1.4
baz=69,SNR=9.9							
631A	Perdido Creek	68.83	332	P	P	02 11 55.5	+0.8
baz=69,SNR=6.6							
532A	Rocksprings	69.20	333	P	P	02 11 58.5	+1.4
baz=70,SNR=19							
JCT	Junction City	69.47	333	eP	P	02 11 59.8	+1.0
comp=N,10nm,0.8s							
JCT	Junction City	69.47	333	P	P	02 11 59.6	+0.9
baz=70							
531A	Rocksprings	69.48	332	P	P	02 12 00.1	+1.3
baz=70,SNR=14							
530A	J-C Ranch, Com	69.78	331	P	P	02 12 01.9	+1.3
baz=70,SNR=8.1							
432A	Menard	69.83	333	P	P	02 12 02.0	+1.1
baz=70							
628A	Black Gap, Mar	69.83	330	P	P	02 12 02.7	+1.7
baz=70							
CPCT	Cooper Cave	69.83	348	eP	P	02 12 01.2	+0.4
431A	Sonora	69.97	332	P	P	02 12 02.8	+1.0
baz=70							
WHTX	Lake Whitney	69.98	335	P	P	02 12 02.6	+0.8
baz=70							
627A	Terlingua Ranc	70.02	329	P	P	02 12 03.5	+1.3
baz=70,SNR=5.1							
TXAR	Lajitas Array	70.03	329	P	P	02 12 03.2	+0.9
TXAR	Lajitas Array	70.03	329	P	P	02 12 03.2	+0.9
comp=N,3.8nm,0.6s,baz=154,slow=9.2,SNR=64							
PLAL	Pickwick Lake	70.10	344	eP	P	02 12 02.4	0.0
comp=N,6.0nm,0.8s							
529A	Stev Forest Ra	70.12	331	P	P	02 12 04.0	+1.2
baz=70,SNR=20							
332A	Millersview	70.26	333	P	P	02 12 04.3	+0.8
baz=71,SNR=8.9							
430A	Baggett Ranch,	70.31	332	P	P	02 12 04.7	+0.9
baz=71,SNR=12							
528A	Cox Ranch, San	70.38	330	P	P	02 12 05.0	+0.6
baz=71							
626A	Big Bend Ranch	70.42	329	P	P	02 12 06.3	+1.7
baz=71,SNR=9.8							
429A	Davenport Ranc	70.42	331	P	P	02 12 05.8	+1.2
baz=71,SNR=13							
331A	San Angelo	70.45	333	P	P	02 12 05.4	+0.7
baz=71,SNR=10							
232A	Coleman	70.68	334	P	P	02 12 07.0	+0.9
baz=71							
527A	Woodward Ranch	70.71	330	P	P	02 12 07.6	+1.1
baz=71							
330A	Mertzon	70.83	332	P	P	02 12 07.7	+0.7
baz=71,SNR=6.4							
428A	Kincaid Ranch,	70.83	331	P	P	02 12 08.1	+1.0
baz=71							
231A	Bronte	70.97	333	P	P	02 12 08.7	+0.8
baz=71,SNR=8.5							
MIAR	Mount Ida	71.11	340	eP	P	02 12 08.9	+0.3
comp=N,2.2nm,0.6s							
JSRW	J. Sargeant Re	71.13	354	eP	P	02 12 09.8	+1.2
WVT	Waverly	71.15	345	eP	P	02 12 08.6	-0.2
comp=N,24nm,0.6s							
WVT				epP	pP	02 12 36.1	-0.2
329A	Wagon Wheel Ra	71.22	332	P	P	02 12 10.4	+1.0
baz=72,SNR=10							
230A	Sterling City	71.23	332	P	P	02 12 10.2	+0.8
baz=72							
427A	Hayter Ranch,	71.24	330	P	P	02 12 10.5	+0.9
baz=72							
ABTX	Abilene, Hawle	71.34	334	P	P	02 12 10.9	+0.8
baz=72							
426A	McDonald Obser	71.34	330	P	P	02 12 11.6	+1.3
baz=72,SNR=12							
328A	Wristen Ranch,	71.46	331	P	P	02 12 11.8	+0.9
baz=72,SNR=6.2							
131A	Roby	71.66	333	P	P	02 12 12.8	+0.8
baz=72							
130A	Snyder	71.81	333	P	P	02 12 13.6	+0.8
baz=72							
425A	Indio Mountain	71.86	329	P	P	02 12 13.9	+0.6
baz=72							
326A	Caldwell Ranch	71.89	330	P	P	02 12 14.4	+1.0
baz=72,SNR=7.3							
Z32A	Haskell	71.89	334	P	P	02 12 14.0	+0.7
baz=72,SNR=6.0							
228A	UT Block 9, Go	72.02	331	P	P	02 12 15.1	+0.9
baz=72,SNR=6.4							
Z31A	Sharp Cattle R	72.14	334	P	P	02 12 15.7	+0.9
baz=72,SNR=14							
227A	Bennet, Jal	72.21	331	P	P	02 12 16.8	+1.5
baz=72							
325A	Bean Ranch, Si	72.35	329	P	P	02 12 16.7	+0.4
baz=73,SNR=8.2							
128A	Castleberry Fa	72.42	332	P	P	02 12 17.4	+0.8
baz=73,SNR=6.2							
Z30A	Sanderson Ranc	72.48	333	P	P	02 12 17.5	+0.6
baz=73,SNR=7.1							
Y32A	R-V Farms, Ver	72.51	335	P	P	02 12 17.8	+0.8
baz=73,SNR=5.3							
226B	Tecolote Peak,	72.62	330	P	P	02 12 19.2	+1.4
baz=73,SNR=6.7							
324A	Moseley Ranch,	72.64	329	P	P	02 12 17.8	-0.2
baz=73,SNR=10							
Z29A	Hungry Hill Ra	72.68	333	P	P	02 12 18.4	+0.4
baz=73,SNR=11							
Y31A	Rekieta Farm,	72.76	334	P	P	02 12 19.5	+1.0
baz=73,SNR=7.1							
MNTX	Cornudas Mount	72.81	329	eP	P	02 12 18.7	-0.2
comp=N,4.2nm,0.6s							
MNTX				epP	pP	02 12 45.3	-1.1
225A	Deer Hill, Car	72.93	330	P	P	02 12 21.4	+1.7
baz=73							
Z28A	Tucker Farm, M	72.97	332	P	P	02 12 20.4	+0.6
baz=73							
TUL1	Tulsa	73.04	338	eP	P	02 12 20.5	+0.5
comp=N,8.1nm,0.8s							
TUL1	Tulsa	73.04	338	P	P	02 12 20.4	+0.4
baz=73							
126A	Clayton Basin,	73.06	331	P	P	02 12 21.4	+1.1
baz=73,SNR=9.3							
224A	Cornudas Mount	73.20	329	P	P	02 12 21.6	+0.4
baz=74,SNR=16							
Y29A	Porterfield Fa	73.20	333	P	P	02 12 21.8	+0.7
baz=74,SNR=9.8							
X31A	McDonald Ranch	73.26	335	P	P	02 12 22.2	+0.8
baz=74							
Z27A	Tatum	73.32	332	P	P	02 12 22.5	+0.6
baz=74							
125A	Gardner Draw,	73.33	330	P	P	02 12 22.5	+0.5
baz=74,SNR=8.6							
DBIC	Dimbokro	73.51	70	eP	P	02 12 23.1	-0.2
comp=N,5.7nm,0.8s							
DBIC	Dimbokro	73.51	70	P	P	02 12 23.0	-0.3
comp=N,2.9nm,0.6s,baz=208,slow=8.6,SNR=4.4							
Z26A	Caprock	73.59	331	P	P	02 12 24.4	+0.9
baz=74,SNR=18							
124A	Stringfield Ra	73.71	329	P	P	02 12 25.1	+0.8
baz=74,SNR=7.4							
MSTX	Muleshoe	73.72	332	eP	P	02 12 25.1	+0.8
MSTX				epP	pP	02 12 51.8	0.0
MSTX	Muleshoe	73.72	332	P	P	02 12 25.0	+0.8
baz=74,SNR=7.3							
Y27A	Causey	73.80	332	P	P	02 12 25.2	+0.5
baz=74							
Z25A	Roswell	73.90	330	P	P	02 12 26.3	+1.0
baz=74							
320A	Kipp Ranch, An	73.91	326	P	P	02 12 27.2	+1.7
baz=74							
222A	Williams Famil	73.91	328	P	P	02 12 27.0	+1.6
baz=74							
X28A	Dimmitt	73.98	333	P	P	02 12 27.2	+1.4
baz=74							
Y26A	Elida	74.09	331	P	P	02

X21A	Alamocita Cree	76.20	329	P	P	02 12 40.3 +1.7
	baz=76					
U26A	Atchley Ranch,	76.23	333	P	P	02 12 39.8 +1.1
	baz=77					
V24A	Rampart Ranch,	76.25	331	P	P	02 12 40.3 +1.4
	baz=77					
T28A	Walsh	76.26	334	P	P	02 12 40.0 +1.3
	baz=77					
S29A	Ulysses	76.35	335	P	P	02 12 40.2 +1.0
	baz=77					
214A	Organ Pipe Nat	76.47	324	P	P	02 12 41.7 +1.7
	baz=77					
U25A	Circle Dot Ran	76.49	332	P	P	02 12 41.5 +1.3
	baz=77,SNR=8.6					
S28A	Manter	76.60	335	P	P	02 12 42.1 +1.5
	baz=77					
V23A	Ortiz Mt. (NFS	76.63	331	P	P	02 12 42.6 +1.6
	baz=77					
W21A	San Fidel	76.71	329	P	P	02 12 43.5 +2.0
	baz=77					
U24A	Moreno Valley	76.84	332	P	P	02 12 44.3 +2.0
	baz=77					
T26A	Comanche Natio	76.86	333	P	P	02 12 43.4 +1.2
	baz=77					
Q31A	Ellis	77.01	337	P	P	02 12 44.0 +1.1
	baz=77					
V22A	San Miguel Ran	77.08	330	P	P	02 12 45.8 +2.2
	baz=77,SNR=15					
W20A	Ramah	77.09	329	P	P	02 12 45.5 +1.8
	baz=77,SNR=5.6					
T25A	Trinidad	77.14	333	P	P	02 12 45.5 +1.7
	baz=78,SNR=12					
U23A	El Rito	77.14	331	P	P	02 12 45.9 +2.0
	baz=78,SNR=7.9					
S26A	Kim	77.20	333	P	P	02 12 45.7 +1.6
	baz=78					
X18A	Snowflake	77.23	327	P	P	02 12 46.2 +1.8
	baz=78					
R28A	Tribune	77.24	335	P	P	02 12 45.3 +1.1
	baz=78					
Q30A	Quinter	77.26	336	P	P	02 12 45.4 +1.1
	baz=78					
Q29A	Oakley	77.44	336	P	P	02 12 46.2 +1.0
	baz=78					
P31A	Stockton	77.47	337	P	P	02 12 46.4 +1.0
	baz=78					
R27A	Eads	77.54	334	P	P	02 12 47.0 +1.1
	baz=78					
S25A	Robets Cordova	77.60	333	P	P	02 12 47.8 +1.4
	baz=78,SNR=8.4					
V20A	Brimhall	77.64	329	P	P	02 12 48.0 +1.4
	baz=78					
X16A	Lo Mia Camp, P	77.82	326	P	P	02 12 49.6 +1.9
	baz=78,SNR=14					
U21A	Nageezi	77.83	330	P	P	02 12 49.5 +1.7
	baz=78,SNR=14					
S24A	Houchin Ranch,	77.88	332	P	P	02 12 50.0 +1.9
	baz=78,SNR=16					
R25A	Fountain Ranch	77.97	333	P	P	02 12 49.6 +1.3
	baz=78					
T22A	Edith	78.02	331	P	P	02 12 50.9 +2.1
	baz=78,SNR=6.7					
SDCO	Great Sand Dun	78.09	332	eP	P	02 12 50.4 +1.2
	comp=N,3.5nm,0.8s					
SDCO				eP	pP	02 13 09.7 -7.4
SDCO				eS	sP	02 13 18.0 -11
Y14A	Wickenburg	78.17	325	P	P	02 12 51.0 +1.5
	baz=78,SNR=6.2					
T21A	Navajo Lake	78.26	330	P	P	02 12 51.6 +1.6
	baz=79					
R24A	Sanders Place,	78.36	333	P	P	02 12 52.5 +1.9
	baz=79,SNR=12					
R23A	Moffat	78.60	332	P	P	02 12 53.4 +1.4
	baz=79					
S22A	4UR Ranch, Cre	78.62	331	P	P	02 12 53.6 +1.5
	baz=79,SNR=7.0					
WUAZ	Wupatki	78.70	327	P	P	02 12 54.3 +1.9
	baz=79					
Y12C	Blythe	78.77	324	P	P	02 12 54.5 +1.9
	baz=79					
MVCO	Mesa Verde	78.85	330	eP	P	02 12 54.8 +1.4
	comp=N,6.1nm,1.0s					
MVCO	Mesa Verde	78.85	330	P	P	02 12 54.6 +1.3
	baz=79					
BOSA	Boshof	78.94	117	eP	P	02 12 54.1 0.0
	comp=N,6.1nm,0.7s					
BOSA	Boshof	78.94	117	P	P	02 12 54.0 -0.1
	comp=N,2.6nm,0.8s,baz=220,slow=5.8,SNR=4.0					
S21A	Coal Bank Pass	78.94	330	P	P	02 12 55.5 +1.6
	baz=79,SNR=5.8					
R22A	Saguache, Gunn	79.00	331	P	P	02 12 56.1 +1.9
	baz=79					
Q24A	Divide	79.01	333	P	P	02 12 55.9 +1.7
	baz=79					
MONP	Monument Peak	79.05	322	P	P	02 12 56.3 +1.9
	baz=79					
O27A	Beecher Island	79.12	335	P	P	02 12 56.1 +1.6
	baz=80					
P25A	Willow Gulch B	79.12	334	P	P	02 12 56.6 +1.9
	baz=80					
BC3	Big Chuckawall	79.16	323	P	P	02 12 56.8 +1.9
	baz=80					
S20A	Disappointment	79.32	330	P	P	02 12 57.8 +1.9
	baz=80,SNR=6.7					
IRM	Iron Mountain	79.41	323	P	P	02 12 57.8 +1.7
	baz=80					
Q22A	Crested Butte,	79.61	332	P	P	02 12 59.2 +1.7
	baz=80,SNR=5.3					
R20A	Redvale	79.63	330	P	P	02 12 59.3 +1.8
	baz=80,SNR=7.7					
PFO	Pinyon Flat Ob	79.63	322	eP	P	02 12 59.2 +1.7
	comp=N,14nm,1.1s					
N27A	Anderson Farm,	79.69	336	P	P	02 12 59.2 +1.6
	baz=80					
U15A	North Rim	79.87	327	P	P	02 13 00.9 +2.0
	baz=80,SNR=5.9					
SMCO	Snowmass	79.91	332	eP	P	02 13 00.4 +1.2
	comp=N,6.2nm,0.7s					
ISCO	Idaho Springs	79.92	333	eP	P	02 13 00.7 +1.6
	comp=N,3.8nm,0.8s					
ISCO	Idaho Springs	79.92	333	P	P	02 13 00.4 +1.3
	baz=80,SNR=6.0					
N26A	Koester Ranch,	79.94	335	P	P	02 13 00.6 +1.6
	baz=80					
GMRC	Granite Mounta	80.15	323	P	P	02 13 02.3 +1.9
	baz=80					
M27A	Reverse DX Ran	80.28	336	P	P	02 13 02.5 +1.7
	baz=81					
O23A	Lake Granby, G	80.39	333	P	P	02 13 03.4 +1.8
	baz=81					
ECSD	EROS Data Cent	80.51	341	eP	P	02 13 02.2 +0.3
	comp=N,12nm,0.7s					
ECSD				eP	pP	02 13 30.0 +0.1
O22A	Kremmling	80.59	333	P	P	02 13 04.0 +1.3
	baz=81					
BFSC	Mount Baldy Ra	80.74	322	P	P	02 13 04.9 +1.4
	baz=81					
P20A	De Beque	80.75	331	P	P	02 13 05.1 +1.7
	baz=81,SNR=7.1					
N23A	Red Feather La	80.99	333	P	P	02 13 06.4 +1.5
	baz=81					
K28A	Ten Mile Ranch	81.00	337	P	P	02 13 06.4 +1.9
	baz=81					
M24A	Cheyenne	81.08	334	P	P	02 13 06.9 +1.8
	baz=81					
P19A	Cripple Cowboy	81.10	331	P	P	02 13 06.9 +1.5
	baz=81,SNR=6.6					
N22A	Wattenberg Ran	81.10	333	P	P	02 13 07.1 +1.7
	baz=82					
LBTB	Lobatse	81.11	114	eP	P	02 13 05.4 -0.4
	comp=N,3.8nm,0.4s					
PHWY	Pilot Hill	81.16	334	eP	P	02 13 06.9 +1.1
	comp=N,7.4nm,0.6s					
K27A	Flueckinger Fa	81.28	337	P	P	02 13 07.7 +1.7
	baz=82					
CCUT	Cedar City	81.28	327	eP	P	02 13 08.8 +2.4
	comp=N,5.6nm,0.8s					
SRU	San Rafael	81.31	329	eP	P	02 13 07.7 +1.3
	comp=N,7.0nm,0.7s					
EDW2	Edwards Air Fo	81.41	322	P	P	02 13 08.3 +1.4
	baz=82					
Q16A	Castle Valley	81.42	329	P	P	02 13 08.8 +1.8
	baz=82					
J27A	Elkhorn Farm,	81.69	337	P	P	02 13 10.0 +1.8
	baz=82					
O19A	Miners Draw (B	81.72	331	P	P	02 13 09.9 +1.3
	baz=82					
K25A	Mack Ranch, Ha	81.75	336	P	P	02 13 10.2 +1.6
	baz=82					
N20A	Spence Gulch,	81.83	332	P	P	02 13 10.3 +1.1
	baz=82					
L23A	Garrett	81.96	334	P	P	02 13 10.5 +0.6
	baz=82					
MPMC	Manual Prospec	82.08	323	P	P	02 13 11.5 +0.9
	baz=82					
I28A	Midland	82.09	338	P	P	02 13 11.4 +1.2
	baz=82					
J26A	Sides Ranch, S	82.10	336	P	P	02 13 11.9 +1.6
	baz=82					
M21A	Separation Pea	82.14	333	P	P	02 13 11.7 +0.8
	baz=82					
L22A	Ellis Ranch, M	82.16	334	P	P	02 13 12.0 +1.2
	baz=82					
ISA	Isabella	82.27	322	P	P	02 13 13.4 +2.0
	baz=83					
I27A	Quinn	82.44	337	P	P	02 13 13.1 +1.1
	baz=83					
L21A	Rawlins	82.45	333	P	P	02 13 13.4 +1.0
	baz=83					
K23A	Bowen Ranch, D	82.49	334	P	P	02 13 13.9 +1.4
	baz=83					
TOA0	Torodi Ar. Sit	82.55	69	eP	P	02 13 13.1 -0.1
TORD	Torodi Ar. Bea	82.55	69	P	P	02 13 12.9 -0.3
TORD	Torodi Ar. Bea	82.55	69	P	P	02 13 12.9 -0.3
	comp=N,1.8nm,0.8s,baz=248,slow=5.2,SNR=11					
J24A	Dixon Ranch, L	82.65	335	P	P	02 13 14.8 +1.5
	baz=83,SNR=5.2					
M19A	Rock Springs	82.76	332	P	P	02 13 15.1 +1.1
	baz=83					
L20A	Wamsutter	82.86	332	P	P	02 13 15.5 +1.0
	baz=83					
JLU	Jordanelle	82.94	330	eP	P	02 13 16.4 +1.3
	comp=N,3.0nm,0.8s					
I25A	Rochford	82.94	336	P	P	02 13 15.8 +0.9
	baz=83,SNR=9.2					
H27A	Howes	82.95	338	P	P	02 13 15.7 +1.0
	baz=83,SNR=5.4					
R11A	Troy Canyon, C	82.96	326	P	P	02 13 16.7 +1.6
	baz=83					
K21A	Alcova	82.98	333	P	P	02 13 16.0 +0.9
	baz=83,SNR=13					
I24A	Kuemmerle Ranc	83.11	336	P	P	02 13 16.9 +1.3
	baz=84					
RSSD	Black Hills	83.14	336	eP	P	02 13 16.9 +1.0
	comp=N,5.3nm,0.8s					
DUG	Dugway	83.19	328	eP	P	02 13 17.6 +1.4
	comp=N,25nm,1.9s					
DUG	Dugway	83.19	328	P	P	02 13 17.5 +1.4
	baz=84,SNR=5.3					
L19A	Farson	83.34	332	P	P	02 13 18.4 +1.4
	baz=84,SNR=5.9					
J22A	Midwest	83.37	334	P	P	02 13 17.7 +0.7
	baz=84					
K20A	Yellowstone Ra	83.42	333	P	P	02 13 18.0 +0.7
	baz=84					
G27A	Dupree	83.57	338	P	P	02 13 18.2 +0.4
	baz=84,SNR=5.4					
K19A	Absolon Red Bu	83.76	332	P	P	02 13 19.6 +0.5
	baz=84,SNR=6.4					
HWUT	Hardware Ranch	83.83	330	eP	P	02 13 20.1 +0.7
	comp=N,6.5nm,0.6s					
H24A	Dirks Ranch, A	83.86	336	P	P	02 13 20.1 +0.6
	baz=84,SNR=6.4					
G25A	Newell	83.88	337	P	P	02 13 20.4 +0.9
	baz=84,SNR=7.5					
PDAR	Pinedale Array	83.98	332	P	P	02 13 20.7 +0.4
PDAR	Pinedale Array	83.98	332	P	P	02 13 20.7 +0.4
	comp=N,1.8nm,0.7s,baz=134,slow=5.5,SNR=16					
F27A	Lemmon	84.04	338	P	P	02 13 21.0 +0.7
	baz=84					
D30A	Buchanan	84.21	341	P	P	02 13 21.8 +0.8
	baz=85					
J19A	Crowheart	84.21	333	P	P	02 13 21.8 +0.5
	baz=85					
G24A	Alzada	84.33	336	P	P	02 13 22.4 +0.6
	baz=85					
NVAR	Mina Array Bea	84.33	324	P	P	02 13 22.7 +0.6
NVAR	Mina Array Bea	84.33	324	P	P	02 13 22.7 +0.6
	comp=N,3.0nm,0.6s,baz=151,slow=6.0,SNR=13					
H20A	Greybull	84.86	334	P	P	02 13 24.8 +0.4
	baz=85					
I18A	Diamond G Ranc	84.88	332	P	P	02 13 25.6 +0.9
	baz=85,SNR=6.0					
REDW	Red Top Meadow	85.00	331	eP	P	02 13 25.6 +0.3
	comp=N,4.5nm,0.9s					
LOHW	Long Hollow	85.11	332	eP	P	02 13 26.7 +0.8
	comp=N,3.6nm,0.8s					
TPAW	Teton Pass	85.14	331	eP	P	02 13 27.3 +1.1
	comp=N,5.2nm,0.8s					
RRI2	Red Ridge	85.17	331	eP	P	02 13 27.3 +1.0
	comp=N,4.1nm,0.8s					
G21A	Lodge Grass	85.20	335	P	P	02 13 26.9 +0.7
	baz=86					
D26A	Manning	85.20	338	P	P	02 13 27.0 +0.9
	baz=86					
MOOW	Moose Ponds	85.28	332	eP	P	02 13 27.6 +0.8
	comp=N,14nm,2.0s					
H19A	Powell	85.38	333	P	P	02 13 27.7 +0.6
	baz=86					
IMW	Indian Meadow	85.48	332	eP	P	02 13 28.8 +1.0
	comp=N,7.0nm,0.9s					
C27A	Sayler Ranch,	85.54	339	P	P	02 13 28.2 +0.5
	baz=86					
G20A	Bridger	85.56	334	P	P	02 13 28.2 +0.2
	baz=86,SNR=7.2					
H18A	Shoshone NF, C	85.64	333	P	P	02 13 29.5 +1.0
	baz=86,SNR=14					
I16A	Newdale	85.68	331	P	P	02 13 29.7 +1.1
	baz=86					
RLMT	Red Lodge	85.87	333	eP	P	02 13 30.2 +0.6
	comp=N,2.8nm,0.6s					
D24A	Glendive	85.88	337	P	P	02 13 30.5 +1.1
	baz=86					
G18A	Lazy EL Ranch,	86.14	333	P	P	02 13 31.7 +0.8
	baz=86,SNR=7.1					
D23A	Lindsay	86.21	337	P	P	02 13 31.8 +0.7
	baz=87					
F19A	Roth Farm, Mol	86.37	334	P	P	02 13 32.4 +0.4
	baz=87					
ULM	Lac du Bonnet	86.38	344	P	P	02 13 32.1 +0.5
ULM	Lac du Bonnet	86.38	344	P	P	02 13 32.1 +0.5
	comp=N,2.5nm,0.5s,baz=120,slow=5.7,SNR=3.2					
E20A	Meyer Farm, Mu	86.63	335	P	P	02 13 34.0 +0.8
	baz=87,SNR=13					
HLID	Hailey	86.63	329	eP	P	02 13 35.0 +1.7
	comp=N,4.8nm,1.0s					
HLID	Hailey	86.63	329	P	P	02 13 35.0 +1.7
	baz=87,SNR=8.0					
F18A	Big Timber	86.70	334	P	P	02 13 34.2 +0.6
	baz=87,SNR=8.6					
E19A	Rath Farm, Rou	86.83	334	P	P	02 13 34.8 +0.6
	baz=87,SNR=15					
C22A	Vida	86.94	337	P	P	02 13 35.2 +0.7
	baz=87					
MCMT	McKenzie Canyo	87.02	331	eP	P	02 13 36.5 +1.3
	comp=N,3.4nm,0.9s					
DGMT	Dagmar	87.03	338	P	P	02 13 35.8 +0.9
	baz=87					
F17A	Fitzpatrick Pl	87.05	333	P	P	02 13 36.0 +0.7
	baz=87					
MFID	Camas Ranch	87.12	329	P	P	02 13 36.6 +1.0
	baz=87					
D20A	Manuel Ranch,	87.14	335	P	P	02 13 36.0 +0.5
	baz=88,SNR=8.1					
DLMT	Dillon	87.36	332	eP	P	02 13 38.2 +1.4
B22A	Reddig Ranch S	87.46	337	P	P	02 13 38.2 +1.1
	baz=88					
D19A	Cripps Ranch,	87.46	335	P	P	02 13 37.8 +0.6
	baz=88					
C20A	Veseth Ranch,	87.62	336	P	P	02 13 38.3 +0.4
	baz=88					
B21A	Ellsworth Farm	87.90	336	P	P	02 13 39.9 +0.7
	baz=88					
C19A	Slack Wire Ran	88.01	335	P	P	02 13 40.6 +0.9
	baz=88					
A22A	Barney Farms,	88.03	337	P	P	02 13 40.7 +0.9
	baz=88					
D17A	Six Diamond Ra	88.11	334	P	P	02 13 41.1 +0.8
	baz=88,SNR=7.3					
B19A	Brinkman Farms	88.59	335	P	P	02 13 43.0 +0.6
	baz=89					
A20A	Cobblestone Ra	88.60	336	P	P	02 13 42.8 +0.4
	baz=89,SNR=5.6					
B18A	Beardsley Farm	88.83	335	P	P	02 13 44.2 +0.6
	baz=89					
A19A	Klindworth Far	88.92	336	P	P	02 13 44.4 +0.4
	baz=89					
A17A	Triple J Farms	89.62	335	P	P	02 13 47.8 +0.5
	baz=90					
BR131	Keskin Array S	120.19	60	ePKPdf	PKPdf	02 19 39.9 -0.5
WRA	Warramunga Arr	122.00	207	PKP	PKPdf	02 19 43.2 -1.1
WRA	Warramunga Arr	122.00	207	PKP	PKPdf	02 19 43.2 -1.1
	comp=N,0.3nm,0.5s,baz=160,slow=1.7,SNR=13					
ABKAR	Akbulak array	140.10	51	ePKPdf	PKPdf	02 20 17.5 +0.1
KAPI	Kappang	140.62	196	ePKPdf	PKPdf	02 20 18.3 -1.2
PETK	Petropavlovsk-	140.88	315	PKPpre	PKPpre	02 20 11.8
PETK	Petropavlovsk-	140.88	315	PKhKP	PKPpre	02 20 11.8
	comp=N,0.5nm,0.6s,baz=106,slow=6.9,SNR=3.7					
BRVK	Borovoye	145.73	43	ePKPbc	PKPdf	02 20 26.9 -0.4
KKAR	Karatay Array	147.90	61	ePKPbc	PKPbc	02 20 34.3 -0.1
EKS2	Erkin-Say	150.33	61	ePKPdf	PKPdf	02 20 34.6 -0.7
EKS2				ePKPbc	PKPbc	02 20 40.1 -0.6
AAK	Ala-Archa	150.86	61	ePKPbc	PKPbc	02 20 42.7 +0.8
TKM2	Tokmak 2	151.63	60	ePKPdf	PKPdf	02 20 38.0 +0.6
TKM2				ePKPbc	PKPbc	02 20 44.1 +0.4
KSH	Kashi	152.21	68	ePKPbc	PKPbc	02 20 45.0 -0.1
KSH				PKPab	PKPab	02 20 54.3 -1.0
KSH				SKS	SKSdf	02 27 41.8 +6.2
KSH				AMB	AMB	
	comp=Z,87nm,4.2s					
KSH				LR	LR	
	comp=N,120nm,6.0s					
KSH				LR	LR	
	comp=E,85nm,9.5s					
KSH				LR	LR	
	comp=Z,110nm,5.4s					
ZALV	Zalesovo Beam	152.90	33	PKPbc	PKPbc	02 20 46.1 +0.2
ZALV	Zalesovo Beam	152.90	33	PKPbc	PKPbc	02 20 46.1 +0.2
	comp=Z,3.1nm,0.6s,baz=312,slow=3.1,SNR=14					
CN2	Changchun	164.03	315	ePKP	PKPdf	02 20 51.5 -0.7
KSRS	Korea Array	164.73	290	PKPab	PKPab	02 21 50.9 +1.5
	comp=Z,1.0nm,0.5s,baz=94,slow=4.2,SNR=5.8					
KSAR	Wonju Array Be	164.76	290	PKPab	PKPab	02 21 50.9 +1.4
KMI	Kunming	169.66	141	PKP	PKPdf	02 20 54.5 -2.9
NJ2	Nanjing	172.28	262	ePKP	PKPdf	02 20 57.8 -0.4
HHC	Hu-ho-hao-te	172.47	350	ePKP	PKPdf	02 20 54.5 -3.7
HHC				sPKP		02 21 31.6
HHC				AMB	AMB	
	comp=Z,140nm,9.2s					
HHC				LR	LR	
	comp=N,150nm,22.4s					
HHC				LR	LR	
	comp=E,140nm,22.7s					
HHC				LR	LR	
	comp=Z,180nm,22.1s					
GYA	Guiyang	172.52	158	ePKP	PKPdf	02 20 57.0 -1.6
GYA				sPKP		02 21 32.5
GYA				PKPab	PKPab	02 22 24.8 +0.8
GYA				PKS	PKSdf	02 24 28.0 -3.1
GYA				AMB	AMB	
	comp=Z,70nm,7.9s					
CD2	Chengdu	174.26	114	ePKP	PKPdf	02 20 58.5 -0.6

BJI 15 02:08:56.9, 31°.41N × 116°.17E, h5km, ML3.8/14, 1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WHN	Wuhan	1.79	242	⇓iPg		Pn	02 09 27.3	-1.1
WHN				Sg		Sn	02 09 50.8	-0.7
WHN				smax		smax		
	comp=N,3μm,0.6s							
WHN				smax		smax		
	comp=E,2μm,0.3s							
NJ2	Nanjing	2.38	74	ePn		Pn	02 09 33.9	-2.6
NJ2				Pg		Pb	02 09 38.9	-1.3
NJ2				Sg		Sb	02 10 08.3	-1.5
NJ2				smax		smax		
	comp=N,390nm,0.5s							
NJ2				smax		smax		
	comp=E,280nm,0.7s							
XAN	Xi'an	6.65	295	Pn		Pn	02 10 33.5	-1.8

*IDC **15** 02:26:00.2±1.1, 5°.50S × 133°.75E, h0km, mb3.7/2, mb1 4.1/7, mb1mx3.8/20, mbtmp4.0/7, ML4.1/5, MS4.5/1, Ms1 4.5/1, ms1mx2.8/30, Error ellipse: s-maj=40.4km s-min=25.6km az=69.0*

*ISCJB **15** 02:26:01.7±0.6, 5°.46S±0°.05 × 133°.80E±0°.07, h32km, mb3.5/2, MS4.4/1, Error ellipse: s-maj=10.7km s-min=5.9km az=161.9*

*AUST **15** 02:26:03.0±0.0, 5°.17S × 133°.84E, h143km, Error ellipse: s-maj=1.3km s-min=1.0km az=236.0*

ISC 15 02:26:03.6±0.7, 5°.46S±0°.06 × 133°.80E±0°.08, h32km, n24, σ1§59/21, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.96	328	P		Pn	02 26 47.2	-1.2
	baz=2.8,SNR=73							
FAKI				S		Sn	02 27 19.7	-3.1
	baz=2.8,SNR=9.6							
BNDI	Bandanaira	3.99	283	P		Pn	02 27 04.8	+2.2
	baz=4.0,SNR=5.6							
SWI	Sorong	5.22	331	P		Pn	02 27 19.5	0.0
	baz=5.0,SNR=5.0							
SWI				S		Sn	02 28 12.1	-6.6
	baz=5.0,SNR=5.2							
AAI	Ambon	5.86	287	P		Pn	02 27 29.9	+1.6
	baz=5.8,SNR=4.4							
KDU	Kakadu	7.30	190	P		Pn	02 27 50.2	+2.0
	baz=7.6,SNR=48							
MTN	Manton Dam	7.80	200	P		Pn	02 27 57.4	+2.5
	baz=8.1,SNR=14							
MTN				S		Sn	02 29 22.8	+0.6
	baz=8.1,SNR=4.8							
SOEI	Soe	10.37	245	P		Pn	02 28 32.1	+1.7
	baz=10,SNR=5.7							
BATI	Baumata	11.10	244	Pn		Pn	02 28 41.6	+1.4
	7.4nm,0.3s,baz=216,slow=6.4,SNR=5.8							
KNRA	Kununurra	11.30	206	P		Pn	02 28 43.9	+1.0
	baz=12,SNR=7.9							
KNRA				S		Sn	02 30 45.5	-2.7
	baz=12,SNR=8.0							
LUWI	Luwuk	11.85	291	P		Pn	02 28 40.9	-10
	baz=12,SNR=3.6							
COEN	Coen	12.51	133	P		Pn	02 28 58.5	-1.1
	baz=13,SNR=5.7							
MANU	Manus Island	13.95	76	S		S	02 32 13.8	-0.4
	baz=14,SNR=32							
WRA	Warramunga Arr	14.41	178	Pn		Pn	02 29 23.1	-2.4
	0.3nm,0.3s,baz=357,slow=13,SNR=18							
WRA				Sn		Sn	02 31 56.4	-7.9
	0.4nm,0.3s,baz=5.7,slow=23,SNR=3.9							
FITZ	Fitzroy Crossi	14.88	212	Pn		Pn	02 29 30.4	-1.5
	0.9nm,0.3s,baz=40,slow=14,SNR=23							
FITZ				Sn		Sn	02 32 06.4	-9.4
	1.1nm,0.3s,baz=192,slow=18,SNR=8.3							
FITZ	Fitzroy Crossi	14.88	212	P		Pn	02 29 30.7	-1.2
	baz=15,SNR=31							
FITZ				S		Sn	02 32 06.7	-9.1
	baz=15,SNR=5.2							
MTSU	Mount Surprise	16.26	142	P		Pn	02 29 49.8	0.0
	baz=16,SNR=10							
ASAR	Alice Springs	18.11	180	P		P	02 30 12.1	-0.8
	0.6nm,0.3s,baz=3.6,slow=11,SNR=23							
CTA	Charters Tower	18.93	141	P		Pn	02 30 24.1	+1.3
	0.2nm,0.3s,baz=316,slow=8.7,SNR=3.5							
JNU	Nakatsue	38.47	356	LR		LR	02 46 11.0	
	comp=Z,670nm,21.6s,baz=47,slow=31							
MKAR	Makanchi Array	69.08	325	P		P	02 37 07.8	+1.3
	0.4nm,0.6s,baz=119,slow=8.6,SNR=5.2							
VNDA	Vanda	73.54	174	P		P	02 37 34.0	+1.1
	0.6nm,0.9s,baz=304,slow=8.9,SNR=4.0							
TORD	Torodi Ar. Bea	132.19	283	PKP		PKPdf	02 45 17.1	+1.7
	0.2nm,0.7s,baz=109,slow=2.9,SNR=3.1							
CPUP	Villa Florida	146.61	162	PKPbc		PKPab	02 45 43.7	0.0
	1.0nm,0.4s,baz=174,slow=2.5,SNR=7.1							
LPAZ	La Paz	149.38	135	PKPbc		PKPbc	02 45 52.9	+1.7
	0.6nm,0.4s,baz=188,slow=4.2,SNR=6.7							

IDC 15 02:40:40.9±3.2, 8°.18S × 119°.82E, h199km±31km, mb2.8/2, mb1 2.9/5, mb1mx2.8/24, mbtmp2.8/5, Error ellipse: s-maj=92.7km s-min=13.7km az=62.0, Flores region

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

KAPI S Sn 02 42 12.5 0.0
1.2nm,0.3s,baz=145,slow=20,SNR=5.8
FITZ Fitzroy Crossi 11.37 151 P Pn 02 43 17.9 +0.1
0.0nm,0.3s,baz=341,slow=15,SNR=3.2
FITZ S Sn 02 45 15.6 -9.1
0.2nm,0.3s,baz=186,slow=21,SNR=7.4
WRA Warramunga Arr 18.28 131 P P 02 44 39.4 -0.7
0.2nm,0.3s,baz=302,slow=12,SNR=12
ASAR Alice Springs 20.47 140 P P 02 45 04.0 +0.4
0.5nm,0.4s,baz=316,slow=9.2,SNR=11
MKAR Makanchi Array 64.11 332 P P 02 50 54.3 +0.4
0.2nm,0.5s,baz=147,slow=7.7,SNR=3.2
TORD Torodi Ar. Bea 119.12 280 PKP PKPdf 02 59 06.1 -1.1
0.3nm,1.0s,baz=49,slow=1.6,SNR=2.9

IDC 15 03:01:14.0±78.0, 21°04'S×179°22'E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=1388.0km s-min=163.4km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.21**	**244**	P	P	03 08 09.4	-0.7
	1.2nm,0.7s,baz=90,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**41.86**	**258**	P	P	03 09 06.0	-0.2
	0.7nm,0.7s,baz=94,slow=7.5,SNR=6.7						
WRA	**Warramunga Arr**	**41.95**	**263**	P	P	03 09 07.3	+0.3
	0.4nm,0.2s,baz=96,slow=8.4,SNR=13						

WEL 15 03:03:50.1±0.4, 40°72S×172°39E, h5km, ML3.5/15, Error ellipse: s-maj=2.4km s-min=1.8km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.15**	**135**	PG	Pg	03 03 54.1	+1.0
QRZ				SG	Sg	03 03 55.3	+0.2
QRZ				AML	AML	03 03 55.5	
NNZ	**Nelson**	**0.90**	**124**	P*	Pg	03 04 05.9	-1.4
NNZ				AML	AML	03 04 19.8	
NNZ				AML	AML	03 04 21.5	
THZ	**Tophouse**	**1.11**	**160**	P*	Pg	03 04 09.4	-2.2
THZ				AML	AML	03 04 27.6	
THZ				AML	AML	03 04 27.6	
DSZ	**Denniston Nort**	**1.11**	**203**	P*	Pg	03 04 11.3	-0.4
DSZ				S*	Sg	03 04 25.5	-0.7
DUWZ	**D'Urville Isla**	**1.17**	**94**	P*	Pg	03 04 11.7	-0.9
DUWZ				AML	AML	03 04 31.1	
DUWZ				AML	AML	03 04 32.8	
TUWZ	**Tuamarina**	**1.37**	**122**	PN	Pn	03 04 14.0	-1.9
TUWZ				AML	AML	03 04 34.7	
TUWZ				AML	AML	03 04 35.1	
BSWZ	**Blackbirch Sta**	**1.50**	**132**	PN	Pn	03 04 16.9	-0.7
BSWZ				AML	AML	03 04 37.8	
BSWZ				AML	AML	03 04 39.6	
TCW	**Tory Channel**	**1.51**	**110**	PN	Pn	03 04 17.2	-0.7
TCW				SN	Sn	03 04 37.1	-0.7
TCW				AML	AML	03 04 38.9	
CMWZ	**Cape Campbell**	**1.71**	**127**	PN	Pb	03 04 21.9	-0.2
CMWZ				AML	AML	03 04 54.0	
SNZO	**South Karori**	**1.85**	**109**	PN	Pn	03 04 23.3	+0.9
SNZO				AML	AML	03 04 50.0	
SNZO				AML	AML	03 04 51.8	
WEL	**Wellington**	**1.88**	**108**	PN	Pb	03 04 24.4	-0.6
KHZ	**Kahutara**	**1.90**	**153**	PN	Pn	03 04 24.1	+0.9
KHZ				SN	Sn	03 04 47.9	+0.4
KIW	**Kapiti Island**	**1.92**	**95**	PN	Pb	03 04 24.8	-0.8
KIW				SN	Sn	03 04 48.2	+0.2
KIW				AML	AML	03 04 54.1	
BHW	**Baring Head**	**2.00**	**111**	PN	Pb	03 04 25.7	+1.2
BHW				AML	AML	03 04 52.7	
BHW				AML	AML	03 04 53.0	
LTZ	**Lake Taylor**	**2.06**	**183**	PN	Pn	03 04 25.0	-0.5
LTZ				AML	AML	03 04 56.4	
LTZ				AML	AML	03 04 56.6	
CAW	**Cannon Point**	**2.06**	**102**	PN	Pb	03 04 26.9	-1.2
CAW				AML	AML	03 04 55.7	
CAW				AML	AML	03 04 56.4	
OGWZ	**Otaki Gorge**	**2.11**	**93**	PN	Pb	03 04 27.9	-1.0
WAZ	**Wanganui**	**2.21**	**65**	PN	Pb	03 04 29.9	-0.7
WAZ				AML	AML	03 04 59.2	
MSWZ	**Moikau Station**	**2.27**	**109**	PN	Pb	03 04 30.1	-1.5
PLWZ	**Palliser**	**2.32**	**112**	PN	Pn	03 04 29.7	+0.6
PAWZ	**Paruwai Farm**	**2.39**	**107**	PN	Pn	03 04 31.2	+1.3
MTW	**Mount Morrison**	**2.40**	**101**	PN	Pb	03 04 32.2	-1.6
VRZ	**Vera Road**	**2.42**	**50**	PN	Pb	03 04 32.8	-1.3
MRZ	**Mangatainoka R**	**2.42**	**90**	PN	Pb	03 04 32.7	-1.6
TIWZ	**Tintock**	**2.66**	**92**	PN	Pn	03 04 35.7	+2.0
FWVZ	**Far West T-bar**	**2.83**	**60**	PN	Pn	03 04 38.9	+2.5
FWVZ				AML	AML	03 05 24.0	
HIZ	**Hauiti**	**2.91**	**42**	PN	Pn	03 04 39.1	+1.9
MQZ	**McQueen's Vall**	**2.99**	**176**	PN	Pn	03 04 37.2	-1.0
FOZ	**Fox Glacier**	**3.48**	**214**	PN	Pn	03 04 43.6	-1.3
LBZ	**Lake Benmore**	**4.01**	**203**	PN	Pn	03 04 53.2	+1.0
JCZ	**Jackson Bay**	**4.30**	**218**	PN	Pn	03 04 56.6	+0.3
ODZ	**Otahua Downs**	**4.51**	**196**	PN	Pn	03 04 58.2	-0.9

ISCJB ***15*** *03:38:07.8±0.7, 6°23N±0°06×126°45E±0°08, h68km, mb3.9/6, Error ellipse: s-maj=12.5km s-min=6.0km az=149.1*
IDC ***15*** *03:38:10.1±2.5, 6°50N×126°48E, h98km±18km, mb3.7/6, mb1 3.8/6, mb1mx3.4/26, mbtmp3.7/6, Error ellipse: s-maj=65.6km s-min=16.5km az=67.0*
MAN ***15*** *03:38:10, 6°46N×126°44E, h44km, mb4.7, ML3.6, MS3.6*
ISC 15 03:38:08.7±0.9, 6°26N±0°07×126°40E±0°09, h68km, n16, σ1§43/19, mb3.9/6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.70**	**348**	*eP*	**Pn**	**03 38 23.1**	**-0.3**
DAV	**Davao City (W)**	**1.15**	**315**	P	**Pn**	**03 38 30.0**	**+1.1**
	524nm,0.3s,baz=225,slow=4.5,SNR=23						
DAV				S	**Sn**	**03 38 47.3**	**+3.1**
	252nm,0.3s,baz=78,slow=21,SNR=4.7						
GSPH	**General Santos**	**1.45**	**263**	⇓*iP*	**Pn**	**03 38 33.1**	**0.0**
GSPH				*i* S	**Sn**	**03 38 52.5**	**+1.0**
KCP	**Kidapawan**	**1.50**	**300**	⇑*eP*	**Pn**	**03 38 33.8**	**+0.2**
BUKP	**Musuan**	**2.09**	**321**	*eP*	**Pn**	**03 38 41.5**	**0.0**
BUKP				*eS*	**Sn**	**03 39 07.2**	**+0.6**
CTBH	**Cotabato--PC H**	**2.35**	**294**	⇑*iP*	**Pn**	**03 38 44.5**	**-0.5**
CGP	**Cagayan de Oro**	**2.77**	**322**	*eP*	**Pn**	**03 38 51.0**	**+0.3**
CGP				*eS*	**Sn**	**03 39 23.1**	**+0.1**
BUTP	**Butuan**	**2.81**	**344**	*eP*	**Pn**	**03 38 52.9**	**+1.7**
PAGZ	**Pagadian**	**3.39**	**298**	*eP*	Pn	03 38 51.4	-7.8
FITZ	**Fitzroy Crossi**	**24.21**	**182**	P	**P**	**03 43 20.0**	**+0.9**
	1.6nm,0.4s,baz=19,slow=8.1,SNR=29						
WRA	**Warramunga Arr**	**27.18**	**163**	P	**P**	**03 43 46.2**	**+0.2**
	0.5nm,0.3s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**30.63**	**166**	P	**P**	**03 44 17.2**	**+0.6**
	0.5nm,0.3s,baz=343,slow=7.1,SNR=18						
NWAO	**Narrogin (SRO)**	**39.93**	**192**	P	**P**	**03 45 37.0**	**+0.6**
	7.8nm,0.7s,baz=21,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**40.59**	**160**	P	**P**	**03 45 42.6**	**+0.8**
	1.2nm,0.4s,baz=338,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**55.32**	**324**	P	**P**	**03 47 32.5**	**-2.9**
	0.8nm,0.5s,baz=122,slow=7.2,SNR=12						
TORD	**Torodi Ar. Bea**	**121.80**	**290**	PKP	**PKPdf**	**03 56 53.5**	**-2.5**
	0.3nm,0.8s,baz=69,slow=1.7,SNR=4.3						

IDC ***15*** *03:43:32.8±0.6, 3°74N×126°41E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.2/23, mbtmp4.3/13, MS3.3/4, Ms1 3.3/4, ms1mx2.9/36, Error ellipse: s-maj=50.3km s-min=13.9km az=74.0*
ISCJB ***15*** *03:43:38.5±0.3, 3°68N±0°06×126°4E±0°1, h53km, mb4.3/23, MS3.3/3, Error ellipse: s-maj=15.7km s-min=5.9km az=157.4*
NEIC ***15*** *03:43:38.3±0.2, 3°74N×126°48E, h35km, mb4.5/11, Error ellipse: s-maj=12.1km s-min=6.0km az=69.0*
AUST ***15*** *03:44:10.7, 1°00N×127°50E, h100km*
ISC 15 03:43:40.1±0.5, 3°63N±0°08×126°4E±0°1, h53km, n70, σ1§08/65, mb4.4/22, MS3.3/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.52**	**347**	Sn	Sn	03 45 23.0	+10
	21nm,0.3s,baz=41,slow=22,SNR=2.8						
CTBH	**Cotabato--PC H**	**4.16**	**329**	⇑*iP*	**Pn**	**03 44 43.8**	**+2.6**

LUWI Luwuk 5.89 218 P Pn 03 45 25.0 +20
baz=5.2,SNR=3.9
FAKI Fak Fak 8.74 138 P **Pn** **03 45 42.8 -1.2**
baz=6.2,SNR=4.9
KKM Kota Kinabalu 10.43 284 *e*Pn **Pn** **03 46 06.5 -0.7**
KAPI Kappang 10.85 218 LR LR 03 49 34.9
comp=Z,88nm,21.2s,baz=92,slow=33
KDU Kakadu 17.30 160 P **Pn** **03 47 36.1 -1.9**
baz=15,SNR=5.7
KNRA Kununurra 19.32 173 P **Pn** **03 48 02.5 -0.1**
baz=17,SNR=16
FITZ Fitzroy Crossi 21.61 182 P **P** **03 48 26.8 +1.1**
FITZ Fitzroy Crossi 21.61 182 P **P** **03 48 26.8 +1.1**
3.3nm,0.4s,baz=14,slow=8.1,SNR=16
FITZ Fitzroy Crossi 21.61 182 P **P** **03 48 26.5 +0.7**
baz=19,SNR=22
PMG Port Moresby 24.41 122 LR LR 03 58 40.6
comp=Z,103nm,20.9s,baz=110,slow=37
WRAB Tennant Creek 24.68 162 *e*P **P** **03 48 55.7 -0.6**
54nm,0.8s
WRA Warramunga Arr 24.69 162 P **P** **03 48 56.0 -0.3**
WRA Warramunga Arr 24.69 162 P **P** **03 48 56.0 -0.3**
35nm,0.6s,baz=343,slow=11,SNR=125
MBWA Marble Bar 25.49 195 *e*P **P** **03 49 06.1 +2.5**
16nm,1.0s
AS31 Alice Springs 28.10 165 *e*P **P** **03 49 27.1 0.0**
ASAR Alice Springs 28.10 165 P **P** **03 49 27.2 +0.2**
ASAR Alice Springs 28.10 165 P **P** **03 49 27.2 +0.2**
1.3nm,0.4s,baz=351,slow=7.5,SNR=26
JNU Nakatsue 29.54 8 LR LR 04 00 05.3
comp=Z,71nm,19.8s,baz=207,slow=34
KSAR Wonju Array Be 33.68 2 P **P** **03 50 15.6 -0.5**
KSRS Korea Array 33.69 2 P **P** **03 50 15.5 -0.6**
1.4nm,0.9s,baz=181,slow=11,SNR=5.2
BBOO Buckleboo 37.38 167 P **P** **03 50 48.8 +0.9**
baz=35,SNR=9.1
STKA Stephens Creek 38.15 159 P **P** **03 50 55.1 +0.7**
STKA Stephens Creek 38.15 159 P **P** **03 50 55.1 +0.7**
12nm,0.7s,baz=336,slow=8.0,SNR=30
STKA Stephens Creek 38.15 159 P **P** **03 50 55.0 +0.6**
baz=36,SNR=19
CMSA Cobar Meteorol 39.50 154 P **P** **03 51 06.4 +0.7**
baz=37,SNR=9.0
ARMA Armidale 41.56 146 P **P** **03 51 23.9 +1.0**
baz=39,SNR=7.6
ARPS Mount Arapiles 42.69 162 P **P** **03 51 33.5 +1.7**
baz=40,SNR=8.0
ASAJ Asahikawa 42.78 17 LR LR 04 09 54.8
comp=Z,41nm,18.4s,baz=347,slow=37
YNG Young 43.04 153 P **P** **03 51 36.2 +1.4**
baz=40,SNR=9.4
CAN Canberra 44.17 153 *e*P **P** **03 51 45.4 +1.6**
8.4nm,0.7s
CNB Canberra Magne 44.33 153 P **P** **03 51 47.0 +1.8**
baz=42,SNR=5.4
SONM Songino Array 47.29 342 P **P** **03 52 07.8 -0.7**
SONM PcP **PcP** **03 53 39.1 +0.3**
SONM Songino Array 47.29 342 P **P** **03 52 07.8 -0.7**
0.7nm,0.6s,baz=172,slow=7.7,SNR=4.1
SONM PcP **PcP** **03 53 39.1 +0.3**
0.7nm,0.6s,baz=189,slow=6.1,SNR=3.8
MK31 Makanchi Array 57.45 325 *e*P **P** **03 53 23.1 -0.6**
MKAR Makanchi Array 57.45 325 P **P** **03 53 23.4 -0.2**
MKAR PcP **PcP** **03 54 14.5 -2.4**
MKAR Makanchi Array 57.45 325 P **P** **03 53 23.4 -0.2**
0.9nm,0.4s,baz=117,slow=7.8,SNR=24
MKAR PcP **PcP** **03 54 14.5 -2.4**
1.0nm,0.7s,baz=118,slow=7.0,SNR=3.7
TKM2 Tokmak 2 59.60 319 *e*P **P** **03 53 39.1 +0.1**
1.2nm,0.7s
ZALV Zalesovo Beam 60.53 333 P **P** **03 53 43.5 -1.2**
ZALV Zalesovo Beam 60.53 333 P **P** **03 53 43.5 -1.2**
0.9nm,0.4s,baz=128,slow=8.3,SNR=3.9
EKS2 Erkin-Say 60.70 318 *e*P **P** **03 53 46.8 +0.4**
3.3nm,0.9s
KKAR Karatay Array 63.08 317 *e*P **P** **03 54 03.0 +0.8**
0.9nm,0.6s
BRVK Borovoye 67.30 327 *e*P **P** **03 54 28.7 -0.6**
4.4nm,0.8s
ABKAR Akbulak array 72.02 321 *e*P **P** **03 54 58.5 0.0**
0.7nm,0.5s
IMA2 Indian Mountai 82.61 24 *e*P **P** **03 55 57.2 -0.3**
MCK McKinley 84.40 26 *e*P **P** **03 56 07.1 +0.5**
3.8nm,0.8s
ILAR Eielson Array 85.34 25 P **P** **03 56 10.1 -1.2**
ILAR Eielson Array 85.34 25 P **P** **03 56 10.1 -1.2**
0.5nm,0.8s,baz=248,slow=5.3,SNR=4.8
BR131 Keskin Array S 89.83 310 *e*P **P** **03 56 32.8 -0.8**
0.4nm,0.4s
BRTR Keskin Array B 89.83 310 P **P** **03 56 32.7 -1.0**
BRTR Keskin Array B 89.83 310 P **P** **03 56 32.7 -1.0**
0.9nm,0.9s,baz=104,slow=5.2,SNR=5.5
INK Inuvik 90.38 21 *e*P **P** **03 56 35.1 -0.2**
4.3nm,1.2s
ARCES ARCESS Array B 90.43 340 P **P** **03 56 36.3 +0.7**
ARCES ARCESS Array B 90.43 340 P **P** **03 56 36.3 +0.7**
2.8nm,1.1s,baz=79,slow=7.5,SNR=6.9
FINES FINESS Array B 91.77 332 P **P** **03 56 41.7 -0.2**
FINES FINESS Array B 91.77 332 P **P** **03 56 41.7 -0.2**
2.9nm,1.0s,baz=54,slow=3.3,SNR=5.2
BUR08 Bucovina Ar. S 94.86 318 *e*P **P** **03 56 56.7 0.0**
NOA NORSAR Array B 98.73 334 P Pdif 03 57 13.6 -0.2
NOA NORSAR Array B 98.73 334 P Pdif 03 57 13.6 -0.2
1.1nm,0.8s,baz=68,slow=4.4,SNR=3.1
HWUT Hardware Ranch 110.82 43 *e*PKP **PKiKP** **04 02 09.9 +2.0**
RSSD Black Hills 114.47 38 *e*PKP PKPdf 04 02 15.0 +0.2
TXAR Lajitas Array 121.92 52 PKP **PKPdf** **04 02 30.1 +0.7**
TXAR Lajitas Array 121.92 52 PKP **PKPdf** **04 02 30.1 +0.7**
0.4nm,0.8s,baz=289,slow=3.8,SNR=4.4
TOA0 Torodi Ar. Sit 122.64 288 *e*PKPdf **PKPdf** **04 02 32.0 +1.0**
TORD Torodi Ar. Bea 122.64 288 PKP **PKPdf** **04 02 31.9 +0.9**
TORD Torodi Ar. Bea 122.64 288 PKP **PKPdf** **04 02 31.9 +0.9**
0.6nm,0.6s,baz=85,slow=1.6,SNR=13
WMOK Wichita Mounta 122.94 44 *e*PKPdf **PKPdf** **04 02 29.1 -2.0**
JCT Junction City 124.37 49 *e*PKPdf **PKPdf** **04 02 34.8 +0.8**
WVT Waverly 129.13 36 *e*PKPdf **PKPdf** **04 02 42.9 +0.1**

BJI ***15*** *04:04:25.7, 3°80N×96°18E, h60km, mB4.9/41, mb4.6/51, Ms4.9/44, Ms7 4.7/44*
IDC ***15*** *04:04:26.5±1.7, 4°71N×96°70E, h11km±9km, mb4.5/25, mb1 4.5/26, mb1mx4.4/29, mbtmp4.4/26, ML4.3/1, MS4.3/25, Ms1 4.3/25, ms1mx4.2/33, Error ellipse: s-maj=17.6km s-min=10.0km az=53.0*
MOS ***15*** *04:04:28.3±1.2, 4°63N×96°55E, h33km, mb5.1/49, MS4.5/9, Error ellipse: s-maj=11.2km s-min=4.8km az=122.8*
SZGRF ***15*** *04:04:29.9, 4°24N×96°10E, h33km, mb4.8, Northern Sumatera, Indonesia*
ISCJB ***15*** *04:04:29.7±0.4, 4°49N±0°02×96°48E±0°02, h48km±3km, mb4.8/167, MS4.5/52, Error ellipse: s-maj=4.5km s-min=3.5km az=44.7*
BKK ***15*** *04:04:29.4±0.3, 4°N±3°×9°7E±°, h10km, M4.9/21, mB5.3/11, mb5.0/21, MLv5.3/8, Mw(mB)4.7/11*
DJA ***15*** *04:04:29.7±0.6, 4°N±2°×9°7E±°, h16km±6km, M5.0/20, mB5.4/12, mb5.2/20, MLv5.3/10, Mw(mB)4.8/12, Mwp6.2/1*
GCMT ***15*** *04:04:30.2±0.3, 4°43N×96°59E, h12km, MW5.0, Moment Tensor Solution. s26,c32; s82,c122; Moment tensor: Scale 10^16 Nm; Mrr 0.58±.11; Mθθ -3.20±.10; Mφφ 2.62±.11; Mrθ -1.82±.29; Mrφ -1.94±.10; Mθφ -0.69±.30; Best double couple: Ms 3.90000×10^16 NP1: φs 27.00000°, δ 78.00000°, λ -18.00000°. NP2: φs 120.00000°, δ 73.00000°, λ -168.00000°. Principal axes: T 3.2200, Plg4.0000°, Azm74.0000°; N 1.3200, Plg69.0000°, Azm174.0000°; P -4.5300, Plg21.0000°, Azm343.0000°; Data Used: II IU G CN IC.*
AUST ***15*** *04:04:31.6, 4°41N×96°46E, h35km*
NEIC ***15*** *04:04:32.1±1.0, 4°60N×96°63E, h54km±9km, mb4.9/43, Error ellipse: s-maj=8.7km s-min=5.6km az=48.0*
NEIC Felt at Banda Aceh.
ISC 15 04:04:32.9±0.3, 4°51N±0°03×96°54E±0°03, h57km±2km, h57km: pP-P, n495, σ1§70/545, mb4.8/167, MS4.5/53, 31C-21D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.82**	**30**	P	Pn	04 04 44.9	-3.7
LHMI				S	**Sn**	**04 04 59.9**	**-0.2**
LHMI	**Lhok Sumawe**	**0.82**	**30**	S	**Sn**	**04 05 02.2**	**+2.1**
	baz=1.0,SNR=8.9						
KCSI	**Kotacane, Aceh**	**1.57**	**128**	P	Pn	04 04 54.2	-4.4
KCSI				S	**Sn**	**04 05 17.5**	**-0.5**
BSI	**Banda Aceh**	**1.58**	**309**	P	**Pn**	**04 04 56.7**	**-2.0**
BSI				S	**Sn**	**04 05 19.2**	**+1.1**
SNSI	**Sinabang, Aceh**	**2.10**	**186**	P	Pn	04 05 02.3	-3.4
SNSI				S	**Sn**	**04 05 28.7**	**-1.9**
TSI	**Tuntungan**	**2.26**	**116**	P	**Pn**	**04 05 05.7**	**-2.2**
PSI	**Prapat**	**2.92**	**125**	Pn	**Pn**	**04 05 15.4**	**-1.7**
PSI				Sn	**Sn**	**04 05 53.8**	**+2.6**
PSI	**Prapat**	**2.92**	**125**	Pn	**Pn**	**04 05 15.4**	**-1.7**
	38nm,0.3s,baz=313,slow=13,SNR=94						
PSI				Sn	**Sn**	**04 05 53.8**	**+2.6**
	40nm,0.3s,baz=209,slow=24,SNR=6.0						
PSI	**Prapat**	**2.92**	**125**	P	**Pn**	**04 05 14.8**	**-2.3**
	baz=3.0,SNR=54						
CMBY	**CAMPBELL BAY**	**3.59**	**314**	*e*P	**Pn**	**04 05 25.9**	**-0.4**
CMBY				AMB	AMB	04 05 37.8	
	comp=Z,608nm,1.0s						
PKDT	**Phuket**	**3.81**	**28**	P	**Pn**	**04 05 28.2**	**-0.9**
KULM	**Kulim**	**4.17**	**79**	*e*Pn	**Pn**	**04 05 31.1**	**-3.0**
KULM	**Kulim**	**4.17**	**79**	P	Pn	04 05 30.4	-3.7
KULM	**Kulim**	**4.17**	**79**	P	Pn	**04 05 31.4**	**-2.7**
IPM	**Ipoh**	**4.48**	**90**	*e*Pn	Pn	04 05 34.9	-3.5
IPM	**Ipoh**	**4.48**	**90**	P	Pn	04 05 33.7	-4.7
IPM	**Ipoh**	**4.48**	**90**	P	**Pn**	**04 05 35.5**	**-2.8**
SKLT	**Songkhla**	**4.85**	**57**	P	**Pn**	**04 05 41.9**	**-1.5**
FRIM	**Kepong**	**5.23**	**104**	P	Pn	04 05 45.2	-3.5
BKNI	**Bangkinang**	**6.12**	**133**	P	**Pn**	**04 06 00.5**	**-0.4**
	comp=Z,508nm,1.1s,comp=Z,4μmcomp=Z,5.7nm						
PPI	**Padang Panjang**	**6.26**	**142**	P	**Pn**	**04 06 00.8**	**-2.0**
	comp=Z,169nm,1.3s,comp=Z,2μmcomp=Z,1.1nm						
KTGM	**Kuala Trenggan**	**6.62**	**83**	P	**Pn**	**04 06 05.0**	**-2.8**
MYKOM	**Kota Tinggi**	**7.79**	**110**	P	**Pn**	**04 06 20.8**	**-2.9**
MYKOM	**Kota Tinggi**	**7.79**	**110**	P	Pn	04 06 20.5	-3.2
	comp=Z,42nm,0.7s,comp=Z,948nmcomp=Z,1.1nm						
PBA	**Port Blair**	**8.03**	**332**	*e*P	Pn	04 06 24.0	-3.1
PHET	**Kaeng Krachan**	**8.89**	**20**	P	Pn	04 06 42.8	+4.0
	comp=Z,80nm,0.8s						
DGPR	**DIGLIPUR**	**9.32**	**338**	*e*P	**Pn**	**04 06 44.2**	**-0.5**
MASI	**Maura Aman, Be**	**9.50**	**143**	P	Pn	04 06 55.5	+8.3
KSI	**Kapahiang**	**10.12**	**143**	P	Pn	04 07 05.5	+10
MNAI	**Manna**	**10.90**	**144**	P	**Pn**	**04 07 08.4**	**+2.1**
	baz=11,SNR=4.1						
KLSI		**12.27**	**138**	P	Pn	04 07 20.2	-4.8
	comp=Z,77nm,1.0s						
KASI	**Kota Agung**	**12.75**	**141**	P	Pn	04 07 24.6	-6.9
PBKT	**Sadao Pong**	**12.75**	**20**	P	**Pn**	**04 07 33.3**	**+1.7**
	comp=Z,48nm,1.0s						
LOEI	**Loei**	**13.73**	**19**	P	Pn	04 07 48.3	+3.4
	comp=Z,80nm,1.3s,comp=Z,1μm						
UBPT	**Khong Chiam**	**13.85**	**39**	P	**P**	**04 07 51.5**	**-1.6**
CM31	**Chiang Mai Arr**	**14.06**	**9**	*e*Pn	**Pn**	**04 07 48.0**	**-1.4**
	comp=Z,151nm,1.2s						
CMAR	**Chiang Mai Arr**	**14.06**	**9**	Pn	**Pn**	**04 07 51.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**14.06**	**9**	Pn	**Pn**	**04 07 51.0**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=202,slow=13,SNR=2.3						
KSM	**Kuching**	**14.08**	**102**	*e*Pn	**Pn**	**04 07 50.2**	**+0.6**
KSM	**Kuching**	**14.08**	**102**	P	**Pn**	**04 07 49.1**	**-0.5**
KSM	**Kuching**	**14.08**	**102**	P	**Pn**	**04 07 51.7**	**+2.1**
KSM	**Kuching**	**14.08**	**102**	P	**Pn**	**04 07 51.5**	**+1.9**
	baz=14,SNR=9.2						
LAMP	**Lampang**	**14.25**	**12**	P	P	04 08 02.7	+5.1
CHTO	**Chiang Mai**	**14.41**	**9**	*e*P	**Pn**	**04 07 55.7**	**+1.7**
CHTO	**Chiang Mai**	**14.41**	**9**	*e*Pn	**Pn**	**04 07 55.6**	**+1.7**
CHTO	**Chiang Mai**	**14.41**	**9**	P	**Pn**	**04 07 56.0**	**+2.0**
	comp=Z,49nm,1.5s,comp=Z,790nm						
CHTO	**Chiang Mai**	**14.41**	**9**	P	**Pn**	**04 07 56.5**	**+2.5**
	comp=Z,35nm,1.0s,comp=Z,792nm						
CMMT	**Chiang Mai**	**14.41**	**9**	P	**Pn**	**04 07 56.1**	**+2.1**
	comp=Z,44nm,1.4s,comp=Z,938nm						
PANO	**Nakornpanom**	**14.85**	**32**	P	**P**	**04 08 02.1**	**-2.1**
	comp=Z,61nm,1.4s,comp=Z,764nm						
CMAI	**Chiengmai2**	**15.53**	**9**	P	**P**	**04 08 10.9**	**-1.0**
	comp=Z,77nm,1.4s,comp=Z,1μm						
STKI	**Sintang**	**15.56**	**106**	P	**P**	**04 08 13.3**	**+1.1**
SBUM	**Sibu**	**15.79**	**97**	P	**Pn**	**04 08 11.8**	**+0.1**
SBUM	**Sibu**	**15.79**	**97**	P	**Pn**	**04 08 12.4**	**+0.6**
	comp=Z,38nm,2.0s,comp=Z,1μm						
PALK	**Pallekele**	**15.99**	**281**	*e*Pn	**P**	**04 08 17.5**	**+0.6**
	comp=Z,76nm,1.0s						
PALK	**Pallekele**	**15.99**	**281**	P	**P**	**04 08 17.5**	**+0.6**
VIS	**Vishakhapatnam**	**18.43**	**316**	*e*P	**P**	**04 08 42.9**	**-0.9**
QIZ	**Qiongzhong**	**19.42**	**41**	P	**Pn**	**04 08 58.6**	**+2.3**
QIZ				sP	**sP**	**04 09 13.9**	**-0.6**
QIZ				S	**S**	**04 12 27.3**	**-4.1**
QIZ				pmax	pmax		
	comp=Z,32nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,160nm,5.7s						
QIZ				LR	LR		
	comp=N,2μm,18.2s						
QIZ				LR	LR		
	comp=Z,1μm,11.7s						
QIZ	**Qiongzhong**	**19.42**	**41**	*e*P	**Pn**	**04 08 59.9**	**+3.6**
	comp=Z,28nm,1.0s						
KKM	**Kota Kinabalu**	**19.66**	**85**	*e*P	**P**	**04 08 58.8**	**-0.5**
	comp=Z,308nm,1.6s						
KKM	**Kota Kinabalu**	**19.66**	**85**	P	**Pn**	**04 08 58.0**	**-0.5**
KKM	**Kota Kinabalu**	**19.66**	**85**	P	**Pn**	**04 08 59.0**	**-0.2**
	comp=Z,118nm,1.8s,comp=Z,2μm						
KKM	**Kota Kinabalu**	**19.66**	**85**	P	**Pn**	**04 08 59.5**	**+0.3**
	baz=20,SNR=4.1						
BBKI	**Banjar Baru**	**19.93**	**113**	P	**P**	**04 09 00.6**	**+0.3**
	comp=Z,269nm,0.9s,comp=Z,3μm						
KDM	**Kudat**	**20.34**	**82**	P	Pn	04 09 06.3	-0.9
SDKM	**Sandakan**	**20.61**	**86**	P	**P**	**04 08 09.9**	**+1.2**
KMMI	**Kalianget**	**20.84**	**123**	P	**P**	**04 09 09.5**	**-0.7**
	comp=Z,206nm,0.9s						
BLJI	**Banyuglugur**	**20.92**	**126**	P	**P**	**04 09 10.6**	**-0.4**
	comp=Z,110nm,1.1s						
TSM	**Tawau**	**21.27**	**90**	P	**P**	**04 09 14.6**	**-0.2**
KMI	**Kunming**	**21.35**	**16**	P	**P**	**04 09 19.3**	**+3.6**
KMI				pP	**pP**	**04 09 32.4**	**+3.9**
KMI				sP	**sP**	**04 09 37.3**	**+1.6**
KMI				PP	**PnPn**	**04 09 41.1**	**+3.3**
KMI

RAMN	**Ramite**	**24.25**	**338**	*e*P	**P**	**04 09 45.2**	**+0.2**
	comp=Z,47nm,0.9s						
TTSI	**Tana Toraja**	**24.44**	**107**	P	P	04 09 55.1	+8.5
AKL	**Akola**	**24.89**	**312**	*e*P	**P**	**04 09 50.5**	**-0.1**
AKL				AMB	AMB	04 09 54.6	
	comp=Z,47nm,1.6s						
KAPI	**Kappang**	**25.04**	**112**	*e*P	**P**	**04 09 50.5**	**-1.5**
	comp=Z,30nm,0.7s						
KAPI	**Kappang**	**25.04**	**112**	P	**P**	**04 09 50.7**	**-1.4**
	comp=Z,44nm,0.8s						
KAPI	**Kappang**	**25.04**	**112**	P	**P**	**04 09 49.5**	**-2.5**
	comp=Z,22nm,0.7s,baz=300,slow=10,SNR=13						
JIRN	**Jiri**	**25.05**	**338**	*e*P	**P**	**04 09 52.4**	**0.0**
	comp=Z,56nm,1.0s						
PKI	**Pulchoki**	**25.27**	**336**	*e*P	**P**	**04 09 52.6**	**-1.8**
GUN	**Gumba**	**25.39**	**338**	*e*P	**P**	**04 09 53.9**	**-1.6**
DMN	**Daman**	**25.43**	**336**	*e*P	**P**	**04 09 54.1**	**-1.6**
BKSI	**Bulukumba**	**25.50**	**112**	P	**P**	**04 09 56.0**	**-0.2**
	comp=Z,112nm,0.8s,comp=Z,871nmcomp=Z,38µm						
KKN	**Kakani**	**25.52**	**336**	*e*P	**P**	**04 09 55.1**	**-1.4**
LSA	**Lhasa**	**25.57**	**349**	P	**P**	**04 09 58.1**	**+0.9**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**25.57**	**349**	*e*P	**P**	**04 09 56.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,31nm,0.8s						
LSA	**Lhasa**	**25.57**	**349**	*e*P	**P**	**04 09 56.5**	**-0.7**
	comp=Z,31nm,0.8s						
MRSI	**Marisa**	**25.69**	**98**	P	**P**	**04 09 57.8**	**-0.1**
	comp=Z,73nm,0.8s,comp=Z,522nm						
POO	**Poona**	**26.18**	**304**	⇑*i*P	**P**	**04 10 02.0**	**-0.4**
	comp=Z,40nm,1.0s						
KOLN	**Koldanda**	**26.21**	**333**	*e*P	**P**	**04 10 00.1**	**-2.7**
	comp=Z,24nm,0.6s						
BHPL	**Bhopal**	**26.22**	**317**	*e*P	**P**	**04 10 01.1**	**-1.6**
DANN	**Dangsing**	**26.64**	**334**	*e*P	**P**	**04 10 03.0**	**-3.7**
	comp=Z,66nm,0.9s						
GTOI	**Gorontalo**	**26.72**	**98**	P	**P**	**04 10 06.7**	**-0.6**
	comp=Z,61nm,1.0s,comp=Z,1µm						
CD2	**Chengdu**	**27.13**	**14**	*e*P	**P**	**04 10 10.9**	**+0.1**
CD2				pP	**pP**	**04 10 25.6**	**+0.5**
CD2				sP	**sP**	**04 10 33.3**	**+1.4**
CD2				PP	**PnPn**	**04 10 59.0**	**+2.4**
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
CD2				pmax	pmax		
	comp=Z,130nm,5.8s						
CD2				LR	LR		
	comp=N,2µm,14.2s						
CD2				LR	LR		
	comp=E,3µm,16.6s						
CD2				LR	LR		
	comp=Z,2µm,13.2s						
ENH	**Enshi**	**28.39**	**24**	*e*P	**P**	**04 10 23.8**	**+1.7**
	comp=Z,5.6nm,0.4s						
QZH	**Quanzhou**	**29.36**	**44**	⇑P	**P**	**04 10 32.8**	**+2.1**
QZH				S	**S**	**04 15 18.3**	**-2.1**
QZH				LR	LR		
	comp=N,1µm,11.9s						
QZH				LR	LR		
	comp=E,2µm,14.0s						
QZH				LR	LR		
	comp=Z,2µm,11.1s						
WHN	**Wuhan**	**30.87**	**31**	⇑P	P	04 10 47.5	+3.6
WHN				S	S	04 15 51.8	+7.9
WHN				pmax	pmax		
	comp=Z,74nm,1.3s						
WHN				LR	LR		
	comp=N,1µm,11.6s						
WHN				LR	LR		
	comp=E,2µm,10.2s						
WHN				LR	LR		
	comp=Z,3µm,13.6s						
SOEI	**Soe**	**31.05**	**117**	P	P	04 10 50.7	+4.8
XAN	**Xi'an**	**31.56**	**20**	P	**P**	**04 10 51.8**	**+1.7**
XAN				pP	**pP**	**04 11 07.8**	**+3.4**
XAN				S	**S**	**04 15 56.9**	**+2.1**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,28nm,5.7s						
XAN				LR	LR		
	comp=N,560nm,18.4s						
XAN				LR	LR		
	comp=E,780nm,20.5s						
XAN				LR	LR		
	comp=Z,340nm,14.3s						
LZH	**Lanzhou**	**32.14**	**11**	*e*P	**P**	**04 10 55.6**	**+0.3**
LZH				pP	**pP**	**04 11 08.6**	**-1.1**
LZH				sP	**sP**	**04 11 15.0**	**-1.4**
LZH				PP	**PnPn**	**04 12 02.4**	**-0.5**
LZH				*e*S	**S**	**04 16 03.1**	**-0.9**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.8s						
LZH				LR	LR		
	comp=N,620nm,14.6s						
LZH				LR	LR		
	comp=E,1µm,13.8s						
LZH				LR	LR		
	comp=Z,2µm,15.3s						
SMLA	**Simla**	**32.15**	**328**	*e*P	**P**	**04 10 54.0**	**-1.2**
SMLA				AMB	AMB	04 11 09.1	
	comp=Z,9.2nm,0.6s						
DHRM	**DHARAMSHALA**	**33.48**	**328**	*e*P	P	04 11 03.9	-3.3
DHRM				AMB	AMB	04 11 16.1	
	comp=Z,20nm,0.7s						
MBWA	**Marble Bar**	**34.18**	**139**	*e*P	**P**	**04 11 11.4**	**-1.6**
	comp=Z,18nm,1.2s						
NJ2	**Nanjing**	**34.47**	**35**	*e*P	**P**	**04 11 13.9**	**-1.5**
NJ2				pP	**pP**	**04 11 28.6**	**-1.3**
NJ2				sP	**sP**	**04 11 36.4**	**-0.3**
NJ2				PP	**PnPn**	**04 12 33.0**	**+0.9**
NJ2				S	**S**	**04 16 41.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,150nm,5.7s						
NJ2				LR	LR		
	comp=N,910nm,10.6s						
NJ2				LR	LR		
	comp=E,2µm,13.1s						
NJ2				LR	LR		
	comp=Z,2µm,17.9s						
GTA	**Gaotai**	**34.87**	**4**	*e*P	**P**	**04 11 19.8**	**+0.8**
GTA				pP	**pP**	**04 11 36.4**	**+3.0**
GTA				sP	**sP**	**04 11 41.8**	**+1.6**
GTA				S	**S**	**04 16 46.3**	**+0.1**
GTA				sS	**sS**	**04 17 12.8**	**+2.1**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,160nm,5.7s						
GTA				LR	LR		
	comp=N,700nm,12.4s						
GTA				LR	LR		
	comp=E,590nm,15.2s						
GTA				LR	LR		
	comp=Z,880nm,13.3s						
SWI	**Sorong**	**35.10**	**98**	P	**P**	**04 11 20.5**	**-0.6**
	comp=Z,73nm,0.9s,comp=Z,1µm						
FAKI	**Fak Fak**	**36.44**	**101**	P	**P**	**04 11 31.5**	**-1.1**
	comp=Z,34nm,1.1s						
FITZ	**Fitzroy Crossi**	**36.45**	**129**	P	**P**	**04 11 30.5**	**-2.1**
FITZ				ScP	**ScP**	**04 17 42.5**	**+4.9**
FITZ	**Fitzroy Crossi**	**36.45**	**129**	P	**P**	**04 11 30.5**	**-2.1**
	comp=Z,8.2nm,0.6s,baz=321,slow=6.8,SNR=35						
FITZ				ScP	**ScP**	**04 17 42.5**	**+4.9**
	comp=Z,4.1nm,0.8s,baz=224,slow=1.8,SNR=8.1						
FITZ	**Fitzroy Crossi**	**36.45**	**129**	P	**P**	**04 11 31.2**	**-1.4**
	baz=36,SNR=20						
KNRA	**Kununurra**	**37.68**	**123**	P	**P**	**04 11 41.0**	**-2.0**
	baz=38,SNR=5.3						
HHC	**Hu-ho-hao-te**	**38.62**	**18**	*e*P	**P**	**04 11 50.1**	**-0.7**
HHC				PP	**PnPn**	**04 13 23.4**	**+0.7**
HHC				PcP	**PcP**	**04 13 59.3**	**-2.9**
HHC				S	**S**	**04 17 41.5**	**-1.7**
HHC				ScP	**ScP**	**04 17 43.9**	**-1.7**
HHC				PcS	**PcS**	**04 17 50.1**	**-1.5**
HHC				ScS	**ScS**	**04 21 52.4**	**-3.8**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,5.3s						
HHC				LR	LR		
	comp=N,2µm,13.9s						
HHC				LR	LR		
	comp=E,2µm,13.7s						
HHC				LR	LR		
	comp=Z,2µm,13.4s						
KSH	**Kashi**	**39.51**	**335**	*e*P	**P**	**04 11 56.6**	**-1.7**
KSH				sP	**sP**	**04 12 19.6**	**-0.1**
KSH				PP	**PnPn**	**04 13 32.6**	**-0.7**
KSH				S	**ScP**	**04 17 51.3**	**+2.2**
KSH				sS	**sS**	**04 18 17.1**	**-4.4**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,100nm,4.7s						
KSH				LR	LR		
	comp=N,240nm,13.0s						
KSH				LR	LR		
	comp=E,700nm,17.6s						
KSH				LR	LR		
	comp=Z,380nm,14.7s						
BJI	**Beijing**	**39.57**	**24**	P	**P**	**04 12 00.3**	**+1.7**
BJI				S	S	04 18 06.8	+10
BJI				SS	**SnSn**	**04 20 59.3**	**+0.9**
BJI				pmax	pmax		
	comp=Z,26nm,1.2s						
BJI				pmax	pmax		
	comp=Z,130nm,3.6s						
BJI				LR	LR		
	comp=N,540nm,18.0s						
BJI				LR	LR		
	comp=E,740nm,18.2s						
BJI				LR	LR		
	comp=Z,260nm,24.0s						
WMQ	**Urumqi**	**39.92**	**350**	*e*P	**P**	**04 12 00.0**	**-1.6**
WMQ				sP	**sP**	**04 12 20.1**	**-2.9**
WMQ				PP	**PnPn**	**04 13 36.9**	**-1.2**
WMQ				PcP	**PcP**	**04 14 04.8**	**-1.4**
WMQ				S	**S**	**04 18 00.1**	**-2.5**
WMQ				sS	sS	04 18 33.8	+6.3
WMQ				ScS	**ScS**	**04 22 00.0**	**-3.6**
WMQ				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,73nm,4.4s						
WMQ				LR	LR		
	comp=N,290nm,26.0s						
WMQ				LR	LR		
	comp=E,360nm,28.0s						
WMQ				LR	LR		
	comp=Z,350nm,24.0s						
TJN	**Taejon**	**42.52**	**38**	*i*P	**P**	**04 12 25.9**	**+3.0**
TKM2	**Tokmak 2**	**42.53**	**337**	*i*P	**P**	**04 12 21.5**	**-1.7**
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.5s						
TKM2	**Tokmak 2**	**42.53**	**337**	*e*P	**P**	**04 12 23.7**	**+0.5**
AAK	**Ala-Archa**	**42.72**	**336**	⇑*e*P	**P**	**04 12 24.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,28nm,1.8s						
AAK				MLR	MLR		
	comp=Z,2µm,21.0s						
AAK	**Ala-Archa**	**42.72**	**336**	*e*P	**P**	**04 12 24.6**	**0.0**
	comp=Z,16nm,1.1s						
FRU	**Bishkek**	**42.84**	**336**	*e*P	**P**	**04 12 28.0**	**+2.5**
EKS2	**Erkin-Say**	**43.04**	**335**	*e*P	**P**	**04 12 25.3**	**-1.9**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EKS2	**Erkin-Say**	**43.04**	**335**	*e*P	**P**	**04 12 25.3**	**-1.9**
	comp=Z,3.9nm,0.9s						
EKS2				*e*pP	**pP**	**04 12 44.8**	**+2.8**
KSAR	**Wonju Array Be**	**43.54**	**37**	P	**P**	**04 12 32.0**	**+0.9**
KSRS	**Korea Array**	**43.57**	**37**	P	**P**	**04 12 32.0**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=225,slow=8.9,SNR=15						
KSRS				LR	LR	04 31 56.4	
	comp=Z,416nm,19.4s,baz=47,slow=38						
MK31	**Makanchi Array**	**43.89**	**346**	*e*P	**P**	**04 12 32.6**	**-1.3**
MK31	**Makanchi Array**	**43.89**	**346**	*e*P	**P**	**04 12 32.6**	**-1.3**
MKAR	**Makanchi Array**	**43.89**	**346**	P	**P**	**04 12 32.7**	**-1.2**
MKAR	**Makanchi Array**	**43.89**	**346**	P	**P**	**04 12 32.7**	**-1.2**
MKAR				ScP	**ScP**	**04 18 10.4**	**+4.1**
MKAR	**Makanchi Array**	**43.89**	**346**	P	**P**	**04 12 32.7**	**-1.2**
	comp=Z,12nm,0.9s,baz=163,slow=7.0,SNR=58						
MKAR				ScP	**ScP**	**04 18 10.4**	**+4.1**
	comp=Z,0.6nm,0.8s,baz=131,slow=4.0,SNR=4.1						
MKAR				LR	LR	04 35 32.1	
	comp=Z,162nm,18.9s,baz=168,slow=43						
SONM	**Songino Array**	**43.99**	**10**	P	**P**	**04 12 34.0**	**-0.7**
SONM	**Songino Array**	**43.99**	**10**	P	**P**	**04 12 34.0**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=191,slow=7.4,SNR=16						
SONM				LR	LR	04 33 22.1	
	comp=Z,361nm,19.2s,baz=187,slow=40						
ULN	**Ulaanbaatar**	**44.13**	**10**	*e*P	**P**	**04 12 34.7**	**-1.2**
ULN	**Ulaanbaatar**	**44.13**	**10**	P	**P**	**04 12 38.9**	**+3.0**
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**44.39**	**124**	P	**P**	**04 12 36.9**	**-1.4**
WRA				ScP	**ScP**	**04 18 12.6**	**+3.8**
WRA	**Warramunga Arr**	**44.39**	**124**	P	**P**	**04 12 36.9**	**-1.4**
	comp=Z,48nm,0.6s,baz=301,slow=9.2,SNR=388						
WRA				ScP	**ScP**	**04 18 12.6**	**+3.8**
	comp=Z,6.7nm,0.9s,baz=312,slow=3.5,SNR=15						
WRA				LR	LR	04 33 34.3	
	comp=Z,363nm,18.5s,baz=280,slow=39						
WRAB	**Tennant Creek**	**44.40**	**124**	*e*P	**P**	**04 12 36.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,119nm,0.9s						
WRAB	**Tennant Creek**	**44.40**	**124**	*e*P	**P**	**04 12 36.8**	**-1.5**
	comp=Z,119nm,0.9s						
KK31	**Karatay Array**	**44.82**	**333**	*c*eP	**P**	**04 12 39.5**	**-1.9**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**44.82**	**333**	*e*P	**P**	**04 12 40.0**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KKAR	**Karatay Array**	**44.82**	**333**	*e*P	**P**	**04 12 40.0**	**-1.4**
	comp=Z,8.1nm,0.9s						
MMPI	**Merauke**	**45.59**	**106**	S	**S**	**04 19 26.1**	**-0.4**
	baz=46,SNR=5.8						
AS31	**Alice Springs**	**45.95**	**129**	*e*P	**P**	**04 12 49.5**	**-1.1**
ASAR	**Alice Springs**	**45.95**	**129**	P	**P**	**04 12 49.5**	**-1.1**
ASAR				ScP	**ScP**	**04 18 19.2**	**+4.0**
ASAR	**Alice Springs**	**45.95**	**129**	P	**P**	**04 12 49.5**	**-1.1**
	comp=Z,13nm,1.0s,baz=301,slow=7.5,SNR=65						
ASAR				ScP	**ScP**	**04 18 19.2**	**+4.0**
	comp=Z,1.8nm,1.0s,baz=303,slow=5.0,SNR=6.9						
ASAR				LR	LR	04 32 29.6	
	comp=Z,630nm,21.3s,baz=298,slow=37						
ZAK	**Zakamensk**	**46.07**	**6**	*e*P	**P**	**04 12 50.5**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
HVS	**Khovu-Aksy**	**46.53**	**358**	*i*P	**P**	**04 12 54.9**	**+0.1**
HVS				pmax	pmax		
	comp=Z,33nm,1.3s						
CN2	**Changchun**	**46.71**	**29**	*e*P	**P**	**04 12 57.0**	**+0.8**
CN2				*e*pP	**pP**	**04 13 12.5**	**+1.3**
CN2				*e*S	**S**	**04 19 40.6**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,600nm,21.0s						
CN2				LR	LR		
	comp=E,700nm,21.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
KURBB	**Kurchatov Arra**	**48.39**	**345**	P	**P**	**04 13 08.1**	**-1.0**
	comp=Z,5.4nm,0.8s,baz=168,slow=6.7,SNR=27						
KURBB				ScP	**ScP**	**04 18 28.3**	**+3.5**
	comp=Z,4.1nm,1.1s,baz=158,slow=3.5,SNR=8.8						
KURK	**Kurchatov**	**48.45**	**345**	P	**P**	**04 13 08.1**	**-1.4**
KURK	**Kurchatov**	**48.45**	**345**	P	**P**	**04 13 08.1**	**-1.4**
KURK				ScP	**ScP**	**04 18 28.3**	**+3.3**
MDJ	**Mudanjiang**	**49.35**	**31**	P	**P**	**04 13 15.0**	**-1.6**
MDJ				pP	**pP**	**04 13 30.6**	**-1.1**
MDJ				sP	**sP**	**04 13 37.9**	**-0.4**
MDJ				PcP	**PcP**	**04 14 35.1**	**-3.4**
MDJ				PP	**PP**	**04 15 08.8**	**-2.3**
MDJ				ScP	**ScP**	**04 18 25.3**	**-3.8**
MDJ				PcS	**PcS**	**04 18 31.9**	**-3.0**
MDJ				S	**S**	**04 20 16.1**	**-3.0**
MDJ				ScS	**ScS**	**04 23 00.8**	**-2.6**
MDJ				SS	**SS**	**04 23 54.8**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,51nm,4.5s						
MDJ				LR	LR		
	comp=N,520nm,21.2s						
MDJ				LR	LR		
	comp=E,340nm,20.6s						
MDJ				LR	LR		
	comp=Z,210nm,22.4s						
MJAR	**Matsushiro Arr**	**49.76**	**45**	P	**P**	**04 13 21.0**	**+1.1**
MJAR	**Matsushiro Arr**	**49.76**	**45**	P	**P**	**04 13 21.0**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=240,slow=9.0,SNR=8.2						
MJAR				LR	LR	04 37 14.4	
	comp=Z,292nm,18.2s,baz=255,slow=40						
ZAA0	**Zalesovo Array**	**50.21**	**351**	*e*P	**P**	**04 13 22.2**	**-0.7**
ZALV	**Zalesovo Beam**	**50.21**	**351**	P	**P**	**04 13 22.4**	**-0.5**
ZALV	**Zalesovo Beam**	**50.21**	**351**	P	**P**	**04 13 22.4**	**-0.5**
ZALV				ScP	**ScP**	**04 18 35.3**	**+2.8**
ZALV	**Zalesovo Beam**	**50.21**	**351**	P	**P**	**04 13 22.4**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=173,slow=6.0,SNR=13						
ZALV				ScP	**ScP**	**04 18 35.3**	**+2.8**
	comp=Z,1.0nm,0.7s,baz=212,slow=5.1,SNR=4.5						
ZALV				LR	LR	04 40 23.2	
	comp=Z,188nm,18.1s,baz=242,slow=43						
USRK	**Ussuriysk Arra**	**50.34**	**33**	LR	LR	04 34 00.2	
	comp=Z,495nm,21.0s,baz=215,slow=35						
NVS	**Novosibirsk**	**51.33**	**350**	*e*P	**P**	**04 13 29.8**	**-1.5**
KBD	**Kabd**	**52.29**	**304**	*e*P	**P**	**04 13 37.9**	**-1.0**
KBD				AMb	AMB	04 13 43.1	
	comp=Z,31nm,1.4s						
PMG	**Port Moresby**	**52.31**	**105**	*e*P	**P**	**04 13 39.1**	**-0.2**
	comp=Z,53nm,1.1s						
RDF	**Al-Radifah**	**52.33**	**303**	*e*P	**P**	**04 13 38.9**	**-0.4**
RDF				AMb	AMB	04 13 41.4	
	comp=Z,72nm,1.0s						
VOSK	**Vostochnaya**	**52.48**	**341**	P	**P**	**04 13 37.9**	**-2.1**
VOSK				pmax	pmax		
	comp=Z,11nm,0.9s						
NAY	**Al-Naaiem**	**52.69**	**304**	*e*P	**P**	**04 13 41.0**	**-1.0**
NAY				AMb	AMB	04 13 43.2	
	comp=Z,29nm,0.8s						
BVA0	**Borovoye Array**	**52.93**	**341**	P	**P**	**04 13 41.0**	**-2.3**
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BVAR	**Borovoye Array**	**52.93**	**341**	P	**P**	**04 13 41.7**	**-1.6**
BVAR	**Borovoye Array**	**52.93**	**341**	P	**P**	**04 13 41.7**	**-1.6**
BVAR				ScP	**ScP**	**04 18 49.2**	**+4.9**
BVAR	**Borovoye Array**	**52.93**	**341**	P	**P**	**04 13 41.7**	**-1.6**
	comp=Z,5.6nm,0.7s,baz=146,slow=8.2,SNR=24						
BVAR				ScP	**ScP**	**04 18 49.2**	**+4.9**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=4.0						
BRVK	**Borovoye**	**52.99**	**340**	*d i*P	**P**	**04 13 41.9**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
BRVK				MLR	MLR		
	comp=Z,499nm,18.0s						
BRVK	**Borovoye**	**52.99**	**340**	*e*P	**P**	**04 13 41.4**	**-2.3**
	comp=Z,6.3nm,0.7s						
BRVK				*e*pP	**pP**	**04 14 01.9**	**+2.9**
OPO	**Ambohidratompo**	**53.75**	**243**	P	**P**	**04 13 51.5**	**+1.5**
OPO	**Ambohidratompo**	**53.75**	**243**	P	**P**	**04 13 51.5**	**+1.5**
	comp=Z,5.7nm,0.9s,baz=54,slow=6.5,SNR=4.8						
AB31	**Akbulak array**	**54.31**	**331**	*c*eP	**P**	**04 13 51.6**	**-1.8**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ABKAR	**Akbulak array**	**54.31**	**331**	*e*P	**P**	**04 13 51.9**	**-1.5**
	comp=Z,6.5nm,0.9s						
CTAO	**Charters Tower**	**54.61**	**118**	*e*P	**P**	**04 13 54.3**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**54.61**	**118**	*e*P	**P**	**04 13 54.3**	**-1.8**
	comp=Z,7.1nm,0.9s						
STKA	**Stephens Creek**	**56.08**	**133**	*e*P	**P**	**04 14 06.2**	**-0.2**
	comp=Z,1.8nm,0.8s						
STKA	**Stephens Creek**	**56.08**	**133**	P	**P**	**04 14 06.0**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=318,slow=7.0,SNR=20						
STKA				LR	LR	04 39 37.7	
	comp=Z,394nm,18.9s,baz=113,slow=38						
STKA	**Stephens Creek**	**56.08**	**133**	P	**P**	**04 14 06.3**	**-0.2**
	baz=56,SNR=11						
GNI	**Garni**	**58.48**	**315**	*e*P	**P**	**04 14 21.7**	**-1.8**
	comp=Z,22nm,1.2s						
GNI	**Garni**	**58.48**	**315**	P	**P**	**04 14 21.6**	**-1.9**
	comp=Z,2.4nm,0.3s,baz=62,slow=21,SNR=3.8						
CMSA	**Cobar Meteorol**	**58.93**	**131**	P	**P**	**04 14 26.4**	**-0.1**
	baz=59,SNR=22						
RMQ	**Roma**	**59.15**	**124**	P	**P**	**04 14 29.0**	**+0.8**
	baz=59,SNR=10						
SVE	**Sverdlovsk**	**59.39**	**338**	⇑*e*P	**P**	**04 14 27.9**	**-1.4**
SVE				*e*		04 24 13.3	
SVE				pmax	pmax		
	comp=Z,19nm,1.1s						
SVE				MLR	MLR		
	comp=Z,943nm,24.0s						
KMBO	**Kilima Mbogo**	**59.49**	**266**	*e*P	**P**	**04 14 32.9**	**+1.8**
	comp=Z,14nm,1.0s						
KMBO	**Kilima Mbogo**	**59.49**	**266**	P	**P**	**04 14 32.8**	**+1.7**
	comp=Z,12nm,1.0s,baz=49,slow=9.1,SNR=19						
KMBO				LR	LR	04 38 29.2	
	comp=Z,362nm,18.1s,baz=95,slow=34						
ARU	**Arti**	**59.90**	**337**	*c i*P	**P**	**04 14 31.3**	**-1.5**
ARU						04 16 40.9	
ARU				S	**S**	**04 22 41.8**	**+1.4**
ARU				SS	**SS**	**04 26 33.8**	**-3.7**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU				MLR	MLR		
	comp=Z,593nm,18.0s						
ZEI	**Tsey**	**60.11**	**318**	*e*P	**P**	**04 14 33.0**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KBZ	**Khabaz**	**61.17**	**318**	P	**P**	**04 14 40.4**	**-1.2**
KBZ	**Khabaz**	**61.17**	**318**	P	**P**	**04 14 40.4**	**-1.2**
KBZ	**Khabaz**	**61.17**	**318**	P	**P**	**04 14 40.4**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=127,slow=5.3,SNR=9.8						
KBZ				LR	LR	04 46 48.1	
	comp=Z,185nm,19.5s,baz=245,slow=42						
KIV	**Kislovodsk**	**61.40**	**318**	⇓*e*P	**P**	**04 14 41.4**	**-2.0**
KIV				*e*		04 16 54.8	
KIV				*e*S	**S**	**04 23 00.3**	**+0.1**
KIV				*e*SS	**SS**	**04 27 04.8**	**+3.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,200nm,22.0s						
PATS	**Pohnpei**	**61.48**	**85**	P	**P**	**04 14 47.0**	**+2.6**
	baz=62,SNR=4.1						
TOO	**Toolangi**	**61.79**	**137**	P	P	04 14 50.4	+4.4
	baz=62,SNR=4.3						
YAK	**Yakutsk**	**62.46**	**17**	*e*P	**P**	**04 14 50.6**	**+0.6**
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				MLR	MLR		
	comp=E,303nm,13.0s						
YAK				MLR	MLR		
	comp=N,285nm,15.0s						
YAK				MLR	MLR		
	comp=Z,427nm,14.0s						
CAN	**Canberra**	**63.14**	**133**	*e*P	**P**	**04 14 55.0**	**-0.1**
CAN				pmax	pmax		
	comp=Z,23nm,1.2s						
CAN	**Canberra**	**63.14**	**133**	*e*P	**P**	**04 14 55.0**	**-0

comp=E,8.3nm,0.9s,baz=129,slow=7.3,SNR=34
BRTR LR LR 04 48 17.3
comp=E,95nm,18.8s,baz=268,slow=40
VSR Storozhevoye 66.50 325 *e*P P 04 15 13.4 -3.2
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=E,6.0nm,0.6s
ANTO Ankara 67.09 311 *e*P **P 04 15 19.0 -1.7**
ANTO pmax pmax
comp=Z,13nm,0.8s
ANTO Ankara 67.09 311⇑*i*P **P 04 15 18.7 -2.0**
ANTO Ankara 67.09 311 *e*P **P 04 15 19.0 -1.7**
comp=Z,14nm,0.8s
SIM Simferopol' 67.50 317 *e*P **P 04 15 22.1 -1.0**
SIM pmax pmax
comp=Z,12nm,0.8s
PETK Petropavlovsk- 69.38 34 LR LR 04 46 57.4
comp=Z,108nm,18.7s,baz=243,slow=37
OBN Obninsk 69.48 328*c i*P **P 04 15 33.9 -1.3**
OBN *e**PP **PcP 04 16 02.6 +4.5**
OBN *e*S **S 04 24 40.6 +2.3**
OBN pmax pmax
comp=Z,28nm,1.5s
LSZ Lusaka 70.45 252 *e*P **P 04 15 42.3 +0.2**
comp=Z,14nm,1.3s
KARP Karpathos 70.64 306 *e*P **P 04 15 42.4 -0.4**
SEY Seymchan 71.01 24*c e*P **P 04 15 46.5 +2.1**
TIRR Tirgusor 71.31 315⇓P **P 04 15 45.6 -1.0**
TIRR Tirgusor 71.31 315⇓*i*P **P 04 15 45.6 -1.0**
CFR Carcaliu 71.65 316⇑P **P 04 15 47.6 -1.1**
CFR Carcaliu 71.65 316⇑*i*P **P 04 15 47.5 -1.1**
PRD Provadia 71.77 314 *e*P **P 04 15 47.5 -1.9**
NPS Neapolis 71.85 306 *e*P **P 04 15 49.1 -1.0**
PRK Paraskevi 71.90 310 *e*P **P 04 15 48.9 -1.4**
CHOS Chios island 71.94 309 *e*P **P 04 15 50.2 -0.4**
LAST Lasithi 71.94 305 *e*P P 04 15 44.1 -6.7
APE Apeiranthos 72.16 307 *e*P **P 04 15 50.1 -1.9**
AKASG Malin Array Be 72.25 322 P **P 04 15 50.3 -1.9**
AKASG Malin Array Be 72.25 322 P **P 04 15 50.3 -1.9**
AKASG Malin Array Be 72.25 322 P **P 04 15 50.3 -1.9**
comp=Z,2.3nm,0.8s,baz=87,slow=5.1,SNR=14
AKASG LR LR 04 53 00.1
comp=Z,233nm,18.3s,baz=100,slow=40
KIEV Kiev 72.26 322 *e*P **P 04 15 49.4 -2.8**
KIEV pmax pmax
comp=Z,24nm,1.4s
KIEV Kiev 72.26 322 *e*P **P 04 15 49.4 -2.8**
comp=Z,24nm,1.4s
TMCR Tamitsa 72.64 337 *e*P **P 04 15 51.7 -2.4**
TMCR *e* 04 16 09.7
TMCR *e* 04 18 32.4
TMCR pmax pmax
comp=Z,28nm,0.9s
SMTH Samothraki Isl 72.66 311 *e*P **P 04 15 51.9 -2.9**
VRI Vrincioaia 72.77 317⇑P **P 04 15 55.0 -0.4**
VRI Vrincioaia 72.77 317⇑*i*P **P 04 15 55.0 -0.4**
PLOR Plostina 72.81 317⇓P **P 04 15 55.4 -0.3**
PLOR Plostina 72.81 317⇓*i*P **P 04 15 55.4 -0.3**
SZH Strazhica 72.83 314 *e*P **P 04 15 53.5 -2.3**
LIA Limnos Island 72.84 310 *e*P **P 04 15 54.5 -1.3**
TESR Tescani 72.95 317⇑*i*P **P 04 15 55.4 -1.0**
VAM Vamos 73.01 306 *e*P **P 04 15 56.9 -0.1**
MLR Muntele Rosu 73.23 316⇑*i*P **P 04 15 57.6 -0.7**
RZN Rozhen 73.46 312 *e*P **P 04 15 57.5 -2.2**
PTL Penteli 73.60 308 *e*P **P 04 15 58.2 -2.3**
VOIR 73.84 316⇑P **P 04 16 00.9 -0.9**
VOIR 73.84 316⇑*i*P **P 04 16 00.9 -0.9**
PAIG Paliouri 73.98 310 *e*P **P 04 16 01.2 -1.4**
DID Didima 74.03 308 *e*P **P 04 15 59.9 -3.1**
NVR Nevrokopi 74.04 312 *e*P **P 04 16 01.1 -1.9**
KYTH Kithira 74.05 306 *e*P **P 04 16 01.5 -1.6**
ARR Arges 74.12 316⇓*i*P **P 04 16 02.5 -0.9**
BURAR Bucovina Array 74.12 318⇓P **P 04 16 03.3 -0.1**
BURAR Bucovina Array 74.12 318⇓*i*P **P 04 16 03.3 -0.1**
BUR08 Bucovina Ar. S 74.14 318 *e*P **P 04 16 03.2 -0.3**
MMB Musomiste 74.18 312 *e*P **P 04 16 00.8 -3.0**
PLG Polygyros 74.22 311 *e*P **P 04 16 02.5 -1.6**
LTK Loutraki 74.30 308 *e*P P 04 16 00.2 -4.3
LKR Lokris 74.35 309 *e*P P 04 15 58.2 -6.6
SOH Sokhos 74.35 311 *e*P **P 04 16 03.0 -1.8**
MPEP Malo Peshtene 74.43 314 *e*P **P 04 16 03.3 -1.8**
DYR Agios Nikonas 74.66 307 *e*P **P 04 16 05.5 -1.2**
VLX Vlachokerasia 74.69 307 *e*P **P 04 16 05.2 -1.7**
KKB Krupnik 74.69 312 *e*P P 04 16 01.0 -5.7
VTS Vitosha 74.70 313⇓P **P 04 16 05.6 -1.3**
VTS Vitosha 74.70 313 *e*P **P 04 16 04.7 -2.2**
VTS Vitosha 74.70 313⇓*i*P **P 04 16 05.6 -1.3**
LBTB Lobatse 74.78 243 *e*P **P 04 16 08.7 +1.1**
comp=Z,24nm,1.1s
GUR Goura 74.78 308 *e*P **P 04 16 05.6 -1.8**
AGG Agios Georgios 74.91 309 *e*P **P 04 16 05.3 -2.8**
KLV Kalavryta, Ach 74.94 308 *e*P P 04 16 04.7 -3.6
KALE Kalithea 74.99 308 *e*P **P 04 16 06.0 -2.6**
ITM Ithomi 75.03 307 *e*P **P 04 16 07.0 -1.8**
TRIZ Trizonia 75.04 308 *e*P **P 04 16 05.8 -2.9**
LAKA Lakka 75.10 308 *e*P **P 04 16 07.3 -1.9**
EFP Efpalio 75.17 308 *e*P **P 04 16 08.3 -1.2**
THL Klokotos Trika 75.22 310 *e*P **P 04 16 07.0 -2.7**
EVR Evrytania 75.30 309 *e*P **P 04 16 08.5 -1.9**
LVV L'vov 75.31 320 *e*P **P 04 16 09.8 -0.3**
RLS Riolos of Patr 75.48 308 *e*P **P 04 16 09.8 -1.5**
DRGR 75.67 317⇑P **P 04 16 11.9 -0.4**
DRGR 75.67 317⇑*i*P **P 04 16 11.9 -0.4**
MAW Mawson 75.77 193 *e*P **P 04 16 13.6 +1.4**
comp=Z,0.8nm,0.8s
MAW Mawson 75.77 193 P P 04 16 15.3 +3.1
comp=Z,3.6nm,0.9s,baz=1.2,slow=7.7,SNR=9.2
MAW LR LR 04 43 50.9
comp=Z,111nm,20.7s,baz=230,slow=31
MAW Mawson 75.77 193 P P 04 16 16.6 +4.4
baz=76,SNR=5.8
APA Apatity 75.82 339⇑*e*P P 04 16 21.2 +8.6
APA MLR MLR
comp=Z,700nm,14.0s
FNA Florina 75.84 311 *e*P **P 04 16 11.0 -2.4**
BOSA Boshof 75.87 239 *e*P **P 04 16 14.1 +0.3**
comp=Z,18nm,1.1s
BOSA Boshof 75.87 239 P **P 04 16 14.8 +0.9**
comp=Z,8.6nm,0.9s,baz=88,slow=7.8,SNR=13
BOSA LR LR 04 47 59.5
comp=Z,362nm,18.4s,baz=256,slow=34
TRPA Tarpa 75.99 318⇑*i*P **P 04 16 13.5 -0.5**
JAN Janina 76.12 310 *e*P **P 04 16 13.5 -1.5**
VLS Valsamata 76.18 308 *e*P **P 04 16 13.4 -1.9**
LKD2 Lefkada island 76.18 309 *e*P **P 04 16 14.0 -1.4**
UZH Uzhgorod 76.23 319 *e*P **P 04 16 15.2 -0.1**
UZH *e* 04 16 24.0
BZS Buzias 76.25 316⇑P **P 04 16 15.1 -0.5**
BZS Buzias 76.25 316⇑*i*P **P 04 16 15.1 -0.5**
KOLS Kolonicke sedl 76.29 319 *e*P **P 04 16 16.0 +0.3**
KOLS pmax pmax
comp=Z,28nm,1.6s
KOLS Kolonicke sedl 76.29 319 *e*P **P 04 16 16.0 +0.3**
FINES FINESS Array B 76.78 332 P **P 04 16 16.6 -1.5**
FINES FINESS Array B 76.78 332 P **P 04 16 16.6 -1.5**
comp=Z,1.4nm,0.7s,baz=156,slow=15,SNR=5.0
FINES LR LR 04 57 24.4
comp=Z,208nm,18.9s,baz=302,slow=41
CRVS Cervenica-Dubn 76.81 319 *e*P **P 04 16 19.4 +0.7**
CRVS pmax pmax
comp=Z,25nm,1.3s
CRVS Cervenica-Dubn 76.81 319 *e*P **P 04 16 19.4 +0.7**
KEK Kerkira 76.93 310 *e*P P 04 16 14.7 -4.8
STHS Stebnicka Huta 77.03 320 *e*P **P 04 16 20.5 +0.6**
STHS pmax pmax
comp=Z,17nm,1.8s
STHS Stebnicka Huta 77.03 320 *e*P **P 04 16 20.5 +0.6**
KECS Kecovo 77.40 319 *e*P **P 04 16 21.3 -0.7**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 77.40 319 *e*P **P 04 16 21.3 -0.7**
PSZ Piszkesteto 77.72 318⇓P **P 04 16 24.0 +0.1**
PSZ Piszkesteto 77.72 318⇓*i*P **P 04 16 24.0 +0.1**
PSZ Piszkesteto 77.72 318 *e*P **P 04 16 22.8 -1.0**
comp=Z,15nm,1.0s
PSZ Piszkesteto 77.72 318⇓*e*P **P 04 16 23.4 -0.5**
OJC Ojcow 78.07 320 *e*P **P 04 16 24.4 -1.3**
PKSM Moragy 78.38 316⇑P **P 04 16 26.6 -0.9**
PKSM Moragy 78.38 316⇑*i*P **P 04 16 26.6 -0.9**
PKSM Moragy 78.38 316⇓*e*P **P 04 16 27.0 -0.5**

OKC Ostrava-Krasne 79.08 320 *i*P **P 04 16 30.9 -0.3**
OKC *e* 04 16 42.2
OKC MLR MLR
comp=Z,100nm,21.0s
OKC Ostrava-Krasne 79.08 320 *i*P **P 04 16 30.9 -0.3**
OKC *e*PCP **PcP 04 16 42.2 +2.7**
OKC AMS AMS 04 56 50.0
comp=Z,100nm,21.0s
ARCES ARCESS Array B 79.22 340 P **P 04 16 30.2 -1.4**
ARCES ARCESS Array B 79.22 340 P **P 04 16 30.2 -1.4**
comp=Z,1.5nm,0.6s,baz=76,slow=5.1,SNR=12
ARCES LR LR 04 54 44.9
comp=Z,534nm,19.6s,baz=111,slow=38
MORC Moravsky Berou 79.47 320 *e*P **P 04 16 32.7 -0.7**
MORC pmax pmax
comp=Z,32nm,1.6s
MORC Moravsky Berou 79.47 320 *e*P **P 04 16 32.6 -0.7**
comp=Z,32nm,1.6s
ZST Bratislava 79.61 318 *e*P **P 04 16 33.8 -0.3**
ZST Bratislava 79.61 318 *e*P **P 04 16 33.8 -0.3**
BEHE Becsehely 79.69 316⇓*e*P **P 04 16 35.9 +1.3**
CUC Castrocucco 80.01 310 *e*P **P 04 16 35.2 -1.3**
comp=Z,12nm,0.8s
DPC Dobruska-Polom 80.30 320 *i*P **P 04 16 37.8 -0.1**
DPC *e* 04 16 47.6
DPC Dobruska-Polom 80.30 320 *i*P **P 04 16 37.8 -0.1**
DPC *e*PCP **PcP 04 16 47.6 +2.7**
CONA Conrad Observa 80.42 318⇓*i*P **P 04 16 37.7 -1.0**
comp=Z,4.5nm,1.0s
SUR Sutherland 80.42 236 *e*P **P 04 16 39.0 -0.1**
comp=Z,38nm,0.9s
ARSA Arzberg 80.60 317⇓*i*P **P 04 16 39.6 0.0**
comp=Z,12nm,1.1s,SNR=9.4
BOJS Bojanci 80.69 315 *i*P **P 04 16 39.0 -1.0**
BOJS *e* 04 16 49.9
TREC Trest 80.76 319 *i*P **P 04 16 39.9 -0.5**
TREC Trest 80.76 319 *i*P **P 04 16 39.9 -0.5**
PERS Pernice 80.85 316 *i*P **P 04 16 40.3 -0.6**
PERS *i* 04 16 51.0
PDKS Podkum 80.90 316 *i*P **P 04 16 41.0 -0.2**
SOKA Soboth 80.91 316⇑*i*P **P 04 16 40.9 -0.4**
comp=Z,23nm,1.3s,SNR=17
TSUM Tsumeb 81.08 250 *e*P **P 04 16 44.0 +1.2**
comp=Z,26nm,1.6s
LJU Ljubljana 81.22 316 *i*P **P 04 16 42.5 -0.4**
LJU *i* 04 16 53.0
PRU Pruhonice 81.42 320 *i*P **P 04 16 44.1 +0.3**
PRU *e* 04 16 51.5
PRU MLR MLR
comp=Z,200nm,21.1s
PRU Pruhonice 81.42 320 *i*P **P 04 16 44.1 +0.3**
PRU *e*PCP **PcP 04 16 51.5 +1.8**
PRU AMS AMS 04 58 30.0
comp=Z,200nm,21.1s
PVCC Panska Ves 81.43 320 *i*P **P 04 16 43.7 -0.1**
PVCC Panska Ves 81.43 320 *i*P **P 04 16 43.7 -0.1**
JAVS Javornik 81.54 316 *i*P **P 04 16 43.9 -0.8**
JAVS *i* 04 16 54.5
VOY Vojsko 81.67 316 *e*P **P 04 16 44.7 -0.6**
VOY *e* 04 16 50.7
BRG Berggiesshubel 81.85 321 *i*P **P 04 16 45.6 -0.4**
comp=Z,10.0nm,1.1s
BRG *e* 04 16 57.0
comp=Z,20nm,1.7s
BRG
comp=Z,277nm,19.3s
BRG
comp=N,149nm,14.3s
BRG
comp=E,157nm,14.3s
BRG Berggiesshubel 81.85 321 *e*P **P 04 16 45.8 -0.2**
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 81.85 321 *i*P **P 04 16 45.6 -0.4**
BRG *e* 04 16 57.0
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,20nm,1.7s
BRG MLR MLR
comp=Z,277nm,19.3s
BRG MLR MLR
comp=N,149nm,14.3s
BRG MLR MLR
comp=E,157nm,14.3s
GEC2 GERESS Array S 81.91 319 *e*P **P 04 16 46.2 -0.3**
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 81.91 319 *e*P **P 04 16 46.2 -0.3**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s
GERES GERESS Array B 81.91 319 P **P 04 16 46.4 -0.2**
GERES GERESS Array B 81.91 319 P **P 04 16 46.4 -0.2**
comp=Z,6.5nm,1.0s,baz=91,slow=5.9,SNR=25
GERES LR LR 05 00 01.2
comp=Z,68nm,20.4s,baz=283,slow=41
AQU L'Aquila 81.91 312 *e*P **P 04 16 46.1 -0.5**
comp=Z,55nm,1.1s
KHC Kasperske Hory 82.00 319 *i*P **P 04 16 45.9 -1.1**
KHC MLR MLR
comp=Z,100nm,20.4s
KHC Kasperske Hory 82.00 319 *i*P **P 04 16 45.9 -1.1**
KHC AMS AMS 04 58 40.0
comp=Z,100nm,20.4s
KHC Kasperske Hory 82.00 319 *e*P **P 04 16 45.8 -1.2**
comp=Z,4.4nm,1.0s
CLL Collm 82.46 321 *e*P **P 04 16 48.8 -0.4**
comp=Z,5.0nm,1.0s
CLL Collm 82.46 321 *e*P **P 04 16 49.0 -0.2**
CLL *e* 04 16 59.0
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 82.46 321 *e*P **P 04 16 49.0 -0.2**
comp=Z,7.0nm,1.3s
CLL *e*pP **pP 04 17 03.0 -2.4**
CLL *e*SSSS 04 38 24.0
CLL Lm MLR 05 00 00.0
comp=N,100nm,19.1s
CLL Lm MLR 05 00 00.0
comp=E,100nm,18.3s
WET Wettzell 82.46 319 *e*P **P 04 16 49.0 -0.3**
comp=Z,4.0nm,0.8s
WET Wettzell 82.46 319 *e*P **P 04 16 49.0 -0.3**
WET pmax pmax
comp=Z,4.0nm,0.8s
RJOB Jochberg 82.47 317 *e*P **P 04 16 48.9 -0.6**
comp=Z,4.0nm,0.8s
TANN Tannenbergstha 82.77 320 *e*P **P 04 16 50.5 -0.5**
comp=Z,2.0nm,1.0s
NKC Novy Kostel 82.77 320 *i*P **P 04 16 51.7 +0.8**
NKC MLR MLR
comp=Z,200nm,17.2s
NKC Novy Kostel 82.77 320 *i*P **P 04 16 51.7 +0.8**
NKC AMS AMS 04 59 20.0
comp=Z,200nm,17.2s
ROTZ Rotzenmuhle 82.92 319 *e*P **P 04 16 51.8 +0.1**
comp=Z,4.0nm,0.9s
MANZ Manzenberg 82.99 320 *e*P **P 04 16 51.9 -0.2**
comp=Z,9.0nm,1.1s
NEUB Neuenburg 83.23 321 *e*P **P 04 16 52.9 -0.3**
comp=Z,8.0nm,0.8s
WTTA Wattenberg 83.25 317⇓*i*P **P 04 16 52.1 -1.5**
comp=Z,7.6nm,0.7s,SNR=5.9
MOX Moxa 83.31 320 *e*P **P 04 16 53.3 -0.4**
comp=Z,2.0nm,0.8s
MOX Moxa 83.31 320 *e*P **P 04 16 53.3 -0.4**
MOX pmax pmax
comp=Z,2.0nm,0.8s
GRF Grafenberg Arr 83.55 319 *e*P **P 04 16 54.7 -0.3**
comp=Z,6.0nm,0.9s
GRF Grafenberg Arr 83.55 319 *e*P **P 04 16 54.7 -0.3**
GRF pmax pmax
comp=Z,6.0nm,0.9s
GRFO Grafenberg 83.56 319 *e*P **P 04 16 54.2 -0.8**
GRFO pmax pmax
comp=Z,23nm,1.4s
GRFO Grafenberg 83.56 319 *e*P **P 04 16 54.2 -0.8**
comp=Z,23nm,1.4s
MOTA Moosalm 83.61 317⇓*i*P **P 04 16 54.2 -1.3**
comp=Z,6.3nm,0.7s,SNR=11
NOA NORSAR Array B 83.81 331 P **P 04 16 54.4 -1.6**
NOA NORSAR Array B 83.81 331 P **P 04 16 54.4 -1.6**
comp=Z,1.9nm,1.0s,baz=91,slow=5.1,SNR=3.2
NOA LR LR 04 59 32.9
comp=Z,232nm,19.1s,baz=100,slow=40
RETA Reutte 83.85 317⇑*i*P **P 04 16 55.5 -1.1**
comp=Z,13nm,1.0s,SNR=7.3
FETA Feichten 83.87 317⇓*i*P **P 04 16 55.6 -1.2**

comp=Z,11nm,1.1s
BSEG Bad Segeberg 84.16 324 *e*P **P 04 16 57.7 -0.2**
comp=Z,14nm,1.0s
BSEG Bad Segeberg 84.16 324 *e*P **P 04 16 57.7 -0.2**
BSEG pmax pmax
comp=Z,14nm,1.0s
NRDL Niedersach Rie 84.28 322 *e*P **P 04 16 59.0 +0.6**
comp=Z,8.0nm,1.0s
DAVA Damuels 84.45 317⇑*i*P **P 04 16 59.1 -0.7**
comp=Z,13nm,1.0s,SNR=6.4
TUE Stuetta 84.82 316 *e*P **P 04 17 00.3 -1.4**
comp=Z,14nm,1.3s
KEST Kesra 85.11 305 *e*P **P 04 17 03.8 +0.5**
KEST Kesra 85.11 305 P **P 04 17 03.8 +0.5**
comp=Z,3.2nm,0.9s,baz=304,slow=4.9,SNR=8.8
KEST LR LR 04 57 08.9
comp=Z,55nm,19.3s,baz=207,slow=37
PGF Pioggiola 85.17 312 *e*P **P 04 17 02.8 -0.6**
comp=Z,23nm,1.0s
TNS Taunus Mts 85.34 320 *e*P **P 04 17 04.0 -0.1**
comp=Z,5.0nm,1.0s
TNS Taunus Mts 85.34 320 *e*P **P 04 17 04.0 -0.1**
TNS pmax pmax
comp=Z,5.0nm,1.0s
URZ Urewera 85.39 129 LR LR 04 54 28.5
comp=Z,322nm,18.5s,baz=285,slow=35
BFO Black Forest 85.47 318 *e*P **P 04 17 03.9 -0.8**
comp=Z,4.0nm,0.9s
BFO Black Forest 85.47 318 *e*P **P 04 17 03.6 -1.1**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 85.47 318 *e*P **P 04 17 03.6 -1.1**
comp=Z,5.5nm,0.9s
IBBN Ibbenburen 85.72 322 *e*P **P 04 17 05.8 0.0**
comp=Z,11nm,0.9s
LANF Langenberg 85.80 319 *e*P **P 04 17 06.5 +0.2**
BUG Bochum--Univer 86.05 321 *e*P **P 04 17 07.5 +0.1**
comp=Z,11nm,0.8s
SAOF Saorge 86.17 314 *e*P **P 04 17 08.6 +0.3**
CDF Champ du Feu 86.17 318 *e*P **P 04 17 07.3 -0.9**
comp=Z,8.9nm,1.1s
ECH Echery 86.26 318 *e*P **P 04 17 07.7 -0.9**
ECH pmax pmax
comp=Z,4.0nm,1.0s
ECH Echery 86.26 318 *e*P **P 04 17 07.7 -0.9**
comp=Z,4.3nm,1.0s
ECH Echery 86.26 318 *e*P **P 04 17 09.1 +0.5**
AUTN L'Aution 86.26 314 *e*P **P 04 17 10.3 +1.4**
SBF Sospel 86.26 314 *e*P **P 04 17 08.2 -0.6**
REVF Revere 86.31 313 *e*P **P 04 17 07.9 -1.1**
LUCF Luceram 86.32 314 *e*P **P 04 17 07.7 -1.4**
HINF Hinteralfeld 86.48 318 *e*P **P 04 17 09.8 +0.1**
LOMF Lomont 86.52 317 *e*P **P 04 17 08.0 -2.0**
CALN Calern 86.66 313 *e*P **P 04 17 11.2 +0.4**
LPG La Plagne 86.67 315 *e*P **P 04 17 10.5 -0.5**
comp=Z,26nm,1.0s
LPL La Plagne 86.68 315 *e*P **P 04 17 10.6 -0.4**
comp=Z,39nm,1.0s
MBDF Montbardon 86.69 314 *e*P **P 04 17 09.7 -1.3**
comp=Z,12nm,0.9s
BNI Bardonecchia 86.74 315 *e*P **P 04 17 10.4 -0.8**
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 86.74 315 *e*P **P 04 17 10.4 -0.8**
comp=Z,8.9nm,0.8s
HAU Haudompre 86.81 318 *e*P **P 04 17 10.4 -0.9**
comp=Z,21nm,1.0s
HAU *e*R
comp=Z,120nm,22.5s
FRF La Foret Royal 86.85 313 *e*P **P 04 17 11.2 -0.3**
comp=Z,22nm,1.0s
WLF Walferdange 86.85 319 *e*P **P 04 17 10.7 -0.7**
WLF pmax pmax
comp=Z,4.0nm,0.6s
WLF Walferdange 86.85 319 *e*P **P 04 17 10.7 -0.7**
comp=Z,3.6nm,0.6s
LMR La Mourre 86.96 313 *e*P **P 04 17 11.8 -0.3**
comp=Z,29nm,1.2s
CABF La Chapelle 87.07 316 *e*P **P 04 17 12.3 -0.4**
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 87.32 315 *e*P **P 04 17 13.7 -0.2**
comp=Z,11nm,0.8s
ORIF *e*R
comp=Z,140nm,21.5s
OG35 Corcelles 87.46 316 *e*P **P 04 17 13.9 -0.6**
SMRF Simiane la Rot 87.60 314 *e*P **P 04 17 15.4 +0.2**
comp=Z,12nm,1.0s
MEZF Maizieres J'vi 87.64 318 *e*P **P 04 17 14.7 -0.6**
SFTF Sexfontaines 87.67 318 *e*P **P 04 17 14.8 -0.6**
comp=Z,22nm,0.9s
BAIF Baives 88.08 320 *e*P **P 04 17 16.6 -0.7**
comp=Z,24nm,1.2s
VIVF Saint-Julien-l 88.18 315 *e*P **P 04 17 17.6 -0.3**
comp=Z,14nm,1.0s
SSB Saint Sauveur 88.23 315 *e*P **P 04 17 17.2 -1.0**
SSB pmax pmax
comp=Z,7.0nm,0.9s
SSB Saint Sauveur 88.23 315 *e*P **P 04 17 17.2 -1.0**
comp=Z,6.5nm,0.9s
LOR Lormes 88.54 317 *e*P **P 04 17 19.1 -0.5**
comp=Z,32nm,1.4s
LOR *e*R
comp=Z,90nm,20.5s
SMF Signal de Mont 88.61 316 *e*P **P 04 17 19.4 -0.5**
comp=Z,24nm,1.1s
SSF Saint Saulge 88.80 317 *e*P **P 04 17 20.6 -0.2**
comp=Z,17nm,1.3s
LASF Ste Croix 88.82 314 *e*P **P 04 17 21.1 +0.1**
comp=Z,26nm,1.4s
AVF Avril sur Loir 88.93 317 *e*P **P 04 17 20.9 -0.5**
comp=Z,25nm,1.2s
LBL Lubilhac 89.15 315 *e*P **P 04 17 22.9 +0.3**
VNDA Vanda 89.18 169 *e*P **P 04 17 22.7 +0.8**
comp=Z,27nm,1.9s
VNDA Vanda 89.18 169 P **P 04 17 23.1 +1.2**
comp=Z,1.7nm,1.0s,baz=282,slow=6.4,SNR=9.3
VNDA LR LR 04 49 14.1
comp=Z,112nm,21.8s,baz=313,slow=30
TAM Tamanrasset 89.21 293 *e*P **P 04 17 24.2 +0.8**
TAM pmax pmax
comp=Z,7.0nm,1.4s
TAM Tamanrasset 89.21 293 *e*P **P 04 17 24.2 +0.8**
comp=Z,6.6nm,1.4s
PYM Petit Puy Mans 89.27 316 *e*P **P 04 17 22.3 -0.8**
BGF Bois d'Agland 89.30 316 *e*P **P 04 17 23.1 0.0**
comp=Z,55nm,1.5s
TCF Toulx Ste Croi 89.77 316 *e*P **P 04 17 25.4 0.0**
comp=Z,36nm,1.6s
CAF Calviac 90.02 315 *e*P **P 04 17 26.8 +0.2**
comp=Z,8.8nm,0.9s
MTLF Montolieu 90.08 313 *e*P **P 04 17 27.0 +0.1**
comp=Z,17nm,1.2s
RJF Les Rejaudoux 90.36 315 *e*P **P 04 17 28.5 +0.4**
comp=Z,9.7nm,0.9s
RJF *e*R
comp=Z,112nm,23.0s
LFF La Frestale 90.95 315 *e*P **P 04 17 31.4 +0.6**
comp=Z,29nm,1.3s
FLN La Foiniere 91.26 319 *e*P **P 04 17 32.1 -0.1**
comp=Z,25nm,1.0s
FLN *e*R
comp=Z,120nm,18.8s
MFF Saint Martin d 91.34 317 *e*P **P 04 17 32.7 0.0**
comp=Z,38nm,1.3s
GRR Gorron 91.57 319 *e*P **P 04 17 33.7 +0.1**
comp=Z,85nm,1.7s
ETSF Etsaut 92.15 313 *e*P **P 04 17 37.3 +0.7**
comp=Z,9.8nm,0.8s
SJPF Ste Jean 92.60 313 *e*P **P 04 17 39.3 +0.7**
comp=Z,19nm,1.0s
TOA0 Torodi Ar. Sit 93.69 283 *e*P **P 04 17 44.9 +0.7**
TORD Torodi Ar. Bea 93.69 283 P **P 04 17 44.4 +0.3**
TORD PP **PP 04 21 34.4 +4.5**
TORD Torodi Ar. Bea 93.69 283 P **P 04 17 44.4 +0.3**
comp=Z,2.9nm,0.8s,baz=90,slow=4.7,SNR=37
TORD PP **PP 04 21 34.4 +4.5**
comp=Z,1.6nm,1.1s,baz=82,slow=4.6,SNR=4.9
TORD LR LR 04 59 00.5
comp=Z,176nm,19.7s,baz=90,slow=35
IMA2 Indian Mountai 93.80 23 *e*P **P 04 17 45.1 +1.3**
ESDC Sonseca Array 95.20 310 P **P 04 17 50.1 -0.6**
ESDC Sonseca Array 95.20 310 P **P 04 17 50.1 -0.6**
comp=Z,0.2nm,0.5s,baz=50,slow=4.0,SNR=5.4
COLA College 96.51 23 *e*P **P 04 17 52.9 -3.0**
COLA pmax pmax
comp=Z,15nm,0.4s
COLA College 96.51 23 *e*P **P 04 17 52.9 -3.0**

comp=Z,15nm,0.4s
ILAR Eielson Array 96.93 23 LR LR 05 05 58.5
comp=Z,137nm,18.8s,baz=337,slow=38
LIC Lamto 100.97 277 *e*P **Pdif 04 18 22.0 +5.0**
comp=Z,48nm,1.4s
LIC *e*R
comp=Z,215nm,22.8s
ULM Lac du Bonnet 124.42 10 *e*PKPdf **PKPdf 04 23 26.1 +0.3**
LOHW Long Hollow 126.21 24 *e*PKPdf **PKPdf 04 23 29.0 -0.7**
PDAR Pinedale Array 127.34 24 PKP **PKPdf 04 23 32.4 +0.5**
PDAR Pinedale Array 127.34 24 PKP **PKPdf 04 23 32.4 +0.5**
comp=Z,0.4nm,0.6s,baz=45,slow=2.5,SNR=5.8
RSSD Black Hills 128.17 19 *e*PKIKP **PKPdf 04 23 32.2 -1.2**
RSSD Black Hills 128.17 19 *e*PKPdf **PKPdf 04 23 32.2 -1.2**
TUC Tucson 135.11 33 *e*PKIKP **PKPdf 04 23 47.6 +0.9**
TUC Tucson 135.11 33 *e*PKPdf **PKPdf 04 23 47.6 +0.9**
MNTX Cornudas Mount 138.38 29 *e*PKPdf **PKPdf 04 23 53.0 +0.3**
WMOK Wichita Mounta 138.38 19 *e*PKIKP **PKPdf 04 23 48.3 -4.3**
WMOK Wichita Mounta 138.38 19 *e*PKPdf **PKPdf 04 23 48.3 -4.3**
WVT Waverly 139.37 5 *e*PKIKP **PKPdf 04 23 54.8 +0.5**
WVT Waverly 139.37 5 *e*PKPdf **PKPdf 04 23 54.8 +0.5**
TXAR Lajitas Array 141.16 29 PKP **PKPdf 04 23 56.0 -1.9**
TXAR SKP 04 27 32.9
TXAR Lajitas Array 141.16 29 PKP **PKPdf 04 23 56.0 -1.9**
comp=Z,0.2nm,0.6s,baz=225,slow=2.4,SNR=2.1
TXAR SKP 04 27 32.9
comp=Z,0.5nm,0.8s,baz=232,slow=6.2,SNR=4.5
TRQA Tornquist 141.28 208 *e*PKPdf **PKPdf 04 23 58.4 +0.6**
JCT Junction City 141.86 23 *e*PKIKP **PKPdf 04 23 59.5 +0.4**
JCT Junction City 141.86 23 *e*PKPdf **PKPdf 04 23 59.5 +0.4**
BDFB Brasilia 143.45 250 PKP PKPbc 04 24 00.4 +0.8
BDFB Brasilia 143.45 250 PKP PKPbc 04 24 00.4 +0.8
comp=Z,3.9nm,0.9s,baz=114,slow=12,SNR=3.3
CPUP Villa Florida 146.89 226 *e*PKPbc **PKPbc 04 24 09.2 -0.5**
CPUP Villa Florida 146.89 226 PKPbc **PKPab 04 24 10.2 -0.9**
comp=Z,7.2nm,0.8s,baz=154,slow=4.5,SNR=9.1
CFAA Coronel Fontan 149.49 206 PKPbc **PKPbc 04 24 17.0 +0.5**
CFAA Coronel Fontan 149.49 206 PKPbc **PKPbc 04 24 17.0 +0.5**
comp=Z,0.8nm,0.6s,baz=229,slow=2.4,SNR=10
SIV San Ignacio 155.22 241 PKPab **PKPab 04 24 46.5 +0.6**
SIV San Ignacio 155.22 241 PKPab **PKPab 04 24 46.5 +0.6**
comp=Z,3.3nm,1.0s,baz=134,slow=3.8,SNR=4.1
SAML Samuel 159.39 257 *e*PKPab **PKPab 04 25 04.2 +0.3**

ISCJB ***15*** *04:12:29.4±0.3, 19°.35S×0°.04×69°.02W±0°.05, h105km, mb4.4/29, Error ellipse: s-maj=7.0km s-min=5.4km az=3.2*
IDC ***15*** *04:12:32.4±0.5, 19°.42S×69°.01W, h115km±4km, mb4.1/10, mb1 4.3/13, mb1mx4.1/22, mbtmp4.1/13, MS2.9/2, Ms1 2.9/2, ms1mx2.6/22, Error ellipse: s-maj=16.8km s-min=14.7km az=48.0*
NEIC ***15*** *04:12:32.1±0.3, 19°.39S×69°.01W, mb4.3/22, Error ellipse: s-maj=8.6km s-min=6.1km az=61.0*
ISC 15 04:12:31.8±0.4, 19°.39S±0°.05×68°.98W±0°.07, h105km, n65, σ1§41/92, mb4.3/29, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.19**	**15**	P	**Pn**	**04 13 23.8**	**+3.0**
LPAZ				S	**Sn**	**04 13 58.0**	**-0.5**
LPAZ	**La Paz**	**3.19**	**15**	P	**Pn**	**04 13 23.8**	**+3.0**
9.7nm,0.3s,baz=195,slow=6.9,SNR=178							
LPAZ				S	**Sn**	**04 13 58.0**	**-0.5**
4.4nm,0.3s,baz=170,slow=12,SNR=5.6							
LVC	**Limon Verde**	**3.21**	**179**	*e*Pn	**Pn**	**04 13 21.3**	**+0.5**
LVC				*e*Sn	**Sn**	**04 13 56.4**	**-1.9**
SIV	**San Ignacio**	**8.26**	**67**	P	**Pn**	**04 14 29.5**	**+0.5**
SIV				S	**Sn**	**04 15 59.7**	**-0.9**
SIV	**San Ignacio**	**8.26**	**67**	P	**Pn**	**04 14 29.5**	**+0.5**
12nm,0.3s,baz=269,slow=10,SNR=294							
SIV				S	**Sn**	**04 15 59.7**	**-0.9**
baz=338,slow=20,SNR=2.9							
SIV				LR	LR	04 17 15.2	
comp=Z,72nm,20.0s,slow=34							
SAML	**Samuel**	**11.80**	**29**	*e*Pn	**Pn**	**04 15 14.8**	**-2.0**
3.9nm,0.7s							
SAML				*e*Sn	**Sn**	**04 17 23.1**	**-3.6**
CPUP	**Villa Florida**	**12.77**	**125**	*e*Pn	**Pn**	**04 15 28.9**	**-0.5**
44nm,0.6s							
CPUP	**Villa Florida**	**12.77**	**125**	P	**Pn**	**04 15 28.8**	**-0.7**
2.7nm,0.3s,baz=287,slow=12,SNR=36							
CPUP				LR	LR	04 20 26.6	
comp=Z,58nm,19.6s,baz=128,slow=37							
TRQA	**Tornquist**	**19.57**	**163**	*e*P	**P**	**04 16 50.8**	**-0.7**
18nm,0.9s							
BDFB	**Brasilia**	**20.34**	**83**	P	**P**	**04 16 59.7**	**-0.3**
BDFB	**Brasilia**	**20.34**	**83**	P	**P**	**04 16 59.7**	**-0.3**
40nm,0.6s,baz=265,slow=12,SNR=22							
PLCA	**Paso Flores**	**21.32**	**183**	*e*P	**P**	**04 17 10.6**	**+0.4**
27nm,1.0s							
PLCA	**Paso Flores**	**21.32**	**183**	P	**P**	**04 17 09.4**	**-0.9**
17nm,0.8s,baz=356,slow=11,SNR=17							
OTAV	**Otavalo**	**21.61**	**333**	*e*P	**P**	**04 17 14.7**	**+0.7**
2.6nm,0.8s							
RCBR	**Riachuelo**	**34.89**	**72**	*e*P	**P**	**04 19 14.7**	**+1.1**
109nm,0.7s							
HKT	**Hockley**	**55.46**	**332**	*e*P	**P**	**04 21 55.4**	**-0.2**
7.5nm,1.3s							
JCT	**Junction City**	**57.77**	**328**	*e*P	**P**	**04 22 11.1**	**-1.1**
WVT	**Waverly**	**58.03**	**342**	*e*P	**P**	**04 22 11.5**	**-2.2**
2.1nm,0.6s							
MIAR	**Mount Ida**	**58.52**	**336**	*e*P	**P**	**04 22 15.8**	**-1.4**
7.2nm,1.2s							
MIAR				*e*pP	**pP**	**04 22 43.5**	**+0.7**
TXAR	**Lajitas Array**	**58.87**	**325**	P	**P**	**04 22 18.6**	**-1.3**
TXAR				sP	sP	04 23 02.5	+5.4
TXAR	**Lajitas Array**	**58.87**	**325**	P	**P**	**04 22 18.6**	**-1.3**
0.9nm,0.8s,baz=150,slow=8.4,SNR=5.8							
TXAR				sP	sP	04 23 02.5	+5.4
0.4nm,0.7s,baz=139,slow=8.1,SNR=2.8							
SIUC	**Southern Illin**	**59.91**	**342**	*e*P	**P**	**04 22 25.8**	**-0.9**
35nm,1.2s							
SIUC				*e*pP	**pP**	**04 22 53.7**	**+1.2**
WMOK	**Wichita Mounta**	**60.83**	**332**	*e*P	**P**	**04 22 33.3**	**+0.2**
1.7nm,0.7s							
MNTX	**Cornudas Mount**	**61.64**	**325**	*e*P	**P**	**04 22 37.0**	**-1.6**
1.5nm,0.9s							
MSTX	**Muleshoe**	**62.07**	**328**	*e*P	**P**	**04 22 39.7**	**-1.9**
SNAA	**Sanae**	**64.29**	**161**	*e*P	**P**	**04 22 55.4**	**-0.3**
9.2nm,1.4s							
SNAA				*e*pP	**pP**	**04 23 23.6**	**+1.9**
SNAA	**Sanae**	**64.29**	**161**	P	**P**	**04 22 55.6**	**-0.1**
0.4nm,0.6s,baz=246,slow=12,SNR=9.9							
SDCO	**Great Sand Dun**	**66.41**	**329**	*e*P	**P**	**04 23 09.5**	**-0.6**
2.9nm,1.2s							
SDCO				*e*pP	**pP**	**04 23 37.4**	**+1.1**
LIC	**Lamto**	**67.88**	**75**	*e*P	**P**	**04 23 18.5**	**-1.0**
36nm,0.6s							
TIC	**Toumodi**	**68.06**	**74**	*e*P	**P**	**04 23 19.6**	**-1.1**
50nm,1.1s							
KIC	**Kosan Boka**	**68.20**	**75**	*e*P	**P**	**04 23 20.6**	**-0.9**
79nm,0.8s							
DBIC	**Dimbokro**	**68.22**	**74**	*e*P	**P**	**04 23 20.9**	**-0.7**
30nm,0.8s							
DBIC	**Dimbokro**	**68.22**	**74**	P	**P**	**04 23 21.2**	**-0.4**
31nm,0.8s,baz=223,slow=6.6,SNR=27							
RSSD	**Black Hills**	**70.88**	**334**	*e*P	**P**	**04 23 36.9**	**-0.7**
3.5nm,0.8s							
DUG	**Dugway**	**71.97**	**326**	*e*P	**P**	**04 23 41.8**	**-2.4**
4.2nm,1.0s							
PDAR	**Pinedale Array**	**72.26**	**330**	P	**P**	**04 23 45.5**	**-0.5**
PDAR				sP	**sP**	**04 24 26.4**	**+2.5**
PDAR	**Pinedale Array**	**72.26**	**330**	P	**P**	**04 23 45.5**	**-0.5**
0.4nm,0.5s,baz=119,slow=7.3,SNR=4.5							
PDAR				sP	**sP**	**04 24 26.4**	**+2.5**
0.7nm,0.8s,baz=110,slow=8.1,SNR=2.6							
HWUT	**Hardware Ranch**	**72.37**	**328**	*e*P	**P**	**04 23 45.9**	**-0.7**
3.8nm,0.9s							
LOHW	**Long Hollow**	**73.40**	**330**	*e*P	**P**	**04 23 51.7**	**-1.0**
1.4nm,0.8s							
TPAW	**Teton Pass**	**73.47**	**329**	*e*P	**P**	**04 23 52.9**	**-0.3**
HLID	**Hailey**	**75.23**	**328**	*e*P	**P**	**04 24 03.1**	**-0.1**
4.2nm,1.1s							
TOA0	**Torodi Ar. Sit**	**76.72**	**71**	*e*P	**P**	**04 24 10.7**	**-1.4**
TOA0				*e*pP	**pP**	**04 24 40.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**76.72**	**71**	P	**P**	**04 24 11.1**	**-1.0**
TORD				pP	**pP**	**04 24 41.2**	**+2.3**
TORD				sP	**sP**	**04 24 53.4**	**+3.2**
TORD				PP	PP	04 26 56.0	-10
TORD	**Torodi Ar. Bea**	**76.72**	**71**	P	**P**	**04 24 11.1**	**-1.0**
9.7nm,0.6s,baz=250,slow=5.3,SNR=178							
TORD				pP	**pP**	**04 24 41.2**	**+2.3**
4.5nm,0.8s,baz=252,slow=5.5,SNR=3.7							
TORD				sP	**sP**	**04 24 53.4**	**+3.2**
6.4nm,0.9s,baz=257,slow=5.6,SNR=3.9							
TORD				PP	PP	04 26 56.0	-10
2.7nm,1.0s,baz=244,slow=7.7,SNR=4.4							
TSUM	**Tsumeb**	**80.72**	**107**	P	**P**	**04 24 34.4**	**+0.2**
TSUM	**Tsumeb**	**80.72**	**107**	P	**P**	**04 24 34.4**	**+0.2**
5.0nm,0.8s,baz=229,slow=6.5,SNR=9.2							
EDM	**Edmonton**	**81.83**	**335**	*e*P	**P**	**04 24 37.5**	**-1.6**
EDM				*e*pP	**pP**	**04 25 06.6**	**+0.3**
EDM				*e*sP	**sP**	**04 25 19.9**	**+2.4**
TAM	**Tamanrasset**	**83.94**	**63**	*e*P	**P**	**04 24 50.9**	**0.0**
3.6nm,1.1s							
ESDC	**Sonseca Array**	**84.39**	**45**	P	**P**	**04 24 52.3**	**-0.3**
ESDC	**Sonseca Array**	**84.39**	**45**	P	**P**	**04 24 52.3**	**-0.3**
2.0nm,1.0s,baz=234,slow=6.2,SNR=9.7							
BOSA	**Boshof**	**84.50**	**118**	*e*P	**P**	**04 24 53.0**	**-0.7**
18nm,1.3s							
BOSA	**Boshof**	**84.50**	**118**	P	**P**	**04 24 53.6**	**-0.1**
2.0nm,0.7s,baz=245,slow=0.3,SNR=3.9							
LBTB	**Lobatse**	**85.96**	**115**	*e*P	**P**	**04 25 00.6**	**-0.3**
5.5nm,0.8s							
YKA	**Yellowknife Ar**	**89.19**	**341**	P	**P**	**04 25 14.7**	**-0.5**
YKA				pP	**pP**	**04 25 44.0**	**+1.3**
YKA	**Yellowknife Ar**	**89.19**	**341**	P	**P**	**04 25 14.7**	**-0.5**
2.5nm,0.7s,baz=136,slow=4.5,SNR=6.7							
YKA				pP	**pP**	**04 25 44.0**	**+1.3**
5.0nm,0.8s,baz=131,slow=4.7,SNR=5.7							
ASAR	**Alice Springs**	**131.73**	**209**	PKP	**PKPdf**	**04 31 32.1**	**-1.2**
ASAR				pPKP	**pPKPdf**	**04 32 02.6**	**+0.5**
ASAR				SKPbc	**SKPbc**	**04 34 47.1**	**-2.6**
ASAR	**Alice Springs**	**131.73**	**209**	PKP	**PKPdf**	**04 31 32.1**	**-1.2**
0.5nm,0.5s,baz=130,slow=1.6,SNR=7.0							
ASAR				pPKP	**pPKPdf**	**04 32 02.6**	**+0.5**
0.6nm,0.6s,baz=151,slow=2.5,SNR=4.2							
ASAR				SKPbc	**SKPbc**	**04 34 47.1**	**-2.6**
0.9nm,0.8s,baz=152,slow=5.1,SNR=6.1							
WRA	**Warramunga Arr**	**134.72**	**212**	PKP	**PKPdf**	**04 31 37.7**	**-1.3**
WRA	**Warramunga Arr**	**134.72**	**212**	PKP	**PKPdf**	**04 31 37.7**	**-1.3**
0.7nm,0.7s,baz=154,slow=2.0,SNR=9.1							
MKAR	**Makanchi Array**	**143.95**	**34**	PKP	PKPab	04 31 51.8	-0.6
MKAR				pPKP	pPKPdf	04 32 26.4	+2.7
MKAR	**Makanchi Array**	**143.95**	**34**	PKP	PKPab	04 31 51.8	-0.6
0.4nm,0.8s,baz=326,slow=0.5,SNR=3.5							
MKAR				pPKP	pPKPdf	04 32 26.4	+2.7
0.8nm,0.8s,baz=312,slow=3.7,SNR=3.8							
MJAR	**Matsushiro Arr**	**150.67**	**311**	PKPbc	**PKPbc**	**04 32 11.2**	**-0.8**
MJAR				pPKPbc	**pPKPbc**	**04 32 41.9**	**+1.3**
MJAR	**Matsushiro Arr**	**150.67**	**311**	PKPbc	**PKPbc**	**04 32 11.2**	**-0.8**
1.1nm,0.6s,baz=86,slow=2.3,SNR=6.8							
MJAR				pPKPbc	**pPKPbc**	**04 32 41.9**	**+1.3**
3.1nm,0.6s,baz=118,slow=1.2,SNR=11							
SONM	**Songino Array**	**151.38**	**7**	PKPbc	**PKPbc**	**04 32 13.5**	**+0.1**
SONM				pPKPbc	**pPKPbc**	**04 32 43.6**	**+1.5**
SONM	**Songino Array**	**151.38**	**7**	PKPbc	**PKPbc**	**04 32 13.5**	**+0.1**
0.7nm,0.5s,baz=14,slow=0.8,SNR=6.4							
SONM				pPKPbc	**pPKPbc**	**04 32 43.6**	**+1.5**
2.7nm,0.8s,baz=314,slow=1.6,SNR=6.3							

IDC 15 04:42:57.0±8.8, 1°.39N×128°.14E, h127km±83km, mb3.7/7, mb1 3.8/7, mb1mx3.5/23, mbtmp3.7/7, Error ellipse: s-maj=48.3km s-min=21.4km az=60.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.06**	**164**	P	P	04 47 39.7	-2.0
1.4nm,0.7s,baz=341,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**25.53**	**168**	P	P	04 48 15.7	+1.7
1.1nm,0.6s,baz=343,slow=11,SNR=3.5							
PSI	**Prapat**	**29.23**	**273**	P	P	04 48 47.2	-0.1
2.4nm,0.7s,baz=76,slow=12,SNR=7.3							
SONM	**Songino Array**	**49.95**	**341**	P	P	04 51 38.7	+0.7
0.7nm,0.5s,baz=155,slow=8.0,SNR=5.0							
MKAR	**Makanchi Array**	**60.27**	**325**	P	P	04 52 52.2	+0.2
2.3nm,0.4s,baz=115,slow=8.0,SNR=53							
MKAR				pP	pP	04 53 23.2	+0.6
0.6nm,0.5s,baz=120,slow=8.4,SNR=3.1							
BVAR	**Borovoye Array**	**70.03**	**327**	P	P	04 53 54.7	-0.2
0.7nm,0.6s,baz=148,slow=8.7,SNR=4.0							
ARCES	**ARCESS Array B**	**93.11**	**340**	P	P	04 55 55.1	-1.1
1.6nm,0.8s,baz=96,slow=6.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**124.96**	**287**	PKP	PKPdf	05 01 42.3	-0.9
0.3nm,0.4s,baz=68,slow=1.6,SNR=7.7							

AUST ***15*** *04:43:21.3±6.8, 4°.23S×127°.11E, h323km, Error ellipse: s-maj=3.2km s-min=1.1km az=254.0*
IDC ***15*** *04:43:22.3±3.9, 4°.62S×127°.61E, h234km±78km, mb3.8/1, mb1 3.4/4, mb1mx3.0/23, mbtmp3.2/4, Error ellipse: s-maj=104.4km s-min=53.8km az=101.0*
DJA ***15*** *04:43:43.1±1.5, 3°.5±13°×12°.8E±°, h10km, M3.1/4, MLv3.1/4*
ISC 15 04:43:21.1±1.4, 4°.5S±0°.1×127°.5E±0°.3, h250km, n17, σ1§14/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.07**	**42**	P	Pn	04 44 00.9	+4.3
AAI	**Ambon**	**1.07**	**42**	P	Pn	04 44 00.8	+4.3
baz=1.2,SNR=13							
NLAI	**Namlea**	**1.30**	**343**	P	**Pn**	**04 43 58.2**	**+0.2**
MSAI	**Masohi**	**1.84**	**52**	P	Pn	04 44 06.0	+3.9
FAKI	**Fak Fak**	**5.01**	**72**	P	Pn	04 44 42.9	+5.9
baz=5.3,SNR=3.6							
SWI	**Sorong**	**5.22**	**46**	P	Pn	04 44 45.9	+6.3
baz=5.3,SNR=4.7							
TLE	**Tual**	**5.36**	**103**	P	Pn	04 44 49.4	+8.1
baz=5.8,SNR=3.3							
MTN	**Manton Dam**	**9.05**	**157**	P	**P**	**04 45 32.7**	**-2.2**
baz=9.5,SNR=24							
KDU	**Kakadu**	**9.52**	**149**	P	**P**	**04 45 39.1**	**-1.0**
baz=10.0,SNR=22							
KNRA	**Kununurra**	**11.19**	**174**	P	**P**	**04 45 58.1**	**-0.6**
baz=12,SNR=4.5							
FITZ	**Fitzroy Crossi**	**13.65**	**187**	P	**Pn**	**04 46 24.5**	**-0.5**
0.2nm,0.3s,baz=20,slow=11,SNR=12							
FITZ	**Fitzroy Crossi**	**13.65**	**187**	P	**Pn**	**04 46 24.9**	**-0.2**
baz=14,SNR=7.2							
KKM	**Kota Kinabalu**	**15.36**	**313**	P	P	04 46 35.7	-9.4
baz=15,SNR=3.3							
WRA	**Warramunga Arr**	**16.75**	**157**	P	**P**	**04 47 00.3**	**+0.1**
0.7nm,0.3s,baz=337,slow=11,SNR=60							
WRA				S	**S**	**04 50 03.6**	**+1.2**
0.1nm,0.3s,baz=331,slow=21,SNR=5.5							
ASAR	**Alice Springs**	**20.05**	**163**	P	**P**	**04 47 36.7**	**+0.9**
0.2nm,0.3s,baz=346,slow=11,SNR=11							
ASAR				S	**S**	**04 51 08.0**	**+0.9**
baz=344,slow=19,SNR=5.6							
MNAI	**Manna**	**24.45**	**269**	S	S	04 52 02.5	-17
baz=24,SNR=3.8							
STKA	**Stephens Creek**	**30.30**	**156**	P	**P**	**04 49 10.1**	**+0.7**
1.5nm,0.3s,baz=350,slow=12,SNR=3.4							

IDC 15 04:58:53.5±14.0, 39°.00S×93°.32W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.6/4, Error ellipse: s-maj=374.3km s-min=49.2km az=179.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**31.59**	**51**	P	P	05 05 18.6	0.0
0.6nm,0.9s,baz=190,slow=10.0,SNR=2.4							
TXAR	**Lajitas Array**	**68.67**	**350**	P	P	05 09 58.4	-0.2
0.4nm,0.8s,baz=161,slow=11,SNR=4.2							
NVAR	**Mina Array Bea**	**80.40**	**340**	P	P	05 11 07.0	+0.2
0.3nm,0.5s,baz=177,slow=3.6,SNR=2.6							
PDAR	**Pinedale Array**	**82.72**	**348**	P	P	05 11 18.9	-0.1
0.8nm,1.0s,baz=148,slow=5.3,SNR=4.1							

CSEM ***15*** *05:02:11.8±0.2, 43°.02N×18°.72E, h2km, ML1.9/11, Error ellipse: s-maj=3.9km s-min=2.7km az=128.0*
BEO ***15*** *05:02:12.8±0.3, 42°.97N×18°.74E, h4km±3km, ML1.7/6*
PDG 15 05:02:11.9±0.2, 43°.01N×18°.71E, h10km±3km, ML1.9/11, 9C-12D, Error ellipse: s-maj=1.0km s-min=1.0km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.17**	**228**	*i*Pg	Pg	05 02 15.6	-0.2
BRY				*e*Sg	Sg	05 02 18.6	+0.1
BRY	**Bratogost**	**0.17**	**228**	*i*Pg	Pg	05 02 15.6	-0.2
BRY				*e*Sg	Sg	05 02 18.6	+0.1
UPM	**Unac-Piva**	**0.24**	**37**	*i*Pg	Pg	05 02 16.6	-0.5
UPM				*e*Sg	Sg	05 02 20.2	-0.4
UPM	**Unac-Piva**	**0.24**	**37**	*i*Pg	Pg	05 02 16.6	-0.5
UPM				*e*Sg	Sg	05 02 20.2	-0.4
NKY	**Niksic**	**0.29**	**134**	*i*Pg	Pg	05 02 17.2	-0.7
NKY				*e*Sg	Sg	05 02 21.7	-0.2
NKY	**Niksic**	**0.29**	**134**	*i*Pg	Pg	05 02 17.2	-0.7
NKY				*e*Sg	Sg	05 02 21.7	-0.2
NKME	**Niksic**	**0.30**	**144**	*i*Pg	Pg	05 02 17.4	-0.7
NKME				*e*Sg	Sg	05 02 22.0	-0.3
NKME	**Niksic**	**0.30**	**144**	*i*Pg	Pg	05 02 17.4	-0.7
NKME				*e*Sg	Sg	05 02 22.0	-0.3
TREB	**Trebinje**	**0.40**	**222**	*i*Pg	Pg	05 02 19.5	-0.3
TREB				*e*Sg	Sb	05 02 26.3	-0.9
TREB	**Trebinje**	**0.40**	**222**	*i*Pg	Pg	05 02 19.5	-0.3
TREB				*e*Sg	Sb	05 02 26.3	-0.9
HCY	**Herceg Novi**	**0.59**	**196**	*i*Pg	Pg	05 02 23.1	-0.3
HCY				*e*Sg	Sb	05 02 33.1	+0.4
HCY	**Herceg Novi**	**0.59**	**196**	*i*Pg	Pg	05 02 23.1	-0.3
HCY				*e*Sg	Sb	05 02 33.1	+0.4
PLE	**Pljevlja**	**0.59**	**57**	*i*Pg	Pg	05 02 22.1	-1.4
PLE				*e*Sg	Sg	05 02 31.8	+0.4
PLE	**Pljevlja**	**0.59**	**57**	*i*Pg	Pg	05 02 22.1	-1.4
PLE				*e*Sg	Sg	05 02 31.8	+0.4
PDG	**Podgorica**	**0.71**	**145**	*e*Pg	Pg	05 02 24.0	-1.6
PDG				*i*Sg	Sg	05 02 34.3	-0.6
PDG	**Podgorica**	**0.71**	**145**	*i*Pg	Pg	05 02 24.1	-1.5
PDG				*e*Sg	Sg	05 02 35.4	+0.5
TTG	**Podgorica**	**0.71**	**145**	*i*Pg	Pg	05 02 24.1	-1.5
TTG				*e*Sg	Sg	05 02 35.4	+0.5
BUM	**Brajici-Budva**	**0.73**	**169**	*i*Pg	Pg	05 02 25.6	-0.4
BUM				*e*Sg	Sb	05 02 37.7	+0.9
BUM	**Brajici-Budva**	**0.73**	**169**	*i*Pg	Pg	05 02 25.6	-0.4
BUM				*e*Sg	Sb	05 02 37.7	+0.9
STON	**Ston**	**0.76**	**259**	*e*Pg	Pg	05 02 26.1	-0.4
STON				Sg	Sb	05 02 37.6	+0.2
STON	**Ston**	**0.76**	**259**	*i*Pg	Pg	05 02 26.0	-0.5
STON				*i*Sg	Sb	05 02 37.9	+0.5
STON	**Ston**	**0.76**	**259**	*e*Pg	Pg	05 02 26.0	-0.5
STON				Sg	Sb	05 02 37.5	+0.1
BEY	**Berane**	**0.88**	**99**	*i*Pg	Pg	05 02 28.4	-0.6
BEY				*e*Sg	Sn	05 02 42.5	-0.9
IVA	**Berane**	**0.88**	**99**	*i*Pg	Pg	05 02 28.4	-0.6
IVA				*e*Sg	Sn	05 02 42.5	-0.9
DRME	**Dracevica, Mon**	**0.90**	**157**	*e*Pg	Pg	05 02 28.3	-0.9
DRME				*e*Sg	Sb	05 02 42.4	+0.8
DRME	**Dracevica, Mon**	**0.90**	**157**	*e*Pg	Pg	05 02 28.3	-0.9
DRME				*e*Sg	Sb	05 02 42.4	+0.8
SJES	**Sjenica**	**0.96**	**75**	*e*Pg	Pg	05 02 29.2	-1.3
SJES				*i*Sg	Sb	05 02 43.4	-0.2
BBLS	**Lazići**	**0.99**	**31**	*i*Pg	Pb	05 02 31.6	+0.3
BBLS	**Lazići**	**0.99**	**31**	*i*Pg	Pb	05 02 31.6	+0.3
PVY	**Plav**	**1.01**	**114**	*i*Pg	Pg	05 02 30.9	-0.6
PVY				*e*Sg	Sn	05 02 46.6	-0.1
ULC	**Ulcinj**	**1.12**	**159**	*i*Pg	Pb	05 02 32.8	-0.6
ULC				*e*Sg	Sn	05 02 50.3	+1.1
ULC	**Ulcinj**	**1.12**	**159**	*i*Pg	Pb	05 02 32.8	-0.6
ULC				*e*Sg	Sn	05 02 50.3	+1.1
DIVS	**Divibare**	**1.43**	**40**	*e*Pg	Pb	05 02 39.0	+0.2
DIVS				*e*Sg	Sg	05 02 59.0	+0.8
DIVS	**Divibare**	**1.43**	**40**	*e*Pg	Pb	05 02 39.0	+0.2
DIVS				*e*Sg	Sg	05 02 59.0	+0.8
GRUS	**Gruza**	**1.70**	**58**	*e*Pn	Pb	05 02 42.7	-0.6
GRUS	**Gruza**	**1.70**	**58**	*e*Pn	Pb	05 02 42.7	-0.6
BARS	**Barje**	**2.29**	**94**	*e*Pn	Pb	05 02 51.7	-1.6
BARS				*e*Sn	Sn	05 03 19.7	+1.7
BARS	**Barje**	**2.29**	**94**	*e*Pn	Pb	05 02 51.7	-1.6
BARS				*e*Sn	Sn	05 03 19.7	+1.7
UDBI	**Udbina**	**2.62**	**306**	*e*Pn	Pb	05 02 59.5	+0.5
UDBI				Sn	Sg	05 03 36.1	0.0
UDBI	**Udbina**	**2.62**	**306**	*e*Pn	Pb	05 02 59.4	+0.4

IDC ***15*** *05:07:50.2±0.5, 14°.24N×93°.02E, h0km, mb4.3/23, mb1 4.4/24, mb1mx4.2/35, mbtmp4.3/24, ML3.6/1, MS3.4/5, Ms1 3.5/5, ms1mx3.0/44, Error ellipse: s-maj=23.2km s-min=11.6km az=53.0*
MOS ***15*** *05:07:51.7±0.8, 14°.09N×93°.24E, h33km, mb4.5/17, Error ellipse: s-maj=22.8km s-min

comp=Z,1.0nm,0.4s
SONM Songino Array 35.20 16 P **P 05 14 47.5 +0.5**
SONM PcP **PcP 05 17 17.6 0.0**
SONM Songino Array 35.20 16 P **P 05 14 47.5 +0.5**
comp=Z,1.2nm,0.8s,baz=200,slow=9.5,SNR=7.4
SONM PcP **PcP 05 17 17.6 0.0**
comp=Z,0.8nm,0.7s,baz=202,slow=2.7,SNR=3.8
KURBB Kurchatov Arra 38.05 345 P **P 05 15 11.5 +0.4**
comp=Z,4.5nm,0.8s,baz=163,slow=8.1,SNR=28
KURK Kurchatov 38.12 345 P **P 05 15 11.5 -0.1**
KURK Kurchatov 38.12 345 P **P 05 15 11.5 -0.1**
ZALV Zalesovo Beam 40.05 352 P **P 05 15 27.9 +0.2**
ZALV Zalesovo Beam 40.05 352 P **P 05 15 27.9 +0.2**
ZALV Zalesovo Beam 40.05 352 P **P 05 15 27.9 +0.2**
comp=Z,2.5nm,0.5s,baz=180,slow=8.7,SNR=11
VOSK Vostochnaya 42.12 340 P **P 05 15 44.0 -0.8**
VOSK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 42.57 340 P **P 05 15 48.4 0.0**
BVAR Borovoye Array 42.57 340 P **P 05 15 48.4 0.0**
BVAR Borovoye Array 42.57 340 P **P 05 15 48.4 0.0**
comp=Z,0.7nm,0.4s,baz=133,slow=10,SNR=4.8
BRVK Borovoye 42.63 340*ceP* **P 05 15 49.2 +0.3**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
AB31 Abkulak array 44.11 329*ceP* **P 05 16 01.7 +0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Abkulak array 44.11 329 *eP* **P 05 16 01.8 +0.9**
comp=Z,7.6nm,0.8s
FITZ Fitzroy Crossi 45.54 134 P **P 05 16 11.0 -1.6**
FITZ Fitzroy Crossi 45.54 134 P **P 05 16 11.0 -1.6**
comp=Z,3.6nm,0.5s,baz=313,slow=5.2,SNR=25
AKTO Aktyubinsk 45.82 329 P **P 05 16 14.9 +0.4**
AKTO Aktyubinsk 45.82 329 P **P 05 16 14.9 +0.4**
AKTO Aktyubinsk 45.82 329 P **P 05 16 14.9 +0.4**
comp=Z,3.3nm,0.6s,baz=127,slow=7.9,SNR=11
SVE Sverdlovsk 49.04 337 *eP* **P 05 16 40.3 +0.9**
SVE pmax pmax
comp=Z,15nm,1.0s
ARU Arti 49.56 336*d iP* **P 05 16 43.3 -0.1**
ARU 05 18 35.2
ARU S **S 05 23 51.3 +2.3**
ARU SS **SS 05 27 17.4 -3.8**
ARU pmax pmax
comp=Z,11nm,1.7s
ASAJ Asahikawa 51.44 45 LR LR 05 39 56.3
comp=Z,34nm,18.8s,baz=137,slow=37
KIV Kislovodsk 51.90 315⇓*eP* **P 05 17 01.9 +0.5**
KIV *e* 05 18 57.9
KIV *e*S **S 05 24 19.1 -2.9**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,20.0s
WRA Warramunga Arr 53.03 129 P **P 05 17 08.7 -1.3**
WRA PcP **PcP 05 18 17.9 -0.4**
WRA Warramunga Arr 53.03 129 P **P 05 17 08.7 -1.3**
comp=Z,1.8nm,0.8s,baz=313,slow=8.3,SNR=16
WRA PcP **PcP 05 18 17.9 -0.4**
comp=Z,0.5nm,0.7s,baz=323,slow=3.0,SNR=4.2
WRAB Tennant Creek 53.03 129 *eP* **P 05 17 08.5 -1.5**
WRAB pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 53.03 129 *eP* **P 05 17 08.5 -1.5**
comp=Z,2.5nm,0.6s
YAK Yakutsk 54.30 20 *eP* **P 05 17 18.2 -0.4**
ASAR Alice Springs 54.99 133 P **P 05 17 23.3 -1.0**
ASAR Alice Springs 54.99 133 P **P 05 17 23.3 -1.0**
comp=Z,1.8nm,0.6s,baz=310,slow=6.9,SNR=27
BR131 Keskin Array S 57.49 308 *eP* **P 05 17 41.5 -0.6**
comp=Z,3.6nm,0.8s
BRTR Keskin Array B 57.49 308 P **P 05 17 41.5 -0.6**
BRTR Keskin Array B 57.49 308 P **P 05 17 41.5 -0.6**
comp=Z,3.2nm,0.8s,baz=118,slow=7.7,SNR=18
AKASG Malin Array Be 62.48 320*ceP* **P 05 18 15.0 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 62.48 320 P **P 05 18 14.4 -1.5**
AKASG Malin Array Be 62.48 320 P **P 05 18 14.4 -1.5**
comp=Z,0.6nm,0.5s,baz=93,slow=4.2,SNR=6.7
VRI Vrincioaia 63.36 314 ⇑P **P 05 18 23.3 +1.4**
VRI Vrincioaia 63.36 314⇑*iP* **P 05 18 23.3 +1.4**
PLOR Plostina 63.41 314 ⇑P **P 05 18 23.1 +0.8**
PLOR Plostina 63.41 314⇑*iP* **P 05 18 23.1 +0.8**
SEY Seymchan 63.59 26*ceP* **P 05 18 22.1 -1.0**
MLR Muntele Rosu 63.87 314⇑*iP* **P 05 18 26.3 +0.9**
MLR Muntele Rosu 63.87 314 P **P 05 18 26.5 +1.1**
MLR Muntele Rosu 63.87 314 P **P 05 18 26.5 +1.1**
comp=Z,1.3nm,0.8s,baz=103,slow=3.5,SNR=11
BURAR Bucovina Array 64.60 316 ⇓P **P 05 18 31.0 +0.9**
BURAR Bucovina Array 64.60 316⇓*iP* **P 05 18 31.0 +0.9**
BUR08 Bucovina Ar. S 64.61 316 *eP* **P 05 18 30.7 +0.5**
STKA Stephens Creek 65.40 135 *eP* **P 05 18 34.6 -0.7**
comp=Z,0.5nm,0.6s
STKA Stephens Creek 65.40 135 P **P 05 18 34.1 -1.3**
comp=Z,1.2nm,0.4s,baz=327,slow=3.7,SNR=7.1
VTS Vitosha 65.61 310 ⇓P **P 05 18 36.4 -0.4**
VTS Vitosha 65.61 310⇓*iP* **P 05 18 36.4 -0.4**
DRGR 66.22 315 ⇑P **P 05 18 41.4 +0.8**
DRGR 66.22 315⇑*iP* **P 05 18 41.4 +0.8**
FINES FINESS Array B 66.53 331 P **P 05 18 41.9 -0.3**
FINES FINESS Array B 66.53 331 P **P 05 18 41.9 -0.3**
comp=Z,3.7nm,0.5s,baz=99,slow=5.7,SNR=37
KAF Kangasniemi 66.59 332 *eP* **P 05 18 40.3 -2.2**
KAF pmax pmax
comp=Z,2.0nm,0.9s
KAF Kangasniemi 66.59 332 *ep* **P 05 18 40.3 -2.2**
comp=Z,2.4nm,0.9s
CRVS Cervenica-Dubn 67.22 317 *eP* **P 05 18 47.6 +0.8**
CRVS pmax pmax
comp=Z,6.0nm,1.0s
CRVS Cervenica-Dubn 67.22 317 *eP* **P 05 18 47.6 +0.8**
STHS Stebnicka Huta 67.40 318 *eP* **P 05 18 48.3 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 67.40 318 *eP* **P 05 18 48.3 +0.3**
KECS Kecovo 67.83 317 *eP* **P 05 18 51.0 +0.3**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 67.83 317 *eP* **P 05 18 51.0 +0.3**
ARCES ARCESS Array B 68.86 340 P **P 05 18 56.8 +0.1**
ARCES ARCESS Array B 68.86 340 P **P 05 18 56.8 +0.1**
comp=Z,3.4nm,0.7s,baz=93,slow=6.7,SNR=20
ARCES LR LR 05 52 38.4
comp=Z,32nm,18.9s,baz=90,slow=39
DPC Dobruska-Polom 70.62 319 *eP* **P 05 19 08.6 +0.6**
DPC Dobruska-Polom 70.62 319 *eP* **P 05 19 08.6 +0.6**
BRG Berggiesshubel 72.14 319 *i P* **P 05 19 17.4 +0.3**
comp=Z,3.7nm,0.8s
BRG Berggiesshubel 72.14 319 *i P* **P 05 19 17.4 +0.3**
BRG pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 72.34 317 P **P 05 19 18.6 +0.1**
GERES GERESS Array B 72.34 317 P **P 05 19 18.6 +0.1**
comp=Z,2.6nm,0.6s,baz=84,slow=5.7,SNR=29
HFS Hagfors 72.37 329 P **P 05 19 18.1 -0.2**
HFS Hagfors 72.37 329 P **P 05 19 18.1 -0.2**
comp=Z,4.2nm,0.5s,baz=104,slow=6.3,SNR=24
KHC Kasperske Hory 72.41 317 *eP* **P 05 19 18.9 +0.1**
KHC *e* 05 19 24.5
KHC Kasperske Hory 72.41 317 *eP* **P 05 19 18.9 +0.1**
KHC *e*x x 05 19 24.5
NB2 NORSAR Subarra 73.61 330 P **P 05 19 24.8 -0.9**
comp=Z,1.7nm,0.5s,baz=88,slow=5.9
NOA NORSAR Array B 73.61 330 P **P 05 19 24.8 -0.9**
NOA NORSAR Array B 73.61 330 P **P 05 19 24.8 -0.9**
comp=Z,2.0nm,0.6s,baz=90,slow=5.8,SNR=11
NOA LR LR 05 54 33.6
comp=Z,19nm,19.8s,baz=90,slow=38
WTTA Wattenberg 73.79 315⇑*iP* **P 05 19 26.4 -0.8**
comp=Z,2.8nm,0.4s
MOTA Moosalm 74.15 316⇓*iP* **P 05 19 28.2 -1.1**
comp=Z,6.3nm,1.1s
RETA Reutte 74.37 316 *i P* **P 05 19 29.8 -0.6**
comp=Z,2.2nm,0.5s,SNR=6.2
DAVA Damuels 74.98 316 *i P* **P 05 19 33.7 -0.4**
comp=Z,3.7nm,0.6s,SNR=5.0
DAVOX Davos/Dischmat 75.03 315 P **P 05 19 33.9 -0.5**
DAVOX Davos/Dischmat 75.03 315 P **P 05 19 33.9 -0.5**
comp=Z,0.9nm,0.4s,baz=97,slow=7.8,SNR=5.9
PGF Pioggiola 76.09 311 *eP* **P 05 19 39.6 -0.9**
comp=Z,6.3nm,0.9s
CDF Champ du Feu 76.62 317 *eP* **P 05 19 42.4 -0.9**
SBF Sospel 77.06 312 *eP* **P 05 19 45.2 -0.7**
HAU Haudompre 77.28 317 *eP* **P 05 19 46.2 -0.8**
LPG La Plagne 77.33 314 *eP* **P 05 19 47.4 -0.3**
comp=Z,8.9nm,0.6s
LPL La Plagne 77.34 314 *eP* **P 05 19 47.3 -0.3**
comp=Z,13nm,0.6s
MBDF Montbardon 77.42 313 *eP* **P 05 19 48.5 +0.5**
PAGF Fort de Pagny 77.62 317 *eP* **P 05 19 48.2 -0.7**
CABF La Chapelle 77.64 315 *eP* **P 05 19 48.8 -0.3**
FRF La Foret Royal 77.67 312 *eP* **P 05 19 48.7 -0.5**
comp=Z,8.9nm,0.7s
LMR La Mourre 77.80 312 *eP* **P 05 19 49.3 -0.6**
comp=Z,4.9nm,0.6s
BOSA Boshof 78.15 236 P **P 05 19 52.7 +0.4**
BOSA Boshof 78.15 236 P **P 05 19 52.7 +0.4**
comp=Z,4.7nm,0.8s,baz=49,slow=5.4,SNR=8.2
SMRF Simiane la Rot 78.38 313 *eP* **P 05 19 53.1 -0.1**
BAIF Baives 78.40 319 *eP* **P 05 19 52.8 -0.3**
comp=Z,19nm,1.1s
LOR Lormes 79.06 316 *eP* **P 05 19 55.9 -0.9**
comp=Z,4.0nm,0.6s
SMF Signal de Mont 79.17 315 *eP* **P 05 19 56.6 -0.8**
comp=Z,2.8nm,0.4s
SSF Saint Saulge 79.33 316 *eP* **P 05 19 57.5 -0.8**
AVF Avril sur Loir 79.47 316 *eP* **P 05 19 58.2 -0.9**
comp=Z,2.8nm,0.5s
LASF Ste Croix 79.58 313 *eP* **P 05 19 59.6 -0.2**
TCF Toulx Ste Croi 80.34 315 *eP* **P 05 20 03.4 -0.4**
CAF Calviac 80.69 314 *eP* **P 05 20 05.4 -0.4**
MTLF Montolieu 80.89 312 *eP* **P 05 20 06.3 -0.5**
comp=Z,3.0nm,0.6s
RJF Les Rejaudoux 81.00 314 *eP* **P 05 20 07.2 -0.2**
comp=Z,4.2nm,0.6s
FLN La Foliniere 81.64 318 *eP* **P 05 20 09.9 -0.8**
EKA Eskdalemuir Ar 81.82 325 P **P 05 20 11.4 -0.1**
EKA Eskdalemuir Ar 81.82 325 P **P 05 20 11.4 -0.1**
comp=Z,1.3nm,0.7s,baz=82,slow=6.0,SNR=5.1
MFF Saint Martin d 81.88 316 *eP* **P 05 20 11.3 -0.6**
GRR Gorron 81.97 318 *eP* **P 05 20 11.7 -0.7**
ETSF Etsaut 82.97 312 *eP* **P 05 20 17.4 -0.4**
SGMF Saint Gilles 83.10 318 *eP* **P 05 20 17.7 -0.6**
ROSF Rostrenen 83.55 318 *eP* **P 05 20 20.1 -0.5**
comp=Z,6.7nm,0.9s
QUIF Quistinic 83.58 318 *eP* **P 05 20 19.8 -0.9**
comp=Z,3.3nm,0.5s
MAW Mawson 84.61 191 P P 05 20 29.2 +3.9
baz=78,SNR=5.2
ESDC Sonseca Array 86.24 310 P **P 05 20 33.9 -0.6**
ESDC Sonseca Array 86.24 310 P **P 05 20 33.9 -0.6**
comp=Z,0.7nm,0.6s,baz=55,slow=5.1,SNR=7.5
TORD Torodi Ar. Bea 88.06 283 P **P 05 20 43.9 +0.3**
TORD Torodi Ar. Bea 88.06 283 P **P 05 20 43.9 +0.3**
comp=Z,2.4nm,0.8s,baz=69,slow=4.1,SNR=16
PDAR Pinedale Array 119.51 19 PKP **PKPdf 05 26 41.9 -0.8**
PDAR Pinedale Array 119.51 19 PKP **PKPdf 05 26 41.9 -0.8**
comp=Z,0.4nm,0.6s,baz=195,slow=1.5,SNR=4.1
NVAR Mina Array Bea 119.87 28 PKP **PKPdf 05 26 43.1 -0.4**
NVAR Mina Array Bea 119.87 28 PKP **PKPdf 05 26 43.1 -0.4**
comp=Z,0.8nm,1.0s,baz=258,slow=4.5,SNR=3.7
TXAR Lajitas Array 133.69 20 PKP **PKPdf 05 27 10.0 +0.1**
TXAR Lajitas Array 133.69 20 PKP **PKPdf 05 27 10.0 +0.1**
comp=Z,0.1nm,0.4s,baz=5.7,slow=0.9,SNR=4.2

IDC ***15*** *05:09:28.2±2.6,10°.24N×84°.27W,h96km±14km,MD3.5, 3C-1D,Costa Rica*

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.29**	**221**	*eP*			Pn	05 09 42.2	-0.3
CGA2				*eS*			Sn	05 09 53.1	+0.1
SJS	**Escuela Geolog**	**0.36**	**144**	⇑*iP*			Pn	05 09 42.8	0.0
URSC	**Urasca**	**0.63**	**129**	*eP*			Pn	05 09 45.2	+0.3
CHPA	**Chiripa**	**0.66**	**288**	*i P*			Pn	05 09 45.6	+0.5
CHPA				*i S*			Sn	05 09 58.5	+0.9
AMAS	**Alto Masis**	**0.80**	**298**	*i P*			Pn	05 09 46.4	0.0
QCR	**Quepos**	**0.81**	**172**⇑	*eP*			Pn	05 09 46.6	+0.2
QCR				*eS*			Sn	05 10 01.1	+1.1
BUS	**Buena Vista**	**0.84**	**143**⇑	*eP*			Pn	05 09 47.1	-0.1
BUS				*eS*			Sn	05 10 01.9	+0.4
PTEN	**Parque Tenorio**	**0.85**	**304**	*i P*			Pn	05 09 47.8	+0.9
JCR	**Jicaral**	**0.91**	**245**	*eP*			Pn	05 09 47.4	-0.1
JCR				*eS*			Sn	05 10 04.3	+2.4
CUI	**Cuipilapa**	**0.97**	**296**	*i P*			Pn	05 09 48.4	+0.3
CUI				*i S*			Sn	05 10 03.4	+0.3
CAO	**Cobano**	**0.97**	**237**	*eS*			Sn	05 10 04.2	+1.2
COLC	**Colonia**	**1.01**	**295**	*i P*			Pn	05 09 48.7	+0.2
MESS	**Mesas**	**1.04**	**299**	*i P*			Pn	05 09 49.1	+0.3
GPS1	**Guardaparques**	**1.19**	**297**	*i P*			Pn	05 09 50.7	+0.1
GB1A	**Borinquen Arri**	**1.25**	**298**	*i P*			Pn	05 09 51.8	+0.4
NY14	**Universidad de**	**1.31**	**288**	*i P*			Pn	05 09 52.2	+0.3
VCR	**Vista de Mar**	**1.34**	**266**⇓	*eP*			Pn	05 09 52.4	-0.1
VCR				*eS*			Sn	05 10 10.6	-0.2
CNI	**Changuinola**	**1.91**	**115**	*eP*			Pn	05 10 00.6	+1.1
CNI				*eS*			Sn	05 10 27.4	+4.1
ACR	**Cerro Adams**	**1.91**	**145**	*eP*			Pn	05 09 59.5	-0.1
CTCR	**Cotoan**	**2.00**	**132**	*eP*			Pn	05 10 00.9	0.0
CTCR				*eS*			Sn	05 10 26.3	+0.4
BRU2	**Volcan**	**2.12**	**132**	*eS*			Sn	05 10 29.1	+0.6
TBS2		**2.14**	**132**	*eS*			Sn	05 10 29.3	+0.2

IDC ***15*** *05:29:43.6±5.0,29°.79N×51°.90E,h0km,mb4.0/4, mb1 3.9/5,mb1mx3.5/27,mbtmp3.8/5,ML3.5/1,Error ellipse: s-maj=104.2km s-min=37.1km az=118.0, Southern Iran*

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**17.95**	**308**	P			P	05 33 56.4	+0.9
	0.1nm,0.3s,baz=123,slow=10,SNR=3.6								
AKASG	**Malin Array Be**	**26.93**	**327**	P			P	05 35 25.5	-1.0
	0.7nm,0.5s,baz=116,slow=7.5,SNR=4.3								
FINES	**FINESS Array B**	**35.96**	**339**	P			P	05 36 44.5	-1.1
	3.2nm,1.0s,baz=153,slow=12,SNR=3.7								
ARCES	**ARCESS Array B**	**42.56**	**347**	P			P	05 37 42.0	+1.2
	4.4nm,1.2s,baz=139,slow=8.4,SNR=3.4								
TORD	**Torodi Ar. Bea**	**49.18**	**262**	P			P	05 38 33.6	-0.1
	1.3nm,0.8s,baz=55,slow=8.3,SNR=14								

GUC ***15*** *05:33:45.1±0.5,31°.26S×68°.77W,h157km±19km,MD3.8, ML4.0,3C-4D,San Juan Province*

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.92**	**272**	⇓*iP*			Pn	05 34 20.4	+0.6
CMCH				*i S*			Sn	05 34 47.1	+0.6
TLL	**Tololo Astrono**	**2.06**	**301**	*eP*			Pn	05 34 25.5	+3.8
TLL				*i S*			Sn	05 34 53.7	+3.7
TLL				AML			AML	05 35 01.7	
	comp=N,370nm,0.5s								
PTCH	**Petorca**	**2.10**	**241**	*i S*			Sn	05 34 50.3	+0.2
PTCH				AML			AML	05 34 54.9	
	comp=E,2μm,0.4s								
JACH	**Jahuel**	**2.10**	**227**	*eP*			Pn	05 34 22.8	+0.9
JACH				*eS*			Sn	05 34 51.3	+0.9
PEL	**Peldehue**	**2.48**	**220**⇑	*iP*			Pn	05 34 26.8	+0.4
PEL				*i S*			Sn	05 34 58.8	+0.4
PEL				AML			AML	05 35 02.4	
	comp=E,573nm,0.4s								
CLCH	**Cerro Calan**	**2.60**	**215**	⇓*iP*			Pn	05 34 28.7	+0.8
CLCH				*i S*			Sn	05 35 01.8	+0.7
CLCH				AML			AML	05 35 04.8	
	comp=E,428nm,0.7s								
SAN	**Santiago**	**2.71**	**216**	*eP*			Pn	05 34 30.1	+0.9
SAN				*eS*			Sn	05 35 03.6	+0.3
SAN				AML			AML	05 35 05.7	
	comp=N,350nm,0.5s								
SJCH	**San Jose de Ma**	**2.73**	**209**	*eP*			Pn	05 34 30.3	+0.8
PCH	**Pirque**	**2.78**	**212**	*eP*			Pn	05 34 30.9	+0.8
PCH				*i S*			Sn	05 35 05.3	+0.4
ANTU	**Antumapu**	**2.79**	**214**⇑	*iP*			Pn	05 34 31.0	+0.8
ANTU				*eS*			Sn	05 35 05.6	+0.5
ANTU				AML			AML	05 35 08.2	
	comp=E,288nm,0.3s								
LCO	**Las Campanas**	**2.80**	**323**	*eP*			Pn	05 34 31.4	+0.7
LCO				*i S*			Sn	05 35 06.7	+0.9
LCO				AML			AML	05 35 08.9	
	comp=E,689nm,0.3s								
LMEL	**Las Melosas**	**2.85**	**205**	*eP*			Pn	05 34 31.8	+0.7
LMEL				*i S*			Sn	05 35 07.2	+0.5
LMEL				AML			AML	05 35 19.1	
	comp=N,155nm,0.3s								
TACH	**Talagante**	**3.01**	**217**⇓	*iP*			Pn	05 34 33.3	+0.4
CHCH	**Chadas Angostu**	**3.10**	**210**⇑	*iP*			Pn	05 34 34.9	+0.8
CHCH				*eS*			Sn	05 35 13.0	+0.8
CACH	**El Canelo**	**3.24**	**208**⇓	*iP*			Pn	05 34 37.0	+1.0
CACH				*eS*			Sn	05 35 16.2	+0.8

IDC ***15*** *05:37:09.1±1.0,34°.77S×178°.53W,h0km,mb4.3/4, mb1 4.4/6,mb1mx4.0/19,mbtmp4.3/6,ML4.2/2,MS3.6/1, Ms1 3.6/1,ms1mx2.6/25,Error ellipse: s-maj=31.3km s-min=23.8km az=107.0*
ISCJB ***15*** *05:37:15.0±1.3,34°.9S±0°.1×178°.7W±0°.2,h46km,mb4.2/5, MS3.6/1,Error ellipse: s-maj=26.9km s-min=12.4km az=28.0*
NEIC ***15*** *05:37:14.6±0.8,34°.85S×178°.60W,h35km,mb4.2/2,Error ellipse: s-maj=21.8km s-min=15.0km az=115.0*
ISC 15 05:37:15.7±0.9,34°.8S±0°.1×178°.6W±0°.2,h46km,n24, σ1§08/27,mb4.1/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.84**	**224**	*ePn*			**Pn**	**05 38 25.5**	**-0.4**
URZ				*eSn*			**Sn**	**05 39 21.4**	**+0.8**
URZ	**Urewera**	**4.84**	**224**	Pn			**Pn**	**05 38 25.0**	**-0.9**
	9.0nm,0.3s,baz=254,slow=2.1,SNR=42								
URZ				Sn			**Sn**	**05 39 22.0**	**+1.4**
	25nm,0.3s,baz=121,slow=21,SNR=16								
RPZ	**Rata Peaks**	**11.92**	**219**	*ePn*			**Pn**	**05 40 00.8**	**-2.2**
RPZ				Sn			Sn	05 42 03.9	-11
RPZ	**Rata Peaks**	**11.92**	**219**	Pn			**Pn**	**05 40 00.6**	**-2.4**
	1.5nm,0.3s,baz=11,slow=7.4,SNR=5.5								
RPZ				Sn			Sn	05 42 03.9	-11
	1.4nm,0.3s,baz=337,slow=21,SNR=8.7								
PMG	**Port Moresby**	**40.23**	**301**	LR			LR	05 57 20.6	
	comp=Z,78nm,19.3s,baz=163,slow=30								
AS31	**Alice Springs**	**42.54**	**272**	*eP*			**P**	**05 45 07.6**	**+0.6**
ASAR	**Alice Springs**	**42.54**	**272**	P			**P**	**05 45 07.8**	**+0.8**
ASAR	**Alice Springs**	**42.54**	**272**	P			**P**	**05 45 07.8**	**+0.8**
	2.2nm,0.5s,baz=114,slow=8.0,SNR=44								
WRAB	**Tennant Creek**	**43.92**	**277**	*eP*			**P**	**05 45 18.3**	**+0.1**
	2.0nm,0.6s								
WRA	**Warramunga Arr**	**43.92**	**277**	P			**P**	**05 45 18.3**	**+0.1**
WRA	**Warramunga Arr**	**43.92**	**277**	P			**P**	**05 45 18.3**	**+0.1**
	1.1nm,0.4s,baz=115,slow=8.5,SNR=22								
QSPA	**South Pole Qui**	**55.28**	**180**	*eP*			**P**	**05 46 46.1**	**+1.9**
	2.0nm,0.7s								
QSPA	**South Pole Qui**	**55.28**	**180**	P			**P**	**05 46 45.7**	**+1.5**
	2.1nm,0.8s,baz=64,slow=1.9,SNR=10								
PETK	**Petropavlovsk-**	**89.98**	**346**	P			**P**	**05 50 10.6**	**+1.0**
PETK	**Petropavlovsk-**	**89.98**	**346**	P			**P**	**05 50 10.6**	**+1.0**
	2.0nm,0.6s,baz=123,slow=7.3,SNR=7.6								
MKAR	**Makanchi Array**	**120.16**	**308**	PKP			**PKPdf**	**05 56 00.5**	**-0.6**
MKAR	**Makanchi Array**	**120.16**	**308**	PKP			**PKPdf**	**05 56 00.5**	**-0.6**
	0.4nm,0.5s,baz=185,slow=1.1,SNR=5.8								
KAF	**Kangasniemi**	**148.50**	**338**	*ep*			**PKPbc**	**05 56 55.7**	**-0.8**
	2.4nm,0.5s								
FINES	**FINESS Array B**	**149.07**	**337**	PKPbc			**PKPbc**	**05 56 58.1**	**+0.1**
FINES	**FINESS Array B**	**149.07**	**337**	PKPbc			**PKPbc**	**05 56 58.1**	**+0.1**
	3.0nm,0.7s,baz=29,slow=4.7,SNR=15								
AKASG	**Malin Array Be**	**154.34**	**317**	PKPbc			**PKPbc**	**05 57 09.6**	**-0.8**
AKASG				PKPab			**PKPab**	**05 57 24.2**	**-0.4**
AKASG	**Malin Array Be**	**154.34**	**317**	PKPbc			**PKPbc**	**05 57 09.6**	**-0.8**
	0.2nm,0.3s,baz=37,slow=2.6,SNR=3.3								
AKASG				PKPab			**PKPab**	**05 57 24.2**	**-0.4**
	0.6nm,0.6s,baz=55,slow=4.0,SNR=5.6								
TORD	**Torodi Ar. Bea**	**158.40**	**181**	PKPab			**PKPab**	**05 57 42.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**158.40**	**181**	PKPab			**PKPab**	**05 57 42.0**	**-0.9**
	0.6nm,0.9s,baz=192,slow=3.1,SNR=5.7								

IDC ***15*** *05:51:56.0±4.4,20°.86S×177°.85W,h437km±41km,mb3.8/4, mb1 3.9/6,mb1mx3.3/21,mbtmp3.8/6,Error ellipse: s-maj=34.8km s-min=19.0km az=79.0*
AUST ***15*** *05:52:43.6±4.5,21°.78S×177°.43E,h599km,Error ellipse: s-maj=2.3km s-min=1.6km az=298.0*
ISC 15 05:52:02.3±1.8,20°.9S±0°.2×178°.2W±0°.2,h495km,n26, σ1§38/18,mb4.4/4,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.99**	**78**	P			S	05 55 09.5	-24
	baz=12,SNR=4.6								
AFI	**Afiamalu**	**9.28**	**42**	P			P	05 53 50.3	-22
	1.4nm,0.3s,baz=164,slow=18,SNR=2.3								
AFI				S			S	05 55 29.0	-30
	12nm,0.3s,baz=29,slow=23,SNR=8.1								
DZM	**Mont Dzumac**	**14.34**	**263**	P			**P**	**05 55 03.8**	**-2.0**
	1.4nm,0.3s,baz=63,slow=21,SNR=16								
URZ	**Urewera**	**17.75**	**192**	P			**P**	**05 55 37.4**	**-3.0**
	3.7nm,0.3s,baz=274,slow=2.8,SNR=16								
URZ				S			**S**	**05 58 41.1**	**+2.5**
	0.4nm,0.3s,baz=241,slow=19,SNR=3.7								
EIDS	**Eidsvold**	**28.56**	**255**	P			**P**	**05 57 18.3**	**+0.8**
	baz=24,SNR=4.3								
RMQ	**Roma**	**30.70**	**253**	P			**P**	**05 57 38.0**	**+1.8**
	baz=26,SNR=5.6								
CTA	**Charters Tower**	**33.26**	**265**	P			**P**	**05 57 58.8**	**+0.7**
	12nm,0.5s,baz=94,slow=12,SNR=17								
CMSA	**Cobar Meteorol**	**33.93**	**244**	P			**P**	**05 58 04.5**	**+0.9**
	baz=30,SNR=5.7								
MTSU	**Mount Surprise**	**35.38**	**268**	P			**P**	**05 58 16.4**	**+0.4**
	baz=31,SNR=34								
PATS	**Pohnpei**	**35.96**	**318**	S			S	06 03 44.1	+20
	baz=34,SNR=3.1								
COEN	**Coen**	**37.42**	**274**	P			**P**	**05 58 33.3**	**+0.4**
	baz=34,SNR=6.5								
STKA	**Stephens Creek**	**37.44**	**245**	P			**P**	**05 58 33.5**	**+0.7**
	1.3nm,0.4s,baz=142,slow=14,SNR=7.2								
STKA	**Stephens Creek**	**37.44**	**245**	P			**P**	**05 58 33.8**	**+1.0**
	baz=33,SNR=5.7								
MANU	**Manus Island**	**38.45**	**295**	S			S	06 03 31.6	-29
	baz=35,SNR=4.2								
MMPI	**Merauke**	**41.80**	**281**	S			S	06 04 17.6	-32
	baz=38,SNR=24								
ASAR	**Alice Springs**	**44.24**	**257**	P			**P**	**05 59 27.6**	**+0.3**
	13nm,0.7s,baz=95,slow=8.3,SNR=157								
WRA	**Warramunga Arr**	**44.36**	**263**	P			**P**	**05 59 27.7**	**-0.5**
	3.3nm,0.3s,baz=97,slow=7.7,SNR=132								
KDU	**Kakadu**	**47.77**	**272**	P			**P**	**05 59 54.3**	**+0.1**
	baz=44,SNR=12								
MTN	**Manton Dam

ZLN			*i* S		**Sn**	**05 59 51.9**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**2.38 299**	*e*P		**Pn**	**05 59 25.6**	**+0.3**
BZGR			*i* S		**Sn**	**05 59 52.5**	**-1.3**
SMKR	**Semkarok**	**2.41 318**	*e*P		**Pn**	**05 59 25.7**	**0.0**
SMKR			*i* S		**Sn**	**05 59 52.9**	**-1.6**
CIRR	**Tsirk**	**2.44 303**	*e*P		**Pn**	**05 59 26.6**	**+0.5**
CIRR			*i* S		**Sn**	**05 59 54.3**	**-0.9**
LGNR	**Loginova**	**2.45 302**	*e*P		**Pn**	**05 59 26.7**	**+0.3**
LGNR			*i* S		**Sn**	**05 59 54.6**	**-1.1**
TUMR	**Tumrok**	**2.48 282**	*e*P		**Pn**	**05 59 27.0**	**+0.3**
BZMR	**Bezymyannaya**	**2.48 298**	*e*P		**Pn**	**05 59 27.0**	**+0.3**
BZMR			*i* S		**Sn**	**05 59 55.0**	**-1.3**
BZWR	**Bezymyannyi-We**	**2.49 299**	*e*P		**Pn**	**05 59 27.2**	**+0.3**
BZWR			*i* S		**Sn**	**05 59 55.9**	**-0.7**
BDR	**Baidarnaya**	**2.50 315**	*e*P		**Pn**	**05 59 27.6**	**+0.6**
BDR			*i* S		**Sn**	**05 59 56.1**	**-0.7**
KMNR	**Kamenistaya**	**2.55 293**	*e*P		**Pn**	**05 59 28.1**	**+0.5**
KMNR			*i* S		**Sn**	**05 59 57.1**	**-0.8**
KIRR	**Kirishev**	**2.56 298**	*e*P		**Pn**	**05 59 28.7**	**+0.8**
KIRR			*i* S		**Sn**	**05 59 58.2**	**-0.2**
KRSR	**Krestovskiy**	**2.58 304**	*e*P		**Pn**	**05 59 27.9**	**-0.1**
KRSR			*i* S		**Sn**	**05 59 57.1**	**-1.5**
SRKR	**Sorokina**	**2.58 317**	*e*P		**Pn**	**05 59 28.5**	**+0.5**
SRKR			*i* S		**Sn**	**05 59 57.8**	**-0.8**
KLY	**Klyuchi**	**2.59 307**	PN		**Pn**	**05 59 26.9**	**-1.1**
KLY			S		**Sn**	**05 59 55.1**	**-3.6**
KLY	**Klyuchi**	**2.59 307**	*e*P		**Pn**	**05 59 26.9**	**-1.1**
KLY			*i* S		**Sn**	**05 59 55.1**	**-3.6**
KPT	**Kopyto**	**2.63 297**	*e*P		**Pn**	**05 59 29.4**	**+0.7**
KPT			*i* S		**Sn**	**05 59 59.6**	**-0.4**
KOZR	**Kozyr**	**2.84 298**	PN		**Pn**	**05 59 32.6**	**+1.1**
KOZR			S		**Sn**	**06 00 05.2**	**+0.2**
KOZ	**Kozyrevsk**	**2.85 297**	*e*P		**Pn**	**05 59 32.6**	**+1.0**
KOZ			*i* S		**Sn**	**06 00 05.2**	**0.0**
KII	**Karymskiy**	**2.99 257**	*e*P		**Pn**	**05 59 34.1**	**+0.5**
KII			*i* S		**Sn**	**06 00 07.5**	**-1.2**
SRDR	**Sredinnyy**	**3.04 301**	*e*P		**Pn**	**05 59 35.3**	**+1.0**
SRDR			*i* S		**Sn**	**06 00 08.9**	**-1.1**
SPN	**Mys Shipunski**	**3.10 238**	PN		**Pn**	**05 59 34.6**	**-0.5**
SPN	**Mys Shipunski**	**3.10 238**	*e*P		**Pn**	**05 59 34.6**	**-0.5**
SPN			*i* S		**Sn**	**06 00 07.6**	**-3.8**
NLC	**Nalytchevo**	**3.41 243**	PN		**Pn**	**05 59 39.0**	**-0.2**
NLC	**Nalytchevo**	**3.41 243**	*e*P		**Pn**	**05 59 39.0**	**-0.2**
NLC			*i* S		**Sn**	**06 00 15.6**	**-3.2**
ESO	**Esso**	**3.42 291**	PN		**Pn**	**05 59 39.6**	**+0.1**
ESO	**Esso**	**3.42 291**	*e*P		**Pn**	**05 59 39.6**	**+0.1**
ESO			*i* S		**Sn**	**06 00 16.7**	**-2.7**
SDLR	**Sedlovina**	**3.59 247**	*e*P		**Pn**	**05 59 42.2**	**+0.2**
SDLR			*i* S		**Sn**	**06 00 21.6**	**-2.1**
SMAR	**Somma**	**3.64 247**	*e*P		**Pn**	**05 59 43.5**	**+0.7**
SMAR			*i* S		**Sn**	**06 00 23.1**	**-2.0**
KRER	**Koryakskii**	**3.65 248**	*e*P		**Pn**	**05 59 43.8**	**+0.9**
KRER			*i* S		**Sn**	**06 00 23.5**	**-1.8**
UGLR	**Uglovaya**	**3.66 246**	*e*P		**Pn**	**05 59 43.3**	**+0.4**
UGLR			*i* S		**Sn**	**06 00 23.5**	**-1.8**
AVH	**Avacha**	**3.68 247**	*e*P		**Pn**	**05 59 44.1**	**+1.0**
AVH			*i* S		**Sn**	**06 00 24.7**	**-1.0**
KOK	**Koryaka**	**3.72 248**	*e*P		**Pn**	**05 59 44.4**	**+0.7**
KOK			*i* S		**Sn**	**06 00 25.3**	**-1.5**
PET	**Petropavlovsk**	**3.84 244**	*e*PN		**Pn**	**05 59 46.1**	**+0.9**
PET			pmax	pmax			
	comp=Z,90nm,0.6s						
PET	**Petropavlovsk**	**3.84 244**	*e*P		**Pn**	**05 59 45.7**	**+0.5**
PET			*i* S		**Sn**	**06 00 27.2**	**-2.3**
GNL	**Ganaly**	**3.94 256**	*e*P		**Pn**	**05 59 48.0**	**+1.2**
RUS	**Russkaya**	**4.24 238**	PN		**Pn**	**05 59 51.1**	**+0.4**
RUS	**Russkaya**	**4.24 238**	*e*P		**Pn**	**05 59 51.1**	**+0.4**
RUS			*i* S		**Sn**	**06 00 35.8**	**-3.6**
PETK	**Petropavlovsk-**	**4.31 249**	PN		**Pn**	**05 59 52.7**	**+1.0**
PETK			pmax	pmax			
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.31 249**	Pn		**Pn**	**05 59 52.7**	**+1.0**
	comp=Z,8.7nm,0.3s,baz=77,slow=17,SNR=66						
PETK			Sn		**Sn**	**06 00 38.9**	**-2.2**
	comp=Z,4.4nm,0.3s,baz=69,slow=20,SNR=7.1						
MTVR	**Mutnovka**	**4.37 240**	*e*P		**Pn**	**05 59 53.4**	**+0.7**
MTVR			*i* S		**Sn**	**06 00 40.3**	**-2.6**
GRL	**Gorelyy**	**4.39 241**	*e*P		**Pn**	**05 59 54.5**	**+1.6**
GRL			*i* S		**Sn**	**06 00 42.4**	**-0.9**
ASAK	**Asacha**	**4.57 240**	*e*P		**Pn**	**05 59 56.3**	**+0.9**
ASAK			*i* S		**Sn**	**06 00 45.7**	**-2.1**
APC	**Apacha**	**4.68 249**	*e*P		**Pn**	**05 59 58.6**	**+1.8**
APC			*i* S		**Sn**	**06 00 49.7**	**-0.6**
TILK	**Tilichiki**	**5.71 9**	*e*P		**Pn**	**06 00 12.5**	**+1.6**
SKR	**Severo-Kuril's**	**6.51 234**	*e*PN		Pn	06 00 18.5	-3.4
SKR			pmax	pmax			
	comp=Z,30nm,0.5s						
ASAJ	**Asahikawa**	**17.68 242**	P		**Pn**	**06 02 52.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=23,slow=10,SNR=6.3						
MJAR	**Matsushiro Arr**	**25.62 235**	P		**P**	**06 04 17.4**	**+2.3**
	comp=Z,0.7nm,0.4s,baz=18,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**25.78 48**	P		**P**	**06 04 17.9**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=256,slow=8.8,SNR=4.4						
MKAR	**Makanchi Array**	**49.66 297**	P		**P**	**06 07 36.4**	**-0.8**
MKAR	**Makanchi Array**	**49.66 297**	P		**P**	**06 07 36.4**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=58,slow=7.5,SNR=6.3						
TXAR	**Lajitas Array**	**67.65 71**	P		**P**	**06 09 43.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=310,slow=5.9,SNR=6.4						
WRA	**Warramunga Arr**	**78.78 209**	P		**P**	**06 10 48.2**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=23,slow=6.2,SNR=4.1						
ASAR	**Alice Springs**	**82.43 208**	P		**P**	**06 11 08.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=11,slow=5.4,SNR=5.6						

IDC 15 06:14:34.2±1.1, 15°.01N×94°.86E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/30, mbtmp3.8/8, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/40, Error ellipse: s-maj=42.2km s-min=17.7km az=60.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.20**	**48**	Pn	Pn	06 15 54.1	+0.8
	0.2nm,0.3s,baz=230,slow=7.0,SNR=5.0						
CMAR				Pg	Pg	06 16 18.6	+4.6
	0.1nm,0.3s,baz=242,slow=15,SNR=6.1						
CMAR				Lg	Lg	06 17 36.3	
	1.9nm,0.3s,baz=241,slow=28,SNR=8.0						
PSI	**Prapat**	**12.78**	**161**	Pn	Pn	06 17 37.6	+0.2
	0.5nm,0.3s,baz=330,slow=17,SNR=14						
MKAR	**Makanchi Array**	**33.38**	**344**	P	P	06 21 13.7	-0.6
	0.6nm,0.7s,baz=163,slow=8.9,SNR=5.9						
SONM	**Songino Array**	**34.09**	**14**	LR	LR	06 37 21.5	
	comp=Z,64nm,19.9s,baz=62,slow=40						
KURBB	**Kurchatov Arra**	**37.90**	**343**	P	P	06 21 51.6	-1.4
	0.3nm,0.4s,baz=165,slow=7.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**39.64**	**351**	P	P	06 22 08.0	+0.4
	0.6nm,0.6s,baz=167,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**52.09**	**131**	P	P	06 23 46.6	+0.2
	1.3nm,0.8s,baz=308,slow=7.7,SNR=8.6						
ASAR	**Alice Springs**	**54.17**	**135**	P	P	06 24 01.4	-0.3
	1.5nm,0.7s,baz=310,slow=6.9,SNR=16						
BRTR	**Keskin Array B**	**58.49**	**308**	P	P	06 24 33.5	+0.9
	1.0nm,0.7s,baz=111,slow=6.8,SNR=5.3						

*CSEM **15** 06:17:34.0±0.1, 38°.38N×22°.02E, h10km, ML1.7/6, Error ellipse: s-maj=2.4km s-min=1.8km az=108.0*
*ATH **15** 06:17:34.6, 38°.36N×22°.01E, h8km±1km, MD2.5/12*
THE 15 06:17:34.3, 38°.37N×22°.02E, h10km, ML1.7/6, Error ellipse: s-maj=0.9km s-min=0.3km az=133.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.04**	**98**	P	Pg	06 17 36.2	-0.1
TRIZ				S	Sg	06 17 37.5	-0.2
TRIZ	**Trizonia**	**0.04**	**98**	*e*PG	Pg	06 17 36.3	+0.1
TRIZ				*e*SG	Sg	06 17 37.6	-0.1
TRIZ	**Trizonia**	**0.04**	**98**	*e*PG	Pg	06 17 36.2	-0.1
TRIZ				S	Sg	06 17 37.5	-0.2
KALE	**Kalithea**	**0.10**	**78**	P	Pg	06 17 37.0	0.0
KALE				S	Sg	06 17 39.2	+0.3
KALE	**Kalithea**	**0.10**	**78**	*e*PG	Pg	06 17 37.1	+0.1
KALE				*e*SG	Sg	06 17 39.2	+0.3
KALE	**Kalithea**	**0.10**	**78**	P	Pg	06 17 37.0	0.0
KALE				S	Sg	06 17 39.2	+0.3
EFP	**Efpalio**	**0.10**	**302**	P	Pg	06 17 36.9	-0.1
EFP				S	Sg	06 17 39.0	+0.1
EFP	**Efpalio**	**0.10**	**302**	*e*PG	Pg	06 17 36.9	-0.1
EFP				*e*SG	Sg	06 17 39.0	+0.1
EFP	**Efpalio**	**0.10**	**302**	P	Pg	06 17 36.9	-0.1
EFP				S	Sg	06 17 39.0	+0.1
PSA1	**Psathopyrgos**	**0.12**	**246**	*e*PG	Pg	06 17 37.1	0.0
PSA1				*e*SG	Sg	06 17 39.1	0.0
LAKA	**Lakka**	**0.14**	**193**	P	Pg	06 17 37.4	-0.1
LAKA				S	Sg	06 17 39.9	+0.2
LAKA	**Lakka**	**0.14**	**193**	*e*PG	Pg	06 17 37.5	0.0
LAKA				*e*SG	Sg	06 17 39.8	+0.1
LAKA	**Lakka**	**0.14**	**193**	*e*Pg	Pg	06 17 37.5	0.0
LAKA				S	Sg	06 17 39.9	+0.2
KLV	**Kalavryta, Ach**	**0.34**	**162**	P	Pg	06 17 40.8	-0.5
KLV				S	Sg	06 17 46.5	+0.6
KLV	**Kalavryta, Ach**	**0.34**	**162**	*e*PG	Pg	06 17 40.9	-0.4
KLV				*e*SB	Sg	06 17 46.2	+0.3
KLV	**Kalavryta, Ach**	**0.34**	**162**	*e*Pg	Pg	06 17 40.9	-0.4
KLV				*e*Sb	Sg	06 17 46.2	+0.3
DSF	**Desfina**	**0.40**	**84**	P	Pg	06 17 42.2	-0.1
DSF				S	Sg	06 17 48.5	+0.7
DSF	**Desfina**	**0.40**	**84**	P	Pg	06 17 42.2	-0.1
DSF				S	Sg	06 17 48.5	+0.7
GUR	**Goura**	**0.50**	**149**	P	Pg	06 17 43.6	-0.7
GUR				S	Sg	06 17 51.3	+0.2
GUR	**Goura**	**0.50**	**149**	*e*PB	Pg	06 17 43.9	-0.4
GUR				*e*SB	Sg	06 17 51.7	+0.6
GUR	**Goura**	**0.50**	**149**	P	Pg	06 17 43.6	-0.7
GUR	**Goura**	**0.50**	**149**	*e*Pb	Pg	06 17 43.9	-0.4
GUR				S	Sg	06 17 51.3	+0.2
AXS	**Araxos**	**0.53**	**251**	P	Pg	06 17 44.5	-0.2
AXS				S	Sg	06 17 52.2	+0.5
AXS	**Araxos**	**0.53**	**251**	P	Pg	06 17 44.5	-0.2
AXS				S	Sg	06 17 52.2	+0.5
RLS	**Riolos of Patr**	**0.54**	**234**	*e*PB	Pg	06 17 45.0	+0.3
RLS				*e*SB	Sg	06 17 52.3	+0.5
RLS	**Riolos of Patr**	**0.54**	**234**	*e*Pb	Pg	06 17 45.0	+0.3
RLS				*e*Sb	Sg	06 17 52.3	+0.5
EVR	**Evrytania**	**0.57**	**343**	P	Pg	06 17 45.3	-0.2
EVR				S	Sb	06 17 54.3	-0.5
EVR	**Evrytania**	**0.57**	**343**	*e*PG	Pg	06 17 45.3	-0.2
EVR				*e*SB	Sb	06 17 54.2	-0.6
EVR	**Evrytania**	**0.57**	**343**	P	Pg	06 17 45.3	-0.2
EVR				*e*Sb	Sb	06 17 54.2	-0.6
AXAR	**Agios Charalam**	**0.64**	**52**	P	Pg	06 17 46.4	-0.4
AXAR				S	Sg	06 17 55.8	+0.6
AXAR	**Agios Charalam**	**0.64**	**52**	P	Pg	06 17 46.4	-0.4
AXAR				S	Sg	06 17 55.8	+0.6
MAKR	**Makrakomi, Fth**	**0.65**	**8**	P	Pg	06 17 46.4	-0.5
MAKR				S	Sg	06 17 56.1	+0.6
MAKR	**Makrakomi, Fth**	**0.65**	**8**	P	Pg	06 17 46.4	-0.5
MAKR				S	Sg	06 17 56.1	+0.6
AGG	**Agios Georgios**	**0.69**	**21**	P	Pg	06 17 47.0	-0.8
AGG				S	Sg	06 17 57.5	+0.5
AGG	**Agios Georgios**	**0.69**	**21**	*e*PB	Pg	06 17 47.2	-0.6
AGG				*e*SB	Sb	06 17 58.5	+0.2
AGG	**Agios Georgios**	**0.69**	**21**	*e*Pb	Pg	06 17 47.2	-0.6
AGG				S	Sg	06 17 57.5	+0.5
AGG				*e*Sb	Sb	06 17 58.5	+0.2
LKR	**Lokris**	**0.82**	**70**	*e*PB	Pg	06 17 49.5	-0.6
LKR				*e*SB	Sb	06 18 02.6	+0.8
LKR	**Lokris**	**0.82**	**70**	*e*Pb	Pg	06 17 49.5	-0.6
LKR				*e*Sb	Sb	06 18 02.6	+0.8
AMT	**Artemida-Makis**	**0.87**	**196**	P	Pg	06 17 50.8	-0.4
AMT				S	Sb	06 18 04.0	+0.7
AMT	**Artemida-Makis**	**0.87**	**196**	*e*PG	Pg	06 17 50.8	-0.4
AMT	**Artemida-Makis**	**0.87**	**196**	P	Pg	06 17 50.8	-0.4
AMT				S	Sb	06 18 04.0	+0.7

*CSEM **15** 06:18:00.0, 38°.42N×21°.98E, h5km, MD2.7, After ATH*
ATH 15 06:18:00.0, 38°.42N×21°.98E, h5km±1km, MD2.7/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**277**	*e*PG	Pg	06 18 01.2	-0.2
EFP				*e*SG	Sg	06 18 02.3	-0.2
EFP	**Efpalio**	**0.06**	**277**	*e*Pg	Pg	06 18 01.2	-0.2
EFP				*e*Sg	Sg	06 18 02.3	-0.2
TRIZ	**Trizonia**	**0.09**	**127**	*e*PG	Pg	06 18 02.0	+0.1
TRIZ				*e*SG	Sg	06 18 04.0	+0.7
TRIZ	**Trizonia**	**0.09**	**127**	*e*Pg	Pg	06 18 02.0	+0.1
TRIZ				*e*Sg	Sg	06 18 04.0	+0.7
PSA1	**Psathopyrgos**	**0.12**	**219**	*e*PG	Pg	06 18 02.5	0.0
PSA1				*e*SG	Sg	06 18 04.8	+0.7
KALE	**Kalithea**	**0.13**	**103**	*e*PG	Pg	06 18 03.0	+0.3
KALE				*e*SG	Sg	06 18 04.3	-0.3
KALE	**Kalithea**	**0.13**	**103**	*e*Pg	Pg	06 18 03.0	+0.3
KALE				*e*Sg	Sg	06 18 04.3	-0.3
LAKA	**Lakka**	**0.18**	**180**	*e*PG	Pg	06 18 03.5	-0.1
LAKA				*e*SG	Sg	06 18 06.4	+0.4
LAKA	**Lakka**	**0.18**	**180**	*e*Pg	Pg	06 18 03.5	-0.1
LAKA				*e*Sg	Sg	06 18 06.4	+0.4
KLV	**Kalavryta, Ach**	**0.40**	**160**	*e*PG	Pg	06 18 07.5	-0.3
KLV				*e*SG	Sg	06 18 13.1	0.0
KLV	**Kalavryta, Ach**	**0.40**	**160**	*e*Pg	Pg	06 18 07.5	-0.3
KLV				*e*Sg	Sg	06 18 13.1	0.0
EVR	**Evrytania**	**0.51**	**345**	*e*PB	Pg	06 18 09.5	-0.6
EVR				*e*SB	Sg	06 18 18.0	+1.1
EVR	**Evrytania**	**0.51**	**345**	*e*Pb	Pg	06 18 09.5	-0.6
EVR				*e*Sb	Sg	06 18 18.0	+1.1
RLS	**Riolos of Patr**	**0.54**	**228**	*e*PG	Pg	06 18 10.3	-0.1
RLS				*e*SB	Sg	06 18 18.7	+1.2
RLS	**Riolos of Patr**	**0.54**	**228**	*e*Pg	Pg	06 18 10.3	-0.1
RLS				*e*Sb	Sg	06 18 18.7	+1.2
GUR	**Goura**	**0.56**	**149**	*e*PG	Pg	06 18 10.7	-0.3
GUR				*e*SB	Sg	06 18 18.9	+0.5
GUR	**Goura**	**0.56**	**149**	*e*Pg	Pg	06 18 10.7	-0.3
GUR				*e*Sb	Sg	06 18 18.9	+0.5
AGG	**Agios Georgios**	**0.66**	**24**	*e*PB	Pg	06 18 13.4	+0.6
AGG				*e*SG	Sg	06 18 21.6	+0.1
AGG	**Agios Georgios**	**0.66**	**24**	*e*Pb	Pg	06 18 13.4	+0.6
AGG				*e*Sg	Sg	06 18 21.6	+0.1
LKR	**Lokris**	**0.83**	**74**	*e*PG	Pg	06 18 15.4	-0.6
LKR				*e*SB	Sg	06 18 27.5	+0.7
LKR	**Lokris**	**0.83**	**74**	*e*Pg	Pg	06 18 15.4	-0.6
LKR				*e*Sb	Sg	06 18 27.5	+0.7
AMT	**Artemida-Makis**	**0.91**	**194**	*e*PB	Pg	06 18 17.2	-0.4
AMT				*e*SB	Sb	06 18 30.7	-0.1
AMT	**Artemida-Makis**	**0.91**	**194**	*e*Pb	Pg	06 18 17.2	-0.4
AMT				*e*Sb	Sb	06 18 30.7	-0.1

*CSEM **15** 06:21:35.0±0.3, 34°.38N×25°.54E, h8km, MD3.6, Error ellipse: s-maj=5.2km s-min=3.0km az=166.0*
*THE **15** 06:21:35.9, 34°.44N×25°.55E, h2km±1km, ML3.0/2, Error ellipse: s-maj=1.1km s-min=0.6km az=151.0*
*ATH **15** 06:21:35.7, 34°.44N×25°.54E, h27km±2km, MD3.6/14*
ISC 15 06:21:36.0±1.9, 34°.45N±0°.08×25°.58E±0°.03, h12km±11km, n44, σ0°.43/67, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.43**	**13**	*e*PB	**Pb**	**06 21 45.2**	**-0.4**
XRY				*e*SB	**Sb**	**06 21 51.9**	**-0.2**
XRY	**Khrisi**	**0.43**	**13**	*e*Pb	**Pb**	**06 21 45.2**	**-0.4**
XRY				*e*Sb	**Sb**	**06 21 51.9**	**-0.2**
LAST	**Lasithi**	**0.71**	**353**	P	**Pg**	**06 21 49.7**	**-0.2**
LAST				S	**Sb**	**06 22 00.8**	**+0.6**
LAST	**Lasithi**	**0.71**	**353**	*e*PN	**Pg**	**06 21 50.1**	**+0.2**
LAST				*e*SN	**Sb**	**06 22 00.0**	**-0.2**
LAST	**Lasithi**	**0.71**	**353**	P	**Pg**	**06 21 49.7**	**-0.2**
LAST	**Lasithi**	**0.71**	**353**	*e*Pn	**Pg**	**06 21 50.1**	**+0.2**
LAST				*e*Sn	**Sb**	**06 22 00.0**	**-0.2**
NPS	**Neapolis**	**0.81**	**2**	P	**Pg**	**06 21 51.7**	**0.0**
NPS				S	**Sn**	**06 22 04.6**	**-0.6**
NPS	**Neapolis**	**0.81**	**2**	*e*PN	**Pg**	**06 21 51.7**	**0.0**
NPS				*e*SN	**Sb**	**06 22 03.8**	**+0.8**
NPS	**Neapolis**	**0.81**	**2**	P	**Pg**	**06 21 51.7**	**0.0**
NPS				*e*Sn	**Sb**	**06 22 03.8**	**+0.8**
NPS				S	**Sn**	**06 22 04.6**	**-0.6**
ZKR	**Zakros**	**0.85**	**38**	P	**Pg**	**06 21 52.5**	**+0.2**
ZKR				S	**Sn**	**06 22 05.8**	**-0.3**
ZKR	**Zakros**	**0.85**	**38**	*e*PN	**Pb**	**06 21 52.7**	**+0.1**
ZKR				*e*SN	**Sn**	**06 22 05.8**	**-0.3**
ZKR	**Zakros**	**0.85**	**38**	P	**Pg**	**06 21 52.5**	**+0.2**
ZKR				S	**Sn**	**06 22 05.8**	**-0.3**
SIVA	**Sivas**	**0.85**	**312**	P	**Pg**	**06 21 52.2**	**-0.2**
SIVA				S	**Sb**	**06 22 04.5**	**+0.5**
SIVA	**Sivas**	**0.85**	**312**	*e*PN	**Pb**	**06 21 52.9**	**+0.3**
SIVA				*e*SN	**Sb**	**06 22 04.4**	**+0.5**
SIVA	**Sivas**	**0.85**	**312**	P	**Pg**	**06 21 52.2**	**-0.2**
SIVA	**Sivas**	**0.85**	**312**	*e*Pn	**Pb**	**06 21 52.9**	**+0.3**
SIVA				S	**Sb**	**06 22 04.5**	**+0.5**
VAM	**Vamos**	**1.48**	**311**	P	**Pn**	**06 22 02.2**	**-0.2**
VAM				S	**Sb**	**06 22 22.1**	**-0.1**
VAM	**Vamos**	**1.48**	**311**	*e*PN	**Pn**	**06 22 02.5**	**+0.1**
VAM				*e*SN	**Sb**	**06 22 22.4**	**+0.2**
VAM	**Vamos**	**1.48**	**311**	P	**Pn**	**06 22 02.2**	**-0.2**
VAM	**Vamos**	**1.48**	**311**	*e*Pn	**Pn**	**06 22 02.5**	**+0.1**
VAM				S	**Sb**	**06 22 22.1**	**-0.1**
KARN	**Karanos**	**1.66**	**305**	P	**Pn**	**06 22 04.6**	**-0.3**
KARN				S	**Sn**	**06 22 26.5**	**+0.3**
KARN	**Karanos**	**1.66**	**305**	*e*PN	**Pn**	**06 22 04.9**	**0.0**
KARN	**Karanos**	**1.66**	**305**	P	**Pn**	**06 22 04.6**	**-0.3**
KARN	**Karanos**	**1.66**	**305**	*e*Pn	**Pn**	**06 22 04.9**	**0.0**
KARN				S	**Sn**	**06 22 26.5**	**+0.3**
KARP	**Karpathos**	**1.70**	**49**	P	**Pn**	**06 22 05.3**	**-0.2**
KARP				S	**Sb**	**06 22 28.3**	**-0.2**
KARP	**Karpathos**	**1.70**	**49**	*e*PN	**Pb**	**06 22 06.7**	**-0.5**
KARP	**Karpathos**	**1.70**	**49**	P	**Pn**	**06 22 05.3**	**-0.2**
KARP	**Karpathos**	**1.70**	**49**	*e*Pn	**Pb**	**06 22 06.7**	**-0.5**
KARP				S	**Sb**	**06 22 28.3**	**-0.2**
ANKY	**Antikythira Is**	**2.34**	**308**	P	**Pn**	**06 22 14.1**	**-0.1**
ANKY				S	**Sn**	**06 22 43.4**	**+0.5**
ANKY	**Antikythira Is**	**2.34**	**308**	*e*PN	**Pn**	**06 22 14.7**	**+0.5**
ANKY	**Antikythira Is**	**2.34**	**308**	P	**Pn**	**06 22 14.1**	**-0.1**
ANKY	**Antikythira Is**	**2.34**	**308**	*e*Pn	**Pn**	**06 22 14.7**	**+0.5**
APE	**Apeiranthos**	**2.61**	**359**	*e*PN	**Pn**	**06 22 18.5**	**+0.4**
APE	**Apeiranthos**	**2.61**	**359**	*e*Pn	**Pn**	**06 22 18.5**	**+0.4**
ARG	**Arkhangelos**	**2.73**	**49**	*e*PN	**Pn**	**06 22 20.8**	**+1.2**
ARG	**Arkhangelos**	**2.73**	**49**	*e*Pn	**Pn**	**06 22 20.8**	**+1.2**
KYTH	**Kithira**	**2.77**	**312**	*e*PN	**Pn**	**06 22 19.6**	**-0.5**
KYTH	**Kithira**	**2.77**	**312**	*e*Pn	**Pn**	**06 22 19.6**	**-0.5**
VLI	**Veliai**	**3.12**	**317**	*e*PN	**Pn**	**06 22 25.0**	**0.0**
VLI	**Veliai**	**3.12**	**317**	*e*Pn	**Pn**	**06 22 25.0**	**0.0**
DYR	**Agios Nikonas**	**3.51**	**312**	P	**Pn**	**06 22 29.5**	**-0.8**
DYR	**Agios Nikonas**	**3.51**	**312**	*e*PN	**Pn**	**06 22 30.1**	**-0.2**
DYR	**Agios Nikonas**	**3.51**	**312**	P	**Pn**	**06 22 29.5**	**-0.8**
DYR	**Agios Nikonas**	**3.51**	**312**	*e*Pn	**Pn**	**06 22 30.1**	**-0.2**

IDC 15 06:36:02.9±1.4, 13°.92N×92°.88E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=39.4km s-min=26.2km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.37**	**51**	Pn	Pn	06 37 52.6	+0.6
	0.3nm,0.3s,baz=240,slow=14,SNR=2.2						
MKAR	**Makanchi Array**	**33.96**	**347**	P	P	06 42 48.6	+0.5
	0.6nm,0.7s,baz=165,slow=9.4,SNR=6.0						
SONM	**Songino Array**	**35.64**	**16**	P	P	06 43 01.9	-0.8
	0.4nm,0.6s,baz=202,slow=11,SNR=3.6						
KURBB	**Kurchatov Arra**	**38.42**	**345**	P	P	06 43 26.5	+0.4
	0.4nm,0.2s,baz=169,slow=7.6,SNR=4.1						
ASAR	**Alice Springs**	**54.81**	**133**	P	P	06 45 35.1	0.0
	0.2nm,0.4s,baz=304,slow=6.8,SNR=5.5						
BRTR	**Keskin Array B**	**57.64**	**308**	P	P	06 45 55.6	+0.3

12nm,0.3s,baz=118,slow=7.2,SNR=13
AFI S S 06 58 27.9 -10
4.2nm,0.3s,baz=29,slow=21,SNR=4.1
DZM Mont Dzumac 13.11 266 P **P 06 57 03.8 +0.7**
1.9nm,0.3s,baz=98,slow=19,SNR=16
OUZ Omahuta 14.76 203 *e*Pn P 06 57 21.5 +2.8
58nm,1.0s
URZ Urewera 16.74 189 *e*P **P 06 57 35.9 -0.8**
74nm,1.0s
URZ *e*S **S 07 00 18.7 -3.7**
URZ Urewera 16.74 189 P **P 06 57 35.4 -1.3**
13nm,0.3s,baz=273,slow=2.1,SNR=45
URZ S **S 07 00 15.9 -6.5**
4.2nm,0.3s,baz=164,slow=22,SNR=11
SNZO South Karori 20.13 193 *e*P **P 06 58 07.5 0.0**
683nm,2.8s
SNZO *e*S **S 07 01 14.5 -2.3**
KHZ Kahutara 21.45 194 *e*P **P 06 58 18.6 -0.7**
163nm,1.7s
RPZ Rata Peaks 23.30 198 *e*P **P 06 58 36.5 +0.7**
370nm,2.8s
TARA Tarawa 24.13 341 *e*P **P 06 58 42.3 -1.2**
218nm,1.3s
WHZ Wether Hill Ro 26.21 200 *e*P **P 06 59 02.0 +0.6**
205nm,2.4s
EIDS Eidsvold 27.24 257 P **P 06 59 12.5 +1.8**
baz=28,SNR=4.6
ARMA Armidale 27.33 246 P **P 06 59 14.5 +2.9**
baz=28,SNR=13
MGCD Mangrove Creek 28.43 240 P P 06 59 23.9 +2.9
baz=29,SNR=6.4
RMQ Roma 29.37 254 P **P 06 59 32.0 +2.8**
baz=30,SNR=8.5
CNB Canberra Magne 30.43 237 P **P 06 59 40.8 +2.5**
baz=31,SNR=14
CTA Charters Tower 32.06 267 P **P 06 59 53.5 +1.3**
15nm,0.7s,baz=90,slow=11,SNR=30
CTAO Charters Tower 32.06 267 *e*P **P 06 59 53.5 +1.3**
17nm,0.7s
CMSA Cobar Meteorol 32.55 245 P **P 06 59 58.2 +2.1**
baz=33,SNR=10
MTSU Mount Surprise 34.22 269 P **P 07 00 11.7 +1.3**
baz=34,SNR=17
PMG Port Moresby 34.35 286 *e*P **P 07 00 12.1 +0.6**
43nm,1.0s
PMG Port Moresby 34.35 286 P **P 07 00 12.0 +0.5**
26nm,0.8s,baz=97,slow=6.5,SNR=4.2
STKA Stephens Creek 36.05 245 *e*P **P 07 00 27.3 +2.0**
1.2nm,0.7s
STKA Stephens Creek 36.05 245 P **P 07 00 26.6 +1.3**
5.9nm,0.6s,baz=357,slow=11,SNR=3.1
STKA Stephens Creek 36.05 245 P **P 07 00 27.4 +2.1**
baz=36,SNR=6.0
COEN Coen 36.35 276 P **P 07 00 29.5 +1.5**
baz=37,SNR=10.0
BBOO Buckleboo 40.80 245 P **P 07 01 04.7 +1.1**
baz=41,SNR=18
AS31 Alice Springs 42.94 258 *e*P **P 07 01 21.2 +0.7**
ASAR Alice Springs 42.94 258 P **P 07 01 21.4 +0.9**
13nm,0.8s,baz=90,slow=8.3,SNR=125
ASAR PcP **PcP 07 02 57.6 +0.6**
1.8nm,0.4s,baz=105,slow=4.0,SNR=9.7
ASAR ScP **ScP 07 05 54.5 +3.3**
2.8nm,0.9s,baz=101,slow=4.1,SNR=8.9
ASAR S **S 07 07 02.3 -0.9**
3.7nm,0.9s,baz=93,slow=16,SNR=19
WRAB Tennant Creek 43.11 264 *e*P **P 07 01 21.9 +0.1**
22nm,1.0s
WRA Warramunga Arr 43.12 264 P **P 07 01 22.2 +0.3**
5.9nm,0.4s,baz=95,slow=7.8,SNR=80
WRA ScP **ScP 07 05 55.3 +3.4**
2.4nm,1.0s,baz=94,slow=4.1,SNR=6.0
WRA S **S 07 07 03.6 -2.1**
1.8nm,1.0s,baz=101,slow=15,SNR=5.0
WRA PKiKP **PKiKP 07 09 56.7 -1.9**
0.2nm,0.3s,baz=63,slow=0.8,SNR=6.1
KDU Kakadu 46.66 273 P **P 07 01 49.3 +0.4**
baz=47,SNR=10
MTN Manton Dam 47.85 272 P **P 07 01 57.8 0.0**
baz=48,SNR=7.4
KNRA Kununurra 49.26 268 P **P 07 02 08.9 +0.7**
baz=50,SNR=4.4
MEEK Meekatharra 56.26 252 P **P 07 02 58.2 +0.4**
baz=56,SNR=4.8
MBWA Marble Bar 56.28 258 *e*P **P 07 02 58.2 +0.2**
188nm,2.5s
SBA Scott Base 56.56 183 *e*P P 07 03 02.3 +3.4
18nm,1.0s
VNDA Vanda 56.57 185 *e*P **P 07 03 01.3 +2.4**
11nm,1.3s
VNDA Vanda 56.57 185 P **P 07 03 01.4 +2.5**
3.1nm,0.8s,baz=359,slow=6.8,SNR=41
CASY Casey 62.28 205 *e*P **P 07 03 38.0 +1.0**
22nm,1.0s
MJAR Matsushiro Arr 70.42 325 P **P 07 04 26.8 -0.9**
4.4nm,0.8s,baz=167,slow=6.3,SNR=17
MAT Matsushiro 70.43 325 P **P 07 04 27.0 -0.7**
ASAJ Asahikawa 74.19 333 *e*P **P 07 04 50.2 +1.1**
3.1nm,0.9s
KSRS Korea Array 76.94 320 P **P 07 05 04.5 +0.1**
0.9nm,0.7s,baz=142,slow=6.3,SNR=5.3
PETK Petropavlovsk- 77.13 346 P **P 07 05 04.8 -0.3**
4.9nm,0.6s,baz=123,slow=7.3,SNR=16
USRK Ussuriysk Arra 79.24 327 P **P 07 05 16.7 +0.1**
2.7nm,0.8s,baz=146,slow=3.9,SNR=6.9
MAW Mawson 79.95 200 *e*P **P 07 05 20.8 +0.8**
1.4nm,0.9s
MAW Mawson 79.95 200 P **P 07 05 19.8 -0.1**
5.9nm,0.9s,baz=113,slow=4.3,SNR=14
PMSA Palmer Station 80.69 157 *e*P **P 07 05 24.5 +0.6**
22nm,1.0s
VES Vestal, Richgr 80.85 46 P **P 07 05 25.8 +0.6**
baz=81
BFSC Mount Baldy Ra 80.91 48 P **P 07 05 25.8 +0.1**
baz=81
MONP Monument Peak 81.03 49 P **P 07 05 27.3 +0.9**
baz=81
EDW2 Edwards Air Fo 81.04 47 P **P 07 05 27.0 +0.7**
baz=81
ISA Isabella 81.15 46 *e*P **P 07 05 27.2 +0.4**
8.2nm,0.9s
ISA Isabella 81.15 46 P **P 07 05 27.4 +0.5**
baz=81,SNR=6.4
CMB Columbia Colle 81.28 43 *e*P **P 07 05 27.8 +0.4**
11nm,1.1s
PFO Pinyon Flat Ob 81.39 49 P **P 07 05 28.4 +0.1**
1.4nm,0.5s,baz=280,slow=4.1,SNR=3.8
SWSC Sam W. Stewart 81.50 50 P **P 07 05 29.1 +0.6**
baz=82
BELC Belle Mtn. Jos 81.92 49 P **P 07 05 31.5 +0.6**
baz=82
MPMC Manual Prospec 82.04 46 P **P 07 05 31.7 +0.2**
baz=82,SNR=8.2
MTUM Tungsten Hills 82.06 45 *e*P **P 07 05 32.2 +0.6**
GSC Goldstone 82.08 47 *e*P **P 07 05 32.2 +0.6**
2.0nm,0.5s
GSC Goldstone 82.08 47 P **P 07 05 32.2 +0.6**
baz=82
YBH Yreka Blue Hor 82.09 39 *e*P **P 07 05 32.4 +0.9**
25nm,1.4s
YBH Yreka Blue Hor 82.09 39 P **P 07 05 31.9 +0.4**
4.9nm,0.5s,baz=190,slow=3.1,SNR=20
TIN Tinemaha 82.11 45 P **P 07 05 32.7 +1.0**
baz=82
BC3 Big Chuckawall 82.12 49 P **P 07 05 32.4 +0.5**
baz=82
HEC Hector,Ludlow 82.15 48 P **P 07 05 32.0 0.0**
baz=82
GLA Glamis 82.24 50 P **P 07 05 33.4 +1.0**
baz=82
CN2 Changchun 82.47 323 *e*P **P 07 05 34.0 +0.8**
GMRC Granite Mounta 82.58 48 P **P 07 05 34.5 +0.3**
baz=83
IRM Iron Mountain 82.60 49 P **P 07 05 34.9 +0.7**
baz=83
GRAC Grapevine Rang 82.64 45 P **P 07 05 34.9 +0.5**
baz=83,SNR=5.1
FURC Furnace Creek, 82.69 46 P **P 07 05 35.0 +0.5**
baz=83
SHOC Shoshone 82.77 47 P **P 07 05 35.4 +0.5**
baz=83
Y12C Blythe 82.83 50 P **P 07 05 36.5 +1.3**
baz=83
NVAR Mina Array Bea 82.84 44 P **P 07 05 35.6 +0.1**
2.5nm,0.5s,baz=224,slow=8.0,SNR=20
NVAR pP **pP 07 07 46.2 +2.7**
0.3nm,0.3s,baz=232,slow=8.6,SNR=2.6
113A Mohawk Valley, 82.85 51 P **P 07 05 36.6 +1.2**
baz=83
NV11 Mina Array Sit 82.94 44 *e*P **P 07 05 35.8 -0.1**
214A Organ Pipe Nat 83.13 52 P **P 07 05 37.9 +1.1**
baz=83
PDMCI Parker Dam,Lak 83.39 49 P **P 07 05 39.0 +1.0**
baz=83
Z14A Wintersburg 83.75 51 P **P 07 05 41.1 +1.2**
baz=84
SHPR Sheep Range 83.85 47 *e*P **P 07 05 40.0 -0.5**
11nm,1.6s
W13A Hualapai Mount 83.98 49 P **P 07 05 42.0 +0.7**
baz=84
Y14A Wickenburg 84.00 50 P **P 07 05 41.9 +0.7**
baz=84
R11A Troy Canyon, C 84.57 45 P **P 07 05 44.0 0.0**
baz=85
WVOR Wild Horse Val 84.94 40 *e*P **P 07 05 45.3 -0.3**
9.1nm,1.5s
SYO Syowa Base 85.23 193 *e*P **P 07 05 44.4 -2.0**
X16A Lo Mia Camp, P 85.36 50 P **P 07 05 48.3 +0.4**
baz=85
319A Douglas 85.46 54 P **P 07 05 50.0 +1.6**
baz=86
CCUT Cedar City 85.63 47 *e*P **P 07 05 49.5 +0.4**
2.3nm,0.8s
U15A North Rim 85.78 48 P **P 07 05 50.4 +0.5**
baz=86,SNR=13
WUAZ Wupatki 85.96 49 P **P 07 05 51.6 +0.9**
baz=86
320A Kipp Ranch, An 86.00 54 P **P 07 05 51.9 +0.9**
baz=86
GYA Guiyang 86.10 300 *e*P **P 07 05 52.3 +0.8**
GYA pP **pP 07 08 01.4 +0.5**
GYA sP **sP 07 08 57.5 -4.0**
GYA PP **PP 07 09 27.3 +3.4**
GYA SKS **SKSac 07 15 21.0 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
220A Playas Peak, P 86.27 54 P **P 07 05 53.2 +1.0**
baz=86
X18A Snowflake 86.49 51 P **P 07 05 54.3 +1.0**
baz=86
PMR Palmer 86.53 14 *e*P **P 07 05 51.4 -1.0**
comp=Z,5.9nm,0.4s
Z20A Nine Sixteen R 86.80 53 P **P 07 05 55.9 +1.2**
baz=87
SNAA Sanae 86.81 179 *e*P **P 07 05 53.5 -0.5**
SNAA Sanae 86.81 179 *e*P **P 07 05 53.5 -0.5**
comp=Z,3.5nm,0.7s
MSU Masvale 86.92 46 *e*P **P 07 05 55.4 +0.2**
comp=Z,8.3nm,1.5s
BMO Blue Mountains 87.11 39 *e*P **P 07 05 55.9 +0.1**
comp=Z,13nm,1.5s
121A Cookes Peak, D 87.12 53 P **P 07 05 57.4 +1.1**
baz=87
MFID Camas Ranch 87.19 41 P **P 07 05 56.8 +0.5**
baz=87,SNR=5.9
Y20A Horse Springs, 87.33 52 P **P 07 05 57.9 +0.6**
baz=87,SNR=5.9
VNA2 Neumayer--Watz 87.42 177 *e*P **P 07 05 56.8 0.0**
Z21A St. Cloud Mine 87.57 53 P **P 07 05 59.7 +1.3**
baz=88
VNA1 Neumayer--Stat 87.66 177 *e*P **P 07 05 58.6 +0.8**
122A Conniff Cattle 87.79 54 P **P 07 05 59.6 +0.3**
baz=88
Q16A Castle Valley 87.81 46 P **P 07 06 00.1 +0.8**
baz=88
W20A Ramah 87.82 51 P **P 07 05 60.0 +0.5**
baz=88,SNR=8.2
Y21A Point of Rocks 87.89 52 P **P 07 06 00.4 +0.5**
baz=88,SNR=7.7
TRF Thorofare Moun 87.94 13 *e*P **P 07 05 57.5 -1.8**
comp=Z,9.7nm,0.6s
X21A Alamocita Cree 88.02 52 P **P 07 06 01.4 +0.9**
baz=88
Z22A Elephant Butte 88.07 53 P **P 07 06 01.4 +0.7**
baz=88,SNR=8.6
HLID Hailey 88.13 41 *e*P **P 07 06 01.2 +0.5**
comp=Z,5.4nm,0.8s
HLID Hailey 88.13 41 P **P 07 06 01.3 +0.5**
baz=88,SNR=10
SRU San Rafael 88.34 47 *e*P **P 07 06 02.4 +0.6**
comp=Z,7.5nm,0.7s
324A Moseley Ranch, 88.36 55 P **P 07 06 02.2 +0.2**
baz=88,SNR=12
Y22A Socorro 88.38 52 P **P 07 06 02.1 0.0**
baz=88,SNR=6.8
425A Indio Mountain 88.45 56 P **P 07 06 02.7 +0.2**
baz=88,SNR=11
MCK McKinley 88.47 13 *e*P **P 07 06 01.5 -0.1**
comp=Z,3.5nm,0.4s
JLU Jordanelle 88.47 45 *e*P **P 07 06 02.7 +0.3**
comp=Z,3.7nm,1.2s
MNTX Cornudas Mount 88.56 55 *e*P **P 07 06 03.1 +0.3**
comp=Z,5.8nm,0.9s
626A Big Bend Ranch 88.58 57 P **P 07 06 03.2 +0.2**
baz=89,SNR=6.1
224A Cornudas Mount 88.62 55 P **P 07 06 03.5 +0.3**
baz=89,SNR=7.8
KMI Kunming 88.72 298 P **P 07 06 05.4 +1.5**
KMI pmax pmax
comp=Z,11nm,0.5s
325A Bean Ranch, Si 88.72 56 P **P 07 06 03.7 0.0**
baz=89,SNR=11
BNM Barren Site 88.73 52 *e*P **P 07 06 04.4 +0.6**
comp=Z,0.4nm,0.3s
526A Mary Lane Ranc 88.83 57 P **P 07 06 04.4 +0.2**
baz=89,SNR=11
TXAR Lajitas Array 88.85 58 P **P 07 06 04.9 +0.6**
comp=Z,4.2nm,0.8s,baz=223,slow=6.8,SNR=30
TXAR PKKPbc **PKKPbc 07 23 40.1 -0.1**
comp=Z,0.2nm,0.5s,baz=180,slow=3.8,SNR=4.5
HWUT Hardware Ranch 88.91 44 *e*P **P 07 06 04.3 -0.1**
comp=Z,3.8nm,0.7s
124A Stringfield Ra 88.95 54 P **P 07 06 04.8 0.0**
baz=89,SNR=7.9
PV10 Paradox Valley 89.00 48 *e*P **P 07 06 04.3 -0.7**
comp=Z,26nm,0.5s
U21A Nageezi 89.04 50 P **P 07 06 05.2 0.0**
baz=89,SNR=9.8
Y23A Lovelace Mesa, 89.05 53 P **P 07 06 05.3 +0.1**
baz=89,SNR=5.1
627A Terlingua Ranc 89.12 58 P **P 07 06 05.9 +0.3**
baz=89,SNR=9.2
426A McDonald Obser 89.14 57 P **P 07 06 06.0 +0.2**
baz=89,SNR=9.7
NEW Newport 89.16 36 *e*P **P 07 06 05.2 0.0**
comp=Z,0.9nm,0.5s
225A Deer Hill, Car 89.16 55 P **P 07 06 05.9 +0.1**
baz=89,SNR=5.3
PV01 Paradox Valley 89.20 48 *e*P **P 07 06 05.6 -0.3**
comp=Z,137nm,0.8s
S20A Disappointment 89.20 49 P **P 07 06 06.0 +0.1**
baz=89
ANMO Albuquerque 89.22 52 *e*P **P 07 06 06.0 0.0**
comp=Z,3.9nm,0.8s
527A Woodward Ranch 89.24 57 P **P 07 06 06.3 +0.1**
baz=89
HHC Hu-ho-hao-te 89.26 315 *e*P P 07 06 02.4 -3.5
HHC pP pP 07 08 13.1 -3.4
HHC PP **PP 07 09 47.1 -1.4**
HHC SKS **SKSac 07 15 34.8 -4.0**
HHC S **S 07 16 00.8 -4.5**
HHC sS sS 07 19 51.8 -6.3
HHC SS **SS 07 22 19.5 0.0**
HHC pmax pmax
comp=Z,64nm,0.8s
HHC pmax pmax
comp=Z,300nm,6.6s
Z24A Sheeppen Canyo 89.30 54 P **P 07 06 06.6 +0.2**
baz=89
PLCA Paso Flores 89.39 134 P **P 07 06 07.7 +1.0**
comp=Z,4.9nm,0.9s,baz=210,slow=10,SNR=6.6
M17A Scullys Gap (B 89.42 44 P **P 07 06 06.4 -0.4**
baz=90,SNR=5.9
326A Caldwell Ranch 89.46 56 P **P 07 06 06.9 -0.2**
baz=90
Y24A Capitan 89.51 53 P **P 07 06 07.5 +0.1**
baz=90,SNR=17
S21A Coal Bank Pass 89.52 49 P **P 07 06 07.7 +0.2**
baz=90,SNR=5.2
628A Black Gap, Mar 89.53 58 P **P 07 06 07.6 +0.2**
baz=90
125A Gardner Draw, 89.53 54 P **P 07 06 07.8 +0.4**
baz=90,SNR=5.7
W23A Werner Place, 89.54 52 P **P 07 06 08.2 +0.7**
baz=90
P19A Cripple Cowboy 89.64 47 P **P 07 06 08.7 +0.8**
baz=90
226B Tecolote Peak, 89.65 55 P **P 07 06 08.0 0.0**
baz=90,SNR=11
COLA College 89.70 13 *e*P **P 07 06 05.8 -1.4**
comp=Z,12nm,0.5s
427A Hayter Ranch, 89.71 57 P **P 07 06 08.5 +0.3**
baz=90,SNR=24
MCMT McKenzie Canyo 89.76 41 *e*P **P 07 06 09.2 +0.9**
comp=Z,3.0nm,1.1s
Z25A Roswell 89.76 54 P **P 07 06 08.8 +0.3**
baz=90,SNR=6.6
Q20A Ridgley Place, 89.78 48 P **P 07 06 08.3 -0.2**
baz=90,SNR=7.2
V23A Ortiz Mt. (NFS 89.78 51 P **P 07 06 09.6 +1.0**
baz=90
ILAR Eielson Array 89.81 13 P **P 07 06 06.5 -1.3**
comp=Z,1.3nm,0.4s,baz=215,slow=5.0,SNR=20
O19A Miners Draw (B 89.86 46 P **P 07 06 09.2 +0.4**
baz=90
528A Cox Ranch, San 89.89 57 P **P 07 06 09.4 +0.3**
baz=90,SNR=5.1
RRI2 Red Ridge 89.94 43 *e*P **P 07 06 09.5 +0.3**
comp=Z,7.3nm,0.8s
P20A De Beque 89.98 47 P **P 07 06 09.7 +0.3**
baz=90
126A Clayton Basin, 90.01 55 P **P 07 06 09.9 +0.3**
baz=90
R21A Cimarron 90.02 48 P **P 07 06 10.0 +0.3**
baz=90,SNR=7.1
U23A El Rito 90.04 51 P **P 07 06 09.9 +0.1**
baz=90
L18A Fontenelle, Gr 90.06 44 P **P 07 06 09.8 +0.1**
baz=90
W24A Lazy 6 Ranch, 90.11 52 P **P 07 06 10.0 -0.1**
baz=90
I16A Newdale 90.11 42 P **P 07 06 10.6 +0.7**
baz=90,SNR=6.8
S22A 4UR Ranch, Cre 90.24 49 P **P 07 06 11.0 +0.2**
baz=90,SNR=7.9
REDW Red Top Meadow 90.25 43 *e*P **P 07 06 10.8 +0.2**
comp=Z,10nm,1.2s
TPAW Teton Pass 90.25 43 *e*P **P 07 06 11.2 +0.6**
comp=Z,5.4nm,1.1s
Z26A Caprock 90.31 54 P **P 07 06 10.9 -0.1**
baz=90,SNR=6.2
529A Stev Forest Ra 90.32 58 P **P 07 06 10.6 -0.4**
baz=90
CD2 Chengdu 90.33 303 *e*P **P 07 06 12.6 +1.6**
CD2 pP **pP 07 08 21.3 -0.5**
CD2 sP **sP 07 09 18.5 -3.4**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,40nm,6.8s
X25A Clemmons Ranch 90.35 53 P **P 07 06 11.2 0.0**
baz=90
SNOW Snow King Moun 90.36 43 *e*P **P 07 06 11.8 +0.7**
comp=Z,9.3nm,1.1s
O20A White River Ci 90.38 47 P **P 07 06 11.8 +0.5**
baz=90
328A Wristen Ranch, 90.39 56 P **P 07 06 11.3 -0.1**
baz=90
M19A Rock Springs 90.42 45 P **P 07 06 11.4 0.0**
baz=90
V24A Rampart Ranch, 90.44 52 P **P 07 06 11.7 0.0**
baz=90
IMW Indian Meadow 90.46 42 *e*P **P 07 06 12.2 +0.6**
comp=Z,5.2nm,1.0s
R22A Saguache, Gunn 90.51 49 P **P 07 06 12.7 +0.7**
baz=91
127A Arkansas Junct 90.53 55 P **P 07 06 11.6 -0.4**
baz=91
LOHW Long Hollow 90.53 43 *e*P **P 07 06 12.0 +0.1**
comp=Z,1.8nm,1.1s
L19A Farson 90.58 44 P **P 07 06 12.1 -0.1**
baz=91,SNR=10.0
Q22A Crested Butte, 90.69 48 P **P 07 06 13.1 +0.2**
baz=91,SNR=5.9
N20A Spence Gulch, 90.70 46 P **P 07 06 12.5 -0.3**
baz=91,SNR=6.2
Y26A Elida 90.71 54 P **P 07 06 12.6 -0.2**
baz=91
BW06 Boulder Array 90.78 44 *e*P **P 07 06 12.8 -0.3**
comp=Z,1.8nm,0.6s
PDAR Pinedale Array 90.78 44 P **P 07 06 12.8 -0.2**
comp=Z,2.4nm,0.8s,baz=190,slow=2.9,SNR=21
PDAR pP pP 07 08 33.5 +10
comp=Z,0.9nm,1.1s,baz=199,slow=3.1,SNR=3.7
429A Davenport Ranc 90.79 57 P **P 07 06 12.8 -0.3**
baz=91
W25A X Bar L Ranch, 90.80 52 P **P 07 06 13.0 -0.2**
baz=91
228A UT Block 9, Go 90.87 56 P **P 07 06 14.1 +0.5**
baz=91
BOZ Bozeman (W) 90.92 41 *e*P **P 07 06 14.0 +0.4**
comp=Z,1.8nm,0.9s
H17A Grant Village 90.94 42 P **P 07 06 15.1 +1.3**
baz=91
V25A Rancho No Teng 90.96 52 P **P 07 06 13.8 -0.2**
baz=91,SNR=6.1
530A J-C Ranch, Com 91.03 58 P **P 07 06 14.2 0.0**
baz=91
M20A Sweetwater, Wa 91.06 45 P **P 07 06 14.6 +0.2**
baz=91
329A Wagon Wheel Ra 91.08 57 P **P 07 06 14.5 0.0**
baz=91
P22A Eagle 91.14 48 P **P 07 06 14.9 +0.1**
baz=91
R23A Moffat 91.14 49 P **P 07 06 15.0 +0.1**
baz=91
N21A Black Mountain 91.16 46 P **P 07 06 14.9 0.0**
baz=91
SDCO Great Sand Dun 91.17 50 *e*P **P 07 06 14.8 -0.3**
comp=Z,1.4nm,0.6s
Y27A Causey 91.19 54 P **P 07 06 14.4 -0.6**
baz=91
L20A Wamsutter 91.20 45 P **P 07 06 15.5 +0.4**
baz=91,SNR=8.4
G17A Pierce Place, 91.30 41 P **P 07 06 16.0 +0.7**
baz=91
631A Perdido Creek 91.33 59 P **P 07 06 15.4 -0.2**
baz=91
S24A Houchin Ranch, 91.33 50 P **P 07 06 15.9 +0.1**
baz=91
J19A Crowheart 91.34 43 P **P 07 06 15.5 -0.1**
baz=91
U25A Circle Dot Ran 91.36 51 P **P 07 06 15.7 -0.1**
baz=91
WALA Waterton Lakes 91.37 37 *e*P **P 07 06 15.3 -0.1**
comp=Z,0.1nm,0.8s
MSTX Muleshoe 91.52 54 P **P 07 06 16.3 -0.3**
baz=92
732A Laxson Ranch, 91.53 60 P **P 07 06 16.3 -0.3**
baz=92
O22A Kremmling 91.54 47 P **P 07 06 16.5 -0.3**
baz=92
V26A Tequesquite Ra 91.55 52 P **P 07 06 16.3 -0.4**
baz=92
F17A Fitzpatrick Pl 91.64 41 P **P 07 06 17.5 +0.7**
baz=92
531A Rocksprings 91.66 58 P **P 07 06 17.2 +0.1**
baz=92
M21A Separation Pea 91.66 46 P **P 07 06 17.3 +0.1**
baz=92
R24A Sanders Place, 91.67 49 P **P 07 06 17.7 +0.5**
baz=92
330A Mertzon 91.67 57 P **P 07 06 16.9 -0.3**
baz=92
T25A Trinidad 91.68 51 P **P 07 06 17.1 -0.3**
baz=92
I19A Meeteetse 91.75 43 P **P 07 06 17.4 -0.1**
baz=92
W27A Bowe Ranch, En 91.77 53 P **P 07 06 17.3 -0.3**
baz=92
L21A Rawlins 91.82 45 P **P 07 06 17.8 0.0**
baz=92
U26A Atchley Ranch, 91.84 51 P **P 07 06 18.0 0.0**
baz=92
S25A Robets Cordova 91.89 50 P **P 07 06 18.3 0.0**
baz=92
N22A Wattenberg Ran 91.90 47 P **P 07 06 18.4 +0.1**
baz=92
632A Uvalde 91.99 59 P **P 07 06 19.0 +0.3**
baz=92
J20A Shoshoni 92.00 44 P **P 07 06 18.7 +0.1**
baz=92
G18A Lazy EL Ranch, 92.02 42 P **P 07 06 18.8 +0.2**

baz=92
Z29A Hungry Hill Ra 92.03 55 P P 07 06 18.6 -0.2
baz=92
H19A Powell 92.06 42 P P 07 06 19.1 +0.3
baz=92
532A Rocksprings 92.15 58 P P 07 06 19.4 0.0
baz=92
K21A Alcova 92.21 45 P P 07 06 20.1 +0.5
baz=92
D17A Six Diamond Ra 92.24 40 P P 07 06 19.3 -0.3
baz=92
I20A Worland 92.26 43 P P 07 06 19.2 -0.5
baz=92
T26A Comanche Natio 92.29 51 P P 07 06 19.3 -0.8
baz=92
Y29A Porterfield Fa 92.31 54 P P 07 06 20.0 -0.1
baz=92
J21A Lysite 92.41 44 P P 07 06 20.8 +0.2
baz=92
C17A Wharram Farm, 92.44 39 P P 07 06 20.4 +0.1
baz=92
LZH Lanzhou 92.46 308 eP P 07 06 23.1 +2.2
LZH pP pP 07 08 31.8 0.0
LZH sP sP 07 09 30.5 -1.4
LZH pmax pmax
comp=Z,19nm,1.0s
L22A Ellis Ranch, M 92.47 45 P P 07 06 20.9 +0.1
baz=92
432A Menard 92.54 58 P P 07 06 20.5 -0.7
baz=93
231A Bronte 92.56 57 P P 07 06 20.5 -0.8
baz=93
S26A Kim 92.56 50 P P 07 06 20.7 -0.5
baz=93
M23A Laramie 92.69 46 P P 07 06 22.1 +0.2
baz=93
K22A Casper 92.69 45 P P 07 06 21.6 -0.2
baz=93
I21A Big Trails, Te 92.73 44 P P 07 06 21.6 -0.3
baz=93
332A Millersview 92.78 57 P P 07 06 21.7 -0.6
baz=93
R26A Arlington 92.87 50 P P 07 06 22.6 -0.1
baz=93
L23A Garrett 92.99 46 P P 07 06 23.4 +0.1
baz=93
Q26A Hugo 93.09 49 P P 07 06 24.0 +0.4
baz=93
A17A Triple J Farms 93.13 38 P P 07 06 23.8 +0.3
baz=93
C19A Slack Wire Ran 93.50 40 P P 07 06 25.4 +0.3
baz=94
A18A Metzger Ranch, 93.60 38 P P 07 06 25.8 +0.2
baz=94
P27A Ficken Ranch, 94.02 49 P P 07 06 27.9 0.0
baz=94
R28A Tribune 94.06 50 P P 07 06 27.8 -0.3
baz=94
C20A Veseth Ranch, 94.11 40 P P 07 06 28.2 +0.2
baz=94
P28A Saint Francis 94.61 49 P P 07 06 31.1 +0.6
baz=95
H24A Dirks Ranch, A 94.91 44 P P 07 06 31.4 -0.3
baz=95
RSSD Black Hills 94.97 44 eP P 07 06 31.8 -0.4
comp=Z,2.2nm,0.6s
MKAR Makanchi Array 111.07 313 PKiKP PKiKP 07 11 37.5 -1.2
comp=Z,0.5nm,0.4s,baz=200,slow=1.1,SNR=14
MKAR PKKPbc PKKPbc 07 22 37.4 -0.7
comp=Z,0.6nm,0.6s,baz=296,slow=3.6,SNR=6.2
KURBB Kurchatov Arra 114.04 317 PKiKP PKPdf 07 11 42.8 -1.4
comp=Z,1.0nm,0.4s,baz=108,slow=1.8,SNR=8.8
BVAR Borovoye Array 119.15 320 PKP PKPdf 07 11 53.0 -1.0
comp=Z,3.4nm,0.4s,baz=110,slow=2.2,SNR=31
BDFB Brasilia 119.60 124 PKP PKPdf 07 11 55.1 -1.1
comp=Z,1.3nm,0.4s,baz=225,slow=5.2,SNR=4.7
SPITS Spitsbergen Ar 123.01 356 PKP PKPdf 07 11 59.7 -1.0
comp=Z,3.3nm,0.5s,baz=87,slow=6.1,SNR=22
ARCES ARCESS Array B 129.88 349 PKP PKPdf 07 12 13.3 -0.7
comp=Z,3.6nm,0.6s,baz=26,slow=1.1,SNR=34
ARCES SKPbc SKPab 07 14 41.7 +0.5
comp=Z,5.2nm,1.0s,baz=35,slow=4.4,SNR=7.0
FINES FINESS Array B 136.56 342 PKhKP PKPpre 07 12 16.4
comp=Z,0.5nm,0.4s,baz=5.7,slow=1.9,SNR=5.4
FINES PKP PKPdf 07 12 27.1 +0.4
comp=Z,1.2nm,0.5s,baz=92,slow=4.6,SNR=5.5
NB2 NORSAR Subarra 140.03 352 PKP PKPpre 07 12 25.2
comp=Z,0.9nm,0.5s,baz=10,slow=3.2
NB2 NORSAR Subarra 140.03 352 PKP PKPpre 07 12 25.2
comp=Z,0.8nm,0.5s,baz=10,slow=3.2
NOA NORSAR Array B 140.03 352 PKhKP PKPpre 07 12 25.6
comp=Z,1.0nm,0.5s,baz=15,slow=4.7,SNR=12
NOA PKP PKiKP 07 12 34.6 -1.3
comp=Z,0.6nm,0.5s,baz=15,slow=3.7,SNR=5.2
HFS Hagfors 140.53 350 PKhKP PKPpre 07 12 27.2
comp=Z,2.3nm,0.3s,baz=66,slow=3.6,SNR=42
AKASG Malin Array Be 143.41 329 PKP PKPab 07 12 36.9 -1.2
comp=Z,8.7nm,0.5s,baz=42,slow=4.3,SNR=40
KIEV Kiev 143.43 329 ePKPbc PKPab 07 12 36.8 -1.3
BR131 Keskin Array S 146.64 310 ePKPdf PKPbc 07 12 47.6 -0.7
BRTR Keskin Array B 146.64 310 PKPbc PKPbc 07 12 47.9 -0.4
comp=Z,2.4nm,0.5s,baz=140,slow=3.5,SNR=14
BSEG Bad Segeberg 147.01 349 ePKPbc PKPbc 07 12 48.8 +0.3
BSEG epPKPbc pPKPbc 07 15 06.5 +0.4
TLCR 147.09 322 ⇑ iP PKPbc 07 12 47.9 -1.2
MMAI Mount Meron Ar 147.23 298 PKPbc PKPbc 07 12 50.6 +0.7
comp=Z,4.6nm,0.4s,baz=73,slow=6.2,SNR=17
BURAR Bucovina Array 147.44 328 ⇑ iP PKPbc 07 12 50.8 +0.7
TESR Tescani 147.46 326 ⇓ iP PKPbc 07 12 49.7 -0.3
CFR Carcaliu 147.48 322 ⇓ iP PKPbc 07 12 50.2 +0.1
OJC Ojcow 147.79 337 ePKPdf PKPbc 07 12 50.5 -0.2
VRI Vrincioaia 147.83 325 ⇓ iP PKPbc 07 12 50.7 -0.3
PLOR Plostina 147.88 325 ⇑ iP PKPbc 07 12 51.7 +0.5
CSS Prodhromos 148.45 302 ePKPbc PKPbc 07 12 52.2 -0.7
MLR Muntele Rosu 148.49 325 ⇓ iP PKPbc 07 12 52.0 -0.8
DPC Dobruska-Polom 148.87 340 ⇑ ePKP PKPbc 07 12 53.5 +0.1
DPC ePKPAB PKPab 07 13 00.3 +0.4
DPC Dobruska-Polom 148.87 340 ePKPdf PKPbc 07 12 53.4 -0.1
CLL Collm 148.93 345 ePKPbc PKPbc 07 12 53.4 -0.1
CLL epPKPbc pPKPbc 07 15 11.8 -0.1
CLL Collm 148.93 345 ⇓ iPKPbc PKPbc 07 12 53.4 -0.1
comp=Z,24nm,1.2s
CLL epPKPab pPKPab 07 15 11.0 -2.6
CLL e 07 15 16.0
CLL eSKPdf SKPdf 07 15 25.0 -0.8
CLL e 07 15 46.0
MORC Moravsky Berou 148.96 338 ePKPdf PKPbc 07 12 53.8 +0.1
VOIR 149.00 325 ⇓ iP PKPbc 07 12 54.6 +0.6
BRG Berggiesshubel 149.09 343 i PKP PKPbc 07 12 53.6 -0.2
comp=Z,16nm,1.2s
BRG pPKP pPKPdf 07 15 12.6 +3.4
comp=Z,5.2nm,1.0s
BRG Berggiesshubel 149.09 343 ePKPbc PKPbc 07 12 53.8 -0.1
BRG epPKPbc pPKPbc 07 15 12.8 +0.5
DRGR 149.23 330 ⇓ iP PKPbc 07 12 54.0 -0.5
PVCC Panska Ves 149.23 342 ⇑ ePKP PKPbc 07 12 54.0 -0.2
PVCC ePKPAB PKPab 07 13 01.9 +0.6
ARR Arges 149.27 326 ⇑ iP PKPbc 07 12 55.7 +1.1
NEUB Neuenburg 149.31 346 ePKPbc PKPbc 07 12 54.3 -0.1
PRU Pruhonice 149.72 342 ⇑ ePKP PKPbc 07 12 54.7 -0.7
MOX Moxa 149.87 346 ePKPbc PKPbc 07 12 55.7 -0.1
TANN Tannenbergstha 149.88 345 ePKPbc PKPbc 07 12 55.9 0.0
TREC Trest 150.05 340 ⇑ ePKP PKPbc 07 12 56.1 -0.2
GZR Gura Zlata 150.20 328 ⇓ iP PKPbc 07 12 56.3 -0.5
MANZ Manzenberg 150.37 345 ePKPbc PKPbc 07 12 56.8 -0.2
ROTZ Rotzenmuhle 150.55 345 ePKPbc PKPbc 07 12 57.2 -0.2
ROTZ epPKPbc pPKPbc 07 15 16.3 +0.1
BZS Buzias 150.61 329 ⇑ iP PKPbc 07 12 57.2 -0.4
KHC Kasperske Hory 150.77 342 ⇑ ePKP PKPbc 07 12 57.7 -0.2
KHC ePKPAB PKPab 07 13 08.2 +0.3
KHC Kasperske Hory 150.77 342 ePKPbc PKPbc 07 12 57.5 -0.4
KHC ePKPab PKPab 07 13 08.2 +0.3
MEM Membach 150.87 353 PKPbc PKPbc 07 12 57.8 -0.3
TNS Taunus Mts 150.90 350 ePKPbc PKPbc 07 12 58.2 0.0
WET Wettzell 150.95 343 epPKPbc pPKPbc 07 15 18.7 +1.5
GEC2 GERESS Array S 150.99 342 ePKPbc PKPbc 07 12 57.8 -0.7
GEC2 epPKPbc pPKPbc 07 15 17.0 -0.4
GERES GERESS Array B 150.99 342 PKPbc PKPbc 07 12 58.0 -0.6
comp=Z,2.3nm,0.6s,baz=20,slow=2.1,SNR=24
GERES pPKPbc pPKPbc 07 15 15.9 -1.5
comp=Z,0.8nm,0.8s,baz=29,slow=3.0,SNR=3.6
DOU Dourbes 151.52 355 PKPbc PKPbc 07 12 59.3 -0.2
WLF Walferdange 151.78 352 PKPbc PKPbc 07 13 00.4 +0.3
WLF APKPab 07 15 22.2
VTS Vitosha 151.88 323 ⇑ iP PKPbc 07 13 01.2 +0.4
PERS Pernice 152.49 338 i PKPdf PKPbc 07 13 00.8 -1.1
BFO Black Forest 152.74 349 epPKPbc pPKPbc 07 15 23.1 +1.6
PDKS Podkum 153.03 338 i PKPdf PKPbc 07 13 02.2 -0.8
BOJS Bojanci 153.41 337 i PKPdf PKPbc 07 13 03.3 -0.5
JAVS Javornik 153.50 339 i PKPdf PKPbc 07 13 03.7 -0.5
APE Apeiranthos 153.53 311 ⇑ iP PKPab 07 13 19.7 -0.4
DBIC Dimbokro 164.13 160 PKP PKPdf 07 13 08.0 -1.0
comp=Z,2.8nm,0.6s,baz=80,slow=22,SNR=4.8
DBIC PKPab PKPab 07 14 06.0 -0.6
comp=Z,2.4nm,0.5s,baz=149,slow=8.9,SNR=6.0
TORD Torodi Ar. Bea 171.39 187 PKP PKPdf 07 13 12.5 -1.3
comp=Z,2.1nm,0.9s,baz=348,slow=0.9,SNR=15
TORD PKPab PKPab 07 14 38.7 +0.1

WEL 15 07:02:25.2±0.4, 45°32S×166°25E, h12km, ML3.8/15, Error ellipse: s-maj=3.3km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.66	105	P*	Pg	07 02 37.1	-0.8
DCZ				S*	Sb	07 02 47.2	-0.4
DCZ				AML	AML	07 02 49.3	
DCZ				AML	AML	07 02 49.7	
DCZ				AML	AML	07 02 49.7	
WHZ	Wether Hill Ro	1.32	117	PN	Pn	07 02 48.4	-1.2
WHZ				SN	Sb	07 03 06.8	-0.2
WHZ				AML	AML	07 03 18.1	
MSZ	Milford Sound	1.35	62	PN	Pn	07 02 49.5	-0.4
MSZ				SN	Sb	07 03 07.4	-0.2
MSZ				AML	AML	07 03 15.0	
MSZ				AML	AML	07 03 18.5	
MLZ	Mavora Lakes	1.35	92	PN	Pn	07 02 48.4	-1.6
MLZ				AML	AML	07 03 11.1	
MLZ				AML	AML	07 03 12.8	
APZ	The Paps	1.94	142	PN	Pn	07 02 58.9	+0.8
WKZ	Wanaka	2.02	77	PN	Pb	07 03 00.7	-1.3
WKZ				AML	AML	07 03 38.8	
WKZ				AML	AML	07 03 39.0	
EAZ	Earnscleugh	2.16	89	PN	Pn	07 03 01.8	+0.8
EAZ				AML	AML	07 03 37.0	
EAZ				AML	AML	07 03 41.1	
EAZ				AML	AML	07 03 41.1	
JCZ	Jackson Bay	2.18	56	PN	Pb	07 03 04.9	+0.2
JCZ				AML	AML	07 03 42.0	
JCZ				AML	AML	07 03 42.6	
SYZ	Scrubby Hill	2.36	122	PN	Pn	07 03 04.6	+0.9
SYZ				SN	Sn	07 03 34.3	+1.8
TUZ	Tuapeka	2.46	106	PN	Pb	07 03 07.5	-1.8
TUZ				AML	AML	07 03 48.5	
TUZ				AML	AML	07 03 49.7	
LBZ	Lake Benmore	2.95	73	PN	Pn	07 03 12.1	+0.2
LBZ				AML	AML	07 04 04.1	
LBZ				AML	AML	07 04 11.2	
ODZ	Otahua Downs	3.12	87	PN	Pn	07 03 14.0	-0.2

IDC 15 07:03:52.8±6.6, 7°46N×93°23E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.6/3, Error ellipse: s-maj=331.9km s-min=29.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	40.30	348	P	P	07 11 31.7	-0.2
	0.3nm,0.7s,baz=155,slow=7.2,SNR=3.7						
WRA	Warramunga Arr	48.76	125	P	P	07 12 39.7	-0.2
	0.6nm,0.5s,baz=304,slow=8.6,SNR=17						
ASAR	Alice Springs	50.35	129	P	P	07 12 52.0	-0.1
	1.0nm,0.6s,baz=300,slow=7.4,SNR=19						

*CASC **15** 07:12:04.9±1.0, 14°69N×91°64W, h171km±5km, MD4.3, ML4.0, mb4.3(NEIC)*
*ISCJB **15** 07:12:06.1±0.3, 14°83N±0°04×91°64W±0°04, h152km±2km, mb4.1/29, Error ellipse: s-maj=7.6km s-min=3.2km az=41.1*
*MEX **15** 07:12:07.0±0.4, 14°82N×91°70W, h168km±5km, MD4.3*
*IDC **15** 07:12:08.9±1.9, 14°94N×91°22W, h164km±17km, mb3.6/13, mb1 3.8/17, mb1mx3.7/29, mbtmp3.7/17, MS3.4/2, Ms1 3.5/2, ms1mx2.6/31, Error ellipse: s-maj=22.4km s-min=8.9km az=60.0*
*NEIC **15** 07:12:10.2±1.9, 14°96N×91°40W, h166km±19km, mb4.3/28, Error ellipse: s-maj=14.4km s-min=8.2km az=223.0*
ISC 15 07:12:07.2±0.5, 14°81N±0°05×91°58W±0°04, h153km±4km, h152km:pP-P, n213, σ1°66/234, mb4.1/30, 4C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.49	186 ⇑	eP	Pn	07 12 28.7	-0.1
THIG		0.67	279	eP	Pn	07 12 28.9	-0.9
THIG				eS	Sn	07 12 46.7	-0.2
FUG	Fuego 3	0.80	116 ⇓	iP	Pn	07 12 30.8	-0.1
PCG	Pacaya	1.03	113 ⇓	eP	Pn	07 12 33.0	+0.2
NBG	Las Nubes	1.21	100 ⇓	eP	Pn	07 12 35.0	+0.5
CCIG	Comitan	1.56	340	eP	Pn	07 12 36.9	-0.9
CCIG				eS	Sn	07 13 00.5	-0.8
MRL	Marmol	1.84	82 ⇑	eP	Pn	07 12 41.7	+0.8
RTR	El Retiro	2.08	116	eP	Pn	07 12 43.3	-0.3
RTR				eS	Sn	07 13 13.6	+1.9
SBLS	San Blas	2.13	117	eP	Pn	07 12 43.7	-0.5
SBLS				eS	Sn	07 13 14.1	+1.5
SNJE	San Jose	2.13	116	eP	Pn	07 12 44.0	-0.2
SNJE				eS	Sn	07 13 14.7	+2.0
BOQS	Boqueron	2.47	115	eP	Pn	07 12 48.1	-0.3
SNET	Serv Nac Est T	2.54	116	eP	Pn	07 12 48.2	-0.7
SNET				eS	Sn	07 13 21.4	+0.3
SNET				AML	AML	07 13 27.4	
	comp=Z,806nm,0.2s						
LFU	La Fuente	2.61	113	eP	Pn	07 12 49.2	-0.7
LBRS	Las Brisas	2.68	113	eP	Pn	07 12 50.4	-0.4
LFRS	El Faro	2.71	115	eP	Pn	07 12 50.4	-0.7
CMIG	Matias Romero	3.91	306	eP	Pn	07 13 04.9	-1.4
CMIG				eS	Sn	07 13 48.1	-4.2
SCIG	Sabancuy	4.15	5	eP	Pn	07 13 08.6	-0.9
SCIG				eS	Sn	07 13 55.9	-2.1
TUIG	Tuzandepetl	4.21	320	eP	Pn	07 13 08.7	-1.6
TUIG				eS	Sn	07 13 56.4	-3.0
HUIG	Huatulco	4.47	283	eP	Pn	07 13 11.2	-2.5
HUIG				eS	Sn	07 14 01.0	-4.5
VHO	Vista Hermosa	5.44	295	eP	Pn	07 13 23.8	-2.9
VHO				eS	Sn	07 14 24.4	-4.5
TEIG	Tepich	6.24	30	ePn	Pn	07 13 35.5	-1.6
TEIG				eSn	Sn	07 14 44.8	-2.8
TEIG	Tepich	6.24	30	P	Pn	07 13 36.0	-1.2
	comp=Z,23nm,0.3s,baz=193,slow=1.8,SNR=104						
TEIG				S	Sn	07 14 42.4	-5.2
	comp=Z,16nm,0.3s,baz=107,slow=23,SNR=11						
NY14	Universidad de	7.20	124	iP	Pn	07 13 51.3	+1.3
GB1A	Boringuen Arri	7.22	123	iP	Pn	07 13 50.3	0.0
LAPC	Finca la Perla	7.22	123	iP	Pn	07 13 50.0	-0.2
BUEV	Buena Vista	7.22	123	iP	Pn	07 13 50.1	-0.2
VCR	Vista de Mar	7.44	128 ⇑	eP	Pn	07 13 54.1	+0.8
PTEN	Parque Tenorio	7.61	122	iP	Pn	07 13 56.4	+0.9
JTS	JuntasAbangare	7.88	124	P	Pn	07 13 59.2	+0.2
	comp=Z,26nm,0.3s,baz=318,slow=16,SNR=79						
JTS				S	Sn	07 15 21.7	-5.2
	comp=Z,8.8nm,0.3s,baz=294,slow=20,SNR=5.3						
JTS				LR	LR	07 17 17.6	
	comp=Z,41nm,20.4s,baz=153,slow=40						
JCR	Jicaral	8.01	127 ⇑	eP	Pn	07 14 01.5	+0.6
CGA2	Cerro Gallo 2	8.42	124	eP	Pn	07 14 07.0	+0.5
QCR	Quepos	9.01	126	eP	Pn	07 14 14.6	+0.5
URSC	Urasca	9.08	122 ⇓	eP	Pn	07 14 15.8	+0.5
BUS	Buena Vista	9.26	123	eP	Pn	07 14 18.5	+0.7
ACR	Cerro Adams	10.26	126	eP	Pn	07 14 31.4	+0.7
HKT	Hockley	15.57	346	eP	P	07 15 41.0	+1.6
	comp=Z,3.5nm,0.8s						
732A	Laxson Ranch,	15.88	332	P	P	07 15 44.1	+1.1
	baz=16,SNR=6.4						
632A	Uvalde	16.48	334	P	Pn	07 15 50.9	+1.3
	baz=16,SNR=9.0						
GTBY	Guantanamo Bay	16.52	70	eP	Pn	07 15 49.9	-0.3
	comp=Z,97nm,1.0s						
BRAL	Brewton	16.66	14	eP	Pn	07 15 55.1	+3.4
	comp=Z,94nm,1.2s						
631A	Perdido Creek	16.74	332	P	Pn	07 15 53.7	+0.9
	baz=17						
532A Rocksprings 17.07 335 P Pn 07 15 59.1 +2.4
baz=17,SNR=19
JCT Junction City 17.33 336 eP Pn 07 16 01.3 +1.4
comp=Z,46nm,1.8s
JCT Junction City 17.33 336 P Pn 07 16 01.1 +1.2
baz=17,SNR=7.2
531A Rocksprings 17.37 333 P Pn 07 16 02.3 +1.9
baz=17,SNR=13
432A Menard 17.68 336 P Pn 07 16 05.0 +0.9
baz=18,SNR=5.3
530A J-C Ranch, Com 17.72 331 P Pn 07 16 06.0 +1.4
baz=18,SNR=8.9
431A Sonora 17.84 334 P Pn 07 16 07.2 +1.1
baz=18,SNR=28
WHTX Lake Whitney 17.93 344 eP Pn 07 16 08.8 +1.8
628A Black Gap, Mar 17.95 326 P Pn 07 16 08.6 +1.3
baz=18
TIGA Tifton 18.10 22 eP Pn 07 16 08.6 -0.4
TIGA Tifton 18.10 22 P Pn 07 16 08.8 -0.1
baz=18,SNR=11
332A Millersview 18.11 337 P Pn 07 16 09.2 0.0
baz=18,SNR=12
529A Stev Forest Ra 18.12 329 P Pn 07 16 09.8 +0.5
baz=18,SNR=6.0
627A Terlingua Ranc 18.20 325 P Pn 07 16 11.4 +1.1
baz=18,SNR=13
430A Baggett Ranch, 18.21 332 P Pn 07 16 10.7 +0.4
baz=18,SNR=12
TXAR Lajitas Array 18.27 324 P Pn 07 16 12.2 +1.1
comp=Z,0.9nm,0.3s,baz=153,slow=11,SNR=27
331A San Angelo 18.32 335 P Pn 07 16 11.8 +0.3
baz=18,SNR=31
429A Davenport Ranc 18.38 331 P Pn 07 16 12.4 +0.1
baz=18,SNR=19
528A Cox Ranch, San 18.44 328 P Pn 07 16 13.5 +0.4
baz=18,SNR=7.2
232A Coleman 18.53 338 P P 07 16 13.4 +1.3
baz=18
LRAL Lakeview Retre 18.62 12 eP Pn 07 16 14.5 -0.5
comp=Z,4.2nm,0.4s
626A Big Bend Ranch 18.70 324 P Pn 07 16 16.6 +0.5
baz=19,SNR=12
330A Mertzon 18.71 334 P P 07 16 15.7 +1.6
baz=19,SNR=21
231A Bronte 18.82 336 P P 07 16 16.5 +1.2
baz=19,SNR=15
428A Kincaid Ranch, 18.84 329 P Pn 07 16 18.1 +0.3
baz=19
527A Woodward Ranch 18.86 326 P Pn 07 16 18.5 +0.4
baz=19,SNR=8.1
526A Mary Lane Ranc 19.06 325 P Pn 07 16 20.8 +0.4
baz=19,SNR=12
230A Sterling City 19.10 335 P P 07 16 19.4 +1.0
baz=19,SNR=12
329A Wagon Wheel Ra 19.14 332 P P 07 16 20.6 +1.8
baz=19,SNR=10
ABTX Abilene, Hawle 19.20 339 P P 07 16 20.8 +1.5
baz=19
427A Hayter Ranch, 19.30 328 P P 07 16 22.7 +2.2
baz=19,SNR=7.9
328A Wristen Ranch, 19.44 330 P P 07 16 23.8 +1.8
baz=20,SNR=21
OTAV Otavalo 19.44 137 eP Pn 07 16 24.9 -0.5
comp=Z,13nm,1.1s
229A Bryant Ranch, 19.47 333 P P 07 16 23.4 +1.1
baz=20
426A McDonald Obser 19.49 326 P P 07 16 25.0 +2.3
baz=20,SNR=9.4
131A Roby 19.51 337 P P 07 16 23.7 +1.0
baz=20
ROSC El Rosal 19.65 118 eP Pn 07 16 26.4 -1.3
ROSC El Rosal 19.65 118 P P 07 16 24.8 +0.1
comp=Z,0.6nm,0.3s,baz=88,slow=21,SNR=7.4
130A Snyder 19.66 336 P P 07 16 25.2 +0.8
baz=20,SNR=6.2
OXF Oxford 19.72 5 eP P 07 16 24.5 -0.3
comp=Z,12nm,0.5s
Z32A Haskell 19.76 340 P P 07 16 26.1 +0.7
baz=20,SNR=18
SDDR Presa de Saban 19.85 75 eP Pn 07 16 28.5 -1.3
comp=Z,28nm,0.8s
UALR University of 19.89 358 eP Pn 07 16 29.8 -0.2
comp=Z,15nm,0.4s
228A UT Block 9, Go 19.95 332 P P 07 16 28.2 +0.7
baz=20
326A Caldwell Ranch 19.97 327 P P 07 16 29.6 +1.8
baz=20,SNR=32
Z31A Sharp Cattle R 20.00 339 P P 07 16 28.4 +0.4
baz=20,SNR=24
129A Stewart Farms, 20.06 334 P P 07 16 29.6 +0.9
baz=20
425A Indio Mountain 20.11 325 P P 07 16 31.1 +1.8
baz=20,SNR=16
227A Bennet, Jal 20.19 330 P P 07 16 31.5 +1.4
baz=20
128A Castleberry Fa 20.32 333 P P 07 16 32.2 +0.7
baz=20,SNR=9.9
Z30A Sanderson Ranc 20.34 336 P P 07 16 31.1 -0.5
baz=20
Y32A R-V Farms, Ver 20.39 341 P P 07 16 33.1 +0.9
baz=20
Z29A Hungry Hill Ra 20.54 335 P P 07 16 33.9 +0.1
baz=20,SNR=7.7
325A Bean Ranch, Si 20.55 326 P P 07 16 35.0 +1.0
baz=21,SNR=7.3
Y31A Rekieta Farm, 20.62 339 P P 07 16 35.4 +0.7
baz=21,SNR=18
226B Tecolote Peak, 20.68 328 P P 07 16 36.5 +1.2
baz=21,SNR=11
127A Arkansas Junct 20.77 331 P P 07 16 37.0 +0.8
baz=21,SNR=6.3
Z28A Tucker Farm, M 20.85 334 P P 07 16 37.1 0.0
baz=21,SNR=6.1
GDL2 Guadalupe Moun 20.88 328 eP P 07 16 39.0 +1.6
WMOK Wichita Mounta 20.88 343 eP P 07 16 36.9 -0.4
comp=Z,4.0nm,1.0s
WMOK e 07 17 05.0
324A Moseley Ranch, 20.88 325 P P 07 16 38.5 +0.9
baz=21,SNR=9.2
MNTX Cornudas Mount 21.02 325 eP P 07 16 39.4 +0.5
comp=Z,2.1nm,0.5s
MNTX e 07 17 09.9
225A Deer Hill, Car 21.04 327 P P 07 16 40.4 +1.1
baz=21,SNR=18
Y29A Porterfield Fa 21.05 336 P P 07 16 39.6 +0.3
baz=21
126A Clayton Basin, 21.06 330 P P 07 16 40.1 +0.7
baz=21
X31A McDonald Ranch 21.14 340 P P 07 16 40.7 +0.6
baz=21
Z27A Tatum 21.24 332 P P 07 16 41.1 -0.2
baz=21,SNR=7.5
X30A Coker Ranch, T 21.28 338 P P 07 16 41.5 -0.1
baz=21
Y28A McKinney Farm, 21.33 335 P P 07 16 41.9 -0.3
baz=21,SNR=9.9
224A Cornudas Mount 21.39 326 P P 07 16 43.9 +1.0
baz=21,SNR=14
125A Gardner Draw, 21.39 328 P P 07 16 43.4 +0.5
baz=21
WVT Waverly 21.50 8 eP P 07 16 42.7 -1.2
comp=Z,5.8nm,0.4s
CPCT Cooper Cave 21.51 16 eP P 07 16 45.1 +1.0
CPCT e 07 17 15.0
Z26A Caprock 21.55 331 P P 07 16 44.9 +0.2
baz=22,SNR=7.9
X29A Tulia 21.58 337 P P 07 16 44.5 -0.4
baz=22,SNR=6.8
MSTX Muleshoe 21.60 334 eP P 07 16 44.5 -0.6
MSTX e 07 17 15.5
MSTX Muleshoe 21.60 334 P P 07 16 44.8 -0.3
baz=22
W31A Holland Ranch, 21.64 341 P P 07 16 46.2 +0.7
baz=22
Y27A Causey 21.69 333 P P 07 16 46.2 +0.1
baz=22,SNR=10.0
PARMO Parma 21.83 4 eP P 07 16 47.1 -0.2
124A Stringfield Ra 21.83 327 P P 07 16 49.1 +1.3
baz=22,SNR=16
TKL Tuckaleechee C 21.91 17 eP P 07 16 48.6 +0.3
TKL Tuckaleechee C 21.91 17 P P 07 16 48.5 +0.3
comp=Z,3.4nm,0.4s,baz=183,slow=12,SNR=12
Z25A Roswell 21.92 329 P P 07 16 48.7 +0.3
baz=22
Y26A Elida 22.02 332 P P 07 16 49.6 +0.1
baz=22,SNR=5.1
KMSC Kings Mountain 22.25 23 eP P 07 16 51.6 0.0
KMSC Kings Mountain 22.25 23 P P 07 16 51.9 +0.3

	baz=22					
Z24A	**Sheeppen Canyo**	**22.28 328**	P		**P**	**07 16 53.4 +1.2**
	baz=22					
X26A	**CR and CF Fran**	**22.54 333**	P		**P**	**07 16 54.8 +0.2**
	baz=23					
320A	**Kipp Ranch, An**	**22.61 320**	P		**P**	**07 16 58.1 +2.8**
	baz=23,SNR=8.4					
W27A	**Bowe Ranch, En**	**22.66 335**	P		**P**	**07 16 55.3 -0.4**
	baz=23					
Z23A	**Rita Site, Whi**	**22.68 327**	P		**P**	**07 16 57.7 +1.8**
	baz=23					
Y24A	**Capitan**	**22.79 329**	P		**P**	**07 16 58.0 +1.0**
	baz=23					
TZTN	**Tazewell**	**22.80 17**	*e*P		**P**	**07 16 57.1 +0.2**
	comp=Z,10nm,1.0s					
X25A	**Clemmons Ranch**	**22.91 331**	P		**P**	**07 16 58.6 +0.5**
	baz=23					
SIUC	**Southern Illin**	**22.91 5**	*e*P		**P**	**07 16 57.4 -0.4**
	comp=Z,32nm,0.6s					
V28A	**Channing**	**22.94 337**	P		**P**	**07 16 58.7 +0.5**
	baz=23					
121A	**Cookes Peak, D**	**23.00 323**	P		**P**	**07 17 01.2 +2.3**
	baz=23,SNR=8.8					
220A	**Playas Peak, P**	**23.00 321**	P		**P**	**07 17 01.6 +2.7**
	baz=23,SNR=12					
Z22A	**Elephant Butte**	**23.07 325**	P		**P**	**07 17 01.7 +2.2**
	baz=23,SNR=5.9					
Y23A	**Lovelace Mesa,**	**23.11 328**	P		**P**	**07 17 01.7 +1.8**
	baz=23					
319A	**Douglas**	**23.12 319**	P		**P**	**07 17 02.7 +2.7**
	baz=23					
W25A	**X Bar L Ranch,**	**23.39 333**	P		**P**	**07 17 03.6 +1.1**
	baz=23					
BNM	**Barren Site**	**23.58 327**	*e*P		**P**	**07 17 05.8 +1.6**
	comp=Z,3.2nm,0.9s					
BNM			*e*			07 17 36.3
Y22A	**Socorro**	**23.59 327**	P		**P**	**07 17 06.2 +1.9**
	baz=24					
V26A	**Tequesquite Ra**	**23.59 335**	P		**P**	**07 17 05.7 +1.4**
	baz=24					
U27A	**Thompson Grove**	**23.75 337**	P		**P**	**07 17 06.8 +1.1**
	baz=24					
SLM	**Saint Louis**	**23.77 3**	*e*P		**P**	**07 17 05.8 +0.2**
	comp=Z,40nm,0.6s					
WCI	**Wyandotte Cave**	**23.79 10**	*e*P		**P**	**07 17 05.0 -0.9**
	comp=Z,8.4nm,0.5s					
WCI			*e*			07 17 36.6
W24A	**Lazy 6 Ranch,**	**23.82 331**	P		**P**	**07 17 07.7 +1.3**
	baz=24,SNR=7.9					
Z20A	**Nine Sixteen R**	**23.89 323**	P		**P**	**07 17 08.8 +1.8**
	baz=24					
V25A	**Rancho No Teng**	**23.98 333**	P		**P**	**07 17 09.0 +1.1**
	baz=24					
Y21A	**Point of Rocks**	**24.03 326**	P		**P**	**07 17 11.4 +3.1**
	baz=24,SNR=5.5					
U26A	**Atchley Ranch,**	**24.09 335**	P		**P**	**07 17 09.6 +0.8**
	baz=24,SNR=7.9					
ANMO	**Albuquerque**	**24.11 329**	P		**P**	**07 17 10.5 +1.4**
	comp=Z,0.5nm,0.5s,baz=166,slow=9.0,SNR=5.2					
V24A	**Rampart Ranch,**	**24.18 332**	P		**P**	**07 17 11.5 +1.8**
	baz=24					
Y20A	**Horse Springs,**	**24.34 324**	P		**P**	**07 17 13.7 +2.5**
	baz=24,SNR=7.5					
U25A	**Circle Dot Ran**	**24.37 334**	P		**P**	**07 17 12.4 +1.1**
	baz=24					
X21A	**Alamocita Cree**	**24.42 326**	P		**P**	**07 17 14.4 +2.6**
	baz=24,SNR=6.1					
VWCC	**Virginia Weste**	**24.62 23**	*e*P		**P**	**07 17 13.2 -0.2**
V23A	**Ortiz Mt. (NFS**	**24.62 331**	P		**P**	**07 17 16.7 +3.0**
	baz=25					
TUC	**Tucson**	**24.70 318**	*e*P		**P**	**07 17 16.3 +2.0**
	comp=Z,3.7nm,0.9s					
U23A	**El Rito**	**25.10 331**	P		**P**	**07 17 19.2 +1.1**
	baz=25					
W20A	**Ramah**	**25.31 326**	P		**P**	**07 17 22.5 +2.5**
	baz=25,SNR=7.1					
X18A	**Snowflake**	**25.69 323**	P		**P**	**07 17 25.7 +2.4**
	baz=26					
214A	**Organ Pipe Nat**	**25.82 315**	P		**P**	**07 17 26.9 +2.5**
	baz=26,SNR=5.4					
X16A	**Lo Mia Camp, P**	**26.50 321**	P		**P**	**07 17 33.2 +2.5**
	baz=26,SNR=11					
WUAZ	**Wupatki**	**27.21 323**	*e*P		**P**	**07 17 39.0 +2.1**
	comp=Z,3.4nm,0.8s					
WUAZ	**Wupatki**	**27.21 323**	P		**P**	**07 17 39.2 +2.3**
	baz=27					
GLA	**Glamis**	**27.84 315**	P		**P**	**07 17 45.1 +2.7**
	baz=28					
PDMCI	**Parker Dam,Lak**	**28.13 318**	P		**P**	**07 17 47.5 +2.7**
	baz=28					
U15A	**North Rim**	**28.38 323**	P		**P**	**07 17 49.8 +2.3**
	baz=28					
W13A	**Hualapai Mount**	**28.46 319**	P		**P**	**07 17 50.7 +2.6**
	baz=28					
BC3	**Big Chuckawall**	**28.62 315**	P		**P**	**07 17 52.2 +2.7**
	baz=29,SNR=6.4					
IRM	**Iron Mountain**	**28.71 316**	P		**P**	**07 17 52.6 +2.5**
	baz=29					
MONP	**Monument Peak**	**28.86 313**	P		**P**	**07 17 54.5 +2.7**
	baz=29					
PFO	**Pinyon Flat Ob**	**29.28 314**	P		**P**	**07 17 57.8 +2.4**
	comp=Z,0.5nm,0.3s,baz=148,slow=7.5,SNR=4.2					
PFO	**Pinyon Flat Ob**	**29.28 314**	P		**P**	**07 17 57.7 +2.4**
	baz=29					
GMRC	**Granite Mounta**	**29.41 317**	P		**P**	**07 17 59.2 +2.7**
	baz=30,SNR=5.8					
CCUT	**Cedar City**	**29.78 324**	*e*P		**P**	**07 18 02.6 +2.8**
	comp=Z,3.8nm,0.9s					
SPMN	**St. Paul**	**30.34 358**	*e*P		**P**	**07 18 03.4 -0.9**
COWI	**Conover**	**31.26 3**	*e*P		**P**	**07 18 11.5 -1.0**
	comp=Z,5.5nm,0.7s					
MPMC	**Manual Prospec**	**31.38 317**	P		**P**	**07 18 16.1 +2.3**
	baz=31,SNR=5.8					
R11A	**Troy Canyon, C**	**31.61 322**	*e*P		**P**	**07 18 18.6 +2.7**
R11A	**Troy Canyon, C**	**31.61 322**	P		**P**	**07 18 18.5 +2.7**
	baz=32					
ISA	**Isabella**	**31.80 316**	P		**P**	**07 18 20.6 +3.2**
	baz=32					
GRAC	**Grapevine Rang**	**31.86 319**	P		**P**	**07 18 20.9 +3.0**
	baz=32					
PDAR	**Pinedale Array**	**31.86 334**	P		**P**	**07 18 17.7 -0.3**
	comp=Z,0.3nm,0.8s,baz=108,slow=8.6,SNR=2.7					
PDAR			ScP		**ScP**	**07 24 36.0 +1.6**
	comp=Z,0.9nm,1.0s,baz=131,slow=4.5,SNR=5.6					
NCB	**Newcomb**	**32.62 24**	*e*P		**P**	**07 18 23.2 -1.1**
	comp=Z,4.7nm,0.6s					
REDW	**Red Top Meadow**	**32.90 334**	*e*P		**P**	**07 18 27.7 +0.6**
	comp=Z,1.4nm,0.5s					
REDW			*e*pP		**pP**	**07 19 02.0 +2.4**
SNOW	**Snow King Moun**	**32.94 334**	*e*P		**P**	**07 18 28.5 +1.1**
	comp=Z,4.5nm,0.8s					
SNOW			*e*pP		**pP**	**07 19 03.0 +3.1**
LONY	**Lake Ozonia**	**33.04 23**	*e*P		**P**	**07 18 27.5 -0.5**
	comp=Z,15nm,1.2s					
LONY			*e*pP		**pP**	**07 19 00.3 -0.1**
NV11	**Mina Array Sit**	**33.22 320**	*e*P		**P**	**07 18 32.8 +3.0**
NVAR	**Mina Array Bea**	**33.31 320**	P		P	07 18 34.0 +3.3
	comp=Z,5.7nm,0.6s,baz=133,slow=8.3,SNR=30					
NVAR			pP		pP	07 19 05.6 +2.4
	comp=Z,2.4nm,0.8s,baz=132,slow=9.1,SNR=3.2					
MCMT	**McKenzie Canyo**	**34.93 333**	*e*P		**P**	**07 18 46.0 +1.4**
	comp=Z,0.6nm,0.8s					
MCMT			*e*pP		**pP**	**07 19 19.4 +2.0**
SAML	**Samuel**	**36.74 128**	*e*P		**P**	**07 18 57.6 -2.4**
	comp=Z,10nm,0.8s					
LPAZ	**La Paz**	**38.61 142**	*e*P		**P**	**07 19 16.7 +0.3**
	comp=Z,2.3nm,0.7s					
LPAZ	**La Paz**	**38.61 142**	P		**P**	**07 19 17.0 +0.6**
	comp=Z,1.9nm,0.7s,baz=308,slow=6.4,SNR=12					
SCHQ	**Schefferville**	**44.33 20**	P		**P**	**07 20 00.5 -1.4**
	comp=Z,2.4nm,0.5s,baz=233,slow=8.5,SNR=6.0					
DLBC	**Dease Lake**	**52.09 336**	*e*P		**P**	**07 21 02.9 +1.5**
BDFB	**Brasilia**	**52.62 123**	P		**P**	**07 21 04.6 -1.3**
	comp=Z,1.4nm,0.5s,baz=310,slow=11,SNR=4.7					
CPUP	**Villa Florida**	**52.74 141**	P		**P**	**07 21 05.4 -1.0**
	comp=Z,1.3nm,0.6s,baz=262,slow=6.2,SNR=6.1					
PLCA	**Paso Flores**	**58.60 161**	P		**P**	**07 21 48.0 -0.1**
	comp=Z,3.8nm,0.8s,baz=345,slow=7.6,SNR=5.3					
PLCA			LR		LR	07 42 19.0
	comp=Z,211nm,19.3s,baz=316,slow=31					
INK	**Inuvik**	**59.78 343**	P		**P**	**07 21 55.0 -0.8**
	comp=Z,1.2nm,0.6s,baz=132,slow=8.3,SNR=5.5					
ILAR	**Eielson Array**	**62.26 337**	P		**P**	**07 22 12.3 -0.2**
	comp=Z,0.4nm,0.4s,baz=110,slow=5.7,SNR=12					
ILAR			pP		**pP**	**07 22 48.2 -0.5**
	comp=Z,1.0nm,1.1s,baz=124,slow=5.0,SNR=4.0					
ARCES	**ARCESS Array B**	**85.25 18**	P		**P**	**07 24 25.0 -1.3**
	comp=Z,2.4nm,1.0s,baz=304,slow=7.2,SNR=4.4					

CN2	**Changchun**	**112.58 332**	*e*PKP		**PKiKP**	**07 30 26.3 +0.7**
HHC	**Hu-ho-hao-te**	**120.61 340**	*e*PKP		**PKPdf**	**07 30 40.1 -1.2**
HHC			sPKP			07 31 39.9
HHC			PP		**PP**	**07 32 11.3 +1.8**
HHC			PKS		**PKSdf**	**07 34 15.3 -2.8**
HHC			SKS		**SKSdf**	**07 37 34.3 -5.0**
HHC			SKKS		SKKSac	07 38 46.8 -8.5
HHC			SS		**SKKSdf**	**07 48 22.4 +4.6**
HHC			LR		LR	
	comp=N,120nm,21.3s					
HHC			LR		LR	
	comp=E,130nm,20.5s					
HHC			LR		LR	
	comp=Z,110nm,21.1s					
CD2	**Chengdu**	**132.21 342**	*e*PKP		**PKPdf**	**07 31 03.9 +0.2**
WRA	**Warramunga Arr**	**135.98 257**	PKP		**PKPdf**	**07 31 11.7 +0.8**
	comp=Z,0.5nm,0.6s,baz=90,slow=2.3,SNR=46					
ASAR	**Alice Springs**	**136.31 251**	PKP		**PKPdf**	**07 31 12.5 +1.1**
	comp=Z,0.8nm,0.9s,baz=163,slow=1.3,SNR=6.0					
CMAR	**Chiang Mai Arr**	**145.36 342**	PKPbc		**PKPdf**	**07 31 26.5 -1.3**
	comp=Z,1.4nm,0.4s,baz=343,slow=2.8,SNR=2.9					

ISCJB ***15*** *07:24:41.9±0.5, 38°.43N±0°.02×21°.97E±0°.03, h10km±4km, Error ellipse: s-maj=4.4km s-min=4.0km az=175.1*
CSEM ***15*** *07:24:42.1±0.1, 38°.43N×21°.97E, h5km, MD1.6, Error ellipse: s-maj=2.9km s-min=2.0km az=84.0*
THE ***15*** *07:24:42.2, 38°.42N×21°.98E, h8km±1km, ML1.8/5, Error ellipse: s-maj=1.3km s-min=0.4km az=208.0*
ATH ***15*** *07:24:42.5, 38°.42N×21°.97E, h4km±3km, MD1.6/7*
ISC 15 07:24:42.3±1.1, 38°.42N±0°.02×21°.98E±0°.02, h6km±6km, n35, σ0°.66/64, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**273**	P	**Pg**	**07 24 43.6**	**-0.2**
EFP				S	**Sg**	**07 24 44.9**	**0.0**
EFP	**Efpalio**	**0.06**	**273**	*e*PG	**Sg**	**07 24 43.6**	**-0.2**
EFP				*e*SG	**Sg**	**07 24 44.9**	**0.0**
EFP	**Efpalio**	**0.06**	**273**	P	**Pg**	**07 24 43.6**	**-0.2**
EFP				S	**Sg**	**07 24 44.9**	**0.0**
TRIZ	**Trizonia**	**0.09**	**128**	P	**Pg**	**07 24 44.3**	**0.0**
TRIZ				S	**Sg**	**07 24 46.4**	**+0.7**
TRIZ	**Trizonia**	**0.09**	**128**	*e*PG	**Pg**	**07 24 44.3**	**0.0**
TRIZ				*e*SG	**Sg**	**07 24 46.5**	**+0.7**
TRIZ	**Trizonia**	**0.09**	**128**	P	**Pg**	**07 24 44.3**	**0.0**
TRIZ				S	**Sg**	**07 24 46.4**	**+0.7**
PSA1	**Psathopyrgos**	**0.12**	**217**	*e*PG	**Pg**	**07 24 45.1**	**+0.2**
PSA1				*e*SG	**Sg**	**07 24 47.2**	**+0.6**
KALE	**Kalithea**	**0.13**	**105**	P	**Pg**	**07 24 44.9**	**-0.1**
KALE				S	**Sg**	**07 24 47.6**	**+0.7**
KALE	**Kalithea**	**0.13**	**105**	*e*PG	**Pg**	**07 24 45.0**	**-0.1**
KALE				*e*SG	**Sg**	**07 24 47.9**	**+1.0**
KALE	**Kalithea**	**0.13**	**105**	*e*Pg	**Pg**	**07 24 45.0**	**-0.1**
KALE				S	**Sg**	**07 24 47.6**	**+0.7**
LAKA	**Lakka**	**0.18**	**180**	P	**Pg**	**07 24 45.8**	**-0.2**
LAKA	**Lakka**	**0.18**	**180**	*e*PG	**Pg**	**07 24 45.8**	**-0.2**
LAKA				*e*SG	**Sg**	**07 24 48.7**	**+0.3**
LAKA	**Lakka**	**0.18**	**180**	P	**Pg**	**07 24 45.8**	**-0.2**
LAKA				*e*Sg	**Sg**	**07 24 48.7**	**+0.3**
KLV	**Kalavryta, Ach**	**0.40**	**160**	P	**Pg**	**07 24 49.6**	**-0.5**
KLV	**Kalavryta, Ach**	**0.40**	**160**	*e*PG	**Pg**	**07 24 49.9**	**-0.2**
KLV				*e*SG	**Sg**	**07 24 56.9**	**+1.5**
KLV	**Kalavryta, Ach**	**0.40**	**160**	P	**Pg**	**07 24 49.6**	**-0.5**
KLV	**Kalavryta, Ach**	**0.40**	**160**	*e*Pg	**Pg**	**07 24 49.9**	**-0.2**
KLV				*e*Sg	**Sg**	**07 24 56.9**	**+1.5**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**07 24 49.8**	**-0.8**
DSF				S	**Sg**	**07 24 57.0**	**+0.7**
DSF	**Desfina**	**0.43**	**92**	P	**Pg**	**07 24 49.8**	**-0.8**
DSF				S	**Sg**	**07 24 57.0**	**+0.7**
EVR	**Evrytania**	**0.51**	**345**	P	**Pg**	**07 24 52.0**	**-0.1**
EVR				S	**Sg**	**07 25 00.1**	**+1.3**
EVR	**Evrytania**	**0.51**	**345**	*e*PG	**Pg**	**07 24 51.7**	**-0.5**
EVR				*e*SG	**Sg**	**07 25 00.1**	**+1.3**
EVR	**Evrytania**	**0.51**	**345**	*e*Pg	**Pg**	**07 24 51.7**	**-0.5**
EVR	**Evrytania**	**0.51**	**345**	P	**Pg**	**07 24 52.0**	**-0.1**
EVR				S	**Sg**	**07 25 00.1**	**+1.3**
AXS	**Araxos**	**0.53**	**245**	P	**Pg**	**07 24 52.1**	**-0.3**
AXS				S	**Sg**	**07 25 00.2**	**+0.9**
AXS	**Araxos**	**0.53**	**245**	P	**Pg**	**07 24 52.1**	**-0.3**
AXS				S	**Sg**	**07 25 00.2**	**+0.9**
GUR	**Goura**	**0.56**	**149**	P	**Pg**	**07 24 52.7**	**-0.5**
GUR				S	**Sg**	**07 25 01.3**	**+0.8**
GUR	**Goura**	**0.56**	**149**	*e*PG	**Pb**	**07 24 54.1**	**-0.6**
GUR	**Goura**	**0.56**	**149**	P	**Pg**	**07 24 52.7**	**-0.5**
GUR	**Goura**	**0.56**	**149**	*e*Pg	**Pb**	**07 24 54.1**	**-0.6**
GUR				S	**Sg**	**07 25 01.3**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	P	**Pg**	**07 24 53.7**	**-0.2**
MAKR				S	**Sg**	**07 25 02.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.60**	**11**	P	**Pg**	**07 24 53.7**	**-0.2**
MAKR				S	**Sg**	**07 25 02.1**	**+0.4**
AXAR	**Agios Charalam**	**0.63**	**57**	P	**Pg**	**07 24 54.0**	**-0.5**
AXAR				S	**Sg**	**07 25 03.5**	**+0.8**
AXAR	**Agios Charalam**	**0.63**	**57**	P	**Pg**	**07 24 54.0**	**-0.5**
AXAR				S	**Sg**	**07 25 03.5**	**+0.8**
AGG	**Agios Georgios**	**0.66**	**25**	P	**Pg**	**07 24 54.5**	**-0.5**
AGG				S	**Sg**	**07 25 04.6**	**+1.1**
AGG	**Agios Georgios**	**0.66**	**25**	P	**Pg**	**07 24 54.5**	**-0.5**
AGG				S	**Sg**	**07 25 04.6**	**+1.1**

CSEM ***15*** *07:24:51.5, 38°.43N×21°.98E, h5km, MD2.7, After ATH*
ATH 15 07:24:51.5, 38°.43N×21°.98E, h5km±2km, MD2.7/7, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**267**	*e*PG	Pg	07 24 52.5	-0.4
EFP				*e*SG	Sg	07 24 53.8	-0.1
EFP	**Efpalio**	**0.06**	**267**	*e*Pg	Pg	07 24 52.5	-0.4
EFP				*e*Sg	Sg	07 24 53.8	-0.1
TRIZ	**Trizonia**	**0.10**	**131**	*e*PG	Pg	07 24 53.3	-0.3
TRIZ				*e*SG	Sg	07 24 55.2	+0.3
TRIZ	**Trizonia**	**0.10**	**131**	*e*Pg	Pg	07 24 53.3	-0.3
TRIZ				*e*Sg	Sg	07 24 55.2	+0.3
PSA1	**Psathopyrgos**	**0.13**	**216**	*e*PG	Pg	07 24 54.1	0.0
PSA1				*e*SG	Sg	07 24 56.1	+0.2
KALE	**Kalithea**	**0.13**	**107**	*e*PG	Pg	07 24 53.8	-0.5
KALE				*e*SG	Sg	07 24 56.5	+0.3
KALE	**Kalithea**	**0.13**	**107**	*e*Pg	Pg	07 24 53.8	-0.5
KALE				*e*Sg	Sg	07 24 56.5	+0.3
LAKA	**Lakka**	**0.19**	**180**	*e*PG	Pg	07 24 54.8	-0.5
LAKA				*e*SG	Sg	07 24 58.2	+0.5
LAKA	**Lakka**	**0.19**	**180**	*e*Pg	Pg	07 24 54.8	-0.5
LAKA				*e*Sg	Sg	07 24 58.2	+0.3
KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*PB	Pg	07 25 00.3	+0.8
KLV				*e*SB	Sg	07 25 05.8	+0.9
KLV	**Kalavryta, Ach**	**0.41**	**161**	*e*Pb	Pg	07 25 00.3	+0.8
KLV				*e*Sb	Sg	07 25 05.8	+0.9
EVR	**Evrytania**	**0.50**	**345**	*e*PB	Pg	07 25 00.9	-0.5
EVR				*e*SB	Sb	07 25 09.5	-1.3
EVR	**Evrytania**	**0.50**	**345**	*e*Pb	Pg	07 25 00.9	-0.5
EVR				*e*Sb	Sb	07 25 09.5	-1.3
GUR	**Goura**	**0.57**	**150**	*e*PB	Pg	07 25 01.7	-0.9
GUR	**Goura**	**0.57**	**150**	*e*Pb	Pg	07 25 01.7	-0.9

MEX 15 07:33:29.9±0.4, 29°.16N×113°.06W, h10km, MD4.3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG		**1.86**	**94**	*i* P	Pn	07 33 57.2	-4.6
HSIG				*i* S	Sn	07 34 20.7	-4.6
SRIG	**Santa Rosalia**	**1.97**	**158**	*i* P	Pn	07 34 00.1	-3.3
SRIG				*i* S	Sn	07 34 23.6	-4.6
CGIG		**4.58**	**74**	*i* P	Pn	07 34 38.8	-0.7
CGIG				*e*S	Sn	07 35 29.6	-3.4
HPIG		**6.90**	**107**	*i* P	Pn	07 35 08.8	-2.7

CASC 15 08:27:00.1±2.5, 9°.54N×84°.25W, h27km±4km, MD3.8, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.14**	**145**	⇓*i* P	Pn	08 27 06.5	-0.1
QCR				*e*S	Sb	08 27 11.9	+2.9
SJS	**Escuela Geolog**	**0.44**	**26**	⇓*i* P	Pb	08 27 09.4	-0.2
SJS				*e*S	Sb	08 27 16.4	+0.3
BUS	**Buena Vista**	**0.48**	**89**	⇓*i* P	Pb	08 27 10.7	0.0
BUS				*e*S	Sb	08 27 18.6	+0.6
CGA2	**Cerro Gallo 2**	**0.52**	**336**	⇑*i* P	Pb	08 27 10.1	-0.8
URSC	**Urasca**	**0.55**	**58**	⇓*i* P	Pb	08 27 11.2	-0.2
URSC				*e*S	Sb	08 27 19.5	+0.3
JCR	**Jicaral**	**0.91**	**290**	*e*P	Pn	08 27 15.6	-1.5
JCR				*e*S	Sb	08 27 27.8	-1.2
CEDE	**Laguna Cedeˆ–o**	**1.04**	**334**	*i* P	Pn	08 27 18.2	-0.8
AMAS	**Alto Masis**	**1.29**	**325**	*i* P	Pn	08 27 22.1	-0.4
AMAS				*i* S	Sb	08 27 39.8	-0.4
PTEN	**Parque Tenorio**	**1.37**	**328**	*i* P	Pn	08 27 24.3	+0.7
PTEN				*i* S	Sb	08 27 43.2	+0.7
ACR	**Cerro Adams**	**1.39**	**130**	*e*P	Pn	08 27 23.1	-0.6
ACR				*e*S	Sb	08 27 42.5	-0.3
CUI	**Cuipilapa**	**1.43**	**321**	*i* P	Pn	08 27 24.1	-0.2
CUI				*i* S	Sn	08 27 43.0	+0.7
COLC	**Colonia**	**1.46**	**320**	*i* P	Pn	08 27 24.6	-0.2
HORNC	**Hornillas**	**1.48**	**322**	*i* P	Pn	08 27 24.3	-0.8
VCR	**Vista de Mar**	**1.48**	**293**	*e*P	Pn	08 27 23.4	-1.7
MESS	**Mesas**	**1.51**	**322**	*i* P	Pn	08 27 25.6	+0.1
LIM1	**Limonal**	**1.52**	**319**	*i* P	Pn	08 27 25.3	-0.2
GPS2	**Hotel Rincˆ‡n**	**1.62**	**318**	*i* P	Pn	08 27 27.1	+0.1
NY14	**Universidad de**	**1.68**	**311**	*i* P	Pn	08 27 27.7	0.0
NY14				*i* S	Sb	08 27 49.9	-1.1
LAPC	**Finca la Perla**	**1.69**	**316**	*i* P	Pn	08 27 27.6	-0.3
BUEV	**Buena Vista**	**1.69**	**318**	*i* P	Pn	08 27 28.4	+0.4
GB1A	**Borinquen Arri**	**1.70**	**318**	*i* P	Pn	08 27 27.9	-0.2
BRU2	**Volcan**	**1.71**	**116**	⇑*i* P	Pn	08 27 28.4	+0.1
BRU2				*e*S	Sn	08 27 48.5	-0.9
CNI	**Changuinola**	**1.71**	**94**	*e*P	Pn	08 27 28.7	+0.5
CNI				*e*S	Sb	08 27 51.4	-0.7
TBS2		**1.74**	**115**	*e*P	Pn	08 27 28.9	+0.2
TBS2				*e*S	Sb	08 27 52.1	-1.0
GBS2	**Las Lilas**	**1.75**	**317**	*i* P	Pn	08 27 29.0	+0.3
GBS2				*i* S	Sb	08 27 52.2	-1.0
BRU	**Baru**	**1.82**	**114**	*e*P	Pn	08 27 29.8	-0.4
BRU				*e*S	Sn	08 27 54.4	+1.6

IDC 15 08:31:14.9±3.4, 3°.85S×151°.94E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.1/18, mbtmp3.2/2, Error ellipse: s-maj=160.4km s-min=44.1km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**226**	P	P	08 36 27.2	+0.9
	0.6nm,0.6s,baz=53,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.30**	**220**	P	P	08 36 52.2	-0.2
	0.1nm,0.6s,baz=53,slow=9.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**149.19**	**289**	PKPbc	PKPbc	08 51 05.5	-1.1
	0.6nm,1.2s,baz=51,slow=2.4,SNR=3.2						

IDC ***15*** *08:56:36.1±1.1, 34°.61S×179°.22W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/19, mbtmp4.2/6, ML4.3/1, MS4.0/9, Ms1 4.0/9, ms1mx3.8/28, Error ellipse: s-maj=36.7km s-min=26.0km az=88.0*
NEIC ***15*** *08:56:41.3±0.9, 34°.81S×179°.25W, h35km, mb4.4/1, Error ellipse: s-maj=21.2km s-min=17.2km az=119.0*
ISC 15 08:56:39.9±0.8, 34°.8S±0°.1×178°.9W±0°.1, h35km, n38, σ1s63/27, mb4.2/6, MS4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.70**	**222**	*e*Pn	**Pn**	**08 57 46.6**	**-1.7**
URZ				*e*Sn	**Sn**	**08 58 41.8**	**+0.3**
URZ	**Urewera**	**4.70**	**222**	Pn	**Pn**	**08 57 46.4**	**-1.9**
	12nm,0.3s,baz=48,slow=4.2,SNR=63						
URZ				Sn	**Sn**	**08 58 39.6**	**-2.0**
	17nm,0.3s,baz=169,slow=21,SNR=17						
URZ				LR	LR	08 59 06.6	
	comp=Z,246nm,20.8s,baz=43,slow=32						
OUZ	**Omahuta**	**6.15**	**264**	*e*Pn	**Pn**	**08 58 08.0**	**-0.2**
	35nm,0.9s						
RPZ	**Rata Peaks**	**11.80**	**218**	Pn	Pn	08 59 22.5	-3.2
RPZ	**Rata Peaks**	**11.80**	**218**	Pn	Pn	08 59 22.5	-3.2
	0.8nm,0.3s,baz=34,slow=14,SNR=6.5						
DZM	**Mont Dzumac**	**18.04**	**311**	*e*LR	LR	09 04 50.0	
	1μm,23.3s						
RAR	**Rarotonga**	**21.61**	**56**	LR	LR	09 08 01.5	
	comp=Z,318nm,19.7s,baz=270,slow=32						
TBI	**Tubuai**	**28.07**	**74**	*e*LR	LR	09 09 41.1	
	409nm,27.8s						
PPT2	**Papeete2**	**31.26**	**64**	*e*S	**S**	**09 07 56.5**	**-4.4**
	31nm,25.0s						
PPT2				*e*LQ	LQ	09 09 26.4	
	211nm,22.2s						
PPT2				*e*LR	LR	09 11 17.5	
	361nm,24.2s,baz=232						
PPT	**Papeete**	**31.27**	**64**	LR	LR	09 12 17.5	
	comp=Z,235nm,18.0s,baz=223,slow=

1.5nm,0.6s,baz=255,slow=9.7,SNR=2.9
ASAR Alice Springs 44.86 256 P **P 09 04 29.2 -1.8**
5.3nm,0.5s,baz=85,slow=8.1,SNR=92
ASAR S **S 09 10 26.1 -1.9**
1.3nm,0.9s,baz=88,slow=17,SNR=8.0
WRA Warramunga Arr 44.88 261 P **P 09 04 30.2 -0.9**
1.8nm,0.3s,baz=97,slow=8.1,SNR=85
KDU Kakadu 48.11 271 P **P 09 04 55.1 -0.4**
baz=48,SNR=3.8
KDU S S 09 10 44.4 -29
baz=48,SNR=4.8
KNRA Kununurra 50.88 266 P **P 09 05 15.6 -0.3**
baz=50,SNR=4.6
FITZ Fitzroy Crossi 53.30 262 P **P 09 05 32.2 -1.0**
1.8nm,0.5s,baz=143,slow=5.6,SNR=17
FITZ Fitzroy Crossi 53.30 262 P **P 09 05 33.1 -0.1**
baz=53,SNR=8.3
VNDA Vanda 58.66 185 P **P 09 06 09.9 +0.7**
0.9nm,0.6s,baz=349,slow=7.9,SNR=9.2
MJAR Matsushiro Arr 69.72 323 P **P 09 07 19.4 -0.5**
1.6nm,0.7s,baz=162,slow=5.9,SNR=8.2
QSPA South Pole Qui 70.30 180 P **P 09 07 22.5 -0.5**
5.9nm,0.8s,baz=13,slow=1.5,SNR=7.3
PETK Petropavlovsk- 75.60 345 P **P 09 07 53.3 +0.1**
1.3nm,0.8s,baz=148,slow=8.5,SNR=3.5
USRK Ussuriysk Arra 78.45 326 P **P 09 08 10.3 +1.5**
0.4nm,0.5s,baz=180,slow=3.8,SNR=4.5
ILAR Eielson Array 87.56 13 P **P 09 08 53.1 -0.8**
0.3nm,0.6s,baz=209,slow=6.1,SNR=4.2
GERES GERESS Array B 149.54 345 PKPbc **PKPbc 09 15 51.5 -0.6**
0.5nm,0.6s,baz=45,slow=2.1,SNR=4.5

IDC 15 09:07:51.8±1.7, 6.71S×143.16E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.4/17, mbtmp3.5/5, ML2.9/3, MS4.3/1, Ms1 4.3/1, ms1mx2.9/29, Error ellipse: s-maj=34.1km s-min=28.5km az=42.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.78**	**124**	Pn	Pn	09 09 05.2	0.0
	0.9nm,0.3s,baz=270,slow=11,SNR=2.6						
PMG				Sn	Sn	09 10 00.0	-1.3
	0.5nm,0.3s,baz=251,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**15.70**	**212**	Pn	Pn	09 11 33.8	-0.7
	0.1nm,0.3s,baz=30,slow=13,SNR=9.7						
WRA				Sn	Sn	09 14 21.9	-7.4
	0.1nm,0.3s,baz=36,slow=27,SNR=5.3						
WRA				Lg	Lg	09 16 12.7	
	0.1nm,0.3s,baz=43,slow=25,SNR=3.1						
ASAR	**Alice Springs**	**19.06**	**207**	P	Pn	09 12 17.1	+0.4
	0.1nm,0.3s,baz=34,slow=9.9,SNR=8.9						
ASAR				Lg	Lg	09 18 01.7	
	0.0nm,0.3s,baz=20,slow=27,SNR=4.2						
FITZ	**Fitzroy Crossi**	**20.50**	**235**	P	P	09 12 30.9	-0.7
	3.5nm,1.0s,baz=64,slow=6.7,SNR=7.1						
MJAR	**Matsushiro Arr**	**43.27**	**354**	LR	LR	09 30 52.6	
	comp=Z,384nm,20.8s,baz=55,slow=32						
MKAR	**Makanchi Array**	**75.65**	**322**	P	P	09 19 39.1	+0.1
	0.4nm,0.7s,baz=109,slow=7.1,SNR=5.2						

WEL 15 09:12:59.1±0.7, 36.83S×177.38E, h12km, ML3.5/6, Error ellipse: s-maj=4.9km s-min=4.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.72**	**192**	P*	Pg	09 13 12.0	-1.1
WIZ				S*	Sg	09 13 21.3	-1.3
OPRZ	**Ohinepanea**	**1.21**	**213**	P*	Pn	09 13 20.0	-1.9
TGRZ	**Tauranga**	**1.27**	**224**	P*	Pn	09 13 21.0	-1.7
TGRZ				AML	AML	09 13 45.1	
TGRZ				AML	AML	09 13 48.6	
KUZ	**Kuaotunu**	**1.34**	**273**	PN	Pn	09 13 22.4	-1.1
KUZ				AML	AML	09 13 34.4	
KUZ				SN	Sb	09 13 39.0	-2.2
KUZ				AML	AML	09 13 42.3	
KUZ				AML	AML	09 13 48.2	
PUZ	**Puketiti**	**1.43**	**151**	PN	Pn	09 13 24.5	-0.4
PUZ				SN	Sn	09 13 43.7	0.0
PUZ				AML	AML	09 13 44.9	
URZ	**Urewera**	**1.45**	**188**	P*	Pn	09 13 23.1	-2.0
URZ				AML	AML	09 13 42.2	
URZ				AML	AML	09 13 43.8	
MWZ	**Matawai**	**1.51**	**176**	P*	Pn	09 13 23.6	-2.6
MWZ				AML	AML	09 13 49.2	
MWZ				AML	AML	09 13 51.9	
TOZ	**Tahuroa Road**	**1.75**	**238**	P*	Pn	09 13 28.6	-0.7
CNGZ	**Carnagh Statio**	**1.78**	**159**	PN	Pn	09 13 29.8	+0.1
MKAZ	**Moumakai**	**1.80**	**260**	PN	Pn	09 13 29.5	-0.4
MKAZ				AML	AML	09 13 51.8	
MKAZ				AML	AML	09 13 52.8	
MTAZ	**Motutapu**	**1.98**	**270**	PN	Pn	09 13 33.4	+0.9
ABAZ	**Army Bay**	**2.06**	**275**	PN	Pn	09 13 33.1	-0.4
KAAZ	**Kauri Point**	**2.15**	**269**	PN	Pn	09 13 35.5	+0.7
RVAZ	**Riverhead Bore**	**2.25**	**271**	PN	Pn	09 13 36.8	+0.7
NMHZ	**Naumai**	**2.31**	**191**	PN	Pn	09 13 38.8	+1.6
BKZ	**Black Stump Fm**	**2.44**	**196**	P*	Pn	09 13 37.5	-1.4
WCZ	**Waipu Caves**	**2.60**	**289**	PN	Pn	09 13 41.4	+0.3
HIZ	**Hauiti**	**2.62**	**229**	PN	Pn	09 13 41.1	-0.2
BHHZ	**Black Hill Sta**	**2.86**	**201**	P*	Pn	09 13 46.4	+1.8
OUZ	**Omahuta**	**3.46**	**296**	PN	Pn	09 13 53.5	+0.7
MRZ	**Mangatainoka R**	**4.08**	**200**	PN	Pn	09 14 00.2	-1.2

---

*JMA **15** 09:20:01.5±0.2, 33.08N×138.56E, h311km, M3.1*
*ISCJB **15** 09:20:02.5±1.2, 33.2N±0.1×138.6E±0.1, h300km, mb3.2/2, Error ellipse: s-maj=18.7km s-min=13.4km az=156.4*
*IDC **15** 09:20:05.4±7.3, 33.37N×138.33E, h304km±38km, mb3.1/2, mb1 3.0/3, mb1mx2.7/27, mbtmp2.9/3, Error ellipse: s-maj=96.7km s-min=78.8km az=160.0*
ISC 15 09:20:03.2±1.7, 33.2N±0.1×138.6E±0.1, h300km, n17, σ0.62/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.55**	**287**	P	**Pn**	**09 20 46.6**	**+0.3**
HMMJ	**Hamamatsu 2**	**1.80**	**337**	P	**Pn**	**09 20 49.0**	**+0.7**
HMMJ				S	**S**	**09 21 24.1**	**-0.2**
JIE	**Ise**	**1.96**	**308**	P	**Pn**	**09 20 49.5**	**0.0**
JKN2	**Miekihoku**	**2.18**	**299**	P	**Pn**	**09 20 50.9**	**-0.4**
JNY	**Yasuok**	**2.24**	**345**	P	**Pn**	**09 20 53.0**	**+1.1**
BSO3	**Boso 3**	**2.28**	**45**	P	**Pn**	**09 20 52.2**	**+0.4**
JAO	**Obara**	**2.34**	**333**	P	**Pn**	**09 20 53.3**	**+0.6**
BSO1	**Boso 1**	**2.48**	**53**	P	**Pn**	**09 20 53.6**	**+0.3**
JHU	**Hanno**	**2.72**	**12**	P	**Pn**	**09 20 56.6**	**+0.5**
JRY	**Ryogami san**	**2.83**	**5**	P	**Pn**	**09 20 58.4**	**+1.2**
JGM	**Miyama**	**2.93**	**329**	P	**Pn**	**09 20 58.6**	**+0.4**
JAG	**Ashikaga**	**3.31**	**12**	P	**Pn**	**09 21 01.8**	**-0.1**
JYT	**Yasato**	**3.31**	**23**	P	**Pn**	**09 21 01.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.35**	**355**	P	**Pn**	**09 21 03.1**	**+0.7**
	0.5nm,0.3s,baz=176,slow=12,SNR=8.6						
MJAR				S	**S**	**09 21 49.0**	**-0.9**
	0.1nm,0.3s,baz=145,slow=13,SNR=2.5						
JHO	**Hitachi**	**3.79**	**25**	P	**Pn**	**09 21 06.6**	**-0.4**
MKAR	**Makanchi Array**	**44.30**	**305**	P	**P**	**09 27 43.4**	**-0.4**
	0.3nm,0.5s,baz=91,slow=8.3,SNR=4.8						
FINES	**FINESS Array B**	**71.11**	**332**	P	**P**	**09 30 49.3**	**+0.4**
	1.4nm,0.8s,baz=59,slow=7.8,SNR=6.3						

---

*NIED **15** 09:20:00, 46.60N×153.10E, h20km, Mw4.8 Best double couple: M0 1.81000×10^16 NP1:φs119.00000°, δ78.00000°, λ-52.00000°. NP2:φs224.00000°, δ39.00000°, λ-161.00000°.*
*JMA **15** 09:20:43.7±0.8, 46.62N×153.11E, h30km, M5.2*
*SKHL **15** 09:20:44.5±0.8, 46.58N×153.22E, h54km±1km, mb5.9/1, mbh5.6/1, Ms4.2/3, msh4.9/2*
*MOS **15** 09:20:45.8±1.0, 46.73N×152.74E, h49km, mb4.8/55, Error ellipse: s-maj=7.3km s-min=5.9km az=75.8*
*ISCJB **15** 09:20:45.8±0.4, 46.57N±0.03×152.74E±0.03, h51km±4km, mb4.7/156, MS4.1/34, Error ellipse: s-maj=6.2km s-min=2.9km az=155.5*
*BJI **15** 09:20:47.4, 46.73N×152.69E, h67km, mB4.8/31, mb4.7/42, Ms4.3/36, Ms7 4.1/36*
*GCMT **15** 09:20:48.5±0.3, 46.69N×152.89E, h45km±3km, MW4.9, Moment Tensor Solution. s14,c16; s64,c90; Moment tensor: Scale 10^16Nm; Mrr0.81±.21; Mθθ0.79±.16; Mφφ-1.59±.13; Mrθ-1.04±.13; Mθφ-0.67±.11; Mφr1.67±.14; Best double couple: M0 2.50000×10^16 NP1:φs337.00000°, δ79.00000°, λ57.00000°. NP2:φs231.00000°, δ35.00000°, λ160.00000°. Principal axes: T 2.5300, Plg46.0000°, Azm214.0000°; N -0.0800, Plg32.0000°, Azm344.0000°; P -2.4500, Plg26.0000°, Azm93.0000°; Data Used: II G IU IC CN.*
*IDC **15** 09:20:49.1±2.2, 46.74N×152.62E, h62km±20km, mb4.2/27, mb1 4.4/30, mb1mx4.3/34, mbtmp4.2/30, MS3.9/23, Ms1 3.9/23, ms1mx3.8/41 Error ellipse: s-maj=13.7km s-min=9.0km az=144.0*
*BKK **15** 09:20:49.7±2.6, 46.74N±27.15E±3.5, h10km, M5.0/13, mB6.1/1, mb5.0/13, Mw(mB)5.8/1*
*NEIC **15** 09:20:49.4±0.7, 46.74N×152.61E, h64km±6km, mb4.8/71, Error ellipse: s-maj=6.5km s-min=3.0km az=155.0*
ISC 15 09:20:48.7±0.4, 46.61N±0.05×152.72E±0.04, h61km±2km, h61km:pP-P, n661, σ1.09/717, mb4.7/165, 17C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**250**	⇓*i* PN	**Pn**	**09 21 42.8**	**+0.1**
KUR				*i* S	**Sn**	**09 22 25.9**	**+1.4**
KUR				pmax	pmax		
	comp=E,40nm,0.4s						
KUR				pmax	pmax		
	comp=Z,337nm,0.4s						
KUR				pmax	pmax		
	comp=N,95nm,0.2s						
KUR				smax	smax		
	comp=N,509nm,0.4s						
KUR				smax	smax		
	comp=E,289nm,0.2s						
KUR	**Kuril'sk**	**3.66**	**250**	⇓*i* P	**Pn**	**09 21 42.8**	**+0.1**
KUR				AMB	AMB	09 21 44.4	
	comp=E,860nm,0.8s						
KUR				*i* S	**Sn**	**09 22 25.9**	**+1.4**
KUR				A	A	09 22 39.0	
	comp=E,8μm,1.2s						
KUR				A	A	09 22 39.0	
	comp=E,9μm,1.8s						
KUR				A	A	09 22 40.2	
	comp=E,509nm,0.5s						
KUR				A	A	09 22 40.2	
	comp=E,290nm,0.5s						
SKR	**Severo-Kuril's**	**4.66**	**28**	⇑*i* PN	Pn	09 21 50.6	-5.7
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,190nm,0.5s						
SKR				pmax	pmax		
	comp=Z,920nm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,4.0s						
SKR	**Severo-Kuril's**	**4.66**	**28**	⇑*i* P	Pn	09 21 50.6	-5.7
SKR				AMB	AMB	09 21 53.9	
	comp=E,500nm,0.5s						
SKR				AMB	AMB	09 21 53.9	
	comp=E,190nm,0.5s						
SKR				AMB	AMB	09 21 53.9	
	comp=E,920nm,0.5s						
SKR				AMB	AMB	09 21 56.0	
	comp=E,1μm,2.0s						
SKR				AMB	AMB	09 21 56.0	
	comp=E,1μm,2.0s						
SKR				AMB	AMB	09 21 56.0	
	comp=E,1μm,4.0s						
SKR				*e*S	Sn	09 22 40.8	-8.2
SKR				A	A	09 22 46.0	
	comp=E,2μm,6.0s						
SKR				A	A	09 22 46.0	
	comp=E,3μm,8.0s						
SKR				A	A	09 23 02.0	
	comp=E,770nm,0.5s						
SKR				A	A	09 23 02.0	
	comp=E,1μm,0.5s						
SKR				A	A	09 23 02.0	
	comp=E,500nm,0.5s						
SKR				AMS	AMS	09 23 34.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	09 23 34.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	09 23 34.0	
	comp=E,3μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**244**	*d i* PN	**Pn**	**09 22 08.3**	**+0.7**
YUK				*i*		09 23 15.2	
YUK				pmax	pmax		
	comp=N,132nm,0.2s						
YUK				pmax	pmax		
	comp=Z,341nm,0.4s						
YUK				pmax	pmax		
	comp=E,172nm,0.2s						
YUK				pmax	pmax		
	comp=Z,699nm,2.1s						
YUK				pmax	pmax		
	comp=E,2μm,2.3s						
YUK				pmax	pmax		
	comp=N,1μm,2.3s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**244**	⇓*i* P	**Pn**	**09 22 08.3**	**+0.7**
YUK				AMB	AMB	09 22 11.2	
	comp=N,341nm,0.5s						
YUK				AMB	AMB	09 22 11.2	
	comp=N,132nm,0.2s						
YUK				AMB	AMB	09 22 11.2	
	comp=N,172nm,0.2s						
YUK				*i* S	**Sn**	**09 23 14.7**	**+5.4**
YUK				A	A	09 23 29.4	
	comp=N,504nm,0.7s						
YUK				A	A	09 23 29.4	
	comp=N,124nm,0.7s						
YUK				AMS	AMS	09 24 08.4	
	comp=N,900nm,11.0s						
NEM2	**Nemuro 2**	**5.92**	**239**	P	**Pn**	**09 22 11.5**	**-2.1**
NEM2				*e*S	**Sn**	**09 23 16.6**	**-3.4**
JRA	**Rausu**	**5.99**	**246**	P	**Pn**	**09 22 15.5**	**+0.9**
JNK	**Nakash**	**6.42**	**245**	P	**Pn**	**09 22 20.6**	**+0.1**
JNK				*e*S	**Sn**	**09 23 32.6**	**+0.2**
JTKR	**Abashiri--Toko**	**6.75**	**250**	P	**Pn**	**09 22 26.0**	**+0.9**
JAK	**Akkeshi**	**6.75**	**241**	P	**Pn**	**09 22 23.2**	**-1.9**
JAK				*e*S	**Sn**	**09 23 36.8**	**-3.7**
YSS	**Yuzh-Sakhalins**	**6.85**	**276**	⇑*i* PN	**Pn**	**09 22 29.0**	**+2.6**
YSS				*e*S	**Sn**	**09 23 46.5**	**+3.6**
YSS				pmax	pmax		
	comp=Z,80nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS				MLR	MLR		
	comp=N,800nm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.85**	**276**	⇑*i* P	**Pn**	**09 22 29.0**	**+2.6**
YSS				AMB	AMB	09 22 30.0	
	comp=E,80nm,1.0s						
YSS				*e*S	**Sn**	**09 23 46.5**	**+3.6**
YSS				*e*LR	LR	09 24 11.0	
YSS				AMS	AMS	09 24 50.0	
	comp=E,800nm,16.0s						
YSS				AMS	AMS	09 24 50.0	
	comp=E,2μm,18.0s						
YSS				AMS	AMS	09 24 50.0	
	comp=E,2μm,18.0s						
JMP	**Maruseppu**	**7.09**	**252**	P	**Pn**	**09 22 31.2**	**+1.4**
JAR	**Ashorobuto**	**7.16**	**246**	P	**Pn**	**09 22 31.1**	**+0.4**
JAR				*e*S	**Sn**	**09 23 51.1**	**+0.5**
PEA0B	**Petropavlovsk-**	**7.25**	**24**	*e*Pn	**Pn**	**09 22 30.8**	**-1.1**
PETK	**Petropavlovsk-**	**7.25**	**24**	PN	**Pn**	**09 22 30.5**	**-1.4**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.25**	**24**	P	**Pn**	**09 22 30.5**	**-1.4**
PETK				S	**Sn**	**09 23 50.8**	**-1.9**
PETK	**Petropavlovsk-**	**7.25**	**24**	P	**Pn**	**09 22 30.5**	**-1.4**
	comp=Z,8.5nm,0.3s,baz=190,slow=14,SNR=162						
PETK				S	**Sn**	**09 23 50.8**	**-1.9**
	baz=180,slow=20,SNR=1.4						
PETK				LR	LR	09 25 18.9	
	comp=Z,974nm,21.6s,baz=60,slow=38						
JSE	**Soyaes**	**7.28**	**261**	P	**Pn**	**09 22 34.5**	**+2.3**
JOB	**Onbets**	**7.33**	**243**	P	**Pn**	**09 22 31.9**	**-1.1**
JOB				*e*S	**Sn**	**09 23 52.1**	**-2.6**
PET	**Petropavlovsk**	**7.48**	**29**	*e*PN	**Pn**	**09 22 33.2**	**-1.7**
PET				pmax	pmax		
	comp=Z,112nm,0.7s						
PET				pmax	pmax		
	comp=Z,300nm,2.0s						
PET				MLR	MLR		
	comp=Z,700nm,7.0s						
JKK2	**Kamakawa 2**	**7.55**	**252**	P	**Pn**	**09 22 37.7**	**+1.7**
ASAJ	**Asahikawa**	**7.55**	**254**	*e*Pn	**Pn**	**09 22 37.9**	**+1.9**
ASAJ				*e*Sn	**Sn**	**09 24 05.2**	**+5.1**
ASAJ	**Asahikawa**	**7.55**	**254**	P	**Pn**	**09 22 38.4**	**+2.4**
ASAJ	**Asahikawa**	**7.55**	**254**	P	**Pn**	**09 22 38.0**	**+1.9**
	comp=Z,6.3nm,0.3s,baz=87,slow=16,SNR=85						
ASAJ				LR	LR	09 25 26.4	
	comp=Z,1μm,19.8s,baz=74,slow=37						
UGL	**Uglegorsk**	**7.58**	**293**	*e*PN	**Pn**	**09 22 38.0**	**+1.6**
UGL				pmax	pmax		
	comp=Z,120nm,0.8s						
UGL	**Uglegorsk**	**7.58**	**293**	*e*P	**Pn**	**09 22 38.0**	**+1.6**
UGL				AMB	AMB	09 22 40.0	
	comp=Z,120nm,0.8s						
UGL				AMS	AMS	09 25 25.0	
	comp=Z,1μm,17.0s						
UGL				AMS	AMS	09 25 25.0	
	comp=Z,500nm,17.0s						
UGL				AMS	AMS	09 25 25.0	
	comp=Z,1μm,17.0s						
JWK2	**Keihoku**	**7.65**	**264**	P	Pn	09 22 41.6	+4.2
JCH	**Churui**	**7.78**	**242**	P	**Pn**	**09 22 37.7**	**-1.4**
JCH				*e*S	**Sn**	**09 24 02.2**	**-3.5**
TYV	**Tymovskoe**	**7.90**	**306**	*e*P	**Pn**	**09 22 40.2**	**-0.5**
TYV				AMB	AMB	09 22 41.5	
	comp=Z,40nm,1.0s						
TYV				AMB	AMB	09 22 41.5	
	comp=Z,44nm,1.0s						
TYV				AMB	AMB	09 22 41.5	
	comp=Z,88nm,1.0s						
TYV				AMS	AMS	09 25 32.0	
	comp=Z,2μm,18.0s						
TYV				AMS	AMS	09 25 32.0	
	comp=Z,1μm,20.0s						
JSS	**Shosan**	**7.95**	**258**	P	Pn	09 22 45.5	+4.1
JFR	**Furan**	**7.97**	**248**	P	**Pn**	**09 22 42.4**	**+0.6**
JAB	**Ashibetsu**	**8.05**	**251**	P	**Pn**	**09 22 44.9**	**+2.0**
ERM	**Erimo**	**8.25**	**240**	*e*PN	**Pn**	**09 22 44.9**	**-0.6**
ERM				pmax	pmax		
	comp=Z,107nm,1.0s						
ERM	**Erimo**	**8.25**	**240**	*e*Pn	**Pn**	**09 22 45.0**	**-0.6**
ERM				*e*Sn	**Sn**	**09 24 14.1**	**-3.1**
JEM	**Erimo**	**8.25**	**240**	P	**Pn**	**09 22 44.9**	**-0.7**
JHR	**Hokuryu**	**8.28**	**254**	P	**Pn**	**09 22 48.5**	**+2.5**
JBT2	**Biratori 2**	**8.31**	**246**	P	**Pn**	**09 22 45.3**	**-1.1**
JNBK	**Urakawa-nobuka**	**8.34**	**242**	P	**Pn**	**09 22 44.9**	**-1.9**
JEW	**Eniwo**	**8.86**	**249**	P	**Pn**	**09 22 54.5**	**+0.6**
JSK	**Shakotan**	**9.27**	**254**	P	**Pn**	**09 23 01.4**	**+1.9**
JKB	**Kayabe**	**9.62**	**245**	P	**Pn**	**09 23 02.2**	**-2.1**
JKB				*e*S	Sn	09 24 44.0	-6.8
JSH	**Shimam**	**9.87**	**251**	P	**Pn**	**09 23 07.7**	**+0.1**
JOT	**Ohata**	**9.90**	**242**	P	**Pn**	**09 23 05.1**	**-3.0**
JYM2	**Yakumo 2**	**9.92**	**248**	P	**Pn**	**09 23 07.3**	**-1.0**
NKL	**Nikolayevsk**	**10.15**	**315**	*i* P	**Pn**	**09 23 12.7**	**+1.3**
NKL				AMB	AMB	09 23 14.0	
	comp=Z,30nm,1.1s						
NKL				AMB	AMB	09 23 14.0	
	comp=Z,50nm,1.1s						
NKL				AMB	AMB	09 23 14.0	
	comp=Z,55nm,1.1s						
NKL				*e*L	L	09 26 08.0	
NKL				AMS	AMS	09 27 48.0	
	comp=Z,500nm,15.0s						
NKL				AMS	AMS	09 27 48.0	
	comp=Z,900nm,15.0s						
JSR	**Shiriuchi**	**10.20**	**245**	P	**Pn**	**09 23 10.6**	**-1.6**
JTM	**Tenmabayashi**	**10.25**	**240**	P	**Pn**	**09 23 09.7**	**-3.1**
JTM				*e*S	Sn	09 24 57.0	-9.1
JANG	**Nango**	**10.25**	**237**	P	Pn	09 23 08.6	-4.3
JANG				*e*S	Sn	09 24 55.9	-10
JTH	**Tanohata**	**10.35**	**234**	P	Pn	09 23 08.2	-6.0
JTH				*e*S	Sn	09 24 57.5	-11
JOSM	**Okushiri--Mats**	**10.51**	**249**	P	**Pn**	**09 23 14.8**	**-1.6**
JOM	**Ohasama**	**10.98**	**234**	P	Pn	09 23 18.0	-4.9
OFUJ	**Ofunato**	**11.06**	**231**	P	Pn	09 23 19.6	-4.3
TEY	**Ternei**	**11.36**	**268**	*e*P	Pn	09 23 33.0	+5.0
TEY				AMB	AMB	09 23 33.5	
	comp=Z,43nm,1.0s						
TEY				AMB	AMB	09 23 33.5	
	comp=Z,650nm,1.0s						
TEY				AMS	AMS	09 26 27.0	
	comp=Z,2μm,20.0s						
TEY				*e*LR	LR	09 26 50.0	
JRG	**Rokugo**	**11.41**	**235**	P	Pn	09 23 25.2	-3.5
JRG				*e*S	Sn	09 25 26.8	-7.6
JOG2	**Oga 2**	**11.55**	**239**	P	Pn	09 23 26.5	-4.2
JIO	**Ouri**	**11.69**	**230**	P	Pn	09 23 27.9	-4.6
JIO				*e*S	Sn	09 25 30.9	-10
HABR	**Khabarovsk**	**12.09**	**285**	*e*PN	**Pn**	**09 23 35.7**	**-2.2**
HABR				pmax	pmax		
	comp=N,28nm,2.0s						
HABR				pmax	pmax		
	comp=E,65nm,2.0s						
HABR				pmax	pmax		
	comp=Z,58nm,1.8s						
JMM	**Marumori**	**12.42**	**230**	P	Pn	09 23 37.9	-4.6
JYA	**Atsumi**	**12.48**	**235**	P	Pn	09 23 39.5	-3.8
JFY	**Yanaizu**	**13.34**	**231**	P	Pn	09 23 51.7	-3.3
JSD	**Sado**	**13.69**	**236**	P	Pn	09 23 55.4	-4.3
KLR	**Kul'dur**	**14.30**	**288**	*e*P	**Pn**	**09 24 06.0**	**-1.8**
KLR				MLR	MLR		
	comp=Z,800nm,15.0s						
USRK	**Ussuriysk Arra**	**14.76**	**268**	P	**Pn**	**09 24 13.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=76,slow=12,SNR=42						
USRK				LR	LR	09 29 39.9	
	comp=Z,759nm,20.5s,baz=71,slow=36						
MJAR	**Matsushiro Arr**	**14.78**	**232**	P	Pn	09 24 10.6	-3.5
MJAR	**Matsushiro Arr**	**14.78**	**232**	P	Pn	09 24 10.6	-3.5
	comp=Z,0.5nm,0.3s,baz=27,slow=13,SNR=36						
MAT	**Matsushiro**	**14.78**	**232**	P	Pn	09 24 10.3	-3.8
MAT				*e*S	**Sn**	**09 27 01.0**	**+4.4**
MAT	**Matsushiro**	**14.78**	**232**	P	Pn	09 24 10.6	-3.5
JRY	**Ryogami san**	**14.80**	**229**	P	Pn	09 24 10.8	-3.6
SMY	**Shemya**	**15.11**	**58**	*e*P	**Pn**	**09 24 15.2**	**-3.0**
SMY				pmax	pmax		
	comp=Z,114nm,0.5s						
SMY	**Shemya**	**15.11**	**58**	*e*Pn	**Pn**	**09 24 15.2**	**-3.0**
	comp=Z,114nm,0.5s						
MDJ	**Mudanjiang**	**16.30**	**271**	P	**Pn**	**09 24 33.3**	**0.0**
MDJ				pP	**pP**	**09 24 48.3**	**0.0**
MDJ				sP	**sP**	**09 24 55.9**	**-0.2**
MDJ				S	**Sn**	**09 27 32.1**	**-1.1**
MDJ				PcP	**PcP**	**09 29 25.0**	**+1.4**
MDJ				ScP	**ScP**	**09 32 53.5**	**+0.9**
MDJ				PcS	**PcS**	**09 33 00.6**	**+1.4**
MDJ				ScS	**ScS**	**09 36 33.3**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,94nm,6.0s						
MDJ				LR	LR		
	comp=N,290nm,19.7s						
MDJ				LR	LR		
	comp=E,380nm,21.7s						
MDJ				LR	LR		
	comp=Z,600nm,19.7s						
MDJ	**Mudanjiang**	**16.30**	**271**	*e*Pn	**Pn**	**09 24 33.4**	**0.0**
	comp=Z,26nm,1.0s						
SEY	**Seymchan**	**16.36**	**359**	*e*P	**P**	**09 24 35.7**	**-0.2**
ZEA	**Zeya**	**17.74**	**303**	*e*P	**P**	**09 24 53.3**	**+2.1**
ZEA				AMB	AMB	09 24 55.0	

CLNS				pmax	pmax	
	comp=E,8.0nm,1.0s					
CLNS				pmax	pmax	
	comp=N,10.0nm,1.0s					
CLNS				MLR	MLR	
	comp=N,303nm,16.0s					
CLNS				MLR	MLR	
	comp=E,221nm,11.0s					
YAK	**Yakutsk**	**20.29**	**328**	*e*P	Pn	09 25 22.7 +1.2
YAK				*e*S	**S**	**09 29 02.3 -0.6**
YAK				pmax	pmax	
	comp=E,9.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,25nm,0.9s					
YAK				pmax	pmax	
	comp=N,6.0nm,1.1s					
YAK				pmax	pmax	
	comp=E,46nm,1.4s					
YAK				pmax	pmax	
	comp=Z,60nm,1.3s					
YAK				pmax	pmax	
	comp=N,39nm,1.2s					
YAK				smax	smax	
	comp=E,58nm,1.7s					
YAK				smax	smax	
	comp=N,33nm,1.4s					
KSRS	**Korea Array**	**20.50**	**252**	P	Pn	09 25 23.1 -1.1
	comp=N,11nm,0.7s,baz=55,slow=11,SNR=34					
KSRS				PcP	**PcP**	**09 29 31.2 +0.5**
	comp=N,1.4nm,0.9s,baz=108,slow=0.5,SNR=5.2					
KSAR	**Wonju Array Be**	**20.53**	**252**	P	**P**	**09 25 23.1 +1.2**
KSAR				PcP	**PcP**	**09 29 31.2 +0.4**
INCN	**Inchon**	**21.33**	**254**	*e*P	**P**	**09 25 31.0 +0.5**
	comp=N,39nm,0.8s					
JNU	**Nakatsue**	**21.42**	**239**	P	**P**	**09 25 31.9 +0.5**
JNU	**Nakatsue**	**21.42**	**239**	P	**P**	**09 25 31.7 +0.3**
JNU	**Nakatsue**	**21.42**	**239**	P	**P**	**09 25 31.9 +0.5**
	comp=N,33nm,0.9s,baz=39,slow=6.5,SNR=11					
JNU				LR	LR	09 34 29.6
	comp=N,170nm,18.9s,baz=282,slow=38					
TJN	**Taejon**	**21.48**	**251**	*e*P	**P**	**09 25 32.4 +0.3**
JSU	**Suzuyama**	**22.83**	**237**	P	**P**	**09 25 47.1 +0.6**
BJI	**Beijing**	**27.20**	**269**	P	**P**	**09 26 27.8 +1.4**
BJI				pmax	pmax	
	comp=Z,16nm,1.1s					
BJI				pmax	pmax	
	comp=Z,33nm,3.7s					
BJI				LR	LR	
	comp=N,250nm,16.9s					
BJI				LR	LR	
	comp=E,530nm,20.3s					
BJI				LR	LR	
	comp=Z,440nm,20.3s					
NJ2	**Nanjing**	**29.70**	**253**	*e*P	**P**	**09 26 50.9 +2.2**
NJ2				pP	**pP**	**09 27 01.6 -2.1**
NJ2				S	**S**	**09 31 41.0 +0.9**
NJ2				sS	**sS**	**09 32 04.0 -1.7**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.9s					
NJ2				pmax	pmax	
	comp=Z,150nm,3.8s					
NJ2				LR	LR	
	comp=N,330nm,22.5s					
NJ2				LR	LR	
	comp=E,410nm,17.3s					
NJ2				LR	LR	
	comp=Z,470nm,24.9s					
HHC	**Hu-ho-hao-te**	**30.03**	**274**	*e*P	**P**	**09 26 51.5 -0.2**
HHC				PP	**PnPn**	**09 27 50.4 -0.3**
HHC				PcP	**PcP**	**09 29 52.8 +0.5**
HHC				S	**S**	**09 31 42.8 -2.7**
HHC				SS	**SnSn**	**09 33 22.8 +0.1**
HHC				ScP	**ScP**	**09 33 28.8 -0.2**
HHC				PcS	**PcS**	**09 33 35.4 -0.5**
HHC				ScS	**ScS**	**09 37 22.8 -1.8**
HHC				pmax	pmax	
	comp=Z,47nm,0.7s					
HHC				pmax	pmax	
	comp=Z,190nm,4.9s					
HHC				LR	LR	
	comp=N,660nm,14.7s					
HHC				LR	LR	
	comp=E,560nm,14.7s					
HHC				LR	LR	
	comp=Z,720nm,14.0s					
ULN	**Ulaanbaatar**	**30.69**	**289**	*e*P	**P**	**09 26 58.4 +0.9**
	comp=Z,11nm,1.0s					
SONM	**Songino Array**	**31.12**	**289**	P	**P**	**09 27 00.1 -1.2**
SONM				PcP	**PcP**	**09 29 55.5 +0.4**
SONM	**Songino Array**	**31.12**	**289**	P	**P**	**09 27 00.1 -1.2**
	comp=Z,1.3nm,0.9s,baz=74,slow=7.7,SNR=4.4					
SONM				PcP	**PcP**	**09 29 55.5 +0.4**
	comp=Z,0.3nm,0.5s,baz=347,slow=1.9,SNR=4.2					
SONM				LR	LR	09 40 34.5
	comp=Z,364nm,18.6s,baz=61,slow=38					
ZAK	**Zakamensk**	**32.49**	**295**	*e*P	**P**	**09 27 10.2 -3.1**
ZAK				pmax	pmax	
	comp=Z,1.0nm,0.9s					
WHN	**Wuhan**	**33.63**	**255**	⇓P	**P**	**09 27 23.5 +0.3**
WHN				S	**S**	**09 32 38.5 -3.0**
WHN				LR	LR	
	comp=Z,470nm,16.9s					
IMA2	**Indian Mountai**	**34.08**	**36**	*e*P	**P**	**09 27 27.2 +0.3**
KDAK	**Kodiak Island**	**34.40**	**51**	P	**P**	**09 27 28.8 -0.8**
	comp=Z,32nm,0.7s					
KDAK	**Kodiak Island**	**34.40**	**51**	P	**P**	**09 27 28.8 -0.8**
	comp=Z,34nm,0.7s,baz=310,slow=5.6,SNR=18					
PPLA	**Purkeypile**	**34.45**	**42**	*e*P	**P**	**09 27 31.5 +1.4**
	comp=Z,54nm,1.4s					
TPUB	**Ta-pu**	**34.73**	**239**	*e*P	**P**	**09 27 33.3 +0.5**
	comp=Z,20nm,0.7s					
TWG	**Pinlang**	**34.83**	**238**	*e*P	**P**	**09 27 34.0 +0.3**
XAN	**Xi'an**	**35.23**	**265**	P	**P**	**09 27 37.0 -0.1**
XAN				pP	**pP**	**09 27 51.3 -1.0**
XAN				sP	**sP**	**09 27 58.3 -1.2**
XAN				S	**S**	**09 33 05.8 -0.5**
XAN				pmax	pmax	
	comp=Z,6.0nm,1.1s					
XAN				pmax	pmax	
	comp=Z,13nm,5.9s					
XAN				LR	LR	
	comp=N,150nm,17.4s					
XAN				LR	LR	
	comp=E,64nm,17.4s					
XAN				LR	LR	
	comp=Z,100nm,17.4s					
COLD	**Coldfoot**	**35.60**	**34**	*e*P	**P**	**09 27 40.4 +0.5**
	comp=Z,22nm,1.0s					
MCK	**McKinley**	**35.93**	**40**	*e*P	**P**	**09 27 42.9 +0.1**
MCK				pmax	pmax	
	comp=Z,17nm,0.8s					
MCK	**McKinley**	**35.93**	**40**	*e*P	**P**	**09 27 42.9 +0.1**
	comp=Z,18nm,0.8s					
COLA	**College**	**36.41**	**38**	*e*P	**P**	**09 27 47.4 +0.6**
COLA				pmax	pmax	
	comp=Z,115nm,0.6s					
COLA	**College**	**36.41**	**38**	*e*P	**P**	**09 27 47.4 +0.6**
	comp=Z,115nm,0.6s					
ILAR	**Eielson Array**	**36.83**	**38**	P	**P**	**09 27 50.0 -0.3**
ILAR	**Eielson Array**	**36.83**	**38**	P	**P**	**09 27 50.0 -0.3**
	comp=Z,6.2nm,1.0s,baz=258,slow=7.4,SNR=33					
ILAR				LR	LR	09 43 06.7
	comp=Z,166nm,22.0s,baz=178,slow=36					
ENH	**Enshi**	**37.07**	**259**	*e*P	**P**	**09 27 52.6 -0.2**
	comp=Z,7.2nm,0.4s					
LZH	**Lanzhou**	**37.62**	**272**	*e*P	**P**	**09 27 58.8 +1.2**
LZH				pP	**pP**	**09 28 13.4 +0.5**
LZH				sP	**sP**	**09 28 20.1 +0.1**
LZH				PP	**PnPn**	**09 29 27.3 +1.5**
LZH				SS	SnSn	09 36 15.3 -11
LZH				pmax	pmax	
	comp=Z,41nm,1.2s					
LZH				LR	LR	
	comp=N,250nm,13.5s					
LZH				LR	LR	
	comp=E,440nm,17.3s					
LZH				LR	LR	
	comp=Z,510nm,15.2s					
BMRM	**Bremner River**	**38.12**	**45**	*e*P	**P**	**09 28 02.4 +1.0**
	comp=Z,18nm,0.9s					
HVS	**Khovu-Aksy**	**38.18**	**299**	*e*P	**P**	**09 28 03.2 +1.2**
HVS				pmax	pmax	
	comp=Z,9.0nm,0.8s					
GTA	**Gaotai**	**38.73**	**279**	P	**P**	**09 28 07.3 +0.5**
GTA				pP	**pP**	**09 28 22.5 +0.3**
GTA				sP	**sP**	**09 28 29.9 +0.6**
GTA				PcP	**PcP**	**09 30 18.8 +1.4**
GTA				S	**S**	**09 33 58.5 -1.0**
GTA				PcS	**PcS**	**09 34 06.8 -0.1**
GTA				sS	**sS**	**09 34 24.6 -0.9**
GTA				SS	SS	09 36 39.0 -13
GTA				pmax	pmax	
	comp=Z,9.0nm,0.9s					
GTA				pmax	pmax	
	comp=Z,95nm,6.6s					
GTA				LR	LR	
	comp=N,1μm,21.4s					
GTA				LR	LR	
	comp=E,2μm,22.8s					
GTA				LR	LR	
	comp=Z,280nm,16.1s					
CD2	**Chengdu**	**40.60**	**265**	*e*P	**P**	**09 28 22.4 +0.1**
CD2				pP	**pP**	**09 28 38.9 +1.1**
CD2				sP	**sP**	**09 28 46.8 +1.9**
CD2				PP	**PnPn**	**09 30 00.3 -0.8**
CD2				S	**S**	**09 34 26.0 -1.5**
CD2				sS	**sS**	**09 34 54.3 +0.6**
CD2				SS	**SS**	**09 37 22.3 -7.0**
CD2				pmax	pmax	
	comp=Z,50nm,0.8s					
CD2				pmax	pmax	
	comp=Z,150nm,10.4s					
CD2				LR	LR	
	comp=N,140nm,15.6s					
CD2				LR	LR	
	comp=Z,310nm,13.2s					
GYA	**Guiyang**	**41.42**	**257**	P	**P**	**09 28 29.1 -0.1**
GYA				pP	**pP**	**09 28 47.3 +2.6**
GYA				sP	**sP**	**09 28 55.0 +3.2**
GYA				PP	**PnPn**	**09 30 10.4 -0.5**
GYA				PcP	**PcP**	**09 30 27.3 +1.1**
GYA				ScP	**ScP**	**09 34 11.3 +0.6**
GYA				PcS	**PcS**	**09 34 18.6 +0.8**
GYA				S	**S**	**09 34 40.0 +0.1**
GYA				sS	**sS**	**09 35 07.5 +1.3**
GYA				SS	SS	09 37 37.8 -8.0
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
GYA				pmax	pmax	
	comp=Z,90nm,5.5s					
GYA				LR	LR	
	comp=N,560nm,17.4s					
GYA				LR	LR	
	comp=E,410nm,18.0s					
GYA				LR	LR	
	comp=Z,530nm,17.7s					
HYT	**Haines Junctio**	**41.56**	**44**	*e*P	**P**	**09 28 31.3 +1.3**
ZALV	**Zalesovo Beam**	**42.47**	**306**	P	**P**	**09 28 35.5 -1.8**
ZALV						09 30 29.3
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.5s					
ZALV				pmax	pmax	
	comp=Z,4.0nm,0.8s					
ZALV				MLR	MLR	
	comp=Z,311nm,18.2s					
ZALV	**Zalesovo Beam**	**42.47**	**306**	*i* P	**P**	**09 28 35.7 -1.6**
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.4s					
ZALV	**Zalesovo Beam**	**42.47**	**306**	P	**P**	**09 28 35.5 -1.8**
ZALV				PcP	**PcP**	**09 30 29.3 +0.2**
ZALV	**Zalesovo Beam**	**42.47**	**306**	P	**P**	**09 28 35.5 -1.8**
	comp=Z,1.9nm,0.5s,baz=61,slow=8.3,SNR=7.3					
ZALV				PcP	**PcP**	**09 30 29.3 +0.2**
	comp=Z,3.5nm,0.8s,baz=75,slow=2.2,SNR=8.6					
ZALV				LR	LR	09 47 24.5
	comp=Z,311nm,18.2s,baz=250,slow=38					
QIZ	**Qiongzhong**	**44.55**	**247**	P	**P**	**09 28 55.4 +1.0**
QIZ				sP	**sP**	**09 29 16.3 -0.8**
QIZ				S	**S**	**09 35 24.3 -1.3**
QIZ				pmax	pmax	
	comp=Z,9.0nm,1.2s					
QIZ				LR	LR	
	comp=N,190nm,17.9s					
QIZ				LR	LR	
	comp=Z,260nm,17.4s					
WMQ	**Urumqi**	**44.72**	**291**	*e*P	**P**	**09 28 56.9 +1.2**
WMQ				pmax	pmax	
	comp=Z,12nm,0.9s					
WMQ				LR	LR	
	comp=N,110nm,23.0s					
WMQ				LR	LR	
	comp=E,140nm,20.0s					
WMQ				LR	LR	
	comp=Z,170nm,21.0s					
KMI	**Kunming**	**44.95**	**259**	P	**P**	**09 28 58.0 +0.2**
KMI				pP	**pP**	**09 29 16.3 +2.8**
KMI				sP	**sP**	**09 29 23.6 +3.1**
KMI				S	**S**	**09 35 31.0 -0.8**
KMI				sS	**sS**	**09 36 01.3 +3.0**
KMI				SS	**ScS**	**09 38 46.9 -2.7**
KMI				pmax	pmax	
	comp=Z,9.0nm,1.3s					
KMI				pmax	pmax	
	comp=Z,77nm,5.6s					
KMI				LR	LR	
	comp=N,160nm,19.3s					
KMI				LR	LR	
	comp=E,160nm,19.8s					
KMI				LR	LR	
	comp=Z,270nm,19.3s					
DLBC	**Dease Lake**	**45.88**	**46**	*e*P	**P**	**09 29 06.0 +1.4**
DLBC				*e*PP	**PP**	**09 30 56.4 +3.6**
DLBC	**Dease Lake**	**45.88**	**46**	P	**P**	**09 29 06.3 +1.7**
	comp=Z,7.3nm,0.8s,baz=287,slow=7.0,SNR=16					
MK31	**Makanchi Array**	**46.77**	**297**	*e*P	**P**	**09 29 10.1 -1.6**
MK31				*e*		09 30 44.2
MK31				*e*		09 30 59.9
MK31	**Makanchi Array**	**46.77**	**297**	*e*P	**P**	**09 29 10.1 -1.6**
MK31				*e*PcP	**PcP**	**09 30 44.2 +0.2**
MK31				*e*PP	**PP**	**09 30 59.9 -2.1**
MKAR	**Makanchi Array**	**46.77**	**297**	*c e*P	**P**	**09 29 10.6 -1.0**
MKAR				pmax	pmax	
	comp=Z,4.0nm,0.7s					
MKAR	**Makanchi Array**	**46.77**	**297**	P	**P**	**09 29 10.7 -1.0**
MKAR				PcP	**PcP**	**09 30 44.0 0.0**
MKAR	**Makanchi Array**	**46.77**	**297**	P	**P**	**09 29 10.7 -1.0**
	comp=Z,3.7nm,0.7s,baz=69,slow=7.3,SNR=29					
MKAR				PcP	**PcP**	**09 30 44.0 0.0**
	comp=Z,2.9nm,0.8s,baz=65,slow=4.4,SNR=5.2					
MKAR				LR	LR	09 49 59.2
	comp=Z,299nm,20.0s,baz=251,slow=38					
LSA	**Lhasa**	**50.01**	**273**	P	**P**	**09 29 39.0 +1.7**
LSA				pmax	pmax	
	comp=Z,40nm,0.6s					
LSA	**Lhasa**	**50.01**	**273**	*e*P	**P**	**09 29 39.0 +1.7**
LSA				pmax	pmax	
	comp=Z,21nm,0.6s					
LSA	**Lhasa**	**50.01**	**273**	*e*P	**P**	**09 29 39.0 +1.7**
	comp=Z,21nm,0.6s					
UBPT	**Khong Chiam**	**50.11**	**247**	P	**P**	**09 29 39.1 +1.5**
	comp=Z,14nm,1.2s					
BRVK	**Borovoye**	**50.78**	**309**	*e*P	**P**	**09 29 41.7 -0.6**
BRVK				pmax	pmax	
	comp=Z,5.0nm,0.8s					
YKA	**Yellowknife Ar**	**51.20**	**37**	P	**P**	**09 29 45.6 +0.4**
YKA	**Yellowknife Ar**	**51.20**	**37**	P	**P**	**09 29 45.6 +0.4**
	comp=Z,1.4nm,0.8s,baz=297,slow=7.7,SNR=4.5					
LOEI	**Loei**	**51.21**	**253**	P	**P**	**09 29 44.3 -1.6**
	comp=Z,22nm,1.3s					
LAMP	**Lampang**	**51.57**	**256**	P	**P**	**09 29 50.3 +1.7**
	comp=Z,8.6nm,0.9s					
CMMT	**Chiang Mai**	**51.82**	**256**	P	**P**	**09 29 51.1 +0.6**
	comp=Z,21nm,1.1s					
CHTO	**Chiang Mai**	**51.82**	**256**	*e*P	**P**	**09 29 51.1 +0.6**
CHTO				pmax	pmax	
	comp=Z,15nm,0.9s					
CHTO	**Chiang Mai**	**51.82**	**256**	*e*P	**P**	**09 29 51.1 +0.6**
	comp=Z,15nm,0.9s					
CHTO	**Chiang Mai**	**51.82**	**256**	P	**P**	**09 29 51.4 +0.9**
	comp=Z,23nm,1.1s					
CHAI	**Chaiyaphum**	**51.90**	**251**	P	**P**	**09 29 51.9 +0.8**
	comp=Z,6.5nm,0.9s					
CM31	**Chiang Mai Arr**	**52.08**	**256**	*e*P	**P**	**09 29 53.9 +1.5**
	comp=Z,3.7nm,0.3s					
CMAR	**Chiang Mai Arr**	**52.08**	**256**	P	**P**	**09 29 53.7 +1.3**
CMAR	**Chiang Mai Arr**	**52.08**	**256**	P	**P**	**09 29 53.7 +1.3**
	comp=Z,8.3nm,0.8s,baz=33,slow=7.3,SNR=40					
PBKT	**Sadao Pong**	**52.08**	**253**	P	**P**	**09 29 53.6 +1.2**
	comp=Z,17nm,1.1s					
SHL	**Shillong**	**52.10**	**268**	*e*P	**P**	**09 29 55.0 +2.3**
AAK	**Ala-Archa**	**53.66**	**296**	*e*P	**P**	**09 30 04.1 +0.1**
AAK				pmax	pmax	
	comp=Z,14nm,0.8s					
AAK	**Ala-Archa**	**53.66**	**296**	*e*P	**P**	**09 30 03.8 -0.2**
	comp=Z,7.0nm,0.9s					
TAPN	**Taplejung**	**53.84**	**273**	*e*P	**P**	**09 30 06.6 +1.0**
	comp=Z,56nm,1.0s					
EKS2	**Erkin-Say**	**54.08**	**297**	*e*P	**P**	**09 30 07.4 +0.4**
EKS2	**Erkin-Say**	**54.08**	**297**	*e*P	**P**	**09 30 07.4 +0.4**
ODAN	**Odare**	**54.37**	**273**	*e*P	**P**	**09 30 09.3 -0.1**
KSH	**Kashi**	**54.46**	**292**	*e*P	P	09 30 13.0 +3.2
KSH				sP	sP	09 30 36.0 +3.2
KSH				PP	**PP**	**09 32 17.0 +4.8**
KSH				S	**S**	**09 37 44.4 +0.4**
KSH				SS	**SS**	**09 41 27.3 +0.8**
KSH				pmax	pmax	
	comp=Z,2.0nm,0.4s					
KSH				pmax	pmax	
	comp=Z,40nm,4.6s					
KSH				LR	LR	
	comp=N,160nm,8.6s					
KSH				LR	LR	
	comp=E,110nm,5.8s					
KSH				LR	LR	
	comp=Z,130nm,7.4s					
JIRN	**Jiri**	**54.69**	**274**	*e*P	**P**	**09 30 12.6 +0.7**
	comp=Z,116nm,0.8s					
GUN	**Gumba**	**54.74**	**275**	*e*P	**P**	**09 30 12.5 +0.2**
RAMN	**Ramite**	**54.85**	**273**	*e*P	**P**	**09 30 13.4 +0.4**
	comp=Z,130nm,0.9s					
ARU	**Arti**	**54.93**	**317**	*c i*P	**P**	**09 30 10.6 -2.2**
ARU				S	**S**	**09 37 47.7 -1.9**
ARU				SS	SS	09 41 25.7 -7.3
ARU				pmax	pmax	
	comp=Z,5.0nm,1.2s					
KKN	**Kakani**	**55.23**	**275**	*e*P	**P**	**09 30 16.3 +0.7**
	comp=Z,59nm,0.7s					
PKI	**Pulchoki**	**55.28**	**275**	*e*P	**P**	**09 30 16.6 +0.5**
PKIN	**Phulchoki**	**55.28**	**275**	*e*P	**P**	**09 30 16.9 +0.8**
	comp=Z,17nm,0.6s					
DMN	**Daman**	**55.46**	**275**	*e*P	**P**	**09 30 18.3 +0.9**
	comp=Z,116nm,0.9s					
PHET	**Kaeng Krachan**	**55.63**	**251**	P	**P**	**09 30 20.4 +2.0**
	comp=Z,94nm,0.9s					
KKAR	**Karatay Array**	**55.83**	**299**	*e*P	**P**	**09 30 19.2 -0.3**
KKAR				*e*		09 31 17.5
KKAR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
KKAR	**Karatay Array**	**55.83**	**299**	*e*P	**P**	**09 30 19.2 -0.3**
	comp=Z,0.7nm,0.4s					
KKAR				*e*PcP	**PcP**	**09 31 17.5 -0.3**
DANN	**Dangsing**	**55.92**	**277**	*e*P	**P**	**09 30 21.5 +0.8**
	comp=Z,83nm,0.7s					
PMG	**Port Moresby**	**55.98**	**187**	LR	LR	09 52 11.0
	comp=Z,67nm,20.6s,baz=353,slow=34					
HNR	**Honiara**	**56.16**	**171**	LR	LR	09 50 32.8
	comp=Z,64nm,19.0s,baz=2.6,slow=32					
KOLN	**Koldanda**	**56.40**	**276**	*e*P	**P**	**09 30 24.8 +0.8**
	comp=Z,59nm,0.8s					
EDM	**Edmonton**	**56.60**	**46**	*e*P	**P**	**09 30 24.8 -0.1**
EDM	**Edmonton**	**56.60**	**46**	*e*P	**P**	**09 30 24.8 -0.1**
PYUN	**Piuthan**	**56.60**	**277**	*e*P	**P**	**09 30 26.0 +0.5**
	comp=Z,123nm,1.0s					
APA	**Apatity**	**57.36**	**337**	⇓*e*P	**P**	**09 30 27.8 -2.1**
APA				*e*		09 31 29.8
APA				MLR	MLR	
	comp=Z,400nm,14.0s					
NEW	**Newport**	**57.47**	**52**	*e*P	**P**	**09 30 31.6 +0.5**
NEW	**Newport**	**57.47**	**52**	P	**P**	**09 30 31.1 0.0**
	comp=Z,2.7nm,1.0s,baz=297,slow=11,SNR=5.4					
ARCES	**ARCESS Array B**	**57.90**	**341**	P	**P**	**09 30 33.0 -0.7**
ARCES	**ARCESS Array B**	**57.90**	**341**	P	**P**	**09 30 33.0 -0.7**
	comp=Z,7.0nm,1.2s,baz=34,slow=7.1,SNR=8.7					
ARCES				LR	LR	09 56 20.8
	comp=Z,44nm,20.4s,baz=234,slow=37					
YBH	**Yreka Blue Hor**	**58.05**	**61**	P	**P**	**09 30 36.3 +1.0**
YBH	**Yreka Blue Hor**	**58.05**	**61**	P	**P**	**09 30 36.3 +1.0**
	comp=Z,3.0nm,0.7s,baz=356,slow=3.6,SNR=6.7					
ABKAR	**Akbulak array**	**58.31**	**310**	*e*P	**P**	**09 30 35.6 -1.2**
	comp=Z,1.5nm,0.5s					
WALA	**Waterton Lakes**	**58.74**	**50**	*e*P	**P**	**09 30 40.7 +0.6**
	comp=Z,0.3nm,1.0s					
BSMT	**Bassoo Peak**	**58.99**	**52**	*e*P	**P**	**09 30 41.6 -0.2**
	comp=Z,6.5nm,1.1s					
KAPI	**Kappang**	**59.12**	**219**	LR	LR	09 53 31.1
	comp=Z,82nm,20.7s,baz=206,slow=33					
BLMT	**Blacktail Moun**	**59.12**	**51**	*e*P	**P**	**09 30 43.8 +1.0**
	comp=Z,13nm,1.0s					
BMO	**Blue Mountains**	**59.38**	**56**	*e*P	**P**	**09 30 45.3 +0.8**
	comp=Z,5.6nm,0.9s					
SWMT	**Swartz Lake**	**59.62**	**52**	*e*P	**P**	**09 30 45.8 -0.3**
	comp=Z,9.9nm,1.4s					
SLMT	**Seeley Lake**	**60.05**	**52**	*e*P	**P**	**09 30 50.0 +0.8**
	comp=Z,7.0nm,0.6s					
MSO	**Missoula**	**60.06**	**52**	P	**P**	**09 30 49.7 +0.6**
	baz=60,SNR=11					
WVOR	**Wild Horse Val**	**60.06**	**59**	*e*P	**P**	**09 30 49.9 +0.6**
WVOR				pmax	pmax	
	comp=Z,7.0nm,0.8s					
WVOR	**Wild Horse Val**	**60.06**	**59**	*e*P	**P**	**09 30 49.9 +0.6**
	comp=Z,6.8nm,0.8s					
CHMT	**Chamberlain Mo**	**60.38**	**52**	*e*P	**P**	**09 30 51.7 +0.2**
	comp=Z,1.9nm,0.5s					
A17A	**Triple J Farms**	**60.49**	**49**	P	**P**	**09 30 52.4 +0.3**
	baz=60					
BEKR	**Beckworth**	**60.59**	**62**	*e*P	**P**	**09 30 53.5 +0.5**
	comp=Z,5.5nm,1.1s					
BEKR				*e*PcP	**PcP**	**09 31 36.9 +0.1**
B17A	**L&G Farms, Che**	**60.84**	**49**	P	**P**	**09 30 54.7 +0.3**
	baz=61					
SUMG	**Summit**	**60.86**	**4**	*e*P	**P**	**09 30 54.2 -0.3**
SUMG				pmax	pmax	
	comp=Z,12nm,0.9s					
SUMG	**Summit**	**60.86**	**4**	*i* P	**P**	**09 30 54.5 0.0**
	comp=Z,9.6nm,1.0s					
SUMG	**Summit**	**60.86**	**4**	*e*P	**P**	**09 30 54.2 -0.3**
	comp=Z,12nm,0.9s					
A18A	**Metzger Ranch,**	**60.95**	**48**	P	**P**	**09 30 55.4 +0.3**
	baz=61					
MFID	**Camas Ranch**	**61.09**	**56**	P	**P**	**09 30 56.3 +0.1**
	baz=61,SNR=5.3					
C17A	**Wharram Farm,**	**61.27**	**50**	P	**P**	**09 30 57.7 +0.4**
	baz=61					
HRY	**Holter Researc**	**61.28**	**51**	*e*P	**P**	**09 30 58.2 +0.8**
	comp=Z,6.7nm,0.6s					
B18A	**Beardsley Farm**	**61.31**	**49**	P	**P**	**09 30 57.9 +0.4**
	baz=61					
LRM	**Limekiln Ridge**	**61.49**	**52**	*e*P	**P**	**09 30 59.6 +0.5**
	comp=Z,119nm,0.9s					
A19A	**Klindworth Far**	**61.51**	**48**	P	**P**	**09 30 59.4 +0.5**
	baz=61					
EGMT	**Eagleton**	**61.55**	**49**	P	**P**	**09 30 59.9 +0.6**
	baz=61					
D17A	**Six Diamond Ra**	**61.61**	**50**	P	**P**	**09 31 00.3 +0.6**
	baz=61					
DLMT	**Dillon**	**61.70**	**53**	*e*P	**P**	**09 31 00.9 +0.5**
	comp=Z,14nm,1.4s					
B19A	**Brinkman Farms**	**61.70**	**48**	P	**P**	**09 31 00.8 +0.6**
	baz=61					
CMB	**Columbia Colle**	**61.71**	**64**	*e*P	**P**	**09 31 00.6 +0.2**
CMB				pmax	pmax	
	comp=Z,12nm,1.2s					
CMB	**Columbia Colle**	**61.71**	**64**	*e*P	**P**	**09 31 00.6 +0.2**
	comp=Z,12nm,1.2s					
HLID	**Hailey**	**61.81**	**55**	*e*P	**P**	**09 31 01.6 +0.4**
	comp=Z,12nm,1.4s					
HLID	**Hailey**	**61.81**	**55**	P	**P**	**09 31 01.8 +0.6**
	baz=62					
MCMT	**McKenzie Canyo**	**61.90**	**54**	*e*P	**P**	**09 31 02.1 +0.3**
	comp=Z,0.8nm,0.8s					
A20A	**Cobblestone Ra**	**61.96**	**48**	P	**P**	**09 31 02.6 +0.7**
	baz=62					
E17A	**Martinsdale**	**61.96**	**51**	P	**P**	**09 31 02.9 +0.8**
	baz=62					
BOZ	**Bozeman (W)**	**62.05**	**52**	*e*P	**P**	**09 31 03.5 +0.7**
BOZ				pmax	pmax	
	comp=Z,10.0nm,1.0s					
BOZ	**Bozeman (W)**	**62.05**	**52**	*e*P	**P**	**09 31 03.5 +0.7**
	comp=Z,9.8nm,1.0s					
D18A	**Linhart Farms,**	**62.05**	**50**	P	**P**	**09 31 03.2 +0.5**
	baz=62					
C19A	**Slack Wire Ran**	**62.11**	**49**	P	**P**	**09 31 03.6 +0.7**
	baz=62					
B20A	**Solberg Farm,**	**62.19**	**48**	P	**P**	**09 31 04.0 +0.5**
	baz=62					
A21A	**

baz=62
F17A Fitzpatrick Pl 62.41 51 P P 09 31 05.9 +0.8
baz=62
D19A Cripps Ranch, 62.56 50 P P 09 31 06.8 +0.8
baz=62
C20A Veseth Ranch, 62.66 49 P P 09 31 07.4 +0.8
baz=62
QLMT Earthquake Lak 62.68 53 eP P 09 31 07.7 +0.7
comp=Z,1.7nm,1.0s
NVAR Mina Array Bea 62.74 62 P P 09 31 08.6 +1.1
NVAR Mina Array Bea 62.74 62 P P 09 31 08.6 +1.1
comp=Z,2.1nm,0.6s,baz=290,slow=7.3,SNR=13
NVAR LR LR 09 55 19.5
comp=Z,103nm,18.0s,baz=94,slow=33
G17A Pierce Place, 62.74 52 P P 09 31 08.1 +0.7
baz=62
A22A Carney Farms, 62.90 47 P P 09 31 08.8 +0.6
baz=63
F18A Big Timber 62.92 51 P P 09 31 09.2 +0.7
baz=63
D20A Manuel Ranch, 62.99 49 P P 09 31 09.8 +0.9
baz=63
E19A Rath Farm, Rou 63.06 50 P P 09 31 10.2 +0.9
baz=63
I16A Newdale 63.26 54 P P 09 31 11.7 +0.9
baz=63
B22A Reddig Ranch S 63.31 47 P P 09 31 11.7 +0.8
baz=63
F19A Roth Farm, Mol 63.37 51 P P 09 31 12.2 +0.8
baz=63
E20A Meyer Farm, Mu 63.38 50 P P 09 31 12.3 +0.9
baz=63
G18A Lazy EL Ranch, 63.38 51 P P 09 31 11.6 0.0
baz=63
H17A Grant Village 63.42 53 eP P 09 31 14.3 +2.3
KAF Kangasniemi 63.45 335 eP P 09 31 09.9 -1.6
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 63.45 335 ep P 09 31 09.9 -1.6
comp=Z,2.3nm,0.6s
IMW Indian Meadow 63.55 53 eP P 09 31 14.3 +1.4
comp=Z,14nm,1.4s
D21A La Casta Ranch 63.60 49 P P 09 31 13.3 +0.4
baz=63
RLMT Red Lodge 63.67 51 eP P 09 31 14.6 +1.0
comp=Z,12nm,1.2s
RRI2 Red Ridge 63.69 54 eP P 09 31 15.2 +1.4
comp=Z,14nm,0.7s
B23A Brockton 63.71 47 P P 09 31 13.9 +0.3
baz=63
H18A Shoshone NF, C 63.74 52 P P 09 31 14.8 +0.8
baz=64
MOOW Moose Ponds 63.75 53 eP P 09 31 15.4 +1.3
comp=Z,11nm,1.3s
TPAW Teton Pass 63.80 54 eP P 09 31 16.0 +1.5
comp=Z,7.8nm,0.7s
F20A Billings 63.83 50 P P 09 31 15.1 +0.7
baz=64
VES Vestal, Richgr 63.90 65 P P 09 31 15.2 +0.3
baz=64
LOHW Long Hollow 63.91 53 eP P 09 31 16.6 +1.4
comp=Z,29nm,1.6s
SNOW Snow King Moun 63.93 54 eP P 09 31 16.5 +1.2
comp=Z,7.3nm,0.8s
REDW Red Top Meadow 63.94 54 eP P 09 31 16.5 +1.1
comp=Z,11nm,0.9s
D22A Cohagen 63.97 48 P P 09 31 15.0 -0.3
baz=64
C23A Lambert 64.05 47 P P 09 31 16.0 +0.2
baz=64
PKM Peak Mountain 64.05 66 P P 09 31 17.3 +1.2
baz=64
FINES FINESS Array B 64.05 335 P P 09 31 14.6 -0.9
FINES FINESS Array B 64.05 335 P P 09 31 14.6 -0.9
comp=Z,4.2nm,0.5s,baz=35,slow=8.1,SNR=8.2
DGMT Dagmar 64.10 46 eP P 09 31 15.6 -0.5
comp=Z,5.7nm,0.7s
DGMT Dagmar 64.10 46 P P 09 31 16.6 +0.6
baz=64
H19A Powell 64.11 52 P P 09 31 17.5 +1.1
baz=64
G20A Bridger 64.17 51 P P 09 31 17.0 +0.3
baz=64
GRAC Grapevine Rang 64.22 63 P P 09 31 17.9 +0.8
baz=64,SNR=6.4
A25A Svangstu Ranch 64.32 45 P P 09 31 17.8 +0.3
baz=64
ISA Isabella 64.39 65 eP P 09 31 18.0 -0.2
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA Isabella 64.39 65 eP P 09 31 18.0 -0.2
comp=Z,8.2nm,0.9s
ISA Isabella 64.39 65 P P 09 31 18.1 -0.2
baz=64
R11A Troy Canyon, C 64.43 61 eP P 09 31 18.7 +0.1
R11A Troy Canyon, C 64.43 61 P P 09 31 18.5 -0.1
baz=64,SNR=6.8
D23A Lindsay 64.45 48 P P 09 31 18.8 +0.4
baz=64
ARVC Arvin 64.52 65 P P 09 31 19.6 +0.6
baz=64
I19A Meeteetse 64.52 52 P P 09 31 19.6 +0.5
baz=64
E22A Miles City 64.56 49 P P 09 31 19.6 +0.5
baz=64
C24A Savage 64.61 47 P P 09 31 19.9 +0.5
baz=64
HWUT Hardware Ranch 64.68 56 eP P 09 31 21.1 +0.9
comp=Z,6.3nm,1.4s
MPMC Manual Prospec 64.75 64 P P 09 31 21.3 +0.6
baz=65,SNR=6.4
F22A Rosebud 64.84 49 P P 09 31 20.9 -0.1
baz=65
E23A Ismay 64.85 48 P P 09 31 21.4 +0.3
baz=65
A26A Wade Farm, Ken 64.87 45 P P 09 31 21.1 0.0
baz=65
FURC Furnace Creek, 64.87 63 P P 09 31 21.9 +0.7
baz=65,SNR=8.0
DUG Dugway 64.88 58 eP P 09 31 22.4 +1.0
DUG pmax pmax
comp=Z,8.0nm,1.5s
DUG Dugway 64.88 58 eP P 09 31 22.4 +1.0
comp=Z,8.0nm,1.5s
DUG Dugway 64.88 58 P P 09 31 22.4 +1.0
baz=65,SNR=5.2
D24A Glendive 64.94 47 P P 09 31 22.3 +0.7
baz=65
J19A Crowheart 65.00 53 P P 09 31 22.8 +0.6
baz=65
BW06 Boulder Array 65.05 54 eP P 09 31 23.0 +0.3
comp=Z,20nm,1.3s
PDAR Pinedale Array 65.05 54 P P 09 31 23.1 +0.4
PDAR Pinedale Array 65.05 54 P P 09 31 23.1 +0.4
comp=Z,3.0nm,0.8s,baz=292,slow=1.8,SNR=30
PDAR LR LR 09 58 09.6
comp=Z,100nm,20.2s,baz=259,slow=34
I20A Worland 65.05 52 P P 09 31 23.2 +0.8
baz=65
H21A Big Horn, Sher 65.19 51 P P 09 31 23.4 +0.1
baz=65
G22A Birney 65.19 50 P P 09 31 23.5 +0.1
baz=65
EDW2 Edwards Air Fo 65.20 65 P P 09 31 24.1 +0.6
baz=65
M17A Scullys Gap (B 65.27 55 P P 09 31 24.3 +0.2
baz=65
F23A Volborg 65.32 49 P P 09 31 24.4 +0.3
baz=65
L18A Fontenelle, Gr 65.33 55 P P 09 31 24.7 +0.3
baz=65
K19A Absolon Red Bu 65.40 53 P P 09 31 24.5 -0.4
baz=65
D25A Fairfield 65.42 47 P P 09 31 24.9 +0.2
baz=65
B27A Peters Farms, 65.58 45 P P 09 31 26.1 +0.4
baz=65
I21A Big Trails, Te 65.59 52 P P 09 31 26.0 0.0
baz=65,SNR=5.4
L19A Farson 65.60 54 P P 09 31 26.5 +0.3
baz=65
GSC Goldstone 65.66 64 eP P 09 31 26.8 +0.3
GSC pmax pmax
comp=Z,11nm,1.0s
GSC Goldstone 65.66 64 eP P 09 31 26.8 +0.3
comp=Z,11nm,1.0s
GSC Goldstone 65.66 64 P P 09 31 26.9 +0.3
baz=66
G23A Biddle 65.68 49 P P 09 31 26.4 -0.1
baz=65
F24A Ekalaka 65.73 48 P P 09 31 26.9 +0.1
baz=65
K20A Yellowstone Ra 65.79 53 P P 09 31 27.2 -0.2
baz=66
E25A Miller Ranch, 65.82 47 P P 09 31 27.6 +0.3
baz=66
J21A Lysite 65.82 52 P P 09 31 27.3 -0.2
baz=66
BFSC Mount Baldy Ra 65.83 65 P P 09 31 28.3 +0.6
baz=66
SHPR Sheep Range 65.89 62 eP P 09 31 28.4 +0.4
comp=Z,9.6nm,1.1s
C27A Sayler Ranch, 65.94 45 P P 09 31 28.7 +0.6
baz=66
I22A 9 Mile Ranch, 65.98 51 P P 09 31 28.9 +0.5
baz=66
B28A Dugan Ranch, T 65.99 44 P P 09 31 28.5 +0.2
baz=66
G24A Alzada 66.10 49 P P 09 31 29.3 +0.1
baz=66
L20A Wamsutter 66.22 54 P P 09 31 30.4 +0.2
baz=66
HEC Hector,Ludlow 66.27 64 P P 09 31 30.7 +0.3
baz=66,SNR=5.2
BBRC Big Bear Solar 66.27 65 P P 09 31 31.0 +0.4
baz=66
CCUT Cedar City 66.28 60 eP P 09 31 31.3 +0.7
comp=Z,14nm,1.2s
J22A Midwest 66.30 51 P P 09 31 30.8 +0.3
baz=66
E26A Carlson Angus 66.32 47 P P 09 31 30.7 +0.2
baz=66
MSU Marysvale 66.35 59 eP P 09 31 31.9 +0.8
MSU pmax pmax
comp=Z,29nm,1.1s
MSU Marysvale 66.35 59 eP P 09 31 31.9 +0.8
comp=Z,29nm,1.1s
K21A Alcova 66.41 52 P P 09 31 31.3 -0.1
baz=66
H24A Dirks Ranch, A 66.42 49 P P 09 31 31.5 +0.2
baz=66,SNR=5.7
MURC Murrieta 66.53 65 P P 09 31 32.5 +0.5
baz=66
F26A Lodgepole 66.64 47 P P 09 31 33.0 +0.5
baz=66
CTA Charters Tower 66.64 187 P P 09 31 31.8 -0.9
CTA Charters Tower 66.64 187 P P 09 31 31.8 -0.9
comp=Z,4.5nm,0.9s,baz=358,slow=10.0,SNR=6.1
M20A Sweetwater, Wa 66.66 54 P P 09 31 33.7 +0.7
baz=66
Q16A Castle Valley 66.67 58 P P 09 31 33.3 +0.2
baz=66
G25A Newell 66.71 48 P P 09 31 33.1 +0.1
baz=66
GMRC Granite Mounta 66.72 64 P P 09 31 33.8 +0.4
baz=66
HYB Hyderabad 66.73 271 i P P 09 31 33.0 -0.5
K22A Casper 66.79 52 P P 09 31 33.8 +0.1
baz=66
L21A Rawlins 66.79 53 P P 09 31 33.8 0.0
baz=66
E27A Carson 66.80 46 P P 09 31 33.3 -0.3
baz=66
ULM Lac du Bonnet 66.80 41 P P 09 31 32.0 -1.4
ULM Lac du Bonnet 66.80 41 P P 09 31 32.0 -1.4
comp=Z,4.3nm,0.8s,baz=322,slow=9.2,SNR=4.1
ULM LR LR 10 01 58.4
comp=Z,106nm,19.6s,baz=275,slow=37
O19A Miners Draw (B 66.93 55 P P 09 31 34.8 +0.2
baz=67
PFO Pinyon Flat Ob 66.99 65 eP P 09 31 36.4 +1.3
comp=Z,3.2nm,0.9s
PFO Pinyon Flat Ob 66.99 65 P P 09 31 35.0 -0.2
baz=67
BELC Belle Mtn. Jos 67.02 64 P P 09 31 35.3 0.0
baz=67
N20A Spence Gulch, 67.05 54 P P 09 31 36.2 +0.7
baz=67
G26A Maurine 67.06 48 P P 09 31 35.4 +0.1
baz=67
RSSD Black Hills 67.12 50 eP P 09 31 36.0 +0.1
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 67.12 50 eP P 09 31 36.0 +0.1
comp=Z,3.3nm,0.8s
L22A Ellis Ranch, M 67.26 53 P P 09 31 37.2 +0.4
baz=67
D29A Pettibone, Tap 67.33 45 P P 09 31 36.7 -0.2
baz=67
G27A Dupree 67.34 47 P P 09 31 37.2 +0.2
baz=67
I25A Rochford 67.35 49 P P 09 31 37.4 +0.2
baz=67
H26A Fairpoint 67.44 48 P P 09 31 37.5 -0.2
baz=67
IRM Iron Mountain 67.44 64 P P 09 31 38.7 +0.9
baz=67,SNR=6.4
P19A Cripple Cowboy 67.46 56 P P 09 31 37.9 -0.2
baz=67
BAR Barrett 67.47 66 eP P 09 31 38.3 +0.2
comp=Z,1.8nm,0.8s
N21A Black Mountain 67.52 54 P P 09 31 38.0 -0.5
baz=67
O20A White River Ci 67.54 55 eP P 09 31 38.9 +0.3
BC3 Big Chuckawall 67.59 64 P P 09 31 39.2 +0.4
baz=67,SNR=5.1
M22A Cedar Creek Ra 67.60 53 P P 09 31 39.2 +0.3
baz=67
U15A North Rim 67.67 60 P P 09 31 39.7 +0.2
baz=68
D30A Buchanan 67.70 44 P P 09 31 39.2 0.0
baz=67
H27A Howes 67.78 48 P P 09 31 39.9 0.0
baz=68
I26A New Underwood 67.80 49 P P 09 31 40.0 0.0
baz=68
DVTC Desert V Tower 67.85 66 P P 09 31 41.1 +0.7
baz=68
P20A De Beque 67.88 56 P P 09 31 40.9 +0.2
baz=68
O21A Pagoda 67.92 55 P P 09 31 41.0 0.0
baz=68
PDMCI Parker Dam,Lak 67.97 63 P P 09 31 41.7 +0.6
baz=68,SNR=5.7
G28A Parade 68.06 47 P P 09 31 41.7 +0.1
baz=68
N22A Wattenberg Ran 68.08 53 P P 09 31 42.3 +0.3
baz=68
I27A Quinn 68.19 49 P P 09 31 42.5 +0.1
baz=68
AGMN Agassiz Nation 68.21 42 eP P 09 31 41.2 -1.2
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 68.27 341 P P 09 31 41.7 -0.9
comp=Z,3.0nm,0.6s,baz=27,slow=6.5
NOA NORSAR Array B 68.27 341 P P 09 31 42.0 -0.6
NOA NORSAR Array B 68.27 341 P P 09 31 42.0 -0.6
comp=Z,6.2nm,0.8s,baz=28,slow=6.3,SNR=20
NOA LR LR 10 10 21.9
comp=Z,42nm,19.0s,baz=35,slow=44
WRAB Tennant Creek 68.28 199 eP P 09 31 43.2 +0.2
H28A Mission Ridge 68.29 47 P P 09 31 43.5 +0.5
baz=68,SNR=6.0
WRA Warramunga Arr 68.29 199 P P 09 31 42.9 -0.2
WRA Warramunga Arr 68.29 199 P P 09 31 42.9 -0.2
comp=Z,5.1nm,0.9s,baz=19,slow=6.8,SNR=24
WRA LR LR 09 58 04.8
comp=Z,105nm,21.9s,baz=15,slow=33
N23A Red Feather La 68.30 53 P P 09 31 43.7 +0.3
baz=68
Q20A Ridgley Place, 68.31 56 P P 09 31 43.7 +0.3
baz=68
PV04 Paradox Valley 68.34 57 eP P 09 31 43.5 -0.1
P21A Newcastle 68.40 55 P P 09 31 44.2 +0.2
baz=68
K26A Motz Farm, Whi 68.55 50 P P 09 31 45.0 +0.3
baz=68
I28A Midland 68.69 48 P P 09 31 45.8 +0.3
baz=68
PV01 Paradox Valley 68.71 57 eP P 09 31 46.0 +0.1
comp=Z,125nm,0.7s
P22A Eagle 68.74 55 P P 09 31 46.1 0.0
baz=68
R20A Redvale 68.78 57 P P 09 31 46.3 -0.1
baz=68
J27A Elkhorn Farm, 68.78 49 P P 09 31 46.2 0.0
baz=68
O23A Lake Granby, G 68.79 54 P P 09 31 46.2 -0.3
baz=68
Q21A Lamborn Mesa, 68.80 56 P P 09 31 46.7 +0.2
baz=69
WUAZ Wupatki 68.83 60 P P 09 31 47.1 +0.4
baz=69
SMCO Snowmass 68.91 55 eP P 09 31 47.8 +0.4
comp=Z,8.1nm,0.7s
Y14A Wickenburg 68.91 63 P P 09 31 47.6 +0.6
baz=69,SNR=5.9
S20A Disappointment 69.03 57 P P 09 31 48.0 -0.1
baz=69
J28A Allard Ranch, 69.06 49 P P 09 31 48.3 +0.5
baz=69,SNR=5.5
R21A Cimarron 69.13 56 P P 09 31 49.3 +0.7
baz=69,SNR=7.5
Q22A Crested Butte, 69.16 55 P P 09 31 49.0 +0.1
baz=69
POO Poona 69.20 275 ⇓ i P P 09 31 48.0 -1.0
comp=Z,40nm,1.0s
113A Mohawk Valley, 69.23 64 P P 09 31 49.3 +0.4
baz=69
ISCO Idaho Springs 69.24 54 eP P 09 31 49.9 +0.6
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO Idaho Springs 69.24 54 eP P 09 31 49.9 +0.6
comp=Z,8.2nm,0.8s
ISCO Idaho Springs 69.24 54 P P 09 31 49.8 +0.6
baz=69,SNR=6.6
MVCO Mesa Verde 69.38 57 eP P 09 31 49.9 -0.2
comp=Z,11nm,0.8s
MVCO Mesa Verde 69.38 57 P P 09 31 50.2 +0.1
baz=69,SNR=5.2
S21A Coal Bank Pass 69.48 57 P P 09 31 51.4 +0.6
baz=69
X16A Lo Mia Camp, P 69.54 61 P P 09 31 52.2 +1.1
baz=69,SNR=5.4
R22A Saguache, Gunn 69.68 56 P P 09 31 52.8 +0.7
baz=69
S22A 4UR Ranch, Cre 69.97 56 P P 09 31 54.5 +0.6
baz=70
K29A Lazy Trails An 70.00 49 P P 09 31 53.6 0.0
baz=70
O26A Horse Wrangler 70.20 52 P P 09 31 55.5 +0.5
baz=70
N27A Anderson Farm, 70.22 51 P P 09 31 55.3 +0.2
baz=70
R23A Moffat 70.23 55 P P 09 31 55.3 -0.1
baz=70
P25A Willow Gulch B 70.24 53 P P 09 31 55.6 +0.3
baz=70
X18A Snowflake 70.36 60 P P 09 31 57.1 +0.9
baz=70,SNR=6.4
U21A Nageezi 70.41 58 P P 09 31 56.9 +0.4
baz=70
EYMN Ely 70.45 40 eP P 09 31 55.8 -0.4
comp=Z,7.9nm,1.1s
R24A Sanders Place, 70.61 55 P P 09 31 58.0 +0.4
baz=70,SNR=5.4
Q25A Bedland, Calha 70.61 54 P P 09 31 58.1 +0.5
baz=70,SNR=5.6
P26A Davis Ranch, A 70.66 53 P P 09 31 58.3 +0.5
baz=70
O27A Beecher Island 70.69 52 P P 09 31 58.4 +0.4
baz=70
KIV Kislovodsk 70.70 314 ⇓ eP P 09 31 59.2 +1.3
KIV eS S 09 41 08.2 +0.8
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV MLR MLR
comp=Z,100nm,17.0s
SDCO Great Sand Dun 70.73 55 eP P 09 31 58.8 +0.3
comp=Z,4.7nm,0.9s
KBZ Khabaz 70.76 314 P P 09 31 58.6 +0.4
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ MLR MLR
comp=Z,77nm,18.4s
KBZ Khabaz 70.76 314 P P 09 31 58.5 +0.4
KBZ Khabaz 70.76 314 P P 09 31 58.5 +0.4
comp=Z,3.8nm,0.8s,baz=5.0,slow=4.3,SNR=9.4
KBZ LR LR 10 06 47.3
comp=Z,77nm,18.4s,baz=206,slow=39
W20A Ramah 70.81 59 P P 09 31 59.3 +0.4
baz=71
V21A Milan 70.85 58 P P 09 31 59.2 0.0
baz=71
U22A Llaves 70.91 57 P P 09 31 59.3 -0.2
baz=71
S24A Houchin Ranch, 70.97 55 P P 09 32 00.6 +0.7
baz=71
Q26A Hugo 71.01 53 P P 09 32 00.2 +0.2
baz=71
O28A Krutsinger Ran 71.11 51 P P 09 32 00.5 0.0
baz=71
R25A Fountain Ranch 71.13 54 P P 09 32 00.8 0.0
baz=71
ECSD EROS Data Cent 71.18 46 eP P 09 32 00.2 -0.5
comp=Z,24nm,1.1s
V22A San Miguel Ran 71.20 58 P P 09 32 01.3 +0.1
baz=71
U23A El Rito 71.32 57 P P 09 32 03.2 +1.2
baz=71,SNR=5.2
TUC Tucson 71.38 63 eP P 09 32 02.9 +0.7
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 71.38 63 eP P 09 32 02.9 +0.7
comp=Z,7.3nm,0.9s
R26A Arlington 71.49 54 P P 09 32 02.9 0.0
baz=71
AKASG Malin Array Be 71.51 326 i P P 09 32 01.7 -0.9
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 71.51 326 P P 09 32 00.7 -1.9
AKASG Malin Array Be 71.51 326 P P 09 32 00.7 -1.9
comp=Z,7.2nm,0.5s,baz=33,slow=6.1,SNR=23
KIEV Kiev 71.52 326 eP P 09 32 01.4 -1.2
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 71.52 326 eP P 09 32 01.4 -1.2
comp=Z,6.1nm,0.8s
O29A 4D Ranch, Culb 71.64 51 P P 09 32 03.6 0.0
baz=71
X21A Alamocita Cree 71.71 59 P P 09 32 04.0 -0.3
baz=72,SNR=6.9
Y20A Horse Springs, 71.73 60 P P 09 32 04.8 +0.3
baz=72,SNR=5.3
V23A Ortiz Mt. (NFS 71.74 57 P P 09 32 03.8 -0.7
baz=72,SNR=5.2
T25A Trinidad 71.77 55 P P 09 32 05.0 +0.3
baz=72
SPMN St. Paul 71.90 43 eP P 09 32 04.8 -0.3
AS31 Alice Springs 71.99 198 eP P 09 32 06.8 +1.1
ASAR Alice Springs 71.99 198 P P 09 32 07.0 +1.3
ASAR Alice Springs 71.99 198 P P 09 32 07.0 +1.3
comp=Z,5.4nm,0.7s,baz=12,slow=5.1,SNR=87
ASAR LR LR 09 59 04.3
comp=Z,151nm,21.9s,baz=342,slow=32
LAZ Ladron 72.12 59 eP P 09 32 05.1 -1.6
comp=Z,2.5nm,0.8s
X22A Bernardo 72.12 59 P P 09 32 07.0 +0.2
baz=72,SNR=5.1
ANMO Albuquerque 72.14 58 eP P 09 32 07.7 +0.8
comp=Z,6.2nm,0.9s
Z20A Nine Sixteen R 72.15 61 P P 09 32 07.2 +0.3
baz=72,SNR=5.8
T26A Comanche Natio 72.21 55 P P 09 32 07.2 -0.1
baz=72
V24A Rampart Ranch, 72.28 57 P P 09 32 08.0 +0.2
baz=72
P30A Selden 72.35 51 P P 09 32 07.8 -0.1
baz=72
Y22A Socorro 72.55 59 P P 09 32 10.1 +0.8
baz=72
W24A Lazy 6 Ranch, 72.56 57 P P 09 32 09.9 +0.5
baz=72
Z21A St. Cloud Mine 72.57 60 P P 09 32 09.6 +0.1
baz=72,SNR=5.2
BNM Barren Site 72.60 59 eP P 09 32 09.6 -0.1
comp=Z,9.2nm,1.4s
ANN Anapa 72.60 318 eP P 09 32 06.1 -3.0
ANN pmax pmax
comp=Z,30nm,0.8s
Q30A Quinter 72.77 51 P P 09 32 10.2 -0.2
baz=72
P31A Stockton 72.83 50 P P 09 32 10.4 -0.3
baz=72
S28A Manter 72.86 53 P P 09 32 11.0 0.0

baz=73
319A **Douglas** 72.95 62 P P 09 32 12.3 +0.7
baz=73,SNR=7.9
Z22A **Elephant Butte** 73.03 60 P P 09 32 12.4 +0.3
baz=73,SNR=6.5
220A **Playas Peak, P** 73.04 62 P P 09 32 13.3 +1.1
baz=73,SNR=7.2
121A **Cookes Peak, D** 73.04 61 P P 09 32 13.2 +1.0
baz=73,SNR=5.5
Y23A **Lovelace Mesa,** 73.09 58 P P 09 32 13.2 +0.6
baz=73,SNR=5.3
W25A **X Bar L Ranch,** 73.10 57 P P 09 32 12.8 +0.3
baz=73,SNR=5.8
U27A **Thompson Grove** 73.18 55 P P 09 32 12.2 -0.7
baz=73,SNR=5.7
R30A **Dighton** 73.24 52 P P 09 32 12.8 -0.4
baz=73
S29A **Ulysses** 73.26 53 P P 09 32 13.0 -0.3
baz=73
Y24A **Capitan** 73.45 58 P P 09 32 14.6 -0.1
baz=73,SNR=5.0
SCHQ **Schefferville** 73.54 23 LR LR 10 10 02.2
comp=Z,126nm,18.8s,baz=327,slow=40
Z24A **Sheeppen Canyo** 73.92 58 P P 09 32 17.8 +0.4
baz=74,SNR=5.1
X26A **CR and CF Fran** 73.95 57 P P 09 32 17.8 +0.3
baz=74
124A **Stringfield Ra** 74.31 59 P P 09 32 20.6 +0.9
baz=74,SNR=5.8
Z25A **Roswell** 74.33 58 P P 09 32 20.0 +0.2
baz=74,SNR=5.1
KSU1 **Kansas State U** 74.59 49 *e*P P 09 32 19.8 -1.2
comp=Z,11nm,0.9s
224A **Cornudas Mount** 74.72 59 P P 09 32 22.1 0.0
baz=74,SNR=5.1
Z26A **Caprock** 74.77 58 P P 09 32 22.5 +0.2
baz=74,SNR=5.9
Y27A **Causey** 74.80 57 P P 09 32 22.8 +0.3
baz=75
125A **Gardner Draw,** 74.81 59 P P 09 32 22.6 +0.1
baz=75
AMTX **Amarillo** 74.93 55 *e*P P 09 32 23.2 +0.1
comp=Z,5.0nm,0.8s
MSTX **Muleshoe** 74.97 56 *e*P P 09 32 24.1 +0.7
MSTX **Muleshoe** 74.97 56 P P 09 32 23.4 +0.1
baz=75,SNR=5.2
MNTX **Cornudas Mount** 75.07 60 *e*P P 09 32 24.6 +0.7
comp=Z,8.9nm,1.2s
225A **Deer Hill, Car** 75.11 59 P P 09 32 24.6 +0.3
baz=75
Z27A **Tatum** 75.18 57 P P 09 32 24.9 +0.3
baz=75
X29A **Tulia** 75.23 55 P P 09 32 24.7 -0.2
baz=75,SNR=5.8
V31A **Spring Creek L** 75.31 53 P P 09 32 25.4 +0.2
baz=75,SNR=5.3
STHS **Stebnicka Huta** 75.50 330 *e*P P 09 32 26.6 +0.6
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS **Stebnicka Huta** 75.50 330 *e*P P 09 32 26.6 +0.6
226B **Tecolote Peak,** 75.52 59 P P 09 32 26.8 +0.2
baz=75
BUR08 **Bucovina Ar. S** 75.54 326 *e*P P 09 32 26.1 -0.3
KOLS **Kolonicke sedl** 75.54 329 *e*P P 09 32 26.0 -0.3
KOLS pmax pmax
comp=Z,5.0nm,1.1s
KOLS **Kolonicke sedl** 75.54 329 *e*P P 09 32 26.0 -0.3
325A **Bean Ranch, Si** 75.55 60 P P 09 32 27.0 +0.2
baz=75
BURAR **Bucovina Array** 75.56 326 ⇑P P 09 32 26.3 -0.2
BURAR **Bucovina Array** 75.56 326 ⇑*i*P P 09 32 26.3 -0.2
X30A **Coker Ranch, T** 75.70 55 P P 09 32 26.7 -0.9
baz=75,SNR=5.3
TESR **Tescani** 75.90 325 ⇓*i*P P 09 32 28.1 -0.3
KSP **Ksiaz** 75.91 333 *e*P P 09 32 27.8 -0.5
425A **Indio Mountain** 75.96 60 P P 09 32 29.7 +0.6
baz=76,SNR=6.2
Z29A **Hungry Hill Ra** 76.09 56 P P 09 32 30.2 +0.4
baz=76,SNR=5.9
326A **Caldwell Ranch** 76.18 59 P P 09 32 30.1 -0.2
baz=76,SNR=5.9
UPC **Upice** 76.28 333 *i*P P 09 32 37.2 +6.7
DPC **Dobruska-Polom** 76.33 333 *i*P P 09 32 31.1 +0.3
DPC *e* 09 32 41.0
DPC **Dobruska-Polom** 76.33 333 *i*P P 09 32 31.1 +0.3
DPC *e*PCP PcP 09 32 41.0 -1.4
CFR **Carcaliu** 76.39 323 ⇓P P 09 32 30.5 -0.6
CFR **Carcaliu** 76.39 323 ⇓*i*P P 09 32 30.5 -0.6
Z30A **Sanderson Ranc** 76.40 56 P P 09 32 32.2 +0.6
baz=76,SNR=5.8
MORC **Moravsky Berou** 76.44 332 *e*P P 09 32 31.3 -0.1
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC **Moravsky Berou** 76.44 332 *e*P P 09 32 31.3 -0.1
comp=Z,6.8nm,1.1s
CLL **Collm** 76.48 335 *i*P P 09 32 30.7 -0.8
CLL *i* *SP sP 09 32 52.9 -2.3
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL **Collm** 76.48 335 *i*P P 09 32 30.7 -0.8
comp=Z,8.0nm,0.7s
CLL *e*PcP PcP 09 32 42.0 -1.0
CLL *i* (sP) sP 09 32 52.9 -2.3
CLL *i* 09 33 08.1
KECS **Kecovo** 76.56 330 *e*P P 09 32 32.0 0.0
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS **Kecovo** 76.56 330 *e*P P 09 32 32.0 0.0
426A **McDonald Obser** 76.61 60 P P 09 32 33.1 +0.1
baz=76,SNR=6.6
WMOK **Wichita Mounta** 76.66 53 *e*P P 09 32 33.0 +0.1
WMOK pmax pmax
comp=Z,12nm,0.9s
WMOK **Wichita Mounta** 76.66 53 *e*P P 09 32 33.0 +0.1
comp=Z,12nm,0.9s
328A **Wristen Ranch,** 76.82 58 P P 09 32 34.3 +0.4
baz=77,SNR=6.2
Y32A **R-V Farms, Ver** 76.83 54 P P 09 32 34.0 +0.1
baz=77,SNR=6.6
427A **Hayter Ranch,** 76.86 59 P P 09 32 34.2 +0.1
baz=77,SNR=6.3
TIRR **Tirgusor** 76.86 323 ⇓P P 09 32 34.2 +0.4
TIRR **Tirgusor** 76.86 323 ⇓*i*P P 09 32 34.2 +0.4
Z31A **Sharp Cattle R** 76.94 55 P P 09 32 34.5 0.0
baz=77,SNR=6.5
526A **Mary Lane Ranc** 77.02 60 P P 09 32 35.7 +0.5
baz=77,SNR=6.6
MLR **Muntele Rosu** 77.02 325 ⇓*i*P P 09 32 35.3 +0.4
MALT **Malatya** 77.05 313 ⇑*i*P x 09 32 58.7
DRGR 77.19 327 ⇓P P 09 32 35.6 -0.1
DRGR 77.19 327 ⇓*i*P P 09 32 35.6 -0.1
PRU **Pruhonice** 77.19 334 *i*P P 09 32 35.5 -0.1
PRU **Pruhonice** 77.19 334 *i*P P 09 32 35.5 -0.1
329A **Wagon Wheel Ra** 77.22 58 P P 09 32 36.8 +0.6
baz=77,SNR=6.7
527A **Woodward Ranch** 77.24 60 P P 09 32 36.3 -0.1
baz=77,SNR=6.0
Z32A **Haskell** 77.33 55 P P 09 32 36.6 0.0
baz=77,SNR=6.4
626A **Big Bend Ranch** 77.36 60 P P 09 32 36.9 -0.1
baz=77,SNR=5.8
428A **Kincaid Ranch,** 77.37 59 P P 09 32 37.3 +0.3
baz=77,SNR=7.0
TUL1 **Tulsa** 77.41 51 *e*P P 09 32 37.0 0.0
TUL1 **Tulsa** 77.41 51 P P 09 32 37.2 +0.1
baz=77,SNR=5.3
230A **Sterling City** 77.44 57 P P 09 32 37.3 0.0
baz=77,SNR=6.4
NKC **Novy Kostel** 77.60 335 *i*P P 09 32 37.7 -0.2
NKC **Novy Kostel** 77.60 335 *i*P P 09 32 37.7 -0.2
ARR **Arges** 77.64 325 ⇑*i*P P 09 32 39.6 +1.3
528A **Cox Ranch, San** 77.72 59 P P 09 32 39.6 +0.5
baz=78,SNR=6.6
330A **Mertzon** 77.75 57 P P 09 32 39.2 +0.1
baz=78,SNR=6.8
TXAR **Lajitas Array** 77.80 60 P P 09 32 38.4 -1.1
TXAR **Lajitas Array** 77.80 60 P P 09 32 38.4 -1.1
comp=Z,1.7nm,0.8s,baz=236,slow=1.4,SNR=10.0
231A **Bronte** 77.86 56 P P 09 32 39.6 -0.1
baz=78,SNR=5.3
627A **Terlingua Ranc** 77.88 60 P P 09 32 39.6 -0.3
baz=78,SNR=5.3
429A **Davenport Ranc** 77.91 58 P P 09 32 39.6 -0.4
baz=78
ZST **Bratislava** 77.95 331 *e*P P 09 32 39.9 +0.1
ZST **Bratislava** 77.95 331 *e*P P 09 32 39.9 +0.1

529A **Stev Forest Ra** 78.08 59 P P 09 32 40.5 -0.5
baz=78,SNR=6.4
430A **Baggett Ranch,** 78.17 58 P P 09 32 41.1 -0.3
baz=78,SNR=6.6
KHC **Kasperske Hory** 78.25 334 *i*P P 09 32 41.2 -0.3
KHC *e* 09 32 52.7
KHC **Kasperske Hory** 78.25 334 *i*P P 09 32 41.2 -0.3
KHC *e*PCP PcP 09 32 52.7 +1.9
KHC **Kasperske Hory** 78.25 334 *e*P P 09 32 41.3 -0.3
comp=Z,5.7nm,0.9s
331A **San Angelo** 78.26 57 P P 09 32 41.5 -0.4
baz=78,SNR=6.0
232A **Coleman** 78.28 56 P P 09 32 41.9 -0.1
baz=78,SNR=8.0
BR131 **Keskin Array S** 78.31 317 *e*P P 09 32 40.4 -1.8
comp=Z,3.7nm,0.9s
BRTR **Keskin Array B** 78.31 317 P P 09 32 41.8 -0.4
BRTR **Keskin Array B** 78.31 317 P P 09 32 41.8 -0.4
comp=Z,3.5nm,0.9s,baz=78,slow=2.9,SNR=17
SFIN **Scholer Farm** 78.31 42 P P 09 32 41.3 -0.7
baz=78
GZR **Gura Zlata** 78.34 327 ⇑P P 09 32 42.2 +0.1
GZR **Gura Zlata** 78.34 327 ⇑*i*P P 09 32 42.2 +0.1
GERES **GERESS Array B** 78.46 334 P P 09 32 42.0 -0.8
GERES **GERESS Array B** 78.46 334 P P 09 32 42.0 -0.8
comp=Z,1.7nm,0.6s,baz=18,slow=5.6,SNR=14
GERES LR LR 10 15 10.9
comp=Z,62nm,19.1s,baz=221,slow=42
UMR **Umm Al-Rimmam** 78.47 301 *e*P P 09 32 42.5 -0.5
UMR AMb AMB 09 32 44.1
comp=Z,41nm,0.7s
530A **J-C Ranch, Com** 78.58 58 P P 09 32 43.4 -0.3
baz=78,SNR=6.2
BZS **Buzias** 78.59 327 ⇑P P 09 32 42.3 -1.1
BZS **Buzias** 78.59 327 ⇑*i*P P 09 32 42.3 -1.1
CONA **Conrad Observa** 78.59 332 ⇑*i*P P 09 32 43.9 +0.4
comp=Z,5.1nm,0.7s,SNR=7.0
332A **Millersview** 78.60 56 P P 09 32 43.4 -0.3
baz=78,SNR=5.9
431A **Sonora** 78.61 57 P P 09 32 43.6 -0.3
baz=78,SNR=6.5
KBD **Kabd** 78.75 301 *e*P P 09 32 44.6 +0.1
KBD AMb AMB 09 32 45.5
comp=Z,19nm,0.7s
STKA **Stephens Creek** 78.77 190 P P 09 32 45.0 +0.7
STKA **Stephens Creek** 78.77 190 P P 09 32 45.0 +0.7
comp=Z,1.6nm,0.8s,baz=90,slow=6.8,SNR=2.9
STKA LR LR 10 03 58.6
comp=Z,129nm,20.8s,baz=24,slow=33
432A **Menard** 78.94 57 P P 09 32 45.6 -0.1
baz=79,SNR=7.2
NAY **Al-Naaiem** 78.97 301 *e*P P 09 32 45.7 -0.1
NAY AMb AMB 09 32 46.8
comp=Z,28nm,1.0s
MEM **Membach** 78.98 339 P P 09 32 45.9 +0.4
531A **Rocksprings** 79.03 58 P P 09 32 46.3 +0.2
baz=79,SNR=5.5
JCT **Junction City** 79.23 57 *e*P P 09 32 47.1 -0.2
JCT pmax pmax
comp=Z,30nm,1.2s
JCT **Junction City** 79.23 57 *e*P P 09 32 47.1 -0.2
comp=Z,30nm,1.2s
JCT **Jution City** 79.23 57 P P 09 32 46.9 -0.4
baz=79,SNR=6.2
ARSA **Arzberg** 79.30 332 P 09 32 47.2 -0.1
comp=Z,5.8nm,1.2s
532A **Rocksprings** 79.43 57 P P 09 32 48.1 -0.2
baz=79,SNR=7.8
WHTX **Lake Whitney** 79.44 54 P P 09 32 49.7 +1.4
631A **Perdido Creek** 79.57 58 P P 09 32 49.5 +0.4
baz=79
MPEP **Malo Peshtene** 79.67 325 *e*P P 09 32 48.6 -0.8
SOKA **Soboth** 79.96 332 *i*P P 09 32 51.1 +0.1
comp=Z,6.1nm,1.0s,SNR=5.2
KBA **Koelnbreinsper** 80.14 333 ⇓*i*P P 09 32 52.6 +0.5
comp=Z,8.5nm,0.6s
WCI **Wyandotte Cave** 80.39 43 *e*P P 09 32 52.9 -0.5
WCI pmax pmax
comp=Z,14nm,0.9s
WCI **Wyandotte Cave** 80.39 43 *e*P P 09 32 52.9 -0.5
comp=Z,14nm,0.9s
732A **Laxson Ranch,** 80.43 58 P P 09 32 53.9 +0.2
baz=80,SNR=6.9
BFO **Black Forest** 80.47 337 *e*P P 09 32 53.0 -0.6
BFO pmax pmax
comp=Z,3.0nm,1.0s
BFO **Black Forest** 80.47 337 *e*P P 09 32 53.0 -0.6
comp=Z,2.9nm,1.0s
WTTA **Wattenberg** 80.50 334 ⇑*i*P P 09 32 54.4 +0.4
comp=Z,7.6nm,0.6s,SNR=4.7
VTS **Vitosha** 80.53 325 *e*P P 09 32 53.6 -0.6
MOTA **Moosalm** 80.58 335 ⇓*i*P P 09 32 54.0 -0.5
comp=Z,10.0nm,1.1s
CDF **Champ du Feu** 80.68 337 *e*P P 09 32 54.2 -0.6
comp=Z,13nm,1.1s
PAGF **Fort de Pagny** 80.95 339 *e*P P 09 32 56.1 -0.1
comp=Z,5.7nm,0.7s
MMB **Musomiste** 81.16 324 *e*P P 09 32 56.8 -0.7
MEZF **Maizieres J'vi** 81.17 339 *e*P P 09 32 57.0 -0.3
PMOR **Pomariorio Ree** 81.20 123 *e*T T 11 02 18.8
comp=Z,29nm,0.2s
HAU **Haudompre** 81.30 338 *e*P P 09 32 57.4 -0.6
HAU *e*R
comp=Z,88nm,22.8s
HINF **Hinteralfeld** 81.34 338 *e*P P 09 32 57.4 -0.9
SFTF **Sexfontaines** 81.45 339 *e*P P 09 32 58.3 -0.5
TUE **Stuetta** 81.89 335 *e*P P 09 33 01.5 +0.1
comp=Z,6.5nm,1.0s
CSS **Prodhromos** 82.22 314 *e*P P 09 33 03.0 -0.1
comp=Z,10nm,0.8s
PPT **Papeete** 82.30 126 LR LR 09 59 53.4
comp=Z,147nm,21.6s,baz=334,slow=28
PPT2 **Papeete2** 82.31 126 *e*LR LR 09 59 02.4
comp=Z,140nm,25.0s
PPT2 **Papeete2** 82.31 126 *e*T T 11 03 44.0
comp=Z,2.4nm,0.3s
LOR **Lormes** 82.61 339 *e*P P 09 33 04.4 -0.5
comp=Z,12nm,0.9s
LOR *e*R
comp=Z,71nm,20.0s
GRR **Gorron** 82.62 343 *e*P P 09 33 04.5 -0.4
CABF **La Chapelle** 82.66 338 *e*P P 09 33 04.9 -0.4
comp=Z,21nm,1.2s
SSF **Saint Saulge** 82.89 339 *e*P P 09 33 05.6 -0.8
comp=Z,4.3nm,0.6s
ROSF **Rostrenen** 83.14 344 *e*P P 09 33 07.2 -0.4
comp=Z,30nm,1.3s
AVF **Avril sur Loir** 83.18 339 *e*P P 09 33 07.5 -0.3
SMF **Signal de Mont** 83.20 339 *e*P P 09 33 07.7 -0.3
comp=Z,12nm,0.8s
LPL **La Plagne** 83.49 337 *e*P P 09 33 09.9 +0.1
comp=Z,15nm,1.1s
LPG **La Plagne** 83.50 337 *e*P P 09 33 10.1 +0.2
BGF **Bois d'Agland** 83.52 340 *e*P P 09 33 09.1 -0.5
TCF **Toulx Ste Croi** 83.93 340 *e*P P 09 33 11.4 -0.3
MBDF **Montbardon** 84.21 336 *e*P P 09 33 12.9 -0.5
ORIF **Oris-en-Rattie** 84.28 337 *e*P P 09 33 13.9 +0.3
comp=Z,7.9nm,0.7s
ORIF *e*R
comp=Z,87nm,23.0s
SSB **Saint Sauveur** 84.29 338 *e*P P 09 33 13.1 -0.6
SSB pmax pmax
comp=Z,8.0nm,1.0s
SSB **Saint Sauveur** 84.29 338 *e*P P 09 33 13.1 -0.6
comp=Z,7.8nm,1.0s
VIVF **Saint-Julien-l** 84.65 338 *e*P P 09 33 15.6 +0.1
comp=Z,14nm,1.2s
KMSC **Kings Mountain** 85.21 42 P P 09 33 17.9 -0.5
baz=85
SMRF **Simiane la Rot** 85.23 337 *e*P P 09 33 16.9 -1.5
FRF **La Foret Royal** 85.32 336 *e*P P 09 33 17.7 -1.1
comp=Z,27nm,1.1s
PGF **Pioggiola** 85.56 334 *e*P P 09 33 19.4 -0.7
LMR **La Mourre** 85.57 336 *e*P P 09 33 19.3 -0.7
comp=Z,22nm,1.0s
TBI **Tubuai** 87.02 129 *e*T T 11 09 38.0
comp=Z,24nm,0.3s
DBIC **Dimbokro** 123.33 333 PKP PKPdf 09 39 38.8 -0.2
DBIC **Dimbokro** 123.33 333 PKP PKPdf 09 39 38.8 -0.2
comp=Z,4.8nm,0.8s,baz=96,slow=7.3,SNR=3.3
VNDA **Vanda** 123.98 178 PKP PKPdf 09 39 38.5 +0.3
VNDA **Vanda** 123.98 178 PKP PKPdf 09 39 38.5 +0.3
comp=Z,1.1nm,0.8s,baz=309,slow=3.1,SNR=7.0
QSPA **South Pole Qui** 136.35 180 PKP PKPdf 09 40 03.5 +1.4
QSPA **South Pole Qui** 136.35 180 PKP PKPdf 09 40 03.4 +1.4
comp=Z,1.9nm,0.7s,baz=110,slow=1.5,SNR=10

PLCA **Paso Flores** 148.46 95 PKPbc PKPbc 09 40 28.8 +0.9
PLCA **Paso Flores** 148.46 95 PKPbc PKPbc 09 40 28.8 +0.9
comp=Z,5.4nm,1.1s,baz=347,slow=0.5,SNR=4.5
CPUP **Villa Florida** 148.77 60 PKPbc PKPbc 09 40 30.3 +1.3
CPUP **Villa Florida** 148.77 60 PKPbc PKPbc 09 40 30.3 +1.3
comp=Z,1.4nm,0.7s,baz=44,slow=3.9,SNR=4.6
SNAA **Sanae** 152.34 196 *e*PKP PKPbc 09 40 36.0 -0.2
SNAA **Sanae** 152.34 196 *e*KURIL PKPab 09 40 47.7 +1.1
SNAA **Sanae** 152.34 196 *e*PKPbc PKPbc 09 40 36.1 -0.2
SNAA *e*PKPab PKPab 09 40 47.3 +0.8
VNA2 **Neumayer--Watz** 153.80 195 *e*PKP PKPbc 09 40 39.2 -0.1
VNA2 **Neumayer--Watz** 153.80 195 *e*KURIL PKPab 09 40 53.6 +0.9
VNA2 **Neumayer--Watz** 153.80 195 *e*KURIL pPKPdf 09 41 00.4 +11
VNA2 **Neumayer--Watz** 153.80 195 *e*KURIL pPKPdf 09 41 08.8 +19
VNA1 **Neumayer--Stat** 154.19 194 *e*PKP PKPbc 09 40 38.2 -1.9

IDC 15 09:20:51.2±11.0, 13°.81N×92°.84E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, ML4.2/1, Error ellipse: s-maj=243.3km s-min=47.8km az=110.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	7.47	51	Pn	Pn	09 22 41.5	+0.1
	1.0nm,0.3s,baz=238,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	52.84	129	P	P	09 30 08.4	-0.5
	0.1nm,0.4s,baz=315,slow=8.1,SNR=8.6						
ASAR	**Alice Springs**	54.77	132	P	P	09 30 23.4	+0.3
	0.3nm,0.4s,baz=308,slow=7.3,SNR=8.7						

*NEIC **15** 09:21:30.2, 38°.85S×175°.13E, h212km, MG4.2(WEL), After WEL.*
NEIC Felt at Aramoho.

WEL 15 09:21:31.7±0.3, 38°.89S×175°.15E, h200km±2km, ML4.2/18, 5C-9D, Error ellipse: s-maj=2.0km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	0.29	130	PN	Pn	09 21 57.9	-0.3
TWVZ	**Taurewa**	0.29	130	Pn	Pn	09 21 57.9	-0.3
VRZ	**Vera Road**	0.39	232	⇓PN	Pn	09 21 57.8	-0.5
VRZ				SN	Sn	09 22 18.0	-1.0
VRZ	**Vera Road**	0.39	232	Pn	Pn	09 21 57.8	-0.5
WTVZ	**West Tongariro**	0.41	124	PN	Pn	09 21 58.4	-0.1
WTVZ				SN	Sn	09 22 18.8	-0.6
WTVZ	**West Tongariro**	0.41	124	Pn	Pn	09 21 58.5	-0.1
WTVZ				Sn	Sn	09 22 18.8	-0.6
PKVZ	**Pokaka**	0.43	160	⇓PN	Pn	09 21 58.3	-0.2
PKVZ	**Pokaka**	0.43	160	Pn	Pn	09 21 58.4	-0.1
KATZ	**Kakaramea**	0.43	102	PN	Pn	09 21 58.4	-0.2
KATZ	**Kakaramea**	0.43	102	Pn	Pn	09 21 58.4	-0.2
KRVZ	**Karewarewa**	0.43	119	PN	Pn	09 21 58.5	-0.1
KRVZ	**Karewarewa**	0.43	119	Pn	Pn	09 21 58.5	-0.1
HIZ	**Hauiti**	0.44	328	PN	Pn	09 21 58.1	-0.5
HIZ				SN	Sn	09 22 19.3	+0.1
HIZ	**Hauiti**	0.44	328	Pn	Pn	09 21 57.8	-0.8
HIZ				Sn	Sn	09 22 19.4	+0.1
WPVZ	**Whakapapa**	0.44	136	PN	Pn	09 21 58.6	-0.1
WPVZ	**Whakapapa**	0.44	136	Pn	Pn	09 21 58.6	-0.1
NGZ	**Ngauruhoe**	0.45	130	PN	Pn	09 21 58.5	-0.2
NGZ	**Ngauruhoe**	0.45	130	Pn	Pn	09 21 58.5	-0.2
FWVZ	**Far West T-bar**	0.48	140	⇓PN	Pn	09 21 58.8	-0.1
FWVZ	**Far West T-bar**	0.48	140	Pn	Pn	09 21 58.8	-0.1
RATZ	**Rangitukua**	0.48	88	PN	Pn	09 21 58.4	-0.3
RATZ	**Rangitukua**	0.48	88	Pn	Pn	09 21 58.4	-0.3
OTVZ	**Oturere**	0.48	125	PN	Pn	09 21 58.7	-0.2
OTVZ	**Oturere**	0.48	125	Pn	Pn	09 21 58.7	-0.2
WATZ	**Wairara**	0.49	69	PN	Pn	09 21 58.6	-0.1
WATZ	**Wairara**	0.49	69	Pn	Pn	09 21 58.8	0.0
DRZ	**Dome Shelter**	0.50	141	PN	Pn	09 21 59.0	-0.1
DRZ	**Dome Shelter**	0.50	141	Pn	Pn	09 21 59.1	0.0
TRVZ	**Turoa**	0.51	143	PN	Pn	09 21 59.0	-0.1
TRVZ	**Turoa**	0.51	143	Pn	Pn	09 21 59.0	-0.1
TUVZ	**Tukino**	0.54	134	PN	Pn	09 21 59.1	+0.1
TUVZ	**Tukino**	0.54	134	Pn	Pn	09 21 59.1	+0.1
MTVZ	**Mangateitei**	0.56	154	⇓PN	Pn	09 21 58.9	0.0
MTVZ	**Mangateitei**	0.56	154	Pn	Pn	09 21 59.0	0.0
RITZ	**Rihia Road**	0.56	100	PN	Pn	09 21 59.0	0.0
RITZ	**Rihia Road**	0.56	100	Pn	Pn	09 21 59.0	0.0
WNVZ	**Wahianoa**	0.56	142	PN	Pn	09 21 59.0	-0.2
WNVZ	**Wahianoa**	0.56	142	Pn	Pn	09 21 59.1	-0.1
WHTZ	**Whakaora**	0.67	71	PN	Pn	09 21 59.4	-0.1
WHTZ	**Whakaora**	0.67	71	Pn	Pn	09 21 59.4	-0.1
MHEZ	**Mangahewa**	0.67	253	PN	Pn	09 21 59.3	-0.1
MHEZ	**Mangahewa**	0.67	253	Pn	Pn	09 21 59.4	0.0
MOVZ	**Moawhango**	0.70	138	⇓PN	Pn	09 21 59.3	-0.4
MOVZ				SN	Sn	09 22 19.3	-2.1
MOVZ	**Moawhango**	0.70	138	Pn	Pn	09 21 59.3	-0.4
HATZ	**Hinemaiaia**	0.73	91	PN	Pn	09 21 59.3	-0.5
HATZ	**Hinemaiaia**	0.73	91	Pn	Pn	09 21 59.3	-0.5
DREZ	**Durham Road**	0.80	248	PN	Pn	09 21 59.8	-0.3
DREZ	**Durham Road**	0.80	248	Pn	Pn	09 21 59.8	-0.3
WAZ	**Wanganui**	0.88	188	PN	Pn	09 22 00.6	0.0
WAZ	**Wanganui**	0.88	188	Pn	Pn	09 22 00.6	0.0
NEZ	**North Egmont**	0.91	245	PN	Pn	09 22 00.7	-0.1
NEZ	**North Egmont**	0.91	245	Pn	Pn	09 22 00.7	-0.1
BHHZ	**Black Hill Sta**	0.93	131	⇓PN	Pn	09 22 00.6	-0.4
BHHZ	**Black Hill Sta**	0.93	131	Pn	Pn	09 22 00.6	-0.3
DFE	**Dawson Falls**	0.93	241	PN	Pn	09 22 00.8	-0.2
DFE	**Dawson Falls**	0.93	241	Pn	Pn	09 22 00.8	-0.2
PKE	**Pukeiti**	0.96	251	PN	Pn	09 22 00.8	-0.3
PKE	**Pukeiti**	0.96	251	Pn	Pn	09 22 00.8	-0.3
ALRZ	**Allen Road**	0.98	71	⇑PN	Pn	09 22 00.9	-0.4
ALRZ	**Allen Road**	0.98	71	Pn	Pn	09 22 00.9	-0.4
HRRZ	**Handcock Road**	1.01	61	PN	Pn	09 22 01.3	-0.2
HRRZ	**Handcock Road**	1.01	61	Pn	Pn	09 22 01.3	-0.2
PRRZ	**Plateau Road**	1.04	69	PN	Pn	09 22 01.1	-0.6
PRRZ	**Plateau Road**	1.04	69	Pn	Pn	09 22 01.1	-0.6
NWEZ	**Newall Road**	1.07	249	PN	Pn	09 22 01.7	-0.2
BKZ	**Black Stump Fm**	1.08	105	⇓PN	Pn	09 22 01.6	-0.4
BKZ				AML	AML	09 22 27.3	
BKZ				AML	AML	09 22 27.8	
BKZ	**Black Stump Fm**	1.08	105	Pn	Pn	09 22 01.6	-0.4
TOZ	**Tahuroa Road**	1.19	13	PN	Pn	09 22 02.4	-0.4
TOZ				SN	Sn	09 22 26.5	-0.3
TOZ	**Tahuroa Road**	1.19	13	Pn	Pn	09 22 02.0	-0.8
RRRZ	**Republican Roa**	1.20	63	PN	Pn	09 22 02.3	-0.6
RRRZ	**Republican Roa**	1.20	63	Pn	Pn	09 22 02.3	-0.6
TARZ	**Mount Tarawera**	1.25	59	PN	Pn	09 22 03.0	-0.3
TARZ	**Mount Tarawera**	1.25	59	Pn	Pn	09 22 03.0	-0.3
NMHZ	**Naumai**	1.30	100	PN	Pn	09 22 04.2	+0.5
NMHZ	**Naumai**	1.30	100	Pn	Pn	09 22 04.2	+0.5
PNHZ	**Pukenui**	1.31	142	PN	Pn	09 22 03.6	-0.1
PNHZ	**Pukenui**	1.31	142	Pn	Pn	09 22 03.6	-0.1
MCHZ	**McNeill Hill**	1.32	115	⇓PN	Pn	09 22 04.4	+0.6
MCHZ	**McNeill Hill**	1.32	115	Pn	Pn	09 22 04.4	+0.6
TSZ	**Takapari Road**	1.33	152	PN	Pn	09 22 03.7	-0.1
TSZ				AML	AML	09 22 28.3	
TSZ				AML	AML	09 22 29.5	
TSZ	**Takapari Road**	1.33	152	Pn	Pn	09 22 03.7	-0.1
RAHZ	**Arahi**	1.51	92	PN	Pn	09 22 05.5	+0.1
RAHZ	**Arahi**	1.51	92	Pn	Pn	09 22 05.5	+0.1
WPHZ	**Waipukurau**	1.54	140	PN	Pn	09 22 05.6	0.0
WPHZ	**Waipukurau**	1.54	140	Pn	Pn	09 22 05.7	0.0
POWZ	**Post Office Ro**	1.58	163	PN	Pn	09 22 05.5	-0.5
POWZ	**Post Office Ro**	1.58	163	Pn	Pn	09 22 05.5	-0.5
DVHZ	**Dannevirke**	1.61	151	PN	Pn	09 22 05.9	-0.5
DVHZ	**Dannevirke**	1.61	151	Pn	Pn	09 22 05.9	-0.4
KAHZ	**Kahuranaki**	1.61	125	PN	Pn	09 22 06.6	+0.2
KAHZ	**Kahuranaki**	1.61	125	Pn	Pn	09 22 06.7	+0.3
URZ	**Urewera**	1.66	68	PN	Pn	09 22 05.5	-1.3
URZ				AML	AML	09 22 32.2	
URZ				AML	AML	09 22 32.9	
URZ	**Urewera**	1.66	68	Pn	Pn	09 22 05.5	-1.2
URZ				*e*S	Sn	09 22 30.5	-3.5
CKHZ	**Cape Kidnapper**	1.68	118	PN	Pn	09 22 07.2	+0.3
CKHZ	**Cape Kidnapper**	1.68	118	Pn	Pn	09 22 07.2	+0.3
PXZ	**Pawanui**	1.75	131	PN	Pn	09 22 07.4	-0.1
PXZ				AML	AML	09 22 34.8	
PXZ				AML	AML	09 22 34.9	
PXZ				AML	AML	09 22 36.4	
PXZ				AML	AML	09 22 36.4	
PXZ	**Pawanui**	1.75	131	Pn	Pn	09 22 07.4	-0.1
PRHZ	**Porangahau**	1.79	141	PN	Pn	09 22 07.9	-0.1
PRHZ	**Porangahau**	1.79	141	Pn	Pn	09 22 07.9	-0.1
MRZ	**Mangatainoka R**	1.80	170	⇑PN	Pn	09 22 07.3	-0.8
MRZ				AML	AML	09 22 34.7	

MRZ				AML	AML	09 22 35.6	
MRZ	**Mangatainoka R**	**1.80**	**170**	Pn	Pn	09 22 07.2	-0.9
OGWZ	**Otaki Gorge**	**1.93**	**180**	⇑PN	Pn	09 22 08.6	-0.7
OGWZ	**Otaki Gorge**	**1.93**	**180**	Pn	Pn	09 22 08.7	-0.7
MWZ	**Matawai**	**1.94**	**74**	⇓PN	Pn	09 22 08.6	-1.0
MWZ				AML	AML	09 22 36.7	
MWZ				AML	AML	09 22 36.8	
MWZ				AML	AML	09 22 36.8	
MWZ				AML	AML	09 22 39.1	
MWZ	**Matawai**	**1.94**	**74**	Pn	Pn	09 22 08.6	-1.0
TIWZ	**Tintock**	**1.97**	**164**	⇑PN	Pn	09 22 09.0	-0.9
TIWZ	**Tintock**	**1.97**	**164**	Pn	Pn	09 22 09.0	-0.9
KNZ	**Kokohu**	**1.97**	**95**	PN	Pn	09 22 09.3	-0.4
KNZ	**Kokohu**	**1.97**	**95**	Pn	Pn	09 22 09.4	-0.4
BFZ	**Birch Farm**	**1.98**	**155**	PN	Pn	09 22 09.1	-0.8
BFZ	**Birch Farm**	**1.98**	**155**	Pn	Pn	09 22 09.1	-0.8
KIW	**Kapiti Island**	**1.98**	**185**	PN	Pn	09 22 08.7	-1.2
KIW				AML	AML	09 22 38.9	
KIW				AML	AML	09 22 39.4	
KIW	**Kapiti Island**	**1.98**	**185**	Pn	Pn	09 22 08.7	-1.2
HOWZ	**Holdsworth Sta**	**2.03**	**172**	PN	Pn	09 22 09.3	-1.1
HOWZ	**Holdsworth Sta**	**2.03**	**172**	Pn	Pn	09 22 09.3	-1.1
DUWZ	**D'Urville Isla**	**2.13**	**206**	PN	Pn	09 22 10.0	-1.5
DUWZ	**D'Urville Isla**	**2.13**	**206**	Pn	Pn	09 22 10.2	-1.3
MHGZ	**Mahia Peninsul**	**2.16**	**98**	PN	Pn	09 22 11.7	-0.1
MHGZ	**Mahia Peninsul**	**2.16**	**98**	Pn	Pn	09 22 11.7	-0.1
CAW	**Cannon Point**	**2.22**	**182**	⇑PN	Pn	09 22 11.2	-1.2
CAW				AML	AML	09 22 43.2	
CAW				AML	AML	09 22 43.6	
CAW	**Cannon Point**	**2.22**	**182**	Pn	Pn	09 22 11.2	-1.2
MTW	**Mount Morrison**	**2.28**	**173**	PN	Pn	09 22 11.6	-1.5
MTW				AML	AML	09 22 44.0	
MTW				AML	AML	09 22 44.3	
MTW	**Mount Morrison**	**2.28**	**173**	Pn	Pn	09 22 11.6	-1.5
TMWZ	**Te Maipa**	**2.29**	**166**	PN	Pn	09 22 11.9	-1.3
TMWZ	**Te Maipa**	**2.29**	**166**	Pn	Pn	09 22 11.9	-1.3
WEL	**Wellington**	**2.41**	**187**	PN	Pn	09 22 13.0	-1.5
WEL	**Wellington**	**2.41**	**187**	Pn	Pn	09 22 13.0	-1.5
TCW	**Tory Channel**	**2.42**	**196**	PN	Pn	09 22 13.2	-1.3
TCW				AML	AML	09 22 46.8	
TCW				AML	AML	09 22 47.2	
TCW	**Tory Channel**	**2.42**	**196**	Pn	Pn	09 22 13.3	-1.2
CNGZ	**Carnagh Statio**	**2.42**	**81**	PN	Pn	09 22 14.4	-0.3
CNGZ	**Carnagh Statio**	**2.42**	**81**	Pn	Pn	09 22 14.4	-0.3
SNZO	**South Karori**	**2.44**	**188**	PN	Pn	09 22 13.2	-1.6
SNZO				AML	AML	09 22 47.1	
SNZO				AML	AML	09 22 47.4	
SNZO	**South Karori**	**2.44**	**188**	Pn	Pn	09 22 13.2	-1.6
SNZO			*eS*	Sn	Sn	09 22 43.5	-5.1
PAWZ	**Paruwai Farm**	**2.50**	**175**	PN	Pn	09 22 13.9	-1.6
PAWZ				AML	AML	09 22 47.2	
PAWZ				AML	AML	09 22 47.5	
PAWZ	**Paruwai Farm**	**2.50**	**175**	Pn	Pn	09 22 13.9	-1.6
MSWZ	**Moikau Station**	**2.52**	**178**	PN	Pn	09 22 14.0	-1.7
MSWZ				AML	AML	09 22 47.3	
MSWZ				AML	AML	09 22 47.8	
MSWZ	**Moikau Station**	**2.52**	**178**	Pn	Pn	09 22 14.1	-1.7
BHW	**Baring Head**	**2.53**	**185**	PN	Pn	09 22 13.8	-1.9
BHW				AML	AML	09 22 48.3	
BHW				AML	AML	09 22 48.4	
BHW	**Baring Head**	**2.53**	**185**	Pn	Pn	09 22 14.1	-1.7
TRWZ	**Traveller**	**2.54**	**171**	PN	Pn	09 22 14.4	-1.5
TRWZ				AML	AML	09 22 49.1	
TRWZ				AML	AML	09 22 49.3	
TRWZ	**Traveller**	**2.54**	**171**	Pn	Pn	09 22 14.4	-1.5
PUZ	**Puketiti**	**2.57**	**72**	PN	Pn	09 22 14.9	-1.4
PUZ				AML	AML	09 22 47.9	
PUZ				AML	AML	09 22 49.3	
PUZ	**Puketiti**	**2.57**	**72**	Pn	Pn	09 22 14.9	-1.4
PLWZ	**Palliser**	**2.68**	**178**	PN	Pn	09 22 15.6	-1.9
PLWZ	**Palliser**	**2.68**	**178**	Pn	Pn	09 22 15.6	-1.9
NNZ	**Nelson**	**2.70**	**210**	PN	Pn	09 22 15.6	-2.1
NNZ	**Nelson**	**2.70**	**210**	Pn	Pn	09 22 15.6	-2.1
TUWZ	**Tuamarina**	**2.70**	**200**	PN	Pn	09 22 16.1	-1.6
TUWZ				AML	AML	09 22 51.4	
TUWZ				AML	AML	09 22 52.1	
TUWZ	**Tuamarina**	**2.70**	**200**	Pn	Pn	09 22 16.1	-1.6
QRZ	**Quartz Range**	**2.80**	**225**	PN	Pn	09 22 16.1	-2.8
QRZ	**Quartz Range**	**2.80**	**225**	Pn	Pn	09 22 16.1	-2.7
BSWZ	**Blackbirch Sta**	**2.99**	**199**	PN	Pn	09 22 19.7	-1.4
BSWZ				AML	AML	09 22 59.2	
BSWZ				AML	AML	09 22 59.3	
BSWZ	**Blackbirch Sta**	**2.99**	**199**	Pn	Pn	09 22 19.7	-1.4
THZ	**Tophouse**	**3.35**	**210**	PN	Pn	09 22 22.7	-2.7
THZ	**Tophouse**	**3.35**	**210**	Pn	Pn	09 22 22.7	-2.7
KHZ	**Kahutara**	**3.73**	**199**	PN	Pn	09 22 28.0	-2.0
KHZ	**Kahutara**	**3.73**	**199**	Pn	Pn	09 22 28.0	-2.0
LTZ	**Lake Taylor**	**4.46**	**208**	PN	Pn	09 22 36.2	-3.0
LTZ	**Lake Taylor**	**4.46**	**208**	Pn	Pn	09 22 36.2	-3.0
CRLZ	**Canterbury Las**	**5.06**	**201**	PN	Pn	09 22 42.9	-3.8
MQZ	**McQueen's Vall**	**5.17**	**201**	PN	Pn	09 22 44.0	-4.0
MQZ	**McQueen's Vall**	**5.17**	**201**	Pn	Pn	09 22 44.0	-4.0
WVZ	**Waitaha Valley**	**5.35**	**217**	PN	Pn	09 22 47.1	-3.4
WVZ	**Waitaha Valley**	**5.35**	**217**	Pn	Pn	09 22 47.1	-3.4
FOZ	**Fox Glacier**	**6.23**	**220**	PN	Pn	09 22 57.0	-4.7
FOZ	**Fox Glacier**	**6.23**	**220**	Pn	Pn	09 22 57.0	-4.7
LBZ	**Lake Benmore**	**6.63**	**213**	PN	Pn	09 23 02.6	-4.5
LBZ	**Lake Benmore**	**6.63**	**213**	Pn	Pn	09 23 02.6	-4.5
ODZ	**Otahua Downs**	**7.01**	**207**	PN	Pn	09 23 08.3	-3.6
ODZ	**Otahua Downs**	**7.01**	**207**	Pn	Pn	09 23 08.3	-3.6

*ISCJB **15** 09:41:32.9±0.5, 0°.54N±0°.05×123°.67E±0°.06, h220km±4km, mb3.8/15, Error ellipse: s-maj=9.9km s-min=7.6km az=145.8*
*DJA **15** 09:41:35.6±0.6, 0°.N±6°×12°.4E±°, h199km±7km, M4.3/7, MLv4.3/7*
*AUST **15** 09:41:35.4±0.0, 0°.31N×123°.88E, h202km, Error ellipse: s-maj=1.4km s-min=1.3km az=338.0*
*IDC **15** 09:41:36.4±4.5, 0°.54N×123°.67E, h241km±48km, mb3.5/15, mb1 3.7/16, mb1mx3.6/26, mbtmp3.6/16, MS4.0/1, Ms1 4.0/1, ms1mx2.6/27, Error ellipse: s-maj=24.3km s-min=10.0km az=74.0*

ISC 15 09:41:33.7±0.7, 0°.55N±0°.07×123°.72E±0°.05, h211km±7km, n37, σ1°.26/40, mb3.8/15, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.26**	**85**	P	**Pn**	**09 42 03.5**	**+2.1**
MRSI	**Marisa**	**1.78**	**268**	P	**Pn**	**09 42 11.5**	**+0.6**
LUWI	**Luwuk**	**1.85**	**211**	P	**Pn**	**09 42 11.5**	**-0.1**
LUWI				S	**S**	**09 42 38.6**	**-2.2**
LUWI	**Luwuk**	**1.85**	**211**	P	**Pn**	**09 42 11.4**	**-0.1**
	baz=1.7,SNR=39						
LUWI				S	**S**	**09 42 38.8**	**-2.0**
	baz=1.7,SNR=26						
TOLI	**Toli-Toli**	**2.98**	**281**	P	**Pn**	**09 42 24.6**	**+0.9**
TNTI	**Ternate**	**3.65**	**87**	P	**Pn**	**09 42 32.5**	**+0.9**
LBMI	**Labuha**	**3.96**	**107**	P	**Pn**	**09 42 36.2**	**+0.8**
LBMI				S	**S**	**09 43 22.7**	**-0.8**
PALU	**Palau**	**12.66**	**58**	P	**P**	**09 44 27.7**	**-2.3**
	baz=13,SNR=4.5						
KSM	**Kuching**	**13.44**	**274**	P	**P**	**09 44 41.7**	**+3.0**
	baz=14,SNR=10						
MTN	**Manton Dam**	**15.20**	**151**	P	**Pn**	**09 44 58.2**	**+0.2**
	baz=15,SNR=22						
KDU	**Kakadu**	**15.76**	**147**	P	**Pn**	**09 45 05.0**	**+0.3**
	baz=16,SNR=8.7						
KNRA	**Kununurra**	**16.88**	**163**	P	**P**	**09 45 17.6**	**+1.0**
	baz=17,SNR=36						
FITZ	**Fitzroy Crossi**	**18.63**	**174**	P	**P**	**09 45 35.4**	**-0.3**
	1.1nm,0.3s,baz=19,slow=9.6,SNR=26						
FITZ	**Fitzroy Crossi**	**18.63**	**174**	P	**P**	**09 45 35.4**	**-0.3**
	baz=18,SNR=12						
WRA	**Warramunga Arr**	**22.87**	**154**	P	**P**	**09 46 19.3**	**+0.2**
	23nm,0.5s,baz=335,slow=10,SNR=305						
COEN	**Coen**	**24.06**	**128**	P	**P**	**09 46 30.6**	**+0.7**
	baz=24,SNR=12						
PSI	**Prapat**	**24.89**	**275**	LR	LR	09 56 59.7	
	comp=Z,314nm,18.5s,baz=139,slow=37						
ASAR	**Alice Springs**	**26.03**	**158**	P	**P**	**09 46 48.0**	**+0.5**
	2.1nm,0.3s,baz=329,slow=8.1,SNR=65						
MEEK	**Meekatharra**	**27.48**	**190**	P	**P**	**09 46 59.7**	**-0.7**
	baz=27,SNR=4.7						
CMAR	**Chiang Mai Arr**	**30.14**	**308**	P	**P**	**09 47 24.7**	**+0.6**
	0.7nm,0.3s,baz=152,slow=7.5,SNR=4.7						
BBOO	**Buckleboo**	**35.17**	**162**	P	**P**	**09 48 07.7**	**+0.2**
	baz=35,SNR=8.4						
STKA	**Stephens Creek**	**36.42**	**154**	P	**P**	**09 48 18.6**	**+0.3**
	3.6nm,0.5s,baz=328,slow=6.9,SNR=16						
STKA	**Stephens Creek**	**36.42**	**154**	P	**P**	**09 48 18.9**	**+0.7**
	baz=36,SNR=8.7						
KSRS	**Korea Array**	**36.92**	**6**	P	**P**	**09 48 23.1**	**+0.8**
	0.9nm,0.8s,baz=172,slow=9.7,SNR=5.2						
CMSA	**Cobar Meteorol**	**38.11**	**149**	P	**P**	**09 48 33.7**	**+1.3**
	baz=38,SNR=10						
MJAR	**Matsushiro Arr**	**38.24**	**19**	P	**P**	**09 48 32.5**	**-0.9**
	0.8nm,0.5s,baz=194,slow=9.7,SNR=6.5						
ARMA	**Armidale**	**40.67**	**142**	P	**P**	**09 48 55.8**	**+2.1**
	baz=40,SNR=6.0						
YNG	**Young**	**41.68**	**149**	P	**P**	**09 49 03.5**	**+1.8**
	baz=42,SNR=7.4						
USRK	**Ussuriysk Arra**	**44.08**	**9**	P	**P**	**09 49 21.4**	**+0.7**
	1.2nm,0.5s,baz=193,slow=6.2,SNR=4.5						
ASAJ	**Asahikawa**	**46.52**	**19**	P	**P**	**09 49 41.0**	**+1.1**
	2.9nm,0.7s,baz=176,slow=15,SNR=3.0						
SONM	**Songino Array**	**49.44**	**345**	P	**P**	**09 50 01.3**	**-1.1**
	0.8nm,0.5s,baz=159,slow=9.7,SNR=5.6						
MKAR	**Makanchi Array**	**58.53**	**328**	P	**P**	**09 51 07.2**	**-0.8**
	3.7nm,0.4s,baz=123,slow=7.5,SNR=79						
MKAR				PcP	**PcP**	**09 51 54.8**	**-1.2**
	0.6nm,0.5s,baz=177,slow=3.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**62.12**	**335**	P	**P**	**09 51 30.1**	**-1.9**
	0.7nm,0.4s,baz=138,slow=7.5,SNR=3.6						
KURBB	**Kurchatov Arra**	**62.85**	**329**	P	**P**	**09 51 37.2**	**+0.2**
	3.3nm,0.5s,baz=131,slow=6.0,SNR=17						
BVAR	**Borovoye Array**	**68.39**	**329**	P	**P**	**09 52 12.5**	**+0.1**
	0.7nm,0.3s,baz=128,slow=9.6,SNR=5.3						
VNDA	**Vanda**	**80.69**	**172**	P	**P**	**09 53 22.7**	**+0.1**
	0.6nm,0.9s,baz=309,slow=6.5,SNR=3.5						
ILAR	**Eielson Array**	**89.24**	**25**	P	**P**	**09 54 03.7**	**-1.7**
	0.2nm,0.5s,baz=258,slow=5.2,SNR=3.3						

*ISCJB **15** 09:44:03.3±0.5, 2°.3S±0°.1×12°.4W±0°.1, h10km, mb4.1/12, MS3.6/6, Error ellipse: s-maj=21.9km s-min=12.6km az=28.7*
*IDC **15** 09:44:04.0±0.7, 2°.13S×12°.50W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/26, mbtmp4.1/11, MS3.6/8, Ms1 3.6/8, ms1mx3.3/38, Error ellipse: s-maj=27.6km s-min=19.3km az=126.0*

ISC 15 09:44:05.1±0.7, 2°.3S±0°.1×12°.6W±0°.2, h10km, n30, σ1°.08/19, mb4.1/12, MS3.6/6, 2C-4D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.76**	**41**	LR	LR	09 50 22.3	
	comp=Z,267nm,21.2s,baz=210,slow=33						
BBTS	**Babate**	**17.25**	**347**	LR	LR	09 53 52.1	
	comp=Z,60nm,20.4s,baz=31,slow=34						
TORD	**Torodi Ar. Bea**	**20.87**	**42**	P	P	09 48 42.9	-4.7
	4.2nm,0.9s,baz=225,slow=11,SNR=14						
TORD				LR	LR	09 56 00.3	
	comp=Z,121nm,19.8s,baz=205,slow=35						
LBTB	**Lobatse**	**43.21**	**125**	P	**P**	**09 52 08.0**	**+1.1**
	1.1nm,0.4s,baz=346,slow=4.4,SNR=3.6						
CPUP	**Villa Florida**	**49.13**	**237**	LR	LR	10 10 27.1	
	comp=Z,88nm,21.6s,baz=248,slow=32						
SIV	**San Ignacio**	**49.62**	**251**	P	P	09 53 00.0	+2.8
	1.0nm,0.7s,baz=112,slow=11,SNR=3.0						
KMBO	**Kilima Mbogo**	**49.84**	**90**	LR	LR	10 12 23.7	
	comp=Z,154nm,18.3s,baz=85,slow=34						
GERES	**GERESS Array B**	**55.77**	**21**	P	**P**	**09 53 42.4**	**0.0**
	1.7nm,0.7s,baz=190,slow=6.6,SNR=19						
LPAZ	**La Paz**	**56.36**	**252**	P	**P**	**09 53 48.2**	**+0.4**
	1.3nm,0.9s,baz=87,slow=5.5,SNR=4.5						
LPAZ				LR	LR	10 15 25.9	
	comp=Z,96nm,20.6s,baz=290,slow=33						
ARR	**Arges**	**57.78**	**30**	⇑*iP*	**P**	**09 53 57.6**	**+0.9**
DRGR		**57.87**	**28**	⇑*iP*	**P**	**09 53 58.0**	**+0.7**
VOIR		**58.04**	**30**	⇓*iP*	**P**	**09 53 58.4**	**-0.1**
MLR	**Muntele Rosu**	**58.54**	**31**	⇓*iP*	P	09 54 06.6	+4.6
PLOR	**Plostina**	**59.14**	**31**	⇓*iP*	**P**	**09 54 05.8**	**-0.3**
VRI	**Vrincioaia**	**59.19**	**31**	⇓*iP*	**P**	**09 54 04.9**	**-1.6**
BRTR	**Keskin Array B**	**59.46**	**40**	P	**P**	**09 54 08.6**	**0.0**
	1.1nm,0.9s,baz=194,slow=3.7,SNR=5.6						
AKASG	**Malin Array Be**	**63.68**	**28**	P	**P**	**09 54 35.5**	**-1.2**
	0.3nm,0.3s,baz=219,slow=5.3,SNR=4.9						
NOA	**NORSAR Array B**	**65.75**	**12**	LR	LR	10 23 56.2	
	comp=Z,23nm,20.1s,baz=5.0,slow=36						
GNI	**Garni**	**67.16**	**44**	LR	LR	10 28 18.8	
	comp=Z,31nm,18.5s,baz=162,slow=40						
KBZ	**Khabaz**	**67.45**	**40**	P	**P**	**09 55 00.9**	**-0.3**
	2.2nm,0.9s,baz=219,slow=3.5,SNR=6.2						
VNA2	**Neumayer--Watz**	**68.65**	**178**	*eP*	**P**	**09 55 07.1**	**-1.2**
SNAA	**Sanae**	**69.60**	**177**	*eP*	**P**	**09 55 12.6**	**-1.6**
FINES	**FINESS Array B**	**70.09**	**19**	P	**P**	**09 55 17.1**	**-0.1**
	2.8nm,0.7s,baz=210,slow=4.9,SNR=12						
KAF	**Kangasniemi**	**70.66**	**18**	*ep*	**P**	**09 55 20.4**	**-0.4**
	1.9nm,0.6s						
ARCES	**ARCESS Array B**	**76.11**	**13**	P	**P**	**09 55 51.4**	**-1.4**
	2.1nm,0.7s,baz=235,slow=3.8,SNR=9.7						
MAW	**Mawson**	**82.41**	**158**	P	**P**	**09 56 26.7**	**-0.5**
	4.2nm,0.7s,baz=286,slow=7.7,SNR=15						
TXAR	**Lajitas Array**	**92.02**	**299**	P	**P**	**09 57 15.7**	**+0.7**
	0.4nm,0.8s,baz=67,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**138.46**	**130**	PKhKP	PKPpre	10 03 22.7	
	0.4nm,0.7s,baz=224,slow=2.2,SNR=5.7						
WRA	**Warramunga Arr**	**140.77**	**126**	PKhKP	PKPpre	10 03 27.1	
	0.5nm,0.8s,baz=240,slow=2.2,SNR=5.8						
CTA	**Charters Tower**	**149.61**	**138**	PKPbc	**PKPbc**	**10 03 58.2**	**+2.2**
	1.1nm,0.3s,baz=242,slow=11,SNR=3.6						

*NEIC **15** 10:00:16.7, 17°.89N×67°.18W, h16km, MD2.8(RSPR), After RSPR.*

RSPR 15 10:00:17.0, 17°.90N×67°.16W, h17km, MD2.7/4, 15C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.11**	**22**	⇑*eP*	Pg	10 00 20.3	-0.4
CRPR	**Cabo Rojo, PR**	**0.11**	**22**	⇑*eP*	Pg	10 00 20.4	-0.3
CRPR	**Cabo Rojo, PR**	**0.11**	**22**	*eS*	Sb	10 00 23.6	+0.4
CRPR	**Cabo Rojo, PR**	**0.11**	**22**	⇑*eP*	Pg	10 00 20.3	-0.4
CRPR				*eS*	Sb	10 00 23.6	+0.4
LSP	**Las Mesas**	**0.28**	**14**	⇑*eP*	Pg	10 00 22.8	-0.5
LSP	**Las Mesas**	**0.28**	**14**	*eS*	Sg	10 00 27.5	0.0
LSP	**Las Mesas**	**0.28**	**14**	⇑*eP*	Pg	10 00 22.8	-0.5
LSP				*eS*	Sg	10 00 27.5	0.0
AGPR	**Aguadilla, PR**	**0.56**	**4**	⇑*eP*	Pg	10 00 27.2	-1.0
AGPR	**Aguadilla, PR**	**0.56**	**4**	⇑*eP*	Pg	10 00 27.3	-1.0
AGPR	**Aguadilla, PR**	**0.56**	**4**	*eS*	Sg	10 00 35.1	-0.8
AGPR	**Aguadilla, PR**	**0.56**	**4**	⇑*eP*	Pg	10 00 27.2	-1.0
AGPR				*eS*	Sg	10 00 35.1	-0.8
AGPR				*eS*	Sb	10 00 35.3	-1.0
AOPR	**Arecibo Observ**	**0.58**	**41**	⇑*eP*	Pg	10 00 27.7	-0.9
AOPR	**Arecibo Observ**	**0.58**	**41**	⇑*eP*	Pg	10 00 27.7	-1.0
AOPR	**Arecibo Observ**	**0.58**	**41**	*eS*	Sg	10 00 35.5	-1.0
AOPR	**Arecibo Observ**	**0.58**	**41**	⇑*eP*	Pg	10 00 27.7	-1.0
AOPR				*eS*	Sg	10 00 35.5	-1.0
AOPR				*eS*	Sb	10 00 36.0	-0.9
CBYP	**Canovanas**	**1.29**	**73**	⇑*eP*	Pn	10 00 40.5	+0.2
CBYP	**Canovanas**	**1.29**	**73**	⇑*eP*	Pn	10 00 40.5	+0.2
MTP	**Monte Pirata**	**1.54**	**82**	⇑*eP*	Pb	10 00 44.5	-0.5
MTP	**Monte Pirata**	**1.54**	**82**	⇑*eP*	Pb	10 00 44.5	-0.5

*IDC **15** 10:09:59.4±1.0, 6°.60S×105°.14E, h0km, mb4.1/13, mb1 4.1/13, mb1mx4.0/24, mbtmp4.1/13, MS3.2/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=39.4km s-min=17.0km az=49.0*
*AUST **15** 10:10:04.4±2.3, 7°.15S×105°.02E, h11km, Error ellipse: s-maj=1.4km s-min=1.0km az=263.0*
*DJA **15** 10:10:06.1±0.9, 7°.S±5°×10°.5E±°, h14km±9km, M4.2/10, MLv4.2/10*

ISC 15 10:10:00.4±1.6, 6°.91S±0°.04×105°.01E±0°.04, h6km±10km, n38, σ1°.58/39, mb4.2/14, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.36**	**55**	P	**Pn**	**10 10 26.3**	**+0.3**
SBJI				S	**Sb**	**10 10 42.4**	**-1.6**
KASI	**Kota Agung**	**1.47**	**340**	P	**Pg**	**10 10 30.3**	**+1.6**
SKJI	**Sukabumi**	**1.54**	**93**	P	**Pg**	**10 10 30.4**	**+0.4**
SKJI				S	**Sn**	**10 10 48.6**	**-0.1**
BLSI	**Bandar Lampung**	**1.55**	**9**	P	**Pg**	**10 10 30.5**	**+0.2**
DBJI	**Dramaga**	**1.76**	**78**	P	**Pn**	**10 10 32.4**	**+0.9**
DBJI				S	**Sn**	**10 10 54.0**	**-0.3**
CBJI	**Citeko**	**1.89**	**75**	P	**Pb**	**10 10 35.5**	**+0.1**
KLI	**Kotabumi**	**2.04**	**356**	P	**Pb**	**10 10 38.5**	**+0.6**
LWLI	**Liwa**	**2.11**	**333**	P	**Pb**	**10 10 40.5**	**+1.4**
KLSI		**2.23**	**353**	P	**Pb**	**10 10 41.3**	**+0.2**
LEM	**Lembang**	**2.59**	**88**	P	**Pb**	**10 10 46.0**	**-1.4**
LEM	**Lembang**	**2.59**	**88**	P	**Pb**	**10 10 48.0**	**+0.6**
	baz=2.6,SNR=7.6						
CISI	**Cisompet, Garu**	**2.85**	**103**	P	**Pn**	**10 10 49.2**	**+2.6**
CISI	**Cisompet, Garu**	**2.85**	**103**	P	**Pn**	**10 10 47.8**	**+1.2**
	baz=2.8,SNR=4.7						
MNAI	**Manna**	**3.26**	**321**	P	**Pb**	**10 10 58.1**	**-0.6**
	baz=3.5,SNR=7.6						
XMI	**Christmas Isla**	**3.58**	**169**	P	**Pn**	**10 10 57.0**	**+0.6**
	baz=3.4,SNR=6.8						
XMI				S	**Sn**	**10 11 40.2**	**+1.1**
	baz=3.4,SNR=4.1						
XMIS	**Christmas Isla**	**3.60**	**170**	P	**Pn**	**10 10 56.1**	**-0.7**
	baz=3.4,SNR=21						
XMIS				S	**Sn**	**10 11 40.4**	**+0.8**
	baz=3.4,SNR=3.3						
PSI	**Prapat**	**11.40**	**328**	LR	LR	10 17 48.4	
	comp=Z,136nm,20.1s,baz=55,slow=42						
KNRA	**Kununurra**	**24.84**	**113**	P	**P**	**10 15 24.3**	**+0.4**
	baz=25,SNR=4.3						
MTN	**Manton Dam**	**26.39**	**105**	P	**P**	**10 15 40.6**	**+2.7**
	baz=26,SNR=8.7						
KDU	**Kakadu**	**27.65**	**104**	P	**P**	**10 15 52.4**	**+3.2**
	baz=28,SNR=3.5						
WRA	**Warramunga Arr**	**31.26**	**117**	P	**P**	**10 16 20.3**	**-1.0**
	0.8nm,0.7s,baz=289,slow=9.7,SNR=6.4						
ASAR	**Alice Springs**	**32.36**	**124**	P	**P**	**10 16 32.5**	**+1.6**
	0.4nm,0.6s,baz=313,slow=9.1,SNR=4.1						
MMPI	**Merauke**	**35.08**	**95**	P	**P**	**10 16 55.4**	**+0.7**
	baz=35,SNR=5.2						
MMPI				S	S	10 22 13.4	-14
	baz=35,SNR=3.3						
STKA	**Stephens Creek**	**42.18**	**131**	P	**P**	**10 17 55.0**	**+0.9**
	3.3nm,0.7s,baz=302,slow=11,SNR=11						
STKA	**Stephens Creek**	**42.18**	**131**	P	**P**	**10 17 55.6**	**+1.5**
	baz=42,SNR=5.9						
HHC	**Hu-ho-hao-te**	**47.91**	**7**	*e*P	P	10 18 45.1	+5.5
HHC				S	**S**	**10 25 42.4**	**+4.9**
HHC				pmax	pmax		
	comp=Z,39nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,6.1s						
KSRS	**Korea Array**	**49.05**	**24**	P	**P**	**10 18 46.3**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=208,slow=7.6,SNR=3.1						
SONM	**Songino Array**	**54.52**	**1**	P	**P**	**10 19 27.4**	**-1.8**
	comp=Z,1.1nm,0.4s,baz=182,slow=8.9,SNR=10						
SONM				PcP	**PcP**	**10 20 30.8**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=177,slow=3.9,SNR=3.6						
PATS	**Pohnpei**	**54.90**	**77**	P	P	10 19 37.0	+4.6
	baz=55,SNR=3.8						
USRK	**Ussuriysk Arra**	**56.41**	**23**	P	P	10 19 39.9	-2.8
	comp=Z,3.8nm,0.6s,baz=206,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**57.16**	**342**	P	P	10 19 45.6	-2.4
	comp=Z,0.4nm,0.4s,baz=150,slow=9.2,SNR=9.8						
ZALV	**Zalesovo Beam**	**62.98**	**347**	P	P	10 20 24.8	-3.0
	comp=Z,1.1nm,0.4s,baz=150,slow=8.0,SNR=4.3						
AKTO	**Aktyubinsk**	**70.05**	**330**	P	**P**	**10 21 11.8**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=126,slow=8.4,SNR=9.8						
KBZ	**Khabaz**	**75.27**	**319**	P	**P**	**10 21 44.0**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=102,slow=4.0,SNR=5.1						
BRTR	**Keskin Array B**	**80.30**	**312**	P	**P**	**10 22 12.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=141,slow=5.8,SNR=6.0						
FINES	**FINESS Array B**	**90.76**	**332**	P	**P**

WPVZ				AML	AML	10 20 58.3	
WPVZ				AML	AML	10 20 59.6	
CAW	**Cannon Point**	**1.02**	**175**	P*	Pb	10 20 42.7	-1.4
CAW				AML	AML	10 20 58.1	
CAW				AML	AML	10 20 58.7	
NGZ	**Ngauruhoe**	**1.05**	**29**	P*	Pb	10 20 43.1	-1.7
NGZ				AML	AML	10 21 03.1	
NGZ				AML	AML	10 21 03.6	
NEZ	**North Egmont**	**1.05**	**321**	P*	Pb	10 20 44.5	-0.3
BHHZ	**Black Hill Sta**	**1.05**	**55**	⇓P*	Pb	10 20 42.7	-2.1
DUWZ	**D'Urville Isla**	**1.05**	**227**	P*	Pb	10 20 43.0	-1.8
DUWZ				AML	AML	10 20 59.4	
DUWZ				AML	AML	10 21 02.0	
DREZ	**Durham Road**	**1.07**	**327**	P*	Pb	10 20 44.9	-0.1
OTVZ	**Oturere**	**1.08**	**31**	P*	Pb	10 20 43.8	-1.6
OTVZ				AML	AML	10 20 59.8	
OTVZ				AML	AML	10 21 03.7	
TWVZ	**Taurewa**	**1.09**	**21**	P*	Pb	10 20 43.4	-2.1
TWVZ				AML	AML	10 21 01.5	
TWVZ				AML	AML	10 21 02.7	
WTVZ	**West Tongariro**	**1.10**	**27**	P*	Pb	10 20 43.7	-1.8
WTVZ				AML	AML	10 21 00.9	
WTVZ				AML	AML	10 21 01.9	
MHEZ	**Mangahewa**	**1.12**	**334**	P*	Pg	10 20 46.4	+0.2
KRVZ	**Karewarewa**	**1.13**	**29**	P*	Pb	10 20 44.3	-1.9
KRVZ				AML	AML	10 21 03.1	
KRVZ				AML	AML	10 21 04.4	
MTW	**Mount Morrison**	**1.15**	**158**	P*	Pb	10 20 45.1	-1.2
MTW				AML	AML	10 21 01.9	
MTW				AML	AML	10 21 02.3	
WPHZ	**Waipukurau**	**1.15**	**89**	P*	Pb	10 20 45.9	-0.4
BFZ	**Birch Farm**	**1.16**	**121**	P*	Pb	10 20 45.9	-0.5
PKE	**Pukeiti**	**1.16**	**320**	P*	Pg	10 20 46.8	-0.1
PKE				AML	AML	10 21 05.6	
PKE				AML	AML	10 21 07.7	
NWEZ	**Newall Road**	**1.17**	**314**	P*	Pb	10 20 46.5	-0.2
WEL	**Wellington**	**1.20**	**186**	P*	Pn	10 20 45.8	-1.3
SNZO	**South Karori**	**1.23**	**188**	P*	Pn	10 20 46.0	-1.5
SNZO				AML	AML	10 21 02.4	
SNZO				AML	AML	10 21 02.9	
TCW	**Tory Channel**	**1.23**	**204**	P*	Pn	10 20 45.5	-2.1
TCW				AML	AML	10 21 03.5	
TCW				AML	AML	10 21 03.8	
TMWZ	**Te Maipa**	**1.24**	**145**	P*	Pn	10 20 46.4	-1.4
KATZ	**Kakaramea**	**1.26**	**28**	P*	Pn	10 20 46.4	-1.7
KATZ				AML	AML	10 21 05.9	
KATZ				AML	AML	10 21 06.6	
PRHZ	**Porangahau**	**1.31**	**98**	PN	Pn	10 20 48.2	-0.4
BHW	**Baring Head**	**1.31**	**182**	PN	Pn	10 20 47.7	-1.0
BHW				AML	AML	10 21 06.9	
BHW				AML	AML	10 21 08.0	
RITZ	**Rihia Road**	**1.32**	**33**	PN	Pn	10 20 47.9	-0.9
RITZ				AML	AML	10 21 10.8	
RITZ				AML	AML	10 21 15.9	
PAWZ	**Paruwai Farm**	**1.34**	**164**	PN	Pn	10 20 48.4	-0.7
PAWZ				AML	AML	10 21 09.2	
PAWZ				AML	AML	10 21 09.4	
MSWZ	**Moikau Station**	**1.34**	**170**	PN	Pn	10 20 47.9	-1.2
MSWZ				AML	AML	10 21 08.7	
MSWZ				AML	AML	10 21 08.9	
RATZ	**Rangitukua**	**1.38**	**28**	PN	Pn	10 20 48.1	-1.6
RATZ				AML	AML	10 21 16.1	
RATZ				AML	AML	10 21 16.6	
TRWZ	**Traveller**	**1.42**	**157**	PN	Pn	10 20 49.9	-0.3
TRWZ				AML	AML	10 21 13.8	
TRWZ				AML	AML	10 21 14.4	
PXZ	**Pawanui**	**1.47**	**88**	PN	Pn	10 20 49.8	-1.1
PXZ				AML	AML	10 21 17.0	
PXZ				AML	AML	10 21 29.4	
HATZ	**Hinemaiaia**	**1.49**	**37**	PN	Pn	10 20 50.0	-1.2
HATZ				AML	AML	10 21 14.2	
HATZ				AML	AML	10 21 15.3	
PLWZ	**Palliser**	**1.49**	**171**	PN	Pn	10 20 50.3	-1.0
MCHZ	**McNeill Hill**	**1.50**	**65**	PN	Pn	10 20 51.4	+0.1
BKZ	**Black Stump Fm**	**1.51**	**53**	PN	Pn	10 20 50.8	-0.7
BKZ				AML	AML	10 21 13.0	
BKZ				AML	AML	10 21 16.5	
WATZ	**Wairara**	**1.51**	**24**	PN	Pn	10 20 50.2	-1.2
WATZ				AML	AML	10 21 17.7	
KAHZ	**Kahuranaki**	**1.52**	**79**	PN	Pn	10 20 51.2	-0.3
TUWZ	**Tuamarina**	**1.54**	**209**	PN	Pn	10 20 49.9	-1.8
TUWZ				AML	AML	10 21 14.9	
TUWZ				AML	AML	10 21 16.3	
HIZ	**Hauiti**	**1.58**	**357**	PN	Pn	10 20 51.1	-1.2
HIZ				AML	AML	10 21 14.5	
HIZ				AML	AML	10 21 15.0	
WHTZ	**Whakaora**	**1.63**	**29**	PN	Pg	10 20 55.3	-0.6
NNZ	**Nelson**	**1.64**	**226**	PN	Pn	10 20 51.4	-1.7
NNZ				AML	AML	10 21 16.5	
NNZ				AML	AML	10 21 21.1	
NMHZ	**Naumai**	**1.75**	**56**	PN	Pn	10 20 55.0	+0.2
BSWZ	**Blackbirch Sta**	**1.81**	**206**	PN	Pn	10 20 54.9	-0.6
BSWZ				AML	AML	10 21 24.0	
BSWZ				AML	AML	10 21 26.0	
ALRZ	**Allen Road**	**1.87**	**36**	PN	Pn	10 20 55.2	-1.2
PRRZ	**Plateau Road**	**1.95**	**36**	PN	Pn	10 20 56.3	-1.2
QRZ	**Quartz Range**	**1.98**	**248**	PN	Pn	10 20 56.6	-1.3
QRZ				AML	AML	10 21 36.4	
QRZ				AML	AML	10 21 39.6	
RRRZ	**Republican Roa**	**2.13**	**35**	PN	Pn	10 20 58.4	-1.6
TARZ	**Mount Tarawera**	**2.22**	**34**	PN	Pn	10 21 00.8	-0.5
THZ	**Tophouse**	**2.27**	**222**	PN	Pn	10 21 01.2	-0.8
THZ				AML	AML	10 21 41.1	
THZ				AML	AML	10 21 44.4	
KNZ	**Kokohu**	**2.37**	**64**	PN	Pn	10 21 01.7	-1.4
TOZ	**Tahuroa Road**	**2.40**	**11**	PN	Pn	10 21 01.8	-1.8
KHZ	**Kahutara**	**2.55**	**204**	PN	Pn	10 21 04.3	-1.4
TGRZ	**Tauranga**	**2.57**	**24**	PN	Pn	10 21 07.7	+1.7
TGRZ				AML	AML	10 21 09.8	
MWZ	**Matawai**	**2.67**	**50**	PN	Pn	10 21 06.0	-1.3
MKAZ	**Moumakai**	**2.98**	**3**	PN	Pn	10 21 10.1	-1.6
LTZ	**Lake Taylor**	**3.36**	**216**	PN	Pn	10 21 14.8	-2.0
MQZ	**McQueen's Vall**	**4.00**	**205**	PN	Pn	10 21 21.7	-3.9
FOZ	**Fox Glacier**	**5.24**	**227**	PN	Pn	10 21 40.0	-2.6

NIED ***15*** *10:45:00, 43.°10N×145.°80E, h41km, Mw4.5 Best double couple: M₀6.81000×10¹⁵ NP1:φ₀58.00000°, δ58.00000°, λ121.00000°. NP2:φ₀190.00000°, δ44.00000°, λ51.00000°.*
ISCJB ***15*** *10:45:48.4±0.4, 43.°15N±0.°03×145.°77E±0.°03, h59km±2km, mb4.6/136, MS3.8/25, Error ellipse: s-maj=6.1km s-min=3.2km az=160.2*
BJI ***15*** *10:45:48.9, 43.°11N×145.°87E, h62km, mB4.9/22, mb4.6/33, Ms4.1/22, Ms7 3.9/21*
MOS ***15*** *10:45:48.5±0.9, 43.°16N×145.°77E, h63km, mb4.9/43, Error ellipse: s-maj=7.9km s-min=5.5km az=102.0*
MOS Felt (II) at Yuzhno-Kuril'sk.
JMA ***15*** *10:45:48.6±0.1, 43.°10N×145.°80E, h50km±1km, M4.6*
JMA Felt III J1.
IDC ***15*** *10:45:49.9±2.4, 43.°15N×145.°74E, h62km±21km, mb4.4/24, mb1 4.5/27, mb1mx4.5/31, mbtmp4.3/27, MS3.5/20, Ms1 3.6/20, ms1mx3.4/43, Error ellipse: s-maj=14.9km s-min=12.1km az=152.0*
SKHL ***15*** *10:45:49.2±0.7, 43.°16N×145.°84E, h38km±4km, mb5.1/8*
SKHL Felt (III) at Yushno-Kurilsk.
NEIC ***15*** *10:45:49.2±0.6, 43.°18N×145.°76E, h52km±5km, mb4.7/68, MW4.5(NIED), Error ellipse: s-maj=5.9km s-min=3.3km az=155.0*
NEIC Felt at Nemuro. Recorded [3 JMA] in eastern Hokkaido and [1 JMA] in southeastern Hokkaido.
ISC 15 10:45:50.0±0.5, 43.°14N±0.°04×145.°83E±0.°03, h61km±3km, h61km:pP-P, n614, σ0.°96/658, mb4.6/136, 14C-30D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.23**	**344**	⇓P	**Pn**	**10 45 57.4**	**-2.4**
NEM2				*e*S	**Sn**	**10 46 03.5**	**-3.3**
JAK	**Akkeshi**	**0.84**	**261**	⇓P	**Pn**	**10 46 03.9**	**-2.1**
JAK				*e*S	**Sn**	**10 46 15.4**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**0.90**	**1**	*d i*PN	**Pn**	**10 46 05.4**	**-1.3**
YUK				*i* S	**Sn**	**10 46 17.1**	**-2.0**
YUK				pmax	pmax		
	comp=E,694nm,0.1s						
YUK				pmax	pmax		
	comp=N,730nm,0.1s						
YUK				pmax	pmax		
	comp=Z,5μm,0.3s						
YUK				smax	smax		
	comp=E,31μm,0.6s						
YUK				smax	smax		
	comp=N,12μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**0.90**	**1**	⇓*i*P	**Pn**	**10 46 05.5**	**-1.3**
YUK				AMB	AMB	10 46 06.3	
	comp=N,730nm,0.1s						
YUK				AMB	AMB	10 46 06.3	
	comp=N,694nm,0.1s						
YUK				AMB	AMB	10 46 06.3	
	comp=N,5μm,0.3s						
YUK				*i* S	**Sn**	**10 46 17.2**	**-1.9**
YUK				A	A	10 46 19.2	
	comp=N,12μm,0.6s						
YUK				A	A	10 46 19.2	
	comp=N,31μm,0.6s						
JNK	**Nakash**	**0.93**	**299**	⇓P	**Pn**	**10 46 05.2**	**-1.9**
JNK				*e*S	**Sn**	**10 46 17.4**	**-2.3**
JRA	**Rausu**	**0.95**	**327**	⇓P	**Pn**	**10 46 06.2**	**-1.2**
JRA				*e*S	**Sn**	**10 46 19.0**	**-1.3**
JOB	**Onbets**	**1.48**	**262**	⇓P	**Pn**	**10 46 12.7**	**-1.7**
JOB				*e*S	**Sn**	**10 46 30.1**	**-2.7**
JAR	**Ashorobuto**	**1.51**	**277**	⇓P	**Pn**	**10 46 13.5**	**-1.4**
JAR				*e*S	**Sn**	**10 46 32.4**	**-1.2**
JTKR	**Abashiri--Toko**	**1.62**	**301**	⇓P	**Pn**	**10 46 15.9**	**-0.5**
JTKR				*e*S	**Sn**	**10 46 36.5**	**+0.2**
ERM	**Erimo**	**2.27**	**241**	*d i*PN	**Pn**	**10 46 25.7**	**+0.5**
ERM	**Erimo**	**2.27**	**241**	*e*Pn	**Pn**	**10 46 25.6**	**+0.5**
ERM				*e*Sn	**Sn**	**10 46 49.9**	**-2.0**
ASAJ	**Asahikawa**	**2.54**	**294**	*e*Pn	**Pn**	**10 46 29.3**	**+0.4**
ASAJ				*e*Sn	**Sn**	**10 46 55.0**	**-3.7**
ASAJ				S	**Sn**	**10 47 02.7**	**+4.1**
ASAJ	**Asahikawa**	**2.54**	**294**	P	**Pn**	**10 46 29.3**	**+0.4**
	comp=N,98nm,0.3s,baz=115,slow=12,SNR=1200						
ASAJ				S	**Sn**	**10 47 02.7**	**+4.1**
	comp=N,106nm,0.3s,baz=53,slow=20,SNR=7.2						
ASAJ				LR	LR	10 47 45.1	
	comp=N,1μm,21.4s,baz=169,slow=46						
KUR	**Kuril'sk**	**2.56**	**34**	*d i*PN	**Pn**	**10 46 29.0**	**0.0**
KUR				*i* S	**Sn**	**10 46 59.5**	**+0.6**
KUR				pmax	pmax		
	comp=N,64nm,0.4s						
KUR				pmax	pmax		
	comp=Z,362nm,0.4s						
KUR				pmax	pmax		
	comp=E,101nm,0.3s						
KUR				smax	smax		
	comp=N,3μm,0.4s						
KUR				smax	smax		
	comp=E,685nm,0.4s						
KUR	**Kuril'sk**	**2.56**	**34**	⇓*i*P	**Pn**	**10 46 29.1**	**0.0**
KUR				AMB	AMB	10 46 30.0	
	comp=E,64nm,0.4s						
KUR				AMB	AMB	10 46 30.0	
	comp=E,362nm,0.4s						
KUR				AMB	AMB	10 46 30.2	
	comp=E,760nm,0.5s						
KUR				AMB	AMB	10 46 30.2	
	comp=E,188nm,0.4s						
KUR				*i* S	**Sn**	**10 46 59.6**	**+0.6**
KUR				A	A	10 46 59.8	
	comp=E,15μm,0.8s						
KUR				A	A	10 46 59.8	
	comp=E,10μm,0.8s						
KUR				A	A	10 47 07.5	
	comp=E,3μm,0.5s						
KUR				A	A	10 47 07.5	
	comp=E,4μm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.39**	**331**	⇓*i*PN	**Pn**	**10 46 55.0**	**+0.9**
YSS				*e*S	**Sn**	**10 47 44.3**	**+0.4**
YSS				pmax	pmax		
	comp=Z,120nm,0.7s						
YSS				smax	smax		
	comp=N,250nm,1.0s						
YSS				smax	smax		
	comp=E,320nm,1.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.39**	**331**	⇓*i*P	**Pn**	**10 46 55.0**	**+0.9**
YSS				AMB	AMB	10 46 55.6	
	comp=E,120nm,0.7s						
YSS				pP		10 47 06.0	
YSS				*e*S	**Sn**	**10 47 44.3**	**+0.4**
YSS				A	A	10 47 47.0	
	comp=E,250nm,1.0s						
YSS				A	A	10 47 47.0	
	comp=E,320nm,1.0s						
YSS				AMS	AMS	10 48 50.0	
	comp=E,900nm,14.0s						
YSS				AMS	AMS	10 48 50.0	
	comp=E,900nm,14.0s						
YSS				AMS	AMS	10 48 50.0	
	comp=E,1μm,16.0s						
UGL	**Uglegorsk**	**6.49**	**338**	*e*PN	**Pn**	**10 47 23.0**	**+0.2**
UGL				pmax	pmax		
	comp=Z,90nm,0.8s						
UGL	**Uglegorsk**	**6.49**	**338**	*e*P	**Pn**	**10 47 23.0**	**+0.2**
UGL				AMB	AMB	10 47 25.5	
	comp=Z,90nm,0.8s						
UGL				sP	sP	10 47 37.5	
UGL				AMS	AMS	10 50 05.0	
	comp=Z,500nm,18.0s						
UGL				AMS	AMS	10 50 05.0	
	comp=Z,500nm,18.0s						
UGL				AMS	AMS	10 50 05.0	
	comp=Z,400nm,18.0s						
TEY	**Ternei**	**6.91**	**289**	*e*P	**Pn**	**10 47 31.0**	**+2.4**
TEY				AMB	AMB	10 47 32.0	
	comp=Z,13nm,0.8s						
TEY				AMB	AMB	10 47 32.0	
	comp=Z,43nm,1.0s						
TEY				AMB	AMB	10 47 32.0	
	comp=Z,83nm,1.2s						
TYV	**Tymovskoe**	**8.03**	**345**	*e*P	**Pn**	**10 47 44.2**	**+0.4**
TYV				AMB	AMB	10 47 45.0	
	comp=Z,22nm,1.0s						
TYV				AMB	AMB	10 47 45.0	
	comp=Z,22nm,0.8s						
TYV				AMB	AMB	10 47 45.0	
	comp=Z,46nm,0.8s						
MJAR	**Matsushiro Arr**	**8.81**	**224**	P	**Pn**	**10 47 52.1**	**-2.6**
MJAR	**Matsushiro Arr**	**8.81**	**224**	P	**Pn**	**10 47 52.1**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=32,slow=13,SNR=25						
MJAR				LR	LR	10 52 23.0	
	comp=Z,123nm,18.0s,baz=65,slow=45						
HABR	**Khabarovsk**	**9.22**	**309**	*de*PN	**Pn**	**10 48 02.0**	**+1.8**
HABR				pmax	pmax		
	comp=N,49nm,1.8s						
HABR				pmax	pmax		
	comp=E,117nm,1.8s						
HABR				pmax	pmax		
	comp=Z,95nm,1.0s						
USRK	**Ussuriysk Arra**	**10.09**	**281**	P	**Pn**	**10 48 14.0**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=82,slow=15,SNR=28						
USRK				LR	LR	10 52 05.8	
	comp=Z,221nm,20.4s,baz=92,slow=38						
SKR	**Severo-Kuril's**	**10.31**	**39**	*e*PN	Pn	10 48 08.5	-6.5
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				pmax	pmax		
	comp=N,60nm,0.7s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR	**Severo-Kuril's**	**10.31**	**39**	*e*P	Pn	10 48 08.5	-6.5
SKR				AMB	AMB	10 48 18.5	
	comp=E,60nm,0.7s						
SKR				AMB	AMB	10 48 18.5	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	10 48 18.5	
	comp=E,110nm,0.5s						
SKR				pP		10 48 21.0	
SKR				*e*S	Sn	10 50 02.5	-6.4
SKR				A	A	10 50 14.0	
	comp=E,40nm,0.5s						
KLR	**Kul'dur**	**11.50**	**307**	*e*PN	**Pn**	**10 48 30.2**	**-1.0**
KLR				pmax	pmax		
	comp=Z,30nm,1.4s						
MDJ	**Mudanjiang**	**11.81**	**283**	P	**Pn**	**10 48 35.3**	**-0.3**
MDJ				S	**Sn**	**10 50 44.8**	**-0.9**
MDJ				PcP	**PcP**	**10 54 19.9**	**+0.8**
MDJ				ScP	**ScP**	**10 57 47.0**	**+0.5**
MDJ				PcS	**PcS**	**10 57 54.0**	**+1.0**
MDJ				ScS	**ScS**	**11 01 23.3**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,64nm,4.8s						
MDJ				LR	LR		
	comp=N,54nm,16.1s						
MDJ				LR	LR		
	comp=E,130nm,15.1s						
MDJ				LR	LR		
	comp=Z,220nm,17.2s						
MDJ	**Mudanjiang**	**11.81**	**283**	*e*Pn	**Pn**	**10 48 37.1**	**+1.5**
	comp=Z,15nm,0.9s						
PEA0B	**Petropavlovsk-**	**12.72**	**34**	*e*Pn	**Pn**	**10 48 45.4**	**-2.5**
PETK	**Petropavlovsk-**	**12.72**	**34**	PN	**Pn**	**10 48 45.4**	**-2.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**12.72**	**34**	P	**Pn**	**10 48 45.4**	**-2.5**
PETK	**Petropavlovsk-**	**12.72**	**34**	P	**Pn**	**10 48 45.4**	**-2.5**
	comp=Z,1.1nm,0.3s,baz=194,slow=14,SNR=18						
PETK				LR	LR	10 54 52.6	
	comp=Z,74nm,18.0s,baz=224,slow=43						
PET	**Petropavlovsk**	**13.07**	**36**	*e*PN	**Pn**	**10 48 52.2**	**-0.4**
KSRS	**Korea Array**	**14.79**	**253**	P	**Pn**	**10 49 14.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=11						
KSRS				LR	LR	10 54 20.0	
	comp=Z,107nm,20.3s,baz=179,slow=35						
CN2	**Changchun**	**14.82**	**280**	*e*P	**Pn**	**10 49 15.6**	**-0.3**
CN2				*e*S	**Sn**	**10 51 56.3**	**-2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=E,300nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
KSAR	**Wonju Array Be**	**14.82**	**253**	P	**Pn**	**10 49 14.2**	**-1.7**
JNU	**Nakatsue**	**15.42**	**235**	LR	LR	10 55 43.3	
	comp=Z,118nm,19.1s,baz=51,slow=39						
ZEA	**Zeya**	**16.21**	**317**	*e*P	**P**	**10 49 38.4**	**+2.7**
ZEA				AMB	AMB	10 49 41.0	
	comp=Z,17nm,1.0s						
DL2	**Dalian**	**18.72**	**265**	P	**P**	**10 50 03.8**	**+0.3**
DL2				pmax	pmax		
	comp=Z,20nm,0.9s						
SEY	**Seymchan**	**20.20**	**9**	⇓*i*P	**P**	**10 50 16.4**	**-3.0**
YAK	**Yakutsk**	**21.20**	**339**	*e*P	P	10 50 41.2	+11
YAK				*e*		10 54 15.8	
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
JOW	**Kunigami**	**21.64**	**227**	*e*P	**P**	**10 50 36.3**	**+1.1**
	comp=E,9.3nm,0.9s						
BJI	**Beijing**	**22.34**	**272**	P	**P**	**10 50 42.3**	**-0.3**
BJI				S	**S**	**10 54 46.3**	**+2.1**
BJI				pmax	pmax		
	comp=Z,20nm,1.0s						
BJI				pmax	pmax		
	comp=Z,60nm,6.0s						
BJI				LR	LR		
	comp=Z,95nm,25.7s						
HHC	**Hu-ho-hao-te**	**25.47**	**277**	*e*P	**P**	**10 51 10.0**	**-2.4**
HHC				PP	**PnPn**	**10 51 51.0**	**+0.5**
HHC				PcP	**PcP**	**10 54 42.8**	**+0.1**
HHC				S	**S**	**10 55 29.6**	**-5.5**
HHC				ScP	**ScP**	**10 58 15.3**	**-1.3**
HHC				PcS	**PcS**	**10 58 21.3**	**-2.0**
HHC				ScS	**ScS**	**11 02 02.3**	**-3.3**
HHC				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,5.2s						
HHC				LR	LR		
	comp=N,230nm,11.4s						
HHC				LR	LR		
	comp=E,240nm,10.7s						
HHC				LR	LR		
	comp=Z,220nm,10.9s						
ULN	**Ulaanbaatar**	**27.38**	**294**	*e*P	**P**	**10 51 29.7**	**+0.1**
	comp=Z,5.8nm,0.8s						
SONM	**Songino Array**	**27.82**	**294**	P	**P**	**10 51 33.6**	**+0.1**
SONM	**Songino Array**	**27.82**	**294**	P	**P**	**10 51 33.6**	**+0.1**
	comp=Z,9.6nm,0.7s,baz=81,slow=7.4,SNR=49						
SONM				LR	LR	11 03 52.5	
	comp=Z,227nm,18.0s,baz=74,slow=39						
WHN	**Wuhan**	**27.98**	**254**	P	**P**	**10 51 33.9**	**-1.0**
ZAK	**Zakamensk**	**29.70**	**299**	*e*P	**P**	**10 51 50.0**	**-0.1**
ZAK				*e*		10 53 02.2	
ZAK				*e*		10 54 52.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
XAN	**Xi'an**	**30.04**	**265**	P	P	10 52 00.0	+6.8
XAN				pP	pP	10 52 15.0	+6.8
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CD2	**Chengdu**	**35.39**	**264**	*e*P	**P**	**10 52 40.0**	**+0.1**
CD2				pP	**pP**	**10 52 53.8**	**-1.3**
CD2				PP	**PnPn**	**10 54 00.1**	**+0.1**
CD2				S	**S**	**10 58 09.1**	**-1.1**
CD2				SS	**SnSn**	**11 00 29.1**	**-4.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,80nm,4.8s						
CD2				LR	LR		
	comp=N,440nm,13.2s						
CD2				LR	LR		
	comp=Z,220nm,10.7s						
HVS	**Khovu-Aksy**	**35.69**	**302**	*e*P	**P**	**10 52 43.8**	**+1.5**
HVS				pmax	pmax		
	comp=Z,18nm,1.2s						
GYA	**Guiyang**	**35.84**	**255**	*e*P	**P**	**10 52 44.8**	**+0.9**
GYA				pP	**pP**	**10 53 01.3**	**+2.2**
GYA				sP	**sP**	**10 53 09.8**	**+3.6**
GYA				PP	**PP**	**10 54 08.0**	**+1.8**
GYA				PcP	**PcP**	**10 55 11.3**	**+1.1**
GYA				S	**S**	**10 58 17.6**	**+0.3**
GYA				sS	**sS**	**10 58 45.0**	**+1.9**
GYA				ScP	**ScP**	**10 58 51.9**	**+1.0**
GYA				PcS	**PcS**	**10 58 59.4**	**+1.5**
GYA				ScS	**ScS**	**11 02 55.3**	**-1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,70nm,4.5s						
GYA				LR	LR		
	comp=N,490nm,17.0s						
GYA				LR	LR		
	comp=E,420nm,18.1s						
GYA				LR	LR		
	comp=Z,480nm,17.4s						
QIZ	**Qiongzhong**	**38.63**	**243**	P	**P**	**10 53 09.5**	**+2.0**
QIZ				S	**S**	**10 58 59.4**	**-0.2**
QIZ				LR	LR		
	comp=N,140nm,15.9s						
QIZ				LR	LR		
	comp=Z,150nm,16.1s						
KMI	**Kunming**	**39.44**	**257**	P	**P**	**10 53 16.3**	**+1.8**
KMI				pP	**pP**	**10 53 31.8**	**+2.0**
KMI				sP	**sP**	**10 53 37.5**	**+0.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMI				LR	LR		
	comp=N,94nm,19.4s						
KMI				LR	LR		
	comp=E,75nm,18.4s						
KMI				LR	LR		
	comp=Z,84nm,18.4s						
IMA2	**Indian Mountai**	**39.72**	**34**	*e*P	**P**	**10 53 16.1**	**-0.1**
RSO	**Redoubt South**	**40.06**	**43**	*e*P	**P**	**10 53 20.1**	**+0.9**
DAV	**Davao City (W)**	**40.10**	**212**	LR	LR	11 07 18.1	
	comp=Z,77nm,19.9s,baz=267,slow=32						
PPLA	**Purkeypile**	**40.26**	**39**	*e*P	**P**	**10 53 22.0**	**+1.3**
	comp=Z,54nm,1.5s						
KDAK	**Kodiak Island**	**40.37**	**47**	P	**P**	**10 53 20.9**	**-0.6**
	comp=Z,40nm,0.8s						
KDAK	**Kodiak Island

ZALV MLR MLR
comp=Z,62nm,20.7s
ZALV Zalesovo Beam 40.60 307 P **P** **10 53 22.3 -1.2**
ZALV PcP **PcP** **10 55 24.2 -0.2**
ZALV Zalesovo Beam 40.60 307 P **P** **10 53 22.3 -1.2**
comp=Z,1.3nm,0.6s,baz=87,slow=6.1,SNR=6.5
ZALV PcP **PcP** **10 55 24.2 -0.2**
comp=Z,8.4nm,0.6s,baz=84,slow=3.7,SNR=21
ZALV LR LR 11 10 37.8
comp=Z,62nm,20.7s,baz=70,slow=37
COLD Coldfoot 41.18 32 *e*P **P** **10 53 28.2 +0.2**
comp=Z,15nm,0.8s
WMQ Urumqi 41.43 292 P **P** **10 53 30.8 +0.3**
WMQ pmax pmax
comp=Z,11nm,1.4s
WMQ pmax pmax
comp=Z,130nm,4.0s
WMQ LR LR
comp=N,43nm,23.0s
WMQ LR LR
comp=E,60nm,27.0s
WMQ LR LR
comp=Z,76nm,21.0s
MCK McKinley 41.70 37 *e*P **P** **10 53 32.4 0.0**
MCK pmax pmax
comp=Z,15nm,0.8s
MCK McKinley 41.70 37 *e*P **P** **10 53 32.4 0.0**
comp=Z,15nm,0.8s
PMR Palmer 41.75 41 *e*P **P** **10 53 32.2 -0.5**
PMR pmax pmax
comp=Z,13nm,1.1s
PMR Palmer 41.75 41 *e*P **P** **10 53 32.2 -0.5**
comp=Z,13nm,1.1s
SML Sawmill 42.11 40 *e*P **P** **10 53 35.7 -0.1**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 42.11 40 *e*P **P** **10 53 35.7 -0.1**
comp=Z,6.8nm,0.8s
COLA College 42.13 36 *e*P **P** **10 53 36.4 +0.6**
COLA College 42.13 36 *e*P **P** **10 53 36.4 +0.6**
comp=Z,158nm,0.8s
ILAR Eielson Array 42.55 36 P **P** **10 53 38.9 -0.4**
ILAR Eielson Array 42.55 36 P **P** **10 53 38.9 -0.4**
comp=Z,20nm,1.0s,baz=276,slow=7.5,SNR=103
DIV Divide 43.41 41 *e*P **P** **10 53 46.6 +0.3**
comp=Z,20nm,0.8s
BMRM Bremner River 43.99 41 *e*P **P** **10 53 51.4 +0.4**
comp=Z,20nm,0.8s
MK31 Makanchi Array 44.02 298 *ce*P **P** **10 53 50.7 -0.7**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 44.02 298 *e*P **P** **10 53 50.9 -0.5**
MKAR Makanchi Array 44.02 298 *e*P **P** **10 53 51.0 -0.4**
MKAR 10 55 35.5
MKAR Makanchi Array 44.02 298 *e*P **P** **10 53 51.0 -0.4**
MKAR PcP **PcP** **10 55 35.5 -0.5**
MKAR Makanchi Array 44.02 298 P **P** **10 53 50.7 -0.7**
comp=Z,5.7nm,0.8s,baz=80,slow=8.8,SNR=51
MKAR PcP **PcP** **10 55 35.5 -0.5**
comp=Z,1.0nm,0.5s,baz=71,slow=5.2,SNR=3.6
MKAR LR LR 11 11 33.2
comp=Z,52nm,21.6s,baz=269,slow=35
EGAK Eagle 44.99 35 *e*P **P** **10 53 58.8 0.0**
comp=Z,54nm,1.4s
CHTO Chiang Mai 46.19 253 P **P** **10 54 09.4 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 46.19 253 P **P** **10 54 09.4 +0.5**
comp=Z,4.3nm,0.8s
CMAR Chiang Mai Arr 46.43 253 LR LR 11 13 35.3
comp=Z,60nm,18.3s,baz=230,slow=36
INK Inuvik 47.41 30 *e*P **P** **10 54 17.7 0.0**
comp=Z,14nm,0.6s
INK Inuvik 47.41 30 P **P** **10 54 17.9 +0.1**
comp=Z,12nm,0.6s,baz=275,slow=7.0,SNR=45
HYT Haines Junctio 47.42 40 *e*P **P** **10 54 19.8 +1.7**
BVAR Borovoye Array 49.15 309 LR LR 11 16 03.0
comp=Z,71nm,19.2s,baz=85,slow=37
BRVK Borovoye 49.20 309 *e*P **P** **10 54 31.4 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 49.90 295 *e*P **P** **10 54 37.6 +0.1**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 49.90 295 *e*P **P** **10 54 37.6 +0.1**
comp=Z,7.3nm,0.9s
AAK Ala-Archa 50.75 295 *e*P **P** **10 54 43.7 -0.2**
AAK pmax pmax
comp=Z,8.0nm,1.0s
KSH Kashi 51.19 291 P P 10 54 50.5 +3.4
KSH PP **PP** **10 56 48.5 +4.4**
KSH S **S** **11 02 02.3 +1.4**
KSH SS **SS** **11 05 37.3 +0.8**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,77nm,6.1s
KSH LR LR
comp=N,370nm,13.8s
KSH LR LR
comp=E,210nm,12.3s
KSH LR LR
comp=Z,100nm,8.0s
EKS2 Erkin-Say 51.21 296 *e*P **P** **10 54 47.1 -0.2**
EKS2 pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 51.21 296 *e*P **P** **10 54 47.1 -0.2**
comp=Z,3.2nm,0.7s
DLBC Dease Lake 51.78 42 *e*P **P** **10 54 52.7 +1.6**
DLBC Dease Lake 51.78 42 P **P** **10 54 52.8 +1.6**
comp=Z,4.1nm,0.5s,baz=278,slow=5.1,SNR=24
KK31 Karatay Array 53.15 298 *ce*P **P** **10 55 00.0 -1.5**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
ARU Arti 54.13 317 *d i*P **P** **10 55 07.4 -1.1**
ARU 10 57 08.5
ARU S **S** **11 02 41.2 +0.8**
ARU SS **SKiKP** **11 06 15.3 +1.4**
ARU pmax pmax
comp=Z,6.0nm,1.2s
AB31 Akbulak array 56.69 309 *ce*P **P** **10 55 25.6 -1.4**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 56.69 309 *e*P **P** **10 55 26.6 -0.4**
YKA Yellowknife Ar 56.84 33 P **P** **10 55 27.4 -0.3**
YKA Yellowknife Ar 56.84 33 P **P** **10 55 27.4 -0.3**
comp=Z,8.8nm,0.8s,baz=302,slow=7.2,SNR=15
LVZ Lovozero 57.96 335 *e*P **P** **10 55 33.6 -2.0**
LVZ pmax pmax
comp=Z,14nm,1.2s
APA Apatity 58.53 335 ‖ *e*P **P** **10 55 38.4 -1.2**
APA MLR MLR
comp=Z,300nm,12.0s
ARCES ARCESS Array B 59.48 339 P **P** **10 55 45.4 -0.8**
ARCES ARCESS Array B 59.48 339 P **P** **10 55 45.4 -0.8**
comp=Z,3.3nm,0.7s,baz=37,slow=7.9,SNR=25
EDM Edmonton 62.50 42 *e*P **P** **10 56 06.9 0.0**
EDM Edmonton 62.50 42 *e*P **P** **10 56 06.9 0.0**
NEW Newport 63.46 48 *e*P **P** **10 56 13.6 +0.3**
comp=Z,6.6nm,1.0s
NEW Newport 63.46 48 P **P** **10 56 13.3 0.0**
baz=63,SNR=5.5
WRAB Tennant Creek 63.64 192 *e*P **P** **10 56 14.9 +0.2**
WRAB pmax pmax
comp=Z,23nm,1.7s
WRAB Tennant Creek 63.64 192 *e*P **P** **10 56 14.9 +0.2**
comp=Z,23nm,1.7s
WRA Warramunga Arr 63.65 192 P **P** **10 56 13.6 -1.1**
WRA Warramunga Arr 63.65 192 P **P** **10 56 13.6 -1.1**
comp=Z,0.8nm,0.7s,baz=12,slow=6.7,SNR=8.0
KAF Kangasniemi 64.42 333 *e*P **P** **10 56 17.7 -1.6**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 64.42 333 *e*p **P** **10 56 17.7 -1.6**
comp=Z,4.4nm,0.5s
SUMG Summit 64.55 1 *e*P **P** **10 56 20.6 +0.1**
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG Summit 64.55 1 *e*P **P** **10 56 20.6 +0.1**
comp=Z,35nm,0.9s
WALA Waterton Lakes 64.70 46 *e*P **P** **10 56 21.6 0.0**
comp=Z,0.2nm,1.0s
BSMT Bassoo Peak 64.96 47 *e*P **P** **10 56 23.9 +0.5**
FIA1 FINESS Array S 64.98 333 *e*P **P** **10 56 21.9 -1.0**
FINES FINESS Array B 64.98 333 P **P** **10 56 21.9 -1.1**
FINES FINESS Array B 64.98 333 P **P** **10 56 21.9 -1.1**
comp=Z,12nm,0.7s,baz=43,slow=7.9,SNR=47
FINES LR LR 11 26 38.9
comp=Z,63nm,21.2s,baz=33,slow=38
OBN Obninsk 65.23 323 ⇑ *i*P **P** **10 56 23.5 -1.2**
OBN *e*S **S** **11 05 02.4 -0.7**
OBN pmax pmax
comp=Z,27nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
JTMT Jette 65.30 47 *e*P **P** **10 56 26.1 +0.7**
BMO Blue Mountains 65.38 51 *e*P **P** **10 56 26.4 +0.5**
comp=Z,2.0nm,0.8s
SWMT Swartz Lake 65.59 47 *e*P **P** **10 56 28.0 +0.7**
SLMT Seeley Lake 66.03 47 *e*P **P** **10 56 30.8 +0.5**
MSO Missoula 66.04 48 *e*P **P** **10 56 30.4 +0.2**
comp=Z,8.2nm,1.3s
MSO Missoula 66.04 48 P **P** **10 56 30.5 +0.2**
baz=66,SNR=5.3
WVOR Wild Horse Val 66.06 54 *e*P **P** **10 56 30.9 +0.4**
WVOR pmax pmax
comp=Z,2.0nm,0.9s
WVOR Wild Horse Val 66.06 54 *e*P **P** **10 56 30.9 +0.4**
comp=Z,2.2nm,0.9s
OHCM Honcut 66.20 58 *e*P **P** **10 56 31.1 -0.1**
CHMT Chamberlain Mo 66.36 47 *e*P **P** **10 56 33.0 +0.6**
A17A Triple J Farms 66.43 44 P **P** **10 56 32.4 -0.2**
baz=66
BEKR Beckworth 66.58 57 *e*P **P** **10 56 34.2 +0.3**
comp=Z,5.1nm,0.9s
FFC Flin Flon 66.76 36 *e*P **P** **10 56 34.3 -0.2**
FFC pmax pmax
comp=Z,38nm,1.1s
FFC Flin Flon 66.76 36 *e*P **P** **10 56 34.3 -0.2**
comp=Z,38nm,1.1s
B17A L&G Farms, Che 66.79 45 P **P** **10 56 34.8 -0.2**
baz=66
A18A Metzger Ranch, 66.88 44 P **P** **10 56 35.3 -0.2**
baz=67
MFID Camas Ranch 67.09 52 P **P** **10 56 37.2 +0.2**
baz=67,SNR=6.1
C17A Wharram Farm, 67.23 46 P **P** **10 56 38.0 +0.2**
baz=67
HRY Holter Researc 67.25 47 *e*P **P** **10 56 38.5 +0.5**
B18A Beardsley Farm 67.25 44 P **P** **10 56 38.3 +0.4**
baz=67
PAHR Pah Rah Range 67.27 56 *e*P **P** **10 56 38.7 +0.5**
comp=Z,13nm,1.1s
ASAR Alice Springs 67.37 192 P **P** **10 56 38.9 +0.2**
ASAR Alice Springs 67.37 192 P **P** **10 56 38.9 +0.2**
comp=Z,0.8nm,0.6s,baz=8.5,slow=5.5,SNR=19
A19A Klindworth Far 67.44 44 P **P** **10 56 39.4 +0.4**
baz=67
LRM Limekiln Ridge 67.48 48 *e*P **P** **10 56 40.3 +0.7**
EGMT Eagleton 67.50 45 *e*P **P** **10 56 40.0 +0.5**
comp=Z,11nm,0.9s
EGMT Eagleton 67.50 45 P **P** **10 56 39.9 +0.4**
baz=67
D17A Six Diamond Ra 67.58 46 P **P** **10 56 40.3 +0.3**
baz=67
B19A Brinkman Farms 67.64 44 P **P** **10 56 40.9 +0.6**
baz=67
CMB Columbia Colle 67.67 58 *e*P **P** **10 56 41.2 +0.5**
CMB pmax pmax
comp=Z,7.0nm,0.8s
CMB Columbia Colle 67.67 58 *e*P **P** **10 56 41.2 +0.5**
comp=Z,7.4nm,0.8s
DLMT Dillon 67.69 48 *e*P **P** **10 56 41.5 +0.7**
comp=Z,5.6nm,0.8s
HLID Hailey 67.81 51 *e*P **P** **10 56 41.8 +0.1**
comp=Z,3.3nm,1.0s
HLID Hailey 67.81 51 P **P** **10 56 42.0 +0.4**
baz=68
A20A Cobblestone Ra 67.88 43 P **P** **10 56 42.5 +0.7**
baz=68
MCMT McKenzie Canyo 67.89 49 *e*P **P** **10 56 42.3 +0.1**
comp=Z,0.8nm,0.8s
E17A Martinsdale 67.93 47 P **P** **10 56 42.6 +0.3**
baz=68
D18A Linhart Farms, 68.01 45 P **P** **10 56 43.2 +0.4**
baz=68
BOZ Bozeman (W) 68.03 48 *e*P **P** **10 56 43.3 +0.4**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 68.03 48 *e*P **P** **10 56 43.3 +0.4**
comp=Z,5.7nm,0.6s
C19A Slack Wire Ran 68.05 45 P **P** **10 56 43.4 +0.5**
baz=68
B20A Solberg Farm, 68.12 44 P **P** **10 56 43.8 +0.5**
baz=68
BMN Battle Mountai 68.13 55 *e*P **P** **10 56 44.4 +0.8**
BMN Battle Mountai 68.13 55 *e*P **P** **10 56 44.4 +0.8**
A21A Bergtoll Ranch 68.30 43 P **P** **10 56 44.8 +0.4**
baz=68
E18A Harlowton 68.36 46 P **P** **10 56 45.4 +0.5**
baz=68
F17A Fitzpatrick Pl 68.39 47 P **P** **10 56 45.7 +0.5**
baz=68
D19A Cripps Ranch, 68.51 45 P **P** **10 56 46.8 +1.0**
baz=68
C20A Veseth Ranch, 68.60 44 P **P** **10 56 47.0 +0.7**
baz=68
NVAR Mina Array Bea 68.72 57 P **P** **10 56 48.0 +0.6**
NVAR Mina Array Bea 68.72 57 P **P** **10 56 48.0 +0.6**
comp=Z,9.7nm,0.7s,baz=294,slow=6.8,SNR=98
G17A Pierce Place, 68.72 47 P **P** **10 56 48.0 +0.8**
baz=68
A22A Carney Farms, 68.80 42 P **P** **10 56 47.5 -0.1**
baz=68
NV11 Mina Array Sit 68.81 57 *e*P **P** **10 56 48.8 +0.9**
H16A Russell Place, 68.84 48 P **P** **10 56 48.6 +0.5**
baz=69
F18A Big Timber 68.89 46 P **P** **10 56 48.9 +0.6**
baz=69
D20A Manuel Ranch, 68.94 45 P **P** **10 56 49.1 +0.7**
baz=69
E19A Rath Farm, Rou 69.02 46 P **P** **10 56 49.5 +0.5**
baz=69
I16A Newdale 69.25 49 P **P** **10 56 51.9 +1.3**
baz=69,SNR=7.0
PTRM Twissleman Ran 69.25 60 *e*P **P** **10 56 51.8 +1.2**
A23A Redstone 69.33 42 P **P** **10 56 51.4 +0.6**
baz=69
E20A Meyer Farm, Mu 69.33 45 P **P** **10 56 51.2 +0.3**
baz=69
F19A Roth Farm, Mol 69.33 46 P **P** **10 56 51.3 +0.3**
baz=69
H17A Grant Village 69.41 48 *e*P **P** **10 56 52.7 +1.0**
KIV Kislovodsk 69.45 311 ⇑ *e*P **P** **10 56 52.1 +0.4**
KIV *e* 10 59 24.4
KIV *e*S **S** **11 05 52.5 -1.8**
KIV *e*SS **SS** **11 10 26.1 +4.4**
KIV pmax pmax
comp=Z,19nm,0.6s
KIV MLR MLR
comp=Z,100nm,19.0s
KBZ Khabaz 69.48 311 P **P** **10 56 52.4 +0.7**
KBZ pmax pmax
comp=Z,11nm,0.7s
KBZ Khabaz 69.48 311 P **P** **10 56 52.4 +0.7**
KBZ Khabaz 69.48 311 P **P** **10 56 52.4 +0.7**
comp=Z,11nm,0.7s,baz=47,slow=5.2,SNR=32
KBZ LR LR 11 27 16.5
comp=Z,36nm,21.1s,baz=206,slow=36
IMW Indian Meadow 69.53 49 *e*P **P** **10 56 53.6 +1.2**
comp=Z,8.6nm,0.9s
FLWY Flagg Ranch 69.55 48 *e*P **P** **10 56 54.7 +2.2**
comp=Z,63nm,2.3s
B23A Brockton 69.61 42 P **P** **10 56 52.6 +0.1**
baz=69
RLMT Red Lodge 69.64 47 P **P** **10 56 53.2 +0.2**
comp=Z,2.5nm,0.8s
RRI2 Red Ridge 69.68 49 *e*P **P** **10 56 54.3 +0.9**
comp=Z,12nm,0.9s
H18A Shoshone NF, C 69.72 47 P **P** **10 56 54.1 +0.5**
baz=70,SNR=6.9
MOOW Moose Ponds 69.74 49 *e*P **P** **10 56 54.8 +1.1**
comp=Z,7.2nm,1.0s
A24A Westby 69.78 41 P **P** **10 56 53.3 -0.3**
baz=70
TPAW Teton Pass 69.79 49 *e*P **P** **10 56 55.3 +1.2**
comp=Z,9.4nm,0.9s
NB2 NORSAR Subarra 69.82 338 P **P** **10 56 52.8 -0.8**
comp=Z,18nm,0.8s,baz=33,slow=6.5
NB2 NORSAR Subarra 69.82 338 P **P** **10 56 52.8 -0.8**
baz=33,slow=6.5
NOA NORSAR Array B 69.82 338 P **P** **10 56 52.6 -1.0**
NOA NORSAR Array B 69.82 338 P **P** **10 56 52.6 -1.0**
comp=Z,16nm,0.8s,baz=34,slow=6.1,SNR=52
NOA LR LR 11 31 00.3
comp=Z,51nm,19.4s,baz=5.0,slow=39
VES Vestal, Richgr 69.85 60 P **P** **10 56 54.7 +0.5**
baz=70
LOHW Long Hollow 69.91 49 *e*P **P** **10 56 55.6 +1.0**
comp=Z,22nm,1.8s
SNOW Snow King Moun 69.92 49 *e*P **P** **10 56 55.8 +1.0**
comp=Z,5.2nm,0.8s
REDW Red Top Meadow 69.93 49 *e*P **P** **10 56 55.9 +1.0**
comp=Z,5.9nm,0.9s
C23A Lambert 69.96 43 P **P** **10 56 54.8 +0.1**
baz=70
DGMT Dagmar 69.99 42 *e*P **P** **10 56 55.0 +0.1**
comp=Z,14nm,0.9s
DGMT Dagmar 69.99 42 P **P** **10 56 55.1 +0.1**
baz=70
H19A Powell 70.09 47 P **P** **10 56 56.2 +0.5**
baz=70
CWC Cottonwood Cre 70.11 59 P **P** **10 56 56.1 +0.2**
baz=70
G20A Bridger 70.14 46 P **P** **10 56 55.3 -0.7**
baz=70
GRAC Grapevine Rang 70.19 58 P **P** **10 56 57.5 +1.2**
baz=70,SNR=20
I18A Diamond G Ranc 70.28 48 P **P** **10 56 57.8 +0.8**
baz=70
ISA Isabella 70.35 59 P **P** **10 56 56.9 -0.4**
baz=70
D23A Lindsay 70.38 43 P **P** **10 56 57.7 +0.4**
baz=70
R11A Troy Canyon, C 70.42 56 P **P** **10 56 58.5 +0.5**
baz=70,SNR=13
ARVC Arvin 70.46 60 P **P** **10 56 58.5 +0.6**
baz=70
E22A Miles City 70.50 44 P **P** **10 56 58.1 +0.1**
baz=70
I19A Meeteetse 70.50 48 P **P** **10 56 58.4 +0.1**
baz=70
C24A Savage 70.52 43 P **P** **10 56 58.2 +0.1**
baz=70
G21A Lodge Grass 70.66 46 P **P** **10 56 58.9 -0.2**
baz=70
HWUT Hardware Ranch 70.68 51 *e*P **P** **10 56 59.9 +0.5**
comp=Z,8.6nm,1.2s
MPMC Manual Prospec 70.71 58 P **P** **10 57 00.3 +0.5**
baz=70,SNR=12
A26A Wade Farm, Ken 70.74 40 P **P** **10 56 59.9 +0.5**
baz=70
H20A Greybull 70.74 47 P **P** **10 56 59.5 -0.1**
baz=70
E23A Ismay 70.78 44 P **P** **10 57 00.3 +0.5**
baz=70
F22A Rosebud 70.78 45 P **P** **10 56 59.7 -0.1**
baz=70
FURC Furnace Creek, 70.84 58 P **P** **10 57 01.1 +0.9**
baz=71,SNR=17
D24A Glendive 70.86 43 P **P** **10 57 00.4 +0.2**
baz=71
OSI Osito Adit 70.86 60 *e*P **P** **10 57 01.1 +0.7**
comp=Z,11nm,0.6s
DUG Dugway 70.88 53 *e*P **P** **10 57 00.8 +0.2**
DUG pmax pmax
comp=Z,19nm,1.4s
DUG Dugway 70.88 53 *e*P **P** **10 57 00.8 +0.2**
comp=Z,20nm,1.4s
DUG Dugway 70.88 53 P **P** **10 57 01.6 +1.1**
baz=71,SNR=9.0
C25A Freed Ranch, W 70.97 42 P **P** **10 57 01.2 +0.3**
baz=71
I20A Worland 71.03 47 P **P** **10 57 01.9 +0.5**
baz=71
BW06 Boulder Array 71.04 49 *e*P **P** **10 57 01.6 0.0**
comp=Z,2.2nm,0.4s
PDAR Pinedale Array 71.04 49 P **P** **10 57 01.4 -0.2**
PDAR Pinedale Array 71.04 49 P **P** **10 57 01.5 -0.2**
comp=Z,5.5nm,0.6s,baz=251,slow=0.7,SNR=61
G22A Birney 71.15 45 P **P** **10 57 02.0 -0.1**
baz=71
EDW2 Edwards Air Fo 71.15 60 P **P** **10 57 02.9 +0.7**
baz=71,SNR=5.8
H21A Big Horn, Sher 71.15 46 P **P** **10 57 02.1 0.0**
baz=71
F23A Volborg 71.26 44 P **P** **10 57 02.8 0.0**
baz=71
M17A Scullys Gap (B 71.27 50 P **P** **10 57 02.7 -0.3**
baz=71
L18A Fontenelle, Gr 71.33 50 P **P** **10 57 03.7 +0.3**
baz=71
K19A Absolon Red Bu 71.39 48 P **P** **10 57 03.4 -0.3**
baz=71,SNR=5.5
J20A Shoshoni 71.45 48 P **P** **10 57 04.6 +0.6**
baz=71
AKASG Malin Array Be 71.50 323 P **P** **10 57 02.9 -1.0**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG Malin Array Be 71.50 323 P **P** **10 57 02.9 -1.0**
AKASG Malin Array Be 71.50 323 P **P** **10 57 02.9 -1.0**
comp=Z,9.3nm,0.5s,baz=40,slow=5.9,SNR=27
KIEV Kiev 71.51 323 *e*P **P** **10 57 03.1 -0.9**
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV Kiev 71.51 323 *e*P **P** **10 57 03.1 -0.9**
comp=Z,16nm,0.8s
A28A Rude Farm, Bot 71.56 39 P **P** **10 57 04.5 +0.1**
baz=71
I21A Big Trails, Te 71.57 47 P **P** **10 57 05.4 +0.7**
baz=71,SNR=8.5
SHOC Shoshone 71.57 58 P **P** **10 57 05.1 +0.4**
baz=71
L19A Farson 71.59 49 P **P** **10 57 05.5 +0.5**
baz=71
G23A Biddle 71.62 45 P **P** **10 57 05.1 +0.2**
baz=71
GSC Goldstone 71.63 59 P **P** **10 57 05.5 +0.4**
baz=71
F24A Ekalaka 71.67 44 P **P** **10 57 05.4 +0.2**
baz=71
ANN Anapa 71.70 315 *e*P **P** **10 57 03.2 -2.0**
ANN pmax pmax
comp=Z,50nm,1.2s
E25A Miller Ranch, 71.74 43 P **P** **10 57 05.7 +0.1**
baz=72
BFSC Mount Baldy Ra 71.77 60 P **P** **10 57 06.6 +0.6**
baz=72,SNR=7.7
K20A Yellowstone Ra 71.78 48 P **P** **10 57 05.9 -0.1**
baz=72,SNR=6.2
B28A Dugan Ranch, T 71.84 40 P **P** **10 57 06.2 +0.2**
baz=72
SHPR Sheep Range 71.87 57 *e*P **P** **10 57 07.3 +0.7**
I22A 9 Mile Ranch, 71.94 46 P **P** **10 57 07.7 +0.7**
baz=72,SNR=6.4
BORG Borgarnes 71.98 354 *e*P **P** **10 57 07.5 +1.0**
comp=Z,18nm,0.6s
M19A Rock Springs 72.10 50 P **P** **10 57 08.4 +0.4**
baz=72
F25A Bowman 72.11 43 P **P** **10 57 08.4 +0.6**
baz=72
L20A Wamsutter 72.22 49 P **P** **10 57 08.5 -0.2**
baz=72
BBRC Big Bear Solar 72.22 60 P **P** **10 57 09.3 +0.4**
baz=72
E26A Carlson Angus 72.23 42 P **P** **10 57 08.3 -0.1**
baz=72
HEC Hector,Ludlow 72.23 59 P **P** **10 57 08.8 +0.1**
baz=72
J22A Midwest 72.27 47 P **P** **10 57 09.1 +0.2**
baz=72,SNR=6.3
CCUT Cedar City 72.28 55 *e*P **P** **10 57 10.0 +0.8**
comp=Z,14nm,1.5s
C28A Hausauer Farms 72.35 40 P **P** **10 57 09.4 +0.2**
baz=72
MSU Marysvale 72.35 54 *e*P **P** **10 57 10.3 +0.7**
MSU Marysvale 72.35 54 *e*P **P** **10 57 10.3 +0.7**
H24A Dirks Ranch, A 72.37 45 P **P** **10 57 08.9 -0.5**
baz=72
K21A Alcova 72.39 48 P **P** **10 57 09.8 +0.1**
baz=72
MURC Murrieta 72.47 60 P **P** **10 57 10.4 +0.3**
baz=72
F26A Lodgepole 72.56 43 P **P** **10 57 10.6 +0.1**
baz=72
ULM Lac du Bonnet 72.56 36 P **P** **10 57 09.5 -0.9**
ULM Lac du Bonnet 72.56 36 P **P** **10 57 09.5 -0.9**
comp=Z,4.8nm,0.7s,baz=306,slow=5.6,SNR=4.7
D28A Regan 72.64 41 P **P** **10 57 10.8 0.0**
baz=72
M20A Sweetwater, Wa 72.65 49 P **P** **10 57 11.6 +0.3**

baz=72
Q16A Castle Valley 72.67 53 P P 10 57 12.0 +0.5
baz=72
GMRC Granite Mounta 72.68 59 P P 10 57 12.1 +0.6
baz=72,SNR=6.9
E27A Carson 72.70 42 P P 10 57 11.3 +0.1
baz=72
K22A Casper 72.77 47 P P 10 57 11.9 0.0
baz=72,SNR=5.6
L21A Rawlins 72.78 48 P P 10 57 12.0 0.0
baz=72
SRU San Rafael 72.92 52 eP P 10 57 13.3 +0.4
SRU pmax pmax
comp=Z,12nm,1.1s
SRU San Rafael 72.92 52 eP P 10 57 13.3 +0.4
comp=Z,12nm,1.1s
O19A Miners Draw (B 72.93 51 P P 10 57 13.0 +0.1
baz=73
PFO Pinyon Flat Ob 72.94 60 eP P 10 57 13.3 +0.3
PFO Pinyon Flat Ob 72.94 60 P P 10 57 13.2 +0.1
baz=73
BELC Belle Mtn. Jos 72.97 59 P P 10 57 13.1 -0.1
baz=73,SNR=5.8
G26A Maurine 72.98 43 P P 10 57 12.9 -0.1
baz=73
109C Camp Elliot, M 73.00 61 P P 10 57 13.0 -0.1
baz=73
M21A Separation Pea 73.02 49 P P 10 57 13.6 +0.1
baz=73,SNR=6.5
N20A Spence Gulch, 73.05 50 P P 10 57 14.4 +0.8
baz=73,SNR=16
RSSD Black Hills 73.07 45 eP P 10 57 12.9 -0.8
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 73.07 45 eP P 10 57 12.9 -0.8
comp=Z,4.0nm,0.8s
L22A Ellis Ranch, M 73.24 48 P P 10 57 15.1 +0.4
baz=73
G27A Dupree 73.26 43 P P 10 57 14.5 -0.1
baz=73
I25A Rochford 73.30 45 P P 10 57 14.8 -0.3
baz=73
H26A Fairpoint 73.37 44 P P 10 57 15.1 -0.2
baz=73
IRM Iron Mountain 73.40 59 P P 10 57 16.4 +0.7
baz=73,SNR=6.7
BAR Barrett 73.41 61 eP P 10 57 15.7 0.0
comp=Z,7.1nm,0.8s
MONP Monument Peak 73.43 60 P P 10 57 16.0 0.0
baz=73
P19A Cripple Cowboy 73.46 51 P P 10 57 16.3 +0.2
baz=73,SNR=6.9
N21A Black Mountain 73.51 49 P P 10 57 16.6 +0.2
baz=73,SNR=6.6
O20A White River Ci 73.53 50 eP P 10 57 16.4 -0.2
O20A White River Ci 73.53 50 P P 10 57 16.5 0.0
baz=73,SNR=6.5
BC3 Big Chuckawall 73.54 59 P P 10 57 16.6 +0.1
baz=73
D30A Buchanan 73.56 40 P P 10 57 16.0 -0.3
baz=73
W13A Hualapai Mount 73.57 57 P P 10 57 17.2 +0.3
baz=73
L23A Garrett 73.58 47 P P 10 57 16.4 -0.4
baz=73
M22A Cedar Creek Ra 73.58 48 P P 10 57 17.3 +0.5
baz=73,SNR=6.0
U15A North Rim 73.66 55 P P 10 57 18.5 +1.0
baz=73,SNR=12
H27A Howes 73.71 44 P P 10 57 17.1 -0.2
baz=73
I26A New Underwood 73.74 44 P P 10 57 17.5 +0.1
baz=74
DVTC Desert V Tower 73.78 60 P P 10 57 18.4 +0.4
baz=74
P20A De Beque 73.88 51 P P 10 57 18.5 0.0
baz=74,SNR=5.5
PDMCI Parker Dam,Lak 73.94 58 P P 10 57 19.2 +0.5
baz=74
G28A Parade 73.98 43 P P 10 57 19.0 +0.2
baz=74
AGMN Agassiz Nation 74.02 38 eP P 10 57 18.0 -0.9
comp=Z,5.1nm,0.8s
Y12C Blythe 74.06 59 P P 10 57 19.9 +0.4
baz=74
N22A Wattenberg Ran 74.07 49 P P 10 57 19.9 +0.1
baz=74
I27A Quinn 74.12 44 P P 10 57 20.1 +0.4
baz=74,SNR=6.0
J26A Sides Ranch, S 74.13 45 P P 10 57 19.3 -0.5
baz=74
H28A Mission Ridge 74.21 43 P P 10 57 20.5 +0.3
baz=74,SNR=8.5
N23A Red Feather La 74.29 48 P P 10 57 21.2 +0.2
baz=74
Q20A Ridgley Place, 74.31 51 P P 10 57 21.2 +0.2
baz=74
GLA Glamis 74.33 59 P P 10 57 21.6 +0.5
baz=74
PV04 Paradox Valley 74.34 52 eP P 10 57 21.5 +0.3
LVV L'vov 74.38 325 eP P 10 57 20.2 -0.8
P21A Newcastle 74.40 50 P P 10 57 21.7 +0.1
baz=74
O22A Kremmling 74.46 49 P P 10 57 22.3 +0.3
baz=74,SNR=5.8
M24A Cheyenne 74.50 47 P P 10 57 22.9 +0.8
baz=74,SNR=5.5
I28A Midland 74.62 44 P P 10 57 22.6 0.0
baz=74
J27A Elkhorn Farm, 74.73 45 P P 10 57 23.2 0.0
baz=74
P22A Eagle 74.74 50 P P 10 57 24.2 +0.6
baz=74,SNR=8.1
O23A Lake Granby, G 74.78 49 P P 10 57 24.9 +1.0
baz=74,SNR=12
R20A Redvale 74.78 52 P P 10 57 24.4 +0.6
baz=74,SNR=6.5
Q21A Lamborn Mesa, 74.80 51 P P 10 57 24.7 +0.8
baz=75
WUAZ Wupatki 74.82 56 eP P 10 57 25.1 +1.0
comp=Z,11nm,1.4s
WUAZ Wupatki 74.82 56 P P 10 57 24.8 +0.7
baz=75
Y14A Wickenburg 74.88 58 P P 10 57 25.0 +0.7
baz=75,SNR=11
SMCO Snowmass 74.90 50 eP P 10 57 24.8 +0.1
comp=Z,2.5nm,0.7s
J28A Allard Ranch, 75.00 44 P P 10 57 25.4 +0.6
baz=75,SNR=11
S20A Disappointment 75.04 52 P P 10 57 26.0 +0.6
baz=75,SNR=5.2
R21A Cimarron 75.13 51 P P 10 57 26.7 +0.8
baz=75,SNR=11
Q22A Crested Butte, 75.16 50 P P 10 57 26.9 +0.8
baz=75,SNR=11
113A Mohawk Valley, 75.19 59 P P 10 57 26.0 0.0
baz=75
ISCO Idaho Springs 75.23 49 eP P 10 57 27.4 +0.9
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO Idaho Springs 75.23 49 eP P 10 57 27.4 +0.9
comp=Z,8.1nm,1.4s
ISCO Idaho Springs 75.23 49 P P 10 57 27.0 +0.5
baz=75,SNR=5.2
MVCO Mesa Verde 75.38 53 eP P 10 57 27.6 +0.3
comp=Z,3.9nm,0.6s
MVCO Mesa Verde 75.38 53 P P 10 57 27.9 +0.6
baz=75,SNR=5.5
BRSD Miller 75.40 42 eP P 10 57 26.6 -0.5
P23A Jefferson 75.40 49 P P 10 57 28.0 +0.5
baz=75
K28A Ten Mile Ranch 75.44 45 P P 10 57 27.7 +0.3
baz=75
S21A Coal Bank Pass 75.48 52 P P 10 57 28.9 +1.0
baz=75,SNR=11
X16A Lo Mia Camp, P 75.52 56 P P 10 57 29.2 +1.1
baz=75,SNR=16
BURAR Bucovina Array 75.55 323 ⇑P P 10 57 28.0 +0.1
BURAR Bucovina Array 75.55 323 ⇑iP P 10 57 28.0 +0.1
R22A Saguache, Gunn 75.68 51 P P 10 57 30.4 +1.2
baz=75,SNR=7.7
TESR Tescani 75.74 322 ⇑iP P 10 57 29.0 +0.1
OJC Ojcow 75.78 328 eP P 10 57 29.2 +0.1
OJC Ojcow 75.78 328 eP P 10 57 29.1 0.0
comp=Z,26nm,1.0s
KOLS Kolonicke sedl 75.80 325 eP P 10 57 28.9 -0.3
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 75.80 325 eP P 10 57 28.9 -0.3
STHS Stebnicka Huta 75.84 326 eP P 10 57 30.2 +0.8
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 75.84 326 eP P 10 57 30.2 +0.8
S22A 4UR Ranch, Cre 75.97 51 P P 10 57 31.2 +0.5
baz=76,SNR=5.4
CFR Carcaliu 76.05 320 ⇓P P 10 57 30.7 0.0
CFR Carcaliu 76.05 320 ⇓iP P 10 57 30.7 0.0
Q24A Divide 76.07 49 P P 10 57 31.3 0.0
baz=76
T21A Navajo Lake 76.09 52 P P 10 57 32.0 +0.7
baz=76
CRVS Cervenica-Dubn 76.16 326 eP P 10 57 31.0 -0.2
CRVS pmax pmax
comp=Z,13nm,1.7s
CRVS Cervenica-Dubn 76.16 326 eP P 10 57 31.0 -0.2
N27A Anderson Farm, 76.19 47 P P 10 57 32.2 +0.5
baz=76
VRI Vrincioaia 76.19 321 ⇓P P 10 57 31.5 0.0
VRI Vrincioaia 76.19 321 ⇓iP P 10 57 31.5 0.0
NIE Niedzica 76.22 327 eP P 10 57 34.4 +2.8
R23A Moffat 76.23 50 P P 10 57 33.0 +0.8
baz=76
PLOR Plostina 76.24 321 ⇓P P 10 57 31.7 -0.1
PLOR Plostina 76.24 321 ⇓iP P 10 57 31.7 -0.1
214A Organ Pipe Nat 76.33 59 P P 10 57 33.3 +0.7
baz=76
V20A Brimhall 76.37 54 P P 10 57 33.3 +0.4
baz=76
U21A Nageezi 76.41 53 P P 10 57 33.4 +0.3
baz=76
T22A Edith 76.44 52 P P 10 57 34.2 +0.8
baz=76,SNR=5.9
Q25A Bedland, Calha 76.61 49 P P 10 57 34.5 +0.2
baz=76
R24A Sanders Place, 76.61 50 P P 10 57 34.9 +0.6
baz=76,SNR=5.7
KSP Ksiaz 76.62 330 eP P 10 57 33.7 -0.1
KSP Ksiaz 76.62 330 eP P 10 57 33.7 -0.1
P26A Davis Ranch, A 76.64 48 P P 10 57 34.5 +0.1
baz=76
O27A Beecher Island 76.66 47 P P 10 57 34.2 -0.2
baz=76
SDCO Great Sand Dun 76.73 50 eP P 10 57 35.1 +0.1
comp=Z,3.2nm,1.3s
KECS Kecovo 76.89 326 eP P 10 57 35.9 +0.6
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 76.89 326 eP P 10 57 35.9 +0.6
U22A Llaves 76.91 52 P P 10 57 36.4 +0.4
baz=77
T23A Casias Ranch, 76.92 51 P P 10 57 36.4 +0.3
baz=77
S24A Houchin Ranch, 76.96 50 P P 10 57 37.0 +0.6
baz=77
UPC Upice 76.99 330 eP P 10 57 36.3 +0.4
UPC Upice 76.99 330 eP P 10 57 36.3 +0.4
Q26A Hugo 77.00 49 P P 10 57 36.4 0.0
baz=77
DPC Dobruska-Polom 77.01 330 eP P 10 57 36.3 +0.2
DPC Dobruska-Polom 77.01 330 eP P 10 57 36.3 +0.2
DPC Dobruska-Polom 77.01 330 eP P 10 57 36.3 +0.2
MORC Moravsky Berou 77.01 329 eP P 10 57 36.5 +0.4
MORC pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 77.01 329 eP P 10 57 36.5 +0.4
comp=Z,8.3nm,0.9s
ECSD EROS Data Cent 77.06 41 eP P 10 57 35.9 -0.6
comp=Z,7.8nm,0.9s
R25A Fountain Ranch 77.13 50 P P 10 57 37.3 +0.2
baz=77
V22A San Miguel Ran 77.20 53 P P 10 57 38.0 +0.3
baz=77
BRTR Keskin Array B 77.26 313 P P 10 57 37.3 -0.6
BRTR Keskin Array B 77.26 313 P P 10 57 37.3 -0.6
comp=Z,1.6nm,0.7s,baz=67,slow=3.7,SNR=8.6
BRTR LR LR 11 33 21.4
comp=Z,21nm,21.9s,baz=281,slow=37
DRGR 77.28 324 ⇓P P 10 57 37.8 +0.1
DRGR 77.28 324 ⇓iP P 10 57 37.8 +0.1
VOIR 77.29 322 ⇑P P 10 57 37.9 +0.1
VOIR 77.29 322 ⇑iP P 10 57 37.9 +0.1
U23A El Rito 77.33 52 P P 10 57 39.4 +1.0
baz=77,SNR=13
TUC Tucson 77.36 58 eP P 10 57 39.0 +0.6
TUC pmax pmax
comp=Z,24nm,1.0s
TUC Tucson 77.36 58 eP P 10 57 39.0 +0.6
comp=Z,24nm,1.0s
S25A Robets Cordova 77.39 50 P P 10 57 38.5 -0.2
baz=77
CLL Collm 77.41 332 ⇑iP P 10 57 37.3 -0.9
CLL eP*PP pP 10 57 56.0 +1.0
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 77.41 332 ⇑iP P 10 57 37.3 -0.9
comp=Z,17nm,1.0s
CLL ePcP PcP 10 57 47.0 -1.5
CLL epP pP 10 57 56.0 +1.0
CLL esP sP 10 58 03.0 +1.2
CLL LmV 11 34 00.0
comp=Z,100nm,19.1s
BRG Berggiesshubel 77.44 331 eP P 10 57 37.9 -0.5
comp=Z,4.3nm,1.0s
BRG Berggiesshubel 77.44 331 eP P 10 57 37.9 -0.5
BRG pmax pmax
comp=Z,4.0nm,1.0s
R26A Arlington 77.48 49 P P 10 57 39.4 +0.3
baz=77,SNR=6.8
PVCC Panska Ves 77.50 331 eP P 10 57 39.1 +0.3
PVCC Panska Ves 77.50 331 eP P 10 57 39.1 +0.3
PSZ Piszkesteto 77.57 326 ⇓P P 10 57 39.9 +0.6
PSZ Piszkesteto 77.57 326 ⇓iP P 10 57 39.9 +0.6
O29A 4D Ranch, Culb 77.60 46 P P 10 57 39.7 +0.1
baz=77
X21A Alamocita Cree 77.70 54 P P 10 57 41.6 +1.1
baz=78,SNR=6.3
SPMN St. Paul 77.72 38 eP P 10 57 39.6 -0.4
comp=Z,4.7nm,0.9s
Y20A Horse Springs, 77.72 55 P P 10 57 42.0 +1.4
baz=78,SNR=9.2
V23A Ortiz Mt. (NFS 77.74 52 P P 10 57 42.0 +1.3
baz=78
T25A Trinidad 77.77 50 P P 10 57 41.0 +0.2
baz=78,SNR=5.4
U24A Moreno Valley 77.79 51 P P 10 57 41.8 +0.8
baz=78
R27A Eads 77.85 49 P P 10 57 40.8 -0.2
baz=78
S26A Kim 77.95 49 P P 10 57 41.4 -0.3
baz=78
PRU Pruhonice 77.96 330 eP P 10 57 41.7 +0.4
PRU Pruhonice 77.96 330 eP P 10 57 41.7 +0.4
Y21A Point of Rocks 78.07 54 P P 10 57 43.5 +0.9
baz=78
LAZ Ladron 78.12 54 eP P 10 57 43.7 +1.0
comp=Z,2.7nm,1.2s
ANMO Albuquerque 78.14 53 eP P 10 57 43.1 +0.2
Z20A Nine Sixteen R 78.14 56 P P 10 57 44.0 +1.1
baz=78,SNR=10.0
W23A Werner Place, 78.17 53 P P 10 57 43.8 +0.8
baz=78
TREC Trest 78.18 329 eP P 10 57 42.5 -0.1
TREC Trest 78.18 329 eP P 10 57 42.5 -0.1
T26A Comanche Natio 78.20 50 P P 10 57 42.9 -0.2
baz=78,SNR=8.0
V24A Rampart Ranch, 78.28 52 P P 10 57 44.3 +0.6
baz=78
U25A Circle Dot Ran 78.30 51 P P 10 57 44.0 +0.3
baz=78
SCHQ Schefferville 78.51 19 eP P 10 57 44.0 -0.3
SCHQ Schefferville 78.51 19 P P 10 57 43.8 -0.5
comp=Z,8.5nm,0.7s,baz=357,slow=4.3,SNR=17
Z21A St. Cloud Mine 78.56 55 P P 10 57 46.4 +1.2
baz=78,SNR=15
W24A Lazy 6 Ranch, 78.56 52 P P 10 57 46.3 +1.1
baz=78,SNR=6.2
V25A Rancho No Teng 78.58 51 P P 10 57 45.5 +0.3
baz=78
BZS Buzias 78.67 324 ⇓P P 10 57 45.2 -0.1
BZS Buzias 78.67 324 ⇓iP P 10 57 45.2 -0.1
U26A Atchley Ranch, 78.67 50 P P 10 57 46.1 +0.4
baz=78
Q30A Quinter 78.74 47 P P 10 57 45.8 -0.1
baz=78
P31A Stockton 78.79 46 P P 10 57 45.1 -1.1
baz=78
319A Douglas 78.92 57 P P 10 57 48.0 +0.9
baz=79,SNR=18
220A Playas Peak, P 79.02 57 P P 10 57 48.8 +1.1
baz=79,SNR=10
KHC Kasperske Hory 79.02 330 eP P 10 57 47.3 +0.1
KHC e 10 57 59.0
KHC Kasperske Hory 79.02 330 eP P 10 57 47.3 +0.1
KHC epP PcP 10 57 59.0 +3.4
KHC Kasperske Hory 79.02 330 eP P 10 57 47.3 +0.1
Z22A Elephant Butte 79.02 55 P P 10 57 48.5 +0.8
baz=79
121A Cookes Peak, D 79.03 56 P P 10 57 49.0 +1.2
baz=79,SNR=12
V26A Tequesquite Ra 79.08 51 P P 10 57 48.1 +0.2
baz=79
Y23A Lovelace Mesa, 79.09 54 P P 10 57 48.7 +0.7
baz=79,SNR=8.9
W25A X Bar L Ranch, 79.11 52 P P 10 57 48.7 +0.6
baz=79,SNR=5.5
CONA Conrad Observa 79.16 328 iP P 10 57 48.6 +0.5
SNR=4.9
CSNA Conrad Observa 79.17 328 iP P 10 57 48.6 +0.5
SNR=4.5
U27A Thompson Grove 79.17 50 P P 10 57 48.2 -0.2
baz=79
GERES GERESS Array B 79.21 330 P P 10 57 47.6 -0.7
GERES GERESS Array B 79.21 330 P P 10 57 47.6 -0.7
comp=Z,0.8nm,0.5s,baz=35,slow=4.9,SNR=12
GERES LR LR 11 36 12.6
comp=Z,76nm,19.7s,baz=25,slow=38
320A Kipp Ranch, An 79.41 57 P P 10 57 51.1 +1.3
baz=79,SNR=5.9
Z23A Rita Site, Whi 79.45 54 P P 10 57 51.0 +1.0
baz=79
Y24A Capitan 79.45 53 P P 10 57 50.0 -0.1
baz=79
222A Williams Famil 79.75 56 P P 10 57 52.1 +0.5
baz=80
Z24A Sheeppen Canyo 79.92 54 P P 10 57 53.2 +0.6
baz=80
X26A CR and CF Fran 79.95 52 P P 10 57 53.3 +0.6
baz=80
124A Stringfield Ra 80.31 54 P P 10 57 55.0 +0.2
baz=80
VTS Vitosha 80.33 321 ⇑P P 10 57 54.8 +0.2
VTS Vitosha 80.33 321 ⇑iP P 10 57 54.8 +0.2
Z25A Roswell 80.33 53 P P 10 57 55.2 +0.4
baz=80
SOKA Soboth 80.52 328 iP P 10 57 55.5 +0.1
SNR=5.1
224A Cornudas Mount 80.71 55 P P 10 57 57.5 +0.7
baz=80,SNR=9.2
Z26A Caprock 80.77 53 P P 10 57 57.5 +0.5
baz=80,SNR=12
Y27A Causey 80.81 52 P P 10 57 57.5 +0.2
baz=81
125A Gardner Draw, 80.81 54 P P 10 57 57.9 +0.6
baz=81,SNR=8.5
MNTX Cornudas Mount 81.07 55 eP P 10 57 59.0 +0.5
comp=Z,6.9nm,1.0s
225A Deer Hill, Car 81.11 54 P P 10 57 59.3 +0.4
baz=81,SNR=5.4
Z27A Tatum 81.19 52 P P 10 57 59.5 +0.2
baz=81,SNR=13
324A Moseley Ranch, 81.19 55 P P 10 57 59.6 +0.2
baz=81,SNR=7.3
X29A Tulia 81.23 51 P P 10 57 59.8 +0.3
baz=81
V31A Spring Creek L 81.30 49 P P 10 57 59.8 +0.1
baz=81
GDL2 Guadalupe Moun 81.31 54 eP P 10 58 00.9 +0.9
226B Tecolote Peak, 81.52 54 P P 10 58 01.6 +0.6
baz=81,SNR=12
325A Bean Ranch, Si 81.54 55 P P 10 58 01.7 +0.4
baz=81,SNR=7.5
W31A Holland Ranch, 81.67 49 P P 10 58 01.9 +0.2
baz=81
CDF Champ du Feu 81.81 334 eP P 10 58 01.7 -0.6
comp=Z,16nm,1.0s
425A Indio Mountain 81.95 55 P P 10 58 04.1 +0.7
baz=82,SNR=10
Z29A Hungry Hill Ra 82.09 51 P P 10 58 04.6 +0.5
baz=82,SNR=9.4
128A Castleberry Fa 82.11 52 P P 10 58 04.4 +0.3
baz=82
326A Caldwell Ranch 82.17 54 P P 10 58 04.7 +0.2
baz=82,SNR=8.0
PAGF Fort de Pagny 82.18 335 eP P 10 58 03.8 -0.3
comp=Z,3.7nm,0.8s
FUORN Ofenpass-Fuorn 82.34 331 eP P 10 58 05.5 +0.3
comp=Z,11nm,1.3s
Z30A Sanderson Ranc 82.41 51 P P 10 58 06.1 +0.5
baz=82
228A UT Block 9, Go 82.41 53 P P 10 58 06.3 +0.6
baz=82
MEZF Maizieres J'vi 82.44 335 eP P 10 58 05.1 -0.3
comp=Z,8.8nm,0.8s
426A McDonald Obser 82.61 55 P P 10 58 07.0 +0.1
baz=82,SNR=8.2
SFTF Sexfontaines 82.70 335 eP P 10 58 06.1 -0.7
TUE Stuetta 82.79 331 eP P 10 58 07.4 -0.1
comp=Z,31nm,2.1s
328A Wristen Ranch, 82.82 53 P P 10 58 08.3 +0.5
baz=83,SNR=11
427A Hayter Ranch, 82.85 54 P P 10 58 08.4 +0.3
baz=83,SNR=7.2
229A Bryant Ranch, 82.98 52 P P 10 58 08.9 +0.2
baz=83
526A Mary Lane Ranc 83.01 55 P P 10 58 09.6 +0.7
baz=83,SNR=15
329A Wagon Wheel Ra 83.23 53 P P 10 58 10.4 +0.5
baz=83,SNR=6.6
527A Woodward Ranch 83.24 55 P P 10 58 10.4 +0.3
baz=83,SNR=6.9
Z32A Haskell 83.32 50 P P 10 58 10.1 -0.2
baz=83
626A Big Bend Ranch 83.35 55 P P 10 58 11.2 +0.6
baz=83,SNR=8.9
428A Kincaid Ranch, 83.37 54 P P 10 58 11.7 +1.0
baz=83,SNR=13
TUL1 Tulsa 83.37 46 eP P 10 58 10.5 +0.1
TUL1 Tulsa 83.37 46 P P 10 58 10.6 +0.1
baz=83,SNR=6.0
230A Sterling City 83.44 52 P P 10 58 11.4 +0.5
baz=83,SNR=5.8
528A Cox Ranch, San 83.72 54 P P 10 58 13.2 +0.6
baz=84,SNR=11
PMOR Pomariorio Ree 83.72 117 eT T 12 30 21.3
comp=Z,43nm,0.2s
330A Mertzon 83.75 52 P P 10 58 12.7 +0.1
baz=84,SNR=5.6
TXAR Lajitas Array 83.79 55 P P 10 58 13.1 +0.2
TXAR Lajitas Array 83.79 55 P P 10 58 13.1 +0.2
comp=Z,5.5nm,0.7s,baz=305,slow=4.4,SNR=80
TXAR LR LR 11 32 04.1
comp=Z,27nm,18.8s,baz=245,slow=33
FLN La Foliniere 83.81 338 eP P 10 58 11.9 -0.6
FLN eR
comp=Z,47nm,19.5s
231A Bronte 83.86 51 P P 10 58 13.2 0.0
baz=84,SNR=5.3
627A Terlingua Ranc 83.87 55 P P 10 58 13.7 +0.4
baz=84,SNR=7.1
LOR Lormes 83.90 335 eP P 10 58 12.3 -0.7
comp=Z,20nm,1.2s
LOR eR
comp=Z,60nm,22.0s
429A Davenport Ranc 83.91 53 P P 10 58 13.2 -0.3
baz=84
529A Stev Forest Ra 84.08 54 P P 10 58 14.7 +0.4
baz=84,SNR=13
SFIN Scholer Farm 84.11 38 P P 10 58 13.9 -0.3
baz=84
628A Black Gap, Mar 84.14 55 P P 10 58 14.9 +0.2
baz=84
430A Baggett Ranch, 84.17 53 P P 10 58 14.8 0.0
baz=84,SNR=7.8
SSF Saint Saulge 84.19 335 eP P 10 58 13.9 -0.6
comp=Z,9.9nm,1.1s
GRR Gorron 84.25 338 eP P 10 58 14.5 -0.2
331A San Angelo 84.26 52 P P 10 58 15.1 0.0
baz=84,SNR=7.5
232A Coleman 84.28 51 P P 10 58 15.5 +0.3
baz=84,SNR=11
SMF Signal de Mont 84.46 335 eP P 10 58 15.4 -0.5
comp=Z,14nm,1.0s

AVF	Avril sur Loir	84.48	335	eP	P	10 58 15.5	-0.4
	comp=Z,22nm,1.2s						
LPL	La Plagne	84.52	332	eP	P	10 58 16.3	-0.2
	comp=Z,6.0nm,0.8s						
LPG	La Plagne	84.53	332	eP	P	10 58 16.4	-0.2
	comp=Z,8.9nm,0.9s						
PPT	Papeete	84.54	120	LR	LR	11 29 31.4	
	comp=Z,75nm,19.2s,baz=314,slow=31						
PPT2	Papeete2	84.55	120	eLR	LR	11 25 00.0	
	comp=Z,66nm,23.8s						
PPT2	Papeete2	84.55	120	eT	T	12 31 23.8	
	comp=Z,3.7nm,0.4s						
530A	J-C Ranch, Com	84.58	53	P	P	10 58 17.2	+0.4
	baz=84,SNR=9.5						
332A	Millersview	84.60	51	P	P	10 58 17.2	+0.4
	baz=84,SNR=7.3						
431A	Sonora	84.61	52	P	P	10 58 17.1	+0.1
	baz=84,SNR=6.0						
TIAR	Tiarei	84.68	120	eT	T	12 31 32.3	
	comp=Z,16nm,0.4s						
SGMF	Saint Gilles	84.82	339	eP	P	10 58 17.5	-0.1
	comp=Z,57nm,1.3s						
ROSF	Rostrenen	84.93	340	eP	P	10 58 18.3	+0.1
	comp=Z,26nm,1.0s						
432A	Menard	84.94	52	P	P	10 58 18.7	+0.1
	baz=85,SNR=7.0						
531A	Rocksprings	85.03	53	P	P	10 58 18.7	-0.4
	baz=85,SNR=6.4						
JCT	Junction City	85.23	52	P	P	10 58 20.1	0.0
	baz=85						
SIUC	Southern Illin	85.27	41	eP	P	10 58 20.3	+0.3
	comp=Z,17nm,0.6s						
TCF	Toulx Ste Croi	85.28	336	eP	P	10 58 19.9	-0.1
QUIF	Quistinic	85.29	340	eP	P	10 58 19.7	-0.3
ORIF	Oris-en-Rattie	85.33	333	eP	P	10 58 20.2	-0.2
ORIF				eR			
	comp=Z,86nm,22.8s						
532A	Rocksprings	85.43	52	P	P	10 58 21.2	+0.1
	baz=85,SNR=7.3						
WHTX	Lake Whitney	85.43	50	P	P	10 58 21.1	+0.1
	baz=85						
631A	Perdido Creek	85.57	53	P	P	10 58 22.1	+0.4
	baz=85,SNR=9.6						
MFF	Saint Martin d	85.69	337	eP	P	10 58 22.0	0.0
	comp=Z,13nm,0.9s						
SBF	Sospel	85.72	331	eP	P	10 58 21.3	-1.0
VIVF	Saint-Julien-l	85.79	333	eP	P	10 58 22.4	-0.2
	comp=Z,4.6nm,0.8s						
PARMO	Parma	85.85	42	eP	P	10 58 23.4	+0.5
632A	Uvalde	85.96	53	P	P	10 58 24.3	+0.6
	baz=86						
PGF	Pioggiola	86.30	330	eP	P	10 58 24.1	-1.1
RJF	Les Rejaudoux	86.38	336	eP	P	10 58 24.5	-0.9
	comp=Z,10nm,1.1s						
RJF				eR			
	comp=Z,64nm,19.2s						
CAF	Calviac	86.56	335	eP	P	10 58 26.9	+0.6
	comp=Z,20nm,1.1s						
LASF	Ste Croix	86.75	334	eP	P	10 58 27.5	+0.2
MTLF	Montolieu	87.93	334	eP	P	10 58 33.3	+0.3
	comp=Z,9.5nm,1.2s						
PLAL	Pickwick Lake	88.01	42	eP	P	10 58 32.4	-1.0
	comp=Z,5.0nm,0.6s						
TZTN	Tazewell	88.85	38	eP	P	10 58 37.7	+0.3
	comp=Z,7.5nm,0.8s						
TBI	Tubuai	88.92	124	eT	T	12 36 49.3	
	comp=Z,8.3nm,0.3s						
ETSF	Etsaut	89.19	336	eP	P	10 58 38.8	-0.2
TKL	Tuckaleechee C	89.48	38	P	P	10 58 40.2	-0.2
TKL	Tuckaleechee C	89.48	38	P	P	10 58 40.2	-0.2
	comp=Z,7.2nm,0.7s,baz=192,slow=2.0,SNR=18						
KEST	Kesra	92.05	326	LR	LR	11 43 48.5	
	comp=Z,30nm,19.0s,baz=194,slow=38						
ESDC	Sonseca Array	93.15	337	P	P	10 58 56.6	-0.8
ESDC	Sonseca Array	93.15	337	P	P	10 58 56.6	-0.8
	comp=Z,0.1nm,0.3s,baz=19,slow=4.1,SNR=5.9						
TORD	Torodi Ar. Bea	115.08	321	PKP	PKPdf	11 04 23.3	-1.3
TORD	Torodi Ar. Bea	115.08	321	PKP	PKPdf	11 04 23.3	-1.3
	comp=Z,0.4nm,0.7s,baz=18,slow=1.9,SNR=7.6						
VNDA	Vanda	120.79	176	PKP	PKPdf	11 04 34.0	+0.4
VNDA	Vanda	120.79	176	PKP	PKPdf	11 04 34.0	+0.4
	comp=Z,0.9nm,0.7s,baz=320,slow=4.3,SNR=9.0						
LVC	Limon Verde	144.71	66	ePKPdf	PKPdf	11 05 20.3	+0.1
SNAA	Sanae	147.58	198	ePKPab	PKPbc	11 05 26.0	-0.2
SNAA	Sanae	147.58	198	ePKP	PKPab	11 05 40.4	+12
SNAA	Sanae	147.58	198	ePKPbc	PKPbc	11 05 26.0	-0.2
VNA2	Neumayer--Watz	149.12	197	ePKPab	PKPbc	11 05 30.7	+0.6
VNA2	Neumayer--Watz	149.12	197	ePKP	PKPab	11 05 43.5	+8.9
VNA2	Neumayer--Watz	149.12	197	eHOKKAIDO	KiKP	11 05 51.4	+20
VNA1	Neumayer--Stat	149.52	197	ePKPab	PKPbc	11 05 31.8	+0.8
PLCA	Paso Flores	152.96	97	PKPbc	PKPbc	11 05 40.2	+0.1
PLCA	Paso Flores	152.96	97	PKPbc	PKPbc	11 05 40.2	+0.1
	comp=Z,2.9nm,0.7s,baz=255,slow=0.8,SNR=4.4						

IDC 15 10:50:52.3±0.9, 13°.05N×144°.40E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/27, mbtmp3.8/7, Error ellipse: s-maj=43.1km s-min=19.3km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.25	197	P	P	10 57 40.5	+0.3
	2.7nm,0.6s,baz=18,slow=9.3,SNR=19						
WRA				PcP	PcP	11 00 16.4	-0.7
	0.8nm,1.1s,baz=8.1,slow=3.2,SNR=3.9						
FITZ	Fitzroy Crossi	36.07	211	P	P	10 57 56.5	+0.6
	1.2nm,0.6s,baz=21,slow=12,SNR=5.7						
FITZ				PcP	PcP	11 00 21.9	-0.4
	0.8nm,0.6s,baz=0.0,slow=6.1,SNR=4.6						
ASAR	Alice Springs	37.91	196	P	P	10 58 11.2	-0.3
	1.7nm,0.7s,baz=21,slow=12,SNR=16						
ASAR				PcP	PcP	11 00 27.4	-0.5
	0.4nm,0.6s,baz=33,slow=2.5,SNR=4.5						
STKA	Stephens Creek	44.76	183	P	P	10 59 07.0	-0.7
	2.1nm,0.9s,baz=349,slow=10,SNR=2.8						
MKAR	Makanchi Array	61.56	316	P	P	11 01 12.0	+0.5
	0.1nm,0.4s,baz=92,slow=8.7,SNR=4.5						
KURBB	Kurchatov Arra	64.74	320	P	P	11 01 31.7	-0.7
	0.7nm,0.6s,baz=104,slow=6.8,SNR=5.9						
ILAR	Eielson Array	69.24	25	P	P	11 02 01.3	+0.4
	0.2nm,0.7s,baz=263,slow=5.4,SNR=3.3						
LPAZ	La Paz	148.39	100	PKPbc	PKPbc	11 10 42.1	-0.5
	0.8nm,0.6s,baz=314,slow=2.1,SNR=7.0						

IDC 15 11:00:34.8±1.2, 43°.54N×88°.69E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.4/30, mbtmp3.7/6, ML3.6/3, Error ellipse: s-maj=41.3km s-min=15.0km az=44.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	5.57	308	Pn	Pn	11 01 59.8	+0.8
	0.9nm,0.3s,baz=124,slow=14,SNR=48						
MKAR				Sn	Sn	11 03 00.3	-3.4
	5.0nm,0.3s,baz=122,slow=24,SNR=8.7						
MKAR				Lg	Lg	11 03 41.5	
	3.6nm,0.3s,baz=114,slow=27,SNR=8.6						
KURBB	Kurchatov Arra	9.90	319	Pn	Pn	11 02 57.8	-0.5
	0.2nm,0.3s,baz=131,slow=13,SNR=9.9						
KURBB				Sn	Sn	11 04 44.4	-5.7
	0.2nm,0.3s,baz=131,slow=18,SNR=4.2						
KURBB				Lg	Lg	11 05 54.9	
	0.1nm,0.3s,baz=196,slow=7.7,SNR=5.4						
ZALV	Zalesovo Beam	10.72	348	Pn	Pn	11 03 10.7	+1.2
	0.9nm,0.3s,baz=167,slow=13,SNR=9.5						
ZALV				Sn	Sn	11 05 05.7	-4.5
	0.6nm,0.3s,baz=164,slow=28,SNR=5.1						
ZALV				Lg	Lg	11 06 15.6	
	0.9nm,0.3s,baz=65,slow=29,SNR=6.1						
SONM	Songino Array	13.10	65	Lg	Lg	11 07 31.5	
	0.3nm,0.3s,baz=252,slow=23,SNR=5.2						
BVAR	Borovoye Array	15.40	314	Pn	P	11 04 15.9	-2.1
	0.2nm,0.3s,baz=119,slow=11,SNR=3.6						
KSRS	Korea Array	30.24	88	P	P	11 06 46.7	-0.4
	1.4nm,0.8s,baz=307,slow=10,SNR=18						
WRA	Warramunga Arr	75.79	136	P	P	11 12 22.3	-0.2
	0.5nm,1.0s,baz=336,slow=5.5,SNR=3.6						
ASAR	Alice Springs	78.71	138	P	P	11 12 39.0	+0.1
	0.2nm,0.6s,baz=335,slow=5.7,SNR=4.4						

IDC 15 11:30:44.2±3.8, 22°.41S×175°.06W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/29, Error ellipse: s-maj=126.2km s-min=36.8km az=136.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.77	258	P	P	11 39 15.6	-0.2
	1.4nm,0.8s,baz=96,slow=6.5,SNR=15						
ASAR				LR	LR	11 58 33.9	
	comp=Z,71nm,21.8s,baz=339,slow=36						
WRA	Warramunga Arr	47.07	263	P	P	11 39 17.6	-0.5
	1.1nm,0.6s,baz=101,slow=8.0,SNR=18						
MJAR	Matsushiro Arr	73.37	322	P	P	11 42 18.0	0.0
	0.4nm,0.6s,baz=159,slow=6.1,SNR=4.2						
PETK	Petropavlovsk-	78.83	344	P	P	11 42 48.4	-0.3
	1.0nm,0.8s,baz=139,slow=9.9,SNR=4.6						
CMAR	Chiang Mai Arr	93.32	288	P	P	11 44 02.8	+1.2
	0.4nm,0.4s,baz=110,slow=3.8,SNR=4.9						
AKASG	Malin Array Be	145.98	332	PKPbc	PKPdf	11 50 24.7	-0.2
	0.6nm,0.4s,baz=39,slow=3.9,SNR=7.0						
BRTR	Keskin Array B	150.14	312	PKPbc	PKPbc	11 50 36.8	-0.6
	0.4nm,0.3s,baz=121,slow=3.3,SNR=3.9						

MAN 15 11:31:49, 18°.78N×120°.70E, h12km, mb4.2, ML3.0, MS2.8, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.46	189	‖ iP	Pb	11 31 59.1	+0.1
SIPP	Brgy, Tapao	0.88	195	‖ iP	Pg	11 31 59.1	-7.0
APYP	Conner	1.05	150	eP	Pb	11 32 07.5	-1.6
APYP				eS	Sn	11 32 24.9	+0.8
ABRA	Dolores	1.12	179	eP	Pb	11 32 09.3	-1.1
CAUP	Cauayan	2.12	149	eP	Pb	11 32 25.8	-1.5
PALP	Palanan	2.37	136	eP	Pn	11 32 28.8	+1.0
BALP	Baler	3.14	164	eP	Pn	11 32 39.9	+1.7

*SZGRF **15** 11:37:16.0, 22°.99S×177°.27W, h33km, South of Fiji Islands*
*IDC **15** 11:38:15.7±1.7, 21°.23S×178°.48W, h517km±18km, mb3.7/15, mb1 3.9/17, mb1mx3.9/21, mbtmp3.7/17, Error ellipse: s-maj=16.1km s-min=11.3km az=123.0*
*AUST **15** 11:38:15.8±0.0, 21°.21S×178°.00W, h557km, Error ellipse: s-maj=2.0km s-min=2.0km az=304.0*
*ISCJB **15** 11:38:16.9±0.3, 21°.32S±0°.07×178°.61W±0°.06, h536km, mb4.2/50, Error ellipse: s-maj=9.6km s-min=5.7km az=148.9*
*NEIC **15** 11:38:18.7±0.8, 21°.27S×178°.65W, h549km±8km, mb4.4/30, Error ellipse: s-maj=10.3km s-min=6.7km az=138.0*

ISC 15 11:38:17.6±0.4, 21°.31S±0°.07×178°.54W±0°.07, h536km, n258, g0°91/280, mb4.3/50, 19C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.80	317	eP	P	11 39 45.9	+0.9
MSVF				eS	S	11 40 57.4	+1.1
NIUE	Niue	8.39	76	S	S	11 42 09.2	+11
	baz=7.9,SNR=3.3						
AFI	Afiamalu	9.79	42	eP	P	11 40 29.1	-4.2
	61nm,0.6s						
AFI				eS	S	11 42 15.8	-8.9
AFI	Afiamalu	9.79	42	P	P	11 40 29.5	-3.8
	20nm,0.3s,baz=142,slow=2.2,SNR=20						
DZM	Mont Dzumac	13.98	264	P	P	11 41 17.0	+0.2
	1.5nm,0.3s,baz=80,slow=18,SNR=16						
URZ	Urewera	17.30	192	P	P	11 41 48.9	-0.6
	37nm,1.1s						
URZ	Urewera	17.30	192	P	P	11 41 46.7	-2.9
	3.0nm,0.3s,baz=296,slow=9.7,SNR=13						
SNZO	South Karori	20.74	194	eP	P	11 42 21.4	+0.6
	19nm,0.8s						
RPZ	Rata Peaks	23.96	199	P	P	11 42 47.8	-1.9
	6.3nm,0.5s,baz=353,slow=4.0,SNR=5.7						
EIDS	Eidsvold	28.15	256	P	P	11 43 27.7	+0.8
	baz=29,SNR=3.1						
CNB	Canberra Magne	31.36	237	P	P	11 43 56.2	+1.7
	baz=32,SNR=6.8						
CTAO	Charters Tower	32.91	266	eP	P	11 44 08.6	+0.7
	2.4nm,0.4s						
CMSA	Cobar Meteorol	33.48	245	P	P	11 44 13.4	+0.9
	baz=34,SNR=7.1						
PMG	Port Moresby	35.04	284	eP	P	11 44 25.7	-0.1
	12nm,0.8s						
STKA	Stephens Creek	36.98	245	eP	P	11 44 41.2	-0.5
	0.3nm,0.4s						
STKA	Stephens Creek	36.98	245	P	P	11 44 42.2	+0.5
	1.9nm,0.4s,baz=88,slow=8.4,SNR=5.3						
STKA				PcP	PcP	11 46 48.5	0.0
	1.8nm,0.6s,baz=36,slow=4.1,SNR=2.5						
BBOO	Buckleboo	41.74	244	P	P	11 45 20.0	+0.1
	baz=42,SNR=6.7						
AS31	Alice Springs	43.84	258	eP	P	11 45 36.3	-0.3
ASAR	Alice Springs	43.85	258	P	P	11 45 36.6	0.0
	9.6nm,0.5s,baz=90,slow=8.4,SNR=268						
ASAR				PcP	PcP	11 47 11.2	0.0
	3.6nm,0.6s,baz=109,slow=4.0,SNR=16						
ASAR				ScP	ScP	11 50 14.7	+2.7
	0.4nm,0.8s,baz=102,slow=4.4,SNR=3.8						
ASAR				S	S	11 51 26.8	-2.1
	2.2nm,0.9s,baz=91,slow=15,SNR=14						
WRAB	Tennant Creek	43.98	263	eP	P	11 45 36.7	-1.0
	2.6nm,0.4s						
WRA	Warramunga Arr	43.99	263	P	P	11 45 36.9	-0.8
	2.4nm,0.3s,baz=96,slow=7.6,SNR=176						
WRA				PcP	PcP	11 47 11.1	-0.6
	2.6nm,0.9s,baz=97,slow=6.8,SNR=6.0						
WRA				S	S	11 51 27.5	-3.6
	1.4nm,0.9s,baz=100,slow=14,SNR=5.9						
KDU	Kakadu	47.47	272	P	P	11 46 04.0	-0.3
	baz=48,SNR=7.7						
MTN	Manton Dam	48.67	271	P	P	11 46 12.7	-0.6
	baz=49,SNR=5.0						
KNRA	Kununurra	50.11	267	P	P	11 46 23.7	-0.1
	baz=51,SNR=8.6						
FITZ	Fitzroy Crossi	52.42	263	P	P	11 46 40.7	+0.2
	baz=53,SNR=5.7						
VNDA	Vanda	57.06	185	eP	P	11 47 13.0	+0.9
	0.5nm,0.5s						
VNDA	Vanda	57.06	185	P	P	11 47 13.9	+1.9
	0.7nm,0.6s,baz=4.1,slow=6.7,SNR=9.0						
MBWA	Marble Bar	57.19	258	eP	P	11 47 13.2	-0.7
	10nm,0.8s						
CASY	Casey	63.02	205	eP	P	11 47 53.0	+1.2
	40nm,0.7s						
KSM	Kuching	73.03	278	eP	P	11 48 53.4	-0.2
	9.7nm,0.7s						
TPUB	Ta-pu	73.99	303	eP	P	11 48 57.5	-1.4
	14nm,0.8s						
PEA0B	Petropavlovsk-	76.92	346	eP	P	11 49 13.8	-0.7
PETK	Petropavlovsk-	76.92	346	P	P	11 49 13.6	-0.9
	8.9nm,0.7s,baz=147,slow=8.3,SNR=46						
KSRS	Korea Array	77.16	319	P	P	11 49 16.4	+0.3
	1.7nm,0.7s,baz=132,slow=6.3,SNR=12						
USRK	Ussuriysk Arra	79.35	326	P	P	11 49 28.6	+0.9
	6.4nm,0.7s,baz=131,slow=2.9,SNR=15						
MONP	Monument Peak	80.12	49	P	P	11 49 32.8	+0.5
	baz=80						
EDW2	Edwards Air Fo	80.14	47	P	P	11 49 32.9	+0.7
	baz=80						
ISA	Isabella	80.26	46	P	P	11 49 33.6	+0.8
	baz=80						
CMB	Columbia Colle	80.40	43	eP	P	11 49 33.2	-0.2
	5.4nm,1.2s						
PFO	Pinyon Flat Ob	80.49	48	eP	P	11 49 34.1	0.0
MAW	Mawson	80.63	200	P	P	11 49 34.5	+0.5
	1.5nm,0.6s,baz=135,slow=5.7,SNR=11						
MAW	Mawson	80.63	200	P	P	11 49 29.4	-4.7
	baz=81,SNR=11						
CWC	Cottonwood Cre	80.97	45	P	P	11 49 37.1	+0.5
	baz=81						
BELC	Belle Mtn. Jos	81.02	48	P	P	11 49 37.5	+0.7
	baz=81						
MPMC	Manual Prospec	81.14	46	P	P	11 49 38.1	+0.6
	baz=81						
MTUM	Tungsten Hills	81.17	44	eP	P	11 49 37.7	0.0
BC3	Big Chuckawall	81.22	49	P	P	11 49 38.6	+0.8
	baz=81						
GLA	Glamis	81.33	50	P	P	11 49 39.3	+0.9
	baz=82						
GMRC	Granite Mounta	81.68	48	P	P	11 49 40.8	+0.6
	baz=82						
IRM	Iron Mountain	81.70	49	P	P	11 49 40.8	+0.6
	baz=82						
GRAC	Grapevine Rang	81.75	45	P	P	11 49 41.1	+0.7
	baz=82						
TUQ	Turquoise Moun	81.86	47	P	P	11 49 41.7	+0.6
	baz=82						
Y12C	Blythe	81.92	49	P	P	11 49 42.1	+0.9
	baz=82						
113A	Mohawk Valley,	81.94	50	P	P	11 49 42.3	+0.9
	baz=82						
NVAR	Mina Array Bea	81.96	44	P	P	11 49 41.6	-0.1
	4.2nm,0.7s,baz=224,slow=8.3,SNR=37						
PDMCI	Parker Dam,Lak	82.48	49	P	P	11 49 44.7	+0.6
	baz=83						
CN2	Changchun	82.63	323	eP	P	11 49 47.0	+2.4
Z14A	Wintersburg	82.84	50	P	P	11 49 46.9	+0.9
	baz=83						
W13A	Hualapai Mount	83.08	48	P	P	11 49 47.7	+0.3
	baz=83						
Y14A	Wickenburg	83.09	50	P	P	11 49 47.7	+0.4
	baz=83						
KULM	Kulim	83.38	278	P	P	11 49 45.5	-3.6
	4.8nm,0.6s						
R11A	Troy Canyon, C	83.68	45	eP	P	11 49 50.4	+0.1
R11A	Troy Canyon, C	83.68	45	P	P	11 49 51.0	+0.7
	baz=84						
TUC	Tucson	83.88	52	eP	P	11 49 52.3	+1.1
WVOR	Wild Horse Val	84.08	40	eP	P	11 49 52.5	+0.5
	3.3nm,1.0s						
X16A	Lo Mia Camp, P	84.45	50	P	P	11 49 54.9	+0.7
	baz=85						
319A	Douglas	84.54	53	P	P	11 49 55.8	+1.2
	baz=85						
U15A	North Rim	84.88	48	P	P	11 49 57.1	+0.7
	baz=85						
320A	Kipp Ranch, An	85.08	54	P	P	11 49 58.3	+1.1
	baz=85						
220A	Playas Peak, P	85.35	53	P	P	11 49 59.4	+0.8
	baz=86						
X18A	Snowflake	85.58	50	P	P	11 50 00.3	+0.7
	baz=86						
ENH	Enshi	86.08	304	eP	P	11 50 01.9	0.0
	5.6nm,0.4s						
BMO	Blue Mountains	86.26	39	eP	P	11 50 02.2	-0.3
	1.7nm,0.7s						
MFID	Camas Ranch	86.33	40	P	P	11 50 03.4	+0.5
	baz=87						
Y20A	Horse Springs,	86.42	52	P	P	11 50 04.8	+1.1
	baz=87						
GYA	Guiyang	86.61	300	eP	P	11 50 04.3	-0.3
GYA				pP	pP	11 52 05.3	+3.5
GYA				sP	sP	11 53 01.8	+5.7
GYA				PP	PP	11 53 38.8	+2.0
GYA				SKS	SKSac	11 59 36.5	-4.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
W20A	Ramah	86.91	50	P	P	11 50 06.8	+0.8
	baz=87						
Y21A	Point of Rocks	86.98	52	P	P	11 50 07.3	+0.9
	baz=87						
Z22A	Elephant Butte	87.15	53	P	P	11 50 07.6	+0.6
	baz=87						
SNAA	Sanae	87.22	179	eP	P	11 50 05.6	-1.0
SNAA	Sanae	87.22	179	eP	P	11 50 06.1	-0.5
	comp=Z,1.7nm,1.0s						
HLID	Hailey	87.27	41	eP	P	11 50 07.8	+0.4
	comp=Z,3.3nm,0.9s						
HLID	Hailey	87.27	41	P	P	11 50 07.8	+0.4
	baz=88,SNR=6.1						
TRF	Thorofare Moun	87.35	12	eP	P	11 50 05.6	-1.7
	comp=Z,13nm,0.8s						
324A	Moseley Ranch,	87.44	55	P	P	11 50 09.1	+0.6
	baz=88,SNR=8.4						
SRU	San Rafael	87.45	46	eP	P	11 50 08.8	+0.4
	comp=Z,3.5nm,0.8s						
Y22A	Socorro	87.47	52	P	P	11 50 09.1	+0.5
	baz=88						
425A	Indio Mountain	87.53	56	P	P	11 50 09.8	+0.9
	baz=88,SNR=6.5						
MNTX	Cornudas Mount	87.63	55	eP	P	11 50 09.8	+0.6
	comp=Z,4.4nm,1.1s						
626A	Big Bend Ranch	87.65	57	P	P	11 50 10.2	+0.8
	baz=88,SNR=6.9						
224A	Cornudas Mount	87.69	54	P	P	11 50 10.3	+0.7
	baz=88						
325A	Bean Ranch, Si	87.80	55	P	P	11 50 10.6	+0.4
	baz=88,SNR=7.8						
VNA2	Neumayer--Watz	87.80	177	eP	P	11 50 09.6	+0.3
	baz=173,slow=3.4						
MCK	McKinley	87.87	13	eP	P	11 50 08.6	-1.0
526A	Mary Lane Ranc	87.90	57	P	P	11 50 11.2	+0.5
	baz=88						
TXAR	Lajitas Array	87.92	58	P	P	11 50 11.3	+0.6
	comp=Z,2.7nm,0.8s,baz=219,slow=7.7,SNR=30						
124A	Stringfield Ra	88.03	54	P	P	11 50 11.8	+0.5
	baz=88						
VNA1	Neumayer--Stat	88.03	177	eP	P	11 50 10.8	+0.5
U21A	Nageezi	88.13	50	P	P	11 50 12.2	+0.5
	baz=88						
Y23A	Lovelace Mesa,	88.14	52	P	P	11 50 11.8	0.0
	baz=88						
627A	Terlingua Ranc	88.19	58	P	P	11 50 12.6	+0.6
	baz=88,SNR=9.2						
426A	McDonald Obser	88.22	56	P	P	11 50 12.8	+0.6
	baz=88,SNR=6.2						
XAN	Xi'an	88.22	308	P	P	11 50 12.8	+0.9
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
225A	Deer Hill, Car	88.24	55	P	P	11 50 12.9	+0.6
	baz=88						
ANMO	Albuquerque	88.30	51	eP	P	11 50 12.2	-0.3
	comp=Z,4.3nm,1.2s						
527A	Woodward Ranch	88.31	57	P	P	11 50 13.0	+0.4
	baz=88,SNR=6.0						
Y24A	Capitan	88.59	53	P	P	11 50 14.3	+0.5
	baz=89,SNR=10						
628A	Black Gap, Mar	88.60	58	P	P	11 50 14.4	+0.6
	baz=89						
GDL2	Guadalupe Moun	88.63	55	eP	P	11 50 14.8	+0.9
226B	Tecolote Peak,	88.73	55	P	P	11 50 14.8	+0.5
	baz=89,SNR=6.2						
P19A	Cripple Cowboy	88.75	46	P	P	11 50 14.8	+0.3
	baz=89						
427A	Hayter Ranch,	88.78	56	P	P	11 50 15.4	+0.8
	baz=89,SNR=8.8						
V23A	Ortiz Mt. (NFS	88.87	51	P	P	11 50 16.2	+1.0
	baz=89						
MCMT	McKenzie Canyo	88.90	40	eP	P	11 50 15.4	+0.3
	comp=Z,3.3nm,1.1s						
528A	Cox Ranch, San	88.96	57	P	P	11 50 15.9	+0.3
	baz=89						
RRI2	Red Ridge	89.07

MOOW **Moose Ponds** 89.63 42 *e*P P 11 50 18.8 +0.3
LOHW **Long Hollow** 89.65 42 *e*P P 11 50 19.0 +0.4
comp=Z,3.3nm,0.6s
L19A **Farson** 89.70 44 P P 11 50 19.0 +0.2
baz=90,SNR=8.0
Q22A **Crested Butte,** 89.79 48 P P 11 50 19.3 -0.2
baz=90
N20A **Spence Gulch,** 89.81 46 P P 11 50 19.5 +0.1
baz=90,SNR=5.1
FLWY **Flagg Ranch** 89.83 42 *e*P P 11 50 20.4 +1.0
429A **Davenport Ranc** 89.86 57 P P 11 50 19.7 0.0
baz=90
W25A **X Bar L Ranch,** 89.89 52 P P 11 50 19.6 -0.2
baz=90
BW06 **Boulder Array** 89.90 43 *e*P P 11 50 19.1 -0.7
comp=Z,4.7nm,1.0s
PDAR **Pinedale Array** 89.90 43 P P 11 50 19.2 -0.5
comp=Z,3.6nm,0.7s,baz=214,slow=3.1,SNR=38
CMAR **Chiang Mai Arr** 89.91 290 P P 11 50 21.4 +1.3
comp=Z,6.0nm,0.9s,baz=131,slow=3.1,SNR=30
CHTO **Chiang Mai** 90.04 290 *e*P P 11 50 21.8 +1.1
comp=Z,8.2nm,0.9s
V25A **Rancho No Teng** 90.05 51 P P 11 50 20.7 +0.1
baz=90
329A **Wagon Wheel Ra** 90.15 56 P P 11 50 21.0 +0.1
baz=90
128A **Castleberry Fa** 90.24 55 P P 11 50 21.5 +0.1
baz=90
N21A **Black Mountain** 90.27 46 P P 11 50 21.5 0.0
baz=90
Y27A **Causey** 90.27 54 P P 11 50 21.5 -0.1
baz=90
L20A **Wamsutter** 90.32 45 P P 11 50 22.2 +0.5
baz=90,SNR=6.1
K19A **Absolon Red Bu** 90.38 44 P P 11 50 21.6 -0.4
baz=91
631A **Perdido Creek** 90.40 59 P P 11 50 22.3 +0.2
baz=91
G17A **Pierce Place,** 90.43 41 P P 11 50 22.3 +0.2
baz=91
J19A **Crowheart** 90.46 43 P P 11 50 22.0 -0.3
baz=91
K20A **Yellowstone Ra** 90.63 44 P P 11 50 22.7 -0.4
baz=91
O22A **Kremmling** 90.64 47 P P 11 50 23.4 0.0
baz=91
129A **Stewart Farms,** 90.72 55 P P 11 50 23.4 -0.2
baz=91
M21A **Separation Pea** 90.77 45 P P 11 50 23.5 -0.3
baz=91
F17A **Fitzpatrick Pl** 90.78 40 P P 11 50 24.1 +0.5
baz=91
CD2 **Chengdu** 90.80 303 *e*P P 11 50 23.3 -0.7
CD2 pP **pP** 11 52 25.0 +2.8
CD2 sP **sP** 11 53 19.1 +3.0
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,40nm,6.8s
S25A **Robets Cordova** 90.98 50 P P 11 50 25.0 +0.2
baz=91
N22A **Wattenberg Ran** 91.00 46 P P 11 50 25.3 +0.4
baz=91
632A **Uvalde** 91.06 59 P P 11 50 25.4 +0.2
baz=91
J20A **Shoshoni** 91.13 43 P P 11 50 25.7 +0.4
baz=91
532A **Rocksprings** 91.22 58 P P 11 50 26.2 +0.3
baz=91
F18A **Big Timber** 91.34 41 P P 11 50 26.6 +0.4
baz=92
Y29A **Porterfield Fa** 91.38 54 P P 11 50 26.7 +0.1
baz=92
D17A **Six Diamond Ra** 91.39 39 P P 11 50 26.7 +0.3
baz=92
J21A **Lysite** 91.53 44 P P 11 50 27.5 +0.2
baz=92
L22A **Ellis Ranch, M** 91.58 45 P P 11 50 27.9 +0.3
baz=92
C17A **Wharram Farm,** 91.58 39 P P 11 50 27.1 -0.1
baz=92
432A **Menard** 91.61 58 P P 11 50 27.3 -0.4
baz=92
231A **Bronte** 91.63 56 P P 11 50 27.5 -0.3
baz=92
332A **Millersview** 91.85 57 P P 11 50 28.4 -0.4
baz=92
131A **Roby** 91.87 56 P P 11 50 28.5 -0.4
baz=92
R26A **Arlington** 91.97 50 P P 11 50 29.1 -0.2
baz=92
L23A **Garrett** 92.11 45 P P 11 50 29.9 -0.1
baz=92
A17A **Triple J Farms** 92.28 38 P P 11 50 30.6 +0.2
baz=92
R27A **Eads** 92.42 50 P P 11 50 30.8 -0.5
baz=93
B18A **Beardsley Farm** 92.54 38 P P 11 50 31.5 0.0
baz=93
Z32A **Haskell** 92.83 55 P P 11 50 33.2 0.0
baz=93
LZH **Lanzhou** 92.86 308 *e*P P 11 50 34.3 +0.8
LZH pP **pP** 11 52 34.9 +3.0
LZH sP **sP** 11 53 26.6 +0.9
LZH pmax pmax
comp=Z,19nm,1.0s
D20A **Manuel Ranch,** 92.88 40 P P 11 50 33.7 +0.5
baz=93
SONM **Songino Array** 96.03 319 P P 11 50 48.1 +0.5
comp=Z,0.3nm,0.4s,baz=123,slow=5.3,SNR=2.6
ZALV **Zalesovo Beam** 110.80 321 PKiKP **PKiKP** 11 55 47.3 -2.0
comp=Z,0.9nm,0.6s,baz=132,slow=2.1,SNR=4.1
MK31 **Makanchi Array** 111.38 313 PKPdf **PKiKP** 11 55 49.3 -1.4
MKAR **Makanchi Array** 111.38 313 PKiKP **PKiKP** 11 55 49.0 -1.8
comp=Z,0.3nm,0.4s,baz=81,slow=2.4,SNR=5.9
SUR **Sutherland** 123.49 200 PKP **PKPdf** 11 56 14.3 -0.4
comp=Z,10nm,1.1s,baz=140,slow=6.5
BOSA **Boshof** 125.31 206 PKP **PKPdf** 11 56 18.1 -0.2
comp=Z,3.8nm,1.1s,baz=126,slow=1.8,SNR=2.7
ABKAR **Akbulak array** 126.32 316 *e*PKPdf **PKPdf** 11 56 18.9 -0.4
ARCES **ARCESS Array B** 129.62 349 PKP **PKPdf** 11 56 24.0 -1.0
comp=Z,4.5nm,0.8s,baz=17,slow=1.2,SNR=20
FINES **FINESS Array B** 136.40 343 PKhKP PKPpre 11 56 28.3
comp=Z,1.8nm,0.8s,baz=66,slow=3.4,SNR=5.1
FINES PKP **PKPdf** 11 56 35.0 -2.9
comp=Z,2.2nm,0.7s,baz=60,slow=3.4,SNR=5.6
NB2 **NORSAR Subarra** 139.72 353 PKP PKPpre 11 56 35.4
comp=Z,1.2nm,0.6s,baz=13,slow=3.2
NOA **NORSAR Array B** 139.72 353 PKhKP PKPpre 11 56 36.5
comp=Z,1.3nm,0.6s,baz=17,slow=2.8,SNR=8.6
AKASG **Malin Array Be** 143.47 330 PKP PKPab 11 56 48.3 -1.1
comp=Z,8.3nm,0.5s,baz=42,slow=4.4,SNR=115
KIEV **Kiev** 143.48 330 *e*PKPdf PKPab 11 56 48.0 -1.4
MALT **Malatya** 144.01 306 ⇑*i*P x 11 57 15.0
BSEG **Bad Segeberg** 146.74 350 *e*PKPbc **PKPbc** 11 56 59.2 +0.1
BR131 **Keskin Array S** 147.00 311 *e*PKPbc **PKPbc** 11 56 59.9 -0.6
BRTR **Keskin Array B** 147.00 311 PKPbc **PKPbc** 11 56 59.6 -0.9
comp=Z,5.6nm,0.7s,baz=134,slow=3.9,SNR=28
TLCR 147.26 323 ⇓*i*P **PKPbc** 11 57 00.5 -0.3
GHRR 147.47 325 ⇑*i*P **PKPbc** 11 57 02.3 +1.0
BUR08 **Bucovina Ar. S** 147.50 330 *e*PKPbc **PKPbc** 11 57 01.7 +0.2
BURAR **Bucovina Array** 147.51 330 ⇓*i*P **PKPbc** 11 57 02.1 +0.6
TESR **Tescani** 147.57 327 ⇓*i*P **PKPbc** 11 57 01.2 -0.4
CFR **Carcaliu** 147.64 324 ⇓*i*P **PKPbc** 11 57 01.6 -0.2
KOLS **Kolonicke sedl** 147.82 334 *e*PKP **PKPbc** 11 57 02.4 +0.2
STHS **Stebnicka Huta** 147.85 335 *e*PKP **PKPbc** 11 57 02.6 +0.4
STHS *e* 11 57 07.9
VRI **Vrincioaia** 147.96 326 ⇑*i*P **PKPbc** 11 57 02.3 -0.3
PLOR **Plostina** 148.01 326 ⇑*i*P **PKPbc** 11 57 02.3 -0.5
CRVS **Cervenica-Dubn** 148.17 335 *e*PKP **PKPbc** 11 57 03.3 +0.2
MANR **Mangalia** 148.21 321 ⇑*i*P **PKPbc** 11 57 03.7 +0.4
ISR **Istrita** 148.55 325 ⇓*i*P **PKPab** 11 57 09.6 -0.1
DOPR **Dopca** 148.58 327 ⇓*i*P **PKPbc** 11 57 04.9 +0.7
MLR **Muntele Rosu** 148.62 326 ⇑*i*P **PKPbc** 11 57 05.2 +0.8
UPC **Upice** 148.69 342 *e*PKP **PKPbc** 11 57 04.0 -0.3
CLL **Collm** 148.73 346 *e*PKPbc **PKPbc** 11 57 04.2 -0.1
CLL *e*PKPab **PKPab** 11 57 09.6 -0.6
CLL **Collm** 148.73 346 ⇓*i*PKPbc **PKPbc** 11 57 03.8 -0.5
comp=Z,14nm,0.7s
CLL ⇑*i*PKPab **PKPab** 11 57 09.6 -0.6
comp=Z,7.0nm,0.8s
DPC **Dobruska-Polom** 148.74 342 ⇑*i*PKP **PKPbc** 11 57 04.5 0.0
SECR 148.86 325 ⇓*i*P **PKPbc** 11 57 05.1 +0.2
KECS **Kecovo** 148.90 335 *e*PKP **PKPbc** 11 57 04.4 -0.4
KECS *e* 11 57 11.1
BRG **Berggiesshubel** 148.91 345 *i*PKP **PKPbc** 11 57 04.6 -0.2
comp=Z,7.5nm,0.7s
BRG *e* 11 57 10.4
comp=Z,6.5nm,1.0s
BRG **Berggiesshubel** 148.91 345 *e*PKPbc **PKPbc** 11 57 04.7 -0.1
BRG *e*PKPab **PKPab** 11 57 10.7 -0.2
CJR **Cluj-Napoca** 148.92 330 ⇓*i*P **PKPbc** 11 57 04.9 -0.1
CSS **Prodhromos** 148.93 303 *e*PKPbc **PKPbc** 11 57 04.8 -0.6
CSS *e*PKPab **PKPab** 11 57 11.9 +0.3
PVCC **Panska Ves** 149.07 344 ⇑*i*PKP **PKPbc** 11 57 05.4 +0.2
VOIR 149.12 327 ⇓*i*P **PKPbc** 11 57 05.1 -0.5
DRGR 149.28 331 ⇑*i*P **PKPbc** 11 57 05.7 -0.2
ARR **Arges** 149.38 327 ⇑*i*P **PKPbc** 11 57 07.1 +0.9
PRU **Pruhonice** 149.57 343 ⇑*i*PKP **PKPbc** 11 57 06.0 -0.4
MOX **Moxa** 149.65 347 *e*PKPbc **PKPbc** 11 57 06.3 -0.3
TANN **Tannenbergstha** 149.69 346 *e*PKPbc **PKPbc** 11 57 06.8 0.0
DEV **Deva** 149.86 329 ⇓*i*P **PKPbc** 11 57 06.4 -0.8
NKC **Novy Kostel** 149.86 346 ⇑*i*PKP **PKPbc** 11 57 07.1 0.0
TREC **Trest** 149.93 342 ⇑*i*PKP **PKPbc** 11 57 06.8 -0.5
MANZ **Manzenberg** 150.17 346 *e*PKPbc **PKPbc** 11 57 08.0 +0.1
GZR **Gura Zlata** 150.28 329 ⇑*i*P **PKPbc** 11 57 07.9 -0.4
ROTZ **Rotzenmuhle** 150.35 346 *e*PKPbc **PKPbc** 11 57 08.3 0.0
MEM **Membach** 150.54 354 PKPbc **PKPbc** 11 57 08.4 -0.3
KHC **Kasperske Hory** 150.61 344 ⇑*i*PKP **PKPbc** 11 57 08.5 -0.5
KHC *e*PKPAB **PKPab** 11 57 18.2 +0.1
KHC **Kasperske Hory** 150.61 344 *e*PKPbc **PKPbc** 11 57 08.4 -0.5
KHC *e*PKPab **PKPab** 11 57 18.4 +0.3
TNS **Taunus Mts** 150.62 351 *e*PKPbc **PKPbc** 11 57 08.9 0.0
GRF **Grafenberg Arr** 150.64 347 *e*PKPbc **PKPbc** 11 57 09.1 +0.2
BZS **Buzias** 150.66 330 ⇑*i*P **PKPbc** 11 57 08.9 -0.2
WET **Wettzell** 150.77 345 *e*PKPab **PKPab** 11 57 18.6 -0.2
GEC2 **GERESS Array S** 150.84 343 *e*PKPbc **PKPbc** 11 57 09.3 -0.2
GERES **GERESS Array B** 150.84 343 PKPbc **PKPbc** 11 57 08.7 -0.9
comp=Z,3.7nm,0.6s,baz=46,slow=2.8,SNR=33
GERES PKPab **PKPab** 11 57 18.7 -0.4
comp=Z,1.1nm,0.8s,baz=57,slow=3.6,SNR=3.7
CONA **Conrad Observa** 151.02 340 *i*PKiKP **PKPbc** 11 57 09.6 -0.3
SNR=13
CSNA **Conrad Observa** 151.02 340 *i*PKiKP **PKPbc** 11 57 09.6 -0.3
SNR=14
DOU **Dourbes** 151.17 356 PKPbc **PKPbc** 11 57 09.1 -0.9
WLF **Walferdange** 151.46 354 PKPbc **PKPbc** 11 57 10.8 +0.1
PKSM **Moragy** 151.47 335 ⇑*i*P **PKPbc** 11 57 10.5 -0.4
VTS **Vitosha** 152.03 324 ⇓*i*P **PKPbc** 11 57 12.0 -0.5
FUR **Furstenfeldbru** 152.07 346 *e*PKPab **PKPab** 11 57 24.5 +0.2
RJOB **Jochberg** 152.09 344 *e*PKPbc **PKPbc** 11 57 11.7 -0.6
RJOB *e*PKPab **PKPab** 11 57 25.1 +0.6
BFO **Black Forest** 152.48 350 *e*PKPbc **PKPbc** 11 57 12.5 -0.6
BFO *e*PKPab **PKPab** 11 57 24.9 -1.1
BFO **Black Forest** 152.48 350 *e*PKPbc **PKPbc** 11 57 12.6 -0.6
BFO *e*PKPab **PKPab** 11 57 25.3 -0.7
ESDC **Sonseca Array** 161.12 13 PKPab **PKPab** 11 58 02.8 -0.8
comp=Z,0.1nm,0.2s,baz=339,slow=4.6,SNR=5.0
TORD **Torodi Ar. Bea** 171.88 182 PKP **PKPdf** 11 57 24.1 -1.4
comp=Z,1.3nm,0.9s,baz=183,slow=2.9,SNR=5.1
TORD PKPab **PKPab** 11 58 51.2 -0.4
comp=Z,0.5nm,0.6s,baz=188,slow=3.9,SNR=7.0

IDC 15 11:51:01.0±2.2, 29°18S×67°16W, h156km±26km, mb3.2/1, mb1 3.2/3, mb1mx3.0/18, mbtmp3.1/3, Error ellipse: s-maj=65.8km s-min=26.2km az=100.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.59**	**201**	P	Pn	11 51 42.9	-0.7
1.8nm,0.3s,baz=11,slow=13,SNR=121							
CFAA				S	Sn	11 52 17.1	+0.6
2.4nm,0.3s,baz=281,slow=22,SNR=19							
LPAZ	**La Paz**	**12.87**	**356**	P	Pn	11 53 59.6	+0.5
0.3nm,0.3s,baz=183,slow=6.7,SNR=7.1							
TORD	**Torodi Ar. Bea**	**78.60**	**68**	P	P	12 02 45.5	-0.2
0.4nm,0.7s,baz=248,slow=5.8,SNR=4.2							
WRA	**Warramunga Arr**	**126.94**	**206**	PKP	PKPdf	12 09 47.0	0.0
0.6nm,1.1s,baz=165,slow=1.8,SNR=4.6							

---

*ISK **15** 11:53:23.4, 40°39N×39°77E, h5km, MD2.3*
*DDA **15** 11:53:23.7, 40°39N×39°74E, h7km, MD2.7*
CSEM 15 11:53:23.7±0.1, 40°38N×39°74E, h12km, MD2.3, Error ellipse: s-maj=2.2km s-min=1.6km az=15.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	**Gumushane**	**0.22**	**293**	PG	Pg	11 53 28.7	+0.1
GUMT				SG	Sg	11 53 32.2	+0.3
GUMT	**Gumushane**	**0.22**	**293**	*i*Pg	Pg	11 53 28.7	+0.1
GUMT				*i*Sg	Sg	11 53 32.2	+0.3
BAYT	**Ayd¨–ntepe-Bay**	**0.30**	**87**	*e*PG	Pg	11 53 29.9	-0.3
BAYT				*e*SG	Sg	11 53 33.8	-0.7
BAYT	**Ayd¨–ntepe-Bay**	**0.30**	**87**	*e*Pg	Pg	11 53 29.9	-0.3
BAYT				*e*Sg	Sg	11 53 33.8	-0.7
KELT	**Kelkit**	**0.44**	**239**	*i*P	Pg	11 53 32.5	-0.2
KELT				*i*S	Sg	11 53 38.9	+0.2
KELT	**Kelkit**	**0.44**	**239**	*i*P	Pg	11 53 32.5	-0.2
KELT				*i*S	Sg	11 53 38.9	+0.2
MACK	**Trabzon**	**0.57**	**2**	*i*P	Pg	11 53 35.1	+0.2
MACK				*i*S	Sg	11 53 42.6	+0.2
MACK	**Trabzon**	**0.57**	**2**	*i*P	Pg	11 53 35.1	+0.2
MACK				*i*S	Sg	11 53 42.6	+0.1
KTUT	**Trabzon**	**0.61**	**2**	*e*PG	Pg	11 53 35.7	+0.1
KTUT	**Trabzon**	**0.61**	**2**	*e*Pg	Pg	11 53 35.7	+0.1
KOPT	**Kop Dagi**	**0.68**	**122**	*i*P	Pg	11 53 37.5	+0.2
KOPT				*i*S	Sg	11 53 46.9	+0.4
KOPT	**Kop Dagi**	**0.68**	**122**	*i*P	Pg	11 53 37.5	+0.2
KOPT				*i*S	Sg	11 53 46.9	+0.4
ESPY	**Espiye-Giresun**	**0.94**	**305**	*e*PG	Pg	11 53 41.6	-0.3
ESPY	**Espiye-Giresun**	**0.94**	**305**	*e*Pg	Pg	11 53 41.7	-0.3

IDC 15 12:12:41.6±1.5, 13°34N×93°08E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/29, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=61.1km s-min=20.0km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.60**	**47**	Pn	Pn	12 14 32.6	-1.0
0.2nm,0.3s,baz=240,slow=14,SNR=3.9							
MKAR	**Makanchi Array**	**34.56**	**347**	P	P	12 19 31.3	-0.6
0.7nm,0.7s,baz=156,slow=8.7,SNR=7.7							
KURBB	**Kurchatov Arra**	**39.02**	**345**	P	P	12 20 10.7	+0.9
0.2nm,0.3s,baz=162,slow=7.7,SNR=4.2							
FITZ	**Fitzroy Crossi**	**44.81**	**133**	P	P	12 20 57.7	+0.1
0.4nm,0.4s,baz=340,slow=12,SNR=6.5							
WRA	**Warramunga Arr**	**52.37**	**128**	P	P	12 21 55.7	-0.1
0.3nm,0.6s,baz=301,slow=9.4,SNR=17							
WRA				PcP	PcP	12 23 05.8	-1.2
0.2nm,0.4s,baz=324,slow=3.2,SNR=4.8							
ASAR	**Alice Springs**	**54.28**	**132**	P	P	12 22 10.2	+0.2
0.7nm,0.4s,baz=310,slow=7.3,SNR=29							

---

*BJI **15** 12:30:03.3, 0°71S×123°99E, h159km, mB5.0/42, mb5.3/66*
*IDC **15** 12:30:11.7±1.0, 0°16N×123°36E, h154km±8km, mb4.9/38, mb1 4.9/41, mb1mx4.9/42, mbtmp4.9/41, MS4.1/16, Ms1 4.1/16, ms1mx3.8/41, Error ellipse: s-maj=11.0km s-min=6.5km az=74.0*
*MOS **15** 12:30:11.5±1.1, 0°18N×123°30E, h164km, mb5.4/50, Error ellipse: s-maj=9.2km s-min=4.6km az=114.8*
*ISCJB **15** 12:30:11.3±0.3, 0°09N±0°02×123°53E±0°02, h166km±2km, mb5.2/170, Error ellipse: s-maj=3.3km s-min=2.8km az=147.7*
*NEIC **15** 12:30:12.5±0.6, 0°10N×123°41E, h160km±5km, mb5.3/59, Error ellipse: s-maj=5.3km s-min=3.4km az=72.0*
NEIC Felt [IV] at Gorontalo and Luwuk.
*GCMT **15** 12:30:12.4±0.1, 0°13N×123°62E, h146km, MW5.3, Moment Tensor Solution. s73,c113; s87,c165; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s52.00000°, δ54.00000°, λ116.00000°. NP2:ϕ_s192.00000°, δ43.00000°, λ59.00000°. Principal axes: T 1.0900, Plg68.0000°, Azm19.0000°; N 0.1700, Plg21.0000°, Azm216.0000°; P -1.2600, Plg6.0000°, Azm124.0000°; Data Used: II IU CN IC G.*
*AUST **15** 12:30:12.6±0.1, 0°01N×123°55E, h158km Error ellipse: s-maj=0.7km s-min=0.5km az=23.0*
*BKK **15** 12:30:12.4±0.3, 0°N±3°×12°4E±°, h146km±3km, M5.3/44, mb5.4/44, mB5.6/30, MLv6.1/7, Mw(mB)5.1/30*
*DJA **15** 12:30:12.3±0.2, 0°N±2°×12°4E±°, h129km±2km, M5.4/57, mb5.6/57, mB5.8/44, MLv5.9/24, Mw(mB)5.3/44, Mwp6.2/2*
ISC 15 12:30:12.1±0.2, 0°08N±0°03×123°48E±0°03, h158km±1km, h158km:pP-P, n1062, σ1≈35/1226, mb5.3/181, 31C-28D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.70**	**46**	P	Pn	12 30 34.3	-1.2
LUWI	**Luwuk**	**1.32**	**212**	P	Pn	12 30 37.9	-2.7
MRSI	**Marisa**	**1.59**	**284**	P	Pn	12 30 42.0	-1.2
MRSI				S	Sn	12 31 04.0	-3.1
TOLI	**Toli-Toli**	**2.88**	**291**	P	Pn	12 30 58.5	+0.2
SKSI	**Soroako, Sulaw**	**3.37**	**220**	P	Pn	12 31 03.6	-0.9
SKSI				S	Sn	12 31 40.3	-4.9
TNTI	**Ternate**	**3.94**	**80**	P	Pn	12 31 09.5	-2.4
TNTI				S	Sn	12 31 53.3	-5.0
LBMI	**Labuha**	**4.08**	**100**	P	Pn	12 31 11.0	-2.7
KKSI	**Kolaka, Sulawe**	**4.61**	**203**	P	Pn	12 31 19.3	-1.2
TTSI	**Tana Toraja**	**4.80**	**230**	P	Pn	12 31 22.8	-0.3
MMSI	**Mamuju**	**5.34**	**239**	P	Pn	12 31 30.3	+0.1
762nm,0.6s,22μm6.7nm							
SPSI	**Sidrap Palu**	**5.47**	**223**	P	Pn	12 31 31.5	-0.4
1μm,0.6s,16μm5.2nm							
BBSI	**Bau Bau**	**5.61**	**189**	P	Pn	12 31 33.1	-0.6
1μm,0.9s,12μm4.0nm							
SGKI	**Sangatta, Kali**	**5.91**	**264**	P	Pn	12 31 37.4	-0.4
2μm,1.0s,27μm11nm							
AAI	**Ambon**	**6.02**	**129**	P	Pn	12 31 38.3	-0.8
3μm,0.6s,35μm11nm							
AAI	**Ambon**	**6.02**	**129**	P	Pn	12 31 38.4	-0.7
baz=5.9,SNR=106							
KAPI	**Kappang**	**6.29**	**216**	Pn	Pn	12 31 41.8	-0.9
4μm,0.5s,SNR=68							
KAPI	**Kappang**	**6.29**	**216**	Pn	Pn	12 31 41.9	-0.8
SNR=33							
KAPI	**Kappang**	**6.29**	**216**	*e*Pn	Pn	12 31 41.5	-1.3
KAPI				S	Sn	12 32 50.0	-3.8
KAPI	**Kappang**	**6.29**	**216**	P	Pn	12 31 41.8	-0.9
576nm,0.9s,9μm2.8nm							
KAPI	**Kappang**	**6.29**	**216**	P	Pn	12 31 41.4	-1.3
97nm,0.3s,baz=32,slow=10,SNR=122							
KAPI				S	Sn	12 32 50.0	-3.8
117nm,0.3s,baz=78,slow=19,SNR=6.6							
KAPI				LR	LR	12 34 37.2	
comp=Z,3μm,19.1s,baz=260,slow=42							
BKSI	**Bulukumba**	**6.33**	**212**	P	Pn	12 31 43.8	+0.5
526nm,0.6s,8μm61μm2.4nm							
MSAI	**Masohi**	**6.42**	**122**	P	Pn	12 31 43.5	-1.0
463nm,0.6s,5μm1.8nm							
BKB	**Balikpapan**	**6.72**	**259**	P	Pn	12 31 49.2	+0.7
2μm,1.1s,25μm7.4nm							
BSSI	**Bau Bau, Buton**	**6.87**	**206**	P	Pn	12 31 51.0	+0.5
2μm,0.6s,17μm6.2nm							
TSM	**Tawau**	**6.99**	**307**	P	Pn	12 31 52.0	-0.2
MYLDM	**Lahad Datu**	**7.10**	**316**	P	Pn	12 31 56.2	+2.6
MYLDM	**Lahad Datu**	**7.10**	**316**	P	Pn	12 31 55.9	+2.3
3μm,1.0s,31μm12nm							
CTBH	**Cotabato--PC H**	**7.13**	**6** ⇑*e*P	Pn	Pn	12 31 56.1	+2.1
DAV	**Davao City (W)**	**7.25**	**17**	Pn	Pn	12 32 00.3	+4.7
SNR=9.3							
DAV	**Davao City (W)**	**7.25**	**17**	*e*Pn	Pn	12 31 56.0	+0.4
DAV	**Davao City (W)**	**7.25**	**17**	P	Pn	12 32 04.7	+9.1
DAV	**Davao City (W)**	**7.25**	**17**	P	Pn	12 31 58.8	+3.3
35nm,0.3s,baz=247,slow=13,SNR=7.4							
DAV				LR	LR	12 34 27.6	
comp=Z,1μm,21.1s,baz=215,slow=36							
IPIL	**Ipil**	**7.71**	**353**	*e*P	Pn	12 32 05.1	+3.5
PAGZ	**Pagadian**	**7.71**	**359**	*e*P	Pn	12 32 04.2	+2.4
SWI	**Sorong**	**7.83**	**97**	P	Pn	12 32 02.0	-1.3
1μm,0.6s,12μm3.3nm							
SWI	**Sorong**	**7.83**	**97**	P	Pn	12 32 02.1	-1.3
baz=7.8,SNR=70							
BNDI	**Bandanaira**	**7.88**	**126**	P	Pn	12 32 02.2	-1.7
5μm,0.7s,47μm15nm							
BNDI	**Bandanaira**	**7.88**	**126**	P	Pn	12 32 02.9	-1.1
baz=7.8,SNR=48							
BUKP	**Musuan**	**7.90**	**11**	*e*P	Pn	12 32 07.1	+2.8
KBKI	**Kotabaru**	**8.05**	**245**	P	Pn	12 32 14.9	+8.7
SDKM	**Sandakan**	**8.36**	**311**	P	Pn	12 32 11.9	+1.5
DCPH	**Dipolog City**	**8.45**	**359**	*e*P	Pn	12 32 15.4	+3.9
MTKI	**Muara Teweh, K**	**8.65**	**263**	P	Pn	12 32 15.1	+0.9
556nm,1.1s,14μm2.3nm							
MMRI	**Maumere**	**8.75**	**188**	P	Pn	12 32 14.8	-0.7
299nm,0.8s,4μm							
LBFI	**Labuhan Bajo,**	**9.23**	**203**	P	Pn	12 32 21.9	0.0
230nm,0.6s							
FAKI	**Fak Fak**	**9.26**	**109**	P	Pn	12 32 18.8	-3.4
371nm,0.7s,5μm							
FAKI	**Fak Fak**	**9.26**	**109**	P	Pn	12 32 19.7	-2.5
baz=9.2,SNR=43							
FAKI				S	Sn	12 34 00.0	-5.1
baz=9.2,SNR=5.9							
BBKI	**Banjar Baru**	**9.33**	**248**	P	Pn	12 32 24.9	+1.7
801nm,1.3s,9μm							
KKM	**Kota Kinabalu**	**9.37**	**309**	*e*Pn	Pn	12 32 25.6	+1.8
KKM	**Kota Kinabalu**	**9.37**	**309**	P	Pn	12 32 27.0	+3.2
KKM	**Kota Kinabalu**	**9.37**	**309**	P	Pn	12 32 25.6	+1.8
1μm,0.8s,17μm							
KKM	**Kota Kinabalu**	**9.37**	**309**	P	Pn	12 32 25.6	+1.8
baz=9.5,SNR=48							
KDM	**Kudat**	**9.49**	**316**	P	Pn	12 32 31.8	+6.5
SOEI	**Soe**	**9.80**	**175**	P	Pn	12 32 31.9	+2.3
462nm,0.7s,6μm							
SOEI	**Soe**	**9.80**	**175**	P	Pn	12 32 31.7	+2.1
baz=9.8,SNR=19							
BATI	**Baumata**	**10.22**	**179**	P	Pn	12 32 36.1	+1.1
BATI	**Baumata**	**10.22**	**179**	P	Pn	12 32 36.1	+1.1
232nm,0.7s,2μm							
BATI	**Baumata**	**10.22**	**179**	P	Pn	12 32 36.1	+1.1
38nm,0.3s,baz=340,slow=1.6,SNR=62							
BATI				LR	LR	12 36 41.1	
comp=Z,1μm,21.4s,baz=202,slow=38							
BATP	**Bataraza**	**10.34**	**327**	*e*P	Pn	12 32 37.9	+1.3
PPR	**Puerto Princes**	**10.73**	**334** ⇑*e*P	P	Pn	12 32 49.6	-0.5
RKPI	**Ransiki, Papua**	**10.81**	**98**	P	Pn	12 32 41.8	-0.9
595nm,0.7s,6μm							
BTM	**Bintulu**	**10.85**	**287**	P	Pn	12 32 43.9	+0.6
TLE	**Tual**	**10.85**	**122**	P	Pn	12 32 41.9	-1.3
2μm,1.1s,19μm							
TLE	**Tual**	**10.85**	**122**	P	Pn	12 32 42.5	-0.7
baz=11,SNR=50							
TLE				S	Sn	12 34 43.3	-0.1
baz=11,SNR=4.3							
CUYO	**Cuyo Island**	**10.97**	**347**	*e*P	P	12 32 49.2	-3.7
PLP	**Palo**	**11.11**	**8** ⇓*e*P	P	Pn	12 32 48.4	+1.8
SBUM	**Sibu**	**11.50**	**282**	P	Pn	12 32 52.6	+0.8
SBUM	**Sibu**	**11.50**	**282**	P	Pn	12 32 51.5	-0.3
107nm,1.2s,2μm							
SRBI	**Singaraja**	**11.57**	**225**	P	P	12 32 57.3	-2.4
94nm,0.8s							
KMMI	**Kalianget**	**11.85**	**233**	P	P	12 33 06.6	+3.8
DNP	**Denpasar**	**11.98**	**223**	P	P	12 33 08.3	+3.9
STKI	**Sintang**	**12.01**	**270**	P	Pn	12 32 59.7	+1.4
316nm,1.1s							
PBKI	**Pangkalan Bun**	**12.13**	**257**	P	Pn	12 33 01.1	+1.2
503nm,1.2s,5μm							
IGBI	**Denpasar**	**12.13**	**223**	P	P	12 33 09.3	+3.3
NBBI	**Negara**	**12.19**	**226**	P	P	12 33 08.7	+2.1
BYJI	**Banyuwangi**	**12.28**	**

PCJI	**Pacitan**	**14.77 236**	P	**P**	**12 33 35.9 +0.6**
	486nm,1.0s,5μm				
MTN	**Manton Dam**	**14.92 150**	P	**Pn**	**12 33 33.8 -1.4**
	baz=15,SNR=253				
UGM	**Wanagama**	**15.16 238**	P	**P**	**12 33 43.4 +3.6**
	baz=15,SNR=8.1				
KDU	**Kakadu**	**15.51 145**	P	**Pn**	**12 33 41.0 -1.5**
	baz=16,SNR=242				
BJII	**Banjamegara**	**15.59 242**	P	**P**	**12 33 46.4 +1.9**
	248nm,1.4s,3μm275μm				
TPI	**Tanjungpandan**	**16.07 260**	P	**P**	**12 33 51.0 +1.2**
	117nm,0.9s,862nm				
KNRA	**Kununurra**	**16.50 162**	P	**P**	**12 33 54.1 -0.4**
	baz=16,SNR=700				
KNRA			S	**S**	**12 36 56.6 -1.1**
	baz=16,SNR=11				
LEM	**Lembang**	**17.25 246**	P	**Pn**	**12 34 04.4 +0.5**
	233nm,0.9s,2μm				
LEM	**Lembang**	**17.25 246**	P	**Pn**	**12 34 04.8 +0.9**
	baz=17,SNR=8.5				
CISI	**Cisompet, Garu**	**17.37 244**	P	**P**	**12 34 04.5 +0.4**
	256nm,0.9s				
CISI	**Cisompet, Garu**	**17.37 244**	S	Sn	12 37 29.7 +10
	baz=17,SNR=3.5				
JAY	**Jayapura**	**17.41 99**	P	**Pn**	**12 34 08.5 +2.9**
	85nm,0.8s,3μm				
PPBI	**Pangkal Pinang**	**17.48 263**	P	**Pn**	**12 34 06.7 +0.2**
CBJI	**Citeko**	**17.81 248**	P	**Pn**	**12 34 10.0 -0.4**
	1μm,0.9s				
DBJI	**Dramaga**	**17.95 248**	P	**P**	**12 34 10.9 +0.4**
	242nm,1.1s,3μm				
FITZ	**Fitzroy Crossi**	**18.19 173**	P	**P**	**12 34 12.7 -0.3**
FITZ			ScP	**ScP**	**12 42 01.0 +1.1**
FITZ	**Fitzroy Crossi**	**18.19 173**	P	**P**	**12 34 12.7 -0.3**
	14nm,0.3s,baz=2.7,slow=7.7,SNR=593				
FITZ			ScP	**ScP**	**12 42 01.0 +1.1**
	0.6nm,0.3s,baz=352,slow=2.3,SNR=5.2				
FITZ	**Fitzroy Crossi**	**18.19 173**	P	**P**	**12 34 13.1 +0.1**
	baz=18,SNR=414				
FITZ			S	**S**	**12 37 31.3 -1.8**
	baz=18,SNR=11				
PIP	**Pasuquin**	**18.35 351**	‖*eP*	**P**	**12 34 15.5 +0.8**
KLSI		**19.32 256**	P	**P**	**12 34 26.3 +0.9**
	118nm,0.8s				
MYKOM	**Kota Tinggi**	**19.70 275**	P	**Pn**	**12 34 31.6 -1.0**
MYKOM	**Kota Tinggi**	**19.70 275**	P	**Pn**	**12 34 31.5 -1.1**
	97nm,1.0s,851nm				
BTDF	**Bukit Timah Da**	**19.75 274**	P	**Pn**	**12 34 32.4 -0.7**
	baz=20,SNR=13				
BTDF			P	**Pn**	**12 34 32.4 -0.7**
	baz=20,SNR=13				
BTDF			S	**S**	**12 38 06.6 +2.5**
	baz=20,SNR=10				
BTDF			S	**S**	**12 38 06.6 +2.5**
	baz=20,SNR=10				
KASI	**Kota Agung**	**19.76 253**	P	**Pn**	**12 34 31.8 -1.5**
	131nm,0.9s				
XMIS	**Christmas Isla**	**20.61 239**	P	**P**	**12 34 38.1 -1.0**
	baz=21,SNR=4.8				
KTGM	**Kuala Trenggan**	**20.98 285**	P	**P**	**12 34 45.2 +2.1**
MNAI	**Manna**	**20.98 258**	P	**P**	**12 34 44.2 +1.1**
	baz=21,SNR=9.4				
KSI	**Kapahiang**	**21.20 260**	P	**P**	**12 34 46.2 +0.6**
	149nm,1.1s				
MBWA	**Marble Bar**	**21.43 190**	*eP*	**P**	**12 34 47.1 -0.7**
	31nm,0.6s				
MASI	**Maura Aman, Be**	**21.47 261**	P	**P**	**12 34 48.9 +0.4**
	802nm,1.0s,6μm				
FRIM	**Kepong**	**22.07 278**	P	**P**	**12 34 56.8 +2.2**
BKNI	**Bangkinang**	**22.45 271**	P	**P**	**12 34 59.6 +1.4**
	176nm,1.0s,2μm				
WRAB	**Tennant Creek**	**22.56 152**	P	**P**	**12 34 58.0 -1.2**
	1μm,0.5s				
WRAB	**Tennant Creek**	**22.56 152**	*eP*	**P**	**12 34 58.3 -1.0**
WRAB			pmax	pmax	
	comp=Z,100nm,0.6s				
WRAB	**Tennant Creek**	**22.56 152**	*eP*	**P**	**12 34 58.3 -1.0**
	comp=Z,100nm,0.6s				
WRA	**Warramunga Arr**	**22.57 153**	P	**P**	**12 34 58.5 -0.8**
WRA			S	**S**	**12 38 50.3 -4.5**
WRA			ScP	**ScP**	**12 42 10.2 -0.1**
WRA			PKiKP	**PKiKP**	**12 46 31.9 -0.7**
WRA			*e*		13 08 24.1
WRA	**Warramunga Arr**	**22.57 153**	P	**P**	**12 34 58.5 -0.8**
	comp=Z,82nm,0.5s,baz=333,slow=10.0,SNR=1109				
WRA			S	**S**	**12 38 50.3 -4.5**
	comp=Z,31nm,1.0s,baz=336,slow=16,SNR=10				
WRA			ScP	**ScP**	**12 42 10.2 -0.1**
	comp=Z,9.0nm,0.9s,baz=330,slow=2.6,SNR=7.3				
WRA			PKiKP	**PKiKP**	**12 46 31.9 -0.7**
	comp=Z,1.1nm,0.9s,baz=311,slow=1.1,SNR=5.2				
WRA			P3KPbc		13 08 24.1
	comp=Z,0.3nm,0.6s,baz=151,slow=3.4,SNR=4.8				
TWG	**Pinlang**	**22.72 354**	*eP*	**P**	**12 35 00.8 +0.2**
	comp=Z,304nm,1.1s				
IPM	**Ipoh**	**22.86 281**	*eP*	**P**	**12 35 03.1 +1.1**
IPM	**Ipoh**	**22.86 281**	P	**P**	**12 35 04.4 +2.4**
IPM	**Ipoh**	**22.86 281**	P	**P**	**12 35 03.2 +1.1**
	comp=Z,414nm,1.1s,comp=Z,4μm				
PPI	**Padang Panjang**	**23.09 269**	P	**P**	**12 35 04.2 0.0**
	comp=Z,214nm,1.0s,comp=Z,2μm				
PPI	**Padang Panjang**	**23.09 269**	P	**P**	**12 35 06.7 +2.5**
	baz=23,SNR=7.0				
QIZ	**Qiongzhong**	**23.10 325**	P	**P**	**12 35 05.5 +1.3**
QIZ			pP	**pP**	**12 35 33.9 -0.1**
QIZ			sP	**sP**	**12 35 52.5 -1.2**
QIZ			S	**S**	**12 39 06.0 +2.5**
QIZ			sS	**sS**	**12 39 58.8 +1.4**
QIZ			pmax	pmax	
	comp=Z,230nm,1.1s				
QIZ			pmax	pmax	
	comp=Z,330nm,4.1s				
QIZ	**Qiongzhong**	**23.10 325**	*eP*	**P**	**12 35 05.4 +1.2**
	comp=Z,181nm,0.9s				
TPUB	**Ta-pu**	**23.25 353**	*eP*	**P**	**12 35 05.2 -0.3**
	comp=Z,227nm,0.9s				
YULB	**Yu-li**	**23.27 355**	*eP*	**P**	**12 35 04.0 -1.6**
	comp=Z,79nm,1.1s				
UBPT	**Khong Chiam**	**23.34 311**	P	**P**	**12 35 08.1 +1.7**
	comp=Z,141nm,1.2s,comp=Z,2μm				
KULM	**Kulim**	**23.38 283**	*eP*	**P**	**12 35 07.6 +0.8**
	comp=Z,134nm,1.0s				
KULM	**Kulim**	**23.38 283**	P	**P**	**12 35 09.1 +2.3**
KULM	**Kulim**	**23.38 283**	P	**P**	**12 35 07.7 +0.9**
	comp=Z,173nm,1.2s,comp=Z,2μm				
SSLB	**Suanglung**	**23.69 354**	*eP*	**P**	**12 35 09.5 -0.1**
	comp=Z,103nm,0.8s				
SKLT	**Songkhla**	**23.86 288**	P	**P**	**12 35 13.8 +2.6**
	comp=Z,154nm,1.2s,comp=Z,2μm				
COEN	**Coen**	**23.97 126**	P	**P**	**12 35 12.2 0.0**
	baz=24,SNR=28				
COEN			S	**S**	**12 39 22.0 +4.4**
	baz=24,SNR=6.0				
NACB	**Ninganchiao**	**24.02 356**	*eP*	**P**	**12 35 13.6 +1.1**
	comp=Z,53nm,1.1s				
YHNB	**Yeheng**	**24.53 355**	*eP*	**P**	**12 35 15.9 -1.3**
	comp=Z,150nm,1.2s				
PSI	**Prapat**	**24.70 276**	P	**P**	**12 35 19.0 +0.1**
PSI			PcP	**PcP**	**12 38 51.0 -1.1**
PSI			ScP	**ScP**	**12 42 14.4 -1.9**
PSI	**Prapat**	**24.70 276**	P	**P**	**12 35 19.0 +0.1**
	comp=Z,111nm,0.9s,baz=105,slow=5.8,SNR=76				
PSI			PcP	**PcP**	**12 38 51.0 -1.1**
	comp=Z,16nm,0.8s,baz=106,slow=3.7,SNR=4.6				
PSI			ScP	**ScP**	**12 42 14.4 -1.9**
	comp=Z,4.4nm,0.4s,baz=181,slow=7.0,SNR=5.3				
PSI	**Prapat**	**24.70 276**	P	**P**	**12 35 19.5 +0.6**
	baz=25,SNR=53				
TATO	**Taipei**	**24.82 356**	*eP*	**P**	**12 35 21.2 +1.5**
	comp=Z,113nm,1.2s				
TSI	**Tuntungan**	**25.13 278**	P	**P**	**12 35 24.0 +1.2**
	comp=Z,174nm,0.9s,comp=Z,6μm				
QZH	**Quanzhou**	**25.16 350**	⇑*iP*	**P**	**12 35 22.1 -0.8**
QZH			sP	**sP**	**12 36 10.4 -3.6**
QZH			S	S	12 39 46.3 +10
QZH			pmax	pmax	
	comp=Z,310nm,1.0s				
QZH			LR	LR	
	comp=Z,1μm,17.4s				
PMG	**Port Moresby**	**25.39 112**	P	**P**	**12 35 25.9 +0.9**
	comp=Z,5.4nm,0.8s				
PMG	**Port Moresby**	**25.39 112**	P	**P**	**12 35 29.4 +4.4**
	comp=Z,52nm,1.3s,comp=Z,1μm				
PMG	**Port Moresby**	**25.39 112**	P	**P**	**12 35 25.9 +0.9**
	comp=Z,29nm,0.7s,baz=284,slow=8.2,SNR=6.2				
AS31	**Alice Springs**	**25.68 157**	*eP*	**P**	**12 35 27.7 0.0**
ASAR	**Alice Springs**	**25.68 158**	P	**P**	**12 35 27.6 -0.1**
ASAR			PcP	**PcP**	**12 38 54.6 +0.6**
ASAR			S	**S**	**12 39 44.4 -0.2**
ASAR			ScP	**ScP**	**12 42 18.7 -0.1**
ASAR			PKiKP	**PKiKP**	**12 46 33.4 -0.8**
ASAR			*e*		13 08 17.0
ASAR	**Alice Springs**	**25.68 158**	P	**P**	**12 35 27.6 -0.1**
	comp=Z,13nm,0.5s,baz=336,slow=7.3,SNR=148				
ASAR			PcP	**PcP**	**12 38 54.6 +0.6**
	comp=Z,18nm,0.4s,baz=350,slow=2.2,SNR=17				
ASAR			S	**S**	**12 39 44.4 -0.2**
	comp=Z,14nm,1.1s,baz=348,slow=21,SNR=6.8				
ASAR			ScP	**ScP**	**12 42 18.7 -0.1**
	comp=Z,8.5nm,0.9s,baz=341,slow=1.9,SNR=11				
ASAR			PKiKP	**PKiKP**	**12 46 33.4 -0.8**
	comp=Z,1.2nm,0.9s,baz=122,slow=1.2,SNR=4.3				
ASAR			LR	LR	12 47 30.0
	comp=Z,282nm,20.1s,baz=195,slow=40				
ASAR			P3KPbc		13 08 17.0
	comp=Z,1.2nm,0.9s,baz=147,slow=4.0,SNR=8.7				
PKDT	**Phuket**	**26.24 288**	P	**P**	**12 35 34.9 +2.2**
	comp=Z,48nm,1.0s				
CHAI	**Chaiyaphum**	**26.41 308**	P	**P**	**12 35 35.1 +0.9**
	comp=Z,65nm,0.8s,comp=Z,446nm				
PHET	**Kaeng Krachan**	**26.86 299**	P	**P**	**12 35 40.7 +2.4**
	comp=Z,165nm,1.0s,comp=Z,3μm				
MEEK	**Meekatharra**	**26.98 190**	P	**P**	**12 35 38.7 -0.5**
	baz=27,SNR=55				
LHMI	**Lhok Sumawe**	**26.99 281**	P	**P**	**12 35 42.1 +2.7**
	comp=Z,188nm,0.8s				
LHMI	**Lhok Sumawe**	**26.99 281**	P	**P**	**12 35 40.8 +1.3**
	baz=27,SNR=5.1				
JOW	**Kunigami**	**26.99 9**	*eP*	**P**	**12 35 39.2 -0.1**
	comp=Z,22nm,1.1s				
JOW			*e*PcP	**PcP**	**12 38 57.7 +0.7**
MTSU	**Mount Surprise**	**27.34 133**	P	**P**	**12 35 43.0 +0.5**
	baz=27,SNR=12				
PBKT	**Sadao Pong**	**27.59 308**	P	**P**	**12 35 45.7 +1.0**
	comp=Z,40nm,1.1s				
LOEI	**Loei**	**27.89 310**	P	**P**	**12 35 45.5 -2.0**
	comp=Z,133nm,1.0s,comp=Z,1μm				
LAMP	**Lampang**	**29.74 309**	P	P	12 36 09.4 +5.6
	comp=Z,13nm,0.9s,comp=Z,259nm				
MORW	**Morawa**	**29.85 193**	P	**P**	**12 36 04.2 -0.4**
	baz=30,SNR=24				
CTA	**Charters Tower**	**29.98 133**	P	**P**	**12 36 06.8 +0.8**
CTA			ScP	**ScP**	**12 42 33.0 +0.9**
CTA	**Charters Tower**	**29.98 133**	P	**P**	**12 36 06.8 +0.8**
	comp=Z,6.6nm,0.7s,baz=306,slow=6.8,SNR=11				
CTA			ScP	**ScP**	**12 42 33.0 +0.9**
	comp=Z,7.6nm,0.9s,baz=295,slow=4.1,SNR=4.2				
CTAO	**Charters Tower**	**29.98 133**	*eP*	**P**	**12 36 07.2 +1.2**
CTAO	**Charters Tower**	**29.98 133**	*eP*	**P**	**12 36 07.2 +1.2**
CM31	**Chiang Mai Arr**	**30.24 308**	*eP*	**P**	**12 36 09.9 +1.7**
	comp=Z,101nm,1.1s				
CM31			*e*PcP	**PcP**	**12 39 06.5 +1.2**
CMAR	**Chiang Mai Arr**	**30.24 308**	P	**P**	**12 36 09.6 +1.4**
CMAR			PcP	**PcP**	**12 39 06.3 +1.1**
CMAR			S	**S**	**12 41 01.9 +5.5**
CMAR	**Chiang Mai Arr**	**30.24 308**	P	**P**	**12 36 09.6 +1.4**
	comp=Z,66nm,1.0s,baz=137,slow=7.1,SNR=139				
CMAR			PcP	**PcP**	**12 39 06.3 +1.1**
	comp=Z,15nm,0.9s,baz=163,slow=1.7,SNR=10				
CMAR			S	**S**	**12 41 01.9 +5.5**
	comp=Z,0.7nm,0.8s,baz=137,slow=15,SNR=3.3				
CMMT	**Chiang Mai**	**30.44 309**	P	**P**	**12 36 10.9 +0.9**
	comp=Z,181nm,1.0s,comp=Z,2μm				
CHTO	**Chiang Mai**	**30.44 309**	*eP*	**P**	**12 36 10.8 +0.7**
CHTO			*e*		12 39 07.0
CHTO			pmax	pmax	
	comp=Z,167nm,1.1s				
CHTO	**Chiang Mai**	**30.44 309**	P	**P**	**12 36 11.7 +1.6**
	SNR=56				
CHTO	**Chiang Mai**	**30.44 309**	*eP*	**P**	**12 36 10.8 +0.7**
	comp=Z,167nm,1.1s				
CHTO			*e*PcP	**PcP**	**12 39 07.0 +1.2**
CHTO	**Chiang Mai**	**30.44 309**	P	**P**	**12 36 11.2 +1.2**
CHTO	**Chiang Mai**	**30.44 309**	P	**P**	**12 36 11.2 +1.2**
	comp=Z,180nm,1.1s,comp=Z,2μm				
GYA	**Guiyang**	**30.83 330**	⇑*iP*	**P**	**12 36 14.4 +1.0**
GYA			sP	**sP**	**12 37 04.8 -0.2**
GYA			PP	**PnPn**	**12 37 20.4 -0.7**
GYA			PcP	**PcP**	**12 39 07.5 +0.7**
GYA			ScS	**ScS**	**12 46 30.1 -2.0**
GYA			pmax	pmax	
	comp=Z,50nm,1.0s				
GYA			pmax	pmax	
	comp=Z,280nm,5.5s				
SSE	**Sheshan**	**30.92 356**	P	**P**	**12 36 14.3 +0.3**
SSE			pmax	pmax	
	comp=Z,65nm,1.1s				
SSE			LR	LR	
	comp=N,58nm,28.2s				
SSE			LR	LR	
	comp=E,570nm,28.2s				
SSE			LR	LR	
	comp=Z,170nm,32.3s				
FORT	**Forrest**	**31.00 172**	P	**P**	**12 36 14.8 +0.1**
	baz=31,SNR=36				
FORT			S	**S**	**12 41 07.5 -0.4**
	baz=31,SNR=5.2				
CMAI	**Chiengmai2**	**31.02 311**	P	**P**	**12 36 16.2 +1.0**
	comp=Z,177nm,1.3s				
BLDU	**Baliidu**	**31.20 191**	P	**P**	**12 36 16.0 -0.5**
	baz=31,SNR=81				
WHN	**Wuhan**	**31.51 345**	⇑*iP*	**P**	**12 36 20.9 +1.7**
WHN			pP	**pP**	**12 36 55.8 +3.2**
WHN			S	S	12 41 25.6 +10
WHN			pmax	pmax	
	comp=Z,230nm,1.3s				
WHN			LR	LR	
	comp=Z,860nm,18.8s				
KLBR	**Kellerberrin**	**31.97 189**	P	**P**	**12 36 22.8 -0.4**
	baz=32,SNR=62				
KMI	**Kunming**	**31.97 323**	P	**P**	**12 36 25.1 +1.5**
KMI			pP	pP	12 37 02.6 +5.6
KMI			sP	sP	12 37 22.3 +7.1
KMI			PP	**PP**	**12 37 41.1 +2.0**
KMI			S	**S**	**12 41 25.0 +1.4**
KMI			sS	sS	12 42 27.8 +5.3
KMI			pmax	pmax	
	comp=Z,40nm,1.3s				
KMI			pmax	pmax	
	comp=Z,260nm,4.2s				
KMI			LR	LR	
	comp=N,270nm,11.8s				
KMI			LR	LR	
	comp=E,350nm,14.0s				
KMI			LR	LR	
	comp=Z,380nm,14.0s				
NJ2	**Nanjing**	**32.10 353**	*eP*	**P**	**12 36 24.9 +0.6**
NJ2			pP	**pP**	**12 36 57.4 -0.4**
NJ2			sP	**sP**	**12 37 15.6 -0.3**
NJ2			pmax	pmax	
	comp=Z,40nm,0.7s				
NJ2			pmax	pmax	
	comp=Z,50nm,5.9s				
NJ2			LR	LR	
	comp=N,280nm,15.2s				
NJ2			LR	LR	
	comp=E,410nm,25.4s				
NJ2			LR	LR	
	comp=Z,240nm,14.1s				
ENH	**Enshi**	**32.84 337**	*eP*	**P**	**12 36 32.3 +1.4**
	comp=Z,152nm,0.9s				
ENH			*e*PcP	**PcP**	**12 39 12.6 +0.4**
NWAO	**Narrogin (SRO)**	**33.36 190**	P	**P**	**12 36 35.1 -0.2**
NWAO	**Narrogin (SRO)**	**33.36 190**	P	**P**	**12 36 35.1 -0.2**
	comp=Z,25nm,0.4s,baz=18,slow=7.8,SNR=50				
JNU	**Nakatsue**	**33.59 11**	*eP*	**P**	**12 36 36.7 -0.7**
JNU	**Nakatsue**	**33.59 11**	P	**P**	**12 36 36.5 -0.9**
	comp=Z,22nm,0.8s,baz=152,slow=7.7,SNR=8.7				
JNU			LR	LR	12 49 49.4
	comp=Z,266nm,20.0s,baz=22,slow=35				
BBOO	**Buckleboo**	**34.80 161**	P	**P**	**12 36 47.9 +0.2**
	baz=35,SNR=26				
RKGY	**Rocky Gully**	**35.05 189**	P	**P**	**12 36 50.9 +1.0**
	baz=35,SNR=27				
RMQ	**Roma**	**35.92 139**	P	**P**	**12 36 57.9 +0.4**
	baz=36,SNR=14				
CD2	**Chengdu**	**35.92 330**	P	**P**	**12 36 58.8 +1.3**
CD2			pP	**pP**	**12 37 31.9 +0.5**
CD2			sP	**sP**	**12 37 50.1 +0.7**
CD2			PP	**PnPn**	**12 38 25.9 +2.1**
CD2			PcP	**PcP**	**12 39 21.9 +0.9**
CD2			S	**S**	**12 42 24.8 +0.7**
CD2			ScS	**ScS**	**12 46 56.8 -1.7**
CD2			pmax	pmax	
	comp=Z,280nm,0.9s				
CD2			pmax	pmax	
	comp=Z,270nm,6.0s				
STKA	**Stephens Creek**	**36.11 153**	P	**P**	**12 36 59.7 +0.7**
STKA			PcP	**PcP**	**12 39 21.5 0.0**
STKA			ScP	**ScP**	**12 42 53.7 +0.5**
STKA	**Stephens Creek**	**36.11 153**	P	**P**	**12 36 59.7 +0.7**
	comp=Z,66nm,0.6s,baz=326,slow=8.6,SNR=123				
STKA			PcP	**PcP**	**12 39 21.5 0.0**
	comp=Z,12nm,0.4s,baz=335,slow=4.2,SNR=5.3				
STKA			ScP	**ScP**	**12 42 53.7 +0.5**
	comp=Z,8.0nm,0.7s,baz=346,slow=4.2,SNR=5.6				
STKA			LR	LR	12 52 44.0
	comp=Z,442nm,18.4s,baz=104,slow=37				
STKA	**Stephens Creek**	**36.11 153**	P	**P**	**12 36 59.7 +0.7**
	baz=36,SNR=95				
TJN	**Taejon**	**36.29 5**	*eP*	**P**	**12 37 01.6 +1.2**
XAN	**Xi'an**	**36.44 339**	P	**P**	**12 37 02.0 +0.2**
XAN			pP	**pP**	**12 37 39.5 +3.8**
XAN			S	**S**	**12 42 30.3 -1.5**
XAN			SS	**SS**	**12 45 16.9 -1.0**
XAN			pmax	pmax	
	comp=Z,29nm,1.1s				
XAN			pmax	pmax	
	comp=Z,56nm,4.6s				
XAN			LR	LR	
	comp=N,350nm,18.4s				
XAN			LR	LR	
	comp=E,150nm,21.5s				
XAN			LR	LR	
	comp=Z,100nm,17.4s				
EIDS	**Eidsvold**	**36.76 136**	P	**P**	**12 37 04.3 -0.3**
	baz=37,SNR=4.1				
KSAR	**Wonju Array Be**	**37.40 6**	P	**P**	**12 37 09.4 -0.3**
KSAR			PcP	**PcP**	**12 39 25.0 -0.2**
KSAR			ScP	**ScP**	**12 42 57.8 -0.1**
KSRS	**Korea Array**	**37.41 6**	P	**P**	**12 37 09.4 -0.4**
	comp=Z,20nm,1.0s,baz=184,slow=9.6,SNR=72				
KSRS			PcP	**PcP**	**12 39 25.0 -0.3**
	comp=Z,8.1nm,0.9s,baz=194,slow=3.4,SNR=10				
KSRS			ScP	**ScP**	**12 42 57.8 -0.1**
	comp=Z,3.2nm,0.8s,baz=194,slow=3.4,SNR=11				
KSRS			LR	LR	12 55 25.1
	comp=Z,126nm,18.1s,baz=325,slow=40				
CMSA	**Cobar Meteorol**	**37.84 148**	P	**P**	**12 37 14.8 +1.3**
	baz=38,SNR=63				
DL2	**Dalian**	**38.67 358**	P	**P**	**12 37 19.8 -0.6**
DL2			sP	**sP**	**12 38 12.8 +0.2**
DL2			*e*S	**S**	**12 43 04.5 -0.8**
DL2			pmax	pmax	
	comp=Z,110nm,0.9s				
DL2			pmax	pmax	
	comp=Z,93nm,5.6s				
MAT	**Matsushiro**	**38.77 19**	P	**P**	**12 37 20.1 -1.1**
MAT			S	**S**	**12 43 05.6 -1.2**
MJAR	**Matsushiro Arr**	**38.77 19**	P	**P**	**12 37 19.9 -1.3**
MJAR			PcP	**PcP**	**12 39 29.6 0.0**
MJAR			ScP	**ScP**	**12 43 02.5 -0.6**
MJAR	**Matsushiro Arr**	**38.77 19**	P	**P**	**12 37 19.9 -1.3**
	comp=Z,45nm,0.8s,baz=199,slow=9.7,SNR=189				
MJAR			PcP	**PcP**	**12 39 29.6 0.0**
	comp=Z,15nm,1.0s,baz=185,slow=3.5,SNR=8.9				
MJAR			ScP	**ScP**	**12 43 02.5 -0.6**
	comp=Z,10.0nm,1.1s,baz=192,slow=5.6,SNR=13				
MJAR			LR	LR	12 53 23.7
	comp=Z,128nm,19.9s,baz=190,slow=36				
SHL	**Shillong**	**39.66 312**	*eP*	**P**	**12 37 31.5 +2.5**
	comp=Z,85nm,1.0s				
SHL			*e*S	S	12 43 10.0 -11
LZH	**Lanzhou**	**40.21 335**	‖P	**P**	**12 37 35.8 +2.4**
LZH			pP	**pP**	**12 38 10.6 +2.7**
LZH			sP	**sP**	**12 38 25.1 -0.7**
LZH			PP	**PnPn**	**12 39 13.1 -1.4**
LZH			PcP	**PcP**	**12 39 35.1 +0.7**
LZH			*e*S	**S**	**12 43 31.3 +2.6**
LZH			pmax	pmax	
	comp=Z,200nm,1.1s				
BJT	**Baijiatuau**	**40.30 351**	*eP*	**P**	**12 37 33.7 -0.2**
	comp=Z,87nm,0.9s				
BJT			*e*PcP	**PcP**	**12 39 35.2 +0.8**
BJI	**Beijing**	**40.32 351**	P	**P**	**12 37 33.8 -0.2**
BJI			sP	**sP**	**12 38 26.4 -0.1**
BJI			S	S	12 43 39.0 +9.1
BJI			sS	**sS**	**12 44 32.9 +2.7**
BJI			pmax	pmax	
	comp=Z,95nm,0.9s				
BJI			pmax	pmax	
	comp=Z,240nm,4.5s				
ARPS	**Mount Arapiles**	**40.42 157**	P	**P**	**12 37 36.0 +1.1**
	baz=40,SNR=50				
ARMA	**Armidale**	**40.45 141**	P	**P**	**12 37 37.2 +1.7**
	baz=40,SNR=83				
ARMA			S	**S**	**12 43 36.4 +4.0**
	baz=40,SNR=4.7				
YNG	**Young**	**41.41 148**	P	**P**	**12 37 44.7 +1.6**
	baz=42,SNR=80				
YNG			S	**S**	**12 43 48.7 +2.5**
	baz=42,SNR=4.8				
SNY	**Shenyang**	**41.55 0**	⇑P	**P**	**12 37 41.3 -2.8**
SNY			pmax	pmax	
	comp=Z,13nm,1.0s				
SNY			pmax	pmax	
	comp=Z,100nm,5.8s				
SNY			LR	LR	
	comp=N,260nm,18.0s				
SNY			LR	LR	
	comp=E,200nm,19.8s				
SNY			LR	LR	
	comp=Z,280nm,16.8s				
HHC	**Hu-ho-hao-te**	**42.00 346**	*eP*	**P**	**12 37 47.8 -0.1**
HHC			pP	**pP**	**12 38 23.5 +0.9**
HHC			sP	**sP**	**12 38 41.3 +0.8**
HHC			PP	**PP**	**12 39 30.8 +2.4**
HHC			ScP	**ScP**	**12 43 13.4 -2.4**
HHC			PcS	**PcS**	**12 43 30.5 -1.5**
HHC			S	**S**	**12 43 54.9 0.0**
HHC			sS	**sS**	**12 44 57.4 +1.9**
HHC			ScS	**ScS**	**12 47 30.3 -3.4**
HHC			pmax	pmax	
	comp=Z,56nm,0.9s				
HHC			pmax	pmax	
	comp=Z,390nm,5.7s				
HHC			LR	LR	
	comp=N,560nm,16.0s				
HHC			LR	LR	
	comp=E,470nm,15.0s				
HHC			LR	LR	
	comp=Z,690nm,14.9s				
MGCD	**Mangrove Creek**	**42.10 145**	P	**P**	**12 37 51.4 +2.7**
	baz=42,SNR=13				
BTO	**Baotou**	**42.15 345**	*eP*	**P**	**12 37 48.9 -0.2**
CAN	**Canberra**	**42.51 149**	*eP*	**P**	**12 37 53.5 +1.5**
CAN			pmax	pmax	
	comp=Z,85nm,0.6s				
CAN	**Canberra**	**42.51 149**	*eP*	**P**	**12 37 53.5 +1.5**
	comp=Z,85nm,0.6s				
LSA	**Lhasa**	**42.62 317**	P	**P**	**12 37 54.8 +1.3**
LSA	**Lhasa**	**42.62 317**	*eP*	**P**	**12 37 52.8 -0.7**
LSA			pmax	pmax	
	comp=Z,39nm,0.8s				
LSA	**Lhasa**	**42.62 317**	*eP*	**P**	**12 37 52.8 -0.7**
	comp=Z,39nm,0.8s				
TOO	**Toolangi**	**42.62 154**	P	**P**	**12 37 54.9 +2.0**
	baz=43,SNR=5.6				
CNB	**Canberra Magne**	**42.70 148**	P	**P**	**12 37 55.6 +2.0**
	baz=43,SNR=29				
VLA	**Vladivostok**	**43.50 9**	*c iP*	**P**	**12 38 00.1 +0.3**
VLA			pmax	pmax	
	comp=Z,58nm,1.2s				
CN2	**Changchun**	**43.56 2**	*eP*	**P**	**12 38 03.4 +3.1**
CN2			*e*pP	**pP**	**12 38 38.9 +3.7**
CN2			*e*S	**S**	**12 44 21.3 +3.9**
CN2			pmax	pmax	
	comp=Z,10.0nm,1.2s				
CN2			pm

comp=Z,330nm,1.1s
MILA Mila 43.93 150 P **P 12 38 05.0 +1.5**
baz=44,SNR=12
RAMN Ramite 44.39 310 *e*P **P 12 38 08.0 +0.5**
comp=Z,1μm,1.2s
USRK Ussuriysk Arra 44.58 9 P **P 12 38 07.9 -0.4**
comp=Z,39nm,0.8s,baz=191,slow=7.2,SNR=95
MDJ Mudanjiang 44.67 6 P **P 12 38 09.1 0.0**
MDJ pP **pP 12 38 44.3 +0.1**
MDJ sP **sP 12 39 02.6 +0.6**
MDJ PcP **PcP 12 39 48.9 0.0**
MDJ PP **PP 12 39 56.3 -0.4**
MDJ ScP **ScP 12 43 25.8 -0.6**
MDJ S **S 12 44 33.9 +0.4**
MDJ ScS **ScS 12 47 49.5 -0.6**
MDJ SS **SS 12 47 58.3 +0.1**
MDJ pmax pmax
comp=Z,41nm,1.0s
MDJ LR LR
comp=N,48nm,19.7s
MDJ LR LR
comp=E,250nm,32.3s
MDJ LR LR
comp=Z,210nm,35.9s
MDJ Mudanjiang 44.67 6 *e*P **P 12 38 08.8 -0.3**
comp=Z,75nm,1.0s
GTA Gaotai 44.73 334 P **P 12 38 10.4 +0.6**
GTA pP **pP 12 38 43.0 -1.9**
GTA sP **sP 12 39 02.4 -0.3**
GTA PcP **PcP 12 39 50.0 +0.6**
GTA ScP **ScP 12 43 27.1 +0.1**
GTA PcS **PcS 12 43 42.1 -1.1**
GTA S **S 12 44 36.5 +1.7**
GTA ScS **ScS 12 47 48.4 -2.6**
GTA pmax pmax
comp=Z,170nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.6s
GTA LR LR
comp=N,200nm,16.2s
GTA LR LR
comp=E,340nm,16.2s
GTA LR LR
comp=Z,340nm,21.8s
JIRN Jiri 45.06 311 *e*P **P 12 38 14.0 +1.0**
comp=Z,196nm,0.8s
ERM Erimo 45.36 21 P **P 12 38 15.2 +0.7**
comp=Z,280nm,1.2s,SNR=6.4
ERM Erimo 45.36 21 *e*P **P 12 38 15.4 +0.9**
ERM pmax pmax
comp=Z,62nm,1.9s
GUN Gumba 45.43 311 *e*P **P 12 38 16.8 +1.0**
comp=Z,366nm,0.9s
PKI Pulchoki 45.62 310 *e*P **P 12 38 17.8 +0.6**
comp=Z,290nm,1.2s
PKIN Phulchoki 45.63 310 *e*P **P 12 38 18.4 +1.1**
comp=Z,40nm,0.7s
KKN Kakani 45.82 310 *e*P **P 12 38 18.7 0.0**
comp=Z,181nm,1.0s
DMN Daman 45.87 310 *e*P **P 12 38 19.2 +0.1**
comp=Z,392nm,1.0s
ASAJ Asahikawa 47.04 19 *e*P **P 12 38 27.9 +0.3**
ASAJ Asahikawa 47.04 19 P **P 12 38 27.7 +0.1**
comp=Z,90nm,0.9s,baz=224,slow=9.7,SNR=58
KOLN Koldanda 47.11 309 *e*P **P 12 38 29.1 +0.4**
comp=Z,315nm,0.7s
DANN Dangsing 47.27 310 *e*P **P 12 38 30.8 +0.7**
comp=Z,344nm,0.7s
DZM Mont Dzumac 47.29 121 *e*P **P 12 38 31.4 +1.3**
comp=Z,37nm,1.1s
DZM Mont Dzumac 47.29 121 P **P 12 38 31.4 +1.3**
DZM Mont Dzumac 47.29 121 P **P 12 38 31.4 +1.3**
comp=Z,12nm,0.8s,baz=265,slow=7.4,SNR=6.1
HYB Hyderabad 47.44 294 *i* P **P 12 38 30.0 -1.3**
comp=Z,100nm,1.0s
HYB *e*pP **pP 12 39 06.5 -0.2**
HYB *e*sP **sP 12 39 24.0 -0.4**
YUK Yuzh-Kuril'sk 48.09 22 *e*P **P 12 38 37.2 +1.5**
HIA Hailar 49.10 357 *e*P **P 12 38 43.1 -0.3**
comp=Z,60nm,1.0s
HIA *e*PcP **PcP 12 40 05.1 +0.5**
HABR Khabarovsk 49.23 10 *e*P **P 12 38 44.3 0.0**
HABR *e* 12 40 02.4
HABR *e* 12 40 37.3
HABR S **S 12 45 38.5 +0.5**
HABR *e* 12 48 18.0
HABR *e*SS **SS 12 49 11.9 +0.2**
HABR pmax pmax
comp=N,64nm,1.3s
HABR pmax pmax
comp=Z,187nm,1.3s
HABR pmax pmax
comp=E,76nm,1.9s
KLR Kul'dur 49.47 7⇓ *i*P P 12 38 41.7 -4.5
KLR pmax pmax
comp=Z,110nm,1.8s
YSS Yuzh-Sakhalins 49.63 17⇑ *i*P **P 12 38 48.0 +0.6**
YSS pmax pmax
comp=Z,120nm,1.0s
ULN Ulaanbaatar 49.69 346 P **P 12 38 48.2 +0.1**
SNR=22
ULN Ulaanbaatar 49.69 346 *e*P **P 12 38 47.9 -0.2**
comp=Z,30nm,0.8s
ULN *e*PcP **PcP 12 40 07.1 +0.2**
ULN *e*ScP **ScP 12 43 46.9 -0.8**
SONM Songino Array 49.83 345 P **P 12 38 48.6 -0.5**
SONM PcP **PcP 12 40 06.4 -1.0**
SONM ScP **ScP 12 43 46.5 -1.8**
SONM Songino Array 49.83 345 P **P 12 38 48.6 -0.5**
comp=Z,41nm,0.8s,baz=159,slow=7.6,SNR=168
SONM PcP **PcP 12 40 06.4 -1.0**
comp=Z,22nm,0.8s,baz=171,slow=3.5,SNR=10
SONM ScP **ScP 12 43 46.5 -1.8**
comp=Z,2.9nm,0.8s,baz=150,slow=4.4,SNR=4.8
POO Poona 52.05 294⇓ *i*x **P 12 39 03.0 -3.1**
comp=Z,40nm,1.0s
NDI New Delhi 52.55 307 *ex* **P 12 39 07.0 -2.6**
ZAK Zakamensk 52.99 344⇑ *i*P **P 12 39 12.4 -0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
SMLA Simla 53.63 310 *i* x **P 12 39 17.9 +0.5**
WMQ Urumqi 53.98 328 P **P 12 39 20.3 +0.5**
WMQ sP **sP 12 40 11.4 -2.2**
WMQ PcP **PcP 12 40 22.8 -0.2**
WMQ PP **PP 12 41 24.3 +1.4**
WMQ ScP **ScP 12 44 04.5 -1.8**
WMQ S **S 12 46 42.0 -1.3**
WMQ pmax pmax
comp=Z,70nm,1.4s
WMQ pmax pmax
comp=Z,330nm,3.5s
WMQ LR LR
comp=N,310nm,21.0s
WMQ LR LR
comp=E,120nm,22.0s
WMQ LR LR
comp=Z,140nm,20.0s
IRK Irkutsk 54.42 346 *e*P **P 12 39 21.7 -1.1**
IRK pmax pmax
comp=Z,59nm,1.8s
MOY Mondy 54.79 343 P **P 12 39 25.8 +0.2**
MOY pmax pmax
comp=Z,61nm,2.0s
CLNS Chul'man 56.59 1*c* *i*P **P 12 39 37.5 -0.7**
CLNS *e* 12 40 32.3
CLNS *e* 12 41 45.6
CLNS *e*PPP PPP 12 43 08.6
CLNS pmax pmax
comp=Z,61nm,0.9s
CLNS pmax pmax
comp=N,40nm,1.1s
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,1.1s
HVS Khovu-Aksy 56.77 338 *e*P **P 12 39 39.8 +0.1**
HVS pmax pmax
comp=Z,496nm,1.0s
KSH Kashi 58.44 318 P **P 12 39 51.4 -0.2**
KSH sP **sP 12 40 46.4 +0.6**
KSH PP **PP 12 42 04.3 +1.5**

KSH pmax pmax
comp=Z,52nm,1.1s
KSH LR LR
comp=N,130nm,4.6s
KSH LR LR
comp=E,120nm,5.7s
KSH LR LR
comp=Z,69nm,6.5s
MK31 Makanchi Array 58.80 328 *e*P **P 12 39 53.5 -0.3**
MK31 *e* 12 40 40.5
MK31 Makanchi Array 58.80 328 *e*P **P 12 39 53.5 -0.3**
MK31 *e*PcP **PcP 12 40 40.5 -1.2**
MK31 *e*ScP **ScP 12 44 26.5 -0.9**
MKAR Makanchi Array 58.80 328 P **P 12 39 53.5 -0.3**
MKAR 12 40 40.7
MKAR Makanchi Array 58.80 328 P **P 12 39 53.5 -0.3**
MKAR PcP **PcP 12 40 40.7 -1.0**
MKAR ScP **ScP 12 44 25.5 -1.9**
MKAR P'P' 13 09 25.9
MKAR Makanchi Array 58.80 328 P **P 12 39 53.5 -0.3**
comp=Z,9.7nm,0.3s,baz=128,slow=8.2,SNR=108
MKAR PcP **PcP 12 40 40.7 -1.0**
comp=Z,32nm,0.8s,baz=176,slow=2.8,SNR=13
MKAR ScP **ScP 12 44 25.5 -1.9**
comp=Z,2.7nm,0.7s,baz=131,slow=4.9,SNR=3.9
MKAR PKPPKP **P'P'df 13 09 25.9 -1.8**
comp=Z,0.7nm,0.9s,baz=270,slow=1.4,SNR=4.0
PEA0B Petropavlovsk- 60.02 23 *e*P **P 12 40 02.9 +0.8**
PETK Petropavlovsk- 60.02 23 P **P 12 40 02.8 +0.8**
PETK Petropavlovsk- 60.02 23 P **P 12 40 02.8 +0.8**
PETK Petropavlovsk- 60.02 23 P **P 12 40 02.8 +0.8**
comp=Z,41nm,0.8s,baz=193,slow=6.1,SNR=136
PETK LR LR 13 06 19.3
comp=Z,86nm,19.3s,baz=95,slow=36
KZA Kyzart 60.21 320 *i* P **P 12 40 04.6 +0.5**
KZA Kyzart 60.21 320 P **P 12 40 04.6 +0.5**
SNR=27
PET Petropavlovsk 60.34 24α *i*P **P 12 40 04.9 +0.8**
PET *e**SP **sP 12 40 55.5 -3.0**
PET *e*S **S 12 48 06.3 +0.2**
PET pmax pmax
comp=Z,400nm,1.7s
PET pmax pmax
comp=Z,145nm,1.1s
PET pmax pmax
comp=Z,100nm,12.7s
TKM2 Tokmak 2 60.42 321 *i* P **P 12 40 04.4 -0.9**
TKM2 pmax pmax
comp=Z,34nm,0.9s
TKM2 Tokmak 2 60.42 321 P **P 12 40 05.4 +0.1**
SNR=32
TKM2 Tokmak 2 60.42 321 *e*P **P 12 40 05.2 -0.1**
comp=Z,29nm,0.8s
KBK Karagaybulak 60.70 321 *i* P **P 12 40 07.5 +0.4**
KBK Karagaybulak 60.70 321 P **P 12 40 07.5 +0.4**
SNR=8.9
RPZ Rata Peaks 60.78 142 *e*P **P 12 40 07.9 +0.6**
comp=Z,120nm,1.0s
RPZ Rata Peaks 60.78 142 LR LR 13 07 17.6
comp=Z,357nm,18.1s,baz=319,slow=36
AAK Ala-Archa 60.97 320 P **P 12 40 09.9 +1.0**
comp=Z,147nm,0.9s,SNR=5.8
AAK Ala-Archa 60.97 320 *i* P **P 12 40 09.1 +0.2**
AAK pmax pmax
comp=Z,74nm,1.2s
AAK Ala-Archa 60.97 320 P **P 12 40 09.5 +0.5**
SNR=15
AAK Ala-Archa 60.97 320 P **P 12 40 09.1 +0.2**
SNR=9.8
AAK Ala-Archa 60.97 320 *e*P **P 12 40 09.1 +0.2**
comp=Z,13nm,0.8s
AAK *e*ScP **ScP 12 44 37.3 0.0**
AAK Ala-Archa 60.97 320 P **P 12 40 09.1 +0.2**
comp=Z,11nm,0.7s,baz=128,slow=7.5,SNR=27
CHMS Chumysh 61.00 321 *i* P **P 12 40 08.6 -0.3**
CHMS Chumysh 61.00 321 P **P 12 40 08.6 -0.3**
SNR=6.9
FRU Bishkek 61.00 321 *e*P **P 12 40 08.0 -0.9**
FRU pmax pmax
comp=Z,90nm,2.3s
AML Almayashu 61.24 320 *i* P **P 12 40 10.9 -0.1**
AML Almayashu 61.24 320 P **P 12 40 10.9 -0.1**
SNR=44
KBL Kabul 61.26 310 *e*P **P 12 40 10.3 -0.7**
KBL pmax pmax
comp=Z,68nm,0.8s
KBL Kabul 61.26 310 *e*P **P 12 40 10.3 -0.7**
comp=Z,68nm,0.8s
KBL Kabul 61.26 310 P **P 12 40 10.7 -0.4**
baz=61,SNR=12
USP Ospenovka 61.29 321 *i* P **P 12 40 10.5 -0.4**
USP Ospenovka 61.29 321 P **P 12 40 10.5 -0.4**
SNR=20
EKS2 Erkin-Say 61.45 320 *e*P **P 12 40 11.8 -0.3**
EKS2 pmax pmax
comp=Z,44nm,1.2s
EKS2 Erkin-Say 61.45 320 P **P 12 40 12.9 +0.9**
SNR=11
EKS2 Erkin-Say 61.45 320 *e*P **P 12 40 11.8 -0.3**
comp=Z,44nm,1.2s
MCQ Macquarie Isla 61.71 157 P **P 12 40 15.5 +2.1**
baz=62,SNR=4.6
SNZO South Karori 61.91 138 *e*P **P 12 40 14.9 0.0**
comp=Z,49nm,0.8s
SNZO *e*PP **PP 12 42 29.1 -4.1**
YAK Yakutsk 61.97 3*c* *i*P **P 12 40 14.5 -0.4**
YAK *e* 12 40 53.4
YAK *e*S **S 12 48 22.6 -3.8**
YAK *e* 12 49 46.1
YAK pmax pmax
comp=Z,233nm,0.9s
YAK pmax pmax
comp=N,100nm,1.0s
YAK pmax pmax
comp=E,43nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.6s
YAK pmax pmax
comp=E,21nm,1.0s
URZ Urewera 62.23 134 *e*P **P 12 40 17.2 +0.1**
comp=E,24nm,0.5s
ZAA0 Zalesovo Array 62.44 335 *e*P **P 12 40 16.6 -1.6**
ZALV Zalesovo Beam 62.44 335 *i* P **P 12 40 16.7 -1.6**
ZALV pmax pmax
comp=Z,51nm,0.8s
ZALV Zalesovo Beam 62.44 335 P **P 12 40 16.6 -1.6**
ZALV P'P' 13 09 24.8
ZALV Zalesovo Beam 62.44 335 P **P 12 40 16.6 -1.6**
comp=Z,50nm,0.8s,baz=120,slow=5.8,SNR=113
ZALV LR LR 13 07 57.5
comp=Z,122nm,20.1s,baz=160,slow=36
ZALV PKPPKP **P'P'df 13 09 24.8 +3.3**
comp=Z,4.7nm,1.0s,baz=323,slow=2.2,SNR=10
KURBB Kurchatov Arra 63.14 330 P **P 12 40 22.0 -0.9**
comp=Z,45nm,0.8s,baz=128,slow=6.0,SNR=179
KURBB PcP **PcP 12 40 58.0 -1.1**
comp=Z,12nm,0.7s,baz=128,slow=4.7,SNR=4.3
KURK Kurchatov 63.15 330 P **P 12 40 22.0 -1.0**
KURK 12 40 58.0
KURK Kurchatov 63.15 330 P **P 12 40 22.0 -1.0**
KURK PcP **PcP 12 40 58.0 -1.1**
NVS Novosibirsk 63.73 335⇑ *i*P **P 12 40 24.6 -2.1**
NVS pmax pmax
comp=N,40nm,0.8s
NVS pmax pmax
comp=E,38nm,0.8s
NVS pmax pmax
comp=Z,84nm,0.8s
KK31 Karatay Array 63.77 319 *i* P **P 12 40 26.2 -1.1**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 63.77 319 *e*P **P 12 40 26.4 -0.9**
KKAR pmax pmax
comp=Z,26nm,1.1s
KKAR Karatay Array 63.77 319 *e*P **P 12 40 26.4 -0.9**
comp=Z,26nm,1.1s
SEY Seymchan 66.31 14*c* *i*P **P 12 40 44.0 +0.7**
FX1 Attu Island--F 66.84 30 *e*P **P 12 40 48.0 +1.1**
CASY Casey 66.86 186 *e*P **P 12 40 47.0 +0.3**
comp=Z,45nm,1.0s
CASY *e*PcP **PcP 12 41 15.1 +0.9**
SMY Shemya 67.23 31 *e*P **P 12 40 49.0 -0.3**
SMY pmax pmax
comp=Z,213nm,1.1s

SMY Shemya 67.23 31 *e*P **P 12 40 49.0 -0.3**
comp=Z,213nm,1.1s
DRV Dumont d'Urvil 67.63 173 S S 12 49 26.0 -10
DRV L L 12 56 00.0
DRV R 13 01 00.0
VOSK Vostochnaya 68.20 329 P **P 12 40 52.9 -2.5**
VOSK pmax pmax
comp=Z,20nm,1.0s
BVA0 Borovoye Array 68.66 329 P **P 12 40 56.7 -1.6**
BVA0 pmax pmax
comp=Z,28nm,1.1s
BVAR Borovoye Array 68.66 329 P **P 12 40 57.1 -1.2**
BVAR Borovoye Array 68.66 329 P **P 12 40 57.1 -1.2**
BVAR Borovoye Array 68.66 329 P **P 12 40 57.1 -1.2**
comp=Z,21nm,0.9s,baz=126,slow=9.8,SNR=60
BRVK Borovoye 68.73 329 P **P 12 40 57.4 -1.3**
comp=Z,166nm,1.1s,SNR=9.6
BRVK Borovoye 68.73 329*c* *i*P **P 12 40 57.7 -1.0**
BRVK pmax pmax
comp=Z,24nm,0.9s
BRVK Borovoye 68.73 329 P **P 12 40 58.1 -0.6**
SNR=14
BRVK Borovoye 68.73 329 *e*P **P 12 40 57.8 -1.0**
comp=Z,22nm,0.9s
ARQ Araqi 68.88 295 P **P 12 41 00.7 +0.4**
SNR=6.8
AMKA Amchitka 69.32 34 *e*P **P 12 41 02.2 -0.1**
comp=Z,47nm,0.9s
MIR Mirnyy 69.90 192 *e*P **P 12 41 08.0 +2.5**
MIR *e* 12 41 30.0
MIR pmax pmax
comp=Z,63nm,1.0s
ASUD Al Ashush, Dub 70.17 296 P **P 12 41 08.3 +0.2**
SNR=8.8
TIXI Tiksi 71.54 2*c* *i*P **P 12 41 14.0 -1.4**
TIXI pmax pmax
comp=Z,125nm,0.9s
AB31 Akbulak array 72.96 322 *i* P **P 12 41 22.5 -1.8**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 72.96 322 *e*P **P 12 41 23.0 -1.3**
comp=Z,3.2nm,0.4s
ABKAR *e*PcP **PcP 12 41 39.8 -0.6**
AKTO Aktyubinsk 74.54 323 P **P 12 41 32.5 -1.0**
AKTO Aktyubinsk 74.54 323 P **P 12 41 32.5 -1.0**
AKTO Aktyubinsk 74.54 323 P **P 12 41 32.5 -1.0**
comp=Z,18nm,0.8s,baz=98,slow=6.2,SNR=63
SVE Sverdlovsk 75.40 330⇓ *i*P **P 12 41 37.0 -1.2**
SVE pmax pmax
comp=Z,89nm,0.9s
ARU Arti 76.31 329*c* *i*P **P 12 41 41.6 -1.8**
ARU *PP **pP 12 42 19.0 -3.2**
ARU 12 44 33.2
ARU S **S 12 51 14.4 -0.6**
ARU SS **SS 12 56 06.7 -5.9**
ARU pmax pmax
comp=Z,63nm,1.0s
ARU Arti 76.31 329 P **P 12 41 41.7 -1.7**
comp=Z,321nm,0.9s,SNR=26
ABPO Ambohimpanom 77.04 251 *e*P **P 12 41 47.8 -0.7**
ABPO pmax pmax
comp=Z,15nm,0.7s
ABPO Ambohimpanom 77.04 251 *e*P **P 12 41 47.8 -0.7**
comp=Z,15nm,0.7s
KBD Kabd 77.56 300 *e*P **P 12 41 49.8 -1.3**
KBD AMb AMB 12 41 51.9
comp=Z,20nm,0.6s
UMR Umm Al-Rimmam 77.59 300 *e*P **P 12 41 50.4 -0.7**
UMR AMb AMB 12 41 51.3
comp=Z,59nm,0.9s
RDF Al-Radifah 77.66 299 *e*P **P 12 41 50.7 -0.9**
RDF AMb AMB 12 41 56.2
comp=Z,62nm,1.4s
NAY Al-Naaiem 77.96 300 *e*P **P 12 41 51.6 -1.6**
NAY AMb AMB 12 41 53.2
comp=Z,22nm,0.9s
AKUT Akutan 78.74 35 *e*P **P 12 41 57.4 +0.5**
comp=Z,503nm,1.2s
RAYN Ar Rayn 78.95 294 P **P 12 41 57.9 -0.9**
comp=Z,254nm,0.8s,SNR=14
MAW Mawson 79.24 200 *e*P **P 12 41 59.7 +0.4**
comp=Z,18nm,1.1s
MAW PKKPbc **PKKPbc 13 00 48.8 -3.6**
MAW Mawson 79.24 200 P **P 12 42 00.4 +1.1**
comp=Z,53nm,1.0s,baz=70,slow=7.1,SNR=10
MAW PKKPbc **PKKPbc 13 00 48.8 -3.6**
comp=Z,1.4nm,0.5s,baz=206,slow=4.4,SNR=7.5
MAW LR LR 13 11 12.9
comp=Z,92nm,20.8s,baz=213,slow=31
MAW Mawson 79.24 200 P **P 12 42 00.2 +0.9**
baz=79,SNR=43
FALS False Pass 80.26 34 *e*P **P 12 42 05.2 +0.1**
comp=Z,372nm,0.9s
VNDA Vanda 80.26 172 *e*P **P 12 42 05.1 +0.3**
comp=Z,33nm,1.0s
VNDA PKKPbc **PKKPbc 13 00 47.4 -3.0**
VNDA Vanda 80.26 172 P **P 12 42 05.3 +0.6**
comp=Z,16nm,0.5s,baz=310,slow=7.6,SNR=174
VNDA PKKPbc **PKKPbc 13 00 47.4 -3.0**
comp=Z,1.5nm,1.0s,baz=249,slow=3.0,SNR=7.4
VNDA LR LR 13 18 22.6
comp=Z,156nm,21.1s,baz=324,slow=36
DGRG David-gareji 81.03 312 P **P 12 42 10.0 +0.3**
SBA Scott Base 81.21 172 *e*P **P 12 42 11.0 +1.2**
SBA pmax pmax
comp=Z,39nm,1.2s
SBA Scott Base 81.21 172 *e*P **P 12 42 11.0 +1.2**
comp=Z,39nm,1.2s
GNI Garni 81.34 310 P **P 12 42 10.3 -1.1**
GNI Garni 81.34 310 P **P 12 42 10.3 -1.1**
comp=Z,3.9nm,0.4s,baz=3.9,slow=12,SNR=4.5
TBLG Delisi 81.55 312 *e*P **P 12 42 11.5 -0.8**
TBLG Delisi 81.55 312 P **P 12 42 11.5 -0.8**
DUS Dusheti 81.62 312 P **P 12 42 12.9 +0.1**
SDPT Sand Point 82.01 34 *e*P **P 12 42 14.4 0.0**
comp=Z,261nm,0.8s
ZEI Tsey 82.29 313 *e*P **P 12 42 13.8 -2.6**
ZEI pmax pmax
comp=Z,48nm,1.4s
AKH Akhalkalaki 82.43 312 P **P 12 42 16.4 -0.7**
ONI Oni 82.60 313 P **P 12 42 17.6 -0.2**
KBZ Khabaz 83.13 314 P **P 12 42 19.6 -0.8**
KBZ Khabaz 83.13 314 P **P 12 42 19.6 -0.8**
KBZ Khabaz 83.13 314 P **P 12 42 19.6 -0.8**
comp=Z,17nm,1.0s,baz=99,slow=3.4,SNR=25
KIV Kislovodsk 83.31 314⇓ *i*P **P 12 42 20.4 -1.1**
KIV *e* 12 45 34.1
KIV *i* S **S 12 52 33.5 +4.3**
KIV *e*SS SS 12 57 49.6 -8.3
KIV pmax pmax
comp=Z,17nm,1.2s
CHGN Chignik 83.33 33 *e*P **P 12 42 21.0 -0.2**
VRHR Novokhopersk 84.81 321 *e*P **P 12 42 27.3 -1.5**
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR pmax pmax
comp=N,8.0nm,0.4s
VRHR pmax pmax
comp=E,50nm,0.9s
SOC Sochi 85.42 314 *i* P **P 12 42 29.9 -2.1**
SOC pmax pmax
comp=Z,41nm,0.9s
JHLN Al Jahlan 85.92 306 *i* P P 12 42 28.7 -6.0
KMBO Kilima Mbogo 86.23 269 P **P 12 42 37.5 +0.5**
SNR=5.3
KMBO Kilima Mbogo 86.23 269 *e*P **P 12 42 36.9 -0.1**
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 86.23 269 P **P 12 42 37.2 +0.2**
comp=Z,14nm,0.8s,baz=62,slow=7.2,SNR=32
VORD Divnogorie 86.27 321 *e*P **P 12 42 34.6 -1.4**
VORD pmax pmax
comp=Z,80nm,0.6s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,120nm,0.9s
SLMH Al Salmeh 86.36 306 *e*P **P 12 42 35.7 -1.2**
KDAK Kodiak Island 86.69 32 P **P 12 42 38.1 +0.2**
comp=E,6.7nm,0.9s
KDAK Kodiak Island 86.69 32 P **P 12 42 37.8 -0.1**
comp=E,238nm,0.6s,SNR=5.2
KDAK Kodiak Island 86.69 32 P **P 12 42 38.1 +0.2**
comp=E,14nm,0.4s,baz=252,slow=3.2,SNR=22
ZALF Zalf 86.72 303 *i* P **P 12 42 37.6 -1.0**
RSO Redoubt South 86.84 30 *e*P **P 12 42 38.3 -0.5**
comp=E,96nm,1.0s

ASF **Jabal al Asfar** 87.06 302 P P 12 42 40.0 -0.4
ASF PP PP 12 46 07.9 +1.8
ASF Jabal al Asfar 87.06 302 P P 12 42 40.0 -0.4
comp=E,25nm,1.1s,baz=69,slow=2.3,SNR=26
ASF PP PP 12 46 07.9 +1.8
comp=E,1.6nm,0.4s,baz=76,slow=0.9,SNR=3.1
PPT2 Papeete2 87.11 108 eS S 12 53 06.9 -0.5
comp=E,220nm,28.2s
ANN Anapa 87.13 315 eP P 12 42 38.6 -1.7
ANN pmax pmax
comp=Z,103nm,1.1s
SALA Sala 87.22 303 eP P 12 42 40.7 -0.6
TBI Tubuai 87.33 113 eS SKSac 12 52 57.6 +2.6
comp=Z,313nm,35.0s
PPLA Purkeypile 87.33 27 eP P 12 42 40.7 -0.4
comp=Z,52nm,1.4s
DRWC Darouich 87.39 306 eP P 12 42 44.6 +2.7
MARH Ras Al Marh 87.46 304 eP P 12 42 39.2 -3.4
TOTH TOTAH 87.49 303 eP P 12 42 40.9 -1.5
MOS Moscow 87.59 326 eP P 12 42 40.0 -2.3
MOS pmax pmax
comp=Z,41nm,0.7s
SYO Syowa Base 87.88 201⇓iP P 12 42 42.4 -0.9
SYO Syowa Base 87.88 201⇓ePcP PcP 12 42 45.2 +0.2
TMCR Tamitsa 87.93 334 eP P 12 42 40.9 -2.8
TMCR pmax pmax
comp=Z,85nm,1.2s
OBN Obninsk 88.16 325⇑iP P 12 42 43.3 -1.6
OBN e 12 46 11.2
OBN eS SKSac 12 52 53.1 -5.5
OBN pmax pmax
comp=Z,78nm,1.3s
MMAI Mount Meron Ar 88.34 303 P P 12 42 46.1 -0.4
MMAI Mount Meron Ar 88.34 303 P P 12 42 46.1 -0.4
comp=Z,13nm,0.7s,baz=101,slow=6.0,SNR=17
PMR Palmer 88.68 29 eP P 12 42 46.4 -0.8
PMR e 12 46 20.6
PMR pmax pmax
comp=Z,26nm,0.9s
PMR Palmer 88.68 29 eP P 12 42 46.4 -0.8
comp=Z,26nm,0.9s
PMR ePP PP 12 46 20.6 +2.5
MCK McKinley 88.85 26 eP P 12 42 47.5 -0.6
MCK pmax pmax
comp=Z,56nm,0.9s
MCK McKinley 88.85 26 eP P 12 42 47.5 -0.6
comp=Z,56nm,0.9s
LVZ Lovozero 89.48 338 eP P 12 42 49.2 -1.8
LVZ pmax pmax
comp=Z,33nm,1.1s
LVZ Lovozero 89.48 338 P P 12 42 48.7 -2.3
comp=Z,182nm,0.8s,SNR=5.3
ILAR Eielson Array 89.77 25 P P 12 42 50.7 -1.6
ILAR PKKPbc PKKPdf 13 00 24.1 +1.8
ILAR Eielson Array 89.77 25 P P 12 42 50.7 -1.6
comp=Z,3.4nm,0.5s,baz=247,slow=4.5,SNR=22
ILAR PKKPbc PKKPdf 13 00 24.1 +1.8
comp=Z,1.6nm,0.8s,baz=74,slow=1.5,SNR=15
BR131 Keskin Array S 89.83 310 eP P 12 42 51.6 -1.8
comp=Z,12nm,1.0s
BRTR Keskin Array B 89.83 310 P P 12 42 51.3 -2.1
BRTR PP PP 12 46 26.6 -1.4
BRTR Keskin Array B 89.83 310 P P 12 42 51.3 -2.1
comp=Z,9.5nm,1.0s,baz=109,slow=3.9,SNR=28
BRTR PP PP 12 46 26.6 -1.4
comp=Z,3.1nm,0.8s,baz=111,slow=6.8,SNR=6.4
APA Apatity 89.95 337⇑iP P 12 42 51.0 -2.1
APA pmax pmax
comp=Z,36nm,1.2s
APA MLR MLR
comp=Z,300nm,15.0s
QSPA South Pole Qui 90.01 180 eP P 12 42 54.1 +0.6
comp=Z,70nm,1.2s
QSPA South Pole Qui 90.01 180 LR LR 13 26 47.1
comp=Z,129nm,19.2s,baz=31,slow=38
CSS Prodhromos 90.08 305 eP P 12 42 53.4 -1.1
comp=Z,33nm,1.3s
DIV Divide 90.29 29 eP P 12 42 55.6 +0.7
comp=Z,45nm,1.1s
PAX Paxson 90.41 27 eP P 12 42 55.4 0.0
PAX pmax pmax
comp=Z,150nm,1.8s
PAX Paxson 90.41 27 eP P 12 42 55.4 0.0
comp=Z,150nm,1.8s
BMRM Bremner River 90.86 29 eP P 12 42 57.8 +0.2
comp=Z,38nm,1.0s
MENT Mentasta 91.21 27 eP P 12 42 59.3 +0.2
EGAK Eagle 92.22 25 eP P 12 43 04.0 +0.4
comp=Z,42nm,1.2s
AKASG Malin Array Be 92.64 321 P P 12 43 03.6 -2.3
AKASG Malin Array Be 92.64 321 P P 12 43 03.6 -2.3
AKASG Malin Array Be 92.64 321 P P 12 43 03.6 -2.3
comp=Z,10nm,0.8s,baz=70,slow=4.8,SNR=31
AKASG LR LR 13 27 11.8
comp=Z,106nm,21.3s,baz=80,slow=37
KIEV Kiev 92.65 321 eP P 12 43 03.7 -2.3
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 92.65 321 eP P 12 43 03.7 -2.3
comp=Z,6.9nm,0.8s
ARCES ARCESS Array B 92.72 340 P P 12 43 04.2 -1.7
ARCES PKiKP PKiKP 12 47 53.9 +0.7
ARCES PKKP PKKPdf 13 00 16.5 -0.7
ARCES ARCESS Array B 92.72 340 P P 12 43 04.2 -1.7
comp=Z,16nm,0.7s,baz=91,slow=4.9,SNR=50
ARCES PKiKP PKiKP 12 47 53.9 +0.7
comp=Z,1.6nm,0.7s,baz=111,slow=1.3,SNR=5.5
ARCES PKKP PKKPdf 13 00 16.5 -0.7
comp=Z,1.1nm,0.5s,baz=257,slow=3.5,SNR=13
ARE0 ARCESS Array S 92.72 340 eP P 12 43 03.9 -2.0
DAWY Dawson 93.05 26 eP P 12 43 08.0 +0.4
MICGM Minsk 93.20 324⇓eP P 12 43 05.0 -3.4
MNK Minsk 93.22 324⇓eP P 12 43 05.0 -3.5
MNK pmax pmax
comp=Z,90nm,1.5s
TLCR 93.24 315 ⇓P P 12 43 07.1 -1.7
TLCR 93.24 315 ⇓iP P 12 43 07.1 -1.7
KAF Kangasniemi 93.30 332 eP P 12 43 06.0 -2.7
KAF Kangasniemi 93.30 332 epkp P 12 43 06.0 -2.7
SPA0 Spitsbergen Ar 93.40 349 eP P 12 43 07.7 -1.3
SPITS Spitsbergen Ar 93.40 349 P P 12 43 07.7 -1.3
SPITS Spitsbergen Ar 93.40 349 P P 12 43 07.7 -1.3
comp=Z,74nm,0.7s,baz=93,slow=9.3,SNR=123
FINES FINESS Array B 93.48 331 P P 12 43 07.5 -2.0
FINES PKiKP PKiKP 12 47 55.1 +0.5
FINES FINESS Array B 93.48 331 P P 12 43 07.5 -2.0
comp=Z,6.1nm,0.8s,baz=84,slow=3.9,SNR=24
FINES PKiKP PKiKP 12 47 55.1 +0.5
comp=Z,1.5nm,0.6s,baz=112,slow=5.1,SNR=6.4
CFR Carcaliu 93.72 315 ⇓P P 12 43 09.5 -1.5
CFR Carcaliu 93.72 315 ⇓iP P 12 43 09.5 -1.5
KBS Kingsbay 93.99 350 eP P 12 43 10.2 -1.3
KBS AMB AMB 12 43 11.5
comp=Z,41nm,1.1s
HYT Haines Junctio 94.33 29 eP P 12 43 14.6 +0.9
TESR Tescani 94.66 317⇓iP P 12 43 14.2 -1.1
VRI Vrincioaia 94.66 316 ⇑P P 12 43 14.4 -1.0
VRI Vrincioaia 94.66 316⇑iP P 12 43 14.4 -1.0
PLOR Plostina 94.71 316 ⇓P P 12 43 15.0 -0.6
PLOR Plostina 94.71 316⇓iP P 12 43 15.0 -0.6
INK Inuvik 94.72 21 eP P 12 43 14.6 -0.5
INK Inuvik 94.72 21 P P 12 43 14.3 -0.8
comp=Z,15nm,0.8s,baz=278,slow=5.5,SNR=28
TRO Tromso 94.97 340 eP P 12 43 13.8 -2.4
LSZ Lusaka 95.13 255 eP P 12 43 17.9 -0.4
comp=Z,75nm,0.9s
MLR Muntele Rosu 95.24 316⇓iP P 12 43 17.2 -1.0
BURAR Bucovina Array 95.52 318 ⇓P P 12 43 18.8 -0.6
BURAR Bucovina Array 95.52 318⇓iP P 12 43 18.8 -0.6
BUR08 Bucovina Ar. S 95.53 318 eP P 12 43 18.2 -1.2
SKAG Skagway 95.62 30 eP P 12 43 20.4 +1.0
comp=Z,66nm,0.9s
VOIR 95.87 316 ⇑P P 12 43 19.4 -1.6
VOIR 95.87 316⇑iP P 12 43 19.4 -1.6
LVV L'vov 96.04 320 eP P 12 43 19.2 -2.4
ARR Arges 96.17 316⇓iP P 12 43 21.1 -1.2
CJR Cluj-Napoca 96.72 317⇑iP P 12 43 25.4 +0.6
BOSA Boshof 97.27 241 P P 12 43 26.4 -1.3
BOSA Boshof 97.27 241 P P 12 43 26.4 -1.3
comp=Z,5.0nm,0.7s,baz=87,slow=4.7,SNR=8.3
BOSA LR LR 13 22 30.7
comp=Z,144nm,20.9s,baz=256,slow=32
KOLS Kolonicke sedl 97.30 319 eP P 12 43 26.3 -1.0
KOLS pmax pmax
comp=Z,11nm,1.2s

KOLS Kolonicke sedl 97.30 319 eP P 12 43 26.3 -1.0
DEV Deva 97.31 316 ⇑P P 12 43 26.4 -1.0
DEV Deva 97.31 316⇑iP P 12 43 26.4 -1.0
DRGR 97.32 317 ⇓P P 12 43 26.4 -1.1
DRGR 97.32 317⇓iP P 12 43 26.4 -1.1
UZH Uzhgorod 97.33 319 eP P 12 43 26.4 -1.0
VTS Vitosha 97.51 313 ⇓P P 12 43 25.0 -3.6
VTS Vitosha 97.51 313⇓iP P 12 43 25.0 -3.6
CRVS Cervenica-Dubn 97.84 319 eP P 12 43 29.1 -0.6
CRVS pmax pmax
comp=Z,22nm,1.2s
CRVS Cervenica-Dubn 97.84 319 e P 12 43 29.1 -0.6
STHS Stebnicka Huta 97.90 320 eP P 12 43 29.8 -0.2
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 97.90 320 e P 12 43 29.8 -0.2
BZS Buzias 98.24 316 ⇓P P 12 43 29.8 -1.7
BZS Buzias 98.24 316⇓iP P 12 43 29.8 -1.7
NIE Niedzica 98.49 320 eP Pdif 12 43 34.1 +1.4
DLBC Dease Lake 98.52 31 P Pdif 12 43 33.1 +0.5
DLBC Dease Lake 98.52 31 P Pdif 12 43 33.1 +0.5
comp=Z,8.3nm,1.0s,baz=257,slow=6.2,SNR=14
KECS Kecovo 98.54 319 eP P 12 43 31.5 -1.4
KECS pmax pmax
comp=Z,4.0nm,1.2s
KECS Kecovo 98.54 319 PDIF P 12 43 31.5 -1.4
OJC Ojcow 98.68 321 eP P 12 43 32.3 -1.1
DAG Danmarks Havn 100.39 352⇑iP Pdif 12 43 39.0 -1.5
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 100.56 333 P Pdif 12 43 39.0 -2.6
comp=Z,1.6nm,0.7s,baz=72,slow=4.6
NB2 NORSAR Subarra 100.56 333 P Pdif 12 43 39.0 -2.6
baz=72,slow=4.6
NOA NORSAR Array B 100.56 333 P Pdif 12 43 39.0 -2.6
NOA NORSAR Array B 100.56 333 P Pdif 12 43 39.0 -2.6
comp=Z,3.2nm,0.8s,baz=73,slow=4.5,SNR=8.1
KSP Ksiaz 100.73 322 eP Pdif 12 43 42.1 -0.5
SNAA Sanae 100.88 195 ePdiff Pdif 12 43 43.3 +0.4
SNAA Sanae 100.88 195 ePKKP PKKPbc 12 59 53.9 -4.1
SNAA Sanae 100.88 195 ePdif Pdif 12 43 43.2 +0.4
comp=Z,2.0nm,0.8s
SNAA PKKPbc PKKPbc 12 59 53.8 -4.2
SNAA Sanae 100.88 195 PKKPbc PKKPbc 12 59 53.8 -4.2
comp=Z,1.1nm,0.9s,baz=262,slow=2.3,SNR=11
BRG Berggiesshubel 102.17 322 eP Pdif 12 43 47.8 -1.1
comp=Z,5.1nm,0.9s
BRG Berggiesshubel 102.17 322 eP Pdif 12 43 47.8 -1.1
BRG pmax pmax
comp=Z,5.0nm,0.9s
VNA2 Neumayer--Watz 102.50 195 ePdiff Pdif 12 43 50.7 +0.7
VNA2 Neumayer--Watz 102.50 195 ePKKP PKKPbc 12 59 49.7 -3.5
CLL Collm 102.62 323 iP Pdif 12 43 50.0 -0.9
CLL e 12 48 03.0
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 102.62 323 i Pdif Pdif 12 43 50.0 -0.9
comp=Z,8.0nm,1.3s
CLL ePP PP 12 48 03.0 -2.9
CLL i PKiKP PKiKP 12 48 11.9 +0.8
CLL eSKSac SKSac 12 54 12.0 -3.6
CLL ePPS PPS 12 58 12.0
GERES GERESS Array B 102.86 320 Pdif Pdif 12 43 50.6 -1.5
GERES PKiKP PKiKP 12 48 11.3 -0.4
GERES PKKPbc PKKPbc 12 59 49.2 -2.3
GERES GERESS Array B 102.86 320 Pdiff Pdif 12 43 50.6 -1.5
comp=Z,0.4nm,0.4s,baz=61,slow=4.6,SNR=11
GERES PKiKP PKiKP 12 48 11.3 -0.4
comp=Z,1.2nm,0.9s,baz=46,slow=2.8,SNR=5.0
GERES PKKPbc PKKPbc 12 59 49.2 -2.3
comp=Z,0.4nm,0.6s,baz=242,slow=2.1,SNR=4.4
YKA Yellowknife Ar 104.13 24 Pdif Pdif 12 43 57.6 +0.2
YKA PKiKP PKiKP 12 48 13.5 -0.1
YKA PKKPbc PKKPbc 12 59 44.6 -3.5
YKA Yellowknife Ar 104.13 24 Pdiff Pdif 12 43 57.6 +0.2
comp=Z,1.8nm,0.9s,baz=296,slow=4.6,SNR=4.3
YKA PKiKP PKiKP 12 48 13.5 -0.1
comp=Z,0.9nm,0.3s,baz=301,slow=1.7,SNR=20
YKA PKKPbc PKKPbc 12 59 44.6 -3.5
comp=Z,0.6nm,0.4s,baz=120,slow=3.6,SNR=11
DAVOX Davos/Dischmat 105.91 319 Pdif Pdif 12 44 05.0 -1.0
DAVOX Davos/Dischmat 105.91 319 Pdiff Pdif 12 44 05.0 -1.0
comp=Z,0.7nm,0.3s,baz=158,slow=5.4,SNR=4.8
SUMG Summit 106.56 354 iP Pdif 12 44 11.1 +2.6
comp=Z,3.0nm,0.8s
HAU Haudompre 107.77 321 ePKIKP PKiKP 12 48 20.4 -0.4
comp=Z,13nm,0.9s
PGF Pioggiola 107.78 315 ePKIKP PKiKP 12 48 21.0 -0.1
comp=Z,29nm,1.1s
MEZF Maizieres J'vi 108.40 322 ePKIKP PKiKP 12 48 21.8 -0.1
CABF La Chapelle 108.43 320 ePKIKP PKiKP 12 48 21.9 -0.3
SBF Sospel 108.46 317 ePKIKP PKiKP 12 48 21.7 -0.6
NEW Newport 109.08 38 Pdif Pdif 12 44 20.1 +0.3
NEW Newport 109.08 38 Pdiff Pdif 12 44 20.1 +0.3
comp=Z,2.3nm,0.9s,baz=293,slow=3.3,SNR=5.5
EDM Edmonton 109.14 32 ePKPdf PKiKP 12 48 23.7 +0.5
LMR La Mourre 109.27 316 ePKIKP PKiKP 12 48 23.6 -0.1
comp=Z,13nm,0.9s
LOR Lormes 109.61 321 ePKIKP PKiKP 12 48 23.9 -0.3
comp=Z,8.4nm,1.1s
SMF Signal de Mont 109.86 320 ePKIKP PKiKP 12 48 24.1 -0.6
SSF Saint Saulge 109.91 321 ePKIKP PKiKP 12 48 24.6 -0.2
comp=Z,20nm,1.2s
SSB Saint Sauveur 109.92 319 ePKPdf PKiKP 12 48 26.2 +1.3
VIVF Saint-Julien-l 109.98 318 ePKIKP PKiKP 12 48 25.2 +0.1
AVF Avril sur Loir 110.11 321 ePKIKP PKiKP 12 48 24.7 -0.5
comp=Z,5.2nm,0.8s
BMO Blue Mountains 110.25 41 ePKIKP PKiKP 12 48 25.5 -0.2
BMO Blue Mountains 110.25 41 ePKPdf PKiKP 12 48 25.5 -0.2
BGF Bois d'Agland 110.53 321 ePKIKP PKiKP 12 48 25.9 -0.1
comp=Z,9.9nm,0.8s
PAHR Pah Rah Range 110.54 47 ePKPdf PKiKP 12 48 26.6 +0.2
BSMT Bassoo Peak 110.68 38 ePdif Pdif 12 44 28.3 +1.2
BSMT ePKPdf PKiKP 12 48 26.6 0.0
LASF Ste Croix 110.81 318 ePKIKP PKiKP 12 48 26.4 -0.2
comp=Z,23nm,1.3s
TCF Toulx Ste Croi 111.04 321 ePKIKP PKiKP 12 48 26.9 -0.1
comp=Z,17nm,1.3s
SWMT Swartz Lake 111.31 38 ePKPdf PKiKP 12 48 27.1 -0.5
SWMT ePP PP 12 49 09.5 -0.1
SWMT eSKPdf SKiKP 12 51 50.6 +2.2
FLN La Foliniere 111.63 324 ePKIKP PKiKP 12 48 28.0 0.0
comp=Z,24nm,1.2s
MSO Missoula 111.63 38 P 12 48 28.8
baz=112,SNR=6.4
CAF Calviac 111.67 319 ePKIKP PKiKP 12 48 28.4 +0.1
comp=Z,15nm,1.2s
SLMT Seeley Lake 111.73 38 ePKPdf PKiKP 12 48 28.2 -0.3
NVAR Mina Array Bea 111.74 48 Pdif Pdif 12 44 33.2 +1.1
NVAR PKiKP PKiKP 12 48 30.3 +1.4
NVAR PKKPbc PKKPbc 12 59 21.8 -1.9
NVAR PKKPab PKKPab 12 59 31.0 -1.6
NVAR Mina Array Bea 111.74 48 Pdiff Pdif 12 44 33.2 +1.1
comp=Z,0.5nm,0.9s,baz=289,slow=5.6,SNR=3.1
NVAR PKiKP PKiKP 12 48 30.3 +1.4
comp=Z,2.3nm,0.8s,baz=264,slow=1.7,SNR=14
NVAR PKKPbc PKKPbc 12 59 21.8 -1.9
comp=Z,0.7nm,0.6s,baz=145,slow=3.3,SNR=7.4
NVAR PKKPab PKKPab 12 59 31.0 -1.6
comp=Z,1.2nm,0.8s,baz=129,slow=3.8,SNR=6.5
MFID Camas Ranch 111.77 42 P 12 48 29.4
baz=112
RJF Les Rejaudoux 111.88 320 ePKIKP PKiKP 12 48 28.6 0.0
GRR Gorron 112.02 324 ePKIKP PKiKP 12 48 28.6 -0.1
CHMT Chamberlain Mo 112.02 38 ePKPdf PKiKP 12 48 29.1 0.0
CHMT ePP PP 12 49 14.2 -0.6
MTLF Montolieu 112.19 318 ePKIKP PKiKP 12 48 28.8 -0.4
comp=Z,5.2nm,0.9s
MFF Saint Martin d 112.38 322 ePKIKP PKiKP 12 48 29.0 -0.5
comp=Z,13nm,0.9s
LFF La Frestale 112.53 320 ePKIKP PKiKP 12 48 29.9 +0.1
A17A Triple J Farms 112.63 35 P 12 48 30.6
baz=113
HLID Hailey 112.67 42 ePKPdf PKiKP 12 48 31.8 +1.4
HLID Hailey 112.67 42 P 12 48 31.7
baz=113
B17A L&G Farms, Che 112.88 36 P 12 48 30.7
baz=113
EDW2 Edwards Air Fo 113.07 52 P 12 48 32.3
baz=113
MPMC Manual Prospec 113.10 50 P 12 48 32.2
baz=113
LRMC Laurel Mountai 113.12 51 P 12 48 33.4
baz=113
A18A Metzger Ranch, 113.13 35 P 12 48 30.9
baz=113

MCMT McKenzie Canyo 113.17 40 ePKPdf PKiKP 12 48 32.3 +0.9
MCMT ePP PP 12 49 21.8 -1.4
C17A Wharram Farm, 113.21 37 P 12 48 31.2
baz=113
B18A Beardsley Farm 113.43 36 P 12 48 31.8
baz=113
FURC Furnace Creek, 113.45 50 P 12 48 33.0
baz=113
D17A Six Diamond Ra 113.48 37 P 12 48 31.9
baz=113
EPF Esparros 113.57 318 ePKIKP PKiKP 12 48 31.6 -0.4
comp=Z,6.2nm,0.9s
EGMT Eagleton 113.62 36 ePKPdf PKiKP 12 48 32.2 +0.2
EGMT Eagleton 113.62 36 P 12 48 32.6
baz=114,SNR=10
E17A Martinsdale 113.70 38 P 12 48 32.4
baz=114
A19A Klindworth Far 113.76 35 P 12 48 32.5
baz=114
R11A Troy Canyon, C 113.78 47 ePKPdf PKiKP 12 48 33.1 +0.4
R11A Troy Canyon, C 113.78 47 P 12 48 33.3
baz=114
GSC Goldstone 113.86 51 ePKIKP PKiKP 12 48 34.4 +1.6
GSC e 12 49 31.1
GSC Goldstone 113.86 51 ePKPdf PKiKP 12 48 34.4 +1.6
GSC ePP PP 12 49 31.1 +2.8
GSC Goldstone 113.86 51 P 12 48 34.1
baz=114
B19A Brinkman Farms 113.88 35 P 12 48 33.3
baz=114
D18A Linhart Farms, 113.99 37 P 12 48 33.5
baz=114
F17A Fitzpatrick Pl 114.08 38 P PKPdf 12 48 33.7 +0.8
baz=114
C19A Slack Wire Ran 114.18 36 P PKPdf 12 48 33.7 +0.7
baz=114
E18A Harlowton 114.23 37 P PKPdf 12 48 33.5 +0.3
baz=114
ETSF Etsaut 114.23 318 ePKIKP PKPdf 12 48 33.3 +0.1
comp=Z,6.4nm,0.9s
A20A Cobblestone Ra 114.25 34 P PKPdf 12 48 33.2 +0.2
baz=114
B20A Solberg Farm, 114.42 35 P PKPdf 12 48 33.0 -0.4
baz=114
I16A Newdale 114.46 41 P PKPdf 12 48 35.3 +1.5
baz=114,SNR=5.6
HVU Hansel Valley 114.49 43 ePKIKP PKPdf 12 48 34.8 +0.9
HVU Hansel Valley 114.49 43 ePKPdf PKPdf 12 48 34.8 +0.9
D19A Cripps Ranch, 114.56 36 P PKPdf 12 48 33.8 +0.1
baz=114
F18A Big Timber 114.66 38 P PKPdf 12 48 34.7 +0.6
baz=115
PFO Pinyon Flat Ob 114.66 53 PKP PKPdf 12 48 35.0 +0.6
PFO Pinyon Flat Ob 114.66 53 PKP PKPdf 12 48 35.0 +0.6
comp=Z,3.8nm,0.7s,baz=323,slow=2.0,SNR=5.1
SHPR Sheep Range 114.73 49 ePKPdf PKPdf 12 48 35.6 +1.1
SHPR ePP PP 12 49 33.8 -0.6
GCMT Greycliff 114.75 38 ePKPdf PKPdf 12 48 35.1 +0.8
GCMT ePP PP 12 49 34.3 +0.3
A21A Bergtoll Ranch 114.75 34 P PKPdf 12 48 34.5 +0.4
baz=115
C20A Veseth Ranch, 114.80 36 P PKPdf 12 48 34.6 +0.4
baz=115
RRI2 Red Ridge 114.80 41 ePKPdf PKPdf 12 48 35.0 +0.4
IMW Indian Meadow 114.81 40 ePKPdf PKPdf 12 48 35.8 +1.2
IMW ePP PP 12 49 34.8 0.0
LKWY Lake 114.86 40 ePKIKP PKPdf 12 48 37.1 +2.4
LKWY Lake 114.86 40 ePKPdf PKPdf 12 48 37.0 +2.4
BELC Belle Mtn. Jos 114.90 52 P PKPdf 12 48 36.2 +1.3
baz=115
MONP Monument Peak 114.91 53 P PKPdf 12 48 36.1 +1.1
baz=115
GMRC Granite Mounta 114.92 51 P PKPdf 12 48 36.0 +1.1
baz=115
E19A Rath Farm, Rou 114.96 37 P PKPdf 12 48 34.9 +0.3
baz=115
TPAW Teton Pass 114.98 41 ePKPdf PKPdf 12 48 36.2 +1.2
D20A Manuel Ranch, 115.04 36 P PKPdf 12 48 34.8 +0.1
baz=115
DUG Dugway 115.09 45 ePKIKP PKPdf 12 48 36.1 +1.0
DUG Dugway 115.09 45 ePKPdf PKPdf 12 48 36.1 +1.0
DUG Dugway 115.09 45 P PKPdf 12 48 35.9 +0.8
baz=115
REDW Red Top Meadow 115.10 41 ePKPdf PKPdf 12 48 36.1 +1.0
SNOW Snow King Moun 115.12 41 ePKPdf PKPdf 12 48 36.2 +1.0
LOHW Long Hollow 115.15 41 ePKPdf PKPdf 12 48 36.0 +0.8
LOHW ePP PP 12 49 36.4 -0.7
F19A Roth Farm, Mol 115.16 38 P PKPdf 12 48 35.4 +0.4
baz=115
LDFC Landfair 115.25 51 ePKPdf PKPdf 12 48 35.9 +0.3
C21A Desert Coulee 115.27 35 P PKPdf 12 48 35.6 +0.6
baz=115
H18A Shoshone NF, C 115.27 39 P PKPdf 12 48 36.5 +1.1
baz=115
RLMT Red Lodge 115.31 39 ePKPdf PKPdf 12 48 36.4 +0.9
A22A Carney Farms, 115.31 34 P PKPdf 12 48 36.2 +1.0
baz=115
HWUT Hardware Ranch 115.38 43 ePKPdf PKPdf 12 48 36.1 +0.5
BC3 Big Chuckawall 115.44 52 P PKPdf 12 48 37.5 +1.6
baz=115
IRM Iron Mountain 115.52 52 P PKPdf 12 48 37.4 +1.5
baz=116
I18A Diamond G Ranc 115.62 40 P PKPdf 12 48 36.9 +0.7
baz=116
B22A Reddig Ranch S 115.64 34 P PKPdf 12 48 36.8 +1.0
baz=116
F20A Billings 115.67 37 P PKPdf 12 48 36.4 +0.4
baz=116
H19A Powell 115.70 39 P PKPdf 12 48 37.8 +1.7
baz=116,SNR=5.4
D21A La Casta Ranch 115.72 36 P PKPdf 12 48 36.5 +0.5
baz=116
A23A Redstone 115.90 33 P PKPdf 12 48 37.3 +1.0
baz=116
G20A Bridger 115.92 38 P PKPdf 12 48 37.4 +0.9
baz=116
E21A Keefer Ranch, 115.94 36 P PKPdf 12 48 37.5 +1.0
baz=116
I19A Meeteetse 116.00 40 P PKPdf 12 48 36.8 0.0
baz=116
M17A Scullys Gap (B 116.05 43 P PKPdf 12 48 37.1 +0.1
baz=116,SNR=10.0
B23A Brockton 116.12 34 P PKPdf 12 48 37.1 +0.4
baz=116
Y12C Blythe 116.14 52 P PKPdf 12 48 38.6 +1.5
baz=116
D22A Cohagen 116.15 35 P PKPdf 12 48 37.7 +0.9
baz=116
W13A Hualapai Mount 116.19 50 P PKPdf 12 48 38.8 +1.4
baz=116
MSU Marysvale 116.21 46 ePKIKP PKPdf 12 48 39.3 +1.9
MSU Marysvale 116.21 46 ePKPdf PKPdf 12 48 39.3 +1.9
BW06 Boulder Array 116.22 41 ePKPdf PKPdf 12 48 37.4 0.0
PDAR Pinedale Array 116.22 41 PKP PKPdf 12 48 36.8 -0.5
PDAR PKKPbc PKKPbc 12 59 06.1 -2.6
PDAR PKKPab PKKPab 12 59 11.7 -1.1
PDAR Pinedale Array 116.22 41 PKP PKPdf 12 48 36.8 -0.5
comp=Z,5.1nm,1.1s,baz=207,slow=1.7,SNR=24
PDAR PKKPbc PKKPbc 12 59 06.1 -2.6
comp=Z,2.3nm,1.1s,baz=116,slow=4.1,SNR=9.7
PDAR PKKPab PKKPab 12 59 11.7 -1.1
comp=Z,5.9nm,0.7s,baz=115,slow=6.4,SNR=37
L18A Fontenelle, Gr 116.28 42 P PKPdf 12 48 38.5 +1.1
baz=116,SNR=23
J19A Crowheart 116.32 40 P PKPdf 12 48 38.3 +0.9
baz=116,SNR=6.5
C23A Lambert 116.37 34 P PKPdf 12 48 38.2 +1.0
baz=116
A24A Westby 116.40 33 P PKPdf 12 48 38.0 +0.9
baz=116
H20A Greybull 116.41 39 P PKPdf 12 48 38.1 +0.7
baz=116,SNR=6.4
DGMT Dagmar 116.55 33 ePKPdf PKPdf 12 48 38.0 +0.5
DGMT Dagmar 116.55 33 P PKPdf 12 48 38.1 +0.5
baz=116
I20A Worland 116.59 39 P PKPdf 12 48 38.5 +0.7
baz=116,SNR=16
L19A Farson 116.65 42 P PKPdf 12 48 39.3 +1.2
baz=117,SNR=8.1
K19A Absolon Red Bu 116.66 41 P PKPdf 12 48 38.9 +0.9
baz=117
E22A Miles City 116.66 36 P PKPdf 12 48 38.9 +1.1
baz=117
D23A Lindsay 116.70 35 P PKPdf 12 48 39.0 +1.1
baz=117
Q16A Castle Valley 116.77 45 P PKPdf 12 48 39.9 +1.5

baz=117
F22A Rosebud 116.82 37 P PKPdf 12 48 38.9 +0.7
baz=117
A25A Svangstu Ranch 116.87 32 P PKPdf 12 48 37.7 -0.4
baz=117
J20A Shoshoni 116.90 40 P PKPdf 12 48 39.3 +0.8
baz=117,SNR=6.8
U15A North Rim 116.92 48 P PKPdf 12 48 40.5 +1.6
baz=117
H21A Big Horn, Sher 116.93 38 P PKPdf 12 48 38.6 +0.1
baz=117
C24A Savage 116.95 34 P PKPdf 12 48 38.8 +0.5
baz=117
M19A Rock Springs 117.06 42 P PKPdf 12 48 40.1 +1.2
baz=117,SNR=6.8
K20A Yellowstone Ra 117.06 41 P PKPdf 12 48 39.5 +0.6
baz=117
G22A Birney 117.09 37 P PKPdf 12 48 39.1 +0.4
baz=117
SRU San Rafael 117.15 45 ePKIKP PKPdf 12 48 39.8 +0.7
SRU e 12 49 21.7
SRU San Rafael 117.15 45 ePKPdf PKPdf 12 48 39.8 +0.7
SRU epPKPdf pPKPdf 12 49 21.7 +0.8
I21A Big Trails, Te 117.18 39 P PKPdf 12 48 39.1 +0.1
baz=117,SNR=9.5
B25A Knox Farm, Ray 117.23 33 P PKPdf 12 48 39.6 +0.8
baz=117
D24A Glendive 117.23 35 P PKPdf 12 48 39.5 +0.6
baz=117
Y14A Wickenburg 117.27 51 P PKPdf 12 48 40.4 +1.0
baz=117
J21A Lysite 117.31 40 P PKPdf 12 48 39.7 +0.4
baz=117
F23A Volborg 117.36 36 P PKPdf 12 48 39.7 +0.5
baz=117
L20A Wamsutter 117.37 41 P PKPdf 12 48 40.7 +1.2
baz=117,SNR=11
A26A Wade Farm, Ken 117.47 32 P PKPdf 12 48 40.0 +0.8
baz=117
C25A Freed Ranch, W 117.50 34 P PKPdf 12 48 40.4 +1.1
baz=117
E24A Baker 117.55 35 P PKPdf 12 48 40.5 +1.0
baz=118
O19A Miners Draw (B 117.62 43 P PKPdf 12 48 40.6 +0.6
baz=118,SNR=9.1
G23A Biddle 117.64 37 P PKPdf 12 48 40.2 +0.4
baz=118
I22A 9 Mile Ranch, 117.65 39 P PKPdf 12 48 40.2 +0.3
baz=118
M20A Sweetwater, Wa 117.71 42 P PKPdf 12 48 41.1 +0.9
baz=118,SNR=7.5
K21A Alcova 117.78 40 P PKPdf 12 48 41.0 +0.7
baz=118,SNR=17
D25A Fairfield 117.78 34 P PKPdf 12 48 40.8 +0.8
baz=118
F24A Ekalaka 117.86 36 P PKPdf 12 48 40.3 +0.1
baz=118
J22A Midwest 117.89 39 P PKPdf 12 48 40.3 -0.1
baz=118,SNR=25
ESDC Sonseca Array 117.93 316 PKP PKPdf 12 48 40.0 -0.4
ESDC PKKPbc PKKPbc 12 59 02.2 0.0
ESDC Sonseca Array 117.93 316 PKP PKPdf 12 48 40.0 -0.4
comp=Z,1.7nm,0.8s,baz=20,slow=2.3,SNR=12
ESDC PKKPbc PKKPbc 12 59 02.2 0.0
comp=Z,1.8nm,1.1s,baz=259,slow=1.3,SNR=4.7
WUAZ Wupatki 117.95 49 ePKPdf PKPdf 12 48 42.4 +1.6
WUAZ Wupatki 117.95 49 P PKPdf 12 48 42.2 +1.4
baz=118
N20A Spence Gulch, 117.96 42 P PKPdf 12 48 41.8 +1.1
baz=118,SNR=18
P19A Cripple Cowboy 118.01 44 P PKPdf 12 48 42.0 +1.2
baz=118,SNR=9.1
L21A Rawlins 118.03 41 P PKPdf 12 48 41.2 +0.4
baz=118,SNR=16
C26A Wahner Farm, P 118.07 33 P PKPdf 12 48 41.0 +0.5
baz=118
214A Organ Pipe Nat 118.10 53 P PKPdf 12 48 42.5 +1.5
baz=118
E25A Miller Ranch, 118.11 35 P PKPdf 12 48 41.1 +0.5
baz=118
G24A Alzada 118.16 36 P PKPdf 12 48 41.0 +0.2
baz=118
B27A Peters Farms, 118.18 32 P PKPdf 12 48 41.1 +0.5
baz=118
M21A Separation Pea 118.20 41 P PKPdf 12 48 41.6 +0.4
baz=118,SNR=21
K22A Casper 118.24 40 P PKPdf 12 48 41.5 +0.4
baz=118,SNR=7.5
RWWY Rawlins 118.26 41 ePKPdf PKPdf 12 48 41.7 +0.4
O20A White River Ci 118.29 43 ePKPdf PKPdf 12 48 42.1 +0.8
O20A epPKPdf pPKPdf 12 49 24.3 +1.2
O20A White River Ci 118.29 43 P PKPdf 12 48 41.2 -0.2
baz=118,SNR=28
X16A Lo Mia Camp, P 118.31 50 P PKPdf 12 48 42.8 +1.3
baz=118
D26A Manning 118.35 34 P PKPdf 12 48 41.5 +0.5
baz=118
H24A Dirks Ranch, A 118.39 37 P PKPdf 12 48 41.2 0.0
baz=118,SNR=12
A28A Rude Farm, Bot 118.39 31 P PKPdf 12 48 41.6 +0.5
baz=118
F25A Bowman 118.39 35 P PKPdf 12 48 41.6 +0.4
baz=118
C27A Sayler Ranch, 118.46 33 P PKPdf 12 48 41.9 +0.7
baz=118
P20A De Beque 118.47 44 P PKPdf 12 48 42.7 +1.0
baz=118,SNR=14
N21A Black Mountain 118.50 42 P PKPdf 12 48 42.6 +0.9
baz=118,SNR=20
PV04 Paradox Valley 118.60 45 ePKPdf PKPdf 12 48 42.9 +0.9
B28A Dugan Ranch, T 118.63 32 P PKPdf 12 48 42.1 +0.7
baz=118
E26A Carlson Angus 118.66 34 P PKPdf 12 48 42.2 +0.5
baz=119
K23A Bowen Ranch, D 118.76 39 P PKPdf 12 48 42.2 +0.1
baz=119
O21A Pagoda 118.78 43 P PKPdf 12 48 43.1 +0.8
baz=119,SNR=6.1
Q20A Ridgley Place, 118.78 44 P PKPdf 12 48 43.6 +1.3
baz=119,SNR=11
M22A Cedar Creek Ra 118.80 41 P PKPdf 12 48 43.7 +1.3
baz=119,SNR=5.3
PBRG Braganca 118.81 319 ePKPdf PKPdf 12 48 41.6 -0.5
PBRG Braganca 118.81 319 ePP PP 12 50 01.8 -0.5
I24A Kuemmerle Ranc 118.82 38 P PKPdf 12 48 41.8 -0.3
baz=119
G25A Newell 118.82 36 P PKPdf 12 48 41.9 -0.1
baz=119
F26A Lodgepole 118.89 35 P PKPdf 12 48 42.2 +0.1
baz=119
PV01 Paradox Valley 118.95 45 ePKPdf PKPdf 12 48 43.8 +1.1
L23A Garrett 119.04 40 P PKPdf 12 48 42.8 0.0
baz=119
RSSD Black Hills 119.04 37 ePKIKP PKPdf 12 48 42.4 -0.2
RSSD Black Hills 119.04 37 ePKPdf PKPdf 12 48 42.4 -0.2
R20A Redvale 119.06 45 P PKPdf 12 48 44.3 +1.4
baz=119,SNR=12
C28A Hausauer Farms 119.06 32 P PKPdf 12 48 43.0 +0.7
baz=119
E27A Carson 119.19 34 P PKPdf 12 48 42.7 +0.1
baz=119
N22A Wattenberg Ran 119.19 42 P PKPdf 12 48 44.4 +1.2
baz=119,SNR=7.2
S20A Disappointment 119.23 46 P PKPdf 12 48 44.7 +1.4
baz=119,SNR=13
G26A Maurine 119.25 36 P PKPdf 12 48 42.8 0.0
baz=119
F27A Lemmon 119.25 35 P PKPdf 12 48 42.9 +0.1
baz=119
I25A Rochford 119.28 37 P PKPdf 12 48 43.1 0.0
baz=119,SNR=19
D28A Regan 119.28 33 P PKPdf 12 48 43.2 +0.4
baz=119
MVO Moncorvo 119.31 319 ePKPdf PKPdf 12 48 43.5 +0.4
W18A Petrified Fore 119.34 49 ePKPdf PKPdf 12 48 45.2 +1.7
W18A Petrified Fore 119.34 49 P PKPdf 12 48 44.9 +1.5
baz=119
MDND Maddock 119.40 32 P PKPdf 12 48 43.1 +0.2
baz=119
MVCO Mesa Verde 119.40 46 ePKPdf PKPdf 12 48 44.5 +0.9
MVCO Mesa Verde 119.40 46 P PKPdf 12 48 45.0 +1.4
baz=119,SNR=17
X18A Snowflake 119.41 50 P PKPdf 12 48 44.8 +1.2
baz=119
O22A Kremmling 119.43 42 P PKPdf 12 48 44.0 +0.3
baz=119,SNR=5.8
N23A Red Feather La 119.48 41 P PKPdf 12 48 44.7 +1.0
baz=119,SNR=5.4
H26A Fairpoint 119.53 36 P PKPdf 12 48 43.6 +0.2
baz=119,SNR=8.4
P22A Eagle 119.55 43 P PKPdf 12 48 45.0 +1.2
baz=120,SNR=10.0
R21A Cimarron 119.57 45 P PKPdf 12 48 45.1 +1.2
baz=120,SNR=7.3
J25A Sunshine Ranch 119.57 38 P PKPdf 12 48 43.6 0.0
baz=120
G27A Dupree 119.59 35 P PKPdf 12 48 43.8 +0.3
baz=120
SMCO Snowmass 119.60 44 ePKPdf PKPdf 12 48 45.2 +1.1
ULM Lac du Bonnet 119.69 28 PKP PKPdf 12 48 42.1 -1.3
ULM Lac du Bonnet 119.69 28 PKP PKPdf 12 48 42.1 -1.3
comp=Z,6.1nm,0.3s,baz=296,slow=3.8,SNR=21
POLO Lamas de Olo 119.71 319 ePKPdf PKPdf 12 48 44.5 +0.6
S21A Coal Bank Pass 119.71 45 P PKPdf 12 48 46.0 +1.8
baz=120,SNR=69
PGAV Gavieira, Arco 119.71 320 ePKPdf PKPdf 12 48 44.4 +0.5
U20A Newcomb 119.73 47 P PKPdf 12 48 45.2 +1.0
baz=120
Q22A Crested Butte, 119.79 44 P PKPdf 12 48 46.1 +1.7
baz=120,SNR=12
I26A New Underwood 119.80 37 P PKPdf 12 48 44.2 +0.3
baz=120
O23A Lake Granby, G 119.83 42 P PKPdf 12 48 45.4 +1.0
baz=120,SNR=16
H27A Howes 119.93 36 P PKPdf 12 48 44.3 +0.2
baz=120,SNR=11
M24A Cheyenne 119.93 40 P PKPdf 12 48 44.6 +0.1
baz=120
V20A Brimhall 120.02 48 P PKPdf 12 48 46.1 +1.3
baz=120,SNR=7.0
MTE Manteigas 120.03 318 ePKPdf PKPdf 12 48 45.1 +0.6
J26A Sides Ranch, S 120.06 38 P PKPdf 12 48 44.9 +0.5
baz=120,SNR=6.3
C30A Mose, Pekin 120.08 31 P PKPdf 12 48 44.4 +0.2
baz=120
L25A Engebretsen Ra 120.12 39 P PKPdf 12 48 45.0 +0.3
baz=120
R22A Saguache, Gunn 120.19 44 P PKPdf 12 48 47.0 +1.8
baz=120,SNR=9.0
T21A Navajo Lake 120.19 46 P PKPdf 12 48 46.9 +1.8
baz=120,SNR=7.8
N24A Carr 120.21 41 P PKPdf 12 48 46.0 +1.0
baz=120
ISCO Idaho Springs 120.23 42 ePKIKP PKPdf 12 48 45.5 +0.3
ISCO Idaho Springs 120.23 42 ePKPdf PKPdf 12 48 45.5 +0.3
ISCO Idaho Springs 120.23 42 P PKPdf 12 48 46.3 +1.1
baz=120,SNR=13
I27A Quinn 120.26 37 P PKPdf 12 48 45.0 +0.2
baz=120,SNR=8.6
W20A Ramah 120.27 48 P PKPdf 12 48 46.8 +1.5
baz=120,SNR=20
P23A Jefferson 120.29 43 P PKPdf 12 48 46.9 +1.5
baz=120,SNR=9.2
D30A Buchanan 120.31 32 P PKPdf 12 48 44.9 +0.1
baz=120
K26A Motz Farm, Whi 120.33 38 P PKPdf 12 48 45.1 +0.1
baz=120
U21A Nageezi 120.34 47 P PKPdf 12 48 47.1 +1.7
baz=120,SNR=39
G28A Parade 120.35 35 P PKPdf 12 48 45.1 +0.1
baz=120
S22A 4UR Ranch, Cre 120.36 45 P PKPdf 12 48 47.0 +1.5
baz=120,SNR=18
PMRV Marv??o 120.39 317 ePKPdf PKPdf 12 48 45.4 +0.3
Q23A Hartsel 120.51 43 P PKPdf 12 48 47.0 +1.2
baz=120,SNR=7.6
H28A Mission Ridge 120.52 35 P PKPdf 12 48 45.4 +0.1
baz=120
T22A Edith 120.63 46 P PKPdf 12 48 48.1 +2.1
baz=121,SNR=15
PBAR Barrancos 120.74 316 ePKPdf PKPdf 12 48 44.9 -0.9
PBAR / P pPKPdf 12 49 30.5 +2.9
PBAR Barrancos 120.74 316 ePP PP 12 50 17.1 +1.5
J27A Elkhorn Farm, 120.75 37 P PKPdf 12 48 47.3 +1.5
baz=121,SNR=10
PESTR Estremoz 120.80 317 ePKPdf PKPdf 12 48 46.0 +0.1
I28A Midland 120.82 36 P PKPdf 12 48 46.2 +0.3
baz=121
PCAS Casmilo, Conde 120.83 318 ePKPdf PKPdf 12 48 46.8 +0.9
TOA0 Torodi Ar. Sit 120.85 285 ePKPdf PKPdf 12 48 46.3 -0.4
TOA0 epPKPdf pPKPdf 12 49 29.0 +0.6
TORD Torodi Ar. Bea 120.85 285 PKP PKPdf 12 48 46.1 -0.5
TORD SKP 12 52 06.3
TORD PKKPab PKKPab 12 58 53.5 +1.1
TORD Torodi Ar. Bea 120.85 285 PKP PKPdf 12 48 46.1 -0.5
comp=Z,4.6nm,0.3s,baz=98,slow=1.8,SNR=93
TORD SKP 12 52 06.3
comp=Z,3.2nm,1.0s,baz=54,slow=2.3,SNR=4.1
TORD PKKPab PKKPab 12 58 53.5 +1.1
comp=Z,6.1nm,1.0s,baz=252,slow=4.4,SNR=14
Y20A Horse Springs, 120.85 50 P PKPdf 12 48 47.9 +1.4
baz=121,SNR=10.0
R23A Moffat 120.85 44 P PKPdf 12 48 47.6 +1.2
baz=121
K27A Flueckinger Fa 120.91 38 P PKPdf 12 48 46.0 -0.2
baz=121
U22A Llaves 120.95 46 P PKPdf 12 48 48.9 +2.3
baz=121,SNR=10
Q24A Divide 120.95 43 P PKPdf 12 48 47.3 +0.6
baz=121
S23A Nye Farm, Mont 120.96 45 P PKPdf 12 48 48.4 +1.8
baz=121
PTOM Tomar 120.99 318 ePKPdf PKPdf 12 48 47.8 +1.6
Z20A Nine Sixteen R 121.00 51 P PKPdf 12 48 48.4 +1.7
baz=121,SNR=16
AGMN Agassiz Nation 121.02 30 ePKPdf PKPdf 12 48 45.5 -0.6
X21A Alamocita Cree 121.08 49 P PKPdf 12 48 48.5 +1.6
baz=121,SNR=41
J28A Allard Ranch, 121.11 37 P PKPdf 12 48 46.9 +0.4
baz=121,SNR=9.9
319A Douglas 121.12 53 P PKPdf 12 48 48.9 +1.9
baz=121,SNR=9.0
PMTG Montargil 121.13 317 ePKPdf PKPdf 12 48 47.1 +0.6
T23A Casias Ranch, 121.24 45 P PKPdf 12 48 48.9 +1.7
baz=121,SNR=15
EVO Evora 121.25 317 ePKIKP PKPdf 12 48 47.3 +0.5
comp=Z,54nm,1.3s
EVO Evora 121.25 317 ePKPdf PKPdf 12 48 47.3 +0.5
SDCO Great Sand Dun 121.29 44 ePKPdf PKPdf 12 48 47.5 +0.3
N26A Koester Ranch, 121.30 40 P PKPdf 12 48 47.3 +0.3
baz=121
R24A Sanders Place, 121.33 44 P PKPdf 12 48 48.0 +0.7
baz=121
P25A Willow Gulch B 121.35 42 P PKPdf 12 48 48.5 +1.3
baz=121,SNR=6.1
Y21A Point of Rocks 121.35 49 P PKPdf 12 48 49.5 +2.0
baz=121,SNR=7.9
PBEJ Beja 121.39 316 ePKPdf PKPdf 12 48 48.2 +1.1
K28A Ten Mile Ranch 121.44 38 P PKPdf 12 48 47.3 +0.2
baz=121
U23A El Rito 121.45 46 P PKPdf 12 48 49.4 +1.8
baz=121,SNR=17
220A Playas Peak, P 121.52 52 P PKPdf 12 48 49.4 +1.7
baz=122,SNR=9.5
S24A Houchin Ranch, 121.54 44 P PKPdf 12 48 48.7 +0.9
baz=122,SNR=5.5
LAZ Ladron 121.59 49 ePKPdf PKPdf 12 48 48.3 +0.5
Q25A Bedland, Calha 121.59 43 P PKPdf 12 48 48.7 +1.0
baz=122,SNR=6.4
Z21A St. Cloud Mine 121.63 50 P PKPdf 12 48 49.5 +1.5
baz=122
X22A Bernardo 121.64 48 P PKPdf 12 48 49.3 +1.4
baz=122,SNR=8.8
PCVE Castro Verde 121.70 316 ePKPdf PKPdf 12 48 48.7 +1.0
V23A Ortiz Mt. (NFS 121.71 47 P PKPdf 12 48 50.2 +2.2
baz=122,SNR=12
320A Kipp Ranch, An 121.73 52 P PKPdf 12 48 49.8 +1.6
baz=122,SNR=11
N27A Anderson Farm, 121.75 40 P PKPdf 12 48 48.2 +0.4
baz=122
PBDV Barranco-do-Ve 121.81 315 ePKPdf PKPdf 12 48 49.2 +1.3
PNCL Nicolau / Gran 121.81 316 ePKPdf PKPdf 12 48 48.5 +0.7
BRSD Miller 121.84 35 ePKPdf PKPdf 12 48 47.7 -0.1
BRSD Miller 121.84 35 P PKPdf 12 48 47.9 +0.1
baz=122
121A Cookes Peak, D 121.85 51 P PKPdf 12 48 50.0 +1.6
baz=122,SNR=12
ANMO Albuquerque 121.86 48 ePKPdf PKPdf 12 48 49.3 +0.9
ANMO PKP PKPdf 12 48 49.6 +1.3
ANMO Albuquerque 121.86 48 PKP PKPdf 12 48 49.6 +1.3
comp=Z,14nm,1.0s,baz=219,slow=2.7,SNR=28
P26A Davis Ranch, A 121.87 42 P PKPdf 12 48 48.9 +0.8
baz=122,SNR=12
Y22A Socorro 121.91 49 P PKPdf 12 48 49.8 +1.4
baz=122,SNR=23
W23A Werner Place, 122.00 47 P PKPdf 12 48 49.9 +1.3
baz=122,SNR=8.6
LPM Los Pinos Moun 122.00 49 ePKPdf PKPdf 12 48 49.6 +1.0
K29A Lazy Trails An 122.04 37 P PKPdf 12 48 48.8 +0.5
baz=122
S25A Robets Cordova 122.07 44 P PKPdf 12 48 49.4 +0.8
baz=122,SNR=9.6
BNM Barren Site 122.08 49 ePKPdf PKPdf 12 48 49.6 +0.8
Q26A Hugo 122.08 42 P PKPdf 12 48 49.6 +1.0
baz=122,SNR=8.2
O27A Beecher Island 122.11 41 P PKPdf 12 48 48.8 +0.3
baz=122
Z22A Elephant Butte 122.19 50 P PKPdf 12 48 50.2 +1.2
baz=122,SNR=16
MORF Marmelete 122.28 316 ePKPdf PKPdf 12 48 49.7 +0.8
T25A Trinidad 122.34 45 P PKPdf 12 48 50.2 +1.0
baz=122,SNR=18
P27A Ficken Ranch, 122.38 41 P PKPdf 12 48 49.7 +0.6
baz=122
V24A Rampart Ranch, 122.39 46 P PKPdf 12 48 51.0 +1.6
baz=122,SNR=23
122A Conniff Cattle 122.39 50 P PKPdf 12 48 51.5 +2.2
baz=122,SNR=9.0
R26A Arlington 122.44 43 P PKPdf 12 48 50.2 +0.9
baz=122,SNR=16
N28A Pribbeno Ranch 122.45 40 P PKPdf 12 48 49.5 +0.4
baz=122
PFVI Vila Bisbo 122.49 316 ePKPdf PKPdf 12 48 50.2 +1.0
W24A Lazy 6 Ranch, 122.52 47 P PKPdf 12 48 50.9 +1.3
baz=122,SNR=30
222A Williams Famil 122.56 51 P PKPdf 12 48 51.4 +1.7
baz=122,SNR=5.2
Y23A Lovelace Mesa, 122.60 49 P PKPdf 12 48 51.0 +1.2
baz=123,SNR=10
KSCO Kaye Shedlock' 122.63 42 ePKPdf PKPdf 12 48 50.2 +0.6
KSCO Kaye Shedlock' 122.63 42 P PKPdf 12 48 50.4 +0.7
U25A Circle Dot Ran 122.69 45 P PKPdf 12 48 51.0 +1.2
baz=123,SNR=14
Z23A Rita Site, Whi 122.75 49 P PKPdf 12 48 51.6 +1.6
baz=123,SNR=5.6
S26A Kim 122.76 44 P PKPdf 12 48 50.8 +0.9
baz=123,SNR=14
V25A Rancho No Teng 122.81 46 P PKPdf 12 48 51.5 +1.3
baz=123,SNR=29
R27A Eads 122.89 43 P PKPdf 12 48 50.9 +0.8
baz=123,SNR=13
T26A Comanche Natio 122.89 44 P PKPdf 12 48 51.2 +0.9
baz=123,SNR=28
P28A Saint Francis 122.91 41 P PKPdf 12 48 50.8 +0.7
baz=123,SNR=5.2
123A Bell Site, Whi 122.99 50 P PKPdf 12 48 52.1 +1.6
baz=123
Y24A Capitan 123.07 48 P PKPdf 12 48 51.8 +1.1
baz=123,SNR=30
Q28A Sharon Springs 123.13 41 P PKPdf 12 48 51.3 +0.8
baz=123
U26A Atchley Ranch, 123.17 45 P PKPdf 12 48 52.0 +1.2
baz=123,SNR=12
W25A X Bar L Ranch, 123.21 47 P PKPdf 12 48 52.3 +1.4
baz=123,SNR=16
O29A 4D Ranch, Culb 123.23 40 P PKPdf 12 48 50.8 +0.1
baz=123
N30A Hueftle Ranch, 123.30 39 P PKPdf 12 48 51.2 +0.4
baz=123
EYMN Ely 123.35 27 ePKPdf PKPdf 12 48 50.5 -0.1
Z24A Sheeppen Canyo 123.38 49 P PKPdf 12 48 53.1 +1.8
baz=123,SNR=8.2
V26A Tequesquite Ra 123.42 46 P PKPdf 12 48 51.4 +0.2
baz=123,SNR=10
P29A Atwood 123.43 40 P PKPdf 12 48 51.4 +0.4
baz=123
R28A Tribune 123.52 42 P PKPdf 12 48 52.1 +0.8
baz=124,SNR=17
T27A Campo 123.56 44 P PKPdf 12 48 52.8 +1.3
baz=124,SNR=5.0
124A Stringfield Ra 123.58 50 P PKPdf 12 48 53.2 +1.5
baz=124,SNR=17
ECSD EROS Data Cent 123.61 34 ePKPdf PKPdf 12 48 51.0 -0.2
W26A Owens Ranch, T 123.77 46 P PKPdf 12 48 53.1 +1.2
baz=124,SNR=8.9
Q29A Oakley 123.79 41 P PKPdf 12 48 52.7 +0.9
baz=124,SNR=23
224A Cornudas Mount 123.79 50 P PKPdf 12 48 53.7 +1.6
baz=124,SNR=10
S28A Manter 123.86 43 P PKPdf 12 48 52.8 +0.8
baz=124
Z25A Roswell 123.89 49 P PKPdf 12 48 53.7 +1.5
baz=124,SNR=14
P30A Selden 123.91 40 P PKPdf 12 48 52.6 +0.6
baz=124,SNR=7.3
R29A Marienthal 123.93 42 P PKPdf 12 48 52.7 +0.7
baz=124
T28A Walsh 123.95 44 P PKPdf 12 48 52.9 +0.8
baz=124,SNR=12
X26A CR and CF Fran 123.99 47 P PKPdf 12 48 53.4 +1.0
baz=124,SNR=12
MNTX Cornudas Mount 124.06 51 ePKPdf PKPdf 12 48 53.4 +1.0
324A Moseley Ranch, 124.08 51 P PKPdf 12 48 54.0 +1.3
baz=124,SNR=14
V27A Dan Oppiter Fa 124.12 45 P PKPdf 12 48 53.6 +1.0
baz=124
BGNE Belgrade 124.14 37 ePKPdf PKPdf 12 48 52.0 -0.3
BGNE Belgrade 124.14 37 P PKPdf 12 48 52.0 -0.3
baz=124
125A Gardner Draw, 124.20 49 P PKPdf 12 48 53.8 +1.0
baz=124,SNR=12
U28A Mallet 124.24 44 P PKPdf 12 48 53.1 +0.3
baz=124
Y26A Elida 124.27 48 P PKPdf 12 48 53.7 +0.8
baz=124
W27A Bowe Ranch, En 124.29 46 P PKPdf 12 48 54.0 +1.1
baz=124,SNR=9.7
225A Deer Hill, Car 124.31 50 P PKPdf 12 48 54.2 +1.1
baz=124,SNR=10
S29A Ulysses 124.37 42 P PKPdf 12 48 53.8 +0.8
baz=124
Z26A Caprock 124.44 48 P PKPdf 12 48 53.7 +0.4
baz=124
P31A Stockton 124.48 40 P PKPdf 12 48 53.4 +0.4
baz=124,SNR=12
T29A Hugoton 124.49 43 P PKPdf 12 48 54.5 +1.3
baz=124,SNR=5.0
325A Bean Ranch, Si 124.51 51 P PKPdf 12 48 54.0 +0.5
baz=124,SNR=12
V28A Channing 124.56 45 P PKPdf 12 48 54.9 +1.6
baz=124
R30A Dighton 124.58 41 P PKPdf 12 48 53.9 +0.6
baz=124,SNR=6.2
SCHQ Schefferville 124.61 7 PKP PKPdf 12 48 53.1 +0.4
SCHQ Schefferville 124.61 7 PKP PKPdf 12 48 53.1 +0.4
comp=Z,28nm,0.7s,baz=342,slow=2.7,SNR=38
SPMN St. Paul 124.66 31 ePKPdf PKPdf 12 48 53.3 +0.2
SPMN St. Paul 124.66 31 P PKPdf 12 48 53.4 +0.2
baz=124
126A Clayton Basin, 124.69 49 P PKPdf 12 48 54.4 +0.7
baz=125,SNR=7.6
425A Indio Mountain 124.74 52 P PKPdf 12 48 54.7 +0.8
baz=125,SNR=15
Y27A Causey 124.77 47 P PKPdf 12 48 54.9 +1.0
baz=125,SNR=16
S30A Montezuma 124.80 42 P PKPdf 12 48 54.9 +1.2
baz=125,SNR=5.8
226B Tecolote Peak, 124.83 50 P PKPdf 12 48 54.6 +0.7
baz=125,SNR=26
V29A Stinnett 124.99 45 P PKPdf 12 48 55.2 +1.1
baz=125
Z27A Tatum 125.00 48 P PKPdf 12 48 54.8 +0.5
baz=125,SNR=29
MSTX Muleshoe 125.02 47 ePKPdf PKPdf 12 48 55.0 +0.7
MSTX Muleshoe 125.02 47 P PKPdf 12 48 55.2 +0.9
baz=125,SNR=11
R31A Burdett 125.07 41 P PKPdf 12 48 55.1 +1.0
baz=125,SNR=7.3
T30A Plains 125.07 43 P PKPdf 12 48 55.4 +1.2
baz=125
X28A Dimmitt 125.18 46 P PKPdf 12 48 55.8 +1.2
baz=125,SNR=6.6
127A Arkansas Junct 125.18 49 P PKPdf 12 48 55.3 +0.7
baz=125
U30A WK&E Inc. Balk 125.26 43 P PKPdf 12 48 55.9 +1.3
baz=125,SNR=12
326A Caldwell Ranch 125.30 51 P PKPdf 12 48 55.6 +0.7
baz=125,SNR=8.7
AMTX Amarillo 125.37 46 ePKPdf PKPdf 12 48 55.4 +0.5
Y28A McKinney Farm, 125.43 47 P PKPdf 12 48 56.0 +0.9
baz=125

S31A	Mullinville	125.46	42	P		PKPdf	12 48 55.6 +0.6
	baz=125						
426A	McDonald Obser	125.54	51	P		PKPdf	12 48 56.5 +1.0
	baz=126,SNR=6.1						
X29A	Tulia	125.57	46	P		PKPdf	12 48 56.5 +1.2
	baz=126,SNR=7.6						
T31A	Randall Ranch,	125.62	42	P		PKPdf	12 48 56.4 +1.1
	baz=126,SNR=5.4						
Z28A	Tucker Farm, M	125.62	48	P		PKPdf	12 48 55.6 +0.1
	baz=126						
V30A	Spur Ranch, Mi	125.63	44	P		PKPdf	12 48 56.8 +1.4
	baz=126						
526A	Mary Lane Ranc	125.75	52	P		PKPdf	12 48 57.2 +1.3
	baz=126,SNR=21						
128A	Castleberry Fa	125.86	48	P		PKPdf	12 48 56.7 +0.8
	baz=126,SNR=8.4						
Y29A	Porterfield Fa	125.88	47	P		PKPdf	12 48 57.1 +1.2
	baz=126,SNR=8.4						
626A	Big Bend Ranch	125.92	53	P		PKPdf	12 48 57.1 +1.0
	baz=126,SNR=7.5						
427A	Hayter Ranch,	125.95	51	P		PKPdf	12 48 57.5 +1.3
	baz=126,SNR=20						
228A	UT Block 9, Go	126.01	49	P		PKPdf	12 48 56.8 +0.6
	baz=126						
527A	Woodward Ranch	126.08	52	P		PKPdf	12 48 57.2 +0.7
	baz=126,SNR=19						
Z29A	Hungry Hill Ra	126.14	47	P		PKPdf	12 48 57.2 +0.8
	baz=126,SNR=11						
X30A	Coker Ranch, T	126.16	46	P		PKPdf	12 48 57.4 +1.0
	baz=126,SNR=6.9						
328A	Wristen Ranch,	126.17	50	P		PKPdf	12 48 57.2 +0.7
	baz=126,SNR=15						
V31A	Spring Creek L	126.21	44	P		PKPdf	12 48 57.9 +1.4
	baz=126,SNR=7.5						
129A	Stewart Farms,	126.32	48	P		PKPdf	12 48 57.5 +0.8
	baz=126,SNR=17						
TXAR	Lajitas Array	126.38	53	PKP		PKPdf	12 48 57.5 +0.5
TXAR	Lajitas Array	126.38	53	PKP		PKPdf	12 48 57.5 +0.5
	comp=Z,4.3nm,0.9s,baz=242,slow=1.9,SNR=24						
W31A	Holland Ranch,	126.44	44	P		PKPdf	12 48 58.2 +1.3
	baz=126,SNR=13						
KSU1	Kansas State U	126.47	39	*e*PKPdf		PKPdf	12 48 57.1 +0.3
KSU1				*ep*PKPdf		pPKPdf	12 49 39.0 +0.4
Z30A	Sanderson Ranc	126.55	47	P		PKPdf	12 48 57.8 +0.6
	baz=126,SNR=8.1						
627A	Terlingua Ranc	126.55	52	P		PKPdf	12 48 58.6 +1.2
	baz=126,SNR=30						
428A	Kincaid Ranch,	126.56	51	P		PKPdf	12 48 58.6 +1.3
	baz=126,SNR=24						
229A	Bryant Ranch,	126.67	49	P		PKPdf	12 48 58.5 +1.0
	baz=127,SNR=5.6						
X31A	McDonald Ranch	126.71	45	P		PKPdf	12 48 58.6 +1.2
	baz=127,SNR=9.4						
329A	Wagon Wheel Ra	126.76	49	P		PKPdf	12 48 58.4 +0.8
	baz=127						
Y31A	Rekieta Farm,	126.84	46	P		PKPdf	12 48 58.4 +0.7
	baz=127						
628A	Black Gap, Mar	126.93	52	P		PKPdf	12 48 58.7 +0.7
	baz=127						
130A	Snyder	127.00	48	P		PKPdf	12 48 58.8 +0.7
	baz=127						
529A	Stev Forest Ra	127.18	51	P		PKPdf	12 48 59.6 +1.1
	baz=127,SNR=25						
429A	Davenport Ranc	127.21	50	P		PKPdf	12 48 59.2 +0.7
	baz=127,SNR=27						
230A	Sterling City	127.23	49	P		PKPdf	12 48 59.1 +0.6
	baz=127						
Z31A	Sharp Cattle R	127.25	47	P		PKPdf	12 48 59.5 +1.1
	baz=127,SNR=6.2						
131A	Roby	127.39	47	P		PKPdf	12 48 59.4 +0.6
	baz=127						
330A	Mertzon	127.41	49	P		PKPdf	12 48 59.4 +0.5
	baz=127						
Y32A	R-V Farms, Ver	127.41	45	P		PKPdf	12 48 59.6 +0.9
	baz=127						
WMOK	Wichita Mounta	127.49	44	*e*PKIKP		PKPdf	12 48 59.2 +0.3
WMOK	Wichita Mounta	127.49	44	*e*PKPdf		PKPdf	12 48 59.2 +0.3
JFWS	Jewell Farm	127.59	31	*e*PKIKP		PKPdf	12 48 58.4 -0.4
JFWS	Jewell Farm	127.59	31	*e*PKPdf		PKPdf	12 48 58.4 -0.4
430A	Baggett Ranch,	127.64	50	P		PKPdf	12 49 00.5 +1.1
	baz=128,SNR=21						
Z32A	Haskell	127.74	46	P		PKPdf	12 49 00.8 +1.3
	baz=128,SNR=10						
231A	Bronte	127.80	48	P		PKPdf	12 49 00.3 +0.7
	baz=128,SNR=8.1						
530A	J-C Ranch, Com	127.86	51	P		PKPdf	12 49 00.6 +0.8
	baz=128,SNR=30						
KIC	Kosan Boka	127.94	278	*e*PKIKP		PKPdf	12 49 00.9 +0.6
	comp=Z,90nm,1.4s						
331A	San Angelo	128.02	49	P		PKPdf	12 49 01.4 +1.3
	baz=128,SNR=6.4						
DBIC	Dimbokro	128.03	278	PKP		PKPdf	12 48 59.9 -0.6
DBIC	Dimbokro	128.03	278	PKP		PKPdf	12 48 59.9 -0.6
	comp=Z,15nm,1.0s,baz=105,slow=2.7,SNR=6.7						
431A	Sonora	128.17	50	P		PKPdf	12 49 01.2 +0.9
	baz=128,SNR=10						
TIC	Toumodi	128.19	278	*e*PKIKP		PKPdf	12 49 00.6 -0.2
	comp=Z,127nm,1.5s						
LIC	Lamto	128.24	278⇑	*i*PKIKP		PKPdf	12 49 01.4 +0.6
	comp=Z,20nm,0.8s						
LIC	Lamto	128.24	278	*e*PKIKP		PKPdf	12 49 01.3 +0.5
	comp=Z,32nm,0.8s						
232A	Coleman	128.32	48	P		PKPdf	12 49 01.6 +1.0
	baz=128,SNR=8.4						
531A	Rocksprings	128.46	50	P		PKPdf	12 49 01.9 +0.9
	baz=128,SNR=16						
332A	Millersview	128.50	48	P		PKPdf	12 49 02.1 +1.2
	baz=128,SNR=11						
432A	Menard	128.70	49	P		PKPdf	12 49 02.2 +0.8
	baz=129						
631A	Perdido Creek	128.78	51	P		PKPdf	12 49 02.5 +1.0
	baz=129,SNR=18						
TUL1	Tulsa	128.87	41	*e*PKPdf		PKPdf	12 49 02.1 +0.7
TUL1	Tulsa	128.87	41	P		PKPdf	12 49 02.4 +0.9
	baz=129						
JCT	Junction City	128.88	49	*e*PKIKP		PKPdf	12 49 01.3 -0.4
JCT	Junction City	128.88	49	*e*PKPdf		PKPdf	12 49 01.3 -0.4
JCT	Junction City	128.88	49	P		PKPdf	12 49 02.7 +1.0
	baz=129,SNR=17						
532A	Rocksprings	128.97	50	P		PKPdf	12 49 02.7 +0.8
	baz=129,SNR=13						
632A	Uvalde	129.35	51	P		PKPdf	12 49 04.0 +1.4
	baz=129,SNR=13						
732A	Laxson Ranch,	129.56	52	P		PKPdf	12 49 04.4 +1.4
	baz=130,SNR=10						
WHTX	Lake Whitney	129.88	47	*e*PKPdf		PKPdf	12 49 04.2 +0.7
SADO	Sadowa	131.03	21	PKP		PKPdf	12 49 04.8 -0.5
SADO	Sadowa	131.03	21	PKP		PKPdf	12 49 04.8 -0.5
	comp=Z,17nm,0.7s,baz=325,slow=2.9,SNR=16						
MIAR	Mount Ida	131.14	41	*e*PKIKP		PKPdf	12 49 05.2 -0.6
MIAR	Mount Ida	131.14	41	*e*PKPdf		PKPdf	12 49 05.2 -0.6
SIUC	Southern Illin	131.80	35	*e*PKPdf		PKPdf	12 49 07.6 +0.6
UALR	University of	131.81	40	*e*PKPdf		PKPdf	12 49 07.8 +0.7
HKT	Hockley	132.12	48	*e*PKIKP		PKPdf	12 49 09.2 +1.5
HKT				*e*			12 51 29.8
HKT	Hockley	132.12	48	*e*PKPdf		PKPdf	12 49 09.2 +1.5
HKT				*e*PP		PP	12 51 29.8 -1.1
BLO	Bloomington	132.24	32	*e*PKIKP		PKPdf	12 49 08.4 +0.6
BLO	Bloomington	132.24	32	*e*PKPdf		PKPdf	12 49 08.4 +0.6
BLO				*e*SKPbc		SKPbc	12 52 20.2 +0.4
USIN	University of	132.50	34	*e*PKPdf		PKPdf	12 49 08.6 +0.4
LONY	Lake Ozonia	132.68	18	*e*PKPdf		PKPdf	12 49 08.8 +0.4
LONY				*e*SKPbc		SKPbc	12 52 21.0 -0.2
FRNY	Flat Rock	132.78	17	*e*PKPdf		PKPdf	12 49 08.7 +0.1
WCI	Wyandotte Cave	133.05	32	*e*PKIKP		PKPdf	12 49 09.6 +0.2
WCI	Wyandotte Cave	133.05	32	*e*PKPdf		PKPdf	12 49 09.6 +0.2
NCB	Newcomb	133.38	18	*e*PKPdf		PKPdf	12 49 10.1 +0.3
MDV	Middlebury	133.66	17	*e*PKPdf		PKPdf	12 49 10.7 +0.4
MDV				*e*PP		PP	12 51 40.1 +0.5
MDV				*e*SKPbc		SKPbc	12 52 25.2 +0.8
WVT	Waverly	133.69	36	*e*PKIKP		PKPdf	12 49 10.6 0.0
WVT				*e*			12 49 54.1
WVT	Waverly	133.69	36	*e*PKPdf		PKPdf	12 49 10.6 0.0
WVT				*ep*PKPdf		pPKPdf	12 49 54.1 +1.8
LBNH	Lisbon	133.78	15	*e*PKIKP		PKPdf	12 49 10.9 +0.4
LBNH	Lisbon	133.78	15	*e*PKPdf		PKPdf	12 49 10.9 +0.4
OXF	Oxford	133.84	38	*e*PKIKP		PKPdf	12 49 11.2 +0.3
OXF	Oxford	133.84	38	*e*PKPdf		PKPdf	12 49 11.2 +0.3
WVL	Waterville	134.03	13	*e*PKPdf		PKPdf	12 49 11.0 +0.1
FFD	Franklin Falls	134.57	15	*e*PKPdf		PKPdf	12 49 12.2 +0.2
FFD				*e*			12 52 28.3
TZTN	Tazewell	135.76	32	*e*PKPdf		PKPdf	12 49 14.9 +0.5
CPCT	Cooper Cave	136.06	34	*e*PKPdf		PKPdf	12 49 15.0 0.0
CPCT				*e*SKPbc		SKPbc	12 52 32.4 0.0
TKL	Tuckaleechee C	136.31	33	*e*PKPdf		PKPdf	12 49 16.2 +0.7
LRAL	Lakeview Retre	136.31	38	*e*PKPdf		PKPdf	12 49 15.8 +0.2
SDMD	Soldier's Deli	136.52	23	*e*PKPdf		PKPdf	12 49 16.0 +0.2
BLA	Blacksburg	136.80	28	*e*PKIKP		PKPdf	12 49 16.4 0.0
BLA	Blacksburg	136.80	28	*e*PKPdf		PKPdf	12 49 16.4 0.0
JSRW	J. Sargeant Re	137.55	25	*e*PKPdf		PKPdf	12 49 18.1 +0.4
KMSC	Kings Mountain	137.99	31	*e*PKPpre		PKPpre	12 49 08.8
KMSC				*e*PKPdf		PKPdf	12 49 18.9 +0.3
TEIG	Tepich	142.94	55	*e*PKPdf		PKPdf	12 49 25.2 -2.7
CFAA	Coronel Fontan	146.74	162	PKPbc		PKPbc	12 49 35.5 -0.7
CFAA	Coronel Fontan	146.74	162	PKPbc		PKPbc	12 49 35.5 -0.7
	comp=Z,2.9nm,0.3s,baz=208,slow=2.9,SNR=53						
BBSR	BB Station	146.81	13	*e*PKPdf		PKPdf	12 49 34.3 +0.1
LCO	Las Campanas	148.20	156	*e*PKPdf		PKPdf	12 49 37.0 0.0
LCO				*e*PKPbc		PKiKP	12 49 41.6 -0.5
JTS	JuntasAbangare	149.90	69	PKPbc		PKPdf	12 49 40.4 +0.6
JTS	JuntasAbangare	149.90	69	PKPbc		PKPdf	12 49 40.4 +0.6
	comp=Z,24nm,1.1s,baz=236,slow=3.6,SNR=5.3						
CPUP	Villa Florida	153.89	178	*e*PKPdf		PKPdf	12 49 45.8 +0.3
CPUP				PKP		PKPdf	12 49 46.5 +1.0
CPUP				*e*PKPbc		PKiKP	12 49 54.4 +0.8
CPUP				PKPab		PKPab	12 50 08.2 +1.2
CPUP				*e*PKPab		PKPab	12 50 08.2 +1.2
CPUP	Villa Florida	153.89	178	PKP		PKPdf	12 49 46.5 +1.0
	comp=Z,3.6nm,0.7s,baz=130,slow=1.8,SNR=7.0						
CPUP				PKPab		PKPab	12 50 08.2 +1.2
	comp=Z,12nm,0.7s,baz=173,slow=3.4,SNR=13						
LVC	Limon Verde	154.56	153	*e*PKPdf		PKPdf	12 49 48.0 +1.2
LVC				*e*PKPbc		PKiKP	12 49 57.7 +2.3
LVC				*e*PKPab		PKPab	12 50 12.6 +2.2
SDDR	Presa de Saban	156.14	37	*e*PKPab		PKPab	12 50 17.3 +0.3
ATAH	Atahualpa	157.08	108	PKP		PKPdf	12 49 52.1 +1.5
ATAH				PKPab		PKPab	12 50 25.6 +3.8
ATAH	Atahualpa	157.08	108	PKP		PKPdf	12 49 52.1 +1.5
	comp=Z,7.1nm,0.7s,baz=305,slow=1.7,SNR=10.0						
ATAH				PKPab		PKPab	12 50 25.6 +3.8
	comp=Z,29nm,1.2s,baz=198,slow=3.2,SNR=7.4						
OTAV	Otavalo	158.06	89	*e*PKPdf		PKPdf	12 49 53.1 +1.2
LPAZ	La Paz	160.24	145	PKP		PKPdf	12 49 55.5 +1.0
LPAZ				*e*PKPdf		PKPdf	12 49 55.6 +1.1
LPAZ				*e*			12 50 37.1
LPAZ				PKPab		PKPab	12 50 37.7 +2.2
LPAZ	La Paz	160.24	145	PKP		PKPdf	12 49 55.5 +1.0
	comp=Z,7.2nm,1.0s,baz=151,slow=1.2,SNR=21						
LPAZ				PKPab		PKPab	12 50 37.7 +2.2
	comp=Z,6.4nm,0.5s,baz=174,slow=3.6,SNR=12						
ROSC	El Rosal	161.54	74	PKP		PKPdf	12 49 55.9 +0.2
ROSC				PKPab		PKPab	12 50 43.0 +1.8
ROSC	El Rosal	161.54	74	PKP		PKPdf	12 49 55.9 +0.2
	comp=Z,6.7nm,0.4s,baz=281,slow=5.2,SNR=13						
ROSC				PKPab		PKPab	12 50 43.0 +1.8
	comp=Z,7.7nm,0.5s,baz=106,slow=23,SNR=7.0						
BDFB	Brasilia	162.41	208	PKP		PKPdf	12 49 56.4 +0.3
BDFB				PKPab		PKPab	12 50 44.5 +0.3
BDFB	Brasilia	162.41	208	PKP		PKPdf	12 49 56.4 +0.3
	comp=Z,2.7nm,0.4s,baz=128,slow=3.7,SNR=5.0						
BDFB				PKPab		PKPab	12 50 44.5 +0.3
	comp=Z,16nm,0.9s,baz=132,slow=4.7,SNR=12						
SIV	San Ignacio	163.56	164	PKP		PKPdf	12 49 57.5 +0.4
SIV				PKPab		PKPab	12 50 49.6 +0.4
SIV	San Ignacio	163.56	164	PKP		PKPdf	12 49 57.5 +0.4
	comp=Z,12nm,1.0s,baz=226,slow=1.1,SNR=25						
SIV				PKPab		PKPab	12 50 49.6 +0.4
	comp=Z,5.4nm,0.6s,baz=219,slow=6.4,SNR=11						
SAML	Samuel	168.97	143	*e*PKPdf		PKPdf	12 50 01.7 +0.3

DDA 15 12:41:07.7, 39°.68N×29°.42E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	Uludag	0.51	334	*i* P	Pg	12 41 17.8	-0.1
ULDT				*i* S	Sg	12 41 25.5	+0.7
GDZ	Gediz	0.59	176	*i* P	Pg	12 41 19.4	+0.1
GDZ				*i* S	Sg	12 41 28.0	+0.8
BALY	Balya	1.39	273	*i* P	Pg	12 41 34.8	+0.3
BALY				*i* S	Sg	12 41 53.8	+1.2

*IDC **15** 12:42:42.0±15.0, 14°.79N×92°.21E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/27, mbtmp3.5/4, ML3.7/1, MS4.0/4, Ms1 4.0/4, ms1mx3.2/38, Error ellipse: s-maj=308.2km s-min=50.1km az=117.0*

ISC 15 12:42:51.2±1.3, 14°.7N±0°.1×92°.8E±0°.1, h35km, n17, σ1§58/14, mb3.7/3, MS4.0/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.99	56	Pn	Pn	12 44 31.7	+0.6
	0.3nm,0.3s,baz=247,slow=14,SNR=2.6						
CMAR				Sn	Sn	12 45 49.9	+0.5
	0.8nm,0.3s,baz=245,slow=19,SNR=4.9						
ODAN	Odare	13.16	338	*e*P	P	12 46 02.9	-2.6
	40nm,0.3s						
TAPN	Taplejung	13.50	340	*e*P	P	12 46 07.2	-2.1
	28nm,0.4s						
RAMN	Ramite	13.54	336	*e*P	P	12 46 08.1	-1.6
	40nm,0.3s						
JIRN	Jiri	14.34	336	*e*P	P	12 46 18.6	-0.1
	19nm,0.3s						
PKI	Pulchoki	14.59	333	*e*P	P	12 46 21.9	+0.5
	48nm,0.4s						
PKIN	Phulchoki	14.60	333	*e*P	P	12 46 22.5	+1.0
	36nm,0.3s						
DMN	Daman	14.75	332	*e*P	P	12 46 24.0	+0.8
	20nm,0.3s						
KKN	Kakani	14.83	333	*e*P	P	12 46 25.4	+1.3
	7.6nm,0.2s						
KOLN	Koldanda	15.62	328	*e*P	P	12 46 35.7	+3.0
	16nm,0.3s						
MKAR	Makanchi Array	33.23	347	LR	LR	13 06 48.2	
	comp=Z,163nm,19.5s,baz=220,slow=44						
FITZ	Fitzroy Crossi	45.90	134	P	P	12 51 10.5	-0.1
	0.6nm,0.4s,baz=333,slow=7.2,SNR=7.9						
WRA	Warramunga Arr	53.38	129	P	P	12 52 06.9	-0.8
	0.3nm,0.5s,baz=312,slow=7.9,SNR=9.4						
ASAR	Alice Springs	55.35	133	P	P	12 52 22.4	+0.4
	0.4nm,0.5s,baz=308,slow=6.6,SNR=11						
FINES	FINESS Array B	66.16	331	LR	LR	13 28 13.1	
	comp=Z,81nm,19.4s,baz=194,slow=42						
ARCES	ARCESS Array B	68.49	340	LR	LR	13 24 43.7	
	comp=Z,105nm,20.1s,baz=276,slow=37						
INK	Inuvik	90.86	16	LR	LR	13 40 04.8	
	comp=Z,106nm,18.6s,baz=69,slow=38						

JMA 15 12:55:07.8, 39°.07N×140°.90E, h7km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.28	115	P	Pg	12 55 13.1	-0.1
JMK				S	Sg	12 55 16.9	0.0
JRG	Rokugo	0.39	328	P	Pg	12 55 15.5	+0.1
JRG				S	Sg	12 55 21.0	+0.5
JYK	Kaneyama	0.45	250	P	Pg	12 55 16.7	+0.2
JYK				S	Sg	12 55 22.7	+0.3
JOM	Ohasama	0.51	37	P	Pg	12 55 17.4	-0.2
JOM				S	Sg	12 55 24.4	+0.2
JIO	Ouri	0.71	150	P	Pg	12 55 21.0	-0.4
JIO				S	Sg	12 55 30.4	-0.2
JOU	Okura	0.73	195	P	Pg	12 55 21.8	0.0
JOU				S	Sg	12 55 31.5	+0.2
JYA	Atsumi	1.04	243	P	Pg	12 55 27.8	0.0

IDC 15 12:58:00.4±14.0, 14°.43S×165°.85E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=245.2km s-min=37.4km az=56.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.62	176	Pn	Pn	12 59 52.9	0.0
	2.4nm,0.3s,baz=118,slow=18,SNR=24						
DZM				Sn	Sn	13 01 20.1	-0.1
	2.3nm,0.3s,baz=8.3,slow=18,SNR=7.4						
STKA	Stephens Creek	28.16	228	P	P	13 03 54.8	+0.2
	1.8nm,0.6s,baz=51,slow=9.7,SNR=6.7						
WRA	Warramunga Arr	30.57	255	P	P	13 04 14.4	-1.7
	0.5nm,1.0s,baz=84,slow=7.7,SNR=5.3						
ASAR	Alice Springs	31.50	248	P	P	13 04 25.6	+1.2
	0.4nm,0.4s,baz=76,slow=9.3,SNR=16						

*NEIC **15** 13:04:16.1±1.9, 9°.23S×76°.00W, h65km±19km, mb4.3/1, Error ellipse: s-maj=38.5km s-min=12.0km az=54.0*
NEIC Felt [II] at Huanuco and Tingo Maria.
*IDC **15** 13:04:17.7±1.7, 9°.09S×75°.92W, h130km±16km, mb3.5/8, mb1 3.7/11, mb1mx3.5/25, mbtmp3.4/11, Error ellipse: s-maj=34.4km s-min=13.6km az=52.0*

ISC 15 13:04:16.5±0.7, 9°.11S±0°.09×75°.72W±0°.08, h120km, n19, σ1§68/20, mb3.6/8, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.30	306	P	Pn	13 05 08.1	+0.9
	24nm,0.3s,baz=148,slow=13,SNR=112						
ATAH				S	Sn	13 05 43.6	-2.6
	19nm,0.3s,baz=252,slow=20,SNR=8.2						
OTAV	Otavalo	9.68	344	*e*Pn	Pn	13 06 33.7	+0.6
	6.3nm,0.8s						
OTAV				*e*Sn	Sn	13 08 21.4	+1.0
LPAZ	La Paz	10.28	135	*e*Pn	Pn	13 06 43.1	+1.8
LPAZ	La Paz	10.28	135	P	Pn	13 06 45.0	+3.7
	0.1nm,0.3s,baz=305,slow=11,SNR=4.3						
SAML	Samuel	12.38	90	*e*Pn	P	13 07 13.6	-2.2
	8.2nm,0.6s						
SAML				*e*Sn	Sn	13 09 22.7	-2.5
SIV	San Ignacio	15.84	117	P	P	13 07 55.4	+1.1
	0.3nm,0.3s,baz=305,slow=13,SNR=9.3						
SIV				S	Sn	13 10 47.3	-1.5
	0.2nm,0.3s,baz=229,slow=19,SNR=3.7						
SDV	Santo Domingo	18.58	16	*e*P	Pn	13 08 30.3	+4.0
	8.7nm,0.4s						
FDF	Fort de France	27.75	32	*e*P	P	13 10 01.2	+7.1
CELP	Cerrilos	28.48	18	*e*P	P	13 10 07.3	+6.8
TXAR	Lajitas Array	46.76	326	P	P	13 12 34.0	-0.1
	0.8nm,0.6s,baz=146,slow=9.7,SNR=7.4						
PDAR	Pinedale Array	60.16	332	P	P	13 14 11.3	-0.5
	0.6nm,0.9s,baz=150,slow=7.3,SNR=4.3						
ULM	Lac du Bonnet	61.67	345	P	P	13 14 19.9	-1.7
	3.8nm,0.6s,baz=164,slow=6.0,SNR=3.8						
NVAR	Mina Array Bea	61.73	323	P	P	13 14 22.1	-0.4
	0.6nm,0.8s,baz=128,slow=6.9,SNR=4.1						
SNAA	Sanae	76.04	162	P	P	13 15 50.6	+0.1
	0.3nm,0.8s,baz=293,slow=12						
YKA	Yellowknife Ar	77.44	343	P	P	13 15 57.5	-0.7
	0.4nm,0.5s,baz=135,slow=5.8,SNR=3.7						
TORD	Torodi Ar. Bea	79.97	75	P	P	13 16 14.2	+1.1
	1.4nm,0.9s,baz=266,slow=5.4,SNR=5.1						
QSPA	South Pole Qui	81.00	180	P	P	13 16 18.0	+0.2
	1.3nm,0.7s,baz=316,slow=3.4,SNR=9.4						
WRA	Warramunga Arr	138.66	226	PKP	PKPdf	13 23 28.7	-0.6
	0.8nm,0.7s,baz=120,slow=2.2,SNR=3.8						
KSRS	Korea Array	144.61	327	PKP	PKPab	13 23 38.1	0.0
	1.3nm,0.7s,baz=56,slow=2.8,SNR=9.8						

*ISCJB **15** 13:09:31.1±0.5, 48°.40N±0°.08×153°.8E±0°.1, h77km, mb3.9/27, Error ellipse: s-maj=16.6km s-min=3.3km az=42.3*
*KRSC **15** 13:09:32.5±2.3, 48°.03N×155°.90E, h5km±5km, ML4.7*
*MOS **15** 13:09:33.3±1.5, 48°.43N×153°.97E, h108km, mb4.0/10, Error ellipse: s-maj=17.5km s-min=7.1km az=64.3*
*IDC **15** 13:09:36.7±2.4, 48°.47N×153°.75E, h118km±21km, mb3.5/16, mb1 3.7/18, mb1mx3.6/29, mbtmp3.5/18, MS3.3/2, Ms1 3.3/2, ms1mx2.6/40, Error ellipse: s-maj=20.2km s-min=12.5km az=141.0*

ISC 15 13:09:31.7±0.7, 48°.3N±0°.1×154°.0E±0°.1, h77km, n81, σ1§50/77, mb4.0/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.72	29	*e*PN	Pn	13 10 13.5	+0.4
SKR				*e*S	Sn	13 10 44.5	-0.4
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax	smax		
	comp=N,590nm,0.2s						
SKR				smax	smax		
	comp=E,410nm,0.2s						
PAU	Pauzhetka	3.62	29	PN	Pn	13 10 28.4	+3.1
PAU				S	Sn	13 11 09.2	+2.5
PAU	Pauzhetka	3.62	29	*e*P	Pn	13 10 28.4	+3.1
PAU				*i* S	Sn	13 11 09.2	+2.5
MIPR	Malaya Ipel'ka	4.32	23	*e*P	Pn	13 10 39.0	+4.2
ASAK	Asacha	4.75	30	*e*P	Pn	13 10 45.1	+4.3
MTVR	Mutnovka	4.93	31	*e*P	Pn	13 10 46.1	+2.8
MTVR				*i* S	Sn	13 11 39.8	+0.8
RUS	Russkaya	5.01	33	PN	Pn	13 10 45.9	+1.7
RUS				S	Sn	13 11 39.9	-0.8
RUS	Russkaya	5.01	33	*e*P	Pn	13 10 45.9	+1.7
RUS				*i* S	Sn	13 11 39.9	-0.8
APC	Apacha	5.01	22	*e*P	Pn	13 10 48.4	+4.2
PETK

comp=Z,0.5nm,0.7s,baz=66,slow=4.1,SNR=5.1
YKA Yellowknife Ar 49.29 38 P **P 13 18 13.5 +1.3**
comp=Z,1.6nm,0.5s,baz=295,slow=6.9,SNR=5.0
BVAR Borovoye Array 50.35 309 P **P 13 18 18.6 -1.8**
BVAR 13 19 37.4
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 50.35 309 P **P 13 18 18.6 -1.8**
comp=Z,0.9nm,0.4s,baz=55,slow=7.9,SNR=7.1
BVAR PcP **PcP 13 19 37.4 -0.5**
comp=Z,1.0nm,0.5s,baz=65,slow=1.9,SNR=6.0
CMAR Chiang Mai Arr 53.36 256 P **P 13 18 42.9 -0.3**
comp=Z,1.1nm,0.6s,baz=36,slow=8.6,SNR=6.9
FINES FINESS Array B 62.88 335 P **P 13 19 48.0 -1.0**
comp=Z,1.8nm,0.4s,baz=35,slow=7.9,SNR=28
NB2 NORSAR Subarra 66.93 341 P **P 13 20 14.6 -0.8**
comp=Z,0.7nm,0.6s,baz=24,slow=6.5
NOA NORSAR Array B 66.93 341 P **P 13 20 14.6 -0.8**
comp=Z,1.2nm,0.7s,baz=25,slow=6.5,SNR=3.8
WRA Warramunga Arr 70.21 200 P **P 13 20 36.0 -0.2**
comp=Z,0.5nm,0.7s,baz=17,slow=6.4,SNR=5.3
AKASG Malin Array Be 70.58 326 P **P 13 20 36.4 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 70.58 326 P **P 13 20 36.4 -1.7**
comp=Z,1.0nm,0.5s,baz=31,slow=6.1,SNR=1.9
FITZ Fitzroy Crossi 70.83 209 LR LR 13 49 15.8
comp=Z,124nm,20.6s,baz=105,slow=34
ASAR Alice Springs 73.91 199 P **P 13 20 59.4 +1.2**
comp=Z,0.6nm,0.9s,baz=12,slow=5.1,SNR=4.3
TXAR Lajitas Array 76.18 61 P **P 13 21 12.7 +1.1**
comp=Z,0.3nm,0.4s,baz=303,slow=5.0,SNR=2.6
GERES GERESS Array B 77.30 334 P **P 13 21 17.2 -0.4**
comp=Z,0.9nm,0.6s,baz=37,slow=5.3,SNR=10
BRTR Keskin Array B 77.66 317 P **P 13 21 19.1 -0.8**
comp=Z,0.7nm,0.6s,baz=34,slow=2.4,SNR=4.4
CDF Champ du Feu 79.42 338 *eP* **P 13 21 29.1 -0.2**
PAGF Fort de Pagny 79.67 339 *eP* **P 13 21 30.7 +0.2**
comp=Z,2.0nm,0.6s
HINF Hinteralfeld 80.08 338 *eP* **P 13 21 33.2 +0.4**
LOR Lormes 81.31 340 *eP* **P 13 21 39.0 -0.3**
CABF La Chapelle 81.40 338 *eP* **P 13 21 40.8 +0.9**
comp=Z,14nm,1.1s
SGMF Saint Gilles 81.68 344 *eP* **P 13 21 41.2 0.0**
ROSF Rostrenen 81.72 345 *eP* **P 13 21 41.5 +0.1**
AVF Avril sur Loir 81.88 340 *eP* **P 13 21 42.1 -0.2**
comp=Z,4.5nm,0.6s
SMF Signal de Mont 81.90 340 *eP* **P 13 21 42.3 -0.1**
comp=Z,3.1nm,0.6s
BGF Bois d'Agland 82.21 340 *eP* **P 13 21 44.5 +0.5**
comp=Z,3.9nm,0.6s
LPL La Plagne 82.25 337 *eP* **P 13 21 45.1 +0.5**
comp=Z,5.2nm,0.6s
LPG La Plagne 82.27 337 *eP* **P 13 21 45.3 +0.6**
comp=Z,4.9nm,0.5s
MBDF Montbardon 82.98 337 *eP* **P 13 21 48.7 +0.4**
comp=Z,3.7nm,0.7s
ORIF Oris-en-Rattie 83.03 338 *eP* **P 13 21 49.0 +0.6**
VIVF Saint-Julien-l 83.39 339 *eP* **P 13 21 50.5 +0.3**
SBF Sospel 83.61 336 *eP* **P 13 21 51.7 +0.3**
comp=Z,16nm,0.8s
CAF Calviac 83.93 340 *eP* **P 13 21 53.4 +0.4**
LMR La Mourre 84.35 337 *eP* **P 13 21 54.9 -0.2**
comp=Z,15nm,0.8s

*IDC **15** 13:14:23.7±1.9,20°.39S×177°.80W,h514km±20km, mb3.5/14,mb1 3.7/16,mb1mx3.5/24,mbtmp3.5/16,Error ellipse: s-maj=21.5km s-min=12.1km az=142.0*
*ISCJB **15** 13:14:24.5±0.8,20°.3S±0°.2×177°.9W±0°.1,h534km, mb3.8/14,Error ellipse: s-maj=23.8km s-min=8.3km az=147.3*
*AUST **15** 13:15:11.1,22°.85S×176°.51E,h600km*
ISC 15 13:14:25.3±0.8,20°.3S±0°.2×177°.9W±0°.1,h534km,n43, σ1°23/45,mb3.9/14,6C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.57**	**82**	P	S	13 18 02.5	+12
	baz=13,SNR=4.0						
AFI	**Afiamalu**	**8.59**	**44**	P	**P**	**13 16 27.7**	**-1.0**
	3.2nm,0.3s,baz=296,slow=19,SNR=5.3						
AFI				S	**S**	**13 18 06.3**	**-3.6**
	2.6nm,0.3s,baz=49,slow=19,SNR=4.6						
DZM	**Mont Dzumac**	**14.75**	**260**	P	**P**	**13 17 32.2**	**-0.4**
	0.8nm,0.3s,baz=86,slow=17,SNR=9.3						
CTA	**Charters Tower**	**33.64**	**264**	P	**P**	**13 20 22.2**	**+0.3**
	2.9nm,0.4s,baz=94,slow=11,SNR=9.9						
MTSU	**Mount Surprise**	**35.73**	**267**	P	**P**	**13 20 40.0**	**+0.5**
	baz=30,SNR=5.3						
ASAR	**Alice Springs**	**44.70**	**256**	P	**P**	**13 21 50.9**	**-0.2**
	3.6nm,0.5s,baz=95,slow=7.5,SNR=72						
ASAR				PcP	**PcP**	**13 23 21.9**	**-0.2**
	0.9nm,0.5s,baz=115,slow=3.9,SNR=7.6						
ASAR				S	**S**	**13 27 45.8**	**-3.2**
	3.1nm,1.0s,baz=94,slow=16,SNR=13						
WRA	**Warramunga Arr**	**44.76**	**262**	P	**P**	**13 21 50.9**	**-0.7**
	1.4nm,0.5s,baz=96,slow=7.6,SNR=130						
WRA				S	**S**	**13 27 46.0**	**-3.9**
	0.4nm,0.6s,baz=99,slow=12,SNR=4.5						
KDU	**Kakadu**	**48.07**	**271**	P	**P**	**13 22 16.6**	**-0.1**
	baz=43,SNR=9.6						
MTN	**Manton Dam**	**49.29**	**270**	P	**P**	**13 22 25.2**	**-0.5**
	baz=44,SNR=4.7						
KNRA	**Kununurra**	**50.80**	**266**	P	**P**	**13 22 36.7**	**-0.1**
	baz=45,SNR=6.9						
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P	**P**	**13 22 53.9**	**-0.1**
	2.3nm,0.4s,baz=78,slow=4.2,SNR=37						
FITZ	**Fitzroy Crossi**	**53.19**	**262**	P	**P**	**13 22 53.8**	**-0.1**
	baz=48,SNR=18						
QSPA	**South Pole Qui**	**69.81**	**180**	P	**P**	**13 24 41.9**	**0.0**
	1.0nm,0.9s,baz=110,slow=7.9,SNR=5.9						
MJAR	**Matsushiro Arr**	**70.09**	**324**	P	**P**	**13 24 44.4**	**+0.5**
	5.9nm,0.5s,baz=157,slow=6.1,SNR=48						
MAT	**Matsushiro**	**70.09**	**324**	P	**P**	**13 24 44.4**	**+0.5**
JNU	**Nakatsue**	**72.19**	**317**	P	**P**	**13 24 56.6**	**+0.3**
	8.3nm,0.9s,baz=153,slow=6.8,SNR=3.9						
KSM	**Kuching**	**73.50**	**278**	P	**P**	**13 25 05.4**	**+1.2**
	baz=69,SNR=3.9						
PETK	**Petropavlovsk-**	**76.07**	**345**	P	**P**	**13 25 18.5**	**+0.8**
	4.1nm,0.7s,baz=150,slow=7.2,SNR=22						
KSRS	**Korea Array**	**76.79**	**318**	P	**P**	**13 25 23.6**	**+1.6**
	1.7nm,0.6s,baz=124,slow=5.9,SNR=13						
USRK	**Ussuriysk Arra**	**78.84**	**326**	P	**P**	**13 25 35.1**	**+2.2**
	5.1nm,0.8s,baz=128,slow=3.9,SNR=18						
NVAR	**Mina Array Bea**	**80.76**	**43**	P	**P**	**13 25 45.4**	**+1.9**
	0.1nm,0.3s,baz=227,slow=8.0,SNR=3.9						
ILAR	**Eielson Array**	**88.05**	**13**	P	**P**	**13 26 18.1**	**-0.2**
	1.1nm,0.7s,baz=216,slow=5.6,SNR=19						
PDAR	**Pinedale Array**	**88.70**	**43**	P	**P**	**13 26 23.0**	**+0.8**
	0.5nm,0.6s,baz=197,slow=3.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**90.15**	**290**	P	**P**	**13 26 30.5**	**+1.4**
	3.1nm,1.0s,baz=100,slow=3.0,SNR=14						
MKAR	**Makanchi Array**	**111.13**	**313**	PKiKP	**PKiKP**	**13 31 57.4**	**-0.8**
	0.5nm,0.5s,baz=104,slow=2.0,SNR=8.8						
ARCES	**ARCESS Array B**	**128.71**	**350**	PKP	**PKPdf**	**13 32 31.2**	**0.0**
	1.6nm,0.7s,baz=64,slow=2.1,SNR=8.2						
FINES	**FINESS Array B**	**135.58**	**344**	PKhKP	PKPpre	13 32 42.1	
	1.9nm,0.8s,baz=64,slow=3.2,SNR=6.6						
AKASG	**Malin Array Be**	**142.87**	**331**	PKhKP	PKPpre	13 32 54.7	
	4.9nm,0.4s,baz=42,slow=4.5,SNR=49						
BRTR	**Keskin Array B**	**146.77**	**313**	PKPbc	**PKPbc**	**13 33 07.3**	**-0.6**
	2.4nm,0.6s,baz=135,slow=3.1,SNR=15						
TLCR		**146.79**	**325**	⇑*i*P	**PKPbc**	**13 33 08.1**	**+0.6**
BURAR	**Bucovina Array**	**146.91**	**331**	⇑*i*P	**PKPbc**	**13 33 08.8**	**+0.8**
VRI	**Vrincioaia**	**147.44**	**327**	⇑*i*P	**PKPbc**	**13 33 09.4**	**+0.1**
OKC	**Ostrava-Krasne**	**147.85**	**340**	*i* P	**PKPbc**	**13 33 09.4**	**-0.8**
CLL	**Collm**	**147.86**	**347**	⇓*i*PKPbc	**PKPbc**	**13 33 10.6**	**+0.5**
	comp=Z,12nm,0.9s						
CLL				*e*PKPab	**PKPab**	**13 33 15.0**	**+0.5**
	comp=Z,4.0nm,0.9s						
DPC	**Dobruska-Polom**	**147.94**	**343**	*i* P	**PKPbc**	**13 33 11.2**	**+0.8**
DPC				*ex*	x	13 33 16.2	
BRG	**Berggiesshubel**	**148.06**	**346**	*i* P	**PKPbc**	**13 33 11.2**	**+0.6**
	comp=Z,5.1nm,0.6s						
BRG				*e*		13 33 16.0	
	comp=Z,3.1nm,0.7s						
MLR	**Muntele Rosu**	**148.09**	**328**	⇑*i*P	**PKPbc**	**13 33 11.2**	**+0.1**
DRGR		**148.66**	**332**	⇑*i*P	**PKPdf**	**13 33 06.3**	**-1.6**
PRU	**Pruhonice**	**148.74**	**345**	*i* P	**PKPbc**	**13 33 12.8**	**+0.4**
GZR	**Gura Zlata**	**149.69**	**331**	⇑*i*P	**PKPbc**	**13 33 14.6**	**-0.3**
KHC	**Kasperske Hory**	**149.77**	**345**	*i* P	**PKPbc**	**13 33 15.5**	**+0.6**
KHC				*ex*	x	13 33 23.8	
GERES	**GERESS Array B**	**150.00**	**345**	PKPbc	**PKPbc**	**13 33 15.4**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=29,slow=2.2,SNR=13						
BZS	**Buzias**	**150.05**	**332**	⇓*i*P	**PKPbc**	**13 33 15.6**	**0.0**

*ISCJB **15** 13:22:42.4±0.2,18°.12N±0°.02×100°.63W±0°.02,h61km±2km, mb5.3/275,Error ellipse: s-maj=3.5km s-min=2.1km az=29.7*
*NEIC **15** 13:22:43.4±0.2,18°.18N×100°.37W,mb5.4/154,MW5.3, MD5.4(MEX),Error ellipse: s-maj=4.8km s-min=3.3km az=212.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^17^Nm; M_{rr}=1.04; $M_{\theta\theta}$=1.09; $M_{\phi\phi}$=-0.05; $M_{r\theta}$=-0.52; $M_{r\phi}$=0.00; $M_{\theta\phi}$=-0.50; Best double couple: M_0=1.30000×10^17^ NP1:φs=69.00000°,δ62.00000°,λ=-112.00000°. NP2: φs=288.00000°,δ35.00000°,λ=-56.00000°. Principal axes: T 1.2200, Plg14.0000°, Azm174.0000°; N 0.1300, Plg18.0000°, Azm79.0000°; P -1.3500, Plg66.0000°, Azm298.0000°;*
NEIC Felt [III] at Cuernavaca and [II] at Huixquilucan, Mexico and Toluca. Also felt at Arcelia, Huitzuco, Ixtapa, Metepec, Patzcuaro, Petatlan, San Lucas, Tenancingo, Tlalnepantla, Tula de Allende and Villa Guerrero.
*IDC **15** 13:22:43.7±0.4, 18°.19N×100°.40W,h57km±2km, mb4.8/29, mb1 4.9/32,mb1mx4.8/34,mbtmp4.8/32,MS4.6/28, Ms1 4.6/28,ms1mx4.6/34 Error ellipse: s-maj=16.0km s-min=8.0km az=58.0*
*MEX **15** 13:22:44.0±0.7, 18°.05N×100°.67W,h57km±5km,MD5.4*
*MOS **15** 13:22:44.7±1.3, 18°.37N×100°.40W,h71km,mb5.6/57, MS4.7/28,Error ellipse: s-maj=7.7km s-min=4.0km az=93.9*
*SZGRF **15** 13:22:45.3, 17°.33N×100°.73W,h81km,mb5.2,Guerrero, Mexico*
*BJI **15** 13:22:46.1, 17°.54N×101°.26W,h94km,mB5.2/20,mb5.2/5*
*GCMT **15** 13:22:48.0±0.2, 18°.02N×100°.53W,h69km,MW5.5, Moment Tensor Solution. s100,c177; s83,c143; Moment tensor: Scale 10^17^Nm; M_{rr}=1.81±.03; $M_{\theta\theta}$=2.18±.03; $M_{\phi\phi}$=-0.37±.03; $M_{r\theta}$=-0.19±.03; $M_{\theta\phi}$=0.34±.03; $M_{r\phi}$=-0.40±.03; Best double couple: M_0=2.10000×10^17^ NP1:φs=69.00000°,δ50.00000°,λ=-108.00000°. NP2: φs=276.00000°,δ43.00000°,λ=-70.00000°. Principal axes: T 2.2400, Plg3.0000°, Azm172.0000°; N -0.3200, Plg14.0000°, Azm81.0000°; P -1.9200, Plg76.0000°, Azm276.0000°; Data Used: II IU CN IC G.*
ISC 15 13:22:43.2±0.2,18°.10N±0°.02×100°.62W±0°.03,h61km±1km, h61km:pP-P,n1211,σ1°32/1276,mb5.3/279,235C-248D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.31**	**55**	*e*P	**Pn**	**13 22 52.7**	**-0.9**
ARIG				*i* S	**Sn**	**13 23 00.5**	**-0.6**
ZIIG	**Zihuatanejo**	**0.95**	**239**	*e*P	**Pn**	**13 22 58.6**	**-1.9**
ZIIG				*i* S	**Sn**	**13 23 11.3**	**-2.2**
MEIG	**Mezcala**	**0.96**	**100**	*e*P	**Pn**	**13 23 00.5**	**-0.4**
MEIG				*i* S	**Sn**	**13 23 13.6**	**-0.4**
PLIG	**Platanillo**	**1.10**	**74**	*e*P	**Pn**	**13 23 02.6**	**-0.1**
PLIG				*e*S	**Sn**	**13 23 18.1**	**+1.0**
CAIG	**El Cayaco**	**1.10**	**162**	*e*P	**Pn**	**13 23 00.8**	**-1.8**
CAIG				*i* S	**Sn**	**13 23 15.0**	**-2.0**
ACP2	**Acapulco**	**1.40**	**150**	*e*P	**Pn**	**13 23 06.3**	**-0.3**
ACP2				*i* S	**Sn**	**13 23 22.4**	**-1.8**
ACX	**Acapulco**	**1.42**	**149**	*e*P	**Pn**	**13 23 09.2**	**+2.3**
TOVM	**TOLUCA**	**1.48**	**37**	*e*P	**Pn**	**13 23 08.2**	**+0.4**
YAIG	**Yautepec**	**1.65**	**62**	*e*P	**Pn**	**13 23 10.0**	**-0.1**
YAIG				*i* S	**Sn**	**13 23 31.6**	**+1.2**
MZVM		**1.70**	**50**	*e*P	**Pn**	**13 23 11.6**	**+1.0**
ATVM	**ATLACOMULCO**	**1.81**	**24**	*e*P	**Pn**	**13 23 12.6**	**+0.2**
UNM	**Universidad Na**	**1.83**	**48**	*e*P	**Pn**	**13 23 13.3**	**+0.7**
UNM				*e*S	**Sn**	**13 23 36.0**	**+1.1**
AZVM	**Cuida Lopez Ma**	**1.94**	**40**	*e*P	**Pn**	**13 23 14.8**	**+0.6**
PBVM	**Pinon**	**1.97**	**47**	*e*P	**Pn**	**13 23 14.8**	**+0.6**
VCVM	**Valle de Chalc**	**1.98**	**53**	*e*P	**Pn**	**13 23 15.3**	**+0.7**
HMTT	**Tlapaneco**	**1.98**	**98**	*e*P	**Pn**	**13 23 15.7**	**+1.2**
HMTT				*i* S	**Sn**	**13 23 37.5**	**-0.8**
AMVM	**AMECAMECA**	**2.02**	**59**	*e*P	**Pn**	**13 23 15.9**	**+0.8**
PTVM	**Pico Tres Padr**	**2.06**	**44**	*e*P	**Pn**	**13 23 15.8**	**+0.1**
PTVM				*i* S	**Sn**	**13 23 41.2**	**+0.7**
PPM	**Popocatepetl**	**2.12**	**63**	*e*P	**Pn**	**13 23 17.3**	**+0.6**
PPM				*e*P		13 23 20.8	
PPM				*i* S	**Sn**	**13 23 44.0**	**+1.7**
ZUVM	**ZUMPANGO**	**2.25**	**40**	*e*P	**Pn**	**13 23 18.7**	**+0.3**
IIO	**Organos**	**2.33**	**50**	*e*P	**Pn**	**13 23 19.8**	**+0.4**
VTVM	**Tizayuca**	**2.41**	**46**	*e*P	**Pn**	**13 23 20.7**	**+0.2**
PHPU	**Puebla**	**2.50**	**68**	*e*P	**Pn**	**13 23 22.6**	**+0.8**
MMIG	**Aquila**	**2.60**	**275**	*e*P	**Pn**	**13 23 22.0**	**-0.8**
MMIG				*i* S	**Sn**	**13 23 51.0**	**-2.3**
DEIG	**Demacu**	**2.65**	**34**	*e*P	**Pn**	**13 23 23.6**	**-0.2**
DEIG				*i* S	**Sn**	**13 23 55.6**	**+0.7**
UTMO	**Huajuapan**	**2.69**	**95**	*e*P	**Pn**	**13 23 25.3**	**+1.0**
UTMO				*e*S	**Sn**	**13 23 56.2**	**+0.4**
PNIG	**Pinotepa**	**2.92**	**125**	*e*P	**Pn**	**13 23 27.3**	**0.0**
PNIG				*i* S	**Sn**	**13 24 00.5**	**-0.7**
TPIG	**Tehuac#an**	**3.11**	**84**	*e*P	**Pn**	**13 23 30.8**	**+0.8**
TPIG				*i* S	**Sn**	**13 24 06.4**	**+0.4**
VHO	**Vista Hermosa**	**3.84**	**105**	*e*P	**Pn**	**13 23 41.8**	**+1.8**
VHO				*i* S	**Sn**	**13 24 24.1**	**+0.1**
OXX	**Oaxaca**	**3.85**	**105**	*e*P	Pn	13 23 46.5	+6.4
LVIG	**Laguna Verde**	**4.29**	**67**	*e*P	**Pn**	**13 23 46.1**	**+0.1**
LVIG				*i* S	**Sn**	**13 24 34.7**	**0.0**
CJM	**Chamela**	**4.42**	**289**	*e*P	**Pn**	**13 23 48.0**	**+0.3**
CJM				*i* S	**Sn**	**13 24 37.0**	**-0.9**
ANIG	**Ahuacatlan**	**4.71**	**309**	*i* P	**Pn**	**13 23 51.4**	**-0.4**
ANIG				*i* S	**Sn**	**13 24 44.0**	**-1.2**
HUIG	**Huatulco**	**4.90**	**118**	*e*P	**Pn**	**13 23 55.7**	**+1.4**
HUIG				*i* S	**Sn**	**13 24 50.7**	**+1.0**
ZAIG	**Zacatecas**	**4.99**	**339**	*e*P	**Pn**	**13 23 55.7**	**-0.1**
ZAIG				*i* S	**Sn**	**13 24 52.8**	**+0.3**
CMIG	**Matias Romero**	**5.56**	**100**	*e*P	**Pn**	**13 24 04.2**	**+0.9**
CMIG				*i* S	**Sn**	**13 25 06.4**	**+0.5**
TGIG		**7.27**	**99**	*e*P	**Pn**	**13 24 28.9**	**+2.0**
TGIG				*i* S	**Sn**	**13 25 50.9**	**+2.8**
MAIG	**Mazatlaan**	**7.43**	**314**	*e*P	**Pn**	**13 24 30.5**	**+1.6**
PCIG		**7.47**	**107**	*e*P	**Pn**	**13 24 31.7**	**+2.2**
PCIG				*i* S	**Sn**	**13 25 54.4**	**+1.5**
CCIG	**Comitan**	**8.30**	**101**	*e*P	**Pn**	**13 24 42.5**	**+1.4**
CCIG				*i* S	**Sn**	**13 26 14.5**	**+0.9**
THIG		**8.62**	**110**	*e*P	**Pn**	**13 24 48.0**	**+2.8**
THIG				*i* S	**Sn**	**13 26 23.1**	**+2.2**
KVTX	**Kingsville**	**9.73**	**14**	*e*Pn	**Pn**	**13 25 02.9**	**+2.5**
HPIG		**9.95**	**333**	*e*P	**Pn**	**13 25 06.1**	**+2.4**
732A	**Laxson Ranch,**	**10.60**	**3**	⇑P	**Pn**	**13 25 14.3**	**+2.0**
	baz=11,SNR=37						
LPIG	**La Paz**	**10.84**	**305**	*i* P	Pn	13 25 19.2	+3.6
LPIG	**La Paz**	**10.84**	**305**	P	Pn	13 25 19.1	+3.6
LPIG	**La Paz**	**10.84**	**305**	P	Pn	13 25 19.2	+3.6
	3.8nm,0.3s,baz=289,slow=4.9,SNR=9.0						
LPIG				LR	LR	13 29 13.0	
	comp=Z,5μm,20.9s,baz=132,slow=36						
RBDL	**Robledal**	**11.22**	**109**	*e*P	Pn	13 25 25.1	+4.0
631A	**Perdido Creek**	**11.26**	**0**	⇑P	**Pn**	**13 25 23.4**	**+2.0**
	baz=11,SNR=94						
RTR	**El Retiro**	**11.34**	**110**	*e*P	Pn	13 25 25.9	+3.2
632A	**Uvalde**	**11.38**	**4**	⇓P	**Pn**	**13 25 24.9**	**+1.9**
	baz=11,SNR=76						
SBLS	**San Blas**	**11.39**	**110**	*e*P	Pn	13 25 26.9	+3.5
SNJE	**San Jose**	**11.39**	**110**	*e*P	Pn	13 25 27.2	+3.8
628A	**Black Gap, Mar**	**11.52**	**350**	⇓P	**Pn**	**13 25 27.8**	**+2.9**
	baz=12						
TXAR	**Lajitas Array**	**11.53**	**347**	P	**Pn**	**13 25 28.2**	**+3.1**
TXAR	**Lajitas Array**	**11.53**	**347**	P	**Pn**	**13 25 28.2**	**+3.1**
	2.4nm,0.3s,baz=165,slow=14,SNR=185						
TXAR				LR	LR	13 30 23.2	
	comp=Z,5μm,20.9s,baz=150,slow=40						
627A	**Terlingua Ranc**	**11.58**	**348**	⇑P	**Pn**	**13 25 28.4**	**+2.6**
	baz=12,SNR=135						
BOQS	**Boqueron**	**11.73**	**110**	*e*P	**Pn**	**13 25 31.2**	**+3.1**
626A	**Big Bend Ranch**	**11.85**	**345**	⇑P	**Pn**	**13 25 32.2**	**+2.8**
	baz=12,SNR=180						
TEIG	**Tepich**	**11.85**	**78**	*e*Pn	**Pn**	**13 25 27.8**	**-1.6**
TEIG				*e*Sn	**Sn**	**13 27 35.4**	**-4.7**
TEIG	**Tepich**	**11.85**	**78**	P	**Pn**	**13 25 28.5**	**-0.9**
	2.8nm,0.3s,baz=266,slow=14,SNR=10						
TEIG				LR	LR	13 31 07.3	
	comp=Z,1μm,18.1s,baz=288,slow=43						
LFU	**La Fuente**	**11.88**	**110**	*e*P	Pn	13 25 33.1	+3.2
LFRS	**El Faro**	**11.97**	**110**	*e*P	Pn	13 25 34.9	+3.6
532A	**Rocksprings**	**11.99**	**3**	⇑P	**Pn**	**13 25 32.9**	**+1.5**
	baz=12,SNR=164						
531A	**Rocksprings**	**12.01**	**0**	⇓P	**Pn**	**13 25 33.6**	**+1.9**
	baz=12,SNR=185						
530A	**J-C Ranch, Com**	**12.01**	**357**	⇓P	**Pn**	**13 25 34.5**	**+2.8**
	baz=12,SNR=247						
529A	**Stev Forest Ra**	**12.06**	**353**	⇓P	**Pn**	**13 25 34.9**	**+2.6**
	baz=12,SNR=98						
528A	**Cox Ranch, San**	**12.17**	**351**	⇓P	**Pn**	**13 25 36.4**	**+2.5**
	baz=12,SNR=130						
527A	**Woodward Ranch**	**12.30**	**348**	⇓P	**Pn**	**13 25 38.3**	**+2.6**
	baz=12,SNR=127						
526A	**Mary Lane Ranc**	**12.32**	**346**	⇑P	**Pn**	**13 25 38.7**	**+2.7**
	baz=12						
JCT	**Junction City**	**12.35**	**3**	*e*P	**Pn**	**13 25 37.6**	**+1.4**
JCT	**Junction City**	**12.35**	**3**	*e*Pn	**Pn**	**13 25 37.6**	**+1.4**
JCT	**Junction City**	**12.35**	**3**	⇑P	**Pn**	**13 25 37.6**	**+1.4**
	baz=12,SNR=78						
429A	**Davenport Ranc**	**12.52**	**355**	⇑P	**Pn**	**13 25 41.7**	**+3.0**
	baz=12,SNR=396						
431A	**Sonora**	**12.53**	**0**	⇑P	**Pn**	**13 25 40.6**	**+2.0**
	baz=12,SNR=83						
HKT	**Hockley**	**12.58**	**19**	*e*P	**Pn**	**13 25 38.0**	**-1.2**
HKT	**Hockley**	**12.58**	**19**	*e*Pn	**Pn**	**13 25 38.0**	**-1.2**
430A	**Baggett Ranch,**	**12.64**	**358**	⇓P	**Pn**	**13 25 43.4**	**+3.1**
	baz=13,SNR=519						
428A	**Kincaid Ranch,**	**12.71**	**352**	⇑P	**Pn**	**13 25 44.1**	**+2.9**
	baz=13,SNR=168						
432A	**Menard**	**12.74**	**3**	⇑P	**Pn**	**13 25 42.5**	**+0.9**
	baz=13,SNR=107						
426A	**McDonald Obser**	**12.89**	**347**	⇑P	**Pn**	**13 25 46.4**	**+2.6**
	baz=13,SNR=125						
427A	**Hayter Ranch,**	**12.94**	**349**	⇑P	**Pn**	**13 25 47.3**	**+2.9**
	baz=13,SNR=35						
331A	**San Angelo**	**13.15**	**1**	⇑P	**Pn**	**13 25 48.8**	**+1.6**
	baz=13,SNR=35						
CNCH	**Conchagua**	**13.21**	**109**	*e*P	Pn	13 25 51.5	+3.4
425A	**Indio Mountain**	**13.24**	**343**	⇑P	**Pn**	**13 25 50.7**	**+2.2**
	baz=13,SNR=85						
332A	**Millersview**	**13.25**	**3**	⇑P	**Pn**	**13 25 49.2**	**+0.8**
	baz=13,SNR=59						
330A	**Mertzon**	**13.26**	**358**	⇑P	**Pn**	**13 25 50.7**	**+2.1**
	baz=13,SNR=97						
328A	**Wristen Ranch,**	**13.37**	**352**	⇑P	**Pn**	**13 25 52.4**	**+2.2**
	baz=13,SNR=85						
329A	**Wagon Wheel Ra**	**13.39**	**355**	⇓P	**Pn**	**13 25 52.3**	**+2.0**
	baz=13,SNR=50						
327A	**Balmorhea Ranc**	**13.47**	**349**	⇓P	**Pn**	**13 25 53.4**	**+2.0**
	baz=14						
326A	**Caldwell Ranch**	**13.51**	**348**	⇑P	**Pn**	**13 25 54.4**	**+2.4**
	baz=14,SNR=42						
230A	**Sterling City**	**13.74**	**358**	⇓P	**Pn**	**13 25 56.4**	**+1.3**
	baz=14,SNR=54						
232A	**Coleman**	**13.76**	**3**	⇑P	**Pn**	**13 25 55.6**	**+0.3**
	baz=14,SNR=105						
231A	**Bronte**	**13.78**	**1**	⇑P	**Pn**	**13 25 56.4**	**+0.7**
	baz=14,SNR=127						
325A	**Bean Ranch, Si**	**13.79**	**344**	⇓P	**Pn**	**13 25 57.7**	**+1.8**
	baz=14,SNR=138						
229A	**Bryant Ranch,**	**13.85**	**356**	⇑P	**Pn**	**13 25 57.9**	**+1.3**
	baz=14,SNR=42						
CGIG		**13.93**	**333**	*e*P	**Pn**	**13 25 60.0**	**+2.2**
CGIG				*i* S	**Sn**	**13 28 27.5**	**-3.3**
324A	**Moseley Ranch,**	**14.00**	**343**	⇓P	**Pn**	**13 26 00.3**	**+1.7**
	baz=14,SNR=33						
227A	**Bennet, Jal**	**14.06**	**351**	⇑P	**Pn**	**13 26 01.2**	**+1.7**
	baz=14,SNR=25						
228A	**UT Block 9, Go**	**14.07**	**353**	⇑P	**Pn**	**13 26 01.1**	**+1.6**
	baz=14,SNR=42						
SRIG	**Santa Rosalia**	**14.11**	**313**	*i* P	**Pn**	**13 25 58.3**	**-1.7**
WHTX	**Lake Whitney**	**14.12**	**11**	*e*Pn	**Pn**	**13 25 59.6**	**-0.6**
WHTX	**Lake Whitney**	**14.12**	**11**	⇑P	**Pn**	**13 25 59.6**	**-0.6**
	baz=14,SNR=29						
MNTX	**Cornudas Mount**	**14.21**	**343**	*e*Pn	**Pn**	**13 26 02.7**	**+1.4**
	165nm,1.1s						
226B	**Tecolote Peak,**	**14.28**	**348**	⇓P	**Pn**	**13 26 04.5**	**+2.1**
	baz=14,SNR=142						
130A	**Snyder**	**14.44**	**359**	⇑P	**Pn**

Z20A	Nine Sixteen R	16.58	336	⇓P		P	13 26 34.0 +0.6
	baz=17,SNR=158						
X27A	F and S Farms,	16.63	353	⇓P		Pn	13 26 32.2 -0.2
	baz=17,SNR=32						
X26A	CR and CF Fran	16.63	351	⇓P		Pn	13 26 33.0 +0.6
	baz=17,SNR=290						
WMOK	Wichita Mounta	16.65	5	eP		Pn	13 26 31.2 -1.4
WMOK					pmax	pmax	
	comp=Z,370nm,1.3s						
WMOK	Wichita Mounta	16.65	5	ePn		Pn	13 26 31.2 -1.4
	comp=Z,370nm,1.3s						
AMTX	Amarillo	16.74	357	ePn		Pn	13 26 33.3 -0.5
	comp=Z,633nm,1.0s						
VBMS	Vicksburg	16.75	31	ePn		Pn	13 26 33.3 -0.5
	comp=Z,931nm,1.3s						
X25A	Clemmons Ranch	16.75	348	⇓P		Pn	13 26 34.7 +0.7
	baz=17,SNR=9.4						
Y22A	Socorro	16.77	341	⇓P		P	13 26 35.7 +0.3
	baz=17,SNR=168						
TUC	Tucson	16.86	329	eP		P	13 26 37.4 +0.9
TUC					pmax	pmax	
	comp=Z,570nm,1.1s						
TUC	Tucson	16.86	329	ePn		P	13 26 37.4 +0.9
	comp=Z,570nm,1.1s						
BNM	Barren Site	16.86	343	ePn		P	13 26 37.3 +0.6
	comp=Z,583nm,0.9s						
Y22D	IRIS PASSCAL I	16.88	342	⇓P		P	13 26 38.0 +1.3
	baz=17,SNR=12						
X24A	Lazy VL Ranch,	16.95	346	⇓P		P	13 26 38.3 +0.7
	baz=17,SNR=10						
W29A	Amraillo	16.98	357	⇑P		Pn	13 26 36.4 -0.3
	baz=17,SNR=65						
LENM	Lemitar	16.98	342	ePn		P	13 26 39.8 +2.0
W30A	Crocket Farms	17.01	0	⇑P		Pn	13 26 37.6 +0.5
	baz=17,SNR=11						
LPM	Los Pinos Moun	17.02	343	eP		P	13 26 39.8 +1.5
W31A	Holland Ranch,	17.03	2	⇓P		Pn	13 26 36.2 -1.0
	baz=17,SNR=45						
W27A	Bowe Ranch, En	17.04	353	⇓P		Pn	13 26 37.0 -0.4
	baz=17,SNR=127						
JTS	JuntasAbangare	17.05	115	P		P	13 26 40.5 +2.0
JTS	JuntasAbangare	17.05	115	P		P	13 26 40.5 +2.0
	comp=Z,8.1nm,0.3s,baz=311,slow=11,SNR=28						
JTS					LR	LR	13 32 53.5
	comp=Z,2μm,21.3s,baz=313,slow=36						
Y21A	Point of Rocks	17.06	340	⇓P		P	13 26 40.5 +1.8
	baz=17,SNR=91						
W28A	Vega	17.15	356	⇓P		Pn	13 26 38.6 -0.2
	baz=17,SNR=16						
X23A	Hourglass Bar	17.15	344	⇓P		P	13 26 41.0 +1.3
	baz=17,SNR=39						
W26A	Owens Ranch, T	17.15	351	⇓P		Pn	13 26 39.1 +0.3
	baz=17,SNR=94						
Y20A	Horse Springs,	17.21	338	⇑P		P	13 26 42.0 +1.6
	baz=17,SNR=252						
LAZ	Ladron	17.25	342	ePn		P	13 26 43.1 +2.3
	comp=Z,163nm,1.1s						
X22A	Bernardo	17.31	342	⇑P		P	13 26 44.0 +2.5
	baz=17,SNR=95						
W25A	X Bar L Ranch,	17.39	349	⇓P		Pn	13 26 42.0 +0.2
	baz=17,SNR=265						
X21A	Alamocita Cree	17.49	340	⇑P		P	13 26 45.6 +2.1
	baz=18,SNR=409						
MIAR	Mount Ida	17.54	20	eP		Pn	13 26 42.0 -1.5
MIAR					pmax	pmax	
	comp=Z,942nm,1.5s						
MIAR	Mount Ida	17.54	20	ePn		Pn	13 26 42.0 -1.5
	comp=Z,942nm,1.5s						
ANMO	Albuquerque	17.57	344	ePn		P	13 26 46.2 +1.8
	comp=Z,240nm,1.0s						
ANMO	Albuquerque	17.57	344	P		P	13 26 46.1 +1.8
	comp=Z,1.7nm,0.3s,baz=150,slow=12,SNR=198						
ANMO					LR	LR	13 34 10.8
	comp=Z,5μm,19.4s,baz=157,slow=39						
W24A	Lazy 6 Ranch,	17.57	347	⇓P		P	13 26 44.9 +0.5
	baz=18,SNR=310						
V30A	Spur Ranch, Mi	17.59	360	⇑P		Pn	13 26 43.8 -0.5
	baz=18,SNR=27						
V31A	Spring Creek L	17.62	2	⇑P		Pn	13 26 44.2 -0.3
	baz=18,SNR=103						
V28A	Channing	17.64	356	⇑P		Pn	13 26 44.3 -0.5
	baz=18						
214A	Organ Pipe Nat	17.66	324	⇓P		P	13 26 47.5 +2.3
	baz=18,SNR=22						
W23A	Werner Place,	17.69	345	⇓P		P	13 26 46.7 +1.0
	baz=18,SNR=100						
V27A	Dan Oppiter Fa	17.70	354	⇑P		Pn	13 26 45.4 -0.1
	baz=18,SNR=60						
V29A	Stinnett	17.72	358	⇑P		Pn	13 26 45.1 -0.7
	baz=18,SNR=20						
BRAL	Brewton	17.79	41	ePn		Pn	13 26 46.6 +0.1
	comp=Z,359nm,1.4s						
W22A	Albuquerque	17.80	343	⇓P		Pn	13 26 48.9 +2.1
	baz=18,SNR=12						
V26A	Tequesquite Ra	17.85	352	⇓P		P	13 26 47.6 +0.2
	baz=18,SNR=262						
V25A	Rancho No Teng	18.02	349	⇑P		P	13 26 49.8 +0.4
	baz=18,SNR=160						
V24A	Rampart Ranch,	18.04	348	⇓P		P	13 26 50.0 +0.4
	baz=18,SNR=158						
W21A	San Fidel	18.07	341	⇑P		Pn	13 26 52.0 +1.8
	baz=18						
UALR	University of	18.17	22	ePn		P	13 26 49.0 -1.7
	comp=Z,546nm,1.4s						
U31A	Nine Bar Ranch	18.21	2	⇓P		P	13 26 51.0 -0.3
	baz=18,SNR=16						
TUL1	Tulsa	18.25	13	eP		P	13 26 51.1 -0.6
TUL1	Tulsa	18.25	13	⇑P		P	13 26 51.0 -0.6
	baz=18,SNR=140						
V23A	Ortiz Mt. (NFS	18.26	345	⇑P		Pn	13 26 53.6 +1.2
	baz=18,SNR=215						
U28A	Mallet	18.27	356	⇓P		P	13 26 51.7 -0.2
	baz=18,SNR=30						
U29A	Oasis Ranch, S	18.29	358	⇑P		P	13 26 52.2 0.0
	baz=18						
W20A	Ramah	18.35	339	⇑P		Pn	13 26 54.9 +1.3
	baz=18,SNR=64						
U27A	Thompson Grove	18.36	354	⇓P		Pn	13 26 53.8 +0.3
	baz=18,SNR=24						
U30A	WK&E Inc. Balk	18.36	360	⇓P		P	13 26 53.1 +0.2
	baz=18,SNR=31						
X18A	Snowflake	18.36	335	⇓P		Pn	13 26 55.5 +1.8
	baz=18,SNR=114						
U26A	Atchley Ranch,	18.43	352	⇓P		Pn	13 26 54.7 +0.1
	baz=18,SNR=240						
U25A	Circle Dot Ran	18.54	350	⇑P		Pn	13 26 56.2 +0.4
	baz=19,SNR=143						
V22A	San Miguel Ran	18.60	344	⇑P		Pn	13 26 57.3 +0.7
	baz=19,SNR=210						
U24A	Moreno Valley	18.70	348	⇑P		Pn	13 26 58.6 +0.8
	baz=19,SNR=12						
V21A	Milan	18.70	342	⇑P		Pn	13 26 59.0 +1.1
	baz=19,SNR=45						
W18A	Petrified Fore	18.79	336	eP		Pn	13 26 59.9 +1.0
W18A	Petrified Fore	18.79	336	⇓P		Pn	13 26 59.8 +0.9
	baz=19,SNR=61						
113A	Mohawk Valley,	18.80	323	⇑P		Pn	13 27 00.6 +1.8
	baz=19,SNR=100						
Z14A	Wintersburg	18.80	326	⇓P		Pn	13 27 00.3 +1.5
	baz=19,SNR=50						
U23A	El Rito	18.82	346	⇑P		Pn	13 26 59.6 +0.4
	baz=19,SNR=441						
T30A	Plains	18.88	0	⇓P		Pn	13 26 59.7 -0.1
	baz=19,SNR=22						
X16A	Lo Mia Camp, P	18.91	331	⇓P		Pn	13 27 01.2 +1.0
	baz=19,SNR=303						
T31A	Randall Ranch,	18.94	2	⇓P		P	13 26 59.4 +0.1
	baz=19,SNR=70						
V20A	Brimhall	18.95	340	⇑P		Pn	13 27 01.5 +0.7
	baz=19,SNR=119						
T27A	Campo	18.98	355	⇑P		P	13 27 00.2 +0.4
	baz=19,SNR=6.0						
T29A	Hugoton	18.99	358	⇑P		P	13 27 00.2 +0.3
	baz=19,SNR=16						
T28A	Walsh	19.00	356	⇓P		P	13 26 59.8 -0.1
	baz=19,SNR=68						
U22A	Llaves	19.02	344	⇑P		Pn	13 27 02.3 +0.6
	baz=19,SNR=118						
OXF	Oxford	19.16	29	eP		P	13 27 00.1 -1.5
OXF					pmax	pmax	
	comp=Z,281nm,1.1s						
OXF	Oxford	19.16	29	eP		P	13 27 00.1 -1.5
	comp=Z,281nm,1.1s						
T26A	Comanche Natio	19.18	353	⇑P		P	13 27 02.9 +0.8
	baz=19,SNR=122						
LRAL	Lakeview Retre	19.26	37	eP		P	13 27 01.4 -1.3
	comp=Z,219nm,1.5s						
T25A	Trinidad	19.26	351	⇓P		P	13 27 03.7 +0.7
	baz=19,SNR=142						
Y14A	Wickenburg	19.28	327	⇑P		Pn	13 27 05.2 +0.7
	baz=19,SNR=101						
U21A	Nageezi	19.29	343	⇑P		Pn	13 27 05.1 +0.3
	baz=19,SNR=146						
S28A	Manter	19.45	357	⇑P		P	13 27 04.8 -0.1
	baz=20,SNR=68						
S29A	Ulysses	19.45	359	⇑P		P	13 27 04.7 -0.2
	baz=19,SNR=87						
T23A	Casias Ranch,	19.46	347	⇓P		Pn	13 27 06.9 +0.1
	baz=20,SNR=153						
S30A	Montezuma	19.47	0	⇓P		P	13 27 05.1 0.0
	baz=20,SNR=107						
S31A	Mullinville	19.47	3	⇓P		P	13 27 04.7 -0.4
	baz=20,SNR=40						
U20A	Newcomb	19.50	341	⇑P		Pn	13 27 07.3 0.0
	baz=20,SNR=373						
HBAR	Harrisburg	19.50	25	eP		P	13 27 03.8 -1.5
S26A	Kim	19.61	353	⇑P		P	13 27 07.2 +0.5
	baz=20,SNR=88						
GLA	Glamis	19.61	322	⇑P		Pn	13 27 08.7 +0.1
	baz=20,SNR=33						
S27A	Las Animas	19.61	355	⇓P		P	13 27 06.3 -0.4
	baz=20						
T22A	Edith	19.64	345	⇑P		Pn	13 27 08.5 -0.5
	baz=20,SNR=142						
S25A	Robets Cordova	19.77	351	⇓P		P	13 27 09.3 +0.8
	baz=20,SNR=149						
T21A	Navajo Lake	19.78	343	⇑P		Pn	13 27 10.2 -0.4
	baz=20,SNR=48						
WUAZ	Wupatki	19.80	333	eP		Pn	13 27 11.7 +0.8
	comp=Z,392nm,1.0s						
WUAZ	Wupatki	19.80	333	⇓P		Pn	13 27 11.8 +1.0
	baz=20,SNR=199						
S24A	Houchin Ranch,	19.88	349	⇑P		P	13 27 11.3 +1.4
	baz=20,SNR=91						
Y12C	Blythe	19.95	324	⇓P		Pn	13 27 12.4 0.0
	baz=20,SNR=98						
SDCO	Great Sand Dun	20.04	349	eP		P	13 27 12.2 +0.7
	comp=Z,194nm,1.2s						
SDCO					LR	LR	
	comp=Z,3μm,20.0s						
S23A	Nye Farm, Mont	20.10	347	⇑P		Pn	13 27 13.9 -0.5
	baz=20,SNR=76						
DVTC	Desert V Tower	20.11	319	⇑P		Pn	13 27 14.6 +0.1
	baz=20,SNR=10						
R30A	Dighton	20.11	1	⇓P		P	13 27 11.5 -0.5
	baz=20,SNR=97						
SWSC	Sam W. Stewart	20.11	320	⇓P		Pn	13 27 14.4 +0.1
	baz=20,SNR=26						
R31A	Burdett	20.14	2	⇓P		P	13 27 11.7 -0.6
	baz=20,SNR=160						
PDMCI	Parker Dam,Lak	20.15	326	⇓P		Pn	13 27 14.6 -0.2
	baz=20,SNR=86						
PLAL	Pickwick Lake	20.18	31	eP		P	13 27 11.6 -1.1
	comp=Z,265nm,0.7s						
R28A	Tribune	20.20	357	⇑P		P	13 27 12.6 -0.4
	baz=20,SNR=166						
R27A	Eads	20.20	355	⇑P		P	13 27 13.4 +0.3
	baz=20,SNR=81						
R25A	Fountain Ranch	20.23	352	⇑P		P	13 27 14.1 +0.7
	baz=20,SNR=79						
R29A	Marienthal	20.26	359	⇑P		P	13 27 13.1 -0.5
	baz=20,SNR=29						
MVCO	Mesa Verde	20.26	342	PFAKE			13 27 30.0 +14
MVCO					LR	LR	
	comp=Z,6μm,19.0s						
MVCO	Mesa Verde	20.26	342	⇑P		P	13 27 15.1 +1.2
	baz=20,SNR=126						
R26A	Arlington	20.28	354	⇓P		P	13 27 14.6 +0.7
	baz=20,SNR=124						
S22A	4UR Ranch, Cre	20.32	346	⇑P		P	13 27 15.8 +1.3
	baz=20,SNR=224						
TIGA	Tifton	20.34	46	eP		P	13 27 13.6 -1.0
TIGA	Tifton	20.34	46	⇑P		P	13 27 13.6 -1.0
	baz=20,SNR=8.3						
HALT	Halls	20.36	27	eP		P	13 27 14.8 +0.1
BC3	Big Chuckawall	20.41	322	⇓P		P	13 27 17.0 +1.6
	baz=20,SNR=76						
R24A	Sanders Place,	20.44	350	⇓P		P	13 27 16.2 +0.5
	baz=20,SNR=52						
MONP	Monument Peak	20.46	319	⇑P		Pn	13 27 18.1 -0.7
	baz=21,SNR=114						
S21A	Coal Bank Pass	20.48	344	⇓P		P	13 27 17.4 +1.1
	baz=20,SNR=140						
BAR	Barrett	20.48	318	eP		P	13 27 17.5 +1.5
	comp=Z,494nm,2.1s						
R23A	Moffat	20.53	348	⇑P		P	13 27 17.6 +0.7
	baz=21,SNR=119						
IRM	Iron Mountain	20.60	324	⇑P		Pn	13 27 19.7 -0.4
	baz=21,SNR=238						
W13A	Hualapai Mount	20.64	328	⇓P		Pn	13 27 20.2 -0.6
	baz=21,SNR=64						
GLAT	Glass	20.68	27	eP		P	13 27 19.5 +1.4
Q29A	Oakley	20.72	359	⇓P		P	13 27 18.0 -0.6
	baz=21,SNR=104						
R22A	Saguache, Gunn	20.76	346	⇑P		P	13 27 20.7 +1.4
	baz=21,SNR=205						
NEE2	Needles Airpor	20.76	326	⇓P		Pn	13 27 21.2 -0.8
	baz=21,SNR=24						
S20A	Disappointment	20.80	343	⇑P		P	13 27 21.2 +1.5
	baz=21,SNR=119						
PARMO	Parma	20.83	25	eP		P	13 27 18.1 -1.6
Q31A	Ellis	20.86	3	⇓P		P	13 27 19.7 -0.3
	baz=21,SNR=35						
109C	Camp Elliot, M	20.89	318	⇓P		P	13 27 22.5 +2.0
	baz=21,SNR=18						
Q26A	Hugo	20.90	354	⇑P		P	13 27 21.5 +0.8
	baz=21,SNR=39						
KSCO	Kaye Shedlock'	20.91	356	eP		P	13 27 21.1 +0.3
KSCO	Kaye Shedlock'	20.91	356	⇑P		P	13 27 21.0 +0.3
	baz=21,SNR=46						
Q28A	Sharon Springs	20.91	357	⇓P		P	13 27 20.5 -0.3
	baz=21,SNR=28						
U15A	North Rim	20.97	333	⇑P		Pn	13 27 23.9 -1.0
	baz=21,SNR=198						
BELC	Belle Mtn. Jos	20.97	322	⇑P		Pn	13 27 23.8 -0.9
	baz=21,SNR=80						
PFO	Pinyon Flat Ob	20.97	320	P		P	13 27 23.0 +1.5
	comp=Z,699nm,1.1s,SNR=40						
PFO	Pinyon Flat Ob	20.97	320	eP		Pn	13 27 23.7 -1.0
	comp=Z,724nm,1.8s						
PFO	Pinyon Flat Ob	20.97	320	P		Pn	13 27 23.9 -0.9
	comp=Z,46nm,0.8s,baz=118,slow=9.4,SNR=40						
PFO					LR	LR	13 35 28.4
	comp=Z,2μm,20.5s,baz=143,slow=36						
PFO	Pinyon Flat Ob	20.97	320	⇑P		Pn	13 27 23.9 -0.8
	baz=21,SNR=15						
Q25A	Bedland, Calha	20.98	352	⇑P		P	13 27 22.2 +0.6
	baz=21,SNR=21						
R21A	Cimarron	21.08	345	⇓P		P	13 27 23.9 +1.2
	baz=21,SNR=103						
R20A	Redvale	21.14	343	⇓P		P	13 27 24.8 +1.5
	baz=21,SNR=181						
PV01	Paradox Valley	21.14	342	eP		P	13 27 24.9 +1.6
	comp=Z,12μm,1.2s						
Q24A	Divide	21.16	350	⇓P		P	13 27 24.3 +0.7
	baz=21,SNR=16						
KSU1	Kansas State U	21.21	9	eP		P	13 27 22.3 -1.6
	comp=Z,269nm,0.8s						
KSU1					LR	LR	
	comp=Z,1μm,21.0s						
Q23A	Hartsel	21.22	349	⇓P		P	13 27 24.7 +0.4
	baz=21,SNR=43						
WVT	Waverly	21.22	30	eP		P	13 27 22.7 -1.2
WVT					pmax	pmax	
	comp=Z,145nm,0.5s						
WVT	Waverly	21.22	30	eP		P	13 27 22.7 -1.2
	comp=Z,145nm,0.5s						
PAYG	Puerto Ayora	21.25	150	PFAKE			13 27 40.0 +16
PAYG					LR	LR	
	comp=Z,3μm,19.0s						
LDFC	Landfair	21.26	326	eP		P	13 27 28.7 +4.2
	comp=Z,308nm,1.0s						
GMRC	Granite Mounta	21.34	324	⇑P		P	13 27 27.1 +1.7
	baz=22,SNR=61						
P30A	Selden	21.37	1	⇓P		P	13 27 25.1 -0.5
	baz=21,SNR=28						
P31A	Stockton	21.37	3	⇓P		P	13 27 24.6 -1.0
	baz=21,SNR=35						
Q22A	Crested Butte,	21.40	346	⇓P		P	13 27 26.7 +0.5
	baz=21,SNR=84						
P28A	Saint Francis	21.42	358	⇑P		P	13 27 25.7 -0.5
	baz=21,SNR=39						
MURC	Murrieta	21.42	319	⇓P		P	13 27 28.3 +2.1
	baz=22,SNR=36						
P29A	Atwood	21.43	359	⇑P		P	13 27 25.2 -1.0
	baz=21						
P27A	Ficken Ranch,	21.45	356	⇓P		P	13 27 26.8 +0.3
	baz=22,SNR=35						
PV04	Paradox Valley	21.48	342	eP		P	13 27 27.9 +1.1
P26A	Davis Ranch, A	21.52	354	⇓P		P	13 27 27.4 +0.2
	baz=22,SNR=32						
Q21A	Lamborn Mesa,	21.53	345	⇓P		P	13 27 28.6 +1.1
	baz=22,SNR=68						
P25A	Willow Gulch B	21.56	353	⇓P		P	13 27 28.2 +0.5
	baz=22,SNR=13						
GOGA	Godfrey	21.65	42	eP		P	13 27 26.4 -2.2
GOGA					pmax	pmax	
	comp=Z,103nm,1.1s						
GOGA	Godfrey	21.65	42	eP		P	13 27 26.4 -2.2
	comp=Z,103nm,1.1s						
P24A	Kohler Place,	21.66	351	⇑P		P	13 27 29.4 +0.6
	baz=22,SNR=17						
P23A	Jefferson	21.68	349	⇑P		P	13 27 30.1 +0.9
	baz=22,SNR=138						
BBRC	Big Bear Solar	21.70	321	⇑P		P	13 27 32.0 +2.6
	baz=22,SNR=6.8						
SMCO	Snowmass	21.72	347	eP		P	13 27 30.2 +0.5
	comp=Z,234nm,1.1s						
HEC	Hector,Ludlow	21.76	323	⇑P		P	13 27 31.5 +1.7
	baz=22,SNR=18						
Q20A	Ridgley Place,	21.83	344	⇑P		P	13 27 31.7 +1.0
	baz=22,SNR=44						
SCI	San Clemente I	21.89	316	⇑P		P	13 27 33.0 +1.9
	baz=22,SNR=5.6						
MTDJ	Mount Denham	21.93	86	eP		P	13 27 32.9 +1.1
	comp=Z,527nm,1.2s						
MTDJ					LR	LR	
	comp=Z,1μm,19.0s						
O29A	4D Ranch, Culb	21.95	360	⇑P		P	13 27 31.2 -0.5
	baz=22,SNR=28						
TUQ	Turquoise Moun	21.97	325	⇑P		P	13 27 33.9 +1.7
	baz=22,SNR=104						
O28A	Krutsinger Ran	21.97	358	⇑P		P	13 27 31.9 -0.2
	baz=22,SNR=13						
O30A	MW Ranch, Wils	22.01	1	⇑P		P	13 27 31.6 -0.8
	baz=22,SNR=13						
BCIP	Isla Barro Col	22.04	111	PFAKE			13 27 40.0 +7.1
BCIP					LR	LR	
	comp=Z,1μm,21.0s						
ISCO	Idaho Springs	22.05	350	eP		P	13 27 33.5 +0.3
ISCO					pmax	pmax	
	comp=Z,87nm,0.8s						
ISCO					MLR	MLR	
	comp=Z,4μm,20.0s						
ISCO	Idaho Springs	22.05	350	eP		P	13 27 33.5 +0.3
	comp=Z,88nm,0.8s						
ISCO					LR	LR	
	comp=Z,4μm,20.0s						
ISCO	Idaho Springs	22.05	350	⇑P		P	13 27 33.3 +0.2
	baz=22,SNR=135						
CIS	Catalina Islan	22.06	317	⇓P		P	13 27 34.5 +1.5
	baz=22						
O27A	Beecher Island	22.07	356	⇑P		P	13 27 33.0 -0.2
	baz=22,SNR=68						
P22A	Eagle	22.07	347	⇑P		P	13 27 34.3 +1.1
	baz=22,SNR=65						
BFSC	Mount Baldy Ra	22.13	320	⇑P		P	13 27 36.2 +2.3
	baz=22,SNR=24						
O25A	Wiggins	22.14	353	⇑P		P	13 27 34.5 +0.5
	baz=22,SNR=9.4						
P21A	Newcastle	22.16	346	⇓P		P	13 27 35.1 +0.9
	baz=22,SNR=35						
RRX	Edison Barstow	22.18	322	⇑P		P	13 27 36.1 +1.8
	baz=22,SNR=19						
FMP	Fort Macarthur	22.19	318	⇓P		P	13 27 36.0 +1.7
	baz=22						
O26A	Horse Wrangler	22.19	355	⇑P		P	13 27 34.7 +0.3
	baz=22,SNR=44						
O24A	Longmont	22.28	351	⇓P		P	13 27 35.7 +0.3
	baz=22,SNR=20						
P20A	De Beque	22.37	344	⇑P		P	13 27 36.7 +0.3
	baz=22,SNR=67						
GSC	Goldstone	22.37	323	eP		P	13 27 37.7 +1.3
GSC					pmax	pmax	
	comp=Z,149nm,1.5s						
GSC	Goldstone	22.37	323	eP		P	13 27 37.7 +1.3
	comp=Z,149nm,1.5s						
GSC	Goldstone	22.37	323	⇑P		P	13 27 37.9 +1.5
	baz=22,SNR=41						
MWC	Mount Wilson	22.37	319	eP		P	13 27 38.1 +1.6
MWC					pmax	pmax	
	comp=Z,141nm,1.4s						
MWC	Mount Wilson	22.37	319	eP		P	13 27 38.1 +1.6
	comp=Z,141nm,1.4s						
CCUT	Cedar City	22.37	333	eP		P	13 27 37.8 +1.2
	comp=Z,179nm,1.8s						
SLM	Saint Louis	22.38	22	eP		P	13 27 34.5 -1.8
SLM					pmax	pmax	
	comp=Z,230nm,1.0s						
SLM	Saint Louis	22.38	22	eP		P	13 27 34.5 -1.8
	comp=Z,230nm,1.0s						
SHPR	Sheep Range	22.38	328	eP		P	13 27 38.1 +1.5
PASC	Pasadena Art C	22.41	319	eP		P	13 27 38.8 +2.0
	comp=Z,155nm,1.5s						
CPCT	Cooper Cave	22.42	36	eP		P	13 27 35.9 -0.9
O23A	Lake Granby, G	22.51	349	⇑P		P	13 27 37.9 -0.1
	baz=22,SNR=109						
SHOC	Shoshone	22.51	325	⇓P		P	13 27 39.0 +1.2
	baz=23,SNR=26						
N28A	Pribbeno Ranch	22.52	358	⇑P		P	13 27 37.6 -0.4
	baz=22,SNR=8.1						
DECC	Green Verdugo	22.56	319	⇑P		P	13 27 40.2 +1.8
	baz=23,SNR=7.2						
O22A	Kremmling	22.57	348	⇑P		P	13 27 38.5 -0.2
	baz=23,SNR=173						
ARUT	Antelope Range	22.61	333	eP		P	13 27 41.0 +2.0
ARUT					pmax	pmax	
	comp=Z,138nm,0.9s						
ARUT	Antelope Range	22.61	333	eP		P	13 27 41.0 +2.0
	comp=Z,138nm,0.9s						
N30A	Hueffle Ranch,	22.62	1	⇑P		P	13 27 37.9 -1.1
	baz=23,SNR=14						
SRU	San Rafael	22.64	340	eP		P	13 27 40.2 +0.8
SRU					pmax	pmax	
	comp=Z,106nm,1.0s						
SRU	San Rafael	22.64	340	eP		P	13 27 40.2 +0.8
	comp=Z,106nm,1.0s						
N29A	Votaw Ranch, W	22.64	360	⇑P		P	13 27 38.3 -0.9
	baz=23,SNR=9.3						
P19A	Cripple Cowboy	22.65	343	⇑P		P	13 27 39.7 +0.2
	baz=23,SNR=123						
Q16A	Castle Valley	22.69	338	⇓P		P	13 27 40.7 +0.9
	baz=23,SNR=96						
N27A	Anderson Farm,	22.69	356

M28A	Bar X Bar Ranc	23.23	359	⇑P	P	13 27 44.7 -0.4
	baz=23,SNR=6.4					
FURC	Furnace Creek,	23.25	325	⇑P	P	13 27 46.7 +1.5
	baz=23,SNR=25					
M29A	Burnside Ranch	23.27	360	⇑P	P	13 27 45.5 0.0
	baz=23,SNR=13					
MPMC	Manual Prospec	23.30	324	⇓P	P	13 27 47.1 +1.1
	baz=23,SNR=84					
O19A	Miners Draw (B	23.31	343	⇓P	P	13 27 46.9 +0.9
	baz=23,SNR=156					
BGNE	Belgrade	23.33	5	eP	P	13 27 45.1 -0.9
BGNE	Belgrade	23.33	5	⇑P	P	13 27 45.1 -0.9
	baz=23					
N21A	Black Mountain	23.35	347	⇑P	P	13 27 47.6 +1.1
	baz=23,SNR=132					
M30A	Dale-Ortello V	23.37	1	⇑P	P	13 27 46.3 -0.2
	baz=23,SNR=8.4					
M26A	McRoberts Ranc	23.39	355	⇓P	P	13 27 45.9 -0.8
	baz=23					
M27A	Reverse DX Ran	23.40	357	⇓P	P	13 27 46.8 0.0
	baz=23,SNR=16					
ARVC	Arvin	23.44	320	⇓P	P	13 27 48.4 +1.3
	baz=24					
M25A	Palm-Egli Farm	23.44	353	⇑P	P	13 27 47.6 +0.4
	baz=24,SNR=44					
PHWY	Pilot Hill	23.50	351	eP	P	13 27 46.6 -1.3
	comp=Z,159nm,1.0s					
SBC	Santa Barbara	23.56	317	⇑P	P	13 27 49.3 +1.1
	baz=24					
M24A	Cheyenne	23.57	352	⇑P	P	13 27 49.0 +0.6
	baz=24,SNR=71					
ISA	Isabella	23.59	321	eP	P	13 27 49.6 +1.0
ISA				pmax	pmax	
	comp=Z,82nm,1.0s					
ISA	Isabella	23.59	321	eP	P	13 27 49.6 +1.0
	comp=Z,82nm,1.0s					
ISA	Isabella	23.59	321	⇑P	P	13 27 50.3 +1.8
	baz=24,SNR=63					
N20A	Spence Gulch,	23.59	345	⇑P	P	13 27 49.3 +0.6
	baz=24,SNR=91					
WCI	Wyandotte Cave	23.64	29	eP	P	13 27 46.7 -2.3
WCI				pmax	pmax	
	comp=Z,101nm,0.9s					
WCI	Wyandotte Cave	23.64	29	eP	P	13 27 46.7 -2.3
	comp=Z,101nm,0.9s					
M23A	Laramie	23.70	350	⇑P	P	13 27 49.9 +0.2
	baz=24,SNR=23					
TZTN	Tazewell	23.75	36	eP	P	13 27 47.9 -2.0
	comp=Z,111nm,1.2s					
M22A	Cedar Creek Ra	23.79	349	⇑P	P	13 27 51.3 +0.8
	baz=24,SNR=50					
MPU	Maple Canyon	23.83	339	eP	P	13 27 51.2 +0.4
	comp=Z,101nm,1.2s					
L28A	Connealy Angus	23.84	358	⇓P	P	13 27 51.0 +0.2
	baz=24,SNR=17					
L29A	Maesberg Ranch	23.89	0	⇓P	P	13 27 51.2 0.0
	baz=24,SNR=7.2					
CWC	Cottonwood Cre	23.90	323	⇓P	P	13 27 53.3 +1.8
	baz=24,SNR=38					
PKM	Peak Mountain	23.91	318	⇓P	P	13 27 53.3 +1.6
	baz=24,SNR=10.0					
GRAC	Grapevine Rang	23.91	325	⇓P	P	13 27 53.5 +2.1
	baz=24,SNR=54					
NLU	North Lily Min	23.93	338	eP	P	13 27 51.6 -0.2
	comp=Z,231nm,1.9s					
L27A	T5 Ranch, Ells	23.95	357	⇓P	P	13 27 52.6 +0.8
	baz=24,SNR=27					
L26A	Underwood Farm	23.95	355	⇓P	P	13 27 52.1 +0.2
	baz=24					
R11A	Troy Canyon, C	24.04	330	eP	P	13 27 54.3 +1.5
R11A	Troy Canyon, C	24.04	330	⇑P	P	13 27 54.2 +1.4
	baz=24,SNR=101					
DAU	Daniels Canyon	24.06	340	eP	P	13 27 53.3 +0.2
DAU	Daniels Canyon	24.06	340	eP	P	13 27 53.3 +0.2
VES	Vestal, Richgr	24.08	321	⇑P	P	13 27 54.7 +1.8
	baz=24,SNR=25					
KMSC	Kings Mountain	24.12	41	eP	P	13 27 51.9 -1.4
KMSC	Kings Mountain	24.12	41	⇑P	P	13 27 51.9 -1.4
	baz=24,SNR=17					
M21A	Separation Pea	24.13	348	⇑P	P	13 27 54.0 +0.4
	baz=24,SNR=94					
L25A	Engebretsen Ra	24.15	354	⇓P	P	13 27 54.1 +0.5
	baz=24,SNR=12					
L24A	Wheatland	24.15	352	⇓P	P	13 27 53.6 -0.1
	baz=24					
GTBY	Guantanamo Bay	24.18	82	PFAKE		13 28 00.0 +6.1
GTBY				LR	LR	
	comp=Z,1μm,20.0s					
RWWY	Rawlins	24.18	348	eP	P	13 27 54.4 +0.3
	comp=Z,241nm,1.1s					
M20A	Sweetwater, Wa	24.20	346	⇓P	P	13 27 54.6 +0.4
	baz=24,SNR=57					
SMMC	Simmler	24.29	319	⇓P	P	13 27 57.0 +2.1
	baz=24,SNR=29					
JLU	Jordanelle	24.29	340	eP	P	13 27 54.5 -0.6
	comp=Z,90nm,1.4s					
JLU				epP	pP	13 28 12.2 +2.2
BLO	Bloomington	24.31	27	eP	P	13 27 53.6 -1.4
BLO				pmax	pmax	
	comp=Z,111nm,0.6s					
BLO	Bloomington	24.31	27	eP	P	13 27 53.6 -1.4
	comp=Z,111nm,0.6s					
L23A	Garrett	24.33	351	⇑P	P	13 27 55.8 +0.4
	baz=24,SNR=32					
L22A	Ellis Ranch, M	24.36	349	⇓P	P	13 27 56.7 +1.0
	baz=24,SNR=66					
DUG	Dugway	24.41	337	eP	P	13 27 56.3 +0.3
DUG				pmax	pmax	
	comp=Z,115nm,1.1s					
DUG				MLR	MLR	
	comp=Z,3μm,22.0s					
DUG	Dugway	24.41	337	eP	P	13 27 56.3 +0.3
	comp=Z,115nm,1.1s					
DUG				LR	LR	
	comp=Z,3μm,22.0s					
DUG	Dugway	24.41	337	⇑P	P	13 27 57.4 +1.4
	baz=24,SNR=78					
HDIL	Hopedale	24.41	21	eP	P	13 27 54.2 -1.7
	comp=Z,232nm,0.9s					
TIN	Tinemaha	24.42	324	⇑P	P	13 27 58.4 +2.2
	baz=24,SNR=8.3					
M19A	Rock Springs	24.45	344	⇓P	P	13 27 57.0 +0.5
	baz=24,SNR=17					
CTU	Camp Tracy	24.47	339	eP	P	13 27 56.7 0.0
	comp=Z,83nm,1.1s					
L21A	Rawlins	24.48	348	⇑P	P	13 27 57.4 +0.7
	baz=24,SNR=56					
RCTC	Rector, Farmer	24.48	322	⇑P	P	13 27 58.4 +1.8
	baz=25,SNR=10					
K28A	Ten Mile Ranch	24.54	359	⇓P	P	13 27 57.8 +0.6
	baz=24,SNR=22					
K27A	Flueckinger Fa	24.56	357	⇑P	P	13 27 57.9 +0.6
	baz=25,SNR=54					
K29A	Lazy Trails An	24.58	1	⇑P	P	13 27 57.9 +0.4
	baz=25					
K25A	Mack Ranch, Ha	24.59	354	⇑P	P	13 27 58.3 +0.7
	baz=25,SNR=5.8					
K26A	Motz Farm, Whi	24.62	355	⇓P	P	13 27 58.4 +0.5
	baz=25,SNR=20					
TPH	Tonopah	24.64	327	PFAKE		13 28 10.0 +12
TPH				LR	LR	
	comp=Z,3μm,19.0s					
PTRM	Twissleman Ran	24.64	319	eP	P	13 27 56.8 -1.3
L20A	Wamsutter	24.73	346	⇑P	P	13 27 59.6 +0.6
	baz=25,SNR=93					
K24A	Anderson Ranch	24.80	353	⇓P	P	13 27 59.6 0.0
	baz=25					
MTUM	Tungsten Hills	24.82	324	eP	P	13 28 00.9 +1.0
M17A	Scullys Gap (B	24.84	342	⇑P	P	13 28 00.2 +0.1
	baz=25,SNR=146					
K23A	Bowen Ranch, D	24.94	351	⇑P	P	13 28 01.6 +0.7
	baz=25,SNR=70					
K22A	Casper	24.98	350	⇓P	P	13 28 02.0 +0.7
	baz=25,SNR=70					
L19A	Farson	25.06	345	⇓P	P	13 28 02.7 +0.7
	baz=25,SNR=147					
L18A	Fontenelle, Gr	25.07	343	⇓P	P	13 28 02.7 +0.5
	baz=25,SNR=68					
SFIN	Scholer Farm	25.08	25	⇑P	P	13 28 00.8 -1.2
	baz=25,SNR=47					
K21A	Alcova	25.10	348	⇓P	P	13 28 02.9 +0.5
	baz=25,SNR=96					
J27A	Elkhorn Farm,	25.10	358	⇓P	P	13 28 02.7 +0.4
	baz=25,SNR=32					
BGU	Big Grassy Mou	25.13	337	eP	P	13 28 01.7 -1.0
	comp=Z,60nm,1.1s					
MLAC	Mammoth Lakes	25.17	324	⇑P	P	13 28 05.2 +2.1
	baz=25,SNR=28					
J26A	Sides Ranch, S	25.22	356	⇓P	P	13 28 03.7 +0.4
	baz=25,SNR=109					
HWUT	Hardware Ranch	25.23	340	eP	P	13 28 04.9 +1.3
HWUT				LR	LR	
	comp=Z,3μm,19.0s					
J28A	Allard Ranch,	25.25	359	⇑P	P	13 28 04.5 +0.9
	baz=25,SNR=89					
K20A	Yellowstone Ra	25.35	347	⇑P	P	13 28 04.8 +0.2
	baz=25,SNR=67					
J25A	Sunshine Ranch	25.36	355	⇓P	P	13 28 05.3 +0.7
	baz=25					
J24A	Dixon Ranch, L	25.38	353	⇑P	P	13 28 05.8 +0.9
	baz=25,SNR=26					
NV11	Mina Array Sit	25.39	326	eP	P	13 28 07.0 +2.0
NVAR	Mina Array Bea	25.47	326	P	P	13 28 08.1 +2.3
NVAR				PcP	PcP	13 31 37.8 +1.5
NVAR				pPcP		13 31 54.0
NVAR	Mina Array Bea	25.47	326	P	P	13 28 08.1 +2.3
	comp=Z,155nm,0.9s,baz=139,slow=8.4,SNR=287					
NVAR				PcP	PcP	13 31 37.8 +1.5
	comp=Z,1.6nm,0.6s,baz=130,slow=2.8,SNR=5.7					
NVAR				pPcP		13 31 54.0
	comp=Z,9.0nm,1.1s,baz=150,slow=3.4,SNR=4.6					
NVAR				LR	LR	13 38 40.1
	comp=Z,2μm,19.7s,baz=227,slow=38					
J23A	Dilts Ranch, B	25.57	352	⇓P	P	13 28 06.3 -0.2
	baz=26					
K19A	Absolon Red Bu	25.62	346	⇓P	P	13 28 07.2 +0.1
	baz=26,SNR=40					
J22A	Midwest	25.72	350	⇓P	P	13 28 08.4 +0.4
	baz=26,SNR=85					
BW06	Boulder Array	25.74	345	eP	P	13 28 08.0 -0.2
	comp=Z,153nm,1.3s					
BW06				LR	LR	
	comp=Z,4μm,21.0s					
PDAR	Pinedale Array	25.74	345	P	P	13 28 08.6 +0.4
PDAR				PcP	PcP	13 31 37.4 +0.5
PDAR				pPcP		13 31 54.4
PDAR				PKiKP	PKiKP	13 39 15.5 -1.4
PDAR	Pinedale Array	25.74	345	P	P	13 28 08.6 +0.4
	comp=Z,38nm,0.7s,baz=147,slow=8.4,SNR=112					
PDAR				PcP	PcP	13 31 37.4 +0.5
	comp=Z,10.0nm,1.0s,baz=150,slow=4.9,SNR=8.2					
PDAR				pPcP		13 31 54.4
	comp=Z,11nm,1.0s,baz=151,slow=3.4,SNR=4.8					
PDAR				PKiKP	PKiKP	13 39 15.5 -1.4
	comp=Z,1.2nm,0.9s,baz=82,slow=1.9,SNR=6.7					
PDAR				LR	LR	13 39 24.1
	comp=Z,3μm,20.2s,baz=185,slow=39					
ECSD	EROS Data Cent	25.78	7	eP	P	13 28 06.6 -1.7
	comp=Z,100nm,1.1s					
ECSD				LR	LR	
	comp=Z,2μm,19.0s					
HVU	Hansel Valley	25.79	339	eP	P	13 28 08.1 -0.5
HVU				pmax	pmax	
	comp=Z,51nm,0.9s					
HVU	Hansel Valley	25.79	339	eP	P	13 28 08.1 -0.5
	comp=Z,51nm,0.9s					
J21A	Lysite	25.82	349	⇓P	P	13 28 09.4 +0.5
	baz=26,SNR=40					
I28A	Midland	25.82	359	⇑P	P	13 28 09.3 +0.6
	baz=26,SNR=22					
I24A	Kuemmerle Ranc	25.90	353	⇓P	P	13 28 10.0 +0.5
	baz=26,SNR=12					
I27A	Quinn	25.92	358	⇓P	P	13 28 09.8 +0.2
	baz=26,SNR=27					
I26A	New Underwood	25.92	356	⇓P	P	13 28 09.8 +0.1
	baz=26					
J20A	Shoshoni	25.96	347	⇑P	P	13 28 10.8 +0.8
	baz=26,SNR=29					
I25A	Rochford	25.97	355	⇓P	P	13 28 10.9 +0.6
	baz=26,SNR=37					
BLA	Blacksburg	26.02	39	eP	P	13 28 08.9 -1.8
BLA				pmax	pmax	
	comp=Z,76nm,0.6s					
BLA				MLR	MLR	
	comp=Z,643nm,20.0s					
BLA	Blacksburg	26.02	39	eP	P	13 28 08.9 -1.8
	comp=Z,76nm,0.6s					
BLA				LR	LR	
	comp=Z,643nm,20.0s					
J19A	Crowheart	26.08	346	⇓P	P	13 28 11.4 +0.1
	baz=26,SNR=24					
J19A				⇓S	S	13 32 38.7 +0.4
	baz=26					
J19A				⇓S	S	13 32 38.7 +0.4
	baz=26					
J19A				⇓S	S	13 32 38.7 +0.4
	baz=26					
RSSD	Black Hills	26.10	354	eP	P	13 28 11.0 -0.5
RSSD				pmax	pmax	
	comp=Z,92nm,1.3s					
RSSD	Black Hills	26.10	354	eP	P	13 28 11.0 -0.5
	comp=Z,92nm,1.3s					
I23A	Meade Ranch, G	26.10	352	⇑P	P	13 28 11.5 +0.1
	baz=26					
SAO	San Andreas Ge	26.12	320	eP	P	13 28 10.4 -1.1
SAO				pmax	pmax	
	comp=Z,264nm,2.3s					
SAO	San Andreas Ge	26.12	320	eP	P	13 28 10.3 -1.1
	comp=Z,264nm,2.3s					
I22A	9 Mile Ranch,	26.19	350	⇑P	P	13 28 12.9 +0.7
	baz=26,SNR=23					
I21A	Big Trails, Te	26.25	349	⇑P	P	13 28 13.1 +0.4
	baz=26,SNR=72					
JFWS	Jewell Farm	26.25	17	eP	P	13 28 10.6 -2.0
JFWS				pmax	pmax	
	comp=Z,1μm,1.4s					
JFWS				MLR	MLR	
	comp=Z,2μm,19.0s					
JFWS	Jewell Farm	26.25	17	eP	P	13 28 10.6 -2.0
	comp=Z,1μm,1.4s					
JFWS				LR	LR	
	comp=Z,2μm,19.0s					
BRSD	Miller	26.30	3	eP	P	13 28 12.9 -0.1
BRSD	Miller	26.30	3	⇑P	P	13 28 12.1 -0.9
	baz=26					
CMB	Columbia Colle	26.33	323	eP	P	13 28 12.6 -0.8
CMB				pmax	pmax	
	comp=Z,24nm,1.0s					
CMB	Columbia Colle	26.33	323	eP	P	13 28 12.6 -0.8
	comp=Z,24nm,1.0s					
CNNC	Cliffs of the	26.43	45	eP	P	13 28 13.6 -0.7
	comp=Z,44nm,0.6s					
CNNC				LR	LR	
	comp=Z,664nm,21.0s					
BMN	Battle Mountai	26.46	331	eP	P	13 28 16.7 +2.0
BMN				e		13 31 40.3
BMN				MLR	MLR	
	comp=Z,2μm,22.0s					
BMN	Battle Mountai	26.46	331	eP	P	13 28 16.7 +2.0
BMN				ePcP	PcP	13 31 40.3 +1.8
BMN				LR	LR	
	comp=Z,2μm,22.0s					
H27A	Howes	26.48	358	⇓P	P	13 28 15.5 +0.8
	baz=26,SNR=22					
H28A	Mission Ridge	26.50	359	⇑P	P	13 28 15.4 +0.5
	baz=26,SNR=12					
H26A	Fairpoint	26.50	357	⇓P	P	13 28 15.6 +0.7
	baz=26,SNR=18					
I20A	Worland	26.54	348	⇑P	P	13 28 16.1 +0.8
	baz=27,SNR=77					
REDW	Red Top Meadow	26.63	343	eP	P	13 28 17.0 +0.7
	comp=Z,193nm,1.4s					
I18A	Diamond G Ranc	26.68	345	⇓P	P	13 28 17.7 +1.0
	baz=27,SNR=21					
SNOW	Snow King Moun	26.70	343	eP	P	13 28 16.6 -0.3
	comp=Z,131nm,1.0s					
RRI2	Red Ridge	26.75	342	eP	P	13 28 18.0 +0.6
	comp=Z,149nm,1.3s					
H24A	Dirks Ranch, A	26.77	354	⇑P	P	13 28 17.9 +0.6
	baz=27,SNR=37					
TPAW	Teton Pass	26.78	343	eP	P	13 28 18.8 +1.1
	comp=Z,180nm,1.0s					
LOHW	Long Hollow	26.80	344	eP	P	13 28 18.1 +0.4
	comp=Z,130nm,1.3s					
I19A	Meeteetse	26.80	347	⇑P	P	13 28 18.5 +0.7
	baz=27,SNR=46					
G28A	Parade	26.90	360	⇑P	P	13 28 17.9 -0.6
	baz=27					
MOOW	Moose Ponds	26.96	344	eP	P	13 28 20.2 +1.0
MOOW				ePcP	PcP	13 31 41.2 +1.5
PAHR	Pah Rah Range	26.98	327	eP	P	13 28 21.9 +2.5
	comp=Z,58nm,1.4s					
H20A	Greybull	27.03	348	⇓P	P	13 28 20.0 +0.3
	baz=27,SNR=36					
I17A	Pilgrim Ck.	27.08	344	⇑P	P	13 28 20.7 +0.5
	baz=27,SNR=21					
G25A	Newell	27.12	356	⇑P	P	13 28 20.3 -0.1
	baz=27					
IMW	Indian Meadow	27.15	344	eP	P	13 28 21.6 +0.6
	comp=Z,56nm,1.0s					
G26A	Maurine	27.16	357	⇑P	P	13 28 21.0 +0.1
	baz=27					
G27A	Dupree	27.22	358	⇓P	P	13 28 21.0 -0.3
	baz=27					
FLWY	Flagg Ranch	27.26	344	eP	P	13 28 22.9 +1.0
	comp=Z,65nm,1.0s					
I16A	Newdale	27.28	343	⇓P	P	13 28 22.8 +0.8
	baz=27,SNR=17					
G23A	Biddle	27.32	353	⇓P	P	13 28 21.7 -0.5
	baz=27					
G24A	Alzada	27.33	354	⇓P	P	13 28 22.4 0.0
	baz=27					
H19A	Powell	27.41	347	⇑P	P	13 28 23.7 +0.6
	baz=28,SNR=31					
G22A	Birney	27.45	351	⇓P	P	13 28 23.6 +0.1
	baz=28					
H17A	Grant Village	27.52	344	⇑P	P	13 28 26.1 +1.8
	baz=28					
H18A	Shoshone NF, C	27.56	346	⇓P	P	13 28 24.7 +0.1
	baz=28,SNR=31					
G21A	Lodge Grass	27.60	350	⇑P	P	13 28 24.4 -0.4
	baz=28					
BEKR	Beckworth	27.61	326	eP	P	13 28 26.0 +1.0
	comp=Z,22nm,1.0s					
LKWY	Lake	27.63	345	eP	P	13 28 24.3 -1.0
LKWY				pmax	pmax	
	comp=Z,40nm,1.1s					
LKWY				MLR	MLR	
	comp=Z,5μm,19.0s					
LKWY	Lake	27.63	345	eP	P	13 28 24.2 -1.0
	comp=Z,40nm,1.1s					
LKWY				LR	LR	
	comp=Z,5μm,19.0s					
YFT	Old Faithful	27.64	344	eP	P	13 28 24.3 -1.0
	comp=Z,69nm,1.2s					
F27A	Lemmon	27.72	358	⇑P	P	13 28 25.7 0.0
	baz=28					
F26A	Lodgepole	27.73	357	⇓P	P	13 28 25.7 -0.2
	baz=28					
G20A	Bridger	27.78	348	⇓P	P	13 28 26.3 -0.1
	baz=28					
SDDR	Presa de Saban	27.81	84	eP	P	13 28 26.7 -0.2
	comp=Z,88nm,1.0s					
SDDR				LR	LR	
	comp=Z,1μm,19.0s					
SPMN	St. Paul	27.82	12	eP	P	13 28 25.4 -1.2
SPMN	St. Paul	27.82	12	⇑P	P	13 28 25.8 -0.8
	baz=28,SNR=19					
F23A	Volborg	27.83	353	⇑P	P	13 28 26.8 0.0
	baz=28					
F25A	Bowman	27.85	356	⇓P	P	13 28 27.2 +0.3
	baz=28					
F24A	Ekalaka	27.85	354	⇓P	P	13 28 26.7 -0.2
	baz=28					
OHCM	Honcut	27.85	324	ePcP	PcP	13 31 43.7 +2.1
JSRW	J. Sargeant Re	27.89	41	eP	P	13 28 25.9 -1.4
RLMT	Red Lodge	27.90	347	eP	P	13 28 27.6 0.0
	comp=Z,86nm,1.2s					
RLMT				LR	LR	
	comp=Z,5μm,21.0s					
GRTK	Grand Turk	27.93	78	PFAKE		13 28 40.0 +12
GRTK				LR	LR	
	comp=Z,1μm,20.0s					
HLID	Hailey	27.93	338	eP	P	13 28 28.8 +0.9
	comp=Z,28nm,1.0s					
HLID				LR	LR	
	comp=Z,2μm,19.0s					
HLID	Hailey	27.93	338	⇑P	P	13 28 28.9 +1.1
	baz=28,SNR=46					
H16A	Russell Place,	27.98	344	⇑P	P	13 28 28.8 +0.5
	baz=28					
F22A	Rosebud	28.00	352	⇑P	P	13 28 27.7 -0.5
	baz=28					
OTAV	Otavalo	28.10	127	PFAKE		13 28 40.0 +10
OTAV				LR	LR	
	comp=Z,2μm,21.0s					
G18A	Lazy EL Ranch,	28.15	347	⇑P	P	13 28 30.0 +0.3
	baz=28					
QLMT	Earthquake Lak	28.15	344	eP	P	13 28 30.1 +0.3
F21A	Absaloka Mine,	28.17	350	⇑P	P	13 28 29.6 -0.2
	baz=28					
E27A	Carson	28.26	359	⇓P	P	13 28 30.4 -0.2
	baz=28					
F20A	Billings	28.32	349	⇓P	P	13 28 31.0 -0.2
	baz=28					
MFID	Camas Ranch	28.32	336	⇑P	P	13 28 32.4 +1.1
	baz=28,SNR=38					
E25A	Miller Ranch,	28.42	356	⇓P	P	13 28 32.3 +0.3
	baz=28					
G17A	Pierce Place,	28.43	345	⇓P	P	13 28 33.9 +1.7
	baz=28					
CBN	Corbin	28.52	41	eP	P	13 28 30.5 -2.3
	comp=Z,26nm,0.6s					
CBN				LR	LR	
	comp=Z,637nm,20.0s					
F19A	Roth Farm, Mol	28.53	348	⇓P	P	13 28 33.0 0.0
	baz=29					
E24A	Baker	28.55	355	⇑P	P	13 28 33.4 +0.2
	baz=29					
MCMT	McKenzie Canyo	28.55	342	eP	P	13 28 35.0 +1.6
	comp=Z,22nm,1.3s					
E23A	Ismay	28.58	353	⇓P	P	13 28 33.2 -0.3
	baz=29					
E22A	Miles City	28.60	352	⇓P	P	13 28 33.2 -0.4
	baz=29					
GCMT	Greycliff	28.62	347	eP	P	13 28 34.0 +0.1
	comp=Z,25nm,1.1s					
WVOR	Wild Horse Val	28.70	332	eP	P	13 28 35.2 +0.6
WVOR				pmax	pmax	
	comp=Z,26nm,1.1s					
WVOR				MLR	MLR	
	comp=Z,4μm,21.0s					
WVOR	Wild Horse Val	28.70	332	eP	P	13 28 35.2 +0.6
	comp=Z,26nm,1.1s					
WVOR				LR	LR	
	comp=Z,4μm,21.0s					
F18A	Big Timber	28.74	347	⇑P	P	13 28 35.1 +0.2
	baz=29					
E21A	Keefer Ranch,	28.86	351	⇑P	P	13 28 35.9 -0.1
	baz=29					
ROSC	El Rosal	28.87	114	eP	P	13 28 37.4 +0.7
D26A	Manning	28.89	357	⇓P	P	13 28 35.9 -0.3
	baz=29					
D27A	Center	28.94	359	⇑P	P	13 28 36.4 -0.2
	baz=29					
F17A	Fitzpatrick Pl	28.95	345	⇑P	P	13 28 38.1 +1.2
	baz=29					
BOZ	Bozeman (W)	28.96	344	eP	P	13 28 36.2 -0.7
BOZ				pmax	pmax	
	comp=Z,29nm,1.2s					
BOZ				MLR	MLR	
	comp=Z,2μm,21.0s					
BOZ	Bozeman (W)	28.96	344	eP	P	13 28 36.2 -0.7
	comp=Z,29nm,1.2s					
BOZ				LR	LR	
	comp=Z,2μm,21.0s					
DLMT	Dillon	28.96	342	eP	P	13 28 38.0 +1.1
	comp=Z,82nm,1.1s					
D25A	Fairfield	29.06	356	⇑P	P	13 28 38.3 +0.6
	baz=29					
E19A	Rath Farm, Rou	29.08	348	⇑P	P	13 28 38.6 +0.7
	baz=29					
D24A	Glendive	29.10	355	⇑P	P	13 28 38.5 +0.5
	baz=29					
LTIM	Timbered Crate	29.14	326	P	P	13 28 40.8 +2.2
D23A	Lindsay	29.24	354	⇓P	P	13 28 39.7 +0.4
	baz=29					
ALLY	Alegheny Colle	29.28	32	eP	P	13 28 37.0 -2.7
	comp=Z,68nm,1.2s					
KCPM	Cahto Peak	29.29	322	eP	P	13 28 40.4 +0.5
	comp=Z,30nm,1.1s					
D22A	Cohagen	29.33	352	⇑P	P	13 28 40.9 +0.8
	baz=29					
LRM	Limekiln Ridge	29.34	343	eP	P	13 28 41.5 +1.0
D21A	La Casta Ranch	29.36	351	⇓P	P	13 28 41.0 +0.6
	baz=29					
E18A	Harlowton	29.41	347	⇑P	P	13 28 41.5 +0.6
	baz=30					
C24A	Savage	29.52	355	⇓P	P	13 28 42.6 +0.8
	baz=30					
E17A	Martinsdale	29.52	346	⇓P	P	13 28 42.5 +0.6
	baz=30					

C27A Sayler Ranch, 29.55 359 ⇓P P 13 28 41.8 -0.2
baz=30
D20A Manuel Ranch, 29.57 350 ⇓P P 13 28 42.3 +0.1
baz=30
SDMD Soldier's Deli 29.59 39 eP P 13 28 41.5 -1.0
comp=Z,24nm,0.6s
C25A Freed Ranch, W 29.61 356 ⇓P P 13 28 42.5 -0.1
baz=30
C26A Wahner Farm, P 29.67 358 ⇓P P 13 28 43.2 +0.1
baz=30
MDND Maddock 29.68 1 eP P 13 28 43.6 +0.5
MDND Maddock 29.68 1 ⇑P P 13 28 42.9 -0.2
baz=30,SNR=7.5
D19A Cripps Ranch, 29.77 349 ⇑P P 13 28 44.5 +0.4
baz=30
C23A Lambert 29.86 354 ⇓P P 13 28 45.2 +0.4
baz=30
D18A Linhart Farms, 29.99 347 ⇓P P 13 28 46.2 +0.3
baz=30
HRY Holter Researc 30.00 344 eP P 13 28 47.2 +1.1
BMO Blue Mountains 30.11 336 eP P 13 28 47.0 0.0
comp=Z,44nm,1.1s
C21A Desert Coulee 30.12 351 ⇓P P 13 28 47.3 +0.2
baz=30
D17A Six Diamond Ra 30.14 346 ⇓P P 13 28 47.9 +0.6
baz=30
C20A Veseth Ranch, 30.15 350 ⇑P P 13 28 47.7 +0.4
baz=30
KHMM Horse Mountain 30.16 324 eP P 13 28 50.2 +2.6
comp=Z,49nm,0.9s
B25A Knox Farm, Ray 30.17 357 ⇓P P 13 28 47.6 +0.2
baz=30
YBH Yreka Blue Hor 30.19 326 eP P 13 28 47.2 -0.5
comp=Z,7.6nm,1.0s
YBH Yreka Blue Hor 30.19 326 LR LR 13 41 16.8
comp=Z,1μm,21.4s,baz=141,slow=37
B26A Jensen Ranch, 30.23 358 ⇑P P 13 28 48.0 0.0
baz=30
B27A Peters Farms, 30.23 359 ⇓P P 13 28 47.9 0.0
baz=30
MVL Millersville 30.26 39 eP P 13 28 47.2 -1.1
comp=Z,16nm,1.1s
B28A Dugan Ranch, T 30.27 0 ⇑P P 13 28 48.3 -0.1
baz=30
C19A Slack Wire Ran 30.35 349 ⇑P P 13 28 49.4 +0.3
baz=30
AGMN Agassiz Nation 30.37 6 eP P 13 28 48.3 -0.9
comp=Z,55nm,0.9s
AGMN LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 30.43 355 eP P 13 28 51.0 +1.2
comp=Z,164nm,1.1s
DGMT LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 30.43 355 ⇑P P 13 28 49.9 +0.1
baz=30,SNR=28
B22A Reddig Ranch S 30.44 353 ⇑P P 13 28 50.2 +0.3
baz=30
B23A Brockton 30.50 354 ⇑P P 13 28 50.8 +0.4
baz=30
SDV Santo Domingo 30.52 103 PFAKE 13 29 00.0 +8.9
SDV LR LR
comp=Z,244nm,20.0s
CHMT Chamberlain Mo 30.57 343 eP P 13 28 51.7 +0.5
C17A Wharram Farm, 30.61 346 ⇓P P 13 28 51.9 +0.5
baz=31
MSO Missoula 30.69 342 eP P 13 28 53.2 +1.1
comp=Z,47nm,1.4s
MSO Missoula 30.69 342 ⇑P P 13 28 52.8 +0.6
baz=31,SNR=9.9
EYMN Ely 30.69 12 eP P 13 28 51.0 -1.0
comp=Z,30nm,1.0s
EYMN LR LR
comp=Z,1μm,21.0s
KRMB Red Mountain 30.69 324 eP P 13 28 55.1 +2.8
comp=Z,98nm,1.9s
B21A Ellsworth Farm 30.70 352 ⇓P P 13 28 52.5 +0.4
baz=31
A28A Rude Farm, Bot 30.73 0 ⇑P P 13 28 52.5 0.0
baz=31
A26A Wade Farm, Ken 30.74 358 ⇓P P 13 28 52.8 +0.3
baz=31
EGMT Eagleton 30.77 348 eP P 13 28 53.7 +0.9
comp=Z,94nm,1.4s
EGMT LR LR
comp=Z,622nm,21.0s
EGMT Eagleton 30.77 348 ⇓P P 13 28 53.3 +0.4
baz=31,SNR=12
A25A Svangstu Ranch 30.83 357 ⇑P P 13 28 53.3 0.0
baz=31
B20A Solberg Farm, 30.86 350 ⇑P P 13 28 53.4 -0.2
baz=31
A24A Westby 30.87 356 ⇓P P 13 28 54.0 +0.4
baz=31
SLMT Seeley Lake 30.93 343 eP P 13 28 55.0 +0.6
A23A Redstone 30.98 355 ⇓P P 13 28 54.8 +0.3
baz=31
B19A Brinkman Farms 31.03 349 ⇑P P 13 28 55.4 +0.3
baz=31
A22A Carney Farms, 31.11 353 ⇓P P 13 28 56.4 +0.6
baz=31
B18A Beardsley Farm 31.12 348 ⇓P P 13 28 56.4 +0.4
baz=31
G08A Pilot Rock 31.13 335 P P **13 28 56.8 +0.7**
B17A L&G Farms, Che 31.24 347 ⇓P P 13 28 57.1 +0.2
baz=31
A20A Cobblestone Ra 31.27 351 ⇑P P 13 28 57.3 +0.1
baz=31
SWMT Swartz Lake 31.32 342 eP P 13 28 58.5 +0.8
SWMT ePcP **PcP** 13 31 52.2 +1.7
A19A Klindworth Far 31.45 350 ⇓P P 13 28 59.2 +0.4
baz=32
JTMT Jette 31.61 342 eP P 13 29 01.2 +0.9
JTMT ePcP **PcP** 13 31 52.7 +1.3
A18A Metzger Ranch, 31.64 348 ⇓P P 13 29 00.5 0.0
baz=32
YBMT Yellow Bay 31.64 343 eP P 13 28 59.8 -0.8
comp=Z,21nm,0.9s
E09A Wood Farm, Sta 31.82 337 P P **13 29 01.7 -0.3**
A17A Triple J Farms 31.84 347 ⇑P P 13 29 02.2 0.0
baz=32
KEBM Edson Butte 31.84 326 eP P 13 29 02.8 +0.5
comp=Z,184nm,1.1s
BSMT Bassoo Peak 31.86 342 eP P 13 29 02.9 +0.4
BLMT Blacktail Moun 31.88 342 eP P 13 29 02.7 0.0
BINY Binghamton 31.89 36 eP P 13 29 00.1 -2.5
comp=Z,20nm,0.6s
BINY LR LR
comp=Z,1μm,19.0s
F07A Phinny Hill Vi 32.02 334 P P **13 29 04.4 +0.7**
ULM Lac du Bonnet 32.30 6 eP P 13 29 03.8 -2.3
comp=Z,50nm,0.9s
ULM Lac du Bonnet 32.30 6 P P **13 29 05.0 -1.2**
comp=Z,49nm,0.9s,baz=189,slow=9.8,SNR=34
ULM LR LR 13 43 17.5
comp=Z,1μm,18.8s,baz=195,slow=38
CELP Cerrillos 32.33 85 eP P 13 29 05.5 -1.3
PAL Palisades 32.34 39 eP P 13 29 04.3 -2.3
PAL pmax pmax
comp=Z,115nm,0.6s
PAL Palisades 32.34 39 eP P 13 29 04.3 -2.3
comp=Z,115nm,0.6s
TRW Toppenish Ridg 32.59 334 P P **13 29 10.4 +1.6**
WALA Waterton Lakes 32.71 344 eP P 13 29 09.6 -0.3
comp=Z,1.1nm,0.9s
GULW Guler Mountain 32.75 332 P P **13 29 12.3 +2.0**
NEW Newport 32.96 340 P P **13 29 12.6 +0.6**
NEW PcP **PcP** 13 31 55.0 +0.1
NEW LR LR
comp=Z,1μm,20.0s
NEW Newport 32.96 340 P P **13 29 12.6 +0.6**
comp=Z,15nm,0.9s,baz=150,slow=9.4,SNR=32
NEW PcP **PcP** 13 31 55.0 +0.1
comp=Z,14nm,0.8s,baz=140,slow=3.5,SNR=7.8
NEW Newport 32.96 340 ⇓P P 13 29 12.4 +0.5
baz=33,SNR=27
CBYP Canovanas 32.99 84 eP P 13 29 11.2 -1.5
comp=Z,74nm,1.2s
HUMP Col San Antoni 33.01 84 eP P 13 29 13.1 +0.4
comp=Z,126nm,1.3s
FL2 Flat Top 2 33.30 332 P P **13 29 16.8 +1.7**
MTP Monte Pirata 33.30 84 eP P 13 29 12.7 -2.6
comp=Z,239nm,1.3s
WPW White Pass 33.34 333 P P **13 29 17.1 +1.7**
TWW Teanaway 33.40 335 P P **13 29 18.2 +2.3**
LON Longmire 33.49 333 eP P 13 29 18.4 +1.7
LON pmax pmax
comp=Z,32nm,1.0s
LON Longmire 33.49 333 eP P 13 29 18.4 +1.7
comp=Z,32nm,1.0s
B08A Colville Reser 33.81 337 P P **13 29 19.9 +0.5**
ACCN Adirondack Com 33.95 36 eP P 13 29 19.3 -1.3
comp=Z,14nm,0.6s
NCB Newcomb 34.02 35 eP P 13 29 19.6 -1.7
comp=Z,21nm,1.2s
NCB LR LR
comp=Z,1μm,21.0s
QUA2 Belchertown 34.04 39 eP P 13 29 19.2 -2.2
comp=Z,20nm,0.6s
RMW Rattlesnake Mo 34.05 334 P P **13 29 22.6 +1.1**
RMW Rattlesnake Mo 34.05 334 P P **13 29 22.6 +1.1**
CDVI St. Croix 34.08 85 eP P 13 29 20.8 -1.2
LONY Lake Ozonia 34.26 34 eP P 13 29 21.6 -1.7
comp=Z,22nm,1.3s
LONY LR LR
comp=Z,877nm,21.0s
BRYW Bryant College 34.32 40 eP P 13 29 21.2 -2.7
comp=Z,19nm,0.6s
MDV Middlebury 34.62 36 eP P 13 29 23.8 -2.6
HRV Adam Dziewonsk 34.65 39 eP P 13 29 23.7 -2.9
HRV pmax pmax
comp=Z,24nm,1.1s
HRV Adam Dziewonsk 34.65 39 eP P 13 29 23.7 -2.9
comp=Z,24nm,1.1s
WES Weston 34.72 40 eP P 13 29 25.3 -2.0
WES pmax pmax
comp=Z,48nm,1.1s
WES Weston 34.72 40 eP P 13 29 25.3 -2.0
comp=Z,48nm,1.1s
HDW Hoodsport 34.72 333 P P **13 29 28.1 +0.8**
NLWA Neilton Lookou 34.88 332 eP P 13 29 28.5 -0.2
comp=Z,25nm,0.9s
NLWA LR LR
comp=Z,3μm,19.0s
FRNY Flat Rock 34.93 34 eP P 13 29 26.9 -2.3
comp=Z,37nm,1.5s
HNH Hanover 34.94 37 eP P 13 29 27.2 -1.9
BLN Blyn Mountain 34.97 334 P P **13 29 30.6 +1.2**
BBSR BB Station 35.28 59 PFAKE 13 29 40.0 +7.8
BBSR LR LR
comp=Z,368nm,20.0s
VDB Vedder Mountai 35.41 335 P P **13 29 34.2 +1.1**
LBNH Lisbon 35.47 36 eP P 13 29 31.8 -2.0
LBNH pmax pmax
comp=Z,25nm,1.1s
LBNH MLR MLR
comp=Z,1μm,19.0s
LBNH Lisbon 35.47 36 eP P 13 29 31.8 -2.0
comp=Z,25nm,1.1s
LBNH LR LR
comp=Z,1μm,19.0s
PGC Sidney 35.66 334 eP P 13 29 35.5 +0.2
comp=Z,1.5nm,0.9s
EDM Edmonton 36.43 347 eP P 13 29 41.7 -0.2
EDM Edmonton 36.43 347 eP P 13 29 41.7 -0.2
FFC Flin Flon 36.57 359 eP P 13 29 41.0 -2.0
FFC pmax pmax
comp=Z,78nm,0.8s
FFC MLR MLR
comp=Z,2μm,20.0s
FFC Flin Flon 36.57 359 eP P 13 29 41.0 -2.0
comp=Z,78nm,0.8s
FFC LR LR
comp=Z,2μm,20.0s
FFC Flin Flon 36.57 359 P P **13 29 42.3 -0.7**
comp=Z,258nm,0.7s,SNR=14
ANWB Willy Bob 36.91 84 PFAKE 13 30 00.0 +14
ANWB LR LR
comp=Z,648nm,22.0s
WVL Waterville 36.97 38 eP P 13 29 44.4 -2.1
comp=Z,48nm,1.1s
PKME Peaks-Kenny Pk 37.59 37 eP P 13 29 49.2 -2.5
comp=Z,20nm,1.1s
PKME LR LR
comp=Z,971nm,20.0s
FDF Fort de France 37.96 89 PFAKE 13 30 10.0 +15
FDF LR LR
comp=Z,604nm,19.0s
GRGR Grenville 38.02 93 PFAKE 13 30 10.0 +14
GRGR LR LR
comp=Z,620nm,20.0s
EMMW East Machias 38.35 39 eP P 13 29 56.1 -2.1
comp=Z,113nm,1.4s
PQI Presque Isle 39.13 36 eP P 13 30 02.4 -2.3
comp=Z,81nm,1.4s
BBGH Gun Hill 39.79 91 PFAKE 13 30 20.0 +9.4
BBGH LR LR
comp=Z,1μm,20.0s
BBB Bella Bella 40.29 334 P P **13 30 14.8 +0.6**
BBB Bella Bella 40.29 334 P P **13 30 14.8 +0.6**
comp=Z,13nm,0.8s,baz=141,slow=9.1,SNR=4.0
BBB LR LR 13 48 10.9
comp=Z,692nm,20.2s,baz=148,slow=38
FCC Fort Churchill 40.89 5 eP P 13 30 17.6 -1.4
FCC Fort Churchill 40.89 5 eP P 13 30 17.6 -1.4
comp=Z,1.2nm,1.3s
CRAG Craig 44.72 334 eP P 13 30 50.3 +0.2
comp=Z,72nm,1.2s
SCHQ Schefferville 44.83 27 P P **13 30 49.6 -1.4**
SCHQ Schefferville 44.83 27 P P **13 30 49.6 -1.4**
comp=Z,30nm,0.7s,baz=231,slow=8.5,SNR=29
SCHQ LR LR 13 51 33.1
comp=Z,757nm,19.9s,baz=225,slow=39
WRAK Wrangell Islan 45.07 336 eP P 13 30 53.7 +0.8
comp=Z,37nm,1.4s
WRAK LR LR
comp=Z,1μm,21.0s
YKA Yellowknife Ar 45.41 351 P P **13 30 54.5 -1.0**
YKA sP **sP** **13 31 16.0 -2.3**
YKA PcP **PcP** **13 32 34.6 +0.9**
YKA pPcP 13 32 51.4
YKA Yellowknife Ar 45.41 351 P P **13 30 54.5 -1.0**
comp=Z,19nm,0.8s,baz=158,slow=7.4,SNR=35
YKA sP **sP** **13 31 16.0 -2.3**
comp=Z,30nm,1.1s,baz=159,slow=7.6,SNR=6.9
YKA PcP **PcP** **13 32 34.6 +0.9**
comp=Z,14nm,0.9s,baz=158,slow=3.2,SNR=12
YKA pPcP 13 32 51.4
comp=Z,7.3nm,0.8s,baz=157,slow=3.5,SNR=5.4
YKW3 Yellowknife Ar 45.48 351 eP P 13 30 54.4 -1.6
comp=Z,0.9nm,1.2s
SAML Samuel 45.70 123 eP P 13 30 57.2 -1.2
comp=Z,91nm,1.4s
SAML LR LR
comp=Z,525nm,21.0s
DLBC Dease Lake 45.70 339 eP P 13 30 59.0 +1.1
DLBC PcP **PcP** **13 32 36.8 +1.8**
DLBC pPcP 13 33 00.2
DLBC Dease Lake 45.70 339 P P **13 31 00.1 +2.2**
comp=Z,34nm,0.8s,baz=155,slow=7.6,SNR=81
DLBC PcP **PcP** **13 32 36.8 +1.8**
comp=Z,26nm,1.0s,baz=192,slow=5.1,SNR=4.7
DLBC pPcP 13 33 00.2
comp=Z,23nm,1.0s,baz=137,slow=5.4,SNR=5.2
LPAZ La Paz 46.81 135 eP P 13 31 09.1 +1.3
comp=Z,56nm,1.7s
LPAZ La Paz 46.81 135 P P **13 31 08.9 +1.2**
comp=Z,2.0nm,1.0s,baz=342,slow=6.4,SNR=6.1
LPAZ LR LR 13 49 23.3
comp=Z,1μm,20.1s,baz=317,slow=34
HYT Haines Junctio 50.06 337 eP P 13 31 34.4 +2.6
LVC Limon Verde 50.97 141 eP P 13 31 40.5 +1.3
comp=Z,71nm,1.4s
LVC epP **pP** **13 31 56.1 +0.9**
SIV San Ignacio 51.62 129 P P **13 31 44.1 +0.2**
SIV pP **pP** **13 31 58.0 -1.8**
SIV PcP **PcP** **13 32 58.0 +1.0**
SIV San Ignacio 51.62 129 P P **13 31 44.1 +0.2**
comp=Z,6.8nm,1.0s,baz=313,slow=8.9,SNR=13
SIV pP **pP** **13 31 58.0 -1.8**
comp=Z,27nm,1.1s,baz=317,slow=9.3,SNR=17
SIV PcP **PcP** **13 32 58.0 +1.0**
comp=Z,11nm,1.0s,baz=313,slow=5.7,SNR=3.6
POHA Pohakuloa 51.78 281 eP P 13 31 47.4 +2.0
comp=Z,220nm,1.0s
BMRM Bremner River 52.89 335 eP P 13 31 55.2 +2.4
comp=Z,49nm,1.1s
RKT Rikitea 52.97 221 eS S 13 39 17.3 -1.5
comp=Z,584nm,30.0s
RKT LR LR 13 47 24.0
comp=Z,1μm,27.0s,baz=42
MENT Mentasta 53.69 337 eP P 13 31 57.8 -0.7
KIP Kipapa 53.87 284 eP P 13 32 02.9 +2.4
KIP pmax pmax
comp=Z,220nm,1.1s
KIP Kipapa 53.87 284 eP P 13 32 02.9 +2.4
comp=Z,220nm,1.1s
HON Honolulu 53.87 284 eP P 13 32 01.2 +0.7
HON Honolulu 53.87 284 eP P 13 32 01.2 +0.7
EGAK Eagle 53.93 340 eP P 13 32 00.9 +0.7
comp=Z,65nm,0.9s
EGAK LR LR
comp=Z,928nm,19.0s
INK Inuvik 54.30 346 P P **13 32 03.2 +0.4**
INK sP **sP** **13 32 25.5 -0.4**
INK PcP **PcP** **13 33 07.2 +1.0**
INK Inuvik 54.30 346 P P **13 32 03.2 +0.4**
comp=Z,32nm,0.7s,baz=144,slow=5.5,SNR=63
INK sP **sP** **13 32 25.5 -0.4**
comp=Z,50nm,0.9s,baz=139,slow=8.4,SNR=9.3
INK PcP **PcP** **13 33 07.2 +1.0**
comp=Z,24nm,1.0s,baz=118,slow=5.1,SNR=3.7
PAX Paxson 54.36 337 eP P 13 32 05.6 +2.1
PAX e*PP pP 13 32 28.0 +8.4
PAX pmax pmax
comp=Z,64nm,1.1s
PAX Paxson 54.36 337 eP P 13 32 05.6 +2.1
comp=Z,64nm,1.1s
PAX epP pP 13 32 28.0 +8.4
SML Sawmill 54.86 335 eP P 13 32 08.7 +1.7
SML pmax pmax
comp=Z,17nm,1.0s
SML Sawmill 54.86 335 eP P 13 32 08.7 +1.7
comp=Z,17nm,1.0s
KDAK Kodiak Island 54.92 329 P P **13 32 08.8 +1.3**
KDAK LR LR
comp=Z,598nm,19.0s
KDAK Kodiak Island 54.92 329 P P **13 32 08.8 +1.3**
comp=Z,39nm,1.2s,baz=179,slow=2.8,SNR=3.8
LCO Las Campanas 55.03 148 PFAKE 13 32 20.0 +11
LCO LR LR
comp=Z,2μm,22.0s
OHAK Old Harbor 55.05 328 eP P 13 32 10.7 +2.2
comp=Z,82nm,1.0s
OHAK epP pP 13 32 31.7 +7.1
PMR Palmer 55.08 334 eP P 13 32 09.9 +1.3
PMR pmax pmax
comp=Z,47nm,1.0s
PMR Palmer 55.08 334 eP P 13 32 09.9 +1.3
comp=Z,47nm,1.0s
ILAR Eielson Array 55.89 338 P P **13 32 15.4 +1.0**
ILAR sP **sP** **13 32 38.1 +0.6**
ILAR PcP **PcP** **13 33 13.6 +1.1**
ILAR P'P' 14 02 17.2
ILAR Eielson Array 55.89 338 P P **13 32 15.4 +1.0**
comp=Z,23nm,1.1s,baz=110,slow=4.7,SNR=132
ILAR sP **sP** **13 32 38.1 +0.6**
comp=Z,36nm,1.0s,baz=136,slow=0.7,SNR=12
ILAR PcP **PcP** **13 33 13.6 +1.1**
comp=Z,8.5nm,0.8s,baz=128,slow=2.2,SNR=7.7
ILAR LR LR 13 58 11.3
comp=Z,1μm,19.8s,baz=138,slow=38
ILAR PKPPKP **P'P'df** **14 02 17.2 +0.2**
comp=Z,0.7nm,1.0s,baz=339,slow=4.8,SNR=5.1
MCK McKinley 56.09 336 eP P 13 32 17.2 +1.4
MCK pmax pmax
comp=Z,71nm,1.0s
MCK McKinley 56.09 336 eP P 13 32 17.2 +1.4
comp=Z,71nm,1.0s
RSO Redoubt South 56.12 332 eP P 13 32 17.6 +1.3
SPU Mount Spurr 56.12 333 eP P 13 32 17.8 +1.6
COLA College 56.29 338 eP P 13 32 18.4 +1.2
COLA pmax pmax
comp=Z,247nm,1.0s
COLA MLR MLR
comp=Z,1μm,20.0s
COLA College 56.29 338 eP P 13 32 18.4 +1.2
comp=Z,247nm,1.0s
COLA LR LR
comp=Z,1μm,20.0s
TRF Thorofare Moun 56.46 336 eP P 13 32 19.8 +1.1
comp=Z,159nm,1.0s
PPLA Purkeypile 56.96 335 eP P 13 32 23.9 +1.7
comp=Z,231nm,1.6s
SVW2 Sparrevohn 57.65 332 eP P 13 32 27.4 +0.5
comp=Z,55nm,0.8s
COLD Coldfoot 58.37 340 eP P 13 32 33.5 +1.6
comp=Z,51nm,1.0s
CFAA Coronel Fontan 58.38 148 P P **13 32 33.6 +1.2**
CFAA Coronel Fontan 58.38 148 P P **13 32 33.6 +1.2**
comp=Z,1.7nm,1.1s,baz=270,slow=7.1,SNR=9.9
CFAA LR LR 13 52 13.6
comp=Z,142nm,21.4s,baz=348,slow=30
SFJD Kangerlussuaq 58.38 21 i P P 13 32 32.6 +0.7
comp=Z,16nm,0.9s
SFJD
comp=Z,460nm,20.0s
SFJD Kangerlussuaq 58.38 21 PFAKE 13 32 40.0 +8.1
SFJD LR LR
comp=Z,490nm,22.0s
IM04 Indian Mountai 58.99 338 eP P 13 32 33.2 -3.0
IMA2 Indian Mountai 59.00 338 eP P 13 32 35.8 -0.6
FALS False Pass 59.78 323 eP P 13 32 41.9 +0.1
comp=Z,172nm,1.0s
PPT Papeete 59.80 236 LR LR 13 51 05.6
comp=Z,716nm,21.2s,baz=42,slow=28
PPT2 Papeete2 59.81 236 eS S 13 40 51.0 +1.2
comp=Z,238nm,26.5s
PPT2 eLQ LQ 13 47 36.8
comp=Z,757nm,28.8s
PPT2 eLR LR 13 50 23.4
comp=Z,2μm,26.8s,baz=50
CPUP Villa Florida 60.98 135 P P **13 32 50.3 0.0**
CPUP pP **pP** **13 33 05.5 -1.2**
CPUP Villa Florida 60.98 135 P P **13 32 50.3 0.0**
comp=Z,6.9nm,0.9s,baz=331,slow=7.2,SNR=9.2
CPUP pP **pP** **13 33 05.5 -1.2**
comp=Z,8.7nm,0.8s,baz=314,slow=8.3,SNR=7.1
CPUP LR LR 13 59 14.7
comp=Z,520nm,20.8s,baz=302,slow=36
AKUT Akutan 61.00 322 eP P 13 32 49.0 -1.0
comp=Z,87nm,1.0s
BDFB Brasilia 61.72 120 P P **13 32 56.5 +0.8**
BDFB pP **pP** **13 33 12.4 +0.3**
BDFB Brasilia 61.72 120 P P **13 32 56.5 +0.8**
comp=Z,10nm,0.9s,baz=287,slow=6.7,SNR=9.8
BDFB pP **pP** **13 33 12.4 +0.3**
comp=Z,19nm,1.0s,baz=289,slow=9.3,SNR=8.4
BDFB LR LR 13 59 57.8
comp=Z,508nm,18.3s,baz=240,slow=36
TBI Tubuai 63.03 231 eS S 13 41 33.2 +2.9
comp=Z,568nm,28.5s
TBI eLQ LQ 13 49 10.6
comp=Z,619nm,33.0s
TBI eLR LR 13 51 48.2
comp=Z,1μm,28.8s,baz=59
SUMG Summit 64.64 17 eP P 13 33 15.0 +0.5
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 64.64 17 ⇓iP P 13 33 14.7 +0.2
comp=Z,40nm,0.9s
SUMG Summit 64.64 17 eP P 13 33 15.0 +0.5
comp=Z,44nm,0.9s
PLCA Paso Flores 64.86 155 eP P 13 33 17.8 +1.9
PLCA Paso Flores 64.86 155 P P **13 33 16.9 +0.9**
comp=Z,12nm,1.0s,baz=300,slow=8.0,SNR=8.3
PLCA LR LR 13 55 42.7
comp=Z,583nm,20.1s,baz=319,slow=30
ATKA Atka Island 65.87 320 eP P 13 33 22.8 +0.5
comp=Z,104nm,1.2s
ALE Alert 66.16 5 P P **13 33 23.9 +0.2**
comp=Z,122nm,1.2s,SNR=8.0
TRQA Tornquist 66.61 148 PFAKE 13 33 40.0 +13
TRQA LR LR
comp=Z,1μm,20.0s
RCBR Riachuelo 68.10 104 PFAKE 13 33 50.0 +13
RCBR LR LR
comp=Z,701nm,20.0s
AMKA Amchitka 69.92 319 eP P 13 33 47.0 -0.8
comp=Z,56nm,0.8s
DAG Danmarks Havn 70.66 14 ⇓iP P 13 33 51.7 -0.2
comp=Z,26nm,0.8s
DAG
comp=Z,530nm,26.0s
SACV Santiago Islan 73.39 79 PFAKE 13 34 20.0 +11
SACV LR LR
comp=Z,611nm,21.0s
FX1 Attu Island--F 73.52 321 eP P 13 34 08.3 -1.1
JMIC Jan Mayen 73.72 20 AMS AMS 14 00 53.2

comp=Z,720nm,0.0s
PMOZ Porto Moniz, M 75.03 60 *e*LR LR 13 58 01.0
comp=Z,141nm,20.0s
KBS Kingsbay 76.56 11 *e*P **P 13 34 27.6 +1.2**
KBS *e*S **S 13 44 03.7 -3.7**
KBS AMS AMS 14 05 53.9
comp=Z,180nm,3.3s
KBS Kingsbay 76.56 11 *e*P **P 13 34 28.6 +2.2**
KBS pmax pmax
comp=Z,175nm,1.8s
KBS MLR MLR
comp=Z,384nm,20.0s
KBS Kingsbay 76.56 11 *e*P **P 13 34 28.6 +2.2**
comp=Z,175nm,1.8s
KBS LR LR
comp=Z,384nm,20.0s
USHA Ushuaia 77.65 162 LR LR 14 01 21.5
comp=Z,470nm,18.9s,baz=311,slow=30
SPITS Spitsbergen Ar 77.69 11 P **P 13 34 34.0 +1.2**
SPITS Spitsbergen Ar 77.69 11 P **P 13 34 34.0 +1.2**
comp=Z,11nm,0.6s,baz=205,slow=1.8,SNR=16
ESK Eskdalemuir 79.44 35 *e*P **P 13 34 44.4 +1.6**
ESK pmax pmax
comp=Z,106nm,1.2s
ESK MLR MLR
comp=Z,473nm,21.0s
ESK Eskdalemuir 79.44 35 *e*P **P 13 34 44.4 +1.6**
comp=Z,106nm,1.2s
ESK LR LR
comp=Z,473nm,21.0s
PGAV Gavieira, Arco 79.82 49 *e*P **P 13 34 44.7 -0.6**
comp=Z,46nm,1.7s
PGAV *e*pP **pP 13 35 02.0 -0.3**
PGAV Gavieira, Arco 79.82 49 *e*LR LR 14 00 43.7
comp=Z,223nm,20.0s
PMAFR Mafra 79.86 52 *e*P **P 13 34 46.4 +1.0**
comp=Z,80nm,1.4s
PMAFR *e*pP pP 13 35 09.4 +7.0
PCAB Cabril 80.06 49 *e*P **P 13 34 48.2 +1.7**
comp=Z,56nm,1.6s
PCAS Casmilo, Conde 80.16 51 *e*P **P 13 34 48.6 +1.6**
comp=Z,112nm,1.3s
PCAS *e*pP pP 13 35 10.1 +6.1
POLO Lamas de Olo 80.32 50 *e*P **P 13 34 48.2 +0.2**
comp=Z,29nm,1.3s
POLO *e*pP pP 13 35 10.7 +5.7
PTOM Tomar 80.34 52 *e*P **P 13 34 49.5 +1.5**
comp=Z,80nm,1.4s
PVIS Viseu 80.43 50 *e*P **P 13 34 49.8 +1.3**
comp=Z,57nm,1.2s
PMTG Montargil 80.62 52 *e*P **P 13 34 50.6 +1.1**
comp=Z,58nm,1.0s
PMTG *e*pP **pP 13 35 06.4 -0.1**
PNCL Nicolau / Gran 80.65 53 *e*P **P 13 34 51.1 +1.4**
comp=Z,43nm,1.2s
PNCL *e*pP **pP 13 35 05.0 -1.7**
PFVI Vila Bisbo 80.68 54 *e*P **P 13 34 51.4 +1.5**
comp=Z,156nm,1.7s
MTE Manteigas 80.77 51 *e*P **P 13 34 51.2 +0.8**
comp=Z,59nm,1.2s
MTE *e*pP **pP 13 35 07.4 0.0**
MTE Manteigas 80.77 51 *e*LR LR 14 05 43.7
comp=Z,248nm,20.0s
MTE Manteigas 80.77 51 *e*P **P 13 34 48.1 -2.2**
comp=Z,60nm,1.3s
MTE LR LR
comp=Z,271nm,20.0s
MORF Marmelete 80.77 54 *e*P **P 13 34 52.0 +1.6**
comp=Z,112nm,1.8s
MORF *e*pP **pP 13 35 08.9 +1.4**
EVO Evora 80.93 53⇓*i*P **P 13 34 51.9 +0.7**
comp=Z,146nm,1.3s
EVO *e*pP **pP 13 35 07.6 -0.6**
EVO *e*sP **sP 13 35 14.2 -0.8**
EVO *e*R
comp=Z,230nm,21.2s
EVO Evora 80.93 53 *e*P **P 13 34 52.5 +1.3**
comp=Z,46nm,1.3s
EVO *e*pP pP 13 35 15.2 +7.0
MVO Moncorvo 80.94 50 *e*P **P 13 34 52.5 +1.2**
comp=Z,70nm,1.5s
MVO *e*pP **pP 13 35 09.0 +0.7**
MVO Moncorvo 80.94 50 *e*LQ LQ 13 51 48.7
MVO *e*LR LR 14 01 14.5
comp=Z,238nm,20.0s
PBRG Braganca 80.97 49 *e*P **P 13 34 52.3 +0.9**
comp=Z,45nm,1.3s
PBRG *e*pP pP 13 35 15.2 +6.8
PMRV Marv??o 81.15 52 *e*P **P 13 34 53.6 +1.2**
comp=Z,68nm,1.3s
PMRV *e*pP **pP 13 35 09.6 +0.2**
PMRV Marv??o 81.15 52 *e*LR LR 14 00 48.1
comp=Z,162nm,20.0s
PCVE Castro Verde 81.15 53 *e*P **P 13 34 54.0 +1.6**
comp=Z,65nm,1.6s
PESTR Estremoz 81.15 52 *e*P **P 13 34 53.3 +0.9**
comp=Z,40nm,1.5s
PESTR *e*pP pP 13 35 15.9 +6.5
PBEJ Beja 81.18 53 *e*P **P 13 34 54.2 +1.7**
comp=Z,64nm,1.9s
PBDV Barranco-do-Ve 81.34 54 *e*P **P 13 34 53.1 -0.3**
comp=Z,110nm,1.9s
PBDV *e*pP **pP 13 35 12.1 +1.6**
ROSF Rostrenen 81.44 42 *e*P **P 13 34 54.0 +0.3**
comp=Z,111nm,1.2s
ROSF *e*pP **pP 13 35 10.2 -0.5**
PVAQ Vaqueiros 81.46 54 *e*P **P 13 34 55.3 +1.3**
comp=Z,84nm,1.6s
PVAQ *e*pP **pP 13 35 12.2 +1.1**
PVAQ Vaqueiros 81.46 54 *e*LQ LQ 13 53 18.2
PVAQ Vaqueiros 81.46 54 *e*LR LR 14 05 44.1
comp=Z,183nm,20.0s
SEY Seymchan 81.53 334 *d*iP **P 13 34 55.7 +1.9**
SUE Sulen 81.54 28 AMS AMS 14 08 50.4
comp=Z,1μm,3.7s
QUIF Quistinic 81.63 42⇓*i*P **P 13 34 55.1 +0.4**
comp=Z,82nm,1.2s
PBAR Barrancos 81.76 53 *e*P **P 13 34 57.1 +1.5**
comp=Z,67nm,1.5s
PBAR *e*pP **pP 13 35 13.3 +0.6**
SGMF Saint Gilles 81.92 42 *e*P **P 13 34 56.4 +0.2**
comp=Z,109nm,1.3s
PET Petropavlovsk 82.00 323 *d*iP **P 13 34 57.2 +0.7**
PET *e**PP pP 13 35 19.9 +6.3
PET *e*S **S 13 45 02.7 -3.2**
PET pmax pmax
comp=Z,600nm,2.5s
PET pmax pmax
comp=Z,93nm,1.4s
PET pmax pmax
comp=Z,200nm,4.5s
PET MLR MLR
comp=Z,200nm,17.0s
PET MLR MLR
comp=Z,300nm,18.0s
PEA0B Petropavlovsk- 82.52 323 *e*P **P 13 35 00.5 +1.2**
PETK Petropavlovsk- 82.52 323 P **P 13 35 00.8 +1.5**
PETK *PP **pP 13 35 17.2 +0.9**
PETK *SP **sP 13 35 23.4 +0.3**
PETK Petropavlovsk- 82.52 323 P **P 13 35 00.8 +1.5**
PETK pP **pP 13 35 17.2 +0.9**
PETK sP **sP 13 35 23.4 +0.3**
PETK Petropavlovsk- 82.52 323 P **P 13 35 00.8 +1.5**
comp=Z,44nm,1.0s,baz=84,slow=8.0,SNR=94
PETK pP **pP 13 35 17.2 +0.9**
comp=Z,42nm,1.1s,baz=82,slow=10,SNR=6.4
PETK sP **sP 13 35 23.4 +0.3**
comp=Z,46nm,0.9s,baz=82,slow=5.3,SNR=11
STEI Steigen 82.58 20 *e*P **P 13 35 01.3 +2.0**
TRO Tromso 82.82 18 *e*P **P 13 35 02.5 +2.1**
TRO AMB AMB 13 35 05.3
comp=Z,194nm,1.7s
GRR Gorron 82.95 41⇓*i*P **P 13 35 02.9 +1.3**
comp=Z,119nm,1.1s
FLN La Foliniere 83.06 41 *e*P **P 13 35 02.9 +0.7**
comp=Z,89nm,0.9s
FLN *e*pP **pP 13 35 19.1 -0.1**
FLN *e*R
comp=Z,417nm,22.0s
NSS Namsos 83.08 24 *e*P **P 13 35 03.7 +1.8**
NSS AMB AMB 13 35 05.7
comp=Z,52nm,1.7s
RTC Rabat Centre 83.11 57 PFAKE
RTC LR LR 13 35 10.0 +7.3
comp=Z,284nm,20.0s
ESDC Sonseca Array 83.61 50 P **P 13 35 06.2 +1.0**
comp=Z,8.0nm,0.9s,baz=301,slow=4.8,SNR=34
ESLA Sonseca Array 83.61 50 *e*P **P 13 35 05.9 +0.6**
comp=Z,18nm,1.5s
MFF Saint Martin d 84.00 43⇓*i*P **P 13 35 07.9 +0.9**
comp=Z,273nm,1.6s
MENF Mencas 84.05 39 *e*P **P 13 35 04.6 -2.5**
SKR Severo-Kuril's 84.30 322 *e*P P 13 35 05.5 -2.9
SKR *e* 13 35 29.0
SKR *e* 13 45 30.0
SKR pmax pmax
comp=Z,110nm,1.0s
KONO Kongsberg 84.31 29 *e*P **P 13 35 10.2 +1.9**
KONO AMS AMS 14 05 06.7
comp=Z,533nm,4.3s
KONO Kongsberg 84.31 29 *e*P **P 13 35 07.1 -1.2**
KONO pmax pmax
comp=Z,145nm,1.1s
KONO MLR MLR
comp=Z,558nm,22.0s
KONO Kongsberg 84.31 29 *e*P **P 13 35 07.1 -1.2**
comp=Z,145nm,1.1s
KONO LR LR
comp=Z,558nm,22.0s
NAO01 NORSAR Array S 84.35 27 *e*P **P 13 35 07.5 -1.0**
comp=Z,109nm,1.6s
NB2 NORSAR Subarra 84.40 27 P **P 13 35 10.1 +1.3**
comp=Z,1.5nm,0.7s,baz=301,slow=5.1
NB2 NORSAR Subarra 84.40 27 P **P 13 35 10.1 +1.3**
baz=301,slow=5.1
NOA NORSAR Array B 84.40 27 P **P 13 35 10.1 +1.3**
NOA pP **pP 13 35 25.7 -0.3**
NOA sP **sP 13 35 32.1 -0.5**
NOA NORSAR Array B 84.40 27 P **P 13 35 10.1 +1.3**
comp=Z,7.7nm,0.6s,baz=298,slow=4.9,SNR=40
NOA pP **pP 13 35 25.7 -0.3**
comp=Z,17nm,1.0s,baz=303,slow=4.9,SNR=8.4
NOA sP **sP 13 35 32.1 -0.5**
comp=Z,28nm,1.0s,baz=298,slow=4.8,SNR=7.5
NOA LR LR 14 13 40.4
comp=Z,268nm,21.7s,baz=275,slow=36
KTK1 Kautokeino 84.42 17 *e*P **P 13 35 09.5 +0.8**
TIXI Tiksi 84.42 346 *d*iP **P 13 35 09.4 +0.8**
TIXI pmax pmax
comp=Z,121nm,1.4s
SJPF Ste Jean 84.45 47⇓*i*P **P 13 35 10.3 +0.9**
comp=Z,176nm,1.8s
LARF Larrau 84.64 47 *e*P **P 13 35 11.6 +1.2**
ARCES ARCESS Array B 84.73 17 P **P 13 35 10.8 +0.5**
ARCES sP **sP 13 35 33.2 -0.9**
ARCES ARCESS Array B 84.73 17 P **P 13 35 10.8 +0.5**
comp=Z,18nm,0.7s,baz=305,slow=3.2,SNR=42
ARCES sP **sP 13 35 33.2 -0.9**
comp=Z,29nm,0.9s,baz=317,slow=5.1,SNR=7.4
ARCES LR LR 14 12 27.7
comp=Z,255nm,21.9s,baz=310,slow=35
ARE0 ARCESS Array S 84.73 17 *e*P **P 13 35 08.3 -1.9**
ATE Arette 84.83 46 *e*P **P 13 35 12.2 +0.9**
ETSF Etsaut 84.99 47⇓*i*P **P 13 35 13.0 +0.8**
comp=Z,135nm,1.5s
REYF Montagne du Re 85.04 46 *e*P **P 13 35 13.6 +1.1**
LFF La Frestale 85.16 44⇓*i*P **P 13 35 13.6 +0.7**
comp=Z,425nm,1.6s
LFF *e*pP **pP 13 35 30.1 +0.1**
LABF Labassere 85.37 46 *e*P **P 13 35 14.9 +0.8**
VIEF Viey 85.39 46 *e*P **P 13 35 15.6 +1.4**
BAIF Baives 85.45 39⇓*i*P **P 13 35 15.2 +1.0**
comp=Z,154nm,1.2s
BAIF *e*pP **pP 13 35 31.5 +0.1**
MUD Monsted U'grnd 85.52 32 *i*P **P 13 35 16.2 +1.8**
comp=Z,15nm,0.8s
RJF Les Rejaudoux 85.54 44⇓*i*P **P 13 35 15.2 +0.4**
comp=Z,256nm,1.3s
RJF *e*pP **pP 13 35 31.8 -0.2**
RJF *e*R
comp=Z,316nm,21.8s
HYF Humbligny 85.55 42 *e*P **P 13 35 15.4 +0.6**
EPF Esparros 85.56 46⇓*i*P **P 13 35 15.5 +0.5**
comp=Z,189nm,1.4s
EPF *e*pP **pP 13 35 32.3 +0.1**
RESF Ens 85.64 46 *e*P **P 13 35 17.2 +1.7**
TCF Toulx Ste Croi 85.64 43⇓*i*P **P 13 35 15.6 +0.3**
comp=Z,239nm,1.4s
TCF *e*pP **pP 13 35 32.1 -0.4**
DOU Dourbes 85.67 39 P **P 13 35 16.9 +1.6**
DOU Dourbes 85.67 39 E 13 35 32.8
DOU Dourbes 85.67 39 AP pP 13 35 38.7 +6.2
GIVF Givet 85.80 38 *e*P **P 13 35 17.0 +1.0**
comp=Z,117nm,1.2s
MELF Melles 85.90 46 *e*P **P 13 35 17.2 +0.4**
BGF Bois d'Agland 85.95 42 *e*P **P 13 35 17.1 +0.3**
comp=Z,59nm,0.9s
BGF *e*pP **pP 13 35 33.5 -0.5**
BCLA Clavier 85.96 38 P **P 13 35 18.1 +1.4**
comp=Z,30nm,1.5s
BEBN Eben Emael 86.03 38 P **P 13 35 18.6 +1.6**
comp=Z,11nm,1.2s
BEBN AP pP 13 35 40.6 +6.4
CAF Calviac 86.04 44⇓*i*P **P 13 35 17.7 +0.4**
comp=Z,137nm,1.7s
MLS Moulis 86.10 46 *e*P **P 13 35 18.9 +1.2**
SSF Saint Saulge 86.17 42⇓*i*P **P 13 35 18.2 +0.3**
comp=Z,129nm,1.3s
SSF *e*pP **pP 13 35 34.6 -0.5**
SSF *e*sP **sP 13 35 41.4 -0.4**
AVF Avril sur Loir 86.18 42⇓*i*P **P 13 35 17.9 0.0**
comp=Z,100nm,1.4s
AVF *e*pP **pP 13 35 34.4 -0.7**
HGN Heimansgroeve 86.19 38 *e*P **P 13 35 18.8 +1.0**
comp=Z,58nm,1.0s
HGN *e*pP pP 13 35 41.3 +6.3
HGN Heimansgroeve 86.19 38 *e*S **S 13 45 49.7 +1.8**
WTSB Winterswijk 86.19 36 *e*P **P 13 35 19.2 +1.4**
comp=Z,65nm,1.4s
WTSB *e*pP pP 13 35 41.9 +6.9
MEM Membach 86.29 38 P **P 13 35 19.7 +1.3**
comp=Z,26nm,1.1s
MEM E 13 35 36.1
LOR Lormes 86.32 41⇓*i*P **P 13 35 19.2 +0.6**
comp=Z,104nm,0.8s
LOR *e*pP **pP 13 35 35.6 -0.2**
LOR *e*R
comp=Z,444nm,20.2s
PYM Petit Puy Mans 86.35 43 *e*P **P 13 35 20.0 +1.1**
SMF Signal de Mont 86.55 42⇓*i*P **P 13 35 19.7 -0.1**
comp=Z,29nm,0.8s
MEZF Maizieres J'vi 86.57 40⇓*i*P **P 13 35 20.7 +0.9**
comp=Z,51nm,0.8s
IBBN Ibbenburen 86.58 36 *e*P **P 13 35 21.8 +2.1**
comp=Z,24nm,1.0s
BUG Bochum--Univer 86.67 37 *e*P **P 13 35 21.5 +1.3**
comp=Z,6.0nm,0.8s
SFTF Sexfontaines 86.68 40 *e*P **P 13 35 21.1 +0.7**
comp=Z,136nm,1.3s
LBL Lubilhac 86.70 43 *e*P **P 13 35 22.1 +1.4**
MTLF Montolieu 86.73 45⇓*i*P **P 13 35 21.1 +0.4**
comp=Z,48nm,1.0s
MTLF *e*pP **pP 13 35 37.7 -0.2**
WLF Walferdange 86.77 39 P **P 13 35 21.9 +1.2**
comp=Z,35nm,1.3s
WLF Walferdange 86.77 39 *e*P **P 13 35 22.4 +1.7**
comp=Z,44nm,1.1s
WLF Walferdange 86.77 39 *e*P **P 13 35 19.2 -1.5**
WLF pmax pmax
comp=Z,46nm,1.1s
WLF MLR MLR
comp=Z,250nm,20.0s
WLF Walferdange 86.77 39 *e*P **P 13 35 19.2 -1.5**
comp=Z,46nm,1.1s
WLF LR LR
comp=Z,250nm,20.0s
CARF Carcanieres 86.88 46 *e*P **P 13 35 22.3 +0.7**
PAGF Fort de Pagny 86.96 40 *e*P **P 13 35 22.8 +1.1**
comp=Z,31nm,1.4s
PAGF *e*pP **pP 13 35 39.2 +0.3**
LRDF Laroque-de-Fa 87.10 46 *e*P **P 13 35 23.3 +0.8**
PMSA Palmer Station 87.23 165 P **P 13 35 23.1 +0.7**
PMSA Palmer Station 87.23 165 P **P 13 35 23.1 +0.7**
comp=Z,9.1nm,1.1s,baz=338,slow=7.0,SNR=4.0
BSEG Bad Segeberg 87.24 34 *e*P **P 13 35 24.4 +1.5**
comp=Z,63nm,1.0s
BSEG Bad Segeberg 87.24 34 *e*P **P 13 35 24.4 +1.5**
BSEG pmax pmax
comp=Z,63nm,1.0s
FILF Fillols 87.25 46 *e*P **P 13 35 23.3 -0.1**
MSVF Nonsavu 87.53 251 P **P 13 35 28.0 +3.0**
comp=Z,324nm,1.0s,SNR=6.6
MSVF Nonsavu 87.53 251 *e*P P 13 35 28.5 +3.4
MSVF pmax pmax
comp=Z,72nm,1.1s
MSVF Nonsavu 87.53 251 *e*P P 13 35 28.5 +3.4
comp=Z,72nm,1.1s
SSB Saint Sauveur 87.53 43 *e*P **P 13 35 24.0 -0.6**
SSB pmax pmax
comp=Z,26nm,1.2s
SSB MLR MLR
comp=Z,337nm,19.0s
SSB Saint Sauveur 87.53 43 *e*P **P 13 35 24.0 -0.6**
comp=Z,26nm,1.2s
SSB LR LR
comp=Z,337nm,19.0s
LASF Ste Croix 87.55 44⇓*i*P **P 13 35 25.0 +0.3**
comp=Z,38nm,1.0s
HAU Haudompre 87.57 40 *e*P **P 13 35 24.4 -0.3**
comp=Z,29nm,0.8s
HAU *e*pP **pP 13 35 41.9 0.0**
HAU *e*R
comp=Z,497nm,22.8s
VIVF Saint-Julien-l 87.78 43⇓*i*P **P 13 35 25.9 +0.1**
comp=Z,36nm,1.2s
NRDL Niedersach Rie 87.79 35 *e*P **P 13 35 27.2 +1.7**
comp=Z,25nm,1.0s
TNS Taunus Mts 87.87 37 *e*P **P 13 35 27.4 +1.3**
comp=Z,20nm,0.9s
TNS Taunus Mts 87.87 37 *e*P **P 13 35 27.4 +1.3**
TNS pmax pmax
comp=Z,20nm,0.9s
HINF Hinteralfeld 87.95 40 *e*P **P 13 35 26.0 -0.6**
comp=Z,49nm,1.4s
CDF Champ du Feu 87.96 39 *e*P **P 13 35 26.2 -0.4**
comp=Z,57nm,1.4s
ECH Echery 87.97 40 *e*P **P 13 35 25.6 -1.0**
ECH pmax pmax
comp=Z,14nm,1.0s
ECH MLR MLR
comp=Z,341nm,20.0s
ECH Echery 87.97 40 *e*P **P 13 35 25.6 -1.0**
comp=Z,14nm,1.0s
ECH LR LR
comp=Z,341nm,20.0s
ECH Echery 87.97 40 *e*P **P 13 35 27.1 +0.5**
CABF La Chapelle 87.98 41⇓*i*P **P 13 35 26.5 -0.3**
comp=Z,25nm,1.0s
LANF Langenberg 88.03 39 *e*P **P 13 35 27.5 +0.6**
MOF Molkenrain 88.11 40 *e*P **P 13 35 27.8 +0.4**
LOMF Lomont 88.13 40 *e*P **P 13 35 27.8 +0.3**
APA Apatity 88.19 16⇓*i*P P 13 35 31.0 +3.8
LVZ Lovozero 88.27 15 *e*P **P 13 35 28.3 +0.6**
LVZ pmax pmax
comp=Z,25nm,1.0s
UBBA Unterbreizbach 88.49 36 *e*P **P 13 35 30.4 +1.6**
comp=Z,14nm,1.2s
ORIF Oris-en-Rattie 88.54 43⇓*i*P **P 13 35 29.5 0.0**
comp=Z,28nm,1.1s
ORIF *e*R
comp=Z,544nm,21.5s
BFO Black Forest 88.63 39 P **P 13 35 30.8 +1.1**
comp=Z,48nm,1.2s,SNR=5.6
BFO Black Forest 88.63 39 *e*P **P 13 35 30.3 +0.6**
comp=Z,9.0nm,1.1s
BFO Black Forest 88.63 39 *e*P **P 13 35 29.9 +0.2**
BFO MLR MLR
comp=Z,304nm,22.0s
BFO Black Forest 88.63 39 *e*P **P 13 35 29.9 +0.2**
BFO LR LR
comp=Z,304nm,22.0s
RSL Roselend 88.70 42 *e*P **P 13 35 30.9 +0.6**
SMRF Simiane la Rot 88.73 44⇓*i*P **P 13 35 30.8 +0.5**
comp=Z,27nm,1.3s
LPL La Plagne 88.84 42⇓*i*P **P 13 35 31.3 +0.3**
SENIN Lac Senin/Sane 88.84 41 *e*P **P 13 35 32.4 +1.3**
LPG La Plagne 88.86 42⇓*i*P **P 13 35 31.6 +0.4**
comp=Z,77nm,1.4s
STU Stuttgart 88.95 38 *e*P **P 13 35 32.3 +1.1**
comp=Z,14nm,1.1s
BNI Bardonecchia 89.00 43 *e*P **P 13 35 32.8 +1.1**
BNI pmax pmax
comp=Z,24nm,1.1s
BNI MLR MLR
comp=Z,443nm,21.0s
BNI Bardonecchia 89.00 43 *e*P **P 13 35 32.8 +1.1**
comp=Z,24nm,1.1s
BNI LR LR
comp=Z,443nm,21.0s
MBDF Montbardon 89.20 43⇓*i*P **P 13 35 32.7 +0.1**
comp=Z,25nm,1.0s
NEUB Neuenburg 89.31 36 *e*P **P 13 35 34.2 +1.4**
comp=Z,9.0nm,0.9s
MOX Moxa 89.48 36 *e*P **P 13 35 35.0 +1.3**
comp=Z,8.0nm,1.0s
MOX Moxa 89.48 36 *e*P **P 13 35 35.0 +1.3**
MOX pmax pmax
comp=Z,8.0nm,1.0s
FRF La Foret Royal 89.61 44⇓*i*P **P 13 35 34.3 -0.1**
comp=Z,51nm,1.4s
LMR La Mourre 89.61 44⇓*i*P **P 13 35 34.1 -0.3**
comp=Z,35nm,1.0s
CALN Calern 89.69 44 *e*P **P 13 35 35.6 +0.7**
GRFO Grafenberg 89.71 37 *e*P **P 13 35 36.6 +1.9**
GRFO Grafenberg 89.71 37 *e*P **P 13 35 36.6 +1.9**
GRF Grafenberg Arr 89.71 37 *e*P **P 13 35 36.7 +1.9**
comp=Z,21nm,1.1s
GRF Grafenberg Arr 89.71 37 *e*P **P 13 35 36.7 +1.9**
GRF pmax pmax
comp=Z,21nm,1.1s
KAF Kangasniemi 89.78 22 *e*P **P 13 35 33.1 -1.6**
KAF pmax pmax
comp=Z,12nm,0.9s
KAF Kangasniemi 89.78 22 *e*p **P 13 35 33.1 -1.6**
comp=Z,12nm,0.9s
MVIF Mont Vial 89.80 44 *e*P **P 13 35 35.6 +0.1**
TOUF Mont Tournerai 89.81 43 *e*P **P 13 35 35.6 0.0**
LUCF Luceram 89.93 43 *e*P **P 13 35 36.3 +0.3**
CLL Collm 89.93 35 *e*P **P 13 35 36.9 +1.2**
comp=Z,7.0nm,1.0s
CLL Collm 89.93 35⇓*i*P **P 13 35 36.4 +0.7**
CLL *i**PP **sP 13 35 58.2 -1.5**
CLL *e*S **ScS 13 46 26.0 -1.5**
CLL pmax pmax
comp=Z,29nm,1.5s
CLL Collm 89.93 35⇓*i*P **P 13 35 36.4 +0.7**
comp=Z,29nm,1.5s
CLL *i*sP **sP 13 35 58.2 -1.5**
comp=Z,24nm,1.4s
CLL *e*SKKSac **SKKSac 13 46 11.0 -3.6**
CLL *e*S **ScS 13 46 26.0 -1.5**
CLL *e* 13 46 58.0
CLL *e*PS **PnS 13 47 32.0 -4.8**
CLL *e*SS SS 13 52 42.0 +21
CLL *e*SSS SSS 13 56 24.0
CLL *e* 13 59 54.0
AUTN L'Aution 89.94 43 *e*P **P 13 35 36.7 +0.5**
SBF Sospel 90.00 43⇓*i*P **P 13 35 35.9 -0.4**
comp=Z,45nm,1.0s
REVF Revere 90.00 44 *e*P **P 13 35 36.5 +0.2**
SAOF Saorge 90.02 43 *e*P **P 13 35 36.3 -0.1**
DAVA Damuels 90.03 40⇓*i*PcP **PcP 13 35 37.5 -0.2**
comp=Z,23nm,1.1s,SNR=9.8
TANN Tannenbergstha 90.07 36 *e*P **P 13 35 37.8 +1.3**
comp=Z,8.0nm,1.1s
TUE Stuetta 90.07 41 *e*P **P 13 35 37.9 +1.1**
comp=Z,24nm,1.2s
TUE LR LR
comp=Z,509nm,20.0s
MANZ Manzenberg 90.08 37 *e*P **P 13 35 37.6 +1.1**
comp=Z,5.0nm,1.0s
MANZ *e*pP pP 13 35 59.0 +5.2
FINES FINESS Array B 90.13 23 P **P 13 35 35.7 -0.7**
FINES FINESS Array B 90.13 23 P **P 13 35 35.7 -0.7**
comp=Z,12nm,0.9s,baz=324,slow=6.9,SNR=15
FINES LR LR 14 15 19.7
comp=Z,446nm,21.9s,baz=324,slow=35
ROTZ Rotzenmuhle 90.24 37 *e*P **P 13 35 38.8 +1.6**
comp=Z,11nm,1.2s
ROTZ *e*pP pP 13 36 01.1 +6.6
RETA Reutte 90.47 39⇓*i*PcP **P 13 35 39.1 +0.7**
comp=Z,13nm,1.1s,SNR=9.5
FUORN Ofenpass-Fuorn 90.57 40 *e*P **P 13 35 40.2 +1.1**
BRG Berggiesshubel 90.66 35 *i*P **P 13 35 40.2 +1.1**
comp=Z,39nm,1.6s
BRG pP pP 13 36 02.1 +5.7

comp=Z,24nm,1.1s
BRG Berggiesshubel 90.66 35 S S 13 46 37.0 +6.8
BRG SP **SPn** **13 47 41.0 +3.9**
BRG SS **SS** **13 52 28.0 -4.0**
BRG
comp=N,223nm,25.0s
BRG
comp=E,306nm,25.0s
BRG Berggiesshubel 90.66 35 *e*P **P** **13 35 40.4 +1.3**
comp=Z,11nm,1.0s
BRG *e*pP pP 13 36 02.4 +6.0
BRG Berggiesshubel 90.66 35 *i* P **P** **13 35 40.2 +1.1**
BRG *PP pP 13 36 02.1 +5.7
BRG SP SP 13 47 41.0 +4.2
BRG SS **SS** **13 52 28.0 -4.0**
BRG pmax pmax
comp=Z,39nm,1.6s
BRG pmax pmax
comp=Z,24nm,1.1s
BRG MLR MLR
comp=Z,274nm,27.0s
BRG MLR MLR
comp=N,223nm,25.0s
BRG MLR MLR
comp=E,306nm,25.0s
FETA Feichten 90.67 40⇑*i*PcP **PcP** **13 35 40.4 -0.1**
comp=E,15nm,1.3s,SNR=6.0
MOTA Moosalm 90.74 39⇑*i*PcP **PcP** **13 35 40.8 0.0**
comp=E,12nm,1.0s,SNR=8.0
YAK Yakutsk 90.81 339 *e*P **P** **13 35 40.1 +0.6**
YAK pmax pmax
comp=Z,184nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,42nm,1.3s
WET Wettzell 90.92 37 *e*P **P** **13 35 41.9 +1.5**
comp=Z,11nm,1.1s
WET Wettzell 90.92 37 *e*P **P** **13 35 41.9 +1.5**
WET pmax pmax
comp=Z,11nm,1.1s
WATA Walderalm 91.03 39⇑*i*PcP **PcP** **13 35 42.1 0.0**
comp=Z,9.8nm,1.0s
WTTA Wattenberg 91.10 39⇑*i*PcP **PcP** **13 35 42.8 +0.3**
comp=Z,15nm,1.4s,SNR=6.1
KHC Kasperske Hory 91.33 37 *e*P P 13 35 38.5 -3.8
KHC *e* 13 36 05.5
KHC Kasperske Hory 91.33 37 *e*P P 13 35 38.5 -3.8
KHC *ex* x 13 35 44.0
KHC *es*P sP 13 36 05.5 -0.8
KHC Kasperske Hory 91.33 37 *e*P **P** **13 35 43.3 +1.0**
GEC2 GERESS Array S 91.54 37 *e*P **P** **13 35 44.5 +1.1**
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 91.54 37 *e*P **P** **13 35 44.5 +1.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 91.54 37 P **P** **13 35 44.0 +0.6**
GERES sP **sP** **13 36 06.0 -1.4**
GERES PKKP **PKKPdf** **13 53 02.5 +2.0**
GERES GERESS Array B 91.54 37 P **P** **13 35 44.0 +0.6**
comp=Z,2.9nm,0.9s,baz=316,slow=3.7,SNR=24
GERES sP **sP** **13 36 06.0 -1.4**
comp=Z,3.8nm,0.9s,baz=316,slow=3.7,SNR=5.6
GERES PKKP **PKKPdf** **13 53 02.5 +2.0**
comp=Z,1.4nm,1.0s,baz=116,slow=6.1,SNR=8.3
GERES LR LR 14 17 43.6
comp=Z,269nm,21.8s,baz=301,slow=36
RJOB Jochberg 91.56 38 *e*P **P** **13 35 44.6 +1.1**
comp=Z,6.0nm,1.1s
VLC Villacollemand 91.78 42 *e*P **P** **13 35 43.9 -0.6**
comp=Z,19nm,1.1s
VLC LR LR
comp=Z,236nm,22.0s
ABTA Abfaltersbach 91.87 39⇓*i*PcP **PcP** **13 35 45.7 -0.1**
comp=Z,24nm,1.1s,SNR=14
TMCR Tamitsa 92.02 17 *e*P **P** **13 35 45.4 +0.3**
TMCR pmax pmax
comp=Z,46nm,1.2s
KBA Koelnbreinsper 92.21 39⇓*i*PcP **P** **13 35 47.2 +0.5**
comp=Z,14nm,1.1s,SNR=9.5
DPC Dobruska-Polom 92.23 35 *e*P **P** **13 35 47.5 +1.0**
DPC Dobruska-Polom 92.23 35 *e*P **P** **13 35 47.5 +1.0**
MOA Molln 92.37 36⇓*i*PcP **PcP** **13 35 48.1 +0.2**
comp=Z,15nm,1.2s,SNR=9.7
MORC Moravsky Berou 93.20 35 *e*P **P** **13 35 49.3 -1.7**
MORC pmax pmax
comp=Z,26nm,1.2s
MORC Moravsky Berou 93.20 35 *e*P **P** **13 35 49.3 -1.7**
comp=Z,26nm,1.2s
VSL Villasalto 93.21 47 PFAKE 13 36 00.0 +8.8
VSL LR LR
comp=Z,252nm,19.0s
OBKA Obir 93.21 39⇓*i*PcP **P** **13 35 51.2 +0.1**
comp=Z,20nm,1.2s,SNR=7.7
TIC Toumodi 93.25 82 *e*P **P** **13 35 51.4 -0.4**
comp=Z,11nm,0.3s
CONA Conrad Observa 93.25 37 *i* PcP **PcP** **13 35 52.4 +0.6**
comp=Z,14nm,1.2s,SNR=9.6
LIC Lamto 93.37 82 *e*P **P** **13 35 52.6 +0.2**
comp=Z,41nm,1.0s,baz=276
LIC *e*pP **pP** **13 36 09.2 -0.5**
LIC *e*R
comp=Z,136nm,21.8s
LIC Lamto 93.37 82 *e*P **P** **13 35 52.2 -0.2**
comp=Z,55nm,1.0s
DBIC Dimbokro 93.39 82 P **P** **13 35 53.0 +0.5**
DBIC Dimbokro 93.39 82 P **P** **13 35 53.0 +0.5**
comp=Z,12nm,0.9s,baz=299,slow=4.4,SNR=7.0
DBIC LR LR 14 12 56.6
comp=Z,246nm,22.0s,baz=281,slow=32
SOKA Soboth 93.41 38⇑*i*PcP **P** **13 35 52.4 +0.3**
comp=Z,21nm,1.1s,SNR=17
PERS Pernice 93.48 38 *i* P **P** **13 35 52.9 +0.6**
KIC Kosan Boka 93.60 82 *e*P **P** **13 35 53.2 -0.2**
comp=Z,59nm,1.0s
SUW Suwalki 93.61 29 *e*P **P** **13 35 51.9 -0.7**
SUW Suwalki 93.61 29 *e*P **P** **13 35 51.9 -0.7**
PDKS Podkum 93.71 39 *i* P **P** **13 35 54.3 +0.9**
ZST Bratislava 93.81 36 *e*P **P** **13 35 55.0 +1.3**
ZST *e* 13 36 17.6
ZST Bratislava 93.81 36 *e*P **P** **13 35 55.0 +1.3**
ZST *es*P **sP** **13 36 17.6 -0.1**
YSS Yuzh-Sakhalins 93.85 322⇑*i*P **P** **13 35 51.5 -2.4**
YSS *e* 13 36 18.5
YSS pmax pmax
comp=Z,60nm,1.0s
BOJS Bojanci 94.15 39 *i* P **P** **13 35 56.1 +0.7**
OJC Ojcow 94.17 34 *e*P **P** **13 35 55.9 +0.6**
OJC Ojcow 94.17 34 *e*P **P** **13 35 56.0 +0.7**
AQU L'Aquila 94.57 43 PFAKE 13 36 10.0 +13
AQU LR LR
comp=Z,451nm,21.0s
NACGM Naroch 94.68 27 *e*LQ LQ 14 30 08.0
KEST Kesra 94.86 50 *e*P **P** **13 35 57.7 -1.2**
KEST Kesra 94.86 50 P **P** **13 35 59.6 +0.7**
comp=Z,1.9nm,0.9s,baz=210,slow=3.6,SNR=3.8
KEST LR LR 14 19 15.5
comp=Z,68nm,20.5s,baz=261,slow=36
NIE Niedzica 94.90 34 *e*P P 13 36 02.3 +3.5
STHS Stebnicka Huta 95.39 34 *e*P **P** **13 36 02.9 +1.9**
STHS pmax pmax
comp=Z,16nm,1.1s
STHS Stebnicka Huta 95.39 34 *e*P **P** **13 36 02.9 +1.9**
STHS *es*P **sP** **13 36 25.5 +0.5**
MNK Minsk 95.40 27 *e*P **P** **13 36 01.0 +0.1**
MICGM Minsk 95.42 27 *e* **P** **13 36 01.0 0.0**
ASAJ Asahikawa 95.42 320 P **P** **13 36 02.5 +1.2**
ASAJ Asahikawa 95.42 320 P **P** **13 36 02.5 +1.2**
comp=Z,18nm,1.1s,baz=20,slow=4.0,SNR=6.9
PSZ Piszkesteto 95.53 36 *e*P **P** **13 36 03.8 +2.1**
PSZ MLR MLR
comp=Z,400nm,20.0s
PSZ Piszkesteto 95.53 36 *e*P **P** **13 36 03.8 +2.1**
PSZ LR LR
comp=Z,400nm,20.0s
KECS Kecovo 95.53 35 *e*P **P** **13 36 03.3 +1.7**
KECS *e* 13 42 00.1
KECS pmax pmax
comp=Z,11nm,1.3s
KECS Kecovo 95.53 35 *e*P **P** **13 36 03.3 +1.7**
KECS *es*P **sP** **13 36 25.8 +0.2**
CRVS Cervenica-Dubn 95.81 34 *e*P **P** **13 36 04.7 +1.8**
CRVS pmax pmax
comp=Z,28nm,1.4s
CRVS Cervenica-Dubn 95.81 34 *e*P **P** **13 36 04.7 +1.8**
CRVS *es*P **sP** **13 36 27.4 +0.5**
CRVS *e*PP **PP** **13 39 54.0 -0.8**
KWP Kalwaria Pacla 96.04 33 PFAKE 13 36 10.0 +6.1
KWP LR LR
comp=Z,505nm,22.0s
ERM Erimo 96.16 318⇓*i*P **P** **13 36 06.9 +2.3**
ERM pmax pmax
comp=Z,67nm,1.5s
ERM Erimo 96.16 318 PFAKE 13 36 20.0 +15
ERM LR LR
comp=Z,247nm,22.0s
KOLS Kolonicke sedl 96.23 34 *e*P **P** **13 36 06.3 +1.5**
KOLS pmax pmax
comp=Z,21nm,1.2s
KOLS Kolonicke sedl 96.23 34 *e*P **P** **13 36 06.3 +1.5**
UZH Uzhgorod 96.42 34 *e*P **P** **13 36 06.2 +0.6**
UZH *i* 13 49 30.2
LVV L'vov 96.60 32 *e*P **P** **13 36 06.8 +0.3**
LVV MLR MLR
comp=N,100nm,21.0s
LVV MLR MLR
comp=Z,200nm,21.0s
LVV MLR MLR
comp=E,300nm,22.0s
TAM Tamanrasset 97.18 63 PFAKE 13 36 20.0 +10
TAM LR LR
comp=Z,247nm,20.0s
HABR Khabarovsk 97.27 326*de*P Pdif 13 36 10.1 +0.6
HABR *e**PP pP 13 36 32.3 +5.5
HABR *e**SP sP 13 36 40.5 +7.0
HABR *e*S **SKSac** **13 46 41.4 -0.1**
HABR *e**SS S 13 47 19.2 -9.2
HABR *e*PS **PS** **13 48 59.3 +1.7**
CUC Castrocucco 97.33 44 PFAKE 13 36 20.0 +10
CUC LR LR
comp=Z,300nm,20.0s
TORD Torodi Ar. Bea 97.34 74 P **P** **13 36 08.9 -1.6**
TORD pP **pP** **13 36 25.9 -1.9**
TORD PKKP **PKKPbc** **13 52 48.8 +0.7**
TORD Torodi Ar. Bea 97.34 74 P **P** **13 36 08.9 -1.6**
comp=Z,2.3nm,0.9s,baz=297,slow=5.0,SNR=8.1
TORD pP **pP** **13 36 25.9 -1.9**
comp=Z,3.3nm,1.1s,baz=293,slow=4.8,SNR=5.5
TORD PKKP **PKKPbc** **13 52 48.8 +0.7**
comp=Z,1.9nm,0.9s,baz=99,slow=2.7,SNR=7.7
TORD LR LR 14 21 03.2
comp=Z,238nm,20.3s,baz=285,slow=36
CEL Celeste 98.27 45 PFAKE 13 36 30.0 +16
CEL LR LR
comp=Z,139nm,20.0s
MOS Moscow 98.43 22 *e*P **P** **13 36 13.4 -1.1**
KLR Kul'dur 98.48 328 *e*P **P** **13 36 12.7 -2.2**
KLR *e* 13 36 35.0
WDD Wield Dalam 98.52 48 PFAKE 13 36 30.0 +15
WDD LR LR
comp=Z,245nm,21.0s
OBN Obninsk 98.52 23⇑*i*P **P** **13 36 15.0 +0.1**
OBN *e* 13 40 12.5
OBN *i* S **SKSac** **13 46 46.8 -0.8**
OBN *i* PS PS 13 49 00.8 -10
OBN *i* SS SS 13 54 33.3 +10
OBN pmax pmax
comp=Z,27nm,1.0s
KIEV Kiev 98.58 30 *e*P **P** **13 36 14.6 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KIEV MLR MLR
comp=Z,260nm,21.0s
KIEV Kiev 98.58 30 *e*P **P** **13 36 14.6 -0.7**
comp=Z,3.0nm,0.8s
KIEV LR LR
comp=Z,260nm,21.0s
AKASG Malin Array Be 98.58 30 P **P** **13 36 14.2 -1.1**
AKASG Malin Array Be 98.58 30 P **P** **13 36 14.2 -1.1**
AKASG Malin Array Be 98.58 30 P **P** **13 36 14.2 -1.1**
comp=Z,3.6nm,0.9s,baz=301,slow=3.4,SNR=10.0
TIR Tirane 99.21 41 PFAKE 13 36 30.0 +12
TIR LR LR
comp=Z,323nm,20.0s
DZM Mont Dzumac 99.24 250 *e*LR LR 14 09 00.8
comp=Z,1um,28.1s
DZM Mont Dzumac 99.24 250 LR LR 14 11 20.8
comp=Z,440nm,20.9s,baz=179,slow=29
USRK Ussuriysk Arra 101.59 324 P **Pdif** **13 36 30.3 +1.4**
comp=Z,2.0nm,1.0s,baz=61,slow=6.8,SNR=3.6
USRK sP 13 36 52.9
comp=Z,2.9nm,0.9s,baz=33,slow=5.2,SNR=4.3
HNR Honiara 101.78 264 PFAKE 13 36 40.0 +10
HNR LR LR
comp=Z,428nm,20.0s
MJAR Matsushiro Arr 102.33 315 P **Pdif** **13 36 33.0 +0.7**
MJAR sP 13 36 57.4
MJAR Matsushiro Arr 102.33 315 P **Pdif** **13 36 33.0 +0.7**
comp=Z,1.9nm,1.0s,baz=40,slow=3.4,SNR=6.8
MJAR sP 13 36 57.4
comp=Z,1.7nm,0.9s,baz=21,slow=3.2,SNR=5.3
VLA Vladivostok 102.34 324 *e*P **Pdif** **13 36 35.8 +3.6**
VSR Storozhevoye 102.52 25 *e*P **Pdif** **13 36 32.7 -0.1**
VSR pmax pmax
comp=N,30nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
MDJ Mudanjiang 102.63 326 P **Pdif** **13 36 33.3 -0.2**
MDJ pmax pmax
comp=Z,3.0nm,0.8s
MDJ pmax pmax
comp=Z,47nm,4.9s
MDJ Mudanjiang 102.63 326 PFAKE 13 36 50.0 +17
MDJ LR LR
comp=Z,225nm,19.0s
VORD Divnogorie 102.76 25 *e*P **Pdif** **13 36 34.0 +0.1**
VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VRHR Novokhopersk 103.56 23 *e*P **Pdif** **13 36 36.7 -0.8**
VRHR pmax pmax
comp=Z,20nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.5s
ARU Arti 103.72 12*d i*P **Pdif** **13 36 38.2 +0.1**
ARU 13 40 53.2
ARU S **SKSac** **13 47 10.4 -2.3**
ARU SP **SP** **13 49 56.9 -0.9**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU MLR MLR
comp=Z,385nm,28.0s
HIA Hailar 103.97 334 PFAKE 13 36 50.0 +11
HIA LR LR
comp=Z,616nm,20.0s
CN2 Changchun 105.36 327 *e*Pdif **Pdif** **13 36 44.6 -1.0**
CN2 *e*PP **PP** **13 41 09.0 +2.1**
CN2 *e*S **Sdif** **13 48 35.0 -1.4**
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,400nm,22.0s
SANT Santorini 105.65 43 PFAKE 13 41 10.0
SANT LR LR
comp=Z,194nm,20.0s
ANTO Ankara 107.81 36 PFAKE 13 41 20.0
ANTO LR LR
comp=Z,201nm,21.0s
ISP Isparta 107.88 39 PFAKE 13 41 20.0
ISP LR LR
comp=Z,161nm,19.0s
VNA2 Neumayer--Watz 108.01 160 *e*P **PKKPbc** **13 52 16.7 -1.8**
baz=68,slow=3.0
VNA2 Neumayer--Watz 108.01 160 *e* **PKKPdf** **13 52 30.2 -2.3**
baz=68,slow=3.0
VNA2 Neumayer--Watz 108.01 160 *e* PKKPab 13 52 40.3 +12
baz=68,slow=3.0
QSPA South Pole Qui 108.02 180 PFAKE 13 41 20.0
QSPA LR LR
comp=Z,409nm,20.0s
ZALV Zalesovo Beam 108.10 357 P **Pdif** **13 36 58.3 +0.7**
ZALV Zalesovo Beam 108.10 357 Pdif **Pdif** **13 36 58.3 +0.7**
ZALV Zalesovo Beam 108.10 357 Pdiff **Pdif** **13 36 58.3 +0.7**
comp=Z,0.8nm,0.6s,baz=354,slow=4.3,SNR=5.2
GUMO Guam 108.16 291 PFAKE 13 41 20.0
GUMO LR LR
comp=Z,342nm,20.0s
KSRS Korea Array 108.31 321 PKiKP **PKiKP** **13 41 05.2 +0.2**
comp=Z,1.9nm,0.9s,baz=48,slow=1.8,SNR=8.4
KSAR Wonju Array Be 108.34 321 PKiKP **PKiKP** **13 41 05.2 +0.2**
BRTR Keskin Array B 108.38 36 PKiKP **PKiKP** **13 41 05.2 0.0**
BRTR Keskin Array B 108.38 36 PKiKP **PKiKP** **13 41 05.2 0.0**
comp=Z,1.8nm,0.8s,baz=283,slow=2.7,SNR=7.9
BRVK Borovoye 108.70 6 PFAKE 13 41 20.0
BRVK LR LR
comp=Z,476nm,20.0s
INCN Inchon 109.06 322 PFAKE 13 41 20.0
INCN LR LR
comp=Z,260nm,19.0s
SNAA Sanae 109.49 161 *e*P PKKPbc 13 52 23.5 +10
SNAA Sanae 109.49 161 *e* PKKPdf 13 52 35.8 +6.0
SNAA Sanae 109.49 161 *e* PKKPdf 13 52 50.0 +20
KIV Kislovodsk 109.70 27⇓*e*P **Pdif** **13 37 05.7 +0.6**
KIV *e* 13 41 38.3
KIV *e*S **SKSac** **13 47 33.4 -6.3**
KIV *i* PS PS 13 50 50.6 -18
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,200nm,23.0s
ULN Ulaanbaatar 109.81 341 PFAKE 13 41 20.0
ULN LR LR
comp=Z,343nm,20.0s
SONM Songino Array 110.04 341 Pdif **Pdif** **13 37 08.6 +2.0**
SONM PKiKP **PKiKP** **13 41 07.7 -0.3**
SONM PKKPbc **PKKPbc** **13 52 08.8 -2.7**
SONM Songino Array 110.04 341 Pdiff **Pdif** **13 37 08.6 +2.0**
comp=Z,0.5nm,0.7s,baz=25,slow=3.8,SNR=3.7
SONM PKiKP **PKiKP** **13 41 07.7 -0.3**
comp=Z,0.8nm,0.8s,baz=318,slow=1.9,SNR=4.5
SONM PKKPbc **PKKPbc** **13 52 08.8 -2.7**
comp=Z,0.7nm,0.9s,baz=183,slow=2.5,SNR=4.0
CSS Prodhromos 111.47 39 PFAKE 13 41 20.0
CSS LR LR
comp=Z,203nm,21.0s
KURK Kurchatov 111.48 1 P **Pdif** **13 37 14.6 +1.9**
KURK *i* 13 41 08.3
KURK Kurchatov 111.48 1 Pdif **Pdif** **13 37 14.6 +1.9**
KURK PKiKP **PKiKP** **13 41 08.2 -2.3**
KURK PKKPbc **PKKPbc** **13 52 04.8 -1.9**
KURK PKKPab **PKKPab** **13 52 14.6 -3.0**
KURBB Kurchatov Arra 111.58 1 Pdiff **Pdif** **13 37 14.6 +1.4**
comp=Z,0.1nm,0.3s,baz=340,slow=5.0,SNR=4.5
KURBB PKiKP **PKiKP** **13 41 08.2 -2.4**
comp=Z,0.6nm,0.8s,baz=8.7,slow=3.0,SNR=4.6
KURBB PKKPbc **PKKPbc** **13 52 04.8 -1.6**
comp=Z,0.4nm,0.8s,baz=190,slow=2.2,SNR=6.3
KURBB PKKPab **PKKPab** **13 52 14.6 -2.6**
comp=Z,1.2nm,1.0s,baz=179,slow=4.3,SNR=5.4
BJT Baijiatuau 112.78 330 PFAKE 13 41 30.0
BJT LR LR
comp=Z,368nm,20.0s
MSKU Masuku 113.52 84 PFAKE 13 41 30.0
MSKU LR LR
comp=Z,2.0nm,20.0s
GNI Garni 113.67 28 PFAKE 13 41 30.0
GNI LR LR
comp=Z,194nm,19.0s
PMG Port Moresby 113.90 268 PFAKE 13 41 30.0
PMG LR LR
comp=Z,391nm,21.0s
HHC Hu-ho-hao-te 114.17 334 *e*PKP PKPdf 13 41 12.6 -3.5
HHC sPKP 13 41 50.3
HHC PP **PP** **13 42 11.8 +1.2**
HHC PKS PKSdf 13 44 48.0 -4.9
HHC SKS SKSdf 13 48 13.8 -9.5
HHC SKKS SKKSac 13 48 54.4 -14
HHC AMB AMB
comp=Z,250nm,9.7s
HHC LR LR
comp=N,330nm,21.0s
HHC LR LR
comp=E,770nm,21.3s
HHC LR LR
comp=Z,390nm,20.7s
MKAR Makanchi Array 115.36 358 PKIKP **PKPdf** **13 41 17.1 -1.0**
MKAR 13 51 51.4
MKAR 13 51 58.2
MKAR Makanchi Array 115.36 358 PKP **PKPdf** **13 41 17.1 -1.0**
MKAR PKKPbc **PKKPbc** **13 51 51.4 -2.3**
MKAR PKKPab **PKKPab** **13 51 58.2 -2.2**
MKAR PKKP **PKKPdf** **13 52 14.3 -2.5**
MKAR Makanchi Array 115.36 358 PKP **PKPdf** **13 41 17.1 -1.0**
comp=Z,1.5nm,0.9s,baz=13,slow=2.8,SNR=9.2
MKAR PKKPbc **PKKPbc** **13 51 51.4 -2.3**
comp=Z,0.7nm,0.8s,baz=186,slow=3.4,SNR=4.6
MKAR PKKPab **PKKPab** **13 51 58.2 -2.2**
comp=Z,3.0nm,0.9s,baz=146,slow=3.8,SNR=15
MKAR PKKP **PKKPdf** **13 52 14.3 -2.5**
comp=Z,2.9nm,1.0s,baz=166,slow=3.7,SNR=8.2
CTAO Charters Tower 117.17 256 PFAKE 13 41 40.0 +18
CTAO LR LR
comp=Z,257nm,19.0s
WMQ Urumqi 117.92 353 *e*PKP **PKPdf** **13 41 23.0 -0.2**
WMQ PP PP 13 42 41.8 +5.4
WMQ PKS **PKSdf** **13 44 58.3 -1.6**
WMQ SKKS 13 49 29.3
WMQ SS **SS** **13 58 48.6 +4.0**
WMQ AMB AMB
comp=Z,30nm,10.0s
WMQ LR LR
comp=N,490nm,26.0s
WMQ LR LR
comp=E,190nm,25.0s
WMQ LR LR
comp=Z,540nm,26.0s
TKM2 Tokmak 2 119.18 3 PFAKE 13 41 40.0 +14
TKM2 LR LR
comp=Z,302nm,20.0s
EKS2 Erkin-Say 119.32 5 PFAKE 13 41 40.0 +14
EKS2 LR LR
comp=Z,280nm,19.0s
AAK Ala-Archa 119.40 4 PFAKE 13 41 40.0 +14
AAK LR LR
comp=Z,338nm,19.0s
GTA Gaotai 119.69 342 PKP **PKPdf** **13 41 27.4 +0.6**
GTA sPKP 13 42 04.8
GTA PP PP 13 42 59.4 +11
GTA PKS **PKSdf** **13 45 03.1 -0.5**
GTA SKS **SKSdf** **13 48 30.3 -3.6**
GTA AMB AMB
comp=Z,120nm,6.6s
GTA LR LR
comp=N,290nm,22.3s
GTA LR LR
comp=E,250nm,20.4s
GTA LR LR
comp=Z,350nm,19.5s
TATO Taipei 120.72 315 PFAKE 13 41 40.0 +11
TATO LR LR
comp=Z,192nm,21.0s
YHNB Yeheng 121.00 315 PFAKE 13 41 40.0 +10
YHNB LR LR
comp=Z,176nm,19.0s
XAN Xi'an 121.00 331 PKP **PKPdf** **13 41 29.6 +0.2**
XAN LR LR
comp=N,220nm,20.5s
XAN LR LR
comp=E,72nm,22.5s
XAN LR LR
comp=Z,85nm,22.5s
WHN Wuhan 121.08 325 PKP **PKPdf** **13 41 30.5 +1.0**
WHN LR LR
comp=Z,600nm,19.2s
LZH Lanzhou 121.34 337 *e*PKP **PKPdf** **13 41 31.3 +1.2**
LZH PP **PP** **13 43 04.1 +3.7**
LZH SKKS 13 49 43.3
LZH AMB AMB
comp=Z,140nm,4.5s
TSUM Tsumeb 121.72 102 PFAKE 13 41 40.0 +8.9
TSUM LR LR
comp=Z,425nm,19.0s
KSH Kashi 122.60 3 PKP **PKPdf** **13 41 34.3 +1.9**
KSH sPKP 13 42 11.6

KSH			SKS	**SKSdf**	**13 48 35.3**	**-4.1**
KSH			AMB	AMB		
	comp=Z,46nm,4.3s					
KSH			LR	LR		
	comp=N,85nm,5.9s					
KSH			LR	LR		
	comp=E,77nm,6.3s					
KSH			LR	LR		
	comp=Z,95nm,8.3s					
STKA	**Stephens Creek**	**122.65 243**	PKP	**PKPdf**	**13 41 32.9**	**+0.5**
STKA	**Stephens Creek**	**122.65 243**	PKP	**PKPdf**	**13 41 32.9**	**+0.5**
	comp=Z,16nm,0.9s,baz=69,slow=2.6,SNR=16					
CD2	**Chengdu**	**125.93 334**	*e*PKP	**PKPdf**	**13 41 39.8**	**+0.9**
CD2			sPKP		13 42 11.8	
CD2			PP	**PP**	**13 43 36.1**	**+4.9**
CD2			PKS	**PKSdf**	**13 45 14.8**	**-0.9**
CD2			SKS	**SKSdf**	**13 48 41.3**	**-4.6**
CD2			SKKS	**SKKSac**	**13 50 19.0**	**-6.4**
CD2			SS	**SS**	**14 00 25.6**	**-1.8**
CD2			AMB	AMB		
	comp=Z,180nm,10.2s					
CD2			LR	LR		
	comp=N,260nm,21.4s					
CD2			LR	LR		
	comp=Z,200nm,27.4s					
CASY	**Casey**	**127.71 195**	PFAKE		13 41 50.0	+9.0
CASY			LR	LR		
	comp=Z,683nm,19.0s					
DAV	**Davao City (W)**	**128.00 295**	PFAKE		13 42 00.0	+17
DAV			LR	LR		
	comp=Z,422nm,22.0s					
WRAB	**Tennant Creek**	**128.20 259**	PFAKE		13 42 00.0	+17
WRAB			LR	LR		
	comp=Z,301nm,20.0s					
WRA	**Warramunga Arr**	**128.21 259**	PKP	**PKPdf**	**13 41 43.4**	**0.0**
WRA			pPKP	**pPKPdf**	**13 42 00.5**	**-0.8**
WRA	**Warramunga Arr**	**128.21 259**	PKP	**PKPdf**	**13 41 43.4**	**0.0**
	comp=Z,15nm,1.0s,baz=80,slow=2.2,SNR=43					
WRA			pPKP	**pPKPdf**	**13 42 00.5**	**-0.8**
	comp=Z,17nm,1.1s,baz=83,slow=1.5,SNR=12					
GYA	**Guiyang**	**128.39 328**	PKP	**PKPdf**	**13 41 44.0**	**+0.2**
GYA			SKS	SKSdf	13 48 43.5	-7.2
GYA			SKKS	**SKKSac**	**13 50 37.4**	**-3.8**
GYA			LR	LR		
	comp=N,180nm,19.2s					
GYA			LR	LR		
	comp=E,280nm,19.2s					
GYA			LR	LR		
	comp=Z,360nm,20.8s					
ASAR	**Alice Springs**	**129.01 254**	PKP	**PKPdf**	**13 41 44.8**	**-0.1**
ASAR			pPKP	**pPKPdf**	**13 42 02.6**	**-0.2**
ASAR	**Alice Springs**	**129.01 254**	PKP	**PKPdf**	**13 41 44.8**	**-0.1**
	comp=Z,11nm,0.9s,baz=92,slow=1.9,SNR=48					
ASAR			pPKP	**pPKPdf**	**13 42 02.6**	**-0.2**
	comp=Z,10nm,1.0s,baz=89,slow=2.1,SNR=9.4					
MBAR	**Mbarara**	**129.17 76**	PFAKE		13 42 00.0	+14
MBAR			LR	LR		
	comp=Z,309nm,20.0s					
MAW	**Mawson**	**129.40 172**	PKP	**PKPdf**	**13 41 45.2**	**+1.1**
MAW			pPKP	**pPKPdf**	**13 42 02.3**	**+0.2**
MAW	**Mawson**	**129.40 172**	PKP	**PKPdf**	**13 41 45.2**	**+1.1**
	comp=Z,24nm,0.9s,baz=260,slow=3.3,SNR=38					
MAW			pPKP	**pPKPdf**	**13 42 02.3**	**+0.2**
	comp=Z,21nm,1.0s,baz=230,slow=3.3,SNR=9.3					
BOSA	**Boshof**	**129.58 112**	PKP	**PKPdf**	**13 41 46.0**	**+0.1**
BOSA			pPKP	**pPKPdf**	**13 42 03.2**	**-0.7**
BOSA	**Boshof**	**129.58 112**	PKP	**PKPdf**	**13 41 46.0**	**+0.1**
	comp=Z,14nm,1.0s,baz=275,slow=1.9,SNR=8.7					
BOSA			pPKP	**pPKPdf**	**13 42 03.2**	**-0.7**
	comp=Z,21nm,1.1s,baz=205,slow=1.7,SNR=7.7					
LBTB	**Lobatse**	**129.77 108**	PKP	**PKPdf**	**13 41 46.5**	**+0.1**
LBTB	**Lobatse**	**129.77 108**	PKP	**PKPdf**	**13 41 46.5**	**+0.1**
	comp=Z,12nm,1.1s,baz=282,slow=4.2,SNR=5.0					
LSA	**Lhasa**	**131.14 346**	*e*PKIKP	**PKPdf**	**13 41 49.8**	**+0.4**
LSA			MLR	MLR		
	comp=Z,330nm,22.0s					
LSA	**Lhasa**	**131.14 346**	*e*PKPdf	**PKPdf**	**13 41 49.8**	**+0.4**
LSA			LR	LR		
	comp=Z,330nm,22.0s					
KMI	**Kunming**	**131.39 331**	PKP	**PKPdf**	**13 41 50.1**	**+0.4**
KMI			PP	**PP**	**13 44 09.3**	**+2.0**
KMI			SS	SS	14 01 32.8	-2.7
KMI			AMB	AMB		
	comp=Z,220nm,5.3s					
KMI			LR	LR		
	comp=N,160nm,19.7s					
KMI			LR	LR		
	comp=E,230nm,21.5s					
KMI			LR	LR		
	comp=Z,250nm,25.2s					
QIZ	**Qiongzhong**	**132.50 319**	PKP	**PKPdf**	**13 41 47.4**	**-4.2**
QIZ			SS	SS	14 01 48.3	-1.0
QIZ			LR	LR		
	comp=N,190nm,18.9s					
QIZ			LR	LR		
	comp=Z,240nm,21.0s					
QIZ	**Qiongzhong**	**132.50 319**	PFAKE		13 42 00.0	+8.4
QIZ			LR	LR		
	comp=Z,264nm,20.0s					
KMBO	**Kilima Mbogo**	**135.34 73**	PFAKE		13 42 10.0	+13
KMBO			LR	LR		
	comp=Z,306nm,21.0s					
FITZ	**Fitzroy Crossi**	**136.13 262**	PKP	**PKPdf**	**13 41 58.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**136.13 262**	PKP	**PKPdf**	**13 41 58.8**	**+0.5**
	comp=Z,6.2nm,0.9s,baz=133,slow=3.1,SNR=10					
KKM	**Kota Kinabalu**	**136.45 300**	PFAKE		13 42 10.0	+11
KKM			LR	LR		
	comp=Z,139nm,19.0s					
KAPI	**Kappang**	**138.48 283**	PFAKE		13 42 20.0	+17
KAPI			LR	LR		
	comp=Z,325nm,21.0s					
CHTO	**Chiang Mai**	**138.59 331**	*e*PKIKP	**PKPdf**	**13 42 03.8**	**+0.8**
CHTO			MLR	MLR		
	comp=Z,291nm,20.0s					
CHTO	**Chiang Mai**	**138.59 331**	*e*PKPdf	**PKPdf**	**13 42 03.8**	**+0.8**
CHTO			LR	LR		
	comp=Z,291nm,20.0s					
CM31	**Chiang Mai Arr**	**138.90 331**	*e*PKPdf	**PKPdf**	**13 42 04.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**138.90 331**	PKP	**PKPdf**	**13 42 04.3**	**+0.8**
CMAR			pPKP	**pPKPdf**	**13 42 22.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**138.90 331**	PKhKP	PKPpre	13 41 54.1	
	comp=Z,0.5nm,0.4s,baz=12,slow=7.3,SNR=7.1					
CMAR			PKP	**PKPdf**	**13 42 04.3**	**+0.8**
	comp=Z,12nm,0.9s,baz=340,slow=1.1,SNR=27					
CMAR			pPKP	pPKPdf	13 42 22.7	+1.2
	comp=Z,7.2nm,0.9s,baz=331,slow=2.0,SNR=5.9					
KSM	**Kuching**	**143.88 299**	PFAKE		13 42 30.0	+17
KSM			LR	LR		
	comp=Z,250nm,19.0s					
HYB	**Hyderabad**	**144.70 1**	*i* PKP	**PKPab**	**13 42 11.5**	**-1.2**
	comp=Z,200nm,1.0s					
HYB			*e*		13 42 29.0	
HYB			*e*		13 42 35.0	
GMJI	**Gumukmas**	**145.49 282**	P	**PKPdf**	**13 42 14.9**	**-0.4**
KRKI	**Karangkates**	**146.37 283**	P	**PKPbc**	**13 42 18.9**	**+0.8**
	comp=Z,229nm,1.0s,comp=Z,11μm					
PWJI	**Pagerwojo**	**146.92 283**	P	**PKPdf**	**13 42 18.8**	**+1.0**
PCJI	**Pacitan**	**147.56 283**	P	**PKPbc**	**13 42 22.2**	**+0.7**
BJII	**Banjamegara**	**148.60 286**	P	**PKPbc**	**13 42 23.8**	**-0.6**
KULM	**Kulim**	**148.69 316**	*e*PKPdf	**PKPdf**	**13 42 21.2**	**+0.5**
KULM			*e*PKPbc	**PKPbc**	**13 42 25.5**	**+1.0**
KULM			LR	LR		
	comp=Z,216nm,19.0s					
KULM	**Kulim**	**148.69 316**	P	**PKPbc**	**13 42 25.8**	**+1.3**
IPM	**Ipoh**	**149.03 314**	*e*PKPbc	**PKPbc**	**13 42 26.3**	**+0.9**
ABPO	**Ambohimpanom**	**149.52 97**	*e*PKP2	**PKPbc**	**13 42 27.4**	**+0.7**
ABPO			MLR	MLR		
	comp=Z,450nm,20.0s					
ABPO	**Ambohimpanom**	**149.52 97**	*e*PKPbc	**PKPbc**	**13 42 27.4**	**+0.7**
ABPO			LR	LR		
	comp=Z,450nm,20.0s					
LEM	**Lembang**	**150.29 289**	P	**PKPbc**	**13 42 28.7**	**0.0**
CISI	**Cisompet, Garu**	**150.41 287**	P	**PKPbc**	**13 42 28.9**	**+0.1**
DBJI	**Dramaga**	**150.96 290**	P	**PKPbc**	**13 42 30.2**	**+0.1**
KLSI		**151.86 295**	P	**PKPbc**	**13 42 32.0**	**-0.1**
KASI	**Kota Agung**	**152.47 294**	P	**PKPbc**	**13 42 33.5**	**0.0**

IDC 15 14:11:29.3±1.7, 11°.26S×166°.14E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=54.2km s-min=30.6km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.76 178**		Pn	Pn	14 14 05.6	+0.7
	0.4nm,0.3s,baz=68,slow=19,SNR=6.5						
CTA	**Charters Tower**	**21.04 243**		P	P	14 16 17.9	+2.9
	2.3nm,0.7s,baz=62,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**31.77 250**		P	P	14 17 56.0	+0.3
	1.0nm,1.1s,baz=81,slow=8.7,SNR=3.5						
ASAR	**Alice Springs**	**33.04 244**		P	P	14 18 06.0	-0.8
	0.7nm,0.7s,baz=72,slow=9.4,SNR=11						
ILAR	**Eielson Array**	**83.59 18**		P	P	14 23 58.6	-0.5
	0.4nm,0.6s,baz=241,slow=5.4,SNR=5.8						
MKAR	**Makanchi Array**	**93.94 317**		P	P	14 24 50.2	+1.1
	0.5nm,0.9s,baz=90,slow=5.8,SNR=3.5						

*IDC **15** 14:16:30.7±2.9, 54°.31N×161°.56W, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.6/33, mbtmp3.7/12, ML3.4/4, Error ellipse: s-maj=75.7km s-min=17.9km az=152.0*
*NEIC **15** 14:16:36.4, 54°.47N×161°.57W, h15km, ML3.5(AEIC), After AEIC.*

ISC 15 14:16:34.2±1.9, 54°.35N±0°.09×161°.30W±0°.04, h27km±12km, n40, σ0s98/48, mb3.9/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.86**	**338**	P	**Pb**	**14 16 50.1**	**-0.4**
DOL				S	**Sb**	**14 17 00.3**	**-1.4**
PS4A	**Pavlof South-4**	**1.04**	**342**	P	**Pn**	**14 16 53.5**	**+0.4**
PVV	**Pavlof Volcano**	**1.06**	**345**	P	**Pn**	**14 16 53.7**	**+0.5**
PVV				S	**Sn**	**14 17 07.5**	**+0.4**
PS1A	**Pavlof South-1**	**1.10**	**347**	P	**Pb**	**14 16 54.7**	**+0.1**
PS1A				S	**Sb**	**14 17 08.9**	**+0.5**
SDPT	**Sand Point**	**1.11**	**25**	P	**Pb**	**14 16 55.7**	**+1.1**
SDPT				S	**Sb**	**14 17 10.9**	**+2.2**
FALS	**False Pass**	**1.33**	**293**	P	**Pn**	**14 16 56.6**	**-0.3**
FALS				S	**Sn**	**14 17 12.4**	**-1.3**
BRPK	**Brown Peak**	**1.45**	**283**	P	**Pn**	**14 16 58.5**	**-0.1**
ISNN	**Isanotski Not**	**1.52**	**289**	P	**Pn**	**14 17 00.7**	**+1.1**
ISNN				S	**Sn**	**14 17 19.9**	**+1.4**
SSLS	**Shishaldin Sou**	**1.61**	**284**	P	**Pn**	**14 17 01.7**	**+0.8**
SSLW	**Shishaldin Wes**	**1.69**	**285**	P	**Pn**	**14 17 02.9**	**+0.9**
VNWF	**Veniaminof 8**	**2.06**	**28**	P	**Pb**	**14 17 11.0**	**+0.1**
VNFG	**Veniaminof 2**	**2.18**	**27**	P	**Pb**	**14 17 11.7**	**-1.2**
VNHG	**Veniaminof 1**	**2.24**	**32**	P	**Pb**	**14 17 13.8**	**-0.1**
CHGN	**Chignik**	**2.56**	**39**	*e*Pn	**Pb**	**14 17 16.8**	**-2.5**
MTBL	**Makushin Table**	**3.18**	**265**	P	**Pn**	**14 17 23.5**	**+1.0**
MSOM	**Makushin Julie**	**3.37**	**263**	P	**Pn**	**14 17 26.0**	**+1.0**
KDAK	**Kodiak Island**	**5.97**	**51**	Pn	**Pn**	**14 18 02.6**	**+1.9**
KDAK				Sn	**Sn**	**14 19 07.5**	**-0.5**
KDAK	**Kodiak Island**	**5.97**	**51**	Pn	**Pn**	**14 18 02.6**	**+1.9**
	1.0nm,0.3s,baz=247,slow=9.1,SNR=6.4						
KDAK				Sn	**Sn**	**14 19 07.5**	**-0.5**
	0.4nm,0.3s,baz=300,slow=18,SNR=2.0						
ILAR	**Eielson Array**	**12.71**	**29**	Pn	**Pn**	**14 19 31.6**	**-1.3**
ILAR	**Eielson Array**	**12.71**	**29**	Pn	**Pn**	**14 19 31.6**	**-1.3**
	0.0nm,0.3s,baz=217,slow=14,SNR=3.0						
DLBC	**Dease Lake**	**17.69**	**64**	Pn	**Pn**	**14 20 38.8**	**+0.4**
DLBC	**Dease Lake**	**17.69**	**64**	Pn	**Pn**	**14 20 38.8**	**+0.4**
	0.1nm,0.3s,baz=292,slow=11,SNR=2.6						
INK	**Inuvik**	**19.06**	**32**	P	**P**	**14 20 54.3**	**+0.3**
INK	**Inuvik**	**19.06**	**32**	P	**P**	**14 20 54.3**	**+0.3**
	0.2nm,0.3s,baz=243,slow=6.8,SNR=4.9						
PETK	**Petropavlovsk-**	**24.05**	**284**	P	**P**	**14 21 45.4**	**-1.4**
PETK	**Petropavlovsk-**	**24.05**	**284**	P	**P**	**14 21 45.3**	**-1.4**
	2.0nm,0.6s,baz=81,slow=12,SNR=8.8						
MJAR	**Matsushiro Arr**	**44.53**	**272**	P	**P**	**14 24 43.4**	**0.0**
MJAR	**Matsushiro Arr**	**44.53**	**272**	P	**P**	**14 24 43.4**	**0.0**
	0.5nm,0.7s,baz=50,slow=12,SNR=3.2						
KSRS	**Korea Array**	**49.88**	**281**	P	**P**	**14 25 25.2**	**+0.3**
	0.9nm,0.7s,baz=45,slow=7.1,SNR=6.3						
KSAR	**Wonju Array Be**	**49.91**	**281**	P	**P**	**14 25 25.2**	**+0.1**
SONM	**Songino Array**	**54.32**	**304**	P	**P**	**14 25 58.2**	**+0.2**
SONM	**Songino Array**	**54.32**	**304**	P	**P**	**14 25 58.2**	**+0.2**
	0.8nm,0.9s,baz=41,slow=8.3,SNR=5.2						
FINES	**FINESS Array B**	**64.40**	**356**	P	**P**	**14 27 07.0**	**-0.1**
FINES	**FINESS Array B**	**64.40**	**356**	P	**P**	**14 27 07.0**	**-0.1**
	2.7nm,0.9s,baz=15,slow=7.9,SNR=6.8						
BVAR	**Borovoye Array**	**64.73**	**328**	P	**P**	**14 27 09.7**	**+0.2**
BVAR	**Borovoye Array**	**64.73**	**328**	P	**P**	**14 27 09.7**	**+0.2**
	0.7nm,0.7s,baz=39,slow=7.6,SNR=5.1						
AKASG	**Malin Array Be**	**74.94**	**353**	P	**P**	**14 28 12.3**	**0.0**
AKASG	**Malin Array Be**	**74.94**	**353**	P	**P**	**14 28 12.3**	**0.0**
	0.8nm,0.5s,baz=3.8,slow=4.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**80.73**	**289**	P	**P**	**14 28 45.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**80.73**	**289**	P	**P**	**14 28 45.7**	**+0.6**
	0.5nm,0.7s,baz=10,slow=5.5,SNR=6.0						

IDC 15 14:16:35.6±2.1, 6°.40N×124°.84E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.8/4, Error ellipse: s-maj=228.8km s-min=21.8km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.79**	**161**	P	P	14 22 26.4	-0.2
	0.3nm,0.6s,baz=340,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**31.16**	**164**	P	P	14 22 56.5	0.0
	0.4nm,0.3s,baz=338,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**54.30**	**325**	P	P	14 26 04.0	+0.2
	0.6nm,0.7s,baz=122,slow=7.1,SNR=7.0						
KURBB	**Kurchatov Arra**	**58.49**	**327**	P	P	14 26 33.2	-0.3
	1.2nm,0.2s,baz=130,slow=5.8,SNR=5.1						

IDC 15 14:38:33.2±1.4, 48°.87S×120°.59E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, MS3.7/6, Ms1 3.6/6, ms1mx3.3/22, Error ellipse: s-maj=59.9km s-min=26.8km az=88.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.12**	**350**	LR	LR	14 46 29.1	
	comp=Z,186nm,20.0s,baz=40,slow=30						
STKA	**Stephens Creek**	**23.21**	**51**	LR	LR	14 50 55.1	
	comp=Z,202nm,21.4s,baz=203,slow=32						
ASAR	**Alice Springs**	**27.27**	**27**	P	P	14 44 19.9	+0.7
	2.1nm,0.9s,baz=198,slow=9.1,SNR=9.0						
ASAR				LR	LR	14 53 57.2	
	comp=Z,203nm,21.7s,baz=184,slow=34						
WRA	**Warramunga Arr**	**30.91**	**26**	P	P	14 44 50.5	-1.0
	0.9nm,0.8s,baz=197,slow=8.6,SNR=3.8						
VNDA	**Vanda**	**32.76**	**165**	P	P	14 45 07.2	-0.1
	1.1nm,1.0s,baz=302,slow=8.2,SNR=5.5						
VNDA				LR	LR	14 57 18.8	
	comp=Z,71nm,18.8s,baz=129,slow=34						
MAW	**Mawson**	**34.02**	**215**	LR	LR	14 56 20.1	
	comp=Z,78nm,19.2s,baz=158,slow=31						
CMAR	**Chiang Mai Arr**	**69.74**	**338**	P	P	14 49 45.0	+0.1
	0.5nm,0.8s,baz=198,slow=5.7,SNR=3.3						
SONM	**Songino Array**	**97.10**	**350**	LR	LR	15 37 50.1	
	comp=Z,65nm,18.9s,baz=319,slow=37						
PDAR	**Pinedale Array**	**145.06**	**81**	PKPbc	PKPbc	14 58 10.9	-0.7
	1.1nm,1.1s,baz=210,slow=5.2,SNR=4.9						

MAN 15 14:48:09, 12°.32N×123°.74E, h32km, mb4.4, ML3.3, MS3.2, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.23**	**232**	*e*P	Pb	14 48 33.2	+1.5
RCP				*i* S	Sb	14 48 51.0	+3.7
PVCP	**Virac**	**1.33**	**18**	*i*P	Pb	14 48 33.3	-0.1
OCLP	**Ormoc**	**1.53**	**146**	*e*P	Pb	14 48 38.4	+1.6
OCLP				*e*S	Sb	14 49 00.3	+4.6
PLP	**Palo**	**1.68**	**133**	*e*P	Pb	14 48 38.4	-0.8
PLP				*e*S	Sb	14 49 02.5	+2.5
GUIM	**Jordan**	**2.03**	**214**	*e*P	Pb	14 48 45.4	+0.2
MSLP	**Maasin**	**2.44**	**153**	*e*P	Pb	14 48 52.1	-0.2

IDC 15 15:13:58.9±1.8, 13°.83N×92°.93E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=62.4km s-min=27.0km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.39**	**51**	Pn	Pn	15 15 47.9	-0.2
	0.1nm,0.3s,baz=243,slow=15,SNR=3.6						
CMAR				Sn	Sn	15 17 04.1	-8.6
	0.1nm,0.3s,baz=240,slow=28,SNR=5.0						
MKAR	**Makanchi Array**	**34.05**	**347**	P	P	15 20 45.0	+0.1
	0.2nm,0.7s,baz=164,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**52.78**	**129**	P	P	15 23 16.0	-0.3
	0.4nm,0.8s,baz=310,slow=8.1,SNR=3.7						
WRA				PcP	PcP	15 24 25.5	-0.4
	0.5nm,1.0s,baz=313,slow=3.1,SNR=6.3						
ASAR	**Alice Springs**	**54.72**	**133**	P	P	15 23 30.4	0.0
	0.4nm,0.5s,baz=308,slow=6.7,SNR=13						

IDC 15 15:17:18.0±1.2, 14°.05N×93°.23E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.4/29, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=41.1km s-min=20.9km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.02**	**51**	Pn	Pn	15 19 01.6	-0.5
	0.1nm,0.3s,baz=239,slow=14,SNR=2.7						
CMAR				Sn	Sn	15 20 24.1	+1.3
	0.4nm,0.3s,baz=240,slow=28,SNR=8.2						
AAK	**Ala-Archa**	**32.75**	**334**	P	P	15 23 53.3	+0.5
	1.7nm,0.4s,baz=153,slow=4.5,SNR=2.2						
MKAR	**Makanchi Array**	**33.91**	**346**	P	P	15 24 03.1	+0.4
	0.3nm,0.7s,baz=168,slow=10.0,SNR=3.8						
FITZ	**Fitzroy Crossi**	**45.19**	**134**	P	P	15 25 36.2	-0.8
	2.3nm,1.1s,baz=312,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**52.69**	**129**	P	P	15 26 34.3	-0.3
	0.4nm,0.7s,baz=316,slow=8.2,SNR=7.9						
WRA				PcP	PcP	15 27 44.2	-0.4
	0.5nm,0.8s,baz=321,slow=3.1,SNR=7.5						
ASAR	**Alice Springs**	**54.65**	**133**	P	P	15 26 49.0	0.0
	0.4nm,0.4s,baz=308,slow=7.0,SNR=14						
ASAR				PcP	PcP	15 27 52.0	0.0
	0.2nm,0.5s,baz=314,slow=4.7,SNR=3.6						

IDC 15 15:19:17.2±3.4, 19°.56S×68°.64W, h148km±25km, mb3.9/5, mb1 3.9/8, mb1mx3.6/21, mbtmp3.8/8, Error ellipse: s-maj=39.9km s-min=19.7km az=30.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.29**	**9**	P	Pn	15 20 09.6	+0.5
	7.8nm,0.3s,baz=202,slow=6.7,SNR=182						
SIV	**San Ignacio**	**8.04**	**65**	P	Pn	15 21 11.7	+0.5
	1.9nm,0.3s,baz=265,slow=11,SNR=54						
SIV				S	Sn	15 22 40.6	-0.3
	baz=344,slow=22,SNR=3.3						
CPUP	**Villa Florida**	**12.40**	**125**	P	Pn	15 22 07.3	-1.5
	0.2nm,0.3s,baz=277,slow=14,SNR=4.5						
TEIG	**Tepich**	**43.98**	**333**	P	P	15 27 09.7	-0.2
	1.5nm,0.5s,baz=354,slow=0.4,SNR=2.5						
ULM	**Lac du Bonnet**	**73.56**	**342**	P	P	15 30 33.5	-0.3
	2.2nm,0.5s,baz=144,slow=9.7,SNR=2.6						
NVAR	**Mina Array Bea**	**74.14**	**322**	P	P	15 30 36.9	-0.8
	0.5nm,0.7s,baz=145,slow=7.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.47**	**71**	P	P	15 30 51.5	+0.2
	2.1nm,0.5s,baz=252,slow=5.5,SNR=49						
YKA	**Yellowknife Ar**	**89.45**	**340**	P	P	15 31 56.3	-0.6
	3.3nm,0.7s,baz=132,slow=4.8,SNR=10						
KEST	**Kesra**	**91.94**	**53**	P	P	15 32 12.7	+3.5
	1.2nm,1.0s,baz=263,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**134.74**	**211**	PKP	PKPdf	15 38 19.6	+0.4
	1.0nm,0.7s,baz=147,slow=1.7,SNR=3.4						
MKAR	**Makanchi Array**	**143.91**	**35**	PKP	PKPdf	15 38 34.9	-0.2
	0.6nm,0.6s,baz=308,slow=3.7,SNR=4.1						
USRK	**Ussuriysk Arra**	**149.99**	**330**	PKPbc	PKPbc	15 38 50.9	+0.7
	1.5nm,0.6s,baz=42,slow=2.3,SNR=3.8						
MJAR	**Matsushiro Arr**	**151.03**	**311**	PKPbc	PKPbc	15 38 52.9	-0.1
	1.3nm,0.8s,baz=90,slow=2.3,SNR=6.9						
SONM	**Songino Array**	**151.51**	**7**	PKPbc	PKPbc	15 38 53.7	-0.3
	1.8nm,0.7s,baz=303,slow=1.6,SNR=7.6						

*AUST **15** 15:27:40.9, 8°.99S×117°.95E, h5km*
*IDC **15** 15:27:41.8±3.1, 8°.78S×117°.74E, h24km±19km, mb3.9/14, mb1 4.1/16, mb1mx4.0/24, mbtmp3.9/16, ML4.1/2, MS3.7/8, Ms1 3.7/8, ms1mx3.3/31, Error ellipse: s-maj=22.9km s-min=12.6km az=67.0*
*ISCJB **15** 15:27:42.7±0.4, 8°.78S±0°.03×117°.74E±0°.02, h51km±5km, mb4.0/18, MS3.7/6, Error ellipse: s-maj=5.8km s-min=3.3km az=3.2*
*NEIC **15** 15:27:42.3±3.9, 8°.85S×117°.69E, h34km±27km, mb4.4/2, Error ellipse: s-maj=18.2km s-min=8.0km az=62.0*
NEIC Felt [III] at Sumbawa Besar.
*DJA **15** 15:27:44.3±1.1, 9°.5±3°×118°.8E±°, h28km±13km, M5.4/3, mb5.2/3, MLv5.5/1*

ISC 15 15:27:43.1±0.6, 8°.83S±0°.04×117°.75E±0°.03, h37km±1km, n102, σ1s93/111, mb4.0/18, MS3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**0.97**	**73**	P	Pn	15 27 53.5	-6.7
MTNI	**Mataram**	**1.58**	**277**	P	**Pn**	**15 28 07.8**	**-0.7**
MTNI				S	**Sn**	**15 28 29.6**	**+1.9**
LBFI	**Labuhan Bajo,**	**2.14**	**81**	P	**Pn**	**15 28 18.5**	**+2.2**
LBFI				S	Sn	15 28 47.4	+5.8
DNP	**Denpasar**	**2.52**	**273**	P	**Pn**	**15 28 22.1**	**+0.6**
DNP				S	**Sn**	**15 28 54.4**	**+3.5**
IGBI	**Denpasar**	**2.58**	**270**	P	**Pn**	**15 28 22.2**	**-0.1**
IGBI				S	**Sn**	**15 28 53.7**	**+1.3**
SRBI	**Singaraja**

baz=12,SNR=4.0
KNRA Kununurra 12.72 123 P Pn 15 30 40.2 -1.4
baz=12,SNR=29
MTN Manton Dam 13.73 108 P Pn 15 30 52.5 -2.8
baz=14,SNR=20
MTN S Sn 15 33 20.8 -5.8
baz=14,SNR=6.1
KDU Kakadu 14.96 106 P Pn 15 31 11.3 -0.6
baz=15,SNR=7.1
KDU S Sn 15 33 51.1 -5.5
baz=15,SNR=3.0
FAKI Fak Fak 15.56 69 P Pn 15 31 21.7 +1.8
baz=16,SNR=5.4
SWI Sorong 15.61 60 P P 15 31 24.2 0.0
34nm,1.1s
DAV Davao City (W) 17.62 27 LR LR 15 39 13.5
comp=Z,233nm,20.8s,baz=166,slow=39
MEEK Meekatharra 17.73 177 P Pn 15 31 46.3 -0.9
baz=18,SNR=8.8
MEEK S Sn 15 34 46.6 -17
baz=18,SNR=6.7
WRA Warramunga Arr 19.47 126 P **P 15 32 05.9 -1.0**
WRA S S 15 35 34.7 -10
WRA ScP **ScP 15 40 01.5 +1.0**
WRA Warramunga Arr 19.47 126 P P 15 32 05.9 -1.0
0.5nm,0.3s,baz=302,slow=14,SNR=43
WRA S S 15 35 34.7 -10
0.1nm,0.3s,baz=301,slow=24,SNR=2.9
WRA ScP **ScP 15 40 01.5 +1.0**
0.1nm,0.3s,baz=313,slow=2.0,SNR=8.9
WRAB Tennant Creek 19.48 126 *eP* **P 15 32 06.6 -0.4**
14nm,0.8s
MORW Morawa 20.19 184 P Pn 15 32 18.8 +2.0
baz=20,SNR=4.8
MORW S S 15 35 44.8 -15
baz=20,SNR=6.8
AS31 Alice Springs 21.36 136 *eP* **P 15 32 27.5 0.0**
ASAR Alice Springs 21.36 136 P **P 15 32 28.3 +0.9**
ASAR S **S 15 36 17.6 -5.3**
ASAR ScP **ScP 15 40 07.0 +2.0**
ASAR Alice Springs 21.36 136 P P 15 32 28.3 +0.9
9.0nm,0.6s,baz=310,slow=9.0,SNR=124
ASAR S **S 15 36 17.5 -5.3**
1.1nm,0.9s,baz=305,slow=22,SNR=3.0
ASAR ScP **ScP 15 40 07.0 +2.0**
1.6nm,0.9s,baz=341,slow=2.3,SNR=6.4
ASAR LR LR 15 40 29.4
comp=Z,187nm,19.5s,baz=323,slow=36
PSI Prapat 22.04 301 P **P 15 32 34.0 -0.8**
PSI Prapat 22.04 301 P P 15 32 34.0 -0.8
4.7nm,0.7s,baz=142,slow=11,SNR=4.9
PSI LR LR 15 43 22.2
comp=Z,218nm,19.7s,baz=259,slow=43
MMPI Merauke 22.38 91 P P 15 32 47.8 +9.5
baz=22,SNR=4.7
MTSU Mount Surprise 27.40 112 P **P 15 33 27.1 +1.7**
baz=27,SNR=8.1
CTA Charters Tower 29.73 115 P **P 15 33 46.3 +0.2**
CTA Charters Tower 29.73 115 P P 15 33 46.3 +0.2
6.3nm,0.9s,baz=272,slow=9.2,SNR=6.6
CTAO Charters Tower 29.73 115 *eP* **P 15 33 45.9 -0.2**
STKA Stephens Creek 31.87 139 *eP* **P 15 34 04.6 -0.2**
STKA Stephens Creek 31.87 139 P P 15 34 06.0 +1.1
4.9nm,0.6s,baz=304,slow=8.2,SNR=10
STKA LR LR 15 46 44.7
comp=Z,164nm,21.8s,baz=22,slow=36
STKA Stephens Creek 31.87 139 P P 15 34 06.0 +1.1
baz=32,SNR=8.7
CMAR Chiang Mai Arr 32.86 326 P **P 15 34 14.7 +1.0**
CMAR Chiang Mai Arr 32.86 326 P P 15 34 14.7 +1.0
0.5nm,0.3s,baz=146,slow=6.5,SNR=6.4
CMAR LR LR 15 48 45.8
comp=Z,140nm,18.2s,baz=324,slow=38
RMQ Roma 34.22 125 P P 15 34 28.0 +2.5
baz=34,SNR=5.1
YNG Young 37.86 137 P P 15 34 58.6 +2.1
baz=38,SNR=11
ARMA Armidale 38.22 129 P P 15 35 03.3 +3.6
baz=38,SNR=5.9
ENH Enshi 39.68 349 *eP* **P 15 35 11.8 0.0**
5.4nm,0.7s
LHI Lord Howe Isla 44.49 126 P **P 15 35 53.8 +2.7**
baz=44,SNR=3.3
LHI S S 15 41 59.8 -24
baz=44,SNR=3.4
KSAR Wonju Array Be 47.00 11 P **P 15 36 12.3 +1.6**
KSRS Korea Array 47.02 11 P P 15 36 12.3 +1.5
1.7nm,0.9s,baz=191,slow=8.9,SNR=9.1
MJAR Matsushiro Arr 49.06 22 P **P 15 36 25.7 -1.0**
MJAR Matsushiro Arr 49.06 22 P P 15 36 25.7 -1.0
0.7nm,0.7s,baz=203,slow=7.9,SNR=4.3
GTA Gaotai 50.81 342 *eP* P 15 36 46.1 +6.1
GTA pP pP 15 36 52.0 +1.0
GTA sP sP 15 36 55.8 +0.4
GTA pmax pmax
comp=Z,2.0nm,0.6s
USRK Ussuriysk Arra 54.34 13 P **P 15 37 06.3 +0.4**
comp=Z,2.0nm,0.5s,baz=188,slow=4.9,SNR=5.5
ASAJ Asahikawa 57.31 21 P **P 15 37 27.4 +0.2**
ASAJ Asahikawa 57.31 21 P P 15 37 27.4 +0.2
comp=Z,2.2nm,0.7s,baz=229,slow=9.3,SNR=2.6
SONM Songino Array 57.31 351 P **P 15 37 26.8 -0.5**
SONM Songino Array 57.31 351 P P 15 37 26.8 -0.5
comp=Z,0.6nm,0.6s,baz=171,slow=9.4,SNR=5.3
MK31 Makanchi Array 63.76 334 *eP* **P 15 38 10.0 -1.2**
MKAR Makanchi Array 63.76 334 P **P 15 38 09.7 -1.6**
MKAR Makanchi Array 63.76 334 P P 15 38 09.7 -1.6
comp=Z,0.3nm,0.4s,baz=161,slow=6.7,SNR=4.8
MKAR LR LR 16 08 02.3
comp=Z,33nm,20.0s,baz=1.4,slow=38
ZALV Zalesovo Beam 68.45 340 P **P 15 38 38.6 -2.6**
ZALV Zalesovo Beam 68.45 340 P P 15 38 38.6 -2.6
comp=Z,1.0nm,0.6s,baz=117,slow=2.9,SNR=4.2
MAW Mawson 68.98 200 P P 15 38 39.7 -4.6
MAW Mawson 68.98 200 P P 15 38 39.7 -4.6
comp=Z,0.6nm,0.3s,baz=57,slow=5.5,SNR=4.7
PETK Petropavlovsk- 70.42 24 P **P 15 38 53.1 -0.2**
PETK Petropavlovsk- 70.42 24 P P 15 38 53.1 -0.2
comp=Z,0.9nm,0.8s,baz=242,slow=3.0,SNR=4.1
VNDA Vanda 72.34 171 P **P 15 39 05.1 +0.5**
VNDA Vanda 72.34 171 P P 15 39 05.1 +0.5
comp=Z,0.9nm,0.5s,baz=308,slow=4.7,SNR=15
BVAR Borovoye Array 73.57 332 P **P 15 39 11.8 -0.5**
BVAR Borovoye Array 73.57 332 P P 15 39 11.8 -0.5
comp=Z,0.4nm,0.6s,baz=145,slow=5.3,SNR=2.6
BOSA Boshof 88.00 242 LR LR 16 11 50.6
comp=Z,85nm,18.5s,baz=169,slow=30
TORD Torodi Ar. Bea 117.22 280 PKP **PKPdf 15 46 24.2 -1.2**
TORD Torodi Ar. Bea 117.22 280 PKP PKPdf 15 46 24.2 -1.2
comp=Z,0.6nm,0.6s,baz=55,slow=1.7,SNR=5.9
CPUP Villa Florida 144.72 188 PKP **PKPdf 15 47 16.5 -0.3**
CPUP Villa Florida 144.72 188 PKP PKPdf 15 47 16.5 -0.3
comp=Z,1.4nm,0.5s,baz=80,slow=4.7,SNR=4.3
LPAZ La Paz 154.37 167 PKPab **PKPab 15 47 56.5 +1.3**
LPAZ La Paz 154.37 167 PKPbc **PKPbc 15 47 44.2 +2.8**
comp=Z,0.5nm,0.4s,baz=307,slow=5.1,SNR=3.3
LPAZ PKPab **PKPab 15 47 56.5 +1.3**
comp=Z,1.3nm,0.8s,baz=172,slow=2.8,SNR=4.9

---

*IDC **15** 16:18:40.0±0.7,2˚.99S×130˚.51E,h0km,mb3.9/13, mb1 4.0/14,mb1mx3.9/24,mbtmp3.9/14,ML4.0/1,Error ellipse: s-maj=29.4km s-min=14.3km az=77.0*
*ISCJB **15** 16:18:41.2±0.4,3˚.07S±0˚.04×130˚.40E±0˚.04,h24km, mb3.8/12,Error ellipse: s-maj=6.0km s-min=5.2km az=4.4*
*AUST **15** 16:18:44.8±0.0,3˚.02S×130˚.42E,h49km,Error ellipse: s-maj=0.9km s-min=0.8km az=330.0*
*DJA **15** 16:18:45.3±0.6,3˚S±3˚×13˚0E±˚,h70km±21km,M3.9/5, MLv3.9/5*
ISC 15 16:18:43.3±0.5,2˚97S±0˚.05×130˚44E±0˚.04,h24km,n38, σ1§73/40,mb3.9/12,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.55**	**256**	P	**Pb**	**16 19 11.7**	**+0.3**
BNDI	**Bandanaira**	**1.63**	**199**	P	**Pb**	**16 19 14.0**	**+1.3**
BNDI	**Bandanaira**	**1.63**	**199**	P	**Pb**	**16 19 13.6**	**+0.9**
baz=1.6,SNR=7.7							
FAKI	**Fak Fak**	**1.81**	**88**	P	**Pb**	**16 19 15.5**	**-0.3**
FAKI	**Fak Fak**	**1.81**	**88**	P	**Pb**	**16 19 15.3**	**-0.6**
baz=1.8,SNR=18							
SWI	**Sorong**	**2.25**	**21**	P	**Pn**	**16 19 19.8**	**+0.7**
SWI				S	**Sn**	**16 19 46.0**	**-0.1**
SWI	**Sorong**	**2.25**	**21**	P	**Pn**	**16 19 19.5**	**+0.4**
baz=2.3,SNR=32							
SWI				S	**Sn**	**16 19 47.8**	**+1.7**
baz=2.3,SNR=6.0							
AAI	**Ambon**	**2.35**	**252**	P	**Pn**	**16 19 22.0**	**+1.6**
AAI	**Ambon**	**2.35**	**252**	P	**Pn**	**16 19 21.2**	**+0.8**
baz=2.3,SNR=12							
TLE	**Tual**	**3.50**	**139**	P	**Pn**	**16 19 39.5**	**+3.2**
TLE	**Tual**	**3.50**	**139**	P	**Pn**	**16 19 39.6**	**+3.2**
baz=3.5,SNR=7.6							
LBMI	**Labuha**	**3.74**	**308**	P	**Pn**	**16 19 39.4**	**-0.2**
LBMI				S	**Sn**	**16 20 22.1**	**-0.8**
RKPI	**Ransiki, Papua**	**4.01**	**69**	P	**Pn**	**16 19 45.2**	**+1.9**
RKPI				S	**Sn**	**16 20 29.6**	**0.0**
LUWI	**Luwuk**	**7.89**	**284**	P	**Pn**	**16 20 36.4**	**-0.3**
baz=7.9,SNR=3.3							
MTN	**Manton Dam**	**9.83**	**176**	P	**Pn**	**16 21 02.3**	**-1.0**
baz=9.9,SNR=31							
BATI	**Baumata**	**9.84**	**223**	Pn	Pn	16 21 07.4	+3.9
5.3nm,0.3s,baz=217,slow=1.5,SNR=12							
KDU	**Kakadu**	**9.86**	**168**	P	**Pn**	**16 21 01.4**	**-2.3**
baz=9.9,SNR=25							
KAPI	**Kappang**	**10.85**	**259**	Pn	**Pn**	**16 21 18.6**	**+1.4**
1.2nm,0.3s,baz=62,slow=18,SNR=4.7							
DAV	**Davao City (W)**	**11.09**	**334**	Pn	**Pn**	**16 21 17.9**	**-2.7**
20nm,0.3s,baz=216,slow=14,SNR=1.9							
KNRA	**Kununurra**	**12.73**	**187**	P	**Pn**	**16 21 40.5**	**-2.5**
baz=13,SNR=6.7							
FITZ	**Fitzroy Crossi**	**15.76**	**197**	Pn	**Pn**	**16 22 20.6**	**-3.2**
0.9nm,0.3s,baz=31,slow=11,SNR=20							
WRA	**Warramunga Arr**	**17.29**	**168**	Pn	**Pn**	**16 22 39.7**	**-3.7**
0.7nm,0.3s,baz=348,slow=11,SNR=41							
WRA				Sn	Sn	16 25 42.5	-13
0.2nm,0.3s,baz=341,slow=22,SNR=3.6							
MTSU	**Mount Surprise**	**20.30**	**139**	P	Pn	16 23 19.9	+0.1
baz=20,SNR=6.7							
ASAR	**Alice Springs**	**20.85**	**171**	P	**P**	**16 23 23.5**	**-0.1**
11nm,0.6s,baz=359,slow=10,SNR=130							
ASAR				S	S	16 27 05.9	-9.3
0.5nm,0.8s,baz=355,slow=19,SNR=2.9							
CTA	**Charters Tower**	**22.97**	**139**	P	**P**	**16 23 45.5**	**-0.8**
2.8nm,0.8s,baz=311,slow=11,SNR=4.9							
XMI	**Christmas Isla**	**25.66**	**252**	S	**S**	**16 28 34.3**	**-4.6**
baz=26,SNR=4.3							
STKA	**Stephens Creek**	**30.61**	**161**	P	**P**	**16 24 56.0**	**+0.4**
2.7nm,0.9s,baz=354,slow=9.6,SNR=5.0							
KLBR	**Kellerberrin**	**30.88**	**201**	P	**P**	**16 24 57.1**	**-0.9**
baz=31,SNR=5.9							
NWAO	**Narrogin (SRO)**	**32.27**	**201**	P	**P**	**16 25 08.9**	**-1.3**
28nm,1.2s,baz=0.0,slow=9.1,SNR=3.1							
CMAR	**Chiang Mai Arr**	**37.62**	**306**	P	**P**	**16 25 58.2**	**+1.6**
0.3nm,0.3s,baz=126,slow=10,SNR=4.2							
MJAR	**Matsushiro Arr**	**39.97**	**10**	P	**P**	**16 26 16.0**	**-0.1**
0.6nm,1.0s,baz=184,slow=6.6,SNR=2.9							
KSRS	**Korea Array**	**40.29**	**357**	P	**P**	**16 26 19.5**	**+0.9**
0.4nm,0.6s,baz=173,slow=9.5,SNR=4.8							
SONM	**Songino Array**	**54.80**	**340**	P	**P**	**16 28 12.6**	**+1.2**
0.3nm,0.8s,baz=159,slow=6.2,SNR=3.3							
PETK	**Petropavlovsk-**	**60.39**	**19**	P	**P**	**16 28 51.1**	**+0.6**
1.5nm,1.0s,baz=213,slow=7.0,SNR=3.6							
MKAR	**Makanchi Array**	**65.14**	**326**	P	**P**	**16 29 22.9**	**+0.5**
0.6nm,0.6s,baz=113,slow=8.4,SNR=11							
KURBB	**Kurchatov Arra**	**69.34**	**328**	P	**P**	**16 29 49.2**	**+0.4**
0.7nm,0.5s,baz=129,slow=5.7,SNR=11							
VNDA	**Vanda**	**76.37**	**173**	P	**P**	**16 30 30.8**	**+0.7**
0.2nm,0.3s,baz=315,slow=6.5,SNR=4.0							
MAW	**Mawson**	**78.84**	**201**	P	**P**	**16 30 45.3**	**+1.3**
2.0nm,0.8s,baz=82,slow=13,SNR=3.9							

---

*BJI **15** 16:28:13.1,4˚.60N×127˚.80E,h107km,mB4.8/31,mb4.8/47*
*AUST **15** 16:28:15.9±0.2,4˚.97N×127˚.67E,h96km,Error ellipse: s-maj=0.9km s-min=0.6km az=39.0*
*ISCJB **15** 16:28:15.1±0.4,4˚.98N±0˚.02×127˚.68E±0˚.03,h99km±3km, mb4.8/107,Error ellipse: s-maj=5.1km s-min=2.8km az=160.7*
*NEIC **15** 16:28:16.3±0.9,4˚.97N×127˚.53E,h98km±8km,mb4.9/30, Error ellipse: s-maj=8.2km s-min=4.5km az=77.0*
*GCMT **15** 16:28:16.2±0.3,4˚.89N×127˚.61E,h113km±4km,MW5.0, Moment Tensor Solution. s26,c26; s66,c110; Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.12; $M_{\theta\theta}$1.23±.12; $M_{\phi\phi}$-3.49±.13; $M_{r\theta}$-1.24±.08; $M_{\theta\phi}$0.27±.14; $M_{\phi r}$-0.59±.11; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_s205.00000°, δ59.00000°,λ130.00000°. NP2:ϕ_s327.00000°,δ49.00000°, λ44.00000°. Principal axes: T 3.1600, Plg56.0000°, Azm170.0000°; N 0.4100, Plg33.0000°, Azm2.0000°; P -3.5500, Plg5.0000°, Azm268.0000°; Data Used: IU IC G II CN.*
*IDC **15** 16:28:17.5±0.4,4˚.93N×127˚.60E,h102km±3km,mb4.5/31, mb1 4.6/34,mb1mx4.6/35,mbtmp4.5/34,MS3.7/19, Ms1 3.7/19,ms1mx3.6/37 Error ellipse: s-maj=11.4km s-min=6.4km az=69.0*
*BKK **15** 16:28:17.3±0.8,5˚N±4˚×12˚8E±˚,h99km±7km,M5.2/31, mB5.5/11,mb5.1/31,MLv5.6/4,Mw(mB)5.0/11*
*MOS **15** 16:28:17.4±1.0,4˚.93N×127˚.63E,h123km,mb4.9/36,Error ellipse: s-maj=13.0km s-min=5.5km az=118.2*
*TEH **15** 16:28:17.0,4˚.96N×127˚.54E,h108km,ML4.9*
*MAN **15** 16:28:18,5˚.13N×127˚.47E,h134km,mb5.5,ML4.5,MS4.8*
*DJA **15** 16:28:19.8±0.4,5˚N±3˚×12˚8E±˚,h99km±5km,M4.8/27, mB5.4/8,mb5.0/27,MLv4.6/1,Mw(mB)4.9/8*
ISC 15 16:28:17.7±0.3,4˚95N±0˚.03×127˚67E±0˚.04,h107km±1km, h107km:pP-P,n379,σ1§40/519,mb4.8/107,21C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.94**	**293**	*eP*	Pn	16 28 58.5	-4.4
DAV	**Davao City (W)**	**2.96**	**315**	*e*Pn	**Pn**	**16 29 01.9**	**-1.2**
DAV				S	**Sn**	**16 29 37.5**	**-0.6**
DAV	**Davao City (W)**	**2.96**	**315**	P	**Pn**	**16 29 01.8**	**-1.3**
DAV	**Davao City (W)**	**2.96**	**315**	P	**Pn**	**16 29 02.0**	**-1.2**
79nm,0.3s,baz=137,slow=0.8,SNR=26							
DAV				S	**Sn**	**16 29 37.5**	**-0.6**
152nm,0.3s,baz=132,slow=5.0,SNR=11							
CTBH	**Cotabato--PC H**	**4.09**	**304**	‖*i*P	**Pn**	**16 29 16.1**	**-2.1**
TNTI	**Ternate**	**4.16**	**184**	P	**Pn**	**16 29 19.5**	**+0.3**
TNTI				S	**Sn**	**16 30 07.7**	**+0.8**
CGP	**Cagayan de Oro**	**4.57**	**320**	*e*P	**Pn**	**16 29 24.6**	**-0.1**
CGP				*i* S	**Sn**	**16 30 12.9**	**-3.8**
LBMI	**Labuha**	**5.55**	**182**	P	**Pn**	**16 29 38.1**	**+0.1**
LBMI				S	**Sn**	**16 30 41.6**	**+1.0**
DCPH	**Dipolog City**	**5.61**	**310**	‖*i*P	**Pn**	**16 29 39.1**	**+0.4**
DCPH				*e*S	Sn	16 30 48.4	+6.5
IPIL	**Ipil**	**5.80**	**299**	‖*i*P	**Pn**	**16 29 40.1**	**-1.3**
MSLP	**Maasin**	**5.86**	**332**	*e*P	**Pn**	**16 29 40.4**	**-1.7**
GTOI	**Gorontalo**	**6.33**	**228**	P	**Pn**	**16 29 46.7**	**-1.8**
PLP	**Palo**	**6.73**	**337**	‖*e*P	**Pn**	**16 29 51.4**	**-2.5**
PLP				*e*S	Sn	16 31 01.0	-8.1
OCLP	**Ormoc**	**6.78**	**334**	*e*P	**Pn**	**16 29 53.0**	**-1.7**
SWI	**Sorong**	**6.79**	**148**	P	**Pn**	**16 29 54.3**	**-0.6**
SWI	**Sorong**	**6.79**	**148**	P	**Pn**	**16 29 54.8**	**-0.1**
baz=6.8,SNR=17							
SWI				S	**Sn**	**16 31 06.4**	**-4.4**
baz=6.8,SNR=25							
PALU	**Palau**	**7.17**	**70**	P	**Pn**	**16 29 58.6**	**-1.4**
baz=7.2,SNR=48							
PALU				S	**Sn**	**16 31 14.8**	**-5.2**
baz=7.2,SNR=3.1							
MRSI	**Marisa**	**7.24**	**232**	P	**Pn**	**16 30 00.0**	**-1.0**
GUIM	**Jordan**	**7.56**	**319**	*e*P	**Pn**	**16 30 06.8**	**+1.5**
LUWI	**Luwuk**	**7.70**	**220**	P	**Pn**	**16 30 07.2**	**0.0**
LUWI	**Luwuk**	**7.70**	**220**	P	**Pn**	**16 30 07.5**	**+0.3**
baz=7.8,SNR=28							
TOLI	**Toli-Toli**	**7.85**	**241**	P	**Pn**	**16 30 08.2**	**-1.0**
RCP	**Roxas**	**8.18**	**324**	‖*e*P	**Pn**	**16 30 13.7**	**0.0**
MSAI	**Masohi**	**8.33**	**171**	P	Pn	16 30 19.6	+3.8
33nm,1.4s,1μm0.1nm							
AAI	**Ambon**	**8.59**	**176**	P	Pn	16 30 28.6	+9.3
AAI	**Ambon**	**8.59**	**176**	P	Pn	16 30 23.1	+3.8
baz=8.7,SNR=7.0							
CUYO	**Cuyo Island**	**8.82**	**312**	*e*P	**Pn**	**16 30 19.8**	**-2.6**
FAKI	**Fak Fak**	**9.05**	**150**	P	**Pn**	**16 30 25.9**	**+0.3**
FAKI	**Fak Fak**	**9.05**	**150**	P	**Pn**	**16 30 26.0**	**+0.3**
baz=9.1,SNR=29							
FAKI				S	**Sn**	**16 32 00.9**	**-4.9**
baz=9.1,SNR=10							
RKPI	**Ransiki, Papua**	**9.13**	**134**	P	**Pn**	**16 30 29.7**	**+3.1**
MYLDM	**Lahad Datu**	**9.14**	**272**	P	**Pn**	**16 30 26.5**	**-0.2**
MYLDM	**Lahad Datu**	**9.14**	**272**	P	**Pn**	**16 30 26.1**	**-0.6**
SKSI	**Soroako, Sulaw**	**9.76**	**221**	P	**Pn**	**16 30 32.7**	**-2.5**
TSM	**Tawau**	**9.79**	**267**	P	**Pn**	**16 30 32.8**	**-2.8**
SDKM	**Sandakan**	**10.45**	**274**	P	**Pn**	**16 30 43.1**	**-1.5**
KKSI	**Kolaka, Sulawe**	**10.87**	**214**	P	**Pn**	**16 30 47.5**	**-2.8**
SRPI	**Serui, Papua**	**10.92**	**128**	P	Pn	16 30 55.1	+4.2
TTSI	**Tana Toraja**	**11.16**	**225**	P	**Pn**	**16 30 52.4**	**-1.7**
SGKI	**Sangatta, Kali**	**11.43**	**242**	P	Pn	16 30 52.9	-4.9
205nm,1.6s,3μm							
KKM	**Kota Kinabalu**	**11.46**	**276**	*e*Pn	**Pn**	**16 30 55.1**	**-3.1**
KKM	**Kota Kinabalu**	**11.46**	**276**	P	**Pn**	**16 30 56.6**	**-1.5**
KKM	**Kota Kinabalu**	**11.46**	**276**	P	**Pn**	**16 30 57.0**	**-1.2**
KKM	**Kota Kinabalu**	**11.46**	**276**	P	**Pn**	**16 30 57.2**	**-1.0**
baz=12,SNR=8.8							
BBSI	**Bau Bau**	**11.55**	**206**	P	P	16 31 12.5	+4.0
MMSI	**Mamuju**	**11.58**	**229**	P	**Pn**	**16 30 58.5**	**-1.3**
183nm,0.8s,1μm							
TLE	**Tual**	**11.67**	**154**	P	**Pn**	**16 31 01.6**	**+0.7**
TLE	**Tual**	**11.67**	**154**	P	**Pn**	**16 31 01.6**	**+0.7**
baz=12,SNR=13							
SPSI	**Sidrap Palu**	**11.86**	**222**	P	**Pn**	**16 31 01.5**	**-2.0**
BKB	**Balikpapan**	**12.40**	**240**	P	**Pn**	**16 31 09.9**	**-0.8**
KAPI	**Kappang**	**12.67**	**219**	*e*Pn	**Pn**	**16 31 11.6**	**-2.5**
KAPI				S	Sn	16 33 24.6	-9.0
KAPI	**Kappang**	**12.67**	**219**	P	**Pn**	**16 31 13.8**	**-0.3**
33nm,1.3s							
KAPI	**Kappang**	**12.67**	**219**	P	**Pn**	**16 31 11.6**	**-2.5**
1.3nm,0.3s,baz=38,slow=11,SNR=8.5							
KAPI				S	Sn	16 33 24.6	-9.0
2.1nm,0.3s,baz=152,slow=18,SNR=2.4							
BKSI	**Bulukumba**	**12.68**	**217**	P	**Pn**	**16 31 11.8**	**-2.5**
MTKI	**Muara Teweh, K**	**14.04**	**246**	P	**P**	**16 31 37.8**	**+1.4**
MMRI	**Maumere**	**14.54**	**202**	P	P	16 31 47.3	+5.4
BTM	**Bintulu**	**14.65**	**264**	P	**Pn**	**16 31 39.5**	**-0.4**
JAY	**Jayapura**	**14.98**	**119**	P	**P**	**16 31 49.6**	**+2.7**
92nm,1.1s							
SOEI	**Soe**	**14.99**	**193**	P	**Pn**	**16 31 45.3**	**+1.0**
111nm,1.2s,2μm							
SOEI	**Soe**	**14.99**	**193**	P	**P**	**16 31 45.6**	**-1.5**
baz=15,SNR=12							
BBKI	**Banjar Baru**	**15.30**	**237**	P	**Pn**	**16 31 48.3**	**+0.3**
94nm,0.8s							
LBFI	**Labuhan Bajo,**	**15.43**	**210**	P	**P**	**16 31 53.4**	**+1.6**
241nm,1.2s,5μm							
BATI	**Baumata**	**15.57**	**195**	P	**Pn**	**16 31 51.2**	**-0.2**
BATI				S	**Sn**	**16 34 43.4**	**-0.5**
BATI	**Baumata**	**15.57**	**195**	P	**P**	**16 31 52.2**	**-1.2**
71nm,0.9s							
BATI	**Baumata**	**15.57**	**195**	P	**Pn**	**16 31 51.2**	**-0.2**
6.6nm,0.3s,baz=251,slow=2.7,SNR=11							
BATI				S	**Sn**	**16 34 43.4**	**-0.5**
0.7nm,0.3s,baz=128,slow=19,SNR=2.4							
BATI				LR	LR	16 37 53.2	
comp=Z,246nm,19.6s,baz=71,slow=37							
SBUM	**Sibu**	**15.62**	**261**	P	**Pn**	**16 31 52.0**	**+0.1**
SBUM	**Sibu**	**15.62**	**261**	P	**P**	**16 31 54.8**	**+0.9**
SBUM	**Sibu**	**15.62**	**261**	P	**Pn**	**16 31 51.2**	**-0.8**
189nm,1.2s,2μm							
STKI	**Sintang**	**16.89**	**254**	P	**P**	**16 32 07.6**	**-0.4**
63nm,1.3s							
KSM	**Kuching**	**17.67**	**259**	*e*P	**P**	**16 32 14.4**	**-2.2**
65nm,0.8s							
KSM	**Kuching**	**17.67**	**259**	P	**P**	**16 32 16.0**	**-0.7**
KSM	**Kuching**	**17.67**	**259**	P	**Pn**	**16 32 16.9**	**-0.3**
97nm,1.0s,964nm							
KSM	**Kuching**	**17.67**	**259**	P	**Pn**	**16 32 17.2**	**-0.1**
baz=18,SNR=8.3							
KSM				S	**Sn**	**16 35 34.0**	**-0.5**
baz=18,SNR=3.6							
PBKI	**Pangkalan Bun**	**17.70**	**245**	P	**Pn**	**16 32 17.5**	**-0.1**
110nm,1.0s							
MTN	**Manton Dam**	**18.01**	**169**	P	**P**	**16 32 18.7**	**-1.5**
baz=18,SNR=52							
KDU	**Kakadu**	**18.16**	**165**	P	**P**	**16 32 20.5**	**-1.4**
baz=18,SNR=30							
TPUB	**Ta-pu**	**19.47**	**340**	*e*P	**P**	**16 32 35.2**	**-1.0**
23nm,0.8s							
SSLB	**Suanglung**	**19.82**	**342**	*e*P	**P**	**16 32 38.8**	**-1.2**
16nm,0.9s							
KNRA	**Kununurra**	**20.52**	**177**	P	**P**	**16 32 47.4**	**-0.2**
baz=21,SNR=117							
TATO	**Taipei**	**20.78**	**344**	*e*P	**P**	**16 32 48.3**	**-2.0**
134nm,1.7s							
QZH	**Quanzhou**	**21.71**	**337**⇑	*i*P	**P**	**16 33 00.8**	**+0.6**
QZH				S	**S**	**16 36 52.0**	**-2.3**
QZH				LR	LR		
comp=Z,410nm,21.0s							
JOW	**Kunigami**	**21.77**	**1**	*e*P	**P**	**16 32 59.0**	**-1.9**
comp=Z,42nm,0.9s							
QIZ	**Qiongzhong**	**22.32**	**310**	P	**P**	**16 33 05.8**	**-1.0**
QIZ				S	**S**	**16 37 03.3**	**-1.8**
QIZ				sS	**sS**	**16 37 39.0**	**-2.0**
QIZ				pmax	pmax		
comp=Z,13nm,1.2s							
QIZ				pmax	pmax		
comp=Z,120nm,6.9s							
QIZ				LR	LR		
comp=N,200nm,13.2s							
QIZ				LR	LR		
comp=Z,250nm,15.5s							
QIZ	**Qiongzhong**	**22.32**	**310**	*e*P	**P**	**16 33 03.1**	**-3.6**
FITZ	**Fitzroy Crossi**	**22.99**	**185**	P	**P**	**16 33 12.0**	**-1.3**
FITZ				ScP	**ScP**	**16 40 30.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**22.99**	**185**	P	**P**	**16 33 12.0**	**-1.3**
comp=Z,50nm,0.9s,baz=18,slow=10,SNR=91							
FITZ				ScP	**ScP**	**16 40 30.1**	**+1.9**
comp=Z,2.7nm,0.7s,baz=351,slow=1.9,SNR=5.8							
FITZ				LR	LR	16 43 51.1	
comp=Z,132nm,18.1s,baz=17,slow=41							
FITZ	**Fitzroy Crossi**	**22.99**	**185**	P	**P**	**16 33 12.1**	**-1.3**
baz=23,SNR=72							
LEM	**Lembang**	**23.18**	**240**	P	**P**	**16 33 17.0**	**+1.5**
comp=Z,53nm,1.1s							
MYKOM	**Kota Tinggi**	**23.98**	**263**	P	**P**	**16 33 23.1**	**+0.5**
comp=Z,19nm,1.0s							
PMG	**Port Moresby**	**24.09**	**126**	LR	LR	16 44 30.9	
comp=Z,95nm,18.2s,baz=120,slow=40							
UBPT	**Khong Chiam**	**24.12**	**297**	P	**P**	**16 33 23.1**	**-0.7**

ASAR			PcP	**PcP**	**16 37 14.3**	**+0.3**
ASAR			ScP	**ScP**	**16 40 47.4**	**+1.4**
ASAR	**Alice Springs**	**29.08 168**	P	**P**	**16 34 07.8**	**-0.5**
comp=Z,11nm,0.5s,baz=358,slow=9.0,SNR=241						
ASAR			PcP	**PcP**	**16 37 14.3**	**+0.3**
comp=Z,6.7nm,0.6s,baz=347,slow=2.2,SNR=11						
ASAR			ScP	**ScP**	**16 40 47.4**	**+1.4**
comp=Z,1.8nm,0.7s,baz=342,slow=2.5,SNR=7.3						
ASAR			LR	LR	16 44 10.0	
comp=Z,124nm,21.7s,baz=351,slow=33						
GYA	**Guiyang**	**29.34 319**	P	**P**	**16 34 11.4**	**+0.7**
GYA			pP	**pP**	**16 34 35.8**	**+1.4**
GYA			sP	**sP**	**16 34 48.3**	**+1.5**
GYA			PP	**PnPn**	**16 35 11.1**	**+1.5**
GYA			PcP	**PcP**	**16 37 15.3**	**+0.6**
GYA			S	**S**	**16 38 53.8**	**-2.7**
GYA			sS	**sS**	**16 39 38.4**	**+0.6**
GYA			PcS	**PcS**	**16 40 57.0**	**-1.0**
GYA			ScS	**ScS**	**16 44 38.3**	**-3.4**
GYA			pmax	pmax		
comp=Z,10.0nm,0.6s						
GYA			pmax	pmax		
comp=Z,120nm,9.2s						
NANT	**Nan**	**29.70 300**	P	**P**	**16 34 13.3**	**-0.5**
comp=Z,70nm,0.6s						
ENH	**Enshi**	**30.47 328**	*e*P	**P**	**16 34 19.0**	**-1.6**
comp=Z,10nm,0.8s						
LAMP	**Lampang**	**30.52 299**	P	**P**	**16 34 21.1**	**0.0**
comp=Z,5.1nm,0.8s						
PATS	**Pohnpei**	**30.54 85**	S	**S**	**16 39 19.0**	**+3.7**
baz=30,SNR=3.4						
PAYA	**Payao**	**30.65 300**	P	**P**	**16 34 21.5**	**-0.7**
comp=Z,12nm,0.7s,comp=Z,96nm						
CTA	**Charters Tower**	**30.87 144**	P	**P**	**16 34 25.2**	**+1.1**
CTA			PcP	**PcP**	**16 37 20.0**	**+1.3**
CTA	**Charters Tower**	**30.87 144**	P	**P**	**16 34 25.2**	**+1.1**
comp=Z,13nm,0.7s,baz=329,slow=11,SNR=23						
CTA			PcP	**PcP**	**16 37 20.0**	**+1.3**
comp=Z,7.3nm,0.9s,baz=309,slow=6.8,SNR=5.3						
CTAO	**Charters Tower**	**30.87 144**	*e*P	**P**	**16 34 23.3**	**-0.8**
CTAO			pmax	pmax		
comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**30.87 144**	*e*P	**P**	**16 34 23.3**	**-0.8**
comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.10 298**	P	**P**	**16 34 25.9**	**-0.3**
CMAR			pP	**pP**	**16 34 50.5**	**+0.4**
CMAR			PcP	**PcP**	**16 37 20.0**	**+0.7**
CMAR			ScP	**ScP**	**16 40 54.7**	**+2.0**
CMAR	**Chiang Mai Arr**	**31.10 298**	P	**P**	**16 34 25.9**	**-0.3**
comp=Z,5.3nm,0.7s,baz=109,slow=7.2,SNR=50						
CMAR			pP	**pP**	**16 34 50.5**	**+0.4**
comp=Z,2.7nm,0.7s,baz=110,slow=7.9,SNR=3.0						
CMAR			PcP	**PcP**	**16 37 20.0**	**+0.7**
comp=Z,1.1nm,0.8s,baz=179,slow=1.9,SNR=4.3						
CMAR			ScP	**ScP**	**16 40 54.7**	**+2.0**
comp=Z,4.1nm,0.9s,baz=135,slow=1.9,SNR=21						
CMAR			LR	LR	16 47 56.0	
comp=Z,182nm,18.4s,baz=281,slow=38						
CM31	**Chiang Mai Arr**	**31.10 298**	*e*P	P	16 34 22.3	-3.9
comp=Z,4.3nm,0.6s						
KMI	**Kunming**	**31.22 313**	P	**P**	**16 34 27.6**	**+0.2**
KMI			pP	**pP**	**16 34 52.3**	**+1.1**
KMI			sP	**sP**	**16 35 06.6**	**+3.0**
KMI			S	**S**	**16 39 25.6**	**-0.7**
KMI			pmax	pmax		
comp=Z,15nm,0.9s						
KMI			pmax	pmax		
comp=Z,68nm,6.3s						
KMI			LR	LR		
comp=N,120nm,22.0s						
KMI			LR	LR		
comp=E,110nm,17.2s						
KMI			LR	LR		
comp=Z,200nm,25.5s						
CMMT	**Chiang Mai**	**31.23 299**	P	**P**	**16 34 26.3**	**-1.1**
comp=Z,18nm,0.7s						
CHTO	**Chiang Mai**	**31.23 299**	*e*P	**P**	**16 34 26.0**	**-1.4**
CHTO			pmax	pmax		
comp=Z,12nm,0.7s						
CHTO	**Chiang Mai**	**31.23 299**	*e*P	**P**	**16 34 26.0**	**-1.4**
comp=Z,12nm,0.7s						
CHTO	**Chiang Mai**	**31.23 299**	P	**P**	**16 34 26.7**	**-0.7**
comp=Z,20nm,0.8s						
CHTO	**Chiang Mai**	**31.23 299**	P	**P**	**16 34 26.7**	**-0.7**
comp=Z,20nm,0.8s						
CMAI	**Chiengmai2**	**31.59 301**	P	**P**	**16 34 32.4**	**+1.7**
comp=Z,157nm,1.2s,comp=Z,7μm						
KSAR	**Wonju Array Be**	**32.34 0**	P	**P**	**16 34 36.1**	**-0.6**
KSAR			pP	**pP**	**16 35 01.8**	**+1.1**
KSAR			PcP	**PcP**	**16 37 23.2**	**+1.0**
KSAR			ScP	**ScP**	**16 40 58.2**	**+1.8**
KSRS	**Korea Array**	**32.35 0**	P	**P**	**16 34 36.1**	**-0.7**
comp=Z,4.7nm,1.0s,baz=177,slow=11,SNR=19						
KSRS			pP	**pP**	**16 35 01.8**	**+1.0**
comp=Z,3.2nm,0.8s,baz=177,slow=10.0,SNR=6.1						
KSRS			PcP	**PcP**	**16 37 23.2**	**+0.9**
comp=Z,2.0nm,0.8s,baz=184,slow=2.8,SNR=9.5						
KSRS			ScP	**ScP**	**16 40 58.2**	**+1.7**
comp=Z,1.0nm,0.8s,baz=190,slow=2.8,SNR=5.3						
KSRS			LR	LR	16 47 14.1	
comp=Z,42nm,18.7s,baz=175,slow=35						
MEEK	**Meekatharra**	**32.60 195**	P	**P**	**16 34 38.9**	**-0.4**
baz=33,SNR=21						
MJAR	**Matsushiro Arr**	**32.90 16**	P	**P**	**16 34 40.4**	**-1.4**
MJAR			pP	**pP**	**16 35 05.8**	**+0.1**
MJAR			PcP	**PcP**	**16 37 24.8**	**+0.9**
MJAR			ScP	**ScP**	**16 40 59.9**	**+1.5**
MJAR	**Matsushiro Arr**	**32.90 16**	P	**P**	**16 34 40.4**	**-1.4**
comp=Z,2.6nm,0.5s,baz=185,slow=9.9,SNR=27						
MJAR			pP	**pP**	**16 35 05.8**	**+0.1**
comp=Z,4.4nm,0.8s,baz=190,slow=10,SNR=6.1						
MJAR			PcP	**PcP**	**16 37 24.8**	**+0.9**
comp=Z,2.1nm,0.8s,baz=187,slow=4.1,SNR=5.6						
MJAR			ScP	**ScP**	**16 40 59.9**	**+1.5**
comp=Z,2.2nm,1.1s,baz=190,slow=4.2,SNR=6.2						
MJAR			LR	LR	16 48 54.8	
comp=Z,148nm,18.5s,baz=185,slow=38						
MAT	**Matsushiro**	**32.90 16**	P	**P**	**16 34 39.5**	**-2.2**
MAT			S	**S**	**16 39 53.0**	**+1.3**
XAN	**Xi'an**	**33.78 331**	P	**P**	**16 34 49.3**	**-0.2**
XAN			pP	**pP**	**16 35 13.6**	**+0.2**
XAN			sP	**sP**	**16 35 25.8**	**0.0**
XAN			pmax	pmax		
comp=Z,6.0nm,0.8s						
XAN			pmax	pmax		
comp=Z,21nm,6.0s						
CD2	**Chengdu**	**34.25 322**	*e*P	**P**	**16 34 54.1**	**+0.5**
CD2			pP	**pP**	**16 35 18.5**	**+0.9**
CD2			sP	**sP**	**16 35 31.4**	**+1.5**
CD2			PP	**PP**	**16 36 12.4**	**-0.8**
CD2			S	**S**	**16 40 12.1**	**-0.7**
CD2			sS	**sS**	**16 40 54.6**	**+0.1**
CD2			pmax	pmax		
comp=Z,10.0nm,0.8s						
CD2			pmax	pmax		
comp=Z,100nm,4.8s						
CD2			LR	LR		
comp=N,210nm,17.8s						
CD2			LR	LR		
comp=Z,290nm,16.6s						
HNR	**Honiara**	**35.20 114**	P	**P**	**16 34 59.1**	**-2.7**
HNR	**Honiara**	**35.20 114**	P	**P**	**16 34 59.1**	**-2.7**
comp=Z,49nm,0.8s,baz=319,slow=2.4,SNR=2.8						
FORT	**Forrest**	**35.53 179**	P	**P**	**16 35 04.3**	**-0.1**
baz=36,SNR=55						
MORW	**Morawa**	**35.62 198**	P	**P**	**16 35 05.0**	**-0.3**
baz=36,SNR=5.1						
BJI	**Beijing**	**36.44 345**	P	**P**	**16 35 12.3**	**+0.2**
BJI			S	S	16 40 54.5	+8.5
BJI			pmax	pmax		
comp=Z,15nm,0.7s						
BLDU	**Ballidu**	**36.88 196**	P	**P**	**16 35 15.8**	**-0.2**
baz=37,SNR=30						
RMQ	**Roma**	**37.33 148**	P	**P**	**16 35 19.8**	**-0.1**
baz=38,SNR=15						
RMQ			S	S	16 41 19.2	+19
baz=38,SNR=4.9						
KLBR	**Kellerberrin**	**37.55 194**	P	**P**	**16 35 21.6**	**0.0**
baz=38,SNR=13						
EIDS	**Eidsvold**	**37.76 144**	P	**P**	**16 35 23.1**	**-0.3**
baz=38,SNR=33						
LZH	**Lanzhou**	**37.96 328**	*e*P	**P**	**16 35 26.8**	**+1.6**
LZH			pP	**pP**	**16 35 51.3**	**+1.7**
LZH			sP	**sP**	**16 36 04.8**	**+3.0**
LZH			PcP	**PcP**	**16 37 40.4**	**+1.4**
LZH			*e*S	**S**	**16 41 11.0**	**+1.5**
LZH			sS	**sS**	**16 41 54.4**	**+2.8**
LZH			pmax	pmax		
comp=Z,34nm,1.1s						
VLA	**Vladivostok**	**38.20 5**	⇑*i*P	**P**	**16 35 26.5**	**-0.4**
VLA			pmax	pmax		
comp=Z,11nm,0.9s						
BBOO	**Buckleboo**	**38.39 169**	P	**P**	**16 35 28.4**	**-0.2**
baz=39,SNR=23						
HHC	**Hu-ho-hao-te**	**38.56 340**	*e*P	**P**	**16 35 29.4**	**-0.7**
HHC			sP	**sP**	**16 36 07.4**	**+0.6**
HHC			PP	**PnPn**	**16 37 04.5**	**+0.8**
HHC			PcP	**PcP**	**16 37 41.3**	**+0.6**
HHC			S	**S**	**16 41 16.8**	**-1.5**
HHC			PcS	**PcS**	**16 41 28.8**	**-1.4**
HHC			ScS	**ScS**	**16 45 26.3**	**-3.5**
HHC			pmax	pmax		
comp=Z,31nm,0.7s						
HHC			pmax	pmax		
comp=Z,170nm,5.3s						
HHC			LR	LR		
comp=N,230nm,14.4s						
HHC			LR	LR		
comp=E,210nm,14.7s						
HHC			LR	LR		
comp=Z,260nm,14.2s						
CN2	**Changchun**	**38.74 357**	*e*P	**P**	**16 35 32.4**	**+0.9**
CN2			*e*pP	**pP**	**16 35 57.8**	**+1.9**
CN2			*e*S	**S**	**16 41 21.4**	**+0.6**
CN2			pmax	pmax		
comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**38.95 194**	P	**P**	**16 35 33.5**	**+0.2**
NWAO	**Narrogin (SRO)**	**38.95 194**	P	**P**	**16 35 33.5**	**+0.2**
comp=Z,53nm,0.8s,baz=34,slow=8.0,SNR=17						
STKA	**Stephens Creek**	**38.95 161**	*e*P	**P**	**16 35 33.4**	**0.0**
STKA			PcP	**PcP**	**16 37 42.0**	**+0.1**
STKA	**Stephens Creek**	**38.95 161**	P	**P**	**16 35 33.3**	**0.0**
comp=Z,49nm,0.7s,baz=336,slow=8.3,SNR=106						
STKA			PcP	**PcP**	**16 37 42.0**	**+0.1**
comp=Z,15nm,0.7s,baz=333,slow=5.6,SNR=4.8						
STKA			LR	LR	16 53 47.3	
comp=Z,100nm,19.4s,baz=228,slow=39						
STKA	**Stephens Creek**	**38.95 161**	P	**P**	**16 35 33.3**	**0.0**
baz=39,SNR=82						
USRK	**Ussuriysk Arra**	**39.28 5**	P	**P**	**16 35 35.8**	**-0.1**
comp=Z,6.0nm,0.8s,baz=190,slow=8.9,SNR=16						
USRK			pP	**pP**	**16 36 00.7**	**+0.3**
comp=Z,4.3nm,0.8s,baz=196,slow=6.8,SNR=4.7						
USRK			LR	LR	16 52 22.4	
comp=Z,68nm,18.5s,baz=190,slow=37						
MDJ	**Mudanjiang**	**39.55 2**	P	**P**	**16 35 38.9**	**+0.7**
MDJ			pP	**pP**	**16 36 01.9**	**-0.7**
MDJ			sP	**sP**	**16 36 13.5**	**-1.4**
MDJ			PP	**PP**	**16 37 11.4**	**+0.3**
MDJ			PcP	**PcP**	**16 37 43.6**	**0.0**
MDJ			ScP	**ScP**	**16 41 23.1**	**+0.4**
MDJ			PcS	**PcS**	**16 41 33.9**	**+0.4**
MDJ			S	**S**	**16 41 35.8**	**+3.0**
MDJ			ScS	**ScS**	**16 45 34.8**	**-0.3**
MDJ			pmax	pmax		
comp=Z,14nm,1.0s						
MDJ			pmax	pmax		
comp=Z,67nm,5.9s						
MDJ	**Mudanjiang**	**39.55 2**	*e*P	**P**	**16 35 37.0**	**-1.1**
comp=Z,11nm,0.9s						
SHL	**Shillong**	**39.94 305**	*e*P	**P**	**16 35 44.0**	**+2.1**
CMSA	**Cobar Meteorol**	**40.15 156**	P	**P**	**16 35 43.2**	**-0.1**
baz=40,SNR=27						
RKGY	**Rocky Gully**	**40.62 194**	P	**P**	**16 35 48.7**	**+1.6**
baz=41,SNR=6.4						
ASAJ	**Asahikawa**	**41.16 16**	*e*P	**P**	**16 35 51.6**	**+0.1**
comp=Z,50nm,2.3s						
ASAJ	**Asahikawa**	**41.16 16**	P	**P**	**16 35 52.6**	**+1.1**
comp=Z,6.5nm,0.6s,baz=228,slow=10,SNR=19						
ARMA	**Armidale**	**41.98 148**	P	**P**	**16 35 59.1**	**+0.6**
baz=42,SNR=87						
LSA	**Lhasa**	**42.36 310**	P	**P**	**16 36 03.1**	**+1.0**
LSA			pmax	pmax		
comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**42.36 310**	*e*P	**P**	**16 35 59.9**	**-2.2**
LSA			pmax	pmax		
comp=Z,11nm,0.7s						
LSA	**Lhasa**	**42.36 310**	*e*P	**P**	**16 35 59.9**	**-2.2**
comp=Z,11nm,0.7s						
GTA	**Gaotai**	**42.56 328**	P	**P**	**16 36 04.3**	**+1.2**
GTA			pP	**pP**	**16 36 28.8**	**+0.9**
GTA			sP	**sP**	**16 36 42.6**	**+2.6**
GTA			PcP	**PcP**	**16 37 55.0**	**+1.2**
GTA			ScP	**ScP**	**16 41 36.4**	**+1.4**
GTA			S	**S**	**16 42 18.8**	**+0.9**
GTA			sS	**sS**	**16 43 03.4**	**+2.8**
GTA			ScS	**ScS**	**16 45 53.8**	**-0.1**
GTA			pmax	pmax		
comp=Z,16nm,0.9s						
GTA			pmax	pmax		
comp=Z,120nm,5.2s						
GTA			LR	LR		
comp=N,130nm,15.7s						
GTA			LR	LR		
comp=E,120nm,13.8s						
GTA			LR	LR		
comp=Z,200nm,19.0s						
ARPS	**Mount Arapiles**	**43.56 163**	P	**P**	**16 36 11.7**	**+0.7**
baz=44,SNR=14						
YNG	**Young**	**43.66 155**	P	**P**	**16 36 12.6**	**+0.7**
baz=44,SNR=27						
HABR	**Khabarovsk**	**43.82 7**	*e*P	**P**	**16 36 12.2**	**-0.7**
HABR			*e**PP	**pP**	**16 36 35.7**	**-2.1**
HABR					16 37 56.7	
HABR			*e*PPP	PPP	16 38 35.9	
HABR			*e*S	**S**	**16 42 37.6**	**+1.9**
HABR			*e*	*e*	16 46 00.2	
HABR			*e*SSS	SSS	16 46 46.4	
HABR			pmax	pmax		
comp=N,25nm,2.0s						
HABR			pmax	pmax		
comp=Z,38nm,2.4s						
HABR			pmax	pmax		
comp=E,59nm,3.0s						
YSS	**Yuzh-Sakhalins**	**43.83 15**	*e*P	**P**	**16 36 14.9**	**+1.9**
TAPN	**Taplejung**	**44.08 305**	*e*P	**P**	**16 36 15.7**	**0.0**
comp=E,44nm,0.5s						
ODAN	**Odare**	**44.15 304**	*e*P	**P**	**16 36 16.1**	**-0.2**
comp=E,70nm,0.6s						
KLR	**Kul'dur**	**44.26 4**	*e*P	P	16 36 10.8	-5.7
KLR			*e*		16 36 36.4	
CAN	**Canberra**	**44.80 155**	*e*P	**P**	**16 36 19.7**	**-1.3**
CAN			pmax	pmax		
comp=Z,23nm,0.8s						
CAN	**Canberra**	**44.80 155**	*e*P	**P**	**16 36 19.7**	**-1.3**
comp=Z,23nm,0.8s						
RAMN	**Ramite**	**44.84 304**	*e*P	**P**	**16 36 21.9**	**+0.2**
comp=Z,70nm,0.7s						
CNB	**Canberra Magne**	**44.94 155**	P	**P**	**16 36 23.0**	**+0.8**
baz=45,SNR=8.8						
JIRN	**Jiri**	**45.44 304**	*e*P	**P**	**16 36 26.6**	**0.0**
comp=Z,81nm,0.6s						
TOO	**Toolangi**	**45.44 160**	P	**P**	**16 36 27.2**	**+1.2**
baz=46,SNR=6.0						
GUN	**Gumba**	**45.79 305**	*e*P	**P**	**16 36 29.5**	**+0.1**
comp=Z,98nm,0.7s						
PKI	**Pulchoki**	**46.05 304**	*e*P	**P**	**16 36 30.9**	**-0.5**
comp=Z,22nm,0.6s						
PKIN	**Phulchoki**	**46.06 304**	*e*P	**P**	**16 36 31.6**	**+0.2**
comp=Z,14nm,0.7s						
KKN	**Kakani**	**46.24 304**	*e*P	**P**	**16 36 32.6**	**-0.1**
comp=Z,36nm,0.9s						
ULN	**Ulaanbaatar**	**46.27 341**	*e*P	**P**	**16 36 30.0**	**-2.5**
comp=Z,7.7nm,0.8s						
ULN	**Ulaanbaatar**	**46.27 341**	P	**P**	**16 36 33.6**	**+1.0**
comp=Z,11nm,0.9s						
DMN	**Daman**	**46.32 304**	*e*P	**P**	**16 36 33.3**	**-0.1**
comp=Z,40nm,0.8s						
MILA	**Mila**	**46.35 156**	P	**P**	**16 36 34.5**	**+1.3**
baz=47,SNR=4.9						
SONM	**Songino Array**	**46.46 340**	P	**P**	**16 36 34.5**	**+0.5**
SONM			pP	**pP**	**16 36 58.6**	**-0.5**
SONM			PcP	**PcP**	**16 38 07.3**	**+0.4**
SONM			ScP	**ScP**	**16 41 51.6**	**+0.9**
SONM	**Songino Array**	**46.46 340**	P	**P**	**16 36 34.5**	**+0.5**
comp=Z,3.8nm,0.7s,baz=159,slow=8.2,SNR=22						
SONM			pP	**pP**	**16 36 58.6**	**-0.5**
comp=Z,2.3nm,0.7s,baz=165,slow=8.1,SNR=3.7						
SONM			PcP	**PcP**	**16 38 07.4**	**+0.4**
comp=Z,2.1nm,0.8s,baz=163,slow=3.9,SNR=3.0						
SONM			ScP	**ScP**	**16 41 51.7**	**+0.9**
comp=Z,1.1nm,0.9s,baz=154,slow=2.9,SNR=4.1						
SONM			LR	LR	16 56 03.9	
comp=Z,88nm,20.4s,baz=304,slow=36						
DZM	**Mont Dzumac**	**46.49 127**	*e*P	**P**	**16 36 33.9**	**-0.6**
DZM	**Mont Dzumac**	**46.49 127**	*e*P	P	16 36 31.3	-3.3
DZM	**Mont Dzumac**	**46.49 127**	P	**P**	**16 36 34.6**	**0.0**
comp=Z,50nm,0.6s,baz=284,slow=6.7,SNR=75						
DZM			LR	LR	16 53 39.8	
comp=Z,133nm,19.7s,baz=37,slow=33						
LHI	**Lord Howe Isla**	**47.02 143**	P	P	16 36 43.3	+4.9
baz=47,SNR=4.6						
KOLN	**Koldanda**	**47.62 303**	*e*P	**P**	**16 36 43.6**	**+0.1**
comp=Z,72nm,0.6s						
DANN	**Dangsing**	**47.69 304**	*e*P	**P**	**16 36 44.2**	**+0.1**
comp=Z,121nm,0.7s						
ZAK	**Zakamensk**	**49.70 340**	*e*P	**P**	**16 36 58.8**	**-0.1**
ZAK			*e*		16 37 23.5	
ZAK			*e*		16 38 14.9	
MOY	**Mondy**	**51.58 339**	*e*P	**P**	**16 37 14.3**	**+1.3**
WMQ	**Urumqi**	**52.28 324**	P	**P**	**16 37 19.6**	**+1.3**
WMQ			pP	**pP**	**16 37 44.8**	**+0.9**
WMQ			PcP	**PcP**	**16 38 29.8**	**+1.6**
WMQ			PP	**PP**	**16 39 20.5**	**+2.6**
WMQ			S	**S**	**16 44 33.8**	**-1.7**
WMQ			ScS	**ScS**	**16 46 54.4**	**-3.5**
WMQ			SS	**SS**	**16 48 14.0**	**-0.5**
WMQ			pmax	pmax		
comp=Z,12nm,1.0s						
WMQ			pmax	pmax		
comp=Z,160nm,4.7s						
WMQ			LR	LR		
comp=N,180nm,24.0s						
WMQ			LR	LR		
comp=E,78nm,21.0s						
WMQ			LR	LR		
comp=Z,140nm,28.0s						
PEA0B	**Petropavlovsk-**	**53.96 22**	*e*P	**P**	**16 37 31.1**	**+0.8**
PETK	**Petropavlovsk-**	**53.96 22**	P	**P**	**16 37 31.3**	**+0.9**
PETK			*PP	**pP**	**16 37 56.1**	**+0.1**
PETK	**Petropavlovsk-**	**53.96 22**	P	**P**	**16 37 31.2**	**+0.9**
PETK			pP	**pP**	**16 37 56.1**	**+0.1**
PETK	**Petropavlovsk-**	**53.96 22**	P	**P**	**16 37 31.2**	**+0.9**
comp=Z,9.3nm,0.6s,baz=185,slow=3.6,SNR=44						
PETK			pP	**pP**	**16 37 56.1**	**+0.1**
comp=Z,8.8nm,0.8s,baz=191,slow=4.3,SNR=7.7						
PETK			LR	LR	17 01 15.1	
comp=Z,29nm,18.6s,baz=226,slow=37						
HVS	**Khovu-Aksy**	**54.05 334**	*d i*P	**P**	**16 37 32.3**	**+1.2**
HVS			pmax	pmax		
comp=Z,42nm,0.8s						
YAK	**Yakutsk**	**56.98 1**	*e*P	**P**	**16 37 50.7**	**-1.0**
YAK			pmax	pmax		
comp=Z,20nm,0.9s						
YAK			pmax	pmax		
comp=E,2.0nm,1.4s						
YAK			pmax	pmax		
comp=N,5.0nm,1.0s						
MK31	**Makanchi Array**	**57.11 324**	*ce*P	**P**	**16 37 53.6**	**+0.6**
MK31			pmax	pmax		
comp=Z,8.0nm,0.4s						
MK31	**Makanchi Array**	**57.11 324**	*e*P	**P**	**16 37 53.9**	**+0.8**
MKAR	**Makanchi Array**	**57.11 324**	P	**P**	**16 37 53.9**	**+0.9**
MKAR			*PP	**pP**	**16 38 19.4**	**+0.3**
MKAR	**Makanchi Array**	**57.11 324**	P	**P**	**16 37 53.9**	**+0.9**
MKAR			pP	**pP**	**16 38 19.4**	**+0.3**
MKAR			ScP	**ScP**	**16 42 36.6**	**-0.1**
MKAR	**Makanchi Array**	**57.11 324**	P	**P**	**16 37 53.9**	**+0.9**
comp=Z,16nm,0.7s,baz=118,slow=8.2,SNR=160						
MKAR			pP	**pP**	**16 38 19.4**	**+0.3**
comp=Z,16nm,0.7s,baz=128,slow=7.7,SNR=11						
MKAR			ScP	**ScP**	**16 42 36.6**	**-0.1**
comp=Z,1.4nm,0.9s,baz=144,slow=4.3,SNR=4.2						
MKAR			LR	LR	17 04 29.8	
comp=Z,64nm,19.3s,baz=262,slow=38						
KSH	**Kashi**	**57.86 314**	P	**P**	**16 38 00.8**	**+2.2**
KSH			sP	**sP**	**16 38 40.6**	**+4.1**
KSH			PP	**PP**	**16 40 12.8**	**+4.8**
KSH			S	**S**	**16 45 49.3**	**-0.9**
KSH			sS	**sS**	**16 46 36.3**	**+1.4**
KSH			SS	**SS**	**16 49 44.3**	**+1.6**
KSH			pmax	pmax		
comp=Z,5.0nm,0.8s						
KSH			pmax	pmax		
comp=Z,54nm,5.6s						
KSH			LR	LR		
comp=Z,110nm,5.8s						
KRAR	**Krasnoyarsk**	**57.97 338**	*e*P	**P**	**16 38 01.0**	**+2.2**
KRAR			pmax	pmax		
comp=Z,8.0nm,0.8s						
KZA	**Kyzart**	**59.37 317**	*i* P	**P**	**16 38 10.7**	**+1.3**
KZA	**Kyzart**	**59.37 317**	P	**P**	**16 38 10.7**	**+1.3**
SNR=8.2						
TKM2	**Tokmak 2**	**59.47 318**	*e*P	**P**	**16 38 08.8**	**-1.0**
TKM2			pmax	pmax		
comp=Z,12nm,0.6s						
TKM2	**Tokmak 2**	**59.47 318**	P	**P**	**16 38 10.8**	**+1.0**
SNR=11						
TKM2	**Tokmak 2**	**59.47 318**	*e*P	**P**	**16 38 08.8**	**-1.0**
comp=Z,12nm,0.6s						
KBK	**Karagaybulak**	**59.80 317**	*i* P	**P**	**16 38 13.6**	**+1.6**
KBK	**Karagaybulak**	**59.80 317**	P	**P**	**16 38 13.6**	**+1.6**
SNR=5.4						
ZAA0	**Zalesovo Array**	**59.94 332**	*e*P	**P**	**16 38 09.9**	**-2.7**
ZALV	**Zalesovo Beam**	**59.94 332**	P	**P**	**16 38 12.3**	**-0.3**
ZALV			*PP	**pP**	**16 38 39.0**	**+0.3**
ZALV	**Zalesovo Beam**	**59.94 332**	P	**P**	**16 38 12.2**	**-0.3**
ZALV			pP	**pP**	**16 38 39.0**	**+0.3**
ZALV		⇑*e*			17 07 46.0	
ZALV	**Zalesovo Beam**	**59.94 332**	P	**P**	**16 38 12.2**	**-0.3**
comp=Z,8.6nm,0.8s,baz=111,slow=6.4,SNR=32						
ZALV			pP	**pP**	**16 38 39.0**	**+0.3**
comp=Z,1.9nm,0.4s,baz=124,slow=7.7,SNR=3.2						
ZALV			LR	LR	17 05 37.3	
comp=Z,63nm,19.6s,baz=69,slow=37						
ZALV			PKP2bc		17 07 46.0	
comp=Z,1.4nm,0.7s,baz=320,slow=3.9,SNR=5.7						
AAK	**Ala-Archa**	**60.10 317**	*e*P	P	16 38 09.8	-4.3
AAK			pmax	pmax		
comp=Z,16nm,1.2s						
AAK	**Ala-Archa**	**60.10 317**	*e*P	**P**	**16 38 12.2**	**-1.8**
comp=Z,7.9nm,1.0s						
USP	**Ospenovka**	**60.35 318**	*i* P	**P**	**16 38 16.8**	**+1.2**
USP	**Ospenovka**	**60.35 318**	P	**P**	**16 38 16.8**	**+1.2**
SNR=15						
AML	**Almayashu**	**60.45 316**	*i* P	**P**	**16 38 18.2**	**+1.4**
AML	**Almayashu**	**60.45 316**	P	**P**	**16 38 18.2**	**+1.4**
SNR=7.8						
EKS2	**Erkin-Say**	**60.60 317**	*e*P	**P**	**16 38 16.3**	**-1.1**
EKS2			pmax	pmax		
comp=Z,17nm,0.6s						
EKS2	**Erkin-Say**	**60.60 317**	P	**P**	**16 38 18.2**	**+0.8**
SNR=9.5						
EKS2	**Erkin-Say**	**60.60 317**	*e*P	**P**	**16 38 16.3**	**-1.1**
comp=Z,17nm,0.6s						
SEY	**

TIXI	**Tiksi**	**66.62**	**0**	*eP*	**P**	**16 38 56.5**	**+0.2**
TIXI				pmax	pmax		
comp=Z,8.0nm,1.0s							
BVA0	**Borovoye Array**	**66.82**	**326**	P	**P**	**16 38 58.1**	**+0.2**
BVA0				pmax	pmax		
comp=Z,16nm,0.8s							
BRVK	**Borovoye**	**66.89**	**326***c*	*iP*	**P**	**16 38 58.7**	**+0.3**
BRVK				pmax	pmax		
comp=Z,30nm,1.2s							
BRVK	**Borovoye**	**66.89**	**326**	*eP*	**P**	**16 38 57.4**	**-1.0**
IMYA	**Miami**	**69.05**	**307**	*eP*	pP	16 39 39.6	+0.3
ISHV	**Shirvan**	**71.14**	**308**	*eP*	**P**	**16 39 27.0**	**+1.8**
AB31	**Akbulak array**	**71.81**	**320***c*	*eP*	**P**	**16 39 28.9**	**+0.2**
AB31				pmax	pmax		
comp=Z,7.0nm,0.5s							
ABKAR	**Akbulak array**	**71.81**	**320**	*eP*	**P**	**16 39 27.4**	**-1.4**
comp=Z,12nm,0.7s							
CASY	**Casey**	**72.13**	**187**	*eP*	**P**	**16 39 30.4**	**+0.2**
comp=Z,23nm,0.9s							
SVE	**Sverdlovsk**	**73.42**	**328**⇓	*eP*	**P**	**16 39 38.1**	**0.0**
SVE				pmax	pmax		
comp=Z,28nm,0.9s							
IGLO	**Ghaloghah**	**74.09**	**306**	*eP*	**P**	**16 39 43.1**	**+0.4**
ISRV	**Sarvestan**	**74.14**	**299**	*eP*	**P**	**16 39 43.9**	**+0.6**
IPAR	**Pars**	**74.22**	**299**	*eP*	**P**	**16 39 43.8**	**+0.1**
ARU	**Arti**	**74.42**	**327***c*	*iP*	**P**	**16 39 43.2**	**-0.7**
ARU						16 42 28.4	
ARU				S	**S**	**16 49 11.6**	**+1.7**
ARU				pmax	pmax		
comp=Z,16nm,0.7s							
ISHM	**Shahmirzad**	**74.45**	**306**	*eP*	**P**	**16 39 45.4**	**+0.4**
IPRN	**Peran**	**75.26**	**306**	*eP*	pP	16 40 16.6	0.0
KBD	**Kabd**	**78.86**	**299**	*eP*	**P**	**16 40 08.9**	**-0.6**
KBD				AMb	AMB	16 40 13.0	
comp=Z,27nm,1.4s							
RDF	**Al-Radifah**	**78.98**	**298**	*eP*	**P**	**16 40 10.0**	**-0.3**
RDF				AMb	AMB	16 40 11.8	
comp=Z,45nm,1.2s							
ISRB	**Sarab**	**79.09**	**307**	*eP*	**P**	**16 40 11.7**	**+0.8**
IKOM	**Komasi**	**79.10**	**304**	*eP*	**P**	**16 40 10.3**	**-0.7**
NAY	**Al-Naaiem**	**79.26**	**299**	*eP*	**P**	**16 40 10.9**	**-0.8**
NAY				AMb	AMB	16 40 12.0	
comp=Z,21nm,0.8s							
ILIN	**Lien**	**79.57**	**304**	*eP*	**P**	**16 40 13.8**	**+0.2**
ISHB	**Shabestar**	**80.72**	**308**	*eP*	**P**	**16 40 20.4**	**+0.7**
RAYN	**Ar Rayn**	**80.87**	**293**	*eP*	**P**	**16 40 18.6**	**-1.9**
comp=Z,31nm,0.9s							
IMA2	**Indian Mountai**	**80.89**	**24**	*eP*	**P**	**16 40 16.9**	**-3.0**
PPLA	**Purkeypile**	**81.12**	**27**	*eP*	**P**	**16 40 19.6**	**-1.6**
ZEI	**Tsey**	**82.09**	**312**	*eP*	**P**	**16 40 26.2**	**-0.7**
ZEI				pmax	pmax		
comp=Z,15nm,0.9s							
COLD	**Coldfoot**	**82.41**	**23**	*eP*	**P**	**16 40 26.0**	**-1.7**
comp=Z,9.9nm,0.9s							
MCK	**McKinley**	**82.66**	**26**	*eP*	**P**	**16 40 29.5**	**+0.4**
MCK				pmax	pmax		
comp=Z,25nm,1.1s							
MCK	**McKinley**	**82.66**	**26**	*eP*	**P**	**16 40 29.5**	**+0.4**
comp=Z,25nm,1.1s							
KBZ	**Khabaz**	**82.83**	**313**	P	**P**	**16 40 29.5**	**-0.8**
KBZ	**Khabaz**	**82.83**	**313**	P	**P**	**16 40 29.5**	**-0.8**
KBZ	**Khabaz**	**82.83**	**313**	P	**P**	**16 40 29.5**	**-0.8**
comp=Z,2.7nm,0.9s,baz=165,slow=2.3,SNR=7.7							
KIV	**Kislovodsk**	**82.98**	**314**⇓	*eP*	**P**	**16 40 31.6**	**+0.3**
KIV				*e*		16 43 40.7	
KIV				*e*S	**S**	**16 50 44.9**	**+3.1**
KIV				pmax	pmax		
comp=Z,8.0nm,1.1s							
KIV				MLR	MLR		
comp=Z,100nm,19.0s							
ILAR	**Eielson Array**	**83.61**	**25**	P	**P**	**16 40 33.1**	**-0.8**
ILAR				pP	**pP**	**16 41 00.5**	**-1.2**
ILAR	**Eielson Array**	**83.61**	**25**	P	**P**	**16 40 33.1**	**-0.8**
comp=Z,2.9nm,0.9s,baz=248,slow=5.3,SNR=18							
ILAR				pP	**pP**	**16 41 00.5**	**-1.2**
comp=Z,2.1nm,0.8s,baz=236,slow=5.9,SNR=6.0							
VRHR	**Novokhopersk**	**83.69**	**321**	*eP*	**P**	**16 40 33.5**	**-1.1**
VRHR				pmax	pmax		
comp=N,20nm,0.5s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.5s							
VRHR				pmax	pmax		
comp=Z,10.0nm,0.5s							
VNDA	**Vanda**	**84.51**	**173**	*eP*	**P**	**16 40 38.2**	**+0.1**
comp=Z,10nm,0.8s							
VNDA	**Vanda**	**84.51**	**173**	P	**P**	**16 40 38.5**	**+0.3**
comp=Z,11nm,0.7s,baz=318,slow=6.0,SNR=103							
VNDA				LR	LR	17 18 19.7	
comp=Z,60nm,19.1s,baz=292,slow=36							
PPT	**Papeete**	**84.60**	**108**	LR	LR	17 12 44.9	
comp=Z,122nm,20.1s,baz=341,slow=32							
VORD	**Divnogorie**	**85.17**	**321**	*eP*	**P**	**16 40 40.4**	**-1.6**
VORD				pmax	pmax		
comp=N,20nm,0.4s							
VORD				pmax	pmax		
comp=Z,10.0nm,0.4s							
VORD				pmax	pmax		
comp=E,50nm,1.3s							
MAW	**Mawson**	**85.22**	**200**	P	**P**	**16 40 42.0**	**+0.1**
MAW	**Mawson**	**85.22**	**200**	P	**P**	**16 40 42.0**	**+0.1**
comp=E,6.2nm,0.9s,baz=68,slow=6.4,SNR=12							
VSR	**Storozhevoye**	**85.24**	**321**	*eP*	**P**	**16 40 41.7**	**-0.7**
VSR				pmax	pmax		
comp=Z,20nm,1.1s							
VSR				pmax	pmax		
comp=N,5.0nm,0.5s							
VSR				pmax	pmax		
comp=E,10.0nm,0.9s							
SBA	**Scott Base**	**85.41**	**172**	*eP*	**P**	**16 40 42.9**	**+0.3**
SBA				pmax	pmax		
comp=Z,77nm,2.3s							
SBA	**Scott Base**	**85.41**	**172**	*eP*	**P**	**16 40 42.9**	**+0.3**
comp=Z,77nm,2.3s							
MOS	**Moscow**	**85.97**	**325**	*eP*	**P**	**16 40 44.7**	**-1.2**
MALT	**Malatya**	**86.37**	**308**⇑	*iP*	x	16 41 09.6	
OBN	**Obninsk**	**86.61**	**325**⇓	*eP*	**P**	**16 40 48.2**	**-0.8**
OBN				*i*		16 44 15.2	
OBN				*e*S	**S**	**16 51 12.0**	**-5.0**
OBN				pmax	pmax		
comp=Z,11nm,0.8s							
OBN				MLR	MLR		
comp=Z,100nm,20.0s							
SIM	**Simferopol'**	**89.06**	**315**	*eP*	**P**	**16 41 00.2**	**-0.8**
SIM				pmax	pmax		
comp=Z,16nm,0.7s							
ARCES	**ARCESS Array B**	**89.64**	**340**	P	**P**	**16 41 02.4**	**-0.8**
ARCES				pP	**pP**	**16 41 29.0**	**-2.2**
ARCES	**ARCESS Array B**	**89.64**	**340**	P	**P**	**16 41 02.4**	**-0.8**
comp=Z,11nm,0.8s,baz=84,slow=6.2,SNR=35							
ARCES				pP	**pP**	**16 41 29.0**	**-2.2**
comp=Z,5.8nm,0.8s,baz=93,slow=8.5,SNR=3.5							
ARE0	**ARCESS Array S**	**89.64**	**340**	*eP*	P	16 40 59.6	-3.6
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**16 41 04.8**	**-0.8**
BRTR				pP	**pP**	**16 41 32.7**	**-0.9**
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**16 41 04.7**	**-0.8**
comp=Z,1.7nm,0.8s,baz=104,slow=5.2,SNR=10							
BRTR				pP	**pP**	**16 41 32.7**	**-0.9**
comp=Z,4.0nm,0.9s,baz=119,slow=4.6,SNR=5.8							
BRTR				LR	LR	17 25 37.8	
comp=Z,25nm,21.5s,baz=258,slow=38							
KMBO	**Kilima Mbogo**	**90.51**	**269**	P	**P**	**16 41 07.4**	**-1.3**
KMBO	**Kilima Mbogo**	**90.51**	**269**	P	**P**	**16 41 07.4**	**-1.3**
comp=Z,1.7nm,0.7s,baz=50,slow=14,SNR=2.7							
KAF	**Kangasniemi**	**90.96**	**333**	*eP*	**P**	**16 41 07.6**	**-1.8**
KAF				pmax	pmax		
comp=Z,6.0nm,0.8s							
KAF	**Kangasniemi**	**90.96**	**333**	*ep*	**P**	**16 41 07.6**	**-1.8**
comp=Z,6.2nm,0.8s							
FINES	**FINESS Array B**	**91.21**	**332**	P	**P**	**16 41 09.0**	**-1.6**
FINES				pP	**pP**	**16 41 36.3**	**-2.3**
FINES	**FINESS Array B**	**91.21**	**332**	P	**P**	**16 41 09.0**	**-1.6**
comp=Z,3.4nm,0.7s,baz=67,slow=4.1,SNR=17							
FINES				pP	**pP**	**16 41 36.3**	**-2.3**
comp=Z,1.8nm,0.7s,baz=83,slow=4.3,SNR=2.3							
AKASG	**Malin Array Be**	**91.54**	**321***c*	*eP*	**P**	**16 41 11.8**	**-0.6**
AKASG				pmax	pmax		
comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**91.54**	**321**	P	**P**	**16 41 10.9**	**-1.5**
AKASG				pP	**pP**	**16 41 37.7**	**-2.8**
AKASG	**Malin Array Be**	**91.54**	**321**	P	**P**	**16 41 10.9**	**-1.5**
comp=Z,3.3nm,0.6s,baz=60,slow=6.1,SNR=36							
AKASG				pP	**pP**	**16 41 37.7**	**-2.8**
comp=Z,4.1nm,0.8s,baz=68,slow=4.7,SNR=4.7							
KIEV	**Kiev**	**91.56**	**321**	*eP*	**P**	**16 41 11.5**	**-1.0**
KIEV				pmax	pmax		
comp=Z,6.0nm,1.0s							
KIEV	**Kiev**	**91.56**	**321**	*eP*	**P**	**16 41 11.5**	**-1.0**
comp=Z,6.4nm,1.0s							
TLCR		**92.75**	**316**⇓	*iP*	**P**	**16 41 17.7**	**-0.4**
TLCR		**92.75**	**316**⇓	*iP*	**P**	**16 41 17.6**	**-0.5**
CFR	**Carcaliu**	**93.22**	**316**⇑	*iP*	**P**	**16 41 19.6**	**-0.7**
CFR	**Carcaliu**	**93.22**	**316**⇑	*iP*	**P**	**16 41 19.6**	**-0.7**
SYO	**Syowa Base**	**93.89**	**201**⇑	*eP*	**P**	**16 41 22.0**	**-0.8**
TESR	**Tescani**	**93.99**	**317**⇑	*iP*	**P**	**16 41 23.6**	**-0.2**
VRI	**Vrincioaia**	**94.06**	**317**⇓	*iP*	**P**	**16 41 24.2**	**0.0**
VRI	**Vrincioaia**	**94.06**	**317**⇓	*iP*	**P**	**16 41 24.2**	**0.0**
MLR	**Muntele Rosu**	**94.68**	**316**⇓	*iP*	**P**	**16 41 27.4**	**+0.2**
BURAR	**Bucovina Array**	**94.72**	**318**⇑	*iP*	**P**	**16 41 27.4**	**+0.1**
BURAR	**Bucovina Array**	**94.72**	**318**⇑	*iP*	**P**	**16 41 27.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**94.72**	**319**	*eP*	**P**	**16 41 24.1**	**-3.2**
QSPA	**South Pole Qui**	**94.85**	**180**	P	**P**	**16 41 28.1**	**+0.7**
QSPA	**South Pole Qui**	**94.85**	**180**	P	**P**	**16 41 28.1**	**+0.7**
baz=345,slow=3.9							
KOLS	**Kolonicke sedl**	**96.32**	**320**	*eP*	**P**	**16 41 33.5**	**-0.9**
KOLS	**Kolonicke sedl**	**96.32**	**320**	*eP*	**P**	**16 41 33.5**	**-0.9**
UZH	**Uzhgorod**	**96.38**	**320***c*	*iP*	**P**	**16 41 34.2**	**-0.4**
CRVS	**Cervenica-Dubn**	**96.84**	**320**	*eP*	**P**	**16 41 36.7**	**-0.1**
CRVS				pmax	pmax		
comp=Z,5.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**96.84**	**320**	*eP*	**P**	**16 41 36.7**	**-0.1**
CRVS				epP	**pP**	**16 42 03.5**	**-1.4**
KECS	**Kecovo**	**97.58**	**320**	epP	pP	16 42 00.1	-8.1
YKA	**Yellowknife Ar**	**98.01**	**25**	P	**P**	**16 41 40.8**	**-0.9**
YKA	**Yellowknife Ar**	**98.01**	**25**	P	**P**	**16 41 40.8**	**-0.9**
comp=Z,0.5nm,0.6s,baz=304,slow=4.4,SNR=3.1							
NB2	**NORSAR Subarra**	**98.12**	**334**	P	**P**	**16 41 40.1**	**-2.2**
comp=Z,2.5nm,0.8s,baz=64,slow=4.8							
NOA	**NORSAR Array B**	**98.12**	**334**	P	**P**	**16 41 40.7**	**-1.6**
NOA	**NORSAR Array B**	**98.12**	**334**	P	**P**	**16 41 40.7**	**-1.6**
comp=Z,1.7nm,0.8s,baz=64,slow=4.7,SNR=5.8							
NOA				LR	LR	17 29 35.2	
comp=Z,48nm,19.8s,baz=110,slow=38							
PKSM	**Moragy**	**99.44**	**318**⇑	P	**Pdif**	**16 41 45.7**	**-2.7**
PKSM	**Moragy**	**99.44**	**318**⇑	*iP*	**Pdif**	**16 41 45.7**	**-2.7**
GERES	**GERESS Array B**	**101.72**	**322**	P	**Pdif**	**16 41 57.1**	**-1.6**
GERES				pP	pP	16 42 25.3	-1.7
GERES				PKKPbc	**PKKPbc**	**16 58 05.5**	**-0.9**
GERES	**GERESS Array B**	**101.72**	**322**	P	**Pdif**	**16 41 57.1**	**-1.6**
comp=Z,0.6nm,0.9s,baz=57,slow=4.9,SNR=5.9							
GERES				pP	pP	16 42 25.3	-1.7
comp=Z,0.6nm,0.9s,baz=38,slow=6.8,SNR=2.7							
GERES				PKKPbc	**PKKPbc**	**16 58 05.5**	**-0.9**
comp=Z,0.2nm,0.5s,baz=262,slow=4.0,SNR=4.4							
NVAR	**Mina Array Bea**	**105.40**	**48**	PKKPbc	PKKPbc	16 57 54.4	-1.0
NVAR	**Mina Array Bea**	**105.40**	**48**	PKKPbc	PKKPbc	16 57 54.4	-1.0
comp=Z,0.3nm,0.3s,baz=111,slow=2.0,SNR=2.5							
EKA	**Eskdalemuir Ar**	**107.57**	**333**	PKKPbc	PKKPbc	16 57 47.6	-1.3
EKA				PKKPab	**PKKPdf**	**16 58 01.9**	**+0.5**
EKA	**Eskdalemuir Ar**	**107.57**	**333**	PKKPbc	PKKPbc	16 57 47.6	-1.3
comp=Z,1.4nm,0.7s,baz=234,slow=4.6,SNR=4.9							
EKA				PKKPab	**PKKPdf**	**16 58 01.9**	**+0.5**
comp=Z,1.4nm,0.8s,baz=213,slow=2.4,SNR=2.9							
PDAR	**Pinedale Array**	**109.83**	**41**	Pdif	**Pdif**	**16 42 34.8**	**-0.3**
PDAR				PKKPbc	**PKKPbc**	**16 57 39.8**	**-1.9**
PDAR				PKKPab	**PKKPab**	**16 57 51.0**	**-2.1**
PDAR	**Pinedale Array**	**109.83**	**41**	Pdiff	**Pdif**	**16 42 34.8**	**-0.3**
comp=Z,0.2nm,0.7s,baz=290,slow=4.2,SNR=3.3							
PDAR				PKKPbc	**PKKPbc**	**16 57 39.8**	**-1.9**
comp=Z,0.2nm,0.7s,baz=86,slow=6.1,SNR=4.2							
PDAR				PKKPab	**PKKPab**	**16 57 51.0**	**-2.1**
comp=Z,0.8nm,0.8s,baz=124,slow=5.6,SNR=6.9							
ESDC	**Sonseca Array**	**117.15**	**320**	PKP	**PKPdf**	**16 46 50.6**	**-0.2**
ESDC				PKKPbc	**PKKPbc**	**16 57 15.9**	**-0.8**
ESDC	**Sonseca Array**	**117.15**	**320**	PKP	**PKPdf**	**16 46 50.6**	**-0.2**
comp=Z,0.2nm,0.4s,baz=356,slow=2.8,SNR=3.9							
ESDC				PKKPbc	**PKKPbc**	**16 57 15.9**	**-0.8**
comp=Z,0.4nm,0.6s,baz=248,slow=3.6,SNR=6.5							
SCHQ	**Schefferville**	**119.22**	**10**	PKP	**PKPdf**	**16 46 54.8**	**+0.5**
SCHQ	**Schefferville**	**119.22**	**10**	PKP	**PKPdf**	**16 46 54.8**	**+0.5**
comp=Z,3.6nm,0.8s,baz=63,slow=4.5,SNR=3.5							
TXAR	**Lajitas Array**	**120.11**	**52**	PKP	**PKPdf**	**16 46 57.5**	**+0.6**
TXAR				PKKPbc	**PKKPbc**	**16 57 06.0**	**+0.3**
TXAR	**Lajitas Array**	**120.11**	**52**	PKP	**PKPdf**	**16 46 57.5**	**+0.6**
comp=Z,0.6nm,0.8s,baz=207,slow=2.5,SNR=7.5							
TXAR				PKKPbc	**PKKPbc**	**16 57 06.0**	**+0.3**
comp=Z,0.2nm,0.5s,baz=105,slow=3.0,SNR=3.7							
MDT	**Midelt**	**121.22**	**313**	PKP	**PKPdf**	**16 46 59.7**	**+0.8**
MDT	**Midelt**	**121.22**	**313**	PKP	**PKPdf**	**16 46 59.7**	**+0.8**
comp=Z,1.1nm,0.6s,baz=37,slow=5.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**123.42**	**289**	PKP	**PKPdf**	**16 47 03.1**	**-0.3**
TORD				pPKP	**pPKPdf**	**16 47 30.6**	**-2.1**
TORD				PKKPbc	**PKKPab**	**16 56 53.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.42**	**289**	PKP	**PKPdf**	**16 47 03.1**	**-0.3**
comp=Z,4.1nm,0.7s,baz=43,slow=2.0,SNR=25							
TORD				pPKP	**pPKPdf**	**16 47 30.6**	**-2.1**
comp=Z,2.0nm,0.8s,baz=55,slow=2.0,SNR=3.8							
TORD				PKKPbc	**PKKPab**	**16 56 53.5**	**+0.5**
comp=Z,0.9nm,0.8s,baz=268,slow=3.1,SNR=4.1							
USHA	**Ushuaia**	**128.59**	**168**	PKP	**PKPdf**	**16 47 14.2**	**+2.1**
USHA	**Ushuaia**	**128.59**	**168**	PKP	**PKPdf**	**16 47 14.2**	**+2.1**
comp=Z,11nm,0.6s,baz=281,slow=2.2,SNR=6.0							
DBIC	**Dimbokro**	**131.23**	**283**	PKP	**PKPdf**	**16 47 19.3**	**+1.0**
DBIC				SKPbc	**SKPab**	**16 50 34.9**	**+0.8**
DBIC	**Dimbokro**	**131.23**	**283**	PKP	**PKPdf**	**16 47 19.3**	**+1.0**
comp=Z,5.5nm,1.0s,baz=196,slow=1.0,SNR=3.1							
DBIC				SKPbc	**SKPab**	**16 50 34.9**	**+0.8**
comp=Z,7.5nm,0.8s,baz=101,slow=5.7,SNR=5.1							
PLCA	**Paso Flores**	**140.79**	**158**	PKPpre	PKPpre	16 47 31.1	
PLCA	**Paso Flores**	**140.79**	**158**	PKhKP	PKPpre	16 47 31.1	
comp=Z,2.6nm,0.8s,baz=208,slow=4.2,SNR=4.5							
TRQA	**Tornquist**	**145.89**	**166**	*e*PKPdf	**PKPdf**	**16 47 43.8**	**-0.7**
CFAA	**Coronel Fontan**	**149.57**	**153**	PKP	**PKPdf**	**16 47 51.8**	**+1.1**
CFAA				PKPbc	**PKPbc**	**16 47 55.7**	**+0.4**
CFAA	**Coronel Fontan**	**149.57**	**153**	PKP	**PKPdf**	**16 47 51.8**	**+1.1**
comp=Z,4.6nm,0.6s,baz=95,slow=2.8,SNR=12							
CFAA				PKPbc	**PKPbc**	**16 47 55.7**	**+0.4**
comp=Z,4.6nm,0.6s,baz=219,slow=2.6,SNR=51							
CPUP	**Villa Florida**	**158.21**	**168**	PKP	**PKPdf**	**16 48 04.0**	**+1.0**
CPUP				PKPab	**PKPab**	**16 48 35.1**	**+1.4**
CPUP	**Villa Florida**	**158.21**	**168**	PKP	**PKPdf**	**16 48 04.0**	**+1.0**
comp=Z,0.7nm,0.4s,baz=108,slow=5.3,SNR=5.4							
CPUP				PKPab	**PKPab**	**16 48 35.1**	**+1.4**
comp=Z,3.5nm,0.7s,baz=188,slow=5.9,SNR=5.5							
LPAZ	**La Paz**	**160.83**	**127**	PKP	**PKPdf**	**16 48 08.4**	**+1.4**
LPAZ				PKPab	**PKPab**	**16 48 50.5**	**+0.8**
LPAZ	**La Paz**	**160.83**	**127**	PKP	**PKPdf**	**16 48 08.4**	**+1.4**
comp=Z,5.8nm,0.9s,baz=351,slow=0.9,SNR=21							
LPAZ				PKPab	**PKPab**	**16 48 50.5**	**+0.8**
comp=Z,9.8nm,0.9s,baz=229,slow=3.1,SNR=11							
SAML	**Samuel**	**168.52**	**111**	*e*PKPdf	**PKPdf**	**16 48 12.6**	**-0.5**
BDFB	**Brasilia**	**168.56**	**201**	PKP	**PKPdf**	**16 48 13.4**	**+0.3**
BDFB	**Brasilia**	**168.56**	**201**	PKP	**PKPdf**	**16 48 13.4**	**+0.3**
comp=Z,2.1nm,0.6s,baz=196,slow=7.6,SNR=3.3							

IDC 15 16:36:47.3±3.0, 14°.47S×175°.96W, h260km±44km, mb3.5/5, mb1 3.8/6, mb1mx3.3/21, mbtmp3.6/6, Error ellipse: s-maj=125.5km s-min=17.2km az=152.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.09**	**83**	P	Pn	16 37 52.6	-0.2
16nm,0.3s,baz=2.0,slow=2.3,SNR=21							
AFI				S	S	16 38 45.3	+0.4
1.2nm,0.3s,baz=94,slow=19,SNR=1.4							
CTA	**Charters Tower**	**36.46**	**256**	P	P	16 43 28.6	+0.6
1.1nm,0.4s,baz=79,slow=5.2,SNR=3.3							
STKA	**Stephens Creek**	**42.39**	**238**	P	P	16 44 15.2	-1.4
2.2nm,0.5s,baz=88,slow=9.4,SNR=3.8							
WRA	**Warramunga Arr**	**47.66**	**256**	P	P	16 44 58.1	-0.1
0.9nm,0.6s,baz=86,slow=8.1,SNR=29							
ASAR	**Alice Springs**	**48.06**	**251**	P	P	16 45 01.4	+0.1
10nm,0.7s,baz=86,slow=8.2,SNR=152							
NVAR	**Mina Array Bea**	**75.33**	**43**	P	P	16 48 02.6	0.0
0.5nm,0.6s,baz=213,slow=6.5,SNR=3.1							

*ISCJB **15** 16:40:46.1±0.7, 56°.04S±0°.10×27°.8W±0°.3, h112km, mb4.2/9, Error ellipse: s-maj=22.3km s-min=10.4km az=152.9*
*IDC **15** 16:40:48.9±4.8, 55°.99S×27°.56W, h122km±42km, mb3.9/9, mb1 4.0/11, mb1mx3.8/20, mbtmp3.9/11, Error ellipse: s-maj=24.1km s-min=13.1km az=57.0*
*NEIC **15** 16:40:49.3±3.5, 56°.07S×27°.63W, h129km±31km, mb4.6/3, Error ellipse: s-maj=19.9km s-min=10.6km az=52.0*
ISC 15 16:40:47.5±0.5, 56°.01S±0°.09×27°.5W±0°.1, h112km, n51, σ0.92/51, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.91**	**158**	*eP*	**P**	**16 44 38.1**	**+1.1**
VNA2	**Neumayer--Watz**	**17.31**	**158**	*eP*	**Pn**	**16 44 42.3**	**+0.6**
SNAA	**Sanae**	**18.86**	**156**	*eP*	**Pn**	**16 44 59.3**	**-1.0**
SNAA	**Sanae**	**18.86**	**156**	*eP*	**P**	**16 44 59.1**	**+0.5**
22nm,0.4s							
SNAA	**Sanae**	**18.86**	**156**	P	**Pn**	**16 44 59.3**	**-1.0**
3.5nm,0.3s,baz=308,slow=11,SNR=560							
PMSA	**Palmer Station**	**19.78**	**229**	*eP*	**P**	**16 45 07.5**	**-0.9**
PMSA	**Palmer Station**	**19.78**	**229**	P	**P**	**16 45 08.0**	**-0.4**
0.3nm,0.3s,baz=73,slow=11,SNR=4.7							
USHA	**Ushuaia**	**23.01**	**256**	P	**P**	**16 45 44.5**	**+2.2**
USHA	**Ushuaia**	**23.01**	**256**	P	**P**	**16 45 44.5**	**+2.2**
9.0nm,0.9s,baz=94,slow=16,SNR=2.5							
QSPA	**South Pole Qui**	**34.24**	**180**	*eP*	**P**	**16 47 21.2**	**-1.1**
4.7nm,0.7s							
QSPA	**South Pole Qui**	**34.24**	**180**	P	**P**	**16 47 23.2**	**+0.9**
5.1nm,0.6s,baz=187,slow=3.6,SNR=34							
CPUP	**Villa Florida**	**36.63**	**312**	*eP*	**P**	**16 47 41.7**	**-1.2**
9.8nm,0.8s							
CPUP	**Villa Florida**	**36.63**	**312**	P	**P**	**16 47 42.1**	**-0.8**
0.4nm,0.3s,baz=122,slow=9.5,SNR=2.6							
MAW	**Mawson**	**40.30**	**144**	P	**P**	**16 48 12.7**	**-0.4**
MAW	**Mawson**	**40.30**	**144**	P	**P**	**16 48 12.7**	**-0.4**
3.1nm,0.7s,baz=218,slow=7.2,SNR=14							
BDFB	**Brasilia**	**43.23**	**331**	P	**P**	**16 48 38.1**	**+0.5**
BDFB	**Brasilia**	**43.23**	**331**	P	**P**	**16 48 38.1**	**+0.5**
1.8nm,0.7s,baz=139,slow=11,SNR=2.3							
VNDA	**Vanda**	**46.61**	**183**	*eP*	**P**	**16 49 03.2**	**-0.4**
VNDA	**Vanda**	**46.61**	**183**	P	**P**	**16 49 04.6**	**+1.0**
1.4nm,0.5s,baz=215,slow=5.1,SNR=7.1							
LPAZ	**La Paz**	**50.19**	**306**	P	**P**	**16 49 32.1**	**-0.3**
LPAZ	**La Paz**	**50.19**	**306**	P	**P**	**16 49 32.1**	**-0.3**
1.6nm,0.5s,baz=143,slow=5.0,SNR=6.7							
TORD	**Torodi Ar. Bea**	**73.11**	**30**	P	**P**	**16 52 06.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**73.11**	**30**	P	**P**	**16 52 06.5**	**+1.0**
1.6nm,0.5s,baz=203,slow=6.3,SNR=12							
ASAR	**Alice Springs**	**99.09**	**163**	P	**Pdif**	**16 54 14.6**	**-1.3**
ASAR	**Alice Springs**	**99.09**	**163**	P	**Pdif**	**16 54 14.6**	**-1.3**
0.6nm,0.7s,baz=186,slow=3.7,SNR=6.5							
WRA	**Warramunga Arr**	**102.81**	**163**	Pdif	**Pdif**	**16 54 31.3**	**-1.2**
WRA	**Warramunga Arr**	**102.81**	**163**	Pdiff	**Pdif**	**16 54 31.3**	**-1.2**
0.1nm,0.4s,baz=197,slow=4.3,SNR=4.6							
PDAR	**Pinedale Array**	**120.15**	**302**	PKP	**PKPdf**	**16 59 23.4**	**-1.2**
PDAR	**Pinedale Array**	**120.15**	**302**	PKP	**PKPdf**	**16 59 23.4**	**-1.2**
0.2nm,0.5s,baz=149,slow=7.4,SNR=2.9							
FINES	**FINESS Array B**	**124.44**	**28**	PKP	**PKPdf**	**16 59 31.1**	**-0.7**
FINES	**FINESS Array B**	**124.44**	**28**	PKP	**PKPdf**	**16 59 31.1**	**-0.7**
2.9nm,0.9s,baz=177,slow=3.4,SNR=9.1							

BKI	**Bering**	**8.96**	**38**	*e*S		Sn	16 52 30.0	-0.7

IDC 15 16:56:21.5±9.4, 20°.63S×171°.86W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, Error ellipse: s-maj=285.8km s-min=73.3km az=135.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.20**	**263**	P	P	17 03 52.3	+0.6
	2.1nm,0.4s,baz=95,slow=13,SNR=6.3						
ASAR	**Alice Springs**	**50.08**	**256**	P	P	17 05 17.4	-1.2
	0.3nm,0.5s,baz=95,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**50.27**	**261**	P	P	17 05 20.5	+0.3
	0.6nm,0.4s,baz=97,slow=8.3,SNR=14						
SONM	**Songino Array**	**99.68**	**317**	P	Pdif	17 10 07.0	-0.3
	0.1nm,0.4s,baz=116,slow=3.4,SNR=2.5						

*ISCJB **15** 16:57:20.3±0.5, 4°.18N±0°.07×124°.4E±0°.1, h339km, mb3.4/12, Error ellipse: s-maj=17.7km s-min=7.8km az=161.4*
*IDC **15** 16:57:22.5±6.3, 4°.14N×124°.52E, h347km±76km, mb3.2/12, mb1 3.4/13, mb1mx3.3/25, mbtmp3.3/13, Error ellipse: s-maj=20.6km s-min=11.1km az=70.0*
*AUST **15** 16:57:36.1, 3°.00N×124°.50E, h450km*
ISC 15 16:57:22.5±0.7, 4°.06N±0°.09×124°.4E±0°.1, h339km, n24, σ1§14/21, mb3.4/12, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.10**	**17**	*e*P	**Pn**	**16 58 16.4**	**+2.8**
LUWI	**Luwuk**	**5.31**	**197**	P	Pn	16 58 50.6	+5.5
	baz=4.4,SNR=3.6						
LUWI				S	S	16 59 58.1	+6.2
	baz=4.4,SNR=4.5						
SWI	**Sorong**	**8.46**	**125**	P	**P**	**16 59 24.4**	**-0.9**
	baz=7.8,SNR=3.4						
FAKI	**Fak Fak**	**10.51**	**131**	P	**P**	**16 59 47.4**	**-0.8**
	baz=9.7,SNR=13						
TLE	**Tual**	**12.77**	**139**	P	**Pn**	**17 00 15.6**	**+2.0**
	baz=12,SNR=3.8						
BATI	**Baumata**	**14.19**	**183**	P	**Pn**	**17 00 31.2**	**+0.8**
	2.8nm,0.3s,baz=291,slow=18,SNR=5.2						
MTN	**Manton Dam**	**18.10**	**158**	P	**P**	**17 01 11.3**	**+0.2**
	baz=17,SNR=4.5						
KDU	**Kakadu**	**18.49**	**154**	P	**P**	**17 01 14.8**	**-0.5**
	baz=18,SNR=4.3						
KNRA	**Kununurra**	**20.09**	**168**	P	**P**	**17 01 32.1**	**-0.1**
	baz=19,SNR=8.3						
FITZ	**Fitzroy Crossi**	**22.06**	**177**	P	**P**	**17 01 49.5**	**-0.6**
	2.2nm,0.4s,baz=4.8,slow=10,SNR=60						
FITZ	**Fitzroy Crossi**	**22.06**	**177**	P	**P**	**17 01 49.8**	**-0.4**
	baz=21,SNR=20						
WRA	**Warramunga Arr**	**25.80**	**158**	P	**P**	**17 02 22.3**	**-1.5**
	0.9nm,0.4s,baz=331,slow=11,SNR=37						
PMG	**Port Moresby**	**26.38**	**121**	P	**P**	**17 02 28.0**	**-1.1**
	18nm,1.0s,baz=281,slow=6.5,SNR=2.5						
CMAR	**Chiang Mai Arr**	**28.67**	**302**	P	**P**	**17 02 50.3**	**+1.0**
	1.3nm,0.8s,baz=113,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**29.09**	**162**	P	**P**	**17 02 52.2**	**-0.8**
	0.5nm,0.5s,baz=340,slow=7.4,SNR=23						
MEEK	**Meekatharra**	**31.02**	**190**	P	**P**	**17 03 09.3**	**-0.5**
	baz=30,SNR=3.4						
KSRS	**Korea Array**	**33.40**	**5**	P	P	17 03 28.2	-1.9
	0.5nm,0.8s,baz=174,slow=9.4,SNR=2.6						
MJAR	**Matsushiro Arr**	**34.75**	**20**	P	P	17 03 39.1	-2.7
	0.4nm,0.3s,baz=180,slow=17,SNR=8.2						
STKA	**Stephens Creek**	**39.33**	**157**	P	**P**	**17 04 20.0**	**0.0**
	2.4nm,0.4s,baz=327,slow=8.7,SNR=9.0						
STKA	**Stephens Creek**	**39.33**	**157**	P	**P**	**17 04 20.0**	**0.0**
	baz=38,SNR=6.9						
SONM	**Songino Array**	**46.26**	**343**	P	**P**	**17 05 14.2**	**-0.9**
	1.3nm,0.9s,baz=158,slow=9.0,SNR=7.9						
MKAR	**Makanchi Array**	**55.95**	**326**	P	**P**	**17 06 25.5**	**-0.9**
	1.0nm,0.4s,baz=120,slow=7.4,SNR=33						
PETK	**Petropavlovsk-**	**56.05**	**24**	P	**P**	**17 06 26.1**	**-0.9**
	0.6nm,0.5s,baz=209,slow=5.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**59.23**	**334**	P	**P**	**17 06 47.9**	**-1.1**
	0.4nm,0.3s,baz=142,slow=7.3,SNR=3.0						

*ISCJB **15** 16:58:34.6±0.4, 7°.20S±0°.05×31°.28E±0°.08, h10km, mb4.1/15, MS3.4/5, Error ellipse: s-maj=10.9km s-min=6.9km az=9.6*
*IDC **15** 16:58:35.3±0.6, 7°.18S×31°.37E, h0km, mb4.1/14, mb1 4.3/18, mb1mx4.1/30, mbtmp4.1/18, ML4.6/5, MS3.5/10, Ms1 3.5/10, ms1mx3.3/37, Error ellipse: s-maj=20.7km s-min=13.4km az=93.0*
*NEIC **15** 16:58:36.4±0.3, 7°.24S×31°.30E, h10km, mb4.1/1, Error ellipse: s-maj=11.2km s-min=6.6km az=104.0*
*BUL **15** 16:58:42.1±11.0, 7°.49S×31°.87E, h31km±999km, MD4.2*
ISC 15 16:58:36.4±0.5, 7°.18S±0°.05×31°.39E±0°.05, h10km, n54, σ1§62/59, mb4.2/14, MS3.4/5, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**4.44**	**77**	*i* P	**Pn**	**16 59 45.1**	**+1.1**
DODT				*i* S	**Sn**	**17 00 32.4**	**-3.5**
KOND	**KOND**	**4.83**	**57**	*i* Pg	**Pn**	**16 59 51.8**	**+2.4**
KOND				*i* Pn	**Sn**	**17 00 44.5**	**-1.2**
KOND				*i* Sg	**Sb**	**17 01 00.3**	**+0.6**
KOND				Sn	**Sg**	**17 01 11.3**	**-0.5**
KOND				AMP		17 01 20.2	
	comp=Z,43μm,0.4s						
MBAR	**Mbarara**	**6.57**	**354**	Pn	**Pn**	**17 00 13.8**	**+0.5**
MBAR				Sn	**Sn**	**17 01 27.5**	**-1.0**
MBAR				Lg	Lg	17 01 58.1	
MBAR	**Mbarara**	**6.57**	**354**	Pn	**Pn**	**17 00 13.8**	**+0.5**
	comp=Z,86nm,0.3s,baz=330,slow=7.3,SNR=177						
MBAR				Sn	**Sn**	**17 01 27.5**	**-1.0**
	comp=Z,146nm,0.3s,baz=186,slow=18,SNR=4.2						
MBAR				Lg	Lg	17 01 58.1	
	comp=Z,112nm,0.3s,baz=37,slow=22,SNR=5.2						
MBAR				LR	LR	17 02 53.2	
	comp=Z,364nm,19.8s,baz=177,slow=39						
MBAR	**Mbarara**	**6.57**	**354**	*i* P	**Pn**	**17 00 14.2**	**+0.8**
MBAR				*i* S	**Sn**	**17 01 24.2**	**-4.2**
ENT	**Entebbe**	**7.28**	**9**	*i* P	Pn	17 00 27.4	+4.4
ENT				*i* S	Sn	17 01 37.2	-8.6
KMBO	**Kilima Mbogo**	**8.39**	**44**	*e*Pn	**Pn**	**17 00 39.0**	**+0.6**
	comp=Z,26nm,0.7s						
KMBO				*e*Sn	**Sn**	**17 02 09.0**	**-4.4**
KMBO				Lg	Lg	17 03 03.4	
KMBO	**Kilima Mbogo**	**8.39**	**44**	Pn	**Pn**	**17 00 40.2**	**+1.8**
	comp=Z,5.1nm,0.3s,baz=220,slow=19,SNR=39						
KMBO				Sn	**Sn**	**17 02 10.3**	**-3.1**
	comp=Z,13nm,0.3s,baz=310,slow=18,SNR=9.8						
KMBO				Lg	Lg	17 03 03.4	
	comp=Z,11nm,0.3s,baz=283,slow=20,SNR=5.7						
KMBO				LR	LR	17 04 13.5	
	comp=Z,447nm,18.2s,baz=98,slow=40						
KMBO	**Kilima Mbogo**	**8.39**	**44**	*i* P	**Pn**	**17 00 40.1**	**+1.8**
KMBO				*i* S	**Sn**	**17 02 08.2**	**-5.2**
LSZ	**Lusaka**	**8.63**	**201**	*e*Pn	**Pn**	**17 00 39.9**	**-1.8**
	comp=Z,22nm,0.5s						
LSZ				*e*Sn	Sn	17 02 11.0	-8.2
LSZ				Lg	Lg	17 02 59.9	
LSZ	**Lusaka**	**8.63**	**201**	Pn	**Pn**	**17 00 41.2**	**-0.5**
	comp=Z,3.8nm,0.3s,baz=23,slow=12,SNR=30						
LSZ				Sn	Sn	17 02 10.6	-8.7
	comp=Z,28nm,0.3s,baz=108,slow=23,SNR=12						
LSZ				Lg	Lg	17 02 59.9	
	comp=Z,28nm,0.3s,baz=117,slow=14,SNR=3.5						
LSZ				LR	LR	17 04 05.6	
	comp=Z,400nm,18.3s,baz=214,slow=38						
TSUM	**Tsumeb**	**17.96**	**227**	Pn	**Pn**	**17 02 44.1**	**-2.6**
TSUM				Sn	Sn	17 05 48.8	-19
TSUM				Lg	Lg	17 08 10.2	
TSUM	**Tsumeb**	**17.96**	**227**	Pn	**Pn**	**17 02 44.1**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=35,slow=11,SNR=16						
TSUM				Sn	Sn	17 05 48.8	-19
	comp=Z,0.6nm,0.3s,baz=72,slow=20,SNR=3.3						
TSUM				Lg	Lg	17 08 10.2	
	comp=Z,0.7nm,0.3s,baz=94,slow=19,SNR=2.2						
TSUM				LR	LR	17 10 22.0	
	comp=Z,242nm,20.3s,baz=6.0,slow=39						
LBTB	**Lobatse**	**18.58**	**197**	*e*Pn	**P**	**17 02 52.6**	**-1.3**
	comp=Z,9.7nm,0.6s						
LBTB				*e*Sn	Sn	17 06 06.0	-16
LBTB				Lg	Lg	17 08 17.0	
LBTB	**Lobatse**	**18.58**	**197**	P	**Pn**	**17 02 54.3**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=34,slow=14,SNR=9.1						
LBTB				S	Sn	17 06 03.0	-19
	comp=Z,2.0nm,0.3s,baz=115,slow=22,SNR=7.1						
LBTB				Lg	Lg	17 08 17.0	
	comp=Z,0.8nm,0.3s,baz=106,slow=20,SNR=6.3						
OPO	**Ambohidratompo**	**19.09**	**128**	P	**Pn**	**17 03 00.4**	**0.0**
OPO	**Ambohidratompo**	**19.09**	**128**	P	**Pn**	**17 03 00.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=278,slow=11,SNR=3.4						
OPO				LR	LR	17 10 40.3	
	comp=Z,176nm,21.7s,baz=75,slow=38						
ATD	**Arta Tunnel**	**21.81**	**32**	LR	LR	17 11 57.5	
	comp=Z,111nm,20.9s,baz=341,slow=37						
BOSA	**Boshof**	**22.09**	**194**	P	**P**	**17 03 32.0**	**0.0**
BOSA				S	S	17 07 23.6	-12
BOSA				Lg	Lg	17 10 01.6	
BOSA	**Boshof**	**22.09**	**194**	P	**P**	**17 03 32.0**	**0.0**
	comp=Z,7.3nm,0.9s,baz=7.2,slow=9.5,SNR=8.4						
BOSA				S	S	17 07 23.6	-12
	comp=Z,7.1nm,0.7s,baz=118,slow=14,SNR=4.9						
BOSA				Lg	Lg	17 10 01.6	
	comp=Z,26nm,1.2s,baz=267,slow=18,SNR=1.6						
SUR	**Sutherland**	**26.93**	**200**	P	P	17 04 31.0	+13
	comp=Z,9.7nm,1.1s,baz=38,slow=17,SNR=2.0						
SUR				Lg	Lg	17 12 37.6	
	comp=Z,18nm,0.9s,baz=114,slow=20,SNR=2.7						
TORD	**Torodi Ar. Bea**	**35.75**	**304**	P	**P**	**17 05 35.9**	**0.0**
TORD	**Torodi Ar. Bea**	**35.75**	**304**	P	**P**	**17 05 35.9**	**0.0**
	comp=Z,1.6nm,0.9s,baz=126,slow=7.6,SNR=7.1						
TORD				LR	LR	17 20 46.8	
	comp=Z,72nm,20.5s,baz=120,slow=37						
DBIC	**Dimbokro**	**38.69**	**290**	LR	LR	17 22 04.1	
	comp=Z,56nm,19.2s,baz=103,slow=36						
BRTR	**Keskin Array B**	**46.72**	**2**	P	**P**	**17 07 06.2**	**+0.4**
BRTR	**Keskin Array B**	**46.72**	**2**	P	**P**	**17 07 06.2**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=176,slow=8.3,SNR=12						
KEST	**Kesra**	**47.46**	**336**	LR	LR	17 29 08.2	
	comp=Z,38nm,20.9s,baz=262,slow=39						
ESDC	**Sonseca Array**	**56.93**	**328**	P	**P**	**17 08 22.6**	**+0.6**
ESDC	**Sonseca Array**	**56.93**	**328**	P	**P**	**17 08 22.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=142,slow=7.5,SNR=9.3						
AKASG	**Malin Array Be**	**57.68**	**358**	P	**P**	**17 08 26.1**	**-0.8**
AKASG	**Malin Array Be**	**57.68**	**358**	P	**P**	**17 08 26.2**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=177,slow=5.7,SNR=3.3						
GERES	**GERESS Array B**	**57.91**	**346**	P	**P**	**17 08 29.6**	**+0.8**
GERES	**GERESS Array B**	**57.91**	**346**	P	**P**	**17 08 29.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=164,slow=5.3,SNR=6.3						
MAW	**Mawson**	**63.96**	**167**	P	**P**	**17 09 10.7**	**+1.2**
MAW	**Mawson**	**63.96**	**167**	P	**P**	**17 09 10.7**	**+1.2**
	comp=Z,3.4nm,0.6s,baz=325,slow=7.1,SNR=12						
MAW	**Mawson**	**63.96**	**167**	P	**P**	**17 09 11.0**	**+1.5**
	baz=82,SNR=6.7						
MKAR	**Makanchi Array**	**70.14**	**35**	P	**P**	**17 09 50.4**	**+1.1**
MKAR	**Makanchi Array**	**70.14**	**35**	P	**P**	**17 09 50.4**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=236,slow=5.8,SNR=8.4						
CMAR	**Chiang Mai Arr**	**71.31**	**68**	P	**P**	**17 09 56.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**71.31**	**68**	P	**P**	**17 09 56.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=258,slow=7.7,SNR=8.3						
ZALV	**Zalesovo Beam**	**75.57**	**29**	P	**P**	**17 10 21.4**	**+0.2**
ZALV	**Zalesovo Beam**	**75.57**	**29**	P	**P**	**17 10 21.4**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=248,slow=5.3,SNR=7.6						
ZALV				LR	LR	17 46 35.3	
	comp=Z,37nm,18.2s,baz=241,slow=38						
ARCES	**ARCESS Array B**	**76.65**	**358**	P	**P**	**17 10 27.5**	**+0.4**
ARCES	**ARCESS Array B**	**76.65**	**358**	P	**P**	**17 10 27.5**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=167,slow=6.0,SNR=5.0						
SONM	**Songino Array**	**85.34**	**41**	P	**P**	**17 11 15.8**	**+1.7**
SONM	**Songino Array**	**85.34**	**41**	P	**P**	**17 11 15.8**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=237,slow=5.1,SNR=10.0						
FITZ	**Fitzroy Crossi**	**91.81**	**108**	P	**P**	**17 11 45.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**91.81**	**108**	P	**P**	**17 11 45.9**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=242,slow=5.2,SNR=3.3						
WRA	**Warramunga Arr**	**99.62**	**112**	P	**Pdif**	**17 12 20.2**	**-0.7**
WRA	**Warramunga Arr**	**99.62**	**112**	P	**Pdif**	**17 12 20.2**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=258,slow=2.4,SNR=4.0						
ILAR	**Eielson Array**	**122.50**	**359**	PKP	**PKPdf**	**17 17 33.1**	**+1.2**
ILAR	**Eielson Array**	**122.50**	**359**	PKP	**PKPdf**	**17 17 33.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=310,slow=3.1,SNR=2.9						
PDAR	**Pinedale Array**	**130.65**	**322**	PKP	**PKPdf**	**17 17 47.7**	**-0.7**
PDAR	**Pinedale Array**	**130.65**	**322**	PKP	**PKPdf**	**17 17 47.7**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=61,slow=7.4,SNR=2.3						

IDC 15 17:12:20.9±8.4, 32°.40N×140°.71E, h331km±117km, mb2.6/3, mb1 2.8/4, mb1mx2.6/25, mbtmp2.5/4, Error ellipse: s-maj=242.4km s-min=22.4km az=109.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**4.62**	**334**	P	Pn	17 13 35.1	-0.3
	0.3nm,0.3s,baz=153,slow=11,SNR=9.3						
WRA	**Warramunga Arr**	**52.40**	**188**	P	P	17 21 00.2	0.0
	0.7nm,1.0s,baz=6.0,slow=7.6,SNR=5.6						
ILAR	**Eielson Array**	**53.74**	**30**	P	P	17 21 09.3	-0.1
	0.3nm,0.5s,baz=257,slow=8.2,SNR=4.7						
ASAR	**Alice Springs**	**56.13**	**188**	P	P	17 21 26.7	-0.2
	0.3nm,0.8s,baz=359,slow=5.6,SNR=4.9						

WEL 15 17:20:07.5±1.4, 35°.09S×178°.35E, h33km, ML3.8/6, Error ellipse: s-maj=23.7km s-min=11.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.98**	**181**	PN	Pn	17 20 51.7	-0.7
PUZ				AML	AML	17 21 26.1	
PUZ				AML	AML	17 21 26.7	
MWZ	**Matawai**	**3.30**	**191**	P*	Pn	17 20 57.2	+0.2
MWZ				S*	Sn	17 21 34.5	-0.6
URZ	**Urewera**	**3.31**	**197**	P*	Pn	17 20 57.4	+0.4
URZ				S*	Sn	17 21 35.9	+0.6
CNGZ	**Carnagh Statio**	**3.39**	**182**	PN	Pn	17 20 58.3	+0.3
KNZ	**Kokohu**	**3.96**	**188**	PN	Pn	17 21 04.5	-1.4
NMHZ	**Naumai**	**4.18**	**197**	PN	Pn	17 21 08.6	-0.5
BKZ	**Black Stump Fm**	**4.33**	**199**	P*	Pn	17 21 10.2	-0.9
PXZ	**Pawanui**	**5.07**	**193**	PN	Pn	17 21 17.1	-4.1
MRZ	**Mangatainoka R**	**5.98**	**201**	PN	Pn	17 21 28.9	-4.7

CASC 15 17:22:23.8±2.6, 8°.57N×82°.49W, h2km±6km, MD3.8, 1C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**0.24**	**344**	*e*P	Pg	17 22 29.3	+0.1
TBS2		**0.28**	**324**	*e*P	Pb	17 22 30.6	-1.1
TBS2				*e*S	Sb	17 22 36.0	-1.0
BRU2	**Volcan**	**0.30**	**319**	*e*P	Pb	17 22 31.4	-0.7
BRU2				*e*S	Sb	17 22 36.7	-0.9
CTCR	**Cotoan**	**0.42**	**321**	↓*i*P	Pg	17 22 33.1	+1.0
ACR	**Cerro Adams**	**0.67**	**277**	↓*e*P	Pg	17 22 37.2	+0.4
ACR				*e*S	Sb	17 22 48.1	0.0
CNI	**Changuinola**	**0.84**	**358**	↑*i*P	Pg	17 22 39.1	-0.9
BUS	**Buena Vista**	**1.59**	**308**	*e*P	Pn	17 22 52.3	-1.2
BUS				*e*S	Sn	17 23 14.8	-0.2
CGA2	**Cerro Gallo 2**	**2.42**	**307**	*e*P	Pb	17 23 06.7	-1.6
CGA2				*e*S	Sn	17 23 36.0	+1.1
ZANG	**Zanguenga, Cho**	**2.62**	**81**	*e*P	Pn	17 23 06.3	-0.9
ZANG				*e*S	Sn	17 23 41.3	+1.6
BCIP	**Isla Barro Col**	**2.69**	**77**	*e*P	Pn	17 23 05.9	-2.3
BCIP				*e*S	Sn	17 23 42.4	+1.1
UPA	**Univ. de Panam**	**2.95**	**82**	*e*P	Pn	17 23 12.5	+0.8
UPA				*e*S	Sn	17 23 49.3	+1.5

IDC 15 17:35:12.5±15.0, 20°.64S×177°.92W, h459km±139km, mb2.9/5, mb1 3.1/5, mb1mx2.9/18, mbtmp2.9/5, Error ellipse: s-maj=114.1km s-min=32.7km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.56**	**257**	P	P	17 42 42.6	+0.1
	0.4nm,0.6s,baz=92,slow=8.0,SNR=11						
ASAR				PcP	PcP	17 44 16.2	+0.1
	0.4nm,0.6s,baz=107,slow=4.1,SNR=9.1						
WRA	**Warramunga Arr**	**44.66**	**262**	P	P	17 42 42.9	-0.4
	0.2nm,0.3s,baz=96,slow=7.6,SNR=21						
MJAR	**Matsushiro Arr**	**70.36**	**324**	P	P	17 45 38.2	-0.9
	0.4nm,0.6s,baz=169,slow=5.3,SNR=5.0						
PETK	**Petropavlovsk-**	**76.42**	**345**	P	P	17 46 14.6	+1.0
	1.1nm,0.8s,baz=146,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**88.43**	**13**	P	P	17 47 14.0	-0.3
	0.5nm,0.5s,baz=217,slow=5.2,SNR=5.8						
AKASG	**Malin Array Be**	**143.17**	**331**	PKP	PKPab	17 53 50.6	-0.1
	2.2nm,0.5s,baz=42,slow=4.6,SNR=17						
BRTR	**Keskin Array B**	**146.99**	**312**	PKPbc	PKPbc	17 54 03.2	0.0
	0.7nm,0.5s,baz=131,slow=5.9,SNR=5.4						
GERES	**GERESS Array B**	**150.35**	**344**	PKPbc	PKPbc	17 54 11.1	-0.1
	0.3nm,0.5s,baz=298,slow=2.9,SNR=3.8						

IDC 15 17:37:02.7±5.1, 13°.78N×92°.98E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.3/28, mbtmp3.4/6, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/34, Error ellipse: s-maj=97.4km s-min=38.6km az=163.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.38**	**50**	Pn	Pn	17 38 50.8	-1.1
	0.3nm,0.3s,baz=240,slow=17,SNR=3.5						
PSI	**Prapat**	**12.39**	**151**	LR	LR	17 45 33.4	
	comp=Z,304nm,20.8s,baz=148,slow=41						
MKAR	**Makanchi Array**	**34.12**	**347**	P	P	17 43 50.1	+0.9
	0.4nm,0.6s,baz=170,slow=8.2,SNR=5.6						
SONM	**Songino Array**	**35.75**	**16**	P	P	17 44 03.0	-0.5
	0.4nm,0.8s,baz=190,slow=7.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**38.58**	**345**	P	P	17 44 27.1	-0.2
	0.5nm,0.7s,baz=161,slow=7.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**40.59**	**353**	P	P	17 44 44.3	+0.3
	0.2nm,0.2s,baz=181,slow=8.6,SNR=3.0						
BRTR	**Keskin Array B**	**57.81**	**308**	P	P	17 46 55.7	-0.6
	0.3nm,0.4s,baz=108,slow=12,SNR=3.1						

*IDC **15** 17:37:47.2±1.0, 6°.16S×103°.70E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.0/24, mbtmp4.1/15, MS3.7/6, Ms1 3.8/6, ms1mx3.2/34, Error ellipse: s-maj=33.6km s-min=14.1km az=48.0*
*AUST **15** 17:37:51.8, 6°.83S×103°.39E, h35km*
*DJA **15** 17:37:52.7±0.6, 6°.5±3°×10°.4E±°, h15km, M4.4/8, MLv4.4/8*
*ISCJB **15** 17:37:54.5±1.2, 6°.26S±0°.08×103°.74E±0°.08, h77km±9km, mb4.0/15, Error ellipse: s-maj=18.1km s-min=6.8km az=135.8*
ISC 15 17:37:53.9±1.8, 6°.34S±0°.09×103°.65E±0°.08, h54km±15km, n42, σ1§58/40, mb4.0/15, MS3.9/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.17**	**46**	P	**Pn**	**17 38 12.7**	**-1.3**
KASI				S	**Sn**	**17 38 28.4**	**-0.6**
LWLI	**Liwa**	**1.38**	**17**	P	**Pn**	**17 38 15.5**	**-1.5**
LWLI				S	**Sn**	**17 38 34.4**	**+0.2**
BLSI	**Bandar Lampung**	**1.86**	**59**	P	**Pn**	**17 38 23.5**	**+0.1**
BLSI				S	**Sn**	**17 38 49.5**	**+3.8**
KLI	**Kotabumi**	**1.90**	**39**	P	**Pn**	**17 38 24.7**	**+0.8**
KLSI		**1.96**	**33**	P	**Pn**	**17 38 24.4**	**-0.4**
KLSI				S	**Sn**	**17 38 49.1**	**+0.8**
MNAI	**Manna**	**2.09**	**341**	P	**Pn**	**17 38 25.8**	**-0.7**
MNAI				S	**Sn**	**17 38 53.4**	**+2.0**
MNAI	**Manna**	**2.09**	**341**	P	**Pn**	**17 38 27.1**	**+0.6**
	baz=2.5,SNR=7.2						
KSI	**Kapahiang**	**2.87**	**338**	P	**Pn**	**17 38 38.3**	**+0.9**
DBJI	**Dramaga**	**3.08**	**94**	P	Pn	17 38 43.9	+3.7
CBJI	**Citeko**	**3.18**	**92**	P	**Pn**	**17 38 44.0**	**+2.5**
LEM	**Lembang**	**3.97**	**97**	P	**Pn**	**17 38 53.4**	**+1.0**
LEM	**Lembang**	**3.97**	**97**	P	**Pn**	**17 38 55.1**	**+2.7**
	baz=4.2,SNR=6.4						
CISI	**Cisompet, Garu**	**4.30**	**106**	P	**Pn**	**17 38 56.2**	**-0.8**
CISI	**Cisompet, Garu**	**4.30**	**106**	P	**Pn**	**17 38 55.9**	**-1.1**
	baz=4.4,SNR=7.6						
CISI				S	**Sn**	**17 39 41.9**	**-4.0**
	baz=4.4,SNR=6.2						
XMI	**Christmas Isla**	**4.55**	**154**	P	Pn	17 38 54.9	-5.4
	baz=4.3,SNR=3.5						
XMIS	**Christmas Isla**	**4.56**	**154**	P	Pn	17 38 54.6	-5.9
	baz=4.3,SNR=7.9						
XMIS				S	Sn	17 39 43.1	-9.1
	baz=4.3,SNR=4.6						
UGM	**Wanagama**	**6.99**	**103**	P	**Pn**	**17 39 34.9**	**+1.0**
	baz=7.2,SNR=9.2						
KAPI	**Kappang**	**16.07**	**86**	LR	LR	17 47 54.0	
	comp=Z,191nm,20.8s,baz=54,slow=38						
BATI	**Baumata**	**20.17**	**102**	P	**P**	**17 42 23.6**	**-0.6**
	33nm,0.3s,baz=304,slow=3.6,SNR=33						
SOEI	**Soe**	**20.69**	**101**	P	**P**	**17 42 29.6**	**-0.2**
	baz=21,SNR=16						
FITZ	**Fitzroy Crossi**	**24.42**	**121**	P	**P**	**17 43 08.4**	**+0.8**
	1.8nm,0.8s,baz=190,slow=11,SNR=3.5

mB5.2/1, mb4.7/3, Mw(mB)4.6/1
ISC 15 17:51:54.4±0.4, 4°95N±0°05×127°68E±0°06, h108km, n63, σ1°13/69, mb4.2/23, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.44**	**325**	*eP*	**Pn**	**17 52 30.0**	**-3.0**
GSPH	**General Santos**	**2.94**	**293**	↑*eP*	Pn	17 52 35.0	-4.8
GSPH				*eS*	**Sn**	**17 53 12.3**	**-2.3**
DAV	**Davao City (W)**	**2.97**	**315**	P	**Pn**	**17 52 38.8**	**-1.2**
DAV	**Davao City (W)**	**2.97**	**315**	P	**Pn**	**17 52 38.5**	**-1.4**
	8.2nm,0.3s,baz=232,slow=5.8,SNR=5.9						
DAV				S	**Sn**	**17 53 14.1**	**-1.0**
	52nm,0.3s,baz=222,slow=16,SNR=15						
DAV				LR	LR	17 53 54.6	
	comp=Z,511nm,18.5s,baz=335,slow=41						
BUKP	**Musuan**	**3.91**	**318**	*eP*	**Pn**	**17 52 51.1**	**-1.4**
CTBH	**Cotabato--PC H**	**4.09**	**304**	↑*iP*	**Pn**	**17 52 52.9**	**-2.1**
TNTI	**Ternate**	**4.16**	**184**	P	**Pn**	**17 52 56.1**	**+0.2**
BUTP	**Butuan**	**4.49**	**333**	*eP*	**Pn**	**17 53 00.1**	**-0.2**
PAGZ	**Pagadian**	**5.15**	**304**	*eP*	**Pn**	**17 53 07.6**	**-1.7**
LBMI	**Labuha**	**5.55**	**182**	P	**Pn**	**17 53 15.9**	**+1.2**
IPIL	**Ipil**	**5.81**	**299**	*eP*	**Pn**	**17 53 16.9**	**-1.3**
SWI	**Sorong**	**6.79**	**148**	P	**Pn**	**17 53 31.4**	**-0.1**
SWI	**Sorong**	**6.79**	**148**	P	**Pn**	**17 53 31.4**	**-0.1**
	baz=7.0,SNR=5.9						
SWI				S	**Sn**	**17 54 43.1**	**-4.3**
	baz=7.0,SNR=17						
PALU	**Palau**	**7.16**	**70**	P	**Pn**	**17 53 35.3**	**-1.3**
	baz=7.3,SNR=26						
PALU				S	**Sn**	**17 54 54.7**	**-1.8**
	baz=7.3,SNR=14						
FAKI	**Fak Fak**	**9.05**	**150**	P	**Pn**	**17 54 02.9**	**+0.6**
	baz=9.2,SNR=6.3						
FAKI				S	Sn	17 55 36.0	-6.4
	baz=9.2,SNR=7.9						
RKPI	**Ransiki, Papua**	**9.13**	**134**	P	**Pn**	**17 54 03.0**	**-0.3**
	35nm,0.7s						
MYLDM	**Lahad Datu**	**9.15**	**272**	P	**Pn**	**17 54 04.3**	**+0.8**
SKSI	**Soroako, Sulaw**	**9.76**	**221**	P	Pn	17 54 06.2	-5.8
	42nm,0.8s,2μm						
KKSI	**Kolaka, Sulawe**	**10.88**	**214**	P	**Pn**	**17 54 28.7**	**+1.7**
SRPI	**Serui, Papua**	**10.91**	**128**	P	Pn	17 54 34.3	+6.8
TTSI	**Tana Toraja**	**11.17**	**225**	P	**Pn**	**17 54 31.5**	**+0.6**
MMSI	**Mamuju**	**11.59**	**229**	P	**Pn**	**17 54 35.6**	**-1.0**
BATI	**Baumata**	**15.58**	**195**	P	**Pn**	**17 55 27.8**	**-0.4**
	0.4nm,0.3s,baz=0.0,slow=11,SNR=2.1						
SBUM	**Sibu**	**15.62**	**261**	P	**P**	**17 55 31.4**	**+0.8**
MTN	**Manton Dam**	**18.00**	**169**	P	**P**	**17 55 56.3**	**-0.6**
	baz=18,SNR=6.1						
KDU	**Kakadu**	**18.16**	**165**	P	**P**	**17 55 57.8**	**-0.7**
	baz=18,SNR=12						
KNRA	**Kununurra**	**20.52**	**177**	P	**P**	**17 56 24.1**	**-0.1**
	baz=21,SNR=43						
FITZ	**Fitzroy Crossi**	**22.99**	**185**	P	**P**	**17 56 49.2**	**-0.8**
	8.6nm,0.8s,baz=16,slow=8.7,SNR=36						
FITZ				LR	LR	18 06 47.2	
	comp=Z,171nm,19.6s,baz=277,slow=39						
FITZ	**Fitzroy Crossi**	**22.99**	**185**	P	**P**	**17 56 50.3**	**+0.3**
	baz=23,SNR=21						
WRA	**Warramunga Arr**	**25.59**	**165**	P	**P**	**17 57 12.8**	**-0.8**
	4.6nm,0.5s,baz=342,slow=10,SNR=100						
ASAR	**Alice Springs**	**29.08**	**168**	P	**P**	**17 57 44.5**	**-0.4**
	2.3nm,0.5s,baz=355,slow=8.2,SNR=123						
ASAR				PcP	**PcP**	**18 00 51.2**	**+0.6**
	1.5nm,0.7s,baz=351,slow=2.3,SNR=7.9						
CMAR	**Chiang Mai Arr**	**31.11**	**298**	P	**P**	**17 58 03.0**	**+0.1**
	1.1nm,0.9s,baz=108,slow=7.6,SNR=6.4						
CMAR				pP	**pP**	**17 58 27.0**	**+0.1**
	0.7nm,0.6s,baz=103,slow=6.9,SNR=3.1						
CMAR				LR	LR	18 11 31.7	
	comp=Z,96nm,18.1s,baz=330,slow=38						
KSRS	**Korea Array**	**32.35**	**0**	LR	LR	18 12 09.3	
	comp=Z,30nm,18.9s,baz=230,slow=38						
MEEK	**Meekatharra**	**32.60**	**195**	P	**P**	**17 58 15.9**	**0.0**
	baz=33,SNR=5.4						
MJAR	**Matsushiro Arr**	**32.90**	**16**	P	**P**	**17 58 17.8**	**-0.5**
	0.9nm,0.7s,baz=184,slow=10,SNR=6.5						
MJAR				pP	**pP**	**17 58 43.3**	**+0.8**
	1.1nm,0.6s,baz=184,slow=9.4,SNR=4.9						
MJAR				LR	LR	18 10 12.9	
	comp=Z,60nm,20.2s,baz=185,slow=33						
XAN	**Xi'an**	**33.78**	**331**	P	**P**	**17 58 26.5**	**+0.4**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MORW	**Morawa**	**35.62**	**198**	P	**P**	**17 58 42.1**	**+0.1**
	baz=36,SNR=3.2						
BLDU	**Ballidu**	**36.89**	**196**	P	**P**	**17 58 52.7**	**+0.1**
	baz=37,SNR=8.4						
EIDS	**Eidsvold**	**37.75**	**144**	P	**P**	**17 59 00.2**	**+0.1**
	baz=38,SNR=5.6						
STKA	**Stephens Creek**	**38.95**	**161**	P	**P**	**17 59 09.3**	**-0.6**
	comp=Z,5.5nm,0.6s,baz=336,slow=8.9,SNR=5.6						
STKA	**Stephens Creek**	**38.95**	**161**	P	**P**	**17 59 10.4**	**+0.5**
	baz=39,SNR=4.0						
USRK	**Ussuriysk Arra**	**39.28**	**5**	P	**P**	**17 59 11.4**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=89,slow=8.2,SNR=4.9						
ASAJ	**Asahikawa**	**41.16**	**16**	P	**P**	**17 59 28.9**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=299,slow=29,SNR=6.5						
ARMA	**Armidale**	**41.98**	**148**	P	**P**	**17 59 36.2**	**+1.1**
	baz=42,SNR=17						
GTA	**Gaotai**	**42.56**	**328**	*eP*	**P**	**17 59 41.3**	**+1.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARPS	**Mount Arapiles**	**43.56**	**163**	P	**P**	**17 59 48.7**	**+1.1**
	baz=44,SNR=8.5						
SONM	**Songino Array**	**46.47**	**340**	P	**P**	**18 00 12.7**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=160,slow=4.7,SNR=5.5						
DZM	**Mont Dzumac**	**46.48**	**127**	P	**P**	**18 00 10.5**	**-0.7**
	comp=Z,9.2nm,0.6s,baz=340,slow=11,SNR=12						
LHI	**Lord Howe Isla**	**47.01**	**143**	S	S	18 07 11.2	+13
	baz=47,SNR=3.6						
PETK	**Petropavlovsk-**	**53.95**	**22**	P	**P**	**18 01 07.7**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=187,slow=6.2,SNR=15						
PETK				pP	**pP**	**18 01 32.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=200,slow=6.5,SNR=5.4						
MKAR	**Makanchi Array**	**57.11**	**324**	P	**P**	**18 01 30.6**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=116,slow=7.9,SNR=41						
MKAR				pP	**pP**	**18 01 55.8**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=123,slow=8.3,SNR=9.1						
ZALV	**Zalesovo Beam**	**59.95**	**332**	P	**P**	**18 01 49.1**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=104,slow=6.3,SNR=9.6						
KURBB	**Kurchatov Arra**	**61.24**	**327**	P	**P**	**18 01 58.5**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=124,slow=6.1,SNR=77						
KURBB				pP	**pP**	**18 02 23.2**	**-1.3**
	comp=Z,4.1nm,0.8s,baz=125,slow=6.3,SNR=6.0						
BVAR	**Borovoye Array**	**66.83**	**326**	P	**P**	**18 02 34.5**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=120,slow=8.5,SNR=12						
BVAR				pP	**pP**	**18 03 00.7**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=130,slow=7.4,SNR=5.8						
AKTO	**Aktyubinsk**	**73.30**	**321**	P	**P**	**18 03 14.0**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=93,slow=7.1,SNR=15						
ILAR	**Eielson Array**	**83.61**	**25**	P	**P**	**18 04 10.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=248,slow=6.0,SNR=3.9						
VNDA	**Vanda**	**84.51**	**173**	P	**P**	**18 04 15.1**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=314,slow=7.2,SNR=9.0						
ARCES	**ARCESS Array B**	**89.64**	**340**	P	**P**	**18 04 39.4**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=84,slow=5.8,SNR=13						
FINES	**FINESS Array B**	**91.21**	**332**	P	**P**	**18 04 46.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=75,slow=3.3,SNR=8.8						
QSPA	**South Pole Qui**	**94.84**	**180**	P	**P**	**18 05 04.3**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=20,slow=4.1,SNR=9.8						
CRVS	**Cervenica-Dubn**	**96.85**	**320**	*eP*	P	18 05 17.8	+4.4
TORD	**Torodi Ar. Bea**	**123.43**	**289**	PKP	**PKPdf**	**18 10 39.6**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=66,slow=2.0,SNR=5.8						
LPAZ	**La Paz**	**160.82**	**127**	PKP	**PKPdf**	**18 11 44.4**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=14,slow=3.8,SNR=4.2						
LPAZ				PKPab	**PKPab**	**18 12 27.6**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=250,slow=2.5,SNR=5.6						

IDC 15 18:02:10.7±1.6, 30°75N×83°50E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.3/29, mbtmp3.5/7, ML4.0/2, Error ellipse: s-maj=56.8km s-min=21.1km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.04**	**357**	Pn	Pn	18 05 55.2	-2.4
	0.3nm,0.3s,baz=106,slow=14,SNR=12						
CMAR	**Chiang Mai Arr**	**18.60**	**128**	P	Pn	18 06 30.6	+0.7
	0.3nm,0.3s,baz=305,slow=10.0,SNR=5.2						
KURBB	**Kurchatov Arra**	**20.19**	**351**	P	P	18 06 45.9	-1.0
	0.9nm,0.5s,baz=172,slow=10,SNR=10						
SONM	**Songino Array**	**24.45**	**39**	P	P	18 07 31.6	+0.3
	0.9nm,0.7s,baz=223,slow=9.5,SNR=4.3						
FINES	**FINESS Array B**	**48.01**	**327**	P	P	18 10 51.8	+0.6
	2.1nm,0.9s,baz=113,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**70.19**	**129**	P	P	18 13 26.1	+0.5
	0.6nm,0.9s,baz=323,slow=6.2,SNR=6.8						
ASAR	**Alice Springs**	**72.54**	**132**	P	P	18 13 38.8	-0.9
	0.2nm,0.8s,baz=316,slow=6.2,SNR=3.2						

*ISCJB **15** 18:09:19.4±0.7, 42°55N±0°03×48°37E±0°05, h31km±4km, mb3.3/3, Error ellipse: s-maj=6.2km s-min=5.0km az=145.1*
*MOS **15** 18:09:19.0±0.8, 42°52N×48°29E, h19km, mb4.2/1, Error ellipse: s-maj=10.3km s-min=9.4km az=42.4*
*CSEM **15** 18:09:21.0±0.2, 42°47N×48°20E, h30km, mb4.2, Error ellipse: s-maj=5.8km s-min=4.9km az=52.0*
*IDC **15** 18:09:22.4±2.5, 42°95N×47°85E, h0km, mb3.3/3, mb1 3.4/7, mb1mx3.2/27, mbtmp3.2/7, ML3.2/3, Error ellipse: s-maj=49.4km s-min=12.5km az=174.0*
ISC 15 18:09:19.9±1.3, 42°50N±0°03×48°23E±0°04, h17km±7km, n48, σ1°02/65, mb3.4/3, 9D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKR	**Sergokala**	**0.42**	**264**	*e*PG	**Pb**	**18 09 30.0**	**+1.0**
SGKR				*i* S	**Sn**	**18 09 37.5**	**-1.3**
SGKR	**Sergokala**	**0.42**	**264**	*e*Pg	**Pb**	**18 09 30.0**	**+1.0**
SGKR				*i* Sg	**Sn**	**18 09 37.5**	**-1.3**
MNSR	**Manas**	**0.42**	**298**	*i* PG	**Pb**	**18 09 29.5**	**+0.5**
MNSR				*e*S	**Sb**	**18 09 37.0**	**+1.9**
MNSR	**Manas**	**0.42**	**298**	*i* Pg	**Pb**	**18 09 29.5**	**+0.5**
MNSR				*e*Sg	**Sb**	**18 09 37.0**	**+1.9**
DRN	**Derbent**	**0.48**	**171**	↓*i*PG	**Pb**	**18 09 30.0**	**+0.1**
DRN				*i* S	**Sb**	**18 09 38.5**	**+1.9**
DRN	**Derbent**	**0.48**	**171**	*i* Pg	**Pb**	**18 09 30.0**	**+0.1**
DRN				*i* Sg	**Sb**	**18 09 38.5**	**+1.9**
MAK	**Makhachkala**	**0.70**	**311**	*e*PG	Pn	18 09 42.0	+6.9
MAK				*e*		18 09 45.1	
MAK				pmax	pmax		
	comp=Z,225nm,0.4s						
MAK				smax	smax		
	comp=N,1μm,0.5s						
MAK				smax	smax		
	comp=E,1μm,0.6s						
MAK	**Makhachkala**	**0.70**	**311**	*e*Sg	**Sn**	**18 09 45.1**	**-0.5**
	comp=E,1μm,0.5s						
KSMR	**Kasumkent**	**0.90**	**185**	↓*i*PG	**Pb**	**18 09 36.5**	**-0.7**
KSMR				*e*S	**Sg**	**18 09 50.0**	**+0.7**
KSMR				pmax	pmax		
	comp=Z,321nm,0.2s						
KSMR	**Kasumkent**	**0.90**	**185**	*i* Pg	**Pb**	**18 09 36.5**	**-0.7**
	comp=Z,321nm,0.2s						
KSMR				*e*Sg	**Sg**	**18 09 50.0**	**+0.7**
KMKR	**Kumukh**	**0.92**	**247**	*e*PG	**Pb**	**18 09 37.2**	**-0.3**
KMKR				*e*S	**Sn**	**18 09 51.4**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,105nm,0.2s						
KMKR	**Kumukh**	**0.92**	**247**	*e*Pg	**Pb**	**18 09 37.2**	**-0.3**
	comp=Z,105nm,0.2s						
KMKR				*e*Sg	**Sn**	**18 09 51.4**	**+0.2**
KRNR	**Karanay**	**1.03**	**289**	*e*PG	**Pb**	**18 09 39.0**	**-0.3**
KRNR				*i* S	**Sg**	**18 09 53.5**	**+0.2**
KRNR				pmax	pmax		
	comp=Z,86nm,0.2s						
KRNR	**Karanay**	**1.03**	**289**	*e*Pg	**Pb**	**18 09 39.0**	**-0.3**
	comp=Z,86nm,0.2s						
KRNR				*i* Sg	**Sg**	**18 09 53.5**	**+0.2**
UNCR	**Uncukul**	**1.08**	**282**	*e*PG	**Pb**	**18 09 39.5**	**-0.7**
UNCR				*i* S	**Sb**	**18 09 54.5**	**+0.5**
UNCR	**Uncukul**	**1.08**	**282**	*e*Pg	**Pb**	**18 09 39.5**	**-0.7**
UNCR				*i* Sg	**Sb**	**18 09 54.5**	**+0.5**
AKT	**Akhty**	**1.09**	**200**	↓*i*PG	**Pb**	**18 09 39.7**	**-0.7**
AKT				*e*S	**Sb**	**18 09 54.7**	**+0.4**
AKT				pmax	pmax		
	comp=Z,180nm,0.3s						
AKT	**Akhty**	**1.09**	**200**	*i* Pg	**Pb**	**18 09 39.7**	**-0.7**
	comp=Z,180nm,0.3s						
AKT				*e*Sg	**Sb**	**18 09 54.7**	**+0.4**
XNZR	**Khunzakh**	**1.13**	**273**	*i* PG	**Pb**	**18 09 41.0**	**-0.1**
XNZR				*e*S	**Sn**	**18 09 57.5**	**+1.2**
XNZR	**Khunzakh**	**1.13**	**273**	*i* Pg	**Pb**	**18 09 41.0**	**-0.1**
DBC	**Dubki**	**1.15**	**297**	↓*i*PG	**Pn**	**18 09 40.5**	**-0.9**
DBC				*i* S	**Sn**	**18 09 56.8**	**0.0**
DBC	**Dubki**	**1.15**	**297**	*i* Pg	**Pn**	**18 09 40.5**	**-0.9**
DBC				*i* Sg	**Sn**	**18 09 56.8**	**0.0**
DLMR	**Dylym**	**1.31**	**296**	↓*i*PG	**Pn**	**18 09 43.5**	**0.0**
DLMR				*e*S	**Sg**	**18 10 02.0**	**-0.2**
DLMR				pmax	pmax		
	comp=Z,236nm,0.8s						
DLMR	**Dylym**	**1.31**	**296**	*i* Pg	**Pn**	**18 09 43.5**	**0.0**
	comp=Z,236nm,0.8s						
DLMR				*e*Sg	**Sg**	**18 10 02.0**	**-0.2**
DUS	**Dusheti**	**2.65**	**262**	P	**Pb**	**18 10 08.3**	**+1.3**
TBLG	**Delisi**	**2.71**	**255**	PN	**Pg**	**18 10 11.5**	**-0.4**
TBLG	**Delisi**	**2.71**	**255**	P	**Pg**	**18 10 11.5**	**-0.4**
ONI	**Oni**	**3.53**	**273**	P	Pb	18 10 18.6	-3.4
KBZ	**Khabaz**	**4.09**	**289**	PN	**Pn**	**18 10 22.8**	**+1.1**
KBZ						18 11 07.8	
KBZ				smax	smax		
	comp=N,1.0nm,0.3s						
KBZ	**Khabaz**	**4.09**	**289**	Pn	**Pn**	**18 10 22.8**	**+1.1**
	comp=N,0.4nm,0.3s,baz=163,slow=6.0,SNR=9.0						
KBZ				Sn	**Sn**	**18 11 07.8**	**-1.3**
	comp=N,0.7nm,0.3s,baz=154,slow=6.2,SNR=4.2						
KBZ	**Khabaz**	**4.09**	**289**	Pn	**Pn**	**18 10 22.8**	**+1.1**
	comp=N,1.0nm,0.3s						
KBZ				Sn	**Sn**	**18 11 07.8**	**-1.3**
AKTK	**Aktyubinsk**	**10.41**	**37**	P	**Pn**	**18 11 49.4**	**+1.0**
AKTO	**Aktyubinsk**	**10.41**	**37**	↓*i*P	**Pn**	**18 11 48.9**	**+0.5**
	comp=N,2.7nm,1.2s						
AKTO				↓*i*S	Sn	18 13 34.5	-10
	comp=N,3.3nm,0.6s						
AKTO	**Aktyubinsk**	**10.41**	**37**	P	**Pn**	**18 11 49.4**	**+1.0**
AKTO	**Aktyubinsk**	**10.41**	**37**	Pn	**Pn**	**18 11 49.4**	**+1.0**
	comp=N,0.2nm,0.3s,baz=202,slow=17,SNR=3.9						
AKTO	**Aktyubinsk**	**10.41**	**37**	P	**Pn**	**18 11 48.9**	**+0.5**
	comp=N,2.7nm,1.2s						
AB31	**Akbulak array**	**10.59**	**46**	↓*i*P	**Pn**	**18 11 48.4**	**-2.4**
	comp=N,0.3nm,0.4s,baz=231,slow=14,SNR=6.2						
AB31				↓*i*S	Sn	18 13 39.9	-9.1
	comp=N,2.7nm,0.7s,baz=236,slow=22						
AKASG	**Malin Array Be**	**15.39**	**309**	P	Pn	18 12 50.3	-5.8
AKASG	**Malin Array Be**	**15.39**	**309**	Pn	Pn	18 12 50.3	-5.8
	baz=103,slow=9.3,SNR=2.6						
BVAR	**Borovoye Array**	**18.16**	**47**	P	**P**	**18 13 33.1**	**+1.7**
BVAR	**Borovoye Array**	**18.16**	**47**	P	**P**	**18 13 33.1**	**+1.7**
	comp=N,0.1nm,0.3s,baz=242,slow=14,SNR=2.4						
BVAR	**Borovoye Array**	**18.16**	**47**	P	**P**	**18 13 33.1**	**+1.7**
FINES	**FINESS Array B**	**23.15**	**333**	P	**P**	**18 14 23.2**	**-2.0**
	comp=N,2.4nm,0.9s,baz=128,slow=12,SNR=5.9						
FINES	**FINESS Array B**	**23.15**	**333**	P	**P**	**18 14 23.2**	**-2.0**
	comp=N,2.0nm,0.9s						
MKAR	**Makanchi Array**	**24.49**	**68**	P	P	18 14 45.3	+7.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**24.49**	**68**	P	P	18 14 45.2	+7.1
	comp=Z,0.6nm,0.6s,baz=270,slow=8.2,SNR=6.4						
GERES	**GERESS Array B**	**24.79**	**297**	P	**P**	**18 14 40.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=97,slow=8.0,SNR=3.4						
GERES	**GERESS Array B**	**24.79**	**297**	P	**P**	**18 14 40.3**	**-0.6**

MAN 15 18:24:45.10°91N×122°71E, h72km, mb3.6, ML2.3, MS1.8, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.30**	**204**	*eP*	Pn	18 24 59.1	+2.7
RCP	**Roxas**	**0.65**	**3**	↑*eP*	Pn	18 25 01.5	+1.9
RCP				*i* S	Sn	18 25 14.4	+4.2
CUYO	**Cuyo Island**	**1.67**	**268**	*eP*	Pn	18 25 13.8	+1.5
SJMP	**San Jose**	**2.20**	**315**	*eP*	Pn	18 25 21.7	+2.3
BUSP	**Coron**	**2.69**	**294**	*eP*	Pn	18 25 27.7	+1.6
ENPP	**El Nido**	**3.24**	**276**	*eP*	Pn	18 25 35.5	+2.0

IDC 15 18:38:24.6±4.8, 27°39S×177°14W, h63km±38km, mb3.6/6, mb1 3.8/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=37.8km s-min=27.1km az=51.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.98**	**200**	P	Pn	18 38 55.9	+0.1
	558nm,0.3s,baz=60,slow=12,SNR=12						
RAO				S	Sn	18 39 20.0	+0.5
	388nm,0.3s,baz=108,slow=22,SNR=5.8						
CTA	**Charters Tower**	**34.19**	**274**	P	P	18 45 04.9	+0.6
	1.3nm,0.4s,baz=86,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**44.11**	**263**	P	P	18 46 26.1	-0.9
	0.5nm,0.8s,baz=94,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**44.83**	**269**	P	P	18 46 32.9	+0.1
	0.5nm,0.4s,baz=106,slow=7.7,SNR=25						
WRA				pP	pP	18 46 49.0	+0.2
	0.5nm,0.6s,baz=109,slow=7.9,SNR=8.5						
FITZ	**Fitzroy Crossi**	**53.19**	**267**	P	P	18 47 36.5	-0.2
	3.2nm,1.2s,baz=130,slow=7.9,SNR=2.9						
MAW	**Mawson**	**75.38**	**200**	P	P	18 50 01.1	0.0
	1.1nm,0.6s,baz=163,slow=11,SNR=3.6						
PETK	**Petropavlovsk-**	**83.10**	**345**	P	P	18 50 42.9	-0.2
	1.1nm,0.8s,baz=144,slow=10,SNR=3.7						
AKASG	**Malin Array Be**	**149.29**	**326**	PKPbc	PKPbc	18 58 05.4	-0.5
	0.9nm,0.4s,baz=41,slow=4.5,SNR=8.1						
BRTR	**Keskin Array B**	**151.69**	**304**	PKPbc	PKPbc	18 58 12.2	-0.1
	0.5nm,0.6s,baz=135,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.79**	**175**	PKPab	PKPab	18 59 22.1	-0.2
	0.4nm,0.6s,baz=204,slow=3.2,SNR=3.9						

*CSEM **15** 18:45:31.3, 16°28N×43°28E, h0km, ML3.6, After DHMR*
DHMR 15 18:45:31.3±1.2, 16°28N×43°28E, h0km±9km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RADA	**Ahram - Rada'a**	**2.38**	**140**	*i* P	Pn	18 46 13.0	+1.0
RADA				*i* S	Sb	18 46 46.0	+0.4
RADA	**Ahram - Rada'a**	**2.38**	**140**	*i* P	Pn	18 46 13.0	+1.0
RADA				*i* S	Sb	18 46 46.0	+0.4
LBOS		**3.06**	**141**	*i* P	Pn	18 46 24.1	+2.8
LBOS				*i* S	Sb	18 47 05.3	+0.1
TRBA	**At Turbah**	**3.14**	**165**	*i* S	Sb	18 47 07.6	+0.3
BDHA	**Al Bayda'**	**3.18**	**136**	*i* P	Pn	18 46 25.2	+2.2
BDHA				*i* S	Sb	18 47 07.8	-0.9
BDHA				AML	AML	18 47 24.5	
	comp=E,290nm,0.5s						
BDHA	**Al Bayda'**	**3.18**	**136**	*i* P	Pn	18 46 25.2	+2.2
BDHA				*i* S	Sb	18 47 07.8	-0.9
	comp=E,145nm,0.5s						
MUKL	**Al Mukalla**	**5.84**	**107**	*i* S	Sn	18 48 11.4	+4.6

*MAN **15** 18:47:25, 6°56N×126°20E, h55km, mb4.9, ML3.8, MS3.9*
*AUST **15** 18:47:25.4±1.0, 7°41N×126°03E, h94km, Error ellipse: s-maj=2.3km s-min=1.2km az=340.0*
*ISCJB **15** 18:47:27.5±0.4, 6°90N±0°05×126°19E±0°05, h72km±4km, mb3.9/13, Error ellipse: s-maj=10.3km s-min=6.7km az=39.6*
*IDC **15** 18:47:27.2±1.9, 6°92N×126°28E, h55km±15km, mb3.8/13, mb1 4.0/14, mb1mx3.7/27, mbtmp3.8/14, ML5.0/1, Error ellipse: s-maj=31.3km s-min=11.9km az=67.0*
ISC 15 18:47:28.6±0.7, 6°90N±0°07×126°19E±0°06, h65km±6km, n41, σ1°21/43, mb4.0/13, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.08**	**51**	*eP*	**Pn**	**18 47 37.9**	**-0.4**
MATI				*eS*	**Sn**	**18 47 45.1**	**-0.2**
DAV	**Davao City (W)**	**0.64**	**286**	P	**Pn**	**18 47 42.2**	**-0.3**
	1μm,0.3s,baz=217,slow=2.0,SNR=153						
DAV				S	**Sn**	**18 47 53.1**	**+0.5**
	1μm,0.3s,baz=90,slow=20,SNR=52						
KCP	**Kidapawan**	**1.10**	**276**	↑*eP*	**Pn**	**18 47 46.9**	**-1.3**
KCP				*i* S	**Sn**	**18 48 01.3**	**-1.6**
BUKP	**Musuan**	**1.49**	**311**	*eP*	**Pn**	**18 47 53.0**	**-0.3**
CTBH	**Cotabato--PC H**	**1.96**	**280**	↑*iP*	**Pn**	**18 47 58.5**	**-1.2**
BUTP	**Butuan**	**2.14**	**345**	*eP*	**Pn**	**18 48 04.6**	**+2.5**
PAGZ	**Pagadian**	**2.94**	**289**	*eP*	**Pn**	**18 48 13.0**	**0.0**
DCPH	**Dipolog City**	**3.28**	**301**	*eP*	**Pn**	**18 48 18.4**	**+0.9**
DCPH				*eS*	Sn	18 49 07.3	+12
IPIL	**Ipil**	**3.70**	**284**	*eP*	**Pn**	**18 48 24.1**	**+0.7**

ATKA				S	Sb	18 52 47.0 +0.4
NIKH	Nikolski High	3.22	69	P	Pn	18 53 23.1 +0.4
NIKH				S	Sn	18 54 00.1 -0.1
OKSP	Okmok Steeple	3.62	67	P	Pn	18 53 30.0 +1.7
OKSP				S	Sn	18 54 11.3 +1.0
OKAK	Okmok	3.71	62	P	Pn	18 53 29.5 +0.1
OKTU	Okmok Mt. Tuli	3.81	65	P	Pn	18 53 32.8 +2.0
AMKA	Amchitka	4.31	265	*e*Pn	Pn	18 53 39.3 +1.6
AMKA				*e*Sn	Sn	18 54 29.8 +2.7
MSOM	Makushin Julie	4.57	63	P	Pn	18 53 42.2 +0.9
MGOD	Makushin Gods	4.61	63	P	Pn	18 53 43.4 +1.6
MGOD				S	Sn	18 54 37.5 +3.0
MCIR	Makushin Cirqu	4.66	62	P	Pn	18 53 43.3 +0.8
MTBL	Makushin Table	4.78	62	P	Pn	18 53 44.5 +0.4
AKUT	Akutan	5.34	63	P	Pn	18 53 53.3 +1.6
SPIA	Saint Paul Isl	5.65	20	P	Pn	18 53 57.0 +1.0
SPIA				S	Sn	18 54 59.0 -1.0
WESN	West Dahl Nort	6.14	61	P	Pn	18 54 04.5 +1.7
FALS	False Pass 49nm,0.5s	6.88	61	Pn	Pn	18 54 15.7 +2.8
SMY	Shemya	7.44	281	*e*Pn	Pn	18 54 20.2 -0.4
FX1	Attu Island--F	8.01	282	P	Pn	18 54 29.0 +0.6
SDPT	Sand Point	8.64	61	*e*Pn	Pn	18 54 37.4 +0.4
OHAK	Old Harbor	13.01	58	*e*Pn	Pn	18 55 37.4 +0.6
KDAK	Kodiak Island	13.53	56	P	Pn	18 55 46.8 +2.9
KDAK	Kodiak Island 0.5nm,0.3s,baz=270,slow=8.1,SNR=3.0	13.53	56	P	Pn	18 55 46.8 +2.9
SVW2	Sparrevohn	13.58	40	*e*Pn	Pn	18 55 45.6 +1.1
PPLA	Purkeypile 37nm,1.3s	15.91	38	*e*Pn	P	18 56 19.1 -0.3
TRF	Thorofare Moun 24nm,1.2s	16.94	38	*e*Pn	Pn	18 56 30.3 +1.3
PETK	Petropavlovsk-	17.32	285	P	P	18 56 35.0 +0.2
PETK	Petropavlovsk- 0.1nm,0.3s,baz=121,slow=19,SNR=4.2	17.32	285	P	P	18 56 35.0 +0.2
IMA2	Indian Mountai	17.42	28	*e*Pn	Pn	18 56 35.9 +0.9
MCK	McKinley 13nm,0.9s	17.60	38	*e*P	P	18 56 38.1 +0.2
ILAR	Eielson Array	18.90	37	P	P	18 56 49.5 -2.7
ILAR	Eielson Array 0.5nm,0.3s,baz=236,slow=7.4,SNR=23	18.90	37	P	P	18 56 49.5 -2.7
COLD	Coldfoot 6.8nm,0.9s	19.23	28	*e*P	Pn	18 56 56.9 0.0
EGAK	Eagle 42nm,0.9s	21.11	40	*e*P	P	18 57 16.2 0.0
WRAK	Wrangell Islan	24.41	63	*e*P	P	18 57 51.5 +1.6
INK	Inuvik	25.24	34	P	P	18 57 54.5 -2.7
INK	Inuvik 1.4nm,0.6s,baz=256,slow=16,SNR=3.5	25.24	34	P	P	18 57 54.5 -2.7
DLBC	Dease Lake	25.45	58	P	P	18 57 57.1 -2.3
DLBC	Dease Lake 1.2nm,0.5s,baz=262,slow=12,SNR=3.5	25.45	58	P	P	18 57 57.1 -2.3
BBB	Bella Bella comp=Z,60nm,21.6s,baz=299,slow=31	27.75	71	LR	LR	19 07 02.6
ASAJ	Asahikawa comp=Z,36nm,21.0s,baz=221,slow=33	29.79	272	LR	LR	19 09 07.6
YKA	Yellowknife Ar	32.58	48	P	P	18 59 00.6 -2.1
YKA	Yellowknife Ar 0.8nm,0.7s,baz=288,slow=8.6,SNR=2.9	32.58	48	P	P	18 59 00.6 -2.1
NEW	Newport	35.77	73	P	P	18 59 30.6 0.0
NEW	Newport 4.7nm,0.7s,baz=291,slow=7.9,SNR=12	35.77	73	P	P	18 59 30.6 0.0
NEW	Newport baz=36,SNR=6.9	35.77	73	P	P	18 59 31.7 +1.1
EDM	Edmonton	35.81	63	*e*P	P	18 59 30.6 -0.3
MJAR	Matsushiro Arr	36.92	265	P	P	18 59 41.0 +0.5
MJAR	Matsushiro Arr 1.5nm,0.7s,baz=46,slow=7.0,SNR=15	36.92	265	P	P	18 59 41.0 +0.5
BSMT	Bassoo Peak	37.35	72	*e*P	P	18 59 43.9 -0.3
WVOR	Wild Horse Val 3.3nm,0.9s	37.86	82	*e*P	P	18 59 50.2 +1.7
MSO	Missoula 11nm,1.5s	38.35	73	*e*P	P	18 59 52.8 +0.2
MSO	Missoula baz=38	38.35	73	P	P	18 59 53.2 +0.7
MFID	Camas Ranch baz=39	39.02	79	P	P	18 59 59.5 +1.2
SAO	San Andreas Ge 12nm,1.1s	39.52	91	*e*P	P	19 00 01.9 -0.3
HLID	Hailey 3.1nm,0.9s	39.80	78	*e*P	P	19 00 05.2 +0.4
HLID	Hailey baz=40,SNR=5.1	39.80	78	P	P	19 00 05.2 +0.4
E17A	Martinsdale baz=40	40.36	72	P	P	19 00 09.4 -0.1
NVAR	Mina Array Bea	40.42	87	P	P	19 00 08.7 -1.3
NVAR	Mina Array Bea 0.8nm,0.6s,baz=291,slow=7.6,SNR=5.2	40.42	87	P	P	19 00 08.7 -1.3
CN2	Changchun	40.46	283	*e*P	P	19 00 11.4 +1.4
C19A	Slack Wire Ran baz=41	40.76	69	P	P	19 00 13.0 +0.5
F17A	Fitzpatrick Pl baz=41	40.77	73	P	P	19 00 12.7 -0.1
I16A	Newdale baz=41	41.39	76	P	P	19 00 19.0 +1.0
IMW	Indian Meadow 2.8nm,0.8s	41.71	75	*e*P	P	19 00 20.7 0.0
FLWY	Flagg Ranch 6.5nm,0.9s	41.75	75	*e*P	P	19 00 20.7 -0.2
RRI2	Red Ridge 6.6nm,1.0s	41.79	76	*e*P	P	19 00 22.3 +1.0
R11A	Troy Canyon, C	42.15	85	*e*P	P	19 00 24.1 -0.1
R11A	Troy Canyon, C baz=42	42.15	85	P	P	19 00 25.0 +0.8
MPMC	Manual Prospec baz=42	42.42	89	P	P	19 00 27.7 +1.3
H19A	Powell baz=42	42.44	73	P	P	19 00 27.3 +0.9
I18A	Diamond G Ranc baz=42	42.49	75	P	P	19 00 28.5 +1.5
G20A	Bridger baz=42	42.59	72	P	P	19 00 28.0 +0.4
KSRS	Korea Array 0.6nm,0.7s,baz=56,slow=6.3,SNR=3.2	42.71	274	P	P	19 00 29.7 +1.2
DUG	Dugway 5.2nm,1.0s	42.72	81	*e*P	P	19 00 29.7 +0.9
DUG	Dugway baz=43,SNR=6.2	42.72	81	P	P	19 00 29.5 +0.7
KSAR	Wonju Array Be	42.74	274	P	P	19 00 29.7 +0.9
C23A	Lambert baz=43	42.95	67	P	P	19 00 31.2 +0.8
A24A	Westby baz=43	43.02	65	P	P	19 00 31.7 +0.7
PDAR	Pinedale Array	43.18	76	P	P	19 00 33.2 +0.6
PDAR	Pinedale Array 6.5nm,0.8s,baz=306,slow=4.2,SNR=53	43.18	76	P	P	19 00 33.2 +0.6
J19A	Crowheart baz=43	43.19	75	P	P	19 00 34.0 +1.3
E22A	Miles City baz=43	43.24	69	P	P	19 00 34.4 +1.6
M17A	Scullys Gap (B baz=43	43.27	78	P	P	19 00 34.1 +0.8
GSC	Goldstone 3.8nm,0.6s	43.33	89	P	P	19 00 34.9 +1.2
GSC	Goldstone baz=43	43.33	89	P	P	19 00 35.0 +1.2
L18A	Fontenelle, Gr baz=43	43.38	77	P	P	19 00 35.0 +0.8
DAU	Daniels Canyon 3.1nm,0.8s	43.54	80	*e*P	P	19 00 36.0 +0.3
K19A	Absolon Red Bu baz=43,SNR=8.4	43.57	75	P	P	19 00 35.6 0.0
JNU	Nakatsue	43.70	267	P	P	19 00 38.0 +1.4
JNU	Nakatsue 3.5nm,0.7s,baz=5.6,slow=3.7,SNR=3.7	43.70	267	P	P	19 00 38.0 +1.4
I21A	Big Trails, Te baz=44	43.93	73	P	P	19 00 38.7 +0.2
F23A	Volborg baz=44	43.95	70	P	P	19 00 38.7 +0.1
K20A	Yellowstone Ra baz=44	43.97	75	P	P	19 00 38.9 0.0
TMUT	Trail Mountain 20nm,1.2s	44.25	81	*e*P	P	19 00 40.9 -0.4
K21A	Alcova baz=44	44.64	75	P	P	19 00 43.7 -0.6
J22A	Midwest baz=44	44.64	73	P	P	19 00 44.5 +0.3
O19A	Miners Draw (B baz=45,SNR=7.8	44.91	78	P	P	19 00 47.3 +0.9
L21A	Rawlins baz=45	44.96	75	P	P	19 00 47.1 +0.2
P19A	Cripple Cowboy baz=45,SNR=5.3	45.40	79	P	P	19 00 50.8 +0.4
L23A	Garrett baz=46	45.87	74	P	P	19 00 53.9 -0.2
L25A	Engebretsen Ra	46.88	73	P	P	19 01 02.4 +0.6
	baz=47					
O23A	Lake Granby, G baz=47	46.90	76	P	P	19 01 03.0 +0.7
S20A	Disappointment baz=47	46.91	81	P	P	19 01 03.0 +0.7
D30A	Buchanan baz=47	46.96	65	P	P	19 01 02.4 +0.1
S21A	Coal Bank Pass baz=47	47.36	80	P	P	19 01 07.0 +1.1
AGMN	Agassiz Nation 8.0nm,0.9s	47.87	62	*e*P	P	19 01 05.7 -3.6
U21A	Nageezi baz=48	48.24	82	P	P	19 01 13.5 +0.9
P25A	Willow Gulch B baz=48	48.39	76	P	P	19 01 14.4 +0.7
SDCO	Great Sand Dun 2.8nm,1.1s	48.70	79	*e*P	P	19 01 16.7 +0.4
SONM	Songino Array comp=Z,64nm,18.2s,baz=320,slow=36	49.13	299	LR	LR	19 21 46.4
R25A	Fountain Ranch baz=49	49.18	77	P	P	19 01 20.5 +0.7
S25A	Robets Cordova baz=49	49.41	78	P	P	19 01 22.3 +0.7
JOW	Kunigami 7.5nm,1.2s	49.72	263	*e*P	P	19 01 23.6 -0.1
T25A	Trinidad baz=50,SNR=6.3	49.76	79	P	P	19 01 25.4 +1.2
ANMO	Albuquerque comp=Z,33nm,21.1s,baz=134,slow=31	49.95	82	LR	LR	19 18 14.9
R27A	Eads baz=50	49.99	76	P	P	19 01 27.2 +1.3
S26A	Kim baz=50	50.01	77	P	P	19 01 26.7 +0.6
T26A	Comanche Natio baz=50	50.23	78	P	P	19 01 28.1 +0.3
HHC	Hu-ho-hao-te	50.48	289	*e*P	P	19 01 28.8 -0.7
HHC				PcP	PcP	19 02 47.8 +0.4
HHC				PP	PP	19 03 25.3 +0.3
HHC				PcS	PcS	19 06 43.0 -1.7
HHC				S	S	19 08 42.0 +0.2
HHC				ScS	ScS	19 11 18.8 0.0
HHC				SS	SS	19 12 12.1 -3.2
HHC				pmax	pmax	
HHC	comp=Z,20nm,0.8s			pmax	pmax	
HHC	comp=Z,160nm,6.5s			LR	LR	
HHC	comp=N,150nm,17.6s			LR	LR	
HHC	comp=E,100nm,17.4s			LR	LR	
HHC	comp=Z,220nm,17.8s			LR	LR	
V25A	Rancho No Teng baz=50	50.48	80	P	P	19 01 30.4 +0.7
U26A	Atchley Ranch, baz=50	50.65	79	P	P	19 01 31.6 +0.7
Y23A	Lovelace Mesa, baz=51	50.87	83	P	P	19 01 33.7 +1.1
W25A	X Bar L Ranch, baz=51	50.99	80	P	P	19 01 34.5 +1.1
V26A	Tequesquite Ra baz=51	51.02	79	P	P	19 01 34.6 +0.9
Y27A	Causey baz=52,SNR=5.3	52.68	81	P	P	19 01 47.2 +1.2
Z27A	Tatum baz=53	53.03	81	P	P	19 01 49.6 +0.9
325A	Bean Ranch, Si baz=53	53.29	84	P	P	19 01 51.6 +0.9
526A	Mary Lane Ranc baz=55	54.74	85	P	P	19 02 01.4 +0.2
527A	Woodward Ranch baz=55	54.98	84	P	P	19 02 03.5 +0.5
626A	Big Bend Ranch baz=55	55.07	85	P	P	19 02 04.0 +0.4
428A	Kincaid Ranch, baz=55	55.14	83	P	P	19 02 04.8 +0.8
TXAR	Lajitas Array	55.51	85	P	P	19 02 07.1 +0.3
TXAR	Lajitas Array comp=Z,0.9nm,0.7s,baz=306,slow=4.3,SNR=8.4	55.51	85	P	P	19 02 07.1 +0.3
627A	Terlingua Ranc baz=56	55.60	85	P	P	19 02 07.5 +0.1
ZALV	Zalesovo Beam comp=Z,26nm,19.2s,baz=252,slow=40	55.84	316	LR	LR	19 29 35.6
628A	Black Gap, Mar baz=56	55.89	84	P	P	19 02 09.8 +0.4
430A	Baggett Ranch, baz=56	55.99	82	P	P	19 02 10.5 +0.4
530A	J-C Ranch, Com baz=56	56.37	83	P	P	19 02 13.0 +0.1
431A	Sonora baz=56	56.45	82	P	P	19 02 13.5 +0.2
ARCES	ARCESS Array B comp=Z,29nm,18.4s,baz=343,slow=38	58.01	352	LR	LR	19 29 06.0
WMQ	Urumqi	61.59	306	*e*P	P	19 02 52.0 +3.2
WMQ	comp=Z,3.0nm,0.9s			pmax	pmax	
WMQ	comp=Z,130nm,5.0s			pmax	pmax	
WMQ	comp=N,47nm,22.0s			LR	LR	
WMQ	comp=E,50nm,30.0s			LR	LR	
WMQ	comp=Z,22nm,19.0s			LR	LR	
CD2	Chengdu	61.86	285	*e*P	P	19 02 51.8 +1.0
CD2				pP	pP	19 02 56.4 -2.0
CD2	comp=Z,10.0nm,1.2s			pmax	pmax	
CD2	comp=Z,30nm,6.2s			pmax	pmax	
TKL	Tuckaleechee C comp=Z,43nm,18.6s,baz=256,slow=39	62.92	66	LR	LR	19 33 19.3
GYA	Guiyang	63.31	279	*e*P	P	19 03 01.0 +0.3
GYA	comp=Z,10.0nm,0.8s			pmax	pmax	
AFI	Afiamalu comp=Z,783nm,2.6s	65.60	178	*e*P	P	19 03 13.3 -2.1
KMI	Kunming	66.68	281	P	P	19 03 25.5 +2.8
KMI	comp=Z,4.0nm,1.4s			pmax	pmax	
MSVF	Nonsavu comp=Z,52nm,1.6s	69.74	188	*e*P	P	19 03 39.5 -2.1
CMAR	Chiang Mai Arr	74.00	280	P	P	19 04 05.8 -1.5
CMAR	Chiang Mai Arr comp=Z,0.5nm,0.8s,baz=26,slow=6.3,SNR=4.9	74.00	280	P	P	19 04 05.8 -1.5
KBZ	Khabaz comp=Z,27nm,18.4s,baz=29,slow=42	79.56	334	LR	LR	19 48 40.9
WRA	Warramunga Arr	84.63	228	P	P	19 05 05.7 +0.7
WRA	Warramunga Arr comp=Z,0.3nm,0.7s,baz=32,slow=5.5,SNR=2.6	84.63	228	P	P	19 05 05.7 +0.7
PSI	Prapat	86.11	270	P	P	19 05 13.0 +0.2
PSI	Prapat comp=Z,3.5nm,0.4s,baz=233,slow=5.2,SNR=5.1	86.11	270	P	P	19 05 13.0 +0.2
ASAR	Alice Springs	88.06	227	P	P	19 05 23.4 +1.6
ASAR	Alice Springs comp=Z,0.5nm,0.7s,baz=25,slow=4.3,SNR=6.6	88.06	227	P	P	19 05 23.4 +1.6

IDC 15 19:02:28.5±14.0, 17°86S×178°36W, h531km±140km, mb2.9/6, mb1 3.0/6, mb1mx2.8/20, mbtmp2.9/6, Error ellipse: s-maj=110.1km s-min=34.3km az=109.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 4.7nm,1.0s,baz=73,slow=11,SNR=2.9	38.69	241	P	P	19 09 06.8	0.0
WRA	Warramunga Arr 0.4nm,1.0s,baz=96,slow=8.7,SNR=4.6	44.69	259	P	P	19 09 53.3	-1.1
ASAR	Alice Springs 1.1nm,0.4s,baz=89,slow=8.0,SNR=58	44.85	254	P	P	19 09 54.9	-0.7
ASAR				PcP	PcP	19 11 25.0	-1.1
FITZ	Fitzroy Crossi 1.1nm,0.9s,baz=77,slow=14,SNR=4.2	53.08	260	P	P	19 10 58.0	+1.4
MJAR	Matsushiro Arr 0.5nm,0.8s,baz=137,slow=6.5,SNR=4.1	67.89	323	P	P	19 12 33.3	-0.8
PETK	Petropavlovsk- 1.0nm,0.8s,baz=134,slow=8.2,SNR=4.3	73.64	345	P	P	19 13 08.0	+0.4
GERES	GERESS Array B 0.4nm,0.4s,baz=18,slow=3.5,SNR=20	147.57	345	PKPbc	PKPbc	19 21 12.7	-0.5

*CSEM **15** 19:06:57.7±0.1, 35°98N×34°46E, h2km, Mw3.1, Error ellipse: s-maj=2.9km s-min=2.3km az=80.0*
*ISK **15** 19:06:57.2, 35°94N×34°43E, h13km, MD3.7*

*ISCJB **15** 19:06:58.1±0.6, 35°96N±0°02×34°39E±0°03, h15km±6km, Error ellipse: s-maj=3.8km s-min=2.8km az=7.2*
*NIC **15** 19:06:58.8±0.2, 35°87N×34°17E, h10km, ML3.6, MW3.1*
*DDA **15** 19:06:58.8, 36°01N×34°50E, h35km, MD3.2*

ISC 15 19:06:59.3±1.2, 35°96N±0°02×34°39E±0°02, h20km±4km, n101, σ1§39/127, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKL	Isikli	0.64	296	*e*PG	Pb	19 07 10.5	-1.2
IKL				*e*SG	Sb	19 07 20.4	+0.3
IKL	Isikli	0.64	296	*e*Pg	Pb	19 07 10.5	-1.2
IKL				*e*Sg	Sb	19 07 20.4	+0.3
LFK	Lefkose	0.98	226	*e*PG	Pb	19 07 17.1	-0.4
LFK	Lefkose	0.98	226	*e*Pg	Pb	19 07 17.1	-0.4
PHNC	Paralimni 13nm,0.5s	1.00	197	P	Pb	19 07 16.4	-1.5
PHNC				S	Sb	19 07 29.6	-1.0
PHNC	Paralimni 13nm,0.5s	1.00	197	P	Pb	19 07 16.4	-1.5
PHNC				S	Sb	19 07 29.6	-1.0
AKIN	Ak¨–nc¨–lar- K	1.21	219	*e*PN	Pn	19 07 19.7	-1.4
MAMC	Mammari	1.24	231	P	Pn	19 07 18.6	-2.9
MAMC	Mammari	1.24	231	P	Pn	19 07 18.6	-2.9
CSS	Prodhromos 3.2nm,0.5s	1.32	221	P	Pn	19 07 19.8	-2.9
CSS				S	Sn	19 07 36.2	-3.5
CSS	Prodhromos	1.32	221	*e*PN	Pn	19 07 22.0	-0.7
CSS	Prodhromos 3.2nm,0.5s	1.32	221	P	Pn	19 07 19.8	-2.9
CSS	Prodhromos	1.32	221	Pg	Pn	19 07 20.6	-2.1
CSS	Prodhromos	1.32	221	*e*Pn	Pn	19 07 22.0	-0.7
YURE	YUREGIR	1.32	49	*i* P	Pn	19 07 20.8	-1.9
YURE				*i* S	Sg	19 07 43.3	+1.1
YURE	YUREGIR	1.32	49	*i* P	Pn	19 07 20.8	-1.9
GULE	Gulek	1.36	13	*i* P	Pn	19 07 22.0	-1.3
GULE				*i* S	Sg	19 07 42.3	-1.0
GULE	Gulek	1.36	13	*i* P	Pn	19 07 22.0	-1.3
GULE				*i* S	Sg	19 07 42.3	-1.0
ERMK	Ermenek	1.37	300	*i* P	Pg	19 07 25.5	-0.4
ERMK				*i* S	Sg	19 07 45.5	+1.6
ERMK	Ermenek	1.37	300	*i* P	Pg	19 07 25.5	-0.4
ERMK				*i* S	Sg	19 07 45.5	+1.6
YAYL	Yayladag	1.39	86	*i* P	Pn	19 07 22.5	-1.3
YAYL				*i* S	Sg	19 07 42.8	-1.7
YAYL	Yayladag	1.39	86	*i* P	Pn	19 07 22.5	-1.3
YAYL				*i* S	Sg	19 07 42.8	-1.7
KARA	Karaisali	1.40	22	*e*PN	Pn	19 07 22.4	-1.4
KARA	Karaisali	1.40	22	*e*Pn	Pn	19 07 22.4	-1.4
HTY	Hatay	1.43	83	*e*PN	Pn	19 07 23.1	-0.9
HTY	Hatay	1.43	83	*e*Pn	Pn	19 07 23.1	-0.9
LEF	Lefka	1.48	236	*e*PN	Pn	19 07 24.1	-0.8
LEF	Lefka	1.48	236	*e*Pn	Pn	19 07 24.1	-0.8
CEYT	Ceyhan	1.51	46	*e*PN	Pn	19 07 24.2	-1.1
CEYT	Ceyhan	1.51	46	*e*Pn	Pn	19 07 24.2	-1.1
COBT	Iskenderun	1.61	69	*i* P	Pn	19 07 26.1	-0.7
COBT	Iskenderun	1.61	69	*i* P	Pn	19 07 26.1	-0.7
ALFC	Alevga 8.8nm,0.2s	1.67	242	P	Pn	19 07 24.9	-2.5
ALFC				S	Sn	19 07 44.9	-3.4
ALFC	Alevga 8.8nm,0.2s	1.67	242	P	Pn	19 07 24.9	-2.5
GAZI	Gazipasa	1.70	280	*i* P	Pb	19 07 29.3	-0.6
GAZI				*i* S	Sg	19 07 53.9	-0.4
GAZI	Gazipasa	1.70	280	*i* P	Pb	19 07 29.3	-0.6
GAZI				*i* S	Sg	19 07 53.9	-0.4
KOZT	Kozan	1.91	37	*e*PN	Pn	19 07 30.3	-0.4
KOZT	Kozan	1.91	37	*e*Pn	Pn	19 07 30.3	-0.4
AKMC	Akamas	1.92	242	P	Pn	19 07 28.8	-2.1
AKMC	Akamas	1.92	242	P	Pn	19 07 28.8	-2.1
PPCY	Paphos	1.99	238	P	Pn	19 07 29.8	-2.0
PPCY	Paphos	1.99	238	P	Pn	19 07 29.8	-2.0
HWQ	Hawqa	2.11	142	*e*P	Pn	19 07 34.2	+0.6
HWQ	Hawqa	2.11	142	*e*P	Pn	19 07 34.2	+0.6
NIG	Nigde	2.15	5	*e*PN	Pn	19 07 34.7	+0.4
NIG	Nigde	2.15	5	*e*Pn	Pn	19 07 34.7	+0.4
BHL	Bhannes	2.30	153	*e*P	Pn	19 07 36.5	+0.3
BHL	Bhannes	2.30	153	*e*P	Pn	19 07 36.5	+0.3
KUZU	Kuzuini	2.31	69	*i* P	Pn	19 07 36.0	-0.4
KUZU				*i* S	Sn	19 08 04.0	-0.3
KUZU	Kuzuini	2.31	69	*i* P	Pn	19 07 36.0	-0.4
KUZU				*i* S	Sn	19 08 04.0	-0.3
SULT	Sultanhani-AKS	2.34	343	*e*PN	Pn	19 07 37.0	+0.2
SULT	Sultanhani-AKS	2.34	343	*e*Pn	Pn	19 07 37.0	+0.2
AYKD	Aykdinkavak	2.42	53	*i* P	Pn	19 07 37.2	-0.6
AYKD				*i* S	Sn	19 08 04.6	-2.3
KMRS	Kahramanmaras	2.54	52	*e*PN	Pn	19 07 39.2	-0.2
KMRS	Kahramanmaras	2.54	52	*e*Pn	Pn	19 07 39.2	-0.2
KONT	Konya--Tatoy	2.56	321	*e*PN	Pn	19 07 40.5	+0.7
KONT	Konya--Tatoy	2.56	321	*e*Pn	Pn	19 07 40.5	+0.7
RCY	Rachaya	2.73	154	*e*P	Pn	19 07 42.7	+0.5
RCY	Rachaya	2.73	154	*e*P	Pn	19 07 42.7	+0.5
LADK	Ladik-KONYA	2.76	325	*e*PN	Pn	19 07 43.2	+0.6
LADK	Ladik-KONYA	2.76	325	*e*Pn	Pn	19 07 43.2	+0.6
KSDI	Kefar Szold	2.95	159	Pn	Pn	19 07 45.6	+0.5
KSDI				Sn	Sn	19 08 21.2	+1.2
MMC7	Mount Meron ar	3.05	164	Pn	Pn	19 07 46.7	+0.3
MMA0	Mount Meron ar	3.06	164	Pn	Pn	19 07 47.0	+0.4
MMA0				Sn	Sn	19 08 24.6	+2.0
BNN	Bunyan	3.11	21	*e*PN	Pn	19 07 47.7	+0.3
BNN	Bunyan	3.11	21	*e*Pn	Pn	19 07 47.7	+0.3
SUTC	Sutluce-Ispart	3.12	300	*e*PN	Pn	19 07 49.0	+1.5
SUTC	Sutluce-Ispart	3.12	300	*e*Pn	Pn	19 07 49.0	+1.5
OFRI	'Ofer	3.37	171	Pn	Pn	19 07 51.5	+0.7
BCK	Bucak	3.40	297	*e*PN	Pn	19 07 51.9	+0.6
BCK	Bucak	3.40	297	*e*Pn	Pn	19 07 51.9	+0.6
KAMT	Kaman	3.44	351	*e*PN	Pn	19 07 53.2	+1.2
KAMT	Kaman	3.44	351	Pn	Pn	19 07 53.2	+1.2
KIZT	Kizilcal	3.53	326	*e*PN	Pn	19 07 54.2	+1.0
KIZT	Kizilcal	3.53	326	*e*Pn	Pn	19 07 54.2	+1.0
DARE	Darende-Malaty	3.59	43	*e*PN	Pn	19 07 54.6	+0.7
MMLI	Mount Malkishu	3.62	166	Pn	Pn	19 07 55.3	+1.0
MMLI				Sn	Sn	19 08 38.0	+1.6
AFSR	Af¨ar-Bala (A	3.63	344	*e*PN	Pn	19 07 55.6	+1.0
AFSR	Af¨ar-Bala (A	3.63	344	*e*Pn	Pn	19 07 55.6	+1.0
ELL	Elmali	3.70	284	*e*PN	Pn	19 07 56.2	+0.7
ELL	Elmali	3.70	284	*e*Pn	Pn	19 07 56.2	+0.7
SLTI	Sal'it	3.75	172	Pn	Pn	19 07 57.3	+1.2
SLTI				Sn	Sn	19 08 41.9	+2.3
HMDT	Nahal Hemdat	3.82	165	Pn	Pn	19 07 58.4	+1.4
HMDT				Sn	Sn	19 08 43.7	+2.4
MYA	Malataya	4.00	53	*e*PN	Pn	19 08 00.3	+0.8
MYA	Malataya	4.00	53	*e*Pn	Pn	19 08 00.3	+0.8
SHUT	Suhut-Afyon	4.01	311	*e*PN	Pn	19 08 00.8	+1.1
SHUT	Suhut-Afyon	4.01	311	*e*Pn	Pn	19 08 00.8	+1.1
CORM	Corum	4.21	2	*e*PN	Pn	19 08 03.8	+1.2
CORM	Corum	4.21	2	*e*Pn	Pn	19 08 03.8	+1.2
FETY	Fethiye	4.34	280	*e*PN	Pn	19 08 05.5	+1.3
FETY	Fethiye	4.34	280	*e*Pn	Pn	19 08 05.5	+1.3
SVSK	Karacayir	4.46	27	*e*PN	Pn	19 08 07.1	+1.4
SVSK	Karacayir	4.46	27	*e*Pn	Pn	19 08 07.1	+1.4
DSI	Dead Sea	4.46	169	Pn	Pn	19 08 06.7	+0.9
DSI				Sn	Sn	19 08 59.2	+2.1
KHL	Karahalli	4.55	303	*e*PN	Pn	19

1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.43**	**357**	*e*P	Pn	19 23 20.3	-0.2
OCLP				*e*S	Sb	19 23 25.0	-0.6
MSLP	**Maasin**	**0.53**	**155**	*e*P	Pn	19 23 22.1	+0.3
MSLP				*e*S	Sn	19 23 29.4	-0.4
PLP	**Palo**	**0.65**	**32**	*e*P	Pb	19 23 20.1	-2.7
PLP				*e*S	Sb	19 23 27.8	-3.6

MEX 15 19:33:15.9±0.9, 15°.33N×94°.77W, h18km±103km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.36**	**289**	*e*P	Pn	19 33 37.2	-2.9
HUIG				*i* S	Sn	19 33 52.2	-5.5
PCIG		**1.54**	**76**	*e*P	Pn	19 33 39.4	-3.1
PCIG				*e*S	Sn	19 33 57.0	-5.0
CMIG	**Matias Romero**	**1.76**	**356**	*e*P	Pn	19 33 42.3	-3.2
CMIG				*i* S	Sn	19 34 03.2	-4.3
UTMO	**Huajuapan**	**3.83**	**311**	*i* P	Pn	19 34 12.8	-1.6
UTMO				*i* S	Sn	19 34 55.5	-3.6

IDC 15 19:35:58.9±1.1, 51°.44S×139°.13E, h0km, mb3.9/6, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, ML3.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/23, Error ellipse: s-maj=82.3km s-min=19.0km az=85.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.63**	**6**	P	P	19 40 29.5	+0.6
	0.1nm,0.3s,baz=156,slow=7.8,SNR=3.6						
STKA				LR	LR	19 46 46.6	
	comp=Z,244nm,20.6s,baz=317,slow=33						
RPZ	**Rata Peaks**	**22.74**	**83**	LR	LR	19 48 08.0	
	comp=Z,196nm,18.1s,baz=129,slow=32						
NWAO	**Narrogin (SRO)**	**24.44**	**311**	LR	LR	19 48 09.9	
	comp=Z,132nm,19.0s,baz=227,slow=30						
VNDA	**Vanda**	**27.53**	**170**	P	P	19 41 47.5	+0.8
	1.3nm,1.1s,baz=325,slow=9.5,SNR=3.8						
VNDA				LR	LR	19 50 52.4	
	comp=Z,126nm,21.7s,baz=343,slow=32						
ASAR	**Alice Springs**	**28.02**	**350**	P	P	19 41 51.5	0.0
	2.0nm,1.0s,baz=170,slow=8.9,SNR=6.7						
ASAR				LR	LR	19 52 02.6	
	comp=Z,187nm,18.3s,baz=200,slow=34						
WRA	**Warramunga Arr**	**31.66**	**351**	P	P	19 42 23.5	-0.3
	3.2nm,1.0s,baz=172,slow=7.4,SNR=12						
FITZ	**Fitzroy Crossi**	**34.94**	**337**	LR	LR	19 54 27.7	
	comp=Z,109nm,21.6s,baz=90,slow=32						
QSPA	**South Pole Qui**	**38.68**	**180**	P	P	19 43 23.9	-0.2
	3.4nm,1.1s,baz=320,slow=4.3,SNR=5.7						
MAW	**Mawson**	**38.98**	**216**	LR	LR	19 57 38.8	
	comp=Z,85nm,20.5s,baz=280,slow=33						
PMG	**Port Moresby**	**42.42**	**12**	LR	LR	19 59 37.3	
	comp=Z,112nm,20.1s,baz=352,slow=33						
CMAR	**Chiang Mai Arr**	**77.97**	**321**	P	P	19 48 00.2	+1.4
	0.3nm,0.8s,baz=181,slow=3.8,SNR=4.1						
LBTB	**Lobatse**	**84.19**	**237**	LR	LR	20 19 50.7	
	comp=Z,113nm,21.0s,baz=330,slow=31						
KSRS	**Korea Array**	**89.06**	**351**	P	P	19 48 55.2	-0.1
	0.3nm,0.4s,baz=180,slow=3.3,SNR=3.9						
ARCES	**ARCESS Array B**	**144.91**	**326**	PKP	PKPab	19 55 34.0	-1.6
	4.6nm,1.0s,baz=28,slow=5.5,SNR=5.8						
GERES	**GERESS Array B**	**145.60**	**288**	PKPbc	PKPdf	19 55 37.5	-0.8
	1.7nm,1.0s,baz=134,slow=3.9,SNR=14						
ESDC	**Sonseca Array**	**151.91**	**260**	PKPbc	PKPbc	19 55 54.3	-0.9
	0.1nm,0.3s,baz=35,slow=1.4,SNR=5.3						

SKHL 15 19:36:11.2±1.1, 54°.20N×122°.42E, h10km, mb3.6/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.46**	**280**	*e*Pg	Pn	19 36 37.3	-0.4
TUP				AMB	AMB	19 36 41.4	
	20nm,0.2s						
TUP				*e*Sg	Sb	19 36 57.5	+0.2
TUP				A	A	19 36 59.0	
	508nm,0.2s						
TNDR	**Tynda**	**1.64**	**54**	*e*Pg	Pb	19 36 41.8	+0.2
TNDR				*e*Sg	Sg	19 37 03.7	-0.3
YKLR	**Yuktali**	**2.44**	**350**	*e*Sg	Sb	19 37 25.2	0.0
KROS	**Kirovskiy**	**2.68**	**83**	*e*Pn	Pn	19 36 52.3	-2.0
KROS				*e*Pg	Pb	19 36 59.2	0.0
KROS				AMB	AMB	19 37 03.4	
	7.0nm,0.4s						
KROS				AMB	AMB	19 37 03.4	
	11nm,0.4s						
KROS				*e*Sg	Sb	19 37 33.8	+1.7
KROS				A	A	19 37 38.2	
	110nm,0.5s						
KROS				A	A	19 37 38.2	
	60nm,0.5s						
KROS				A	A	19 37 38.2	
	45nm,0.5s						
ZEA	**Zeya**	**2.89**	**97**	*e*Pg	Pg	19 37 05.0	-1.6
ZEA				*e*Sg	Sg	19 37 42.0	-2.0
ZEA				A	A	19 37 44.3	
	60nm,0.7s						
KHN	**Khani**	**3.11**	**332**	*e*Sg	Sb	19 37 45.7	+1.1
CRS	**Chara**	**3.59**	**321**	*e*Sg	Sg	19 38 03.1	-3.4
BMKR	**Bomnak**	**3.78**	**80**	*e*Pg	Pb	19 37 19.3	+1.3
BMKR				AMB	AMB	19 37 21.9	
	4.0nm,0.4s						
BMKR				*e*Sg	Sg	19 38 08.7	-4.0
BMKR				A	A	19 38 11.4	
	18nm,0.4s						
BMKR				A	A	19 38 11.4	
	43nm,0.4s						
BMKR				A	A	19 38 11.4	
	35nm,0.4s						
BOD	**Bodaibo**	**5.95**	**311**	*e*Sg	Sg	19 39 16.0	-6.1
EKMR	**Ekimchan**	**6.37**	**96**	*e*Sg	Sg	19 39 30.5	-5.0
EKMR				A	A	19 39 41.5	
	8.0nm,0.5s						
EKMR				A	A	19 39 41.5	
	4.0nm,0.5s						
EKMR				A	A	19 39 41.5	
	5.0nm,0.5s						

IDC 15 19:50:16.9±3.2, 3°.27S×151°.77E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=114.1km s-min=44.7km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.62**	**217**	Sn	Sn	19 53 39.3	+2.8
	2.5nm,0.3s,baz=155,slow=14,SNR=5.7						
WRA	**Warramunga Arr**	**23.74**	**224**	P	P	19 55 30.8	-0.3
	1.0nm,0.4s,baz=50,slow=9.9,SNR=43						
ASAR	**Alice Springs**	**26.63**	**219**	P	P	19 55 58.1	+0.7
	0.3nm,0.5s,baz=50,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**29.53**	**238**	P	P	19 56 23.6	+0.2
	0.9nm,0.7s,baz=45,slow=1.4,SNR=15						
TORD	**Torodi Ar. Bea**	**148.84**	**290**	PKPbc	PKPbc	20 10 06.4	-1.2
	0.1nm,0.5s,baz=54,slow=2.9,SNR=2.5						

IDC 15 19:54:23.8±3.6, 31°.55S×138°.76E, h0km, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, ML3.2/5, Error ellipse: s-maj=62.4km s-min=15.0km az=27.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.44**	**98**	Pn	Pn	19 55 05.0	+0.1
	1.0nm,0.3s,baz=281,slow=13,SNR=32						
STKA				Pg	Pg	19 55 10.1	-0.4
	9.5nm,0.3s,baz=281,slow=16,SNR=50						
STKA				Lg	Lg	19 55 39.2	
	20nm,0.3s,baz=314,slow=17,SNR=15						
ASAR	**Alice Springs**	**8.96**	**330**	Pn	Pn	19 56 36.4	+1.9
	0.2nm,0.3s,baz=150,slow=12,SNR=17						
ASAR				Sn	Sn	19 58 14.6	-1.6
	0.6nm,0.3s,baz=156,slow=22,SNR=7.6						
WRA	**Warramunga Arr**	**12.23**	**340**	Pn	Pn	19 57 19.5	+0.2
	0.3nm,0.3s,baz=168,slow=12,SNR=7.6						
WRA				Sn	Sn	19 59 31.7	-4.7
	0.2nm,0.3s,baz=161,slow=24,SNR=6.6						
CTA	**Charters Tower**	**13.26**	**32**	Pn	Pn	19 57 32.7	-0.6
	0.2nm,0.3s,baz=225,slow=8.6,SNR=2.8						
FITZ	**Fitzroy Crossi**	**17.90**	**315**	P	Pn	19 58 32.7	-1.5
	0.1nm,0.3s,baz=150,slow=7.4,SNR=3.6						

*ISCJB **15** 20:04:49.0±0.2, 43°.78N±0°.02×105°.34W±0°.02, h0km, mb3.9/5, Error ellipse: s-maj=2.2km s-min=2.2km az=14.6*
*NEIC **15** 20:04:49.9±0.3, 43°.78N×105°.26W, h0km, ML3.5, Error ellipse: s-maj=4.2km s-min=3.8km az=139.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **15** 20:04:49.4±1.8, 43°.77N×105°.53W, h0km, mb3.8/5, mb1 3.9/9, mb1mx3.6/30, mbtmp3.7/9, ML3.4/4, MS2.8/3, Ms1 2.8/3, ms1mx2.3/47, Error ellipse: s-maj=50.2km s-min=8.3km az=148.0*

ISC 15 20:04:49.5±0.5, 43°.78N±0°.02×105°.32W±0°.02, h0km, n144, σ0.83/163, mb3.9/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.20**	**330**	P	**Pg**	**20 04 52.2**	**-1.2**
	baz=0.2,SNR=408						
I23A	**Meade Ranch, G**	**0.20**	**330**	P	**Pg**	**20 04 52.2**	**-1.2**
	baz=0.2,SNR=408						
J23A	**Dilts Ranch, B**	**0.41**	**204**	P	**Pg**	**20 04 57.7**	**+0.3**
	baz=0.4,SNR=214						
J23A	**Dilts Ranch, B**	**0.41**	**204**	P	**Pg**	**20 04 57.7**	**+0.3**
	baz=0.4,SNR=214						
I24A	**Kuemmerle Ranc**	**0.51**	**81**	P	**Pg**	**20 04 59.9**	**+0.7**
	baz=0.5,SNR=249						
I24A				S	**Sb**	**20 05 08.5**	**-0.9**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.51**	**81**	P	**Pg**	**20 04 59.9**	**+0.7**
	baz=0.5,SNR=249						
I24A				S	**Sb**	**20 05 08.5**	**-0.9**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.66**	**133**	P	**Pg**	**20 05 02.3**	**+0.2**
	baz=0.6,SNR=146						
J24A				S	**Sg**	**20 05 11.3**	**+0.7**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.66**	**133**	P	**Pg**	**20 05 02.3**	**+0.2**
	baz=0.6,SNR=146						
J24A				S	**Sg**	**20 05 11.3**	**+0.7**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.78**	**356**	P	**Pb**	**20 05 05.4**	**-0.6**
	baz=0.8,SNR=39						
H23A				S	**Sb**	**20 05 16.4**	**-0.9**
	baz=0.8						
H23A	**Clabaugh Cattl**	**0.78**	**356**	P	**Pb**	**20 05 05.4**	**-0.6**
	baz=0.8,SNR=39						
H23A				S	**Sb**	**20 05 16.4**	**-0.9**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.85**	**278**	P	**Pg**	**20 05 06.3**	**+0.6**
	baz=0.9,SNR=290						
I22A	**9 Mile Ranch,**	**0.85**	**278**	P	**Pg**	**20 05 06.3**	**+0.6**
	baz=0.9,SNR=290						
J22A	**Midwest**	**0.92**	**247**	P	**Pg**	**20 05 06.7**	**-0.3**
	baz=1.0,SNR=218						
J22A	**Midwest**	**0.92**	**247**	P	**Pg**	**20 05 06.7**	**-0.3**
	baz=1.0,SNR=218						
RSSD	**Black Hills**	**0.99**	**70**	*e*Pg	**Pg**	**20 05 08.3**	**-0.2**
K23A	**Bowen Ranch, D**	**1.05**	**192**	P	**Pg**	**20 05 09.1**	**-0.5**
	baz=1.1						
K23A	**Bowen Ranch, D**	**1.05**	**192**	P	**Pg**	**20 05 09.1**	**-0.5**
	baz=1.1						
H22A	**Clearmont**	**1.10**	**318**	P	**Pb**	**20 05 11.4**	**0.0**
	baz=1.1						
H22A	**Clearmont**	**1.10**	**318**	P	**Pb**	**20 05 11.4**	**0.0**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.11**	**30**	P	**Pb**	**20 05 11.3**	**-0.4**
	baz=1.1,SNR=12						
H24A				S	**Sb**	**20 05 26.7**	**0.0**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.11**	**30**	P	**Pb**	**20 05 11.3**	**-0.4**
	baz=1.1,SNR=12						
H24A				S	**Sb**	**20 05 26.7**	**0.0**
	baz=1.1						
K24A	**Anderson Ranch**	**1.12**	**161**	P	**Pg**	**20 05 10.9**	**0.0**
	baz=1.1,SNR=17						
K24A				S	**Sg**	**20 05 25.8**	**+0.3**
	baz=1.1						
K24A	**Anderson Ranch**	**1.12**	**161**	P	**Pg**	**20 05 10.9**	**0.0**
	baz=1.1,SNR=17						
K24A				S	**Sg**	**20 05 25.8**	**+0.3**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.17**	**109**	P	**Pb**	**20 05 12.1**	**-0.6**
	baz=1.1,SNR=423						
J25A	**Sunshine Ranch**	**1.17**	**109**	P	**Pb**	**20 05 12.1**	**-0.6**
	baz=1.1,SNR=423						
I25A	**Rochford**	**1.17**	**78**	P	**Pg**	**20 05 11.9**	**-0.1**
	baz=1.1,SNR=264						
I25A	**Rochford**	**1.17**	**78**	P	**Pg**	**20 05 11.9**	**-0.1**
	baz=1.1,SNR=264						
G23A	**Biddle**	**1.42**	**358**	P	**Pb**	**20 05 16.8**	**-0.1**
	baz=1.4						
G23A	**Biddle**	**1.42**	**358**	P	**Pb**	**20 05 16.8**	**-0.1**
	baz=1.4						
I21A	**Big Trails, Te**	**1.43**	**272**	P	**Pn**	**20 05 15.9**	**-0.9**
	baz=1.5						
I21A				S	**Sg**	**20 05 35.7**	**+0.4**
	baz=1.5						
I21A	**Big Trails, Te**	**1.43**	**272**	P	**Pn**	**20 05 15.9**	**-0.9**
	baz=1.5						
I21A				S	**Sg**	**20 05 35.7**	**+0.4**
	baz=1.5						
K22A	**Casper**	**1.43**	**218**	P	**Pn**	**20 05 15.9**	**-1.0**
	baz=1.5,SNR=281						
K22A				S	**Sg**	**20 05 36.5**	**+1.1**
	baz=1.5						
K22A	**Casper**	**1.43**	**218**	P	**Pn**	**20 05 15.9**	**-1.0**
	baz=1.5,SNR=281						
K22A				S	**Sg**	**20 05 36.5**	**+1.1**
	baz=1.5						
H25A	**Fruitdale**	**1.50**	**55**	Pb	**Pb**	**20 05 18.3**	**+0.1**
	baz=1.5						
H25A	**Fruitdale**	**1.50**	**55**	Pb	**Pb**	**20 05 18.3**	**+0.1**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.50**	**305**	Pb	**Pn**	**20 05 18.1**	**+0.3**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.50**	**305**	Pb	**Pn**	**20 05 18.1**	**+0.3**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.58**	**137**	Pb	**Pn**	**20 05 19.1**	**+0.2**
	baz=1.5,SNR=105						
K25A	**Mack Ranch, Ha**	**1.58**	**137**	Pb	**Pn**	**20 05 19.1**	**+0.2**
	baz=1.5,SNR=105						
G22A	**Birney**	**1.59**	**335**	Pb	**Pg**	**20 05 20.1**	**+0.1**
	baz=1.6,SNR=7.6						
G22A	**Birney**	**1.59**	**335**	Pb	**Pg**	**20 05 20.1**	**+0.1**
	baz=1.6,SNR=7.6						
J21A	**Lysite**	**1.60**	**255**	Pb	**Pn**	**20 05 18.7**	**-0.6**
	baz=1.6,SNR=42						
J21A				Sb	**Sn**	**20 05 41.2**	**+0.4**
	baz=1.6						
J21A	**Lysite**	**1.60**	**255**	Pb	**Pn**	**20 05 18.7**	**-0.6**
	baz=1.6,SNR=42						
J21A				Sb	**Sn**	**20 05 41.2**	**+0.4**
	baz=1.6						
G24A	**Alzada**	**1.68**	**22**	Pb	**Pg**	**20 05 21.3**	**-0.2**
	baz=1.7,SNR=38						
G24A	**Alzada**	**1.68**	**22**	Pb	**Pg**	**20 05 21.3**	**-0.2**
	baz=1.7,SNR=38						
L23A	**Garrett**	**1.69**	**190**	Pn	**Pn**	**20 05 19.9**	**-0.5**
	baz=1.7,SNR=281						
L23A				Sb	**Sn**	**20 05 43.2**	**+0.3**
	baz=1.7						
L23A	**Garrett**	**1.69**	**190**	Pn	**Pn**	**20 05 19.9**	**-0.5**
	baz=1.7,SNR=281						
L23A				Sb	**Sn**	**20 05 43.2**	**+0.3**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.70**	**105**	Pb	**Pb**	**20 05 20.9**	**-0.7**
	baz=1.6,SNR=22						
J26A				S	**Sg**	**20 05 44.4**	**+0.3**
	baz=1.6						
J26A	**Sides Ranch, S**	**1.70**	**105**	Pb	**Pb**	**20 05 20.9**	**-0.7**
	baz=1.6,SNR=22						
J26A				S	**Sg**	**20 05 44.4**	**+0.3**
	baz=1.6						
L24A	**Wheatland**	**1.76**	**171**	Pb	**Pn**	**20 05 21.3**	**-0.1**
	baz=1.8						
L24A				Sb	**Sb**	**20 05 45.3**	**-0.1**
	baz=1.8						
L24A	**Wheatland**	**1.76**	**171**	Pb	**Pn**	**20 05 21.3**	**-0.1**
	baz=1.8						
L24A				Sb	**Sb**	**20 05 45.3**	**-0.1**
	baz=1.8						
I26A	**New Underwood**	**1.80**	**81**	Pb	**Pb**	**20 05 23.1**	**-0.2**
	baz=1.7,SNR=24						
I26A	**New Underwood**	**1.80**	**81**	Pb	**Pb**	**20 05 23.1**	**-0.2**
	baz=1.7,SNR=24						
K21A	**Alcova**	**1.82**	**231**	Pb	**Pn**	**20 05 22.7**	**+0.5**
	baz=1.9,SNR=38						
K21A	**Alcova**	**1.82**	**231**	Pb	**Pn**	**20 05 22.7**	**+0.5**
	baz=1.9,SNR=38						
K26A	**Motz Farm, Whi**	**1.90**	**124**	Pb	**Pb**	**20 05 24.6**	**-0.5**
	baz=1.9,SNR=6.2						
K26A	**Motz Farm, Whi**	**1.90**	**124**	Pb	**Pb**	**20 05 24.6**	**-0.5**
	baz=1.9,SNR=6.2						
L25A	**Engebretsen Ra**	**1.91**	**148**	Pb	**Pb**	**20 05 24.4**	**-0.8**
	baz=1.9,SNR=248						
L25A	**Engebretsen Ra**	**1.91**	**148**	Pb	**Pb**	**20 05 24.4**	**-0.8**
	baz=1.9,SNR=248						
L22A	**Ellis Ranch, M**	**1.93**	**205**	Pb	**Pn**	**20 05 24.6**	**+0.8**
	baz=2.0,SNR=109						
L22A				Sb	**Sb**	**20 05 50.6**	**+0.2**
	baz=2.0						
L22A	**Ellis Ranch, M**	**1.93**	**205**	Pb	**Pn**	**20 05 24.6**	**+0.8**
	baz=2.0,SNR=109						
L22A				Sb	**Sb**	**20 05 50.6**	**+0.2**
	baz=2.0						
G25A	**Newell**	**1.96**	**43**	Pb	**Pb**	**20 05 26.2**	**+0.1**
	baz=1.9,SNR=37						
G25A	**Newell**	**1.96**	**43**	Pb	**Pb**	**20 05 26.2**	**+0.1**
	baz=1.9,SNR=37						
G21A	**Lodge Grass**	**1.97**	**318**	Pb	**Pb**	**20 05 26.0**	**-0.4**
	baz=2.0,SNR=9.1						
G21A	**Lodge Grass**	**1.97**	**318**	Pb	**Pb**	**20 05 26.0**	**-0.4**
	baz=2.0,SNR=9.1						
H26A	**Fairpoint**	**2.01**	**65**	Pb	**Pb**	**20 05 27.1**	**+0.2**
	baz=2.0						
H26A	**Fairpoint**	**2.01**	**65**	Pb	**Pb**	**20 05 27.1**	**+0.2**
	baz=2.0						
I20A	**Worland**	**2.04**	**276**	Pb	**Pn**	**20 05 26.6**	**+1.5**
	baz=2.1,SNR=386						
I20A				Sb	**Sb**	**20 05 53.9**	**+0.6**
	baz=2.1						
I20A	**Worland**	**2.04**	**276**	Pb	**Pn**	**20 05 26.6**	**+1.5**
	baz=2.1,SNR=386						
I20A				Sb	**Sb**	**20 05 53.9**	**+0.6**
	baz=2.1						
F24A	**Ekalaka**	**2.15**	**17**	Pb	**Pb**	**20 05 29.6**	**+0.2**
	baz=2.1						
F24A	**Ekalaka**	**2.15**	**17**	Pb	**Pb**	**20 05 29.6**	**+0.2**
	baz=2.1						
M23A	**Laramie**	**2.33**	**187**	Pb	**Pb**	**20 05 31.5**	**-1.1**
	baz=2.3						
M23A				Sb	**Sb**	**20 06 02.2**	**+0.3**
	baz=2.3						
M23A	**Laramie**	**2.33**	**187**	Pb	**Pb**	**20 05 31.5**	**-1.1**
	baz=2.3						
M23A				Sb	**Sb**	**20 06 02.2**	**+0.3**
	baz=2.3						
L26A	**Underwood Farm**	**2.40**	**136**	Pb	**Pb**	**20 05 32.9**	**-0.7**
	baz=2.4,SNR=10						
L26A	**Underwood Farm**	**2.40**	**136**	Pb	**Pb**	**20 05 32.9**	**-0.7**
	baz=2.4,SNR=10						
PHWY	**Pilot Hill**	**2.48**	**182**	*e*Pn	**Pn**	**20 05 31.1**	**-0.3**
RWWY	**Rawlins**	**2.51**	**214**	*e*Pn	**Pn**	**20 05 33.1**	**+1.3**
RLMT	**Red Lodge**	**3.13**	**297**	*e*Pn	**Pn**	**20 05 41.1**	**+0.9**
BW06	**Boulder Array**	**3.26**	**253**	*e*Pn	**Pn**	**20 05 42.8**	**+0.8**
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**20 05 42.9**	**+0.9**
PDAR				Lg	Lg	20 06 25.7	
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**20 05 42.9**	**+0.9**
	5.3nm,0.3s,baz=69,slow=15,SNR=123						
PDAR				Lg	Lg	20 06 25.7	
	11nm,0.3s,baz=70,slow=26,SNR=9.5						
GCMT	**Greycliff**	**3.69**	**304**	*e*Pn	**Pn**	**20 05 48.0**	**+0.1**
LKWY	**Lake**	**3.74**	**284**	*e*Pn	**Pn**	**20 05 50.7**	**+2.1**
OGNE	**Ogallala**	**3.74**	**138**	*e*Pn	Pb	20 05 52.9	-3.5
H17A	**Grant Village**	**3.83**	**281**	*e*Pn	**Pn**	**20 05 52.0**	**+2.1**
LOHW	**Long Hollow**	**3.83**	**269**	*e*Pn	**Pn**	**20 05 51.5**	**+1.5**
FLWY	**Flagg Ranch**	**3.90**	**276**	*e*Pn	**Pn**	**20 05 51.1**	**+0.3**
MOOW	**Moose Ponds**	**3.93**	**271**	*e*Pn	**Pn**	**20 05 52.9**	**+1.7**
SNOW	**Snow King Moun**	**3.96**	**267**	*e*Pn	**Pn**	**20 05 51.4**	**-0.2**
YNR	**Norris Junctio**	**3.96**	**285**	Pn	**Pb**	**20 05 57.8**	**-2.5**
ISCO	**Idaho Springs**	**3.99**	**183**	*e*Pn	**Pn**	**20 05 52.8**	**+0.7**
REDW	**Red Top Meadow**	**4.04**	**266**	*e*Pn	**Pn**	**20 05 52.9**	**+0.1**
IMW	**Indian Meadow**	**4.07**	**274**	*e*Pn	**Pn**	**20 05 55.0**	**+1.8**
TPAW	**Teton Pass**	**4.10**	**268**	*e*Pn	**Pn**	**20 05 55.4**	**+1.8**
O20A	**White River Ci**	**4.25**	**212**	*e*Pn	**Pn**	**20 05 56.6**	**+1.1**
RRI2	**Red Ridge**	**4.38**	**266**	*e*Pn	**Pn**	**20 05 58.4**	**+0.9**
QLMT	**Earthquake Lak**	**4.51**	**286**	Pn	Pn	20 06 02.9	+3.7
BRSD	**Miller**	**4.63**	**80**	Pn	**Pb**	**20 06 10.6**	**-1.0**
DGMT	**Dagmar**	**4.75**	**9**	*e*Pn	**Pn**	**20 06 04.5**	**+2.2**
BOZ	**Bozeman (W)**	**4.87**	**295**	*e*Pn	**Pn**	**20 06 03.2**	**-0.8**
HWUT	**Hardware Ranch**	**5.09**	**247**	*e*Pn	**Pn**	**20 06 07.8**	**+0.7**
	19nm,0.6s						
KSCO	**Kaye Shedlock'**	**5.18**	**156**	*e*Pn	**Pn**	**20 06 07.9**	**-0.5**
EGMT	**Eagleton**	**5.25**	**325**	*e*Pn	Pn	20 06 04.0	-5.2
	41nm,0.6s						
DLMT	**Dillon**	**5.43**	**289**	*e*Pn	**Pn**	**20 06 13.3**	**+1.5**
	9.7nm,0.7s						
HRY	**Holter Researc**	**5.45**	**305**	*e*Pn	**Pn**	**20 06 13.0**	**+1.0**
	23nm,0.6s						
LRM	**Limekiln Ridge**	**5.47**	**294**	*e*Pn	**Pn**	**20 06 13.1**	**+0.7**
	47nm,0.5s						
MCMT	**McKenzie Canyo**	**5.50**	**284**	*e*Pn	Pn	20 06 18.3	+5.5
	3.2nm,0.5s						
DAU	**Daniels Canyon**	**5.55**	**235**	*e*Pn	**Pn**	**20 06 14.2**	**+0.6**
	13nm,0.5s						
JLU	**Jordanelle**	**5.55**	**237**	*e*Pn	Pn	20 06 09.2	-4.3
	13nm,0.7s						
CTU	**Camp Tracy**	**5.68**	**239**	*e*Pn	**Pn**	**20 06 15.6**	**+0.3**
	8.1nm,0.5s						
MDND	**Maddock**	**5.70**	**43**	Pn	Pb	20 06 24.3	-5.5
HVU	**Hansel Valley**	**5.84**	**253**	*e*Pn	**Pn**	**20 06 17.0**	**-0.4**
	13nm,0.6s						
MPU	**Maple Canyon**	**6.03**	**234**	*e*Pn	**Pn**	**20 06 20.2**	**+0.2**
	14nm,0.7s						
SRU	**San Rafael**	**6.09**	**222**	*e*Pn	**Pn**	**20 06 20.3**	**-0.5**
	20nm,0.6s						
TMUT	**Trail Mountain**	**6.29**	**227**	*e*Pn	**Pn**	**20 06 25.3**	**+1.5**
	29nm,0.9s	

YKA	Yellowknife Ar	19.51	347	P		P	20 09 17.9	-0.1
	0.1nm,0.3s,baz=168,slow=12,SNR=3.7							
PETK	Petropavlovsk-	60.20	316	P		P	20 14 59.1	+0.3
	0.6nm,0.7s,baz=103,slow=9.9,SNR=3.6							
ARCES	ARCESS Array B	61.39	18	P		P	20 15 06.0	-0.8
	1.5nm,0.8s,baz=350,slow=6.4,SNR=4.3							
ZALV	Zalesovo Beam	82.26	354	P		P	20 17 12.0	-0.3
	0.9nm,0.6s,baz=354,slow=5.4,SNR=5.1							
SONM	Songino Array	84.58	339	P		P	20 17 25.2	+0.6
	0.3nm,0.6s,baz=318,slow=4.0,SNR=3.8							
MKAR	Makanchi Array	89.56	355	P		P	20 17 48.1	-0.5
	0.5nm,0.6s,baz=0.0,slow=3.3,SNR=3.5							

*ISCJB **15** 20:06:03.2±0.5, 4°.32S±0°.04×35°.26E±0°.07, h10km, mb3.8/10, MS3.4/2, Error ellipse: s-maj=10.2km s-min=6.4km az=2.5*
*IDC **15** 20:06:03.7±0.8, 4°.40S×35°.26E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.8/30, mbtmp4.0/13, ML4.5/4, MS3.5/2, Ms1 3.5/2, ms1mx2.7/36, Error ellipse: s-maj=20.4km s-min=14.7km az=123.0*
*BUL **15** 20:06:05.8±17.0, 4°.74S×37°.09E, h0km±205km, MD3.2*
ISC 15 20:06:04.2±0.6, **4°.38S**±0°.04×**35°.18E**±0°.05, **h10**km, **n18**, σ**2°26/24**, **mb3.9/10**, **Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOND	KOND	0.33	119	*i* P	Pn	20 06 18.0	+2.8
KOND				*i* S	Sb	20 06 27.0	+9.0
KOND				AMP		20 06 29.2	
	comp=E,404μm,0.3s						
DODT	Dodoma, Tanzan	1.88	163	*i* P	Pb	20 06 36.4	-2.3
DODT				*i* S	Sb	20 07 01.2	-1.1
KMBO	Kilima Mbogo	3.84	33	Pn	Pn	20 07 02.1	-1.5
	comp=E,18nm,0.3s,baz=213,slow=18,SNR=148						
KMBO				Pg	Pb	20 07 11.4	-0.8
	comp=E,65nm,0.3s,baz=216,slow=19,SNR=44						
KMBO				Sn	Sn	20 07 44.9	-4.0
	comp=E,233nm,0.3s,baz=77,slow=22,SNR=23						
KMBO				Lg	Lg	20 07 59.3	
	comp=E,183nm,0.3s,baz=277,slow=21,SNR=9.1						
KMBO	Kilima Mbogo	3.84	33	*i* P	Pn	20 07 02.4	-1.3
KMBO				*i* S	Sn	20 07 45.5	-3.4
MBAR	Mbarara	5.82	310	Pn	Pn	20 07 30.6	-0.2
	comp=E,95nm,0.3s,baz=126,slow=18,SNR=298						
MBAR				Sn	Sn	20 08 33.7	-4.0
	comp=E,162nm,0.3s,baz=348,slow=22,SNR=4.2						
MBAR				Lg	Lg	20 09 04.3	
	comp=E,331nm,0.3s,baz=45,slow=19,SNR=11						
MBAR	Mbarara	5.82	310	*i* P	Pn	20 07 30.9	+0.1
MBAR				*i* S	Sg	20 09 06.9	-4.2
LSZ	Lusaka	12.83	212	Pn	Pn	20 09 06.8	0.0
	comp=E,1.2nm,0.3s,baz=40,slow=11,SNR=16						
LSZ				Sn	Sn	20 11 26.4	-3.5
	comp=E,0.7nm,0.3s,baz=289,slow=17,SNR=4.1						
LSZ				Lg	Lg	20 12 43.6	
	comp=E,2.9nm,0.3s,baz=71,slow=12,SNR=4.9						
OPO	Ambohidratompo	18.34	141	P	P	20 10 18.8	-0.3
	comp=E,0.2nm,0.3s,baz=318,slow=4.9,SNR=4.7						
LBTB	Lobatse	22.49	203	P	P	20 11 04.2	+0.1
	comp=E,3.1nm,0.8s,baz=56,slow=10,SNR=3.2						
TSUM	Tsumeb	22.63	228	P	P	20 11 06.6	+0.9
	comp=E,2.9nm,1.0s,baz=82,slow=7.1,SNR=2.5						
TSUM				LR	LR	20 20 15.8	
	comp=E,166nm,20.2s,baz=346,slow=38						
BOSA	Boshof	25.88	200	P	P	20 11 38.5	+2.1
	comp=E,4.7nm,0.8s,baz=26,slow=11,SNR=6.5						
TORD	Torodi Ar. Bea	37.54	298	P	P	20 13 20.6	+1.6
	comp=E,1.2nm,0.7s,baz=105,slow=7.8,SNR=8.9						
TORD				LR	LR	20 28 21.6	
	comp=E,47nm,19.2s,baz=65,slow=36						
DBIC	Dimbokro	41.45	285	P	P	20 13 53.3	+1.7
	comp=E,4.0nm,0.8s,baz=90,slow=6.1,SNR=3.4						
ESDC	Sonseca Array	56.73	324	P	P	20 15 50.2	+1.8
	comp=E,0.3nm,0.4s,baz=137,slow=7.7,SNR=6.9						
MKAR	Makanchi Array	65.72	34	P	P	20 16 50.7	+1.5
	comp=E,1.2nm,0.9s,baz=225,slow=6.7,SNR=4.5						
FINES	FINESS Array B	66.02	355	P	P	20 16 52.5	+1.8
	comp=E,1.4nm,0.7s,baz=132,slow=8.5,SNR=5.1						
CMAR	Chiang Mai Arr	66.76	68	P	P	20 16 57.0	+0.6
	comp=E,0.8nm,0.7s,baz=257,slow=8.3,SNR=7.7						
SONM	Songino Array	80.78	40	P	P	20 18 19.6	+1.3
	comp=E,0.6nm,0.8s,baz=224,slow=5.8,SNR=5.3						

IDC 15 20:06:07.5±1.7, **13°.63N**×**93°.85E**, **h0**km, **mb3.5/4**, **mb1 3.5/5**, **mb1mx3.3/28**, **mbtmp3.3/5**, **ML2.7/1**, **MS3.7/1**, **Ms1 3.7/1**, **ms1mx2.5/28**, **Error ellipse: s-maj=45.8km s-min=23.3km az=72.0**, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.86	45	Pn	Pn	20 07 50.1	+0.7
	0.0nm,0.3s,baz=235,slow=15,SNR=2.9						
CMAR				Sn	Sn	20 09 08.2	-0.1
	0.2nm,0.3s,baz=240,slow=27,SNR=4.2						
MKAR	Makanchi Array	34.46	346	P	P	20 12 56.9	-0.1
	0.4nm,0.7s,baz=176,slow=6.4,SNR=3.1						
FITZ	Fitzroy Crossi	44.47	134	P	P	20 14 21.2	+0.4
	0.9nm,0.8s,baz=340,slow=15,SNR=2.2						
WRA	Warramunga Arr	51.96	129	P	P	20 15 18.4	-0.3
	0.4nm,1.1s,baz=311,slow=9.9,SNR=5.3						
WRA				LR	LR	20 40 33.1	
	comp=Z,71nm,21.0s,baz=15,slow=40						
ASAR	Alice Springs	53.93	133	P	P	20 15 32.8	-0.5
	0.3nm,0.5s,baz=310,slow=6.9,SNR=9.4						

*ATH **15** 20:19:24.8, 36°.03N×21°.47E, h21km, MD3.5/22*
*CSEM **15** 20:19:24.0±0.5, 36°.02N×21°.36E, h2km, ML2.6/7, Error ellipse: s-maj=10.0km s-min=7.0km az=36.0*
*THE **15** 20:19:26.4, 36°.10N×21°.48E, h0km±1km, ML2.6/7, Error ellipse: s-maj=1.9km s-min=0.9km az=242.0*
ISC 15 20:19:23.6±1.9, **36°.02N**±0°.06×**21°.38E**±0°.06, **h7**km±11km, **n57**, σ**0°97/79**, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.93	18	P	Pg	20 19 40.8	-0.6
PYL	PYLOS	0.93	18	*e*Pn	Pb	20 19 42.1	+0.1
PYL				*e*SN	Sb	20 19 54.6	+0.1
PYL	PYLOS	0.93	18	*e*Pn	Pb	20 19 42.1	+0.1
PYL				*e*Sn	Sb	20 19 54.6	+0.1
DYR	Agios Nikonas	1.07	46	P	Pb	20 19 44.4	-0.1
DYR				S	Sb	20 19 58.3	-0.4
DYR	Agios Nikonas	1.07	46	*e*PN	Pb	20 19 44.3	-0.2
DYR				*e*SN	Sb	20 19 58.1	-0.6
DYR	Agios Nikonas	1.07	46	P	Pb	20 19 44.4	-0.1
DYR				S	Sb	20 19 58.3	-0.4
ITM	Ithomi	1.24	21	P	Pb	20 19 47.5	+0.1
ITM				S	Sn	20 20 04.4	0.0
ITM	Ithomi	1.24	21	*e*PN	Pb	20 19 47.2	-0.2
ITM				*e*SN	Sn	20 20 04.5	0.0
ITM	Ithomi	1.24	21	*e*Pn	Pb	20 19 47.2	-0.2
ITM	Ithomi	1.24	21	P	Pb	20 19 47.5	+0.1
ITM				S	Sn	20 20 04.4	0.0
VLI	Veliai	1.44	60	P	Pg	20 19 51.1	-0.2
VLI				S	Sg	20 20 11.1	+1.1
VLI	Veliai	1.44	60	*e*PN	Pg	20 19 51.0	-0.2
VLI				*e*SN	Sg	20 20 09.8	-0.2
VLI	Veliai	1.44	60	*e*Pn	Pg	20 19 51.0	-0.2
VLI				*e*Sn	Sg	20 20 09.8	-0.2
VLI				S	Sg	20 20 11.1	+1.1
AMT	Artemida-Makis	1.54	10	P	Pg	20 19 53.3	+0.2
AMT				S	Sg	20 20 13.3	+0.3
AMT	Artemida-Makis	1.54	10	*e*PN	Pg	20 19 53.7	+0.6
AMT	Artemida-Makis	1.54	10	P	Pg	20 19 53.3	+0.2
AMT	Artemida-Makis	1.54	10	*e*Pn	Pg	20 19 53.7	+0.6
AMT				S	Sg	20 20 13.3	+0.3
ANKY	Antikythira Is	1.57	95	P	Pg	20 19 53.9	+0.2
ANKY				S	Sg	20 20 14.4	+0.4
ANKY	Antikythira Is	1.57	95	*e*PN	Pb	20 19 52.3	-0.6
ANKY	Antikythira Is	1.57	95	*e*Pn	Pb	20 19 52.3	-0.6
ANKY	Antikythira Is	1.57	95	P	Pg	20 19 53.9	+0.2
VLX	Vlachokerasia	1.57	31	P	Pb	20 19 53.0	-0.1
VLX				S	Sg	20 20 13.6	-0.6
VLX	Vlachokerasia	1.57	31	*e*PN	Pb	20 19 53.3	+0.2
VLX				*e*SN	Sg	20 20 13.6	-0.6
VLX	Vlachokerasia	1.57	31	P	Pb	20 19 53.0	-0.1
VLX	Vlachokerasia	1.57	31	*e*Pn	Pb	20 19 53.3	+0.2
VLX				S	Sg	20 20 13.6	-0.6
RLS	Riolos of Patr	2.04	2	*e*PN	Pb	20 20 00.2	-0.8
GUR	Goura	2.07	22	P	Pn	20 20 00.0	+1.2
GUR				S	Sb	20 20 26.8	-0.6
GUR	Goura	2.07	22	*e*PN	Pb	20 20 00.5	-1.0
GUR	Goura	2.07	22	P	Pn	20 20 00.0	+1.2
GUR	Goura	2.07	22	*e*Pn	Pb	20 20 00.5	-1.0
GUR				S	Sb	20 20 26.8	-0.6
DID	Didima	2.11	45	P	Pn	20 20 00.2	+0.9
DID				S	Sb	20 20 27.2	-1.3
DID	Didima	2.11	45	*e*PN	Pn	20 20 00.2	+0.9
DID	Didima	2.11	45	P	Pn	20 20 00.2	+0.9
DID				S	Sb	20 20 27.2	-1.3
KLV	Kalavryta, Ach	2.12	17	*e*PN	Pb	20 20 01.2	-1.1
KLV	Kalavryta, Ach	2.12	17	*e*Pn	Pb	20 20 01.2	-1.1
VLS	Valsamata	2.25	344	*e*PB	Pn	20 20 03.2	+2.0
VLS	Valsamata	2.25	344	*e*Pb	Pn	20 20 03.2	+2.0
LAKA	Lakka	2.27	12	*e*PN	Pn	20 20 02.8	+1.2
LTK	Loutraki	2.37	32	*e*PB	Pn	20 20 04.3	+1.4
LTK	Loutraki	2.37	32	*e*Pb	Pn	20 20 04.3	+1.4
TRIZ	Trizonia	2.41	13	*e*PN	Pn	20 20 04.9	+1.5
TRIZ	Trizonia	2.41	13	*e*Pn	Pn	20 20 04.9	+1.5
EFP	Efpalio	2.44	10	*e*PN	Pn	20 20 05.6	+1.7
EFP	Efpalio	2.44	10	*e*Pn	Pn	20 20 05.6	+1.7
LKD2	Lefkada island	2.83	349	*e*PN	Pn	20 20 10.4	+1.2
LKD2	Lefkada island	2.83	349	*e*Pn	Pn	20 20 10.4	+1.2
PTL	Penteli	2.84	44	*e*PN	Pn	20 20 10.1	+0.7
PTL	Penteli	2.84	44	*e*Pn	Pn	20 20 10.1	+0.7
EVR	Evrytania	2.92	7	*e*PN	Pn	20 20 12.2	+1.7
EVR	Evrytania	2.92	7	*e*Pn	Pn	20 20 12.2	+1.7
LKR	Lokris	2.93	26	*e*PN	Pn	20 20 11.7	+1.1
LKR	Lokris	2.93	26	*e*Pn	Pn	20 20 11.7	+1.1
AGG	Agios Georgios	3.10	14	*e*PN	Pn	20 20 14.3	+1.4
AGG	Agios Georgios	3.10	14	*e*Pn	Pn	20 20 14.3	+1.4
THL	Klokotos Trika	3.58	8	*e*PN	Pn	20 20 20.6	+1.1
THL	Klokotos Trika	3.58	8	*e*Pn	Pn	20 20 20.6	+1.1
STON	Ston	7.41	339	*e*Pn	Pn	20 21 09.7	-2.4
STON				Sn	Sn	20 22 27.4	-9.0

*ISCJB **15** 20:26:04.7±0.4, 6°.15S±0°.05×151°.92E±0°.06, h36km, mb4.3/21, Error ellipse: s-maj=8.8km s-min=6.4km az=20.9*
*AUST **15** 20:26:04.9±3.8, 6°.29S×152°.16E, h15km, Error ellipse: s-maj=1.7km s-min=1.0km az=266.0*
*IDC **15** 20:26:08.0±0.7, 6°.14S×151°.90E, h54km±5km, mb4.0/12, mb1 4.2/14, mb1mx4.0/22, mbtmp4.0/14, MS3.1/1, Ms1 3.1/1, ms1mx2.3/27, Error ellipse: s-maj=21.3km s-min=12.2km az=129.0*
*NEIC **15** 20:26:10.6±1.9, 6°.13S×151°.76E, h76km±16km, mb4.5/9, Error ellipse: s-maj=14.2km s-min=10.9km az=114.0*
ISC 15 20:26:06.5±0.5, **6°.09S**±0°.06×**151°.93E**±0°.08, **h36**km, **n66**, σ**1°56/76**, **mb4.3/21**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.90	7	P	Pn	20 26 37.2	+0.8
	baz=2.1,SNR=88						
PMG	Port Moresby	5.76	235	*e*Pn	Pn	20 27 30.6	+1.2
	92nm,0.7s						
PMG				*e*Sn	Sn	20 28 20.5	-14
PMG				S		20 28 35.1	
PMG	Port Moresby	5.76	235	P	Pn	20 27 30.8	+1.4
	10nm,0.3s,baz=58,slow=8.7,SNR=24						
PMG				S	Sn	20 28 35.1	+0.8
	34nm,0.3s,baz=114,slow=21,SNR=12						
PMG				LR	LR	20 29 55.3	
	comp=Z,184nm,20.4s,baz=112,slow=40						
MANU	Manus Island	6.07	311	P	Pn	20 27 45.7	+12
	baz=6.4,SNR=6.9						
MANU				S	Sn	20 28 45.7	+3.7
	baz=6.4,SNR=3.9						
MTSU	Mount Surprise	14.09	211	P	Pn	20 29 24.6	+1.0
	baz=14,SNR=5.7						
CTA	Charters Tower	14.96	201	P	Pn	20 29 37.4	+1.9
CTA	Charters Tower	14.96	201	P	Pn	20 29 37.4	+1.9
	0.2nm,0.3s,baz=16,slow=12,SNR=3.8						
CTAO	Charters Tower	14.96	201	P	P	20 29 40.1	-0.4
	4.9nm,0.8s						
TLE	Tual	19.09	270	P	Pn	20 30 33.8	+6.5
	baz=19,SNR=3.4						
EIDS	Eidsvold	19.19	182	P	P	20 30 27.3	+0.2
	baz=19,SNR=3.8						
KDU	Kakadu	20.27	250	P	P	20 30 38.5	-0.6
	baz=20,SNR=100						
RMQ	Roma	20.50	188	P	P	20 30 42.4	+0.8
	baz=20,SNR=11						
MTN	Manton Dam	21.57	250	P	P	20 30 54.4	+1.3
	baz=22,SNR=38						
WRAB	Tennant Creek	21.93	230	*e*P	P	20 30 57.9	+0.9
	8.5nm,0.7s						
PALU	Palau	21.94	307	P	P	20 30 57.7	+0.6
	baz=22,SNR=4.9						
WRA	Warramunga Arr	21.95	230	P	P	20 30 56.4	-0.8
WRA				PcP	PcP	20 34 55.5	+0.1
WRA	Warramunga Arr	21.95	230	P	P	20 30 56.4	-0.8
	12nm,0.8s,baz=54,slow=9.9,SNR=71						
WRA				PcP	PcP	20 34 55.5	+0.1
	2.0nm,0.6s,baz=49,slow=2.1,SNR=6.9						
AS31	Alice Springs	24.61	223	*e*P	P	20 31 22.0	-1.6
ASAR	Alice Springs	24.62	223	P	P	20 31 22.8	-0.9
ASAR				PcP	PcP	20 35 00.9	-0.1
ASAR	Alice Springs	24.62	223	P	P	20 31 22.8	-0.9
	6.9nm,0.9s,baz=58,slow=9.3,SNR=59						
ASAR				PcP	PcP	20 35 00.9	-0.1
	1.0nm,0.7s,baz=97,slow=1.5,SNR=6.0						
KNRA	Kununurra	24.64	245	P	P	20 31 23.2	-0.6
	baz=25,SNR=52						
STKA	Stephens Creek	27.41	199	P	P	20 31 49.4	+0.6
STKA				pP	pP	20 32 02.2	+3.1
STKA				*e*		20 32 02.7	
STKA	Stephens Creek	27.41	199	P	P	20 31 49.4	+0.6
	2.0nm,0.7s,baz=354,slow=13,SNR=6.2						
STKA				pP	pP	20 32 02.2	+3.1
	6.3nm,0.9s,baz=302,slow=8.1,SNR=3.3						
STKA	Stephens Creek	27.41	199	P	P	20 31 50.4	+1.6
	baz=27,SNR=4.5						
SOEI	Soe	27.63	261	P	P	20 31 51.1	0.0
	baz=28,SNR=3.5						
BATI	Baumata	28.27	260	P	P	20 31 56.1	-0.6
BATI	Baumata	28.27	260	P	P	20 31 56.1	-0.6
	25nm,0.8s,baz=48,slow=2.4,SNR=5.7						
FITZ	Fitzroy Crossi	28.29	243	P	P	20 31 55.9	-0.9
FITZ	Fitzroy Crossi	28.29	243	P	P	20 31 55.9	-0.9
	30nm,0.5s,baz=63,slow=7.6,SNR=275						
FITZ	Fitzroy Crossi	28.29	243	P	P	20 31 55.9	-0.9
	baz=28,SNR=124						
MBWA	Marble Bar	34.58	241	*e*P	P	20 32 50.0	-2.2
	9.1nm,0.5s						
MEEK	Meekatharra	37.74	233	P	P	20 33 18.0	-1.1
	baz=38,SNR=7.6						
KSM	Kuching	42.23	279	*e*P	P	20 33 54.0	-2.5
CMAR	Chiang Mai Arr	57.65	296	P	P	20 35 52.6	-1.0
CMAR	Chiang Mai Arr	57.65	296	P	P	20 35 52.6	-1.0
	0.7nm,0.7s,baz=121,slow=5.6,SNR=7.8						
CASY	Casey	66.53	197	P	P	20 36 56.9	+4.5
	6.7nm,0.6s						
LSA	Lhasa	68.26	305	*e*P	P	20 37 04.3	-0.3
	1.8nm,0.7s						
VNDA	Vanda	71.58	178	P	P	20 37 22.4	-1.1
VNDA				pP	pP	20 37 36.5	+1.9
VNDA	Vanda	71.58	178	P	P	20 37 22.4	-1.1
	0.9nm,0.8s,baz=318,slow=6.8,SNR=5.7						
VNDA				pP	pP	20 37 36.5	+1.9
	0.8nm,0.8s,baz=330,slow=6.1,SNR=3.1						
MKAR	Makanchi Array	80.73	319	P	P	20 38 15.8	-0.3
MKAR	Makanchi Array	80.73	319	P	P	20 38 15.8	-0.3
	0.7nm,0.6s,baz=100,slow=6.9,SNR=6.2						
MCK	McKinley	82.38	23	*e*P	P	20 38 24.3	-0.2
	20nm,1.4s						
ILAR	Eielson Array	83.67	22	P	P	20 38 30.2	-1.0
ILAR				pP	pP	20 38 46.2	+3.8
ILAR	Eielson Array	83.67	22	P	P	20 38 30.2	-1.0
	1.7nm,0.8s,baz=255,slow=5.1,SNR=13						
ILAR				pP	pP	20 38 46.2	+3.8
	3.1nm,0.8s,baz=251,slow=5.6,SNR=11						
QSPA	South Pole Qui	83.88	180	*e*P	P	20 38 31.1	-1.2
	8.9nm,1.1s						
QSPA	South Pole Qui	83.88	180	P	P	20 38 31.5	-0.9
	3.9nm,0.6s,baz=341,slow=1.1,SNR=32						
MAW	Mawson	84.05	203	P	P	20 38 31.0	-2.0
MAW	Mawson	84.05	203	P	P	20 38 31.0	-2.0
	2.4nm,0.7s,baz=45,slow=1.3,SNR=6.8						
EKS2	Erkin-Say	85.44	314	P	P	20 38 33.9	-6.9
EGAK	Eagle	85.88	23	*e*P	P	20 38 42.3	+0.1
	1.5nm,0.5s						
HYT	Haines Junctio	85.97	28	*e*P	P	20 38 44.6	+1.6
DAWY	Dawson	86.31	24	*e*P	P	20 38 44.3	-0.2
KKAR	Karatay Array	87.88	314	*e*P	P	20 38 51.7	-0.8
	0.3nm,0.4s						
DLBC	Dease Lake	88.93	31	P	P	20 38 57.0	-0.2
DLBC	Dease Lake	88.93	31	P	P	20 38 57.0	-0.2
	1.3nm,0.7s,baz=137,slow=24,SNR=3.1						
BRVK	Borovoye	89.82	323	*e*P	P	20 39 01.6	+0.3
NVAR	Mina Array Bea	93.56	52	P	P	20 39 19.8	+0.4
NVAR	Mina Array Bea	93.56	52	P	P	20 39 19.7	+0.4
	0.3nm,0.6s,baz=239,slow=11,SNR=3.0						
ABKAR	Akbulak array	95.87	319	*e*P	P	20 39 26.5	-2.8
	1.0nm,0.8s						
GERES	GERESS Array B	124.68	328	PKP	PKPdf	20 45 01.5	-1.0
GERES	GERESS Array B	124.68	328	PKP	PKPdf	20 45 01.5	-1.0
	0.7nm,0.7s,baz=90,slow=2.9,SNR=7.6						
TOA0	Torodi Ar. Sit	149.85	286	*e*PKPbc	PKPbc	20 45 52.0	-1.9
TORD	Torodi Ar. Bea	149.85	286	PKPbc	PKPbc	20 45 53.0	-0.9
TORD				pPKPbc	pPKPbc	20 46 09.6	+4.0
TORD	Torodi Ar. Bea	149.85	286	PKPbc	PKPbc	20 45 53.0	-0.9
	2.6nm,0.6s,baz=94,slow=2.4,SNR=45						
TORD				pPKPbc	pPKPbc	20 46 09.6	+4.0
	1.4nm,0.7s,baz=98,slow=2.3,SNR=4.0						
DBIC	Dimbokro	156.92	273	PKPab	PKPab	20 46 29.5	+0.2
DBIC	Dimbokro	156.92	273	PKPab	PKPab	20 46 29.5	+0.2
	3.4nm,0.8s,baz=108,slow=4.7,SNR=3.9						

IDC 15 20:27:57.7±1.6, **1°.57N**×**126°.25E**, **h0**km, **mb4.1/4**, **mb1 4.3/5**, **mb1mx3.7/22**, **mbtmp4.1/5**, **Error ellipse: s-maj=107.8km s-min=20.9km az=67.0**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.56	182	P	P	20 32 27.2	0.0
	baz=360,slow=11,SNR=2.2						
WRA	Warramunga Arr	22.80	160	P	P	20 33 02.3	0.0
	3.8nm,0.5s,baz=339,slow=11,SNR=19						
ASAR	Alice Springs	26.17	164	P	P	20 33 33.8	-0.2
	1.3nm,0.5s,baz=343,slow=8.1,SNR=13						
STKA	Stephens Creek	36.31	158	P	P	20 35 03.3	0.0
	3.3nm,0.6s,baz=343,slow=8.5,SNR=6.0						
MKAR	Makanchi Array	59.06	326	P	P	20 37 59.7	0.0
	0.5nm,0.3s,baz=120,slow=8.0,SNR=19						

*NIED **15** 20:30:00, 36°.10N×141°.70E, h23km, Mw4.2 Best double couple: M0 2.51000×10^15 NP1:φ1 18.00000°, δ65.00000°, λ83.00000°. NP2:φ2 213.00000°, δ26.00000°, λ.103.00000°.*
*IDC **15** 20:30:04.8±0.7, 36°.02N×141°.84E, h0km, mb3.9/16, mb1 4.1/21, mb1mx4.0/30, mbtmp3.9/21, ML3.1/5, MS3.6/12, Ms1 3.6/12, ms1mx3.3/49, Error ellipse: s-maj=18.5km s-min=17.1km az=150.0*
*NEIC **15** 20:30:06.4±0.5, 36°.05N×141°.84E, h10km, mb4.5/4, MW4.2(NIED), Error ellipse: s-maj=10.7km s-min=7.6km az=152.0*
*JMA **15** 20:30:08.2±0.2, 36°.06N×141°.75E, h51km±5km, M4.0*
ISC 15 20:30:07.2±3.0, **36°.04N**±0°.05×**141°.75E**±0°.06, **h15**km±18km, **n64**, σ**0°81/68**, **mb4.1/19**, **MS3.7/8**, **2C-5D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.80	245	⇓P	Pb	20 30 23.4	+0.5
CHOJ				S	Sn	20 30 35.6	-0.1
JHO	Hitachi	1.11	301	⇓P	Pb	20 30 27.3	-0.8
JFK	Kawauchi	1.50	332	⇑P	Pn	20 30 33.2	-0.4
BSO1	Boso 1	1.52	205	P	Pb	20 30 34.2	-0.7
BSO1				*e*S	Sn	20 30 52.7	-0.1
BSO3	Boso 3	1.60	220	P	Pb	20 30 35.7	-0.7
JFT	Otama	1.86	323	⇓P	Pn	20 30 39.1	+0.5
JAG	Ashikaga	1.90	282	⇓P	Pn	20 30 38.6	-0.5
JAG				*e*S	Sn	20 31 02.3	-0.4
JMM	Marumori	1.97	337	⇑P	Pn	20 30 39.8	-0.3
JRY	Ryogami san	2.31	270	⇓P	Pn	20 30 44.5	-0.3
MJAR	Matsushiro Arr	2.90	281	Pn	Pn	20 30 53.5	+0.5
MJAR				Sn	Sb	20 31 32.5	-1.6
MJAR	Matsushiro Arr	2.90	281	Pn	Pn	20 30 53.5	+0.5
	9.7nm,0.3s,baz=104,slow=7.0,SNR=200						
MJAR				Sn	Sb	20 31 32.5	-1.6
	11nm,0.3s,baz=146,slow=21,SNR=4.5						
MAT	Matsushiro	2.91	281	P	Pn	20 30 53.6	+0.6
MAT				*e*S	Sn	20 31 26.9	-0.8
ASAJ	Asahikawa	8.09	4	*e*Pn	Pn	20 32 02.8	-1.4
	4.8nm,0.8s						
ASAJ	Asahikawa	8.09	4	Pn	Pn	20 32 03.9	-0.3
	0.7nm,0.3s,baz=222,slow=12,SNR=14						
ASAJ				LR	LR	20 36 07.4	
	comp=Z,224nm,20.1s,baz=180,slow=45						
JNU	Nakatsue	9.43	255	Pn	Pn	20 32 23.9	+1.4
JN

AKASG	Malin Array Be	75.25 323	P	P	20 41 49.5	+0.2
AKASG	Malin Array Be	75.25 323	P	P	20 41 49.5	+0.2
	comp=Z,1.2nm,0.5s,baz=46,slow=5.9,SNR=9.5					
PDAR	Pinedale Array	78.17 45	P	P	20 42 05.6	-0.7
PDAR	Pinedale Array	78.17 45	P	P	20 42 05.6	-0.7
	comp=Z,0.4nm,0.6s,baz=250,slow=3.0,SNR=4.6					
BRTR	Keskin Array B	79.71 312	P	P	20 42 14.7	0.0
BRTR	Keskin Array B	79.71 312	P	P	20 42 14.7	0.0
	comp=Z,0.9nm,0.8s,baz=129,slow=4.2,SNR=6.0					
GERES	GERESS Array B	83.69 328	P	P	20 42 35.4	-0.1
GERES	GERESS Array B	83.69 328	P	P	20 42 35.4	-0.1
	comp=Z,0.2nm,0.5s,baz=25,slow=10,SNR=5.0					
GERES			LR	LR	21 24 43.5	
	comp=Z,52nm,18.5s,baz=94,slow=39					
TXAR	Lajitas Array	90.51 53	P	P	20 43 09.8	+0.8
TXAR	Lajitas Array	90.51 53	P	P	20 43 09.8	+0.8
	comp=Z,0.5nm,0.8s,baz=301,slow=18,SNR=3.5					
TKL	Tuckaleechee C	97.03 36	LR	LR	21 31 54.7	
	comp=Z,30nm,18.8s,baz=268,slow=38					
LPAZ	La Paz	146.94 61	PKPbc	PKPbc	20 49 50.5	0.0
LPAZ	La Paz	146.94 61	PKPbc	PKPbc	20 49 50.5	0.0
	comp=Z,0.7nm,0.6s,baz=22,slow=10,SNR=3.7					

AUST ***15*** *20:39:42.6,5.˚98S×130.˚03E,h100km*
ISCJB ***15*** *20:39:43.9±0.5,6.˚03S±0.˚04×130.˚30E±0.˚05,h124km, mb3.9/5,Error ellipse: s-maj=7.6km s-min=4.8km az=16.5*
IDC ***15*** *20:39:46.3±7.8,6.˚00S×130.˚36E,h136km±78km,mb3.5/5, mb1 3.7/9,mb1mx3.4/20,mbtmp3.5/9,Error ellipse: s-maj=63.3km s-min=19.7km az=50.0*
ISC 15 20:39:45.3±0.6,6.˚02S±0.˚05×130.˚33E±0.˚07,h124km,n23, σ1§**77**/26**,mb3.8/5,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.55	344	S	Pn	20 40 19.0	+5.4
	baz=1.5,SNR=8.8						
TLE	Tual	2.42	81	P	Pn	20 40 28.9	+4.6
	baz=2.7,SNR=31						
TLE				S	Sn	20 40 55.5	+1.3
	baz=2.7,SNR=7.0						
AAI	Ambon	3.15	317	P	Pn	20 40 38.6	+4.9
	baz=2.9,SNR=4.0						
FAKI	Fak Fak	3.62	32	P	Pn	20 40 41.3	+1.3
	baz=3.8,SNR=9.6						
FAKI				S	Sn	20 41 21.5	-0.8
	baz=3.8,SNR=12						
SWI	Sorong	5.21	10	P	Pn	20 41 01.9	+0.7
	baz=5.3,SNR=43						
SWI				S	Sn	20 41 56.5	-3.7
	baz=5.3,SNR=21						
MTN	Manton Dam	6.83	173	P	Pn	20 41 25.4	+2.5
	baz=6.9,SNR=129						
MTN				S	Sn	20 42 39.1	-0.2
	baz=6.9,SNR=6.9						
KDU	Kakadu	6.95	162	P	Pn	20 41 26.5	+1.9
	baz=7.1,SNR=107						
KDU				S	Sn	20 42 40.0	-2.4
	baz=7.1,SNR=12						
SOEI	Soe	7.06	238	P	Pn	20 41 33.1	+6.8
	baz=6.8,SNR=4.1						
BATI	Baumata	7.80	237	P	Pn	20 41 39.2	+3.0
	0.6nm,0.3s,baz=78,slow=20,SNR=4.8						
BATI				S	Sn	20 43 04.8	+1.8
	1.7nm,0.3s,baz=191,slow=16,SNR=3.0						
KNRA	Kununurra	9.72	189	P	Pn	20 42 02.9	+0.9
	baz=9.8,SNR=38						
KNRA				S	Sn	20 43 46.1	-3.3
	baz=9.8,SNR=8.6						
WSI	Waingapu	10.58	249	P	Pn	20 42 09.9	-3.7
	baz=10,SNR=3.5						
FITZ	Fitzroy Crossi	12.85	200	P	Pn	20 42 42.6	-1.0
	0.2nm,0.3s,baz=139,slow=9.4,SNR=23						
FITZ				S	Sn	20 44 57.3	-8.0
	0.7nm,0.3s,baz=327,slow=18,SNR=6.7						
FITZ	Fitzroy Crossi	12.85	200	P	Pn	20 42 42.6	-1.0
	baz=13,SNR=3.9						
FITZ				S	Sn	20 45 02.9	-2.4
	baz=13,SNR=4.1						
WRA	Warramunga Arr	14.38	165	P	Pn	20 43 01.9	-1.3
	0.4nm,0.3s,baz=345,slow=13,SNR=18						
WRA				S	Sn	20 45 33.5	-8.6
	1.9nm,0.3s,baz=336,slow=23,SNR=8.9						
COEN	Coen	14.90	123	P	P	20 43 13.4	+1.0
	baz=15,SNR=14						
COEN				S	Sn	20 45 45.5	-9.2
	baz=15,SNR=5.0						
ASAR	Alice Springs	17.88	169	P	Pn	20 43 47.2	+0.9
	1.8nm,0.3s,baz=349,slow=11,SNR=131						
MTSU	Mount Surprise	18.20	133	P	Pn	20 43 50.5	+0.4
	baz=18,SNR=7.5						
STKA	Stephens Creek	27.80	159	P	P	20 45 22.9	0.0
	4.0nm,1.1s,baz=321,slow=14,SNR=2.9						
LHI	Lord Howe Isla	36.96	137	P	P	20 46 41.5	-1.1
	baz=37,SNR=3.2						
CMAR	Chiang Mai Arr	39.37	309	P	P	20 47 03.0	-0.1
	0.5nm,0.6s,baz=138,slow=8.0,SNR=6.3						
SONM	Songino Array	57.62	341	P	P	20 49 22.4	-0.1
	0.3nm,0.3s,baz=166,slow=5.7,SNR=6.0						
MKAR	Makanchi Array	67.59	326	P	P	20 50 28.2	-0.4
	2.1nm,0.4s,baz=114,slow=8.3,SNR=51						
ZALV	Zalesovo Beam	70.86	333	P	P	20 50 47.5	-1.0
	0.7nm,0.5s,baz=134,slow=6.2,SNR=3.9						

IDC ***15*** *20:42:23.8±0.9,5.˚03S×127.˚48E,h0km,mb3.7/8, mb1 4.0/12,mb1mx3.9/24,mbtmp3.9/12,ML4.1/4,MS3.3/1, Ms1 3.5/1,ms1mx2.5/41,Error ellipse: s-maj=29.6km s-min=16.7km az=77.0*
ISCJB ***15*** *20:42:26.5±0.5,5.˚05S±0.˚06×127.˚50E±0.˚05,h33km, mb3.6/8,MS3.2/1,Error ellipse: s-maj=8.8km s-min=6.4km az=148.6*
AUST ***15*** *20:42:29.3±8.9,4.˚92S×127.˚64E,h19km,Error ellipse: s-maj=2.0km s-min=1.1km az=311.0*
ISC 15 20:42:28.2±0.7,5.˚13S±0.˚06×127.˚54E±0.˚07,h35km,n19, σ1§**48**/20**,mb3.7/8,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.57	25	P	Pn	20 42 52.2	-1.5
	baz=1.4,SNR=8.6						
BNDI	Bandanaira	2.44	76	P	Pn	20 43 05.7	+0.2
	baz=2.3,SNR=3.1						
BNDI				S	Sn	20 43 32.9	-1.2
	baz=2.3,SNR=5.8						
FAKI	Fak Fak	5.19	65	P	Pn	20 43 43.5	+0.1
	baz=5.0,SNR=12						
TLE	Tual	5.20	96	P	Pn	20 43 45.5	+2.0
	baz=5.1,SNR=7.0						
SOEI	Soe	5.62	215	P	Pn	20 43 55.4	+5.8
	baz=5.9,SNR=3.1						
SWI	Sorong	5.64	41	P	Pn	20 43 50.8	+1.2
	baz=5.4,SNR=9.1						
SWI				S	Sn	20 44 52.6	-0.5
	baz=5.4,SNR=6.0						
BATI	Baumata	6.34	217	Pn	Pn	20 44 00.7	+1.5
	6.0nm,0.3s,baz=194,slow=3.5,SNR=5.9						
KAPI	Kappang	7.76	270	Pn	Pn	20 44 19.0	+0.3
	3.2nm,0.3s,baz=103,slow=5.0,SNR=11						
FITZ	Fitzroy Crossi	13.03	188	Sn	Sn	20 47 50.1	-4.5
	0.4nm,0.3s,baz=319,slow=20,SNR=3.3						
WRA	Warramunga Arr	16.14	156	Pn	P	20 46 14.7	-0.8
	0.5nm,0.3s,baz=338,slow=12,SNR=3.9						
WRA				Sn	Sn	20 48 59.0	-12
	0.1nm,0.3s,baz=331,slow=24,SNR=3.6						
ASAR	Alice Springs	19.43	162	P	Pn	20 46 52.5	-0.6
	0.9nm,0.3s,baz=341,slow=11,SNR=29						
STKA	Stephens Creek	29.69	155	P	P	20 48 32.3	+1.4
	2.9nm,0.9s,baz=357,slow=5.8,SNR=2.2						
CMAR	Chiang Mai Arr	36.66	310	P	P	20 49 31.2	-0.6
	0.3nm,0.6s,baz=130,slow=9.6,SNR=3.3						
CMAR				LR	LR	21 04 16.5	
	comp=Z,41nm,20.2s,baz=175,slow=36						
KSRS	Korea Array	42.36	0	P	P	20 50 19.4	+0.4
	0.7nm,0.6s,baz=181,slow=8.7,SNR=4.9						
MJAR	Matsushiro Arr	42.64	13	P	P	20 50 22.3	+0.9
	0.7nm,0.8s,baz=177,slow=9.7,SNR=3.5						
USRK	Ussuriysk Arra	49.27	4	P	P	20 51 13.9	+0.5
	0.9nm,0.6s,baz=172,slow=3.8,SNR=4.4						
SONM	Songino Array	55.92	343	P	P	20 52 02.1	-0.8
	0.2nm,0.4s,baz=144,slow=2.7,SNR=2.9						
MKAR	Makanchi Array	65.33	328	P	P	20 53 06.3	-0.6
	0.5nm,0.5s,baz=117,slow=8.2,SNR=8.0						
ZALV	Zalesovo Beam	68.84	335	P	P	20 53 28.9	-0.1
	0.3nm,0.3s,baz=101,slow=4.7,SNR=2.5						

IDC 15 21:02:03.5±1.9,34.˚76S×179.˚22W,h0km,mb4.0/2, mb1 4.3/3,mb1mx3.7/18,mbtmp4.0/3,ML3.7/1,Error ellipse: s-maj=42.7km s-min=36.5km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.58	219	Pn	Pn	21 03 13.6	-0.5
	3.7nm,0.3s,baz=190,slow=0.7,SNR=14						
URZ				Sn	Sn	21 04 09.3	+1.4
	5.5nm,0.3s,baz=118,slow=24,SNR=8.6						
ASAR	Alice Springs	42.05	272	P	P	21 09 57.2	0.0
	1.1nm,0.4s,baz=114,slow=7.5,SNR=25						
WRA	Warramunga Arr	43.44	277	P	P	21 10 08.1	-0.3
	1.2nm,0.4s,baz=118,slow=7.7,SNR=36						
FINES	FINESS Array B	146.81	337	PKPbc	PKPbc	21 21 51.8	-0.4
	2.7nm,0.9s,baz=48,slow=2.1,SNR=4.5						
TORD	Torodi Ar. Bea	158.47	182	PKPab	PKPab	21 22 37.5	-0.5
	0.2nm,0.6s,baz=178,slow=5.1,SNR=2.4						

NEIC ***15*** *21:10:04.8,40.˚10S×174.˚95E,h12km,ML3.9(WEL),After WEL.*
NEIC Felt [IV] at Castlecliff, Durie Hill, Gonville, Wanganui and Wanganui East.
WEL 15 21:10:04.9±0.1,40.˚09S×174.˚95E,h12km,ML3.9/43**, 2C-1D,Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.34	5	P*	Pb	21 10 13.3	+0.4
WAZ				AML	AML	21 10 21.8	
WAZ				AML	AML	21 10 21.8	
WAZ				AML	AML	21 10 22.0	
WAZ				AML	AML	21 10 22.0	
WAZ	Wanganui	0.34	5	P*	Pb	21 10 13.2	+0.3
POWZ	Post Office Ro	0.69	116	⇑P*	Pg	21 10 18.6	+0.2
POWZ				S*	Sb	21 10 28.2	-0.3
POWZ	Post Office Ro	0.69	116	P*	Pg	21 10 18.6	+0.2
MRZ	Mangatainoka R	0.74	140	P*	Pg	21 10 19.4	0.0
MRZ				S*	Sg	21 10 29.3	+0.1
MRZ				AML	AML	21 10 29.7	
MRZ	Mangatainoka R	0.74	140	P*	Pg	21 10 18.9	-0.5
OGWZ	Otaki Gorge	0.74	167	P*	Pg	21 10 18.9	-0.4
OGWZ				S*	Sg	21 10 28.7	-0.5
OGWZ	Otaki Gorge	0.74	167	P*	Pg	21 10 18.9	-0.4
OGWZ				S*	Sg	21 10 28.7	-0.5
KIW	Kapiti Island	0.77	182	P*	Pg	21 10 19.0	-0.9
KIW				AML	AML	21 10 29.6	
KIW				AML	AML	21 10 29.9	
KIW	Kapiti Island	0.77	182	P*	Pg	21 10 19.0	-0.9
KIW				S*	Sg	21 10 28.5	-1.5
TSZ	Takapari Road	0.78	88	⇓P*	Pg	21 10 19.7	-0.3
TSZ				AML	AML	21 10 30.5	
TSZ				AML	AML	21 10 32.2	
TSZ	Takapari Road	0.78	88	P*	Pg	21 10 19.7	-0.3
MTVZ	Mangateitei	0.81	30	P*	Pg	21 10 20.0	-0.6
MTVZ				AML	AML	21 10 33.9	
MTVZ				AML	AML	21 10 34.9	
MTVZ	Mangateitei	0.81	30	P*	Pg	21 10 20.1	-0.6
PKVZ	Pokaka	0.85	21	P*	Pg	21 10 20.2	-1.3
PKVZ				AML	AML	21 10 34.3	
PKVZ				AML	AML	21 10 36.0	
PKVZ	Pokaka	0.85	21	P*	Pg	21 10 20.3	-1.2
WNVZ	Wahianoa	0.91	33	P*	Pg	21 10 21.6	-1.1
WNVZ				AML	AML	21 10 37.6	
WNVZ				AML	AML	21 10 38.2	
WNVZ	Wahianoa	0.91	33	P*	Pg	21 10 21.6	-1.1
HOWZ	Holdsworth Sta	0.91	152	P*	Pg	21 10 21.7	-0.9
HOWZ				S*	Sg	21 10 34.1	-0.5
HOWZ	Holdsworth Sta	0.91	152	P*	Pg	21 10 21.8	-0.8
HOWZ				S*	Sg	21 10 34.1	-0.5
TRVZ	Turoa	0.91	30	P*	Pg	21 10 21.6	-1.3
TRVZ				AML	AML	21 10 35.1	
TRVZ				AML	AML	21 10 35.4	
MOVZ	Moawhango	0.92	42	P*	Pg	21 10 21.3	-1.4
MOVZ				AML	AML	21 10 34.8	
MOVZ				AML	AML	21 10 35.2	
MOVZ	Moawhango	0.92	42	P*	Pg	21 10 21.3	-1.4
DRZ	Dome Shelter	0.94	30	P*	Pg	21 10 22.0	-1.5
DRZ				AML	AML	21 10 36.7	
DRZ				AML	AML	21 10 39.9	
DVHZ	Dannevirke	0.95	103	P*	Pg	21 10 23.1	-0.3
DVHZ	Dannevirke	0.95	103	P*	Pg	21 10 23.1	-0.3
FWVZ	Far West T-bar	0.95	29	P*	Pg	21 10 22.1	-1.5
FWVZ				AML	AML	21 10 36.3	
FWVZ				AML	AML	21 10 36.6	
FWVZ	Far West T-bar	0.95	29	P*	Pg	21 10 22.1	-1.5
PNHZ	Pukenui	0.97	80	P*	Pg	21 10 22.7	-1.1
PNHZ	Pukenui	0.97	80	P*	Pg	21 10 22.7	-1.1
VRZ	Vera Road	0.97	351	P*	Pg	21 10 22.9	-0.8
VRZ				AML	AML	21 10 37.9	
VRZ				AML	AML	21 10 38.3	
VRZ	Vera Road	0.97	351	P*	Pg	21 10 23.1	-0.6
TUVZ	Tukino	0.98	34	P*	Pg	21 10 22.8	-1.3
TUVZ				AML	AML	21 10 36.9	
TUVZ				AML	AML	21 10 38.9	
TUVZ	Tukino	0.98	34	P*	Pg	21 10 22.8	-1.3
TIWZ	Tintock	0.99	134	P*	Pb	21 10 23.5	-0.6
TIWZ	Tintock	0.99	134	P*	Pb	21 10 23.5	-0.5
WPVZ	Whakapapa	1.00	28	P*	Pb	21 10 22.7	-1.5
WPVZ				AML	AML	21 10 38.5	
WPVZ				AML	AML	21 10 41.2	
WPVZ	Whakapapa	1.00	28	P*	Pb	21 10 22.7	-1.5
DFE	Dawson Falls	1.00	319	P*	Pg	21 10 24.4	0.0
CAW	Cannon Point	1.02	175	P*	Pb	21 10 23.0	-1.6
CAW				AML	AML	21 10 39.0	
CAW				AML	AML	21 10 40.1	
CAW	Cannon Point	1.02	175	P*	Pb	21 10 23.0	-1.6
NGZ	Ngauruhoe	1.04	29	P*	Pb	21 10 23.3	-1.8
NGZ				AML	AML	21 10 43.3	
NGZ				AML	AML	21 10 43.9	
NGZ	Ngauruhoe	1.04	29	P*	Pb	21 10 23.3	-1.8
BHHZ	Black Hill Sta	1.05	55	P*	Pb	21 10 23.0	-2.0
BHHZ	Black Hill Sta	1.05	55	P*	Pb	21 10 23.0	-2.0
NEZ	North Egmont	1.05	321	P*	Pb	21 10 24.7	-0.5
NEZ	North Egmont	1.05	321	P*	Pb	21 10 24.7	-0.4
DUWZ	D'Urville Isla	1.06	228	P*	Pb	21 10 23.3	-2.0
DUWZ				AML	AML	21 10 39.4	
DUWZ				AML	AML	21 10 39.7	
DUWZ	D'Urville Isla	1.06	228	P*	Pb	21 10 23.3	-2.0
DREZ	Durham Road	1.07	327	P*	Pb	21 10 25.0	-0.3
DREZ	Durham Road	1.07	327	P*	Pb	21 10 25.2	-0.1
OTVZ	Oturere	1.08	31	P*	Pb	21 10 24.1	-1.6
OTVZ				AML	AML	21 10 43.3	
OTVZ				AML	AML	21 10 43.9	
OTVZ	Oturere	1.08	31	P*	Pb	21 10 24.1	-1.6
TWVZ	Taurewa	1.08	20	P*	Pb	21 10 23.6	-2.1
TWVZ				AML	AML	21 10 39.5	
TWVZ				AML	AML	21 10 42.6	
TWVZ	Taurewa	1.08	20	P*	Pb	21 10 23.6	-2.1
WTVZ	West Tongariro	1.09	27	P*	Pb	21 10 23.9	-2.0
WTVZ				AML	AML	21 10 41.2	
WTVZ				AML	AML	21 10 42.2	
WTVZ	West Tongariro	1.09	27	P*	Pb	21 10 23.9	-2.0
MHEZ	Mangahewa	1.12	334	P*	Pb	21 10 26.1	-0.2
MHEZ	Mangahewa	1.12	334	P*	Pb	21 10 26.3	0.0
KRVZ	Karewarewa	1.13	28	P*	Pb	21 10 24.4	-2.1
KRVZ				AML	AML	21 10 41.9	
KRVZ				AML	AML	21 10 44.7	
KRVZ	Karewarewa	1.13	28	P*	Pb	21 10 24.4	-2.1
WPHZ	Waipukurau	1.14	89	⇑P*	Pb	21 10 26.3	-0.4
WPHZ	Waipukurau	1.14	89	P*	Pb	21 10 26.3	-0.4
MTW	Mount Morrison	1.15	159	P*	Pb	21 10 25.3	-1.4
MTW				AML	AML	21 10 42.2	
MTW				AML	AML	21 10 42.6	
MTW	Mount Morrison	1.15	159	P*	Pb	21 10 25.3	-1.4
BFZ	Birch Farm	1.15	121	P*	Pb	21 10 25.4	-1.3
BFZ	Birch Farm	1.15	121	P*	Pb	21 10 25.4	-1.3
PKE	Pukeiti	1.16	320	P*	Pb	21 10 26.5	-0.5
PKE				AML	AML	21 10 45.4	
PKE				AML	AML	21 10 46.0	
PKE	Pukeiti	1.16	320	P*	Pb	21 10 26.6	-0.4
NWEZ	Newall Road	1.17	314	P*	Pb	21 10 26.6	-0.4
NWEZ	Newall Road	1.17	314	P*	Pb	21 10 26.8	-0.3
WEL	Wellington	1.20	187	P*	Pn	21 10 25.9	-1.6
SNZO	South Karori	1.23	189	P*	Pn	21 10 26.0	-2.0
SNZO				AML	AML	21 10 42.7	
SNZO				AML	AML	21 10 44.8	
SNZO	South Karori	1.23	189	P*	Pn	21 10 25.9	-2.0
TCW	Tory Channel	1.23	204	P*	Pn	21 10 26.0	-2.0
TCW				AML	AML	21 10 42.9	
TCW				AML	AML	21 10 45.2	
TCW	Tory Channel	1.23	204	P*	Pn	21 10 25.7	-2.3
TMWZ	Te Maipa	1.24	145	P*	Pn	21 10 26.6	-1.5
TMWZ	Te Maipa	1.24	145	P*	Pn	21 10 26.6	-1.5
KATZ	Kakaramea	1.25	28	P*	Pn	21 10 26.5	-1.9
KATZ				AML	AML	21 10 46.8	
KATZ				AML	AML	21 10 50.8	
KATZ	Kakaramea	1.25	28	P*	Pn	21 10 26.5	-1.9
PRHZ	Porangahau	1.30	98	PN	Pn	21 10 28.0	-0.9
PRHZ	Porangahau	1.30	98	Pn	Pn	21 10 28.1	-0.9
RITZ	Rihia Road	1.31	33	PN	Pn	21 10 28.0	-1.1
RITZ				AML	AML	21 10 51.1	
RITZ				AML	AML	21 10 56.2	
RITZ	Rihia Road	1.31	33	Pn	Pn	21 10 28.2	-0.9
BHW	Baring Head	1.32	183	PN	Pn	21 10 28.0	-1.1
BHW				AML	AML	21 10 47.4	
BHW				AML	AML	21 10 48.4	
BHW	Baring Head	1.32	183	Pn	Pn	21 10 28.0	-1.1
PAWZ	Paruwai Farm	1.34	165	PN	Pn	21 10 28.5	-1.0
PAWZ				AML	AML	21 10 49.6	
PAWZ				AML	AML	21 10 49.8	
PAWZ	Paruwai Farm	1.34	165	Pn	Pn	21 10 28.5	-0.9
MSWZ	Moikau Station	1.34	170	PN	Pn	21 10 28.1	-1.4
MSWZ				AML	AML	21 10 49.0	
MSWZ				AML	AML	21 10 49.3	
MSWZ	Moikau Station	1.34	170	Pn	Pn	21 10 28.1	-1.4
RATZ	Rangitukua	1.38	28	PN	Pn	21 10 28.9	-1.1
RATZ				AML	AML	21 10 58.0	
RATZ				AML	AML	21 10 59.2	
RATZ	Rangitukua	1.38	28	Pn	Pn	21 10 29.4	-0.6
TRWZ	Traveller	1.42	157	PN	Pn	21 10 30.1	-0.5
TRWZ				AML	AML	21 10 53.9	
TRWZ				AML	AML	21 10 54.3	
TRWZ	Traveller	1.42	157	Pn	Pn	21 10 30.1	-0.5
PXZ	Pawanui	1.47	88	PN	Pn	21 10 30.1	-1.1
PXZ				AML	AML	21 10 51.5	
PXZ				AML	AML	21 10 52.9	
PXZ				AML	AML	21 10 57.3	
PXZ				AML	AML	21 10 57.3	
PXZ	Pawanui	1.47	88	Pn	Pn	21 10 30.1	-1.1
HATZ	Hinemaiaia	1.49	37	PN	Pn	21 10 30.1	-1.4
HATZ				AML	AML	21 10 55.9	
HATZ				AML	AML	21 10 56.4	
HATZ	Hinemaiaia	1.49	37	Pn	Pn	21 10 30.2	-1.3
MCHZ	McNeill Hill	1.49	65	PN	Pn	21 10 31.8	+0.2
MCHZ	McNeill Hill	1.49	65	Pn	Pn	21 10 31.8	+0.2
PLWZ	Palliser	1.50	171	PN	Pn	21 10 30.3	-1.4
PLWZ	Palliser	1.50	171	Pn	Pn	21 10 30.3	-1.4
BKZ	Black Stump Fm	1.51	53	PN	Pn	21 10 30.6	-1.2
BKZ				AML	AML	21 10 53.3	
BKZ				AML	AML	21 10 56.8	
BKZ	Black Stump Fm	1.51	53	Pn	Pn	21 10 31.0	-0.8
WATZ	Wairara	1.51	24	PN	Pn	21 10 31.2	-0.6
WATZ				AML	AML	21 10 57.7	
WATZ				AML	AML	21 10 59.2	
WATZ	Wairara	1.51	24	Pn	Pn	21 10 31.2	-0.6
KAHZ	Kahuranaki	1.51	79	PN	Pn	21 10 31.1	-0.7
KAHZ	Kahuranaki	1.51	79	Pn	Pn	21 10 31.1	-0.7
TUWZ	Tuamarina	1.54	209	PN	Pn	21 10 30.2	-2.0
TUWZ				AML	AML	21 10 55.2	
TUWZ				AML	AML	21 10 56.6	
TUWZ	Tuamarina	1.54	209	Pn	Pn	21 10 30.2	-2.0
HIZ	Hauiti	1.58	357	PN	Pn	21 10 31.6	-1.1
HIZ				AML	AML	21 10 54.8	
HIZ				AML	AML	21 10 55.0	
HIZ	Hauiti	1.58	357	Pn	Pn	21 10 31.6	-1.1
WHTZ	Whakaora	1.62	29	PN	Pb	21 10 34.5	-0.4
WHTZ	Whakaora	1.62	29	Pn	Pb	21 10 35.2	+0.3
NNZ	Nelson	1.64	226	PN	Pn	21 10 31.8	-1.8
NNZ				AML	AML	21 11 01.4	
NNZ				AML	AML	21 11 02.9	
NNZ	Nelson	1.64	226	Pn	Pn	21 10 31.8	-1.8
NMHZ	Naumai	1.74	56	PN	Pn	21 10 35.3	+0.2
BSWZ	Blackbirch Sta	1.81	206	PN	Pn	21 10 35.0	-1.0
BSWZ				AML	AML	21 11 04.3	
BSWZ				AML	AML	21 11 06.4	
BSWZ	Blackbirch Sta	1.81	206	Pn	Pn	21 10 35.2	-0.8
ALRZ	Allen Road	1.87	36	PN	Pn	21 10 35.5	-1.2
ALRZ	Allen Road	1.87	36	Pn	Pn	21 10 35.6	-1.1
QRZ	Quartz Range	1.99	248	PN	Pn	21 10 36.9	-1.5
QRZ				AML	AML	21 11 04.2	
QRZ				AML	AML	21 11 07.4	
QRZ	Quartz Range	1.99	248	Pn	Pn	21 10 36.9	-1.5
RAHZ	Arahi	2.02	55	PN	Pn	21 10 38.3	-0.6
THZ	Tophouse	2.28	222	PN	Pn	21 10 41.4	-1.1
THZ				AML	AML	21 11 20.8	
THZ				AML	AML	21 11 22.0	
THZ	Tophouse	2.28	222	Pn	Pn	21 10 41.6	-0.9
KNZ	Kokohu	2.36	64	PN	Pn	21 10 42.0	-1.5
TOZ	Tahuroa Road	2.40	11	PN	Pn	21 10 41.9	-2.0
MHGZ	Mahia Peninsul	2.47	69	PN	Pn	21 10 43.7	-1.3
URZ	Urewera	2.48	43	PN	Pn	21 10 43.5	-1.6
URZ				AML	AML	21 11 17.0	
URZ				AML	AML	21 11 17.1	
MWZ	Matawai	2.66	50	PN	Pn	21 10 46.2	-1.4
MWZ	Matawai	2.66	50	Pn	Pn	21 10 46.5	-1.1
MKAZ	Moumakai	2.98	3	PN	Pn	21 10 50.2	-1.7
RVAZ	Riverhead Bore	3.33

CPUP PcP **PcP** **21 23 38.7 +0.5**
1.6nm,0.6s,baz=55,slow=1.8,SNR=4.4
CPUP LR LR 21 34 46.8
comp=Z,70nm,19.4s,baz=302,slow=33
CFAA Coronel Fontan 37.32 294 P **P** **21 21 22.6 -0.3**
CFAA pP **pP** **21 21 44.5 +0.3**
CFAA Coronel Fontan 37.32 294 P **P** **21 21 22.6 -0.3**
1.2nm,0.6s,baz=143,slow=7.8,SNR=20
CFAA pP **pP** **21 21 44.5 +0.3**
0.4nm,0.6s,baz=156,slow=8.5,SNR=2.3
CFAA LR LR 21 34 29.0
comp=Z,11nm,19.8s,baz=316,slow=32
MAW Mawson 40.22 144 *e*P **P** **21 21 46.8 +0.2**
1.4nm,0.7s
MAW ScP **ScP** **21 27 27.7 -1.4**
MAW Mawson 40.22 144 P **P** **21 21 45.9 -0.7**
5.5nm,0.6s,baz=231,slow=8.3,SNR=18
MAW ScP **ScP** **21 27 27.7 -1.4**
4.2nm,0.9s,baz=264,slow=3.9,SNR=7.1
MAW LR LR 21 36 20.1
comp=Z,46nm,18.6s,baz=41,slow=33
BDFB Brasilia 43.33 331 P **P** **21 22 12.7 0.0**
BDFB Brasilia 43.33 331 P **P** **21 22 12.7 0.0**
3.9nm,0.8s,baz=135,slow=10,SNR=5.2
LVC Limon Verde 45.09 301 *e*P **P** **21 22 27.8 +0.9**
26nm,0.7s
BOSA Boshof 46.32 76 LR LR 21 37 35.2
comp=Z,130nm,20.0s,baz=162,slow=30
VNDA Vanda 46.41 183 *e*P **P** **21 22 38.2 +1.9**
4.9nm,0.7s
VNDA ScP **ScP** **21 27 51.9 -2.2**
VNDA Vanda 46.41 183 P **P** **21 22 37.8 +1.5**
5.0nm,0.7s,baz=191,slow=6.6,SNR=46
VNDA ScP **ScP** **21 27 51.9 -2.2**
1.0nm,0.8s,baz=238,slow=1.3,SNR=5.4
SIV San Ignacio 47.44 314 P **P** **21 22 45.2 +0.2**
SIV PcP **PcP** **21 24 15.1 +1.1**
SIV ScP **ScP** **21 27 57.0 -2.3**
SIV San Ignacio 47.44 314 P **P** **21 22 45.2 +0.2**
1.9nm,0.6s,baz=169,slow=11,SNR=7.5
SIV PcP **PcP** **21 24 15.1 +1.1**
1.6nm,0.7s,baz=249,slow=20,SNR=4.0
SIV ScP **ScP** **21 27 57.0 -2.3**
1.3nm,0.9s,baz=161,slow=10,SNR=3.3
LBTB Lobatse 49.36 74 P **P** **21 22 59.0 -0.7**
LBTB pP **pP** **21 23 19.6 -2.4**
LBTB Lobatse 49.36 74 P **P** **21 22 59.0 -0.7**
2.4nm,0.9s,baz=253,slow=14,SNR=2.8
LBTB pP **pP** **21 23 19.6 -2.4**
4.3nm,0.8s,baz=193,slow=9.5,SNR=4.6
LPAZ La Paz 50.20 306 *e*P **P** **21 23 08.3 +1.5**
21nm,0.8s
LPAZ La Paz 50.20 306 P **P** **21 23 08.3 +1.5**
13nm,0.5s,baz=136,slow=5.3,SNR=45
LPAZ LR LR 21 42 11.2
comp=Z,60nm,21.5s,baz=60,slow=33
CASY Casey 53.88 161 *e*P **P** **21 23 33.8 +1.1**
21nm,1.3s
SAML Samuel 54.68 315 *e*P **P** **21 23 38.8 -0.3**
10nm,1.0s
ATAH Atahualpa 62.99 301 P **P** **21 24 39.2 +2.0**
ATAH Atahualpa 62.99 301 P **P** **21 24 39.2 +2.0**
13nm,0.8s,baz=170,slow=6.4,SNR=6.8
LIC Lamto 64.96 25 *e*P **P** **21 24 49.7 +0.2**
31nm,0.6s
KIC Kosan Boka 65.16 25 *e*P **P** **21 24 50.6 -0.2**
127nm,1.8s
TIC Toumodi 65.37 25 *e*P **P** **21 24 52.4 +0.2**
19nm,0.7s
DBIC Dimbokro 65.43 25 P **P** **21 24 52.7 +0.1**
DBIC Dimbokro 65.43 25 P **P** **21 24 52.7 +0.1**
4.6nm,0.6s,baz=189,slow=6.0,SNR=8.4
OTAV Otavalo 69.47 304 *e*P **P** **21 25 20.4 +1.7**
31nm,1.4s
ROSC El Rosal 71.75 310 P **P** **21 25 33.0 +0.7**
ROSC El Rosal 71.75 310 P **P** **21 25 33.0 +0.7**
4.4nm,0.4s,baz=260,slow=21,SNR=3.6
TOA0 Torodi Ar. Sit 73.34 30 *e*P **P** **21 25 41.5 +0.3**
TORD Torodi Ar. Bea 73.34 30 P **P** **21 25 41.8 +0.5**
TORD Torodi Ar. Bea 73.34 30 P **P** **21 25 41.8 +0.5**
12nm,0.8s,baz=200,slow=6.0,SNR=70
TAM Tamanrasset 83.58 31 *e*P **P** **21 26 39.3 +1.8**
MDT Midelt 90.83 19 P **P** **21 27 13.1 +0.7**
MDT Midelt 90.83 19 P **P** **21 27 13.1 +0.7**
4.7nm,0.8s,baz=190,slow=5.0,SNR=11
TEIG Tepich 91.53 305 *e*P **P** **21 27 16.9 +1.2**
14nm,1.0s
TEIG Tepich 91.53 305 P **P** **21 27 16.9 +1.2**
5.8nm,0.3s,baz=94,slow=0.6,SNR=19
KEST Kesra 96.86 30 LR LR 22 05 30.6
comp=Z,22nm,21.0s,baz=262,slow=32
ESDC Sonseca Array 97.62 18 P Pdif 21 27 44.3 +1.0
ESDC Sonseca Array 97.62 18 P Pdif 21 27 44.3 +1.0
0.1nm,0.3s,baz=191,slow=5.2,SNR=4.3
ASAR Alice Springs 98.95 163 P Pdif 21 27 50.5 +0.8
ASAR Alice Springs 98.95 163 P Pdif 21 27 50.5 +0.8
0.6nm,0.7s,baz=184,slow=4.3,SNR=7.3
WRA Warramunga Arr 102.67 163 P **Pdif** **21 28 06.3 0.0**
WRA Warramunga Arr 102.67 163 P **Pdif** **21 28 06.3 0.0**
0.4nm,0.8s,baz=199,slow=4.5,SNR=3.8
CRVS Cervenica-Dubn 112.47 33 PDIF **Pdif** **21 28 53.0 +4.0**
ULM Lac du Bonnet 120.13 316 PKP **PKPdf** **21 32 58.6 0.0**
ULM Lac du Bonnet 120.13 316 PKP **PKPdf** **21 32 58.6 0.0**
1.6nm,0.5s,baz=175,slow=2.4,SNR=3.1
PDAR Pinedale Array 120.15 303 PKP **PKPdf** **21 32 59.5 +0.4**
PDAR Pinedale Array 120.15 303 PKP **PKPdf** **21 32 59.5 +0.4**
0.2nm,0.4s,baz=144,slow=6.4,SNR=3.5
NVAR Mina Array Bea 121.16 293 PKP **PKPdf** **21 33 01.8 +0.6**
NVAR Mina Array Bea 121.16 293 PKP **PKPdf** **21 33 01.8 +0.6**
0.4nm,0.5s,baz=159,slow=3.9,SNR=2.4
FINES FINESS Array B 124.66 28 PKP **PKPdf** **21 33 06.5 -0.4**
FINES FINESS Array B 124.66 28 PKP **PKPdf** **21 33 06.5 -0.4**
1.4nm,0.5s,baz=162,slow=1.6,SNR=13
KAF Kangasniemi 125.28 28 *e*p **PKPdf** **21 33 06.6 -1.5**
2.4nm,0.6s
CMAR Chiang Mai Arr 125.31 111 PKP **PKPdf** **21 33 09.6 +0.1**
CMAR Chiang Mai Arr 125.31 111 PKP **PKPdf** **21 33 09.6 +0.1**
0.6nm,0.7s,baz=227,slow=3.9,SNR=4.8
AKTO Aktyubinsk 127.68 54 PKP **PKPdf** **21 33 13.2 +0.1**
AKTO Aktyubinsk 127.68 54 PKP **PKPdf** **21 33 13.2 +0.1**
1.0nm,0.8s,baz=203,slow=3.9,SNR=4.6
ABKAR Akbulak array 127.72 56 *e*PKPdf **PKPdf** **21 33 12.2 -1.0**
KSH Kashi 128.92 75 *e*PKP **PKPdf** **21 33 15.3 -0.6**
ARCES ARCESS Array B 131.20 22 PKP **PKPdf** **21 33 18.4 -0.8**
ARCES ARCESS Array B 131.20 22 PKP **PKPdf** **21 33 18.4 -0.8**
2.2nm,0.9s,baz=190,slow=0.7,SNR=8.3
KMI Kunming 132.78 110 PKP **PKPdf** **21 33 21.9 -1.9**
BVAR Borovoye Array 135.13 58 PKP **PKPdf** **21 33 26.6 -0.5**
BVAR Borovoye Array 135.13 58 PKP **PKPdf** **21 33 26.6 -0.5**
1.3nm,0.7s,baz=235,slow=2.0,SNR=9.1
GYA Guiyang 135.91 113 *e*Pdif **Pdif** **21 30 33.3 -0.7**
GYA PKP **PKiKP** **21 33 30.8 -0.4**
GYA sPKP 21 34 01.5
GYA PP **PP** **21 36 13.6 +4.1**
GYA PKS **PKSdf** **21 37 05.4 -0.6**
GYA SS SS 21 54 04.3 +3.2
GYA AMB AMB
comp=Z,120nm,7.8s
GYA LR LR
comp=N,130nm,20.6s
GYA LR LR
comp=E,110nm,21.2s
GYA LR LR
comp=Z,140nm,20.8s
YKA Yellowknife Ar 136.06 318 PKP **PKPdf** **21 33 26.8 -1.7**
YKA Yellowknife Ar 136.06 318 PKP **PKPdf** **21 33 26.8 -1.7**
comp=Z,2.3nm,0.6s,baz=132,slow=1.9,SNR=12
MKAR Makanchi Array 137.24 72 PKP **PKPdf** **21 33 29.5 -1.7**
MKAR Makanchi Array 137.24 72 PKP **PKPdf** **21 33 29.5 -1.7**
comp=Z,0.5nm,0.7s,baz=218,slow=1.1,SNR=4.9
KURBB Kurchatov Arra 137.66 65 PKP **PKPdf** **21 33 31.2 -0.6**
comp=Z,0.6nm,0.2s,baz=227,slow=2.3,SNR=3.5
KURK Kurchatov 137.76 65 PKP **PKPdf** **21 33 31.2 -0.7**
CD2 Chengdu 137.93 106 *e*PKP **PKPdf** **21 33 34.3 +1.3**
CD2 sPKP 21 34 02.8
CD2 PKS **PKSdf** **21 37 08.5 -0.8**
CD2 SKS **SKSdf** **21 40 35.3 +0.2**
CD2 SKKS **SKKSac** **21 43 08.3 +1.1**
CD2 SS SS **21 54 27.5 +2.4**
CD2 AMB AMB
comp=Z,120nm,8.4s
CD2 LR LR
comp=N,160nm,18.2s
CD2 LR LR
comp=Z,150nm,21.2s
WMQ Urumqi 138.25 79 *e*PKP **PKPdf** **21 33 35.3 +2.1**

LZH Lanzhou 141.90 101 *e*PKP **PKPdf** **21 33 41.8 +1.6**
LZH sPKP 21 34 10.6
LZH PP **PP** **21 36 50.9 +4.3**
LZH SKKS 21 43 28.6
LZH SS SS **21 55 12.3 +0.4**
LZH AMB AMB
comp=Z,150nm,5.9s
ZALV Zalesovo Beam 142.72 64 PKPpre PKPpre 21 33 37.0
ZALV PKP **PKPdf** **21 33 42.0 +1.1**
ZALV Zalesovo Beam 142.72 64 PKhKP PKPpre 21 33 37.0
comp=Z,0.7nm,0.5s,baz=223,slow=3.8,SNR=4.4
ZALV PKP **PKPdf** **21 33 42.0 +1.1**
comp=Z,2.0nm,1.0s,baz=230,slow=3.7,SNR=4.7
HHC Hu-ho-hao-te 149.53 103 *e*PKPbc **PKPdf** **21 33 53.0 0.0**
HHC pPKP **pPKPdf** **21 34 19.1 +0.5**
HHC sPKP 21 34 30.3
HHC PKS **PKSdf** **21 37 26.8 -1.1**
HHC PP **PP** **21 37 33.3 +1.6**
HHC SKS **SKSdf** **21 40 49.8 -2.6**
HHC SKKS **SKKSac** **21 44 11.9 -1.5**
HHC SS **SS** **21 56 37.0 -1.5**
HHC AMB AMB
comp=Z,180nm,9.6s
HHC LR LR
comp=N,190nm,21.2s
HHC LR LR
comp=E,190nm,22.0s
HHC LR LR
comp=Z,210nm,20.2s
ILAR Eielson Array 149.97 312 PKP **PKPdf** **21 33 50.0 -2.7**
ILAR PKPbc **PKPbc** **21 33 57.9 +0.1**
ILAR Eielson Array 149.97 312 PKP **PKPdf** **21 33 50.0 -2.7**
comp=Z,0.6nm,0.8s,baz=281,slow=1.4,SNR=6.1
ILAR PKPbc **PKPbc** **21 33 57.9 +0.1**
comp=Z,16nm,0.8s,baz=134,slow=1.8,SNR=101
KDAK Kodiak Island 150.59 296 PKPbc **PKPbc** **21 34 00.1 +0.7**
KDAK Kodiak Island 150.59 296 PKPbc **PKPbc** **21 34 00.1 +0.7**
comp=Z,15nm,0.6s,baz=86,slow=2.7,SNR=17
SONM Songino Array 151.06 87 PKPbc **PKPbc** **21 34 00.9 -0.2**
SONM pPKPbc **pPKPbc** **21 34 25.5 -1.0**
SONM Songino Array 151.06 87 PKPbc **PKPbc** **21 34 00.9 -0.2**
comp=Z,3.6nm,0.6s,baz=223,slow=3.4,SNR=33
SONM pPKPbc **pPKPbc** **21 34 25.5 -1.0**
comp=Z,1.9nm,0.8s,baz=237,slow=2.6,SNR=4.8
JNU Nakatsue 152.60 138 PKPbc **PKPbc** **21 34 04.6 -0.3**
JNU Nakatsue 152.60 138 PKPbc **PKPbc** **21 34 04.6 -0.3**
comp=Z,4.3nm,0.8s,baz=165,slow=19,SNR=3.8
CN2 Changchun 158.94 115 *e*PKP **PKPdf** **21 34 04.0 -1.9**
PETK Petropavlovsk- 175.57 228 PKPab **PKPab** **21 35 55.3 -0.6**
PETK Petropavlovsk- 175.57 228 PKPab **PKPab** **21 35 55.3 -0.6**
comp=Z,1.6nm,0.7s,baz=123,slow=5.5,SNR=6.8

CSEM ***15*** *21:20:15.1,35°.99N×22°.75E,h29km,MD2.8,After ATH*
ATH 15 21:20:14.4,35°.84N×22°.73E,h34km±6km,MD3.1/11,
Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.47**	**87**	*e*PB	Pn	21 20 24.8	+0.1
ANKY				*e*SB	Sn	21 20 32.9	+1.2
ANKY	**Antikythira Is**	**0.47**	**87**	*e*Pb	Pn	21 20 24.8	+0.1
ANKY				*e*Sb	Sn	21 20 32.9	+1.2
KYTH	**Kithira**	**0.51**	**29**	*e*PN	Pn	21 20 25.5	+0.2
KYTH	**Kithira**	**0.51**	**29**	*e*Pn	Pn	21 20 25.5	+0.2
VLI	**Veliai**	**0.89**	**11**	*e*PN	Pb	21 20 31.9	+0.4
VLI				*e*SN	Sb	21 20 44.0	+0.8
VLI	**Veliai**	**0.89**	**11**	*e*Pn	Pb	21 20 31.9	+0.4
VLI				*e*Sn	Sb	21 20 44.0	+0.8
DYR	**Agios Nikonas**	**0.97**	**341**	*e*PN	Pn	21 20 32.2	+0.5
DYR				*e*SN	Sn	21 20 43.5	-0.9
DYR	**Agios Nikonas**	**0.97**	**341**	*e*Pn	Pn	21 20 32.2	+0.5
DYR				*e*Sn	Sn	21 20 43.5	-0.9
KARN	**Karanos**	**1.06**	**114**	*e*PN	Pb	21 20 34.7	+0.3
KARN				*e*SN	Sb	21 20 48.8	+0.8
KARN	**Karanos**	**1.06**	**114**	*e*Pn	Pb	21 20 34.7	+0.3
KARN				*e*Sn	Sb	21 20 48.8	+0.8
VAM	**Vamos**	**1.27**	**109**	*e*PN	Pb	21 20 38.4	+0.5
VAM	**Vamos**	**1.27**	**109**	*e*Pn	Pb	21 20 38.4	+0.5
PYL	**PYLOS**	**1.32**	**323**	*e*PB	Pb	21 20 37.7	-1.0
PYL	**PYLOS**	**1.32**	**323**	*e*Pb	Pb	21 20 37.7	-1.0
ITM	**Ithomi**	**1.48**	**334**	*e*PB	Pb	21 20 40.3	-1.2
ITM	**Ithomi**	**1.48**	**334**	*e*Pb	Pb	21 20 40.3	-1.2
VLX	**Vlachokerasia**	**1.55**	**350**	*e*PN	Pb	21 20 42.1	-0.7
VLX	**Vlachokerasia**	**1.55**	**350**	*e*Pn	Pb	21 20 42.1	-0.7
DID	**Didima**	**1.71**	**14**	*e*PN	Pn	21 20 43.2	+1.3
DID	**Didima**	**1.71**	**14**	*e*Pn	Pn	21 20 43.2	+1.3
IDI	**Anoyia**	**1.84**	**107**	*e*PN	Pn	21 20 44.8	+1.0
IDI	**Anoyia**	**1.84**	**107**	*e*Pn	Pn	21 20 44.8	+1.0
AMT	**Artemida-Makis**	**1.88**	**334**	*e*PB	Pn	21 20 45.4	+1.2
AMT	**Artemida-Makis**	**1.88**	**334**	*e*Pb	Pn	21 20 45.4	+1.2
GUR	**Goura**	**2.12**	**352**	*e*PN	Pn	21 20 48.7	+1.2
GUR	**Goura**	**2.12**	**352**	*e*Pn	Pn	21 20 48.7	+1.2
LTK	**Loutraki**	**2.19**	**5**	*e*PB	Pb	21 20 51.3	-2.1
LTK	**Loutraki**	**2.19**	**5**	*e*Pb	Pb	21 20 51.3	-2.1
KLV	**Kalavryta, Ach**	**2.25**	**348**	*e*PB	Pb	21 20 53.2	-1.3
KLV	**Kalavryta, Ach**	**2.25**	**348**	*e*Pb	Pb	21 20 53.2	-1.3
ATH	**Athens Observa**	**2.27**	**20**	*e*PN	Pn	21 20 50.7	+1.2
ATH	**Athens Observa**	**2.27**	**20**	*e*Pn	Pn	21 20 50.7	+1.2

ISK ***15*** *21:21:57.8,41°.47N×39°.21E,h5km,MD3.7*
ISCJB ***15*** *21:21:59.0±0.9,41°.47N±0°.03×39°.18E±0°.03,h13km±6km,*
mb3.8/2,Error ellipse: s-maj=5.7km s-min=3.3km
az=174.7
CSEM ***15*** *21:21:59.6±0.2,41°.42N×39°.21E,h10km,MD3.5,Error*
ellipse: s-maj=5.8km s-min=3.1km az=172.0
DDA ***15*** *21:21:59.3,41°.37N×39°.21E,h42km,MD3.5*
IDC ***15*** *21:22:06.6±1.8,42°.20N×38°.78E,h0km,mb3.9/2,*
mb1 3.8/3,mb1mx3.2/25,mbtmp3.7/3,ML2.6/2,Error
ellipse: s-maj=38.4km s-min=14.9km az=155.0
ISC 15 21:21:58.2±1.3,41°.44N±0°.04×39°.19E±0°.02,h4km±10km,
n75,σ1°13/102,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPY	**Espiye-Giresun**	**0.63**	**214**	*e*PG	**Pg**	**21 22 10.9**	**+0.7**
ESPY				*e*SG	**Sg**	**21 22 18.2**	**0.0**
ESPY	**Espiye-Giresun**	**0.63**	**214**	*e*Pg	**Pg**	**21 22 10.9**	**+0.7**
ESPY				*e*Sg	**Sg**	**21 22 18.3**	**0.0**
MACK	**Trabzon**	**0.66**	**138**	*i* P	**Pb**	**21 22 13.0**	**+0.7**
MACK				*i* S	**Sb**	**21 22 21.5**	**-0.4**
MACK	**Trabzon**	**0.66**	**138**	*i* P	**Pb**	**21 22 13.0**	**+0.7**
MACK				*i* S	**Sb**	**21 22 21.5**	**-0.4**
GRSN	**GIRESUNGRSN**	**0.86**	**234**	*i* P	**Pg**	**21 22 14.9**	**+0.1**
GRSN				*i* S	**Sg**	**21 22 23.0**	**-3.0**
GRSN	**GIRESUNGRSN**	**0.86**	**234**	*i* P	**Pg**	**21 22 14.9**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.27**	**145**	*e*PN	**Pg**	**21 22 22.6**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.27**	**145**	*e*Pn	**Pg**	**21 22 22.6**	**0.0**
KELT	**Kelkit**	**1.29**	**178**	*i* P	**Pn**	**21 22 22.4**	**-0.9**
KELT				*i* S	**Sg**	**21 22 38.8**	**-0.9**
KELT	**Kelkit**	**1.29**	**178**	*i* P	**Pn**	**21 22 22.4**	**-0.9**
KELT				*i* S	**Sg**	**21 22 38.8**	**-0.9**
PZAR	**Pazar-Rize**	**1.32**	**101**	*e*PN	**Pn**	**21 22 23.5**	**+0.1**
PZAR				*e*SN	**Sn**	**21 22 41.3**	**-0.1**
PZAR	**Pazar-Rize**	**1.32**	**101**	*e*Pn	**Pn**	**21 22 23.5**	**+0.1**
PZAR				*e*Sn	**Sn**	**21 22 41.3**	**-0.1**
SUSE	**Susehri**	**1.44**	**212**	*i* P	**Pn**	**21 22 24.9**	**-0.3**
SUSE				*i* S	**Sb**	**21 22 43.1**	**-1.3**
SUSE	**Susehri**	**1.44**	**212**	*i* P	**Pn**	**21 22 24.9**	**-0.3**
SUSE				*i* S	**Sb**	**21 22 43.1**	**-1.3**
EZC	**Erzincan**	**1.69**	**176**	*e*PN	**Pn**	**21 22 29.5**	**+0.8**
EZC	**Erzincan**	**1.69**	**176**	*e*Pn	**Pn**	**21 22 29.5**	**+0.8**
KOPT	**Kop Dagi**	**1.73**	**144**	*i* P	**Pb**	**21 22 31.2**	**+0.4**
KOPT				*i* S	**Sg**	**21 22 54.2**	**+0.3**
KOPT	**Kop Dagi**	**1.73**	**144**	*i* P	**Pb**	**21 22 31.2**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.75**	**234**	*e*PN	**Pn**	**21 22 29.9**	**+0.5**
RSDY	**Resadiye-TOKAT**	**1.75**	**234**	*e*Pn	**Pn**	**21 22 29.9**	**+0.5**
BCA	**Borcka**	**1.83**	**89**	*e*PN	**Pn**	**21 22 30.2**	**-0.3**
BCA	**Borcka**	**1.83**	**89**	*e*Pn	**Pn**	**21 22 30.2**	**-0.3**
DBOC	**Borcka**	**1.87**	**92**	*i* P	**Pn**	**21 22 30.8**	**-0.2**
DBOC				*i* S	**Sn**	**21 22 52.5**	**-2.6**
DBOC	**Borcka**	**1.87**	**92**	*i* P	**Pn**	**21 22 30.8**	**-0.2**
DBOC				*i* S	**Sn**	**21 22 52.5**	**-2.6**
ERZN	**Erzincan**	**1.89**	**167**	*e*PN	**Pn**	**21 22 32.5**	**+1.0**
DBAD	**Bademkaya**	**1.94**	**102**	*i* P	**Pn**	**21 22 32.3**	**+0.2**
DBAD				*i* S	**Sn**	**21 22 55.2**	**-1.8**
DBAD	**Bademkaya**	**1.94**	**102**	*i* P	**Pn**	**21 22 32.3**	**+0.2**
DBAD				*i* S	**Sn**	**21 22 55.2**	**-1.8**
ERBA	**Erbaa**	**1.99**	**248**	*i* P	**Pn**	**21 22 32.9**	**+0.2**
ERBA				*i* S	**Sn**	**21 22 56.7**	**-1.4**
ERBA	**Erbaa**	**1.99**	**248**	*i* P	**Pn**	**21 22 32.9**	**+0.2**
ERBA				*i* S	**Sn**	**21 22 56.7**	**-1.4**
DDEM	**Demirkent**	**2.01**	**105**	*i* P	**Pn**	**21 22 34.0**	**+0.9**
DDEM				*i* S	**Sn**	**21 22 57.9**	**-0.9**
DDEM	**Demirkent**	**2.01**	**105**	*i* P	**Pn**	**21 22 34.0**	**+0.9**
DDEM				*i* S	**Sn**	**21 22 57.9**	**-0.9**
ILIC	**ilic-Erzincan**	**2.04**	**194**	*e*PN	**Pn**	**21 22 34.1**	**+0.6**
ILIC	**ilic-Erzincan**	**2.04**	**194**	*e*Pn	**Pn**	**21 22 34.1**	**+0.6**
ARTV	**Artvin**	**2.08**	**96**	*i* P	**Pn**	**21 22 34.6**	**+0.5**
ARTV				*i* S	**Sn**	**21 22 59.2**	**-1.4**
ARTV	**Artvin**	**2.08**	**96**	*i* P	**Pn**	**21 22 34.6**	**+0.5**
ARTV				*i* S	**Sn**	**21 22 59.2**	**-1.4**
DAGI	**Agillar**	**2.09**	**99**	*i* P	**Pn**	**21 22 34.6**	**+0.4**
DAGI				*i* S	**Sn**	**21 22 59.3**	**-1.4**
SCER	**sogukcermik**	**2.22**	**225**	*i* P	**Pn**	**21 22 37.6**	**+1.6**
SCER				*i* S	**Sn**	**21 23 05.6**	**+1.6**
SCER	**sogukcermik**	**2.22**	**225**	*i* P	**Pn**	**21 22 37.6**	**+1.6**
SCER				*i* S	**Sn**	**21 23 05.6**	**+1.6**
SVSK	**Karacayir**	**2.25**	**228**	*e*PN	**Pn**	**21 22 37.2**	**+0.9**
SVSK	**Karacayir**	**2.25**	**228**	*e*Pn	**Pn**	**21 22 37.2**	**+0.9**
ERZM	**Erzurum**	**2.26**	**132**	*i* P	**Pg**	**21 22 41.1**	**-0.4**
ERZM				*i* S	**Sg**	**21 23 10.7**	**0.0**
TOKT	**Tokat**	**2.29**	**242**	*e*PN	**Pn**	**21 22 37.8**	**+0.9**
TOKT	**Tokat**	**2.29**	**242**	*e*Pn	**Pn**	**21 22 37.8**	**+0.9**
KVT	**Kavak**	**2.39**	**262**	*e*PN	**Pn**	**21 22 39.0**	**+0.7**
KVT	**Kavak**	**2.39**	**262**	*e*Pn	**Pn**	**21 22 39.0**	**+0.7**
PTK	**Pertek**	**2.55**	**176**	*e*PN	**Pn**	**21 22 41.8**	**+1.3**
PTK	**Pertek**	**2.55**	**176**	*e*Pn	**Pn**	**21 22 41.8**	**+1.3**
HAVZ	**Havza**	**2.64**	**263**	*i* P	**Pn**	**21 22 42.6**	**+0.9**
HAVZ				*i* S	**Sn**	**21 23 12.5**	**-1.7**
HAVZ	**Havza**	**2.64**	**263**	*i* P	**Pn**	**21 22 42.6**	**+0.9**
BNGB	**Bing¶ll**	**2.70**	**154**	*e*PN	**Pn**	**21 22 43.5**	**+1.0**
BINT	**Bingol**	**2.75**	**158**	*e*Pn	**Pn**	**21 22 43.5**	**+0.3**
DIKM	**Dikmen**	**2.96**	**275**	*e*PN	**Pn**	**21 22 46.6**	**+0.6**
DIKM	**Dikmen**	**2.96**	**275**	*e*Pn	**Pn**	**21 22 46.6**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.06**	**178**	*e*PN	**Pn**	**21 22 48.6**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.06**	**178**	*e*Pn	**Pn**	**21 22 48.6**	**+1.1**
DARE	**Darende-Malaty**	**3.15**	**205**	*e*PN	**Pn**	**21 22 49.9**	**+1.1**
MYA	**Malataya**	**3.16**	**191**	*e*PN	**Pn**	**21 22 50.3**	**+1.4**
MYA	**Malataya**	**3.16**	**191**	*e*Pn	**Pn**	**21 22 50.3**	**+1.4**
ONI	**Oni**	**3.38**	**69**	P	**Pn**	**21 22 53.1**	**+1.2**
ONI	**Oni**	**3.38**	**69**	P	**Pn**	**21 22 53.1**	**+1.2**
AGRB	**Hanur-Agry**	**3.45**	**121**	*e*PN	**Pn**	**21 22 54.2**	**+1.3**
AGRB	**Hanur-Agry**	**3.45**	**121**	*e*Pn	**Pn**	**21 22 54.2**	**+1.3**
YOZ	**Yozgat**	**3.45**	**240**	*e*PN	**Pn**	**21 22 54.2**	**+1.3**
KBZ	**Khabaz**	**3.57**	**49**	Pn	**Pb**	**21 23 02.9**	**+1.0**
	0.3nm,0.3s,baz=214,slow=15,SNR=5.2						
KBZ				Lg	Lg	21 23 54.1	
	0.6nm,0.3s,baz=224,slow=13,SNR=3.8						
BNN	**Bunyan**	**3.64**	**226**	*e*PN	**Pn**	**21 22 56.6**	**+1.1**
CORM	**Corum**	**3.68**	**251**	*e*PN	**Pn**	**21 22 57.5**	**+1.5**
CORM	**Corum**	**3.68**	**251**	*e*Pn	**Pn**	**21 22 57.5**	**+1.5**
BZK	**Bozkurt**	**3.92**	**279**	*e*PN	**Pn**	**21 23 00.9**	**+1.8**
BZK	**Bozkurt**	**3.92**	**279**	*e*Pn	**Pn**	**21 23 00.9**	**+1.8**
KMRS	**Kahramanmaras**	**4.31**	**205**	*e*PN	**Pn**	**21 23 06.4**	**+1.8**
BRTR	**Keskin Array B**	**4.56**	**250**	Pn	**Pb**	**21 23 16.8**	**-2.1**
	0.1nm,0.3s,baz=60,slow=12,SNR=4.1						
BRTR				Lg	Lg	21 24 34.4	
	0.2nm,0.3s,baz=59,slow=29,SNR=3.1						
KOZT	**Kozan**	**4.73**	**214**	*e*PN	**Pn**	**21 23 12.4**	**+2.0**
KOZT	**Kozan**	**4.73**	**214**	*e*Pn	**Pn**	**21 23 12.4**	**+2.0**
FINES	**FINESS Array B**	**21.55**	**343**	P	**P**	**21 26 48.7**	**+0.4**
	2.4nm,0.9s,baz=135,slow=14,SNR=2.5						
ARCES	**ARCESS Array B**	**29.06**	**350**	P	**P**	**21 28 00.4**	**+1.1**
	3.5nm,1.1s,baz=155,slow=8.8,SNR=4.4						

NEIC ***15*** *21:25:45.8,37°.87S×176°.24E,h148km,MG3.6(WEL),*
After WEL.
NEIC Felt in the Wanganui area.
WEL 15 21:25:45.3±0.6,37°.84S×176°.24E,h152km±4km,ML3.6/5,
Error ellipse: s-maj=5.5km s-min=5.3km az=0.0,North
Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.80**	**122**	PN	Pn	21 26 08.7	-0.1
URZ				SN	Sn	21 26 26.7	0.0
URZ				AML	AML	21 26 30.6	
URZ	**Urewera**	**0.80**	**122**	Pn	Pn	21 26 08.7	-0.1
MWZ	**Matawai**	**1.13**	**117**	PN	Pn	21 26 11.2	-0.3
MWZ				SN	Sn	21 26 31.2	-0.2
MWZ				AML	AML	21 26 32.0	
MWZ				AML	AML	21 26 33.4	
MWZ				AML	AML	21 26 33.4	
MWZ	**Matawai**	**1.13**	**117**	Pn	Pn	21 26 11.2	-0.2
MWZ				Sn	Sn	21 26 31.2	-0.2
RAHZ	**Arahi**	**1.27**	**149**	PN	Pn	21 26 12.9	+0.2
RAHZ	**Arahi**	**1.27**	**149**	Pn	Pn	21 26 12.9	+0.2
NMHZ	**Naumai**	**1.33**	**161**	PN	Pn	21 26 14.0	+0.6
NMHZ	**Naumai**	**1.33**	**161**	Pn	Pn	21 26 14.0	+0.6
BKZ	**Black Stump Fm**	**1.34**	**172**	PN	Pn	21 26 13.0	-0.5
BKZ				SN	Sn	21 26 33.9	-1.3
BKZ				AML	AML	21 26 35.8	
BKZ	**Black Stump Fm**	**1.34**	**172**	Pn	Pn	21 26 13.1	-0.4
BKZ				Sn	Sn	21 26 33.9	-1.3
WNVZ	**Wahianoa**	**1.57**	**199**	PN	Pn	21 26 15.9	0.0
WNVZ				SN	Sn	21 26 40.2	+0.6
MOVZ	**Moawhango**	**1.61**	**194**	PN	Pn	21

NNZ	**Nelson**	**4.04**	**212**	PN	Pn	21	26	42.7 -3.3

IDC 15 21:34:08.0±1.5, 11°.53N×92°.37E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.5/28, mbtmp3.6/8, ML3.0/1, Error ellipse: s-maj=53.2km s-min=21.0km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.36**	**42**	Pn	Pn	21 36 23.8	-0.5
	0.0nm,0.3s,baz=233,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**36.16**	**348**	P	P	21 41 11.9	-0.2
	1.1nm,0.8s,baz=166,slow=7.8,SNR=8.4						
SONM	**Songino Array**	**38.05**	**15**	P	P	21 41 28.5	+0.2
	0.3nm,0.5s,baz=211,slow=8.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**40.60**	**346**	P	P	21 41 49.8	+0.5
	0.3nm,0.3s,baz=163,slow=6.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.73**	**353**	P	P	21 42 06.2	-0.5
	0.5nm,0.4s,baz=181,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**51.82**	**127**	P	P	21 43 17.9	-0.3
	0.5nm,0.6s,baz=305,slow=8.6,SNR=5.7						
ASAR	**Alice Springs**	**53.60**	**131**	P	P	21 43 31.5	+0.1
	0.4nm,0.8s,baz=316,slow=6.3,SNR=4.2						
FINES	**FINESS Array B**	**68.68**	**332**	P	P	21 45 12.7	-0.4
	5.1nm,1.1s,baz=134,slow=11,SNR=3.4						

IDC 15 21:35:00.8±5.4, 18°.91N×145°.74E, h202km±52km, mb3.4/14, mb1 3.6/15, mb1mx3.4/27, mbtmp3.3/15, MS2.8/1, Ms1 2.8/1, ms1mx2.1/16, Error ellipse: s-maj=23.7km s-min=12.2km az=86.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.77**	**341**	P	P	21 39 04.5	-0.3
	0.3nm,0.3s,baz=160,slow=8.8,SNR=6.6						
KSRS	**Korea Array**	**24.17**	**324**	P	P	21 39 58.8	+0.2
	0.8nm,0.7s,baz=149,slow=9.7,SNR=7.1						
ASAJ	**Asahikawa**	**25.27**	**355**	LR	LR	21 48 43.3	
	comp=Z,22nm,20.8s,baz=341,slow=32						
USRK	**Ussuriysk Arra**	**27.72**	**338**	P	P	21 40 29.6	-0.7
	0.5nm,0.5s,baz=151,slow=9.1,SNR=3.1						
WRA	**Warramunga Arr**	**40.20**	**197**	P	P	21 42 17.2	-0.6
	1.0nm,0.4s,baz=12,slow=8.5,SNR=26						
SONM	**Songino Array**	**43.00**	**321**	P	P	21 42 41.5	+1.0
	0.5nm,0.6s,baz=140,slow=9.7,SNR=5.7						
ASAR	**Alice Springs**	**43.87**	**196**	P	P	21 42 47.6	+0.2
	0.4nm,0.4s,baz=13,slow=7.2,SNR=12						
MKAR	**Makanchi Array**	**58.35**	**314**	P	P	21 44 35.4	+0.5
	0.3nm,0.5s,baz=87,slow=9.1,SNR=4.5						
KURBB	**Kurchatov Arra**	**61.19**	**318**	P	P	21 44 54.2	+0.1
	0.5nm,0.4s,baz=92,slow=7.5,SNR=9.6						
ILAR	**Eielson Array**	**63.44**	**26**	P	P	21 45 08.1	-0.7
	0.6nm,0.5s,baz=252,slow=6.3,SNR=5.7						
BVAR	**Borovoye Array**	**66.34**	**320**	P	P	21 45 27.8	+0.1
	2.5nm,0.5s,baz=96,slow=7.4,SNR=31						
YKA	**Yellowknife Ar**	**77.78**	**28**	P	P	21 46 35.5	+0.2
	0.7nm,0.6s,baz=286,slow=5.1,SNR=3.8						
ARCES	**ARCESS Array B**	**82.30**	**342**	P	P	21 46 59.4	0.0
	3.8nm,0.8s,baz=72,slow=7.9,SNR=9.1						
NVAR	**Mina Array Bea**	**82.97**	**52**	P	P	21 47 05.0	+1.1
	0.9nm,0.6s,baz=272,slow=5.8,SNR=7.8						
KAF	**Kangasniemi**	**86.24**	**336**	*e*p	P	21 47 16.8	-2.5
	0.3nm,0.4s						
FINES	**FINESS Array B**	**86.71**	**335**	P	P	21 47 20.0	-1.6
	1.1nm,0.3s,baz=72,slow=4.6,SNR=19						
PDAR	**Pinedale Array**	**87.65**	**45**	P	P	21 47 26.8	-0.1
	0.2nm,0.4s,baz=318,slow=2.0,SNR=4.0						

IDC 15 21:41:38.6±2.0, 6°.80S×128°.55E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML4.2/2, Error ellipse: s-maj=198.2km s-min=29.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**157**	Pn	Pn	21 45 00.6	-0.8
	1.5nm,0.3s,baz=330,slow=15,SNR=44						
WRA				Sn	Sn	21 47 24.2	-16
	1.4nm,0.3s,baz=329,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.54**	**164**	P	Pn	21 45 45.2	+0.4
	0.5nm,0.3s,baz=342,slow=10,SNR=38						
ASAR				S	Sn	21 48 47.6	-13
	0.6nm,0.3s,baz=355,slow=29,SNR=7.5						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	21 52 35.6	+0.5
	0.2nm,0.5s,baz=111,slow=7.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**71.59**	**329**	P	P	21 53 01.4	-0.4
	0.3nm,0.5s,baz=125,slow=4.9,SNR=6.9						

GUC 15 22:02:23.4±0.7, 32°.62S×71°.85W, h15km±12km, MD3.9, ML3.4, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.89**	**165**	⇑*i*P	Pb	22 02 38.8	-1.8
LCCH				*i* S	Sb	22 02 51.4	-0.9
JACH	**Jahuel**	**1.06**	**94**	⇑*i*P	Pb	22 02 42.3	-1.4
JACH				*i* S	Sb	22 02 56.4	-1.1
PEL	**Peldehue**	**1.11**	**119**	⇑*i*P	Pb	22 02 43.2	-1.3
PEL				*i* S	Sb	22 02 58.1	-0.8
PEL				AML	AML	22 03 01.5	
	comp=E,3μm,1.0s						
TACH	**Talagante**	**1.29**	**144**	⇑*i*P	Pn	22 02 45.5	-1.4
TACH				*i* S	Sb	22 03 01.8	-2.0
SAN	**Santiago**	**1.30**	**130**	*i* P	Pn	22 02 46.1	-1.0
SAN				*e*S	Sb	22 03 02.9	-1.4
SAN				AML	AML	22 03 08.4	
	comp=N,572nm,0.7s						
CLCH	**Cerro Calan**	**1.35**	**126**	⇓*i*P	Pn	22 02 46.7	-1.1
CLCH				*i* S	Sn	22 03 04.2	-1.4
CLCH				AML	AML	22 03 10.4	
	comp=N,1μm,0.5s						
LNV	**Longovilo**	**1.39**	**165**	⇑*i*P	Pn	22 02 46.9	-1.4
ANTU	**Antumapu**	**1.40**	**133**	⇑*i*P	Pn	22 02 47.6	-0.9
ANTU				*i* S	Sn	22 03 05.8	-0.8
ANTU				AML	AML	22 03 10.1	
	comp=E,810nm,0.8s						
PCH	**Pirque**	**1.51**	**132**	⇓*i*P	Pn	22 02 49.4	-0.6
PCH				*i* S	Sn	22 03 09.1	-0.4
CMCH	**Combarbala**	**1.61**	**27**	*e*P	Pn	22 02 51.0	-0.4
CMCH				*i* S	Sn	22 03 11.9	-0.1
CMCH				AML	AML	22 03 16.6	
	comp=E,2μm,0.5s						
CHCH	**Chadas Angostu**	**1.66**	**143**	*e*P	Pn	22 02 51.7	-0.3
CHCH				*i* S	Sn	22 03 12.9	-0.2
CACH	**El Canelo**	**1.83**	**145**	*e*P	Pn	22 02 55.1	+0.6
CACH				*i* S	Sb	22 03 19.6	-0.1
LMEL	**Las Melosas**	**1.85**	**132**	*e*P	Pn	22 02 54.8	0.0
LMEL				*i* S	Sn	22 03 18.8	+0.6
LMEL				AML	AML	22 03 23.5	
	comp=N,525nm,0.2s						
TLL	**Tololo Astrono**	**2.60**	**20**	*e*P	Pb	22 03 08.1	-2.0
TLL				*i* S	Sb	22 03 40.0	-2.1
TLL				AML	AML	22 04 01.3	
	comp=N,174nm,0.8s						

ISK ***15*** *22:52:44.6, 38°.92N×25°.84E, h5km, ML3.7*
ATH ***15*** *22:52:45.8, 38°.93N×26°.09E, h29km, MD3.5/31, ML3.3*
THE ***15*** *22:52:46.7, 38°.94N×25°.99E, h2km, ML3.4/11, Error ellipse: s-maj=1.0km s-min=0.4km az=87.0*
DDA ***15*** *22:52:46.2, 38°.96N×26°.00E, h31km, MD3.5*
IDC ***15*** *22:52:46.3±1.3, 38°.86N×25°.92E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.4/28, mbtmp3.3/6, ML3.2/3, MS2.7/5, Ms1 2.8/5, ms1mx2.4/32, Error ellipse: s-maj=22.2km s-min=18.4km az=163.0*
CSEM ***15*** *22:52:46.7±0.1, 38°.93N×25°.96E, h5km, ML3.4/11, Error ellipse: s-maj=1.8km s-min=1.6km az=157.0*
ISCJB ***15*** *22:52:46.2±0.4, 38°.92N±0°.01×25°.96E±0°.01, h8km±3km, mb3.3/3, MS2.8/2, Error ellipse: s-maj=2.0km s-min=1.9km az=16.9*

ISC 15 22:52:46.7±1.0, 38°.92N±0°.01×25°.98E±0°.02, h5km±8km, n288, σ0°.93/387, mb3.4/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.31**	**342**	P	**Pg**	**22 52 52.8**	**+0.1**
SIGR				S	**Sg**	**22 52 57.1**	**+0.3**
SIGR	**SIGRI**	**0.31**	**342**	P	**Pg**	**22 52 52.8**	**+0.1**
SIGR				S	**Sg**	**22 52 57.1**	**+0.3**
PRK	**Paraskevi**	**0.40**	**35**	P	**Pg**	**22 52 54.0**	**-0.4**
PRK				S	**Sg**	22 52 59.5	-0.2
PRK	**Paraskevi**	**0.40**	**35**	*e*PB	**Pg**	22 52 54.0	-0.4
PRK				*e*SB	**Sg**	22 53 00.1	+0.4
PRK	**Paraskevi**	**0.40**	**35**	P	**Pg**	22 52 54.0	-0.4
PRK				S	**Sg**	22 52 59.5	-0.2
PRK				*e*Sb	**Sg**	22 53 00.1	+0.4
CHOS	**Chios island**	**0.54**	**173**	P	**Pb**	22 52 57.6	-1.0
CHOS				S	**Sb**	22 53 05.6	-1.0
CHOS	**Chios island**	**0.54**	**173**	*e*PN	**Pb**	22 52 57.7	-0.9
CHOS				*e*SN	**Sb**	22 53 05.3	-1.3
CHOS	**Chios island**	**0.54**	**173**	P	**Pb**	22 52 57.6	-1.0
CHOS				*e*Sn	**Sb**	22 53 05.3	-1.3
AYVA	**Ayvalik**	**0.68**	**55**	*i* P	**Pg**	22 52 58.8	-0.9
AYVA				*i* S	**Sg**	22 53 08.4	-0.2
AYVA	**Ayvalik**	**0.68**	**55**	*i* P	**Pg**	22 52 58.8	-0.9
AYVA				*i* S	**Sg**	22 53 08.4	-0.2
URLA	**Izmir**	**0.74**	**139**	*i* P	**Pg**	22 53 00.6	-0.3
URLA				*i* S	**Sb**	22 53 12.3	-0.2
URLA	**Izmir**	**0.74**	**139**	*i* P	**Pg**	22 53 00.6	-0.3
URLA				*i* S	**Sb**	22 53 12.3	-0.2
BOZC	**Bozcaada**	**0.92**	**4**	*i* P	**Pg**	22 53 03.6	-0.9
BOZC				*i* S	**Sg**	22 53 16.3	-0.2
EZN	**Ezine**	**0.95**	**17**	*e*PG	**Pg**	22 53 03.8	-1.0
EZN				*e*SG	**Sg**	22 53 17.5	+0.4
EZN	**Ezine**	**0.95**	**17**	*e*Pg	**Pg**	22 53 03.8	-1.0
EZN				*e*Sg	**Sg**	22 53 17.5	+0.4
IZM	**Izmir**	**1.13**	**117**	*e*PN	**Pg**	22 53 08.1	-0.3
IZM				*e*SN	Sn	22 53 26.2	+1.0
IZM	**Izmir**	**1.13**	**117**	*e*Pn	**Pg**	22 53 08.1	-0.3
IZM				*e*Sn	Sn	22 53 26.2	+1.0
LIA	**Limnos Island**	**1.16**	**328**	P	**Pg**	22 53 08.3	-0.6
LIA				S	**Sb**	22 53 24.4	0.0
LIA	**Limnos Island**	**1.16**	**328**	*e*PN	**Pg**	22 53 08.4	-0.5
LIA				*e*SN	**Sb**	22 53 24.6	+0.2
LIA	**Limnos Island**	**1.16**	**328**	P	**Pg**	22 53 08.3	-0.6
LIA				*e*Sn	**Sb**	22 53 24.6	+0.2
SMG	**Samos**	**1.39**	**150**	P	**Pn**	22 53 11.8	-0.9
SMG				S	**Sn**	22 53 32.1	+0.8
SMG	**Samos**	**1.39**	**150**	*e*PN	**Pn**	22 53 10.8	-1.9
SMG				*e*SN	**Sb**	22 53 28.0	-3.0
SMG	**Samos**	**1.39**	**150**	*e*Pn	**Pn**	22 53 10.8	-1.9
SMG	**Samos**	**1.39**	**150**	P	**Pn**	22 53 11.8	-0.9
SMG				*e*Sn	**Sb**	22 53 28.0	-3.0
SMG				S	**Sn**	22 53 32.1	+0.8
AKHS	**Akhisar**	**1.44**	**91**	*i* P	**Pn**	22 53 12.9	-0.5
AKHS				*i* S	**Sg**	22 53 33.7	+0.9
AKHS	**Akhisar**	**1.44**	**91**	*i* P	**Pn**	22 53 12.9	-0.5
AKHS				*i* S	**Sg**	22 53 33.7	+0.9
BALY	**Balya**	**1.52**	**57**	*i* P	**Pn**	22 53 13.3	-1.2
BALY				*i* S	**Sn**	22 53 32.4	-2.3
BALY	**Balya**	**1.52**	**57**	*i* P	**Pn**	22 53 13.3	-1.2
BALY				*i* S	**Sn**	22 53 32.4	-2.3
GCAM	**G?zelcaml?**	**1.57**	**140**	*i* P	**Pg**	22 53 16.5	-0.2
GCAM				*i* S	**Sg**	22 53 36.9	-0.2
GCAM	**G?zelcaml?**	**1.57**	**140**	*i* P	**Pg**	22 53 16.5	-0.2
GCAM				*i* S	**Sg**	22 53 36.9	-0.2
LPK	**Lapseki**	**1.57**	**22**	*e*PN	**Pn**	22 53 14.3	-1.0
LPK				*e*SN	**Sn**	22 53 35.9	-0.1
LPK	**Lapseki**	**1.57**	**22**	*e*Pn	**Pn**	22 53 14.3	-1.0
LPK				*e*Sn	**Sn**	22 53 35.9	-0.1
SMTH	**Samothraki Isl**	**1.59**	**348**	P	**Pn**	22 53 14.3	-1.2
SMTH				S	**Sb**	22 53 36.7	-0.2
SMTH	**Samothraki Isl**	**1.59**	**348**	*e*PN	**Pn**	22 53 14.1	-1.4
SMTH				*e*SN	**Sn**	22 53 34.9	-1.5
SMTH	**Samothraki Isl**	**1.59**	**348**	P	**Pn**	22 53 14.3	-1.2
SMTH				*e*Sn	**Sn**	22 53 34.9	-1.5
SMTH				S	**Sb**	22 53 36.7	-0.2
BALB	**Balikesir**	**1.64**	**63**	*e*PN	**Pn**	22 53 15.4	-0.8
BALB	**Balikesir**	**1.64**	**63**	*e*Pn	**Pn**	22 53 15.4	-0.8
AOS	**Alonnisos**	**1.65**	**279**	P	**Pn**	22 53 16.0	-0.3
AOS				S	**Sb**	22 53 38.8	+0.1
AOS	**Alonnisos**	**1.65**	**279**	*e*PB	**Pn**	22 53 16.1	-0.3
AOS				*e*SN	**Sb**	22 53 38.2	-0.5
AOS	**Alonnisos**	**1.65**	**279**	P	**Pn**	22 53 16.0	-0.3
AOS				*e*Sn	**Sb**	22 53 38.2	-0.5
GONE	**Gonen-Balikesi**	**1.74**	**49**	*e*PN	**Pn**	22 53 16.9	-0.6
GONE	**Gonen-Balikesi**	**1.74**	**49**	*e*Pn	**Pn**	22 53 16.9	-0.6
KRBG	**Karabiga-Canak**	**1.79**	**34**	*e*PN	**Pn**	22 53 17.5	-0.7
KRBG	**Karabiga-Canak**	**1.79**	**34**	*e*Pn	**Pn**	22 53 17.5	-0.7
ENEZ	**Enez**	**1.82**	**4**	*e*PN	**Pn**	22 53 17.3	-1.3
ENEZ	**Enez**	**1.82**	**4**	*e*Pn	**Pn**	22 53 17.3	-1.3
PTL	**Penteli**	**1.87**	**243**	P	**Pn**	22 53 18.7	-0.7
PTL	**Penteli**	**1.87**	**243**	*e*PN	**Pn**	22 53 18.9	-0.5
PTL				*e*SN	**Sn**	22 53 43.2	-0.1
PTL	**Penteli**	**1.87**	**243**	*e*Pn	**Pn**	22 53 18.9	-0.5
PTL				*e*Sn	**Sn**	22 53 43.2	-0.1
APE	**Apeiranthos**	**1.88**	**191**	*e*PN	**Pn**	22 53 18.4	-1.1
APE	**Apeiranthos**	**1.88**	**191**	P	**Pn**	22 53 19.0	-0.5
APE				S	**Sn**	22 53 44.3	+0.7
APE	**Apeiranthos**	**1.88**	**191**	*e*PB	**Pn**	22 53 18.8	-0.7
APE				*e*SN	**Sn**	22 53 42.5	-1.1
APE	**Apeiranthos**	**1.88**	**191**	*e*Pn	**Pn**	22 53 18.4	-1.1
APE	**Apeiranthos**	**1.88**	**191**	*e*Pb	**Pn**	22 53 18.8	-0.7
APE	**Apeiranthos**	**1.88**	**191**	P	**Pn**	22 53 19.0	-0.5
APE				*e*Sn	**Sn**	22 53 42.5	-1.1
APE				S	**Sn**	22 53 44.3	+0.7
AYDN	**Tasoluk**	**1.96**	**129**	*i* P	**Pg**	22 53 24.1	0.0
AYDN				*i* S	**Sg**	22 53 50.0	+0.5
AYDN	**Tasoluk**	**1.96**	**129**	*i* P	**Pg**	22 53 24.1	0.0
AYDN				*i* S	**Sg**	22 53 50.0	+0.5
ALN	**Alexandroupoli**	**1.98**	**2**	P	**Pn**	22 53 19.4	-1.4
ALN				S	**Sn**	22 53 45.8	-0.1
ALN	**Alexandroupoli**	**1.98**	**2**	*e*PN	**Pn**	22 53 18.7	-2.1
ALN				*e*SN	**Sn**	22 53 43.9	-2.0
ALN	**Alexandroupoli**	**1.98**	**2**	*e*Pn	**Pn**	22 53 18.7	-2.1
ALN	**Alexandroupoli**	**1.98**	**2**	P	**Pn**	22 53 19.4	-1.4
ALN				*e*Sn	**Sn**	22 53 43.9	-2.0
ALN				S	**Sn**	22 53 45.8	-0.1
RKY	**Sarkoy-Tekirda**	**2.00**	**27**	*e*PN	**Pn**	22 53 20.5	-0.6
RKY	**Sarkoy-Tekirda**	**2.00**	**27**	*e*Pn	**Pn**	22 53 20.5	-0.6
ATH	**Athens Observa**	**2.01**	**243**	*e*PN	**Pn**	22 53 20.9	-0.3
ATH				*e*SN	**Sn**	22 53 46.0	-0.7
ATH	**Athens Observa**	**2.01**	**243**	*e*Pn	**Pn**	22 53 20.9	-0.3
ATH				*e*Sn	**Sn**	22 53 46.0	-0.7
PAIG	**Paliouri**	**2.04**	**300**	P	**Pn**	22 53 21.1	-0.6
PAIG				S	**Sb**	22 53 48.9	-1.1
PAIG	**Paliouri**	**2.04**	**300**	*e*PN	**Pn**	22 53 21.2	-0.5
PAIG				*e*SN	**Sn**	22 53 47.5	-0.1
PAIG	**Paliouri**	**2.04**	**300**	*e*Pn	**Pn**	22 53 21.2	-0.5
PAIG				*e*Sn	**Sn**	22 53 47.5	-0.1
PAIG				S	**Sb**	22 53 48.9	-1.1
DURS	**Dursunbey**	**2.06**	**70**	*i* P	**Pn**	22 53 20.3	-1.7
DURS				*i* S	**Sn**	22 53 47.6	-0.4
DURS	**Dursunbey**	**2.06**	**70**	*i* P	**Pn**	22 53 20.3	-1.7
DURS				*i* S	**Sn**	22 53 47.6	-0.4
BNT	**Bandirma**	**2.08**	**46**	*e*PN	**Pn**	22 53 22.6	+0.4
BNT	**Bandirma**	**2.08**	**46**	*e*Pn	**Pn**	22 53 22.6	+0.4
OUR	**Ouranopolis**	**2.09**	**313**	P	**Pn**	22 53 22.1	-0.2
OUR				S	**Sn**	22 53 49.6	+0.9
OUR	**Ouranopolis**	**2.09**	**313**	P	**Pn**	22 53 22.1	-0.2
OUR				S	**Sn**	22 53 49.6	+0.9
MFT	**Murefte**	**2.12**	**28**	*e*PN	**Pn**	22 53 23.2	+0.4
MFT	**Murefte**	**2.12**	**28**	*e*Pn	**Pn**	22 53 23.2	+0.4
BODT	**Bodrum**	**2.13**	**150**	*e*PN	**Pn**	22 53 22.0	-0.9
BODT	**Bodrum**	**2.13**	**150**	*e*Pn	**Pn**	22 53 22.0	-0.9
KULA	**Kula-Manisa**	**2.14**	**100**	*e*PN	**Pn**	22 53 23.8	+0.7
KULA	**Kula-Manisa**	**2.14**	**100**	*e*Pn	**Pn**	22 53 23.8	+0.7
DEMI	**Demirci**	**2.14**	**86**	*i* P	**Pn**	22 53 22.5	-0.6
DEMI				*i* S	**Sg**	22 53 54.2	-1.2
DEMI	**Demirci**	**2.14**	**86**	*i* P	**Pn**	22 53 22.5	-0.6
DEMI				*i* S	**Sg**	22 53 54.2	-1.2
MLSB	**Milas**	**2.15**	**138**	*e*PN	**Pn**	22 53 23.2	-0.1
MLSB	**Milas**	**2.15**	**138**	*e*Pn	**Pn**	22 53 23.2	-0.1
SMIA	**Simia**	**2.16**	**270**	P	**Pn**	22 53 23.0	-0.3
SMIA	**Simia**	**2.16**	**270**	P	**Pn**	22 53 23.0	-0.3
DST	**Dursunbey**	**2.16**	**71**	*e*PN	**Pn**	22 53 23.4	0.0
DST	**Dursunbey**	**2.16**	**71**	*e*Pn	**Pn**	22 53 23.4	0.0
NEO	**Neokhori**	**2.18**	**281**	P	**Pn**	22 53 23.1	-0.5
NEO				S	**Sn**	22 53 50.9	0.0
NEO	**Neokhori**	**2.18**	**281**	*e*PN	**Pn**	22 53 23.1	-0.5
NEO				*e*SN	**Sn**	22 53 51.0	0.0
NEO	**Neokhori**	**2.18**	**281**	P	**Pn**	22 53 23.1	-0.5
NEO				S	**Sn**	22 53 50.9	0.0
BDRM	**Kayabasi**	**2.18**	**147**	*i* P	**Pn**	22 53 22.9	-0.8
BDRM				*i* S	**Sn**	22 53 51.2	+0.2
BDRM	**Kayabasi**	**2.18**	**147**	*i* P	**Pn**	22 53 22.9	-0.8
BDRM				*i* S	**Sn**	22 53 51.2	+0.2
XOR	**Xorichti**	**2.21**	**283**	P	**Pn**	22 53 23.3	-0.7
XOR				S	**Sn**	22 53 52.2	+0.5
XOR	**Xorichti**	**2.21**	**283**	P	**Pn**	22 53 23.3	-0.7
XOR				S	**Sn**	22 53 52.2	+0.5
RDO	**Rodhopi**	**2.25**	**352**	P	**Pn**	22 53 24.0	-0.6
RDO				S	**Sn**	22 53 52.4	-0.3
RDO	**Rodhopi**	**2.25**	**352**	*e*PB	**Pn**	22 53 23.9	-0.6
RDO				*e*SN	**Sn**	22 53 50.9	-1.8
RDO	**Rodhopi**	**2.25**	**352**	P	**Pn**	22 53 24.0	-0.6
RDO				*e*Sn	**Sn**	22 53 50.9	-1.8
RDO				S	**Sn**	22 53 52.4	-0.3
NAIG	**Nisos Aigina**	**2.27**	**240**	*e*PN	**Pn**	22 53 24.4	-0.5
NAIG	**Nisos Aigina**	**2.27**	**240**	*e*Pn	**Pn**	22 53 24.4	-0.5
KCTX	**Karacabey (Bur**	**2.28**	**53**	*e*PN	**Pn**	22 53 24.1	-0.9
KCTX	**Karacabey (Bur**	**2.28**	**53**	*e*Pn	**Pn**	22 53 24.1	-0.9
LKR	**Lokris**	**2.34**	**264**	*e*PN	**Pn**	22 53 25.5	-0.3
LKR	**Lokris**	**2.34**	**264**	*e*Pn	**Pn**	22 53 25.5	-0.3
KAVA	**Kavala**	**2.36**	**332**	P	**Pn**	22 53 25.4	-0.7
KAVA				S	**Sn**	22 53 53.1	-2.3
KAVA	**Kavala**	**2.36**	**332**	P	**Pn**	22 53 25.4	-0.7
KAVA				S	**Sn**	22 53 53.1	-2.3
TKR	**Tekirdag**	**2.39**	**30**	*e*PN	**Pn**	22 53 26.3	-0.2
TKR	**Tekirdag**	**2.39**	**30**	*e*Pn	**Pn**	22 53 26.3	-0.2
PLG	**Polygyros**	**2.44**	**307**	P	**Pn**	22 53 26.8	-0.4
PLG	**Polygyros**	**2.44**	**307**	*e*PN	**Pn**	22 53 26.7	-0.4
PLG				*e*SN	**Sn**	22 53 55.6	-1.7
PLG	**Polygyros**	**2.44**	**307**	P	**Pn**	22 53 26.8	-0.4
PLG				*e*Sn	**Sn**	22 53 55.6	-1.7
LTK	**Loutraki**	**2.52**	**250**	P	**Pn**	22 53 28.1	-0.2
LTK	**Loutraki**	**2.52**	**250**	*e*PN	**Pn**	22 53 28.2	-0.1
LTK				*e*SN	**Sn**	22 53 59.4	-0.1
LTK	**Loutraki**	**2.52**	**250**	P	**Pn**	22 53 28.1	-0.2
LTK				*e*Sn	**Sn**	22 53 59.4	-0.1
ORLT	**Orhaneli**	**2.52**	**63**	*e*PN	**Pn**	22 53 29.1	+0.7
ORLT	**Orhaneli**	**2.52**	**63**	*e*Pn	**Pn**	22 53 29.1	+0.7
DAT	**Datca**	**2.53**	**149**	*e*PN	**Pn**	22 53 27.9	-0.6
DAT	**Datca**	**2.53**	**149**	*e*Pn	**Pn**	22 53 27.9	-0.6
YER	**Yerkesik**	**2.55**	**134**	*e*PN	**Pn**	22 53 28.5	-0.2
YER	**Yerkesik**	**2.55**	**134**	*e*Pn	**Pn**	22 53 28.5	-0.2
SANT	**Santorini**	**2.58**	**189**	*e*PN	**Pn**	22 53 28.0	-1.1
SANT				*e*SN	**Sn**	22 53 59.6	-1.2
SANT	**Santorini**	**2.58**	**189**	*e*Pn	**Pn**	22 53 28.0	-1.1
SANT				*e*Sn	**Sn**	22 53 59.6	-1.2
DID	**Didima**	**2.58**	**238**	P	**Pn**	22 53 28.6	-0.5
DID	**Didima**	**2.58**	**238**	*e*PN	**Pn**	22 53 28.9	-0.2
DID				*e*SN	**Sn**	22 54 00.4	-0.4
DID	**Didima**	**2.58**	**238**	P	**Pn**	22 53 28.6	-0.5
DID	**Didima**	**2.58**	**238**	*e*Pn	**Pn**	22 53 28.9	-0.2
DID				*e*Sn	**Sn**	22 54 00.4	-0.4
AXAR	**Agios Charalam**	**2.59**	**268**	P	**Pn**	22 53 29.4	+0.1
AXAR	**Agios Charalam**	**2.59**	**268**	P	**Pn**	22 53 29.4	+0.1
ACOR	**Acrocorinthos**	**2.65**	**248**	P	**Pn**	22 53 29.8	-0.2
ACOR	**Acrocorinthos**	**2.65**	**248**	P	**Pn**	22 53 29.8	-0.2
MDNY	**Mudanya-Bursa**	**2.67**	**56**	*e*PN	**Pn**	22 53 30.9	+0.6
MDNY	**Mudanya-Bursa**	**2.67**	**56**	*e*Pn	**Pn**	22 53 30.9	+0.6
ULDT	**Uludag**	**2.73**	**62**

NPS				*e*SN	**Sn**	**22 54 24.4**	**-3.1**
NPS	**Neapolis**	**3.66**	**185**	*e*Pn	**Pn**	**22 53 43.3**	**-0.7**
NPS				*e*Sn	**Sn**	**22 54 24.4**	**-3.1**
ANKY	**Antikythira Is**	**3.72**	**216**	*e*PN	**Pn**	**22 53 44.5**	**-0.2**
ANKY	**Antikythira Is**	**3.72**	**216**	*e*Pn	**Pn**	**22 53 44.5**	**-0.2**
IDI	**Anoyia**	**3.73**	**194**	*e*PN	**Pn**	**22 53 44.7**	**-0.2**
IDI	**Anoyia**	**3.73**	**194**	*e*Pn	**Pn**	**22 53 44.7**	**-0.2**
LAST	**Lasithi**	**3.77**	**186**	*e*PN	**Pn**	**22 53 45.4**	**-0.1**
LAST	**Lasithi**	**3.77**	**186**	*e*Pn	**Pn**	**22 53 45.4**	**-0.1**
SPNC	**Sapanca-Adapaz**	**3.77**	**61**	*e*PN	**Pn**	**22 53 46.5**	**+1.0**
SPNC	**Sapanca-Adapaz**	**3.77**	**61**	*e*Pn	**Pn**	**22 53 46.5**	**+1.0**
VAM	**Vamos**	**3.78**	**203**	*e*PN	**Pn**	**22 53 46.1**	**+0.5**
VAM	**Vamos**	**3.78**	**203**	*e*Pn	**Pn**	**22 53 46.1**	**+0.5**
ELL	**Elmali**	**3.79**	**124**	*e*PN	**Pn**	**22 53 46.9**	**+1.0**
ELL	**Elmali**	**3.79**	**124**	*e*Pn	**Pn**	**22 53 46.9**	**+1.0**
ZKR	**Zakros**	**3.80**	**177**	*e*PN	**Pn**	**22 53 45.7**	**-0.2**
ZKR	**Zakros**	**3.80**	**177**	*e*Pn	**Pn**	**22 53 45.7**	**-0.2**
GULT	**Gulveren**	**3.81**	**65**	*e*PN	**Pn**	**22 53 47.1**	**+1.0**
GULT	**Gulveren**	**3.81**	**65**	*e*Pn	**Pn**	**22 53 47.2**	**+1.0**
PYL	**PYLOS**	**3.91**	**240**	*e*PN	**Pn**	**22 53 48.3**	**+0.9**
PYL	**PYLOS**	**3.91**	**240**	*e*Pn	**Pn**	**22 53 48.3**	**+0.9**
BCK	**Bucak**	**3.92**	**110**	*e*PN	**Pn**	**22 53 48.8**	**+1.3**
BCK	**Bucak**	**3.92**	**110**	*e*Pn	**Pn**	**22 53 48.8**	**+1.3**
FNA	**Florina**	**4.00**	**299**	*e*PN	**Pn**	**22 53 48.6**	**-0.1**
FNA	**Florina**	**4.00**	**299**	*e*Pn	**Pn**	**22 53 48.6**	**-0.1**
SIVA	**Sivas**	**4.00**	**194**	*e*PN	**Pn**	**22 53 48.8**	**+0.2**
SIVA	**Sivas**	**4.00**	**194**	*e*Pn	**Pn**	**22 53 48.8**	**+0.2**
LKD2	**Lefkada island**	**4.15**	**270**	*e*PN	**Pn**	**22 53 51.2**	**+0.5**
LKD2	**Lefkada island**	**4.15**	**270**	*e*Pn	**Pn**	**22 53 51.2**	**+0.5**
SUTC	**Sutluce-Ispart**	**4.21**	**108**	*e*PN	**Pn**	**22 53 52.9**	**+1.3**
SUTC	**Sutluce-Ispart**	**4.21**	**108**	*e*Pn	**Pn**	**22 53 52.9**	**+1.3**
VTS	**Vitosha**	**4.23**	**331**	*e*PN	**Pn**	**22 53 51.8**	**-0.1**
VLS	**Valsamata**	**4.29**	**262**	*e*PN	**Pn**	**22 53 53.9**	**+1.3**
VLS	**Valsamata**	**4.29**	**262**	*e*Pn	**Pn**	**22 53 53.9**	**+1.3**
MDUB	**Mudurnu**	**4.32**	**67**	*e*PN	**Pn**	**22 53 54.7**	**+1.7**
MDUB	**Mudurnu**	**4.32**	**67**	*e*Pn	**Pn**	**22 53 54.7**	**+1.7**
SVRH	**Sivrihisar-ESK**	**4.34**	**81**	*e*PN	**Pn**	**22 53 55.0**	**+1.7**
SVRH	**Sivrihisar-ESK**	**4.34**	**81**	*e*Pn	**Pn**	**22 53 55.1**	**+1.7**
KIZT	**Kizilcal**	**4.61**	**89**	*e*PN	**Pn**	**22 53 58.9**	**+1.8**
KIZT	**Kizilcal**	**4.61**	**89**	*e*Pn	**Pn**	**22 53 58.9**	**+1.8**
KEK	**Kerkira**	**4.86**	**281**	*e*PN	**Pn**	**22 54 01.4**	**+1.0**
KEK	**Kerkira**	**4.86**	**281**	*e*Pn	**Pn**	**22 54 01.4**	**+1.0**
KONT	**Konya--Tatoy**	**5.11**	**99**	*e*PN	**Pn**	**22 54 05.6**	**+1.8**
KONT	**Konya--Tatoy**	**5.11**	**99**	*e*Pn	**Pn**	**22 54 05.6**	**+1.8**
BRTR	**Keskin Array B**	**6.00**	**80**	Pn	**Pn**	**22 54 16.7**	**+0.5**
	0.3nm,0.3s,baz=258,slow=13,SNR=15						
BRTR				Pg	**Pg**	**22 54 44.3**	**+2.7**
	0.3nm,0.3s,baz=262,slow=16,SNR=12						
BRTR				Lg	Lg	22 56 03.1	
	0.1nm,0.3s,baz=268,slow=24,SNR=2.8						
MLR	**Muntele Rosu**	**6.57**	**360**	Pn	**Pn**	**22 54 25.8**	**+1.8**
	0.2nm,0.3s,baz=175,slow=11,SNR=26						
MMAI	**Mount Meron Ar**	**9.64**	**125**	Pn	**Pn**	**22 55 05.6**	**-0.6**
	0.5nm,0.3s,baz=311,slow=11,SNR=2.8						
VRAC	**Vranov**	**12.37**	**330**	LR	LR	22 59 51.9	
	comp=Z,31nm,18.7s,baz=128,slow=34						
GERES	**GERESS Array B**	**13.28**	**322**	LR	LR	23 01 30.7	
	comp=Z,27nm,18.3s,baz=237,slow=39						
DAVOX	**Davos/Dischmat**	**14.16**	**309**	LR	LR	23 01 44.7	
	comp=Z,15nm,21.3s,baz=91,slow=38						
SBF	**Sospel**	**14.76**	**295**	*e*P	**P**	**22 56 21.9**	**-0.3**
SBF	**Sospel**	**14.76**	**295**	*e*P	**P**	**22 56 21.9**	**-0.3**
FRF	**La Foret Royal**	**15.26**	**294**	*e*P	**P**	**22 56 28.8**	**+1.1**
	20nm,1.4s						
FRF	**La Foret Royal**	**15.26**	**294**	*e*P	**P**	**22 56 28.8**	**+1.1**
	20nm,1.4s						
MBDF	**Montbardon**	**15.44**	**298**	*e*P	**P**	**22 56 31.5**	**+1.7**
MBDF	**Montbardon**	**15.44**	**298**	*e*P	**P**	**22 56 31.5**	**+1.7**
LPG	**La Plagne**	**15.67**	**301**	*e*P	**P**	**22 56 33.4**	**+0.8**
	3.6nm,0.7s						
LPG	**La Plagne**	**15.67**	**301**	*e*P	**P**	**22 56 33.4**	**+0.8**
	3.0nm,0.7s						
LPL	**La Plagne**	**15.69**	**301**	*e*P	**P**	**22 56 34.5**	**+1.8**
	3.2nm,0.8s						
LPL	**La Plagne**	**15.69**	**301**	*e*P	**P**	**22 56 34.5**	**+1.8**
	3.0nm,0.8s						
CABF	**La Chapelle**	**16.48**	**304**	*e*P	**P**	**22 56 42.2**	**+0.9**
	32nm,1.4s						
CABF	**La Chapelle**	**16.48**	**304**	*e*P	**P**	**22 56 42.2**	**+0.9**
	31nm,1.4s						
AVF	**Avril sur Loir**	**18.32**	**303**	*e*P	**P**	**22 57 04.1**	**+2.6**
	6.6nm,0.9s						
HFS	**Hagfors**	**22.61**	**344**	LR	LR	23 08 09.0	
	comp=Z,60nm,18.4s,baz=318,slow=41						
ESDC	**Sonseca Array**	**23.14**	**281**	P	**P**	**22 57 54.2**	**+0.5**
	0.6nm,0.7s,baz=73,slow=9.7,SNR=6.4						
NOA	**NORSAR Array B**	**23.98**	**342**	LR	LR	23 07 34.8	
	comp=Z,20nm,20.9s,baz=100,slow=37						
TORD	**Torodi Ar. Bea**	**33.48**	**227**	P	**P**	**22 59 27.0**	**+0.1**
	0.4nm,0.8s,baz=40,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**41.25**	**60**	P	**P**	**23 00 32.4**	**-0.1**
	0.5nm,0.7s,baz=280,slow=5.7,SNR=4.1						

IDC 15 23:08:58.1±2.8, 34°.60S×179°.65E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=61.5km s-min=34.8km az=109.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.19**	**209**	Pn	Pn	23 10 01.8	-1.5
	1.9nm,0.3s,baz=312,slow=19,SNR=28						
URZ				Sn	Sn	23 10 56.3	+3.4
	1.7nm,0.3s,baz=180,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**41.11**	**273**	P	P	23 16 44.4	+0.4
	0.6nm,0.5s,baz=113,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**42.49**	**278**	P	P	23 16 54.6	-0.7
	0.6nm,0.3s,baz=118,slow=7.6,SNR=22						
FINES	**FINESS Array B**	**148.28**	**336**	PKPbc	PKPbc	23 28 45.0	-0.4
	3.1nm,1.1s,baz=64,slow=3.2,SNR=3.1						

PDG ***15*** *23:29:15.7, 19°.80S×178°.20W, h614km*
DJA ***15*** *23:30:04.0±1.7,21°.S±62°.×17°.6W±1°.9, h541km±15km, M5.7/19, mB6.1/7, mb5.8/19, Mw(mB)5.7/7*
ISCJB ***15*** *23:30:17.0±0.5, 19°.85S±0°.04×178°.19W±0°.03, h591km±7km, mb5.2/210, Error ellipse: s-maj=6.4km s-min=3.3km az=160.3*
AUST ***15*** *23:30:17.2±0.0, 19°.88S×177°.93W, h586km, Error ellipse: s-maj=1.1km s-min=1.0km az=288.0*
BGS ***15*** *23:30:18.9±6.1, 19°.83S×178°.24W, h608km, mb5.2(NEIC)*
BJI ***15*** *23:30:18.7, 19°.67S×177°.92W, h617km, mB5.2/32, mb5.3/48*
MOS ***15*** *23:30:18.7±0.8, 19°.78S×178°.19W, h609km, mb5.2/41, Error ellipse: s-maj=8.5km s-min=7.4km az=54.1*
NEIC ***15*** *23:30:19.3±0.1, 19°.83S×178°.24W, mb5.2/124, MW5.6, Error ellipse: s-maj=5.4km s-min=3.6km az=148.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.73; $M_{\phi\phi}$0.34; $M_{r\theta}$-2.02; $M_{\theta\phi}$0.71; $M_{\phi r}$-2.22; Best double couple: $M_0$3.20000×10^{17} NP1: ϕ_s43.00000°, δ79.00000°, λ-94.00000°. NP2:ϕ_s246.00000°, δ11.00000°, λ-67.00000°. Principal axes: T 3.3000, Plg34.0000°, Azm136.0000°; N -0.1600, Plg4.0000°, Azm43.0000°; P -3.1500, Plg55.0000°, Azm307.0000°;*
SZGRF ***15*** *23:30:19.1, 19°.93S×177°.15W, h608km, Fiji Islands region*
BKK ***15*** *23:30:19.1±1.7,20°.S±7°.×17°.8W±1°.0, h594km±16km, M5.3/37, mB5.7/26, mb5.6/37, Mw(mB)5.3/26, Mwp7.5/2*
IDC ***15*** *23:30:19.9±0.5, 19°.86S×178°.19W, h612km±4km, mb4.6/32, mb1 4.7/34, mb1mx4.7/34, mbtmp4.6/34, Error ellipse: s-maj=8.1km s-min=6.9km az=164.0*
GCMT ***15*** *23:30:20.4±0.2, 19°.83S×178°.17W, h608km±1km, MW5.6, Moment Tensor Solution. s85,c126; s22,c22; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.99±.04; $M_{\theta\theta}$0.84±.07; $M_{\phi\phi}$0.14±.07; $M_{r\theta}$-1.94±.06; $M_{\theta\phi}$0.21±.06; $M_{\phi r}$-1.91±.06; Best double couple: $M_0$2.90000×10^{17} NP1:ϕ_s47.00000°, δ81.00000°, λ-97.00000°. NP2:ϕ_s265.00000°, δ11.00000°, λ-53.00000°. Principal axes: T 2.7500, Plg36.0000°, Azm143.0000°; N 0.2600, Plg7.0000°, Azm49.0000°; P -3.0000, Plg53.0000°, Azm309.0000°; Data Used: II IU IC G CN.*

ISC 15 23:30:19.2±0.2, 19°.88S±0°.04×178°.14W±0°.04, h609km±2km, h610km: pP-P, n1268, σ1°.917/1519, mb5.3/210, 46C-82D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.19**	**300**	P	**P**	**23 31 46.0**	**-0.9**
	9μm,0.6s						
MSVF	**Nonsavu**	**4.19**	**300**	*i*P	**P**	**23 31 46.5**	**-0.4**
MSVF	**Nonsavu**	**4.19**	**300**	*i*P	**P**	**23 31 46.5**	**-0.4**
NIUE	**Niue**	**7.79**	**86**	P	**P**	**23 32 14.7**	**-2.3**
	baz=7.6,SNR=22						
AFI	**Afiamalu**	**8.50**	**47**	*e*P	P	23 32 20.0	-3.8
AFI				*e*S	S	23 33 55.4	-10
AFI	**Afiamalu**	**8.50**	**47**	P	P	23 32 20.0	-3.8
	21nm,0.3s,baz=70,slow=2.1,SNR=18						
AFI				S	S	23 33 56.1	-10
	49nm,0.3s,baz=38,slow=23,SNR=17						
FUNA	**Funafuti**	**11.57**	**347**	*e*P	**P**	**23 32 51.2**	**-2.7**
DZM	**Mont Dzumac**	**14.57**	**259**	*e*P	**P**	**23 33 24.1**	**+0.8**
	142nm,0.8s						
DZM	**Mont Dzumac**	**14.57**	**259**	*e*P	**P**	**23 33 22.0**	**-1.2**
DZM	**Mont Dzumac**	**14.57**	**259**	*e*P	**P**	**23 33 22.5**	**-0.7**
	65nm,0.6s						
DZM	**Mont Dzumac**	**14.57**	**259**	P	**P**	**23 33 23.4**	**+0.2**
	9.0nm,0.3s,baz=92,slow=17,SNR=110						
OUZ	**Omahuta**	**16.94**	**204**	*e*P	**P**	**23 33 46.1**	**+1.5**
	257nm,0.9s						
RAR	**Rarotonga**	**17.25**	**98**	*e*P	**P**	**23 33 47.6**	**-0.1**
	444nm,1.4s						
RAR	**Rarotonga**	**17.25**	**98**	P	**P**	**23 33 47.5**	**-0.1**
	14nm,0.3s,baz=45,slow=0.0,SNR=9.2						
URZ	**Urewera**	**18.78**	**192**	*e*P	**P**	**23 33 58.9**	**-2.4**
	213nm,0.7s						
URZ				*e*S	**S**	**23 36 58.8**	**-2.4**
URZ				*e*ScP	**ScP**	**23 40 38.3**	**+2.0**
URZ	**Urewera**	**18.78**	**192**	P	**P**	**23 33 58.0**	**-3.3**
	12nm,0.3s,baz=8.6,slow=5.4,SNR=64						
URZ				S	**S**	**23 36 54.5**	**-6.7**
	1.4nm,0.3s,baz=201,slow=22,SNR=6.8						
URZ				ScP	**ScP**	**23 40 36.6**	**+0.3**
	2.5nm,0.3s,baz=287,slow=3.8,SNR=6.9						
SNZO	**South Karori**	**22.22**	**194**	*e*P	**P**	**23 34 29.0**	**-3.1**
	147nm,0.7s						
TARA	**Tarawa**	**22.85**	**336**	*e*P	**P**	**23 34 36.8**	**-1.3**
	242nm,0.9s						
KHZ	**Kahutara**	**23.55**	**196**	*e*P	**P**	**23 34 40.8**	**-3.2**
	97nm,0.8s						
HNR	**Honiara**	**23.58**	**293**	P	**P**	**23 34 46.4**	**+1.8**
HNR	**Honiara**	**23.58**	**293**	P	**P**	**23 34 46.4**	**+1.8**
	62nm,0.5s,baz=156,slow=4.3,SNR=4.0						
RPZ	**Rata Peaks**	**25.44**	**198**	*e*P	**P**	**23 35 00.0**	**-0.6**
	569nm,2.6s						
RPZ				ScP	**ScP**	**23 40 54.3**	**+0.7**
RPZ	**Rata Peaks**	**25.44**	**198**	P	**P**	**23 35 00.3**	**-0.3**
	25nm,0.6s,baz=343,slow=4.1,SNR=19						
RPZ				ScP	**ScP**	**23 40 54.3**	**+0.7**
	20nm,0.9s,baz=194,slow=2.7,SNR=4.2						
ODZ	**Otahua Downs**	**26.77**	**198**	*e*P	**P**	**23 35 10.4**	**-1.9**
	148nm,2.1s						
TBI	**Tubuai**	**26.86**	**103**	*e*P	**P**	**23 35 13.2**	**-0.2**
	400nm,1.3s						
PAE	**Paea**	**27.12**	**90**	*e*P	**P**	**23 35 15.2**	**-0.5**
	40nm,1.1s						
PPT2	**Papeete2**	**27.13**	**90**	*e*P	**P**	**23 35 15.6**	**-0.3**
	341nm,1.3s						
PPT	**Papeete**	**27.14**	**90**	P	**P**	**23 35 15.6**	**-0.3**
PPT	**Papeete**	**27.14**	**90**	P	**P**	**23 35 15.6**	**-0.3**
	67nm,0.4s,baz=323,slow=3.6,SNR=17						
TIAR	**Tiarei**	**27.35**	**90**	*e*P	**P**	**23 35 17.3**	**-0.5**
	154nm,0.8s						
TVO	**Taravao**	**27.41**	**90**	*e*P	**P**	**23 35 17.7**	**-0.6**
	183nm,1.2s						
WHZ	**Wether Hill Ro**	**28.37**	**201**	*e*P	**P**	**23 35 26.9**	**+0.7**
	368nm,0.7s						
MEH	**Mehetia**	**28.51**	**91**	*e*P	**P**	**23 35 27.1**	**-0.7**
	290nm,1.1s						
EIDS	**Eidsvold**	**28.89**	**253**	P	**P**	**23 35 30.9**	**-0.1**
	baz=29,SNR=20						
ARMA	**Armidale**	**29.23**	**243**	P	**P**	**23 35 34.7**	**+0.7**
	baz=29,SNR=24						
PMOR	**Pomariorio Ree**	**29.23**	**85**	*e*P	**P**	**23 35 33.5**	**-0.6**
	632nm,1.2s						
MGCD	**Mangrove Creek**	**30.42**	**238**	P	**P**	**23 35 45.2**	**+1.1**
	baz=31,SNR=20						
RMQ	**Roma**	**31.07**	**252**	P	**P**	**23 35 50.8**	**+1.0**
	baz=31,SNR=26						
KWAJ	**Kwajalein Atol**	**31.76**	**332**	*e*P	**P**	**23 35 55.6**	**0.0**
KWAJ				pmax	pmax		
	comp=Z,156nm,0.8s						
KWAJ	**Kwajalein Atol**	**31.76**	**332**	*e*P	**P**	**23 35 55.6**	**0.0**
	comp=Z,156nm,0.8s						
CNB	**Canberra Magne**	**32.47**	**235**	P	**P**	**23 36 02.4**	**+0.9**
	baz=33,SNR=59						
CAN	**Canberra**	**32.75**	**235**	*e*P	**P**	**23 36 04.3**	**+0.5**
CAN				pmax	pmax		
	comp=Z,15nm,0.6s						
CAN	**Canberra**	**32.75**	**235**	*e*P	**P**	**23 36 04.3**	**+0.5**
	comp=Z,15nm,0.6s						
RABL	**Rabaul**	**32.87**	**294**	P	**P**	**23 36 07.5**	**+2.4**
	baz=33,SNR=3.5						
YNG	**Young**	**32.91**	**237**	P	**P**	**23 36 05.8**	**+0.7**
	baz=33,SNR=16						
CTA	**Charters Tower**	**33.43**	**263**	P	**P**	**23 36 10.2**	**+0.5**
CTA				ScP	**ScP**	**23 41 21.1**	**+1.0**
CTA	**Charters Tower**	**33.43**	**263**	P	**P**	**23 36 10.2**	**+0.5**
	comp=Z,180nm,0.5s,baz=95,slow=11,SNR=340						
CTA				ScP	**ScP**	**23 41 21.1**	**+1.0**
	comp=Z,18nm,0.9s,baz=45,slow=2.8,SNR=8.6						
CTAO	**Charters Tower**	**33.43**	**263**	*e*P	**P**	**23 36 10.1**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,207nm,0.7s						
CTAO	**Charters Tower**	**33.43**	**263**	*e*P	**P**	**23 36 10.1**	**+0.5**
	comp=Z,207nm,0.7s						
CTAO				*e*ScP	**ScP**	**23 41 20.9**	**+0.8**
CMSA	**Cobar Meteorol**	**34.45**	**243**	P	**P**	**23 36 18.5**	**+0.5**
	baz=35,SNR=55						
CMSA				S	S	23 41 28.2	+24
	baz=35,SNR=6.9						
PMG	**Port Moresby**	**35.08**	**282**	*e*P	**P**	**23 36 23.9**	**+0.5**
	comp=Z,235nm,0.8s						
PMG				ScP	**ScP**	**23 41 26.4**	**+0.3**
PMG	**Port Moresby**	**35.08**	**282**	P	**P**	**23 36 23.9**	**+0.5**
	comp=Z,232nm,0.8s,baz=88,slow=5.5,SNR=41						
PMG				ScP	**ScP**	**23 41 26.4**	**+0.3**
	comp=Z,25nm,1.0s,baz=248,slow=6.0,SNR=4.9						
PATS	**Pohnpei**	**35.24**	**317**	P	**P**	**23 36 25.2**	**+0.5**
	baz=36,SNR=6.9						
MTSU	**Mount Surprise**	**35.49**	**266**	P	**P**	**23 36 27.1**	**+0.3**
	baz=36,SNR=246						
TOO	**Toolangi**	**36.16**	**233**	P	**P**	**23 36 32.8**	**+0.7**
	baz=36,SNR=35						
COEN	**Coen**	**37.42**	**273**	P	**P**	**23 36 43.2**	**+0.6**
	baz=38,SNR=116						
STKA	**Stephens Creek**	**37.95**	**243**	*e*P	**P**	**23 36 47.5**	**+0.8**
	comp=Z,24nm,1.1s						
STKA				PcP	**PcP**	**23 38 46.6**	**+0.5**
STKA				ScP	**ScP**	**23 41 37.6**	**+0.9**
STKA				*e*ScP	**ScP**	**23 41 38.4**	**+1.8**
STKA	**Stephens Creek**	**37.95**	**243**	P	**P**	**23 36 47.5**	**+0.8**
	comp=Z,72nm,0.9s,baz=92,slow=9.9,SNR=78						
STKA				PcP	**PcP**	**23 38 46.6**	**+0.5**
	comp=Z,12nm,0.8s,baz=59,slow=3.0,SNR=3.1						
STKA				ScP	**ScP**	**23 41 37.6**	**+0.9**
	comp=Z,14nm,0.9s,baz=71,slow=2.3,SNR=6.9						
STKA	**Stephens Creek**	**37.95**	**243**	P	**P**	**23 36 47.5**	**+0.8**
	baz=38,SNR=50						
STKA				S	**ScP**	**23 41 41.1**	**+4.4**
	baz=38,SNR=5.7						
ARPS	**Mount Arapiles**	**38.73**	**236**	P	**P**	**23 36 53.2**	**+0.4**
	baz=39,SNR=33						
RKT	**Rikitea**	**40.19**	**103**	*e*P	**P**	**23 37 04.9**	**+0.2**
	comp=Z,194nm,1.3s						
BBOO	**Buckleboo**	**42.71**	**243**	P	**P**	**23 37 24.8**	**+0.3**
	baz=43,SNR=99						
AS31	**Alice Springs**	**44.54**	**256**	*e*P	**P**	**23 37 38.6**	**-0.1**
AS31				*e*PcP	**PcP**	**23 39 08.3**	**0.0**
AS31				*e*S	**S**	**23 43 29.6**	**-1.9**
ASAR	**Alice Springs**	**44.54**	**256**	P	**P**	**23 37 38.9**	**+0.1**
ASAR				PcP	**PcP**	**23 39 08.6**	**+0.2**
ASAR				ScP	**ScP**	**23 42 04.2**	**+1.0**
ASAR				S	**S**	**23 43 30.4**	**-1.0**
ASAR	**Alice Springs**	**44.54**	**256**	P	**P**	**23 37 38.9**	**+0.1**
	comp=Z,263nm,0.9s,baz=91,slow=7.7,SNR=1585						
ASAR				PcP	**PcP**	**23 39 08.6**	**+0.2**
	comp=Z,32nm,0.7s,baz=101,slow=4.0,SNR=12						
ASAR				ScP	**ScP**	**23 42 04.2**	**+1.0**
	comp=Z,4.9nm,0.7s,baz=88,slow=4.3,SNR=5.3						
ASAR				S	**S**	**23 43 30.4**	**-1.0**
	comp=Z,66nm,1.2s,baz=92,slow=15,SNR=39						
WRAB	**Tennant Creek**	**44.55**	**261**	P	**P**	**23 37 38.0**	**-0.8**
	comp=Z,1μm,1.3s						
WRAB	**Tennant Creek**	**44.55**	**261**	*e*P	**P**	**23 37 38.4**	**-0.5**
WRAB				*e*		23 39 08.2	
WRAB				*e*S	S	23 43 25.1	-6.6
WRAB				pmax	pmax		
	comp=Z,260nm,1.2s						
WRAB	**Tennant Creek**	**44.55**	**261**	*e*P	**P**	**23 37 38.4**	**-0.5**
	comp=Z,260nm,1.2s						
WRAB				*e*PcP	**PcP**	**23 39 08.2**	**-0.2**
WRAB				*e*S	S	23 43 25.1	-6.6
WRA	**Warramunga Arr**	**44.56**	**261**	P	**P**	**23 37 38.3**	**-0.6**
WRA				PcP	**PcP**	**23 39 08.8**	**+0.3**
WRA				S	**S**	**23 43 29.4**	**-2.4**
WRA				PKiKP	**PKiKP**	**23 46 04.0**	**-1.8**
WRA	**Warramunga Arr**	**44.56**	**261**	P	**P**	**23 37 38.3**	**-0.6**
	comp=Z,65nm,0.5s,baz=98,slow=8.3,SNR=707						
WRA				PcP	**PcP**	**23 39 08.8**	**+0.3**
	comp=Z,20nm,0.7s,baz=89,slow=3.9,SNR=6.9						
WRA				S	**S**	**23 43 29.4**	**-2.4**
	comp=Z,10nm,1.0s,baz=96,slow=14,SNR=8.2						
WRA				PKiKP	**PKiKP**	**23 46 04.0**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=64,slow=0.7,SNR=4.6						
KIP	**Kipapa**	**45.52**	**27**	*e*P	**P**	**23 37 46.7**	**+0.6**
KIP				pmax	pmax		
	comp=Z,232nm,1.4s						
KIP	**Kipapa**	**45.52**	**27**	*e*P	**P**	**23 37 46.7**	**+0.6**
	comp=Z,232nm,1.4s						
KDU	**Kakadu**	**47.81**	**271**	P	**P**	**23 38 03.0**	**-0.4**
	baz=48,SNR=72						
MTN	**Manton Dam**	**49.03**	**270**	P	**P**	**23 38 11.8**	**-0.6**
	baz=49,SNR=54						
GUMO	**Guam**	**49.30**	**309**	*e*P	**P**	**23 38 12.0**	**-2.4**
	comp=Z,211nm,0.8s						
FORT	**Forrest**	**49.42**	**246**	P	**P**	**23 38 14.8**	**-0.3**
	baz=50,SNR=49						
TLE	**Tual**	**49.76**	**280**	P	**P**	**23 38 18.4**	**+0.6**
	baz=50,SNR=4.7						
KNRA	**Kununurra**	**50.57**	**266**	P	**P**	**23 38 23.5**	**-0.2**
	baz=51,SNR=50						
SWI	**Sorong**	**52.96**	**285**	P	**P**	**23 38 40.6**	**-0.2**
SWI	**Sorong**	**52.96**	**285**	P	**P**	**23 38 41.1**	**+0.3**
	baz=53,SNR=20						
FITZ	**Fitzroy Crossi**	**52.98**	**262**	S	**S**	**23 45 27.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**52.98**	**262**	S	**S**	**23 45 27.3**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=281,slow=19,SNR=3.6						
FITZ	**Fitzroy Crossi**	**52.98**	**262**	P	**P**	**23 38 41.1**	**+0.1**
	baz=53,SNR=200						
PALU	**Palau**	**53.90**	**295**	P	**P**	**23 38 47.9**	**+0.4**
	baz=54,SNR=13						
SOEI	**Soe**	**56.35**	**271**	P	**P**	**23 39 05.8**	**+1.2**
SOEI	**Soe**	**56.35**	**271**	P	**P**	**23 39 06.0**	**+1.4**
	baz=56,SNR=20						
TNTI	**Ternate**	**57.18**	**284**	P	**P**	**23 39 10.3**	**+0.2**
MBWA	**Marble Bar**	**57.86**	**257**	*e*P	**P**	**23 39 13.9**	**-0.7**
	comp=Z,121nm,0.7s						
MEEK	**Meekatharra**	**58.00**	**250**	P	**P**	**23 39 14.8**	**-0.7**
	baz=58,SNR=32						
KLBR	**Kellerberrin**	**58.20**	**245**	P	**P**	**23 39 16.6**	**-0.2**
	baz=58,SNR=48						
SBA	**Scott Base**	**58.48**	**184**	*e*P	**P**	**23 39 20.4**	**+2.6**
SBA				pmax	pmax		
	comp=Z,40nm,0.8s						
SBA	**Scott Base**	**58.48**	**184**	*e*P	**P**	**23 39 20.4**	**+2.6**
	comp=Z,40nm,0.8s						
SBA				*e*ScP	**ScP**	**23 43 05.3**	**+2.8**
VNDA	**Vanda**	**58.52**	**185**	*e*P	**P**	**23 39 19.7**	**+1.7**
	comp=Z,17nm,0.8s						
VNDA				ScP	**ScP**	**23 43 04.4**	**+1.8**
VNDA				*e*ScP	ScP	23 43 06.2	+3.6
VNDA	**Vanda**	**58.52**	**185**	P	**P**	**23 39 19.7**	**+1.7**
	comp=Z,11nm,0.6s,baz=353,slow=7.4,SNR=143						
VNDA				ScP	**ScP**	**23 43 04.4**	**+1.8**
	comp=Z,8.3nm,0.8s,baz=349,slow=4.2,SNR=9.1						
NWAO	**Narrogin (SRO)**	**58.53**	**243**	*e*P	**P**	**23 39 18.7**	**

comp=Z,23nm,0.8s
ERM Erimo 71.22 331 *e*P **P 23 40 38.3 +0.3**
comp=Z,23nm,0.8s
BTM Bintulu 71.25 281 P **P 23 40 39.8 +0.9**
JNU Nakatsue 71.73 317 *e*P **P 23 40 40.7 -0.6**
JNU Nakatsue 71.73 317 P **P 23 40 41.1 -0.1**
comp=Z,53nm,0.9s,baz=97,slow=3.2,SNR=33
SBUM Sibu 71.77 280 P **P 23 40 42.1 +0.2**
ATKA Atka Island 71.85 3 *e*P **P 23 40 40.5 -0.9**
comp=Z,598nm,1.6s
CISI Cisompet, Garu 72.50 268 P **P 23 40 45.6 -0.6**
SMY Shemya 72.61 355 *e*P **P 23 40 45.1 -0.7**
SMY pmax pmax
comp=Z,1µm,2.0s
SMY Shemya 72.61 355 *e*P **P 23 40 45.1 -0.7**
comp=Z,1µm,2.0s
FX1 Attu Island--F 72.84 354 *e*P **P 23 40 45.9 -1.2**
LEM Lembang 72.92 269 P **P 23 40 49.5 +0.8**
LEM Lembang 72.92 269 P **P 23 40 49.3 +0.6**
baz=73,SNR=17
TWG Pinlang 72.94 303 *e*P **P 23 40 46.6 -1.8**
comp=Z,325nm,0.7s
YULB Yu-li 73.05 303 *e*P **P 23 40 47.2 -1.8**
comp=Z,46nm,0.7s
ASAJ Asahikawa 73.12 332 *e*P **P 23 40 49.7 +0.8**
comp=Z,166nm,0.8s
ASAJ Asahikawa 73.12 332 P **P 23 40 50.5 +1.6**
comp=Z,131nm,0.7s,baz=209,slow=7.1,SNR=232
KSM Kuching 73.20 278 *e*P **P 23 40 50.8 +0.7**
comp=Z,124nm,0.7s
KSM Kuching 73.20 278 P **P 23 40 50.8 +0.7**
KSM Kuching 73.20 278 P **P 23 40 51.0 +0.9**
baz=73,SNR=39
NACB Ninganchiao 73.22 304 *e*P **P 23 40 49.2 -0.7**
SSLB Suanglung 73.52 303 *e*P **P 23 40 50.0 -1.7**
comp=Z,94nm,0.6s
TPUB Ta-pu 73.53 303 *e*P **P 23 40 50.6 -1.2**
comp=Z,249nm,0.7s
YHNB Yeheng 73.65 304 *e*P **P 23 40 51.8 -0.7**
comp=Z,92nm,0.6s
TATO Taipei 73.72 305 *e*P **P 23 40 52.3 -0.5**
comp=Z,152nm,0.7s
CBJI Citeko 73.77 269 P **P 23 40 52.3 -1.0**
DBJI Dramaga 73.82 269 P **P 23 40 53.5 -0.2**
comp=Z,529nm,0.8s,comp=Z,5µm
SKJI Sukabumi 73.86 268 P **P 23 40 52.6 -1.3**
AKUT Akutan 74.47 8 *e*P **P 23 40 54.8 -1.5**
comp=Z,57nm,0.9s
SBJI Serang 74.55 269 P **P 23 40 57.7 0.0**
comp=Z,282nm,1.0s,comp=Z,3µm
YSS Yuzh-Sakhalins 75.28 333K *i*P **P 23 41 02.9 +1.9**
YSS pmax pmax
comp=Z,120nm,0.8s
PET Petropavlovsk 75.33 346⇓ *i*P **P 23 41 00.5 -0.6**
PET pmax pmax
comp=Z,80nm,0.7s
FALS False Pass 75.49 9 *e*P **P 23 41 00.8 -1.2**
comp=Z,94nm,0.6s
BLSI Bandar Lampung 75.62 269 P **P 23 41 03.1 -0.6**
comp=Z,301nm,0.8s,comp=Z,3µm
PEA0B Petropavlovsk- 75.64 345 *e*P **P 23 41 02.6 -0.2**
PETK Petropavlovsk- 75.64 345 P **P 23 41 02.7 -0.2**
PETK 23 44 09.4
PETK Petropavlovsk- 75.64 345 P **P 23 41 02.6 -0.2**
PETK PP **PP 23 44 09.4 +5.0**
PETK PKiKP **PKiKP 23 46 42.6 -0.7**
PETK Petropavlovsk- 75.64 345 P **P 23 41 02.6 -0.2**
comp=Z,71nm,0.6s,baz=147,slow=8.5,SNR=338
PETK PP **PP 23 44 09.4 +5.0**
comp=Z,10nm,1.2s,baz=122,slow=11,SNR=3.7
PETK PKiKP **PKiKP 23 46 42.6 -0.7**
comp=Z,2.4nm,0.7s,baz=150,slow=4.8,SNR=7.5
QZH Quanzhou 75.96 303⇓ *i*P **P 23 41 04.6 -0.6**
QZH pP **pP 23 43 11.0 +0.1**
QZH pmax pmax
comp=Z,220nm,0.8s
TJN Taejon 76.02 317 *i*P **P 23 41 05.8 +0.5**
KLI Kotabumi 76.15 270 P **P 23 41 06.0 -0.6**
comp=Z,111nm,0.8s,comp=Z,6µm
KASI Kota Agung 76.28 269 P **P 23 41 06.4 -0.9**
comp=Z,371nm,0.9s
KLSI 76.33 270 P **P 23 41 06.4 -1.2**
comp=Z,53nm,1.2s,comp=Z,963nm
KSRS Korea Array 76.33 319 P **P 23 41 07.9 +0.9**
comp=Z,17nm,0.7s,baz=130,slow=6.2,SNR=52
KSAR Wonju Array Be 76.35 319 P **P 23 41 07.9 +0.8**
SDPT Sand Point 76.42 10 *e*P **P 23 41 06.2 -0.8**
comp=Z,115nm,0.6s
LWLI Liwa 76.85 269 P **P 23 41 10.1 -0.5**
comp=Z,326nm,0.8s,comp=Z,6µm
SPIA Saint Paul Isl 77.04 4 *e*P **P 23 41 11.0 +0.7**
comp=Z,439nm,1.5s
INCN Inchon 77.16 318 P **P 23 41 12.6 +1.1**
SNR=6.5
INCN Inchon 77.16 318 *e*P **P 23 41 12.3 +0.7**
comp=Z,244nm,1.7s
PKM Peak Mountain 77.65 46 P **P 23 41 15.8 +1.4**
baz=78,SNR=5.5
SAO San Andreas Ge 77.67 43 *e*P **P 23 41 15.4 +1.1**
SAO pmax pmax
comp=Z,44nm,1.0s
SAO San Andreas Ge 77.67 43 *e*P **P 23 41 15.4 +1.1**
comp=Z,44nm,1.0s
CHGN Chignik 77.69 11 *e*P **P 23 41 13.1 -0.8**
VLA Vladivostok 77.70 325⇓ *i*P **P 23 41 14.0 -0.3**
VLA *e* 23 41 19.9
VLA *e*S **S 23 50 17.3 -0.5**
VLA pmax pmax
comp=Z,38nm,0.8s
SMMC Simmler 77.77 45 P **P 23 41 16.3 +1.4**
baz=78
HOPS Hopland 77.98 41 *e*P **P 23 41 16.1 +0.2**
comp=Z,102nm,1.3s
KCPM Cahto Peak 78.10 40 *e*P **P 23 41 18.4 +1.7**
comp=Z,59nm,1.4s
MNAI Manna 78.11 270 P **P 23 41 16.9 -0.3**
baz=78,SNR=4.7
USRK Ussuriysk Arra 78.38 326 P **P 23 41 18.8 +1.0**
comp=Z,72nm,0.7s,baz=119,slow=3.3,SNR=153
USRK pP **pP 23 43 25.6 +1.0**
comp=Z,2.0nm,0.8s,baz=129,slow=5.2,SNR=1.8
109C Camp Elliot, M 78.41 49 P **P 23 41 19.1 +0.7**
baz=79
ARVC Arvin 78.45 46 P **P 23 41 19.5 +1.0**
baz=79,SNR=5.9
MWC Mount Wilson 78.48 47 *e*P **P 23 41 19.7 +0.8**
MWC pmax pmax
comp=Z,21nm,0.7s
MWC Mount Wilson 78.48 47 *e*P **P 23 41 19.7 +0.8**
comp=Z,21nm,0.7s
BAR Barrett 78.61 49 *e*P **P 23 41 20.6 +1.1**
comp=Z,12nm,1.0s
KSI Kapahiang 78.68 270 P **P 23 41 19.5 -0.8**
comp=Z,361nm,0.8s
VES Vestal, Richgr 78.68 45 P **P 23 41 20.3 +0.6**
baz=79
MURC Murrieta 78.73 48 P **P 23 41 21.1 +1.0**
baz=79
KHMM Horse Mountain 78.75 39 *e*P **P 23 41 19.2 -1.0**
comp=Z,41nm,1.3s
BFSC Mount Baldy Ra 78.76 47 P **P 23 41 21.1 +0.7**
baz=79,SNR=7.5
EDW2 Edwards Air Fo 78.89 47 P **P 23 41 21.9 +1.0**
baz=79,SNR=16
MONP Monument Peak 78.90 49 P **P 23 41 22.4 +1.2**
baz=79,SNR=16
ISA Isabella 78.99 46 *e*P **P 23 41 22.6 +1.1**
ISA pmax pmax
comp=Z,101nm,1.8s
ISA Isabella 78.99 46 *e*P **P 23 41 22.6 +1.1**
comp=Z,101nm,1.8s
ISA Isabella 78.99 46 P **P 23 41 22.7 +1.1**
baz=79,SNR=12
DVTC Desert V Tower 79.00 49 P **P 23 41 22.6 +1.0**
baz=79
KRMB Red Mountain 79.05 38 *e*P **P 23 41 21.8 +0.1**
comp=Z,43nm,1.6s
CMB Columbia Colle 79.09 43 *e*P **P 23 41 22.6 +0.7**
CMB pmax pmax
comp=Z,51nm,1.3s
CMB Columbia Colle 79.09 43 *e*P **P 23 41 22.6 +0.7**
comp=Z,50nm,1.3s
MASI Maura Aman, Be 79.18 271 P **P 23 41 23.0 +0.1**
comp=Z,236nm,0.8s
PFO Pinyon Flat Ob 79.26 48 P **P 23 41 23.9 +0.9**
PFO Pinyon Flat Ob 79.26 48 P **P 23 41 23.9 +0.9**
comp=Z,6.8nm,0.9s,baz=256,slow=5.0,SNR=8.7
PFO Pinyon Flat Ob 79.26 48 P **P 23 41 24.0 +1.0**
baz=80,SNR=6.2
BTDF Bukit Timah Da 79.27 275 P **P 23 41 24.1 +0.8**
baz=80,SNR=11
BTDF P **P 23 41 24.1 +0.8**
baz=80,SNR=11
WDC Whiskeytown Da 79.28 40 *e*P **P 23 41 23.3 +0.6**
WDC pmax pmax
comp=Z,75nm,1.4s
WDC Whiskeytown Da 79.28 40 *e*P **P 23 41 23.3 +0.6**
comp=Z,75nm,1.4s
MYKOM Kota Tinggi 79.34 276 P **P 23 41 24.4 +0.7**
SWSC Sam W. Stewart 79.37 49 P **P 23 41 24.6 +1.2**
baz=80,SNR=7.7
NJ2 Nanjing 79.38 310 *e*P **P 23 41 24.3 +0.8**
NJ2 pP **pP 23 43 30.5 -0.1**
NJ2 sP **sP 23 44 32.6 +0.3**
NJ2 S **S 23 50 36.0 +0.4**
NJ2 sS **sS 23 54 24.0 +1.8**
NJ2 pmax pmax
comp=Z,60nm,0.8s
NJ2 pmax pmax
comp=Z,510nm,4.1s
LRMC Laurel Mountai 79.42 46 P **P 23 41 24.4 +0.6**
baz=80,SNR=8.2
OHAK Old Harbor 79.58 13 *e*P **P 23 41 24.0 +0.1**
CWC Cottonwood Cre 79.69 45 P **P 23 41 26.4 +1.2**
baz=80
BELC Belle Mtn. Jos 79.79 48 P **P 23 41 27.0 +1.2**
baz=80,SNR=16
HABR Khabarovsk 79.84 330 *d i*P **P 23 41 26.8 +1.3**
HABR 23 41 29.8
HABR *e**PP **pP 23 43 31.8 -1.0**
HABR *e**SP **sP 23 44 33.8 -0.6**
HABR *e*S **S 23 50 41.6 +2.0**
HABR *e* 23 50 58.6
HABR *e*SS **SS 23 56 08.6 +0.7**
HABR SSS SSS 23 59 44.2
HABR pmax pmax
comp=Z,253nm,1.5s
MPMC Manual Prospec 79.88 46 P **P 23 41 27.2 +1.0**
baz=80,SNR=23
YBH Yreka Blue Hor 79.89 39 *e*P **P 23 41 27.2 +1.2**
comp=Z,61nm,1.0s
YBH Yreka Blue Hor 79.89 39 P **P 23 41 27.4 +1.3**
comp=Z,33nm,0.8s,baz=188,slow=1.8,SNR=109
GSC Goldstone 79.93 47 *e*P **P 23 41 25.6 -0.8**
GSC pmax pmax
comp=Z,56nm,1.7s
GSC Goldstone 79.93 47 *e*P **P 23 41 25.6 -0.8**
comp=Z,56nm,1.7s
GSC Goldstone 79.93 47 P **P 23 41 27.3 +0.9**
baz=80,SNR=10
MDJ Mudanjiang 79.94 325 P **P 23 41 27.3 +1.2**
MDJ pP **pP 23 43 34.5 +1.0**
MDJ sP **sP 23 44 36.8 +1.7**
MDJ S **S 23 50 41.8 +1.0**
MDJ sS **sS 23 54 28.8 +1.0**
MDJ SS **SS 23 56 10.1 +0.6**
MDJ pmax pmax
comp=Z,110nm,0.8s
MDJ pmax pmax
comp=Z,330nm,5.5s
MDJ Mudanjiang 79.94 325 *e*P **P 23 41 26.6 +0.6**
comp=Z,108nm,0.8s
TIN Tinemaha 79.94 45 P **P 23 41 28.1 +1.7**
baz=80,SNR=5.8
BC3 Big Chuckawall 79.99 49 P **P 23 41 28.2 +1.4**
baz=80,SNR=10
HEC Hector,Ludlow 80.00 47 P **P 23 41 27.6 +0.8**
baz=80,SNR=19
GLA Glamis 80.12 50 *e*P **P 23 41 29.1 +1.7**
GLA pmax pmax
comp=Z,49nm,1.1s
GLA Glamis 80.12 50 *e*P **P 23 41 29.1 +1.7**
comp=Z,49nm,1.1s
GLA *e*PKiKP **PKiKP 23 46 50.5 -0.4**
GLA Glamis 80.12 50 P **P 23 41 29.1 +1.7**
baz=80,SNR=7.3
LBCM Butte Creek Ri 80.16 40 P **P 23 41 28.6 +1.0**
BEKR Beckworth 80.19 41 *e*P **P 23 41 28.7 +0.9**
comp=Z,38nm,1.5s
KDAK Kodiak Island 80.24 14 *e*P **P 23 41 26.8 -0.5**
comp=Z,102nm,1.0s
KDAK Kodiak Island 80.24 14 P **P 23 41 27.6 +0.3**
comp=Z,504nm,0.7s,SNR=16
KDAK Kodiak Island 80.24 14 P **P 23 41 27.7 +0.4**
comp=Z,46nm,0.7s,baz=229,slow=2.2,SNR=30
HUMO Hull Mountain 80.28 38 *e*P **P 23 41 29.3 +1.3**
comp=Z,94nm,1.5s
GMRC Granite Mounta 80.44 48 P **P 23 41 30.2 +1.1**
baz=81,SNR=14
IRM Iron Mountain 80.47 49 P **P 23 41 30.5 +1.4**
baz=81,SNR=21
GRAC Grapevine Rang 80.48 45 P **P 23 41 30.5 +1.3**
baz=81,SNR=27
QIZ Qiongzhong 80.48 294 P **P 23 41 29.6 +0.1**
QIZ pP **pP 23 43 36.6 -0.5**
QIZ S **S 23 50 48.3 +0.9**
QIZ sS **sS 23 54 32.8 -2.0**
QIZ pmax pmax
comp=Z,26nm,1.1s
QIZ pmax pmax
comp=Z,250nm,7.3s
QIZ Qiongzhong 80.48 294 *e*P **P 23 41 28.8 -0.7**
comp=Z,7.9nm,0.6s
FURC Furnace Creek, 80.53 46 P **P 23 41 30.1 +0.8**
baz=81,SNR=11
TUQ Turquoise Moun 80.61 47 P **P 23 41 30.9 +0.9**
baz=81,SNR=20
SHOC Shoshone 80.61 47 P **P 23 41 30.8 +1.0**
baz=81,SNR=5.6
NVAR Mina Array Bea 80.66 43 P **P 23 41 31.2 +0.9**
NVAR PKKP **PKKPbc 00 00 04.3 -1.6**
NVAR P'P' 00 08 10.1
NVAR Mina Array Bea 80.66 43 P **P 23 41 31.2 +0.9**
comp=Z,18nm,0.7s,baz=224,slow=8.8,SNR=100
NVAR PKKP **PKKPbc 00 00 04.3 -1.6**
comp=Z,0.7nm,0.7s,baz=114,slow=2.9,SNR=5.4
NVAR PKPPKP **P'P'df 00 08 10.1 +2.1**
comp=Z,0.6nm,0.8s,baz=54,slow=2.6,SNR=5.0
Y12C Blythe 80.70 49 P **P 23 41 31.7 +1.4**
baz=81,SNR=8.2
PAHR Pah Rah Range 80.70 42 *e*P **P 23 41 31.3 +0.9**
113A Mohawk Valley, 80.74 50 P **P 23 41 31.9 +1.4**
baz=81,SNR=14
NV11 Mina Array Sit 80.76 44 *e*P **P 23 41 31.3 +0.6**
HOG Hogback Mounta 80.79 39 P **P 23 41 32.0 +1.1**
LDFC Landfair 80.98 48 *e*P **P 23 41 33.4 +1.5**
comp=Z,198nm,1.6s
214A Organ Pipe Nat 81.03 51 P **P 23 41 33.8 +1.7**
baz=81,SNR=9.8
NEE2 Needles Airpor 81.16 48 P **P 23 41 34.1 +1.5**
baz=81
DL2 Dalian 81.19 317⇓ *i*P **P 23 41 33.4 +0.7**
DL2 pP **pP 23 43 42.5 +1.9**
DL2 sP **sP 23 44 38.1 -4.0**
DL2 S **S 23 50 51.3 -2.4**
DL2 pmax pmax
comp=Z,74nm,0.9s
DL2 pmax pmax
comp=Z,230nm,3.5s
KTGM Kuala Trenggan 81.26 279 P **P 23 41 34.6 +1.0**
PDMCI Parker Dam,Lak 81.26 49 P **P 23 41 34.6 +1.4**
baz=82
COR Corvallis 81.32 36 *e*P **P 23 41 32.4 -0.8**
COR pmax pmax
comp=Z,29nm,0.8s
COR Corvallis 81.32 36 *e*P **P 23 41 32.4 -0.8**
comp=Z,29nm,0.8s
COCO West Island 81.33 260 *e*PKiKP **PKiKP 23 46 53.2 0.0**
K05A Summer Lake 81.56 39 P **P 23 41 36.1 +1.3**
Z14A Wintersburg 81.64 50 P **P 23 41 36.9 +1.7**
baz=82,SNR=13
SNY Shenyang 81.65 320⇓P **P 23 41 35.3 +0.4**
SNY pP **pP 23 43 42.1 -1.0**
SNY sP **sP 23 44 42.0 -2.5**
SNY S **SKSac 23 50 56.4 -0.9**
SNY sS **sS 23 54 46.0 -0.5**
SNY pmax pmax
comp=Z,36nm,0.7s
SNY pmax pmax
comp=Z,320nm,6.3s
SHPR Sheep Range 81.70 46 *e*P **P 23 41 36.7 +1.1**
CN2 Changchun 81.73 322 *e*P **P 23 41 35.5 +0.2**
CN2 *e*S **S 23 50 59.6 +0.7**
CN2 pmax pmax
comp=Z,80nm,1.0s
FRIS Frissel Point 81.77 37 P **P 23 41 36.6 +0.9**
PPI Padang Panjang 81.81 272 P **P 23 41 36.4 -0.1**
comp=Z,34nm,0.8s
PPI Padang Panjang 81.81 272 P **P 23 41 36.8 +0.3**
baz=82,SNR=4.8
W13A Hualapai Mount 81.85 48 P **P 23 41 37.6 +1.2**
baz=82,SNR=10
Y14A Wickenburg 81.88 50 P **P 23 41 37.7 +1.3**
baz=82,SNR=8.2
PMSA Palmer Station 81.91 157 *e*P **P 23 41 37.0 +1.0**
PMSA Palmer Station 81.91 157 P **P 23 41 36.9 +1.0**
comp=Z,27nm,0.7s,baz=235,slow=3.8,SNR=16
KLR Kul'dur 81.93 329⇑ *i*P **P 23 41 33.3 -2.9**
KLR pmax pmax
comp=E,46nm,1.8s
KLR pmax pmax
comp=Z,140nm,1.8s
WHN Wuhan 81.97 306⇓ *i*P **P 23 41 37.6 +0.8**
WHN pP **pP 23 43 48.8 +3.7**
WHN sP **sP 23 44 49.1 +2.6**
WHN S **SKSac 23 50 59.4 -0.5**
WHN pmax pmax
comp=Z,100nm,1.0s
WHN pmax pmax
comp=Z,950nm,3.9s
MAW Mawson 82.10 200 *e*P **P 23 41 37.5 +0.7**
MAW *e*pP **pP 23 43 45.9 +0.8**
MAW Mawson 82.10 200 P **P 23 41 36.9 0.0**
comp=Z,1.5nm,0.4s,baz=149,slow=8.9,SNR=4.6
MAW pP **pP 23 43 46.6 +1.5**
comp=Z,5.7nm,0.8s,baz=111,slow=6.6,SNR=7.1
R11A Troy Canyon, C 82.40 45 *e*P **P 23 41 39.6 +0.5**
R11A Troy Canyon, C 82.40 45 P **P 23 41 39.7 +0.5**
baz=83
BMN Battle Mountai 82.48 42 *e*P **P 23 41 40.5 +1.1**
BMN pmax pmax
comp=Z,64nm,1.1s
BMN Battle Mountai 82.48 42 *e*P **P 23 41 40.5 +1.1**
comp=Z,64nm,1.1s
BMW Boistfort Moun 82.55 35 P **P 23 41 40.6 +1.1**
BMW Boistfort Moun 82.55 35 P **P 23 41 40.5 +1.1**
RVW Rose Valley 82.61 35 P **P 23 41 40.9 +1.2**
RSO Redoubt South 82.66 12 *e*P **P 23 41 38.7 -1.1**
comp=Z,98nm,0.7s
TUC Tucson 82.70 52 *e*P **P 23 41 42.3 +1.7**
TUC *e**PP **pP 23 43 50.8 +1.6**
TUC pmax pmax
comp=Z,170nm,1.2s
TUC Tucson 82.70 52 *e*P **P 23 41 42.2 +1.7**
comp=Z,170nm,1.2s
TUC *e*pP **pP 23 43 50.8 +1.6**
SVW2 Sparrevohn 82.71 11 *e*P **P 23 41 39.5 -0.4**
comp=Z,34nm,0.6s
WVOR Wild Horse Val 82.74 40 *e*P **P 23 41 41.7 +1.1**
WVOR pmax pmax
comp=Z,70nm,1.3s
WVOR Wild Horse Val 82.74 40 *e*P **P 23 41 41.6 +1.1**
comp=Z,70nm,1.3s
LVP Lakeview Peak 82.74 35 P **P 23 41 41.4 +0.9**
VLL Laurance Lake 82.77 36 P **P 23 41 41.4 +0.7**
NLWA Neilton Lookou 82.79 34 *e*P **P 23 41 41.7 +1.1**
comp=Z,83nm,1.3s
VFP Flag Point 82.80 36 P **P 23 41 41.5 +0.6**
UBPT Khong Chiam 82.81 289 P **P 23 41 42.1 +0.7**
comp=Z,76nm,1.1s
IPM Ipoh 82.92 277 *e*P **P 23 41 42.8 +0.7**
comp=Z,160nm,0.7s
IPM Ipoh 82.92 277 P **P 23 41 43.2 +1.1**
TDL Tradedollar La 83.02 35 P **P 23 41 43.0 +1.0**
OSD Olympics--Snow 83.15 34 P **P 23 41 43.8 +1.1**
I07A Izee 83.18 38 P **P 23 41 43.9 +1.1**
X16A Lo Mia Camp, P 83.24 50 P **P 23 41 44.9 +1.5**
baz=84,SNR=20
319A Douglas 83.38 53 P **P 23 41 46.0 +1.9**
baz=84,SNR=21
SPU Mount Spurr 83.46 12 *e*P **P 23 41 42.5 -1.2**
CCUT Cedar City 83.47 46 *e*P **P 23 41 45.3 +0.8**
comp=Z,22nm,1.1s
LON Longmire 83.49 35 *e*P **P 23 41 43.6 -0.6**
LON pmax pmax
comp=Z,64nm,1.9s
LON Longmire 83.49 35 *e*P **P 23 41 43.5 -0.6**
comp=Z,64nm,1.9s
ARUT Antelope Range 83.54 46 *e*P **P 23 41 44.3 -0.5**
ARUT pmax pmax
comp=Z,29nm,1.4s
ARUT Antelope Range 83.54 46 *e*P **P 23 41 44.3 -0.5**
comp=Z,29nm,1.4s
KULM Kulim 83.56 278 *e*P **P 23 41 46.2 +1.0**
WPW White Pass 83.60 35 P **P 23 41 45.4 +0.7**
U15A North Rim 83.64 48 P **P 23 41 46.8 +1.4**
baz=84
PGC Sidney 83.81 33 *e*P **P 23 41 46.4 +0.8**
WUAZ Wupatki 83.83 49 *e*P **P 23 41 46.3 0.0**
comp=Z,30nm,1.1s
WUAZ Wupatki 83.83 49 P **P 23 41 47.3 +1.0**
baz=84
RMW Rattlesnake Mo 83.93 35 P **P 23 41 47.1 +0.8**
RMW Rattlesnake Mo 83.93 35 P **P 23 41 47.1 +0.8**
320A Kipp Ranch, An 83.93 54 P **P 23 41 49.1 +2.2**
baz=84,SNR=8.8
220A Playas Peak, P 84.20 53 P **P 23 41 49.9 +1.8**
baz=84,SNR=22
CRAG Craig 84.20 24 *e*P **P 23 41 48.1 +0.8**
comp=Z,74nm,1.4s
SKLT Songkhla 84.24 280 P **P 23 41 50.1 +1.6**
comp=Z,152nm,0.9s,comp=Z,2µm
PSI Prapat 84.31 275 P **P 23 41 48.4 -0.7**
PSI Prapat 84.31 275 P **P 23 41 48.4 -0.7**
comp=Z,51nm,0.8s,baz=125,slow=4.4,SNR=41
PSI Prapat 84.31 275 P **P 23 41 48.6 -0.5**
baz=84,SNR=25
X18A Snowflake 84.38 50 P **P 23 41 50.3 +1.3**
baz=85,SNR=5.3
PMR Palmer 84.44 13 *e*P **P 23 41 48.0 -0.4**
PMR pmax pmax
comp=Z,233nm,1.5s
PMR Palmer 84.44 13 *e*P **P 23 41 48.0 -0.4**
comp=Z,233nm,1.5s
Z20A Nine Sixteen R 84.71 52 P **P 23 41 52.3 +1.7**
baz=85,SNR=19
MSU Marysvale 84.77 46 *e*P **P 23 41 52.1 +1.3**
MSU Marysvale 84.77 46 *e*P **P 23 41 52.1 +1.3**
ETW Entiat 84.81 35 P **P 23 41 51.3 +0.6**
221A Mesquite Ranch 84.81 53 P **P 23 41 52.9 +1.8**
baz=85
W18A Petrified Fore 84.81 50 P **P 23 41 52.2 +1.1**
baz=85
SML Sawmill 84.81 14 *e*P **P 23 41 49.8 -0.5**
SML pmax pmax
comp=Z,38nm,1.6s
SML Sawmill 84.81 14 *e*P **P 23 41 49.8 -0.5**
comp=Z,38nm,1.6s
DIV Divide 84.82 15 *e*P **P 23 41 50.2 -0.2**
comp=Z,311nm,1.7s
BMO Blue Mountains 84.91 39 *e*P **P 23 41 50.5 -0.7**
comp=Z,56nm,1.4s
BMRM Bremner River 84.97 16 *e*P **P 23 41 51.0 -0.1**
comp=Z,73nm,0.8s
MFID Camas Ranch 85.00 40 P **P 23 41 52.6 +0.9**
baz=85,SNR=12
PPLA Purkeypile 85.00 12 *e*P **P 23 41 48.8 -2.5**
121A Cookes Peak, D 85.04 53 P **P 23 41 53.9 +1.6**
baz=85,SNR=21
DUG Dugway 85.20 44 *e*P **P 23 41 52.4 -0.4**
DUG pmax pmax
comp=Z,56nm,2.4s
DUG Dugway 85.20 44 *e*P **P 23 41 52.4 -0.4**
comp=Z,56nm,2.4s
DUG Dugway 85.20 44 P **P 23 41 53.4 +0.6**
baz=85
WRAK Wrangell Islan 85.20 24 *e*P **P 23 41 52.6 +0.4**
comp=Z,100nm,1.2s
Y20A Horse Springs, 85.23 52 P **P 23 41 54.6 +1.4**
baz=85
BJT Baijiatuau 85.35 315 *e*P **P 23 41 53.5 +0.2**
comp=Z,72nm,0.6s
BJI Beijing 85.36 315 P **P 23 41 53.9 +0.6**
BJI pP **pP 23 44 03.8 +0.8**
BJI sP **sP 23 45 03.5 -0.5**
BJI sS **sS 23 55 28.4 +2.9**
BJI pmax pmax
comp=Z,84nm,0.7s

222A	**Williams Famil**	85.36	54	P		**P**	23 41 55.3 +1.5
	baz=86						
BGU	**Big Grassy Mou**	85.43	44	*e*P		**P**	23 41 53.8 -0.1
	comp=Z,2.4nm,0.8s						
Z21A	**St. Cloud Mine**	85.48	52	P		**P**	23 41 56.0 +1.6
	baz=86,SNR=16						
ENH	**Enshi**	85.58	304	*e*P		**P**	23 41 55.4 +0.7
	comp=Z,99nm,0.9s						
F10A	**Beach Ranch, E**	85.59	38	P		**P**	23 41 54.7 +0.3
Q16A	**Castle Valley**	85.65	46	P		**P**	23 41 56.5 +1.5
	baz=86						
W20A	**Ramah**	85.71	50	P		**P**	23 41 56.8 +1.3
	baz=86,SNR=14						
122A	**Conniff Cattle**	85.71	53	P		**P**	23 41 57.1 +1.7
	baz=86						
SEY	**Seymchan**	85.74	347	‖ *i*P		**P**	23 41 54.4 -0.2
Y21A	**Point of Rocks**	85.80	52	P		**P**	23 41 57.6 +1.7
	baz=86,SNR=20						
TMUT	**Trail Mountain**	85.81	46	*e*P		**P**	23 41 56.6 +0.7
	comp=Z,15nm,0.6s						
TRF	**Thorofare Moun**	85.87	12	*e*P		**P**	23 41 53.7 -1.7
	comp=Z,88nm,0.8s						
X21A	**Alamocita Cree**	85.92	51	P		**P**	23 41 57.7 +1.3
	baz=86,SNR=11						
HLID	**Hailey**	85.94	41	*e*P		**P**	23 41 57.2 +0.9
	comp=Z,23nm,0.9s						
HLID				*e*pP		**pP**	23 44 06.6 +0.3
HLID	**Hailey**	85.94	41	P		**P**	23 41 57.2 +0.9
	baz=86,SNR=55						
Z22A	**Elephant Butte**	85.98	53	P		**P**	23 41 58.1 +1.5
	baz=86,SNR=13						
HVU	**Hansel Valley**	86.04	43	*e*P		**P**	23 41 56.6 -0.1
HVU				pmax		pmax	
	comp=Z,236nm,2.9s						
HVU	**Hansel Valley**	86.04	43	*e*P		**P**	23 41 56.6 -0.1
	comp=Z,236nm,2.9s						
V20A	**Brimhall**	86.05	50	P		**P**	23 41 57.7 +0.7
	baz=86						
CHAI	**Chaiyaphum**	86.15	288	P		**P**	23 41 58.2 +0.6
	comp=Z,17nm,0.9s,comp=Z,152nm						
CTU	**Camp Tracy**	86.15	44	*e*P		**P**	23 41 56.8 -0.5
	comp=Z,6.8nm,0.8s						
NAYO	**Nakonayok**	86.16	287	P		**P**	23 41 59.2 +1.5
	comp=Z,214nm,1.2s						
SRU	**San Rafael**	86.19	46	*e*P		**P**	23 41 57.7 +0.2
SRU				pmax		pmax	
	comp=Z,19nm,0.9s						
SRU	**San Rafael**	86.19	46	*e*P		**P**	23 41 57.7 +0.2
	comp=Z,19nm,0.9s						
GYA	**Guiyang**	86.23	300	‖ *i*P		**P**	23 41 58.8 +0.9
GYA				pP		**pP**	23 44 09.3 +1.3
GYA				sP		**sP**	23 45 09.4 +0.4
GYA				PP		**PP**	23 45 30.3 -0.5
GYA				SKS		**SKSac**	23 51 28.5 +1.4
GYA				S		**S**	23 51 42.9 -0.6
GYA				sS		**sS**	23 55 30.6 -4.7
GYA				pmax		pmax	
	comp=Z,30nm,0.9s						
GYA				pmax		pmax	
	comp=Z,270nm,6.1s						
U20A	**Newcomb**	86.28	49	P		**P**	23 41 59.0 +1.0
	baz=86						
Y22A	**Socorro**	86.29	52	P		**P**	23 41 59.4 +1.2
	baz=86,SNR=9.6						
JLU	**Jordanelle**	86.30	44	*e*P		**P**	23 41 57.4 -0.8
	comp=Z,7.8nm,1.2s						
324A	**Moseley Ranch,**	86.31	55	P		**P**	23 41 59.3 +1.0
	baz=86,SNR=29						
DAU	**Daniels Canyon**	86.34	45	*e*P		**P**	23 41 59.7 +1.3
DAU				*e*			23 45 27.5
DAU	**Daniels Canyon**	86.34	45	*e*P		**P**	23 41 59.7 +1.3
DAU				*e*PP		**PP**	23 45 27.5 -4.1
LAZ	**Ladron**	86.37	52	*e*P		**P**	23 41 59.6 +1.1
LAZ				*e*pP		**pP**	23 44 07.1 -1.6
LENM	**Lemitar**	86.39	52	*e*P		**P**	23 41 59.6 +1.0
MCK	**McKinley**	86.39	13	*e*P		**P**	23 41 57.2 -0.5
MCK				pmax		pmax	
	comp=Z,188nm,1.3s						
MCK	**McKinley**	86.39	13	*e*P		**P**	23 41 57.2 -0.5
	comp=Z,188nm,1.3s						
425A	**Indio Mountain**	86.41	56	P		**P**	23 42 00.1 +1.4
	baz=87,SNR=29						
SKAG	**Skagway**	86.44	20	*e*P		**P**	23 41 59.1 +1.2
	comp=Z,164nm,1.7s						
MNTX	**Cornudas Mount**	86.50	55	*e*P		**P**	23 42 00.1 +1.2
	comp=Z,16nm,1.0s						
X22A	**Bernardo**	86.51	52	P		**P**	23 42 00.2 +1.0
	baz=87						
Z23A	**Rita Site, Whi**	86.54	53	P		**P**	23 42 00.5 +1.3
	baz=87						
224A	**Cornudas Mount**	86.55	54	P		**P**	23 42 00.7 +1.3
	baz=87,SNR=16						
626A	**Big Bend Ranch**	86.55	57	P		**P**	23 42 00.9 +1.6
	baz=87,SNR=30						
BNM	**Barren Site**	86.64	52	*e*P		**P**	23 42 00.8 +0.9
BNM				*e*pP		**pP**	23 44 11.5 +1.4
325A	**Bean Ranch, Si**	86.67	55	P		**P**	23 42 01.0 +1.0
	baz=87,SNR=36						
LPM	**Los Pinos Moun**	86.71	52	*e*P		**P**	23 42 01.0 +0.9
LPM				*e*pP		**pP**	23 44 12.7 +2.3
HWUT	**Hardware Ranch**	86.73	44	*e*P		**P**	23 41 59.8 -0.2
	comp=Z,5.7nm,0.7s						
526A	**Mary Lane Ranc**	86.80	57	P		**P**	23 42 02.0 +1.4
	baz=87,SNR=27						
HYT	**Haines Junctio**	86.83	19	*e*P		**P**	23 42 00.5 +0.5
TXAR	**Lajitas Array**	86.83	57	P		**P**	23 42 02.1 +1.4
TXAR				pP		**pP**	23 44 13.1 +2.0
TXAR				PKKP		**PKKPbc**	23 59 48.3 -2.6
TXAR	**Lajitas Array**	86.83	57	P		**P**	23 42 02.1 +1.4
	comp=Z,11nm,0.7s,baz=224,slow=6.9,SNR=94						
TXAR				pP		**pP**	23 44 13.1 +2.0
	comp=Z,2.0nm,1.0s,baz=224,slow=7.0,SNR=4.0						
TXAR				PKKP		**PKKPbc**	23 59 48.3 -2.6
	comp=Z,0.6nm,0.8s,baz=55,slow=11,SNR=5.9						
MENT	**Mentasta**	86.87	15	*e*P		**P**	23 41 60.0 0.0
124A	**Stringfield Ra**	86.88	54	P		**P**	23 42 02.2 +1.2
	baz=87,SNR=14						
U21A	**Nageezi**	86.92	50	P		**P**	23 42 02.1 +1.0
	baz=87,SNR=31						
NEW	**Newport**	86.95	36	*e*P		**P**	23 42 01.0 +0.3
	comp=Z,57nm,1.8s						
NEW	**Newport**	86.95	36	P		**P**	23 42 01.0 +0.3
	baz=87,SNR=13						
Y23A	**Lovelace Mesa,**	86.97	52	P		**P**	23 42 02.1 +0.8
	baz=87,SNR=8.8						
LHMI	**Lhok Sumawe**	86.99	277	P		**P**	23 42 02.8 +1.1
	baz=87,SNR=5.2						
PV01	**Paradox Valley**	87.06	48	*es*P		sP	23 45 03.2 -10
S20A	**Disappointment**	87.07	48	P		**P**	23 42 02.5 +0.7
	baz=87,SNR=6.9						
627A	**Terlingua Ranc**	87.10	57	P		**P**	23 42 03.4 +1.4
	baz=87,SNR=31						
225A	**Deer Hill, Car**	87.10	54	P		**P**	23 42 03.4 +1.4
	baz=87,SNR=15						
426A	**McDonald Obser**	87.11	56	P		**P**	23 42 03.5 +1.4
	baz=87,SNR=27						
X23A	**Hourglass Bar**	87.15	52	P		**P**	23 42 03.2 +0.9
	baz=87						
PHET	**Kaeng Krachan**	87.19	285	P		**P**	23 42 04.5 +2.0
	comp=Z,515nm,0.8s,comp=Z,4μm						
527A	**Woodward Ranch**	87.21	57	P		**P**	23 42 03.6 +1.1
	baz=87,SNR=26						
Z24A	**Sheeppen Canyo**	87.22	53	P		**P**	23 42 03.6 +1.0
	baz=87,SNR=7.3						
R20A	**Redvale**	87.22	48	P		**P**	23 42 03.0 +0.5
	baz=87,SNR=5.1						
V22A	**San Miguel Ran**	87.22	50	P		**P**	23 42 03.1 +0.6
	baz=87						
M17A	**Scullys Gap (B**	87.25	44	P		**P**	23 42 02.9 +0.4
	baz=88						
T21A	**Navajo Lake**	87.26	49	P		**P**	23 42 03.5 +0.8
	baz=88						
SYO	**Syowa Base**	87.30	193	‖ *e*PcP		**PcP**	23 42 05.8 +2.5
LOEI	**Loei**	87.38	290	P		**P**	23 42 02.5 -0.9
	comp=Z,35nm,2.2s						
S21A	**Coal Bank Pass**	87.39	48	P		**P**	23 42 04.2 +0.9
	baz=88,SNR=11						
326A	**Caldwell Ranch**	87.42	56	P		**P**	23 42 04.1 +0.7
	baz=88,SNR=8.1						
Y24A	**Capitan**	87.42	53	P		**P**	23 42 04.5 +1.0
	baz=88,SNR=36						
W23A	**Werner Place,**	87.44	51	P		**P**	23 42 04.6 +1.0
	baz=88						
125A	**Gardner Draw,**	87.47	54	P		**P**	23 42 04.7 +1.0
	baz=88,SNR=12						
U22A	**Llaves**	87.47	50	P		**P**	23 42 04.5 +0.8
	baz=88						
P19A	**Cripple Cowboy**	87.48	46	P		**P**	23 42 04.2 +0.5
	baz=88						
628A	**Black Gap, Mar**	87.51	58	P		**P**	23 42 04.9 +1.0
	baz=88						
DLBC	**Dease Lake**	87.53	23	*e*P		**P**	23 42 03.9 +0.7
IM04	**Indian Mountai**	87.55	10	*e*P		**P**	23 42 02.6 -0.5
MCMT	**McKenzie Canyo**	87.56	40	*e*P		**P**	23 42 05.0 +1.0
226B	**Tecolote Peak,**	87.59	55	P		**P**	23 42 05.3 +1.1
	baz=88,SNR=30						
COLA	**College**	87.63	12	*e*P		**P**	23 42 02.8 -0.6
COLA				pmax		pmax	
	comp=Z,497nm,0.6s						
COLA	**College**	87.63	12	*e*P		**P**	23 42 02.8 -0.6
	comp=Z,497nm,0.6s						
Q20A	**Ridgley Place,**	87.64	47	P		**P**	23 42 04.9 +0.6
	baz=88,SNR=11						
XAN	**Xi'an**	87.65	307	P		**P**	23 42 05.4 +1.0
XAN				pP		**pP**	23 44 17.6 +2.6
XAN				sP		**sP**	23 45 12.9 -2.9
XAN				SKS		**SKSac**	23 51 33.4 -1.8
XAN				S		**ScS**	23 51 59.0 -1.3
XAN				sS		**sS**	23 55 47.8 -1.3
XAN				SS		**SS**	23 58 04.0 +1.7
XAN				pmax		pmax	
	comp=Z,41nm,0.8s						
XAN				pmax		pmax	
	comp=Z,55nm,6.5s						
IMA2	**Indian Mountai**	87.66	10	*e*P		**P**	23 42 03.2 -0.5
427A	**Hayter Ranch,**	87.67	56	P		**P**	23 42 06.1 +1.5
	baz=88,SNR=41						
V23A	**Ortiz Mt. (NFS**	87.67	51	P		**P**	23 42 05.7 +1.1
	baz=88						
Z25A	**Roswell**	87.69	53	P		**P**	23 42 06.2 +1.5
	baz=88,SNR=12						
O19A	**Miners Draw (B**	87.70	46	P		**P**	23 42 05.5 +0.9
	baz=88,SNR=11						
T22A	**Edith**	87.72	49	P		**P**	23 42 05.5 +0.6
	baz=88						
ILAR	**Eielson Array**	87.74	13	P		**P**	23 42 03.2 -0.8
ILAR				pP		**pP**	23 44 16.4 +1.7
ILAR				PP		**PP**	23 45 37.5 -4.2
ILAR				P'P'			00 07 55.8
ILAR	**Eielson Array**	87.74	13	P		**P**	23 42 03.2 -0.8
	comp=Z,35nm,0.6s,baz=218,slow=5.9,SNR=220						
ILAR				PP		**PP**	23 44 16.4 +1.7
	comp=Z,3.7nm,1.1s,baz=218,slow=5.7,SNR=3.1						
ILAR				PP		**PP**	23 45 37.5 -4.2
	comp=Z,3.7nm,1.1s,baz=218,slow=7.0,SNR=4.2						
ILAR				PKPPKP		**P'P'df**	00 07 55.8 +2.9
	comp=Z,1.1nm,0.3s,baz=321,slow=1.2,SNR=30						
RRI2	**Red Ridge**	87.76	42	*e*P		**P**	23 42 06.0 +1.0
	comp=Z,45nm,1.0s						
RRI2				*es*P		**sP**	23 45 21.2 +4.8
P20A	**De Beque**	87.83	47	P		**P**	23 42 06.1 +0.9
	baz=88						
528A	**Cox Ranch, San**	87.87	57	P		**P**	23 42 06.8 +1.2
	baz=88						
L18A	**Fontenelle, Gr**	87.88	44	P		**P**	23 42 06.1 +0.6
	baz=88						
R21A	**Cimarron**	87.88	48	P		**P**	23 42 06.7 +1.1
	baz=88,SNR=9.4						
I16A	**Newdale**	87.92	42	P		**P**	23 42 07.1 +1.6
	baz=88,SNR=33						
U23A	**El Rito**	87.93	50	P		**P**	23 42 06.6 +0.8
	baz=88						
126A	**Clayton Basin,**	87.95	54	P		**P**	23 42 06.5 +0.7
	baz=88,SNR=7.1						
MSO	**Missoula**	87.96	38	*e*P		**P**	23 42 05.4 -0.2
	comp=Z,44nm,1.6s						
MSO	**Missoula**	87.96	38	P		**P**	23 42 05.4 -0.2
	baz=88,SNR=17						
DLMT	**Dillon**	87.99	40	*e*P		**P**	23 42 06.8 +1.0
W24A	**Lazy 6 Ranch,**	88.01	51	P		**P**	23 42 06.6 +0.4
	baz=88,SNR=12						
BSMT	**Bassoo Peak**	88.02	37	*e*P		**P**	23 42 05.9 -0.1
	comp=Z,18nm,0.9s						
REDW	**Red Top Meadow**	88.06	42	*e*P		**P**	23 42 07.2 +0.9
	comp=Z,73nm,1.3s						
TPAW	**Teton Pass**	88.06	42	*e*P		**P**	23 42 07.4 +1.1
	comp=Z,81nm,1.6s						
Q21A	**Lamborn Mesa,**	88.08	47	P		**P**	23 42 07.2 +0.8
	baz=88						
S22A	**4UR Ranch, Cre**	88.11	49	P		**P**	23 42 07.8 +1.0
	baz=88,SNR=12						
HIA	**Hailar**	88.11	325	*e*P		**P**	23 42 05.9 -0.2
	comp=Z,11nm,0.5s						
SNOW	**Snow King Moun**	88.17	42	*e*P		**P**	23 42 08.0 +1.1
	comp=Z,56nm,1.1s						
428A	**Kincaid Ranch,**	88.18	57	P		**P**	23 42 08.4 +1.4
	baz=88,SNR=6.3						
O20A	**White River Ci**	88.22	46	*e*P		**P**	23 42 07.2 +0.1
O20A	**White River Ci**	88.22	46	P		**P**	23 42 07.8 +0.7
	baz=88,SNR=12						
227A	**Bennet, Jal**	88.24	55	P		**P**	23 42 08.0 +0.8
	baz=88						
Z26A	**Caprock**	88.24	54	P		**P**	23 42 07.8 +0.6
	baz=88,SNR=20						
JTMT	**Jette**	88.25	37	*e*P		**P**	23 42 06.8 -0.1
M19A	**Rock Springs**	88.26	45	P		**P**	23 42 08.1 +0.9
	baz=88,SNR=5.5						
X25A	**Clemmons Ranch**	88.26	52	P		**P**	23 42 07.9 +0.6
	baz=88						
IMW	**Indian Meadow**	88.27	42	*e*P		**P**	23 42 08.5 +1.1
SWMT	**Swartz Lake**	88.29	38	*e*P		**P**	23 42 06.5 -0.6
529A	**Stev Forest Ra**	88.30	57	P		**P**	23 42 08.3 +0.8
	baz=88						
LRM	**Limekiln Ridge**	88.32	40	*e*P		**P**	23 42 07.9 +0.5
MOOW	**Moose Ponds**	88.32	42	*e*P		**P**	23 42 08.2 +0.8
V24A	**Rampart Ranch,**	88.33	51	P		**P**	23 42 08.5 +0.8
	baz=88,SNR=8.5						
LOHW	**Long Hollow**	88.34	42	*e*P		**P**	23 42 08.4 +0.9
	comp=Z,16nm,0.8s						
328A	**Wristen Ranch,**	88.35	56	P		**P**	23 42 08.4 +0.7
	baz=88,SNR=8.8						
R22A	**Saguache, Gunn**	88.38	48	P		**P**	23 42 09.4 +1.4
	baz=89,SNR=7.9						
CHMT	**Chamberlain Mo**	88.41	38	*e*P		**P**	23 42 07.8 0.0
L19A	**Farson**	88.41	44	P		**P**	23 42 08.8 +0.8
	baz=89,SNR=30						
QLMT	**Earthquake Lak**	88.43	41	*e*P		**P**	23 42 09.5 +1.5
SLMT	**Seeley Lake**	88.44	38	*e*P		**P**	23 42 07.8 -0.1
127A	**Arkansas Junct**	88.47	54	P		**P**	23 42 09.2 +1.0
	baz=89,SNR=8.8						
YBMT	**Yellow Bay**	88.47	37	*e*P		**P**	23 42 08.1 +0.2
P21A	**Newcastle**	88.48	47	P		**P**	23 42 09.3 +0.9
	baz=89						
H16A	**Russell Place,**	88.48	41	P		**P**	23 42 09.8 +1.6
	baz=89,SNR=28						
I17A	**Pilgrim Ck.**	88.51	42	P		**P**	23 42 10.0 +1.6
	baz=89						
FLWY	**Flagg Ranch**	88.52	42	*e*P		**P**	23 42 09.5 +1.1
	comp=Z,51nm,1.0s						
N20A	**Spence Gulch,**	88.53	45	P		**P**	23 42 09.2 +0.6
	baz=89,SNR=26						
Q22A	**Crested Butte,**	88.55	48	P		**P**	23 42 09.7 +0.9
	baz=89,SNR=6.4						
BW06	**Boulder Array**	88.60	43	*e*P		**P**	23 42 08.8 0.0
	comp=Z,20nm,0.8s						
PDAR	**Pinedale Array**	88.60	43	P		**P**	23 42 08.9 +0.1
PDAR				PKKP		**PKKPbc**	23 59 46.6 -0.8
PDAR				P'P'			00 07 57.0
PDAR	**Pinedale Array**	88.60	43	P		**P**	23 42 08.9 +0.1
	comp=Z,16nm,0.7s,baz=208,slow=3.3,SNR=175						
PDAR				PKKP		**PKKPbc**	23 59 46.6 -0.8
	comp=Z,1.5nm,0.8s,baz=84,slow=3.8,SNR=11						
PDAR				PKPPKP		**P'P'df**	00 07 57.0 +3.7
	comp=Z,0.5nm,0.8s,baz=90,slow=3.0,SNR=3.8						
YFT	**Old Faithful**	88.61	41	*e*P		**P**	23 42 08.7 -0.1
	comp=Z,30nm,0.9s						
BSI	**Banda Aceh**	88.63	276	P		**P**	23 42 09.9 +0.6
SNAA	**Sanae**	88.63	179	*e*P		**P**	23 42 07.7 -0.7
	comp=Z,14nm,1.3s						
Y26A	**Elida**	88.63	53	P		**P**	23 42 09.7 +0.6
	baz=89,SNR=7.7						
YMR	**Madison River**	88.64	41	*e*P		**P**	23 42 10.5 +1.6
	comp=Z,220nm,1.9s						
SMCO	**Snowmass**	88.65	47	*e*P		**P**	23 42 08.6 -0.8
W25A	**X Bar L Ranch,**	88.71	52	P		**P**	23 42 09.7 +0.3
	baz=89,SNR=16						
BOZ	**Bozeman (W)**	88.72	40	*e*P		**P**	23 42 09.8 +0.6
BOZ				pmax		pmax	
	comp=Z,50nm,1.4s						
BOZ	**Bozeman (W)**	88.72	40	*e*P		**P**	23 42 09.8 +0.6
	comp=Z,50nm,1.4s						
H17A	**Grant Village**	88.75	42	P		**P**	23 42 12.1 +2.6
	baz=89,SNR=7.0						
429A	**Davenport Ranc**	88.76	57	P		**P**	23 42 10.4 +0.8
	baz=89,SNR=37						
O21A	**Pagoda**	88.78	46	P		**P**	23 42 10.1 +0.3
	baz=89						
228A	**UT Block 9, Go**	88.83	55	P		**P**	23 42 10.9 +1.0
	baz=89,SNR=5.4						
HHC	**Hu-ho-hao-te**	88.83	314	*i* P		**P**	23 42 10.4 +0.7
HHC				pP		**pP**	23 44 20.6 -0.2
HHC				sP		**sP**	23 45 20.1 -1.3
HHC				PP		**PP**	23 45 52.5 +1.6
HHC				SKS		**SKSac**	23 51 42.3 +0.4
HHC				S		**S**	23 52 05.4 -1.5
HHC				sS		**sS**	23 55 57.3 -3.3
HHC				SS		**SS**	23 58 20.8 +1.8
HHC				pmax		pmax	
	comp=Z,86nm,0.9s						
HHC				pmax		pmax	
	comp=Z,620nm,6.3s						
YNR	**Norris Junctio**	88.84	41	*e*P		P	23 42 13.5 +3.6
	comp=Z,45nm,1.5s						
Z27A	**Tatum**	88.84	54	P		**P**	23 42 10.5 +0.5
	baz=89,SNR=5.5						
V25A	**Rancho No Teng**	88.86	51	P		**P**	23 42 10.5 +0.4
	baz=89,SNR=11						
I18A	**Diamond G Ranc**	88.89	42	P		**P**	23 42 11.0 +0.8
	baz=89,SNR=13						
M20A	**Sweetwater, Wa**	88.89	45	P		**P**	23 42 11.2 +1.0
	baz=89,SNR=10						
DAWY	**Dawson**	88.90	16	*e*P		**P**	23 42 09.7 +0.2
X26A	**CR and CF Fran**	88.91	53	P		**P**	23 42 10.6 +0.3
	baz=89						
KMI	**Kunming**	88.95	297	P		**P**	23 42 12.5 +1.7
KMI				pP		**pP**	23 44 24.6 +2.7
KMI				sP		**sP**	23 45 22.5 0.0
KMI				PP		**PP**	23 45 49.9 -2.5
KMI				SKS		**SKSac**	23 51 43.9 +0.4
KMI				S		**S**	23 52 07.3 -1.6
KMI				SS		**SS**	23 58 21.4 -0.1
KMI				pmax		pmax	
	comp=Z,75nm,0.8s						
P22A	**Eagle**	88.99	47	P		**P**	23 42 11.6 +0.9
	baz=89						
N21A	**Black Mountain**	89.00	46	P		**P**	23 42 11.7 +0.9
	baz=89,SNR=27						
530A	**J-C Ranch, Com**	89.01	58	P		**P**	23 42 11.8 +1.1
	baz=89,SNR=7.3						
R23A	**Moffat**	89.01	49	P		**P**	23 42 11.5 +0.5
	baz=89						
L20A	**Wamsutter**	89.03	44	P		**P**	23 42 11.9 +1.1
	baz=89,SNR=23						
EGAK	**Eagle**	89.04	15	*e*P		**P**	23 42 09.9 -0.1
	comp=Z,58nm,0.8s						
329A	**Wagon Wheel Ra**	89.04	56	P		**P**	23 42 11.7 +0.7
	baz=89,SNR=12						
SDCO	**Great Sand Dun**	89.05	49	*e*P		**P**	23 42 11.8 +0.7
	comp=Z,34nm,1.8s						
K19A	**Absolon Red Bu**	89.09	43	P		**P**	23 42 11.2 +0.2
	baz=89,SNR=13						
G17A	**Pierce Place,**	89.10	41	P		**P**	23 42 12.4 +1.5
	baz=89,SNR=8.3						
128A	**Castleberry Fa**	89.11	55	P		**P**	23 42 12.1 +0.8
	baz=89,SNR=9.2						
Y27A	**Causey**	89.12	53	P		**P**	23 42 11.6 +0.3
	baz=89,SNR=12						
HRY	**Holter Researc**	89.14	39	*e*P		**P**	23 42 12.2 +1.1
WALA	**Waterton Lakes**	89.16	36	*e*P		**P**	23 42 11.6 +0.5
J19A	**Crowheart**	89.16	43	P		**P**	23 42 12.0 +0.6
	baz=89,SNR=18						
LAMP	**Lampang**	89.20	290	P		**P**	23 42 13.2 +1.4
	comp=Z,57nm,0.8s,comp=Z,381nm						
S24A	**Houchin Ranch,**	89.21	49	P		**P**	23 42 12.7 +0.8
	baz=89,SNR=9.5						
U25A	**Circle Dot Ran**	89.25	51	P		**P**	23 42 12.7 +0.7
	baz=90,SNR=5.7						
PAYA	**Payao**	89.29	291	P		**P**	23 42 09.4 -2.9
	comp=Z,1μm,0.7s,comp=Z,29μm						
COLD	**Coldfoot**	89.29	11	*e*P		**P**	23 42 11.5 +0.4
	comp=Z,173nm,1.6s						
MAIT	**Maitri**	89.33	183	*e*P		P	23 42 07.5 -3.9
631A	**Perdido Creek**	89.33	58	P		**P**	23 42 13.0 +0.8
	baz=90,SNR=17						
K20A	**Yellowstone Ra**	89.34	44	P		**P**	23 42 12.3 +0.2
	baz=90,SNR=16						
430A	**Baggett Ranch,**	89.35	57	P		**P**	23 42 13.0 +0.6
	baz=90						
229A	**Bryant Ranch,**	89.37	56	P		**P**	23 42 13.1 +0.7
	baz=90						
O22A	**Kremmling**	89.39	47	P		**P**	23 42 13.1 +0.5
	baz=90,SNR=24						
F17A	**Fitzpatrick Pl**	89.44	40	P		**P**	23 42 13.8 +1.3
	baz=90,SNR=21						
MSTX	**Muleshoe**	89.45	54	*e*P		**P**	23 42 13.3 +0.5
MSTX				*e*pP		**pP**	23 44 24.6 +0.6
MSTX	**Muleshoe**	89.45	54	P		**P**	23 42 13.3 +0.5
	baz=90,SNR=12						
V26A	**Tequesquite Ra**	89.45	52	P		**P**	23 42 13.0 +0.2
	baz=90						
H18A	**Shoshone NF, C**	89.45	42	P		**P**	23 42 13.7 +0.9
	baz=90,SNR=7.5						
Z28A	**Tucker Farm, M**	89.46	54	P		**P**	23 42 13.1 +0.2
	baz=90						
X27A	**F and S Farms,**	89.48	53	P		**P**	23 42 13.4 +0.4
	baz=90						
M21A	**Separation Pea**	89.49	45	P		**P**	23 42 13.6 +0.6
	baz=90,SNR=8.5						
P23A	**Jefferson**	89.53	48	P		**P**	23 42 14.3 +0.9
	baz=90						
R24A	**Sanders Place,**	89.54	49	P		**P**	23 42 13.9 +0.7
	baz

comp=Z,30nm,1.3s
M22A Cedar Creek Ra 89.92 46 P **P 23 42 15.6 +0.7**
baz=90
Z29A Hungry Hill Ra 89.97 55 P **P 23 42 15.5 +0.3**
baz=90,SNR=6.8
632A Uvalde 90.00 59 P **P 23 42 16.5 +1.2**
baz=90,SNR=11
F18A Big Timber 90.01 40 P **P 23 42 16.3 +1.2**
baz=90,SNR=13
CLNS Chul'man 90.02 333 *e*P **P 23 42 14.9 +0.1**
CLNS pmax pmax
comp=Z,20nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.8s
K21A Alcova 90.04 44 P **P 23 42 15.8 +0.3**
baz=90,SNR=20
D17A Six Diamond Ra 90.04 39 P **P 23 42 16.1 +0.8**
baz=90,SNR=40
I20A Worland 90.08 43 P **P 23 42 16.1 +0.7**
baz=90,SNR=9.8
R25A Fountain Ranch 90.09 49 P **P 23 42 16.0 +0.3**
baz=90,SNR=6.9
X28A Dimmitt 90.11 53 P **P 23 42 16.1 +0.3**
baz=90,SNR=6.4
N23A Red Feather La 90.13 46 P **P 23 42 16.9 +0.9**
baz=90,SNR=16
V27A Dan Oppiter Fa 90.14 52 P **P 23 42 16.4 +0.4**
baz=90
532A Rocksprings 90.14 58 P **P 23 42 16.6 +0.6**
baz=90,SNR=10
331A San Angelo 90.19 57 P **P 23 42 16.3 +0.1**
baz=90
E18A Harlowton 90.22 40 P **P 23 42 17.0 +0.9**
baz=90,SNR=16
CMAI Chiengmai2 90.22 291 P **P 23 42 17.8 +1.1**
comp=E,92nm,0.9s
C17A Wharram Farm, 90.23 39 P **P 23 42 16.4 +0.4**
baz=90,SNR=36
J21A Lysite 90.24 44 P **P 23 42 17.1 +0.7**
baz=90,SNR=33
Y29A Porterfield Fa 90.24 54 P **P 23 42 17.1 +0.6**
baz=90
130A Snyder 90.28 55 P **P 23 42 16.8 +0.2**
baz=90
L22A Ellis Ranch, M 90.31 45 P **P 23 42 17.9 +1.2**
baz=90,SNR=16
CD2 Chengdu 90.34 303 *e*P **P 23 42 17.8 +0.9**
CD2 pP **pP 23 44 29.8 +1.5**
CD2 sP **sP 23 45 29.3 +0.5**
CD2 PP **PP 23 46 05.8 +2.9**
CD2 SKS **SKSac 23 51 51.0 +0.1**
CD2 S **S 23 52 19.4 -1.4**
CD2 sS **sS 23 56 13.3 -2.3**
CD2 SS **SS 23 58 43.0 +2.1**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,130nm,7.2s
JCT Junction City 90.36 58 *e*P **P 23 42 16.7 -0.3**
JCT pmax pmax
comp=Z,9.0nm,0.7s
JCT Junction City 90.36 58 *e*P **P 23 42 16.7 -0.3**
comp=Z,8.7nm,0.7s
JCT Junction City 90.36 58 P **P 23 42 17.4 +0.4**
baz=90
H20A Greybull 90.41 42 P **P 23 42 17.3 +0.3**
baz=91,SNR=12
U27A Thompson Grove 90.42 51 P **P 23 42 17.2 0.0**
baz=91,SNR=5.8
Z30A Sanderson Ranc 90.42 55 P **P 23 42 17.4 +0.1**
baz=91,SNR=5.0
S26A Kim 90.45 50 P **P 23 42 17.9 +0.6**
baz=91,SNR=9.2
X29A Tulia 90.45 53 P **P 23 42 17.7 +0.3**
baz=91
F19A Roth Farm, Mol 90.46 41 P **P 23 42 17.9 +0.7**
baz=91,SNR=8.4
231A Bronte 90.52 56 P **P 23 42 17.9 +0.2**
baz=91,SNR=9.0
432A Menard 90.52 57 P **P 23 42 18.1 +0.4**
baz=91,SNR=9.6
K22A Casper 90.52 44 P **P 23 42 18.5 +0.9**
baz=91,SNR=9.0
M23A Laramie 90.53 46 P **P 23 42 18.5 +0.7**
baz=91,SNR=15
I21A Big Trails, Te 90.55 43 P **P 23 42 17.9 +0.2**
baz=91,SNR=21
D18A Linhart Farms, 90.59 39 P **P 23 42 18.9 +1.1**
baz=91,SNR=6.8
V28A Channing 90.59 52 P **P 23 42 18.4 +0.3**
baz=91
G20A Bridger 90.62 42 P **P 23 42 18.8 +0.8**
baz=91,SNR=6.0
PHWY Pilot Hill 90.64 46 *e*P **P 23 42 19.0 +0.6**
AMTX Amarillo 90.64 53 *e*P **P 23 42 18.8 +0.5**
comp=Z,18nm,1.4s
R26A Arlington 90.75 49 P **P 23 42 18.9 +0.2**
baz=91,SNR=13
P25A Willow Gulch B 90.75 48 P **P 23 42 19.5 +0.7**
baz=91
131A Roby 90.75 56 P **P 23 42 19.1 +0.3**
baz=91
332A Millersview 90.76 57 P **P 23 42 19.3 +0.5**
baz=91,SNR=17
T27A Campo 90.76 51 P **P 23 42 18.8 0.0**
baz=91
W29A Amraillo 90.76 53 P **P 23 42 19.2 +0.3**
baz=91
L23A Garrett 90.83 45 P **P 23 42 19.7 +0.6**
baz=91,SNR=14
Y30A Stafford Cattl 90.84 54 P **P 23 42 19.6 +0.4**
baz=91
U28A Mallet 90.84 52 P **P 23 42 19.6 +0.4**
baz=91
E19A Rath Farm, Rou 90.85 40 P **P 23 42 19.9 +0.9**
baz=91,SNR=13
J22A Midwest 90.90 44 P **P 23 42 19.7 +0.4**
baz=91,SNR=15
A17A Triple J Farms 90.92 38 P **P 23 42 19.3 +0.2**
baz=91
F20A Billings 90.93 41 P **P 23 42 20.4 +1.0**
baz=91
Q26A Hugo 90.96 49 P **P 23 42 20.4 +0.7**
baz=91
232A Coleman 91.03 56 P **P 23 42 20.4 +0.4**
baz=91,SNR=11
H21A Big Horn, Sher 91.08 43 P **P 23 42 21.1 +1.0**
baz=91,SNR=5.1
I22A 9 Mile Ranch, 91.11 43 P **P 23 42 20.9 +0.6**
baz=91,SNR=8.5
D19A Cripps Ranch, 91.12 40 P **P 23 42 21.2 +1.0**
baz=91,SNR=18
M24A Cheyenne 91.14 46 P **P 23 42 21.3 +0.8**
baz=91
V29A Stinnett 91.16 52 P **P 23 42 20.7 +0.1**
baz=91
K23A Bowen Ranch, D 91.16 45 P **P 23 42 21.1 +0.5**
baz=91,SNR=6.5
B18A Beardsley Farm 91.18 38 P **P 23 42 21.1 +0.7**
baz=91,SNR=7.5
Z31A Sharp Cattle R 91.19 55 P **P 23 42 20.8 0.0**
baz=91
R27A Eads 91.21 50 P **P 23 42 20.9 +0.1**
baz=91,SNR=6.0
T28A Walsh 91.23 51 P **P 23 42 21.1 +0.1**
baz=91
E20A Meyer Farm, Mu 91.27 40 P **P 23 42 21.8 +0.9**
baz=92,SNR=7.5
C19A Slack Wire Ran 91.30 39 P **P 23 42 22.0 +1.1**
baz=92,SNR=16
ABTX Abilene, Hawle 91.31 56 P **P 23 42 21.8 +0.4**
baz=92,SNR=7.1
L24A Wheatland 91.31 46 P **P 23 42 22.1 +0.8**
baz=92
A18A Metzger Ranch, 91.40 38 P **P 23 42 21.8 +0.5**
baz=92
YAK Yakutsk 91.49 338 *d i*P **P 23 42 20.5 -0.8**
YAK *e**PP **pP 23 44 28.9 -4.0**
YAK *e*S **SKSac 23 51 53.4 -2.2**
YAK *e* 23 52 26.4
YAK pmax pmax
comp=Z,32nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=Z,144nm,3.5s
YAK pmax pmax
comp=N,55nm,2.2s
YAK pmax pmax
comp=E,41nm,2.2s
YAK smax smax
comp=E,52nm,1.8s
YAK smax smax
comp=N,100nm,1.9s
H22A Clearmont 91.51 43 P **P 23 42 22.4 +0.4**
baz=92
D20A Manuel Ranch, 91.54 40 P **P 23 42 23.2 +1.1**
baz=92,SNR=16
S28A Manter 91.57 51 P **P 23 42 22.8 +0.3**
baz=92
KSCO Kaye Shedlock' 91.63 49 *e*P **P 23 42 22.8 0.0**
KSCO Kaye Shedlock' 91.63 49 P **P 23 42 23.7 +0.9**
baz=92
M25A Palm-Egli Farm 91.65 46 P **P 23 42 23.7 +0.9**
baz=92
EDM Edmonton 91.66 33 *e*P **P 23 42 21.9 -0.6**
EDM Edmonton 91.66 33 *e*P **P 23 42 21.9 -0.6**
K24A Anderson Ranch 91.69 45 P **P 23 42 23.7 +0.8**
baz=92
B19A Brinkman Farms 91.70 39 P **P 23 42 23.6 +0.8**
baz=92
Z32A Haskell 91.70 55 P **P 23 42 23.6 +0.5**
baz=92,SNR=6.6
C20A Veseth Ranch, 91.91 39 P **P 23 42 24.9 +1.1**
baz=92,SNR=16
E21A Keefer Ranch, 91.93 41 P **P 23 42 25.2 +1.3**
baz=92
R28A Tribune 91.94 50 P **P 23 42 24.8 +0.6**
baz=92,SNR=6.9
Y32A R-V Farms, Ver 92.00 55 P **P 23 42 24.9 +0.4**
baz=92
L25A Engebretsen Ra 92.01 46 P **P 23 42 25.6 +1.1**
baz=92,SNR=5.1
A19A Klindworth Far 92.04 38 P **P 23 42 24.9 +0.6**
baz=92,SNR=9.0
J24A Dixon Ranch, L 92.05 44 P **P 23 42 25.1 +0.5**
baz=92
W31A Holland Ranch, 92.07 53 P **P 23 42 25.3 +0.5**
baz=92
F22A Rosebud 92.10 42 P **P 23 42 25.3 +0.6**
baz=92
O27A Beecher Island 92.22 48 P **P 23 42 25.9 +0.5**
baz=92
Q28A Sharon Springs 92.22 49 P **P 23 42 26.3 +0.9**
baz=92
D21A La Casta Ranch 92.22 40 P **P 23 42 26.3 +1.0**
baz=92
B20A Solberg Farm, 92.23 39 P **P 23 42 26.2 +1.0**
baz=92
K25A Mack Ranch, Ha 92.27 45 P **P 23 42 26.9 +1.3**
baz=92
LZH Lanzhou 92.29 308 ⇓P **P 23 42 27.1 +1.2**
LZH pP **pP 23 44 42.3 +4.8**
LZH sP **sP 23 45 41.0 +3.1**
LZH PP **PP 23 46 22.0 +4.0**
LZH SKS **SKSac 23 52 02.0 +0.3**
LZH S **S 23 52 38.0 +0.1**
LZH sS **sS 23 56 35.0 +1.0**
LZH SS **SS 23 59 11.1 +2.6**
LZH pmax pmax
comp=Z,54nm,1.5s
LZH pmax pmax
comp=Z,180nm,5.2s
G23A Biddle 92.39 43 P **P 23 42 26.6 +0.5**
baz=93,SNR=5.0
R29A Marienthal 92.46 50 P **P 23 42 27.1 +0.5**
baz=93,SNR=6.4
A20A Cobblestone Ra 92.50 38 P **P 23 42 27.1 +0.7**
baz=93,SNR=12
C21A Desert Coulee 92.50 40 P **P 23 42 27.2 +0.8**
baz=93
E22A Miles City 92.58 41 P **P 23 42 27.8 +0.9**
baz=93
F23A Volborg 92.61 42 P **P 23 42 27.4 +0.4**
baz=93
H24A Dirks Ranch, A 92.73 43 P **P 23 42 27.7 0.0**
baz=93,SNR=11
D22A Cohagen 92.75 41 P **P 23 42 28.8 +1.1**
baz=93,SNR=6.5
Q29A Oakley 92.76 50 P **P 23 42 28.7 +0.8**
baz=93,SNR=6.4
K26A Motz Farm, Whi 92.77 45 P **P 23 42 28.8 +0.9**
baz=93,SNR=7.5
RSSD Black Hills 92.80 44 *e*P **P 23 42 27.8 -0.3**
RSSD pmax pmax
comp=Z,16nm,1.2s
RSSD Black Hills 92.80 44 *e*P **P 23 42 27.8 -0.3**
comp=Z,16nm,1.2s
B21A Ellsworth Farm 92.82 39 P **P 23 42 28.9 +1.0**
baz=93,SNR=12
I25A Rochford 92.95 44 P **P 23 42 29.1 +0.3**
baz=93,SNR=8.6
E23A Ismay 93.01 41 P **P 23 42 29.6 +0.8**
baz=93
R30A Dighton 93.03 50 P **P 23 42 29.4 +0.3**
baz=93
P29A Atwood 93.07 49 P **P 23 42 30.4 +1.1**
baz=93,SNR=6.7
N28A Pribbeno Ranch 93.07 48 P **P 23 42 30.0 +0.7**
baz=93
A21A Bergtoll Ranch 93.13 39 P **P 23 42 30.3 +1.0**
baz=93,SNR=6.5
C22A Vida 93.20 40 P **P 23 42 30.0 +0.4**
baz=93
F24A Ekalaka 93.27 42 P **P 23 42 30.5 +0.4**
baz=94
H25A Fruitdale 93.29 44 P **P 23 42 30.6 +0.4**
baz=94
Q30A Quinter 93.33 50 P **P 23 42 31.2 +0.7**
baz=94
D23A Lindsay 93.36 41 P **P 23 42 31.6 +1.2**
baz=94
O29A 4D Ranch, Culb 93.37 49 P **P 23 42 31.2 +0.5**
baz=94
B22A Reddig Ranch S 93.38 40 P **P 23 42 31.4 +0.9**
baz=94,SNR=12
P30A Selden 93.54 49 P **P 23 42 32.3 +0.9**
baz=94,SNR=12
R31A Burdett 93.57 51 P **P 23 42 31.6 +0.1**
baz=94
C23A Lambert 93.65 40 P **P 23 42 32.9 +1.2**
baz=94,SNR=6.3
INK Inuvik 93.71 15 *e*P **P 23 42 30.7 -0.6**
INK *ep*P PP 23 46 22.6 -5.3
A22A Carney Farms, 93.73 39 P **P 23 42 32.6 +0.5**
baz=94,SNR=5.3
J27A Elkhorn Farm, 93.78 45 P **P 23 42 33.4 +0.9**
baz=94
D24A Glendive 93.88 41 P **P 23 42 33.6 +0.9**
baz=94
C24A Savage 94.00 41 P **P 23 42 34.3 +1.1**
baz=94
K28A Ten Mile Ranch 94.00 46 P **P 23 42 34.6 +1.2**
baz=94
B23A Brockton 94.05 40 P **P 23 42 34.6 +1.1**
baz=94,SNR=9.0
L29A Maesberg Ranch 94.35 47 P **P 23 42 36.1 +1.1**
baz=94
J28A Allard Ranch, 94.36 45 P **P 23 42 35.8 +0.7**
baz=95
DGMT Dagmar 94.53 40 *e*P **P 23 42 36.3 +0.6**
comp=Z,60nm,1.3s
DGMT Dagmar 94.53 40 P **P 23 42 36.9 +1.2**
baz=95,SNR=6.7
ULN Ulaanbaatar 94.81 319 *e*P **P 23 42 36.2 -0.9**
comp=Z,54nm,1.9s
A24A Westby 94.84 40 P **P 23 42 37.8 +0.7**
baz=95
D26A Manning 95.02 42 P **P 23 42 38.6 +0.7**
baz=95
SONM Songino Array 95.20 319 P **P 23 42 38.7 -0.1**
SONM PP **PP 23 46 36.5 -3.5**
SONM Songino Array 95.20 319 P **P 23 42 38.7 -0.1**
comp=Z,2.7nm,0.5s,baz=135,slow=5.2,SNR=19
SONM PP **PP 23 46 36.5 -3.5**
comp=Z,1.7nm,0.9s,baz=120,slow=5.9,SNR=4.7
YKA Yellowknife Ar 96.00 25 P **P 23 42 41.5 -0.4**
YKA PP **PP 23 46 49.5 +4.0**
YKA PKKP **PKKPbc 23 59 24.9 -3.9**
YKA Yellowknife Ar 96.00 25 P **P 23 42 41.4 -0.4**
comp=Z,3.5nm,0.6s,baz=241,slow=4.5,SNR=23
YKA PP **PP 23 46 49.5 +4.0**
comp=Z,1.5nm,0.9s,baz=240,slow=7.3,SNR=4.7
YKA PKKP **PKKPbc 23 59 24.9 -3.9**
comp=Z,0.4nm,0.5s,baz=37,slow=2.2,SNR=4.9
GTA Gaotai 96.48 309 P **P 23 42 45.5 +0.7**
GTA pP pP 23 45 03.3 +6.5
GTA sP **sP 23 45 53.1 -4.0**
GTA PP **PP 23 46 48.1 -1.8**
GTA SKS **SKSac 23 52 22.9 -0.7**
GTA S **S 23 53 13.1 -0.6**
GTA sS **sS 23 57 07.5 -4.2**
GTA SS **SS 00 00 11.3 +4.3**
GTA pmax pmax
comp=Z,10.0nm,1.1s
TEIG Tepich 96.55 71 *e*P **P 23 42 42.2 -3.1**
ZAK Zakamensk 98.07 321 *e*P Pdif 23 42 50.5 -1.1
ZAK pmax pmax
comp=Z,3.0nm,1.7s
TAPN Taplejung 102.42 295 *e*P **PKiKP 23 47 28.4 -0.9**
comp=Z,41nm,1.1s
LPAZ La Paz 102.42 112 PKiKP **PKiKP 23 47 31.1 +1.0**
LPAZ PKKPbc **PKKPbc 23 59 10.3 -0.2**
LPAZ La Paz 102.42 112 P **Pdif 23 43 14.3 +1.9**
comp=Z,1.2nm,0.7s,baz=254,slow=2.3,SNR=8.0
LPAZ PKiKP **PKiKP 23 47 31.1 +1.0**
comp=Z,1.9nm,1.0s,baz=227,slow=8.8,SNR=4.6
LPAZ PKKPbc **PKKPbc 23 59 10.3 -0.2**
comp=Z,1.3nm,0.5s,baz=47,slow=3.0,SNR=9.7
PKIN Phulchoki 104.46 294 *e*P **PKiKP 23 47 32.0 -1.0**
comp=Z,8.8nm,0.8s
WMQ Urumqi 106.42 311 *e*Pdif **Pdif 23 43 27.1 -1.7**
WMQ PP **PP 23 48 03.4 +0.3**
WMQ S **Sdif 23 54 32.0 -4.4**
WMQ SS **SS 00 02 19.0 -3.2**
ZAA0 Zalesovo Array 109.93 321 *e*PKPdf **PKiKP 23 47 40.2 -1.9**
ZALV Zalesovo Beam 109.93 321 PKiKP **PKiKP 23 47 40.8 -1.3**
comp=Z,8.3nm,0.6s,baz=158,slow=1.0,SNR=41
ZALV SKiKP **SKiKP 23 50 20.9 +0.4**
comp=Z,1.5nm,0.6s,baz=152,slow=1.9,SNR=4.7
MKAR Makanchi Array 110.68 314 *c i*PKIKP **PKiKP 23 47 42.7 -1.1**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 110.68 314 PKiKP **PKiKP 23 47 42.7 -1.1**
MKAR PKKPbc **PKKPbc 23 58 45.0 -0.2**
MKAR PKKPab **PKKPab 23 58 55.8 -0.5**
MKAR Makanchi Array 110.68 314 Pdiff **Pdif 23 43 49.7 +2.1**
comp=Z,1.6nm,0.7s,baz=92,slow=5.7,SNR=17
MKAR PKiKP **PKiKP 23 47 42.7 -1.1**
comp=Z,8.4nm,0.6s,baz=80,slow=0.4,SNR=69
MKAR PKKPbc **PKKPbc 23 58 45.0 -0.2**
comp=Z,0.5nm,0.7s,baz=283,slow=4.2,SNR=4.3
MKAR PKKPab **PKKPab 23 58 55.8 -0.5**
comp=Z,0.6nm,0.7s,baz=301,slow=3.5,SNR=4.8
NVS Novosibirsk 110.94 322 *e*PKIKP **PKiKP 23 47 42.2 -1.7**
NVS *e* 23 48 30.8
NVS *e*S **SKSac 23 53 27.8 -0.4**
NVS pmax pmax
comp=Z,9.0nm,0.8s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.6s
NVS pmax pmax
comp=N,6.0nm,1.9s
NVS pmax pmax
comp=E,16nm,1.9s
NVS pmax pmax
comp=Z,22nm,1.9s
NVS smax smax
comp=N,3.0nm,1.0s
NVS smax smax
comp=E,20nm,2.0s
KURK Kurchatov 113.45 318 P **Pdif 23 44 01.2 +1.4**
KURK *i* 23 47 47.9
KURK 23 48 54.2
KURK 23 58 34.9
KURK Kurchatov 113.45 318 Pdif **Pdif 23 44 01.2 +1.4**
KURK PKiKP **PKiKP 23 47 47.9 -1.0**
KURK PP **PP 23 48 54.2 +1.7**
KURK *e* 23 50 28.9
KURK PKKPbc **PKKPbc 23 58 34.9 -1.4**
KURK SKKPbc SKKPbc 00 01 22.9 -2.1
KURBB Kurchatov Arra 113.50 317 Pdiff **Pdif 23 44 01.2 +1.2**
comp=E,0.1nm,0.8s,baz=104,slow=3.6,SNR=2.9
KURBB PKiKP **PKiKP 23 47 47.9 -1.1**
comp=E,12nm,0.7s,baz=78,slow=1.4,SNR=93
KURBB PP **PP 23 48 54.2 +1.4**
comp=E,2.7nm,0.7s,baz=81,slow=4.9,SNR=4.0
KURBB SKiKP **SKiKP 23 50 28.9 +1.4**
comp=E,2.5nm,0.8s,baz=81,slow=1.6,SNR=6.8
KURBB PKKPbc **PKKPbc 23 58 34.9 -1.2**
comp=E,0.7nm,0.6s,baz=280,slow=4.3,SNR=6.3
KURBB SKKPbc **SKKPbc 00 01 22.9 -2.0**
comp=E,0.7nm,0.7s,baz=280,slow=4.1,SNR=6.7
KSH Kashi 114.42 305 PKP PKPdf 23 47 51.8 +0.5
KSH Kashi 114.42 305 PP PP 23 49 05.8 +6.0
KSH Kashi 114.42 305 SKS **SKSdf 23 54 07.8 +1.2**
KBK Karagaybulak 115.48 309 P **PKPdf 23 47 52.8 -0.5**
SNR=6.5
CHMS Chumysh 115.64 309 P **PKPdf 23 47 52.8 -0.7**
SNR=7.1
AAK Ala-Archa 115.81 309 *e*PKIKP **PKPdf 23 47 53.0 -1.0**
AAK Ala-Archa 115.81 309 *e*PKPdf **PKPdf 23 47 53.0 -1.0**
AAK PKP **PKPdf 23 47 53.4 -0.5**
AAK Ala-Archa 115.81 309 PKP **PKPdf 23 47 53.4 -0.5**
comp=E,3.9nm,0.4s,baz=166,slow=2.7,SNR=7.4
USP Ospenovka 115.85 309 P **PKPdf 23 47 53.3 -0.6**
SNR=10.0
EKS2 Erkin-Say 116.34 309 *e*PKIKP **PKPdf 23 47 54.0 -0.9**
EKS2 Erkin-Say 116.34 309 P **PKPdf 23 47 54.5 -0.4**
SNR=6.3
EKS2 Erkin-Say 116.34 309 *e*PKPdf **PKPdf 23 47 54.0 -0.9**
AML Almayashu 116.37 308 P **PKPdf 23 47 55.2 -0.1**
SNR=5.3
SCHQ Schefferville 118.26 38 PKP **PKPdf 23 47 56.9 -1.2**
SCHQ Schefferville 118.26 38 PKP **PKPdf 23 47 56.9 -1.2**
comp=E,4.4nm,0.8s,baz=244,slow=3.9,SNR=4.2
BVAR Borovoye Array 118.52 320 PKIKP **PKPdf 23 47 57.9 -0.7**
BVAR 23 49 31.4
BVAR 23 58 22.3
BVAR Borovoye Array 118.52 320 PKP **PKPdf 23 47 57.9 -0.7**
BVAR PP **PP 23 49 31.4 +4.2**
BVAR *e* 23 50 39.2
BVAR PKKPbc **PKKPab 23 58 22.3 +0.9**
BVAR Borovoye Array 118.52 320 PKP **PKPdf 23 47 57.9 -0.7**
comp=E,26nm,0.6s,baz=102,slow=1.4,SNR=141
BVAR PP **PP 23 49 31.4 +4.2**
comp=E,3.2nm,0.8s,baz=86,slow=7.6,SNR=4.8
BVAR SKiKP **SKiKP 23 50 39.2 +1.8**
comp=E,4.1nm,0.8s,baz=90,slow=1.5,SNR=6.9
BVAR PKKPbc **PKKPab 23 58 22.3 +0.9**
comp=E,1.4nm,0.7s,baz=256,slow=3.1,SNR=8.2
BRVK Borovoye 118.58 320 *d i*PKIKP **PKPdf 23 47 57.9 -0.8**
BRVK pmax pmax
comp=Z,22nm,0.7s
BRVK Borovoye 118.58 320 PKPdf **PKPdf 23 47 58.2 -0.4**
SNR=8.2
BRVK Borovoye 118.58 320 *e*PKPdf **PKPdf 23 47 57.5 -1.2**
BRVK *e*SKPdf **SKiKP 23 50 39.0 +1.6**
KKAR Karatay Array 118.75 309 *e*PKIKP **PKPdf 23 47 58.3 -1.1**
KKAR Karatay Array 118.75 309 *e*PKPdf **PKPdf 23 47 58.3 -1.1**
KBL Kabul 119.47 299 *e*PKIKP **PKPdf 23 48 01.2 -0.1**
KBL Kabul 119.47 299 *e*PKPdf **PKPdf 23 48 01.2 -0.1**
BDFB Brasilia 119.59 122 PKP **PKPdf 23 48 00.5 -1.4**
BDFB pPKP **pPKPdf 23 50 22.3 0.0**
BDFB PKKPbc **PKKPbc 23 58 15.5 +0.5**
BDFB Brasilia 119.59 122 PKP **PKPdf 23 48 00.5 -1.4**
comp=Z,1.8nm,0.4s,baz=347,slow=5.3,SNR=4.7
BDFB pPKP **pPKPdf 23 50 22.3 0.0**
comp=Z,2.1nm,0.7s,baz=163,slow=7.0,SNR=2.8
BDFB PKKPbc **PKKPbc 23 58 15.5 +0.5**
comp=Z,4.0nm,0.6s,baz=58,slow=4.0,SNR=9.1
SPITS Spitsbergen Ar 121.24 357 PKKPbc PKKPbc 23 58 12.1 +2.5
SPITS Spitsbergen Ar 121.24 357 PKKPbc PKKPbc 23 58 12.1 +2.5
comp=Z,4.7nm,0.8s,baz=339,slow=9.0,SNR=14
SUMG Summit 122.58 13 *e*PKIKP **PKPdf 23 48 05.5 -0.9**
SUMG Summit 122.58 13 *e*PKPdf **PKPdf 23 48 05.5 -0.9**
SVE Sverdlovsk 123.40 326 *e*PKIKP **PKPdf 23 48 07.2 -0.6**
SVE pmax pmax
comp=Z,34nm,0.8s
SOKR Solikamsk 124.47 330 *c i*PKIKP **PKPdf 23 48 09.0 -0.7**
SOKR pmax pmax
comp=Z,40nm,0.9s
ARU Arti 124.62 326 *i*PKIKP **PKPdf 23 48 09.3 -0.9**
ARU 23 54 14.1

ABKAR	**Akbulak array**	125.55	317	*e*PKPdf	**PKPdf**	23 48 11.3	-0.9
AKTO	**Aktyubinsk**	126.52	319	PKIKP	**PKPdf**	23 48 13.5	-0.5
AKTO	**Aktyubinsk**	126.52	319	PKP	**PKPdf**	23 48 13.4	-0.5
AKTO	**Aktyubinsk**	126.52	319	PKP	**PKPdf**	23 48 13.4	-0.5
	comp=Z,15nm,0.7s,baz=84,slow=3.5,SNR=68						
BOSA	**Boshof**	126.76	206	PKP	**PKPdf**	23 48 14.5	-0.9
BOSA				pPKP	**pPKPdf**	23 50 36.6	+0.8
BOSA				SKP		23 50 54.1	
BOSA	**Boshof**	126.76	206	PKP	**PKPdf**	23 48 14.5	-0.9
	comp=Z,7.3nm,0.8s,baz=204,slow=1.5,SNR=13						
BOSA				pPKP	**pPKPdf**	23 50 36.6	+0.8
	comp=Z,2.2nm,0.8s,baz=167,slow=5.8,SNR=1.8						
BOSA				SKP		23 50 54.1	
	comp=Z,2.5nm,0.9s,baz=36,slow=5.6,SNR=3.6						
ARCES	**ARCESS Array B**	128.29	350	PKPpre	PKPpre	23 48 03.4	
ARCES				PKP	**PKPdf**	23 48 15.8	-1.1
ARCES				pPKP	pPKPdf	23 50 38.6	+1.3
ARCES				SKP		23 50 55.0	
ARCES	**ARCESS Array B**	128.29	350	PKhKP	PKPpre	23 48 03.4	
	comp=Z,1.2nm,0.6s,baz=48,slow=1.8,SNR=8.0						
ARCES				PKP	**PKPdf**	23 48 15.8	-1.1
	comp=Z,20nm,0.6s,baz=101,slow=1.2,SNR=45						
ARCES				pPKP	pPKPdf	23 50 38.6	+1.3
	comp=Z,16nm,0.9s,baz=49,slow=6.1,SNR=3.1						
ARCES				SKP		23 50 55.0	
	comp=Z,5.5nm,0.7s,baz=58,slow=1.3,SNR=4.4						
LBTB	**Lobatse**	129.76	208	PKP	**PKPdf**	23 48 21.3	+0.1
LBTB				pPKP	**pPKPdf**	23 50 42.9	+1.3
LBTB	**Lobatse**	129.76	208	PKP	**PKPdf**	23 48 21.3	+0.1
	comp=Z,2.7nm,0.6s,baz=160,slow=4.3,SNR=5.3						
LBTB				pPKP	**pPKPdf**	23 50 42.9	+1.3
	comp=Z,2.1nm,1.0s,baz=140,slow=5.2,SNR=1.6						
KAF	**Kangasniemi**	134.52	344	*e*PKHKP	PKPpre	23 48 21.3	
FINES	**FINESS Array B**	135.14	344	PKPpre	PKPpre	23 48 15.2	
FINES				PKP	**PKPdf**	23 48 29.4	-0.5
FINES				SKPbc	**SKPbc**	23 51 05.0	+0.5
FINES				SKKPbc	**SKKPbc**	00 00 09.7	-3.2
FINES	**FINESS Array B**	135.14	344	PKhKP	PKPpre	23 48 15.2	
	comp=Z,1.7nm,0.4s,baz=44,slow=3.0,SNR=20						
FINES				PKP	**PKPdf**	23 48 29.4	-0.5
	comp=Z,13nm,0.5s,baz=64,slow=3.2,SNR=26						
FINES				SKPbc	**SKPbc**	23 51 05.0	+0.5
	comp=Z,8.7nm,0.7s,baz=70,slow=6.3,SNR=7.9						
FINES				SKKPbc	**SKKPbc**	00 00 09.7	-3.2
	comp=Z,1.7nm,0.7s,baz=197,slow=6.0,SNR=4.4						
MOS	**Moscow**	135.29	332	*e*PKIKP	**PKPdf**	23 48 29.4	-1.0
VRHR	**Novokhopersk**	135.93	325	*e*PKIKP	**PKPdf**	23 48 30.9	-0.8
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=N,6.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
OBN	**Obninsk**	136.15	332	⇑*i*PKIKP	**PKPdf**	23 48 31.3	-0.7
OBN				*e*		23 50 42.9	
OBN				*e*		23 54 29.0	
OBN				pmax	pmax		
	comp=Z,29nm,0.7s						
LSZ	**Lusaka**	136.52	218	PKP	**PKPdf**	23 48 34.3	+0.2
LSZ	**Lusaka**	136.52	218	PKP	**PKPdf**	23 48 34.3	+0.2
	comp=Z,7.8nm,0.7s,baz=45,slow=4.8,SNR=18						
VSR	**Storozhevoye**	137.19	326	*e*PKIKP	**PKPdf**	23 48 33.2	-0.8
VSR				pmax	pmax		
	comp=Z,20nm,0.8s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.6s						
VORD	**Divnogorie**	137.26	326	*e*PKIKP	**PKPdf**	23 48 33.9	-0.3
VORD				pmax	pmax		
	comp=N,30nm,0.6s						
VORD				pmax	pmax		
	comp=E,50nm,0.6s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
DGRG	**David-gareji**	137.39	310	P	**PKPdf**	23 48 37.9	+3.1
DGRG	**David-gareji**	137.39	310	P	**SKiKP**	23 51 15.1	-0.9
KBD	**Kabd**	137.51	292	*e*P	PKPpre	23 48 23.9	
DUS	**Dusheti**	137.68	311	P	PKPdf	23 48 27.7	-7.7
DUS	**Dusheti**	137.68	311	P	**SKiKP**	23 51 16.3	-0.3
TBLG	**Delisi**	137.76	311	P	PKPdf	23 48 42.6	+7.1
TBLG	**Delisi**	137.76	311	P	**SKiKP**	23 51 15.8	-0.9
MIB	**Mutribah**	137.79	293	*e*P	PKPpre	23 48 24.2	
MIB				AMb	AMB	23 48 29.2	
	comp=Z,45nm,0.7s						
NAY	**Al-Naaiem**	137.90	292	*e*P	PKPpre	23 48 24.6	
NAY				AMb	AMB	23 48 38.4	
	comp=Z,23nm,0.9s						
ZEI	**Tsey**	138.01	313	*i* PKIKP	**PKPdf**	23 48 37.3	+1.2
ZEI				pmax	pmax		
	comp=Z,17nm,1.0s						
TSUM	**Tsumeb**	138.22	203	PKP	**PKPdf**	23 48 37.5	+0.4
TSUM				SKPbc	**SKPbc**	23 51 15.7	+0.6
TSUM	**Tsumeb**	138.22	203	PKP	**PKPdf**	23 48 37.5	+0.4
	comp=Z,5.1nm,0.7s,baz=137,slow=2.5,SNR=16						
TSUM				SKPbc	**SKPbc**	23 51 15.7	+0.6
	comp=Z,3.8nm,0.8s,baz=142,slow=8.0,SNR=5.8						
GNI	**Garni**	138.22	308	*e*PKPdf	**PKPdf**	23 48 34.3	-2.2
NB2	**NORSAR Subarra**	138.35	353	PKP	PKPpre	23 48 25.6	
	comp=Z,5.9nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	138.35	353	PKPpre	PKPpre	23 48 25.9	
NOA				PKP	**PKPdf**	23 48 36.5	+0.5
NOA				SKPbc	**SKPbc**	23 51 14.2	+0.3
NOA				SKKPbc	**SKKPbc**	00 00 01.4	+0.5
NOA	**NORSAR Array B**	138.35	353	PKhKP	PKPpre	23 48 25.9	
	comp=Z,8.2nm,0.7s,baz=18,slow=2.8,SNR=23						
NOA				PKP	**PKPdf**	23 48 36.5	+0.5
	comp=Z,5.1nm,0.6s,baz=13,slow=4.0,SNR=17						
NOA				SKPbc	**SKPbc**	23 51 14.2	+0.3
	comp=Z,2.3nm,0.9s,baz=6.3,slow=4.0,SNR=5.9						
NOA				SKKPbc	**SKKPbc**	00 00 01.4	+0.5
	comp=Z,1.7nm,0.9s,baz=188,slow=4.3,SNR=3.3						
KBZ	**Khabaz**	138.37	314	PKHKP	PKPpre	23 48 28.3	
KBZ						23 48 37.1	
KBZ	**Khabaz**	138.37	314	PKPpre	PKPpre	23 48 28.3	
KBZ				PKP	**PKPdf**	23 48 37.1	+0.7
KBZ				SKPbc	**SKPbc**	23 51 14.5	0.0
KBZ	**Khabaz**	138.37	314	PKhKP	PKPpre	23 48 28.3	
	comp=Z,1.3nm,0.5s,baz=83,slow=1.6,SNR=6.3						
KBZ				PKP	**PKPdf**	23 48 37.1	+0.7
	comp=Z,6.3nm,0.8s,baz=39,slow=5.8,SNR=6.2						
KBZ				SKPbc	**SKPbc**	23 51 14.5	0.0
	comp=Z,5.3nm,0.8s,baz=189,slow=1.1,SNR=7.7						
ONI	**Oni**	138.39	312	P	PKPdf	23 48 44.2	+7.6
ONI	**Oni**	138.39	312	P	**SKiKP**	23 51 17.7	-0.3
KIV	**Kislovodsk**	138.43	315	⇑*i*PKIKP	**PKPdf**	23 48 35.8	-0.9
KIV				*e*		23 54 41.1	
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
IBDR	**Badra**	138.70	298	*i* PKP	**SKiKP**	23 51 17.0	-1.9
AKH	**Akhalkalaki**	138.75	311	P	**PKPdf**	23 48 40.7	+3.2
AKH	**Akhalkalaki**	138.75	311	P	**SKiKP**	23 51 18.9	0.0
KMBO	**Kilima Mbogo**	139.51	243	PKPpre	PKPpre	23 48 33.2	
KMBO				SKPbc	**SKPbc**	23 51 19.0	+0.1
KMBO	**Kilima Mbogo**	139.51	243	PKhKP	PKPpre	23 48 33.2	
	comp=Z,1.9nm,0.6s,baz=58,slow=22,SNR=9.1						
KMBO				SKPbc	**SKPbc**	23 51 19.0	+0.1
	comp=Z,5.8nm,1.0s,baz=65,slow=3.5,SNR=5.9						
BHD	**Baghdad**	139.97	298	*i* PKP	**SKiKP**	23 51 20.0	-1.5
MICGM	**Minsk**	140.16	336	‖*e*P	**SKiKP**	23 51 21.0	-0.2
ANN	**Anapa**	141.47	318	*e*PKHKP	PKPpre	23 48 37.9	
ANN				pmax	pmax		
	comp=Z,30nm,0.7s						
MVH1	**Achvaich**	141.74	5	*e*P	**PKPdf**	23 48 38.4	-3.7
KAC	**Achnashellach**	142.06	6	*e*P	**PKPdf**	23 48 38.8	-3.9
MCD	**Coleburn Disti**	142.16	4	*e*P	**PKPdf**	23 48 38.5	-4.4
KPL	**Plockton**	142.18	7	*e*P	**PKPdf**	23 48 38.8	-4.1
MDO	**Dochfour**	142.21	5	*e*P	**PKPdf**	23 48 39.3	-3.7
SUW	**Suwalki**	142.21	340	*e*PKHKP	**PKPdf**	23 48 39.7	-3.4
SUW	**Suwalki**	142.21	340	*e*PKPdf	**PKPdf**	23 48 39.6	-3.4
AKASG	**Malin Array Be**	142.41	331	PKHKP	PKPpre	23 48 39.6	
AKASG	**Malin Array Be**	142.41	331	PKPpre	PKPpre	23 48 39.5	
AKASG				SKPbc	**SKPbc**	23 51 25.2	+0.5
AKASG				SKKPbc	**SKKPab**	23 59 42.8	-1.1
AKASG	**Malin Array Be**	142.41	331	PKhKP	PKPpre	23 48 39.5	
	comp=Z,64nm,0.5s,baz=39,slow=4.8,SNR=233						
AKASG				SKPbc	**SKPbc**	23 51 25.2	+0.5
	comp=Z,12nm,0.7s,baz=37,slow=3.2,SNR=15						
AKASG				SKKPbc	**SKKPab**	23 59 42.8	-1.1
	comp=Z,0.2nm,0.4s,baz=223,slow=3.9,SNR=4.8						
DRUM	**Mains of Drumt**	142.88	4	*e*P	**PKPdf**	23 48 40.9	-3.2
SIM	**Simferopol'**	143.43	320	*i* PKIKP	PKPab	23 48 43.9	-0.3
SIM				pmax	pmax		
	comp=Z,207nm,0.6s						

LLD	**Lille Linde**	143.74	350	*i* P	PKPbc	23 48 44.6	-0.3
	comp=Z,131nm,0.7s						
RGN	**Rugen**	144.30	349	*e*PKPbc	**PKPdf**	23 48 46.6	0.0
ESK	**Eskdalemuir**	144.41	5	*e*PKIKP	**PKPdf**	23 48 45.8	-1.0
ESK	**Eskdalemuir**	144.41	5	*e*PKPdf	**PKPdf**	23 48 45.8	-1.0
GAL1	**Galloway**	144.71	7	*e*P	**PKPdf**	23 48 45.8	-1.6
GCD	**Castle Douglas**	144.79	6	*e*P	**PKPdf**	23 48 47.1	-0.4
BEL	**Belsk**	144.83	340	*e*PKPdf	PKPbc	23 48 48.7	+0.3
BEL				*e*		23 51 33.6	
KESW	**Keswick, Cumbr**	145.14	5	*e*P	**PKPdf**	23 48 48.4	+0.3
MBAR	**Mbarara**	145.14	238	PKPbc	**PKPbc**	23 48 50.5	-0.2
MBAR	**Mbarara**	145.14	238	PKPbc	**PKPbc**	23 48 50.5	-0.2
	comp=Z,70nm,0.9s,baz=154,slow=1.4,SNR=84						
KIS	**Kishinev**	145.14	327	‖*i* PKP	**PKPdf**	23 48 48.0	-0.4
KIS				M		23 48 48.5	
	comp=Z,400nm,1.4s						
KIS	**Kishinev**	145.14	327	*o.i* PKIKP	**PKPdf**	23 48 48.0	-0.4
KIS				pmax	pmax		
	comp=Z,400nm,1.4s						
KIS				pmax	pmax		
	comp=Z,500nm,4.0s						
GMM	**Mts of Mourne**	145.18	8	*e*P	**PKPbc**	23 48 49.1	-0.3
LVV	**L'vov**	145.29	335	*e*PKIKP	**PKPdf**	23 48 48.3	-0.2
BSEG	**Bad Segeberg**	145.39	351	*e*PKPbc	**PKPbc**	23 48 49.3	-0.6
BSEG	**Bad Segeberg**	145.39	351	*e*PKIKP	**PKPbc**	23 48 49.3	-0.6
LEOM	**Leova**	145.79	327	‖PKP2	**PKPbc**	23 48 51.2	-0.1
LEOM	**Leova**	145.79	327	‖*i*P	**PKPbc**	23 48 51.2	-0.1
ZALF	**Zalf**	145.84	300	*e*P	**PKPbc**	23 48 51.5	-0.5
KWP	**Kalwaria Pacla**	145.96	336	⇑PKIKP	**PKPdf**	23 48 49.9	+0.2
KWP	**Kalwaria Pacla**	145.96	336	⇑*i*P	**PKPdf**	23 48 49.9	+0.2
KWP	**Kalwaria Pacla**	145.96	336	*e*PKPdf	**PKPdf**	23 48 49.6	-0.1
KWP				*e*PKPbc	**PKPbc**	23 48 51.7	-0.1
KWP				*e*SKPbc	**SKiKP**	23 51 35.6	+2.3
KWP	**Kalwaria Pacla**	145.96	336	*i* PKPdf	**PKPbc**	23 48 51.9	+0.2
KWP				*e*		23 51 36.0	
WME	**Myndd Eilian**	146.20	7	*e*P	**PKPbc**	23 48 51.5	-0.7
FKH	**Fakeheh**	146.25	302	*e*P	**PKPbc**	23 48 53.5	+0.3
MARH	**Ras Al Marh**	146.25	302	*e*P	**PKPbc**	23 48 54.2	+0.7
WLF1	**Llynfaes**	146.30	7	*e*P	**PKPdf**	23 48 51.2	+1.1
YRC	**Rhoscolyn**	146.32	7	*e*P	**PKPbc**	23 48 51.7	-0.8
BR131	**Keskin Array S**	146.32	313	*e*PKPdf	**PKPdf**	23 48 49.9	-0.9
BR131				*e*PKPbc	**PKPbc**	23 48 52.8	-0.5
BRTR	**Keskin Array B**	146.32	313	PKPbc	**PKPbc**	23 48 52.1	-1.1
BRTR				SKKPbc	SKKPbc	23 59 28.0	0.0
BRTR	**Keskin Array B**	146.32	313	PKPbc	**PKPbc**	23 48 52.1	-1.1
	comp=Z,51nm,0.7s,baz=88,slow=1.3,SNR=139						
BRTR				SKKPbc	SKKPbc	23 59 28.0	0.0
	comp=Z,1.7nm,0.8s,baz=221,slow=4.5,SNR=9.9						
TLCR		146.33	325	⇑PKP2	**PKPbc**	23 48 53.0	+0.2
TLCR		146.33	325	⇑*i*P	**PKPbc**	23 48 53.0	+0.2
SALA	**Sala**	146.38	299	*e*P	**PKPbc**	23 48 54.2	+0.5
WPM1	**Penmaenmawr**	146.38	6	*e*P	**PKPbc**	23 48 52.1	-0.7
BUR08	**Bucovina Ar. S**	146.44	331	*e*PKPdf	**PKPdf**	23 48 50.9	+0.2
BUR08				*e*PKPbc	**PKPbc**	23 48 53.8	+0.5
BURAR	**Bucovina Array**	146.46	331	‖PKIKP	**PKPbc**	23 48 52.1	-1.2
BURAR	**Bucovina Array**	146.46	331	‖*i*P	**PKPbc**	23 48 52.1	-1.2
TOTH	**TOTAH**	146.47	301	*e*P	**PKPbc**	23 48 53.9	+0.2
OJC	**Ojcow**	146.53	339	*i* PKP2	**PKPbc**	23 48 53.3	0.0
TESR	**Tescani**	146.57	328	⇑*i*P	**PKPbc**	23 48 53.5	0.0
KBI1	**Birley Grange**	146.58	4	*e*P	**PKPbc**	23 48 52.5	-0.8
YRE	**Yr Eifl**	146.60	7	*e*P	**PKPbc**	23 48 52.2	-1.1
HWQ	**Hawqa**	146.61	303	*e*P	**PKPbc**	23 48 54.1	-0.1
KOLS	**Kolonicke sedl**	146.69	335	*e*PKIKP	**PKPdf**	23 48 51.1	+0.2
KOLS				*e*		23 48 54.3	
KOLS	**Kolonicke sedl**	146.69	335	*e*PKP	**PKPdf**	23 48 51.1	+0.2
KOLS				*e*		23 48 54.3	
STHS	**Stebnicka Huta**	146.69	337	*e*PKIKP	**PKPdf**	23 48 52.2	+1.3
STHS				*e*		23 48 54.4	
STHS	**Stebnicka Huta**	146.69	337	*e*PKP	**PKPdf**	23 48 52.2	+1.3
STHS				*e*		23 48 54.4	
STHS				*e*		23 48 58.3	
CFR	**Carcaliu**	146.70	325	‖PKP2	**PKPbc**	23 48 53.8	0.0
CFR	**Carcaliu**	146.70	325	‖*i*P	**PKPbc**	23 48 53.8	0.0
FOEL	**Foel Wylfa**	146.81	6	*e*P	**PKPbc**	23 48 53.1	-0.8
NRDL	**Niedersach Rie**	146.82	351	*e*PKPbc	**PKPbc**	23 48 53.8	0.0
ANTO	**Ankara**	146.84	314	PKPdf	**PKPbc**	23 48 55.0	+0.5
	SNR=24						
ANTO	**Ankara**	146.84	314	*e*PKPdf	**PKPdf**	23 48 50.3	-1.2
ANTO				*e*PKPbc	**PKPbc**	23 48 54.6	+0.1
RCY	**Rachaya**	146.91	301	*e*P	**PKPbc**	23 48 55.3	+0.3
UZH	**Uzhgorod**	146.93	335	‖*e*PKIKP	**PKPdf**	23 48 50.5	-0.8
UZH				*i*		23 48 58.5	
UZH				*e*		23 52 12.0	
BHL	**Bhannes**	146.95	302	*e*P	**PKPbc**	23 48 55.3	+0.3
VRI	**Vrincioaia**	146.97	327	‖PKP2	**PKPbc**	23 48 54.5	-0.1
VRI	**Vrincioaia**	146.97	327	‖*i*P	**PKPbc**	23 48 54.5	-0.1
TIRR	**Tirgusor**	147.01	324	‖PKP2	**PKPbc**	23 48 54.8	+0.1
TIRR	**Tirgusor**	147.01	324	‖*i*P	**PKPbc**	23 48 54.8	+0.1
TIRR	**Tirgusor**	147.01	324	*e*PKPdf	**PKPdf**	23 48 50.7	-0.8
TIRR				*e*PKPbc	**PKPbc**	23 48 54.5	-0.2
PLOR	**Plostina**	147.02	327	‖PKP2	**PKPbc**	23 48 54.7	-0.1
PLOR	**Plostina**	147.02	327	‖*i*P	**PKPbc**	23 48 54.7	-0.1
NIE	**Niedzica**	147.03	338	*e*PKIKP	**PKPbc**	23 48 53.9	-0.8
CRVS	**Cervenica-Dubn**	147.03	336	*e*PKIKP	**PKPdf**	23 48 51.6	+0.1
CRVS				*e*		23 48 58.8	
CRVS	**Cervenica-Dubn**	147.03	336	*e*PKP	**PKPdf**	23 48 51.6	+0.1
CRVS				*e*		23 48 55.2	
CRVS				*e*		23 48 58.8	
KSP	**Ksiaz**	147.06	343	*e*PKIKP	**PKPdf**	23 48 51.5	0.0
KSP	**Ksiaz**	147.06	343	*i* PKPdf	**PKPbc**	23 48 55.1	+0.5
IBBN	**Ibbenburen**	147.31	353	*ep*PKPbc	pPKPbc	23 51 14.1	+0.4
MANR	**Mangalia**	147.32	323	‖*i*P	**PKPbc**	23 48 56.1	+0.6
OKC	**Ostrava-Krasne**	147.40	340	*e*PKIKP	**PKPdf**	23 48 51.6	-0.5
OKC				*e*		23 52 13.4	
OKC	**Ostrava-Krasne**	147.40	340	*e*PKPDF	**PKPdf**	23 48 51.6	-0.5
OKC				⇑*i*PKP	**PKPbc**	23 48 55.9	+0.3
OKC				*es*PKP		23 52 13.4	
CLL	**Collm**	147.43	347	*e*PKPbc	**PKPbc**	23 48 55.7	+0.1
CLL				*ep*PKPbc	**pPKPbc**	23 51 12.9	-1.2
CLL	**Collm**	147.43	347	‖*e*PKHKP	PKPpre	23 48 51.0	
CLL				*i*		23 48 59.5	
CLL				pmax	pmax		
	comp=Z,192nm,0.7s						
CLL				pmax	pmax		
	comp=Z,94nm,0.8s						
UPC	**Upice**	147.44	343	*e*PKIKP	**PKPdf**	23 48 52.1	0.0
UPC	**Upice**	147.44	343	*e*PKPDF	**PKPdf**	23 48 52.1	0.0
UPC				⇑*i*PKP	**PKPbc**	23 48 56.3	+0.7
PGOR	**Pogoanele**	147.49	326	⇑*i*P	**PKPbc**	23 48 56.7	+0.8
DPC	**Dobruska-Polom**	147.49	343	*e*PKIKP	**PKPdf**	23 48 52.3	0.0
DPC				*e*		23 52 11.3	
DPC	**Dobruska-Polom**	147.49	343	*e*PKPDF	**PKPdf**	23 48 52.3	0.0
DPC				⇑*i*PKP	**PKPbc**	23 48 56.5	+0.6
DPC				*es*PKP		23 52 11.3	
DOPR	**Dopca**	147.57	329	⇑*i*P	**PKPbc**	23 48 57.1	+0.9
ISR	**Istrita**	147.58	327	⇑PKP2	**PKPbc**	23 48 56.6	+0.3
ISR	**Istrita**	147.58	327	⇑*i*P	**PKPbc**	23 48 56.6	+0.3
BRG	**Berggiesshubel**	147.63	346	*e*PKPbc	**PKPbc**	23 48 56.4	+0.3
BRG				*ep*PKPbc	**pPKPbc**	23 51 13.2	-1.5
BRG	**Berggiesshubel**	147.63	346	*i* PKIKP	**PKPdf**	23 48 52.5	+0.1
BRG				*i*		23 49 00.7	
BRG						23 51 13.2	
BRG				SS	SS	00 10 49.0	+4.8
BRG				pmax	pmax		
	comp=Z,18nm,1.2s						
BRG				pmax	pmax		
	comp=Z,104nm,0.7s						
BRG				pmax	pmax		
	comp=Z,60nm,0.7s						
BRG				pmax	pmax		
	comp=Z,16nm,1.4s						
BRG				pmax	pmax		
	comp=N,16nm,1.7s						
PSN	**Preselentsi**	147.63	323	P	**PKPbc**	23 48 56.6	+0.3
MLR	**Muntele Rosu**	147.63	328	‖*i*P	**PKPbc**	23 48 56.0	-0.5
MORC	**Moravsky Berou**	147.65	341	*e*PKIKP	**PKPdf**	23 48 52.6	0.0
MORC	**Moravsky Berou**	147.65	341	*e*PKPdf	**PKPdf**	23 48 52.6	0.0
MORC				*e*PKPbc	**PKPbc**	23 48 56.4	+0.1
PCED	**Cedros**	147.66	48	*e*PKP	**PKPbc**	23 48 57.1	+0.5
FBE	**Freiberg**	147.72	346	*e*PKPbc	**PKPbc**	23 48 57.0	+0.7
FBE				*ep*PKPbc	**pPKPbc**	23 51 14.6	-0.4
MCH1	**Michaelchurch**	147.72	6	*e*P	**PKPdf**	23 48 54.1	+1.6
WTSB	**Winterswijk**	147.74	354	*e*PKPbc	**PKPbc**	23 48 56.3	0.0
	comp=N,190nm,0.7s						
WTSB				*e*PKPab	**PKPab**	23 49 00.6	-0.4
	comp=N,86nm,0.8s						
WTSB				*ep*PKPbc	**pPKPbc**	23 51 14.9	-0.1
	comp=N,61nm,1.6s						
KECS	**Kecovo**	147.75	337	*e*PKP2	**PKPbc**	23 48 57.0	+0.5
KECS	**Kecovo**	147.75	337	*e*PKP	**PKPbc**	23 48 57.0	+0.5
KECS				*e*		23 49 01.7	

NEUB	**Neuenburg**	147.77	348	*e*PKPbc	**PKPbc**	23 48 56.6	+0.2
PVCC	**Panska Ves**	147.79	345	*e*PKIKP	**PKPdf**	23 48 53.1	+0.4
PVCC	**Panska Ves**	147.79	345	*e*PKPDF	**PKPdf**	23 48 53.1	+0.4
PVCC				⇑*i*PKP	**PKPbc**	23 48 57.2	+0.7
SECR		147.88	327	⇑*i*P	**PKPbc**	23 48 57.4	+0.4
PHNC	**Paralimni**	147.88	305	P	**PKPbc**	23 48 55.7	-1.6
	comp=N,2.8nm,1.0s						
PICO	**Pico**	147.91	48	*e*PKP	**PKPbc**	23 48 58.3	+1.0
ROSA	**Rosais**	147.94	48	*e*PKP	**PKPbc**	23 48 57.7	+0.4
PGRA	**Graciosa**	147.97	47	*e*PKP	**PKPbc**	23 48 57.8	+0.4
SULR		148.03	326	⇑*i*P	**PKPbc**	23 48 56.2	-1.1
PMAN	**Manadas**	148.08	48	*e*PKP	**PKPbc**	23 48 58.1	+0.5
VOIR		148.12	328	‖PKP2	**PKPbc**	23 48 57.9	+0.3
VOIR		148.12	328	‖*i*P	**PKPbc**	23 48 57.9	+0.3
DRGR		148.20	332	‖PKP2	**PKPbc**	23 48 57.9	+0.1
DRGR		148.20	332	‖*i*P	**PKPbc**	23 48 57.9	+0.1
BUG	**Bochum--Univer**	148.21	354	*e*PKPbc	**PKPbc**	23 48 57.5	0.0
PRA	**Prague**	148.25	345	⇑PKP	**PKPbc**	23 48 59.0	+1.3
MTUR	**Matau**	148.26	328	⇑PKP2	**PKPbc**	23 48 58.7	+0.7
MTUR	**Matau**	148.26	328	⇑*i*P	**PKPbc**	23 48 58.7	+0.7
PRU	**Pruhonice**	148.30	344	*e*PKPDF	**PKPdf**	23 48 53.2	-0.3
PRU				⇑*i*PKP	**PKPbc**	23 48 58.2	+0.4
PRU				*es*PKP		23 52 15.2	
MOX	**Moxa**	148.34	348	*e*PKPbc	**PKPbc**	23 48 58.0	+0.1
MOX				*ep*PKPbc	**pPKPbc**	23 51 18.7	+1.9
MOX	**Moxa**	148.34	348	*e*PKP2	**PKPbc**	23 48 58.0	+0.1
ARR	**Arges**	148.37	329	‖*i*P	**PKPbc**	23 48 58.9	+0.7
PRD	**Provadia**	148.38	323	P	**PKPbc**	23 48 58.6	+0.4
PLN	**Plauen**	148.38	347	*e*PKPbc	**PKPbc**	23 48 58.4	+0.4
PLN				*ep*PKPbc	**pPKPbc**	23 51 17.3	+0.3
TANN	**Tannenbergstha**	148.38	347	*e*PKPbc	**PKPbc**	23 48 58.4	+0.3
TANN				*ep*PKPbc	**pPKPbc**	23 51 16.7	-0.3
WERD	**Werda**

KSL	Kastellorizon	150.78 310		eP	PKPdf	23 48 53.6	-4.2
BEHE	Becsehely	150.79 339	⇓	e	PKPbc	23 49 03.8	0.0
RJOB	Jochberg	150.82 345		ePKPbc	PKPbc	23 49 03.7	-0.3
RZN	Rozhen	150.87 323		P	PKPbc	23 49 04.0	-0.4
PSMN	Pico do Norte,	150.96 48		ePKP	PKPbc	23 49 04.6	+0.1
VTS	Vitosha	151.07 326		P	PKPbc	23 49 04.4	-0.4
VTS	Vitosha	151.07 326	⇑	PKIKP	PKPbc	23 49 04.9	+0.1
VTS	Vitosha	151.07 326		P	PKPbc	23 49 04.6	-0.2
VTS	Vitosha	151.07 326	⇑	iP	PKPbc	23 49 04.9	+0.1
FLN	La Foliniere	151.12 3	⇓	iPKIKP	PKPdf	23 48 57.4	-0.5
	comp=N,50nm,0.9s						
FLN				eR			
	comp=N,67nm,21.2s						
BFO	Black Forest	151.14 351		ePKPbc	PKPbc	23 49 04.5	-0.1
BFO				ePKPab	PKPab	23 49 15.0	-0.3
BFO	Black Forest	151.14 351		ePKIKP	PKPab	23 49 15.0	-0.3
BFO	Black Forest	151.14 351		ePKPdf	PKPdf	23 48 57.5	-0.6
BFO				ePKPbc	PKPbc	23 49 04.5	-0.1
BFO				ePKPab	PKPab	23 49 14.7	-0.6
SOKA	Soboth	151.17 341		iPKPdf	PKPdf	23 48 57.8	-0.4
	comp=N,6.2nm,1.0s,SNR=11						
PERS	Pernice	151.18 341		iPKPdf	PKPdf	23 48 57.0	-1.2
PERS				iPKPbc	PKPbc	23 49 04.1	-0.7
PERS				iPKPab	PKPab	23 49 14.4	-1.2
CDF	Champ du Feu	151.20 353	⇓	iPKIKP	PKPdf	23 48 57.7	-0.5
PAGF	Fort de Pagny	151.22 355		ePKIKP	PKPdf	23 48 58.1	0.0
KBA	Koelnbreinsper	151.29 344		iPKPdf	PKPdf	23 48 57.8	-0.8
	comp=N,6.3nm,0.9s,SNR=27						
ROSF	Rostrenen	151.31 7		ePKIKP	PKPdf	23 48 57.3	-0.9
	comp=N,6.1nm,0.6s						
LDF	La Druitiere	151.31 3	⇓	iPKIKP	PKPdf	23 48 57.5	-0.7
	comp=N,33nm,0.9s						
MEZF	Maizieres J'vi	151.33 356		ePKIKP	PKPdf	23 48 58.8	+0.5
	comp=N,15nm,0.8s						
ECH	Echery	151.41 353		ePKIKP	PKPdf	23 48 57.7	-0.7
ECH				e		23 49 14.5	
ECH	Echery	151.41 353		ePKPdf	PKPdf	23 48 57.7	-0.7
ECH				ePKPbc	PKPbc	23 49 04.8	-0.4
ECH				ePKPab	PKPab	23 49 14.5	-1.9
KAVA	Kavala	151.44 322		P	PKPbc	23 49 05.0	-0.5
SGMF	Saint Gilles	151.47 6		ePKIKP	PKPdf	23 48 57.6	-0.9
OBKA	Obir	151.47 341	⇑	iPKPdf	PKPdf	23 48 58.0	-0.7
	comp=N,5.2nm,1.0s,SNR=10						
GRR	Gorron	151.47 4	⇓	iPKIKP	PKPdf	23 48 58.1	-0.4
	comp=N,23nm,0.9s						
MMB	Musomiste	151.49 324		P	PKPbc	23 49 04.9	-0.7
WATA	Walderalm	151.49 346	⇑	iPKPdf	PKPdf	23 48 58.0	-0.8
	comp=N,5.1nm,0.7s,SNR=8.2						
DIVS	Divibare	151.50 332		P	PKPbc	23 49 05.2	-0.4
RETA	Reutte	151.52 347	⇑	iPKPdf	PKPdf	23 48 58.4	-0.3
	comp=N,3.7nm,0.8s,SNR=9.6						
WTTA	Wattenberg	151.54 346		iPKPdf	PKPdf	23 48 58.2	-0.7
	comp=N,12nm,0.8s,SNR=8.7						
NVR	Nevrokopi	151.57 324		P	PKPbc	23 49 04.9	-0.9
NVR	Nevrokopi	151.57 324		eP	PKPbc	23 49 04.6	-1.2
MOTA	Moosalm	151.58 347	⇑	iPKPdf	PKPdf	23 48 58.2	-0.7
	comp=N,8.6nm,0.7s,SNR=11						
MYKA	Terra Mystica	151.62 343		iPKPdf	PKPdf	23 48 58.2	-0.7
	comp=N,8.4nm,0.7s,SNR=17						
SFTF	Sexfontaines	151.62 356		ePKIKP	PKPdf	23 48 58.6	-0.1
KKB	Krupnik	151.64 325		P	PKPbc	23 49 05.5	-0.4
HAU	Haudompre	151.70 354		ePKIKP	PKPdf	23 48 58.5	-0.4
HAU				eR			
	comp=N,33nm,20.0s						
QUIF	Quistinic	151.73 7		ePKIKP	PKPdf	23 48 58.0	-0.9
	comp=N,7.9nm,0.8s						
PDKS	Podkum	151.73 340		iPKPdf	PKPdf	23 48 58.5	-0.5
PDKS				iPKPbc	PKPbc	23 49 05.6	-0.4
PDKS				iPKPab	PKPab	23 49 17.4	-0.5
ABTA	Abfaltersbach	151.81 344		iPKPdf	PKPdf	23 48 58.1	-1.1
	comp=N,19nm,0.8s,SNR=14						
HINF	Hinteralfeld	151.83 353	⇓	iPKIKP	PKPdf	23 48 58.7	-0.4
	comp=N,15nm,1.0s						
SRS	Serrai	151.88 324		P	PKPbc	23 49 05.0	-1.5
DAVA	Damuels	151.89 348	⇑	iPKPdf	PKPdf	23 48 59.3	-0.1
	comp=N,7.3nm,0.9s,SNR=11						
FETA	Feichten	151.97 347		iPKPdf	PKPdf	23 48 59.2	-0.3
	SNR=19						
VOY	Vojsko	152.09 342		ePKPdf	PKPdf	23 48 59.1	-0.5
VOY				ePKPbc	PKPbc	23 49 06.0	-0.9
VOY				ePKPab	PKPab	23 49 18.0	-1.5
BOJS	Bojanci	152.15 340		iPKPdf	PKPdf	23 48 59.3	-0.2
BOJS				iPKPbc	PKiKP	23 49 07.0	0.0
BOJS				iPKPab	PKPab	23 49 19.4	-0.2
JAVS	Javornik	152.17 342		iPKPdf	PKPdf	23 48 58.9	-0.8
JAVS				iPKPbc	PKPbc	23 49 06.4	-0.7
JAVS				iPKPab	PKPab	23 49 18.7	-1.1
SOH	Sokhos	152.21 323		eP	PKPbc	23 49 05.5	-1.8
KNT	Kendrikon	152.23 324		P	PKPbc	23 49 06.0	-1.2
TRI	Trieste	152.43 342		ePKIKP	PKPdf	23 48 59.4	-0.5
TRI				e		23 49 06.9	
TRI				e		23 49 19.7	
TRI	Trieste	152.43 342		ePKPdf	PKPdf	23 48 59.4	-0.5
TRI				ePKPbc	PKPbc	23 49 06.9	-0.5
TRI				ePKPab	PKPab	23 49 19.7	-1.0
SKO	Skopje	152.43 327		ePKP	PKPdf	23 49 01.4	+1.3
IVA	Berane	152.50 330	⇓	iPKP	PKPbc	23 49 07.3	-0.6
LOR	Lormes	152.63 357	⇓	iPKIKP	PKPdf	23 49 00.0	-0.3
	comp=N,9.4nm,0.9s						
LOR				eR			
	comp=N,55nm,20.0s						
PVY	Plav	152.69 330		ePKP	PKPbc	23 49 07.8	-0.5
UPM	Unac-Piva	152.69 332	⇓	iPKP	PKPbc	23 49 07.3	-1.1
TUE	Stuetta	152.77 349		ePKPdf	PKPdf	23 49 00.5	-0.3
TUE				ePKPbc	PKPbc	23 49 08.5	0.0
TUE				ePKPab	PKPab	23 49 21.4	-1.1
UDBI	Udbina	152.83 338		P	PKPbc	23 49 07.8	-0.7
SSF	Saint Saulge	152.85 358	⇓	iPKIKP	PKPdf	23 49 00.2	-0.4
	comp=N,23nm,1.2s						
NKY	Niksic	152.96 332		ePKP	PKPbc	23 49 08.4	-0.5
AOS	Alonnisos	152.98 320		eP	PKPab	23 49 22.2	-1.2
NKME	Niksic	153.01 332	⇓	iPKP	PKPbc	23 49 08.2	-0.7
BRY	Bratogost	153.09 332	⇓	iPKP	PKPbc	23 49 08.4	-0.8
NVLJ	Novalja	153.10 339		P	PKPbc	23 49 08.0	-1.0
CABF	La Chapelle	153.11 354	⇓	iPKIKP	PKPdf	23 49 01.1	0.0
	comp=N,16nm,0.8s						
AVF	Avril sur Loir	153.13 358		ePKIKP	PKPdf	23 49 00.3	-0.6
	comp=N,11nm,1.1s						
TTG	Podgorica	153.14 331	⇓	iPKP	PKPbc	23 49 08.6	-0.5
LIT	Litokhoron	153.18 323		P	PKPbc	23 49 08.0	-1.4
LIT	Litokhoron	153.18 323		eP	PKPbc	23 49 07.8	-1.6
SMF	Signal de Mont	153.25 357		ePKIKP	PKPdf	23 49 00.6	-0.6
NEO	Neokhori	153.28 321		eP	PKPbc	23 49 07.4	-2.2
MFF	Saint Martin d	153.29 3	⇓	iPKIKP	PKPdf	23 49 00.6	-0.6
	comp=N,24nm,1.0s						
FNA	Florina	153.32 326		P	PKPbc	23 49 08.6	-1.1
BGF	Bois d'Agland	153.38 358		ePKIKP	PKPdf	23 49 00.9	-0.4
BUM	Brajici-Budva	153.41 331	⇓	iPKP	PKPbc	23 49 08.9	-0.9
HCY	Herceg Novi	153.47 332	⇓	iPKP	PKPbc	23 49 08.9	-1.0
STON	Ston	153.47 333		P	PKPbc	23 49 08.5	-1.3
SMIA	Simia	153.57 320		P	PKPbc	23 49 09.2	-1.0
SANT	Santorini	153.59 313		eP	PKPbc	23 49 08.6	-1.8
TCF	Toulx Ste Croi	153.66 359	⇓	iPKIKP	PKPdf	23 49 01.2	-0.6
	comp=N,44nm,1.3s						
TIR	Tirane	153.68 328		ePKIKP	PKPbc	23 49 09.8	-0.5
TIR				e		23 49 26.2	
TIR	Tirane	153.68 328		ePKPbc	PKPbc	23 49 09.8	-0.5
TIR				ePKPab	PKPab	23 49 26.2	-0.1
PTL	Penteli	153.68 318		eP	PKPbc	23 49 09.4	-1.1
NEST	Nestorio	153.76 325		P	PKPbc	23 49 10.0	-0.7
THL	Klokotos Trika	153.82 323		eP	PKPbc	23 49 09.3	-1.3
ATH	Athens Observa	153.82 318		eP	PKPbc	23 49 09.4	-1.3
LKR	Lokris	153.84 320		eP	PKPbc	23 49 09.7	-1.0
RSL	Roselend	153.96 352		PKP	PKPdf	23 49 01.8	-0.6
AXAR	Agios Charalam	153.97 321		P	PKPbc	23 49 10.1	-1.0
AGG	Agios Georgios	154.00 322		eP	PKPbc	23 49 09.4	-1.7
NPS	Neapolis	154.05 311		eP	PKPbc	23 49 11.3	0.0
NAIG	Nisos Aigina	154.09 318		eP	PKPbc	23 49 09.5	-1.8
LPL	La Plagne	154.11 352	⇓	iPKIKP	PKPdf	23 49 02.6	-0.1
	comp=N,11nm,1.1s						
LPG	La Plagne	154.13 352	⇓	iPKIKP	PKPdf	23 49 02.6	-0.2
	comp=N,32nm,1.4s						
LAST	Lasithi	154.20 311		eP	PKPbc	23 49 11.5	-0.2
LTK	Loutraki	154.26 319		eP	PKPbc	23 49 09.8	-1.9
EVR	Evrytania	154.37 322		eP	PKPbc	23 49 11.4	-0.6
DID	Didima	154.41 318		P	PKPbc	23 49 10.3	-1.7
DID	Didima	154.41 318		eP	PKPbc	23 49 10.0	-2.0
DIDY	Didyma	154.44 318		P	PKPbc	23 49 10.6	-1.6
IDI	Anoyia	154.55 312		eP	PKPbc	23 49 08.2	-4.3
SSB	Saint Sauveur	154.57 356		ePKIKP	PKPdf	23 49 02.0	-1.1
SSB				e		23 49 28.7	
SSB	Saint Sauveur	154.57 356		ePKPdf	PKPdf	23 49 02.0	-1.1
SSB				ePKPbc	PKiKP	23 49 12.1	-0.1
SSB				ePKPab	PKPab	23 49 28.7	-1.3
BNI	Bardonecchia	154.58 352		ePKIKP	PKPdf	23 49 03.2	0.0
BNI				e		23 49 30.2	
BNI	Bardonecchia	154.58 352		ePKPdf	PKPdf	23 49 03.2	0.0
BNI				ePKPbc	PKPbc	23 49 12.5	+0.2
BNI				ePKPab	PKPab	23 49 30.2	+0.1
EFP	Efpalio	154.64 321		eP	PKPbc	23 49 13.0	+0.6
RJF	Les Rejaudoux	154.64 1	⇓	iPKIKP	PKPdf	23 49 02.8	-0.3
	comp=N,23nm,0.9s						
RJF				eR			
	comp=N,46nm,22.8s						
GUR	Goura	154.69 320		P	PKPbc	23 49 12.0	-0.7
GUR	Goura	154.69 320		eP	PKPbc	23 49 11.6	-1.1
LAKA	Lakka	154.72 321		P	PKPbc	23 49 13.1	+0.4
LAKA	Lakka	154.72 321		eP	PKPbc	23 49 12.7	0.0
PSA1	Psathopyrgos	154.72 321		eP	PKPbc	23 49 13.2	+0.6
KLV	Kalavryta, Ach	154.74 320		eP	PKPbc	23 49 12.2	-0.6
SIVA	Sivas	154.74 311		eP	PKPbc	23 49 13.3	+0.5
VLC	Villacollemand	154.76 346		ePKPdf	PKPdf	23 48 59.8	-3.6
ORIF	Oris-en-Rattie	154.81 353	⇓	iPKIKP	PKPdf	23 49 03.1	-0.4
	comp=N,24nm,1.3s						
ORIF				eR			
	comp=N,62nm,22.0s						
MBDF	Montbardon	154.88 352	⇓	iPKIKP	PKPdf	23 49 03.3	-0.4
	comp=N,19nm,1.1s						
VAM	Vamos	154.97 313		P	PKPbc	23 49 13.0	-0.2
VAM	Vamos	154.97 313		eP	PKPbc	23 49 13.2	0.0
VIVF	Saint-Julien-l	154.98 355	⇓	iPKIKP	PKPdf	23 49 03.5	-0.1
	comp=N,33nm,1.4s						
LFF	La Frestale	154.99 2		ePKIKP	PKPdf	23 49 03.2	-0.4
	comp=N,12nm,0.7s						
CAF	Calviac	155.02 360		ePKIKP	PKPdf	23 49 03.5	-0.2
VLX	Vlachokerasia	155.03 319		eP	PKPdf	23 49 12.8	+8.8
VLI	Veliai	155.07 317		eP	PKPdf	23 49 13.8	+10
AXS	Araxos	155.10 321		P	PKPdf	23 49 13.2	+9.3
LKD2	Lefkada island	155.11 323		P	PKPdf	23 49 13.0	+8.9
LKD2	Lefkada island	155.11 323		eP	PKPdf	23 49 12.9	+8.9
RLS	Riolos of Patr	155.14 321		P	PKPdf	23 49 13.7	+10
RLS	Riolos of Patr	155.14 321		eP	PKPdf	23 49 14.1	+10
KYTH	Kithira	155.26 316		eP	PKPdf	23 49 15.3	+11
ANKY	Antikythira Is	155.32 315		eP	PKPdf	23 49 13.6	+9.3
AMT	Artemida-Makis	155.34 320		eP	PKPab	23 49 31.8	-1.8
ITM	Ithomi	155.43 319		eP	PKPdf	23 49 13.6	+9.1
DYR	Agios Nikonas	155.43 318		P	PKPdf	23 49 12.9	+8.4
DYR	Agios Nikonas	155.43 318		eP	PKPdf	23 49 13.8	+9.3
SAOF	Saorge	155.49 350		PKP	PKPdf	23 49 03.3	-1.1
AUTN	L'Aution	155.50 350		PKP	PKPdf	23 49 03.1	-1.5
TOUF	Mont Tournerai	155.51 351		PKP	PKPdf	23 49 03.5	-1.1
AQU	L'Aquila	155.56 339		ePKPdf	PKPdf	23 49 03.6	-0.9
AQU				ePKPab	PKPab	23 49 33.6	-0.8
VLS	Valsamata	155.57 322		eP	PKPdf	23 49 13.8	+9.2
LUCF	Luceram	155.62 350		PKP	PKPdf	23 49 04.0	-0.6
SBF	Sospel	155.63 350	⇓	iPKIKP	PKPdf	23 49 04.8	+0.2
	comp=N,26nm,0.9s						
PYL	PYLOS	155.72 318		eP	PKPdf	23 49 13.9	+9.1
REVF	Revere	155.76 350		PKP	PKPdf	23 49 02.7	-2.0
SMRF	Simiane la Rot	155.77 353	⇓	iPKIKP	PKPdf	23 49 04.8	+0.1
	comp=N,16nm,0.8s						
LASF	Ste Croix	155.81 356	⇓	iPKIKP	PKPdf	23 49 04.8	0.0
	comp=N,28nm,1.1s						
FRF	La Foret Royal	156.04 351	⇓	iPKIKP	PKPdf	23 49 04.3	-0.7
	comp=N,20nm,1.1s						
LMR	La Mourre	156.29 352	⇓	iPKIKP	PKPdf	23 49 04.5	-0.8
	comp=N,32nm,1.4s						
PGAV	Gavieira, Arco	156.36 19		ePKPdf	PKPdf	23 49 05.8	+0.2
MTLF	Montolieu	156.60 359	⇓	iPKIKP	PKPdf	23 49 05.4	-0.4
	comp=N,29nm,1.4s						
PGF	Pioggiola	156.61 347	⇓	iPKIKP	PKPdf	23 49 04.9	-1.0
	comp=N,28nm,1.0s						
PCAB	Cabril	156.67 19		ePKPdf	PKPdf	23 49 06.5	+0.6
SJPF	Ste Jean	156.69 6		ePKIKP	PKPdf	23 49 05.7	-0.2
EPF	Esparros	156.88 3	⇓	iPKIKP	PKPdf	23 49 06.1	-0.1
	comp=N,13nm,0.9s						
PBRG	Braganca	156.95 17		ePKPab	PKPab	23 49 40.1	-0.3
ETSF	Etsaut	156.96 5	⇓	iPKIKP	PKPdf	23 49 06.6	+0.3
	comp=N,12nm,0.7s						
PTO	Porto	157.00 21		ePKPab	PKPab	23 49 40.5	-0.1
POLO	Lamas de Olo	157.05 19		ePKPdf	PKPdf	23 49 06.7	+0.2
POLO	Lamas de Olo	157.05 19		ePKPab	PKPab	23 49 41.3	+0.4
MVO	Moncorvo	157.47 18		ePKPdf	PKPdf	23 49 07.4	+0.4
MVO	Moncorvo	157.47 18		ePKPab	PKPab	23 49 43.0	+0.3
PVIS	Viseu	157.62 20		ePKPdf	PKPdf	23 49 07.3	+0.1
PVIS	Viseu	157.62 20		ePKPab	PKPab	23 49 43.1	-0.2
PCAS	Casmilo, Conde	158.01 22		ePKPab	PKPab	23 49 44.8	-0.2
MTE	Manteigas	158.01 19		ePKPdf	PKPdf	23 49 07.1	-0.6
MTE	Manteigas	158.01 19		ePKPab	PKPab	23 49 45.0	-0.1
PTOM	Tomar	158.43 22		ePKPdf	PKPdf	23 49 08.6	+0.5
PTOM	Tomar	158.43 22		ePKPab	PKPab	23 49 46.7	-0.1
PMAFR	Mafra	158.69 24		ePKPab	PKPab	23 49 48.3	+0.3
PMRV	Marv??o	158.94 20		ePKPdf	PKPdf	23 49 08.8	+0.1
PMRV	Marv??o	158.94 20		ePKPab	PKPab	23 49 49.2	+0.1
PMTG	Montargil	158.98 22		ePKPab	PKPab	23 49 48.7	-0.6
PACT	Alcochete	159.02 24		ePKPab	PKPab	23 49 49.7	+0.3
PMPST	Porto Santo, M	159.11 47		ePKPab	PKPab	23 49 50.7	+0.6
PMPS	Porto Santo	159.12 47		ePKPab	PKPab	23 49 49.7	-0.5
PESTR	Estremoz	159.38 21		ePKPab	PKPab	23 49 50.7	-0.4
EVO	Evora	159.53 23	⇓	iPKIKP	PKPdf	23 49 09.5	+0.1
	comp=N,44nm,1.2s						
EVO	Evora	159.53 23		ePKPab	PKPab	23 49 51.4	-0.3
ESDC	Sonseca Array	159.64 13		PKP	PKPdf	23 49 09.6	0.0
ESDC				PKPab	PKPab	23 49 52.1	-0.1
ESDC				PP	PP	23 53 38.7	+3.4
ESDC	Sonseca Array	159.64 13		PKP	PKPdf	23 49 09.6	0.0
	comp=N,1.4nm,0.8s,baz=342,slow=2.1,SNR=15						
ESDC				PKPab	PKPab	23 49 52.1	-0.1
	comp=N,4.3nm,0.6s,baz=344,slow=4.1,SNR=31						
ESDC				PP	PP	23 53 38.7	+3.4
	comp=N,2.1nm,1.1s,baz=346,slow=5.3,SNR=5.7						
PNCL	Nicolau / Gran	159.71 24		ePKPdf	PKPdf	23 49 09.8	+0.2
PNCL	Nicolau / Gran	159.71 24		ePKPab	PKPab	23 49 52.3	-0.2
PBEJ	Beja	160.03 23		ePKPab	PKPab	23 49 53.8	-0.1
PBAR	Barrancos	160.19 21		ePKPdf	PKPdf	23 49 10.7	+0.6
PBAR	Barrancos	160.19 21		ePKPab	PKPab	23 49 54.5	-0.1
MORF	Marmelete	160.36 26		ePKPdf	PKPdf	23 49 10.8	+0.4
PVAQ	Vaqueiros	160.64 24		ePKPab	PKPab	23 49 56.6	0.0
PBDV	Barranco-do-Ve	160.70 24		ePKPdf	PKPdf	23 49 12.2	+1.4
PBDV	Barranco-do-Ve	160.70 24		ePKPab	PKPab	23 49 56.6	-0.3
KEST	Kesra	162.88 339		PKP	PKPdf	23 49 12.1	-1.0
KEST				PKPab	PKPab	23 50 06.6	0.0
KEST	Kesra	162.88 339		PKP	PKPdf	23 49 12.1	-1.0
	comp=N,1.9nm,0.9s,baz=287,slow=7.1,SNR=5.0						
KEST				PKPab	PKPab	23 50 06.6	0.0
	comp=N,3.5nm,0.6s,baz=51,slow=1.8,SNR=15						
LIC	Lamto	164.87 153		ePKIKP	PKPdf	23 49 14.5	-0.9
	comp=N,26nm,0.8s						
DBIC	Dimbokro	165.34 153		PKP	PKPdf	23 49 14.5	-1.2
DBIC				PKPab	PKPab	23 50 18.6	+0.9
DBIC	Dimbokro	165.34 153		PKP	PKPdf	23 49 14.5	-1.2
	comp=N,2.4nm,0.7s,baz=114,slow=1.6,SNR=7.9						
DBIC				PKPab	PKPab	23 50 18.6	+0.9
	comp=N,9.5nm,0.8s,baz=162,slow=5.1,SNR=7.1						
TORD	Torodi Ar. Bea	173.31 179		PKP	PKPdf	23 49 19.3	-1.2
TORD				PKPab	PKPab	23 50 53.0	+0.1
TORD				PP	PP	23 54 45.3	+1.3
TORD	Torodi Ar. Bea	173.31 179		PKP	PKPdf	23 49 19.3	-1.2
	comp=N,6.8nm,0.9s,baz=301,slow=0.9,SNR=34						
TORD				PKPab	PKPab	23 50 53.0	+0.1
	comp=N,1.9nm,0.8s,baz=189,slow=3.2,SNR=6.6						
TORD				PP	PP	23 54 45.3	+1.3
	comp=N,0.9nm,0.7s,baz=182,slow=5.6,SNR=4.3						

*CSEM **15** 23:46:39.8, 38°.41N×21°.86E, h8km, MD2.5, After ATH*

ATH 15 23:46:39.8, 38°.41N×21°.86E, h8km±4km, MD2.5/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	Efpalio	0.04	65	ePG	Pg	23 46 41.6	+0.2
EFP				eSG	Sg	23 46 42.8	+0.2
EFP	Efpalio	0.04	65	ePg	Pg	23 46 41.6	+0.2
EFP				eSg	Sg	23 46 42.8	+0.2
LAKA	Lakka	0.19	151	ePG	Pg	23 46 43.5	-0.3
LAKA	Lakka	0.19	151	ePg	Pg	23 46 43.5	-0.3
KLV	Kalavryta, Ach	0.43	148	ePB	Pg	23 46 48.3	0.0
KLV				eSB	Sg	23 46 54.6	+0.5
KLV	Kalavryta, Ach	0.43	148	ePb	Pg	23 46 48.3	0.0
KLV				eSb	Sg	23 46 54.6	+0.5
EVR	Evrytania	0.51	355	ePB	Pg	23 46 49.8	0.0
EVR	Evrytania	0.51	355	ePb	Pg	23 46 49.8	0.0
GUR	Goura	0.61	141	ePB	Pg	23 46 50.8	-0.9
GUR	Goura	0.61	141	ePb	Pg	23 46 50.8	-0.9

*NEIC **15** 23:59:56.9, 18°.96N×65°.71W, h114km, MD3.4(RSPR), After RSPR.*

RSPR 15 23:59:56.9, 18°.96N×65°.71W, h114km±1km, MD3.4/3, 21C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	Canovanas	0.70	192 ⇑	eP	Pn	00 00 14.1	-1.7
CBYP	Canovanas	0.70	192	eS	Sn	00 00 29.6	-0.4
CBYP	Canovanas	0.70	192 ⇑	eP	Pn	00 00 14.1	-1.7
CBYP				eS	Sn	00 00 29.6	-0.4
CBYP	Canovanas	0.70	192 ⇑	eP	Pn	00 00 14.1	-1.7
CBYP				eS	Sn	00 00 29.6	-0.4
HUMP	Col San Antoni	0.83	189 ⇑	eP	Pn	00 00 16.5	-0.3
HUMP	Col San Antoni	0.83	189	eS	Sn	00 00 31.4	-0.3
HUMP	Col San Antoni	0.83	189 ⇑	eP	Pn	00 00 16.5	-0.3
HUMP				eS	Sn	00 00 31.4	-0.3
HUMP	Col San Antoni	0.83	189 ⇑	eP	Pn	00 00 16.5	-0.3
HUMP				eS	Sn	00 00 31.4	-0.3
MTP	Monte Pirata	0.88	170 ⇑	eP	Pn	00 00 16.8	-0.4
MTP	Monte Pirata	0.88	170	eS	Sn	00 00 32.4	-0.1
MTP	Monte Pirata	0.88	170 ⇑	eP	Pn	00 00 16.8	-0.4
MTP				eS	Sn	00 00 32.4	-0.1
MTP	Monte Pirata	0.88	170 ⇑	eP	Pn	00 00 16.8	-0.4
MTP				eS	Sn	00 00 32.4	-0.1
STVI	Saint Thomas	0.94	130 ⇑	eP	Pn	00 00 17.5	-0.3
STVI	Saint Thomas	0.94	130	eS	Sn	00 00 33.5	-0.1
STVI	Saint Thomas	0.94	130 ⇑	eP	Pn	00 00 17.5	-0.3
STVI				eS	Sn	00 00 33.5	-0.1
STVI	Saint Thomas	0.94	130 ⇑	eP	Pn	00 00 17.5	-0.3
STVI				eS	Sn	00 00 33.5	-0.1
CPD	Cerro la Pandu	0.94	192 ⇑	eP	Pn	00 00 17.4	-0.5
CPD	Cerro la Pandu	0.94	192	eS	Sn	00 00 33.6	-0.2
CPD	Cerro la Pandu	0.94	192 ⇑	eP	Pn	00 00 17.4	-0.5
CPD				eS	Sn	00 00 33.6	-0.2
CPD	Cerro la Pandu	0.94	192 ⇑	eP	Pn	00 00 17.4	-0.5
CPD				eS	Sn	00 00 33.6	-0.2
SJG	San Juan	0.95	206 ⇑	eP	Pn	00 00 17.5	-0.4
SJG	San Juan	0.95	206 ⇑	eP	Pn	00 00 17.5	-0.4
SJG	San Juan	0.95	206 ⇑	eP	Pn	00 00 17.5	-0.4
AOPR	Arecibo Observ	1.17	238 ⇑	eP	Pn	00 00 19.7	-0.5
AOPR	Arecibo Observ	1.17	238	eS	Sn	00 00 37.7	-0.1
AOPR	Arecibo Observ	1.17	238 ⇑	eP	Pn	00 00 19.7	-0.5
AOPR				eS	Sn	00 00 37.7	-0.1
AOPR	Arecibo Observ	1.17	238 ⇑	eP	Pn	00 00 19.7	-0.5
AOPR				eS	Sn	00 00 37.7	-0.1
CRPR	Cabo Rojo, PR	1.64	235	eS	Sn	00 00 47.4	0.0
CRPR	Cabo Rojo, PR	1.64	235	eS	Sn	00 00 47.4	0.0

*NEIC **16** 00:01:40.4, 19°.11N×65°.96W, h117

MEX 16 01:13:49.3±0.3, 14°.48N×92°.95W, h27km±11km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**57**	*eP*	Pb	01 14 01.7	-2.6
THIG				*eS*	Sb	01 14 11.7	-2.9
PCIG		**1.24**	**348**	*eP*	Pn	01 14 08.3	-2.6
PCIG				*i* S	Sn	01 14 23.4	-3.4
CCIG	**Comitan**	**1.95**	**23**	*i* P	Pn	01 14 19.3	-1.7
CCIG				*i* S	Sn	01 14 41.8	-3.0
TGIG		**2.29**	**356**	*i* P	Pn	01 14 23.3	-2.2
TGIG				*i* S	Sn	01 14 49.9	-3.0
CMIG	**Matias Romero**	**3.19**	**325**	*eP*	Pn	01 14 36.0	-1.8
CMIG				*i* S	Sn	01 15 12.3	-2.8

*IDC **16** 01:23:02.1±2.8, 42°.90N×88°.68E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/29, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=63.6km s-min=30.2km az=57.0*
*BJI **16** 01:23:08.8, 43°.12N×88°.67E, h8km, ML3.4/9*
ISC 16 01:23:06.8±3.6, 43°.4N±0°.2×88°.9E±0°.1, h10km, n7, σ1°.42/9, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.97**	**300**	Pg	**Pg**	**01 23 26.0**	**+0.5**
WMQ				Sg	**Sg**	**01 23 39.5**	**+1.4**
WMQ				smax	smax		
	comp=N,1μm,0.7s						
WMQ				smax	smax		
	comp=E,2μm,0.7s						
MK31	**Makanchi Array**	**5.79**	**309**	Pn	**Pn**	**01 24 33.3**	**+0.6**
	comp=E,0.6nm,0.3s,baz=128,slow=13,SNR=92						
MK31				⇑Sn	**Sn**	**01 25 38.0**	**-1.2**
	comp=E,16nm,0.7s,baz=129,slow=26,SNR=9.3						
MK31				⇑Lg	Lg	01 26 04.6	
	comp=E,41nm,0.8s,baz=129,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**5.79**	**309**	Pn	**Pn**	**01 24 33.5**	**+0.8**
	comp=E,1.2nm,0.3s,baz=130,slow=14,SNR=92						
MKAR				Sn	**Sn**	**01 25 38.4**	**-0.8**
	comp=E,2.8nm,0.3s,baz=131,slow=25,SNR=12						
MKAR				Lg	Lg	01 26 11.2	
	comp=E,3.2nm,0.3s,baz=126,slow=27,SNR=6.5						
ZALV	**Zalesovo Beam**	**10.94**	**347**	Pn	**Pn**	**01 25 44.5**	**+1.3**
	comp=E,0.3nm,0.3s,baz=170,slow=14,SNR=3.9						
ZALV				Sn	**Sn**	**01 27 43.9**	**-1.7**
	comp=E,0.7nm,0.3s,baz=165,slow=26,SNR=13						
SONM	**Songino Array**	**13.07**	**64**	Lg	Lg	01 30 09.0	
	comp=E,0.2nm,0.3s,baz=242,slow=27,SNR=2.9						
BVAR	**Borovoye Array**	**15.62**	**315**	Pn	**Pn**	**01 26 45.4**	**-1.5**
	comp=E,0.2nm,0.3s,baz=107,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**79.06**	**278**	P	P	01 35 07.9	-3.7
	comp=E,0.2nm,0.5s,baz=34,slow=5.8,SNR=3.7						

*MOS **16** 01:33:59.7±0.9, 33°.08N×138°.13E, h289km, mb4.1/20, Error ellipse: s-maj=16.7km s-min=8.5km az=97.4*
*NIED **16** 01:34:00, 33°.30N×138°.50E, h320km, Mw4.2 Best double couple: M0:2.12000×1015 NP1:φ1=60.00000°, δ1=82.00000°, λ1=148.00000°. NP2:φ2=325.00000°, δ2=58.00000°, λ2=-10.00000°.*
*JMA **16** 01:34:01.3±0.4, 33°.27N×138°.53E, h314km±4km, M3.9*
*IDC **16** 01:34:02.0±1.1, 33°.13N×138°.25E, h295km±9km, mb3.5/20, mb1 3.7/23, mb1mx3.6/32, mbtmp3.5/23, Error ellipse: s-maj=13.1km s-min=10.5km az=95.0*
*ISCJB **16** 01:34:02.1±0.5, 33°.21N±0°.06×138°.30E±0°.08, h309km±2km, mb3.9/28, Error ellipse: s-maj=10.6km s-min=9.6km az=29.2*
ISC 16 01:34:03.1±0.7, 33°.22N±0°.07×138°.34E±0°.07, h305km±5km, n55, σ1°.14/67, mb3.9/28, 8C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.83**	**311**	P	**Pn**	**01 34 43.0**	**+0.1**
TK01				*eS*	**S**	**01 35 14.6**	**0.0**
TK02	**Tokai 2**	**0.88**	**326**	P	**Pn**	**01 34 42.9**	**-0.3**
TK02				S	**S**	**01 35 16.0**	**+1.0**
TK03	**Tokai 3**	**1.00**	**342**	P	**Pn**	**01 34 43.6**	**-0.2**
TK03				S	**S**	**01 35 17.2**	**+1.0**
TTO3	**TONANKAI O.B.S**	**1.02**	**309**	P	**Pn**	**01 34 43.7**	**-0.2**
TTO5	**TONANKAI O.B.S**	**1.16**	**333**	⇑P	**Pn**	**01 34 44.3**	**-0.2**
JHJ2	**Mitsune**	**1.24**	**95**	P	**Pn**	**01 34 44.9**	**-0.3**
JHJ2				*eS*	**S**	**01 35 18.2**	**-0.5**
TTO1	**TONANKAI O.B.S**	**1.36**	**288**	⇑P	**Pn**	**01 34 45.3**	**-0.2**
TTO1				*eS*	**S**	**01 35 22.2**	**+2.9**
JHMK	**Hamakita**	**1.67**	**343**	P	**Pn**	**01 34 47.1**	**-0.6**
HMMJ	**Hamamatsu 2**	**1.71**	**343**	⇑P	**Pn**	**01 34 47.6**	**-0.5**
HMMJ				S	**S**	**01 35 22.9**	**-1.1**
MJAR	**Matsushiro Arr**	**3.32**	**358**	P	**Pn**	**01 35 00.4**	**-2.0**
	18nm,0.3s,baz=172,slow=12,SNR=492						
MJAR				S	**S**	**01 35 48.5**	**-1.2**
	baz=224,slow=40,SNR=1.5						
MAT	**Matsushiro**	**3.32**	**358**	P	**Pn**	**01 35 01.5**	**-0.8**
MAT				S	**S**	**01 35 48.7**	**-1.0**
JNU	**Nakatsue**	**6.26**	**271**	P	**Pn**	**01 35 35.1**	**-0.6**
	1.2nm,0.3s,baz=75,slow=6.2,SNR=20						
KSRS	**Korea Array**	**9.50**	**299**	P	**Pn**	**01 36 15.5**	**+0.4**
	1.6nm,0.3s,baz=112,slow=13,SNR=54						
ERM	**Erimo**	**9.57**	**22**	*eP*	**Pn**	**01 36 14.1**	**-1.7**
ASAJ	**Asahikawa**	**11.38**	**16**	P	Pn	01 36 34.5	-3.4
	1.3nm,0.3s,baz=226,slow=17,SNR=13						
ASAJ				S	**S**	**01 38 45.4**	**+0.6**
	0.5nm,0.3s,baz=104,slow=8.3,SNR=5.0						
USRK	**Ussuriysk Arra**	**12.03**	**338**	P	**Pn**	**01 36 43.0**	**-2.7**
	0.2nm,0.3s,baz=130,slow=10,SNR=4.3						
YUK	**Yuzh-Kuril'sk**	**12.29**	**26**	*eP*	**P**	**01 36 50.2**	**+0.4**
YSS	**Yuzh-Sakhalins**	**14.12**	**12**	⇑*iP*	**Pn**	**01 37 12.3**	**+1.5**
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
PETK	**Petropavlovsk-**	**24.24**	**29**	P	**P**	**01 38 54.2**	**+1.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PETK	**Petropavlovsk-**	**24.24**	**29**	P	**P**	**01 38 54.2**	**+1.4**
	comp=Z,1.4nm,1.0s,baz=234,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**28.10**	**311**	P	**P**	**01 39 27.8**	**+0.4**
	comp=Z,8.6nm,0.8s,baz=111,slow=8.3,SNR=27						
ZAK	**Zakamensk**	**30.89**	**314**	*eP*	**P**	**01 39 48.8**	**-3.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
HVS	**Khovu-Aksy**	**36.95**	**313**	*d iP*	**P**	**01 40 44.2**	**+0.6**
HVS				pmax	pmax		
	comp=Z,81nm,1.0s						
ZALV	**Zalesovo Beam**	**42.75**	**316**	P	**P**	**01 41 29.9**	**-1.0**
ZALV						01 43 15.8	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.75**	**316**	P	**P**	**01 41 29.9**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=100,slow=7.5,SNR=12						
ZALV				PcP	**PcP**	**01 43 15.8**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=86,slow=3.4,SNR=6.8						
NVS	**Novosibirsk**	**43.77**	**317**	*eP*	**P**	**01 41 37.9**	**-1.1**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
MKAR	**Makanchi Array**	**44.13**	**305**	P	**P**	**01 41 41.3**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**44.13**	**305**	P	**P**	**01 41 41.3**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=91,slow=9.8,SNR=32						
BRVK	**Borovoye**	**51.41**	**314**	*eP*	**P**	**01 42 37.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KDAK	**Kodiak Island**	**51.62**	**40**	P	**P**	**01 42 39.3**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=260,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**	**53.00**	**185**	P	**P**	**01 42 48.0**	**-1.3**
	comp=Z,3.2nm,0.3s,baz=0.4,slow=7.6,SNR=66						
ILAR	**Eielson Array**	**54.05**	**31**	P	**P**	**01 42 57.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=221,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**56.73**	**185**	P	**P**	**01 43 14.5**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=12,slow=9.7,SNR=43						
ASAR				PcP	**PcP**	**01 44 08.2**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=81,slow=8.8,SNR=6.5						
ARU	**Arti**	**57.59**	**320**	*d iP*	**P**	**01 43 20.9**	**-0.5**
ARU				*PP	**PcP**	**01 44 13.9**	**+3.0**
ARU						01 45 28.4	
ARU				S	S	01 51 02.3	+7.7
ARU				SS	**SS**	**01 54 52.9**	**+3.4**
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
LVZ	**Lovozero**	**64.56**	**336**	*eP*	**P**	**01 44 07.0**	**-0.8**
LVZ				pmax	pmax		
	comp=Z,26nm,1.3s						
ARCES	**ARCESS Array B**	**66.67**	**339**	P	**P**	**01 44 21.2**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=61,slow=6.8,SNR=9.5						
YKA	**Yellowknife Ar**	**68.36**	**29**	P	**P**	**01 44 32.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=302,slow=5.9,SNR=3.3						
KAF	**Kangasniemi**	**70.53**	**332**	*eP*	**P**	**01 44 44.3**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KAF	**Kangasniemi**	**70.53**	**332**	*ep*	**P**	**01 44 44.3**	**-0.6**
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**71.00**	**332**	P	**P**	**01 44 47.6**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=61,slow=5.8,SNR=34						
KBZ	**Khabaz**	**71.46**	**310**	P	**P**	**01 44 51.0**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**71.46**	**310**	P	**P**	**01 44 51.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=32,slow=2.1,SNR=12						
AKASG	**Malin Array Be**	**75.75**	**322**	*ceP*	**P**	**01 45 15.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**75.75**	**322**	P	**P**	**01 45 14.9**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=49,slow=6.1,SNR=11						
HFS	**Hagfors**	**76.50**	**335**	P	**P**	**01 45 19.3**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=90,slow=3.0,SNR=18						
NB2	**NORSAR Subarra**	**76.70**	**337**	P	**P**	**01 45 20.4**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**76.70**	**337**	P	**P**	**01 45 20.7**	**0.0**
	comp=Z,2.1nm,0.6s,baz=44,slow=5.5,SNR=6.7						
BRTR	**Keskin Array B**	**79.46**	**311**	P	**P**	**01 45 36.5**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=118,slow=5.1,SNR=10						
PDAR	**Pinedale Array**	**82.14**	**44**	P	**P**	**01 45 51.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=258,slow=7.3,SNR=2.5						
CLL	**Collm**	**83.10**	**329**	⇑*iP*	**P**	**01 45 54.9**	**0.0**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**83.10**	**329**	⇑*iP*	**P**	**01 45 54.9**	**0.0**
	comp=Z,7.0nm,1.2s						
GERES	**GERESS Array B**	**84.57**	**327**	P	**P**	**01 46 01.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=36,slow=5.1,SNR=8.3						
EKA	**Eskdalemuir Ar**	**85.84**	**339**	P	**P**	**01 46 08.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=40,slow=4.4,SNR=4.7						
TXAR	**Lajitas Array**	**94.46**	**51**	P	**P**	**01 46 50.2**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=251,slow=2.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**118.07**	**311**	PKP	**PKPdf**	**01 52 13.4**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=32,slow=1.8,SNR=6.6						

*NOU **16** 01:45:13.7±0.9, 21°.18S×169°.89E, h10km, MD3.3, ML3.8*
*NEIC **16** 01:45:13.0±0.4, 21°.27S×169°.98E, mb4.4/8, Error ellipse: s-maj=14.2km s-min=9.9km az=155.0*
*IDC **16** 01:45:13.7±0.9, 21°.29S×169°.82E, h48km±6km, mb3.8/8, mb1 4.0/8, mb1mx3.8/16, mbtmp3.8/8, MS3.6/13, Ms1 3.6/13, ms1mx3.4/30, Error ellipse: s-maj=26.7km s-min=12.0km az=157.0*
*ISCJB **16** 01:45:15.5±1.1, 21°.55S±0°.1×169°.73E±0°.06, h70km±9km, mb4.1/15, Error ellipse: s-maj=19.1km s-min=9.1km az=165.0*
*AUST **16** 01:45:46.7±2.5, 20°.05S×167°.27E, h159km±1km, Error ellipse: s-maj=2.3km s-min=1.3km az=241.0*
ISC 16 01:45:13.7±0.9, 21°.3S±0°.1×169°.89E±0°.09, h50km±6km, h52km: pP-P, n77, σ1°.02/80, mb4.2/15, MS3.7/9, 3C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.92**	**253**	*eP*	**Pn**	**01 45 57.8**	**+0.1**
BAYA				*eS*	**Sn**	**01 46 30.0**	**-1.5**
BAYA				AMP		01 46 34.4	
	comp=Z,93nm,0.7s						
PLUM	**Mont Dore**	**3.17**	**252**	*eP*	**Pn**	**01 46 01.0**	**-0.1**
PLUM				*eS*	**Sn**	**01 46 36.3**	**-1.3**
PLUM				AMP		01 46 39.0	
	comp=Z,851nm,1.7s						
DZM	**Mont Dzumac**	**3.29**	**256**	*eP*	**Pn**	**01 46 02.3**	**-0.6**
DZM				*eS*	**Sn**	**01 46 38.5**	**-2.4**
DZM				AMP		01 46 41.1	
	comp=Z,6μm,1.8s						
DZM	**Mont Dzumac**	**3.29**	**256**	P	**Pn**	**01 46 03.4**	**+0.5**
DZM				S	**Sn**	**01 46 39.3**	**-1.6**
DZM	**Mont Dzumac**	**3.29**	**256**	P	**Pn**	**01 46 03.4**	**+0.5**
	comp=Z,45nm,0.3s,baz=71,slow=16,SNR=3164						
DZM				S	**Sn**	**01 46 39.3**	**-1.6**
	comp=Z,172nm,0.3s,baz=172,slow=21,SNR=18						
DZM				LR	LR	01 47 12.1	
	comp=Z,665nm,21.6s,baz=58,slow=37						
NORM	**Noumea**	**3.30**	**253**	*eP*	**Pn**	**01 46 02.7**	**-0.1**
NORM				*eS*	**Sn**	**01 46 38.2**	**-2.6**
NORM				AMP		01 46 42.2	
	comp=Z,767nm,1.5s						
NOUC	**Port Laguerre**	**3.43**	**256**	*eP*	**Pn**	**01 46 05.9**	**+1.2**
NOUC				*eS*	**Sn**	**01 46 44.9**	**+0.9**
NOUC				AMP		01 46 49.8	
	comp=Z,310nm,3.3s						
MSVF	**Nonsavu**	**8.48**	**67**	*ePn*	Pn	01 47 21.5	+7.5
	comp=Z,118nm,1.4s						
HNR	**Honiara**	**15.21**	**319**	LR	LR	01 53 26.1	
	comp=Z,195nm,20.0s,baz=133,slow=32						
EIDS	**Eidsvold**	**17.74**	**253**	P	**P**	**01 49 19.2**	**+1.8**
	baz=16,SNR=4.6						
URZ	**Urewera**	**18.00**	**161**	LR	LR	01 54 19.0	
	comp=Z,243nm,19.2s,baz=155,slow=30						
ARMA	**Armidale**	**18.75**	**237**	P	Pn	01 49 38.4	+8.9
	baz=18,SNR=9.4						
AFI	**Afiamalu**	**18.95**	**70**	LR	LR	01 55 48.9	
	comp=Z,75nm,19.0s,baz=268,slow=33						
RMQ	**Roma**	**19.99**	**251**	P	Pn	01 49 50.4	+6.1
	baz=18,SNR=7.0						
CTAO	**Charters Tower**	**22.14**	**269**	*eP*	**P**	**01 50 06.0**	**+0.6**
	comp=Z,5.6nm,0.8s						
RPZ	**Rata Peaks**	**22.36**	**178**	LR	LR	01 57 38.5	
	comp=Z,210nm,18.6s,baz=9.3,slow=33						
CMSA	**Cobar Meteorol**	**23.89**	**240**	P	P	01 50 37.4	+15
	baz=22,SNR=6.4						
MTSU	**Mount Surprise**	**24.27**	**273**	S	S	01 54 24.7	-17
	baz=22,SNR=4.2						
PMG	**Port Moresby**	**24.87**	**295**	LR	LR	01 59 09.1	
	comp=Z,170nm,19.7s,baz=272,slow=34						
STKA	**Stephens Creek**	**27.33**	**241**	*eP*	**P**	**01 50 54.8**	**+0.8**
	comp=Z,2.9nm,1.2s						
STKA				pP	**pP**	**01 51 07.6**	**+0.8**
STKA	**Stephens Creek**	**27.33**	**241**	pP	**pP**	**01 51 07.6**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=54,slow=11,SNR=3.0						
STKA				LR	LR	02 01 02.4	
	comp=Z,193nm,20.2s,baz=24,slow=35						
WRAB	**Tennant Creek**	**33.25**	**266**	*eP*	**P**	**01 51 46.6**	**+0.1**
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**33.26**	**266**	P	**P**	**01 51 45.2**	**-1.3**
WRA				pP	**pP**	**01 51 57.7**	**-1.9**
WRA	**Warramunga Arr**	**33.26**	**266**	P	**P**	**01 51 45.2**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=97,slow=8.3,SNR=14						
WRA				pP	**pP**	**01 51 57.7**	**-1.9**
	comp=Z,1.6nm,0.9s,baz=96,slow=8.4,SNR=4.8						
WRA				LR	LR	02 04 35.7	
	comp=Z,158nm,21.4s,baz=75,slow=35						
AS31	**Alice Springs**	**33.28**	**259**	*eP*	**P**	**01 51 46.9**	**+0.1**
ASAR	**Alice Springs**	**33.28**	**259**	P	**P**	**01 51 46.9**	**+0.1**
ASAR				pP	**pP**	**01 51 58.8**	**-0.9**
ASAR	**Alice Springs**	**33.28**	**259**	P	**P**	**01 51 46.9**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=89,slow=8.7,SNR=14						
ASAR				pP	**pP**	**01 51 58.8**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=87,slow=8.2,SNR=10						
MTN	**Manton Dam**	**37.91**	**276**	P	**P**	**01 52 26.9**	**+0.4**
	baz=35,SNR=3.3						
TLE	**Tual**	**39.21**	**288**	P	**P**	**01 52 39.4**	**+2.0**
	baz=36,SNR=4.6						
FITZ	**Fitzroy Crossi**	**41.69**	**266**	P	**P**	**01 52 58.4**	**+0.6**
	baz=39,SNR=5.4						
MEEK	**Meekatharra**	**46.91**	**253**	P	**P**	**01 53 39.1**	**-0.4**
	baz=45,SNR=4.2						
VNDA	**Vanda**	**56.39**	**182**	*eP*	**P**	**01 54 50.0**	**+0.5**
	comp=Z,1.7nm,0.9s						
VNDA	**Vanda**	**56.39**	**182**	P	**P**	**01 54 49.9**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=351,slow=7.5,SNR=8.2						
VNDA				LR	LR	02 13 44.0	
	comp=Z,84nm,21.1s,baz=192,slow=30						
JNU	**Nakatsue**	**65.71**	**325**	LR	LR	02 18 07.5	
	comp=Z,57nm,21.5s,baz=61,slow=30						
QSPA	**South Pole Qui**	**68.75**	**180**	*eP*	**P**	**01 56 12.6**	**+0.4**
	comp=Z,8.8nm,1.1s						
KSRS	**Korea Array**	**70.56**	**326**	LR	LR	02 26 53.1	
	comp=Z,16nm,19.4s,baz=240,slow=35						
PETK	**Petropavlovsk-**	**74.86**	**352**	LR	LR	02 29 48.5	
	comp=Z,27nm,18.0s,baz=303,slow=36						
MAW	**Mawson**	**76.75**	**202**	P	**P**	**01 57 00.1**	**+0.7**
MAW	**Mawson**	**76.75**	**202**	P	**P**	**01 57 00.1**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=104,slow=6.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**79.91**	**294**	P	**P**	**01 57 19.2**	**+1.5**
CMAR				pP	**pP**	**01 57 33.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**79.91**	**294**	P	**P**	**01 57 19.2**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=147,slow=5.4,SNR=6.5						
CMAR				pP	**pP**	**01 57 33.2**	**+1.0**
	comp=Z,3.7nm,0.9s,baz=134,slow=4.3,SNR=4.8						
CHTO	**Chiang Mai**	**80.07**	**295**	*eP*	**P**	**01 57 19.7**	**+1.0**
	comp=Z,6.8nm,0.9s						
SNAA	**Sanae**	**87.12**	**182**	*eP*	**P**	**01 57 53.4**	**-0.6**
SNAA	**Sanae**	**87.12**	**182**	*e*	pP	01 58 10.1	+1.6
SNAA	**Sanae**	**87.12**	**182**	*eP*	**P**	**01 57 53.0**	**-1.0**
	comp=Z,6.1nm,1.2s						
VNA2	**Neumayer--Watz**	**87.99**	**181**	*eP*	**P**	**01 57 58.2**	**+0.2**
VNA1	**Neumayer--Stat**	**88.28**	**181**	*eP*	**P**	**01 57 59.1**	**-0.3**
VNA1	**Neumayer--Stat**	**88.28**	**181**	*e*	pP	01 58 17.1	+3.1
ULN	**Ulaanbaatar**	**88.89**	**323**	*eP*	**P**	**01 58 02.2**	**-0.5**
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**89.24**	**323**	P	**P**	**01 58 04.8**	**+0.4**
SONM	**Songino Array**	**89.24**	**323**	P	**P**	**01 58 04.8**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=135,slow=5.0,SNR=8.3						
NVAR	**Mina Array Bea**	**89.72**	**48**	P	**P**	**01 58 07.2**	**+0.3**
NVAR	**Mina Array Bea**	**89.72**	**48**	P	**P**	**01 58 07.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=222,slow=7.9,SNR=7.7						
ILAR	**Eielson Array**	**92.02**	**17**	P	**P**	**01 58 15.7**	**-1.1**
ILAR	**Eielson Array**	**92.02**	**17**	P	**P**	**01 58 15.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=234,slow=5.3,SNR=5.3						
ILAR				LR	LR	02 38 52.9	
	comp=Z,30nm,18.1s,baz=166,slow=35						
ARCES	**ARCESS Array B**	**127.22**	**345**	PKP	**PKPdf**	**02 04 10.2**	**-1.7**
ARCES	**ARCESS Array B**	**127.22**	**345**	PKP	**PKPdf**	**02 04 10.2**	**-1.7**
	comp=Z,2.3nm,0.8s,baz=34,slow=2.3,SNR=15						
TSUM	**Tsumeb**	**131.46**	**216**	*e*PKPdf	**PKPdf**	**02 04 19.6**	**-2.1**
FINES	**FINESS Array B**	**132.73**	**337**	PKP	**PKPdf**	**02 04 21.4**	**-1.2**
FINES	**FINESS Array B**	**132.73**	**337**	PKP	**PKPdf**	**02 04 21.4**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=48,slow=2.1,SNR=6.0						
PSZ	**Piszkesteto**	**144.15**	**325**	*e*PKPdf	**PKPdf**	**02 04 44.3**	**+0.3**
BRG	**Berggiesshubel**	**144.99**	**333**	*i P*	**PKPab**	**02 04 44.6**	**0.0**
	comp=Z,8.4nm,1.3s						
BRG				*e*		02 04 58.2	
	comp=Z,3.4nm,1.0s						
CLL	**Collm**	**145.05**	**335**	⇑*i*PKPdf	**PKPbc**	**02 04 44.3**	**-0.5**
	comp=Z,9.0nm,1.4s						
CLL				*e*PKPdf	**pPKPdf**	**02 05 01.0**	**+0.5**
EKA	**Eskdalemuir Ar**	**145.63**	**353**	PKPbc	**PKPdf**	**02 04 45.2**	**-1.0**
EKA	**Eskdalemuir Ar**	**145.63**	**353**	PKPbc	**PKPdf**	**02 04 45.2**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=358,slow=2.7,SNR=16						
CONA	**Conrad Observa**	**146.22**	**328**	⇑*i*PKPab	**PKPbc**	**02 04 49.0**	**+0.3**
	comp=Z,4.8nm,1.0s						
KHC	**Kasperske Hory**	**146.45**	**331**	*e*PKPbc	**PKPdf**	**02 04 49.5**	**+0.2**
KHC	**Kasperske Hory**	**146.45**	**331**	*e*PKPbc	**PKPdf**	**02 04 48.1**	**+0.3**
GERES	**GERESS Array B**	**146.60**	**331**	PKP	**PKPdf**	**02 04 47.8**	**-0.4**
GERES				PKPbc	**PKPbc**	**02 04 49.6**	**-0.2**
GERES				pPKPbc	pPKPbc	02 05 03.2	-1.5
GERES	**GERESS Array B**	**146.60**	**331**	PKP	**PKPdf**	**02 04 47.8**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=60,slow=2.4,SNR=41						
GERES				PKPbc	**PKPbc**	**02 04 49.6**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=31,slow=2.4,SNR=41						
GERES				pPKPbc	pPKPbc	02 05 03.2	-1.5
	comp=Z,1.8nm,0.6s,baz=33,slow=3.0,SNR=6.9						
CEY	**Cerknica**	**148.43**	**326**	*i P*	**PKPbc**	**02 04 54.9**	**+0.1**
STU	**Stuttgart**	**148.56**	**335**	*e*PKPdf	**PKPdf**	**02 04 50.5**	**-0.8**
STU				*e*PKPbc	**PKPbc**	**02 04 54.6**	**-0.4**
MOTA	**Moosalm**	**148.88**	**332**	⇑*i*PKPbc	**PKPbc**	**02 04 55.2**	**-0.8**
	comp=Z,8.3nm,0.9s,SNR=9.3						
WLF	**Walferdange**	**148.91**	**339**	*e*PKPbc	**PKPbc**	**02 04 56.2**	**+0.3**
RETA	**Reutte**	**148.92**	**332**	⇓*

MEX 16 01:50:22.7±0.4, 16°.19N×98°.09W, h4km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.21	350	eP	Pg	01 50 26.8	-0.1
PNIG				eS	Sg	01 50 29.5	-0.2
VHO	Vista Hermosa	1.57	56	i P	Pn	01 50 47.4	-4.3
VHO				i S	Sn	01 51 08.0	-4.7
UTMO	Huajuapan	1.66	9	i P	Pn	01 50 48.9	-4.1
UTMO				eS	Sn	01 51 10.2	-4.7
TPIG	Tehuac#an	2.33	17	eP	Pn	01 50 59.0	-3.1
TPIG				eS	Sn	01 51 26.8	-4.5
YAIG	Yautepec	2.82	341	i P	Pn	01 51 05.5	-3.3
YAIG				i S	Sn	01 51 39.9	-3.6

WEL 16 02:36:55.9±0.3, 37°.33S×176°.64E, h228km±3km, ML3.7/4, 4C, Error ellipse: s-maj=5.1km s-min=4.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.00	158	⇑PN	Pn	02 37 28.5	0.0
URZ				SN	S	02 37 53.8	-0.3
MWZ	Matawai	1.22	145	⇑PN	Pn	02 37 30.0	0.0
MWZ				SN	S	02 37 56.6	-0.2
PUZ	Puketiti	1.48	120	⇑PN	Pn	02 37 31.9	0.0
PUZ				SN	S	02 37 59.3	-0.9
RAHZ	Arahi	1.62	168	PN	Pn	02 37 33.5	+0.4
NMHZ	Naumai	1.77	176	PN	Pn	02 37 35.2	+0.7
BKZ	Black Stump Fm	1.83	184	⇑PN	Pn	02 37 34.8	-0.2
BKZ				SN	S	02 38 05.1	-0.6
KNZ	Kokohu	1.87	155	PN	Pn	02 37 35.1	-0.1
BHHZ	Black Hill Sta	2.20	192	PN	Pn	02 37 38.1	-0.4
KAHZ	Kahuranaki	2.46	176	PN	Pn	02 37 40.8	-0.4
PNHZ	Pukenui	2.60	188	PN	Pn	02 37 41.4	-1.2

IDC 16 02:40:09.6±9.8, 4°.60S×151°.95E, h206km±92km, mb3.1/7, mb1 3.4/7, mb1mx3.2/19, mbtmp3.1/7, Error ellipse: s-maj=37.8km s-min=25.5km az=4.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.74	225	S	S	02 42 58.9	-4.4
	1.8nm,0.3s,baz=180,slow=22,SNR=4.2						
DZM	Mont Dzumac	22.34	142	P	P	02 44 50.6	-0.2
	1.1nm,0.4s,baz=97,slow=15,SNR=4.2						
WRA	Warramunga Arr	22.95	227	P	P	02 44 55.7	-0.5
	0.4nm,0.4s,baz=50,slow=10,SNR=15						
ASAR	Alice Springs	25.73	221	P	P	02 45 22.5	+1.0
	0.1nm,0.3s,baz=49,slow=8.7,SNR=3.1						
SONM	Songino Array	65.70	328	P	P	02 50 32.3	+0.1
	0.2nm,0.4s,baz=100,slow=6.0,SNR=3.2						
MKAR	Makanchi Array	79.61	319	P	P	02 51 54.0	-0.1
	0.3nm,0.5s,baz=96,slow=7.7,SNR=4.8						
NVAR	Mina Array Bea	92.63	52	P	P	02 52 59.1	+0.6
	0.4nm,0.8s,baz=262,slow=5.4,SNR=3.4						
PDAR	Pinedale Array	99.34	48	P	Pdif	02 53 27.7	-1.1
	0.3nm,0.6s,baz=233,slow=2.8,SNR=2.7						
TORD	Torodi Ar. Bea	149.44	288	PKPbc	PKPbc	02 59 34.8	-0.6
	0.8nm,0.4s,baz=64,slow=2.2,SNR=32						
TORD				PKPab	PKPab	02 59 40.5	-0.4
	0.7nm,0.4s,baz=74,slow=3.3,SNR=14						

*ATH **16** 03:05:48.5, 39°.90N×23°.77E, h24km, ML3.3*
*ISCJB **16** 03:05:48.4±0.9, 39°.87N±0°.02×23°.73E±0°.03, h13km±7km, mb3.7/3, Error ellipse: s-maj=3.8km s-min=2.8km az=11.2*
*TIR **16** 03:05:48.6±0.3, 41°.21N×23°.98E, h63km, ML3.5*
*CSEM **16** 03:05:49.8±0.2, 39°.83N×23°.75E, h20km, ML3.3, Error ellipse: s-maj=5.8km s-min=4.0km az=101.0*
*SKO **16** 03:05:50.0, 39°.89N×23°.79E, h17km, M3.0, ML3.3*
*SOF **16** 03:05:49.7, 39°.84N×23°.85E, h28km, MD3.4*
*BEO **16** 03:05:50.8±0.8, 39°.95N×23°.71E, ML3.1/9*
*IDC **16** 03:05:55.0±3.1, 39°.49N×24°.02E, h48km±35km, mb3.6/3, mb1 3.4/5, mb1mx3.1/27, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=41.6km s-min=22.4km az=149.0*

ISC 16 03:05:50.1±0.9, 39°.89N±0°.02×23°.76E±0°.02, h15km±6km, n154, σ1°.05/175, mb3.7/3, 8C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.07	304	ePB	Pg	03 05 52.5	-0.6
PAIG	Paliouri	0.07	304	ePb	Pg	03 05 52.5	-0.6
PLG	Polygyros	0.54	334	ePN	Pg	03 05 58.8	-2.0
NEO	Neokhori	0.71	216	ePN	Pg	03 06 03.1	-0.9
NEO				eSN	Sb	03 06 13.8	0.0
NEO	Neokhori	0.71	216	ePn	Pg	03 06 03.1	-0.9
NEO				eSn	Sb	03 06 13.8	0.0
AOS	Alonnisos	0.72	172	ePN	Pg	03 06 03.0	-1.2
AOS				eSN	Sb	03 06 14.0	-0.1
AOS	Alonnisos	0.72	172	ePn	Pg	03 06 03.0	-1.2
AOS				eSn	Sb	03 06 14.0	-0.1
SOH	Sokhos	0.98	342	ePN	Pb	03 06 06.9	-1.9
SOH				eSN	Sb	03 06 21.2	-0.4
LIT	Litokhoron	1.00	283	ePN	Pb	03 06 07.7	-1.3
LIT	Litokhoron	1.00	283	ePn	Pb	03 06 07.7	-1.3
LIA	Limnos Island	1.10	89	ePN	Pb	03 06 09.4	-1.3
LIA				eSN	Sb	03 06 24.0	-0.8
LIA	Limnos Island	1.10	89	ePn	Pb	03 06 09.4	-1.3
LIA				eSn	Sb	03 06 24.0	-0.8
LKR	Lokris	1.37	206	ePn	Pb	03 06 15.0	-0.4
LKR	Lokris	1.37	206	ePn	Pb	03 06 15.0	-0.4
THL	Klokotos Trika	1.38	257	ePN	Pb	03 06 14.0	-0.8
THL	Klokotos Trika	1.38	257	ePn	Pb	03 06 14.0	-0.8
AGG	Agios Georgios	1.40	232	ePN	Pn	03 06 14.1	-1.0
AGG	Agios Georgios	1.40	232	ePn	Pn	03 06 14.1	-1.0
NVR	Nevrokopi	1.46	3	ePN	Pn	03 06 15.4	-0.6
NVR	Nevrokopi	1.46	3	ePn	Pn	03 06 15.4	-0.6
SMTH	Samothraki Isl	1.48	66	ePN	Pn	03 06 15.2	-1.0
SMTH	Samothraki Isl	1.48	66	ePn	Pn	03 06 15.2	-1.0
KZN	Kozani	1.58	286	ePN	Pn	03 06 17.0	-0.6
KZN				eSN	Sn	03 06 38.1	+0.3
KZN	Kozani	1.58	286	ePn	Pn	03 06 17.0	-0.6
KZN				eSn	Sn	03 06 38.1	+0.3
VAY	Valandovo	1.69	328	i Pn	Pb	03 06 20.1	-0.8
VAY				eLg	Lg	03 06 47.0	
	comp=N,528nm,1.1s						
VAY				eLg	Lg	03 06 48.2	
	comp=E,369nm,0.9s						
VAY	Valandovo	1.69	328	i Pn	Pb	03 06 20.1	-0.8
VAY	Valandovo	1.69	328	i Pn	Pb	03 06 20.1	-0.8
VAY				eLg	Lg	03 06 48.2	
	comp=E,369nm,0.9s						
MMB	Musomiste	1.70	359	i P	Pn	03 06 18.3	-0.9
MMB	Musomiste	1.70	359	P	Pn	03 06 18.2	-1.0
MMB	Musomiste	1.70	359	P	Pn	03 06 18.2	-1.0
EVR	Evrytania	1.79	238	ePB	Pn	03 06 19.9	-0.7
EVR	Evrytania	1.79	238	ePb	Pn	03 06 19.9	-0.7
PTL	Penteli	1.84	177	ePB	Pn	03 06 20.2	-0.9
PTL	Penteli	1.84	177	ePb	Pn	03 06 20.2	-0.9
ATH	Athens Observa	1.91	181	ePB	Pn	03 06 21.5	-0.6
ATH	Athens Observa	1.91	181	ePb	Pn	03 06 21.5	-0.6
RZN	Rozhen	1.94	22	i P	Pn	03 06 22.4	-0.3
RZN	Rozhen	1.94	22	P	Pn	03 06 22.2	-0.5
RZN	Rozhen	1.94	22	P	Pn	03 06 22.2	-0.5
KALE	Kalithea	1.95	221	ePB	Pn	03 06 21.9	-0.8
KALE	Kalithea	1.95	221	ePb	Pn	03 06 21.9	-0.8
LTK	Loutraki	1.96	199	ePB	Pn	03 06 21.8	-1.0
LTK	Loutraki	1.96	199	ePb	Pn	03 06 21.8	-1.0
TRIZ	Trizonia	2.01	221	ePB	Pn	03 06 22.5	-0.9
TRIZ	Trizonia	2.01	221	ePb	Pn	03 06 22.5	-0.9
ALN	Alexandroupoli	2.02	59	ePB	Pn	03 06 22.4	-1.1
ALN	Alexandroupoli	2.02	59	ePb	Pn	03 06 22.4	-1.1
FNA	Florina	2.03	297	ePN	Pn	03 06 23.8	0.0
FNA	Florina	2.03	297	ePn	Pn	03 06 23.8	0.0
KKB	Krupnik	2.04	346	i P	Pn	03 06 23.0	-0.9
KKB	Krupnik	2.04	346	P	Pn	03 06 23.3	-0.6
PRK	Paraskevi	2.05	107	ePN	Pn	03 06 24.4	+0.5
PRK	Paraskevi	2.05	107	ePn	Pn	03 06 24.4	+0.5
EFP	Efpalio	2.05	225	ePN	Pn	03 06 23.1	-0.9
EFP	Efpalio	2.05	225	ePn	Pn	03 06 23.1	-0.9
NAIG	Nisos Aigina	2.14	186	ePB	Pn	03 06 25.8	+0.6
NAIG	Nisos Aigina	2.14	186	ePb	Pn	03 06 25.8	+0.6
LAKA	Lakka	2.15	221	ePN	Pn	03 06 24.6	-0.8
LAKA	Lakka	2.15	221	ePn	Pn	03 06 24.6	-0.8
KDZ	Kurdzhali	2.17	35	i P	Pn	03 06 23.9	-1.7
KDZ	Kurdzhali	2.17	35	P	Pn	03 06 23.9	-1.7
KDZ	Kurdzhali	2.17	35	P	Pn	03 06 23.9	-1.7
BIA	Bitola	2.17	302	i Pn	Pn	03 06 25.6	-0.2
BIA	Bitola	2.17	302	i Pn	Pn	03 06 25.5	-0.2
KLV	Kalavryta, Ach	2.23	215	ePN	Pn	03 06 25.7	-0.8
KLV	Kalavryta, Ach	2.23	215	ePn	Pn	03 06 25.7	-0.8
GUR	Goura	2.24	210	ePN	Pn	03 06 25.8	-0.9
GUR	Goura	2.24	210	ePn	Pn	03 06 25.8	-0.9
PLD	Plovdiv	2.33	18	eP	Pn	03 06 28.1	+0.3
PLD	Plovdiv	2.33	18	i Pn	Pn	03 06 28.3	+0.5
PLD				eSn	Sn	03 06 56.9	+0.8
PLD	Plovdiv	2.33	18	eP	Pn	03 06 28.1	+0.3
PLD				eSn	Sn	03 06 56.9	+0.8
CHOS	Chios island	2.33	129	ePN	Pn	03 06 27.4	-0.6
CHOS	Chios island	2.33	129	ePn	Pn	03 06 27.4	-0.6
KBN	Korca	2.39	289	ePG	Pn	03 06 28.9	+0.2
KBN				i SG	Sn	03 06 58.6	+0.9
KBN	Korca	2.39	289	ePg	Pn	03 06 28.9	+0.2
	SNR=9.0						
KBN				i Sg	Sn	03 06 58.6	+0.9
	SNR=9.0						
DID	Didima	2.41	190	ePN	Pn	03 06 28.1	-0.9
DID	Didima	2.41	190	ePn	Pn	03 06 28.1	-0.9
DIM	Dimitrovgrad	2.54	31	i P	Pn	03 06 30.7	-0.1
DIM	Dimitrovgrad	2.54	31	eP	Pn	03 06 30.4	-0.4
DIM	Dimitrovgrad	2.54	31	eP	Pn	03 06 30.4	-0.4
RLS	Riolos of Patr	2.55	225	ePB	Pn	03 06 31.8	+0.9
RLS	Riolos of Patr	2.55	225	ePb	Pn	03 06 31.8	+0.9
LKD2	Lefkada island	2.64	246	ePB	Pn	03 06 33.1	+0.9
LKD2	Lefkada island	2.64	246	ePb	Pn	03 06 33.1	+0.9
PGR	Panagyurishte	2.68	6	i P	Pb	03 06 37.8	+0.1
VTS	Vitosha	2.73	351	i P	Pn	03 06 33.5	-1.0
VTS	Vitosha	2.73	351	P	Pn	03 06 33.5	0.0
VTS	Vitosha	2.73	351	⇓iP	Pn	03 06 34.4	+0.9
VTS	Vitosha	2.73	351	i Pn	Pn	03 06 34.0	+0.5
VTS				i Sn	Sn	03 07 06.3	-0.1
VTS	Vitosha	2.73	351	P	Pn	03 06 33.5	0.0
VTS	Vitosha	2.73	351	i Pn	Pn	03 06 34.0	+0.5
VTS				i Sn	Sn	03 07 06.3	-0.1
VLX	Vlachokerasia	2.73	204	ePN	Pn	03 06 33.0	-0.5
VLX	Vlachokerasia	2.73	204	ePn	Pn	03 06 33.0	-0.5
AMT	Artemida-Makis	2.84	215	ePN	Pn	03 06 35.5	+0.5
AMT	Artemida-Makis	2.84	215	ePn	Pn	03 06 35.5	+0.5
SRN	Sarande	2.89	271	ePN	Pb	03 06 39.3	-2.0
SRN	Sarande	2.89	271	ePn	Pb	03 06 39.3	-2.0
VLS	Valsamata	3.00	236	ePB	Pn	03 06 38.7	+1.6
VLS	Valsamata	3.00	236	ePb	Pn	03 06 38.7	+1.6
KEK	Kerkira	3.05	268	ePB	Pn	03 06 39.5	+1.7
KEK	Kerkira	3.05	268	ePb	Pn	03 06 39.5	+1.7
ITM	Ithomi	3.06	209	ePN	Pn	03 06 39.0	+1.1
ITM	Ithomi	3.06	209	ePn	Pn	03 06 39.0	+1.1
APE	Apeiranthos	3.14	153	⇑iP	Pn	03 06 38.8	-0.2
VLI	Veliai	3.23	192	ePN	Pn	03 06 39.0	-1.2
VLI	Veliai	3.23	192	ePn	Pn	03 06 39.0	-1.2
SMG	Samos	3.24	131	ePN	Pn	03 06 40.4	0.0
SMG	Samos	3.24	131	ePn	Pn	03 06 40.4	0.0
BARS	Barje	3.27	334	i Pn	Pn	03 06 40.9	+0.1
BARS				eSn	Sn	03 07 19.2	-0.2
BARS	Barje	3.27	334	i Pn	Pn	03 06 40.9	+0.1
DYR	Agios Nikonas	3.31	200	ePN	Pn	03 06 41.6	+0.2
DYR	Agios Nikonas	3.31	200	ePn	Pn	03 06 41.6	+0.2
JMB	Yambol	3.34	39	i Pn	Pn	03 06 42.6	+0.8
JMB	Yambol	3.34	39	i Pn	Pn	03 06 42.6	+0.8
PYL	PYLOS	3.38	209	ePN	Pn	03 06 43.7	+1.4
PYL	PYLOS	3.38	209	ePn	Pn	03 06 43.7	+1.4
MPEP	Malo Peshtene	3.46	360	i P	Pn	03 06 45.2	+1.7
MPEP	Malo Peshtene	3.46	360	eP	Pn	03 06 44.2	+0.7
ZAPS	Zavoj	3.49	346	i Pn	Pn	03 06 45.1	+1.3
KYTH	Kithira	3.65	189	ePN	Pn	03 06 47.2	+1.2
KYTH	Kithira	3.65	189	ePn	Pn	03 06 47.2	+1.2
SZH	Strazhica	3.75	25	P	Pn	03 06 47.2	-0.2
SZH	Strazhica	3.75	25	P	Pn	03 06 47.2	-0.2
SELS	Selova	3.87	330	ePn	Pn	03 06 48.5	-0.6
PRD	Provadia	4.29	38	eP	Pn	03 06 53.4	-1.4
PRD	Provadia	4.29	38	eP	Pn	03 06 53.4	-1.4
GRUS	Gruza	4.60	331	i Pn	Pn	03 06 58.9	-0.1
GRUS	Gruza	4.60	331	i Pn	Pn	03 06 58.9	-0.1
TREB	Trebinje	4.96	307	i Pn	Pn	03 07 04.3	+0.4
TREB	Trebinje	4.96	307	i Pn	Pn	03 07 04.3	+0.4
DIVS	Divibare	5.06	328	i Pn	Pn	03 07 05.6	+0.2
DIVS				eSn	Sn	03 08 01.3	-2.2
DIVS	Divibare	5.06	328	i Pn	Pn	03 07 05.6	+0.2
DIVS				eSn	Sn	03 08 01.3	-2.2
STON	Ston	5.44	305	ePn	Pn	03 07 11.0	+0.4
STON				Sn	Sn	03 08 11.5	-1.4
ARR	Arges	5.51	6	⇑iP	Pn	03 07 12.1	+0.4
GZR	Gura Zlata	5.55	353	⇓iP	Sg	03 08 50.0	+1.8
VOIR		5.63	9	⇑iP	Pn	03 07 13.7	+0.5
TIRR	Tirgusor	5.73	36	⇓iP	Pn	03 07 14.8	+0.3
MLR	Muntele Rosu	5.83	15	⇑iP	Pn	03 07 17.5	+1.5
MLR	Muntele Rosu	5.83	15	⇑iP	Sg	03 08 59.8	+2.7
BZS	Buzias	5.94	345	⇑iP	Pn	03 07 17.0	-0.4
BZS	Buzias	5.94	345	⇓iP	Sg	03 09 01.7	+1.1
PLOR	Plostina	6.33	19	⇓iP	Pn	03 07 25.0	+2.2
VRI	Vrincioaia	6.36	19	⇓iP	Pn	03 07 25.4	+2.2
TESR	Tescani	6.95	17	⇑iP	Pn	03 07 33.3	+2.0
PKSM	Moragy	7.35	331	⇑iP	Pn	03 07 36.3	-0.4
UDBI	Udbina	7.53	311	i Pn	Pn	03 07 41.6	+2.2
UDBI				Sn	Sn	03 09 05.5	+1.1
UDBI	Udbina	7.53	311	i Pn	Pn	03 07 41.5	+2.2
UDBI				Sn	Sn	03 09 05.4	+1.1
BRTR	Keskin Array B	7.61	88	P	Pn	03 07 40.9	+0.4
	comp=E,0.1nm,0.3s,baz=262,slow=11,SNR=6.0						
NVLJ	Novalja	8.08	308	ePn	Pn	03 07 47.1	+0.3
NVLJ				Sn	Sn	03 09 13.7	-4.0
NVLJ	Novalja	8.08	308	ePn	Pn	03 07 47.0	+0.3
GERES	GERESS Array B	11.48	325	P	Pn	03 08 42.2	+8.8
	comp=E,0.1nm,0.3s,baz=149,slow=12,SNR=2.5						
TORD	Torodi Ar. Bea	32.97	222	P	P	03 12 23.9	-0.4
	comp=E,0.3nm,0.5s,baz=31,slow=9.0,SNR=9.4						
MKAR	Makanchi Array	42.26	61	P	P	03 13 44.0	+1.2
	comp=E,0.9nm,0.6s,baz=279,slow=6.7,SNR=11						
ZALV	Zalesovo Beam	42.67	50	P	P	03 13 46.9	+1.1
	comp=E,2.0nm,0.6s,baz=272,slow=8.4,SNR=7.7						

IDC 16 03:17:46.6±27.0, 17°.91S×178°.44W, h509km±247km, mb3.2/3, mb1 3.4/3, mb1mx2.9/19, mbtmp3.2/3, Error ellipse: s-maj=200.1km s-min=36.7km az=107.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.60	260	P	P	03 25 13.2	-0.2
	0.5nm,0.3s,baz=97,slow=6.9,SNR=25						
WRA				PcP	PcP	03 26 45.1	-0.5
	0.5nm,0.8s,baz=95,slow=3.3,SNR=4.3						
ASAR	Alice Springs	44.76	254	P	P	03 25 14.7	0.0
	4.5nm,0.5s,baz=90,slow=8.2,SNR=126						
ASAR				PcP	PcP	03 26 45.8	-0.3
	0.4nm,0.7s,baz=102,slow=3.9,SNR=3.7						
MJAR	Matsushiro Arr	67.89	323	P	P	03 27 53.8	-0.3
	0.5nm,0.4s,baz=154,slow=5.5,SNR=3.2						
BRTR	Keskin Array B	144.76	315	PKP	PKPdf	03 36 25.5	-0.2
	2.0nm,1.0s,baz=90,slow=0.1,SNR=9.0						
GERES	GERESS Array B	147.60	345	PKPbc	PKPbc	03 36 32.9	-0.6
	0.4nm,0.6s,baz=27,slow=3.3,SNR=7.4						

WEL 16 03:20:12.5±0.5, 46°.13S×166°.19E, h26km±2km, ML3.5/14, Error ellipse: s-maj=4.4km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.94	47	PN	Pn	03 20 29.2	-0.7
DCZ				AML	AML	03 20 30.5	
DCZ				eSN	Sb	03 20 42.2	0.0
DCZ				AML	AML	03 20 44.9	
DCZ				AML	AML	03 20 56.5	
WHZ	Wether Hill Ro	1.25	80	PN	Pn	03 20 34.5	+0.2
WHZ				SN	Sn	03 20 50.6	+0.3
WHZ				AML	AML	03 20 56.2	
APZ	The Paps	1.43	120	PN	Pn	03 20 35.9	-1.0
APZ				eSN	Sn	03 20 53.8	-1.1
MLZ	Mavora Lakes	1.59	62	PN	Pn	03 20 40.1	+1.0
MLZ				AML	AML	03 21 06.3	
MLZ				AML	AML	03 21 06.6	
MSZ	Milford Sound	1.90	41	PN	Pb	03 20 45.1	-1.4
MSZ				AML	AML	03 21 19.8	
MSZ				AML	AML	03 21 20.8	
SYZ	Scrubby Hill	2.09	102	PN	Pn	03 20 46.0	+0.3
SYZ				eSN	Sn	03 21 10.1	-0.8
EAZ	Earnscleugh	2.37	69	PN	Pn	03 20 51.9	+2.3
EAZ				AML	AML	03 21 24.3	
EAZ				AML	AML	03 21 24.4	
WKZ	Wanaka	2.38	58	PN	Pb	03 20 53.3	-1.4
WKZ				AML	AML	03 21 27.1	
WKZ				AML	AML	03 21 32.4	
TUZ	Tuapeka	2.41	87	PN	Pn	03 20 51.3	+1.1
TUZ				AML	AML	03 21 25.0	
TUZ				AML	AML	03 21 25.2	
JCZ	Jackson Bay	2.74	43	PN	Pb	03 20 59.3	-1.7
JCZ				AML	AML	03 21 46.9	
JCZ				AML	AML	03 21 48.0	
ODZ	Otahua Downs	3.31	73	PN	Pn	03 21 02.8	+0.2

IDC 16 03:37:16.3±5.1, 54°.73S×133°.40W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/15, mbtmp3.9/2, MS3.6/5, Ms1 3.6/5, ms1mx3.3/26, Error ellipse: s-maj=317.6km s-min=68.9km az=146.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	Papeete	39.12	335	LR	LR	03 57 49.2	
	comp=Z,17nm,19.0s,baz=288,slow=32						
CPUP	Villa Florida	61.01	95	LR	LR	04 09 17.0	
	comp=Z,73nm,20.7s,baz=349,slow=32						
ASAR	Alice Springs	72.53	254	P	P	03 48 44.9	-0.2
	1.2nm,0.9s,baz=146,slow=6.0,SNR=8.1						
WRA	Warramunga Arr	75.25	256	P	P	03 49 01.2	+0.3
	1.0nm,0.8s,baz=139,slow=5.2,SNR=3.5						
TEIG	Tepich	84.01	42	LR	LR	04 19 04.7	
	comp=Z,57nm,18.1s,baz=327,slow=30						
TXAR	Lajitas Array	87.55	26	LR	LR	04 18 14.3	
	comp=Z,37nm,20.9s,baz=220,slow=28						
ANMO	Albuquerque	92.28	22	LR	LR	04 23 29.3	
	comp=Z,50nm,18.2s,baz=225,slow=30						
ILAR	Eielson Array	119.62	353	PKP	PKPdf	03 56 06.3	-0.2
	0.3nm,0.7s,baz=197,slow=8.4,SNR=4.1						
MKAR	Makanchi Array	156.28	265	PKPab	PKPab	03 57 39.8	-0.3
	0.3nm,0.7s,baz=122,slow=5.2,SNR=3.8						
ZALV	Zalesovo Beam	157.88	284	PKPab	PKPab	03 57 46.4	-0.4
	0.3nm,0.3s,baz=132,slow=2.1,SNR=3.7						

*IDC **16** 04:24:08.8±0.6, 57°.12S×24°.96W, h0km, mb4.6/13, mb1 4.6/14, mb1mx4.5/20, mbtmp4.6/14, ML4.4/1, MS3.9/6, Ms1 3.8/6, ms1mx3.5/20, Error ellipse: s-maj=16.9km s-min=14.2km az=37.0*
*ISCJB **16** 04:24:10.6±0.5, 57°.11S±0°.08×25°.0W±0°.2, h22km, mb4.6/17, MS3.8/6, Error ellipse: s-maj=16.2km s-min=7.9km az=145.9*
*NEIC **16** 04:24:12.9±3.3, 57°.11S×24°.98W, h27km±22km, mb4.7/12, Error ellipse: s-maj=12.3km s-min=6.5km az=48.0*

ISC 16 04:24:12.1±0.5, 57°.08S±0°.09×24°.85W±0°.10, h22km, n71, σ0°.75/74, mb4.7/17, MS3.8/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.36	159	ePn	Pn	04 27 47.7	+0.7
VNA2	Neumayer--Watz	15.75	159	ePn	Pn	04 27 52.2	0.0
SNAA	Sanae	17.27	156	ePn	P	04 28 12.4	-0.4
SNAA	Sanae	17.27	156	eSn	Sn	04 31 09.7	-13
SNAA	Sanae	17.27	156	ePn	Pn	04 28 12.1	+0.6
	31nm,0.8s						
SNAA				S	Sn	04 31 09.4	-13
SNAA	Sanae	17.27	156	P	P	04 28 12.4	-0.4
	1.3nm,0.3s,baz=327,slow=13,SNR=214						
SNAA				S	Sn	04 31 09.4	-13
	0.1nm,0.3s,baz=287,slow=14,SNR=5.0						
SNAA				LR	LR	04 32 26.3	
	comp=Z,25nm,21.5s,baz=243,slow=29						
PMSA	Palmer Station	20.23	232	eP	P	04 28 45.4	+0.2
	37nm,0.8s						
PMSA	Palmer Station	20.23	232	P	P	04 28 45.4	+0.2
	34nm,0.7s,baz=86,slow=8.9,SNR=24						
USHA	Ushuaia	24.20	257	P	P	04 29 26.3	-0.3
USHA				S	S	04 33 44.9	+1.6
USHA	Ushuaia	24.20	257	P	P	04 29 26.3	-0.3
	21nm,1.0s,baz=96,slow=12,SNR=7.7						
USHA				S	S	04 33 44.9	+1.6
	7.6nm,0.9s,baz=357,slow=17,SNR=5.0						
USHA				LR	LR	04 36 28.3	
	comp=Z,382nm,19.5s,baz=110,slow=31						
TRQA	Tornquist	30.91	292	eP	P	04 30 25.7	-1.3
	4.1nm,0.5s						
QSPA	South Pole Qui	33.16	180	eP	P	04 30 46.3	-0.3
	7.9nm,0.6s						
QSPA				ePcP	PcP	04 33 28.3	-0.5
QSPA	South Pole Qui	33.16	180	P	P

HLID	Hailey	124.91 298	*e*PKPdf	PKPdf	04 43 09.6	0.0
BOZ	Bozeman (W)	125.14 301	*e*PKPdf	PKPdf	04 43 10.3	+0.4
KAF	Kangasniemi	125.34 27	*e*p	PKPdf	04 43 17.6	+8.1
	0.4nm,0.3s					
WVOR	Wild Horse Val	126.15 294	*e*PKPdf	PKPdf	04 43 12.8	+1.0
FFC	Flin Flon	127.72 314	*e*PKPdf	PKPdf	04 43 15.3	+1.1
YKA	Yellowknife Ar	137.81 316	PKP	PKPdf	04 43 32.5	-0.5
YKA	Yellowknife Ar	137.81 316	PKP	PKPdf	04 43 32.5	-0.5
	1.8nm,0.8s,baz=124,slow=2.6,SNR=9.1					
YKW3	Yellowknife Ar	137.85 316	*e*PKPdf	PKPdf	04 43 32.9	-0.2
INK	Inuvik	147.43 319	*e*PKPbc	PKPbc	04 43 52.1	-0.2
DAWY	Dawson	148.45 310	*e*PKPbc	PKPbc	04 43 55.0	-0.4
SONM	Songino Array	149.50 86	PKPbc	PKPbc	04 43 58.4	-0.2
SONM	Songino Array	149.50 86	PKPbc	PKPbc	04 43 58.4	-0.2
	1.5nm,0.9s,baz=223,slow=2.9,SNR=8.4					
ILAR	Eielson Array	151.77 310	PKPbc	PKPbc	04 44 03.1	-0.1
ILAR			PKPab	PKPab	04 44 13.6	+1.1
ILAR	Eielson Array	151.77 310	PKPbc	PKPbc	04 44 03.1	-0.1
	8.1nm,0.8s,baz=128,slow=1.6,SNR=53					
ILAR			PKPab	PKPab	04 44 13.6	+1.1
	3.7nm,1.0s,baz=113,slow=1.5,SNR=7.8					
COLA	College	152.20 310	*e*PKPbc	PKPbc	04 44 03.4	-0.8
COLA			*e*PKPab	PKPab	04 44 14.7	+0.5
MCK	McKinley	152.43 307	*e*PKPbc	PKPbc	04 44 05.1	+0.3
PPLA	Purkeypile	153.69 305	*e*PKPbc	PKPbc	04 44 07.9	+0.2

IDC 16 04:27:25.8±1.0, 13°.25N×93°.31E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=45.5km s-min=19.4km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.50	46	Pn	Pn	04 29 17.8	+1.2
	0.4nm,0.3s,baz=246,slow=14,SNR=4.4						
MKAR	Makanchi Array	34.70	347	P	P	04 34 16.6	-0.8
	0.5nm,0.8s,baz=149,slow=9.7,SNR=3.7						
KURBB	Kurchatov Arra	39.17	345	P	P	04 34 54.8	-0.6
	0.9nm,0.8s,baz=165,slow=7.6,SNR=7.3						
WRA	Warramunga Arr	52.13	129	P	P	04 36 38.3	0.0
	0.6nm,0.7s,baz=310,slow=7.8,SNR=11						
WRA				PcP	PcP	04 37 48.7	-1.6
	0.4nm,1.1s,baz=325,slow=3.4,SNR=5.2						
ASAR	Alice Springs	54.05	133	P	P	04 36 52.8	+0.3
	0.4nm,0.6s,baz=309,slow=6.9,SNR=10.0						
BRTR	Keskin Array B	58.39	309	P	P	04 37 23.3	-0.1
	0.4nm,0.5s,baz=87,slow=6.1,SNR=3.2						
GERES	GERESS Array B	73.32	317	P	P	04 39 00.9	+1.4
	0.3nm,0.5s,baz=87,slow=4.2,SNR=3.7						

*ISCJB **16** 04:42:07.5±0.7, 32°.32N±0°.07×105°.30E±0°.09, h10km, mb3.4/4, Error ellipse: s-maj=13.4km s-min=6.5km az=39.1*
*IDC **16** 04:42:07.4±1.2, 32°.84N×106°.07E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.3/4, Error ellipse: s-maj=60.2km s-min=24.7km az=62.0*
ISC 16 04:42:10.0±0.8, 32°.31N±0°.06×105°.33E±0°.06, h10km, n7, σ1§82/12, mb3.5/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.94	224	Pn	Pn	04 42 42.8	-0.2
CD2				Pg	Pb	04 42 44.8	-0.6
CD2				Sn	Sn	04 43 08.8	+1.3
CD2				Sg	Sb	04 43 10.8	+1.1
CD2				smax	smax		
	comp=N,610nm,0.7s						
CD2				smax	smax		
	comp=E,420nm,0.5s						
XAN	Xi'an	3.47	59	Pn	Pn	04 43 06.8	+2.7
XAN				Pg	Pg	04 43 16.8	+0.3
XAN				Sg	Sg	04 43 57.4	-4.1
XAN				smax	smax		
	comp=N,48nm,0.7s						
XAN				smax	smax		
	comp=E,19nm,0.7s						
LZH	Lanzhou	3.96	342	Pg	Pg	04 43 25.4	-0.5
LZH				Sg	Sb	04 44 09.4	+1.3
LZH				smax	smax		
	comp=N,70nm,0.5s						
LZH				smax	smax		
	comp=E,62nm,0.5s						
MKAR	Makanchi Array	22.79	316	P	P	04 47 12.3	-0.5
	comp=E,0.3nm,0.6s,baz=111,slow=8.2,SNR=3.4						
WRA	Warramunga Arr	58.92	148	P	P	04 52 09.2	-0.2
	comp=E,0.4nm,0.6s,baz=339,slow=7.8,SNR=8.4						
ASAR	Alice Springs	62.00	150	P	P	04 52 30.5	0.0
	comp=E,0.1nm,0.4s,baz=338,slow=7.2,SNR=2.7						
ILAR	Eielson Array	68.30	26	P	P	04 53 05.2	-5.7
	comp=E,0.4nm,0.7s,baz=299,slow=5.0,SNR=4.7						

MEX 16 04:44:01.7±1.2, 17°.13N×94°.01W, h181km±10km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.84	267	*i* P	Pn	04 44 26.9	-1.5
CMIG				*e*S	Sn	04 44 46.5	-2.4
TGIG		0.92	112	*e*P	Pn	04 44 27.1	-1.9
TGIG				*e*S	Sn	04 44 47.7	-2.3
TUIG	Tuzandepetl	0.98	336	*e*P	Pn	04 44 27.5	-1.8
TUIG				*e*S	Sn	04 44 48.4	-2.4
PCIG		1.61	152	*e*P	Pn	04 44 34.0	-0.8
PCIG				*i* S	Sn	04 44 58.3	-2.1
CCIG	Comitan	1.98	115	*e*P	Pn	04 44 37.6	-1.3
CCIG				*e*S	Sn	04 45 05.8	-1.9
HUIG	Huatulco	2.43	236	*e*P	Pn	04 44 40.6	-3.0
HUIG				*i* S	Sn	04 45 14.8	-1.4
VHO	Vista Hermosa	2.61	269	*e*P	Pn	04 44 45.0	-1.0
VHO				*i* S	Sn	04 45 19.1	-1.2
TPIG	Tehuac#an	3.44	292	*e*P	Pn	04 44 55.7	-0.4
TPIG				*i* S	Sn	04 45 36.1	-2.4
LVIG	Laguna Verde	3.45	319	*i* P	Pn	04 44 55.2	-0.6
LVIG				*i* S	Sn	04 45 35.5	-2.7
PNIG	Pinotepa	4.01	260	*e*P	Pn	04 45 01.9	-1.2
PNIG				*e*S	Sn	04 45 49.4	-1.7

*IDC **16** 04:53:11.8±0.8, 35°.46N×143°.18E, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.6/27, mbtmp3.5/10, ML3.4/2, Error ellipse: s-maj=22.0km s-min=19.8km az=108.0*
*ISCJB **16** 04:53:15.8±0.7, 35°.69N±0°.06×142°.98E±0°.05, h33km, mb3.5/8, Error ellipse: s-maj=8.7km s-min=6.2km az=5.3*
*JMA **16** 04:53:16.2±0.3, 35°.70N×142°.92E, h84km, M3.2*
ISC 16 04:53:17.4±0.8, 35°.71N±0°.08×143°.06E±0°.07, h35km, n21, σ1§93/27, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.00	239	P	Pn	04 53 47.2	-1.0
JHO	Hitachi	2.20	295	P	Pn	04 53 49.7	-1.8
JHO				*e*S	Sn	04 54 14.9	-2.6
BSO3	Boso 3	2.27	247	P	Pn	04 53 50.8	-1.3
BSO4	Boso 4	2.33	253	*e*S	Sn	04 54 19.1	-1.4
JYT	Yasato	2.38	283	P	Pn	04 53 53.1	-0.7
JYT				*e*S	Sn	04 54 19.4	-2.4
JFK	Kawauchi	2.41	314	*e*S	Sn	04 54 21.0	-1.7
JFT	Otama	2.84	310	P	Pn	04 53 59.8	-0.4
JFT				*e*S	Sn	04 54 32.9	-0.2
JAG	Ashikaga	3.00	285	P	Pn	04 54 01.2	-1.3
JHU	Hanno	3.07	274	P	Pn	04 54 01.7	-1.7
JRY	Ryogami san	3.39	276	P	Pn	04 54 07.4	-0.4
MJAR	Matsushiro Arr	4.01	283	Pn	Pn	04 54 15.7	-0.6
	1.8nm,0.3s,baz=89,slow=9.0,SNR=16						
MJAR				Sn	Sn	04 55 05.5	+3.4
	0.5nm,0.3s,baz=104,slow=24,SNR=4.5						
MAT	Matsushiro	4.01	283	P	Pn	04 54 17.5	+1.2
MAT				S	Sn	04 55 00.9	-1.2
ASAJ	Asahikawa	8.40	358	Pn	Pn	04 55 16.6	0.0
	0.6nm,0.3s,baz=213,slow=4.2,SNR=7.0						
ASAJ				Sn	Sn	04 56 44.9	-5.3
	0.2nm,0.3s,baz=171,slow=19,SNR=2.2						
SONM	Songino Array	29.63	306	P	P	04 59 21.6	+2.1
	0.2nm,0.4s,baz=111,slow=8.7,SNR=2.3						
MKAR	Makanchi Array	45.95	303	P	P	05 01 38.4	+1.6
	0.2nm,0.7s,baz=97,slow=9.2,SNR=2.5						
ILAR	Eielson Array	49.91	32	P	P	05 02 08.2	+1.1
	0.5nm,0.8s,baz=261,slow=6.4,SNR=5.2						
WRA	Warramunga Arr	55.96	190	P	P	05 02 49.8	-2.4
	1.4nm,0.7s,baz=8.0,slow=7.4,SNR=12						

ASAR	Alice Springs	59.69	190	P	P	05 03 16.6	-1.7
	0.5nm,0.7s,baz=13,slow=12,SNR=7.1						
YKA	Yellowknife Ar	64.28	30	P	P	05 03 49.3	+0.6
	0.6nm,0.8s,baz=300,slow=6.4,SNR=3.2						
PDAR	Pinedale Array	77.64	46	P	P	05 05 11.0	+0.5
	0.2nm,0.7s,baz=297,slow=0.8,SNR=3.2						
TXAR	Lajitas Array	89.86	53	P	P	05 06 13.7	+0.7
	0.5nm,1.0s,baz=300,slow=2.7,SNR=3.6						

KRSC 16 04:55:39.3±0.6, 54°.74N×161°.93E, h41km±30km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.22	212	*i* P	Pn	04 55 47.5	+0.7
MKZ				*i* S	Sn	04 55 53.4	+1.4
TUMR	Tumrok	1.16	299	*e*P	Pn	04 56 00.0	+0.8
TUMR				*i* S	Sn	04 56 14.9	+0.9
BZGR	Bezymyannyi-Gr	1.39	330	*e*P	Pn	04 56 03.4	+1.0
BZGR				*i* S	Sn	04 56 20.8	+1.1
KMNR	Kamenistaya	1.41	317	*e*P	Pn	04 56 03.9	+1.3
KMNR				*i* S	Sn	04 56 21.7	+1.7
ZLN	Zelenaya	1.43	334	*e*P	Pn	04 56 04.3	+1.4
ZLN				*i* S	Sn	04 56 22.3	+1.7
BZMR	Bezymyannaya	1.45	326	*e*P	Pn	04 56 04.6	+1.3
BZMR				*i* S	Sn	04 56 23.4	+2.2
BZWR	Bezymyannyi-We	1.48	327	*e*P	Pn	04 56 04.2	+0.6
BZWR				*e*S	Sn	04 56 22.2	+0.4
KBTR	Krutoberegovo	1.56	19	*i* P	Pn	04 56 05.4	+0.9
KBTR				*i* S	Sn	04 56 24.5	+1.1
KPT	Kopyto	1.57	322	*e*P	Pn	04 56 05.2	+0.4
KPT				*i* S	Sn	04 56 24.0	0.0
KII	Karymskiy	1.61	245	*e*P	Pn	04 56 06.4	+1.0
KII				*i* S	Sn	04 56 26.0	+1.0
KRSR	Krestovskiy	1.67	333	*e*P	Pn	04 56 07.2	+1.0
KRSR				*i* S	Sn	04 56 27.2	+0.7
KLY	Klyuchi	1.74	336	*e*P	Pn	04 56 07.8	+0.9
KLY				*i* S	Sn	04 56 29.0	+1.2
KOZ	Kozyrevsk	1.77	319	*e*P	Pn	04 56 09.3	+1.9
KOZ				*e*S	Sn	04 56 31.2	+2.5
SMKR	Semkarok	1.86	352	*e*P	Pn	04 56 10.8	+2.0
SMKR				*i* S	Sn	04 56 33.9	+2.7
BDR	Baidarnaya	1.88	348	*e*P	Pn	04 56 09.7	+0.7
BDR				*i* S	Sn	04 56 32.2	+0.7
SRKR	Sorokina	1.97	348	*e*P	Pn	04 56 11.3	+1.1
SRKR				*i* S	Sn	04 56 35.3	+1.6
SPN	Mys Shipunski	2.00	215	*e*P	Pn	04 56 10.5	0.0
SPN				*i* S	Sn	04 56 33.1	-1.1
SRDR	Sredinnyy	2.02	322	*e*P	Pn	04 56 12.0	+1.1
SRDR				*i* S	Sn	04 56 35.8	+0.8
NLC	Nalytchevo	2.19	225	*i* P	Pn	04 56 14.2	+1.0
NLC				*i* S	Sn	04 56 39.5	+0.5
ESO	Esso	2.19	304	*e*P	Pn	04 56 14.3	+1.0
SDLR	Sedlovina	2.32	232	*e*P	Pn	04 56 16.8	+1.7
KRER	Koryakskii	2.37	234	*e*P	Pn	04 56 17.9	+2.1
KRER				*i* S	Sn	04 56 46.8	+3.0
SMAR	Somma	2.37	233	*e*P	Pn	04 56 17.6	+1.7
SMAR				*i* S	Sn	04 56 45.6	+1.7
BKI	Bering	2.38	77	P	Pn	04 56 15.8	+0.1
BKI				*i* S	Sn	04 56 41.7	-1.8
UGLR	Uglovaya	2.39	231	*e*P	Pn	04 56 17.9	+1.8
UGLR				*i* S	Sn	04 56 45.7	+1.5
AVH	Avacha	2.39	233	*e*P	Pn	04 56 18.4	+2.3
AVH				*i* S	Sn	04 56 46.7	+2.4
KOK	Koryaka	2.42	235	*e*P	Pn	04 56 18.9	+2.4
KOK				*e*S	Sn	04 56 48.2	+3.1
GNL	Ganaly	2.56	248	*e*P	Pn	04 56 20.2	+1.7
PET	Petropavlovsk	2.59	230	*e*P	Pn	04 56 20.3	+1.6
RUS	Russkaya	3.08	223	*e*P	Pn	04 56 26.5	+1.1
RUS				*e*S	Sn	04 57 00.9	0.0
GRL	Gorelyy	3.17	228	P	Pn	04 56 27.5	+0.6
MTVR	Mutnovka	3.18	226	*e*P	Pn	04 56 28.9	+2.0
MTVR				*i* S	Sn	04 57 05.5	+1.8
APC	Apacha	3.36	239	P	Pn	04 56 32.9	+3.7
ASAK	Asacha	3.37	227	*e*P	Pn	04 56 32.1	+2.6
ASAK				*i* S	Sn	04 57 11.6	+3.3
MIPR	Malaya Ipel'ka	3.95	233	P	Pn	04 56 40.6	+3.2

IDC 16 05:01:38.3±10.0, 3°.97N×124°.87E, h140km±100km, mb3.2/4, mb1 3.3/4, mb1mx3.1/22, mbtmp3.2/4, Error ellipse: s-maj=131.0km s-min=18.7km az=70.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.52	159	P	P	05 06 55.3	+1.3
	0.5nm,0.3s,baz=340,slow=9.8,SNR=14						
ASAR	Alice Springs	28.85	163	P	P	05 07 22.5	-1.3
	0.6nm,0.6s,baz=345,slow=7.6,SNR=17						
SONM	Songino Array	46.50	343	P	P	05 09 51.8	+0.2
	0.2nm,0.5s,baz=157,slow=4.7,SNR=2.1						
MKAR	Makanchi Array	56.31	326	P	P	05 11 04.2	-0.2
	0.5nm,0.4s,baz=124,slow=7.7,SNR=14						
MKAR				PcP	PcP	05 11 59.5	-0.7
	0.4nm,0.6s,baz=108,slow=4.7,SNR=3.5						
TORD	Torodi Ar. Bea	121.08	288	PKP	PKPdf	05 20 15.4	0.0
	0.3nm,0.6s,baz=48,slow=1.4,SNR=5.6						

*ISCJB **16** 05:27:36.0±0.8, 39°.07N±0°.03×140°.93E±0°.05, h14km±7km, mb3.5/5, Error ellipse: s-maj=6.7km s-min=5.1km az=7.8*
*JMA **16** 05:27:36.4, 39°.06N×140°.91E, h7km±1km, M3.4*
Broadband fault plane solution: P waves. NP1: ϕ_s156.00000°, δ56.00000°, λ55.00000°. NP2: ϕ_b27.00000°, δ47.00000°, λ131.00000°. Principal axes: T Plg61.0000°, Azm9.0000°; N Plg28.0000°, Azm177.0000°; P Plg5.0000°, Azm270.0000°;
JMA Felt II J1.
*IDC **16** 05:27:37.9±4.7, 38°.94N×140°.92E, h23km±31km, mb3.3/5, mb1 3.4/8, mb1mx3.3/27, mbtmp3.2/8, ML2.5/3, MS2.5/1, Ms1 2.5/1, ms1mx1.9/25 Error ellipse: s-maj=35.0km s-min=19.2km az=100.0*
ISC 16 05:27:36.3±0.9, 39°.06N±0°.03×140°.92E±0°.03, h13km±7km, n16, σ1§71/23, mb3.5/5, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.26	116	⇓P	Pg	05 27 41.5	-0.2
JMK				S	Sg	05 27 45.2	-0.1
JRG	Rokugo	0.40	326	⇑P	Pg	05 27 44.3	0.0
JRG				S	Sg	05 27 50.1	+0.4
JYK	Kaneyama	0.46	252	⇓P	Pg	05 27 45.3	-0.1
JYK				S	Sg	05 27 51.4	-0.2
JOM	Ohasama	0.50	35	⇓P	Pg	05 27 46.1	0.0
JOM				S	Sg	05 27 53.0	+0.2
JIO	Ouri	0.69	151	⇓P	Pg	05 27 49.5	-0.2
JIO				S	Sg	05 27 58.8	0.0
JOU	Okura	0.72	196	⇑P	Pg	05 27 50.2	-0.1
JOU				S	Sb	05 27 59.9	-0.7
MAT	Matsushiro	3.31	221	P	Pn	05 28 30.7	+2.9
MAT				*e*S	Sb	05 29 12.4	-2.6
MJAR	Matsushiro Arr	3.31	221	Pn	Pn	05 28 29.1	+1.3
	0.5nm,0.3s,baz=26,slow=14,SNR=6.4						
MJAR				Pg	Pb	05 28 35.1	+0.2
	1.0nm,0.3s,baz=26,slow=16,SNR=16						
MJAR				Lg	Lg	05 29 21.4	
	0.4nm,0.3s,baz=19,slow=21,SNR=6.8						
ASAJ	Asahikawa	5.20	13	Pn	Pn	05 28 56.2	+2.5
	0.3nm,0.3s,baz=215,slow=11,SNR=3.8						
ASAJ				Sn	Sb	05 30 03.9	-5.5
	0.1nm,0.3s,baz=252,slow=20,SNR=2.0						
USRK	Ussuriysk Arra	8.42	310	Pn	Pn	05 29 38.7	+0.8
	0.2nm,0.3s,baz=121,slow=14,SNR=3.1						
KSRS	Korea Array	10.35	265	Pn	Pn	05 30 08.5	+4.1
	0.3nm,0.3s,baz=79,slow=14,SNR=7.5						
KSRS				LR	LR	05 33 43.0	
	comp=Z,24nm,20.5s,baz=220,slow=35						
MKAR	Makanchi Array	42.74	300	P	P	05 35 34.2	+1.1
	0.5nm,0.8s,baz=90,slow=11,SNR=3.9						
ILAR	Eielson Array	48.00	33	P	P	05 36 16.1	+1.6
	0.3nm,0.7s,baz=269,slow=7.0,SNR=5.4						
WRA	Warramunga Arr	59.02	187	P	P	05 37 35.5	-0.3
	0.7nm,0.7s,baz=4.1,slow=7.2,SNR=5.3						
ASAR	Alice Springs	62.74	187	P	P	05 37 58.9	-2.2
	0.2nm,0.6s,baz=5.5,slow=7.1,SNR=2.8						
AKASG	Malin Array Be	72.46	322	P	P	05 39 01.9	-0.3
	0.4nm,0.5s,baz=43,slow=7.3,SNR=3.3						

MEX 16 05:40:02.7±0.5, 18°.27N×100°.16W, h53km±4km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.18	272	*i* P	Pn	05 40 09.2	-2.1
ARIG				*e*S	Sn	05 40 15.6	-1.9
MEIG	Mezcala	0.62	124	*e*P	Pn	05 40 14.1	-1.6
MEIG				*e*S	Sn	05 40 23.8	-1.4
PLIG	Platanillo	0.64	79	*e*P	Pn	05 40 13.8	-2.1
PLIG				*e*S	Sn	05 40 23.6	-1.9
TOVM	TOLUCA	1.10	24	*e*P	Pn	05 40 20.4	-2.0
TOVM				*i* S	Sn	05 40 34.7	-2.2
YAIG	Yautepec	1.19	60	*e*P	Pn	05 40 21.6	-1.7
YAIG				*e*S	Sn	05 40 36.3	-2.4
CAIG	El Cayaco	1.22	185	*e*P	Pn	05 40 21.7	-1.8
CAIG				*i* S	Sn	05 40 36.9	-2.1
MZVM		1.27	44	*e*P	Pn	05 40 23.0	-1.1
MZVM				*e*P		05 40 23.0	
ZIIG	Zihuatanejo	1.41	242	*e*P	Pn	05 40 24.3	-1.7
ZIIG				*e*S	Sn	05 40 42.1	-1.4
ATVM	ATLACOMULCO	1.51	12	*i* P	Pn	05 40 26.0	-1.8
ATVM				*i* S	Sn	05 40 43.6	-3.2
AZVM	Cuida Lopez Ma	1.55	32	*i* P	Pn	05 40 26.6	-1.7
AZVM				*i* S	Sn	05 40 45.6	-1.9
AMVM	AMECAMECA	1.56	57	*i* P	Pn	05 40 27.5	-0.9
AMVM				*i* S	Sn	05 40 45.3	-2.6
PTVM	Pico Tres Padr	1.65	37	*e*P	Pn	05 40 27.4	-2.2
PTVM				*i* S	Sn	05 40 48.3	-1.6
MOIG	Morelia	1.70	325	*i* P	Pn	05 40 29.3	-1.1
MOIG				*i* S	Sn	05 40 48.9	-2.4
ZUVM	ZUMPANGO	1.85	33	*i* P	Pn	05 40 30.3	-2.2
ZUVM				*i* S	Sn	05 40 51.9	-3.2
IIO	Organos	1.89	46	*e*P	Pn	05 40 31.5	-1.6
IIO				*i* S	Sn	05 40 54.4	-1.8
VTVM	Tizayuca	1.98	41	*i* P	Pn	05 40 32.3	-1.9
VTVM				*i* S	Sn	05 40 56.2	-2.1
TPIG	Tehuac#an	2.66	86	*e*P	Pn	05 40 41.3	-2.1
TPIG				*i* S	Sn	05 41 12.3	-2.4

*ATH **16** 05:47:48.5, 33°.54N×25°.39E, h5km±2km, MD3.9/11, ML3.9*
*SZGRF **16** 05:47:52.3, 34°.24N×27°.29E, h10km, mb4.0, Eastern Mediterranean Sea*
*ISCJB **16** 05:47:55.0±0.8, 33°.94N±0°.02×25°.46E±0°.02, h10km±4km, mb4.2/76, MS3.7/4, Error ellipse: s-maj=4.1km s-min=2.6km az=15.6*
*BJI **16** 05:47:54.9, 34°.10N×25°.40E, h10km, mB5.0/5, mb4.6/7, Ms7 4.4/1*
*IDC **16** 05:47:55.7±0.6, 34°.14N×25°.38E, h0km, mb4.2/24, mb1 4.2/33, mb1mx4.2/40, mbtmp4.1/33, ML4.2/7, MS3.3/4, Ms1 3.3/4, ms1mx2.7/47, Error ellipse: s-maj=14.5km s-min=12.1km az=178.0*
*NEIC **16** 05:47:57.4±0.3, 34°.07N×25°.43E, h10km, mb4.1/24, ML3.6(THE), MS3.9(ATH), ML4.0(NIC), Error ellipse: s-maj=6.5km s-min=4.3km az=198.0*
*CSEM **16** 05:47:58.6±0.1, 34°.03N×25°.45E, h20km, mb4.3/60, Ms2.9, Mw4.0, Error ellipse: s-maj=4.0km s-min=2.5km az=21.0*
*MOS **16** 05:47:59.2±1.2, 34°.11N×25°.40E, h33km, mb4.3/24, Error ellipse: s-maj=8.3km s-min=4.2km az=96.7*
*HLW **16** 05:48:00.4, 34°.00N×25°.36E, h18km±2km, Md3.7, Ml0.0*
*THE **16** 05:48:03.7, 34°.47N×25°.34E, h0km±3km, ML4.0/1, Error ellipse: s-maj=5.1km s-min=1.6km az=178.0*
*DDA **16** 05:48:14.7, 34°.99N×26°.52E, h5km, MD3.8*
ISC 16 05:47:58.1±0.6, 33°.93N±0°.04×25°.37E±0°.03, h22km±4km, n496, σ1§30/526, mb4.3/75, MS3.5/4, 8C-8D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.18	337	P	Pn	05 48 18.2	-1.0
SIVA				S	Sb	05 48 27.8	-6.7
SIVA	Sivas	1.18	337	*e*PB	Pn	05 48 17.9	-1.3
SIVA	Sivas	1.18	337	*e*Pb	Pn	05 48 17.9	-1.3
SIVA	Sivas	1.18	337	P	Pn	05 48 18.2	-1.0
SIVA				S	Sb	05 48 27.8	-6.7
LAST	Lasithi	1.23	4	P	Pn	05 48 17.9	-2.1
LAST				S	Sn	05 48 28.8	-7.2
LAST	Lasithi	1.23	4	*e*PB	Pn	05 48 18.9	-1.1
LAST				*e*SB	Sb	05 48 41.1	+4.9
LAST	Lasithi	1.23	4	P	Pn	05 48 17.9	-2.1
LAST	Lasithi	1.23	4	*e*Pb	Pn	05 48 18.9	-1.1
LAST				S	Sn	05 48 28.8	-7.2
NPS	Neapolis	1.34	9	P	Pn	05 48 19.9	-1.6
NPS				S	Sn	05 48 33.4	-5.3
NPS	Neapolis	1.34	9	*e*PG	Pn	05 48 20.0	-1.6
NPS				*e*SN	Sb	05 48 44.7	+5.4
NPS	Neapolis	1.34	9	P	Pn	05 48 19.9	-1.6
NPS				S	Sn	05 48 33.4	-5.3
ZKR	Zakros	1.37	31	P	Pn	05 48 21.1	-0.8
ZKR	Zakros	1.37	31	*e*PN	Pn	05 48 20.7	-1.2
ZKR				*e*SN	Sb	05 48 44.9	+4.7
ZKR	Zakros	1.37	31	*e*Pn	Pn	05 48 20.7	-1.2
ZKR	Zakros	1.37	31	P	Pn	05 48 21.1	-0.8
IDI	Anoyia	1.41	344	P	Pn	05 48 21.4	-1.1
IDI				S	Sn	05 48 32.9	-7.5
IDI	Anoyia	1.41	344	*e*PG	Pn	05 48 21.6	-0.9
IDI	Anoyia	1.41	344	*e*Pn	Pn	05 48 21.3	-1.2
IDI				*e*S	Sb	05 48 40.7	-0.6
IDI	Anoyia	1.41	344	P	Pn	05 48 21.4	-1.1
IDI				S	Sn	05 48 32.9	-7.5
VAM	Vamos	1.76	327	P	Pn	05 48 27.9	+0.7
VAM				S	Sn	05 48 48.1	-0.8
VAM	Vamos	1

PYL PYLOS 4.18 316 *e*Pn **Pn 05 49 01.1 +0.5**
VLX Vlachokerasia 4.21 326 *e*PN **Pn 05 49 02.1 +1.2**
VLX Vlachokerasia 4.21 326 *e*Pn **Pn 05 49 02.1 +1.2**
AYDN Tasoluk 4.25 28 *i* P **Pn 05 49 02.4 +0.9**
AYDN *i* S **Sn 05 49 48.1 -2.3**
AYDN Tasoluk 4.25 28 *i* P **Pn 05 49 02.4 +0.9**
AYDN *i* S **Sn 05 49 48.1 -2.3**
ATH Áthens Observa 4.25 342 *e*PN **Pn 05 49 02.6 +1.2**
ATH Athens Observa 4.25 342 *e*Pn **Pn 05 49 02.6 +1.2**
ITM Ithomi 4.29 320 *e*PN **Pn 05 49 03.0 +1.0**
ITM Ithomi 4.29 320 *e*Pn **Pn 05 49 03.0 +1.0**
AMT Artemida-Makis 4.67 321 *e*PN **Pn 05 49 07.8 +0.6**
AMT Artemida-Makis 4.67 321 *e*Pn **Pn 05 49 07.8 +0.6**
SWA2 4.67 179 P **Pn 05 49 08.6 +1.3**
GOLH Golhisar 4.75 45 *i* P **Pn 05 49 08.9 +0.5**
GOLH *i* S **Sn 05 50 03.0 +0.1**
GOLH Golhisar 4.75 45 *i* P **Pn 05 49 08.9 +0.5**
GOLH *i* S **Sn 05 50 03.0 +0.1**
KLV Kalavryta, Ach 4.86 328 *e*PN **Pn 05 49 11.1 +1.2**
KLV Kalavryta, Ach 4.86 328 *e*Pn **Pn 05 49 11.1 +1.2**
LKR Lokris 5.08 339 *e*PN **Pn 05 49 13.5 +0.6**
LKR Lokris 5.08 339 *e*Pn **Pn 05 49 13.5 +0.6**
KORT Korkueli 5.09 52 *i* P **Pn 05 49 14.5 +1.4**
KORT *i* S **Sn 05 50 12.8 +1.5**
KORT Korkueli 5.09 52 *i* P **Pn 05 49 14.5 +1.4**
KORT *i* S **Sn 05 50 12.8 +1.5**
LAKA Lakka 5.10 328 *e*PN **Pn 05 49 14.2 +1.0**
LAKA Lakka 5.10 328 *e*Pn **Pn 05 49 14.2 +1.0**
VLS Valsamata 5.74 319 *e*PN **Pn 05 49 23.3 +1.4**
EVR Evrytania 5.74 331 *e*PN **Pn 05 49 23.7 +1.6**
THL Klokotos Trika 6.23 335 *e*PN **Pn 05 49 29.9 +1.2**
CSS Prodhromos 6.66 79 *e*Pn **Pn 05 49 35.2 +0.6**
28nm,0.9s
CSS *e*Sn **Sn 05 50 47.2 -2.6**
CSS Prodhromos 6.66 79 Pn **Pn 05 49 34.8 +0.2**
SLTI Sal'it 8.29 99 Pn **Pn 05 49 56.3 -0.7**
SLTI Sn **Sn 05 51 26.0 -4.0**
MMAI Mount Meron Ar 8.44 93 Pn **Pn 05 49 57.2 -1.8**
MMAI Sn **Sn 05 51 31.8 -1.8**
MMAI Mount Meron Ar 8.44 93 Pn **Pn 05 49 57.2 -1.8**
2.3nm,0.3s,baz=274,slow=12,SNR=5.9
MMAI Sn **Sn 05 51 31.8 -1.8**
3.4nm,0.3s,baz=262,slow=20,SNR=3.7
MMLI Mount Malkishu 8.56 97 Pn **Pn 05 50 00.2 -0.5**
MMLI Sn 05 51 31.4 -5.2
KSDI Kefar Szold 8.62 92 Pn **Pn 05 50 01.0 -0.5**
KSDI Sn **Sn 05 51 33.6 -4.5**
HMDT Nahal Hemdat 8.69 98 Pn **Pn 05 50 02.0 -0.4**
HMDT Sn **Sn 05 51 35.9 -3.8**
DSI Dead Sea 8.76 103 Pn **Pn 05 50 03.1 -0.3**
DSI Sn **Sn 05 51 38.2 -3.2**
BR131 Keskin Array S 8.80 47 *e*Pn **Pn 05 50 03.9 -0.1**
3.2nm,0.8s
BRTR Keskin Array B 8.80 47 Pn **Pn 05 50 03.4 -0.6**
BRTR Sn **Sn 05 51 43.4 +0.9**
BRTR Keskin Array B 8.80 47 Pn **Pn 05 50 03.4 -0.6**
0.2nm,0.3s,baz=223,slow=14,SNR=11
BRTR Sn **Sn 05 51 43.4 +0.9**
0.1nm,0.3s,baz=218,slow=20,SNR=2.7
CEL Celeste 8.80 302 *e*Pn **Pn 05 50 03.3 -0.6**
CEL *e*Sn **Sn 05 51 37.2 -5.2**
VTS Vitosha 8.81 350 ⇑P Pn 05 50 11.7 +7.5
VTS Vitosha 8.81 350 ⇑*i*P Pn 05 50 11.7 +7.5
MZDA Masada 8.83 104 Pn **Pn 05 50 03.8 -0.5**
MZDA Sn **Sn 05 51 40.2 -2.8**
PRNI Paran 8.92 111 Pn **Pn 05 50 05.4 -0.2**
PRNI Sn **Sn 05 51 43.1 -2.3**
ZFRI Zfri 8.96 109 Pn **Pn 05 50 06.5 +0.3**
ZFRI Sn **Sn 05 51 44.0 -2.5**
MBRI Mt Berech 9.11 114 Pn **Pn 05 50 08.6 +0.4**
MBRI Sn **Sn 05 51 48.5 -1.6**
EIL Elat 9.20 115 Pn **Pn 05 50 09.3 -0.1**
EIL Sn **Sn 05 51 52.3 +0.1**
EIL Elat 9.20 115 Pn **Pn 05 50 09.3 -0.1**
1.4nm,0.3s,baz=309,slow=6.5,SNR=5.6
EIL Sn **Sn 05 51 52.3 +0.1**
1.9nm,0.3s,baz=358,slow=15,SNR=3.9
EIL Elat 9.20 115 Pn **Pn 05 50 09.0 -0.4**
EIL Sn **Sn 05 51 50.9 -1.3**
CUC Castrocucco 9.74 311 *e*Pn **Pn 05 50 17.4 +0.5**
CUC *e*Sn **Sn 05 52 03.3 -2.4**
CUC Castrocucco 9.74 311 *e*Pn **Pn 05 50 17.4 +0.5**
CUC *e*Sn **Sn 05 52 03.3 -2.4**
ASF Jabal al Asfar 9.84 97 Pn **Pn 05 50 20.0 +1.7**
ASF Sn **Sn 05 52 10.5 +2.5**
ASF Jabal al Asfar 9.84 97 Pn **Pn 05 50 20.0 +1.7**
0.4nm,0.3s,baz=237,slow=9.6,SNR=2.5
ASF Sn **Sn 05 52 10.5 +2.5**
0.4nm,0.3s,baz=296,slow=23,SNR=1.9
TIRR Tirgusor 10.77 12 *e*P Pn 05 50 35.7 +4.8
TIRR Tirgusor 10.77 12 *e*Pn Pn 05 50 35.7 +4.8
TIRR Tirgusor 10.77 12 *e*Pn Pn 05 50 35.7 +4.8
MALT Malatya 11.43 64 ⇓*i*P x 05 51 01.9
MLR Muntele Rosu 11.55 2 ⇓*i*P **Pn 05 50 41.6 -0.1**
MLR Muntele Rosu 11.55 2 Pn **Pn 05 50 39.8 -1.9**
MLR Muntele Rosu 11.55 2 Pn **Pn 05 50 39.8 -1.9**
0.0nm,0.3s,baz=153,slow=16,SNR=2.3
MLR LR LR 05 55 41.6
comp=Z,23nm,19.0s,baz=186,slow=41
MLR Muntele Rosu 11.55 2 Pn **Pn 05 50 39.8 -1.9**
GZR Gura Zlata 11.62 351 ⇑P Pn 05 50 47.9 +5.3
GZR Gura Zlata 11.62 351 ⇑*i*P Pn 05 50 47.8 +5.2
BZS Buzias 12.02 347 ⇓P **Pn 05 50 45.3 -2.7**
BZS Buzias 12.02 347 ⇓*i*P **Pn 05 50 45.3 -2.7**
AQU L'Aquila 12.62 315 *e*Pn **Pn 05 50 55.9 -0.3**
AQU L'Aquila 12.62 315 *e*Pn **Pn 05 50 55.9 -0.3**
BURAR Bucovina Array 13.67 360 ⇓P Pn 05 51 14.2 +3.6
BURAR Bucovina Array 13.67 360 ⇓*i*P Pn 05 51 14.2 +3.6
UZH Uzhgorod 14.87 352 *e*P **P 05 51 32.7 +0.3**
UZH Uzhgorod 14.87 352 *e*P **P 05 51 32.7 +0.3**
KECS Kecovo 14.99 347 *e*P **Pn 05 51 26.7 -1.8**
KECS Kecovo 14.99 347 *e*PN **Pn 05 51 26.7 -1.8**
KECS Kecovo 14.99 347 *e*P P 05 51 37.1 +3.3
KOLS Kolonicke sedl 15.17 352 *e*P **Pn 05 51 32.2 +1.4**
KOLS Kolonicke sedl 15.17 352 *e*PN **Pn 05 51 32.2 +1.4**
KOLS Kolonicke sedl 15.17 352 *e*Pn **Pn 05 51 32.2 +1.4**
CRVS Cervenica-Dubn 15.24 350 *e*P P 05 51 42.1 +5.6
PGF Pioggiola 15.45 309 *e*P **Pn 05 51 33.1 -1.6**
31nm,0.9s
ZST Bratislava 15.54 339 *e*P **P 05 51 38.9 -1.0**
ZST Bratislava 15.54 339 *e* **P 05 51 38.9 -1.0**
ZST Bratislava 15.54 339 *e*P **P 05 51 43.4 +3.5**
ZST Bratislava 15.54 339 *e*P **P 05 51 38.9 -1.0**
STHS Stebnicka Huta 15.77 350 *e*P **P 05 51 42.4 -0.1**
STHS Stebnicka Huta 15.77 350 *e* **P 05 51 42.4 -0.1**
STHS Stebnicka Huta 15.77 350 *e*P **P 05 51 42.4 -0.1**
ABTA Abfaltersbach 16.09 327 ⇑*i*Pn **Pn 05 51 42.0 -0.9**
19nm,0.7s,SNR=17
ABTA Abfaltersbach 16.09 327 Pn **Pn 05 51 42.0 -0.9**
19nm,0.7s,SNR=17
MOA Molln 16.21 332 ⇓*i*P **P 05 51 46.9 -0.5**
7.8nm,0.8s,SNR=12
MOA Molln 16.21 332 P **P 05 51 46.9 -0.5**
7.8nm,0.8s,SNR=12
GNI Garni 16.66 63 LR LR 05 59 56.0
comp=Z,146nm,18.3s,baz=92,slow=44
VRAC Vranov 16.69 340 Pn **Pn 05 51 50.1 -0.3**
VRAC Vranov 16.69 340 Pn **Pn 05 51 50.1 -0.3**
0.3nm,0.3s,baz=126,slow=12,SNR=4.6
VRAC Vranov 16.69 340 P **Pn 05 51 50.1 -0.3**
KIV Kislovodsk 16.75 48 *e*P **P 05 51 53.5 0.0**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 16.75 48 *e*P **P 05 51 53.5 0.0**
comp=Z,17nm,1.0s
KBZ Khabaz 16.77 49 P **Pn 05 51 51.7 +0.3**
KBZ Khabaz 16.77 49 Pn **Pn 05 51 51.7 +0.3**
KBZ Khabaz 16.77 49 Pn **Pn 05 51 51.7 +0.3**
comp=Z,0.1nm,0.3s,baz=290,slow=7.5,SNR=11
KBZ Khabaz 16.77 49 P **Pn 05 51 51.7 +0.3**
KIEV Kiev 16.99 8 *e*P **Pn 05 51 53.5 -0.6**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 16.99 8 *e*Pn **Pn 05 51 53.5 -0.6**
comp=Z,12nm,0.8s
KIEV Kiev 16.99 8 *e*P **Pn 05 51 53.5 -0.6**
comp=Z,12nm,0.8s
ZEI Tsey 16.99 53 *e*P **P 05 51 57.5 +1.3**
ZEI pmax pmax
comp=Z,18nm,1.2s
ZEI Tsey 16.99 53 *e*P **P 05 51 57.5 +1.3**
comp=Z,18nm,1.2s

AKASG Malin Array Be 17.00 8 P **Pn 05 51 52.9 -1.3**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 17.00 8 Pn **Pn 05 51 52.9 -1.3**
AKASG Malin Array Be 17.00 8 Pn **Pn 05 51 52.9 -1.3**
comp=Z,2.7nm,0.3s,baz=201,slow=10,SNR=32
AKASG Malin Array Be 17.00 8 Pn **Pn 05 51 52.9 -1.3**
SAOF Saorge 17.08 311 *e*P **Pn 05 51 55.3 0.0**
SBF Sospel 17.09 311 *e*P **P 05 51 58.1 +0.9**
comp=Z,31nm,0.8s
SBF Sospel 17.09 311 *e*P **P 05 51 58.1 +0.9**
comp=Z,15nm,0.8s
FUORN Ofenpass-Fuorn 17.09 322 *e*Pn **P 05 51 59.4 +2.0**
comp=Z,10nm,0.9s
FETA Feichten 17.14 324 ⇑*i*Pn **P 05 51 57.3 -0.5**
comp=Z,7.5nm,0.8s,SNR=9.7
FETA Feichten 17.14 324 Pn **P 05 51 57.3 -0.5**
comp=Z,7.5nm,0.8s,SNR=9.7
LUCF Luceram 17.16 311 *e*P **P 05 51 58.8 +0.8**
GEC2 GERESS Array S 17.25 333 *e*P **P 05 51 58.8 -0.1**
comp=Z,8.0nm,0.8s
GEC2 GERESS Array S 17.25 333 *e*P **P 05 51 58.8 -0.1**
GEC2 pmax pmax
comp=Z,8.0nm,0.8s
GEC2 GERESS Array S 17.25 333 *e*P **P 05 51 58.8 -0.1**
comp=Z,8.0nm,0.8s
GERES GERESS Array B 17.25 333 P **Pn 05 51 57.6 +0.1**
GERES GERESS Array B 17.25 333 P **Pn 05 51 57.6 +0.1**
comp=Z,1.2nm,0.3s,baz=146,slow=12,SNR=38
GERES GERESS Array B 17.25 333 P **Pn 05 51 57.6 +0.1**
comp=Z,1.0nm,0.3s
CALN Calern 17.38 310 *e*P **P 05 52 01.6 +1.1**
LMR La Mourre 17.44 308 *e*P **P 05 52 01.0 +0.1**
comp=Z,39nm,1.4s
LMR La Mourre 17.44 308 *e*P **P 05 52 01.0 +0.1**
comp=Z,20nm,1.4s
FRF La Foret Royal 17.45 309 *e*P **P 05 52 02.0 +0.9**
comp=Z,13nm,1.0s
FRF La Foret Royal 17.45 309 *e*P **P 05 52 02.0 +0.9**
comp=Z,6.7nm,1.0s
RETA Reutte 17.45 325 *i*Pn **P 05 52 01.5 +0.4**
comp=Z,5.5nm,0.6s,SNR=5.0
RETA Reutte 17.45 325 Pn **P 05 52 01.5 +0.4**
comp=Z,5.5nm,0.6s,SNR=5.0
TUE Stuetta 17.47 321 *e*Pn **Pn 05 51 58.9 -1.5**
comp=Z,6.5nm,0.9s
TUE Stuetta 17.47 321 *e*Pn **Pn 05 51 58.9 -1.5**
comp=Z,6.5nm,0.9s
KHC Kasperske Hory 17.53 334 *e*P **P 05 52 02.0 0.0**
KHC Kasperske Hory 17.53 334 *e*P **P 05 52 02.0 0.0**
KHC *e*pP **pP 05 52 07.7 -0.4**
KHC Kasperske Hory 17.53 334 *e*Pn **P 05 52 02.2 +0.3**
comp=Z,11nm,1.1s
KHC Kasperske Hory 17.53 334 *e*P **P 05 52 02.0 0.0**
DPC Dobruska-Polom 17.70 341 *e*P **Pn 05 52 01.3 -1.8**
DPC Dobruska-Polom 17.70 341 *e*P **Pn 05 52 01.3 -1.8**
DPC *e*pP **P 05 52 03.5 -0.4**
DPC *e*x x 05 52 18.9
DPC Dobruska-Polom 17.70 341 *e*Pn **P 05 52 03.9 +0.1**
comp=Z,21nm,0.9s
DPC Dobruska-Polom 17.70 341 *e*P **Pn 05 52 01.3 -1.8**
DPC Dobruska-Polom 17.70 341 *e*Pn **P 05 52 03.9 +0.1**
comp=Z,21nm,0.9s
WET Wettzell 17.81 332 *e*P **P 05 52 05.0 0.0**
comp=Z,9.0nm,0.9s
WET Wettzell 17.81 332 *e*P **P 05 52 05.0 0.0**
WET pmax pmax
comp=Z,9.0nm,0.9s
WET Wettzell 17.81 332 *e*P **P 05 52 05.0 0.0**
comp=Z,9.0nm,0.9s
UPC Upice 17.93 340 *e*P **Pn 05 52 05.8 0.0**
UPC Upice 17.93 340 *e*P **Pn 05 52 05.8 0.0**
UPC Upice 17.93 340 *e*P **Pn 05 52 05.8 0.0**
MBDF Montbardon 17.93 312 *e*P **P 05 52 07.3 +0.7**
comp=Z,11nm,0.9s
MBDF Montbardon 17.93 312 *e*P **P 05 52 07.3 +0.7**
comp=Z,5.7nm,0.9s
SMRF Simiane la Rot 18.33 309 *e*P **Pn 05 52 12.2 +1.3**
comp=Z,16nm,0.9s
SMRF Simiane la Rot 18.33 309 *e*P **Pn 05 52 12.2 +1.3**
comp=Z,8.2nm,0.9s
LPG La Plagne 18.35 315 *e*P **Pn 05 52 12.4 +1.1**
comp=Z,12nm,0.9s
LPG La Plagne 18.35 315 *e*P **Pn 05 52 12.4 +1.1**
comp=Z,5.8nm,0.9s
LPL La Plagne 18.37 315 *e*P **Pn 05 52 14.0 +2.5**
comp=Z,9.0nm,0.7s
LPL La Plagne 18.37 315 *e*P **Pn 05 52 14.0 +2.5**
comp=Z,4.5nm,0.7s
SENIN Lac Senin/Sane 18.52 317 *e*Pn **Pn 05 52 14.6 +1.3**
comp=Z,6.1nm,0.6s
SENIN Lac Senin/Sane 18.52 317 *e*Pn **Pn 05 52 14.6 +1.3**
comp=Z,6.1nm,0.6s
ROTZ Rotzenmuhle 18.57 332 *e*P **P 05 52 13.3 -0.1**
comp=Z,3.0nm,1.0s
ROTZ Rotzenmuhle 18.57 332 *e*P **P 05 52 13.3 -0.1**
comp=Z,3.0nm,1.0s
ORIF Oris-en-Rattie 18.58 312 *e*P **Pn 05 52 14.7 +0.8**
comp=Z,7.5nm,0.8s
ORIF *e*R
comp=Z,106nm,22.5s
ORIF Oris-en-Rattie 18.58 312 *e*P **Pn 05 52 14.7 +0.8**
comp=Z,3.8nm,0.8s
MANZ Manzenberg 18.78 333 *e*P **P 05 52 15.7 0.0**
comp=Z,4.0nm,0.8s
MANZ Manzenberg 18.78 333 *e*P **P 05 52 15.7 0.0**
comp=Z,4.0nm,0.8s
NKC Novy Kostel 18.86 334 *e*P **P 05 52 16.7 +0.2**
NKC Novy Kostel 18.86 334 *e*P **P 05 52 16.7 +0.2**
NKC Novy Kostel 18.86 334 *e*P **P 05 52 16.7 +0.2**
BRG Berggiesshubel 18.88 337 *e*P **Pn 05 52 17.5 +0.1**
comp=Z,9.2nm,1.4s
BRG Berggiesshubel 18.88 337 *e*P **Pn 05 52 17.5 +0.1**
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG Berggiesshubel 18.88 337 *e*P **Pn 05 52 17.5 +0.1**
comp=Z,9.0nm,1.4s
GRA1 Grafenberg Arr 18.90 331 *e*P **Pn 05 52 17.7 0.0**
comp=Z,7.0nm,0.8s
GRF Grafenberg Arr 18.90 331 *e*P **Pn 05 52 17.7 0.0**
comp=Z,7.0nm,0.8s
GRF Grafenberg Arr 18.90 331 *e*P **Pn 05 52 17.7 0.0**
GRF pmax pmax
comp=Z,7.0nm,0.8s
GRFO Grafenberg 18.90 331 *e*P **P 05 52 17.3 +0.3**
GRFO pmax pmax
comp=Z,15nm,1.0s
GRFO Grafenberg 18.90 331 *e*Pn **P 05 52 17.3 +0.3**
comp=Z,15nm,1.0s
GRFO Grafenberg 18.90 331 *e*P **P 05 52 17.3 +0.3**
comp=Z,15nm,1.0s
TANN Tannenbergstha 19.00 334 *e*P **P 05 52 18.5 +0.4**
comp=Z,10.0nm,0.9s
TANN Tannenbergstha 19.00 334 *e*P **P 05 52 18.5 +0.4**
comp=Z,10.0nm,0.9s
STU Stuttgart 19.10 326 *e*P **Pn 05 52 20.8 +0.7**
comp=Z,7.0nm,0.8s
STU Stuttgart 19.10 326 *e*P **P 05 52 19.7 +0.5**
STU pmax pmax
comp=Z,12nm,0.9s
STU Stuttgart 19.10 326 *e*Pn **P 05 52 19.7 +0.5**
comp=Z,12nm,0.9s
STU Stuttgart 19.10 326 *e*P **P 05 52 19.7 +0.5**
comp=Z,12nm,0.9s
BFO Black Forest 19.21 324 *e*P **Pn 05 52 22.9 +1.4**
comp=Z,7.0nm,1.0s
BFO Black Forest 19.21 324 *e*P **Pn 05 52 22.5 +1.0**
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 19.21 324 *e*P **Pn 05 52 22.5 +1.0**
comp=Z,8.1nm,0.9s
BFO Black Forest 19.21 324 *e*P **Pn 05 52 22.5 +1.0**
comp=Z,8.1nm,0.9s
VIVF Saint-Julien-l 19.30 311 *e*P **P 05 52 21.2 -0.3**
comp=Z,24nm,1.4s
VIVF Saint-Julien-l 19.30 311 *e*P **P 05 52 21.2 -0.3**
comp=Z,12nm,1.4s
CABF La Chapelle 19.35 317 *e*P **P 05 52 21.4 -0.6**
comp=Z,9.5nm,0.6s
CABF La Chapelle 19.35 317 *e*P **P 05 52 21.4 -0.6**
comp=Z,4.8nm,0.6s
LOMF Lomont 19.37 319 *e*P **Pn 05 52 24.5 +1.1**
LASF Ste Croix 19.49 308 *e*P **P 05 52 23.6 0.0**
comp=Z,14nm,0.9s
LASF Ste Croix 19.49 308 *e*P **P 05 52 23.6 0.0**
comp=Z,6.9nm,0.9s
MOX Moxa 19.50 333 *e*P **P 05 52 23.9 +0.3**

comp=Z,4.0nm,0.8s
MOX Moxa 19.50 333 *e*P **P 05 52 23.9 +0.3**
MOX pmax pmax
comp=Z,4.0nm,0.8s
MOX Moxa 19.50 333 *e*P **P 05 52 23.9 +0.3**
comp=Z,4.0nm,0.8s
CLL Collm 19.56 336 *e*P **P 05 52 24.4 +0.3**
comp=Z,3.0nm,0.8s
CLL Collm 19.56 336 *e*P **P 05 52 24.0 -0.1**
CLL Collm 19.56 336 *e*P **P 05 52 24.0 -0.1**
CLL *i*pP **Pn 05 52 26.1 +0.6**
CLL *e* 05 52 29.0
CLL *e*(PPP) 05 52 49.0
CLL Collm 19.56 336 *e*P **P 05 52 24.4 +0.3**
comp=Z,3.0nm,0.8s
SSB Saint Sauveur 19.58 312 *e*P **P 05 52 25.4 +0.8**
SSB pmax pmax
comp=Z,4.0nm,0.8s
SSB Saint Sauveur 19.58 312 *e*P **P 05 52 25.4 +0.8**
comp=Z,3.6nm,0.8s
SSB Saint Sauveur 19.58 312 *e*P **P 05 52 25.4 +0.8**
comp=Z,3.6nm,0.8s
HINF Hinteralfeld 19.64 320 *e*P **P 05 52 25.5 +0.4**
comp=Z,14nm,0.8s
HINF Hinteralfeld 19.64 320 *e*P **P 05 52 25.5 +0.4**
comp=Z,6.8nm,0.8s
ECH Echery 19.73 322 *e*P **P 05 52 26.6 +0.5**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 19.73 322 *e*P **P 05 52 26.6 +0.5**
comp=Z,6.7nm,0.9s
ECH Echery 19.73 322 *e*P **P 05 52 26.6 +0.5**
comp=Z,6.7nm,0.9s
CDF Champ du Feu 19.80 322 *e*P **P 05 52 27.5 +0.6**
comp=Z,8.4nm,0.7s
CDF Champ du Feu 19.80 322 *e*P **P 05 52 27.5 +0.6**
comp=Z,4.2nm,0.7s
VORD Divnogorie 19.83 27 *e*P Pn 05 52 33.2 +4.5
VORD pmax pmax
comp=N,150nm,0.3s
VORD pmax pmax
comp=Z,130nm,0.3s
VORD pmax pmax
comp=E,250nm,0.4s
LANF Langenberg 19.91 324 *e*P **Pn 05 52 31.0 +1.2**
VSR Storozhevoye 19.98 26 *e*P **Pn 05 52 30.2 -0.4**
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 19.98 26 *e*P **Pn 05 52 30.2 -0.4**
HAU Haudompre 20.02 320 *e*P **P 05 52 29.4 +0.1**
comp=Z,21nm,0.9s
HAU *e*R
comp=Z,103nm,19.2s
HAU Haudompre 20.02 320 *e*P **P 05 52 29.4 +0.1**
comp=Z,10nm,0.9s
SUW Suwalki 20.14 356 *e*P **P 05 52 30.4 0.0**
SUW pmax pmax
comp=Z,29nm,0.9s
SUW Suwalki 20.14 356 *e*P **P 05 52 30.4 0.0**
comp=Z,28nm,0.9s
SUW Suwalki 20.14 356 *e*P **P 05 52 30.4 0.0**
comp=Z,28nm,0.9s
UBBA Unterbreizbach 20.27 331 *e*P **P 05 52 32.9 +1.1**
comp=Z,2.0nm,0.7s
UBBA Unterbreizbach 20.27 331 *e*P **P 05 52 32.9 +1.1**
comp=Z,2.0nm,0.7s
MTLF Montolieu 20.32 304 *e*P **P 05 52 33.4 +0.8**
comp=Z,9.5nm,1.0s
MTLF Montolieu 20.32 304 *e*P **P 05 52 33.4 +0.8**
comp=Z,4.8nm,1.0s
THEF They Montfort 20.35 320 *e*P Pn 05 52 34.7 -0.3
LBL Lubilhac 20.38 310 *e*P Pn 05 52 39.5 +4.1
TNS Taunus Mts 20.48 328 *e*P Pn 05 52 37.3 +0.7
comp=Z,9.0nm,0.7s
TNS Taunus Mts 20.48 328 *e*P Pn 05 52 37.3 +0.7
TNS pmax pmax
comp=Z,9.0nm,0.7s
TAM Tamanrasset 20.65 243 *e*P Pn 05 52 40.6 +1.7
TAM pmax pmax
comp=Z,8.0nm,0.9s
TAM Tamanrasset 20.65 243 *e*P Pn 05 52 40.6 +1.7
comp=Z,7.5nm,0.9s
TAM Tamanrasset 20.65 243 *e*P Pn 05 52 40.6 +1.7
comp=Z,7.5nm,0.9s
SMF Signal de Mont 20.68 314 *e*P **P 05 52 36.3 -0.1**
comp=Z,9.2nm,0.7s
SMF Signal de Mont 20.68 314 *e*P **P 05 52 36.3 -0.1**
comp=Z,4.6nm,0.7s
PAGF Fort de Pagny 20.69 321 *e*P Pn 05 52 39.8 +0.9
comp=Z,11nm,0.8s
PYM Petit Puy Mans 20.76 311 *e*P **P 05 52 38.6 +1.2**
AGO Saint Agoulin 20.82 312 *e*P **P 05 52 39.1 +1.1**
SFTF Sexfontaines 20.84 319 *e*P Pn 05 52 41.2 +0.5
comp=Z,25nm,0.9s
VRHR Novokhopersk 20.84 30 *e*P **P 05 52 38.6 +0.5**
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,30nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR Novokhopersk 20.84 30 *e*P **P 05 52 38.6 +0.5**
comp=E,30nm,1.1s
LOR Lormes 20.99 316 *e*P **P 05 52 39.4 -0.4**
comp=E,6.0nm,0.5s,baz=138
LOR *e*R
comp=E,69nm,22.0s
LOR Lormes 20.99 316 *e*P **P 05 52 39.4 -0.4**
comp=E,3.0nm,0.5s,baz=138
CAF Calviac 21.01 308 *e*P **P 05 52 40.4 +0.3**
comp=E,17nm,1.0s
CAF Calviac 21.01 308 *e*P **P 05 52 40.4 +0.3**
comp=E,8.4nm,1.0s
MEZF Maizieres J'vi 21.01 320 *e*P **P 05 52 41.5 +1.5**
comp=E,36nm,0.9s
MEZF Maizieres J'vi 21.01 320 *e*P **P 05 52 41.5 +1.5**
comp=E,18nm,0.9s
AVF Avril sur Loir 21.04 314 *e*P **P 05 52 40.6 +0.3**
comp=E,15nm,0.9s
AVF Avril sur Loir 21.04 314 *e*P **P 05 52 40.6 +0.3**
comp=E,7.3nm,0.9s
SSF Saint Saulge 21.09 315 *e*P **P 05 52 41.4 +0.6**
comp=E,20nm,1.2s
SSF Saint Saulge 21.09 315 *e*P **P 05 52 41.4 +0.6**
comp=E,10nm,1.2s
WLF Walferdange 21.17 324 P P 05 52 45.9 +4.2
comp=Z,15nm,1.4s
WLF Walferdange 21.17 324 *e*P P 05 52 46.3 +4.6
comp=Z,11nm,0.9s
WLF Walferdange 21.17 324 *e*P **P 05 52 45.1 +3.4**
WLF pmax pmax
comp=Z,16nm,0.9s
WLF Walferdange 21.17 324 *e*P **P 05 52 45.1 +3.4**
comp=Z,16nm,0.9s
BGF Bois d'Agland 21.23 313 *e*P **P 05 52 42.4 0.0**
comp=Z,24nm,0.7s
BGF Bois d'Agland 21.23 313 *e*P **P 05 52 42.4 0.0**
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 21.50 312 *e*P **P 05 52 45.4 +0.1**
comp=Z,20nm,0.8s
TCF Toulx Ste Croi 21.50 312 *e*P **P 05 52 45.4 +0.1**
comp=Z,9.8nm,0.8s
RJF Les Rejaudoux 21.52 309 *e*P **P 05 52 45.8 +0.3**
comp=Z,14nm,0.8s
RJF *e*R
comp=Z,66nm,20.3s
RJF Les Rejaudoux 21.52 309 *e*P **P 05 52 45.8 +0.3**
comp=Z,7.2nm,0.8s
EPF Esparros 21.53 302 *e*P **P 05 52 46.7 +1.0**
comp=Z,7.6nm,0.9s
EPF Esparros 21.53 302 *e*P **P 05 52 46.7 +1.0**
comp=Z,3.8nm,0.9s
MEM Membach 21.87 325 P **P 05 52 50.6 +1.5**
comp=Z,10.0nm,1.0s
MEM Membach 21.87 325 P **P 05 52 50.6 +1.5**
comp=Z,10.0nm,1.0s
LFF La Frestale 21.88 307 *e*P **P 05 52 51.2 +1.8**
comp=Z,18nm,0.8s
LFF La Frestale 21.88 307 *e*P **P 05 52 51.2 +1.8**
comp=Z,9.2nm,0.8s
GIVF Givet 22.11 323 *e*P **P 05 52 54.0 +2.2**
comp=Z,43nm,1.1s
GIVF Givet 22.11 323 *e*P **P 05 52 54.0 +2.2**

comp=Z,22nm,1.1s
ETSF Etsaut 22.13 301 *e*P **P 05 52 51.6 -0.6**
comp=Z,9.1nm,0.7s
ETSF Etsaut 22.13 301 *e*P **P 05 52 51.6 -0.6**
comp=Z,4.6nm,0.7s
DOU Dourbes 22.22 323 P **P 05 52 53.8 +0.8**
DOU Dourbes 22.22 323 P **P 05 52 53.8 +0.8**
IBBN Ibbenburen 22.31 331 *e*P **P 05 52 54.7 +0.8**
comp=Z,14nm,1.1s
IBBN Ibbenburen 22.31 331 *e*P **P 05 52 54.7 +0.8**
comp=Z,14nm,1.1s
BAIF Baives 22.40 322 *e*P **P 05 52 56.0 +1.2**
comp=Z,12nm,0.6s
BAIF Baives 22.40 322 *e*P **P 05 52 56.0 +1.2**
comp=Z,6.2nm,0.6s
OBN Obninsk 22.58 17 *e*P **P 05 52 57.7 +1.0**
OBN *i* 05 53 20.8
OBN *i* S **S 05 57 04.7 +1.9**
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 22.58 17 *e*P **P 05 52 57.7 +1.0**
comp=Z,15nm,1.2s
SJPF Ste Jean 22.66 302 *e*P **P 05 52 59.7 +2.0**
comp=Z,16nm,0.8s
SJPF Ste Jean 22.66 302 *e*P **P 05 52 59.7 +2.0**
comp=Z,7.8nm,0.8s
MFF Saint Martin d 23.10 311 *e*P **P 05 53 02.4 +0.1**
comp=Z,20nm,0.8s
MFF Saint Martin d 23.10 311 *e*P **P 05 53 02.4 +0.1**
comp=Z,10nm,0.8s
LDF La Druitiere 23.97 315 *e*P **P 05 53 10.4 -0.3**
comp=Z,20nm,0.7s
LDF La Druitiere 23.97 315 *e*P **P 05 53 10.4 -0.3**
comp=Z,9.9nm,0.7s
ESDC Sonseca Array 24.11 292 P **P 05 53 13.0 +0.8**
ESDC Sonseca Array 24.11 292 P **P 05 53 13.0 +0.8**
comp=Z,3.1nm,0.6s,baz=83,slow=9.4,SNR=30
ESDC Sonseca Array 24.11 292 P **P 05 53 13.0 +0.8**
ESLA Sonseca Array 24.11 292 *e*P **P 05 53 13.5 +1.3**
comp=Z,1.2nm,0.8s
ESLA Sonseca Array 24.11 292 *e*P **P 05 53 13.5 +1.3**
comp=Z,1.2nm,0.8s
FLN La Foliniere 24.26 315 *e*P **P 05 53 12.9 -0.5**
comp=Z,35nm,0.8s,baz=125
FLN *e*R
comp=Z,59nm,21.8s
FLN La Foliniere 24.26 315 *e*P **P 05 53 12.9 -0.5**
comp=Z,18nm,0.8s,baz=125
GRR Gorron 24.31 314 *e*P **P 05 53 14.2 +0.4**
comp=Z,47nm,1.2s
GRR Gorron 24.31 314 *e*P **P 05 53 14.2 +0.4**
comp=Z,24nm,1.2s
MDT Midelt 25.02 276 P **P 05 53 22.1 +1.4**
MDT Midelt 25.02 276 P **P 05 53 22.1 +1.4**
comp=Z,4.1nm,0.8s,baz=78,slow=12,SNR=7.4
MDT Midelt 25.02 276 P **P 05 53 22.1 +1.4**
SGMF Saint Gilles 25.27 313 *e*P **P 05 53 22.2 -0.4**
comp=Z,38nm,1.0s
SGMF Saint Gilles 25.27 313 *e*P **P 05 53 22.2 -0.4**
comp=Z,19nm,1.0s
QUIF Quistinic 25.51 312 *e*P **P 05 53 25.6 +0.8**
comp=Z,13nm,0.5s
QUIF Quistinic 25.51 312 *e*P **P 05 53 25.6 +0.8**
comp=Z,6.4nm,0.5s
ROSF Rostrenen 25.74 313 *e*P **P 05 53 26.3 -0.6**
comp=Z,30nm,1.1s
ROSF Rostrenen 25.74 313 *e*P **P 05 53 26.3 -0.6**
comp=Z,15nm,1.1s
PBRG Braganca 26.42 297 *e*P **P 05 53 33.5 +0.3**
comp=Z,16nm,1.3s
PBRG Braganca 26.42 297 *e*P **P 05 53 33.5 +0.3**
comp=Z,16nm,1.3s
PBAR Barrancos 26.46 289 *e*P **P 05 53 33.9 +0.4**
comp=Z,21nm,2.2s
PBAR Barrancos 26.46 289 *e*P **P 05 53 33.9 +0.4**
comp=Z,21nm,2.2s
MVO Moncorvo 26.57 295 *e*P **P 05 53 36.8 +2.3**
comp=Z,19nm,1.9s
MVO Moncorvo 26.57 295 *e*P **P 05 53 36.8 +2.3**
comp=Z,19nm,1.9s
PMRV Marv??o 26.75 291 *e*P **P 05 53 36.5 +0.4**
comp=Z,24nm,1.7s
PMRV Marv??o 26.75 291 *e*P **P 05 53 36.5 +0.4**
comp=Z,24nm,1.7s
PESTR Estremoz 26.89 290 *e*P **P 05 53 37.7 +0.3**
comp=Z,16nm,2.2s
PESTR Estremoz 26.89 290 *e*P **P 05 53 37.7 +0.3**
comp=Z,16nm,2.2s
PVAQ Vaqueiros 27.02 287 *e*P **P 05 53 39.4 +0.9**
comp=Z,35nm,1.8s
PVAQ Vaqueiros 27.02 287 *e*P **P 05 53 39.4 +0.9**
comp=Z,35nm,1.8s
PBEJ Beja 27.12 288 *e*P **P 05 53 41.5 +2.1**
comp=Z,27nm,1.9s
PBEJ Beja 27.12 288 *e*P **P 05 53 41.5 +2.1**
comp=Z,27nm,1.9s
POLO Lamas de Olo 27.16 296 *e*P **P 05 53 40.6 +0.7**
comp=Z,7.6nm,1.7s
POLO Lamas de Olo 27.16 296 *e*P **P 05 53 40.6 +0.7**
comp=Z,7.6nm,1.7s
PVIS Viseu 27.19 294 *e*P **P 05 53 40.5 +0.4**
comp=Z,15nm,1.8s
PVIS Viseu 27.19 294 *e*P **P 05 53 40.5 +0.4**
comp=Z,15nm,1.8s
EVO Evora 27.22 289 *e*P **P 05 53 39.3 -1.0**
comp=Z,9.7nm,0.8s
EVO *e*R
comp=Z,61nm,20.8s
EVO Evora 27.22 289 *e*P **P 05 53 41.4 +1.1**
comp=Z,21nm,1.6s
EVO Evora 27.22 289 *e*P **P 05 53 41.4 +1.1**
comp=Z,21nm,1.6s
HFS Hagfors 27.31 347 P **P 05 53 40.2 -0.7**
HFS Hagfors 27.31 347 P **P 05 53 40.2 -0.7**
comp=Z,4.7nm,0.8s,baz=148,slow=8.7,SNR=7.7
HFS Hagfors 27.31 347 P **P 05 53 40.2 -0.7**
comp=Z,5.0nm,0.8s
FINES FINESS Array B 27.53 1 P **P 05 53 40.8 -2.0**
FINES FINESS Array B 27.53 1 P **P 05 53 40.8 -2.0**
comp=Z,3.0nm,0.8s,baz=165,slow=11,SNR=7.4
FINES FINESS Array B 27.53 1 P **P 05 53 40.8 -2.0**
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 28.63 346 P **P 05 53 52.5 -0.2**
comp=Z,2.6nm,0.9s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.63 346 P **P 05 53 52.5 -0.2**
comp=Z,2.6nm,0.9s,baz=156,slow=9.0,SNR=4.7
NOA NORSAR Array B 28.63 346 P **P 05 53 51.0 -1.7**
NOA NORSAR Array B 28.63 346 P **P 05 53 51.0 -1.7**
comp=Z,3.0nm,1.0s,baz=165,slow=9.5,SNR=5.7
NOA NORSAR Array B 28.63 346 P **P 05 53 51.0 -1.7**
comp=Z,2.0nm,0.7s
AKTK Aktyubinsk 28.97 45 P **P 05 53 55.7 -0.1**
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 28.97 45 P **P 05 53 55.7 -0.1**
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 28.97 45 P **P 05 53 55.7 -0.1**
AKTO Aktyubinsk 28.97 45 P **P 05 53 55.7 -0.1**
comp=Z,1.1nm,0.6s,baz=282,slow=11,SNR=4.2
AKTO Aktyubinsk 28.97 45 P **P 05 53 55.7 -0.1**
EKA Eskdalemuir Ar 29.15 326 P **P 05 53 56.4 -0.9**
EKA Eskdalemuir Ar 29.15 326 P **P 05 53 56.4 -0.9**
comp=Z,2.3nm,0.8s,baz=110,slow=12,SNR=5.9
EKA Eskdalemuir Ar 29.15 326 P **P 05 53 56.4 -0.9**
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 29.74 49 *e*P **P 05 54 03.2 +0.6**
comp=Z,0.6nm,0.4s
ABKAR Akbulak array 29.74 49 *e*P **P 05 54 03.2 +0.6**
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 29.85 232 P **P 05 54 04.8 +0.9**
TORD Torodi Ar. Bea 29.85 232 P **P 05 54 04.8 +0.9**
comp=Z,1.1nm,0.7s,baz=35,slow=8.0,SNR=9.5
TORD LR LR 06 08 33.3
comp=Z,71nm,18.4s,baz=60,slow=41
TORD Torodi Ar. Bea 29.85 232 P **P 05 54 04.8 +0.9**
ARU Arti 31.95 35 *d i*P **P 05 54 21.9 -0.1**
ARU S **S 05 59 35.0 +3.1**
ARU SS **SnSn 06 01 19.1 -2.0**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 31.95 35 *i*P **P 05 54 21.9 -0.1**
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 35.66 0 P **P 05 54 51.5 -2.5**
ARCES ARCESS Array B 35.66 0 P **P 05 54 51.5 -2.5**
comp=Z,1.9nm,0.7s,baz=173,slow=11,SNR=4.4

KKAR Karatay Array 36.12 62 *e*P **P 05 54 58.8 +0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 36.12 62 *e*P **P 05 54 58.8 +0.4**
comp=Z,1.8nm,0.8s
KKAR Karatay Array 36.12 62 *e*P **P 05 54 58.8 +0.4**
comp=Z,1.8nm,0.8s
BRVK Borovoye 37.03 45 *e*P **P 05 55 07.7 +1.7**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 37.03 45 *e*P **P 05 55 07.7 +1.7**
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 37.08 45 P **P 05 55 07.5 +1.0**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 37.08 45 P **P 05 55 07.5 +1.0**
BVAR Borovoye Array 37.08 45 P **P 05 55 07.5 +1.0**
comp=Z,0.9nm,0.7s,baz=253,slow=4.5,SNR=5.7
BVAR Borovoye Array 37.08 45 P **P 05 55 07.5 +1.0**
comp=Z,1.0nm,0.7s
DBIC Dimbokro 38.95 233 LR LR 06 13 10.8
comp=Z,75nm,18.7s,baz=60,slow=39
KURBB Kurchatov Arra 41.77 50 P **P 05 55 45.1 -0.4**
comp=Z,4.5nm,0.9s,baz=277,slow=8.8,SNR=23
KURK Kurchatov 41.83 50 P **P 05 55 45.1 -1.0**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 41.83 50 P **P 05 55 45.1 -1.0**
KURK Kurchatov 41.83 50 P **P 05 55 45.1 -1.0**
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 44.32 55 *e*P **P 05 56 06.8 +0.5**
MK31 Makanchi Array 44.32 55 *e*P **P 05 56 06.8 +0.5**
MK31 Makanchi Array 44.32 55 *e*P **P 05 56 06.8 +0.5**
MKAR Makanchi Array 44.32 55 *c e*P **P 05 56 06.6 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.32 55 P **P 05 56 06.7 +0.4**
MKAR Makanchi Array 44.32 55 P **P 05 56 06.7 +0.4**
comp=Z,2.0nm,0.5s,baz=277,slow=6.4,SNR=28
MKAR Makanchi Array 44.32 55 P **P 05 56 06.7 +0.4**
SPITS Spitsbergen Ar 44.52 357 P **P 05 56 06.3 -1.2**
SPITS Spitsbergen Ar 44.52 357 P **P 05 56 06.3 -1.2**
comp=Z,7.9nm,1.0s,baz=143,slow=10,SNR=5.4
SPITS Spitsbergen Ar 44.52 357 P **P 05 56 06.3 -1.2**
comp=Z,8.0nm,1.0s
NVS Novosibirsk 44.84 44 *e*P **P 05 56 10.4 +0.1**
NVS Novosibirsk 44.84 44 *e*P **P 05 56 10.4 +0.1**
ZAA0 Zalesovo Array 45.74 45 *e*P **P 05 56 17.2 -0.2**
ZAA0 Zalesovo Array 45.74 45 *e*P **P 05 56 17.2 -0.2**
ZALV Zalesovo Beam 45.74 45 *i*P **P 05 56 17.5 +0.1**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 45.74 45 P **P 05 56 17.5 +0.1**
ZALV Zalesovo Beam 45.74 45 P **P 05 56 17.5 +0.1**
comp=Z,1.6nm,0.5s,baz=263,slow=9.4,SNR=11
ZALV Zalesovo Beam 45.74 45 *i*P **P 05 56 17.5 +0.1**
comp=Z,2.0nm,0.5s
ZAK Zakamensk 57.43 48 ⇑*i*P **P 05 57 46.1 +1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK Zakamensk 57.43 48 *i*P **P 05 57 46.1 +1.0**
comp=Z,3.0nm,1.0s
SONM Songino Array 60.14 50 P **P 05 58 04.7 +0.7**
SONM Songino Array 60.14 50 P **P 05 58 04.7 +0.7**
comp=Z,1.1nm,0.8s,baz=276,slow=8.6,SNR=8.5
SONM Songino Array 60.14 50 P **P 05 58 04.7 +0.7**
comp=Z,1.0nm,0.6s
BOSA Boshof 62.20 180 P P 05 58 21.3 +3.3
BOSA Boshof 62.20 180 P P 05 58 21.3 +3.3
comp=Z,4.7nm,0.9s,baz=27,slow=9.0,SNR=2.8
BOSA Boshof 62.20 180 P P 05 58 21.3 +3.3
comp=Z,5.0nm,0.9s
SCHQ Schefferville 64.23 320 P **P 05 58 31.8 +0.7**
SCHQ Schefferville 64.23 320 P **P 05 58 31.8 +0.7**
comp=Z,7.4nm,0.6s,baz=77,slow=5.3,SNR=15
SCHQ Schefferville 64.23 320 P **P 05 58 31.8 +0.7**
CD2 Chengdu 64.67 69 *e*P **P 05 58 35.4 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
HHC Hu-ho-hao-te 66.18 56 *e*P **P 05 58 43.6 -0.5**
HHC pP **pP 05 58 49.9 -1.3**
HHC sP **sP 05 58 52.3 -1.6**
HHC PcP **PcP 05 59 16.3 +2.0**
HHC PP **PP 06 01 12.3 +2.7**
HHC ScP 06 03 17.5
HHC S **S 06 07 28.8 -3.0**
HHC ScS **SKSac 06 08 36.9 -2.3**
HHC SS **SS 06 11 45.8 -1.5**
HHC pmax pmax
comp=Z,160nm,6.2s
HHC LR LR
comp=Z,190nm,16.7s
CMAR Chiang Mai Arr 66.55 83 P **P 05 58 47.1 +0.4**
CMAR Chiang Mai Arr 66.55 83 P **P 05 58 47.1 +0.4**
comp=Z,0.4nm,0.3s,baz=289,slow=5.8,SNR=4.2
CMAR Chiang Mai Arr 66.55 83 P **P 05 58 47.1 +0.4**
comp=Z,1.0nm,0.3s
GYA Guiyang 68.96 72 *e*P **P 05 59 03.4 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Arra 77.59 45 P **P 05 59 52.4 0.0**
comp=Z,1.5nm,0.6s,baz=290,slow=3.5,SNR=5.2
YKA Yellowknife Ar 78.67 342 P **P 05 59 58.1 +0.1**
YKA Yellowknife Ar 78.67 342 P **P 05 59 58.1 +0.1**
comp=Z,1.4nm,0.5s,baz=32,slow=5.5,SNR=11
YKA Yellowknife Ar 78.67 342 P **P 05 59 58.2 +0.1**
KSAR Wonju Array Be 78.88 52 P **P 06 00 00.3 +0.7**
KSAR Wonju Array Be 78.88 52 P **P 06 00 00.3 +0.7**
KSRS Korea Array 78.89 52 P **P 06 00 00.3 +0.6**
comp=Z,1.0nm,0.8s,baz=305,slow=4.4,SNR=4.7
KSRS Korea Array 78.89 52 P **P 06 00 00.3 +0.6**
comp=Z,1.0nm,0.8s
COLD Coldfoot 79.10 358 *e*P **P 06 00 01.3 +0.9**
comp=Z,3.4nm,1.0s
COLD Coldfoot 79.10 358 *e*P **P 06 00 01.3 +0.9**
comp=Z,3.4nm,1.0s
IMA2 Indian Mountai 80.32 360 *e*P **P 06 00 08.1 +1.0**
IMA2 Indian Mountai 80.32 360 *e*P **P 06 00 08.1 +1.0**
EGAK Eagle 81.05 354 *e*P **P 06 00 11.6 +0.7**
comp=Z,2.5nm,0.8s
EGAK Eagle 81.05 354 *e*P **P 06 00 11.6 +0.7**
comp=Z,2.5nm,0.8s
ILAR Eielson Array 81.44 357 P **P 06 00 14.3 +1.3**
ILAR Eielson Array 81.44 357 P **P 06 00 14.3 +1.3**
comp=Z,1.1nm,0.6s,baz=355,slow=3.7,SNR=15
ILAR Eielson Array 81.44 357 P **P 06 00 14.3 +1.3**
comp=Z,1.0nm,0.7s
DAWY Dawson 81.59 353 *e*P **P 06 00 14.9 +1.0**
DAWY Dawson 81.59 353 *e*P **P 06 00 14.9 +1.0**
TRF Thorofare Moun 82.89 358 *e*P **P 06 00 20.7 -0.1**
comp=Z,5.1nm,0.9s
TRF Thorofare Moun 82.89 358 *e*P **P 06 00 20.7 -0.1**
comp=Z,5.1nm,0.9s
PPLA Purkeypile 83.49 359 *e*P **P 06 00 24.8 +0.9**
comp=Z,6.6nm,0.7s
PPLA Purkeypile 83.49 359 *e*P **P 06 00 24.8 +0.9**
comp=Z,6.6nm,0.7s
MJAR Matsushiro Arr 86.02 48 P **P 06 00 37.2 +0.2**
MJAR Matsushiro Arr 86.02 48 P **P 06 00 37.2 +0.2**
comp=Z,1.0nm,0.9s,baz=316,slow=7.0,SNR=4.0
MJAR Matsushiro Arr 86.02 48 P **P 06 00 37.2 +0.2**
comp=Z,1.0nm,0.9s
EDM Edmonton 86.09 337 *e*P **P 06 00 37.4 +0.4**
EDM Edmonton 86.09 337 *e*P **P 06 00 37.4 +0.4**
EDM Edmonton 86.09 337 *e*P **P 06 00 37.4 +0.4**
ECSD EROS Data Cent 86.36 322 *e*P **P 06 00 39.1 +0.6**
comp=Z,2.2nm,0.6s
ECSD *e*PP **PP 06 03 54.8 -4.3**
ECSD EROS Data Cent 86.36 322 *e*P **P 06 00 39.1 +0.6**
comp=Z,2.2nm,0.6s
LRAL Lakeview Retre 87.95 309 *e*P **P 06 00 47.5 +1.1**
comp=Z,5.4nm,0.9s
LRAL Lakeview Retre 87.95 309 *e*P **P 06 00 47.5 +1.1**
comp=Z,5.4nm,0.9s
SWMT Swartz Lake 91.11 334 P **P 06 01 03.1 +2.1**
comp=Z,3.3nm,1.0s
SWMT Swartz Lake 91.11 334 P **P 06 01 03.2 +2.1**
comp=Z,3.3nm,1.0s
PDAR Pinedale Array 93.24 329 P P **06 01 10.8 -0.4**
PDAR Pinedale Array 93.24 329 P P **06 01 10.8 -0.4**
comp=Z,0.5nm,0.8s,baz=44,slow=2.7,SNR=5.1
PDAR Pinedale Array 93.24 329 P P **06 01 10.8 -0.4**
QSPA South Pole Qui 123.79 180 PKP **PKPdf 06 06 54.4 +1.1**
QSPA South Pole Qui 123.79 180 PKP **PKPdf 06 06 54.3 +1.1**
comp=Z,0.9nm,0.9s,baz=232,slow=2.8,SNR=3.3
QSPA South Pole Qui 123.79 180 PKIKP **PKPdf 06 06 54.3 +1.1**

ROM 16 05:48:06.1±0.2, 43°06N×12°90E, h10km, Md1.4/3, Ml1.1/2, Error ellipse: s-maj=2.2km s-min=1.0km az=154.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.06**	**173**	Pg	Pg	05 48 08.7	+0.4
CESI				Sg	Sg	05 48 10.3	+0.3
	16nm,0.2s						
FDMO	**Fiordimonte**	**0.14**	**101**	Pg	Pg	05 48 09.9	+0.5
FDMO				Sg	Sg	05 48 12.7	+0.9
	63nm,0.1s						
NRCA	**Norcia**	**0.28**	**145**	Pg	Pg	05 48 12.3	+0.4
NRCA				Sg	Sb	05 48 17.1	-1.1
	16nm,0.1s						

IDC 16 05:49:55.6±5.2, 13°57N×92°81E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/28, mbtmp3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/40, Error ellipse: s-maj=115.2km s-min=45.9km az=107.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.64**	**50**	Pn	Pn	05 51 48.4	+0.2
	baz=243,slow=14,SNR=2.5						
CMAR				Sn	Sn	05 53 01.6	-14
	0.8nm,0.3s,baz=237,slow=26,SNR=6.7						
MKAR	**Makanchi Array**	**34.28**	**347**	LR	LR	06 13 15.5	
	comp=Z,34nm,21.2s,baz=76,slow=41						
FITZ	**Fitzroy Crossi**	**45.16**	**133**	P	P	05 58 14.1	-0.3
	3.2nm,1.1s,baz=297,slow=9.0,SNR=8.3						
WRA	**Warramunga Arr**	**52.72**	**128**	P	P	05 59 11.7	-0.7
	0.4nm,0.7s,baz=314,slow=8.3,SNR=8.4						
WRA				PcP	PcP	06 00 22.4	+0.1
	0.8nm,1.1s,baz=319,slow=3.0,SNR=4.7						
ASAR	**Alice Springs**	**54.63**	**132**	P	P	05 59 26.8	+0.3
	0.5nm,0.4s,baz=309,slow=6.9,SNR=14						

IDC 16 06:04:38.9±5.9, 4°67S×144°66E, h90km±61km, mb3.3/5, mb1 3.4/7, mb1mx3.2/19, mbtmp3.3/7, ML3.2/2, Error ellipse: s-maj=43.8km s-min=25.9km az=138.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.32**	**152**	P	Pn	06 05 57.6	+1.7
	2.7nm,0.3s,baz=331,slow=10,SNR=5.7						
PMG				S	Sn	06 06 55.8	-0.1
	3.3nm,0.3s,baz=124,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**18.21**	**213**	P	P	06 08 44.8	-0.1
	0.1nm,0.3s,baz=34,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**21.55**	**208**	P	P	06 09 20.8	-0.4
	0.5nm,0.8s,baz=36,slow=11,SNR=5.9						
FITZ	**Fitzroy Crossi**	**22.89**	**233**	P	P	06 09 35.0	-0.3
	1.1nm,0.5s,baz=49,slow=13,SNR=11						
MKAR	**Makanchi Array**	**75.00**	**321**	P	P	06 16 11.1	+0.4
	0.7nm,0.7s,baz=99,slow=7.4,SNR=9.3						
ZALV	**Zalesovo Beam**	**76.66**	**328**	P	P	06 16 19.3	-0.6
	0.4nm,0.4s,baz=126,slow=7.3,SNR=2.5						
ILAR	**Eielson Array**	**85.19**	**24**	P	P	06 17 04.5	-0.5
	0.4nm,0.6s,baz=257,slow=4.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**142.50**	**285**	PKhKP	PKPpre	06 23 57.1	
	1.1nm,1.2s,baz=69,slow=4.8,SNR=3.2						
TORD				PKP	PKiKP	06 24 04.3	-1.2
	0.2nm,0.5s,baz=94,slow=2.5,SNR=3.1						
DBIC	**Dimbokro**	**149.60**	**275**	PKPbc	PKPbc	06 24 19.6	+0.4
	4.9nm,0.7s,baz=96,slow=2.3,SNR=6.2						

*ISCJB **16** 06:28:03.5±1.0, 14°15N±0°08×91°87W±0°07, h69km±9km, mb3.7/5, Error ellipse: s-maj=14.6km s-min=7.9km az=36.8*
*CASC **16** 06:28:03.4±1.8, 13°85N×91°80W, h20km±17km, MD3.6*
*IDC **16** 06:28:08.0±3.9, 14°31N×91°79W, h84km±38km, mb3.4/5, mb1 3.8/9, mb1mx3.6/26, mbtmp3.6/9, MS2.7/2, Ms1 2.7/2, ms1mx2.5/25, Error ellipse: s-maj=38.9km s-min=16.5km az=59.0*

ISC 16 06:28:04.0±1.6, 14°05N±0°10×91°9W±0°1, h62km±13km, n24, σ1°16/30, mb3.9/5, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.37**	**43**	‖*i*P	Pn	06 28 14.4	-0.5
FUG	**Fuego 3**	**1.10**	**69**	‖*e*P	Pn	06 28 23.4	-0.2
PCG	**Pacaya**	**1.30**	**74**	*e*P	Pn	06 28 26.7	+0.4
NBG	**Las Nubes**	**1.60**	**70**	*e*P	Pn	06 28 32.0	+1.7
RBDL	**Robledal**	**2.15**	**88**	*e*P	Pn	06 28 37.2	-0.4
RBDL				*e*S	Sn	06 29 03.1	-0.3
RTR	**El Retiro**	**2.19**	**94**	*e*P	Pn	06 28 37.8	-0.5
RTR				*e*S	Sn	06 29 04.2	-0.3
SBLS	**San Blas**	**2.22**	**95**	*e*P	Pn	06 28 38.0	-0.7
SBLS				*e*S	Sn	06 29 05.8	+0.5
SNJE	**San Jose**	**2.23**	**94**	*e*P	Pn	06 28 38.4	-0.4
SNJE				*e*S	Sn	06 29 05.3	-0.2
MRL	**Marmol**	**2.37**	**64**	*e*P	Pn	06 28 42.4	+1.7
BOQS	**Boqueron**	**2.56**	**97**	*e*P	Pn	06 28 42.5	-0.8
LFRS	**El Faro**	**2.79**	**98**	*e*P	Pn	06 28 44.9	-1.5
LFRS				*e*S	Sn	06 29 18.0	-0.9
VSM	**San Miguel**	**3.58**	**99**	*e*P	Pn	06 28 56.7	-0.6
CNCH	**Conchagua**	**4.03**	**100**	*e*P	Pn	06 29 02.4	-0.9
COPN	**Copaltepe**	**5.49**	**109**	*e*P	Pn	06 29 22.1	-1.2
TEIG	**Tepich**	**7.06**	**29**	P	Pn	06 29 45.4	+0.7
	19nm,0.3s,baz=236,slow=1.8,SNR=110						
TEIG				S	Sn	06 31 01.5	-1.9
	baz=137,slow=19,SNR=1.7						
TEIG				LR	LR	06 32 02.0	
	comp=Z,60nm,21.7s,baz=276,slow=35						
JTS	**JuntasAbangare**	**7.75**	**118**	P	Pn	06 29 56.9	+2.6
	0.5nm,0.3s,baz=329,slow=11,SNR=4.8						
JTS				S	Sn	06 31 26.6	+6.0
	0.3nm,0.3s,baz=345,slow=20,SNR=1.7						
JTS				LR	LR	06 33 11.1	
	comp=Z,70nm,20.9s,baz=296,slow=39						
TXAR	**Lajitas Array**	**18.71**	**326**	P	P	06 32 18.4	+0.8
	0.1nm,0.3s,baz=153,slow=13,SNR=18						
ROSC	**El Rosal**	**19.57**	**116**	P	Pn	06 32 30.9	+1.6
	0.4nm,0.3s,baz=261,slow=19,SNR=4.5						
ANMO	**Albuquerque**	**24.61**	**330**	P	P	06 33 19.7	+0.9
	2.6nm,0.7s,baz=158,slow=12,SNR=18						
PDAR	**Pinedale Array**	**32.42**	**335**	P	P	06 34 28.2	-0.1
	0.2nm,0.5s,baz=150,slow=7.3,SNR=2.7						
NVAR	**Mina Array Bea**	**33.70**	**321**	P	P	06 34 41.0	+1.5
	1.1nm,0.6s,baz=133,slow=8.0,SNR=12						
YKA	**Yellowknife Ar**	**51.00**	**347**	P	P	06 36 57.6	-1.7
	1.1nm,0.6s,baz=152,slow=7.3,SNR=5.7						
ILAR	**Eielson Array**	**62.84**	**337**	P	P	06 38 22.4	-0.7
	1.0nm,1.0s,baz=132,slow=4.0,SNR=7.1						
CMAR	**Chiang Mai Arr**	**145.98**	**341**	PKPbc	PKPab	06 47 38.6	+0.4
	2.8nm,0.7s,baz=336,slow=3.2,SNR=11						

*IDC **16** 06:32:43.7±1.3, 9°31S×113°00E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/23, mbtmp4.1/10, MS3.5/4, Ms1 3.5/4, ms1mx2.9/40, Error ellipse: s-maj=54.5km s-min=18.1km az=47.0*
*AUST **16** 06:32:45.6, 8°95S×113°41E, h100km*
*ISCJB **16** 06:32:47.0±0.5, 9°74S±0°05×112°80E±0°05, h36km, mb4.1/10, MS3.6/2, Error ellipse: s-maj=8.6km s-min=5.4km az=140.1*
*DJA **16** 06:32:49.4±1.0, 9°S±6°×11°3E±°, h14km±8km, M4.2/10, MLv4.2/10*

ISC 16 06:32:47.7±0.7, 9°70S±0°07×112°89E±0°06, h36km, n32, σ1°75/27, mb4.1/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.52**	**21**	P	Pn	06 33 11.4	-0.9
GMJI				S	Sn	06 33 29.8	-1.0
KRKI	**Karangkates**	**1.59**	**344**	P	Pn	06 33 13.3	0.0
PWJI	**Pagerwojo**	**1.98**	**327**	P	Pn	06 33 19.0	+0.3
PWJI				S	Sn	06 33 43.0	+0.7
BLJI	**Banyuglugur**	**2.06**	**20**	P	Pn	06 33 21.9	+2.1
BYJI	**Banyuwangi**	**2.07**	**44**	P	Pn	06 33 23.6	+3.8
SJI	**Sawahan**	**2.25**	**330**	P	Pn	06 33 23.8	+1.4
PCJI	**Pacitan**	**2.26**	**311**	P	Pn	06 33 23.9	+1.4
SRBI	**Singaraja**	**2.80**	**55**	P	Pn	06 33 32.5	+2.6
KMMI	**Kalianget**	**2.84**	**22**	P	Pn	06 33 33.3	+2.8
UGM	**Wanagama**	**2.94**	**307**	P	Pn	06 33 33.5	+1.6

UGM	**Wanagama**	**2.94 307**	P	**Pn**	**06 33 33.4 +1.5**
	baz=3.0,SNR=8.3				
BJII	**Banjamegara**	**3.93 307**	P	Pn	06 33 51.7 +6.1
BMNI	**Bima**	**5.84 79**	P	Pn	06 34 19.8 +8.0
MNAI	**Manna**	**11.20 298**	P	**Pn**	**06 35 26.4 +1.1**
	baz=11,SNR=3.2				
FITZ	**Fitzroy Crossi**	**14.92 125**	LR	LR	06 42 09.5
	comp=Z,80nm,20.4s,baz=334,slow=38				
FITZ	**Fitzroy Crossi**	**14.92 125**	P	**Pn**	**06 36 14.4 -1.6**
	baz=15,SNR=3.4				
KNRA	**Kununurra**	**16.58 113**	S	**Sn**	**06 39 42.4 +1.9**
	baz=16,SNR=3.4				
MEEK	**Meekatharra**	**17.70 163**	P	**P**	**06 36 53.4 +1.4**
	baz=18,SNR=5.3				
MEEK			S	**Sn**	**06 40 03.0 -4.6**
	baz=18,SNR=5.2				
PSI	**Prapat**	**18.65 311**	LR	LR	06 43 25.6
	comp=Z,102nm,21.5s,baz=319,slow=35				
WRA	**Warramunga Arr**	**23.07 119**	P	**P**	**06 37 52.3 +2.0**
	0.6nm,0.5s,baz=292,slow=11,SNR=13				
NWAO	**Narrogin (SRO)**	**23.46 171**	LR	LR	06 46 09.7
	comp=Z,187nm,20.1s,baz=221,slow=34				
ASAR	**Alice Springs**	**24.40 127**	P	**P**	**06 38 05.5 +2.6**
	1.7nm,0.7s,baz=305,slow=8.8,SNR=30				
CMAR	**Chiang Mai Arr**	**31.18 334**	P	**P**	**06 39 03.6 +0.1**
	1.2nm,0.4s,baz=165,slow=8.4,SNR=9.0				
MJAR	**Matsushiro Arr**	**51.80 26**	P	**P**	**06 41 49.9 -2.2**
	1.4nm,0.7s,baz=208,slow=8.3,SNR=9.7				
SONM	**Songino Array**	**57.57 355**	P	**P**	**06 42 33.3 -0.5**
	2.1nm,0.6s,baz=178,slow=8.0,SNR=19				
MKAR	**Makanchi Array**	**62.52 337**	P	**P**	**06 43 07.0 -0.7**
	3.4nm,0.4s,baz=149,slow=7.4,SNR=67				
KURBB	**Kurchatov Arra**	**67.09 337**	P	**P**	**06 43 36.1 -1.2**
	0.5nm,0.3s,baz=160,slow=5.6,SNR=4.4				
ZALV	**Zalesovo Beam**	**67.72 343**	P	**P**	**06 43 40.0 -1.3**
	3.3nm,0.6s,baz=155,slow=4.1,SNR=14				
ATD	**Arta Tunnel**	**72.75 285**	LR	LR	07 14 15.7
	comp=Z,45nm,19.1s,baz=220,slow=34				
AKTO	**Aktyubinsk**	**76.47 327**	P	**P**	**06 44 33.9 +0.2**
	2.3nm,0.6s,baz=79,slow=4.9,SNR=8.2				
BRTR	**Keskin Array B**	**87.98 311**	P	**P**	**06 45 34.7 +0.3**
	0.6nm,0.8s,baz=134,slow=6.2,SNR=3.4				
TKL	**Tuckaleechee C**	**150.03 28**	PKPbc	**PKPbc**	**06 52 36.0 +1.1**
	1.6nm,0.5s,baz=243,slow=11,SNR=6.0				

IDC 16 06:40:56.9±6.2, 6°.22S×147°.93E, h92km±63km, mb3.6/3, mb1 3.9/5, mb1mx3.4/19, mbtmp3.7/5, ML3.6/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/31, Error ellipse: s-maj=78.6km s-min=30.0km az=139.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.26 194**		P	Pn	06 41 46.9	+0.9
	7.0nm,0.3s,baz=356,slow=6.7,SNR=15						
PMG				S	Sn	06 42 24.0	+0.1
	25nm,0.3s,baz=200,slow=22,SNR=11						
WRA	**Warramunga Arr**	**18.99 223**		P	P	06 45 10.9	-0.5
	0.6nm,0.3s,baz=45,slow=11,SNR=34						
ASAR	**Alice Springs**	**21.98 216**		P	P	06 45 44.4	+0.8
	1.7nm,0.6s,baz=50,slow=8.9,SNR=24						
FITZ	**Fitzroy Crossi**	**24.75 240**		P	P	06 46 10.3	+0.2
	8.8nm,0.5s,baz=63,slow=7.2,SNR=29						
RAO	**Raoul Island**	**39.53 130**		LR	LR	07 01 02.1	
	comp=Z,116nm,19.2s,baz=218,slow=30						
ILAR	**Eielson Array**	**85.32 23**		P	P	06 53 23.1	-0.3
	0.2nm,0.6s,baz=247,slow=4.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**146.04 284**		PKPbc	PKPdf	07 00 26.4	+0.1
	0.3nm,0.5s,baz=78,slow=3.1,SNR=4.9						

*IDC **16** 06:43:03.2±2.8, 9°.50S×112°.80E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/22, mbtmp4.1/7, MS3.4/2, Ms1 3.3/2, ms1mx2.7/36, Error ellipse: s-maj=151.2km s-min=19.4km az=49.0*
*ISCJB **16** 06:43:08.5±0.9, 9°.68S±0°.07×112°.83E±0°.06, h36km, mb3.9/7, MS3.6/1, Error ellipse: s-maj=10.8km s-min=7.9km az=32.4*
*DJA **16** 06:43:11.2±1.4, 9°.S±6°.×11°.3E±°, h29km±14km, M4.1/11, MLv4.1/11*

ISC 16 06:43:08.8±1.2, 9°.6S±0°.1×112°.82E±0°.06, h36km, n20, σ1s61/19, mb4.0/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.49**	**24**	P	**Pn**	**06 43 33.6**	**+0.5**
GMJI				S	**Sn**	**06 43 51.2**	**-0.1**
KRKI	**Karangkates**	**1.52**	**346**	P	**Pn**	**06 43 35.0**	**+1.6**
PWJI	**Pagerwojo**	**1.90**	**328**	P	**Pn**	**06 43 39.3**	**+0.6**
PWJI				S	**Sn**	**06 44 02.3**	**+1.0**
BLJI	**Banyuglugur**	**2.03**	**22**	P	**Pn**	**06 43 42.3**	**+1.8**
BYJI	**Banyuwangi**	**2.07**	**47**	P	**Pn**	**06 43 42.4**	**+1.3**
SJI	**Sawahan**	**2.16**	**331**	P	**Pn**	**06 43 44.0**	**+1.6**
PCJI	**Pacitan**	**2.17**	**311**	P	**Pn**	**06 43 44.4**	**+2.0**
KMMI	**Kalianget**	**2.81**	**24**	P	**Pn**	**06 43 53.5**	**+2.3**
SRBI	**Singaraja**	**2.82**	**57**	P	**Pn**	**06 43 54.0**	**+2.6**
UGM	**Wanagama**	**2.85**	**307**	P	**Pn**	**06 43 54.2**	**+2.4**
BJII	**Banjamegara**	**3.84**	**306**	P	Pn	06 44 12.1	+6.6
KAPI	**Kappang**	**8.27**	**57**	LR	LR	06 48 21.2	
	comp=Z,104nm,18.4s,baz=34,slow=39						
WRA	**Warramunga Arr**	**23.16**	**119**	P	**P**	**06 48 11.8**	**-0.5**
	0.6nm,0.7s,baz=290,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**06 48 25.9**	**+1.0**
	2.2nm,0.7s,baz=306,slow=9.1,SNR=18						
CMAR	**Chiang Mai Arr**	**31.10**	**334**	P	**P**	**06 49 23.1**	**-0.8**
	0.9nm,0.4s,baz=169,slow=8.0,SNR=5.0						
STKA	**Stephens Creek**	**34.64**	**134**	LR	LR	07 04 59.3	
	comp=Z,119nm,21.3s,baz=43,slow=38						
SONM	**Songino Array**	**57.50**	**355**	P	**P**	**06 52 53.7**	**-0.9**
	1.1nm,0.7s,baz=176,slow=8.6,SNR=8.5						
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**06 53 27.4**	**-1.0**
	1.3nm,0.5s,baz=152,slow=7.3,SNR=24						
KURBB	**Kurchatov Arra**	**67.00**	**337**	P	**P**	**06 53 56.6**	**-1.3**
	0.6nm,0.3s,baz=150,slow=7.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**67.64**	**343**	P	**P**	**06 54 00.2**	**-1.7**
	1.2nm,0.5s,baz=155,slow=5.0,SNR=6.0						

MEX 16 06:47:12.3±0.5, 17°.43N×101°.71W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.29**	**53**	*e*P	Pg	06 47 17.7	-0.3
ZIIG				*i* S	Sg	06 47 21.9	0.0
CAIG	**El Cayaco**	**1.43**	**105**	*e*P	Pn	06 47 34.8	-4.2
CAIG				*i* S	Sb	06 47 53.3	-4.7
ARIG	**Puente Sto Nin**	**1.55**	**57**	*e*P	Pn	06 47 37.5	-3.2
ARIG				*i* S	Sn	06 47 56.6	-4.6
MEIG	**Mezcala**	**2.05**	**76**	*e*P	Pn	06 47 44.7	-2.9
MEIG				*i* S	Sn	06 48 09.9	-3.8
PLIG	**Platanillo**	**2.31**	**65**	*e*P	Pn	06 47 47.9	-3.3
PLIG				*i* S	Sn	06 48 15.8	-4.3

IDC 16 06:51:05.3±8.2, 17°.94S×178°.07W, h453km±96km, mb2.8/5, mb1 3.2/5, mb1mx3.0/19, mbtmp2.8/5, Error ellipse: s-maj=158.7km s-min=27.5km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.94**	**260**	P	P	06 58 38.3	-0.4
	0.2nm,0.5s,baz=96,slow=7.7,SNR=5.6						
WRA				PcP	PcP	07 00 09.8	-1.1
	0.3nm,0.6s,baz=90,slow=3.4,SNR=3.1						
ASAR	**Alice Springs**	**45.09**	**254**	P	P	06 58 39.9	+0.1
	2.1nm,0.7s,baz=89,slow=8.3,SNR=28						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	P	07 02 22.6	-0.1
	0.4nm,0.7s,baz=223,slow=7.3,SNR=3.4						
TXAR	**Lajitas Array**	**85.74**	**57**	P	P	07 02 56.6	+0.8
	0.4nm,0.7s,baz=248,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**87.16**	**43**	P	P	07 03 01.3	-1.1
	0.2nm,0.7s,baz=270,slow=6.3,SNR=2.9						
BRTR	**Keskin Array B**	**145.03**	**315**	PKPbc	PKPdf	07 09 50.3	-0.2
	0.8nm,0.6s,baz=72,slow=4.7,SNR=5.1						
MMAI	**Mount Meron Ar**	**146.43**	**303**	PKPbc	PKPbc	07 09 54.9	-0.3
	1.5nm,0.5s,baz=44,slow=7.0,SNR=3.5						

*NIED **16** 06:56:00.33°.00N×140°.80E, h77km, Mw3.8 Best double couple: M0=6.12000×10^14 NP1:φ=180.00000°, δ70.00000°, λ111.00000°. NP2:φ=311.00000°, δ29.00000°, λ45.00000°.*
*IDC **16** 06:56:41.8±3.1, 32°.90N×141°.08E, h66km±25km, mb3.5/7, mb1 3.6/10, mb1mx3.4/28, mbtmp3.6/10, Error ellipse: s-maj=43.8km s-min=16.9km az=72.0*
*ISCJB **16** 06:56:42.1±0.9, 32°.85N±0°.05×140°.80E±0°.07, h77km±7km, mb3.7/7, Error ellipse: s-maj=9.6km s-min=7.8km az=28.1*
*JMA **16** 06:56:43.2±0.2, 32°.89N×140°.76E, h53km, M3.7*
JMA Felt I J1.

ISC 16 06:56:41.6±1.9, 32°.79N±0°.09×140°.87E±0°.09, h56km±15km, n26, σ1s22/38, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.94**	**291**	P	**Pn**	**06 56 59.1**	**+0.3**
JHCJ	**Hachijojimakas**	**0.95**	**288**	P	**Pn**	**06 56 59.0**	**+0.2**
JHCJ				*e*S	**Sn**	**06 57 09.6**	**-1.9**
JMY	**Miyakejima3**	**1.71**	**319**	P	**Pn**	**06 57 09.5**	**+0.3**
JMY				S	**Sn**	**06 57 29.2**	**-0.8**
BSO1	**Boso 1**	**1.87**	**3**	P	**Pn**	**06 57 11.4**	**+0.7**
BSO1				S	**Sn**	**06 57 33.6**	**+0.7**
BSO2	**Boso 2**	**1.96**	**357**	S	**Sn**	**06 57 36.2**	**+0.6**
JKO	**Kozu shima**	**2.01**	**314**	P	**Pn**	**06 57 13.8**	**+0.6**
JKO				S	**Sn**	**06 57 35.8**	**-1.4**
BSO3	**Boso 3**	**2.03**	**352**	P	**Pn**	**06 57 14.1**	**+0.8**
BSO3				S	**Sn**	**06 57 37.8**	**+0.4**
JIM2	**Oshima 3**	**2.27**	**329**	P	**Pn**	**06 57 17.2**	**+0.5**
JIM2				S	**Sn**	**06 57 41.3**	**-2.3**
JIZS	**Izushimoda**	**2.54**	**320**	P	**Pn**	**06 57 21.4**	**+0.9**
JIZS				*e*S	**Sn**	**06 57 49.9**	**-0.3**
TK02	**Tokai 2**	**2.85**	**295**	P	**Pn**	**06 57 25.8**	**+1.3**
TK02				*e*S	**Sn**	**06 57 57.8**	**+0.3**
TK04	**Tokai 4**	**2.97**	**303**	P	**Pn**	**06 57 27.8**	**+1.7**
TK04				*e*S	**Sn**	**06 58 02.2**	**+1.8**
SHZ3	**Shizuoka 3**	**3.17**	**317**	P	**Pn**	**06 57 31.2**	**+2.1**
JYN	**Shimob**	**3.32**	**325**	P	**Pn**	**06 57 33.3**	**+2.1**
TTO1	**TONANKAI O.B.S**	**3.52**	**285**	P	**Pn**	**06 57 35.6**	**+2.0**
TTO1				*e*S	**Sn**	**06 58 14.4**	**+0.5**
JRY	**Ryogami san**	**3.61**	**334**	P	**Pn**	**06 57 37.1**	**+2.0**
JRY				*e*S	**Sn**	**06 58 15.9**	**-0.6**
MJAR	**Matsushiro Arr**	**4.34**	**330**	P	**Pn**	**06 57 46.3**	**+1.2**
	1.7nm,0.3s,baz=158,slow=12,SNR=24						
MJAR				S	**Sn**	**06 58 34.2**	**-0.2**
	1.4nm,0.3s,baz=303,slow=24,SNR=6.9						
MAT	**Matsushiro**	**4.34**	**330**	P	**Pn**	**06 57 47.0**	**+1.9**
MAT				S	**Sn**	**06 58 34.3**	**-0.2**
JNU	**Nakatsue**	**8.40**	**275**	P	**Pn**	**06 58 42.6**	**+1.9**
	0.5nm,0.3s,baz=99,slow=8.0,SNR=5.2						
ASAJ	**Asahikawa**	**11.39**	**6**	P	Pn	06 59 18.6	-2.9
	0.4nm,0.3s,baz=274,slow=15,SNR=4.7						
SONM	**Songino Array**	**29.99**	**310**	P	**P**	**07 02 44.6**	**-0.3**
	0.2nm,0.5s,baz=90,slow=8.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**44.54**	**316**	P	**P**	**07 04 46.8**	**-0.8**
	0.5nm,0.3s,baz=96,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**46.11**	**306**	P	**P**	**07 04 59.7**	**-0.5**
	0.9nm,0.5s,baz=83,slow=9.7,SNR=14						
KURBB	**Kurchatov Arra**	**48.35**	**311**	P	**P**	**07 05 16.8**	**-0.7**
	0.3nm,0.3s,baz=84,slow=7.3,SNR=4.2						
WRA	**Warramunga Arr**	**52.80**	**188**	P	**P**	**07 05 51.3**	**0.0**
	0.6nm,0.3s,baz=7.5,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**56.53**	**188**	P	**P**	**07 06 18.3**	**0.0**
	0.2nm,0.3s,baz=3.8,slow=5.1,SNR=9.0						
FINES	**FINESS Array B**	**72.37**	**333**	P	**P**	**07 08 00.6**	**-0.6**
	2.4nm,0.9s,baz=54,slow=7.1,SNR=3.4						

*ISCJB **16** 06:58:27.9±0.2, 43°.05N±0°.02×5°.04W±0°.02, h10km, Error ellipse: s-maj=3.0km s-min=1.6km az=151.3*
*INMG **16** 06:58:28.9±1.6, 43°.06N×4°.77W, h12km±5km, MD3.4, ML3.2, Error ellipse: s-maj=8.5km s-min=3.2km az=81.0*
*CSEM **16** 06:58:29.4±0.1, 43°.05N×5°.11W, h5km, ML3.5/20, Error ellipse: s-maj=2.7km s-min=1.5km az=147.0*
*MDD **16** 06:58:31.8±0.2, 43°.07N×5°.13W, h11km, mbLg3.3/26, Error ellipse: s-maj=2.5km s-min=2.4km az=101.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*LDG **16** 06:58:31.2±0.1, 43°.09N×5°.12W, h2km, Ml3.7/36, Error ellipse: s-maj=2.7km s-min=1.7km az=149.0*
*STR **16** 06:58:41.1±0.6, 43°.55N×4°.09W, h5km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 16 06:58:28.5±0.3, 43°.05N±0°.01×5°.07W±0°.01, h10km, n232, σ1s94/298, 7C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARI	**Arriondas**	**0.28**	**338**	⇓Pg	Pg	06 58 36.5	+2.4
	429nm,0.2s,SNR=18						
EARI				Lg	Lg	06 58 40.9	
	2μm,0.3s,SNR=5.0						
EARI	**Arriondas**	**0.28**	**338**	Pg	Pg	06 58 36.5	+2.4
	429nm,0.2s,SNR=18						
EARI				Lg	Lg	06 58 40.9	
	2μm,0.3s,SNR=5.0						
ELAN	**Lanestosa**	**1.21**	**81**	⇑Pg	**Pg**	**06 58 53.4**	**+1.7**
	63nm,0.2s,SNR=18						
ELAN				Lg	Lg	06 59 11.3	
	461nm,0.2s,SNR=18						
ELAN	**Lanestosa**	**1.21**	**81**	Pg	**Pg**	**06 58 53.4**	**+1.7**
	63nm,0.2s,SNR=18						
ELAN				Lg	Lg	06 59 11.3	
	461nm,0.2s,SNR=18						
EPON	**Pontenova**	**1.55**	**281**	Pg	**Pg**	**06 58 58.9**	**+0.8**
	60nm,0.2s,SNR=73						
EPON				Lg	Lg	06 59 20.0	
	459nm,0.2s,SNR=5.0						
EPON	**Pontenova**	**1.55**	**281**	Pg	**Pg**	**06 58 58.9**	**+0.8**
	60nm,0.2s,SNR=73						
EPON				Lg	Lg	06 59 20.0	
	459nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**1.66**	**229**	⇑Pn	**Pn**	**06 58 59.2**	**+1.5**
	13nm,0.1s,SNR=18						
ECAL				Pg	**Pg**	**06 59 01.5**	**+1.2**
	63nm,0.3s,SNR=6.9						
ECAL				Lg	Lg	06 59 22.9	
	206nm,0.2s,SNR=15						
ECAL	**Calabor**	**1.66**	**229**	Pn	**Pn**	**06 58 59.2**	**+1.5**
	13nm,0.1s,SNR=18						
PBRG	**Braganca**	**1.75**	**226**	*e*Pn	**Pn**	**06 59 00.3**	**+1.3**
PBRG				*e*Sn	**Sb**	**06 59 24.5**	**+1.7**
PBRG				A	A	06 59 27.9	
	140nm,0.4s						
PBRG	**Braganca**	**1.75**	**226**	Pn	**Pn**	**06 59 00.3**	**+1.3**
PBRG				Sn	**Sb**	**06 59 24.5**	**+1.7**
	70nm,0.4s						
PBRG	**Braganca**	**1.75**	**226**	Pn	**Pn**	**06 59 00.3**	**+1.3**
PBRG				*e*Sn	**Sb**	**06 59 24.5**	**+1.7**
	140nm,0.4s						
MVO	**Moncorvo**	**2.38**	**218**	*e*Pn	**Pn**	**06 59 08.8**	**+1.2**
MVO				*e*Sn	**Sb**	**06 59 42.3**	**+1.4**
MVO				A	A	06 59 51.3	
	187nm,0.3s						
MVO	**Moncorvo**	**2.38**	**218**	Pn	**Pn**	**06 59 09.3**	**+1.7**
	1.1nm,0.1s,SNR=24						
MVO				Pg	**Pg**	**06 59 14.4**	**+0.3**
	5.1nm,0.2s,SNR=7.9						
MVO				Sn	**Sn**	**06 59 38.6**	**+1.7**
	31nm,0.2s,SNR=7.9						
MVO				Lg	Lg	06 59 43.3	
	96nm,0.2s,SNR=16						
MVO	**Moncorvo**	**2.38**	**218**	*e*Pn	**Pn**	**06 59 08.8**	**+1.2**
GUD	**Guadarrama**	**2.50**	**164**	Pn	**Pn**	**06 59 10.6**	**+1.3**
	3.7nm,0.2s,SNR=7.9						
GUD				Pg	**Pg**	**06 59 17.0**	**+0.7**
	10nm,0.2s,SNR=7.9						
GUD				Lg	Lg	06 59 48.6	
	92nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**2.50**	**164**	Pn	**Pn**	**06 59 10.6**	**+1.3**
	3.7nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**2.51**	**243**	⇑Pn	**Pn**	**06 59 10.8**	**+1.4**
	SNR=18						
ELOB				Pg	**Pg**	**06 59 17.3**	**+0.8**
	9.4nm,0.2s,SNR=24						
ELOB				Lg	Lg	06 59 50.0	
	76nm,0.4s,SNR=8.0						
ELOB	**Lobios**	**2.51**	**243**	Pn	**Pn**	**06 59 10.8**	**+1.4**
	SNR=18						
ELOB	**Lobios**	**2.51**	**243**	Pg	**Pg**	**06 59 17.3**	**+0.8**
	9.4nm,0.2s,SNR=24						
ELOB				Lg	Lg	06 59 50.0	
	76nm,0.4s,SNR=8.0						
STS	**Santiago**	**2.56**	**268**	Pn	Pn	06 59 12.5	+2.4
	7.2nm,0.3s,SNR=8.2						
STS				Pg	**Pg**	**06 59 17.8**	**+0.2**
	4.6nm,0.1s,SNR=7.9						
STS				Lg	Lg	06 59 50.7	
	14nm,0.4s,SNR=12						
STS	**Santiago**	**2.56**	**268**	Pn	Pn	06 59 12.5	+2.4
	7.2nm,0.3s,SNR=8.2						
PCAB	**Cabril**	**2.57**	**240**	*e*Pn	**Pn**	**06 59 11.4**	**+1.2**
PCAB				*e*Sn	**Sb**	**06 59 49.2**	**+3.0**
PCAB	**Cabril**	**2.57**	**240**	⇑Pn	**Pn**	**06 59 11.4**	**+1.2**
PCAB	**Cabril**	**2.57**	**240**	Pn	**Pn**	**06 59 11.4**	**+1.2**
EARA	**Aranguren**	**2.58**	**95**	Pn	**Pb**	**06 59 13.7**	**-1.1**
	1.2nm,0.1s,SNR=6.0						
EARA				Pg	**Pg**	**06 59 19.4**	**+1.6**
	4.6nm,0.2s,SNR=10						
EARA				Lg	Lg	06 59 53.6	
	72nm,0.3s,SNR=5.0						
EARA	**Aranguren**	**2.58**	**95**	Pn	**Pb**	**06 59 13.7**	**-1.1**
	1.2nm,0.1s,SNR=6.0						
IUSE	**Utxeti**	**2.58**	**91**	Pn	**Pb**	**06 59 14.3**	**-0.6**
	0.8nm,0.1s,SNR=7.9						
IUSE				Pg	**Pg**	**06 59 19.6**	**+1.5**
	5.7nm,0.2s,SNR=4.0						
IUSE				Sn	**Sn**	**06 59 45.0**	**+3.1**
	7.1nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	06 59 54.7	
	23nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**2.58**	**91**	Pn	**Pb**	**06 59 14.3**	**-0.6**
	0.8nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**2.59**	**86**	Pn	**Pb**	**06 59 14.3**	**-0.8**
	2.1nm,0.2s,SNR=22						
ELIZ				Pg	**Pg**	**06 59 19.1**	**+0.9**
	17nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**2.59**	**86**	Pn	**Pb**	**06 59 14.3**	**-0.8**
	2.1nm,0.2s,SNR=22						
PGAV	**Gavieira, Arco**	**2.60**	**247**	*e*Pn	**Pn**	**06 59 12.1**	**+1.4**
PGAV				*e*Sn	**Sn**	**06 59 45.5**	**+3.1**
PGAV				*e*Sg	**Sg**	**06 59 54.4**	**+2.3**
PGAV				A	A	06 59 54.9	
	71nm,0.3s						
EALK	**Alkurruntz**	**2.61**	**85**	Pn	**Pb**	**06 59 14.1**	**-1.3**
	2.0nm,0.1s,SNR=7.9						
EALK				Pg	**Pg**	**06 59 19.7**	**+1.2**
	5.4nm,0.2s,SNR=7.9						
EALK				Sn	**Sb**	**06 59 46.9**	**-0.6**
	52nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**2.61**	**85**	Pn	**Pb**	**06 59 14.1**	**-1.3**
	2.0nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**2.63**	**231**	*e*Pn	**Pn**	**06 59 12.0**	**+1.0**
POLO				*e*Sn	**Sb**	**06 59 49.6**	**+1.6**
POLO				A	A	06 59 56.4	
	24nm,0.7s						
IUNC	**Unciti**	**2.64**	**95**	Pn	**Pb**	**06 59 14.9**	**-1.0**
	2.8nm,0.1s,SNR=7.9						
IUNC				Pg	**Pg**	**06 59 20.4**	**+1.3**
	8.9nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	06 59 55.9	
	71nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**2.64**	**95**	Pn	**Pb**	**06 59 14.9**	**-1.0**
	2.8nm,0.1s,SNR=7.9						
OSSF	**Osses**	**2.79**	**84**	P	Pn	06 59 15.9	+2.7
OSSF				S	**Sn**	**06 59 44.5**	**-2.5**
IEPA	**Eparoz**	**2.81**	**94**	Pn	**Pb**	**06 59 17.1**	**-1.6**
	3.8nm,0.2s,SNR=7.9						
IEPA				Pg	**Pg**	**06 59 23.8**	**+1.6**
	25nm,0.6s,SNR=7.9						
IEPA				Sn	**Sb**	**06 59 51.5**	**-1.6**
	11nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	07 00 01.3	
	62nm,0.4s,SNR=7.9						
IEPA	**Eparoz**	**2.81**	**94**	Pn	**Pb**	**06 59 17.1**	**-1.6**
	3.8nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**2.82**	**87**	*e*Pn	**Pb**	**06 59 17.6**	**-1.3**
SJPF				*e*Sn	**Sn**	**06 59 48.7**	**+1.1**
SJPF				*e*Sg	**Sg**	**07 00 00.4**	**+1.5**
	23nm,0.2s						
SJPF	**Ste Jean**	**2.82**	**87**	*e*Pn	**Pb**	**06 59 17.6**	**-1.3**
SJPF				Sn	**Sn**	**06 59 48.7**	**+1.1**
SJPF				*e*Sg	**Sg**	**07 00 00.4**	**+1.5**
	12nm,0.2s						
EZAM	**Zamans**	**2.82**	**253**	Pn	**Pn**	**06 59 14.9**	**+1.2**
	4.2nm,0.3s,SNR=7.9						
EZAM				Pg	**Pg**	**06 59 23.3**	**+0.7**
	14nm,0.3s,SNR=7.9						
EZAM				Lg	Lg	07 00 00.9	
	49nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**2.82**	**253**	Pn	**Pn**	**06 59 14.9**	**+1.2**
	4.2nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**2.87**	**269**	⇑Pn	Pn	06 59 16.4	+2.1
	13nm,0.2s,SNR=18						
EMAZ				Sn	**Sn**	**06 59 50.2**	**+1.3**
	34nm,0.2s,SNR=6.1						
EMAZ				Lg	Lg	07 00 01.9	
	58nm,0.2s,SNR=5.0						
EMAZ	**Mazaricos**	**2.87**	**269**	Pn	Pn	06 59 16.4	+2.1
	13nm,0.2s,SNR=18						
EMAZ				Sn	**Sn**	**06 59 50.2**	**+1.3**
	34nm,0.2s,SNR=6.1						
EMAZ				Lg	Lg	07 00 01.9	
	58nm,0.2s,SNR=5.0						
ORDF	**Ordiarp**	**3.03**	**85**	P	**Pb**	**06 59 20.6**	**-1.9**
EPLA	**Plasencia**	**3.08**	**195**	Pn	Pn	06 59 19.6	+2.4
	1.1nm,0.3s,SNR=4.0

EBIE	**Bielsa**	**3.85**	**94**	Pn	Pn	06 59 31.4 +3.5
	2.8nm,0.1s,SNR=18					
EBIE				Sn	**Sn**	**07 00 16.1 +2.8**
	2.3nm,0.3s,SNR=4.7					
PCAS	**Casmilo, Conde**	**3.95**	**222**	*e*Pn	**Pn**	**06 59 31.1 +2.0**
PCAS				*e*Sg	**Sg**	**07 00 33.4 -1.8**
PCAS				A	A	07 00 47.8
	30nm,0.7s					
PCAS	**Casmilo, Conde**	**3.95**	**222**	*e*Pn	**Pn**	**06 59 31.1 +2.0**
PCAS				*e*Sg	**Sg**	**07 00 33.4 -1.8**
	30nm,0.7s					
EPF	**Esparros**	**3.96**	**88**	*e*Pn	Pn	06 59 33.8 +4.4
EPF				*e*Sn	**Sn**	**07 00 16.0 +0.1**
EPF				*e*Sg	**Sg**	**07 00 36.4 +0.6**
	16nm,0.4s					
EPF	**Esparros**	**3.96**	**88**	*e*Pn	Pn	06 59 33.8 +4.4
EPF				*e*Sn	**Sn**	**07 00 16.0 +0.1**
EPF				*e*Sg	**Sg**	**07 00 36.4 +0.6**
	8.1nm,0.4s					
RESF	**Ens**	**3.98**	**92**	P	Pn	06 59 33.2 +3.6
PMRV	**Marv??o**	**4.02**	**207**	*e*Pn	**Pn**	**06 59 31.4 +1.3**
PMRV				*e*Sg	**Sg**	**07 00 35.3 -2.1**
PMRV				A	A	07 00 44.5
	48nm,0.7s					
PMRV	**Marv??o**	**4.02**	**207**	Pn	**Pn**	**06 59 31.4 +1.3**
PMRV	**Marv??o**	**4.02**	**207**	Pn	**Pn**	**06 59 31.4 +1.3**
PMRV				*e*Sg	**Sg**	**07 00 35.3 -2.1**
	48nm,0.7s					
PTOM	**Tomar**	**4.25**	**217**	*e*Pn	**Pn**	**06 59 34.5 +1.3**
PTOM				*e*Sg	**Sg**	**07 00 43.6 -1.3**
PTOM				A	A	07 00 54.9
	37nm,0.6s					
PTOM	**Tomar**	**4.25**	**217**	Pn	**Pn**	**06 59 34.5 +1.3**
PTOM	**Tomar**	**4.25**	**217**	Pn	**Pn**	**06 59 34.5 +1.3**
PTOM				*e*Sg	**Sg**	**07 00 43.6 -1.3**
	37nm,0.6s					
EMOS	**Mosqueruela**	**4.36**	**126**	Pn	Pn	06 59 39.1 +4.1
	0.3nm,0.1s,SNR=15					
EMOS				Sn	**Sn**	**07 00 27.7 +1.8**
	4.9nm,0.4s,SNR=7.9					
EMOS				Lg	Lg	07 00 50.0
	8.0nm,0.4s,SNR=5.0					
EMOS	**Mosqueruela**	**4.36**	**126**	Pn	Pn	06 59 39.1 +4.1
	0.3nm,0.1s,SNR=15					
EMOS				Sn	**Sn**	**07 00 27.7 +1.8**
	4.9nm,0.4s,SNR=7.9					
EMOS				Lg	Lg	07 00 50.0
	8.0nm,0.4s,SNR=5.0					
EBAD	**Badajoz**	**4.53**	**200**	Sn	**Sn**	**07 00 29.2 -0.7**
	11nm,0.2s,SNR=6.4					
EBAD				Lg	Lg	07 00 53.9
	17nm,0.2s,SNR=7.0					
EBAD	**Badajoz**	**4.53**	**200**	Sn	**Sn**	**07 00 29.2 -0.7**
	11nm,0.2s,SNR=6.4					
EBAD				Lg	Lg	07 00 53.9
	17nm,0.2s,SNR=7.0					
PESTR	**Estremoz**	**4.59**	**205**	*e*Pn	**Pn**	**06 59 38.9 +0.9**
PESTR	**Estremoz**	**4.59**	**205**	Pn	**Pn**	**06 59 38.9 +0.9**
PESTR	**Estremoz**	**4.59**	**205**	Pn	**Pn**	**06 59 38.9 +0.9**
LFF	**La Frestale**	**4.60**	**64**	*e*Pn	Pn	06 59 40.7 +2.7
LFF				*e*Sn	**Sn**	**07 00 30.4 -1.1**
	20nm,0.3s					
LFF	**La Frestale**	**4.60**	**64**	Pn	Pn	06 59 40.7 +2.7
LFF				*e*Sn	**Sn**	**07 00 30.4 -1.1**
	10nm,0.3s					
PMTG	**Montargil**	**4.63**	**212**	*e*Pn	**Pn**	**06 59 39.6 +1.1**
PMTG				*e*Sn	**Sn**	**07 00 32.5 +0.1**
PMTG				*e*Sg	**Sg**	**07 00 54.8 -2.5**
PMTG				A	A	07 01 05.4
	14nm,0.6s					
PMTG	**Montargil**	**4.63**	**212**	*e*Pn	**Pn**	**06 59 39.6 +1.1**
PMTG				*e*Sn	**Sn**	**07 00 32.5 +0.1**
PMTG				*e*Sg	**Sg**	**07 00 54.8 -2.5**
	14nm,0.6s					
EVIA	**Vianos**	**4.81**	**155**	Pn	Pn	06 59 43.8 +2.7
	1.2nm,0.1s,SNR=9.4					
EVIA				Pg	Pg	07 00 03.6 +2.9
	25nm,0.7s,SNR=7.9					
EVIA				Lg	Lg	07 01 03.0
	114nm,0.7s,SNR=6.1					
EVIA	**Vianos**	**4.81**	**155**	Pn	Pn	06 59 43.8 +2.7
	1.2nm,0.1s,SNR=9.4					
EVIA	**Vianos**	**4.81**	**155**	Pg	Pg	07 00 03.6 +2.9
	25nm,0.7s,SNR=7.9					
EVIA				Lg	Lg	07 01 03.0
	114nm,0.7s,SNR=6.1					
EPOB	**Poblet**	**4.87**	**108**	Pn	**Pn**	**06 59 44.2 +2.3**
	1.3nm,0.2s,SNR=18					
EPOB				Sn	**Sn**	**07 00 38.7 +0.4**
	2.5nm,0.1s,SNR=7.9					
EPOB				Lg	Lg	07 01 04.5
	6.7nm,0.3s,SNR=5.0					
EPOB	**Poblet**	**4.87**	**108**	Pn	**Pn**	**06 59 44.2 +2.3**
	1.3nm,0.2s,SNR=18					
EPOB				Sn	**Sn**	**07 00 38.7 +0.4**
	2.5nm,0.1s,SNR=7.9					
EPOB				Lg	Lg	07 01 04.5
	6.7nm,0.3s,SNR=5.0					
EADA	**Adamuz**	**4.89**	**175**	Pn	**Pn**	**06 59 44.0 +1.9**
	0.4nm,0.2s,SNR=7.9					
EADA				Sn	**Sn**	**07 00 36.9 -1.8**
	1.0nm,0.1s,SNR=7.9					
EADA				Lg	Lg	07 01 04.9
	13nm,0.3s,SNR=6.8					
EADA	**Adamuz**	**4.89**	**175**	Pn	**Pn**	**06 59 44.0 +1.9**
	0.4nm,0.2s,SNR=7.9					
EADA				Lg	Lg	07 01 04.9
	13nm,0.3s,SNR=6.8					
ECAB	**El Cabril**	**4.97**	**183**	Pn	**Pn**	**06 59 44.8 +1.6**
	0.4nm,0.2s,SNR=7.5					
ECAB				Sn	**Sn**	**07 00 40.2 -0.6**
	3.2nm,0.2s,SNR=7.9					
ECAB				Lg	Lg	07 01 06.0
	28nm,0.5s,SNR=5.0					
ECAB	**El Cabril**	**4.97**	**183**	Pn	**Pn**	**06 59 44.8 +1.6**
	0.4nm,0.2s,SNR=7.5					
ECAB				Lg	Lg	07 01 06.0
	28nm,0.5s,SNR=5.0					
EBAN	**Banos Encina**	**4.97**	**168**	Pn	Pn	06 59 45.8 +2.6
	1.1nm,0.2s,SNR=7.9					
EBAN				Lg	Lg	07 01 08.5
	13nm,0.6s,SNR=9.0					
EBAN	**Banos Encina**	**4.97**	**168**	Pn	Pn	06 59 45.8 +2.6
	1.1nm,0.2s,SNR=7.9					
EBAN				Lg	Lg	07 01 08.5
	13nm,0.6s,SNR=9.0					
MFF	**Saint Martin d**	**4.99**	**43**	*e*Pn	**Pn**	**06 59 44.3 +0.9**
MFF				*e*Sn	**Sn**	**07 00 39.7 -1.4**
	16nm,0.3s					
MFF	**Saint Martin d**	**4.99**	**43**	Pn	**Pn**	**06 59 44.3 +0.9**
MFF				*e*Sn	**Sn**	**07 00 39.7 -1.4**
	8.1nm,0.3s					
EMIR	**Miracle**	**5.01**	**101**	Pn	**Pn**	**06 59 45.7 +2.0**
	1.8nm,0.2s,SNR=12					
EMIR	**Miracle**	**5.01**	**101**	Pn	**Pn**	**06 59 45.7 +2.0**
	1.8nm,0.2s,SNR=12					
EVO	**Evora**	**5.03**	**207**	*e*Pn	**Pn**	**06 59 45.3 +1.2**
EVO				*e*Sn	**Sn**	**07 00 39.9 -2.3**
EVO				*e*Sg	**Sg**	**07 01 08.4 -1.6**
	27nm,0.4s					
EVO	**Evora**	**5.03**	**207**	*e*Pn	**Pn**	**06 59 45.2 +1.2**
EVO				*e*Sn	**Sn**	**07 00 40.2 -2.0**
EVO				*e*Sg	**Sg**	**07 01 06.0 -4.0**
EVO				A	A	07 01 11.8
	26nm,0.6s					
EVO	**Evora**	**5.03**	**207**	Pn	**Pn**	**06 59 45.2 +1.2**
EVO	**Evora**	**5.03**	**207**	Pn	**Pn**	**06 59 45.2 +1.2**
EVO				*e*Sn	**Sn**	**07 00 40.2 -2.0**
EVO				*e*Sg	**Sg**	**07 01 06.0 -4.0**
	26nm,0.6s					
QUIF	**Quistinic**	**5.05**	**15**	*e*Pn	**Pn**	**06 59 45.1 +0.9**
QUIF				*e*Sn	**Sn**	**07 00 39.2 -3.4**
	9.0nm,0.2s					
QUIF	**Quistinic**	**5.05**	**15**	Pn	**Pn**	**06 59 45.1 +0.9**
QUIF				*e*Sn	**Sn**	**07 00 39.2 -3.4**
	4.5nm,0.2s					
EVOP	**Sao Brissos**	**5.07**	**208**	*e*Pn	**Pn**	**06 59 45.3 +0.7**
EVOP				*e*Sn	**Sn**	**07 00 39.9 -3.3**
EVOP				*e*Sg	**Sg**	**07 01 08.4 -3.0**
	14nm,0.4s					
PBAR	**Barrancos**	**5.09**	**198**	*e*Pn	**Pn**	**06 59 46.0 +1.2**
PBAR				*e*Sn	**Sn**	**07 00 41.4 -2.3**
PBAR				*e*Sg	Sg	07 01 07.8 -4.1
PBAR				A	A	07 01 21.1
	25nm,0.5s					
PBAR	**Barrancos**	**5.09**	**198**	Pn	**Pn**	**06 59 46.0 +1.2**
PBAR				*e*Sn	**Sn**	**07 00 41.4 -2.3**
PACT	**Alcochete**	**5.14**	**215**	*e*Sg	**Sg**	**07 01 10.3 -3.1**
PACT				A	A	07 01 21.6
	29nm,0.6s					
PACT	**Alcochete**	**5.14**	**215**	*e*Sg	**Sg**	**07 01 10.3 -3.1**
	29nm,0.6s					
ETOB	**Tobarra**	**5.14**	**148**	⇑Pn	Pn	06 59 48.4 +2.8
	1.2nm,0.1s,SNR=18					
ETOB				Lg	Lg	07 01 12.8
	36nm,0.8s,SNR=5.0					
ETOB	**Tobarra**	**5.14**	**148**	Pn	Pn	06 59 48.4 +2.8
	1.2nm,0.1s,SNR=18					
ETOB				Lg	Lg	07 01 12.8
	36nm,0.8s,SNR=5.0					
MOE	**Montemor**	**5.16**	**210**	*e*Sg	Sb	07 01 09.1 +8.3
PMAFR	**Mafra**	**5.18**	**219**	*e*Pn	**Pn**	**06 59 48.1 +2.0**
PMAFR				*e*Sg	**Sg**	**07 01 13.0 -1.9**
PMAFR				A	A	07 01 14.4
	8.7nm,0.5s					
PMAFR	**Mafra**	**5.18**	**219**	Pn	Pn	06 59 48.2 +2.1
	1.8nm,0.2s,SNR=7.9					
PMAFR				Lg	Lg	07 01 17.4
	28nm,0.6s,SNR=7.9					
PMAFR	**Mafra**	**5.18**	**219**	*e*Pn	**Pn**	**06 59 48.1 +2.0**
PMAFR				*e*Sg	**Sg**	**07 01 13.0 -1.9**
	8.7nm,0.5s					
PMAFR				Lg	Lg	07 01 17.4
	28nm,0.6s,SNR=7.9					
RJF	**Les Rejaudoux**	**5.25**	**62**	*e*Pn	**Pn**	**06 59 48.5 +1.6**
RJF				*e*Sn	**Sn**	**07 00 45.9 -1.6**
	36nm,0.2s					
RJF	**Les Rejaudoux**	**5.25**	**62**	Pn	**Pn**	**06 59 48.5 +1.6**
RJF				*e*Sn	**Sn**	**07 00 45.9 -1.6**
	18nm,0.2s					
MTLF	**Montolieu**	**5.33**	**84**	*e*Pn	**Pn**	**06 59 50.7 +2.5**
MTLF				*e*Sn	**Sn**	**07 00 48.4 -1.2**
	3.0nm,0.2s					
MTLF	**Montolieu**	**5.33**	**84**	Pn	**Pn**	**06 59 50.7 +2.5**
EMIN	**Mina Concepcio**	**5.41**	**194**	Pn	**Pn**	**06 59 51.2 +2.0**
	0.1nm,0.1s,SNR=7.9					
EMIN				Sn	**Sn**	**07 00 49.7 -1.8**
	3.0nm,0.2s,SNR=7.9					
EMIN				Lg	Lg	07 01 21.6
	27nm,0.6s,SNR=5.6					
EMIN	**Mina Concepcio**	**5.41**	**194**	Pn	**Pn**	**06 59 51.2 +2.0**
	0.1nm,0.1s,SNR=7.9					
EMIN				Lg	Lg	07 01 21.6
	27nm,0.6s,SNR=5.6					
ROSF	**Rostrenen**	**5.44**	**13**	*e*Pn	**Pn**	**06 59 50.2 +0.7**
ROSF				*e*Sn	**Sn**	**07 00 48.0 -4.1**
	7.1nm,0.2s					
ROSF	**Rostrenen**	**5.44**	**13**	Pn	**Pn**	**06 59 50.2 +0.7**
PBEJ	**Beja**	**5.45**	**204**	*e*Sn	**Sn**	**07 00 49.4 -3.1**
PBEJ				*e*Sg	Sg	07 01 19.0 -4.4
PBEJ				A	A	07 01 28.6
	10nm,0.4s					
EQES	**Quesada**	**5.46**	**163**	Pn	Pn	06 59 52.7 +2.8
	0.3nm,0.2s,SNR=4.0					
EQES				Lg	Lg	07 01 23.2
	9.8nm,0.4s,SNR=7.9					
EQES	**Quesada**	**5.46**	**163**	Pn	Pn	06 59 52.7 +2.8
	0.3nm,0.2s,SNR=4.0					
EQES				Lg	Lg	07 01 23.2
	9.8nm,0.4s,SNR=7.9					
CAF	**Calviac**	**5.48**	**68**	*e*Pn	**Pn**	**06 59 51.6 +1.4**
CAF				*e*Sn	**Sn**	**07 00 49.9 -3.3**
	17nm,0.2s					
CAF	**Calviac**	**5.48**	**68**	Pn	**Pn**	**06 59 51.6 +1.4**
SGMF	**Saint Gilles**	**5.50**	**18**	*e*Pn	**Pn**	**06 59 50.6 +0.2**
SGMF				*e*Sn	**Sn**	**07 00 50.3 -3.3**
	15nm,0.3s					
SGMF	**Saint Gilles**	**5.50**	**18**	Pn	**Pn**	**06 59 50.6 +0.2**
EHUE	**Huescar**	**5.56**	**159**	Lg	Lg	07 01 26.6
	3.6nm,0.2s,SNR=7.9					
EHUE	**Huescar**	**5.56**	**159**	Lg	Lg	07 01 26.6
	3.6nm,0.2s,SNR=7.9					
LRDF	**Laroque-de-Fa**	**5.58**	**89**	P	Pn	06 59 55.0 +3.5
PNCL	**Nicolau / Gran**	**5.59**	**209**	*e*Pn	**Pn**	**06 59 52.6 +1.0**
PNCL	**Nicolau / Gran**	**5.59**	**209**	*e*Pn	**Pn**	**06 59 52.6 +1.0**
EBEN	**Beniarda**	**5.68**	**138**	Pn	**Pn**	**06 59 55.4 +2.4**
	0.4nm,0.2s,SNR=7.6					
EBEN				Sn	**Sn**	**07 00 59.4 +1.1**
	0.5nm,0.2s,SNR=7.9					
EBEN	**Beniarda**	**5.68**	**138**	Pn	**Pn**	**06 59 55.4 +2.4**
	0.4nm,0.2s,SNR=7.6					
EBEN				Sn	**Sn**	**07 00 59.4 +1.1**
	0.5nm,0.2s,SNR=7.9					
EGRO	**El Granado**	**5.81**	**199**	Pn	Pn	06 59 57.0 +2.3
	0.2nm,0.2s,SNR=7.9					
EGRO				Sn	**Sn**	**07 00 59.3 -2.0**
	1.9nm,0.2s,SNR=7.9					
EGRO				Lg	Lg	07 01 35.9
	29nm,0.6s,SNR=6.1					
EGRO	**El Granado**	**5.81**	**199**	Pn	Pn	06 59 57.0 +2.3
	0.2nm,0.2s,SNR=7.9					
EGRO				Lg	Lg	07 01 35.9
	29nm,0.6s,SNR=6.1					
PCVE	**Castro Verde**	**5.87**	**204**	*e*Pn	**Pn**	**06 59 56.4 +1.0**
PCVE	**Castro Verde**	**5.87**	**204**	Pn	**Pn**	**06 59 56.4 +1.0**
PCVE	**Castro Verde**	**5.87**	**204**	Pn	**Pn**	**06 59 56.4 +1.0**
ECOG	**Cogollos-Vega**	**5.88**	**168**	Lg	Lg	07 01 38.6
	5.9nm,0.3s,SNR=7.9					
ECOG	**Cogollos-Vega**	**5.88**	**168**	Lg	Lg	07 01 38.6
	5.9nm,0.3s,SNR=7.9					
EJON	**La Jonquera**	**5.89**	**93**	Pn	Pn	06 59 59.1 +3.3
	2.5nm,0.3s,SNR=7.9					
EJON				Sn	**Sn**	**07 01 05.0 +1.6**
	1.6nm,0.3s,SNR=7.9					
EJON	**La Jonquera**	**5.89**	**93**	Pn	Pn	06 59 59.1 +3.3
	2.5nm,0.3s,SNR=7.9					
EJON				Sn	**Sn**	**07 01 05.0 +1.6**
	1.6nm,0.3s,SNR=7.9					
ELOJ	**Sierra Loja**	**5.93**	**173**	Lg	Lg	07 01 40.4
	4.3nm,0.6s,SNR=7.9					
ELOJ	**Sierra Loja**	**5.93**	**173**	Lg	Lg	07 01 40.4
	4.3nm,0.6s,SNR=7.9					
EMUR	**La Murta**	**5.96**	**149**	Pn	**Pn**	**06 59 58.0 +1.2**
	1.3nm,0.3s,SNR=7.9					
EMUR				Lg	Lg	07 01 40.6
	9.4nm,0.6s,SNR=7.9					
EMUR	**La Murta**	**5.96**	**149**	Pn	**Pn**	**06 59 58.0 +1.2**
	1.3nm,0.3s,SNR=7.9					
EMUR				Lg	Lg	07 01 40.6
	9.4nm,0.6s,SNR=7.9					
EQUE	**Quentar**	**5.97**	**167**	Lg	Lg	07 01 40.4
	10nm,0.5s,SNR=7.0					
EQUE	**Quentar**	**5.97**	**167**	Lg	Lg	07 01 40.4
	10nm,0.5s,SNR=7.0					
PVAQ	**Vaqueiros**	**5.99**	**201**	*e*Pn	**Pn**	**06 59 58.3 +1.2**
PVAQ				*e*Sn	**Sn**	**07 01 02.9 -2.9**
PVAQ				*e*Sg	**Sg**	**07 01 38.6 -2.1**
PVAQ				A	A	07 01 46.3
	18nm,0.5s					
PVAQ	**Vaqueiros**	**5.99**	**201**	Pn	**Pn**	**06 59 58.3 +1.2**
PVAQ	**Vaqueiros**	**5.99**	**201**	Pn	**Pn**	**06 59 58.3 +1.2**
ERON	**Agron**	**6.10**	**170**	Pn	Pn	07 00 02.2 +3.4
	0.3nm,0.2s,SNR=7.9					
ERON	**Agron**	**6.10**	**170**	Pn	Pn	07 00 02.2 +3.4
	0.3nm,0.2s,SNR=7.9					
GRR	**Gorron**	**6.10**	**27**	*e*Pn	**Pn**	**06 59 59.4 +0.8**
GRR				*e*Sn	Sn	07 01 02.2 -6.3
	15nm,0.3s					
GRR	**Gorron**	**6.10**	**27**	Pn	**Pn**	**06 59 59.4 +0.8**
TCF	**Toulx Ste Croi**	**6.12**	**56**	*e*Pn	**Pn**	**07 00 00.0 +1.1**
TCF				*e*Sn	**Sn**	**07 01 04.9 -4.1**
	31nm,0.2s					
TCF	**Toulx Ste Croi**	**6.12**	**56**	Pn	**Pn**	**07 00 00.0 +1.1**
PTEO	**Sao Teotonio**	**6.16**	**208**	*e*Sg	Sg	07 01 40.6 -5.7
PTEO				A	A	07 01 54.3
	19nm,0.6s					
PBDV	**Barranco-do-Ve**	**6.20**	**202**	*e*Pn	Pn	07 00 04.7 +4.7
PBDV				*e*Sn	**Sn**	**07 01 09.8 -1.1**
PBDV				A	A	07 01 59.9
	21nm,0.5s					
MORF	**Marmelete**	**6.36**	**207**	*e*Sn	**Sn**	**07 01 14.3 -0.6**
MORF				*e*Sg	Sg	07 01 47.1 -5.3
MORF				A	A	07 01 55.1
	7.0nm,0.7s					
MORF	**Marmelete**	**6.36**	**207**	*e*Sn	**Sn**	**07 01 14.3 -0.6**
EBER	**Berja**	**6.37**	**164**	Lg	Lg	07 01 55.9
	23nm,0.8s,SNR=5.5					
EBER	**Berja**	**6.37**	**164**	Lg	Lg	07 01 55.9
	23nm,0.8s,SNR=5.5					
LBL	**Lubilhac**	**6.37**	**67**	P	**Pn**	**07 00 03.7 +1.3**
LBL				S	**Sn**	**07 01 13.4 -1.8**
PYM	**Petit Puy Mans**	**6.38**	**62**	P	**Pn**	**07 00 03.9 +1.2**
PYM				S	**Sn**	**07 01 12.0 -3.6**
EMIJ	**Mijas**	**6.48**	**178**	Pn	**Pn**	**07 00 04.7 +0.8**
	0.4nm,0.3s,SNR=4.0					
EMIJ	**Mijas**	**6.48**	**178**	Pn	**Pn**	**07 00 04.7 +0.8**
	0.4nm,0.3s,SNR=4.0					
LDF	**La Druitiere**	**6.54**	**30**	*e*Pn	**Pn**	**07 00 05.7 +1.1**
LDF				*e*Sn	**Sn**	**07 01 14.0 -5.2**
	9.4nm,0.2s					
LDF	**La Druitiere**	**6.54**	**30**	*e*Pn	**Pn**	**07 00 05.7 +1.1**
FLN	**La Foliniere**	**6.55**	**28**	*e*Pn	**Pn**	**07 00 05.9 +1.1**
	baz=202					
FLN				*e*Sn	**Sn**	**07 01 14.5 -5.0**
	6.4nm,0.2s					
FLN	**La Foliniere**	**6.55**	**28**	*e*Pn	**Pn**	**07 00 05.9 +1.1**
	baz=202					
LASF	**Ste Croix**	**6.57**	**78**	*e*Pn	**Pn**	**07 00 06.7 +1.6**
LASF				*e*Sn	**Sn**	**07 01 16.6 -3.4**
	6.1nm,0.3s					
LASF	**Ste Croix**	**6.57**	**78**	*e*Pn	**Pn**	**07 00 06.7 +1.6**
PFVI	**Vila Bisbo**	**6.57**	**207**	Pn	**Pn**	**07 00 06.4 +1.3**
	0.3nm,0.2s,SNR=7.9					
PFVI				Sn	**Sn**	**07 01 17.3 -2.8**
	2.5nm,0.3s,SNR=7.9					
PFVI				Lg	Lg	07 01 58.9
	53nm,1.1s,SNR=7.9					
PFVI	**Vila Bisbo**	**6.57**	**207**	Pn	**Pn**	**07 00 06.4 +1.3**
	0.3nm,0.2s,SNR=7.9					
PFVI				Lg	Lg	07 01 58.9
	53nm,1.1s,SNR=7.9					
AGO	**Saint Agoulin**	**6.58**	**60**	P	**Pn**	**07 00 06.3 +1.0**
AGO				S	**Sn**	**07 01 15.6 -4.8**
BGF	**Bois d'Agland**	**6.63**	**55**	*e*Pn	**Pn**	**07 00 07.5 +1.5**
BGF				*e*Sn	**Sn**	**07 01 17.7 -3.9**
	50nm,0.3s					
BGF	**Bois d'Agland**	**6.63**	**55**	*e*Pn	**Pn**	**07 00 07.5 +1.5**
ETOS	**Mallorca**	**6.77**	**116**	Pn	**Pn**	**07 00 10.5 +2.6**
	0.1nm,0.1s,SNR=7.9					
ETOS				Sn	**Sn**	**07 01 24.4 -0.6**
	0.3nm,0.1s,SNR=4.0					
ETOS	**Mallorca**	**6.77**	**116**	Pn	**Pn**	**07 00 10.5 +2.6**
	0.1nm,0.1s,SNR=7.9					
PLDF	**La Plantade**	**6.87**	**62**	P	**Pn**	**07 00 09.5 +0.3**
PLDF				S	**Sn**	**07 01 25.7 -1.7**
HYF	**Humbligny**	**6.89**	**50**	*e*Pn	**Pn**	**07 00 11.7 +2.2**
HYF				*e*Sn	**Sn**	**07 01 23.6 -4.4**
HYF	**Humbligny**	**6.89**	**50**	*e*Pn	**Pn**	**07 00 11.7 +2.2**
AVF	**Avril sur Loir**	**7.05**	**55**	*e*Pn	**Pn**	**07 00 12.9 +1.2**
AVF				*e*Sn	**Sn**	**07 01 26.5 -5.4**
	15nm,0.4s					
AVF	**Avril sur Loir**	**7.05**	**55**	*e*Pn	**Pn**	**07 00 12.9 +1.2**
VIVF	**Saint-Julien-l**	**7.26**	**72**	*e*Pn	**Pn**	**07 00 16.5 +1.9**
VIVF				*e*Sn	**Sn**	**07 01 32.8 -4.3**
	13nm,0.4s					
VIVF	**Saint-Julien-l**	**7.26**	**72**	*e*Pn	**Pn**	**07 00 16.5 +1.9**
SSF	**Saint Saulge**	**7.28**	**54**	*e*Pn	**Pn**	**07 00 16.3 +1.5**
SSF				*e*Sn	**Sn**	**07 01 32.3 -5.2**
	22nm,0.5s					
SSF	**Saint Saulge**	**7.28**	**54**	*e*Pn	**Pn**	**07 00 16.3 +1.5**
SMF	**Signal de Mont**	**7.28**	**57**	*e*Pn	**Pn**	**07 00 15.9 +1.0**
SMF				*e*Sn	Sn	07 01 30.7 -6.9
	8.8nm,0.4s					
SMF	**Signal de Mont**	**7.28**	**57**	*e*Pn	**Pn**	**07 00 15.9 +1.0**
LOR	**Lormes**	**7.59**	**53**	*e*Pn	**Pn**	**07 00 21.4 +2.3**
	baz=236					
LOR				*e*Sn	**Sn**	**07 01 40.5 -4.7**
	16nm,0.4s					
LOR	**Lormes**	**7.59**	**53**	*e*Pn	**Pn**	**07 00 21.4 +2.3**
	baz=236					
SMRF	**Simiane la Rot**	**7.79**	**80**	*e*Pn	**Pn**	**07 00 23.6 +1.7**
SMRF	**Simiane la Rot**	**7.79**	**80**	*e*Pn	**Pn**	**07 00 23.6 +1.7**
ORIF	**Oris-en-Rattie**	**8.12**	**73**	*e*Pn	Pn	07 00 29.1 +2.7
ORIF				*e*Sn	**Sn**	**07 01 54.9 -3.3**
	6.3nm,0.6s					
ORIF	**Oris-en-Rattie**	**8.12**	**73**	*e*Pn	Pn	07 00 29.1 +2.7
LMR	**La Mourre**	**8.47**	**84**	*e*Pn	**Pn**	**07 00 32.9 +1.8**
LMR				*e*Sn	**Sn**	**07 02 03.2 -3.5**
	0.7nm,0.3s					
LMR	**La Mourre**	**8.47**	**84**	*e*Pn	**Pn**	**07 00 32.9 +1.8**
FRF	**La Foret Royal**	**8.56**	**83**	*e*Pn	**Pn**	**07 00 34.0 +1.6**
FRF				*e*Sn	**Sn**	**07 02 05.7 -3.3**
	1.0nm,0.2s					
FRF	**La Foret Royal**	**8.56**	**83**	*e*Pn	**Pn**	**07 00 34.0 +1.6**
CABF	**La Chapelle**	**8.69**	**62**	*e*Pn	**Pn**	**07 00 35.5 +1.2**
CABF				*e*Sn	**Sn**	**07 02 08.0 -4.4**
	2.1nm,0.4s					
CABF	**La Chapelle**	**8.69**	**62**	*e*Pn	**Pn**	**07 00 35.5 +1.2**
SFTF	**Sexfontaines**	**8.76**	**50**	*e*Sn	Sn	07 02 06.5 -7.4
	5.3nm,0.2s					
LPL	**La Plagne**	**8.82**	**70**	*e*Pn	**Pn**	**07 00 37.7 +1.5**
LPL	**La Plagne**	**8.82**	**70**	*e*Pn	**Pn**	**07 00 37.7 +1.5**
LPG	**La Plagne**	**8.83**	**70**	*e*Pn	**Pn**	**07 00 38.7 +2.3**
LPG	**La Plagne**	**8.83**	**70**	*e*Pn	**Pn**	**07 00 38.7 +2.3**
MEZF	**Maizieres J'vi**	**8.93**	**49**	*e*Pn	**Pn**	**07 00 39.0 +1.6**
MEZF				*e*Sn	Sn	07 02 12.0 -6.0
	7.3nm,0.5s					
MEZF	**Maizieres J'vi**	**8.93**	**49**	*e*Pn	**Pn**	**

JFT S **Sn** **07 04 23.8 -0.1**
JAG Ashikaga 2.98 285 P **Pn** **07 03 52.5 -1.0**
JRY Ryogami san 3.36 276 P **Pn** **07 03 58.2 -0.6**
JMK Ichinoseki 3.54 337 P **Pn** **07 03 59.9 -1.2**
JMK S **Sn** **07 04 40.3 -1.4**
JYN Shimob 3.66 268 *e*S **Sn** **07 04 43.8 -1.0**
JYK Kaneyama 3.84 327 P **Pn** **07 04 04.2 -1.1**
JYK *e*S **Sn** **07 04 49.3 +0.1**
MJAR Matsushiro Arr 3.98 283 Pn **Pn** **07 04 07.4 +0.1**
3.2nm,0.3s,baz=97,slow=9.7,SNR=46
MJAR Sn **Sn** **07 04 51.3 -1.6**
1.3nm,0.3s,baz=126,slow=28,SNR=4.8
MAT Matsushiro 3.99 283 P **Pn** **07 04 07.0 -0.3**
MAT S **Sn** **07 04 52.3 -0.6**
MAT Matsushiro 3.99 283 P **Pn** **07 04 07.7 +0.4**
JOM Ohasama 4.00 340 P **Pn** **07 04 06.7 -0.7**
JOM S **Sn** **07 04 52.2 -0.8**
JANG Nango 4.80 346 *e*S **Sn** **07 05 10.3 -2.6**
ASAJ Asahikawa 8.40 358 Pn **Pn** **07 05 06.8 -1.1**
baz=225,slow=8.9
ASAJ Sn **Sn** **07 06 37.8 -3.6**
0.3nm,0.3s,baz=319,slow=19,SNR=3.4
ASAJ LR LR 07 09 36.5
comp=Z,37nm,18.9s,baz=251,slow=46
JNU Nakatsue 10.36 259 Pn **Pn** **07 05 34.4 -0.5**
0.2nm,0.3s,baz=78,slow=14,SNR=2.8
USRK Ussuriysk Arra 11.96 318 Pn **Pn** **07 05 58.4 +1.7**
0.2nm,0.3s,baz=125,slow=14,SNR=3.4
KSRS Korea Array 12.27 283 Pn **Pn** **07 06 01.8 +1.0**
0.1nm,0.3s,baz=95,slow=14,SNR=4.4
SONM Songino Array 29.60 306 P **P** **07 09 12.5 +2.0**
0.7nm,0.7s,baz=98,slow=7.3,SNR=4.9
ZALV Zalesovo Beam 43.76 313 P **P** **07 11 11.6 +1.0**
0.5nm,0.3s,baz=98,slow=11,SNR=3.8
MKAR Makanchi Array 45.92 303 P **P** **07 11 28.4 +0.4**
0.4nm,0.7s,baz=91,slow=9.7,SNR=5.6
KURBB Kurchatov Arra 47.84 309 P **P** **07 11 43.7 +0.9**
0.9nm,0.6s,baz=85,slow=7.7,SNR=8.4
ILAR Eielson Array 49.92 32 P **P** **07 11 59.4 +0.8**
1.1nm,0.8s,baz=263,slow=6.8,SNR=14
WRA Warramunga Arr 55.96 190 P **P** **07 12 41.4 -2.2**
2.5nm,0.7s,baz=8.6,slow=7.5,SNR=20
ASAR Alice Springs 59.69 190 P **P** **07 13 08.0 -1.7**
0.9nm,0.7s,baz=18,slow=12,SNR=11
YKA Yellowknife Ar 64.29 30 P **P** **07 13 40.3 +0.1**
1.0nm,0.8s,baz=298,slow=6.6,SNR=4.3
NVAR Mina Array Bea 74.73 54 P **P** **07 14 46.0 +0.6**
0.1nm,0.5s,baz=288,slow=6.1,SNR=3.7
PDAR Pinedale Array 77.65 46 P **P** **07 15 02.0 +0.2**
0.4nm,0.8s,baz=236,slow=2.7,SNR=4.6
TXAR Lajitas Array 89.88 53 P **P** **07 16 04.8 +0.4**
0.4nm,0.8s,baz=270,slow=3.8,SNR=4.8
LPAZ La Paz 146.18 63 PKPbc **PKPbc** **07 22 46.1 -0.4**
1.1nm,0.8s,baz=281,slow=3.2,SNR=5.0

*ROM **16** 07:11:25.7±0.1,42°.47N×12°.70E,h6km±1km,Ml3.0/27, Error ellipse: s-maj=1.1km s-min=0.8km az=54.0*
*ISCJB **16** 07:11:26.5±0.3,42°.45N±0°.02×12°.66E±0°.02,h20km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=40.8*
*CSEM **16** 07:11:26.1±0.1,42°.46N×12°.65E,h10km,ML3.8/9, Error ellipse: s-maj=3.4km s-min=2.7km az=42.0*
*LDG **16** 07:11:26.0±0.1,42°.50N×12°.65E,h2km,Ml2.8/6, Error ellipse: s-maj=5.6km s-min=3.6km az=42.0*
ISC 16 07:11:25.4±0.6,**42°.44N**±0°.02×**12°.61E**±0°.02,**h12**km±4km, **n118**,σ1$**29**/161,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CESX	**Cesi**	**0.17**	**351**	Pg	**Pg**		**07 11 29.9**	**+0.6**
CESX				Sg	**Sg**		**07 11 32.6**	**+0.5**
CESX	**Cesi**	**0.17**	**351**	Pg	**Pg**		**07 11 29.9**	**+0.6**
CESX				Sg	**Sg**		**07 11 32.6**	**+0.5**
FIAM	**Fiamignano**	**0.41**	**115**	Pg	**Pg**		**07 11 34.0**	**+0.4**
FIAM				Sg	**Sg**		**07 11 39.5**	**+0.4**
2μm,0.8s								
FIAM	**Fiamignano**	**0.41**	**115**	Pg	**Pg**		**07 11 34.0**	**+0.4**
FIAM				Sg	**Sg**		**07 11 39.5**	**+0.4**
2μm,0.8s								
MTCE	**Montecelio**	**0.43**	**167**	Pg	**Pb**		**07 11 35.4**	**+0.5**
402nm,0.6s								
MTCE	**Montecelio**	**0.43**	**167**	Pg	**Pb**		**07 11 35.4**	**+0.5**
402nm,0.6s								
NRCA	**Norcia**	**0.54**	**43**	Pg	**Pg**		**07 11 35.7**	**-0.3**
NRCA				Sg	**Sg**		**07 11 42.9**	**-0.2**
NRCA	**Norcia**	**0.54**	**43**	Pg	**Pg**		**07 11 35.7**	**-0.3**
NRCA				Sg	**Sg**		**07 11 42.9**	**-0.2**
CERT	**Cerreto**	**0.56**	**151**	Pg	**Pb**		**07 11 37.3**	**+0.1**
CERT				Sg	**Sb**		**07 11 46.2**	**+1.0**
1μm,0.5s								
CERT	**Cerreto**	**0.56**	**151**	Pg	**Pb**		**07 11 37.3**	**+0.1**
CERT				Sg	**Sb**		**07 11 46.2**	**+1.0**
1μm,0.5s								
AQU	**L'Aquila**	**0.59**	**98**	Pg	**Pg**		**07 11 36.8**	**-0.1**
AQU				Sg	**Sb**		**07 11 46.0**	**0.0**
1μm,0.4s								
AQU	**L'Aquila**	**0.59**	**98**	Pg	**Pg**		**07 11 36.8**	**-0.1**
AQU				Sg	**Sb**		**07 11 46.0**	**0.0**
1μm,0.4s								
TOLF	**Tolfa**	**0.59**	**230**	Pg	**Pb**		**07 11 38.9**	**+1.2**
TOLF				Sg	**Sb**		**07 11 48.7**	**+2.7**
771nm,0.5s								
TOLF	**Tolfa**	**0.59**	**230**	Pg	**Pb**		**07 11 38.9**	**+1.2**
TOLF				Sg	**Sb**		**07 11 48.7**	**+2.7**
771nm,0.5s								
MGAB	**Montegabbione**	**0.60**	**322**	Pg	**Pb**		**07 11 38.1**	**+0.3**
MGAB				Sg	**Sb**		**07 11 47.3**	**+1.1**
1μm,0.2s								
MGAB	**Montegabbione**	**0.60**	**322**	Pg	**Pb**		**07 11 38.1**	**+0.3**
MGAB				Sg	**Sb**		**07 11 47.3**	**+1.1**
1μm,0.2s								
CESI	**CESI - Serrava**	**0.60**	**21**	Pg	**Pg**		**07 11 37.2**	**0.0**
CESI				Sg	**Sb**		**07 11 45.4**	**-0.9**
1μm,0.3s								
CESI	**CESI - Serrava**	**0.60**	**21**	Pg	**Pg**		**07 11 37.2**	**0.0**
CESI				Sg	**Sb**		**07 11 45.4**	**-0.9**
1μm,0.3s								
LATE	**Laterza**	**0.62**	**286**	Pg	**Pb**		**07 11 39.2**	**+1.0**
1μm,0.3s								
LATE	**Laterza**	**0.62**	**286**	Pg	**Pb**		**07 11 39.2**	**+1.0**
1μm,0.3s								
RMP	**Rome, Mte Porz**	**0.64**	**174**	Pg	**Pn**		**07 11 40.2**	**0.0**
504nm,0.5s								
RMP	**Rome, Mte Porz**	**0.64**	**174**	Pg	**Pn**		**07 11 40.2**	**0.0**
504nm,0.5s								
SACS	**San Casciano d**	**0.66**	**308**	Pg	**Pb**		**07 11 39.4**	**+0.5**
SACS				Sg	**Sb**		**07 11 50.3**	**+2.3**
526nm,0.7s								
FDMO	**Fiordimonte**	**0.69**	**30**	Pg	**Pg**		**07 11 38.5**	**-0.3**
FDMO				Sg	**Sb**		**07 11 47.9**	**-0.9**
1μm,0.2s								
FDMO	**Fiordimonte**	**0.69**	**30**	Pg	**Pg**		**07 11 38.5**	**-0.3**
FDMO				Sg	**Sb**		**07 11 47.9**	**-0.9**
1μm,0.2s								
PTQR	**Pietraquaria**	**0.72**	**126**	Pg	**Pb**		**07 11 40.2**	**+0.3**
62nm,0.4s								
PTQR	**Pietraquaria**	**0.72**	**126**	Pg	**Pb**		**07 11 40.2**	**+0.3**
62nm,0.4s								
FAGN	**Fagnano**	**0.74**	**104**	Pg	**Pb**		**07 11 40.0**	**-0.2**
1μm,0.5s								
FAGN	**Fagnano**	**0.74**	**104**	Pg	**Pb**		**07 11 40.0**	**-0.2**
1μm,0.5s								
TERO	**Teramo**	**0.75**	**76**	Pg	**Pg**		**07 11 39.1**	**-0.9**
496nm,0.3s								
TERO	**Teramo**	**0.75**	**76**	Pg	**Pg**		**07 11 39.1**	**-0.9**
496nm,0.3s								
GUAR	**Guarcino**	**0.83**	**141**	Pg	**Pg**		**07 11 41.5**	**0.0**
368nm,0.5s								
GUAR	**Guarcino**	**0.83**	**141**	Pg	**Pg**		**07 11 41.5**	**0.0**
368nm,0.5s								
SNTG	**Esanatoglia**	**0.85**	**16**	Pg	**Pg**		**07 11 41.4**	**-0.4**
159nm,0.2s								
SNTG	**Esanatoglia**	**0.85**	**16**	Pg	**Pg**		**07 11 41.4**	**-0.4**
159nm,0.2s								
VCEL	**Villa Celiera**	**0.91**	**93**	Pg	**Pb**		**07 11 42.9**	**-0.3**
1μm,0.9s								
VCEL	**Villa Celiera**	**0.91**	**93**	Pg	**Pb**		**07 11 42.9**	**-0.3**
1μm,0.9s								
OFFI	**Offida**	**0.93**	**58**	Pg	**Pg**		**07 11 42.7**	**-0.7**
1μm,0.5s								
OFFI	**Offida**	**0.93**	**58**	Pg	**Pg**		**07 11 42.7**	**-0.7**
1μm,0.5s								
ARCI	**Arcidosso**	**0.93**	**296**	Pg	**Pb**		**07 11 44.8**	**+1.2**
98nm,0.5s								
ARCI	**Arcidosso**	**0.93**	**296**	Pg	**Pb**		**07 11 44.8**	**+1.2**
98nm,0.5s								
VVLD	**Villa Vallelon**	**0.94**	**127**	Pg	**Pg**		**07 11 43.7**	**+0.1**
300nm,0.7s								
VVLD	**Villa Vallelon**	**0.94**	**127**	Pg	**Pg**		**07 11 43.7**	**+0.1**
300nm,0.7s								
CAFI	**Castiglion Fio**	**1.00**	**332**	Pg	**Pg**		**07 11 45.1**	**+0.3**
CAFI				Sg	**Sn**		**07 12 00.1**	**+0.7**
CAFI	**Castiglion Fio**	**1.00**	**332**	Pg	**Pg**		**07 11 45.1**	**+0.3**
CAFI				Sg	**Sn**		**07 12 00.1**	**+0.7**
GIUL	**Giuliano Di Ro**	**1.00**	**151**	Pg	**Pg**		**07 11 44.5**	**-0.3**
150nm,0.5s								
GIUL	**Giuliano Di Ro**	**1.00**	**151**	Pg	**Pg**		**07 11 44.5**	**-0.3**
150nm,0.5s								
CING	**Cingoli**	**1.02**	**24**	Pg	**Pg**		**07 11 44.6**	**-0.6**
253nm,0.4s								
CING	**Cingoli**	**1.02**	**24**	Pg	**Pg**		**07 11 44.6**	**-0.6**
253nm,0.4s								
INTR	**Introdacqua**	**1.05**	**114**	Pg	**Pg**		**07 11 44.6**	**-1.1**
598nm,0.8s								
INTR	**Introdacqua**	**1.05**	**114**	Pg	**Pg**		**07 11 44.6**	**-1.1**
598nm,0.8s								
ARVD	**Arcevia**	**1.08**	**13**	Pg	**Pg**		**07 11 45.8**	**-0.4**
225nm,0.5s								
ARVD	**Arcevia**	**1.08**	**13**	Pg	**Pg**		**07 11 45.8**	**-0.4**
225nm,0.5s								
POFI	**Posta Fibreno**	**1.09**	**131**	Pg	**Pb**		**07 11 46.6**	**+0.3**
241nm,1.0s								
POFI	**Posta Fibreno**	**1.09**	**131**	Pg	**Pb**		**07 11 46.6**	**+0.3**
241nm,1.0s								
PIEI	**Pieia**	**1.09**	**357**	Pg	**Pn**		**07 11 47.0**	**+0.4**
PIEI	**Pieia**	**1.09**	**357**	Pg	**Pn**		**07 11 47.0**	**+0.4**
MAON	**Monte Argentar**	**1.10**	**270**	Pg	**Pg**		**07 11 47.4**	**+0.9**
124nm,0.5s								
MAON	**Monte Argentar**	**1.10**	**270**	Pg	**Pg**		**07 11 47.4**	**+0.9**
124nm,0.5s								
BADI	**Badiali**	**1.10**	**346**	Pg	**Pn**		**07 11 47.1**	**+0.5**
BADI				Sg	**Sn**		**07 12 02.2**	**+0.5**
316nm,0.4s								
BADI	**Badiali**	**1.10**	**346**	Pg	**Pn**		**07 11 47.1**	**+0.5**
BADI				Sg	**Sn**		**07 12 02.2**	**+0.5**
316nm,0.4s								
GUMA	**Gualdo di Mace**	**1.15**	**57**	Pg	Pg		07 11 41.0	-6.6
GUMA				Sg	Sg		07 11 52.4	-10
PARC	**Parchiule**	**1.24**	**347**	Pn	**Pg**		**07 11 49.4**	**+0.2**
183nm,0.4s								
PARC	**Parchiule**	**1.24**	**347**	Pn	**Pg**		**07 11 49.4**	**+0.2**
183nm,0.4s								
FSSB	**Fossombrone**	**1.25**	**5**	Pg	**Pb**		**07 11 49.2**	**+0.2**
128nm,0.4s								
FSSB	**Fossombrone**	**1.25**	**5**	Pg	**Pb**		**07 11 49.2**	**+0.2**
128nm,0.4s								
PGF	**Pioggiola**	**2.67**	**273**	*e*Pn	**Pn**		**07 12 09.7**	**+1.3**
PGF				*e*Sn	**Sn**		**07 12 39.0**	**-1.7**
5.5nm,0.4s								
PGF	**Pioggiola**	**2.67**	**273**	*e*Pn	**Pn**		**07 12 09.7**	**+1.3**
PGF				*e*Sn	**Sn**		**07 12 39.0**	**-1.7**
2.8nm,0.4s								
NVLJ	**Novalja**	**2.68**	**37**	*e*Pn	**Pn**		**07 12 09.9**	**+1.6**
NVLJ				Sn	**Sn**		**07 12 39.5**	**-1.1**
UDBI	**Udbina**	**3.10**	**47**	*e*Pn	**Pn**		**07 12 16.5**	**+2.4**
UDBI				Sn	**Sn**		**07 12 53.8**	**+2.7**
UDBI	**Udbina**	**3.10**	**47**	*e*Pn	**Pn**		**07 12 16.5**	**+2.4**
UDBI				Sn	**Sn**		**07 12 53.8**	**+2.7**
BOJS	**Bojanci**	**3.60**	**31**	*i* Pn	**Pn**		**07 12 22.6**	**+1.6**
BOJS				*i* Sn	**Sn**		**07 13 05.0**	**+1.5**
BOJS	**Bojanci**	**3.60**	**31**	*i* Pn	**Pn**		**07 12 22.6**	**+1.6**
BOJS				*i* Sn	**Sn**		**07 13 04.9**	**+1.5**
JAVS	**Javornik**	**3.60**	**16**	*i* Pn	**Pn**		**07 12 22.6**	**+1.5**
JAVS	**Javornik**	**3.60**	**16**	Pn	**Pn**		**07 12 22.6**	**+1.5**
JAVS				*i* Sn	**Sn**		**07 13 05.2**	**+1.6**
VOY	**Vojsko**	**3.70**	**14**	*e*Pn	**Pn**		**07 12 24.9**	**+2.4**
VOY	**Vojsko**	**3.70**	**14**	*e*Pn	**Pn**		**07 12 24.9**	**+2.4**
VOY				*e*Sn	**Sn**		**07 13 06.4**	**+0.3**
VISS	**Visnje**	**3.72**	**25**	*i* Pn	**Pn**		**07 12 24.5**	**+1.8**
VISS				*i* Sn	**Sn**		**07 13 07.6**	**+1.2**
VISS	**Visnje**	**3.72**	**25**	*i* Pn	**Pn**		**07 12 24.5**	**+1.8**
VISS				*i* Sn	**Sn**		**07 13 07.6**	**+1.2**
STON	**Ston**	**3.77**	**82**	*e*Pn	**Pn**		**07 12 25.2**	**+1.9**
STON				Sn	**Sn**		**07 13 07.8**	**+0.2**
STON	**Ston**	**3.77**	**82**	*e*Pn	**Pn**		**07 12 25.2**	**+1.9**
STON				Sn	**Sn**		**07 13 07.8**	**+0.2**
VNDS	**Vrh nad Dolski**	**3.95**	**22**	*i* Pn	**Pn**		**07 12 27.8**	**+2.0**
PDKS	**Podkum**	**4.00**	**25**	*i* Pn	**Pn**		**07 12 27.7**	**+1.2**
PDKS				*i* Sn	**Sn**		**07 13 14.6**	**+1.3**
PDKS	**Podkum**	**4.00**	**25**	*i* Pn	**Pn**		**07 12 27.7**	**+1.2**
PDKS				*i* Sn	**Sn**		**07 13 14.6**	**+1.3**
SBF	**Sospel**	**4.05**	**292**	*e*Pn	**Pn**		**07 12 26.9**	**-0.3**
SBF				*e*Sn	**Sn**		**07 13 12.2**	**-2.3**
5.8nm,0.6s								
SBF	**Sospel**	**4.05**	**292**	*e*Pn	**Pn**		**07 12 26.9**	**-0.3**
SBF				*e*Sn	**Sn**		**07 13 12.2**	**-2.3**
2.9nm,0.6s								
FRF	**La Foret Royal**	**4.52**	**286**	*e*Pn	**Pn**		**07 12 33.2**	**-0.4**
FRF				*e*Sn	**Sn**		**07 13 22.9**	**-3.1**
1.5nm,0.5s								
FRF	**La Foret Royal**	**4.52**	**286**	*e*Pn	**Pn**		**07 12 33.2**	**-0.4**
PERS	**Pernice**	**4.56**	**22**	*i* Pn	**Pn**		**07 12 36.9**	**+2.7**
PERS	**Pernice**	**4.56**	**22**	*i* Pn	**Pn**		**07 12 36.9**	**+2.7**
LMR	**La Mourre**	**4.57**	**283**	*e*Pn	**Pn**		**07 12 33.8**	**-0.5**
LMR	**La Mourre**	**4.57**	**283**	*e*Pn	**Pn**		**07 12 33.8**	**-0.5**
MBDF	**Montbardon**	**4.82**	**300**	*e*Pn	**Pn**		**07 12 38.6**	**+0.7**
MBDF	**Montbardon**	**4.82**	**300**	*e*Pn	**Pn**		**07 12 38.6**	**+0.7**
LPG	**La Plagne**	**5.22**	**308**	*e*P	Pn		07 12 46.9	+3.5
LPG	**La Plagne**	**5.22**	**308**	*e*P	Pn		07 12 46.9	+3.5
LPL	**La Plagne**	**5.24**	**308**	*e*P	Pn		07 12 47.0	+3.3
LPL	**La Plagne**	**5.24**	**308**	*e*P	Pn		07 12 47.0	+3.3
SMRF	**Simiane la Rot**	**5.37**	**289**	*e*Pn	**Pn**		**07 12 46.7**	**+1.4**
SMRF	**Simiane la Rot**	**5.37**	**289**	*e*Pn	**Pn**		**07 12 46.7**	**+1.4**
ORIF	**Oris-en-Rattie**	**5.47**	**299**	*e*P	Pn		07 12 50.6	+3.8
ORIF	**Oris-en-Rattie**	**5.47**	**299**	*e*P	Pn		07 12 50.6	+3.8
VIVF	**Saint-Julien-l**	**6.25**	**295**	*e*Pn	**Pn**		**07 12 56.5**	**-0.8**
VIVF	**Saint-Julien-l**	**6.25**	**295**	*e*Pn	**Pn**		**07 12 56.5**	**-0.8**
KHC	**Kasperske Hory**	**6.72**	**5**	*e*PN	**Pn**		**07 13 05.5**	**+1.6**
KHC				*e*SN	**Sn**		**07 14 18.0**	**-2.3**
KHC				*e*SG	Sg		07 15 10.0	+9.0
HINF	**Hinteralfeld**	**6.74**	**325**	*e*Pn	**Pn**		**07 13 04.2**	**+0.1**
HINF				*e*Sn	**Sn**		**07 14 16.1**	**-4.7**
1.9nm,0.3s								
HINF	**Hinteralfeld**	**6.74**	**325**	*e*Pn	**Pn**		**07 13 04.2**	**+0.1**
CDF	**Champ du Feu**	**7.05**	**330**	*e*Pn	**Pn**		**07 13 08.1**	**-0.3**
CDF				*e*Sn	Sn		07 14 22.1	-6.4
1.5nm,0.5s								
CDF	**Champ du Feu**	**7.05**	**330**	*e*Pn	**Pn**		**07 13 08.1**	**-0.3**
HAU	**Haudompre**	**7.11**	**324**	*e*Pn	**Pn**		**07 13 08.6**	**-0.5**
HAU				*e*Sn	Sn		07 14 24.8	-4.9
5.1nm,0.5s								
HAU	**Haudompre**	**7.11**	**324**	*e*Pn	**Pn**		**07 13 08.6**	**-0.5**

*ISCJB **16** 07:26:38.0±2.1,35°.00S±0°.05×179°.63W±0°.07, h15km±14km,mb5.0/42,MS4.7/2, Error ellipse: s-maj=10.1km s-min=8.1km az=40.5*
*BJI **16** 07:26:41.7,35°.00S×179°.70W,h35km,mB5.7/11, mb5.2/17,Ms5.4/3,Ms7 5.1/3*
*MOS **16** 07:26:41.5±1.3,34°.95S×179°.62W,h33km,mb5.3/12, Error ellipse: s-maj=12.4km s-min=11.7km az=102.0*
*NEIC **16** 07:26:42.4±0.2,35°.025×179°.57W,h35km,mb5.4/14, Error ellipse: s-maj=8.2km s-min=6.4km az=131.0*
*IDC **16** 07:26:42.6±0.6,34°.88S×179°.50W,h37km±4km,mb4.5/19, mb1 4.6/20,mb1mx4.5/23,mbtmp4.5/20,ML4.6/1,MS4.4/4, Ms1 4.4/4,ms1mx4.1/46, Error ellipse: s-maj=14.4km s-min=12.8km az=160.0*
ISC 16 07:26:42.4±0.3,**34°.97S**±0°.06×**179°.49W**±0°.06,**h36**km±2km, **h36km:pP-P,n238**,σ1$**35**/276,**mb5.0**/42,**MS5.1**/3,**3C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
URZ	**Urewera**	**4.27**	**219**	Pn	**Pn**		**07 27 44.0**	**-1.0**
URZ				*e*Sn	**Sn**		**07 28 34.7**	**+1.2**
URZ				Sn	Sn		07 28 35.0	+1.5
URZ	**Urewera**	**4.27**	**219**	Pn	**Pn**		**07 27 44.0**	**-1.0**
32nm,0.3s,baz=33,slow=5.7,SNR=146								
URZ				Sn	**Sn**		**07 28 35.0**	**+1.5**
59nm,0.3s,baz=182,slow=22,SNR=13								
URZ				LR	LR		07 28 55.1	
comp=Z,996nm,20.6s,baz=48,slow=30								
OUZ	**Omahuta**	**5.67**	**265**	Pn	**Pn**		**07 28 01.3**	**-2.8**
RAO	**Raoul Island**	**5.85**	**14**	Sn	Sn		07 29 05.7	-6.8
RAO	**Raoul Island**	**5.85**	**14**	Sn	Sn		07 29 05.7	-6.8
133nm,0.3s,baz=252,slow=19,SNR=3.3								
RAO				LR	LR		07 30 09.0	
comp=Z,3μm,19.2s,baz=228,slow=36								
SNZO	**South Karori**	**7.81**	**214**	*e*Pn	**Pn**		**07 28 30.8**	**-2.6**
229nm,0.9s								
SNZO				*e*Sn	Sn		07 29 54.0	-6.5
RPZ	**Rata Peaks**	**11.39**	**217**	*e*Pn	**Pn**		**07 29 20.6**	**-1.9**
RPZ				*e*Sn	Sn		07 31 13.8	-15
RPZ				Sn	Sn		07 31 16.3	-12
RPZ	**Rata Peaks**	**11.39**	**217**	Pn	Pn		07 29 18.1	-4.4
4.6nm,0.3s,baz=21,slow=1.4,SNR=26								
RPZ				Sn	Sn		07 31 16.3	-12
5.5nm,0.3s,baz=338,slow=17,SNR=15								
ODZ	**Otahua Downs**	**12.58**	**214**	*e*Pn	Pn		07 29 32.7	-6.1
ODZ				*e*Sn	Sn		07 31 45.4	-12
MSVF	**Nonsavu**	**17.30**	**352**	*e*P	**Pn**		**07 30 41.4**	**+0.1**
MSVF				pmax	pmax			
comp=Z,98nm,1.3s								
MSVF	**Nonsavu**	**17.30**	**352**	*e*Pn	**Pn**		**07 30 41.4**	**+0.1**
comp=Z,98nm,1.3s								
DZM	**Mont Dzumac**	**17.80**	**312**	*e*P	**P**		**07 30 50.3**	**+2.3**
comp=Z,56nm,0.9s								
DZM				*e*LR	LR		07 35 14.9	
comp=Z,6μm,23.2s								
DZM	**Mont Dzumac**	**17.80**	**312**	*e*P	**P**		**07 30 50.8**	**+2.9**
DZM	**Mont Dzumac**	**17.80**	**312**	*e*P	**P**		**07 30 49.1**	**+1.1**
comp=Z,148nm,1.4s								
DZM	**Mont Dzumac**	**17.80**	**312**	P	**P**		**07 30 51.6**	**+3.6**
comp=Z,0.7nm,0.3s,baz=90,slow=23,SNR=11								
DZM				LR	LR		07 36 28.3	
comp=Z,5μm,19.7s,baz=360,slow=33								
NOUC	**Port Laguerre**	**17.86**	**312**	*e*P	**P**		**07 30 53.0**	**+4.5**
RAR	**Rarotonga**	**22.09**	**57**	P	**P**		**07 31 33.9**	**-0.6**
RAR	**Rarotonga**	**22.09**	**57**	P	**P**		**07 31 33.9**	**-0.6**
comp=Z,36nm,1.0s,baz=218,slow=0.0,SNR=2.1								
AFI	**Afiamalu**	**22.09**	**20**	*e*P	**P**		**07 31 36.4**	**+1.8**
AFI				S	S		07 35 28.7	-7.6
AFI	**Afiamalu**	**22.09**	**20**	P	**P**		**07 31 33.4**	**-1.3**
comp=Z,42nm,0.9s,baz=122,slow=13,SNR=3.4								
AFI				S	S		07 35 28.7	-7.6
comp=Z,10nm,0.6s,baz=255,slow=20,SNR=2.7								
CAN	**Canberra**	**25.71**	**260**	*e*P	**P**		**07 32 07.3**	**-2.1**
CAN				pmax	pmax			
comp=Z,41nm,1.4s								
CAN	**Canberra**	**25.71**	**260**	*e*P	**P**		**07 32 07.3**	**-2.1**
comp=Z,41nm,1.4s								
TBI	**Tubuai**	**28.56**	**74**	*e*LR	LR		07 39 42.6	
comp=Z,2μm,29.0s,baz=230								
PPT2	**Papeete2**	**31.75**	**65**	*e*LR	LR		07 41 22.4	
comp=Z,1μm,24.0s,baz=226								
PPT	**Papeete**	**31.77**	**65**	LR	LR		07 43 25.2	
comp=Z,617nm,18.3s,baz=48,slow=32								
STKA	**Stephens Creek**	**32.49**	**264**	*e*P	**P**		**07 33 10.2**	**+0.6**
comp=Z,6.7nm,1.2s								
STKA				*e*PP	**PP**		**07 34 21.1**	**-2.2**
STKA				PcP	**PcP**		**07 35 55.3**	**-0.7**
STKA				*e*PcP	PcP		07 35 55.7	-0.3
STKA	**Stephens Creek**	**32.49**	**264**	P	**P**		**07 33 11.2**	**+1.5**
comp=Z,17nm,1.1s,baz=116,slow=11,SNR=6.7								
STKA				PcP	**PcP**		**07 35 55.3**	**-0.7**
comp=Z,5.9nm,0.7s,baz=140,slow=5.5,SNR=5.7								
CTA	**Charters Tower**	**33.61**	**287**	P	**P**		**07 33 21.5**	**+2.1**
CTA	**Charters Tower**	**33.61**	**287**	P	**P**		**07 33 21.5**	**+2.1**
comp=Z,31nm,0.9s,baz=108,slow=11,SNR=30								
CTAO	**Charters Tower**	**33.61**	**287**	*e*P	**P**		**07 33 21.6**	**+2.1**
CTAO				pmax	pmax			
comp=Z,79nm,1.0s								
CTAO	**Charters Tower**	**33.61**	**287**	*e*P	**P**		**07 33 21.6**	**+2.1**
comp=Z,79nm,1.0s								
PMG	**Port Moresby**	**39.68**	**302**	P	**P**		**07 34 10.8**	**-0.4**
comp=Z,2.0nm,0.9s								
PMG	**Port Moresby**	**39.68**	**302**	P	**P**		**07 34 10.8**	**-0.4**
comp=Z,21nm,0.9s,baz=119,slow=13,SNR=2.7								
RKT	**Rikitea**	**40.37**	**85**	*e*LR	LR		07 45 11.7	
comp=Z,1μm,28.2s								
AS31	**Alice Springs**	**41.83**	**273**	*e*P	**P**		**07 34 29.3**	**+0.3**
ASAR	**Alice Springs**	**41.83**	**273**	P	**P**		**07 34 29.3**	**+0.3**
ASAR				pP	**pP**		**07 34 40.2**	**+0.7**
ASAR				ScP	**ScP**		**07 40 11.4**

comp=Z,33nm,1.0s,baz=124,slow=7.4,SNR=39
PETK pP **pP** **07 39 48.9 +0.2**
comp=Z,33nm,0.9s,baz=125,slow=4.7,SNR=13
USRK Ussuriysk Arra 90.29 327 P **P** **07 39 38.3 -0.9**
comp=Z,2.5nm,0.8s,baz=110,slow=4.3,SNR=6.0
ISA Isabella 90.41 45 *e*P **P** **07 39 41.6 +1.5**
ISA pmax pmax
comp=Z,25nm,1.8s
ISA Isabella 90.41 45 *e*P **P** **07 39 41.6 +1.5**
comp=Z,25nm,1.8s
GLA Glamis 90.83 49 *e*P **P** **07 39 42.2 +0.1**
GLA pmax pmax
comp=Z,18nm,1.1s
GLA Glamis 90.83 49 *e*P **P** **07 39 42.2 +0.1**
comp=Z,18nm,1.1s
CMB Columbia Colle 90.98 43 *e*P **P** **07 39 43.9 +1.3**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 90.98 43 *e*P **P** **07 39 43.9 +1.3**
comp=Z,6.6nm,1.0s
GSC Goldstone 91.14 47 *e*P **P** **07 39 43.3 -0.2**
GSC pmax pmax
comp=Z,28nm,1.8s
GSC Goldstone 91.14 47 *e*P **P** **07 39 43.3 -0.2**
comp=Z,28nm,1.8s
MDJ Mudanjiang 91.69 326 P **P** **07 39 46.1 +0.4**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,66nm,5.4s
LDFC Landfair 92.02 48 *e*P **P** **07 39 50.3 +2.7**
comp=Z,26nm,1.2s
NVAR Mina Array Bea 92.42 44 P **P** **07 39 51.2 +1.7**
NVAR pP **pP** **07 39 59.9 -1.1**
NVAR Mina Array Bea 92.42 44 P **P** **07 39 51.2 +1.7**
comp=Z,0.4nm,0.8s,baz=222,slow=7.9,SNR=3.3
NVAR pP **pP** **07 39 59.9 -1.1**
comp=Z,1.4nm,0.7s,baz=222,slow=8.2,SNR=10
CHGN Chignik 92.67 12 *e*P **P** **07 39 51.1 +1.3**
GYA Guiyang 92.75 300 P **P** **07 39 52.0 +0.8**
GYA pP **pP** **07 40 03.6 +1.0**
GYA sP **sP** **07 40 09.5 +2.8**
GYA PP **PP** **07 43 37.3 +3.4**
GYA SKS **SKSac** **07 50 21.4 -1.0**
GYA S **S** **07 50 51.6 -2.3**
GYA SS **SS** **07 57 08.0 0.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,620nm,19.3s
GYA LR LR
comp=E,540nm,20.4s
GYA LR LR
comp=Z,700nm,22.3s
TUC Tucson 92.92 52 *e*P **P** **07 39 53.3 +1.5**
TUC pmax pmax
comp=Z,161nm,2.2s
TUC Tucson 92.92 52 *e*P **P** **07 39 53.3 +1.5**
comp=Z,161nm,2.2s
CN2 Changchun 93.03 324 *e*P **P** **07 39 51.4 -0.5**
CN2 *e*pP **pP** **07 40 03.5 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ENH Enshi 93.16 305 *e*P **P** **07 39 53.1 +0.2**
CMAR Chiang Mai Arr 93.74 290 P **P** **07 39 55.5 -0.3**
CMAR Chiang Mai Arr 93.74 290 P **P** **07 39 55.5 -0.3**
comp=Z,1.3nm,0.8s,baz=153,slow=3.9,SNR=8.6
CCUT Cedar City 94.71 47 *e*P P 07 40 03.5 +3.4
comp=Z,2.7nm,1.1s
KMI Kunming 94.77 297 P **P** **07 39 59.8 -0.9**
KMI pmax pmax
comp=Z,8.0nm,0.9s
TXAR Lajitas Array 95.88 58 P **P** **07 40 06.4 +0.9**
TXAR pP **pP** **07 40 16.7 -0.2**
TXAR Lajitas Array 95.88 58 P **P** **07 40 06.4 +0.9**
comp=Z,0.3nm,0.8s,baz=192,slow=8.3,SNR=2.6
TXAR pP **pP** **07 40 16.7 -0.2**
comp=Z,0.5nm,0.8s,baz=194,slow=8.8,SNR=5.3
CD2 Chengdu 97.46 302 *e*P Pdif 07 40 14.0 +1.4
CD2 pP pP 07 40 25.0 +1.1
CD2 sP sP 07 40 29.1 +1.1
CD2 PP **PP** **07 44 14.3 +3.9**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,130nm,5.8s
HHC Hu-ho-hao-te 98.50 314 *e*P Pdif 07 40 17.6 +0.5
HHC pP pP 07 40 27.8 -0.7
HHC sP sP 07 40 31.8 -0.8
HHC PP **PP** **07 44 21.0 +2.7**
HHC SKS **SKSac** **07 50 51.8 -0.3**
HHC S **S** **07 51 40.9 -2.2**
HHC SS **SS** **07 58 29.8 +0.5**
HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.8s
SEY Seymchan 100.14 347⇑ *e*P **Pdif** **07 40 26.4 +2.8**
PDAR Pinedale Array 100.28 45 P **Pdif** **07 40 26.3 +1.2**
PDAR Pinedale Array 100.28 45 P **Pdif** **07 40 26.3 +1.2**
comp=Z,0.2nm,0.7s,baz=205,slow=1.7,SNR=2.8
ILAR Eielson Array 102.65 14 pP **pPdif** **07 40 46.6 +0.4**
comp=Z,0.2nm,0.7s,baz=222,slow=7.2,SNR=2.2
ILAR PP **PP** **07 44 45.4 -3.7**
comp=Z,3.2nm,1.2s,baz=220,slow=7.4,SNR=8.3
ULN Ulaanbaatar 105.33 318 *e*PKPdf **PKiKP** **07 45 01.4 +0.3**
WMQ Urumqi 115.01 307 *e*PKP **PKPdf** **07 45 14.5 -4.9**
MK31 Makanchi Array 119.68 308 *e*PKIKP **PKPdf** **07 45 25.8 -2.4**
MK31 Makanchi Array 119.68 308 *e*PKPdf **PKPdf** **07 45 25.8 -2.4**
MKAR Makanchi Array 119.68 308 PKIKP **PKPdf** **07 45 26.9 -1.3**
MKAR Makanchi Array 119.68 308 PKP **PKPdf** **07 45 26.9 -1.3**
MKAR *e*PKPdf **PKiKP** **07 45 27.3 -1.0**
MKAR Makanchi Array 119.68 308 PKP **PKPdf** **07 45 26.9 -1.3**
comp=Z,3.9nm,1.0s,baz=217,slow=1.6,SNR=14
ZALV Zalesovo Beam 120.55 317 PKIKP **PKPdf** **07 45 28.1 -1.5**
ZALV 07 45 41.6
ZALV Zalesovo Beam 120.55 317 PKP **PKPdf** **07 45 28.1 -1.5**
ZALV pPKP **pPKPdf** **07 45 41.6 +0.3**
ZALV Zalesovo Beam 120.55 317 PKP **PKPdf** **07 45 28.1 -1.5**
comp=Z,1.6nm,0.6s,baz=120,slow=2.8,SNR=7.0
ZALV pPKP **pPKPdf** **07 45 41.6 +0.3**
comp=Z,2.4nm,0.8s,baz=200,slow=1.4,SNR=4.2
KSH Kashi 121.40 299 *e*PKP **PKPdf** **07 45 31.8 -0.1**
KSH sPKP 07 45 45.8
KSH PP **PP** **07 47 07.8 +3.8**
KSH SKS **SKSdf** **07 52 38.8 -2.3**
KSH SKKS **SKKSac** **07 53 55.8 -4.4**
KSH SS **SS** **08 03 36.6 0.0**
KSH LR LR
comp=N,710nm,8.6s
KSH LR LR
comp=E,1μm,10.9s
NVS Novosibirsk 121.70 318 *e*PKIKP **PKPdf** **07 45 28.8 -2.9**
NVS pmax pmax
comp=N,1.0nm,0.7s
NVS pmax pmax
comp=E,2.0nm,0.7s
NVS pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 122.84 302 *e*PKIKP **PKPdf** **07 45 33.8 -0.8**
TKM2 Tokmak 2 122.84 302 *e*PKPdf **PKPdf** **07 45 33.8 -0.8**
EKS2 Erkin-Say 124.03 302 *e*PKIKP **PKPdf** **07 45 36.9 +0.1**
EKS2 Erkin-Say 124.03 302 *e*PKPdf **PKPdf** **07 45 36.9 +0.1**
KBL Kabul 124.76 291 *e*PKIKP **PKPdf** **07 45 39.0 +0.4**
KBL Kabul 124.76 291 *e*PKPdf **PKPdf** **07 45 39.0 +0.4**
KKAR Karatay Array 126.45 301 *e*PKIKP **PKPdf** **07 45 41.5 +0.2**
KKAR Karatay Array 126.45 301 *e*PKPdf **PKPdf** **07 45 41.5 +0.2**
PKME Peaks-Kenny Pk 127.17 56 *e*PKPdf **PKPdf** **07 45 43.1 +0.6**
BRVK Borovoye 128.77 313 *e*PKIKP **PKPdf** **07 45 45.5 +0.1**
BRVK Borovoye 128.77 313 *e*PKPdf **PKPdf** **07 45 45.5 +0.1**
KMBO Kilima Mbogo 130.30 232 PKP **PKPdf** **07 45 51.2 +1.3**
KMBO *e*PKPdf **PKiKP** **07 45 51.6 +0.9**
KMBO Kilima Mbogo 130.30 232 PKP **PKPdf** **07 45 51.2 +1.3**
comp=Z,0.8nm,0.4s,baz=72,slow=6.4,SNR=4.0
ABKAR Akbulak array 134.80 307 *e*PKPdf **PKPdf** **07 45 57.7 +0.9**
ARU Arti 135.71 318 *i* PKIKP **PKPdf** **07 45 59.2 +0.9**
ARU 07 48 32.9
ARU SS SS 08 07 03.2 +31
ARCES ARCESS Array B 142.74 346 PKPpre PKPpre 07 46 07.2
ARCES ARCESS Array B 142.74 346 PKhKP PKPpre 07 46 07.2
comp=Z,4.2nm,0.8s,baz=35,slow=4.4,SNR=11
GNI Garni 144.83 292 *e*PKPdf PKPbc 07 46 14.8 +0.1
GNI Garni 144.83 292 PKP PKPbc 07 46 14.8 +0.1
comp=Z,2.8nm,0.3s,baz=354,slow=22,SNR=6.0
ZEI Tsey 145.64 296 *e*PKIKP **PKPdf** **07 46 14.5 -2.4**
ZEI pmax pmax
comp=Z,47nm,1.3s
KBZ Khabaz 146.38 298 PKP2 **PKPdf** **07 46 18.2 +0.4**
KBZ Khabaz 146.38 298 PKPbc **PKPdf** **07 46 18.2 +0.4**
KBZ Khabaz 146.38 298 PKPbc **PKPdf** **07 46 18.2 +0.4**
comp=Z,13nm,0.9s,baz=88,slow=0.9,SNR=26
VRHR Novokhopersk 146.40 311 *e*PKP2 **PKPdf** **07 46 18.3 +0.6**
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=Z,170nm,0.8s
VRHR pmax pmax
comp=E,90nm,1.3s
KIV Kislovodsk 146.53 298 *e*PKP2 **PKPdf** **07 46 18.9 +0.6**
KIV pmax pmax
comp=Z,24nm,1.1s
MOS Moscow 147.24 321 *e*PKIKP **PKPdf** **07 46 18.2 -0.7**
MOS pmax pmax
comp=Z,144nm,1.4s
VOR Voronezh 147.72 313 *e*PKIKP **PKPdf** **07 46 19.0 -0.8**
VOR pmax pmax
comp=Z,340nm,1.0s
VORD Divnogorie 147.87 312 *e*PKP2 **PKPbc** **07 46 22.4 -0.7**
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 147.88 312 *e*PKP2 **PKPbc** **07 46 22.3 -0.9**
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,50nm,1.0s
VSR pmax pmax
comp=Z,90nm,1.0s
OBN Obninsk 148.04 320⇓ *i*PKIKP **PKPdf** **07 46 21.4 +1.2**
OBN *i* 07 46 34.2
OBN pmax pmax
comp=Z,123nm,1.4s
KAF Kangasniemi 148.34 337 *e*PKIKP **PKPbc** **07 46 22.9 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.3s
KAF Kangasniemi 148.34 337 *e*p **PKPbc** **07 46 22.9 -1.1**
comp=Z,2.9nm,0.3s
SOC Sochi 148.69 298 *e*PKIKP **PKPdf** **07 46 22.9 +1.2**
SOC *i* 07 46 27.4
SOC *e* 07 46 34.7
SOC pmax pmax
comp=Z,27nm,0.7s
SOC pmax pmax
comp=Z,43nm,1.0s
FIA1 FINESS Array S 148.91 336 PKPbc **PKPbc** **07 46 25.1 -0.3**
FINES FINESS Array B 148.91 336 PKPbc **PKPbc** **07 46 25.4 0.0**
FINES FINESS Array B 148.91 336 PKPbc **PKPbc** **07 46 25.4 0.0**
comp=Z,32nm,0.9s,baz=52,slow=4.3,SNR=53
JHLN Al Jahlan 149.16 282 *e*P **PKPdf** **07 46 22.1 -0.7**
JHLN Al Jahlan 149.16 282 *e*P **PKPdf** **07 46 22.1 -0.7**
SNR=160
ZALF Zalf 149.49 277 *e*P **PKPbc** **07 46 28.2 +0.3**
ZALF Zalf 149.49 277 *e*P **PKPbc** **07 46 28.2 +0.3**
SNR=151
ASF Jabal al Asfar 149.66 275 PKPbc **PKPbc** **07 46 28.1 -0.3**
ASF Jabal al Asfar 149.66 275 PKPbc **PKPbc** **07 46 28.1 -0.3**
comp=Z,8.4nm,0.8s,baz=89,slow=2.4,SNR=16
SALA Sala 149.93 276 *e*P **PKPbc** **07 46 30.0 +0.8**
SALA Sala 149.93 276 *e*P **PKPbc** **07 46 30.0 +0.8**
SNR=147
ANN Anapa 150.24 301 *i* PKIKP **PKPbc** **07 46 27.5 -1.8**
ANN pmax pmax
comp=Z,63nm,1.2s
TOTH TOTAH 150.33 277 *e*P **PKPbc** **07 46 30.7 +0.7**
TOTH TOTAH 150.33 277 *e*P **PKPbc** **07 46 30.7 +0.7**
SNR=148
MARH Ras Al Marh 150.43 279 *e*P **PKPbc** **07 46 29.9 -0.7**
MARH Ras Al Marh 150.43 279 *e*P **PKPbc** **07 46 29.9 -0.7**
SNR=149
EIL Elat 150.51 269 PKPbc **PKPbc** **07 46 30.7 +0.3**
EIL Elat 150.51 269 PKPbc **PKPbc** **07 46 30.7 +0.3**
comp=Z,19nm,0.7s,baz=42,slow=1.9,SNR=15
HAWK Haweek 150.59 280 *e*P **PKPbc** **07 46 28.8 -1.9**
HAWK Haweek 150.59 280 *e*P **PKPbc** **07 46 28.8 -1.9**
SNR=149
DRWC Darouich 150.73 284 *e*P **PKPbc** **07 46 32.4 +1.5**
DRWC Darouich 150.73 284 *e*P **PKPbc** **07 46 32.4 +1.5**
SNR=146
BRBR Barbar 150.73 277 *e*P **PKPbc** **07 46 32.0 +0.8**
BRBR Barbar 150.73 277 *e*P **PKPbc** **07 46 32.0 +0.8**
SNR=145
WRDH Warideh 150.77 282 *e*P **PKPdf** **07 46 26.1 +0.7**
WRDH Warideh 150.77 282 *e*P **PKPdf** **07 46 26.1 +0.7**
SNR=148
BTCH Batrach 150.81 283 *e*P **PKPbc** **07 46 30.9 -0.2**
BTCH Batrach 150.81 283 *e*P **PKPbc** **07 46 30.9 -0.2**
SNR=147
LIC Lamto 150.94 169 *e*P **PKPbc** **07 46 33.0 +1.1**
comp=Z,47nm,0.7s
MMAI Mount Meron Ar 151.09 276 PKPbc **PKPbc** **07 46 32.5 +0.7**
MMAI Mount Meron Ar 151.09 276 PKPbc **PKPbc** **07 46 32.5 +0.7**
comp=Z,26nm,0.8s,baz=86,slow=4.4,SNR=30
KIC Kosan Boka 151.12 169 *e*P **PKPbc** **07 46 32.3 -0.1**
comp=Z,154nm,1.5s
ARNB Al Arnab 151.18 282 *e*P **PKPbc** **07 46 31.1 -0.9**
ARNB Al Arnab 151.18 282 *e*P **PKPbc** **07 46 31.1 -0.9**
SNR=145
TIC Toumodi 151.36 168 *e*P **PKPbc** **07 46 30.3 -2.6**
comp=Z,9.9nm,0.2s
DBIC Dimbokro 151.41 169 *e*PKPbc **PKPbc** **07 46 32.8 -0.2**
DBIC PKPab **PKPab** **07 46 41.0 -0.2**
DBIC *e*PKPab PKiKP 07 46 41.4 +7.9
DBIC Dimbokro 151.41 169 PKPbc **PKPbc** **07 46 33.3 +0.3**
comp=Z,9.7nm,0.7s,baz=179,slow=2.5,SNR=9.0
DBIC PKPab **PKPab** **07 46 41.0 -0.2**
comp=Z,21nm,0.9s,baz=164,slow=3.6,SNR=8.5
SIM Simferopol' **152.55 301** *e*PKIKP **PKPbc** **07 46 34.0 -0.7**
SIM *e* 07 46 47.0
SIM pmax pmax
comp=Z,14nm,0.8s
NACGM Naroch 153.01 326 *e* **PKPbc** **07 46 34.0 -1.3**
NB2 NORSAR Subarra153.02 349 PKP **PKPbc** **07 46 34.7 -0.5**
comp=Z,21nm,1.1s,baz=17,slow=4.1
NOA NORSAR Array B 153.02 349 PKPbc **PKPbc** **07 46 35.3 +0.1**
NOA PKPab **PKPab** **07 46 46.5 -0.2**
NOA NORSAR Array B 153.02 349 PKPbc **PKPbc** **07 46 35.3 +0.1**
comp=Z,2.6nm,0.7s,baz=22,slow=4.8,SNR=12
NOA PKPab **PKPab** **07 46 46.5 -0.2**
comp=Z,17nm,1.0s,baz=20,slow=4.1,SNR=7.3
CSS Prodhromos 153.16 280 *e*PKPdf **PKPdf** **07 46 27.4 -1.6**
CSS *e*PKPbc **PKPbc** **07 46 36.2 -0.2**
BR131 Keskin Array S 153.33 290 *e*PKPbc **PKPbc** **07 46 35.9 -0.9**
BR131 *e*PKPab **PKPab** **07 46 48.7 -0.2**
BRTR Keskin Array B 153.33 290 PKPbc **PKPbc** **07 46 35.6 -1.2**
BRTR PKPab **PKPab** **07 46 47.4 -1.5**
BRTR Keskin Array B 153.33 290 PKPbc **PKPbc** **07 46 35.6 -1.2**
comp=Z,8.9nm,1.0s,baz=90,slow=0.4,SNR=3.6
BRTR PKPab **PKPab** **07 46 47.4 -1.5**
comp=Z,15nm,1.1s,baz=151,slow=2.8,SNR=9.6
AKASG Malin Array Be 153.94 316 PKIKP **PKPdf** **07 46 29.1 -0.4**
AKASG 07 46 37.1
AKASG 07 46 50.4
AKASG Malin Array Be 153.94 316 PKP **PKPdf** **07 46 29.1 -0.4**
AKASG PKPbc **PKPbc** **07 46 37.1 -0.4**
AKASG PKPab **PKPab** **07 46 50.4 -0.5**
AKASG Malin Array Be 153.94 316 PKP **PKPdf** **07 46 29.1 -0.4**
comp=Z,0.2nm,0.3s,baz=54,slow=2.8,SNR=2.9
AKASG PKPbc **PKPbc** **07 46 37.1 -0.4**
comp=Z,6.2nm,0.6s,baz=59,slow=2.8,SNR=18
AKASG PKPab **PKPab** **07 46 50.4 -0.5**
comp=Z,6.4nm,0.7s,baz=58,slow=2.8,SNR=8.3
KIEV Kiev 153.95 316 *e*PKIKP **PKPdf** **07 46 28.2 -1.3**
KIEV *e* 07 46 37.3
KIEV Kiev 153.95 316 *e*PKPdf **PKPdf** **07 46 28.2 -1.3**
KIEV *e*PKPbc **PKPbc** **07 46 37.3 -0.2**
ANTO Ankara 153.98 290 *e*PKIKP **PKPbc** **07 46 38.0 -0.1**
ANTO *e* 07 46 50.7
ANTO Ankara 153.98 290 *e*PKPbc **PKPbc** **07 46 38.0 -0.1**
ANTO *e*PKPab **PKPab** **07 46 50.7 -0.9**
SUW Suwalki 155.21 327 *e*PKIKP **PKPdf** **07 46 30.6 -0.5**
SUW *e* 07 46 40.7
SUW *e* 07 46 54.0
SUW Suwalki 155.21 327 *e*PKPdf **PKPdf** **07 46 30.6 -0.5**
SUW *e*PKPbc PKPbc 07 46 40.7
SUW *e*PKPab **PKPab** **07 46 54.0 -2.2**
TORD Torodi Ar. Bea 158.25 183 PKP **PKPdf** **07 46 35.8 -0.5**
TORD PKPab **PKPab** **07 47 10.9 +0.7**
TORD Torodi Ar. Bea 158.25 183 PKP **PKPdf** **07 46 35.8 -0.5**
comp=Z,0.8nm,0.9s,baz=98,slow=3.0,SNR=4.4
TORD PKPab **PKPab** **07 47 10.9 +0.7**
comp=Z,5.8nm,0.8s,baz=159,slow=3.3,SNR=6.5
KOLS Kolonicke sedl 158.73 318 *e*PKIKP PKPdf 07 46 43.7 +7.9
KOLS Kolonicke sedl 158.73 318 *e*PKP PKPdf 07 46 43.7 +7.9
CRVS Cervenica-Dubn 159.19 318 *e*PKIKP PKPdf 07 46 44.0 +7.6
CRVS *e* 07 47 12.0
CRVS Cervenica-Dubn 159.19 318 *e*PKP PKPdf 07 46 44.0 +7.6
CRVS *e* 07 47 12.0
KECS Kecovo 159.96 318 *e*PKP2 **PKPab** **07 47 16.9 0.0**
KECS Kecovo 159.96 318 *e*PKP **PKPab** **07 47 16.9 0.0**
DPC Dobruska-Polom 160.79 328 *e*PKIKP **PKPdf** **07 46 37.8 -0.4**
DPC Dobruska-Polom 160.79 328 *e*PKPDF **PKPdf** **07 46 37.8 -0.4**
DPC *ep*PKP pPKP 07 47 30.6
CLL Collm 161.34 335 *e*PKIKP **PKPdf** **07 46 43.0 +4.4**
CLL *e* 07 47 19.0
CLL Collm 161.34 335 *e*PKPab **PKPab** **07 47 19.0 -3.8**
BRG Berggiesshubel 161.35 333 *e*PKP **PKPdf** **07 46 38.1 -0.5**
comp=Z,7.6nm,1.4s
BRG *e* 07 46 50.0
comp=Z,18nm,1.8s
BRG *e* 07 47 02.4
comp=Z,21nm,1.8s
BRG Berggiesshubel 161.35 333 *e*PKIKP **PKPdf** **07 46 38.2 -0.5**
BRG *e* 07 46 50.0
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG pmax pmax
comp=Z,18nm,1.8s
BRG pmax pmax
comp=Z,21nm,1.8s
KHC Kasperske Hory 162.88 330 *e*PKIKP **PKPdf** **07 46 39.5 -0.9**
KHC *e* 07 46 54.0
KHC Kasperske Hory 162.88 330 *e*PKPDF **PKPdf** **07 46 39.5 -0.9**
KHC *ep*PKP **pPKPdf** **07 46 54.0 +1.9**
KHC *ex* x 07 47 40.5
GERES GERESS Array B 163.04 329 PKP **PKPdf** **07 46 39.6 -1.0**
GERES PKPab **PKPab** **07 47 29.2 -1.3**
GERES GERESS Array B 163.04 329 PKP **PKPdf** **07 46 39.6 -1.0**
comp=Z,0.2nm,0.5s,baz=35,slow=3.6,SNR=3.3
GERES PKPab **PKPab** **07 47 29.2 -1.3**
comp=Z,0.8nm,0.7s,baz=55,slow=5.1,SNR=6.4
WLF Walferdange 164.74 346 PKPab **PKPab** **07 47 37.8 +0.1**
WLF APKPab 07 47 49.4
DAVOX Davos/Dischmat 166.25 332 PKPab **PKPab** **07 47 44.0 -0.8**
DAVOX Davos/Dischmat 166.25 332 PKPab **PKPab** **07 47 44.0 -0.8**
comp=Z,1.5nm,0.7s,baz=22,slow=16,SNR=4.2
BNI Bardonecchia 168.88 337 *e*PKIKP **PKPdf** **07 46 45.6 +0.1**
BNI *e* 07 47 56.0
BNI Bardonecchia 168.88 337 *e*PKPdf **PKPdf** **07 46 45.6 +0.1**
BNI *e*PKPab **PKPab** **07 47 56.0 -0.3**
ESDC Sonseca Array 174.10 36 PKP **PKPdf** **07 46 48.3 +0.2**
ESDC Sonseca Array 174.10 36 PKP **PKPdf** **07 46 48.3 +0.2**
comp=Z,0.3nm,0.5s,baz=330,slow=3.6,SNR=4.7

BJI ***16*** *07:38:19.2, 1.°95S×99.°60E, h45km, mB6.6/42, mb6.1/43, Ms7.1/73, MS7 6.8/66*

IDC ***16*** *07:38:19.2±0.3, 1.°43S×99.°56E, h0km, mb5.8/52, mb1 5.8/53, mb1mx5.8/53, mbtmp5.8/53, ML4.7/1, MS6.5/43, Ms1 6.5/43, ms1mx6.4/56, Error ellipse: s-maj=10.4km s-min=7.9km az=42.0*

SZGRF ***16*** *07:38:19.1, 2.°88S×100.°12E, h45km, mb6.5, MS6.6, Southern Sumatera, Indonesia*

NEIC ***16*** *07:38:21.0±0.0, 1.°49S×99.°47E, h20km*

ISCJB ***16*** *07:38:21.4±0.4, 1.°43S±0.°02×99.°47E±0.°01, h26km±3km, mb6.3/320, MS6.7/247, Error ellipse: s-maj=3.0km s-min=2.0km az=29.6*

NEIC ***16*** *07:38:21.7±0.1, 1.°48S×99.°49E, h20km, mb6.5/106, ME6.8, MS6.7/139, MW6.6, MW6.5, MW6.7(USGS), Error ellipse: s-maj=4.4km s-min=4.1km az=51.0, Moment Tensor Solution. s86 Moment tensor: Scale 10¹⁸Nm; Mrr5.92; Mθθ-0.80; Mφφ-5.12; Mrθ-1.64; Mrφ2.40; Mθφ5.02; Best double couple: M₀8.00000×10¹⁸ NP1:φs152.00000°, δ25.00000°, λ82.00000°. NP2:φs340.00000°, δ66.00000°, λ93.00000°. Principal axes: T 7.9200, Plg69.0000°, Azm256.0000°; N 0.2400, Plg3.0000°, Azm158.0000°; P -8.1500, Plg20.0000°, Azm67.0000°; Broadband fault plane solution: P waves. NP1:φs179.00000°, δ16.00000°, λ108.00000°. NP2:φs340.00000°, δ75.00000°, λ85.00000°. Principal axes: T Plg60.0000°, Azm243.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm74.0000°; Complex earthquake, with two events occurring about 3 seconds apart, observed on broadband displacement seismograms. Depth based on first event. Energy computed from BB mechanism.*

NEIC Nine people injured in the Padang area. Felt [V] at Padang; [IV] at Pekanbaru and Sibolga; [III] at Padangpanjang and Painan, Sumatra. Also felt at Payakumbuh and at Gunungsitoli, Nias. Felt [III] at Petaling Jaya and [II] at Kuala Lumpur and Johor Bahru, Malaysia. Also felt at Keluang, Melaka, Shah Alam and Sungai Chua. Felt [II] in Singapore. A tsunami with a wave height [peak-to-trough] of 36 cm was recorded at Padang.

DJA ***16*** *07:38:22.8±0.4, 2.°S±2.°×9.°9E±.°, h13km±3km, M6.9/73, mb6.4/73, mB6.9/72, MLv7.0/12, Mw(mB)6.8/72, Mwp6.8/57*

MOS ***16*** *07:38:22.4±0.9, 1.°39S×99.°60E, h33km, mb6.7/81, MS6.6/82, Error ellipse: s-maj=7.1km s-min=3.8km az=118.4*

BKK ***16*** *07:38:22.7±0.2, 1.°S±2.°×9.°9E±.°, h10km, M7.0/58, mb6.2/58, mB6.8/57, MLv7.0/9, Mw(mB)6.7/57, Mwp7.1/39*

AUST ***16*** *07:38:22.6±0.6, 1.°49S×99.°56E, h17km, Error ellipse: s-maj=0.6km s-min=0.5km az=237.0*

TEH ***16*** *07:38:26.0, 1.°04S×99.°49E, h51km, ML7.0*

GCMT ***16*** *07:38:28.6±0.0, 1.°56S×99.°45E, h12km, MW6.7, Moment Tensor Solution. s121, c291; s99, c247; Moment tensor: Scale 10¹⁹Nm; Mrr1.10; Mθθ-0.16; Mφφ-0.94; Mrθ-0.22; Mrφ0.34; Mθφ0.52; Best double couple: M₀1.20000×10¹⁹ NP1:φs338.00000°, δ59.00000°, λ89.00000°. NP2: φs161.00000°, δ31.00000°, λ92.00000°. Principal axes: T 1.2400, Plg76.0000°, Azm245.0000°; N -0.0400, Plg1.0000°, Azm339.0000°; P -1.2000, Plg14.0000°, Azm69.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 111 sta. Surface waves: sta=116, comp=286, per= 50.*

NEIC ***16*** *07:38:44.2±0.0, 1.°78S×99.°02E, h10km, Moment Tensor Solution. s116 Moment tensor: Scale 10¹⁹Nm; Mrr1.06; Mθθ-0.14; Mφφ-0.92; Mrθ-0.14; Mrφ0.34; Mθφ0.38; Best double couple: M₀1.10000×10¹⁹ NP1:φs159.00000°, δ34.00000°, λ89.00000°. NP2:φs340.00000°, δ56.00000°, λ90.00000°. Principal axes: T 1.1400, Plg79.0000°, Azm251.0000°; N -0.0200, Plg0.0000°, Azm159.0000°; P -1.1200, Plg10.0000°, Azm69.0000°;*

NSSC ***16*** *07:39:09.8±3.0, 1.°15N×93.°75E, h80km±999km*

ISC 16 07:38:25.2±0.2, 1.°47S±0.°02×99.°46E±0.°02, h40km±1km, h40km:pP-P, n2585, s1969/2808, mb6.4/322, MS6.7/248, 628C-485D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.40**	**291**	P	Pn	07 38 30.4	-4.3
SISI				S	**Sn**	**07 38 38.1**	**-3.2**
PDSI	**Padang**	**1.14**	**61**	P	**Pn**	**07 38 42.9**	**-1.9**
PDSI				S	**Sn**	**07 38 59.3**	**+0.1**
PPI	**Padang Panjang**	**1.37**	**43**	P	**Pn**	**07 38 47.2**	**-0.7**
PPI				S	Sn	07 38 55.1	-10
PPI	**Padang Panjang** baz=1.3;SNR=1000	**1.37**	**43**	P	**Pn**	**07 38 46.6**	**-1.3**
PPI	baz=1.3;SNR=10			S	**Sn**	**07 39 00.6**	**-4.3**
SDSI	**Sungai Dareh**	**2.04**	**75**	P	**Pn**	**07 38 56.4**	**-0.6**
KRJI	**Kerinci**	**2.09**	**107**	P	Pn	07 39 04.9	+7.0
MNSI	**Mandailing Nat**	**2.25**	**3**	P	**Pn**	**07 39 01.2**	**+1.2**
BKNI	**Bangkinang**	**2.38**	**42**	P	**Pn**	**07 39 01.7**	**-0.1**
BKNI	**Bangkinang** baz=2.3;SNR=101	**2.38**	**42**	P	**Pn**	**07 39 01.3**	**-0.5**
RGRI	**Rengat**	**3.08**	**69**	P	**Pn**	**07 39 11.0**	**-0.4**
MASI	**Maura Aman, Be**	**3.23**	**121**	P	**Pn**	**07 39 13.1**	**-0.5**
MBSI	**MBSI**	**3.61**	**129**	P	**Pn**	**07 39 18.4**	**-0.4**
KSI	**Kapahiang**	**3.81**	**125**	P	**Pn**	**07 39 19.9**	**-1.6**

PSI	**Prapat**	**4.27 353**	Pn	**Pn**	**07 39 25.9**	**-2.0**
PSI	**Prapat**	**4.27 353**	Pn	**Pn**	**07 39 25.9**	**-2.0**
	43nm,0.3s,baz=166,slow=11,SNR=139					
PSI			LR	LR	07 41 27.6	
	comp=Z,555μm,18.7s,baz=168,slow=46					
PSI	**Prapat**	**4.27 353**	P	**Pn**	**07 39 26.0**	**-2.0**
	baz=4.2,SNR=112					
MNAI	**Manna**	**4.52 130**	P	**Pn**	**07 39 30.1**	**-1.1**
MNAI			S	**Sn**	**07 40 24.7**	**+2.1**
MNAI	**Manna**	**4.52 130**	P	**Pn**	**07 39 29.9**	**-1.3**
	baz=4.4,SNR=804					
EGSI	**Enggano, Bengk**	**4.77 144**	P	**Pn**	**07 39 32.2**	**-2.5**
SNSI	**Sinabang, Aceh**	**4.97 321**	P	**Pn**	**07 39 36.0**	**-1.3**
TSI	**Tuntungan**	**5.02 350**	P	**Pn**	**07 39 38.1**	**+0.1**
	22μm,1.0s,451μm185nm					
BTDF	**Bukit Timah Da**	**5.14 57**	P	**Pn**	**07 39 39.0**	**-0.8**
	baz=5.1,SNR=23					
BTDF			P	**Pn**	**07 39 39.0**	**-0.8**
	baz=5.1,SNR=23					
FRIM	**Kepong**	**5.15 25**	P	**Pn**	**07 39 42.3**	**+2.4**
KCSI	**Kotacane, Aceh**	**5.24 341**	P	**Pn**	**07 39 38.8**	**-2.3**
MYKOM	**Kota Tinggi**	**5.45 54**	P	Pn	07 39 49.4	+5.3
MYKOM	**Kota Tinggi**	**5.45 54**	P	**Pn**	**07 39 43.2**	**-0.8**
	4μm,1.2s,254μm137nm					
LWLI	**Liwa**	**5.79 128**	P	**Pn**	**07 39 48.0**	**-0.7**
IPM	**Ipoh**	**6.11 15**	*e*Pn	**Pn**	**07 39 53.9**	**+0.8**
IPM	**Ipoh**	**6.11 15**	P	**Pn**	**07 39 55.4**	**+2.3**
IPM	**Ipoh**	**6.11 15**	P	**Pn**	**07 39 53.9**	**+0.8**
KLSI		**6.16 121**	P	**Pn**	**07 39 53.5**	**-0.2**
	5μm,0.9s,206μm45nm					
KLI	**Kotabumi**	**6.35 122**	P	**Pn**	**07 39 56.2**	**-0.2**
KASI	**Kota Agung**	**6.44 129**	P	**Pn**	**07 39 56.0**	**-1.6**
	8μm,0.9s,176μm34nm					
PPBI	**Pangkal Pinang**	**6.71 96**	P	**Pn**	**07 40 01.5**	**+0.2**
	898nm,0.9s,77μm54nm					
KULM	**Kulim**	**6.82 10**	*e*Pn	**Pn**	**07 40 02.0**	**-0.8**
KULM	**Kulim**	**6.82 10**	P	**Pn**	**07 40 02.9**	**+0.1**
KULM	**Kulim**	**6.82 10**	P	**Pn**	**07 40 02.6**	**-0.2**
	6μm,1.1s,77μm859μm69nm					
BLSI	**Bandar Lampung**	**6.95 124**	P	**Pn**	**07 40 03.8**	**-0.8**
LHMI	**Lhok Sumawe**	**7.11 339**	P	**Pn**	**07 40 08.1**	**+1.3**
LHMI	**Lhok Sumawe**	**7.11 339**	P	**Pn**	**07 40 07.2**	**+0.4**
	baz=7.2,SNR=11					
KTGM	**Kuala Trenggan**	**7.68 28**	P	**Pn**	**07 40 17.5**	**+2.8**
BSI	**Banda Aceh**	**8.07 329**	P	Pn	07 40 16.8	-3.2
	3μm,1.0s,50μm					
SBJI	**Serang**	**8.10 125**	P	**Pn**	**07 40 19.1**	**-1.3**
	3μm,1.5s,67μm					
TPI	**Tanjungpandan**	**8.28 99**	P	**Pn**	**07 40 23.8**	**+0.9**
	1μm,1.0s,22μm853μm					
TNG	**Tangerang**	**8.55 123**	P	**Pn**	**07 40 26.0**	**-0.6**
TNG	**Tangerang**	**8.55 123**	P	**Pn**	**07 40 26.3**	**-0.3**
	15μm,1.2s,187μm					
SKLT	**Songkhla**	**8.66 8**	P	**Pn**	**07 40 26.6**	**-1.4**
	3μm,0.9s,55μm14nm					
DBJI	**Dramaga**	**8.85 125**	P	**Pn**	**07 40 29.1**	**-1.6**
	5μm,1.3s,90μm813μm					
SKJI	**Sukabumi**	**8.96 128**	P	**Pn**	**07 40 30.2**	**-2.0**
PKDT	**Phuket**	**9.37 353**	P	**Pn**	**07 40 38.4**	**+0.6**
	1μm,0.9s,24μm					
LEM	**Lembang**	**9.72 123**	P	**Pn**	**07 40 42.9**	**+0.1**
	5μm,1.1s,101μm987μm					
LEM	**Lembang**	**9.72 123**	P	**Pn**	**07 40 42.9**	**+0.1**
	baz=9.6,SNR=16					
CMBY	**CAMPBELL BAY**	**10.07 327**	*e*P	**Pn**	**07 40 44.9**	**-2.5**
CMBY			AMB	AMB	07 41 26.0	
	comp=Z,1μm,2.5s					
CISI	**Cisompet, Garu**	**10.29 126**	P	Pn	07 40 46.1	-4.4
CISI	**Cisompet, Garu**	**10.29 126**	P	Pn	07 40 46.4	-4.1
	baz=10,SNR=67					
XMI	**Christmas Isla**	**10.86 146**	P	Pn	07 40 54.2	-4.0
	baz=11,SNR=17					
XMI			S	Sn	07 42 48.3	-10
	baz=11,SNR=4.5					
XMIS	**Christmas Isla**	**10.86 146**	P	Pn	07 40 55.0	-3.3
	baz=11,SNR=5.9					
XMIS			S	Sn	07 42 43.2	-15
	baz=11,SNR=4.2					
COCO	**West Island**	**10.97 194**	*e*P	**Pn**	**07 40 58.3**	**-1.4**
COCO			*e*		07 43 15.5	
COCO	**West Island**	**10.97 194**	*e*Pn	**Pn**	**07 40 58.3**	**-1.4**
COCO			*e*Sn	Sn	07 43 15.5	+14
COCO	**West Island**	**10.97 194**	P	**Pn**	**07 41 00.5**	**+0.8**
KSM	**Kuching**	**11.23 75**	*e*Pn	**Pn**	**07 41 03.8**	**+0.4**
KSM			*e*Sn	Sn	07 43 21.6	+14
KSM	**Kuching**	**11.23 75**	P	Pn	07 41 07.2	+3.9
KSM	**Kuching**	**11.23 75**	P	**Pn**	**07 41 05.8**	**+2.5**
	comp=Z,989nm,1.9s,comp=Z,34μm					
KSM	**Kuching**	**11.23 75**	P	**Pn**	**07 41 05.6**	**+2.3**
	baz=11,SNR=32					
CLJI	**Cilicap**	**11.36 123**	P	**Pn**	**07 41 04.0**	**-1.1**
	comp=Z,586nm,0.9s,comp=Z,15μm					
BJII	**Banjamegara**	**11.76 120**	P	**Pn**	**07 41 08.7**	**-1.9**
	comp=Z,1μm,2.0s,comp=Z,39μmcomp=Z,781μm					
STKI	**Sintang**	**12.11 83**	P	Pn	07 41 20.5	+5.2
	comp=Z,2μm,1.5s,comp=Z,38μmcomp=Z,567μm					
PBKI	**Pangkalan Bun**	**12.26 96**	P	**Pn**	**07 41 20.2**	**+2.8**
	comp=Z,2μm,1.2s,comp=Z,49μmcomp=Z,694μm					
YOGI	**Yogyakarta**	**12.50 121**	P	Pn	07 41 17.2	-3.5
	comp=Z,4μm,0.8s,comp=Z,103μmcomp=Z,590μm					
UGM	**Wanagama**	**12.74 121**	*e*Pn	Pn	07 41 18.5	-5.5
UGM	**Wanagama**	**12.74 121**	P	Pn	07 41 20.4	-3.7
	comp=Z,2μm,2.2s,comp=Z,84μmcomp=Z,757μm					
UGM	**Wanagama**	**12.74 121**	P	Pn	07 41 20.3	-3.7
	baz=13,SNR=14					
SBUM	**Sibu**	**13.33 73**	P	Pn	07 41 35.6	+3.5
SBUM	**Sibu**	**13.33 73**	P	**Pn**	**07 41 34.5**	**+2.4**
	comp=Z,3μm,2.1s,comp=Z,64μmcomp=Z,922μm					
PCJI	**Pacitan**	**13.45 120**	P	Pn	07 41 28.6	-5.0
	comp=Z,1μm,1.4s,comp=Z,34μmcomp=Z,448μm					
SJI	**Sawahan**	**13.75 117**	P	**Pn**	**07 41 35.2**	**-2.6**
	comp=Z,1μm,1.2s,comp=Z,29μmcomp=Z,411μm					
PWJI	**Pagerwojo**	**13.91 118**	P	Pn	07 41 36.5	-3.4
	comp=Z,1μm,1.3s,comp=Z,38μm					
PHET	**Kaeng Krachan**	**14.29 1**	P	**Pn**	**07 41 45.3**	**+0.3**
	comp=Z,1μm,0.9s,comp=Z,11μm					
BTM	**Bintulu**	**14.38 71**	P	**P**	**07 41 52.7**	**+0.1**
KRKI	**Karangkates**	**14.54 118**	P	**Pn**	**07 41 46.8**	**-1.7**
	comp=Z,2μm,0.9s,comp=Z,57μmcomp=Z,729μm					
PBA	**Port Blair**	**14.65 333**	*e*P	Pn	07 41 47.7	-2.2
PBA			AMB	AMB	07 42 18.1	
	comp=Z,968nm,0.9s					
BLJI	**Banyuglugur**	**15.40 114**	P	**Pn**	**07 42 00.4**	**+0.6**
	comp=Z,1μm,0.9s,comp=Z,32μmcomp=Z,333μm					
MTKI	**Muara Teweh, K**	**15.44 88**	P	**P**	**07 42 04.7**	**+0.3**
	comp=Z,2μm,2.2s,comp=Z,67μmcomp=Z,388μm					
GMJI	**Gumukmas**	**15.48 116**	P	**Pn**	**07 41 59.9**	**-0.9**
	comp=Z,729nm,1.8s,comp=Z,29μmcomp=Z,295μm					
KMMI	**Kalianget**	**15.48 111**	P	**Pn**	**07 41 59.6**	**-1.4**
	comp=Z,3μm,1.2s,comp=Z,57μmcomp=Z,731μm					
BBKI	**Banjar Baru**	**15.49 98**	P	**Pn**	**07 42 01.2**	**+0.2**
	comp=Z,2μm,1.5s,comp=Z,81μmcomp=Z,382μm					
NAYO	**Nakonayok**	**15.79 7**	P	**Pn**	**07 42 01.2**	**-3.6**
	comp=Z,439nm,1.7s,comp=Z,18μm					
DGPR	**DIGLIPUR**	**15.93 336**	*e*P	**Pn**	**07 42 03.5**	**-3.1**
BYJI	**Banyuwangi**	**16.27 115**	P	**Pn**	**07 42 12.2**	**+1.1**
	comp=Z,2μm,1.8s,comp=Z,292μm					
UTHA	**Uthaitani**	**16.92 360**	P	**Pn**	**07 42 18.1**	**-1.0**
	comp=Z,226nm,1.1s,comp=Z,3μm					
SRBI	**Singaraja**	**17.01 113**	P	**P**	**07 42 21.2**	**-0.6**
	comp=Z,2μm,1.0s,comp=Z,33μmcomp=Z,266μm					
IGBI	**Denpasar**	**17.23 116**	P	**P**	**07 42 24.4**	**+0.2**
	comp=Z,864nm,1.1s,comp=Z,21μm					
DNP	**Denpasar**	**17.23 115**	P	**P**	**07 42 26.4**	**+2.1**
	comp=Z,2μm,1.1s,comp=Z,72μm					
BKB	**Balikpapan**	**17.43 90**	P	**P**	**07 42 29.1**	**+2.7**
	comp=Z,4μm,2.2s,comp=Z,85μmcomp=Z,910μm					
CHAI	**Chaiyaphum**	**17.44 8**	P	**Pn**	**07 42 24.7**	**-0.9**
	comp=Z,68nm,0.8s,comp=Z,1μm					
UBPT	**Khong Chiam**	**17.67 19**	P	**Pn**	**07 42 26.6**	**-1.9**
	comp=Z,922nm,2.2s,comp=Z,31μm					
SMKI	**Samarinda**	**17.77 87**	P	**P**	**07 42 31.6**	**+1.4**
	comp=Z,2μm,2.4s,comp=Z,66μm					
PBKT	**Sadao Pong**	**17.98 5**	P	**Pn**	**07 42 29.0**	**-3.3**
	comp=Z,380nm,1.1s,comp=Z,17μm					
SGKI	**Sangatta, Kali**	**18.16 87**	P	**Pn**	**07 42 38.1**	**+3.5**
	comp=Z,2μm,1.0s,comp=Z,58μmcomp=Z,526μm					
KKM	**Kota Kinabalu**	**18.32 66**	*e*P	**P**	**07 42 35.9**	**-0.4**
	comp=Z,6μm,1.7s					
KKM			*e*S	**S**	**07 46 04.9**	**+1.0**
KKM	**Kota Kinabalu**	**18.32 66**	P	**Pn**	**07 42 40.7**	**+4.2**
KKM	**Kota Kinabalu**	**18.32 66**	P	**Pn**	**07 42 38.0**	**+1.5**
	comp=Z,2μm,1.4s,comp=Z,59μmcomp=Z,743μm					
KKM	**Kota Kinabalu**	**18.32 66**	P	**Pn**	**07 42 37.4**	**+0.9**
	baz=18,SNR=10					
LOEI	**Loei**	**18.94 5**	P	**P**	**07 42 40.5**	**-2.5**
	comp=Z,347nm,1.4s,comp=Z,19μm					
SDKM	**Sandakan**	**19.07 68**	P	**Pn**	**07 42 49.2**	**+3.7**
KDM	**Kudat**	**19.23 64**	P	**Pn**	**07 42 51.0**	**+3.5**
TSM	**Tawau**	**19.27 73**	P	**Pn**	**07 42 48.3**	**+0.4**
MMSI	**Mamuju**	**19.47 94**	P	**P**	**07 42 48.6**	**-0.3**
	comp=Z,4μm,1.1s,comp=Z,78μmcomp=Z,654μm					
CM31	**Chiang Mai Arr**	**19.81 359**	*e*P	**P**	**07 42 52.4**	**-0.1**
	comp=Z,1.4nm,0.6s					
CM31			*e*S	**S**	**07 46 34.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**19.81 359**	P	**P**	**07 42 48.5**	**-4.0**
CMAR			S	**Sn**	**07 46 40.3**	**+4.3**
CMAR			P'P'ab	**P'P'ab**	**08 21 11.6**	**+4.6**
CMAR	**Chiang Mai Arr**	**19.81 359**	P	**P**	**07 42 48.5**	**-4.0**
	comp=Z,2.8nm,0.3s,baz=188,slow=9.6,SNR=65					
CMAR			S	**Sn**	**07 46 40.3**	**+4.3**
	baz=176,slow=14,SNR=2.8					
CMAR			PKP2ab		08 21 11.6	
	comp=Z,0.1nm,0.3s,baz=346,slow=4.7,SNR=4.5					
LAMP	**Lampang**	**19.86 0**	P	**Pn**	**07 42 54.4**	**-0.6**
	comp=Z,266nm,1.0s,comp=Z,3μm					
MYLDM	**Lahad Datu**	**20.13 71**	P	Pn	07 43 00.3	+2.2
MYLDM	**Lahad Datu**	**20.13 71**	P	Pn	07 42 57.8	-0.3
	comp=Z,2μm,0.9s,comp=Z,73μm					
CMMT	**Chiang Mai**	**20.16 359**	P	**P**	**07 42 54.9**	**-1.5**
	comp=Z,841nm,1.4s,comp=Z,20μm					
CHTO	**Chiang Mai**	**20.16 359**	*e*P	**P**	**07 42 55.8**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,643nm,0.9s					
CHTO			MLR	MLR		
	comp=Z,203μm,20.0s					
CHTO	**Chiang Mai**	**20.16 359**	P	**P**	**07 42 54.7**	**-1.6**
	SNR=489					
CHTO	**Chiang Mai**	**20.16 359**	*e*P	**P**	**07 42 55.8**	**-0.6**
	comp=Z,643nm,0.9s					
CHTO			*e*S	Sn	07 46 51.5	+6.8
CHTO			LR	LR		
	comp=Z,203μm,20.0s					
CHTO	**Chiang Mai**	**20.16 359**	P	**P**	**07 42 55.4**	**-1.0**
	comp=Z,938nm,1.4s,comp=Z,22μmcomp=Z,157μm					
CHTO	**Chiang Mai**	**20.16 359**	P	**P**	**07 42 55.3**	**-1.1**
	comp=Z,938nm,1.5s,comp=Z,22μm					
TTSI	**Tana Toraja**	**20.40 95**	P	**P**	**07 42 58.6**	**-0.4**
	comp=Z,2μm,1.1s,comp=Z,44μmcomp=Z,352μm					
SPSI	**Sidrap Palu**	**20.43 97**	P	**P**	**07 42 58.0**	**-1.4**
	comp=Z,962nm,0.9s,comp=Z,29μmcomp=Z,379μm					
KAPI	**Kappang**	**20.56 100**	P	**P**	**07 42 58.9**	**-1.8**
	comp=Z,8μm,0.9s,SNR=45					
KAPI	**Kappang**	**20.56 100**	*e*P	**P**	**07 42 58.1**	**-2.6**
	comp=Z,3μm,1.3s					
KAPI			*e*S	**S**	**07 46 48.6**	**-0.1**
KAPI	**Kappang**	**20.56 100**	P	**P**	**07 42 56.8**	**-3.9**
	comp=Z,269nm,1.0s,baz=280,slow=10,SNR=24					
KAPI			LR	LR	07 51 26.7	
	comp=Z,299μm,20.5s,baz=277,slow=38					
PALK	**Pallekele**	**20.63 295**	Pn	Pn	07 43 03.5	-0.6
	comp=Z,6μm,1.3s,SNR=29					
PALK	**Pallekele**	**20.63 295**	P	**P**	**07 43 02.8**	**+1.2**
	SNR=100					
PALK	**Pallekele**	**20.63 295**	*e*P	**P**	**07 43 01.2**	**-0.4**
	comp=Z,26μm,2.9s					
PALK			*e*S	**S**	**07 46 48.4**	**-1.9**
PALK	**Pallekele**	**20.63 295**	P	Pn	07 43 03.2	-0.9
	comp=Z,2μm,1.8s,comp=Z,51μmcomp=Z,360μm					
BKSI	**Bulukumba**	**20.97 101**	P	**P**	**07 43 04.4**	**-0.8**
	comp=Z,2μm,0.8s,comp=Z,43μmcomp=Z,284μm					
CMAI	**Chiengmai2**	**21.27 359**	P	**P**	**07 43 07.9**	**-0.6**
	comp=Z,2μm,1.5s,comp=Z,39μm					
BSSI	**Bau Bau, Buton**	**21.48 103**	P	**P**	**07 43 10.1**	**-0.6**
	comp=Z,2μm,1.3s,comp=Z,38μm					
TOLI	**Toli-Toli**	**21.48 83**	P	**P**	**07 43 10.5**	**-0.2**
	comp=Z,4μm,1.1s,comp=Z,35μmcomp=Z,477μm					
LBFI	**Labuhan Bajo,**	**21.50 110**	P	**P**	**07 43 11.5**	**+0.7**
	comp=Z,604nm,0.8s,comp=Z,33μm					
SKSI	**Soroako, Sulaw**	**21.88 93**	P	**P**	**07 43 14.5**	**-0.6**
	comp=Z,917nm,1.1s,comp=Z,35μm					
PPR	**Puerto Princes**	**22.20 59⇑**	*e*P	P	07 43 25.4	+7.0
WSI	**Waingapu**	**22.26 112**	P	**P**	**07 43 19.4**	**+0.3**
	comp=Z,2μm,0.7s,comp=Z,39μmcomp=Z,264μm					
WSI	**Waingapu**	**22.26 112**	P	P	07 43 30.4	+11
	baz=22,SNR=4.1					
KKSI	**Kolaka, Sulawe**	**22.32 97**	P	**P**	**07 43 20.7**	**+1.0**
	comp=Z,2μm,1.6s,comp=Z,32μmcomp=Z,258μm					
MRSI	**Marisa**	**22.56 85**	P	**P**	**07 43 21.5**	**-0.8**
	comp=Z,2μm,1.3s,comp=Z,35μmcomp=Z,278μm					
QIZ	**Qiongzhong**	**22.78 26**	P	**P**	**07 43 24.8**	**+0.3**
QIZ			sP	**sP**	**07 43 39.8**	**+0.1**
QIZ			S	**S**	**07 47 32.1**	**+1.2**
QIZ			sS	**sS**	**07 47 49.3**	**+0.7**
QIZ			LR	LR		
	comp=E,201μm,20.1s					
QIZ			LR	LR		
	comp=Z,193μm,19.1s					
QIZ	**Qiongzhong**	**22.78 26**	*e*P	**P**	**07 43 23.7**	**-0.8**
	comp=Z,708nm,1.1s					
QIZ			LR	LR		
	comp=Z,189μm,20.0s					
LUWI	**Luwuk**	**23.31 89**	P	**P**	**07 43 29.2**	**-0.8**
	comp=Z,4μm,0.9s,comp=Z,45μmcomp=Z,335μm					
LUWI	**Luwuk**	**23.31 89**	P	**P**	**07 43 29.1**	**-0.8**
	baz=23,SNR=33					
BBSI	**Bau Bau**	**23.40 100**	P	**P**	**07 43 30.1**	**-0.8**
	comp=Z,1μm,1.8s,comp=Z,32μmcomp=Z,171μm					
GTOI	**Gorontalo**	**23.64 85**	P	**P**	**07 43 31.2**	**-1.9**
	comp=Z,3μm,0.9s,comp=Z,51μmcomp=Z,339μm					
MMRI	**Maumere**	**23.76 108**	P	P	07 43 29.1	-5.2
MDRS	**Chennai**	**23.92 308**	*e*P	P	**07 43 35.6**	**0.0**
TRD	**Trivandrum**	**24.52 294**	*e*P	P	**07 43 41.1**	**-0.2**
TRD			AMB	AMB	07 43 59.3	
	comp=Z,2μm,2.2s					
KMSI	**Cibinong**	**24.60 85**	P	**P**	**07 43 43.7**	**+1.7**
	comp=Z,7μm,1.1s,comp=Z,74μmcomp=Z,151μm					
VIS	**Vishakhapatnam**	**24.82 321**	*e*P	**P**	**07 43 44.9**	**+0.9**
DCPH	**Dipolog City**	**25.82 67⇓**	*e*P	**P**	**07 43 55.6**	**+2.6**
SOEI	**Soe**	**26.00 109**	P	P	07 43 49.8	-5.0
SOEI	**Soe**	**26.00 109**	P	**P**	**07 43 52.7**	**-2.1**
	baz=26,SNR=14					
CTBH	**Cotabato--PC H**	**26.19 70⇑**	*e*P	**P**	**07 43 56.2**	**-0.2**
TGY	**Tagaytay City**	**26.30 53**	P	**P**	**07 43 58.9**	**+1.4**
TGY	**Tagaytay City**	**26.30 53**	P	**P**	**07 43 58.9**	**+1.4**
	comp=Z,2μm,1.0s,baz=188,slow=9.3,SNR=22					
TGY			LR	LR	07 53 06.5	
	comp=Z,567nm,19.4s,baz=56,slow=34					
RCP	**Roxas**	**26.51 60⇑**	*e*P	**P**	**07 44 02.1**	**+2.8**
GSPH	**General Santos**	**26.53 73⇑**	*e*P	**P**	**07 44 04.3**	**+4.6**
KAAM	**Kaadhehdhoo**	**26.54 274**	P	**P**	**07 44 00.6**	**+1.1**
	comp=Z,782nm,2.6s,comp=Z,41μmcomp=Z,310μm					
KAAM	**Kaadhehdhoo**	**26.54 274**	P	P	07 44 04.8	+5.2
	baz=27,SNR=7.2					
KMI	**Kunming**	**26.62 7**	P	**P**	**07 44 01.3**	**+0.9**
KMI			pP	**pP**	**07 44 13.1**	**+1.7**
KMI			sP	**sP**	**07 44 18.9**	**+2.7**
KMI			PP	**PnPn**	**07 44 47.8**	**+5.4**
KMI			PcP	**PcP**	**07 47 24.6**	**+0.6**
KMI			S	**S**	**07 48 33.5**	**+0.6**
KMI			sS	**sS**	**07 48 54.6**	**+3.3**
KMI			SS	SnSn	07 49 49.0	+11
KMI			pmax	pmax		
	comp=Z,280nm,0.8s					
KMI			LR	LR		
	comp=N,137μm,16.5s					
KMI			LR	LR		
	comp=E,192μm,20.4s					
KMI			LR	LR		
	comp=Z,237μm,15.3s					
LQP	**Lukban**	**26.80 54⇑**	*e*P	**P**	**07 44 04.0**	**+1.9**
CGP	**Cagayan de Oro**	**27.02 68**	*e*P	P	07 44 11.8	+7.9
LLP	**Lapu-Lapu**	**27.05 64⇓**	*e*P	**P**	**07 44 04.5**	**+0.3**
LLP			*e*S	**S**	**07 48 43.5**	**+3.9**
BCPH	**Baguio City Da**	**27.37 49⇓**	*i*P	**P**	**07 44 06.4**	**-0.8**
DAV	**Davao City (W)**	**27.41 72**	P	**P**	**07 44 08.5**	**+1.1**
	SNR=86					
DAV	**Davao City (W)**	**27.41 72⇓**	*e*P	**P**	**07 44 09.1**	**+1.7**
DAV	**Davao City (W)**	**27.41 72** ⇓	S	S	07 48 54.0	+8.8
DAV	**Davao City (W)**	**27.41 72**	*e*P	**P**	**07 44 08.4**	**+1.1**
	comp=Z,7μm,1.8s					
DAV			*e*S	S	07 49 22.0	+37
DAV			LR	LR		
	comp=Z,227μm,20.0s					
DAV	**Davao City (W)**	**27.41 72**	P	**P**	**07 44 11.1**	**+3.7**
	comp=Z,2μm,1.6s,comp=Z,40μmcomp=Z,134μm					
DAV	**Davao City (W)**	**27.41 72**	P	**P**	**07 44 08.4**	**+1.1**
	comp=Z,190nm,0.6s,baz=232,slow=2.7,SNR=29					
GQP	**Guinayangan**	**27.42 55**	*e*P	P	07 44 14.6	+7.2
HMDM	**Hanimaadhoo**	**27.48 288**	P	P	07 44 12.9	+4.9
	comp=Z,589nm,3.0s,comp=Z,28μm					
DGAR	**Diego Garcia**	**27.56 257**	P	**P**	**07 44 06.3**	**-2.4**
DGAR			pmax	pmax		
	comp=Z,747nm,1.4s					
DGAR			MLR	MLR		
	comp=Z,219μm,22.0s					
DGAR	**Diego Garcia**	**27.56 257**	P	**P**	**07 44 06.3**	**-2.4**
	comp=Z,747nm,1.4s					
DGAR			*e*S	S	07 49 06.2	+19
DGAR			*e*ScP	**ScP**	**07 51 07.8**	**+4.0**
DGAR			LR	LR		
	comp=Z,219μm,22.0s					
HKC	**Hong Kong Obse**	**27.64 30⇓**	*i*P	**P**	**07 44 12.0**	**+2.7**
HKC			*i* S	**S**	**07 48 48.0**	**-0.7**
NLAI	**Namlea**	**27.67 94**	P	**P**	**07 44 11.1**	**+1.4**
	comp=Z,617nm,0.8s,comp=Z,14μm					
BALP	**Baler**	**27.75 51**	*e*P	**P**	**07 44 11.5**	**+1.1**
MBWA	**Marble Bar**	**27.82 136**	P	**P**	**07 44 10.5**	**-0.4**
	SNR=20					
MBWA	**Marble Bar**	**27.82 136**	*e*P	**P**	**07 44 10.6**	**-0.4**
	comp=Z,376nm,1.1s					
MBWA			*e*S	**S**	**07 48 50.4**	**-1.1**
MBWA			LR	LR		
	comp=Z,214μm,22.0s					
SHL	**Shillong**	**27.86 345**	*e*P	**P**	**07 44 11.2**	**-0.3**
SHL			*i* x	x	07 48 57.0	
HYB	**Hyderabad**	**27.87 313⇑**	*i*P	**P**	**07 44 10.5**	**-1.0**
HYB			*e*sP	sP	07 44 21.0	-6.3
HYB			*e*S	**S**	**07 48 52.0**	**-0.5**
HYB			LR	LR	07 52 08.0	
	comp=Z,88nm,20.0s					
HYB	**Hyderabad**	**27.87 313**	*e*P	**P**	**07 44 11.6**	**+0.1**
GZH	**Guangzhou**	**27.90 28**	P	P	07 44 16.5	+4.9
GZH			PP	**PP**	**07 45 21.0**	**+5.8**
GZH			S	S	07 49 06.4	+14
GZH			LR	LR		
	comp=N,222μm,17.6s					
GZH			LR	LR		
	comp=E,255μm,17.0s					
GZH			LR	LR		
	comp=Z,358μm,12.4s					
TNTI	**Ternate**	**27.99 86**	P	**P**	**07 44 14.1**	**+1.5**
	comp=Z,964nm,2.1s,comp=Z,28μmcomp=Z,162μm					
LBMI	**Labuha**	**28.05 89**	P	**P**	**07 44 16.1**	**+3.0**
	comp=Z,2μm,1.5s,comp=Z,35μm					
MNCY	**Minicoy**	**28.07 291**	*i* x	P	07 44 18.0	+4.7
MNCY			*i* x	x	07 47 21.0	
ABRA	**Dolores**	**28.27 47**	*e*P	**P**	**07 44 15.4**	**+0.5**
PLP	**Palo**	**28.31 63⇓**	*e*P	**P**	**07 44 18.1**	**+2.8**
BOK	**Bokaro**	**28.37 333**	*e*P	**P**	**07 44 15.1**	**-0.7**
BOK			AMB	AMB	07 44 25.6	
	comp=Z,1μm,0.0s					
GYA	**Guiyang**	**28.62 14**	P	**P**	**07 44 16.6**	**-1.6**
GYA			pP	**pP**	**07 44 28.4**	**-0.8**
GYA			sP	**sP**	**07 44 36.8**	**+2.8**
GYA			PP	**PnPn**	**07 45 09.3**	**-0.2**
GYA			S	**S**	**07 49 00.9**	**-3.3**
GYA			pmax	pmax		
	comp=Z,1μm,1.0s					
GYA			pmax	pmax		
	comp=Z,10μm,6.3s					
GYA			LR	LR		
	comp=N,236μm,15.9s					
GYA			LR	LR		
	comp=E,163μm,12.4s					
GYA			LR	LR		
	comp=Z,320μm,14.4s					
CAUP	**Cauayan**	**28.66 49**	*e*P	**P**	**07 44 20.7**	**+2.2**
APYP	**Conner**	**28.79 47**	*e*P	**P**	**07 44 20.4**	**+0.7**
CVP	**Callao Caves**	**29.12 48⇑**	*e*P	P	07 44 12.8	-10
PALP	**Palanan**	**29.19 50**	*e*P	P	07 44 28.2	+5.1
MSAI	**Masohi**	**29.50 94**	P	**P**	**07 44 27.8**	**+1.8**
	comp=Z,98nm,1.1s,comp=Z,2μm					
LATR	**Latur**	**29.97 312**	*e*P	**P**	**07 44 27.6**	**-2.5**
NGP	**Nagpur**	**30.07 319**	*e*x	P	07 44 26.8	-4.2
NGP			*e*x	x	07 45 29.0	
	comp=Z,955nm,1.8s					
NGP			*e*S	**S**	**07 49 29.7**	**+2.8**
GOA	**Goa**	**30.44 305**	*e*P	**P**	**07 44 35.1**	**+0.9**
ODAN	**Odare**	**30.47 338**	*e*P	**P**	**07 44 35.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.55 124**	P	**P**	**07

CD2 LR LR
comp=N,188µm,17.8s
CD2 LR LR
comp=E,319µm,26.0s
CD2 LR LR
comp=Z,180µm,20.8s
YULB Yu-li 32.59 39 *e*P **P 07 44 53.0 -0.1**
comp=Z,538nm,1.0s
YULB *e*S **S 07 50 07.4 +1.1**
YULB *e*ScP **ScP 07 51 26.1 +6.1**
BHPL Bhopal 32.61 320 *e*P **P 07 44 53.7 +0.3**
SSLB Suanglung 32.66 38 *e*P **P 07 44 53.7 -0.1**
comp=Z,1µm,1.1s
FAKI Fak Fak 32.79 93 P **P 07 44 53.2 -1.9**
comp=Z,872nm,1.0s,comp=Z,16µmcomp=Z,119µm
FAKI Fak Fak 32.79 93 P **P 07 44 52.7 -2.4**
baz=33,SNR=7.6
KOLN Koldanda 32.83 333 *e*P **P 07 44 56.1 +0.7**
comp=Z,828nm,0.7s
ENH Enshi 32.98 16 *e*P **P 07 44 54.2 -2.3**
comp=Z,284nm,0.6s
ENH *e*S **S 07 50 06.9 -5.3**
DANN Dangsing 33.26 334 *e*P **P 07 44 59.2 -0.1**
comp=Z,3µm,1.2s
BLDU Ballidu 33.28 152 P **P 07 44 59.8 +0.7**
baz=33,SNR=16
MTN Manton Dam 33.34 111 P P 07 44 56.1 -3.7
baz=33,SNR=24
NACB Ninganchiao 33.34 39 *e*P **P 07 44 59.8 +0.1**
comp=Z,2µm,1.2s
TLE Tual 33.46 98 P **P 07 44 58.4 -2.5**
comp=Z,455nm,1.1s,comp=Z,12µmcomp=Z,125µm
TLE Tual 33.46 98 P **P 07 44 59.6 -1.3**
baz=33,SNR=3.7
YHNB Yeheng 33.57 38 *e*P **P 07 45 00.8 -0.9**
comp=Z,1µm,1.3s
YHNB *e*PcP **PcP 07 47 45.6 +3.8**
YHNB LR LR
comp=Z,95µm,22.0s
TATO Taipei 33.86 38 P P 07 45 07.5 +3.3
SNR=50
TATO Taipei 33.86 38 *e*P **P 07 45 03.5 -0.7**
comp=Z,2µm,1.3s
TATO LR LR
comp=Z,64µm,19.0s
KDU Kakadu 34.55 110 P **P 07 45 08.3 -2.0**
baz=34,SNR=51
KLBR Kellerberrin 34.59 152 P **P 07 45 10.7 +0.2**
baz=35,SNR=31
RKPI Ransiki, Papua 34.70 91 P **P 07 45 11.9 +0.2**
comp=Z,2µm,1.4s,comp=Z,21µm
WHN Wuhan 34.85 23 ⇑P **P 07 45 11.6 -1.1**
WHN pP **pP 07 45 26.8 +3.0**
WHN S **S 07 50 37.4 -3.7**
WHN LR LR
comp=N,273µm,15.9s
WHN LR LR
comp=E,674µm,17.7s
WHN LR LR
comp=Z,399µm,14.8s
NWAO Narrogin (SRO) 35.47 154 P **P 07 45 19.1 +1.1**
SNR=12
NWAO Narrogin (SRO) 35.47 154 P **P 07 45 18.2 +0.2**
NWAO Narrogin (SRO) 35.47 154 P **P 07 45 18.2 +0.2**
comp=Z,273nm,1.2s,baz=320,slow=10,SNR=23
NWAO LR LR 08 00 46.1
comp=Z,154µm,19.2s,baz=325,slow=38
PTH Pithoragarh 35.91 331 *ex* P 07 45 17.8 -4.3
PTH *ex* x 07 51 08.9
PALU Palau 36.01 75 P **P 07 45 20.5 -2.4**
baz=36,SNR=11
PALU S **S 07 51 02.5 +3.1**
baz=36,SNR=4.6
XAN Xi'an 36.42 13 P **P 07 45 23.6 -2.6**
XAN pP **pP 07 45 34.8 -2.6**
XAN sP **sP 07 45 39.1 -3.0**
XAN PcP **PcP 07 47 50.4 +0.5**
XAN S S 07 50 58.3 -6.9
XAN ScS **ScS 07 55 35.5 -4.3**
XAN LR LR
comp=N,162µm,15.5s
XAN LR LR
comp=E,40µm,21.6s
XAN LR LR
comp=Z,90µm,15.9s
SRPI Serui, Papua 36.76 91 P **P 07 45 30.3 +0.9**
comp=Z,1µm,0.9s,comp=Z,15µmcomp=Z,62µm
NDI New Delhi 36.79 326 *e*P **P 07 45 27.0 -2.4**
NDI *ex* x 07 45 48.3
NDI AMB AMB 07 46 06.5
comp=Z,414nm,0.9s
NDI *ex* x 07 51 06.0
RKGY Rocky Gully 36.80 156 P **P 07 45 31.2 +1.8**
baz=37,SNR=5.6
LZH Lanzhou 37.58 6 ⇑P **P 07 45 35.6 -0.6**
LZH pP **pP 07 45 47.8 +0.4**
LZH sP **sP 07 45 52.5 +0.3**
LZH PP **PnPn 07 47 04.0 +0.3**
LZH S **S 07 51 24.0 +0.9**
LZH sS sS 07 51 48.3 +6.6
LZH pmax pmax
comp=Z,540nm,1.4s
LZH pmax pmax
comp=Z,4µm,5.8s
LZH LR LR
comp=N,195µm,13.2s
LZH LR LR
comp=E,75µm,12.1s
LZH LR LR
comp=Z,224µm,16.2s
DDI Dehra Dun 37.63 329 *e*P **P 07 45 36.8 +0.3**
DDI AMB AMB 07 45 56.2
comp=Z,3µm,2.5s
DDI *ex* x 07 47 17.0
BHJ Bhuj 38.02 312 *e*P **P 07 45 39.1 -0.8**
NJ2 Nanjing 38.07 27 *e*P **P 07 45 38.5 -1.6**
NJ2 pP **pP 07 45 53.0 +1.7**
NJ2 sP **sP 07 45 58.0 +1.9**
NJ2 S **S 07 51 33.5 +3.4**
NJ2 sS **sS 07 51 52.0 +3.2**
NJ2 LR LR
comp=N,122µm,17.1s
NJ2 LR LR
comp=E,234µm,24.9s
NJ2 LR LR
comp=Z,121µm,20.6s
SSE Sheshan 38.41 31 P **P 07 45 42.3 -0.7**
SSE sP **sP 07 46 00.1 +1.1**
SSE PP **PnPn 07 47 16.8 +3.3**
SSE S **ScP 07 51 40.0 -0.9**
SSE pmax pmax
comp=Z,290nm,1.5s
SSE pmax pmax
comp=Z,2µm,3.7s
SSE LR LR
comp=N,196µm,19.2s
SSE LR LR
comp=E,213µm,19.4s
SSE LR LR
comp=Z,105µm,18.0s
WRA Warramunga Arr 38.72 121 P **P 07 45 43.8 -2.1**
WRA PcP **PcP 07 47 57.7 +0.5**
WRA P'P' 08 18 10.9
WRA Warramunga Arr 38.72 121 P **P 07 45 43.8 -2.1**
comp=Z,210nm,0.9s,baz=298,slow=9.3,SNR=256
WRA PcP **PcP 07 47 57.7 +0.5**
comp=Z,40nm,0.7s,baz=317,slow=2.4,SNR=3.1
WRA LR LR 08 05 41.4
comp=Z,67µm,18.5s,baz=295,slow=42
WRA PKPPKP P'P'df 08 18 10.9 -13
comp=Z,19nm,1.3s,baz=86,slow=1.5,SNR=7.1
WRAB Tennant Creek 38.73 121 *e*P **P 07 45 44.1 -1.8**
WRAB *e*S **S 07 51 40.4 -0.2**
WRAB pmax pmax
comp=Z,489nm,0.8s
WRAB MLR MLR
comp=Z,135µm,21.0s
WRAB Tennant Creek 38.73 121 *e*P **P 07 45 44.1 -1.8**
comp=Z,489nm,0.8s
WRAB *e*S **S 07 51 40.4 -0.2**
WRAB LR LR
comp=Z,135µm,21.0s
SMLA Simla 38.73 329 *e*P **P 07 45 45.4 -0.3**
SMLA AMB AMB 07 45 54.7
comp=Z,919nm,1.9s
BHK Bhakra 39.35 328 *e*P **P 07 45 49.4 -1.5**

BHK *ex* x 07 47 29.2
JOW Kunigami 39.53 43 *e*P **P 07 45 51.7 -0.8**
comp=Z,277nm,1.1s
FORT Forrest 39.79 140 P **P 07 45 55.2 +0.6**
baz=40,SNR=52
AS31 Alice Springs 40.00 126 *e*P **P 07 45 55.1 -1.4**
AS31 *e*S **S 07 51 58.5 -1.2**
ASAR Alice Springs 40.00 126 P **P 07 45 55.4 -1.1**
ASAR PcP **PcP 07 48 02.2 +1.0**
ASAR S **S 07 51 58.7 -0.9**
ASAR P'P' 08 18 11.6
ASAR Alice Springs 40.00 126 P **P 07 45 55.4 -1.1**
comp=Z,104nm,0.8s,baz=296,slow=7.9,SNR=400
ASAR PcP **PcP 07 48 02.2 +1.0**
comp=Z,75nm,0.8s,baz=306,slow=3.4,SNR=4.9
ASAR S **S 07 51 58.7 -0.9**
comp=Z,104nm,1.1s,baz=297,slow=14,SNR=9.4
ASAR PKPPKP P'P'df 08 18 11.6 -11
comp=Z,1.9nm,0.9s,baz=67,slow=3.2,SNR=4.1
DHRM DHARAMSHALA 40.07 329 *e*P **P 07 45 56.7 -0.4**
DLH Dalhousie 40.47 329 *e*P **P 07 46 00.0 -0.5**
DLH *e*4 07 46 04.0
GTA Gaotai 40.68 0 ⇑P **P 07 46 01.8 -0.2**
GTA pP **pP 07 46 16.4 +3.1**
GTA sP **sP 07 46 20.3 +2.3**
GTA PP **PnPn 07 47 40.6 +0.1**
GTA PcP **PcP 07 48 02.6 -0.6**
GTA S **S 07 52 10.0 +0.5**
GTA ScS **ScS 07 56 02.8 -1.6**
GTA pmax pmax
comp=Z,8µm,10.0s
GTA LR LR
comp=N,46µm,24.2s
GTA LR LR
comp=E,162µm,20.9s
GTA LR LR
comp=Z,93µm,20.9s
TIY Taiyuan 40.79 16 *e*P **P 07 46 01.5 -1.4**
TIY sP **sP 07 46 19.3 +0.4**
TIY PP **PP 07 47 35.3 -2.2**
TIY S S 07 52 04.5 -6.6
TIY sS **sS 07 52 29.5 -0.3**
TIY LR LR
comp=N,61µm,13.0s
TIY LR LR
comp=E,114µm,14.4s
TIY LR LR
comp=Z,59µm,14.4s
TIA Tai'an 40.94 22 ⇓P **P 07 46 02.1 -1.9**
TIA S **S 07 52 13.1 -0.1**
TIA SS **SS 07 55 12.9 -3.3**
TIA LR LR
comp=N,97µm,25.9s
TIA LR LR
comp=E,299µm,24.6s
TIA LR LR
comp=Z,34µm,28.0s
BTO Baotou 42.97 12 *e*P P 07 46 23.9 +3.3
BTO S **S 07 52 47.1 +3.9**
HHC Hu-ho-hao-te 43.54 13 *e*P **P 07 46 24.8 -0.4**
HHC pP **pP 07 46 37.1 +0.5**
HHC sP **sP 07 46 42.5 +1.2**
HHC PP **PP 07 48 08.3 +1.2**
HHC PcP **PcP 07 48 12.3 -0.3**
HHC ScP **ScP 07 51 58.3 -2.8**
HHC PcS **PcS 07 52 03.5 -1.8**
HHC S **S 07 52 50.3 -1.3**
HHC sS **sS 07 53 11.3 +0.9**
HHC SS SS 07 55 58.6 -8.8
HHC ScS **ScS 07 56 17.8 -4.0**
HHC pmax pmax
comp=Z,68nm,1.0s
HHC pmax pmax
comp=Z,13µm,6.1s
HHC LR LR
comp=N,99µm,17.6s
HHC LR LR
comp=E,132µm,17.1s
HHC LR LR
comp=Z,132µm,17.4s
BJT Baijiatuau 44.03 19 *e*P **P 07 46 28.1 -1.0**
comp=Z,1µm,1.2s
BJT *e*S **S 07 53 03.5 +5.0**
BJT LR LR
comp=Z,66µm,19.0s
MSEY Mahe Island 44.03 265 *e*P **P 07 46 28.8 -0.8**
comp=Z,4µm,3.0s
MSEY LR LR
comp=Z,64µm,20.0s
BJI Beijing 44.05 19 P **P 07 46 28.3 -0.9**
BJI PP **PcP 07 48 18.0 +3.9**
BJI S **S 07 52 59.9 +1.1**
BJI pmax pmax
comp=Z,3µm,8.8s
BJI LR LR
comp=N,106µm,21.4s
BJI LR LR
comp=E,198µm,20.1s
BJI LR LR
comp=Z,39µm,27.1s
COEN Coen 44.96 108 P **P 07 46 37.2 +0.3**
baz=45,SNR=8.3
MRIV Mauritius Mete 45.05 242 *e*P **P 07 46 37.5 -0.1**
DL2 Dalian 45.05 25 ⇑P **P 07 46 36.3 -0.9**
DL2 S **S 07 53 12.6 -0.9**
DL2 pmax pmax
comp=Z,630nm,1.4s
DL2 pmax pmax
comp=Z,7µm,12.3s
DL2 LR LR
comp=E,118µm,20.0s
DL2 LR LR
comp=Z,86µm,16.7s
JNU Nakatsue 45.40 38 P **P 07 46 39.3 -0.9**
JNU S **S 07 53 21.8 +2.9**
JNU Nakatsue 45.40 38 P **P 07 46 39.3 -0.9**
comp=Z,93nm,0.7s,baz=231,slow=3.8,SNR=41
JNU S **S 07 53 21.8 +2.9**
comp=Z,67nm,1.1s,baz=317,slow=23,SNR=9.2
JNU LR LR 08 06 56.9
comp=Z,73µm,20.4s,baz=233,slow=38
TJN Taejon 45.74 32 *e*P **P 07 46 40.9 -1.8**
KBL Kabul 45.79 324 *e*P **P 07 46 42.4 -1.1**
KBL pmax pmax
comp=Z,207nm,1.1s
KBL Kabul 45.79 324 *e*P **P 07 46 42.4 -1.1**
comp=Z,207nm,1.1s
KBL Kabul 45.79 324 P **P 07 46 42.8 -0.7**
baz=46,SNR=9.8
KSH Kashi 46.13 335 ⇑*i*P **P 07 46 44.3 -1.6**
KSH sP **sP 07 46 57.3 -4.7**
KSH PP **PP 07 48 32.3 -2.4**
KSH S S 07 53 23.0 -6.2
KSH pmax pmax
comp=Z,81nm,0.9s
KSH pmax pmax
comp=Z,2µm,3.7s
KSH LR LR
comp=N,39µm,15.7s
KSH LR LR
comp=E,36µm,15.8s
KSH LR LR
comp=Z,71µm,19.8s
WBK Wadi Bani Khal 46.15 304 P **P 07 46 47.2 +1.0**
SNR=30
INCN Inchon 46.20 30 P **P 07 46 45.3 -1.1**
SNR=28
INCN Inchon 46.20 30 *e*P **P 07 46 44.7 -1.7**
comp=Z,2µm,2.4s
INCN LR LR
comp=Z,43µm,19.0s
BBOO Buckleboo 46.40 136 P **P 07 46 47.8 -0.3**
baz=46,SNR=29
JMDO Jabal Madar 46.77 303 P **P 07 46 51.5 +0.4**
SNR=17
KSAR Wonju Array Be 46.81 31 P **P 07 46 50.1 -1.0**
KSAR PcP **PcP 07 48 24.9 +1.1**
KSAR ScP **ScP 07 52 20.1 +5.5**
KSAR S S 07 53 47.6 +8.8
KSAR P'P' 08 18 22.2
KSRS Korea Array 46.84 31 P **P 07 46 50.1 -1.2**
comp=Z,103nm,0.7s,baz=224,slow=8.4,SNR=106
KSRS PcP **PcP 07 48 24.9 +1.0**
comp=Z,36nm,0.8s,baz=247,slow=2.5,SNR=1.9
KSRS ScP **ScP 07 52 20.1 +5.4**

comp=Z,15nm,1.2s,baz=232,slow=3.9,SNR=4.8
KSRS S S 07 53 47.6 +8.4
comp=Z,40nm,1.2s,baz=219,slow=9.4,SNR=15
KSRS LR LR 08 08 56.3
comp=Z,43µm,19.1s,baz=221,slow=39
KSRS PKPPKP P'P'df 08 18 22.2 +10
comp=Z,1.3nm,0.9s,baz=68,slow=1.2,SNR=4.3
RER Riviere de l'E 46.88 242 *e*P **P 07 46 53.6 +1.5**
comp=Z,380nm,1.1s
RER LR LR
comp=Z,60µm,22.0s
MTSU Mount Surprise 47.02 114 P **P 07 46 51.9 -1.3**
baz=47,SNR=23
SMDO Samad 47.11 304 P **P 07 46 54.2 +0.4**
SNR=51
GUMO Guam 47.43 70 *e*P **P 07 46 56.0 -0.3**
comp=Z,675nm,1.4s
GUMO LR LR
comp=Z,26µm,21.0s
BSY Bisya 47.69 303 P **P 07 46 59.1 +0.9**
SNR=40
HOQ Hoqain 47.95 304 P **P 07 47 01.1 +0.9**
SNR=33
PMG Port Moresby 48.08 101 P **P 07 47 00.4 -1.0**
comp=Z,18nm,1.2s
PMG *e*S S 07 53 49.0 -8.6
PMG LR LR
comp=Z,71µm,19.0s
PMG Port Moresby 48.08 101 P **P 07 47 00.4 -1.0**
comp=Z,74nm,0.9s,baz=275,slow=7.6,SNR=10
ULHL Ulahol 48.31 337 *i* P **P 07 47 03.4 +0.4**
ULHL Ulahol 48.31 337 P **P 07 47 03.4 +0.4**
SNR=30
SNY Shenyang 48.32 24 ⇑P **P 07 47 00.8 -1.9**
SNY S **S 07 53 55.3 -4.7**
SNY pmax pmax
comp=Z,190nm,1.6s
SNY LR LR
comp=N,66µm,19.8s
SNY LR LR
comp=E,169µm,22.2s
SNY LR LR
comp=Z,101µm,20.1s
RBK Rabkut 48.40 295 P **P 07 47 05.1 +1.2**
SNR=25
ARQ Araqi 48.50 303 P **P 07 47 05.6 +1.1**
SNR=33
KZA Kyzart 48.56 336 *i* P **P 07 47 05.8 +0.6**
KZA Kyzart 48.56 336 P **P 07 47 05.8 +0.6**
SNR=46
AAA Alma-Ata 48.92 338 *i* P **P 07 47 08.3 +0.9**
AAA *i* S S 07 54 19.8 +11
AAA pmax pmax
comp=Z,16µm,3.4s
AAA smax smax
comp=E,43µm,4.9s
AAA MLR MLR
comp=Z,57µm,12.0s
UCH Uchtor 48.99 335 *i* P **P 07 47 08.5 0.0**
UCH Uchtor 48.99 335 P **P 07 47 08.5 0.0**
SNR=21
TKM2 Tokmak 2 49.13 337 *i* P **P 07 47 09.7 +0.4**
TKM2 Tokmak 2 49.13 337 P **P 07 47 09.8 +0.4**
SNR=160
TKM2 Tokmak 2 49.13 337 *e*P **P 07 47 09.7 +0.4**
TKM2 LR LR
comp=Z,75µm,20.0s
KBK Karagaybulak 49.17 336 *i* P **P 07 47 10.5 +1.0**
KBK Karagaybulak 49.17 336 P **P 07 47 10.5 +1.0**
SNR=81
ABTO Aybut 49.18 294 P **P 07 47 10.9 +1.0**
SNR=21
AML Almayashu 49.26 335 *i* P **P 07 47 11.0 +0.5**
AML Almayashu 49.26 335 P **P 07 47 11.0 +0.5**
SNR=99
CTA Charters Tower 49.31 115 P **P 07 47 09.6 -1.1**
CTA S **S 07 54 14.7 -0.1**
CTA Charters Tower 49.31 115 P **P 07 47 09.6 -1.1**
comp=Z,162nm,1.1s,baz=289,slow=9.8,SNR=75
CTA S **S 07 54 14.7 -0.1**
comp=Z,7.8nm,1.0s,baz=207,slow=17,SNR=3.0
CTAO Charters Tower 49.31 115 *e*P **P 07 47 08.7 -2.1**
CTAO MLR MLR
comp=Z,104µm,19.0s
CTAO Charters Tower 49.31 115 *e*P **P 07 47 08.7 -2.1**
CTAO LR LR
comp=Z,104µm,19.0s
AAK Ala-Archa 49.34 336 *c i*P **P 07 47 11.3 +0.5**
AAK pmax pmax
comp=Z,2µm,2.3s
AAK MLR MLR
comp=Z,237µm,21.0s
AAK Ala-Archa 49.34 336 P **P 07 47 11.7 +0.9**
SNR=254
AAK Ala-Archa 49.34 336 P **P 07 47 11.6 +0.7**
SNR=29
AAK Ala-Archa 49.34 336 *e*P **P 07 47 11.5 +0.7**
AAK S **S 07 54 20.4 +5.6**
AAK P'P' 08 18 06.8
AAK Ala-Archa 49.34 336 P **P 07 47 11.4 +0.6**
comp=Z,34nm,0.5s,baz=150,slow=5.7,SNR=56
AAK S **S 07 54 20.4 +5.6**
comp=Z,3.1nm,0.4s,baz=305,slow=16,SNR=1.8
AAK LR LR 08 10 46.4
comp=Z,105µm,21.9s,baz=2.1,slow=40
AAK PKPPKP **P'P'df 08 18 06.8 -1.6**
comp=Z,2.2nm,0.4s,baz=208,slow=4.0,SNR=6.3
ASHO Ashiyiah 49.45 305 P **P 07 47 12.5 +0.7**
SNR=13
HATD Hatta, Dubai 49.45 305 P **P 07 47 13.0 +1.2**
SNR=14
FRU Bishkek 49.45 336 ⇑*i*P **P 07 47 11.0 -0.5**
FRU *e*S **S 07 54 16.0 -0.1**
FRU *i* 07 54 27.0
FRU pmax pmax
comp=Z,2µm,2.1s
FRU MLR MLR
comp=Z,80µm,22.0s
FRU MLR MLR
comp=E,65µm,19.0s
SONM Songino Array 49.47 6 P **P 07 47 11.4 -0.2**
SONM PcP **PcP 07 48 34.9 +1.6**
SONM ScP **ScP 07 52 29.6 +3.8**
SONM P'P' 08 18 06.4
SONM Songino Array 49.47 6 P **P 07 47 11.4 -0.2**
comp=E,86nm,0.6s,baz=189,slow=8.7,SNR=125
SONM PcP **PcP 07 48 34.9 +1.6**
comp=E,136nm,0.8s,baz=192,slow=4.3,SNR=6.8
SONM ScP **ScP 07 52 29.6 +3.8**
comp=E,8.7nm,0.9s,baz=143,slow=5.0,SNR=2.7
SONM LR LR 08 10 54.8
comp=E,133µm,19.5s,baz=191,slow=40
SONM PKPPKP **P'P'df 08 18 06.4 -1.2**
comp=E,4.7nm,1.1s,baz=267,slow=0.6,SNR=4.6
CHMS Chumysh 49.54 336 *i* P **P 07 47 12.2 +0.1**
CHMS Chumysh 49.54 336 P **P 07 47 12.2 +0.1**
SNR=57
ULN Ulaanbaatar 49.58 7 P **P 07 47 12.5 0.0**
SNR=350
ULN Ulaanbaatar 49.58 7 *e*P **P 07 47 11.8 -0.7**
ULN LR LR
comp=Z,115µm,20.0s
EKS2 Erkin-Say 49.66 335 *e*P **P 07 47 13.5 +0.3**
EKS2 *e*S **S 07 54 21.5 +2.3**
EKS2 pmax pmax
comp=Z,313nm,1.3s
EKS2 MLR MLR
comp=Z,50µm,22.0s
EKS2 Erkin-Say 49.66 335 P **P 07 47 13.9 +0.7**
SNR=175
EKS2 Erkin-Say 49.66 335 *e*P **P 07 47 13.5 +0.3**
comp=Z,313nm,1.3s
EKS2 *e*S **S 07 54 21.5 +2.3**
EKS2 LR LR
comp=Z,50µm,22.0s
USP Ospenovka 49.86 336 *i* P **P 07 47 14.9 +0.3**
USP Ospenovka 49.86 336 P **P 07 47 15.0 +0.3**
SNR=266
STKA Stephens Creek 49.90 132 *e*P **P 07 47 15.0 -0.1**
STKA S **S 07 54 25.4 +2.7**
STKA Stephens Creek 49.90 132 P **P 07 47 15.0 -0.1**
comp=Z,191nm,0.8s,baz=297,slow=7.7,SNR=126
STKA S **S 07 54 25.4 +2.7**
comp=Z,15nm,0.9s,baz=56,slow=18,SNR=3.7
STKA LR LR 08 08 59.5
comp=Z,104µm,19.3s,baz=296,slow=37

STKA	Stephens Creek	49.90	132	P	P	07 47 15.0 -0.1
	baz=50,SNR=113					
NAZ	Nazwa, Dubai	49.90	305	P	P	07 47 15.4 +0.1
	SNR=26					
ASUD	Al Ashush, Dub	50.03	304	P	P	07 47 17.2 +1.0
	SNR=52					
IBND	Bandar-abas	50.29	308	eP	P	07 47 17.7 -0.4
IBND				eP	P	07 47 18.7 +0.6
MK31	Makanchi Array	50.38	345	i P	P	07 47 18.5 +0.1
MK31				pmax	pmax	
	comp=Z,347nm,0.7s					
MK31	Makanchi Array	50.38	345	eP	P	07 47 18.2 -0.2
MKAR	Makanchi Array	50.38	345	P	P	07 47 18.3 -0.1
MKAR				S	S	07 54 37.6 +8.7
MKAR	Makanchi Array	50.38	345	P	P	07 47 18.3 -0.1
MKAR				S	S	07 54 37.6 +8.7
MKAR				P'P'		08 18 07.9
MKAR	Makanchi Array	50.38	345	P	P	07 47 18.3 -0.1
	comp=Z,158nm,0.7s,baz=153,slow=6.0,SNR=285					
MKAR				S	S	07 54 37.6 +8.7
	comp=Z,68nm,1.1s,baz=152,slow=11,SNR=9.7					
MKAR				PKPPKP	P'P'df	08 18 07.9 +1.5
	comp=Z,3.8nm,0.9s,baz=337,slow=1.8,SNR=7.6					
IDAH	Dahanechah	50.54	316	eP	P	07 47 20.0 -0.2
CN2	Changchun	50.72	24⇑	i P	P	07 47 19.4 -1.6
CN2				ep P	pP	07 47 30.1 -2.5
CN2				eS	S	07 54 31.3 -2.3
CN2				pmax	pmax	
	comp=Z,360nm,1.0s					
CN2				pmax	pmax	
	comp=Z,7μm,9.0s					
IKOO	Kooshah	50.97	315	eP	P	07 47 22.2 -1.3
ITEG	Tejag	51.41	315	eP	P	07 47 26.1 -0.6
KK31	Karatay Array	51.44	333	i P	P	07 47 25.6 -0.9
KK31				pmax	pmax	
	comp=Z,744nm,1.6s					
KKAR	Karatay Array	51.44	333	eP	P	07 47 25.9 -0.6
KKAR	Karatay Array	51.44	333	eP	P	07 47 25.9 -0.6
	comp=Z,13nm,1.3s					
ZAK	Zakamensk	51.75	3	eP	P	07 47 28.3 -0.5
ZAK				e		07 48 36.9
ZAK				e		07 49 29.7
ZAK				e		07 54 59.2
ZAK				pmax	pmax	
	comp=Z,154nm,2.2s					
MAT	Matsushiro	52.21	40	P	P	07 47 30.0 -2.3
MAT				S	S	07 54 54.2 -0.2
MJAR	Matsushiro Arr	52.21	40	P	P	07 47 30.4 -2.0
MJAR				ScP	ScP	07 52 43.7 +6.1
MJAR				S	S	07 54 57.7 +3.3
MJAR				P'P'		08 18 04.4
MJAR	Matsushiro Arr	52.21	40	P	P	07 47 30.4 -2.0
	comp=Z,17nm,0.7s,baz=223,slow=8.1,SNR=41					
MJAR				ScP	ScP	07 52 43.7 +6.1
	comp=Z,16nm,1.1s,baz=231,slow=4.7,SNR=4.8					
MJAR				S	S	07 54 57.7 +3.3
	comp=Z,4.1nm,1.0s,baz=234,slow=14,SNR=5.8					
MJAR				PKPPKP	P'P'df	08 18 04.4 -0.8
	comp=Z,6.6nm,1.1s,baz=327,slow=1.9,SNR=7.5					
MUKL	Al Mukalla	52.37	289⇑	eP	P	07 47 34.5 +0.7
MUKL				AMb	AMB	07 47 35.9
	comp=Z,857nm,1.5s					
IMYA	Miami	52.48	320	eP	P	07 47 31.9 -2.7
ARPS	Mount Arapiles	52.54	137	P	P	07 47 35.7 +0.9
	baz=53,SNR=19					
HVS	Khovu-Aksy	52.63	355c	i P	P	07 47 34.5 -0.8
HVS				pmax	pmax	
	comp=Z,3μm,1.8s					
HVS				MLR	MLR	
	comp=Z,210μm,16.0s					
IMOG	Moghan	52.84	319	eP	P	07 47 36.5 -0.9
CMSA	Cobar Meteorol	52.86	129	P	P	07 47 37.3 0.0
	baz=53,SNR=199					
ISRO	Mashad	52.87	319	eP	P	07 47 35.7 -1.7
MOY	Mondy	52.95	1	eP	P	07 47 37.0 -0.7
MOY				pmax	pmax	
	comp=Z,1μm,2.5s					
IBAF	Bafgh	53.02	312	eP	P	07 47 37.5 -1.2
VLA	Vladivostok	53.09	29κ	i P	P	07 47 37.7 -1.0
VLA				e		07 48 46.3
VLA				i S	S	07 55 03.1 -3.1
VLA				pmax	pmax	
	comp=Z,326nm,1.4s					
MDJ	Mudanjiang	53.15	27	P	P	07 47 38.3 -0.8
MDJ				pP	pP	07 47 49.3 -1.5
MDJ				sP	sP	07 47 52.3 -3.1
MDJ				PcP	PcP	07 48 47.4 +0.5
MDJ				PP	PP	07 49 38.1 -1.4
MDJ				ScP	ScP	07 52 38.9 -2.7
MDJ				PcS	PcS	07 52 45.0 -0.6
MDJ				S	S	07 55 03.3 -3.7
MDJ				sS	sS	07 55 25.8 -0.5
MDJ				pmax	pmax	
	comp=Z,7μm,13.6s					
MDJ				LR	LR	
	comp=N,98μm,18.5s					
MDJ				LR	LR	
	comp=E,164μm,20.1s					
MDJ				LR	LR	
	comp=Z,93μm,15.4s					
MDJ	Mudanjiang	53.15	27	eP	P	07 47 38.0 -1.1
	comp=Z,311nm,1.2s					
MDJ				eS	S	07 55 06.7 -0.3
MDJ				LR	LR	
	comp=Z,90μm,20.0s					
IPAY	Payeh	53.26	319	eP	P	07 47 39.1 -1.3
RMQ	Roma	53.45	122	P	P	07 47 41.9 +0.2
	baz=53,SNR=62					
HIA	Hailar	53.48	16	eP	P	07 47 39.9 -1.6
	comp=Z,175nm,1.1s					
HIA				eS	S	07 55 10.3 -1.2
HIA				LR	LR	
	comp=Z,147μm,19.0s					
IAKL	Akhelmad	53.51	319	eP	P	07 47 40.5 -1.8
IMEH	Mehriz	53.64	311	eP	P	07 47 40.9 -2.4
IRK	Irkutsk	53.67	4	eP	P	07 47 42.2 -0.6
IRK				eS	S	07 55 13.0 -0.8
IRK				pmax	pmax	
	comp=Z,2μm,1.8s					
IKRD	Kardeh	53.77	319	ePn	P	07 47 38.5 -5.6
ISRV	Sarvestan	53.85	309	eP	P	07 47 43.9 -1.1
PAF	Port-aux-Franc	53.87	203	P	P	07 47 46.2 +1.9
PAF				pmax	pmax	
	comp=Z,2μm,1.4s					
PAF				MLR	MLR	
	comp=Z,73μm,19.0s					
PAF	Port-aux-Franc	53.87	203	P	P	07 47 46.2 +1.9
	comp=Z,2μm,1.4s					
PAF				LR	LR	
	comp=Z,73μm,19.0s					
USRK	Ussuriysk Arra	53.95	29	P	P	07 47 44.1 -0.9
	comp=Z,146nm,0.6s,baz=227,slow=5.8,SNR=91					
USRK				LR	LR	08 13 28.1
	comp=Z,68μm,19.7s,baz=209,slow=39					
USRK				PKPPKP	P'P'df	08 18 05.5 +3.5
	comp=Z,2.5nm,0.8s,baz=79,slow=4.1,SNR=5.7					
OPO	Ambohidratompo	53.97	248	P	P	07 47 46.4 +0.6
OPO	Ambohidratompo	53.97	248	P	P	07 47 46.4 +0.6
	comp=Z,107nm,1.0s,baz=66,slow=6.9,SNR=26					
OPO				LR	LR	08 05 23.6
	comp=Z,109μm,21.3s,baz=164,slow=30					
ABPO	Ambohimpanom	54.02	248	eP	P	07 47 45.7 -0.5
ABPO				pmax	pmax	
	comp=Z,1μm,2.2s					
ABPO				MLR	MLR	
	comp=Z,114μm,22.0s					
ABPO	Ambohimpanom	54.02	248	eP	P	07 47 45.7 -0.5
	comp=Z,1μm,2.2s					
ABPO				LR	LR	
	comp=Z,114μm,22.0s					
IEMG	Emamgholi	54.05	320	eP	P	07 47 44.6 -1.7
IPAR	Pars	54.11	309	ePn	P	07 47 47.2 +0.4
ICHK	Chekchek	54.20	312	eP	P	07 47 46.2 -1.2
ISFR	Sfrayin	54.26	319	eP	P	07 47 47.0 -0.8
ISAD	Sadrabad	54.58	312	eP	P	07 47 48.9 -1.3
CIT	Chita	54.61	11	eP	P	07 47 50.4 +0.7
CIT				e		07 48 04.5
CIT				e		07 48 56.7
CIT				eS	S	07 55 30.2 +3.6
CIT				pmax	pmax	
	comp=Z,2μm,2.3s					
ISHV	Shirvan	54.73	320	eP	P	07 47 50.6 -0.5
KURBB	Kurchatov Arra	54.89	344	P	P	07 47 51.5 -0.2
	comp=Z,82nm,0.8s,baz=164,slow=7.1,SNR=176					
KURBB				S	S	07 55 31.9 +1.6
	comp=Z,18nm,0.9s,baz=148,slow=14,SNR=6.4					
KURBB				PKPPKP	P'P'df	08 17 59.1 -0.9
	comp=Z,15nm,1.2s,baz=294,slow=3.0,SNR=6.2					
KURK	Kurchatov	54.95	344	P	P	07 47 51.5 -0.6
KURK				S	S	07 55 31.9 +0.8
KURK	Kurchatov	54.95	344	P	P	07 47 51.5 -0.6
KURK				S	S	07 55 31.9 +0.8
KURK				P'P'		08 17 59.1
EIDS	Eidsvold	55.09	120	P	P	07 47 52.9 -0.7
	baz=55,SNR=31					
TOO	Toolangi	55.46	136	P	P	07 47 57.6 +1.4
	baz=56,SNR=18					
LBOS		55.83	288⇑	eP	P	07 48 00.1 +0.6
LBOS				AMb	AMB	07 48 01.5
	comp=Z,1μm,1.4s					
IGAR	Gharneh	56.04	311	eP	P	07 47 59.8 -0.8
IZEF	Zefreh	56.05	312	eP	P	07 47 58.7 -2.1
YNG	Young	56.09	131	P	P	07 48 00.8 +0.1
	baz=56,SNR=42					
IANJ	Anjilo	56.17	315	eP	P	07 48 00.1 -1.4
ZAA0	Zalesovo Array	56.55	350	eP	P	07 48 03.3 -0.2
ZALV	Zalesovo Beam	56.55	350	i P	P	07 48 03.4 -0.2
ZALV				pmax	pmax	
	comp=Z,88nm,0.5s					
ZALV	Zalesovo Beam	56.55	350	P	P	07 48 03.4 -0.2
ZALV				P'P'		08 17 57.8
ZALV	Zalesovo Beam	56.55	350	P	P	07 48 03.4 -0.2
	comp=Z,88nm,0.5s,baz=163,slow=5.7,SNR=377					
ZALV				LR	LR	08 17 00.9
	comp=Z,44μm,20.1s,baz=162,slow=41					
ZALV				PKPPKP	P'P'df	08 17 57.8 +0.5
	comp=Z,14nm,1.1s,baz=264,slow=3.0,SNR=6.0					
IKIA	Kiasar	56.71	316	eP	P	07 48 04.4 -0.9
IGLO	Ghaloghah	56.76	316	eP	P	07 48 03.6 -2.1
ISHM	Shahmirzad	56.78	315	eP	P	07 48 04.3 -1.6
ISHM				eP	P	07 48 04.7 -1.2
DAMY	Dhamar	56.78	288	P	P	07 48 08.3 +2.0
	baz=57,SNR=9.6					
TRBA	At Turbah	56.79	287⇑	eP	P	07 48 06.9 +0.6
ILAS	Lasjerd	56.80	315	eP	P	07 48 05.2 -0.8
IKLH	Kolahrood	56.81	312	eP	P	07 48 06.2 +0.1
ISFB	Sefidab	56.81	313	eP	P	07 48 05.0 -0.9
CAN	Canberra	56.96	132	eP	P	07 48 07.1 +0.1
CAN				eS	S	07 56 03.2 +4.6
CAN				pmax	pmax	
	comp=Z,482nm,1.1s					
CAN				MLR	MLR	
	comp=Z,116μm,20.0s					
CAN	Canberra	56.96	132	eP	P	07 48 07.1 +0.1
	comp=Z,482nm,1.1s					
CAN				eS	S	07 56 03.2 +4.6
CAN				LR	LR	
	comp=Z,116μm,20.0s					
IFIR	Firoozkooh	57.07	315	eP	P	07 48 07.0 -1.0
ARMA	Armidale	57.15	126	P	P	07 48 09.4 +1.0
	baz=57,SNR=38					
CNB	Canberra Magne	57.23	132	P	P	07 48 09.2 +0.3
	baz=57,SNR=14					
IVRN	Varamin	57.49	314	eP	P	07 48 10.2 -0.5
KRAR	Krasnoyarsk	57.54	356c	i P	P	07 48 11.1 +0.6
KRAR				pmax	pmax	
	comp=Z,2μm,1.6s					
KRAR				MLR	MLR	
	comp=Z,40μm,17.0s					
IDMV	Damavand	57.55	315	eP	P	07 48 10.6 -0.8
IPRN	Peran	57.66	315	eP	P	07 48 11.1 -0.9
KLR	Kul'dur	57.67	24	eP	P	07 48 07.0 -4.6
KLR				ePPP	PPP	07 51 45.5
KLR				eS	S	07 56 06.5 -0.7
KLR				pmax	pmax	
	comp=N,3μm,13.0s					
KLR				pmax	pmax	
	comp=E,3μm,13.0s					
KLR				pmax	pmax	
	comp=Z,9μm,13.0s					
NVS	Novosibirsk	57.69	349⇑	i P	P	07 48 10.7 -0.9
NVS				e		07 49 01.1
NVS				eS	S	07 56 06.2 -1.1
NVS				pmax	pmax	
	comp=N,1μm,2.3s					
NVS				pmax	pmax	
	comp=E,825nm,2.3s					
NVS				pmax	pmax	
	comp=Z,2μm,2.3s					
NVS				smax	smax	
	comp=N,1μm,2.7s					
NVS				smax	smax	
	comp=E,494nm,1.8s					
ATD	Arta Tunnel	57.72	285	P	P	07 48 13.8 +1.1
ATD	Arta Tunnel	57.72	285	P	P	07 48 13.8 +1.1
	comp=E,68nm,1.1s,baz=77,slow=8.0,SNR=19					
ATD				LR	LR	08 08 09.7
	comp=E,43μm,21.9s,baz=243,slow=31					
MGCD	Mangrove Creek	57.73	129	P	P	07 48 12.9 +0.6
	baz=58,SNR=16					
KBD	Kabd	58.09	306	eP	P	07 48 14.3 -0.6
KBD				AMb	AMB	07 48 19.4
	comp=Z,434nm,1.0s					
RDF	Al-Radifah	58.11	306	eP	P	07 48 14.4 -0.6
RDF				AMb	AMB	07 48 20.6
	comp=Z,956nm,0.9s					
UMR	Umm Al-Rimmam	58.21	306	eP	P	07 48 15.0 -0.7
UMR				AMb	AMB	07 48 17.0
	comp=Z,737nm,0.8s					
IR3	Iran Long-Peri	58.22	314	eP	P	07 48 15.6 -0.3
IR5	Iran Long-Peri	58.42	314	eP	P	07 48 16.7 -0.6
NAY	Al-Naaiem	58.48	306	eP	P	07 48 16.8 -0.8
NAY				AMb	AMB	07 48 21.9
	comp=Z,357nm,1.0s					
HABR	Khabarovsk	58.53	27	deP	P	07 48 15.1 -2.5
HABR				e*PP	pP	07 48 27.8 -1.5
HABR				e		07 49 04.4
HABR						07 50 24.0
HABR				eS	S	07 56 14.8 -3.7
HABR				e		07 56 29.9
HABR				e*SS	sS	07 56 37.1 -0.8
HABR				e		07 57 59.8
HABR				eSS	SS	08 00 08.1 -3.6
HABR				pmax	pmax	
	comp=Z,1μm,2.8s					
HABR				pmax	pmax	
	comp=Z,2μm,3.0s					
HABR				pmax	pmax	
	comp=N,356nm,2.8s					
HABR				pmax	pmax	
	comp=E,657nm,2.8s					
HABR				MLR	MLR	
	comp=N,89μm,18.0s					
HABR				MLR	MLR	
	comp=E,92μm,19.0s					
HABR				MLR	MLR	
	comp=Z,142μm,18.0s					
ERM	Erimo	58.55	37	P	P	07 48 20.1 +2.2
	comp=Z,816nm,1.2s,SNR=8.8					
ERM	Erimo	58.55	37	ceP	P	07 48 17.9 0.0
ERM				pmax	pmax	
	comp=Z,139nm,1.2s					
ERM				MLR	MLR	
	comp=Z,47μm,18.0s					
ERM	Erimo	58.55	37	eP	P	07 48 17.6 -0.3
	comp=Z,172nm,0.9s					
ERM				LR	LR	
	comp=Z,44μm,19.0s					
IMHD	Mahdasht	58.58	314	eP	P	07 48 18.0 -0.4
IRAZ	Razeghan	58.98	314	eP	P	07 48 19.9 -1.4
MOO	Moorlands	59.01	140	P	P	07 48 22.8 +1.7
	baz=59,SNR=8.2					
VOSK	Vostochnaya	59.05	340	P	P	07 48 19.3 -1.9
VOSK				pmax	pmax	
	comp=Z,245nm,0.9s					
IGZV	Ghazvin	59.23	315	eP	P	07 48 20.6 -2.4
PATS	Pohnpei	59.30	81	P	P	07 48 24.0 +0.4
	baz=59,SNR=9.4					
TAU	Tasmania Unive	59.33	141	eP	P	07 48 24.6 +1.3
TAU				pmax	pmax	
	comp=Z,500nm,1.4s					
TAU				MLR	MLR	
	comp=Z,78μm,19.0s					
TAU	Tasmania Unive	59.33	141	eP	P	07 48 24.6 +1.3
	comp=Z,500nm,1.4s					
TAU				LR	LR	
	comp=Z,78μm,19.0s					
ASAJ	Asahikawa	59.48	35	eP	P	07 48 23.5 -0.8
	comp=Z,622nm,1.8s					
ASAJ				eS	S	07 56 33.0 +2.0
ASAJ				⇑e		08 18 05.8
ASAJ	Asahikawa	59.48	35	P	P	07 48 23.6 -0.8
	comp=Z,25nm,0.5s,baz=257,slow=16,SNR=35					
ASAJ				LR	LR	08 17 31.2
	comp=Z,28μm,19.0s,baz=350,slow=40					
ASAJ				PKP2bc		08 18 05.8
	comp=Z,36nm,1.2s,baz=283,slow=15,SNR=7.0					
BVA0	Borovoye Array	59.50	340	P	P	07 48 23.2 -1.1
BVA0				pmax	pmax	
	comp=Z,2μm,2.3s					
BVAR	Borovoye Array	59.50	340	S	S	07 56 39.8 +8.9
	comp=Z,8.8nm,0.8s,baz=142,slow=5.4,SNR=7.4					
BVAR				PKP2bc		08 18 04.1
	comp=Z,6.4nm,1.1s,baz=254,slow=1.1,SNR=7.6					
BVAR				LR	LR	08 19 10.7
	comp=Z,43μm,20.5s,baz=149,slow=41					
BRVK	Borovoye	59.57	340	P	P	07 48 23.9 -0.8
	comp=Z,1μm,0.7s,SNR=42					
BRVK	Borovoye	59.57	340c	i P	P	07 48 23.6 -1.1
BRVK				pmax	pmax	
	comp=Z,190nm,1.7s					
BRVK				MLR	MLR	
	comp=Z,56μm,21.0s					
BRVK	Borovoye	59.57	340	P	P	07 48 23.9 -0.8
	SNR=79					
BRVK	Borovoye	59.57	340	eP	P	07 48 23.6 -1.1
	comp=Z,210nm,0.8s					
BRVK				eS	S	07 56 30.9 -0.9
BRVK				LR	LR	
	comp=Z,50μm,20.0s					
HNR	Honiara	60.65	100	P	P	07 48 32.4 -0.5
HNR	Honiara	60.65	100	P	P	07 48 32.3 -0.5
	comp=Z,554nm,0.8s,baz=214,slow=4.7,SNR=8.1					
AB31	Akbulak array	60.92	332	i P	P	07 48 32.4 -1.6
AB31				pmax	pmax	
	comp=Z,845nm,1.3s					
ABKAR	Akbulak array	60.92	332	eP	P	07 48 33.0 -1.0
	comp=Z,28nm,0.9s					
IBDR	Badra	61.00	309	i P	P	07 48 32.0 -2.9
IBDR				i pP	pP	07 48 44.0 -2.7
IBDR				i PPP	PPP	07 52 35.0
IBDR				i S	S	07 56 51.0 +0.2
IBDR				i PS	PnS	07 57 12.0 +3.2
WNDE	Wendo Genet	61.28	279	i P	P	07 48 38.9 +1.5
YSS	Yuzh-Sakhalins	61.32	32α	i P	P	07 48 37.0 +0.2
YSS				i *PP	pP	07 48 50.1 +1.5
YSS				e		07 49 18.0
YSS				e		07 51 00.0
YSS				eS	S	07 56 51.0 -3.4
YSS				e*SS	sS	07 57 14.0 0.0
YSS				pmax	pmax	
	comp=N,280nm,1.0s					
YSS				pmax	pmax	
	comp=Z,840nm,1.0s					
YSS				pmax	pmax	
	comp=E,200nm,0.8s					
YSS				pmax	pmax	
	comp=N,2μm,10.0s					
YSS				pmax	pmax	
	comp=E,2μm,10.0s					
YSS				pmax	pmax	
	comp=Z,6μm,10.0s					
YSS				pmax	pmax	
	comp=E,2μm,15.0s					
YSS				pmax	pmax	
	comp=Z,4μm,15.0s					
YSS				smax	smax	
	comp=N,11μm,10.0s					
YSS				smax	smax	
	comp=E,12μm,10.0s					
YSS				MLR	MLR	
	comp=N,21μm,18.0s					
YSS				MLR	MLR	
	comp=E,36μm,18.0s					
YSS				MLR	MLR	
	comp=Z,28μm,18.0s					
YUK	Yuzh-Kuril'sk	61.34	37	i P	P	07 48 36.2 -0.8
YUK				i *PP	pP	07 48 46.5 -2.3
YUK				i		07 50 50.1
YUK				i S	S	07 56 55.3 +0.6
YUK				i *SS	sS	07 57 22.1 +7.8
YUK				i SS	SS	08 00 55.8 -0.1
YUK				pmax	pmax	
	comp=E,96nm,0.7s					
YUK				pmax	pmax	
	comp=Z,1μm,1.3s					
YUK				pmax	pmax	
	comp=N,162nm,0.7s					
YUK				pmax	pmax	
	comp=Z,4μm,2.2s					
YUK				MLR	MLR	
	comp=N,6μm,20.0s					
YUK				MLR	MLR	
	comp=Z,36μm,20.0s					
CLNS	Chul'man	61.65	16	eP	P	07 48 37.6 -1.3
CLNS				e*PP	pP	07 48 53.1 +2.4
CLNS				e		07 49 16.6
CLNS				e		07 50 54.8
CLNS				ePPP	PPP	07 52 18.7
CLNS				eS	S	07 56 55.3 -3.0
CLNS				e		07 58 20.0
CLNS				eSS	SS	08 00 53.4 -7.0
CLNS				eSSS	SSS	08 03 34.4
CLNS				pmax	pmax	
	comp=N,60nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,126nm,0.9s					
CLNS				pmax	pmax	
	comp=E,44nm,1.0s					
CLNS				pmax	pmax	
	comp=E,29nm,1.0s					
CLNS				pmax	pmax	
	comp=N,53nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,47nm,1.2s					
CLNS				smax	smax	
	comp=N,4μm,9.3s					
CLNS				smax	smax	
	comp=E,2μm,9.7s					
CLNS				MLR	MLR	
	comp=Z,64μm,17.0s					
CLNS				MLR	MLR	
	comp=N,49μm,19.0s					
CLNS				MLR	MLR	
	comp=E,78μm,22.0s					
ISRB	Sarab	61.70	315	eP	P	07 48 39.1 -0.8
KMBO	Kilima Mbogo	62.19	270⇑	i P	P	07 48 44.3 +0.7
KMBO	Kilima Mbogo	62.19	270	P	P	07 48 45.0 +1.3
	SNR=104					
KMBO	Kilima Mbogo	62.19	270	eP	P	07 48 44.6 +0.9
	comp=E,428nm,1.4s					
KMBO				eS	S	07 57 10.2 +3.1
KMBO				⇑e		08 17 57.1
KMBO	Kilima Mbogo	62.19	270	P	P	07 48 44.7 +1.1
	comp=E,133nm,1.0s,baz=65,slow=7.7,SNR=85					
KMBO				LR	LR	08 10 20.1
	comp=E,53μm,21.5s,baz=73,slow=31					
KMBO				PKP2bc		08 17 57.1
	comp=E,0.7nm,0.3s,baz=227,slow=23,SNR=3.3					
KMBO	Kilima Mbogo	62.19	270	P	P	07 48 44.7 +1.1
	baz=62,SNR=22					
BHD	Baghdad	62.26	309	i P	P	07 48 41.0 -2.4
BHD				i pP	pP	07 48 54.0 -1.2
BHD				i PP	PP	07 51 06.0 +5.2
BHD				i PPP	PPP	07 52 45.0
BHD				i S	S	07 57 08.0 +1.2
BHD				i PS	PnS	07 57 28.0 +1.9
BHD				i ScS	SKSac	07 58 30.0 -2.6
IHRS	Heris	62.36	315	eP	P	07 48 43.1 -1.2
AKTO	Aktyubinsk	62.64	332	PKP2bc		08 17 55.1
	comp=E,19nm,1.2s,baz=218,slow=1.5,SNR=6.3					
AKTO				LR	LR	08 19 42.0
	comp=E,19μm,20.1s,baz=305,slow=40					
IFTB	Fath-abad	62.69	315	eP	P	07 48 43.9 -2.6
IAZR	Azarshahr	62.84	314	eP	P	07 48 47.0 -0.5
ITBZ	Tabriz	62.96	315	eP	P	07 48 48.1 -0.1
KUR	Kuril'sk	63.20	36c	i P	P	07 48 44.3 -5.1
KUR				i		07 51 07.1
KUR				i S	S	07 57 20.3 +2.2
KUR				pmax	pmax	
	comp=Z,2μm,1.3s					
KUR				pmax	pmax	
	comp=E,478nm,1.1s					
KUR				pmax	pmax	

comp=Z,1μm,1.2s
KUR pmax pmax
comp=N,471nm,1.1s
ISHB Shabestar 63.36 315 *e*P P 07 48 50.4 -0.5
IMRD Marand 63.48 315 *e*P P 07 48 50.9 -0.8
MAK Makhachkala 64.22 320*c* *i*P P 07 48 56.2 +0.1
MAK *e*PPP PPP 07 52 46.7
MAK *i*S **S 07 57 33.7 +2.8**
MAK *e* 07 58 38.3
MAK pmax pmax
comp=Z,8μm,3.7s
MAK smax smax
comp=E,17μm,7.7s
MAK smax smax
comp=N,12μm,7.5s
MAK MLR MLR
comp=Z,31μm,20.0s
CUKT Cukurca 64.38 313 *e*P P 07 48 56.3 -1.3
HAKT HAKKARI 64.43 313 *i*P P 07 48 53.8 -4.2
GNI Garni 64.77 316 *e*P P 07 49 01.1 +1.0
GNI Garni 64.77 316 P **P 07 49 00.5 +0.4**
SNR=78
GNI Garni 64.77 316 *e*P P 07 48 59.9 -0.2
comp=Z,698nm,1.3s
GNI ⇑*e* 08 17 50.8
GNI Garni 64.77 316 P **P 07 48 59.9 -0.2**
comp=Z,43nm,0.7s,baz=140,slow=2.3,SNR=33
GNI PKP2bc 08 17 50.8
comp=Z,3.2nm,0.5s,baz=147,slow=18,SNR=7.2
GNI LR LR 08 20 03.2
comp=Z,8μm,19.6s,baz=337,slow=39
DGRG David-gareji 64.91 318 P **P 07 49 01.6 +0.7**
CLDR Caldiran 64.92 315 *e*P P 07 49 00.8 -0.4
MIR Mirnyy 65.11 183⇑*i*P **P 07 49 03.5 +2.0**
MIR *e* 07 51 33.0
MIR *e*PPP PPP 07 53 04.0
MIR *e*S S 07 57 55.0 +14
MIR *e*PS PnS 07 58 20.0 +16
MIR pmax pmax
comp=Z,270nm,1.5s
MIR pmax pmax
comp=Z,16μm,15.0s
CASY Casey 65.16 175 *e*P P 07 49 02.2 +0.3
comp=Z,772nm,1.4s
CASY LR LR
comp=Z,49μm,22.0s
GEVA Gevas 65.20 314 *i*P P 07 48 58.1 -4.9
DYDN Diyadin 65.25 315 *i*P **P 07 49 01.3 -2.0**
SIRT Sirnak 65.33 313 *e*P P 07 49 02.6 -1.1
TBLG Delisi 65.47 318 *i*P **P 07 49 04.4 0.0**
TBLG Delisi 65.47 318 P **P 07 49 04.4 0.0**
KZR Kazreti 65.53 317 P **P 07 49 04.6 -0.2**
AGRB Hanur-Agry 65.76 315 *e*P P 07 49 06.7 +0.2
DIGO Kars 65.83 316 *i*P **P 07 49 04.5 -2.6**
TATV Tatvan 65.85 314 *i*P P 07 49 02.3 -4.8
SVE Sverdlovsk 65.99 338*d* *i*P **P 07 49 06.9 -0.5**
SVE *e* 07 51 31.0
SVE *e*PPP PPP 07 53 11.2
SVE *e*S **S 07 57 53.1 +0.9**
SVE *e* 07 58 59.8
SVE *e*SS **SS 08 02 02.5 -5.6**
SVE pmax pmax
comp=Z,843nm,1.1s
SVE pmax pmax
comp=Z,6μm,12.5s
SVE smax smax
comp=E,16μm,17.5s
SVE MLR MLR
comp=N,41μm,25.0s
SVE MLR MLR
comp=E,26μm,18.0s
SVE MLR MLR
comp=Z,46μm,21.0s
KARS Kars 66.13 316 *e*P P 07 49 09.1 +0.2
AKH Akhalkalaki 66.17 317 P **P 07 49 09.1 0.0**
ZEI Tsey 66.49 319 *e*P P 07 49 09.4 -1.8
ZEI *e*S **S 07 57 59.4 +0.2**
ZEI pmax pmax
comp=Z,146nm,0.9s
MARD Mardin 66.49 312 *i*P **P 07 49 09.8 -1.4**
ARU Arti 66.51 337*c* *i*P **P 07 49 09.3 -1.4**
ARU 07 49 39.5
ARU 07 51 32.4
ARU PPP PPP 07 53 10.7
ARU S **S 07 57 56.8 -1.7**
ARU 07 59 04.2
ARU SSS SSS 08 05 06.1
ARU pmax pmax
comp=Z,369nm,1.7s
ARU pmax pmax
comp=Z,6μm,12.8s
ARU smax smax
comp=N,2μm,8.1s
ONI Oni 66.70 318 P **P 07 49 12.7 +0.4**
HOMI Horasan 66.71 315 *i*P **P 07 49 12.0 -0.7**
BNGL BINGOL 66.83 314 *i*P **P 07 49 12.0 -1.5**
EZM Erzurum 67.04 315 *e*P P 07 49 15.1 +0.2
DIY Diyarbakir 67.11 312 *e*P P 07 49 15.1 0.0
DAGI Agillar 67.12 316 *i*P P 07 49 10.9 -4.2
ARTV Artvin 67.15 316 *i*P P 07 49 09.8 -5.6
DDEM Demirkent 67.16 316 *i*P **P 07 49 14.1 -1.2**
BNGB Bing¶ll 67.18 314 *e*P P 07 49 15.5 -0.1
DIYA Diyarbakir 67.20 312 *i*P **P 07 49 13.0 -2.6**
DBAD Bademkaya 67.24 316 *i*P **P 07 49 14.1 -1.8**
YAK Yakutsk 67.37 15*c* *i*P **P 07 49 14.5 -1.5**
YAK *e*PP **pP 07 49 24.7 -3.3**
YAK *e* 07 49 41.0
YAK *e* 07 51 42.1
YAK *e*PPP PPP 07 53 20.1
YAK *e*S **S 07 58 07.6 -1.0**
YAK *e* 07 59 09.8
YAK *e*SS **SS 08 02 34.5 +5.3**
YAK pmax pmax
comp=Z,831nm,0.9s
YAK pmax pmax
comp=N,294nm,1.1s
YAK pmax pmax
comp=E,286nm,1.1s
YAK pmax pmax
comp=Z,608nm,2.7s
YAK pmax pmax
comp=N,252nm,2.4s
YAK pmax pmax
comp=E,516nm,3.5s
YAK smax smax
comp=N,3μm,3.1s
YAK smax smax
comp=E,579nm,1.8s
YAK MLR MLR
comp=Z,82μm,19.0s
YAK MLR MLR
comp=N,36μm,17.0s
YAK MLR MLR
comp=E,43μm,17.0s
DBOC Borcka 67.39 316 *i*P P 07 49 12.0 -4.8
BCA Borcka 67.46 316 *e*P P 07 49 16.7 -0.5
KBZ Khabaz 67.56 319 P **P 07 49 17.5 -0.2**
KBZ Khabaz 67.56 319 P **P 07 49 17.4 -0.2**
KBZ P'P'ab **P'P'ab 08 17 44.8 -0.1**
KBZ Khabaz 67.56 319 P **P 07 49 17.4 -0.2**
comp=E,164nm,0.9s,baz=114,slow=5.2,SNR=89
KBZ PKP2ab 08 17 44.8
comp=E,18nm,1.2s,baz=268,slow=3.7,SNR=8.0
KBZ LR LR 08 22 52.6
comp=E,12μm,20.0s,baz=285,slow=40
JHLN Al Jahlan 67.69 310 *e*P P 07 49 17.3 -1.4
KOPT Kop Dagi 67.70 315 *i*P **P 07 49 17.3 -1.7**
ZALF Zalf 67.71 307 *e*P P 07 49 20.1 +1.2
KIV Kislovodsk 67.79 319*c* *i*P **P 07 49 18.9 -0.4**
KIV *e* 07 49 43.9
KIV *e*S **S 07 58 14.4 -0.2**
KIV *e*SS **SS 08 02 35.5 -1.2**
KIV pmax pmax
comp=Z,296nm,1.0s
KIV pmax pmax
comp=Z,4μm,6.8s
KIV MLR MLR
comp=Z,13μm,18.0s
KIV Kislovodsk 67.79 319 P **P 07 49 19.5 +0.2**
comp=Z,2μm,1.2s,SNR=54
ASF Jabal al Asfar 67.84 306 P **P 07 49 20.4 +0.6**
ASF ⇑*e* 08 17 43.1
ASF Jabal al Asfar 67.84 306 P **P 07 49 20.4 +0.6**
comp=Z,89nm,0.9s,baz=71,slow=3.0,SNR=66
ASF PKP2bc 08 17 43.1
comp=Z,2.4nm,0.4s,baz=255,slow=1.9,SNR=6.9
ASF LR LR 08 18 35.4
comp=Z,46μm,20.7s,baz=284,slow=36
PZAR Pazar-Rize 67.86 316 *e*P P 07 49 19.4 -0.2
URFA Urfa 67.99 312 *e*P P 07 49 20.9 +0.2
NOUC Port Laguerre 68.03 113 *e*P P 07 49 21.9 +0.9
PTK Pertek 68.08 313 *e*P P 07 49 20.8 -0.5
BAYT Ayd¨–ntepe-Bay 68.09 315 *e*P P 07 49 21.4 +0.1
ERZN Erzincan 68.09 314 *e*P P 07 49 21.2 -0.1
ROOS tl_alroos 68.12 308 *e*P P 07 49 24.0 +2.5
SALA Sala 68.13 306 *e*P P 07 49 22.9 +1.1
DZM Mont Dzumac 68.15 113 *e*P P 07 49 21.4 -0.6
comp=Z,412nm,1.2s
DZM *e*S **S 07 58 17.7 -2.0**
comp=Z,42μm,27.0s
DZM Mont Dzumac 68.15 113 *e*LR LR 08 09 56.5
comp=Z,125μm,24.6s
DZM Mont Dzumac 68.15 113 *e*P P 07 49 20.2 -1.8
DZM Mont Dzumac 68.15 113 *e*P P 07 49 20.9 -1.1
comp=Z,84nm,0.9s
DZM S **S 07 58 25.2 +5.5**
DZM Mont Dzumac 68.15 113 P **P 07 49 21.6 -0.4**
comp=Z,46nm,1.1s,baz=297,slow=7.0,SNR=5.9
DZM S **S 07 58 25.2 +5.5**
comp=Z,6.3nm,0.9s,baz=76,slow=20,SNR=8.6
ATAB Bozova 68.40 311 *i*P P 07 49 19.4 -3.7
EZC Erzincan 68.42 314 *e*P P 07 49 23.2 -0.2
MACK Trabzon 68.56 315 *i*P P 07 49 19.4 -4.7
TOTH TOTAH 68.56 307 *e*P P 07 49 25.4 +1.1
KTUT Trabzon 68.58 315 *e*P P 07 49 23.9 -0.2
GUMT Gumushane 68.58 315 *e*P P 07 49 23.7 -0.6
MYA Malataya 68.59 312 *e*P P 07 49 24.5 +0.1
KELT Kelkit 68.63 314 *i*P P 07 49 21.6 -3.2
KWAJ Kwajalein Atol 68.66 80 *e*P P 07 49 24.1 -1.0
KWAJ pmax pmax
comp=Z,1μm,1.4s
KWAJ Kwajalein Atol 68.66 80 *e*P P 07 49 24.1 -1.0
comp=Z,1μm,1.4s
MARH Ras Al Marh 68.72 307 *e*P P 07 49 26.8 +1.3
MBAR Mbarara 68.72 270⇑*i*P **P 07 49 25.4 -0.4**
MBAR Mbarara 68.72 270 P **P 07 49 25.7 -0.1**
MBAR Mbarara 68.72 270 P **P 07 49 25.7 -0.1**
comp=Z,130nm,1.0s,baz=95,slow=6.2,SNR=62
MBAR LR LR 08 14 09.8
comp=Z,47μm,21.6s,baz=95,slow=31
QASN Qassioun 68.74 307 *e*P P 07 49 26.5 +1.1
TCHB Talchebab 68.74 306 *e*P P 07 49 24.6 -0.8
EIL Elat 68.78 303 *e*P P 07 49 25.8 +0.1
EIL Elat 68.78 303 P **P 07 49 25.9 +0.2**
EIL ⇑*e* 08 17 39.9
EIL Elat 68.78 303 P **P 07 49 25.9 +0.2**
comp=Z,172nm,0.8s,baz=95,slow=2.6,SNR=60
EIL PKP2bc 08 17 39.9
comp=Z,20nm,1.2s,baz=252,slow=1.4,SNR=9.1
EIL LR LR 08 19 35.2
comp=Z,52μm,18.9s,baz=102,slow=36
EIL Elat 68.78 303 P **P 07 49 25.9 +0.2**
baz=69,SNR=41
ILIC ilic-Erzincan 68.88 314 *e*P P 07 49 26.1 -0.2
HAWK Haweek 68.92 308 *e*P P 07 49 24.7 -1.9
BRBR Barbar 68.96 307 *e*P P 07 49 27.9 +0.9
WAKE Wake Island 69.04 69 P **P 07 49 27.4 +0.1**
comp=Z,949nm,1.3s
WAKE LR LR
comp=Z,13μm,21.0s
RCY Rachaya 69.08 307 *e*P P 07 49 28.3 +0.7
KUZU Kuzuini 69.09 310 *i*P P 07 49 23.7 -3.8
WRDH Warideh 69.21 309 *e*P P 07 49 29.8 +1.6
HWQ Hawqa 69.21 308 *e*P P 07 49 28.7 +0.4
ESPY Espiye-Giresun 69.28 315 *e*P P 07 49 28.2 -0.4
MMAI Mount Meron Ar 69.29 306 P **P 07 49 29.3 +0.5**
MMAI Mount Meron Ar 69.29 306 P **P 07 49 29.3 +0.5**
comp=Z,184nm,1.0s,baz=95,slow=9.3,SNR=51
BHL Bhannes 69.34 307 *e*P P 07 49 29.3 +0.1
DRWC Darouich 69.36 310 *e*P P 07 49 33.0 +3.8
DARE Darende-Malaty 69.37 312 *e*P P 07 49 29.2 -0.1
SOKR Solikamsk 69.39 338*c* *i*P **P 07 49 28.5 -0.2**
SOKR S **S 07 58 34.8 +2.1**
SOKR SS **SS 08 03 05.8 +5.3**
SOKR pmax pmax
comp=Z,270nm,1.2s
SOKR MLR MLR
comp=Z,43μm,24.0s
SUSE Susehri 69.41 314 *i*P P 07 49 25.8 -3.7
KMRS Kahramanmaras 69.46 311 *e*P P 07 49 29.6 -0.1
SOC Sochi 69.60 318*c* *i*P **P 07 49 29.4 -1.0**
SOC *e*PP **pP 07 49 41.5 -0.9**
SOC *e*SP **sP 07 49 47.2 +0.2**
SOC *i*S **S 07 58 36.6 +0.7**
SOC *e*SS **sS 07 58 58.5 +2.7**
SOC *e* 07 59 25.4
SOC pmax pmax
comp=Z,2μm,3.5s
SOC pmax pmax
comp=Z,257nm,0.8s
SOC MLR MLR
comp=Z,14μm,20.0s
YAYL Yayladag 69.61 309 *i*P **P 07 49 29.0 -1.8**
HTY Hatay 69.61 309 *e*P P 07 49 30.4 -0.2
ARNB Al Arnab 69.66 309 *e*P P 07 49 31.7 +0.6
RSDY Resadiye-TOKAT 70.10 314 *e*P P 07 49 33.6 0.0
SVSK Karacayir 70.17 314 *e*P P 07 49 34.2 +0.2
CEYT Ceyhan 70.18 310 *e*P P 07 49 34.1 0.0
PINB Pinarbasi 70.20 312 *i*P **P 07 49 33.3 -1.3**
KOZT Kozan 70.26 311 *e*P P 07 49 35.5 +0.8
ERBA Erbaa 70.61 314 *i*P P 07 49 32.2 -4.5
MAW Mawson 70.67 194 P **P 07 49 37.6 +1.1**
MAW ⇑*e* 08 17 31.1
MAW Mawson 70.67 194 P **P 07 49 37.6 +1.1**
comp=Z,230nm,1.1s,baz=31,slow=7.6,SNR=125
MAW LR LR 08 14 37.5
comp=Z,78μm,20.7s,baz=36,slow=31
MAW PKP2bc 08 17 31.1
comp=Z,4.7nm,0.9s,baz=235,slow=2.8,SNR=6.9
MAW Mawson 70.67 194 P **P 07 49 37.6 +1.1**
baz=71,SNR=88
BNN Bunyan 70.67 312 *e*P P 07 49 37.1 -0.2
TOKA Tokat 70.68 314 *i*P P 07 49 33.3 -3.9
SKR Severo-Kuril's 70.73 34 *e*P P 07 49 31.0 -6.2
SKR *e* 07 52 07.0
SKR *e*S **S 07 58 48.0 -0.8**
SKR *e*PS **PnS 07 59 18.0 -2.7**
SKR *e* 07 59 22.0
SKR *e*SS SS 08 03 14.0 -7.6
SKR pmax pmax
comp=Z,970nm,1.4s
SKR pmax pmax
comp=E,3μm,2.0s
SKR pmax pmax
comp=N,4μm,12.0s
SKR pmax pmax
comp=E,7μm,12.0s
SKR pmax pmax
comp=Z,11μm,12.0s
SKR pmax pmax
comp=Z,2μm,14.0s
SKR smax smax
comp=N,4μm,2.5s
SKR smax smax
comp=E,1196μm,5.0s
SKR smax smax
comp=N,23μm,16.0s
SKR MLR MLR
comp=Z,49μm,18.0s
SKR MLR MLR
comp=N,24μm,20.0s
SKR MLR MLR
comp=E,17μm,20.0s
KARA Karaisali 70.78 310 *e*P P 07 49 37.5 -0.3
EREN Erenkoy 70.97 308 *e*P P 07 49 38.7 -0.2
GULE Gulek 71.00 310 *i*P **P 07 49 37.6 -1.8**
KIZK Mersin 71.25 309 *i*P P 07 49 36.5 -4.2
NIG Nigde 71.37 311 *e*P P 07 49 41.4 -0.3
LFK Lefkose 71.40 308 *e*P P 07 49 41.6 -0.1
CSS Prodhromos 71.47 308 P **P 07 49 41.3 -0.8**
comp=E,3.7nm,0.7s
CSS Prodhromos 71.47 308 *e*P P 07 49 42.9 +0.8
CSS Prodhromos 71.47 308 *e*P P 07 49 41.6 -0.5
comp=E,976nm,1.4s
CSS LR LR
comp=Z,28μm,21.0s
HAVZ Havza 71.48 314 *i*P **P 07 49 39.7 -2.3**
MCQ Macquarie Isla 71.54 148 P **P 07 49 43.8 +1.8**
baz=72,SNR=5.5
IKL Isikli 71.54 309 *e*P P 07 49 41.6 -0.8
LSZ Lusaka 71.56 254⇑*i*P **P 07 49 43.2 +0.2**
LSZ Lusaka 71.56 254 *e*P P 07 49 42.5 -0.6
comp=Z,397nm,1.4s
LSZ Lusaka 71.56 254 LR LR 08 16 23.1
comp=Z,42μm,20.7s,baz=140,slow=32
ANN Anapa 71.58 318*c* *i*P **P 07 49 40.7 -1.7**
ANN *e*PP **pP 07 49 54.9 +0.4**
ANN *e* 07 52 24.8
ANN *e*PPP PPP 07 54 07.1
ANN *e*S **S 07 58 58.0 -0.9**
ANN *e*SS **SS 08 03 32.9 -1.9**
ANN pmax pmax
comp=Z,5μm,6.3s
ANN pmax pmax
comp=N,1μm,6.4s
ANN pmax pmax
comp=E,812nm,6.4s
ANN pmax pmax
comp=N,141nm,1.5s
ANN pmax pmax
comp=E,76nm,1.5s
ANN pmax pmax
comp=Z,322nm,1.5s
ANN MLR MLR
comp=N,10μm,20.0s
ANN MLR MLR
comp=E,3μm,20.0s
ANN MLR MLR
comp=Z,14μm,20.0s
VRHR Novokhopersk 71.59 326 *e*P P 07 49 40.9 -1.5
VRHR *e*S **S 07 58 57.7 -1.0**
VRHR pmax pmax
comp=Z,320nm,1.0s
VRHR pmax pmax
comp=N,90nm,1.1s
VRHR pmax pmax
comp=E,400nm,1.2s
VRHR smax smax
comp=E,3μm,6.3s
VRHR smax smax
comp=Z,1μm,6.8s
VRHR smax smax
comp=N,800nm,7.1s
MAMC Mammari 71.62 308 P **P 07 49 43.3 +0.4**
LEF Lefka 71.86 308 *e*P P 07 49 44.1 -0.3
CORM Corum 71.98 313 *e*P P 07 49 44.7 -0.5
DIKM Dikmen 71.99 315 *e*P P 07 49 44.4 -0.6
CDAG Cicekdag 72.00 313 *i*P P 07 49 39.7 -5.5
ALFC Alevga 72.11 308 P **P 07 49 44.9 -1.0**
comp=N,3.1nm,0.7s
KSD Kokstad 72.11 238 *e*P P 07 49 46.9 +0.7
KSD AMB AMB 07 50 00.6
comp=Z,613nm,3.2s
SULT Sultanhani-AKS 72.22 311 *e*P P 07 49 46.2 -0.4
PPCY Paphos 72.24 307 P **P 07 49 45.9 -0.7**
ERMK Ermenek 72.25 309 *i*P **P 07 49 45.1 -1.9**
BYBT Boyabat 72.28 314 *e*P P 07 49 45.9 -0.8
AKMC Akamas 72.28 307 P **P 07 49 46.2 -0.7**
KAMT Kaman 72.41 312 *e*P P 07 49 46.4 -1.3
SLR Silverton 72.43 244⇑*i*P **P 07 49 47.7 -0.5**
SLR AMB AMB 07 50 03.6
comp=Z,580nm,2.5s
ERPM east rand prop 72.54 243⇑*i*P **P 07 49 48.9 0.0**
ERPM AMB AMB 07 50 02.7
comp=Z,326nm,2.8s
BR131 Keskin Array S 72.57 312 *e*P P 07 49 47.1 -1.6
comp=Z,33nm,0.7s
BRTR Keskin Array B 72.57 312 P **P 07 49 47.4 -1.4**
BRTR P'P' 08 17 31.1
BRTR Keskin Array B 72.57 312 P **P 07 49 47.4 -1.4**
comp=Z,30nm,0.6s,baz=143,slow=6.2,SNR=85
BRTR PKPPKP **P'P'df 08 17 31.1 -2.3**
comp=Z,0.7nm,0.5s,baz=298,slow=2.7,SNR=3.8
BRTR LR LR 08 22 50.8
comp=Z,12μm,20.5s,baz=322,slow=37
GAZI Gazipasa 72.61 309 *i*P **P 07 49 46.1 -2.7**
TOS Tosya 72.68 314 *e*P P 07 49 48.5 -0.8
PEA0B Petropavlovsk- 72.72 32 *e*P P 07 49 48.3 -0.8
PETK Petropavlovsk- 72.72 32 P **P 07 49 48.1 -1.1**
PETK Petropavlovsk- 72.72 32 P **P 07 49 48.0 -1.1**
PETK P'P' 08 17 28.5
PETK Petropavlovsk- 72.72 32 P **P 07 49 48.0 -1.1**
comp=Z,81nm,0.8s,baz=206,slow=5.6,SNR=40
PETK PKPPKP **P'P'df 08 17 28.5 -3.4**
comp=Z,2.3nm,0.9s,baz=118,slow=8.9,SNR=4.0
PETK LR LR 08 23 37.7
comp=Z,23μm,18.6s,baz=249,slow=37
CANT Cankiri 72.84 313 *e*P P 07 49 49.6 -0.6
VORD Divnogorie 72.86 325 *e*P P 07 49 48.4 -1.5
VORD *e*S **S 07 59 08.2 -5.1**
VORD pmax pmax
comp=E,230nm,1.1s
VORD pmax pmax
comp=Z,250nm,1.1s
VORD pmax pmax
comp=N,110nm,0.9s
VORD smax smax
comp=N,7μm,8.0s
VORD smax smax
comp=Z,4μm,10.1s
VORD smax smax
comp=E,7μm,7.7s
ILGA Ilgaz 72.91 314 *i*P P 07 49 45.1 -5.7
AFSR Af¨ar-Bala (A 72.91 312 *e*P P 07 49 49.8 -0.9
ELDT Eldivan 72.95 313 *i*P **P 07 49 48.3 -2.7**
BZK Bozkurt 72.98 315 *e*P P 07 49 50.5 -0.3
KONT Konya--Tatoy 73.03 310 *e*P P 07 49 50.8 -0.5
VSR Storozhevoye 73.04 325*c* *i*P **P 07 49 49.5 -1.5**
VSR *e*SP **sP 07 50 09.7 +2.1**
VSR *e* 07 52 32.0
VSR *e*S **S 07 59 13.8 -1.5**
VSR pmax pmax
comp=Z,1μm,2.3s
VSR pmax pmax
comp=N,160nm,1.1s
VSR pmax pmax
comp=E,420nm,1.1s
VSR pmax pmax
comp=N,120nm,1.1s
VSR pmax pmax
comp=E,310nm,1.1s
VSR pmax pmax
comp=Z,410nm,1.1s
VSR pmax pmax
comp=E,1μm,4.5s
VSR pmax pmax
comp=Z,3μm,4.5s
VSR pmax pmax
comp=N,540nm,2.3s
VSR smax smax
comp=N,2μm,6.4s
VSR smax smax
comp=E,4μm,6.4s
VSR smax smax
comp=Z,1μm,6.4s
VSR MLR MLR
comp=N,16μm,23.0s
VSR MLR MLR
comp=E,6μm,23.0s
VSR MLR MLR
comp=Z,28μm,23.0s
LADK Ladik-KONYA 73.09 311 *e*P P 07 49 50.5 -1.3
KLOF Kloof 73.11 243 *e*P P 07 49 52.2 0.0
KLOF AMB AMB 07 50 04.0
comp=Z,285nm,4.3s
PET Petropavlovsk 73.20 33*c* *i*P **P 07 49 51.0 -0.9**
PET *e* 07 50 08.0
PET *e* 07 52 36.5
PET *e*PPP PPP 07 54 12.1
PET *e*S **S 07 59 16.6 -0.5**
PET pmax pmax
comp=Z,3μm,4.1s
PET pmax pmax
comp=Z,4μm,10.1s
PET pmax pmax
comp=Z,577nm,1.5s
PET MLR MLR
comp=Z,36μm,21.0s
PET MLR MLR
comp=Z,24μm,21.0s
ANTO Ankara 73.23 312 *e*P P 07 49 51.6 -1.0
ANTO Ankara 73.23 312 *e*P P 07 49 51.5 -1.0
ANTO pmax pmax

comp=Z,427nm,1.4s
ANTO MLR MLR
comp=Z,20μm,22.0s
ANTO Ankara 73.23 312 P **P 07 49 51.9 -0.6**
SNR=57
ANTO Ankara 73.23 312 ⇓*i*P **P 07 49 51.7 -0.8**
ANTO Ankara 73.23 312 *e*P **P 07 49 51.5 -1.0**
comp=Z,427nm,1.4s
ANTO LR LR
comp=Z,20μm,22.0s
VOR Voronezh 73.23 326 ⇑*i*P **P 07 49 52.0 -0.2**
VOR pmax pmax
comp=Z,900nm,1.8s
LOD Lodumlu 73.26 312 *e*P **P 07 49 51.8 -0.9**
SEK Senekal 73.34 241 ⇑*i*P **P 07 49 53.5 0.0**
SEK AMB AMB 07 49 59.7
comp=Z,360nm,8.9s
KDHN Kadinhani 73.37 311 *i*P **P 07 49 50.4 -3.0**
PRYS Parys 73.40 242 ⇑*i*P **P 07 49 53.6 -0.3**
PRYS AMB AMB 07 50 07.7
comp=Z,350nm,2.9s
TARA Tarawa 73.51 88 *e*P **P 07 49 54.6 +0.1**
comp=Z,2μm,1.8s
TARA LR LR
comp=Z,15μm,21.0s
KIZT Kizilcal 73.64 311 *e*P **P 07 49 53.5 -1.5**
KSR Koster 73.69 244 *e*P **P 07 49 56.3 +0.7**
KSR AMB AMB 07 50 17.5
comp=Z,96nm,3.9s
SAFT Safranbolu 73.70 314 *e*P **P 07 49 54.5 -0.7**
SIM Simferopol' 73.85 318*c i*P **P 07 49 54.7 -1.2**
SIM *e* 07 52 41.0
SIM *e*S **S 07 59 24.0 -0.8**
SIM pmax pmax
comp=Z,290nm,1.3s
SUTC Sutluce-Ispart 73.95 310 *e*P **P 07 49 55.6 -1.3**
SVRH Sivrihisar-ESK 74.06 312 *e*P **P 07 49 56.7 -0.8**
BCK Bucak 74.26 310 *e*P **P 07 49 56.3 -2.3**
BOLV Bolvadin 74.30 311 *i*P **P 07 49 55.7 -3.2**
KORT Korkueli 74.33 309 *i*P P 07 49 54.7 -4.4
ISP Isparta 74.40 310 PFAKE 07 50 10.0 +11
ISP LR LR
comp=Z,19μm,20.0s
SHUT Suhut-Afyon 74.56 311 *e*P **P 07 49 59.5 -0.9**
MDUB Mudurnu 74.58 313 *e*P **P 07 49 59.6 -0.8**
ESKT Eskisehir 74.58 312 *e*P **P 07 49 59.4 -1.1**
KDZE Karadeniz Ereo 74.62 314 *e*P **P 07 49 59.1 -1.5**
AKAS Kas 74.73 308 *i*P P 07 49 57.9 -3.6
LBTB Lobatse 74.77 245 ⇑*i*P **P 07 50 01.8 -0.1**
LBTB AMB AMB 07 50 16.1
comp=Z,348nm,3.0s
LBTB Lobatse 74.77 245 *e*P **P 07 50 01.1 -0.8**
comp=Z,423nm,1.6s
BORA Eskisehir 74.97 312 *i*P **P 07 50 00.0 -2.7**
GRM Grahamstown 74.97 236 *e*P **P 07 50 03.1 +0.3**
GRM AMB AMB 07 50 17.6
comp=Z,464nm,3.0s
GOLH Golhisar 75.00 309 *i*P **P 07 50 01.1 -1.9**
GULT Gulveren 75.07 313 *e*P **P 07 50 02.2 -1.0**
SWZ Schweizer 75.22 242 ⇑*i*P **P 07 50 04.8 +0.3**
SWZ AMB AMB 07 50 15.1
comp=Z,507nm,3.0s
FETY Fethiye 75.23 308 *e*P **P 07 50 02.8 -1.4**
KHL Karahalli 75.29 310 *e*P **P 07 50 03.1 -1.5**
SPNC Sapanca-Adapaz 75.29 313 *e*P **P 07 50 03.5 -0.9**
KHAL Karahalli 75.32 310 *i*P P 07 50 00.0 -4.8
SEY Seymchan 75.34 22*c i*P **P 07 50 03.6 -0.6**
TIXI Tiksi 75.42 9*c i*P **P 07 50 02.8 -1.7**
TIXI pmax pmax
comp=Z,1μm,1.8s
TIXI MLR MLR
comp=Z,71μm,22.0s
BOSA Boshof 75.44 241 ⇑*i*P **P 07 50 04.9 -0.8**
BOSA AMB AMB 07 50 21.0
comp=Z,420nm,2.6s
BOSA Boshof 75.44 241 *e*P **P 07 50 04.9 -0.8**
comp=Z,184nm,1.1s
BOSA PKKPbc **PKKPbc 08 09 28.8 +2.3**
BOSA Boshof 75.44 241 P **P 07 50 05.7 0.0**
comp=Z,58nm,0.9s,baz=88,slow=6.1,SNR=43
BOSA PKKPbc **PKKPbc 08 09 28.8 +2.3**
comp=Z,4.0nm,0.9s,baz=342,slow=5.3,SNR=3.6
BOSA LR LR 08 16 29.3
comp=Z,76μm,21.9s,baz=94,slow=30
HVD Gariep Dam 75.47 239 *e*P **P 07 50 06.2 +0.3**
HVD AMB AMB 07 50 20.3
comp=Z,369nm,3.0s
GDZ Gediz 75.50 311 *i*P P 07 50 01.1 -4.8
DNZL Cakiroluk 75.50 309 *i*P P 07 49 58.9 -7.0
CAVI Cavuskoy 75.51 312 *e*P **P 07 50 04.8 -0.9**
DALY Dalyan (Mu¨la 75.61 309 *e*P **P 07 50 05.1 -1.2**
ADVT Abdulvahap 75.64 312 *e*P **P 07 50 05.5 -0.9**
TURN Turunc 75.66 309 *i*P **P 07 50 05.3 -1.3**
ODZ Otahua Downs 75.73 136 *e*P **P 07 50 05.2 -1.6**
comp=Z,47nm,0.9s
RPZ Rata Peaks 75.73 135 *e*P **P 07 50 06.2 -0.8**
comp=Z,317nm,0.7s
RPZ Rata Peaks 75.73 135 P **P 07 50 07.1 +0.2**
comp=Z,255nm,0.9s,baz=240,slow=2.1,SNR=17
RPZ LR LR 08 23 53.9
comp=Z,106μm,21.8s,baz=285,slow=36
MOS Moscow 75.77 329*α i*P **P 07 50 06.5 -0.3**
MOS *e* 07 50 17.9
MOS *e**PP **PcP 07 50 22.4 +3.1**
MOS *e* 07 52 55.4
MOS *e*S **S 07 59 47.0 +1.3**
MOS *e*S **S 07 59 47.0 +1.3**
MOS *e**SS **SKSac 08 00 13.7 -0.1**
MOS *e*SSS SSS 08 07 56.4
MOS pmax pmax
comp=Z,2μm,1.9s
MOS pmax pmax
comp=Z,589nm,1.2s
MOS smax smax
comp=E,10μm,8.0s
MOS MLR MLR
comp=E,36μm,22.0s
MOS MLR MLR
comp=Z,41μm,20.0s
MOS MLR MLR
comp=N,37μm,20.0s
HRT Hereke 75.79 313 *e*P **P 07 50 07.3 0.0**
SILT Sile 75.89 313 *e*P **P 07 50 05.8 -2.0**
YLV Yalova 75.94 312 *e*P **P 07 50 08.5 +0.2**
YER Yerkesik 75.97 309 *e*P **P 07 50 07.3 -1.2**
KULA Kula-Manisa 75.99 310 *e*P **P 07 50 07.9 -0.7**
ULDT Uludag 76.02 312 *i*P **P 07 50 06.4 -2.4**
OBN Obninsk 76.06 328*c i*P **P 07 50 07.9 -0.5**
OBN *i* 07 50 21.5
OBN *e* 07 53 00.3
OBN *i*S **S 07 59 48.9 0.0**
OBN pmax pmax
comp=Z,1817μm,1.8s
OBN pmax pmax
comp=Z,1μm,1.7s
OBN MLR MLR
comp=Z,31μm,22.0s
OBN Obninsk 76.06 328 P **P 07 50 08.5 +0.1**
comp=Z,2μm,1.0s,SNR=26
DEMI Demirci 76.07 311 *i*P **P 07 50 06.4 -2.6**
BUY Buyukada 76.20 313 *e*P **P 07 50 08.3 -1.3**
BUY Buyukada 76.20 313 *i*P **P 07 50 07.5 -2.1**
OUZ Omahuta 76.21 126 *e*P **P 07 50 08.9 -0.8**
comp=Z,150nm,1.1s
MDNY Mudanya-Bursa 76.26 312 *e*P **P 07 50 08.9 -1.1**
ISK Istanbul-Kandi 76.30 313 *e*P **P 07 50 09.2 -0.9**
ARMT Armutlu 76.32 312 *e*P **P 07 50 09.1 -1.2**
KLYT Kilyos 76.36 313 *e*P **P 07 50 09.6 -0.9**
DURS Dursunbey 76.38 311 *i*P P 07 50 07.5 -3.3
AYDN Tasoluk 76.40 309 *i*P P 07 50 06.4 -4.5
MLSB Milas 76.40 309 *e*P **P 07 50 09.6 -1.2**
DAT Datca 76.43 308 *e*P **P 07 50 09.9 -1.3**
KARP Karpathos 76.52 307 *e*P **P 07 50 11.6 0.0**
BGKT Bogazkoy 76.54 313 *e*P **P 07 50 10.2 -1.3**
BDRM Kayabasi 76.61 309 *i*P P 07 50 06.4 -5.6
KCTX Karacabey (Bur 76.62 312 *e*P **P 07 50 11.1 -1.0**
BODT Bodrum 76.71 309 *e*P **P 07 50 11.5 -1.1**
AKHS Akhisar 76.72 310 *i*P P 07 50 07.5 -5.1
ELBA Catalca 76.78 313 *i*P P 07 50 08.5 -4.3
BALB Balikesir 76.84 311 *e*P **P 07 50 12.6 -0.7**
GCAM G?zelcaml? 76.91 309 *i*P **P 07 50 10.7 -3.0**
CTYL Yal??k??y-??at 76.96 313 *e*P **P 07 50 12.9 -0.9**
SLVT Silivri 76.96 313 *e*P **P 07 50 13.0 -0.9**
IZM Izmir 77.03 310 *e*P **P 07 50 14.3 -0.1**

BALY Balya 77.06 311 *i*P P 07 50 09.6 -4.9
GONE Gonen-Balikesi 77.08 312 *e*P **P 07 50 13.5 -1.1**
ZKR Zakros 77.19 306 *e*P P 07 50 07.7 -7.6
SMG Samos 77.22 309 *e*P **P 07 50 15.1 -0.3**
KHZ Kahutara 77.28 133 *e*P **P 07 50 15.0 -0.6**
comp=Z,442nm,1.0s
TKR Tekirdag 77.40 312 *e*P **P 07 50 15.5 -0.9**
KRBG Karabiga-Canak 77.44 312 *e*P **P 07 50 15.4 -1.2**
URLA Izmir 77.54 310 *i*P P 07 50 08.5 -8.7
MFT Murefte 77.54 312 *e*P **P 07 50 16.8 -0.5**
PHSR Pinarhisar 77.56 313 *e*P **P 07 50 16.6 -0.6**
PSN Preselentsi 77.57 315 *e*P **P 07 50 16.7 -0.5**
RKY Sarkoy-Tekirda 77.60 312 *e*P **P 07 50 16.7 -0.9**
TIRR Tirgusor 77.60 316 ⇓*i*P **P 07 50 16.8 -0.6**
TIRR Tirgusor 77.60 316 ⇓*i*P **P 07 50 16.8 -0.6**
TIRR Tirgusor 77.60 316 *e*P **P 07 50 16.5 -0.9**
comp=Z,468nm,1.3s
TIRR *e*PP **PP 07 53 10.3 -2.5**
NPS Neapolis 77.71 306 *e*P **P 07 50 18.4 +0.2**
LAST Lasithi 77.80 306 *e*P **P 07 50 18.8 0.0**
LPK Lapseki 77.84 312 *e*P **P 07 50 18.5 -0.3**
CHOS Chios island 77.96 310 *e*P **P 07 50 19.7 +0.1**
SNZO South Karori 77.96 132 *e*P **P 07 50 19.1 -0.4**
comp=Z,555nm,1.0s
SNZO LR LR
comp=Z,133μm,22.0s
CFR Carcaliu 77.97 317 ⇑*i*P **P 07 50 18.9 -0.5**
CFR Carcaliu 77.97 317 ⇑*i*P **P 07 50 18.9 -0.5**
KIS Kishinev 77.98 319 ⇑*i*P **P 07 50 18.0 -1.5**
comp=Z,800nm,2.0s
KIS *i*pP **pP 07 50 36.0 +4.4**
KIS Kishinev 77.98 319 *i*PP PP 07 53 14.0 -1.9
comp=Z,3μm,10.0s
KIS Kishinev 77.98 319 *i*PPP PPP 07 57 40.0
KIS *i*S **S 08 00 10.0 -0.2**
KIS LRM MLR 08 31 04.0
comp=Z,13μm,22.0s
KIS Kishinev 77.98 319*α i*P **P 07 50 18.0 -1.5**
KIS *i**PP **pP 07 50 36.0 +4.4**
KIS *i* 07 53 14.0
KIS *i*S **S 08 00 10.0 -0.2**
KIS *i* 08 00 28.0
KIS *i* 08 00 40.0
KIS *i* 08 00 54.0
KIS pmax pmax
comp=E,600nm,2.0s
KIS pmax pmax
comp=Z,800nm,2.0s
KIS pmax pmax
comp=Z,9μm,9.0s
KIS pmax pmax
comp=E,3μm,6.0s
KIS pmax pmax
comp=E,2μm,10.0s
KIS pmax pmax
comp=Z,3μm,10.0s
KIS pmax pmax
comp=Z,8μm,12.0s
KIS Kishinev 77.98 319 ⇓*i*P **P 07 50 18.4 -1.1**
HARR Harsova 77.99 316 ⇓P **P 07 50 19.1 -0.5**
HARR Harsova 77.99 316 ⇓*i*P **P 07 50 19.1 -0.5**
PRD Provadia 78.01 315 *e*P **P 07 50 19.1 -0.6**
SANT Santorini 78.03 308 *e*P **P 07 50 19.1 -1.0**
SANT Santorini 78.03 308 *e*P **P 07 50 18.7 -1.4**
comp=Z,1μm,1.5s
SANT LR LR
comp=Z,16μm,21.0s
APE Apeiranthos 78.11 308 ⇑P **P 07 50 19.5 -1.0**
APE Apeiranthos 78.11 308 *e*P **P 07 50 19.2 -1.3**
APE Apeiranthos 78.11 308 ⇑*i*P **P 07 50 19.5 -1.0**
SYO Syowa Base 78.20 199 ⇓*i*P **P 07 50 19.4 -0.8**
SYO Syowa Base 78.20 199 ⇓*i*pP P 07 50 24.9 +4.7
SYO Syowa Base 78.20 199 ⇓*i*PcP **PcP 07 50 29.0 -0.6**
LEOM Leova 78.22 318 ⇑P **P 07 50 20.4 -0.4**
LEOM Leova 78.22 318 ⇑*i*P **P 07 50 20.4 -0.4**
BOZC Bozcaada 78.26 311 *i*P P 07 50 17.1 -4.1
IDI Anoyia 78.29 306 *e*P **P 07 50 21.4 -0.1**
IDI Anoyia 78.29 306 *e*P **P 07 50 21.2 -0.3**
comp=Z,691nm,1.3s
IDI *e*S **S 08 00 14.7 +0.5**
SIVA Sivas 78.31 306 *e*P **P 07 50 21.7 +0.2**
AMRR Amara 78.39 316 ⇓P **P 07 50 22.1 +0.4**
AMRR Amara 78.39 316 ⇓*i*P **P 07 50 22.1 +0.4**
JMB Yambol 78.43 314 *e*P **P 07 50 22.0 0.0**
MSVF Nonsavu 78.68 108 *e*P **P 07 50 23.2 -0.8**
MSVF pmax pmax
comp=Z,312nm,1.2s
MSVF MLR MLR
comp=Z,30μm,22.0s
MSVF Nonsavu 78.68 108 *e*P **P 07 50 23.2 -0.8**
comp=Z,312nm,1.2s
MSVF LR LR
comp=Z,30μm,22.0s
GHRR 78.69 318 ⇑*i*P **P 07 50 23.3 -0.1**
PETR Petresti 78.72 317 ⇑*i*P **P 07 50 24.3 +0.7**
AKASG Malin Array Be 78.74 322 P **P 07 50 22.3 -1.2**
AKASG 07 53 20.7
AKASG S **S 08 00 21.7 +3.5**
AKASG Malin Array Be 78.74 322 P **P 07 50 22.3 -1.2**
AKASG PP **PP 07 53 20.7 -1.4**
AKASG S **S 08 00 21.7 +3.5**
AKASG P'P' 08 17 29.3
AKASG Malin Array Be 78.74 322 P **P 07 50 22.3 -1.2**
comp=Z,14nm,0.6s,baz=80,slow=5.6,SNR=136
AKASG PP **PP 07 53 20.7 -1.4**
comp=Z,11nm,0.8s,baz=101,slow=7.3,SNR=4.3
AKASG S **S 08 00 21.7 +3.5**
comp=Z,12nm,1.1s,baz=101,slow=9.8,SNR=14
AKASG PKPPKP P'P'df 08 17 29.3 +7.8
comp=Z,1.8nm,0.8s,baz=266,slow=2.8,SNR=8.6
KIEV Kiev 78.75 322 *e*P **P 07 50 22.3 -1.3**
KIEV *e* 07 53 23.5
KIEV pmax pmax
comp=Z,43nm,0.8s
KIEV MLR MLR
comp=Z,32μm,21.0s
KIEV Kiev 78.75 322 *e*P **P 07 50 22.3 -1.3**
comp=Z,43nm,0.8s
KIEV *e*PP **PP 07 53 23.5 +1.3**
KIEV LR LR
comp=Z,32μm,21.0s
SMTH Samothraki Isl 78.78 312 *e*P **P 07 50 23.2 -0.8**
IAS Iasi 78.86 319 ⇑P **P 07 50 23.9 -0.4**
IAS Iasi 78.86 319 ⇑*i*P **P 07 50 23.9 -0.4**
VAM Vamos 78.87 306 *e*P **P 07 50 24.9 +0.3**
LIA Limnos Island 78.92 311 *e*P **P 07 50 23.9 -0.9**
ISR Istrita 79.05 316 ⇓P **P 07 50 26.2 +0.7**
ISR Istrita 79.05 316 ⇓*i*P **P 07 50 26.2 +0.7**
SZH Strazhica 79.07 314 *e*P **P 07 50 24.5 -1.1**
VRI Vrincioaia 79.10 317 ⇑P **P 07 50 26.1 +0.4**
VRI Vrincioaia 79.10 317 ⇑*i*P **P 07 50 26.1 +0.4**
KDZ Kurdzhali 79.10 313 *e*P **P 07 50 25.0 -0.8**
PLOR Plostina 79.15 317 ⇑P **P 07 50 26.2 +0.2**
PLOR Plostina 79.15 317 ⇑*i*P **P 07 50 26.2 +0.2**
TMCR Tamitsa 79.24 337 *e*P **P 07 50 26.2 +0.2**
TMCR *e* 07 50 34.1
TMCR *e* 07 53 27.7
TMCR *e*S **S 08 00 28.6 +5.6**
TMCR pmax pmax
comp=Z,243nm,0.8s
TESR Tescani 79.30 318 ⇓*i*P **P 07 50 26.6 -0.2**
SECR 79.36 316 ⇓*i*P **P 07 50 27.6 +0.5**
CIOR Ciorogarla 79.36 316 ⇑*i*P **P 07 50 27.1 0.0**
URZ Urewera 79.39 129 P **P 07 50 26.5 -0.9**
URZ Urewera 79.39 129 P **P 07 50 26.5 -0.9**
comp=Z,36nm,0.6s,baz=343,slow=11,SNR=4.0
MLR Muntele Rosu 79.55 317 ⇓*i*P **P 07 50 28.4 +0.1**
MLR Muntele Rosu 79.55 317 P **P 07 50 28.3 0.0**
MLR Muntele Rosu 79.55 317 P **P 07 50 28.3 0.0**
comp=Z,50nm,1.0s,baz=106,slow=1.9,SNR=161
MLR LR LR 08 32 49.2
comp=Z,6μm,18.6s,baz=284,slow=41
PTL Penteli 79.59 309 *e*P **P 07 50 27.3 -1.3**
RZN Rozhen 79.62 313 *e*P **P 07 50 27.9 -1.0**
SUR Sutherland 79.63 237 P **P 07 50 30.3 +1.1**
comp=Z,2μm,1.3s,SNR=16
SUR Sutherland 79.63 237 ⇑*i*P **P 07 50 30.2 +1.1**
SUR AMB AMB 07 50 35.3
comp=Z,334nm,1.7s
SUR Sutherland 79.63 237 P **P 07 50 30.9 +1.8**
SNR=11
SUR Sutherland 79.63 237 *e*P **P 07 50 28.6 -0.6**
comp=Z,500nm,1.1s

SUR LR LR
comp=Z,93μm,22.0s
FUNA Funafuti 79.63 98 P **P 07 50 29.3 +0.1**
comp=Z,1μm,1.8s
FUNA LR LR
comp=Z,32μm,22.0s
ANKY Antikythira Is 79.67 307 *e*P **P 07 50 29.1 +0.1**
PLD Plovdiv 79.71 313 *e*P **P 07 50 28.2 -0.9**
PRAR RASCA 79.78 319 ⇑*i*P **P 07 50 29.2 -0.2**
RUDU RUNDU 79.79 252 *e*P **P 07 50 31.1 +1.0**
RUDU AMB AMB 07 50 44.9
comp=Z,395nm,2.9s
DID Didima 79.99 308 *e*P **P 07 50 29.0 -1.7**
PAIG Paliouri 80.06 311 *e*P **P 07 50 30.4 -0.6**
GOLR 80.08 316 ⇓*i*P **P 07 50 30.5 -0.6**
VLI Veliai 80.09 308 *e*P **P 07 50 30.0 -1.3**
VOIR 80.15 317 ⇓P **P 07 50 30.5 -1.0**
VOIR 80.15 317 ⇓*i*P **P 07 50 30.5 -1.0**
PGB Panagyurishte 80.19 314 *e*P **P 07 50 30.9 -0.9**
LTK Loutraki 80.28 309 *e*P **P 07 50 30.4 -1.9**
PLG Polygyros 80.32 311 *e*P **P 07 50 31.3 -1.2**
MMB Musomiste 80.33 312 *e*P **P 07 50 31.2 -1.3**
LKR Lokris 80.36 309 *e*P **P 07 50 30.5 -2.2**
ARR Arges 80.42 316 ⇑*i*P **P 07 50 32.3 -0.7**
CVNA Calvinia 80.45 238 *e*P **P 07 50 34.1 +0.6**
CVNA AMB AMB 07 50 48.2
comp=Z,569nm,3.3s
BURAR Bucovina Array 80.51 319 ⇑P **P 07 50 34.2 +0.8**
BURAR Bucovina Array 80.51 319 ⇑*i*P **P 07 50 34.2 +0.8**
BUR08 Bucovina Ar. S 80.53 319 *e*P **P 07 50 34.0 +0.5**
DYR Agios Nikonas 80.58 307 *e*P **P 07 50 33.7 -0.2**
MICGM Minsk 80.59 326 ⇑*i*P **P 07 50 31.0 -2.5**
MNK Minsk 80.61 326*c i*P **P 07 50 31.0 -2.6**
MNK *e**PP **pP 07 50 44.0 -1.8**
MNK *e*S S 08 00 31.0 -6.8
MNK pmax pmax
comp=Z,870nm,1.0s
MNK pmax pmax
comp=E,790nm,1.6s
MNK pmax pmax
comp=Z,17μm,8.0s
MNK smax smax
comp=N,16μm,10.0s
MNK smax smax
comp=E,19μm,10.0s
VLX Vlachokerasia 80.64 308 *e*P **P 07 50 34.1 -0.2**
MPEP Malo Peshtene 80.65 314 *e*P **P 07 50 33.7 -0.4**
ELIM Elim 80.70 235 *e*P **P 07 50 35.3 +0.6**
ELIM AMB AMB 07 50 41.4
comp=Z,319nm,3.8s
KKB Krupnik 80.86 313 *e*P **P 07 50 34.0 -1.3**
VTS Vitosha 80.89 313 ⇑P **P 07 50 35.1 -0.6**
VTS Vitosha 80.89 313 *e*P **P 07 50 35.0 -0.6**
VTS Vitosha 80.89 313 *e*P **P 07 50 35.0 -0.6**
VTS Vitosha 80.89 313 ⇑*i*P **P 07 50 35.1 -0.6**
PUL Pulkovo 80.90 331*ce*P **P 07 50 34.5 -0.5**
PUL pmax pmax
comp=Z,1μm,1.6s
PUL MLR MLR
comp=Z,50μm,24.0s
KLV Kalavryta, Ach 80.92 309 *e*P **P 07 50 34.7 -1.1**
AGG Agios Georgios 80.94 310 *e*P **P 07 50 33.9 -1.9**
ITM Ithomi 80.97 308 *e*P **P 07 50 35.2 -0.8**
KALE Kalithea 80.99 309 *e*P **P 07 50 34.8 -1.3**
LOT Lotru 81.03 316 ⇓*i*P **P 07 50 35.3 -1.0**
TRIZ Trizonia 81.03 309 *e*P **P 07 50 35.1 -1.2**
PYL PYLOS 81.07 308 *e*P **P 07 50 35.0 -1.5**
LAKA Lakka 81.09 309 *e*P **P 07 50 35.8 -0.8**
VAY Valandovo 81.14 312 *i*P **P 07 50 34.9 -1.9**
AMT Artemida-Makis 81.19 308 *e*P **P 07 50 36.6 -0.6**
THL Klokotos Trika 81.27 310 *e*P **P 07 50 36.2 -1.3**
NACGM Naroch 81.31 326 *e*P P 07 50 34.0 -3.3
EVR Evrytania 81.33 310 *e*P **P 07 50 36.7 -1.3**
FX1 Attu Island--F 81.39 36 *e*P **P 07 50 36.7 -1.1**
FX1 Attu Island--F 81.39 36 P **P 07 50 37.0 -0.8**
comp=Z,79nm,0.7s,baz=176,slow=7.8,SNR=26
FX1 LR LR 08 32 17.2
comp=Z,16μm,19.1s,baz=87,slow=40
CJR Cluj-Napoca 81.40 318 ⇑*i*P **P 07 50 38.6 +0.5**
RLS Riolos of Patr 81.46 309 *e*P **P 07 50 38.6 +0.1**
GZR Gura Zlata 81.71 316 ⇑P **P 07 50 39.6 -0.2**
GZR Gura Zlata 81.71 316 ⇑*i*P **P 07 50 39.6 -0.2**
DEV Deva 81.71 317 ⇑P **P 07 50 40.2 +0.5**
DEV Deva 81.71 317 ⇑*i*P **P 07 50 40.2 +0.5**
LVV L'vov 81.75 321*d i*P **P 07 50 39.3 -0.5**
LVV *e* 07 53 55.0
LVV *e*S **S 08 00 50.0 +0.1**
TSUM Tsumeb 81.85 251 ⇑*i*P **P 07 50 41.5 +0.4**
TSUM Tsumeb 81.85 251 *e*P **P 07 50 40.3 -0.9**
comp=Z,198nm,1.3s
TSUM LR LR
comp=Z,46μm,21.0s
TSUM Tsumeb 81.85 251 P **P 07 50 41.6 +0.4**
comp=Z,81nm,1.0s,baz=96,slow=5.2,SNR=31
SMY Shemya 81.90 36 *e*P **P 07 50 38.6 -1.9**
SMY pmax pmax
comp=Z,1μm,1.3s
SMY Shemya 81.90 36 *e*P **P 07 50 38.6 -1.9**
comp=Z,1μm,1.3s
FNA Florina 81.94 311 *e*P **P 07 50 39.5 -1.6**
DRGR 82.01 318 ⇑P **P 07 50 41.8 +0.4**
DRGR 82.01 318 ⇑*i*P **P 07 50 41.8 +0.4**
BIA Bitola 82.02 312 *i*P **P 07 50 39.6 -1.9**
SKO Skopje 82.08 313 *i*P **P 07 50 41.3 -0.5**
VLS Valsamata 82.16 309 *e*P **P 07 50 41.7 -0.6**
LKD2 Lefkada island 82.19 309 *e*P **P 07 50 42.1 -0.3**
VSU Vasula 82.28 330*c i*P **P 07 50 41.8 -0.5**
VSU pmax pmax
comp=Z,2μm,1.6s
WIN Windhoek 82.39 248 ⇑*i*P **P 07 50 44.9 +0.9**
WIN AMB AMB 07 50 58.9
comp=Z,79nm,3.1s
APA Apatity 82.40 339 ⇓*i*P **P 07 50 43.6 +0.8**
APA *i* 07 50 51.0
APA *i* 07 53 58.4
APA *i*S **S 08 00 56.0 +0.1**
APA pmax pmax
comp=Z,237nm,1.4s
APA MLR MLR
comp=Z,42μm,23.0s
BZS Buzias 82.55 316 ⇓P **P 07 50 43.9 -0.2**
BZS Buzias 82.55 316 ⇓*i*P **P 07 50 43.9 -0.2**
KWP Kalwaria Pacla 82.55 320 ⇑P **P 07 50 44.1 0.0**
KWP Kalwaria Pacla 82.55 320 ⇑*i*P **P 07 50 44.1 0.0**
KWP Kalwaria Pacla 82.55 320 *e*P **P 07 50 43.9 -0.2**
comp=Z,1μm,1.4s
KWP LR LR
comp=Z,28μm,22.0s
KWP Kalwaria Pacla 82.55 320 *e*P **P 07 50 44.1 0.0**
KWP *e*S **S 08 01 02.1 +3.9**
KWP LMZ LR 08 22 21.9
UZH Uzhgorod 82.63 319*d i*P **P 07 50 44.0 -0.4**
UZH *e*S **S 08 00 58.0 -1.0**
UZH MLR MLR
comp=Z,6μm,22.0s
KOLS Kolonicke sedl 82.70 320 *e*P **P 07 50 45.5 +0.7**
KOLS pmax pmax
comp=Z,327nm,1.2s
KOLS Kolonicke sedl 82.70 320 *e*P **P 07 50 45.5 +0.7**
KOLS Kolonicke sedl 82.70 320 *e*S **S 08 01 01.1 +1.4**
KOLS *e*SS SS 08 06 40.8 +18
VNDA Vanda 82.78 169 *e*P **P 07 50 44.9 +0.2**
comp=Z,18nm,0.7s
VNDA PKKPbc **PKKPbc 08 09 08.9 -3.0**
VNDA P'P' 08 17 10.8
VNDA Vanda 82.78 169 P **P 07 50 44.9 +0.2**
comp=Z,76nm,1.1s,baz=299,slow=5.2,SNR=136
VNDA PKKPbc **PKKPbc 08 09 08.9 -3.0**
comp=Z,2.6nm,0.9s,baz=292,slow=1.9,SNR=5.5
VNDA PKPPKP **P'P'df 08 17 10.8 -2.6**
comp=Z,1.6nm,1.0s,baz=276,slow=5.5,SNR=4.3
VNDA LR LR 08 22 39.9
comp=Z,34μm,21.9s,baz=309,slow=32
RAO Raoul Island 82.84 119 LR LR 08 28 30.9
comp=Z,41μm,20.9s,baz=245,slow=36
TIM Timisoara 82.85 316 ⇑P **P 07 50 46.6 +1.0**
TIM Timisoara 82.85 316 ⇑*i*P **P 07 50 46.6 +1.0**
KEK Kerkira 82.98 310 *e*P **P 07 50 46.0 -0.5**
SUW Suwalki 83.14 325 *e*P **P 07 50 46.2 -0.7**
SUW pmax pmax
comp=Z,1μm,1.1s
SUW Suwalki 83.14 325 *e*P **P 07 50 46.2 -0.7**
comp=Z,1μm,1.1s

SUW Suwalki 83.14 325 *e*P **P 07 50 46.3 -0.7**
SUW *e*S **S 08 01 05.6 +1.7**
SUW LMZ LR 08 23 22.7
TIR Tirane 83.16 312 PFAKE 07 51 00.0 +13
TIR LR LR
comp=Z,20µm,22.0s
CRVS Cervenica-Dubn 83.22 319 *e*P **P 07 50 47.7 +0.2**
CRVS pmax pmax
comp=Z,121nm,1.3s
CRVS Cervenica-Dubn 83.22 319 *e*P **P 07 50 47.7 +0.2**
CRVS Cervenica-Dubn 83.22 319 *e*S **S 08 01 08.3 +3.3**
CRVS *e*SS SS 08 06 53.5 +23
PVY Plav 83.26 313⇑ *i*P **P 07 50 47.0 -1.0**
IVA Berane 83.35 313⇓ *i*P **P 07 50 47.5 -0.9**
FIA1 FINESS Array S 83.39 332 *e*P **P 07 50 47.9 -0.2**
FINES FINESS Array B 83.39 332 P **P 07 50 48.0 -0.1**
FINES PKKPbc **PKKPbc 08 09 07.3 -2.8**
FINES FINESS Array B 83.39 332 P **P 07 50 48.0 -0.1**
comp=Z,58nm,0.6s,baz=105,slow=5.8,SNR=207
FINES PKKPbc **PKKPbc 08 09 07.3 -2.8**
comp=Z,3.0nm,0.8s,baz=242,slow=4.1,SNR=4.8
FINES LR LR 08 36 01.8
comp=Z,36µm,19.0s,baz=285,slow=42
STHS Stebnicka Huta 83.45 320 *e*P **P 07 50 49.0 +0.3**
STHS pmax pmax
comp=Z,121nm,1.2s
STHS Stebnicka Huta 83.45 320 *e*P **P 07 50 49.0 +0.3**
KAF Kangasniemi 83.47 333 *e*P **P 07 50 47.8 -0.7**
KAF pmax pmax
comp=Z,27nm,0.4s
KAF Kangasniemi 83.47 333 *e*p **P 07 50 47.8 -0.7**
comp=Z,26nm,0.4s
ULC Ulcinj 83.70 312⇑ *i*P **P 07 50 48.8 -1.4**
TTG Podgorica 83.75 313⇑ *i*P **P 07 50 49.7 -0.7**
DRME Dracevica, Mon 83.78 313⇑ *i*P **P 07 50 49.6 -0.9**
PLE Pljevlja 83.78 314⇓ *i*P **P 07 50 50.1 -0.6**
KECS Kecovo 83.79 319 *e*P **P 07 50 50.2 -0.2**
KECS pmax pmax
comp=Z,59nm,1.3s
KECS Kecovo 83.79 319 *e*P **P 07 50 50.2 -0.2**
SBA Scott Base 83.88 169 *e*P **P 07 50 51.1 +0.8**
SBA pmax pmax
comp=Z,553nm,1.4s
SBA MLR MLR
comp=Z,25µm,22.0s
SBA Scott Base 83.88 169 *e*P **P 07 50 51.1 +0.8**
comp=Z,553nm,1.4s
SBA *e*S S 08 01 24.1 +14
SBA LR LR
comp=Z,25µm,22.0s
PKSN Nyarlorinc 83.96 317⇓ *e*P **P 07 50 52.2 +0.9**
NKY Níksic 84.00 313⇑ *i*P **P 07 50 51.2 -0.6**
BUM Brajici-Budva 84.00 313 *e*P **P 07 50 50.2 -1.6**
NKME Niksic 84.02 313⇑ *i*P **P 07 50 51.0 -0.8**
NIE Niedzica 84.05 320⇑ *i*P **P 07 50 54.1 +2.3**
NIE *e*S **S 08 01 16.5 +3.1**
PSZ Piszkesteto 84.09 318 ⇑P **P 07 50 51.9 -0.2**
PSZ Piszkesteto 84.09 318⇑ *i*P **P 07 50 51.9 -0.2**
PSZ Piszkesteto 84.09 318 *e*P **P 07 50 51.9 -0.2**
comp=Z,1µm,1.6s
PSZ *e*PP **PP 07 54 10.7 +4.2**
PSZ *e*S **S 08 01 09.0 -4.9**
PSZ LR LR
comp=Z,15µm,19.0s
PSZ Piszkesteto 84.09 318⇑ *e*P **P 07 50 52.1 0.0**
UPM Unac-Piva 84.11 314 *e*P **P 07 50 51.3 -1.2**
BEL Belsk 84.15 322 *e*P **P 07 50 52.3 +0.1**
BEL *e*S **S 08 01 15.9 +1.7**
BEL LMZ LR 08 26 08.5
HCY Herceg Novi 84.32 313⇑ *i*P **P 07 50 52.4 -0.9**
BRY Bratogost 84.34 313⇑ *i*P **P 07 50 52.6 -1.0**
PKS2 Kecel 84.34 317⇓ *e*P **P 07 50 53.9 +0.6**
PKS7 Kunszentmiklos 84.46 317⇓ *e*P **P 07 50 54.4 +0.6**
OJC Ojcow 84.51 321⇑ *i*P **P 07 50 54.0 -0.1**
OJC *e* 07 54 09.8
OJC *e*S **S 08 01 18.4 +0.5**
BUD Budapest 84.61 318⇑ *e*P **P 07 50 54.5 -0.1**
MIDW Midway 84.66 62 *e*P **P 07 50 54.6 -0.7**
comp=Z,522nm,1.3s
MIDW LR LR
comp=Z,15µm,22.0s
PKSM Moragy 84.70 316 ⇑P **P 07 50 54.8 -0.3**
PKSM Moragy 84.70 316⇑ *i*P **P 07 50 54.8 -0.3**
PKSM Moragy 84.70 316⇑ *e*P **P 07 50 54.9 -0.2**
PKSG 85.02 318⇑ *e*P **P 07 50 56.6 -0.1**
CSKK Cs̆‡kako 85.11 318⇑ *e*P **P 07 50 57.2 +0.1**
OKC Ostrava-Krasne 85.51 320⇑ *i*P **P 07 50 59.3 +0.2**
OKC *e* 07 51 10.3
OKC *e* 08 01 31.5
OKC MLR MLR
comp=Z,13µm,21.2s
OKC Ostrava-Krasne 85.51 320⇑ *i*P **P 07 50 59.3 +0.2**
OKC *e*sP sP 07 51 10.3 -5.6
OKC *e*S **SKKSac 08 01 31.5 +3.5**
OKC AMS AMS 08 36 10.0
comp=Z,13µm,21.2s
RAC Raciborz 85.51 320 *e*P **P 07 50 59.8 +0.7**
RAC *e*S S 08 01 35.6 +7.9
ARCES ARCESS Array B 85.79 340 P **P 07 51 00.2 +0.1**
ARCES ARCESS Array B 85.79 340 P **P 07 51 00.2 +0.1**
comp=Z,80nm,0.9s,baz=102,slow=4.1,SNR=80
ARCES LR LR 08 36 27.4
comp=Z,50µm,19.3s,baz=208,slow=41
ARE0 ARCESS Array S 85.79 340 *e*P **P 07 51 00.2 +0.1**
ARE0 *e* 08 01 22.6
ARE0 ARCESS Array S 85.79 340 *e*P **P 07 51 00.2 +0.1**
ARE0 *e*PP **PP 07 54 24.3 +4.5**
SMOL Smolenice 85.81 319 *e*P **P 07 51 00.5 -0.1**
SMOL Smolenice 85.81 319 *e*P **P 07 51 00.5 -0.1**
CEL Celeste 85.84 308 *e*P **P 07 51 01.1 0.0**
comp=Z,774nm,1.1s
CEL LR LR
comp=Z,12µm,22.0s
MORC Moravsky Berou 85.89 320 *e*P **P 07 51 00.6 -0.4**
MORC pmax pmax
comp=Z,448nm,1.4s
MORC Moravsky Berou 85.89 320 *e*P **P 07 51 00.6 -0.4**
comp=Z,448nm,1.4s
ZST Bratislava 85.98 318 *e*P **P 07 51 00.9 -0.6**
ZST *e*S **S 08 01 31.8 -0.7**
ZST Bratislava 85.98 318 *e*P **P 07 51 00.9 -0.6**
CUC Castrocucco 86.06 310 *e*P **P 07 51 01.4 -0.7**
comp=Z,209nm,1.0s
CUC *e*S S 08 01 52.8 +19
CUC LR LR
comp=Z,21µm,22.0s
SOP Sopron 86.29 318⇑ *e*P **P 07 51 02.7 -0.3**
KTK1 Kautokeino 86.44 339 *e*P **P 07 51 03.2 -0.1**
KTK1 AMB AMB 07 51 21.3
comp=Z,5µm,1.8s
KTK1 *e* 08 21 08.3
KTK1 AMS AMS 08 34 05.0
comp=Z,76µm,20.5s
VRAC Vranov 86.45 319 P **P 07 51 03.6 -0.1**
VRAC Vranov 86.45 319 P **P 07 51 03.6 -0.1**
comp=Z,15nm,0.9s,baz=108,slow=4.9,SNR=32
GKP Gorka Klasztor 86.51 323 *e*P **P 07 51 03.8 -0.1**
GKP *e*S **S 08 01 37.3 -0.1**
GKP LMZ LR 08 29 51.9
DPC Dobruska-Polom 86.73 320⇑ *i*P **P 07 51 05.9 +0.7**
DPC *e* 07 51 17.0
DPC *e* 08 01 38.6
DPC Dobruska-Polom 86.73 320⇑ *i*P **P 07 51 05.9 +0.7**
DPC *e*x x 07 51 17.0
DPC *e*S **S 08 01 38.6 -1.3**
DPC *e*PKPPKP **P'P'df 08 17 03.2 -4.0**
DPC AMS AMS 08 38 20.0
WDD Wield Dalam 86.75 306 PFAKE 07 51 20.0 +15
WDD LR LR
comp=Z,12µm,19.0s
CONA Conrad Observa 86.78 318 *i*P **P 07 51 05.3 -0.2**
comp=Z,3µm,4.4s,SNR=27
KSP Ksiaz 86.81 321⇑ *e*P **P 07 51 05.7 +0.2**
KSP *e**PP **pP 07 51 16.6 -1.2**
KSP *e*S **S 08 01 41.4 +1.0**
KSP Ksiaz 86.81 321 *e*P **P 07 51 06.0 +0.5**
KSP *e*PP PP 07 54 43.5 +15
KSP *e*S **S 08 01 40.6 +0.2**
KSP LMZ LR 08 34 53.4
GROS Grobnik 86.89 316 *i*P **P 07 51 06.1 0.0**
ARSA Arzberg 86.95 317 *i*P **P 07 51 06.4 +0.2**
comp=Z,5µm,3.4s,SNR=87
UPC Upice 86.95 321⇑ *i*P **P 07 51 06.7 +0.5**

UPC Upice 86.95 321⇑ *i*P **P 07 51 06.7 +0.5**
BOJS Bojanci 86.97 316 *i*P **P 07 51 06.5 +0.1**
BOJS *e*S S 08 01 35.3 -6.9
BISS Bistriski jare 87.16 317 *i*P **P 07 51 07.5 +0.2**
TREC Trest 87.17 319⇑ *i*P **P 07 51 07.4 +0.1**
TREC *e* 07 51 18.9
TREC *e* 08 01 46.9
TREC MLR MLR
comp=Z,15µm,20.9s
TREC Trest 87.17 319⇑ *i*P **P 07 51 07.4 +0.1**
TREC *e*x x 07 51 18.9
TREC *e*S **S 08 01 46.9 +2.9**
TREC AMS AMS 08 35 10.0
comp=Z,15µm,20.9s
PERS Pernice 87.17 317 *i*P **P 07 51 07.6 +0.2**
PDKS Podkum 87.20 316 *i*P **P 07 51 07.7 +0.1**
PDKS *e*S **SKSac 08 01 34.3 +2.3**
SOKA Soboth 87.23 317 *i*PcP **P 07 51 08.0 +0.2**
comp=Z,5µm,3.6s,SNR=118
LJU Ljubljana 87.52 316⇑ *e*P **P 07 51 09.2 +0.1**
OBKA Obir 87.55 316 *i*PcP **P 07 51 09.3 0.0**
comp=Z,6µm,3.2s,SNR=57
JAVS Javornik 87.83 316 *i*P **P 07 51 10.2 -0.4**
JAVS *e*S **SKSac 08 01 37.0 +1.1**
PRU Pruhonice 87.84 320⇑ *i*P **P 07 51 10.6 +0.1**
PRU *e* 08 01 45.0
PRU MLR MLR
comp=Z,17µm,21.2s
PRU Pruhonice 87.84 320⇑ *i*P **P 07 51 10.6 +0.1**
PRU *e*S **S 08 01 45.0 -5.4**
PRU AMS AMS 08 40 00.0
comp=Z,17µm,21.2s
MOA Molln 87.85 318 *i*P **P 07 51 10.3 -0.3**
comp=Z,2µm,3.4s,SNR=29
PVCC Panska Ves 87.87 320⇑ *i*P **P 07 51 11.2 +0.6**
PVCC *e* 07 51 23.0
PVCC *e* 08 01 53.0
PVCC MLR MLR
comp=Z,19µm,18.4s
PVCC Panska Ves 87.87 320⇑ *i*P **P 07 51 11.2 +0.6**
PVCC *e*x x 07 51 23.0
PVCC *e*S **S 08 01 53.0 +2.4**
PVCC AMS AMS 08 39 30.0
comp=Z,19µm,18.4s
MAIT Maitri 87.87 199 *e*P **P 07 51 09.6 -0.6**
PRA Prague 87.92 320 AMS AMS 07 41 00.0
PRA ⇑P **P 07 51 11.0 +0.2**
VOY Vojsko 87.96 316⇑ *e*P **P 07 51 10.8 -0.5**
VOY *e* 07 51 20.8
TRI Trieste 88.03 316 *e*P **P 07 51 10.8 -0.6**
TRI pmax pmax
comp=Z,1µm,2.0s
TRI Trieste 88.03 316 *e*P **P 07 51 10.8 -0.6**
comp=Z,1µm,2.0s
TRI *e*S S 08 02 01.8 +9.5
AQU L'Aquila 88.06 312 *e*P **P 07 51 11.6 -0.1**
comp=Z,2µm,1.3s
AQU *e*PP **PP 07 54 40.5 +1.7**
AQU LR LR
comp=Z,20µm,20.0s
BSD Bornholm Skovb 88.07 325⇑ *i*P **P 07 51 11.2 -0.2**
comp=Z,216nm,1.0s
BSD
comp=Z,20µm,20.0s
TRO Tromso 88.07 340 *e*P **P 07 51 09.7 -1.4**
TRO AMB AMB 07 51 20.6
comp=Z,542nm,1.7s
TRO *e* 08 01 39.6
TRO AMS AMS 08 37 19.5
comp=Z,39µm,19.4s
MYKA Terra Mystica 88.18 317 *i*PcP **P 07 51 12.2 0.0**
comp=Z,3µm,2.6s,SNR=83
BRG Berggiesshubel 88.29 321⇑ *i*P **P 07 51 13.0 +0.4**
comp=Z,518nm,1.8s
BRG *e* 07 51 26.2
comp=Z,959nm,1.6s
BRG Berggiesshubel 88.29 321 S S 08 02 01.0 +6.4
BRG *e* 08 09 43.0
BRG SS SKKPbc 08 12 54.0 +20
BRG PKPPKP **P'P'df 08 17 01.7 -2.5**
comp=Z,6.3nm,1.3s
BRG P'P'P' 08 36 50.4
comp=Z,8.2nm,1.5s
BRG
comp=Z,21µm,18.4s
BRG
comp=N,10µm,18.1s
BRG
comp=E,16µm,18.1s
BRG Berggiesshubel 88.29 321 *e*P **P 07 51 13.1 +0.4**
comp=Z,627nm,1.8s
BRG Berggiesshubel 88.29 321⇑ *i*P **P 07 51 13.0 +0.4**
BRG *e* 07 51 26.2
BRG S S 08 02 01.0 +6.4
BRG pmax pmax
comp=Z,518nm,1.8s
BRG MLR MLR
comp=Z,21µm,18.4s
BRG MLR MLR
comp=N,10µm,18.1s
BRG MLR MLR
comp=E,16µm,18.1s
GEC2 GERESS Array S 88.30 319 *e*P **P 07 51 13.0 +0.1**
comp=Z,711nm,1.8s
GEC2 GERESS Array S 88.30 319 *e*P **P 07 51 13.0 +0.1**
GEC2 pmax pmax
comp=Z,711nm,1.8s
GERES GERESS Array B 88.30 319 P **P 07 51 12.9 +0.1**
GERES PKKPbc **PKKPbc 08 08 59.0 +0.9**
GERES P'P' 08 17 03.9
GERES GERESS Array B 88.30 319 P **P 07 51 12.9 +0.1**
comp=Z,32nm,0.7s,baz=99,slow=4.2,SNR=183
GERES PKKPbc **PKKPbc 08 08 59.0 +0.9**
comp=Z,1.6nm,1.0s,baz=270,slow=1.3,SNR=4.3
GERES PKPPKP **P'P'df 08 17 03.9 -0.6**
comp=Z,0.8nm,0.8s,baz=132,slow=2.0,SNR=4.7
KHC Kasperske Hory 88.40 319⇑ *i*P **P 07 51 13.2 0.0**
KHC *e* 07 51 23.5
KHC *e* 08 01 43.0
KHC MLR MLR
comp=Z,17µm,19.8s
KHC Kasperske Hory 88.40 319⇑ *i*P **P 07 51 13.2 0.0**
KHC *e*sP sP 07 51 23.5 -6.5
KHC *e*SKS **SKSac 08 01 43.0 +3.9**
KHC *e*PKPPKP **P'P'df 08 17 07.4 +3.2**
KHC AMS AMS 08 42 10.0
comp=Z,17µm,19.8s
KHC Kasperske Hory 88.40 319 *e*P **P 07 51 13.2 0.0**
comp=Z,490nm,1.7s
KHC *e*S **S 08 01 55.5 -0.3**
KBA Koelnbreinsper 88.41 317 *i*P **P 07 51 12.8 -0.7**
comp=Z,2µm,3.7s,SNR=33
AFI Afiamalu 88.45 104 *e*P **P 07 51 13.4 -0.7**
comp=Z,676nm,1.3s
AFI LR LR
comp=Z,15µm,20.0s
AFI Afiamalu 88.45 104 P **P 07 51 14.2 0.0**
comp=Z,160nm,1.2s,baz=307,slow=2.9,SNR=7.1
QSPA South Pole Qui 88.49 180 *e*P **P 07 51 13.3 0.0**
comp=Z,626nm,1.3s
QSPA *e*PP **PP 07 54 45.7 +4.2**
QSPA South Pole Qui 88.49 180 P **P 07 51 13.9 +0.5**
comp=Z,208nm,1.0s,baz=304,slow=2.0,SNR=212
QSPA LR LR 08 28 10.1
comp=Z,42µm,19.0s,baz=323,slow=34
FBE Freiberg 88.67 321 *e*P **P 07 51 15.0 +0.6**
comp=Z,726nm,1.8s
RJOB Jochberg 88.83 318 *e*P **P 07 51 14.7 -0.6**
comp=Z,130nm,1.4s
WET Wettzell 88.86 319 *e*P **P 07 51 15.7 +0.3**
comp=Z,605nm,1.9s
WET Wettzell 88.86 319 *e*P **P 07 51 15.7 +0.3**
WET pmax pmax
comp=Z,605nm,1.9s
CLL Collm 88.92 321 *e*P **P 07 51 15.5 +0.1**
comp=Z,669nm,2.1s
CLL Collm 88.92 321⇑ *i*P **P 07 51 15.6 +0.1**
CLL *i**PP **pP 07 51 28.5 +0.7**
CLL *e*S **S 08 02 05.0 +4.5**
CLL pmax pmax
comp=Z,198nm,1.4s
CLL MLR MLR
comp=Z,20µm,18.0s
CLL Collm 88.92 321⇑ *i*P **P 07 51 15.6 +0.1**
comp=Z,198nm,1.4s

CLL *e*Pmax 07 51 17.0
CLL *e*pP **PcP 07 51 20.0 +3.0**
CLL *i* 07 51 28.5
comp=Z,713nm,1.8s
CLL *e*PP PP 07 54 40.0 -5.3
CLL *e*S **S 08 02 05.0 +4.5**
comp=N,18µm,31.6s
CLL *e*S **S 08 02 05.0 +4.5**
comp=E,5µm,17.6s
CLL *e*PS **PnS 08 03 07.0 -1.8**
CLL *e*SS **SS 08 07 51.0 -2.6**
CLL *e* 08 15 30.0
CLL *i* PKPPKPd **P'P'df 08 16 59.2 -3.8**
comp=Z,34nm,1.9s
CLL Lm MLR 08 40 00.0
comp=N,15µm,21.3s
CLL Lm MLR 08 40 00.0
comp=E,19µm,18.4s
CLL Lm MLR 08 40 00.0
comp=Z,20µm,18.0s
RGN Rugen 88.94 324 *e*P **P 07 51 16.0 +0.5**
comp=Z,1µm,1.8s
ABTA Abfaltersbach 88.96 317 *i*P **P 07 51 15.4 -0.6**
comp=Z,2µm,2.9s,SNR=44
HFS Hagfors 89.15 330 LR LR 08 38 08.9
comp=Z,29µm,19.1s,baz=86,slow=40
STEI Steigen 89.17 338 *e*P **P 07 51 16.5 +0.2**
STEI AMB AMB 07 51 26.3
comp=Z,529nm,1.6s
NKC Novy Kostel 89.20 320 *e*P **P 07 51 17.2 +0.3**
NKC Novy Kostel 89.20 320⇑ *e*P **P 07 51 17.2 +0.3**
TANN Tannenbergstha 89.20 320 *e*P **P 07 51 17.3 +0.3**
comp=Z,281nm,1.8s
WERN Wernitzgruen 89.25 320 *e*P **P 07 51 17.8 +0.6**
comp=Z,243nm,1.9s
GUNZ Gunzen 89.28 320 *e*P **P 07 51 17.9 +0.6**
comp=Z,426nm,1.9s
WERD Werda 89.30 320 *e*P **P 07 51 17.8 +0.4**
comp=Z,429nm,1.9s
MOR8 Moi Rana 89.31 336 *e*P **P 07 51 15.6 -1.4**
MOR8 AMB AMB 07 51 26.5
comp=Z,280nm,1.6s
ROTZ Rotzenmuhle 89.33 320 *e*P **P 07 51 18.3 +0.8**
comp=Z,809nm,2.1s
PLN Plauen 89.40 320 *e*P **P 07 51 18.1 +0.3**
comp=Z,3µm,2.1s
MANZ Manzenberg 89.41 320 *e*P **P 07 51 18.6 +0.7**
comp=Z,1µm,2.1s
MANZ *e*pP **pP 07 51 31.9 +1.7**
COP Copenhagen 89.52 326⇑ *i*P **P 07 51 18.6 +0.4**
comp=Z,58nm,0.8s
COP
comp=Z,9µm,18.0s
WTTA Wattenberg 89.59 317 *i*PcP **P 07 51 18.6 -0.5**
comp=Z,4µm,3.7s,SNR=56
LLD Lille Linde 89.62 325 *i*P P 07 51 25.0 +6.3
comp=Z,121nm,0.8s
WATA Walderalm 89.63 317 *i*P **P 07 51 18.5 -0.7**
comp=Z,532nm,1.4s,SNR=25
NEUB Neuenburg 89.68 321 *e*P **P 07 51 19.5 +0.4**
comp=Z,339nm,1.3s
NEUB *e*pP **pP 07 51 32.6 +1.2**
MOX Moxa 89.75 320 *e*P **P 07 51 19.8 +0.3**
comp=Z,476nm,1.8s
MOX *e*pP **pP 07 51 33.0 +1.2**
MOX *e*L L 08 40 34.4
comp=Z,22µm,18.8s
MOX Moxa 89.75 320 *e*P **P 07 51 19.8 +0.3**
MOX *e**PP **pP 07 51 33.0 +1.2**
MOX pmax pmax
comp=Z,476nm,1.8s
FLOS Flostrand 89.76 336 *e*P **P 07 51 18.6 -0.5**
LOF Lofoten 89.83 338 *e*P **P 07 51 19.5 +0.1**
LOF AMB AMB 07 51 29.0
comp=Z,392nm,1.7s
FUR Furstenfeldbru 89.87 318 *e*P **P 07 51 20.0 -0.1**
comp=Z,225nm,1.3s
FUR *e*pP **pP 07 51 33.2 +0.8**
FUR Furstenfeldbru 89.87 318 *e*P **P 07 51 20.0 -0.1**
FUR *e**PP **pP 07 51 33.2 +0.8**
FUR pmax pmax
comp=Z,225nm,1.3s
STOK Stokkvaagen 89.90 336 *e*P **P 07 51 18.5 -1.3**
STOK *e*SKS **SKSac 08 01 47.8 +0.7**
MOTA Moosalm 89.95 317 *i*P **P 07 51 20.0 -0.7**
comp=Z,731nm,1.6s,SNR=110
GRF Grafenberg Arr 89.97 320 *e*P **P 07 51 21.2 +0.7**
comp=Z,333nm,1.4s
GRF *e*L L 08 39 36.3
comp=Z,20µm,21.1s
GRF Grafenberg Arr 89.97 320 *e*P **P 07 51 21.2 +0.7**
GRF pmax pmax
comp=Z,333nm,1.4s
GRFO Grafenberg 89.97 320 *e*P **P 07 51 20.0 -0.5**
GRFO pmax pmax
comp=Z,245nm,1.0s
GRFO Grafenberg 89.97 320 *e*P **P 07 51 20.0 -0.5**
comp=Z,245nm,1.0s
SPA0 Spitsbergen Ar 90.01 348 *e*P **P 07 51 19.9 -0.2**
SPA0 *e* 08 01 50.5
SPITS Spitsbergen Ar 90.01 348 LR LR 08 38 42.7
comp=Z,56µm,19.6s,baz=95,slow=40
HSP Hornsund 90.05 347 *i*P **P 07 51 19.8 -0.5**
RETA Reutte 90.19 317 *i*P **P 07 51 21.2 -0.5**
comp=Z,3µm,2.4s,SNR=85
FETA Feichten 90.20 317 *i*PcP **P 07 51 21.9 +0.1**
comp=Z,5µm,3.2s,SNR=61
NSS Namsos 90.23 334 *e*P **P 07 51 20.9 -0.4**
NSS AMB AMB 07 51 36.9
comp=Z,158nm,1.6s
NSS AMS AMS 08 37 00.7
comp=Z,10µm,21.3s
NC602 NORSAR Array S 90.25 331 *e*P **P 07 51 22.5 +1.0**
VLC Villacollemand 90.35 314 *e*P **P 07 51 21.5 -0.9**
comp=Z,409nm,1.4s
VLC LR LR
comp=Z,12µm,20.0s
NB2 NORSAR Subarra 90.42 331 P **P 07 51 22.0 -0.4**
comp=Z,285nm,1.4s,baz=92,slow=4.8
NB2 NORSAR Subarra 90.42 331 P **P 07 51 22.0 -0.4**
baz=92,slow=4.8
NOA NORSAR Array B 90.42 331 P **P 07 51 21.8 -0.7**
NOA PP **PP 07 54 58.7 +1.6**
NOA NORSAR Array B 90.42 331 P **P 07 51 21.8 -0.7**
comp=Z,14nm,0.9s,baz=95,slow=5.1,SNR=19
NOA PP **PP 07 54 58.7 +1.6**
comp=Z,7.9nm,0.9s,baz=106,slow=6.2,SNR=3.3
NOA LR LR 08 36 04.7
comp=Z,28µm,20.7s,baz=95,slow=38
NAO01 NORSAR Array S 90.57 331 *e*P **P 07 51 22.2 -0.9**
comp=Z,15nm,0.9s
BSEG Bad Segeberg 90.67 324 *e*P **P 07 51 24.1 +0.5**
comp=Z,733nm,1.6s
BSEG Bad Segeberg 90.67 324 *e*P **P 07 51 24.1 +0.5**
BSEG pmax pmax
comp=Z,733nm,1.6s
NRDL Niedersach Rie 90.76 322 *e*P **P 07 51 24.7 +0.7**
comp=Z,796nm,1.8s
DAVOX Davos/Dischmat 90.77 317 P **P 07 51 25.0 +0.4**
DAVOX S **SKSac 08 01 58.2 +4.8**
DAVOX PKKPbc **PKKPbc 08 08 53.2 +1.3**
DAVOX Davos/Dischmat 90.77 317 P **P 07 51 25.0 +0.4**
comp=Z,122nm,0.8s,baz=126,slow=4.6,SNR=162
DAVOX S **SKSac 08 01 58.2 +4.8**
comp=Z,3.1nm,0.9s,baz=100,slow=8.3,SNR=4.9
DAVOX PKKPbc **PKKPbc 08 08 53.2 +1.3**
comp=Z,4.5nm,0.9s,baz=287,slow=8.4,SNR=4.1
DAVA Damuels 90.78 317 *i*PcP **P 07 51 24.8 +0.2**
comp=Z,5µm,3.6s,SNR=97
UBBA Unterbreizbach 90.79 321 *e*P **P 07 51 24.4 +0.3**
comp=Z,424nm,2.0s
UBBA *e*pP **pP 07 51 37.5 +1.0**
TBLU Trondheim 90.94 333 *e*P **P 07 51 23.6 -1.1**
TBLU AMB AMB 07 51 39.7
comp=Z,257nm,1.8s
TBLU *e*PP **PP 07 55 01.0 -0.1**
TBLU *e* 08 01 53.0
TBLU *e* 08 02 19.1
TBLU AMS AMS 08 36 25.9
comp=Z,29µm,20.2s
KEST Kesra 90.94 306 *e*P **P 07 51 26.7 +1.2**
KEST PKKPbc **PKKPbc 08 08 54.6 +3.7**
KEST Kesra 90.94 306 P **P 07 51 26.6 +1.2**
comp=Z,84nm,0.9s,baz=354,slow=0.4,SNR=77
KEST PKKPbc **PKKPbc 08 08 54.6 +3.7**
comp=Z,3.1nm,1.0s,baz=175,slow=5.8,SNR=4.0

KEST LR LR 08 33 50.2
comp=Z,8µm,19.8s,baz=210,slow=37
KBS Kingsbay 90.95 349 *e*P **P 07 51 23.0 -1.5**
KBS AMB AMB 07 51 41.8
comp=Z,315nm,1.3s
KBS *e*PP **PP 07 55 04.3 +3.5**
KBS *e* 08 01 59.6
KBS *e*SS SS 08 08 27.7 +5.9
KBS AMS AMS 08 39 57.0
comp=Z,41µm,17.7s
KBS Kingsbay 90.95 349 *e*P **P 07 51 23.6 -0.9**
KBS *e* 07 55 05.9
KBS pmax pmax
comp=Z,343nm,1.4s
KBS MLR MLR
comp=Z,47µm,20.0s
KBS Kingsbay 90.95 349 *e*P **P 07 51 23.6 -0.9**
comp=Z,343nm,1.4s
KBS *e*PP **PP 07 55 05.9 +5.1**
KBS LR LR
comp=Z,47µm,20.0s
VSL Villasalto 90.99 309 *e*P **P 07 51 25.3 -0.2**
comp=Z,387nm,1.1s
VSL *e*PP **PP 07 55 01.1 -1.0**
VSL *e*S **S 08 02 23.9 +3.6**
VSL LR LR
comp=Z,7µm,21.0s
TUE Stuetta 91.13 316 *e*P **P 07 51 25.9 -0.4**
comp=Z,216nm,1.2s
TUE LR LR
comp=Z,23µm,22.0s
KONO Kongsberg 91.19 329 *e*P **P 07 51 24.0 -1.9**
KONO AMB AMB 07 51 44.1
comp=Z,338nm,1.2s
KONO *e*SKS **SKSac 08 01 55.2 +0.4**
KONO *e* 08 02 21.4
KONO AMS AMS 08 39 21.8
comp=Z,26µm,18.1s
KONO Kongsberg 91.19 329 *e*P **P 07 51 25.6 -0.3**
KONO pmax pmax
comp=Z,360nm,1.4s
KONO MLR MLR
comp=Z,33µm,19.0s
KONO Kongsberg 91.19 329 *e*P **P 07 51 25.6 -0.3**
comp=Z,360nm,1.4s
KONO LR LR
comp=Z,33µm,19.0s
STU Stuttgart 91.27 319 *e*P **P 07 51 26.6 0.0**
comp=Z,726nm,2.0s
STU *e*pP **pP 07 51 39.7 +0.8**
STU Stuttgart 91.27 319 *e*P **P 07 51 26.4 -0.2**
STU pmax pmax
comp=Z,838nm,1.8s
STU Stuttgart 91.27 319 *e*P **P 07 51 26.4 -0.2**
comp=Z,838nm,1.8s
PGF Pioggiola 91.32 312⇑*i*P **P 07 51 26.9 -0.2**
comp=Z,959nm,1.5s
MUD Monsted U'grnd 91.37 326 *i* P **P 07 51 28.2 +1.4**
comp=Z,57nm,1.0s
MUD
comp=Z,17µm,19.0s
HOMB Homborsund 91.74 328⇑*e*P **P 07 51 28.6 +0.1**
TNS Taunus Mts 91.77 320 *e*P **P 07 51 29.4 +0.5**
comp=Z,216nm,1.2s
TNS Taunus Mts 91.77 320 *e*P **P 07 51 29.4 +0.5**
TNS pmax pmax
comp=Z,216nm,1.2s
BFO Black Forest 91.84 318 P **P 07 51 29.1 -0.2**
comp=Z,412nm,1.2s,SNR=36
BFO Black Forest 91.84 318 *e*P **P 07 51 29.0 -0.2**
comp=Z,193nm,1.5s
BFO Black Forest 91.84 318 *e*P **P 07 51 28.8 -0.5**
BFO pmax pmax
comp=Z,286nm,1.4s
BFO MLR MLR
comp=Z,9µm,22.0s
BFO Black Forest 91.84 318 *e*P **P 07 51 28.8 -0.5**
comp=Z,286nm,1.4s
BFO LR LR
comp=Z,9µm,22.0s
LANF Langenberg 92.19 319 *e*P **P 07 51 31.1 +0.2**
IBBN Ibbenburen 92.20 322 *e*P **P 07 51 31.0 +0.2**
comp=Z,373nm,1.6s
IBBN *e*pP **pP 07 51 43.6 +0.5**
SAOF Saorge 92.39 314 *e*P **P 07 51 31.5 -0.4**
TNA Tin City 92.41 25 *e*P **P 07 51 30.3 -1.2**
comp=Z,136nm,1.3s
ABSA Djebel Ababsia 92.46 306 P **P 07 51 33.6 +1.1**
SBF Sospel 92.47 314⇑*i*P **P 07 51 32.0 -0.4**
comp=Z,941nm,1.4s
AUTN L'Aution 92.48 314 *e*P **P 07 51 32.5 -0.1**
SNAA Sanae 92.48 198 *e*P **P 07 51 32.8 +1.0**
SNAA Sanae 92.48 198 *e*pP pP 07 51 43.1 -1.0
SNAA Sanae 92.48 198 *e*sP sP 07 51 47.3 -1.4
SNAA Sanae 92.48 198⇑*i*P **P 07 51 32.3 +0.5**
SNAA Sanae 92.48 198 *e*P **P 07 51 31.9 +0.1**
comp=Z,103nm,1.2s
SNAA *e*S **S 08 02 35.1 +2.5**
SNAA Sanae 92.48 198 LR LR 08 28 50.1
comp=Z,14µm,18.4s,baz=95,slow=33
CMAH Djebel Manchou 92.51 306 P **P 07 51 33.6 +0.9**
BUG Bochum--Univer 92.51 321 *e*P **P 07 51 32.2 0.0**
comp=Z,336nm,1.8s
REVF Revere 92.52 314 *e*P **P 07 51 32.3 -0.3**
LUCF Luceram 92.54 314 *e*P **P 07 51 32.7 0.0**
CDF Champ du Feu 92.54 318⇑*i*P **P 07 51 32.0 -0.6**
comp=Z,788nm,1.7s
TOUF Mont Tournerai 92.61 314 *e*P **P 07 51 32.8 -0.3**
ECH Echery 92.62 318 *e*P **P 07 51 32.5 -0.4**
ECH pmax pmax
comp=Z,1µm,2.3s
ECH MLR MLR
comp=Z,13µm,21.0s
ECH Echery 92.62 318 *e*P **P 07 51 32.5 -0.4**
comp=Z,1µm,2.3s
ECH LR LR
comp=Z,13µm,21.0s
ECH Echery 92.62 318 *e*P **P 07 51 32.3 -0.6**
MOF Molkenrain 92.65 318 *e*P **P 07 51 32.7 -0.4**
MVIF Mont Vial 92.68 314 *e*P **P 07 51 33.2 -0.2**
ODD1 Odda 92.69 330 *e*P P 07 51 38.1 +5.1
ODD1 *e*SKS **SKSac 08 02 02.7 -0.7**
ODD1 *e* 08 02 32.9
WTSB Winterswijk 92.79 322 *e*P **P 07 51 33.4 0.0**
comp=Z,789nm,2.0s
OG22 Abries 92.82 315 *e*P **P 07 51 33.0 -1.1**
HINF Hinteralfeld 92.84 318⇑*i*P **P 07 51 33.1 -0.8**
comp=Z,992nm,1.9s
WIT Witteveen 92.85 323 *e*P **P 07 51 35.8 +2.0**
comp=Z,3µm,2.0s
LOMF Lomont 92.86 317 *e*P **P 07 51 33.4 -0.7**
HYA Hoyanger 92.86 331 *e*P **P 07 51 34.8 +1.1**
HYA AMB AMB 07 51 52.0
comp=Z,275nm,1.0s
HYA *e*PP **PP 07 55 14.2 -2.0**
CALN Calern 92.87 314 *e*P **P 07 51 34.3 0.0**
MBDF Montbardon 92.94 315⇑*i*P **P 07 51 33.6 -1.0**
comp=Z,314nm,1.4s
LPG La Plagne 92.94 315⇑*i*P **P 07 51 34.5 -0.3**
comp=Z,261nm,1.0s
LPL La Plagne 92.96 315⇑*i*P **P 07 51 34.4 -0.3**
comp=Z,524nm,1.3s
BNI Bardonecchia 93.00 315 *e*P **P 07 51 33.8 -1.0**
BNI pmax pmax
comp=Z,128nm,1.3s
BNI MLR MLR
comp=Z,19µm,20.0s
BNI Bardonecchia 93.00 315 *e*P **P 07 51 33.8 -1.0**
comp=Z,128nm,1.3s
BNI LR LR
comp=Z,19µm,20.0s
FRF La Foret Royal 93.05 313⇑*i*P **P 07 51 34.8 -0.1**
comp=Z,1µm,1.6s
CKFL Kef-Lekhel 93.07 306 P **P 07 51 36.3 +0.9**
LMR La Mourre 93.15 313⇑*i*P **P 07 51 35.2 -0.2**
comp=Z,764nm,1.8s
HAU Haudompre 93.17 318⇑*i*P **P 07 51 34.8 -0.6**
comp=Z,2µm,1.9s
HAU *e*R
comp=Z,19µm,22.2s
WLF Walferdange 93.26 319 P **P 07 51 36.3 +0.5**
comp=Z,275nm,2.4s
WLF Walferdange 93.26 319 *e*P **P 07 51 36.1 +0.4**
comp=Z,439nm,2.0s
WLF Walferdange 93.26 319 *e*P **P 07 51 35.2 -0.5**
WLF pmax pmax
comp=Z,910nm,1.9s
WLF MLR MLR
comp=Z,16µm,21.0s
WLF Walferdange 93.26 319 *e*P **P 07 51 35.2 -0.5**
comp=Z,910nm,1.9s
WLF LR LR
comp=Z,16µm,21.0s
CASM Ain Smara 93.26 306 P **P 07 51 37.3 +1.2**
BER Bergen 93.31 330 *e*P **P 07 51 33.8 -1.9**
BER *e* 08 02 40.0
BER AMS AMS 08 42 54.6
comp=Z,19µm,20.9s
MEM Membach 93.33 320 P **P 07 51 35.8 -0.2**
comp=Z,98nm,2.5s
HGN Heimansgroeve 93.37 321 *e*P **P 07 51 35.8 -0.4**
comp=Z,588nm,2.1s
HGN Heimansgroeve 93.37 321 *e*S S 08 02 47.4 +6.4
HGN *e*SS SS 08 09 26.9 +29
CABF La Chapelle 93.38 316⇑*i*P **P 07 51 36.4 -0.1**
comp=Z,2µm,1.9s
THEF They Montfort 93.41 318 *e*P **P 07 51 35.9 -0.6**
BEBN Eben Emael 93.53 321 P **P 07 51 36.8 -0.2**
comp=Z,50nm,2.7s
SUE Sulen 93.56 331 *e*P **P 07 51 39.2 +2.3**
SUE *e*PP **PP 07 55 22.1 +0.5**
SUE *e*SKS **SKSac 08 02 09.4 +1.5**
SUE *e* 08 02 42.2
SUE AMS AMS 08 40 48.8
comp=Z,25µm,22.0s
ORIF Oris-en-Rattie 93.57 315⇑*i*P **P 07 51 37.2 -0.2**
comp=Z,1µm,1.8s
ORIF *e*R
comp=Z,22µm,21.5s
PAGF Fort de Pagny 93.57 318⇑*i*P **P 07 51 36.8 -0.4**
comp=Z,162nm,1.7s
DFRA Djebel Bou Aff 93.75 306 P **P 07 51 39.9 +1.4**
OG35 Corcelles 93.76 316 *e*P **P 07 51 37.9 -0.3**
SMRF Simiane la Rot 93.81 314⇑*i*P **P 07 51 38.8 +0.3**
comp=Z,1µm,1.9s
AKUT Akutan 93.98 36 *e*P **P 07 51 36.9 -2.0**
comp=Z,470nm,1.3s
OG26 St.-Nazaire-De 93.99 314 *e*P **P 07 51 39.5 +0.2**
MEZF Maizieres J'vi 94.02 318⇑*i*P **P 07 51 39.0 -0.3**
comp=Z,1µm,1.9s,baz=87
SFTF Sexfontaines 94.04 318⇑*i*P **P 07 51 39.0 -0.4**
comp=Z,1µm,1.6s,baz=96
CKHR Kef el Ahmar 94.06 306 P P 07 51 46.8 +6.9
VNA2 Neumayer--Watz 94.09 198 *e*P **P 07 51 40.2 +1.1**
VNA2 Neumayer--Watz 94.09 198 *e*pP pP 07 51 52.2 +0.7
VNA2 Neumayer--Watz 94.09 198 *e*sP sP 07 51 56.9 +0.9
VNA2 Neumayer--Watz 94.09 198 *e*PP PP 07 55 23.8 -1.7
VNA2 Neumayer--Watz 94.09 198 *e*PKiKP **PKiKP 07 56 19.4 -3.7**
GIVF Givet 94.10 320⇑*i*P **P 07 51 39.3 -0.3**
comp=Z,487nm,1.9s
SET Setif 94.14 306 P **P 07 51 41.0 +0.7**
TAM Tamanrasset 94.20 293 *e*P **P 07 51 41.7 +0.8**
TAM *e* 07 55 26.3
TAM pmax pmax
comp=Z,89nm,1.4s
TAM MLR MLR
comp=Z,16µm,20.0s
TAM Tamanrasset 94.20 293 *e*P **P 07 51 41.7 +0.8**
comp=Z,89nm,1.4s
TAM *e*PP **PP 07 55 26.3 -1.7**
TAM LR LR
comp=Z,16µm,20.0s
DOU Dourbes 94.25 320 P **P 07 51 40.4 +0.1**
comp=Z,117nm,2.6s
VIVF Saint-Julien-l 94.43 315⇑*i*P **P 07 51 41.0 -0.3**
comp=Z,544nm,1.7s
VNA1 Neumayer--Stat 94.44 199 *e*P **P 07 51 41.8 +1.1**
VNA1 Neumayer--Stat 94.44 199 *e*pP pP 07 51 51.0 -2.1
VNA1 Neumayer--Stat 94.44 199 *e*sP sP 07 51 56.3 -1.3
VNA1 Neumayer--Stat 94.44 199 *e*PP PP 07 55 26.7 -1.5
VNA1 Neumayer--Stat 94.44 199 *e*PKiKP PKiKP 07 56 16.4 -7.3
BAIF Baives 94.50 320⇑*i*P **P 07 51 41.3 -0.1**
comp=Z,649nm,1.7s
SSB Saint Sauveur 94.51 315 *e*P **P 07 51 41.2 -0.5**
SSB *e* 07 55 26.1
SSB pmax pmax
comp=Z,353nm,1.8s
SSB MLR MLR
comp=Z,11µm,20.0s
SSB Saint Sauveur 94.51 315 *e*P **P 07 51 41.2 -0.5**
comp=Z,353nm,1.8s
SSB *e*PP **PP 07 55 26.1 -3.6**
SSB LR LR
comp=Z,11µm,20.0s
LOR Lormes 94.88 317⇑*i*P **P 07 51 42.8 -0.5**
comp=Z,1µm,1.9s,baz=87
LOR *e*R
comp=Z,16µm,21.2s
SMF Signal de Mont 94.93 317⇑*i*P **P 07 51 42.9 -0.6**
comp=Z,486nm,1.6s
LASF Ste Croix 95.05 314⇑*i*P **P 07 51 44.0 -0.1**
comp=Z,617nm,1.9s
SSF Saint Saulge 95.13 317⇑*i*P **P 07 51 44.1 -0.3**
comp=Z,806nm,1.9s
AVF Avril sur Loir 95.25 317⇑*i*P **P 07 51 44.4 -0.6**
comp=Z,639nm,1.9s
FALS False Pass 95.30 35 *e*P **P 07 51 44.2 -0.7**
comp=Z,267nm,1.3s
LBL Lubilhac 95.42 315 *e*P **P 07 51 45.8 -0.1**
AGO Saint Agoulin 95.45 316 *e*P **P 07 51 45.0 -0.9**
PYM Petit Puy Mans 95.56 316 *e*P **P 07 51 46.3 -0.2**
BGF Bois d'Agland 95.62 316⇑*i*P **P 07 51 46.5 -0.2**
comp=Z,1µm,1.9s
HYF Humbligny 95.71 317⇑*i*P **P 07 51 47.0 -0.1**
LRDF Laroque-de-Fa 96.07 313 *e*P **P 07 51 48.7 -0.1**
TCF Toulx Ste Croi 96.08 316⇑*i*P **P 07 51 48.6 -0.2**
comp=Z,527nm,1.9s
FILF Fillols 96.08 312 *e*P **P 07 51 48.9 0.0**
CAF Calviac 96.28 315⇑*i*P **P 07 51 49.7 0.0**
comp=Z,300nm,1.7s
MTLF Montolieu 96.28 313⇑*i*P **P 07 51 49.5 -0.2**
comp=Z,399nm,1.8s
ELSH Elham, Standar 96.37 321 *e*P P 07 51 35.4 -15
ELSH AMS AMS 08 44 25.6
comp=Z,17µm,19.0s
CARF Carcanieres 96.40 313 *e*P **P 07 51 49.8 -0.7**
LRW Lerwick 96.57 330 *e*P P 07 51 35.4 -15
LRW AMS AMS 08 42 40.0
comp=Z,19µm,20.9s
RJF Les Rejaudoux 96.64 315⇑*i*P **P 07 51 51.3 0.0**
comp=Z,315nm,1.6s
RJF *e*R
comp=Z,22µm,22.2s
SDPT Sand Point 96.93 35 *e*P **P 07 51 50.5 -1.8**
comp=Z,140nm,0.9s
SDPT *e*PP **PP 07 55 51.1 +3.2**
MLS Moulis 97.13 313 *e*P **P 07 51 52.4 -1.2**
JMIC Jan Mayen 97.19 342 *e*P Pdif 07 51 53.3 0.0
JMIC *e*PP **PP 07 55 48.8 -0.7**
JMIC *e* 08 03 15.0
JMIC *e*SS SS 08 09 54.1 +3.3
JMIC AMS AMS 08 41 38.2
comp=Z,18µm,20.7s
JMIC Jan Mayen 97.19 342 P Pdif 07 51 55.0 +1.7
JMIC Jan Mayen 97.19 342 P Pdif 07 51 55.0 +1.7
comp=Z,11nm,0.8s,baz=108,slow=3.2,SNR=3.0
JMIC LR LR 08 41 56.1
comp=Z,25µm,21.8s,baz=248,slow=39
LFF La Frestale 97.21 315⇑*i*P Pdif 07 51 54.0 0.0
comp=Z,283nm,1.6s
LDF La Druitiere 97.44 319⇑*i*P **P 07 51 54.2 -0.7**
comp=Z,261nm,1.5s
DAG Danmarks Havn 97.66 348⇑*i*P **P 07 51 54.0 -1.2**
comp=Z,64nm,1.0s
DAG
comp=Z,34µm,20.0s
FLN La Foliniere 97.66 319⇑*i*P **P 07 51 55.2 -0.6**
comp=Z,282nm,1.5s,baz=74
FLN *e*R
comp=Z,24µm,19.0s
MFF Saint Martin d 97.67 317⇑*i*P **P 07 51 55.4 -0.5**
comp=Z,316nm,1.7s
EPF Esparros 97.67 313⇑*i*P **P 07 51 55.2 -0.9**
comp=Z,73nm,1.5s
DRUM Mains of Drumt 97.75 327 *e*P P 07 51 41.6 -14
TOA0 Torodi Ar. Sit 97.90 283 *e*P **P 07 51 56.8 -0.9**
TORD Torodi Ar. Bea 97.90 283 P **P 07 51 57.2 -0.4**
TORD PP **PP 07 55 59.0 +2.4**
TORD PKKPbc **PKKPbc 08 08 32.3 +0.6**
TORD Torodi Ar. Bea 97.90 283 P **P 07 51 57.2 -0.4**
comp=Z,17nm,1.0s,baz=82,slow=4.8,SNR=20
TORD PP **PP 07 55 59.0 +2.4**
comp=Z,10nm,1.1s,baz=90,slow=6.9,SNR=4.9
TORD PKKPbc **PKKPbc 08 08 32.3 +0.6**
comp=Z,3.9nm,1.0s,baz=302,slow=2.8,SNR=4.7
TORD LR LR 08 36 29.6
comp=Z,18µm,19.2s,baz=90,slow=36
CHGN Chignik 97.94 33 *e*P **P 07 51 55.2 -1.6**
GRR Gorron 97.95 319⇑*i*P **P 07 51 56.7 -0.5**
comp=Z,213nm,1.5s
IM04 Indian Mountai 98.12 23 *e*P **P 07 51 57.4 -0.2**
IMA2 Indian Mountai 98.13 23 *e*P **P 07 51 57.6 -0.2**
STNC Stoke 98.18 323 AMS AMS 08 47 01.3
comp=Z,17µm,18.2s
REYF Montagne du Re 98.20 313 *e*P **P 07 51 58.1 -0.4**
EDI Edinburgh 98.29 326 *e*P P 07 51 45.1 -13
EDI AMS AMS 08 47 38.2
comp=Z,17µm,20.1s
ETSF Etsaut 98.34 313⇑*i*P **P 07 51 59.1 -0.1**
comp=Z,82nm,1.4s
EKA Eskdalemuir Ar 98.38 326 P **P 07 51 58.6 -0.3**
EKA PP **PP 07 56 00.2 +1.2**
EKA PKKPbc **PKKPbc 08 08 32.0 +0.2**
EKA Eskdalemuir Ar 98.38 326 P **P 07 51 58.6 -0.3**
comp=Z,9.1nm,0.8s,baz=92,slow=4.9,SNR=8.5
EKA PP **PP 07 56 00.2 +1.2**
comp=Z,7.4nm,0.8s,baz=74,slow=7.0,SNR=4.4
EKA PKKPbc **PKKPbc 08 08 32.0 +0.2**
comp=Z,3.5nm,0.9s,baz=225,slow=2.2,SNR=3.5
ESK Eskdalemuir 98.41 326 *e*P P 07 51 45.3 -14
ESK Eskdalemuir 98.41 326 *e*P **P 07 51 58.2 -0.8**
ESK pmax pmax
comp=Z,90nm,1.3s
ESK MLR MLR
comp=Z,22µm,21.0s
ESK Eskdalemuir 98.41 326 *e*P **P 07 51 58.2 -0.8**
comp=Z,90nm,1.3s
ESK LR LR
comp=Z,22µm,21.0s
KESW Keswick, Cumbr 98.47 325 *e*P P 07 51 44.8 -15
KESW AMS AMS 08 40 15.2
comp=Z,18µm,24.5s
LARF Larrau 98.64 313 *e*P Pdif 07 52 00.5 0.0
FOEL Foel Wylfa 98.80 323 *e*P P 07 51 46.4 -14
FOEL AMS AMS 08 41 27.8
comp=Z,17µm,20.7s
SJPF Ste Jean 98.81 313⇑*i*P Pdif 07 52 01.3 +0.1
comp=Z,224nm,1.9s
MCH1 Michaelchurch 98.82 322 *e*P P 07 51 45.5 -15
MCH1 AMS AMS 08 42 42.0
comp=Z,17µm,23.4s
PGBU Glenifferbraes 99.03 326 *e*P Pdif 07 51 48.2 -14
PGBU AMS AMS 08 41 56.3
comp=Z,16µm,23.1s
SGMF Saint Gilles 99.09 319⇑*i*P **Pdif 07 52 01.6 -0.7**
comp=Z,205nm,1.6s
COLD Coldfoot 99.13 22 *e*P **Pdif 07 52 01.6 -0.5**
comp=Z,16nm,1.9s
COLD *e*PP **PP 07 55 59.3 -5.2**
GAL1 Galloway 99.34 325 *e*P Pdif 07 51 49.2 -14
GAL1 AMS AMS 08 48 14.5
comp=Z,16µm,19.8s
KPL Plockton 99.36 328 *e*P Pdif 07 51 49.1 -14
WLF1 Llynfaes 99.44 324 *e*P Pdif 07 51 50.0 -14
WLF1 AMS AMS 08 44 09.1
comp=Z,18µm,20.1s
RAR Rarotonga 99.50 112 LR LR 08 32 54.1
comp=Z,5µm,21.3s,baz=315,slow=33
QUIF Quistinic 99.55 318⇑*i*P **Pdif 07 52 03.2 -1.1**
comp=Z,118nm,1.5s
ROSF Rostrenen 99.56 319⇑*i*P **Pdif 07 52 03.7 -0.6**
comp=Z,123nm,1.5s
PPLA Purkeypile 99.60 26 *e*P **Pdif 07 52 03.6 -0.8**
comp=Z,161nm,1.5s
RSO Redoubt South 99.98 29 Pdif **Pdif 07 52 09.6 +3.4**
comp=Z,63nm,0.9s
TRF Thorofare Moun 100.27 25 *e*Pdif **Pdif 07 52 05.7 -1.6**
comp=Z,80nm,1.2s
TRF *e*PP **PP 07 56 15.1 +1.7**
OHAK Old Harbor 100.52 32 *e*Pdif **Pdif 07 52 10.2 +1.8**
comp=Z,104nm,1.4s
MCK McKinley 100.75 25 *e*P **Pdif 07 52 07.0 -2.4**
MCK pmax pmax
comp=Z,205nm,1.3s
MCK McKinley 100.75 25 *e*Pdif **Pdif 07 52 07.0 -2.4**
comp=Z,205nm,1.3s
KDAK Kodiak Island 100.75 31 *e*Pdif **Pdif 07 52 08.4 -1.0**
comp=Z,51nm,1.1s
KDAK S **SKSac 08 02 52.3 +7.1**
KDAK LR LR
comp=Z,41µm,22.0s
KDAK Kodiak Island 100.75 31 S **SKSac 08 02 52.3 +7.1**
comp=Z,35nm,1.2s,baz=46,slow=7.3,SNR=11
COLA College 100.81 24 *e*P **Pdif 07 52 08.0 -1.5**
COLA pmax pmax
comp=Z,128nm,1.1s
COLA MLR MLR
comp=Z,23µm,21.0s
COLA College 100.81 24 *e*Pdif **Pdif 07 52 08.0 -1.5**
comp=Z,128nm,1.1s
COLA LR LR
comp=Z,23µm,21.0s
ILAR Eielson Array 101.24 24 P **Pdif 07 52 09.3 -2.2**
ILAR PP **PP 07 56 15.8 -4.7**
ILAR S **SKSac 08 02 53.0 +5.6**
ILAR PKKPbc **PKKPbc 08 08 21.1 -2.9**
ILAR P'P' 08 16 37.2
ILAR Eielson Array 101.24 24 P **Pdif 07 52 09.3 -2.2**
comp=Z,0.4nm,0.6s,baz=290,slow=3.7,SNR=5.6
ILAR PP **PP 07 56 15.8 -4.7**
comp=Z,9.1nm,1.0s,baz=305,slow=8.7,SNR=4.3
ILAR S **SKSac 08 02 53.0 +5.6**
comp=Z,1.3nm,1.1s,baz=336,slow=4.2,SNR=4.7
ILAR PKKPbc **PKKPbc 08 08 21.1 -2.9**
comp=Z,23nm,1.1s,baz=144,slow=2.2,SNR=22
ILAR PKPPKP **P'P'df 08 16 37.2 -1.8**
comp=Z,1.8nm,1.1s,baz=146,slow=1.8,SNR=5.4
ESDC Sonseca Array 101.26 310 P **Pdif 07 52 11.6 -0.7**
ESDC PP PP 07 56 15.8 -5.9
ESDC PKKPbc **PKKPbc 08 08 22.8 -0.3**
ESDC Sonseca Array 101.26 310 P **Pdif 07 52 11.6 -0.7**
comp=Z,1.4nm,0.8s,baz=71,slow=4.0,SNR=11
ESDC PP PP 07 56 15.8 -5.9
comp=Z,6.6nm,1.0s,baz=75,slow=8.8,SNR=5.4
ESDC PKKPbc **PKKPbc 08 08 22.8 -0.3**
comp=Z,3.8nm,0.9s,baz=286,slow=3.2,SNR=7.0
ESLA Sonseca Array 101.26 310 *e*Pdif **Pdif 07 52 10.4 -1.8**
comp=Z,14nm,1.6s
PMR Palmer 101.35 27 *e*P **Pdif 07 52 14.2 +2.2**
PMR pmax pmax
comp=Z,53nm,1.1s
PMR Palmer 101.35 27 *e*Pdif **Pdif 07 52 14.2 +2.2**
comp=Z,53nm,1.1s
SML Sawmill 101.64 27 *e*P **Pdif 07 52 12.1 -1.3**
SML pmax pmax
comp=Z,38nm,1.3s
SML Sawmill 101.64 27 *e*Pdif **Pdif 07 52 12.1 -1.3**
comp=Z,38nm,1.3s
KIP Kipapa 102.19 69 PFAKE 07 52 30.0 +13
KIP LR LR
comp=Z,11µm,21.0s
PAX Paxson 102.48 25 *e*P **Pdif 07 52 20.1 +2.9**
PAX Paxson 102.48 25 *e*Pdif **Pdif 07 52 20.1 +2.9**
MDT Midelt 102.62 303 P **Pdif 07 52 17.5 -1.0**
MDT PP **PP 07 56 31.6 -0.5**
MDT PKKP **PKKPdf 08 08 24.1 -2.4**
MDT Midelt 102.62 303 P **Pdif 07 52 17.5 -1.0**
comp=Z,1.1nm,0.9s,baz=37,slow=4.8,SNR=2.3
MDT PP **PP 07 56 31.6 -0.5**
comp=Z,17nm,1.1s,baz=95,slow=8.8,SNR=7.8
MDT PKKP **PKKPdf 08 08 24.1 -2.4**
comp=Z,4.2nm,0.7s,baz=352,slow=1.5,SNR=8.0
PBRG Braganca 103.03 313 *e*Pdif **Pdif 07 52 19.1 -0.9**
PBRG Braganca 103.03 313 *e*PP PP 07 56 38.1 +3.3
DIV Divide 103.03 27 *e*Pdif **Pdif 07 52 19.4 -0.3**
XMAS Kiritimati 103.13 88 PFAKE 07 52 30.0 +9.0
XMAS LR LR
comp=Z,11µm,20.0s
VAL Valentia 103.22 323 *e*P **Pdif 07 52 21.1 +0.6**
VAL *e*PP **PP 07 56 33.8 -1.9**
VAL *e*S **Sdif 08 04 01.2 -3.5**
VAL *e*SS **SS 08 11 18.1 +2.4**
MENT Mentasta 103.23 25 *e*Pdif **Pdif 07 52 20.7 +0.3**
MVO Moncorvo 103.35 312 *e*Pdif **Pdif 07 52 21.2 -0.3**
MVO Moncorvo 103.35 312 *e*PP PP 07 56 40.8 +3.5
MVO Moncorvo 103.35 312 *i* P SS 08 11 37.5 +19

MVO	**Moncorvo**	**103.35**	**312**	*e*LQ	LQ	08 22 56.8	
MVO				*e*LR	LR	08 28 52.4	
	comp=Z,9μm,18.0s						
EGAK	**Eagle**	**103.48**	**23**	*e*Pdif	**Pdif**	**07 52 24.2**	**+2.8**
	comp=Z,1μm,0.9s						
EGAK				LR	LR		
	comp=Z,35μm,20.0s						
BMRM	**Bremner River**	**103.62**	**27**	*e*Pdif	**Pdif**	**07 52 21.6**	**-0.6**
	comp=Z,78nm,1.0s						
PBAR	**Barrancos**	**103.85**	**309**	*e*Pdif	**Pdif**	**07 52 22.6**	**-1.1**
PBAR	**Barrancos**	**103.85**	**309**	*e*PP	PP	07 56 43.9	+2.9
MTE	**Manteigas**	**103.87**	**311**	*e*Pdif	**Pdif**	**07 52 23.1**	**-0.7**
MTE	**Manteigas**	**103.87**	**311**	*e*PP	PP	07 56 45.2	+4.1
MTE	**Manteigas**	**103.87**	**311**	*i* P	SS	08 11 44.4	+19
MTE	**Manteigas**	**103.87**	**311**	*e*LR	LR	08 26 15.8	
	comp=Z,11μm,18.0s						
MTE	**Manteigas**	**103.87**	**311**	PFAKE		07 52 30.0	+6.2
MTE				LR	LR		
	comp=Z,13μm,21.0s						
POLO	**Lamas de Olo**	**103.88**	**312**	*e*Pdif	**Pdif**	**07 52 23.6**	**-0.3**
POLO	**Lamas de Olo**	**103.88**	**312**	*e*PP	PP	07 56 44.0	+2.7
PMRV	**Marv??o**	**103.92**	**310**	*e*Pdif	**Pdif**	**07 52 27.1**	**+3.1**
PMRV	**Marv??o**	**103.92**	**310**	*e*PP	PP	07 56 45.1	+3.6
PMRV	**Marv??o**	**103.92**	**310**	*i* P	SS	08 11 41.0	+15
PMRV	**Marv??o**	**103.92**	**310**	*e*LR	LR	08 30 27.7	
	comp=Z,10μm,18.0s						
PCAB	**Cabril**	**103.99**	**313**	*e*Pdif	**Pdif**	**07 52 30.7**	**+6.4**
BORG	**Borgarnes**	**104.03**	**338**	PFAKE		07 52 30.0	+6.1
BORG				LR	LR		
	comp=Z,17μm,20.0s						
PVIS	**Viseu**	**104.08**	**312**	*e*Pdif	**Pdif**	**07 52 31.2**	**+6.5**
PVIS	**Viseu**	**104.08**	**312**	*e*PP	PP	07 56 49.4	+6.7
PGAV	**Gavieira, Arco**	**104.12**	**313**	*e*Pdif	**Pdif**	**07 52 23.1**	**-1.9**
PGAV	**Gavieira, Arco**	**104.12**	**313**	*e*PP	PP	07 56 45.2	+2.2
PGAV	**Gavieira, Arco**	**104.12**	**313**	*i* P	SS	08 11 36.9	+7.8
PGAV	**Gavieira, Arco**	**104.12**	**313**	*e*LQ	LQ	08 23 33.4	
PGAV				*e*LR	LR	08 28 05.6	
	comp=Z,10μm,20.0s						
PESTR	**Estremoz**	**104.17**	**310**	*e*Pdif	**Pdif**	**07 52 24.4**	**-0.7**
PESTR	**Estremoz**	**104.17**	**310**	*e*PP	PP	07 56 46.7	+3.4
SHEL	**Horse Pasture**	**104.20**	**253**	PFAKE		07 52 40.0	+14
SHEL				LR	LR		
	comp=Z,42μm,19.0s						
KIC	**Kosan Boka**	**104.28**	**276**	*e*PKIKP	**Pdif**	**07 52 34.3**	**+8.2**
	comp=Z,442nm,2.3s						
INK	**Inuvik**	**104.32**	**18**	*e*Pdif	**Pdif**	**07 52 23.8**	**-1.2**
	comp=Z,50nm,1.3s						
INK				PKKPbc	**PKKPbc**	**08 08 11.3**	**-3.5**
INK	**Inuvik**	**104.32**	**18**	PKKPbc	PKKPbc	08 08 11.3	-3.5
	comp=Z,6.3nm,0.9s,baz=172,slow=3.5,SNR=4.6						
RTC	**Rabat Centre**	**104.33**	**305**	PFAKE		07 52 40.0	+14
RTC				LR	LR		
	comp=Z,11μm,20.0s						
SUMG	**Summit**	**104.35**	**348**	*e*P	**Pdif**	**07 52 24.7**	**-0.9**
SUMG				pmax	pmax		
	comp=Z,189nm,1.8s						
SUMG	**Summit**	**104.35**	**348**	*i* P	**Pdif**	**07 52 25.6**	**0.0**
	comp=Z,20nm,0.8s						
SUMG							
	comp=Z,35μm,21.0s						
SUMG	**Summit**	**104.35**	**348**	*i* P	**PKKPbc**	**08 08 13.2**	**-2.2**
	comp=Z,12nm,1.1s						
SUMG	**Summit**	**104.35**	**348**	*e*Pdif	**Pdif**	**07 52 24.7**	**-0.9**
	comp=Z,189nm,1.8s						
DBIC	**Dimbokro**	**104.39**	**276**	Pdif	**Pdif**	**07 52 29.7**	**+3.1**
DBIC	**Dimbokro**	**104.39**	**276**	Pdiff	**Pdif**	**07 52 29.7**	**+3.1**
	comp=Z,5.8nm,0.9s,baz=121,slow=5.9,SNR=3.4						
DAWY	**Dawson**	**104.49**	**23**	*e*Pdif	**Pdif**	**07 52 25.2**	**-0.8**
PVAQ	**Vaqueiros**	**104.51**	**308**	*e*Pdif	**Pdif**	**07 52 25.4**	**-1.2**
PVAQ	**Vaqueiros**	**104.51**	**308**	*e*PP	PP	07 56 49.2	+3.3
PVAQ	**Vaqueiros**	**104.51**	**308**	*i* P	SS	08 11 44.2	+10
PVAQ	**Vaqueiros**	**104.51**	**308**	*e*LR	LR	08 29 40.3	
	comp=Z,9μm,18.0s						
PBEJ	**Beja**	**104.52**	**309**	*e*Pdif	**Pdif**	**07 52 34.4**	**+7.7**
PBEJ	**Beja**	**104.52**	**309**	*e*PP	PP	07 56 46.6	+0.6
EVO	**Evora**	**104.55**	**309**	*e*P	**Pdif**	**07 52 25.7**	**-1.1**
	comp=Z,53nm,1.6s						
EVO				*e*R			
	comp=Z,18μm,21.8s						
EVO	**Evora**	**104.55**	**309**	*e*Pdif	**Pdif**	**07 52 27.2**	**+0.4**
EVO	**Evora**	**104.55**	**309**	*e*PP	PP	07 56 48.2	+2.0
TIC	**Toumodi**	**104.55**	**276**	*e*PKIKP	**Pdif**	**07 52 34.6**	**+7.3**
	comp=Z,29nm,0.8s						
LIC	**Lamto**	**104.56**	**276**	*e*P	**Pdif**	**07 52 26.5**	**-0.9**
	comp=Z,18nm,1.0s						
LIC				*e*R			
	comp=Z,24μm,22.2s						
LIC	**Lamto**	**104.56**	**276**	*e*PKIKP	**Pdif**	**07 52 34.5**	**+7.1**
	comp=Z,61nm,1.6s						
PMTG	**Montargil**	**104.62**	**310**	*e*Pdif	**Pdif**	**07 52 26.5**	**-0.6**
PMTG	**Montargil**	**104.62**	**310**	*e*PP	PP	07 56 50.5	+3.8
PCAS	**Casmilo, Conde**	**104.65**	**311**	*e*Pdif	**Pdif**	**07 52 30.4**	**+3.2**
PCAS	**Casmilo, Conde**	**104.65**	**311**	*e*PP	PP	07 56 51.3	+4.4
PTOM	**Tomar**	**104.66**	**311**	*e*Pdif	**Pdif**	**07 52 25.9**	**-1.4**
PTOM	**Tomar**	**104.66**	**311**	*e*PP	PP	07 56 53.0	+6.0
PBDV	**Barranco-do-Ve**	**104.70**	**308**	*e*Pdif	**Pdif**	**07 52 26.0**	**-1.5**
PBDV	**Barranco-do-Ve**	**104.70**	**308**	*e*PP	PP	07 56 54.2	+6.8
PNCL	**Nicolau / Gran**	**105.02**	**309**	*e*Pdif	**Pdif**	**07 52 32.6**	**+3.7**
PNCL	**Nicolau / Gran**	**105.02**	**309**	*e*PP	PP	07 56 49.9	+0.2
PACT	**Alcochete**	**105.14**	**310**	*e*Pdif	**Pdif**	**07 52 35.6**	**+6.2**
PACT	**Alcochete**	**105.14**	**310**	*e*PP	PP	07 56 55.3	+4.8
MORF	**Marmelete**	**105.26**	**308**	*e*P	**Pdif**	**07 52 29.9**	**-0.1**
MORF				*e*		07 56 50.8	
MORF	**Marmelete**	**105.26**	**308**	*e*Pdif	**Pdif**	**07 52 35.4**	**+5.4**
MORF	**Marmelete**	**105.26**	**308**	*e*PP	PP	07 56 58.3	+6.8
PTEO	**Sao Teotonio**	**105.27**	**308**	*e*Pdif	**Pdif**	**07 52 30.9**	**+0.9**
PTEO	**Sao Teotonio**	**105.27**	**308**	*e*PP	PP	07 56 49.9	-1.7
LIS	**Lisbon**	**105.39**	**310**	*e*P	**Pdif**	**07 52 30.1**	**-0.4**
LIS				*e*PP	**PP**	**07 56 52.1**	**-0.2**
LIS				AMS	AMS	08 58 20.9	
	comp=N,15μm,23.3s						
LIS	**Lisbon**	**105.39**	**310**	*e*P	**Pdif**	**07 52 30.1**	**-0.4**
LIS				*e*		07 56 52.2	
PMST	**Lisbon--Monsan**	**105.42**	**310**	*e*Pdif	**Pdif**	**07 52 37.8**	**+7.2**
PMST	**Lisbon--Monsan**	**105.42**	**310**	*e*PP	PP	07 56 53.2	+0.6
PFVI	**Vila Bisbo**	**105.43**	**308**	*e*Pdif	**Pdif**	**07 52 33.4**	**+2.7**
PFVI	**Vila Bisbo**	**105.43**	**308**	*e*PP	PP	07 56 59.9	+7.2
PMAFR	**Mafra**	**105.45**	**310**	*e*Pdif	**Pdif**	**07 52 32.9**	**+2.1**
PMAFR	**Mafra**	**105.45**	**310**	*e*PP	PP	07 56 53.3	+0.5
TRIS	**Tristan da Cun**	**106.34**	**231**	PFAKE		07 57 00.0	
TRIS				LR	LR		
	comp=Z,22μm,20.0s						
HYT	**Haines Junctio**	**106.81**	**25**	Pdif	**Pdif**	**07 52 38.3**	**+1.8**
TBI	**Tubuai**	**108.69**	**115**	*e*Pdif	**Pdif**	**07 52 44.4**	**-1.1**
	comp=Z,951nm,26.5s						
TBI	**Tubuai**	**108.69**	**115**	*e*SKSac	**SKSac**	**08 03 19.4**	**-3.4**
	comp=Z,9μm,27.2s						
TBI				*e*Sdif	**Sdif**	**08 05 00.6**	**+9.0**
	comp=Z,10μm,29.2s						
TBI				*e*SP	**SP**	**08 06 33.5**	**-4.5**
	comp=Z,13μm,32.0s						
TBI				*e*SS	**SS**	**08 12 30.9**	**-1.1**
	comp=Z,15μm,26.5s						
TBI	**Tubuai**	**108.69**	**115**	*e*LR	LR	08 28 52.1	
	comp=Z,45μm,30.5s						
PPT2	**Papeete2**	**109.48**	**109**	*e*Pdif	**Pdif**	**07 52 48.0**	**-1.2**
	comp=Z,1μm,26.0s						
PPT2	**Papeete2**	**109.48**	**109**	*e*PP	PP	07 57 20.1	-3.0
	comp=Z,6μm,28.0s						
PPT2				*e*Sdif	Sdif	08 04 59.0	+0.5
	comp=Z,11μm,26.8s						
PPT2				*e*SP	**SP**	**08 06 42.1**	**-4.4**
	comp=Z,11μm,24.5s						
PPT2	**Papeete2**	**109.48**	**109**	*e*LR	LR	08 28 59.4	
	comp=Z,60μm,24.2s						
DLBC	**Dease Lake**	**111.30**	**25**	*e*PKPdf	**PKiKP**	**07 56 54.2**	**-0.6**
DLBC				PKKPbc	**PKKPbc**	**08 07 51.0**	**-1.8**
DLBC	**Dease Lake**	**111.30**	**25**	PKKPbc	PKKPbc	08 07 51.0	-1.8
	comp=Z,9.3nm,1.1s,baz=96,slow=6.5,SNR=3.6						
SFJD	**Kangerlussuaq**	**111.34**	**348**	*e*PKPdf	PKiKP	07 56 46.4	-8.2
SFJD				*e*PP	**PP**	**07 57 30.7**	**-3.9**
SFJD				LR	LR		
	comp=Z,22μm,19.0s						
WRAK	**Wrangell Islan**	**111.38**	**28**	*e*PKPdf	**PKiKP**	**07 56 57.4**	**+2.5**
WRAK				LR	LR		
	comp=Z,20μm,20.0s						
CRAG	**Craig**	**111.52**	**29**	*e*PKPdf	PKiKP	07 57 00.4	+5.3
PMSA	**Palmer Station**	**112.82**	**188**	*e*PKPdf	**PKiKP**	**07 57 01.3**	**+3.9**
PMSA				PKKPbc	**PKKPbc**	**08 07 48.3**	**+0.5**
PMSA				LR	LR		
	comp=Z,26μm,21.0s						
PMSA	**Palmer Station**	**112.82**	**188**	PKKPbc	PKKPbc	08 07 48.3	+0.5
	comp=Z,6.0nm,0.9s,baz=329,slow=4.7,SNR=5.5						
ASCN	**Ascension**	**113.36**	**261**	PFAKE		07 57 10.0	
ASCN				LR	LR		
	comp=Z,8μm,20.0s						
YKW3	**Yellowknife Ar**	**113.96**	**17**	*e*PKPdf	**PKiKP**	**07 56 56.0**	**-3.6**
YKW3				*e*PP	**PP**	**07 57 49.8**	**-3.5**
YKA	**Yellowknife Ar**	**114.02**	**17**	Pdif	**Pdif**	**07 53 12.7**	**+4.4**
YKA				PKiKP	PKPdf	07 56 58.8	-1.0
YKA				PP	**PP**	**07 57 51.1**	**-2.6**
YKA				PKKPbc	**PKKPbc**	**08 07 41.4**	**-2.3**
YKA	**Yellowknife Ar**	**114.02**	**17**	Pdiff	**Pdif**	**07 53 12.7**	**+4.4**
	comp=Z,1.7nm,0.8s,baz=327,slow=4.3,SNR=6.0						
YKA				PKiKP	PKPdf	07 56 58.8	-1.0
	comp=Z,8.8nm,0.9s,baz=323,slow=2.4,SNR=11						
YKA				PP	**PP**	**07 57 51.1**	**-2.6**
	comp=Z,2.9nm,0.7s,baz=325,slow=7.1,SNR=5.5						
YKA				PKKPbc	**PKKPbc**	**08 07 41.4**	**-2.3**
	comp=Z,12nm,1.0s,baz=140,slow=3.1,SNR=9.9						
BBTS	**Babate**	**115.50**	**285**	PKP	**PKPdf**	**07 57 07.2**	**+3.2**
BBTS	**Babate**	**115.50**	**285**	PKP	**PKPdf**	**07 57 07.2**	**+3.2**
	comp=Z,18nm,0.5s,baz=65,slow=4.4,SNR=4.6						
BBB	**Bella Bella**	**115.80**	**30**	PKKPab	PKKPab	08 07 43.1	+2.2
BBB	**Bella Bella**	**115.80**	**30**	PKKPab	PKKPab	08 07 43.1	+2.2
	comp=Z,14nm,1.2s,baz=141,slow=7.2,SNR=3.3						
BART	**Pico Bartolome**	**117.75**	**313**	*e*PKP	**PKPdf**	**07 57 11.2**	**+3.4**
BART	**Pico Bartolome**	**117.75**	**313**	*e*PP	PP	07 58 20.8	-0.3
PSMN	**Pico do Norte,**	**117.96**	**312**	*e*PKP	**PKPdf**	**07 57 07.9**	**-0.3**
PSMN	**Pico do Norte,**	**117.96**	**312**	*e*PP	PP	07 58 20.0	-2.4
CMLA	**Cha da Macela**	**118.02**	**313**	*e*PKP	**PKPdf**	**07 57 08.7**	**+0.4**
CMLA	**Cha da Macela**	**118.02**	**313**	*e*PP	PP	07 58 22.0	-0.8
CMLA	**Cha da Macela**	**118.02**	**313**	PFAKE		07 57 20.0	+12
CMLA				LR	LR		
	comp=Z,14μm,19.0s						
PSET	**Sete Cidades**	**118.14**	**313**	*e*PP	PP	07 58 23.1	-0.6
PGRA	**Graciosa**	**119.30**	**315**	*e*PP	PP	07 58 29.5	-2.0
PMAN	**Manadas**	**119.54**	**314**	*e*PKP	**PKPdf**	**07 57 06.7**	**-4.4**
PMAN	**Manadas**	**119.54**	**314**	*e*PP	PP	07 58 34.9	+1.7
ROSA	**Rosais**	**119.61**	**315**	*e*PP	PP	07 58 28.3	-5.4
PGC	**Sidney**	**120.30**	**32**	*e*PKPdf	**PKPdf**	**07 57 12.2**	**-0.1**
PGC				*e*PP	**PP**	**07 58 42.6**	**+4.7**
NLWA	**Neilton Lookou**	**120.84**	**33**	*e*PKPdf	**PKPdf**	**07 57 12.6**	**-0.8**
NLWA				LR	LR		
	comp=Z,22μm,21.0s						
MBW	**Mount Baker**	**121.02**	**31**	P	**PKPdf**	**07 57 13.6**	**-0.4**
JCW	**Jim Creek**	**121.38**	**31**	P	**PKPdf**	**07 57 14.3**	**-0.1**
RKT	**Rikitea**	**121.69**	**118**	*e*PP	PP	07 58 41.7	-6.8
	comp=Z,2μm,26.8s						
RKT				*e*SP	SP	08 08 32.5	-5.1
	comp=Z,10μm,27.0s						
RKT				*e*SS	**SS**	**08 15 21.8**	**-0.8**
	comp=Z,21μm,29.2s						
RKT	**Rikitea**	**121.69**	**118**	*e*LR	LR	08 34 48.2	
	comp=Z,67μm,26.2s						
EDM	**Edmonton**	**121.70**	**23**	*e*PKIKP	**PKPdf**	**07 57 14.2**	**-0.7**
EDM	**Edmonton**	**121.70**	**23**	*e*PKPdf	**PKPdf**	**07 57 14.2**	**-0.7**
FCC	**Fort Churchill**	**121.88**	**8**	*e*PKIKP	**PKPdf**	**07 57 12.6**	**-2.4**
FCC				*e*		07 58 47.5	
FCC	**Fort Churchill**	**121.88**	**8**	*e*PKPdf	**PKPdf**	**07 57 12.6**	**-2.4**
FCC				*e*PP	**PP**	**07 58 47.5**	**-0.5**
RVC	**Mount Rainier-**	**122.14**	**32**	P	**PKPdf**	**07 57 16.0**	**0.0**
SACV	**Santiago Islan**	**122.26**	**287**	*e*PKPdf	**PKPdf**	**07 57 17.0**	**+0.1**
SACV				LR	LR		
	comp=Z,11μm,21.0s						
LON	**Longmire**	**122.35**	**32**	*e*PKIKP	**PKPdf**	**07 57 15.5**	**-0.9**
LON	**Longmire**	**122.35**	**32**	*e*PKPdf	**PKPdf**	**07 57 15.5**	**-0.9**
TDL	**Tradedollar La**	**122.38**	**33**	P	**PKPdf**	**07 57 16.8**	**+0.3**
WPW	**White Pass**	**122.52**	**32**	P	**PKPdf**	**07 57 16.9**	**+0.1**
ETW	**Entiat**	**122.58**	**31**	P	**PKPdf**	**07 57 16.3**	**-0.6**
COR	**Corvallis**	**122.83**	**35**	*e*PKIKP	**PKPdf**	**07 57 17.0**	**-0.2**
COR				*e*		07 58 53.8	
COR	**Corvallis**	**122.83**	**35**	*e*PKPdf	**PKPdf**	**07 57 17.0**	**-0.2**
COR				*e*PP	**PP**	**07 58 53.8**	**-1.5**
VLMM	**Larch Mountain**	**122.98**	**34**	P	**PKPdf**	**07 57 18.3**	**+0.6**
USHA	**Ushuaia**	**123.01**	**188**	PKP	**PKPdf**	**07 57 17.8**	**+0.5**
USHA	**Ushuaia**	**123.01**	**188**	PKP	**PKPdf**	**07 57 17.8**	**+0.5**
	comp=Z,57nm,1.1s,baz=8.3,slow=2.5,SNR=5.9						
KEBM	**Edson Butte**	**123.21**	**37**	*e*PKPdf	**PKPdf**	**07 57 18.5**	**+0.3**
VLL	**Laurence Lake**	**123.22**	**34**	P	**PKPdf**	**07 57 18.8**	**+0.6**
VFP	**Flag Point**	**123.43**	**34**	P	**PKPdf**	**07 57 18.8**	**+0.1**
OD2	**Odessa Site #2**	**123.55**	**30**	P	**PKPdf**	**07 57 18.2**	**-0.5**
KBO	**Bosley Butte**	**123.64**	**38**	*e*PKPdf	**PKPdf**	**07 57 18.0**	**-1.1**
NEW	**Newport**	**123.73**	**29**	*e*PKPdf	**PKPdf**	**07 57 17.8**	**-1.2**
NEW				*e*PP	**PP**	**07 58 59.2**	**-2.0**
NEW				PKKPbc	**PKKPbc**	**08 07 09.0**	**+1.1**
NEW				LR	LR		
	comp=Z,24μm,22.0s						
NEW	**Newport**	**123.73**	**29**	PKKPbc	PKKPbc	08 07 09.0	+1.1
	comp=Z,5.8nm,1.0s,baz=166,slow=3.5,SNR=5.4						
NEW	**Newport**	**123.73**	**29**	⇓PKPdf	**PKPdf**	**07 57 18.3**	**-0.7**
	baz=124						
NEW	**Newport**	**123.73**	**29**	⇓PKPdf	**PKPdf**	**07 57 18.3**	**-0.7**
	baz=124						
EFI	**East Falkland**	**123.73**	**197**	PFAKE		07 57 30.0	+11
EFI				LR	LR		
	comp=Z,12μm,19.0s						
FFC	**Flin Flon**	**124.09**	**15**	*e*PKIKP	**PKPdf**	**07 57 18.8**	**-0.6**
FFC				*e*		07 59 00.2	
FFC				MLR	MLR		
	comp=Z,16μm,22.0s						
FFC	**Flin Flon**	**124.09**	**15**	*e*PKPdf	**PKPdf**	**07 57 18.8**	**-0.6**
FFC				*e*PP	**PP**	**07 59 00.2**	**-2.9**
FFC				LR	LR		
	comp=Z,16μm,22.0s						
HUMO	**Hull Mountain**	**124.19**	**37**	*e*PKPdf	**PKPdf**	**07 57 16.8**	**-3.2**
HUMO				*e*PP	**PP**	**07 59 07.5**	**+3.0**
KRMB	**Red Mountain**	**124.23**	**39**	PKPdf	**PKPdf**	**07 57 19.8**	**-0.4**
KRMB				*e*PP	**PP**	**07 58 60.0**	**-5.0**
WALA	**Waterton Lakes**	**124.63**	**26**	*e*PKPdf	**PKPdf**	**07 57 19.0**	**-1.8**
WALA				*e*PP	**PP**	**07 59 03.0**	**-4.3**
KHMM	**Horse Mountain**	**124.70**	**39**	*e*PKPdf	**PKPdf**	**07 57 21.6**	**+0.4**
YBH	**Yreka Blue Hor**	**124.85**	**38**	*e*PKPdf	**PKPdf**	**07 57 18.5**	**-2.9**
YBH				*e*PP	**PP**	**07 59 12.9**	**+3.9**
BSMT	**Bassoo Peak**	**125.12**	**28**	*e*PKPdf	**PKPdf**	**07 57 21.2**	**-0.6**
BSMT				*e*PP	**PP**	**07 59 11.4**	**+0.7**
BLMT	**Blacktail Moun**	**125.20**	**27**	*e*PKPdf	**PKPdf**	**07 57 21.6**	**-0.4**
JTMT	**Jette**	**125.43**	**27**	*e*PKPdf	**PKPdf**	**07 57 22.1**	**-0.3**
KIPM	**Iron Peak**	**125.44**	**40**	*e*PKPdf	**PKPdf**	**07 57 22.3**	**-0.3**
KCPM	**Cahto Peak**	**125.45**	**40**	*e*PKPdf	**PKPdf**	**07 57 22.0**	**-0.6**
YBMT	**Yellow Bay**	**125.47**	**27**	*e*PKPdf	**PKPdf**	**07 57 22.1**	**-0.4**
WDC	**Whiskeytown Da**	**125.61**	**39**	*e*PKIKP	**PKPdf**	**07 57 21.3**	**-1.4**
WDC	**Whiskeytown Da**	**125.61**	**39**	*e*PKPdf	**PKPdf**	**07 57 21.3**	**-1.4**
SCHQ	**Schefferville**	**125.64**	**350**	*e*PKPdf	**PKPdf**	**07 57 20.5**	**-1.8**
SCHQ				PKP	**PKPdf**	**07 57 21.9**	**-0.4**
SCHQ				PP	**PP**	**07 59 14.2**	**+0.8**
SCHQ				PP	PP	07 59 23.4	+10
SCHQ	**Schefferville**	**125.64**	**350**	PKP	**PKPdf**	**07 57 21.9**	**-0.4**
	comp=Z,46nm,0.8s,baz=39,slow=3.0,SNR=19						
SCHQ				PP	PP	07 59 23.4	+10
	comp=Z,52nm,1.0s,baz=12,slow=9.0,SNR=4.8						
SWMT	**Swartz Lake**	**125.74**	**27**	*e*PKPdf	**PKPdf**	**07 57 22.0**	**-1.0**
BMO	**Blue Mountains**	**125.98**	**32**	*e*PKIKP	**PKPdf**	**07 57 22.0**	**-1.5**
BMO				MLR	MLR		
	comp=Z,22μm,20.0s						
BMO	**Blue Mountains**	**125.98**	**32**	*e*PKPdf	**PKPdf**	**07 57 22.0**	**-1.5**
BMO				*e*PP	**PP**	**07 59 14.9**	**-1.5**
BMO				LR	LR		
	comp=Z,22μm,20.0s						
A17A	**Triple J Farms**	**126.08**	**24**	⇓PKPdf	**PKPdf**	**07 57 22.8**	**-0.7**
	baz=126						
A17A				⇑SKSdf	**SKSdf**	**08 04 30.7**	**-1.6**
	baz=126						
A17A				⇑SKSdf	**SKSdf**	**08 04 30.7**	**-1.6**
	baz=126						
A17A				⇑SKSdf	**SKSdf**	**08 04 30.7**	**-1.6**
	baz=126						
A17A	**Triple J Farms**	**126.08**	**24**	⇓PKPdf	**PKPdf**	**07 57 22.8**	**-0.7**
	baz=126						
A17A				⇑SKSdf	**SKSdf**	**08 04 30.7**	**-1.6**
	baz=126						
HOPS	**Hopland**	**126.16**	**41**	*e*PKPdf	**PKPdf**	**07 57 24.6**	**+0.7**
SLMT	**Seeley Lake**	**126.17**	**27**	*e*PKPdf	**PKPdf**	**07 57 22.8**	**-1.0**
MSO	**Missoula**	**126.26**	**28**	⇓PKPdf	**PKPdf**	**07 57 22.9**	**-1.0**
	baz=126						
MSO	**Missoula**	**126.26**	**28**	⇓PKPdf	**PKPdf**	**07 57 22.9**	**-1.0**
	baz=126						
A18A	**Metzger Ranch,**	**126.45**	**24**	⇓PKPdf	**PKPdf**	**07 57 23.6**	**-0.6**
	baz=126						
A18A	**Metzger Ranch,**	**126.45**	**24**	⇓PKPdf	**PKPdf**	**07 57 23.6**	**-0.6**
	baz=126						
CHMT	**Chamberlain Mo**	**126.52**	**27**	*e*PKPdf	**PKPdf**	**07 57 23.7**	**-0.9**
B17A	**L&G Farms, Che**	**126.55**	**25**	⇑PKPdf	**PKPdf**	**07 57 23.6**	**-0.8**
	baz=126						
B17A	**L&G Farms, Che**	**126.55**	**25**	⇑PKPdf	**PKPdf**	**07 57 23.6**	**-0.8**
	baz=126						
MCCM	**Marconi Confer**	**126.74**	**42**	*e*PKPdf	**PKPdf**	**07 57 25.6**	**+0.6**
WVOR	**Wild Horse Val**	**126.83**	**35**	*e*PKIKP	**PKPdf**	**07 57 25.2**	**0.0**
WVOR				*e*		07 59 20.6	
WVOR				MLR	MLR		
	comp=Z,16μm,21.0s						
WVOR	**Wild Horse Val**	**126.83**	**35**	*e*PKPdf	**PKPdf**	**07 57 25.2**	**0.0**
WVOR				*e*PP	**PP**	**07 59 20.6**	**-1.6**
WVOR				*e*SKPdf	SKPdf	08 00 41.7	-16
WVOR				LR	LR		
	comp=Z,16μm,21.0s						
A19A	**Klindworth Far**	**126.88**	**23**	⇑PKPdf	**PKPdf**	**07 57 24.3**	**-0.8**
	baz=127						
A19A	**Klindworth Far**	**126.88**	**23**	⇑PKPdf	**PKPdf**	**07 57 24.3**	**-0.8**
	baz=127						
B18A	**Beardsley Farm**	**126.89**	**24**	⇓PKPdf	**PKPdf**	**07 57 24.5**	**-0.6**
	baz=127						
B18A	**Beardsley Farm**	**126.89**	**24**	⇓PKPdf	**PKPdf**	**07 57 24.5**	**-0.6**
	baz=127						
C17A	**Wharram Farm,**	**127.08**	**25**	⇓PKPdf	**PKPdf**	**07 57 24.7**	**-0.8**
	baz=127						
C17A	**Wharram Farm,**	**127.08**	**25**	⇓PKPdf	**PKPdf**	**07 57 24.7**	**-0.8**
	baz=127						
B19A	**Brinkman Farms**	**127.18**	**23**	⇓PKPdf	**PKPdf**	**07 57 25.0**	**-0.6**
	baz=127						
B19A	**Brinkman Farms**	**127.18**	**23**	⇓PKPdf	**PKPdf**	**07 57 25.0**	**-0.6**
	baz=127						
EGMT	**Eagleton**	**127.20**	**24**	*e*PKPdf	**PKPdf**	**07 57 25.6**	**0.0**
EGMT				*e*PP	PP	07 59 31.1	+6.9
EGMT				LR	LR		
	comp=Z,26μm,20.0s						
EGMT	**Eagleton**	**127.20**	**24**	⇑PKPdf	**PKPdf**	**07 57 25.3**	**-0.4**
	baz=127						
EGMT	**Eagleton**	**127.20**	**24**	⇑PKPdf	**PKPdf**	**07 57 25.3**	**-0.4**
	baz=127						
A20A	**Cobblestone Ra**	**127.23**	**22**	⇑PKPdf	**PKPdf**	**07 57 25.1**	**-0.6**
	baz=127						
A20A	**Cobblestone Ra**	**127.23**	**22**	⇑PKPdf	**PKPdf**	**07 57 25.1**	**-0.6**
	baz=127						
HRY	**Holter Researc**	**127.32**	**27**	*e*PKPdf	**PKPdf**	**07 57 25.6**	**-0.3**
HRY				*e*PP	**PP**	**07 59 23.8**	**-1.3**
SAC	**San Andreas**	**127.36**	**42**	*e*PKIKP	**PKPdf**	**07 57 26.0**	**-0.1**
SAC	**San Andreas**	**127.36**	**42**	*e*PKPdf	**PKPdf**	**07 57 26.0**	**-0.1**
SAC				*e*SKPdf	**SKPdf**	**08 00 58.1**	**-0.4**
BEKR	**Beckworth**	**127.39**	**38**	*e*PKPdf	**PKPdf**	**07 57 25.3**	**-1.1**

A25A	Svangstu Ranch	128.89	19	⇓PKPdf	PKPdf	07 57 28.9	+0.1
	baz=129						
A25A	Svangstu Ranch	128.89	19	⇓PKPdf	PKPdf	07 57 28.9	+0.1
	baz=129						
QLMT	Earthquake Lak	128.92	28	ePKPdf	PKPdf	07 57 30.1	+0.8
DGMT	Dagmar	128.93	20	ePKPdf	PKPdf	07 57 27.6	-1.3
DGMT				ePP	PP	07 59 35.2	-0.1
DGMT				eSKPdf	SKPdf	08 00 49.2	-12
DGMT				LR	LR		
	comp=Z,36µm,21.0s						
DGMT	Dagmar	128.93	20	⇓PKPdf	PKPdf	07 57 28.8	-0.1
	baz=129						
DGMT	Dagmar	128.93	20	⇓PKPdf	PKPdf	07 57 28.8	-0.1
	baz=129						
BMN	Battle Mountai	128.93	36	ePKIKP	PKPdf	07 57 27.5	-1.8
BMN				e		07 59 41.4	
BMN				MLR	MLR		
	comp=Z,17µm,21.0s						
BMN	Battle Mountai	128.93	36	ePKPdf	PKPdf	07 57 27.5	-1.8
BMN				ePP	PP	07 59 41.4	+5.3
BMN				LR	LR		
	comp=Z,17µm,21.0s						
C22A	Vida	128.94	22	⇑PKPdf	PKPdf	07 57 29.0	0.0
	baz=129						
C22A	Vida	128.94	22	⇑PKPdf	PKPdf	07 57 29.0	0.0
	baz=129						
GCMT	Greycliff	128.99	26	ePKPdf	PKPdf	07 57 29.8	+0.6
E20A	Meyer Farm, Mu	129.08	24	⇑PKPdf	PKPdf	07 57 29.3	0.0
	baz=129						
E20A	Meyer Farm, Mu	129.08	24	⇑PKPdf	PKPdf	07 57 29.3	0.0
	baz=129						
D21A	La Casta Ranch	129.08	23	⇓PKPdf	PKPdf	07 57 29.3	0.0
	baz=129						
D21A	La Casta Ranch	129.08	23	⇓PKPdf	PKPdf	07 57 29.3	0.0
	baz=129						
H16A	Russell Place,	129.10	28	⇓PKPdf	PKPdf	07 57 29.6	0.0
	baz=129						
H16A	Russell Place,	129.10	28	⇓PKPdf	PKPdf	07 57 29.6	0.0
	baz=129						
C23A	Lambert	129.15	21	⇓PKPdf	PKPdf	07 57 29.6	+0.2
	baz=129						
C23A	Lambert	129.15	21	⇓PKPdf	PKPdf	07 57 29.6	+0.2
	baz=129						
F19A	Roth Farm, Mol	129.25	25	⇑PKPdf	PKPdf	07 57 29.1	-0.6
	baz=129						
F19A	Roth Farm, Mol	129.25	25	⇑PKPdf	PKPdf	07 57 29.1	-0.6
	baz=129						
YMR	Madison River	129.26	28	ePKPdf	PKPdf	07 57 29.1	-0.8
YMR				eSKPdf	SKPbc	08 00 55.0	+6.6
A26A	Wade Farm, Ken	129.26	18	⇓PKPdf	PKPdf	07 57 29.4	-0.1
	baz=129						
A26A	Wade Farm, Ken	129.26	18	⇓PKPdf	PKPdf	07 57 29.4	-0.1
	baz=129						
D22A	Cohagen	129.32	22	⇑PKPdf	PKPdf	07 57 29.9	+0.2
	baz=129						
D22A	Cohagen	129.32	22	⇑PKPdf	PKPdf	07 57 29.9	+0.2
	baz=129						
YNR	Norris Junctio	129.36	28	ePKPdf	PKPdf	07 57 30.5	+0.3
YNR				ePP	PP	07 59 41.8	+3.1
YNR				eSKPdf	SKPbc	08 00 55.1	+6.3
G18A	Lazy EL Ranch,	129.40	26	⇓PKPdf	PKPdf	07 57 30.1	0.0
	baz=129						
G18A	Lazy EL Ranch,	129.40	26	⇓PKPdf	PKPdf	07 57 30.1	0.0
	baz=129						
B25A	Knox Farm, Ray	129.45	19	⇑PKPdf	PKPdf	07 57 30.2	+0.3
	baz=129						
B25A	Knox Farm, Ray	129.45	19	⇑PKPdf	PKPdf	07 57 30.2	+0.3
	baz=129						
E21A	Keefer Ranch,	129.47	24	⇓PKPdf	PKPdf	07 57 30.2	+0.2
	baz=129						
E21A	Keefer Ranch,	129.47	24	⇓PKPdf	PKPdf	07 57 30.2	+0.2
	baz=129						
YFT	Old Faithful	129.49	28	ePKPdf	PKPdf	07 57 28.8	-1.6
YFT				ePP	PP	07 59 50.8	+11
NVAR	Mina Array Bea	129.53	39	PKP	PKPdf	07 57 31.4	+0.8
NVAR				PP	PP	07 59 44.4	+4.2
NVAR				SKPbc	SKPbc	08 00 55.6	+6.1
NVAR				PKKP	PKKPdf	08 07 39.3	+3.4
NVAR				SKKPbc	SKKPbc	08 10 32.0	-3.2
NVAR	Mina Array Bea	129.53	39	PKhKP	PKPpre	07 57 20.8	
	comp=Z,2.1nm,0.8s,baz=258,slow=4.0,SNR=5.2						
NVAR				PKP	PKPdf	07 57 31.4	+0.8
	comp=Z,14nm,0.9s,baz=290,slow=2.1,SNR=22						
NVAR				PP	PP	07 59 44.4	+4.2
	comp=Z,5.9nm,0.8s,baz=279,slow=4.7,SNR=4.2						
NVAR				SKPbc	SKPbc	08 00 55.6	+6.1
	comp=Z,48nm,1.2s,baz=264,slow=4.0,SNR=6.9						
NVAR				PKKP	PKKPdf	08 07 39.3	+3.4
	comp=Z,9.5nm,1.3s,baz=204,slow=3.6,SNR=3.8						
NVAR				SKKPbc	SKKPbc	08 10 32.0	-3.2
	comp=Z,6.8nm,1.1s,baz=116,slow=4.1,SNR=4.0						
LKWY	Lake	129.60	28	ePKIKP	PKPdf	07 57 32.5	+1.9
LKWY				e		07 59 36.6	
LKWY				MLR	MLR		
	comp=Z,50µm,20.0s						
LKWY	Lake	129.60	28	ePKPdf	PKPdf	07 57 32.5	+1.9
LKWY				ePP	PP	07 59 36.6	-3.7
LKWY				LR	LR		
	comp=Z,50µm,20.0s						
I16A	Newdale	129.61	29	⇓PKPdf	PKPdf	07 57 30.3	-0.2
	baz=130						
I16A	Newdale	129.61	29	⇓PKPdf	PKPdf	07 57 30.3	-0.2
	baz=130						
NV11	Mina Array Sit	129.62	38	ePKPdf	PKPdf	07 57 27.4	-3.3
NV11				eSKPdf	SKPbc	08 00 55.2	+5.5
F20A	Billings	129.63	25	⇑PKPdf	PKPdf	07 57 30.5	+0.1
	baz=130						
F20A	Billings	129.63	25	⇑PKPdf	PKPdf	07 57 30.5	+0.1
	baz=130						
C24A	Savage	129.65	21	⇓PKPdf	PKPdf	07 57 30.5	+0.2
	baz=130						
C24A	Savage	129.65	21	⇓PKPdf	PKPdf	07 57 30.5	+0.2
	baz=130						
H17A	Grant Village	129.65	28	ePKPdf	PKPdf	07 57 28.8	-1.9
H17A				ePP	PP	07 59 49.1	+8.5
H17A	Grant Village	129.65	28	⇑PKPdf	PKPdf	07 57 31.0	+0.3
	baz=130						
H17A	Grant Village	129.65	28	⇑PKPdf	PKPdf	07 57 31.0	+0.3
	baz=130						
B26A	Jensen Ranch,	129.66	19	⇑PKPdf	PKPdf	07 57 30.3	0.0
	baz=130						
B26A	Jensen Ranch,	129.66	19	⇑PKPdf	PKPdf	07 57 30.3	0.0
	baz=130						
MLAC	Mammoth Lakes	129.67	40	⇑PKPdf	PKPdf	07 57 30.2	-0.7
	baz=130						
MLAC	Mammoth Lakes	129.67	40	⇑PKPdf	PKPdf	07 57 30.2	-0.7
	baz=130						
D23A	Lindsay	129.67	22	⇑PKPdf	PKPdf	07 57 30.6	+0.3
	baz=130						
D23A	Lindsay	129.67	22	⇑PKPdf	PKPdf	07 57 30.6	+0.3
	baz=130						
ULM	Lac du Bonnet	129.67	13	PKP	PKPdf	07 57 29.0	-1.2
ULM				ePKPdf	PKiKP	07 57 29.6	-1.4
ULM				SKKPbc	SKKPbc	08 10 35.6	+0.7
ULM	Lac du Bonnet	129.67	13	PKP	PKPdf	07 57 29.0	-1.2
	comp=Z,55nm,0.8s,baz=345,slow=2.8,SNR=27						
ULM				SKKPbc	SKKPbc	08 10 35.6	+0.7
	comp=Z,34nm,1.2s,baz=176,slow=2.0,SNR=5.6						
RLMT	Red Lodge	129.69	26	ePKPdf	PKPdf	07 57 28.5	-2.2
RLMT				ePP	PP	07 59 44.4	+3.7
RLMT				eSKPdf	SKPbc	08 00 55.9	+6.0
RLMT				LR	LR		
	comp=Z,18µm,20.0s						
A28A	Rude Farm, Bot	129.79	17	⇓PKPdf	PKPdf	07 57 30.4	-0.1
	baz=130						
A28A	Rude Farm, Bot	129.79	17	⇓PKPdf	PKPdf	07 57 30.4	-0.1
	baz=130						
FLWY	Flagg Ranch	129.83	28	ePKPdf	PKPdf	07 57 30.2	-0.8
FLWY				ePP	PP	07 59 41.5	-0.2
FLWY				eSKPdf	SKPdf	08 00 57.5	-5.8
H18A	Shoshone NF, C	129.85	27	⇑PKPdf	PKPdf	07 57 30.7	-0.4
	baz=130						
H18A	Shoshone NF, C	129.85	27	⇑PKPdf	PKPdf	07 57 30.7	-0.4
	baz=130						
IMW	Indian Meadow	129.86	28	ePKPdf	PKPdf	07 57 30.6	-0.5
IMW				ePP	PP	07 59 38.3	-3.7
IMW				eSKPdf	SKPdf	08 00 57.6	-5.9
C25A	Freed Ranch, W	129.90	20	⇑PKPdf	PKPdf	07 57 31.0	+0.3
	baz=130						
C25A	Freed Ranch, W	129.90	20	⇑PKPdf	PKPdf	07 57 31.0	+0.3
	baz=130						
B27A	Peters Farms,	129.94	18	⇓PKPdf	PKPdf	07 57 30.5	-0.3
	baz=130						
B27A	Peters Farms,	129.94	18	⇓PKPdf	PKPdf	07 57 30.5	-0.3
	baz=130						
E22A	Miles City	130.00	23	⇑PKPdf	PKPdf	07 57 31.0	0.0
	baz=130						
E22A	Miles City	130.00	23	⇑PKPdf	PKPdf	07 57 31.0	0.0
	baz=130						
I17A	Pilgrim Ck.	130.01	28	⇑PKPdf	PKPdf	07 57 31.3	-0.1
	baz=130						
I17A	Pilgrim Ck.	130.01	28	⇑PKPdf	PKPdf	07 57 31.3	-0.1
	baz=130						
D24A	Glendive	130.04	21	⇑PKPdf	PKPdf	07 57 31.1	+0.1
	baz=130						
D24A	Glendive	130.04	21	⇑PKPdf	PKPdf	07 57 31.1	+0.1
	baz=130						
F21A	Absaloka Mine,	130.04	24	⇓PKPdf	PKPdf	07 57 30.8	-0.3
	baz=130						
F21A	Absaloka Mine,	130.04	24	⇓PKPdf	PKPdf	07 57 30.8	-0.3
	baz=130						
MOOW	Moose Ponds	130.06	28	ePKPdf	PKPdf	07 57 29.5	-1.9
MOOW				ePP	PP	07 59 42.7	-0.5
MOOW				eSKPdf	SKPbc	08 00 57.3	+6.1
G20A	Bridger	130.07	25	⇑PKPdf	PKPdf	07 57 31.1	-0.2
	baz=130						
G20A	Bridger	130.07	25	⇑PKPdf	PKPdf	07 57 31.1	-0.2
	baz=130						
RRI2	Red Ridge	130.09	29	ePKPdf	PKPdf	07 57 29.9	-1.6
RRI2				ePP	PP	07 59 46.6	+3.1
RRI2				eSKPdf	SKPbc	08 00 57.4	+6.0
TPAW	Teton Pass	130.16	29	ePKPdf	PKPdf	07 57 31.5	-0.2
TPAW				ePP	PP	07 59 44.3	+0.4
TPAW				eSKPdf	SKPbc	08 00 56.1	+4.5
H19A	Powell	130.16	26	⇑PKPdf	PKPdf	07 57 31.8	+0.3
	baz=130						
H19A	Powell	130.16	26	⇑PKPdf	PKPdf	07 57 31.8	+0.3
	baz=130						
B28A	Dugan Ranch, T	130.17	17	⇑PKPdf	PKPdf	07 57 31.0	-0.3
	baz=130						
B28A	Dugan Ranch, T	130.17	17	⇑PKPdf	PKPdf	07 57 31.0	-0.3
	baz=130						
RCTC	Rector, Farmer	130.18	41	⇑PKPdf	PKPdf	07 57 30.8	-0.8
	baz=130						
RCTC	Rector, Farmer	130.18	41	⇑PKPdf	PKPdf	07 57 30.8	-0.8
	baz=130						
C26A	Wahner Farm, P	130.19	19	⇓PKPdf	PKPdf	07 57 31.3	-0.1
	baz=130						
C26A	Wahner Farm, P	130.19	19	⇓PKPdf	PKPdf	07 57 31.3	-0.1
	baz=130						
E23A	Ismay	130.20	22	⇑PKPdf	PKPdf	07 57 31.4	+0.1
	baz=130						
E23A	Ismay	130.20	22	⇑PKPdf	PKPdf	07 57 31.4	+0.1
	baz=130						
SMMC	Simmler	130.23	43	⇑PKPdf	PKPdf	07 57 30.9	-0.9
	baz=130						
SMMC	Simmler	130.23	43	⇑PKPdf	PKPdf	07 57 30.9	-0.9
	baz=130						
LOHW	Long Hollow	130.23	28	ePKPdf	PKPdf	07 57 30.4	-1.3
LOHW				ePP	PP	07 59 43.0	-1.3
SNOW	Snow King Moun	130.27	29	ePKPdf	PKPdf	07 57 31.0	-0.9
SNOW				ePP	PP	07 59 40.0	-4.6
SNOW				e		08 00 56.2	
REDW	Red Top Meadow	130.30	29	ePKPdf	PKPdf	07 57 31.4	-0.6
REDW				ePP	PP	07 59 42.3	-2.5
D25A	Fairfield	130.37	20	⇓PKPdf	PKPdf	07 57 31.4	-0.3
	baz=130						
D25A	Fairfield	130.37	20	⇓PKPdf	PKPdf	07 57 31.4	-0.3
	baz=130						
TIN	Tinemaha	130.40	40	⇑PKPdf	PKPdf	07 57 31.3	-0.9
	baz=130						
TIN	Tinemaha	130.40	40	⇑PKPdf	PKPdf	07 57 31.3	-0.9
	baz=130						
TPH	Tonopah	130.41	38	PFAKE		07 57 40.0	+7.7
TPH				LR	LR		
	comp=Z,13µm,21.0s						
F22A	Rosebud	130.43	24	⇑PKPdf	PKPdf	07 57 31.4	-0.4
	baz=130						
F22A	Rosebud	130.43	24	⇑PKPdf	PKPdf	07 57 31.4	-0.4
	baz=130						
C27A	Sayler Ranch,	130.48	19	⇓PKPdf	PKPdf	07 57 31.6	-0.2
	baz=130						
C27A	Sayler Ranch,	130.48	19	⇓PKPdf	PKPdf	07 57 31.6	-0.2
	baz=130						
G21A	Lodge Grass	130.49	25	⇓PKPdf	PKPdf	07 57 31.7	-0.3
	baz=130						
G21A	Lodge Grass	130.49	25	⇓PKPdf	PKPdf	07 57 31.7	-0.3
	baz=130						
HVU	Hansel Valley	130.49	32	ePKIKP	PKPdf	07 57 29.1	-3.1
HVU				e		07 59 52.0	
HVU	Hansel Valley	130.49	32	ePKPdf	PKPdf	07 57 29.1	-3.1
HVU				ePP	PP	07 59 52.0	+5.9
HVU				e		08 00 56.1	
E24A	Baker	130.52	21	⇑PKPdf	PKPdf	07 57 32.1	+0.1
	baz=130						
E24A	Baker	130.52	21	⇑PKPdf	PKPdf	07 57 32.1	+0.1
	baz=130						
I18A	Diamond G Ranc	130.53	28	⇑PKPdf	PKPdf	07 57 31.7	-0.7
	baz=130						
I18A	Diamond G Ranc	130.53	28	⇑PKPdf	PKPdf	07 57 31.7	-0.7
	baz=130						
VES	Vestal, Richgr	130.55	42	⇑PKPdf	PKPdf	07 57 31.8	-0.5
	baz=130						
VES	Vestal, Richgr	130.55	42	⇑PKPdf	PKPdf	07 57 31.8	-0.5
	baz=130						
I19A	Meeteetse	130.66	27	⇓PKPdf	PKPdf	07 57 32.1	-0.4
	baz=130						
I19A	Meeteetse	130.66	27	⇓PKPdf	PKPdf	07 57 32.1	-0.4
	baz=130						
H20A	Greybull	130.74	26	⇑PKPdf	PKPdf	07 57 32.4	-0.2
	baz=131						
H20A	Greybull	130.74	26	⇑PKPdf	PKPdf	07 57 32.4	-0.2
	baz=131						
D26A	Manning	130.77	20	⇓PKPdf	PKPdf	07 57 32.3	-0.2
	baz=131						
D26A	Manning	130.77	20	⇓PKPdf	PKPdf	07 57 32.3	-0.2
	baz=131						
F23A	Volborg	130.81	23	⇓PKPdf	PKPdf	07 57 32.3	-0.3
	baz=131						
F23A	Volborg	130.81	23	⇓PKPdf	PKPdf	07 57 32.3	-0.3
	baz=131						
C28A	Hausauer Farms	130.82	18	⇑PKPdf	PKPdf	07 57 32.0	-0.5
	baz=131						
C28A	Hausauer Farms	130.82	18	⇑PKPdf	PKPdf	07 57 32.0	-0.5
	baz=131						
CWC	Cottonwood Cre	130.86	41	⇑PKPdf	PKPdf	07 57 32.9	-0.2
	baz=131						
CWC	Cottonwood Cre	130.86	41	⇑PKPdf	PKPdf	07 57 32.9	-0.2
	baz=131						
G22A	Birney	130.87	24	⇑PKPdf	PKPdf	07 57 32.5	-0.3
	baz=131						
G22A	Birney	130.87	24	⇑PKPdf	PKPdf	07 57 32.5	-0.3
	baz=131						
E25A	Miller Ranch,	130.90	21	⇓PKPdf	PKPdf	07 57 32.7	-0.1
	baz=131						
E25A	Miller Ranch,	130.90	21	⇓PKPdf	PKPdf	07 57 32.7	-0.1
	baz=131						
MDND	Maddock	130.94	17	ePKPdf	PKPdf	07 57 32.0	-0.7
MDND	Maddock	130.94	17	⇑PKPdf	PKPdf	07 57 31.9	-0.8
	baz=131						
MDND	Maddock	130.94	17	⇑PKPdf	PKPdf	07 57 31.9	-0.8
	baz=131						
BGU	Big Grassy Mou	130.96	33	ePKPdf	PKPdf	07 57 32.6	-0.6
BGU				e		08 00 56.9	
GRAC	Grapevine Rang	130.98	39	⇑PKPdf	PKPdf	07 57 32.9	-0.3
	baz=131						
GRAC	Grapevine Rang	130.98	39	⇑PKPdf	PKPdf	07 57 32.9	-0.3
	baz=131						
D27A	Center	131.00	19	⇓PKPdf	PKPdf	07 57 32.6	-0.3
	baz=131						
D27A	Center	131.00	19	⇓PKPdf	PKPdf	07 57 32.6	-0.3
	baz=131						
H21A	Big Horn, Sher	131.04	25	⇑PKPdf	PKPdf	07 57 32.5	-0.7
	baz=131						
H21A	Big Horn, Sher	131.04	25	⇑PKPdf	PKPdf	07 57 32.5	-0.7
	baz=131						
ISA	Isabella	131.06	42	ePKIKP	PKPdf	07 57 31.3	-2.1
ISA				e		07 59 51.5	
ISA	Isabella	131.06	42	ePKPdf	PKPdf	07 57 31.3	-2.1
ISA				ePP	PP	07 59 51.5	+1.5
ISA				e		08 00 56.9	
ISA	Isabella	131.06	42	⇑PKPdf	PKPdf	07 57 33.0	-0.4
	baz=131						
ISA	Isabella	131.06	42	⇑PKPdf	PKPdf	07 57 33.0	-0.4
	baz=131						
F24A	Ekalaka	131.07	22	⇓PKPdf	PKPdf	07 57 33.2	+0.1
	baz=131						
F24A	Ekalaka	131.07	22	⇓PKPdf	PKPdf	07 57 33.2	+0.1
	baz=131						
I20A	Worland	131.11	26	⇓PKPdf	PKPdf	07 57 32.8	-0.5
	baz=131						
I20A	Worland	131.11	26	⇓PKPdf	PKPdf	07 57 32.8	-0.5
	baz=131						
ARVC	Arvin	131.12	42	⇓PKPdf	PKPdf	07 57 33.7	+0.3
	baz=131						
ARVC	Arvin	131.12	42	⇓PKPdf	PKPdf	07 57 33.7	+0.3
	baz=131						
J19A	Crowheart	131.23	28	⇓PKPdf	PKPdf	07 57 33.2	-0.4
	baz=131						
J19A	Crowheart	131.23	28	⇓PKPdf	PKPdf	07 57 33.2	-0.4
	baz=131						
R11A	Troy Canyon, C	131.24	37	ePKPdf	PKPdf	07 57 34.1	+0.3
R11A				e		08 00 57.5	
R11A	Troy Canyon, C	131.24	37	⇓PKPdf	PKPdf	07 57 33.4	-0.4
	baz=131						
R11A	Troy Canyon, C	131.24	37	⇓PKPdf	PKPdf	07 57 33.4	-0.4
	baz=131						
HWUT	Hardware Ranch	131.24	31	ePKPdf	PKPdf	07 57 31.8	-2.0
HWUT				ePP	PP	07 59 49.1	-1.9
HWUT				eSKPbc	SKPbc	08 00 52.7	-2.9
HWUT				LR	LR		
	comp=Z,25µm,22.0s						
G23A	Biddle	131.25	23	⇓PKPdf	PKPdf	07 57 33.0	-0.5
	baz=131						
G23A	Biddle	131.25	23	⇓PKPdf	PKPdf	07 57 33.0	-0.5
	baz=131						
E26A	Carlson Angus	131.25	20	⇓PKPdf	PKPdf	07 57 33.4	0.0
	baz=131						
E26A	Carlson Angus	131.25	20	⇓PKPdf	PKPdf	07 57 33.4	0.0
	baz=131						
H22A	Clearmont	131.36	24	⇑PKPdf	PKPdf	07 57 33.2	-0.6
	baz=131						
H22A	Clearmont	131.36	24	⇑PKPdf	PKPdf	07 57 33.2	-0.6
	baz=131						
F25A	Bowman	131.37	21	⇑PKPdf	PKPdf	07 57 33.1	-0.5
	baz=131						
F25A	Bowman	131.37	21	⇑PKPdf	PKPdf	07 57 33.1	-0.5
	baz=131						
BW06	Boulder Array	131.37	28	ePKPdf	PKPdf	07 57 32.0	-2.0
BW06				ePP	PP	07 59 54.8	+3.1
BW06				e		08 00 58.9	
BW06				LR	LR		
	comp=Z,21µm,22.0s						
PDAR	Pinedale Array	131.37	28	PKP	PKPdf	07 57 33.3	-0.7
PDAR				PP	PP	07 59 57.3	+5.6
PDAR				SKPbc	SKPbc	08 00 56.1	+0.1
PDAR				SKKPbc	SKKPbc	08 10 26.5	-2.4
PDAR	Pinedale Array	131.37	28	PKhKP	PKPpre	07 57 20.8	
	comp=Z,1.2nm,0.8s,baz=29,slow=3.4,SNR=4.2						
PDAR				PKP	PKPdf	07 57 33.3	-0.7
	comp=Z,13nm,0.9s,baz=349,slow=0.9,SNR=24						
PDAR				PP	PP	07 59 57.3	+5.6
	comp=Z,12nm,1.0s,baz=300,slow=2.9,SNR=3.9						
PDAR				SKPbc	SKPbc	08 00 56.1	+0.1
	comp=Z,24nm,1.1s,baz=333,slow=1.7,SNR=4.1						
PDAR				SKKPbc	SKKPbc	08 10 26.5	-2.4
	comp=Z,5.8nm,1.1s,baz=141,slow=4.6,SNR=4.8						
MPMC	Manual Prospec	131.47	41	⇑PKPdf	PKPdf	07 57 33.9	-0.4
	baz=131						
MPMC	Manual Prospec	131.47	41	⇑PKPdf	PKPdf	07 57 33.9	-0.4
	baz=131						
OSI	Osito Adit	131.49	43	ePKPdf	PKPdf	07 57 33.1	-1.1
OSI				ePP	PP	07 59 52.9	+0.1
OSI	Osito Adit	131.49	43	⇑PKPdf	PKPdf	07 57 33.9	-0.3
	baz=131						
OSI	Osito Adit	131.49	43	⇑PKPdf	PKPdf	07 57 33.9	-0.3
	baz=131						
AGMN	Agassiz Nation	131.51	14	ePKPdf	PKPdf	07 57 31.8	-1.9
AGMN				PP	PP	07 59 42.4	-9.5
AGMN				e		08 00 58.4	
AGMN				LR	LR		
	comp=Z,29µm,22.0s						
G24A	Alzada	131.52	22	⇑PKPdf	PKPdf	07 57 33.3	-0.7
	baz=131						
G24A	Alzada	131.52	22	⇑PKPdf	PKPdf	07 57 33.3	-0.7
	baz=131						
BLG	Laguna Peak	131.53	44	⇑PKPdf	PKPdf	07 57 33.6	-0.7
	baz=131						
BLG	Laguna Peak	131.53	44	⇑PKPdf	PKPdf	07 57 33.6	-0.7
	baz=131						
DUG	Dugway	131.59	33	ePKIKP	PKPdf	07 57 34.7	+0.3
DUG				e		07 59 54.9	
DUG				MLR	MLR		
	comp=Z,16µm,22.0s						
DUG	Dugway	131.59	33	ePKPdf	PKPdf	07 57 34.7	+0.3
DUG				ePP	PP	07 59 54.9	+1.7
DUG				e		08 00 59.0	
DUG				LR	LR		
	comp=Z,16µm,22.0s						
DUG	Dugway	131.59	33	⇓PKPdf	PKPdf	07 57 34.4	+0.1
	baz=132						
DUG	Dugway	131.59	33	⇓PKPdf	PKPdf	07 57 34.4	+0.1
	baz=132						
I21A	Big Trails, Te	131.59	26	⇓PKPdf	PKPdf	07 57 33.5	-0.8
	baz=131						
I21A	Big Trails, Te	131.59	26	⇓PKPdf	PKPdf	07 57 33.5	-0.8
	baz=131						
E27A	Carson	131.59	19	⇑PKPdf	PKPdf	07 57 33.7	-0.3
	baz=131						
E27A	Carson	131.59	19	⇑PKPdf	PKPdf	07 57 33.7	-0.3
	baz=131						
J20A	Shoshoni	131.60	27	⇑PKPdf	PKPdf	07 57 34.0	-0.2
	baz=132						
J20A	Shoshoni	131.60	27	⇑PKPdf	PKPdf	07 57 34.0	-0.2
	baz=132						
FURC	Furnace Creek,	131.63	40	⇑PKPdf	PKPdf	07 57 33.9	-0.4
	baz=132						
FURC	Furnace Creek,	131.63	40	⇑PKPdf	PKPdf	07 57 33.9	-0.4
	baz=132						
K19A	Absolon Red Bu	131.66	28	⇓PKPdf	PKPdf	07 57 33.6	-0.9
	baz=132						
K19A	Absolon Red Bu	131.66	28	⇓PKPdf	PKPdf	07 57 33.

PASC				*e*PP	PP	07 59 54.6	-2.1
NLU	**North Lily Min**	**132.16**	**33**	*e*P	**PKPdf**	**07 57 34.3**	**-1.2**
NLU				*e*PP	PP	07 59 53.3	-3.7
NLU				*e*		08 01 02.8	
MWC	**Mount Wilson**	**132.16**	**43**	*e*PKIKP	**PKPdf**	**07 57 33.2**	**-2.5**
MWC	**Mount Wilson**	**132.16**	**43**	*e*PKPdf	**PKPdf**	**07 57 33.2**	**-2.5**
G26A	**Maurine** baz=132	**132.22**	**21**	⇑PKPdf	**PKPdf**	**07 57 34.8**	**-0.4**
G26A	**Maurine** baz=132	**132.22**	**21**	⇑PKPdf	**PKPdf**	**07 57 34.8**	**-0.4**
I23A	**Meade Ranch, G** baz=132	**132.24**	**24**	⇓PKPdf	**PKPdf**	**07 57 34.5**	**-1.0**
I23A	**Meade Ranch, G** baz=132	**132.24**	**24**	⇓PKPdf	**PKPdf**	**07 57 34.5**	**-1.0**
J22A	**Midwest** baz=132	**132.26**	**26**	⇑PKPdf	**PKPdf**	**07 57 34.5**	**-1.1**
J22A	**Midwest** baz=132	**132.26**	**26**	⇑PKPdf	**PKPdf**	**07 57 34.5**	**-1.1**
DAU	**Daniels Canyon**	**132.27**	**32**	*e*PKIKP	**PKPdf**	**07 57 35.8**	**0.0**
DAU	**Daniels Canyon**	**132.27**	**32**	*e*PKPdf	**PKPdf**	**07 57 35.8**	**0.0**
DAU				*e*		08 01 06.0	
FMP	**Fort Macarthur** baz=132	**132.29**	**44**	⇓PKPdf	**PKPdf**	**07 57 34.6**	**-1.0**
FMP	**Fort Macarthur** baz=132	**132.29**	**44**	⇓PKPdf	**PKPdf**	**07 57 34.6**	**-1.0**
SHOC	**Shoshone** baz=132	**132.35**	**40**	⇑PKPdf	**PKPdf**	**07 57 34.8**	**-0.9**
SHOC	**Shoshone** baz=132	**132.35**	**40**	⇑PKPdf	**PKPdf**	**07 57 34.8**	**-0.9**
MPU	**Maple Canyon**	**132.35**	**32**	*e*PKPdf	**PKPdf**	**07 57 33.7**	**-2.1**
MPU				*e*PP	**PP**	**08 00 00.4**	**+2.3**
GSC	**Goldstone**	**132.37**	**41**	*e*PKIKP	**PKPdf**	**07 57 35.2**	**-0.7**
GSC	**Goldstone**	**132.37**	**41**	*e*PKPdf	**PKPdf**	**07 57 35.2**	**-0.7**
GSC				*e*		08 01 04.0	
GSC	**Goldstone** baz=132	**132.37**	**41**	⇓PKPdf	**PKPdf**	**07 57 35.2**	**-0.7**
GSC	**Goldstone** baz=132	**132.37**	**41**	⇓PKPdf	**PKPdf**	**07 57 35.2**	**-0.7**
G27A	**Dupree** baz=132	**132.38**	**20**	⇓PKPdf	**PKPdf**	**07 57 34.8**	**-0.8**
G27A	**Dupree** baz=132	**132.38**	**20**	⇓PKPdf	**PKPdf**	**07 57 34.8**	**-0.8**
CIS	**Catalina Islan** baz=132	**132.38**	**44**	⇓PKPdf	**PKPdf**	**07 57 35.2**	**-0.7**
CIS	**Catalina Islan** baz=132	**132.38**	**44**	⇓PKPdf	**PKPdf**	**07 57 35.2**	**-0.7**
BFSC	**Mount Baldy Ra** baz=132	**132.42**	**43**	⇓PKPdf	**PKPdf**	**07 57 35.3**	**-0.8**
BFSC	**Mount Baldy Ra** baz=132	**132.42**	**43**	⇓PKPdf	**PKPdf**	**07 57 35.3**	**-0.8**
H25A	**Fruitdale** baz=132	**132.43**	**22**	⇑PKPdf	**PKPdf**	**07 57 34.9**	**-0.8**
H25A	**Fruitdale** baz=132	**132.43**	**22**	⇑PKPdf	**PKPdf**	**07 57 34.9**	**-0.8**
RRX	**Edison Barstow** baz=132	**132.49**	**42**	⇑PKPdf	**PKPdf**	**07 57 35.4**	**-0.6**
RRX	**Edison Barstow** baz=132	**132.49**	**42**	⇑PKPdf	**PKPdf**	**07 57 35.4**	**-0.6**
SCI	**San Clemente I** baz=132	**132.52**	**45**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-0.7**
SCI	**San Clemente I** baz=132	**132.52**	**45**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-0.7**
M19A	**Rock Springs** baz=132	**132.53**	**29**	⇓PKPdf	**PKPdf**	**07 57 35.3**	**-0.9**
M19A	**Rock Springs** baz=132	**132.53**	**29**	⇓PKPdf	**PKPdf**	**07 57 35.3**	**-0.9**
L20A	**Wamsutter** baz=132	**132.53**	**28**	⇓PKPdf	**PKPdf**	**07 57 35.6**	**-0.5**
L20A	**Wamsutter** baz=132	**132.53**	**28**	⇓PKPdf	**PKPdf**	**07 57 35.6**	**-0.5**
K21A	**Alcova** baz=132	**132.54**	**27**	⇑PKPdf	**PKPdf**	**07 57 35.3**	**-0.9**
K21A	**Alcova** baz=132	**132.54**	**27**	⇑PKPdf	**PKPdf**	**07 57 35.3**	**-0.9**
J23A	**Dilts Ranch, B** baz=132	**132.66**	**25**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-0.9**
J23A	**Dilts Ranch, B** baz=132	**132.66**	**25**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-0.9**
I24A	**Kuemmerle Ranc** baz=132	**132.66**	**24**	⇓PKPdf	**PKPdf**	**07 57 35.2**	**-1.1**
I24A	**Kuemmerle Ranc** baz=132	**132.66**	**24**	⇓PKPdf	**PKPdf**	**07 57 35.2**	**-1.1**
SHPR	**Sheep Range**	**132.68**	**39**	*e*PKPdf	**PKPdf**	**07 57 37.4**	**+0.8**
SHPR				*e*		08 01 08.4	
RSSD	**Black Hills**	**132.68**	**23**	*e*PKIKP	**PKPdf**	**07 57 34.0**	**-2.4**
RSSD				*e*		08 00 02.6	
RSSD	**Black Hills**	**132.68**	**23**	*e*PKPdf	**PKPdf**	**07 57 34.0**	**-2.4**
RSSD				*e*PP	**PP**	**08 00 02.6**	**+2.7**
RSSD				*e*		08 01 04.5	
H26A	**Fairpoint** baz=133	**132.74**	**22**	⇑PKPdf	**PKPdf**	**07 57 35.3**	**-1.0**
H26A	**Fairpoint** baz=133	**132.74**	**22**	⇑PKPdf	**PKPdf**	**07 57 35.3**	**-1.0**
EYMN	**Ely**	**132.74**	**10**	*e*PKPdf	**PKPdf**	**07 57 35.0**	**-1.1**
EYMN				*e*PP	**PP**	**08 00 00.9**	**+1.2**
EYMN				LR	LR		
	comp=Z,30μm,22.0s						
K22A	**Casper** baz=133	**132.85**	**26**	⇓PKPdf	**PKPdf**	**07 57 35.3**	**-1.3**
K22A	**Casper** baz=133	**132.85**	**26**	⇓PKPdf	**PKPdf**	**07 57 35.3**	**-1.3**
TUQ	**Turquoise Moun** baz=133	**132.86**	**40**	⇑PKPdf	**PKPdf**	**07 57 35.1**	**-1.8**
TUQ	**Turquoise Moun** baz=133	**132.86**	**40**	⇑PKPdf	**PKPdf**	**07 57 35.1**	**-1.8**
ARUT	**Antelope Range**	**132.88**	**36**	*e*PKIKP	**PKPdf**	**07 57 34.2**	**-2.7**
ARUT	**Antelope Range**	**132.88**	**36**	*e*PKPdf	**PKPdf**	**07 57 34.2**	**-2.7**
ARUT				*e*		08 01 05.2	
I25A	**Rochford** baz=133	**132.88**	**23**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-1.3**
I25A	**Rochford** baz=133	**132.88**	**23**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-1.3**
BBRC	**Big Bear Solar** baz=133	**132.91**	**42**	⇑PKPdf	**PKPdf**	**07 57 36.0**	**-1.1**
BBRC	**Big Bear Solar** baz=133	**132.91**	**42**	⇑PKPdf	**PKPdf**	**07 57 36.0**	**-1.1**
HEC	**Hector,Ludlow** baz=133	**132.96**	**41**	⇓PKPdf	**PKPdf**	**07 57 36.2**	**-0.8**
HEC	**Hector,Ludlow** baz=133	**132.96**	**41**	⇓PKPdf	**PKPdf**	**07 57 36.2**	**-0.8**
H27A	**Howes** baz=133	**132.98**	**21**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-1.3**
H27A	**Howes** baz=133	**132.98**	**21**	⇓PKPdf	**PKPdf**	**07 57 35.4**	**-1.3**
G28A	**Parade** baz=133	**133.00**	**20**	⇑PKPdf	**PKPdf**	**07 57 35.4**	**-1.3**
G28A	**Parade** baz=133	**133.00**	**20**	⇑PKPdf	**PKPdf**	**07 57 35.4**	**-1.3**
M20A	**Sweetwater, Wa** baz=133	**133.00**	**28**	⇑PKPdf	**PKPdf**	**07 57 36.3**	**-0.8**
M20A	**Sweetwater, Wa** baz=133	**133.00**	**28**	⇑PKPdf	**PKPdf**	**07 57 36.3**	**-0.8**
L21A	**Rawlins** baz=133	**133.02**	**27**	⇓PKPdf	**PKPdf**	**07 57 36.0**	**-1.1**
L21A	**Rawlins** baz=133	**133.02**	**27**	⇓PKPdf	**PKPdf**	**07 57 36.0**	**-1.1**
CCUT	**Cedar City**	**133.09**	**36**	*e*PKPdf	**PKPdf**	**07 57 34.4**	**-3.0**
CCUT				*e*		08 01 06.7	
J24A	**Dixon Ranch, L** baz=133	**133.09**	**24**	⇓PKPdf	**PKPdf**	**07 57 36.1**	**-0.9**
J24A	**Dixon Ranch, L** baz=133	**133.09**	**24**	⇓PKPdf	**PKPdf**	**07 57 36.1**	**-0.9**
TMUT	**Trail Mountain**	**133.10**	**33**	*e*PKPdf	**PKPdf**	**07 57 36.3**	**-1.2**
TMUT				*e*		08 01 07.0	
MURC	**Murrieta** baz=133	**133.10**	**43**	⇑PKPdf	**PKPdf**	**07 57 36.4**	**-0.8**
MURC	**Murrieta** baz=133	**133.10**	**43**	⇑PKPdf	**PKPdf**	**07 57 36.4**	**-0.8**
MSU	**Marysvale**	**133.11**	**34**	*e*PKIKP	**PKPdf**	**07 57 38.3**	**+0.9**
MSU				*e*		08 00 01.0	
MSU	**Marysvale**	**133.11**	**34**	*e*PKPdf	**PKPdf**	**07 57 38.3**	**+0.9**
MSU				*e*PP	**PP**	**08 00 01.0**	**-2.1**
K23A	**Bowen Ranch, D** baz=133	**133.16**	**25**	⇓PKPdf	**PKPdf**	**07 57 36.2**	**-1.1**
K23A	**Bowen Ranch, D** baz=133	**133.16**	**25**	⇓PKPdf	**PKPdf**	**07 57 36.2**	**-1.1**
I26A	**New Underwood** baz=133	**133.21**	**22**	⇑PKPdf	**PKPdf**	**07 57 36.1**	**-1.1**
I26A	**New Underwood** baz=133	**133.21**	**22**	⇑PKPdf	**PKPdf**	**07 57 36.1**	**-1.1**
M21A	**Separation Pea** baz=133	**133.30**	**28**	⇑PKPdf	**PKPdf**	**07 57 36.5**	**-1.1**
M21A	**Separation Pea** baz=133	**133.30**	**28**	⇑PKPdf	**PKPdf**	**07 57 36.5**	**-1.1**
RWWY	**Rawlins**	**133.31**	**28**	*e*PKPdf	**PKPdf**	**07 57 35.8**	**-1.9**
RWWY				*e*PP	**PP**	**08 00 08.1**	**+3.9**
H28A	**Mission Ridge** baz=133	**133.31**	**20**	⇓PKPdf	**PKPdf**	**07 57 36.5**	**-0.8**
H28A	**Mission Ridge** baz=133	**133.31**	**20**	⇓PKPdf	**PKPdf**	**07 57 36.5**	**-0.8**
J25A	**Sunshine Ranch** baz=133	**133.39**	**23**	⇓PKPdf	**PKPdf**	**07 57 36.7**	**-0.9**
J25A	**Sunshine Ranch** baz=133	**133.39**	**23**	⇓PKPdf	**PKPdf**	**07 57 36.7**	**-0.9**
Q16A	**Castle Valley** baz=133	**133.39**	**33**	⇓PKPdf	**PKPdf**	**07 57 36.8**	**-1.0**
Q16A	**Castle Valley** baz=133	**133.39**	**33**	⇓PKPdf	**PKPdf**	**07 57 36.8**	**-1.0**
L22A	**Ellis Ranch, M** baz=133	**133.39**	**27**	⇓PKPdf	**PKPdf**	**07 57 36.8**	**-0.9**
L22A	**Ellis Ranch, M** baz=133	**133.39**	**27**	⇓PKPdf	**PKPdf**	**07 57 36.8**	**-0.9**
GMRC	**Granite Mounta** baz=133	**133.43**	**41**	⇑PKPdf	**PKPdf**	**07 57 36.9**	**-1.0**
GMRC	**Granite Mounta** baz=133	**133.43**	**41**	⇑PKPdf	**PKPdf**	**07 57 36.9**	**-1.0**
O19A	**Miners Draw (B** baz=133	**133.45**	**30**	⇓PKPdf	**PKPdf**	**07 57 36.8**	**-1.1**
O19A	**Miners Draw (B** baz=133	**133.45**	**30**	⇓PKPdf	**PKPdf**	**07 57 36.8**	**-1.1**
I27A	**Quinn** baz=133	**133.47**	**21**	⇑PKPdf	**PKPdf**	**07 57 36.8**	**-0.9**
I27A	**Quinn** baz=133	**133.47**	**21**	⇑PKPdf	**PKPdf**	**07 57 36.8**	**-0.9**
N20A	**Spence Gulch,** baz=133	**133.47**	**29**	⇓PKPdf	**PKPdf**	**07 57 37.1**	**-1.0**
N20A	**Spence Gulch,** baz=133	**133.47**	**29**	⇓PKPdf	**PKPdf**	**07 57 37.1**	**-1.0**
K24A	**Anderson Ranch** baz=133	**133.53**	**25**	⇑PKPdf	**PKPdf**	**07 57 36.8**	**-1.1**
K24A	**Anderson Ranch** baz=133	**133.53**	**25**	⇑PKPdf	**PKPdf**	**07 57 36.8**	**-1.1**
109C	**Camp Elliot, M** baz=134	**133.57**	**44**	⇑PKPdf	**PKPdf**	**07 57 37.3**	**-0.7**
109C	**Camp Elliot, M** baz=134	**133.57**	**44**	⇑PKPdf	**PKPdf**	**07 57 37.3**	**-0.7**
SRU	**San Rafael**	**133.60**	**32**	*e*PKIKP	**PKPdf**	**07 57 36.8**	**-1.4**
SRU				*e*		08 00 13.5	
SRU	**San Rafael**	**133.60**	**32**	*e*PKPdf	**PKPdf**	**07 57 36.8**	**-1.4**
SRU				*e*PP	PP	08 00 13.5	+7.4
PFO	**Pinyon Flat Ob**	**133.60**	**43**	*e*PKPdf	**PKPdf**	**07 57 40.0**	**+1.6**
PFO				LR	LR		
	comp=Z,10μm,22.0s						
PFO	**Pinyon Flat Ob** baz=134	**133.60**	**43**	⇓PKPdf	**PKPdf**	**07 57 37.3**	**-1.0**
PFO	**Pinyon Flat Ob** baz=134	**133.60**	**43**	⇓PKPdf	**PKPdf**	**07 57 37.3**	**-1.0**
LDFC	**Landfair**	**133.60**	**40**	*e*PKPdf	**PKPdf**	**07 57 38.1**	**-0.2**
L23A	**Garrett** baz=134	**133.65**	**26**	⇑PKPdf	**PKPdf**	**07 57 37.3**	**-1.0**
L23A	**Garrett** baz=134	**133.65**	**26**	⇑PKPdf	**PKPdf**	**07 57 37.3**	**-1.0**
PQI	**Presque Isle**	**133.67**	**348**	*e*PKPdf	**PKPdf**	**07 57 35.8**	**-2.1**
PQI				*e*PP	**PP**	**08 00 04.2**	**-1.5**
BELC	**Belle Mtn. Jos** baz=134	**133.68**	**42**	⇑PKPdf	**PKPdf**	**07 57 37.4**	**-1.0**
BELC	**Belle Mtn. Jos** baz=134	**133.68**	**42**	⇑PKPdf	**PKPdf**	**07 57 37.4**	**-1.0**
J26A	**Sides Ranch, S** baz=134	**133.74**	**23**	⇓PKPdf	**PKPdf**	**07 57 37.5**	**-0.7**
J26A	**Sides Ranch, S** baz=134	**133.74**	**23**	⇓PKPdf	**PKPdf**	**07 57 37.5**	**-0.7**
M22A	**Cedar Creek Ra** baz=134	**133.81**	**27**	⇓PKPdf	**PKPdf**	**07 57 37.5**	**-1.1**
M22A	**Cedar Creek Ra** baz=134	**133.81**	**27**	⇓PKPdf	**PKPdf**	**07 57 37.5**	**-1.1**
I28A	**Midland** baz=134	**133.85**	**21**	⇓PKPdf	**PKPdf**	**07 57 37.9**	**-0.5**
I28A	**Midland** baz=134	**133.85**	**21**	⇓PKPdf	**PKPdf**	**07 57 37.9**	**-0.5**
N21A	**Black Mountain** baz=134	**133.89**	**29**	⇓PKPdf	**PKPdf**	**07 57 38.1**	**-0.7**
N21A	**Black Mountain** baz=134	**133.89**	**29**	⇓PKPdf	**PKPdf**	**07 57 38.1**	**-0.7**
BAR	**Barrett**	**133.99**	**44**	*e*PKPdf	**PKPdf**	**07 57 40.1**	**+1.1**
K25A	**Mack Ranch, Ha** baz=134	**134.01**	**24**	⇓PKPdf	**PKPdf**	**07 57 38.1**	**-0.8**
K25A	**Mack Ranch, Ha** baz=134	**134.01**	**24**	⇓PKPdf	**PKPdf**	**07 57 38.1**	**-0.8**
O20A	**White River Ci**	**134.02**	**30**	*e*PKPdf	**PKPdf**	**07 57 38.1**	**-1.0**
O20A				*e*PP	**PP**	**08 00 12.4**	**+3.8**
O20A				*e*		08 01 10.1	
O20A	**White River Ci** baz=134	**134.02**	**30**	⇓PKPdf	**PKPdf**	**07 57 38.0**	**-1.0**
O20A	**White River Ci** baz=134	**134.02**	**30**	⇓PKPdf	**PKPdf**	**07 57 38.0**	**-1.0**
P19A	**Cripple Cowboy** baz=134	**134.02**	**31**	⇓PKPdf	**PKPdf**	**07 57 38.2**	**-0.8**
P19A	**Cripple Cowboy** baz=134	**134.02**	**31**	⇓PKPdf	**PKPdf**	**07 57 38.2**	**-0.8**
L24A	**Wheatland** baz=134	**134.04**	**25**	⇑PKPdf	**PKPdf**	**07 57 37.9**	**-1.0**
L24A	**Wheatland** baz=134	**134.04**	**25**	⇑PKPdf	**PKPdf**	**07 57 37.9**	**-1.0**
MONP	**Monument Peak** baz=134	**134.04**	**43**	⇓PKPdf	**PKPdf**	**07 57 38.1**	**-1.2**
MONP	**Monument Peak** baz=134	**134.04**	**43**	⇓PKPdf	**PKPdf**	**07 57 38.1**	**-1.2**
NEE2	**Needles Airpor** baz=134	**134.11**	**40**	⇓PKPdf	**PKPdf**	**07 57 38.2**	**-0.9**
NEE2	**Needles Airpor** baz=134	**134.11**	**40**	⇓PKPdf	**PKPdf**	**07 57 38.2**	**-0.9**
IRM	**Iron Mountain** baz=134	**134.14**	**41**	⇑PKPdf	**PKPdf**	**07 57 38.5**	**-0.7**
IRM	**Iron Mountain** baz=134	**134.14**	**41**	⇑PKPdf	**PKPdf**	**07 57 38.5**	**-0.7**
M23A	**Laramie** baz=134	**134.16**	**26**	⇑PKPdf	**PKPdf**	**07 57 38.2**	**-1.1**
M23A	**Laramie** baz=134	**134.16**	**26**	⇑PKPdf	**PKPdf**	**07 57 38.2**	**-1.1**
J27A	**Elkhorn Farm,** baz=134	**134.19**	**22**	⇑PKPdf	**PKPdf**	**07 57 38.3**	**-0.8**
J27A	**Elkhorn Farm,** baz=134	**134.19**	**22**	⇑PKPdf	**PKPdf**	**07 57 38.3**	**-0.8**
BRSD	**Miller**	**134.20**	**18**	*e*PKPdf	**PKPdf**	**07 57 38.3**	**-0.6**
BRSD				*e*PP	**PP**	**08 00 11.5**	**+2.3**
BRSD	**Miller** baz=134	**134.20**	**18**	⇓PKPdf	**PKPdf**	**07 57 38.3**	**-0.6**
BRSD	**Miller** baz=134	**134.20**	**18**	⇓PKPdf	**PKPdf**	**07 57 38.3**	**-0.6**
K26A	**Motz Farm, Whi** baz=134	**134.21**	**23**	⇑PKPdf	**PKPdf**	**07 57 38.2**	**-0.9**
K26A	**Motz Farm, Whi** baz=134	**134.21**	**23**	⇑PKPdf	**PKPdf**	**07 57 38.2**	**-0.9**
BC3	**Big Chuckawall** baz=134	**134.25**	**42**	⇑PKPdf	**PKPdf**	**07 57 38.2**	**-1.3**
BC3	**Big Chuckawall** baz=134	**134.25**	**42**	⇑PKPdf	**PKPdf**	**07 57 38.2**	**-1.3**
J28A	**Allard Ranch,** baz=134	**134.33**	**21**	⇓PKPdf	**PKPdf**	**07 57 38.5**	**-0.8**
J28A	**Allard Ranch,** baz=134	**134.33**	**21**	⇓PKPdf	**PKPdf**	**07 57 38.5**	**-0.8**
O21A	**Pagoda** baz=134	**134.33**	**29**	⇓PKPdf	**PKPdf**	**07 57 38.6**	**-1.1**
O21A	**Pagoda** baz=134	**134.33**	**29**	⇓PKPdf	**PKPdf**	**07 57 38.6**	**-1.1**
L25A	**Engebretsen Ra** baz=134	**134.35**	**24**	⇑PKPdf	**PKPdf**	**07 57 38.8**	**-0.7**
L25A	**Engebretsen Ra** baz=134	**134.35**	**24**	⇑PKPdf	**PKPdf**	**07 57 38.8**	**-0.7**
N22A	**Wattenberg Ran** baz=134	**134.36**	**28**	⇓PKPdf	**PKPdf**	**07 57 38.5**	**-1.2**
N22A	**Wattenberg Ran** baz=134	**134.36**	**28**	⇓PKPdf	**PKPdf**	**07 57 38.5**	**-1.2**
W13A	**Hualapai Mount** baz=134	**134.37**	**39**	⇑PKPdf	**PKPdf**	**07 57 38.9**	**-0.9**
W13A	**Hualapai Mount** baz=134	**134.37**	**39**	⇑PKPdf	**PKPdf**	**07 57 38.9**	**-0.9**
DVTC	**Desert V Tower** baz=134	**134.40**	**43**	⇑PKPdf	**PKPdf**	**07 57 38.9**	**-0.9**
DVTC	**Desert V Tower** baz=134	**134.40**	**43**	⇑PKPdf	**PKPdf**	**07 57 38.9**	**-0.9**
PHWY	**Pilot Hill**	**134.41**	**26**	*e*PKPdf	**PKPdf**	**07 57 37.1**	**-2.7**
PHWY				*e*PP	**PP**	**08 00 08.7**	**-2.5**
P20A	**De Beque** baz=134	**134.42**	**30**	⇓PKPdf	**PKPdf**	**07 57 38.8**	**-1.0**
P20A	**De Beque** baz=134	**134.42**	**30**	⇓PKPdf	**PKPdf**	**07 57 38.8**	**-1.0**
SWSC	**Sam W. Stewart** baz=134	**134.44**	**43**	⇓PKPdf	**PKPdf**	**07 57 38.8**	**-0.9**
SWSC	**Sam W. Stewart** baz=134	**134.44**	**43**	⇓PKPdf	**PKPdf**	**07 57 38.8**	**-0.9**
U15A	**North Rim** baz=134	**134.47**	**37**	⇑PKPdf	**PKPdf**	**07 57 38.9**	**-1.2**
U15A	**North Rim** baz=134	**134.47**	**37**	⇑PKPdf	**PKPdf**	**07 57 38.9**	**-1.2**
N23A	**Red Feather La** baz=134	**134.52**	**27**	⇓PKPdf	**PKPdf**	**07 57 39.3**	**-0.7**
N23A	**Red Feather La** baz=134	**134.52**	**27**	⇓PKPdf	**PKPdf**	**07 57 39.3**	**-0.7**
M24A	**Cheyenne** baz=134	**134.55**	**26**	⇑PKPdf	**PKPdf**	**07 57 39.2**	**-0.8**
M24A	**Cheyenne** baz=134	**134.55**	**26**	⇑PKPdf	**PKPdf**	**07 57 39.2**	**-0.8**
K27A	**Flueckinger Fa** baz=134	**134.58**	**22**	⇓PKPdf	**PKPdf**	**07 57 38.7**	**-1.1**
K27A	**Flueckinger Fa** baz=134	**134.58**	**22**	⇓PKPdf	**PKPdf**	**07 57 38.7**	**-1.1**
PDMCI	**Parker Dam,Lak** baz=135	**134.71**	**40**	⇑PKPdf	**PKPdf**	**07 57 39.4**	**-0.8**
PDMCI	**Parker Dam,Lak** baz=135	**134.71**	**40**	⇑PKPdf	**PKPdf**	**07 57 39.4**	**-0.8**
Y12C	**Blythe** baz=135	**134.81**	**41**	⇓PKPdf	**PKPdf**	**07 57 39.4**	**-1.0**
Y12C	**Blythe** baz=135	**134.81**	**41**	⇓PKPdf	**PKPdf**	**07 57 39.4**	**-1.0**
L26A	**Underwood Farm** baz=135	**134.81**	**24**	⇓PKPdf	**PKPdf**	**07 57 39.7**	**-0.7**
L26A	**Underwood Farm** baz=135	**134.81**	**24**	⇓PKPdf	**PKPdf**	**07 57 39.7**	**-0.7**
O22A	**Kremmling** baz=135	**134.82**	**28**	⇓PKPdf	**PKPdf**	**07 57 39.2**	**-1.4**
O22A	**Kremmling** baz=135	**134.82**	**28**	⇓PKPdf	**PKPdf**	**07 57 39.2**	**-1.4**
RCBR	**Riachuelo**	**134.84**	**260**	*e*PKPdf	**PKPdf**	**07 57 41.9**	**+0.9**
RCBR				*e*PP	**PP**	**08 00 11.3**	**-4.2**
RCBR				LR	LR		
	comp=Z,26μm,19.0s						
P21A	**Newcastle** baz=135	**134.88**	**30**	⇓PKPdf	**PKPdf**	**07 57 39.5**	**-1.2**
P21A	**Newcastle** baz=135	**134.88**	**30**	⇓PKPdf	**PKPdf**	**07 57 39.5**	**-1.2**
Q20A	**Ridgley Place,** baz=135	**134.88**	**31**	⇑PKPdf	**PKPdf**	**07 57 39.4**	**-1.2**
Q20A	**Ridgley Place,** baz=135	**134.88**	**31**	⇑PKPdf	**PKPdf**	**07 57 39.4**	**-1.2**
K28A	**Ten Mile Ranch** baz=135	**134.90**	**22**	⇓PKPdf	**PKPdf**	**07 57 39.6**	**-0.9**
K28A	**Ten Mile Ranch** baz=135	**134.90**	**22**	⇓PKPdf	**PKPdf**	**07 57 39.6**	**-0.9**
M25A	**Palm-Egli Farm** baz=135	**134.91**	**25**	⇑PKPdf	**PKPdf**	**07 57 39.6**	**-1.0**
M25A	**Palm-Egli Farm** baz=135	**134.91**	**25**	⇑PKPdf	**PKPdf**	**07 57 39.6**	**-1.0**
COWI	**Conover**	**134.91**	**8**	*e*PKPdf	**PKPdf**	**07 57 38.7**	**-1.6**
COWI				*e*PP	**PP**	**08 00 09.2**	**-4.4**
COWI				*e*		08 01 12.1	
COWI				LR	LR		
	comp=Z,30μm,22.0s						
PV04	**Paradox Valley**	**134.99**	**32**	*e*PKPdf	**PKPdf**	**07 57 40.8**	**-0.1**
PV04				*e*		08 01 13.2	
GLA	**Glamis**	**135.03**	**42**	*e*PKIKP	**PKPdf**	**07 57 38.6**	**-2.3**
GLA	**Glamis**	**135.03**	**42**	*e*PKPdf	**PKPdf**	**07 57 38.6**	**-2.3**
GLA				*e*		08 01 14.1	
GLA	**Glamis** baz=135	**135.03**	**42**	⇓PKPdf	**PKPdf**	**07 57 40.1**	**-0.8**
GLA	**Glamis** baz=135	**135.03**	**42**	⇓PKPdf	**PKPdf**	**07 57 40.1**	**-0.8**
N24A	**Carr** baz=135	**135.05**	**26**	⇓PKPdf	**PKPdf**	**07 57 39.9**	**-1.0**
N24A	**Carr** baz=135	**135.05**	**26**	⇓PKPdf	**PKPdf**	**07 57 39.9**	**-1.0**
O23A	**Lake Granby, G** baz=135	**135.07**	**28**	⇓PKPdf	**PKPdf**	**07 57 40.0**	**-1.1**
O23A	**Lake Granby, G** baz=135	**135.07**	**28**	⇓PKPdf	**PKPdf**	**07 57 40.0**	**-1.1**
L27A	**T5 Ranch, Ells** baz=135	**135.07**	**23**	⇑PKPdf	**PKPdf**	**07 57 39.8**	**-1.0**
L27A	**T5 Ranch, Ells** baz=135	**135.07**	**23**	⇑PKPdf	**PKPdf**	**07 57 39.8**	**-1.0**
SPMN	**St. Paul**	**135.10**	**12**	*e*PKPdf	**PKPdf**	**07 57 38.7**	**-1.9**
SPMN				*e*PP	**PP**	**08 00 11.7**	**-3.1**
SPMN				*e*		08 01 12.1	
SPMN	**St. Paul** baz=135	**135.10**	**12**	⇓PKPdf	**PKPdf**	**07 57 39.8**	**-0.8**
SPMN	**St. Paul** baz=135	**135.10**	**12**	⇓PKPdf	**PKPdf**	**07 57 39.8**	**-0.8**
P22A	**Eagle** baz=135	**135.16**	**29**	⇓PKPdf	**PKPdf**	**07 57 39.9**	**-1.3**
P22A	**Eagle** baz=135	**135.16**	**29**	⇓PKPdf	**PKPdf**	**07 57 39.9**	**-1.3**
K29A	**Lazy Trails An** baz=135	**135.23**	**21**	⇑PKPdf	**PKPdf**	**07 57 40.2**	**-0.8**
K29A	**Lazy Trails An** baz=135	**135.23**	**21**	⇑PKPdf	**PKPdf**	**07 57 40.2**	**-0.8**
M26A	**McRoberts Ranc** baz=135	**135.26**	**24**	⇓PKPdf	**PKPdf**	**07 57 40.4**	**-0.8**
M26A	**McRoberts Ranc** baz=135	**135.26**	**24**	⇓PKPdf	**PKPdf**	**07 57 40.4**	**-0.8**
PKME	**Peaks-Kenny Pk**	**135.27**	**349**	*e*PKPdf	**PKPdf**	**07 57 38.8**	**-2.1**
PKME				*e*		08 01 13.5	
PKME				LR	LR		
	comp=Z,26μm,22.0s						
Q21A	**Lamborn Mesa,** baz=135	**135.34**	**30**	⇑PKPdf	**PKPdf**	**07 57 40.5**	**-1.0**
Q21A	**Lamborn Mesa,** baz=135	**135.34**	**30**	⇑PKPdf	**PKPdf**	**07 57 40.5**	**-1.0**
SMCO	**Snowmass**	**135.38**	**30**	*e*PKPdf	**PKPdf**	**07 57 40.7**	**-1.1**
SMCO				*e*PP	PP	08 00 24.7	+7.2
SMCO				*e*		08 01 14.0	
N25A	**Grover** baz=135	**135.41**	**26**	⇓PKPdf	**PKPdf**	**07 57 40.5**	**-1.1**
N25A	**Grover** baz=135	**135.41**	**26**	⇓PKPdf	**PKPdf**	**07 57 40.5**	**-1.1**
EMMW	**East Machias**	**135.41**	**347**	*e*PKPdf	**PKPdf**	**07 57 37.1**	**-4.1**
R20A	**Redvale** baz=135	**

	baz=136						
R21A	Cimarron	135.71	31	⇑PKPdf	PKPdf	07 57 41.3	-1.0
	baz=136						
N26A	Koester Ranch,	135.76	25	⇓PKPdf	PKPdf	07 57 41.3	-0.8
	baz=136						
N26A	Koester Ranch,	135.76	25	⇓PKPdf	PKPdf	07 57 41.3	-0.8
	baz=136						
P23A	Jefferson	135.77	28	⇓PKPdf	PKPdf	07 57 41.4	-1.1
	baz=136						
P23A	Jefferson	135.77	28	⇓PKPdf	PKPdf	07 57 41.4	-1.1
	baz=136						
L29A	Maesberg Ranch	135.79	21	⇑PKPdf	PKPdf	07 57 41.2	-0.9
	baz=136						
L29A	Maesberg Ranch	135.79	21	⇑PKPdf	PKPdf	07 57 41.2	-0.9
	baz=136						
113A	Mohawk Valley,	135.91	42	⇑PKPdf	PKPdf	07 57 41.7	-0.8
	baz=136						
113A	Mohawk Valley,	135.91	42	⇑PKPdf	PKPdf	07 57 41.7	-0.8
	baz=136						
O25A	Wiggins	135.97	26	⇑PKPdf	PKPdf	07 57 41.3	-1.3
	baz=136						
O25A	Wiggins	135.97	26	⇑PKPdf	PKPdf	07 57 41.3	-1.3
	baz=136						
WVL	Waterville	136.01	349	*e*PKPdf	PKPdf	07 57 39.2	-3.0
WVL				*e*PP	PP	08 00 20.1	-0.4
M28A	Bar X Bar Ranc	136.03	23	⇓PKPdf	PKPdf	07 57 41.5	-1.1
	baz=136						
M28A	Bar X Bar Ranc	136.03	23	⇓PKPdf	PKPdf	07 57 41.5	-1.1
	baz=136						
N27A	Anderson Farm,	136.07	24	⇓PKPdf	PKPdf	07 57 41.6	-1.1
	baz=136						
N27A	Anderson Farm,	136.07	24	⇓PKPdf	PKPdf	07 57 41.6	-1.1
	baz=136						
Z14A	Wintersburg	136.07	40	⇓PKPdf	PKPdf	07 57 41.8	-0.9
	baz=136						
Z14A	Wintersburg	136.07	40	⇓PKPdf	PKPdf	07 57 41.8	-0.9
	baz=136						
MVCO	Mesa Verde	136.08	33	*e*PKPdf	PKPdf	07 57 40.7	-2.3
MVCO				*e*PP	PP	08 00 27.0	+5.1
MVCO				*e*		08 01 16.9	
MVCO				LR	LR		
	comp=Z,15μm,20.0s						
MVCO	Mesa Verde	136.08	33	⇑PKPdf	PKPdf	07 57 41.7	-1.3
	baz=136						
MVCO	Mesa Verde	136.08	33	⇑PKPdf	PKPdf	07 57 41.7	-1.3
	baz=136						
P24A	Kohler Place,	136.10	27	⇑PKPdf	PKPdf	07 57 41.7	-1.2
	baz=136						
P24A	Kohler Place,	136.10	27	⇑PKPdf	PKPdf	07 57 41.7	-1.2
	baz=136						
S21A	Coal Bank Pass	136.12	32	⇑PKPdf	PKPdf	07 57 41.9	-1.2
	baz=136						
S21A	Coal Bank Pass	136.12	32	⇑PKPdf	PKPdf	07 57 41.9	-1.2
	baz=136						
Q23A	Hartsel	136.15	29	⇑PKPdf	PKPdf	07 57 41.8	-1.4
	baz=136						
Q23A	Hartsel	136.15	29	⇑PKPdf	PKPdf	07 57 41.8	-1.4
	baz=136						
OGNE	Ogallala	136.15	24	*e*PKPdf	PKPdf	07 57 39.5	-3.3
OGNE				*e*		08 01 15.6	
OGNE				LR	LR		
	comp=Z,29μm,19.0s						
OGNE	Ogallala	136.15	24	⇓PKPdf	PKPdf	07 57 41.7	-1.1
	baz=136						
OGNE	Ogallala	136.15	24	⇓PKPdf	PKPdf	07 57 41.7	-1.1
	baz=136						
O26A	Horse Wrangler	136.21	25	⇓PKPdf	PKPdf	07 57 41.9	-1.1
	baz=136						
O26A	Horse Wrangler	136.21	25	⇓PKPdf	PKPdf	07 57 41.9	-1.1
	baz=136						
R22A	Saguache, Gunn	136.22	30	⇑PKPdf	PKPdf	07 57 42.2	-1.1
	baz=136						
R22A	Saguache, Gunn	136.22	30	⇑PKPdf	PKPdf	07 57 42.2	-1.1
	baz=136						
M29A	Burnside Ranch	136.25	22	⇑PKPdf	PKPdf	07 57 41.7	-1.2
	baz=136						
M29A	Burnside Ranch	136.25	22	⇑PKPdf	PKPdf	07 57 41.7	-1.2
	baz=136						
X16A	Lo Mia Camp, P	136.34	38	⇓PKPdf	PKPdf	07 57 42.5	-1.0
	baz=136						
X16A	Lo Mia Camp, P	136.34	38	⇓PKPdf	PKPdf	07 57 42.5	-1.0
	baz=136						
MSNY	Massena	136.36	354	*e*PKPdf	PKPdf	07 57 41.3	-1.6
FRNY	Flat Rock	136.38	353	*e*PKPdf	PKPdf	07 57 40.0	-2.9
FRNY				*e*		08 01 17.8	
Q24A	Divide	136.43	28	⇑PKPdf	PKPdf	07 57 42.4	-1.3
	baz=136						
Q24A	Divide	136.43	28	⇑PKPdf	PKPdf	07 57 42.4	-1.3
	baz=136						
P25A	Willow Gulch B	136.44	27	⇑PKPdf	PKPdf	07 57 42.5	-1.0
	baz=136						
P25A	Willow Gulch B	136.44	27	⇑PKPdf	PKPdf	07 57 42.5	-1.0
	baz=136						
M30A	Dale-Ortello V	136.47	21	⇑PKPdf	PKPdf	07 57 42.0	-1.4
	baz=136						
M30A	Dale-Ortello V	136.47	21	⇑PKPdf	PKPdf	07 57 42.0	-1.4
	baz=136						
S22A	4UR Ranch, Cre	136.55	31	⇓PKPdf	PKPdf	07 57 42.8	-1.1
	baz=136						
S22A	4UR Ranch, Cre	136.55	31	⇓PKPdf	PKPdf	07 57 42.8	-1.1
	baz=136						
N28A	Pribbeno Ranch	136.57	23	⇑PKPdf	PKPdf	07 57 42.5	-1.0
	baz=136						
N28A	Pribbeno Ranch	136.57	23	⇑PKPdf	PKPdf	07 57 42.5	-1.0
	baz=136						
O27A	Beecher Island	136.61	25	⇓PKPdf	PKPdf	07 57 42.8	-0.9
	baz=136						
O27A	Beecher Island	136.61	25	⇓PKPdf	PKPdf	07 57 42.8	-0.9
	baz=136						
U20A	Newcomb	136.68	33	⇓PKPdf	PKPdf	07 57 43.1	-0.9
	baz=136						
U20A	Newcomb	136.68	33	⇓PKPdf	PKPdf	07 57 43.1	-0.9
	baz=136						
LONY	Lake Ozonia	136.71	354	*e*PKPdf	PKPdf	07 57 40.2	-3.4
LONY				*e*PP	PP	08 00 18.8	-6.0
LONY				*e*		08 01 13.7	
LONY				LR	LR		
	comp=Z,17μm,19.0s						
R23A	Moffat	136.71	29	⇓PKPdf	PKPdf	07 57 42.5	-1.7
	baz=137						
R23A	Moffat	136.71	29	⇓PKPdf	PKPdf	07 57 42.5	-1.7
	baz=137						
LBNH	Lisbon	136.73	351	*e*PKIKP	PKPdf	07 57 41.6	-2.1
LBNH				MLR	MLR		
	comp=Z,35μm,21.0s						
LBNH	Lisbon	136.73	351	*e*PKPdf	PKPdf	07 57 41.6	-2.1
LBNH				LR	LR		
	comp=Z,35μm,21.0s						
T21A	Navajo Lake	136.75	32	⇑PKPdf	PKPdf	07 57 43.2	-1.0
	baz=137						
T21A	Navajo Lake	136.75	32	⇑PKPdf	PKPdf	07 57 43.2	-1.0
	baz=137						
P26A	Davis Ranch, A	136.76	26	⇓PKPdf	PKPdf	07 57 43.2	-0.9
	baz=137						
P26A	Davis Ranch, A	136.76	26	⇓PKPdf	PKPdf	07 57 43.2	-0.9
	baz=137						
N29A	Votaw Ranch, W	136.81	22	⇓PKPdf	PKPdf	07 57 43.2	-0.8
	baz=137						
N29A	Votaw Ranch, W	136.81	22	⇓PKPdf	PKPdf	07 57 43.2	-0.8
	baz=137						
SADO	Sadowa	136.86	359	PP	PP	08 00 26.9	+1.1
SADO				SKPbc	SKiKP	08 01 17.7	-1.1
SADO	Sadowa	136.86	359	PP	PP	08 00 26.9	+1.1
	comp=Z,14nm,1.0s,baz=300,slow=3.9,SNR=3.2						
SADO				SKPbc	SKiKP	08 01 17.7	-1.1
	comp=Z,20nm,1.0s,baz=326,slow=7.0,SNR=3.3						
W18A	Petrified Fore	136.88	36	*e*PKPdf	PKPdf	07 57 44.5	0.0
W18A	Petrified Fore	136.88	36	⇓PKPdf	PKPdf	07 57 43.4	-1.1
	baz=137						
W18A	Petrified Fore	136.88	36	⇓PKPdf	PKPdf	07 57 43.4	-1.1
	baz=137						
Q25A	Bedland, Calha	136.88	27	⇑PKPdf	PKPdf	07 57 43.2	-1.2
	baz=137						
Q25A	Bedland, Calha	136.88	27	⇑PKPdf	PKPdf	07 57 43.2	-1.2
	baz=137						
O28A	Krutsinger Ran	136.95	24	⇑PKPdf	PKPdf	07 57 43.6	-0.7
	baz=137						
O28A	Krutsinger Ran	136.95	24	⇑PKPdf	PKPdf	07 57 43.6	-0.7
	baz=137						
S23A	Nye Farm, Mont	137.00	30	⇑PKPdf	PKPdf	07 57 43.6	-1.1
	baz=137						
S23A	Nye Farm, Mont	137.00	30	⇑PKPdf	PKPdf	07 57 43.6	-1.1
	baz=137						
PLCA	Paso Flores	137.02	191	*e*PKPdf	PKPdf	07 57 42.1	-2.4
PLCA				PKP	PKPdf	07 57 43.1	-1.3
PLCA	Paso Flores	137.02	191	PKhKP	PKPpre	07 57 34.6	
	comp=Z,5.9nm,1.2s,baz=83,slow=7.0,SNR=3.1						
PLCA				PKP	PKPdf	07 57 43.1	-1.3
	comp=Z,50nm,1.1s,baz=166,slow=7.6,SNR=11						
R24A	Sanders Place,	137.03	29	⇓PKPdf	PKPdf	07 57 43.8	-0.9
	baz=137						
R24A	Sanders Place,	137.03	29	⇓PKPdf	PKPdf	07 57 43.8	-0.9
	baz=137						
N30A	Hueftle Ranch,	137.03	22	⇓PKPdf	PKPdf	07 57 43.5	-0.9
	baz=137						
N30A	Hueftle Ranch,	137.03	22	⇓PKPdf	PKPdf	07 57 43.5	-0.9
	baz=137						
214A	Organ Pipe Nat	137.04	42	⇓PKPdf	PKPdf	07 57 43.6	-1.1
	baz=137						
214A	Organ Pipe Nat	137.04	42	⇓PKPdf	PKPdf	07 57 43.6	-1.1
	baz=137						
T22A	Edith	137.07	31	⇑PKPdf	PKPdf	07 57 43.4	-1.5
	baz=137						
T22A	Edith	137.07	31	⇑PKPdf	PKPdf	07 57 43.4	-1.5
	baz=137						
P27A	Ficken Ranch,	137.10	25	⇑PKPdf	PKPdf	07 57 43.4	-1.2
	baz=137						
P27A	Ficken Ranch,	137.10	25	⇑PKPdf	PKPdf	07 57 43.4	-1.2
	baz=137						
TRQA	Tornquist	137.10	202	*e*PKPdf	PKPdf	07 57 38.9	-5.7
TRQA				LR	LR		
	comp=Z,21μm,19.0s						
U21A	Nageezi	137.11	33	⇓PKPdf	PKPdf	07 57 43.8	-1.1
	baz=137						
U21A	Nageezi	137.11	33	⇓PKPdf	PKPdf	07 57 43.8	-1.1
	baz=137						
V20A	Brimhall	137.12	34	⇑PKPdf	PKPdf	07 57 43.5	-1.4
	baz=137						
V20A	Brimhall	137.12	34	⇑PKPdf	PKPdf	07 57 43.5	-1.4
	baz=137						
MDV	Middlebury	137.15	352	*e*PKPdf	PKPdf	07 57 43.1	-1.3
X18A	Snowflake	137.16	37	⇓PKPdf	PKPdf	07 57 43.9	-1.1
	baz=137						
X18A	Snowflake	137.16	37	⇓PKPdf	PKPdf	07 57 43.9	-1.1
	baz=137						
BGNE	Belgrade	137.18	20	*e*PKPdf	PKPdf	07 57 38.2	-6.4
BGNE	Belgrade	137.18	20	⇑PKPdf	PKPdf	07 57 43.3	-1.3
	baz=137						
BGNE	Belgrade	137.18	20	⇑PKPdf	PKPdf	07 57 43.3	-1.3
	baz=137						
Q26A	Hugo	137.21	27	⇓PKPdf	PKPdf	07 57 43.8	-1.1
	baz=137						
Q26A	Hugo	137.21	27	⇓PKPdf	PKPdf	07 57 43.8	-1.1
	baz=137						
SDCO	Great Sand Dun	137.22	30	*e*PKPdf	PKPdf	07 57 38.0	-7.1
SDCO				*e*		08 01 20.0	
SDCO				LR	LR		
	comp=Z,21μm,21.0s						
HNH	Hanover	137.31	351	*e*PKPdf	PKPdf	07 57 42.8	-1.9
NCB	Newcomb	137.31	353	*e*PKPdf	PKPdf	07 57 35.8	-9.0
NCB				*e*PP	PP	08 00 32.1	+3.5
NCB				*e*		08 01 19.4	
NCB				LR	LR		
	comp=Z,26μm,20.0s						
O29A	4D Ranch, Culb	137.34	23	⇑PKPdf	PKPdf	07 57 43.9	-1.1
	baz=137						
O29A	4D Ranch, Culb	137.34	23	⇑PKPdf	PKPdf	07 57 43.9	-1.1
	baz=137						
P28A	Saint Francis	137.43	24	⇓PKPdf	PKPdf	07 57 44.2	-1.0
	baz=137						
P28A	Saint Francis	137.43	24	⇓PKPdf	PKPdf	07 57 44.2	-1.0
	baz=137						
FFD	Franklin Falls	137.44	350	*e*PKPdf	PKPdf	07 57 44.6	-0.4
S24A	Houchin Ranch,	137.44	29	⇓PKPdf	PKPdf	07 57 44.1	-1.5
	baz=137						
S24A	Houchin Ranch,	137.44	29	⇓PKPdf	PKPdf	07 57 44.1	-1.5
	baz=137						
R25A	Fountain Ranch	137.49	28	⇓PKPdf	PKPdf	07 57 44.1	-1.3
	baz=137						
R25A	Fountain Ranch	137.49	28	⇓PKPdf	PKPdf	07 57 44.1	-1.3
	baz=137						
T23A	Casias Ranch,	137.50	31	⇑PKPdf	PKPdf	07 57 44.3	-1.3
	baz=137						
T23A	Casias Ranch,	137.50	31	⇑PKPdf	PKPdf	07 57 44.3	-1.3
	baz=137						
KSCO	Kaye Shedlock'	137.53	26	*e*PKPdf	PKPdf	07 57 44.6	-0.9
KSCO				*e*		08 01 19.7	
KSCO	Kaye Shedlock'	137.53	26	⇑PKPdf	PKPdf	07 57 44.3	-1.2
	baz=137						
KSCO	Kaye Shedlock'	137.53	26	⇑PKPdf	PKPdf	07 57 44.3	-1.2
	baz=137						
U22A	Llaves	137.57	32	⇓PKPdf	PKPdf	07 57 44.1	-1.6
	baz=137						
U22A	Llaves	137.57	32	⇓PKPdf	PKPdf	07 57 44.1	-1.6
	baz=137						
V21A	Milan	137.58	33	⇑PKPdf	PKPdf	07 57 44.2	-1.6
	baz=137						
V21A	Milan	137.58	33	⇑PKPdf	PKPdf	07 57 44.2	-1.6
	baz=137						
O30A	MW Ranch, Wils	137.58	22	⇓PKPdf	PKPdf	07 57 44.2	-1.2
	baz=137						
O30A	MW Ranch, Wils	137.58	22	⇓PKPdf	PKPdf	07 57 44.2	-1.2
	baz=137						
W20A	Ramah	137.59	35	⇑PKPdf	PKPdf	07 57 44.2	-1.6
	baz=138						
W20A	Ramah	137.59	35	⇑PKPdf	PKPdf	07 57 44.2	-1.6
	baz=138						
P29A	Atwood	137.74	24	⇑PKPdf	PKPdf	07 57 44.4	-1.3
	baz=138						
P29A	Atwood	137.74	24	⇑PKPdf	PKPdf	07 57 44.4	-1.3
	baz=138						
R26A	Arlington	137.75	27	⇑PKPdf	PKPdf	07 57 44.5	-1.4
	baz=138						
R26A	Arlington	137.75	27	⇑PKPdf	PKPdf	07 57 44.5	-1.4
	baz=138						
S25A	Robets Cordova	137.80	29	⇓PKPdf	PKPdf	07 57 44.7	-1.4
	baz=138						
S25A	Robets Cordova	137.80	29	⇓PKPdf	PKPdf	07 57 44.7	-1.4
	baz=138						
Q28A	Sharon Springs	137.83	25	⇑PKPdf	PKPdf	07 57 44.6	-1.4
	baz=138						
Q28A	Sharon Springs	137.83	25	⇑PKPdf	PKPdf	07 57 44.6	-1.4
	baz=138						
JFWS	Jewell Farm	137.83	11	*e*PKIKP	PKPdf	07 57 41.1	-4.6
JFWS				*e*		08 00 27.8	
JFWS				MLR	MLR		
	comp=Z,39μm,21.0s						
JFWS	Jewell Farm	137.83	11	*e*PKPdf	PKPdf	07 57 41.1	-4.6
JFWS				*e*PP	PP	08 00 27.8	-4.1
JFWS				*e*		08 01 19.9	
JFWS				LR	LR		
	comp=Z,39μm,21.0s						
V22A	San Miguel Ran	137.89	33	⇑PKPdf	PKPdf	07 57 44.8	-1.6
	baz=138						
V22A	San Miguel Ran	137.89	33	⇑PKPdf	PKPdf	07 57 44.8	-1.6
	baz=138						
U23A	El Rito	137.96	31	⇓PKPdf	PKPdf	07 57 44.8	-1.6
	baz=138						
U23A	El Rito	137.96	31	⇓PKPdf	PKPdf	07 57 44.8	-1.6
	baz=138						
R27A	Eads	138.05	26	⇑PKPdf	PKPdf	07 57 45.1	-1.3
	baz=138						
R27A	Eads	138.05	26	⇑PKPdf	PKPdf	07 57 45.1	-1.3
	baz=138						
P30A	Selden	138.06	23	⇓PKPdf	PKPdf	07 57 45.3	-1.0
	baz=138						
P30A	Selden	138.06	23	⇓PKPdf	PKPdf	07 57 45.3	-1.0
	baz=138						
W21A	San Fidel	138.08	34	⇑PKPdf	PKPdf	07 57 45.5	-1.2
	baz=138						
W21A	San Fidel	138.08	34	⇑PKPdf	PKPdf	07 57 45.5	-1.2
	baz=138						
TUC	Tucson	138.14	40	*e*PKIKP	PKPdf	07 57 40.1	-6.6
TUC				MLR	MLR		
	comp=Z,16μm,20.0s						
TUC	Tucson	138.14	40	*e*PKPdf	PKPdf	07 57 40.1	-6.6
TUC				LR	LR		
	comp=Z,16μm,20.0s						
T25A	Trinidad	138.23	29	⇑PKPdf	PKPdf	07 57 44.4	-2.5
	baz=138						
T25A	Trinidad	138.23	29	⇑PKPdf	PKPdf	07 57 44.4	-2.5
	baz=138						
S26A	Kim	138.29	28	⇓PKPdf	PKPdf	07 57 44.4	-2.5
	baz=138						
S26A	Kim	138.29	28	⇓PKPdf	PKPdf	07 57 44.4	-2.5
	baz=138						
Q29A	Oakley	138.32	24	⇓PKPdf	PKPdf	07 57 44.7	-2.2
	baz=138						
Q29A	Oakley	138.32	24	⇓PKPdf	PKPdf	07 57 44.7	-2.2
	baz=138						
HRV	Adam Dziewonsk	138.36	350	*e*PKHKP	PKPpre	07 57 37.8	
HRV	Adam Dziewonsk	138.36	350	*e*PKPdf	PKPpre	07 57 37.8	
HRV				*e*		08 01 21.2	
U24A	Moreno Valley	138.37	31	⇓PKPdf	PKPdf	07 57 45.0	-2.4
	baz=138						
U24A	Moreno Valley	138.37	31	⇓PKPdf	PKPdf	07 57 45.0	-2.4
	baz=138						
V23A	Ortiz Mt. (NFS	138.41	32	⇓PKPdf	PKPdf	07 57 45.3	-2.0
	baz=138						
V23A	Ortiz Mt. (NFS	138.41	32	⇓PKPdf	PKPdf	07 57 45.3	-2.0
	baz=138						
P31A	Stockton	138.41	22	⇑PKPdf	PKPdf	07 57 45.1	-1.8
	baz=138						
P31A	Stockton	138.41	22	⇑PKPdf	PKPdf	07 57 45.1	-1.8
	baz=138						
WES	Weston	138.43	350	*e*PKIKP	PKPdf	07 57 41.8	-5.0
WES				*e*		08 00 32.8	
WES	Weston	138.43	350	*e*PKPdf	PKPdf	07 57 41.8	-5.0
WES				*e*PP	PP	08 00 32.8	-2.8
WES				*e*		08 01 22.8	
R28A	Tribune	138.44	25	⇑PKPdf	PKPdf	07 57 45.1	-2.0
	baz=138						
R28A	Tribune	138.44	25	⇑PKPdf	PKPdf	07 57 45.1	-2.0
	baz=138						
X21A	Alamocita Cree	138.49	35	⇓PKPdf	PKPdf	07 57 45.3	-2.2
	baz=138						
X21A	Alamocita Cree	138.49	35	⇓PKPdf	PKPdf	07 57 45.3	-2.2
	baz=138						
S27A	Las Animas	138.50	27	⇑PKPdf	PKPdf	07 57 45.3	-2.0
	baz=138						
S27A	Las Animas	138.50	27	⇑PKPdf	PKPdf	07 57 45.3	-2.0
	baz=138						
Y20A	Horse Springs,	138.53	36	⇓PKPdf	PKPdf	07 57 45.3	-2.3
	baz=138						
Y20A	Horse Springs,	138.53	36	⇓PKPdf	PKPdf	07 57 45.3	-2.3
	baz=138						
W22A	Albuquerque	138.54	33	⇑PKPdf	PKPdf	07 57 45.5	-2.0
	baz=138						
W22A	Albuquerque	138.54	33	⇑PKPdf	PKPdf	07 57 45.5	-2.0
	baz=138						
Q30A	Quinter	138.56	23	⇓PKPdf	PKPdf	07 57 45.7	-1.6
	baz=138						
Q30A	Quinter	138.56	23	⇓PKPdf	PKPdf	07 57 45.7	-1.6
	baz=138						
T26A	Comanche Natio	138.59	28	⇑PKPdf	PKPdf	07 57 45.6	-2.0
	baz=138						
T26A	Comanche Natio	138.59	28	⇑PKPdf	PKPdf	07 57 45.6	-2.0
	baz=138						
R29A	Marienthal	138.65	25	⇑PKPdf	PKPdf	07 57 45.6	-1.9
	baz=138						
R29A	Marienthal	138.65	25	⇑PKPdf	PKPdf	07 57 45.6	-1.9
	baz=138						
QUA2	Belchertown	138.71	351	*e*PKPdf	PKPdf	07 57 40.6	-6.7
U25A	Circle Dot Ran	138.81	30	⇑PKPdf	PKPdf	07 57 46.1	-1.9
	baz=139						
U25A	Circle Dot Ran	138.81	30	⇑PKPdf	PKPdf	07 57 46.1	-1.9
	baz=139						
Q31A	Ellis	138.85	23	⇓PKPdf	PKPdf	07 57 45.8	-2.0
	baz=139						
Q31A	Ellis	138.85	23	⇓PKPdf	PKPdf	07 57 45.8	-2.0
	baz=139						
Y21A	Point of Rocks	138.87	35	⇑PKPdf	PKPdf	07 57 46.3	-1.9
	baz=139						
Y21A	Point of Rocks	138.87	35	⇑PKPdf	PKPdf	07 57 46.3	-1.9
	baz=139						
W23A	Werner Place,	138.87	33	⇓PKPdf	PKPdf	07 57 46.0	-2.1
	baz=139						
W23A	Werner Place,	138.87	33	⇓PKPdf	PKPdf	07 57 46.0	-2.1
	baz=139						
X22A	Bernardo	138.88	34	⇑PKPdf	PKPdf	07 57 46.3	-1.9
	baz=139						
X22A	Bernardo	138.88	34	⇑PKPdf	PKPdf	07 57 46.3	-1.9
	baz=139						
LAZ	Ladron	138.88	34	*e*PKPdf	PKPdf	07 57 40.2	-8.0
V24A	Rampart Ranch,	138.90	31	⇑PKPdf	PKPdf	07 57 45.8	-2.4
	baz=139						
V24A	Rampart Ranch,	138.90	31	⇑PKPdf	PKPdf	07 57 45.8	-2.4
	baz=139						
BRYW	Bryant College	138.92	350	*e*PKPdf	PKPdf	07 57 45.0	-2.8
Z20A	Nine Sixteen R	138.96	37	⇑PKPdf	PKPdf	07 57 46.2	-2.1
	baz=139						
Z20A	Nine Sixteen R	138.96	37	⇑PKPdf	PKPdf	07 57 46.2	-2.1
	baz=139						
S28A	Manter	139.03	26	⇑PKPdf	PKPdf	07 57 46.3	-1.9
	baz=139						
S28A	Manter	139.03	26	⇑PKPdf	PKPdf	07 57 46.3	-1.9
	baz=139						
T27A	Campo	139.09	27	⇑PKPdf	PKPdf	07 57 46.4	-2.0
	baz=139						
T27A	Campo	139.09	27	⇑PKPdf	PKPdf	07 57 46.4	-2.0
	baz=139						
R30A	Dighton	139.13	24	⇓PKPdf	PKPdf	07 57 46.2	-2.2
	baz=139						
R30A	Dighton	139.13	24	⇓PKPdf	PKPdf	07 57 46.2	-2.2
	baz=139						
U26A	Atchley Ranch,	139.14	29	⇓PKPdf	PKPdf	07 57 46.3	-2.3
	baz=139						
U26A	Atchley Ranch,	139.14	29	⇓PKPdf	PKPdf	07 57 46.3	-2.3
	baz=139						
V25A	Rancho No Teng	139.15	30	⇓PKPdf	PKPdf	07 57 46.1	-2.5
	baz=139						
V25A	Rancho No Teng	139.15	30	⇓PKPdf	PKPdf	07 57 46.1	-2.5
	baz=139						
LENM	Lemitar	139.15	34	*e*PKPdf	PKPdf	07 57 47.2	-1.4
W24A	Lazy 6 Ranch,	139.22	32	⇑PKPdf	PKPdf	07 57 46.5	-2.3
	baz=139						
W24A	Lazy 6 Ranch,	139.22	32	⇑PKPdf	PKPdf	07 57 46.5	-2.3
	baz=139						
LPM	Los Pinos Moun	139.24	34	*e*PKPdf	PKPdf	07 57 41.9	-7.0
BINY	Binghamton	139.24	355	*e*PKPdf	PKPdf	07 57 47.7	-0.7
BINY				*e*PP	PP	08 00 41.3	+0.7
BINY				LR	LR		
	comp=Z,22μm,19.0s						
Y22D	IRIS PASSCAL I	139.25	34	⇑PKPdf	PKPdf	07 57 46.5	-2.3
	baz=139

KSU1 ePP PP 08 00 42.1 -1.9
KSU1 e 08 01 25.7
KSU1 LR LR
comp=Z,29µm,22.0s
Z22A Elephant Butte 139.82 35 ⇑PKPdf PKPdf 07 57 48.0 -1.8
baz=140
Z22A Elephant Butte 139.82 35 ⇑PKPdf PKPdf 07 57 48.0 -1.8
baz=140
220A Playas Peak, P 139.83 38 ⇑PKPdf PKPdf 07 57 48.4 -1.5
baz=140
220A Playas Peak, P 139.83 38 ⇑PKPdf PKPdf 07 57 48.4 -1.5
baz=140
Y23A Lovelace Mesa, 139.84 34 ⇓PKPdf PKPdf 07 57 48.4 -1.5
baz=140
Y23A Lovelace Mesa, 139.84 34 ⇓PKPdf PKPdf 07 57 48.4 -1.5
baz=140
121A Cookes Peak, D 139.85 37 ⇓PKPdf PKPdf 07 57 48.2 -1.8
baz=140
121A Cookes Peak, D 139.85 37 ⇓PKPdf PKPdf 07 57 48.2 -1.8
baz=140
U28A Mallet 139.88 28 ⇓PKPdf PKPdf 07 57 48.1 -1.7
baz=140
U28A Mallet 139.88 28 ⇓PKPdf PKPdf 07 57 48.1 -1.7
baz=140
ALLY Alegheny Colle 140.00 360 ePKPdf PKPdf 07 57 47.8 -2.0
ALLY ePP PP 08 00 42.4 -2.8
S31A Mullinville 140.02 24 ⇑PKPdf PKPdf 07 57 47.9 -2.1
baz=140
S31A Mullinville 140.02 24 ⇑PKPdf PKPdf 07 57 47.9 -2.1
baz=140
T30A Plains 140.07 25 ⇓PKPdf PKPdf 07 57 48.2 -1.9
baz=140
T30A Plains 140.07 25 ⇓PKPdf PKPdf 07 57 48.2 -1.9
baz=140
V27A Dan Oppiter Fa 140.09 29 ⇓PKPdf PKPdf 07 57 48.5 -1.8
baz=140
V27A Dan Oppiter Fa 140.09 29 ⇓PKPdf PKPdf 07 57 48.5 -1.8
baz=140
X25A Clemmons Ranch 140.14 32 ⇑PKPdf PKPdf 07 57 48.8 -1.7
baz=140
X25A Clemmons Ranch 140.14 32 ⇑PKPdf PKPdf 07 57 48.8 -1.7
baz=140
W26A Owens Ranch, T 140.17 30 ⇓PKPdf PKPdf 07 57 48.6 -1.9
baz=140
W26A Owens Ranch, T 140.17 30 ⇓PKPdf PKPdf 07 57 48.6 -1.9
baz=140
Y24A Capitan 140.18 33 ⇑PKPdf PKPdf 07 57 48.6 -2.0
baz=140
Y24A Capitan 140.18 33 ⇑PKPdf PKPdf 07 57 48.6 -2.0
baz=140
122A Conniff Cattle 140.20 36 ⇑PKPdf PKPdf 07 57 48.7 -1.9
baz=140
122A Conniff Cattle 140.20 36 ⇑PKPdf PKPdf 07 57 48.7 -1.9
baz=140
320A Kipp Ranch, An 140.22 39 ⇑PKPdf PKPdf 07 57 49.1 -1.5
baz=140
320A Kipp Ranch, An 140.22 39 ⇑PKPdf PKPdf 07 57 49.1 -1.5
baz=140
221A Mesquite Ranch 140.22 37 ⇓PKPdf PKPdf 07 57 48.8 -1.8
baz=140
221A Mesquite Ranch 140.22 37 ⇓PKPdf PKPdf 07 57 48.8 -1.8
baz=140
Z23A Rita Site, Whi 140.23 35 ⇑PKPdf PKPdf 07 57 48.5 -2.1
baz=140
Z23A Rita Site, Whi 140.23 35 ⇑PKPdf PKPdf 07 57 48.5 -2.1
baz=140
U29A Oasis Ranch, S 140.25 27 ⇑PKPdf PKPdf 07 57 48.6 -1.8
baz=140
U29A Oasis Ranch, S 140.25 27 ⇑PKPdf PKPdf 07 57 48.6 -1.8
baz=140
RPN Rapa Nui 140.28 138 PFAKE 07 58 00.0 +9.3
RPN LR LR
comp=Z,16µm,20.0s
T31A Randall Ranch, 140.39 24 ⇑PKPdf PKPdf 07 57 48.2 -2.4
baz=140
T31A Randall Ranch, 140.39 24 ⇑PKPdf PKPdf 07 57 48.2 -2.4
baz=140
V28A Channing 140.39 28 ⇓PKPdf PKPdf 07 57 48.5 -2.3
baz=140
V28A Channing 140.39 28 ⇓PKPdf PKPdf 07 57 48.5 -2.3
baz=140
CPNY Central Park 140.41 352 ePKPdf PKPdf 07 57 49.1 -1.4
U30A WK&E Inc. Balk 140.46 26 ⇓PKPdf PKPdf 07 57 48.6 -2.3
baz=140
U30A WK&E Inc. Balk 140.46 26 ⇓PKPdf PKPdf 07 57 48.6 -2.3
baz=140
W27A Bowe Ranch, En 140.54 30 ⇓PKPdf PKPdf 07 57 48.7 -2.4
baz=140
W27A Bowe Ranch, En 140.54 30 ⇓PKPdf PKPdf 07 57 48.7 -2.4
baz=140
222A Williams Famil 140.56 37 ⇓PKPdf PKPdf 07 57 49.3 -2.0
baz=140
222A Williams Famil 140.56 37 ⇓PKPdf PKPdf 07 57 49.3 -2.0
baz=140
X26A CR and CF Fran 140.56 31 ⇑PKPdf PKPdf 07 57 48.9 -2.2
baz=140
X26A CR and CF Fran 140.56 31 ⇑PKPdf PKPdf 07 57 48.9 -2.2
baz=140
Y25A Mesa, Roswell 140.59 32 PKPdf PKPdf 07 57 48.3 -3.0
baz=140
Y25A Mesa, Roswell 140.59 32 PKPdf PKPdf 07 57 48.3 -3.0
baz=140
BRNJ Basking Ridge 140.59 353 ePKPdf PKPdf 07 57 50.2 -0.6
V29A Stinnett 140.62 27 ⇓PKPdf PKPdf 07 57 48.2 -3.0
baz=140
V29A Stinnett 140.62 27 ⇓PKPdf PKPdf 07 57 48.2 -3.0
baz=140
Z24A Sheeppen Canyo 140.67 34 ⇓PKPdf PKPdf 07 57 49.5 -1.9
baz=140
Z24A Sheeppen Canyo 140.67 34 ⇓PKPdf PKPdf 07 57 49.5 -1.9
baz=140
123A Bell Site, Whi 140.67 35 ⇓PKPdf PKPdf 07 57 49.3 -2.1
baz=140
123A Bell Site, Whi 140.67 35 ⇓PKPdf PKPdf 07 57 49.3 -2.1
baz=140
W28A Vega 140.80 29 ⇑PKPdf PKPdf 07 57 49.2 -2.3
baz=141
W28A Vega 140.80 29 ⇑PKPdf PKPdf 07 57 49.2 -2.3
baz=141
SFIN Scholer Farm 140.81 8 ePKPdf PKPdf 07 57 45.9 -5.4
SFIN ePP PP 08 00 50.2 0.0
SFIN Scholer Farm 140.81 8 ⇑PKPdf PKPdf 07 57 49.5 -1.7
baz=141
SFIN Scholer Farm 140.81 8 ⇑PKPdf PKPdf 07 57 49.5 -1.7
baz=141
X27A F and S Farms, 140.85 30 ⇑PKPdf PKPdf 07 57 49.3 -2.3
baz=141
X27A F and S Farms, 140.85 30 ⇑PKPdf PKPdf 07 57 49.3 -2.3
baz=141
U31A Nine Bar Ranch 140.94 25 ⇑PKPdf PKPdf 07 57 49.5 -2.2
baz=141
U31A Nine Bar Ranch 140.94 25 ⇑PKPdf PKPdf 07 57 49.5 -2.2
baz=141
223A Chaparral, Ant 141.03 36 ⇑PKPdf PKPdf 07 57 49.8 -2.2
baz=141
223A Chaparral, Ant 141.03 36 ⇑PKPdf PKPdf 07 57 49.8 -2.2
baz=141
Y26A Elida 141.05 32 ⇓PKPdf PKPdf 07 57 49.9 -2.2
baz=141
Y26A Elida 141.05 32 ⇓PKPdf PKPdf 07 57 49.9 -2.2
baz=141
Z25A Roswell 141.06 33 ⇓PKPdf PKPdf 07 57 50.2 -1.9
baz=141
Z25A Roswell 141.06 33 ⇓PKPdf PKPdf 07 57 50.2 -1.9
baz=141
V30A Spur Ranch, Mi 141.08 26 ⇓PKPdf PKPdf 07 57 49.8 -2.2
baz=141
V30A Spur Ranch, Mi 141.08 26 ⇓PKPdf PKPdf 07 57 49.8 -2.2
baz=141
124A Stringfield Ra 141.09 34 ⇓PKPdf PKPdf 07 57 50.1 -2.1
baz=141
124A Stringfield Ra 141.09 34 ⇓PKPdf PKPdf 07 57 50.1 -2.1
baz=141
W29A Amraillo 141.17 28 ⇑PKPdf PKPdf 07 57 50.0 -2.2
baz=141
W29A Amraillo 141.17 28 ⇑PKPdf PKPdf 07 57 50.0 -2.2
baz=141
AMTX Amarillo 141.35 28 ePKPdf PKPdf 07 57 48.5 -4.0
AMTX ePP PP 08 00 58.4 +4.2
AMTX e 08 01 32.0
AMTX LR LR
comp=Z,19µm,20.0s
X28A Dimmitt 141.40 29 ⇓PKPdf PKPdf 07 57 50.9 -1.8
baz=141
X28A Dimmitt 141.40 29 ⇓PKPdf PKPdf 07 57 50.9 -1.8
baz=141
Y27A Causey 141.42 31 ⇑PKPdf PKPdf 07 57 51.2 -1.5
baz=141
Y27A Causey 141.42 31 ⇑PKPdf PKPdf 07 57 51.2 -1.5
baz=141
V31A Spring Creek L 141.45 26 ⇑PKPdf PKPdf 07 57 51.1 -1.5
baz=141
V31A Spring Creek L 141.45 26 ⇑PKPdf PKPdf 07 57 51.1 -1.5
baz=141
Z26A Caprock 141.47 32 ⇓PKPdf PKPdf 07 57 51.1 -1.7
baz=141
Z26A Caprock 141.47 32 ⇓PKPdf PKPdf 07 57 51.1 -1.7
baz=141
224A Cornudas Mount 141.51 35 ⇑PKPdf PKPdf 07 57 51.4 -1.6
baz=141
224A Cornudas Mount 141.51 35 ⇑PKPdf PKPdf 07 57 51.4 -1.6
baz=141
MSTX Muleshoe 141.55 30 ePKPdf PKPdf 07 57 49.0 -3.9
MSTX ePP PP 08 00 59.8 +4.4
MSTX e 08 01 32.1
MSTX Muleshoe 141.55 30 ⇓PKPdf PKPdf 07 57 51.0 -1.9
baz=141
MSTX Muleshoe 141.55 30 ⇓PKPdf PKPdf 07 57 51.0 -1.9
baz=141
125A Gardner Draw, 141.56 34 ⇓PKPdf PKPdf 07 57 51.1 -1.9
baz=141
125A Gardner Draw, 141.56 34 ⇓PKPdf PKPdf 07 57 51.1 -1.9
baz=141
W30A Crocket Farms 141.62 27 ⇑PKPdf PKPdf 07 57 50.6 -2.3
baz=142
W30A Crocket Farms 141.62 27 ⇑PKPdf PKPdf 07 57 50.6 -2.3
baz=142
X29A Tulia 141.70 29 ⇑PKPdf PKPdf 07 57 50.4 -2.7
baz=142
X29A Tulia 141.70 29 ⇑PKPdf PKPdf 07 57 50.4 -2.7
baz=142
Z27A Tatum 141.84 31 ⇓PKPdf PKPdf 07 57 51.1 -2.4
baz=142
Z27A Tatum 141.84 31 ⇓PKPdf PKPdf 07 57 51.1 -2.4
baz=142
Y28A McKinney Farm, 141.86 30 ⇓PKPdf PKPdf 07 57 51.5 -2.0
baz=142
Y28A McKinney Farm, 141.86 30 ⇓PKPdf PKPdf 07 57 51.5 -2.0
baz=142
MNTX Cornudas Mount 141.87 35 ePKPdf PKPdf 07 57 51.0 -2.5
MNTX e 08 01 30.8
MNTX LR LR
comp=Z,17µm,21.0s
225A Deer Hill, Car 141.88 34 ⇑PKPdf PKPdf 07 57 51.4 -2.3
baz=142
225A Deer Hill, Car 141.88 34 ⇑PKPdf PKPdf 07 57 51.4 -2.3
baz=142
W31A Holland Ranch, 141.90 26 ⇓PKPdf PKPdf 07 57 51.1 -2.3
baz=142
W31A Holland Ranch, 141.90 26 ⇓PKPdf PKPdf 07 57 51.1 -2.3
baz=142
126A Clayton Basin, 141.92 33 ⇓PKPdf PKPdf 07 57 51.1 -2.5
baz=142
126A Clayton Basin, 141.92 33 ⇓PKPdf PKPdf 07 57 51.1 -2.5
baz=142
SLM Saint Louis 141.96 12 ePKIKP PKPdf 07 57 50.9 -2.4
SLM Saint Louis 141.96 12 ePKPdf PKPdf 07 57 50.9 -2.4
324A Moseley Ranch, 141.99 36 ⇓PKPdf PKPdf 07 57 51.4 -2.5
baz=142
324A Moseley Ranch, 141.99 36 ⇓PKPdf PKPdf 07 57 51.4 -2.5
baz=142
GDL2 Guadalupe Moun 142.07 34 ePKPdf PKPdf 07 57 49.5 -4.5
BLO Bloomington 142.08 8 ePKHKP PKPpre 07 57 47.7
BLO Bloomington 142.08 8 ePKPdf PKPpre 07 57 47.7
SDMD Soldier's Deli 142.09 355 ePKPdf PKPdf 07 57 49.9 -3.6
SDMD ePP PP 08 01 00.7 +2.8
X30A Coker Ranch, T 142.09 28 ⇓PKPdf PKPdf 07 57 51.4 -2.4
baz=142
X30A Coker Ranch, T 142.09 28 ⇓PKPdf PKPdf 07 57 51.4 -2.4
baz=142
Y29A Porterfield Fa 142.19 29 ⇑PKPdf PKPdf 07 57 51.4 -2.6
baz=142
Y29A Porterfield Fa 142.19 29 ⇑PKPdf PKPdf 07 57 51.4 -2.6
baz=142
BESB Sao Joao Dos P 142.22 257⇑ eP PKPdf 07 57 48.2 -6.3
BESB i 07 57 53.8
BESB i 07 58 01.7
BESB i 07 58 06.8
BESB i 07 58 13.3
BESB i 07 58 33.1
127A Arkansas Junct 142.26 32 ⇓PKPdf PKPdf 07 57 51.8 -2.4
baz=142
127A Arkansas Junct 142.26 32 ⇓PKPdf PKPdf 07 57 51.8 -2.4
baz=142
226B Tecolote Peak, 142.27 34 ⇓PKPdf PKPdf 07 57 51.6 -2.7
baz=142
226B Tecolote Peak, 142.27 34 ⇓PKPdf PKPdf 07 57 51.6 -2.7
baz=142
Z28A Tucker Farm, M 142.29 31 ⇓PKPdf PKPdf 07 57 51.7 -2.5
baz=142
Z28A Tucker Farm, M 142.29 31 ⇓PKPdf PKPdf 07 57 51.7 -2.5
baz=142
CLNB Carlsbad 142.29 33 PKPdf PKPdf 07 57 53.4 -0.9
325A Bean Ranch, Si 142.34 35 ⇑PKPdf PKPdf 07 57 51.6 -2.9
baz=142
325A Bean Ranch, Si 142.34 35 ⇑PKPdf PKPdf 07 57 51.6 -2.9
baz=142
X31A McDonald Ranch 142.35 27 ⇑PKPdf PKPdf 07 57 51.9 -2.3
baz=142
X31A McDonald Ranch 142.35 27 ⇑PKPdf PKPdf 07 57 51.9 -2.3
baz=142
Y30A Stafford Cattl 142.55 28 ⇓PKPdf PKPdf 07 57 52.0 -2.6
baz=142
Y30A Stafford Cattl 142.55 28 ⇓PKPdf PKPdf 07 57 52.0 -2.6
baz=142
Z29A Hungry Hill Ra 142.65 30 ⇓PKPdf PKPdf 07 57 51.7 -3.1
baz=142
Z29A Hungry Hill Ra 142.65 30 ⇓PKPdf PKPdf 07 57 51.7 -3.1
baz=142
128A Castleberry Fa 142.76 31 ⇑PKPdf PKPdf 07 57 52.3 -2.8
baz=143
128A Castleberry Fa 142.76 31 ⇑PKPdf PKPdf 07 57 52.3 -2.8
baz=143
425A Indio Mountain 142.76 36 ⇑PKPdf PKPdf 07 57 52.3 -2.9
baz=143
425A Indio Mountain 142.76 36 ⇑PKPdf PKPdf 07 57 52.3 -2.9
baz=143
Y31A Rekieta Farm, 142.78 28 ⇑PKPdf PKPdf 07 57 52.2 -2.8
baz=143
Y31A Rekieta Farm, 142.78 28 ⇑PKPdf PKPdf 07 57 52.2 -2.8
baz=143
WMOK Wichita Mounta 142.78 25 ePKHKP PKPpre 07 57 47.8
WMOK e 08 01 03.5
WMOK MLR MLR
comp=Z,25µm,21.0s
WMOK Wichita Mounta 142.78 25 ePKPdf PKPpre 07 57 47.8
WMOK ePP PP 08 01 03.5 +0.8
WMOK LR LR
comp=Z,25µm,21.0s
227A Bennet, Jal 142.80 33 ⇓PKPdf PKPdf 07 57 52.4 -2.8
baz=143
227A Bennet, Jal 142.80 33 ⇓PKPdf PKPdf 07 57 52.4 -2.8
baz=143
Z30A Sanderson Ranc 142.92 29 ⇑PKPdf PKPdf 07 57 51.1 -4.2
baz=143
Z30A Sanderson Ranc 142.92 29 ⇑PKPdf PKPdf 07 57 51.1 -4.2
baz=143
TUL1 Tulsa 142.92 21 ePKPdf PKPdf 07 57 48.5 -6.6
TUL1 Tulsa 142.92 21 ⇓PKPdf PKPdf 07 57 50.8 -4.4
baz=143
TUL1 Tulsa 142.92 21 ⇓PKPdf PKPdf 07 57 50.8 -4.4
baz=143
326A Caldwell Ranch 142.95 34 ⇑PKPdf PKPdf 07 57 51.4 -4.1
baz=143
326A Caldwell Ranch 142.95 34 ⇑PKPdf PKPdf 07 57 51.4 -4.1
baz=143
WCI Wyandotte Cave 143.03 8 ePKPdf PKPab 07 57 49.0 -1.6
WCI ePP PP 08 01 04.5 +0.8
SIUC Southern Illin 143.05 11 ePKPdf PKPab 07 57 51.2 +0.5
129A Stewart Farms, 143.07 31 ⇓PKPdf PKPab 07 57 51.2 +0.2
baz=143
129A Stewart Farms, 143.07 31 ⇓PKPdf PKPab 07 57 51.2 +0.2
baz=143
USIN University of 143.09 9 ePKPdf PKPab 07 57 49.8 -1.0
228A UT Block 9, Go 143.10 32 ⇑PKPdf PKPab 07 57 50.8 -0.3
baz=143
228A UT Block 9, Go 143.10 32 ⇑PKPdf PKPab 07 57 50.8 -0.3
baz=143
Y32A R-V Farms, Ver 143.11 27 ⇑PKPdf PKPab 07 57 50.8 -0.2
baz=143
Y32A R-V Farms, Ver 143.11 27 ⇑PKPdf PKPab 07 57 50.8 -0.2
baz=143
327A Balmorhea Ranc 143.18 34 ⇓PKPdf PKPab 07 57 51.4 0.0
baz=143
327A Balmorhea Ranc 143.18 34 ⇓PKPdf PKPab 07 57 51.4 0.0
baz=143
CBN Corbin 143.32 356 ePKPdf PKPab 07 57 49.7 -2.0
CBN LR LR
comp=Z,17µm,19.0s
Z31A Sharp Cattle R 143.36 28 ⇑PKPdf PKPab 07 57 51.7 -0.4
baz=143
Z31A Sharp Cattle R 143.36 28 ⇑PKPdf PKPab 07 57 51.7 -0.4
baz=143
426A McDonald Obser 143.40 35 ⇑PKPdf PKPab 07 57 52.6 +0.1
baz=143
426A McDonald Obser 143.40 35 ⇑PKPdf PKPab 07 57 52.6 +0.1
baz=143
LPIG La Paz 143.45 50 PKP PKPbc 07 57 54.3 +0.7
LPIG La Paz 143.45 50 PKP PKPbc 07 57 54.3 +0.7
comp=Z,64nm,0.9s,baz=46,slow=0.3,SNR=9.3
328A Wristen Ranch, 143.55 33 ⇑PKPdf PKPab 07 57 53.0 +0.1
baz=143
328A Wristen Ranch, 143.55 33 ⇑PKPdf PKPab 07 57 53.0 +0.1
baz=143
LMEL Las Melosas 143.55 195⇑ eP PKPab 07 57 51.9 -1.1
LMEL Las Melosas 143.55 195⇑ eP PKPab 07 57 51.9 -1.1
130A Snyder 143.55 30 ⇓PKPdf PKPab 07 57 52.4 -0.5
baz=143
130A Snyder 143.55 30 ⇓PKPdf PKPab 07 57 52.4 -0.5
baz=143
229A Bryant Ranch, 143.63 31 ⇑PKPdf PKPab 07 57 53.1 -0.1
baz=144
229A Bryant Ranch, 143.63 31 ⇑PKPdf PKPab 07 57 53.1 -0.1
baz=144
427A Hayter Ranch, 143.63 34 ⇓PKPdf PKPab 07 57 53.4 +0.1
baz=144
427A Hayter Ranch, 143.63 34 ⇓PKPdf PKPab 07 57 53.4 +0.1
baz=144
BDFB Brasilia 143.64 241 PKPpre PKPpre 07 57 54.4
BDFB Brasilia 143.64 241 PKhKP PKPpre 07 57 54.4
comp=Z,125nm,1.2s,baz=85,slow=4.0,SNR=24
Z32A Haskell 143.68 27 ⇓PKPdf PKPab 07 57 52.6 -0.6
baz=144
Z32A Haskell 143.68 27 ⇓PKPdf PKPab 07 57 52.6 -0.6
baz=144
131A Roby 143.77 29 ⇑PKPdf PKPab 07 57 53.4 -0.3
baz=144
131A Roby 143.77 29 ⇑PKPdf PKPab 07 57 53.4 -0.3
baz=144
526A Mary Lane Ranc 143.82 36 ⇑PKPdf PKPab 07 57 54.4 +0.3
baz=144
526A Mary Lane Ranc 143.82 36 ⇑PKPdf PKPab 07 57 54.4 +0.3
baz=144
JSRW J. Sargeant Re 143.87 356 ePKPdf PKPab 07 57 54.1 +0.3
329A Wagon Wheel Ra 143.91 32 ⇑PKPdf PKPab 07 57 54.3 0.0
baz=144
329A Wagon Wheel Ra 143.91 32 ⇑PKPdf PKPab 07 57 54.3 0.0
baz=144
PARMO Parma 143.96 13 ePKPdf PKPab 07 57 53.7 -0.4
527A Woodward Ranch 144.03 35 ⇑PKPdf PKPbc 07 57 55.2 -0.2
baz=144
527A Woodward Ranch 144.03 35 ⇑PKPdf PKPbc 07 57 55.2 -0.2
baz=144
230A Sterling City 144.05 31 ⇓PKPdf PKPab 07 57 54.8 0.0
baz=144
230A Sterling City 144.05 31 ⇓PKPdf PKPab 07 57 54.8 0.0
baz=144
CLCH Cerro Calan 144.06 194⇑ eP PKPab 07 57 54.5 -0.3
428A Kincaid Ranch, 144.12 34 ⇓PKPdf PKPbc 07 57 55.6 0.0
baz=144
428A Kincaid Ranch, 144.12 34 ⇓PKPdf PKPbc 07 57 55.6 0.0
baz=144
626A Big Bend Ranch 144.16 37 ⇓PKPdf PKPbc 07 57 55.8 +0.1
baz=144
626A Big Bend Ranch 144.16 37 ⇓PKPdf PKPbc 07 57 55.8 +0.1
baz=144
ABTX Abilene, Hawle 144.17 28 ⇓PKPdf PKPab 07 57 54.5 -0.7
baz=144
ABTX Abilene, Hawle 144.17 28 ⇓PKPdf PKPab 07 57 54.5 -0.7
baz=144
PVMO Portageville 144.21 13 ePKPdf PKPab 07 57 55.1 0.0
PEL Peldehue 144.34 194 eP PKPab 07 57 55.6 -0.2
VWCC Virginia Weste 144.39 359 ePKPdf PKPab 07 57 55.3 -0.5
330A Mertzon 144.40 31 ⇓PKPdf PKPab 07 57 55.7 -0.4
baz=144
330A Mertzon 144.40 31 ⇓PKPdf PKPab 07 57 55.7 -0.4
baz=144
231A Bronte 144.41 30 ⇑PKPdf PKPab 07 57 55.7 -0.4
baz=144
231A Bronte 144.41 30 ⇑PKPdf PKPab 07 57 55.7 -0.4
baz=144
CPUP Villa Florida 144.42 217 ePKPdf PKPab 07 57 56.3 +0.1
CPUP PKP PKPbc 07 57 56.6 +0.1
CPUP Villa Florida 144.42 217 PKP PKPbc 07 57 56.6 +0.1
comp=Z,629nm,1.1s,baz=107,slow=2.6,SNR=210
BLA Blacksburg 144.43 360 ePKIKP PKPab 07 57 54.8 -1.2
BLA MLR MLR
comp=Z,39µm,21.0s
BLA Blacksburg 144.43 360 ePKPdf PKPab 07 57 54.8 -1.2
BLA LR LR
comp=Z,39µm,21.0s
GLAT Glass 144.43 12 eP PKPab 07 57 55.8 -0.2
528A Cox Ranch, San 144.49 34 ⇑PKPdf PKPbc 07 57 57.1 +0.3
baz=144
528A Cox Ranch, San 144.49 34 ⇑PKPdf PKPbc 07 57 57.1 +0.3
baz=144
GNAR Gosnell 144.56 13 ePKPdf PKPab 07 57 56.5 +0.1
TXAR Lajitas Array 144.60 36 PKP PKPbc 07 57 57.6 +0.5
TXAR PP PP 08 01 21.6 +7.5
TXAR Lajitas Array 144.60 36 PKP PKPbc 07 57 57.6 +0.5
comp=Z,135nm,0.6s,baz=292,slow=2.9,SNR=741
TXAR PP PP 08 01 21.6 +7.5
comp=Z,36nm,1.1s,baz=316,slow=5.2,SNR=3.5
429A Davenport Ranc 144.63 33 ⇑PKPdf PKPab 07 57 56.7 -0.3
baz=144
429A Davenport Ranc 144.63 33 ⇑PKPdf PKPab 07 57 56.7 -0.3
baz=144
627A Terlingua Ranc 144.68 36 ⇓PKPdf PKPab 07 57 57.0 -0.3
baz=145
627A Terlingua Ranc 144.68 36 ⇓PKPdf PKPab 07 57 57.0 -0.3
baz=145
HALT Halls 144.77 12 ePKPdf PKPab 07 57 56.6 -0.6
232A Coleman 144.78 29 ⇑PKPdf PKPab 07 57 57.1 -0.3
baz=145
232A Coleman 144.78 29 ⇑PKPdf PKPab 07 57 57.1 -0.3
baz=145
HBAR Harrisburg 144.80 14 ePKPdf PKPab 07 57 56.2 -1.1
529A Stev Forest Ra 144.84 34 ⇓PKPdf PKPab 07 57 57.8 0.0
baz=145
529A Stev Forest Ra 144.84 34 ⇓PKPdf PKPab 07 57 57.8 0.0
baz=145
WVT Waverly 144.85 10 ePKIKP PKPab 07 57 56.1 -1.4
WVT Waverly 144.85 10 ePKPdf PKPab 07 57 56.1 -1.4
430A Baggett Ranch, 144.86 32 ⇓PKPdf PKPab 07 57 57.2 -0.7
baz=145
430A Baggett Ranch, 144.86 32 ⇓PKPdf PKPab 07 57 57.2 -0.7
baz=145
331A San Angelo 144.86 30 ⇑PKPdf PKPab 07 57 57.4 -0.4
baz=145
331A San Angelo 144.86 30 ⇑PKPdf PKPab 07 57 57.4 -0.4
baz=145
MIAR Mount Ida 144.91 19 ePKIKP PKPab 07 57 57.6 -0.2
MIAR MLR MLR
comp=Z,21µm,21.0s
MIAR Mount Ida 144.91 19 ePKPdf PKPab 07 57 57.6 -0.2
MIAR LR LR
comp=Z,21µm,21.0s
628A Black Gap, Mar 144.94 35 ⇑PKPdf PKPab 07 57 58.1 -0.1
baz=145
628A Black Gap, Mar 144.94 35 ⇑PKPdf PKPab 07 57 58.1 -0.1
baz=145
TZTN Tazewell 144.99 4 ePKPdf PKPab 07 57 57.4 -0.7
UALR University of 145.08 17 ePKPbc PKPbc 07 57 57.3 -1.0
CFAA Coronel Fontan 145.10 199 PKPbc PKPdf 07 57 58.9 -0.2
CFAA Coronel Fontan 145.10 199 PKPbc PKPdf 07 57 58.9 -0.2
comp=Z,76nm,1.0s,baz=165,slow=3.2,SNR=199
332A Millersview 145.14 29 ⇑PKPdf PKPbc 07 57 58.6 -0.1
baz=145
332A Millersview 145.14 29 ⇑PKPdf PKPbc 07 57 58.6 -0.1
baz=145
431A Sonora 145.27 31 ⇓PKPdf PKPbc 07 57 58.9 -0.3
baz=145
431A Sonora 145.27 31 ⇓PKPdf PKPbc 07 57 58.9 -0.3
baz=145
530A J-C Ranch, Com 145.30 33 ⇑PKPdf PKPbc 07 57 59.2 -0.1
baz=145
530A J-C Ranch, Com 145.30 33 ⇑PKPdf PKPbc 07 57 59.2 -0.1
baz=145
MET Memphis--Engin 145.39 14 ePKPbc PKPab 07 58 00.1 +0.6
432A Menard 145.53 30 ⇑PKPdf PKPdf 07 57 59.7 -0.2
baz=145
432A Menard 145.53 30 ⇑PKPdf PKPdf 07 57 59.7 -0.2

	baz=145						
WHTX	Lake Whitney	145.70	26	ePKPbc	PKPdf	07 57 59.6	-0.4
WHTX	Lake Whitney	145.70	26	⇓PKPdf	PKPdf	07 57 59.9	-0.2
	baz=146						
WHTX	Lake Whitney	145.70	26	⇓PKPdf	PKPdf	07 57 59.9	-0.2
	baz=146						
531A	Rocksprings	145.71	32	⇑PKPdf	PKPdf	07 58 00.3	+0.1
	baz=146						
531A	Rocksprings	145.71	32	⇑PKPdf	PKPdf	07 58 00.3	+0.1
	baz=146						
BBSR	BB Station	145.83	336	ePKPdf	PKPdf	07 58 00.1	-0.1
BBSR				LR	LR		
	comp=Z,22μm,20.0s						
JCT	Junction City	145.84	30	ePKP2	PKPdf	07 58 00.7	+0.2
JCT				MLR	MLR		
	comp=Z,18μm,21.0s						
JCT	Junction City	145.84	30	ePKPbc	PKPdf	07 58 00.7	+0.2
JCT				LR	LR		
	comp=Z,18μm,21.0s						
JCT	Junction City	145.84	30	⇓PKPdf	PKPdf	07 58 00.5	0.0
	baz=146						
JCT	Junction City	145.84	30	⇓PKPdf	PKPdf	07 58 00.5	0.0
	baz=146						
TKL	Tuckaleechee C	145.85	5	ePKPbc	PKPdf	07 57 59.9	-0.4
TKL	Tuckaleechee C	145.85	5	PKPbc	PKPdf	07 57 59.9	-0.4
	baz=357,slow=3.3						
CPCT	Cooper Cave	145.99	6	ePKPbc	PKPdf	07 58 00.5	0.0
532A	Rocksprings	146.08	31	⇓PKPdf	PKPdf	07 58 00.7	-0.2
	baz=146						
532A	Rocksprings	146.08	31	⇓PKPdf	PKPdf	07 58 00.7	-0.2
	baz=146						
OXF	Oxford	146.10	13	ePKP2	PKPdf	07 57 59.9	-0.8
OXF				MLR	MLR		
	comp=Z,27μm,22.0s						
OXF	Oxford	146.10	13	ePKPdf	PKPdf	07 57 59.9	-0.8
OXF				LR	LR		
	comp=Z,27μm,22.0s						
631A	Perdido Creek	146.29	33	⇑PKPdf	PKPdf	07 58 01.0	-0.2
	baz=146						
631A	Perdido Creek	146.29	33	⇑PKPdf	PKPdf	07 58 01.0	-0.2
	baz=146						
CMCH	Combarbala	146.30	195	eP	PKPdf	07 58 00.4	-0.9
CMCH	Combarbala	146.30	195	eP	PKPdf	07 58 00.4	-0.9
CNNC	Cliffs of the	146.31	356	ePKPdf	PKPdf	07 58 01.1	+0.1
CNNC				LR	LR		
	comp=Z,23μm,21.0s						
KMSC	Kings Mountain	146.49	1	ePKPbc	PKPdf	07 58 01.8	+0.4
KMSC	Kings Mountain	146.49	1	⇓PKPdf	PKPdf	07 58 01.0	-0.4
	baz=146						
KMSC	Kings Mountain	146.49	1	⇓PKPdf	PKPdf	07 58 01.0	-0.4
	baz=146						
632A	Uvalde	146.63	32	⇓PKPdf	PKPdf	07 58 02.1	+0.3
	baz=146						
632A	Uvalde	146.63	32	⇓PKPdf	PKPdf	07 58 02.1	+0.3
	baz=146						
732A	Laxson Ranch,	147.15	33	⇑PKPdf	PKPdf	07 58 02.8	+0.2
	baz=147						
732A	Laxson Ranch,	147.15	33	⇑PKPdf	PKPdf	07 58 02.8	+0.2
	baz=147						
TLL	Tololo Astrono	147.20	196⇑	ePKP2	PKPbc	07 58 05.1	-0.2
TLL	Tololo Astrono	147.20	196⇑	eP	PKPbc	07 58 05.1	-0.2
TLL	Tololo Astrono	147.20	196⇑	eP	PKPbc	07 58 05.1	-0.2
VBMS	Vicksburg	148.00	16	ePKPdf	PKPdf	07 58 03.7	-0.2
VBMS				LR	LR		
	comp=Z,29μm,20.0s						
LRAL	Lakeview Retre	148.02	10	ePKPdf	PKPdf	07 58 03.4	-0.6
LRAL				LR	LR		
	comp=Z,25μm,20.0s						
HKT	Hockley	148.16	26	ePKIKP	PKPdf	07 58 03.6	-0.6
HKT	Hockley	148.16	26	ePKPdf	PKPdf	07 58 03.6	-0.6
LCO	Las Campanas	148.26	197	ePKPdf	PKPdf	07 58 03.3	-1.5
LCO				ePKPbc	PKPbc	07 58 08.5	+0.3
LCO				LR	LR		
	comp=Z,22μm,21.0s						
KVTX	Kingsville	149.19	31	ePKPdf	PKPdf	07 58 05.3	-0.7
KVTX				ePKPbc	PKiKP	07 58 11.3	-0.2
KVTX				LR	LR		
	comp=Z,22μm,19.0s						
BRAL	Brewton	149.97	11	ePKPdf	PKPdf	07 58 06.6	-0.5
BRAL				ePKPbc	PKPbc	07 58 12.1	+0.1
BRAL				LR	LR		
	comp=Z,37μm,20.0s						
TIGA	Tifton	150.05	5	ePKPdf	PKPdf	07 58 06.0	-1.2
TIGA				ePKPbc	PKPbc	07 58 12.3	+0.1
TIGA	Tifton	150.05	5	⇓PKPdf	PKPdf	07 58 07.4	+0.1
	baz=150						
TIGA	Tifton	150.05	5	⇓PKPdf	PKPdf	07 58 07.4	+0.1
	baz=150						
CEN1	Los Morros	153.32	202	eP	PKPbc	07 58 16.5	-3.7
CEN1	Los Morros	153.32	202	eP	PKPbc	07 58 16.5	-3.7
LVC	Limon Verde	153.52	205	ePKPdf	PKPdf	07 58 12.9	-0.2
LVC				ePKPbc	PKPbc	07 58 18.6	-2.2
LVC				LR	LR		
	comp=Z,19μm,20.0s						
SIV	San Ignacio	154.10	227	PKP	PKPdf	07 58 13.8	0.0
SIV				PKPbc	PKPbc	07 58 20.9	-1.0
SIV				PKPab	PKPab	07 58 34.8	-0.7
SIV	San Ignacio	154.10	227	PKP	PKPdf	07 58 13.8	0.0
	comp=Z,40nm,1.2s,baz=143,slow=1.7,SNR=34						
SIV				PKPbc	PKPbc	07 58 20.9	-1.0
	comp=Z,45nm,1.1s,baz=130,slow=2.8,SNR=32						
SIV				PKPab	PKPab	07 58 34.8	-0.7
	comp=Z,45nm,0.9s,baz=138,slow=8.4,SNR=9.0						
ANWB	Willy Bob	155.53	312	ePKPdf	PKPdf	07 58 15.3	-0.3
ANWB				LR	LR		
	comp=Z,15μm,22.0s						
BBGH	Gun Hill	156.21	300	PFAKE		07 58 30.0	+13
BBGH				LR	LR		
	comp=Z,25μm,21.0s						
LKG	Breislack	156.42	309	eP	PKPdf	07 58 17.1	+0.1
TAG	Tarade	156.43	309	eP	PKPdf	07 58 10.2	-6.9
FDF	Fort de France	156.75	306	ePKIKP	PKPdf	07 58 17.5	+0.1
FDF				MLR	MLR		
	comp=Z,12μm,20.0s						
FDF	Fort de France	156.75	306	ePKPdf	PKPdf	07 58 17.5	+0.1
FDF				ePP	PP	08 02 33.4	+8.7
FDF				LR	LR		
	comp=Z,12μm,20.0s						
STVI	Saint Thomas	157.30	319	ePKPdf	PKPdf	07 58 17.3	-0.6
STVI				ePP	PP	08 02 26.9	-0.2
CDVI	St. Croix	157.59	317	ePKPdf	PKPdf	07 58 17.6	-0.6
CDVI				ePP	PP	08 02 29.0	+0.2
MTP	Monte Pirata	157.87	319	ePKPdf	PKPdf	07 58 18.0	-0.6
CBYP	Canovanas	157.94	320	ePKPdf	PKPdf	07 58 17.6	-1.2
CBYP				ePP	PP	08 02 33.7	+3.0
GRTK	Grand Turk	158.07	336	ePKPdf	PKPdf	07 58 22.0	+3.2
GRTK				ePKPab	PKPab	07 58 55.5	+3.4
GRTK				ePP	PP	08 02 28.4	-2.2
GRTK				LR	LR		
	comp=Z,22μm,20.0s						
GRGR	Grenville	158.49	300	ePKPdf	PKPdf	07 58 19.6	+0.1
GRGR				LR	LR		
	comp=Z,17μm,21.0s						
LPAZ	La Paz	158.52	214	ePKPdf	PKPdf	07 58 20.2	-0.1
LPAZ				PKP	PKPdf	07 58 20.6	+0.3
LPAZ				PKPab	PKPab	07 58 55.3	+0.3
LPAZ				ePP	PP	08 02 33.7	-0.5
LPAZ	La Paz	158.52	214	PKP	PKPdf	07 58 20.6	+0.3
	comp=Z,63nm,1.2s,baz=47,slow=1.6,SNR=61						
LPAZ				PKPab	PKPab	07 58 55.3	+0.3
	comp=Z,124nm,1.2s,baz=190,slow=2.4,SNR=6.3						
CELP	Cerrillos	158.55	321	ePKPdf	PKPdf	07 58 19.5	+0.1
LRS	Lares	158.55	322	ePKPdf	PKPdf	07 58 19.5	0.0
AGPR	Aguadilla, PR	158.58	323	ePKPdf	PKPdf	07 58 18.5	-1.0
OBIP	Obispado Ponce	158.59	321	ePKPdf	PKPdf	07 58 18.9	-0.6
LSP	Las Mesas	158.78	322	ePKPdf	PKPdf	07 58 20.0	+0.2
CRPR	Cabo Rojo, PR	158.93	322	ePKPdf	PKPdf	07 58 19.0	-0.9
CRPR				ePKPab	PKPab	07 58 55.6	-0.4
CRPR				ePP	PP	08 02 36.1	+0.3
SAML	Samuel	159.85	239	ePKPdf	PKPdf	07 58 20.7	-0.4
SAML				ePKPab	PKPab	07 59 00.5	+0.3
SAML				LR	LR		
	comp=Z,38μm,19.0s						
TEIG	Tepich	159.88	22	ePKPdf	PKPdf	07 58 19.8	-1.1
TEIG				ePKPab	PKPab	07 59 02.3	+2.3
TEIG				PP	PP	08 02 45.4	+5.0
TEIG				LR	LR		
	comp=Z,22μm,22.0s						
TEIG	Tepich	159.88	22	PP	PP	08 02 45.4	+5.0
	comp=Z,29nm,1.1s,baz=329,slow=6.1,SNR=4.0						
HLGC	Holguin	160.21	348	e	PKPdf	07 58 22.1	+0.8
SDDR	Presa de Saban	160.37	333	ePKPdf	PKPdf	07 58 21.3	-0.3
SDDR				LR	LR		
	comp=Z,27μm,22.0s						
MASC	Masc	160.41	342	e	PKPdf	07 58 22.4	+0.9
GTBY	Guantanamo Bay	160.90	344	ePKPdf	PKPdf	07 58 23.2	+1.1
GTBY				ePP	PP	08 02 50.3	+4.6
GTBY				LR	LR		
	comp=Z,13μm,20.0s						
RCC	Rio Carpintero	160.99	346	e	PKPdf	07 58 21.6	-0.6
LMGC	Las Mercedes	161.20	350	e	PKPdf	07 58 23.5	+1.1
MTDJ	Mount Denham	163.09	350	ePKPdf	PKPdf	07 58 23.0	-1.5
MTDJ				ePKPab	PKPab	07 59 17.5	+3.4
MTDJ				ePP	PP	08 03 00.7	+3.3
MTDJ				LR	LR		
	comp=Z,19μm,21.0s						
SDV	Santo Domingo	167.69	307	ePKPdf	PKPdf	07 58 26.9	-1.7
SDV				ePKPab	PKPab	07 59 34.1	-0.8
SDV				ePP	PP	08 03 24.7	+1.6
SDV				LR	LR		
	comp=Z,6μm,19.0s						
PAYG	Puerto Ayora	170.02	102	ePKPdf	PKPdf	07 58 30.6	+0.7
PAYG				LR	LR		
	comp=Z,25μm,22.0s						
JTS	JuntasAbangare	170.20	26	PP	PP	08 03 38.9	+4.6
JTS	JuntasAbangare	170.20	26	PP	PP	08 03 38.9	+4.6
	comp=Z,21nm,1.1s,baz=339,slow=9.6,SNR=5.1						
ATAH	Atahualpa	171.19	194	PKP	PKPdf	07 58 31.3	+0.3
ATAH				PKPab	PKPab	07 59 53.1	+2.7
ATAH				PP	PP	08 03 45.3	+5.9
ATAH	Atahualpa	171.19	194	PKP	PKPdf	07 58 31.3	+0.3
	comp=Z,134nm,1.5s,baz=183,slow=2.4,SNR=26						
ATAH				PKPab	PKPab	07 59 53.1	+2.7
	comp=Z,83nm,1.2s,baz=150,slow=13,SNR=2.2						
ATAH				PP	PP	08 03 45.3	+5.9
	comp=Z,38nm,1.2s,baz=226,slow=3.0,SNR=6.5						
BCIP	Isla Barro Col	172.32	355	ePKPdf	PKPdf	07 58 29.4	-1.6
BCIP				ePKPab	PKPab	07 59 52.3	-2.5
BCIP				LR	LR		
	comp=Z,18μm,21.0s						
ROSC	El Rosal	172.95	299	ePKPdf	PKPdf	07 58 31.3	-0.5
ROSC				PKP	PKPdf	07 58 31.5	-0.3
ROSC				PP	PP	08 03 57.4	+7.3
ROSC	El Rosal	172.95	299	PKP	PKPdf	07 58 31.5	-0.3
	comp=Z,42nm,1.1s,baz=148,slow=1.5,SNR=44						
ROSC				PP	PP	08 03 57.4	+7.3
	comp=Z,22nm,1.1s,baz=64,slow=4.3,SNR=4.4						
OTAV	Otavalo	177.58	240	ePKPdf	PKPdf	07 58 32.8	-0.4
OTAV				ePKPab	PKPab	08 00 23.3	+4.0
OTAV				LR	LR		
	comp=Z,41μm,21.0s						

IDC 16 07:42:26.8±0.5, 1°.61S×99°.52E, h0km, mb4.8/21, mb1 4.9/22, mb1mx4.8/31, mbtmp4.8/22, ML4.9/1, Error ellipse: s-maj=17.2km s-min=13.8km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.95	358	Pn	Pn	07 47 02.4	+0.2
	1.3nm,0.3s,baz=188,slow=9.5,SNR=6.0						
KAPI	Kappang	20.48	100	P	P	07 47 06.2	-0.2
	35nm,0.7s,baz=290,slow=9.5						
WRA	Warramunga Arr	38.60	121	P	P	07 49 52.5	+0.5
	13nm,0.7s,baz=300,slow=9.0,SNR=3.2						
ASAR	Alice Springs	39.87	126	P	P	07 50 02.5	-0.1
	19nm,0.8s,baz=302,slow=8.1,SNR=5.5						
JNU	Nakatsue	45.48	38	P	P	07 50 48.0	-0.1
	15nm,0.7s,baz=196,slow=6.0,SNR=3.1						
KSRS	Korea Array	46.93	31	P	P	07 50 59.8	+0.4
	8.8nm,0.8s,baz=229,slow=6.8,SNR=3.8						
SONM	Songino Array	49.60	6	P	P	07 51 20.5	+0.5
	4.9nm,0.7s,baz=187,slow=7.7,SNR=3.8						
STKA	Stephens Creek	49.77	132	P	P	07 51 21.6	+0.2
	16nm,0.6s,baz=320,slow=13,SNR=2.4						
MKAR	Makanchi Array	50.53	345	P	P	07 51 27.5	+0.5
	9.3nm,0.6s,baz=158,slow=6.5,SNR=6.2						
OPO	Ambohidratompo	53.97	248	P	P	07 51 53.8	+0.6
	6.2nm,0.9s,baz=80,slow=12,SNR=2.5						
USRK	Ussuriysk Arra	54.05	28	P	P	07 51 53.9	+0.8
	24nm,0.8s,baz=232,slow=4.7,SNR=6.9						
KURBB	Kurchatov Arra	55.04	344	P	P	07 52 00.0	-0.2
	6.7nm,0.8s,baz=142,slow=6.6,SNR=2.3						
ZALV	Zalesovo Beam	56.70	350	P	P	07 52 12.2	+0.2
	18nm,0.7s,baz=157,slow=6.9,SNR=5.2						
ASAJ	Asahikawa	59.56	35	P	P	07 52 30.6	-1.7
	3.9nm,0.5s,baz=194,slow=4.2,SNR=2.2						
KBZ	Khabaz	67.70	319	P	P	07 53 26.1	0.0
	7.6nm,0.7s,baz=121,slow=11,SNR=2.9						
DZM	Mont Dzumac	68.05	113	P	P	07 53 28.2	-0.6
	6.0nm,1.0s,baz=240,slow=20,SNR=2.4						
BRTR	Keskin Array B	72.71	313	P	P	07 53 55.9	-1.2
	3.6nm,0.6s,baz=124,slow=7.4,SNR=4.6						
PETK	Petropavlovsk-	72.81	32	P	P	07 53 56.9	-0.3
	3.4nm,0.8s,baz=354,slow=1.4,SNR=3.0						
BOSA	Boshof	75.43	241	P	P	07 54 13.3	0.0
	3.7nm,0.5s,baz=113,slow=4.1,SNR=4.6						
FINES	FINESS Array B	83.55	332	P	P	07 54 56.3	-0.3
	6.9nm,0.6s,baz=79,slow=7.2,SNR=3.2						
ARCES	ARCESS Array B	85.94	340	P	P	07 55 09.6	+1.1
	9.6nm,0.8s,baz=103,slow=7.9,SNR=2.4						
QSPA	South Pole Qui	88.35	180	P	P	07 55 20.7	+0.3
	7.0nm,0.8s,baz=309,slow=6.5,SNR=3.0						
YKA	Yellowknife Ar	114.13	17	PKKPbc	PKKPbc	08 11 44.7	-6.3
	11nm,1.2s,baz=143,slow=4.1,SNR=6.5						
CPUP	Villa Florida	144.35	217	PKP	PKPab	08 02 03.8	0.0
	12nm,0.7s,baz=86,slow=4.3,SNR=4.4						
TXAR	Lajitas Array	144.68	36	PKP	PKPbc	08 02 05.3	+0.1
	11nm,0.7s,baz=277,slow=2.6,SNR=6.9						
CFAA	Coronel Fontan	144.98	198	PKP	PKPab	08 02 06.0	0.0
	3.2nm,0.6s,baz=170,slow=3.3,SNR=6.7						

*ISCJB **16** 07:43:21.4±0.4, 34°.94S±0°.06×179°.58W±0°.09, h43km, mb4.6/17, MS6.0/2, Error ellipse: s-maj=11.7km s-min=7.3km az=34.4*

*NEIC **16** 07:43:21.3±0.3, 35°.07S×179°.48W, h35km, mb5.0/3, Error ellipse: s-maj=10.4km s-min=8.4km az=123.0*

*IDC **16** 07:43:21.3±4.7, 34°.97S×179°.52W, h33km±34km, mb4.4/12, mb1 4.6/13, mb1mx4.5/19, mbtmp4.4/13, ML4.9/2, MS4.5/2, Ms1 4.5/2, ms1mx4.2/44, Error ellipse: s-maj=19.5km s-min=18.0km az=73.0*

ISC 16 07:43:22.4±0.4, 34°.99S±0°.07×179°.42W±0°.09, h43km, n90, σ1§05/80, mb4.8/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.29	220	Pn	Pn	07 44 23.1	-2.0
URZ				Sn	Sn	07 45 13.9	-0.1
URZ	Urewera	4.29	220	Pn	Pn	07 44 23.1	-2.0
	27nm,0.3s,baz=50,slow=6.3,SNR=114						
URZ				Sn	Sn	07 45 13.9	-0.1
	70nm,0.3s,baz=193,slow=22,SNR=3.1						
URZ				LR	LR	07 45 35.4	
	comp=Z,4μm,18.5s,baz=54,slow=32						
OUZ	Omahuta	5.73	266	ePn	Pn	07 44 44.0	-0.9
	164nm,0.7s						
RAO	Raoul Island	5.86	13	Pn	Pn	07 44 46.1	-0.6
RAO				Sn	Sn	07 45 42.6	-10
RAO	Raoul Island	5.86	13	Pn	Pn	07 44 46.1	-0.6
	71nm,0.3s,baz=253,slow=19,SNR=2.5						
RAO				Sn	Sn	07 45 42.6	-10
	82nm,0.3s,baz=66,slow=20,SNR=2.1						
KHZ	Kahutara	9.23	214	ePn	Pn	07 45 27.5	-5.3
	61nm,0.8s						
KHZ				eSn	Sn	07 47 06.4	-8.9
RPZ	Rata Peaks	11.41	217	ePn	Pn	07 45 56.9	-5.8
RPZ				eSn	Sn	07 47 56.3	-12
RPZ				Sn	Sn	07 47 56.4	-12
RPZ	Rata Peaks	11.41	217	Pn	Pn	07 45 56.8	-5.8
	4.7nm,0.3s,baz=62,slow=17,SNR=25						
RPZ				Sn	Sn	07 47 56.4	-12
	8.9nm,0.3s,baz=32,slow=19,SNR=15						
ODZ	Otahua Downs	12.59	214	ePn	Pn	07 46 12.1	-6.7
	25nm,0.7s						
MSVF	Nonsavu	17.34	352	ePn	Pn	07 47 18.6	-2.7
	109nm,1.5s						
DZM	Mont Dzumac	17.86	312	eP	P	07 47 30.4	+2.3
	120nm,1.2s						
DZM				eLR	LR	07 51 42.5	
	15μm,24.1s						
DZM	Mont Dzumac	17.86	312	P	P	07 47 29.7	+1.6
DZM	Mont Dzumac	17.86	312	P	P	07 47 29.7	+1.6
	0.8nm,0.3s,baz=102,slow=17,SNR=8.9						
RAR	Rarotonga	22.05	57	LR	LR	07 54 24.2	
	comp=Z,2μm,19.0s,baz=315,slow=30						
AFI	Afiamalu	22.09	20	P	P	07 48 12.9	-1.1
AFI	Afiamalu	22.09	20	P	P	07 48 12.9	-1.1
	46nm,0.9s,baz=248,slow=17,SNR=4.6						
TBI	Tubuai	28.51	74	eLR	LR	07 56 23.5	
	3μm,26.2s						
PPT2	Papeete2	31.70	65	eLR	LR	07 57 34.0	
	6μm,28.0s						
CTA	Charters Tower	33.67	287	P	P	07 50 02.0	+2.7
CTA	Charters Tower	33.67	287	P	P	07 50 02.0	+2.7
	13nm,0.5s,baz=139,slow=8.7,SNR=4.2						
RKT	Rikitea	40.31	85	eLR	LR	08 01 53.2	
	3μm,27.0s						
ASAR	Alice Springs	41.90	273	P	P	07 51 08.4	-0.4
ASAR	Alice Springs	41.90	273	P	P	07 51 08.4	-0.4
	20nm,0.8s,baz=118,slow=7.4,SNR=7.5						
WRA	Warramunga Arr	43.30	278	P	P	07 51 19.5	-0.7
WRA	Warramunga Arr	43.30	278	P	P	07 51 19.5	-0.7
	14nm,0.5s,baz=118,slow=7.7,SNR=11						
MAW	Mawson	67.61	202	P	P	07 54 17.2	+3.1
MAW	Mawson	67.61	202	P	P	07 54 17.2	+3.1
	6.5nm,0.9s,baz=141,slow=6.5,SNR=2.9						
PMSA	Palmer Station	68.59	155	P	P	07 54 21.0	+0.7
PMSA	Palmer Station	68.59	155	P	P	07 54 21.0	+0.7
	2.6nm,0.8s,baz=171,slow=7.1,SNR=4.4						
PLCA	Paso Flores	80.25	133	P	P	07 55 29.5	+0.8
PLCA	Paso Flores	80.25	133	P	P	07 55 29.5	+0.8
	2.8nm,0.9s,baz=327,slow=9.1,SNR=4.2						
KSRS	Korea Array	87.10	321	P	P	07 56 03.5	+0.2
	1.2nm,0.6s,baz=134,slow=5.2,SNR=7.2						
KSAR	Wonju Array Be	87.11	321	P	P	07 56 03.5	+0.1
CFAA	Coronel Fontan	87.44	127	P	P	07 56 05.7	+0.1
CFAA	Coronel Fontan	87.44	127	P	P	07 56 05.7	+0.1
	0.5nm,0.8s,baz=256,slow=4.0,SNR=8.3						
FX1	Attu Island--F	87.75	356	P	P	07 56 06.2	+0.2
FX1	Attu Island--F	87.75	356	P	P	07 56 06.2	+0.2
	13nm,0.7s,baz=196,slow=15,SNR=3.3						
PETK	Petropavlovsk-	89.97	346	P	P	07 56 16.7	+0.2
PETK	Petropavlovsk-	89.97	346	P	P	07 56 16.7	+0.2
	17nm,0.8s,baz=131,slow=6.0,SNR=14						
GLA	Glamis	90.80	49	eP	P	07 56 24.4	+3.3
	7.0nm,0.8s						
NVAR	Mina Array Bea	92.40	43	P	P	07 56 30.6	+2.1
NVAR	Mina Array Bea	92.40	43	P	P	07 56 30.6	+2.1
	0.8nm,0.7s,baz=248,slow=6.4,SNR=3.0						
LVC	Limon Verde	92.72	120	eP	P	07 56 31.8	+1.1
	7.8nm,1.0s						
CMAR	Chiang Mai Arr	93.80	290	P	P	07 56 35.7	+0.5
CMAR	Chiang Mai Arr	93.80	290	P	P	07 56 35.7	+0.5
	1.7nm,0.9s,baz=172,slow=3.7,SNR=2.5						
TXAR	Lajitas Array	95.84	58	P	P	07 56 44.3	-0.1
TXAR	Lajitas Array	95.84	58	P	P	07 56 44.3	-0.1
	0.4nm,0.9s,baz=258,slow=4.2,SNR=3.4						
LPAZ	La Paz	97.30	116	P	Pdif	07 56 52.7	+0.5
LPAZ	La Paz	97.30	116	P	Pdif	07 56 52.7	+0.5
	0.7nm,0.8s,baz=201,slow=5.9,SNR=3.1						
MKAR	Makanchi Array	119.75	308	PKP	PKPdf	08 02 07.8	+0.5
MKAR	Makanchi Array	119.75	308	PKP	PKPdf	08 02 07.8	+0.5
	1.6nm,0.7s,baz=163,slow=2.1,SNR=4.1						
ZALV	Zalesovo Beam	120.61	317	PKP	PKPdf	08 02 07.4	-1.4
ZALV	Zalesovo Beam	120.61	317	PKP	PKPdf	08 02 07.4	-1.4
	1.6nm,0.6s,baz=85,slow=4.9,SNR=3.5						
KURK	Kurchatov	123.29	312	PKP	PKPdf	08 02 12.9	-1.0
KURBB	Kurchatov Arra	123.32	312	PKP	PKPdf	08 02 12.9	-1.1
	3.6nm,0.6s,baz=121,slow=1.7,SNR=9.3						
AAK	Ala-Archa	123.58	302	PFAKE		08 02 30.0	+15
AAK				LR	LR		
	comp=Z,104μm,22.0s						
TSUM	Tsumeb	123.74	199	PKP	PKPdf	08 02 16.5	+0.4
TSUM	Tsumeb	123.74	199	PKP	PKPdf	08 02 16.5	+0.4
	baz=49,slow=11						
BVAR	Borovoye Array	128.77	313	PKP	PKPdf	08 02 24.4	0.0
BVAR	Borovoye Array	128.77	313	PKP	PKPdf	08 02 24.4	0.0
	comp=Z,2.3nm,0.6s,baz=97,slow=1.6,SNR=6.1						
AKTO	Aktyubinsk	136.18	309	PKP	PKPdf	08 02 38.0	-0.5
AKTO	Aktyubinsk	136.18	309	PKP	PKPdf	08 02 38.0	-0.5
	comp=Z,2.9nm,0.7s,baz=118,slow=5.9,SNR=5.1						
ARCES	ARCESS Array B	142.78	346	PKP	PKPdf	08 02 49.1	-0.8
ARCES	ARCESS Array B	142.78	346	PKP	PKPdf	08 02 49.1	-0.8
	comp=Z,3.9nm,0.7s,baz=75,slow=1.7,SNR=6.7						
KBZ	Khabaz	146.44	298	PKPbc	PKPbc	08 02 57.6	-0.9
KBZ	Khabaz	146.44	298	PKPbc	PKPbc	08 02 57.6	-0.9
	comp=Z,11nm,0.9s,baz=173,slow=2.4,SNR=10						
KAF	Kangasniemi	148.39	337	ep	PKPbc	08 03 01.8	-1.4
	comp=Z,5.8nm,0.4s						
FINES	FINESS Array B	148.95	336	PKPbc	PKPbc	08 03 03.8	-0.9
FINES	FINESS Array B	148.95	336	PKPbc	PKPbc	08 03 03.8	-0.9
	comp=Z,12nm,0.5s,baz=47,slow=2.9,SNR=31						
ASF	Jabal al Asfar	149.72	275	PKPbc	PKPbc	08 03 07.2	-0.5

18nm,0.8s,baz=189,slow=9.6,SNR=14
SONM PcP **PcP** 07 56 12.0 +1.0
3.2nm,0.6s,baz=200,slow=3.1,SNR=3.2
MKAR Makanchi Array 50.45 345 P **P** 07 54 57.3 +0.9
MKAR Makanchi Array 50.45 345 P **P** 07 54 57.3 +0.9
29nm,0.6s,baz=152,slow=7.4,SNR=21
KKAR Karatay Array 51.54 333 *e*P **P** 07 55 03.4 -1.2
23nm,1.0s
KKAR *e*S **S** 08 02 20.8 -2.6
USRK Ussuriysk Arra 53.92 28 P **P** 07 55 22.6 +0.5
27nm,0.8s,baz=226,slow=5.6,SNR=17
OPO Ambohidratompo 54.08 248 P **P** 07 55 24.5 +0.5
OPO Ambohidratompo 54.08 248 P **P** 07 55 24.5 +0.5
5.9nm,0.8s,baz=57,slow=8.4,SNR=3.6
ZAA0 Zalesovo Array 56.62 350 *e*P **P** 07 55 42.3 +0.9
ZALV Zalesovo Beam 56.62 350 P **P** 07 55 42.0 +0.6
ZALV S **S** 08 03 32.1 +0.7
ZALV Zalesovo Beam 56.62 350 P **P** 07 55 42.0 +0.6
36nm,0.7s,baz=156,slow=5.1,SNR=12
ZALV S **S** 08 03 32.1 +0.7
4.6nm,0.8s,baz=153,slow=9.7,SNR=3.9
ASAJ Asahikawa 59.44 35 P **P** 07 56 02.1 +0.7
ASAJ Asahikawa 59.44 35 P **P** 07 56 02.1 +0.7
4.8nm,0.6s,baz=236,slow=13,SNR=6.4
BVAR Borovoye Array 59.59 340 P **P** 07 56 01.9 -0.4
BVAR Borovoye Array 59.59 340 P **P** 07 56 01.9 -0.4
6.7nm,0.6s,baz=141,slow=9.8,SNR=10
KMBO Kilima Mbogo 62.33 270 P **P** 07 56 22.7 +0.7
KMBO Kilima Mbogo 62.33 270 P **P** 07 56 22.7 +0.7
8.9nm,0.8s,baz=57,slow=8.4,SNR=7.5
AKTO Aktyubinsk 62.74 331 P **P** 07 56 24.6 +0.9
AKTO Aktyubinsk 62.74 331 P **P** 07 56 24.6 +0.9
4.5nm,0.7s,baz=145,slow=16,SNR=2.2
KBZ Khabaz 67.68 319 P **P** 07 56 55.4 -0.4
KBZ Khabaz 67.68 319 P **P** 07 56 55.4 -0.4
5.4nm,0.8s,baz=124,slow=3.2,SNR=6.6
EIL Elat 68.92 303 P **P** 07 57 03.9 -0.1
EIL Elat 68.92 303 P **P** 07 57 03.9 -0.1
9.6nm,0.7s,baz=180,slow=6.1,SNR=3.4
MMAI Mount Meron Ar 69.43 306 P **P** 07 57 07.5 +0.3
MMAI Mount Meron Ar 69.43 306 P **P** 07 57 07.5 +0.3
2.5nm,0.5s,baz=90,slow=7.2,SNR=3.4
MAW Mawson 70.66 194 P **P** 07 57 14.3 +0.4
MAW Mawson 70.66 194 P **P** 07 57 14.3 +0.4
5.7nm,0.9s,baz=1.6,slow=7.9,SNR=4.5
PETK Petropavlovsk- 72.68 32 P **P** 07 57 27.1 +0.8
PETK Petropavlovsk- 72.68 32 P **P** 07 57 27.1 +0.8
6.6nm,0.7s,baz=200,slow=3.8,SNR=2.9
BRTR Keskin Array B 72.70 312 P **P** 07 57 25.8 -1.2
BRTR Keskin Array B 72.70 312 P **P** 07 57 25.8 -1.2
5.2nm,0.8s,baz=127,slow=7.5,SNR=6.7
BR131 Keskin Array S 72.70 312 *e*P **P** 07 57 25.9 -1.0
2.9nm,0.6s
BOSA Boshof 75.55 241 P **P** 07 57 43.4 -0.4
BOSA Boshof 75.55 241 P **P** 07 57 43.4 -0.4
2.9nm,0.7s,baz=75,slow=9.4,SNR=5.0
AKASG Malin Array Be 78.86 322 P **P** 07 58 00.5 -1.2
AKASG Malin Array Be 78.86 322 P **P** 07 58 00.5 -1.2
0.9nm,0.5s,baz=82,slow=4.7,SNR=5.3
MLR Muntele Rosu 79.67 317 P **P** 07 58 06.5 +0.1
MLR Muntele Rosu 79.67 317 P **P** 07 58 06.5 +0.1
2.9nm,0.8s,baz=228,slow=1.6,SNR=4.7
TSUM Tsumeb 81.97 251 P **P** 07 58 19.6 +0.4
TSUM Tsumeb 81.97 251 P **P** 07 58 19.6 +0.4
5.1nm,0.9s,baz=86,slow=16,SNR=3.7
VNDA Vanda 82.72 169 P **P** 07 58 22.6 +0.7
VNDA Vanda 82.72 169 P **P** 07 58 22.6 +0.7
1.9nm,0.8s,baz=346,slow=6.5,SNR=2.3
FINES FINESS Array B 83.50 332 P **P** 07 58 25.9 -0.2
FINES FINESS Array B 83.50 332 P **P** 07 58 25.9 -0.2
6.0nm,0.6s,baz=96,slow=6.4,SNR=7.8
KAF Kangasniemi 83.57 333 *e*p **P** 07 58 25.0 -1.5
1.6nm,0.4s
ARCES ARCESS Array B 85.88 340 P **P** 07 58 38.8 +0.7
ARCES ARCESS Array B 85.88 340 P **P** 07 58 38.8 +0.7
3.3nm,0.8s,baz=92,slow=5.0,SNR=5.7
GERES GERESS Array B 88.42 319 P **P** 07 58 51.3 +0.4
GERES GERESS Array B 88.42 319 P **P** 07 58 51.3 +0.4
2.0nm,0.7s,baz=104,slow=3.1,SNR=4.9
QSPA South Pole Qui 88.45 180 P **P** 07 58 51.0 +0.4
QSPA South Pole Qui 88.45 180 P **P** 07 58 51.0 +0.4
14nm,1.1s,baz=305,slow=3.3,SNR=2.4
DAVOX Davos/Dischmat 90.90 317 P **P** 07 59 03.1 +0.4
DAVOX Davos/Dischmat 90.90 317 P **P** 07 59 03.1 +0.4
7.3nm,0.7s,baz=143,slow=5.5,SNR=5.9
KEST Kesra 91.08 306 P **P** 07 59 05.1 +1.5
KEST Kesra 91.08 306 P **P** 07 59 05.1 +1.5
4.4nm,1.0s,baz=102,slow=11,SNR=3.3
EKA Eskdalemuir Ar 98.49 326 P **P** 07 59 35.1 -1.8
EKA Eskdalemuir Ar 98.49 326 P **P** 07 59 35.1 -1.8
1.5nm,0.7s,baz=46,slow=3.3,SNR=3.6
ILAR Eielson Array 101.22 24 PKKPbc PKKPbc 08 15 59.0 -2.5
ILAR Eielson Array 101.22 24 PKKPbc PKKPbc 08 15 59.0 -2.5
0.5nm,0.7s,baz=126,slow=1.7,SNR=6.1
YKA Yellowknife Ar 114.02 17 PKKPbc PKKPbc 08 15 23.2 +2.0
YKA Yellowknife Ar 114.02 17 PKKPbc PKKPbc 08 15 23.2 +2.0
2.4nm,1.1s,baz=130,slow=5.7,SNR=4.6
NVAR Mina Array Bea 129.47 39 PKP **PKPdf** 08 05 09.5 +1.5
NVAR Mina Array Bea 129.47 39 PKP **PKPdf** 08 05 09.5 +1.5
0.7nm,0.7s,baz=316,slow=2.5,SNR=3.0
PDAR Pinedale Array 131.34 29 PKP **PKPdf** 08 05 12.2 +0.7
PDAR Pinedale Array 131.34 29 PKP **PKPdf** 08 05 12.2 +0.7
0.8nm,0.6s,baz=126,slow=2.3,SNR=3.3
CPUP Villa Florida 144.47 217 PKP PKPbc 08 05 34.6 +0.5
CPUP *e*PKPdf **PKPab** 08 05 34.7 +0.8
CPUP Villa Florida 144.47 217 PKP PKPbc 08 05 34.6 +0.5
20nm,0.7s,baz=117,slow=3.5,SNR=19
TXAR Lajitas Array 144.55 36 PKP **PKPdf** 08 05 35.7 -0.2
TXAR Lajitas Array 144.55 36 PKP **PKPdf** 08 05 35.7 -0.2
6.7nm,0.6s,baz=270,slow=2.2,SNR=9.8
TZTN Tazewell 145.02 4 *e*PKPab **PKPab** 08 05 35.6 -0.1
CFAA Coronel Fontan 145.10 198 PKPbc **PKPdf** 08 05 36.9 +0.1
CFAA PP **PP** 08 08 49.9 -4.0
CFAA Coronel Fontan 145.10 198 PKPbc **PKPdf** 08 05 36.9 +0.1
5.4nm,0.7s,baz=172,slow=2.7,SNR=33
CFAA PP **PP** 08 08 49.9 -4.0
9.9nm,1.1s,baz=318,slow=5.6,SNR=3.3
TKL Tuckaleechee C 145.88 5 PKPbc **PKPbc** 08 05 38.2 -0.2
TKL Tuckaleechee C 145.88 5 PKPbc **PKPbc** 08 05 38.2 -0.2
11nm,0.7s,baz=120,slow=5.2,SNR=6.4
CPCT Cooper Cave 146.01 6 *e*PKPbc **PKPbc** 08 05 39.1 +0.3
KMSC Kings Mountain 146.53 1 *e*PKPbc **PKPbc** 08 05 40.4 0.0

IDC 16 07:49:40.8±0.8, 1°.90S×99°.20E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/25, mbtmp4.0/12, Error ellipse: s-maj=29.7km s-min=17.4km az=65.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.23**	**359**	P	Pn	07 54 18.8	-0.8
	1.0nm,0.5s,baz=188,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**38.73**	**120**	P	P	07 57 06.3	-0.9
	2.3nm,0.6s,baz=301,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**39.96**	**126**	P	P	07 57 18.1	+0.7
	2.0nm,0.8s,baz=302,slow=7.7,SNR=4.1						
JNU	**Nakatsue**	**45.90**	**38**	P	P	07 58 05.7	+0.2
	3.4nm,0.9s,baz=196,slow=7.4,SNR=1.8						
KSRS	**Korea Array**	**47.35**	**31**	P	P	07 58 15.7	-1.0
	0.9nm,0.7s,baz=220,slow=7.3,SNR=2.8						
SONM	**Songino Array**	**49.93**	**6**	P	P	07 58 36.0	-0.5
	0.5nm,0.3s,baz=190,slow=10,SNR=3.0						
SONM				PcP	PcP	07 59 56.4	-0.4
	0.9nm,0.6s,baz=200,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**50.72**	**345**	P	P	07 58 42.2	-0.3
	1.5nm,0.6s,baz=164,slow=7.9,SNR=5.3						
USRK	**Ussuriysk Arra**	**54.45**	**29**	P	P	07 59 09.8	-0.2
	0.7nm,0.4s,baz=230,slow=4.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**56.93**	**350**	P	P	07 59 27.0	-0.6
	1.6nm,0.4s,baz=148,slow=5.7,SNR=4.4						
BRTR	**Keskin Array B**	**72.67**	**313**	P	P	08 01 10.6	-0.3
	0.7nm,0.8s,baz=153,slow=7.2,SNR=2.2						
VNDA	**Vanda**	**82.42**	**169**	P	P	08 02 03.7	-0.8
	1.0nm,0.8s,baz=321,slow=6.5,SNR=3.6						
FINES	**FINESS Array B**	**83.65**	**332**	P	P	08 02 11.6	+0.4
	1.7nm,0.4s,baz=120,slow=7.5,SNR=5.9						
SPITS	**Spitsbergen Ar**	**90.37**	**348**	P	P	08 02 40.6	-3.0
	11nm,1.0s,baz=120,slow=5.7,SNR=5.5						
CPUP	**Villa Florida**	**143.92**	**217**	PKP	PKPdf	08 09 18.9	-0.2
	2.7nm,0.7s,baz=43,slow=7.2,SNR=4.0						
CFAA	**Coronel Fontan**	**144.61**	**199**	PKP	PKPdf	08 09 21.4	+1.2
	0.8nm,0.7s,baz=108,slow=2.1,SNR=8.7						
TXAR	**Lajitas Array**	**145.10**	**36**	PKPbc	PKPbc	08 09 20.6	0.0
	1.8nm,0.6s,baz=280,slow=2.7,SNR=13						
TKL	**Tuckaleechee C**	**146.30**	**4**	PKPbc	PKPbc	08 09 23.7	-0.4
	3.0nm,0.9s,baz=110,slow=1.6,SNR=2.9						

IDC 16 07:50:48.7±1.2, 1°.53S×99°.50E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/23, mbtmp4.0/5, Error ellipse: s-maj=49.2km s-min=21.9km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.66**	**121**	P	P	07 58 14.5	+0.2
	1.0nm,0.4s,baz=302,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**39.93**	**126**	P	P	07 58 24.5	-0.5
	1.1nm,0.8s,baz=302,slow=8.3,SNR=2.2						
MKAR	**Makanchi Array**	**50.45**	**345**	P	P	07 59 47.6	-0.6
	1.4nm,0.7s,baz=156,slow=8.6,SNR=2.5						
USRK	**Ussuriysk Arra**	**53.99**	**29**	P	P	08 00 14.5	0.0
	2.2nm,0.8s,baz=204,slow=3.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**56.62**	**350**	P	P	08 00 33.7	+0.4
	0.9nm,0.4s,baz=134,slow=4.2,SNR=2.3						
CPUP	**Villa Florida**	**144.39**	**217**	PKP	PKPab	08 10 25.6	-0.2
	2.0nm,0.7s,baz=280,slow=6.1,SNR=2.2						
TXAR	**Lajitas Array**	**144.63**	**36**	PKP	PKPbc	08 10 27.4	+0.5
	0.4nm,0.5s,baz=289,slow=2.8,SNR=3.3						
CFAA	**Coronel Fontan**	**145.05**	**198**	PKPbc	PKPbc	08 10 28.1	-0.1
	0.5nm,0.6s,baz=141,slow=6.5,SNR=3.9						

IDC 16 07:52:53.5±1.3, 1°.60S×99°.26E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/25, mbtmp4.0/8, ML4.2/1, MS5.5/1, Ms1 5.5/1, ms1mx4.6/46, Error ellipse: s-maj=51.3km s-min=20.5km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.39**	**356**	LR	LR	07 55 39.7	
	comp=Z,54μm,19.7s,baz=142,slow=39						
CMAR	**Chiang Mai Arr**	**19.93**	**359**	P	P	07 57 25.8	-1.4
	0.3nm,0.3s,baz=187,slow=9.7,SNR=4.3						
WRA	**Warramunga Arr**	**38.83**	**120**	P	P	08 00 20.0	-0.6
	0.7nm,0.6s,baz=303,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**40.08**	**126**	P	P	08 00 31.0	0.0
	1.0nm,0.7s,baz=300,slow=7.7,SNR=4.3						
KSRS	**Korea Array**	**47.06**	**31**	P	P	08 01 27.0	+0.1
	0.9nm,0.7s,baz=228,slow=8.0,SNR=3.5						
SONM	**Songino Array**	**49.63**	**6**	P	P	08 01 47.6	+0.8
	0.7nm,0.8s,baz=187,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**50.45**	**345**	P	P	08 01 53.4	+0.4
	1.2nm,0.4s,baz=157,slow=8.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**56.65**	**350**	P	P	08 02 37.5	-0.8
	1.4nm,0.5s,baz=166,slow=4.8,SNR=3.5						
SPITS	**Spitsbergen Ar**	**90.09**	**348**	P	P	08 05 54.3	-0.6
	4.4nm,0.9s,baz=106,slow=15,SNR=4.3						
CPUP	**Villa Florida**	**144.19**	**218**	PKP	PKPdf	08 12 31.4	-0.8
	2.7nm,0.8s,baz=155,slow=1.1,SNR=4.0						
TXAR	**Lajitas Array**	**144.82**	**36**	PKP	PKPbc	08 12 32.5	+0.2
	0.8nm,0.6s,baz=279,slow=2.2,SNR=5.6						
CFAA	**Coronel Fontan**	**144.91**	**199**	PKP	PKPdf	08 12 33.7	+0.3
	0.7nm,0.6s,baz=162,slow=3.1,SNR=9.8						
TKL	**Tuckaleechee C**	**146.00**	**4**	PKPbc	PKPdf	08 12 35.0	0.0
	1.6nm,0.6s,baz=114,slow=6.3,SNR=3.3						

IDC 16 07:53:14.0±0.8, 1°.51S×99°.48E, h0km, mb4.4/13, mb1 4.4/15, mb1mx4.1/29, mbtmp4.3/15, ML3.7/2, Error ellipse: s-maj=29.5km s-min=15.0km az=69.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.32**	**353**	Pn	Pn	07 54 20.7	-0.4
	2.9nm,0.3s,baz=148,slow=9.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**19.85**	**358**	P	P	07 57 46.6	-0.1
	0.1nm,0.3s,baz=188,slow=9.5,SNR=4.0						
WRA	**Warramunga Arr**	**38.69**	**121**	P	P	08 00 38.8	-1.1
	4.3nm,0.6s,baz=302,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**39.96**	**126**	P	P	08 00 50.3	-0.2
	2.1nm,0.5s,baz=302,slow=8.0,SNR=9.4						
JNU	**Nakatsue**	**45.43**	**38**	P	P	08 01 35.1	+0.3
	4.6nm,0.6s,baz=204,slow=3.7,SNR=3.3						
KSRS	**Korea Array**	**46.87**	**31**	P	P	08 01 45.8	-0.2
	1.3nm,0.6s,baz=227,slow=8.5,SNR=4.6						
SONM	**Songino Array**	**49.51**	**6**	P	P	08 02 06.9	+0.4
	1.9nm,0.7s,baz=186,slow=9.2,SNR=4.4						
SONM				PcP	PcP	08 03 28.3	-0.2
	1.4nm,0.7s,baz=196,slow=4.7,SNR=3.8						
STKA	**Stephens Creek**	**49.86**	**132**	P	P	08 02 09.8	+0.5
	4.9nm,0.8s,baz=22,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**50.42**	**345**	P	P	08 02 14.4	+1.2
	4.4nm,0.7s,baz=151,slow=6.9,SNR=6.7						
USRK	**Ussuriysk Arra**	**53.98**	**29**	P	P	08 02 40.5	+0.8
	1.8nm,0.5s,baz=227,slow=2.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	P	08 02 57.6	-0.8
	3.2nm,0.6s,baz=160,slow=6.8,SNR=3.6						
ASAJ	**Asahikawa**	**59.51**	**35**	P	P	08 03 17.2	-1.9
	2.6nm,0.8s,baz=233,slow=15,SNR=3.3						
RPZ	**Rata Peaks**	**75.69**	**135**	P	P	08 05 02.5	+1.0
	8.6nm,0.9s,baz=350,slow=6.1,SNR=3.3						
FINES	**FINESS Array B**	**83.44**	**332**	P	P	08 05 42.7	-0.4
	12nm,1.2s,baz=116,slow=9.7,SNR=4.3						
SPITS	**Spitsbergen Ar**	**90.05**	**348**	P	P	08 06 13.3	-1.9
	4.0nm,0.8s,baz=82,slow=10,SNR=4.2						
PDAR	**Pinedale Array**	**131.40**	**28**	PKP	PKPdf	08 12 30.0	+0.9
	0.2nm,0.5s,baz=22,slow=3.3,SNR=2.3						
CPUP	**Villa Florida**	**144.40**	**217**	PKP	PKPbc	08 12 51.5	+0.2
	1.0nm,0.5s,baz=136,slow=2.5,SNR=3.4						
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	PKPdf	08 12 53.3	-0.3
	3.1nm,0.4s,baz=285,slow=1.9,SNR=22						
CFAA	**Coronel Fontan**	**145.06**	**198**	PKPbc	PKPdf	08 12 54.0	-0.1
	0.2nm,0.4s,baz=179,slow=2.8,SNR=7.8						
TKL	**Tuckaleechee C**	**145.89**	**5**	PKPbc	PKPdf	08 12 55.6	+0.2
	1.7nm,0.7s,baz=237,slow=0.1,SNR=5.8						
SIV	**San Ignacio**	**154.09**	**227**	PKPbc	PKPbc	08 13 15.2	-1.7
	1.6nm,0.9s,baz=48,slow=3.9,SNR=3.0						

---

*IDC **16** 07:54:37.2±2.8, 40°.06S×176°.17E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=66.1km s-min=15.2km az=126.0*
*ISCJB **16** 07:54:40.8±0.4, 40°.33S±0°.03×176°.47E±0°.05, h56km±3km, mb3.5/2, Error ellipse: s-maj=6.9km s-min=3.3km az=30.0*
*WEL **16** 07:54:42.4±0.1, 40°.31S×176°.46E, h46km±1km, ML3.8/18, Error ellipse: s-maj=1.3km s-min=0.5km az=90.0*
WEL Felt from Hawke"s Bay to Manawatu, maximum reported intensity MM 4.

ISC 16 07:54:41.1±1.0, 40°.33S±0°.04×176°.46E±0°.04, h54km±6km, n76, σ0°90/86, 22C-4D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.14**	**65**	PN	**Pn**	**07 54 50.0**	**+0.4**
PRHZ				SN	**Sn**	**07 54 56.0**	**+0.2**
DVHZ	**Dannevirke**	**0.23**	**277**	↓PN	**Pn**	**07 54 49.7**	**-0.5**
DVHZ				SN	**Sn**	**07 54 55.1**	**-1.6**
WPHZ	**Waipukurau**	**0.27**	**356**	↓PN	**Pn**	**07 54 50.0**	**-0.4**
WPHZ				SN	**Sn**	**07 54 56.0**	**-1.1**
BFZ	**Birch Farm**	**0.39**	**205**	PN	**Pn**	**07 54 52.5**	**+1.0**
BFZ				SN	**Sn**	**07 54 59.9**	**+0.9**
PXZ	**Pawanui**	**0.43**	**46**	↑PN	**Pn**	**07 54 52.4**	**+0.5**
PXZ				SN	**Sn**	**07 54 60.0**	**+0.4**
PXZ				AML	AML	07 55 00.5	
PXZ				AML	AML	07 55 01.6	
PXZ				AML	AML	07 55 01.7	
PNHZ	**Pukenui**	**0.46**	**334**	↑PN	**Pn**	**07 54 51.7**	**-0.6**
PNHZ				SN	**Sn**	**07 54 58.8**	**-1.6**
TSZ	**Takapari Road**	**0.47**	**305**	PN	**Pn**	**07 54 51.7**	**-0.7**
TSZ				AML	AML	07 54 58.9	
TSZ				AML	AML	07 54 59.0	
TSZ				AML	AML	07 54 59.2	
TSZ				AML	AML	07 54 59.2	
POWZ	**Post Office Ro**	**0.54**	**263**	PN	**Pn**	**07 54 53.3**	**+0.2**
POWZ				SN	**Sn**	**07 55 00.7**	**-1.1**
KAHZ	**Kahuranaki**	**0.62**	**31**	PN	**Pn**	**07 54 54.8**	**+0.6**
TIWZ	**Tintock**	**0.63**	**224**	PN	**Pn**	**07 54 55.2**	**+1.0**
TIWZ				SN	**Sn**	**07 55 05.2**	**+1.5**
MRZ	**Mangatainoka R**	**0.75**	**244**	↑PN	**Pn**	**07 54 56.4**	**+0.6**
MRZ				SN	**Sn**	**07 55 06.8**	**+0.4**
MRZ				AML	AML	07 55 07.4	
CKHZ	**Cape Kidnapper**	**0.82**	**35**	PN	**Pn**	**07 54 57.1**	**+0.5**
TMWZ	**Te Maipa**	**0.89**	**209**	↑PN	**Pn**	**07 54 58.5**	**+1.0**
BHHZ	**Black Hill Sta**	**0.90**	**340**	↑PN	**Pn**	**07 54 57.6**	**-0.1**
MCHZ	**McNeill Hill**	**0.90**	**12**	↑PN	**Pn**	**07 54 58.1**	**+0.4**
HOWZ	**Holdsworth Sta**	**0.92**	**232**	↑PN	**Pn**	**07 54 58.5**	**+0.6**
HOWZ				SN	**Sn**	**07 55 10.9**	**+0.6**
MOVZ	**Moawhango**	**1.07**	**329**	↑PN	**Pn**	**07 55 00.4**	**+0.4**
OGWZ	**Otaki Gorge**	**1.10**	**243**	PN	**Pn**	**07 55 00.8**	**+0.5**
MTW	**Mount Morrison**	**1.10**	**221**	↑PN	**Pn**	**07 55 00.7**	**+0.3**
MTW				AML	AML	07 55 16.0	
MTW				AML	AML	07 55 16.8	
BKZ	**Black Stump Fm**	**1.16**	**1**	PN	**Pn**	**07 55 01.3**	**0.0**
BKZ				AML	AML	07 55 15.6	
BKZ				AML	AML	07 55 15.8	
WNVZ	**Wahianoa**	**1.20**	**326**	PN	**Pn**	**07 55 02.6**	**+0.8**
MTVZ	**Mangateitei**	**1.21**	**321**	↑PN	**Pn**	**07 55 02.8**	**+0.8**
TRWZ	**Traveller**	**1.22**	**209**	↑PN	**Pn**	**07 55 02.5**	**+0.5**
TRWZ				AML	AML	07 55 19.1	
TRWZ				AML	AML	07 55 19.2	
TUVZ	**Tukino**	**1.23**	**329**	↑PN	**Pn**	**07 55 03.2**	**+1.0**
TRVZ	**Turoa**	**1.25**	**325**	↓PN	**Pn**	**07 55 03.2**	**+0.7**
NMHZ	**Naumai**	**1.26**	**12**	PN	**Pn**	**07 55 03.0**	**+0.4**
WAZ	**Wanganui**	**1.27**	**296**	↑PN	**Pn**	**07 55 04.0**	**+1.4**
FWVZ	**Far West T-bar**	**1.28**	**326**	PN	**Pn**	**07 55 03.6**	**+0.6**
KIW	**Kapiti Island**	**1.30**	**245**	PN	**Pn**	**07 55 03.5**	**+0.5**
KIW				AML	AML	07 55 19.7	
KIW				AML	AML	07 55 38.9	
PAWZ	**Paruwai Farm**	**1.31**	**216**	PN	**Pn**	**07 55 03.3**	**+0.2**
PAWZ				AML	AML	07 55 21.7	
PAWZ				AML	AML	07 55 22.0	
CAW	**Cannon Point**	**1.31**	**233**	↑PN	**Pn**	**07 55 03.5**	**+0.3**
CAW				AML	AML	07 55 21.1	
CAW				AML	AML	07 55 38.9	
OTVZ	**Oturere**	**1.32**	**332**	↑PN	**Pn**	**07 55 04.2**	**+0.8**
WPVZ	**Whakapapa**	**1.33**	**327**	PN	**Pn**	**07 55 04.3**	**+0.8**
NGZ	**Ngauruhoe**	**1.33**	**330**	↑PN	**Pn**	**07 55 04.3**	**+0.7**
PKVZ	**Pokaka**	**1.35**	**320**	PN	**Pn**	**07 55 04.6**	**+0.8**
KRVZ	**Karewarewa**	**1.39**	**332**	PN	**Pn**	**07 55 05.0**	**+0.7**
WTVZ	**West Tongariro**	**1.39**	**331**	↑PN	**Pn**	**07 55 05.0**	**+0.7**
MSWZ	**Moikau Station**	**1.42**	**220**	↑PN	**Pn**	**07 55 04.5**	**-0.2**
MSWZ				AML	AML	07 55 23.0	
MSWZ				AML	AML	07 55 23.5	
RITZ	**Rihia Road**	**1.43**	**341**	↑PN	**Pn**	**07 55 05.7**	**+0.9**
HATZ	**Hinemaiaia**	**1.47**	**349**	PN	**Pn**	**07 55 05.7**	**+0.5**
KATZ	**Kakaramea**	**1.48**	**336**	PN	**Pn**	**07 55 06.3**	**+0.7**
TWVZ	**Taurewa**	**1.48**	**327**	PN	**Pn**	**07 55 06.1**	**+0.5**
RAHZ	**Arahi**	**1.49**	**19**	PN	**Pn**	**07 55 05.7**	**+0.1**
PLWZ	**Palliser**	**1.54**	**216**	PN	**Pn**	**07 55 06.0**	**-0.3**
RATZ	**Rangitukua**	**1.56**	**340**	PN	**Pn**	**07 55 07.0**	**+0.5**
KNZ	**Kokohu**	**1.61**	**36**	PN	**Pn**	**07 55 06.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.62**	**44**	PN	**Pn**	**07 55 07.9**	**+0.6**
BHW	**Baring Head**	**1.62**	**228**	PN	**Pn**	**07 55 07.1**	**-0.2**
BHW				AML	AML	07 55 27.7	
BHW				AML	AML	07 55 28.6	
SNZO	**South Karori**	**1.66**	**233**	PN	**Pn**	**07 55 07.7**	**-0.1**
SNZO				AML	AML	07 55 28.3	
SNZO				AML	AML	07 55 28.8	
WHTZ	**Whakaora**	**1.71**	**347**	PN	**Pn**	**07 55 09.1**	**+0.5**
WATZ	**Wairara**	**1.71**	**341**	↓PN	**Pn**	**07 55 08.9**	**+0.3**
ALRZ	**Allen Road**	**1.77**	**357**	PN	**Pn**	**07 55 09.2**	**-0.1**
PRGZ	**Paritu Road**	**1.78**	**38**	PN	**Pn**	**07 55 09.9**	**+0.3**
VRZ	**Vera Road**	**1.78**	**312**	PN	**Pn**	**07 55 10.2**	**+0.7**
PRRZ	**Plateau Road**	**1.83**	**358**	↑PN	**Pn**	**07 55 10.1**	**-0.1**
TCW	**Tory Channel**	**1.88**	**241**	PN	**Pn**	**07 55 10.7**	**-0.2**
TCW				AML	AML	07 55 41.7	
TCW				AML	AML	07 55 52.2	
HRRZ	**Handcock Road**	**1.94**	**356**	PN	**Pn**	**07 55 11.9**	**+0.2**
RRRZ	**Republican Roa**	**1.99**	**1**	PN	**Pn**	**07 55 12.0**	**-0.3**
DUWZ	**D'Urville Isla**	**1.99**	**255**	PN	**Pn**	**07 55 13.1**	**+0.7**
TARZ	**Mount Tarawera**	**2.09**	**1**	PN	**Pn**	**07 55 13.8**	**-0.1**
URZ	**Urewera**	**2.13**	**14**	↑PN	**Pn**	**07 55 13.5**	**-0.8**
URZ				AML	AML	07 55 39.0	
URZ				AML	AML	07 55 39.7	
URZ	**Urewera**	**2.13**	**14**	Pn	**Pn**	**07 55 13.5**	**-0.8**
	13nm,0.3s,baz=242,slow=6.5,SNR=63						
URZ				Lg	Lg	07 55 37.2	
	39nm,0.3s,baz=86,slow=14,SNR=20						
MWZ	**Matawai**	**2.16**	**23**	↑PN	**Pn**	**07 55 14.0**	**-0.7**
MWZ				AML	AML	07 55 40.0	
MWZ				AML	AML	07 55 40.5	
MWZ				AML	AML	07 57 45.0	
MWZ				AML	AML	07 57 45.0	
HIZ	**

ZALV	Zalesovo Beam	56.69 350	P	P		08 11 32.7	+0.2
	3.0nm,0.7s,baz=175,slow=5.9,SNR=7.2						
BVAR	Borovoye Array	59.67 340	P	P		08 11 54.1	+0.6
	0.5nm,0.4s,baz=148,slow=8.4,SNR=2.8						
CPUP	Villa Florida	144.47 217	PKP	PKPab		08 21 23.7	-1.1
	1.6nm,0.7s,baz=140,slow=8.4,SNR=4.0						
TXAR	Lajitas Array	144.56 37	PKP	PKPbc		08 21 25.6	+0.2
	0.4nm,0.4s,baz=310,slow=1.4,SNR=6.4						
CFAA	Coronel Fontan	145.07 198	PKPbc	PKPbc		08 21 26.6	-0.3
	0.5nm,0.6s,baz=180,slow=2.7,SNR=11						

IDC 16 08:02:44.9±1.2, 1°73S×99°74E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, ML3.4/1, Error ellipse: s-maj=44.4km s-min=18.2km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.57	350	Pn	Pn	08 03 54.3	-1.1
	1.9nm,0.3s,baz=177,slow=19,SNR=2.0						
CMAR	Chiang Mai Arr	20.07	358	P	P	08 07 19.4	-0.6
	1.1nm,0.7s,baz=185,slow=9.0,SNR=3.4						
WRA	Warramunga Arr	38.36	121	P	P	08 10 08.3	+0.3
	1.7nm,0.5s,baz=302,slow=9.1,SNR=6.7						
ASAR	Alice Springs	39.62	126	P	P	08 10 18.4	-0.2
	1.2nm,0.6s,baz=300,slow=7.8,SNR=7.0						
KSRS	Korea Array	46.92	31	P	P	08 11 16.2	-1.1
	0.3nm,0.4s,baz=226,slow=9.2,SNR=4.2						
SONM	Songino Array	49.70	6	P	P	08 11 39.6	+0.7
	0.7nm,0.7s,baz=169,slow=4.3,SNR=3.0						
MKAR	Makanchi Array	50.70	345	P	P	08 11 46.5	+0.2
	1.6nm,0.5s,baz=152,slow=7.6,SNR=5.1						
USRK	Ussuriysk Arra	54.05	28	P	P	08 12 10.9	-0.2
	2.4nm,0.8s,baz=221,slow=4.6,SNR=4.6						
KURBB	Kurchatov Arra	55.22	344	P	P	08 12 19.7	+0.2
	0.8nm,0.7s,baz=164,slow=6.7,SNR=2.6						
ZALV	Zalesovo Beam	56.85	350	P	P	08 12 30.9	-0.2
	1.7nm,0.5s,baz=160,slow=8.9,SNR=3.9						
FINES	FINESS Array B	83.75	332	P	P	08 15 15.2	-0.4
	1.1nm,0.5s,baz=160,slow=6.1,SNR=5.7						
CPUP	Villa Florida	144.38	217	PKP	PKPab	08 22 21.3	-0.6
	1.2nm,0.6s,baz=54,slow=6.1,SNR=4.4						
TXAR	Lajitas Array	144.64	37	PKP	PKPab	08 22 23.0	0.0
	0.9nm,0.6s,baz=316,slow=2.5,SNR=6.2						
CFAA	Coronel Fontan	144.94	198	PKP	PKPdf	08 22 25.6	+0.7
	0.8nm,0.5s,baz=181,slow=3.0,SNR=16						

IDC 16 08:05:29.4±0.7, 1°54S×99°48E, h0km, mb4.1/16, mb1 4.1/18, mb1mx4.0/28, mbtmp4.0/18, ML3.7/2, Error ellipse: s-maj=30.3km s-min=14.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.35	353	Pn	Pn	08 06 35.3	-1.6
	1.1nm,0.3s,baz=157,slow=12,SNR=2.3						
CMAR	Chiang Mai Arr	19.88	358	P	P	08 10 02.1	-0.3
	0.2nm,0.3s,baz=185,slow=10,SNR=5.2						
WRA	Warramunga Arr	38.67	121	P	P	08 12 54.5	-0.6
	0.4nm,0.4s,baz=312,slow=9.2,SNR=5.8						
ASAR	Alice Springs	39.94	126	P	P	08 13 04.8	-1.0
	0.4nm,0.3s,baz=300,slow=7.9,SNR=7.4						
ASAR				PcP	PcP	08 15 12.2	+0.8
	0.3nm,0.7s,baz=306,slow=2.6,SNR=2.4						
KSRS	Korea Array	46.89	31	P	P	08 14 01.8	+0.2
	0.7nm,0.6s,baz=222,slow=7.8,SNR=4.0						
SONM	Songino Array	49.54	6	P	P	08 14 22.1	0.0
	0.6nm,0.5s,baz=180,slow=8.2,SNR=3.7						
SONM				PcP	PcP	08 15 44.0	+0.1
	1.1nm,0.7s,baz=195,slow=4.1,SNR=3.6						
STKA	Stephens Creek	49.84	132	P	P	08 14 24.3	-0.2
	6.8nm,1.1s,baz=285,slow=8.9,SNR=2.5						
MKAR	Makanchi Array	50.45	345	P	P	08 14 29.3	+0.4
	2.3nm,0.7s,baz=149,slow=8.3,SNR=11						
USRK	Ussuriysk Arra	54.00	29	P	P	08 14 55.2	-0.1
	1.4nm,0.6s,baz=199,slow=4.9,SNR=4.3						
KURBB	Kurchatov Arra	54.96	344	P	P	08 15 01.7	-0.5
	0.9nm,0.8s,baz=161,slow=7.1,SNR=6.9						
ZALV	Zalesovo Beam	56.62	350	P	P	08 15 14.2	+0.1
	2.2nm,0.5s,baz=165,slow=6.2,SNR=5.8						
BVAR	Borovoye Array	59.58	340	P	P	08 15 34.4	-0.4
	0.9nm,0.6s,baz=152,slow=9.8,SNR=4.2						
KBZ	Khabaz	67.62	319	P	P	08 16 28.2	0.0
	2.2nm,0.7s,baz=114,slow=4.7,SNR=6.0						
BRTR	Keskin Array B	72.63	312	P	P	08 16 58.0	-1.2
	0.5nm,0.5s,baz=141,slow=6.1,SNR=3.9						
FINES	FINESS Array B	83.47	332	P	P	08 17 58.8	+0.1
	6.5nm,0.9s,baz=117,slow=7.8,SNR=8.8						
ARCES	ARCESS Array B	85.87	340	P	P	08 18 10.2	-0.5
	1.6nm,0.8s,baz=98,slow=6.7,SNR=2.8						
GERES	GERESS Array B	88.36	319	P	P	08 18 23.8	+0.4
	0.3nm,0.5s,baz=48,slow=1.5,SNR=2.7						
SPITS	Spitsbergen Ar	90.08	348	P	P	08 18 30.7	-0.1
	2.3nm,0.7s,baz=102,slow=8.0,SNR=5.4						
CPUP	Villa Florida	144.38	217	PKP	PKPbc	08 25 06.9	+0.2
	3.1nm,0.8s,baz=144,slow=4.0,SNR=6.9						
TXAR	Lajitas Array	144.64	36	PKP	PKPdf	08 25 08.3	-0.6
	1.6nm,0.4s,baz=285,slow=2.7,SNR=25						
CFAA	Coronel Fontan	145.04	198	PKPbc	PKPdf	08 25 09.2	-0.3
	0.9nm,0.6s,baz=175,slow=3.0,SNR=20						
TKL	Tuckaleechee C	145.92	5	PKPbc	PKPdf	08 25 10.7	-0.2
	1.9nm,0.7s,baz=129,slow=6.8,SNR=5.7						

IDC 16 08:08:01.4±0.8, 1°53S×99°64E, h0km, mb4.1/12, mb1 4.1/13, mb1mx4.0/27, mbtmp4.0/13, ML3.9/1, MS5.0/1, Ms1 5.0/1, ms1mx4.1/42, Error ellipse: s-maj=30.9km s-min=15.7km az=70.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.36	351	LR	LR	08 10 20.6	
	comp=Z,20μm,19.0s,baz=91,slow=33						
CMAR	Chiang Mai Arr	19.88	358	P	P	08 12 35.1	+0.7
	0.2nm,0.3s,baz=203,slow=10,SNR=2.7						
WRA	Warramunga Arr	38.54	121	P	P	08 15 25.5	-0.6
	2.1nm,0.5s,baz=301,slow=9.1,SNR=7.5						
ASAR	Alice Springs	39.82	126	P	P	08 15 36.4	-0.4
	1.3nm,0.7s,baz=301,slow=7.8,SNR=8.0						
JNU	Nakatsue	45.35	38	P	P	08 16 21.9	+0.3
	5.6nm,0.9s,baz=249,slow=17,SNR=2.4						
KSRS	Korea Array	46.81	31	P	P	08 16 32.2	-0.7
	0.6nm,0.6s,baz=227,slow=7.4,SNR=3.4						
SONM	Songino Array	49.52	6	P	P	08 16 54.5	+0.5
	0.8nm,0.8s,baz=187,slow=7.3,SNR=3.3						
STKA	Stephens Creek	49.73	132	P	P	08 16 55.6	-0.1
	3.1nm,0.8s,baz=315,slow=11,SNR=2.4						
MKAR	Makanchi Array	50.48	345	P	P	08 17 00.5	-0.6
	0.7nm,0.4s,baz=156,slow=9.0,SNR=6.0						
USRK	Ussuriysk Arra	53.92	28	P	P	08 17 26.8	+0.1
	1.4nm,0.7s,baz=220,slow=3.8,SNR=3.6						
KURBB	Kurchatov Arra	55.00	344	P	P	08 17 34.1	-0.3
	0.3nm,0.4s,baz=166,slow=7.3,SNR=4.5						
ZALV	Zalesovo Beam	56.65	350	P	P	08 17 45.5	-0.7
	4.3nm,0.8s,baz=243,slow=1.7,SNR=6.5						
FINES	FINESS Array B	83.53	332	P	P	08 20 30.4	-0.7
	4.4nm,1.0s,baz=160,slow=6.1,SNR=4.2						
QSPA	South Pole Qui	88.43	180	P	P	08 20 55.6	+0.2
	2.6nm,1.1s,baz=25,slow=6.5,SNR=3.0						
CPUP	Villa Florida	144.47	217	PKP	PKPbc	08 27 38.9	-0.1
	3.1nm,0.8s,baz=135,slow=2.9,SNR=6.4						
TXAR	Lajitas Array	144.55	37	PKP	PKPbc	08 27 40.0	+0.6
	1.1nm,0.5s,baz=286,slow=2.5,SNR=11						
CFAA	Coronel Fontan	145.09	198	PKPbc	PKPbc	08 27 40.9	0.0
	0.9nm,0.6s,baz=183,slow=3.1,SNR=19						
TKL	Tuckaleechee C	145.90	5	PKPbc	PKPbc	08 27 43.5	+0.1
	1.5nm,1.0s,baz=90,slow=1.0,SNR=3.6						

IDC 16 08:08:46.8±0.8, 1°42S×99°56E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, ML4.1/1, Error ellipse: s-maj=35.6km s-min=17.5km az=66.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.76	358	P	P	08 13 18.2	-0.4
	0.2nm,0.3s,baz=188,slow=11,SNR=2.5						
WRA	Warramunga Arr	38.67	121	P	P	08 16 12.2	-0.5
	1.4nm,0.7s,baz=302,slow=8.9,SNR=3.2						
ASAR	Alice Springs	39.95	126	P	P	08 16 22.6	-0.7
	1.3nm,0.7s,baz=301,slow=8.0,SNR=2.8						
KSRS	Korea Array	46.75	31	P	P	08 17 18.0	0.0
	0.6nm,0.7s,baz=304,slow=38,SNR=2.5						
SONM	Songino Array	49.41	6	P	P	08 17 39.3	+0.7
	0.6nm,0.5s,baz=194,slow=9.8,SNR=2.8						
STKA	Stephens Creek	49.86	132	P	P	08 17 43.1	+1.0
	6.7nm,1.0s,baz=92,slow=7.5,SNR=2.9						
MKAR	Makanchi Array	50.35	345	P	P	08 17 46.4	+0.7
	2.4nm,0.7s,baz=153,slow=8.4,SNR=4.5						
FINES	FINESS Array B	83.40	332	P	P	08 21 15.8	0.0
	3.6nm,1.0s,baz=76,slow=8.0,SNR=4.5						
GERES	GERESS Array B	88.32	319	P	P	08 21 40.7	0.0
	0.3nm,0.5s,baz=108,slow=4.3,SNR=3.5						
QSPA	South Pole Qui	88.54	180	P	P	08 21 41.5	+0.2
	1.1nm,1.0s,baz=309,slow=6.5,SNR=3.2						
SPITS	Spitsbergen Ar	89.98	348	P	P	08 21 46.0	-1.8
	1.1nm,0.6s,baz=134,slow=10,SNR=3.6						
TXAR	Lajitas Array	144.50	36	PKP	PKPbc	08 28 25.2	+0.5
	1.6nm,0.6s,baz=270,slow=1.3,SNR=6.5						
CPUP	Villa Florida	144.52	217	PKP	PKPab	08 28 24.1	-0.3
	1.1nm,0.6s,baz=79,slow=2.0,SNR=3.2						
CFAA	Coronel Fontan	145.17	198	PKPbc	PKPab	08 28 26.9	+0.1
	0.7nm,0.7s,baz=184,slow=3.1,SNR=8.4						
TKL	Tuckaleechee C	145.79	5	PKPbc	PKPdf	08 28 27.4	-0.8
	1.6nm,0.6s,baz=155,slow=3.4,SNR=2.9						

IDC 16 08:10:05.0±11.0, 1°88S×99°19E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.5/24, mbtmp3.8/2, Error ellipse: s-maj=548.8km s-min=32.0km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.76	120	P	P	08 17 31.1	-0.3
	1.1nm,0.9s,baz=297,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	50.70	345	P	P	08 19 06.1	-0.3
	2.1nm,1.1s,baz=156,slow=8.4,SNR=1.7						
TXAR	Lajitas Array	145.09	36	PKPbc	PKPbc	08 29 44.4	-0.3
	0.5nm,0.7s,baz=315,slow=0.9,SNR=3.6						

IDC 16 08:11:31.3±0.8, 1°47S×99°47E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/29, mbtmp3.9/10, ML3.8/2, Error ellipse: s-maj=46.8km s-min=17.0km az=65.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.28	353	Pn	Pn	08 12 37.8	-0.1
	1.4nm,0.3s,baz=165,slow=17,SNR=2.1						
CMAR	Chiang Mai Arr	19.81	359	P	Pn	08 16 05.2	+0.1
	0.3nm,0.3s,baz=188,slow=9.5,SNR=4.7						
WRA	Warramunga Arr	38.72	121	P	P	08 18 57.0	-0.5
	1.0nm,0.6s,baz=305,slow=9.0,SNR=5.3						
ASAR	Alice Springs	39.99	126	P	P	08 19 07.9	-0.3
	0.6nm,0.5s,baz=297,slow=8.2,SNR=5.8						
MKAR	Makanchi Array	50.38	345	P	P	08 20 29.4	-0.9
	1.5nm,0.7s,baz=155,slow=7.2,SNR=7.2						
KURBB	Kurchatov Arra	54.89	344	P	P	08 21 03.8	+0.2
	0.4nm,0.5s,baz=156,slow=7.0,SNR=3.7						
ZALV	Zalesovo Beam	56.55	350	P	P	08 21 15.6	+0.2
	1.0nm,0.5s,baz=145,slow=5.3,SNR=3.3						
BVAR	Borovoye Array	59.51	340	P	P	08 21 36.0	-0.2
	0.5nm,0.5s,baz=140,slow=7.5,SNR=3.0						
QSPA	South Pole Qui	88.49	180	P	P	08 24 26.2	+0.6
	0.4nm,0.5s,baz=328,slow=20,SNR=5.6						
HFS	Hagfors	89.15	330	P	P	08 24 26.8	-1.8
	1.7nm,0.4s,baz=98,slow=6.0,SNR=8.1						
CPUP	Villa Florida	144.42	217	PKP	PKPbc	08 31 09.1	+0.3
	0.3nm,0.4s,baz=90,slow=0.5,SNR=3.1						
TXAR	Lajitas Array	144.60	36	PKP	PKPbc	08 31 09.5	0.0
	0.4nm,0.4s,baz=222,slow=1.2,SNR=6.7						
CFAA	Coronel Fontan	145.10	199	PKPbc	PKPab	08 31 11.2	+0.3
	0.7nm,0.7s,baz=179,slow=3.6,SNR=11						
TKL	Tuckaleechee C	145.85	5	PKPbc	PKPbc	08 31 12.9	-0.2
	1.6nm,0.7s,baz=135,slow=7.1,SNR=3.9						

*IDC **16** 08:13:20.8±0.5, 1°51S×99°58E, h0km, mb4.3/27, mb1 4.4/29, mb1mx4.3/36, mbtmp4.3/29, ML4.6/1, Error ellipse: s-maj=20.0km s-min=10.9km az=63.0*
*NEIC **16** 08:13:22.1±0.3, 1°57S×99°52E, h10km, mb4.7/4, Error ellipse: s-maj=11.6km s-min=6.1km az=69.0*
*ISCJB **16** 08:13:23.8±0.4, 1°46S±0°06×99°55E±0°07, h30km, mb4.4/33, Error ellipse: s-maj=12.0km s-min=5.2km az=144.0*
*DJA **16** 08:13:25.9±0.7, 2°S±3°×9°9E±°, h10km, M5.4/8, mb5.3/6, MLv5.5/8*
*AUST **16** 08:13:41.0±0.6, 1°38S×101°43E, h60km, Error ellipse: s-maj=1.6km s-min=0.9km az=233.0*

ISC 16 08:13:25.2±0.4, 1°65S±0°05×99°43E±0°06, h30km, n105, σ1.23/105, mb4.4/33, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.53	39	P	Pn	08 13 48.4	-2.1
	baz=1.4,SNR=6.6						
BKNI	Bangkinang	2.54	39	P	Pb	08 14 11.0	+0.9
BKNI				S	Sb	08 14 44.6	+3.7
BKNI	Bangkinang	2.54	39	P	Pb	08 14 10.1	0.0
	baz=1.7,SNR=7.3						
RGRI	Rengat	3.18	66	P	Pb	08 14 20.4	-0.6
RGRI				S	Sb	08 15 02.3	+2.9
KSI	Kapahiang	3.74	122	P	Pn	08 14 22.3	+1.3
MNAI	Manna	4.44	128	P	Pn	08 14 31.6	+1.1
	baz=3.3,SNR=4.6						
PSI	Prapat	4.45	354	Pn	Pn	08 14 26.1	-4.7
PSI	Prapat	4.45	354	Pn	Pn	08 14 26.1	-4.7
	baz=142,slow=12,SNR=3.4						
PSI	Prapat	4.45	354	P	Pb	08 14 46.3	+3.6
	baz=4.8,SNR=4.0						
TSI	Tuntungan	5.18	350	P	Pb	08 14 57.6	+2.4
LWLI	Liwa	5.71	126	P	Pn	08 14 49.2	+1.1
	528nm,0.7s,2.6nm						
KLSI		6.10	120	P	Pn	08 14 55.2	+1.8
	107nm,0.7s,1.7nm						
IPM	Ipoh	6.29	15	*e*Pn	Pn	08 14 57.7	+1.7
	36nm,0.6s						
IPM	Ipoh	6.29	15	P	Pn	08 15 04.4	+8.4
	73nm,0.8s,2.0nm						
KASI	Kota Agung	6.36	127	P	Pn	08 14 57.4	+0.5
	192nm,0.6s,3.5nm						
KULM	Kulim	7.00	10	*e*Pn	Pn	08 15 05.0	-0.7
	39nm,0.8s						
KULM	Kulim	7.00	10	P	Pn	08 15 14.1	+8.4
	61nm,0.7s,1.7nm						
CBJI	Citeko	8.79	123	P	Pn	08 15 33.5	+3.1
LEM	Lembang	9.65	122	P	Pn	08 15 53.2	+11
SBUM	Sibu	13.42	72	P	P	08 16 52.5	+10
CMAR	Chiang Mai Arr	19.98	359	P	P	08 17 54.0	-1.3
CMAR	Chiang Mai Arr	19.98	359	P	P	08 17 54.0	-1.3
	0.7nm,0.3s,baz=188,slow=9.6,SNR=6.2						
FITZ	Fitzroy Crossi	30.48	124	P	P	08 19 34.7	-1.0
FITZ	Fitzroy Crossi	30.48	124	P	P	08 19 34.7	-1.0
	9.5nm,0.8s,baz=291,slow=4.5,SNR=10						
FITZ	Fitzroy Crossi	30.48	124	P	P	08 19 34.9	-0.9
	baz=29,SNR=8.9						
KNRA	Kununurra	32.11	117	P	P	08 19 47.4	-2.7
	baz=30,SNR=5.0						
LSA	Lhasa	32.16	346	*e*P	P	08 19 49.2	-1.7
	7.4nm,0.6s						
MTN	Manton Dam	33.31	111	P	P	08 20 12.0	+11
	baz=32,SNR=10.0						
WRA	Warramunga Arr	38.67	120	P	P	08 20 45.0	-1.5
WRA				PcP	PcP	08 22 57.0	-1.4
WRA	Warramunga Arr	38.67	120	P	P	08 20 45.0	-1.5
	13nm,0.6s,baz=302,slow=9.0,SNR=56						
WRA				PcP	PcP	08 22 57.0	-1.4
	1.1nm,0.5s,baz=314,slow=2.4,SNR=4.0						
ASAR	Alice Springs	39.92	126	P	P	08 20 56.5	-0.5
ASAR				PcP	PcP	08 23 02.5	+0.2
ASAR				S	S	08 26 58.6	-1.8
ASAR	Alice Springs	39.92	126	P	P	08 20 56.5	-0.5
	6.6nm,0.8s,baz=301,slow=7.9,SNR=31						
ASAR				PcP	PcP	08 23 02.5	+0.2
	1.0nm,0.8s,baz=305,slow=3.1,SNR=4.6						
ASAR				S	S	08 26 58.6	-1.8
	2.0nm,1.1s,baz=304,slow=14,SNR=6.3						
AS31	Alice Springs	39.92	126	*e*P	P	08 20 56.5	-0.5
HHC	Hu-ho-hao-te	43.72	13	*e*P	P	08 21 29.8	+2.0
HHC				S	S	08 27 59.0	+2.8
HHC				pmax	pmax		
	comp=Z,79nm,0.8s						
HHC				pmax	pmax		
	comp=Z,40μm,5.7s						
JNU	Nakatsue	45.57	38	P	P	08 21 40.9	-1.8
JNU	Nakatsue	45.57	38	P	P	08 21 40.9	-1.8
	comp=Z,4.0nm,0.7s,baz=341,slow=5.6,SNR=4.3						
KSAR	Wonju Array Be	46.98	31	P	P	08 21 52.2	-1.4
KSRS	Korea Array	47.01	31	P	P	08 21 52.2	-1.6
	comp=Z,1.4nm,0.7s,baz=222,slow=9.1,SNR=7.8						
TKM2	Tokmak 2	49.28	337	*e*P	P	08 22 11.4	-0.2
	comp=Z,7.7nm,0.8s						
SONM	Songino Array	49.65	6	P	P	08 22 13.6	-0.6
SONM				PcP	PcP	08 23 35.0	-0.3
SONM	Songino Array	49.65	6	P	P	08 22 13.6	-0.6
	comp=Z,1.6nm,0.8s,baz=189,slow=9.4,SNR=6.3						
SONM				PcP	PcP	08 23 35.0	-0.3
	comp=Z,2.9nm,0.8s,baz=194,slow=4.4,SNR=4.7						
EKS2	Erkin-Say	49.80	335	P	P	08 22 16.9	+1.5
	comp=Z,7.3nm,0.9s						
STKA	Stephens Creek	49.81	132	P	P	08 22 15.9	+0.3
STKA	Stephens Creek	49.81	132	P	P	08 22 15.9	+0.3
	comp=Z,12nm,0.7s,baz=304,slow=6.9,SNR=13						
STKA	Stephens Creek	49.81	132	P	P	08 22 16.6	+0.9
	baz=49,SNR=8.8						
MK31	Makanchi Array	50.54	345	*e*P	P	08 22 20.4	-0.5
MKAR	Makanchi Array	50.54	345	P	P	08 22 20.6	-0.2
MKAR	Makanchi Array	50.54	345	P	P	08 22 20.6	-0.2
	comp=Z,7.7nm,0.6s,baz=146,slow=8.4,SNR=28						
CMSA	Cobar Meteorol	52.78	129	P	P	08 22 39.0	+1.1
	baz=52,SNR=7.3						
USRK	Ussuriysk Arra	54.12	29	P	P	08 22 46.0	-1.4
	comp=Z,3.4nm,0.8s,baz=227,slow=5.4,SNR=9.2						
KURBB	Kurchatov Arra	55.05	344	P	P	08 22 53.4	-0.7
	comp=Z,1.6nm,0.7s,baz=161,slow=7.0,SNR=7.0						
KURK	Kurchatov	55.11	344	P	P	08 22 53.4	-1.1
ZALV	Zalesovo Beam	56.72	350	P	P	08 23 05.4	-0.6
ZALV	Zalesovo Beam	56.72	350	P	P	08 23 05.4	-0.6
	comp=Z,3.9nm,0.5s,baz=166,slow=7.1,SNR=8.2						
ASAJ	Asahikawa	59.65	35	P	P	08 23 26.2	-0.4
ASAJ	Asahikawa	59.65	35	P	P	08 23 26.2	-0.4
	comp=Z,1.2nm,0.4s,baz=259,slow=5.2,SNR=3.4						
BVAR	Borovoye Array	59.66	340	P	P	08 23 25.3	-1.2
BVAR	Borovoye Array	59.66	340	P	P	08 23 25.3	-1.2
	comp=Z,1.2nm,0.6s,baz=142,slow=9.6,SNR=4.8						
ABKAR	Akbulak array	61.06	332	P	P	08 23 34.8	-1.3
	comp=Z,1.2nm,0.4s						
AKTO	Aktyubinsk	62.77	332	P	P	08 23 48.0	+0.3
AKTO	Aktyubinsk	62.77	332	P	P	08 23 48.0	+0.3
	comp=Z,0.7nm,0.5s,baz=170,slow=6.1,SNR=3.1						
KBZ	Khabaz	67.67	319	P	P	08 24 19.9	+0.4
KBZ	Khabaz	67.67	319	P	P	08 24 19.9	+0.4
	comp=Z,1.7nm,0.6s,baz=122,slow=4.7,SNR=3.7						
MAW	Mawson	70.49	194	P	P	08 24 38.9	+2.3
MAW	Mawson	70.49	194	P	P	08 24 38.9	+2.3
	comp=Z,2.7nm,0.8s,baz=333,slow=9.1,SNR=5.5						
BRTR	Keskin Array B	72.66	313	P	P	08 24 51.7	+1.2
BRTR	Keskin Array B	72.66	313	P	P	08 24 51.7	+1.2
	comp=Z,0.7nm,0.6s,baz=123,slow=5.3,SNR=3.4						
PETK	Petropavlovsk-	72.89	32	P	P	08 24 50.6	-0.8
PETK	Petropavlovsk-	72.89	32	P	P	08 24 50.6	-0.8
	comp=Z,1.1nm,0.8s,baz=216,slow=9.0,SNR=2.4						
RPZ	Rata Peaks	75.64	135	P	P	08 25 08.6	+0.9
RPZ	Rata Peaks	75.64	135	P	P	08 25 08.6	+0.9
	comp=Z,7.0nm,0.7s,baz=203,slow=10,SNR=6.2						
MLR	Muntele Rosu	79.65	317	P	P	08 25 30.2	+0.1
MLR	Muntele Rosu	79.65	317	P	P	08 25 30.2	+0.1
	comp=Z,0.3nm,0.4s,baz=122,slow=13,SNR=2.7						
BUR08	Bucovina Ar. S	80.63	319	*e*P	P	08 25 35.9	+0.6
VNDA	Vanda	82.62	169	P	P	08 25 46.6	+1.5
VNDA	Vanda	82.62	169	P	P	08 25 46.6	+1.5
	comp=Z,0.9nm,0.8s,baz=315,slow=4.2,SNR=3.4						
FINES	FINESS Array B	83.53	332	P	P	08 25 49.8	-0.3
FINES	FINESS Array B	83.53	332	P	P	08 25 49.8	-0.3
	comp=Z,2.0nm,0.5s,baz=121,slow=7.1,SNR=12						
KAF	Kangasniemi	83.61	333	*e*p	P	08 25 50.8	+0.3
	comp=Z,0.9nm,0.3s						
ARCES	ARCESS Array B	85.95	340	P	P	08 26 01.9	-0.2
ARCES	ARCESS Array B	85.95	340	P	P	08 26 01.9	-0.2
	comp=Z,3.2nm,0.9s,baz=87,slow=6.2,SNR=4.3						
QSPA	South Pole Qui	88.31	180	P	P	08 26 15.0	+1.2
QSPA	South Pole Qui	88.31	180	P	P	08 26 15.0	+1.2
	comp=Z,2.8nm,0.9s,baz=312,slow=4.0,SNR=6.1						
GERES	GERESS Array B	88.41	319	P	P	08 26 14.7	0.0
GERES	GERESS Array B	88.41	319	P	P	08 26

1.7nm,0.8s,baz=124,slow=7.7,SNR=4.3
BRTR Keskin Array B 72.51 313 P P 08 29 51.4 -1.5
0.5nm,0.4s,baz=134,slow=6.3,SNR=3.5
FINES FINESS Array B 83.39 332 P P 08 30 53.0 +0.3
3.8nm,1.0s,baz=169,slow=3.9,SNR=9.1
GERES GERESS Array B 88.26 319 P P 08 31 17.5 +0.2
0.2nm,0.5s,baz=57,slow=6.0,SNR=3.0
QSPA South Pole Qui 88.43 180 P P 08 31 19.1 +1.3
1.2nm,0.8s,baz=219,slow=1.3,SNR=6.9
SPITS Spitsbergen Ar 90.04 348 P P 08 31 24.1 -0.8
1.0nm,0.5s,baz=110,slow=9.8,SNR=4.8
CPUP Villa Florida 144.29 218 PKP PKPbc 08 38 01.7 +0.8
1.8nm,0.7s,baz=110,slow=18,SNR=4.9
TXAR Lajitas Array 144.72 36 PKP PKPbc 08 38 02.7 +0.4
0.8nm,0.5s,baz=280,slow=1.9,SNR=9.7

*NAO **16** 08:19:54.6±1.7, 65°.04N×12°.20E, ML2.3*
*IDC **16** 08:19:55.0±1.4, 65°.08N×12°.14E, h0km, mb1 3.2/4, mb1mx3.0/29, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=16.8km s-min=8.0km az=114.0*
*CSEM **16** 08:19:56.2±0.4, 64°.99N×12°.57E, h10km, ML1.9, Error ellipse: s-maj=13.7km s-min=6.0km az=109.0*
*BER **16** 08:19:56.6±2.9, 65°.03N×12°.09E, h15km, MD2.6, ML1.9, ML2.3(NAO)*
ISC 16 08:19:54.2±1.1, 65°.06N±0°.04×11°.91E±0°.09, h10km, n21, σ1§91/35, 2C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**1.36**	**19**	⇑*iP*	**Pn**	**08 20 17.7**	**-1.3**
STOK				*eS*	**Sb**	**08 20 36.3**	**-0.6**
FLOS	**Flostrand**	**1.41**	**25**	*eP*	**Pn**	**08 20 19.1**	**-0.8**
FLOS				*eS*	**Sb**	**08 20 38.3**	**-0.4**
FLOS				AML	AML	08 20 39.0	
	comp=Z,20nm,0.2s						
KONS	**Konsvik**	**1.53**	**19**	⇑*iP*	**Pn**	**08 20 20.8**	**-0.6**
KONS				*eS*	**Sn**	**08 20 41.2**	**-0.1**
KONS				AML	AML	08 20 46.4	
	comp=Z,18nm,0.4s						
MOR8	**Moi Rana**	**1.53**	**42**	*eP*	**Pb**	**08 20 23.7**	**+1.1**
MOR8				*eSg*	**Sg**	**08 20 47.6**	**+4.3**
MOR8				AML	AML	08 20 49.1	
	comp=Z,39nm,0.1s						
MOR8	**Moi Rana**	**1.53**	**42**	*eP*	**Pb**	**08 20 23.7**	**+1.1**
	SNR=55						
MOR8				*eSg*	**Sg**	**08 20 47.7**	**+4.3**
	comp=Z,39nm,0.1s,SNR=91						
NB2	**NORSAR Subarra**	**4.05**	**185**	Pn	**Pn**	**08 20 57.4**	**+1.2**
	baz=359,slow=14						
NB2				Pg	**Pb**	**08 21 06.6**	**+1.1**
	baz=358,slow=18						
NB2				Lg	Lg	08 21 59.0	
	baz=1.6,slow=37						
NB2	**NORSAR Subarra**	**4.05**	**185**	Pn	**Pn**	**08 20 57.4**	**+1.2**
	baz=359,slow=14						
NB2				Pg	**Pb**	**08 21 06.6**	**+1.1**
	baz=358,slow=18						
NB2				Lg	Lg	08 21 59.0	
	baz=1.6,slow=37						
NB2	**NORSAR Subarra**	**4.05**	**185**	Pn	**Pn**	**08 20 57.4**	**+1.2**
	baz=359,slow=12,SNR=55						
NB2				Lg	Lg	08 21 59.0	
	baz=1.6,slow=32						
NOA	**NORSAR Array B**	**4.05**	**185**	Pn	**Pn**	**08 20 57.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=357,slow=14,SNR=3.8						
NOA				Pg	**Pb**	**08 21 05.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=10,slow=18,SNR=4.4						
NOA				Lg	Lg	08 21 54.4	
	comp=Z,0.9nm,0.3s,baz=318,slow=26,SNR=4.4						
HFS	**Hagfors**	**5.02**	**170**	Pn	**Pn**	**08 21 09.8**	**+0.4**
	baz=346,slow=14						
HFS				Lg	Lg	08 22 29.7	
	baz=2.4,slow=28						
HFS	**Hagfors**	**5.02**	**170**	Pn	**Pn**	**08 21 09.8**	**+0.4**
	baz=346,slow=14						
HFS				Lg	Lg	08 22 29.7	
	baz=2.4,slow=28						
HFS	**Hagfors**	**5.02**	**170**	Pn	**Pn**	**08 21 11.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=2.7						
HFS				Sn	**Sn**	**08 22 06.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=338,slow=19,SNR=4.6						
HFS				Lg	Lg	08 22 30.0	
	comp=Z,0.9nm,0.3s,baz=354,slow=28,SNR=12						
HFS	**Hagfors**	**5.02**	**170**	Pn	**Pn**	**08 21 09.8**	**+0.4**
	baz=346,slow=13,SNR=55						
HFS				Lg	Lg	08 22 29.7	
	baz=2.4,slow=24,SNR=5.3						
ARA0	**ARCESS Array S**	**6.91**	**43**	Pn	**Pn**	**08 21 34.4**	**-0.9**
	baz=232,slow=14						
ARA0				Sn	**Sn**	**08 22 50.2**	**-3.6**
	baz=227,slow=22						
ARA0				Lg	Lg	08 23 26.1	
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**6.91**	**43**	Pn	**Pn**	**08 21 34.4**	**-0.9**
	baz=232,slow=14						
ARA0				Sn	**Sn**	**08 22 50.2**	**-3.6**
	baz=227,slow=22						
ARA0				Lg	Lg	08 23 26.1	
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**6.91**	**43**	Pn	**Pn**	**08 21 34.3**	**-0.9**
	baz=232,slow=13,SNR=55						
ARA0				Sn	**Sn**	**08 22 50.2**	**-3.6**
	baz=227,slow=22,SNR=55						
ARA0				Lg	Lg	08 23 26.1	
	baz=230,slow=26,SNR=5.1						
ARCES	**ARCESS Array B**	**6.91**	**43**	Pn	**Pn**	**08 21 34.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=236,slow=14,SNR=6.2						
ARCES				Sn	**Sn**	**08 22 50.0**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=235,slow=23,SNR=4.2						
ARCES				Lg	Lg	08 23 28.0	
	comp=Z,0.4nm,0.3s,baz=231,slow=26,SNR=6.3						
FIA0	**FINESS Array S**	**7.35**	**113**	Pn	**Pn**	**08 21 41.0**	**-0.3**
	baz=315,slow=16						
FIA0				Sn	Sn	08 22 58.4	-6.2
	baz=310,slow=22						
FIA0				Lg	Lg	08 23 40.4	
	baz=310,slow=28						
FIA0	**FINESS Array S**	**7.35**	**113**	Pn	**Pn**	**08 21 41.0**	**-0.3**
	baz=315,slow=16						
FIA0				Sn	Sn	08 22 58.4	-6.2
	baz=310,slow=22						
FIA0				Lg	Lg	08 23 40.4	
	baz=310,slow=28						
FIA0	**FINESS Array S**	**7.35**	**113**	Pn	**Pn**	**08 21 41.0**	**-0.3**
	baz=315,slow=16,SNR=55						
FIA0				Sn	Sn	08 22 58.4	-6.2
	baz=310,slow=20,SNR=55						
FIA0				Lg	Lg	08 23 40.4	
	baz=310,slow=26,SNR=2.7						
FINES	**FINESS Array B**	**7.35**	**113**	Pn	**Pn**	**08 21 41.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=308,slow=11,SNR=3.5						
FINES				Sn	**Sn**	**08 23 02.6**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=307,slow=21,SNR=3.3						
FINES				Lg	Lg	08 23 40.1	
	comp=Z,0.3nm,0.3s,baz=302,slow=26,SNR=5.2						

*ISCJB **16** 08:21:57.3±0.3, 53°.75N±0°.09×167°.16W±0°.08, h106km±4km, mb3.5/6, Error ellipse: s-maj=16.7km s-min=3.7km az=155.3*
*NEIC **16** 08:21:59.5, 53°.76N×167°.19W, h92km, MG3.9(AEIC), After AEIC.*
*IDC **16** 08:21:59.6±3.6, 54°.05N×166°.98W, h96km±39km, mb3.2/6, mb1 3.6/9, mb1mx3.3/33, mbtmp3.4/9, Error ellipse: s-maj=44.3km s-min=17.2km az=169.0*
ISC 16 08:21:58.6±0.8, 53°.72N±0°.09×167°.12W±0°.05, h98km±6km, n44, σ1§17/51, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSOM	**Makushin Julie**	**0.14**	**47**	P	**Pn**	**08 22 12.0**	**-0.3**
MREP	**Makushin Rep't**	**0.24**	**68**	P	**Pn**	**08 22 12.8**	**+0.1**
MCIR	**Makushin Cirqu**	**0.27**	**31**	P	**Pn**	**08 22 12.6**	**-0.2**
MTBL	**Makushin Table**	**0.36**	**46**	P	**Pn**	**08 22 13.1**	**-0.3**
OKFG	**Magazine Ridge**	**0.56**	**237**	P	**Pn**	**08 22 14.0**	**-0.7**
OKFG				S	**Sn**	**08 22 26.4**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**0.64**	**239**	P	**Pn**	**08 22 15.4**	**+0.1**
OKCE	**Okmok Cone E**	**0.69**	**245**	P	**Pn**	**08 22 15.4**	**-0.3**
OKSO	**Okmok South**	**0.72**	**240**	P	**Pn**	**08 22 15.3**	**-0.7**
AKRB	**Akutan Reef Bi**	**0.75**	**56**	P	**Pn**	**08 22 16.2**	**0.0**
AKRB				S	**Sn**	**08 22 30.6**	**+1.1**
AKGG	**Akutan Green G**	**0.82**	**54**	P	**Pn**	**08 22 16.8**	**-0.1**
OKSP	**Okmok Steeple**	**0.84**	**237**	P	**Pn**	**08 22 17.1**	**-0.1**
AKUT	**Akutan**	**0.90**	**62**	P	**Pn**	**08 22 17.4**	**-0.3**
AKUT				S	**Sn**	**08 22 32.1**	**0.0**
NIKH	**Nikolski High**	**1.28**	**235**	P	**Pn**	**08 22 21.7**	**-0.3**
NIKH				S	**Sn**	**08 22 39.4**	**-0.3**
SSBA	**Shishaldin**	**2.05**	**58**	P	**Pn**	**08 22 31.2**	**-0.5**
SSLW	**Shishaldin Wes**	**2.05**	**58**	P	**Pn**	**08 22 31.5**	**-0.2**
BRPK	**Brown Peak**	**2.19**	**64**	P	**Pn**	**08 22 33.9**	**+0.4**
FALS	**False Pass**	**2.45**	**61**	P	**Pn**	**08 22 37.2**	**+0.3**
FALS				S	**Sn**	**08 23 06.5**	**+0.2**
DRIA	**Deer Island**	**3.11**	**64**	P	**Pn**	**08 22 45.7**	**0.0**
DT1	**Dutton Round H**	**3.15**	**62**	P	**Pn**	**08 22 46.5**	**+0.3**
DTNA	**Dutton South F**	**3.18**	**61**	P	**Pn**	**08 22 47.1**	**+0.4**
DOL	**Dolgoi Island**	**3.39**	**63**	P	**Pn**	**08 22 50.0**	**+0.6**
PS4A	**Pavlof South-4**	**3.47**	**60**	P	**Pn**	**08 22 51.3**	**+0.7**
SPIA	**Saint Paul Isl**	**3.89**	**334**	P	**Pn**	**08 22 55.7**	**-0.5**
SDPT	**Sand Point**	**4.20**	**64**	P	**Pn**	**08 23 00.2**	**-0.1**
SDPT				S	**Sn**	**08 23 46.9**	**-1.3**
KOFP	**Korovin Flat P**	**4.46**	**254**	P	**Pn**	**08 23 04.5**	**+0.6**
ATKA	**Atka Island**	**4.54**	**253**	P	**Pn**	**08 23 04.5**	**-0.4**
CHGN	**Chignik**	**5.64**	**59**	*e*Pn	**Pn**	**08 23 19.3**	**-0.5**
CHGN				Sn	**Sn**	**08 24 25.8**	**+2.8**
GSMY	**Great Sitkin M**	**5.67**	**256**	P	**Pn**	**08 23 20.0**	**-0.2**
GSTD	**Great Sitkin T**	**5.71**	**257**	P	**Pn**	**08 23 21.2**	**+0.3**
GSCK	**Great Sitkin C**	**5.74**	**256**	P	**Pn**	**08 23 21.5**	**+0.3**
ETKA	**Kagalaska Isla**	**5.93**	**255**	P	**Pn**	**08 23 23.9**	**0.0**
KIKV	**Kanaga Island**	**6.37**	**257**	P	**Pn**	**08 23 29.3**	**-0.5**
TAPA	**Tanaga Point A**	**6.76**	**258**	P	**Pn**	**08 23 34.9**	**-0.2**
GANE	**Gareloi Northe**	**7.32**	**260**	P	**Pn**	**08 23 41.5**	**-1.2**
KDAK	**Kodiak Island**	**9.15**	**58**	P	**Pn**	**08 24 05.2**	**-2.3**
	1.3nm,0.3s,baz=239,slow=9.8,SNR=11						
KDAK				S	Sn	08 25 40.8	-7.6
	0.7nm,0.3s,baz=155,slow=14,SNR=2.7						
FX1	**Attu Island--F**	**11.82**	**274**	P	**Pn**	**08 24 45.0**	**+1.2**
	1.7nm,0.3s,baz=90,slow=3.0,SNR=23						
FX1				S	**Sn**	**08 26 57.3**	**+3.7**
	0.7nm,0.3s,baz=163,slow=20,SNR=2.5						
ILAR	**Eielson Array**	**15.07**	**35**	P	**Pn**	**08 25 23.5**	**-2.4**
	0.3nm,0.3s,baz=240,slow=10,SNR=18						
PETK	**Petropavlovsk-**	**20.85**	**283**	P	Pn	08 26 33.9	-1.7
	1.1nm,0.6s,baz=84,slow=16,SNR=4.1						
DLBC	**Dease Lake**	**21.04**	**62**	P	**P**	**08 26 37.6**	**+3.3**
	1.6nm,0.4s,baz=255,slow=11,SNR=8.7						
INK	**Inuvik**	**21.47**	**34**	P	**P**	**08 26 36.0**	**-2.6**
	4.3nm,0.4s,baz=251,slow=5.4,SNR=27						
YKA	**Yellowknife Ar**	**28.33**	**51**	P	**P**	**08 27 40.9**	**-1.7**
	0.3nm,0.4s,baz=275,slow=9.0,SNR=6.6						
NEW	**Newport**	**31.39**	**79**	P	**P**	**08 28 10.5**	**+0.6**
	0.8nm,0.6s,baz=286,slow=4.8,SNR=3.3						
PDAR	**Pinedale Array**	**38.84**	**82**	P	**P**	**08 29 14.6**	**+0.5**
	0.1nm,0.3s,baz=328,slow=3.2,SNR=3.1						
TXAR	**Lajitas Array**	**51.40**	**92**	P	**P**	**08 30 53.3**	**0.0**
	0.2nm,0.6s,baz=300,slow=7.2,SNR=3.2						

*AUST **16** 08:23:49.0±5.5, 1°.74S×99°.20E, h0km, Error ellipse: s-maj=2.9km s-min=0.9km az=248.0*
*IDC **16** 08:23:50.0±0.4, 1°.46S×99°.47E, h0km, mb4.5/37, mb1 4.5/39, mb1mx4.5/42, mbtmp4.5/39, ML4.1/2, Error ellipse: s-maj=13.1km s-min=9.9km az=55.0*
*NEIC **16** 08:23:51.4±0.2, 1°.53S×99°.43E, h10km, mb4.7/10, Error ellipse: s-maj=7.9km s-min=5.6km az=61.0*
*BJI **16** 08:23:52.5, 1°.90S×99°.82E, h44km, mB5.1/5, mb4.8/22, Ms5.3/8, Ms7 5.3/6*
*ISCJB **16** 08:23:52.6±0.2, 1°.54S±0°.03×99°.38E±0°.04, h30km, mb4.6/70, MS5.0/3, Error ellipse: s-maj=6.1km s-min=3.9km az=137.0*
*DJA **16** 08:23:52.3±0.5, 2°.5±3°.9×9°.9E±°, h10km, M5.3/14, mb5.1/14, mB6.5/1, MLv5.3/14, Mw(mB)6.3/1*
*MOS **16** 08:23:53.4±1.0, 1°.42S×99°.51E, h33km, mb4.8/22, Error ellipse: s-maj=12.5km s-min=6.3km az=106.1*
*BKK **16** 08:24:12.2±0.8, 2°.5±7°.×10°.0E±1°.0, h204km, M5.2/10, mB4.2/1, mb5.2/10, Mw(mB)3.3/1*
ISC 16 08:23:54.8±0.3, 1°.61S±0°.04×99°.43E±0°.05, h30km, n212, σ1§63/214, mb4.7/70, MS5.3/3, 10C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.50**	**40**	P	**Pn**	**08 24 17.8**	**-1.9**
PPI	**Padang Panjang**	**1.50**	**40**	P	**Pn**	**08 24 17.7**	**-1.9**
	baz=1.8,SNR=43						
SDSI	**Sungai Dareh**	**2.11**	**71**	S	**Sb**	**08 25 00.1**	**+1.9**
BKNI	**Bangkinang**	**2.51**	**40**	P	**Pn**	**08 24 35.0**	**+1.4**
BKNI	**Bangkinang**	**2.51**	**40**	P	**Pb**	**08 24 37.0**	**-2.2**
	baz=2.8,SNR=21						
RGRI	**Rengat**	**3.16**	**67**	P	Pb	08 24 47.0	-3.3
MASI	**Maura Aman, Be**	**3.19**	**118**	P	**Pn**	**08 24 45.8**	**+2.8**
KSI	**Kapahiang**	**3.75**	**123**	P	**Pn**	**08 24 52.1**	**+1.4**
PSI	**Prapat**	**4.41**	**353**	Pn	Pn	08 24 56.4	-3.5
PSI	**Prapat**	**4.41**	**353**	Pn	Pn	08 24 56.4	-3.5
	2.7nm,0.3s,baz=173,slow=6.6,SNR=9.6						
PSI	**Prapat**	**4.41**	**353**	P	**Pn**	**08 24 57.3**	**-2.6**
	baz=4.4,SNR=7.3						
MNAI	**Manna**	**4.45**	**128**	P	**Pn**	**08 25 01.7**	**+1.4**
MNAI	**Manna**	**4.45**	**128**	P	**Pn**	**08 25 01.8**	**+1.4**
	baz=4.6,SNR=15						
TSI	**Tuntungan**	**5.15**	**350**	P	Pb	08 25 17.3	-6.9
BTDF	**Bukit Timah Da**	**5.25**	**56**	P	Pn	08 25 15.2	+3.9
	baz=5.5,SNR=5.2						
BTDF				P	Pn	08 25 15.2	+3.9
	baz=5.5,SNR=5.2						
FRIM	**Kepong**	**5.29**	**24**	P	**Pn**	**08 25 12.0**	**+0.1**
KCSI	**Kotacane, Aceh**	**5.36**	**342**	P	**Pn**	**08 25 13.8**	**+1.0**
	114nm,0.6s						
MYKOM	**Kota Tinggi**	**5.56**	**53**	P	**Pn**	**08 25 18.2**	**+2.6**
	151nm,0.8s,1.4nm						
LWLI	**Liwa**	**5.73**	**126**	P	**Pn**	**08 25 19.0**	**+1.1**
	598nm,0.8s,4.0nm						
KLSI		**6.11**	**120**	P	**Pn**	**08 25 25.3**	**+2.2**
	111nm,1.5s,1.1nm						
IPM	**Ipoh**	**6.26**	**15**	*e*Pn	**Pn**	**08 25 25.2**	**0.0**
IPM	**Ipoh**	**6.26**	**15**	P	**Pn**	**08 25 24.5**	**-0.7**
	112nm,0.8s,1.1nm						
KLI	**Kotabumi**	**6.31**	**121**	P	Pn	08 25 31.6	+5.8
	213nm,0.7s,1.3nm						
KASI	**Kota Agung**	**6.38**	**128**	P	**Pn**	**08 25 26.9**	**+0.2**
	154nm,0.7s,2.0nm						
PPBI	**Pangkal Pinang**	**6.72**	**95**	P	Pn	08 25 35.5	+4.0
	47nm,0.8s,0.9nm						
KULM	**Kulim**	**6.96**	**10**	*e*Pn	**Pn**	**08 25 34.7**	**-0.2**
KULM	**Kulim**	**6.96**	**10**	P	**Pn**	**08 25 37.9**	**+3.1**
	82nm,0.7s,1.5nm						
LEM	**Lembang**	**9.67**	**123**	P	**Pn**	**08 26 14.7**	**+2.6**
	120nm,1.0s						
CISI	**Cisompet, Garu**	**10.23**	**126**	P	**Pn**	**08 26 17.4**	**-2.3**
	130nm,0.6s						
CISI	**Cisompet, Garu**	**10.23**	**126**	P	**Pn**	**08 26 19.9**	**+0.2**
	baz=10,SNR=4.9						
CISI				S	**Sn**	**08 28 11.7**	**-1.8**
	baz=10,SNR=4.4						
KSM	**Kuching**	**11.30**	**74**	Pn	**Pn**	**08 26 34.5**	**+0.2**
	11nm,0.6s						
KSM	**Kuching**	**11.30**	**74**	P	Pn	08 26 44.7	+10
KSM	**Kuching**	**11.30**	**74**	P	Pn	08 26 45.0	+11
	baz=12,SNR=4.6						
UGM	**Wanagama**	**12.70**	**120**	P	Pn	08 26 48.6	-4.9
	baz=13,SNR=4.8						
SBUM	**Sibu**	**13.41**	**73**	P	Pn	08 27 06.5	+3.3
	60nm,1.6s						
PWJI	**Pagerwojo**	**13.87**	**118**	P	**Pn**	**08 27 08.4**	**-1.1**
UTHA	**Uthaitani**	**17.06**	**0**	P	P	08 28 07.1	+14
CHAI	**Chaiyaphum**	**17.59**	**8**	P	P	08 28 09.3	+11
	7.2nm,0.8s,193nm						
LOEI	**Loei**	**19.09**	**5**	P	**Pn**	**08 28 18.5**	**+2.4**
SDKM	**Sandakan**	**19.15**	**68**	P	**Pn**	**08 28 17.2**	**+0.3**
KDM	**Kudat**	**19.32**	**64**	P	**P**	**08 28 16.8**	**-1.0**
TSM	**Tawau**	**19.34**	**72**	P	**Pn**	**08 28 19.4**	**+0.2**
CM31	**Chiang Mai Arr**	**19.95**	**359**	*e*P	**P**	**08 28 23.7**	**-0.9**
	13nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	**P**	**08 28 23.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	**P**	**08 28 23.4**	**-1.1**
	0.8nm,0.3s,baz=186,slow=9.8,SNR=37						
MYLDM	**Lahad Datu**	**20.21**	**70**	P	Pn	08 28 30.0	+0.5
CMMT	**Chiang Mai**	**20.30**	**359**	P	Pn	08 28 33.2	+2.6
CHTO	**Chiang Mai**	**20.30**	**359**	*e*P	**P**	**08 28 27.0**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,32nm,1.7s						
CHTO	**Chiang Mai**	**20.30**	**359**	*e*P	**P**	**08 28 27.0**	**-1.4**
	comp=Z,32nm,1.7s						
CHTO	**Chiang Mai**	**20.30**	**359**	P	Pn	08 28 33.6	+3.0
	comp=Z,271nm,3.2s						
KAPI	**Kappang**	**20.57**	**100**	P	**P**	**08 28 29.9**	**-1.4**
	comp=Z,2.3nm,1.1s						
KAPI	**Kappang**	**20.57**	**100**	P	**P**	**08 28 29.9**	**-1.4**
	comp=Z,31nm,0.9s,baz=281,slow=12,SNR=5.4						
WSI	**Waingapu**	**22.24**	**112**	P	**P**	**08 28 50.6**	**+1.3**
	baz=22,SNR=5.2						
KAAM	**Kaadhehdhoo**	**26.52**	**274**	S	S	08 34 17.4	+15
	baz=26,SNR=3.2						
KMI	**Kunming**	**26.77**	**7**	P	**P**	**08 29 31.4**	**-1.0**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
MBWA	**Marble Bar**	**27.73**	**136**	P	**P**	**08 29 40.9**	**0.0**
	comp=Z,8.4nm,1.0s						
GYA	**Guiyang**	**28.77**	**14**	*e*P	**P**	**08 29 49.3**	**-0.9**
GYA				pP	**pP**	**08 30 01.3**	**+2.4**
GYA				PP	**PnPn**	**08 30 44.4**	**+2.8**
GYA				S	**S**	**08 34 38.0**	**0.0**
GYA				sS	**sS**	**08 34 54.3**	**+1.8**
GYA				SS	**SnSn**	**08 36 06.5**	**+5.7**
GYA				ScP	**ScP**	**08 36 37.0**	**-2.4**
GYA				ScS	**ScS**	**08 40 30.3**	**-2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.3s						
GYA				LR	LR		
	comp=N,420nm,16.3s						
GYA				LR	LR		
	comp=E,340nm,17.4s						
FITZ	**Fitzroy Crossi**	**30.50**	**124**	P	**P**	**08 30 05.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.50**	**124**	P	**P**	**08 30 05.1**	**-0.4**
	comp=E,14nm,0.9s,baz=291,slow=5.4,SNR=19						
KNRA	**Kununurra**	**32.12**	**117**	P	**P**	**08 30 17.6**	**-2.2**
	baz=32,SNR=5.0						
LSA	**Lhasa**	**32.13**	**346**	P	**P**	**08 30 19.9**	**-0.3**
LSA	**Lhasa**	**32.13**	**346**	*e*P	**P**	**08 30 19.7**	**-0.5**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**32.13**	**346**	*e*P	**P**	**08 30 19.7**	**-0.5**
	comp=Z,13nm,0.6s						
CD2	**Chengdu**	**32.60**	**7**	*e*P	**P**	**08 30 25.9**	**+2.0**
CD2				pP	**pP**	**08 30 36.0**	**+3.3**
CD2				sP	**sP**	**08 30 40.3**	**+4.0**
CD2				PP	**PP**	**08 31 35.6**	**-2.4**
CD2				S	**S**	**08 35 38.8**	**+0.9**
CD2				sS	**sS**	**08 35 55.3**	**+2.9**
CD2				SS	**SnSn**	**08 37 37.6**	**+3.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,150nm,4.8s						
ENH	**Enshi**	**33.13**	**16**	*e*P	**P**	**08 30 25.9**	**-2.5**
MTN	**Manton Dam**	**33.32**	**111**	P	**P**	**08 30 29.7**	**-0.6**
	baz=34,SNR=3.3						
LZH	**Lanzhou**	**37.73**	**6**	*e*P	**P**	**08 31 08.8**	**+0.7**
LZH				pP	**pP**	**08 31 18.1**	**+1.1**
LZH				sP	**sP**	**08 31 22.8**	**+2.2**
LZH				pmax	pmax		
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**38.68**	**121**	P	**P**	**08 31 15.6**	**-0.6**
WRA	**Warramunga Arr**	**38.68**	**121**	P	**P**	**08 31 15.6**	**-0.6**
	comp=Z,12nm,0.8s,baz=302,slow=9.0,SNR=66						
WRAB	**Tennant Creek**	**38.68**	**120**	*e*P	**P**	**08 31 15.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**38.68**	**120**	*e*P	**P**	**08 31 15.4**	**-0.8**
	comp=Z,14nm,0.6s						
AS31	**Alice Springs**	**39.94**	**126**	*e*P	**P**	**08 31 26.5**	**-0.2**
ASAR	**Alice Springs**	**39.94**	**126**	P	**P**	**08 31 26.8**	**0.0**
ASAR	**Alice Springs**	**39.94**	**126**	P	**P**	**08 31 26.8**	**0.0**
	comp=Z,9.2nm,0.6s,baz=300,slow=7.8,SNR=76						
GTA	**Gaotai**	**40.83**	**0**	*e*P	**P**	**08 31 36.6**	**+2.7**
GTA				pP	pP	08 31 48.4	+5.6
GTA				sP	sP	08 31 52.8	+6.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HHC	**Hu-ho-hao-te**	**43.69**	**13**	*e*P	**P**	**08 31 58.6**	**+1.5**
HHC				PP	**PcP**	**08 33 43.4**	**-0.6**
HHC				ScP	**ScP**	**08 37 34.3**	**+0.7**
HHC				PcS	**PcS**	**08 37 38.8**	**+2.0**
HHC				S	**S**	**08 38 26.8**	**+1.5**
HHC				sS	**sS**	**08 38 44.8**	**+4.7**
HHC				SS	**SS**	**08 41 36.3**	**-5.2**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				LR	LR		
	comp=N,3μm,17.4s						
HHC				LR	LR		
	comp=E,2μm,16.7s						
HHC				LR	LR		
	comp=Z,3μm,16.2s						
JNU	**Nakatsue**	**45.54**	**38**	P	**P**	**08 32 10.5**	**-1.5**
JNU	**Nakatsue**	**45.54**	**38**	P	**P**	**08 32 10.5**	**-1.5**
	comp=Z,14nm,0.7s,baz=169,slow=3.2,SNR=13						
TJN	**Taejon**	**45.88**	**32**	*e*P	**P**	**08 32 12.5**	**-2.0**
KSH	**Kashi**	**46.24**	**335**	*e*P	P	08 32 22.3	+4.8
KSH				sP	sP	08 32 35.3	+5.1
KSH				PP	**PP**	**08 34 10.3**	**+3.8**
KSH				S	**S**	**08 39 07.8**	**+5.3**
KSH				sS	sS	08 39 23.8	+6.5
KSH				SS	**SS**	**08 42 24.6**	**-3.7**
KSH				pmax

comp=Z,0.8nm,0.6s,baz=220,slow=7.3,SNR=4.4
HVS Khovu-Aksy 52.78 355 eP P 08 33 04.7 -2.4
HVS pmax pmax
comp=Z,10.0nm,0.5s
CMSA Cobar Meteorol 52.80 129 P P 08 33 08.6 +1.1
baz=53,SNR=17
OPO Ambohidratompo 53.88 248 P P 08 33 16.2 +0.3
OPO Ambohidratompo 53.88 248 P P 08 33 16.2 +0.3
comp=Z,3.8nm,0.8s,baz=90,slow=18,SNR=3.5
USRK Ussuriysk Arra 54.09 29 P P 08 33 14.6 -2.2
comp=Z,6.9nm,0.7s,baz=227,slow=5.0,SNR=22
KURBB Kurchatov Arra 55.02 344 P P 08 33 22.3 -1.1
comp=Z,1.8nm,0.8s,baz=165,slow=7.2,SNR=17
KURK Kurchatov 55.08 344 P P 08 33 22.3 -1.5
KURK Kurchatov 55.08 344 P P 08 33 22.3 -1.5
ZALV Zalesovo Beam 56.69 350 P P 08 33 34.1 -1.2
ZALV Zalesovo Beam 56.69 350 P P 08 33 34.0 -1.2
ZALV Zalesovo Beam 56.69 350 P P 08 33 34.0 -1.2
comp=Z,6.7nm,0.6s,baz=184,slow=5.5,SNR=27
KRAR Krasnoyarsk 57.69 356 eP P 08 33 42.0 -0.3
KRAR pmax pmax
comp=Z,19nm,0.5s
KLR Kul'dur 57.82 24 eP P 08 33 42.2 -1.2
NVS Novosibirsk 57.83 349 eP P 08 33 41.7 -1.6
RDF Al-Radifah 58.16 306 eP P 08 33 45.9 -0.3
RDF AMb AMB 08 33 48.0
comp=Z,22nm,0.8s
UMR Umm Al-Rimmam 58.27 306 eP P 08 33 46.1 -0.8
UMR AMb AMB 08 33 47.4
comp=Z,26nm,0.7s
NAY Al-Naaiem 58.54 306 eP P 08 33 47.6 -1.2
NAY AMb AMB 08 33 48.7
comp=Z,11nm,0.6s
VOSK Vostochnaya 59.18 340 P P 08 33 51.0 -1.8
VOSK pmax pmax
comp=Z,5.0nm,0.8s
ASAJ Asahikawa 59.62 35 P P 08 33 56.3 +0.3
ASAJ Asahikawa 59.62 35 P P 08 33 56.3 +0.3
comp=Z,3.5nm,0.7s,baz=249,slow=19,SNR=6.0
BVAR Borovoye Array 59.63 340 P P 08 33 53.8 -2.1
BVAR Borovoye Array 59.63 340 P P 08 33 53.8 -2.1
BVAR Borovoye Array 59.63 340 P P 08 33 53.8 -2.1
comp=Z,2.3nm,0.7s,baz=146,slow=11,SNR=10
BRVK Borovoye 59.69 340 eP P 08 33 56.5 +0.2
BRVK pmax pmax
comp=Z,6.0nm,1.7s
AB31 Akbulak array 61.03 332 ceP P 08 34 03.7 -1.9
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 61.03 332 eP P 08 34 03.6 -2.0
YSS Yuzh-Sakhalins 61.46 32 eP P 08 34 09.8 +1.3
KMBO Kilima Mbogo 62.16 270 P P 08 34 15.2 +1.1
KMBO Kilima Mbogo 62.16 270 P P 08 34 15.2 +1.1
comp=Z,4.1nm,0.7s,baz=66,slow=12,SNR=11
ARU Arti 66.63 337 c i P P 08 34 40.6 -1.7
ARU 08 37 04.7
ARU S S 08 43 31.7 +0.1
ARU pmax pmax
comp=Z,8.0nm,1.7s
YAK Yakutsk 67.52 15 eP P 08 34 48.3 +0.5
KBZ Khabaz 67.64 319 P P 08 34 48.2 -0.8
KBZ Khabaz 67.64 319 P P 08 34 48.2 -0.8
KBZ Khabaz 67.64 319 P P 08 34 48.2 -0.8
comp=Z,4.5nm,0.7s,baz=116,slow=5.3,SNR=15
KIV Kislovodsk 67.88 319 eP P 08 34 49.8 -0.8
KIV pmax pmax
comp=Z,8.0nm,1.1s
MBAR Mbarara 68.68 270 P P 08 34 55.8 -0.6
MBAR Mbarara 68.68 270 P P 08 34 55.8 -0.6
comp=Z,1.4nm,0.2s,baz=88,slow=12,SNR=3.9
EIL Elat 68.83 303 P P 08 34 55.9 -0.9
EIL Elat 68.83 303 P P 08 34 55.9 -0.9
comp=Z,6.7nm,0.8s,baz=27,slow=17,SNR=4.5
MMAI Mount Meron Ar 69.35 306 P P 08 35 00.1 +0.1
MMAI Mount Meron Ar 69.35 306 P P 08 35 00.1 +0.1
comp=Z,2.0nm,0.5s,baz=94,slow=8.7,SNR=3.6
MAW Mawson 70.52 194 P P 08 35 08.2 +1.9
MAW Mawson 70.52 194 P P 08 35 08.2 +1.9
comp=Z,2.4nm,0.7s,baz=347,slow=6.6,SNR=8.5
BRTR Keskin Array B 72.64 313 P P 08 35 18.4 -1.6
BRTR Keskin Array B 72.64 313 P P 08 35 18.4 -1.6
comp=Z,1.4nm,0.6s,baz=137,slow=6.9,SNR=9.2
PETK Petropavlovsk- 72.86 32 P P 08 35 20.2 -0.6
PETK Petropavlovsk- 72.86 32 P P 08 35 20.2 -0.6
PETK Petropavlovsk- 72.86 32 P P 08 35 20.2 -0.6
comp=Z,1.4nm,0.6s,baz=191,slow=6.9,SNR=5.1
BOSA Boshof 75.34 241 P P 08 35 35.9 -0.1
BOSA Boshof 75.34 241 P P 08 35 35.9 -0.1
comp=Z,2.8nm,0.8s,baz=32,slow=4.4,SNR=6.2
SEY Seymchan 75.48 22 eP P 08 35 35.6 -0.2
RPZ Rata Peaks 75.66 135 P P 08 35 38.2 +0.9
RPZ Rata Peaks 75.66 135 P P 08 35 38.2 +0.9
comp=Z,12nm,0.9s,baz=352,slow=11,SNR=7.8
OBN Obninsk 76.17 328 eP P 08 35 40.7 +0.8
OBN *i* 08 35 47.7
OBN pmax pmax
comp=Z,23nm,1.6s
AKASG Malin Array Be 78.83 322 ceP P 08 35 53.4 -1.5
MLR Muntele Rosu 79.63 317 P P 08 35 59.3 -0.2
MLR Muntele Rosu 79.63 317 P P 08 35 59.3 -0.2
comp=Z,0.8nm,0.6s,baz=175,slow=13,SNR=5.9
BUR08 Bucovina Ar. S 80.61 319 eP P 08 36 04.6 -0.2
VNDA Vanda 82.65 169 P P 08 36 14.9 +0.1
VNDA Vanda 82.65 169 P P 08 36 14.9 +0.1
comp=Z,0.9nm,0.6s,baz=281,slow=5.1,SNR=6.5
KOLS Kolonicke sedl 82.79 320 eP P 08 36 16.1 0.0
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 82.79 320 eP P 08 36 16.1 0.0
CRVS Cervenica-Dubn 83.31 319 eP P 08 36 18.1 -0.7
CRVS pmax pmax
comp=Z,26nm,2.4s
CRVS Cervenica-Dubn 83.31 319 eP P 08 36 18.1 -0.7
FINES FINESS Array B 83.51 332 P P 08 36 18.7 -0.8
FINES FINESS Array B 83.51 332 P P 08 36 18.7 -0.8
comp=Z,3.6nm,0.6s,baz=104,slow=5.4,SNR=20
STHS Stebnicka Huta 83.54 320 eP P 08 36 20.5 +0.5
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 83.54 320 eP P 08 36 20.5 +0.5
KAF Kangasniemi 83.58 333 eP P 08 36 18.0 -1.9
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 83.58 333 ep P 08 36 18.0 -1.9
comp=Z,0.7nm,0.4s
KECS Kecovo 83.88 319 eP P 08 36 21.3 -0.4
KECS pmax pmax
comp=Z,5.0nm,1.7s
KECS Kecovo 83.88 319 eP P 08 36 21.3 -0.4
ARCES ARCESS Array B 85.92 340 P P 08 36 32.4 +0.8
ARCES ARCESS Array B 85.92 340 P P 08 36 32.4 +0.8
comp=Z,5.1nm,1.1s,baz=90,slow=4.0,SNR=4.2
QSPA South Pole Qui 88.35 180 P P 08 36 44.8 +1.2
QSPA South Pole Qui 88.35 180 P P 08 36 44.7 +1.2
comp=Z,1.7nm,0.5s,baz=293,slow=1.3,SNR=29
GERES GERESS Array B 88.39 319 P P 08 36 43.9 -0.2
GERES GERESS Array B 88.39 319 P P 08 36 43.9 -0.2
comp=Z,0.7nm,0.6s,baz=88,slow=4.4,SNR=9.0
HFS Hagfors 89.26 330 P P 08 36 48.1 +0.4
HFS Hagfors 89.26 330 P P 08 36 48.1 +0.4
comp=Z,2.1nm,0.8s,baz=92,slow=10,SNR=3.2
SPITS Spitsbergen Ar 90.14 348 P P 08 36 50.2 -1.4
SPITS Spitsbergen Ar 90.14 348 P P 08 36 50.2 -1.4
comp=Z,3.9nm,0.7s,baz=105,slow=9.6,SNR=7.8
FUORN Ofenpass-Fuorn 90.59 316 eP P 08 36 54.2 -0.5
comp=Z,76nm,2.6s
KEST Kesra 91.00 306 P P 08 36 58.0 +1.4
KEST Kesra 91.00 306 P P 08 36 58.0 +1.4
comp=Z,4.0nm,1.2s,baz=76,slow=1.3,SNR=4.0
ILAR Eielson Array 101.38 24 PKKPbc PKKPbc 08 53 52.0 -2.5
ILAR Eielson Array 101.38 24 PKKPbc PKKPbc 08 53 52.0 -2.5
comp=Z,0.3nm,0.6s,baz=149,slow=3.1,SNR=5.5
NVAR Mina Array Bea 129.66 39 PKP PKPdf 08 43 03.0 +1.2
NVAR Mina Array Bea 129.66 39 PKP PKPdf 08 43 03.0 +1.2
comp=Z,0.2nm,0.3s,baz=221,slow=5.4,SNR=4.4
R11A Troy Canyon, C 131.38 37 ePKPdf PKPdf 08 43 06.7 +1.7
PDAR Pinedale Array 131.51 28 PKP PKPdf 08 43 03.7 -1.5
PDAR Pinedale Array 131.51 28 PKP PKPdf 08 43 03.7 -1.5
comp=Z,0.5nm,0.9s,baz=130,slow=4.9,SNR=5.3
LENM Lemitar 139.29 34 ePKPdf PKPdf 08 43 11.5 -8.3
CPUP Villa Florida 144.29 217 PKP PKPbc 08 43 27.4 +0.5
CPUP Villa Florida 144.29 217 PKP PKPbc 08 43 27.4 +0.5
comp=Z,4.6nm,0.6s,baz=142,slow=2.1,SNR=20
TXAR Lajitas Array 144.74 36 PKP PKPbc 08 43 28.6 +0.2
TXAR Lajitas Array 144.74 36 PKP PKPbc 08 43 28.6 +0.2
comp=Z,3.4nm,0.6s,baz=253,slow=1.3,SNR=44
MIAR Mount Ida 145.06 19 ePKIKP PKPbc 08 43 26.8 -2.4
MIAR Mount Ida 145.06 19 ePKPdf PKPbc 08 43 31.8 -2.4
JCT Junction City 145.99 31 ePKP2 PKPdf 08 43 31.8 +0.2
JCT Junction City 145.99 31 ePKPdf PKPdf 08 43 31.8 +0.2
TKL Tuckaleechee C 146.00 5 ePKPab PKPdf 08 43 31.2 -0.2
CPCT Cooper Cave 146.13 6 ePKPab PKPdf 08 43 31.9 +0.2
KMSC Kings Mountain 146.63 1 ePKPbc PKPdf 08 43 32.7 +0.2

IDC 16 08:28:23.8±3.4, 1.74S×99.48E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=149.1km s-min=21.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.57	120	P	P	P	08 35 48.5	-0.3
0.7nm,0.5s,baz=304,slow=9.1,SNR=4.7								
ASAR	Alice Springs	39.83	126	P	P	P	08 35 59.2	0.0
0.6nm,0.7s,baz=303,slow=8.0,SNR=4.2								
SONM	Songino Array	49.74	6	P	P	P	08 37 17.9	-0.1
0.4nm,0.5s,baz=156,slow=7.3,SNR=3.7								
MKAR	Makanchi Array	50.64	345	P	P	P	08 37 24.0	-0.8
0.4nm,0.6s,baz=146,slow=8.7,SNR=3.8								
ZALV	Zalesovo Beam	56.82	350	P	P	P	08 38 10.3	+0.4
0.6nm,0.5s,baz=190,slow=7.2,SNR=2.4								
TXAR	Lajitas Array	144.80	37	PKP	PKPdf	PKPdf	08 48 03.5	-0.3
0.4nm,0.5s,baz=306,slow=3.2,SNR=4.0								

IDC 16 08:33:47.1±2.6, 1.63S×99.34E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/25, mbtmp3.7/7, ML4.6/1, MS2.5/1, Ms1 2.5/1, ms1mx2.5/47, Error ellipse: s-maj=108.9km s-min=19.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.97	359	P	P	P	08 38 20.7	-0.4
0.7nm,0.3s,baz=179,slow=10,SNR=4.5								
TGY	Tagaytay City	26.50	53	LR	LR		08 50 42.9	
comp=Z,9.1nm,19.6s,baz=74,slow=38								
WRA	Warramunga Arr	38.75	120	P	P	P	08 41 13.2	-0.3
1.3nm,0.6s,baz=302,slow=9.3,SNR=11								
ASAR	Alice Springs	40.00	126	P	P	P	08 41 24.1	+0.1
0.5nm,0.5s,baz=300,slow=7.4,SNR=2.7								
SONM	Songino Array	49.65	6	P	P	P	08 42 40.8	+0.1
0.2nm,0.4s,baz=197,slow=4.5,SNR=2.6								
MKAR	Makanchi Array	50.50	345	P	P	P	08 42 47.1	+0.1
0.4nm,0.5s,baz=156,slow=8.2,SNR=6.8								
KURBB	Kurchatov Arra	55.01	344	P	P	P	08 43 20.1	-0.2
0.4nm,0.2s,baz=163,slow=7.4,SNR=6.9								
ZALV	Zalesovo Beam	56.69	350	P	P	P	08 43 32.0	-0.2
0.5nm,0.3s,baz=183,slow=8.7,SNR=3.0								
TXAR	Lajitas Array	144.80	36	PKP	PKPbc	PKPbc	08 53 26.1	+0.2
0.4nm,0.5s,baz=243,slow=1.1,SNR=7.9								

IDC 16 08:38:16.2±4.8, 1.70S×99.37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=249.2km s-min=27.6km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.69	120	P	P	P	08 45 41.7	-0.5
0.3nm,0.9s,baz=295,slow=8.7,SNR=3.5								
ASAR	Alice Springs	39.94	126	P	P	P	08 45 52.9	+0.3
0.3nm,0.7s,baz=298,slow=7.8,SNR=4.6								
MKAR	Makanchi Array	50.57	345	P	P	P	08 47 16.5	-0.1
0.3nm,0.7s,baz=160,slow=9.1,SNR=3.0								
TXAR	Lajitas Array	144.84	36	PKP	PKPdf	PKPdf	08 57 55.7	-0.5
0.2nm,0.4s,baz=222,slow=1.7,SNR=5.0								

IDC 16 08:38:23.7±2.4, 1.68S×99.37E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.6/25, mbtmp3.6/7, ML2.7/1, Error ellipse: s-maj=85.9km s-min=20.6km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.47	354	Pn	Pn	Pn	08 39 29.6	-3.3
0.4nm,0.3s,baz=173,slow=16,SNR=2.6								
WRA	Warramunga Arr	38.70	120	P	P	P	08 45 49.5	-0.3
0.8nm,0.7s,baz=302,slow=9.0,SNR=7.9								
ASAR	Alice Springs	39.95	126	P	P	P	08 45 59.9	-0.3
0.4nm,0.6s,baz=299,slow=8.0,SNR=6.3								
SONM	Songino Array	49.69	6	P	P	P	08 47 17.8	+0.2
0.2nm,0.3s,baz=188,slow=9.6,SNR=2.8								
MKAR	Makanchi Array	50.55	345	P	P	P	08 47 23.7	-0.3
0.6nm,0.6s,baz=153,slow=8.6,SNR=5.2								
USRK	Ussuriysk Arra	54.18	29	P	P	P	08 47 51.1	+0.2
0.9nm,0.6s,baz=242,slow=5.2,SNR=4.0								
ZALV	Zalesovo Beam	56.74	350	P	P	P	08 48 09.5	+0.3
0.7nm,0.5s,baz=150,slow=9.6,SNR=3.7								
TXAR	Lajitas Array	144.82	36	PKP	PKPbc	PKPbc	08 58 03.1	+0.5
0.5nm,0.5s,baz=275,slow=2.9,SNR=8.0								

IDC 16 08:43:26.8±2.5, 1.90S×99.24E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=88.0km s-min=20.3km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.68	356	Pn	Pn	Pn	08 44 37.7	-1.3
0.7nm,0.3s,baz=180,slow=7.1,SNR=2.7								
WRA	Warramunga Arr	38.70	120	P	P	P	08 50 52.1	-0.8
0.5nm,0.7s,baz=303,slow=9.0,SNR=6.2								
ASAR	Alice Springs	39.92	126	P	P	P	08 51 03.4	+0.3
0.3nm,0.6s,baz=306,slow=8.4,SNR=3.8								
SONM	Songino Array	49.93	6	P	P	P	08 52 21.0	-1.5
0.3nm,0.4s,baz=178,slow=7.2,SNR=3.5								
MKAR	Makanchi Array	50.74	345	P	P	P	08 52 28.0	-0.5
0.4nm,0.4s,baz=157,slow=9.1,SNR=6.8								
USRK	Ussuriysk Arra	54.44	29	P	P	P	08 52 56.5	+0.6
0.9nm,0.8s,baz=242,slow=3.1,SNR=3.3								
ZALV	Zalesovo Beam	56.94	350	P	P	P	08 53 14.3	+0.6
0.8nm,0.5s,baz=148,slow=8.5,SNR=3.3								
TXAR	Lajitas Array	145.08	36	PKPbc	PKPbc	PKPbc	09 03 06.0	-0.5
0.3nm,0.4s,baz=265,slow=3.0,SNR=5.3								

IDC 16 08:47:17.2±0.7, 1.56S×99.41E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.0/26, mbtmp4.0/16, ML3.6/2, Error ellipse: s-maj=24.4km s-min=15.4km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.36	354	Pn	Pn	Pn	08 48 23.2	-1.7
0.9nm,0.3s,baz=153,slow=14,SNR=3.9								
CMAR	Chiang Mai Arr	19.90	359	P	P	P	08 51 50.6	+0.2
0.2nm,0.3s,baz=188,slow=10,SNR=6.8								
WRA	Warramunga Arr	38.73	121	P	P	P	08 54 42.8	-0.7
0.8nm,0.5s,baz=302,slow=9.1,SNR=13								
ASAR	Alice Springs	39.99	126	P	P	P	08 54 54.7	+0.7
1.1nm,0.6s,baz=300,slow=8.0,SNR=20								
JNU	Nakatsue	45.52	38	P	P	P	08 55 40.1	+1.3
3.9nm,0.9s,baz=187,slow=16,SNR=2.8								
KSRS	Korea Array	46.95	31	P	P	P	08 55 48.2	-1.7
0.4nm,0.5s,baz=218,slow=7.3,SNR=4.1								
SONM	Songino Array	49.57	6	P	P	P	08 56 10.3	+0.1
0.3nm,0.5s,baz=187,slow=8.3,SNR=3.1								
STKA	Stephens Creek	49.88	132	P	P	P	08 56 11.8	-0.9
3.7nm,0.9s,baz=304,slow=3.6,SNR=2.0								
MKAR	Makanchi Array	50.45	345	P	P	P	08 56 16.6	-0.2
1.9nm,0.6s,baz=152,slow=8.1,SNR=20								
USRK	Ussuriysk Arra	54.06	29	P	P	P	08 56 44.3	+0.8
0.8nm,0.5s,baz=228,slow=5.1,SNR=3.4								
KMBO	Kilima Mbogo	62.14	270	P	P	P	08 57 42.9	+1.8
1.3nm,0.6s,baz=70,slow=22,SNR=3.9								
KBZ	Khabaz	67.59	319	P	P	P	08 58 15.8	0.0
3.1nm,0.9s,baz=106,slow=4.5,SNR=6.7								
BRTR	Keskin Array B	72.59	313	P	P	P	08 58 45.9	-0.9
0.5nm,0.5s,baz=138,slow=6.3,SNR=3.3								
FINES	FINESS Array B	83.45	332	P	P	P	08 59 45.8	-0.7
1.8nm,0.7s,baz=90,slow=1.9,SNR=7.7								
ARCES	ARCESS Array B	85.86	340	P	P	P	08 59 58.5	0.0
6.2nm,1.1s,baz=90,slow=7.2,SNR=2.7								
GERES	GERESS Array B	88.33	319	P	P	P	09 00 11.0	-0.1
0.4nm,0.7s,baz=149,slow=3.1,SNR=3.8								
CPUP	Villa Florida	144.31	217	PKP	PKPbc	PKPbc	09 06 54.8	+0.5
0.3nm,0.4s,baz=155,slow=5.7,SNR=4.6								
TXAR	Lajitas Array	144.71	36	PKP	PKPbc	PKPbc	09 06 56.2	+0.5
0.7nm,0.6s,baz=270,slow=1.3,SNR=11								

IDC 16 08:49:09.9±1.7, 1.77S×99.29E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, Error ellipse: s-maj=74.1km s-min=20.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.10	359	P	P	P	08 53 45.8	+0.3
0.6nm,0.3s,baz=186,slow=6.4,SNR=3.5								
WRA	Warramunga Arr	38.72	120	P	P	P	08 56 35.4	-0.7
0.8nm,0.5s,baz=302,slow=9.1,SNR=5.2								
ASAR	Alice Springs	39.96	126	P	P	P	08 56 46.9	+0.3
0.7nm,0.6s,baz=302,slow=8.0,SNR=5.6								
SONM	Songino Array	49.79	6	P	P	P	08 58 05.0	+0.5
0.4nm,0.6s,baz=193,slow=5.9,SNR=2.7								
MKAR	Makanchi Array	50.62	345	P	P	P	08 58 11.0	+0.3
0.4nm,0.4s,baz=160,slow=8.8,SNR=5.2								
ZALV	Zalesovo Beam	56.81	350	P	P	P	08 58 54.5	-1.4
1.4nm,0.3s,baz=174,slow=3.9,SNR=2.0								
FINES	FINESS Array B	83.58	332	P	P	P	09 01 40.0	+0.2
2.5nm,0.9s,baz=101,slow=8.0,SNR=4.1								
CPUP	Villa Florida	144.08	217	PKP	PKPdf	PKPdf	09 08 48.4	-0.1
0.8nm,0.6s,baz=111,slow=20,SNR=3.2								
TXAR	Lajitas Array	144.94	36	PKP	PKPdf	PKPdf	09 08 49.8	-0.3
0.2nm,0.3s,baz=267,slow=1.6,SNR=7.6								

IDC 16 08:49:21.7±1.3, 1.56S×99.59E, h0km, mb4.1/9, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, ML4.3/1, Error ellipse: s-maj=46.1km s-min=20.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.90	358	P	P	P	08 53 55.2	+0.2
0.4nm,0.3s,baz=184,slow=9.8,SNR=5.1								
WRA	Warramunga Arr	38.56	121	P	P	P	08 56 46.0	-0.6
0.6nm,0.6s,baz=302,slow=9.0,SNR=6.5								
ASAR	Alice Springs	39.84	126	P	P	P	08 56 57.9	+0.7
0.7nm,0.6s,baz=303,slow=8.4,SNR=5.4								
KSRS	Korea Array	46.86	31	P	P	P	08 57 52.8	-0.8
0.8nm,0.6s,baz=229,slow=7.7,SNR=4.0								
SONM	Songino Array	49.55	6	P	P	P	08 58 14.8	+0.3
1.2nm,0.5s,baz=192,slow=8.1,SNR=5.9								
MKAR	Makanchi Array	50.50	345	P	P	P	08 58 20.6	-1.0
1.7nm,0.5s,baz=157,slow=8.3,SNR=11								
USRK	Ussuriysk Arra	53.97	28	P	P	P	08 58 47.3	-0.1
2.1nm,0.7s,baz=222,slow=5.8,SNR=6.8								
ZALV	Zalesovo Beam	56.67	350	P	P	P	08 59 06.9	+0.3
1.5nm,0.3s,baz=165,slow=6.2,SNR=3.7								
FINES	FINESS Array B	83.54	332	P	P	P	09 01 52.0	+0.7
3.6nm,1.1s,baz=111,slow=7.6,SNR=3.4								
ARCES	ARCESS Array B	85.93	340	P	P	P	09 02 03.8	+0.4
3.3nm,1.0s,baz=143,slow=2.4,SNR=3.6								
CPUP	Villa Florida	144.43	217	PKP	PKPab	PKPab	09 08 58.6	-0.3
1.9nm,0.7s,baz=59,slow=2.0,SNR=5.4								
TXAR	Lajitas Array	144.60	37	PKP	PKPbc	PKPbc	09 09 00.5	+0.6
0.7nm,0.5s,baz=278,slow=2.0,SNR=9.7								

IDC 16 08:51:01.0±6.4, 1.57S×99.62E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=346.4km s-min=27.1km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.54	121	P	P	P	08 58 25.7	0.0
0.7nm,1.1s,baz=298,slow=7.9,SNR=3.0								
ASAR	Alice Springs	39.81	126	P	P	P	08 58 36.2	-0.2
0.3nm,0.7s,baz=302,slow=7.5,SNR=3.0								
MKAR	Makanchi Array	50.52	345	P	P	P	09 00 01.0	0.0
0.3nm,0.5s,baz=165,slow=8.5,SNR=2.4								
TXAR	Lajitas Array	144.59	37	PKP	PKPbc	PKPbc	09 10 39.7	+0.6
0.4nm,0.9s,baz=326,slow=2.6,SNR=3.0								

IDC 16 08:51:28.4±4.7, 1.67S×99.86E, h0km, mb3.6/2, mb1 3.6/2, mb1mx3.3/24, mbtmp3.6/2, Error ellipse: s-maj=178.2km s-min=92.4km az=73.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	49.63	6	P	P	P	09 00 21.7	-0.1
0.3nm,0.4s,baz=190,slow=9.0,SNR=3.3								
MKAR	Makanchi Array	50.68	344	P	P	P	09 00 29.4	-0.2
0.5nm,0.5s,baz=154,slow=8.5,SNR=4.6								
TXAR	Lajitas Array	144.53	37	PKP	PKPdf	PKPdf	09 11 07.2	-0.6
0.4nm,0.4s,baz=275,slow=2.3,SNR=6.3								

IDC 16 08:51:52.5±2.3, 1.61S×99.32E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=107.0km s-min=21.2km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.95	359	P	P	Pn	08 56 27.5	-0.5
0.1nm,0.3s,baz=188,slow=11,SNR=2.8								
WRA	Warramunga Arr	38.78	120	P	P	P	08 59 18.9	-0.3
0.6nm,0.6s,baz=297,slow=8.8,SNR=5.0								
ASAR	Alice Springs	40.03	126	P	P	P	08 59 29.8	+0.1
0.7nm,0.8s,baz=299,slow=7.9,SNR=3.5								
MKAR	Makanchi Array	50.48	345	P	P	P	09 00 52.0	-0.3
1.5nm,0.7s,baz=147,slow=8.0,SNR=5.1								
ZALV	Zalesovo Beam	56.67	350	P	P	P	09 01 36.5	-1.0
0.9nm,0.3s,baz=147,slow=8.6,SNR=2.6								
FINES	FINESS Array B	83.45	332	P	P	P	09 04 22.6	+0.8
4.5nm,0.9s,baz=128,slow=9.0,SNR=3.6								
TXAR	Lajitas Array	144.80	36	PKP	PKPdf	PKPdf	09 11 31.9	-0.5
0.7nm,0.5s,baz=298,slow=2.7,SNR=6.9								

IDC 16 08:54:41.4±3.2, 1.76S×99.43E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/24, mbtmp3.3/4, Error ellipse: s-maj=133.7km s-min=23.3km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.10	359	P	P	P	08 59 17.4	+0.6
0.5nm,0.4s,baz=184,slow=9.9,SNR=2.7								
WRA	Warramunga Arr	38.61	120	P	P	P	09 02 06.4	-0.2
0.2nm,0.5s,

*DJA **16** 08:54:59.7±0.7, 1°S±6°×9°9E±°, h10km, M5.0/4, MLv5.0/4*
*IDC **16** 08:55:01.6±0.5, 1°58S×99°50E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.3/30, mbtmp4.3/25, ML3.9/2, Error ellipse: s-maj=19.1km s-min=11.3km az=58.0*
*ISCJB **16** 08:55:04.4±0.4, 1°55S±0°06×99°58E±0°08, h30km, mb4.4/24, Error ellipse: s-maj=12.6km s-min=7.0km az=146.6*

ISC 16 08:55:06.3±0.5, **1°58S**±0°08×**99°6E**±0°1, **h30**km, **n37**, σ0°88/36, **mb4.5**/24, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.39**	**37**	P	Pn	08 55 24.0	-5.8
BKNI	**Bangkinang**	**2.40**	**38**	P	**Pn**	**08 55 42.5**	**-1.1**
MASI	**Maura Aman, Be**	**3.09**	**120**	P	**Pn**	**08 55 51.8**	**-1.3**
MNAI	**Manna**	**4.37**	**129**	P	**Pn**	**08 56 10.9**	**+0.2**
PSI	**Prapat**	**4.40**	**352**	Pn	**Pn**	**08 56 10.0**	**-1.3**
1.9nm,0.3s,baz=190,slow=14,SNR=5.1							
SNSI	**Sinabang, Aceh**	**5.12**	**321**	P	Pn	08 56 14.1	-6.9
KCSI	**Kotacane, Aceh**	**5.38**	**341**	P	**Pn**	**08 56 25.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.93**	**358**	P	**P**	**08 59 36.0**	**+0.1**
0.3nm,0.3s,baz=189,slow=10.0,SNR=16							
KAPI	**Kappang**	**20.44**	**100**	P	Pn	08 59 42.9	-0.8
5.7nm,0.4s,baz=286,slow=19,SNR=4.1							
FITZ	**Fitzroy Crossi**	**30.40**	**124**	P	**P**	**09 01 15.2**	**-1.0**
3.0nm,0.6s,baz=277,slow=3.0,SNR=6.8							
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**09 02 26.3**	**-0.6**
6.0nm,0.7s,baz=302,slow=9.2,SNR=27							
WRA				PcP	**PcP**	**09 04 39.0**	**-0.2**
0.5nm,0.5s,baz=316,slow=2.6,SNR=5.3							
ASAR	**Alice Springs**	**39.85**	**126**	P	**P**	**09 02 37.2**	**-0.2**
3.4nm,0.6s,baz=300,slow=7.9,SNR=34							
ASAR				PcP	**PcP**	**09 04 43.8**	**+0.6**
1.1nm,0.8s,baz=328,slow=2.3,SNR=4.8							
HHC	**Hu-ho-hao-te**	**43.63**	**13**	*eP*	**P**	**09 03 11.0**	**+2.8**
HHC				S	S	09 09 44.3	+8.3
HHC				pmax	pmax		
comp=Z,76nm,0.7s							
JNU	**Nakatsue**	**45.43**	**38**	P	**P**	**09 03 23.2**	**+0.5**
comp=Z,4.5nm,0.7s,baz=208,slow=9.5,SNR=5.2							
KSRS	**Korea Array**	**46.89**	**31**	P	**P**	**09 03 33.5**	**-0.5**
comp=Z,2.4nm,0.6s,baz=224,slow=8.1,SNR=13							
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**09 03 55.1**	**+0.3**
comp=Z,3.8nm,0.7s,baz=189,slow=9.3,SNR=23							
SONM				PcP	**PcP**	**09 05 16.3**	**+0.1**
comp=Z,1.3nm,0.6s,baz=194,slow=4.6,SNR=4.1							
STKA	**Stephens Creek**	**49.75**	**132**	P	**P**	**09 03 56.5**	**+0.3**
comp=Z,2.9nm,0.6s,baz=269,slow=14,SNR=10.0							
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**09 04 01.6**	**-0.2**
comp=Z,5.1nm,0.7s,baz=155,slow=6.8,SNR=26							
USRK	**Ussuriysk Arra**	**54.00**	**28**	P	**P**	**09 04 27.0**	**-0.6**
comp=Z,5.2nm,0.7s,baz=228,slow=5.3,SNR=15							
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**09 04 46.8**	**-0.1**
comp=Z,9.0nm,0.8s,baz=155,slow=4.6,SNR=9.4							
BVAR	**Borovoye Array**	**59.65**	**340**	P	**P**	**09 05 06.8**	**-0.8**
comp=Z,2.3nm,0.7s,baz=142,slow=9.6,SNR=11							
KMBO	**Kilima Mbogo**	**62.30**	**270**	P	**P**	**09 05 27.1**	**+0.4**
comp=Z,2.1nm,0.8s,baz=39,slow=20,SNR=4.4							
KBZ	**Khabaz**	**67.71**	**319**	P	**P**	**09 06 00.6**	**-0.4**
comp=Z,4.0nm,0.7s,baz=89,slow=4.3,SNR=13							
MAW	**Mawson**	**70.58**	**194**	P	**P**	**09 06 19.0**	**+0.7**
comp=Z,1.0nm,0.2s,baz=24,slow=12,SNR=3.5							
BRTR	**Keskin Array B**	**72.72**	**312**	P	**P**	**09 06 30.5**	**-1.5**
comp=Z,1.2nm,0.7s,baz=144,slow=6.8,SNR=6.9							
PETK	**Petropavlovsk-**	**72.77**	**32**	P	**P**	**09 06 32.0**	**+0.2**
comp=Z,1.1nm,0.5s,baz=199,slow=2.7,SNR=4.8							
RPZ	**Rata Peaks**	**75.58**	**135**	P	**P**	**09 06 49.2**	**+0.8**
comp=Z,5.6nm,0.5s,baz=22,slow=7.9,SNR=7.7							
AKASG	**Malin Array Be**	**78.89**	**322**	P	**P**	**09 07 05.4**	**-1.3**
comp=Z,0.4nm,0.4s,baz=95,slow=5.0,SNR=4.8							
VNDA	**Vanda**	**82.65**	**169**	P	**P**	**09 07 26.8**	**+0.3**
comp=Z,0.8nm,0.8s,baz=201,slow=2.3,SNR=3.9							
FINES	**FINESS Array B**	**83.55**	**332**	P	**P**	**09 07 31.3**	**+0.1**
comp=Z,2.6nm,0.5s,baz=102,slow=4.9,SNR=23							
KAF	**Kangasniemi**	**83.62**	**333**	*ep*	**P**	**09 07 31.3**	**-0.3**
comp=Z,1.2nm,0.4s							
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**09 07 43.2**	**0.0**
comp=Z,5.0nm,1.0s,baz=85,slow=5.2,SNR=6.3							
GERES	**GERESS Array B**	**88.45**	**319**	P	**P**	**09 07 56.0**	**0.0**
comp=Z,0.5nm,0.7s,baz=114,slow=6.6,SNR=5.5							
NVAR	**Mina Array Bea**	**129.55**	**39**	PKP	**PKPdf**	**09 14 14.5**	**+1.4**
comp=Z,0.3nm,0.5s,baz=251,slow=2.8,SNR=3.2							
PDAR	**Pinedale Array**	**131.42**	**29**	PKP	**PKPdf**	**09 14 17.3**	**+0.7**
comp=Z,0.3nm,0.7s,baz=235,slow=3.2,SNR=3.6							
CPUP	**Villa Florida**	**144.39**	**217**	PKP	PKPbc	09 14 39.0	+0.1
comp=Z,7.7nm,0.8s,baz=104,slow=2.7,SNR=16							
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	**PKPdf**	**09 14 40.6**	**-0.4**
comp=Z,4.4nm,0.6s,baz=90,slow=1.3,SNR=40							

IDC 16 08:59:25.6±1.1, **1°64S**×**99°45E**, **h0**km, **mb3.8**/10, **mb1 4.0**/11, **mb1mx3.8**/25, **mbtmp3.8**/11, **ML3.1**/1, **Error ellipse: s-maj=43.9km s-min=18.5km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.44**	**353**	Pn	Pn	09 00 33.8	-0.8
1.1nm,0.3s,baz=212,slow=19,SNR=3.4							
WRA	**Warramunga Arr**	**38.65**	**121**	P	P	09 06 50.7	-0.6
0.5nm,0.6s,baz=307,slow=9.4,SNR=4.9							
ASAR	**Alice Springs**	**39.91**	**126**	P	P	09 07 02.3	+0.5
0.2nm,0.4s,baz=294,slow=7.9,SNR=4.5							
SONM	**Songino Array**	**49.65**	**6**	P	P	09 08 19.4	+0.2
0.4nm,0.4s,baz=180,slow=5.8,SNR=3.6							
SONM				PcP	PcP	09 09 40.6	0.0
0.4nm,0.5s,baz=188,slow=2.6,SNR=3.2							
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	09 08 26.0	+0.1
1.5nm,0.7s,baz=151,slow=8.2,SNR=9.2							
USRK	**Ussuriysk Arra**	**54.11**	**29**	P	P	09 08 51.8	-0.6
1.0nm,0.5s,baz=226,slow=7.2,SNR=4.2							
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	09 09 11.1	+0.1
1.2nm,0.5s,baz=170,slow=4.5,SNR=4.6							
BVAR	**Borovoye Array**	**59.66**	**340**	P	P	09 09 31.0	-0.6
0.5nm,0.5s,baz=144,slow=5.4,SNR=3.4							
KBZ	**Khabaz**	**67.68**	**319**	P	P	09 10 24.4	-0.3
0.8nm,0.6s,baz=129,slow=7.3,SNR=4.0							
FINES	**FINESS Array B**	**83.54**	**332**	P	P	09 11 55.2	-0.2
2.3nm,1.0s,baz=110,slow=4.5,SNR=6.0							
GERES	**GERESS Array B**	**88.42**	**319**	P	P	09 12 20.7	+0.8
0.4nm,0.6s,baz=98,slow=3.0,SNR=3.2							
CPUP	**Villa Florida**	**144.28**	**217**	PKP	PKPbc	09 19 03.3	+0.6
1.8nm,0.7s,baz=92,slow=5.5,SNR=4.8							
TXAR	**Lajitas Array**	**144.75**	**36**	PKP	PKPbc	09 19 04.6	+0.4
1.0nm,0.4s,baz=288,slow=2.9,SNR=20							

IDC 16 09:08:21.4±5.3, **6°07S**×**147°46E**, **h0**km, **mb4.0**/3, **mb1 4.0**/5, **mb1mx3.6**/19, **mbtmp3.9**/5, **ML3.5**/2, **MS2.2**/1, **Ms1 2.2**/1, **ms1mx2.2**/38, **Error ellipse: s-maj=81.0km s-min=42.8km az=57.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**185**	Pn	Pn	09 09 15.5	+0.8
12nm,0.3s,baz=5.3,slow=9.3,SNR=25							
PMG				Sn	Sn	09 09 55.4	+0.5
2.3nm,0.3s,baz=9.0,slow=10,SNR=3.3							
WRA	**Warramunga Arr**	**18.78**	**222**	P	P	09 12 42.4	0.0
0.3nm,0.3s,baz=42,slow=12,SNR=19							
ASAR	**Alice Springs**	**21.82**	**215**	P	P	09 13 15.4	-0.1
1.2nm,0.4s,baz=52,slow=8.9,SNR=17							
FITZ	**Fitzroy Crossi**	**24.42**	**239**	P	P	09 13 42.6	+0.7
3.6nm,0.4s,baz=66,slow=8.3,SNR=28							
STKA	**Stephens Creek**	**26.25**	**191**	P	P	09 13 57.0	-1.3
2.1nm,0.6s,baz=354,slow=9.2,SNR=3.4							
TGY	**Tagaytay City**	**33.08**	**307**	LR	LR	09 30 42.2	
comp=Z,3.4nm,18.1s,baz=126,slow=40							

IDC 16 09:09:45.0±10.0, **2°53S**×**98°76E**, **h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/24, **mbtmp3.3**/3, **Error ellipse: s-maj=531.7km s-min=26.9km az=53.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.80**	**119**	P	P	09 17 11.6	-0.4
0.4nm,0.8s,baz=303,slow=9.0,SNR=3.1							
ASAR	**Alice Springs**	**39.96**	**125**	P	P	09 17 21.6	0.0
0.4nm,0.8s,baz=291,slow=7.8,SNR=3.6							
MKAR	**Makanchi Array**	**51.21**	**346**	P	P	09 18 50.0	-0.2
0.3nm,0.5s,baz=158,slow=7.4,SNR=3.5							
TXAR	**Lajitas Array**	**145.86**	**36**	PKPbc	PKPdf	09 29 26.6	-0.1
0.2nm,0.7s,baz=298,slow=1.9,SNR=3.2							

IDC 16 09:12:29.4±2.2, **1°63S**×**99°41E**, **h0**km, **mb3.8**/5, **mb1 3.9**/6, **mb1mx3.6**/24, **mbtmp3.8**/6, **ML3.9**/1, **Error ellipse: s-maj=87.8km s-min=26.4km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.43**	**354**	Pn	Pn	09 13 40.2	+2.2
0.6nm,0.3s,baz=165,slow=12,SNR=2.1							
CMAR	**Chiang Mai Arr**	**19.96**	**359**	P	P	09 17 03.0	-0.3
0.1nm,0.3s,baz=208,slow=11,SNR=2.5							
WRA	**Warramunga Arr**	**38.69**	**120**	P	P	09 19 55.0	-0.3
0.7nm,0.8s,baz=304,slow=8.9,SNR=6.3							
SONM	**Songino Array**	**49.64**	**6**	P	P	09 21 23.8	+0.9
0.2nm,0.4s,baz=203,slow=10,SNR=2.6							
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	09 21 30.0	+0.6
0.5nm,0.5s,baz=155,slow=7.5,SNR=5.5							
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	P	09 22 12.7	-1.9
0.8nm,0.4s,baz=165,slow=7.4,SNR=3.6							
FINES	**FINESS Array B**	**83.51**	**332**	P	P	09 24 59.4	+0.4
5.7nm,1.0s,baz=126,slow=3.3,SNR=4.7							
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPdf	09 32 09.1	-0.1
0.6nm,0.4s,baz=293,slow=3.6,SNR=14							

IDC 16 09:15:32.1±4.7, **0°72S**×**100°89E**, **h0**km, **mb3.4**/3, **mb1 3.5**/3, **mb1mx3.3**/24, **mbtmp3.4**/3, **Error ellipse: s-maj=252.0km s-min=27.8km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.90**	**122**	P	P	09 22 50.8	-0.6
0.2nm,0.4s,baz=299,slow=9.0,SNR=3.4							
ASAR	**Alice Springs**	**39.31**	**128**	P	P	09 23 03.8	+0.5
0.3nm,0.8s,baz=301,slow=8.2,SNR=3.3							
MKAR	**Makanchi Array**	**50.05**	**343**	P	P	09 24 28.8	+0.2
0.6nm,0.7s,baz=154,slow=8.3,SNR=5.8							
TXAR	**Lajitas Array**	**143.15**	**37**	PKP	PKPbc	09 35 06.6	+0.7
0.5nm,0.7s,baz=291,slow=3.9,SNR=5.2							

IDC 16 09:16:17.0±2.4, **2°47S**×**98°27E**, **h0**km, **mb3.7**/7, **mb1 3.8**/8, **mb1mx3.6**/26, **mbtmp3.7**/8, **ML3.4**/1, **Error ellipse: s-maj=89.1km s-min=17.6km az=60.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.27**	**7**	Pn	Pn	09 17 35.8	-1.5
1.3nm,0.3s,baz=128,slow=17,SNR=3.3							
CMAR	**Chiang Mai Arr**	**20.80**	**2**	P	P	09 20 59.9	-0.2
0.7nm,0.4s,baz=197,slow=9.0,SNR=4.1							
FITZ	**Fitzroy Crossi**	**31.01**	**122**	P	P	09 22 37.2	+0.6
1.4nm,0.9s,baz=338,slow=11,SNR=2.3							
WRA	**Warramunga Arr**	**39.27**	**119**	P	P	09 23 46.9	-1.0
0.5nm,0.4s,baz=301,slow=9.0,SNR=7.8							
ASAR	**Alice Springs**	**40.40**	**124**	P	P	09 23 57.0	-0.2
0.5nm,0.5s,baz=300,slow=7.7,SNR=8.2							
SONM	**Songino Array**	**50.59**	**7**	P	P	09 25 18.1	+0.4
0.5nm,0.5s,baz=184,slow=9.2,SNR=3.9							
MKAR	**Makanchi Array**	**51.03**	**346**	P	P	09 25 21.1	+0.2
0.5nm,0.5s,baz=146,slow=8.0,SNR=5.5							
ZALV	**Zalesovo Beam**	**57.32**	**351**	P	P	09 26 05.5	-1.1
0.4nm,0.3s,baz=165,slow=6.0,SNR=2.4							
TXAR	**Lajitas Array**	**146.17**	**36**	PKPbc	PKPbc	09 36 00.2	+0.2
0.3nm,0.5s,baz=250,slow=1.1,SNR=5.9							

IDC 16 09:16:56.5±3.5, **1°20S**×**100°34E**, **h0**km, **mb3.8**/5, **mb1 4.0**/5, **mb1mx3.6**/24, **mbtmp3.8**/5, **Error ellipse: s-maj=146.5km s-min=22.3km az=58.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**29.98**	**126**	P	P	09 23 06.4	-0.6
2.0nm,0.9s,baz=308,slow=3.8,SNR=3.3							
WRA	**Warramunga Arr**	**38.11**	**122**	P	P	09 24 17.9	+0.3
0.9nm,0.6s,baz=302,slow=9.1,SNR=5.7							
ASAR	**Alice Springs**	**39.45**	**127**	P	P	09 24 29.0	+0.2
1.0nm,0.7s,baz=300,slow=8.1,SNR=6.8							
SONM	**Songino Array**	**49.12**	**5**	P	P	09 25 46.2	+0.2
0.4nm,0.5s,baz=181,slow=9.5,SNR=2.7							
MKAR	**Makanchi Array**	**50.36**	**344**	P	P	09 25 55.4	0.0
0.6nm,0.5s,baz=155,slow=8.2,SNR=5.1							
TXAR	**Lajitas Array**	**143.86**	**37**	PKP	PKPab	09 36 31.9	+0.1
0.4nm,0.5s,baz=264,slow=2.1,SNR=4.6							

IDC 16 09:19:37.7±4.5, **1°77S**×**99°66E**, **h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.2**/24, **mbtmp3.3**/3, **Error ellipse: s-maj=233.9km s-min=27.1km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.40**	**120**	P	P	09 27 00.7	-0.6
0.4nm,0.5s,baz=297,slow=9.2,SNR=4.5							
ASAR	**Alice Springs**	**39.66**	**126**	P	P	09 27 12.7	+0.8
0.1nm,0.3s,baz=300,slow=8.1,SNR=4.3							
MKAR	**Makanchi Array**	**50.71**	**345**	P	P	09 28 39.7	+0.4
0.3nm,0.5s,baz=164,slow=7.5,SNR=2.6							
TXAR	**Lajitas Array**	**144.72**	**37**	PKP	PKPab	09 39 14.7	-1.5
0.2nm,0.5s,baz=225,slow=1.8,SNR=5.3							

IDC 16 09:21:10.3±4.9, **0°80S**×**100°31E**, **h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.2**/23, **mbtmp3.2**/3, **Error ellipse: s-maj=261.5km s-min=27.0km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.34**	**122**	P	P	09 28 33.6	+0.2
0.3nm,0.8s,baz=298,slow=9.8,SNR=4.5							
ASAR	**Alice Springs**	**39.71**	**127**	P	P	09 28 44.4	-0.4
0.2nm,0.6s,baz=305,slow=7.4,SNR=3.7							
MKAR	**Makanchi Array**	**49.97**	**344**	P	P	09 30 06.2	-0.1
0.2nm,0.7s,baz=153,slow=8.7,SNR=2.4							
TXAR	**Lajitas Array**	**143.56**	**37**	PKP	PKPdf	09 40 47.1	-0.9
0.1nm,0.5s,baz=318,slow=1.7,SNR=4.5							

IDC 16 09:22:59.6±5.1, **0°89S**×**100°45E**, **h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.2**/23, **mbtmp3.3**/3, **Error ellipse: s-maj=275.9km s-min=27.0km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.18**	**122**	P	P	09 30 22.0	+0.7
0.3nm,0.5s,baz=299,slow=9.2,SNR=3.3							
ASAR	**Alice Springs**	**39.55**	**127**	P	P	09 30 32.1	-0.7
0.3nm,0.8s,baz=305,slow=8.9,SNR=3.0							
MKAR	**Makanchi Array**	**50.09**	**344**	P	P	09 31 56.6	+0.1
0.4nm,0.7s,baz=160,slow=8.8,SNR=3.7							
TXAR	**Lajitas Array**	**143.55**	**37**	PKP	PKPbc	09 42 35.1	+0.6
0.2nm,0.5s,baz=260,slow=1.5,SNR=5.5							

IDC 16 09:25:37.4±1.2, **1°63S**×**99°47E**, **h0**km, **mb4.0**/9, **mb1 4.0**/11, **mb1mx3.8**/25, **mbtmp3.9**/11, **ML3.3**/2, **MS4.6**/1, **Ms1 4.9**/1, **ms1mx3.8**/49, **Error ellipse: s-maj=40.5km s-min=17.8km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.44**	**353**	Pn	Pn	09 26 44.9	-1.2
0.3nm,0.3s,baz=172,slow=14,SNR=2.7							
CMAR	**Chiang Mai Arr**	**19.97**	**359**	P	P	09 30 12.0	+0.6
0.1nm,0.3s,baz=190,slow=9.5,SNR=5.2							
CMAR				LR	LR	09 37 53.7	
comp=Z,2μm,18.4s,baz=130,slow=37							
WRA	**Warramunga Arr**	**38.63**	**121**	P	P	09 33 02.8	-0.1
1.4nm,0.4s,baz=303,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**39.89**	**126**	P	P	09 33 13.5	+0.1
0.9nm,0.5s,baz=299,slow=7.5,SNR=12							
KSRS	**Korea Array**	**46.98**	**31**	P	P	09 34 10.9	+0.6
0.5nm,0.6s,baz=230,slow=7.9,SNR=3.1							
SONM	**Songino Array**	**49.63**	**6**	P	P	09 34 30.4	-0.4
0.6nm,0.5s,baz=197,slow=10,SNR=6.3							
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	09 34 37.1	-0.5
0.8nm,0.6s,baz=149,slow=7.1,SNR=8.1							
USRK	**Ussuriysk Arra**	**54.09**	**29**	P	P	09 35 02.9	-1.0
1.4nm,0.7s,baz=224,slow=6.8,SNR=4.6							
ZALV	**Zalesovo Beam**	**56.71**	**350**	P	P	09 35 22.6	-0.1
1.0nm,0.4s,baz=141,slow=5.7,SNR=6.2							
KBZ	**Khabaz**	**67.69**	**319**	P	P	09 36 37.6	+1.1
1.4nm,0.6s,baz=162,slow=7.1,SNR=5.3							
FINES	**FINESS Array B**	**83.54**	**332**	P	P	09 38 06.5	-0.6
5.1nm,0.9s,baz=129,slow=18,SNR=4.6							
CPUP	**Villa Florida**	**144.30**	**217**	PKP	PKPbc	09 45 14.7	+0.2
1.2nm,0.7s,baz=123,slow=2.8,SNR=4.2							
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	PKPdf	09 45 16.8	-0.4
1.9nm,0.8s,baz=298,slow=2.7,SNR=14							

IDC 16 09:29:48.8±2.0, **1°46S**×**99°87E**, **h0**km, **mb3.8**/7, **mb1 3.8**/9, **mb1mx3.7**/25, **mbtmp3.7**/9, **ML3.4**/2, **Error ellipse: s-maj=66.7km s-min=18.5km az=60.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.34**	**347**	Pn	Pn	09 30 55.0	-1.2
0.6nm,0.3s,baz=117,slow=9.0,SNR=2.8							
CMAR	**Chiang Mai Arr**	**19.81**	**357**	P	P	09 34 20.4	-0.7
0.1nm,0.3s,baz=188,slow=10,SNR=5.7							
WRA	**Warramunga Arr**	**38.38**	**121**	P	P	09 37 11.8	-0.3
0.9nm,0.6s,baz=303,slow=9.1,SNR=10.0							
ASAR	**Alice Springs**	**39.68**	**127**	P	P	09 37 23.2	+0.2
0.5nm,0.6s,baz=299,slow=7.8,SNR=9.9							
KSRS	**Korea Array**	**46.63**	**31**	P	P	09 38 18.8	-0.1
0.6nm,0.7s,baz=220,slow=7.4,SNR=3.9							
SONM	**Songino Array**	**49.42**	**6**	P	P	09 38 40.5	-0.1
0.8nm,0.6s,baz=185,slow=8.2,SNR=4.3							
MKAR	**Makanchi Array**	**50.48**	**344**	P	P	09 38 49.7	+1.2
1.3nm,0.5s,baz=152,slow=8.8,SNR=17							
USRK	**Ussuriysk Arra**	**53.75**	**28**	P	P	09 39 12.7	-0.1
0.9nm,0.4s,baz=241,slow=3.8,SNR=4.1							
ZALV	**Zalesovo Beam**	**56.62**	**349**	P	P	09 39 32.1	-1.2
1.4nm,0.5s,baz=168,slow=7.4,SNR=7.7							
TXAR	**Lajitas Array**	**144.35**	**37**	PKP	PKPbc	09 49 26.0	-0.1
0.5nm,0.4s,baz=279,slow=2.3,SNR=14							

WEL 16 09:32:30.4±0.2, **45°67S**×**166°65E**, **h21**km±1km, **ML3.5**/14, **1C-1D, Error ellipse: s-maj=2.7km s-min=1.2km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**62**	P*	Pb	09 32 38.4	-0.2
DCZ				S*	Sb	09 32 43.7	-0.5
DCZ				AML	AML	09 32 44.1	
DCZ				AML	AML	09 32 44.2	
WHZ	**Wether Hill Ro**	**0.94**	**105**	⇓P*	Pb	09 32 47.8	-0.1
WHZ				*eS**	Sb	09 32 59.4	-0.5
WHZ				AML	AML	09 33 07.3	
MLZ	**Mavora Lakes**	**1.12**	**74**	⇑PN	Pn	09 32 49.6	-1.2
MLZ				SN	Sb	09 33 03.4	-1.7
MLZ				AML	AML	09 33 05.8	
MSZ	**Milford Sound**	**1.34**	**43**	PN	Pb	09 32 54.4	-0.4
MSZ				AML	AML	09 33 17.3	
MSZ				AML	AML	09 33 17.4	
MSZ				AML	AML	09 33 19.2	
MSZ				AML	AML	09 33 21.5	
APZ	**The Paps**	**1.49**	**142**	PN	Pn	09 32 55.8	-0.1
APZ				SN	Sn	09 33 14.6	-0.2
WKZ	**Wanaka**	**1.87**	**64**	PN	Pb	09 33 03.5	-0.3
WKZ				AML	AML	09 33 33.5	
WKZ				AML	AML	09 33 33.5	
WKZ				AML	AML	09 33 34.5	
WKZ				AML	AML	09 33 40.4	
EAZ	**Earnscleugh**	**1.92**	**78**	PN	Pb	09 33 04.0	-0.7
EAZ				AML	AML	09 33 29.6	
EAZ				AML	AML	09 33 29.8	
EAZ				AML	AML	09 33 30.5	
EAZ				AML	AML	09 33 31.4	
SYZ	**Scrubby Hill**	**1.94**	**118**	PN	Pn	09 33 03.3	+1.3
TUZ	**Tuapeka**	**2.10**	**99**	PN	Pb	09 33 06.9	-0.9
TUZ				AML	AML	09 33 35.2	
TUZ				AML	AML	09 33 36.5	
JCZ	**Jackson Bay**	**2.19**	**44**	AML	AML	09 33 42.8	
JCZ				AML	AML	09 33 45.6	
LBZ	**Lake Benmore**	**2.81**	**64**	PN	Pn	09 33 16.1	+2.0
ODZ	**Otahua Downs**	**2.88**	**79**	PN	Pn	09 33 15.9	+0.9

*IDC **16** 09:34:28.3±1.3, 46°26S×166°10E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=33.3km s-min=28.8km az=175.0*
*NEIC **16** 09:34:29.1, 46°56S×165

mb1mx3.2/25, mbtmp3.3/3, Error ellipse: s-maj=366.2km s-min=28.1km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.97**	**124**	P	P	09 45 56.5	+0.1
	0.7nm,0.9s,baz=302,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**43.48**	**129**	P	P	09 46 08.3	-0.3
	0.3nm,0.6s,baz=304,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**46.11**	**345**	P	P	09 46 29.1	-0.1
	0.2nm,0.6s,baz=159,slow=8.9,SNR=2.4						

*IDC **16** 09:40:33.3±0.7, 1°.44S×99°.60E, h0km, mb4.1/15, mb1 4.1/17, mb1mx4.0/29, mbtmp4.0/17, ML3.6/2, MS3.9/1, Ms1 3.9/1, ms1mx3.7/49, Error ellipse: s-maj=27.4km s-min=14.4km az=60.0*
*NEIC **16** 09:40:34.7±0.4, 1°.50S×99°.58E, h10km, mb4.2/1, Error ellipse: s-maj=15.9km s-min=8.7km az=73.0*
*ISCJB **16** 09:40:36.1±0.6, 1°.38S±0°.08×99°.6E±0°.1, h30km, mb4.1/16, Error ellipse: s-maj=16.7km s-min=10.0km az=159.7*
ISC 16 09:40:38.0±0.7, 1°.4S±0°.1×99°.6E±0°.2, h30km, n46, σ0°.86/47, mb4.1/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.25**	**351**	Pn	**Pn**	**09 41 39.7**	**-1.2**
PSI	**Prapat**	**4.25**	**351**	Pn	**Pn**	**09 41 39.7**	**-1.2**
	0.7nm,0.3s,baz=218,slow=12,SNR=3.7						
PSI				LR	LR	09 43 17.9	
	comp=Z,1μm,19.1s,baz=306,slow=40						
IPM	**Ipoh**	**6.05**	**14**	*e*Pn	**Pn**	**09 42 05.9**	**+0.4**
KULM	**Kulim**	**6.77**	**9**	Pn	**Pn**	**09 42 17.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**19.78**	**358**	P	**P**	**09 45 06.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.78**	**358**	P	**P**	**09 45 06.4**	**+0.5**
	0.2nm,0.3s,baz=190,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**38.66**	**121**	P	**P**	**09 47 58.1**	**-1.2**
WRA				PcP	**PcP**	**09 50 10.8**	**-0.4**
WRA	**Warramunga Arr**	**38.66**	**121**	P	**P**	**09 47 58.1**	**-1.2**
	1.0nm,0.5s,baz=303,slow=9.0,SNR=24						
WRA				PcP	**PcP**	**09 50 10.8**	**-0.4**
	0.5nm,0.8s,baz=308,slow=2.7,SNR=5.0						
WRAB	**Tennant Creek**	**38.66**	**121**	*e*P	**P**	**09 47 58.1**	**-1.2**
	3.3nm,0.7s						
ASAR	**Alice Springs**	**39.94**	**126**	P	**P**	**09 48 09.6**	**-0.4**
ASAR				PcP	**PcP**	**09 50 15.1**	**-0.1**
ASAR	**Alice Springs**	**39.94**	**126**	P	**P**	**09 48 09.6**	**-0.4**
	1.9nm,0.7s,baz=302,slow=7.8,SNR=24						
ASAR				PcP	**PcP**	**09 50 15.1**	**-0.1**
	0.8nm,0.9s,baz=333,slow=1.4,SNR=4.8						
KSAR	**Wonju Array Be**	**46.74**	**31**	P	**P**	**09 49 04.3**	**-0.1**
KSRS	**Korea Array**	**46.77**	**31**	P	**P**	**09 49 04.3**	**-0.3**
	1.4nm,0.7s,baz=222,slow=8.5,SNR=8.4						
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**09 49 24.7**	**-0.7**
SONM				PcP	**PcP**	**09 50 47.3**	**+0.1**
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**09 49 24.7**	**-0.7**
	1.6nm,0.8s,baz=187,slow=9.4,SNR=8.3						
SONM				PcP	**PcP**	**09 50 47.3**	**+0.1**
	1.2nm,0.8s,baz=190,slow=3.9,SNR=5.2						
MK31	**Makanchi Array**	**50.37**	**345**	*e*P	**P**	**09 49 32.4**	**0.0**
MKAR	**Makanchi Array**	**50.37**	**345**	P	**P**	**09 49 32.8**	**+0.4**
MKAR	**Makanchi Array**	**50.37**	**345**	P	**P**	**09 49 32.8**	**+0.4**
	2.7nm,0.8s,baz=145,slow=7.7,SNR=20						
USRK	**Ussuriysk Arra**	**53.88**	**29**	P	**P**	**09 49 57.8**	**-0.6**
	2.9nm,0.7s,baz=221,slow=6.1,SNR=7.5						
KURBB	**Kurchatov Arra**	**54.89**	**344**	P	**P**	**09 50 05.1**	**-0.6**
	1.2nm,0.8s,baz=164,slow=7.1,SNR=13						
KURK	**Kurchatov**	**54.95**	**344**	P	**P**	**09 50 05.1**	**-1.0**
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**09 50 17.1**	**-0.3**
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**09 50 17.1**	**-0.3**
	2.7nm,0.6s,baz=161,slow=6.3,SNR=14						
BVAR	**Borovoye Array**	**59.51**	**340**	P	**P**	**09 50 37.3**	**-1.0**
BVAR	**Borovoye Array**	**59.51**	**340**	P	**P**	**09 50 37.3**	**-1.0**
	0.5nm,0.5s,baz=150,slow=7.8,SNR=4.5						
AKTO	**Aktyubinsk**	**62.65**	**331**	P	**P**	**09 51 01.5**	**+1.8**
AKTO	**Aktyubinsk**	**62.65**	**331**	P	**P**	**09 51 01.5**	**+1.8**
	1.2nm,0.5s,baz=171,slow=4.6,SNR=4.8						
KBZ	**Khabaz**	**67.59**	**319**	P	**P**	**09 51 31.7**	**-0.2**
KBZ	**Khabaz**	**67.59**	**319**	P	**P**	**09 51 31.7**	**-0.2**
	1.3nm,0.7s,baz=111,slow=6.6,SNR=4.5						
BRTR	**Keskin Array B**	**72.62**	**312**	P	**P**	**09 52 01.9**	**-1.2**
BRTR	**Keskin Array B**	**72.62**	**312**	P	**P**	**09 52 01.9**	**-1.2**
	0.6nm,0.7s,baz=147,slow=6.7,SNR=3.4						
BUR08	**Bucovina Ar. S**	**80.56**	**319**	*e*P	**P**	**09 52 48.3**	**+0.6**
GERES	**GERESS Array B**	**88.33**	**319**	P	**P**	**09 53 27.1**	**0.0**
GERES	**GERESS Array B**	**88.33**	**319**	P	**P**	**09 53 27.1**	**0.0**
	0.2nm,0.5s,baz=48,slow=4.3,SNR=4.4						
QSPA	**South Pole Qui**	**88.53**	**180**	P	**P**	**09 53 28.5**	**+0.9**
QSPA	**South Pole Qui**	**88.53**	**180**	P	**P**	**09 53 28.5**	**+0.9**
	2.4nm,1.1s,baz=264,slow=6.0,SNR=11						
TORD	**Torodi Ar. Bea**	**97.98**	**283**	P	Pdif	09 54 13.5	+1.3
TORD	**Torodi Ar. Bea**	**97.98**	**283**	P	Pdif	09 54 13.5	+1.3
	0.7nm,0.6s,baz=176,slow=1.2,SNR=5.1						
PLCA	**Paso Flores**	**137.07**	**191**	PKP	**PKPdf**	**10 00 00.1**	**+1.4**
PLCA	**Paso Flores**	**137.07**	**191**	PKP	**PKPdf**	**10 00 00.1**	**+1.4**
	4.7nm,1.1s,baz=76,slow=1.4,SNR=3.0						
CPUP	**Villa Florida**	**144.51**	**217**	PKP	PKPbc	10 00 11.1	+0.2
CPUP	**Villa Florida**	**144.51**	**217**	PKP	PKPbc	10 00 11.1	+0.2
	4.3nm,0.8s,baz=82,slow=3.6,SNR=6.5						
TXAR	**Lajitas Array**	**144.52**	**36**	PKP	**PKPdf**	**10 00 11.7**	**-0.7**
TXAR	**Lajitas Array**	**144.52**	**36**	PKP	**PKPdf**	**10 00 11.7**	**-0.7**
	1.4nm,0.6s,baz=264,slow=1.3,SNR=25						
MIAR	**Mount Ida**	**144.85**	**19**	*e*PKPdf	PKPbc	10 00 11.6	-0.2
JCT	**Junction City**	**145.77**	**31**	*e*PKPdf	**PKPab**	**10 00 14.8**	**-0.4**

IDC 16 09:50:23.4±6.2, 1°.20S×99°.75E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.0/23, mbtmp3.0/2, Error ellipse: s-maj=319.0km s-min=31.8km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.62**	**121**	P	P	09 57 48.6	-0.1
	0.2nm,0.6s,baz=297,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**50.20**	**344**	P	P	09 59 20.9	-0.1
	0.1nm,0.4s,baz=140,slow=7.6,SNR=2.6						
TXAR	**Lajitas Array**	**144.22**	**36**	PKP	PKPdf	10 10 01.4	-0.8
	0.1nm,0.4s,baz=270,slow=0.5,SNR=3.0						

IDC 16 09:51:35.2±1.4, 1°.67S×99°.41E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/26, mbtmp3.8/10, ML3.1/1, Error ellipse: s-maj=48.7km s-min=18.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.46**	**354**	Pn	Pn	09 52 41.5	-2.8
	1.0nm,0.3s,baz=180,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**38.67**	**120**	P	P	09 59 00.8	-0.3
	1.2nm,0.5s,baz=302,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**39.92**	**126**	P	P	09 59 11.6	+0.1
	0.5nm,0.5s,baz=299,slow=7.7,SNR=7.2						
KSRS	**Korea Array**	**47.04**	**31**	P	P	10 00 07.9	-0.7
	0.7nm,0.8s,baz=216,slow=10,SNR=5.2						
SONM	**Songino Array**	**49.67**	**6**	P	P	10 00 29.2	+0.2
	0.3nm,0.4s,baz=173,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	10 00 35.7	+0.1
	0.7nm,0.6s,baz=148,slow=8.1,SNR=7.2						
USRK	**Ussuriysk Arra**	**54.15**	**29**	P	P	10 01 02.4	+0.1
	0.7nm,0.5s,baz=228,slow=1.7,SNR=2.7						
KURBB	**Kurchatov Arra**	**55.07**	**344**	P	P	10 01 08.7	-0.1
	0.2nm,0.4s,baz=164,slow=6.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	10 01 20.5	-0.2
	1.0nm,0.3s,baz=179,slow=7.4,SNR=4.6						
FINES	**FINESS Array B**	**83.55**	**332**	P	P	10 04 05.3	+0.3
	4.4nm,1.1s,baz=148,slow=11,SNR=4.2						
CPUP	**Villa Florida**	**144.23**	**217**	PKP	PKPab	10 11 11.9	+0.1
	1.6nm,0.7s,baz=164,slow=7.0,SNR=3.8						
TXAR	**Lajitas Array**	**144.79**	**36**	PKP	PKPdf	10 11 14.9	-0.2
	1.4nm,0.6s,baz=271,slow=1.6,SNR=24						

IDC 16 10:06:18.3±5.1, 1°.02S×100°.21E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=276.6km s-min=27.5km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.32**	**122**	P	P	10 13 41.1	0.0
	0.3nm,0.5s,baz=298,slow=8.7,SNR=8.5						
ASAR	**Alice Springs**	**39.67**	**127**	P	P	10 13 52.3	-0.2
	0.3nm,0.7s,baz=299,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**50.15**	**344**	P	P	10 15 15.7	+0.1
	0.4nm,0.3s,baz=156,slow=8.3,SNR=6.6						
TXAR	**Lajitas Array**	**143.80**	**37**	PKP	PKPbc	10 25 55.2	+1.2
	0.4nm,0.6s,baz=220,slow=1.5,SNR=7.9						

IDC 16 10:08:44.3±1.4, 19°.90N×122°.02E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, ML3.9/1, 1D, Error ellipse: s-maj=69.5km s-min=24.6km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.05**	**220**	∥*i*P	Sn	10 09 48.3	+1.8
KSRS	**Korea Array**	**18.23**	**15**	P	P	10 12 60.0	+0.8
	0.3nm,0.3s,baz=196,slow=12,SNR=8.3						
SONM	**Songino Array**	**30.61**	**339**	P	P	10 14 58.8	-1.5
	0.2nm,0.3s,baz=159,slow=9.3,SNR=2.6						
WRA	**Warramunga Arr**	**41.40**	**162**	P	P	10 16 32.5	-0.1
	0.3nm,0.3s,baz=344,slow=9.0,SNR=7.5						
MKAR	**Makanchi Array**	**42.00**	**319**	P	P	10 16 38.1	+0.8
	0.2nm,0.3s,baz=107,slow=8.2,SNR=6.1						

IDC 16 10:11:26.1±2.4, 1°.90S×99°.07E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=91.5km s-min=24.4km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.67**	**358**	Pn	Pn	10 12 38.3	+0.2
	1.3nm,0.3s,baz=278,slow=14,SNR=3.0						
CMAR	**Chiang Mai Arr**	**20.23**	**360**	P	P	10 16 03.5	+0.6
	0.9nm,0.4s,baz=192,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**38.85**	**120**	P	P	10 18 53.0	-0.4
	0.5nm,0.6s,baz=302,slow=9.0,SNR=12						
SONM	**Songino Array**	**49.94**	**6**	P	P	10 20 21.0	-0.9
	0.2nm,0.3s,baz=165,slow=6.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**56.90**	**350**	P	P	10 21 11.8	-1.0
	0.8nm,0.5s,baz=166,slow=7.4,SNR=3.1						
CPUP	**Villa Florida**	**143.84**	**218**	PKP	PKPdf	10 31 04.7	+0.4
	0.8nm,0.5s,baz=142,slow=5.8,SNR=2.9						
TXAR	**Lajitas Array**	**145.18**	**36**	PKPbc	PKPdf	10 31 06.5	-0.1
	0.5nm,0.6s,baz=291,slow=2.9,SNR=8.7						

*IDC **16** 10:13:10.7±0.9, 1°.85S×99°.17E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/27, mbtmp3.8/13, ML3.2/1, Error ellipse: s-maj=38.6km s-min=17.5km az=52.0*
*NEIC **16** 10:13:11.6±0.5, 1°.98S×99°.10E, h10km, mb4.5/1, Error ellipse: s-maj=15.8km s-min=9.0km az=69.0*
*ISCJB **16** 10:13:13.5±0.7, 1°.87S±0°.09×99°.2E±0°.1, h33km, mb3.9/13, Error ellipse: s-maj=19.3km s-min=11.2km az=155.7*
ISC 16 10:13:16.0±0.8, 1°.8S±0°.1×99°.2E±0°.2, h35km, n36, σ0°.78/39, mb3.8/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.61**	**357**	Pn	**Pn**	**10 14 22.5**	**-0.9**
PSI	**Prapat**	**4.61**	**357**	Pn	**Pn**	**10 14 22.5**	**-0.9**
	1.3nm,0.3s,baz=143,slow=10,SNR=2.9						
IPM	**Ipoh**	**6.54**	**16**	*e*Pn	Pn	10 14 52.0	+2.3
KULM	**Kulim**	**7.23**	**12**	*e*Pn	**Pn**	**10 15 00.5**	**+1.3**
WRA	**Warramunga Arr**	**38.78**	**120**	P	**P**	**10 20 36.5**	**-1.1**
WRA				PcP	**PcP**	**10 22 49.7**	**+0.9**
WRA	**Warramunga Arr**	**38.78**	**120**	P	**P**	**10 20 36.5**	**-1.1**
	0.5nm,0.5s,baz=304,slow=9.0,SNR=9.2						
WRA				PcP	**PcP**	**10 22 49.7**	**+0.9**
	0.1nm,0.4s,baz=312,slow=2.4,SNR=3.3						
WRAB	**Tennant Creek**	**38.79**	**120**	*e*P	**P**	**10 20 36.7**	**-1.0**
	17nm,1.4s						
ASAR	**Alice Springs**	**40.01**	**126**	P	**P**	**10 20 47.4**	**-0.5**
ASAR	**Alice Springs**	**40.01**	**126**	P	**P**	**10 20 47.4**	**-0.5**
	0.4nm,0.5s,baz=304,slow=8.6,SNR=4.4						
KSAR	**Wonju Array Be**	**47.27**	**31**	P	**P**	**10 21 46.6**	**+0.6**
KSRS	**Korea Array**	**47.30**	**31**	P	**P**	**10 21 46.6**	**+0.4**
	0.6nm,0.8s,baz=228,slow=6.0,SNR=2.6						
SONM	**Songino Array**	**49.87**	**6**	P	**P**	**10 22 05.4**	**-0.6**
SONM				PcP	**PcP**	**10 23 26.6**	**+0.4**
SONM	**Songino Array**	**49.87**	**6**	P	**P**	**10 22 05.4**	**-0.6**
	0.5nm,0.6s,baz=185,slow=8.4,SNR=3.8						
SONM				PcP	**PcP**	**10 23 26.6**	**+0.4**
	0.4nm,0.4s,baz=177,slow=2.7,SNR=3.2						
MK31	**Makanchi Array**	**50.66**	**345**	*e*P	**P**	**10 22 11.1**	**-0.8**
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**10 22 11.7**	**-0.2**
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**10 22 11.7**	**-0.2**
	0.7nm,0.4s,baz=144,slow=8.5,SNR=6.7						
KURBB	**Kurchatov Arra**	**55.16**	**344**	P	**P**	**10 22 43.8**	**-1.2**
	0.5nm,0.5s,baz=168,slow=8.1,SNR=5.2						
KURK	**Kurchatov**	**55.22**	**344**	P	**P**	**10 22 43.8**	**-1.6**
ZALV	**Zalesovo Beam**	**56.86**	**350**	P	**P**	**10 22 56.1**	**-0.9**
ZALV	**Zalesovo Beam**	**56.86**	**350**	P	**P**	**10 22 56.1**	**-0.9**
	3.0nm,0.7s,baz=167,slow=5.9,SNR=6.9						
KBZ	**Khabaz**	**67.65**	**319**	P	**P**	**10 24 10.7**	**+1.2**
KBZ	**Khabaz**	**67.65**	**319**	P	**P**	**10 24 10.7**	**+1.2**
	1.2nm,0.6s,baz=114,slow=5.6,SNR=4.2						
BRTR	**Keskin Array B**	**72.61**	**313**	P	**P**	**10 24 39.8**	**-0.5**
BRTR	**Keskin Array B**	**72.61**	**313**	P	**P**	**10 24 39.8**	**-0.5**
	0.7nm,0.7s,baz=120,slow=7.3,SNR=3.7						
FINES	**FINESS Array B**	**83.59**	**332**	P	**P**	**10 25 40.9**	**+0.5**
FINES	**FINESS Array B**	**83.59**	**332**	P	**P**	**10 25 40.9**	**+0.5**
	1.2nm,0.6s,baz=109,slow=4.9,SNR=9.9						
GERES	**GERESS Array B**	**88.39**	**319**	P	**P**	**10 26 05.3**	**+0.8**
GERES	**GERESS Array B**	**88.39**	**319**	P	**P**	**10 26 05.3**	**+0.8**
	0.3nm,0.6s,baz=136,slow=4.6,SNR=3.8						
SPITS	**Spitsbergen Ar**	**90.31**	**348**	P	**P**	**10 26 12.7**	**-0.1**
SPITS	**Spitsbergen Ar**	**90.31**	**348**	P	**P**	**10 26 12.7**	**-0.1**
	1.3nm,0.6s,baz=96,slow=7.8,SNR=5.2						
CPUP	**Villa Florida**	**143.96**	**217**	PKP	**PKPdf**	**10 32 49.0**	**+0.3**
CPUP	**Villa Florida**	**143.96**	**217**	PKP	**PKPdf**	**10 32 49.0**	**+0.3**
	1.9nm,0.7s,baz=86,slow=3.3,SNR=6.6						
TXAR	**Lajitas Array**	**145.06**	**36**	PKPbc	**PKPdf**	**10 32 50.4**	**-0.2**
TXAR	**Lajitas Array**	**145.06**	**36**	PKPbc	**PKPdf**	**10 32 50.4**	**-0.2**
	0.9nm,0.4s,baz=282,slow=2.4,SNR=24						
MIAR	**Mount Ida**	**145.35**	**19**	*e*PKPdf	**PKPbc**	**10 32 50.3**	**-0.3**
JCT	**Junction City**	**146.30**	**30**	*e*PKPbc	**PKPbc**	**10 32 53.5**	**-0.3**

IDC 16 10:16:46.4±4.9, 0°.56S×100°.72E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=265.5km s-min=28.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.12**	**122**	P	P	10 24 08.1	+0.6
	0.3nm,0.6s,baz=300,slow=8.8,SNR=6.0						
ASAR	**Alice Springs**	**39.54**	**128**	P	P	10 24 18.7	-0.7
	0.3nm,0.6s,baz=306,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**49.85**	**343**	P	P	10 25 41.5	+0.2
	0.7nm,0.6s,baz=147,slow=8.1,SNR=5.5						
TXAR	**Lajitas Array**	**143.12**	**37**	PKP	PKPbc	10 36 20.8	+0.7
	0.3nm,0.6s,baz=235,slow=2.3,SNR=5.0						

*IDC **16** 10:17:31.6±0.6, 1°.52S×99°.53E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.1/28, mbtmp4.1/18, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/58, Error ellipse: s-maj=23.5km s-min=14.4km az=61.0*
*ISCJB **16** 10:17:34.0±0.6, 1°.47S±0°.08×99°.6E±0°.1, h30km, mb4.2/17, Error ellipse: s-maj=16.4km s-min=9.8km az=156.3*
*NEIC **16** 10:17:35.4±3.8, 1°.54S×99°.52E, h26km±26km, mb4.4/2, Error ellipse: s-maj=18.2km s-min=9.1km az=55.0*
ISC 16 10:17:35.9±0.6, 1°.52S±0°.09×99°.4E±0°.1, h30km, n49, σ0°.95/53, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.33**	**353**	Pn	**Pn**	**10 18 38.2**	**-1.6**
PSI	**Prapat**	**4.33**	**353**	Pn	**Pn**	**10 18 38.2**	**-1.6**
	1.3nm,0.3s,baz=151,slow=10,SNR=2.9						
PSI				LR	LR	10 20 04.9	
	comp=Z,693nm,20.8s,baz=171,slow=36						
IPM	**Ipoh**	**6.17**	**15**	*e*Pn	**Pn**	**10 19 07.7**	**+2.6**
	15nm,0.6s						
KULM	**Kulim**	**6.88**	**10**	*e*Pn	**Pn**	**10 19 14.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P	**P**	**10 22 03.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P	**P**	**10 22 03.9**	**-0.9**
	0.1nm,0.3s,baz=190,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**38.73**	**121**	P	**P**	**10 24 55.5**	**-2.3**
WRA	**Warramunga Arr**	**38.73**	**121**	P	**P**	**10 24 55.5**	**-2.3**
	2.0nm,0.5s,baz=303,slow=8.9,SNR=34						
WRAB	**Tennant Creek**	**38.73**	**121**	*e*P	**P**	**10 24 56.4**	**-1.5**
	4.3nm,0.7s						
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**10 25 08.0**	**-0.3**
ASAR				PcP	**PcP**	**10 27 13.1**	**-0.2**
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**10 25 08.0**	**-0.3**
	2.6nm,0.5s,baz=303,slow=8.0,SNR=22						
ASAR				PcP	**PcP**	**10 27 13.1**	**-0.2**
	1.1nm,0.9s,baz=299,slow=2.5,SNR=4.9						
KSAR	**Wonju Array Be**	**46.88**	**31**	P	**P**	**10 26 02.6**	**-0.9**
KSRS	**Korea Array**	**46.91**	**31**	P	**P**	**10 26 02.6**	**-1.1**
	1.5nm,0.7s,baz=222,slow=8.9,SNR=8.2						
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**10 26 24.4**	**+0.3**
SONM				PcP	**PcP**	**10 27 45.5**	**-0.1**
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**10 26 24.4**	**+0.3**
	0.8nm,0.4s,baz=192,slow=8.8,SNR=7.8						
SONM				PcP	**PcP**	**10 27 45.5**	**-0.1**
	1.0nm,0.6s,baz=179,slow=5.2,SNR=4.7						
STKA	**Stephens Creek**	**49.89**	**132**	*e*P	**P**	**10 26 27.8**	**+0.8**
	4.8nm,1.3s						
STKA	**Stephens Creek**	**49.89**	**132**	P	**P**	**10 26 27.0**	**+0.1**
	8.4nm,1.0s,baz=318,slow=19,SNR=4.6						
MKAR	**Makanchi Array**	**50.42**	**345**	P	**P**	**10 26 31.4**	**+0.7**
MKAR	**Makanchi Array**	**50.42**	**345**	P	**P**	**10 26 31.4**	**+0.7**
	1.1nm,0.4s,baz=157,slow=8.4,SNR=14						
OPO	**Ambohidratompo**	**53.91**	**248**	P	**P**	**10 26 57.5**	**+0.1**
OPO	**Ambohidratompo**	**53.91**	**248**	P	**P**	**10 26 57.5**	**+0.1**
	2.6nm,0.8s,baz=70,slow=14,SNR=6.3						
USRK	**Ussuriysk Arra**	**54.02**	**29**	P	**P**	**10 26 57.0**	**-0.4**
	2.6nm,0.5s,baz=239,slow=5.3,SNR=6.8						
KURBB	**Kurchatov Arra**	**54.94**	**344**	P	**P**	**10 27 03.8**	**-0.1**
	0.9nm,0.7s,baz=162,slow=7.2,SNR=6.3						
KURK	**Kurchatov**	**54.99**	**344**	P	**P**	**10 27 03.8**	**-0.6**
ZALV	**Zalesovo Beam**	**56.60**	**350**	P	**P**	**10 27 16.1**	**+0.2**
ZALV	**Zalesovo Beam**	**56.60**	**350**	P	**P**	**10 27 16.1**	**+0.2**
	1.7nm,0.3s,baz=149,slow=6.1,SNR=7.6						
BVAR	**Borovoye Array**	**59.54**	**340**	P	**P**	**10 27 37.1**	**+0.6**
BVAR	**Borovoye Array**	**59.54**	**340**	P	**P**	**10 27 37.1**	**+0.6**
	0.7nm,0.6s,baz=138,slow=7.1,SNR=4.4						
KBZ	**Khabaz**	**67.58**	**319**	P	**P**	**10 28 30.4**	**+0.7**
KBZ	**Khabaz**	**67.58**	**319**	P	**P**	**10 28 30.4**	**+0.7**
	1.4nm,0.8s,baz=168,slow=8.4,SNR=4.1						
BRTR	**Keskin Array B**	**72.58**	**313**	P	**P**	**10 29 00.2**	**-0.6**
BRTR	**Keskin Array B**	**72.58**	**313**	P	**P**	**10 29 00.2**	**-0.6**
	0.4nm,0.4s,baz=108,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**83.43**	**332**	P	**P**	**10 30 01.0**	**+0.7**
FINES	**FINESS Array B**	**83.43**	**332**	P	**P**	**10 30 01.0**	**+0.7**
	5.2nm,1.0s,baz=108,slow=6.2,SNR=11						
ARCES	**ARCESS Array B**	**85.83**	**340**	P	**P**	**10 30 14.1**	**+1.7**
ARCES	**ARCESS Array B**	**85.83**	**340**	P	**P**	**10 30 14.1**	**+1.7**
	0.9nm,0.7s,baz=94,slow=5.7,SNR=5.9						
GERES	**GERESS Array B**	**88.32**	**319**	P	**P**	**10 30 25.6**	**+0.7**
GERES	**GERESS Array B**	**88.32**	**319**	P	**P**	**10 30 25.6**	**+0.7**
	0.3nm,0.6s,baz=114,slow=4.8,SNR=3.3						
PDAR	**Pinedale Array**	**131.44**	**28**	PKP	**PKPdf**	**10 36 47.0**	**+0.8**
PDAR	**Pinedale Array**	**131.44**	**28**	PKP	**PKPdf**	**10 36 47.0**	**+0.8**
	0.2nm,0.5s,baz=22,slow=3.4,SNR=3.3						
CPUP	**Villa Florida**	**144.36**	**217**	PKP	**PKPdf**	**10 37 09.5**	**-0.5**
CPUP	**Villa Florida**	**144.36**	**217**	PKP	**PKPdf**	**10 37 09.5**	**-0.5**
	4.7nm,0.8s,baz=117,slow=3.2,SNR=8.6						
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	**PKPdf**	**10 37 10.2**	**-0.4**
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	**PK

CMAR				PcP	**PcP**	**10 30 32.9 +1.4**
CMAR	**Chiang Mai Arr**	**19.87**	**359**	P	**P**	**10 26 13.8 -0.9**
	0.9nm,0.3s,baz=187,slow=10,SNR=42					
CMAR				PcP	**PcP**	**10 30 32.9 +1.4**
	baz=218,slow=3.4,SNR=7.8					
LAMP	**Lampang**	**19.93**	**1**	P	**Pn**	**10 26 17.4 +0.2**
	16nm,1.2s,152nm					
MYLDM	**Lahad Datu**	**20.20**	**71**	P	Pn	10 26 19.5 -0.9
CMMT	**Chiang Mai**	**20.23**	**359**	P	**P**	**10 26 17.2 -1.4**
	26nm,1.1s					
CHTO	**Chiang Mai**	**20.23**	**359**	*e*P	**P**	**10 26 17.6 -1.0**
CHTO				pmax	pmax	
	comp=Z,29nm,1.1s					
CHTO	**Chiang Mai**	**20.23**	**359**	*e*P	**P**	**10 26 17.6 -1.0**
	comp=Z,29nm,1.1s					
CHTO	**Chiang Mai**	**20.23**	**359**	P	**P**	**10 26 19.3 +0.7**
	comp=Z,16nm,1.2s					
KAPI	**Kappang**	**20.60**	**100**	*e*P	**P**	**10 26 23.1 +0.4**
	comp=Z,53nm,0.9s					
KAPI	**Kappang**	**20.60**	**100**	P	**P**	**10 26 22.4 -0.2**
	comp=Z,8.3nm,0.5s,baz=84,slow=5.9,SNR=9.9					
PALK	**Pallekele**	**20.61**	**295**	*e*P	**P**	**10 26 23.9 +1.0**
	comp=Z,66nm,1.3s					
PAYA	**Payao**	**20.77**	**1**	P	Pn	10 26 27.6 +0.6
	comp=Z,8μm,0.8s,comp=Z,323μm					
CMAI	**Chiengmai2**	**21.34**	**359**	P	**P**	**10 26 34.1 +3.4**
	comp=Z,58nm,1.2s					
QIZ	**Qiongzhong**	**22.86**	**26**	P	**P**	**10 26 46.8 -0.1**
QIZ				S	**S**	**10 30 55.5 +1.2**
QIZ				pmax	pmax	
	comp=Z,11nm,1.3s					
QIZ				LR	LR	
	comp=N,740nm,16.8s					
QIZ				LR	LR	
	comp=Z,2μm,17.6s					
QIZ	**Qiongzhong**	**22.86**	**26**	*e*P	**P**	**10 26 47.1 +0.2**
	comp=Z,17nm,1.1s					
KMI	**Kunming**	**26.70**	**7**	P	**P**	**10 27 25.8 +3.1**
KMI				sP	**sP**	**10 27 39.9 +3.2**
KMI				pmax	pmax	
	comp=Z,13nm,0.6s					
SHL	**Shillong**	**27.91**	**345**	*e*P	**P**	**10 27 33.0 -0.5**
GYA	**Guiyang**	**28.70**	**14**	*e*P	P	10 27 44.3 +3.8
GYA				pP	pP	10 27 52.0 +1.6
GYA				PP	**PnPn**	**10 28 35.4 +3.6**
GYA				PcP	**PcP**	**10 30 52.6 +2.0**
GYA				S	**S**	**10 32 27.1 -0.4**
GYA				sS	sS	10 32 44.4 +0.6
GYA				SS	**SnSn**	**10 33 56.8 +6.9**
GYA				ScP	**ScP**	**10 34 29.8 +0.3**
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
GYA				pmax	pmax	
	comp=Z,80nm,4.3s					
GYA				LR	LR	
	comp=N,510nm,16.6s					
GYA				LR	LR	
	comp=E,470nm,17.0s					
GYA				LR	LR	
	comp=Z,530nm,17.2s					
FITZ	**Fitzroy Crossi**	**30.56**	**124**	P	**P**	**10 27 55.5 -1.4**
FITZ	**Fitzroy Crossi**	**30.56**	**124**	P	**P**	**10 27 55.5 -1.4**
	comp=Z,15nm,0.9s,baz=297,slow=6.1,SNR=20					
FITZ	**Fitzroy Crossi**	**30.56**	**124**	P	**P**	**10 27 55.8 -1.1**
	baz=31,SNR=11					
MEEK	**Meekatharra**	**31.04**	**145**	P	**P**	**10 28 02.0 +0.9**
	baz=31,SNR=5.0					
JIRN	**Jiri**	**31.69**	**337**	*e*P	**P**	**10 28 07.8 +0.6**
	comp=Z,123nm,0.8s					
LSA	**Lhasa**	**32.05**	**346**	P	**P**	**10 28 10.4 -0.1**
LSA	**Lhasa**	**32.05**	**346**	*e*P	**P**	**10 28 10.3 -0.1**
LSA				pmax	pmax	
	comp=Z,47nm,1.0s					
LSA	**Lhasa**	**32.05**	**346**	*e*P	**P**	**10 28 10.3 -0.1**
	comp=Z,47nm,1.0s					
DMN	**Daman**	**32.08**	**336**	*e*P	**P**	**10 28 13.6 +3.1**
	comp=Z,67nm,1.2s					
TWG	**Pinlang**	**32.12**	**40**	*e*P	**P**	**10 28 11.0 +0.3**
	comp=Z,39nm,0.4s					
KNRA	**Kununurra**	**32.17**	**118**	P	**P**	**10 28 08.7 -2.5**
	baz=32,SNR=3.9					
TPUB	**Ta-pu**	**32.19**	**39**	*e*P	**P**	**10 28 10.6 -0.6**
	comp=Z,41nm,1.0s					
CD2	**Chengdu**	**32.53**	**7**	*e*P	**P**	**10 28 16.8 +2.6**
CD2				pP	**pP**	**10 28 26.8 +2.7**
CD2				sP	**sP**	**10 28 31.0 +2.7**
CD2				PP	**PP**	**10 29 26.4 -1.7**
CD2				S	**S**	**10 33 29.4 +2.1**
CD2				sS	**sS**	**10 33 46.4 +2.7**
CD2				pmax	pmax	
	comp=Z,20nm,0.6s					
CD2				pmax	pmax	
	comp=Z,150nm,6.2s					
CD2				LR	LR	
	comp=N,2μm,15.6s					
CD2				LR	LR	
	comp=E,2μm,17.8s					
CD2				LR	LR	
	comp=Z,2μm,20.2s					
YULB	**Yu-li**	**32.68**	**39**	*e*P	**P**	**10 28 14.2 -1.3**
	comp=Z,9.9nm,0.9s					
SSLB	**Suanglung**	**32.75**	**38**	*e*P	**P**	**10 28 15.7 -0.5**
	comp=Z,38nm,1.2s					
KOLN	**Koldanda**	**32.87**	**334**	*e*P	**P**	**10 28 17.9 +0.6**
	comp=Z,90nm,0.8s					
ENH	**Enshi**	**33.06**	**16**	*e*P	**P**	**10 28 16.5 -2.3**
	comp=Z,9.7nm,0.6s					
DANN	**Dangsing**	**33.30**	**334**	*e*P	P	10 28 13.1 -8.1
	comp=Z,101nm,0.9s					
MTN	**Manton Dam**	**33.37**	**111**	S	S	10 33 58.3 +18
	baz=33,SNR=4.1					
NACB	**Ninganchiao**	**33.43**	**39**	*e*P	**P**	**10 28 21.5 -0.5**
	comp=Z,20nm,1.0s					
YHNB	**Yeheng**	**33.66**	**38**	*e*P	**P**	**10 28 23.5 -0.6**
	comp=Z,33nm,1.3s					
NWAO	**Narrogin (SRO)**	**35.44**	**154**	P	**P**	**10 28 40.1 +0.8**
NWAO	**Narrogin (SRO)**	**35.44**	**154**	P	**P**	**10 28 40.1 +0.8**
	comp=Z,13nm,0.8s,baz=332,slow=6.3,SNR=4.7					
XAN	**Xi'an**	**36.50**	**13**	P	P	10 28 45.3 -3.2
XAN				pmax	pmax	
	comp=Z,4.0nm,0.6s					
NJ2	**Nanjing**	**38.15**	**27**	*e*P	**P**	**10 29 04.1 +1.7**
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
WRA	**Warramunga Arr**	**38.73**	**121**	P	**P**	**10 29 06.0 -1.6**
WRA				PcP	**PcP**	**10 31 19.1 +0.2**
WRA				S	**S**	**10 35 00.6 -2.2**
WRA	**Warramunga Arr**	**38.73**	**121**	P	**P**	**10 29 06.0 -1.6**
	comp=Z,15nm,0.6s,baz=300,slow=9.1,SNR=123					
WRA				PcP	**PcP**	**10 31 19.1 +0.2**
	comp=Z,3.0nm,0.5s,baz=315,slow=2.6,SNR=11					
WRA				S	**S**	**10 35 00.6 -2.2**
	comp=Z,2.2nm,1.0s,baz=292,slow=16,SNR=5.2					
WRAB	**Tennant Creek**	**38.74**	**121**	*e*P	**P**	**10 29 06.3 -1.3**
WRAB				pmax	pmax	
	comp=Z,13nm,0.5s					
WRAB	**Tennant Creek**	**38.74**	**121**	*e*P	**P**	**10 29 06.3 -1.3**
	comp=Z,13nm,0.5s					
JOW	**Kunigami**	**39.62**	**43**	*e*P	**P**	**10 29 13.8 -1.1**
	comp=Z,2.2nm,0.6s					
FORT	**Forrest**	**39.77**	**140**	P	**P**	**10 29 17.3 +1.2**
	baz=40,SNR=7.5					
AS31	**Alice Springs**	**40.00**	**126**	*e*P	**P**	**10 29 16.6 -1.5**
ASAR	**Alice Springs**	**40.00**	**126**	P	**P**	**10 29 17.4 -0.8**
ASAR				PcP	**PcP**	**10 31 23.7 +0.7**
ASAR				S	**S**	**10 35 20.2 -1.5**
ASAR	**Alice Springs**	**40.00**	**126**	P	**P**	**10 29 17.4 -0.8**
	comp=Z,8.7nm,0.8s,baz=301,slow=7.7,SNR=52					
ASAR				PcP	**PcP**	**10 31 23.7 +0.7**
	comp=Z,4.7nm,0.6s,baz=305,slow=2.5,SNR=9.9					
ASAR				S	**S**	**10 35 20.2 -1.5**
	comp=Z,6.3nm,1.1s,baz=297,slow=14,SNR=16					
GTA	**Gaotai**	**40.75**	**0**	*e*P	**P**	**10 29 24.8 +0.6**
GTA				pP	**pP**	**10 29 32.3 -2.0**
GTA				sP	**sP**	**10 29 35.5 -2.9**
GTA				PcP	**PcP**	**10 31 25.6 +0.5**
GTA				S	**S**	**10 35 33.0 +0.4**
GTA				pmax	pmax	
	comp=Z,9.0nm,1.4s					
GTA				LR	LR	
	comp=N,880nm,17.6s					
GTA				LR	LR	
	comp=E,1μm,17.6s					
GTA				LR	LR	
	comp=Z,1μm,20.4s					
HHC	**Hu-ho-hao-te**	**43.62**	**13**	*e*P	**P**	**10 29 48.9 +1.4**

HHC				PP	**PcP**	**10 31 33.3 -1.3**
HHC				ScP	**ScP**	**10 35 24.0 +0.3**
HHC				PcS	**PcS**	**10 35 27.8 +0.4**
HHC				S	**S**	**10 36 17.0 +2.2**
HHC				sS	**sS**	**10 36 33.9 +2.3**
HHC				ScS	**ScS**	**10 39 43.8 -0.8**
HHC				pmax	pmax	
	comp=Z,33nm,0.7s					
HHC				pmax	pmax	
	comp=Z,1μm,5.7s					
HHC				LR	LR	
	comp=N,860nm,17.5s					
HHC				LR	LR	
	comp=E,760nm,17.5s					
HHC				LR	LR	
	comp=Z,830nm,17.1s					
BJT	**Baijiatuau**	**44.11**	**19**	*e*P	**P**	**10 29 49.9 -1.4**
	comp=Z,24nm,0.8s					
JNU	**Nakatsue**	**45.49**	**38**	*e*P	**P**	**10 30 01.1 -1.4**
	comp=Z,13nm,0.9s					
JNU	**Nakatsue**	**45.49**	**38**	P	**P**	**10 30 00.5 -2.0**
	comp=Z,24nm,0.9s,baz=224,slow=0.9,SNR=13					
KBL	**Kabul**	**45.82**	**324**	*e*P	**P**	**10 30 04.7 -0.6**
KBL				pmax	pmax	
	comp=Z,6.0nm,0.4s					
KBL	**Kabul**	**45.82**	**324**	*e*P	**P**	**10 30 04.7 -0.6**
	comp=Z,6.0nm,0.4s					
KSH	**Kashi**	**46.16**	**335**	*e*P	**P**	**10 30 11.0 +3.2**
KSH				sP	**sP**	**10 30 24.1 +2.0**
KSH				PP	**PP**	**10 31 59.0 +2.4**
KSH				S	**S**	**10 36 54.8 +2.9**
KSH				sS	**sS**	**10 37 10.6 +1.9**
KSH				pmax	pmax	
	comp=Z,10.0nm,0.4s					
KSH				pmax	pmax	
	comp=Z,250nm,9.5s					
KSH				LR	LR	
	comp=N,1μm,18.0s					
KSH				LR	LR	
	comp=E,920nm,17.1s					
KSH				LR	LR	
	comp=Z,950nm,18.7s					
WMQ	**Urumqi**	**46.36**	**348**	P	**P**	**10 30 09.8 +0.6**
WMQ				pP	**pP**	**10 30 16.8 -2.6**
WMQ				PcP	**PcP**	**10 31 45.9 +2.0**
WMQ				PP	**PP**	**10 31 57.6 -1.0**
WMQ				S	**S**	**10 36 53.8 -0.6**
WMQ				sS	**sS**	**10 37 09.8 -1.4**
WMQ				pmax	pmax	
	comp=Z,51nm,1.0s					
BBOO	**Buckleboo**	**46.39**	**136**	P	**P**	**10 30 09.9 +0.3**
	baz=46,SNR=5.9					
KSAR	**Wonju Array Be**	**46.90**	**31**	P	**P**	**10 30 11.9 -1.5**
KSAR				PcP	**PcP**	**10 31 45.9 0.0**
KSRS	**Korea Array**	**46.93**	**31**	P	**P**	**10 30 11.9 -1.7**
	comp=Z,7.3nm,0.8s,baz=224,slow=8.4,SNR=38					
KSRS				PcP	**PcP**	**10 31 45.9 0.0**
	comp=Z,3.0nm,0.9s,baz=232,slow=3.9,SNR=5.6					
MTSU	**Mount Surprise**	**47.04**	**113**	P	**P**	**10 30 13.8 -1.1**
	baz=47,SNR=4.7					
TKM2	**Tokmak 2**	**49.18**	**337**	*i* P	**P**	**10 30 31.6 +0.4**
TKM2	**Tokmak 2**	**49.18**	**337**	P	**P**	**10 30 31.6 +0.4**
	SNR=14					
TKM2	**Tokmak 2**	**49.18**	**337**	*e*P	**P**	**10 30 31.3 0.0**
	comp=Z,29nm,0.9s					
KBK	**Karagaybulak**	**49.21**	**336**	*i* P	**P**	**10 30 32.9 +1.4**
KBK	**Karagaybulak**	**49.21**	**336**	P	**P**	**10 30 32.9 +1.4**
	SNR=6.0					
AML	**Almayashu**	**49.30**	**335**	*i* P	**P**	**10 30 32.9 +0.5**
AML	**Almayashu**	**49.30**	**335**	P	**P**	**10 30 32.9 +0.5**
	SNR=11					
CTA	**Charters Tower**	**49.33**	**115**	PcP	**PcP**	**10 31 55.3 +0.3**
CTA	**Charters Tower**	**49.33**	**115**	PcP	**PcP**	**10 31 55.3 +0.3**
	baz=256,slow=3.2					
CTAO	**Charters Tower**	**49.33**	**115**	*e*P	**P**	**10 30 31.0 -1.6**
CTAO				pmax	pmax	
	comp=Z,10.0nm,1.1s					
CTAO	**Charters Tower**	**49.33**	**115**	*e*P	**P**	**10 30 31.0 -1.6**
	comp=Z,9.9nm,1.1s					
AAK	**Ala-Archa**	**49.38**	**336**	⇓*i*P	**P**	**10 30 33.2 +0.5**
AAK				pmax	pmax	
	comp=Z,69nm,2.5s					
AAK	**Ala-Archa**	**49.38**	**336**	*e*P	**P**	**10 30 33.0 +0.3**
	comp=Z,24nm,1.3s					
AAK	**Ala-Archa**	**49.38**	**336**	P	**P**	**10 30 32.9 +0.2**
	comp=Z,5.0nm,0.7s,baz=140,slow=5.1,SNR=9.8					
FRU	**Bishkek**	**49.49**	**336**	*e*P	**P**	**10 30 33.0 -0.5**
FRU				pmax	pmax	
	comp=Z,30nm,1.0s					
SONM	**Songino Array**	**49.55**	**6**	P	**P**	**10 30 33.1 -0.8**
SONM				PcP	**PcP**	**10 31 55.3 0.0**
SONM	**Songino Array**	**49.55**	**6**	P	**P**	**10 30 33.1 -0.8**
	comp=Z,6.0nm,0.6s,baz=188,slow=8.5,SNR=40					
SONM				PcP	**PcP**	**10 31 55.3 0.0**
	comp=Z,5.6nm,0.7s,baz=190,slow=3.8,SNR=5.6					
CHMS	**Chumysh**	**49.58**	**336**	*i* P	**P**	**10 30 34.1 0.0**
CHMS	**Chumysh**	**49.58**	**336**	P	**P**	**10 30 34.1 0.0**
	SNR=5.6					
ULN	**Ulaanbaatar**	**49.65**	**7**	*e*P	**P**	**10 30 34.0 -0.7**
	comp=Z,14nm,1.0s					
EKS2	**Erkin-Say**	**49.70**	**335**	*e*P	**P**	**10 30 35.5 +0.3**
EKS2				pmax	pmax	
	comp=Z,73nm,0.6s					
EKS2	**Erkin-Say**	**49.70**	**335**	P	**P**	**10 30 35.9 +0.7**
	SNR=22					
EKS2	**Erkin-Say**	**49.70**	**335**	*e*P	**P**	**10 30 35.5 +0.3**
	comp=Z,72nm,0.6s					
STKA	**Stephens Creek**	**49.90**	**132**	*e*P	**P**	**10 30 36.8 +0.2**
	comp=Z,4.8nm,0.9s					
STKA	**Stephens Creek**	**49.90**	**132**	P	**P**	**10 30 37.1 +0.4**
	comp=Z,18nm,0.8s,baz=311,slow=7.0,SNR=19					
STKA	**Stephens Creek**	**49.90**	**132**	P	**P**	**10 30 36.9 +0.2**
	baz=50,SNR=8.7					
USP	**Ospenovka**	**49.90**	**336**	*i* P	**P**	**10 30 36.7 +0.1**
USP	**Ospenovka**	**49.90**	**336**	P	**P**	**10 30 36.7 +0.1**
	SNR=26					
MK31	**Makanchi Array**	**50.43**	**345**	*ce*P	**P**	**10 30 39.8 -0.7**
MK31				pmax	pmax	
	comp=Z,25nm,0.6s					
MK31	**Makanchi Array**	**50.43**	**345**	*e*P	**P**	**10 30 40.0 -0.5**
MKAR	**Makanchi Array**	**50.43**	**345**	*e*P	**P**	**10 30 40.3 -0.2**
MKAR	**Makanchi Array**	**50.43**	**345**	*e*P	**P**	**10 30 40.3 -0.2**
MKAR	**Makanchi Array**	**50.43**	**345**	P	**P**	**10 30 40.2 -0.2**
	comp=Z,27nm,0.7s,baz=150,slow=8.0,SNR=236					
CN2	**Changchun**	**50.80**	**24**	*e*P	**P**	**10 30 41.5 -1.8**
CN2				*e*pP	**pP**	**10 30 49.3 -4.3**
CN2				*e*S	**S**	**10 37 54.5 -2.4**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
KK31	**Karatay Array**	**51.48**	**333**	*ce*P	**P**	**10 30 47.7 -0.7**
KK31				pmax	pmax	
	comp=Z,2.0nm,0.4s					
KKAR	**Karatay Array**	**51.48**	**333**	*e*P	**P**	**10 30 48.1 -0.3**
KKAR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
KKAR	**Karatay Array**	**51.48**	**333**	*e*P	**P**	**10 30 48.1 -0.3**
	comp=Z,1.9nm,0.5s					
ZAK	**Zakamensk**	**51.83**	**3**	*e*P	**P**	**10 30 49.8 -1.2**
ZAK				*e*		10 32 03.0
ZAK				pmax	pmax	
	comp=Z,3.0nm,1.7s					
MAT	**Matsushiro**	**52.29**	**40**	P	**P**	**10 30 52.1 -2.5**
MJAR	**Matsushiro Arr**	**52.29**	**40**	P	**P**	**10 30 52.4 -2.3**
MJAR	**Matsushiro Arr**	**52.29**	**40**	P	**P**	**10 30 52.4 -2.3**
	comp=Z,2.2nm,0.8s,baz=228,slow=7.7,SNR=8.5					
ARPS	**Mount Arapiles**	**52.53**	**137**	P	**P**	**10 30 58.9 +2.5**
	baz=53,SNR=5.2					
HVS	**Khovu-Aksy**	**52.70**	**355**	⇓*i*P	**P**	**10 30 56.8 -0.6**
HVS				pmax	pmax	
	comp=Z,38nm,1.3s					
CMSA	**Cobar Meteorol**	**52.86**	**129**	P	**P**	**10 30 59.3 +0.4**
	baz=53,SNR=25					
RMQ	**Roma**	**53.45**	**122**	P	**P**	**10 31 04.0 +0.5**
	baz=54,SNR=6.5					
USRK	**Ussuriysk Arra**	**54.03**	**29**	P	**P**	**10 31 06.0 -1.3**
	comp=Z,14nm,0.7s,baz=228,slow=5.7,SNR=31					
KURBB	**Kurchatov Arra**	**54.94**	**344**	P	**P**	**10 31 13.3 -0.4**
	comp=Z,14nm,0.8s,baz=163,slow=7.1,SNR=60					
KURK	**Kurchatov**	**55.00**	**344**	P	**P**	**10 31 13.3 -0.8**
KURK	**Kurchatov**	**55.00**	**344**	P	**P**	**10 31 13.3 -0.8**
YNG	**Young**	**56.08**	**131**	P	**P**	**10 31 23.1 +0.8**
	baz=56,SNR=7.6					
ZAA0	**Zalesovo Array**	**56.61**	**350**	*e*P	**P**	**10 31 24.8 -0.9**
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	**P**	**10 31 25.1 -0.5**
ZALV				S	**S**	**10 39 14.9 -0.3**

ZALV	**Zalesovo Beam**	**56.61**	**350**	P	**P**	**10 31 25.1 -0.5**
ZALV				S	**S**	**10 39 14.9 -0.3**
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	**P**	**10 31 25.1 -0.5**
	comp=Z,31nm,0.8s,baz=164,slow=5.9,SNR=98					
ZALV				S	**S**	**10 39 14.9 -0.3**
	comp=Z,0.9nm,0.5s,baz=149,slow=12,SNR=3.7					
ARMA	**Armidale**	**57.15**	**126**	P	**P**	**10 31 31.2 +1.1**
	baz=57,SNR=5.9					
KRAR	**Krasnoyarsk**	**57.61**	**356**	⇑*e*P	**P**	**10 31 32.4 -0.2**
KRAR				pmax	pmax	
	comp=Z,34nm,0.5s					
NVS	**Novosibirsk**	**57.75**	**349**	*e*P	**P**	**10 31 32.4 -1.2**
NVS				*e*S	**S**	**10 39 30.5 +0.3**
NVS				pmax	pmax	
	comp=Z,23nm,1.1s					
NVS				pmax	pmax	
	comp=N,24nm,1.5s					
NVS				smax	smax	
	comp=N,58nm,3.0s					
RAYN	**Ar Rayn**	**58.00**	**299**	*e*P	**P**	**10 31 36.0 -0.1**
	comp=N,9.7nm,0.8s					
KBD	**Kabd**	**58.08**	**306**	*e*P	**P**	**10 31 36.1 -0.4**
KBD				AMb	AMB	10 31 37.6
	comp=Z,47nm,1.0s					
RDF	**Al-Radifah**	**58.10**	**306**	*e*P	**P**	**10 31 36.9 +0.2**
RDF				AMb	AMB	10 31 38.2
	comp=Z,83nm,1.0s					
UMR	**Umm Al-Rimmam**	**58.21**	**306**	*e*P	**P**	**10 31 37.0 -0.4**
UMR				AMb	AMB	10 31 38.4
	comp=Z,72nm,1.2s					
NAY	**Al-Naaiem**	**58.48**	**306**	*e*P	**P**	**10 31 38.7 -0.6**
NAY				AMb	AMB	10 31 39.6
	comp=Z,28nm,0.9s					
HABR	**Khabarovsk**	**58.62**	**27**	*ce*P	P	10 31 36.5 -3.3
HABR				*e**SP	sP	10 31 50.7 -3.7
HABR				*e*S	**S**	**10 39 38.1 -3.6**
HABR				*e*		10 39 50.4
HABR				*e*SS	**SS**	**10 43 31.3 -3.8**
HABR				pmax	pmax	
	comp=N,20nm,1.9s					
HABR				pmax	pmax	
	comp=Z,32nm,1.4s					
HABR				pmax	pmax	
	comp=E,34nm,1.4s					
HABR				MLR	MLR	
	comp=Z,568nm,16.0s					
VOSK	**Vostochnaya**	**59.10**	**340**	P	**P**	**10 31 40.7 -2.5**
VOSK				pmax	pmax	
	comp=Z,14nm,1.0s					
BVA0	**Borovoye Array**	**59.55**	**340**	P	**P**	**10 31 44.9 -1.4**
BVA0				pmax	pmax	
	comp=Z,8.0nm,0.7s					
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**10 31 45.1 -1.1**
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**10 31 45.1 -1.1**
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**10 31 45.1 -1.1**
	comp=Z,9.5nm,0.8s,baz=144,slow=8.6,SNR=43					
BRVK	**Borovoye**	**59.61**	**340**	⇑*i*P	**P**	**10 31 45.6 -1.1**
BRVK				pmax	pmax	
	comp=Z,10.0nm,0.8s					
BRVK	**Borovoye**	**59.61**	**340**	*e*P	**P**	**10 31 45.6 -1.1**
	comp=Z,15nm,1.0s					
AB31	**Akbulak array**	**60.95**	**332**	*ce*P	**P**	**10 31 54.6 -1.3**
AB31				pmax	pmax	
	comp=Z,31nm,0.9s					
ABKAR	**Akbulak array**	**60.95**	**332**	*e*P	**P**	**10 31 54.9 -1.0**
	comp=Z,20nm,0.8s					
KMBO	**Kilima Mbogo**	**62.14**	**270**	*e*P	**P**	**10 32 06.0 +1.1**
	comp=Z,8.4nm,1.0s					
KMBO	**Kilima Mbogo**	**62.14**	**270**	P	**P**	**10 32 06.2 +1.3**
	comp=Z,5.3nm,0.9s,baz=55,slow=9.9,SNR=12					
AKTO	**Aktyubinsk**	**62.67**	**332**	P	**P**	**10 32 06.1 -1.4**
AKTO	**Aktyubinsk**	**62.67**	**332**	P	**P**	**10 32 06.1 -1.4**
AKTO	**Aktyubinsk**	**62.67**	**332**	P	**P**	**10 32 06.1 -1.4**
	comp=Z,5.6nm,0.8s,baz=128,slow=7.8,SNR=17					
GNI	**Garni**	**64.78**	**316**	*e*P	**P**	**10 32 21.9 +0.1**
	comp=Z,15nm,1.0s					
GNI	**Garni**	**64.78**	**316**	P	**P**	**10 32 21.4 -0.4**
	comp=Z,4.1nm,0.5s,baz=146,slow=7.7,SNR=5.2					
CASY	**Casey**	**65.09**	**175**	*e*P	**P**	**10 32 24.2 +1.1**
	comp=Z,7.8nm,1.2s					
SVE	**Sverdlovsk**	**66.03**	**338**	⇓*e*P	**P**	**10 32 28.9 -0.4**
SVE				pmax	pmax	
	comp=Z,35nm,1.1s					
ZEI	**Tsey**	**66.50**	**319**	*e*P	**P**	**10 32 32.2 -0.7**
ZEI				pmax	pmax	
	comp=Z,23nm,1.0s					
ARU	**Arti**	**66.55**	**337**	*c i*P	**P**	**10 32 31.6 -1.1**
ARU						10 34 56.5
ARU				S	**S**	**10 41 21.4 +0.3**
ARU				pmax	pmax	
	comp=Z,19nm,1.0s					
KBZ	**Khabaz**	**67.57**	**319**	P	**P**	**10 32 39.5 +0.1**
KBZ	**Khabaz**	**67.57**	**319**	P	**P**	**10 32 39.5 +0.1**
KBZ	**Khabaz**	**67.57**	**319**	P	**P**	**10 32 39.5 +0.1**
	comp=Z,18nm,0.8s,baz=120,slow=5.6,SNR=45					
KIV	**Kislovodsk**	**67.81**	**319**	*e*P	**P**	**10 32 40.8 -0.3**
KIV				pmax	pmax	
	comp=Z,29nm,1.0s					
ASF	**Jabal al Asfar**	**67.84**	**306**	P	**P**	**10 32 42.4 +0.9**
ASF	**Jabal al Asfar**	**67.84**	**306**	P	**P**	**10 32 42.4 +0.9**
	comp=Z,11nm,1.1s,baz=100,slow=1.6,SNR=9.8					
MBAR	**Mbarara**	**68.66**	**270**	P	**P**	**10 32 47.6 +0.5**
MBAR	**Mbarara**	**68.66**	**270**	P	**P**	**10 32 47.6 +0.5**
	comp=Z,1.8nm,0.3s,baz=26,slow=23,SNR=3.8					
EIL	**Elat**	**68.78**	**303**	P	**P**	**10 32 47.9 +0.6**
EIL	**Elat**	**68.78**	**303**	P	**P**	**10 32 47.9 +0.6**
	comp=Z,18nm,0.8s,baz=181,slow=2.3,SNR=8.1					
SOKR	**Solikamsk**	**69.44**	**338**	⇑*i*P	**P**	**10 32 50.2 -0.5**
SOKR				pmax	pmax	
	comp=Z,20nm,1.0s					
SOC	**Sochi**	**69.62**	**318**	*e*P	**P**	**10 32 49.7 -2.5**
SOC				pmax	pmax	
	comp=Z,18nm,0.5s					
MAW	**Mawson**	**70.59**	**194**	*e*P	**P**	**10 32 59.0 +1.3**
	comp=Z,1.5nm,1.0s					
MAW	**Mawson**	**70.59**	**194**	P	**P**	**10 32 58.8 +1.2**
	comp=Z,3.6nm,0.6s,baz=26,slow=6.0,SNR=11					
MAW	**Mawson**	**70.59**	**194**	P	**P**	**10 32 59.6 +2.0**
	baz=71,SNR=8.0					
CSS	**Prodhromos**	**71.47**	**308**	*e*P	**P**	**10 33 03.2 -0.5**
	comp=Z,30nm,1.1s					
LSZ	**Lusaka**	**71.48**	**254**	P	**P**	**10 33 04.4 +0.1**
LSZ	**Lusaka**	**71.48**	**254**	P	**P**	**10 33 04.4 +0.1**
	comp=Z,0.7nm,0.3s,baz=57,slow=11,SNR=3.

MOS pmax pmax
comp=Z,43nm,0.7s
OBN Obninsk 76.09 328⇑ *i*P P 10 33 30.0 -0.3
OBN *i* 10 33 36.6
OBN *i* 10 33 43.7
OBN pmax pmax
comp=Z,71nm,1.6s
TIRR Tirgusor 77.61 316 ⇑P P 10 33 38.9 -0.2
TIRR Tirgusor 77.61 316⇑ *i*P P 10 33 38.9 -0.2
CFR Carcaliu 77.98 317 ⇑P P 10 33 40.8 -0.4
CFR Carcaliu 77.98 317⇑ *i*P P 10 33 40.8 -0.4
SYO Syowa Base 78.12 199⇑ *e*P P 10 33 41.7 +0.3
AKASG Malin Array Be 78.76 322 P P 10 33 44.2 -1.2
AKASG Malin Array Be 78.76 322 P P 10 33 44.1 -1.2
AKASG Malin Array Be 78.76 322 P P 10 33 44.1 -1.2
comp=Z,4.1nm,0.7s,baz=82,slow=5.2,SNR=19
KIEV Kiev 78.77 322 *e*P P 10 33 44.2 -1.2
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 78.77 322 *e*P P 10 33 44.2 -1.2
comp=Z,6.6nm,0.9s
VRI Vrincioaia 79.11 317 ⇑P P 10 33 48.0 +0.5
VRI Vrincioaia 79.11 317⇑ *i*P P 10 33 47.7 +0.2
PLOR Plostina 79.16 317 ⇑P P 10 33 48.0 +0.2
PLOR Plostina 79.16 317⇑ *i*P P 10 33 48.0 +0.2
TESR Tescani 79.32 318⇓ *i*P P 10 33 48.5 -0.1
PRAR RASCA 79.80 319⇓ *i*P P 10 33 51.3 +0.1
VOIR 80.16 317 ⇓P P 10 33 52.8 -0.5
VOIR 80.16 317⇓ *i*P P 10 33 52.8 -0.5
ARR Arges 80.44 316⇑ *i*P P 10 33 54.2 -0.5
BURAR Bucovina Array 80.52 319 ⇑P P 10 33 55.9 +0.7
BURAR Bucovina Array 80.52 319⇑ *i*P P 10 33 55.9 +0.7
BUR08 Bucovina Ar. S 80.54 319 *e*P P 10 33 55.8 +0.5
VTS Vitosha 80.90 313 ⇑P P 10 33 57.0 -0.3
VTS Vitosha 80.90 313⇑ *i*P P 10 33 57.1 -0.3
CJR Cluj-Napoca 81.42 318⇑ *i*P P 10 34 01.6 +1.7
GZR Gura Zlata 81.72 316 ⇑P P 10 34 00.4 -1.2
GZR Gura Zlata 81.72 316⇑ *i*P P 10 34 00.4 -1.2
DEV Deva 81.73 317 ⇓P P 10 34 02.7 +1.2
DEV Deva 81.73 317⇓ *i*P P 10 34 02.7 +1.2
LVV L'vov 81.77 321 *e*P P 10 34 01.1 -0.5
TSUM Tsumeb 81.78 251 P P 10 34 02.8 +0.3
TSUM Tsumeb 81.78 251 P P 10 34 02.8 +0.3
comp=Z,3.2nm,1.0s,baz=95,slow=4.7,SNR=3.9
DRGR 82.03 318 ⇑P P 10 34 03.5 +0.3
DRGR 82.03 318⇑ *i*P P 10 34 03.5 +0.3
BZS Buzias 82.57 316 ⇑P P 10 34 06.0 +0.1
BZS Buzias 82.57 316⇑ *i*P P 10 34 05.9 +0.1
UZH Uzhgorod 82.65 319 *e*P P 10 34 07.7 +1.5
UZH *i* 10 34 23.1
KOLS Kolonicke sedl 82.72 320 *e*P P 10 34 07.3 +0.7
KOLS pmax pmax
comp=Z,29nm,1.0s
KOLS Kolonicke sedl 82.72 320 *e*P P 10 34 07.3 +0.7
VNDA Vanda 82.73 169 *e*P P 10 34 06.5 +0.4
comp=Z,7.7nm,1.0s
VNDA Vanda 82.73 169 P P 10 34 07.0 +0.8
comp=Z,3.4nm,0.8s,baz=300,slow=5.2,SNR=13
SUW Suwalki 83.17 325 *e*P P 10 34 08.5 -0.3
SUW pmax pmax
comp=Z,71nm,1.0s
SUW Suwalki 83.17 325 *e*P P 10 34 08.5 -0.3
comp=Z,71nm,1.0s
SUW Suwalki 83.17 325 *e*P P 10 34 08.3 -0.5
CRVS Cervenica-Dubn 83.24 319 *e*P P 10 34 11.0 +1.7
CRVS pmax pmax
comp=Z,6.0nm,1.0s
CRVS Cervenica-Dubn 83.24 319 *e*P P 10 34 11.0 +1.7
FINES FINESS Array B 83.43 332 P P 10 34 09.9 -0.1
FINES FINESS Array B 83.43 332 P P 10 34 09.9 -0.1
comp=Z,7.2nm,0.5s,baz=107,slow=5.6,SNR=67
STHS Stebnicka Huta 83.47 320 *e*P P 10 34 11.3 +0.8
STHS pmax pmax
comp=Z,12nm,0.8s
STHS Stebnicka Huta 83.47 320 *e*P P 10 34 11.3 +0.8
KAF Kangasniemi 83.50 333 *e*P P 10 34 09.8 -0.6
KAF pmax pmax
comp=Z,3.0nm,0.4s
KAF Kangasniemi 83.50 333 *e*p P 10 34 09.8 -0.6
comp=Z,3.3nm,0.4s
KECS Kecovo 83.81 319 *e*P P 10 34 12.3 +0.1
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 83.81 319 *e*P P 10 34 12.3 +0.1
SBA Scott Base 83.82 169 *e*P P 10 34 13.2 +1.5
SBA pmax pmax
comp=Z,26nm,1.6s
SBA Scott Base 83.82 169 *e*P P 10 34 13.2 +1.5
comp=Z,26nm,1.6s
PSZ Piszkesteto 84.11 318 ⇓P P 10 34 13.7 -0.2
PSZ Piszkesteto 84.11 318⇓ *i*P P 10 34 13.7 -0.2
PSZ Piszkesteto 84.11 318 *e*P P 10 34 13.4 -0.5
comp=Z,13nm,1.0s
OJC Ojcow 84.53 321 *e*P P 10 34 15.7 -0.2
PKSM Moragy 84.71 316 ⇑P P 10 34 16.9 +0.1
PKSM Moragy 84.71 316⇑ *i*P P 10 34 16.9 +0.1
OKC Ostrava-Krasne 85.52 320 *i*P P 10 34 21.3 +0.4
OKC Ostrava-Krasne 85.52 320 *i*P P 10 34 21.3 +0.4
ARCES ARCESS Array B 85.84 340 P P 10 34 22.1 +0.1
ARCES ARCESS Array B 85.84 340 P P 10 34 22.1 +0.1
comp=Z,20nm,1.1s,baz=91,slow=4.8,SNR=15
CEL Celeste 85.84 308 *e*P P 10 34 23.8 +1.0
comp=Z,25nm,1.0s
MORC Moravsky Berou 85.91 320 *e*P P 10 34 23.1 +0.3
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 85.91 320 *e*P P 10 34 23.1 +0.3
comp=Z,8.2nm,1.0s
ZST Bratislava 86.00 318 *e*P P 10 34 24.0 +0.7
ZST Bratislava 86.00 318 *e*P P 10 34 24.0 +0.7
DPC Dobruska-Polom 86.75 320 *e*P P 10 34 27.9 +0.9
DPC Dobruska-Polom 86.75 320 *i*P P 10 34 27.6 +0.6
DPC *e*pP pP 10 34 35.4 -2.5
DPC Dobruska-Polom 86.75 320 *e*P P 10 34 27.9 +0.9
KSP Ksiaz 86.83 321 *e*P P 10 34 27.6 +0.3
KSP Ksiaz 86.83 321 *e*P P 10 34 27.9 +0.6
ARSA Arzberg 86.96 317⇑ *i*P P 10 34 28.4 +0.3
comp=Z,12nm,1.2s,SNR=7.8
UPC Upice 86.97 321 *e*P P 10 34 28.5 +0.5
UPC *e* 10 34 36.4
UPC Upice 86.97 321 *e*P P 10 34 28.5 +0.5
UPC *e*pP pP 10 34 36.4 -2.5
BOJS Bojanci 86.98 316 *i*P P 10 34 28.3 +0.2
PERS Pernice 87.18 317 *i*P P 10 34 29.4 +0.2
TREC Trest 87.18 319 *i*P P 10 34 29.2 +0.1
TREC Trest 87.18 319 *i*P P 10 34 29.2 +0.1
PDKS Podkum 87.21 316 *i*P P 10 34 29.6 +0.3
SOKA Soboth 87.24 317 *i*P P 10 34 29.8 +0.3
comp=Z,12nm,1.0s,SNR=11
LJU Ljubljana 87.53 316 *e*P P 10 34 30.0 -0.8
JAVS Javornik 87.84 316 *i*P P 10 34 32.2 -0.2
PRU Pruhonice 87.86 320 *i*P P 10 34 32.7 +0.4
PRU *e* 10 34 39.9
PRU Pruhonice 87.86 320 *i*P P 10 34 32.7 +0.4
PRU *e*pP pP 10 34 39.9 -3.3
AQU L'Aquila 88.07 312 *e*P P 10 34 34.4 +0.9
comp=Z,40nm,1.0s
BRG Berggiesshubel 88.31 321⇑ *i*P P 10 34 34.9 +0.5
comp=Z,27nm,1.7s
BRG Berggiesshubel 88.31 321 *e*P P 10 34 35.2 +0.8
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 88.31 321⇑ *i*P P 10 34 34.9 +0.5
BRG pmax pmax
comp=Z,27nm,1.7s
GEC2 GERESS Array S 88.31 319 *e*P P 10 34 35.2 +0.6
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 88.31 319 *e*P P 10 34 35.2 +0.6
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 88.31 319 P P 10 34 34.8 +0.2
GERES GERESS Array B 88.31 319 P P 10 34 34.8 +0.2
comp=Z,3.8nm,0.7s,baz=95,slow=4.3,SNR=30
KHC Kasperske Hory 88.42 319 *i*P P 10 34 34.9 -0.1
KHC *e* 10 34 42.9
KHC Kasperske Hory 88.42 319 *i*P P 10 34 34.9 -0.1
KHC *e*pP pP 10 34 42.9 -3.0
KHC Kasperske Hory 88.42 319 *e*P P 10 34 35.1 +0.1
comp=Z,3.2nm,0.8s
QSPA South Pole Qui 88.42 180 P P 10 34 35.6 +0.9
QSPA South Pole Qui 88.42 180 P P 10 34 35.6 +0.9
comp=Z,7.7nm,0.9s,baz=318,slow=2.6,SNR=51
RJOB Jochberg 88.84 318 *e*P P 10 34 36.9 -0.2
comp=Z,3.0nm,0.8s
WET Wettzell 88.88 319 *e*P P 10 34 37.8 +0.7
comp=Z,7.0nm,0.9s
WET Wettzell 88.88 319 *e*P P 10 34 37.8 +0.7
WET pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 88.94 321 *e*P P 10 34 37.8 +0.5
comp=Z,9.0nm,1.0s
CLL *e*pP pP 10 34 44.0 -4.3
CLL Collm 88.94 321⇓ *i*P P 10 34 37.5 +0.2
CLL *i* 10 34 43.8
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 88.94 321⇓ *i*P P 10 34 37.5 +0.2
comp=Z,17nm,1.2s
CLL *i* pP pP 10 34 43.8 -4.5
TANN Tannenbergstha 89.22 320 *e*P P 10 34 39.5 +0.7
comp=Z,2.0nm,0.9s
ROTZ Rotzenmuhle 89.35 320 *e*P P 10 34 40.5 +1.2
comp=Z,5.0nm,0.9s
MANZ Manzenberg 89.42 320 *e*P P 10 34 40.9 +1.2
comp=Z,11nm,0.9s
MANZ *e*pP pP 10 34 47.6 -3.1
WTTA Wattenberg 89.60 317 *i*P P 10 34 40.5 -0.3
comp=Z,15nm,1.0s,SNR=5.9
NEUB Neuenburg 89.70 321 *e*P P 10 34 41.7 +0.8
comp=Z,15nm,0.8s
MOX Moxa 89.77 320 *e*P P 10 34 42.1 +0.8
comp=Z,4.0nm,0.9s
MOX *e*pP pP 10 34 48.1 -4.1
MOX Moxa 89.77 320 *e*P P 10 34 42.1 +0.8
MOX *e*PP pP 10 34 48.1 -4.1
MOX pmax pmax
comp=Z,4.0nm,0.9s
MOTA Moosalm 89.97 317⇑ *i*P P 10 34 42.0 -0.5
comp=Z,14nm,1.0s,SNR=9.6
GRF Grafenberg Arr 89.98 320 *e*P P 10 34 43.5 +1.2
comp=Z,12nm,0.9s
GRF Grafenberg Arr 89.98 320 *e*P P 10 34 43.5 +1.2
GRF pmax pmax
comp=Z,12nm,0.9s
SPITS Spitsbergen Ar 90.06 348 P P 10 34 41.6 -0.5
SPITS Spitsbergen Ar 90.06 348 P P 10 34 41.6 -0.5
comp=Z,7.9nm,0.5s,baz=106,slow=7.9,SNR=43
RETA Reutte 90.20 317 *i*P P 10 34 43.4 -0.1
comp=Z,11nm,0.8s,SNR=6.9
FETA Feichten 90.21 317⇑ *i*PcP P 10 34 43.8 +0.2
comp=Z,11nm,1.3s,SNR=6.2
FUORN Ofenpass-Fuorn 90.52 316 *e*P P 10 34 45.8 +0.6
comp=Z,28nm,1.1s
NRDL Niedersach Rie 90.78 322 *e*pP pP 10 34 54.3 -2.5
DAVA Damuels 90.80 317 *i*PcP P 10 34 46.7 +0.4
comp=Z,24nm,1.1s,SNR=9.2
KEST Kesra 90.94 306 *e*P P 10 34 48.4 +1.2
KEST Kesra 90.94 306 P P 10 34 48.4 +1.2
comp=Z,6.9nm,0.9s,baz=265,slow=1.4,SNR=10.0
KBS Kingsbay 91.01 349⇓ *i*P P 10 34 45.5 -1.0
KBS pmax pmax
comp=Z,16nm,1.7s
KBS Kingsbay 91.01 349 *e*P P 10 34 45.1 -1.3
comp=Z,28nm,1.5s
TUE Stuetta 91.15 316 *e*P P 10 34 46.4 -1.6
comp=Z,8.0nm,1.1s
TNS Taunus Mts 91.79 320 *e*P P 10 34 51.6 +0.9
comp=Z,9.0nm,0.9s
TNS Taunus Mts 91.79 320 *e*P P 10 34 51.6 +0.9
TNS pmax pmax
comp=Z,9.0nm,0.9s
BFO Black Forest 91.86 318 *e*P P 10 34 51.2 +0.1
comp=Z,4.0nm,0.9s
BFO *e*pP pP 10 34 58.8 -3.2
BFO Black Forest 91.86 318 *e*P P 10 34 51.2 +0.1
BFO *e*PP pP 10 34 58.8 -3.2
BFO pmax pmax
comp=Z,4.0nm,0.9s
BFO Black Forest 91.86 318 *e*P P 10 34 50.8 -0.3
comp=Z,6.7nm,1.1s
SBF Sospel 92.48 314 *e*P P 10 34 54.2 +0.1
CDF Champ du Feu 92.56 318 *e*P P 10 34 54.2 -0.2
comp=Z,4.7nm,0.8s
ECH Echery 92.64 318 *e*P P 10 34 54.3 -0.4
ECH pmax pmax
comp=Z,4.0nm,1.2s
ECH Echery 92.64 318 *e*P P 10 34 54.3 -0.4
comp=Z,4.4nm,1.2s
LPG La Plagne 92.95 315 *e*P P 10 34 56.5 0.0
comp=Z,7.8nm,0.7s
LPL La Plagne 92.97 315 *e*P P 10 34 56.5 0.0
comp=Z,7.3nm,0.7s
FRF La Foret Royal 93.06 313 *e*P P 10 34 56.9 +0.2
LMR La Mourre 93.16 313 *e*P P 10 34 57.2 +0.1
HAU Haudompre 93.19 318 *e*P P 10 34 57.0 -0.2
CABF La Chapelle 93.39 316 *e*P P 10 34 58.5 +0.2
comp=Z,5.3nm,0.6s
ORIF Oris-en-Rattie 93.58 315 *e*P P 10 34 59.4 +0.2
PAGF Fort de Pagny 93.59 318 *e*P P 10 34 59.1 +0.1
MEZF Maizieres J'vi 94.04 318 *e*P P 10 35 01.0 -0.1
SFTF Sexfontaines 94.06 318 *e*P P 10 35 01.3 +0.1
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 94.44 315 *e*P P 10 35 03.0 -0.1
BAIF Baives 94.52 320 *e*P P 10 35 03.5 +0.3
LOR Lormes 94.90 317 *e*P P 10 35 04.9 -0.2
comp=Z,5.2nm,0.7s
SSF Saint Saulge 95.15 317 *e*P P 10 35 06.0 -0.2
BGF Bois d'Agland 95.63 316 *e*P P 10 35 08.6 +0.2
LDF La Druitiere 97.46 319 *e*P P 10 35 16.3 -0.4
TORD Torodi Ar. Bea 97.86 283 P P 10 35 18.5 -0.7
TORD Torodi Ar. Bea 97.86 283 P P 10 35 18.5 -0.7
comp=Z,0.9nm,1.0s,baz=167,slow=0.1,SNR=4.3
SGMF Saint Gilles 99.11 319 *e*P Pdif 10 35 23.7 -0.4
ILAR Eielson Array 101.32 24 PKKPbc PKKPbc 10 51 42.9 -2.5
ILAR Eielson Array 101.32 24 PKKPbc PKKPbc 10 51 42.9 -2.5
comp=Z,2.6nm,1.2s,baz=157,slow=2.0,SNR=6.5
EDM Edmonton 121.79 23 *e*PKIKP PKPdf 10 40 35.8 -1.0
EDM Edmonton 121.79 23 *e*PKIKP PKPdf 10 40 35.8 -1.0
EDM Edmonton 121.79 23 *e*PKPdf PKPdf 10 40 35.8 -1.0
NEW Newport 123.82 29 P PKPdf 10 40 40.5 -0.4
baz=124
YBH Yreka Blue Hor 124.94 38 PKP PKPdf 10 40 43.0 -0.2
YBH Yreka Blue Hor 124.94 38 PKP PKPdf 10 40 43.1 -0.2
comp=Z,1.4nm,0.7s,baz=174,slow=9.2,SNR=3.1
SWMT Swartz Lake 125.82 27 *e*PKPdf PKPdf 10 40 44.6 -0.3
A17A Triple J Farms 126.17 24 P PKPdf 10 40 45.6 +0.2
baz=126,SNR=6.1
MSO Missoula 126.35 28 P PKPdf 10 40 45.3 -0.6
baz=126
A18A Metzger Ranch, 126.53 24 P PKPdf 10 40 45.8 -0.2
baz=126
CHMT Chamberlain Mo 126.61 27 *e*PKPdf PKPdf 10 40 46.0 -0.5
B17A L&G Farms, Che 126.64 25 P PKPdf 10 40 45.8 -0.5
baz=126
A19A Klindworth Far 126.96 23 P PKPdf 10 40 46.7 -0.2
baz=127
B18A Beardsley Farm 126.98 24 P PKPdf 10 40 46.7 -0.3
baz=127
C17A Wharram Farm, 127.17 25 P PKPdf 10 40 47.2 -0.1
baz=127,SNR=5.1
EGMT Eagleton 127.28 24 P PKPdf 10 40 47.9 +0.3
baz=127,SNR=5.1
A20A Cobblestone Ra 127.32 22 P PKPdf 10 40 47.2 -0.4
baz=127
D17A Six Diamond Ra 127.57 26 P PKPdf 10 40 48.3 +0.1
baz=127,SNR=5.4
A21A Bergtoll Ranch 127.60 22 P PKPdf 10 40 48.0 -0.1
baz=127
C19A Slack Wire Ran 127.80 24 P PKPdf 10 40 48.9 +0.3
baz=128
MFID Camas Ranch 127.82 32 P PKPdf 10 40 49.7 +0.9
baz=128
D18A Linhart Farms, 127.91 25 P PKPdf 10 40 49.1 +0.3
baz=128
A22A Carney Farms, 127.97 21 P PKPdf 10 40 49.0 +0.1
baz=128
DLMT Dillon 128.06 28 *e*PKPdf PKPdf 10 40 50.0 +0.8
C20A Veseth Ranch, 128.24 23 P PKPdf 10 40 50.0 +0.7
baz=128
BOZ Bozeman (W) 128.30 27 *e*PKIKP PKPdf 10 40 50.4 +0.7
BOZ Bozeman (W) 128.30 27 *e*PKPdf PKPdf 10 40 50.4 +0.7
D19A Cripps Ranch, 128.32 24 P PKPdf 10 40 50.0 +0.5
baz=128
MCMT McKenzie Canyo 128.34 29 *e*PKPdf PKPdf 10 40 50.4 +0.5
HLID Hailey 128.46 31 *e*PKPdf PKPdf 10 40 50.8 +0.7
HLID Hailey 128.46 31 P PKPdf 10 40 50.9 +0.7
baz=128
F17A Fitzpatrick Pl 128.54 27 P PKPdf 10 40 51.0 +0.9
baz=128
D20A Manuel Ranch, 128.69 24 P PKPdf 10 40 50.7 +0.5
baz=128
A24A Westby 128.69 20 P PKPdf 10 40 50.9 +0.7
baz=128
B23A Brockton 128.74 21 P PKPdf 10 40 50.6 +0.3
baz=128
G17A Pierce Place, 128.96 27 P PKPdf 10 40 52.4 +1.4
baz=129
F18A Big Timber 128.96 26 P PKPdf 10 40 51.5 +0.6
baz=129
A25A Svangstu Ranch 128.97 19 P PKPdf 10 40 50.8 +0.1
baz=129
E20A Meyer Farm, Mu 129.16 24 P PKPdf 10 40 51.9 +0.7
baz=129
H16A Russell Place, 129.19 28 P PKPdf 10 40 52.6 +1.1
baz=129
C23A Lambert 129.23 21 P PKPdf 10 40 52.1 +0.8
baz=129
NVAR Mina Array Bea 129.61 39 PKP PKPdf 10 40 51.8 -0.7
NVAR Mina Array Bea 129.61 39 PKP PKPdf 10 40 51.8 -0.7
comp=Z,1.7nm,0.8s,baz=260,slow=2.6,SNR=7.5
I16A Newdale 129.70 29 P PKPdf 10 40 53.8 +1.4
baz=130
ULM Lac du Bonnet 129.75 13 PKP PKPdf 10 40 51.2 -0.9
ULM Lac du Bonnet 129.75 13 PKP PKPdf 10 40 51.2 -0.9
comp=Z,5.0nm,0.8s,baz=305,slow=2.3,SNR=5.9
D23A Lindsay 129.75 22 P PKPdf 10 40 53.1 +0.8
baz=130
E22A Miles City 130.09 23 P PKPdf 10 40 53.4 +0.5
baz=130
D24A Glendive 130.12 21 P PKPdf 10 40 54.0 +1.0
baz=130
F21A Absaloka Mine, 130.12 24 P PKPdf 10 40 54.0 +1.0
baz=130
G20A Bridger 130.15 25 P PKPdf 10 40 54.0 +0.8
baz=130
H19A Powell 130.25 26 P PKPdf 10 40 54.6 +1.2
baz=130,SNR=9.5
LOHW Long Hollow 130.32 28 *e*PKPdf PKPdf 10 40 54.1 +0.4
SNOW Snow King Moun 130.36 29 *e*PKPdf PKPdf 10 40 54.1 +0.3
REDW Red Top Meadow 130.39 29 *e*PKPdf PKPdf 10 40 53.7 -0.1
F22A Rosebud 130.51 23 P PKPdf 10 40 54.7 +1.0
baz=130
H20A Greybull 130.83 26 P PKPdf 10 40 54.9 +0.4
baz=131
G22A Birney 130.96 24 P PKPdf 10 40 55.6 +0.9
baz=131
E25A Miller Ranch, 130.98 21 P PKPdf 10 40 55.6 +1.0
baz=131
F24A Ekalaka 131.16 22 P PKPdf 10 40 55.1 0.0
baz=131
I20A Worland 131.20 26 P PKPdf 10 40 55.5 +0.3
baz=131,SNR=7.5
R11A Troy Canyon, C 131.33 37 *e*PKPdf PKPdf 10 40 57.1 +1.4
R11A Troy Canyon, C 131.33 37 P PKPdf 10 40 56.6 +0.9
baz=131
HWUT Hardware Ranch 131.33 31 *e*PKPdf PKPdf 10 40 56.5 +0.9
G23A Biddle 131.33 23 P PKPdf 10 40 55.8 +0.4
baz=131
E26A Carlson Angus 131.33 20 P PKPdf 10 40 55.9 +0.6
baz=131
PDAR Pinedale Array 131.46 28 PKP PKPdf 10 40 54.4 -1.5
PDAR Pinedale Array 131.46 28 PKP PKPdf 10 40 54.4 -1.5
comp=Z,0.8nm,0.6s,baz=110,slow=1.6,SNR=4.9
MPMC Manual Prospec 131.56 41 P PKPdf 10 40 57.1 +0.9
baz=131
E27A Carson 131.67 19 P PKPdf 10 40 56.5 +0.6
baz=131
I21A Big Trails, Te 131.67 26 P PKPdf 10 40 56.5 +0.4
baz=131,SNR=5.2
DUG Dugway 131.68 33 *e*PKIKP PKPdf 10 40 57.1 +0.8
DUG Dugway 131.68 33 *e*PKPdf PKPdf 10 40 57.0 +0.8
DUG Dugway 131.68 33 P PKPdf 10 40 56.7 +0.5
baz=132
J20A Shoshoni 131.69 27 P PKPdf 10 40 56.5 +0.3
baz=132,SNR=5.2
K19A Absolon Red Bu 131.75 28 P PKPdf 10 40 56.8 +0.4
baz=132,SNR=5.5
F26A Lodgepole 131.80 21 P PKPdf 10 40 56.6 +0.4
baz=132
L18A Fontenelle, Gr 131.86 30 P PKPdf 10 40 57.4 +0.7
baz=132
M17A Scullys Gap (B 131.88 30 P PKPdf 10 40 57.3 +0.6
baz=132
D30A Buchanan 131.93 17 P PKPdf 10 40 57.4 +1.0
baz=132
I22A 9 Mile Ranch, 131.96 25 P PKPdf 10 40 56.7 +0.1
baz=132
J21A Lysite 131.98 26 P PKPdf 10 40 56.5 -0.3
baz=132
F27A Lemmon 132.00 20 P PKPdf 10 40 56.7 +0.1
baz=132
H24A Dirks Ranch, A 132.04 23 P PKPdf 10 40 56.5 -0.2
baz=132
G25A Newell 132.09 22 P PKPdf 10 40 56.6 -0.2
baz=132
G26A Maurine 132.30 21 P PKPdf 10 40 57.3 +0.1
baz=132
J22A Midwest 132.35 25 P PKPdf 10 40 57.0 -0.5
baz=132
GSC Goldstone 132.46 41 *e*PKIKP PKPdf 10 40 58.9 +1.1
GSC Goldstone 132.46 41 *e*PKPdf PKPdf 10 40 58.9 +1.1
GSC Goldstone 132.46 41 P PKPdf 10 40 58.9 +1.1
baz=132
G27A Dupree 132.46 20 P PKPdf 10 40 57.7 +0.2
baz=132
L20A Wamsutter 132.62 28 P PKPdf 10 40 59.8 +1.7
baz=132
K21A Alcova 132.63 27 P PKPdf 10 40 59.0 +0.9
baz=132
I24A Kuemmerle Ranc 132.75 24 P PKPdf 10 40 58.2 +0.1
baz=132
RSSD Black Hills 132.76 23 *e*PKIKP PKPdf 10 40 57.9 -0.4
RSSD Black Hills 132.76 23 *e*PKPdf PKPdf 10 40 57.9 -0.4
K22A Casper 132.94 26 P PKPdf 10 40 58.6 0.0
baz=133
I25A Rochford 132.97 23 P PKPdf 10 40 59.1 +0.5
baz=133
H27A Howes 133.06 21 P PKPdf 10 40 58.5 -0.1
baz=133
L21A Rawlins 133.10 27 P PKPdf 10 40 58.4 -0.6
baz=133
J24A Dixon Ranch, L 133.18 24 P PKPdf 10 40 58.9 0.0
baz=133
M21A Separation Pea 133.39 28 P PKPdf 10 40 59.4 -0.2
baz=133,SNR=6.1
J25A Sunshine Ranch 133.47 23 P PKPdf 10 40 59.1 -0.4
baz=133
Q16A Castle Valley 133.47 33 P PKPdf 10 41 00.2 +0.5
baz=133
O19A Miners Draw (B 133.54 30 P PKPdf 10 40 59.5 -0.3
baz=133
I27A Quinn 133.56 21 P PKPdf 10 41 00.2 +0.6
baz=133
N20A Spence Gulch, 133.56 29 P PKPdf 10 41 00.4 +0.5
baz=133
L23A Garrett 133.73 26 P PKPdf 10 40 59.5 -0.7
baz=134
J26A Sides Ranch, S 133.82 23 P PKPdf 10 40 59.8 -0.3
baz=134
I28A Midland 133.93 21 P PKPdf 10 41 00.7 +0.5
baz=134
N21A Black Mountain 133.97 29 P PKPdf 10 41 01.9 +1.2
baz=134,SNR=8.8
O20A White River Ci 134.10 30 *e*PKPdf PKPdf 10 41 01.8 +0.9
O20A White River Ci 134.10 30 P PKPdf 10 41 01.2 +0.3
baz=134,SNR=5.8
P19A Cripple Cowboy 134.11 31 P PKPdf 10 41 02.1 +1.2
baz=134
BRSD Miller 134.28 18 P PKPdf 10 41 01.6 +0.7
baz=134
K26A Motz Farm, Whi 134.30 23 P PKPdf 10 41 01.7 +0.7
baz=134
BC3 Big Chuckawall 134.33 42 P PKPdf 10 41 01.9 +0.5
baz=134
J28A Allard Ranch, 134.41 21 P PKPdf 10 41 01.9 +0.7
baz=134
N22A Wattenberg Ran 134.44 28 P PKPdf 10 41 01.9 +0.3
baz=134
U15A North Rim 134.56 36 P PKPdf 10 41 03.2 +1.2
baz=134
N23A Red Feather La 134.60 27 P PKPdf 10 41 02.6 +0.6
baz=134
Q20A Ridgley Place, 134.97 31 P PKPdf 10 41 03.8 +1.3
baz=135
N24A Carr 135.13 26 P PKPdf 10 41 03.5 +0.8
baz=135
PV01 Paradox Valley 135.44 32 *e*PKPdf PKPdf 10 41 03.6 +0.1
ECSD EROS Data Cent 135.63 17 *e*PKPdf PKPdf 10 41 02.4 -1.0

WUAZ	Wupatki	135.72	37	*e*PKPdf	PKPdf	10 41 05.0	+1.0
S20A	Disappointment	135.78	32	P	PKPdf	10 41 06.1	+1.9
	baz=136,SNR=5.3						
S20A				P	PKiKP	10 41 27.0	+21
	baz=136						
MVCO	Mesa Verde	136.16	33	*e*PKPdf	PKPdf	10 41 05.3	+0.4
S21A	Coal Bank Pass	136.20	32	P	PKPdf	10 41 06.2	+1.2
	baz=136,SNR=13						
PLCA	Paso Flores	136.95	191	PKP	PKPdf	10 41 06.6	+0.6
PLCA	Paso Flores	136.95	191	PKP	PKPdf	10 41 06.6	+0.6
	comp=Z,2.0nm,0.8s,baz=221,slow=12,SNR=2.9						
W18A	Petrified Fore	136.97	36	*e*PKPdf	PKPdf	10 41 06.9	+0.6
SSPA	Standing Stone	141.00	357	*e*PKPdf	PKPdf	10 41 12.6	-0.7
MNTX	Cornudas Mount	141.95	35	*e*PKPdf	PKPdf	10 41 13.5	-1.9
425A	Indio Mountain	142.85	36	P	PKPdf	10 41 14.9	-2.2
	baz=143,SNR=6.9						
WCI	Wyandotte Cave	143.11	7	*e*PKIKP	PKPbc	10 41 13.8	-0.2
WCI	Wyandotte Cave	143.11	7	*e*PKPdf	PKPbc	10 41 13.8	-0.3
BDFB	Brasilia	143.56	241	PKP	PKPbc	10 41 17.3	+1.3
BDFB	Brasilia	143.56	241	PKP	PKPbc	10 41 17.3	+1.3
	comp=Z,2.6nm,0.8s,baz=146,slow=8.3,SNR=3.1						
526A	Mary Lane Ranc	143.91	36	P	PKPbc	10 41 17.4	+0.7
	baz=144,SNR=7.0						
527A	Woodward Ranch	144.12	35	P	PKPbc	10 41 17.7	+0.3
	baz=144,SNR=26						
230A	Sterling City	144.13	31	P	PKPbc	10 41 17.2	-0.1
	baz=144,SNR=7.9						
428A	Kincaid Ranch,	144.21	34	P	PKPbc	10 41 18.2	+0.6
	baz=144,SNR=19						
626A	Big Bend Ranch	144.25	37	P	PKPbc	10 41 18.3	+0.6
	baz=144,SNR=26						
CPUP	Villa Florida	144.34	217	*e*PKPdf	PKPbc	10 41 18.4	+0.5
CPUP				PKP	PKPdf	10 41 18.6	-1.0
CPUP	Villa Florida	144.34	217	PKP	PKPbc	10 41 18.6	+0.7
	comp=Z,17nm,0.8s,baz=108,slow=2.9,SNR=30						
330A	Mertzon	144.49	31	P	PKPab	10 41 17.9	-0.2
	baz=144,SNR=17						
BLA	Blacksburg	144.50	360	*e*PKIKP	PKPab	10 41 17.3	-0.7
BLA	Blacksburg	144.50	360	*e*PKPdf	PKPab	10 41 17.3	-0.7
528A	Cox Ranch, San	144.58	34	P	PKPbc	10 41 19.1	+0.3
	baz=144,SNR=8.7						
TXAR	Lajitas Array	144.69	36	PKP	PKPbc	10 41 19.4	+0.3
TXAR	Lajitas Array	144.69	36	PKP	PKPbc	10 41 19.4	+0.3
	comp=Z,19nm,0.7s,baz=286,slow=2.3,SNR=49						
429A	Davenport Ranc	144.72	33	P	PKPab	10 41 18.6	-0.4
	baz=144,SNR=8.9						
627A	Terlingua Ranc	144.76	36	P	PKPbc	10 41 19.8	+0.4
	baz=145,SNR=47						
232A	Coleman	144.86	29	P	PKPab	10 41 19.2	-0.3
	baz=145,SNR=19						
WVT	Waverly	144.93	10	*e*PKIKP	PKPab	10 41 18.6	-0.9
WVT	Waverly	144.93	10	*e*PKPdf	PKPab	10 41 18.6	-0.9
430A	Baggett Ranch,	144.94	32	P	PKPab	10 41 19.5	-0.3
	baz=145,SNR=21						
331A	San Angelo	144.95	30	P	PKPab	10 41 19.2	-0.6
	baz=145,SNR=13						
MIAR	Mount Ida	144.99	19	*e*PKIKP	PKPab	10 41 19.5	-0.3
MIAR	Mount Ida	144.99	19	*e*PKPdf	PKPab	10 41 19.5	-0.3
CFAA	Coronel Fontan	145.02	199	PKPbc	PKPdf	10 41 20.9	+0.2
CFAA	Coronel Fontan	145.02	199	PKPbc	PKPdf	10 41 20.9	+0.2
	comp=Z,4.7nm,0.5s,baz=166,slow=3.2,SNR=121						
628A	Black Gap, Mar	145.03	35	P	PKPab	10 41 20.3	+0.1
	baz=145,SNR=22						
TZTN	Tazewell	145.06	4	*e*PKPdf	PKPbc	10 41 19.0	-1.0
UALR	University of	145.16	17	*e*PKPdf	PKPbc	10 41 19.7	-0.7
332A	Millersview	145.23	29	P	PKPbc	10 41 20.6	-0.1
	baz=145,SNR=32						
431A	Sonora	145.36	31	P	PKPbc	10 41 20.9	-0.3
	baz=145,SNR=23						
530A	J-C Ranch, Com	145.39	33	P	PKPab	10 41 21.6	+0.1
	baz=145,SNR=64						
432A	Menard	145.62	30	P	PKPdf	10 41 21.6	-0.2
	baz=145,SNR=30						
WHTX	Lake Whitney	145.78	26	*e*PKPdf	PKPdf	10 41 22.1	+0.1
WHTX	Lake Whitney	145.78	26	P	PKPdf	10 41 21.4	-0.6
	baz=146,SNR=5.4						
531A	Rocksprings	145.80	32	P	PKPbc	10 41 22.7	+0.1
	baz=146,SNR=111						
TKL	Tuckaleechee C	145.92	5	*e*PKPdf	PKPdf	10 41 21.8	-0.3
JCT	Junction City	145.93	30	*e*PKP2	PKPbc	10 41 22.9	-0.1
JCT	Junction City	145.93	30	*e*PKP2	PKPbc	10 41 22.9	-0.1
JCT	Junction City	145.93	30	*e*PKPdf	PKPbc	10 41 22.9	-0.1
JCT	Junction City	145.93	30	P	PKPbc	10 41 22.8	-0.1
	baz=146,SNR=121						
CPCT	Cooper Cave	146.06	6	*e*PKPdf	PKPdf	10 41 22.1	-0.3
532A	Rocksprings	146.16	31	P	PKPdf	10 41 23.2	+0.4
	baz=146,SNR=19						
OXF	Oxford	146.18	13	*e*PKP2	PKPdf	10 41 22.4	-0.2
OXF	Oxford	146.18	13	*e*PKPdf	PKPdf	10 41 22.4	-0.2
CNNC	Cliffs of the	146.37	356	*e*PKPdf	PKPbc	10 41 23.7	-0.4
KMSC	Kings Mountain	146.56	1	*e*PKPdf	PKPdf	10 41 23.6	+0.4
632A	Uvalde	146.72	31	P	PKPbc	10 41 24.7	-0.6
	baz=146,SNR=35						
VBMS	Vicksburg	148.08	16	*e*PKPbc	PKPbc	10 41 29.2	+0.3
LRAL	Lakeview Retre	148.09	10	*e*PKPbc	PKPbc	10 41 28.1	-0.9
HKT	Hockley	148.25	26	*e*PKP2	PKPbc	10 41 29.5	+0.1
HKT	Hockley	148.25	26	*e*PKPbc	PKPbc	10 41 29.5	+0.1
BRAL	Brewton	150.05	11	*e*PKPbc	PKPbc	10 41 34.0	0.0
LVC	Limon Verde	153.43	205	*e*PKPbc	PKPbc	10 41 43.9	+1.5
SIV	San Ignacio	154.01	227	PKP	PKPdf	10 41 35.4	0.0
SIV				PKPbc	PKPbc	10 41 43.1	-0.3
SIV	San Ignacio	154.01	227	PKP	PKPdf	10 41 35.4	0.0
	comp=Z,0.8nm,0.7s,baz=245,slow=6.3,SNR=3.9						
SIV				PKPbc	PKPbc	10 41 43.1	-0.3
	comp=Z,2.5nm,0.8s,baz=113,slow=5.3,SNR=7.4						
LPAZ	La Paz	158.43	214	PKP	PKPdf	10 41 41.8	-0.2
LPAZ				*e*PKPdf	PKPdf	10 41 42.6	+0.7
LPAZ				PKPab	PKPab	10 42 16.8	+0.4
LPAZ	La Paz	158.43	214	PKP	PKPdf	10 41 41.8	-0.2
	comp=Z,1.8nm,1.1s,baz=34,slow=4.3,SNR=5.3						
LPAZ				PKPab	PKPab	10 42 16.8	+0.4
	comp=Z,1.0nm,0.8s,baz=221,slow=7.4,SNR=5.4						

IDC 16 10:22:23.6±3.5, 16°21S×174°10W, h65km±32km, mb3.7/6, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, ML2.3/1, MS3.1/1, Ms1 3.1/1, ms1mx3.0/42, Error ellipse: s-maj=44.0km s-min=19.7km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.20	45	P	Pn	10 23 11.7	+0.1
	21nm,0.3s,baz=32,slow=3.7,SNR=55						
AFI				S	Sn	10 23 42.9	-5.8
	115nm,0.3s,baz=62,slow=18,SNR=19						
AFI				LR	LR	10 24 12.5	
	comp=Z,284nm,19.9s,baz=87,slow=34						
STKA	Stephens Creek	43.05	241	P	P	10 30 17.4	+0.2
	6.5nm,1.0s,baz=91,slow=11,SNR=3.5						
WRA	Warramunga Arr	49.01	257	P	P	10 31 04.2	0.0
	1.2nm,0.5s,baz=92,slow=6.7,SNR=5.3						
ASAR	Alice Springs	49.23	253	P	P	10 31 05.3	-0.5
	5.6nm,0.6s,baz=86,slow=8.5,SNR=19						
VNDA	Vanda	62.51	186	P	P	10 32 40.0	0.0
	1.1nm,0.8s,baz=34,slow=5.4,SNR=5.5						
TXAR	Lajitas Array	81.62	56	P	P	10 34 35.2	+0.2
	0.4nm,1.0s,baz=267,slow=7.7,SNR=2.4						
PDAR	Pinedale Array	83.31	42	P	P	10 34 43.1	-0.6
	0.4nm,0.7s,baz=186,slow=1.5,SNR=3.8						
BRTR	Keskin Array B	146.34	320	PKPbc	PKPbc	10 41 57.2	-0.3
	0.8nm,0.7s,baz=109,slow=2.2,SNR=2.8						

DDA ***16*** *10:23:26.9, 37°89N×30°11E, h7km, MD3.0*
ISK ***16*** *10:23:28.2, 37°98N×30°03E, h8km, MD2.5*
CSEM ***16*** *10:23:28.2±0.2, 37°97N×30°02E, h10km, MD2.5, Error ellipse: s-maj=5.3km s-min=3.3km az=27.0*
ISC 16 10:23:28.5±1.1, 37°99N±0°03×30°04E±0°03, h11km±9km, n20, σ0°67/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.42	114	*e*PG	Pg	10 23 36.6	-0.2
ISP				*e*SG	Sg	10 23 43.2	+0.8
ISP	Isparta	0.42	114	*e*Pg	Pg	10 23 36.6	-0.2
ISP				*e*Sg	Sg	10 23 43.2	+0.8
KHL	Karahalli	0.52	309	*e*PG	Pg	10 23 38.6	-0.2
KHL	Karahalli	0.52	309	*e*Pg	Pg	10 23 38.6	-0.2
KHAL	Karahalli	0.57	311	*i* P	Pg	10 23 39.3	-0.4
KHAL				*i* S	Sn	10 23 51.5	-0.8
KHAL	Karahalli	0.57	311	*i* P	Pg	10 23 39.3	-0.4
KHAL				*i* S	Sn	10 23 51.5	-0.8
BCK	Bucak	0.69	140	*e*PG	Pg	10 23 41.7	-0.2
BCK				*e*SG	Sb	10 23 51.9	-0.3
BCK	Bucak	0.69	140	*e*Pg	Pg	10 23 41.7	-0.2
BCK				*e*Sg	Sb	10 23 51.9	-0.3
SHUT	Suhut-Afyon	0.69	36	*e*PG	Pg	10 23 42.0	+0.1
SHUT				*e*SG	Sb	10 23 52.6	+0.3
SHUT	Suhut-Afyon	0.69	36	*e*Pg	Pg	10 23 42.0	+0.1
SHUT				*e*Sg	Sb	10 23 52.6	+0.3
DNZL	Cakiroluk	0.84	249	*i* P	Pg	10 23 44.6	-0.1
DNZL				*i* S	Sn	10 24 00.1	+1.1
DNZL	Cakiroluk	0.84	249	*i* P	Pg	10 23 44.6	-0.1
SUTC	Sutluce-Ispart	0.92	124	*e*PG	Pb	10 23 46.4	-0.2
SUTC	Sutluce-Ispart	0.92	124	*e*Pg	Pb	10 23 46.4	-0.2
BOLV	Bolvadin	1.02	44	*i* P	Pg	10 23 47.7	-0.5
BOLV				*i* S	Sn	10 24 04.1	+0.7
BOLV	Bolvadin	1.02	44	*i* P	Pg	10 23 47.7	-0.5
BOLV				*i* S	Sn	10 24 04.1	+0.7
KULA	Kula-Manisa	1.20	296	*e*PN	Pb	10 23 51.5	+0.1
KULA				*e*SN	Sn	10 24 09.3	+1.5
KULA	Kula-Manisa	1.20	296	*e*Pn	Pb	10 23 51.5	+0.1
KULA				*e*Sn	Sn	10 24 09.3	+1.5
MANT	Manisa	1.27	294	*i* P	Pn	10 23 51.5	-0.9
MANT				*i* S	Sn	10 24 10.4	+0.9
MANT	Manisa	1.27	294	*i* P	Pn	10 23 51.5	-0.9
MANT				*i* S	Sn	10 24 10.4	+0.9

GRAL ***16*** *10:24:38.3±0.3, 33°62N×36°98E, h67km±32km, MD3.1*
ISCJB ***16*** *10:24:40.3±0.6, 33°70N±0°03×36°80E±0°04, h9km±6km, Error ellipse: s-maj=6.4km s-min=4.7km az=33.6*
CSEM ***16*** *10:24:40.3±0.3, 33°69N×36°79E, h10km, ML1.8, Error ellipse: s-maj=6.0km s-min=4.5km az=116.0*
NSSC ***16*** *10:24:40.4±2.0, 33°70N×36°77E, h9km±10km, ML1.8*
ISC 16 10:24:40.6±1.1, 33°71N±0°03×36°77E±0°03, h10km±11km, n25, σ0°79/35, 6C-6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	Ras Al Marh	0.40	323⇓	*e*P	Pg	10 24 47.5	-1.1
MARH				*e*S	Sg	10 24 54.8	+0.9
MARH				AML	AML	10 24 57.4	
	comp=N,174nm,0.6s						
MARH				AML	AML	10 25 02.4	
	comp=Z,103nm,0.5s						
MARH				AML	AML	10 25 05.5	
	comp=E,260nm,0.5s						
MARH	Ras Al Marh	0.40	323⇓	*e*P	Pg	10 24 47.5	-1.1
	SNR=93						
MARH				*e*S	Sg	10 24 54.8	+0.9
	comp=E,260nm,0.5s,SNR=59						
QASN	Qassioun	0.45	247⇑	*e*P	Pb	10 24 50.2	-0.4
QASN				*e*S	Sg	10 24 56.1	+0.8
QASN				AML	AML	10 25 01.5	
	comp=N,405nm,0.4s						
QASN				AML	AML	10 25 01.5	
	comp=Z,209nm,0.4s						
QASN				AML	AML	10 25 08.7	
	comp=E,477nm,0.3s						
QASN	Qassioun	0.45	247⇑	*e*P	Pb	10 24 50.2	-0.4
	SNR=91						
QASN				*e*S	Sg	10 24 56.1	+0.8
	comp=E,477nm,0.3s,SNR=59						
TOTH	TOTAH	0.45	220⇑	*e*P	Pg	10 24 49.2	-0.2
TOTH				*e*S	Sg	10 24 55.9	+0.6
TOTH				AML	AML	10 24 57.6	
	comp=E,158nm,0.3s						
TOTH				AML	AML	10 24 58.0	
	comp=Z,167nm,0.4s						
TOTH				AML	AML	10 24 59.9	
	comp=N,124nm,0.2s						
TOTH	TOTAH	0.45	220⇑	*e*P	Pg	10 24 49.2	-0.2
	SNR=91						
TOTH				*e*S	Sg	10 24 55.9	+0.6
	comp=N,124nm,0.2s,SNR=59						
ROOS	tl_alroos	0.63	43	*e*P	Pg	10 24 52.9	+0.1
ROOS				*e*S	Sb	10 25 02.5	-0.1
ROOS				AML	AML	10 25 13.2	
	comp=Z,1.3nm,0.4s						
ROOS				AML	AML	10 25 15.6	
	comp=N,1.2nm,0.4s						
ROOS	tl_alroos	0.63	43	*e*P	Pg	10 24 52.9	+0.1
	SNR=75						
ROOS				*e*S	Sb	10 25 02.5	-0.1
	comp=N,1.2nm,0.4s,SNR=59						
BRBR	Barbar	0.75	247⇑	*e*P	Pg	10 24 54.8	-0.2
BRBR	Barbar	0.75	247⇑	*e*P	Pg	10 24 54.8	-0.2
	SNR=75						
RCY	Rachaya	0.81	255	*e*P	Pg	10 24 55.6	-0.6
RCY				*e*S	Sb	10 25 08.5	+0.6
HWQ	Hawqa	0.89	310	*e*P	Pg	10 24 57.1	-0.6
HWQ				*e*S	Sb	10 25 11.0	+0.8
HWQ	Hawqa	0.89	310	*e*P	Pg	10 24 57.1	-0.7
ZALF	Zalf	0.91	149⇓	*e*P	Pg	10 24 57.3	-0.9
ZALF	Zalf	0.91	149⇓	*e*P	Pg	10 24 57.3	-0.9
	SNR=67						
BHL	Bhannes	0.95	282	*e*P	Pg	10 24 57.8	-1.1
BHL	Bhannes	0.95	282	*e*P	Pg	10 24 57.8	-1.1
SALA	Sala	0.99	182⇓	*e*P	Pg	10 24 58.8	-0.9
SALA	Sala	0.99	182⇓	*e*P	Pg	10 24 58.8	-0.9
	SNR=67						
TCHB	Talchebab	1.23	213	*e*P	Pg	10 25 04.2	-0.1
TCHB	Talchebab	1.23	213	*e*P	Pg	10 25 04.2	-0.1
	SNR=57						
ARNB	Al Arnab	2.25	343	*e*P	Pn	10 25 16.9	-1.0
ARNB	Al Arnab	2.25	343	*e*P	Pn	10 25 16.9	-1.0
	SNR=45						
BTCH	Batrach	2.34	354	*e*P	Pn	10 25 20.4	+1.3
BTCH	Batrach	2.34	354	*e*P	Pn	10 25 20.4	+1.3
	SNR=45						

IDC 16 10:26:17.0±5.2, 0°17S×101°12E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/24, mbtmp3.4/3, Error ellipse: s-maj=292.3km s-min=26.9km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.00	123	P	P	10 33 37.5	+0.3
	0.5nm,0.7s,baz=302,slow=9.3,SNR=3.9						
ASAR	Alice Springs	39.47	129	P	P	10 33 48.9	-0.5
	0.4nm,0.6s,baz=303,slow=7.3,SNR=3.5						
MKAR	Makanchi Array	49.60	343	P	P	10 35 10.1	0.0
	0.2nm,0.6s,baz=159,slow=8.4,SNR=3.0						
TXAR	Lajitas Array	142.58	37	PKP	PKPdf	10 45 51.0	-2.0
	0.4nm,0.6s,baz=276,slow=2.4,SNR=4.3						

IDC ***16*** *10:27°45.9±0.5, 46°42N×153°09E, h0km, mb4.6/32, mb1 4.7/36, mb1mx4.7/40, mbtmp4.6/36, ML3.9/4, MS4.8/5, Ms1 4.8/5, ms1mx4.0/67, Error ellipse: s-maj=15.7km s-min=10.4km az=159.0*
ISCJB ***16*** *10:27°46.3±0.9, 46°30N±0°04×153°05E±0°04, h15km±6km, mb4.8/199, MS4.8/8, Error ellipse: s-maj=7.2km s-min=3.0km az=152.2*
JMA ***16*** *10:27°46.5±0.8, 46°37N×153°49E, h30km, M5.1*
BJI ***16*** *10:27°49.0, 46°58N×153°18E, h35km, mB5.2/19, mb4.8/41, Ms4.9/19, Ms7 4.6/17*
MOS ***16*** *10:27°50.2±1.1, 46°50N×153°00E, h35km, mb5.1/66, MS4.0/4, Error ellipse: s-maj=6.8km s-min=4.7km az=105.2*
NEIC ***16*** *10:27°52.6±0.8, 46°48N×153°01E, h42km±6km, mb4.8/70, Error ellipse: s-maj=7.5km s-min=3.5km az=162.0*
SZGRF ***16*** *10:27°54.5, 47°58N×152°18E, h22km, mb4.9, Kuril Islands, Russia*
ISC 16 10:27:51.3±0.3, 46°27N±0°06×153°09E±0°04, h40km, n619, σ1°15/657, mb4.9/208, MS4.8/8, 66C-27D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.80	256	*d* iPN	Pn	10 28 49.7	+2.4
KUR				*i*		10 29 35.7	
KUR				pmax	pmax		
	comp=N,96nm,0.5s						
KUR				pmax	pmax		
	comp=E,36nm,0.5s						
KUR				pmax	pmax		
	comp=Z,443nm,0.5s						
SKR	Severo-Kuril's	4.86	23	*e*PN	Pn	10 28 56.5	-5.2
SKR				pmax	pmax		
	comp=E,370nm,1.0s						
SKR				pmax	pmax		
	comp=Z,560nm,1.0s						
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
YUK	Yuzh-Kuril'sk	5.58	249	*d* iPN	Pn	10 29 13.1	+1.4
YUK				pmax	pmax		
	comp=Z,622nm,2.1s						
YUK				pmax	pmax		
	comp=E,153nm,0.5s						
YUK				pmax	pmax		
	comp=Z,278nm,0.5s						
YUK				pmax	pmax		
	comp=N,106nm,0.4s						
NEM2	Nemuro 2	5.98	244	P	Pn	10 29 16.0	-1.2
NEM2				*e*S	Sn	10 30 22.1	-2.2
JRA	Rausu	6.10	250	P	Pn	10 29 20.3	+1.4
JNK	Nakash	6.52	249	P	Pn	10 29 25.1	+0.5
JNK				*e*S	Sn	10 30 37.3	-0.3
JAK	Akkeshi	6.82	244	P	Pn	10 29 27.5	-1.3
JAK				*e*S	Sn	10 30 43.7	-1.4
JTKR	Abashiri--Toko	6.89	254	P	Pn	10 29 31.3	+1.6
YSS	Yuzh-Sakhalins	7.15	279⇑	*e*PN	Pn	10 29 38.3	+5.0
YSS				*e*		10 30 58.0	
YSS				pmax	pmax		
	comp=E,110nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
JMP	Maruseppu	7.24	255	P	Pn	10 29 36.2	+1.6
JAR	Ashorobuto	7.26	249	P	Pn	10 29 35.2	+0.3
JAR				*e*S	Sn	10 30 58.2	+2.2
JOB	Onbets	7.41	246	P	Pn	10 29 36.7	-0.2
JOB				*e*S	Sn	10 30 59.0	-0.6
PEA0B	Petropavlovsk-	7.47	22	*e*Pn	Pn	10 29 35.8	-1.9
PEA0B				*e*Sn	Sn	10 31 05.3	+4.4
PETK	Petropavlovsk-	7.47	22	PN	Pn	10 29 35.8	-1.8
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	Petropavlovsk-	7.47	22	Pn	Pn	10 29 35.8	-1.8
PETK				Sn	Sn	10 31 00.2	-0.8
PETK	Petropavlovsk-	7.47	22	Pn	Pn	10 29 35.8	-1.8
	comp=Z,3.2nm,0.3s,baz=176,slow=14,SNR=103						
PETK				Sn	Sn	10 31 00.2	-0.8
	baz=176,slow=11,SNR=1.3						
JSE	Soyaes	7.48	264	P	Pn	10 29 41.5	+3.7
PET	Petropavlovsk	7.66	26	*e*PN	Pn	10 29 38.9	-1.4
JKK2	Kamakawa 2	7.70	256	P	Pn	10 29 42.8	+1.9
ASAJ	Asahikawa	7.72	258	*e*Pn	Pn	10 29 43.8	+2.8
ASAJ	Asahikawa	7.72	258	P	Pn	10 29 43.6	+2.5
ASAJ	Asahikawa	7.72	258	Pn	Pn	10 29 43.8	+2.8
	comp=Z,4.6nm,0.3s,baz=96,slow=16,SNR=56						
ASAJ				LR	LR	10 31 48.7	
	comp=Z,2μm,20.8s,baz=31,slow=31						
JCH	Churui	7.86	246	P	Pn	10 29 42.5	-0.5
JCH				*e*S	Sn	10 31 07.3	-3.3
UGL	Uglegorsk	7.95	295⇑	*i* PN	Pn	10 29 47.4	+3.2
UGL				*e*S	Sn	10 31 19.2	+6.4
UGL				pmax	pmax		
	comp=Z,91nm,0.6s						
UGL				smax	smax		
	comp=N,47nm,0.7s						
UGL				smax	smax		
	comp=Z,70nm,0.7s						
UGL				smax	smax		
	comp=E,157nm,0.8s						
UGL				MLR	MLR		
	comp=E,3μm,16.0s						
UGL				MLR	MLR		
	comp=Z,3μm,16.0s						
UGL				MLR	MLR		
	comp=N,500nm,12.0s						
JFR	Furan	8.09	251	P	Pn	10 29 47.5	+1.3
JSS	Shosan	8.13	261	P	Pn	10 29 52.5	+5.7
JAB	Ashibetsu	8.19	254	P	Pn	10 29 50.2	+2.6
ERM	Erimo	8.31	243	*c* iPN	Pn	10 29 49.5	+0.3
ERM	Erimo	8.31	243	*e*Pn	Pn	10 29 50.3	+1.2
ERM				*e*Sn	Sn	10 31 32.9	+11
JEM	Erimo	8.31	243	P	Pn	10 29 49.3	+0.1
JEM				*e*S	Sn	10 31 19.4	-2.2
JBT2	Biratori 2	8.42	249	P	Pn	10 29 51.2	+0.5
JBT2				*e*S	Sn	10 31 21.6	-2.7
JNBK	Urakawa-nobuka	8.42	245	P	Pn	10 29 49.4	-1.3
JNBK				*e*S	Sn	10 31 19.7	-4.6
JHR	Hokuryu	8.44	257	P	Pn	10 29 53.7	+2.8
JEW	Eniwo	8.99	252	P	Pn	10 29 59.6	+1.1
JNB	Noboribetsu	9.43	251	P	Pn	10 30 04.7	+0.2
JNB				*e*S	Sn	10 31 46.4	-2.7
JKB	Kayabe	9.72	248	P	Pn	10 30 07.4	-1.0
JKB				*e*S	Sn	10 31 50.8	-5.4
JYM2	Yakumo 2	10.03	250	P	Pn	10 30 12.7	0.0
JANG	Nango	10.28	239	P	Pn	10 30 12.9	-3.3
JANG				*e*S	Sn	10 32 00.9	-9.2
JSR	Shiriuchi	10.29	247	P	Pn	10 30 14.8	-1.6
JTM	Tenmabayashi	10.30	242	P	Pn	10 30 14.3	-2.1
JTM				*e*S	Sn	10 32 02.1	-8.4
JTH	Tanohata	10.36	236	P	Pn	10 30 14.7	-2.5
JTH				*e*S	Sn	10 32 02.6	-9.3
JOSM	Okushiri--Mats	10.63	252	P	Pn	10 30 20.7	-0.3
OFUJ	Ofunato	11.05	234	*e*S	Sn	10 32 19.1	-10
JRG	Rokugo	11.43	237	P	Pn	10 30 29.8	-2.1
JRG				*e*S	Sn	10 32 31.7	-6.4
JIO	Ouri	11.67	232	P	Pn	10 30 32.3	-2.8
JIO				*e*S	Sn	10 32 32.7	-11
HABR	Khabarovsk	12.43	287	*e*PN	Pn	10 30 50.6	+5.2
HABR				MLR	MLR		
	comp=Z,1μm,17.0s						
JYA	Atsumi	12.50	237	P	Pn	10 30 44.5	-2.0
JFY	Yanaizu	13.32	233	P	Pn	10 30 56.8	-1.0
FX1	Attu Island--F	14.58	56	*e*Pn	Pn	10 31 10.6	-4.2
FX1				Sn	Sn	10 33 38.7	-16
FX1	Attu Island--F	14.58	56	Pn	Pn	10 31 10.2	-

YAK smax smax
comp=N,28nm,1.5s
YAK smax smax
comp=E,57nm,1.8s
JNU Nakatsue 21.46 240 *eP* **P 10 32 37.8 +1.6**
comp=E,19nm,1.4s
JNU Nakatsue 21.46 240 P **P 10 32 37.8 +1.6**
comp=E,22nm,1.1s,baz=17,slow=6.5,SNR=5.1
INCN Inchon 21.49 255 *eP* **P 10 32 37.8 +1.3**
comp=E,95nm,1.5s
TJN Taejon 21.61 252 *eP* **P 10 32 39.1 +1.3**
ATKA Atka Island 22.04 62 *eP* **P 10 32 44.3 +2.0**
comp=E,42nm,1.4s
BJT Baijiatuau 27.47 270 *eP* **P 10 33 36.4 +2.9**
comp=E,16nm,0.4s
JOW Kunigami 27.62 234 *eP* **P 10 33 35.6 +0.6**
comp=E,5.5nm,1.2s
HHC Hu-ho-hao-te 30.31 275 *eP* **P 10 34 00.4 +1.5**
HHC PP **PnPn 10 34 58.5 +0.7**
HHC PcP **PcP 10 37 01.8 +3.5**
HHC S **S 10 38 55.8 -0.4**
HHC SS **SnSn 10 40 34.4 +1.6**
HHC ScP **ScP 10 40 40.0 +2.7**
HHC PcS **PcS 10 40 43.8 +1.8**
HHC ScS **ScS 10 44 33.8 +0.5**
HHC pmax pmax
comp=Z,47nm,0.6s
HHC pmax pmax
comp=Z,2µm,5.2s
HHC LR LR
comp=N,1µm,15.1s
HHC LR LR
comp=E,1µm,16.0s
HHC LR LR
comp=Z,920nm,15.2s
ULN Ulaanbaatar 31.04 290 *eP* **P 10 34 04.2 -1.1**
comp=Z,8.7nm,1.0s
SONM Songino Array 31.48 290 P **P 10 34 08.4 -0.7**
SONM PcP **PcP 10 37 02.3 +1.0**
SONM Songino Array 31.48 290 P **P 10 34 08.4 -0.7**
comp=Z,2.7nm,0.9s,baz=69,slow=9.5,SNR=6.4
SONM PcP **PcP 10 37 02.3 +1.0**
comp=Z,1.3nm,0.9s,baz=149,slow=3.7,SNR=3.7
ZAK Zakamensk 32.87 296 *eP* **P 10 34 19.1 -2.1**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
WHN Wuhan 33.79 256 P **P 10 34 30.1 +0.7**
IM04 Indian Mountai 34.15 36 *eP* **P 10 34 31.7 -0.5**
IMA2 Indian Mountai 34.21 36 *eP* **P 10 34 32.6 -0.1**
KDAK Kodiak Island 34.42 50 P **P 10 34 34.0 -0.4**
KDAK Kodiak Island 34.42 50 P **P 10 34 34.0 -0.4**
comp=Z,4.8nm,0.6s,baz=281,slow=6.1,SNR=6.7
XAN Xi'an 35.46 266 P **P 10 34 43.1 -0.7**
XAN pP **pP 10 34 53.9 -1.0**
XAN pmax pmax
comp=Z,6.0nm,1.0s
COLD Coldfoot 35.74 34 *eP* **P 10 34 45.9 +0.1**
comp=Z,3.7nm,0.7s
MCK McKinley 36.03 40 *eP* **P 10 34 48.4 0.0**
MCK pmax pmax
comp=Z,14nm,1.3s
MCK McKinley 36.03 40 *eP* **P 10 34 48.4 0.0**
comp=Z,14nm,1.3s
SML Sawmill 36.33 43 *eP* **P 10 34 50.8 -0.1**
SML pmax pmax
comp=Z,7.0nm,0.7s
SML Sawmill 36.33 43 *eP* **P 10 34 50.8 -0.1**
comp=Z,6.5nm,0.7s
COLA College 36.53 38 *eP* **P 10 34 52.8 +0.3**
COLA pmax pmax
comp=Z,24nm,0.7s
COLA College 36.53 38 *eP* **P 10 34 52.8 +0.3**
comp=Z,24nm,0.7s
ILAR Eielson Array 36.94 38 P **P 10 34 55.0 -1.0**
ILAR Eielson Array 36.94 38 P **P 10 34 55.0 -1.0**
comp=Z,4.8nm,1.1s,baz=255,slow=7.3,SNR=18
ENH Enshi 37.26 260 *eP* **P 10 35 01.5 +2.3**
comp=Z,5.0nm,0.3s
KRAR Krasnoyarsk 37.86 307⇓*eP* **P 10 35 01.7 -2.2**
KRAR pmax pmax
comp=Z,22nm,0.5s
LZH Lanzhou 37.89 272 ⇑P **P 10 35 06.3 +1.7**
LZH pP **pP 10 35 14.8 -1.0**
LZH sP **sP 10 35 18.8 -1.7**
LZH pmax pmax
comp=Z,83nm,1.0s
LZH pmax pmax
comp=Z,400nm,5.0s
HVS Khovu-Aksy 38.56 300*c iP* **P 10 35 09.0 -1.0**
HVS pmax pmax
comp=Z,95nm,1.2s
GTA Gaotai 39.03 280 *eP* **P 10 35 15.9 +1.8**
GTA pP **pP 10 35 25.8 +0.5**
GTA sP **sP 10 35 30.6 +0.5**
GTA pmax pmax
comp=Z,27nm,1.2s
EGAK Eagle 39.39 38 *eP* **P 10 35 16.2 -0.4**
comp=Z,6.7nm,0.8s
CD2 Chengdu 40.82 266 *eP* **P 10 35 30.3 +1.3**
CD2 pP **pP 10 35 40.9 +0.7**
CD2 sP **sP 10 35 45.3 +0.3**
CD2 PP **PnPn 10 37 08.1 +0.3**
CD2 S **S 10 41 37.6 +0.3**
CD2 sS **sS 10 41 55.3 -0.6**
CD2 SS **SS 10 44 33.8 -5.4**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,210nm,6.2s
CD2 LR LR
comp=N,1µm,17.8s
CD2 LR LR
comp=Z,1µm,17.8s
GYA Guiyang 41.59 258⇑*iP* **P 10 35 36.5 +1.1**
GYA pP **pP 10 35 48.8 +2.1**
GYA sP **sP 10 35 54.4 +3.0**
GYA PP **PnPn 10 37 18.0 +1.0**
GYA PcP **PcP 10 37 35.4 +3.4**
GYA ScP **ScP 10 41 21.8 +3.0**
GYA S **S 10 41 46.4 -2.5**
GYA sS **sS 10 42 09.0 +1.4**
GYA SS **SS 10 44 49.5 -5.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,60nm,3.2s
GYA LR LR
comp=N,760nm,17.4s
GYA LR LR
comp=E,640nm,18.2s
GYA LR LR
comp=Z,780nm,17.9s
HYT Haines Junctio 41.63 44 *eP* **P 10 35 36.4 +1.0**
INK Inuvik 42.07 32 *eP* **P 10 35 38.5 -0.1**
comp=Z,6.4nm,0.8s
INK Inuvik 42.07 32 P **P 10 35 38.9 +0.3**
comp=Z,5.7nm,0.7s,baz=312,slow=4.9,SNR=8.5
ZAA0 Zalesovo Array 42.88 306 *eP* **P 10 35 43.5 -1.9**
ZALV Zalesovo Beam 42.88 306 P **P 10 35 43.3 -2.1**
ZALV 10 37 36.3
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV MLR MLR
comp=Z,1µm,18.3s
ZALV Zalesovo Beam 42.88 306 P **P 10 35 43.2 -2.1**
ZALV PcP **PcP 10 37 36.3 +0.7**
ZALV Zalesovo Beam 42.88 306 P **P 10 35 43.2 -2.1**
comp=Z,4.5nm,0.6s,baz=60,slow=6.8,SNR=8.4
ZALV PcP **PcP 10 37 36.3 +0.7**
comp=Z,3.8nm,0.8s,baz=101,slow=3.0,SNR=5.9
ZALV LR LR 10 54 52.9
comp=Z,1µm,18.3s,baz=70,slow=38
WMQ Urumqi 45.09 292 *eP* **P 10 36 04.3 +1.0**
WMQ pmax pmax
comp=Z,12nm,0.7s
KMI Kunming 45.14 260 P **P 10 36 05.8 +1.6**
KMI pP **pP 10 36 16.9 +1.4**
KMI pmax pmax
comp=Z,23nm,1.0s
MK31 Makanchi Array 47.15 298*ceP* **P 10 36 18.4 -1.1**
MK31 pmax pmax
comp=Z,19nm,0.8s
MK31 Makanchi Array 47.15 298 *eP* **P 10 36 18.2 -1.2**
MKAR Makanchi Array 47.15 298 *eP* **P 10 36 18.6 -0.9**
MKAR Makanchi Array 47.15 298 *eP* **P 10 36 18.6 -0.9**
MKAR Makanchi Array 47.15 298 P **P 10 36 18.4 -1.0**
comp=Z,16nm,0.9s,baz=64,slow=8.4,SNR=53
KURK Kurchatov 47.62 304 P **P 10 36 22.1 -0.9**
KURK pmax pmax
comp=Z,22nm,0.9s
KURK Kurchatov 47.62 304 P **P 10 36 22.1 -0.9**
KURBB Kurchatov Arra 47.71 304 P **P 10 36 22.1 -1.6**
comp=Z,22nm,0.9s,baz=66,slow=8.2,SNR=45
LSA Lhasa 50.28 274 P **P 10 36 46.1 +1.8**
LSA Lhasa 50.28 274 *eP* **P 10 36 46.8 +2.5**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 50.28 274 *eP* **P 10 36 46.8 +2.5**
comp=Z,9.0nm,0.6s
VOSK Vostochnaya 50.98 309 P **P 10 36 46.1 -2.5**
VOSK pmax pmax
comp=Z,23nm,1.0s
BVA0 Borovoye Array 51.15 310 P **P 10 36 48.5 -1.5**
BVA0 pmax pmax
comp=Z,26nm,2.0s
BVAR Borovoye Array 51.15 310 P **P 10 36 49.0 -0.9**
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR Borovoye Array 51.15 310 P **P 10 36 49.0 -0.9**
BVAR Borovoye Array 51.15 310 P **P 10 36 49.0 -0.9**
comp=Z,2.9nm,0.3s,baz=60,slow=8.8,SNR=32
BRVK Borovoye 51.19 310*ceP* **P 10 36 48.9 -1.3**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 51.19 310 *eP* **P 10 36 49.5 -0.8**
comp=Z,27nm,1.2s
YKA Yellowknife Ar 51.32 36 P **P 10 36 51.0 0.0**
YKA Yellowknife Ar 51.32 36 P **P 10 36 51.0 0.0**
comp=Z,6.2nm,0.9s,baz=298,slow=7.5,SNR=16
CHTO Chiang Mai 51.99 257 *eP* **P 10 36 58.5 +1.8**
CHTO pmax pmax
comp=Z,31nm,1.1s
CHTO Chiang Mai 51.99 257 *eP* **P 10 36 58.5 +1.8**
comp=Z,31nm,1.1s
CMAR Chiang Mai Arr 52.24 257 P **P 10 37 00.5 +2.0**
CMAR Chiang Mai Arr 52.24 257 P **P 10 37 00.5 +2.0**
comp=Z,7.3nm,0.9s,baz=33,slow=7.8,SNR=38
CMAR LR LR 11 02 16.0
comp=Z,1µm,18.6s,baz=8.6,slow=40
KBS Kingsbay 52.97 351*ceP* **P 10 37 02.9 -0.2**
KBS pmax pmax
comp=Z,17nm,1.0s
KBS Kingsbay 52.97 351 *eP* **P 10 37 02.0 -1.1**
comp=Z,15nm,1.0s
SPITS Spitsbergen Ar 53.08 350 P **P 10 37 02.6 -1.4**
SPITS Spitsbergen Ar 53.08 350 P **P 10 37 02.6 -1.4**
comp=Z,7.9nm,0.9s,baz=61,slow=6.8,SNR=5.8
TKM2 Tokmak 2 53.20 296 *iP* **P 10 37 05.9 +0.4**
TKM2 Tokmak 2 53.20 296 P **P 10 37 05.9 +0.4**
SNR=8.0
CHMS Chumysh 53.68 297 *eP* **P 10 37 08.2 -0.7**
CHMS Chumysh 53.68 297 P **P 10 37 08.2 -0.7**
SNR=6.2
USP Ospenovka 53.69 297 *eP* **P 10 37 09.2 +0.2**
USP Ospenovka 53.69 297 P **P 10 37 09.2 +0.2**
SNR=21
KBK Karagaybulak 53.74 296 *eP* **P 10 37 09.9 +0.4**
KBK Karagaybulak 53.74 296 P **P 10 37 09.9 +0.4**
SNR=8.0
KZA Kyzart 53.86 296 *eP* **P 10 37 11.6 +0.9**
KZA Kyzart 53.86 296 P **P 10 37 11.6 +0.9**
SNR=11
AAK Ala-Archa 54.03 297*c iP* **P 10 37 11.4 -0.2**
AAK pmax pmax
comp=Z,44nm,0.9s
AAK Ala-Archa 54.03 297 P **P 10 37 12.0 +0.4**
SNR=8.3
AAK Ala-Archa 54.03 297 *eP* **P 10 37 11.8 +0.2**
comp=Z,19nm,0.9s
AAK Ala-Archa 54.03 297 P **P 10 37 11.6 0.0**
comp=Z,14nm,0.8s,baz=69,slow=2.8,SNR=15
TAPN Taplejung 54.11 274 *eP* **P 10 37 13.9 +1.4**
comp=Z,21nm,0.5s
SVE Sverdlovsk 54.17 317⇑*eP* **P 10 37 11.3 -0.9**
SVE pmax pmax
comp=Z,17nm,1.0s
EKS2 Erkin-Say 54.46 297 *eP* **P 10 37 14.6 -0.1**
EKS2 pmax pmax
comp=Z,18nm,0.9s
EKS2 Erkin-Say 54.46 297 P **P 10 37 14.8 +0.1**
SNR=16
EKS2 Erkin-Say 54.46 297 *eP* **P 10 37 14.6 -0.1**
comp=Z,18nm,0.9s
ODAN Odare 54.64 273 *eP* **P 10 37 17.7 +1.4**
comp=Z,14nm,0.4s
AML Almayashu 54.80 297 *eP* **P 10 37 18.2 +0.7**
AML Almayashu 54.80 297 P **P 10 37 18.2 +0.7**
SNR=11
KSH Kashi 54.82 293 P P 10 37 22.4 +5.1
KSH sP sP 10 37 36.3 +2.7
KSH PP PP 10 39 27.3 +7.2
KSH S **S 10 44 58.6 +3.1**
KSH sS sS 10 45 14.8 +0.1
KSH SS **SS 10 48 41.8 +3.2**
KSH pmax pmax
comp=Z,11nm,1.0s
KSH pmax pmax
comp=Z,240nm,9.6s
KSH LR LR
comp=N,670nm,8.5s
KSH LR LR
comp=E,350nm,9.9s
KSH LR LR
comp=Z,720nm,16.8s
JIRN Jiri 54.97 275 *eP* **P 10 37 20.3 +1.5**
GUN Gumba 55.03 275 *eP* **P 10 37 20.6 +1.4**
comp=Z,23nm,0.4s
RAMN Ramite 55.13 274 *eP* **P 10 37 21.0 +1.1**
comp=Z,44nm,0.4s
ARU Arti 55.35 318*c iP* **P 10 37 19.2 -1.6**
ARU 10 39 19.5
ARU S **S 10 45 01.2 -0.7**
ARU pmax pmax
comp=Z,19nm,1.2s
KKN Kakani 55.52 276 *eP* **P 10 37 24.1 +1.5**
PKI Pulchoki 55.56 275 *eP* **P 10 37 24.1 +1.0**
comp=Z,48nm,1.0s
PKIN Phulchoki 55.57 275 *eP* **P 10 37 24.2 +1.1**
comp=Z,30nm,0.8s
DMN Daman 55.75 276 *eP* **P 10 37 25.9 +1.6**
comp=Z,115nm,1.1s
DANN Dangsing 56.21 277 *eP* **P 10 37 29.5 +1.8**
comp=Z,56nm,0.6s
KK31 Karatay Array 56.22 299*ceP* **P 10 37 26.5 -0.7**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 56.22 299 *eP* **P 10 37 27.0 -0.2**
KKAR Karatay Array 56.22 299 *eP* **P 10 37 27.0 -0.2**
EDM Edmonton 56.66 46 *eP* **P 10 37 30.4 +0.2**
EDM Edmonton 56.66 46 *eP* **P 10 37 30.4 +0.2**
KOLN Koldanda 56.69 277 *eP* **P 10 37 32.6 +1.6**
comp=Z,48nm,0.9s
DAG Danmarks Havn 57.12 358⇑*iP* **P 10 37 31.9 -1.2**
comp=Z,8.4nm,1.1s
NEW Newport 57.48 52 *eP* **P 10 37 36.2 +0.1**
comp=Z,4.6nm,1.2s
NEW Newport 57.48 52 P **P 10 37 36.0 -0.1**
baz=57
ARCES ARCESS Array B 58.30 341 P **P 10 37 41.0 -0.4**
ARCES ARCESS Array B 58.30 341 P **P 10 37 41.0 -0.4**
comp=Z,1.7nm,0.3s,baz=23,slow=6.9,SNR=28
AB31 Akbulak array 58.72 310*ceP* **P 10 37 43.8 -0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.3s
ABKAR Akbulak array 58.72 310 *eP* **P 10 37 43.9 -0.8**
WALA Waterton Lakes 58.76 50 *eP* **P 10 37 44.9 -0.3**
comp=Z,0.2nm,1.0s
AKTO Aktyubinsk 59.03 312 P **P 10 37 45.5 -1.4**
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 59.03 312 P **P 10 37 45.5 -1.4**
AKTO Aktyubinsk 59.03 312 P **P 10 37 45.5 -1.4**
comp=Z,2.7nm,0.6s,baz=67,slow=6.8,SNR=7.8
SWMT Swartz Lake 59.63 52 *eP* **P 10 37 52.5 +1.3**
SLMT Seeley Lake 60.07 52 *eP* **P 10 37 54.7 +0.5**
MSO Missoula 60.07 52 *eP* **P 10 37 54.7 +0.5**
comp=Z,9.7nm,1.3s
MSO Missoula 60.07 52 P **P 10 37 54.2 0.0**
baz=60,SNR=7.8
CHMT Chamberlain Mo 60.40 52 *eP* **P 10 37 58.8 +2.2**
comp=Z,3.6nm,1.2s
NDI New Delhi 60.48 282 *eP* **P 10 37 56.0 -1.1**
A17A Triple J Farms 60.52 49 P **P 10 37 56.9 -0.4**
baz=60
SUMG Summit 61.18 4 *eP* **P 10 38 01.2 -0.5**
SUMG pmax pmax
comp=Z,58nm,1.0s
SUMG Summit 61.18 4⇓*iP* **P 10 38 01.9 +0.2**
comp=Z,42nm,0.9s
SUMG Summit 61.18 4 *eP* **P 10 38 01.2 -0.5**
comp=Z,58nm,1.0s
HRY Holter Researc 61.29 51 *eP* **P 10 38 03.3 +0.8**
C17A Wharram Farm, 61.30 50 P **P 10 38 02.3 -0.2**
baz=61,SNR=7.3
LRM Limekiln Ridge 61.50 52 *eP* **P 10 38 04.8 +0.6**
A19A Klindworth Far 61.55 48 P **P 10 38 04.4 +0.3**
baz=61
EGMT Eagleton 61.59 49 P **P 10 38 04.7 +0.2**
baz=61
CMB Columbia Colle 61.63 64 *eP* **P 10 38 05.5 +0.6**
CMB pmax pmax
comp=Z,10.0nm,1.5s
CMB Columbia Colle 61.63 64 *eP* **P 10 38 05.5 +0.6**
comp=Z,10nm,1.5s
D17A Six Diamond Ra 61.63 50 P **P 10 38 05.3 +0.4**
baz=61
HLID Hailey 61.80 55 *eP* **P 10 38 06.6 +0.6**
comp=Z,2.7nm,1.0s
HLID Hailey 61.80 55 P **P 10 38 06.0 0.0**
baz=62
E17A Martinsdale 61.97 51 P **P 10 38 08.1 +0.9**
baz=62,SNR=7.2
A20A Cobblestone Ra 62.00 48 P **P 10 38 07.3 +0.1**
baz=62
BOZ Bozeman (W) 62.06 52 *eP* **P 10 38 07.9 +0.1**
BOZ pmax pmax
comp=Z,8.0nm,1.2s
BOZ Bozeman (W) 62.06 52 *eP* **P 10 38 07.9 +0.1**
comp=Z,7.7nm,1.2s
C19A Slack Wire Ran 62.14 49 P **P 10 38 08.1 0.0**
baz=62
KBL Kabul 62.23 292 *eP* **P 10 38 09.2 +0.1**
KBL pmax pmax
comp=Z,36nm,0.9s
KBL Kabul 62.23 292 *eP* **P 10 38 09.2 +0.1**
comp=Z,36nm,0.9s
E18A Harlowton 62.42 51 P **P 10 38 10.3 +0.2**
baz=62
F17A Fitzpatrick Pl 62.43 52 P **P 10 38 10.7 +0.5**
baz=62
A21A Bergtoll Ranch 62.44 47 P **P 10 38 10.5 +0.4**
baz=62
NVAR Mina Array Bea 62.67 62 P **P 10 38 12.4 +0.3**
NVAR Mina Array Bea 62.67 62 P **P 10 38 12.4 +0.3**
comp=Z,2.5nm,0.7s,baz=290,slow=6.9,SNR=21
QLMT Earthquake Lak 62.68 53 *eP* **P 10 38 13.4 +1.4**
H16A Russell Place, 62.86 53 P **P 10 38 13.3 +0.1**
baz=62
F18A Big Timber 62.94 51 P **P 10 38 13.9 +0.3**
baz=63
A22A Carney Farms, 62.95 47 P **P 10 38 13.7 +0.1**
baz=63,SNR=6.0
D20A Manuel Ranch, 63.03 49 P **P 10 38 14.3 +0.3**
baz=63
E19A Rath Farm, Rou 63.09 50 P **P 10 38 14.4 -0.1**
baz=63
I16A Newdale 63.25 54 P **P 10 38 16.8 +1.0**
baz=63
F19A Roth Farm, Mol 63.39 51 P **P 10 38 17.1 +0.6**
baz=63
E20A Meyer Farm, Mu 63.41 50 P **P 10 38 17.8 +1.2**
baz=63
IMW Indian Meadow 63.55 53 *eP* **P 10 38 19.4 +1.6**
comp=Z,6.1nm,1.2s
RRI2 Red Ridge 63.68 54 *eP* **P 10 38 20.1 +1.4**
comp=Z,5.7nm,0.8s
MOOW Moose Ponds 63.75 53 *eP* **P 10 38 19.7 +0.6**
comp=Z,5.8nm,1.2s
H18A Shoshone NF, C 63.75 52 P **P 10 38 19.7 +0.5**
baz=63
B23A Brockton 63.76 47 P **P 10 38 18.7 -0.2**
baz=63
TPAW Teton Pass 63.80 54 *eP* **P 10 38 20.3 +0.8**
comp=Z,17nm,1.3s
VES Vestal, Richgr 63.82 65 P **P 10 38 20.3 +1.0**
baz=64
F20A Billings 63.85 50 P **P 10 38 20.3 +0.7**
baz=64
LOHW Long Hollow 63.91 53 *eP* **P 10 38 20.3 +0.1**
comp=Z,7.6nm,1.3s
SNOW Snow King Moun 63.93 54 *eP* **P 10 38 21.9 +1.6**
comp=Z,8.8nm,1.2s
REDW Red Top Meadow 63.94 54 *eP* **P 10 38 21.6 +1.2**
comp=Z,14nm,1.3s
D22A Cohagen 64.01 48 P **P 10 38 21.2 +0.7**
baz=64
G20A Bridger 64.19 51 P **P 10 38 21.7 -0.2**
baz=64
I18A Diamond G Ranc 64.30 53 P **P 10 38 22.4 -0.3**
baz=64
R11A Troy Canyon, C 64.38 61 *eP* **P 10 38 23.7 +0.4**
comp=Z,19nm,2.1s
R11A Troy Canyon, C 64.38 61 P **P 10 38 23.0 -0.3**
baz=64
FIA1 FINESS Array S 64.47 335 *eP* **P 10 38 22.3 -0.9**
FINES FINESS Array B 64.47 335 P **P 10 38 22.4 -0.8**
FINES FINESS Array B 64.47 335 P **P 10 38 22.4 -0.8**
comp=Z,6.0nm,0.6s,baz=32,slow=7.9,SNR=31
I19A Meeteetse 64.53 52 P **P 10 38 24.1 -0.1**
baz=64
E22A Miles City 64.59 49 P **P 10 38 24.5 +0.1**
baz=64
C24A Savage 64.66 47 P **P 10 38 25.2 +0.4**
baz=64
HWUT Hardware Ranch 64.66 56 *eP* **P 10 38 25.3 +0.2**
comp=Z,3.9nm,1.1s
MPMC Manual Prospec 64.67 64 P **P 10 38 25.0 -0.3**
baz=64
FURC Furnace Creek, 64.80 63 P **P 10 38 26.2 +0.5**
baz=64
DUG Dugway 64.85 58 *eP* **P 10 38 26.6 +0.4**
DUG pmax pmax
comp=Z,9.0nm,1.3s
DUG Dugway 64.85 58 *eP* **P 10 38 26.6 +0.4**
comp=Z,8.5nm,1.3s
DUG Dugway 64.85 58 P **P 10 38 26.4 +0.1**
baz=65
E23A Ismay 64.89 48 P **P 10 38 26.2 -0.1**
baz=64
LRMC Laurel Mountai 64.92 64 P **P 10 38 27.1 +0.3**
baz=65
D24A Glendive 64.98 47 P **P 10 38 27.1 +0.2**
baz=65
J19A Crowheart 65.00 53 P **P 10 38 28.1 +0.9**
baz=65
BW06 Boulder Array 65.05 54 *eP* **P 10 38 27.0 -0.6**
comp=Z,5.8nm,1.2s
PDAR Pinedale Array 65.05 54 P **P 10 38 27.9 +0.2**
PDAR Pinedale Array 65.05 54 P **P 10 38 27.9 +0.2**
comp=Z,2.0nm,0.9s,baz=294,slow=1.5,SNR=13
F23A Volborg 65.35 49 P **P 10 38 29.3 -0.1**
baz=65
K19A Absolon Red Bu 65.40 53 P **P 10 38 29.9 0.0**
baz=65
GSC Goldstone 65.59 64 *eP* **P 10 38 32.4 +1.3**
GSC pmax pmax
comp=Z,6.0nm,1.1s
GSC Goldstone 65.59 64 *eP* **P 10 38 32.4 +1.3**
comp=Z,5.7nm,1.1s
GSC Goldstone 65.59 64 P **P 10 38 31.1 0.0**
baz=65
I21A Big Trails, Te 65.61 52 P **P 10 38 31.1 0.0**
baz=65
OBN Obninsk 65.70 326 *eP* **P 10 38 29.7 -1.5**
OBN pmax pmax
comp=Z,22nm,1.6s
G23A Biddle 65.71 49 P **P 10 38 30.8 -0.9**
baz=65
F24A Ekalaka 65.77 48 P **P 10 38 32.2 +0.1**
baz=65
A28A Rude Farm, Bot 65.78 44 P **P 10 38 31.7 -0.3**
baz=65
SHPR Sheep Range 65.83 62 *eP* **P 10 38 34.2 +1.6**
comp=Z,9.2nm,1.3s
I22A 9 Mile Ranch, 65.99 51 P **P 10 38 34.2 +0.7**
baz=66
TUQ Turquoise Moun 66.05 63 P **P 10 38 34.2 +0.1**
baz=66
HEC Hector,Ludlow 66.19 64 P **P 10 38 35.0 +0.1**

baz=66
L20A Wamsutter 66.22 54 P P 10 38 35.7 +0.6
baz=66
CCUT Cedar City 66.23 60 eP P 10 38 35.6 +0.3
comp=Z,4.4nm,1.2s
J22A Midwest 66.32 51 P P 10 38 35.0 -0.7
baz=66
E26A Carlson Angus 66.36 47 P P 10 38 35.3 -0.5
baz=66
K21A Alcova 66.41 53 P P 10 38 35.9 -0.4
baz=66
H24A Dirks Ranch, A 66.45 49 P P 10 38 35.8 -0.6
baz=66
VSU Vasula 66.63 333deP P 10 38 36.3 -0.9
VSU pmax pmax
comp=Z,105nm,1.2s
Q16A Castle Valley 66.64 58 P P 10 38 38.4 +0.5
baz=66
F26A Lodgepole 66.68 48 P P 10 38 37.7 -0.2
baz=66
L21A Rawlins 66.79 53 P P 10 38 39.3 +0.5
baz=66
K22A Casper 66.80 52 P P 10 38 38.8 0.0
baz=66
SRU San Rafael 66.89 57 eP P 10 38 40.1 +0.6
SRU pmax pmax
comp=Z,20nm,1.6s
SRU San Rafael 66.89 57 eP P 10 38 40.1 +0.6
comp=Z,20nm,1.6s
O19A Miners Draw (B 66.91 55 P P 10 38 39.4 -0.2
baz=67
N20A Spence Gulch, 67.05 55 P P 10 38 40.3 -0.2
baz=67
G26A Maurine 67.10 48 P P 10 38 40.1 -0.4
baz=67
RSSD Black Hills 67.15 50 eP P 10 38 41.0 -0.1
RSSD pmax pmax
comp=Z,13nm,1.5s
RSSD Black Hills 67.15 50 eP P 10 38 41.0 -0.1
comp=Z,13nm,1.5s
IRM Iron Mountain 67.36 64 P P 10 38 42.9 +0.6
baz=67
I25A Rochford 67.38 50 P P 10 38 42.0 -0.5
baz=67
P19A Cripple Cowboy 67.44 56 P P 10 38 43.0 0.0
baz=67
VSR Storozhevoye 67.48 322 eP P 10 38 41.6 -1.1
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.4s
U15A North Rim 67.62 60 P P 10 38 44.5 +0.2
baz=67
WRA Warramunga Arr 68.05 199 P P 10 38 46.9 +0.3
WRA Warramunga Arr 68.05 199 P P 10 38 46.9 +0.3
comp=E,1.3nm,0.7s,baz=16,slow=6.7,SNR=5.7
N22A Wattenberg Ran 68.08 54 P P 10 38 46.8 -0.3
baz=68
J26A Sides Ranch, S 68.21 50 P P 10 38 47.5 -0.1
baz=68
I27A Quinn 68.22 49 P P 10 38 47.8 +0.2
baz=68
PV10 Paradox Valley 68.25 57 eP P 10 38 48.7 +0.6
comp=E,131nm,0.8s
N23A Red Feather La 68.31 53 P P 10 38 48.2 -0.2
baz=68
PV04 Paradox Valley 68.31 57 eP P 10 38 48.7 +0.2
P21A Newcastle 68.39 55 P P 10 38 48.9 0.0
baz=68
K26A Motz Farm, Whi 68.58 50 P P 10 38 49.7 -0.2
baz=68
NB2 NORSAR Subarra 68.68 341 P P 10 38 49.5 -0.6
comp=Z,36nm,1.0s,baz=27,slow=6.5
NB2 NORSAR Subarra 68.68 341 P P 10 38 49.5 -0.6
baz=27,slow=6.5
NOA NORSAR Array B 68.68 341 P P 10 38 49.7 -0.4
NOA NORSAR Array B 68.68 341 P P 10 38 49.7 -0.4
comp=Z,18nm,0.8s,baz=28,slow=6.4,SNR=35
NOA LR LR 11 13 09.1
comp=Z,207nm,18.7s,baz=100,slow=40
PV01 Paradox Valley 68.68 57 eP P 10 38 52.4 +1.6
comp=Z,263nm,0.9s
FITZ Fitzroy Crossi 68.71 208 LR LR 11 07 08.7
comp=Z,3μm,19.6s,baz=300,slow=34
I28A Midland 68.73 48 P P 10 38 50.8 0.0
baz=68
P22A Eagle 68.73 55 P P 10 38 51.3 +0.2
baz=68
R20A Redvale 68.76 57 P P 10 38 50.9 -0.4
baz=68
Q21A Lamborn Mesa, 68.78 56 P P 10 38 51.5 +0.1
baz=68
O23A Lake Granby, G 68.78 54 P P 10 38 52.0 +0.5
baz=68
Y14A Wickenburg 68.84 63 P P 10 38 52.1 +0.5
baz=69
NAO01 NORSAR Array S 68.92 341 eP P 10 38 51.1 -0.5
comp=Z,5.1nm,0.7s
S20A Disappointment 69.01 57 P P 10 38 52.8 -0.1
baz=69
R21A Cimarron 69.11 56 P P 10 38 53.6 +0.1
baz=69
Q22A Crested Butte, 69.14 55 P P 10 38 53.6 -0.1
baz=69
ISCO Idaho Springs 69.24 54 eP P 10 38 55.2 +0.9
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 69.24 54 eP P 10 38 55.2 +0.9
comp=Z,2.9nm,0.9s
ISCO Idaho Springs 69.24 54 P P 10 38 54.3 0.0
baz=69
MVCO Mesa Verde 69.35 58 eP P 10 38 55.0 0.0
comp=Z,7.5nm,1.1s
MVCO Mesa Verde 69.35 58 P P 10 38 54.9 0.0
baz=69
S21A Coal Bank Pass 69.45 57 P P 10 38 55.6 -0.1
baz=69
X16A Lo Mia Camp, P 69.48 61 P P 10 38 55.9 +0.2
baz=69
R22A Saguache, Gunn 69.67 56 P P 10 38 56.8 -0.2
baz=69
S22A 4UR Ranch, Cre 69.95 56 P P 10 38 58.8 0.0
baz=70
R23A Moffat 70.22 55 P P 10 39 00.6 +0.2
baz=70
N27A Anderson Farm, 70.24 51 P P 10 39 00.2 0.0
baz=70
X18A Snowflake 70.31 61 P P 10 39 01.2 +0.3
baz=70
SDCO Great Sand Dun 70.72 55 eP P 10 39 05.6 +2.2
comp=Z,6.3nm,1.7s
Q26A Hugo 71.01 53 P P 10 39 04.7 -0.4
baz=71
KIV Kislovodsk 71.12 314 eP P 10 39 06.5 +1.0
KIV pmax pmax
comp=Z,19nm,1.1s
KBZ Khabaz 71.18 314 P P 10 39 06.3 +0.6
KBZ pmax pmax
comp=Z,17nm,0.9s
KBZ Khabaz 71.18 314 P P 10 39 06.3 +0.6
KBZ Khabaz 71.18 314 P P 10 39 06.3 +0.6
comp=Z,16nm,0.8s,baz=43,slow=3.7,SNR=30
ECSD EROS Data Cent 71.23 46 eP P 10 39 05.6 -0.5
comp=Z,12nm,1.3s
U23A El Rito 71.30 57 P P 10 39 07.1 +0.2
baz=71
ZEI Tsey 71.36 313 eP P 10 39 05.3 -1.8
ZEI pmax pmax
comp=Z,5.0nm,0.4s
R26A Arlington 71.49 54 P P 10 39 07.3 -0.6
baz=71
X21A Alamocita Cree 71.66 59 P P 10 39 09.2 +0.1
baz=71
ASAR Alice Springs 71.75 198 P P 10 39 10.9 +1.6
ASAR Alice Springs 71.75 198 P P 10 39 10.9 +1.6
comp=Z,1.6nm,0.8s,baz=14,slow=5.0,SNR=9.8
AKASG Malin Array Be 71.94 326 P P 10 39 09.4 -0.7
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKASG Malin Array Be 71.94 326 P P 10 39 09.4 -0.7
AKASG Malin Array Be 71.94 326 P P 10 39 09.4 -0.7
comp=Z,19nm,0.6s,baz=33,slow=6.2,SNR=57
KIEV Kiev 71.95 326 eP P 10 39 09.4 -0.8
KIEV pmax pmax
comp=Z,41nm,1.1s
KIEV Kiev 71.95 326 eP P 10 39 09.4 -0.8

comp=Z,40nm,1.1s
Z20A Nine Sixteen R 72.10 61 P P 10 39 12.0 +0.4
baz=72
ANMO Albuquerque 72.10 58 eP P 10 39 14.2 +2.4
comp=Z,3.7nm,1.3s
U25A Circle Dot Ran 72.28 56 P P 10 39 12.4 -0.3
baz=72
Q29A Oakley 72.44 52 P P 10 39 13.0 -0.5
baz=72
Z21A St. Cloud Mine 72.52 60 P P 10 39 14.4 +0.1
baz=72
W24A Lazy 6 Ranch, 72.53 57 P P 10 39 14.5 +0.2
baz=72
Q30A Quinter 72.79 51 P P 10 39 15.4 -0.1
baz=72
GNI Garni 72.83 310 eP P 10 39 18.3 +2.4
comp=Z,28nm,1.3s
GNI Garni 72.83 310 P P 10 39 17.5 +1.6
comp=Z,4.5nm,0.4s,baz=43,slow=5.6,SNR=6.9
Z22A Elephant Butte 72.98 60 P P 10 39 17.1 +0.2
baz=73
Y23A Lovelace Mesa, 73.05 59 P P 10 39 17.4 0.0
baz=73
W25A X Bar L Ranch, 73.08 57 P P 10 39 17.5 0.0
baz=73
U27A Thompson Grove 73.17 55 P P 10 39 17.5 -0.4
baz=73
Y25A Mesa, Roswell 73.86 58 P P 10 39 21.8 -0.2
baz=74
Z24A Sheeppen Canyo 73.88 59 P P 10 39 22.0 -0.3
baz=74
SIM Simferopol' 74.42 320 eP P 10 39 25.0 +0.1
SIM pmax pmax
comp=Z,15nm,1.0s
LVV L'vov 74.59 329 eP P 10 39 25.3 -0.6
224A Cornudas Mount 74.67 60 P P 10 39 26.9 +0.1
baz=74
125A Gardner Draw, 74.78 59 P P 10 39 26.9 -0.4
baz=74
Y27A Causey 74.78 57 P P 10 39 26.9 -0.5
baz=74
KIS Kishinev 75.06 324 *i* **P P 10 39 28.5 -0.1**
comp=Z,200nm,1.0s
KIS Kishinev 75.06 324k *iP* **P 10 39 28.5 -0.1**
KIS pmax pmax
comp=Z,200nm,1.0s
KIS pmax pmax
comp=Z,200nm,1.0s
Z27A Tatum 75.16 57 P P 10 39 29.3 -0.3
baz=75
X29A Tulia 75.22 56 P P 10 39 29.7 -0.2
baz=75
KWP Kalwaria Pacla 75.23 329 eP P 10 39 29.7 +0.2
KWP pmax pmax
comp=Z,87nm,1.1s
KWP Kalwaria Pacla 75.23 329⇑iP P 10 39 30.1 +0.6
KWP Kalwaria Pacla 75.23 329 eP P 10 39 29.7 +0.2
comp=Z,87nm,1.1s
KWP Kalwaria Pacla 75.23 329 eP P 10 39 30.4 +0.9
226B Tecolote Peak, 75.48 59 P P 10 39 31.4 0.0
baz=75
325A Bean Ranch, Si 75.50 60 P P 10 39 31.6 0.0
baz=75
OJC Ojcow 75.73 331 eP P 10 39 33.0 +0.6
OJC Ojcow 75.73 331 eP P 10 39 32.5 +0.1
comp=Z,28nm,1.2s
425A Indio Mountain 75.91 60 P P 10 39 33.8 -0.1
baz=76
STHS Stebnicka Huta 75.92 330 eP P 10 39 34.2 +0.7
STHS pmax pmax
comp=Z,14nm,1.0s
STHS Stebnicka Huta 75.92 330 eP P 10 39 34.2 +0.7
BUR08 Bucovina Ar. S 75.96 327 eP P 10 39 34.0 +0.1
KOLS Kolonicke sedl 75.97 329 eP P 10 39 33.9 +0.1
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 75.97 329 eP P 10 39 33.9 +0.1
BURAR Bucovina Array 75.98 327⇓P P 10 39 34.0 0.0
BURAR Bucovina Array 75.98 327⇓iP P 10 39 34.0 0.0
326A Caldwell Ranch 76.13 59 P P 10 39 35.1 -0.1
baz=76
UZH Uzhgorod 76.22 329 eP P 10 39 31.5 -3.7
UZH *i* 10 39 49.5
NIE Niedzica 76.24 330 eP P 10 39 38.7 +3.3
CRVS Cervenica-Dubn 76.28 329 eP P 10 39 35.7 +0.1
CRVS pmax pmax
comp=Z,19nm,1.4s
CRVS Cervenica-Dubn 76.28 329 eP P 10 39 35.7 +0.1
KSP Ksiaz 76.32 333 eP P 10 39 36.4 +0.6
TESR Tescani 76.33 325⇓iP P 10 39 36.2 +0.3
GHRR 76.39 324⇑iP P 10 39 38.1 +1.9
TLCR 76.53 323⇓P P 10 39 37.6 +0.6
TLCR 76.53 323⇓iP P 10 39 37.6 +0.6
OKC Ostrava-Krasne 76.61 332 eP P 10 39 37.3 -0.1
OKC Ostrava-Krasne 76.61 332⇑eP P 10 39 37.3 -0.1
NRDL Niedersach Rie 76.62 338 eP P 10 39 37.8 +0.5
comp=Z,7.0nm,0.9s
UPC Upice 76.70 333 eP P 10 39 39.2 +1.3
UPC *e* 10 39 45.5
UPC Upice 76.70 333⇑eP P 10 39 39.2 +1.3
UPC *ex* x 10 39 45.5
PETR Petresti 76.74 324⇓iP P 10 39 40.1 +1.9
DPC Dobruska-Polom 76.75 333⇑iP P 10 39 38.5 +0.3
DPC *e* 10 39 45.5
DPC Dobruska-Polom 76.75 333⇑iP P 10 39 38.5 +0.3
DPC *ex* x 10 39 45.5
DPC Dobruska-Polom 76.75 333 eP P 10 39 38.9 +0.7
328A Wristen Ranch, 76.78 58 P P 10 39 38.9 +0.1
baz=76
427A Hayter Ranch, 76.81 59 P P 10 39 38.8 -0.2
baz=76
CFR Carcaliu 76.81 323⇑P P 10 39 37.7 -0.9
CFR Carcaliu 76.81 323⇑iP P 10 39 37.7 -0.9
VRI Vrincioaia 76.83 325⇓P P 10 39 40.4 +1.7
VRI Vrincioaia 76.83 325⇓iP P 10 39 40.4 +1.7
MORC Moravsky Berou 76.86 332 eP P 10 39 39.1 +0.2
MORC pmax pmax
comp=Z,16nm,0.9s
MORC Moravsky Berou 76.86 332 eP P 10 39 39.1 +0.2
comp=Z,16nm,0.9s
PLOR Plostina 76.87 325⇑P P 10 39 39.9 +0.9
PLOR Plostina 76.87 325⇑iP P 10 39 39.9 +0.9
CLL Collm 76.89 336 eP P 10 39 38.5 -0.5
comp=Z,13nm,0.8s
CLL Collm 76.89 336⇑iP P 10 39 38.4 -0.5
CLL pmax pmax
comp=Z,21nm,0.8s
CLL Collm 76.89 336⇑iP P 10 39 38.4 -0.5
comp=Z,21nm,0.8s
526A Mary Lane Ranc 76.97 60 P P 10 39 40.2 +0.2
baz=77
KECS Kecovo 76.98 330 eP P 10 39 39.4 -0.1
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 76.98 330 eP P 10 39 39.4 -0.1
BRG Berggiesshubel 77.01 335 eP P 10 39 40.6 +1.0
comp=Z,13nm,1.1s
BRG Berggiesshubel 77.01 335 eP P 10 39 40.6 +1.0
BRG pmax pmax
comp=Z,13nm,1.1s
PVCC Panska Ves 77.13 334 eP P 10 39 41.7 +1.4
PVCC Panska Ves 77.13 334⇑eP P 10 39 41.7 +1.4
TIRR Tirgusor 77.28 323⇓P P 10 39 41.7 +0.5
TIRR Tirgusor 77.28 323⇓iP P 10 39 41.7 +0.5
TIRR Tirgusor 77.28 323 eP P 10 39 41.5 +0.3
comp=Z,26nm,1.1s
HARR Harsova 77.30 323⇑P P 10 39 42.1 +0.8
HARR Harsova 77.30 323⇑iP P 10 39 42.1 +0.8
626A Big Bend Ranch 77.31 61 P P 10 39 42.0 +0.2
baz=77
428A Kincaid Ranch, 77.33 59 P P 10 39 42.0 +0.1
baz=77
CJR Cluj-Napoca 77.34 327⇓iP P 10 39 42.5 +0.8
IBBN Ibbenburen 77.40 339 eP P 10 39 42.4 +0.7
comp=Z,13nm,0.9s
ISR Istrita 77.51 324⇓P P 10 39 43.7 +1.1
ISR Istrita 77.51 324⇓iP P 10 39 43.7 +1.1
DRGR 77.61 328⇓P P 10 39 43.4 +0.2
DRGR 77.61 328⇓iP P 10 39 43.3 +0.1
PRU Pruhonice 77.61 334 eP P 10 39 43.1 +0.1
PRU *e* 10 39 49.4
PRU Pruhonice 77.61 334⇑eP P 10 39 43.1 +0.1
PRU *ex* x 10 39 49.4
PSZ Piszkesteto 77.67 330⇑P P 10 39 45.7 +2.2
PSZ Piszkesteto 77.67 330⇑iP P 10 39 45.7 +2.2

PSZ Piszkesteto 77.67 330 eP P 10 39 44.0 +0.5
comp=Z,19nm,1.1s
PSZ Piszkesteto 77.67 330 eP KiKP **P 10 39 43.9 +0.5**
TXAR Lajitas Array 77.75 60 P P 10 39 44.5 +0.3
TXAR Lajitas Array 77.75 60 P P 10 39 44.5 +0.3
comp=Z,1.6nm,0.6s,baz=305,slow=4.4,SNR=15
627A Terlingua Ranc 77.83 60 P P 10 39 45.1 +0.3
baz=78
TANN Tannenbergstha 77.85 335 eP P 10 39 44.6 +0.2
comp=Z,2.0nm,0.9s
VOIR 77.85 325⇓P P 10 39 45.4 +0.9
VOIR 77.85 325⇓iP P 10 39 45.4 +0.9
MOX Moxa 77.88 336 eP P 10 39 44.8 +0.3
comp=Z,8.0nm,0.9s
MOX Moxa 77.88 336 eP P 10 39 44.8 +0.3
MOX pmax pmax
comp=Z,8.0nm,0.9s
TREC Trest 77.93 333 eP P 10 39 44.7 -0.1
TREC Trest 77.93 333⇑eP P 10 39 44.7 -0.1
SMOL Smolenice 77.99 332 eP P 10 39 46.3 +1.1
SMOL Smolenice 77.99 332 eP P 10 39 46.3 +1.1
NKC Novy Kostel 78.01 335 eP P 10 39 45.3 0.0
NKC Novy Kostel 78.01 335⇑eP P 10 39 45.3 0.0
ARR Arges 78.07 326⇑iP P 10 39 47.5 +1.8
430A Baggett Ranch, 78.14 58 P P 10 39 46.2 -0.2
baz=78
UBBA Unterbreizbach 78.17 337 eP P 10 39 46.1 +0.1
comp=Z,4.0nm,0.8s
232A Coleman 78.26 56 P P 10 39 46.5 -0.5
baz=78
BUG Bochum--Univer 78.31 339 eP P 10 39 47.3 +0.5
comp=Z,17nm,1.0s
BUG *ep*P **PcP 10 39 55.2 -0.9**
MANZ Manzenberg 78.33 335 eP P 10 39 47.5 +0.4
comp=Z,7.0nm,0.9s
ZST Bratislava 78.37 332 eP P 10 39 49.1 +1.8
ZST Bratislava 78.37 332 eP P 10 39 49.1 +1.8
ROTZ Rotzenmuhle 78.50 335 eP P 10 39 48.7 +0.7
comp=Z,8.0nm,0.9s
332A Millersview 78.57 56 P P 10 39 48.6 -0.1
baz=78
PKSG 78.64 330 *e* **P 10 39 49.2 +0.5**
KHC Kasperske Hory 78.66 334⇑iP P 10 39 49.0 +0.1
KHC *e* 10 39 53.3
KHC Kasperske Hory 78.66 334⇑iP P 10 39 49.0 +0.1
KHC *ex* x 10 39 53.3
KHC Kasperske Hory 78.66 334 eP P 10 39 49.1 +0.1
comp=Z,11nm,0.8s
CSKK Cs˘‡kako 78.71 331 eP KiKP **P 10 39 49.3 +0.2**
BR131 Keskin Array S 78.73 317 eP P 10 39 50.2 +0.6
comp=Z,12nm,1.0s
BRTR Keskin Array B 78.73 317 P P 10 39 50.2 +0.6
BRTR Keskin Array B 78.73 317 P P 10 39 50.2 +0.6
comp=Z,12nm,1.0s,baz=63,slow=3.3,SNR=44
GZR Gura Zlata 78.76 327⇑P P 10 39 49.8 +0.2
GZR Gura Zlata 78.76 327⇑iP P 10 39 49.8 +0.2
GRF Grafenberg Arr 78.85 336 eP P 10 39 50.3 +0.4
comp=Z,20nm,0.9s
GRF Grafenberg Arr 78.85 336 eP P 10 39 50.3 +0.4
GRF pmax pmax
comp=Z,20nm,0.9s
GRFO Grafenberg 78.85 336 eP P 10 39 50.3 +0.4
GRFO pmax pmax
comp=Z,28nm,1.0s
GRFO Grafenberg 78.85 336 eP P 10 39 50.3 +0.4
comp=Z,28nm,1.0s
WET Wettzell 78.86 335 eP P 10 39 50.6 +0.6
comp=Z,8.0nm,0.9s
WET Wettzell 78.86 335 eP P 10 39 50.6 +0.6
WET pmax pmax
comp=Z,8.0nm,0.9s
PKST T˘'s 78.88 331 eP KiKP **P 10 39 50.7 +0.6**
GEC2 GERESS Array S 78.88 334 eP P 10 39 49.9 -0.3
comp=Z,4.0nm,0.8s
GEC2 *ep*P **PcP 10 39 54.8 -4.0**
GEC2 GERESS Array S 78.88 334 *eP* **P 10 39 49.9 -0.3**
GEC2 *e**PP **PcP 10 39 54.8 -4.0**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 78.88 334 P P 10 39 50.0 -0.1
GERES GERESS Array B 78.88 334 P P 10 39 50.0 -0.1
comp=Z,4.0nm,0.7s,baz=32,slow=5.1,SNR=20
432A Menard 78.92 57 P P 10 39 50.6 0.0
baz=79
531A Rocksprings 79.00 58 P P 10 39 52.1 +1.0
baz=79
BZS Buzias 79.01 328⇓P P 10 39 50.9 +0.1
BZS Buzias 79.01 328⇓iP P 10 39 50.9 +0.1
ANTO Ankara 79.01 317 eP P 10 39 51.8 +0.8
ANTO pmax pmax
comp=Z,10.0nm,0.9s
ANTO Ankara 79.01 317 eP P 10 39 51.8 +0.8
comp=Z,10nm,0.9s
CONA Conrad Observa 79.01 332 *i* **P P 10 39 51.5 +0.6**
comp=Z,18nm,1.1s,SNR=11
TNS Taunus Mts 79.13 338 eP P 10 39 51.6 +0.1
comp=Z,12nm,0.8s
TNS Taunus Mts 79.13 338 eP P 10 39 51.6 +0.1
TNS pmax pmax
comp=Z,12nm,0.8s
KBD Kabd 79.15 301 eP P 10 39 52.3 +0.5
KBD AMb AMB 10 39 54.9
comp=Z,45nm,1.3s
NAY Al-Naaiem 79.36 301 eP P 10 39 53.0 0.0
NAY AMb AMB 10 39 55.9
comp=Z,44nm,1.1s
MEM Membach 79.39 339 P P 10 39 53.1 +0.3
comp=Z,17nm,1.0s
532A Rocksprings 79.40 57 P P 10 39 53.3 0.0
baz=79
RDF Al-Radifah 79.42 301 eP P 10 39 54.0 +0.7
RDF AMb AMB 10 39 57.1
comp=Z,91nm,1.2s
PKSM Moragy 79.57 330⇑P P 10 39 54.2 +0.3
PKSM Moragy 79.57 330⇑iP P 10 39 54.2 +0.3
PKSM Moragy 79.57 330 *e* **P 10 39 53.7 -0.2**
MOA Molln 79.59 333 *i* **P P 10 39 54.3 +0.3**
comp=Z,11nm,0.8s,SNR=7.0
ARSA Arzberg 79.72 332⇑iP P 10 39 55.0 +0.4
comp=Z,13nm,1.6s,SNR=7.6
RJOB Jochberg 80.14 334 eP P 10 39 57.8 +0.8
comp=Z,11nm,0.9s
GIVF Givet 80.15 340 eP P 10 39 56.5 -0.4
comp=Z,32nm,1.1s
DOU Dourbes 80.21 340 P P 10 39 56.2 -1.0
STU Stuttgart 80.25 337 eP P 10 39 58.3 +0.8
comp=Z,12nm,0.9s
STU Stuttgart 80.25 337 eP P 10 39 58.4 +0.9
STU Stuttgart 80.25 337 eP P 10 39 58.4 +0.9
BAIF Baives 80.33 340 eP P 10 39 57.8 -0.1
comp=Z,27nm,1.2s
SOKA Soboth 80.38 332 *i* **P P 10 39 58.6 +0.2**
comp=Z,15nm,0.9s,SNR=17
PERS Pernice 80.39 332 *i* **P P 10 39 58.9 +0.5**
KBA Koelnbreinsper 80.56 333 *i* **P P 10 40 00.3 +0.9**
comp=Z,48nm,0.9s,SNR=30
OBKA Obir 80.69 332⇑iP P 10 40 00.2 +0.2
comp=Z,4.5nm,0.6s,SNR=5.8
MYKA Terra Mystica 80.87 333⇑iP P 10 40 00.6 -0.3
comp=Z,8.5nm,0.9s,SNR=5.6
WATA Walderalm 80.87 335⇓iP P 10 40 01.6 +0.6
comp=Z,16nm,0.6s,SNR=7.3
BFO Black Forest 80.89 337 eP P 10 40 01.1 +0.1
comp=Z,16nm,1.0s
BFO Black Forest 80.89 337 eP P 10 40 01.1 +0.1
BFO pmax pmax
comp=Z,16nm,1.0s
BFO Black Forest 80.89 337 eP P 10 40 00.7 -0.3
comp=Z,23nm,1.1s
GCIS Gornji Cirnik 80.90 331 *i* **P P 10 40 01.2 +0.1**
WTTA Wattenberg 80.92 335 *i* **P P 10 40 01.9 +0.6**
comp=Z,28nm,0.8s,SNR=17
PDKS Podkum 80.94 332 *i* **P P 10 40 01.6 +0.3**
VTS Vitosha 80.95 325⇑P P 10 40 01.7 +0.1
RETA Reutte 80.97 335⇑iP P 10 40 01.9 +0.4
comp=Z,21nm,1.0s,SNR=13
MOTA Moosalm 81.00 335⇑iP P 10 40 02.0 +0.2
comp=Z,24nm,0.8s,SNR=24
CDF Champ du Feu 81.09 338⇑iP P 10 40 02.0 -0.1
comp=Z,43nm,1.0s
ABTA Abfaltersbach 81.11 334 *i* **P P 10 40 02.8 +0.5**
comp=Z,12nm,1.0s,SNR=11
ECH Echery 81.31 338 eP P 10 40 02.7 -0.5
ECH pmax pmax
comp=Z,16nm,1.0s

ECH	Echery	81.31	338	eP		P	10 40 02.7	-0.5
	comp=Z,16nm,1.0s							
ECH	Echery	81.31	338	eP		P	10 40 03.5	+0.3
BOJS	Bojanci	81.35	331	i P		P	10 40 03.9	+0.5
PAGF	Fort de Pagny	81.36	339⇑	iP		P	10 40 03.8	+0.4
	comp=Z,25nm,1.1s							
JAVS	Javornik	81.39	332	i P		P	10 40 04.0	+0.3
FETA	Feichten	81.40	335⇑	iP		P	10 40 04.3	+0.4
	comp=Z,16nm,1.1s,SNR=9.8							
DAVA	Damuels	81.41	336⇑	iP		P	10 40 04.2	+0.3
	comp=Z,18nm,0.8s,SNR=8.2							
MEZF	Maizieres J'vi	81.58	339⇑	iP		P	10 40 04.8	+0.2
	comp=Z,69nm,1.1s							
THEF	They Montfort	81.60	338	eP		P	10 40 05.3	+0.6
MOF	Molkenrain	81.65	338	eP		P	10 40 05.3	+0.2
HAU	Haudompre	81.71	338⇑	iP		P	10 40 05.2	-0.1
	comp=Z,33nm,1.1s							
ISP	Isparta	81.71	318	⇑P		P	10 40 05.4	-0.2
ISP	Isparta	81.71	318⇑	iP		P	10 40 05.4	-0.2
HINF	Hinteralfeld	81.75	338⇑	iP		P	10 40 05.2	-0.4
	comp=Z,19nm,1.1s							
SFTF	Sexfontaines	81.86	339	eP		P	10 40 06.1	0.0
	comp=Z,101nm,1.1s,baz=26							
FUORN	Ofenpass-Fuorn	81.90	335	eP		P	10 40 07.6	+0.9
	comp=Z,14nm,0.9s							
LOMF	Lomont	82.19	338	eP		P	10 40 07.0	-0.9
TUE	Stuetta	82.30	336	eP		P	10 40 08.7	0.0
	comp=Z,15nm,0.9s							
FLN	La Foliniere	82.59	343	eP		P	10 40 09.7	-0.2
	comp=Z,28nm,1.1s							
LDF	La Druitiere	82.67	342	eP		P	10 40 09.8	-0.5
	comp=Z,24nm,1.2s							
SENIN	Lac Senin/Sane	82.97	337	eP		P	10 40 13.7	+1.5
	comp=Z,18nm,1.4s							
ASF	Jabal al Asfar	82.99	310	P		P	10 40 13.5	+1.1
ASF	Jabal al Asfar	82.99	310	P		P	10 40 13.5	+1.1
	comp=Z,6.6nm,0.9s,baz=11,slow=1.1,SNR=7.9							
GRR	Gorron	83.02	343	eP		P	10 40 12.1	0.0
	comp=Z,37nm,1.1s							
LOR	Lormes	83.02	339⇑	iP		P	10 40 12.1	-0.1
	comp=Z,51nm,1.1s,baz=33							
CABF	La Chapelle	83.07	338	eP		P	10 40 12.7	+0.2
	comp=Z,19nm,1.1s							
SSF	Saint Saulge	83.30	340⇑	iP		P	10 40 13.6	0.0
	comp=Z,19nm,1.0s							
HYF	Humbligny	83.31	340	eP		P	10 40 13.9	+0.2
TIR	Tirane	83.32	326	eP		P	10 40 13.9	+0.1
TIR	Tirane	83.32	326	eP		P	10 40 13.9	+0.1
	comp=Z,20nm,0.7s							
SGMF	Saint Gilles	83.49	344	eP		P	10 40 14.5	0.0
ROSF	Rostrenen	83.54	344⇑	iP		P	10 40 14.8	0.0
	comp=Z,32nm,1.0s							
AVF	Avril sur Loir	83.59	340⇑	iP		P	10 40 15.2	+0.1
	comp=Z,48nm,1.2s							
SMF	Signal de Mont	83.61	339⇑	iP		P	10 40 15.4	+0.2
	comp=Z,87nm,1.1s							
LPL	La Plagne	83.91	337	eP		P	10 40 17.7	+0.7
	comp=Z,22nm,1.0s							
LPG	La Plagne	83.92	337	eP		P	10 40 17.9	+0.7
	comp=Z,31nm,1.0s							
QUIF	Quistinic	83.93	344	eP		P	10 40 17.5	+0.8
BGF	Bois d'Agland	83.93	340	eP		P	10 40 17.0	+0.2
TCF	Toulx Ste Croi	84.33	340	eP		P	10 40 19.2	+0.3
	comp=Z,21nm,1.1s							
AGO	Saint Agoulin	84.33	339	eP		P	10 40 20.8	+1.9
BNI	Bardonecchia	84.35	337	eP		P	10 40 20.1	+0.9
BNI	Bardonecchia	84.35	337	eP		P	10 40 20.1	+0.9
	comp=Z,100nm,2.8s							
MFF	Saint Martin d	84.57	342	eP		P	10 40 20.3	+0.2
	comp=Z,12nm,0.9s							
MBDF	Montbardon	84.62	337	eP		P	10 40 20.7	+0.1
	comp=Z,6.1nm,0.7s							
RAYN	Ar Rayn	84.64	298	eP		P	10 40 21.9	+1.1
	comp=Z,13nm,1.2s							
PYM	Petit Puy Mans	84.65	339	eP		P	10 40 22.2	+1.6
ORIF	Oris-en-Rattie	84.69	337⇑	iP		P	10 40 21.5	+0.7
	comp=Z,13nm,0.8s							
SSB	Saint Sauveur	84.70	338	eP		P	10 40 21.2	+0.3
SSB	Saint Sauveur	84.70	338	eP		P	10 40 21.2	+0.3
	comp=Z,19nm,1.1s							
VIVF	Saint-Julien-l	85.07	338	eP		P	10 40 23.3	+0.6
	comp=Z,26nm,1.1s							
SBF	Sospel	85.23	336	eP		P	10 40 24.4	+0.8
	comp=Z,44nm,1.0s							
RJF	Les Rejaudoux	85.42	340	eP		P	10 40 25.2	+0.8
	comp=Z,27nm,1.2s							
SMRF	Simiane la Rot	85.64	337	eP		P	10 40 26.5	+0.9
	comp=Z,22nm,1.1s							
CAF	Calviac	85.65	340	eP		P	10 40 25.6	0.0
	comp=Z,23nm,1.1s							
FRF	La Foret Royal	85.73	336	eP		P	10 40 26.0	0.0
	comp=Z,43nm,1.2s							
LFF	La Frestale	85.95	341	eP		P	10 40 27.7	+0.7
	comp=Z,26nm,1.1s							
PGF	Pioggiola	85.98	334⇑	iP		P	10 40 28.3	+1.0
	comp=Z,18nm,0.9s							
LMR	La Mourre	85.98	336	eP		P	10 40 27.3	+0.1
	comp=Z,44nm,1.0s							
EIL	Elat	85.98	310	P		P	10 40 28.7	+1.2
EIL	Elat	85.98	310	P		P	10 40 28.7	+1.2
	comp=Z,13nm,0.8s,baz=17,slow=6.3,SNR=7.7							
LASF	Ste Croix	86.00	338	eP		P	10 40 27.5	+0.2
	comp=Z,16nm,1.1s							
MTLF	Montolieu	87.11	339	eP		P	10 40 32.5	-0.2
	comp=Z,6.2nm,0.8s							
SJPF	Ste Jean	88.12	341	eP		P	10 40 38.3	+0.7
	comp=Z,5.0nm,0.9s							
ETSF	Etsaut	88.18	341	eP		P	10 40 39.4	+1.4
	comp=Z,4.5nm,0.6s							
ESDC	Sonseca Array	92.01	342	P		P	10 40 54.9	-1.0
ESDC	Sonseca Array	92.01	342	P		P	10 40 54.9	-1.0
	comp=Z,0.7nm,0.7s,baz=348,slow=4.2,SNR=6.9							
KEST	Kesra	92.08	331	P		P	10 40 56.2	-0.1
KEST	Kesra	92.08	331	P		P	10 40 56.2	-0.1
	comp=Z,2.2nm,0.9s,baz=289,slow=11,SNR=5.3							
TORD	Torodi Ar. Bea	115.50	329	PKP		PKPdf	10 46 28.0	-1.2
TORD	Torodi Ar. Bea	115.50	329	PKP		PKPdf	10 46 28.0	-1.2
	comp=Z,0.4nm,0.6s,baz=27,slow=1.6,SNR=4.8							
BDFB	Brasilia	144.74	37	PKP		PKPab	10 47 22.3	-0.6
BDFB	Brasilia	144.74	37	PKP		PKPab	10 47 22.3	-0.6
	comp=Z,3.5nm,1.0s,baz=70,slow=5.8,SNR=3.9							
CFAA	Coronel Fontan	145.10	80	PKPbc		PKPbc	10 47 23.2	-0.5
CFAA	Coronel Fontan	145.10	80	PKPbc		PKPbc	10 47 23.2	-0.5
	comp=Z,0.4nm,0.7s,baz=274,slow=4.9,SNR=8.7							
PLCA	Paso Flores	148.18	96	PKPbc		PKPbc	10 47 31.7	-0.7
PLCA	Paso Flores	148.18	96	PKPbc		PKPbc	10 47 31.7	-0.7
	comp=Z,2.9nm,0.8s,baz=305,slow=7.0,SNR=4.9							
CPUP	Villa Florida	148.72	61	PKPbc		PKPbc	10 47 34.1	0.0
CPUP	Villa Florida	148.72	61	PKPbc		PKPbc	10 47 34.1	0.0
	comp=Z,1.4nm,0.5s,baz=309,slow=5.3,SNR=4.1							

*IDC **16** 10:30:39.6±1.1, 1°.38S×99°.55E, h0km, mb4.0/10, mb1 4.0/12, mb1mx3.8/28, mbtmp4.0/12, ML3.9/2, Error ellipse: s-maj=36.4km s-min=15.8km az=63.0*
*NEIC **16** 10:30:40.4±0.5, 1°.50S×99°.38E, h10km, mb4.2/2, Error ellipse: s-maj=17.0km s-min=7.4km az=72.0*
*ISCJB **16** 10:30:41.6±1.1, 1°.4S±0°.1×99°.4E±0°.2, h30km, mb4.0/11, Error ellipse: s-maj=28.4km s-min=9.8km az=156.4*

ISC 16 10:30:43.2±0.9, 1°.5S±0°.1×99°.3E±0°.2, h30km, n35, σ0°76/34, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.26	354	Pn	Pn	10 31 45.3	-0.9
PSI	Prapat	4.26	354	Pn	Pn	10 31 45.3	-0.9
	2.3nm,0.3s,baz=84,slow=3.5,SNR=7.1						
IPM	Ipoh	6.14	16	ePn	Pn	10 32 12.7	+0.7
	21nm,0.6s						
KULM	Kulim	6.84	11	ePn	Pn	10 32 22.0	+0.4
CMAR	Chiang Mai Arr	19.80	359	P	P	10 35 11.4	0.0
CMAR	Chiang Mai Arr	19.80	359	P	P	10 35 11.4	0.0
	0.4nm,0.3s,baz=188,slow=10,SNR=10						
FITZ	Fitzroy Crossi	30.66	124	P	P	10 36 56.4	+1.1
FITZ	Fitzroy Crossi	30.66	124	P	P	10 36 56.4	+1.1
	1.0nm,0.8s,baz=245,slow=19,SNR=2.0						
WRA	Warramunga Arr	38.83	121	P	P	10 38 05.2	-0.7
WRA	Warramunga Arr	38.83	121	P	P	10 38 05.2	-0.7
	0.6nm,0.4s,baz=303,slow=9.0,SNR=8.6						
WRAB	Tennant Creek	38.84	121	eP	P	10 38 05.6	-0.4
	5.5nm,1.0s						
ASAR	Alice Springs	40.10	126	P	P	10 38 16.0	-0.5
ASAR	Alice Springs	40.10	126	P	P	10 38 16.0	-0.5
	0.4nm,0.6s,baz=298,slow=7.5,SNR=4.7						
JNU	Nakatsue	45.48	38	eP	P	10 38 59.7	-0.2
	2.8nm,0.9s						
JNU	Nakatsue	45.48	38	P	P	10 38 58.5	-1.5
	5.7nm,0.8s,baz=112,slow=4.8,SNR=4.8						
KSAR	Wonju Array Be	46.88	31	P	P	10 39 09.9	-0.9
KSRS	Korea Array	46.91	31	P	P	10 39 09.9	-1.1
	1.0nm,0.6s,baz=224,slow=8.0,SNR=6.2						
SONM	Songino Array	49.49	6	P	P	10 39 31.2	+0.3
SONM	Songino Array	49.49	6	P	P	10 39 31.2	+0.3
	0.9nm,0.6s,baz=186,slow=9.5,SNR=5.6						
MKAR	Makanchi Array	50.34	345	P	P	10 39 38.5	+1.1
MKAR	Makanchi Array	50.34	345	P	P	10 39 38.5	+1.1
	3.9nm,0.6s,baz=159,slow=8.4,SNR=15						
MK31	Makanchi Array	50.34	345	eP	P	10 39 38.2	+0.9
USRK	Ussuriysk Arra	54.01	29	P	P	10 40 04.1	-0.5
	2.0nm,0.6s,baz=204,slow=5.6,SNR=5.8						
ZALV	Zalesovo Beam	56.53	350	P	P	10 40 23.2	+0.6
ZALV	Zalesovo Beam	56.53	350	P	P	10 40 23.2	+0.6
	2.0nm,0.4s,baz=158,slow=4.9,SNR=6.9						
BVAR	Borovoye Array	59.46	340	P	P	10 40 43.4	+0.2
BVAR	Borovoye Array	59.46	340	P	P	10 40 43.4	+0.2
	0.9nm,0.5s,baz=139,slow=9.6,SNR=2.5						
CPUP	Villa Florida	144.34	218	PKP	PKPdf	10 50 16.6	-0.6
CPUP	Villa Florida	144.34	218	PKP	PKPdf	10 50 16.6	-0.6
	0.3nm,0.3s,baz=104,slow=5.6,SNR=3.7						
TXAR	Lajitas Array	144.68	36	PKP	PKPdf	10 50 17.7	-0.2
TXAR	Lajitas Array	144.68	36	PKP	PKPdf	10 50 17.7	-0.2
	0.6nm,0.5s,baz=281,slow=1.5,SNR=14						
MIAR	Mount Ida	144.95	19	ePKPdf	PKPbc	10 50 17.4	+0.1
CFAA	Coronel Fontan	145.06	199	PKPbc	PKPdf	10 50 19.4	+0.9
CFAA	Coronel Fontan	145.06	199	PKPbc	PKPdf	10 50 19.4	+0.9
	0.6nm,0.6s,baz=182,slow=3.2,SNR=8.3						
JCT	Junction City	145.91	30	ePKPbc	PKPab	10 50 21.0	0.0

IDC 16 10:33:19.3±2.0, 1°.71S×99°.33E, h0km, mb3.3/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=82.1km s-min=21.5km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.05	359	P	P	10 37 54.3	+0.2
	0.6nm,0.5s,baz=185,slow=9.1,SNR=2.2						
WRA	Warramunga Arr	38.71	120	P	P	10 40 45.5	+0.1
	0.2nm,0.5s,baz=303,slow=9.1,SNR=4.0						
ASAR	Alice Springs	39.96	126	P	P	10 40 55.2	-0.6
	0.4nm,0.8s,baz=304,slow=8.4,SNR=2.7						
SONM	Songino Array	49.73	6	P	P	10 42 13.8	+0.4
	0.2nm,0.3s,baz=183,slow=11,SNR=2.2						
MKAR	Makanchi Array	50.58	345	P	P	10 42 18.9	-0.8
	0.7nm,0.7s,baz=136,slow=5.5,SNR=4.3						
CFAA	Coronel Fontan	144.83	199	PKP	PKPdf	10 52 59.5	+0.5
	0.2nm,0.5s,baz=191,slow=2.7,SNR=4.8						
TXAR	Lajitas Array	144.87	36	PKP	PKPbc	10 52 58.3	0.0
	0.4nm,0.5s,baz=294,slow=1.9,SNR=7.3						

*IDC **16** 10:43:52.9±0.5, 1°.38S×99°.46E, h0km, mb4.5/27, mb1 4.5/29, mb1mx4.4/35, mbtmp4.4/29, ML3.9/2, MS4.7/1, Ms1 4.7/1, ms1mx4.1/33, Error ellipse: s-maj=17.1km s-min=11.4km az=49.0*
*NEIC **16** 10:43:53.9±0.3, 1°.57S×99°.34E, h10km, mb4.7/20, Error ellipse: s-maj=10.3km s-min=7.2km az=60.0*
*ISCJB **16** 10:43:55.9±0.3, 1°.50S±0°.04×99°.40E±0°.04, h30km, mb4.5/47, MS4.8/4, Error ellipse: s-maj=6.7km s-min=4.2km az=43.7*
*AUST **16** 10:43:55.8±3.4, 1°.76S×99°.53E, h0km, Error ellipse: s-maj=1.8km s-min=0.9km az=243.0*
*BJI **16** 10:43:56.9, 1°.60S×99°.40E, h39km, mB5.3/8, mb4.7/22, Ms5.1/9, Ms7 4.9/9*
*DJA **16** 10:44:00.0±0.8, 2°.S±4°.×10°.0E±°, h10km, M5.4/7, mB5.6/4, mb5.2/7, MLv5.6/6, Mw(mB)5.1/4*
*BKK **16** 10:44:06.8±0.7, 1°.S±6°.×10°.0E±°, h10km, M5.0/7, mb4.6/7, MLv5.3/7*

ISC 16 10:43:57.5±0.4, 1°.62S±0°.04×99°.33E±0°.06, h30km, n152, σ1°61/158, mb4.7/47, MS4.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.57	43	P	Pn	10 44 20.0	-3.4
PPI	Padang Panjang	1.57	43	P	Pn	10 44 09.4	-14
	baz=1.6,SNR=19						
BKNI	Bangkinang	2.58	42	P	Pn	10 44 38.4	+1.1
BKNI	Bangkinang	2.58	42	P	Pn	10 44 37.3	+0.1
	baz=2.6,SNR=27						
RGRI	Rengat	3.26	67	P	Pn	10 44 49.6	+3.0
MASI	Maura Aman, Be	3.28	118	P	Pn	10 44 48.1	+1.1
KSI	Kapahiang	3.84	122	P	Pn	10 44 55.7	+1.1
PSI	Prapat	4.41	355	Pn	Pn	10 44 58.3	-4.2
PSI	Prapat	4.41	355	Pn	Pn	10 44 58.3	-4.2
	2.2nm,0.3s,baz=159,slow=13,SNR=9.9						
PSI	Prapat	4.41	355	P	Pb	10 45 08.9	-5.5
	baz=4.5,SNR=7.3						
MNAI	Manna	4.53	127	P	Pn	10 45 04.8	+0.6
	baz=4.3,SNR=13						
MNAI				S	Sn	10 45 56.9	+1.0
	baz=4.3,SNR=8.2						
TSI	Tuntungan	5.14	351	P	Pb	10 45 20.1	-6.6
	179nm,0.8s,4μm						
BTDF	Bukit Timah Da	5.34	56	P	Pn	10 45 15.6	+0.4
	baz=5.3,SNR=5.1						
BTDF				P	Pn	10 45 15.6	+0.4
	baz=5.3,SNR=5.1						
MYKOM	Kota Tinggi	5.65	53	P	Pn	10 45 20.9	+1.4
	137nm,0.8s,2μm						
LWLI	Liwa	5.81	126	P	Pn	10 45 22.6	+0.8
	454nm,0.7s						
KLSI		6.20	120	P	Pn	10 45 28.5	+1.4
	96nm,0.7s						
IPM	Ipoh	6.29	16	ePn	Pn	10 45 27.6	-0.7
IPM	Ipoh	6.29	16	P	Pn	10 45 27.7	-0.6
	86nm,1.0s						
KASI	Kota Agung	6.46	127	P	Pn	10 45 30.6	0.0
	162nm,0.7s,4μm						
KULM	Kulim	6.99	11	ePn	Pn	10 45 36.5	-1.4
KULM	Kulim	6.99	11	P	Sb	10 47 11.1	-10
KULM	Kulim	6.99	11	P	Sb	10 47 16.3	-4.8
SKLT	Songkhla	8.82	8	P	Pn	10 46 07.8	+4.7
	41nm,1.4s,0.7nm						
DBJI	Dramaga	8.88	124	P	Pn	10 46 09.7	+5.8
CBJI	Citeko	8.89	123	P	Pn	10 46 11.7	+7.7
CISI	Cisompet, Garu	10.31	125	P	Pn	10 46 21.2	-2.4
	baz=10,SNR=7.2						
CISI				S	Sn	10 47 51.7	-27
	baz=10,SNR=5.9						
KSM	Kuching	11.40	74	ePn	Pn	10 46 37.3	-1.1
UGM	Wanagama	12.79	120	ePn	Pn	10 46 57.2	-0.2
UGM	Wanagama	12.79	120	P	Pn	10 46 57.7	+0.2
	baz=13,SNR=5.6						
SBUM	Sibu	13.51	73	P	Pn	10 47 07.0	-0.2
BTM	Bintulu	14.56	71	P	Pn	10 47 20.9	-0.7
UBPT	Khong Chiam	17.85	20	P	P	10 48 12.1	+7.8
PBKT	Sadao Pong	18.14	5	P	P	10 48 24.0	+17
KKM	Kota Kinabalu	18.50	66	eP	Pn	10 48 12.8	+0.9
	42nm,1.0s						
KKM	Kota Kinabalu	18.50	66	P	P	10 48 11.1	-0.5
KKM	Kota Kinabalu	18.50	66	P	Pn	10 48 13.7	+1.8
	baz=18,SNR=3.2						
SDKM	Sandakan	19.25	68	P	P	10 48 18.8	-0.9
KDM	Kudat	19.42	64	P	P	10 48 20.9	-0.7
TSM	Tawau	19.44	72	P	P	10 48 20.8	-1.0
CM31	Chiang Mai Arr	19.95	359	eP	P	10 48 26.0	-1.3
	4.3nm,0.5s						
CMAR	Chiang Mai Arr	19.95	359	P	P	10 48 25.4	-1.9
CMAR	Chiang Mai Arr	19.95	359	P	P	10 48 25.4	-1.9
	0.3nm,0.3s,baz=187,slow=9.8,SNR=24						
CMMT	Chiang Mai	20.30	359	P	Pn	10 48 34.7	+1.4
	10nm,1.0s						
CHTO	Chiang Mai	20.30	359	eP	Pn	10 48 34.5	+1.1
	12nm,1.1s						
CHTO	Chiang Mai	20.30	359	P	Pn	10 48 34.9	+1.6
	31nm,0.8s						
MYLDM	Lahad Datu	20.31	70	P	P	10 48 30.3	-1.0
KAPI	Kappang	20.66	100	eP	P	10 48 32.2	-2.9
	68nm,1.2s						
KAPI	Kappang	20.66	100	P	P	10 48 35.1	0.0
	12nm,0.6s,baz=300,slow=5.3,SNR=7.3						
WSI	Waingapu	22.33	112	P	P	10 48 44.9	-8.2
	baz=22,SNR=3.8						
KMI	Kunming	26.79	7	P	P	10 49 35.5	+0.2
KMI				pP	pP	10 49 43.4	-0.6
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
KMI				LR	LR		
	comp=N,3μm,14.7s						
KMI				LR	LR		
	comp=E,7μm,12.9s						
KMI				LR	LR		
	comp=Z,6μm,13.3s						
GYA	Guiyang	28.80	14	eP	P	10 49 54.3	+1.2
GYA				pP	pP	10 50 04.8	+2.9
GYA				PP	PnPn	10 50 49.3	+4.6
GYA				PcP	PcP	10 53 03.0	+0.2
GYA				S	S	10 54 43.8	+2.6
GYA				sS	sS	10 55 01.4	+5.7
GYA				ScP	ScP	10 56 40.6	-1.6
GYA				ScS	ScS	11 00 32.3	-3.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,480nm,16.8s						
GYA				LR	LR		
	comp=E,410nm,17.4s						
GYA				LR	LR		
	comp=Z,470nm,17.0s						
FITZ	Fitzroy Crossi	30.58	124	P	P	10 50 08.7	-0.3
FITZ	Fitzroy Crossi	30.58	124	P	P	10 50 08.7	-0.3
	comp=Z,4.8nm,0.9s,baz=288,slow=7.7,SNR=9.2						
FITZ	Fitzroy Crossi	30.58	124	P	P	10 50 08.7	-0.3
	baz=30,SNR=4.2						
LSA	Lhasa	32.11	347	P	P	10 50 22.9	+0.1
LSA	Lhasa	32.11	347	eP	P	10 50 22.6	-0.1
	comp=Z,6.3nm,0.5s						
TPUB	Ta-pu	32.30	39	eP	P	10 50 23.2	-0.8
	comp=Z,18nm,0.8s						
CD2	Chengdu	32.62	7	eP	P	10 50 28.5	+1.7
CD2				pP	pP	10 50 38.8	+3.2
CD2				sP	sP	10 50 42.8	+3.6
CD2				PP	PP	10 51 39.0	-1.9
CD2				S	S	10 55 42.6	+1.7
CD2				sS	sS	10 56 00.1	+4.7
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,50nm,4.8s						
WRA	Warramunga Arr	38.77	120	P	P	10 51 18.8	-0.9
WRA	Warramunga Arr	38.77	120	P	P	10 51 18.8	-0.9
	comp=Z,4.3nm,0.5s,baz=301,slow=9.1,SNR=4.7						
WRAB	Tennant Creek	38.77	120	eP	P	10 51 18.1	-1.6
	comp=Z,9.2nm,0.6s						
ASAR	Alice Springs	40.02	126	P	P	10 51 29.6	-0.5
ASAR	Alice Springs	40.02	126	P	P	10 51 29.6	-0.5
	comp=Z,3.3nm,0.6s,baz=301,slow=7.5,SNR=10						
GTA	Gaotai	40.83	1	eP	P	10 51 38.4	+1.7
GTA				pP	pP	10 51 48.3	+2.7
GTA				sP	sP	10 51 51.6	+2.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
HHC	Hu-ho-hao-te	43.71	13	eP	P	10 52 02.1	+2.0
HHC				PP	PcP	10 53 45.3	-1.5
HHC				ScP	ScP	10 57 36.0	-0.5
HHC				PcS	PcS	10 57 40.1	+0.4
HHC				S	S	10 58 30.8	+2.3
HHC				sS	sS	10 58 47.1	+3.8
HHC				SS	SS	11 01 40.9	-3.8
HHC				ScS	ScS	11 01 56.4	-1.2
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,1μm,5.3s						
HHC				LR	LR		
	comp=N,1μm,16.4s						
HHC				LR	LR		
	comp=E,730nm,17.9s						
HHC				LR	LR		
	comp=Z,1μm,17.1s						
JNU	Nakatsue	45.60	38	eP	P	10 52 12.3	-2.9
	comp=Z,7.8nm,0.9s						
JNU	Nakatsue	45.60	38	P	P	10 52 13.0	-2.3
	comp=Z,11nm,0.8s,baz=208,slow=4.1,SNR=8.7						
KSH	Kashi	46.20	335	eP	P	10 52 21.8	+1.8
WMQ	Urumqi	46.42	348	P	P	10 52 21.0	-0.5
WMQ				pmax	pmax		
	comp=Z,32nm,1.0s						
KSAR	Wonju Array Be	47.01	31	P	P	10 52 23.9	-2.2
KSRS	Korea Array	47.04	31	P	P	10 52 23.9	-2.4
	comp=Z,2.5nm,0.8s,baz=225,slow=8.5,SNR=14						
TKM2	Tokmak 2	49.22	337	eP	P	10 52 43.4	-0.1
	comp=Z,8.5nm,0.8s						
SONM	Songino Array	49.63	6	P	P	10 52 44.7	-1.7
SONM	Songino Array	49.63	6	P	P	10 52 44.7	-1.7
	comp=Z,2.2nm,0.8s,baz=192,slow=7.7,SNR=11						
EKS2	Erkin-Say	49.73	335	eP	P	10 52 47.0	-0.3
	comp=Z,9.5nm,0.8s						
ULN	Ulaanbaatar	49.74	7	eP	P	10 52 48.1	+0.8
	comp=Z,6.1nm,1.0s						
STKA	Stephens Creek	49.91	132	P	P	10 52 49.1	+0.5
STKA	Stephens Creek	49.91	132	P	P	10 52 49.1	+0.5
	comp=Z,7.2nm,0.8s,baz=338,slow=8.4,SNR=5.3						
STKA	Stephens Creek	49.91	132	P	P	10 52 49.6	+1.0
	baz=50,SNR=6.2						
MK31	Makanchi Array	50.48	345	eP	P	10 52 52.0	-0.7
MKAR	Makanchi Array	50.48	345	P	P	10 52 52.1	-0.7
MKAR	Makanchi Array	50.48	345	P	P

DPC	Dobruska-Polom	86.76	320	*e*P		P	10 56 39.1 +0.2
DPC				*e*x		x	10 56 47.8
BOJS	Bojanci	86.98	316	*i* P		P	10 56 40.1 0.0
PRU	Pruhonice	87.87	320	*e*P		P	10 56 43.4 -0.8
PRU				*e*x		x	10 56 53.3
GERES	GERESS Array B	88.32	319	P		P	10 56 46.7 +0.2
GERES	GERESS Array B	88.32	319	P		P	10 56 46.7 +0.2
	comp=Z,1.6nm,0.7s,baz=103,slow=4.7,SNR=9.7						
BRG	Berggiesshubel	88.32	321	*e*(P)		P	10 56 46.6 +0.3
	comp=Z,8.7nm,1.4s						
QSPA	South Pole Qui	88.34	180	*e*P		P	10 56 47.5 +1.2
	comp=Z,7.0nm,0.8s						
KHC	Kasperske Hory	88.42	319	*e*P		P	10 56 46.3 -0.6
KHC				*e*x		x	10 56 57.2
CLL	Collm	88.94	321	*i* P		P	10 56 49.2 -0.1
SPITS	Spitsbergen Ar	90.12	348	P		P	10 56 53.3 -1.0
SPITS	Spitsbergen Ar	90.12	348	P		P	10 56 53.3 -1.0
	comp=Z,4.5nm,0.7s,baz=99,slow=14,SNR=4.3						
DAVOX	Davos/Dischmat	90.79	317	P		P	10 56 57.8 -0.5
DAVOX	Davos/Dischmat	90.79	317	P		P	10 56 57.8 -0.5
	comp=Z,5.0nm,0.7s,baz=120,slow=6.1,SNR=14						
KEST	Kesra	90.92	306	P		P	10 56 59.0 +0.1
KEST	Kesra	90.92	306	P		P	10 56 59.0 +0.1
	comp=Z,2.9nm,0.7s,baz=55,slow=1.7,SNR=5.3						
SNAA	Sanae	92.30	198	*e*P		P	10 57 05.1 +0.5
	comp=Z,6.7nm,1.5s						
NVAR	Mina Array Bea	129.72	39	PKP		PKPdf	11 03 05.0 +0.3
NVAR	Mina Array Bea	129.72	39	PKP		PKPdf	11 03 05.0 +0.3
	comp=Z,0.6nm,0.7s,baz=281,slow=1.6,SNR=5.2						
CPUP	Villa Florida	144.22	217	*e*PKPdf		PKPbc	11 03 29.7 +0.2
CPUP				PKP		PKPdf	11 03 30.6 -0.8
CPUP	Villa Florida	144.22	217	PKP		PKPbc	11 03 30.6 +1.1
	comp=Z,11nm,0.8s,baz=104,slow=2.7,SNR=30						
TXAR	Lajitas Array	144.80	36	PKP		PKPab	11 03 31.2 -0.1
TXAR	Lajitas Array	144.80	36	PKP		PKPab	11 03 31.2 -0.1
	comp=Z,5.0nm,0.7s,baz=259,slow=1.3,SNR=78						
WVT	Waverly	145.02	10	*e*PKPdf		PKPab	11 03 30.3 -1.5
MIAR	Mount Ida	145.09	19	*e*PKPdf		PKPbc	11 03 30.9 -1.2
TZTN	Tazewell	145.14	4	*e*PKPdf		PKPbc	11 03 30.0 -2.2
UALR	University of	145.26	17	*e*PKPdf		PKPbc	11 03 31.1 -1.5
TKL	Tuckaleechee C	146.01	5	*e*PKPdf		PKPdf	11 03 33.4 -0.8
TKL				PKPbc		PKPdf	11 03 33.6 -0.6
TKL	Tuckaleechee C	146.01	5	PKPbc		PKPdf	11 03 33.6 -0.6
	comp=Z,7.7nm,0.7s,baz=120,slow=2.1,SNR=17						
JCT	Junction City	146.04	30	*e*PKPbc		PKPdf	11 03 34.3 -0.2
CPCT	Cooper Cave	146.15	6	*e*PKPbc		PKPdf	11 03 34.1 -0.4
OXF	Oxford	146.27	13	*e*PKPdf		PKPdf	11 03 33.4 -1.3
KMSC	Kings Mountain	146.64	1	*e*PKPbc		PKPdf	11 03 35.3 0.0
HKT	Hockley	148.35	26	*e*PKPbc		PKPbc	11 03 41.2 -0.4

ISCJB ***16*** *10:44:24.0±0.7, 3°.76S±0°.07×153°.88E±0°.06, h100km, mb4.2/8, Error ellipse: s-maj=10.0km s-min=8.7km az=16.5*

NEIC ***16*** *10:44:24.9±1.4, 3°.69S×153°.77E, h86km±14km, mb4.7/3, Error ellipse: s-maj=14.7km s-min=10.8km az=143.0*

IDC ***16*** *10:44:24.8±3.3, 3°.73S×153°.84E, h88km±32km, mb4.0/6, mb1 4.2/9, mb1mx3.9/22, mbtmp4.1/9, Error ellipse: s-maj=25.2km s-min=17.8km az=152.0*

ISC 16 10:44:25.9±0.8, 3°.77S±0°.08×153°.86E±0°.07, h100km, n23, σ0 973/27, mb4.3/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.25	133	P		Pn	10 46 23.5 +0.6
HNR				S		Sn	10 47 53.7 -0.9
HNR	Honiara	8.25	133	P		Pn	10 46 23.5 +0.6
	40nm,0.3s,baz=229,slow=5.1,SNR=5.4						
HNR				S		Sn	10 47 53.7 -0.9
	baz=194,slow=12,SNR=2.3						
PMG	Port Moresby	8.70	230	P		Pn	10 46 27.7 -1.3
PMG				S		Sn	10 48 06.4 +1.0
PMG	Port Moresby	8.70	230	P		Pn	10 46 27.7 -1.3
	3.1nm,0.3s,baz=34,slow=13,SNR=9.2						
PMG				S		Sn	10 48 06.4 +1.0
	3.4nm,0.3s,baz=132,slow=22,SNR=8.5						
CTA	Charters Tower	17.84	204	P		Pn	10 48 28.0 +0.3
CTA	Charters Tower	17.84	204	P		Pn	10 48 28.0 +0.3
	0.5nm,0.3s,baz=38,slow=11,SNR=4.0						
WRAB	Tennant Creek	24.90	228	*e*P		P	10 49 40.3 +0.5
	43nm,0.7s						
WRA	Warramunga Arr	24.92	228	P		P	10 49 40.2 +0.4
WRA	Warramunga Arr	24.92	228	P		P	10 49 40.2 +0.4
	19nm,0.6s,baz=53,slow=10,SNR=138						
AS31	Alice Springs	27.62	222	*e*P		P	10 50 03.8 -0.5
ASAR	Alice Springs	27.62	222	P		P	10 50 04.3 +0.1
ASAR	Alice Springs	27.62	222	P		P	10 50 04.3 +0.1
	1.4nm,0.4s,baz=56,slow=8.9,SNR=32						
STKA	Stephens Creek	30.24	201	*e*P		P	10 50 28.2 +0.9
	1.8nm,0.7s						
STKA	Stephens Creek	30.24	201	P		P	10 50 27.8 +0.4
	6.8nm,1.1s,baz=41,slow=7.5,SNR=3.3						
FITZ	Fitzroy Crossi	31.08	241	P		P	10 50 34.6 -0.4
FITZ	Fitzroy Crossi	31.08	241	P		P	10 50 34.6 -0.4
	3.2nm,0.4s,baz=69,slow=11,SNR=14						
KSRS	Korea Array	47.58	332	P		P	10 52 50.8 -0.8
	1.1nm,0.6s,baz=152,slow=8.6,SNR=7.1						
KSAR	Wonju Array Be	47.59	332	P		P	10 52 50.9 -0.8
CHTO	Chiang Mai	58.51	295	*e*P		P	10 54 12.9 +0.6
	12nm,1.1s						
ILAR	Eielson Array	80.81	22	P		P	10 56 29.2 +0.9
ILAR	Eielson Array	80.81	22	P		P	10 56 29.2 +0.9
	0.3nm,0.6s,baz=247,slow=5.3,SNR=5.6						
TORD	Torodi Ar. Bea	150.97	290	PKPbc		PKPbc	11 04 07.9 -0.3
TORD	Torodi Ar. Bea	150.97	290	PKPbc		PKPbc	11 04 07.9 -0.3
	0.2nm,0.5s,baz=81,slow=2.5,SNR=2.8						

SZGRF ***16*** *10:45:24.8, 2°.70S×99°.97E, h22km, mb5.2, Southern Sumatera, Indonesia*

NEIC ***16*** *10:45:26.3±0.1, 1°.55S×99°.42E, h10km, mb5.4/68, Error ellipse: s-maj=5.4km s-min=4.4km az=59.0*

NEIC Felt in Singapore.

MOS ***16*** *10:45:28.5±1.2, 1°.39S×99°.54E, h33km, mb5.5/66, MS4.8/7, Error ellipse: s-maj=9.1km s-min=4.1km az=117.1*

BKK ***16*** *10:45:28.2±0.3, 2°.3S±3°.9°9E±°, h10km, M5.3/37, mB5.6/18, mb5.2/37, MLv5.8/6, Mw(mB)5.1/18*

ISCJB ***16*** *10:45:29.4±0.5, 1°.52S±0°.03×99°.46E±0°.03, h42km±4km, mb5.3/204, MS5.0/31, Error ellipse: s-maj=5.4km s-min=3.6km az=44.2*

DJA ***16*** *10:45:29.9±0.6, 2°.5S±3°.9°9E±°, h36km±5km, M5.5/55, mb5.5/55, mB5.9/40, MLv5.8/16, Mw(mB)5.4/40*

BJI ***16*** *10:45:30.4, 1°.50S×99°.40E, h44km, mB5.5/34, mb5.0/51, Ms5.5/51, Ms7 5.4/48*

IDC ***16*** *10:45:31.7±2.2, 1°.49S×99°.56E, h51km±18km, mb4.8/42, mb1 4.8/44, mb1mx4.8/44, mbtmp4.7/44, ML4.5/2, MS5.0/9, Ms1 5.0/9, ms1mx4.6/31, Error ellipse: s-maj=11.7km s-min=7.7km az=44.0*

ISC 16 10:45:29.2±0.4, 1°.51S±0°.03×99°.43E±0°.04, h29km±2km, h29km: pP-P, n878, σ1 931/865, mb5.3/216, MS5.1/34, 44C-35D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	0.39	298	P		Pn	10 45 42.5 +3.7
PPI	Padang Panjang	1.43	43	P		Pn	10 45 53.5 +0.4
BKNI	Bangkinang	2.43	41	P		Pb	10 46 13.4 +1.1
RGRI	Rengat	3.12	68	P		Pn	10 46 20.0 +3.5
KSI	Kapahiang	3.81	124	P		Pn	10 46 28.2 +2.3
PSI	Prapat	4.32	353	P		Pn	10 46 32.6 -0.3
PSI	Prapat	4.32	353	P		Pn	10 46 32.6 -0.3
	8.2nm,0.3s,baz=178,slow=7.9,SNR=7.0						
PSI				LR		LR	10 48 21.2
	comp=Z,4μm,18.9s,baz=165,slow=40						
SNSI	Sinabang, Aceh	4.98	321	P		Pn	10 46 42.8 +0.8
	616nm,1.0s,15μm						
TSI	Tuntungan	5.05	350	P		Pn	10 46 43.5 +0.5
	828nm,0.8s,18μm10nm						
FRIM	Kepong	5.20	25	P		Pb	10 46 59.4 -0.1
KCSI	Kotacane, Aceh	5.27	342	P		Pn	10 46 49.7 +3.7
	515nm,0.8s,14μm4.3nm						
MYKOM	Kota Tinggi	5.50	53	P		Pn	10 46 44.0 -5.2
MYKOM	Kota Tinggi	5.50	53	P		Pn	10 46 44.4 -4.8
MYKOM	Kota Tinggi	5.50	53	P		Pn	10 46 44.9 -4.3
MYKOM	Kota Tinggi	5.50	53	P		Pb	10 46 58.4 -6.2
	331nm,1.1s,14μm5.5nm						
PMBI	Palembang	5.52	105	P		Pn	10 46 48.7 -0.7
	529nm,1.2s,14μm7.0nm						
LWLI	Liwa	5.79	127	P		Pn	10 46 54.0 +0.8
	2μm,0.8s,26μm7.1nm						
KLSI		6.16	121	P		Pn	10 47 00.1 +1.8
	489nm,0.8s,8μm1.9nm						
IPM	Ipoh	6.16	15	*e*Pn		Pn	10 47 01.0 +2.7
IPM	Ipoh	6.16	15	P		Pn	10 47 03.5 +5.3
IPM	Ipoh	6.16	15	P		Pn	10 47 03.9 +5.6
IPM	Ipoh	6.16	15	P		Pn	10 47 04.2 +5.9
IPM	Ipoh	6.16	15	P		Pn	10 47 02.7 +4.4
	571nm,1.0s,7μm3.1nm						
KLI	Kotabumi	6.36	122	P		Pn	10 47 03.5 +2.5
	849nm,0.9s,10μm4.0nm						
PPBI	Pangkal Pinang	6.73	96	P		Pn	10 47 10.8 +4.7
	106nm,1.1s,5μm2.0nm						
KULM	Kulim	6.87	10	*e*Pn		Pn	10 47 09.4 +1.4
KULM	Kulim	6.87	10	P		Pn	10 47 10.1 +2.1
	342nm,0.9s,4μm2.5nm						
BLSI	Bandar Lampung	6.95	124	P		Pn	10 47 10.1 +1.0
	363nm,0.7s,6μm1.8nm						
KTGM	Kuala Trenggan	7.74	29	P		Pn	10 47 22.3 +2.4
KTGM	Kuala Trenggan	7.74	29	P		Pn	10 47 25.8 +5.9
BSI	Banda Aceh	8.10	329	P		Pn	10 47 18.3 -6.6
SBJI	Serang	8.10	125	P		Pb	10 47 39.2 -10
TPI	Tanjungpandan	8.31	99	P		Pn	10 47 31.2 +3.4
	55nm,0.7s,1μm						
SKLT	Songkhla	8.71	8	P		Pn	10 47 38.7 +5.5
	194nm,1.4s,3μm						
DBJI	Dramaga	8.85	125	P		Pn	10 47 36.8 +1.6
	428nm,1.2s						
SKJI	Sukabumi	8.96	128	P		Pn	10 47 33.9 -2.8
	670nm,1.0s,6μm						
PKDT	Phuket	9.41	353	P		Pn	10 48 00.1 +17
LEM	Lembang	9.72	123	P		Pn	10 47 49.3 +2.0
	593nm,0.9s,6μm						
CISI	Cisompet, Garu	10.29	126	P		Pn	10 47 52.4 -2.6
	420nm,0.8s,5μm						
KSM	Kuching	11.27	75	*e*Pn		Pn	10 48 13.8 +5.3
KSM	Kuching	11.27	75	P		Pn	10 48 18.5 +10
KSM	Kuching	11.27	75	P		Pn	10 48 25.8 +17
BJII	Banjamegara	11.76	120	P		Pn	10 48 15.0 -0.2
	128nm,1.6s,3μm						
STKI	Sintang	12.15	83	P		P	10 48 32.6 -0.1
UGM	Wanagama	12.75	120	*e*Pn		Pn	10 48 26.5 -2.2
SBUM	Sibu	13.38	73	P		P	10 48 43.1 -3.3
	144nm,1.3s,3μm						
PCJI	Paritan	13.45	120	P		Pn	10 48 34.6 -3.6
	145nm,1.5s						
SJI	Sawahan	13.76	117	P		Pn	10 48 41.8 -0.7
	170nm,1.0s						
PWJI	Pagerwojo	13.92	118	P		Pn	10 48 42.6 -2.0
	125nm,1.1s,17μm						
PHET	Kaeng Krachan	14.33	1	P		P	10 49 04.4 +7.4
KMMI	Kalianget	15.50	111	P		Pn	10 49 06.1 +0.3
	230nm,1.2s,5μm						
BBKI	Banjar Baru	15.52	97	P		Pn	10 49 07.8 +1.7
	243nm,2.7s,6μm						
NAYO	Nakonayok	15.84	7	P		P	10 49 16.1 +2.4
	30nm,1.0s						
UTHA	Uthaitani	16.96	0	P		P	10 49 27.2 +1.0
	8.4nm,0.8s,121nm						
SRBI	Singaraja	17.02	113	P		Pn	10 49 25.7 +0.5
	109nm,0.8s						
BKB	Balikpapan	17.46	89	P		P	10 49 35.3 +3.5
	274nm,1.1s,5μm						
CHAI	Chaiyaphum	17.49	8	P		P	10 49 40.7 +8.7
UBPT	Khong Chiam	17.72	19	P		P	10 49 36.4 +1.8
	44nm,1.7s,1μm						
PBKT	Sadao Pong	18.03	5	P		P	10 49 46.1 +8.1
KKM	Kota Kinabalu	18.36	66	*e*P		Pn	10 49 43.4 +1.4
	103nm,0.7s						
KKM	Kota Kinabalu	18.36	66	P		Pn	10 49 44.0 +2.1
	145nm,0.8s,3μm						
LOEI	Loei	18.99	5	P		Pn	10 49 50.7 +1.3
	31nm,1.1s,1μm						
PANO	Nakornpanom	19.23	15	P		Pn	10 49 55.7 +3.4
	76nm,1.1s,2μm						
MMSI	Mamuju	19.50	94	P		Pn	10 49 57.0 +1.4
	426nm,1.1s,5μm						
CM31	Chiang Mai Arr	19.85	359	*e*P		P	10 49 58.4 +0.4
	77nm,0.9s						
CMAR	Chiang Mai Arr	19.85	359	P		P	10 49 58.0 0.0
CMAR	Chiang Mai Arr	19.85	359	P		P	10 49 58.0 0.0
	1.1nm,0.3s,baz=189,slow=10,SNR=13						
LAMP	Lampang	19.91	1	P		Pn	10 50 02.7 +2.3
	47nm,1.0s						
MYLDM	Lahad Datu	20.18	71	P		Pn	10 50 04.4 +0.8
	214nm,1.0s,4μm						
CMMT	Chiang Mai	20.20	359	P		Pn	10 50 04.4 +0.5
	66nm,1.2s						
CHTO	Chiang Mai	20.20	359	*e*P		P	10 50 01.0 -0.8
CHTO				pmax		pmax	
	comp=Z,71nm,1.1s						
CHTO	Chiang Mai	20.20	359	P		Pn	10 50 07.6 +3.7
	SNR=17						
CHTO	Chiang Mai	20.20	359	*e*P		P	10 50 01.0 -0.8
	comp=Z,71nm,1.1s						
CHTO	Chiang Mai	20.20	359	P		P	10 50 02.2 +0.4
	comp=Z,72nm,1.1s						
CHTO	Chiang Mai	20.20	359	P		Pn	10 50 04.7 +0.8
	comp=Z,55nm,0.9s						
TTSI	Tana Toraja	20.43	95	P		P	10 50 05.4 +1.1
	comp=Z,162nm,1.5s,comp=Z,3μm						
SPSI	Sidrap Palu	20.46	97	P		P	10 50 04.6 0.0
	comp=Z,117nm,1.1s,comp=Z,2μm						
KAPI	Kappang	20.58	100	Pn		Pn	10 50 08.7 +0.4
	comp=Z,729nm,0.9s,SNR=7.4						
KAPI	Kappang	20.58	100	P		Pn	10 50 07.9 -0.5
	SNR=7.3						
KAPI	Kappang	20.58	100	*e*P		Pn	10 50 07.5 -0.8
	comp=Z,136nm,1.0s						
KAPI	Kappang	20.58	100	P		Pn	10 50 08.0 -0.3
	comp=Z,161nm,1.1s,comp=Z,2μm						
KAPI	Kappang	20.58	100	P		P	10 50 06.4 +0.4
	comp=Z,106nm,1.0s,baz=278,slow=10,SNR=12						
KAPI				LR		LR	10 58 28.0
	comp=Z,6μm,20.5s,baz=276,slow=38						
PALK	Pallekele	20.62	295	Pn		Pn	10 50 08.6 -0.3
	comp=Z,547nm,0.9s,SNR=8.2						
PALK	Pallekele	20.62	295	*e*P		Pn	10 50 08.5 -0.4
	comp=Z,168nm,1.2s						
PALK	Pallekele	20.62	295	P		Pn	10 50 08.8 -0.1
	comp=Z,126nm,1.4s,comp=Z,3μm						
PAYA	Payao	20.75	1	P		Pn	10 50 12.3 +2.1
	comp=Z,20nm,1.0s,comp=Z,137μm						
BKSI	Bulukumba	20.99	101	P		P	10 50 11.2 +0.8
	comp=Z,196nm,0.8s,comp=Z,2μm						
CMAI	Chiengmai2	21.32	359	P		P	10 50 17.9 +3.9
	comp=Z,244nm,1.1s						
TOLI	Toli-Toli	21.52	83	P		P	10 50 22.9 +6.8
	comp=Z,309nm,0.8s						
SKSI	Soroako, Sulaw	21.91	93	P		P	10 50 20.8 +0.4
	comp=Z,89nm,0.9s,comp=Z,3μm						
KKSI	Kolaka, Sulawe	22.35	97	P		P	10 50 27.4 +2.4
	comp=Z,176nm,1.5s,comp=Z,3μm						
MRSI	Marisa	22.59	85	P		P	10 50 28.4 +0.8
	comp=Z,196nm,0.6s,comp=Z,3μm						
QIZ	Qiongzhong	22.84	26	P		P	10 50 33.0 +2.9
QIZ				sP		sP	10 50 44.4 +2.6
QIZ				S		S	10 54 39.9 +2.1
QIZ				pmax		pmax	
	comp=Z,28nm,1.8s						
QIZ				LR		LR	
	comp=N,5μm,11.6s						
QIZ				LR		LR	
	comp=Z,8μm,11.7s						
QIZ	Qiongzhong	22.84	26	*e*P		P	10 50 33.5 +3.4
	comp=Z,22nm,0.9s						
LUWI	Luwuk	23.34	89	P		P	10 50 35.7 +0.4
	comp=Z,274nm,1.2s,comp=Z,4μm						
BBSI	Bau Bau	23.43	100	P		P	10 50 36.2 0.0
	comp=Z,171nm,0.7s,comp=Z,4μm						
GTOI	Gorontalo	23.67	85	P		P	10 50 38.1 -0.4
	comp=Z,369nm,0.8s,comp=Z,5μm						
KMSI	Cibinong	24.63	85	P		P	10 50 53.6 +6.2
	comp=Z,612nm,1.1s,comp=Z,8μm						
SOEI	Soe	26.02	109	P		P	10 50 56.0 -4.1
	comp=Z,95nm,0.9s						
TGY	Tagaytay City	26.36	53	LR		LR	11 01 45.1
	comp=Z,14nm,19.3s,baz=224,slow=37						
KMI	Kunming	26.67	7	P		P	10 51 10.5 +4.5
KMI				S		S	10 55 43.8 +4.1
KMI				pmax		pmax	
	comp=Z,34nm,0.9s						
KMI				LR		LR	
	comp=N,4μm,10.2s						
KMI				LR		LR	
	comp=E,6μm,10.5s						
KMI				LR		LR	
	comp=Z,6μm,13.7s						
DAV	Davao City (W)	27.45	72	LR		LR	11 04 06.9
	comp=Z,3μm,20.5s,baz=80,slow=41						
MBWA	Marble Bar	27.81	136	*e*P		P	10 51 17.2 +1.2
	comp=Z,401nm,2.8s						
HYB	Hyderabad	27.88	313	*i* P		P	10 51 16.0 -0.7
SHL	Shillong	27.89	345	*e*x		P	10 51 17.0 +0.1
	comp=Z,18nm,0.6s						
SHL				*e*x		x	10 56 15.0
LBMI	Labuha	28.08	89	P		P	10 51 24.0 +5.5
	comp=Z,224nm,1.1s,comp=Z,3μm						
GYA	Guiyang	28.67	14	P		P	10 51 22.9 -0.9
GYA				PP		PnPn	10 52 13.8 -1.0
GYA				PcP		PcP	10 54 35.3 +1.1
GYA				S		S	10 56 05.9 -5.2
GYA				ScP		SS	10 58 13.3 +0.1
GYA				ScS		ScS	11 02 07.0 -0.3
GYA				pmax		pmax	
	comp=Z,40nm,1.0s						
GYA				pmax		pmax	
	comp=Z,150nm,5.3s						
GYA				LR		LR	
	comp=N,4μm,14.4s						
GYA				LR		LR	
	comp=E,4μm,15.5s						
GYA				LR		LR	
	comp=Z,5μm,14.2s						
NGP	Nagpur	30.08	320	*e*P		P	10 51 33.1 -3.1
NGP				*e*S		Px	10 52 18.8
ODAN	Odare	30.50	338	*e*P		P	10 51 41.2 +1.0
	comp=Z,101nm,0.6s						
FITZ	Fitzroy Crossi	30.55	124	P		P	10 51 39.2 -1.3
FITZ	Fitzroy Crossi	30.55	124	P		P	10 51 39.2 -1.3
	comp=Z,45nm,0.9s,baz=296,slow=4.1,SNR=14						
TAPN	Taplejung	30.84	339	*e*P		P	10 51 44.4 +1.2
	comp=Z,281nm,1.0s						
RAMN	Ramite	30.88	337	*e*P		P	10 51 45.0 +1.5
	comp=Z,106nm,0.9s						
JIRN	Jiri	31.68	337	*e*P		P	10 51 51.8 +1.1
	comp=Z,266nm,0.9s						
SWI	Sorong	31.83	89	P		P	10 51 49.5 -2.3
	comp=Z,213nm,0.9s,comp=Z,2μm						
PKI	Pulchoki	31.91	336	*e*P		P	10 51 53.2 +0.5
PKIN	Phulchoki	31.92	336	*e*P		P	10 51 53.2 +0.5
	comp=Z,44nm,1.0s						
GUN	Gumba	32.02	337	*e*P		P	10 51 54.1 +0.4
	comp=Z,161nm,0.7s						
LSA	Lhasa	32.03	346	*e*P		P	10 51 54.6 +0.7
LSA				pmax		pmax	
	comp=Z,107nm,0.9s						
LSA	Lhasa	32.03	346	*e*P		P	10 51 54.5 +0.7
	comp=Z,107nm,0.9s						
DMN	Daman	32.07	336	*e*P		P	10 51 54.8 +0.8
	comp=Z,113nm,1.0s						
POO	Poona	32.09	310	*e*x		x	10 51 54.0
KKN	Kakani	32.16	336	*e*P		P	10 51 55.5 +0.8
TPUB	Ta-pu	32.16	39	*e*P		P	10 51 54.6 0.0
	comp=Z,88nm,0.9s						
QZH	Quanzhou	32.20	34	*i* P		P	10 51 58.9 +4.1
QZH				*e*S		S	10 57 02.8 -3.3
QZH				LR		LR	
	comp=N,4μm,11.1s						
QZH				LR		LR	
	comp=E,8μm,11.2s						
QZH				LR		LR	
	comp=Z,10μm,12.7s						
CD2	Chengdu	32.51	7	*e*P		P	10 52 00.8 +3.3
CD2				pP		pP	10 52 11.3 +5.2
CD2				sP		sP	10 52 14.9 +5.2
CD2				PP		PP	10 53 10.8 -0.6
CD2				PcP		PcP	10 54 46.1 +2.0
CD2				S		S	10 57 14.0 +3.1
CD2				sS		sS	10 57 30.3 +5.2
CD2				SS		SnSn	10 59 12.8 +6.8
CD2				ScS		ScS	11 02 24.3 -1.3
CD2				pmax		pmax	
	comp=Z,30nm,0.8s						
CD2				pmax		pmax	
	comp=Z,980nm,9.8s						
CD2				LR		LR	
	comp=N,7μm,15.6s						
CD2				LR		LR	
	comp=E,7μm,16.6s						
CD2				LR		LR	
	comp=Z,5μm,13.0s						
YULB	Yu-li	32.65	39	*e*P		P	10 52 00.5 +1.7
	comp=Z,33nm,0.8s						
SSLB	Suanglung	32.72	38	*e*P		P	10 52 00.0 +0.6
	comp=Z,51nm,0.9s						
KOLN	Koldanda	32.85	334	*e*P		P	10 52 01.8 +1.0
	comp=Z,133nm,0.8s						
ENH	Enshi	33.03	16	*e*P		P	10 52 01.3 -0.8
	comp=Z,6.6nm,0.4s						
DANN	Dangsing	33.28	334	*e*P		P	10 52 05.3 +0.6
	comp=Z,205nm,0.9s						
NACB	Ningcanchiao	33.40	39	*e*P		P	10 52 05.9 +0.6
	comp=Z,51nm,0.8s						
YHNB	Yeheng	33.62	38	*e*P		P	10 52 11.1 +3.7
	comp=Z,38nm,0.9s						
TATO	Taipei	33.92	38	*e*P		P	10 52 13.0 +3.1
	comp=Z,62nm,0.9s						
RKPI	Ransiki, Papua	34.73	90	P		P	10 52 16.3 -0.8
	comp=Z,145nm,0.8s,comp=Z,5μm						
WHN	Wuhan	34.91	23	P		P	10 52 24.0 +5.7
WHN				LR		LR	
	comp=N,12μm,13.0s						
WHN				LR		LR	
	comp=E,5μm,10.0s						
WHN				LR		LR	
	comp=Z,8μm,15.5s						
NWAO	Narrogin (SRO)	35.45	154	P		P	10 52 22.9 -0.1
NWAO	Narrogin (SRO)	35.45	154	P		P	10 52 22.9 -0.1
	comp=Z,17nm,0.9s,baz=330,slow=13,SNR=6.2						
NWAO				LR		LR	11 06 43.5
	comp=Z,4μm,20.6s,baz=329,slow=36						
XAN	Xi'an	36.47	13	P		P	10 52 29.8 -2.0
XAN				PcP		PcP

WRAB	**Tennant Creek**	**38.73 121**	P	**P**	**10 52 50.0**	**-1.1**
	comp=Z,611nm,0.5s,SNR=11					
WRAB	**Tennant Creek**	**38.73 121**	*e*P	**P**	**10 52 49.7**	**-1.4**
WRAB	**Tennant Creek**	**38.73 121**	*e*P	**P**	**10 52 49.7**	**-1.4**
JOW	**Kunigami**	**39.59 43**	*e*P	**P**	**10 53 00.6**	**+2.5**
	comp=Z,29nm,1.6s					
AS31	**Alice Springs**	**40.00 126**	*e*P	**P**	**10 53 00.8**	**-0.9**
ASAR	**Alice Springs**	**40.00 126**	P	**P**	**10 53 00.9**	**-0.8**
ASAR			S	**S**	**10 59 02.9**	**-2.8**
ASAR	**Alice Springs**	**40.00 126**	P	**P**	**10 53 00.9**	**-0.8**
	comp=Z,25nm,0.7s,baz=303,slow=7.9,SNR=20					
ASAR			S	**S**	**10 59 02.9**	**-2.8**
	comp=Z,4.7nm,0.7s,baz=289,slow=16,SNR=6.3					
ASAR			LR	LR	11 11 48.9	
	comp=Z,3μm,20.2s,baz=289,slow=40					
GTA	**Gaotai**	**40.73 0**	*e*P	P	10 53 11.9	+4.3
GTA			pP	pP	10 53 21.4	+5.1
GTA			sP	sP	10 53 25.5	+5.6
GTA			PcP	**PcP**	**10 55 09.5**	**+0.8**
GTA			S	**S**	**10 59 19.0**	**+2.7**
GTA			sS	sS	10 59 35.3	+4.6
GTA			SS	**SS**	**11 02 15.8**	**-1.9**
GTA			ScS	**ScS**	**11 03 10.4**	**-0.7**
GTA			pmax	pmax		
	comp=Z,24nm,1.8s					
GTA			pmax	pmax		
	comp=Z,740nm,10.0s					
GTA			LR	LR		
	comp=N,2μm,12.3s					
GTA			LR	LR		
	comp=E,4μm,19.0s					
GTA			LR	LR		
	comp=Z,2μm,22.3s					
HHC	**Hu-ho-hao-te**	**43.59 13**	*e*P	P	10 53 34.9	+4.0
HHC			PP	**PcP**	**10 55 18.8**	**+0.7**
HHC			ScP	**ScP**	**10 59 08.8**	**+1.0**
HHC			PcS	**PcS**	**10 59 13.3**	**+2.4**
HHC			S	**S**	**11 00 03.3**	**+4.8**
HHC			sS	sS	11 00 19.3	+6.3
HHC			SS	**SS**	**11 03 11.5**	**-2.6**
HHC			ScS	**ScS**	**11 03 29.3**	**+0.7**
HHC			pmax	pmax		
	comp=Z,39nm,0.8s					
HHC			pmax	pmax		
	comp=Z,1μm,5.2s					
HHC			LR	LR		
	comp=N,7μm,17.1s					
HHC			LR	LR		
	comp=E,4μm,17.0s					
HHC			LR	LR		
	comp=Z,5μm,16.9s					
BJT	**Baijiatuau**	**44.08 19**	*e*P	**P**	**10 53 34.3**	**-0.4**
	comp=Z,42nm,0.8s					
BJI	**Beijing**	**44.10 19**	P	P	10 53 40.8	+6.0
BJI			S	**S**	**11 00 07.3**	**+1.6**
BJI			pmax	pmax		
	comp=Z,70nm,1.0s					
BJI			pmax	pmax		
	comp=Z,800nm,10.4s					
BJI			LR	LR		
	comp=N,1μm,22.6s					
BJI			LR	LR		
	comp=E,3μm,22.6s					
BJI			LR	LR		
	comp=Z,950nm,20.1s					
DL2	**Dalian**	**45.11 25**	P	P	10 53 47.1	+4.2
DL2			S	**S**	**11 00 24.9**	**+4.5**
DL2			pmax	pmax		
	comp=Z,50nm,1.5s					
DL2			pmax	pmax		
	comp=Z,450nm,4.1s					
DL2			LR	LR		
	comp=E,2μm,20.6s					
DL2			LR	LR		
	comp=Z,1μm,11.8s					
JNU	**Nakatsue**	**45.46 38**	*e*P	**P**	**10 53 45.3**	**-0.6**
	comp=Z,42nm,0.8s					
JNU	**Nakatsue**	**45.46 38**	P	**P**	**10 53 45.0**	**-0.9**
	comp=Z,35nm,0.7s,baz=168,slow=5.1,SNR=11					
TJN	**Taejon**	**45.79 32**	*i* P	**P**	**10 53 46.9**	**-1.4**
KBL	**Kabul**	**45.81 324**	*e*P	**P**	**10 53 49.0**	**+0.2**
KBL			pmax	pmax		
	comp=Z,12nm,0.8s					
KBL	**Kabul**	**45.81 324**	*e*P	**P**	**10 53 49.0**	**+0.2**
	comp=Z,12nm,0.8s					
KSH	**Kashi**	**46.15 335**	P	**P**	**10 53 50.3**	**-1.0**
KSH			sP	**sP**	**10 54 03.3**	**-0.4**
KSH			PP	**PP**	**10 55 38.3**	**-1.7**
KSH			S	S	11 00 29.5	-6.2
KSH			SS	**ScS**	**11 03 46.8**	**+1.7**
KSH			pmax	pmax		
	comp=Z,29nm,1.3s					
KSH			pmax	pmax		
	comp=Z,310nm,4.2s					
KSH			LR	LR		
	comp=N,870nm,13.3s					
KSH			LR	LR		
	comp=E,880nm,11.7s					
KSH			LR	LR		
	comp=Z,1μm,18.1s					
WMQ	**Urumqi**	**46.34 348**	P	**P**	**10 53 53.4**	**+0.7**
WMQ			sP	**sP**	**10 54 05.8**	**+0.7**
WMQ			PcP	**PcP**	**10 55 29.3**	**+1.8**
WMQ			PP	**PP**	**10 55 41.6**	**-0.3**
WMQ			S	**S**	**11 00 38.1**	**-0.1**
WMQ			ScS	**ScS**	**11 03 44.8**	**-1.2**
WMQ			SS	SS	11 03 52.5	-12
WMQ			pmax	pmax		
	comp=Z,59nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,540nm,4.5s					
WMQ			LR	LR		
	comp=N,770nm,25.0s					
WMQ			LR	LR		
	comp=E,1μm,25.0s					
WMQ			LR	LR		
	comp=Z,860nm,20.0s					
RER	**Riviere de l'E**	**46.83 242**	*e*P	**P**	**10 53 59.1**	**+2.2**
	comp=Z,71nm,1.1s					
KSAR	**Wonju Array Be**	**46.87 31**	P	**P**	**10 53 55.9**	**-1.0**
KSAR			PcP	**PcP**	**10 55 29.7**	**+0.3**
KSRS	**Korea Array**	**46.90 31**	P	**P**	**10 53 55.9**	**-1.2**
	comp=Z,8.1nm,0.7s,baz=225,slow=7.6,SNR=16					
KSRS			PcP	**PcP**	**10 55 29.7**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=227,slow=3.9,SNR=4.1					
BSY	**Bisya**	**47.68 303**	P	**P**	**10 54 05.4**	**+1.9**
	SNR=5.1					
TKM2	**Tokmak 2**	**49.16 337**	*e*P	**P**	**10 54 15.5**	**+0.8**
TKM2			pmax	pmax		
	comp=Z,40nm,0.9s					
TKM2	**Tokmak 2**	**49.16 337**	P	**P**	**10 54 16.0**	**+1.3**
	SNR=16					
TKM2	**Tokmak 2**	**49.16 337**	*e*P	**P**	**10 54 15.5**	**+0.8**
	comp=Z,40nm,0.9s					
KBK	**Karagaybulak**	**49.20 336**	*i* P	**P**	**10 54 16.9**	**+1.9**
KBK	**Karagaybulak**	**49.20 336**	P	**P**	**10 54 16.9**	**+1.9**
	SNR=11					
AML	**Almayashu**	**49.28 335**	*i* P	**P**	**10 54 17.1**	**+1.2**
AML	**Almayashu**	**49.28 335**	P	**P**	**10 54 17.1**	**+1.2**
	SNR=11					
CTA	**Charters Tower**	**49.32 115**	P	**P**	**10 54 15.1**	**-1.0**
CTA	**Charters Tower**	**49.32 115**	P	**P**	**10 54 15.1**	**-1.0**
	comp=Z,27nm,0.9s,baz=280,slow=9.4,SNR=16					
CTAO	**Charters Tower**	**49.32 115**	*e*P	**P**	**10 54 14.5**	**-1.6**
CTAO			pmax	pmax		
	comp=Z,54nm,1.1s					
CTAO	**Charters Tower**	**49.32 115**	*e*P	**P**	**10 54 14.4**	**-1.6**
	comp=Z,54nm,1.1s					
AAK	**Ala-Archa**	**49.37 336**	P	**P**	**10 54 17.6**	**+1.4**
	comp=Z,95nm,1.0s,SNR=9.9					
AAK	**Ala-Archa**	**49.37 336**	*e*P	**P**	**10 54 17.7**	**+1.4**
AAK			pmax	pmax		
	comp=Z,219nm,2.4s					
AAK	**Ala-Archa**	**49.37 336**	P	**P**	**10 54 18.0**	**+1.7**
	SNR=12					
AAK	**Ala-Archa**	**49.37 336**	*e*P	**P**	**10 54 17.6**	**+1.4**
	comp=Z,219nm,2.4s					
FRU	**Bishkek**	**49.48 336** ⇓	*i* P	**P**	**10 54 17.0**	**0.0**
FRU			*i*		10 54 23.0	
FRU			pmax	pmax		
	comp=Z,120nm,2.0s					
FRU			MLR	MLR		
	comp=Z,1μm,18.0s					
SONM	**Songino Array**	**49.52 6**	P	**P**	**10 54 17.4**	**+0.1**
SONM			PcP	**PcP**	**10 55 38.3**	**-0.6**
SONM	**Songino Array**	**49.52 6**	P	**P**	**10 54 17.4**	**+0.1**
	comp=Z,9.1nm,0.7s,baz=190,slow=8.0,SNR=12					
SONM			PcP	**PcP**	**10 55 38.3**	**-0.6**
	comp=Z,11nm,1.0s,baz=192,slow=5.5,SNR=3.2					
CHMS	**Chumysh**	**49.56 336**	*i* P	**P**	**10 54 18.5**	**+0.9**
CHMS	**Chumysh**	**49.56 336**	P	**P**	**10 54 18.5**	**+0.9**
	SNR=12					
ULN	**Ulaanbaatar**	**49.62 7**	P	P	10 54 24.4	+6.3
	SNR=9.2					
ULN	**Ulaanbaatar**	**49.62 7**	*e*P	**P**	**10 54 18.3**	**+0.1**
	comp=Z,19nm,0.8s					
ULN	**Ulaanbaatar**	**49.62 7**	P	**P**	**10 54 18.7**	**+0.6**
EKS2	**Erkin-Say**	**49.69 335**	*e*P	**P**	**10 54 19.4**	**+0.8**
EKS2			pmax	pmax		
	comp=Z,39nm,0.9s					
EKS2	**Erkin-Say**	**49.69 335**	P	**P**	**10 54 19.6**	**+0.9**
	SNR=14					
EKS2	**Erkin-Say**	**49.69 335**	*e*P	**P**	**10 54 19.4**	**+0.8**
	comp=Z,39nm,0.9s					
USP	**Ospenovka**	**49.89 336**	*i* P	**P**	**10 54 21.2**	**+1.1**
USP	**Ospenovka**	**49.89 336**	P	**P**	**10 54 21.2**	**+1.1**
	SNR=27					
STKA	**Stephens Creek**	**49.90 132**	*e*P	**P**	**10 54 20.5**	**+0.2**
	comp=Z,8.9nm,0.9s					
STKA	**Stephens Creek**	**49.90 132**	P	**P**	**10 54 20.1**	**-0.2**
	comp=Z,34nm,0.8s,baz=310,slow=8.4,SNR=15					
STKA			LR	LR	11 17 39.3	
	comp=Z,3μm,21.4s,baz=296,slow=39					
MK31	**Makanchi Array**	**50.41 345**	*ce*P	**P**	**10 54 24.1**	**+0.1**
MK31			pmax	pmax		
	comp=Z,46nm,0.6s					
MKAR	**Makanchi Array**	**50.41 345**	*ce*P	**P**	**10 54 24.0**	**+0.1**
MKAR			pmax	pmax		
	comp=Z,30nm,0.7s					
MKAR	**Makanchi Array**	**50.41 345**	P	**P**	**10 54 24.0**	**+0.1**
MKAR	**Makanchi Array**	**50.41 345**	P	**P**	**10 54 24.0**	**+0.1**
	comp=Z,30nm,0.7s,baz=152,slow=7.9,SNR=28					
CN2	**Changchun**	**50.77 24**	*e*P	**P**	**10 54 25.1**	**-1.6**
CN2			*e*S	**S**	**11 01 38.5**	**-2.0**
CN2			pmax	pmax		
	comp=Z,20nm,0.9s					
CN2			LR	LR		
	comp=N,2μm,18.0s					
CN2			LR	LR		
	comp=E,3μm,18.0s					
CN2			LR	LR		
	comp=Z,2μm,17.0s					
KK31	**Karatay Array**	**51.46 333**	*ce*P	**P**	**10 54 31.7**	**-0.2**
KK31			pmax	pmax		
	comp=Z,44nm,1.4s					
KKAR	**Karatay Array**	**51.46 333**	*e*P	**P**	**10 54 32.3**	**+0.3**
KKAR	**Karatay Array**	**51.46 333**	*e*P	**P**	**10 54 32.2**	**+0.3**
MAT	**Matsushiro**	**52.26 40**	P	**P**	**10 54 35.9**	**-2.1**
MJAR	**Matsushiro Arr**	**52.26 40**	P	**P**	**10 54 36.8**	**-1.3**
MJAR	**Matsushiro Arr**	**52.26 40**	P	**P**	**10 54 36.8**	**-1.3**
	comp=Z,5.9nm,0.8s,baz=225,slow=2.3,SNR=6.9					
HVS	**Khovu-Aksy**	**52.68 355** ⇓	*i* P	**P**	**10 54 40.9**	**0.0**
MOY	**Mondy**	**53.00 1**	*e*P	**P**	**10 54 44.0**	**+0.7**
MOY			pmax	pmax		
	comp=Z,67nm,3.0s					
VLA	**Vladivostok**	**53.15 29** ⇓	*e*P	**P**	**10 54 44.3**	**-0.1**
VLA			*e*S	**S**	**11 02 11.3**	**-1.8**
VLA			pmax	pmax		
	comp=Z,31nm,1.4s					
MDJ	**Mudanjiang**	**53.21 27**	P	**P**	**10 54 43.3**	**-1.5**
MDJ			pmax	pmax		
	comp=Z,6.0nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,310nm,7.9s					
IRK	**Irkutsk**	**53.72 4**	*e*P	**P**	**10 54 48.1**	**-0.3**
IRK			pmax	pmax		
	comp=Z,62nm,2.6s					
OPO	**Ambohidratompo**	**53.92 248**	P	**P**	**10 54 50.9**	**+0.2**
OPO	**Ambohidratompo**	**53.92 248**	P	**P**	**10 54 50.9**	**+0.2**
	comp=Z,18nm,0.9s,baz=69,slow=8.3,SNR=9.9					
USRK	**Ussuriysk Arra**	**54.00 29**	P	**P**	**10 54 50.0**	**-0.6**
	comp=Z,18nm,0.7s,baz=227,slow=5.9,SNR=14					
KURBB	**Kurchatov Arra**	**54.93 344**	P	**P**	**10 54 57.0**	**-0.3**
	comp=Z,7.0nm,0.5s,baz=164,slow=6.6,SNR=25					
KURK	**Kurchatov**	**54.98 344**	P	**P**	**10 54 57.0**	**-0.7**
KURK	**Kurchatov**	**54.98 344**	P	**P**	**10 54 57.0**	**-0.7**
ZAA0	**Zalesovo Array**	**56.59 350**	*e*P	**P**	**10 55 08.7**	**-0.4**
ZALV	**Zalesovo Beam**	**56.59 350**	*i* P	**P**	**10 55 08.8**	**-0.2**
ZALV			pmax	pmax		
	comp=Z,24nm,0.5s					
ZALV	**Zalesovo Beam**	**56.59 350**	P	**P**	**10 55 08.9**	**-0.2**
ZALV	**Zalesovo Beam**	**56.59 350**	P	**P**	**10 55 08.9**	**-0.2**
	comp=Z,24nm,0.5s,baz=163,slow=5.6,SNR=24					
CAN	**Canberra**	**56.96 132**	*e*P	**P**	**10 55 12.5**	**+0.3**
CAN			pmax	pmax		
	comp=Z,44nm,1.0s					
CAN	**Canberra**	**56.96 132**	*e*P	**P**	**10 55 12.5**	**+0.3**
	comp=Z,44nm,1.0s					
KRAR	**Krasnoyarsk**	**57.59 356**	*i* P	**P**	**10 55 16.1**	**0.0**
NVS	**Novosibirsk**	**57.73 349** ⇓	*e*P	**P**	**10 55 16.8**	**-0.3**
NVS			*e*S	**S**	**11 03 14.3**	**+0.3**
NVS			pmax	pmax		
	comp=N,35nm,1.5s					
NVS			pmax	pmax		
	comp=E,24nm,1.5s					
NVS			smax	smax		
	comp=N,72nm,2.3s					
RAYN	**Ar Rayn**	**58.00 299**	P	**P**	**10 55 19.0**	**-0.8**
	comp=N,168nm,0.9s,SNR=8.7					
RAYN	**Ar Rayn**	**58.00 299**	*e*P	**P**	**10 55 19.3**	**-0.5**
	comp=N,30nm,0.9s					
KBD	**Kabd**	**58.09 306**	*e*P	**P**	**10 55 19.2**	**-1.0**
KBD			AMb	AMB	10 55 21.9	
	comp=Z,108nm,1.1s					
RDF	**Al-Radifah**	**58.11 306**	*e*P	**P**	**10 55 19.5**	**-0.8**
RDF			AMb	AMB	10 55 22.5	
	comp=Z,222nm,1.1s					
UMR	**Umm Al-Rimmam**	**58.21 306**	*e*P	**P**	**10 55 19.7**	**-1.3**
UMR			AMb	AMB	10 55 22.6	
	comp=Z,168nm,1.2s					
NAY	**Al-Naaiem**	**58.48 306**	*e*P	**P**	**10 55 21.9**	**-1.0**
NAY			AMb	AMB	10 55 30.2	
	comp=Z,62nm,0.9s					
HABR	**Khabarovsk**	**58.59 27**	*e*P	**P**	**10 55 20.3**	**-2.9**
HABR			*e**PP	**pP**	**10 55 30.3**	**-2.0**
HABR			*e**SP	**sP**	**10 55 34.5**	**-1.3**
HABR			*e*		10 56 10.6	
HABR			*e*		10 57 29.9	
HABR			*e*S	**S**	**11 03 21.8**	**-3.6**
HABR			*e*		11 03 34.2	
HABR			*e**SS	**sS**	**11 03 38.7**	**-1.6**
HABR			*e*		11 05 07.1	
HABR			*e*SS	**SS**	**11 07 15.3**	**-3.3**
HABR			pmax	pmax		
	comp=Z,34nm,2.2s					
HABR			pmax	pmax		
	comp=E,10.0nm,0.9s					
HABR			pmax	pmax		
	comp=N,11nm,1.1s					
HABR			MLR	MLR		
	comp=Z,1μm,21.0s					
VOSK	**Vostochnaya**	**59.08 340**	P	**P**	**10 55 25.0**	**-1.7**
VOSK			pmax	pmax		
	comp=Z,28nm,1.1s					
BVA0	**Borovoye Array**	**59.53 340**	P	**P**	**10 55 28.2**	**-1.6**
BVA0			pmax	pmax		
	comp=Z,88nm,2.3s					
BVAR	**Borovoye Array**	**59.53 340**	P	**P**	**10 55 29.1**	**-0.7**
BVAR	**Borovoye Array**	**59.53 340**	P	**P**	**10 55 29.1**	**-0.7**
BVAR	**Borovoye Array**	**59.53 340**	P	**P**	**10 55 29.1**	**-0.7**
	comp=Z,12nm,0.8s,baz=134,slow=8.5,SNR=18					
ASAJ	**Asahikawa**	**59.54 35**	*e*P	**P**	**10 55 29.9**	**0.0**
	comp=Z,8.0nm,0.8s					
ASAJ	**Asahikawa**	**59.54 35**	P	**P**	**10 55 29.9**	**0.0**
	comp=Z,3.0nm,0.5s,baz=242,slow=7.8,SNR=4.8					
BRVK	**Borovoye**	**59.60 340** ⇓	*i* P	**P**	**10 55 29.9**	**-0.3**
BRVK			pmax	pmax		
	comp=Z,20nm,1.2s					
BRVK	**Borovoye**	**59.60 340**	P	**P**	**10 55 30.1**	**-0.1**
	SNR=8.1					
BRVK	**Borovoye**	**59.60 340**	*e*P	**P**	**10 55 29.3**	**-0.9**
	comp=Z,18nm,0.8s					
AB31	**Akbulak array**	**60.94 332**	*ce*P	**P**	**10 55 38.2**	**-1.3**
AB31			pmax	pmax		
	comp=Z,32nm,0.8s					
IBDR	**Badra**	**61.00 310**	*i* P	P	10 55 36.0	-4.2
IBDR			*i* S	S	11 03 33.0	-24
IBDR			*i* PS	**PnS**	**11 04 06.0**	**-7.3**
YSS	**Yuzh-Sakhalins**	**61.37 32** ⇑	*i* P	**P**	**10 55 44.0**	**+1.6**
YSS			*e*		10 55 49.5	
YSS			pmax	pmax		
	comp=Z,30nm,1.0s					
YUK	**Yuzh-Kuril'sk**	**61.39 37**	*d* P	P	10 55 48.0	+5.4
YUK			*i*		10 56 30.5	
YUK					10 58 05.9	
YUK			*i* S	S	11 04 09.7	+8.0
YUK			MLR	MLR		
	comp=E,728nm,21.0s					
YUK			MLR	MLR		
	comp=Z,708nm,21.0s					
YUK			MLR	MLR		
	comp=N,349nm,21.0s					
CLNS	**Chul'man**	**61.70 16**	*e*P	P	10 55 49.8	+5.3
CLNS			pmax	pmax		
	comp=Z,8.0nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,15nm,0.9s					
CLNS			pmax	pmax		
	comp=N,9.0nm,0.9s					
KMBO	**Kilima Mbogo**	**62.16 270**	P	**P**	**10 55 50.5**	**+1.8**
	SNR=11					
KMBO	**Kilima Mbogo**	**62.16 270**	*e*P	**P**	**10 55 49.8**	**+1.0**
	comp=N,38nm,1.0s					
KMBO	**Kilima Mbogo**	**62.16 270**	P	**P**	**10 55 50.3**	**+1.6**
	comp=N,28nm,1.0s,baz=61,slow=9.0,SNR=38					
BHD	**Baghdad**	**62.26 309**	*i* P	P	10 55 45.0	-3.7
BHD			*i* S	S	11 03 50.0	-23
BHD			*i* PS	PnS	11 04 11.0	-20
AKTO	**Aktyubinsk**	**62.66 332**	P	**P**	**10 55 50.4**	**-0.6**
AKTO	**Aktyubinsk**	**62.66 332**	P	**P**	**10 55 50.4**	**-0.6**
AKTO	**Aktyubinsk**	**62.66 332**	P	**P**	**10 55 50.4**	**-0.6**
	comp=N,15nm,1.0s,baz=133,slow=7.1,SNR=24					
URKR	**Urkarakh**	**63.76 319**	*i* P	**P**	**10 55 59.0**	**+0.3**
URKR			S	**pP**	**10 56 07.0**	**-0.8**
GNI	**Garni**	**64.78 316**	P	**P**	**10 56 06.4**	**+0.9**
	SNR=9.4					
GNI	**Garni**	**64.78 316**	*e*P	**P**	**10 56 05.8**	**+0.3**
	comp=N,38nm,1.0s					
GNI	**Garni**	**64.78 316**	P	**P**	**10 56 05.8**	**+0.3**
	comp=N,8.7nm,0.6s,baz=328,slow=24,SNR=12					
DGRG	**David-gareji**	**64.93 318**	P	**P**	**10 56 06.5**	**+0.3**
CASY	**Casey**	**65.11 175**	*e*P	**P**	**10 56 07.8**	**+0.9**
	comp=N,29nm,0.6s					
TBLG	**Delisi**	**65.48 318**	*e*P	**P**	**10 56 09.3**	**-0.5**
TBLG	**Delisi**	**65.48 318**	P	**P**	**10 56 09.3**	**-0.5**
SVE	**Sverdlovsk**	**66.02 338**	*c i* P	**P**	**10 56 13.0**	**+0.1**
SVE			pmax	pmax		
	comp=Z,72nm,1.2s					
AKH	**Akhalkalaki**	**66.18 317**	P	**P**	**10 56 13.8**	**-0.7**
ZEI	**Tsey**	**66.50 319**	*e*P	**P**	**10 56 16.3**	**-0.2**
ZEI			pmax	pmax		
	comp=Z,31nm,1.0s					
ARU	**Arti**	**66.54 337**	*c i* P	**P**	**10 56 14.9**	**-1.3**
ARU			S	**S**	**11 05 03.5**	**-1.6**
ARU			pmax	pmax		
	comp=Z,49nm,1.2s					
ARU			MLR	MLR		
	comp=Z,826nm,20.0s					
ARU	**Arti**	**66.54 337**	P	**P**	**10 56 15.0**	**-1.3**
	comp=Z,182nm,1.2s,SNR=8.0					
ONI	**Oni**	**66.71 318**	P	**P**	**10 56 17.2**	**-0.5**
YAK	**Yakutsk**	**67.42 15**	*e*P	**P**	**10 56 20.5**	**-1.2**
YAK			*e**PP	**PcP**	**10 56 47.8**	**-1.2**
YAK			*e*		10 58 50.5	
YAK			*e*PPP	PPP	11 00 31.0	
YAK			*e*S	**S**	**11 05 09.6**	**-5.9**
YAK			*e**SS	SKSac	11 05 54.2	-23
YAK			*e*		11 06 09.0	
YAK			*e*SS	**SS**	**11 09 29.9**	**-6.1**
YAK			pmax	pmax		
	comp=Z,37nm,0.9s					
YAK			pmax	pmax		
	comp=N,16nm,1.2s					
YAK			pmax	pmax		
	comp=E,13nm,1.1s					
YAK			pmax	pmax		
	comp=Z,94nm,6.1s					
YAK			pmax	pmax		
	comp=N,98nm,5.7s					
YAK			pmax	pmax		
	comp=E,45nm,4.4s					
YAK			smax	smax		
	comp=E,91nm,3.5s					
YAK			smax	smax		
	comp=N,105nm,4.2s					
KBZ	**Khabaz**	**67.57 319**	P	**P**	**10 56 23.1**	**+0.1**
KBZ	**Khabaz**	**67.57 319**	P	**P**	**10 56 23.1**	**+0.1**
KBZ	**Khabaz**	**67.57 319**	P	**P**	**10 56 23.1**	**+0.1**
	comp=N,32nm,0.9s,baz=115,slow=6.1,SNR=32					
KIV	**Kislovodsk**	**67.81 319**	*e*P	**P**	**10 56 24.3**	**-0.4**
KIV			*e*		10 56 50.5	
KIV			*e*S	**S**	**11 05 20.5**	**-0.5**
KIV			pmax	pmax		
	comp=Z,62nm,1.0s					
KIV			pmax	pmax		
	comp=Z,86nm,6.1s					
KIV	**Kislovodsk**	**67.81 319**	P	**P**	**10 56 24.1**	**-0.6**
	comp=Z,352nm,1.1s,SNR=8.7					
ASF	**Jabal al Asfar**	**67.84 306**	P	**P**	**10 56 26.4**	**+1.2**
ASF	**Jabal al Asfar**	**67.84 306**	P	**P**	**10 56 26.4**	**+1.2**
	comp=Z,26nm,1.0s,baz=73,slow=3.2,SNR=26					
EIL	**Elat**	**68.78 303**	P	**P**	**10 56 31.2**	**+0.2**
EIL	**Elat**	**68.78 303**	P	**P**	**10 56 31.2**	**+0.2**
	comp=Z,37nm,0.9s,baz=82,slow=0.7,SNR=14					
SOKR	**Solikamsk**	**69.42 338**	*c i* P	**P**	**10 56 34.0**	**-0.2**
SOKR			pmax	pmax		
	comp=Z,40nm,1.0s					
SOC	**Sochi**	**69.61 318**	*c i* P	**P**	**10 56 33.9**	**-1.9**
SOC			*e**SP	**sP**	**10 56 47.9**	**-0.6**
SOC			*e*		11 00 50.0	
SOC			*e*S	**S**	**11 05 39.7**	**-2.6**
SOC			pmax	pmax		
	comp=Z,64nm,0.8s					
MAW	**Mawson**	**70.61 194**	P	**P**	**10 56 42.0**	**+0.6**
MAW	**Mawson**	**70.61 194**	P	**P**	**10 56 42.0**	**+0.6**
	comp=Z,12nm,0.9s,baz=33,slow=7.3,SNR=16					
MAW			LR	LR	11 21 47.0	
	comp=Z,956nm,19.0s,baz=31,slow=31					
CSS	**Prodhromos**	**71.48 308**	*e*P	**P**	**10 56 46.3**	**-1.1**
	comp=Z,60nm,1.1s					
LSZ	**Lusaka**	**71.51 254**	*e*P	**P**	**10 56 48.8**	**+0.7**
	comp=Z,33nm,1.4s					
ANN	**Anapa**	**71.60 319**	*e*P	**P**	**10 56 44.7**	**-3.1**
ANN			*e*S	**S**	**11 06 03.6**	**-1.7**
ANN			pmax	pmax		
	comp=Z,52nm,1.5s					
VRHR	**Novokhopersk**	**71.61 326**	*e*P	**P**	**10 56 47.0**	**-0.8**
VRHR			pmax	pmax		
	comp=Z,50nm,0.8s					
VRHR			pmax	pmax		
	comp=N,10.0nm,0.5s					
VRHR			pmax	pmax		
	comp=E,20nm,0.6s					
BR131	**Keskin Array S**	**72.58 313**	*e*P	**P**	**10 56 52.7**	**-1.4**
	comp=E,10nm,0.9s					
BRTR	**Keskin Array B**	**72.58 313**	P	**P**	**10 56 53.1**	**-0.9**
BRTR	**Keskin Array B**	**72.58 313**	P	**P**	**10 56 53.1**	**-0.9**
	comp=E,12nm,1.0s,baz=126,slow=6.3,SNR=23					
PEA0B	**Petropavlovsk-**	**72.78 32**	*e*P	**P**	**10 56 55.8**	**+1.0**
PETK	**Petropavlovsk-**	**72.78 32**	P	**P**	**10 56 53.6**	**-1.2**
PETK	**Petropavlovsk-**	**72.78 32**	P	**P**	**10 56 53.6**	**-1.2**
PETK	**Petropavlovsk-**	**72.78 32**	P	**P**	**10 56 53.6**	**-1.2**
	comp=E,3.1nm,0.6s,baz=268,slow=1.3,SNR=8.4					
VORD	**Divnogorie**	**72.88 325**	*e*P	**P**	**10 56 54.3**	**-1.1**
VORD			pmax	pmax		
	comp=Z,40nm,0.9s					
VORD			pmax	pmax		
	comp=N,20nm,0.8s					
VORD			pmax	pmax		
	comp=E,50nm,1.0s					
VSR	**Storozhevoye**	**73.06 325**	*e*P	**P**	**10 56 55.3**	**-1.1**
VSR			pmax	pmax		
	comp=Z,90nm,1.2

SIM pmax pmax
comp=Z,32nm,0.9s
ISP Isparta 74.40 310 ⇓P P 10 57 05.2 +0.4
ISP Isparta 74.40 310 ⇓iP P 10 57 05.2 +0.4
ISP Isparta 74.40 310 *eP* **P 10 57 05.5 +0.7**
comp=Z,100nm,2.0s
LBTB Lobatse 74.72 245 *eP* **P 10 57 07.1 +0.2**
comp=Z,45nm,1.7s
SEY Seymchan 75.39 22 ⇓iP P 10 57 10.2 +0.4
BOSA Boshof 75.39 241 *eP* **P 10 57 10.5 -0.2**
comp=Z,8.3nm,0.8s
BOSA Boshof 75.39 241 P **P 10 57 10.2 -0.6**
comp=Z,8.4nm,0.8s,baz=77,slow=5.9,SNR=8.1
TIXI Tiksi 75.47 9 ⇓iP P 10 57 09.3 -0.8
TIXI pmax pmax
comp=Z,46nm,1.2s
RPZ Rata Peaks 75.72 135 *eP* **P 10 57 13.4 +1.2**
comp=Z,81nm,1.4s
RPZ Rata Peaks 75.72 135 P **P 10 57 12.1 -0.2**
comp=Z,12nm,0.6s,baz=46,slow=4.5,SNR=7.6
MOS Moscow 75.79 329 *eP* **P 10 57 11.0 -1.2**
MOS *e* 10 57 23.5
MOS *e* 10 59 59.5
MOS pmax pmax
comp=Z,115nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.7s
OBN Obninsk 76.08 328 ⇓iP P 10 57 12.4 -1.5
OBN *i* 10 57 26.7
OBN *e* 11 00 04.3
OBN *e*S **S 11 06 54.1 -1.4**
OBN pmax pmax
comp=Z,130nm,1.6s
OBN MLR MLR
comp=Z,500nm,20.0s
TIRR Tirgusor 77.61 316 ⇑iP P 10 57 22.5 -0.3
TIRR Tirgusor 77.61 316 ⇑iP P 10 57 22.5 -0.3
TIRR Tirgusor 77.61 316 *eP* **P 10 57 22.6 -0.2**
comp=Z,32nm,1.0s
KIS Kishinev 77.99 319 *eP* **P 10 57 23.0 -1.9**
KIS Kishinev 77.99 319 *eP* **P 10 57 23.0 -1.9**
HARR Harsova 78.00 316 ⇓P P 10 57 24.8 -0.2
HARR Harsova 78.00 316 ⇓iP P 10 57 24.8 -0.2
SYO Syowa Base 78.14 199 ⇓e*X* **P 10 57 24.0 -1.2**
LEOM Leova 78.24 318 ⇓P P 10 57 27.4 +1.2
LEOM Leova 78.24 318 ⇓iP P 10 57 27.4 +1.2
AKASG Malin Array Be 78.75 322 *ce*P **P 10 57 28.2 -0.8**
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 78.75 322 P **P 10 57 27.8 -1.2**
AKASG PP **PP 11 00 30.6 +3.1**
AKASG Malin Array Be 78.75 322 P **P 10 57 27.8 -1.2**
comp=Z,8.9nm,0.9s,baz=87,slow=4.9,SNR=30
AKASG PP **PP 11 00 30.6 +3.1**
comp=Z,0.9nm,0.7s,baz=92,slow=6.7,SNR=4.3
KIEV Kiev 78.76 322 *eP* **P 10 57 28.5 -0.5**
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 78.76 322 *eP* **P 10 57 28.5 -0.5**
comp=Z,16nm,1.0s
ISR Istrita 79.06 316 ⇓P P 10 57 32.3 +1.4
ISR Istrita 79.06 316 ⇓iP P 10 57 32.3 +1.4
VRI Vrincioaia 79.11 317 ⇓P P 10 57 31.0 -0.1
VRI Vrincioaia 79.11 317 ⇓iP P 10 57 31.0 -0.1
PLOR Plostina 79.16 317 ⇑P P 10 57 32.1 +0.7
PLOR Plostina 79.16 317 ⇑iP P 10 57 32.1 +0.7
TMCR Tamitsa 79.27 337 *eP* **P 10 57 32.2 +0.7**
TMCR *e* 10 57 38.9
TMCR pmax pmax
comp=Z,54nm,1.1s
TESR Tescani 79.32 318 ⇑iP P 10 57 32.3 +0.1
SECR 79.37 316 ⇑iP P 10 57 33.3 +0.8
MLR Muntele Rosu 79.56 317 P **P 10 57 33.7 0.0**
MLR Muntele Rosu 79.56 317 P **P 10 57 33.7 0.0**
comp=Z,11nm,0.9s,baz=118,slow=2.5,SNR=24
PRAR RASCA 79.80 319 ⇓iP P 10 57 35.1 +0.3
MTUR Matau 80.11 316 ⇑P P 10 57 36.3 -0.3
MTUR Matau 80.11 316 ⇑iP P 10 57 36.3 -0.3
VOIR 80.16 317 ⇑P P 10 57 36.4 -0.5
VOIR 80.16 317 ⇑iP P 10 57 36.4 -0.5
ARR Arges 80.43 316 ⇑iP P 10 57 37.3 -1.1
BURAR Bucovina Array 80.52 319 ⇑P P 10 57 38.9 +0.1
BURAR Bucovina Array 80.52 319 ⇑iP P 10 57 38.9 +0.1
MICGM Minsk 80.61 326 *e* **P 10 57 37.0 -2.0**
MNK Minsk 80.63 326 *eP* **P 10 57 37.0 -2.1**
VTS Vitosha 80.90 313 ⇑P P 10 57 39.9 -1.1
VTS Vitosha 80.90 313 ⇑iP P 10 57 39.9 -1.1
VAY Valandovo 81.15 312 *i* P **P 10 57 41.0 -1.2**
CJR Cluj-Napoca 81.41 318 ⇓iP P 10 57 45.1 +1.6
FX1 Attu Island--F 81.44 36 *eP* P 10 57 47.0 +3.6
GZR Gura Zlata 81.72 316 ⇓P P 10 57 45.4 +0.2
GZR Gura Zlata 81.72 316 ⇓iP P 10 57 45.4 +0.2
DEV Deva 81.72 317 ⇓P P 10 57 46.4 +1.3
DEV Deva 81.72 317 ⇓iP P 10 57 46.4 +1.3
LVV L'vov 81.77 321 *eP* **P 10 57 44.7 -0.5**
TSUM Tsumeb 81.81 251 *eP* **P 10 57 47.0 +0.7**
comp=Z,11nm,1.0s
BIA Bitola 82.03 312 *i* P **P 10 57 45.6 -1.3**
DRGR 82.03 318 ⇑P P 10 57 47.8 +1.0
SKO Skopje 82.09 313 *i* P **P 10 57 46.7 -0.5**
BZS Buzias 82.56 316 ⇑P P 10 57 49.5 0.0
BZS Buzias 82.56 316 ⇑iP P 10 57 49.5 0.0
UZH Uzhgorod 82.65 319 *eP* **P 10 57 48.9 -1.0**
KOLS Kolonicke sedl 82.72 320 *eP* **P 10 57 51.3 +1.0**
KOLS pmax pmax
comp=Z,51nm,1.0s
KOLS Kolonicke sedl 82.72 320 *eP* **P 10 57 51.3 +1.0**
VNDA Vanda 82.75 169 *eP* **P 10 57 50.5 +0.6**
comp=Z,48nm,1.8s
VNDA Vanda 82.75 169 P **P 10 57 50.1 +0.3**
comp=Z,4.2nm,1.0s,baz=286,slow=4.0,SNR=8.8
SUW Suwalki 83.16 325 *eP* **P 10 57 52.0 -0.4**
SUW pmax pmax
comp=Z,181nm,1.2s
SUW Suwalki 83.16 325 *eP* **P 10 57 52.0 -0.4**
comp=Z,182nm,1.2s
SUW Suwalki 83.16 325 *eP* **P 10 57 52.5 +0.1**
CRVS Cervenica-Dubn 83.24 319 *eP* **P 10 57 53.5 +0.5**
CRVS Cervenica-Dubn 83.24 319 *eP* **P 10 57 53.5 +0.5**
FINES FINESS Array B 83.42 332 P **P 10 57 53.5 -0.1**
FINES FINESS Array B 83.42 332 P **P 10 57 53.5 -0.1**
comp=Z,16nm,0.9s,baz=116,slow=8.7,SNR=12
FINES LR LR 11 43 02.0
comp=Z,582nm,18.9s,baz=2.1,slow=41
STHS Stebnicka Huta 83.47 320 *eP* **P 10 57 55.3 +1.1**
STHS pmax pmax
comp=Z,20nm,1.0s
STHS Stebnicka Huta 83.47 320 *eP* **P 10 57 55.3 +1.1**
KAF Kangasniemi 83.49 333 *eP* **P 10 57 53.6 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 83.49 333 *ep* **P 10 57 53.6 -0.4**
comp=Z,1.9nm,0.5s
KECS Kecovo 83.80 319 *eP* **P 10 57 55.9 0.0**
KECS pmax pmax
comp=Z,10.0nm,1.0s
KECS Kecovo 83.80 319 *eP* **P 10 57 55.9 0.0**
SBA Scott Base 83.84 169 *eP* **P 10 57 57.1 +1.6**
SBA pmax pmax
comp=Z,48nm,1.4s
SBA Scott Base 83.84 169 *eP* **P 10 57 57.0 +1.6**
comp=Z,48nm,1.4s
PSZ Piszkesteto 84.11 318 ⇑P P 10 57 57.1 -0.4
PSZ Piszkesteto 84.11 318 ⇑iP P 10 57 57.1 -0.4
PSZ Piszkesteto 84.11 318 *eP* **P 10 57 57.7 +0.2**
comp=Z,18nm,0.9s
PSZ Piszkesteto 84.11 318 ⇓e*P* **P 10 57 57.8 +0.2**
OJC Ojcow 84.52 321 *eP* **P 10 58 00.0 +0.5**
OJC Ojcow 84.52 321 *eP* **P 10 58 00.0 +0.5**
comp=Z,23nm,1.0s
PKSM Moragy 84.71 316 ⇑P P 10 57 59.8 -0.7
PKSM Moragy 84.71 316 ⇑iP P 10 57 59.8 -0.7
PKSM Moragy 84.71 316 ⇓e*P* **P 10 58 00.4 -0.1**
PKSG 85.04 318 ⇓e*P* **P 10 58 02.4 +0.3**
OKC Ostrava-Krasne 85.52 320 *i* P **P 10 58 05.3 +0.8**
OKC MLR MLR
comp=Z,400nm,20.2s
OKC Ostrava-Krasne 85.52 320 *i* P **P 10 58 05.3 +0.8**
OKC AMS AMS 11 41 30.0
comp=Z,400nm,20.2s
ARCES ARCESS Array B 85.83 340 P **P 10 58 06.2 +0.6**
ARCES ARCESS Array B 85.83 340 P **P 10 58 06.2 +0.6**
comp=Z,21nm,0.9s,baz=78,slow=1.7,SNR=19

CEL Celeste 85.85 308 *eP* **P 10 58 07.6 +1.1**
comp=Z,59nm,1.1s
MORC Moravsky Berou 85.90 320 *eP* **P 10 58 06.1 -0.3**
MORC pmax pmax
comp=Z,23nm,1.1s
MORC Moravsky Berou 85.90 320 *eP* **P 10 58 06.1 -0.3**
comp=Z,23nm,1.1s
ZST Bratislava 86.00 318 *eP* **P 10 58 10.1 +3.2**
ZST Bratislava 86.00 318 *eP* **P 10 58 10.0 +3.2**
CUC Castrocucco 86.07 310 *eP* **P 10 58 07.3 -0.2**
comp=Z,12nm,0.8s
VRAC Vranov 86.46 319 P **P 10 58 09.1 -0.1**
VRAC Vranov 86.46 319 P **P 10 58 09.1 -0.1**
comp=Z,2.8nm,0.3s,baz=240,slow=19,SNR=8.0
DPC Dobruska-Polom 86.75 320 *i* P **P 10 58 11.7 +1.1**
DPC *e* 10 58 17.9
DPC Dobruska-Polom 86.75 320 *i* P **P 10 58 11.7 +1.1**
DPC *ex* x 10 58 17.9
DPC AMS AMS 11 42 30.0
DPC Dobruska-Polom 86.75 320 *eP* **P 10 58 10.8 +0.1**
comp=Z,177nm,1.2s
CONA Conrad Observa 86.80 318 ⇓iP P 10 58 10.7 -0.2
comp=Z,12nm,1.2s,SNR=5.4
KSP Ksiaz 86.82 321 *eP* **P 10 58 11.9 +1.0**
KSP Ksiaz 86.82 321 *eP* **P 10 58 11.5 +0.6**
ARSA Arzberg 86.96 317 *i* P **P 10 58 12.4 +0.7**
comp=Z,26nm,1.2s,SNR=13
UPC Upice 86.96 321 *i* P **P 10 58 12.5 +0.9**
UPC *e* 10 58 18.9
UPC Upice 86.96 321 *i* P **P 10 58 12.5 +0.9**
UPC *ex* x 10 58 18.9
BOJS Bojanci 86.98 316 *i* P **P 10 58 11.2 -0.6**
BOJS *i* 10 58 18.4
PERS Pernice 87.18 317 *i* P **P 10 58 12.7 -0.2**
PERS *i* 10 58 20.2
TREC Trest 87.18 319 *i* P **P 10 58 13.4 +0.7**
TREC MLR MLR
comp=Z,400nm,21.5s
TREC Trest 87.18 319 *i* P **P 10 58 13.4 +0.7**
TREC AMS AMS 11 44 00.0
comp=Z,400nm,21.5s
PDKS Podkum 87.21 316 *i* P **P 10 58 12.8 -0.1**
PDKS *i* 10 58 20.4
SOKA Soboth 87.24 317 *i* P **P 10 58 13.5 +0.4**
comp=Z,30nm,1.1s,SNR=20
LJU Ljubljana 87.53 316 *eP* **P 10 58 15.0 +0.5**
OBKA Obir 87.56 316 ⇑iP P 10 58 14.3 -0.4
comp=Z,19nm,1.3s,SNR=8.6
JAVS Javornik 87.84 316 *i* P **P 10 58 15.2 -0.9**
JAVS *i* 10 58 23.5
PRU Pruhonice 87.85 320 *i* P **P 10 58 16.7 +0.8**
PRU *e* 10 58 22.4
PRU MLR MLR
comp=Z,500nm,24.5s
PRU Pruhonice 87.85 320 *i* P **P 10 58 16.7 +0.8**
PRU *ep*P **pP 10 58 22.4 -3.0**
PRU AMS AMS 11 42 10.0
comp=Z,500nm,24.5s
MOA Molln 87.86 318 ⇑iP P 10 58 15.9 -0.2
comp=Z,8.9nm,1.2s
PVCC Panska Ves 87.88 320 *i* P **P 10 58 17.1 +1.1**
PVCC Panska Ves 87.88 320 *i* P **P 10 58 17.1 +1.1**
PRA Prague 87.93 320 P **P 10 58 17.0 +0.8**
VOY Vojsko 87.97 316 *eP* **P 10 58 15.6 -1.1**
AQU L'Aquila 88.07 312 *eP* **P 10 58 17.7 +0.6**
comp=Z,89nm,1.1s
MYKA Terra Mystica 88.19 317 ⇑iP P 10 58 17.8 +0.1
comp=Z,24nm,1.9s,SNR=9.1
BRG Berggiesshubel 88.31 321 *i* P **P 10 58 18.8 +0.8**
comp=Z,38nm,1.3s
BRG *i* 10 58 25.1
comp=Z,32nm,1.6s
BRG Berggiesshubel 88.31 321 *eP* **P 10 58 19.0 +1.0**
comp=Z,13nm,1.0s
BRG *ep*P **pP 10 58 25.5 -2.0**
BRG Berggiesshubel 88.31 321 *i* P **P 10 58 18.8 +0.8**
BRG *i* 10 58 25.1
BRG pmax pmax
comp=Z,38nm,1.3s
BRG pmax pmax
comp=Z,32nm,1.6s
GEC2 GERESS Array S 88.31 319 *eP* **P 10 58 18.9 +0.7**
comp=Z,26nm,1.2s
GEC2 GERESS Array S 88.31 319 *eP* **P 10 58 18.9 +0.7**
GEC2 pmax pmax
comp=Z,26nm,1.2s
GERES GERESS Array B 88.31 319 P **P 10 58 18.4 +0.1**
GERES GERESS Array B 88.31 319 P **P 10 58 18.4 +0.1**
comp=Z,12nm,1.1s,baz=101,slow=4.2,SNR=30
KHC Kasperske Hory 88.41 319 *i* P **P 10 58 18.7 +0.1**
KHC *e* 10 58 24.8
KHC MLR MLR
comp=N,500nm,22.3s
KHC Kasperske Hory 88.41 319 *i* P **P 10 58 18.7 +0.1**
KHC *ep*P **pP 10 58 24.8 -3.3**
KHC AMS AMS 11 42 20.0
comp=N,500nm,22.3s
KHC Kasperske Hory 88.41 319 *eP* **P 10 58 18.4 -0.3**
comp=N,37nm,2.0s
KBA Koelnbreinsper 88.42 317 ⇑iP P 10 58 18.8 -0.1
comp=N,13nm,1.4s,SNR=6.0
QSPA South Pole Qui 88.45 180 *eP* **P 10 58 19.2 +0.7**
comp=N,109nm,1.8s
RJOB Jochberg 88.84 318 *eP* **P 10 58 20.6 -0.1**
comp=Z,6.0nm,0.9s
WET Wettzell 88.87 319 *eP* **P 10 58 21.6 +0.8**
comp=Z,15nm,1.0s
WET Wettzell 88.87 319 *eP* **P 10 58 21.6 +0.8**
WET pmax pmax
comp=Z,15nm,1.0s
CLL Collm 88.93 321 *eP* **P 10 58 21.5 +0.6**
comp=Z,15nm,1.0s
CLL Collm 88.93 321 ⇓iP P 10 58 21.5 +0.6
CLL *i* 10 58 27.6
CLL pmax pmax
comp=Z,32nm,1.2s
CLL Collm 88.93 321 ⇓iP P 10 58 21.5 +0.6
comp=Z,32nm,1.2s
CLL *i* 10 58 27.6
ATKA Atka Island 88.95 38 *eP* **P 10 58 21.1 +0.1**
comp=Z,52nm,0.9s
ABTA Abfaltersbach 88.97 317 ⇑iP P 10 58 20.4 -1.0
comp=Z,14nm,1.2s,SNR=8.0
HFS Hagfors 89.17 330 P **P 10 58 22.1 +0.2**
HFS Hagfors 89.17 330 P **P 10 58 22.1 +0.2**
comp=Z,13nm,1.1s,baz=46,slow=8.5,SNR=5.7
NKC Novy Kostel 89.22 320 *i* P **P 10 58 23.3 +0.9**
NKC Novy Kostel 89.22 320 *i* P **P 10 58 23.3 +0.9**
TANN Tannenbergstha 89.22 320 *eP* **P 10 58 23.1 +0.7**
comp=Z,10.0nm,1.1s
TANN *ep*P **pP 10 58 29.8 -2.1**
ROTZ Rotzenmuhle 89.34 320 *eP* **P 10 58 24.3 +1.3**
comp=Z,12nm,1.0s
MANZ Manzenberg 89.42 320 *eP* **P 10 58 24.6 +1.3**
comp=Z,19nm,1.0s
WTTA Wattenberg 89.60 317 ⇓iP P 10 58 24.2 -0.3
comp=Z,28nm,1.1s,SNR=12
WATA Walderalm 89.64 317 ⇑iP P 10 58 24.4 -0.2
comp=Z,16nm,1.2s,SNR=6.6
NEUB Neuenburg 89.69 321 *eP* **P 10 58 25.7 +1.2**
comp=Z,21nm,0.8s
MOX Moxa 89.77 320 *eP* **P 10 58 25.8 +0.9**
comp=Z,16nm,1.1s
MOX Moxa 89.77 320 *eP* **P 10 58 25.8 +0.9**
MOX pmax pmax
comp=Z,16nm,1.1s
MOTA Moosalm 89.97 317 *i* P **P 10 58 26.1 0.0**
comp=Z,24nm,1.1s,SNR=13
GRF Grafenberg Arr 89.98 320 *eP* **P 10 58 27.2 +1.3**
comp=Z,17nm,1.0s
GRF Grafenberg Arr 89.98 320 *eP* **P 10 58 27.2 +1.3**
GRF pmax pmax
comp=Z,17nm,1.0s
GRFO Grafenberg 89.98 320 *eP* **P 10 58 27.1 +1.2**
GRFO pmax pmax
comp=Z,32nm,1.1s
GRFO Grafenberg 89.98 320 *eP* **P 10 58 27.1 +1.2**
comp=Z,32nm,1.1s
SPITS Spitsbergen Ar 90.04 348 P **P 10 58 25.3 -0.4**
SPITS Spitsbergen Ar 90.04 348 P **P 10 58 25.3 -0.4**
comp=Z,24nm,0.8s,baz=131,slow=13,SNR=14
RETA Reutte 90.20 317 ⇑iP P 10 58 27.1 0.0
comp=Z,27nm,1.2s,SNR=12
FETA Feichten 90.21 317 ⇑iPcP P 10 58 27.6 +0.4
comp=Z,22nm,1.2s,SNR=9.7

NB2 NORSAR Subarra 90.44 331 P **P 10 58 27.5 -0.4**
comp=Z,16nm,1.2s,baz=90,slow=5.6
NOA NORSAR Array B 90.44 331 P **P 10 58 27.9 0.0**
NOA NORSAR Array B 90.44 331 P **P 10 58 27.9 0.0**
comp=Z,5.0nm,1.0s,baz=94,slow=5.2,SNR=4.5
FUORN Ofenpass-Fuorn 90.52 316 *eP* **P 10 58 29.2 +0.4**
comp=Z,51nm,1.1s
NRDL Niedersach Rie 90.78 322 *eP* **P 10 58 30.3 +0.9**
comp=Z,17nm,1.1s
DAVOX Davos/Dischmat 90.78 317 P **P 10 58 30.3 +0.3**
DAVOX Davos/Dischmat 90.78 317 P **P 10 58 30.3 +0.3**
comp=Z,26nm,1.0s,baz=114,slow=5.4,SNR=29
DAVA Damuels 90.80 317 ⇑iPcP P 10 58 30.4 +0.4
comp=Z,43nm,1.1s,SNR=17
KEST Kesra 90.94 306 *eP* **P 10 58 32.6 +1.8**
KEST Kesra 90.94 306 P **P 10 58 32.6 +1.8**
comp=Z,14nm,1.0s,baz=319,slow=2.1,SNR=13
KBS Kingsbay 90.99 349 ⇓iP P 10 58 30.0 0.0
KBS pmax pmax
comp=Z,18nm,1.2s
KBS Kingsbay 90.99 349 *eP* **P 10 58 29.9 -0.1**
comp=Z,14nm,0.9s
TUE Stuetta 91.14 316 *eP* **P 10 58 31.9 +0.2**
comp=Z,32nm,1.4s
PGF Pioggiola 91.33 312 *eP* **P 10 58 33.0 +0.5**
comp=Z,82nm,1.3s
TNS Taunus Mts 91.78 320 *eP* **P 10 58 35.4 +1.0**
comp=Z,17nm,1.0s
TNS Taunus Mts 91.78 320 *eP* **P 10 58 35.4 +1.0**
TNS pmax pmax
comp=Z,17nm,1.0s
BFO Black Forest 91.85 318 P **P 10 58 35.0 +0.2**
comp=Z,59nm,0.9s,SNR=6.2
BFO Black Forest 91.85 318 *eP* **P 10 58 34.9 +0.2**
comp=Z,7.0nm,0.9s
BFO Black Forest 91.85 318 *eP* **P 10 58 34.5 -0.2**
BFO pmax pmax
comp=Z,16nm,1.2s
BFO Black Forest 91.85 318 *eP* **P 10 58 34.5 -0.2**
comp=Z,16nm,1.2s
LANF Langenberg 92.20 319 *eP* **P 10 58 36.9 +0.6**
SAOF Saorge 92.39 314 *eP* **P 10 58 37.5 +0.2**
SNAA Sanae 92.43 198 *eP* **P 10 58 38.2 +1.3**
comp=Z,51nm,2.2s
SBF Sospel 92.48 314 *eP* **P 10 58 38.1 +0.3**
comp=Z,66nm,1.1s
AUTN L'Aution 92.49 314 *eP* **P 10 58 38.4 +0.4**
LUCF Luceram 92.55 314 *eP* **P 10 58 38.8 +0.7**
CDF Champ du Feu 92.56 318 *eP* **P 10 58 38.1 +0.1**
comp=Z,28nm,1.4s
SENIN Lac Senin/Sane 92.56 316 *eP* **P 10 58 39.0 +0.7**
comp=Z,169nm,2.6s
TOUF Mont Tournerai 92.61 314 *eP* **P 10 58 39.2 +0.7**
ECH Echery 92.64 318 *eP* **P 10 58 38.5 +0.2**
ECH pmax pmax
comp=Z,11nm,1.1s
ECH Echery 92.64 318 *eP* **P 10 58 38.5 +0.2**
comp=Z,11nm,1.1s
ECH Echery 92.64 318 *eP* **P 10 58 37.9 -0.4**
MOF Molkenrain 92.66 318 *eP* **P 10 58 38.4 -0.1**
MVIF Mont Vial 92.69 314 *eP* **P 10 58 39.2 +0.4**
HINF Hinteralfeld 92.85 318 *eP* **P 10 58 39.1 -0.2**
LOMF Lomont 92.87 317 *eP* **P 10 58 39.5 0.0**
CALN Calern 92.88 314 *eP* **P 10 58 39.9 +0.2**
MBDF Montbardon 92.95 315 *eP* **P 10 58 39.6 -0.4**
LPG La Plagne 92.95 315 *eP* **P 10 58 40.5 +0.3**
comp=Z,28nm,1.0s
LPL La Plagne 92.97 315 *eP* **P 10 58 40.5 +0.3**
comp=Z,27nm,1.1s
BNI Bardonecchia 93.01 315 *eP* **P 10 58 40.3 0.0**
BNI pmax pmax
comp=Z,13nm,1.2s
BNI Bardonecchia 93.01 315 *eP* **P 10 58 40.3 0.0**
comp=Z,13nm,1.2s
FRF La Foret Royal 93.06 313 *eP* **P 10 58 40.8 +0.5**
comp=Z,48nm,1.2s
LMR La Mourre 93.16 313 *eP* **P 10 58 41.2 +0.4**
comp=Z,16nm,0.8s
HAU Haudompre 93.18 318 *eP* **P 10 58 40.9 0.0**
comp=Z,32nm,1.0s
WLF Walferdange 93.27 319 P **P 10 58 42.2 +1.0**
CABF La Chapelle 93.39 316 *eP* **P 10 58 42.5 +0.6**
comp=Z,54nm,1.3s
THEF They Montfort 93.42 318 *eP* **P 10 58 41.8 -0.1**
ORIF Oris-en-Rattie 93.58 315 *eP* **P 10 58 43.2 +0.4**
comp=Z,17nm,1.2s
SMRF Simiane la Rot 93.82 314 *eP* **P 10 58 44.8 +0.9**
comp=Z,24nm,1.3s
MEZF Maizieres J'vi 94.03 318 *eP* **P 10 58 45.1 +0.4**
comp=Z,15nm,0.9s
SFTF Sexfontaines 94.06 318 *eP* **P 10 58 45.1 +0.3**
comp=Z,39nm,1.0s
GIVF Givet 94.12 320 *eP* **P 10 58 45.4 +0.4**
TAM Tamanrasset 94.19 293 *eP* **P 10 58 47.5 +1.3**
TAM pmax pmax
comp=Z,2.0nm,0.4s
TAM Tamanrasset 94.19 293 *eP* **P 10 58 47.5 +1.3**
comp=Z,2.3nm,0.4s
VIVF Saint-Julien-l 94.44 315 *eP* **P 10 58 46.9 +0.2**
comp=Z,6.5nm,0.9s
BAIF Baives 94.51 320 *eP* **P 10 58 47.4 +0.5**
SSB Saint Sauveur 94.52 315 *eP* **P 10 58 47.3 +0.2**
SSB pmax pmax
comp=Z,5.0nm,1.1s
SSB Saint Sauveur 94.52 315 *eP* **P 10 58 47.3 +0.2**
comp=Z,5.3nm,1.1s
LOR Lormes 94.89 317 *eP* **P 10 58 48.9 +0.2**
comp=Z,20nm,1.2s
SMF Signal de Mont 94.94 317 *eP* **P 10 58 49.0 +0.1**
comp=Z,19nm,1.0s
LASF Ste Croix 95.06 314 *eP* **P 10 58 50.0 +0.4**
comp=Z,11nm,1.1s
SSF Saint Saulge 95.15 317 *eP* **P 10 58 50.2 +0.3**
AVF Avril sur Loir 95.27 317 *eP* **P 10 58 50.5 +0.1**
BGF Bois d'Agland 95.63 316 *eP* **P 10 58 52.6 +0.5**
TCF Toulx Ste Croi 96.09 316 *eP* **P 10 58 54.9 +0.7**
CAF Calviac 96.29 315 *eP* **P 10 58 55.7 +0.5**
MTLF Montolieu 96.29 313 *eP* **P 10 58 55.5 +0.3**
comp=Z,6.9nm,1.1s
RJF Les Rejaudoux 96.64 315 *eP* **P 10 58 57.4 +0.7**
comp=Z,15nm,1.2s
LFF La Frestale 97.22 315 *eP* Pdif 10 59 00.0 +0.6
LDF La Druitiere 97.45 319 *eP* **P 10 59 00.3 0.0**
comp=Z,12nm,1.2s
FLN La Foliniere 97.67 319 *eP* **P 10 59 01.2 -0.1**
MFF Saint Martin d 97.68 317 *eP* Pdif 10 59 01.4 0.0
comp=Z,16nm,1.3s
DAG Danmarks Havn 97.69 348 *i* P **P 10 58 59.6 -1.2**
comp=Z,8.0nm,0.9s
TORD Torodi Ar. Bea 97.88 283 P **P 10 59 02.4 -0.5**
TORD PP **PP 11 03 03.6 +1.9**
TORD Torodi Ar. Bea 97.88 283 P **P 10 59 02.4 -0.5**
comp=Z,2.3nm,1.0s,baz=78,slow=3.5,SNR=8.8
TORD PP **PP 11 03 03.6 +1.9**
comp=Z,2.1nm,1.2s,baz=74,slow=4.2,SNR=5.4
IM04 Indian Mountai 98.17 23 *eP* **P 10 59 02.7 -0.5**
IMA2 Indian Mountai 98.18 23 *eP* Pdif 10 59 03.6 +0.3
ETSF Etsaut 98.35 313 *eP* Pdif 10 59 05.2 +0.6
SJPF Ste Jean 98.81 313 *eP* Pdif 10 59 07.4 +0.8
ILAR Eielson Array 101.29 24 PP PP 11 03 33.0 +6.9
ILAR Eielson Array 101.29 24 PP PP 11 03 33.0 +6.9
comp=Z,0.7nm,1.0s,baz=288,slow=6.1,SNR=4.2
SUMG Summit 104.38 348 *i* P **Pdif 10 59 40.0 +8.8**
comp=Z,4.1nm,0.9s
YKA Yellowknife Ar 114.07 17 PKP PKPdf 11 04 04.1 -1.2
YKA Yellowknife Ar 114.07 17 PKP PKPdf 11 04 04.1 -1.1
comp=Z,0.8nm,0.8s,baz=325,slow=2.1,SNR=4.1
EDM Edmonton 121.76 23 *e*PKIKP **PKPdf 11 04 19.4 -1.0**
EDM Edmonton 121.76 23 *e*PKPdf **PKPdf 11 04 19.4 -1.0**
TDL Tradedollar La 122.43 33 P **PKPdf 11 04 22.9 +0.8**
WPW White Pass 122.58 32 P **PKPdf 11 04 22.7 +0.3**
ETW Entiat 122.64 31 P **PKPdf 11 04 22.4 0.0**
TWW Teanaway 122.66 32 P **PKPdf 11 04 23.4 +0.9**
NEW Newport 123.78 29 *e*PKPdf **PKPdf 11 04 24.8 +0.3**
NEW Newport 123.78 29 P **PKPdf 11 04 24.5 0.0**
baz=124
WALA Waterton Lakes 124.69 26 *e*PKPdf **PKPdf 11 04 26.1 -0.2**
BSMT Bassoo Peak 125.18 28 *e*PKPdf **PKPdf 11 04 27.2 -0.2**
SWMT Swartz Lake 125.79 27 *e*PKPdf **PKPdf 11 04 28.0 -0.4**
A17A Triple J Farms 126.14 24 P **PKPdf 11 04 28.8 -0.2**
baz=126
SLMT Seeley Lake 126.22 27 *e*PKPdf **PKPdf 11 04 29.1 -0.3**
MSO Missoula 126.32 28 P **PKPdf 11 04 29.0 -0.5**
baz=126
A18A Metzger Ranch, 126.50 24 P **PKPdf 11 04 29.3 -0.4**

baz=126
CHMT Chamberlain Mo 126.58 27 ePKPdf PKPdf 11 04 30.1 0.0
B17A L&G Farms, Che 126.61 25 P PKPdf 11 04 29.8 -0.1
baz=126
WVOR Wild Horse Val 126.89 35 ePKIKP PKPdf 11 04 31.6 +0.8
WVOR Wild Horse Val 126.89 35 ePKPdf PKPdf 11 04 31.6 +0.8
A19A Klindworth Far 126.93 23 P PKPdf 11 04 30.6 0.0
baz=127,SNR=6.5
B18A Beardsley Farm 126.95 24 P PKPdf 11 04 30.2 -0.4
baz=127
C17A Wharram Farm, 127.14 25 P PKPdf 11 04 30.5 -0.5
baz=127
EGMT Eagleton 127.25 24 ePKPdf PKPdf 11 04 31.6 +0.4
EGMT Eagleton 127.25 24 P PKPdf 11 04 31.1 -0.1
baz=127,SNR=6.0
D17A Six Diamond Ra 127.54 26 P PKPdf 11 04 31.9 0.0
baz=127
A21A Bergtoll Ranch 127.57 22 P PKPdf 11 04 31.5 -0.2
baz=128
LRM Limekiln Ridge 127.76 28 ePKPdf PKPdf 11 04 32.4 -0.1
C19A Slack Wire Ran 127.77 24 P PKPdf 11 04 32.3 +0.2
baz=128,SNR=6.8
MFID Camas Ranch 127.79 32 P PKPdf 11 04 33.0 +0.5
baz=128
D18A Linhart Farms, 127.88 25 P PKPdf 11 04 32.6 +0.2
baz=128
A22A Carney Farms, 127.94 21 P PKPdf 11 04 32.7 +0.3
baz=128
E17A Martinsdale 128.00 26 P PKPdf 11 04 32.7 -0.2
baz=128
DLMT Dillon 128.03 28 ePKPdf PKPdf 11 04 33.8 +0.9
C20A Veseth Ranch, 128.21 23 P PKPdf 11 04 33.0 0.0
baz=128
BOZ Bozeman (W) 128.27 27 ePKIKP PKPdf 11 04 34.2 +0.9
BOZ Bozeman (W) 128.27 27 ePKPdf PKPdf 11 04 34.2 +0.9
D19A Cripps Ranch, 128.29 24 P PKPdf 11 04 33.4 +0.2
baz=128
MCMT McKenzie Canyo 128.30 29 ePKPdf PKPdf 11 04 34.6 +1.1
A23A Redstone 128.33 20 P PKPdf 11 04 32.7 -0.5
baz=128
E18A Harlowton 128.33 26 P PKPdf 11 04 33.7 +0.3
baz=128
HLID Hailey 128.43 31 ePKPdf PKPdf 11 04 34.6 +0.9
HLID Hailey 128.43 31 P PKPdf 11 04 34.7 +1.0
baz=128
B22A Reddig Ranch S 128.49 21 P PKPdf 11 04 34.2 +0.7
baz=128
F17A Fitzpatrick Pl 128.51 27 P PKPdf 11 04 33.5 -0.2
baz=128
D20A Manuel Ranch, 128.66 24 P PKPdf 11 04 34.3 +0.4
baz=129
A24A Westby 128.66 20 P PKPdf 11 04 34.4 +0.7
baz=128
B23A Brockton 128.71 21 P PKPdf 11 04 34.7 +0.8
baz=129
E19A Rath Farm, Rou 128.89 25 P PKPdf 11 04 34.8 +0.4
baz=129
G17A Pierce Place, 128.93 27 P PKPdf 11 04 35.3 +0.7
baz=129
F18A Big Timber 128.93 26 P PKPdf 11 04 35.3 +0.8
baz=129
A25A Svangstu Ranch 128.94 19 P PKPdf 11 04 35.1 +0.8
baz=129
QLMT Earthquake Lak 128.98 28 ePKPdf PKPdf 11 04 36.2 +1.5
DGMT Dagmar 128.98 20 P PKPdf 11 04 35.2 +0.7
baz=129
E20A Meyer Farm, Mu 129.13 24 P PKPdf 11 04 35.0 +0.1
baz=129,SNR=5.5
D21A La Casta Ranch 129.13 23 P PKPdf 11 04 35.6 +0.8
baz=129
H16A Russell Place, 129.16 28 P PKPdf 11 04 36.2 +1.1
baz=129
C23A Lambert 129.20 21 P PKPdf 11 04 35.8 +0.9
baz=129
F19A Roth Farm, Mol 129.31 25 P PKPdf 11 04 35.5 +0.3
baz=129
D22A Cohagen 129.38 22 P PKPdf 11 04 36.8 +1.5
baz=129
G18A Lazy EL Ranch, 129.46 26 P PKPdf 11 04 35.3 -0.3
baz=129
B25A Knox Farm, Ray 129.50 19 P PKPdf 11 04 35.5 0.0
baz=129
E21A Keefer Ranch, 129.53 24 P PKPdf 11 04 36.4 +0.8
baz=129
NVAR Mina Array Bea 129.58 39 PKP PKPdf 11 04 36.7 +0.6
NVAR Mina Array Bea 129.58 39 PKP PKPdf 11 04 36.7 +0.6
comp=Z,2.4nm,0.9s,baz=274,slow=1.9,SNR=12
I16A Newdale 129.66 29 P PKPdf 11 04 36.7 +0.6
baz=130
NV11 Mina Array Sit 129.67 38 ePKPdf PKPdf 11 04 37.2 +1.0
F20A Billings 129.69 25 P PKPdf 11 04 36.4 +0.5
baz=130
C24A Savage 129.71 21 P PKPdf 11 04 36.7 +0.9
baz=130
H17A Grant Village 129.71 28 ePKPdf PKPdf 11 04 38.5 +2.2
H17A Grant Village 129.71 28 P PKPdf 11 04 38.4 +2.2
baz=130
D23A Lindsay 129.72 22 P PKPdf 11 04 37.6 +1.7
baz=130
ULM Lac du Bonnet 129.72 13 ePKPdf PKPdf 11 04 35.2 -0.5
ULM PKP PKPdf 11 04 36.0 +0.3
ULM Lac du Bonnet 129.72 13 PKP PKPdf 11 04 36.0 +0.3
comp=Z,5.2nm,0.8s,baz=313,slow=5.7,SNR=4.5
RLMT Red Lodge 129.74 26 ePKPdf PKPdf 11 04 37.3 +1.1
A28A Rude Farm, Bot 129.84 17 P PKPdf 11 04 36.4 +0.3
baz=130
H18A Shoshone NF, C 129.91 27 P PKPdf 11 04 36.8 +0.3
baz=130
IMW Indian Meadow 129.91 28 ePKPdf PKPdf 11 04 37.6 +0.9
E22A Miles City 130.06 23 P PKPdf 11 04 37.3 +0.7
baz=130
D24A Glendive 130.09 21 P PKPdf 11 04 37.7 +1.1
baz=130
G20A Bridger 130.12 25 P PKPdf 11 04 37.2 +0.4
baz=130
RRI2 Red Ridge 130.14 29 ePKPdf PKPdf 11 04 38.0 +0.9
TPAW Teton Pass 130.21 29 ePKPdf PKPdf 11 04 38.5 +1.2
H19A Powell 130.22 26 P PKPdf 11 04 38.0 +0.9
baz=130,SNR=10
RCTC Rector, Farmer 130.23 41 P PKPdf 11 04 37.6 +0.5
baz=130
LOHW Long Hollow 130.29 28 ePKPdf PKPdf 11 04 38.3 +1.0
SNOW Snow King Moun 130.33 29 ePKPdf PKPdf 11 04 38.3 +0.8
REDW Red Top Meadow 130.35 29 ePKPdf PKPdf 11 04 38.3 +0.8
HVU Hansel Valley 130.54 32 ePKIKP PKPdf 11 04 38.7 +0.9
HVU Hansel Valley 130.54 32 ePKPdf PKPdf 11 04 38.7 +0.9
I19A Meeteetse 130.71 27 P PKPdf 11 04 38.4 +0.4
baz=131
H20A Greybull 130.80 26 P PKPdf 11 04 38.4 +0.3
baz=131,SNR=8.0
D26A Manning 130.82 20 P PKPdf 11 04 38.4 +0.5
baz=131
F23A Volborg 130.86 23 P PKPdf 11 04 39.1 +1.0
baz=131
G22A Birney 130.93 24 P PKPdf 11 04 39.2 +0.9
baz=131
E25A Miller Ranch, 130.95 21 P PKPdf 11 04 38.8 +0.5
baz=131
BGU Big Grassy Mou 131.01 33 ePKPdf PKPdf 11 04 40.1 +1.4
I20A Worland 131.16 26 P PKPdf 11 04 39.3 +0.5
baz=131,SNR=8.2
J19A Crowheart 131.28 28 P PKPdf 11 04 39.4 +0.3
baz=131
D28A Regan 131.28 18 P PKPdf 11 04 39.5 +0.7
baz=131
R11A Troy Canyon, C 131.29 37 ePKPdf PKPdf 11 04 40.0 +0.7
R11A Troy Canyon, C 131.29 37 P PKPdf 11 04 40.3 +0.9
baz=131
HWUT Hardware Ranch 131.30 31 ePKPdf PKPdf 11 04 40.4 +1.2
G23A Biddle 131.30 23 P PKPdf 11 04 39.1 +0.2
baz=131
E26A Carlson Angus 131.30 20 P PKPdf 11 04 39.3 +0.4
baz=131
PDAR Pinedale Array 131.43 28 PKP PKPdf 11 04 40.0 +0.5
PDAR PP PP 11 07 05.0 +7.6
PDAR Pinedale Array 131.43 28 PKP PKPdf 11 04 40.0 +0.5
comp=Z,2.5nm,1.1s,baz=48,slow=2.2,SNR=11
PDAR PP PP 11 07 05.0 +7.6
comp=Z,1.2nm,1.0s,baz=318,slow=2.0,SNR=3.7
MPMC Manual Prospec 131.52 41 P PKPdf 11 04 39.1 -0.8
baz=132
AGMN Agassiz Nation 131.56 14 ePKPdf PKPdf 11 04 40.5 +1.3
I21A Big Trails, Te 131.64 26 P PKPdf 11 04 39.0 -0.8
baz=132
DUG Dugway 131.64 33 ePKIKP PKPdf 11 04 40.4 +0.5
DUG Dugway 131.64 33 ePKPdf PKPdf 11 04 40.4 +0.5
DUG Dugway 131.64 33 P PKPdf 11 04 39.3 -0.6
baz=132
J20A Shoshoni 131.65 27 P PKPdf 11 04 39.4 -0.4
baz=132,SNR=8.1
K19A Absolon Red Bu 131.72 28 P PKPdf 11 04 39.6 -0.4
baz=132
LRMC Laurel Mountai 131.74 41 P PKPdf 11 04 38.2 -2.0
baz=132
L18A Fontenelle, Gr 131.83 30 P PKPdf 11 04 40.0 -0.3
baz=132
M17A Scullys Gap (B 131.85 30 P PKPdf 11 04 39.3 -1.1
baz=132
D30A Buchanan 131.90 17 P PKPdf 11 04 39.4 -0.6
baz=132
I22A 9 Mile Ranch, 131.93 25 P PKPdf 11 04 40.7 +0.4
baz=132
J21A Lysite 131.94 26 P PKPdf 11 04 39.5 -0.9
baz=132
H24A Dirks Ranch, A 132.01 23 P PKPdf 11 04 39.6 -0.8
baz=132
L19A Farson 132.03 29 P PKPdf 11 04 40.8 +0.2
baz=132
G25A Newell 132.06 22 P PKPdf 11 04 40.8 +0.3
baz=132
JLU Jordanelle 132.09 32 ePKPdf PKPdf 11 04 41.2 +0.4
NLU North Lily Min 132.21 33 ePKPdf PKPdf 11 04 41.9 +0.8
J22A Midwest 132.31 26 P PKPdf 11 04 40.6 -0.5
baz=132,SNR=8.5
DAU Daniels Canyon 132.32 32 ePKIKP PKPdf 11 04 42.4 +1.0
DAU Daniels Canyon 132.32 32 ePKPdf PKPdf 11 04 42.4 +1.0
GSC Goldstone 132.42 41 ePKIKP PKPdf 11 04 43.4 +2.0
GSC Goldstone 132.42 41 ePKPdf PKPdf 11 04 43.4 +2.0
GSC Goldstone 132.42 41 P PKPdf 11 04 40.9 -0.6
baz=132
G27A Dupree 132.44 20 P PKPdf 11 04 40.7 -0.4
baz=132
M19A Rock Springs 132.58 29 P PKPdf 11 04 41.2 -0.5
baz=132
L20A Wamsutter 132.59 28 P PKPdf 11 04 41.7 0.0
baz=132
K21A Alcova 132.60 27 P PKPdf 11 04 41.5 -0.2
baz=132,SNR=6.1
SHPR Sheep Range 132.73 39 ePKPdf PKPdf 11 04 43.4 +1.3
RSSD Black Hills 132.73 23 ePKIKP PKPdf 11 04 41.5 -0.4
RSSD Black Hills 132.73 23 ePKPdf PKPdf 11 04 41.5 -0.4
H26A Fairpoint 132.79 22 P PKPdf 11 04 41.5 -0.3
baz=133
K22A Casper 132.91 26 P PKPdf 11 04 41.2 -1.0
baz=133
I25A Rochford 132.94 23 P PKPdf 11 04 41.4 -0.8
baz=133
L21A Rawlins 133.07 27 P PKPdf 11 04 41.4 -1.2
baz=133
MSU Marysvale 133.17 34 ePKIKP PKPdf 11 04 44.2 +1.3
MSU Marysvale 133.17 34 ePKPdf PKPdf 11 04 44.2 +1.3
M21A Separation Pea 133.35 28 P PKPdf 11 04 43.1 -0.1
baz=133,SNR=10
RWWY Rawlins 133.36 28 ePKPdf PKPdf 11 04 43.2 0.0
Q16A Castle Valley 133.44 33 P PKPdf 11 04 42.4 -0.9
baz=133
GMRC Granite Mounta 133.49 41 P PKPdf 11 04 43.1 -0.4
baz=133
O19A Miners Draw (B 133.51 30 P PKPdf 11 04 42.6 -0.8
baz=133
I27A Quinn 133.53 21 P PKPdf 11 04 42.6 -0.6
baz=133
N20A Spence Gulch, 133.53 29 P PKPdf 11 04 43.7 +0.1
baz=133,SNR=7.5
SRU San Rafael 133.65 32 ePKIKP PKPdf 11 04 44.3 +0.5
SRU San Rafael 133.65 32 ePKPdf PKPdf 11 04 44.3 +0.5
PFO Pinyon Flat Ob 133.66 43 PKP PKPdf 11 04 44.0 +0.2
PFO ePKPdf PKiKP 11 04 45.1 0.0
PFO Pinyon Flat Ob 133.66 43 PKP PKPdf 11 04 44.0 +0.2
comp=Z,4.1nm,0.9s,baz=153,slow=2.3,SNR=5.4
L23A Garrett 133.70 26 P PKPdf 11 04 42.9 -0.9
baz=134
J26A Sides Ranch, S 133.79 23 P PKPdf 11 04 43.3 -0.4
baz=134
M22A Cedar Creek Ra 133.87 27 P PKPdf 11 04 42.4 -1.7
baz=134
I28A Midland 133.90 21 P PKPdf 11 04 43.6 -0.3
baz=134
N21A Black Mountain 133.94 29 P PKPdf 11 04 44.9 +0.6
baz=134,SNR=9.7
O20A White River Ci 134.07 30 ePKPdf PKPdf 11 04 44.8 +0.3
O20A White River Ci 134.07 30 P PKPdf 11 04 44.2 -0.4
baz=134
P19A Cripple Cowboy 134.08 31 P PKPdf 11 04 44.1 -0.5
baz=134
IRM Iron Mountain 134.20 41 P PKPdf 11 04 44.6 -0.2
baz=134
M23A Laramie 134.21 26 P PKPdf 11 04 44.4 -0.4
baz=134
BRSD Miller 134.25 18 ePKPdf PKPdf 11 04 44.7 +0.2
BRSD Miller 134.25 18 P PKPdf 11 04 44.3 -0.1
baz=134
K26A Motz Farm, Whi 134.27 23 P PKPdf 11 04 44.1 -0.6
baz=134
J28A Allard Ranch, 134.38 21 P PKPdf 11 04 45.1 +0.3
baz=134
N22A Wattenberg Ran 134.41 28 P PKPdf 11 04 45.6 +0.4
baz=134,SNR=6.0
DVTC Desert V Tower 134.45 43 P PKPdf 11 04 44.9 -0.4
baz=134
PHWY Pilot Hill 134.46 26 ePKPdf PKPdf 11 04 46.0 +0.6
U15A North Rim 134.53 37 P PKPdf 11 04 46.2 +0.6
baz=134
N23A Red Feather La 134.57 27 P PKPdf 11 04 44.9 -0.7
baz=134
M24A Cheyenne 134.61 26 P PKPdf 11 04 44.7 -0.8
baz=134
Q20A Ridgley Place, 134.94 31 P PKPdf 11 04 46.2 0.0
baz=135
K28A Ten Mile Ranch 134.95 22 P PKPdf 11 04 46.2 +0.3
baz=135
PV04 Paradox Valley 135.04 32 ePKPdf PKPdf 11 04 47.8 +1.4
N24A Carr 135.10 26 P PKPdf 11 04 46.2 -0.2
baz=135
O23A Lake Granby, G 135.13 28 P PKPdf 11 04 47.1 +0.5
baz=135,SNR=8.6
PV01 Paradox Valley 135.41 32 ePKPdf PKPdf 11 04 47.9 +0.8
R20A Redvale 135.47 32 P PKPdf 11 04 47.2 0.0
baz=135
ECSD EROS Data Cent 135.60 17 ePKPdf PKPdf 11 04 46.8 -0.3
WUAZ Wupatki 135.69 37 ePKPdf PKPdf 11 04 49.0 +1.3
WUAZ Wupatki 135.69 37 P PKPdf 11 04 46.9 -0.7
baz=136
S20A Disappointment 135.75 32 P PKPdf 11 04 46.8 -1.0
baz=136
R21A Cimarron 135.76 31 P PKPdf 11 04 46.6 -1.2
baz=136
P23A Jefferson 135.83 28 P PKPdf 11 04 47.7 -0.3
baz=136
WVL Waterville 136.05 349 ePKPdf PKPdf 11 04 46.4 -1.4
MVCO Mesa Verde 136.13 33 ePKPdf PKPdf 11 04 49.2 +0.7
MVCO Mesa Verde 136.13 33 P PKPdf 11 04 48.7 +0.1
baz=136
S21A Coal Bank Pass 136.17 32 P PKPdf 11 04 48.9 +0.2
baz=136
R22A Saguache, Gunn 136.27 30 P PKPdf 11 04 49.5 +0.6
baz=136,SNR=6.2
X16A Lo Mia Camp, P 136.39 38 P PKPdf 11 04 47.4 -1.6
baz=136
S22A 4UR Ranch, Cre 136.60 31 P PKPdf 11 04 48.3 -1.2
baz=136
N28A Pribbeno Ranch 136.62 23 P PKPdf 11 04 48.3 -0.8
baz=136
LONY Lake Ozonia 136.75 354 ePKPdf PKPdf 11 04 50.1 +1.0
W18A Petrified Fore 136.94 36 ePKPdf PKPdf 11 04 51.3 +1.3
PLCA Paso Flores 136.97 191 PKP PKPdf 11 04 50.9 +1.1
PLCA Paso Flores 136.97 191 PKP PKPdf 11 04 50.9 +1.1
comp=Z,3.5nm,1.0s,baz=180,slow=5.8,SNR=3.9
T22A Edith 137.12 31 P PKPdf 11 04 49.4 -0.9
baz=137
U21A Nageezi 137.16 33 P PKPdf 11 04 49.2 -1.2
baz=137
X18A Snowflake 137.22 37 P PKPdf 11 04 49.9 -0.6
baz=137
Q26A Hugo 137.26 27 P PKPdf 11 04 48.4 -2.0
baz=137
R25A Fountain Ranch 137.54 28 P PKPdf 11 04 50.0 -1.0
baz=137
T23A Casias Ranch, 137.55 31 P PKPdf 11 04 50.9 -0.3
baz=138
W20A Ramah 137.65 35 P PKPdf 11 04 50.1 -1.3
baz=138
S25A Robets Cordova 137.86 29 P PKPdf 11 04 50.2 -1.5
baz=138,SNR=5.1
JFWS Jewell Farm 137.88 11 ePKIKP PKPdf 11 04 50.6 -0.6
JFWS Jewell Farm 137.88 11 ePKPdf PKPdf 11 04 50.6 -0.6
TUC Tucson 138.20 40 ePKIKP PKPdf 11 04 51.8 -0.5
TUC Tucson 138.20 40 ePKPdf PKPdf 11 04 51.8 -0.5
X21A Alamocita Cree 138.54 35 P PKPdf 11 04 51.7 -1.3
baz=138
U25A Circle Dot Ran 138.87 30 P PKPdf 11 04 52.4 -1.1
baz=139,SNR=7.1
LAZ Ladron 138.94 34 ePKPdf PKPdf 11 04 54.1 +0.4
V24A Rampart Ranch, 138.96 31 P PKPdf 11 04 52.5 -1.3
baz=139,SNR=7.4
V25A Rancho No Teng 139.20 30 P PKPdf 11 04 52.5 -1.6
baz=139
BINY Binghamton 139.28 355 ePKPdf PKPdf 11 04 52.9 -1.0
BNM Barren Site 139.41 34 ePKPpre PKPpre 11 04 47.8
V26A Tequesquite Ra 139.65 30 P PKPdf 11 04 53.2 -1.7
baz=140
Y24A Capitan 140.24 33 P PKPdf 11 04 54.8 -1.3
baz=140
320A Kipp Ranch, An 140.27 39 P PKPdf 11 04 55.3 -0.9
baz=140
Z24A Sheeppen Canyo 140.72 34 P PKPdf 11 04 55.4 -1.6
baz=141
MSTX Muleshoe 141.61 30 ePKPdf PKPdf 11 04 58.0 -0.4
MSTX Muleshoe 141.61 30 P PKPdf 11 04 55.9 -2.6
baz=142
125A Gardner Draw, 141.62 34 P PKPdf 11 04 55.3 -3.3
baz=142
Z27A Tatum 141.89 31 P PKPdf 11 04 56.2 -2.8
baz=142,SNR=6.6
MNTX Cornudas Mount 141.92 35 ePKPdf PKPdf 11 04 59.6 +0.6
W31A Holland Ranch, 141.95 26 P PKPdf 11 04 55.5 -3.4
baz=142
324A Moseley Ranch, 142.05 36 P PKPdf 11 04 56.3 -3.1
baz=142
BLO Bloomington 142.13 8 ePKIKP PKPdf 11 04 59.2 +0.1
BLO Bloomington 142.13 8 ePKPdf PKPdf 11 04 59.2 +0.1
226B Tecolote Peak, 142.33 34 P PKPdf 11 04 57.2 -2.6
baz=142
325A Bean Ranch, Si 142.40 35 P PKPdf 11 04 57.6 -2.4
baz=142
425A Indio Mountain 142.82 36 P PKPdf 11 04 58.5 -2.2
baz=143
WMOK Wichita Mounta 142.84 25 ePKIKP PKPdf 11 04 56.5 -4.0
WMOK Wichita Mounta 142.84 25 ePKPdf PKPdf 11 04 56.5 -4.0
TUL1 Tulsa 142.97 21 ePKPdf PKPdf 11 04 59.2 -1.5
WCI Wyandotte Cave 143.08 8 ePKIKP PKPab 11 04 56.8 +0.6
WCI e 11 05 02.9
WCI Wyandotte Cave 143.08 8 ePKPpre PKPab 11 04 56.8 +0.6
WCI ePKPdf PKiKP 11 05 02.9 -1.2
SIUC Southern Illin 143.10 11 ePKPdf PKPdf 11 04 59.9 -0.9
Z31A Sharp Cattle R 143.42 28 P PKPbc 11 04 58.3 -0.4
baz=143
426A McDonald Obser 143.46 35 P PKPbc 11 04 59.4 +0.2
baz=143
BDFB Brasilia 143.59 241 PKP PKPbc 11 05 00.2 +0.5
BDFB Brasilia 143.59 241 PKP PKPbc 11 05 00.2 +0.5
comp=Z,4.8nm,0.9s,baz=345,slow=1.8,SNR=3.3
328A Wristen Ranch, 143.60 33 P PKPbc 11 04 59.4 0.0
baz=144
427A Hayter Ranch, 143.68 34 P PKPbc 11 04 59.9 +0.3
baz=144
229A Bryant Ranch, 143.68 31 P PKPbc 11 04 59.4 -0.1
baz=144
Z32A Haskell 143.74 27 P PKPbc 11 04 59.6 0.0
baz=144
131A Roby 143.83 29 P PKPbc 11 05 00.3 +0.3
baz=144
526A Mary Lane Ranc 143.87 36 P PKPbc 11 05 00.7 +0.4
baz=144
329A Wagon Wheel Ra 143.97 32 P PKPbc 11 05 00.5 0.0
baz=144,SNR=14
527A Woodward Ranch 144.09 35 P PKPbc 11 05 01.2 +0.2
baz=144
230A Sterling City 144.10 31 P PKPbc 11 05 01.5 +0.7
baz=144,SNR=11
428A Kincaid Ranch, 144.18 34 P PKPbc 11 05 02.0 +0.9
baz=144
626A Big Bend Ranch 144.22 37 P PKPbc 11 05 01.6 +0.3
baz=144
ABTX Abilene, Hawle 144.23 28 P PKPbc 11 05 01.0 -0.1
baz=144
CPUP Villa Florida 144.37 217 ePKPdf PKPab 11 05 01.4 0.0
CPUP PKP PKPbc 11 05 02.1 +0.4
CPUP Villa Florida 144.37 217 PKP PKPbc 11 05 02.1 +0.4
comp=Z,53nm,1.0s,baz=101,slow=2.6,SNR=25
VWCC Virginia Weste 144.44 359 ePKPdf PKPab 11 05 01.4 0.0
330A Mertzon 144.46 31 P PKPab 11 05 01.8 0.0
baz=144,SNR=16
231A Bronte 144.47 30 P PKPab 11 05 01.6 -0.1
baz=144,SNR=14
BLA Blacksburg 144.48 360 ePKIKP PKPab 11 05 01.1 -0.5
BLA Blacksburg 144.48 360 ePKPdf PKPab 11 05 01.1 -0.5
528A Cox Ranch, San 144.55 34 P PKPbc 11 05 02.4 0.0
baz=144
GNAR Gosnell 144.62 13 ePKPdf PKPbc 11 05 02.3 +0.1
TXAR Lajitas Array 144.66 36 PKP PKPbc 11 05 02.7 0.0
TXAR Lajitas Array 144.66 36 PKP PKPbc 11 05 02.7 0.0
comp=Z,11nm,0.5s,baz=265,slow=1.5,SNR=41
429A Davenport Ranc 144.69 33 P PKPbc 11 05 02.7 0.0
baz=145,SNR=21
232A Coleman 144.83 29 P PKPab 11 05 02.6 -0.4
baz=145
529A Stev Forest Ra 144.89 34 P PKPab 11 05 02.2 -1.1
baz=145
WVT Waverly 144.90 10 ePKIKP PKPab 11 05 02.0 -1.1
WVT Waverly 144.90 10 ePKPdf PKPab 11 05 02.0 -1.1
430A Baggett Ranch, 144.91 32 P PKPab 11 05 03.2 -0.2
baz=145,SNR=20
331A San Angelo 144.92 30 P PKPab 11 05 03.0 -0.3
baz=145,SNR=15
MIAR Mount Ida 144.97 19 ePKIKP PKPab 11 05 03.0 -0.4
MIAR Mount Ida 144.97 19 ePKPdf PKPab 11 05 03.0 -0.4
628A Black Gap, Mar 145.00 35 P PKPab 11 05 03.6 -0.1
baz=145
TZTN Tazewell 145.03 4 ePKPdf PKPbc 11 05 02.7 -0.9
UALR University of 145.13 17 ePKPdf PKPbc 11 05 03.4 -0.5
332A Millersview 145.20 29 P PKPbc 11 05 04.0 -0.3
baz=145
431A Sonora 145.32 31 P PKPbc 11 05 04.5 -0.2
baz=145,SNR=21
530A J-C Ranch, Com 145.36 33 P PKPdf 11 05 05.2 +0.1
baz=145,SNR=59
MET Memphis--Engin 145.44 14 ePKPdf PKPab 11 05 06.8 +1.7
432A Menard 145.58 30 P PKPdf 11 05 05.2 -0.2
baz=146,SNR=29
WHTX Lake Whitney 145.75 26 ePKPdf PKPdf 11 05 05.8 +0.2
WHTX Lake Whitney 145.75 26 P PKPdf 11 05 05.3 -0.4
baz=146
531A Rocksprings 145.77 32 P PKPbc 11 05 06.2 0.0
baz=146,SNR=46
BBSR BB Station 145.86 336 ePKPdf PKPab 11 05 06.9 +0.2
TKL Tuckaleechee C 145.90 5 ePKPdf PKPdf 11 05 05.2 -0.6
TKL PKPbc PKPdf 11 05 06.0 +0.2
TKL Tuckaleechee C 145.90 5 PKPbc PKPdf 11 05 06.0 +0.2
comp=Z,46nm,1.0s,baz=59,slow=1.5,SNR=28
JCT Junction City 145.90 30 ePKP2 PKPbc 11 05 06.3 -0.3
JCT Junction City 145.90 30 ePKPdf PKPbc 11 05 06.3 -0.3
JCT Junction City 145.90 30 P PKPbc 11 05 06.5 -0.1
baz=146,SNR=45
CPCT Cooper Cave 146.03 6 ePKPdf PKPdf 11 05 06.0 0.0
532A Rocksprings 146.13 31 P PKPbc 11 05 07.3 0.0
baz=146,SNR=13
OXF Oxford 146.15 13 ePKP2 PKPdf 11 05 06.3 +0.1
OXF Oxford 146.15 13 ePKPdf PKPdf 11 05 06.3 +0.1
631A Perdido Creek 146.34 33 P PKPbc 11 05 07.6 -0.3
baz=146,SNR=14
CNNC Cliffs of the 146.35 356 ePKPdf PKPbc 11 05 07.5 -0.2
KMSC Kings Mountain 146.53 1 ePKPdf PKPdf 11 05 07.3 +0.5
632A Uvalde 146.69 31 P PKPdf 11 05 08.1 +0.8
baz=147,SNR=24
732A Laxson Ranch, 147.21 33 P PKPdf 11 05 08.8 +0.7
baz=147,SNR=18
VBMS Vicksburg 148.05 16 ePKPbc PKPbc 11 05 13.3 +0.8
LRAL Lakeview Retre 148.07 10 ePKPbc PKPbc 11 05 11.7 -0.9
LCO Las Campanas 148.21 197 ePKPbc PKPbc 11 05 14.3 +0.8
HKT Hockley 148.21 26 ePKP2 PKPdf 11 05 10.9 +1.2
HKT Hockley 148.21 26 ePKPdf PKPdf 11 05 10.9 +1.2
HKT ePKPbc PKPbc 11 05 13.3 +0.3
KVTX Kingsville 149.25 31 ePKPbc PKPbc 11 05 18.0 +2.2
BRAL Brewton 150.02 11 ePKPbc PKPbc 11 05 17.6 0.0
TIGA Tifton 150.10 5 ePKPbc PKPbc 11 05 18.1 +0.3
LVC Limon Verde 153.46 205 ePKPbc PKPbc 11 05 25.4 -0.7
LPAZ La Paz 158.47 214 ePKPdf PKPdf 11 05 26.1 +0.5
LPAZ PKP PKPdf 11 05 26.4 +0.8

LPAZ			PKPab	PKPab	11 05 59.5	-0.7
LPAZ	La Paz	158.47 214	PKP	PKPdf	11 05 26.4	+0.8
	comp=Z,3.5nm,1.0s,baz=75,slow=3.7,SNR=8.6					
LPAZ			PKPab	PKPab	11 05 59.5	-0.7
	comp=Z,3.4nm,1.1s,baz=202,slow=11,SNR=4.1					
ROSC	El Rosal	172.94 298	PKP	PKPdf	11 05 36.6	-0.7
ROSC	El Rosal	172.94 298	PKP	PKPdf	11 05 36.6	-0.7
	comp=Z,3.5nm,0.3s,baz=92,slow=22,SNR=5.9					
OTAV	Otavalo	177.53 239	ePKPdf	PKPdf	11 05 38.5	-0.1

ISCJB ***16*** *10:45:35.7±0.5, 16°.6S±0°.1×174°.1W±0°.2, h150km, mb4.2/12, Error ellipse: s-maj=24.4km s-min=8.8km az=34.9*

IDC ***16*** *10:45:35.2±2.7, 16°.63S×174°.27W, h125km±25km, mb4.0/8, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.9/39, Error ellipse: s-maj=28.5km s-min=15.6km az=123.0*

NEIC ***16*** *10:45:38.1±1.7, 16°.74S×173°.88W, h154km±16km, mb4.5/6, Error ellipse: s-maj=29.7km s-min=15.0km az=130.0*

ISC 16 10:45:36.8±0.7, 16°.7S±0°.1×174°.0W±0°.2, h150km, n25, σ1§43/23, mb4.4/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.49**	**39**	*e*Pn	**Pn**	**10 46 30.3**	**-0.3**
AFI				*e*Sn	**Sn**	**10 47 10.2**	**-2.1**
AFI	**Afiamalu**	**3.49**	**39**	P	**Pn**	**10 46 30.4**	**-0.3**
	148nm,0.3s,baz=318,slow=0.6,SNR=210						
AFI				S	**Sn**	**10 47 10.0**	**-2.3**
	140nm,0.3s,baz=275,slow=23,SNR=9.3						
AFI				LR	LR	10 47 40.2	
	comp=Z,398nm,19.7s,baz=170,slow=34						
MSVF	**Nonsavu**	**7.63**	**261**	*e*Pn	Pn	10 47 31.3	+5.9
URZ	**Urewera**	**22.89**	**198**	*e*P	**P**	**10 50 27.1**	**-0.4**
	19nm,0.6s						
URZ	**Urewera**	**22.89**	**198**	P	**P**	**10 50 24.3**	**-3.2**
	23nm,0.6s,baz=8.1,slow=3.5,SNR=19						
RPZ	**Rata Peaks**	**29.80**	**202**	P	**P**	**10 51 28.5**	**-1.0**
RPZ	**Rata Peaks**	**29.80**	**202**	P	**P**	**10 51 28.5**	**-1.0**
	4.2nm,0.5s,baz=44,slow=22,SNR=5.0						
STKA	**Stephens Creek**	**42.89**	**241**	*e*P	**P**	**10 53 20.2**	**-0.3**
	5.8nm,1.0s						
STKA	**Stephens Creek**	**42.89**	**241**	P	**P**	**10 53 19.6**	**-0.9**
	9.2nm,0.6s,baz=71,slow=7.0,SNR=8.6						
ASAR	**Alice Springs**	**49.15**	**253**	P	**P**	**10 54 09.1**	**-0.6**
ASAR	**Alice Springs**	**49.15**	**253**	P	**P**	**10 54 09.1**	**-0.6**
	12nm,0.6s,baz=92,slow=8.0,SNR=9.8						
SBA	**Scott Base**	**61.96**	**185**	*e*P	P	10 55 42.4	+2.1
	6.6nm,0.8s						
VNDA	**Vanda**	**62.08**	**186**	*e*P	P	10 55 42.4	+1.4
	4.0nm,0.8s						
VNDA	**Vanda**	**62.08**	**186**	P	P	10 55 42.7	+1.7
	3.8nm,0.8s,baz=7.4,slow=7.1,SNR=18						
JNU	**Nakatsue**	**72.20**	**314**	P	**P**	**10 56 45.9**	**+0.3**
	6.4nm,0.7s,baz=152,slow=3.3,SNR=4.6						
QSPA	**South Pole Qui**	**73.40**	**180**	*e*P	**P**	**10 56 53.5**	**+1.2**
	6.2nm,0.7s						
NVAR	**Mina Array Bea**	**75.67**	**42**	P	**P**	**10 57 07.9**	**+2.0**
NVAR	**Mina Array Bea**	**75.67**	**42**	P	**P**	**10 57 07.9**	**+2.0**
	0.6nm,0.8s,baz=223,slow=9.3,SNR=5.6						
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**10 57 50.0**	**+1.4**
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**10 57 50.0**	**+1.4**
	0.6nm,0.7s,baz=224,slow=4.1,SNR=6.4						
COLA	**College**	**83.70**	**11**	*e*P	**P**	**10 57 49.5**	**+1.2**
	11nm,0.8s						
ILAR	**Eielson Array**	**83.78**	**11**	P	**P**	**10 57 49.8**	**+1.0**
ILAR	**Eielson Array**	**83.78**	**11**	P	**P**	**10 57 49.8**	**+1.0**
	0.5nm,0.5s,baz=204,slow=5.5,SNR=8.0						
BRTR	**Keskin Array B**	**146.72**	**319**	PKPbc	**PKPab**	**11 05 02.8**	**-0.2**
BRTR	**Keskin Array B**	**146.72**	**319**	PKPbc	**PKPab**	**11 05 02.8**	**-0.2**
	1.3nm,0.7s,baz=117,slow=2.4,SNR=5.9						

IDC 16 10:48:25.4±1.6, 1°.61S×99°.39E, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.0/24, mbtmp4.2/6, ML4.8/1, MS4.9/3, Ms1 4.9/3, ms1mx4.2/44, Error ellipse: s-maj=72.1km s-min=20.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	P	10 52 59.4	+0.1
	1.1nm,0.3s,baz=188,slow=8.7,SNR=5.7						
WRA	**Warramunga Arr**	**38.71**	**120**	P	P	10 55 51.3	-0.2
	1.7nm,0.6s,baz=301,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**39.97**	**126**	P	P	10 56 01.9	-0.1
	2.8nm,0.7s,baz=307,slow=6.7,SNR=2.9						
SONM	**Songino Array**	**49.62**	**6**	P	P	10 57 18.6	-0.1
	3.2nm,0.9s,baz=191,slow=8.9,SNR=3.5						
SONM				LR	LR	11 18 16.4	
	comp=Z,2μm,18.7s,baz=190,slow=36						
MKAR	**Makanchi Array**	**50.50**	**345**	P	P	10 57 25.2	-0.1
	2.9nm,0.6s,baz=148,slow=8.4,SNR=4.8						
HNR	**Honiara**	**60.70**	**100**	LR	LR	11 24 02.4	
	comp=Z,706nm,20.9s,baz=69,slow=35						
AKASG	**Malin Array Be**	**78.81**	**322**	LR	LR	11 39 45.6	
	comp=Z,680nm,21.6s,baz=60,slow=39						
FINES	**FINESS Array B**	**83.49**	**332**	P	P	11 00 54.3	-0.5
	2.3nm,0.8s,baz=108,slow=10,SNR=3.7						
CPUP	**Villa Florida**	**144.26**	**217**	PKP	PKPdf	11 08 04.2	0.0
	6.0nm,0.8s,baz=76,slow=4.4,SNR=6.3						
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPdf	11 08 04.7	-0.5
	2.0nm,0.5s,baz=279,slow=1.6,SNR=6.7						
TKL	**Tuckaleechee C**	**146.00**	**5**	PKPbc	PKPdf	11 08 07.2	+0.1
	6.2nm,0.8s,baz=100,slow=6.6,SNR=6.8						

IDC 16 10:49:33.2±2.2, 1°.86S×99°.20E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/24, mbtmp4.0/6, Error ellipse: s-maj=91.5km s-min=21.0km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.19**	**359**	P	P	10 54 09.7	0.0
	0.5nm,0.3s,baz=185,slow=9.9,SNR=2.6						
WRA	**Warramunga Arr**	**38.76**	**120**	P	P	10 56 59.1	-0.7
	2.0nm,0.6s,baz=300,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**39.98**	**126**	P	P	10 57 10.2	+0.2
	1.7nm,0.6s,baz=307,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**49.89**	**6**	P	P	10 58 28.5	-0.2
	0.3nm,0.3s,baz=186,slow=10.0,SNR=2.7						
MKAR	**Makanchi Array**	**50.69**	**345**	P	P	10 58 34.2	-0.3
	0.9nm,0.5s,baz=165,slow=8.5,SNR=3.0						
FINES	**FINESS Array B**	**83.62**	**332**	P	P	11 02 03.2	-0.1
	4.0nm,1.0s,baz=160,slow=7.7,SNR=4.1						
TXAR	**Lajitas Array**	**145.07**	**36**	PKPbc	PKPbc	11 09 12.8	-0.1
	1.0nm,0.6s,baz=316,slow=5.0,SNR=4.7						

IDC 16 10:53:47.8±5.8, 0°.80S×100°.71E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=315.9km s-min=28.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.01**	**122**	P	P	11 01 08.0	0.0
	0.7nm,1.0s,baz=302,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**39.40**	**128**	P	P	11 01 19.6	-0.1
	0.3nm,0.7s,baz=302,slow=8.2,SNR=2.2						
MKAR	**Makanchi Array**	**50.08**	**344**	P	P	11 02 44.8	+0.2
	0.2nm,0.5s,baz=161,slow=8.7,SNR=4.4						
TXAR	**Lajitas Array**	**143.32**	**37**	PKP	PKPbc	11 13 22.6	+0.5
	0.2nm,0.5s,baz=308,slow=2.7,SNR=4.8						

IDC 16 10:53:56.9±5.1, 0°.25S×101°.21E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=281.4km s-min=28.7km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.88**	**123**	P	P	11 01 16.6	+0.6
	0.3nm,0.5s,baz=303,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**39.34**	**129**	P	P	11 01 27.7	-0.6
	0.3nm,0.6s,baz=300,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**49.70**	**343**	P	P	11 02 51.0	+0.2
	0.5nm,0.5s,baz=164,slow=8.7,SNR=4.4						
TXAR	**Lajitas Array**	**142.59**	**37**	PKP	PKPdf	11 13 30.0	-2.9
	0.8nm,0.5s,baz=280,slow=3.0,SNR=15						

IDC 16 10:57:15.4±9.4, 1°.92S×99°.37E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=466.6km s-min=26.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.57**	**120**	P	P	11 04 40.0	-0.4
	1.0nm,1.0s,baz=299,slow=9.4,SNR=2.5						
ASAR	**Alice Springs**	**39.81**	**126**	P	P	11 04 51.1	+0.4
	0.2nm,0.6s,baz=300,slow=8.0,SNR=2.7						
MKAR	**Makanchi Array**	**50.79**	**345**	P	P	11 06 17.8	+0.3
	0.3nm,0.5s,baz=160,slow=7.9,SNR=2.3						
TXAR	**Lajitas Array**	**145.01**	**37**	PKPbc	PKPbc	11 16 53.2	-1.7
	0.1nm,0.4s,baz=296,slow=3.5,SNR=4.1						

IDC 16 10:59:17.9±8.7, 1°.36S×99°.85E, h0km, mb3.5/2, mb1 3.6/2, mb1mx3.2/23, mbtmp3.5/2, Error ellipse: s-maj=514.0km s-min=33.4km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**39.75**	**127**	P	P	11 06 52.7	0.0
	0.4nm,0.8s,baz=299,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**50.37**	**344**	P	P	11 08 16.9	0.0
	0.5nm,0.6s,baz=149,slow=8.6,SNR=7.0						
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPbc	11 18 55.5	+0.4
	0.5nm,0.6s,baz=276,slow=2.3,SNR=7.7						

WEL 16 11:01:56.9±0.6, 37°.66S×176°.37E, h191km±5km, ML3.8/7, 1C-2D, Error ellipse: s-maj=5.8km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.84**	**136**	⇓PN	Pn	11 02 24.4	-0.2
URZ				SN	Sn	11 02 46.3	+0.2
MWZ	**Matawai**	**1.14**	**127**	PN	Pn	11 02 26.4	-0.3
MWZ				SN	Sn	11 02 49.5	-0.4
RAHZ	**Arahi**	**1.38**	**156**	PN	Pn	11 02 29.6	+0.9
RAHZ				SN	Sn	11 02 54.2	+0.6
HIZ	**Hauiti**	**1.47**	**234**	⇑PN	Pn	11 02 29.6	+0.2
NMHZ	**Naumai**	**1.48**	**167**	PN	Pn	11 02 30.5	+0.9
BKZ	**Black Stump Fm**	**1.51**	**176**	⇓PN	Pn	11 02 29.5	-0.4
BKZ				SN	Sn	11 02 55.3	-0.4
BKZ				AML	AML	11 02 56.1	
PUZ	**Puketiti**	**1.55**	**106**	PN	Pn	11 02 29.7	-0.6
PUZ				SN	Sn	11 02 55.5	-0.6
CNGZ	**Carnagh Statio**	**1.67**	**120**	PN	Pn	11 02 32.1	+0.8
KNZ	**Kokohu**	**1.70**	**143**	*e*PN	Pn	11 02 31.5	-0.1
WNVZ	**Wahianoa**	**1.77**	**200**	PN	Pn	11 02 32.3	-0.3
MCHZ	**McNeill Hill**	**1.80**	**172**	PN	Pn	11 02 33.0	+0.3
MOVZ	**Moawhango**	**1.81**	**195**	PN	Pn	11 02 32.1	-0.7
BHHZ	**Black Hill Sta**	**1.84**	**187**	PN	Pn	11 02 32.6	-0.6
MHGZ	**Mahia Peninsul**	**1.92**	**142**	PN	Pn	11 02 34.0	+0.2
VRZ	**Vera Road**	**1.94**	**220**	PN	Pn	11 02 34.4	+0.4
CKHZ	**Cape Kidnapper**	**2.07**	**165**	PN	Pn	11 02 35.5	0.0
KAHZ	**Kahuranaki**	**2.17**	**170**	PN	Pn	11 02 36.4	-0.2
PNHZ	**Pukenui**	**2.26**	**183**	PN	Pn	11 02 36.8	-0.7
PXZ	**Pawanui**	**2.40**	**171**	PN	Pn	11 02 38.2	-0.8
PXZ				AML	AML	11 03 11.4	
PXZ				AML	AML	11 03 12.6	
WPHZ	**Waipukurau**	**2.40**	**179**	PN	Pn	11 02 38.1	-0.9
TSZ	**Takapari Road**	**2.42**	**187**	PN	Pn	11 02 38.2	-1.1
TSZ				AML	AML	11 03 12.2	
DVHZ	**Dannevirke**	**2.64**	**183**	PN	Pn	11 02 40.3	-1.5
POWZ	**Post Office Ro**	**2.77**	**190**	PN	Pn	11 02 41.4	-1.9
BFZ	**Birch Farm**	**3.02**	**182**	PN	Pn	11 02 44.7	-1.5
MRZ	**Mangatainoka R**	**3.06**	**191**	PN	Pn	11 02 44.4	-2.4
MRZ				SN	Sn	11 03 22.2	-3.7
MRZ				AML	AML	11 03 24.6	
OGWZ	**Otaki Gorge**	**3.29**	**196**	PN	Pn	11 02 47.1	-2.4
HOWZ	**Holdsworth Sta**	**3.30**	**191**	PN	Pn	11 02 46.9	-2.7
KIW	**Kapiti Island**	**3.39**	**199**	PN	Pn	11 02 47.7	-3.0
MTW	**Mount Morrison**	**3.56**	**191**	PN	Pn	11 02 49.7	-3.1
CAW	**Cannon Point**	**3.59**	**196**	PN	Pn	11 02 50.2	-3.0
TRWZ	**Traveller**	**3.77**	**188**	PN	Pn	11 02 52.8	-2.7
WEL	**Wellington**	**3.83**	**198**	PN	Pn	11 02 52.8	-3.3
MSWZ	**Moikau Station**	**3.85**	**193**	PN	Pn	11 02 52.9	-3.5
MSWZ				AML	AML	11 03 41.5	
TCW	**Tory Channel**	**3.90**	**204**	PN	Pn	11 02 54.1	-3.0
TCW				AML	AML	11 03 42.4	
TCW				AML	AML	11 03 42.7	
PLWZ	**Palliser**	**4.00**	**192**	PN	Pn	11 02 54.8	-3.6
TUWZ	**Tuamarina**	**4.21**	**206**	PN	Pn	11 02 57.3	-3.6
NNZ	**Nelson**	**4.24**	**212**	PN	Pn	11 02 57.3	-4.0
QRZ	**Quartz Range**	**4.35**	**222**	PN	Pn	11 02 59.0	-3.7
THZ	**Tophouse**	**4.89**	**212**	PN	Pn	11 03 05.8	-3.9
KHZ	**Kahutara**	**5.23**	**204**	PN	Pn	11 03 09.8	-4.0
LTZ	**Lake Taylor**	**6.00**	**210**	PN	Pn	11 03 19.0	-5.0

ISCJB ***16*** *11:02:18.8±1.9, 1°.4S±0°.2×134°.51E±0°.07, h10km, mb3.9/2, Error ellipse: s-maj=25.8km s-min=10.1km az=8.5*

IDC ***16*** *11:02:19.4±10.0, 1°.43S×134°.57E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/20, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=156.3km s-min=75.1km az=173.0*

DJA ***16*** *11:02:22.9±1.4, 1°.S±14°.×13°.4E±°, h10km, M3.9/4, MLv3.9/4*

ISC 16 11:02:20.9±1.6, 1°.4S±0°.2×134°.41E±0°.05, h10km, n8, σ0§60/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.26**	**245**	P	**Pg**	**11 02 26.7**	**+0.4**
RKPI				S	**Sg**	**11 02 30.3**	**+0.5**
SRPI	**Serui, Papua**	**1.89**	**104**	P	**Pg**	**11 02 57.8**	**+0.7**
FAKI	**Fak Fak**	**2.64**	**235**	P	**Pn**	**11 03 03.9**	**+0.3**
SWI	**Sorong**	**3.20**	**280**	P	**Pn**	**11 03 11.3**	**0.0**
WRA	**Warramunga Arr**	**18.43**	**180**	P	**P**	**11 06 36.6**	**-0.1**
	0.9nm,0.3s,baz=360,slow=12,SNR=78						
FITZ	**Fitzroy Crossi**	**18.70**	**207**	P	**P**	**11 06 39.5**	**-0.1**
	0.1nm,0.3s,baz=30,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**22.14**	**181**	P	**P**	**11 07 17.0**	**0.0**
	2.9nm,0.7s,baz=4.0,slow=12,SNR=29						
STKA	**Stephens Creek**	**31.07**	**168**	P	**P**	**11 08 38.2**	**-1.1**
	2.0nm,0.8s,baz=337,slow=13,SNR=3.0						

IDC 16 11:03:17.8±5.0, 0°.48S×100°.87E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=273.5km s-min=29.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.04**	**123**	P	P	11 10 39.0	+0.8
	0.5nm,0.8s,baz=303,slow=9.0,SNR=3.7						
ASAR	**Alice Springs**	**39.47**	**128**	P	P	11 10 49.2	-1.0
	0.2nm,0.5s,baz=299,slow=8.2,SNR=4.9						
MKAR	**Makanchi Array**	**49.82**	**343**	P	P	11 12 12.7	+0.2
	0.3nm,0.5s,baz=150,slow=9.4,SNR=4.6						
TXAR	**Lajitas Array**	**142.97**	**37**	PKP	PKPdf	11 22 52.1	-2.4
	0.3nm,0.5s,baz=302,slow=2.8,SNR=7.3						

IDC 16 11:04:07.1±5.6, 0°.92S×100°.26E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/41, Error ellipse: s-maj=302.4km s-min=27.3km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.93**	**340**	LR	LR	11 06 19.2	
	comp=Z,485nm,18.8s,baz=321,slow=34						
WRA	**Warramunga Arr**	**38.32**	**122**	P	P	11 11 29.9	-0.1
	0.7nm,0.5s,baz=298,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**39.68**	**127**	P	P	11 11 41.3	-0.1
	0.4nm,0.5s,baz=300,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**50.07**	**344**	P	P	11 13 03.7	-0.1
	0.3nm,0.6s,baz=151,slow=6.3,SNR=2.7						
TXAR	**Lajitas Array**	**143.69**	**37**	PKP	PKPdf	11 23 44.2	-0.8
	0.6nm,0.6s,baz=259,slow=1.3,SNR=6.5						

IDC 16 11:05:59.9±6.5, 1°.37S×99°.69E, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.2/23, mbtmp3.3/2, MS4.1/1, Ms1 4.1/1, ms1mx3.1/21, Error ellipse: s-maj=330.3km s-min=31.9km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**20.35**	**101**	LR	LR	11 19 35.4	
	comp=Z,528nm,18.3s,baz=159,slow=40						
WRA	**Warramunga Arr**	**38.58**	**121**	P	P	11 13 25.0	0.0
	0.4nm,0.9s,baz=298,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**50.34**	**345**	P	P	11 14 58.7	+0.1
	0.3nm,0.7s,baz=152,slow=6.5,SNR=2.5						
TXAR	**Lajitas Array**	**144.38**	**36**	PKP	PKPbc	11 25 37.4	0.0
	0.2nm,0.5s,baz=318,slow=1.7,SNR=3.6						

IDC 16 11:07:49.2±3.7, 1°.90S×99°.25E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=158.2km s-min=20.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.68**	**356**	Pn	Pn	11 09 04.5	+3.2
	0.3nm,0.3s,baz=156,slow=14,SNR=3.9						
CMAR	**Chiang Mai Arr**	**20.23**	**359**	P	P	11 12 26.3	+0.2
	0.6nm,0.6s,baz=185,slow=10.0,SNR=3.2						
WRA	**Warramunga Arr**	**38.70**	**120**	P	P	11 15 14.3	-0.9
	0.8nm,0.5s,baz=301,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**39.92**	**126**	P	P	11 15 25.9	+0.4
	0.6nm,0.6s,baz=304,slow=8.0,SNR=9.4						
MKAR	**Makanchi Array**	**50.73**	**345**	P	P	11 16 50.2	-0.7
	0.4nm,0.5s,baz=154,slow=7.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**56.93**	**350**	P	P	11 17 36.0	-0.1
	0.5nm,0.5s,baz=171,slow=10,SNR=3.2						
TXAR	**Lajitas Array**	**145.07**	**36**	PKPbc	PKPbc	11 27 28.8	-0.1
	0.2nm,0.4s,baz=266,slow=2.1,SNR=7.1						

IDC 16 11:19:14.6±3.2, 1°.64S×99°.55E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/24, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=148.5km s-min=21.1km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.46**	**352**	Pn	Pn	11 20 24.3	+0.6
	0.7nm,0.3s,baz=168,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**38.56**	**121**	P	P	11 26 39.2	-0.2
	0.4nm,0.5s,baz=302,slow=9.1,SNR=9.5						
ASAR	**Alice Springs**	**39.82**	**126**	P	P	11 26 50.4	+0.3
	0.3nm,0.5s,baz=302,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**50.57**	**345**	P	P	11 28 14.0	-1.0
	0.3nm,0.4s,baz=162,slow=8.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**56.74**	**350**	P	P	11 29 00.5	+0.4
	0.6nm,0.3s,baz=172,slow=5.2,SNR=3.2						
TXAR	**Lajitas Array**	**144.69**	**37**	PKP	PKPab	11 38 52.8	-0.2
	0.5nm,0.5s,baz=275,slow=2.0,SNR=11						

IDC 16 11:19:55.4±3.4, 1°.61S×99°.47E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=141.5km s-min=24.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	P	11 24 29.7	+0.6
	0.1nm,0.3s,baz=192,slow=8.3,SNR=3.0						
WRA	**Warramunga Arr**	**38.65**	**121**	P	P	11 27 21.0	0.0
	0.2nm,0.5s,baz=296,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**39.91**	**126**	P	P	11 27 31.5	-0.1
	0.1nm,0.4s,baz=294,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**50.51**	**345**	P	P	11 28 55.0	-0.4
	0.4nm,0.5s,baz=153,slow=7.9,SNR=3.8						
TXAR	**Lajitas Array**	**144.71**	**36**	PKP	PKPbc	11 39 34.1	+0.2
	0.4nm,0.6s,baz=273,slow=2.4,SNR=4.7						

IDC 16 11:20:40.4±5.0, 0°.71S×100°.61E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=258.9km s-min=23.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.14**	**122**	P	P	11 28 01.7	0.0
	0.3nm,0.4s,baz=302,slow=8.9,SNR=8.4						
ASAR	**Alice Springs**	**39.53**	**128**	P	P	11 28 13.2	-0.2
	0.8nm,0.6s,baz=298,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**49.97**	**344**	P	P	11 29 36.2	0.0
	0.5nm,0.3s,baz=160,slow=8.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**56.03**	**349**	P	P	11 30 20.9	+0.1
	0.8nm,0.5s,baz=163,slow=5.4,SNR=4.0						
TXAR	**Lajitas Array**	**143.31**	**37**	PKP	PKPbc	11 40 15.8	+1.1
	0.9nm,0.6s,baz=318,slow=1.7,SNR=8.8						

SZGRF ***16*** *11:27:02.1, 1°.91S×100°.22E, h22km, mb4.8, Southern Sumatera, Indonesia*

MOS ***16*** *11:27:04.8±1.1, 1°.39S×99°.65E, h33km, mb5.2/51, Error ellipse: s-maj=10.3km s-min=4.8km az=114.8*

BKK ***16*** *11:27:04.9±0.3, 2°.S±4°.×9°.9E±°, h10km, M4.8/26, mB5.0/4, mb4.6/26, MLv5.0/5, Mw(mB)4.4/4*

ISCJB ***16*** *11:27:05.0±0.7, 1°.50S±0°.03×99°.56E±0°.04, h37km±6km, mb4.9/142, MS4.5/6, Error ellipse: s-maj=6.8km s-min=4.2km az=151.2*

BJI ***16*** *11:27:05.0, 1°.50S×99°.50E, h35km, mB5.1/18, mb4.7/40, Ms4.8/16, Ms7 4.4/15*

IDC ***16*** *11:27:05.5±3.6, 1°.50S×99°.61E, h28km±24km, mb4.6/34, mb1 4.6/36, mb1mx4.6/36, mbtmp4.6/36, ML3.8/2, MS4.2/1, Ms1 4.2/1, ms1mx3.1/47, Error ell

DBJI Dramaga 8.81 125 P **Pn** **11 29 12.5 +1.4**
109nm,0.9s,0.4nm
LEM Lembang 9.68 123 P **Pn** **11 29 25.1 +2.0**
CISI Cisompet, Garu 10.25 126 P Pn 11 29 39.8 +9.0
COCO West Island 10.88 194 *e*P **Pn** **11 29 39.4 -0.1**
COCO West Island 10.88 194 *e*Pn **Pn** **11 29 39.4 -0.1**
KSM Kuching 11.26 75 *e*Pn **Pn** **11 29 45.5 +0.9**
KSM Kuching 11.26 75 P Pn 11 29 48.8 +4.1
SBUM Sibu 13.37 73 P P 11 30 17.6 -5.0
PHET Kaeng Krachan 14.37 1 P P 11 30 40.2 +6.5
NAYO Nakonayok 15.87 7 P P 11 30 58.0 +7.6
UTHA Uthaitani 17.00 360 P **P** **11 31 06.9 +4.0**
CHAI Chaiyaphum 17.52 8 P P 11 31 20.2 +11
UBPT Khong Chiam 17.75 19 P **P** **11 31 11.8 +0.6**
18nm,0.9s
PBKT Sadao Pong 18.07 5 P **P** **11 31 14.7 0.0**
13nm,1.1s
KKM Kota Kinabalu 18.36 66 *e*P **Pn** **11 31 17.8 -0.4**
38nm,1.0s
KKM Kota Kinabalu 18.36 66 P **Pn** **11 31 18.9 +0.6**
KKM Kota Kinabalu 18.36 66 P **Pn** **11 31 19.1 +0.9**
baz=18,SNR=4.8
LOEI Loei 19.02 5 P **Pn** **11 31 26.0 -0.2**
17nm,0.9s
SDKM Sandakan 19.10 68 P **Pn** **11 31 26.6 -0.6**
PANO Nakornpanom 19.26 15 P Pn 11 31 34.1 +5.1
21nm,1.1s
KDM Kudat 19.28 64 P **P** **11 31 27.9 -0.2**
TSM Tawau 19.30 72 P **Pn** **11 31 28.8 -0.7**
CM31 Chiang Mai Arr 19.89 359 *e*P **P** **11 31 34.6 -0.1**
18nm,0.8s
CMAR Chiang Mai Arr 19.89 359 P **P** **11 31 32.3 -2.4**
CMAR PcP **PcP** **11 35 52.0 +0.6**
CMAR Chiang Mai Arr 19.89 359 P **P** **11 31 32.3 -2.4**
0.4nm,0.3s,baz=184,slow=11,SNR=37
CMAR PcP **PcP** **11 35 52.0 +0.6**
0.2nm,0.3s,baz=223,slow=2.6,SNR=7.9
LAMP Lampang 19.95 0 P **Pn** **11 31 40.5 +3.3**
12nm,0.9s,96nm
MYLDM Lahad Datu 20.17 71 P Pn 11 31 39.5 -0.3
CMMT Chiang Mai 20.24 359 P **P** **11 31 38.2 -0.4**
22nm,0.8s
CHTO Chiang Mai 20.24 359 *e*P **P** **11 31 37.5 -1.1**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 20.24 359 *e*P **P** **11 31 37.5 -1.1**
comp=Z,12nm,0.9s
CHTO Chiang Mai 20.24 359 P **P** **11 31 38.6 0.0**
comp=Z,18nm,1.0s
KAPI Kappang 20.55 100 *e*P **P** **11 31 42.1 +0.2**
comp=Z,36nm,0.9s
KAPI Kappang 20.55 100 P **P** **11 31 39.2 -2.8**
comp=Z,23nm,0.8s,baz=297,slow=11,SNR=3.8
PAYA Payao 20.79 1 P Pn 11 31 48.4 +1.4
comp=Z,8.2nm,0.8s
CMAI Chiengmai2 21.35 359 P **P** **11 31 54.1 +3.4**
comp=Z,116nm,1.4s
WSI Waingapu 22.24 112 S S 11 35 44.0 -19
baz=22,SNR=3.9
LUWI Luwuk 23.32 89 S S 11 35 57.5 -25
baz=23,SNR=4.7
KMI Kunming 26.71 7 P **P** **11 32 44.1 +1.5**
KMI pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 27.94 345 *e*P **P** **11 32 54.0 +0.4**
GYA Guiyang 28.70 14 P P 11 33 06.6 +6.3
GYA pP pP 11 33 12.6 +2.8
GYA sP sP 11 33 18.0 +4.2
GYA PP **PnPn** **11 33 56.4 +4.8**
GYA PcP **PcP** **11 36 12.3 +1.8**
GYA S S 11 37 54.5 +7.0
GYA sS sS 11 38 07.5 +4.3
GYA SS **SnSn** **11 39 17.0 +7.1**
GYA ScP **ScP** **11 39 49.8 +0.2**
GYA Guiyang 28.70 14 ScS ScS 11 43 42.3 -1.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,380nm,14.9s
GYA LR LR
comp=E,460nm,15.7s
GYA LR LR
comp=Z,710nm,14.6s
FITZ Fitzroy Crossi 30.51 124 P **P** **11 33 14.6 -1.7**
FITZ Fitzroy Crossi 30.51 124 P **P** **11 33 14.6 -1.7**
comp=Z,19nm,1.0s,baz=304,slow=5.8,SNR=26
FITZ Fitzroy Crossi 30.51 124 P **P** **11 33 14.9 -1.4**
baz=30,SNR=9.8
ODAN Odare 30.55 338 *e*P **P** **11 33 17.9 +1.1**
comp=Z,49nm,0.7s
TAPN Taplejung 30.88 339 *e*P **P** **11 33 21.1 +1.3**
comp=Z,89nm,0.8s
RAMN Ramite 30.93 337 *e*P **P** **11 33 20.2 0.0**
comp=Z,34nm,0.8s
MEEK Meekatharra 31.00 145 P **P** **11 33 20.7 +0.1**
baz=31,SNR=6.0
JIRN Jiri 31.72 337 *e*P **P** **11 33 28.4 +1.1**
comp=Z,87nm,0.8s
PKIN Phulchoki 31.96 336 *e*P **P** **11 33 29.8 +0.5**
GUN Gumba 32.07 337 *e*P **P** **11 33 31.5 +1.2**
comp=Z,83nm,0.6s
LSA Lhasa 32.07 346 P **P** **11 33 31.1 +0.6**
LSA Lhasa 32.07 346 *e*P **P** **11 33 31.5 +1.0**
LSA pmax pmax
comp=Z,31nm,0.9s
LSA Lhasa 32.07 346 *e*P **P** **11 33 31.5 +1.0**
comp=Z,31nm,0.9s
DMN Daman 32.11 336 *e*P **P** **11 33 30.3 -0.3**
KNRA Kununurra 32.12 118 P P 11 33 27.2 -3.4
baz=32,SNR=7.5
TPUB Ta-pu 32.17 39 *e*P **P** **11 33 30.4 -0.5**
comp=Z,42nm,1.0s
KKN Kakani 32.20 336 *e*P **P** **11 33 31.9 +0.6**
comp=Z,54nm,0.9s
CD2 Chengdu 32.54 7 *e*P **P** **11 33 37.0 +2.9**
CD2 pP **pP** **11 33 47.0 +3.4**
CD2 sP **sP** **11 33 51.1 +3.5**
CD2 PP **PP** **11 34 46.6 -1.5**
CD2 S **S** **11 38 49.6 +2.2**
CD2 sS **sS** **11 39 06.3 +3.1**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,100nm,5.8s
CD2 LR LR
comp=N,480nm,13.2s
CD2 LR LR
comp=E,540nm,11.8s
CD2 LR LR
comp=Z,420nm,13.2s
YULB Yu-li 32.66 39 *e*P **P** **11 33 35.2 0.0**
comp=Z,11nm,0.9s
SSLB Suanglung 32.73 38 *e*P **P** **11 33 35.9 0.0**
comp=Z,25nm,1.1s
KOLN Koldanda 32.90 334 *e*P **P** **11 33 38.5 +1.0**
comp=Z,54nm,0.7s
ENH Enshi 33.06 16 *e*P **P** **11 33 36.2 -2.4**
comp=Z,10.0nm,0.5s
YHNB Yeheng 33.64 38 *e*P **P** **11 33 43.5 -0.3**
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 35.40 154 LR LR 11 48 30.2
comp=Z,343nm,18.6s,baz=124,slow=36
XAN Xi'an 36.51 13 P **P** **11 34 06.0 -2.3**
XAN pP **pP** **11 34 14.5 -3.5**
XAN pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 37.67 6 *e*P **P** **11 34 18.3 0.0**
LZH pP **pP** **11 34 26.6 -1.4**
LZH sP **sP** **11 34 30.6 -1.3**
LZH pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Arr 38.69 121 P **P** **11 34 25.4 -1.7**
WRA PcP **PcP** **11 36 39.0 +0.3**
WRA Warramunga Arr 38.69 121 P **P** **11 34 25.4 -1.7**
comp=Z,16nm,0.8s,baz=301,slow=9.1,SNR=55
WRA PcP **PcP** **11 36 39.0 +0.3**
comp=Z,3.3nm,0.6s,baz=317,slow=2.6,SNR=11
WRAB Tennant Creek 38.70 121 *e*P **P** **11 34 24.8 -2.3**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 38.70 121 *e*P **P** **11 34 24.8 -2.3**
comp=Z,18nm,0.8s
JOW Kunigami 39.60 43 *e*P **P** **11 34 34.7 +0.2**
comp=Z,4.7nm,1.0s

FORT Forrest 39.73 140 P **P** **11 34 36.8 +1.2**
baz=40,SNR=7.3
ASAR Alice Springs 39.95 126 P **P** **11 34 36.6 -1.0**
ASAR PcP **PcP** **11 36 43.3 +0.6**
ASAR S **S** **11 40 39.4 -1.6**
ASAR Alice Springs 39.95 126 P **P** **11 34 36.6 -1.0**
comp=Z,15nm,0.9s,baz=304,slow=8.0,SNR=85
ASAR PcP **PcP** **11 36 43.3 +0.6**
comp=Z,6.8nm,0.8s,baz=303,slow=3.1,SNR=16
ASAR S **S** **11 40 39.4 -1.6**
comp=Z,3.0nm,1.1s,baz=296,slow=14,SNR=7.5
AS31 Alice Springs 39.96 126 *e*P **P** **11 34 36.6 -1.0**
GTA Gaotai 40.76 0 P **P** **11 34 44.1 0.0**
GTA pP **pP** **11 34 53.8 0.0**
GTA sP **sP** **11 34 58.3 +0.5**
GTA PcP **PcP** **11 36 45.0 0.0**
GTA S **S** **11 40 52.3 -0.5**
GTA sS **sS** **11 41 07.4 -1.4**
GTA SS SS 11 43 46.6 -8.0
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,290nm,7.1s
GTA LR LR
comp=N,180nm,13.3s
GTA LR LR
comp=E,320nm,11.4s
GTA LR LR
comp=Z,310nm,10.4s
HHC Hu-ho-hao-te 43.62 13 *e*P **P** **11 35 09.6 +2.2**
HHC PP **PcP** **11 36 53.1 -1.4**
HHC ScP **ScP** **11 40 44.3 +0.5**
HHC PcS **PcS** **11 40 48.4 +1.1**
HHC S **S** **11 41 36.8 +1.9**
HHC sS **sS** **11 41 53.0 +2.1**
HHC SS **SS** **11 44 45.4 -5.4**
HHC ScS **ScS** **11 45 03.8 -0.8**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,400nm,5.2s
HHC LR LR
comp=N,750nm,16.3s
HHC LR LR
comp=E,590nm,17.8s
HHC LR LR
comp=Z,500nm,16.1s
BJI Beijing 44.13 18 P **P** **11 35 10.8 -0.5**
BJI pmax pmax
comp=Z,20nm,1.0s
JNU Nakatsue 45.48 38 *e*P **P** **11 35 21.8 -0.5**
comp=Z,11nm,0.9s
JNU Nakatsue 45.48 38 P **P** **11 35 21.6 -0.7**
comp=Z,20nm,0.8s,baz=263,slow=3.2,SNR=13
TJN Taejon 45.81 32 *i*P **P** **11 35 24.7 -0.1**
KSH Kashi 46.20 335 *e*P **P** **11 35 27.1 -0.8**
KSH sP **sP** **11 35 40.0 -1.7**
KSH PP **PP** **11 37 15.1 -1.7**
KSH S **S** **11 42 07.0 -5.3**
KSH SS **ScS** **11 45 24.5 +3.3**
KSH pmax pmax
comp=Z,6.0nm,0.4s
KSH pmax pmax
comp=Z,260nm,10.4s
KSH LR LR
comp=N,2μm,16.5s
KSH LR LR
comp=E,430nm,13.0s
KSH LR LR
comp=Z,170nm,8.7s
WMQ Urumqi 46.38 348 P **P** **11 35 30.6 +1.4**
WMQ pP **pP** **11 35 37.6 -1.5**
WMQ PcP **PcP** **11 37 04.1 +0.2**
WMQ PP **PP** **11 37 19.3 +0.6**
WMQ pmax pmax
comp=Z,36nm,0.8s
WMQ pmax pmax
comp=Z,170nm,7.0s
KSAR Wonju Array Be 46.89 31 P **P** **11 35 32.5 -0.7**
KSAR PcP **PcP** **11 37 06.5 +0.8**
KSRS Korea Array 46.92 31 P **P** **11 35 32.5 -0.9**
comp=Z,9.5nm,0.7s,baz=223,slow=8.4,SNR=60
KSRS PcP **PcP** **11 37 06.5 +0.7**
comp=Z,2.3nm,0.9s,baz=223,slow=3.1,SNR=6.2
TKM2 Tokmak 2 49.21 337 *e*P **P** **11 35 52.4 +1.1**
TKM2 pmax pmax
comp=Z,19nm,1.0s
TKM2 Tokmak 2 49.21 337 *e*P **P** **11 35 52.4 +1.1**
comp=Z,19nm,1.0s
CTAO Charters Tower 49.28 115 *e*P **P** **11 35 50.3 -1.7**
CTAO pmax pmax
comp=Z,11nm,0.8s
CTAO Charters Tower 49.28 115 *e*P **P** **11 35 50.3 -1.7**
comp=Z,11nm,0.8s
AAK Ala-Archa 49.41 336‖ *e*P **P** **11 35 53.5 +0.7**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 49.41 336 *e*P **P** **11 35 53.9 +1.1**
comp=Z,3.6nm,0.6s
AAK PcP **PcP** **11 37 15.3 +0.4**
AAK Ala-Archa 49.41 336 P **P** **11 35 53.5 +0.7**
comp=Z,2.3nm,0.4s,baz=185,slow=3.3,SNR=6.3
AAK PcP **PcP** **11 37 15.3 +0.4**
comp=Z,8.6nm,0.9s,baz=199,slow=5.1,SNR=4.9
SONM Songino Array 49.56 6 P **P** **11 35 54.1 +0.2**
SONM PcP **PcP** **11 37 15.3 +0.1**
SONM Songino Array 49.56 6 P **P** **11 35 54.1 +0.2**
comp=Z,9.3nm,0.8s,baz=186,slow=9.6,SNR=42
SONM PcP **PcP** **11 37 15.3 +0.1**
comp=Z,8.0nm,0.7s,baz=188,slow=3.9,SNR=8.1
ULN Ulaanbaatar 49.66 7 *e*P **P** **11 35 54.6 0.0**
comp=Z,8.9nm,0.8s
EKS2 Erkin-Say 49.73 335 *e*P **P** **11 35 56.5 +1.3**
EKS2 pmax pmax
comp=Z,16nm,0.9s
EKS2 Erkin-Say 49.73 335 *e*P **P** **11 35 56.5 +1.3**
comp=Z,16nm,0.9s
STKA Stephens Creek 49.85 132 *e*P **P** **11 35 56.0 -0.3**
comp=Z,4.3nm,0.8s
STKA Stephens Creek 49.85 132 P **P** **11 35 56.4 +0.2**
comp=Z,21nm,0.9s,baz=326,slow=8.6,SNR=20
STKA Stephens Creek 49.85 132 P **P** **11 35 56.4 +0.2**
baz=50,SNR=12
MK31 Makanchi Array 50.45 345 *e*P **P** **11 36 00.7 +0.2**
MK31 Makanchi Array 50.45 345 *e*P **P** **11 36 00.7 +0.2**
MKAR Makanchi Array 50.45 345 *ce*P **P** **11 36 00.8 +0.3**
MKAR pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 50.45 345 *e*P **P** **11 36 00.9 +0.4**
MKAR Makanchi Array 50.45 345 P **P** **11 36 00.8 +0.3**
comp=Z,19nm,0.8s,baz=151,slow=7.8,SNR=163
CN2 Changchun 50.80 24 *e*P **P** **11 36 01.6 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 51.51 333 *ce*P **P** **11 36 08.4 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 51.51 333 *e*P **P** **11 36 08.7 +0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 51.51 333 *e*P **P** **11 36 08.7 +0.2**
comp=Z,1.9nm,0.7s
ZAK Zakamensk 51.84 3 *e*P **P** **11 36 08.4 -2.5**
ZAK *e* 11 37 23.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s
MJAR Matsushiro Arr 52.28 40 P **P** **11 36 12.6 -1.8**
MJAR Matsushiro Arr 52.28 40 P **P** **11 36 12.6 -1.8**
comp=Z,1.6nm,0.8s,baz=221,slow=8.3,SNR=9.7
HVS Khovu-Aksy 52.72 355 *de*P **P** **11 36 17.2 -0.2**
HVS pmax pmax
comp=Z,46nm,1.2s
CMSA Cobar Meteorol 52.82 129 P **P** **11 36 18.7 +0.3**
baz=53,SNR=11
IBAF Bafgh 53.07 312 *e*P **P** **11 36 19.8 -0.7**
MDJ Mudanjiang 53.23 27 P **P** **11 36 20.8 -0.4**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,210nm,13.3s
RMQ Roma 53.41 122 P **P** **11 36 23.5 +0.6**
baz=53,SNR=6.4
ISRV Sarvestan 53.90 309 *e*P **P** **11 36 27.9 +1.1**
USRK Ussuriysk Arra 54.03 29 P **P** **11 36 26.5 -0.5**
comp=Z,25nm,0.8s,baz=230,slow=5.9,SNR=53

IPAR Pars 54.16 309 *e*P **P** **11 36 27.8 -0.9**
ISAD Sadrabad 54.63 312 *e*P **P** **11 36 30.5 -1.6**
KURBB Kurchatov Arra 54.97 344 P **P** **11 36 33.9 +0.1**
comp=Z,10nm,0.9s,baz=164,slow=7.2,SNR=92
KURBB PcP **PcP** **11 37 35.9 +0.6**
comp=Z,4.0nm,0.7s,baz=152,slow=3.4,SNR=6.4
KURK Kurchatov 55.03 344 P **P** **11 36 33.9 -0.3**
KURK 11 37 35.9
KURK Kurchatov 55.03 344 P **P** **11 36 33.9 -0.3**
KURK PcP **PcP** **11 37 35.9 +0.4**
EIDS Eidsvold 55.05 120 P **P** **11 36 34.5 -0.4**
baz=55,SNR=3.7
YNG Young 56.04 131 P **P** **11 36 42.4 +0.6**
baz=56,SNR=6.2
ZAA0 Zalesovo Array 56.63 350 *e*P **P** **11 36 45.5 -0.2**
ZALV Zalesovo Beam 56.63 350 P **P** **11 36 45.7 +0.1**
ZALV Zalesovo Beam 56.63 350 P **P** **11 36 45.7 +0.1**
ZALV Zalesovo Beam 56.63 350 P **P** **11 36 45.7 +0.1**
comp=Z,43nm,0.9s,baz=163,slow=5.6,SNR=131
ARMA Armidale 57.10 126 P **P** **11 36 50.6 +1.0**
baz=57,SNR=5.2
KRAR Krasnoyarsk 57.63 356 *di*P **P** **11 36 54.0 +1.4**
KRAR pmax pmax
comp=Z,69nm,1.2s
KLR Kul'dur 57.75 24 *e*P P 11 36 49.2 -4.4
NVS Novosibirsk 57.77 349‖ *e*P **P** **11 36 52.7 -1.0**
NVS *e*S **S** **11 44 50.8 +0.3**
NVS pmax pmax
comp=N,13nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS smax smax
comp=E,18nm,1.8s
RAYN Ar Rayn 58.04 299 *e*P **P** **11 36 56.7 +0.5**
comp=E,7.9nm,0.8s
KBD Kabd 58.13 306 *e*P **P** **11 36 56.9 +0.2**
KBD AMb AMB 11 36 58.5
comp=Z,41nm,1.1s
RDF Al-Radifah 58.15 306 *e*P **P** **11 36 57.4 +0.6**
RDF AMb AMB 11 36 58.7
comp=Z,72nm,1.0s
NAY Al-Naaiem 58.52 306 *e*P **P** **11 36 59.3 -0.1**
NAY AMb AMB 11 37 00.5
comp=Z,28nm,1.1s
VOSK Vostochnaya 59.13 340 P **P** **11 37 01.9 -1.3**
VOSK pmax pmax
comp=Z,12nm,1.1s
ASAJ Asahikawa 59.56 35 P **P** **11 37 05.8 -0.5**
ASAJ Asahikawa 59.56 35 P **P** **11 37 05.8 -0.5**
comp=Z,4.3nm,0.9s,baz=255,slow=12,SNR=3.7
BVA0 Borovoye Array 59.58 340 P **P** **11 37 04.9 -1.4**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 59.64 340 *ce*P **P** **11 37 06.0 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 59.64 340 *e*P **P** **11 37 06.3 -0.5**
comp=Z,14nm,1.2s
AB31 Akbulak array 60.99 332 *ce*P **P** **11 37 15.4 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 60.99 332 *e*P **P** **11 37 15.4 -0.6**
comp=Z,7.1nm,0.7s
YSS Yuzh-Sakhalins 61.40 32⇑ *e*P **P** **11 37 18.8 0.0**
YSS *e* 11 37 26.0
YSS pmax pmax
comp=Z,20nm,0.9s
KMBO Kilima Mbogo 62.19 270 *e*P **P** **11 37 26.7 +1.6**
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 62.19 270 P **P** **11 37 26.8 +1.6**
comp=Z,6.1nm,0.8s,baz=68,slow=11,SNR=16
GNI Garni 64.83 316 P **P** **11 37 42.7 +0.7**
GNI Garni 64.83 316 P **P** **11 37 42.7 +0.7**
comp=Z,4.2nm,0.5s,baz=141,slow=18,SNR=4.6
CASY Casey 65.07 175 *e*P **P** **11 37 43.0 +0.2**
comp=Z,14nm,0.5s
SVE Sverdlovsk 66.06 338⇑ *i*P **P** **11 37 49.6 +0.2**
SVE pmax pmax
comp=Z,36nm,1.1s
ZEI Tsey 66.54 319 *e*P **P** **11 37 52.7 -0.3**
ZEI pmax pmax
comp=Z,18nm,0.9s
ARU Arti 66.58 337 *c i*P **P** **11 37 51.8 -0.9**
ARU 11 40 15.2
ARU S **S** **11 46 39.5 -2.0**
ARU pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 67.45 15 *e*P **P** **11 37 56.3 -1.8**
YAK pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 67.61 319 P **P** **11 38 00.0 +0.5**
KBZ Khabaz 67.61 319 P **P** **11 37 60.0 +0.5**
KBZ Khabaz 67.61 319 P **P** **11 37 60.0 +0.5**
comp=Z,14nm,0.8s,baz=122,slow=5.6,SNR=38
KIV Kislovodsk 67.85 319 *e*P **P** **11 38 01.6 +0.4**
KIV pmax pmax
comp=Z,24nm,1.0s
ASF Jabal al Asfar 67.89 306 P **P** **11 38 02.5 +0.9**
ASF Jabal al Asfar 67.89 306 P **P** **11 38 02.5 +0.9**
comp=Z,7.6nm,1.0s,baz=60,slow=2.3,SNR=6.6
MBAR Mbarara 68.71 270 P **P** **11 38 07.1 -0.1**
MBAR Mbarara 68.71 270 P **P** **11 38 07.1 -0.1**
comp=Z,2.8nm,0.7s,baz=34,slow=24,SNR=3.8
EIL Elat 68.82 303 P **P** **11 38 07.3 -0.1**
EIL Elat 68.82 303 P **P** **11 38 07.3 -0.1**
comp=Z,18nm,1.0s,baz=71,slow=5.1,SNR=4.6
SOKR Solikamsk 69.45 338 *di*P **P** **11 38 11.1 +0.5**
SOKR pmax pmax
comp=Z,20nm,1.0s
MAW Mawson 70.58 194 P **P** **11 38 19.0 +1.5**
MAW Mawson 70.58 194 P **P** **11 38 19.0 +1.5**
comp=Z,7.1nm,0.9s,baz=34,slow=7.2,SNR=15
MAW Mawson 70.58 194 P **P** **11 38 19.3 +1.8**
baz=71,SNR=9.4
CSS Prodhromos 71.52 308 *e*P **P** **11 38 24.0 +0.1**
comp=Z,12nm,1.0s
LSZ Lusaka 71.53 255 *e*P **P** **11 38 25.8 +1.4**
comp=Z,5.1nm,1.1s
VRHR Novokhopersk 71.65 326 *e*P **P** **11 38 22.6 -1.7**
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
BR131 Keskin Array S 72.62 313 *e*P **P** **11 38 30.1 -0.5**
comp=E,1.5nm,0.6s
BRTR Keskin Array B 72.62 313 P **P** **11 38 30.0 -0.5**
BRTR Keskin Array B 72.62 313 P **P** **11 38 30.0 -0.5**
comp=E,4.5nm,0.8s,baz=134,slow=7.5,SNR=21
PETK Petropavlovsk- 72.80 32 P **P** **11 38 30.5 -0.7**
PETK Petropavlovsk- 72.80 32 P **P** **11 38 30.5 -0.7**
PETK Petropavlovsk- 72.80 32 P **P** **11 38 30.5 -0.7**
comp=E,3.8nm,0.8s,baz=197,slow=4.6,SNR=5.9
VORD Divnogorie 72.92 325 *e*P **P** **11 38 30.7 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,0.3s
VORD pmax pmax
comp=E,20nm,0.4s
VSR Storozhevoye 73.10 325 *e*P **P** **11 38 31.9 -1.0**
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,20nm,0.9s
PET Petropavlovsk 73.28 33 *e*P **P** **11 38 33.4 -0.5**
SIM Simferopol' 73.90 318 *e*P **P** **11 38 37.0 -0.8**
SIM pmax pmax
comp=Z,16nm,0.9s
BOSA Boshof 75.40 241 *e*P **P** **11 38 47.6 +0.6**
comp=Z,6.0nm,0.8s
BOSA Boshof 75.40 241 P **P** **11 38 47.4 +0.4**
comp=Z,4.6nm,0.7s,baz=139,slow=6.2,SNR=10.0
SEY Seymchan 75.42 22 *ce*P **P** **11 38 45.7 -0.5**
TIXI Tiksi 75.50 9 *de*P **P** **11 38 45.6 -0.9**
TIXI pmax pmax
comp=Z,16nm,1.0s
RPZ Rata Peaks 75.68 135 *e*P **P** **11 38 48.2 +0.1**
comp=Z,569nm,2.8s
RPZ Rata Peaks 75.68 135 P **P** **11 38 48.3 +0.1**
comp=Z,24nm,0.7s,baz=251,slow=4.3,SNR=19
MOS Moscow 75.83 329 *e*P **P** **11 38 48.0 -0.7**
OBN Obninsk 76.13 328 *e*P **P** **11 38 49.0 -1.4**

OBN *i* 11 38 56.6
OBN *i* 11 39 05.4
OBN pmax pmax
comp=Z,23nm,1.0s
TIRR Tirgusor 77.66 316 ⇓P P 11 38 59.3 +0.1
TIRR Tirgusor 77.66 316 ⇓⇓P P 11 38 59.3 +0.1
HARR Harsova 78.05 316 ⇑P P 11 39 02.0 +0.6
HARR Harsova 78.05 316 ⇑⇑P P 11 39 02.0 +0.6
SYO Syowa Base 78.12 199⇑*e*P P 11 39 01.4 +0.1
AKASG Malin Array Be 78.80 322*c*e*P P 11 39 04.6 -0.8
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 78.80 322 P P 11 39 04.7 -0.8
AKASG Malin Array Be 78.80 322 P P 11 39 04.7 -0.8
comp=Z,3.5nm,0.7s,baz=84,slow=5.2,SNR=15
KIEV Kiev 78.81 322 *e*P P 11 39 04.6 -0.9
KIEV pmax pmax
comp=Z,13nm,1.4s
KIEV Kiev 78.81 322 *e*P P 11 39 04.5 -0.9
comp=Z,13nm,1.4s
VRI Vrincioaia 79.15 317 ⇑P P 11 39 08.3 +0.7
VRI Vrincioaia 79.15 317 ⇑⇑P P 11 39 08.3 +0.7
PLOR Plostina 79.20 317 ⇑P P 11 39 08.6 +0.7
PLOR Plostina 79.20 317 ⇑⇑P P 11 39 08.6 +0.7
TMCR Tamitsa 79.32 337 *e*P P 11 39 08.2 +0.2
TMCR *e* 11 39 15.2
TMCR pmax pmax
comp=Z,24nm,1.0s
TESR Tescani 79.36 318 ⇑⇑P P 11 39 09.1 +0.5
PRAR RASCA 79.84 319 ⇑⇑P P 11 39 11.7 +0.5
VOIR 80.20 317 ⇑P P 11 39 13.0 -0.4
VOIR 80.20 317 ⇑⇑P P 11 39 13.0 -0.4
ARR Arges 80.48 316 ⇑⇑P P 11 39 14.7 -0.1
BURAR Bucovina Array 80.56 319 ⇓P P 11 39 16.3 +1.0
BURAR Bucovina Array 80.56 319 ⇓⇓P P 11 39 16.3 +1.0
BUR08 Bucovina Ar. S 80.58 319 *e*P P 11 39 16.3 +1.0
VTS Vitosha 80.94 313 ⇑P P 11 39 17.4 -0.1
VTS Vitosha 80.94 313 ⇑⇑P P 11 39 17.4 -0.1
PUL Pulkovo 80.97 331*c*e*P P 11 39 17.6 +0.6
DEV Deva 81.77 317 ⇓P P 11 39 22.9 +1.3
DEV Deva 81.77 317 ⇓⇓P P 11 39 22.9 +1.3
LVV L'vov 81.81 321 *e*P P 11 39 21.7 0.0
DRGR 82.07 318 ⇑P P 11 39 24.0 +0.8
DRGR 82.07 318 ⇑⇑P P 11 39 24.0 +0.8
VSU Vasula 82.34 330*d*e*P P 11 39 24.7 +0.4
VSU pmax pmax
comp=Z,140nm,1.7s
BZS Buzias 82.61 316 ⇑P P 11 39 26.4 +0.4
BZS Buzias 82.61 316 ⇑⇑P P 11 39 26.4 +0.4
KWP Kalwaria Pacla 82.61 320 *e*P P 11 39 27.1 +1.2
KWP pmax pmax
comp=Z,11nm,0.8s
KWP Kalwaria Pacla 82.61 320 *e*P P 11 39 27.1 +1.2
comp=Z,11nm,0.8s
UZH Uzhgorod 82.69 319 *e*P P 11 39 27.3 +1.0
UZH *e* 11 39 32.9
VNDA Vanda 82.70 169 *e*P P 11 39 25.9 +0.1
comp=Z,9.6nm,1.4s
VNDA Vanda 82.70 169 P P 11 39 26.5 +0.6
comp=Z,3.5nm,1.0s,baz=302,slow=5.1,SNR=15
KOLS Kolonicke sedl 82.76 320 *e*P P 11 39 28.1 +1.3
KOLS pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 82.76 320 *e*P P 11 39 28.0 +1.3
SUW Suwalki 83.21 325 *e*P P 11 39 28.8 -0.1
SUW pmax pmax
comp=Z,65nm,1.0s
SUW Suwalki 83.21 325 *e*P P 11 39 28.8 -0.1
comp=Z,65nm,1.0s
CRVS Cervenica-Dubn 83.28 319 *e*P P 11 39 30.1 +0.7
CRVS pmax pmax
comp=Z,8.0nm,1.1s
CRVS Cervenica-Dubn 83.28 319 *e*P P 11 39 30.1 +0.7
FINES FINESS Array B 83.46 332 P P 11 39 30.4 +0.4
FINES FINESS Array B 83.46 332 P P 11 39 30.4 +0.4
comp=Z,9.1nm,0.7s,baz=104,slow=6.4,SNR=40
STHS Stebnicka Huta 83.51 320 *e*P P 11 39 32.1 +1.5
STHS pmax pmax
comp=Z,10.0nm,0.8s
STHS Stebnicka Huta 83.51 320 *e*P P 11 39 32.1 +1.5
KAF Kangasniemi 83.54 333 *e*P P 11 39 29.5 -0.9
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 83.54 333 *e*p P 11 39 29.5 -0.9
comp=Z,1.6nm,0.4s
SBA Scott Base 83.80 169 *e*P P 11 39 32.7 +1.2
SBA pmax pmax
comp=Z,7.0nm,0.9s
SBA Scott Base 83.80 169 *e*P P 11 39 32.7 +1.2
comp=Z,7.2nm,0.9s
KECS Kecovo 83.85 319 *e*P P 11 39 32.8 +0.5
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 83.85 319 *e*P P 11 39 32.8 +0.5
PSZ Piszkesteto 84.15 318 ⇓P P 11 39 35.0 +1.0
PSZ Piszkesteto 84.15 318 ⇓⇓P P 11 39 35.0 +1.0
PSZ Piszkesteto 84.15 318 *e*P P 11 39 34.1 +0.2
comp=Z,5.9nm,0.8s
OJC Ojcow 84.57 321 *e*P P 11 39 36.7 +0.8
OJC Ojcow 84.57 321 *e*P P 11 39 36.7 +0.8
PKSM Moragy 84.75 316 ⇓P P 11 39 35.9 -1.0
PKSM Moragy 84.75 316 ⇓⇓P P 11 39 35.9 -1.0
OKC Ostrava-Krasne 85.56 320 *e*P P 11 39 41.9 +1.0
OKC *e* 11 39 48.8
OKC Ostrava-Krasne 85.56 320 *e*P P 11 39 41.9 +1.0
OKC *e*pP **pP 11 39 48.8 -2.6**
ARCES ARCESS Array B 85.87 340 P P 11 39 42.8 +0.7
ARCES ARCESS Array B 85.87 340 P P 11 39 42.8 +0.7
comp=Z,17nm,0.9s,baz=90,slow=4.9,SNR=18
CEL Celeste 85.89 308 *e*P P 11 39 43.5 +0.6
comp=Z,16nm,0.9s
MORC Moravsky Berou 85.94 320 *e*P P 11 39 43.2 +0.3
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 85.94 320 *e*P P 11 39 43.2 +0.3
comp=Z,6.2nm,0.9s
ZST Bratislava 86.04 318 *e*P P 11 39 44.9 +1.6
ZST Bratislava 86.04 318 *e*P P 11 39 44.9 +1.6
DPC Dobruska-Polom 86.79 320 *e*P P 11 39 47.7 +0.6
DPC pmax pmax
comp=Z,41nm,0.9s
DPC Dobruska-Polom 86.79 320 *e*P P 11 39 47.6 +0.6
DPC *e*pP **pP 11 39 55.0 -2.5**
DPC Dobruska-Polom 86.79 320 *e*P P 11 39 47.7 +0.6
comp=Z,41nm,0.9s
KSP Ksiaz 86.87 321 *e*P P 11 39 48.6 +1.3
UPC Upice 87.01 321 *e*P P 11 39 43.3 -4.7
UPC *e* 11 39 49.1
UPC Upice 87.01 321 *e*P P 11 39 49.1 +1.1
BOJS Bojanci 87.03 316 *i* P P 11 39 48.7 +0.5
BOJS *i* 11 39 55.3
PERS Pernice 87.22 317 *i* P P 11 39 49.9 +0.7
PDKS Podkum 87.25 316 *i* P P 11 39 50.4 +1.1
SOKA Soboth 87.28 317 ⇑⇑P P 11 39 50.3 +0.8
comp=Z,11nm,1.0s,SNR=8.8
VISS Visnje 87.34 316 *i* P P 11 39 50.3 +0.5
JAVS Javornik 87.89 316 *i* P P 11 39 52.8 +0.3
PRU Pruhonice 87.90 320 *e*P P 11 39 53.2 +0.9
PRU *e* 11 40 00.3
PRU Pruhonice 87.90 320 *e*P P 11 39 53.2 +0.9
PRU *e*pP **pP 11 40 00.3 -2.5**
BRG Berggiesshubel 88.35 321 *i* P P 11 39 55.3 +0.8
comp=Z,14nm,1.2s
BRG *e* 11 40 02.4
comp=Z,11nm,1.5s
BRG Berggiesshubel 88.35 321 *e*P P 11 39 55.7 +1.3
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 88.35 321 *i* P P 11 39 55.3 +0.8
BRG *e* 11 40 02.4
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.5s
GEC2 GERESS Array S 88.35 319 *e*P P 11 39 55.6 +0.9
comp=Z,9.0nm,1.1s
GEC2 GERESS Array S 88.35 319 *e*P P 11 39 55.6 +0.9
GEC2 pmax pmax
comp=Z,9.0nm,1.1s
GERES GERESS Array B 88.35 319 P P 11 39 55.5 +0.9
GERES GERESS Array B 88.35 319 P P 11 39 55.5 +0.9
comp=Z,4.9nm,0.9s,baz=101,slow=4.2,SNR=30
QSPA South Pole Qui 88.41 180 *e*P P 11 39 55.3 +0.7
comp=Z,12nm,1.0s

KHC Kasperske Hory 88.46 319 *e*P P 11 39 55.7 +0.6
KHC pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 88.46 319 *e*P P 11 39 55.7 +0.6
KHC *e*pP **pP 11 40 02.0 -3.5**
KHC Kasperske Hory 88.46 319 *e*P P 11 39 55.7 +0.6
comp=Z,1.8nm,0.7s
RJOB Jochberg 88.88 318 *e*P P 11 39 57.4 +0.3
comp=Z,4.0nm,0.8s
WET Wettzell 88.92 319 *e*P P 11 39 58.2 +1.0
WET *e*pP **pP 11 40 04.7 -3.0**
WET Wettzell 88.92 319 *e*P P 11 39 58.2 +1.0
WET *e**PP **pP 11 40 04.7 -3.0**
CLL Collm 88.97 321 *e*P P 11 39 57.5 +0.1
comp=Z,7.0nm,0.9s
CLL Collm 88.97 321 ⇓⇓P P 11 39 58.0 +0.6
CLL *i* 11 40 04.8
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 88.97 321 ⇓⇓P P 11 39 58.0 +0.6
comp=Z,11nm,1.0s
CLL *i*pP **pP 11 40 04.8 -3.1**
NKC Novy Kostel 89.26 320 *e*P P 11 40 00.1 +1.3
NKC *e* 11 40 06.9
NKC Novy Kostel 89.26 320 *e*P P 11 40 00.1 +1.3
NKC *e*pP **pP 11 40 06.9 -2.4**
TANN Tannenbergstha 89.26 320 *e*P P 11 39 59.8 +1.0
comp=Z,3.0nm,0.9s
ROTZ Rotzenmuhle 89.39 320 *e*P P 11 39 59.9 +0.5
comp=Z,5.0nm,0.9s
ROTZ *e*pP **pP 11 40 06.3 -3.6**
MANZ Manzenberg 89.47 320 *e*P P 11 40 01.3 +1.5
comp=Z,9.0nm,0.9s
WTTA Wattenberg 89.64 317 *i* P P 11 40 00.9 0.0
comp=Z,8.6nm,0.9s,SNR=5.0
NEUB Neuenburg 89.74 321 *e*P P 11 40 01.5 +0.6
comp=Z,15nm,0.8s
MOX Moxa 89.81 320 *e*P P 11 40 02.4 +1.1
comp=Z,5.0nm,1.0s
MOX Moxa 89.81 320 *e*P P 11 40 02.4 +1.1
MOX pmax pmax
comp=Z,5.0nm,1.0s
MOTA Moosalm 90.01 317 ⇑⇑P P 11 40 02.5 0.0
comp=Z,14nm,1.0s,SNR=9.5
GRF Grafenberg Arr 90.02 320 *e*P P 11 40 03.9 +1.5
comp=Z,10.0nm,0.9s
GRF Grafenberg Arr 90.02 320 *e*P P 11 40 03.9 +1.5
GRF pmax pmax
comp=Z,10.0nm,0.9s
FETA Feichten 90.25 317 ⇓⇓P PcP PcP 11 40 04.4 -0.4
comp=Z,8.4nm,1.0s,SNR=5.3
NB2 NORSAR Subarra 90.49 331 P P 11 40 04.2 -0.1
comp=Z,1.3nm,0.7s,baz=97,slow=4.6
NOA NORSAR Array B 90.49 331 P P 11 40 03.0 -1.3
NOA NORSAR Array B 90.49 331 P P 11 40 03.0 -1.3
comp=Z,3.0nm,0.9s,baz=93,slow=4.6,SNR=4.3
DAVA Damuels 90.84 317 *i* PcP PcP 11 40 07.2 -0.3
comp=Z,19nm,1.0s,SNR=6.8
UBBA Unterbreizbach 90.84 321 *e*P P 11 40 06.9 +0.9
comp=Z,2.0nm,0.9s
KEST Kesra 90.98 306 *e*P P 11 40 08.9 +1.7
KEST Kesra 90.98 306 P P 11 40 09.5 +2.3
comp=Z,6.8nm,0.9s,baz=335,slow=2.3,SNR=13
KBS Kingsbay 91.03 349*d*e*P P 11 40 06.0 -0.5
KBS pmax pmax
comp=Z,7.0nm,0.8s
KBS Kingsbay 91.03 349 *e*P P 11 40 05.9 -0.5
comp=Z,6.9nm,1.0s
TUE Stuetta 91.19 316 *e*P P 11 40 08.3 +0.2
comp=Z,6.3nm,1.1s
PGF Pioggiola 91.37 312 *e*P P 11 40 09.3 +0.4
comp=Z,40nm,1.3s
TNS Taunus Mts 91.83 320 *e*P P 11 40 11.9 +1.1
comp=Z,6.0nm,0.8s
TNS *e*pP **pP 11 40 18.5 -2.8**
TNS Taunus Mts 91.83 320 *e*P P 11 40 11.9 +1.1
TNS *e**PP **pP 11 40 18.5 -2.8**
TNS pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 91.90 318 *e*P P 11 40 11.5 +0.4
comp=Z,3.0nm,0.9s
BFO Black Forest 91.90 318 *e*P P 11 40 11.5 +0.4
BFO pmax pmax
comp=Z,3.0nm,0.9s
BFO Black Forest 91.90 318 *e*P P 11 40 11.6 +0.4
comp=Z,9.8nm,1.4s
SNAA Sanae 92.40 198 *e*P P 11 40 14.2 +1.1
comp=Z,6.5nm,1.4s
SBF Sospel 92.52 314 *e*P P 11 40 14.1 -0.1
comp=Z,41nm,1.0s
CDF Champ du Feu 92.60 318 *e*P P 11 40 14.4 0.0
comp=Z,8.1nm,1.1s
ECH Echery 92.68 318 *e*P P 11 40 15.5 +0.8
ECH pmax pmax
comp=Z,7.0nm,1.2s
ECH Echery 92.68 318 *e*P P 11 40 15.5 +0.8
comp=Z,6.6nm,1.2s
MBDF Montbardon 92.99 315 *e*P P 11 40 15.8 -0.6
comp=Z,4.3nm,0.9s
LPG La Plagne 93.00 315 *e*P P 11 40 16.9 +0.3
comp=Z,6.2nm,0.7s
LPL La Plagne 93.01 315 *e*P P 11 40 16.9 +0.3
comp=Z,10nm,0.9s
FRF La Foret Royal 93.10 313 *e*P P 11 40 16.9 +0.2
comp=Z,32nm,1.2s
HAU Haudompre 93.23 318 *e*P P 11 40 17.2 -0.1
comp=Z,15nm,1.1s
CABF La Chapelle 93.44 316 *e*P P 11 40 18.7 +0.3
comp=Z,16nm,1.2s
SMRF Simiane la Rot 93.87 314 *e*P P 11 40 21.1 +0.8
comp=Z,15nm,1.4s
SFTF Sexfontaines 94.10 318 *e*P P 11 40 21.3 +0.1
comp=Z,18nm,0.9s
VIVF Saint-Julien-l 94.48 315 *e*P P 11 40 23.2 +0.1
comp=Z,4.1nm,0.8s
BAIF Baives 94.56 320 *e*P P 11 40 23.7 +0.4
comp=Z,12nm,1.1s
LOR Lormes 94.94 317 *e*P P 11 40 25.2 +0.1
comp=Z,12nm,1.1s
SMF Signal de Mont 94.98 317 *e*P P 11 40 25.2 -0.1
comp=Z,11nm,1.2s
AVF Avril sur Loir 95.31 317 *e*P P 11 40 26.9 +0.1
comp=Z,5.7nm,1.0s
BGF Bois d'Agland 95.67 316 *e*P P 11 40 28.8 +0.3
CAF Calviac 96.33 315 *e*P P 11 40 32.0 +0.4
comp=Z,7.1nm,1.1s
MTLF Montolieu 96.33 313 *e*P P 11 40 31.7 +0.1
TORD Torodi Ar. Bea 97.91 283 P P 11 40 39.1 -0.2
TORD Torodi Ar. Bea 97.91 283 P P 11 40 39.1 -0.2
comp=Z,0.7nm,0.9s,baz=93,slow=3.3,SNR=3.9
GRR Gorron 98.01 319 *e*P P 11 40 39.0 0.0
comp=Z,15nm,1.2s
IMA2 Indian Mountai 98.21 23 *e*P Pdif 11 40 39.9 +0.2
EDM Edmonton 121.78 23 *e*PKIKP PKPdf 11 45 56.0 -0.7
EDM Edmonton 121.78 23 *e*PKPdf PKPdf 11 45 56.0 -0.7
SWMT Swartz Lake 125.82 27 *e*PKPdf PKPdf 11 46 04.5 -0.2
SLMT Seeley Lake 126.25 27 *e*PKPdf PKPdf 11 46 05.1 -0.5
WVOR Wild Horse Val 126.91 35 *e*PKIKP PKPdf 11 46 07.7 +0.7
WVOR Wild Horse Val 126.91 35 *e*PKPdf PKPdf 11 46 07.7 +0.7
DLMT Dillon 128.05 28 *e*PKPdf PKPdf 11 46 10.1 +1.0
BOZ Bozeman (W) 128.29 27 *e*PKIKP PKPdf 11 46 10.4 +0.9
BOZ Bozeman (W) 128.29 27 *e*PKPdf PKPdf 11 46 10.4 +0.9
HLID Hailey 128.45 31 *e*PKPdf PKPdf 11 46 11.4 +1.4
NVAR Mina Array Bea 129.59 39 PKP PKPdf 11 46 14.1 +1.7
NVAR Mina Array Bea 129.59 39 PKP PKPdf 11 46 14.1 +1.7
comp=Z,1.6nm,0.8s,baz=278,slow=1.8,SNR=12
ULM Lac du Bonnet 129.76 13 PKP PKPdf 11 46 11.6 -0.4
ULM Lac du Bonnet 129.76 13 PKP PKPdf 11 46 11.6 -0.4
comp=Z,4.3nm,0.8s,baz=26,slow=3.7,SNR=3.9
SNOW Snow King Moun 130.35 29 *e*PKPdf PKPdf 11 46 15.1 +1.4
REDW Red Top Meadow 130.38 29 *e*PKPdf PKPdf 11 46 14.4 +0.8
R11A Troy Canyon, C 131.31 37 *e*PKPdf PKPdf 11 46 17.2 +1.7
HWUT Hardware Ranch 131.32 31 *e*PKPdf PKPdf 11 46 15.3 -0.1
PDAR Pinedale Array 131.45 28 PKP PKPdf 11 46 15.9 +0.2
PDAR Pinedale Array 131.45 28 PKP PKPdf 11 46 15.9 +0.2
comp=Z,1.0nm,0.6s,baz=258,slow=0.7,SNR=11
DUG Dugway 131.66 33 *e*PKIKP PKPdf 11 46 16.7 +0.6
DUG Dugway 131.66 33 *e*PKPdf PKPdf 11 46 16.6 +0.6
RSSD Black Hills 132.76 23 *e*PKIKP PKPdf 11 46 16.3 -1.8
RSSD Black Hills 132.76 23 *e*PKPdf PKPdf 11 46 16.3 -1.8
MSU Marysvale 133.19 34 *e*PKIKP PKPdf 11 46 20.2 +1.1
MSU Marysvale 133.19 34 *e*PKPdf PKPdf 11 46 20.2 +1.1
PHWY Pilot Hill 134.49 26 *e*PKPdf PKPdf 11 46 20.6 -0.9
ECSD EROS Data Cent 135.63 17 *e*PKPdf PKPdf 11 46 22.6 -0.7
MVCO Mesa Verde 136.15 33 *e*PKPdf PKPdf 11 46 25.8 +1.0

ANMO Albuquerque 138.94 33 *e*PKPdf PKPdf 11 46 29.0 -0.9
BINY Binghamton 139.33 355 *e*PKPdf PKPdf 11 46 30.6 +0.5
KSU1 Kansas State U 139.85 20 *e*PKPdf PKPdf 11 46 30.9 -0.3
MSTX Muleshoe 141.63 30 *e*PKPdf PKPdf 11 46 34.2 -0.5
MNTX Cornudas Mount 141.94 36 *e*PKPdf PKPdf 11 46 35.3 +0.1
BDFB Brasilia 143.59 241 PKP PKPbc 11 46 37.2 +1.3
BDFB Brasilia 143.59 241 PKP PKPbc 11 46 37.2 +1.3
comp=Z,8.6nm,1.2s,baz=47,slow=1.9,SNR=4.6
CPUP Villa Florida 144.35 217 *e*PKPdf PKPbc 11 46 38.5 +0.7
CPUP PKP **PKPdf 11 46 38.6 -0.9**
CPUP Villa Florida 144.35 217 PKP PKPbc 11 46 38.6 +0.8
comp=Z,24nm,0.7s,baz=111,slow=2.8,SNR=59
BLA Blacksburg 144.51 360 *e*PKIKP PKPab 11 46 36.9 -1.0
BLA Blacksburg 144.51 360 *e*PKPdf PKPab 11 46 36.9 -1.0
TXAR Lajitas Array 144.67 36 PKP PKPdf 11 46 39.6 -0.6
TXAR Lajitas Array 144.67 36 PKP PKPdf 11 46 39.6 -0.6
comp=Z,16nm,0.7s,baz=276,slow=2.3,SNR=145
WVT Waverly 144.94 10 *e*PKIKP PKPab 11 46 38.9 -0.5
WVT Waverly 144.94 10 *e*PKPdf PKPab 11 46 38.9 -0.5
MIAR Mount Ida 144.99 19 *e*PKIKP PKPbc 11 46 39.7 0.0
MIAR Mount Ida 144.99 19 *e*PKPdf PKPbc 11 46 39.7 0.0
CFAA Coronel Fontan 145.02 198 PKPbc PKPdf 11 46 40.8 +0.2
CFAA Coronel Fontan 145.02 198 PKPbc PKPdf 11 46 40.8 +0.2
comp=Z,5.5nm,0.6s,baz=171,slow=3.0,SNR=97
TZTN Tazewell 145.07 4 *e*PKPdf PKPbc 11 46 39.4 -0.5
UALR University of 145.16 17 *e*PKPdf PKPbc 11 46 39.8 -0.4
JCT Junction City 145.92 31 *e*PKP2 PKPbc 11 46 42.7 -0.1
JCT Junction City 145.92 31 *e*PKPdf PKPbc 11 46 42.7 -0.1
TKL Tuckaleechee C 145.93 5 *e*PKPdf PKPdf 11 46 42.0 -0.1
TKL PKPbc **PKPdf 11 46 42.2 +0.2**
TKL Tuckaleechee C 145.93 5 PKPbc PKPdf 11 46 42.2 +0.2
comp=Z,28nm,0.8s,baz=115,slow=1.9,SNR=43
CPCT Cooper Cave 146.07 6 *e*PKPdf PKPdf 11 46 42.5 +0.2
OXF Oxford 146.18 13 *e*PKP2 PKPdf 11 46 42.3 -0.2
OXF Oxford 146.18 13 *e*PKPdf PKPdf 11 46 42.2 -0.2
CNNC Cliffs of the 146.39 356 *e*PKPdf PKPbc 11 46 44.0 0.0
KMSC Kings Mountain 146.57 1 *e*PKPdf PKPbc 11 46 43.9 -0.7
LRAL Lakeview Retre 148.10 10 *e*PKPbc PKPbc 11 46 47.9 -1.0
HKT Hockley 148.24 26 *e*PKP2 PKPbc 11 46 49.5 +0.3
HKT Hockley 148.24 26 *e*PKPbc PKPbc 11 46 49.5 +0.3
LPAZ La Paz 158.45 214 PKP PKPdf 11 47 01.4 -0.4
LPAZ *e*PKPdf **PKPdf 11 47 02.3 +0.5**
LPAZ La Paz 158.45 214 PKP PKPdf 11 47 01.4 -0.4
comp=Z,1.7nm,0.9s,baz=33,slow=1.6,SNR=6.0
TEIG Tepich 159.96 22 PKP PKPdf 11 47 01.7 -1.0
TEIG Tepich 159.96 22 PKP PKPdf 11 47 01.7 -1.0
comp=Z,15nm,1.1s,baz=29,slow=19,SNR=3.3

IDC 16 11:27:41.1±1.2, 1°.46S×99°.66E, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.0/23, mbtmp4.4/4, MS4.0/1, Ms1 4.0/1, ms1mx3.0/46, Error ellipse: s-maj=74.3km s-min=25.8km az=46.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**27.22**	**72**	LR	LR	11 44 59.2	
	comp=Z,270nm,18.9s,baz=217,slow=38						
WRA	**Warramunga Arr**	**38.56**	**121**	P	P	11 35 06.1	+0.1
	4.0nm,0.6s,baz=301,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**39.84**	**126**	P	P	11 35 16.4	-0.4
	4.7nm,0.8s,baz=303,slow=7.9,SNR=2.9						
MKAR	**Makanchi Array**	**50.42**	**345**	P	P	11 36 40.7	+0.3
	6.2nm,0.7s,baz=150,slow=8.0,SNR=3.6						
GERES	**GERESS Array B**	**88.42**	**319**	P	P	11 40 34.9	-0.5
	2.1nm,1.1s,baz=90,slow=6.7,SNR=3.4						
TXAR	**Lajitas Array**	**144.48**	**37**	PKP	PKPbc	11 47 19.6	+0.7
	4.0nm,0.7s,baz=222,slow=1.7,SNR=3.6						
CPUP	**Villa Florida**	**144.54**	**217**	PKP	PKPab	11 47 18.9	+0.1
	3.0nm,0.7s,baz=166,slow=3.6,SNR=3.4						
CFAA	**Coronel Fontan**	**145.16**	**198**	PKPbc	PKPbc	11 47 20.9	-0.1
	1.0nm,0.7s,baz=191,slow=2.4,SNR=3.9						

IDC 16 11:31:31.3±1.0, 1°.55S×99°.60E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/25, mbtmp4.1/10, ML4.5/1, Error ellipse: s-maj=39.1km s-min=18.3km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.89**	**358**	P	P	11 36 04.5	0.0
	0.5nm,0.3s,baz=188,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	11 38 55.9	-0.3
	2.3nm,0.5s,baz=302,slow=9.1,SNR=18						
ASAR	**Alice Springs**	**39.84**	**126**	P	P	11 39 07.2	+0.3
	1.7nm,0.6s,baz=301,slow=7.9,SNR=11						
KSRS	**Korea Array**	**46.85**	**31**	P	P	11 40 02.9	-0.3
	1.1nm,0.7s,baz=219,slow=8.7,SNR=6.5						
SONM	**Songino Array**	**49.54**	**6**	P	P	11 40 24.4	+0.3
	1.6nm,0.6s,baz=196,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	11 40 31.7	+0.5
	1.7nm,0.6s,baz=154,slow=8.1,SNR=11						
USRK	**Ussuriysk Arra**	**53.96**	**28**	P	P	11 40 56.3	-0.6
	2.3nm,0.7s,baz=234,slow=8.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**55.01**	**344**	P	P	11 41 04.6	+0.2
	1.0nm,0.7s,baz=160,slow=6.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.66**	**350**	P	P	11 41 16.1	-0.1
	1.9nm,0.6s,baz=190,slow=7.5,SNR=6.2						
FINES	**FINESS Array B**	**83.53**	**332**	P	P	11 44 00.3	-0.7
	3.8nm,0.9s,baz=137,slow=8.9,SNR=3.6						
CPUP	**Villa Florida**	**144.44**	**217**	PKP	PKPab	11 51 08.6	0.0
	2.3nm,0.7s,baz=145,slow=3.4,SNR=5.0						
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPab	11 51 09.3	0.0
	0.6nm,0.4s,baz=284,slow=1.8,SNR=11						
CFAA	**Coronel Fontan**	**145.06**	**198**	PKPbc	PKPbc	11 51 10.6	-0.2
	0.6nm,0.6s,baz=158,slow=3.6,SNR=8.1						

IDC 16 11:33:36.8±6.1, 1°.31S×99°.73E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.3/23, mbtmp3.6/2, Error ellipse: s-maj=313.1km s-min=33.4km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	11 41 01.8	0.0
	0.3nm,0.6s,baz=298,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**50.30**	**344**	P	P	11 42 35.4	+0.2
	1.1nm,0.7s,baz=147,slow=8.4,SNR=4.6						
TXAR	**Lajitas Array**	**144.31**	**36**	PKP	PKPbc	11 53 14.1	+0.1
	0.5nm,0.6s,baz=306,slow=2.4,SNR=4.4						

---

*ISCJB **16** 11:33:52.9±0.7, 15°.05N±0°.03×60°.55W±0°.09, h70km±6km, mb3.6/7, Error ellipse: s-maj=15.4km s-min=3.6km az=170.7*
*IDC **16** 11:33:52.6±1.9, 15°.03N×60°.65W, h47km±7km, mb3.5/7, mb1 3.8/7, mb1mx3.5/26, mbtmp3.5/7, Error ellipse: s-maj=53.7km s-min=4.1km az=86.0*
*TRN **16** 11:33:52.2, 15°.07N×60°.52W, h34km, MD3.9, M3.9(FDF)*
TRN Felt Saint Lucia andMartinique.

ISC 16 11:33:53.3±1.6, 15°.07N±0°.04×60°.5W±0°.1, h57km±13km, n43, σ0°.85/56, mb4.0/7, 2C-16D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**0.69**	**241**	⇓*i*P	**Pn**	**11 34 06.7**	**-0.6**
FDF				*e*S	**Sn**	**11 34 16.6**	**-0.9**
DBCT	**Belle View Cho**	**0.82**	**285**	⇑*e*P	**Pn**	**11 34 09.6**	**+0.6**
DBCT				*e*S	**Sn**	**11 34 21.1**	**+0.7**
DSHT	**Scott's Head**	**0.83**	**280**	⇓*e*P	**Pn**	**11 34 09.8**	**+0.7**
DPMT	**Pointe Michel**	**0.84**	**283**	⇓*e*P	**Pn**	**11 34 10.0**	**+0.7**
MDN	**Morne-Daniel**	**0.87**	**287**	⇓*e*P	**Pn**	**11 34 10.7**	**+1.1**
MDN				*e*S	**Sn**	**11 34 22.7**	**+1.1**
MGG	**Marie-Galante**	**1.14**	**318**	⇓⇓*i*P	**Pn**	**11 34 12.9**	**-0.2**
TBG	**Guadaloupe-3**	**1.33**	**306**	⇓⇓*i*P	**Pn**	**11 34 15.6**	**-0.1**
DEG	**La Desirade**	**1.34**	**338**	*e*P	**Pn**	**11 34 15.9**	**0.0**
SFG	**Saint Francois**	**1.35**	**331**	*e*P	**Pn**	**11 34 15.6**	**-0.3**
MCLT	**Moule a Chique**	**1.41**	**197**	*e*P	**Pn**	**11 34 17.2**	**+0.4**
MCLT				*e*S	**Sn**	**11 34 34.7**	**+0.4**
DOG	**Dongo Capester**	**1.43**	**313**	⇓⇓*i*P	**Pn**	**11 34 17.2**	**+0.2**
PHG	**Guadaloupe-2**	**1.43**	**311**	⇓⇓*i*P	**Pn**	**11 34 17.4**	**+0.2**
HMG	**Houelmont**	**1.45**	**309**	⇓⇓*i*P	**Pn**	**11 34 17.7**	**+0.3**
ECG	**Echelle**	**1.46**	**312**	⇓⇓*i*P	**Pn**	**11 34 17.7**	**+0.1**
LKG	**Breislack**	**1.46**	**312**	⇓⇓*i*P	**Pn**	**11 34 17.7**	**+0

MLG	**Mont-d'or**	**1.51 311**	‖*P*	**Pn**	**11 34 18.4**	**+0.2**
LZG	**Guadaloupe-1**	**1.61 312**	‖*eP*	**Pn**	**11 34 19.8**	**+0.3**
SEG	**Port Louis**	**1.63 325**	*eP*	**Pn**	**11 34 20.4**	**+0.6**
SVB	**Belmont**	**1.92 202**	*eP*	**Pn**	**11 34 23.3**	**-0.4**
SVB	**Belmont**	**1.92 202**	‖*eP*	**Pn**	**11 34 23.3**	**-0.4**
SVB			*eS*	**Sn**	**11 34 46.1**	**-0.6**
ANWB	**Willy Bob**	**2.86 335**	*eP*	**Pn**	**11 34 37.2**	**+0.7**
GRSS	**Sisters**	**2.95 201**	*eP*	**Pn**	**11 34 39.3**	**+1.6**
GRSS			*eS*	**Sn**	**11 35 13.4**	**+1.5**
GRHS	**Sauteurs**	**3.03 201**	*eP*	**Pn**	**11 34 40.4**	**+1.6**
GRHS			*eS*	**Sn**	**11 35 14.1**	**+0.2**
GRW	**Mount Saint Ca**	**3.09 201**	*eP*	**Pn**	**11 34 40.4**	**+0.6**
GRW			*eS*	**Sn**	**11 35 15.8**	**+0.2**
SKI	**Saint Kitts**	**3.10 317**	*eP*	**Pn**	**11 34 41.0**	**+1.2**
SKI	**Saint Kitts**	**3.10 317**	*eP*	**Pn**	**11 34 41.8**	**+1.9**
SKI			*eS*	**Sn**	**11 35 17.3**	**+1.6**
GRGR	**Grenville**	**3.12 201**	*eP*	**Pn**	**11 34 40.4**	**+0.3**
TOSP	**Speyside**	**3.75 180**	*eP*	**Pn**	**11 34 50.9**	**+2.2**
TOSP			*eS*	**Sn**	**11 35 30.9**	**-0.6**
TRN	**Trinidad (W)**	**4.47 191**	*eP*	**Pn**	**11 34 59.9**	**+1.2**
TCE	**Chacachacare**	**4.50 196**	*eP*	**Pn**	**11 35 00.7**	**+1.6**
TBH	**Brigand Hill**	**4.58 187**	*eP*	**Pn**	**11 35 01.2**	**+1.0**
LPAZ	**La Paz**	**32.05 194**	P	**P**	**11 40 14.9**	**-0.6**
	2.1nm,0.8s,baz=9.7,slow=7.5,SNR=6.4					
TXAR	**Lajitas Array**	**42.15 297**	P	**P**	**11 41 39.8**	**-0.7**
	0.2nm,0.5s,baz=137,slow=6.9,SNR=7.8					
TXAR			PcP	**PcP**	**11 43 35.5**	**+1.3**
	0.1nm,0.4s,baz=123,slow=6.6,SNR=4.4					
CFAA	**Coronel Fontan**	**46.99 189**	P	**P**	**11 42 18.1**	**-0.9**
	0.2nm,0.5s,baz=338,slow=6.6,SNR=4.5					
PDAR	**Pinedale Array**	**50.12 314**	P	**P**	**11 42 43.2**	**0.0**
	1.1nm,0.7s,baz=119,slow=10,SNR=15					
NVAR	**Mina Array Bea**	**55.64 306**	P	**P**	**11 43 23.9**	**0.0**
	1.0nm,0.7s,baz=105,slow=5.9,SNR=8.2					
YKA	**Yellowknife Ar**	**60.53 334**	P	**P**	**11 43 57.0**	**-0.4**
	0.6nm,0.4s,baz=103,slow=7.4,SNR=5.1					
ILAR	**Eielson Array**	**74.95 334**	P	**P**	**11 45 28.1**	**-0.1**
	0.5nm,0.7s,baz=85,slow=4.6,SNR=7.0					

IDC 16 11:35:58.2±3.2, 31°.07S×177°.56W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.6/2, Error ellipse: s-maj=67.9km s-min=28.6km az=108.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.83**	**350**	Pn	Pn	11 36 31.8	+0.8
	113nm,0.3s,baz=342,slow=20,SNR=2.5						
RAO				Sn	Sn	11 36 54.5	-0.4
	26nm,0.3s,baz=90,slow=20,SNR=2.3						
ASAR	**Alice Springs**	**43.46**	**267**	P	P	11 44 03.0	-0.2
	0.3nm,0.4s,baz=110,slow=7.1,SNR=6.7						
WRA	**Warramunga Arr**	**44.51**	**273**	P	P	11 44 11.6	-0.1
	0.5nm,0.3s,baz=111,slow=8.1,SNR=28						
FINES	**FINESS Array B**	**145.90**	**340**	PKPbc	PKPdf	11 55 37.8	-0.4
	3.6nm,1.0s,baz=50,slow=3.0,SNR=7.4						

IDC 16 11:37:35.3±2.4, 1°.68S×99°.29E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/26, mbtmp3.6/7, ML2.6/1, Error ellipse: s-maj=106.2km s-min=18.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.47**	**355**	Pn	Pn	11 38 43.4	-1.2
	0.3nm,0.3s,baz=162,slow=20,SNR=2.1						
CMAR	**Chiang Mai Arr**	**20.02**	**359**	P	P	11 42 09.8	0.0
	0.4nm,0.2s,baz=189,slow=10.0,SNR=4.3						
WRA	**Warramunga Arr**	**38.77**	**120**	P	P	11 45 01.4	-0.5
	0.4nm,0.5s,baz=303,slow=9.1,SNR=7.7						
ASAR	**Alice Springs**	**40.02**	**126**	P	P	11 45 12.6	+0.3
	0.4nm,0.5s,baz=298,slow=8.0,SNR=8.9						
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	11 46 35.7	+0.2
	1.3nm,0.8s,baz=154,slow=9.0,SNR=9.0						
KURBB	**Kurchatov Arra**	**55.05**	**344**	P	P	11 47 08.2	-0.6
	0.1nm,0.4s,baz=165,slow=6.8,SNR=2.3						
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	11 47 20.6	-0.1
	0.6nm,0.3s,baz=198,slow=4.2,SNR=2.7						
TXAR	**Lajitas Array**	**144.88**	**36**	PKP	PKPdf	11 57 15.0	-0.4
	0.5nm,0.5s,baz=298,slow=3.7,SNR=12						

IDC 16 11:39:12.9±1.9, 1°.47S×99°.64E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=85.4km s-min=19.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.81**	**358**	P	Pn	11 43 46.3	-0.4
	0.1nm,0.3s,baz=186,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	11 46 37.6	-0.3
	1.3nm,0.5s,baz=302,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**39.86**	**126**	P	P	11 46 49.0	+0.4
	0.6nm,0.6s,baz=304,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**49.45**	**6**	P	P	11 48 03.9	-1.1
	0.7nm,0.5s,baz=181,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**50.42**	**345**	P	P	11 48 12.7	+0.4
	1.3nm,0.6s,baz=147,slow=8.1,SNR=9.7						
KURBB	**Kurchatov Arra**	**54.94**	**344**	P	P	11 48 45.8	+0.2
	0.7nm,0.9s,baz=164,slow=6.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	P	11 48 57.1	-0.2
	1.1nm,0.5s,baz=183,slow=6.5,SNR=4.2						
FINES	**FINESS Array B**	**83.47**	**332**	P	P	11 51 41.8	-0.5
	2.0nm,0.8s,baz=141,slow=9.0,SNR=3.4						
TXAR	**Lajitas Array**	**144.49**	**36**	PKP	PKPdf	11 58 51.6	-0.6
	1.3nm,0.6s,baz=256,slow=1.0,SNR=16						

IDC 16 11:49:02.1±1.1, 1°.63S×99°.47E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/26, mbtmp3.8/11, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/50, Error ellipse: s-maj=46.4km s-min=18.2km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.43**	**353**	Pn	Pn	11 50 10.8	0.0
	0.6nm,0.3s,baz=330,slow=20,SNR=2.9						
PSI				LR	LR	11 51 53.3	
	comp=Z,227nm,18.3s,baz=134,slow=40						
CMAR	**Chiang Mai Arr**	**19.97**	**359**	P	P	11 53 35.7	-0.4
	0.2nm,0.3s,baz=186,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**38.63**	**121**	P	P	11 56 27.1	-0.5
	0.3nm,0.2s,baz=233,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	11 56 38.6	+0.4
	0.4nm,0.5s,baz=296,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	11 58 02.5	+0.2
	0.6nm,0.4s,baz=160,slow=8.4,SNR=11						
USRK	**Ussuriysk Arra**	**54.09**	**29**	P	P	11 58 28.6	-0.1
	1.6nm,0.8s,baz=225,slow=5.4,SNR=4.1						
KURBB	**Kurchatov Arra**	**55.05**	**344**	P	P	11 58 35.2	-0.3
	0.8nm,0.8s,baz=161,slow=7.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**56.71**	**350**	P	P	11 58 46.9	-0.6
	1.2nm,0.4s,baz=193,slow=6.1,SNR=6.5						
KBZ	**Khabaz**	**67.68**	**319**	P	P	12 00 01.3	0.0
	1.3nm,0.6s,baz=99,slow=8.8,SNR=4.1						
FINES	**FINESS Array B**	**83.54**	**332**	P	P	12 01 31.8	-0.1
	3.9nm,1.0s,baz=90,slow=6.3,SNR=6.7						
GERES	**GERESS Array B**	**88.42**	**319**	P	P	12 01 57.1	+0.7
	0.2nm,0.5s,baz=14,slow=14,SNR=4.4						
CPUP	**Villa Florida**	**144.30**	**217**	PKP	PKPbc	12 08 40.0	+0.8
	0.3nm,0.3s,baz=92,slow=4.3,SNR=7.2						
TXAR	**Lajitas Array**	**144.72**	**36**	PKP	PKPbc	12 08 41.2	+0.6
	0.9nm,0.5s,baz=264,slow=1.3,SNR=17						
TKL	**Tuckaleechee C**	**146.01**	**5**	PKPbc	PKPdf	12 08 43.3	-0.5
	2.0nm,0.9s,baz=169,slow=5.2,SNR=2.8						

IDC 16 11:58:15.1±4.4, 0°.61S×100°.65E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=236.9km s-min=27.5km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.16**	**122**	P	P	12 05 36.8	+0.2
	0.2nm,0.5s,baz=299,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**39.56**	**128**	P	P	12 05 48.0	-0.4
	0.3nm,0.6s,baz=302,slow=8.0,SNR=5.9						
MKAR	**Makanchi Array**	**49.88**	**344**	P	P	12 07 10.4	+0.1
	0.4nm,0.4s,baz=142,slow=7.4,SNR=7.1						
TXAR	**Lajitas Array**	**143.21**	**37**	PKP	PKPbc	12 17 50.5	+1.4
	0.1nm,0.5s,baz=322,slow=9.5,SNR=2.2						

IDC 16 12:02:39.9±1.3, 1°.89S×99°.28E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/27, mbtmp3.8/11, ML2.8/1, MS3.4/1, Ms1 3.6/1, ms1mx2.6/43, Error ellipse: s-maj=54.4km s-min=14.9km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.67**	**356**	Pn	Pn	12 03 50.2	-1.6
	0.5nm,0.3s,baz=170,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**20.22**	**359**	P	P	12 07 16.9	+0.3
	0.8nm,0.5s,baz=185,slow=11,SNR=5.0						
CMAR				LR	LR	12 15 35.1	
	comp=Z,98nm,18.3s,baz=234,slow=38						
FITZ	**Fitzroy Crossi**	**30.47**	**124**	P	P	12 08 54.0	-0.7
	1.3nm,0.8s,baz=190,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**	**38.67**	**120**	P	P	12 10 04.7	-1.1
	2.0nm,0.7s,baz=302,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	12 10 16.3	+0.3
	1.4nm,0.8s,baz=297,slow=7.7,SNR=26						
STKA	**Stephens Creek**	**49.76**	**131**	P	P	12 11 35.5	+1.0
	6.7nm,1.1s,baz=315,slow=23,SNR=3.0						
SONM	**Songino Array**	**49.91**	**6**	P	P	12 11 35.5	+0.1
	0.7nm,0.6s,baz=170,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	**50.73**	**345**	P	P	12 11 42.1	+0.5
	0.8nm,0.6s,baz=152,slow=8.2,SNR=12						
KURBB	**Kurchatov Arra**	**55.24**	**344**	P	P	12 12 13.6	-1.1
	0.5nm,0.6s,baz=164,slow=7.3,SNR=5.0						
ZALV	**Zalesovo Beam**	**56.93**	**350**	P	P	12 12 25.9	-0.8
	1.0nm,0.4s,baz=182,slow=4.5,SNR=6.9						
BRTR	**Keskin Array B**	**72.72**	**313**	P	P	12 14 10.2	-0.1
	0.2nm,0.4s,baz=84,slow=4.5,SNR=2.8						
TXAR	**Lajitas Array**	**145.04**	**36**	PKPbc	PKPdf	12 22 20.0	-0.2
	0.9nm,0.6s,baz=298,slow=2.7,SNR=12						

IDC 16 12:06:01.4±4.8, 0°.43S×100°.97E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=264.3km s-min=27.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.98**	**123**	P	P	12 13 21.4	0.0
	0.2nm,0.4s,baz=299,slow=9.0,SNR=4.3						
ASAR	**Alice Springs**	**39.42**	**128**	P	P	12 13 33.4	-0.1
	0.4nm,0.8s,baz=306,slow=8.2,SNR=5.6						
MKAR	**Makanchi Array**	**49.80**	**343**	P	P	12 14 56.1	0.0
	0.2nm,0.4s,baz=140,slow=7.5,SNR=4.0						
TXAR	**Lajitas Array**	**142.87**	**37**	PKP	PKPdf	12 25 36.1	-1.8
	0.2nm,0.7s,baz=309,slow=4.4,SNR=3.0						

IDC 16 12:06:57.5±2.2, 34°.86S×179°.46W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/17, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=60.8km s-min=34.0km az=128.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.37**	**218**	Pn	Pn	12 08 04.8	-0.4
	3.5nm,0.3s,baz=10,slow=5.3,SNR=24						
URZ				Sn	Sn	12 08 56.6	-0.2
	5.8nm,0.3s,baz=323,slow=20,SNR=8.1						
RPZ	**Rata Peaks**	**11.49**	**217**	Pn	Pn	12 09 40.2	-2.6
	0.5nm,0.3s,baz=145,slow=10,SNR=3.1						
RPZ				Sn	Sn	12 11 37.8	-14
	0.4nm,0.3s,baz=336,slow=20,SNR=3.5						
ASAR	**Alice Springs**	**41.85**	**273**	P	P	12 14 49.8	+0.3
	1.2nm,0.8s,baz=113,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**43.25**	**278**	P	P	12 15 00.5	-0.3
	1.9nm,0.7s,baz=117,slow=7.7,SNR=16						
FINES	**FINESS Array B**	**148.82**	**336**	PKPbc	PKPbc	12 26 45.7	-0.5
	4.0nm,1.0s,baz=66,slow=6.5,SNR=7.9						
BRTR	**Keskin Array B**	**153.31**	**290**	PKPbc	PKPbc	12 26 57.3	-0.3
	0.4nm,0.5s,baz=243,slow=0.6,SNR=2.6						

IDC 16 12:07:02.9±4.6, 0°.53S×100°.83E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.5/3, Error ellipse: s-maj=249.5km s-min=28.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.05**	**123**	P	P	12 14 23.4	-0.2
	0.4nm,0.7s,baz=300,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**39.48**	**128**	P	P	12 14 35.5	+0.1
	0.3nm,0.6s,baz=302,slow=8.7,SNR=4.0						
MKAR	**Makanchi Array**	**49.85**	**343**	P	P	12 15 58.1	+0.2
	0.7nm,0.7s,baz=154,slow=9.3,SNR=5.2						
TXAR	**Lajitas Array**	**143.04**	**37**	PKP	PKPbc	12 26 37.3	+0.9
	0.1nm,0.4s,baz=275,slow=2.7,SNR=4.1						

IDC 16 12:13:14.1±6.0, 2°.21S×98°.56E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=284.1km s-min=28.4km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.13**	**119**	P	P	12 20 43.0	-0.7
	0.6nm,1.0s,baz=294,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**40.30**	**125**	P	P	12 20 53.8	+0.3
	0.3nm,0.9s,baz=301,slow=8.0,SNR=3.3						
MKAR	**Makanchi Array**	**50.86**	**346**	P	P	12 22 16.3	-0.4
	0.3nm,0.4s,baz=149,slow=9.7,SNR=4.3						
TXAR	**Lajitas Array**	**145.73**	**36**	PKPbc	PKPdf	12 32 55.5	-0.1
	0.1nm,0.6s,baz=290,slow=5.7,SNR=2.5						

IDC 16 12:14:44.6±5.6, 1°.62S×98°.98E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, Error ellipse: s-maj=272.2km s-min=26.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.06**	**120**	P	P	12 22 12.8	-1.0
	0.4nm,0.8s,baz=294,slow=10.0,SNR=3.3						
ASAR	**Alice Springs**	**40.30**	**126**	P	P	12 22 24.8	+0.7
	0.2nm,0.7s,baz=302,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**50.40**	**345**	P	P	12 23 43.6	-0.2
	0.1nm,0.3s,baz=173,slow=8.6,SNR=2.4						
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPab	12 34 23.4	-0.7
	0.4nm,0.8s,baz=276,slow=3.6,SNR=3.9						

*IDC **16** 12:15:35.7±0.6, 1°.54S×99°.36E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.1/30, mbtmp4.2/19, ML3.9/2, MS3.0/2, Ms1 3.2/2, ms1mx2.7/45, Error ellipse: s-maj=26.1km s-min=12.5km az=61.0*

*NEIC **16** 12:15:37.0±0.4, 1°.65S×99°.26E, h10km, mb4.5/11, Error ellipse: s-maj=11.9km s-min=6.7km az=63.0*

*ISCJB **16** 12:15:38.6±1.2, 1°.65S±0°.06×99°.20E±0°.06, h33km±10km, mb4.4/27, MS4.2/2, Error ellipse: s-maj=11.9km s-min=6.8km az=44.3*

*BJI **16** 12:15:41.0, 1°.60S×99°.30E, h45km, mB5.0/9, mb4.7/15, Ms4.6/6, Ms7 4.2/6*

*DJA **16** 12:15:46.9±1.1, 1°S±4°×9°9E±°, h25km±11km, M5.0/3, mb5.3/1, MLv4.9/3*

*BKK **16** 12:16:01.2±1.9, 1°S±16°×10°0E±°, h5km, M4.1/8, mB4.9/1, mb4.0/8, MLv4.2/6, Mw(mB)4.1/1*

ISC 16 12:15:40.4±0.6, 1°.77S±0°.04×99°.15E±0°.05, h35km±1km, n83, σ1°68/96, mb4.5/27, MS4.2/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.81**	**44**	P	**Pn**	**12 16 06.9**	**-2.2**
PPI				S	Sn	12 16 21.7	-9.1
SDSI	**Sungai Dareh**	**2.43**	**70**	S	**Sn**	**12 16 44.8**	**-1.3**
BKNI	**Bangkinang**	**2.81**	**42**	P	**Pn**	**12 16 21.3**	**-1.7**
MASI	**Maura Aman, Be**	**3.37**	**114**	P	**Pb**	**12 16 36.6**	**-3.0**
RGRI	**Rengat**	**3.48**	**66**	P	**Pn**	**12 16 32.4**	**+0.2**
RGRI				S	**Sn**	**12 17 09.9**	**-2.3**
KSI	**Kapahiang**	**3.91**	**119**	P	**Pb**	**12 16 48.3**	**-0.5**
PSI	**Prapat**	**4.55**	**357**	Pn	Pn	12 16 42.8	-4.1
PSI	**Prapat**	**4.55**	**357**	Pn	Pn	12 16 42.8	-4.1
	1.5nm,0.3s,baz=142,slow=16,SNR=3.9						
PSI				LR	LR	12 18 21.5	
	comp=Z,120nm,19.1s,baz=349,slow=39						
KCSI	**Kotacane, Aceh**	**5.44**	**345**	P	**Pn**	**12 16 59.0**	**0.0**
KCSI				S	**Sn**	**12 17 56.9**	**-3.6**
LWLI	**Liwa**	**5.87**	**123**	P	Pb	12 17 15.8	-6.2
MYKOM	**Kota Tinggi**	**5.88**	**53**	P	**Pn**	**12 17 04.5**	**-0.7**
KLSI		**6.28**	**118**	P	**Pn**	**12 17 10.8**	**+0.2**
IPM	**Ipoh**	**6.49**	**17**	*e*Pn	**Pn**	**12 17 12.2**	**-1.3**
IPM	**Ipoh**	**6.49**	**17**	P	**Pn**	**12 17 11.5**	**-2.0**
KULM	**Kulim**	**7.17**	**12**	*e*Pn	**Pn**	**12 17 22.0**	**-0.9**
KULM	**Kulim**	**7.17**	**12**	P	**Pn**	**12 17 21.5**	**-1.4**
SKLT	**Songkhla**	**9.01**	**9**	P	Pn	12 17 58.7	+11
	22nm,0.8s,0.1nm						
SBUM	**Sibu**	**13.72**	**72**	P	**Pn**	**12 18 51.6**	**-1.1**
KKM	**Kota Kinabalu**	**18.73**	**65**	*eP*	**Pn**	**12 19 55.9**	**-1.2**
	132nm,1.8s						
LOEI	**Loei**	**19.27**	**6**	P	Pn	12 20 15.0	+12
	4.6nm,2.0s						
CMAR	**Chiang Mai Arr**	**20.11**	**359**	P	**P**	**12 20 09.4**	**-1.9**
CMAR	**Chiang Mai Arr**	**20.11**	**359**	P	**P**	**12 20 09.4**	**-1.9**
	0.4nm,0.3s,baz=187,slow=9.9,SNR=16						
CMAR				LR	LR	12 28 11.5	
	comp=Z,81nm,21.5s,baz=310,slow=38						
LAMP	**Lampang**	**20.17**	**1**	P	Pn	12 20 22.8	+8.7
	3.8nm,0.9s						
CMMT	**Chiang Mai**	**20.46**	**359**	P	Pn	12 20 25.1	+7.6
CHTO	**Chiang Mai**	**20.46**	**359**	*eP*	**P**	**12 20 14.0**	**-1.1**
	17nm,1.5s						
CHTO	**Chiang Mai**	**20.46**	**359**	P	Pn	12 20 25.5	+8.0
	4.1nm,1.2s						
KAPI	**Kappang**	**20.82**	**99**	*eP*	**P**	**12 20 16.8**	**-2.2**
	20nm,1.0s						
GYA	**Guiyang**	**28.99**	**14**	*eP*	P	12 21 30.3	-6.8
GYA				pP	pP	12 21 48.8	+1.7
GYA				sP	sP	12 21 53.3	+2.0
GYA				PP	**PnPn**	**12 22 33.8**	**+4.0**
GYA				PcP	**PcP**	**12 24 46.5**	**+1.1**
GYA				S	**S**	**12 26 24.3**	**-1.8**
GYA				sS	sS	12 26 44.0	+1.4
GYA				SS	**SnSn**	**12 27 56.4**	**+5.3**
GYA				ScP	**ScP**	**12 28 23.1**	**-1.4**
GYA	**Guiyang**	**28.99**	**14**	ScS	ScS	12 32 17.8	-0.8
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,380nm,14.6s						
GYA				LR	LR		
	comp=E,210nm,15.5s						
GYA				LR	LR		
	comp=Z,310nm,14.9s						
FITZ	**Fitzroy Crossi**	**30.64**	**124**	P	**P**	**12 21 51.8**	**0.0**
FITZ	**Fitzroy Crossi**	**30.64**	**124**	P	**P**	**12 21 51.8**	**0.0**
	comp=Z,2.9nm,1.0s,baz=337,slow=9.2,SNR=5.5						
CD2	**Chengdu**	**32.80**	**7**	*eP*	**P**	**12 22 12.4**	**+1.8**
CD2				pP	**pP**	**12 22 22.3**	**+1.7**
CD2				sP	**sP**	**12 22 26.6**	**+1.8**
CD2				PP	**PP**	**12 23 22.8**	**-2.4**
CD2				S	**S**	**12 27 26.6**	**+1.1**
CD2				sS	**sS**	**12 27 43.3**	**+1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=E,260nm,10.8s						
CD2				LR	LR		
	comp=Z,220nm,8.4s						
NWAO	**Narrogin (SRO)**	**35.34**	**153**	P	**P**	**12 22 33.9**	**+1.3**
NWAO	**Narrogin (SRO)**	**35.34**	**153**	P	**P**	**12 22 33.9**	**+1.3**
	comp=Z,29nm,1.1s,baz=265,slow=5.3,SNR=3.0						
WRA	**Warramunga Arr**	**38.84**	**120**	P	**P**	**12 23 01.4**	**-1.1**
WRA	**Warramunga Arr**	**38.84**	**120**	P	**P**	**12 23 01.4**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=303,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**38.85**	**120**	*eP*	**P**	**12 23 01.9**	**-0.7**
	comp=Z,3.4nm,0.8s						
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**12 23 12.9**	**+0.1**
ASAR				PcP	**PcP**	**12 25 18.2**	**+1.0**
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**12 23 12.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=302,slow=7.9,SNR=16						
ASAR				PcP	**PcP**	**12 25 18.2**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=255,slow=2.5,SNR=5.5						
GTA	**Gaotai**	**40.99**	**1**	*eP*	**P**	**12 23 19.0**	**-1.2**
GTA				pP	**pP**	**12 23 28.8**	**-1.6**
GTA				sP	**sP**	**12 23 32.8**	**-1.8**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HHC	**Hu-ho-hao-te**	**43.91**	**14**	*eP*	**P**	**12 23 45.9**	**+2.0**
HHC				PP	**PcP**	**12 25 30.6**	**+1.0**
HHC				ScP	**ScP**	**12 29 19.3**	**+0.4**
HHC				PcS	**PcS**	**12 29 23.3**	**+0.7**
HHC				S	**S**	**12 30 15.6**	**+2.5**
HHC				sS	**sS**	**12 30 31.1**	**+1.1**
HHC				SS	**SS**	**12 33 24.1**	**-6.4**
HHC				ScS	**ScS**	**12 33 39.3**	**-1.1**
HHC				pmax	pmax		
	comp=Z,31nm,0.7s						
HHC				pmax	pmax		
	comp=Z,240nm,5.3s						
HHC				LR	LR		
	comp=N,260nm,16.4s						
HHC				LR	LR		
	comp=E,430nm,16.9s						
HHC				LR	LR		
	comp=Z,220nm,16.4s						
JNU	**Nakatsue**	**45.84**	**38**

TXAR	Lajitas Array	145.03	36	PKP	PKPdf	12 35 14.6	-0.4
	comp=Z,2.1nm,0.6s,baz=259,slow=1.3,SNR=30						
MIAR	Mount Ida	145.30	19	*e*PKPdf	PKPbc	12 35 14.5	-0.4
TZTN	Tazewell	145.31	4	*e*PKPdf	PKPbc	12 35 13.9	-1.0
TKL	Tuckaleechee C	146.18	4	PKPbc	PKPdf	12 35 16.9	+0.3
TKL	Tuckaleechee C	146.18	4	PKPbc	PKPdf	12 35 16.9	+0.3
	comp=Z,3.7nm,0.7s,baz=119,slow=2.5,SNR=8.2						
JCT	Junction City	146.27	30	*e*PKPbc	PKPab	12 35 18.2	-0.6

IDC 16 12:28:12.7±4.5, 0.79S×100.30E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/23, mbtmp3.6/4, Error ellipse: s-maj=232.2km s-min=23.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.36	122	P	P	12 35 35.1	-0.7
	0.4nm,0.5s,baz=296,slow=9.9,SNR=7.1						
ASAR	Alice Springs	39.73	127	P	P	12 35 48.0	+0.7
	0.2nm,0.5s,baz=307,slow=7.8,SNR=8.2						
MKAR	Makanchi Array	49.95	344	P	P	12 37 08.5	0.0
	0.4nm,0.5s,baz=155,slow=8.8,SNR=7.9						
ZALV	Zalesovo Beam	56.04	349	P	P	12 37 53.3	+0.1
	0.8nm,0.5s,baz=185,slow=10,SNR=3.6						
TXAR	Lajitas Array	143.56	37	PKP	PKPbc	12 47 47.9	+0.3
	0.4nm,0.5s,baz=264,slow=0.7,SNR=7.4						

AUST ***16*** *12:28:10.8, 1.87S×97.99E, h0km*
ISCJB ***16*** *12:28:22.7±0.3, 1.26S±0.04×99.62E±0.05, h30km, mb4.6/56, MS4.2/3, Error ellipse: s-maj=8.0km s-min=4.4km az=141.5*
MOS ***16*** *12:28:23.4±1.1, 1.24S×99.61E, h33km, mb4.8/18, Error ellipse: s-maj=15.1km s-min=6.6km az=107.3*
IDC ***16*** *12:28:24.9±3.5, 1.28S×99.58E, h32km±24km, mb4.2/27, mb1 4.2/29, mb1mx4.2/32, mbtmp4.1/29, ML3.8/2, Error ellipse: s-maj=16.6km s-min=10.1km az=47.0*
BJI ***16*** *12:28:24.8, 1.30S×99.50E, h39km, mB4.9/15, mb4.6/25, Ms4.5/9, Ms7 4.2/10*
NEIC ***16*** *12:28:25.1±3.3, 1.33S×99.53E, h34km±22km, mb4.6/17, Error ellipse: s-maj=13.4km s-min=6.6km az=52.0*
DJA ***16*** *12:28:37.9±0.5, 1.5±4×10.1E±.1, h59km±9km, M4.6/8, mb4.7/5, mB5.2/2, MLv4.5/8, Mw(mB)4.6/2*
ISC 16 12:28:24.7±0.3, 1.43S±0.04×99.46E±0.06, h30km, h30km:pP-P, n169, σ1$42/193, mb4.7/56, MS4.1/4, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.35	44	P	Pn	12 28 37.0	-10
SDSI	Sungai Dareh	2.03	76	P	Pn	12 28 50.8	-6.0
BKNI	Bangkinang	2.35	42	P	Pn	12 29 01.1	-0.2
BKNI				S	Sn	12 29 11.4	-18
BKNI	Bangkinang	2.35	42	P	Pn	12 28 56.8	-4.5
	baz=3.8,SNR=5.6						
MASI	Maura Aman, Be	3.25	122	P	Pn	12 29 19.1	+5.3
KSI	Kapahiang	3.83	125	P	Pn	12 29 24.0	+2.3
PSI	Prapat	4.24	353	Pn	Pn	12 29 23.2	-4.1
PSI	Prapat	4.24	353	Pn	Pn	12 29 23.2	-4.1
	1.0nm,0.3s,baz=157,slow=9.8,SNR=6.2						
PSI	Prapat	4.24	353	P	Pn	12 29 23.7	-3.7
	baz=4.7,SNR=3.4						
MNAI	Manna	4.54	130	P	Pn	12 29 32.2	+0.7
	baz=5.5,SNR=8.4						
TSI	Tuntungan	4.98	350	P	Pb	12 29 51.4	+0.2
	117nm,1.2s,0.6nm						
BTDF	Bukit Timah Da	5.13	57	P	Pn	12 29 46.6	+7.2
	baz=6.6,SNR=4.2						
BTDF				P	Pn	12 29 46.6	+7.2
	baz=6.6,SNR=4.2						
MYKOM	Kota Tinggi	5.43	54	P	Pn	12 29 38.4	-5.3
LWLI	Liwa	5.81	128	P	Pn	12 29 50.2	+1.2
	298nm,1.0s,8μm						
IPM	Ipoh	6.08	15	*e*Pn	Pn	12 29 53.0	+0.4
IPM	Ipoh	6.08	15	P	Pn	12 29 54.9	+2.3
	44nm,0.9s,0.3nm						
KLSI		6.18	122	P	Pn	12 29 53.7	-0.2
	51nm,0.7s,986nm0.2nm						
KASI	Kota Agung	6.46	129	P	Pn	12 29 57.3	-0.6
KASI				S	Sn	12 31 08.5	-2.2
KULM	Kulim	6.78	10	*e*Pn	Pn	12 30 00.6	-1.7
CISI	Cisompet, Garu	10.31	126	S	Sn	12 32 37.4	-8.0
KKM	Kota Kinabalu	18.30	66	*e*P	Pn	12 32 37.8	+1.2
	19nm,0.7s						
CMAR	Chiang Mai Arr	19.77	359	P	P	12 32 51.7	-0.9
CMAR	Chiang Mai Arr	19.77	359	P	P	12 32 51.7	-0.9
	0.4nm,0.3s,baz=186,slow=9.6,SNR=23						
CHTO	Chiang Mai	20.12	359	*e*P	P	12 32 55.0	-1.4
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	Chiang Mai	20.12	359	*e*P	P	12 32 55.0	-1.4
	comp=Z,5.3nm,0.8s						
KAPI	Kappang	20.57	100	*e*P	P	12 33 02.4	+1.1
	comp=Z,17nm,0.9s						
KAPI	Kappang	20.57	100	P	P	12 33 01.5	+0.3
	comp=Z,36nm,1.2s,baz=331,slow=16,SNR=3.7						
GYA	Guiyang	28.59	14	*e*P	P	12 34 16.1	-2.4
GYA				pP	pP	12 34 29.6	+2.4
GYA				sP	sP	12 34 35.3	+4.4
GYA				PP	PnPn	12 35 12.0	+2.9
GYA				PcP	PcP	12 37 31.3	+1.9
GYA				S	S	12 39 04.4	-0.7
GYA				sS	sS	12 39 21.3	+1.8
GYA				SS	SnSn	12 40 31.8	+5.6
GYA				ScP	SS	12 41 07.5	+0.7
GYA				ScS	ScS	12 45 01.4	-0.8
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,70nm,4.9s						
GYA				LR	LR		
	comp=N,380nm,14.6s						
GYA				LR	LR		
	comp=E,250nm,15.0s						
GYA				LR	LR		
	comp=Z,330nm,14.8s						
FITZ	Fitzroy Crossi	30.58	124	P	P	12 34 35.1	-0.9
FITZ	Fitzroy Crossi	30.58	124	P	P	12 34 35.1	-0.9
	comp=Z,2.5nm,0.6s,baz=270,slow=10.0,SNR=15						
FITZ	Fitzroy Crossi	30.58	124	P	P	12 34 37.2	+1.1
	baz=32,SNR=9.9						
LSA	Lhasa	31.96	346	P	P	12 34 47.8	-0.9
LSA	Lhasa	31.96	346	*e*P	P	12 34 48.9	+0.2
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	Lhasa	31.96	346	*e*P	P	12 34 48.9	+0.2
	comp=Z,7.7nm,0.8s						
KNRA	Kununurra	32.17	118	P	P	12 34 47.7	-2.4
	baz=33,SNR=4.2						
CD2	Chengdu	32.42	7	*e*P	P	12 34 53.9	+1.7
CD2				pP	pP	12 35 04.1	+3.1
CD2				sP	sP	12 35 08.3	+3.7
CD2				PP	PnPn	12 36 02.3	+2.6
CD2				S	S	12 40 04.8	-0.2
CD2				sS	sS	12 40 21.4	+1.9
CD2				SS	SnSn	12 42 01.3	+2.0
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,10.2s						
CD2				LR	LR		
	comp=Z,180nm,8.4s						
KDU	Kakadu	34.56	110	P	P	12 35 11.9	+0.9
	baz=36,SNR=4.2						
LZH	Lanzhou	37.55	6	*e*P	P	12 35 33.3	-3.2
LZH				pP	pP	12 35 43.8	-1.6
LZH				sP	sP	12 35 48.1	-0.9
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
WRA	Warramunga Arr	38.74	121	P	P	12 35 45.2	-1.5
WRA				PcP	PcP	12 37 58.5	+0.4
WRA	Warramunga Arr	38.74	121	P	P	12 35 45.2	-1.5
	comp=Z,2.6nm,0.4s,baz=303,slow=9.1,SNR=26						
WRA				PcP	PcP	12 37 58.5	+0.4
	comp=Z,0.8nm,0.5s,baz=312,slow=2.7,SNR=5.3						
WRAB	Tennant Creek	38.75	121	*e*P	P	12 35 45.1	-1.6
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	Tennant Creek	38.75	121	*e*P	P	12 35 45.1	-1.6
	comp=Z,5.3nm,0.6s						
AS31	Alice Springs	40.02	126	*e*P	P	12 35 55.7	-1.6
ASAR	Alice Springs	40.02	126	P	P	12 35 56.8	-0.6
ASAR				PcP	PcP	12 38 02.5	+0.4
ASAR				S	S	12 42 00.5	-1.0
ASAR	Alice Springs	40.02	126	P	P	12 35 56.8	-0.6
	comp=Z,2.2nm,0.5s,baz=302,slow=7.8,SNR=33						
ASAR				PcP	PcP	12 38 02.5	+0.4
	comp=Z,1.7nm,0.8s,baz=320,slow=3.4,SNR=6.6						
ASAR				S	S	12 42 00.5	-1.0
	comp=Z,2.9nm,1.1s,baz=297,slow=14,SNR=9.3						
GTA	Gaotai	40.64	0	*e*P	P	12 36 01.4	-0.9
GTA				pP	pP	12 36 11.4	+0.2
GTA				sP	sP	12 36 14.8	-0.1
GTA				PP	PnPn	12 37 38.6	-1.9
GTA				S	S	12 42 07.5	-2.9
GTA				sS	sS	12 42 23.6	-1.6
GTA				SS	SS	12 45 01.8	-10
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,77nm,7.6s						
GTA				LR	LR		
	comp=N,120nm,16.6s						
GTA				LR	LR		
	comp=E,120nm,14.7s						
GTA				LR	LR		
	comp=Z,82nm,14.7s						
HHC	Hu-ho-hao-te	43.50	13	*e*P	P	12 36 26.6	+1.0
HHC				PP	PcP	12 38 11.3	-2.0
HHC				ScP	ScP	12 42 02.3	-0.5
HHC				PcS	PcS	12 42 05.8	-0.2
HHC				S	S	12 42 52.3	-0.3
HHC				sS	sS	12 43 11.3	+3.9
HHC				SS	SS	12 46 03.3	-4.5
HHC				ScS	ScS	12 46 22.3	-1.1
HHC				pmax	pmax		
	comp=Z,39nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,5.8s						
HHC				LR	LR		
	comp=N,500nm,17.1s						
HHC				LR	LR		
	comp=E,370nm,17.0s						
HHC				LR	LR		
	comp=Z,590nm,17.2s						
JNU	Nakatsue	45.38	38	*e*P	P	12 36 38.6	-2.0
KSH	Kashi	46.09	335	P	P	12 36 42.3	-4.0
WMQ	Urumqi	46.27	348	P	P	12 36 46.6	-0.9
WMQ				pP	pP	12 36 56.4	-0.2
WMQ				PcP	PcP	12 38 21.3	-1.4
WMQ				PP	PP	12 38 36.0	-0.6
WMQ				pmax	pmax		
	comp=Z,27nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.0s						
KSAR	Wonju Array Be	46.78	31	P	P	12 36 50.4	-1.2
KSRS	Korea Array	46.81	31	P	P	12 36 50.4	-1.4
	comp=Z,2.3nm,0.7s,baz=224,slow=8.5,SNR=15						
TKM2	Tokmak 2	49.10	337	*e*P	P	12 37 10.3	+0.6
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TKM2	Tokmak 2	49.10	337	*e*P	P	12 37 10.3	+0.6
	comp=Z,7.5nm,0.8s						
AAK	Ala-Archa	49.30	336	⇑*e*P	P	12 37 12.0	+0.8
AAK				pmax	pmax		
	comp=Z,23nm,2.5s						
SONM	Songino Array	49.44	6	P	P	12 37 10.7	-1.3
SONM				PcP	PcP	12 38 34.1	+0.1
SONM	Songino Array	49.44	6	P	P	12 37 10.7	-1.3
	comp=Z,2.7nm,0.7s,baz=186,slow=9.6,SNR=11						
SONM				PcP	PcP	12 38 34.1	+0.1
	comp=Z,1.7nm,0.6s,baz=179,slow=3.1,SNR=4.3						
ULN	Ulaanbaatar	49.54	7	*e*P	P	12 37 12.1	-0.8
	comp=Z,4.4nm,0.8s						
EKS2	Erkin-Say	49.62	335	*e*P	P	12 37 14.4	+0.8
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
EKS2	Erkin-Say	49.62	335	*e*P	P	12 37 14.4	+0.8
	comp=Z,7.9nm,0.9s						
STKA	Stephens Creek	49.93	132	*e*P	P	12 37 16.1	+0.1
	comp=Z,1.4nm,0.9s						
STKA	Stephens Creek	49.93	132	P	P	12 37 16.1	+0.1
	comp=Z,3.5nm,0.8s,baz=138,slow=22,SNR=5.4						
MK31	Makanchi Array	50.34	345	*e*P	P	12 37 18.3	-0.6
MK31	Makanchi Array	50.34	345	*e*P	P	12 37 18.3	-0.6
MKAR	Makanchi Array	50.34	345	*e*P	P	12 37 17.2	-1.7
MKAR	Makanchi Array	50.34	345	*e*P	P	12 37 17.2	-1.7
MKAR	Makanchi Array	50.34	345	P	P	12 37 16.7	-2.2
	comp=Z,6.9nm,0.6s,baz=156,slow=7.4,SNR=59						
CN2	Changchun	50.69	24	*e*P	P	12 37 26.9	+5.4
CN2				*e*pP	pP	12 37 34.0	+3.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	Matsushiro Arr	52.18	40	P	P	12 37 31.1	-1.8
MJAR	Matsushiro Arr	52.18	40	P	P	12 37 31.1	-1.8
	comp=Z,0.7nm,0.6s,baz=235,slow=8.6,SNR=4.7						
HVS	Khovu-Aksy	52.60	355	⇑*e*P	P	12 37 34.5	-1.2
HVS				pmax	pmax		
	comp=Z,19nm,1.2s						
CMSA	Cobar Meteorol	52.89	129	P	P	12 37 38.5	+0.4
	baz=54,SNR=8.1						
USRK	Ussuriysk Arra	53.91	29	P	P	12 37 44.4	-1.1
	comp=Z,3.4nm,0.6s,baz=221,slow=6.1,SNR=9.1						
KURBB	Kurchatov Arra	54.86	344	P	P	12 37 51.3	-0.8
	comp=Z,3.7nm,0.8s,baz=164,slow=7.2,SNR=25						
KURK	Kurchatov	54.91	344	P	P	12 37 51.3	-1.3
KURK	Kurchatov	54.91	344	P	P	12 37 51.3	-1.3
ZAA0	Zalesovo Array	56.51	350	*e*P	P	12 38 03.1	-0.9
ZALV	Zalesovo Beam	56.51	350	P	P	12 38 01.8	-2.2
ZALV	Zalesovo Beam	56.51	350	P	P	12 38 01.8	-2.2
ZALV	Zalesovo Beam	56.51	350	P	P	12 38 01.8	-2.2
	comp=Z,5.4nm,0.7s,baz=180,slow=5.7,SNR=22						
KRAR	Krasnoyarsk	57.51	356	⇓*e*P	P	12 38 10.6	-0.4
KRAR				pmax	pmax		
	comp=Z,22nm,0.5s						
KLR	Kul'dur	57.64	24	*e*P	P	12 38 07.0	-5.0
NVS	Novosibirsk	57.66	349	*e*P	P	12 38 10.8	-1.2
RAYN	Ar Rayn	57.99	299	*e*P	P	12 38 14.7	-0.4
	comp=Z,6.2nm,0.9s						
RDF	Al-Radifah	58.09	306	*e*P	P	12 38 15.8	+0.2
RDF				AMb	AMB	12 38 16.4	
	comp=Z,37nm,0.8s						
UMR	Umm Al-Rimmam	58.19	306	*e*P	P	12 38 16.0	-0.2
UMR				AMb	AMB	12 38 16.5	
	comp=Z,33nm,0.9s						
NAY	Al-Naaiem	58.45	306	*e*P	P	12 38 17.6	-0.6
NAY				AMb	AMB	12 38 18.2	
	comp=Z,14nm,0.6s						
BVAR	Borovoye Array	59.47	340	P	P	12 38 22.3	-2.5
BVAR	Borovoye Array	59.47	340	P	P	12 38 22.3	-2.5
BVAR	Borovoye Array	59.47	340	P	P	12 38 22.3	-2.5
	comp=Z,2.0nm,0.6s,baz=145,slow=9.0,SNR=12						
BRVK	Borovoye	59.53	340	⇑*e*P	P	12 38 24.1	-1.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	59.53	340	*e*P	P	12 38 23.8	-1.4
	comp=Z,4.6nm,0.9s						
ABKAR	Abkulak array	60.89	331	*e*P	P	12 38 33.6	-0.9
YSS	Yuzh-Sakhalins	61.29	32	⇑*e*P	P	12 38 46.0	+8.7
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
KMBO	Kilima Mbogo	62.19	269	*e*P	P	12 38 45.9	+1.6
	comp=Z,5.1nm,0.9s						
KMBO	Kilima Mbogo	62.19	269	P	P	12 38 45.5	+1.1
	comp=Z,2.1nm,0.6s,baz=57,slow=12,SNR=10						
SVE	Sverdlovsk	65.96	338	*e*P	P	12 39 07.1	-0.8
SVE				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARU	Arti	66.47	337	*d*iP	P	12 39 09.7	-1.5
ARU						12 41 34.2	
ARU				S	S	12 47 57.8	-1.9
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK	Yakutsk	67.33	15	*e*P	P	12 39 16.4	-0.2
KBZ	Khabaz	67.53	319	P	P	12 39 18.0	-0.2
KBZ	Khabaz	67.53	319	P	P	12 39 18.0	-0.2
KBZ	Khabaz	67.53	319	P	P	12 39 18.0	-0.2
	comp=Z,5.8nm,0.9s,baz=121,slow=4.3,SNR=13						
KIV	Kislovodsk	67.76	319	*e*P	P	12 39 19.7	-0.1
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ASF	Jabal al Asfar	67.82	306	P	P	12 39 20.3	-0.2
ASF	Jabal al Asfar	67.82	306	P	P	12 39 20.3	-0.2
	comp=Z,2.5nm,0.7s,baz=77,slow=5.4,SNR=4.1						
EIL	Elat	68.76	303	P	P	12 39 26.4	+0.1
EIL	Elat	68.76	303	P	P	12 39 26.4	+0.1
	comp=Z,6.6nm,0.6s,baz=309,slow=16,SNR=4.5						
MAW	Mawson	70.70	194	*e*P	P	12 39 38.5	+1.1
	comp=Z,1.8nm,1.1s						
MAW	Mawson	70.70	194	P	P	12 39 39.0	+1.6
	comp=Z,3.7nm,0.9s,baz=35,slow=6.6,SNR=7.8						
BRTR	Keskin Array B	72.54	312	P	P	12 39 47.6	-1.7
BRTR	Keskin Array B	72.54	312	P	P	12 39 47.6	-1.7
	comp=Z,1.4nm,0.7s,baz=131,slow=6.1,SNR=8.8						
PETK	Petropavlovsk-	72.69	32	P	P	12 39 50.0	+0.3
PETK	Petropavlovsk-	72.69	32	P	P	12 39 50.0	+0.3
PETK	Petropavlovsk-	72.69	32	P	P	12 39 50.0	+0.3
	comp=Z,1.3nm,0.8s,baz=178,slow=5.9,SNR=5.6						
SEY	Seymchan	75.31	22	*de*P	P	12 40 04.3	-0.4
OBN	Obninsk	76.03	328	*e*P	P	12 40 08.6	-0.4
OBN				*i*		12 40 22.2	
OBN				pmax	pmax		
	comp=Z,27nm,2.5s						
AKASG	Malin Array Be	78.71	322	P	P	12 40 23.0	-1.2
AKASG	Malin Array Be	78.71	322	P	P	12 40 23.0	-1.2
AKASG	Malin Array Be	78.71	322	P	P	12 40 23.0	-1.2
	comp=Z,0.2nm,0.3s,baz=99,slow=3.7,SNR=5.5						
KIEV	Kiev	78.72	322	*e*P	P	12 40 22.4	-1.8
BUR08	Bucovina Ar. S	80.50	319	*e*P	P	12 40 34.1	0.0
KOLS	Kolonicke sedl	82.67	320	*e*P	P	12 40 45.9	+0.4
KOLS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KOLS	Kolonicke sedl	82.67	320	*e*P	P	12 40 45.9	+0.4
KOLS				*e*pP	pP	12 40 54.1	-1.0
VNDA	Vanda	82.82	169	*e*P	P	12 40 46.0	+0.3
	comp=Z,1.7nm,0.8s						
VNDA	Vanda	82.82	169	P	P	12 40 46.2	+0.5
	comp=Z,1.4nm,0.7s,baz=306,slow=6.0,SNR=12						
CRVS	Cervenica-Dubn	83.19	319	*e*P	P	12 40 52.0	+3.8
CRVS	Cervenica-Dubn	83.19	319	*e*PCP	P	12 40 52.0	+3.8
FINES	FINESS Array B	83.36	332	P	P	12 40 48.3	-0.4
FINES	FINESS Array B	83.36	332	P	P	12 40 48.3	-0.4
	comp=Z,3.7nm,1.0s,baz=122,slow=6.9,SNR=7.8						
STHS	Stebnicka Huta	83.42	320	*e*P	P	12 40 50.1	+0.7
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STHS	Stebnicka Huta	83.42	320	*e*P	P	12 40 50.1	+0.7
STHS				*e*pP	pP	12 40 58.3	-0.6
KECS	Kecovo	83.76	319	*e*pP	pP	12 40 59.0	-1.7
SBA	Scott Base	83.92	169	*e*P	P	12 40 52.6	+1.3
SBA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SBA	Scott Base	83.92	169	*e*P	P	12 40 52.6	+1.3
	comp=Z,4.7nm,0.9s						
ARCES	ARCESS Array B	85.76	340	P	P	12 41 00.8	0.0
ARCES	ARCESS Array B	85.76	340	P	P	12 41 00.8	0.0
	comp=Z,5.1nm,1.0s,baz=7.8,slow=5.4,SNR=4.4						
GEC2	GERESS Array S	88.27	319	*e*P	P	12 41 13.6	+0.1
GEC2	GERESS Array S	88.27	319	*e*P	P	12 41 13.6	+0.1
	comp=Z,236nm,0.7s						
GERES	GERESS Array B	88.27	319	P	P	12 41 13.8	+0.3
GERES	GERESS Array B	88.27	319	P	P	12 41 13.8	+0.3
	comp=Z,1.3nm,0.8s,baz=100,slow=3.1,SNR=11						
QSPA	South Pole Qui	88.53	180	*e*P	P	12 41 14.8	+0.4
	comp=Z,9.8nm,1.2s						
CLL	Collm	88.89	321	*e*P	P	12 41 13.0	-3.2
CLL	Collm	88.89	321	*e*P	P	12 41 15.0	-1.2
SPITS	Spitsbergen Ar	89.97	348	P	P	12 41 19.9	-0.9
SPITS	Spitsbergen Ar	89.97	348	P	P	12 41 19.9	-0.9
	comp=Z,3.1nm,0.7s,baz=95,slow=9.3,SNR=6.0						
FUORN	Ofenpass-Fuorn	90.48	316	*e*P	P	12 41 24.7	+0.6
	comp=Z,5.4nm,0.8s						
KEST	Kesra	90.92	306	P	P	12 41 27.4	+1.3
KEST	Kesra	90.92	306	P	P	12 41 27.4	+1.3
	comp=Z,2.5nm,0.9s,baz=351,slow=18,SNR=5.9						
EGMT	Eagleton	127.16	24	*e*PKPdf	PKPdf	12 47 28.0	+1.5
NVAR	Mina Array Bea	129.50	39	PKP	PKPdf	12 47 32.8	+1.4
NVAR	Mina Array Bea	129.50	39	PKP	PKPdf	12 47 32.8	+1.4
	comp=Z,0.3nm,0.7s,baz=262,slow=1.8,SNR=3.3						
R11A	Troy Canyon, C	131.21	37	*e*PKPdf	PKPdf	12 47 36.4	+1.8
PDAR	Pinedale Array	131.34	28	PKP	PKPdf	12 47 34.8	0.0
PDAR	Pinedale Array	131.34	28	PKP	PKPdf	12 47 34.8	0.0
	comp=Z,0.2nm,0.5s,baz=264,slow=2.5,SNR=3.0						
CPUP	Villa Florida	144.45	217	*e*PKPdf	PKPab	12 47 57.6	+0.5
CPUP	Villa Florida	144.45	217	PKP	PKPab	12 47 57.7	+0.5
	comp=Z,15nm,0.8s,baz=115,slow=2.4,SNR=31						
TXAR	Lajitas Array	144.57	36	PKP	PKPab	12 47 57.9	+0.2
TXAR	Lajitas Array	144.57	36	PKP	PKPab	12 47 57.9	+0.2
	comp=Z,2.6nm,0.6s,baz=158,slow=1.3,SNR=31						
WVT	Waverly	144.82	10	*e*PKIKP	PKPab	12 47 57.0	-1.2
WVT	Waverly	144.82	10	*e*PKPdf	PKPab	12 47 57.0	-1.2
MIAR	Mount Ida	144.88	19	*e*PKIKP	PKPab	12 47 57.9	-0.6
MIAR	Mount Ida	144.88	19	*e*PKPdf	PKPab	12 47 57.9	-0.6
TZTN	Tazewell	144.95	4	*e*PKPdf	PKPab	12 47 57.5	-1.2
TKL	Tuckaleechee C	145.81	5	PKPbc	PKPdf	12 48 00.1	-0.9
TKL				*e*PKPdf	PKPbc	12 48 00.4	-1.2
TKL	Tuckaleechee C	145.81	5	PKPbc	PKPdf	12 48 00.1	-0.9
	comp=Z,6.0nm,0.7s,baz=83,slow=1.1,SNR=16						
JCT	Junction City	145.81	30	*e*PKP2	PKPdf	12 48 01.7	+0.4
JCT	Junction City	145.81	30	*e*PKPdf	PKPdf	12 48 01.6	+0.4
CPCT	Cooper Cave	145.95	6	*e*PKPdf	PKPdf	12 48 01.0	-0.3
KMSC	Kings Mountain	146.45	1	*e*PKPdf	PKPdf	12 48 02.2	0.0

NNC ***16*** *12:30:51.5±6.0, 37.79N×71.58E, h205km±71km, mb2.6, mpv3.6, Error ellipse: s-maj=59.1km s-min=30.0km az=11.0*
ISC 16 12:30:46.6±3.4, 37.5N±0.2×71.4E±0.1, h109km, n10, σ1$99/13, 3C-3D, Afghanistan-Tajikistan border region

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

KULM	Kulim	6.87	9	*e*Pn		Pn	12 33 14.6 +0.5
CISI	Cisompet, Garu	10.21	126	P		Pn	12 33 57.6 -2.5
baz=10,SNR=3.2							
KSM	Kuching	11.19	75	*e*Pn		Pn	12 34 15.8 +2.3
KSM	Kuching	11.19	75	P		Pn	12 34 18.3 +4.8
baz=12,SNR=4.2							
CMAR	Chiang Mai Arr	19.87	358	P		P	12 36 04.8 +0.5
CMAR	Chiang Mai Arr	19.87	358	P		P	12 36 04.8 +0.5
0.5nm,0.3s,baz=188,slow=10,SNR=12							
CHTO	Chiang Mai	20.22	358	*e*P		P	12 36 09.0 +0.9
2.4nm,0.6s							
KAPI	Kappang	20.49	100	P		P	12 36 11.7 +0.5
KAPI	Kappang	20.49	100	P		P	12 36 11.7 +0.5
4.3nm,0.5s,baz=282,slow=14,SNR=4.8							
FITZ	Fitzroy Crossi	30.47	124	P		P	12 37 45.7 -0.2
FITZ	Fitzroy Crossi	30.47	124	P		P	12 37 45.7 -0.2
2.9nm,0.7s,baz=291,slow=6.1,SNR=6.3							
FITZ	Fitzroy Crossi	30.47	124	P		P	12 37 45.8 -0.1
baz=31,SNR=3.8							
WRA	Warramunga Arr	38.65	121	P		P	12 38 55.4 -1.1
WRA				PcP		PcP	12 41 08.9 +0.4
WRA	Warramunga Arr	38.65	121	P		P	12 38 55.4 -1.1
4.5nm,0.7s,baz=303,slow=9.0,SNR=20							
WRA				PcP		PcP	12 41 08.9 +0.4
0.7nm,0.6s,baz=315,slow=2.5,SNR=5.4							
WRAB	Tennant Creek	38.65	121	*e*P		P	12 38 55.8 -0.8
7.0nm,0.6s							
ASAR	Alice Springs	39.92	126	P		P	12 39 06.7 -0.5
ASAR				PcP		PcP	12 41 12.8 +0.3
ASAR	Alice Springs	39.92	126	P		P	12 39 06.7 -0.5
2.0nm,0.6s,baz=298,slow=7.6,SNR=12							
ASAR				PcP		PcP	12 41 12.8 +0.3
1.2nm,1.0s,baz=319,slow=3.7,SNR=4.5							
KSAR	Wonju Array Be	46.84	31	P		P	12 40 02.7 0.0
KSRS	Korea Array	46.86	31	P		P	12 40 02.7 -0.2
1.5nm,0.6s,baz=223,slow=8.4,SNR=8.9							
CTAO	Charters Tower	49.23	115	*e*P		P	12 40 21.2 -0.4
11nm,1.1s							
SONM	Songino Array	49.52	6	P		P	12 40 24.1 +0.7
SONM	Songino Array	49.52	6	P		P	12 40 24.1 +0.7
1.8nm,0.4s,baz=190,slow=10,SNR=6.4							
ULN	Ulaanbaatar	49.63	7	*e*P		P	12 40 24.4 +0.1
2.8nm,0.8s							
STKA	Stephens Creek	49.82	132	*e*P		P	12 40 25.8 -0.1
3.0nm,1.1s							
STKA	Stephens Creek	49.82	132	P		P	12 40 26.4 +0.5
5.1nm,0.8s,baz=290,slow=10,SNR=6.9							
STKA	Stephens Creek	49.82	132	P		P	12 40 26.4 +0.5
baz=50,SNR=5.8							
MK31	Makanchi Array	50.45	345	*e*P		P	12 40 31.1 +0.7
MKAR	Makanchi Array	50.45	345	P		P	12 40 31.0 +0.7
MKAR	Makanchi Array	50.45	345	P		P	12 40 31.0 +0.7
4.5nm,0.5s,baz=160,slow=8.3,SNR=41							
CMSA	Cobar Meteorol	52.78	129	P		P	12 40 48.8 +0.7
baz=53,SNR=11							
USRK	Ussuriysk Arra	53.98	29	P		P	12 40 56.6 +0.1
3.3nm,0.7s,baz=235,slow=5.2,SNR=5.9							
KURBB	Kurchatov Arra	54.96	344	P		P	12 41 03.8 +0.1
1.3nm,0.5s,baz=180,slow=6.3,SNR=8.5							
KURK	Kurchatov	55.02	344	P		P	12 41 03.8 -0.3
ZAA0	Zalesovo Array	56.62	350	*e*P		P	12 41 15.8 +0.3
ZALV	Zalesovo Beam	56.62	350	P		P	12 41 15.8 +0.4
ZALV	Zalesovo Beam	56.62	350	P		P	12 41 15.8 +0.4
3.0nm,0.5s,baz=160,slow=6.5,SNR=10							
BVAR	Borovoye Array	59.58	340	P		P	12 41 36.2 0.0
BVAR	Borovoye Array	59.58	340	P		P	12 41 36.2 0.0
1.1nm,0.4s,baz=138,slow=11,SNR=7.4							
ABKAR	Akbulak array	61.00	331	*e*P		P	12 41 45.0 -1.0
KBZ	Khabaz	67.64	319	P		P	12 42 30.0 +0.4
KBZ	Khabaz	67.64	319	P		P	12 42 30.0 +0.4
1.8nm,0.7s,baz=118,slow=8.3,SNR=4.4							
BRTR	Keskin Array B	72.65	312	P		P	12 42 59.2 -1.4
BRTR	Keskin Array B	72.65	312	P		P	12 42 59.2 -1.4
1.0nm,0.6s,baz=134,slow=6.6,SNR=5.1							
BOSA	Boshof	75.46	241	P		P	12 43 17.2 -0.1
BOSA	Boshof	75.46	241	P		P	12 43 17.2 -0.1
2.4nm,0.9s,baz=111,slow=8.6,SNR=3.3							
BUR08	Bucovina Ar. S	80.61	319	*e*P		P	12 43 46.1 +0.7
VNDA	Vanda	82.72	169	P		P	12 43 56.5 +0.6
VNDA	Vanda	82.72	169	P		P	12 43 56.5 +0.6
0.5nm,0.6s,baz=311,slow=8.0,SNR=4.3							
FINES	FINESS Array B	83.47	332	P		P	12 44 00.4 +0.4
FINES	FINESS Array B	83.47	332	P		P	12 44 00.4 +0.4
1.5nm,0.4s,baz=109,slow=6.2,SNR=12							
KAF	Kangasniemi	83.55	333	*e*p		P	12 44 00.7 +0.3
0.7nm,0.4s							
ARCES	ARCESS Array B	85.87	340	P		P	12 44 12.7 +0.7
ARCES	ARCESS Array B	85.87	340	P		P	12 44 12.7 +0.7
2.0nm,0.8s,baz=87,slow=6.3,SNR=5.7							
GERES	GERESS Array B	88.38	319	P		P	12 44 25.4 +0.7
GERES	GERESS Array B	88.38	319	P		P	12 44 25.4 +0.7
0.2nm,0.5s,baz=66,slow=6.4,SNR=3.8							
SPITS	Spitsbergen Ar	90.08	348	P		P	12 44 31.7 -0.3
SPITS	Spitsbergen Ar	90.08	348	P		P	12 44 31.7 -0.3
1.7nm,0.6s,baz=104,slow=7.0,SNR=6.9							
PDAR	Pinedale Array	131.40	28	PKP		PKPdf	12 50 46.1 +0.5
PDAR	Pinedale Array	131.40	28	PKP		PKPdf	12 50 46.1 +0.5
0.2nm,0.6s,baz=343,slow=2.8,SNR=3.1							
CPUP	Villa Florida	144.41	217	*e*PKPdf		PKPbc	12 51 08.3 +0.3
CPUP	Villa Florida	144.41	217	PKP		PKPbc	12 51 08.6 +0.6
7.7nm,0.7s,baz=127,slow=2.7,SNR=20							
TXAR	Lajitas Array	144.61	36	PKP		PKPdf	12 51 09.5 -0.5
TXAR	Lajitas Array	144.61	36	PKP		PKPdf	12 51 09.5 -0.5
1.3nm,0.5s,baz=259,slow=1.3,SNR=27							
WVT	Waverly	144.90	10	*e*PKPdf		PKPab	12 51 08.8 -0.4
MIAR	Mount Ida	144.95	19	*e*PKPdf		PKPbc	12 51 09.6 +0.1
TZTN	Tazewell	145.04	4	*e*PKPdf		PKPab	12 51 09.4 -0.4
JCT	Junction City	145.87	31	*e*PKPdf		PKPbc	12 51 12.7 0.0
TKL	Tuckaleechee C	145.90	5	PKPbc		PKPbc	12 51 12.3 -0.2
TKL	Tuckaleechee C	145.90	5	PKPbc		PKPbc	12 51 12.3 -0.2
2.0nm,0.6s,baz=131,slow=2.1,SNR=4.9							

BJI ***16*** *12:37:30.5, 1˙.96S×99˙.66E, h35km, mB4.9/17, mb4.7/37, Ms5.0/8, Ms7 4.7/10*
NEIC ***16*** *12:37:32.7±0.2, 1˙.49S×99˙.51E, h10km, mb4.6/24, Error ellipse: s-maj=7.3km s-min=5.5km az=62.0*
NEIC Felt [II] at Padangpanjang, Sumatra.
MOS ***16*** *12:37:34.9±1.0, 1˙.36S×99˙.60E, h33km, mb4.8/17, Error ellipse: s-maj=13.8km s-min=6.9km az=107.5*
ISCJB ***16*** *12:37:35.6±0.8, 1˙.42S±0˙.04×99˙.48E±0˙.04, h40km±6km, mb4.6/66, MS4.5/5, Error ellipse: s-maj=8.3km s-min=5.1km az=140.0*
IDC ***16*** *12:37:37.3±2.6, 1˙.47S×99˙.57E, h43km±23km, mb4.2/28, mb1 4.3/30, mb1mx4.3/32, mbtmp4.2/30, ML4.4/2, MS4.7/1, Ms1 4.7/1, ms1mx3.3/49, Error ellipse: s-maj=14.6km s-min=10.2km az=47.0*
AUST ***16*** *12:37:37.8, 1˙.40S×99˙.49E, h35km*
DJA ***16*** *12:37:37.8±1.2, 1˙S±4˙×9˙9˙E±˙, h27km±10km, M4.8/14, mB5. 1/7, mb4.9/14, MLv5.0/9, Mw(mB)4.5/7*
BKK ***16*** *12:37:53.8±1.0, 1˙S±9˙×10˙0E±˙, h123km±6km, M4.4/17, mB4.8/7, mb4.5/17, MLv4.7/6, Mw(mB)4.1/7*
ISC 16 12:37:35.9±0.3, 1˙.55S±0˙.04×99˙.41E±0˙.05, h30km, n232, σ1§32/244, mb4.7/73, MS4.7/5, 1C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.46	42	P	Pn	12 37 58.7	-1.6
PPI	Padang Panjang	1.46	42	P	Pn	12 37 58.7	-1.6
baz=1.3,SNR=179							
BKNI	Bangkinang	2.47	41	P	Pn	12 38 13.7	-0.5
BKNI	Bangkinang	2.47	41	P	Pn	12 38 13.5	-0.7
baz=2.3,SNR=38							
RGRI	Rengat	3.15	68	P	Pb	12 38 29.0	-2.3
RGRI				S	Sb	12 39 13.1	+3.7
MASI	Maura Aman, Be	3.24	119	P	Pn	12 38 25.2	+0.4
KSI	Kapahiang	3.81	123	P	Pb	12 38 41.9	-0.6
PSI	Prapat	4.34	354	P	Pn	12 38 37.7	-2.4
PSI	Prapat	4.34	354	P	Pn	12 38 37.7	-2.4
6.1nm,0.3s,baz=172,slow=5.8,SNR=23							
PSI	Prapat	4.34	354	P	Pn	12 38 38.1	-2.0
baz=4.1,SNR=21							
MNAI	Manna	4.51	128	P	Pn	12 38 42.7	+0.4
baz=4.5,SNR=15							
TSI	Tuntungan	5.08	350	P	Pn	12 38 49.9	-0.2
BTDF	Bukit Timah Da	5.23	57	P	Pn	12 38 51.1	-1.0
baz=5.1,SNR=4.3							
BTDF				P	Pn	12 38 51.1	-1.0
baz=5.1,SNR=4.3							
FRIM	Kepong	5.24	25	P	Pn	12 38 51.7	-0.6
KCSI	Kotacane, Aceh	5.29	342	P	Pn	12 38 49.2	-3.9
MYKOM	Kota Tinggi	5.54	53	P	Pn	12 38 55.4	-1.0
76nm,1.3s,1μm0.9nm							
LWLI	Liwa	5.78	127	P	Pn	12 39 08.2	+8.4
345nm,0.7s,4μm1.1nm							
KLSI		6.16	121	P	Pn	12 39 08.1	+3.1
IPM	Ipoh	6.20	15	*e*Pn	Pn	12 39 05.8	+0.3
IPM	Ipoh	6.20	15	P	Pn	12 39 04.7	-0.9
IPM	Ipoh	6.20	15	P	Pn	12 39 06.0	+0.5
123nm,0.8s,1μm0.5nm							
KULM	Kulim	6.90	10	*e*Pn	Pn	12 39 14.6	-0.6
KULM	Kulim	6.90	10	P	Pn	12 39 14.3	-0.9
KULM	Kulim	6.90	10	P	Pn	12 39 14.5	-0.6
76nm,0.8s,675nm0.4nm							
KTGM	Kuala Trenggan	7.78	29	P	Pn	12 39 26.9	-0.3
BSI	Banda Aceh	8.11	330	P	Pn	12 39 29.1	-2.7
BSI				S	Sn	12 40 55.2	-7.4
SKLT	Songkhla	8.74	8	P	Pn	12 39 45.8	+5.4
43nm,0.8s,0.1nm							
UGM	Wanagama	12.75	120	P	Pn	12 40 40.9	+5.6
baz=13,SNR=3.2							
SBUM	Sibu	13.41	73	P	Pn	12 40 45.0	+0.7
SBUM	Sibu	13.41	73	P	P	12 40 48.9	-4.5
25nm,0.9s							
BTM	Bintulu	14.46	71	P	Pn	12 40 59.5	+0.8
UTHA	Uthaitani	17.00	0	P	Pn	12 41 32.5	+0.9
3.4nm,0.9s,86nm							
CHAI	Chaiyaphum	17.52	8	P	P	12 41 47.5	+8.4
PBKT	Sadao Pong	18.07	5	P	P	12 41 50.9	+5.9
KKM	Kota Kinabalu	18.39	66	*e*P	P	12 41 47.8	-1.0
36nm,1.1s							
KKM	Kota Kinabalu	18.39	66	P	Pn	12 41 49.6	+0.6
LOEI	Loei	19.02	5	P	P	12 41 54.6	-1.0
53nm,0.9s,3μm							
SDKM	Sandakan	19.14	68	P	Pn	12 41 57.8	-0.3
SDKM	Sandakan	19.14	68	P	Pn	12 41 57.9	-0.2
KDM	Kudat	19.31	64	P	Pn	12 41 59.6	-0.4
TSM	Tawau	19.34	72	P	Pn	12 42 00.0	-0.3
MMSI	Mamuju	19.52	94	P	Pn	12 42 03.0	+0.5
66nm,1.1s							
CM31	Chiang Mai Arr	19.88	359	*e*P	P	12 42 04.1	-0.9
12nm,0.6s							
CMAR	Chiang Mai Arr	19.88	359	P	P	12 42 04.2	-0.8
CMAR	Chiang Mai Arr	19.88	359	P	P	12 42 04.2	-0.8
1.2nm,0.3s,baz=188,slow=9.8,SNR=52							
LAMP	Lampang	19.94	1	P	Pn	12 42 06.9	-0.6
11nm,0.6s,117nm							
MYLDM	Lahad Datu	20.20	71	P	P	12 42 09.4	+0.9
MYLDM	Lahad Datu	20.20	71	P	Pn	12 42 10.2	-0.4
37nm,0.9s							
CMMT	Chiang Mai	20.24	359	P	P	12 42 07.4	-1.5
13nm,0.9s							
CHTO	Chiang Mai	20.24	359	*e*P	P	12 42 06.5	-2.4
CHTO				pmax	pmax		
comp=Z,8.0nm,0.8s							
CHTO	Chiang Mai	20.24	359	*e*P	P	12 42 06.5	-2.4
comp=Z,8.1nm,0.8s							
CHTO	Chiang Mai	20.24	359	P	P	12 42 07.8	-1.1
comp=Z,11nm,0.8s							
CHTO	Chiang Mai	20.24	359	P	P	12 42 07.8	-1.1
comp=Z,11nm,0.8s							
TTSI	Tana Toraja	20.45	95	P	Pn	12 42 15.2	+1.8
comp=Z,39nm,1.3s,comp=Z,889nm							
KAPI	Kappang	20.59	100	*e*P	P	12 42 11.3	-1.5
comp=Z,28nm,1.0s							
KAPI	Kappang	20.59	100	P	P	12 42 11.5	-1.3
comp=Z,7.5nm,0.6s,baz=318,slow=14,SNR=4.2							
PALK	Pallekele	20.62	295	*e*P	P	12 42 14.6	+1.4
comp=Z,77nm,1.4s							
PAYA	Payao	20.78	1	P	Pn	12 42 17.9	+0.6
comp=Z,5.1nm,0.8s,comp=Z,96nm							
BKSI	Bulukumba	21.01	101	P		12 42 26.0	
comp=Z,40nm,0.9s							
MRSI	Marisa	22.62	85	P	P	12 42 34.8	+0.2
comp=Z,43nm,0.7s,comp=Z,429nm							
GTOI	Gorontalo	23.70	85	P	P	12 42 43.9	-1.5
comp=Z,62nm,0.9s							
KMI	Kunming	26.71	7	P	P	12 43 10.3	-2.7
KMI				pmax	pmax		
comp=Z,8.0nm,0.6s							
SHL	Shillong	27.92	345	*e*P	P	12 43 23.0	-0.8
GYA	Guiyang	28.71	14	*e*P	P	12 43 31.8	+1.0
GYA				pP	pP	12 43 41.0	+1.5
GYA				sP	sP	12 43 48.5	+5.3
GYA				PP	PnPn	12 44 25.3	+3.3
GYA				PcP	PcP	12 46 42.8	+1.8
GYA				S	S	12 48 17.6	-0.7
GYA				sS	sS	12 48 34.3	+1.6
GYA				SS	SnSn	12 49 45.6	+5.2
GYA				ScS	ScS	12 54 11.3	-2.7
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
comp=Z,90nm,4.9s							
GYA				LR	LR		
comp=N,480nm,14.6s							
GYA				LR	LR		
comp=E,350nm,15.0s							
GYA				LR	LR		
comp=Z,430nm,14.8s							
ODAN	Odare	30.53	339	*e*P	P	12 43 47.6	+0.6
comp=Z,19nm,0.4s							
FITZ	Fitzroy Crossi	30.55	124	P	P	12 43 45.6	-1.5
FITZ	Fitzroy Crossi	30.55	124	P	P	12 43 45.6	-1.5
comp=Z,1.5nm,0.6s,baz=300,slow=7.1,SNR=4.2							
FITZ	Fitzroy Crossi	30.55	124	P	P	12 43 45.9	-1.2
baz=31,SNR=4.1							
TAPN	Taplejung	30.86	339	*e*P	P	12 43 50.6	+0.6
comp=Z,19nm,0.4s							
RAMN	Ramite	30.91	337	*e*P	P	12 43 51.1	+0.7
comp=Z,17nm,0.7s							
JIRN	Jiri	31.70	337	*e*P	P	12 43 58.3	+0.8
PKIN	Phulchoki	31.94	336	*e*P	P	12 44 00.4	+0.9
comp=Z,4.2nm,0.4s							
GUN	Gumba	32.05	337	*e*P	P	12 44 01.2	+0.6
comp=Z,35nm,0.5s							
LSA	Lhasa	32.06	346	P	P	12 44 00.8	0.0
LSA	Lhasa	32.06	346	*e*P	P	12 44 01.0	+0.2
LSA				pmax	pmax		
comp=Z,14nm,0.4s							
LSA	Lhasa	32.06	346	*e*P	P	12 44 01.0	+0.2
comp=Z,14nm,0.4s							
DMN	Daman	32.09	336	*e*P	P	12 44 01.1	+0.3
comp=Z,8.4nm,0.6s							
TPUB	Ta-pu	32.20	39	*e*P	P	12 44 00.4	-1.2
comp=Z,16nm,0.7s							
CD2	Chengdu	32.54	7	*e*P	P	12 44 06.4	+1.9
CD2				pP	pP	12 44 16.8	+3.5
CD2				sP	sP	12 44 20.5	+3.6
CD2				PP	PP	12 45 16.3	-2.1
CD2				S	S	12 49 18.4	+0.3
CD2				sS	sS	12 49 34.8	+2.2
CD2				SS	SnSn	12 51 16.6	+3.1
CD2				pmax	pmax		
comp=Z,20nm,0.8s							
CD2				pmax	pmax		
comp=Z,100nm,5.2s							
CD2				LR	LR		
comp=Z,140nm,16.4s							
KOLN	Koldanda	32.88	334	*e*P	P	12 44 07.6	-0.1
comp=Z,25nm,0.7s							
ENH	Enshi	33.07	16	*e*P	P	12 44 05.8	-3.2
comp=Z,12nm,0.7s							
XAN	Xi'an	36.51	13	P	P	12 44 35.8	-3.0
XAN				pmax	pmax		
comp=Z,6.0nm,0.7s							
XAN				pmax	pmax		
comp=Z,17nm,12.4s							
LZH	Lanzhou	37.67	6	*e*P	P	12 44 45.8	-2.9
LZH				pmax	pmax		
comp=Z,13nm,1.0s							
WRA	Warramunga Arr	38.73	121	P	P	12 44 56.3	-1.5
WRA	Warramunga Arr	38.73	121	P	P	12 44 56.3	-1.5
comp=Z,1.9nm,0.6s,baz=302,slow=9.2,SNR=25							
WRAB	Tennant Creek	38.73	121	*e*P	P	12 44 56.8	-1.0
WRAB				pmax	pmax		
comp=Z,11nm,0.6s							
WRAB	Tennant Creek	38.73	121	*e*P	P	12 44 56.8	-1.0
comp=Z,11nm,0.6s							
JOW	Kunigami	39.62	43	*e*P	P	12 45 03.4	-1.7
comp=Z,1.7nm,0.5s							
ASAR	Alice Springs	39.99	126	P	P	12 45 08.0	-0.4
ASAR				PcP	PcP	12 47 12.4	-0.8
ASAR				S	S	12 51 09.3	-2.9
ASAR	Alice Springs	39.99	126	P	P	12 45 08.0	-0.4
comp=Z,3.0nm,0.6s,baz=301,slow=6.9,SNR=23							
ASAR				PcP	PcP	12 47 12.4	-0.8
comp=Z,1.5nm,1.0s,baz=296,slow=2.6,SNR=4.0							
ASAR				S	S	12 51 09.3	-2.9
comp=Z,1.6nm,1.0s,baz=296,slow=15,SNR=7.4							
AS31	Alice Springs	39.99	126	*e*P	P	12 45 09.8	+1.5
GTA	Gaotai	40.76	0	*e*P	P	12 45 13.6	-0.9
GTA				pP	pP	12 45 23.3	-0.1
GTA				sP	sP	12 45 26.8	-0.2
GTA				pmax	pmax		
comp=Z,5.0nm,0.8s							
HHC	Hu-ho-hao-te	43.62	13	*e*P	P	12 45 37.1	-0.7
HHC				PP	PP	12 47 20.9	+1.2
HHC				ScP	ScP	12 51 12.5	-2.1
HHC				PcS	PcS	12 51 16.4	-1.3
HHC				S	S	12 52 03.5	-2.1
HHC				sS	sS	12 52 20.8	+0.4
HHC				SS	SS	12 55 12.0	-9.4
HHC				ScS	ScS	12 55 31.9	-3.5
HHC				pmax	pmax		
comp=Z,27nm,0.8s							
HHC				pmax	pmax		
comp=Z,120nm,5.6s							
HHC				LR	LR		
comp=N,560nm,16.5s							
HHC				LR	LR		
comp=E,1μm,16.1s							
HHC				LR	LR		
comp=Z,1μm,17.2s							
JNU	Nakatsue	45.50	38	*e*P	P	12 45 51.6	-1.2
comp=Z,23nm,0.8s							
JNU	Nakatsue	45.50	38	P	P	12 45 51.1	-1.7
comp=Z,21nm,0.7s,baz=157,slow=5.1,SNR=17							
KSH	Kashi	46.17	335	P	P	12 45 58.8	+0.6
KSH				sP	sP	12 46 11.9	+1.1
KSH				PP	PP	12 47 46.8	-0.1
KSH				S	S	12 52 40.0	-2.7
KSH				sS	sS	12 52 56.0	-1.5
KSH				SS	ScS	12 55 57.0	+5.2
KSH				pmax	pmax		
comp=Z,4.0nm,0.6s							
KSH				pmax	pmax		
comp=Z,69nm,4.0s							
KSH				LR	LR		
comp=N,560nm,5.0s							
KSH				LR	LR		
comp=E,360nm,4.6s							
KSH				LR	LR		
comp=Z,600nm,12.7s							
WMQ	Urumqi	46.37	348	P	P	12 46 00.4	+0.8
WMQ				pP	pP	12 46 10.3	+1.7
WMQ				PP	PP	12 47 47.0	-1.9
WMQ				pmax	pmax		
comp=Z,26nm,1.0s							
WMQ				pmax	pmax		
comp=Z,110nm,4.0s							
KSAR	Wonju Array Be	46.91	31	P	P	12 46 02.5	-1.3
KSRS	Korea Array	46.94	31	P	P	12 46 02.5	-1.5
comp=Z,7.1nm,0.6s,baz=224,slow=7.8,SNR=48							
TKM2	Tokmak 2	49.19	337	*e*P	P	12 46 22.3	+0.7
TKM2				pmax	pmax		
comp=Z,11nm,0.6s							
TKM2	Tokmak 2	49.19	337	*e*P	P	12 46 22.3	+0.7
comp=Z,11nm,0.6s							
SONM	Songino Array	49.56	6	P	P	12 46 23.9	-0.4
SONM	Songino Array	49.56	6	P	P	12 46 23.9	-0.4
comp=Z,6.5nm,0.6s,baz=185,slow=9.1,SNR=21							
ULN	Ulaanbaatar	49.66	7	*e*P	P	12 46 23.9	-1.2
comp=Z,4.6nm,0.8s							
EKS2	Erkin-Say	49.71	335	*e*P	P	12 46 26.3	+0.8
EKS2				pmax	pmax		
comp=Z,6.0nm,0.6s							
EKS2	Erkin-Say	49.71	335	*e*P	P	12 46 26.3	+0.8
comp=Z,5.8nm,0.6s							
STKA	Stephens Creek	49.89	132	*e*P	P	12 46 27.2	+0.3
comp=Z,2.3nm,1.1s							
STKA	Stephens Creek	49.89	132	P	P	12 46 26.9	0.0
comp=Z,3.2nm,0.7s,baz=289,slow=22,SNR=5.6							
MK31	Makanchi Array	50.44	345	*e*P	P	12 46 30.4	-0.4
MK31	Makanchi Array	50.44	345	*e*P	P	12 46 30.4	-0.4
MKAR	Makanchi Array	50.44	345	*e*P	P	12 46 33.0	+2.2
MKAR	Makanchi Array	50.44	345	*e*P	P	12 46 30.5	-0.4
MKAR	Makanchi Array	50.44	345	P	P	12 46 30.9	+0.1
comp=Z,9.8nm,0.4s,baz=159,slow=8.2,SNR=7.4							
CN2	Changchun	50.81	24	*e*P	P	12 46 36.3	+2.6
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
MJAR	Matsushiro Arr	52.30	40	P	P	12 46 42.6	-2.4
MJAR	Matsushiro Arr	52.30	40	P	P	12 46 42.6	-2.4
comp=Z,1.5nm,0.7s,baz=226,slow=7.3,SNR=8.4							
HVS	Khovu-Aksy	52.71	355‖	*e*P	P	12 46 47.0	-0.8
HVS				pmax	pmax		
comp=Z,18nm,0.7s							
CMSA	Cobar Meteorol	52.85	129	P	P	12 46 49.7	+0.6
baz=53,SNR=8.7							
USRK	Ussuriysk Arra	54.04	29	P	P	12 46 56.4	-1.2
comp=Z,15nm,0.7s,baz=230,slow=5.5,SNR=36							
ZAA0	Zalesovo Array	56.62	350	*e*P	P	12 47 15.3	-0.7
ZALV	Zalesovo Beam	56.62	350	P	P	12 47 15.4	-0.6
ZALV	Zalesovo Beam	56.62	350	P	P	12 47 15.3	-0.6
ZALV	Zalesovo Beam	56.62	350	P	P	12 47 15.3	-0.6
comp=Z,14nm,0.6s,baz=168,slow=5.7,SNR=46							
NVS	Novosibirsk	57.76	349	*e*P	P	12 47 22.3	-1.7
NVS				pmax	pmax		
comp=Z,6.0nm,0.8s							
NVS				pmax	pmax		
comp=N,4.0nm,0.7s							
NVS				pmax	pmax		
comp=E,3.0nm,0.7s							
RAYN	Ar Rayn	58.00	299	*e*P	P

comp=Z,3.0nm,0.7s,baz=1.0,slow=6.9,SNR=9.6
MAW Mawson 70.58 194 P P 12 48 49.9 +2.0
baz=71,SNR=5.2
BRTR Keskin Array B 72.58 313 P P 12 48 59.5 -1.3
BRTR Keskin Array B 72.58 313 P P 12 48 59.5 -1.3
comp=Z,1.4nm,0.5s,baz=140,slow=6.7,SNR=8.3
PETK Petropavlovsk- 72.82 32 P P 12 49 00.4 -1.3
PETK Petropavlovsk- 72.82 32 P P 12 49 00.4 -1.3
PETK Petropavlovsk- 72.82 32 P P 12 49 00.4 -1.3
comp=Z,3.8nm,0.8s,baz=199,slow=4.1,SNR=6.2
PET Petropavlovsk 73.29 33 *eP* P 12 49 07.7 +3.2
BOSA Boshof 75.36 241 P P 12 49 17.6 +0.3
BOSA Boshof 75.36 241 P P 12 49 17.6 +0.3
comp=Z,1.9nm,0.9s,baz=158,slow=5.2,SNR=5.4
SEY Seymchan 75.43 22 ||*iP* **P 12 49 15.8 -0.9**
OBN Obninsk 76.10 328 *eP* **P 12 49 20.4 -0.3**
OBN *e* 12 49 31.4
OBN pmax pmax
comp=Z,5.0nm,1.5s
BUR08 Bucovina Ar. S 80.55 319 *eP* **P 12 49 45.9 +0.2**
VNDA Vanda 82.72 169 P P **12 49 56.9 +0.5**
VNDA Vanda 82.72 169 P P **12 49 56.9 +0.5**
comp=Z,0.9nm,0.7s,baz=300,slow=8.0,SNR=6.2
KOLS Kolonicke sedl 82.73 320 *eP* **P 12 49 57.5 +0.5**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 82.73 320 *eP* **P 12 49 57.5 +0.5**
FINES FINESS Array B 83.44 332 P P **12 49 59.9 -0.4**
FINES FINESS Array B 83.44 332 P P **12 49 59.9 -0.4**
comp=Z,1.8nm,0.5s,baz=114,slow=4.5,SNR=11
STHS Stebnicka Huta 83.48 320 *eP* **P 12 50 01.2 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 83.48 320 *eP* **P 12 50 01.1 +0.2**
KAF Kangasniemi 83.52 333 *eP* **P 12 50 00.4 -0.3**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 83.52 333 *ep* **P 12 50 00.4 -0.3**
comp=Z,0.8nm,0.4s
SBA Scott Base 83.81 169 *eP* **P 12 50 03.3 +1.3**
SBA pmax pmax
comp=Z,3.0nm,0.8s
SBA Scott Base 83.81 169 *eP* **P 12 50 03.3 +1.3**
comp=Z,2.6nm,0.8s
KECS Kecovo 83.81 319 *eP* P 12 50 07.0 +4.4
KECS Kecovo 83.81 319 *ep*P P 12 50 07.0 +4.4
ARCES ARCESS Array B 85.85 340 P **P 12 50 12.8 +0.4**
ARCES ARCESS Array B 85.85 340 P **P 12 50 12.8 +0.4**
comp=Z,2.4nm,0.7s,baz=90,slow=4.9,SNR=6.9
GERES GERESS Array B 88.32 319 P **P 12 50 24.7 -0.3**
GERES GERESS Array B 88.32 319 P **P 12 50 24.7 -0.3**
comp=Z,0.6nm,0.7s,baz=88,slow=3.2,SNR=6.1
QSPA South Pole Qui 88.41 180 *eP* **P 12 50 25.7 +0.7**
comp=Z,6.3nm,1.0s
CLL Collm 88.94 321 *eP* P 12 50 35.0 +7.3
CLL Collm 88.94 321 *e*(sP) P 12 50 35.0 +7.3
SPITS Spitsbergen Ar 90.07 348 P **P 12 50 31.7 -0.8**
SPITS Spitsbergen Ar 90.07 348 P **P 12 50 31.7 -0.8**
comp=Z,1.8nm,0.5s,baz=102,slow=7.8,SNR=25
FUORN Ofenpass-Fuorn 90.53 316 *eP* **P 12 50 36.5 +0.9**
comp=Z,3.8nm,0.8s
DAVOX Davos/Dischmat 90.79 317 P **P 12 50 36.6 -0.1**
DAVOX Davos/Dischmat 90.79 317 P **P 12 50 36.6 -0.1**
comp=Z,2.7nm,0.6s,baz=153,slow=5.9,SNR=7.1
KEST Kesra 90.95 306 P **P 12 50 37.6 +0.1**
KEST Kesra 90.95 306 P **P 12 50 37.6 +0.1**
comp=Z,1.3nm,0.8s,baz=318,slow=4.5,SNR=4.2
TORD Torodi Ar. Bea 97.86 283 P **P 12 51 09.3 -0.2**
TORD Torodi Ar. Bea 97.86 283 P **P 12 51 09.3 -0.2**
comp=Z,0.6nm,0.9s,baz=87,slow=5.7,SNR=2.9
IMA2 Indian Mountai 98.22 23 *eP* **P 12 51 09.6 -0.6**
NVAR Mina Array Bea 129.62 39 PKP **PKPdf 12 56 43.9 +1.0**
NVAR Mina Array Bea 129.62 39 PKP **PKPdf 12 56 43.9 +1.0**
comp=Z,0.4nm,0.8s,baz=256,slow=2.7,SNR=2.3
526A Mary Lane Ranc 143.91 36 P PKPab 12 57 07.2 +0.8
baz=144
329A Wagon Wheel Ra 144.01 32 P PKPab 12 57 06.0 -0.7
baz=144
527A Woodward Ranch 144.13 35 P **PKPab 12 57 07.8 +0.5**
baz=144,SNR=7.9
230A Sterling City 144.14 31 P **PKPab 12 57 07.9 +0.7**
baz=144
428A Kincaid Ranch, 144.21 34 P **PKPab 12 57 08.0 +0.5**
baz=144
626A Big Bend Ranch 144.25 37 P **PKPab 12 57 08.3 +0.6**
baz=144,SNR=6.8
CPUP Villa Florida 144.33 217 PKP **PKPab 12 57 08.8 +0.9**
CPUP Villa Florida 144.33 217 PKP **PKPab 12 57 08.8 +0.9**
comp=Z,8.5nm,0.7s,baz=102,slow=3.1,SNR=28
330A Mertzon 144.49 31 P **PKPab 12 57 08.2 -0.3**
baz=144
528A Cox Ranch, San 144.59 34 P **PKPab 12 57 08.7 -0.3**
baz=144
TXAR Lajitas Array 144.69 36 PKP **PKPab 12 57 09.8 +0.5**
TXAR Lajitas Array 144.69 36 PKP **PKPab 12 57 09.8 +0.5**
comp=Z,3.3nm,0.5s,baz=264,slow=1.3,SNR=46
429A Davenport Ranc 144.73 33 P **PKPab 12 57 09.1 -0.3**
baz=144
627A Terlingua Ranc 144.77 36 P **PKPab 12 57 10.0 +0.4**
baz=145,SNR=16
232A Coleman 144.87 29 P **PKPab 12 57 08.9 -0.9**
baz=145
529A Stev Forest Ra 144.93 34 P **PKPab 12 57 09.6 -0.6**
baz=145
430A Baggett Ranch, 144.95 32 P **PKPab 12 57 09.6 -0.6**
baz=145
MIAR Mount Ida 145.00 19 *e*PKIKP **PKPab 12 57 09.7 -0.5**
MIAR Mount Ida 145.00 19 *e*PKPdf **PKPab 12 57 09.7 -0.5**
628A Black Gap, Mar 145.03 35 P **PKPab 12 57 10.5 -0.1**
baz=145
TZTN Tazewell 145.07 4 *e*PKPdf **PKPab 12 57 09.2 -1.2**
332A Millersview 145.24 29 P **PKPbc 12 57 10.1 -1.0**
baz=145,SNR=9.2
431A Sonora 145.36 31 P **PKPbc 12 57 11.0 -0.6**
baz=145
530A J-C Ranch, Com 145.40 33 P **PKPbc 12 57 11.9 +0.2**
baz=145,SNR=16
432A Menard 145.62 30 P **PKPdf 12 57 11.6 -0.6**
baz=145
531A Rocksprings 145.81 32 P **PKPdf 12 57 12.8 +0.3**
baz=146,SNR=17
TKL Tuckaleechee C 145.93 5 PKPbc **PKPdf 12 57 11.4 -1.1**
TKL *e*PKPdf **PKPbc 12 57 11.9 -1.2**
TKL Tuckaleechee C 145.93 5 PKPbc **PKPdf 12 57 11.4 -1.1**
comp=Z,4.5nm,0.7s,baz=108,slow=3.6,SNR=12
JCT Junction City 145.94 30 *e*PKP2 **PKPdf 12 57 13.0 +0.3**
JCT Junction City 145.94 30 *e*PKPbc **PKPdf 12 57 13.0 +0.3**
JCT Junction City 145.94 30 P **PKPdf 12 57 13.2 +0.5**
baz=146,SNR=18
CPCT Cooper Cave 146.07 6 *e*PKPdf **PKPdf 12 57 12.4 -0.4**
532A Rocksprings 146.17 31 P **PKPdf 12 57 13.2 +0.1**
baz=146
KMSC Kings Mountain 146.57 1 *e*PKPdf **PKPdf 12 57 13.7 +0.1**
632A Uvalde 146.73 31 P **PKPbc 12 57 16.0 +0.3**
baz=146,SNR=6.7
LRAL Lakeview Retre 148.10 10 *e*PKPdf **PKPdf 12 57 17.6 +1.4**
LPAZ La Paz 158.43 214 PKP **PKPdf 12 57 31.8 -0.4**
LPAZ La Paz 158.43 214 PKP **PKPdf 12 57 31.8 -0.4**
comp=Z,0.6nm,0.7s,baz=234,slow=6.8,SNR=3.6

SZGRF ***16*** *12:48:56.4,3˚.26S×99˚.18E, h34km, mb6.1, MS5.4, Southwest of Sumatera, Indonesia*
BJI ***16*** *12:48:56.2, 1˚.86S×99˚.61E, h32km, mB5.9/45, mb5.5/44, Ms6.1/74, Ms7 6.0/69*
AUST ***16*** *12:48:58.3±0.7, 1˚.50S×99˚.46E, h4km, Error ellipse: s-maj=0.7km s-min=0.5km az=233.0*
MOS ***16*** *12:49:00.3±0.9, 1˚.36S×99˚.52E, h33km, mb6.1/91, MS5.6/62, Error ellipse: s-maj=7.2km s-min=3.8km az=115.7*
NEIC ***16*** *12:49:00.1±0.1, 1˚.45S×99˚.43E, h21km, mb6.0/103, ME5.8, MS5.6/139, MW5.7, MW5.7, MW5.8(USGS), Error ellipse: s-maj=3.9km s-min=3.6km az=56.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^17^Nm; Mrr1.61; Mθθ1.03; Mφφ-2.64; Mrθ-1.11; Mθφ0.04; Mφr3.35; Best double couple: M0=4.20000×10^17^ NP1:φs=208.00000°, δ20.00000°, λ135.00000°. NP2:φs=341.00000°, δ76.00000°, λ76.00000°. Principal axes: T 3.7900, Plg56.0000°, Azm232.0000°; N 0.7600, Plg13.0000°, Azm345.0000°; P -4.5400, Plg29.0000°, Azm83.0000°; Broadband fault plane solution: P waves. NP1:φs=155.00000°, δ15.00000°, λ90.00000°. NP2:φs=335.00000°, δ75.00000°, λ90.00000°.*
Principal axes: T Plg60.0000°, Azm245.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm65.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
NEIC Felt [III] at Padangpanjang, Sumatra. Felt at Petaling Jaya, Malaysia and in Singapore.
NEIC ***16*** *12:49:00.0±0.0, 1˚.45S×99˚.43E, h20km*
ISCJB ***16*** *12:49:00.6±0.4, 1˚.40S±0˚.02×99˚.48E±0˚.02, h36km±3km, mb5.9/289, MS5.6/214, Error ellipse: s-maj=3.4km s-min=2.5km az=34.7*
DJA ***16*** *12:49:02.6±0.6,2˚S±2˚×9˚9E±˚, h34km±5km, M6.0/96, mb6.0/96, mBE.3/89, MLv6.4/20, Mw(mB)6.0/89*
GCMT ***16*** *12:49:03.2±0.1, 1˚.46S×99˚.42E, h14km, MW5.8, Moment Tensor Solution. s101,c185; s55,c62; Moment tensor: Scale 10^17^Nm; Mrr5.15±.07; Mθθ-0.61±.05; Mφφ-4.54±.06; Mrθ-1.01±.13; Mθφ1.50±.04; Mφr3.79±.16; Best double couple: M0=6.40000×10^17^ NP1:φs=344.00000°, δ64.00000°, λ92.00000°. NP2:φs=159.00000°, δ26.00000°, λ86.00000°. Principal axes: T 6.4900, Plg71.0000°, Azm258.0000°; N -0.1100, Plg2.0000°, Azm163.0000°; P -6.3800, Plg19.0000°, Azm72.0000°; Data Used: II IU CN IC G. Surface waves: sta=109, comp=231, per= 50.*
IDC ***16*** *12:49:03.7±1.8, 1˚.44S×99˚.57E, h49km±16km, mb5.2/34, mb1 5.3/36, mb1mx5.3/36, mbtmp5.2/36, ML5.0/2, MS5.5/32, Ms1 5.5/32, ms1mx5.4/44 Error ellipse: s-maj=11.5km s-min=8.1km az=34.0*
NEIC ***16*** *12:49:13.2±0.0, 1˚.72S×99˚.22E, h10km, Moment Tensor Solution. s146 Moment tensor: Scale 10^17^Nm; Mrr4.66; Mθθ-1.09; Mφφ-3.57; Mrθ-1.28; Mθφ1.34; Mφr1.83; Best double couple: M0=4.90000×10^17^ NP1:φs=160.00000°, δ32.00000°, λ97.00000°. NP2:φs=332.00000°, δ58.00000°, λ86.00000°. Principal axes: T 5.2100, Plg76.0000°, Azm228.0000°; N -0.5300, Plg3.0000°, Azm334.0000°; P -4.6700, Plg13.0000°, Azm64.0000°;*
ISC 16 12:49:02.0±0.2, 1˚.39S±0˚.03×99.44E±0˚.03, h39km±2km, h39km:pP-P, n1552, σ1552/1583, mb6.0/294, MS5.6/217, 162C-47D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.33**	**46**	P	**Pn**	**12 49 24.2**	**+0.1**
PPI	**Padang Panjang**	**1.33**	**46**	P	**Pn**	**12 49 24.2**	**+0.1**
baz=1.4,SNR=582							
PPI				S	**Sn**	**12 49 45.0**	**+4.4**
baz=1.4,SNR=1000							
KRJI	**Kerinci**	**2.14**	**109**	P	Pn	12 49 41.6	+6.3
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pn**	**12 49 39.0**	**+1.1**
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pn**	**12 49 39.1**	**+1.2**
baz=2.4,SNR=42							
RGRI	**Rengat**	**3.07**	**70**	P	**Pn**	**12 49 49.2**	**+1.2**
MASI	**Maura Aman, Be**	**3.30**	**122**	P	**Pn**	**12 49 51.3**	**+0.2**
KSI	**Kapahiang**	**3.87**	**126**	P	**Pn**	**12 49 59.4**	**+0.4**
PSI	**Prapat**	**4.20**	**353**	P	**Pn**	**12 50 03.5**	**-0.1**
PSI	**Prapat**	**4.20**	**353**	P	**Pn**	**12 50 03.5**	**-0.1**
32nm,0.3s,baz=164,slow=12,SNR=131							
PSI				LR	LR	12 51 59.1	
comp=Z,53μm,19.2s,baz=170,slow=42							
PSI	**Prapat**	**4.20**	**353**	P	**Pn**	**12 50 03.1**	**-0.5**
baz=4.2,SNR=162							
MNAI	**Manna**	**4.59**	**130**	P	**Pn**	**12 50 08.3**	**-0.6**
MNAI				S	**Sn**	**12 51 01.8**	**+0.8**
MNAI	**Manna**	**4.59**	**130**	P	**Pn**	**12 50 08.4**	**-0.4**
baz=4.5,SNR=103							
MNAI				S	**Sn**	**12 51 01.2**	**+0.3**
baz=4.5,SNR=5.6							
SNSI	**Sinabang, Aceh**	**4.89**	**320**	P	**Pn**	**12 50 13.9**	**+0.9**
TSI	**Tuntungan**	**4.94**	**350**	P	**Pn**	**12 50 15.6**	**+2.0**
FRIM	**Kepong**	**5.09**	**25**	P	**Pn**	**12 50 17.1**	**+1.4**
BTDF	**Bukit Timah Da**	**5.12**	**58**	P	**Pn**	**12 50 17.0**	**+0.8**
baz=5.2,SNR=28							
BTDF				P	**Pn**	**12 50 17.0**	**+0.8**
baz=5.2,SNR=28							
KCSI	**Kotacane, Aceh**	**5.16**	**341**	P	**Pn**	**12 50 16.6**	**-0.1**
1μm,1.2s,72μm20nm							
MYKOM	**Kota Tinggi**	**5.43**	**54**	P	**Pn**	**12 50 21.9**	**+1.6**
MYKOM	**Kota Tinggi**	**5.43**	**54**	P	**Pn**	**12 50 21.1**	**+0.7**
581nm,0.9s,36μm34nm							
PMBI	**Palembang**	**5.54**	**106**	P	**Pn**	**12 50 23.3**	**+1.3**
PMBI	**Palembang**	**5.54**	**106**	P	Pn	12 50 25.7	+3.7
baz=5.5,SNR=3.8							
LWLI	**Liwa**	**5.85**	**128**	P	**Pn**	**12 50 26.3**	**-0.1**
11μm,0.8s,128μm48nm							
IPM	**Ipoh**	**6.04**	**15**	*e*Pn	**Pn**	**12 50 31.3**	**+2.4**
IPM	**Ipoh**	**6.04**	**15**	P	**Pn**	**12 50 31.6**	**+2.7**
IPM	**Ipoh**	**6.04**	**15**	P	**Pn**	**12 50 31.9**	**+3.0**
954nm,1.0s,21μm14nm							
KLSI		**6.22**	**122**	P	**Pn**	**12 50 31.6**	**+0.3**
2μm,1.1s,21μm11nm							
KLSI				S	**Sn**	**12 51 43.3**	**+2.2**
2μm,1.1s,21μm11nm							
KLI	**Kotabumi**	**6.42**	**123**	P	**Pn**	**12 50 34.5**	**+0.5**
3μm,1.2s,39μm18nm							
KASI	**Kota Agung**	**6.51**	**129**	P	**Pn**	**12 50 34.2**	**-1.0**
2μm,1.2s,63μm21nm							
PPBI	**Pangkal Pinang**	**6.74**	**97**	P	**Pn**	**12 50 39.9**	**+1.5**
363nm,1.0s,8μm11nm							
KULM	**Kulim**	**6.75**	**10**	*e*Pn	**Pn**	**12 50 39.4**	**+0.8**
KULM	**Kulim**	**6.75**	**10**	P	**Pn**	**12 50 40.5**	**+1.9**
KULM	**Kulim**	**6.75**	**10**	P	**Pn**	**12 50 40.4**	**+1.9**
456nm,1.1s,14μm7.4nm							
BLSI	**Bandar Lampung**	**7.01**	**124**	P	**Pn**	**12 50 42.4**	**+0.2**
2μm,1.1s,17μm5.8nm							
LHMI	**Lhok Sumawe**	**7.03**	**339**	P	Pn	12 50 45.9	+3.5
449nm,1.0s,24μm13nm							
LHMI	**Lhok Sumawe**	**7.03**	**339**	P	**Pn**	**12 50 43.4**	**+1.0**
baz=7.2,SNR=16							
KTGM	**Kuala Trenggan**	**7.63**	**29**	P	**Pn**	**12 50 52.4**	**+1.8**
BSI	**Banda Aceh**	**7.99**	**329**	P	**Pn**	**12 50 54.7**	**-1.0**
554nm,1.1s,8μm4.1nm							
SBJI	**Serang**	**8.16**	**125**	P	**Pn**	**12 50 57.5**	**-0.5**
1μm,1.0s,14μm5.2nm							
TPI	**Tanjungpandan**	**8.32**	**100**	P	**Pn**	**12 51 02.7**	**+2.6**
330nm,0.8s,6μm1.2nm							
TNG	**Tangerang**	**8.62**	**124**	P	**Pn**	**12 51 04.6**	**+0.4**
3μm,0.8s,37μm11nm							
TNG	**Tangerang**	**8.62**	**124**	P	**Pn**	**12 51 04.7**	**+0.5**
5μm,0.8s,51μm18nm							
DBJI	**Dramaga**	**8.91**	**125**	P	**Pn**	**12 51 07.3**	**-1.0**
3μm,1.1s,20μm6.8nm							
SKJI	**Sukabumi**	**9.03**	**128**	P	**Pn**	**12 51 07.4**	**-2.4**
2μm,0.9s,19μm7.8nm							
LEM	**Lembang**	**9.78**	**124**	P	**Pn**	**12 51 19.8**	**-0.5**
1μm,1.1s,18μm							
LEM	**Lembang**	**9.78**	**124**	P	**Pn**	**12 51 21.8**	**+1.5**
baz=9.7,SNR=20							
CMBY	**CAMPBELL BAY**	**9.99**	**327**	*e*P	**Pn**	**12 51 22.5**	**-0.6**
CMBY				AMB	AMB	12 52 13.4	
comp=Z,392nm,0.9s							
CISI	**Cisompet, Garu**	**10.35**	**127**	P	Pn	12 51 24.8	-3.3
comp=Z,2μm,0.7s,comp=Z,15μm							
CISI	**Cisompet, Garu**	**10.35**	**127**	P	Pn	12 51 24.7	-3.3
baz=10,SNR=67							
CISI				S	Sn	12 53 14.0	-8.9
baz=10,SNR=7.0							
XMI	**Christmas Isla**	**10.94**	**146**	P	Pn	12 51 30.6	-5.4
baz=11,SNR=7.5							
XMI				S	Sn	12 53 23.4	-14
baz=11,SNR=6.6							
XMIS	**Christmas Isla**	**10.94**	**146**	P	Pn	12 51 31.0	-5.0
baz=11,SNR=5.6							
XMIS				S	Sn	12 53 19.3	-18
baz=11,SNR=5.0							
COCO	**West Island**	**11.04**	**193**	*e*P	**Pn**	**12 51 34.5**	**-2.8**
COCO	**West Island**	**11.04**	**193**	*e*Pn	**Pn**	**12 51 34.5**	**-2.8**
KSM	**Kuching**	**11.23**	**75**	*e*Pn	**Pn**	**12 51 41.5**	**+1.4**
KSM				*e*Sn	Sn	12 53 56.8	+12
KSM	**Kuching**	**11.23**	**75**	P	**Pn**	**12 51 43.0**	**+2.9**
KSM	**Kuching**	**11.23**	**75**	P	Pn	12 51 43.7	+3.6
comp=Z,128nm,3.0s,comp=Z,7μm							
KSM	**Kuching**	**11.23**	**75**	P	Pn	12 51 43.6	+3.5
baz=11,SNR=28							
BJII	**Banjamegara**	**11.82**	**120**	P	**Pn**	**12 51 47.4**	**-0.7**
comp=Z,383nm,1.1s,comp=Z,7μm							
STKI	**Sintang**	**12.12**	**83**	P	Pn	12 51 56.2	+3.9
comp=Z,533nm,1.3s,comp=Z,13μm							
PBKI	**Pangkalan Bun**	**12.29**	**96**	P	Pn	12 51 58.0	+3.4
comp=Z,1μm,1.3s,comp=Z,12μm							
YOGI	**Yogyakarta**	**12.56**	**121**	P	**Pn**	**12 51 57.1**	**-1.1**
comp=Z,1μm,1.2s,comp=Z,21μm							
UGM	**Wanagama**	**12.80**	**121**	*e*Pn	Pn	12 51 58.7	-2.9
UGM	**Wanagama**	**12.80**	**121**	P	**Pn**	**12 51 59.3**	**-2.3**
comp=Z,971nm,0.9s,comp=Z,19μm							
UGM	**Wanagama**	**12.80**	**121**	P	Pn	12 51 58.7	-2.9
baz=13,SNR=21							
SBUM	**Sibu**	**13.34**	**73**	P	Pn	12 52 12.0	+3.2
SBUM	**Sibu**	**13.34**	**73**	P	Pn	12 52 12.0	+3.2
comp=Z,492nm,1.4s,comp=Z,17μm							
PCJI	**Pacitan**	**13.51**	**120**	P	Pn	12 52 07.6	-3.5
comp=Z,466nm,0.9s,comp=Z,9μm							
SJI	**Sawahan**	**13.81**	**118**	P	**Pn**	**12 52 13.2**	**-2.1**
comp=Z,530nm,1.0s,comp=Z,7μm							
PWJI	**Pagerwojo**	**13.97**	**119**	P	Pn	12 52 14.3	-3.2
comp=Z,483nm,0.9s,comp=Z,13μm							
BTM	**Bintulu**	**14.38**	**72**	P	**Pn**	**12 52 26.1**	**+3.1**
PBA	**Port Blair**	**14.57**	**333**	*e*P	Pn	12 52 25.8	+0.2
PBA				AMB	AMB	12 53 06.0	
comp=Z,266nm,0.4s							
KRKI	**Karangkates**	**14.60**	**118**	P	**Pn**	**12 52 23.8**	**-2.2**
comp=Z,664nm,0.7s,comp=Z,14μm							
BLJI	**Banyuglugur**	**15.45**	**115**	P	**Pn**	**12 52 39.6**	**+2.3**
comp=Z,422nm,0.8s,comp=Z,5μm							
MTKI	**Muara Teweh, K**	**15.46**	**89**	P	**Pn**	**12 52 39.5**	**+2.1**
comp=Z,945nm,1.1s,comp=Z,18μm							
BBKI	**Banjar Baru**	**15.53**	**98**	P	**Pn**	**12 52 38.6**	**+0.4**
comp=Z,792nm,1.8s,comp=Z,16μm							
GMJI	**Gumukmas**	**15.53**	**117**	P	**Pn**	**12 52 38.2**	**-0.1**
comp=Z,215nm,1.3s,comp=Z,6μm							
KMMI	**Kalianget**	**15.54**	**112**	P	**Pn**	**12 52 37.7**	**-0.7**
comp=Z,836nm,1.0s,comp=Z,9μm							
DGPR	**DIGLIPUR**	**15.85**	**336**	*ex*	Pn	12 52 37.5	-4.9
BYJI	**Banyuwangi**	**16.33**	**115**	P	**P**	**12 52 55.5**	**+4.5**
comp=Z,885nm,1.1s,comp=Z,22μm							
KBKI	**Kotabaru**	**16.82**	**97**	P	**Pn**	**12 52 54.6**	**-0.1**
comp=Z,688nm,1.1s,comp=Z,7μm							
SRBI	**Singaraja**	**17.06**	**113**	P	**Pn**	**12 52 57.2**	**-0.5**
comp=Z,518nm,1.0s,comp=Z,7μm							
IGBI	**Denpasar**	**17.29**	**116**	P	**Pn**	**12 53 01.5**	**+1.0**
comp=Z,289nm,1.1s,comp=Z,4μm							
BKB	**Balikpapan**	**17.45**	**90**	P	**P**	**12 53 06.5**	**+3.0**
comp=Z,1μm,1.4s,comp=Z,21μm							
SGKI	**Sangatta, Kali**	**18.18**	**87**	P	P	12 53 16.4	+4.8
comp=Z,594nm,2.6s,comp=Z,13μm							
KKM	**Kota Kinabalu**	**18.31**	**66**	*e*P	**Pn**	**12 53 14.0**	**+0.8**
comp=Z,454nm,0.8s							
KKM	**Kota Kinabalu**	**18.31**	**66**	P	**Pn**	**12 53 14.5**	**+1.3**
KKM	**Kota Kinabalu**	**18.31**	**66**	P	**Pn**	**12 53 14.4**	**+1.2**
comp=Z,709nm,0.9s,comp=Z,13μm							
KKM	**Kota Kinabalu**	**18.31**	**66**	P	**Pn**	**12 53 14.3**	**+1.2**
baz=18,SNR=42							
SDKM	**Sandakan**	**19.06**	**68**	P	**Pn**	**12 53 22.9**	**+0.7**
KDM	**Kudat**	**19.22**	**64**	P	**Pn**	**12 53 25.7**	**+1.6**
TSM	**Tawau**	**19.27**	**73**	P	**Pn**	**12 53 25.1**	**+0.4**
MMSI	**Mamuju**	**19.50**	**94**	P	**P**	**12 53 26.4**	**+0.3**
comp=Z,2μm,1.2s,comp=Z,18μm							
CM31	**Chiang Mai Arr**	**19.73**	**359**	*e*P	**P**	**12 53 29.2**	**+0.8**
comp=Z,106nm,0.7s							
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**Pn**	**12 53 29.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**Pn**	**12 53 29.7**	**-0.4**
comp=Z,4.5nm,0.3s,baz=187,slow=10,SNR=73							
CMAR				LR	LR	13 01 44.9	
comp=Z,24μm,18.3s,baz=185,slow=38							
CHTO	**Chiang Mai**	**20.08**	**359**	*e*P	**P**	**12 53 33.0**	**+0.7**
CHTO				pmax	pmax		
comp=Z,238nm,1.2s							
CHTO				MLR	MLR		
comp=Z,20μm,20.0s							
CHTO	**Chiang Mai**	**20.08**	**359**	P	**P**	**12 53 33.4**	**+1.1**
SNR=83							
CHTO	**Chiang Mai**	**20.08**	**359**	*e*P	**P**	**12 53 33.0**	**+0.7**
comp=Z,238nm,1.2s							
CHTO				LR	LR		
comp=Z,20μm,20.0s							
CHTO	**Chiang Mai**	**20.08**	**359**	P	**P**	**12 53 33.0**	**+0.7**
comp=Z,81nm,1.1s,comp=Z,3μm							
MYLDM	**Lahad Datu**	**20.13**	**71**	P	Pn	12 53 34.6	-0.3
MYLDM	**Lahad Datu**	**20.13**	**71**	P	Pn	12 53 34.7	-0.2
comp=Z,412nm,1.1s,comp=Z,11μm							
TTSI	**Tana Toraja**	**20.43**	**95**	P	**P**	**12 53 36.5**	**+0.4**
comp=Z,1μm,1.1s,comp=Z,12μm							
SPSI	**Sidrap Palu**	**20.47**	**98**	P	**P**	**12 53 35.7**	**-0.8**
comp=Z,374nm,1.1s,comp=Z,6μm							
PALK	**Pallekele**	**20.58**	**295**	Pn	Pn	12 53 40.1	-0.1
comp=Z,2μm,1.1s,SNR=12							
PALK	**Pallekele**	**20.58**	**295**	P	Pn	12 53 40.2	-0.1
SNR=27							
PALK	**Pallekele**	**20.58**	**295**	*e*P	Pn	12 53 39.5	-0.7
comp=Z,595nm,1.2s							
PALK	**Pallekele**	**20.58**	**295**	P	Pn	12 53 40.3	+0.1
comp=Z,458nm,1.7s,comp=Z,11μm							
KAPI	**Kappang**	**20.60**	**101**	P	**P**	**12 53 36.8**	**-1.1**
comp=Z,3μm,0.9s,SNR=47							
KAPI	**Kappang**	**20.60**	**101**	P	**P**	**12 53 36.7**	**-1.2**
SNR=58							
KAPI	**Kappang**	**20.60**	**101**	*e*P	**P**	**12 53 36.0**	**-1.9**
comp=Z,661nm,1.0s							
KAPI				LR	LR		
comp=Z,18μm,20.0s							
KAPI	**Kappang**	**20.60**	**101**	P	**P**	**12 53 36.2**	**-1.7**
comp=Z,691nm,1.0s,comp=Z,6μm							
KAPI	**Kappang**	**20.60**	**101**	P	**P**	**12 53 36.3**	**-1.6**
comp=Z,511nm,0.9s,baz=281,slow=12,SNR=77							
BKSI	**Bulukumba**	**21.01**	**101**	P	**P**	**12 53 41.7**	**-0.7**
comp=Z,574nm,1.0s,comp=Z,7μm							
TOLI	**Toli-Toli**	**21.50**	**83**	P	**P**	**12 53 48.1**	**+0.4**
comp=Z,1μm,0.9s,comp=Z,13μm							
BSSI	**Bau Bau, Buton**	**21.52**	**103**	P	**P**	**12 53 48.6**	**+0.7**
comp=Z,675nm,1.1s,comp=Z,16μm							
LBFI	**Labuhan Bajo,**	**21.55**	**110**	P	**P**	**12 53 48.9**	**+0.7**
comp=Z,368nm,0.8s,comp=Z,11μm							
SKSI	**Soroako, Sulaw**	**21.91**	**93**	P	**P**	**12 53 52.2**	**0.0**
comp=Z,320nm,1.0s,comp=Z,5μm							
WSI	**Waingapu**	**22.32**	**112**	P	P	12 54 08.1	+12
WSI	**Waingapu**	**22.32**	**112**	S	**S**	**12 58 01.4**	**+1.7**
baz=22,SNR=3.5							
KKSI	**Kolaka, Sulawe**	**22.36**	**98**	P	**P**	**12 53 57.8**	**+0.9**

KMI ScP **ScP** **13 01 39.0 +1.2**
KMI pmax pmax
comp=Z,81nm,1.0s
KMI LR LR
comp=N,26μm,12.6s
KMI LR LR
comp=E,10μm,10.4s
KMI LR LR
comp=Z,28μm,13.3s
LQP Lukban 26.77 54 *eP* **P** **12 54 39.3 +0.6**
AUQP San Andres 27.29 57 *eP* pP 12 54 58.1 +4.2
BCPH Baguio City Da 27.34 49⇓*iP* **P** **12 54 43.0 -0.7**
GQP Guinayangan 27.40 56⇓*eP* pP 12 54 59.8 +5.0
DAV Davao City (W) 27.41 72 P **P** **12 54 45.6 +1.4**
SNR=34
DAV Davao City (W) 27.41 72⇓*iP* **P** **12 54 45.6 +1.4**
DAV Davao City (W) 27.41 72⇓*s* **S** **12 59 16.2 -5.8**
DAV Davao City (W) 27.41 72 *eP* **P** **12 54 45.6 +1.4**
comp=Z,925nm,1.2s
DAV LR LR
comp=Z,15μm,20.0s
DAV Davao City (W) 27.41 72 P **P** **12 54 47.2 +3.0**
comp=Z,545nm,1.4s,comp=Z,14μm
DAV Davao City (W) 27.41 72 P **P** **12 54 45.0 +0.8**
comp=Z,96nm,0.4s,baz=63,slow=11,SNR=22
DGAR Diego Garcia 27.55 257 PFAKE 12 55 00.0 +15
DGAR LR LR
comp=Z,17μm,19.0s
SHL Shillong 27.78 345 *eP* **P** **12 54 48.4 +0.9**
SHL AMB AMB 12 54 58.5
comp=Z,237nm,2.0s
SHL *ex* x 12 59 29.0
HYB Hyderabad 27.80 313⇑*iP* **P** **12 54 48.0 +0.3**
HYB *eS* **S** **12 59 30.0 +1.7**
HYB LR LR 13 04 16.0
comp=Z,7.1nm,20.0s
HYB Hyderabad 27.80 313 *eP* **P** **12 54 48.6 +0.9**
GZH Guangzhou 27.84 28 P P 12 54 54.8 +6.9
GZH PP **PP** **12 55 51.6 +0.2**
GZH S S 12 59 38.3 +10
GZH LR LR
comp=N,25μm,15.7s
GZH LR LR
comp=E,15μm,15.5s
GZH LR LR
comp=Z,45μm,12.2s
MBWA Marble Bar 27.89 136 P **P** **12 54 51.0 +2.6**
SNR=10
MBWA Marble Bar 27.89 136 *eP* **P** **12 54 49.3 +0.9**
comp=Z,110nm,1.0s
MBWA LR LR
comp=Z,10μm,22.0s
TNTI Ternate 28.01 86 P **P** **12 54 49.8 +0.2**
comp=Z,411nm,1.4s,comp=Z,5μm
LBMI Labuha 28.07 89 P **P** **12 54 51.5 +1.4**
comp=Z,766nm,1.1s,comp=Z,9μm
BOK Bokaro 28.29 333 *eP* **P** **12 54 54.7 +2.7**
BOK AMB AMB 12 55 04.6
comp=Z,649nm,2.1s
GYA Guiyang 28.55 14⇑*iP* **P** **12 54 54.5 +0.1**
GYA pP **pP** **12 55 04.0 -1.2**
GYA PP **PnPn** **12 55 51.1 +5.8**
GYA S **S** **12 59 39.0 -1.0**
GYA sS **sS** **12 59 56.5 -1.6**
GYA SS **SnSn** **13 01 08.9 +7.1**
GYA ScP **SS** **13 01 43.4 +1.4**
GYA ScS **ScS** **13 05 37.6 +0.4**
GYA pmax pmax
comp=Z,250nm,1.0s
GYA pmax pmax
comp=Z,2μm,5.8s
GYA LR LR
comp=N,25μm,14.0s
GYA LR LR
comp=E,28μm,10.9s
GYA LR LR
comp=Z,37μm,13.1s
CNP Catarman 28.60 60 *eP* P 12 55 02.9 +8.1
PVCP Virac 28.67 58⇑*eP* **P** **12 54 55.1 -0.3**
AAI Ambon 28.82 95 P P 12 55 03.4 +6.6
comp=Z,178nm,1.5s,comp=Z,3μm
MSAI Masohi 29.53 94 P **P** **12 55 03.1 0.0**
comp=Z,40nm,0.8s
LATR Latur 29.90 312 *eP* **P** **12 55 04.2 -2.1**
NGP Nagpur 29.99 319 *eP* P 12 55 04.0 -3.1
NGP *eS* **S** **13 00 01.1 -1.5**
GOA Goa 30.38 304 *ex* P 12 55 05.5 -5.0
ODAN Odare 30.39 338 *eP* **P** **12 55 12.5 +1.7**
FITZ Fitzroy Crossi 30.62 124 P **P** **12 55 11.7 -1.0**
FITZ Fitzroy Crossi 30.62 124 P **P** **12 55 11.7 -1.0**
comp=Z,129nm,0.9s,baz=309,slow=7.5,SNR=151
FITZ Fitzroy Crossi 30.62 124 P **P** **12 55 12.0 -0.7**
baz=31,SNR=115
TAPN Taplejung 30.72 339 *eP* **P** **12 55 16.0 +2.2**
comp=Z,657nm,1.0s
RAMN Ramite 30.77 337 *eP* **P** **12 55 16.4 +2.2**
comp=Z,531nm,1.1s
JBP Jabalpur 30.90 323⇑*iP* **P** **12 55 16.7 +1.7**
JBP *eS* **S** **13 00 17.9 +1.3**
MEEK Meekatharra 31.14 145 P **P** **12 55 18.4 +1.2**
baz=31,SNR=28
JIRN Jiri 31.57 337 *eP* **P** **12 55 23.0 +1.7**
comp=Z,743nm,0.9s
MORW Morawa 31.75 152 P **P** **12 55 23.6 +1.1**
baz=32,SNR=10.0
PKI Pulchoki 31.80 336 *eP* **P** **12 55 24.6 +1.3**
comp=Z,472nm,1.4s
PKIN Phulchoki 31.81 336 *eP* **P** **12 55 24.8 +1.4**
SWI Sorong 31.82 89 P **P** **12 55 22.6 -0.7**
comp=Z,1μm,1.1s,comp=Z,11μm
SWI Sorong 31.82 89 P **P** **12 55 22.9 -0.4**
baz=32,SNR=21
SWI S **S** **13 00 29.4 -2.0**
baz=32,SNR=7.6
GUN Gumba 31.91 337 *eP* **P** **12 55 26.1 +1.7**
comp=Z,627nm,0.7s
LSA Lhasa 31.91 346 P **P** **12 55 26.4 +1.9**
LSA S S 13 00 27.0 -6.3
LSA LR LR
comp=E,9μm,25.9s
LSA LR LR
comp=Z,8μm,22.8s
LSA Lhasa 31.91 346 *eP* **P** **12 55 26.4 +1.9**
LSA pmax pmax
comp=Z,208nm,0.9s
LSA MLR MLR
comp=Z,9μm,22.0s
LSA Lhasa 31.91 346 *eP* **P** **12 55 26.4 +1.9**
comp=Z,208nm,0.9s
LSA LR LR
comp=Z,9μm,22.0s
DMN Daman 31.96 335 *eP* **P** **12 55 26.2 +1.5**
comp=Z,366nm,1.1s
TWG Pinlang 31.99 40 *eP* **P** **12 55 26.2 +1.5**
comp=Z,460nm,1.1s
POO Poona 32.02 309 *eP* **P** **12 55 26.8 +1.8**
POO AMB AMB 12 55 37.8
comp=Z,172nm,6.5s
KKN Kakani 32.05 336 *eP* **P** **12 55 26.8 +1.4**
comp=Z,614nm,1.1s
TPUB Ta-pu 32.06 39 *eP* **P** **12 55 26.1 +0.8**
QZH Quanzhou 32.09 34⇑*iP* **P** **12 55 24.5 -1.0**
QZH S **S** **13 00 33.4 -1.9**
QZH LR LR
comp=N,13μm,11.1s
QZH LR LR
comp=E,20μm,13.8s
QZH LR LR
comp=Z,25μm,15.3s
KNRA Kununurra 32.21 118 P **P** **12 55 24.2 -2.5**
baz=32,SNR=49
CD2 Chengdu 32.38 7 P **P** **12 55 30.6 +2.5**
CD2 pP **pP** **12 55 41.3 +2.3**
CD2 sP **sP** **12 55 44.8 +1.1**
CD2 PP **PP** **12 56 40.3 -1.5**
CD2 PcP **PcP** **12 58 17.1 +1.9**
CD2 S **S** **13 00 41.6 +1.8**
CD2 sS **sS** **13 01 00.1 +2.2**
CD2 SS **SnSn** **13 02 40.8 +6.0**
CD2 ScS **ScS** **13 05 54.5 -0.9**
CD2 pmax pmax
comp=Z,70nm,1.1s
CD2 pmax pmax
comp=Z,610nm,9.5s
CD2 LR LR
comp=N,24μm,13.2s
CD2 LR LR
comp=E,24μm,14.3s
CD2 LR LR
comp=Z,25μm,13.2s
BHPL Bhopal 32.54 320 *eP* **P** **12 55 30.7 +1.1**
YULB Yu-li 32.55 39 *eP* **P** **12 55 30.4 +0.8**
comp=Z,150nm,1.0s
SSLB Suanglung 32.62 39 *eP* **P** **12 55 31.1 +0.8**
comp=Z,498nm,1.3s
KOLN Koldanda 32.75 333 *eP* **P** **12 55 33.1 +1.6**
comp=Z,384nm,0.7s
FAKI Fak Fak 32.82 93 P **P** **12 55 31.7 -0.4**
comp=Z,867nm,1.2s,comp=Z,8μm
FAKI Fak Fak 32.82 93 P **P** **12 55 31.6 -0.6**
baz=33,SNR=15
ENH Enshi 32.91 16 *eP* **P** **12 55 31.4 -1.3**
comp=Z,60nm,0.6s
DANN Danqing 33.18 334 *eP* **P** **12 55 36.8 +1.4**
comp=Z,1μm,1.2s
NACB Ninganchiao 33.30 39 *eP* **P** **12 55 37.1 +1.0**
comp=Z,225nm,1.0s
BLDU Ballidu 33.36 152 P **P** **12 55 37.6 +0.9**
baz=33,SNR=12
MTN Manton Dam 33.39 111 P P 12 55 34.1 -3.0
baz=33,SNR=13
TLE Tual 33.49 98 P P 12 55 45.2 +7.2
comp=Z,278nm,1.3s
TLE Tual 33.49 98 P **P** **12 55 36.9 -1.2**
baz=34,SNR=3.9
YHNB Yeheng 33.52 38 *eP* **P** **12 55 38.7 +0.5**
comp=Z,389nm,1.4s
YHNB LR LR
comp=Z,6μm,20.0s
TATO Taipei 33.82 38 P **P** **12 55 42.3 +1.7**
SNR=15
TATO Taipei 33.82 38 *eP* **P** **12 55 41.4 +0.8**
comp=Z,298nm,1.0s
TATO LR LR
comp=Z,6μm,22.0s
KDU Kakadu 34.60 110 P P 12 55 44.6 -2.9
baz=35,SNR=15
KLBR Kellerberrin 34.67 152 P **P** **12 55 49.0 +1.0**
baz=35,SNR=18
RKPI Ransiki, Papua 34.73 91 P **P** **12 55 48.2 -0.5**
comp=Z,1μm,1.0s,comp=Z,22μm
WHN Wuhan 34.79 23⇑P **P** **12 55 49.1 +0.1**
WHN S **S** **13 01 14.9 -2.1**
WHN LR LR
comp=N,20μm,15.8s
WHN LR LR
comp=E,42μm,16.9s
WHN LR LR
comp=Z,38μm,14.6s
NWAO Narrogin (SRO) 35.55 154 *eP* **P** **12 55 55.4 -0.1**
comp=Z,154nm,1.2s
NWAO Narrogin (SRO) 35.55 154 LR LR 13 09 19.6
comp=Z,13μm,21.9s,baz=326,slow=34
PTH Pithoragarh 35.84 331 *ex* P 12 55 54.8 -3.4
PALU Palau 36.01 76 P **P** **12 55 58.0 -1.7**
baz=36,SNR=20
XAN Xi'an 36.35 13 P **P** **12 56 00.8 -1.6**
XAN pP **pP** **12 56 10.3 -3.1**
XAN PP **PnPn** **12 57 23.3 -2.1**
XAN PcP **PcP** **12 58 26.3 -0.2**
XAN S **S** **13 01 37.8 -3.2**
XAN ScS **ScS** **13 06 13.8 -2.6**
XAN pmax pmax
comp=Z,130nm,14.7s
XAN LR LR
comp=N,17μm,15.3s
XAN LR LR
comp=Z,10μm,15.1s
BAKI Biak 36.66 90 P **P** **12 56 04.6 -0.7**
comp=Z,766nm,1.0s,comp=Z,8μm
NDI New Delhi 36.71 326 *ex* **P** **12 56 03.5 -2.0**
NDI *ex* x 13 01 40.0
SRPI Serui, Papua 36.79 91 P **P** **12 56 05.4 -1.0**
comp=Z,850nm,0.9s,comp=Z,9μm
LZH Lanzhou 37.51 6⇑P **P** **12 56 13.3 +0.9**
LZH pP **pP** **12 56 21.5 -1.9**
LZH sP **sP** **12 56 26.6 -1.4**
LZH PP **PnPn** **12 57 43.3 +3.7**
LZH S **S** **13 01 55.0 -3.9**
LZH SS **SnSn** **13 04 38.3 -0.8**
LZH pmax pmax
comp=Z,240nm,1.5s
LZH pmax pmax
comp=Z,750nm,3.8s
LZH LR LR
comp=N,16μm,12.5s
LZH LR LR
comp=E,8μm,10.7s
LZH LR LR
comp=Z,20μm,13.6s
DDI Dehra Dun 37.55 329 *eP* **P** **12 56 11.0 -1.7**
DDI *eP* pP 12 56 14.3 -9.4
DDI AMB AMB 12 56 23.6
comp=Z,1μm,2.2s
BHJ Bhuj 37.95 312 *eP* **P** **12 56 15.8 -0.3**
NJ2 Nanjing 38.01 27 *eP* **P** **12 56 16.1 -0.3**
NJ2 sP **sP** **12 56 32.0 -0.1**
NJ2 S **S** **13 02 06.6 +0.4**
NJ2 sS sS 13 02 29.9 +5.4
NJ2 pmax pmax
comp=Z,57nm,1.1s
NJ2 LR LR
comp=N,12μm,22.5s
NJ2 LR LR
comp=E,22μm,18.4s
NJ2 LR LR
comp=Z,22μm,23.0s
SSE Sheshan 38.36 31 P **P** **12 56 20.3 +0.9**
SSE pP **pP** **12 56 29.3 -1.1**
SSE PP **PnPn** **12 57 52.5 +2.8**
SSE S **S** **13 02 12.6 +1.1**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,130nm,2.8s
SSE LR LR
comp=N,12μm,20.3s
SSE LR LR
comp=E,15μm,20.5s
SSE LR LR
comp=Z,12μm,18.3s
SMLA Simla 38.65 329 *i* P **P** **12 56 22.5 +0.6**
SMLA AMb AMB 12 56 32.3
comp=Z,664nm,0.8s
SMLA *i* x x 13 02 16.5
WRA Warramunga Arr 38.78 121 P **P** **12 56 21.7 -1.5**
WRA S **S** **13 02 13.8 -4.6**
WRA Warramunga Arr 38.78 121 P **P** **12 56 21.7 -1.5**
comp=Z,117nm,0.8s,baz=302,slow=9.0,SNR=267
WRA S **S** **13 02 13.8 -4.6**
comp=Z,52nm,1.2s,baz=296,slow=16,SNR=13
WRA LR LR 13 15 20.6
comp=Z,7μm,20.3s,baz=300,slow=41
WRAB Tennant Creek 38.79 121 *eP* **P** **12 56 21.8 -1.4**
WRAB pmax pmax
comp=Z,438nm,1.2s
WRAB MLR MLR
comp=Z,7μm,22.0s
WRAB Tennant Creek 38.79 121 *eP* **P** **12 56 21.8 -1.4**
comp=Z,438nm,1.2s
WRAB LR LR
comp=Z,7μm,22.0s
BHK Bhakra 39.27 328 *eP* **P** **12 56 27.0 -0.1**
JOW Kunigami 39.49 43 *eP* **P** **12 56 29.5 +0.5**
comp=Z,154nm,1.5s
FORT Forrest 39.87 140 P **P** **12 56 33.4 +1.3**
baz=40,SNR=24
DHRM DHARAMSHALA 39.99 329 *eP* **P** **12 56 34.1 +0.8**
DHRM AMB AMB 12 56 44.1
comp=Z,508nm,1.5s
ASAR Alice Springs 40.06 126 P **P** **12 56 33.5 -0.4**
ASAR PcP **PcP** **12 58 39.4 +1.1**
ASAR S **S** **13 02 35.2 -2.3**
ASAR Alice Springs 40.06 126 P **P** **12 56 33.5 -0.4**
comp=Z,95nm,0.8s,baz=301,slow=8.3,SNR=248
ASAR PcP **PcP** **12 58 39.4 +1.1**
comp=Z,27nm,0.9s,baz=308,slow=3.4,SNR=4.6
ASAR S **S** **13 02 35.2 -2.3**
comp=Z,43nm,1.1s,baz=296,slow=15,SNR=22
ASAR LR LR 13 16 18.9
comp=Z,6μm,18.9s,baz=295,slow=41
AS31 Alice Springs 40.06 126 *eP* **P** **12 56 33.7 -0.2**
GTA Gaotai 40.60 0⇓P **P** **12 56 39.0 +0.8**
GTA pP **pP** **12 56 48.5 -0.8**
GTA sP **sP** **12 56 52.8 -1.1**
GTA PcP **PcP** **12 58 41.0 +1.2**
GTA S **S** **13 02 45.1 -0.2**
GTA ScS **ScS** **13 06 39.8 -1.1**
GTA pmax pmax
comp=Z,70nm,1.4s
GTA pmax pmax
comp=Z,1μm,3.7s
GTA LR LR
comp=N,8μm,13.8s
GTA LR LR
comp=E,14μm,19.5s
GTA LR LR
comp=Z,9μm,18.1s
TIY Taiyuan 40.73 16 *eP* **P** **12 56 39.5 +0.4**
TIY sP **sP** **12 56 55.0 +0.1**
TIY PP **PnPn** **12 58 17.3 -0.5**
TIY LR LR
comp=N,9μm,11.4s
TIY LR LR
comp=E,9μm,13.6s
TIY LR LR
comp=Z,9μm,10.9s
TIA Tai'an 40.88 22⇓P **P** **12 56 39.8 -0.5**
TIA S **S** **13 02 47.5 -1.7**
TIA LR LR
comp=N,26μm,15.0s
TIA LR LR
comp=E,5μm,12.7s
TIA LR LR
comp=Z,34μm,14.8s
JAY Jayapura 41.26 92 P **P** **12 56 42.7 -1.1**
comp=Z,198nm,1.1s,comp=Z,4μm
BTO Baotou 42.90 12 *eP* **P** **12 56 57.3 +0.4**
HHC Hu-ho-hao-te 43.47 13 *eP* **P** **12 57 02.0 +0.5**
HHC PP **PP** **12 58 45.3 +2.2**
HHC ScP **ScP** **13 02 36.4 -1.4**
HHC PcS **PcS** **13 02 40.8 -1.1**
HHC S **S** **13 03 29.3 +1.8**
HHC sS **sS** **13 03 46.0 0.0**
HHC SS **SS** **13 06 37.9 -5.0**
HHC ScS **ScS** **13 06 56.3 -2.0**
HHC pmax pmax
comp=Z,45nm,0.7s
HHC pmax pmax
comp=Z,820nm,6.0s
HHC LR LR
comp=N,21μm,16.6s
HHC LR LR
comp=E,14μm,16.9s
HHC LR LR
comp=Z,21μm,16.9s
BJT Baijiatuau 43.96 19 *eP* **P** **12 57 06.0 +0.7**
comp=Z,367nm,1.1s
BJT LR LR
comp=Z,5μm,20.0s
MSEY Mahe Island 44.01 265 *eP* **P** **12 57 07.4 +1.2**
comp=Z,149nm,1.3s
MSEY LR LR
comp=Z,7μm,19.0s
DL2 Dalian 44.99 25 P **P** **12 57 13.3 -0.3**
DL2 S **S** **13 03 47.9 -1.6**
DL2 pmax pmax
comp=Z,680nm,1.8s
DL2 LR LR
comp=N,9μm,16.5s
DL2 LR LR
comp=Z,11μm,16.7s
COEN Coen 45.01 108 P **P** **12 57 16.9 +2.9**
baz=45,SNR=4.3
MRIV Mauritius Mete 45.06 242 *eP* **P** **12 57 15.5 +1.0**
JNU Nakatsue 45.36 38 *eP* **P** **12 57 16.9 +0.3**
comp=Z,141nm,1.0s
JNU Nakatsue 45.36 38 LR LR 13 18 26.9
comp=Z,5μm,18.0s,baz=238,slow=39
TJN Taejon 45.68 32 *eP* **P** **12 57 18.7 -0.4**
KBL Kabul 45.72 324 *eP* **P** **12 57 20.2 +0.5**
KBL pmax pmax
comp=Z,117nm,1.3s
KBL Kabul 45.72 324 *eP* **P** **12 57 20.2 +0.5**
comp=Z,117nm,1.3s
KSH Kashi 46.05 335⇑*iP* **P** **12 57 21.5 -0.6**
KSH sP **sP** **12 57 35.4 -2.5**
KSH PP **PP** **12 59 09.4 -1.2**
KSH S **S** **13 04 00.8 -4.2**
KSH pmax pmax
comp=Z,43nm,0.7s
KSH pmax pmax
comp=Z,1μm,4.2s
KSH LR LR
comp=N,2μm,13.5s
KSH LR LR
comp=E,6μm,21.1s
KSH LR LR
comp=Z,5μm,18.7s
WBK Wadi Bani Khal 46.09 304 P **P** **12 57 24.8 +2.3**
SNR=9.2
INCN Inchon 46.15 30 *eP* **P** **12 57 21.9 -1.0**
comp=Z,82nm,1.1s
INCN LR LR
comp=Z,6μm,20.0s
WMQ Urumqi 46.22 348 P **P** **12 57 25.3 +2.0**
WMQ pP **pP** **12 57 34.1 -0.5**
WMQ PcP **PcP** **12 59 00.1 +1.5**
WMQ S **S** **13 04 09.8 +2.5**
WMQ sS **sS** **13 04 25.6 -0.3**
WMQ ScS **ScS** **13 07 13.9 -1.8**
WMQ SS **SS** **13 07 27.9 -5.3**
WMQ pmax pmax
comp=Z,470nm,1.1s
WMQ pmax pmax
comp=Z,2μm,5.0s
WMQ LR LR
comp=N,4μm,16.0s
WMQ LR LR
comp=E,6μm,16.0s
WMQ LR LR
comp=Z,5μm,23.0s
BBOO Buckleboo 46.47 136 P **P** **12 57 25.8 +0.4**
baz=46,SNR=18
JMDO Jabal Madar 46.71 303 P **P** **12 57 28.8 +1.4**
SNR=5.8
KSAR Wonju Array Be 46.76 31 P **P** **12 57 27.7 +0.2**
KSAR ScP **ScP** **13 02 53.0 +1.8**
KSRS Korea Array 46.79 31 P **P** **12 57 27.7 -0.1**
comp=Z,30nm,0.8s,baz=223,slow=7.2,SNR=59
KSRS ScP **ScP** **13 02 53.0 +1.7**
comp=Z,1.8nm,1.1s,baz=204,slow=3.9,SNR=4.7
KSRS LR LR 13 20 32.0
comp=Z,4μm,18.3s,baz=222,slow=40
RER Riviere de l'E 46.89 242 *eP* **P** **12 57 28.6 -0.4**
comp=Z,144nm,0.9s
RER LR LR
comp=Z,6μm,19.0s
SMDO Samad 47.05 304 P **P** **12 57 32.1 +1.9**
SNR=12
MTSU Mount Surprise 47.07 114 P **P** **12 57 29.7 -0.7**
baz=47,SNR=31
GUMO Guam 47.42 70 PFAKE 12 57 50.0 +17
GUMO LR LR
comp=Z,2μm,21.0s
BSY Bisya 47.62 303 P **P** **12 57 36.8 +2.2**
SNR=22
HOQ Hoqain 47.88 304 P **P** **12 57 38.9 +2.3**
SNR=10
PMG Port Moresby 48.12 101 *eP* **P** **12 57 37.4 -1.2**
comp=Z,125nm,0.9s
PMG LR LR
comp=Z,5μm,19.0s
PMG Port Moresby 48.12 101 P **P** **12 57 39.4 +0.9**
comp=Z,149nm,0.9s,comp=Z,2μm
SNY Shenyang 48.26 24⇑P **P** **12 57 38.8 -0.3**
SNY S **S** **13 04 31.0 -5.1**
SNY pmax pmax
comp=Z,66nm,1.3s
SNY LR LR
comp=N,6μm,15.3s
SNY LR LR
comp=E,12μm,18.0s
SNY LR LR
comp=Z,13μm,16.2s
ARQ Araqi 48.44 303 P **P** **12 57 42.5 +1.6**
SNR=10

KZA	**Kyzart**	**48.48 336**	*i* P	**P**	**12 57 43.6 +2.2**
KZA	**Kyzart**	**48.48 336**	P	**P**	**12 57 43.6 +2.2**
	SNR=5.5				
AAA	**Alma-Ata**	**48.84 338**	*i* P	**P**	**12 57 45.6 +2.0**
AAA			*i* S	S	13 04 51.3 +6.9
AAA			pmax	pmax	
	comp=Z,3μm,3.8s				
AAA			smax	smax	
	comp=E,8μm,4.6s				
AAA			MLR	MLR	
	comp=Z,5μm,12.0s				
UCH	**Uchtor**	**48.91 335**	*i* P	**P**	**12 57 46.5 +1.8**
UCH	**Uchtor**	**48.91 335**	P	**P**	**12 57 46.5 +1.8**
	SNR=12				
TKM2	**Tokmak 2**	**49.05 337**	*i* P	**P**	**12 57 46.9 +1.4**
TKM2	**Tokmak 2**	**49.05 337**	P	**P**	**12 57 47.0 +1.4**
	SNR=93				
TKM2	**Tokmak 2**	**49.05 337**	*e*P	**P**	**12 57 46.9 +1.4**
	comp=Z,207nm,1.0s				
TKM2			LR	LR	
	comp=Z,7μm,20.0s				
KBK	**Karagaybulak**	**49.09 336**	*i* P	**P**	**12 57 47.9 +2.1**
KBK	**Karagaybulak**	**49.09 336**	P	**P**	**12 57 47.9 +2.1**
	SNR=70				
AML	**Almayashu**	**49.18 335**	*i* P	**P**	**12 57 48.9 +2.2**
AML	**Almayashu**	**49.18 335**	P	**P**	**12 57 49.0 +2.2**
	SNR=13				
AAK	**Ala-Archa**	**49.26 336**	*e*P	**P**	**12 57 48.8 +1.8**
AAK			pmax	pmax	
	comp=Z,1μm,2.3s				
AAK	**Ala-Archa**	**49.26 336**	P	**P**	**12 57 49.1 +2.1**
	SNR=106				
AAK	**Ala-Archa**	**49.26 336**	P	**P**	**12 57 48.8 +1.8**
	SNR=27				
AAK	**Ala-Archa**	**49.26 336**	*e*P	**P**	**12 57 48.8 +1.8**
	comp=Z,1μm,2.3s				
AAK	**Ala-Archa**	**49.26 336**	LR	LR	13 21 17.1
	comp=Z,9μm,21.4s,baz=139,slow=39				
CTAO	**Charters Tower**	**49.36 115**	*e*P	**P**	**12 57 46.9 -1.1**
CTAO			pmax	pmax	
	comp=Z,465nm,1.3s				
CTAO			MLR	MLR	
	comp=Z,7μm,20.0s				
CTAO	**Charters Tower**	**49.36 115**	*e*P	**P**	**12 57 46.9 -1.1**
	comp=Z,465nm,1.3s				
CTAO			LR	LR	
	comp=Z,7μm,20.0s				
FRU	**Bishkek**	**49.37 336**⇑	*i*P	**P**	**12 57 48.0 +0.3**
FRU			*i*		12 57 56.0
FRU			*e*S	**S**	**13 04 54.0 +2.1**
FRU			*e*		13 05 08.0
FRU			pmax	pmax	
	comp=Z,560nm,2.1s				
FRU			pmax	pmax	
	comp=Z,2μm,4.0s				
FRU			MLR	MLR	
	comp=Z,8μm,21.0s				
SONM	**Songino Array**	**49.40 6**	P	**P**	**12 57 49.0 +1.1**
SONM			PcP	**PcP**	**12 59 11.5 +1.5**
SONM			P'P'ab	**P'P'ab**	**13 29 38.0 +3.1**
SONM	**Songino Array**	**49.40 6**	P	**P**	**12 57 49.0 +1.1**
	comp=Z,20nm,0.8s,baz=186,slow=6.1,SNR=36				
SONM			PcP	**PcP**	**12 59 11.5 +1.5**
	comp=Z,21nm,0.6s,baz=186,slow=4.6,SNR=7.6				
SONM			LR	LR	13 21 26.5
	comp=Z,12μm,18.0s,baz=192,slow=39				
SONM			PKP2ab		13 29 38.0
	comp=Z,0.4nm,0.3s,baz=353,slow=7.5,SNR=3.6				
CHMS	**Chumysh**	**49.46 336**	*i* P	**P**	**12 57 49.3 +0.9**
CHMS	**Chumysh**	**49.46 336**	P	**P**	**12 57 49.3 +0.9**
	SNR=40				
ULN	**Ulaanbaatar**	**49.50 7**	P	**P**	**12 57 50.0 +1.3**
	SNR=73				
ULN	**Ulaanbaatar**	**49.50 7**	*e*P	**P**	**12 57 49.6 +0.8**
	comp=Z,110nm,1.0s				
ULN			LR	LR	
	comp=Z,9μm,20.0s				
ULN	**Ulaanbaatar**	**49.50 7**	P	**P**	**12 57 49.6 +0.8**
	comp=Z,126nm,1.2s,comp=Z,2μm				
EKS2	**Erkin-Say**	**49.58 335**	*e*P	**P**	**12 57 51.2 +1.8**
EKS2			pmax	pmax	
	comp=Z,209nm,0.8s				
EKS2			MLR	MLR	
	comp=Z,5μm,22.0s				
EKS2	**Erkin-Say**	**49.58 335**	P	**P**	**12 57 51.3 +1.9**
	SNR=87				
EKS2	**Erkin-Say**	**49.58 335**	*e*P	**P**	**12 57 51.2 +1.8**
	comp=Z,208nm,0.8s				
EKS2			LR	LR	
	comp=Z,5μm,22.0s				
USP	**Ospenovka**	**49.78 336**	*i* P	**P**	**12 57 52.3 +1.4**
USP	**Ospenovka**	**49.78 336**	P	**P**	**12 57 52.3 +1.4**
	SNR=83				
NAZ	**Nazwa, Dubai**	**49.84 305**	P	**P**	**12 57 53.5 +1.9**
	SNR=6.5				
ASUD	**Al Ashush, Dub**	**49.96 304**	P	**P**	**12 57 54.6 +2.1**
	SNR=12				
STKA	**Stephens Creek**	**49.97 132**	*e*P	**P**	**12 57 53.5 +1.1**
	comp=Z,48nm,1.0s				
STKA	**Stephens Creek**	**49.97 132**	P	**P**	**12 57 53.6 +1.1**
	comp=Z,143nm,0.8s,baz=304,slow=7.2,SNR=39				
STKA			LR	LR	13 18 29.1
	comp=Z,5μm,21.7s,baz=292,slow=35				
STKA	**Stephens Creek**	**49.97 132**	P	**P**	**12 57 53.6 +1.1**
	baz=50,SNR=60				
MK31	**Makanchi Array**	**50.30 345***ce*P		**P**	**12 57 55.7 +1.1**
MK31			pmax	pmax	
	comp=Z,80nm,0.5s				
MK31	**Makanchi Array**	**50.30 345**	*e*P	**P**	**12 57 55.8 +1.1**
MKAR	**Makanchi Array**	**50.30 345***ce*P		**P**	**12 57 55.7 +1.1**
MKAR			pmax	pmax	
	comp=Z,85nm,0.6s				
MKAR	**Makanchi Array**	**50.30 345**	*e*P	**P**	**12 57 55.8 +1.1**
MKAR	**Makanchi Array**	**50.30 345**	P	**P**	**12 57 55.8 +1.1**
	comp=Z,84nm,0.6s,baz=148,slow=7.9,SNR=724				
MKAR			LR	LR	13 23 09.6
	comp=Z,3μm,19.6s,baz=159,slow=41				
CN2	**Changchun**	**50.66 24**	*e*P	**P**	**12 57 57.0 -0.4**
CN2			*e*pP	**pP**	**12 58 05.8 -3.0**
CN2			*e*S	**S**	**13 05 08.1 -1.6**
CN2			pmax	pmax	
	comp=Z,180nm,1.2s				
CN2			pmax	pmax	
	comp=Z,340nm,4.0s				
CN2			LR	LR	
	comp=N,5μm,16.0s				
CN2			LR	LR	
	comp=E,18μm,16.0s				
CN2			LR	LR	
	comp=Z,12μm,18.0s				
KK31	**Karatay Array**	**51.36 333***ce*P		**P**	**12 58 03.0 +0.3**
KK31			pmax	pmax	
	comp=Z,146nm,1.1s				
KKAR	**Karatay Array**	**51.36 333**	*e*P	**P**	**12 58 03.1 +0.4**
KKAR	**Karatay Array**	**51.36 333**	*e*P	**P**	**12 58 03.1 +0.4**
MAT	**Matsushiro**	**52.16 40**	P	**P**	**12 58 07.9 -0.9**
MAT			S	**S**	**13 05 31.6 +0.8**
MJAR	**Matsushiro Arr**	**52.16 40**	P	**P**	**12 58 08.5 -0.4**
MJAR	**Matsushiro Arr**	**52.16 40**	P	**P**	**12 58 08.5 -0.4**
	comp=Z,15nm,0.9s,baz=220,slow=7.7,SNR=33				
MJAR			LR	LR	13 24 22.1
	comp=Z,2μm,18.1s,baz=220,slow=41				
HVS	**Khovu-Aksy**	**52.56 355***c i*P		**P**	**12 58 12.1 +0.5**
HVS			pmax	pmax	
	comp=Z,325nm,1.7s				
ARPS	**Mount Arapiles**	**52.62 137**	P	**P**	**12 58 14.2 +2.0**
	baz=53,SNR=14				
MOY	**Mondy**	**52.88 1**	*e*P	**P**	**12 58 15.2 +1.2**
MOY			pmax	pmax	
	comp=Z,209nm,2.6s				
CMSA	**Cobar Meteorol**	**52.93 129**	P	**P**	**12 58 15.7 +1.1**
	baz=53,SNR=172				
VLA	**Vladivostok**	**53.04 29***d i*P		**P**	**12 58 15.8 +0.7**
VLA			*e*		12 59 23.8
VLA			*e*S	**S**	**13 05 43.0 +0.6**
VLA			pmax	pmax	
	comp=Z,39nm,1.1s				
MDJ	**Mudanjiang**	**53.09 27**	P	**P**	**12 58 18.1 +2.6**
MDJ			pP	**pP**	**12 58 27.1 +0.1**
MDJ			sP	**sP**	**12 58 30.9 -0.6**
MDJ			PcP	**PcP**	**12 59 25.6 +2.1**
MDJ			ScP	**ScP**	**13 03 20.1 +1.9**
MDJ			PcS	**PcS**	**13 03 23.8 +1.6**
MDJ			S	**S**	**13 05 46.5 +3.3**
MDJ			sS	**sS**	**13 06 03.3 +1.3**
MDJ			pmax	pmax	
	comp=Z,400nm,4.5s				
MDJ			LR	LR	
	comp=N,7μm,17.9s				
MDJ			LR	LR	
	comp=E,10μm,17.9s				
MDJ			LR	LR	
	comp=Z,11μm,17.9s				
MDJ	**Mudanjiang**	**53.09 27**	*e*P	**P**	**12 58 18.2 +2.7**
	comp=Z,59nm,1.0s				
MDJ			LR	LR	
	comp=Z,12μm,19.0s				
HIA	**Hailar**	**53.42 16**	*e*P	**P**	**12 58 18.5 +0.6**
	comp=Z,50nm,1.2s				
HIA			LR	LR	
	comp=Z,12μm,20.0s				
RMQ	**Roma**	**53.51 122**	P	**P**	**12 58 20.2 +1.3**
	baz=54,SNR=13				
IRK	**Irkutsk**	**53.59 4**	*e*P	**P**	**12 58 19.8 +0.7**
IRK			*e*S	**S**	**13 05 48.5 -1.2**
IRK			pmax	pmax	
	comp=Z,260nm,2.1s				
USRK	**Ussuriysk Arra**	**53.89 29**	P	**P**	**12 58 21.6 +0.2**
	comp=Z,78nm,0.9s,baz=225,slow=5.9,SNR=34				
USRK			LR	LR	13 22 48.8
	comp=Z,5μm,19.6s,baz=210,slow=38				
PAF	**Port-aux-Franc**	**53.93 203**	*e*P	**P**	**12 58 23.0 +1.5**
PAF			pmax	pmax	
	comp=Z,163nm,0.9s				
PAF			MLR	MLR	
	comp=Z,6μm,19.0s				
PAF	**Port-aux-Franc**	**53.93 203**	*e*P	**P**	**12 58 23.0 +1.5**
	comp=Z,163nm,0.9s				
PAF			LR	LR	
	comp=Z,6μm,19.0s				
OPO	**Ambohidratompo**	**53.97 248**	P	**P**	**12 58 23.3 +0.6**
OPO	**Ambohidratompo**	**53.97 248**	P	**P**	**12 58 23.3 +0.6**
	comp=Z,48nm,1.0s,baz=70,slow=9.5,SNR=16				
OPO			LR	LR	13 17 21.0
	comp=Z,11μm,18.4s,baz=159,slow=31				
ABPO	**Ambohimpanom**	**54.03 247**	*e*P	**P**	**12 58 24.0 +0.9**
ABPO			pmax	pmax	
	comp=Z,50nm,1.1s				
ABPO			MLR	MLR	
	comp=Z,11μm,19.0s				
ABPO	**Ambohimpanom**	**54.03 247**	*e*P	**P**	**12 58 24.0 +0.9**
	comp=Z,50nm,1.1s				
ABPO			LR	LR	
	comp=Z,11μm,19.0s				
CIT	**Chita**	**54.54 11**	*e*P	**P**	**12 58 28.1 +2.1**
CIT			*e*		12 58 46.2
CIT			*e*		12 59 29.3
CIT			*e*		13 06 09.1
CIT			pmax	pmax	
	comp=Z,287nm,2.6s				
EIDS	**Eidsvold**	**55.15 120**	P	**P**	**12 58 31.4 +0.5**
	baz=55,SNR=19				
TOO	**Toolangi**	**55.54 136**	P	P	12 58 37.2 +3.7
	baz=56,SNR=15				
YNG	**Young**	**56.16 131**	P	**P**	**12 58 39.7 +1.7**
	baz=56,SNR=52				
ZAA0	**Zalesovo Array**	**56.47 350**	*e*P	**P**	**12 58 40.7 +0.9**
ZALV	**Zalesovo Beam**	**56.47 350**	P	**P**	**12 58 40.8 +1.0**
ZALV	**Zalesovo Beam**	**56.47 350**	P	**P**	**12 58 40.8 +1.0**
ZALV	**Zalesovo Beam**	**56.47 350**	P	**P**	**12 58 40.8 +1.0**
	comp=Z,87nm,0.7s,baz=182,slow=6.1,SNR=261				
ZALV			LR	LR	13 27 32.2
	comp=Z,3μm,19.1s,baz=127,slow=41				
DAMY	**Dhamar**	**56.73 288**	P	**P**	**12 58 45.6 +2.8**
	baz=57,SNR=5.3				
CAN	**Canberra**	**57.03 132**	*e*P	**P**	**12 58 45.6 +1.3**
CAN			pmax	pmax	
	comp=Z,226nm,1.1s				
CAN			MLR	MLR	
	comp=Z,6μm,21.0s				
CAN	**Canberra**	**57.03 132**	*e*P	**P**	**12 58 45.6 +1.3**
	comp=Z,226nm,1.1s				
CAN			LR	LR	
	comp=Z,6μm,21.0s				
ARMA	**Armidale**	**57.21 126**	P	**P**	**12 58 47.7 +2.0**
	baz=57,SNR=46				
CNB	**Canberra Magne**	**57.30 132**	P	P	12 58 52.0 +5.8
	baz=57,SNR=7.5				
KRAR	**Krasnoyarsk**	**57.47 356***c i*P		**P**	**12 58 48.9 +2.1**
KRAR			pmax	pmax	
	comp=Z,281nm,1.7s				
KLR	**Kul'dur**	**57.61 25**	*e*P	P	12 58 44.9 -3.1
KLR			*e*S	**S**	**13 06 40.5 -2.9**
KLR			pmax	pmax	
	comp=N,62nm,1.6s				
KLR			pmax	pmax	
	comp=E,110nm,1.6s				
KLR			pmax	pmax	
	comp=Z,300nm,1.6s				
KLR			pmax	pmax	
	comp=Z,1μm,10.0s				
KLR			smax	smax	
	comp=N,2μm,8.5s				
KLR			smax	smax	
	comp=E,1μm,8.5s				
NVS	**Novosibirsk**	**57.61 349**⇓	*i*P	**P**	**12 58 48.0 +0.1**
NVS			*e*S	**S**	**13 06 40.0 -3.1**
NVS			pmax	pmax	
	comp=N,213nm,1.7s				
NVS			pmax	pmax	
	comp=E,147nm,2.0s				
NVS			smax	smax	
	comp=E,386nm,2.3s				
NVS			smax	smax	
	comp=N,272nm,2.8s				
MGCD	**Mangrove Creek**	**57.80 129**	P	**P**	**12 58 51.2 +1.6**
	baz=58,SNR=8.6				
RAYN	**Ar Rayn**	**57.95 299**	*e*P	**P**	**12 58 51.1 +0.2**
	comp=N,1μm,2.8s				
KBD	**Kabd**	**58.02 306**	*e*P	**P**	**12 58 51.8 +0.6**
KBD			AMb	AMB	12 58 58.9
	comp=Z,228nm,1.2s				
RDF	**Al-Radifah**	**58.04 306**	*e*P	**P**	**12 58 52.1 +0.7**
RDF			AMb	AMB	12 58 55.7
	comp=Z,451nm,1.2s				
UMR	**Umm Al-Rimmam**	**58.14 306**	*e*P	**P**	**12 58 52.4 +0.3**
UMR			AMb	AMB	12 58 56.6
	comp=Z,360nm,1.4s				
NAY	**Al-Naaiem**	**58.41 306**	*e*P	**P**	**12 58 54.1 +0.1**
NAY			AMb	AMB	12 58 56.4
	comp=Z,124nm,0.9s				
HABR	**Khabarovsk**	**58.48 27***ce*P		**P**	**12 58 52.8 -1.2**
HABR			*e**PP	**pP**	**12 59 02.5 -3.1**
HABR			*e**SP	**sP**	**12 59 06.6 -3.5**
HABR			*e*		12 59 42.7
HABR			*e*		13 01 02.1
HABR			*e*S	**S**	**13 06 54.9 +0.3**
HABR			*e*		13 07 06.2
HABR			*e**SS	**sS**	**13 07 11.1 -2.6**
HABR			*e*		13 08 38.9
HABR			*e*SS	**SS**	**13 10 47.9 +0.2**
HABR			pmax	pmax	
	comp=N,46nm,2.3s				
HABR			pmax	pmax	
	comp=Z,246nm,3.0s				
HABR			pmax	pmax	
	comp=E,166nm,3.0s				
HABR			pmax	pmax	
	comp=Z,443nm,3.2s				
HABR			pmax	pmax	
	comp=Z,117nm,1.4s				
HABR			MLR	MLR	
	comp=N,9μm,18.0s				
HABR			MLR	MLR	
	comp=Z,15μm,16.0s				
HABR			MLR	MLR	
	comp=E,12μm,18.0s				
ERM	**Erimo**	**58.51 37**	P	**P**	**12 58 55.7 +1.3**
	comp=E,147nm,0.8s,SNR=5.5				
ERM	**Erimo**	**58.51 37***de*P		**P**	**12 58 55.0 +0.6**
ERM			pmax	pmax	
	comp=Z,27nm,1.2s				
ERM	**Erimo**	**58.51 37**	*e*P	**P**	**12 58 55.4 +1.0**
	comp=Z,61nm,1.2s				
ERM			LR	LR	
	comp=Z,4μm,19.0s				
VOSK	**Vostochnaya**	**58.97 340**	P	**P**	**12 58 56.9 -0.5**
VOSK			pmax	pmax	
	comp=Z,182nm,1.6s				
MOO	**Moorlands**	**59.09 140**	P	P	12 59 05.0 +6.5
	baz=59,SNR=4.2				
PATS	**Pohnpei**	**59.32 81**	P	**P**	**12 59 01.1 +0.5**
	baz=59,SNR=11				
TAU	**Tasmania Unive**	**59.41 141**	*e*P	**P**	**12 59 02.3 +1.7**
TAU			pmax	pmax	
	comp=Z,375nm,1.7s				
TAU			MLR	MLR	
	comp=Z,6μm,20.0s				
TAU	**Tasmania Unive**	**59.41 141**	*e*P	**P**	**12 59 02.3 +1.7**
	comp=Z,375nm,1.7s				
TAU			LR	LR	
	comp=Z,6μm,20.0s				
BVA0	**Borovoye Array**	**59.42 340**	P	**P**	**12 58 59.9 -0.7**
BVA0			pmax	pmax	
	comp=Z,295nm,1.9s				
ASAJ	**Asahikawa**	**59.43 35**	*e*P	**P**	**12 59 01.1 +0.3**
	comp=Z,67nm,1.3s				
ASAJ	**Asahikawa**	**59.43 35**	LR	LR	13 28 02.2
	comp=Z,2μm,19.4s,baz=352,slow=39				
BRVK	**Borovoye**	**59.49 340**	P	**P**	**12 59 01.9 +0.9**
	comp=Z,530nm,0.9s,SNR=24				
BRVK	**Borovoye**	**59.49 340***c i*P		**P**	**12 59 00.9 -0.1**
BRVK			pmax	pmax	
	comp=Z,102nm,1.7s				
BRVK	**Borovoye**	**59.49 340**	P	**P**	**12 59 01.4 +0.4**
	SNR=52				
BRVK	**Borovoye**	**59.49 340**	*e*P	**P**	**12 59 01.0 +0.1**
	comp=Z,83nm,0.9s				
BRVK			LR	LR	
	comp=Z,5μm,20.0s				
AB31	**Akbulak array**	**60.84 331***ce*P		**P**	**12 59 10.0 -0.3**
AB31			pmax	pmax	
	comp=Z,179nm,0.8s				
ABKAR	**Akbulak array**	**60.84 331**	*e*P	**P**	**12 59 10.3 0.0**
	comp=Z,276nm,1.1s				
IBDR	**Badra**	**60.93 309**	*i* P	P	12 59 07.0 -4.2
IBDR			*i* PP	**PP**	**13 01 25.0 -0.9**
IBDR			*i* S	**S**	**13 07 26.0 -0.9**
IBDR			*i* PS	**PnS**	**13 07 42.0 -2.6**
WNDE	**Wendo Genet**	**61.25 279**	*i* P	**P**	**12 59 16.1 +2.1**
YSS	**Yuzh-Sakhalins**	**61.27 32**α	*i*P	**P**	**12 59 15.0 +1.8**
YSS			*e*		12 59 23.0
YSS			*e**SP	**sP**	**12 59 31.0 +1.6**
YSS			*i*		12 59 49.3
YSS			*e*S	**S**	**13 07 31.0 +0.4**
YSS			*e**SS	**sS**	**13 07 49.0 -0.8**
YSS			pmax	pmax	
	comp=Z,500nm,3.0s				
YSS			pmax	pmax	
	comp=N,50nm,0.8s				
YSS			pmax	pmax	
	comp=Z,110nm,0.8s				
YSS			smax	smax	
	comp=N,1μm,8.0s				
YSS			smax	smax	
	comp=E,1μm,8.0s				
YSS			MLR	MLR	
	comp=Z,3μm,19.0s				
YSS			MLR	MLR	
	comp=E,4μm,18.0s				
YUK	**Yuzh-Kuril'sk**	**61.29 37**	*i* P	**P**	**12 59 15.5 +2.0**
YUK			*i*		12 59 57.2
YUK			*i*		13 01 30.7
YUK			*i* S	**S**	**13 07 35.0 +4.0**
YUK			*i*		13 09 04.2
YUK			*i* SS	**SS**	**13 11 34.1 +2.0**
YUK			pmax	pmax	
	comp=N,406nm,1.8s				
YUK			pmax	pmax	
	comp=Z,596nm,1.8s				
YUK			pmax	pmax	
	comp=E,108nm,0.9s				
YUK			pmax	pmax	
	comp=Z,897nm,1.9s				
YUK			MLR	MLR	
	comp=N,492nm,19.0s				
YUK			MLR	MLR	
	comp=E,2μm,19.0s				
YUK			MLR	MLR	
	comp=Z,3μm,19.0s				
CLNS	**Chul'man**	**61.58 16**	*e*P	**P**	**12 59 16.9 +1.7**
CLNS			*e*		12 59 58.1
CLNS			*e*PPP	PPP	13 02 59.8
CLNS			*e*S	**S**	**13 07 35.1 +0.7**
CLNS			*e*SS	**SS**	**13 11 40.3 +4.1**
CLNS			pmax	pmax	
	comp=Z,55nm,1.0s				
CLNS			pmax	pmax	
	comp=E,22nm,0.9s				
CLNS			pmax	pmax	
	comp=N,24nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,14nm,1.0s				
CLNS			pmax	pmax	
	comp=N,14nm,0.9s				
CLNS			pmax	pmax	
	comp=E,10.0nm,1.0s				
CLNS			smax	smax	
	comp=E,376nm,11.8s				
CLNS			smax	smax	
	comp=N,820nm,12.8s				
CLNS			MLR	MLR	
	comp=N,5μm,13.0s				
KMBO	**Kilima Mbogo**	**62.17 269**	P	**P**	**12 59 22.3 +2.0**
	SNR=47				
KMBO	**Kilima Mbogo**	**62.17 269**	*e*P	**P**	**12 59 21.9 +1.6**
	comp=N,1μm,2.7s				
KMBO	**Kilima Mbogo**	**62.17 269**	P	**P**	**12 59 22.0 +1.7**
	comp=N,59nm,1.0s,baz=64,slow=7.8,SNR=61				
KMBO			LR	LR	13 23 17.0
	comp=N,6μm,19.0s,baz=84,slow=33				
KMBO	**Kilima Mbogo**	**62.17 269**	P	**P**	**12 59 21.9 +1.6**
	baz=62,SNR=21				
BHD	**Baghdad**	**62.19 309**	*i* P	**P**	**12 59 17.0 -2.7**
BHD			*i* PP	PP	13 01 46.0 +9.0
BHD			*i* S	**S**	**13 07 42.0 -0.8**
BHD			*i* PS	**PnS**	**13 07 55.0 -6.8**
KUR	**Kuril'sk**	**63.15 36***d i*P		**P**	**12 59 25.5 -0.4**
KUR			*i* S	**S**	**13 07 51.5 -2.9**
KUR			pmax	pmax	
	comp=Z,332nm,1.9s				
KUR			pmax	pmax	
	comp=Z,1μm,3.4s				
MAK	**Makhachkala**	**64.14 320**	*e*P	**P**	**12 59 33.4 +0.9**
MAK			*e*		13 00 07.7
MAK			*e*		13 01 55.1
MAK			*e*PPP	PPP	13 03 22.3
MAK			*e*S	**S**	**13 08 08.0 +1.1**
MAK			*e*		13 09 26.7
MAK			pmax	pmax	
	comp=Z,379nm,1.6s				
GNI	**Garni**	**64.70 316**	P	**P**	**12 59 37.7 +1.3**
	SNR=49				
GNI	**Garni**	**64.70 316**	*e*P	**P**	**12 59 36.9 +0.5**
	comp=Z,148nm,1.0s				
GNI			LR	LR	
	comp=Z,1μm,22.0s				
GNI	**Garni**	**64.70 316**	P	**P**	**12 59 37.9 +1.5**
	comp=Z,26nm,0.8s,baz=94,slow=4.2,SNR=31				
DGRG	**David-gareji**	**64.84 318**	P	**P**	**12 59 38.8 +1.6**
MIR	**Mirnyy**	**65.19 183**⇑	*i*P	**P**	**12 59 41.0 +2.2**
MIR			*e*		13 00 17.0
MIR			*e*		13 02 10.0
MIR			*e*S	S	13 08 26.0 +7.1
MIR			*e*PS	**PnS**	**13 08 42.0 +0.2**
MIR			pmax	pmax	
	comp=Z,154nm,1.2s				
MIR			pmax	pmax	
	comp=Z,2μm,4.0s				
CASY	**Casey**	**65.23 175**	*e*P	**P**	**12 59 40.3 +1.1**
	comp=Z,117nm,1.2s				
CASY			LR	LR	
	comp=Z,4μm,22.0s				
TBLG	**Delisi**	**65.39 318**	*i* P	**P**	**12 59 41.6 +0.9**
TBLG	**Delisi**	**65.39 318**	P	**P**	**12 59 41.6 +0.9**
SVE	**Sverdlovsk**	**65.91 338**⇓	*i*P	**P**	**12 59 44.1 +0.4**
SVE			*e*S	**S**	**13 08 24.3 -3.8**
SVE			*e*		13 09 36.0
SVE			*e*SSS	SSS	13 15 41.3
SVE			pmax	pmax	
	comp=Z,268nm,1.3s				
AKH	**Akhalkalaki**	**66.09 317**	P	**P**	**12 59 46.0 +0.5**
ZEI	**Tsey**	**66.41 319**	*e*P	**P**	**12 59 46.3 -1.2**
ZEI			pmax	pmax	
	comp=Z,169nm,1.0s				
ARU	**Arti**	**66.43 337***c i*P		**P**	**12 59 47.0 0.0**
ARU					13 00 16.3
ARU			S	**S**	**13 08 37.4 +3.0**

ARU 13 09 38.0
ARU pmax pmax
comp=Z,196nm,1.7s
ARU Arti 66.43 337 P **P** **12 59 47.6 +0.6**
comp=Z,463nm,0.9s,SNR=28
ONI Oni 66.63 318 P **P** **12 59 49.7 +1.0**
YAK Yakutsk 67.30 15*c i*P **P** **12 59 52.3 -0.1**
YAK *e* 13 00 19.1
YAK *e* 13 02 21.8
YAK *e*PPP PPP 13 03 56.4
YAK *e*S **S** **13 08 42.0 -2.7**
YAK *e**SS sS 13 09 24.5 +20
YAK *e* 13 09 43.3
YAK *e*SS **SS** **13 13 08.0 +3.0**
YAK pmax pmax
comp=Z,118nm,1.1s
YAK pmax pmax
comp=N,55nm,1.4s
YAK pmax pmax
comp=E,59nm,1.4s
YAK pmax pmax
comp=Z,114nm,2.5s
YAK pmax pmax
comp=N,48nm,2.1s
YAK pmax pmax
comp=E,54nm,1.9s
YAK smax smax
comp=N,199nm,2.7s
YAK smax smax
comp=E,112nm,2.0s
KBZ Khabaz 67.48 319 P **P** **12 59 54.7 +0.7**
KBZ Khabaz 67.48 319 P **P** **12 59 54.7 +0.7**
KBZ P'P' 13 28 21.4
KBZ Khabaz 67.48 319 P **P** **12 59 54.7 +0.7**
comp=E,37nm,0.7s,baz=111,slow=4.7,SNR=96
KBZ PKPPKP **P'P'df** **13 28 21.4 +3.1**
comp=E,3.1nm,1.0s,baz=251,slow=1.5,SNR=5.2
JHLN Al Jahlan 67.62 310 *e*P **P** **12 59 56.9 +1.8**
ZALF Zalf 67.64 307 *e*P **P** **12 59 57.1 +1.8**
KIV Kislovodsk 67.72 319*c i*P **P** **12 59 56.1 +0.5**
KIV *e* 13 00 20.7
KIV *e* 13 02 22.0
KIV *e*S **S** **13 08 51.9 +1.3**
KIV *e*SS **SS** **13 13 14.9 +2.4**
KIV pmax pmax
comp=Z,287nm,1.1s
KIV pmax pmax
comp=Z,517nm,4.0s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 67.72 319 P **P** **12 59 56.1 +0.5**
comp=Z,1μm,1.1s,SNR=33
ASF Jabal al Asfar 67.78 306 P **P** **12 59 57.7 +1.4**
ASF Jabal al Asfar 67.78 306 P **P** **12 59 57.7 +1.4**
comp=Z,54nm,1.0s,baz=68,slow=2.9,SNR=67
ASF LR LR 13 30 47.9
comp=Z,3μm,18.4s,baz=249,slow=37
SALA Sala 68.07 306 *e*P P 13 00 02.2 +4.0
NOUC Port Laguerre 68.08 113 *e*P **P** **12 59 58.4 +0.2**
SLMH Al Salmeh 68.19 310 *e*P **P** **13 00 01.0 +2.3**
DZM Mont Dzumac 68.21 113 *e*P **P** **12 59 59.7 +0.6**
comp=Z,336nm,1.6s
DZM *e*S S 13 08 52.5 -4.8
comp=Z,2μm,28.0s
DZM Mont Dzumac 68.21 113 *e*LR LR 13 20 32.6
comp=Z,7μm,24.1s
DZM Mont Dzumac 68.21 113 *e*P **P** **12 59 59.9 +0.7**
DZM Mont Dzumac 68.21 113 *e*P **P** **12 59 59.7 +0.6**
comp=Z,236nm,1.5s
TOTH TOTAH 68.50 307 *e*P **P** **13 00 01.8 +1.1**
MARH Ras Al Marh 68.65 307 *e*P **P** **13 00 03.0 +1.1**
QASN Qassioun 68.67 307 *e*P **P** **13 00 00.0 -1.8**
KWAJ Kwajalein Atol 68.67 80 *e*P **P** **13 00 02.9 +0.8**
KWAJ pmax pmax
comp=Z,387nm,1.1s
KWAJ Kwajalein Atol 68.67 80 *e*P **P** **13 00 02.9 +0.8**
comp=Z,387nm,1.1s
EIL Elat 68.72 303 P **P** **13 00 03.1 +1.0**
EIL Elat 68.72 303 P **P** **13 00 03.1 +1.0**
comp=Z,176nm,1.2s,baz=104,slow=3.6,SNR=42
EIL LR LR 13 30 12.2
comp=Z,6μm,18.3s,baz=103,slow=36
EIL Elat 68.72 303 P **P** **13 00 03.1 +1.0**
baz=69,SNR=26
BRBR Barbar 68.90 307 *e*P **P** **13 00 04.5 +1.2**
WAKE Wake Island 69.03 69 PFAKE 13 00 20.0 +16
WAKE LR LR
comp=Z,2μm,20.0s
WRDH Warideh 69.14 309 *e*P **P** **13 00 02.5 -2.1**
BTCH Batrach 69.27 309 *e*P **P** **13 00 05.9 +0.5**
DRWC Darouich 69.29 310 *e*P **P** **13 00 04.6 -1.0**
SOKR Solikamsk 69.31 338*c i*P **P** **13 00 05.8 +0.7**
SOKR S **S** **13 09 08.2 -0.5**
SOKR pmax pmax
comp=Z,160nm,1.7s
SOKR MLR MLR
comp=Z,3μm,21.0s
SOC Sochi 69.53 318*c i*P **P** **13 00 06.5 -0.3**
SOC *e**PP **pP** **13 00 15.7 -2.9**
SOC *e**SP **sP** **13 00 20.4 -2.7**
SOC *e* 13 02 37.9
SOC *i*S **S** **13 09 11.4 -0.5**
SOC *e*SSS SSS 13 16 48.6
SOC pmax pmax
comp=Z,177nm,1.1s
ARNB Al Arnab 69.59 309 *e*P **P** **13 00 06.8 -0.7**
SKR Severo-Kuril's 70.69 34 *e*P **P** **13 00 13.5 -0.2**
SKR *e* 13 00 40.5
SKR *e*S **S** **13 09 26.0 +0.9**
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax smax
comp=N,2μm,10.0s
SKR smax smax
comp=E,1μm,18.0s
SKR MLR MLR
comp=N,2μm,14.0s
SKR MLR MLR
comp=E,2μm,14.0s
SKR MLR MLR
comp=Z,2μm,14.0s
MAW Mawson 70.73 194 *e*P **P** **13 00 15.2 +1.5**
comp=Z,24nm,1.1s
MAW Mawson 70.73 194 P **P** **13 00 14.8 +1.2**
comp=Z,71nm,1.0s,baz=33,slow=7.5,SNR=89
MAW LR LR 13 25 59.9
comp=Z,6μm,19.1s,baz=35,slow=31
MAW Mawson 70.73 194 P **P** **13 00 15.4 +1.7**
baz=71,SNR=13
EREN Erenkoy 70.90 308 *e*P **P** **13 00 15.7 +0.3**
LFK Lefkose 71.33 308 *e*P **P** **13 00 18.6 +0.5**
CSS Prodhromos 71.41 308 P **P** **13 00 18.9 +0.4**
comp=Z,3.5nm,1.0s
CSS Prodhromos 71.41 308 *e*P **P** **13 00 19.0 +0.4**
comp=Z,235nm,1.2s
CSS LR LR
comp=Z,3μm,19.0s
IKL Isikli 71.47 309 *e*P **P** **13 00 18.6 -0.2**
ANN Anapa 71.51 318 *e*P **P** **13 00 17.3 -1.5**
ANN *e* 13 00 38.1
ANN *e* 13 03 04.6
ANN *e*S **S** **13 09 32.0 -2.9**
ANN *e*SSS SSS 13 17 25.1
ANN pmax pmax
comp=Z,655nm,4.9s
ANN pmax pmax
comp=Z,94nm,1.2s
VRHR Novokhopersk 71.51 326 *e*P **P** **13 00 18.3 -0.4**
VRHR *e**PP **pP** **13 00 26.8 -3.7**
VRHR pmax pmax
comp=Z,360nm,1.8s
VRHR pmax pmax
comp=N,50nm,1.5s
VRHR pmax pmax
comp=E,320nm,1.7s
VRHR MLR MLR
comp=Z,2μm,18.0s
VRHR MLR MLR
comp=N,230nm,14.0s
VRHR MLR MLR
comp=E,2μm,21.0s

LSZ Lusaka 71.55 254 *e*P **P** **13 00 20.5 +0.6**
LSZ Lusaka 71.55 254 *e*P **P** **13 00 20.1 +0.2**
comp=E,121nm,1.4s
LSZ Lusaka 71.55 254 LR LR 13 27 03.9
comp=E,4μm,20.5s,baz=138,slow=32
MAMC Mammari 71.55 308 P **P** **13 00 19.8 +0.5**
LEF Lefka 71.80 308 *e*P **P** **13 00 21.4 +0.6**
ALFC Alevga 72.04 308 P **P** **13 00 22.5 +0.2**
comp=E,1.6nm,0.8s
KSD Kokstad 72.13 238 *e*P **P** **13 00 23.1 0.0**
KSD AMB AMB 13 00 33.6
comp=Z,152nm,4.2s
SULT Sultanhani-AKS 72.15 311 *e*P **P** **13 00 23.6 +0.6**
PPCY Paphos 72.17 307 P **P** **13 00 23.3 +0.3**
AKMC Akamas 72.22 307 P **P** **13 00 23.5 +0.1**
SLR Silverton 72.44 244 *e*P **P** **13 00 25.8 +0.7**
BR131 Keskin Array S 72.50 312 *e*P **P** **13 00 24.3 -0.8**
comp=Z,40nm,0.9s
BRTR Keskin Array B 72.50 312 P **P** **13 00 24.8 -0.4**
BRTR Keskin Array B 72.50 312 P **P** **13 00 24.8 -0.4**
comp=Z,13nm,0.6s,baz=136,slow=7.0,SNR=81
PEA0B Petropavlovsk- 72.67 32 *e*P **P** **13 00 26.1 +0.4**
PETK Petropavlovsk- 72.67 32 P **P** **13 00 26.0 +0.3**
PETK Petropavlovsk- 72.67 32 P **P** **13 00 26.0 +0.3**
PETK Petropavlovsk- 72.67 32 P **P** **13 00 26.0 +0.3**
comp=Z,15nm,0.8s,baz=202,slow=4.0,SNR=14
PETK LR LR 13 36 54.7
comp=Z,2μm,18.1s,baz=130,slow=40
VORD Divnogorie 72.78 325 *e*P **P** **13 00 25.7 -0.6**
VORD *e**PP pP 13 00 30.7 -7.4
VORD pmax pmax
comp=N,80nm,1.4s
VORD pmax pmax
comp=Z,150nm,1.4s
VORD pmax pmax
comp=E,110nm,1.3s
VORD MLR MLR
comp=Z,2μm,15.0s
VORD MLR MLR
comp=N,960nm,20.0s
VORD MLR MLR
comp=E,1μm,16.0s
KONT Konya--Tatoy 72.96 310 *e*P **P** **13 00 28.0 +0.2**
VSR Storozhevoye 72.96 325 *e*P **P** **13 00 26.8 -0.6**
VSR pmax pmax
comp=N,110nm,1.6s
VSR pmax pmax
comp=E,190nm,1.6s
VSR pmax pmax
comp=Z,310nm,1.6s
VSR MLR MLR
comp=N,1μm,23.0s
VSR MLR MLR
comp=Z,2μm,23.0s
VSR MLR MLR
comp=E,210nm,11.0s
LADK Ladik-KONYA 73.02 311 *e*P **P** **13 00 27.6 -0.6**
PET Petropavlovsk 73.15 33 *e*P **P** **13 00 29.7 +1.3**
PET *e**PP **pP** **13 00 39.9 -0.4**
PET *e*S **S** **13 09 51.9 -1.5**
PET pmax pmax
comp=Z,600nm,4.1s
PET pmax pmax
comp=Z,300nm,5.0s
PET pmax pmax
comp=Z,187nm,1.3s
PET MLR MLR
comp=Z,3μm,18.0s
PET MLR MLR
comp=Z,3μm,17.0s
VOR Voronezh 73.16 326 *e*P **P** **13 00 29.0 +0.5**
VOR pmax pmax
comp=Z,500nm,1.6s
ANTO Ankara 73.16 312 ⇓P **P** **13 00 29.3 +0.3**
ANTO Ankara 73.16 312 P **P** **13 00 29.2 +0.2**
SNR=28
ANTO Ankara 73.16 312 ⇓*i*P **P** **13 00 29.3 +0.3**
ANTO Ankara 73.16 312 *e*P **P** **13 00 28.9 0.0**
comp=Z,111nm,1.1s
ANTO LR LR
comp=Z,1μm,21.0s
PRYS Parys 73.41 242 *e*P **P** **13 00 30.2 -0.6**
PRYS AMB AMB 13 00 40.5
comp=Z,118nm,4.0s
TARA Tarawa 73.53 88 *e*P **P** **13 00 32.6 +1.1**
comp=Z,346nm,1.1s
KIZT Kizilcal 73.57 311 *e*P **P** **13 00 30.5 -0.9**
SIM Simferopol' 73.77 318*c i*P **P** **13 00 32.0 -0.3**
SIM *e* 13 03 13.0
SIM *e*S **SKiKP** **13 09 58.0 -0.9**
SIM pmax pmax
comp=Z,116nm,0.9s
SUTC Sutluce-Ispart 73.88 310 *e*P **P** **13 00 32.5 -0.8**
BCK Bucak 74.19 310 *e*P P 13 00 31.5 -3.5
ISP Isparta 74.33 310 *e*P **P** **13 00 34.9 -1.0**
ISP Isparta 74.33 310 ⇑P **P** **13 00 37.4 +1.5**
ISP Isparta 74.33 310 ⇑*i*P **P** **13 00 37.4 +1.5**
ISP Isparta 74.33 310 *e*P **P** **13 00 36.6 +0.7**
comp=Z,243nm,1.6s
ISP LR LR
comp=Z,2μm,20.0s
SHUT Suhut-Afyon 74.49 311 *e*P **P** **13 00 36.6 -0.2**
ELL Elmali 74.55 309 *e*P **P** **13 00 36.8 -0.3**
LBTB Lobatse 74.78 245 *e*P **P** **13 00 39.6 +0.8**
LBTB AMB AMB 13 00 48.9
comp=Z,130nm,3.9s
LBTB Lobatse 74.78 245 *e*P **P** **13 00 39.5 +0.8**
comp=Z,156nm,1.6s
FETY Fethiye 75.17 308 *e*P **P** **13 00 40.0 -0.7**
SWZ Schweizer 75.24 242 *e*P **P** **13 00 41.8 +0.4**
SWZ AMB AMB 13 00 51.3
comp=Z,142nm,3.8s
SEY Seymchan 75.28 22*c i*P **P** **13 00 41.5 +0.8**
TIXI Tiksi 75.35 9*c i*P **P** **13 00 40.5 -0.4**
TIXI pmax pmax
comp=Z,86nm,1.7s
TIXI MLR MLR
comp=Z,6μm,22.0s
BOSA Boshof 75.46 241 *e*P **P** **13 00 42.8 +0.2**
BOSA AMB AMB 13 00 52.5
comp=Z,85nm,3.9s
BOSA Boshof 75.46 241 *e*P **P** **13 00 42.7 0.0**
comp=Z,47nm,1.1s
BOSA Boshof 75.46 241 P **P** **13 00 43.1 +0.4**
comp=Z,29nm,1.1s,baz=90,slow=6.0,SNR=15
BOSA LR LR 13 27 31.6
comp=Z,5μm,20.6s,baz=90,slow=30
DALY Dalyan (Mu´la 75.54 309 *e*P **P** **13 00 42.7 -0.1**
MOS Moscow 75.69 329*c i*P **P** **13 00 43.8 +0.6**
MOS *e* 13 00 57.5
MOS *e* 13 03 34.1
MOS *e*S **S** **13 10 20.8 -0.9**
MOS pmax pmax
comp=Z,249nm,0.9s
MOS pmax pmax
comp=Z,1μm,1.9s
MOS smax smax
comp=N,1μm,4.1s
MOS MLR MLR
comp=Z,4μm,20.0s
RPZ Rata Peaks 75.81 135 *e*P **P** **13 00 45.1 +0.9**
comp=Z,472nm,1.4s
KULA Kula-Manisa 75.92 310 *e*P **P** **13 00 45.1 +0.1**
OBN Obninsk 75.98 328*c i*P **P** **13 00 45.2 +0.4**
OBN *e* 13 03 36.4
OBN *i*S S 13 10 19.3 -5.7
OBN SS **SS** **13 15 23.0 +4.7**
OBN pmax pmax
comp=Z,456nm,1.6s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 75.98 328 P **P** **13 00 45.7 +0.9**
comp=Z,2μm,1.2s,SNR=8.4
MLSB Milas 76.33 309 *e*P **P** **13 00 46.9 -0.5**
DAT Datca 76.37 308 *e*P **P** **13 00 46.3 -1.3**
KARP Karpathos 76.45 307 *e*P **P** **13 00 48.9 +0.9**
SMG Samos 77.15 309 *e*P **P** **13 00 52.7 +0.8**
KHZ Kahutara 77.35 133 *e*P **P** **13 00 53.8 +0.9**
comp=Z,418nm,1.4s
TLCR 77.44 317 ⇑P **P** **13 00 54.1 +0.8**
TLCR 77.44 317 ⇑*i*P **P** **13 00 54.1 +0.8**
XRY Khrisi 77.50 306 *e*P **P** **13 00 54.5 +0.6**
TIRR Tirgusor 77.53 316 ⇓P **P** **13 00 53.3 -0.5**
TIRR Tirgusor 77.53 316 ⇓*i*P **P** **13 00 53.3 -0.5**
TIRR Tirgusor 77.53 316 *e*P **P** **13 00 52.3 -1.5**
comp=Z,127nm,1.0s
NPS Neapolis 77.64 306 *e*P **P** **13 00 55.8 +1.1**
LAST Lasithi 77.73 306 *e*P **P** **13 00 55.9 +0.6**
CHOS Chios island 77.89 310 *e*P **P** **13 00 57.3 +1.2**
CFR Carcaliu 77.90 317 ⇑P **P** **13 00 56.2 +0.3**
CFR Carcaliu 77.90 317 ⇑*i*P **P** **13 00 56.2 +0.3**
PRK Paraskevi 77.90 311 *e*P **P** **13 00 56.7 +0.7**
KIS Kishinev 77.91 319 ⇑*i*P **P** **13 00 55.0 -0.9**
comp=Z,600nm,2.0s
KIS Kishinev 77.91 319 *i* PcP **PcP** **13 01 04.0 -1.6**
KIS Kishinev 77.91 319 *e*PP PP 13 03 10.0 -42
KIS Kishinev 77.91 319 *e*PS 13 11 20.0
KIS *e*SS SS 13 15 52.0 +4.2
KIS *e*SSS SSS 13 19 40.0
KIS LRM MLR 13 36 52.0
comp=Z,1μm,24.0s
KIS Kishinev 77.91 319α*i*P **P** **13 00 55.0 -0.9**
KIS *i* 13 01 04.0
KIS *e*S **S** **13 10 43.0 -3.3**
KIS *e* 13 10 56.0
KIS *e*SS **SS** **13 15 52.0 +4.2**
KIS pmax pmax
comp=E,500nm,2.0s
KIS pmax pmax
comp=Z,600nm,2.0s
KIS pmax pmax
comp=Z,1μm,6.0s
KIS pmax pmax
comp=E,1μm,3.0s
HARR Harsova 77.92 316 ⇓P **P** **13 00 57.0 +1.0**
HARR Harsova 77.92 316 ⇓*i*P **P** **13 00 57.0 +1.0**
PRD Provadia 77.94 315 *e*P **P** **13 00 56.3 +0.2**
SANT Santorini 77.97 308 *e*P **P** **13 00 54.7 -1.8**
SANT Santorini 77.97 308 *e*P **P** **13 00 56.6 +0.1**
comp=E,458nm,1.5s
SANT LR LR
comp=Z,1μm,20.0s
SNZO South Karori 78.03 132 *e*P **P** **13 00 57.4 +0.7**
comp=Z,349nm,1.1s
SNZO LR LR
comp=Z,4μm,22.0s
APE Apeiranthos 78.04 308 ⇑P **P** **13 00 56.3 -0.6**
APE Apeiranthos 78.04 308 *e*P **P** **13 00 56.7 -0.2**
APE Apeiranthos 78.04 308 ⇑*i*P **P** **13 00 56.3 -0.6**
LEOM Leova 78.15 318 ⇓P **P** **13 00 58.5 +1.3**
LEOM Leova 78.15 318 ⇓*i*P **P** **13 00 58.5 +1.3**
IDI Anoyia 78.23 306 *e*P **P** **13 00 58.8 +0.8**
IDI Anoyia 78.23 306 *e*P **P** **13 00 59.0 +1.0**
comp=Z,181nm,1.0s
SIVA Sivas 78.24 306 *e*P **P** **13 00 59.2 +1.2**
SYO Syowa Base 78.26 199 ⇓*i*P **P** **13 00 57.2 -0.2**
SYO Syowa Base 78.26 199 ⇓*e*pP pP 13 01 05.2 -4.1
JMB Yambol 78.36 314 *e*P **P** **13 00 59.5 +1.0**
GHRR 78.61 317 ⇓*i*P **P** **13 01 01.4 +1.6**
PGOR Pogoanele 78.63 316 ⇓*i*P **P** **13 01 01.1 +1.2**
PETR Petresti 78.65 317 ⇓*i*P **P** **13 01 02.2 +2.2**
AKASG Malin Array Be 78.66 322 LR LR 13 43 15.7
comp=Z,2μm,20.0s,baz=105,slow=41
KIEV Kiev 78.67 322 *e*P **P** **13 00 59.6 -0.4**
KIEV pmax pmax
comp=Z,97nm,1.1s
KIEV MLR MLR
comp=Z,2μm,20.0s
KIEV Kiev 78.67 322 *e*P **P** **13 00 59.6 -0.4**
comp=Z,97nm,1.1s
KIEV LR LR
comp=Z,2μm,20.0s
SMTH Samothraki Isl 78.71 312 *e*P **P** **13 00 59.5 -1.0**
MSVF Nonsavu 78.73 108 *e*P **P** **13 01 03.4 +2.3**
MSVF pmax pmax
comp=Z,144nm,1.1s
MSVF MLR MLR
comp=Z,2μm,20.0s
MSVF Nonsavu 78.73 108 *e*P **P** **13 01 03.4 +2.3**
comp=Z,144nm,1.1s
MSVF LR LR
comp=Z,2μm,20.0s
IAS Iasi 78.79 319 ⇑P **P** **13 01 01.9 +1.2**
IAS Iasi 78.79 319 ⇑*i*P **P** **13 01 01.9 +1.2**
VAM Vamos 78.80 306 *e*P **P** **13 01 02.4 +1.3**
LIA Limnos Island 78.86 311 *e*P **P** **13 01 01.6 +0.3**
ISR Istrita 78.98 316 ⇓P **P** **13 01 03.8 +1.9**
ISR Istrita 78.98 316 ⇓*i*P **P** **13 01 03.8 +1.9**
VRI Vrincioaia 79.03 317 ⇑P **P** **13 01 03.4 +1.3**
VRI Vrincioaia 79.03 317 ⇑*i*P **P** **13 01 03.4 +1.3**
KDZ Kurdzhali 79.03 313 *e*P **P** **13 01 02.0 -0.2**
PLOR Plostina 79.08 317 ⇓P **P** **13 01 03.9 +1.5**
PLOR Plostina 79.08 317 ⇓*i*P **P** **13 01 03.9 +1.5**
SULR 79.08 316 ⇓*i*P **P** **13 01 03.0 +0.6**
TMCR Tamitsa 79.16 337 *e*P **P** **13 01 03.7 +1.3**
TMCR *e* 13 01 12.0
TMCR pmax pmax
comp=Z,83nm,1.1s
TESR Tescani 79.23 318 ⇓*i*P **P** **13 01 03.9 +0.7**
SECR 79.29 316 ⇑*i*P **P** **13 01 05.6 +2.0**
URZ Urewera 79.46 129 LR LR 13 34 34.0
comp=Z,2μm,21.9s,baz=270,slow=34
MLR Muntele Rosu 79.47 317 ⇑*i*P **P** **13 01 05.6 +0.9**
PTL Penteli 79.52 309 *e*P **P** **13 01 05.2 +0.2**
RZN Rozhen 79.55 313 *e*P **P** **13 01 05.1 -0.2**
ANKY Antikythira Is 79.60 307 *e*P **P** **13 01 06.6 +1.2**
PLD Plovdiv 79.64 313 *e*P **P** **13 01 05.6 +0.1**
SUR Sutherland 79.65 237 P **P** **13 01 07.3 +1.2**
comp=Z,553nm,1.4s,SNR=6.0
SUR Sutherland 79.65 237 *e*P **P** **13 01 07.7 +1.7**
SUR Sutherland 79.65 237 *e*P **P** **13 01 07.8 +1.7**
comp=Z,2μm,3.0s
SUR LR LR
comp=Z,9μm,21.0s
PRAR RASCA 79.71 319 ⇓*i*P **P** **13 01 06.8 +1.0**
KYTH Kithira 79.88 307 *e*P **P** **13 01 05.6 -1.4**
DID Didima 79.92 308 *e*P **P** **13 01 06.3 -0.9**
PAIG Paliouri 80.00 311 *e*P **P** **13 01 05.7 -1.8**
MTUR Matau 80.02 316 ⇑P **P** **13 01 08.5 +0.8**
MTUR Matau 80.02 316 ⇑*i*P **P** **13 01 08.5 +0.8**
VLI Veliai 80.03 308 *e*P **P** **13 01 07.1 -0.7**
VOIR 80.08 316 ⇓P **P** **13 01 08.2 +0.3**
VOIR 80.08 316 ⇓*i*P **P** **13 01 08.2 +0.3**
NVR Nevrokopi 80.12 312 *e*P **P** **13 01 07.3 -0.9**
PGB Panagyurishte 80.12 313 *e*P **P** **13 01 08.0 -0.2**
PLG Polygyros 80.25 311 *e*P **P** **13 01 08.4 -0.5**
MMB Musomiste 80.26 312 *e*P **P** **13 01 08.3 -0.7**
LKR Lokris 80.30 309 *e*P **P** **13 01 08.2 -0.9**
ARR Arges 80.35 316 ⇓*i*P **P** **13 01 09.9 +0.5**
BURAR Bucovina Array 80.43 319 ⇑P **P** **13 01 11.8 +2.0**
BURAR Bucovina Array 80.43 319 ⇑*i*P **P** **13 01 11.8 +2.0**
BUR08 Bucovina Ar. S 80.45 319 *e*P **P** **13 01 11.2 +1.2**
CVNA Calvinia 80.47 238 *e*P **P** **13 01 11.7 +1.3**
CVNA AMB AMB 13 01 24.8
comp=Z,210nm,3.1s
MICGM Minsk 80.51 326⇑*e*P **P** **13 01 09.0 -0.9**
DYR Agios Nikonas 80.51 307 *e*P **P** **13 01 10.9 +0.5**
MNK Minsk 80.53 326⇑*e*P **P** **13 01 09.0 -1.1**
MNK *e*S **S** **13 11 10.0 -3.9**
MNK pmax pmax
comp=E,520nm,1.8s
MNK pmax pmax
comp=Z,320nm,1.4s
MPEP Malo Peshtene 80.58 314 *e*P **P** **13 01 11.0 +0.4**
GUR Goura 80.69 309 *e*P **P** **13 01 10.6 -0.8**
ELIM Elim 80.72 235 *e*P **P** **13 01 13.4 +1.8**
ELIM AMB AMB 13 01 15.0
comp=Z,275nm,3.3s
KKB Krupnik 80.78 313 *e*P **P** **13 01 11.5 -0.2**
PUL Pulkovo 80.82 331*c i*P **P** **13 01 12.5 +1.0**
PUL pmax pmax
comp=Z,384nm,1.7s
VTS Vitosha 80.82 313 ⇓P **P** **13 01 12.1 0.0**
VTS Vitosha 80.82 313 *e*P **P** **13 01 11.9 -0.2**
VTS Vitosha 80.82 313 ⇓*i*P **P** **13 01 12.1 0.0**
KLV Kalavryta, Ach 80.86 309 *e*P **P** **13 01 12.1 -0.2**
AGG Agios Georgios 80.87 310 *e*P **P** **13 01 11.4 -0.9**
ITM Ithomi 80.90 308 *e*P **P** **13 01 12.5 0.0**
LIT Litokhoron 80.93 311 *e*P **P** **13 01 12.5 0.0**
LOT Lotru 80.96 316 ⇓*i*P **P** **13 01 13.3 +0.6**
TRIZ Trizonia 80.97 309 *e*P **P** **13 01 11.7 -1.0**
PYL PYLOS 81.00 308 *e*P **P** **13 01 12.9 -0.1**
LAKA Lakka 81.02 309 *e*P **P** **13 01 13.1 0.0**
VAY Valandovo 81.07 312 *i*P **P** **13 01 12.2 -1.1**
EFP Efpalio 81.11 309 *e*P **P** **13 01 13.7 +0.2**
AMT Artemida-Makis 81.12 308 *e*P **P** **13 01 14.0 +0.3**
THL Klokotos Trika 81.20 310 *e*P **P** **13 01 14.0 0.0**
NACGM Naroch 81.23 326 *e* **P** **13 01 12.0 -1.8**

EVR	Evrytania	81.26 310	eP	P	13 01 14.5	+0.1
CJR	Cluj-Napoca	81.33 318	⇓iP	P	13 01 16.7	+2.1
FX1	Attu Island--F	81.34 36	eP	P	13 01 18.1	+3.7
RLS	Riolos of Patr	81.39 309	eP	P	13 01 16.1	+1.1
GZR	Gura Zlata	81.64 316	⇓P	P	13 01 17.2	+0.9
GZR	Gura Zlata	81.64 316	⇓iP	P	13 01 17.2	+0.9
DEV	Deva	81.64 317	⇑P	P	13 01 18.0	+1.8
DEV	Deva	81.64 317	⇑iP	P	13 01 18.0	+1.8
LVV	L'vov	81.67 321	⇓iP	P	13 01 16.7	+0.4
LVV			e		13 01 21.7	
LVV			e		13 06 16.7	
LVV			eS	S	13 11 25.1	-0.9
LVV			e		13 12 34.1	
LVV			e		13 20 11.5	
TSUM	Tsumeb	81.85 251	eP	P	13 01 19.2	+1.3
TSUM	Tsumeb	81.85 251	eP	P	13 01 18.5	+0.5
	comp=Z,39nm,1.0s					
TSUM	Tsumeb	81.85 251	LR	LR	13 32 15.4	
	comp=Z,3μm,21.6s,baz=146,slow=32					
DRGR		81.94 318	⇑P	P	13 01 19.2	+1.4
DRGR		81.94 318	⇑iP	P	13 01 19.2	+1.4
BIA	Bitola	81.95 312	i P	P	13 01 16.8	-1.2
SKO	Skopje	82.01 313	i P	P	13 01 18.5	+0.3
LVZ	Lovozero	82.02 340	c iP	P	13 01 18.3	+0.6
LVZ			pmax	pmax		
	comp=Z,132nm,1.7s					
LVZ	Lovozero	82.02 340	P	P	13 01 18.5	+0.8
	comp=Z,322nm,0.7s,SNR=8.3					
LKD2	Lefkada island	82.13 309	eP	P	13 01 19.3	+0.4
VSU	Vasula	82.20 330	c iP	P	13 01 19.3	+0.5
VSU			pmax	pmax		
	comp=Z,459nm,1.7s					
APA	Apatity	82.32 339	⇓iP	P	13 01 20.0	+0.7
APA			i		13 01 27.8	
APA			i		13 04 32.0	
APA			i S	S	13 11 32.0	0.0
APA			i SS	SS	13 16 58.0	+5.1
APA			i SSS	SSS	13 20 18.0	
APA			pmax	pmax		
	comp=Z,108nm,1.5s					
APA			MLR	MLR		
	comp=Z,4μm,22.0s					
WIN	Windhoek	82.39 248	eP	P	13 01 22.0	+1.1
WIN			AMB	AMB	13 01 33.6	
	comp=Z,34nm,3.5s					
KWP	Kalwaria Pacla	82.48 320	⇓P	P	13 01 21.8	+1.3
KWP	Kalwaria Pacla	82.48 320	⇓iP	P	13 01 21.8	+1.3
KWP	Kalwaria Pacla	82.48 320	eP	P	13 01 21.3	+0.8
	comp=Z,219nm,1.1s					
KWP			LR	LR		
	comp=Z,2μm,20.0s					
KWP	Kalwaria Pacla	82.48 320	eP	P	13 01 21.5	+1.0
KWP			eS	S	13 11 35.7	+1.4
BZS	Buzias	82.48 316	⇑P	P	13 01 21.6	+1.0
BZS	Buzias	82.48 316	⇑iP	P	13 01 21.6	+1.0
UZH	Uzhgorod	82.56 319	eP	P	13 01 22.1	+1.2
UZH			e		13 01 29.9	
UZH			i		13 01 36.3	
UZH			i S	S	13 11 36.3	+1.2
UZH			i PS	PnS	13 12 45.9	+17
UZH			eSS	SS	13 17 06.1	+8.9
KOLS	Kolonicke sedl	82.63 320	eP	P	13 01 22.9	+1.6
KOLS			pmax	pmax		
	comp=Z,273nm,1.6s					
KOLS	Kolonicke sedl	82.63 320	eP	P	13 01 22.9	+1.6
KOLS			epP	pP	13 01 31.4	-1.9
KOLS	Kolonicke sedl	82.63 320	eS	S	13 11 36.8	+0.9
VNDA	Vanda	82.86 169	eP	P	13 01 22.6	+0.7
	comp=Z,79nm,1.3s					
VNDA			PKKP	PKKPbc	13 19 45.3	-3.2
VNDA			P'P'		13 27 55.8	
VNDA	Vanda	82.86 169	P	P	13 01 22.8	+0.8
	comp=Z,38nm,1.0s,baz=299,slow=5.3,SNR=136					
VNDA			PKKP	PKKPbc	13 19 45.3	-3.2
	comp=Z,1.5nm,0.9s,baz=292,slow=2.1,SNR=5.4					
VNDA			PKPPKP	P'P'df	13 27 55.8	+5.6
	comp=Z,1.5nm,1.1s,baz=277,slow=1.1,SNR=4.9					
VNDA			LR	LR	13 32 53.5	
	comp=Z,3μm,21.9s,baz=310,slow=32					
RAO	Raoul Island	82.90 119	PFAKE		13 01 30.0	+6.9
RAO			LR	LR		
	comp=Z,4μm,22.0s					
KEK	Kerkira	82.92 310	eP	P	13 01 23.2	+0.2
SUW	Suwalki	83.07 325	eP	P	13 01 23.8	+0.4
SUW			pmax	pmax		
	comp=Z,818nm,1.1s					
SUW	Suwalki	83.07 325	eP	P	13 01 23.8	+0.4
	comp=Z,818nm,1.1s					
SUW	Suwalki	83.07 325	eP	P	13 01 23.6	+0.2
TIR	Tirane	83.09 312	eP	P	13 01 24.4	+0.6
TIR			pmax	pmax		
	comp=Z,236nm,1.3s					
TIR			MLR	MLR		
	comp=Z,2μm,21.0s					
TIR	Tirane	83.09 312	eP	P	13 01 24.4	+0.6
	comp=Z,236nm,1.3s					
TIR			LR	LR		
	comp=Z,2μm,21.0s					
CRVS	Cervenica-Dubn	83.15 319	eP	P	13 01 25.0	+1.0
CRVS			pmax	pmax		
	comp=Z,206nm,1.9s					
CRVS	Cervenica-Dubn	83.15 319	eP	P	13 01 25.0	+1.0
CRVS			epP	pP	13 01 34.3	-1.7
CRVS	Cervenica-Dubn	83.15 319	eS	S	13 11 42.4	+1.2
PVY	Plav	83.19 313	eP	P	13 01 24.2	-0.3
IVA	Berane	83.28 313	⇑iP	P	13 01 25.0	+0.1
FIA1	FINESS Array S	83.31 332	eP	P	13 01 25.1	+0.6
FINES	FINESS Array B	83.31 332	P	P	13 01 25.4	+0.9
FINES			PKKP	PKKPbc	13 19 45.0	-2.1
FINES	FINESS Array B	83.31 332	P	P	13 01 25.4	+0.9
	comp=Z,32nm,0.5s,baz=105,slow=5.9,SNR=342					
FINES			PKKP	PKKPbc	13 19 45.0	-2.1
	comp=Z,3.8nm,0.9s,baz=250,slow=3.9,SNR=4.1					
FINES			LR	LR	13 46 33.0	
	comp=Z,3μm,18.4s,baz=111,slow=41					
STHS	Stebnicka Huta	83.38 320	eP	P	13 01 26.5	+1.3
STHS			pmax	pmax		
	comp=Z,45nm,1.0s					
STHS	Stebnicka Huta	83.38 320	eP	P	13 01 26.5	+1.3
STHS			epP	pP	13 01 34.9	-2.3
KAF	Kangasniemi	83.39 333	eP	P	13 01 25.7	+0.8
KAF			pmax	pmax		
	comp=Z,16nm,0.4s					
KAF	Kangasniemi	83.39 333	ep	P	13 01 25.7	+0.8
	comp=Z,16nm,0.4s					
ULC	Ulcinj	83.63 312	⇑iP	P	13 01 26.6	-0.1
TTG	Podgorica	83.69 313	⇑iP	P	13 01 26.7	-0.1
DRME	Dracevica, Mon	83.70 313	⇑iP	P	13 01 27.1	+0.1
PLE	Pljevlja	83.71 314	⇑iP	P	13 01 27.8	+0.7
KECS	Kecovo	83.72 319	eP	P	13 01 27.6	+0.7
KECS			pmax	pmax		
	comp=Z,59nm,1.8s					
KECS	Kecovo	83.72 319	eP	P	13 01 27.6	+0.7
KECS			epP	pP	13 01 37.2	-1.7
PKSN	Nyarlorinc	83.88 317	⇑eP	P	13 01 29.1	+1.3
NKY	Niksic	83.93 313	⇑iP	P	13 01 28.5	+0.2
BUM	Brajici-Budva	83.93 313	⇑iP	P	13 01 28.1	-0.1
NKME	Niksic	83.95 313	⇑iP	P	13 01 28.4	+0.1
SBA	Scott Base	83.96 169	eP	P	13 01 29.4	+1.8
SBA			pmax	pmax		
	comp=Z,97nm,1.1s					
SBA			MLR	MLR		
	comp=Z,2μm,21.0s					
SBA	Scott Base	83.96 169	eP	P	13 01 29.4	+1.8
	comp=Z,97nm,1.1s					
SBA			LR	LR		
	comp=Z,2μm,21.0s					
NIE	Niedzica	83.98 320	⇑iP	P	13 01 31.6	+3.3
NIE			e*PP	pP	13 01 39.3	-1.0
NIE			eS	S	13 11 52.5	+2.9
PSZ	Piszkesteto	84.02 318	⇑P	P	13 01 29.2	+0.6
PSZ	Piszkesteto	84.02 318	⇑iP	P	13 01 29.2	+0.6
PSZ	Piszkesteto	84.02 318	eP	P	13 01 28.6	0.0
	comp=Z,2μm,2.9s					
PSZ			LR	LR		
	comp=Z,1μm,19.0s					
PSZ	Piszkesteto	84.02 318	⇑eP	P	13 01 29.4	+0.8
UPM	Unac-Piva	84.04 314	⇑iP	P	13 01 28.9	0.0
BEL	Belsk	84.08 322	eP	P	13 01 29.6	+1.0
HCY	Herceg Novi	84.25 313	⇑iP	P	13 01 29.7	0.0
BRY	Bratogost	84.27 313	⇑iP	P	13 01 30.0	0.0
PKS2	Kecel	84.27 317	⇑eP	P	13 01 30.7	+1.0
OJC	Ojcow	84.43 321	⇑iP	P	13 01 31.4	+0.9
OJC			e*PP	pP	13 01 39.1	-3.4
OJC			eS	S	13 11 54.4	+0.4
OJC	Ojcow	84.43 321	eP	P	13 01 31.1	+0.6
	comp=Z,103nm,1.1s					
BUD	Budapest	84.54 318	⇑eP	P	13 01 32.0	+0.9
PKSM	Moragy	84.62 316	⇓P	P	13 01 32.5	+1.0
PKSM	Moragy	84.62 316	⇓iP	P	13 01 32.5	+1.0
PKSM	Moragy	84.62 316	⇑eP	P	13 01 32.2	+0.7
MIDW	Midway	84.65 62	PFAKE		13 01 40.0	+8.0
MIDW			LR	LR		
	comp=Z,1μm,19.0s					
AMKA	Amchitka	84.75 38	eP	P	13 01 32.4	+0.3
	comp=Z,351nm,1.5s					
PKSG		84.95 318	⇑eP	P	13 01 34.1	+0.9
CSKK	Cs˘‡kako	85.03 318	⇓eP	P	13 01 35.0	+1.4
PKST	T˘'s	85.17 317	⇑eP	P	13 01 35.0	+0.7
OKC	Ostrava-Krasne	85.43 320	⇑iP	P	13 01 36.5	+1.0
OKC			e		13 01 42.0	
OKC			e		13 12 03.9	
OKC			MLR	MLR		
	comp=Z,1μm,16.7s					
OKC	Ostrava-Krasne	85.43 320	⇑iP	P	13 01 36.5	+1.0
OKC			epP	PcP	13 01 42.0	+3.5
OKC			eS	S	13 12 03.9	0.0
OKC			AMS	AMS	13 47 00.0	
	comp=Z,1μm,16.7s					
RAC	Raciborz	85.43 320	eP	P	13 01 37.1	+1.6
RAC			eS	S	13 12 06.8	+2.9
ARCES	ARCESS Array B	85.71 340	P	P	13 01 37.7	+1.2
ARCES	ARCESS Array B	85.71 340	P	P	13 01 37.7	+1.2
	comp=Z,26nm,0.9s,baz=88,slow=5.0,SNR=39					
ARCES			LR	LR	13 46 48.6	
	comp=Z,4μm,19.0s,baz=108,slow=40					
ARE0	ARCESS Array S	85.71 340	⇑iP	P	13 01 36.9	+0.4
ARE0	ARCESS Array S	85.71 340	eP	P	13 01 37.3	+0.8
SMOL	Smolenice	85.73 319	eP	P	13 01 38.2	+1.1
SMOL			e		13 01 47.7	
SMOL	Smolenice	85.73 319	eP	P	13 01 38.2	+1.1
SMOL			epP	pP	13 01 47.7	-1.4
CEL	Celeste	85.78 308	eP	P	13 01 38.6	+1.0
	comp=Z,358nm,1.1s					
CEL			LR	LR		
	comp=Z,922nm,19.0s					
MORC	Moravsky Berou	85.81 320	eP	P	13 01 38.3	+0.8
MORC			pmax	pmax		
	comp=Z,2μm,2.9s					
MORC	Moravsky Berou	85.81 320	eP	P	13 01 38.3	+0.8
	comp=Z,2μm,2.9s					
ZST	Bratislava	85.91 318	eP	P	13 01 38.5	+0.6
ZST			eS	S	13 12 10.9	+2.2
ZST	Bratislava	85.91 318	eP	P	13 01 38.5	+0.6
CUC	Castrocucco	85.99 310	eP	P	13 01 38.8	+0.1
	comp=Z,65nm,0.9s					
CUC			LR	LR		
	comp=Z,1μm,19.0s					
SOP	Sopron	86.22 318	⇑eP	P	13 01 40.1	+0.6
KTK1	Kautokeino	86.36 339	⇑iP	P	13 01 40.7	+0.9
KTK1			esP	sP	13 01 49.8	-6.5
VRAC	Vranov	86.37 319	P	P	13 01 41.1	+0.9
VRAC	Vranov	86.37 319	P	P	13 01 41.1	+0.9
	comp=Z,3.7nm,0.6s,baz=100,slow=6.0,SNR=20					
GKP	Gorka Klasztor	86.43 323	eP	P	13 01 41.0	+0.6
DPC	Dobruska-Polom	86.66 320	⇑iP	P	13 01 43.2	+1.6
DPC			e		13 01 51.0	
DPC			e		13 12 17.6	
DPC	Dobruska-Polom	86.66 320	⇑iP	P	13 01 43.2	+1.6
DPC			epP	PcP	13 01 48.5	+4.5
DPC			esP	sP	13 01 51.0	-7.2
DPC			eS	S	13 12 17.6	+1.5
DPC			AMS	AMS	13 49 00.0	
DPC	Dobruska-Polom	86.66 320	eP	P	13 01 43.3	+1.6
	comp=Z,529nm,1.0s					
WDD	Wield Dalam	86.68 306	PFAKE		13 01 50.0	+8.0
WDD			LR	LR		
	comp=Z,1μm,20.0s					
CONA	Conrad Observa	86.71 318	i P	P	13 01 42.7	+0.6
	comp=Z,815nm,3.4s,SNR=19					
KSP	Ksiaz	86.73 321	⇑eP	P	13 01 43.2	+1.3
KSP			e*PP	pP	13 01 51.2	-2.8
KSP			eS	S	13 12 15.8	-0.8
KSP	Ksiaz	86.73 321	eP	P	13 01 43.4	+1.5
GROS	Grobnik	86.81 316	i P	P	13 01 43.3	+0.8
ARSA	Arzberg	86.87 317	i P	P	13 01 43.9	+1.1
	comp=Z,2μm,3.4s,SNR=52					
UPC	Upice	86.87 321	eP	P	13 01 43.9	+1.3
UPC			e		13 01 52.1	
UPC	Upice	86.87 321	⇑eP	P	13 01 43.9	+1.3
UPC			epP	pP	13 01 52.1	-2.6
BOJS	Bojanci	86.90 316	i P	P	13 01 43.8	+1.0
BOJS			i		13 01 53.0	
BISS	Bistriski jare	87.09 317	i P	P	13 01 44.8	+1.0
TREC	Trest	87.09 319	⇑iP	P	13 01 44.7	+0.9
TREC			e		13 01 50.1	
TREC			e		13 12 20.8	
TREC			MLR	MLR		
	comp=Z,1μm,22.5s					
TREC	Trest	87.09 319	⇑iP	P	13 01 44.7	+0.9
TREC			epP	PcP	13 01 50.1	+4.2
TREC			eS	S	13 12 20.8	+0.6
TREC			AMS	AMS	13 49 30.0	
	comp=Z,1μm,22.5s					
PERS	Pernice	87.09 317	i P	P	13 01 44.9	+1.0
PERS			i		13 01 54.0	
PDKS	Podkum	87.13 316	i P	P	13 01 45.1	+1.1
PDKS			i		13 01 54.4	
SOKA	Soboth	87.16 317	i P	P	13 01 45.3	+1.1
	comp=Z,1μm,3.2s,SNR=76					
LJU	Ljubljana	87.45 316	eP	P	13 01 46.5	+1.0
OBKA	Obir	87.47 316	i P	P	13 01 46.9	+1.1
	comp=Z,2μm,3.1s,SNR=31					
JAVS	Javornik	87.76 316	i P	P	13 01 47.5	+0.4
JAVS			i		13 01 56.6	
PRU	Pruhonice	87.77 320	⇑iP	P	13 01 48.3	+1.4
PRU			e		13 01 55.9	
PRU			e		13 12 21.3	
PRU			MLR	MLR		
	comp=Z,2μm,22.1s					
PRU	Pruhonice	87.77 320	⇑iP	P	13 01 48.3	+1.4
PRU			epP	PcP	13 01 53.4	+4.6
PRU			ex	x	13 01 55.9	
PRU			ex	x	13 12 21.3	
PRU			AMS	AMS	13 50 40.0	
	comp=Z,2μm,22.1s					
MOA	Molln	87.77 318	i P	P	13 01 47.7	+0.7
	comp=Z,824nm,3.2s,SNR=19					
PVCC	Panska Ves	87.79 320	eP	P	13 01 48.6	+1.5
PVCC			e		13 01 56.3	
PVCC			MLR	MLR		
	comp=Z,2μm,16.4s					
PVCC	Panska Ves	87.79 320	⇑eP	P	13 01 48.6	+1.5
PVCC			epP	PcP	13 01 53.9	+5.0
PVCC			esP	sP	13 01 56.3	-7.3
PVCC			AMS	AMS	13 50 00.0	
	comp=Z,2μm,16.4s					
PRA	Prague	87.84 320	⇑P	P	13 01 49.0	+1.7
PRA			AMS	AMS	13 51 30.0	
VOY	Vojsko	87.89 316	eP	P	13 01 48.2	+0.4
VOY			e		13 01 56.0	
VOY			e		13 02 16.0	
MAIT	Maitri	87.94 199	eP	P	13 01 47.4	+0.1
TRI	Trieste	87.96 316	eP	P	13 01 48.5	+0.5
TRI			pmax	pmax		
	comp=Z,110nm,1.2s					
TRI	Trieste	87.96 316	eP	P	13 01 48.5	+0.5
	comp=Z,110nm,1.2s					
TRO	Tromso	87.99 340	⇑iP	P	13 01 48.1	+0.6
TRO			eSKS	SKSac	13 12 12.0	-0.6
TRO			e		13 12 23.1	
TRO			AMS	AMS	13 45 35.5	
	comp=Z,3μm,17.2s					
BSD	Bornholm Skovb	87.99 325	⇑iP	P	13 01 48.5	+0.6
	comp=Z,47nm,0.7s					
BSD			i		13 01 57.6	
BSD			i		13 12 28.9	
BSD						
	comp=Z,2μm,15.0s					
AQU	L'Aquila	87.99 312	eP	P	13 01 49.3	+1.0
	comp=Z,494nm,1.0s					
AQU			LR	LR		
	comp=Z,2μm,19.0s					
MYKA	Terra Mystica	88.11 317	i P	P	13 01 49.6	+0.8
	comp=Z,945nm,2.7s,SNR=40					
BRG	Berggiesshubel	88.22 321	⇑iP	P	13 01 50.4	+1.3
	comp=Z,426nm,2.1s					
BRG			i		13 01 58.2	
	comp=Z,146nm,1.2s					
BRG	Berggiesshubel	88.22 321	eP	P	13 01 50.3	+1.2
	comp=Z,202nm,1.6s					
BRG	Berggiesshubel	88.22 321	⇑iP	P	13 01 50.4	+1.3
BRG			i		13 01 58.2	
BRG			pmax	pmax		
	comp=Z,426nm,2.1s					
BRG			pmax	pmax		
	comp=Z,146nm,1.2s					
BRG	Berggiesshubel	88.22 321	S	S	13 12 34.0	+3.1
BRG			PS	PnS	13 13 33.0	-4.3
BRG			SS	SS	13 18 25.0	+4.6
GEC2	GERESS Array S	88.22 319	eP	P	13 01 50.2	+0.9
	comp=Z,247nm,1.6s					
GEC2	GERESS Array S	88.22 319	eP	P	13 01 50.2	+0.9
GEC2			pmax	pmax		
	comp=Z,247nm,1.6s					
GERES	GERESS Array B	88.22 319	P	P	13 01 50.2	+0.9
GERES	GERESS Array B	88.22 319	P	P	13 01 50.2	+0.9
	comp=Z,12nm,0.6s,baz=98,slow=4.0,SNR=128					
KHC	Kasperske Hory	88.32 319	⇑iP	P	13 01 50.6	+0.9
KHC			e		13 01 58.3	
KHC			e		13 12 29.2	
KHC			MLR	MLR		
	comp=Z,2μm,16.5s					
KHC	Kasperske Hory	88.32 319	⇑iP	P	13 01 50.6	+0.9
KHC			epP	PcP	13 01 55.9	+4.5
KHC			esP	sP	13 01 58.3	-7.9
KHC			eS	SKKSac	13 12 29.2	+2.9
KHC			AMS	AMS	13 50 20.0	
	comp=Z,2μm,16.5s					
KHC	Kasperske Hory	88.32 319	eP	P	13 01 50.6	+0.9
	comp=Z,51nm,1.1s					
KBA	Koelnbreinsper	88.34 317	i P	P	13 01 50.3	+0.3
	comp=Z,766nm,3.2s,SNR=17					
AFI	Afiamalu	88.49 104	PFAKE		13 02 00.0	+8.8
AFI			LR	LR		
	comp=Z,2μm,22.0s					
QSPA	South Pole Qui	88.57 180	eP	P	13 01 51.6	+1.0
	comp=Z,147nm,1.2s					
QSPA			LR	LR		
	comp=Z,3μm,19.0s					
FBE	Freiberg	88.59 321	eP	P	13 01 52.4	+1.6
	comp=Z,370nm,2.0s					
BJO	Bjornoya	88.72 345	AMS	AMS	13 38 56.7	
	comp=Z,3μm,80.4s					
RJOB	Jochberg	88.75 318	eP	P	13 01 51.9	+0.1
	comp=Z,101nm,1.7s					
WET	Wettzell	88.78 319	eP	P	13 01 52.9	+1.1
	comp=Z,191nm,1.7s					
WET			epP	pP	13 02 02.8	-1.1
WET	Wettzell	88.78 319	eP	P	13 01 52.9	+1.1
WET			e*PP	pP	13 02 02.8	-1.1
WET			pmax	pmax		
	comp=Z,191nm,1.7s					
CLL	Collm	88.84 321	eP	P	13 01 53.0	+1.0
	comp=Z,104nm,1.4s					
CLL	Collm	88.84 321	⇑iP	P	13 01 52.8	+0.8
CLL			i		13 02 02.3	
CLL			eS	S	13 12 37.0	+0.3
CLL			pmax	pmax		
	comp=Z,660nm,2.7s					
CLL			MLR	MLR		
	comp=Z,2μm,19.2s					
CLL	Collm	88.84 321	⇑iP	P	13 01 52.8	+0.8
	comp=Z,660nm,2.7s					
CLL			esP	sP	13 02 01.0	-7.5
CLL			i		13 02 02.3	
	comp=Z,146nm,1.2s					
CLL			ePP	PP	13 05 18.0	-3.5
CLL			eS	S	13 12 37.0	+0.3
	comp=N,1μm,34.0s					
CLL			eS	S	13 12 37.0	+0.3
	comp=E,300nm,25.4s					
CLL			ePS	PnS	13 13 42.0	-2.7
CLL			eSS	SS	13 18 12.0	-17
CLL			e		13 23 42.0	
CLL			eSSSS		13 25 06.0	
CLL			Lm	MLR	13 50 00.0	
	comp=Z,2μm,19.2s					
ATKA	Atka Island	88.85 38	eP	P	13 01 53.0	+0.9
	comp=Z,478nm,1.4s					
ABTA	Abfaltersbach	88.89 317	i P	P	13 01 52.8	+0.3
	comp=Z,806nm,2.9s,SNR=21					
HFS	Hagfors	89.07 330	P	P	13 01 54.2	+1.3
HFS	Hagfors	89.07 330	P	P	13 01 54.2	+1.3
	comp=Z,8.8nm,0.5s,baz=145,slow=3.6,SNR=64					
STEI	Steigen	89.09 338	eP	P	13 01 54.0	+1.3
NKC	Novy Kostel	89.13 320	⇑iP	P	13 01 54.8	+1.4
NKC			e		13 02 03.1	
NKC			MLR	MLR		
	comp=Z,1μm,23.8s					
NKC	Novy Kostel	89.13 320	⇑iP	P	13 01 54.8	+1.4
NKC			epP	pP	13 02 03.1	-2.4
NKC			AMS	AMS	13 49 00.0	
	comp=Z,1μm,23.8s					
TANN	Tannenbergstha	89.13 320	eP	P	13 01 54.6	+1.1
	comp=Z,110nm,1.6s					
WERN	Wernitzgruen	89.18 320	eP	P	13 01 54.8	+1.1
	comp=Z,80nm,1.5s					
GUNZ	Gunzen	89.21 320	eP	P	13 01 55.2	+1.4
	comp=Z,88nm,1.3s					
WERD	Werda	89.23 320	eP	P	13 01 55.1	+1.2
	comp=Z,107nm,1.5s					
MOR8	Moi Rana	89.23 336	eP	P	13 01 53.9	+0.4
MOR8			AMB	AMB	13 01 57.4	
	comp=Z,77nm,1.9s					
ROTZ	Rotzenmuhle	89.26 320	eP	P	13 01 55.6	+1.6
	comp=Z,514nm,2.4s					
PLN	Plauen	89.33 320	eP	P	13 01 55.5	+1.2
	comp=Z,1μm,1.8s					
MANZ	Manzenberg	89.33 320	eP	P	13 01 56.0	+1.6
	comp=Z,156nm,1.4s					
MANZ			epP	pP	13 02 05.9	-0.6
COP	Copenhagen	89.44 326	⇑iP	P	13 01 56.2	+1.5
COP						
	comp=Z,880nm,19.0s					
WTTA	Wattenberg	89.52 317	i P	P	13 01 55.8	+0.3
	comp=Z,1μm,2.9s,SNR=24					
WATA	Walderalm	89.56 317	i P	P	13 01 55.8	+0.2
	comp=Z,95nm,1.3s,SNR=20					
NEUB	Neuenburg	89.60 321	eP	P	13 01 56.8	+1.2
	comp=Z,112nm,0.9s					
NEUB			epP	pP	13 02 06.6	-1.1
MOX	Moxa	89.68 320	eP	P	13 01 57.2	+1.2
	comp=Z,180nm,1.6s					
MOX			eL	L	13 51 05.8	
	comp=Z,2μm,19.4s					
MOX	Moxa	89.68 320	eP	P	13 01 57.2	+1.2
MOX			pmax	pmax		
	comp=Z,180nm,1.6s					
LOF	Lofoten	89.74 338	eP	P	13 01 55.8	-0.1
FUR	Furstenfeldbru	89.80 318	eP	P	13 01 57.1	+0.5
	comp=Z,118nm,1.0s					
FUR	Furstenfeldbru	89.80 318	eP	P	13 01 57.1	+0.5
FUR			pmax	pmax		
	comp=Z,118nm,1.0s					
MOTA	Moosalm	89.88 317	i P	P	13 01 57.5	+0.3
	comp=Z,132nm,1.1s,SNR=30					
GRF	Grafenberg Arr	89.89 320	eP	P	13 01 58.6	+1.6
	comp=Z,132nm,1.3s					
GRF			epP	pP	13 02 08.4	-0.7
GRF			eL	L	13 49 55.8	
	comp=Z,1μm,21.2s					
GRF	Grafenberg Arr	89.89 320	eP	P	13 01 58.6	+1.6
GRF			e*PP	pP	13 02 08.4	-0.7
GRF			pmax	pmax		
	comp=Z,132nm,1.3s					
GRFO	Grafenberg	89.89 320	eP	P	13 01 58.3	+1.3
GRFO			pmax	pmax		
	comp=Z,176nm,1.1s					
GRFO	Grafenberg	89.89 320	eP	P	13 01 58.2	+1.3
	comp=Z,176nm,1.1s					
SPA0	Spitsbergen Ar	89.92 348	⇑iP	P	13 01 57.1	+0.5
SPA0			epP	pP	13 02 04.6	-4.1
SPA0			eSKS	SKSac	13 12 24.0	0.0
HSP	Hornsund	89.97 347	eP	P	13 01 57.8	+1.1
RETA	Reutte	90.12 317	i P	P	13 01 58.9	+0.8
	comp=Z,1μm,3.0s,SNR=37					
FETA	Feichten	90.15 334	eP	P	13 01 59.2	+0.9
	comp=Z,1μm,3.1s,SNR=38					
NSS	Namsos	90.15 334	eP	P	13 01 59.1	+1.3
VLC	Villacollemand	90.28 314	eP	P	13 01 59.0

VLC LR LR
comp=Z,1µm,20.0s
NB2 NORSAR Subarra 90.34 331 P **P 13 01 59.7 +0.9**
comp=Z,76nm,1.2s,baz=92,slow=4.8
NB2 NORSAR Subarra 90.34 331 P **P 13 01 59.7 +0.9**
baz=92,slow=4.8
NOA NORSAR Array B 90.34 331 P **P 13 01 59.8 +0.9**
NOA NORSAR Array B 90.34 331 P **P 13 01 59.8 +0.9**
comp=Z,4.2nm,0.8s,baz=95,slow=5.1,SNR=8.9
NOA LR LR 13 46 35.0
comp=Z,2µm,19.8s,baz=90,slow=38
BSEG Bad Segeberg 90.59 324 *e*P **P 13 02 01.6 +1.5**
comp=Z,265nm,1.8s
BSEG Bad Segeberg 90.59 324 *e*P **P 13 02 01.6 +1.5**
BSEG pmax pmax
comp=Z,265nm,1.8s
NRDL Niedersach Rie 90.68 322 *e*P **P 13 02 02.2 +1.7**
comp=Z,494nm,2.2s
DAVOX Davos/Dischmat 90.70 317 P **P 13 02 02.4 +1.3**
DAVOX Davos/Dischmat 90.70 317 P **P 13 02 02.4 +1.3**
comp=Z,36nm,0.6s,baz=118,slow=3.9,SNR=122
DAVA Damuels 90.71 317 *i* PcP **P 13 02 02.0 +0.9**
comp=Z,574nm,1.6s,SNR=41
UBBA Unterbreizbach 90.71 321 *e*P **P 13 02 01.9 +1.3**
comp=Z,289nm,2.2s
KBS Kingsbay 90.87 349⇑ *i*P **P 13 02 01.1 +0.1**
KBS *e*pP **pP 13 02 08.8 -4.2**
KBS *e*SKS **SKSac 13 12 31.0 +1.7**
KBS AMS AMS 13 50 28.1
comp=Z,4µm,17.2s
KBS Kingsbay 90.87 349*c* *i*P **P 13 02 01.1 +0.1**
KBS pmax pmax
comp=Z,53nm,1.6s
KBS Kingsbay 90.87 349 *e*P **P 13 02 00.5 -0.4**
KBS LR LR
comp=Z,4µm,20.0s
KEST Kesra 90.88 306 *e*P **P 13 02 04.2 +2.2**
KEST Kesra 90.88 306 P **P 13 02 04.0 +2.0**
comp=Z,40nm,1.1s,baz=23,slow=0.9,SNR=47
KEST LR LR 13 44 19.7
comp=Z,929nm,19.3s,baz=192,slow=36
VSL Villasalto 90.92 309 *e*P **P 13 02 02.4 +0.4**
comp=Z,176nm,1.0s
VSL LR LR
comp=Z,747nm,20.0s
TUE Stuetta 91.06 316 *e*P **P 13 02 03.4 +0.6**
comp=Z,83nm,1.1s
TUE LR LR
comp=Z,1µm,20.0s
OSPF L'Ospedale 91.10 311 *e*P **P 13 02 03.1 +0.2**
KONO Kongsberg 91.11 329 PFAKE 13 02 10.0 +7.6
KONO LR LR
comp=Z,3µm,19.0s
STU Stuttgart 91.20 319 *e*P **P 13 02 04.0 +0.9**
comp=Z,299nm,2.0s
STU Stuttgart 91.20 319 *e*P **P 13 02 04.0 +0.9**
STU pmax pmax
comp=Z,967nm,2.5s
STU Stuttgart 91.20 319 *e*P **P 13 02 04.0 +0.9**
comp=Z,967nm,2.5s
PGF Pioggiola 91.25 312⇑ *i*P **P 13 02 04.4 +0.8**
comp=Z,346nm,1.2s
MUD Monsted U'grnd 91.30 326 *i* P P 13 02 07.0 +3.7
MUD *i* 13 13 04.4
SPIA Saint Paul Isl 91.33 33 *e*P pP 13 02 15.8 +0.3
TNS Taunus Mts 91.69 320 *e*P **P 13 02 06.9 +1.5**
comp=Z,84nm,1.1s
TNS Taunus Mts 91.69 320 *e*P **P 13 02 06.9 +1.5**
TNS pmax pmax
comp=Z,84nm,1.1s
BFO Black Forest 91.77 318 P **P 13 02 06.9 +1.1**
comp=Z,386nm,1.0s,SNR=13
BFO Black Forest 91.77 318 *e*P **P 13 02 06.5 +0.7**
comp=Z,91nm,1.1s
BFO Black Forest 91.77 318 *e*P **P 13 02 06.5 +0.7**
BFO pmax pmax
comp=Z,91nm,1.1s
BFO Black Forest 91.77 318 *e*P **P 13 02 05.7 -0.1**
BFO LR LR
comp=Z,1µm,21.0s
MOL Molde 92.10 332 *e*P **P 13 02 08.4 +1.5**
LANF Langenberg 92.11 319 *e*P **P 13 02 08.5 +1.2**
IBBN Ibbenburen 92.12 322 *e*P **P 13 02 08.4 +1.2**
comp=Z,229nm,1.9s
SAOF Saorge 92.31 314 *e*P **P 13 02 09.3 +0.9**
ABSA Djebel Ababsia 92.40 306 P **P 13 02 10.9 +1.8**
SBF Sospel 92.40 314⇑ *i*P **P 13 02 09.5 +0.6**
comp=Z,393nm,1.1s
AUTN L'Aution 92.41 314 *e*P **P 13 02 09.8 +0.7**
BUG Bochum--Univer 92.43 321 *e*P **P 13 02 09.8 +1.1**
comp=Z,269nm,2.3s
CMAH Djebel Manchou 92.44 306 P **P 13 02 11.1 +1.9**
REVF Revere 92.45 314 *e*P **P 13 02 10.0 +0.9**
LUCF Luceram 92.47 314 *e*P **P 13 02 10.0 +0.8**
CDF Champ du Feu 92.47 318⇑ *i*P **P 13 02 09.5 +0.4**
comp=Z,148nm,1.3s
SENIN Lac Senin/Sane 92.48 316 *e*P **P 13 02 10.2 +0.9**
comp=Z,674nm,2.5s
SNAA Sanae 92.54 198 *e*P **P 13 02 10.3 +1.4**
SNAA Sanae 92.54 198 *e*P **P 13 02 10.1 +1.2**
comp=Z,24nm,1.1s
SNAA PKKPbc **PKKPdf 13 19 21.2 -0.9**
SNAA Sanae 92.54 198 PKKPbc PKKPbc 13 19 21.2 -3.7
comp=Z,0.3nm,0.8s,baz=335,slow=4.4,SNR=5.5
ECH Echery 92.55 318 *e*P **P 13 02 09.8 +0.4**
ECH pmax pmax
comp=Z,72nm,1.0s
ECH MLR MLR
comp=Z,820nm,20.0s
ECH Echery 92.55 318 *e*P **P 13 02 09.8 +0.4**
comp=Z,72nm,1.0s
ECH LR LR
comp=Z,820nm,20.0s
ECH Echery 92.55 318 *e*P **P 13 02 09.6 +0.2**
MOF Molkenrain 92.57 318 *e*P **P 13 02 09.6 0.0**
MVIF Mont Vial 92.61 314 *e*P **P 13 02 11.1 +1.2**
WTSB Winterswijk 92.72 322 *e*P **P 13 02 11.1 +1.1**
comp=Z,576nm,2.7s
WTSB *e*pP **pP 13 02 18.6 -3.5**
HINF Hinteralfeld 92.76 318⇑ *i*P **P 13 02 10.5 +0.1**
comp=Z,182nm,1.8s
LOMF Lomont 92.79 317 *e*P **P 13 02 11.1 +0.5**
CALN Calern 92.80 314 *e*P **P 13 02 11.7 +0.9**
MBDF Montbardon 92.87 315⇑ *i*P **P 13 02 11.1 0.0**
comp=Z,87nm,1.2s
LPG La Plagne 92.87 315⇑ *i*P **P 13 02 11.9 +0.6**
comp=Z,140nm,1.2s
LPL La Plagne 92.88 315⇑ *i*P **P 13 02 11.9 +0.6**
comp=Z,203nm,1.2s
BNI Bardonecchia 92.93 315 *e*P **P 13 02 11.4 +0.1**
BNI pmax pmax
comp=Z,73nm,1.2s
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 92.93 315 *e*P **P 13 02 11.4 +0.1**
comp=Z,73nm,1.2s
BNI LR LR
comp=Z,2µm,20.0s
RSL Roselend 92.96 315 *e*P **P 13 02 12.1 +0.6**
FRF La Foret Royal 92.98 313⇑ *i*P **P 13 02 12.3 +0.9**
comp=Z,191nm,1.2s
CKFL Kef-Lekhel 93.01 306 P **P 13 02 14.0 +2.1**
LMR La Mourre 93.08 313⇑ *i*P **P 13 02 12.6 +0.7**
comp=Z,141nm,1.4s
HAU Haudompre 93.10 318⇑ *i*P **P 13 02 12.3 +0.4**
comp=Z,255nm,1.2s
HAU *e*R
comp=Z,2µm,17.8s
WLF Walferdange 93.18 319 P **P 13 02 14.0 +1.8**
comp=Z,61nm,2.4s
WLF AP **pP 13 02 21.7 -2.6**
WLF Walferdange 93.18 319 *e*P **P 13 02 13.3 +1.1**
comp=Z,399nm,2.5s
WLF *e*pP **pP 13 02 23.4 -1.0**
WLF Walferdange 93.18 319 *e*P **P 13 02 14.0 +1.8**
WLF pmax pmax
comp=Z,73nm,1.2s
WLF MLR MLR
comp=Z,1µm,19.0s
WLF Walferdange 93.18 319 *e*P **P 13 02 14.0 +1.8**
comp=Z,73nm,1.2s
WLF LR LR
comp=Z,1µm,19.0s
CASM Ain Smara 93.20 306 P **P 13 02 14.6 +1.9**

MEM Membach 93.25 320 P **P 13 02 13.5 +1.0**
comp=Z,18nm,1.9s
MEM AP PcP 13 02 18.7 +5.6
CTEI Djebel Teioual 93.27 306 P **P 13 02 15.3 +2.2**
HGN Heimansgroeve 93.29 321 *e*P **P 13 02 13.3 +0.6**
comp=Z,211nm,2.5s
HGN *e*pP **pP 13 02 22.5 -2.3**
comp=Z,166nm,2.2s
HGN Heimansgroeve 93.29 321 *e*S **S 13 13 21.1 +3.8**
CABF La Chapelle 93.31 316⇑ *i*P **P 13 02 13.9 +0.9**
comp=Z,197nm,1.2s
THEF They Montfort 93.33 318 *e*P **P 13 02 13.5 +0.5**
BEBN Eben Emael 93.45 321 P **P 13 02 15.1 +1.7**
PAGF Fort de Pagny 93.50 318⇑ *i*P **P 13 02 14.3 +0.6**
comp=Z,33nm,1.4s
ORIF Oris-en-Rattie 93.50 315⇑ *i*P **P 13 02 14.7 +0.8**
comp=Z,84nm,1.1s
ORIF *e*R
comp=Z,2µm,22.5s
OG35 Corcelles 93.68 316 *e*P **P 13 02 15.5 +0.8**
DFRA Djebel Bou Aff 93.69 306 P **P 13 02 17.6 +2.6**
SMRF Simiane la Rot 93.74 314⇑ *i*P **P 13 02 16.3 +1.3**
comp=Z,206nm,1.5s
AKUT Akutan 93.93 36 *e*P **P 13 02 17.5 +2.0**
comp=Z,75nm,1.0s
MEZF Maizieres J'vi 93.95 318⇑ *i*P **P 13 02 16.5 +0.7**
comp=Z,198nm,1.4s,baz=79
SFTF Sexfontaines 93.97 318⇑ *i*P **P 13 02 16.5 +0.6**
comp=Z,262nm,1.1s,baz=88
GIVF Givet 94.03 320 *e*P **P 13 02 16.8 +0.7**
comp=Z,78nm,1.3s
SET Setif 94.08 306 P **P 13 02 18.0 +1.2**
TAM Tamanrasset 94.14 293 *e*P **P 13 02 18.9 +1.5**
TAM pmax pmax
comp=Z,37nm,1.4s
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 94.14 293 *e*P **P 13 02 18.9 +1.5**
comp=Z,37nm,1.4s
TAM LR LR
comp=Z,2µm,19.0s
VNA2 Neumayer--Watz 94.15 198 *e*P **P 13 02 17.9 +1.6**
VNA2 Neumayer--Watz 94.15 198 *e*sP sP 13 02 29.3 -3.5
DOU Dourbes 94.17 320 P **P 13 02 17.8 +1.1**
DOU AP **pP 13 02 25.3 -3.6**
VIVF Saint-Julien-l 94.36 315⇑ *i*P **P 13 02 18.4 +0.6**
comp=Z,126nm,1.6s
BAIF Baives 94.42 320⇑ *i*P **P 13 02 18.8 +0.9**
comp=Z,98nm,1.2s
SSB Saint Sauveur 94.43 315 *e*P **P 13 02 18.4 +0.3**
SSB pmax pmax
comp=Z,42nm,1.3s
SSB MLR MLR
comp=Z,918nm,20.0s
SSB Saint Sauveur 94.43 315 *e*P **P 13 02 18.4 +0.3**
comp=Z,42nm,1.3s
SSB LR LR
comp=Z,918nm,20.0s
SSB Saint Sauveur 94.43 315 *e*P **P 13 02 18.7 +0.5**
VNA1 Neumayer--Stat 94.51 199 *e*P **P 13 02 19.6 +1.7**
LOR Lormes 94.81 317⇑ *i*P **P 13 02 20.3 +0.5**
comp=Z,178nm,1.5s,baz=94
LOR *e*R
comp=Z,2µm,19.0s
SMF Signal de Mont 94.86 317⇑ *i*P **P 13 02 20.4 +0.4**
comp=Z,126nm,1.3s
LASF Ste Croix 94.98 314⇑ *i*P **P 13 02 21.4 +0.7**
comp=Z,135nm,1.4s
SSF Saint Saulge 95.06 317⇑ *i*P **P 13 02 21.6 +0.7**
comp=Z,120nm,1.6s
AVF Avril sur Loir 95.18 317⇑ *i*P **P 13 02 21.9 +0.4**
comp=Z,95nm,1.4s
LBL Lubilhac 95.35 315 *e*P **P 13 02 24.5 +2.1**
AGO Saint Agoulin 95.38 316 *e*P **P 13 02 24.1 +1.7**
PYM Petit Puy Mans 95.49 316 *e*P **P 13 02 24.1 +1.1**
BGF Bois d'Agland 95.55 316⇑ *i*P **P 13 02 24.0 +0.8**
comp=Z,146nm,1.3s
HYF Humbligny 95.64 317⇑ *i*P **P 13 02 24.5 +0.9**
LRDF Laroque-de-Fa 96.00 313 *e*P **P 13 02 26.2 +0.9**
TCF Toulx Ste Croi 96.00 316⇑ *i*P **P 13 02 26.0 +0.7**
comp=Z,77nm,1.5s
FILF Fillols 96.01 312 *e*P **P 13 02 26.6 +1.1**
CAF Calviac 96.21 315⇑ *i*P **P 13 02 27.1 +0.8**
comp=Z,79nm,1.3s
MTLF Montolieu 96.21 313⇑ *i*P **P 13 02 27.0 +0.7**
comp=Z,79nm,1.2s
RJF Les Rejaudoux 96.56 315⇑ *i*P **P 13 02 28.8 +1.0**
comp=Z,82nm,1.4s
RJF *e*R
comp=Z,2µm,20.2s
SDPT Sand Point 96.88 34 *e*P **P 13 02 30.3 +1.3**
comp=Z,105nm,1.4s
JMIC Jan Mayen 97.11 342 *e* Pdif 13 02 33.8 +4.1
JMIC *e*PP **PP 13 06 24.4 -1.3**
JMIC AMS AMS 13 52 08.6
comp=Z,1µm,23.6s
LFF La Frestale 97.14 315⇑ *i*P Pdif 13 02 31.4 +0.9
comp=Z,73nm,1.4s
LDF La Druitiere 97.37 319⇑ *i*P **P 13 02 31.7 +0.3**
comp=Z,55nm,1.2s
DAG Danmarks Havn 97.58 348⇑ *i*P **P 13 02 31.4 -0.3**
comp=Z,7.8nm,1.0s
DAG *i* 13 02 39.3
DAG *i* 13 06 36.5
DAG
comp=Z,3µm,20.0s
FLN La Foliniere 97.59 319⇑ *i*P **P 13 02 32.6 +0.3**
comp=Z,78nm,1.3s
FLN *e*R
comp=Z,2µm,19.8s
MFF Saint Martin d 97.60 317⇑ *i*P **P 13 02 32.8 +0.4**
comp=Z,58nm,1.2s
EPF Esparros 97.60 313 *e*P **P 13 02 32.6 0.0**
TOA0 Torodi Ar. Sit 97.86 283 *e*P **P 13 02 34.6 +0.3**
TORD Torodi Ar. Bea 97.86 283 P **P 13 02 34.6 +0.3**
TORD PP **PP 13 06 29.7 -3.4**
TORD PKKPbc **PKKPbc 13 19 10.1 +1.4**
TORD Torodi Ar. Bea 97.86 283 P **P 13 02 34.6 +0.3**
comp=Z,4.4nm,1.0s,baz=85,slow=3.3,SNR=19
TORD PP **PP 13 06 29.7 -3.4**
comp=Z,2.4nm,1.2s,baz=75,slow=8.1,SNR=4.3
TORD PKKPbc **PKKPbc 13 19 10.1 +1.4**
comp=Z,1.7nm,1.0s,baz=294,slow=2.4,SNR=5.0
TORD LR LR 13 44 17.3
comp=Z,2µm,20.3s,baz=95,slow=34
GRR Gorron 97.88 319⇑ *i*P **P 13 02 34.1 +0.4**
comp=Z,73nm,1.4s
IM04 Indian Mountai 98.06 23 *e*P Pdif 13 02 34.8 +0.7
IMA2 Indian Mountai 98.07 23 *e*P Pdif 13 02 35.1 +0.8
ETSF Etsaut 98.27 313⇑ *i*P Pdif 13 02 36.6 +0.9
comp=Z,23nm,1.0s
EKA Eskdalemuir Ar 98.30 326 P Pdif 13 02 36.5 +1.0
EKA Eskdalemuir Ar 98.30 326 P Pdif 13 02 36.5 +1.0
comp=Z,1.0nm,0.4s,baz=89,slow=5.2,SNR=9.5
ESK Eskdalemuir 98.33 326 PFAKE 13 02 50.0 +14
ESK LR LR
comp=Z,2µm,19.0s
SVW2 Sparrevohn 98.43 28 *e*P Pdif 13 02 43.2 +7.3
comp=Z,77nm,1.8s
SJPF Ste Jean 98.73 313⇑ *i*P Pdif 13 02 38.7 +1.0
comp=Z,36nm,1.2s
SGMF Saint Gilles 99.02 319 *e*P **Pdif 13 02 39.1 +0.3**
COLD Coldfoot 99.07 22 *e*P **Pdif 13 02 41.0 +2.4**
comp=Z,141nm,2.4s
QUIF Quistimic 99.47 318 *e*P **Pdif 13 02 40.9 +0.1**
ROSF Rostrenen 99.48 319 *e*P **Pdif 13 02 40.7 -0.1**
PPLA Purkeypile 99.54 26 *e*Pdif Pdif 13 02 52.6 +12
RSO Redoubt South 99.93 29 *e*Pdif **Pdif 13 02 53.9 +11**
SPU Mount Spurr 100.07 28 *e*Pdif **Pdif 13 02 49.4 +6.2**
TRF Thorofare Moun 100.21 25 *e*Pdif **Pdif 13 02 44.2 +0.3**
MCK McKinley 100.69 25 *e*P **Pdif 13 02 49.2 +3.3**
MCK pmax pmax
comp=Z,54nm,1.1s
MCK McKinley 100.69 25 *e*Pdif **Pdif 13 02 49.2 +3.3**
comp=Z,54nm,1.1s
KDAK Kodiak Island 100.70 31 PFAKE 13 03 00.0 +14
KDAK LR LR
comp=Z,3µm,20.0s
COLA College 100.75 24 *e*P **Pdif 13 02 46.6 +0.5**
COLA College 100.75 24 PFAKE 13 03 00.0 +14
COLA LR LR
comp=Z,2µm,19.0s
ILAR Eielson Array 101.18 24 P **Pdif 13 02 48.4 +0.4**
ILAR Eielson Array 101.18 24 P **Pdif 13 02 48.4 +0.4**
comp=Z,0.6nm,0.7s,baz=264,slow=4.5,SNR=3.9
ESDC Sonseca Array 101.19 310 P **Pdif 13 02 49.2 +0.4**

ESDC Sonseca Array 101.19 310 P **Pdif 13 02 49.2 +0.4**
comp=Z,0.5nm,0.8s,baz=258,slow=30,SNR=4.6
PAB San Pablo 101.51 310 PFAKE 13 03 00.0 +10
PAB LR LR
comp=Z,60nm,21.0s
KIP Kipapa 102.19 69 PFAKE 13 03 10.0 +17
KIP LR LR
comp=Z,2µm,20.0s
PBRG Braganca 102.96 313 *e*PP PP 13 07 11.0 -0.1
XMAS Kiritimati 103.16 88 PFAKE 13 03 10.0 +12
XMAS LR LR
comp=Z,1µm,21.0s
MVO Moncorvo 103.28 312 *e*PP PP 13 07 14.0 +0.4
MVO Moncorvo 103.28 312 *i* P SKKPbc 13 22 25.3 -7.9
MVO Moncorvo 103.28 312 *e*LQ LQ 13 32 49.1
MVO *e*LR LR 13 42 02.1
comp=Z,746nm,20.0s
EGAK Eagle 103.42 23 PFAKE 13 03 10.0 +12
EGAK LR LR
comp=Z,4µm,19.0s
PBAR Barrancos 103.79 309 *e*PP PP 13 07 17.4 +0.1
MTE Manteigas 103.80 311 *e*PP PP 13 07 17.2 -0.3
MTE Manteigas 103.80 311 *i* P **SKKPbc 13 22 33.2 +1.4**
MTE Manteigas 103.80 311 *e*LR LR 13 40 40.5
comp=Z,784nm,20.0s
MTE Manteigas 103.80 311 PFAKE 13 03 10.0 +10
MTE LR LR
comp=Z,941nm,21.0s
POLO Lamas de Olo 103.81 312 *e*PP PP 13 07 20.7 +3.1
PMRV Marv??o 103.85 310 *e*PP PP 13 07 18.4 +0.6
PMRV Marv??o 103.85 310 *i* P **SKKPbc 13 22 25.7 -5.8**
PMRV Marv??o 103.85 310 *e*LR LR 13 42 20.8
comp=Z,870nm,18.0s
BORG Borgarnes 103.95 338 PFAKE 13 03 10.0 +10
BORG LR LR
comp=Z,2µm,19.0s
PGAV Gavieira, Arco 104.05 313 *i* P SKKPbc 13 22 38.7 +7.5
PGAV Gavieira, Arco 104.05 313 *e*LQ LQ 13 34 17.6
PGAV *e*LR LR 13 40 19.2
SHEL Horse Pasture 104.20 253 PFAKE 13 03 10.0 +7.4
SHEL LR LR
comp=Z,5µm,20.0s
SUMG Summit 104.27 348 *i* P **Pdif 13 03 07.8 +5.7**
comp=Z,7.9nm,0.8s
SUMG *i* 13 07 25.7
SUMG *i* 13 14 49.6
SUMG
comp=Z,3µm,22.0s
RTC Rabat Centre 104.27 305 PFAKE 13 03 10.0 +7.5
RTC LR LR
comp=Z,1µm,19.0s
PVAQ Vaqueiros 104.44 308 *i* P **SKKPbc 13 22 36.7 +6.9**
PVAQ Vaqueiros 104.44 308 *e*LR LR 13 44 11.4
comp=Z,954nm,18.0s
EVO Evora 104.48 309 *e*P **Pdif 13 03 03.6 +0.3**
comp=Z,11nm,1.1s
EVO *e*R
comp=Z,1µm,19.8s
EVO Evora 104.48 309 *e*PP PP 13 07 23.3 +0.8
PMTG Montargil 104.55 310 *e*PP PP 13 07 23.5 +0.5
PCAS Casmilo, Conde 104.58 311 *e*PP PP 13 07 24.5 +1.3
PCVE Castro Verde 104.66 308 *e*PP PP 13 07 23.3 -0.5
PNCL Nicolau / Gran 104.95 309 *e*PP PP 13 07 26.9 +0.9
MORF Marmelete 105.19 308 *e*P **Pdif 13 03 07.1 +0.5**
MORF *e* 13 07 27.6
MORF Marmelete 105.19 308 *e*PP PP 13 07 27.1 -0.8
LIS Lisbon 105.33 310 *e*PP PP 13 07 28.7 0.0
LIS AMS AMS 14 23 26.3
comp=E,2µm,20.0s
PMAFR Mafra 105.38 310 *e*PP PP 13 07 30.6 +1.4
TBI Tubuai 108.74 115 *e*SKSac **SKSac 13 13 58.4 -1.6**
comp=E,449nm,26.8s
TBI *e*SP **SP 13 17 14.9 -0.6**
comp=E,524nm,24.2s
PPT2 Papeete2 109.53 109 *e*SP SP 13 17 18.3 -5.7
comp=E,571nm,24.0s
PPT2 Papeete2 109.53 109 *e*LR LR 13 39 42.5
comp=E,3µm,23.5s
SFJD Kangerlussuaq 111.26 348 PFAKE 13 07 40.0
SFJD LR LR
comp=Z,2µm,20.0s
WRAK Wrangell Islan 111.33 28 PFAKE 13 07 40.0
WRAK LR LR
comp=Z,2µm,20.0s
PMSA Palmer Station 112.89 188 PFAKE 13 07 50.0
PMSA LR LR
comp=Z,2µm,20.0s
PMOZ Porto Moniz, M 112.98 305 *e*LR LR 13 43 37.4
comp=Z,840nm,18.0s
ASCN Ascension 113.35 261 PFAKE 13 07 50.0
ASCN LR LR
comp=Z,1µm,20.0s
CMLA Cha da Macela 117.95 313 PFAKE 13 08 00.0 +15
CMLA LR LR
comp=Z,1µm,20.0s
NLWA Neilton Lookou 120.79 33 *e*PKPdf **PKPdf 13 07 51.0 +0.8**
NLWA LR LR
comp=Z,2µm,20.0s
MBW Mount Baker 120.97 31 P **PKPdf 13 07 51.6 +0.9**
JCW Jim Creek 121.33 31 P **PKPdf 13 07 52.3 +1.2**
EDM Edmonton 121.64 22 *e*PKIKP **PKPdf 13 07 51.5 -0.1**
EDM Edmonton 121.64 22 *e*PKPdf **PKPdf 13 07 51.5 -0.1**
RKT Rikitea 121.75 118 *e*PS PS 13 19 14.8 -5.2
comp=Z,566nm,26.2s
RKT Rikitea 121.75 118 *e*LR LR 13 45 20.7
comp=Z,4µm,26.0s
FCC Fort Churchill 121.81 8 *e*PKIKP **PKPdf 13 07 51.2 -0.5**
FCC Fort Churchill 121.81 8 *e*PKPdf **PKPdf 13 07 51.2 -0.5**
SACV Santiago Islan 122.21 287 PFAKE 13 08 10.0 +16
SACV LR LR
comp=Z,1µm,19.0s
TDL Tradedollar La 122.33 33 P **PKPdf 13 07 54.2 +0.9**
WPW White Pass 122.47 32 P **PKPdf 13 07 54.8 +1.3**
ETW Entiat 122.53 31 P **PKPdf 13 07 54.3 +0.7**
MTMW Mount Mitchell 122.53 33 P **PKPdf 13 07 55.1 +1.5**
TWW Teanaway 122.55 32 P **PKPdf 13 07 54.9 +1.3**
COR Corvallis 122.78 35 *e*PKIKP **PKPdf 13 07 54.4 +0.4**
COR Corvallis 122.78 35 *e*PKPdf **PKPdf 13 07 54.4 +0.4**
VFP Flag Point 123.38 34 P **PKPdf 13 07 56.8 +1.4**
NEW Newport 123.67 29 *e*PKPdf **PKPdf 13 07 56.6 +0.9**
NEW LR LR
comp=Z,1µm,19.0s
NEW Newport 123.67 29 P **PKPdf 13 07 55.7 0.0**
baz=124
EFI East Falkland 123.80 197 PFAKE 13 08 10.0 +14
EFI LR LR
comp=Z,1µm,20.0s
FFC Flin Flon 124.02 15 *e*PKIKP **PKPdf 13 07 56.2 +0.1**
FFC Flin Flon 124.02 15 *e*PKPdf **PKPdf 13 07 56.2 +0.1**
HUMO Hull Mountain 124.15 37 *e*PKPdf **PKPdf 13 07 58.0 +1.3**
WALA Waterton Lakes 124.57 26 *e*PKPdf **PKPdf 13 07 58.0 +0.5**
KHMM Horse Mountain 124.65 39 *e*PKPdf **PKPdf 13 07 59.2 +1.3**
YBH Yreka Blue Hor 124.80 38 *e*PKPdf **PKPdf 13 07 58.8 +0.7**
BSMT Bassoo Peak 125.07 28 *e*PKPdf **PKPdf 13 07 59.1 +0.5**
KIPM Iron Peak 125.40 40 *e*PKPdf **PKPdf 13 08 01.2 +1.8**
SCHQ Schefferville 125.56 350 *e*PKPdf **PKPdf 13 07 59.6 +0.5**
SCHQ PKP **PKPdf 13 07 59.7 +0.6**
SCHQ Schefferville 125.56 350 PKP **PKPdf 13 07 59.7 +0.6**
comp=Z,12nm,0.7s,baz=50,slow=2.5,SNR=22
WDC Whiskeytown Da 125.57 39 *e*PKIKP **PKPdf 13 07 59.6 +0.1**
WDC Whiskeytown Da 125.57 39 *e*PKPdf **PKPdf 13 07 59.6 +0.1**
SWMT Swartz Lake 125.68 27 *e*PKPdf **PKPdf 13 07 59.6 -0.1**
BMO Blue Mountains 125.93 32 *e*PKIKP **PKPdf 13 08 00.5 +0.3**
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 125.93 32 *e*PKPdf **PKPdf 13 08 00.5 +0.3**
BMO LR LR
comp=Z,1µm,20.0s
A17A Triple J Farms 126.02 24 P **PKPdf 13 08 00.5 +0.3**
baz=126,SNR=13
SLMT Seeley Lake 126.11 27 *e*PKPdf **PKPdf 13 08 00.9 +0.4**
MSO Missoula 126.21 28 P **PKPdf 13 08 00.7 0.0**
baz=126
J08A Circle Bar Ran 126.28 34 P **PKPdf 13 08 02.5 +1.5**
A18A Metzger Ranch, 126.39 24 P **PKPdf 13 08 00.7 -0.2**
baz=126,SNR=8.8
CHMT Chamberlain Mo 126.46 27 *e*PKPdf **PKPdf 13 08 01.3 0.0**
B17A L&G Farms, Che 126.49 25 P **PKPdf 13 08 00.4 -0.7**
baz=126,SNR=12
WVOR Wild Horse Val 126.78 35 *e*PKIKP **PKPdf 13 08 03.2 +1.2**
WVOR MLR MLR
comp=Z,911nm,20.0s
WVOR Wild Horse Val 126.78 35 *e*PKPdf **PKPdf 13 08 03.2 +1.2**
WVOR LR LR

comp=Z,911nm,20.0s
A19A Klindworth Far 126.82 23 P PKPdf 13 08 02.2 +0.5
baz=127,SNR=12
B18A Beardsley Farm 126.83 24 P PKPdf 13 08 01.4 -0.4
baz=127,SNR=10
C17A Wharram Farm, 127.02 25 P PKPdf 13 08 02.0 -0.2
baz=127,SNR=17
B19A Brinkman Farms 127.12 23 P PKPdf 13 08 02.8 +0.5
baz=127
EGMT Eagleton 127.14 24 ePKPdf PKPdf 13 08 03.3 +0.9
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 127.14 24 P PKPdf 13 08 02.9 +0.5
baz=127
A20A Cobblestone Ra 127.17 22 P PKPdf 13 08 02.9 +0.5
baz=127
HRY Holter Researc 127.26 27 ePKPdf PKPdf 13 08 03.9 +1.1
BEKR Beckworth 127.34 38 ePKPdf PKPdf 13 08 04.0 +0.8
D17A Six Diamond Ra 127.43 26 P PKPdf 13 08 02.3 -0.7
baz=127,SNR=12
A21A Bergtoll Ranch 127.45 22 P PKPdf 13 08 03.5 +0.6
baz=127
B20A Solberg Farm, 127.50 23 P PKPdf 13 08 03.7 +0.7
baz=127
LRM Limekiln Ridge 127.65 28 ePKPdf PKPdf 13 08 04.3 +0.6
C19A Slack Wire Ran 127.66 24 P PKPdf 13 08 03.8 +0.5
baz=128,SNR=11
MFID Camas Ranch 127.68 32 P PKPdf 13 08 04.6 +0.9
baz=128
D18A Linhart Farms, 127.77 25 P PKPdf 13 08 04.5 +0.9
baz=128
A22A Carney Farms, 127.82 21 P PKPdf 13 08 04.4 +0.8
baz=128
E17A Martinsdale 127.89 26 P PKPdf 13 08 05.2 +1.1
baz=128,SNR=11
B21A Ellsworth Farm 127.89 22 P PKPdf 13 08 04.9 +1.2
baz=128
DLMT Dillon 127.92 28 ePKPdf PKPdf 13 08 05.2 +1.2
PAHR Pah Rah Range 128.04 38 ePKPdf PKPdf 13 08 05.8 +1.4
C20A Veseth Ranch, 128.09 23 P PKPdf 13 08 05.1 +1.0
baz=128
BOZ Bozeman (W) 128.16 27 ePKIKP PKPdf 13 08 05.2 +0.7
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 128.16 27 ePKPdf PKPdf 13 08 05.2 +0.7
BOZ LR LR
comp=Z,1µm,20.0s
D19A Cripps Ranch, 128.18 24 P PKPdf 13 08 04.8 +0.4
baz=128,SNR=8.2
MCMT McKenzie Canyo 128.19 29 ePKPdf PKPdf 13 08 06.1 +1.4
A23A Redstone 128.21 20 P PKPdf 13 08 05.4 +1.0
baz=128
E18A Harlowton 128.22 25 P PKPdf 13 08 05.6 +1.0
baz=128
HLID Hailey 128.32 31 ePKPdf PKPdf 13 08 06.4 +1.5
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 128.32 31 P PKPdf 13 08 06.2 +1.2
baz=128
C21A Desert Coulee 128.35 23 P PKPdf 13 08 06.1 +1.4
baz=128
B22A Reddig Ranch S 128.37 21 P PKPdf 13 08 06.0 +1.3
baz=128
CMB Columbia Colle 128.39 40 ePKIKP PKPdf 13 08 06.2 +1.2
CMB Columbia Colle 128.39 40 ePKPdf PKPdf 13 08 06.2 +1.2
F17A Fitzpatrick Pl 128.40 27 P PKPdf 13 08 05.1 +0.2
baz=128,SNR=19
A24A Westby 128.54 20 P PKPdf 13 08 06.3 +1.3
baz=128
D20A Manuel Ranch, 128.54 24 P PKPdf 13 08 05.8 +0.7
baz=128,SNR=6.8
B23A Brockton 128.59 21 P PKPdf 13 08 05.5 +0.4
baz=128
E19A Rath Farm, Rou 128.78 25 P PKPdf 13 08 06.0 +0.4
baz=129,SNR=7.9
G17A Pierce Place, 128.81 27 P PKPdf 13 08 06.9 +1.1
baz=129,SNR=14
F18A Big Timber 128.82 26 P PKPdf 13 08 06.4 +0.7
baz=129,SNR=11
A25A Svangstu Ranch 128.82 19 P PKPdf 13 08 06.1 +0.6
baz=129
DGMT Dagmar 128.87 20 ePKPdf PKPdf 13 08 06.3 +0.7
DGMT LR LR
comp=Z,3µm,19.0s
DGMT Dagmar 128.87 20 P PKPdf 13 08 06.3 +0.7
baz=129
QLMT Earthquake Lak 128.87 28 ePKPdf PKPdf 13 08 08.0 +2.1
C22A Vida 128.88 22 P PKPdf 13 08 06.7 +1.0
baz=129
BMN Battle Mountai 128.88 36 ePKIKP PKPdf 13 08 07.7 +1.7
BMN MLR MLR
comp=Z,961nm,20.0s
BMN Battle Mountai 128.88 36 ePKPdf PKPdf 13 08 07.7 +1.7
BMN LR LR
comp=Z,961nm,20.0s
GCMT Greycliff 128.93 26 ePKPdf PKPdf 13 08 07.6 +1.6
D21A La Casta Ranch 129.02 23 P PKPdf 13 08 07.0 +1.0
baz=129
E20A Meyer Farm, Mu 129.02 24 P PKPdf 13 08 07.2 +1.2
baz=129
H16A Russell Place, 129.05 28 P PKPdf 13 08 07.5 +1.1
baz=129,SNR=12
C23A Lambert 129.09 21 P PKPdf 13 08 07.2 +1.1
baz=129
F19A Roth Farm, Mol 129.19 25 P PKPdf 13 08 06.9 +0.4
baz=129,SNR=8.9
A26A Wade Farm, Ken 129.20 18 P PKPdf 13 08 07.3 +1.1
baz=129
YMR Madison River 129.21 28 ePKPdf PKPdf 13 08 08.7 +2.0
D22A Cohagen 129.26 22 P PKPdf 13 08 07.4 +1.0
baz=129
YNR Norris Junctio 129.30 28 ePKPdf PKPdf 13 08 09.0 +2.1
G18A Lazy EL Ranch, 129.34 26 P PKPdf 13 08 07.2 +0.4
baz=129
B25A Knox Farm, Ray 129.39 19 P PKPdf 13 08 08.3 +1.7
baz=129
E21A Keefer Ranch, 129.41 24 P PKPdf 13 08 08.2 +1.4
baz=129
YFT Old Faithful 129.43 28 ePKPdf PKPdf 13 08 10.8 +3.7
NVAR Mina Array Bea 129.48 39 PKP PKPdf 13 08 09.6 +2.2
NVAR Mina Array Bea 129.48 39 PKP PKPdf 13 08 09.6 +2.2
comp=Z,11nm,0.9s,baz=292,slow=2.2,SNR=27
LKWY Lake 129.55 27 PFAKE 13 08 20.0 +13
LKWY LR LR
comp=Z,3µm,20.0s
I16A Newdale 129.56 29 P PKPdf 13 08 07.1 -0.2
baz=130,SNR=7.6
NV11 Mina Array Sit 129.57 38 ePKPdf PKPdf 13 08 09.2 +1.8
F20A Billings 129.57 25 P PKPdf 13 08 07.0 -0.2
baz=130,SNR=6.1
C24A Savage 129.59 21 P PKPdf 13 08 08.1 +1.1
baz=130
H17A Grant Village 129.59 28 ePKPdf PKPdf 13 08 10.2 +2.8
B26A Jensen Ranch, 129.60 19 P PKPdf 13 08 08.2 +1.2
baz=130
ULM Lac du Bonnet 129.60 13 ePKPdf PKPdf 13 08 07.3 +0.4
ULM PKP PKPdf 13 08 07.6 +0.7
ULM Lac du Bonnet 129.60 13 PKP PKPdf 13 08 07.6 +0.7
comp=Z,15nm,0.7s,baz=349,slow=3.4,SNR=14
D23A Lindsay 129.61 22 P PKPdf 13 08 08.7 +1.6
baz=130
RLMT Red Lodge 129.63 26 ePKPdf PKPdf 13 08 08.9 +1.5
RLMT LR LR
comp=Z,2µm,22.0s
A28A Rude Farm, Bot 129.72 17 P PKPdf 13 08 07.4 +0.2
baz=130
FLWY Flagg Ranch 129.78 28 ePKPdf PKPdf 13 08 10.0 +2.3
H18A Shoshone NF, C 129.80 27 P PKPdf 13 08 06.7 -1.1
baz=130,SNR=6.9
IMW Indian Meadow 129.80 28 ePKPdf PKPdf 13 08 09.3 +1.4
E22A Miles City 129.94 23 P PKPdf 13 08 07.5 -0.2
baz=130
D24A Glendive 129.98 21 P PKPdf 13 08 07.5 -0.3
baz=130
MOOW Moose Ponds 130.01 28 ePKPdf PKPdf 13 08 08.4 +0.3
G20A Bridger 130.01 25 P PKPdf 13 08 07.9 -0.1
baz=130,SNR=14
RRI2 Red Ridge 130.03 29 ePKPdf PKPdf 13 08 09.8 +1.5
TPAW Teton Pass 130.10 29 ePKPdf PKPdf 13 08 09.9 +1.4
H19A Powell 130.11 26 P PKPdf 13 08 09.2 +1.0
baz=130,SNR=22
B28A Dugan Ranch, T 130.11 17 P PKPdf 13 08 08.8 +0.9
baz=130
E23A Ismay 130.14 22 P PKPdf 13 08 09.3 +1.2
baz=130
LOHW Long Hollow 130.18 28 ePKPdf PKPdf 13 08 09.2 +0.7
SNOW Snow King Moun 130.22 29 ePKPdf PKPdf 13 08 11.0 +2.4

REDW Red Top Meadow 130.25 29 ePKPdf PKPdf 13 08 10.2 +1.5
D25A Fairfield 130.30 20 P PKPdf 13 08 09.7 +1.3
baz=130
F22A Rosebud 130.37 23 P PKPdf 13 08 09.8 +1.2
baz=130
TPH Tonopah 130.37 38 PFAKE 13 08 20.0 +11
TPH LR LR
comp=Z,1µm,21.0s
G21A Lodge Grass 130.43 25 P PKPdf 13 08 09.7 +0.9
baz=130
HVU Hansel Valley 130.44 32 ePKIKP PKPdf 13 08 10.5 +1.5
HVU Hansel Valley 130.44 32 ePKPdf PKPdf 13 08 10.4 +1.5
E24A Baker 130.46 21 P PKPdf 13 08 09.8 +1.0
baz=130
VES Vestal, Richgr 130.51 42 P PKPdf 13 08 10.2 +1.1
baz=130
PKM Peak Mountain 130.54 43 P PKPdf 13 08 10.7 +1.3
baz=130
I19A Meeteetse 130.60 27 P PKPdf 13 08 09.3 0.0
baz=130,SNR=6.9
H20A Greybull 130.68 26 P PKPdf 13 08 09.7 +0.4
baz=131
D26A Manning 130.71 20 P PKPdf 13 08 10.5 +1.3
baz=131
F23A Volborg 130.75 23 P PKPdf 13 08 10.5 +1.1
baz=131
C28A Hausauer Farms 130.76 18 P PKPdf 13 08 10.5 +1.3
baz=131
G22A Birney 130.81 24 P PKPdf 13 08 10.3 +0.8
baz=131
E25A Miller Ranch, 130.83 21 P PKPdf 13 08 10.5 +1.1
baz=131
MDND Maddock 130.87 17 ePKPdf PKPdf 13 08 11.0 +1.6
MDND Maddock 130.87 17 P PKPdf 13 08 10.4 +0.9
baz=131
BGU Big Grassy Mou 130.91 33 ePKPdf PKPdf 13 08 11.1 +1.2
GRAC Grapevine Rang 130.94 39 P PKPdf 13 08 09.4 -0.5
baz=131
ISA Isabella 131.01 42 ePKIKP PKPdf 13 08 09.5 -0.7
ISA Isabella 131.01 42 ePKPdf PKPdf 13 08 09.4 -0.7
ISA Isabella 131.01 42 P PKPdf 13 08 08.4 -1.8
baz=131
I20A Worland 131.05 26 P PKPdf 13 08 09.6 -0.4
baz=131,SNR=14
ARVC Arvin 131.08 42 P PKPdf 13 08 10.9 +0.8
baz=131
D28A Regan 131.17 18 P PKPdf 13 08 09.7 -0.4
baz=131
J19A Crowheart 131.17 28 P PKPdf 13 08 10.3 0.0
baz=131,SNR=7.5
G23A Biddle 131.19 23 P PKPdf 13 08 09.8 -0.4
baz=131
HWUT Hardware Ranch 131.19 31 ePKPdf PKPdf 13 08 11.8 +1.3
HWUT LR LR
comp=Z,2µm,19.0s
R11A Troy Canyon, C 131.19 37 ePKPdf PKPdf 13 08 11.8 +1.3
H22A Clearmont 131.30 24 P PKPdf 13 08 10.5 0.0
baz=131
BW06 Boulder Array 131.31 28 ePKPdf PKPdf 13 08 11.7 +1.0
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 131.31 28 PKPpre PKPpre 13 08 04.7
PDAR PKP PKPdf 13 08 11.3 +0.6
PDAR SKPab SKPab 13 11 33.9 +0.7
PDAR Pinedale Array 131.31 28 PKhKP PKPpre 13 08 04.7
comp=Z,3.2nm,0.7s,baz=114,slow=0.7,SNR=4.0
PDAR PKP PKPdf 13 08 11.3 +0.6
comp=Z,4.7nm,1.0s,baz=243,slow=0.7,SNR=23
PDAR SKPab SKPab 13 11 33.9 +0.7
comp=Z,20nm,1.2s,baz=318,slow=2.0,SNR=11
AGMN Agassiz Nation 131.44 14 ePKPdf PKPdf 13 08 10.9 +0.4
AGMN LR LR
comp=Z,2µm,21.0s
G24A Alzada 131.46 22 P PKPdf 13 08 11.2 +0.5
baz=131
I21A Big Trails, Te 131.53 26 P PKPdf 13 08 11.1 +0.1
baz=131,SNR=12
DUG Dugway 131.54 33 ePKIKP PKPdf 13 08 12.1 +1.0
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 131.54 33 ePKPdf PKPdf 13 08 12.1 +1.0
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 131.54 33 P PKPdf 13 08 11.8 +0.7
baz=132
J20A Shoshoni 131.54 27 P PKPdf 13 08 11.0 0.0
baz=132,SNR=16
K19A Absolon Red Bu 131.61 28 P PKPdf 13 08 11.5 +0.3
baz=132,SNR=16
LRMC Laurel Mountai 131.64 41 P PKPdf 13 08 11.1 -0.3
baz=132
F26A Lodgepole 131.65 21 P PKPdf 13 08 10.8 -0.2
baz=132
L18A Fontenelle, Gr 131.72 29 P PKPdf 13 08 11.6 +0.1
baz=132,SNR=8.0
M17A Scullys Gap (B 131.75 30 P PKPdf 13 08 11.2 -0.4
baz=132,SNR=11
D30A Buchanan 131.78 17 P PKPdf 13 08 11.1 0.0
baz=132
EDW2 Edwards Air Fo 131.79 42 P PKPdf 13 08 11.1 -0.5
baz=132
I22A 9 Mile Ranch, 131.81 25 P PKPdf 13 08 11.9 +0.4
baz=132
J21A Lysite 131.83 26 P PKPdf 13 08 11.7 0.0
baz=132
H24A Dirks Ranch, A 131.89 23 P PKPdf 13 08 10.8 -0.8
baz=132
L19A Farson 131.92 29 P PKPdf 13 08 11.0 -0.8
baz=132,SNR=9.8
G25A Newell 131.95 22 P PKPdf 13 08 12.3 +0.7
baz=132
K20A Yellowstone Ra 131.97 28 P PKPdf 13 08 12.2 +0.4
baz=132
JLU Jordanelle 131.98 32 ePKPdf PKPdf 13 08 12.9 +0.9
PASC Pasadena Art C 132.06 43 ePKPdf PKPdf 13 08 14.3 +2.2
NLU North Lily Min 132.11 33 ePKPdf PKPdf 13 08 12.9 +0.6
MWC Mount Wilson 132.12 43 ePKIKP PKPdf 13 08 12.1 -0.3
MWC Mount Wilson 132.12 43 ePKPdf PKPdf 13 08 12.1 -0.3
G26A Maurine 132.16 21 P PKPdf 13 08 12.5 +0.5
baz=132
J22A Midwest 132.20 25 P PKPdf 13 08 12.3 0.0
baz=132
DAU Daniels Canyon 132.22 32 ePKIKP PKPdf 13 08 14.0 +1.4
DAU Daniels Canyon 132.22 32 ePKPdf PKPdf 13 08 14.0 +1.4
MPU Maple Canyon 132.30 32 ePKPdf PKPdf 13 08 14.0 +1.4
SHOC Shoshone 132.30 40 P PKPdf 13 08 12.8 +0.3
baz=132
G27A Dupree 132.32 20 P PKPdf 13 08 12.7 +0.4
baz=132
GSC Goldstone 132.33 41 ePKIKP PKPdf 13 08 13.9 +1.3
GSC Goldstone 132.33 41 ePKPdf PKPdf 13 08 13.9 +1.3
GSC Goldstone 132.33 41 P PKPdf 13 08 12.9 +0.2
baz=132
BFSC Mount Baldy Ra 132.38 43 P PKPdf 13 08 12.8 -0.1
baz=132
K21A Alcova 132.49 27 P PKPdf 13 08 12.3 -0.6
baz=132,SNR=12
I24A Kuemmerle Ranc 132.60 24 P PKPdf 13 08 13.2 +0.3
baz=132
RSSD Black Hills 132.62 23 ePKIKP PKPdf 13 08 12.8 -0.3
RSSD Black Hills 132.62 23 ePKPdf PKPdf 13 08 12.8 -0.3
SHPR Sheep Range 132.63 38 ePKPdf PKPdf 13 08 15.9 +2.7
EYMN Ely 132.67 10 ePKPdf PKPdf 13 08 14.3 +1.5
EYMN LR LR
comp=Z,2µm,21.0s
H26A Fairpoint 132.68 22 P PKPdf 13 08 13.3 +0.3
baz=133
K22A Casper 132.79 26 P PKPdf 13 08 13.1 -0.3
baz=133
TUQ Turquoise Moun 132.82 40 P PKPdf 13 08 14.4 +0.8
baz=133
I25A Rexford 132.82 23 P PKPdf 13 08 12.9 -0.6
baz=133
ARUT Antelope Range 132.83 36 ePKIKP PKPdf 13 08 15.4 +1.8
ARUT Antelope Range 132.83 36 ePKPdf PKPdf 13 08 15.4 +1.8
H27A Howes 132.91 21 P PKPdf 13 08 14.1 +0.7
baz=133
G28A Parade 132.93 20 P PKPdf 13 08 13.8 +0.3
baz=133
M20A Sweetwater, Wa 132.95 28 P PKPdf 13 08 14.0 +0.2
baz=133
L21A Rawlins 132.96 27 P PKPdf 13 08 12.8 -1.0
baz=133,SNR=12
J24A Dixon Ranch, L 133.03 24 P PKPdf 13 08 13.8 0.0
baz=133
CCUT Cedar City 133.04 36 ePKPdf PKPdf 13 08 16.1 +2.0

TMUT Trail Mountain 133.05 33 ePKPdf PKPdf 13 08 14.9 +0.7
MSU Marysvale 133.06 34 ePKIKP PKPdf 13 08 15.8 +1.7
MSU Marysvale 133.06 34 ePKPdf PKPdf 13 08 15.8 +1.7
K23A Bowen Ranch, D 133.10 25 P PKPdf 13 08 14.3 +0.3
baz=133
M21A Separation Pea 133.24 28 P PKPdf 13 08 13.4 -1.0
baz=133,SNR=21
RWWY Rawlins 133.25 27 ePKPdf PKPdf 13 08 15.1 +0.7
J25A Sunshine Ranch 133.32 23 P PKPdf 13 08 14.6 +0.3
baz=133
L22A Ellis Ranch, M 133.33 27 P PKPdf 13 08 14.6 +0.1
baz=133
Q16A Castle Valley 133.34 33 P PKPdf 13 08 14.6 0.0
baz=133
GMRC Granite Mounta 133.39 41 P PKPdf 13 08 14.5 -0.3
baz=133
O19A Miners Draw (B 133.40 30 P PKPdf 13 08 14.6 0.0
baz=133,SNR=9.2
I27A Quinn 133.41 21 P PKPdf 13 08 14.0 -0.4
baz=133
N20A Spence Gulch, 133.42 29 P PKPdf 13 08 14.1 -0.7
baz=133,SNR=10
LDFC Landfair 133.56 40 ePKPdf PKPdf 13 08 18.1 +3.1
PFO Pinyon Flat Ob 133.56 42 ePKPdf PKPdf 13 08 18.1 +3.0
PFO LR LR
comp=Z,1µm,22.0s
PFO Pinyon Flat Ob 133.56 42 P PKPdf 13 08 14.6 -0.4
baz=134
PQI Presque Isle 133.59 348 ePKPdf PKPdf 13 08 14.0 -0.6
L23A Garrett 133.59 26 P PKPdf 13 08 14.8 -0.2
baz=134
BELC Belle Mtn. Jos 133.64 42 P PKPdf 13 08 14.9 -0.4
baz=134
J26A Sides Ranch, S 133.68 23 P PKPdf 13 08 14.8 -0.2
baz=134
I28A Midland 133.79 21 P PKPdf 13 08 14.9 -0.2
baz=134
N21A Black Mountain 133.83 29 P PKPdf 13 08 14.2 -1.3
baz=134,SNR=19
O20A White River Ci 133.96 30 ePKPdf PKPdf 13 08 16.5 +0.8
O20A White River Ci 133.96 30 P PKPdf 13 08 15.0 -0.8
baz=134,SNR=17
P19A Cripple Cowboy 133.97 31 P PKPdf 13 08 15.8 0.0
baz=134
MONP Monument Peak 134.01 43 P PKPdf 13 08 16.3 +0.3
baz=134
IRM Iron Mountain 134.10 41 P PKPdf 13 08 16.7 +0.8
baz=134
BRSD Miller 134.13 18 ePKPdf PKPdf 13 08 17.4 +1.7
BRSD Miller 134.13 18 P PKPdf 13 08 16.7 +1.0
baz=134
K26A Motz Farm, Whi 134.15 23 P PKPdf 13 08 16.4 +0.6
baz=134
BC3 Big Chuckawall 134.21 42 P PKPdf 13 08 15.4 -0.8
baz=134
J28A Allard Ranch, 134.26 21 P PKPdf 13 08 17.3 +1.2
baz=134
O21A Pagoda 134.28 29 P PKPdf 13 08 17.2 +0.8
baz=134
N22A Wattenberg Ran 134.30 28 P PKPdf 13 08 17.0 +0.6
baz=134,SNR=12
W13A Hualapai Mount 134.33 39 P PKPdf 13 08 17.4 +0.8
baz=134
PHWY Pilot Hill 134.35 26 ePKPdf PKPdf 13 08 16.9 +0.3
SWSC Sam W. Stewart 134.40 43 P PKPdf 13 08 17.6 +1.1
baz=134
U15A North Rim 134.43 36 P PKPdf 13 08 16.1 -0.7
baz=134
N23A Red Feather La 134.46 27 P PKPdf 13 08 15.6 -1.1
baz=134
M24A Cheyenne 134.50 26 P PKPdf 13 08 17.6 +1.0
baz=134
K27A Flueckinger Fa 134.52 22 P PKPdf 13 08 17.4 +0.9
baz=134
PDMCI Parker Dam,Lak 134.67 40 P PKPdf 13 08 16.5 -0.4
baz=135
O22A Kremmling 134.76 28 P PKPdf 13 08 16.5 -0.9
baz=135
P21A Newcastle 134.82 30 P PKPdf 13 08 16.8 -0.6
baz=135
Q20A Ridgley Place, 134.83 31 P PKPdf 13 08 17.0 -0.4
baz=135
RCBR Riachuelo 134.83 260 PFAKE 13 08 30.0 +12
RCBR LR LR
comp=Z,4µm,19.0s
COWI Conover 134.84 8 ePKPdf PKPdf 13 08 18.4 +1.5
COWI LR LR
comp=Z,2µm,20.0s
M25A Palm-Egli Farm 134.85 25 P PKPdf 13 08 16.8 -0.5
baz=135
PV04 Paradox Valley 134.93 32 ePKPdf PKPdf 13 08 19.5 +1.9
GLA Glamis 134.99 42 ePKIKP PKPdf 13 08 18.4 +0.8
GLA Glamis 134.99 42 ePKPdf PKPdf 13 08 18.4 +0.8
GLA Glamis 134.99 42 P PKPdf 13 08 17.0 -0.7
baz=135
N24A Carr 134.99 26 P PKPdf 13 08 17.1 -0.5
baz=135
O23A Lake Granby, G 135.02 28 P PKPdf 13 08 18.0 +0.2
baz=135,SNR=17
SPMN St. Paul 135.03 12 ePKPdf PKPdf 13 08 18.5 +1.2
PKME Peaks-Kenny Pk 135.19 349 ePKPdf PKPdf 13 08 18.5 +0.9
PKME LR LR
comp=Z,2µm,19.0s
PV01 Paradox Valley 135.30 32 ePKPdf PKPdf 13 08 19.3 +1.0
SMCO Snowmass 135.32 29 ePKPdf PKPdf 13 08 18.2 -0.3
EMMW East Machias 135.33 347 ePKPdf PKPdf 13 08 18.5 +0.7
R20A Redvale 135.36 32 P PKPdf 13 08 17.6 -0.9
baz=135,SNR=7.8
ECSD EROS Data Cent 135.48 17 ePKP PKPdf 13 08 14.3 -3.9
ECSD LR LR
comp=Z,2µm,21.0s
ISCO Idaho Springs 135.49 28 ePKIKP PKPdf 13 08 21.0 +2.3
ISCO MLR MLR
comp=Z,2µm,20.0s
ISCO Idaho Springs 135.49 28 ePKPdf PKPdf 13 08 21.0 +2.3
ISCO LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 135.49 28 P PKPdf 13 08 19.6 +0.9
baz=135
WUAZ Wupatki 135.59 37 ePKPdf PKPdf 13 08 19.8 +0.9
WUAZ LR LR
comp=Z,1µm,21.0s
WUAZ Wupatki 135.59 37 P PKPdf 13 08 19.9 +1.1
baz=136
Q22A Crested Butte, 135.60 30 P PKPdf 13 08 19.9 +0.9
baz=136
Y14A Wickenburg 135.63 40 P PKPdf 13 08 20.0 +1.2
baz=136
S20A Disappointment 135.64 32 P PKPdf 13 08 20.1 +1.1
baz=136
R21A Cimarron 135.66 31 P PKPdf 13 08 18.4 -0.6
baz=136
P23A Jefferson 135.72 28 P PKPdf 13 08 18.2 -1.1
baz=136
113A Mohawk Valley, 135.87 41 P PKPdf 13 08 20.2 +1.0
baz=136
O25A Wiggins 135.91 26 P PKPdf 13 08 20.3 +1.0
baz=136
WVL Waterville 135.94 349 ePKPdf PKPdf 13 08 18.8 -0.2
N27A Anderson Farm, 136.01 24 P PKPdf 13 08 19.0 -0.4
baz=136
MVCO Mesa Verde 136.03 33 ePKPdf PKPdf 13 08 20.3 +0.6
MVCO LR LR
comp=Z,1µm,19.0s
MVCO Mesa Verde 136.03 33 P PKPdf 13 08 19.2 -0.6
baz=136,SNR=12
Z14A Wintersburg 136.03 40 P PKPdf 13 08 20.7 +1.2
baz=136
S21A Coal Bank Pass 136.06 32 P PKPdf 13 08 20.9 +1.0
baz=136,SNR=25
Q23A Hartsel 136.09 29 P PKPdf 13 08 20.9 +1.0
baz=136
OGNE Ogallala 136.09 24 PFAKE 13 08 30.0 +10
OGNE LR LR
comp=Z,2µm,20.0s
O26A Horse Wrangler 136.15 25 P PKPdf 13 08 20.8 +1.0
baz=136
R22A Saguache, Gunn 136.16 30 P PKPdf 13 08 18.8 -1.3
baz=136
FRNY Flat Rock 136.30 353 ePKPdf PKPdf 13 08 20.8 +1.1
P25A Willow Gulch B 136.38 27 P PKPdf 13 08 21.5 +1.3
baz=136
S22A 4UR Ranch, Cre 136.50 31 P PKPdf 13 08 21.7 +1.0
baz=136
U20A Newcomb 136.62 33 P PKPdf 13 08 20.6 -0.2
baz=136,SNR=7.4
LONY Lake Ozonia 136.63 354 ePKPdf PKPdf 13 08 20.5 +0.2

LONY LR LR
comp=Z,2μm,19.0s
LBNH Lisbon 136.65 351 *e*PKIKP **PKPdf 13 08 20.5 +0.1**
LBNH MLR MLR
comp=Z,3μm,19.0s
LBNH Lisbon 136.65 351 *e*PKPdf **PKPdf 13 08 20.5 +0.1**
LBNH LR LR
comp=Z,3μm,19.0s
T21A Navajo Lake 136.70 32 P **PKPdf 13 08 22.2 +1.2**
baz=137
W18A Petrified Fore 136.83 36 *e*PKPdf **PKPdf 13 08 23.2 +2.0**
W18A Petrified Fore 136.83 36 P **PKPdf 13 08 20.7 -0.6**
baz=137
R24A Sanders Place, 136.97 29 P **PKPdf 13 08 20.6 -0.9**
baz=137
T22A Edith 137.02 31 P **PKPdf 13 08 20.4 -1.2**
baz=137,SNR=10.0
U21A Nageezi 137.06 33 P **PKPdf 13 08 20.6 -1.1**
baz=137,SNR=9.7
MDV Middlebury 137.07 352 *e*PKPdf **PKPdf 13 08 22.1 +1.0**
V20A Brimhall 137.07 34 P **PKPdf 13 08 21.4 -0.3**
baz=137
PLCA Paso Flores 137.09 191 PKPpre PKPpre 13 08 17.6
PLCA Paso Flores 137.09 191 PKhKP PKPpre 13 08 17.6
comp=Z,3.0nm,0.8s,baz=216,slow=6.5,SNR=3.9
BGNE Belgrade 137.12 20 *e*PKPdf **PKPdf 13 08 21.4 0.0**
BGNE Belgrade 137.12 20 P **PKPdf 13 08 20.9 -0.5**
baz=137
X18A Snowflake 137.12 37 P **PKPdf 13 08 20.8 -1.0**
baz=137
TRQA Tornquist 137.16 202 PFAKE 13 08 30.0 +8.5
TRQA LR LR
comp=Z,2μm,20.0s
SDCO Great Sand Dun 137.16 29 *e*PKPdf **PKPdf 13 08 22.2 +0.3**
SDCO LR LR
comp=Z,2μm,20.0s
HNH Hanover 137.23 351 *e*PKPdf **PKPdf 13 08 21.9 +0.4**
NCB Newcomb 137.23 353 *e*PKPdf **PKPdf 13 08 21.9 +0.4**
NCB LR LR
comp=Z,3μm,19.0s
P28A Saint Francis 137.37 24 P **PKPdf 13 08 23.5 +1.5**
baz=137
S24A Houchin Ranch, 137.39 29 P **PKPdf 13 08 23.4 +1.0**
baz=137
R25A Fountain Ranch 137.43 28 P **PKPdf 13 08 23.4 +1.3**
baz=137
T23A Casias Ranch, 137.44 31 P **PKPdf 13 08 21.8 -0.7**
baz=137,SNR=6.9
KSCO Kaye Shedlock' 137.47 26 *e*PKPdf **PKPdf 13 08 23.3 +1.1**
R26A Arlington 137.69 27 P **PKPdf 13 08 21.7 -0.9**
baz=138
ACCN Adirondack Com 137.74 353 *e*PKPdf **PKPdf 13 08 22.8 +0.4**
S25A Robets Cordova 137.75 29 P **PKPdf 13 08 21.7 -1.2**
baz=138
JFWS Jewell Farm 137.76 11 *e*PKIKP **PKPdf 13 08 22.4 0.0**
JFWS MLR MLR
comp=Z,2μm,20.0s
JFWS Jewell Farm 137.76 11 *e*PKPdf **PKPdf 13 08 22.4 0.0**
JFWS LR LR
comp=Z,2μm,20.0s
V22A San Miguel Ran 137.84 32 P **PKPdf 13 08 23.2 +0.1**
baz=138,SNR=7.7
R27A Eads 137.99 26 P **PKPdf 13 08 23.1 -0.1**
baz=138
TUC Tucson 138.10 40 *e*PKIKP **PKPdf 13 08 25.6 +2.1**
TUC MLR MLR
comp=Z,1μm,20.0s
TUC Tucson 138.10 40 *e*PKPdf **PKPdf 13 08 25.6 +2.1**
TUC LR LR
comp=Z,1μm,20.0s
T25A Trinidad 138.17 29 P **PKPdf 13 08 23.0 -0.7**
baz=138
HRV Adam Dziewonsk 138.28 350 *e*PKIKP **PKPdf 13 08 25.6 +2.2**
HRV Adam Dziewonsk 138.28 350 *e*PKPdf **PKPdf 13 08 25.6 +2.2**
WES Weston 138.35 350 *e*PKIKP **PKPdf 13 08 26.0 +2.5**
WES Weston 138.35 350 *e*PKPdf **PKPdf 13 08 26.0 +2.5**
V23A Ortiz Mt. (NFS 138.36 32 P **PKPdf 13 08 24.4 +0.3**
baz=138,SNR=10
X21A Alamocita Cree 138.44 35 P **PKPdf 13 08 24.6 +0.3**
baz=138,SNR=6.8
Y20A Horse Springs, 138.48 36 P **PKPdf 13 08 25.5 +1.1**
baz=138
QUA2 Belchertown 138.63 351 *e*PKPdf **PKPdf 13 08 24.8 +0.7**
U25A Circle Dot Ran 138.76 30 P **PKPdf 13 08 24.1 -0.7**
baz=139
ANMO Albuquerque 138.81 33 *e*PKP PKPdf 13 08 18.4 -6.5
ANMO LR LR
comp=Z,1μm,20.0s
LAZ Ladron 138.84 34 *e*PKPdf **PKPdf 13 08 24.8 -0.2**
V24A Rampart Ranch, 138.85 31 P **PKPdf 13 08 25.0 +0.1**
baz=139,SNR=23
S28A Manter 138.97 26 P **PKPdf 13 08 26.5 +1.6**
baz=139
V25A Rancho No Teng 139.09 30 P **PKPdf 13 08 25.6 +0.2**
baz=139,SNR=18
LENM Lemitar 139.10 34 *e*PKPdf **PKPdf 13 08 25.6 +0.2**
BINY Binghamton 139.16 355 *e*PKPdf **PKPdf 13 08 25.4 +0.4**
BINY LR LR
comp=Z,2μm,20.0s
W24A Lazy 6 Ranch, 139.17 32 P **PKPdf 13 08 24.4 -1.1**
baz=139,SNR=19
X23A Hourglass Bar 139.23 33 P **PKPdf 13 08 26.9 +1.2**
baz=139
T28A Walsh 139.26 27 P **PKPdf 13 08 27.3 +1.8**
baz=139
Y22A Socorro 139.27 35 P **PKPdf 13 08 27.6 +1.9**
baz=139
S29A Ulysses 139.28 25 P **PKPdf 13 08 27.4 +1.9**
baz=139
BNM Barren Site 139.31 34 *e*PKP PKPdf 13 08 19.4 -6.5
Z21A St. Cloud Mine 139.32 36 P **PKPdf 13 08 27.9 +2.0**
baz=139
S30A Montezuma 139.54 25 P **PKPdf 13 08 28.1 +2.2**
baz=139
V26A Tequesquite Ra 139.54 30 P **PKPdf 13 08 25.4 -0.7**
baz=140
T29A Hugoton 139.59 26 P **PKPdf 13 08 28.1 +2.1**
baz=140
X24A Lazy VL Ranch, 139.65 32 P **PKPdf 13 08 25.4 -1.1**
baz=140
W25A X Bar L Ranch, 139.66 31 P **PKPdf 13 08 24.9 -1.5**
baz=140
KSU1 Kansas State U 139.70 19 *e*PKPdf **PKPdf 13 08 26.3 +0.2**
KSU1 LR LR
comp=Z,2μm,19.0s
Z22A Elephant Butte 139.77 35 P **PKPdf 13 08 28.0 +1.4**
baz=140
Y23A Lovelace Mesa, 139.79 34 P **PKPdf 13 08 27.5 +0.8**
baz=140
220A Playas Peak, P 139.79 38 P **PKPdf 13 08 28.2 +1.6**
baz=140
121A Cookes Peak, D 139.80 37 P **PKPdf 13 08 28.7 +1.9**
baz=140
ALLY Alegheny Colle 139.92 360 *e*PKPdf **PKPdf 13 08 27.2 +0.8**
X25A Clemmons Ranch 140.09 32 P **PKPdf 13 08 28.9 +1.7**
baz=140
W26A Owens Ranch, T 140.11 30 P **PKPdf 13 08 28.9 +1.8**
baz=140
Y24A Capitan 140.13 33 P **PKPdf 13 08 26.6 -0.8**
baz=140
320A Kipp Ranch, An 140.17 39 P **PKPdf 13 08 29.2 +1.8**
baz=140
Z23A Rita Site, Whi 140.18 35 P **PKPdf 13 08 29.2 +1.8**
baz=140
HDIL Hopedale 140.22 10 PFAKE 13 08 40.0 +13
HDIL LR LR
comp=Z,3μm,21.0s
U30A WK&E Inc. Balk 140.40 26 P **PKPdf 13 08 29.3 +1.7**
baz=140
W27A Bowe Ranch, En 140.48 30 P **PKPdf 13 08 29.2 +1.4**
baz=140
X26A CR and CF Fran 140.51 31 P **PKPdf 13 08 29.6 +1.7**
baz=140
Y25A Mesa, Roswell 140.54 32 P **PKPdf 13 08 29.6 +1.6**
baz=140
Z24A Sheeppen Canyo 140.62 34 P **PKPdf 13 08 30.1 +1.9**
baz=140
SFIN Scholer Farm 140.74 8 *e*PKP **PKPdf 13 08 23.6 -4.4**
SFIN Scholer Farm 140.74 8 P **PKPdf 13 08 30.4 +2.4**
baz=141
SSPA Standing Stone 140.86 357 *e*PKP PKPdf 13 08 22.5 -5.6
Z25A Roswell 141.01 33 P **PKPdf 13 08 26.4 -2.4**
baz=141
124A Stringfield Ra 141.04 34 P **PKPdf 13 08 26.5 -2.6**
baz=141
AMTX Amarillo 141.30 28 *e*PKPdf **PKPdf 13 08 29.4 +0.2**
AMTX LR LR
comp=Z,2μm,20.0s
MSTX Muleshoe 141.50 30 *e*PKPdf **PKPdf 13 08 30.3 +0.6**
MSTX Muleshoe 141.50 30 P **PKPdf 13 08 28.0 -1.7**
baz=141
125A Gardner Draw, 141.51 34 P **PKPdf 13 08 26.7 -3.1**
baz=141,SNR=10
Z27A Tatum 141.79 31 P **PKPdf 13 08 27.6 -2.7**
baz=142,SNR=14
MNTX Cornudas Mount 141.82 35 *e*PKPdf **PKPdf 13 08 27.2 -2.9**
MNTX LR LR
comp=Z,1μm,20.0s
225A Deer Hill, Car 141.83 34 P **PKPdf 13 08 28.7 -1.7**
baz=142
324A Moseley Ranch, 141.94 36 P **PKPdf 13 08 27.9 -2.7**
baz=142,SNR=15
BLO Bloomington 142.00 8 *e*PKHKP PKPpre 13 08 24.8
BLO Bloomington 142.00 8 *e*PKP PKPpre 13 08 24.8
SDMD Soldier's Deli 142.01 355 *e*PKPdf **PKPdf 13 08 30.5 +0.3**
X30A Coker Ranch, T 142.03 28 P **PKPdf 13 08 28.6 -2.0**
baz=142
Y29A Porterfield Fa 142.13 29 P **PKPdf 13 08 28.5 -2.3**
baz=142
127A Arkansas Junct 142.21 32 P **PKPdf 13 08 29.0 -2.0**
baz=142
226B Tecolote Peak, 142.22 34 P **PKPdf 13 08 28.1 -2.9**
baz=142,SNR=19
Z28A Tucker Farm, M 142.23 31 P **PKPdf 13 08 27.9 -3.1**
baz=142
325A Bean Ranch, Si 142.29 35 P **PKPdf 13 08 29.4 -1.9**
baz=142,SNR=15
425A Indio Mountain 142.71 36 P **PKPdf 13 08 29.9 -2.1**
baz=143,SNR=24
WMOK Wichita Mounta 142.72 25 *e*PKIKP **PKPdf 13 08 27.8 -3.9**
WMOK MLR MLR
comp=Z,2μm,19.0s
WMOK Wichita Mounta 142.72 25 *e*PKPdf **PKPdf 13 08 27.8 -3.9**
WMOK LR LR
comp=Z,2μm,19.0s
TUL1 Tulsa 142.86 21 *e*PKPdf **PKPdf 13 08 28.0 -3.8**
Z30A Sanderson Ranc 142.86 29 P **PKPdf 13 08 28.5 -3.5**
baz=143,SNR=13
WCI Wyandotte Cave 142.96 8 *e*PKIKP **PKPdf 13 08 28.9 -3.2**
WCI Wyandotte Cave 142.96 8 *e*PKPdf **PKPdf 13 08 28.9 -3.2**
SIUC Southern Illin 142.98 11 *e*PKPdf **PKPdf 13 08 29.5 -2.5**
129A Stewart Farms, 143.02 31 P PKPbc 13 08 30.3 +1.1
baz=143,SNR=11
USIN University of 143.02 9 *e*PKPdf **PKPdf 13 08 31.6 -0.4**
228A UT Block 9, Go 143.05 32 P PKPbc 13 08 31.2 +1.9
baz=143
CBN Corbin 143.25 356 PFAKE 13 08 40.0 +7.5
CBN LR LR
comp=Z,2μm,19.0s
426A McDonald Obser 143.36 35 P PKPbc 13 08 31.3 +1.0
baz=143,SNR=17
328A Wristen Ranch, 143.50 33 P PKPbc 13 08 31.6 +1.1
baz=143,SNR=24
130A Snyder 143.50 30 P PKPbc 13 08 31.3 +0.9
baz=143
229A Bryant Ranch, 143.57 31 P PKPbc 13 08 31.7 +1.0
baz=144,SNR=8.6
427A Hayter Ranch, 143.58 34 P PKPbc 13 08 31.6 +0.8
baz=144,SNR=21
LMEL Las Melosas 143.62 195 *e*P PKPab 13 08 31.0 +0.9
LMEL Las Melosas 143.62 195 *e*P PKPab 13 08 31.0 +0.9
Z32A Haskell 143.62 27 P PKPbc 13 08 31.6 +0.9
baz=144
BDFB Brasilia 143.65 241 PKP PKPbc 13 08 32.4 +0.9
BDFB Brasilia 143.65 241 PKP PKPbc 13 08 32.4 +0.9
comp=Z,26nm,1.1s,baz=50,slow=1.7,SNR=12
131A Roby 143.72 29 P PKPbc 13 08 31.9 +0.9
baz=144
526A Mary Lane Ranc 143.77 36 P PKPbc 13 08 32.8 +1.4
baz=144,SNR=29
JSRW J. Sargeant Re 143.79 356 *e*PKPdf PKPbc 13 08 31.7 +0.7
329A Wagon Wheel Ra 143.86 32 P PKPbc 13 08 32.3 +0.7
baz=144,SNR=30
527A Woodward Ranch 143.99 35 P PKPbc 13 08 33.3 +1.2
baz=144,SNR=92
230A Sterling City 144.00 31 P PKPbc 13 08 33.1 +1.1
baz=144,SNR=14
428A Kincaid Ranch, 144.07 34 P **PKPdf 13 08 34.0 -0.3**
baz=144,SNR=65
626A Big Bend Ranch 144.12 36 P PKPbc 13 08 33.7 +1.3
baz=144,SNR=133
ABTX Abilene, Hawle 144.12 28 *e*PKPdf PKPbc 13 08 32.6 +0.4
ABTX Abilene, Hawle 144.12 28 P PKPbc 13 08 33.2 +0.9
baz=144
CLCH Cerro Calan 144.13 194 *e*P PKPab 13 08 26.5 -5.4
VWCC Virginia Weste 144.32 359 *e*PKPdf **PKPab 13 08 32.6 +0.3**
330A Mertzon 144.35 31 P PKPbc 13 08 33.6 +0.5
baz=144,SNR=36
BLA Blacksburg 144.35 360 *e*PKIKP **PKPab 13 08 32.4 -0.2**
BLA MLR MLR
comp=Z,4μm,22.0s
BLA Blacksburg 144.35 360 *e*PKPdf **PKPab 13 08 32.4 -0.2**
BLA LR LR
comp=Z,4μm,22.0s
231A Bronte 144.36 30 P PKPbc 13 08 33.5 +0.5
baz=144,SNR=11
528A Cox Ranch, San 144.44 34 P **PKPdf 13 08 34.8 -0.2**
baz=144,SNR=47
CPUP Villa Florida 144.47 218 *e*PKPdf PKPbc 13 08 34.1 +0.6
CPUP Villa Florida 144.47 218 PKP PKPbc 13 08 34.2 +0.7
comp=Z,108nm,0.7s,baz=106,slow=2.7,SNR=202
GNAR Gosnell 144.50 13 *e*PKPdf **PKPdf 13 08 35.9 +1.2**
TXAR Lajitas Array 144.55 36 PKP **PKPdf 13 08 35.3 +0.1**
TXAR Lajitas Array 144.55 36 PKP **PKPdf 13 08 35.3 +0.1**
comp=Z,36nm,0.6s,baz=259,slow=1.3,SNR=473
429A Davenport Ranc 144.58 33 P PKPbc 13 08 34.4 +0.6
baz=144,SNR=42
627A Terlingua Ranc 144.63 36 P **PKPdf 13 08 35.5 +0.1**
baz=145,SNR=143
HALT Halls 144.70 12 *e*PKPdf PKPbc 13 08 34.4 +0.5
232A Coleman 144.72 29 P PKPbc 13 08 35.0 +0.8
baz=145
HBAR Harrisburg 144.74 14 *e*PKPdf PKPbc 13 08 34.9 +0.8
WVT Waverly 144.78 10 *e*PKIKP **PKPab 13 08 34.5 +0.4**
WVT Waverly 144.78 10 *e*PKPdf **PKPab 13 08 34.5 +0.4**
529A Stev Forest Ra 144.79 34 P PKPbc 13 08 35.5 +1.0
baz=145
430A Baggett Ranch, 144.81 32 P PKPbc 13 08 35.3 +0.7
baz=145,SNR=59
331A San Angelo 144.81 30 P PKPbc 13 08 35.2 +0.7
baz=145,SNR=27
MIAR Mount Ida 144.85 19 *e*PKIKP PKPbc 13 08 35.3 +0.8
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR Mount Ida 144.85 19 *e*PKPdf PKPbc 13 08 35.3 +0.8
MIAR LR LR
comp=Z,2μm,19.0s
628A Black Gap, Mar 144.89 35 P **PKPdf 13 08 36.1 +0.4**
baz=145,SNR=68
TZTN Tazewell 144.91 4 *e*PKPdf **PKPab 13 08 34.9 +0.3**
UALR University of 145.01 17 *e*PKPdf **PKPab 13 08 35.3 +0.3**
332A Millersview 145.09 29 P **PKPab 13 08 36.1 +0.6**
baz=145
CFAA Coronel Fontan 145.16 199 PKPbc **PKPdf 13 08 36.5 +0.4**
CFAA Coronel Fontan 145.16 199 PKPbc **PKPdf 13 08 36.5 +0.4**
comp=Z,42nm,0.8s,baz=163,slow=3.0,SNR=436
431A Sonora 145.22 31 P **PKPab 13 08 36.6 +0.6**
baz=145,SNR=55
530A J-C Ranch, Com 145.25 33 P **PKPdf 13 08 37.4 +1.1**
baz=145,SNR=168
432A Menard 145.47 30 P **PKPdf 13 08 37.3 +0.6**
baz=145,SNR=68
WHTX Lake Whitney 145.64 26 *e*PKPdf **PKPdf 13 08 37.2 +0.3**
WHTX Lake Whitney 145.64 26 P **PKPab 13 08 37.9 +0.5**
baz=146
531A Rocksprings 145.66 32 P **PKPab 13 08 38.5 +0.9**
baz=146,SNR=252
BBSR BB Station 145.75 336 *e*PKPdf **PKPbc 13 08 37.7 +0.3**
BBSR LR LR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 145.77 5 *e*PKPdf **PKPdf 13 08 37.3 +0.3**
JCT Junction City 145.79 30 *e*PKP2 **PKPab 13 08 38.6 +0.5**
JCT MLR MLR
comp=Z,1μm,20.0s
JCT Junction City 145.79 30 *e*PKPbc **PKPab 13 08 38.6 +0.5**
JCT LR LR
comp=Z,1μm,20.0s
JCT Junction City 145.79 30 P **PKPbc 13 08 38.1 +0.5**
baz=146,SNR=212
CPCT Cooper Cave 145.91 6 *e*PKPdf **PKPdf 13 08 38.0 +0.8**
532A Rocksprings 146.02 31 P **PKPdf 13 08 38.5 +0.8**
baz=146,SNR=70
OXF Oxford 146.03 13 *e*PKP2 **PKPdf 13 08 38.1 +0.7**
OXF MLR MLR
comp=Z,2μm,19.0s
OXF Oxford 146.03 13 *e*PKPdf **PKPdf 13 08 38.1 +0.7**
OXF LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 146.23 356 *e*PKPdf **PKPbc 13 08 38.9 +0.2**
CNNC LR LR
comp=Z,2μm,22.0s
631A Perdido Creek 146.24 33 P **PKPbc 13 08 39.3 +0.3**
baz=146,SNR=17
CMCH Combarbala 146.36 195 *e*P **PKPdf 13 08 38.2 0.0**
CMCH Combarbala 146.36 195 *e*P **PKPdf 13 08 38.2 0.0**
KMSC Kings Mountain 146.41 1 *e*PKPdf **PKPdf 13 08 39.1 +1.0**
632A Uvalde 146.58 31 P **PKPbc 13 08 40.2 +0.2**
baz=146,SNR=79
732A Laxson Ranch, 147.10 33 P **PKPdf 13 08 41.0 +1.6**
baz=147,SNR=38
TLL Tololo Astrono 147.27 196 *e*PKP2 **PKPab 13 08 45.6 +1.6**
TLL Tololo Astrono 147.27 196 *e*P **PKPab 13 08 45.6 +1.6**
TLL Tololo Astrono 147.27 196 *e*P **PKPab 13 08 45.6 +1.6**
VBMS Vicksburg 147.93 16 *e*PKPbc **PKPbc 13 08 44.6 +1.0**
VBMS LR LR
comp=Z,2μm,20.0s
LRAL Lakeview Retre 147.94 10 *e*PKPdf **PKPdf 13 08 41.5 +0.8**
LRAL *e*PKPbc **PKPbc 13 08 43.6 -0.1**
LRAL LR LR
comp=Z,3μm,20.0s
HKT Hockley 148.10 26 *e*PKIKP **PKPdf 13 08 42.5 +1.6**
HKT *e* 13 08 45.3
HKT Hockley 148.10 26 *e*PKPdf **PKPdf 13 08 42.5 +1.6**
HKT *e*PKPbc **PKPbc 13 08 45.3 +1.2**
LCO Las Campanas 148.33 197 *e*PKPdf **PKPdf 13 08 42.4 +0.6**
LCO *e*PKPbc **PKPbc 13 08 45.8 +0.6**
LCO LR LR
comp=Z,935nm,19.0s
KVTX Kingsville 149.14 31 *e*PKPbc **PKPbc 13 08 49.4 +2.5**
KVTX LR LR
comp=Z,2μm,19.0s
BRAL Brewton 149.90 11 *e*PKPdf **PKPdf 13 08 45.8 +1.9**
BRAL *e*PKPbc **PKiKP 13 08 49.8 +0.1**
BRAL LR LR
comp=Z,3μm,20.0s
TIGA Tifton 149.98 5 *e*PKPbc **PKPbc 13 08 49.9 +1.0**
TIGA Tifton 149.98 5 P **PKPbc 13 08 48.9 0.0**
baz=150
LVC Limon Verde 153.58 205 *e*PKPdf **PKPdf 13 08 51.6 +1.6**
LVC LR LR
comp=Z,2μm,20.0s
SIV San Ignacio 154.13 227 PKP **PKPdf 13 08 51.2 +0.6**
SIV San Ignacio 154.13 227 PKP **PKPdf 13 08 51.2 +0.6**
comp=Z,6.3nm,0.8s,baz=128,slow=2.8,SNR=22
ANWB Willy Bob 155.46 312 PFAKE 13 09 00.0 +7.6
ANWB LR LR
comp=Z,1μm,20.0s
BBGH Gun Hill 156.15 300 PFAKE 13 09 10.0 -11
BBGH LR LR
comp=Z,3μm,20.0s
FDF Fort de France 156.69 306 *e*PKIKP **PKPdf 13 08 55.2 +1.1**
FDF MLR MLR
comp=Z,1μm,22.0s
FDF Fort de France 156.69 306 *e*PKPdf **PKPdf 13 08 55.2 +1.1**
FDF LR LR
comp=Z,1μm,22.0s
MTP Monte Pirata 157.80 319 *e*PKPdf **PKPdf 13 08 57.2 +1.8**
GRTK Grand Turk 157.99 336 PFAKE 13 09 10.0 +14
GRTK LR LR
comp=Z,2μm,19.0s
GRGR Grenville 158.43 300 PFAKE 13 09 10.0 +14
GRGR LR LR
comp=Z,1μm,20.0s
CELP Cerrillos 158.47 321 *e*PKPdf **PKPdf 13 08 56.9 +0.7**
OBIP Obispado Ponce 158.51 321 *e*PKPdf **PKPdf 13 08 55.9 -0.4**
LPAZ La Paz 158.57 214 *e*PKPdf **PKPdf 13 08 56.9 -0.3**
LPAZ PKP **PKPdf 13 08 58.3 +1.1**
LPAZ La Paz 158.57 214 PKP **PKPdf 13 08 58.3 +1.1**
comp=Z,14nm,1.1s,baz=74,slow=1.9,SNR=33
TEIG Tepich 159.82 21 PFAKE 13 09 10.0 +12
TEIG LR LR
comp=Z,2μm,22.0s
SAML Samuel 159.87 239 *e*PKPdf **PKPdf 13 08 58.4 +0.5**
SAML *e*PKPab **PKPab 13 09 37.7 +0.5**
SAML LR LR
comp=Z,3μm,19.0s
SDDR Presa de Saban 160.29 333 PFAKE 13 09 10.0 +12
SDDR LR LR
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 160.82 344 PFAKE 13 09 10.0 +11
GTBY LR LR
comp=Z,2μm,20.0s
MTDJ Mount Denham 163.01 350 PFAKE 13 09 10.0 +8.7
MTDJ LR LR
comp=Z,2μm,22.0s
SDV Santo Domingo 167.63 307 PFAKE 13 09 20.0 +15
SDV LR LR
comp=Z,456nm,19.0s
PAYG Puerto Ayora 170.06 102 PFAKE 13 09 20.0 +13
PAYG LR LR
comp=Z,2μm,20.0s
ATAH Atahualpa 171.26 194 PKP **PKPdf 13 09 09.8 +1.9**
ATAH PKPab **PKPab 13 10 29.4 +1.8**
ATAH Atahualpa 171.26 194 PKP **PKPdf 13 09 09.8 +1.9**
comp=Z,4.0nm,0.6s,baz=32,slow=2.4,SNR=13
ATAH PKPab **PKPab 13 10 29.4 +1.8**
comp=Z,17nm,1.1s,baz=168,slow=2.2,SNR=4.9
BCIP Isla Barro Col 172.24 355 PFAKE 13 09 20.0 +12
BCIP LR LR
comp=Z,1μm,21.0s
ROSC El Rosal 172.89 299 PKP **PKPdf 13 09 09.1 +0.5**
ROSC *e*PKPdf PKPdf 13 09 09.3 +0.6
ROSC El Rosal 172.89 299 PKP **PKPdf 13 09 09.1 +0.5**
comp=Z,15nm,0.9s,baz=270,slow=23,SNR=17
OTAV Otavalo 177.60 242 *e*PKPdf **PKPdf 13 09 10.0 0.0**
OTAV *e*PKPab PKPab 13 10 57.2 +1.1
OTAV LR LR
comp=Z,3μm,20.0s

IDC 16 12:56:02.6±5.3, 0.55N×102.04E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/23, mbtmp4.1/3, Error ellipse: s-maj=310.2km s-min=26.7km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.63**	**125**	P	P	13 03 19.9	+0.2
3.0nm,0.9s,baz=302,slow=9.2,SNR=2.9							
ASAR	**Alice Springs**	**39.21**	**130**	P	P	13 03 32.5	-0.3
3.2nm,1.0s,baz=310,slow=8.7,SNR=1.9							
MKAR	**Makanchi Array**	**49.19**	**342**	P	P	13 04 52.6	+0.1
1.5nm,0.7s,baz=158,slow=9.2,SNR=2.5							
TXAR	**Lajitas Array**	**141.45**	**37**	PKP	PKPdf	13 15 33.8	-2.8
0.6nm,0.4s,baz=280,slow=2.3,SNR=8.1							

---

*BJI **16** 12:57:56.7, 2.15S×98.97E, h35km, mB5.4/18, mb4.8/31, Ms5.5/16, Ms7 5.3/16*
*NEIC **16** 12:57:56.0±0.2, 1.57S×99.43E, h10km, mb5.0/22, Error ellipse: s-maj=9.3km s-min=6.0km az=61.0*
NEIC Felt [III] at Padangpanjang, Sumatra.
*MOS **16** 12:57:57.6±1.0, 1.50S×99.49E, h33km, mb5.2/24, Error ellipse: s-maj=16.5km s-min=8.2km az=108.7*
*AUST **16** 12:57:57.3±3.4, 1.67S×99.57E, h0km, Error ellipse: s-maj=2.3km s-min=0.9km az=245.0*
*ISCJB **16** 12:57:58.4±0.9, 1.56S±0.04×99.35E±0.05, h36km±8km, mb4.8/74, MS5.3/6, Error ellipse: s-maj=9.3km s-min=4.8km az=149.6*
*IDC **16** 12:57:59.8±3.4, 1.49S×99.44E, h33km±24km, mb4.4/31, mb1 4.5/33, mb1mx4.4/35, mbtmp4.4/33, ML4.2/2, Error ellipse: s-maj=14.4km s-min=9.6km az=45.0*
*TEH **16** 12:58:02.0, 1.62S×99.10E, h35km, ML5.1*
*DJA **16** 12:58:03.5±1.2, 2.2S±4.4×10.0E±.4, h17km±15km, M5.2/5, mb5.3/5, MLv5.2/4*

ISC 16 12:57:58.1±0.8, 1.65S±0.04×99.33E±0.05, h20km±4km, n238, σ1.60/256, mb4.9/74, MS5.4/6, 5C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.59**	**42**	P	Pn	12 58 21.9	-3.2
PPI				S	**Sn**	**12 58 41.6**	**-3.5**
PPI	**Padang Panjang**	**1.59**	**42**	P	Pn	12 58 22.1	-3.1
baz=1.5,SNR=51							

BKNI	**Bangkinang**	2.60	41	P		**Pn**	12 58 39.7 +0.6
BKNI	**Bangkinang**	2.60	41	P		**Pn**	12 58 39.6 +0.6
	baz=2.5,SNR=33						
MASI	**Maura Aman, Be**	3.26	117	P		**Pn**	12 58 49.8 +1.6
RGRI	**Rengat**	3.27	67	P		**Pn**	12 58 50.3 +2.1
KSI	**Kapahiang**	3.82	122	P		**Pn**	12 58 58.1 +2.2
PSI	**Prapat**	4.44	355	Pn		Pn	12 59 01.2 -3.2
PSI	**Prapat**	4.44	355	Pn		Pn	12 59 01.2 -3.2
	4.5nm,0.3s,baz=167,slow=7.7,SNR=3.7						
PSI	**Prapat**	4.44	355	P		**Pn**	12 59 05.3 +0.9
	baz=4.4,SNR=4.5						
MNAI	**Manna**	4.51	127	P		**Pn**	12 59 06.0 +0.6
MNAI				S		**Sn**	12 59 58.7 +1.4
MNAI	**Manna**	4.51	127	P		**Pn**	12 59 06.5 +1.1
	baz=4.3,SNR=11						
MNAI				S		**Sn**	13 00 00.5 +3.2
	baz=4.3,SNR=5.0						
TSI	**Tuntungan**	5.17	351	P		Pn	12 59 19.1 +4.7
	554nm,2.5s						
BTDF	**Bukit Timah Da**	5.35	56	P		**Pn**	12 59 19.0 +2.1
	baz=5.2,SNR=6.8						
BTDF				P		**Pn**	12 59 19.0 +2.1
	baz=5.2,SNR=6.8						
KLSI		6.18	119	P		**Pn**	12 59 30.4 +2.1
	176nm,3.0s						
IPM	**Ipoh**	6.32	16	*e*Pn		Pn	12 59 34.0 +3.8
KASI	**Kota Agung**	6.43	127	P		**Pn**	12 59 32.3 +0.5
	208nm,0.7s						
KASI				S		**Sn**	13 00 44.5 -0.2
	208nm,0.7s						
KULM	**Kulim**	7.01	11	*e*Pn		**Pn**	12 59 39.5 -0.3
LEM	**Lembang**	9.73	122	S		**Sn**	13 02 04.0 -2.1
CISI	**Cisompet, Garu**	10.29	125	P		**Pn**	13 00 22.2 -2.6
CISI				S		**Sn**	13 02 16.5 -3.2
CISI	**Cisompet, Garu**	10.29	125	P		**Pn**	13 00 22.6 -2.2
	baz=10,SNR=6.9						
CISI				S		Sn	13 02 14.0 -5.7
	baz=10,SNR=5.3						
UGM	**Wanagama**	12.77	120	P		**Pn**	13 00 59.1 +0.4
	baz=13,SNR=6.0						
KKM	**Kota Kinabalu**	18.51	65	*e*P		**Pn**	13 02 15.2 +1.5
	27nm,0.6s						
CMAR	**Chiang Mai Arr**	19.98	359	P		**P**	13 02 27.6 -1.8
CMAR	**Chiang Mai Arr**	19.98	359	P		**P**	13 02 27.6 -1.8
	0.6nm,0.3s,baz=187,slow=9.9,SNR=8.5						
KAPI	**Kappang**	20.65	100	*e*P		**P**	13 02 34.8 -2.0
	25nm,0.8s						
KAPI	**Kappang**	20.65	100	P		**P**	13 02 37.2 +0.4
	9.6nm,0.5s,baz=269,slow=9.1,SNR=9.7						
GYA	**Guiyang**	28.82	14	*e*P		**P**	13 03 57.3 +2.0
GYA				pP		pP	13 04 09.8 +8.4
GYA				sP		sP	13 04 14.3 +10
GYA				PP		**PP**	13 04 54.3 -6.3
GYA				PcP		**PcP**	13 07 07.5 +2.5
GYA				S		**S**	13 08 47.5 +3.1
GYA				sS		sS	13 09 04.1 +10
GYA				SS		SnSn	13 10 17.9 +11
GYA				ScP		**ScP**	13 10 45.4 -0.1
GYA				ScS		**ScS**	13 14 38.0 -1.3
GYA				pmax		pmax	
	comp=Z,20nm,1.0s						
GYA				pmax		pmax	
	comp=Z,120nm,4.8s						
GYA				LR		LR	
	comp=N,880nm,14.8s						
GYA				LR		LR	
	comp=E,750nm,15.2s						
GYA				LR		LR	
	comp=Z,930nm,14.9s						
FITZ	**Fitzroy Crossi**	30.56	124	P		**P**	13 04 09.1 -1.5
FITZ	**Fitzroy Crossi**	30.56	124	P		**P**	13 04 09.1 -1.5
	comp=Z,18nm,1.0s,baz=279,slow=6.2,SNR=6.0						
FITZ	**Fitzroy Crossi**	30.56	124	P		**P**	13 04 09.8 -0.9
	baz=30,SNR=5.4						
ODAN	**Odare**	30.59	339	*e*P		**P**	13 04 10.6 -0.5
	comp=Z,47nm,0.8s						
TAPN	**Taplejung**	30.93	340	*e*P		**P**	13 04 13.6 -0.5
	comp=Z,85nm,1.0s						
JIRN	**Jiri**	31.76	337	*e*P		**P**	13 04 20.9 -0.7
	comp=Z,92nm,0.8s						
PKIN	**Phulchoki**	32.00	336	*e*P		**P**	13 04 22.6 -1.0
GUN	**Gumba**	32.11	337	*e*P		**P**	13 04 23.8 -0.8
	comp=Z,75nm,0.6s						
LSA	**Lhasa**	32.14	347	*e*P		**P**	13 04 24.8 -0.2
LSA	**Lhasa**	32.14	347	*e*P		**P**	13 04 24.8 -0.2
KKN	**Kakani**	32.24	336	*e*P		**P**	13 04 24.5 -1.1
TPUB	**Ta-pu**	32.32	39	*e*P		**P**	13 04 29.3 +3.1
	comp=Z,18nm,0.8s						
CD2	**Chengdu**	32.65	7	*e*P		P	13 04 34.5 +5.6
CD2				pP		pP	13 04 44.5 +9.4
CD2				sP		sP	13 04 48.6 +11
CD2				PP		**PP**	13 05 44.8 +1.8
CD2				S		**S**	13 09 48.3 +4.2
CD2				sS		sS	13 10 05.0 +11
CD2				SS		**SnSn**	13 11 48.0 +8.3
CD2				pmax		pmax	
	comp=Z,10.0nm,0.8s						
CD2				pmax		pmax	
	comp=Z,120nm,5.8s						
CD2				LR		LR	
	comp=E,5μm,9.5s						
CD2				LR		LR	
	comp=Z,5μm,11.8s						
SSLB	**Suanglung**	32.88	38	*e*P		**P**	13 04 34.0 +2.9
	comp=Z,52nm,1.6s						
KOLN	**Koldanda**	32.93	334	*e*P		**P**	13 04 31.1 -0.5
	comp=Z,75nm,0.7s						
ENH	**Enshi**	33.19	16	*e*P		**P**	13 04 36.1 +2.5
	comp=Z,11nm,0.5s						
NACB	**Ninganchiao**	33.56	39	*e*P		**P**	13 04 36.2 -0.8
	comp=Z,16nm,0.7s						
TLE	**Tual**	33.56	98	S		S	13 10 10.7 +12
	baz=33,SNR=4.5						
XAN	**Xi'an**	36.62	13	P		P	13 05 06.6 +3.3
XAN				pP		pP	13 05 15.8 +6.3
XAN				pmax		pmax	
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	38.75	120	P		**P**	13 05 20.1 -1.3
WRA				PcP		**PcP**	13 07 33.0 -0.1
WRA	**Warramunga Arr**	38.75	120	P		**P**	13 05 20.1 -1.3
	comp=Z,21nm,0.8s,baz=305,slow=9.1,SNR=30						
WRA				PcP		**PcP**	13 07 33.0 -0.1
	comp=Z,2.3nm,0.6s,baz=311,slow=2.5,SNR=4.5						
WRAB	**Tennant Creek**	38.75	120	P		**P**	13 05 20.0 -1.5
	comp=Z,275nm,0.5s,SNR=11						
WRAB	**Tennant Creek**	38.75	120	*e*P		**P**	13 05 20.2 -1.3
WRAB				pmax		pmax	
	comp=Z,26nm,0.6s						
WRAB	**Tennant Creek**	38.75	120	*e*P		**P**	13 05 20.2 -1.3
	comp=Z,26nm,0.6s						
JOW	**Kunigami**	39.75	43	*e*P		**P**	13 05 29.9 +0.2
	comp=Z,6.1nm,1.1s						
ASAR	**Alice Springs**	40.00	126	P		**P**	13 05 31.2 -0.7
ASAR				PcP		**PcP**	13 07 37.0 0.0
ASAR				S		**S**	13 11 34.5 -2.3
ASAR	**Alice Springs**	40.00	126	P		**P**	13 05 31.2 -0.7
	comp=Z,9.4nm,0.7s,baz=302,slow=7.4,SNR=14						
ASAR				PcP		**PcP**	13 07 37.0 0.0
	comp=Z,3.9nm,0.8s,baz=312,slow=2.7,SNR=6.2						
ASAR				S		**S**	13 11 34.5 -2.3
	comp=Z,1.8nm,0.9s,baz=295,slow=15,SNR=7.4						
AS31	**Alice Springs**	40.00	126	*e*P		**P**	13 05 30.9 -1.0
GTA	**Gaotai**	40.86	1	⇑P		P	13 05 45.3 +6.4
GTA				pP		pP	13 05 55.8 +11
GTA				sP		sP	13 05 59.9 +12
GTA				pmax		pmax	
	comp=Z,18nm,1.2s						
HHC	**Hu-ho-hao-te**	43.74	13	*e*P		P	13 06 06.1 +3.8
HHC				PP		**PcP**	13 07 49.4 +0.4
HHC				ScP		**ScP**	13 11 39.8 0.0
HHC				PcS		**PcS**	13 11 44.4 +2.5
HHC				S		**S**	13 12 35.0 +3.3
HHC				sS		sS	13 12 50.9 +8.9
HHC				SS		**SS**	13 15 43.0 -4.8
HHC				ScS		**ScS**	13 16 00.1 -0.8
HHC				pmax		pmax	
	comp=Z,910nm,5.3s						
HHC				LR		LR	
	comp=N,2μm,17.3s						
HHC				LR		LR	
	comp=E,2μm,16.9s						
HHC				LR		LR	
	comp=Z,3μm,17.4s						
JNU	**Nakatsue**	45.62	38	*e*P		**P**	13 06 15.7 -1.6
	comp=Z,8.8nm,0.8s						
JNU	**Nakatsue**	45.62	38	P		**P**	13 06 16.4 -1.0
	comp=Z,9.8nm,0.7s,baz=120,slow=4.2,SNR=9.7						
KSH	**Kashi**	46.23	335	*e*P		P	13 06 25.9 +3.7
WMQ	**Urumqi**	46.45	348	P		**P**	13 06 23.4 -0.4
WMQ				pP		**pP**	13 06 31.1 +1.0
WMQ				pmax		pmax	
	comp=Z,47nm,1.0s						
WMQ				pmax		pmax	
	comp=Z,750nm,6.0s						
KSAR	**Wonju Array Be**	47.03	31	P		**P**	13 06 27.6 -0.7
KSRS	**Korea Array**	47.06	31	P		**P**	13 06 27.6 -0.9
	comp=Z,3.0nm,0.6s,baz=223,slow=8.0,SNR=21						
TKM2	**Tokmak 2**	49.25	337	*e*P		**P**	13 06 45.1 -0.6
TKM2				pmax		pmax	
	comp=Z,23nm,0.6s						
TKM2	**Tokmak 2**	49.25	337	*e*P		**P**	13 06 45.1 -0.6
	comp=Z,23nm,0.6s						
CTA	**Charters Tower**	49.35	115	P		**P**	13 06 45.2 -1.4
CTA	**Charters Tower**	49.35	115	P		**P**	13 06 45.2 -1.4
	comp=Z,12nm,1.0s,baz=309,slow=11,SNR=9.1						
CTAO	**Charters Tower**	49.35	115	*e*P		**P**	13 06 44.9 -1.7
CTAO				pmax		pmax	
	comp=Z,10.0nm,0.7s						
CTAO	**Charters Tower**	49.35	115	*e*P		**P**	13 06 44.9 -1.7
	comp=Z,9.8nm,0.7s						
AAK	**Ala-Archa**	49.45	336⇓	*e*P		**P**	13 06 47.0 -0.1
AAK				pmax		pmax	
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	49.66	6	P		**P**	13 06 47.9 -0.7
SONM				PcP		**PcP**	13 08 08.8 -1.0
SONM	**Songino Array**	49.66	6	P		**P**	13 06 47.9 -0.7
	comp=Z,2.6nm,0.6s,baz=188,slow=9.6,SNR=6.4						
SONM				PcP		**PcP**	13 08 08.8 -1.0
	comp=Z,4.5nm,0.7s,baz=186,slow=3.5,SNR=5.2						
EKS2	**Erkin-Say**	49.76	335	*e*P		**P**	13 06 49.3 -0.2
EKS2				pmax		pmax	
	comp=Z,31nm,0.7s						
EKS2	**Erkin-Say**	49.76	335	*e*P		**P**	13 06 49.3 -0.2
	comp=Z,31nm,0.7s						
ULN	**Ulaanbaatar**	49.77	7	*e*P		**P**	13 06 48.7 -0.8
	comp=Z,9.0nm,0.9s						
STKA	**Stephens Creek**	49.88	132	*e*P		**P**	13 06 50.5 0.0
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	49.88	132	P		**P**	13 06 51.0 +0.6
	comp=Z,22nm,0.7s,baz=315,slow=7.1,SNR=8.7						
STKA	**Stephens Creek**	49.88	132	P		**P**	13 06 51.0 +0.6
	baz=50,SNR=5.5						
MK31	**Makanchi Array**	50.51	345	*e*P		**P**	13 06 53.8 -1.2
MK31	**Makanchi Array**	50.51	345	*e*P		**P**	13 06 53.8 -1.2
MKAR	**Makanchi Array**	50.51	345	P		**P**	13 06 53.8 -1.2
MKAR	**Makanchi Array**	50.51	345	P		**P**	13 06 53.8 -1.2
MKAR	**Makanchi Array**	50.51	345	P		**P**	13 06 53.8 -1.2
	comp=Z,13nm,0.6s,baz=152,slow=8.0,SNR=37						
CN2	**Changchun**	50.94	24	*e*P		P	13 07 03.0 +4.9
CN2				*e*pP		pP	13 07 10.0 +5.5
CN2				pmax		pmax	
	comp=Z,10.0nm,0.8s						
KKAR	**Karatay Array**	51.54	333	*e*P		**P**	13 07 05.0 +2.3
KKAR	**Karatay Array**	51.54	333	*e*P		**P**	13 07 05.0 +2.3
MAT	**Matsushiro**	52.42	40	P		**P**	13 07 11.1 +1.6
MJAR	**Matsushiro Arr**	52.43	40	P		P	13 07 06.5 -2.9
MJAR	**Matsushiro Arr**	52.43	40	P		P	13 07 06.5 -2.9
	comp=Z,0.9nm,0.8s,baz=224,slow=8.5,SNR=3.4						
HVS	**Khovu-Aksy**	52.80	356⇑	*e*P		**P**	13 07 13.8 +1.7
HVS				pmax		pmax	
	comp=Z,27nm,1.0s						
CMSA	**Cobar Meteorol**	52.85	129	P		**P**	13 07 13.2 +0.5
	baz=53,SNR=26						
IBAF	**Bafgh**	53.05	312	*e*P		**P**	13 07 12.3 -2.0
MDJ	**Mudanjiang**	53.37	27	P		P	13 07 20.5 +4.3
MDJ				pP		pP	13 07 29.6 +7.0
MDJ				sP		sP	13 07 33.3 +8.2
MDJ				PP		**PP**	13 09 21.3 +4.5
MDJ				ScP		**ScP**	13 12 22.0 +1.6
MDJ				PcS		**PcS**	13 12 25.5 +3.2
MDJ				S		S	13 14 52.4 +5.2
MDJ				sS		sS	13 15 08.5 +11
MDJ				pmax		pmax	
	comp=Z,6.0nm,1.4s						
MDJ				pmax		pmax	
	comp=Z,240nm,9.2s						
MDJ				LR		LR	
	comp=N,7μm,20.1s						
MDJ				LR		LR	
	comp=E,10μm,19.1s						
MDJ				LR		LR	
	comp=Z,11μm,18.2s						
USRK	**Ussuriysk Arra**	54.17	29	P		**P**	13 07 20.3 -1.8
	comp=Z,4.5nm,0.6s,baz=223,slow=6.1,SNR=11						
KURBB	**Kurchatov Arra**	55.03	344	P		**P**	13 07 26.1 -2.1
	comp=Z,4.6nm,0.8s,baz=169,slow=6.6,SNR=8.7						
KURK	**Kurchatov**	55.09	344	P		**P**	13 07 26.1 -2.5
KURK	**Kurchatov**	55.09	344	P		**P**	13 07 26.1 -2.5
YNG	**Young**	56.07	131	P		**P**	13 07 36.8 +0.7
	baz=56,SNR=6.3						
IZEF	**Zefreh**	56.08	312	*e*P		P	13 07 33.3 -3.2
ZAA0	**Zalesovo Array**	56.70	350	*e*P		**P**	13 07 38.4 -1.7
ZALV	**Zalesovo Beam**	56.70	350	P		**P**	13 07 38.4 -1.8
ZALV	**Zalesovo Beam**	56.70	350	P		**P**	13 07 38.4 -1.8
ZALV	**Zalesovo Beam**	56.70	350	P		**P**	13 07 38.4 -1.8
	comp=Z,7.4nm,0.4s,baz=151,slow=5.6,SNR=15						
ARMA	**Armidale**	57.15	126	P		**P**	13 07 45.1 +1.2
	baz=57,SNR=5.4						
KRAR	**Krasnoyarsk**	57.71	356⇑	*e*P		**P**	13 07 47.4 +0.2
NVS	**Novosibirsk**	57.84	349	*e*P		**P**	13 07 46.5 -1.7
KBD	**Kabd**	58.08	306	*e*P		**P**	13 07 49.6 -0.8
KBD				AMb		AMB	13 07 50.5
	comp=Z,24nm,1.0s						
RDF	**Al-Radifah**	58.10	306	*e*P		**P**	13 07 49.9 -0.6
RDF				AMb		AMB	13 07 51.6
	comp=Z,46nm,1.0s						
NAY	**Al-Naaiem**	58.48	306	*e*P		**P**	13 07 51.8 -1.4
NAY				AMb		AMB	13 07 53.4
	comp=Z,13nm,0.9s						
IRAZ	**Razeghan**	59.01	314	*e*P		**P**	13 07 55.1 -1.9
BVAR	**Borovoye Array**	59.63	340	P		**P**	13 07 58.5 -2.2
BVAR	**Borovoye Array**	59.63	340	P		**P**	13 07 58.5 -2.2
BVAR	**Borovoye Array**	59.63	340	P		**P**	13 07 58.5 -2.2
	comp=Z,5.0nm,0.7s,baz=142,slow=8.9,SNR=9.5						
BRVK	**Borovoye**	59.69	340⇑	*e*P		**P**	13 08 01.1 0.0
BRVK				pmax		pmax	
	comp=Z,28nm,2.5s						
BRVK	**Borovoye**	59.69	340	*e*P		P	13 07 57.9 -3.2
	comp=Z,7.5nm,0.7s						
ASAJ	**Asahikawa**	59.70	35	P		**P**	13 08 01.4 0.0
ASAJ	**Asahikawa**	59.70	35	P		**P**	13 08 01.4 0.0
	comp=Z,4.1nm,0.6s,baz=195,slow=30,SNR=4.4						
ABKAR	**Akbulak array**	61.01	332	*e*P		**P**	13 08 08.3 -1.9
YSS	**Yuzh-Sakhalins**	61.54	32	*e*P		**P**	13 08 14.0 +0.2
KMBO	**Kilima Mbogo**	62.06	270	*e*P		**P**	13 08 19.9 +1.6
	comp=Z,51nm,2.5s						
KMBO	**Kilima Mbogo**	62.06	270	P		**P**	13 08 19.6 +1.3
	comp=Z,3.4nm,0.8s,baz=72,slow=9.3,SNR=8.6						
LHI	**Lord Howe Isla**	63.57	125	P		P	13 08 36.3 +8.6
	baz=63,SNR=3.4						
GNI	**Garni**	64.81	316	P		**P**	13 08 35.1 -0.8
GNI	**Garni**	64.81	316	P		**P**	13 08 35.1 -0.8
	comp=Z,4.1nm,0.6s,baz=180,slow=23,SNR=3.8						
CASY	**Casey**	64.99	175	*e*P		**P**	13 08 37.5 +1.1
	comp=Z,15nm,1.5s						
SVE	**Sverdlovsk**	66.11	338	*e*P		**P**	13 08 42.4 -1.3
SVE				pmax		pmax	
	comp=Z,20nm,1.0s						
ARU	**Arti**	66.62	337	*d i*P		**P**	13 08 48.6 +1.6
ARU							13 11 08.4
ARU				S		**S**	13 17 39.9 +2.7
ARU				SS		**SS**	13 21 53.9 -1.0
ARU				pmax		pmax	
	comp=Z,26nm,1.7s						
KBZ	**Khabaz**	67.61	319	P		**P**	13 08 52.3 -1.2
KBZ	**Khabaz**	67.61	319	P		**P**	13 08 52.3 -1.2
KBZ	**Khabaz**	67.61	319	P		**P**	13 08 52.3 -1.2
	comp=Z,7.9nm,0.8s,baz=132,slow=5.9,SNR=13						
KIV	**Kislovodsk**	67.84	319	*e*P		**P**	13 08 54.1 -1.1
KIV				pmax		pmax	
	comp=Z,18nm,1.0s						
EIL	**Elat**	68.77	303	P		**P**	13 09 01.2 0.0
EIL	**Elat**	68.77	303	P		**P**	13 09 01.2 0.0
	comp=Z,10.0nm,0.7s,baz=78,slow=4.1,SNR=5.9						
MMAI	**Mount Meron Ar**	69.29	306	P		**P**	13 09 04.3 -0.1
MMAI	**Mount Meron Ar**	69.29	306	P		**P**	13 09 04.3 -0.1
	comp=Z,1.4nm,0.4s,baz=116,slow=11,SNR=3.7						
MAW	**Mawson**	70.46	194	P		**P**	13 09 12.7 +1.9
MAW	**Mawson**	70.46	194	P		**P**	13 09 12.7 +1.9
	comp=Z,4.7nm,0.8s,baz=33,slow=6.2,SNR=8.3						
BRTR	**Keskin Array B**	72.59	313	P		**P**	13 09 22.6 -1.9
BRTR	**Keskin Array B**	72.59	313	P		**P**	13 09 22.6 -1.9
	comp=Z,2.4nm,0.7s,baz=127,slow=6.8,SNR=9.9						
PETK	**Petropavlovsk-**	72.94	32	P		**P**	13 09 26.3 +0.2
PETK	**Petropavlovsk-**	72.94	32	P		**P**	13 09 26.3 +0.2
PETK	**Petropavlovsk-**	72.94	32	P		**P**	13 09 26.3 +0.2
	comp=Z,2.2nm,0.7s,baz=188,slow=8.7,SNR=3.6						
SIM	**Simferopol'**	73.89	318	*e*P		**P**	13 09 32.0 +0.2
SIM				pmax		pmax	
	comp=Z,11nm,0.8s						
BOSA	**Boshof**	75.24	241	P		**P**	13 09 40.0 -0.2
BOSA	**Boshof**	75.24	241	P		**P**	13 09 40.0 -0.2
	comp=Z,3.9nm,0.9s,baz=353,slow=2.9,SNR=3.2						
OBN	**Obninsk**	76.14	328	*e*P		**P**	13 09 43.8 -0.8
OBN				*e*			13 09 53.5
OBN				*e*S		**S**	13 19 22.5 -4.8
OBN				*e*SS		**SS**	13 24 24.4 +3.4
OBN				pmax		pmax	
	comp=Z,22nm,1.2s						
OBN				MLR		MLR	
	comp=Z,1μm,15.0s						
TMCR	**Tamitsa**	79.36	337	*e*P		P	13 10 08.6 +6.3
TMCR				*e*			13 10 14.7
TMCR				pmax		pmax	
	comp=Z,23nm,0.7s						
BUR08	**Bucovina Ar. S**	80.57	319	*e*P		**P**	13 10 09.1 -0.3
VNDA	**Vanda**	82.64	169	*e*P		**P**	13 10 20.9 +1.3
	comp=Z,4.7nm,0.9s						
VNDA	**Vanda**	82.64	169	P		**P**	13 10 20.1 +0.5
	comp=Z,4.3nm,1.0s,baz=279,slow=5.2,SNR=8.1						
KOLS	**Kolonicke sedl**	82.75	320	*e*P		**P**	13 10 20.4 -0.4
KOLS				pmax		pmax	
	comp=Z,10.0nm,0.9s						
KOLS	**Kolonicke sedl**	82.75	320	*e*P		**P**	13 10 20.4 -0.4
KOLS				*e*pP		**PcP**	13 10 25.6 0.0
CRVS	**Cervenica-Dubn**	83.27	319	*e*P		**P**	13 10 24.1 +0.6
CRVS	**Cervenica-Dubn**	83.27	319	*e*P		**P**	13 10 24.1 +0.6
FINES	**FINESS Array B**	83.49	332	P		**P**	13 10 23.1 -1.1
FINES	**FINESS Array B**	83.49	332	P		**P**	13 10 23.1 -1.1
	comp=Z,4.1nm,0.6s,baz=98,slow=6.8,SNR=25						
STHS	**Stebnicka Huta**	83.50	320	*e*P		**P**	13 10 24.6 -0.1
STHS				pmax		pmax	
	comp=Z,7.0nm,0.8s						
STHS	**Stebnicka Huta**	83.50	320	*e*P		**P**	13 10 24.6 -0.1
KAF	**Kangasniemi**	83.57	333	*e*P		**P**	13 10 23.2 -1.5
KAF				pmax		pmax	
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	83.57	333	*e*p		**P**	13 10 23.2 -1.5
	comp=Z,1.8nm,0.4s						
SBA	**Scott Base**	83.73	169	*e*P		**P**	13 10 27.1 +1.9
SBA				pmax		pmax	
	comp=Z,74nm,2.2s						
SBA	**Scott Base**	83.73	169	*e*P		**P**	13 10 27.1 +1.9
	comp=Z,74nm,2.2s						
KECS	**Kecovo**	83.84	319	*e*P		**P**	13 10 25.4 -1.0
KECS				pmax		pmax	
	comp=Z,3.0nm,0.8s						
KECS	**Kecovo**	83.84	319	*e*P		**P**	13 10 25.4 -1.0
KECS				*e*pP		**pP**	13 10 33.2 +0.2
ARCES	**ARCESS Array B**	85.92	340	P		**P**	13 10 35.1 -1.3
ARCES	**ARCESS Array B**	85.92	340	P		**P**	13 10 35.1 -1.3
	comp=Z,3.1nm,0.8s,baz=82,slow=8.7,SNR=4.5						
DPC	**Dobruska-Polom**	86.79	320	*i* P		**P**	13 10 40.8 -0.3
DPC				*e*			13 10 46.9
DPC	**Dobruska-Polom**	86.79	320	*i* P		**P**	13 10 40.8 -0.3
DPC				*e*pP		**pP**	13 10 46.9 -0.9
DPC	**Dobruska-Polom**	86.79	320	*e*P		**P**	13 10 41.1 -0.1
	comp=Z,451nm,2.7s						
BOJS	**Bojanci**	87.01	316	*i* P		**P**	13 10 41.5 -0.7
PERS	**Pernice**	87.21	317	*i* P		**P**	13 10 42.7 -0.6
PDKS	**Podkum**	87.24	316	*i* P		**P**	13 10 43.8 +0.4
JAVS	**Javornik**	87.87	316	*i* P		**P**	13 10 45.3 -1.2
QSPA	**South Pole Qui**	88.31	180	*e*P		**P**	13 10 49.3 +1.0
	comp=Z,9.0nm,1.0s						
GEC2	**GERESS Array S**	88.34	319	*e*P		**P**	13 10 48.4 -0.3
GEC2	**GERESS Array S**	88.34	319	*e*P		**P**	13 10 48.4 -0.3
GERES	**GERESS Array B**	88.34	319	P		**P**	13 10 48.3 -0.4
GERES	**GERESS Array B**	88.34	319	P		**P**	13 10 48.3 -0.4
	comp=Z,2.3nm,0.8s,baz=88,slow=4.1,SNR=11						
BRG	**Berggiesshubel**	88.35	321	*i* P		**P**	13 10 48.2 -0.4
	comp=Z,8.5nm,1.0s						
BRG							
	comp=Z,1μm,16.8s						
BRG							
	comp=N,720nm,19.7s						
BRG							
	comp=E,1μm,19.7s						
BRG	**Berggiesshubel**	88.35	321	*i* P		**P**	13 10 48.2 -0.4
BRG				pmax		pmax	
	comp=Z,9.0nm,1.0s						
BRG				MLR		MLR	
	comp=Z,1μm,16.8s						
BRG				MLR		MLR	
	comp=N,720nm,19.7s						
BRG				MLR		MLR	
	comp=E,1μm,19.7s						
KHC	**Kasperske Hory**	88.45	319	*e*P		**P**	13 10 48.2 -0.9
KHC				*e*			13 10 57.2
KHC	**Kasperske Hory**	88.45	319	*e*P		**P**	13 10

TKL	Tuckaleechee C	146.04	5	PKPbc	PKPdf	13 17 35.4	-1.0
	comp=Z,17nm,0.7s,baz=129,slow=2.7,SNR=29						
JCT	Junction City	146.06	30	*e*PKP2	PKPdf	13 17 36.5	-0.2
JCT	Junction City	146.06	30	*e*PKPdf	PKPdf	13 17 36.5	-0.2
CPCT	Cooper Cave	146.18	6	*e*PKPdf	PKPdf	13 17 35.7	-1.0
OXF	Oxford	146.30	13	*e*PKP2	PKPdf	13 17 35.4	-1.4
OXF	Oxford	146.30	13	*e*PKPdf	PKPdf	13 17 35.4	-1.4
KMSC	Kings Mountain	146.67	1	*e*PKPdf	PKPdf	13 17 36.9	-0.6
LRAL	Lakeview Retre	148.21	10	*e*PKPdf	PKPdf	13 17 40.8	+0.7
HKT	Hockley	148.38	26	*e*PKP2	PKPbc	13 17 43.4	-0.4
HKT	Hockley	148.38	26	*e*PKPbc	PKPbc	13 17 43.4	-0.4
LPAZ	La Paz	158.30	214	PKP	PKPdf	13 17 55.4	-0.4
LPAZ	La Paz	158.30	214	PKP	PKPdf	13 17 55.4	-0.4
	comp=Z,1.6nm,0.8s,baz=354,slow=6.6,SNR=3.9						

WEL 16 13:00:00.9±0.3, 38°.42S×176°.04E, h157km±2km, ML3.9/18, 21C-3D, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	Allen Road	0.28	121	PN	Pn	13 00 22.2	0.0
PRRZ	Plateau Road	0.29	106	PN	Pn	13 00 22.3	0.0
PRRZ				SN	Sn	13 00 38.1	-0.5
RRRZ	Republican Roa	0.38	78	⇓PN	Pn	13 00 22.6	-0.1
TARZ	Mount Tarawera	0.41	63	PN	Pn	13 00 22.9	+0.1
OPRZ	Ohinepanea	0.70	35	PN	Pn	13 00 24.1	-0.1
TGRZ	Tauranga	0.71	14	PN	Pn	13 00 24.3	0.0
TWVZ	Taurewa	0.80	216	PN	Pn	13 00 24.9	-0.2
TOZ	Tahuroa Road	0.81	328	PN	Pn	13 00 25.1	+0.2
BKZ	Black Stump Fm	0.82	155	PN	Pn	13 00 25.1	-0.1
BKZ				SN	Sn	13 00 42.3	-1.4
BKZ				AML	AML	13 00 44.2	
NGZ	Ngauruhoe	0.83	204	PN	Pn	13 00 25.3	0.0
URZ	Urewera	0.86	80	PN	Pn	13 00 24.8	-0.5
URZ				SN	Sn	13 00 42.9	-1.0
URZ				AML	AML	13 00 43.3	
WPVZ	Whakapapa	0.87	206	⇑PN	Pn	13 00 25.5	-0.1
TUVZ	Tukino	0.90	199	⇑PN	Pn	13 00 25.8	0.0
NMHZ	Naumai	0.90	139	PN	Pn	13 00 26.7	+0.9
FWVZ	Far West T-bar	0.92	204	PN	Pn	13 00 25.7	-0.3
HIZ	Hauiti	0.93	264	⇑PN	Pn	13 00 25.9	0.0
HIZ				SN	Sn	13 00 45.2	+0.3
RAHZ	Arahi	0.96	122	PN	Pn	13 00 26.6	+0.6
RAHZ				SN	Sn	13 00 45.5	+0.2
TRVZ	Turoa	0.96	203	⇑PN	Pn	13 00 26.3	-0.1
WNVZ	Wahianoa	0.97	201	⇑PN	Pn	13 00 26.2	-0.1
MOVZ	Moawhango	1.01	193	⇑PN	Pn	13 00 26.1	-0.5
PKVZ	Pokaka	1.02	212	⇑PN	Pn	13 00 26.5	-0.2
MTVZ	Mangateitei	1.06	205	⇑PN	Pn	13 00 26.8	-0.2
BHHZ	Black Hill Sta	1.07	179	⇑PN	Pn	13 00 26.7	-0.3
MCHZ	McNeill Hill	1.14	154	⇑PN	Pn	13 00 28.4	+0.7
MCHZ				SN	Sn	13 00 48.4	+0.2
MWZ	Matawai	1.17	86	⇓PN	Pn	13 00 27.7	-0.2
MWZ				SN	Sn	13 00 47.6	-1.0
MWZ				AML	AML	13 00 49.1	
MWZ				AML	AML	13 00 50.2	
VRZ	Vera Road	1.22	235	⇑PN	Pn	13 00 28.3	0.0
KNZ	Kokohu	1.41	116	PN	Pn	13 00 30.3	+0.2
CKHZ	Cape Kidnapper	1.48	147	PN	Pn	13 00 31.2	+0.4
MKAZ	Moumakai	1.48	332	PN	Pn	13 00 31.0	+0.2
PNHZ	Pukenui	1.50	175	PN	Pn	13 00 30.6	-0.5
KAHZ	Kahuranaki	1.52	155	PN	Pn	13 00 31.5	+0.3
WAZ	Wanganui	1.56	211	⇑PN	Pn	13 00 31.3	-0.4
MHGZ	Mahia Peninsul	1.63	117	PN	Pn	13 00 32.6	+0.2
TSZ	Takapari Road	1.64	182	⇑PN	Pn	13 00 32.0	-0.5
TSZ				AML	AML	13 00 57.1	
TSZ				AML	AML	13 00 57.5	
WPHZ	Waipukurau	1.67	169	PN	Pn	13 00 32.4	-0.4
KUZ	Kuaotunu	1.69	351	PN	Pn	13 00 33.0	-0.1
CNGZ	Carnagh Statio	1.70	93	PN	Pn	13 00 33.7	+0.5
PXZ	Pawanui	1.73	159	PN	Pn	13 00 33.2	-0.2
PXZ				AML	AML	13 00 59.0	
PXZ				AML	AML	13 00 59.0	
PXZ				AML	AML	13 00 59.8	
PXZ				AML	AML	13 01 00.2	
NEZ	North Egmont	1.74	240	PN	Pn	13 00 34.0	+0.3
PUZ	Puketiti	1.78	79	PN	Pn	13 00 33.7	-0.3
PUZ				AML	AML	13 00 58.5	
PUZ				AML	AML	13 01 00.1	
DVHZ	Dannevirke	1.88	177	⇑PN	Pn	13 00 34.2	-0.9
POWZ	Post Office Ro	1.98	186	PN	Pn	13 00 35.3	-1.0
MXZ	Matakaoa Point	1.98	65	AML	AML	13 01 03.7	
MXZ				AML	AML	13 01 04.5	
BFZ	Birch Farm	2.26	176	PN	Pn	13 00 38.3	-1.2
MRZ	Mangatainoka R	2.27	189	PN	Pn	13 00 38.1	-1.5
MRZ				AML	AML	13 01 08.7	
MRZ				AML	AML	13 01 08.7	
TIWZ	Tintock	2.36	183	PN	Pn	13 00 39.2	-1.5
OGWZ	Otaki Gorge	2.49	195	⇑PN	Pn	13 00 40.7	-1.5
HOWZ	Holdsworth Sta	2.51	189	⇑PN	Pn	13 00 40.6	-1.9
KIW	Kapiti Island	2.59	199	PN	Pn	13 00 41.4	-2.1
KIW				AML	AML	13 01 15.1	
TMWZ	Te Maipa	2.69	182	PN	Pn	13 00 42.7	-2.0
MTW	Mount Morrison	2.77	188	⇑PN	Pn	13 00 43.4	-2.3
MTW				AML	AML	13 00 43.9	
MTW				AML	AML	13 00 44.2	
CAW	Cannon Point	2.79	195	⇑PN	Pn	13 00 43.7	-2.2
CAW				AML	AML	13 01 18.8	
CAW				AML	AML	13 01 20.3	
DUWZ	D'Urville Isla	2.89	214	PN	Pn	13 00 44.8	-2.4
TRWZ	Traveller	2.99	185	PN	Pn	13 00 46.0	-2.3
TRWZ				AML	AML	13 00 46.8	
PAWZ	Paruwai Farm	3.00	189	⇑PN	Pn	13 00 46.0	-2.4
PAWZ				AML	AML	13 01 22.2	
PAWZ				AML	AML	13 01 22.9	
WEL	Wellington	3.02	198	PN	Pn	13 00 46.3	-2.6
MSWZ	Moikau Station	3.05	191	⇑PN	Pn	13 00 46.6	-2.6
MSWZ				AML	AML	13 01 23.3	
MSWZ				AML	AML	13 01 24.9	
SNZO	South Karori	3.06	199	PN	Pn	13 00 46.7	-2.6
SNZO				AML	AML	13 01 24.7	
SNZO				AML	AML	13 01 25.6	
TCW	Tory Channel	3.10	205	PN	Pn	13 00 47.1	-2.7
TCW				AML	AML	13 01 25.1	
TCW				AML	AML	13 01 25.6	
BHW	Baring Head	3.12	196	PN	Pn	13 00 47.3	-2.6
BHW				AML	AML	13 00 47.7	
BHW				AML	AML	13 00 47.8	
PLWZ	Palliser	3.20	191	PN	Pn	13 00 48.3	-2.9
TUWZ	Tuamarina	3.41	208	PN	Pn	13 00 50.7	-3.0
TUWZ				AML	AML	13 01 32.2	
TUWZ				AML	AML	13 01 32.8	
NNZ	Nelson	3.46	215	⇓PN	Pn	13 00 51.4	-3.0
QRZ	Quartz Range	3.62	227	PN	Pn	13 00 52.6	-3.8
BSWZ	Blackbirch Sta	3.69	206	PN	Pn	13 00 54.5	-2.8
THZ	Tophouse	4.11	215	PN	Pn	13 00 59.7	-3.1
KHZ	Kahutara	4.42	205	PN	Pn	13 01 03.6	-3.2
DSZ	Denniston Nort	4.65	223	PN	Pn	13 01 05.2	-4.6
LTZ	Lake Taylor	5.22	212	PN	Pn	13 01 12.7	-4.7
CRLZ	Canterbury Las	5.76	206	PN	Pn	13 01 19.5	-4.9
MQZ	McQueen's Vall	5.87	205	⇑PN	Pn	13 01 20.7	-5.1

*IDC **16** 13:04:30.8±0.6, 1°.46S×99°.44E, h0km, mb4.3/22, mb1 4.4/24, mb1mx4.3/31, mbtmp4.3/24, ML4.0/2, MS4.2/1, Ms1 4.2/1, ms1mx3.3/43, Error ellipse: s-maj=19.7km s-min=13.3km az=50.0*

*NEIC **16** 13:04:32.1±0.3, 1°.53S×99°.32E, h10km, mb4.6/3, Error ellipse: s-maj=10.8km s-min=7.5km az=61.0*

*ISCJB **16** 13:04:33.2±0.4, 1°.49S±0°.06×99°.38E±0°.06, h30km, mb4.3/25, Error ellipse: s-maj=9.8km s-min=6.9km az=137.0*

*DJA **16** 13:04:41.8±1.1, 2°.5S±6°.×10°.1E±1°.3, h10km, M4.2/6, MLv4.2/6*

ISC 16 13:04:35.0±0.5, 1°.51S±0°.06×99°.40E±0°.07, h30km, n78, σ0°.96/77, mb4.4/25, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.45	44	P	Pn	13 04 59.3	+0.1
KRJI	Kerinci	2.14	106	P	Pn	13 05 01.1	-7.7
BKNI	Bangkinang	2.45	42	P	Pb	13 05 17.5	-1.0
RGRI	Rengat	3.15	69	P	Pn	13 05 18.3	-4.4
MASI	Maura Aman, Be	3.27	120	P	Pn	13 05 23.8	-0.5
KSI	Kapahiang	3.83	124	P	Pn	13 05 30.0	-2.1
PSI	Prapat	4.31	354	Pn	Pn	13 05 37.4	-1.3
PSI	Prapat	4.31	354	Pn	Pn	13 05 37.4	-1.3
	2.2nm,0.3s,baz=181,slow=11,SNR=3.7						
PSI				LR	LR	13 07 36.8	
	comp=Z,3μm,18.1s,baz=148,slow=45						
MYKOM	Kota Tinggi	5.53	54	P	Pn	13 05 57.0	+1.6
IPM	Ipoh	6.17	15	*e*Pn	Pn	13 06 06.8	+2.6
KULM	Kulim	6.87	10	*e*Pn	Pn	13 06 14.1	+0.3
KKM	Kota Kinabalu	18.39	66	*e*P	Pn	13 08 49.2	+1.1
CMAR	Chiang Mai Arr	19.85	359	P	P	13 09 03.4	-0.4
CMAR	Chiang Mai Arr	19.85	359	P	P	13 09 03.4	-0.4
	0.4nm,0.3s,baz=187,slow=10,SNR=20						
KAPI	Kappang	20.61	100	P	Pn	13 09 14.4	-0.1
KAPI	Kappang	20.61	100	P	P	13 09 10.4	-1.7
	2.6nm,0.4s,baz=252,slow=13,SNR=2.0						
WRA	Warramunga Arr	38.76	121	P	P	13 11 55.9	-1.2
WRA	Warramunga Arr	38.76	121	P	P	13 11 55.9	-1.2
	3.2nm,0.8s,baz=299,slow=9.2,SNR=9.2						
AS31	Alice Springs	40.02	126	*e*P	P	13 12 07.4	-0.3
ASAR	Alice Springs	40.02	126	P	P	13 12 07.7	0.0
ASAR	Alice Springs	40.02	126	P	P	13 12 07.7	0.0
	1.0nm,0.6s,baz=300,slow=7.7,SNR=6.9						
JNU	Nakatsue	45.48	38	P	P	13 12 51.5	-0.2
JNU	Nakatsue	45.48	38	P	P	13 12 51.5	-0.2
	8.4nm,0.9s,baz=212,slow=0.1,SNR=5.4						
KSAR	Wonju Array Be	46.88	31	P	P	13 13 02.5	-0.2
KSRS	Korea Array	46.91	31	P	P	13 13 02.5	-0.4
	1.6nm,0.7s,baz=225,slow=8.1,SNR=8.7						
SONM	Songino Array	49.52	6	P	P	13 13 23.6	+0.5
SONM				PcP	PcP	13 14 45.4	+0.7
SONM	Songino Array	49.52	6	P	P	13 13 23.6	+0.5
	1.2nm,0.7s,baz=189,slow=8.4,SNR=4.2						
SONM				PcP	PcP	13 14 45.4	+0.7
	1.4nm,0.6s,baz=181,slow=5.2,SNR=3.8						
ULN	Ulaanbaatar	49.63	7	P	P	13 13 21.7	-2.2
	2.3nm,0.3s						
EKS2	Erkin-Say	49.67	335	*e*P	P	13 13 25.6	+1.3
	6.3nm,0.8s						
STKA	Stephens Creek	49.92	132	P	P	13 13 28.0	+1.8
STKA	Stephens Creek	49.92	132	P	P	13 13 28.0	+1.8
	5.0nm,1.0s,baz=329,slow=12,SNR=3.7						
MK31	Makanchi Array	50.40	345	*e*P	P	13 13 29.8	+0.1
MKAR	Makanchi Array	50.40	345	*e*P	P	13 13 30.2	+0.6
MKAR	Makanchi Array	50.40	345	P	P	13 13 29.8	+0.2
	4.1nm,0.6s,baz=148,slow=8.1,SNR=26						
USRK	Ussuriysk Arra	54.02	29	P	P	13 13 56.9	+0.4
	4.0nm,0.8s,baz=222,slow=5.1,SNR=8.6						
KURBB	Kurchatov Arra	54.92	344	P	P	13 14 02.9	0.0
	2.2nm,0.7s,baz=163,slow=7.2,SNR=12						
KURK	Kurchatov	54.98	344	P	P	13 14 02.9	-0.4
ZAA0	Zalesovo Array	56.58	350	*e*P	P	13 14 14.7	-0.1
ZALV	Zalesovo Beam	56.58	350	P	P	13 14 14.9	0.0
ZALV	Zalesovo Beam	56.58	350	P	P	13 14 14.9	0.0
	3.6nm,0.4s,baz=176,slow=5.7,SNR=19						
BVAR	Borovoye Array	59.52	340	P	P	13 14 34.6	-0.8
BVAR	Borovoye Array	59.52	340	P	P	13 14 34.6	-0.8
	2.1nm,0.7s,baz=139,slow=8.4,SNR=11						
BRVK	Borovoye	59.59	340	P	P	13 14 34.7	-1.2
	1.8nm,0.6s						
ABKAR	Akbulak array	60.93	332	*e*P	P	13 14 43.1	-2.1
KMBO	Kilima Mbogo	62.13	270	P	P	13 14 55.6	+1.4
KMBO	Kilima Mbogo	62.13	270	P	P	13 14 55.6	+1.4
	3.0nm,0.8s,baz=52,slow=18,SNR=6.7						
KBZ	Khabaz	67.55	319	P	P	13 15 28.8	+0.1
KBZ	Khabaz	67.55	319	P	P	13 15 28.8	+0.1
	5.1nm,0.7s,baz=122,slow=4.9,SNR=15						
EIL	Elat	68.75	303	P	P	13 15 36.3	-0.3
EIL	Elat	68.75	303	P	P	13 15 36.3	-0.3
	1.6nm,0.4s,baz=30,slow=17,SNR=4.5						
MMAI	Mount Meron Ar	69.27	306	P	P	13 15 41.0	+1.2
MMAI	Mount Meron Ar	69.27	306	P	P	13 15 41.0	+1.2
	0.8nm,0.3s,baz=138,slow=12,SNR=2.6						
BRTR	Keskin Array B	72.55	313	P	P	13 15 58.7	-1.0
BRTR	Keskin Array B	72.55	313	P	P	13 15 58.7	-1.0
	1.4nm,0.6s,baz=129,slow=7.0,SNR=8.6						
BUR08	Bucovina Ar. S	80.52	319	*e*P	P	13 16 45.0	+0.4
VNDA	Vanda	82.75	169	P	P	13 16 57.0	+1.4
VNDA	Vanda	82.75	169	P	P	13 16 57.0	+1.4
	0.4nm,0.7s,baz=322,slow=8.4,SNR=3.8						
FINES	FINESS Array B	83.40	332	P	P	13 16 59.7	+0.4
FINES	FINESS Array B	83.40	332	P	P	13 16 59.7	+0.4
	2.6nm,0.5s,baz=113,slow=6.1,SNR=18						
KAF	Kangasniemi	83.48	333	*e*p	P	13 16 58.6	-1.1
	0.9nm,0.4s						
ARCES	ARCESS Array B	85.81	340	P	P	13 17 12.3	+0.9
ARCES	ARCESS Array B	85.81	340	P	P	13 17 12.3	+0.9
	2.0nm,0.9s,baz=86,slow=6.5,SNR=3.1						
GERES	GERESS Array B	88.29	319	P	P	13 17 24.4	+0.5
GERES	GERESS Array B	88.29	319	P	P	13 17 24.4	+0.5
	0.8nm,0.6s,baz=99,slow=4.5,SNR=8.3						
SPITS	Spitsbergen Ar	90.04	348	P	P	13 17 31.4	0.0
SPITS	Spitsbergen Ar	90.04	348	P	P	13 17 31.4	0.0
	5.1nm,0.8s,baz=82,slow=7.8,SNR=7.8						
CPUP	Villa Florida	144.35	217	PKP	PKPdf	13 24 08.2	-0.9
CPUP	Villa Florida	144.35	217	PKP	PKPdf	13 24 08.2	-0.9
	0.9nm,0.3s,baz=188,slow=19,SNR=6.8						
TXAR	Lajitas Array	144.67	36	PKP	PKPdf	13 24 09.4	-0.3
TXAR	Lajitas Array	144.67	36	PKP	PKPdf	13 24 09.4	-0.3
	3.5nm,0.6s,baz=264,slow=1.3,SNR=27						
MIAR	Mount Ida	144.97	19	*e*PKP	PKPdf	13 24 09.3	-0.7
CFAA	Coronel Fontan	145.03	199	PKPbc	PKPdf	13 24 10.5	+0.2
CFAA	Coronel Fontan	145.03	199	PKPbc	PKPdf	13 24 10.5	+0.2
	1.1nm,0.6s,baz=166,slow=2.9,SNR=18						
TZTN	Tazewell	145.03	4	*e*PKP	PKPab	13 24 09.1	-0.3
TKL	Tuckaleechee C	145.90	5	PKPbc	PKPbc	13 24 11.8	-0.4
TKL	Tuckaleechee C	145.90	5	PKPbc	PKPbc	13 24 11.8	-0.4
	4.5nm,0.7s,baz=82,slow=1.6,SNR=8.0						
JCT	Junction City	145.92	30	*e*PKP	PKPab	13 24 12.8	0.0
CPCT	Cooper Cave	146.04	6	*e*PKP	PKPbc	13 24 12.1	-0.5

IDC 16 13:10:20.5±4.1, 24°.79N×94°.99E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=385.4km s-min=28.0km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	24.19	338	P	P	13 15 38.6	0.0
	0.6nm,0.5s,baz=150,slow=9.4,SNR=4.3						
WRA	Warramunga Arr	58.68	136	P	P	13 20 20.1	0.0
	0.3nm,0.6s,baz=324,slow=7.1,SNR=6.6						
ASAR	Alice Springs	61.19	139	P	P	13 20 37.1	-0.1
	0.2nm,0.5s,baz=317,slow=6.8,SNR=5.1						

IDC 16 13:15:42.9±3.1, 1°.60S×99°.55E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/24, mbtmp3.5/6, ML3.2/1, MS4.3/2, Ms1 4.3/2, ms1mx3.6/41, Error ellipse: s-maj=130.6km s-min=20.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.41	352	Pn	Pn	13 16 51.5	+0.2
	1.2nm,0.3s,baz=180,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	38.58	121	P	P	13 23 07.8	-0.2
	0.5nm,0.7s,baz=303,slow=8.9,SNR=3.4						
ASAR	Alice Springs	39.85	126	P	P	13 23 18.6	+0.1
	0.3nm,0.8s,baz=299,slow=7.6,SNR=4.3						
SONM	Songino Array	49.59	6	P	P	13 24 35.4	-0.7
	0.3nm,0.4s,baz=186,slow=7.9,SNR=2.7						
MKAR	Makanchi Array	50.52	345	P	P	13 24 42.7	-0.3
	0.4nm,0.4s,baz=161,slow=8.8,SNR=6.9						
OPO	Ambohidratompo	54.00	248	LR	LR	13 45 39.9	
	comp=Z,268nm,18.3s,baz=340,slow=33						
ZALV	Zalesovo Beam	56.69	350	P	P	13 25 27.9	-0.1
	0.4nm,0.2s,baz=189,slow=8.2,SNR=3.3						
MLR	Muntele Rosu	79.70	317	LR	LR	14 08 34.4	
	comp=Z,154nm,19.1s,baz=281,slow=40						
TXAR	Lajitas Array	144.65	37	PKP	PKPdf	13 35 22.5	0.0
	0.2nm,0.5s,baz=235,slow=3.2,SNR=3.9						

IDC 16 13:20:41.6±1.8, 1°.90S×99°.32E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, Error ellipse: s-maj=93.5km s-min=22.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.68	355	Pn	Pn	13 21 55.1	+1.3
	baz=156,slow=12,SNR=2.4						
WRA	Warramunga Arr	38.63	120	P	P	13 28 06.7	-0.5
	0.6nm,0.5s,baz=302,slow=9.2,SNR=12						
ASAR	Alice Springs	39.87	126	P	P	13 28 17.6	+0.1
	0.6nm,0.7s,baz=301,slow=7.7,SNR=14						
MKAR	Makanchi Array	50.75	345	P	P	13 29 42.7	-0.7
	0.7nm,0.6s,baz=148,slow=7.8,SNR=4.1						
ZALV	Zalesovo Beam	56.94	350	P	P	13 30 28.9	+0.3
	0.7nm,0.6s,baz=140,slow=7.5,SNR=2.4						
CPUP	Villa Florida	144.00	217	PKP	PKPbc	13 40 18.7	+0.9
	0.3nm,0.3s,baz=45,slow=5.7,SNR=3.3						
CFAA	Coronel Fontan	144.65	199	PKP	PKPdf	13 40 21.0	-0.1
	0.1nm,0.4s,baz=302,slow=1.7,SNR=5.3						
TXAR	Lajitas Array	145.03	37	PKPbc	PKPbc	13 40 20.6	-0.6
	0.4nm,0.5s,baz=270,slow=1.0,SNR=6.9						

JSN 16 13:31:27.6±0.7, 18°.52N×77°.64W, h24km±8km, MD3.6, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	Montego Bay	0.24	241	*i* P	Pb	13 31 33.5	-0.3
CVJ	Coleyville	0.31	160	⇑*i* P	Pb	13 31 34.0	-0.8
MCJ	Malvern	0.59	184	*i* P	Pb	13 31 38.6	-0.9
PCJ	Portland Cotta	0.90	149	*i* P	Pb	13 31 43.1	-1.4
STH	Stony Hill	0.91	119	*i* P	Pb	13 31 43.0	-1.7
STH				⇑*i* S	Sb	13 31 55.5	-0.9
GWJ	Greenwich	0.97	117	*i* P	Pn	13 31 44.3	-1.7

*ISCJB **16** 13:37:19.5±1.1, 1°.6S±0°.1×99°.2E±0°.2, h25km, mb4.0/7, Error ellipse: s-maj=33.9km s-min=10.2km az=159.5*

*IDC **16** 13:37:19.3±1.2, 1°.41S×99°.60E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.6/25, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=58.4km s-min=16.8km az=62.0*

*NEIC **16** 13:37:19.7±0.6, 1°.62S×99°.27E, h10km, mb4.0/1, Error ellipse: s-maj=22.6km s-min=7.9km az=72.0*

ISC 16 13:37:21.5±1.0, 1°.6S±0°.1×99°.1E±0°.2, h25km, n26, σ0°.98/30, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.38	358	Pn	Pn	13 38 25.1	-1.5
PSI	Prapat	4.38	358	Pn	Pn	13 38 25.1	-1.5
	0.1nm,0.3s,baz=140,slow=8.0,SNR=1.8						
IPM	Ipoh	6.34	18	*e*P	Pn	13 38 54.4	+0.8
KULM	Kulim	7.02	13	*e*P	Pn	13 39 04.0	+1.1
CMAR	Chiang Mai Arr	19.94	360	P	P	13 41 51.0	-0.7
CMAR	Chiang Mai Arr	19.94	360	P	P	13 41 51.0	-0.7
	0.1nm,0.3s,baz=186,slow=9.3,SNR=4.3						
WRA	Warramunga Arr	38.97	120	P	P	13 44 44.6	-1.5
WRA				PcP	PcP	13 46 56.4	-0.1
WRA	Warramunga Arr	38.97	120	P	P	13 44 44.6	-1.5
	1.1nm,0.4s,baz=303,slow=9.0,SNR=11						
WRA				PcP	PcP	13 46 56.4	-0.1
	0.4nm,0.8s,baz=313,slow=2.6,SNR=4.1						
WRAB	Tennant Creek	38.98	120	*e*P	P	13 44 44.6	-1.5
	2.1nm,0.6s						
ASAR	Alice Springs	40.21	126	P	P	13 44 55.5	-0.9
ASAR				PcP	PcP	13 47 00.3	-0.1
ASAR	Alice Springs	40.21	126	P	P	13 44 55.5	-0.9
	0.6nm,0.8s,baz=301,slow=7.1,SNR=13						
ASAR				PcP	PcP	13 47 00.3	-0.1
	0.6nm,0.9s,baz=299,slow=2.4,SNR=4.1						
SONM	Songino Array	49.65	6	P	P	13 46 11.2	0.0
SONM	Songino Array	49.65	6	P	P	13 46 11.2	0.0
	0.3nm,0.6s,baz=190,slow=9.2,SNR=2.5						
STKA	Stephens Creek	50.09	131	P	P	13 46 14.9	+0.2
STKA	Stephens Creek	50.09	131	P	P	13 46 14.9	+0.2
	4.0nm,1.1s,baz=312,slow=14,SNR=4.2						
MK31	Makanchi Array	50.41	345	*e*P	P	13 46 17.9	+1.0
MKAR	Makanchi Array	50.41	345	P	P	13 46 17.9	+0.9
MKAR	Makanchi Array	50.41	345	P	P	13 46 17.9	+0.9
	1.3nm,0.5s,baz=151,slow=7.9,SNR=18						
ZALV	Zalesovo Beam	56.62	350	P	P	13 47 02.8	+0.5
ZALV	Zalesovo Beam	56.62	350	P	P	13 47 02.8	+0.5
	1.2nm,0.4s,baz=181,slow=5.9,SNR=6.9						
CFAA	Coronel Fontan	144.85	199	PKPbc	PKPdf	13 56 59.0	+1.8
CFAA	Coronel Fontan	144.85	199	PKPbc	PKPdf	13 56 59.0	+1.8
	0.5nm,0.6s,baz=170,slow=2.6,SNR=7.6						
TXAR	Lajitas Array	144.93	36	PKP	PKPdf	13 56 57.3	-0.1
TXAR	Lajitas Array	144.93	36	PKP	PKPdf	13 56 57.3	-0.1
	1.1nm,0.6s,baz=298,slow=2.7,SNR=12

CMAR Chiang Mai Arr 19.73 359 P **Pn 13 52 54.8 -0.5**
0.1nm,0.3s,baz=186,slow=9.5,SNR=9.0
WRA Warramunga Arr 38.78 121 P **P 13 55 47.6 -0.9**
0.4nm,0.6s,baz=304,slow=9.0,SNR=6.5
ASAR Alice Springs 40.06 126 P **P 13 55 58.1 -1.1**
0.3nm,0.5s,baz=302,slow=7.6,SNR=10.0
SONM Songino Array 49.40 6 P **P 13 57 14.8 +1.4**
0.2nm,0.3s,baz=180,slow=5.5,SNR=2.2
MKAR Makanchi Array 50.30 345 P **P 13 57 21.3 +1.2**
0.3nm,0.3s,baz=160,slow=8.8,SNR=8.4
ZALV Zalesovo Beam 56.47 350 P **P 13 58 06.4 +1.1**
0.5nm,0.4s,baz=142,slow=7.3,SNR=2.9
TXAR Lajitas Array 144.54 36 PKP **PKPdf 14 08 00.3 -0.5**
0.2nm,0.4s,baz=302,slow=2.4,SNR=4.6
CFAA Coronel Fontan 145.17 199 PKP **PKPbc 14 08 01.2 -0.1**
0.3nm,0.6s,baz=71,slow=1.0,SNR=6.5

IDC 16 13:56:02.6±6.5, 0°.49S×100°.96E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=354.6km s-min=28.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.96**	**123**	P	P		14 03 22.4	0.0
0.9nm,1.1s,baz=300,slow=9.4,SNR=3.8								
ASAR	**Alice Springs**	**39.40**	**128**	P	P		14 03 34.2	-0.2
0.2nm,0.5s,baz=302,slow=7.2,SNR=4.1								
MKAR	**Makanchi Array**	**49.85**	**343**	P	P		14 04 57.5	-0.1
0.3nm,0.5s,baz=167,slow=8.9,SNR=4.9								

IDC 16 13:57:34.7±1.5, 24°.29S×67°.06W, h160km±14km, mb3.2/6, mb1 3.5/11, mb1mx3.5/20, mbtmp3.3/11, Error ellipse: s-maj=18.9km s-min=11.7km az=91.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.36**	**188**	P	Pn		13 59 20.6	+1.1
0.1nm,0.3s,baz=44,slow=16,SNR=13								
CFAA				S	Sn		14 00 39.5	-2.5
0.2nm,0.3s,baz=138,slow=16,SNR=7.0								
LPAZ	**La Paz**	**8.03**	**353**	P	Pn		13 59 30.2	+1.0
2.4nm,0.3s,baz=164,slow=8.6,SNR=61								
LPAZ				S	Sn		14 00 58.3	-1.2
0.1nm,0.3s,baz=339,slow=19,SNR=5.1								
CPUP	**Villa Florida**	**9.04**	**105**	P	Pn		13 59 42.7	+0.9
0.3nm,0.3s,baz=270,slow=14,SNR=3.5								
SIV	**San Ignacio**	**9.99**	**35**	P	Pn		13 59 53.8	-0.7
1.2nm,0.3s,baz=249,slow=10.0,SNR=22								
PLCA	**Paso Flores**	**16.65**	**189**	P	Pn		14 01 19.5	+0.6
0.2nm,0.3s,baz=354,slow=6.4,SNR=3.6								
BDFB	**Brasilia**	**19.85**	**68**	P	P		14 01 53.6	+0.1
1.5nm,0.3s,baz=258,slow=8.5,SNR=12								
TXAR	**Lajitas Array**	**63.88**	**325**	P	P		14 07 50.1	-0.4
0.1nm,0.4s,baz=134,slow=5.2,SNR=4.6								
VNDA	**Vanda**	**74.40**	**190**	P	P		14 08 54.9	+0.4
0.8nm,0.8s,baz=106,slow=3.7,SNR=5.7								
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	P		14 09 08.2	-0.5
0.7nm,0.5s,baz=266,slow=6.3,SNR=13								
PDAR	**Pinedale Array**	**77.37**	**329**	P	P		14 09 11.7	-0.3
0.2nm,0.6s,baz=143,slow=7.6,SNR=2.9								
NVAR	**Mina Array Bea**	**78.73**	**321**	P	P		14 09 20.3	+0.7
0.4nm,0.7s,baz=132,slow=5.0,SNR=3.5								
MAW	**Mawson**	**81.17**	**163**	P	P		14 09 32.3	+0.3
0.5nm,0.3s,baz=270,slow=8.1,SNR=3.3								
ASAR	**Alice Springs**	**128.17**	**205**	PKP	PKPdf		14 16 21.5	-1.1
0.5nm,0.5s,baz=127,slow=2.0,SNR=6.8								
WRA	**Warramunga Arr**	**131.34**	**207**	PKP	PKPdf		14 16 28.1	-0.6
0.5nm,0.5s,baz=155,slow=1.5,SNR=6.1								
ZALV	**Zalesovo Beam**	**143.68**	**28**	PKP	PKPbc		14 16 48.1	0.0
0.7nm,0.6s,baz=268,slow=4.3,SNR=3.5								
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc	PKPbc		14 16 58.0	+0.2
1.1nm,0.6s,baz=292,slow=3.2,SNR=8.9								

DJA 16 14:09:26.8±0.9, 5°N±3°×95°E±12°, h10km±3.5/3, mb4.0/1, MLv3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.81**	**1**	P	Pg		14 09 42.7	+0.2
BSI				S	Sg		14 09 52.3	-0.8
SNSI	**Sinabang, Aceh**	**2.49**	**155**	P	Pb		14 10 09.8	-1.8
SNSI				S	Sn		14 10 38.9	+1.1
KCSI	**Kotacane, Aceh**	**2.74**	**115**	P	Pn		14 10 10.8	-0.1
IPM	**Ipoh**	**5.73**	**92**	P	Pn		14 10 54.4	+2.3

IDC 16 14:10:03.5±3.9, 6°.10S×154°.29E, h84km±34km, mb3.3/7, mb1 3.5/9, mb1mx3.4/21, mbtmp3.4/9, Error ellipse: s-maj=26.1km s-min=19.7km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.79**	**245**	P	Pn		14 11 54.5	+0.3
5.1nm,0.3s,baz=50,slow=9.8,SNR=18								
PMG				S	Sn		14 13 23.2	+2.2
1.3nm,0.3s,baz=86,slow=6.5,SNR=5.1								
DZM	**Mont Dzumac**	**19.75**	**145**	P	P		14 14 25.9	-1.0
0.6nm,0.3s,baz=342,slow=20,SNR=7.1								
WRA	**Warramunga Arr**	**23.77**	**233**	P	P		14 15 09.1	+0.5
0.6nm,0.5s,baz=57,slow=9.7,SNR=9.0								
WRA				PcP	PcP		14 18 50.8	+0.5
0.7nm,0.5s,baz=55,slow=2.4,SNR=8.3								
ASAR	**Alice Springs**	**26.26**	**226**	P	P		14 15 30.9	-0.3
0.3nm,0.6s,baz=57,slow=9.2,SNR=7.7								
ASAR				PcP	PcP		14 18 56.1	+0.3
1.0nm,0.7s,baz=54,slow=2.9,SNR=11								
FITZ	**Fitzroy Crossi**	**30.39**	**244**	P	P		14 16 07.3	-0.6
1.0nm,0.8s,baz=38,slow=12,SNR=4.0								
KSRS	**Korea Array**	**49.82**	**332**	P	P		14 18 47.5	-0.5
0.8nm,0.7s,baz=151,slow=7.0,SNR=5.1								
PETK	**Petropavlovsk-**	**59.05**	**2**	P	P		14 19 54.6	-0.1
0.5nm,0.6s,baz=164,slow=9.1,SNR=2.4								
SONM	**Songino Array**	**68.21**	**327**	P	P		14 20 54.7	-0.5
1.6nm,0.9s,baz=142,slow=5.4,SNR=2.7								
ILAR	**Eielson Array**	**82.80**	**22**	P	P		14 22 19.9	+1.7
0.3nm,0.7s,baz=246,slow=6.1,SNR=4.6								
TORD	**Torodi Ar. Bea**	**152.11**	**287**	PKPbc	PKPbc		14 29 48.9	-1.4
0.6nm,0.6s,baz=39,slow=2.2,SNR=6.5								

IDC 16 14:11:26.3±0.9, 15°.55S×173°.08W, h0km, mb4.0/7, mb1 4.3/8, mb1mx4.0/23, mbtmp4.1/8, ML2.8/1, Error ellipse: s-maj=51.4km s-min=17.3km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.06**	**38**	Pn	Pn		14 12 02.0	-0.3
176nm,0.3s,baz=201,slow=2.7,SNR=418								
AFI				Sn	Sn		14 12 23.1	-5.7
123nm,0.3s,baz=159,slow=18,SNR=5.2								
URZ	**Urewera**	**24.23**	**199**	P	P		14 16 44.9	0.0
5.6nm,0.3s,baz=300,slow=8.0,SNR=11								
STKA	**Stephens Creek**	**44.23**	**240**	P	P		14 19 37.6	0.0
7.1nm,1.1s,baz=90,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**50.36**	**252**	P	P		14 20 24.9	-0.7
2.1nm,0.8s,baz=88,slow=8.2,SNR=40								
NVAR	**Mina Array Bea**	**74.23**	**42**	P	P		14 23 05.2	-0.4
0.9nm,0.7s,baz=232,slow=8.3,SNR=7.7								
TXAR	**Lajitas Array**	**80.44**	**56**	P	P		14 23 40.7	+0.2
0.4nm,0.7s,baz=219,slow=7.7,SNR=6.5								
PDAR	**Pinedale Array**	**82.17**	**42**	P	P		14 23 49.5	0.0
0.8nm,0.8s,baz=227,slow=3.5,SNR=6.9								
ILAR	**Eielson Array**	**82.53**	**11**	P	P		14 23 50.5	-0.1
0.5nm,0.8s,baz=223,slow=5.4,SNR=7.8								
BRTR	**Keskin Array B**	**146.47**	**321**	PKPbc	PKPab		14 31 10.7	-0.2
0.6nm,0.5s,baz=86,slow=2.6,SNR=3.6								

IDC 16 14:12:56.1±3.6, 1°.50S×99°.45E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, ML2.6/1, Error ellipse: s-maj=160.3km s-min=26.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.30**	**353**	Pn	Pn		14 14 02.0	-1.0
0.3nm,0.3s,baz=156,slow=19,SNR=1.9								
WRA	**Warramunga Arr**	**38.73**	**121**	P	P		14 20 22.4	0.0
0.4nm,0.5s,baz=308,slow=8.7,SNR=6.3								
MKAR	**Makanchi Array**	**50.40**	**345**	P	P		14 21 55.6	+0.3
0.5nm,0.5s,baz=156,slow=8.1,SNR=11								
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	P		14 22 39.8	-0.7
0.4nm,0.3s,baz=179,slow=7.4,SNR=4.4								
TXAR	**Lajitas Array**	**144.63**	**36**	PKP	PKPbc		14 32 35.0	+0.6
0.1nm,0.5s,baz=202,slow=0.8,SNR=3.7								

*JMA **16** 14:19:03.5±0.2, 24°.40N×122°.79E, h57km±2km, M2.8*
*ISCJB **16** 14:19:04.2±0.3, 24°.23N±0°.03×122°.79E±0°.02, h40km±11km, Error ellipse: s-maj=4.5km s-min=2.4km az=176.4*
*TAP **16** 14:19:04.0, 24°.25N×122°.77E, h54km±1km, ML3.8, C*
ISC 16 14:19:04.9±1.9, 24°.24N±0°.03×122°.79E±0°.02, h36km±3km, n53, σ0°.93/103, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.30**	**43**	P	**Pn**		**14 19 12.7**	**-0.2**
YOJ				*e*S	**Sn**		**14 19 19.3**	**+0.1**
IRIF	**Iriomote-Funau**	**0.86**	**84**	P	**Pn**		**14 19 19.4**	**-1.1**
IRIF				*e*S	**Sn**		**14 19 31.6**	**-0.3**
TWC	**Suao**	**0.93**	**293**	P	**Pn**		**14 19 20.9**	**-0.5**
baz=303								
TWC				S	**Sn**		**14 19 32.9**	**-0.7**
baz=303								
HATJ	**Hateruma jima**	**0.95**	**101**	P	**Pn**		**14 19 21.4**	**-0.2**
HATJ				*e*S	**Sn**		**14 19 35.6**	**+1.7**
ENA	**Nanau**	**0.97**	**281**	P	**Pn**		**14 19 21.7**	**-0.4**
baz=280								
ENA				*e*S	**Sn**		**14 19 34.2**	**-0.4**
baz=280								
TWB1	**Santiao Chiao**	**1.06**	**316**	P	**Pn**		**14 19 22.4**	**-0.8**
baz=327								
TWB1				S	**Sn**		**14 19 36.4**	**-0.3**
baz=327								
ILA	**Ilan**	**1.08**	**299**	*e*P	**Pn**		**14 19 23.2**	**-0.3**
baz=308								
ILA				*e*S	**Sn**		**14 19 37.2**	**-0.1**
baz=308								
TWD	**Chiawan**	**1.10**	**262**	*e*P	**Pn**		**14 19 23.1**	**-0.7**
baz=249								
TWD				S	**Sn**		**14 19 37.5**	**-0.3**
baz=249								
HWA	**Hwalien**	**1.11**	**257**	*e*P	**Pn**		**14 19 24.0**	**+0.1**
baz=254								
HWA				*e*S	**Sn**		**14 19 38.6**	**+0.6**
baz=254								
JKRS	**Kuro-shima**	**1.11**	**90**	P	**Pn**		**14 19 23.5**	**-0.5**
JKRS				*e*S	**Sn**		**14 19 38.7**	**+0.6**
TWE	**Neicheng**	**1.13**	**295**	P	**Pn**		**14 19 24.1**	**-0.1**
baz=302								
TWE				S	**Sn**		**14 19 37.9**	**-0.5**
baz=302								
NWF	**Wu-fen Shan**	**1.23**	**312**	P	**Pn**		**14 19 25.1**	**-0.6**
baz=313								
NWF				S	**Sn**		**14 19 40.8**	**-0.4**
baz=313								
JIJ	**Ishigaki jima**	**1.24**	**84**	P	**Pn**		**14 19 24.6**	**-1.1**
JIJ				*e*S	**Sn**		**14 19 40.7**	**-0.5**
NNS	**Nan Shan**	**1.31**	**279**	P	**Pn**		**14 19 26.5**	**-0.3**
baz=268								
NNS				S	**Sn**		**14 19 42.7**	**-0.4**
baz=268								
ESL	**Shilin**	**1.31**	**251**	*e*P	**Pn**		**14 19 25.4**	**-1.3**
baz=249								
ESL				*e*S	**Sn**		**14 19 40.3**	**-2.6**
baz=249								
TWA	**Mucha**	**1.32**	**304**	*e*P	**Pn**		**14 19 26.2**	**-0.7**
baz=304								
TWA				S	**Sn**		**14 19 43.1**	**-0.1**
baz=304								
NSK	**Sanguang**	**1.37**	**289**	P	**Pn**		**14 19 27.5**	**-0.1**
baz=276								
NSK				*i* S	**Sn**		**14 19 44.7**	**+0.1**
baz=276								
WHF	**Hehuan Shan**	**1.40**	**266**	⇑P	**Pn**		**14 19 27.4**	**-0.9**
baz=254								
WHF				S	**Sn**		**14 19 45.2**	**-0.5**
baz=254								
TAP	**Taipei**	**1.41**	**304**	*e*P	**Pn**		**14 19 28.5**	**+0.4**
baz=305								
TAP				*e*S	**Sn**		**14 19 44.8**	**-0.7**
baz=305								
TWT	**Tachien**	**1.47**	**271**	*e*P	**Pn**		**14 19 28.9**	**-0.1**
baz=269								
TWT				*e*S	**Sn**		**14 19 47.1**	**-0.1**
baz=269								
TWY	**Chenhua**	**1.49**	**314**	*e*P	**Pn**		**14 19 29.4**	**+0.2**
baz=315								
TWY				S	**Sn**		**14 19 47.7**	**+0.2**
baz=315								
PCYT	**Pengchaiyu**	**1.53**	**335**	*e*P	**Pn**		**14 19 29.2**	**-0.5**
baz=328								
EHY	**Hungye**	**1.53**	**242**	*e*P	**Pn**		**14 19 28.2**	**-1.5**
baz=250								
EHY				*e*S	**Sn**		**14 19 46.3**	**-2.1**
baz=250								
TWF1	**Yuli**	**1.63**	**237**	⇓*e*P	**Pn**		**14 19 29.9**	**-1.2**
baz=235								
TWF1				*e*S	**Sn**		**14 19 49.2**	**-1.6**
baz=235								
SMLT	**Sun Moon Lake**	**1.76**	**259**	*e*P	**Pn**		**14 19 32.9**	**-0.1**
baz=250								
SMLT				*e*S	**Sn**		**14 19 53.8**	**-0.5**
baz=250								
JTJ	**Tarama**	**1.79**	**77**	P	**Pn**		**14 19 32.5**	**-0.7**
JTJ				*e*S	**Sn**		**14 19 54.1**	**-0.6**
TYC	**Yuchr**	**1.80**	**260**	P	**Pn**		**14 19 33.1**	**-0.2**
baz=250								
TYC				*e*S	**Sn**		**14 19 54.8**	**-0.1**
baz=250								
YUS	**Yu-Shan**	**1.84**	**246**	*e*P	**Pn**		**14 19 33.9**	**-0.6**
baz=244								
YUS				*e*S	**Sn**		**14 19 55.2**	**-1.5**
baz=244								
TWQ1	**Liyutan**	**1.84**	**274**	*e*P	**Pn**		**14 19 34.5**	**+0.4**
baz=272								
TWQ1				*e*S	**Sn**		**14 19 56.0**	**-0.1**
baz=272								
NSY	**Sanyi**	**1.86**	**276**	*e*P	**Pn**		**14 19 34.6**	**+0.4**
baz=274								
NSY				*e*S	**Sn**		**14 19 57.2**	**+0.7**
baz=274								
TCU	**Taichung**	**1.93**	**268**	*e*P	**Pn**		**14 19 35.8**	**+0.6**
baz=277								
TCU				*e*S	**Sn**		**14 19 59.2**	**+0.9**
baz=277								
ALS	**Alishan**	**1.96**	**249**	*e*P	**Pn**		**14 19 35.7**	**-0.2**
baz=246								
ALS				*e*S	**Sn**		**14 19 58.7**	**-0.6**
baz=246								
WNT	**Mingjian**	**1.96**	**260**	*e*P	**Pn**		**14 19 36.0**	**+0.4**
baz=247								
WNT				*e*S	**Sn**		**14 20 00.2**	**+1.3**
baz=247								
CHN5	**Tsauling**	**2.04**	**252**	P	**Pn**		**14 19 37.0**	**+0.3**
baz=250								
CHN5				S	**Sn**		**14 20 01.7**	**+0.7**
baz=250								
WGK	**Gukeng**	**2.11**	**255**	*e*P	**Pn**		**14 19 38.4**	**+0.7**
baz=253								
WGK				*e*S	**Sn**		**14 20 03.9**	**+1.2**
baz=253								
TTN	**Taitung**	**2.11**	**226**	*e*P	**Pn**		**14 19 37.7**	**0.0**
baz=216								
TTN				*e*S	**Sn**		**14 20 01.8**	**-1.0**
baz=216								
TWG	**Pinlang**	**2.12**	**228**	*e*P	**Pn**		**14 19 35.9**	**-1.9**
baz=236								
TWG				*e*S	**Sn**		**14 19 59.8**	**-3.1**
baz=236								
CHN4	**Tsaushan**	**2.20**	**247**	*e*P	**Pn**		**14 19 39.6**	**+0.7**
baz=244								
CHN4				*e*S	**Sn**		**14 20 05.5**	**+0.6**
baz=244								
CHY	**Chiayi**	**2.29**	**252**	*e*P	**Pn**		**14 19 41.2**	**+1.0**
baz=249								
CHY				*e*S	**Sn**		**14 20 07.9**	**+0.8**
baz=249								
CHN1	**Nanshi**	**2.32**	**244**	*e*P	**Pn**		**14 19 41.5**	**+0.9**
baz=241								
CHN1				*e*S	**Sn**		**14 20 09.1**	**+1.1**
baz=241								
WTCT	**Ta-ch'eng**	**2.32**	**261**	*e*P	**Pn**		**14 19 41.1**	**+0.5**
baz=259								
WTCT				S	**Sn**		**14 20 09.1**	**+1.2**
baz=259								
SGST	**Jiashian**	**2.33**	**241**	*e*P	**Pn**		**14 19 41.6**	**+0.9**
baz=238								
SGST				S	**Sn**		**14 20 09.1**	**+1.0**
baz=238								
JMJ	**Miyako jima 2**	**2.35**	**75**	P	**Pn**		**14 19 41.6**	**+0.6**
JMJ				*e*S	**Sn**		**14 20 08.8**	**+0.2**
WSF	**Szhu**	**2.42**	**256**	*e*P	**Pn**		**14 19 42.5**	**+0.5**
baz=267								
WSF				*e*S	**Sn**		**14 20 11.8**	**+1.4**
baz=267								
JOGS	**Gusukube**	**2.44**	**77**	P	**Pn**		**14 19 42.2**	**0.0**
JOGS				*e*S	**Sn**		**14 20 11.5**	**+0.7**
LAY	**Lan-yu**	**2.47**	**208**	*e*P	**Pn**		**14 19 41.6**	**-1.0**
baz=205								
TAW	**Tawu**	**2.56**	**223**	*e*P	**Pn**		**14 19 44.2**	**+0.3**
baz=228								
SGLT	**Jiouru**	**2.59**	**235**	*e*P	**Pn**		**14 19 45.5**	**+1.1**
baz=232								
SGLT				*e*S	**Sn**		**14 20 16.4**	**+1.8**
baz=232								
SCLT	**Jiali**	**2.60**	**246**	*e*P	**Pn**		**14 19 46.0**	**+1.5**
baz=244								
SCLT				*e*S	**Sn**		**14 20 16.0**	**+1.2**
baz=244								
SCZT	**Fangliau**	**2.73**	**227**	*e*P	**Pn**		**14 19 46.8**	**+0.7**
baz=220								
SCZT				*e*S	**Sn**		**14 20 17.5**	**-0.4**
baz=220								
TSEB	**Hengchuen, Pin**	**2.91**	**217**	*e*P	**Pn**		**14 19 50.2**	**+1.6**
baz=221								
TSEB				*e*S	**Sn**		**14 20 22.4**	**+0.1**
baz=221								
HEN	**Hengchun**	**2.92**	**221**	*e*P	**Pn**		**14 19 50.6**	**+1.8**
baz=211								
HEN				*e*S	**Sn**		**14 20 22.1**	**-0.5**
baz=211								
WDGT	**Dungji**	**3.03**	**252**	*e*P	**Pn**		**14 19 49.5**	**-0.8**
baz=249								
WDGT				*e*S	**Sn**		**14 20 24.5**	**-0.8**
baz=249								

IDC 16 14:30:59.3±0.8, 1°.34S×99°.77E, h0km, mb4.0/10, mb1 4.0/12, mb1mx3.8/26, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=32.4km s-min=14.9km az=72.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.20**	**348**	Pn	Pn		14 32 05.0	+0.2
1.4nm,0.3s,baz=182,slow=6.5,SNR=4.8								
CMAR	**Chiang Mai Arr**	**19.69**	**358**	P	P		14 35 29.9	-0.4
0.2nm,0.3s,baz=189,slow=10,SNR=9.9								
WRA	**Warramunga Arr**	**38.52**	**121**	P	P		14 38 23.3	-0.6
0.2nm,0.4s,baz=306,slow=8.8,SNR=8.2								
ASAR	**Alice Springs**	**39.82**	**127**	P	P		14 38 34.4	-0.4
0.2nm,0.5s,baz=305,slow=6.7,SNR=9.7								
KSRS	**Korea Array**	**46.57**	**31**	P	P		14 39 29.3	+0.3
0.6nm,0.6s,baz=231,slow=7.9,SNR=5.2								
SONM	**Songino Array**	**49.31**	**6**	P	P		14 39 49.9	-0.5
0.9nm,0.8s,baz=186,slow=8.7,SNR=5.9								
STKA	**Stephens Creek**	**49.76**	**132**	P	P		14 39 55.0	+1.2
13nm,1.3s,baz=280,slow=16,SNR=4.6								
MKAR	**Makanchi Array**	**50.34**	**344**	P	P		14 39 57.6	-0.4
1.1nm,0.5s,baz=157,slow=8.6,SNR=11								
USRK	**Ussuriysk Arra**	**53.69**	**28**	P	P		14 40 22.5	-0.4
2.6nm,0.7s,baz=241,slow=7.9,SNR=6.4								
KURBB	**Kurchatov Arra**	**54.86**	**344**	P	P		14 40 31.5	+0.1
0.2nm,0.3s,baz=141,slow=3.6,SNR=3.2								
ZALV	**Zalesovo Beam**	**56.48**	**349**	P	P		14 40 43.1	+0.2
2.3nm,0.8s,baz=165,slow=6.2,SNR=8.4								
MAW	**Mawson**	**70.86**	**194**	P	P		14 42 18.2	+0.5
2.9nm,0.3s,baz=45,slow=11,SNR=9.3								
TXAR	**Lajitas Array**	**144.31**	**37**	PKP	PKPbc		14 50 36.5	0.0
0.4nm,0.5s,baz=269,slow=2.1,SNR=9.8								
CFAA	**Coronel Fontan**	**145.32**	**198**	PKPbc	PKPbc		14 50 37.6	-2.0
0.4nm,0.5s,baz=189,slow=2.8,SNR=5.6								

*IDC **16** 14:34:39.6±0.5, 1°.45S×99°.51E, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.1/30, mbtmp4.0/22, ML3.5/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/38, Error ellipse: s-maj=20.2km s-min=12.3km az=59.0*
*ISCJB **16** 14:34:43.0±0.4, 1°.41S±0°.06×99°.41E±0°.06, h33km, mb4.2/22, MS4.5/1, Error ellipse: s-maj=11.2km s-min=6.0km az=135.3*
*DJA **16** 14:34:53.7±0.6, 1°S±5°×10°0E±°, h10km, M4.3/6, mb4.3/4, MLv4.4/6*
ISC 16 14:34:44.7±0.5, 1°.38S±0°.07×99°.47E±0°.08, h33km, n41, σ0°.84/36, mb4.1/22, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.31**	**45**	P	**Pb**		**14 35 06.9**	**-1.9**
BKNI	**Bangkinang**	**2.31**	**43**	P	**Pb**		**14 35 26.1**	**+0.3**
RGRI	**Rengat**	**3.04**	**70**	P	**Pn**		**14 35 32.1**	**+1.5**
MASI	**Maura Aman, Be**	**3.27**	**122**	P	**Pn**		**14 35 34.7**	**+0.9**
KSI	**Kapahiang**	**3.85**	**126**	P	**Pn**		**14 35 42.0**	**+0.2**
PSI	**Prapat**	**4.19**	**353**	Pn	**Pn**		**14 35 46.2**	**-0.3**
0.5nm,0.3s,baz=162,slow=9.6,SNR=2.8								
PSI				LR	LR		14 36 56.6	
comp=Z,219nm,19.1s,baz=145,slow=33								
MNAI	**Manna**	**4.57**	**130**	S	**Sn**		**14 36 44.5**	**+0.9**
KCSI	**Kotacane, Aceh**	**5.16**	**341**	P	Pb		14 36 18.2	+3.9
37nm,0.9s,0.3nm								
IPM	**Ipoh**	**6.03**	**15**	P	Pb		14 36 22.2	-6.9
28nm,1.0s,0.2nm								
KLSI		**6.20**	**122**	P	Pn		14 36 18.0	+4.0
31nm,0.8s,0.2nm								
CMAR	**Chiang Mai Arr**	**19.72**	**359**	P	**P**		**14 39 12.3**	**+0.5**
0.2nm,0.3s,baz=190,slow=9.7,SNR=9.6								
CHTO	**Chiang Mai**	**20.08**	**359**	P	Pn		14 39 29.5	+12
MYLDM	**Lahad Datu**	**20.10**	**71**	P	Pn		14 39 28.3	+10
MRSI	**Marisa**	**22.55**	**85**	P	P		14 39 51.9	+10
FITZ	**Fitzroy Crossi**	**30.60**	**124**	P	**P**		**14 40 53.9**	**-2.0**
1.4nm,0.8s,baz=286,slow=7.4,SNR=2.8								
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**		**14 42 05.4**	**-1.1**
1.2n

DAVOX Davos/Dischmat 90.72 317 P **P 14 47 45.6 +0.9**
comp=Z,2.1nm,0.7s,baz=45,slow=5.7,SNR=6.7
CPUP Villa Florida 144.49 217 PKP PKPbc 14 54 17.8 +0.6
comp=Z,2.9nm,0.5s,baz=138,slow=2.9,SNR=14
TXAR Lajitas Array 144.53 36 PKP **PKPdf 14 54 18.2 -0.5**
comp=Z,0.9nm,0.6s,baz=298,slow=2.4,SNR=13
CFAA Coronel Fontan 145.18 199 PKPbc **PKPdf 14 54 19.9 +0.1**
comp=Z,1.7nm,0.7s,baz=163,slow=2.9,SNR=26
SIV San Ignacio 154.16 227 PKPbc **PKPbc 14 54 42.1 -0.3**
comp=Z,0.8nm,0.5s,baz=214,slow=3.6,SNR=4.1

---

*NNC **16** 14:34:41.4±2.7, 40.°64N×77.°71E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=22.9km s-min=16.2km az=176.0
ISC 16 14:34:45.7±4.0, 40.°9N±0.°3×77.°6E±0.°1, h10km, n14,
σ1°44/15, 6C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol** SNR=96	**1.71**	**324**	P	**Pn**	**14 35 15.3**	**-0.5**
KZA	**Kyzart** SNR=157	**2.13**	**305**	P	**Pb**	**14 35 22.3**	**-2.4**
KNDC	**Almaty** 24nm,0.3s	**2.39**	**349**	⇓Pn	**Pn**	**14 35 26.0**	**+1.0**
KNDC	114nm,0.8s			⇑Lg	Lg	14 36 04.9	
TKM2	**Tokmak 2** 17nm,0.4s	**2.53**	**325**	⇑Pn	**Pn**	**14 35 27.3**	**+0.2**
TKM2	25nm,0.5s			⇓Lg	Lg	14 36 08.3	
TKM2	**Tokmak 2** SNR=23	**2.53**	**325**	P	**Pn**	**14 35 28.2**	**+1.1**
KBK	**Karagaybulak** SNR=28	**2.67**	**313**	P	**Pb**	**14 35 32.5**	**-1.1**
UCH	**Uchtor** SNR=7.2	**2.68**	**301**	P	**Pb**	**14 35 32.5**	**-1.5**
AAK	**Ala-Archa** SNR=26	**2.91**	**308**	P	**Pb**	**14 35 36.4**	**-1.4**
CHMS	**Chumysh** SNR=11	**3.00**	**316**	P	**Pb**	**14 35 38.4**	**-0.9**
AML	**Almayashu** SNR=22	**3.19**	**295**	P	**Pb**	**14 35 42.2**	**-0.5**
USP	**Ospenovka** SNR=44	**3.32**	**317**	P	**Pb**	**14 35 43.3**	**-1.4**
EKS2	**Erkin-Say** SNR=11	**3.37**	**303**	P	**Pb**	**14 35 45.5**	**-0.1**
KK31	**Karatay Array** 1.7nm,0.5s,baz=122,slow=15,SNR=20	**5.73**	**295**	Pg	**Pb**	**14 36 27.2**	**+1.5**
KK31	1.4nm,0.5s,baz=125,slow=28,SNR=4.4			⇑Lg	Lg	14 37 46.6	
MK31	**Makanchi Array** 0.3nm,0.6s,baz=206,slow=14,SNR=4.2	**6.83**	**28**	⇑Pn	**Pn**	**14 36 24.8**	**-1.0**
MK31	0.5nm,0.7s			⇑Pg	Pg	14 36 48.7	-7.7
MK31	1.2nm,0.6s,baz=205,slow=23			⇓Sn	**Sn**	**14 37 45.8**	**+2.2**
MK31	1.2nm,0.6s,baz=210,slow=28			⇑Lg	Lg	14 38 22.8	

IDC 16 14:41:40.0±5.3, 0.°40S×100.°97E, h0km, mb3.4/3,
mb1 3.5/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse:
s-maj=295.5km s-min=27.6km az=53.0, Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=302,slow=8.9,SNR=4.8	**38.01**	**123**	P	P	14 49 00.3	0.0
ASAR	**Alice Springs** 0.2nm,0.6s,baz=303,slow=8.2,SNR=5.8	**39.45**	**128**	P	P	14 49 12.2	-0.1
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=160,slow=7.9,SNR=6.7	**49.77**	**343**	P	P	14 50 34.6	+0.2
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=90,slow=0.9,SNR=2.5	**142.85**	**37**	PKP	PKPdf	15 01 13.6	-2.9

IDC 16 14:43:59.3±0.8, 18.°98N×145.°68E, h0km, mb4.0/7,
mb1 4.3/7, mb1mx3.9/26, mbtmp4.0/7, Error ellipse:
s-maj=32.9km s-min=19.4km az=112.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 7.9nm,0.6s,baz=22,slow=9.0,SNR=104	**40.25**	**197**	P	P	14 51 38.2	0.0
FITZ	**Fitzroy Crossi** 2.2nm,0.4s,baz=32,slow=9.7,SNR=35	**41.78**	**209**	P	P	14 51 50.7	-0.1
ASAR	**Alice Springs** 0.9nm,0.5s,baz=19,slow=6.2,SNR=31	**43.92**	**196**	P	P	14 52 07.6	-0.5
CMAR	**Chiang Mai Arr** 0.5nm,1.0s,baz=67,slow=6.9,SNR=4.5	**44.16**	**277**	P	P	14 52 11.2	+0.9
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=98,slow=6.8,SNR=5.6	**61.09**	**318**	P	P	14 54 14.2	-1.0
ILAR	**Eielson Array** 0.6nm,0.9s,baz=249,slow=5.1,SNR=5.6	**63.40**	**26**	P	P	14 54 30.6	+0.2
NVAR	**Mina Array Bea** 1.6nm,0.6s,baz=271,slow=5.9,SNR=14	**82.98**	**52**	P	P	14 56 27.4	+0.4
LPAZ	**La Paz** 0.6nm,0.5s,baz=305,slow=3.7,SNR=2.5	**147.70**	**91**	PKPbc	PKPbc	15 03 46.5	-1.1

IDC 16 14:45:04.0±1.3, 1.°57S×99.°36E, h0km, mb3.8/7, mb1 3.9/9,
mb1mx3.7/26, mbtmp3.7/9, ML3.4/2, Error ellipse:
s-maj=57.0km s-min=18.5km az=59.0, Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.7nm,0.3s,baz=147,slow=8.1,SNR=7.1	**4.37**	**354**	Pn	Pn	14 46 12.2	+0.4
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=187,slow=10.0,SNR=5.1	**19.91**	**359**	P	P	14 49 38.0	+0.6
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=298,slow=9.2,SNR=3.6	**38.76**	**121**	P	P	14 52 30.6	+0.1
ASAR	**Alice Springs** 1.0nm,0.9s,baz=320,slow=8.7,SNR=5.5	**40.02**	**126**	P	P	14 52 40.6	-0.3
SONM	**Songino Array** 0.3nm,0.5s,baz=171,slow=9.8,SNR=2.8	**49.59**	**6**	P	P	14 53 56.5	-0.5
SONM	0.5nm,0.6s,baz=186,slow=0.8,SNR=3.3			PcP	PcP	14 55 18.7	0.0
MKAR	**Makanchi Array** 1.6nm,0.6s,baz=146,slow=7.8,SNR=18	**50.45**	**345**	P	P	14 54 03.6	+0.1
KURBB	**Kurchatov Arra** 0.8nm,0.8s,baz=166,slow=7.2,SNR=7.2	**54.97**	**344**	P	P	14 54 36.3	-0.5
ZALV	**Zalesovo Beam** 2.3nm,0.8s,baz=176,slow=5.2,SNR=10	**56.64**	**350**	P	P	14 54 48.0	-0.8
GERES	**GERESS Array B** 0.2nm,0.6s,baz=132,slow=2.9,SNR=2.7	**88.31**	**319**	P	P	14 57 57.8	0.0
TXAR	**Lajitas Array** 1.4nm,0.7s,baz=276,slow=2.4,SNR=17	**144.75**	**36**	PKP	PKPbc	15 04 42.7	+0.1
CFAA	**Coronel Fontan** baz=128,slow=7.6	**144.97**	**199**	PKP	PKPdf	15 04 44.3	+0.3

MEX 16 14:49:29.8±0.8, 17.°15N×94.°03W, h189km±9km, MD4.1,
Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.82**	**266**	*i* P	Pn	14 49 56.3	-0.9
CMIG				*i* S	Sn	14 50 15.7	-2.6
TGIG		**0.95**	**113**	*i* P	Pn	14 49 56.8	-1.3
TGIG				*i* S	Sn	14 50 17.5	-2.5
PCIG		**1.64**	**151**	*e* P	Pn	14 50 03.2	-0.6
PCIG				*i* S	Sn	14 50 28.4	-1.8
HUIG	**Huatulco**	**2.42**	**236**	*i* P	Pn	14 50 10.0	-2.2
HUIG				*i* S	Sn	14 50 43.6	-1.5
VHO	**Vista Hermosa**	**2.58**	**269**	*i* P	Pn	14 50 13.1	-1.1
VHO				*i* S	Sn	14 50 46.8	-2.0
TPIG	**Tehuac#an**	**3.41**	**292**	*i* P	Pn	14 50 23.0	-1.1
TPIG				*i* S	Sn	14 51 04.2	-2.4
LVIG	**Laguna Verde**	**3.42**	**319**	*i* P	Pn	14 50 24.1	+0.2
LVIG				*i* S	Sn	14 51 03.6	-2.7
UTMO	**Huajuapan**	**3.66**	**281**	*i* P	Pn	14 50 26.9	-0.3
UTMO				*e* S	Sn	14 51 10.8	-1.4

IDC 16 15:02:02.9±9.1, 1.°37S×99.°67E, h0km, mb3.4/3, mb1 3.6/3,
mb1mx3.3/23, mbtmp3.4/3, Error ellipse:
s-maj=467.6km s-min=30.7km az=53.0, Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.4nm,1.1s,baz=300,slow=10,SNR=4.0	**38.60**	**121**	P	P	15 09 27.8	-0.3
ASAR	**Alice Springs** 0.2nm,0.7s,baz=298,slow=8.1,SNR=5.9	**39.89**	**126**	P	P	15 09 39.0	+0.1
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=148,slow=7.1,SNR=3.8	**50.34**	**345**	P	P	15 11 01.5	-0.1

IDC 16 15:05:28.9±3.4, 1.°52S×99.°59E, h0km, mb3.5/4, mb1 3.5/5,
mb1mx3.3/24, mbtmp3.4/5, ML2.3/1, Error ellipse:
s-maj=156.1km s-min=21.2km az=56.0, Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.2nm,0.3s,baz=189,slow=17,SNR=2.2	**4.34**	**351**	Pn	Pn	15 06 34.6	-1.7
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=298,slow=8.7,SNR=3.3	**38.59**	**121**	P	P	15 12 54.0	-0.1
ASAR	**Alice Springs** 0.4nm,0.8s,baz=301,slow=8.5,SNR=5.5	**39.87**	**126**	P	P	15 13 04.8	+0.1
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=158,slow=8.7,SNR=6.5	**50.46**	**345**	P	P	15 14 28.1	-0.4
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=197,slow=4.4,SNR=2.9	**56.62**	**350**	P	P	15 15 14.3	+0.7
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=294,slow=3.1,SNR=2.7	**144.56**	**36**	PKP	PKPab	15 25 06.0	-0.8

IDC 16 15:08:00.1±4.5, 1.°54S×99.°46E, h0km, mb3.2/3, mb1 3.4/3,
mb1mx3.2/23, mbtmp3.2/3, Error ellipse:
s-maj=233.6km s-min=30.7km az=53.0, Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=293,slow=10,SNR=4.7	**38.69**	**121**	P	P	15 15 26.0	-0.2
ASAR	**Alice Springs** 0.3nm,0.8s,baz=298,slow=7.3,SNR=3.6	**39.96**	**126**	P	P	15 15 36.9	+0.2
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=148,slow=8.5,SNR=3.7	**50.44**	**345**	P	P	15 16 59.9	+0.2
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=319,slow=3.6,SNR=3.5	**144.66**	**36**	PKP	PKPab	15 27 37.9	-0.4

---

*JMA **16** 15:11:29.4±0.2, 33.°04N×138.°59E, h327km, M2.9*
*ISCJB **16** 15:11:31.0±0.7, 33.°10N±0.°09×138.°63E±0.°09,*
h304km±8km, mb2.9/4, Error ellipse: s-maj=14.5km
s-min=11.7km az=148.8
*IDC **16** 15:11:31.7±1.4, 33.°08N×138.°63E, h291km±24km, mb2.8/4,*
mb1 2.9/7, mb1mx2.8/28, mbtmp2.8/7, Error ellipse:
s-maj=42.8km s-min=20.2km az=62.0
ISC 16 15:11:32.2±1.2, 33.°1N±0.°1×138.°54E±0.°09, h295km±12km,
n19, σ1°13/24, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	**Shimob**	**2.38**	**0**	P	**Pn**	**15 12 22.9**	**+1.2**
BSO1	**Boso 1**	**2.54**	**52**	P	**Pn**	**15 12 23.2**	**+0.7**
BSO1				*e* S	**S**	**15 13 02.3**	**-0.5**
JWY	**Kouya**	**2.69**	**295**	P	**Pn**	**15 12 25.1**	**+0.4**
JRY	**Ryogami san**	**2.91**	**6**	P	**Pn**	**15 12 27.9**	**+1.2**
JGM	**Miyama**	**2.99**	**330**	P	**Pn**	**15 12 28.2**	**+0.8**
JAG	**Ashikaga**	**3.39**	**13**	P	**Pn**	**15 12 31.0**	**-0.5**
JAG				S	**S**	**15 13 16.3**	**-2.6**
MJAR	**Matsushiro Arr** 2.4nm,0.3s,baz=169,slow=10,SNR=55	**3.43**	**356**	P	**Pn**	**15 12 32.3**	**+0.4**
MJAR	baz=160,slow=15,SNR=2.3			S	**S**	**15 13 19.4**	**-0.3**
MAT	**Matsushiro**	**3.43**	**356**	P	**Pn**	**15 12 32.4**	**+0.4**
MAT				*e* S	**S**	**15 13 21.2**	**+1.5**
MAT	**Matsushiro**	**3.43**	**356**	P	**Pn**	**15 12 32.4**	**+0.4**
JAI	**Aioi**	**3.48**	**282**	P	**Pn**	**15 12 32.1**	**-0.4**
JMN	**Monobe**	**3.94**	**280**	P	**Pn**	**15 12 37.5**	**-0.1**
JHK	**Hiroka**	**4.14**	**5**	P	**Pn**	**15 12 39.5**	**-0.1**
JFT	**Otama**	**4.63**	**18**	P	**Pn**	**15 12 44.6**	**-0.6**
JFT				*e* S	**S**	**15 13 42.0**	**-1.8**
KSRS	**Korea Array** 0.2nm,0.3s,baz=108,slow=13,SNR=7.7	**9.70**	**299**	P	**Pn**	**15 13 46.1**	**-0.4**
ASAJ	**Asahikawa** 0.6nm,0.3s,baz=228,slow=11,SNR=8.9	**11.43**	**15**	P	**Pn**	**15 14 06.5**	**-1.3**
SONM	**Songino Array** 0.5nm,0.7s,baz=116,slow=9.8,SNR=3.4	**28.29**	**311**	P	**P**	**15 17 01.2**	**+2.3**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=87,slow=8.7,SNR=2.7	**44.32**	**305**	P	**P**	**15 19 12.7**	**-0.7**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=360,slow=7.5,SNR=13	**52.91**	**185**	P	**P**	**15 20 18.3**	**-0.3**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=12,slow=9.8,SNR=9.7	**56.64**	**185**	P	**P**	**15 20 44.8**	**-0.4**

IDC 16 15:28:09.9±9.4, 1.°46S×99.°80E, h0km, mb3.2/3, mb1 3.4/3,
mb1mx3.2/23, mbtmp3.2/3, Error ellipse:
s-maj=486.6km s-min=27.6km az=53.0, Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=297,slow=7.5,SNR=4.2	**38.44**	**121**	P	P	15 35 33.4	-0.4
ASAR	**Alice Springs** 0.3nm,0.6s,baz=294,slow=7.0,SNR=6.4	**39.73**	**126**	P	P	15 35 44.8	+0.2
MKAR	**Makanchi Array** 0.2nm,0.8s,baz=146,slow=7.7,SNR=3.0	**50.46**	**344**	P	P	15 37 09.5	-0.1

IDC 16 15:34:01.9±5.4, 1.°54S×99.°54E, h0km, mb3.2/3, mb1 3.4/3,
mb1mx3.2/23, mbtmp3.2/3, MS4.0/1, Ms1 4.0/1,
ms1mx3.1/18, Error ellipse: s-maj=268.5km
s-min=27.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=296,slow=9.4,SNR=3.2	**38.62**	**121**	P	P	15 41 26.7	-0.5
ASAR	**Alice Springs** 0.3nm,0.8s,baz=296,slow=7.9,SNR=4.6	**39.89**	**126**	P	P	15 41 38.1	+0.3
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=168,slow=7.8,SNR=3.1	**50.47**	**345**	P	P	15 43 01.4	-0.1
OPO	**Ambohidratompo** comp=Z,134nm,19.7s,baz=161,slow=32	**54.01**	**248**	LR	LR	16 03 03.7	

IDC 16 15:37:14.1±3.8, 1.°40S×99.°56E, h0km, mb3.6/4, mb1 3.6/5,
mb1mx3.4/24, mbtmp3.5/5, ML2.4/1, MS2.8/1, Ms1 2.8/1,
ms1mx2.7/39, Error ellipse: s-maj=177.0km
s-min=23.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.2nm,0.3s,baz=118,slow=17,SNR=2.3	**4.22**	**351**	Pn	Pn	15 38 19.0	-1.0
PSI	comp=Z,122nm,18.7s,baz=13,slow=39			LR	LR	15 39 56.1	
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=302,slow=9.2,SNR=5.2	**38.67**	**121**	P	P	15 44 39.2	-0.8
ASAR	**Alice Springs** 0.3nm,0.6s,baz=300,slow=7.9,SNR=4.3	**39.96**	**126**	P	P	15 44 51.4	+0.7
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=139,slow=7.7,SNR=3.8	**50.34**	**345**	P	P	15 46 12.8	0.0
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=163,slow=5.6,SNR=2.6	**56.51**	**350**	P	P	15 46 57.7	-0.3
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=180,slow=0.8,SNR=5.4	**144.49**	**36**	PKP	PKPbc	15 56 52.3	+0.4

---

*IDC **16** 15:37:11.9±0.5, 14.°08N×93.°11E, h0km, mb4.0/20,*
mb1 4.2/21, mb1mx4.1/31, mbtmp4.0/21, ML4.0/1, MS3.0/1,
Ms1 3.2/1, ms1mx2.8/47, Error ellipse: s-maj=20.2km
s-min=12.1km az=58.0
*ISCJB **16** 15:37:14.8±0.4, 14.°18N±0.°05×93.°17E±0.°06, h32km,*
mb4.0/20, Error ellipse: s-maj=9.2km s-min=6.6km
az=145.6
ISC 16 15:37:16.9±0.5, 14.°14N±0.°08×93.°13E±0.°09, h32km, n40,
σ0°92/41, mb4.0/20, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=240,slow=15,SNR=12	**7.04**	**52**	P	**Pn**	**15 38 59.0**	**+1.2**
CMAR	baz=240,slow=27,SNR=4.4			Sn	**Sn**	**15 40 15.5**	**-1.3**
CMAR	comp=Z,122nm,21.1s,baz=244,slow=38			LR	LR	15 41 45.0	
PSI	**Prapat** baz=338,slow=13,SNR=4.7	**12.63**	**153**	Pn	Pn	15 40 19.7	+5.1
PSI	**Prapat** baz=2.7,SNR=4.5	**12.63**	**153**	P	P	15 40 21.3	-4.3
ODAN	**Odare** 21nm,0.5s	**13.75**	**338**	*e* P	**Pn**	**15 40 28.9**	**-1.0**
TAPN	**Taplejung**	**14.09**	**340**	*e* P	Pn	15 40 29.8	-4.7
RAMN	**Ramite** 30nm,0.5s	**14.13**	**335**	*e* P	**Pn**	**15 40 35.3**	**+0.1**
PKI	**Pulchoki** 25nm,0.5s	**15.18**	**333**	*e* P	**Pn**	**15 40 47.8**	**-1.6**
PKIN	**Phulchoki** 24nm,0.4s	**15.19**	**333**	*e* P	**Pn**	**15 40 47.9**	**-1.6**
DMN	**Daman** 36nm,0.7s	**15.35**	**332**	*e* P	**Pn**	**15 40 50.1**	**-1.4**
KKN	**Kakani**	**15.43**	**333**	*e* P	**Pn**	**15 40 50.1**	**-2.4**
KOLN	**Koldanda** 26nm,0.5s	**16.21**	**328**	*e* P	**Pn**	**15 41 01.5**	**-1.1**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=165,slow=9.1,SNR=9.1	**33.80**	**347**	P	**P**	**15 43 56.9**	**+0.9**
SONM	**Songino Array** 0.7nm,0.7s,baz=198,slow=9.2,SNR=4.1	**35.36**	**15**	P	**P**	**15 44 10.1**	**+0.6**
KURBB	**Kurchatov Arra** 0.6nm,0.5s,baz=167,slow=8.1,SNR=6.3	**38.27**	**345**	P	**P**	**15 44 34.7**	**+0.6**
KSRS	**Korea Array** 0.4nm,0.5s,baz=244,slow=8.4,SNR=3.9	**38.65**	**47**	P	**P**	**15 44 37.0**	**-0.5**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=158,slow=6.1,SNR=2.9	**40.26**	**352**	P	**P**	**15 44 48.9**	**-1.8**
FITZ	**Fitzroy Crossi** 5.4nm,0.4s,baz=324,slow=7.7,SNR=70	**45.32**	**134**	P	**P**	**15 45 31.4**	**-0.7**
FITZ	**Fitzroy Crossi** baz=35,SNR=37	**45.32**	**134**	P	**P**	**15 45 31.4**	**-0.8**
MJAR	**Matsushiro Arr** 0.9nm,0.7s,baz=265,slow=8.9,SNR=5.4	**45.93**	**53**	P	**P**	**15 45 37.8**	**+1.0**
MJAR	0.9nm,0.6s,baz=228,slow=3.9,SNR=6.0			PcP	**PcP**	**15 47 14.0**	**+0.5**
KNRA	**Kununurra** baz=36,SNR=4.6	**46.02**	**129**	P	**P**	**15 45 38.6**	**+0.8**
AKTO	**Aktyubinsk** 0.4nm,0.4s,baz=203,slow=18,SNR=2.2	**46.05**	**329**	P	**P**	**15 45 38.0**	**+0.5**
MEEK	**Meekatharra** baz=37,SNR=3.5	**47.50**	**149**	P	**P**	**15 45 48.7**	**-0.5**
MORW	**Morawa** baz=38,SNR=5.2	**48.32**	**153**	P	**P**	**15 45 55.3**	**-0.2**
NWAO	**Narrogin (SRO)** 12nm,0.9s,baz=276,slow=13,SNR=6.8	**52.16**	**154**	P	**P**	**15 46 23.3**	**-1.2**
WRA	**Warramunga Arr** 2.4nm,0.6s,baz=312,slow=8.4,SNR=47	**52.82**	**129**	P	**P**	**15 46 28.8**	**-0.9**
WRA	2.8nm,0.6s,baz=316,slow=3.2,SNR=22			PcP	**PcP**	**15 47 39.0**	**+0.3**
ASAR	**Alice Springs** 3.2nm,0.7s,baz=307,slow=6.9,SNR=48	**54.78**	**133**	P	**P**	**15 46 43.5**	**-0.4**
ASAR	1.5nm,0.8s,baz=305,slow=2.7,SNR=7.8			PcP	**PcP**	**15 47 46.6**	**+0.4**
BRTR	**Keskin Array B** 0.7nm,0.6s,baz=118,slow=9.4,SNR=5.3	**57.70**	**308**	P	**P**	**15 47 04.5**	**-0.3**
STKA	**Stephens Creek** 2.8nm,0.8s,baz=308,slow=13,SNR=5.5	**65.18**	**135**	P	**P**	**15 47 55.0**	**-0.3**
STKA	**Stephens Creek** baz=55,SNR=4.4	**65.18**	**135**	P	**P**	**15 47 55.4**	**+0.2**
FINES	**FINESS Array B** 3.6nm,1.0s,baz=129,slow=7.9,SNR=5.2	**66.76**	**331**	P	**P**	**15 48 04.8**	**-0.1**
ARCES	**ARCESS Array B** 2.0nm,0.8s,baz=86,slow=7.8,SNR=5.5	**69.08**	**340**	P	**P**	**15 48 19.9**	**+0.5**
GERES	**GERESS Array B** 0.6nm,0.7s,baz=57,slow=4.9,SNR=4.7	**72.56**	**317**	P	**P**	**15 48 41.4**	**+0.4**
NOA	**NORSAR Array B** 0.5nm,0.6s,baz=87,slow=5.7,SNR=3.3	**73.83**	**330**	P	**P**	**15 48 47.3**	**-0.9**
BOSA	**Boshof** 3.8nm,0.7s,baz=46,slow=8.0,SNR=7.4	**78.14**	**236**	P	**P**	**15 49 13.9**	**+0.5**
TORD	**Torodi Ar. Bea** 1.6nm,0.8s,baz=82,slow=4.2,SNR=10	**88.22**	**283**	P	**P**	**15 50 06.2**	**+0.6**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=285,slow=4.5,SNR=7.0	**89.34**	**22**	P	**P**	**15 50 09.6**	**-0.3**
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=124,slow=0.5,SNR=3.8	**119.66**	**19**	PKP	**PKPdf**	**15 56 04.5**	**+0.3**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=314,slow=2.8,SNR=6.0	**119.99**	**28**	PKP	**PKPdf**	**15 56 05.9**	**+0.9**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=193,slow=2.2,SNR=3.9	**133.84**	**20**	PKP	**PKPdf**	**15 56 31.6**	**+0.1**
TEIG	**Tepich** 5.9nm,0.5s,baz=323,slow=14,SNR=8.3	**145.82**	**2**	PKPbc	**PKPab**	**15 56 54.2**	**+0.1**

---

*IDC **16** 15:37:27.2±1.4, 51.°53N×175.°94W, h0km, mb3.9/7,*
mb1 4.1/10, mb1mx3.7/34, mbtmp3.9/10, ML3.3/3, Error
ellipse: s-maj=41.4km s-min=12.1km az=179.0
*ISCJB **16** 15:37:33.0±0.8, 51.°6N±0.°1×176.°16W±0.°05, h64km±5km,*
mb3.9/7, Error ellipse: s-maj=19.9km s-min=3.8km
az=169.5
*NEIC **16** 15:37:34.1±0.7, 51.°55N×176.°19W, h53km±5km, mb3.8/1,*
ML3.7(AEIC), Error ellipse: s-maj=15.6km s-min=3.6km
az=167.0
ISC 16 15:37:33.2±1.5, 51.°5N±0.°1×176.°15W±0.°04, h47km±12km,
n56, σ1°11/64, mb3.8/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.45**	**339**	P	**Pn**	**15 37 43.3**	**-0.4**
GSCK	**Great Sitkin C**	**0.56**	**359**	P	**Pn**	**15 37 45.2**	**+0.1**
GSMY	**Great Sitkin M**	**0.60**	**5**	P	**Pn**	**15 37 45.7**	**+0.2**
ADAG	**Mount Adagdak**	**0.60**	**332**	P	**Pn**	**15 37 45.9**	**+0.4**
GSTD	**Great Sitkin T**	**0.61**	**0**	P	**Pn**	**15 37 45.8**	**+0.1**
GSTR	**Great Sitkin T**	**0.65**	**5**	P	**Pn**	**15 37 46.7**	**+0.5**
KIRH	**Kanaga Island**	**0.74**	**308**	P	**Pn**	**15 37 47.2**	**-0.2**
KIKV	**Kanaga Island**	**0.77**	**304**	P	**Pn**	**15 37 47.4**	**-0.4**
KINC	**Kanaga Island**	**0.78**	**309**	P	**Pn**	**15 37 47.5**	**-0.3**
KICM	**Kanaga Island**	**0.81**	**306**	P	**Pn**	**15 37 48.0**	**-0.2**
TAPA	**Tanaga Point A**	**1.10**	**290**	P	**Pn**	**15 37 51.9**	**-0.3**
TAFP	**Tanaga Falls P**	**1.23**	**292**	P	**Pn**	**15 37 53.9**	**-0.1**
TAFP				S	**Sn**	**15 38 09.7**	**+0.3**
TASE	**Tanaga Southea**	**1.24**	**289**	P	**Pn**	**15 37 54.3**	**+0.1**
TANO	**Tanaga North**	**1.32**	**292**	P	**Pn**	**15 37 55.8**	**+0.6**
ATKA	**Atka Island**	**1.43**	**57**	P	**Pn**	**15 37 56.1**	**-0.5**
ATKA				S	**Sn**	**15 38 13.7**	**-0.5**
KOKV	**Korovin Volcan**	**1.53**	**53**	P	**Pn**	**15 37 59.0**	**+0.9**
KOKV				S	**Sn**	**15 38 17.5**	**+0.7**
GAEA	**Gareloi East**	**1.66**	**283**	P	**Pn**	**15 38 00.6**	**+0.8**
GALAA	**Gareloi Lava P**	**1.67**	**282**	P	**Pn**	**15 38 00.7**	**+0.8**
GANE	**Gareloi Northe**	**1.68**	**284**	P	**Pn**	**15 38 01.0**	**+0.8**
CERAA	**Semis' Rag'd T**	**2.64**	**282**	P	**Pn**	**15 38 13.7**	**+0.5**
CESW	**Semis' Southwe**	**2.71**	**281**	P	**Pn**	**15 38 14.4**	**+0.2**
AMKA	**Amchitka**	**2.85**	**270**	P	**Pn**	**15 38 15.7**	**-0.5**
AMKA				S	**Sn**	**15 38 50.1**	**+0.9**
LSPA	**Little Sitkin**	**3.33**	**281**	P	**Pn**	**15 38 23.8**	**+1.2**
LSPA				S	**Sn**	**15 39 03.4**	**+2.5**
LSSE	**Little Sitkin**	**3.33**	**280**	P	**Pn**	**15 38 23

1.0nm,0.6s,baz=81,slow=4.5,SNR=3.6
TXAR Lajitas Array 57.00 83 P **P 15 47 14.8 +0.8**
TXAR Lajitas Array 57.00 83 P **P 15 47 14.8 +0.8**
0.2nm,0.3s,baz=301,slow=5.6,SNR=5.8
KURK Kurchatov 60.16 315 P **P 15 47 35.9 +0.3**
KURBB Kurchatov Arra 60.27 315 P **P 15 47 35.9 -0.5**
0.7nm,0.5s,baz=46,slow=6.2,SNR=4.4
BOSA Boshof 152.11 317 PKPbc **PKPbc 15 57 23.0 -0.2**
BOSA Boshof 152.11 317 PKPbc **PKPbc 15 57 23.0 -0.2**
2.3nm,0.9s,baz=63,slow=2.3,SNR=3.1

---

*ISCJB **16** 15:39:07.1±0.7, 43°.90N±0°.06×147°.50E±0°.08, h98km±5km, mb3.8/13, Error ellipse: s-maj=11.8km s-min=5.4km az=136.5*
*MOS **16** 15:39:07.2±1.3, 43°.96N×147°.50E, h103km, mb3.9/9, Error ellipse: s-maj=11.7km s-min=8.3km az=77.3*
*IDC **16** 15:39:07.8±2.9, 43°.98N×147°.34E, h84km±28km, mb3.6/11, mb1 3.7/14, mb1mx3.5/30, mbtmp3.6/14, MS2.8/1, Ms1 2.8/1, ms1mx2.4/39, Error ellipse: s-maj=22.2km s-min=15.8km az=131.0*
*JMA **16** 15:39:09.4±0.2, 43°.76N×147°.44E, h80km±4km, M4.3*
ISC 16 15:39:07.0±1.0, 43°.87N±0°.07×147°.58E±0°.07, h85km±8km, n47, σ1§42/57, mb3.8/13, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.25**	**278**	*i* PN	**Pn**	**15 39 30.2**	**+0.9**
YUK				*i* S	**Sn**	**15 39 45.8**	**-0.3**
YUK				pmax	pmax		
	comp=N,185nm,0.2s						
YUK				pmax	pmax		
	comp=E,244nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
KUR	**Kuril'sk**	**1.38**	**9***c*	*i* PN	**Pn**	**15 39 32.3**	**+1.4**
KUR				*i* S	**Sn**	**15 39 49.5**	**+0.6**
KUR				pmax	pmax		
	comp=Z,170nm,0.1s						
KUR				smax	smax		
	comp=E,498nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
NEM2	**Nemuro 2**	**1.43**	**250**	P	**Pn**	**15 39 32.2**	**+0.7**
NEM2				*e*S	**Sn**	**15 39 49.2**	**-0.8**
JRA	**Rausu**	**1.77**	**273**	P	**Pn**	**15 39 37.6**	**+1.6**
JRA				*e*S	**Sn**	**15 39 58.7**	**+0.6**
JNK	**Nakash**	**2.09**	**263**	P	**Pn**	**15 39 41.3**	**+1.1**
JNK				*e*S	**Sn**	**15 40 05.4**	**-0.2**
JAK	**Akkeshi**	**2.27**	**248**	P	**Pn**	**15 39 43.4**	**+0.8**
JAK				*e*S	**Sn**	**15 40 09.0**	**-0.9**
JTKR	**Abashiri--Toko**	**2.65**	**273**	P	**Pn**	**15 39 49.2**	**+1.5**
JAR	**Ashorobuto**	**2.83**	**260**	P	**Pn**	**15 39 51.7**	**+1.7**
JAR				*e*S	**Sn**	**15 40 23.3**	**+0.2**
JOB	**Onbets**	**2.90**	**252**	P	**Pn**	**15 39 52.4**	**+1.5**
JOB				*e*S	**Sn**	**15 40 24.6**	**-0.2**
JMP	**Maruseppu**	**3.05**	**274**	P	**Pn**	**15 39 54.7**	**+1.7**
JCH	**Churui**	**3.33**	**249**	P	**Pn**	**15 39 57.5**	**+0.7**
JCH				*e*S	**Sn**	**15 40 33.4**	**-1.8**
JKK2	**Kamakawa 2**	**3.49**	**272**	P	**Pn**	**15 40 01.0**	**+2.0**
ASAJ	**Asahikawa**	**3.60**	**276**	P	**Pn**	**15 40 02.6**	**+2.1**
	comp=N,1.9nm,0.3s,baz=82,slow=16,SNR=24						
ASAJ				S	Sn	15 40 47.8	+5.8
	comp=N,3.0nm,0.3s,baz=157,slow=23,SNR=4.9						
ASAJ				LR	LR	15 41 36.9	
	comp=N,130nm,19.1s,baz=23,slow=44						
JFR	**Furan**	**3.69**	**261**	P	**Pn**	**15 40 04.1**	**+2.3**
JFR				*e*S	**Sn**	**15 40 45.4**	**+1.2**
ERM	**Erimo**	**3.74**	**242**	*c i* PN	Pn	15 40 05.4	+3.1
JSE	**Soyaes**	**3.74**	**289**	P	**Pn**	**15 40 03.9**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.88**	**247**	P	**Pn**	**15 40 04.7**	**+0.5**
JNBK				*e*S	**Sn**	**15 40 46.8**	**-1.8**
JWK2	**Keihoku**	**4.30**	**292**	P	**Pn**	**15 40 13.0**	**+3.0**
YSS	**Yuzh-Sakhalins**	**4.58**	**314**	*e*PN	**Pn**	**15 40 15.7**	**+1.9**
YSS				*e*S	**Sn**	**15 41 03.3**	**-2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=E,20nm,0.7s						
JEW	**Eniwo**	**4.58**	**259**	P	**Pn**	**15 40 16.5**	**+2.6**
SKR	**Severo-Kuril's**	**8.95**	**37**	*e*PN	Pn	15 41 08.8	-4.4
MJA0	**Matsu Arr-Jizo**	**10.22**	**227**	*e*PN	**Pn**	**15 41 30.9**	**+0.2**
MJAR	**Matsushiro Arr**	**10.24**	**228**	P	**Pn**	**15 41 30.9**	**0.0**
	comp=E,0.4nm,0.3s,baz=27,slow=14,SNR=12						
PETK	**Petropavlovsk-**	**11.41**	**32**	*e*PN	**Pn**	**15 41 46.2**	**-0.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.41**	**32**	P	**Pn**	**15 41 46.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=185,slow=14,SNR=16						
PET	**Petropavlovsk**	**11.73**	**35**	*e*PN	**Pn**	**15 41 49.1**	**-1.9**
FX1	**Attu Island--F**	**19.15**	**53**	P	**Pn**	**15 43 26.1**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=284,slow=18,SNR=3.3						
SEY	**Seymchan**	**19.30**	**7**	*e*P	**P**	**15 43 24.8**	**0.0**
YAK	**Yakutsk**	**21.01**	**336**	*e*P	**P**	**15 43 40.5**	**-2.7**
SONM	**Songino Array**	**28.71**	**293**	P	**P**	**15 44 56.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=82,slow=10,SNR=2.8						
KRAR	**Krasnoyarsk**	**36.28**	**309**	*ce*P	**P**	**15 46 00.9**	**-0.9**
COLA	**College**	**40.79**	**36**	*e*P	**P**	**15 46 40.7**	**+1.3**
ILAR	**Eielson Array**	**41.20**	**36**	P	**P**	**15 46 44.0**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=274,slow=9.0,SNR=20						
MKAR	**Makanchi Array**	**44.80**	**298**	*e*P	**P**	**15 47 13.3**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**44.80**	**298**	P	**P**	**15 47 12.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=82,slow=7.4,SNR=4.4						
KURK	**Kurchatov**	**45.72**	**304**	P	**P**	**15 47 19.3**	**+0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**45.80**	**304**	P	**P**	**15 47 19.3**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=75,slow=8.7,SNR=4.4						
INK	**Inuvik**	**46.14**	**30**	P	**P**	**15 47 23.5**	**+1.2**
	comp=Z,2.6nm,0.4s,baz=308,slow=7.1,SNR=16						
BVAR	**Borovoye Array**	**49.66**	**309**	P	**P**	**15 47 47.3**	**-2.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.66**	**309**	P	**P**	**15 47 47.3**	**-2.4**
	comp=Z,0.5nm,0.4s,baz=61,slow=6.0,SNR=4.1						
BRVK	**Borovoye**	**49.71**	**309**	*e*P	**P**	**15 47 50.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**64.65**	**194**	P	**P**	**15 49 36.5**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=10,slow=6.4,SNR=3.4						
FINES	**FINESS Array B**	**64.91**	**333**	P	**P**	**15 49 36.1**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=42,slow=6.5,SNR=8.4						
ASAR	**Alice Springs**	**68.37**	**193**	P	**P**	**15 50 00.6**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=4.8,slow=6.1,SNR=5.4						
NOA	**NORSAR Array B**	**69.60**	**339**	P	**P**	**15 50 06.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=55,slow=7.6,SNR=5.9						
AKASG	**Malin Array Be**	**71.66**	**324**	P	**P**	**15 50 18.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.66**	**324**	P	**P**	**15 50 18.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=38,slow=6.5,SNR=3.5						

---

*IDC **16** 15:47:16.0±2.7, 1°.63S×99°.20E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, ML3.6/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/42, Error ellipse: s-maj=114.1km s-min=20.1km az=59.0*
*ISCJB **16** 15:47:17.0±1.2, 1°.6S±0°.1×99°.0E±0°.1, h25km, mb3.8/4, MS3.9/1, Error ellipse: s-maj=19.2km s-min=11.9km az=144.0*
*DJA **16** 15:47:22.6±4.5, 2°.5S±9°.×10°0E±4°.4, h10km, M4.0/4, mb3.9/1, MLv4.1/4*
ISC 16 15:47:19.2±1.3, 1°.52S±0°.10×99°.1E±0°.1, h25km, n13, σ1§54/12, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.66**	**50**	P	**Pn**	**15 47 45.1**	**-1.6**
BKNI	**Bangkinang**	**2.66**	**46**	P	**Pb**	**15 48 04.3**	**-1.8**
RGRI	**Rengat**	**3.42**	**70**	P	**Pn**	**15 48 12.2**	**+1.2**
MASI	**Maura Aman, Be**	**3.51**	**117**	P	**Pn**	**15 48 11.4**	**-0.8**
PSI	**Prapat**	**4.30**	**357**	Pn	**Pn**	**15 48 22.0**	**-1.2**
0.7nm,0.3s,baz=156,slow=4.8,SNR=2.9							
MYKOM	**Kota Tinggi**	**5.76**	**55**	P	**Pn**	**15 48 45.7**	**+2.5**
CMAR	**Chiang Mai Arr**	**19.86**	**360**	P	**Pn**	**15 51 50.8**	**+0.5**
0.2nm,0.3s,baz=192,slow=9.4,SNR=7.2							
WRA	**Warramunga Arr**	**38.99**	**120**	P	**P**	**15 54 43.2**	**-0.7**
0.7nm,0.6s,baz=302,slow=9.0,SNR=6.7							
ASAR	**Alice Springs**	**40.24**	**126**	P	**P**	**15 54 53.7**	**-0.6**
0.7nm,0.8s,baz=307,slow=7.6,SNR=7.8							
MKAR	**Makanchi Array**	**50.34**	**345**	P	**P**	**15 56 15.4**	**+1.4**
1.1nm,0.6s,baz=148,slow=7.9,SNR=10							
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**15 57 00.7**	**+1.3**
0.5nm,0.3s,baz=165,slow=6.2,SNR=6.3							
ATD	**Arta Tunnel**	**57.40**	**285**	LR	LR	16 16 07.3	
comp=Z,94nm,20.9s,baz=38,slow=30							
TXAR	**Lajitas Array**	**144.85**	**36**	PKP	**PKPdf**	**16 06 55.7**	**+0.8**
0.6nm,0.6s,baz=298,slow=2.7,SNR=10							

---

*ISCJB **16** 15:47:40.7±0.6, 16°.3S±0°.3×177°.5W±0°.2, h400km, mb3.7/6, Error ellipse: s-maj=49.5km s-min=8.2km az=158.2*
*IDC **16** 15:47:40.6±1.7, 17°.02S×177°.13W, h403km±22km, mb3.4/6, mb1 3.6/8, mb1mx3.2/23, mbtmp3.4/8, Error ellipse: s-maj=82.8km s-min=16.1km az=153.0*
*AUST **16** 15:48:06.4±1.5, 17°.95S×179°.87E, h421km, Error ellipse: s-maj=2.8km s-min=1.8km az=309.0*
ISC 16 15:47:41.2±0.8, 16°.4S±0°.5×177°.4W±0°.2, h400km, n20, σ1§08/20, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.97**	**67**	P	**Pn**	**15 49 12.5**	**-1.2**
13nm,0.3s,baz=221,slow=20,SNR=21							
AFI				S	**S**	**15 50 29.9**	**+0.9**
1.3nm,0.3s,baz=246,slow=18,SNR=2.1							
DZM	**Mont Dzumac**	**16.25**	**247**	P	**P**	**15 51 07.3**	**0.0**
0.2nm,0.3s,baz=104,slow=4.2,SNR=3.5							
MGCD	**Mangrove Creek**	**32.96**	**234**	P	**P**	**15 53 41.5**	**+1.0**
baz=30,SNR=5.7							
RMQ	**Roma**	**32.96**	**246**	P	**P**	**15 53 41.8**	**+1.1**
baz=30,SNR=5.8							
CTA	**Charters Tower**	**34.65**	**258**	P	**P**	**15 53 54.6**	**-0.6**
1.3nm,0.4s,baz=124,slow=3.6,SNR=4.0							
MTSU	**Mount Surprise**	**36.53**	**261**	P	**P**	**15 54 11.6**	**+0.6**
baz=34,SNR=6.2							
CMSA	**Cobar Meteorol**	**36.74**	**239**	P	**P**	**15 54 12.8**	**+0.3**
baz=34,SNR=13							
STKA	**Stephens Creek**	**40.21**	**240**	P	**P**	**15 54 40.4**	**-0.6**
2.4nm,0.4s,baz=94,slow=12,SNR=17							
STKA	**Stephens Creek**	**40.21**	**240**	P	**P**	**15 54 41.8**	**+0.8**
baz=37,SNR=13							
WRA	**Warramunga Arr**	**45.85**	**258**	P	**P**	**15 55 24.7**	**-1.1**
0.7nm,0.3s,baz=96,slow=8.3,SNR=28							
ASAR	**Alice Springs**	**46.13**	**253**	P	**P**	**15 55 27.1**	**-0.8**
7.1nm,0.5s,baz=90,slow=7.7,SNR=167							
KDU	**Kakadu**	**48.54**	**267**	P	**P**	**15 55 46.2**	**-0.1**
baz=46,SNR=8.8							
MTN	**Manton Dam**	**49.80**	**267**	P	**P**	**15 55 57.5**	**+1.8**
baz=47,SNR=3.7							
KNRA	**Kununurra**	**51.59**	**263**	P	**P**	**15 56 10.3**	**+1.4**
baz=49,SNR=11							
FITZ	**Fitzroy Crossi**	**54.22**	**259**	P	**P**	**15 56 28.4**	**+0.6**
2.8nm,0.5s,baz=97,slow=5.7,SNR=24							
FITZ	**Fitzroy Crossi**	**54.22**	**259**	P	**P**	**15 56 29.7**	**+1.9**
baz=51,SNR=14							
MEEK	**Meekatharra**	**59.86**	**248**	P	**P**	**15 57 05.5**	**-1.4**
baz=57,SNR=3.9							
PPI	**Padang Panjang**	**82.36**	**272**	P	P	15 59 27.1	+6.9
baz=80,SNR=3.2							
TXAR	**Lajitas Array**	**84.37**	**57**	P	**P**	**15 59 31.0**	**+0.8**
0.3nm,0.8s,baz=239,slow=6.2,SNR=3.0							
BRTR	**Keskin Array B**	**144.32**	**317**	PKPbc	**PKPdf**	**16 06 30.8**	**-0.1**
0.4nm,0.4s,baz=64,slow=3.4,SNR=3.5							

---

*IDC **16** 15:52:53.4±1.1, 1°.52S×99°.57E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/25, mbtmp3.9/11, ML3.8/2, Error ellipse: s-maj=47.0km s-min=15.7km az=56.0*
*ISCJB **16** 15:52:55.2±0.7, 1°.63S±0°.06×99°.34E±0°.07, h30km, mb4.0/9, Error ellipse: s-maj=11.3km s-min=7.3km az=151.8*
*DJA **16** 15:53:02.1±1.5, 2°.5±4°.×10°0E±1°.5, h10km, M4.3/4, MLv4.3/4*
ISC 16 15:52:57.4±0.8, 1°.54S±0°.06×99°.40E±0°.08, h30km, n20, σ1§02/22, mb4.1/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.47**	**43**	P	**Pn**	**15 53 21.7**	**-0.1**
PPI				S	**Sb**	**15 53 41.3**	**-1.0**
BKNI	**Bangkinang**	**2.47**	**42**	P	**Pb**	**15 53 42.0**	**+0.8**
RGRI	**Rengat**	**3.16**	**68**	P	**Pn**	**15 53 47.2**	**+2.1**
MASI	**Maura Aman, Be**	**3.26**	**119**	P	**Pn**	**15 53 46.8**	**+0.3**
PSI	**Prapat**	**4.33**	**354**	Pn	**Pn**	**15 54 00.7**	**-0.7**
1.2nm,0.3s,baz=199,slow=11,SNR=2.5							
MNAI	**Manna**	**4.53**	**128**	P	**Pn**	**15 54 04.6**	**+0.7**
MNAI				S	**Sn**	**15 54 54.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**19.87**	**359**	P	**P**	**15 57 24.9**	**-1.4**
0.3nm,0.3s,baz=188,slow=13,SNR=6.2							
FITZ	**Fitzroy Crossi**	**30.57**	**124**	P	**P**	**15 59 07.7**	**-1.0**
1.3nm,0.7s,baz=323,slow=10,SNR=3.1							
WRA	**Warramunga Arr**	**38.74**	**121**	P	**P**	**16 00 18.1**	**-1.2**
1.7nm,0.5s,baz=303,slow=9.0,SNR=15							
ASAR	**Alice Springs**	**40.01**	**126**	P	**P**	**16 00 29.6**	**-0.3**
0.7nm,0.5s,baz=301,slow=7.7,SNR=20							
KSRS	**Korea Array**	**46.93**	**31**	P	**P**	**16 01 24.3**	**-1.1**
0.7nm,0.7s,baz=227,slow=8.4,SNR=4.7							
SONM	**Songino Array**	**49.55**	**6**	PcP	**PcP**	**16 03 07.4**	**+0.3**
0.3nm,0.4s,baz=211,slow=2.5,SNR=2.5							
STKA	**Stephens Creek**	**49.91**	**132**	P	**P**	**16 01 48.2**	**-0.3**
1.3nm,0.7s,baz=323,slow=10,SNR=4.0							
MKAR	**Makanchi Array**	**50.42**	**345**	P	**P**	**16 01 53.5**	**+1.4**
1.8nm,0.7s,baz=158,slow=8.8,SNR=12							
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	**P**	**16 02 38.2**	**+0.9**
0.9nm,0.3s,baz=152,slow=6.7,SNR=5.8							
BRTR	**Keskin Array B**	**72.57**	**313**	P	**P**	**16 04 22.5**	**+0.4**
0.3nm,0.5s,baz=141,slow=7.3,SNR=2.6							
FINES	**FINESS Array B**	**83.42**	**332**	P	**P**	**16 05 22.7**	**+1.0**
2.7nm,0.9s,baz=96,slow=1.9,SNR=3.8							
PDAR	**Pinedale Array**	**131.46**	**28**	PKP	**PKPdf**	**16 12 08.0**	**+0.3**
0.2nm,0.7s,baz=304,slow=7.2,SNR=2.3							
CPUP	**Villa Florida**	**144.33**	**217**	PKP	PKPbc	16 12 31.1	+1.4
0.6nm,0.5s,baz=127,slow=5.1,SNR=2.0							
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	**PKPdf**	**16 12 32.3**	**+0.2**
1.2nm,0.5s,baz=288,slow=2.5,SNR=22							
TXAR				SKP	**SKPbc**	**16 16 10.1**	**+0.6**
0.2nm,0.7s,baz=204,slow=2.0,SNR=3.6							

IDC 16 16:05:31.8±9.4, 1°.82S×99°.04E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/24, mbtmp3.3/4, Error ellipse: s-maj=454.7km s-min=25.8km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.91**	**120**	P	P	16 12 58.4	-1.1
0.4nm,0.8s,baz=306,slow=8.4,SNR=2.6							
ASAR	**Alice Springs**	**40.13**	**126**	P	P	16 13 10.2	+0.4
0.1nm,0.5s,baz=301,slow=8.2,SNR=4.4							
MKAR	**Makanchi Array**	**50.61**	**345**	P	P	16 14 32.2	-0.3
0.3nm,0.4s,baz=159,slow=8.1,SNR=6.0							
ZALV	**Zalesovo Beam**	**56.83**	**350**	P	P	16 15 17.5	-0.4
0.4nm,0.7s,baz=168,slow=7.4,SNR=3.1							
TXAR	**Lajitas Array**	**145.13**	**36**	PKPbc	PKPab	16 25 11.9	+0.2
0.2nm,0.5s,baz=122,slow=1.2,SNR=3.0							

IDC 16 16:10:25.9±3.3, 1°.85S×99°.27E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/26, mbtmp3.4/7, ML2.5/1, Error ellipse: s-maj=134.8km s-min=19.3km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.63**	**356**	Pn	Pn	16 11 35.6	-1.7
0.2nm,0.3s,baz=127,slow=20,SNR=2.6							
CMAR	**Chiang Mai Arr**	**20.18**	**359**	P	P	16 15 02.5	+0.3
0.2nm,0.3s,baz=172,slow=9.2,SNR=2.8							
FITZ	**Fitzroy Crossi**	**30.50**	**124**	P	P	16 16 40.6	-0.4
1.4nm,0.9s,baz=300,slow=16,SNR=2.1							
WRA	**Warramunga Arr**	**38.70**	**120**	P	P	16 17 51.5	-0.4
0.6nm,0.5s,baz=302,slow=9.2,SNR=6.1							
ASAR	**Alice Springs**	**39.93**	**126**	P	P	16 18 02.4	+0.1
0.2nm,0.4s,baz=300,slow=8.2,SNR=9.4							
MKAR	**Makanchi Array**	**50.69**	**345**	P	P	16 19 27.1	-0.1
0.2nm,0.3s,baz=157,slow=8.8,SNR=4.4							
ZALV	**Zalesovo Beam**	**56.89**	**350**	P	P	16 20 11.8	-0.6
0.3nm,0.3s,baz=157,slow=4.7,SNR=2.7							
TXAR	**Lajitas Array**	**145.02**	**36**	PKPbc	PKPbc	16 30 05.3	-0.1
0.3nm,0.5s,baz=292,slow=3.9,SNR=5.8							

---

*IDC **16** 16:20:20.8±2.2, 1°.69S×99°.12E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, ML2.4/1, Error ellipse: s-maj=77.1km s-min=22.0km az=59.0*
*ISCJB **16** 16:20:24.0±1.0, 1°.46S±0°.08×99°.23E±0°.10, h30km, mb3.5/5, Error ellipse: s-maj=14.4km s-min=12.2km az=173.8*
*DJA **16** 16:20:29.9±2.0, 1°.5±5°.×10°0E±2°.1, h10km, M4.0/3, MLv4.0/3*
ISC 16 16:20:26.3±1.2, 1°.40S±0°.09×99°.3E±0°.1, h30km, n10, σ1§20/11, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.44**	**50**	P	**Pn**	**16 20 49.6**	**-0.8**
PPI				S	**Sn**	**16 21 08.8**	**+0.5**
BKNI	**Bangkinang**	**2.44**	**46**	P	**Pb**	**16 21 09.3**	**-0.3**
MASI	**Maura Aman, Be**	**3.41**	**121**	P	**Pn**	**16 21 17.7**	**+0.1**
PSI	**Prapat**	**4.18**	**355**	Pn	**Pn**	**16 21 27.2**	**-1.1**
0.2nm,0.3s,baz=230,slow=14,SNR=2.3							
WRA	**Warramunga Arr**	**38.90**	**121**	P	**P**	**16 27 48.0**	**-1.6**
0.4nm,0.8s,baz=303,slow=9.0,SNR=5.5							
ASAR	**Alice Springs**	**40.17**	**126**	P	**P**	**16 27 59.0**	**-1.3**
0.2nm,0.7s,baz=304,slow=7.7,SNR=4.5							
KSRS	**Korea Array**	**46.87**	**31**	P	**P**	**16 28 55.7**	**+1.9**
0.5nm,0.7s,baz=216,slow=7.4,SNR=3.8							
MKAR	**Makanchi Array**	**50.26**	**345**	P	**P**	**16 29 20.9**	**+1.0**
0.6nm,0.7s,baz=152,slow=8.5,SNR=5.5							
ZALV	**Zalesovo Beam**	**56.45**	**350**	P	**P**	**16 30 05.9**	**+0.7**
0.5nm,0.4s,baz=159,slow=6.3,SNR=2.8							
TXAR	**Lajitas Array**	**144.64**	**36**	PKP	**PKPdf**	**16 40 00.6**	**-0.4**
0.3nm,0.5s,baz=305,slow=3.2,SNR=5.2							

IDC 16 16:21:11.6±1.6, 1°.55S×99°.64E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.7/26, mbtmp3.8/11, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/35, Error ellipse: s-maj=55.1km s-min=17.8km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**351**	Pn	Pn	16 22 18.1	-1.3
0.6nm,0.3s,baz=151,slow=19,SNR=2.2							
PSI				LR	LR	16 23 44.8	
comp=Z,105nm,18.4s,baz=32,slow=36							
CMAR	**Chiang Mai Arr**	**19.89**	**358**	P	P	16 25 43.4	-1.3
0.2nm,0.3s,baz=187,slow=10,SNR=5.2							
FITZ	**Fitzroy Crossi**	**30.37**	**124**	P	P	16 27 25.4	-0.1
1.7nm,1.0s,baz=279,slow=19,SNR=2.3							
WRA	**Warramunga Arr**	**38.54**	**121**	P	P	16 28 35.6	-0.6
0.8nm,0.6s,baz=302,slow=9.1,SNR=5.0							
ASAR	**Alice Springs**	**39.81**	**126**	P	P	16 28 47.6	+0.7
0.3nm,0.6s,baz=303,slow=8.1,SNR=5.7							
KSRS	**Korea Array**	**46.82**	**31**	P	P	16 29 42.9	-0.3
0.6nm,0.7s,baz=223,slow=7.3,SNR=3.5							
SONM	**Songino Array**	**49.53**	**6**	P	P	16 30 03.8	-0.4
1.3nm,0.9s,baz=187,slow=10,SNR=3.0							
MKAR	**Makanchi Array**	**50.50**	**345**	P	P	16 30 12.6	+1.2
1.3nm,0.5s,baz=154,slow=8.6,SNR=13							
USRK	**Ussuriysk Arra**	**53.94**	**28**	P	P	16 30 37.0	0.0
0.9nm,0.5s,baz=237,slow=5.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**56.66**	**350**	P	P	16 30 56.5	+0.1
1.2nm,0.5s,baz=179,slow=5.9,SNR=5.2							
FINES	**FINESS Array B**	**83.54**	**332**	P	P	16 33 40.5	-0.7
4.0nm,1.1s,baz=112,slow=5.1,SNR=4.8							
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPab	16 40 48.9	-0.5
0.2nm,0.4s,baz=236,slow=2.0,SNR=5.9							

---

*IDC **16** 16:26:26.2±1.7, 1°.54S×99°.56E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, ML3.5/2, MS2.2/1, Ms1 2.2/1, ms1mx2.2/34, Error ellipse: s-maj=58.1km s-min=18.3km az=59.0*
*NEIC **16** 16:26:27.2±0.7, 1°.61S×99°.46E, h10km, mb4.4/1, Error ellipse: s-maj=24.7km s-min=7.9km az=64.0*
*ISCJB **16** 16:26:28.4±1.1, 1°.5S±0°.1×99°.5E±0°.2, h30km, mb4.0/9, MS2.0/1, Error ellipse: s-maj=31.8km s-min=10.5km az=154.7*
ISC 16 16:26:30.0±1.3, 1°.6S±0°.2×99°.4E±0°.2, h30km, n26, σ0§90/25, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**354**	Pn	**Pn**	**16 27 33.2**	**-1.4**
PSI	**Prapat**	**4.38**	**354**	Pn	**Pn**	**16 27 33.2**	**-1.4**
0.7nm,0.3s,baz=213,slow=12,SNR=3.9							
IPM	**Ipoh**

*AUST **16** 16:32:01.2, 22°.51S×173°.20W, h0km*
*IDC **16** 16:32:08.7±0.6, 21°.67S×174°.50W, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.3/27, mbtmp4.2/19, ML3.7/2, MS4.0/3, Ms1 4.0/3, ms1mx3.2/34, Error ellipse: s-maj=22.1km s-min=15.7km az=127.0*
*ISCJB **16** 16:32:12.4±0.6, 21°.68S±0°.09×174°.6W±0°.1, h33km, mb4.2/17, MS4.0/3, Error ellipse: s-maj=15.9km s-min=11.2km az=38.0*
ISC 16 16:32:14.1±0.7, 21°.7S±0°.1×174°.5W±0°.1, h35km, n39, σ0°85/33, mb4.3/17, MS4.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.00**	**59**	P	Pn	16 33 14.8	-12
	baz=4.6,SNR=8.9						
AFI	**Afiamalu**	**8.16**	**19**	Pn	Pn	16 34 01.4	-8.8
	3.7nm,0.3s,baz=238,slow=23,SNR=5.9						
AFI				Sn	Sn	16 35 23.2	-18
	5.3nm,0.3s,baz=108,slow=20,SNR=3.9						
RAR	**Rarotonga**	**13.71**	**91**	Pn	Pn	16 35 13.0	-13
	7.2nm,0.3s,baz=227,slow=0.0,SNR=7.8						
DZM	**Mont Dzumac**	**17.71**	**265**	P	**Pn**	**16 36 17.7**	**-0.4**
	0.2nm,0.3s,baz=113,slow=13,SNR=8.2						
URZ	**Urewera**	**18.03**	**202**	P	**Pn**	**16 36 21.4**	**-0.5**
	0.3nm,0.3s,baz=301,slow=18,SNR=2.6						
PPT	**Papeete**	**23.81**	**84**	LR	LR	16 44 22.2	
	comp=Z,302nm,18.8s,baz=162,slow=31						
RPZ	**Rata Peaks**	**25.03**	**205**	P	**P**	**16 37 35.2**	**+0.2**
	9.9nm,0.7s,baz=69,slow=8.6,SNR=4.2						
LHI	**Lord Howe Isla**	**25.54**	**242**	P	P	16 37 31.7	-7.9
	baz=26,SNR=4.4						
CTA	**Charters Tower**	**36.65**	**265**	P	**P**	**16 39 16.1**	**-1.5**
	3.6nm,0.6s,baz=91,slow=10,SNR=4.6						
MTSU	**Mount Surprise**	**38.82**	**268**	P	**P**	**16 39 37.5**	**+1.6**
	baz=40,SNR=4.9						
STKA	**Stephens Creek**	**40.27**	**246**	P	**P**	**16 39 47.1**	**-0.8**
	3.1nm,0.8s,baz=80,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**40.27**	**246**	P	**P**	**16 39 47.9**	**0.0**
	baz=41,SNR=4.4						
ASAR	**Alice Springs**	**47.45**	**257**	P	**P**	**16 40 45.2**	**-0.6**
	5.8nm,0.8s,baz=102,slow=7.5,SNR=68						
ASAR				PcP	**PcP**	**16 42 16.7**	**+0.8**
	1.1nm,0.8s,baz=117,slow=3.8,SNR=4.6						
WRA	**Warramunga Arr**	**47.69**	**262**	P	**P**	**16 40 46.4**	**-1.3**
	2.7nm,0.5s,baz=89,slow=5.9,SNR=59						
KDU	**Kakadu**	**51.25**	**271**	P	**P**	**16 41 13.7**	**-1.1**
	baz=52,SNR=4.5						
KNRA	**Kununurra**	**53.85**	**266**	P	**P**	**16 41 33.9**	**-0.1**
	baz=55,SNR=7.0						
FITZ	**Fitzroy Crossi**	**56.12**	**262**	P	**P**	**16 41 50.1**	**-0.4**
	2.4nm,0.8s,baz=114,slow=4.1,SNR=11						
FITZ	**Fitzroy Crossi**	**56.12**	**262**	P	**P**	**16 41 50.1**	**-0.4**
	baz=57,SNR=7.7						
KLBR	**Kellerberrin**	**60.53**	**245**	P	**P**	**16 42 21.5**	**+0.4**
	baz=61,SNR=5.8						
MORW	**Morawa**	**62.41**	**248**	P	**P**	**16 42 34.6**	**+0.7**
	baz=63,SNR=3.8						
QSPA	**South Pole Qui**	**68.39**	**180**	P	**P**	**16 43 12.1**	**+0.1**
	1.2nm,0.7s,baz=55,slow=4.4,SNR=10						
MJAR	**Matsushiro Arr**	**73.14**	**322**	P	**P**	**16 43 41.1**	**0.0**
	3.3nm,0.6s,baz=157,slow=6.1,SNR=28						
MAT	**Matsushiro**	**73.14**	**322**	P	**P**	**16 43 41.0**	**-0.2**
ASAJ	**Asahikawa**	**76.37**	**330**	P	**P**	**16 44 00.6**	**+0.9**
	2.4nm,0.6s,baz=182,slow=4.5,SNR=7.3						
PETK	**Petropavlovsk-**	**78.30**	**343**	P	**P**	**16 44 09.7**	**-0.6**
	3.4nm,0.7s,baz=122,slow=8.4,SNR=14						
NVAR	**Mina Array Bea**	**79.68**	**42**	P	**P**	**16 44 17.7**	**-0.8**
	0.9nm,0.8s,baz=223,slow=9.7,SNR=5.8						
KSRS	**Korea Array**	**79.97**	**317**	P	**P**	**16 44 20.9**	**+1.2**
	1.7nm,0.9s,baz=142,slow=6.9,SNR=9.3						
MAW	**Mawson**	**81.54**	**199**	P	**P**	**16 44 28.3**	**+0.6**
	1.1nm,0.5s,baz=124,slow=11,SNR=3.9						
TXAR	**Lajitas Array**	**84.97**	**56**	P	P	16 44 47.9	+1.7
	0.6nm,1.0s,baz=232,slow=7.8,SNR=4.9						
TXAR				LR	LR	17 15 37.9	
	comp=Z,58nm,18.6s,baz=150,slow=31						
PDAR	**Pinedale Array**	**87.61**	**42**	P	**P**	**16 44 57.4**	**-1.6**
	0.3nm,0.7s,baz=160,slow=4.7,SNR=3.9						
ILAR	**Eielson Array**	**88.78**	**11**	P	**P**	**16 45 04.0**	**+0.2**
	0.5nm,1.0s,baz=207,slow=6.4,SNR=5.3						
ATAH	**Atahualpa**	**93.01**	**99**	LR	LR	17 18 56.5	
	comp=Z,80nm,18.4s,baz=82,slow=30						
CMAR	**Chiang Mai Arr**	**93.60**	**288**	P	**P**	**16 45 27.9**	**+0.7**
	0.9nm,0.3s,baz=102,slow=3.4,SNR=13						
AKASG	**Malin Array Be**	**145.60**	**333**	PKPbc	**PKPbc**	**16 51 48.0**	**-0.8**
	1.3nm,0.5s,baz=39,slow=3.4,SNR=11						
CLL	**Collm**	**149.87**	**351**	*e*(P)	**PKPbc**	**16 52 00.0**	**-0.4**
BRTR	**Keskin Array B**	**150.06**	**313**	PKPbc	**PKPbc**	**16 52 01.8**	**+0.4**
	0.8nm,0.6s,baz=122,slow=4.7,SNR=5.9						
BRG	**Berggiesshubel**	**150.13**	**349**	*e*(P)	**PKPbc**	**16 52 02.2**	**+1.2**
	2.3nm,0.8s						
KHC	**Kasperske Hory**	**151.88**	**349**	*e*P	**PKPbc**	**16 52 06.0**	**+0.8**
GERES	**GERESS Array B**	**152.13**	**348**	PKPbc	**PKPbc**	**16 52 04.6**	**-1.3**
	0.5nm,0.8s,baz=18,slow=4.6,SNR=5.5						

*AZER **16** 16:56:53.5, 36°.51N×51°.39E, h0km*
CSEM 16 16:56:50.3±0.5, 36°.40N×51°.92E, h10km, ML3.3, 9C-9D, Error ellipse: s-maj=16.6km s-min=6.7km az=83.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**0.77**	**177**	*e*Pg	Pg	16 57 03.6	-2.0
CHTH	**Charan**	**0.81**	**233**	*e*Pg	Pg	16 57 05.7	-0.6
THKV	**Tehran--Karaj**	**0.97**	**240**	*e*Pg	Pg	16 57 08.7	-0.6
ASAO	**Ashtian**	**2.41**	**220**	*e*Pn	Pn	16 57 31.2	+1.1
ASAO				*e*Sg	Sb	16 58 05.1	+0.9
ZNJK	**Zanjan**	**2.62**	**277**	*e*Pn	Pb	16 57 35.4	-2.3
KHMZ	**Khomeyn**	**3.10**	**212**	*e*Pn	Pn	16 57 40.7	+1.0
LKRN	**Lenkeran, Azer**	**3.40**	**314**	⇓P	Pn	16 57 42.5	-0.9
	SNR=4.0						
LKRN				⇑S	Sn	16 58 21.2	-2.5
LKRN	**Lenkeran, Azer**	**3.40**	**314**	P	Pn	16 57 42.5	-0.8
	SNR=4.0						
LKRN				S	Sn	16 58 21.2	-2.5
NASN	**Na'in**	**3.67**	**168**	*e*Pn	Pn	16 57 48.0	+0.5
GLBA	**Clilabad**	**3.98**	**317**	⇓P	Pn	16 57 50.8	-0.6
	SNR=3.9						
GLBA				⇑S	Sn	16 58 36.5	-1.6
GLBA	**Clilabad**	**3.98**	**317**	P	Pn	16 57 50.8	-0.6
	SNR=3.9						
GLBA				S	Sn	16 58 36.5	-1.6
ALIB	**Äli-Bayra**	**4.23**	**328**	⇓P	Pn	16 57 56.5	+1.7
	SNR=4.9						
ALIB	**Äli-Bayra**	**4.23**	**328**	P	Pn	16 57 56.5	+1.7
	SNR=4.9						
PQL	**Pirkuli**	**5.10**	**330**	⇓P	Pn	16 58 06.9	0.0
	SNR=3.2						
PQL				⇓S	Sn	16 59 04.6	-1.4
PQL	**Pirkuli**	**5.10**	**330**	P	Pn	16 58 06.9	-0.1
	SNR=3.2						
PQL				S	Sn	16 59 04.6	-1.4
SIZA	**Siyzn**	**5.23**	**334**	⇓P	Pn	16 58 09.3	+0.6
	SNR=5.6						
SIZA				⇓S	Sn	16 59 09.3	+0.1
SIZA	**Siyzn**	**5.23**	**334**	P	Pn	16 58 09.3	+0.6
	SNR=5.6						
SIZA				S	Sn	16 59 09.3	+0.1
IML	**Ismayilli**	**5.27**	**327**	⇑P	Pn	16 58 08.5	-0.7
	SNR=2.9						
IML	**Ismayilli**	**5.27**	**327**	P	Pn	16 58 08.5	-0.7
	SNR=2.9						
QUBA	**Quba, Azerbaij**	**5.62**	**333**	P	Pn	16 58 14.6	+0.6
	SNR=7.7						
QUBA				⇓S	Sn	16 59 15.1	-3.6
QUBA	**Quba, Azerbaij**	**5.62**	**333**	P	Pn	16 58 14.6	+0.6
	SNR=7.7						
QUBA				S	Sn	16 59 15.1	-3.6
SEKA	**Sheki**	**6.05**	**324**	P	Pn	16 58 19.4	-0.6
	SNR=9.0						
SEKA				⇓S	Sn	16 59 26.2	-3.2
SEKA	**Sheki**	**6.05**	**324**	P	Pn	16 58 19.4	-0.6
	SNR=9.0						
SEKA				S	Sn	16 59 26.2	-3.2
GANJ	**Ganja**	**6.10**	**316**	⇑P	Pn	16 58 20.1	-0.4
	SNR=4.4						
GANJ				⇑S	Sn	16 59 27.0	-3.4
GANJ	**Ganja**	**6.10**	**316**	P	Pn	16 58 20.1	-0.5
	SNR=4.4						
GANJ				S	Sn	16 59 27.0	-3.5
AB31	**Akbulak array**	**14.12**	**22**	⇑P	Pn	17 00 03.1	-7.1
	0.8nm,0.7s,baz=207,slow=12,SNR=6.8						
AB31				⇑S	Sn	17 02 30.8	-16
	0.2nm,0.5s,baz=201,slow=21						
AB31	**Akbulak array**	**14.12**	**22**	P	Pn	17 00 03.1	-7.2
	0.8nm,0.7s,SNR=6.8						
AB31				S	Sn	17 02 30.8	-16
	0.2nm,0.5s						
AKTO	**Aktyubinsk**	**14.70**	**16**	⇑P	Pn	17 00 12.9	-5.4
	1.3nm,0.6s						
AKTO				⇑S	Sn	17 02 47.7	-14
	2.2nm,1.1s						
AKTO	**Aktyubinsk**	**14.70**	**16**	P	Pn	17 00 12.9	-5.4
	1.3nm,0.6s						
AKTO				S	Sn	17 02 47.7	-13
	2.2nm,1.1s						

IDC 16 16:59:11.5±10.0, 1°.63S×99°.30E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/23, mbtmp3.4/3, Error ellipse: s-maj=544.2km s-min=30.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.78**	**120**	P	P	17 06 37.7	-0.5
	0.5nm,1.0s,baz=299,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**40.03**	**126**	P	P	17 06 49.0	+0.3
	0.4nm,1.0s,baz=295,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	17 08 11.2	-0.1
	0.4nm,0.6s,baz=158,slow=8.4,SNR=5.2						

IDC 16 17:11:02.2±7.4, 19°.76S×67°.85W, h180km±48km, mb2.9/2, mb1 3.1/5, mb1mx3.0/20, mbtmp2.9/5, Error ellipse: s-maj=89.6km s-min=23.5km az=26.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.46**	**356**	P	Pn	17 11 56.5	-0.9
	1.2nm,0.3s,baz=174,slow=5.5,SNR=24						
LPAZ				S	Sn	17 12 40.4	-0.1
	0.9nm,0.3s,baz=203,slow=6.1,SNR=5.2						
SIV	**San Ignacio**	**7.46**	**61**	P	Pn	17 12 50.3	+1.7
	0.7nm,0.3s,baz=255,slow=11,SNR=11						
BDFB	**Brasilia**	**19.34**	**81**	P	P	17 15 13.4	-0.8
	0.2nm,0.3s,baz=280,slow=12,SNR=2.1						
TXAR	**Lajitas Array**	**59.79**	**324**	P	P	17 20 49.3	+0.6
	0.1nm,0.4s,baz=139,slow=7.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**75.84**	**70**	P	P	17 22 29.0	-0.2
	0.5nm,0.4s,baz=256,slow=5.1,SNR=14						

*CSEM **16** 17:11:15.0, 37°.51N×14°.57E, h56km, MD2.4/4, After ROM*
ROM 16 17:11:15.0±1.3, 37°.51N×14°.57E, h56km±18km, Md2.4/4, Ml2.0/2, Error ellipse: s-maj=47.4km s-min=13.0km az=74.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECNV	**Catenanuova**	**0.14**	**54**	Pg	Pn	17 11 23.7	-0.1
ECNV				Sg	Sn	17 11 31.4	+1.3
ECNV	**Catenanuova**	**0.14**	**54**	Pg	Pn	17 11 23.7	-0.1
ECNV				Sg	Sn	17 11 31.4	+1.3
GALF	**Gagliano Caste**	**0.20**	**359**	Pg	Pn	17 11 25.2	+1.1
GALF				Sg	Sn	17 11 30.3	-0.4
	194nm,0.5s						
GALF	**Gagliano Caste**	**0.20**	**359**	Pg	Pn	17 11 25.2	+1.1
GALF				Sg	Sn	17 11 30.3	-0.4
	194nm,0.5s						
MNO	**Monte Soro**	**0.43**	**13**	Pg	Pn	17 11 25.9	-0.3
MNO				Sg	Sn	17 11 34.7	+0.4
MNO	**Monte Soro**	**0.43**	**13**	Pg	Pn	17 11 25.9	-0.3
MNO				Sg	Sn	17 11 34.7	+0.4
HCRL	**Carlentini**	**0.43**	**122**	Pg	Pn	17 11 26.3	+0.3
	48nm,0.8s						
HCRL	**Carlentini**	**0.43**	**122**	Pg	Pn	17 11 26.3	+0.3
	48nm,0.8s						

IDC 16 17:11:57.5±3.4, 1°.41S×99°.83E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/25, mbtmp3.3/7, ML3.1/2, Error ellipse: s-maj=135.2km s-min=19.7km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.28**	**348**	Pn	Pn	17 13 03.5	-0.5
	0.2nm,0.3s,baz=241,slow=17,SNR=1.6						
CMAR	**Chiang Mai Arr**	**19.76**	**357**	P	P	17 16 29.2	0.0
	0.1nm,0.3s,baz=194,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**38.44**	**121**	P	P	17 19 21.1	-0.2
	0.2nm,0.4s,baz=303,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**39.73**	**127**	P	P	17 19 32.3	+0.1
	0.4nm,1.0s,baz=296,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**49.37**	**6**	P	P	17 20 48.5	-0.5
	0.2nm,0.3s,baz=198,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**50.42**	**344**	P	P	17 20 56.1	-0.7
	0.4nm,0.4s,baz=159,slow=8.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**56.56**	**349**	P	P	17 21 42.1	+0.4
	0.3nm,0.3s,baz=167,slow=7.0,SNR=2.9						

IDC 16 17:16:59.7±3.2, 1°.45S×99°.58E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=157.3km s-min=18.9km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.27**	**351**	Pn	Pn	17 18 04.7	-1.5
	0.4nm,0.3s,baz=194,slow=8.3,SNR=2.3						
WRA	**Warramunga Arr**	**38.63**	**121**	P	P	17 24 25.0	-0.2
	0.4nm,0.4s,baz=303,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**39.92**	**126**	P	P	17 24 35.9	-0.1
	0.4nm,0.7s,baz=295,slow=7.6,SNR=9.5						
STKA	**Stephens Creek**	**49.83**	**132**	P	P	17 25 54.7	-0.1
	5.5nm,1.1s,baz=321,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	17 25 58.6	-0.2
	0.5nm,0.5s,baz=151,slow=8.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	P	17 26 43.9	0.0
	0.5nm,0.3s,baz=160,slow=4.6,SNR=3.5						
TXAR	**Lajitas Array**	**144.52**	**36**	PKP	PKPbc	17 36 38.2	+0.6
	0.4nm,0.4s,baz=270,slow=1.3,SNR=7.3						

*NIED **16** 17:21:00, 35°.70N×140°.70E, h53km, Mw4.4 Best double couple: M0:5.01000×10^15 NP1:φs14.00000°, δ70.00000°, λ88.00000°. NP2:φs200.00000°, δ20.00000°, λ96.00000°.*
*IDC **16** 17:21:01.6±0.5, 35°.59N×140°.56E, h0km, mb4.0/19, mb1 4.2/20, mb1mx4.2/28, mbtmp4.0/20, ML3.8/1, MS3.3/9, Ms1 3.3/9, ms1mx3.1/47, Error ellipse: s-maj=18.0km s-min=14.4km az=102.0*
*MOS **16** 17:21:04.3±1.3, 35°.57N×140°.81E, h33km, mb4.7/8, Error ellipse: s-maj=11.0km s-min=7.3km az=99.3*
*JMA **16** 17:21:07.7±0.1, 35°.72N×140°.70E, h49km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs34.00000°, δ69.00000°, λ82.00000°. NP2:φs236.00000°, δ22.00000°, λ110.00000°. Principal axes: T Plg65.0000°, Azm290.0000°; N Plg8.0000°, Azm37.0000°; P Plg24.0000°, Azm130.0000°;*
JMA Felt II J1.
*ISCJB **16** 17:21:07.5±0.4, 35°.71N±0°.04×140°.73E±0°.06, h55km±3km, mb4.1/29, MS3.3/7 Error ellipse: s-maj=8.0km s-min=6.3km az=13.7*
*NEIC **16** 17:21:10.0±1.4, 35°.75N×140°.64E, h63km±11km, mb4.4/4, Error ellipse: s-maj=15.7km s-min=10.2km az=142.0*
NEIC Recorded [2 JMA] in Chiba and [1 JMA] in Ibaraki.
ISC 16 17:21:09.1±0.7, 35.74N±0°.05×140°.68E±0°.05, h55km±5km, n100, σ1°43/104, mb4.2/29, MS3.4/7, 4C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.15**	**104**	⇑P	**Pn**	**17 21 15.5**	**-2.2**
CHOJ				*e*S	**Sn**	**17 21 21.6**	**-2.3**
JCN	**Nagara**	**0.51**	**231**	⇓P	**Pn**	**17 21 19.8**	**-0.9**
JCN				*e*S	**Sn**	**17 21 28.9**	**-0.2**
JYT	**Yasato**	**0.62**	**321**	⇓P	**Pn**	**17 21 21.0**	**-1.1**
JYT				S	**Sn**	**17 21 30.6**	**-1.0**
BSO4	**Boso 4**	**0.80**	**201**	P	**Pn**	**17 21 23.2**	**-1.0**
JHO	**Hitachi**	**0.87**	**354**	⇓P	**Pn**	**17 21 24.6**	**-0.7**
BSO3	**Boso 3**	**0.95**	**188**	P	**Pn**	**17 21 24.7**	**-1.3**
BSO1	**Boso 1**	**1.11**	**167**	P	**Pn**	**17 21 26.7**	**-1.2**
JAG	**Ashikaga**	**1.21**	**305**	⇓P	**Pn**	**17 21 28.6**	**-1.1**
JIM2	**Oshima 3**	**1.44**	**225**	P	**Pn**	**17 21 31.0**	**-1.9**
MJAR	**Matsushiro Arr**	**2.15**	**293**	Pn	**Pn**	**17 21 42.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.15**	**293**	Pn	**Pn**	**17 21 42.9**	**+0.3**
	19nm,0.3s,baz=97,slow=14,SNR=217						
MJAR				LR	LR	17 22 20.3	
	comp=Z,428nm,18.2s,baz=110,slow=38						
ERM	**Erimo**	**6.56**	**16**	*de*P	**Pn**	**17 22 44.2**	**+1.4**
ERM				pmax	pmax		
	comp=Z,30nm,1.0s						
ERM	**Erimo**	**6.56**	**16**	*e*Pn	**Pn**	**17 22 42.8**	**-0.1**
ASAJ	**Asahikawa**	**8.49**	**9**	*e*Pn	**Pn**	**17 23 07.5**	**-1.8**
ASAJ				Sn	**Sn**	**17 24 39.6**	**-4.1**
ASAJ	**Asahikawa**	**8.49**	**9**	Pn	**Pn**	**17 23 07.4**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=215,slow=16,SNR=18						
ASAJ				Sn	**Sn**	**17 24 39.6**	**-4.1**
	comp=Z,0.6nm,0.3s,baz=180,slow=20,SNR=2.2						
JNU	**Nakatsue**	**8.51**	**255**	Pn	Pn	17 23 12.8	+3.2
JNU	**Nakatsue**	**8.51**	**255**	Pn	Pn	17 23 12.8	+3.2
	comp=Z,0.3nm,0.3s,baz=40,slow=8.3,SNR=3.6						
YUK	**Yuzh-Kuril'sk**	**9.19**	**24**	*e*P	**Pn**	**17 23 17.0**	**-1.8**
YUK				pmax	pmax		
	comp=E,32nm,0.6s						
YUK				pmax	pmax		
	comp=Z,46nm,0.5s						
YUK				pmax	pmax		
	comp=N,24nm,0.5s						
YUK				pmax	pmax		
	comp=Z,146nm,2.3s						
KSRS	**Korea Array**	**10.40**	**283**	Pn	Pn	17 23 38.6	+3.2
	comp=Z,0.2nm,0.3s,baz=101,slow=14,SNR=13						
KSRS				LR	LR	17 27 29.6	
	comp=Z,307nm,21.9s,baz=163,slow=37						
KSAR	**Wonju Array Be**	**10.43**	**283**	Pn	**Pn**	**17 23 38.6**	**+2.8**
USRK	**Ussuriysk Arra**	**10.75**	**324**	Pn	**Pn**	**17 23 42.1**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=112,slow=12,SNR=6.7						
USRK				LR	LR	17 27 43.6	
	comp=Z,179nm,18.1s,baz=253,slow=37						
KUR	**Kuril'sk**	**10.94**	**28**	P	**Pn**	**17 23 42.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**11.31**	**7**	⇑*e*P	**Pn**	**17 23 50.2**	**+2.4**
HABR	**Khabarovsk**	**13.39**	**344**	P	**P**	**17 24 24.0**	**+0.1**
HABR				pmax	pmax		
	comp=N,28nm,2.0s						
HABR				pmax	pmax		
	comp=E,42nm,2.4s						
HABR				pmax	pmax		
	comp=Z,39nm,2.6s						
KLR	**Kul'dur**	**14.99**	**337**	*e*P	**P**	**17 24 43.8**	**+2.0**
PETK	**Petropavlovsk-**	**21.10**	**29**	P	**P**	**17 25 50.0**	**+1.2**
PETK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PETK	**Petropavlovsk-**	**21.10**	**29**	P	**P**	**17 25 50.0**	**+1.2**
PETK	**Petropavlovsk-**	**21.10**	**29**	P	**P**	**17 25 50.0**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=200,slow=11,SNR=4.2						
PETK				LR	LR	17 34 08.9	
	comp=Z,22nm,21.9s,baz=39,slow=37						
PET	**Petropavlovsk**	**21.43**	**31**	*e*P	P	17 25 58.4	+6.1
ENH	**Enshi**	**26.65**	**267**	*e*P	**P**	**17 26 39.3**	**-3.5**
YAK	**Yakutsk**	**27.21**	**349**	*e*P	**P**	**17 26 47.6**	**+0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,64nm,4.6s						
YAK				pmax	pmax		
	comp=N,82nm,4.1s						
ULN	**Ulaanbaatar**	**27.62**	**306**	*e*P	**P**	**17 26 49.5**	**-1.9**
	comp=N,6.4nm,1.4s						
SONM	**Songino Array**	**28.04**	**306**	P	**P**	**17 26 54.1**	**-1.1**
SONM	**Songino Array**	**28.04**	**306**	P	**P**	**17 26 54.1**	**-1.1**
	comp=N,1.2nm,0.7s,baz=105,slow=7.5,SNR=6.2						
SONM				LR	LR	17 38 02.1	
	comp=N,90nm,21.4s,baz=206,slow=36						
SEY	**Seymchan**	**28.17**	**11**	⇑*e*P	**P**	**17 26 57.5**	**+1.6**
SEY				*i* *PP	**pP**	**17 27 11.4**	**+1.6**
FX1	**Attu Island--F**	**28.54**	**43**	LR	LR	17 36 15.6	
	comp=N,40nm,21.3s,baz=38,slow=32						
CMAR	**Chiang Mai Arr**	**40.60**	**256**	P	**P**	**17 28 41.3**	**-2.3**
CMAR				PcP	**PcP**	**17 30 45.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**40.60**	**256**	P	**P**	**17 28 41.3**	**-2.3**
	comp=N,0.4nm,0.6s,baz=51,slow=7.7,SNR=2.6						
CMAR				PcP	**PcP**	**17 30 45.0**	**+0.1**
	comp=N,0.2nm,0.8s,baz=23,slow=2.9,SNR=4.7						
LSA	**Lhasa**	**41.75**	**276**	*e*P	**P**	**17 28 53.4**	**-0.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSA	**Lhasa**	**41.75**	**276**	*e*P	**P**	**17 28 53.4**	**-0.1**
	comp=Z,4.7nm,0.9s						
ZALV	**Zalesovo Beam**	**42.36**	**313**	P	**P**	**17 28 57.9**	**+0.3**
ZALV						17 30 50.6	
ZALV	**Zalesovo Beam**	**42.36**	**313**	P	**P**	**17 28 57.9**	**+0.3**
ZALV				PcP	**PcP**	**17 30 50.5**	**+0.5**
ZALV	**Zalesovo Beam**	**42.36**	**313**	P	**P**	**17 28 57.9**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=92,slow=7.1,SNR=16						
ZALV				PcP	**PcP**	**17 30 50.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=125,slow=2.3,SNR=2.4						
NVS	**Novosibirsk**	**43.31**	**315**	*e*P	**P**	**17 29 05.5**	**+0.2**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.2s						
MKAR	**Makanchi Array**	**44.31**	**303**	*e*P	**P**	**17 29 14.0**	**+0.5**
MKAR	**Makanchi Array**	**44.31**	**303**	*e*P	**P**	**17 29 13.1**	**-0.4**
MKAR	**Makanchi Array**	**44.31**	**303**	P	**P**	**17 29 14.0**	**+0.5**
	comp=E,2.7nm,0.7s,baz=88,slow=9.6,S

BRTR	Keskin Array B	79.26 311	P	P	17 33 09.8	+1.0
BRTR	Keskin Array B	79.26 311	P	P	17 33 09.8	+1.0
	comp=Z,1.3nm,0.8s,baz=91,slow=4.9,SNR=6.0					
RAYN	Ar Rayn	80.59 292	eP	P	17 33 16.5	+0.4
	comp=Z,5.4nm,0.9s					
CLL	Collm	81.92 330	i P	P	17 33 23.4	+0.9
CLL			e		17 33 30.0	
CLL			pmax	pmax		
	comp=Z,6.0nm,1.0s					
CLL	Collm	81.92 330	i P	P	17 33 23.4	+0.9
	comp=Z,6.0nm,1.0s					
KHC	Kasperske Hory	83.33 328	eP	P	17 33 29.7	-0.3
KHC	Kasperske Hory	83.33 328	eP	P	17 33 29.7	-0.3
GERES	GERESS Array B	83.49 328	P	P	17 33 31.6	+0.7
GERES	GERESS Array B	83.49 328	P	P	17 33 31.6	+0.7
	comp=Z,0.1nm,0.3s,baz=12,slow=7.1,SNR=3.5					
TXAR	Lajitas Array	91.38 52	P	P	17 34 10.5	+1.1
TXAR	Lajitas Array	91.38 52	P	P	17 34 10.5	+1.1
	comp=Z,0.3nm,0.8s,baz=282,slow=1.8,SNR=2.8					
TORD	Torodi Ar. Bea	117.81 314	PKP	PKPdf	17 39 50.1	+0.3
TORD	Torodi Ar. Bea	117.81 314	PKP	PKPdf	17 39 50.1	+0.3
	comp=Z,0.3nm,0.7s,baz=12,slow=2.6,SNR=2.5					
QSPA	South Pole Qui	125.49 180	PKP	PKPdf	17 40 03.0	0.0
QSPA	South Pole Qui	125.49 180	PKP	PKPdf	17 40 03.0	0.0
	comp=Z,1.2nm,0.9s,baz=321,slow=2.3,SNR=4.5					
LPAZ	La Paz	147.85 60	PKPbc	PKPbc	17 40 49.1	-0.1
LPAZ	La Paz	147.85 60	PKPbc	PKPbc	17 40 49.1	-0.1
	comp=Z,1.5nm,0.7s,baz=6.1,slow=5.5,SNR=8.0					

IDC ***16*** *17:23:32.7±1.1, 62°.82N×150°.27W, h116km±15km, mb3.5/6, mb1 3.5/10, mb1mx3.3/28, mbtmp3.5/10, MS4.2/1, Ms1 4.2/1, ms1mx2.6/30, Error ellipse: s-maj=28.3km s-min=10.0km az=115.0*

ISCJB ***16*** *17:23:33.1±0.2, 62°.96N±0°.02×150°.63W±0°.06, h123km±3km, mb3.8/6, Error ellipse: s-maj=4.4km s-min=3.4km az=18.2*

NEIC ***16*** *17:23:34.8, 62°.94N×150°.65W, h109km, MG3.3(AEIC), After AEIC.*

ISC 16 17:23:33.5±0.7, 62°.93N±0°.03×150°.63W±0°.03, h118km±5km, n87, σ1°17/99, mb3.8/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	Hurricane	0.46	83	P	Pn	17 23 51.6	+0.7
TRF	Thorofare Moun	0.55	16	P	Pn	17 23 51.7	0.0
TRF				S	Sn	17 24 05.0	-0.4
KTH	Kantishna Hill	0.64	348	P	Pn	17 23 52.7	+0.4
KTH				S	Sn	17 24 06.1	-0.3
PPLA	Purkeypile	0.71	268	P	Pn	17 23 53.5	+0.7
PPLA				S	Sn	17 24 07.4	0.0
CAST	Castle Rocks	0.82	308	P	Pn	17 23 53.8	+0.2
CAST				S	Sn	17 24 07.9	-1.0
RND	Reindeer	0.94	58	P	Pn	17 23 55.7	+0.9
SKT	Skwentna	1.04	204	P	Pn	17 23 56.4	+0.7
SKT				S	Sn	17 24 13.0	+0.5
MCK	McKinley	1.11	43	P	Pn	17 23 57.3	+0.9
MCK				S	Sn	17 24 14.0	+0.1
CHUM	Lake Minchumin	1.22	322	P	Pn	17 23 58.1	+0.6
CHUM				S	Sn	17 24 15.5	-0.3
BWN	Browne	1.36	22	P	Pn	17 24 00.4	+1.4
SUA	Susitna One	1.47	182	P	Pn	17 24 01.4	+0.9
PMR	Palmer	1.51	152	P	Pn	17 24 01.6	+0.8
PMR				S	Sn	17 24 22.3	+0.7
STLK	Strandline Lak	1.54	202	P	Pn	17 24 01.9	+0.6
SML	Sawmill	1.55	135	P	Pn	17 24 02.3	+0.9
SML				S	Sn	17 24 24.1	+1.6
NEA	Nenana	1.80	22	P	Pn	17 24 04.9	+0.7
SPBG	Spurr Blockage	1.86	207	P	Pn	17 24 06.2	+1.0
BGL	Barrier Glacie	1.86	207	P	Pn	17 24 06.5	+1.3
SPU	Mount Spurr	1.87	202	P	Pn	17 24 05.8	+0.5
CKL	Chakachamna La	1.91	206	P	Pn	17 24 06.8	+1.0
WRH	Wood River Hil	1.92	35	P	Pn	17 24 06.6	+0.8
BKG	Blockade Glaci	2.02	203	P	Pn	17 24 07.6	+0.6
MLY	Manley	2.11	359	P	Pn	17 24 08.8	+0.6
CCB	Clear Creek Bu	2.13	35	P	Pn	17 24 09.2	+0.8
MDM	Murphy Dome	2.30	26	P	Pn	17 24 11.4	+0.9
COLA	College	2.31	31	P	Pn	17 24 11.5	+0.9
PAX	Paxson	2.36	87	P	Pn	17 24 13.2	+1.8
SLKM	Skilak Lake	2.44	175	P	Pn	17 24 13.6	+1.2
TT01	Tatalina	2.47	272	P	Pn	17 24 13.0	+0.3
ILAR	Eielson Array	2.49	40	P	Pn	17 24 13.7	+0.7
ILAR				S	Sn	17 24 42.1	-1.2
ILAR	Eielson Array	2.49	40	P	Pn	17 24 13.7	+0.7
	17nm,0.3s,baz=224,slow=13,SNR=818						
ILAR				S	Sn	17 24 42.1	-1.2
	8.7nm,0.3s,baz=221,slow=16,SNR=14						
GLM	Gilmore Dome	2.52	33	P	Pn	17 24 14.3	+1.0
DFR	Drift River	2.54	204	P	Pn	17 24 14.9	+1.2
HARP	HAARP	2.58	99	P	Pn	17 24 16.1	+2.0
NCT	North Crescent	2.61	206	P	Pn	17 24 16.2	+1.5
KLU	Klutina	2.63	121	P	Pn	17 24 15.2	+0.3
GLI	Glacier Island	2.65	139	P	Pn	17 24 15.5	+0.4
RSO	Redoubt South	2.67	203	eP	Pn	17 24 16.3	+0.7
JPK	Jack Peak	2.67	133	P	Pn	17 24 15.7	+0.3
VLZ	Valdez	2.71	130	P	Pn	17 24 15.8	0.0
DIV	Divide	2.92	126	ePn	Pn	17 24 18.3	-0.2
SVW2	Sparrevohn	2.97	234	P	Pn	17 24 19.7	+0.4
MENT	Mentasta	3.16	87	ePn	Pn	17 24 22.6	+0.8
EYAK	Cordova Ski Ar	3.33	134	P	Pn	17 24 24.8	+0.9
IM04	Indian Mountai	3.35	337	ePn	Pn	17 24 23.5	-0.8
IM3	Indian Mountai	3.35	338	P	Pn	17 24 24.8	+0.5
IMA2	Indian Mountai	3.42	339	P	Pn	17 24 25.6	+0.4
BMRM	Bremner River	3.46	122	P	Pn	17 24 25.9	+0.2
GOAT	Goat Mountain	3.66	127	P	Pn	17 24 28.9	+0.5
AUL	Augustine Lava	3.81	202	P	Pn	17 24 32.7	+2.4
RAGM	Ragged Mountai	3.81	129	P	Pn	17 24 31.9	+1.5
AUE	Augustine Isla	3.82	202	P	Pn	17 24 32.7	+2.2
AUW	Augustine West	3.82	202	P	Pn	17 24 31.7	+1.2
AUI	Augustine Isla	3.85	202	P	Pn	17 24 33.1	+2.2
MCARA	McCarthy VSAT	3.89	110	P	Pn	17 24 32.6	+1.2
BCA3	Beaver Creek A	4.04	84	P	Pn	17 24 34.2	+0.8
MCNL	McNeil River	4.16	207	P	Pn	17 24 36.5	+1.5
COLD	Coldfoot	4.32	2	P	Pn	17 24 38.2	+1.1
BALM	Baldy	4.34	112	P	Pn	17 24 38.1	+0.5
KIAG	Kiagna River	4.39	113	P	Pn	17 24 38.6	+0.3
EGAK	Eagle	4.58	62	P	Pn	17 24 41.9	+1.2
KAPH	Katmai Pasha	4.71	204	P	Pn	17 24 44.2	+1.8
KAKN	Katmai Knife C	5.13	207	P	Pn	17 24 49.6	+1.5
DAWY	Dawson	5.16	72	P	Pn	17 24 49.5	+0.9
BM3	Burnt Mountain	5.17	27	P	Pn	17 24 49.5	+0.9
KDAK	Kodiak Island	5.25	192	P	Pn	17 24 49.8	+0.1
KDAK				S	Sn	17 25 45.7	-3.3
KDAK	Kodiak Island	5.25	192	P	Pn	17 24 49.4	-0.2
	4.9nm,0.3s,baz=33,slow=9.0,SNR=32						
KDAK				S	Sn	17 25 45.7	-3.3
	4.1nm,0.3s,baz=329,slow=18,SNR=9.0						
KABR	Katmai Barrier	5.26	206	P	Pn	17 24 51.1	+1.1
CAHL	Cahill	5.41	207	P	Pn	17 24 53.6	+1.8
OHAK	Old Harbor	5.87	194	P	Pn	17 24 57.4	-0.6
ANNW	Aniakchak Nort	7.08	216	P	Pn	17 25 16.3	+1.8
INK	Inuvik	8.88	45	P	Pn	17 25 37.6	-0.9
INK	Inuvik	8.88	45	P	Pn	17 25 37.6	-0.9
	0.6nm,0.3s,baz=241,slow=15,SNR=16						
YKA	Yellowknife Ar	16.39	75	P	Pn	17 27 13.7	-2.6
YKA	Yellowknife Ar	16.39	75	P	Pn	17 27 13.7	-2.6
	0.1nm,0.3s,baz=290,slow=10,SNR=2.9						
PFO	Pinyon Flat Ob	36.31	128	LR	LR	17 42 54.6	
	comp=Z,364nm,20.9s,baz=350,slow=32						
SCHQ	Schefferville	41.08	61	P	P	17 31 03.8	-1.2
SCHQ	Schefferville	41.08	61	P	P	17 31 03.8	-1.2
	1.6nm,0.7s,baz=320,slow=16,SNR=2.5						
KSRS	Korea Array	53.66	282	P	P	17 32 44.0	+1.6
	0.7nm,0.7s,baz=39,slow=7.3,SNR=4.5						
KSAR	Wonju Array Be	53.69	282	P	P	17 32 44.0	+1.4
SONM	Songino Array	53.99	306	P	P	17 32 46.1	+1.1
SONM	Songino Array	53.99	306	P	P	17 32 46.1	+1.1
	0.8nm,0.7s,baz=23,slow=6.3,SNR=6.6						
ZALV	Zalesovo Beam	55.68	324	P	P	17 32 56.8	-0.1
ZALV	Zalesovo Beam	55.68	324	P	P	17 32 56.8	-0.1
	1.3nm,0.5s,baz=16,slow=7.4,SNR=5.0						
MKAR	Makanchi Array	62.84	322	P	P	17 33 46.3	+0.1
MKAR	Makanchi Array	62.84	322	P	P	17 33 46.3	+0.1
	0.5nm,0.6s,baz=36,slow=6.3,SNR=7.3						
AKASG	Malin Array Be	66.72	0	P	P	17 34 11.6	+0.4
AKASG	Malin Array Be	66.72	0	P	P	17 34 11.6	+0.4
	0.4nm,0.4s,baz=357,slow=5.2,SNR=3.5						

JMA 16 17:23:50.8, 33°.67N×130°.42E, h13km, M3.6, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.24	186	⇑P	Pg	17 23 56.1	0.0
JFI				S	Sg	17 23 59.6	0.0
JFA	Akaike	0.32	82	⇓P	Pg	17 23 57.2	-0.1
JFA				S	Sg	17 24 01.8	+0.2
JII	Iki	0.59	283	⇓P	Pg	17 24 02.4	+0.1
JII				S	Sg	17 24 10.3	+0.2
JTA	Tamana	0.71	172	⇑P	Pg	17 24 04.3	-0.3
JTA				S	Sg	17 24 13.6	-0.4

BJI ***16*** *17:29:39.7, 5°.03N×127°.50E, h137km, mB4.9/32, mb5.3/59*

AUST ***16*** *17:29:39.3, 5°.50N×127°.51E, h100km*

MAN ***16*** *17:29:41, 5°.04N×127°.25E, h137km, mb5.8, ML4.8, MS5.3*

NEIC ***16*** *17:29:41.5±1.1, 5°.31N×127°.33E, h122km±10km, mb5.2/53, Error ellipse: s-maj=6.2km s-min=4.4km az=87.0*

MOS ***16*** *17:29:42.8±1.1, 5°.31N×127°.33E, h146km, mb5.3/49, Error ellipse: s-maj=9.5km s-min=5.1km az=114.2*

ISCJB ***16*** *17:29:43.3±0.3, 5°.30N±0°.02×127°.38E±0°.02, h150km±2km, mb5.2/146, Error ellipse: s-maj=4.0km s-min=2.7km az=161.4*

TEH ***16*** *17:29:44.0, 5°.30N×127°.33E, h142km, ML5.3*

IDC ***16*** *17:29:45.5±0.5, 5°.29N×127°.37E, h155km±4km, mb4.7/41, mb1 4.8/42, mb1mx4.8/44, mbtmp4.7/42, MS3.5/5, Ms1 3.6/5, ms1mx3.1/42, Error ellipse: s-maj=10.3km s-min=6.3km az=70.0*

BKK ***16*** *17:29:45.2±0.6, 5°.N±4°.×12°.7E±°, h145km±5km, M5.0/37, mB5.4/19, mb5.3/37, MLv5.7/5, Mw(mB)4.8/19*

DJA ***16*** *17:29:46.4±0.4, 5°.N±3°.×12°.7E±°, h132km±5km, M4.9/24, mB5.4/14, mb5.2/24, Mw(mB)4.8/14*

ISC 16 17:29:44.4±0.3, 5°.27N±0°.03×127°.33E±0°.04, h147km±1km, h147km; pP-P, n503, σ1°41/651, mb5.2/146, 43C-12D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.98	327	eP	Pn	17 30 18.0	-1.0
MATI				eS	Sn	17 30 41.9	-3.8
DAV	Davao City (W)	2.49	316	P	Pn	17 30 26.6	+1.3
DAV				S	Sn	17 30 58.9	+2.0
DAV	Davao City (W)	2.49	316	P	Pn	17 30 26.5	+1.3
DAV	Davao City (W)	2.49	316	P	Pn	17 30 26.6	+1.3
	331nm,0.3s,baz=154,slow=0.5,SNR=208						
DAV				S	Sn	17 30 58.9	+2.0
	539nm,0.3s,baz=120,slow=21,SNR=6.1						
DAV				LR	LR	17 31 43.1	
	comp=Z,1μm,18.9s,baz=260,slow=47						
GSPH	General Santos	2.50	289	⇑iP	Pn	17 30 23.5	-2.0
GSPH				i S	Sn	17 30 53.2	-4.0
BUKP	Musuan	3.43	319	eP	Pn	17 30 37.9	+0.6
CTBH	Cotabato--PC H	3.62	302	⇓eP	Pn	17 30 38.5	-1.2
BUTP	Butuan	4.04	335	eP	Pn	17 30 46.4	+1.2
CGP	Cagayan de Oro	4.10	321	⇓eP	Pn	17 30 46.4	+0.5
CGP				eS	Sn	17 31 34.2	-0.4
TNTI	Ternate	4.47	180	P	Pn	17 30 51.4	+0.6
TNTI				S	Sn	17 31 41.7	-0.8
PAGZ	Pagadian	4.68	303	eP	Pn	17 30 52.8	-0.8
DCPH	Dipolog City	5.14	310	eP	Pn	17 30 59.9	+0.3
IPIL	Ipil	5.35	298	⇑iP	Pn	17 31 02.0	-0.4
IPIL				eS	Sn	17 32 01.7	-1.6
MSLP	Maasin	5.41	333	eP	Pn	17 31 02.9	-0.3
ZMPH	Zamboanga City	5.50	288	⇓iP	Pn	17 31 02.8	-1.6
ZMPH				i S	Sn	17 32 02.6	-4.2
LBMI	Labuha	5.88	178	P	Pn	17 31 10.2	+0.8
LLP	Lapu-Lapu	6.02	327	⇑eP	Pn	17 31 11.7	+0.3
LLP				eS	Sn	17 32 21.6	+2.2
PLP	Palo	6.30	338	⇓eP	Pn	17 31 15.1	0.0
GTOI	Gorontalo	6.31	223	P	Pn	17 31 15.2	0.0
GTOI				S	Sn	17 32 22.8	-3.6
OCLP	Ormoc	6.34	335	eP	Pn	17 31 17.8	+2.1
GUIM	Jordan	7.09	319	eP	Pn	17 31 26.4	+0.7
MRSI	Marisa	7.19	229	P	Pn	17 31 27.5	+0.5
MRSI				S	Sn	17 32 44.8	-2.6
SWI	Sorong	7.25	147	P	Pn	17 31 28.4	+0.6
SWI				S	Sn	17 32 45.4	-3.6
SWI	Sorong	7.25	147	P	Pn	17 31 28.4	+0.6
	baz=7.4,SNR=65						
SWI				S	Sn	17 32 44.1	-4.8
	baz=7.4,SNR=16						
PALU	Palau	7.39	73	P	Pn	17 31 28.3	-1.5
	baz=7.2,SNR=62						
PALU				S	Sn	17 32 52.3	-0.1
	baz=7.2,SNR=3.6						
RCP	Roxas	7.72	324	⇑eP	Pn	17 31 34.9	+0.8
TOLI	Toli-Toli	7.72	238	P	Pn	17 31 34.3	+0.2
LUWI	Luwuk	7.75	216	P	Pn	17 31 35.7	+1.2
LUWI	Luwuk	7.75	216	P	Pn	17 31 35.0	+0.4
	baz=8.1,SNR=87						
MYLDM	Lahad Datu	8.79	270	P	Pn	17 31 49.4	+0.9
MYLDM	Lahad Datu	8.79	270	P	Pn	17 31 50.3	+1.8
PVCP	Virac	8.84	339	⇑eP	Pn	17 31 48.7	-0.4
PVCP				eS	Sn	17 33 10.6	-17
AAI	Ambon	8.94	174	P	Pn	17 31 53.1	+2.7
	baz=9.2,SNR=7.8						
TSM	Tawau	9.47	265	P	Pn	17 31 58.3	+0.8
FAKI	Fak Fak	9.51	149	P	Pn	17 31 58.7	+0.8
	baz=9.7,SNR=16						
FAKI				S	Sn	17 33 39.5	-3.9
	baz=9.7,SNR=3.4						
RKPI	Ransiki, Papua	9.60	134	P	Pn	17 32 00.3	+1.1
SKSI	Soroako, Sulaw	9.79	218	P	Pn	17 32 00.3	-1.6
	127nm,1.0s						
SDKM	Sandakan	10.10	273	P	Pn	17 32 05.5	-0.4
KDM	Kudat	10.56	279	P	Pn	17 32 13.2	+1.2
BAKI	Biak	10.87	126	P	Pn	17 32 22.8	+6.8
KKSI	Kolaka, Sulawe	10.96	211	P	Pn	17 32 15.3	-2.0
	43nm,1.2s						
KKM	Kota Kinabalu	11.09	274	ePn	Pn	17 32 16.9	-2.1
KKM	Kota Kinabalu	11.09	274	P	Pn	17 32 18.6	-0.4
KKM	Kota Kinabalu	11.09	274	P	Pn	17 32 19.4	+0.4
	79nm,1.1s,1μm						
KKM	Kota Kinabalu	11.09	274	P	Pn	17 32 19.6	+0.6
	baz=11,SNR=11						
TTSI	Tana Toraja	11.16	222	P	Pn	17 32 19.6	-0.3
	123nm,0.9s,1μm						
SGKI	Sangatta, Kali	11.30	240	P	Pn	17 32 17.5	-4.2
	615nm,1.0s,6μm						
SRPI	Serui, Papua	11.38	128	P	P	17 32 29.4	-1.3
MMSI	Mamuju	11.55	227	P	Pn	17 32 24.7	-0.2
	470nm,1.0s,4μm						
BBSI	Bau Bau	11.70	204	P	Pn	17 32 28.6	+1.7
	65nm,0.8s,905nm						
BKB	Balikpapan	12.28	238	P	Pn	17 32 35.9	+1.4
	1μm,1.1s,12μm						
KAPI	Kappang	12.72	217	Pn	Pn	17 32 38.2	-1.9
	435nm,1.2s,SNR=6.4						
KAPI	Kappang	12.72	217	ePn	Pn	17 32 37.9	-2.3
KAPI	Kappang	12.72	217	P	Pn	17 32 38.4	-1.7
KAPI	Kappang	12.72	217	P	Pn	17 32 38.5	-1.6
	1.2nm,0.3s,baz=28,slow=5.9,SNR=11						
KAPI				LR	LR	17 36 43.7	
	comp=Z,223nm,21.4s,baz=329,slow=33						
BKSI	Bulukumba	12.75	214	P	Pn	17 32 40.6	0.0
	48nm,0.8s						
MTKI	Muara Teweh, K	13.87	244	P	P	17 33 00.0	+1.6
KBKI	Kotabaru	14.03	233	P	Pn	17 32 57.4	+0.5
	61nm,1.6s,1μm						
BTM	Bintulu	14.36	262	P	P	17 33 06.2	+2.4
MMRI	Maumere	14.72	200	P	Pn	17 33 06.4	+0.8
BBKI	Banjar Baru	15.20	235	P	P	17 33 12.4	-0.7
	182nm,1.1s,2μm						
SOEI	Soe	15.24	192	P	P	17 33 20.1	+6.4
SOEI	Soe	15.24	192	P	P	17 33 15.8	+2.1
	baz=16,SNR=8.9						
SBUM	Sibu	15.33	260	P	P	17 33 14.4	-0.2
SBUM	Sibu	15.33	260	P	P	17 33 14.1	-0.5
	392nm,0.8s,3μm						
LBFI	Labuhan Bajo,	15.55	209	P	P	17 33 17.8	+0.8
	345nm,0.9s,8μm						
STKI	Sintang	16.65	252	P	Pn	17 33 30.6	+1.2
	113nm,1.2s						
KSM	Kuching	17.40	258	eP	P	17 33 37.0	-0.5
	94nm,0.6s						
KSM	Kuching	17.40	258	P	Pn	17 33 39.4	+1.0
KSM	Kuching	17.40	258	P	Pn	17 33 38.9	+0.5
	130nm,1.0s,2μm						
KSM	Kuching	17.40	258	P	Pn	17 33 39.2	+0.8
	baz=18,SNR=55						
PBKI	Pangkalan Bun	17.54	243	P	Pn	17 33 40.6	+0.6
	292nm,1.1s,3μm						
MTN	Manton Dam	18.39	168	P	P	17 33 48.7	+0.4
	baz=19,SNR=50						
TWG	Pinlang	18.46	341	eP	P	17 33 48.0	-0.9
	190nm,0.6s						
KDU	Kakadu	18.56	164	P	P	17 33 50.9	+0.8
	baz=19,SNR=59						
TPUB	Ta-pu	19.05	341	eP	P	17 33 53.6	-1.8
	112nm,0.7s						
GUMO	Guam	19.16	63	eP	P	17 33 55.5	-1.2
	68nm,0.5s						
SSLB	Suanglung	19.41	342	eP	P	17 33 57.6	-1.6
	58nm,0.6s						
NACB	Ninganchiao	19.59	344	eP	P	17 34 00.3	-0.9
	23nm,0.8s						
TATO	Taipei	20.38	345	eP	P	17 34 08.5	-1.1
	31nm,0.7s						
KNRA	Kununurra	20.86	176	P	P	17 34 15.7	+0.8
	baz=21,SNR=93						
KNRA				S	S	17 37 59.9	+0.4
	baz=21,SNR=5.2						
UGM	Wanagama	21.28	232	P	P	17 34 25.2	+5.7
	baz=22,SNR=3.6						
QZH	Quanzhou	21.28	338	⇑iP	P	17 34 16.9	-2.4
QZH				sP	sP	17 35 04.3	+0.3
QZH				S	S	17 38 08.0	+0.8
QZH				pmax	pmax		
	comp=Z,240nm,0.7s						
QZH				LR	LR		
	comp=N,570nm,11.8s						
QZH				LR	LR		
	comp=E,300nm,11.6s						
JOW	Kunigami	21.46	2	eP	P	17 34 19.7	-1.5
	comp=E,32nm,0.7s						
QIZ	Qiongzhong	21.86	310	P	P	17 34 25.6	+0.1
QIZ				pP	pP	17 34 50.9	-1.1
QIZ				sP	sP	17 35 08.0	-2.3
QIZ				S	S	17 38 13.3	-4.0
QIZ				sS	sS	17 39 03.6	+0.2
QIZ				pmax	pmax		
	comp=Z,41nm,0.6s						
QIZ				pmax	pmax		
	comp=Z,63nm,3.6s						
QIZ	Qiongzhong	21.86	310	eP	P	17 34 23.4	-2.1
	comp=Z,29nm,0.6s						
GZH	Guangzhou	22.27	324	P	P	17 34 31.8	+2.2
LEM	Lembang	23.06	239	P	P	17 34 39.8	+2.5
	comp=Z,51nm,0.8s						
LEM	Lembang	23.06	239	P	P	17 34 39.8	+2.5
	baz=23,SNR=3.3						
FITZ	Fitzroy Crossi	23.29	184	P	P	17 34 39.6	+0.4
FITZ	Fitzroy Crossi	23.29	184	P	P	17 34 39.6	+0.4
	comp=Z,30nm,0.5s,baz=20,slow=8.9,SNR=204						
FITZ	Fitzroy Crossi	23.29	184	P	P	17 34 39.5	+0.4
	baz=24,SNR=151						
UBPT	Khong Chiam	23.67	296	P	P	17 34 43.3	+0.6
	comp=Z,26nm,1.0s						
MYKOM	Kota Tinggi	23.69	262	P	P	17 34 44.1	+1.2
MYKOM	Kota Tinggi	23.69	262	P	P	17 34 44.1	+1.2
	comp=Z,69nm,0.7s						
BTDF	Bukit Timah Da	23.83	261	P	P	17 34 46.3	+2.0
	baz=24,SNR=8.2						
BTDF				P	P	17 34 46.3	+2.0
	baz=24,SNR=8.2						
KTGM	Kuala Trenggan	24.09	271	P	P	17 34 47.2	+0.6
KLSI		24.65	247	P	P	17 34 55.1	+3.5
	comp=Z,24nm,0.7s						
COEN	Coen	24.75	141	P	P	17 34 54.7	+2.2
	baz=25,SNR=6.5						
PANO	Nakornpanom	25.18	300	P	P	17 34 57.3	+0.9
	comp=Z,47nm,0.9s						
FRIM	Kepong	25.71	267	P	P	17 35 01.8	+0.6
WRAB	Tennant Creek	25.98	165	P	P	17 35 03.0	-0.6
	comp=Z,160nm,0.5s,SNR=41						
WRAB	Tennant Creek	25.98	165	eP	P	17 35 02.8	-0.8
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s						
WRAB	Tennant Creek	25.98	165	eP	P	17 35 02.8	-0.8
	comp=Z,18nm,0.6s						
WRA	Warramunga Arr	25.99	165	P	P	17 35 03.1	-0.6
WRA	Warramunga Arr	25.99	165	P	P	17 35 03.1	-0.6
	comp=Z,13nm,0.8s,baz=344,slow=10,SNR=71						
IPM	Ipoh	26.22	269	eP	P	17 35 05.8	-0.1
	comp=Z,34nm,0.8s						
IPM	Ipoh	26.22	269	P	P	17 35 05.5	-0.4
IPM	Ipoh	26.22	269	P	P	17 35 06.2	+0.3
	comp=Z,44nm,0.8s,comp=Z,413nm						
SKLT	Songkhla	26.62	275	P	P	17 35 11.1	+1.7
	comp=Z,31nm,0.9s						
CHAI	Chaiyaphum	27.02	295	P	P	17 35 12.7	-0.3
	comp=Z,9.4nm,0.6s,comp=Z,96nm						
NAYO	Nakonayok	27.13	291	P	P	17 35 14.5	+0.5
	comp=Z,216nm,0.8s,comp=Z,11μm						
MBWA	Marble Bar	27.31	196	eP	P	17 35 15.5	0.0
	comp=Z,38nm,1.0s						
PPI	Padang Panjang	27.49	259	P	P	17 35 26.2	+9.0
	baz=28,SNR=4.4						
NJ2	Nanjing	27.80	344	eP	P	17 35 20.6	+0.9
NJ2				pmax	pmax		
	comp=Z,280nm,0.6s						
JNU	Nakatsue	27.90	6	eP	P	17 35 19.8	-0.9
JNU	Nakatsue	27.90	6	P	P	17 35 19.6	-1.1
	comp=Z,32nm,0.9s,baz=187,slow=3.

CMAR ScP **ScP** **17 42 09.3 +0.3**
comp=Z,1.6nm,0.9s,baz=100,slow=1.2,SNR=4.3
CMAR LR LR 17 47 30.3
comp=Z,129nm,19.8s,baz=294,slow=35
KMI Kunming 30.75 312 P **P** **17 35 47.4 +1.2**
KMI pP **pP** **17 36 13.8 -3.7**
KMI S **S** **17 40 41.6 +2.8**
KMI pmax pmax
comp=Z,51nm,0.8s
KMI LR LR
comp=N,250nm,11.4s
KMI LR LR
comp=E,140nm,10.5s
KMI LR LR
comp=Z,160nm,12.6s
CMMT Chiang Mai 30.78 298 P **P** **17 35 46.2 -0.1**
comp=Z,46nm,0.7s,comp=Z,453nm
CHTO Chiang Mai 30.78 298 *e*P **P** **17 35 46.1 -0.2**
CHTO pmax pmax
comp=Z,24nm,0.7s
CHTO Chiang Mai 30.78 298 *e*P **P** **17 35 46.1 -0.2**
comp=Z,24nm,0.7s
CHTO Chiang Mai 30.78 298 P **P** **17 35 46.5 +0.2**
CHTO Chiang Mai 30.78 298 P **P** **17 35 46.5 +0.2**
comp=Z,49nm,0.8s,comp=Z,500nm
CMAI Chiengmai2 31.13 300 P **P** **17 35 50.0 +0.4**
comp=Z,373nm,1.0s,comp=Z,32µm
CTA Charters Tower 31.33 144 P **P** **17 35 52.2 +1.2**
CTA Charters Tower 31.33 144 P **P** **17 35 52.2 +1.2**
comp=Z,2.3nm,0.4s,baz=302,slow=9.4,SNR=5.2
KSAR Wonju Array Be 32.02 1 P **P** **17 35 57.4 +0.5**
KSAR PcP **PcP** **17 38 43.5 +0.3**
KSAR ScP **ScP** **17 42 13.9 +0.7**
KSRS Korea Array 32.03 1 P **P** **17 35 57.4 +0.4**
comp=Z,22nm,0.7s,baz=178,slow=10.0,SNR=124
KSRS PcP **PcP** **17 38 43.5 +0.3**
comp=Z,3.7nm,0.7s,baz=190,slow=2.3,SNR=14
KSRS ScP **ScP** **17 42 13.9 +0.7**
comp=Z,4.3nm,1.0s,baz=188,slow=4.1,SNR=9.2
KSRS LR LR 17 48 52.8
comp=Z,37nm,20.8s,baz=182,slow=36
MAT Matsushiro 32.68 16 P **P** **17 36 00.4 -2.3**
MJAR Matsushiro Arr 32.68 16 P **P** **17 36 01.7 -1.1**
MJAR PcP **PcP** **17 38 45.6 +0.5**
MJAR Matsushiro Arr 32.68 16 P **P** **17 36 01.7 -1.1**
comp=Z,5.0nm,0.7s,baz=189,slow=9.7,SNR=1.7
MJAR PcP **PcP** **17 38 45.6 +0.5**
comp=Z,3.4nm,0.7s,baz=179,slow=3.0,SNR=4.3
MEEK Meekatharra 32.83 194 P **P** **17 36 04.4 +0.3**
baz=33,SNR=68
XAN Xi'an 33.33 331 P **P** **17 36 08.9 +0.4**
XAN pP **pP** **17 36 39.1 -0.9**
XAN sP **sP** **17 36 53.5 -3.4**
XAN pmax pmax
comp=Z,48nm,0.8s
CD2 Chengdu 33.78 322 *e*P **P** **17 36 13.0 +0.6**
CD2 pP **pP** **17 36 44.3 +0.3**
CD2 sP **sP** **17 37 01.3 +0.5**
CD2 PP **PP** **17 37 31.8 -0.1**
CD2 PcP **PcP** **17 38 49.1 +0.7**
CD2 S **S** **17 41 25.8 +0.4**
CD2 sS **sS** **17 42 20.3 -0.4**
CD2 SS **SnSn** **17 43 42.9 -5.2**
CD2 ScS **ScS** **17 46 20.0 -1.6**
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,130nm,5.2s
CD2 LR LR
comp=E,260nm,11.8s
CD2 LR LR
comp=Z,330nm,11.8s
DL2 Dalian 33.88 352 P **P** **17 36 14.3 +1.3**
DL2 pmax pmax
comp=Z,47nm,1.0s
MORW Morawa 35.83 197 P **P** **17 36 30.2 +0.3**
baz=36,SNR=23
FORT Forrest 35.85 179 P **P** **17 36 30.6 +0.6**
baz=36,SNR=62
BJT Baijiatuau 36.02 345 *e*P **P** **17 36 29.7 -1.7**
comp=Z,73nm,0.6s
SNY Shenyang 36.55 355 ⇑P **P** **17 36 35.9 0.0**
SNY pmax pmax
comp=Z,29nm,0.8s
SNY LR LR
comp=N,110nm,21.3s
SNY LR LR
comp=E,110nm,14.1s
SNY LR LR
comp=Z,120nm,13.1s
BLDU Ballidu 37.10 195 P **P** **17 36 41.2 +0.5**
baz=38,SNR=50
LZH Lanzhou 37.50 328 ⇑P **P** **17 36 45.9 +1.7**
LZH pP **pP** **17 37 13.3 -2.9**
LZH sP **sP** **17 37 35.6 +2.6**
LZH PP **PnPn** **17 38 19.5 +3.9**
LZH PcP **PcP** **17 39 00.8 +1.3**
LZH *e*S **S** **17 42 25.5 +3.2**
LZH sS **sS** **17 43 20.9 +2.7**
LZH pmax pmax
comp=Z,87nm,1.0s
LZH pmax pmax
comp=Z,320nm,3.5s
KLBR Kellerberrin 37.78 193 P **P** **17 36 46.9 +0.5**
baz=38,SNR=37
RMQ Roma 37.79 148 P **P** **17 36 46.5 0.0**
baz=38,SNR=6.0
VLA Vladivostok 37.90 5⇑*e*P **P** **17 36 46.3 -0.9**
VLA *e* 17 38 15.7
VLA *e*S **S** **17 42 27.0 -0.8**
VLA pmax pmax
comp=Z,39nm,1.6s
HHC Hu-ho-hao-te 38.14 341 *e*P **P** **17 36 50.5 +1.1**
HHC pP **pP** **17 37 22.4 +0.9**
HHC sP **sP** **17 37 38.0 -0.3**
HHC PP **PnPn** **17 38 25.3 +2.3**
HHC PcP **PcP** **17 39 03.3 +2.0**
HHC S **S** **17 42 32.9 +1.2**
HHC ScP **ScP** **17 42 35.6 +0.1**
HHC PcS **PcS** **17 42 51.4 +0.9**
HHC SS **SS** **17 45 20.3 -5.5**
HHC ScS **ScS** **17 46 44.6 -0.8**
HHC pmax pmax
comp=Z,120nm,1.0s
HHC pmax pmax
comp=Z,350nm,5.4s
HHC LR LR
comp=N,290nm,14.8s
HHC LR LR
comp=E,260nm,14.8s
HHC LR LR
comp=Z,290nm,14.6s
EIDS Eidsvold 38.22 144 P **P** **17 36 52.3 +2.2**
baz=38,SNR=3.2
CN2 Changchun 38.41 358 *e*P **P** **17 36 51.6 +0.1**
CN2 *e*pP **pP** **17 37 26.3 +2.7**
CN2 PcP **PcP** **17 39 02.1 +0.2**
CN2 *e*S **S** **17 42 36.3 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BBOO Buckleboo 38.77 168 P **P** **17 36 54.9 +0.3**
baz=39,SNR=30
USRK Ussuriysk Arra 38.98 5 P **P** **17 36 56.1 -0.1**
comp=Z,9.0nm,0.6s,baz=191,slow=6.6,SNR=28
USRK pP **pP** **17 37 29.9 +1.4**
comp=Z,4.9nm,0.7s,baz=187,slow=8.1,SNR=3.7
USRK PcP **PcP** **17 39 03.9 +0.3**
comp=Z,1.5nm,0.5s,baz=197,slow=4.4,SNR=2.6
NWAO Narrogin (SRO) 39.18 193 *e*P **P** **17 36 57.7 -0.4**
comp=Z,557nm,2.3s
NWAO Narrogin (SRO) 39.18 193 P **P** **17 36 59.1 +1.0**
comp=Z,66nm,0.5s,baz=22,slow=8.3,SNR=124
MDJ Mudanjiang 39.24 3 P **P** **17 36 58.8 +0.4**
MDJ pmax pmax
comp=Z,39nm,1.0s
MDJ pmax pmax
comp=Z,30nm,4.6s
MDJ Mudanjiang 39.24 3 *e*P **P** **17 36 55.7 -2.7**
comp=Z,37nm,0.9s
STKA Stephens Creek 39.37 161 *e*P **P** **17 36 59.7 +0.1**
comp=Z,5.3nm,0.9s
STKA PcP **PcP** **17 39 04.8 -0.4**
STKA ScP **ScP** **17 42 41.2 +1.0**
STKA Stephens Creek 39.37 161 P **P** **17 37 00.1 +0.4**
comp=Z,22nm,0.8s,baz=340,slow=7.9,SNR=35
STKA PcP **PcP** **17 39 04.8 -0.4**
comp=Z,7.3nm,0.5s,baz=306,slow=5.4,SNR=3.0
STKA ScP **ScP** **17 42 41.2 +1.0**
comp=Z,3.6nm,0.7s,baz=316,slow=8.1,SNR=3.8
STKA LR LR 17 53 23.8
comp=Z,126nm,20.7s,baz=27,slow=36
STKA Stephens Creek 39.37 161 P **P** **17 36 59.9 +0.3**
baz=40,SNR=28
CMSA Cobar Meteorol 40.58 156 P **P** **17 37 09.9 +0.3**
baz=41,SNR=14
RKGY Rocky Gully 40.85 193 P **P** **17 37 13.8 +2.0**
baz=41,SNR=70
ASAJ Asahikawa 40.95 17 *e*P **P** **17 37 12.6 +0.1**
comp=Z,13nm,0.6s
ASAJ Asahikawa 40.95 17 P **P** **17 37 12.8 +0.3**
comp=Z,32nm,0.7s,baz=234,slow=12,SNR=28
LSA Lhasa 41.90 310 P **P** **17 37 22.1 +1.1**
LSA pmax pmax
comp=Z,30nm,0.9s
LSA Lhasa 41.90 310 *e*P **P** **17 37 18.5 -2.5**
LSA pmax pmax
comp=Z,25nm,0.7s
LSA Lhasa 41.90 310 *e*P **P** **17 37 18.5 -2.5**
comp=Z,25nm,0.7s
GTA Gaotai 42.10 328⇑*i*P **P** **17 37 23.6 +1.4**
GTA pP **pP** **17 37 53.8 -1.0**
GTA sP **sP** **17 38 08.6 -2.8**
GTA PcP **PcP** **17 39 15.0 +0.9**
GTA ScP **ScP** **17 42 51.8 +0.8**
GTA S **S** **17 43 30.4 -0.4**
GTA sS **sS** **17 44 26.0 -1.5**
GTA pmax pmax
comp=Z,59nm,0.7s
GTA pmax pmax
comp=Z,79nm,5.7s
GTA LR LR
comp=N,120nm,13.8s
GTA LR LR
comp=E,110nm,15.2s
GTA LR LR
comp=Z,170nm,14.3s
ARMA Armidale 42.44 148 P **P** **17 37 25.6 +0.7**
baz=43,SNR=8.0
HABR Khabarovsk 43.55 7*ce*P **P** **17 37 31.8 -1.6**
HABR *SP **sP** **17 38 19.8 -3.0**
HABR 17 39 17.3
HABR *e*PPP PPP 17 39 55.3
HABR *e*S **S** **17 43 50.3 -1.0**
HABR *e**SS **sS** **17 44 45.4 -2.9**
HABR pmax pmax
comp=Z,98nm,1.9s
HABR pmax pmax
comp=E,28nm,1.5s
HABR pmax pmax
comp=N,46nm,1.9s
YSS Yuzh-Sakhalins 43.60 15⇑*e*P **P** **17 37 35.0 +1.1**
YSS pmax pmax
comp=Z,30nm,0.7s
TAPN Taplejung 43.61 305 *e*P **P** **17 37 35.4 +0.7**
comp=Z,125nm,0.6s
ODAN Odare 43.69 304 *e*P **P** **17 37 35.9 +0.6**
comp=Z,248nm,0.7s
KLR Kul'dur 43.96 4 *e*P P 17 37 32.8 -4.0
KLR *e* 17 38 08.8
KLR pmax pmax
comp=Z,60nm,1.2s
ARPS Mount Arapiles 43.97 163 P **P** **17 37 37.8 +0.9**
baz=44,SNR=20
YNG Young 44.10 155 P **P** **17 37 38.7 +0.6**
baz=44,SNR=7.0
HIA Hailar 44.31 353 *e*P **P** **17 37 37.7 -1.9**
comp=Z,12nm,0.6s
RAMN Ramite 44.38 304 *e*P **P** **17 37 41.5 +0.8**
comp=Z,223nm,0.7s
JIRN Jiri 44.98 304 *e*P **P** **17 37 46.4 +0.7**
comp=Z,197nm,0.8s
GUN Gumba 45.33 305 *e*P **P** **17 37 49.0 +0.6**
comp=Z,218nm,0.7s
PKI Pulchoki 45.59 304 *e*P **P** **17 37 50.5 +0.1**
comp=Z,61nm,0.7s
PKIN Phulchoki 45.60 304 *e*P **P** **17 37 50.4 -0.1**
comp=Z,30nm,0.5s
KKN Kakani 45.78 304 *e*P **P** **17 37 51.9 +0.1**
DMN Daman 45.85 304 *e*P **P** **17 37 52.6 +0.2**
comp=Z,116nm,0.9s
ULN Ulaanbaatar 45.85 341 *e*P **P** **17 37 52.5 +0.5**
comp=Z,58nm,0.7s
TOO Toolangi 45.86 160 P **P** **17 37 53.9 +1.9**
baz=46,SNR=3.9
SONM Songino Array 46.04 340 P **P** **17 37 54.1 +0.7**
SONM PcP **PcP** **17 39 27.3 -0.1**
SONM Songino Array 46.04 340 P **P** **17 37 54.1 +0.7**
comp=Z,15nm,0.6s,baz=156,slow=8.6,SNR=107
SONM PcP **PcP** **17 39 27.3 -0.1**
comp=Z,7.1nm,0.7s,baz=150,slow=4.2,SNR=5.9
DZM Mont Dzumac 46.95 127 P **P** **17 37 59.9 -0.9**
DZM Mont Dzumac 46.95 127 P **P** **17 37 59.9 -0.9**
comp=Z,7.9nm,1.0s,baz=342,slow=20,SNR=4.0
KOLN Koldanda 47.16 303 *e*P **P** **17 38 03.2 +0.7**
comp=Z,175nm,0.5s
DANN Dangsing 47.23 304 *e*P **P** **17 38 03.6 +0.4**
comp=Z,306nm,0.7s
CIT Chita 47.98 349 *e*P **P** **17 38 09.0 +0.8**
CIT pmax pmax
comp=Z,99nm,1.0s
HYB Hyderabad 49.18 288 *i*P **P** **17 38 18.0 0.0**
IRK Irkutsk 50.55 342 *e*P **P** **17 38 27.6 -0.1**
IRK pmax pmax
comp=Z,47nm,1.5s
WMQ Urumqi 51.82 324 P **P** **17 38 38.6 +1.2**
WMQ PcP **PcP** **17 39 48.6 +0.2**
WMQ PP PP 17 40 42.9 +6.2
WMQ S **S** **17 45 46.1 -2.4**
WMQ sS **sS** **17 46 45.0 -2.1**
WMQ pmax pmax
comp=Z,38nm,1.1s
WMQ pmax pmax
comp=Z,120nm,3.6s
WMQ LR LR
comp=N,90nm,18.0s
WMQ LR LR
comp=E,56nm,19.0s
WMQ LR LR
comp=Z,53nm,20.0s
SMLA Simla 53.56 305 *i*P **P** **17 38 51.2 +0.9**
POO Poona 53.77 289 *ex* **P** **17 38 50.0 -2.1**
PEA0B Petropavlovsk- 53.78 22 *e*P **P** **17 38 49.1 -2.4**
PETK Petropavlovsk- 53.78 22 P **P** **17 38 52.0 +0.4**
PETK Petropavlovsk- 53.78 22 P **P** **17 38 52.0 +0.4**
PETK Petropavlovsk- 53.78 22 P **P** **17 38 52.0 +0.4**
comp=Z,63nm,0.7s,baz=186,slow=4.5,SNR=190
PET Petropavlovsk 54.08 23 *e*P **P** **17 38 55.0 +1.3**
PET pmax pmax
comp=Z,59nm,0.6s
MK31 Makanchi Array 56.65 324*ce*P **P** **17 39 12.8 +0.6**
MK31 pmax pmax
comp=Z,52nm,0.4s
MK31 Makanchi Array 56.65 324 *e*P **P** **17 39 13.1 +0.8**
MKAR Makanchi Array 56.65 324*ce*P **P** **17 39 13.1 +0.8**
MKAR pmax pmax
comp=Z,74nm,0.5s
MKAR Makanchi Array 56.65 324 P **P** **17 39 12.9 +0.6**
MKAR Makanchi Array 56.65 324 P **P** **17 39 12.9 +0.6**
comp=Z,74nm,0.5s,baz=116,slow=8.0,SNR=742
YAK Yakutsk 56.66 1*c i*P **P** **17 39 11.8 -0.2**
YAK *e**PP **pP** **17 39 48.2 +1.9**
YAK *e* 17 40 06.3
YAK *e* 17 41 19.4
YAK *e*S **S** **17 46 54.2 +1.6**
YAK *e* 17 48 47.3
YAK *e*SS **SS** **17 50 45.5 +2.9**
YAK pmax pmax
comp=Z,164nm,0.9s
YAK pmax pmax
comp=N,55nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,43nm,3.8s
YAK pmax pmax
comp=E,70nm,4.1s
YAK smax smax
comp=N,36nm,3.5s
YAK smax smax
comp=E,25nm,3.2s
KSH Kashi 57.39 314⇑*i*P **P** **17 39 19.9 +2.1**
KSH pP **pP** **17 39 53.0 +0.8**
KSH sP **sP** **17 40 09.0 +0.7**
KSH PP **PP** **17 41 31.0 +4.2**
KSH S **S** **17 47 01.6 -1.7**
KSH sS **sS** **17 47 59.6 -3.3**
KSH SS **SS** **17 50 55.4 +0.2**
KSH pmax pmax
comp=Z,27nm,0.5s
KSH LR LR
comp=N,84nm,4.8s
KSH LR LR
comp=E,82nm,5.0s
KSH LR LR
comp=Z,110nm,4.7s
ULHL Ulahol 58.29 317 *i*P **P** **17 39 25.4 +1.3**
ULHL Ulahol 58.29 317 P **P** **17 39 25.4 +1.3**
SNR=11
KZA Kyzart 58.90 317 *i*P **P** **17 39 30.3 +1.8**
KZA Kyzart 58.90 317 P **P** **17 39 30.3 +1.8**
SNR=14
TKM2 Tokmak 2 59.00 318 *e*P **P** **17 39 29.9 +0.9**
TKM2 pmax pmax
comp=Z,47nm,0.6s
TKM2 Tokmak 2 59.00 318 P **P** **17 39 30.1 +1.1**
SNR=38
TKM2 Tokmak 2 59.00 318 *e*P **P** **17 39 29.9 +0.9**
comp=Z,47nm,0.6s
KBK Karagaybulak 59.33 317 *i*P **P** **17 39 32.6 +1.4**
KBK Karagaybulak 59.33 317 P **P** **17 39 32.6 +1.4**
SNR=25
UCH Uchtor 59.46 317 P **P** **17 39 34.2 +1.8**
SNR=11
ZAA0 Zalesovo Array 59.50 332 *e*P **P** **17 39 30.5 -1.4**
ZALV Zalesovo Beam 59.50 332 *i*P **P** **17 39 31.6 -0.3**
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 59.50 332 P **P** **17 39 31.6 -0.3**
ZALV Zalesovo Beam 59.50 332 P **P** **17 39 31.6 -0.3**
comp=Z,15nm,0.6s,baz=116,slow=6.6,SNR=92
CHMS Chumysh 59.60 318 *i*P **P** **17 39 33.7 +0.8**
CHMS Chumysh 59.60 318 P **P** **17 39 33.7 +0.8**
SNR=30
AAK Ala-Archa 59.63 317 P **P** **17 39 34.0 +0.7**
comp=Z,221nm,0.6s,SNR=7.7
AAK Ala-Archa 59.63 317 *e*P **P** **17 39 33.2 -0.1**
AAK pmax pmax
comp=Z,19nm,0.7s
AAK Ala-Archa 59.63 317 P **P** **17 39 34.6 +1.3**
SNR=14
AAK Ala-Archa 59.63 317 *e*P **P** **17 39 33.2 -0.1**
comp=Z,19nm,0.7s
AAK Ala-Archa 59.63 317 P **P** **17 39 34.5 +1.2**
comp=Z,21nm,0.5s,baz=101,slow=5.3,SNR=28
USP Ospenovka 59.88 318 *i*P **P** **17 39 35.7 +0.9**
USP Ospenovka 59.88 318 P **P** **17 39 35.7 +0.9**
SNR=50
AML Almayashu 59.99 316 *i*P **P** **17 39 37.4 +1.4**
AML Almayashu 59.99 316 P **P** **17 39 37.4 +1.4**
SNR=5.5
EKS2 Erkin-Say 60.13 317 *e*P **P** **17 39 37.8 +1.2**
EKS2 pmax pmax
comp=Z,72nm,0.6s
EKS2 Erkin-Say 60.13 317 P **P** **17 39 37.9 +1.3**
SNR=11
EKS2 Erkin-Say 60.13 317 *e*P **P** **17 39 37.8 +1.2**
comp=Z,72nm,0.6s
SEY Seymchan 60.40 13*ce*P **P** **17 39 39.3 +1.4**
SEY *i **PP **pP** **17 40 14.0 +1.3**
FX1 Attu Island--F 60.45 30 *e*P **P** **17 39 38.3 -0.2**
FX1 Attu Island--F 60.45 30 P **P** **17 39 39.2 +0.8**
comp=Z,70nm,0.7s,baz=285,slow=2.1,SNR=20
KURK Kurchatov 60.78 327 P **P** **17 39 41.3 +0.6**
KURK 17 41 56.3
KURK Kurchatov 60.78 327 P **P** **17 39 41.2 +0.6**
KURK PP **PP** **17 41 56.3 0.0**
KURBB Kurchatov Arra 60.78 327 P **P** **17 39 41.2 +0.6**
comp=Z,98nm,0.8s,baz=126,slow=6.2,SNR=1245
KURBB PP **PP** **17 41 56.3 0.0**
comp=Z,2.4nm,0.8s,baz=122,slow=8.8,SNR=4.2
NVS Novosibirsk 60.78 333⇑*i*P **P** **17 39 40.2 -0.4**
NVS *e* 17 40 19.7
NVS *e*S **S** **17 47 42.8 -3.3**
NVS pmax pmax
comp=Z,31nm,0.8s
NVS pmax pmax
comp=N,16nm,0.8s
NVS pmax pmax
comp=E,17nm,0.7s
NVS smax smax
comp=E,32nm,2.9s
SMY Shemya 60.84 30 *e*P **P** **17 39 40.8 -0.2**
SMY pmax pmax
comp=Z,128nm,1.2s
SMY Shemya 60.84 30 *e*P **P** **17 39 40.8 -0.2**
comp=Z,128nm,1.2s
KBL Kabul 61.08 307 *e*P **P** **17 39 42.8 -0.5**
KBL pmax pmax
comp=Z,39nm,0.8s
KBL Kabul 61.08 307 *e*P **P** **17 39 42.8 -0.5**
comp=Z,39nm,0.8s
KBL Kabul 61.08 307 P **P** **17 39 43.8 +0.5**
baz=61,SNR=12
KK31 Karatay Array 62.53 316*ce*P **P** **17 39 52.9 +0.3**
KK31 pmax pmax
comp=Z,22nm,0.4s
KKAR Karatay Array 62.53 316 *e*P **P** **17 39 53.1 +0.5**
KKAR Karatay Array 62.53 316 *e*P **P** **17 39 53.1 +0.5**
RPZ Rata Peaks 62.68 146 P **P** **17 39 53.6 +0.1**
RPZ Rata Peaks 62.68 146 P **P** **17 39 53.6 +0.1**
comp=Z,10nm,0.9s,baz=351,slow=2.0,SNR=7.0
AMKA Amchitka 62.89 34 *e*P **P** **17 39 51.9 -2.9**
comp=Z,31nm,0.4s
TIXI Tiksi 66.30 1*ce*P **P** **17 40 16.3 -0.2**
TIXI pmax pmax
comp=Z,68nm,1.0s
BVA0 Borovoye Array 66.37 326 P **P** **17 40 17.0 -0.3**
BVA0 pmax pmax
comp=Z,74nm,0.7s
BVAR Borovoye Array 66.37 326 P **P** **17 40 17.7 +0.3**
BVAR *PP **pP** **17 40 56.1 +3.4**
BVAR Borovoye Array 66.37 326 P **P** **17 40 17.7 +0.3**
BVAR pP **pP** **17 40 56.1 +3.4**
BVAR Borovoye Array 66.37 326 P **P** **17 40 17.7 +0.3**
comp=Z,57nm,0.7s,baz=125,slow=8.9,SNR=246
BVAR pP **pP** **17 40 56.1 +3.4**
comp=Z,13nm,0.7s,baz=124,slow=7.9,SNR=3.5
BRVK Borovoye 66.44 326 P **P** **17 40 18.0 +0.3**
comp=Z,682nm,0.7s,SNR=35
BRVK Borovoye 66.44 326*ce*P **P** **17 40 18.1 +0.3**
BRVK pmax pmax
comp=Z,85nm,0.8s
BRVK Borovoye 66.44 326 *e*P **P** **17 40 18.4 +0.7**
comp=Z,71nm,0.7s
ATKA Atka Island 66.89 35 *e*P **P** **17 40 20.6 0.0**
comp=Z,76nm,0.6s
IDAH Dahanechah 68.23 303 *e*P **P** **17 40 31.3 +1.5**
IKOO Kooshah 68.91 303 *e*P **P** **17 40 35.1 +1.0**
IAKL Akhelmad 69.70 307 *e*P **P** **17 40 39.8 +0.9**
ISFR Sfrayin 70.37 307 *e*P **P** **17 40 44.3 +1.4**
ISHV Shirvan 70.67 308 *e*P **P** **17 40 46.3 +1.6**
UOSS Wadi Hilu 70.69 294 P **P** **17 40 44.0 -0.7**
comp=Z,114nm,0.6s,SNR=6.5
AB31 Akbulak array 71.35 320*ce*P **P** **17 40 48.2 0.0**
AB31 pmax pmax
comp=Z,13nm,0.3s
ABKAR Akbulak array 71.35 320 *e*P **P** **17 40 48.6 +0.4**
AKUT Akutan 72.32 35 *e*P **P** **17 40 53.9 0.0**
comp=Z,140nm,0.6s
CASY Casey 72.41 187 *e*P **P** **17 40 55.0 +0.9**
comp=Z,24nm,0.9s
AKTO Aktyubinsk 72.83 321 P **P** **17 40 57.4 +0.4**
AKTO *PP **pP** **17 41 36.1 +3.1**
AKTO Aktyubinsk 72.83 321 P **P** **17 40 57.4 +0.4**
AKTO pP **pP** **17 41 36.0 +3.1**
AKTO Aktyubinsk 72.83 321 P **P** **17 40 57.4 +0.4**
comp=Z,36nm,0.5s,baz=99,slow=7.8,SNR=202
AKTO pP **pP** **17 41 36.0 +3.1**
comp=Z,12nm,0.6s,baz=78,slow=9.2,SNR=2.3
SVE Sverdlovsk 72.97 328*d i*P **P** **17 40 57.8 +0.1**
SVE pmax pmax
comp=Z,76nm,0.8s
MRIV Mauritius Mete 73.10 247 *e*P **P** **17 40 58.3 -0.9**
IANJ Anjilo 73.46 305 *e*P **P** **17 41 01.8 +0.5**
IGLO Ghaloghah 73.62 306 *e*P **P** **17 41 03.0 +0.8**
IKIA Kiasar 73.71 306 *e*P **P** **17 41 03.4 +0.6**

ARU	**Arti**	**73.96 327**	*d* iP		**P**	**17 41 02.8**	**-0.7**
ARU			*PP		**pP**	**17 41 39.5**	**-0.1**
ARU			S		**S**	**17 50 24.9**	**+1.3**
ARU			SS		**SS**	**17 55 08.2**	**-2.9**
ARU			pmax	pmax			
comp=Z,41nm,0.6s							
ARU	**Arti**	**73.96 327**	P		**P**	**17 41 03.4**	**-0.1**
comp=Z,518nm,0.6s,SNR=22							
ISHM	**Shahmirzad**	**73.99 306**	*e*P		**P**	**17 41 05.1**	**+0.6**
ILAS	**Lasjerd**	**74.22 305**	*e*P		**P**	**17 41 06.3**	**+0.5**
IFIR	**Firoozkooh**	**74.41 305**	*e*P		**P**	**17 41 07.5**	**+0.6**
IZEF	**Zefreh**	**74.56 303**	*e*P		**P**	**17 41 07.5**	**-0.3**
ISFB	**Sefidab**	**74.73 304**	*e*P		**P**	**17 41 09.1**	**+0.5**
IPRN	**Peran**	**74.80 306**	*e*P		**P**	**17 41 09.4**	**+0.4**
IDMV	**Damavand**	**75.00 305**	*e*P		**P**	**17 41 10.6**	**+0.3**
SDPT	**Sand Point**	**75.59 34**	*e*P		**P**	**17 41 12.1**	**-0.8**
comp=Z,120nm,0.6s							
IRAZ	**Razeghan**	**76.70 305**	*e*P		**P**	**17 41 20.4**	**+0.5**
CHGN	**Chignik**	**76.91 33**	*e*P		**P**	**17 41 20.1**	**-0.2**
UMR	**Umm Al-Rimmam**	**78.39 299**	*e*P		**P**	**17 41 28.9**	**-0.2**
UMR			AMb	AMB	AMB	17 41 29.8	
comp=Z,160nm,0.7s							
KBD	**Kabd**	**78.41 299**	*e*P		**P**	**17 41 28.7**	**-0.5**
KBD			AMb	AMB	AMB	17 41 29.9	
comp=Z,66nm,0.7s							
RDF	**Al-Radifah**	**78.53 298**	*e*P		**P**	**17 41 29.9**	**+0.1**
RDF			AMb	AMB	AMB	17 41 31.0	
comp=Z,106nm,0.8s							
NAY	**Al-Naaiem**	**78.80 299**	*e*P		**P**	**17 41 30.9**	**-0.5**
NAY			AMb	AMB	AMB	17 41 31.9	
comp=Z,97nm,0.7s							
SVW2	**Sparrevohn**	**79.17 29**	*e*P		**P**	**17 41 33.9**	**+1.2**
OHAK	**Old Harbor**	**79.84 33**	*e*P		**P**	**17 41 37.0**	**+0.7**
comp=Z,42nm,0.7s							
KDAK	**Kodiak Island**	**80.27 32**	*e*P		**P**	**17 41 39.3**	**+0.6**
comp=Z,64nm,0.6s							
KDAK	**Kodiak Island**	**80.27 32**	P		**P**	**17 41 39.6**	**+0.9**
comp=Z,597nm,0.5s,SNR=31							
KDAK	**Kodiak Island**	**80.27 32**	P		**P**	**17 41 39.3**	**+0.6**
comp=Z,64nm,0.6s,baz=259,slow=4.0,SNR=66							
RAYN	**Ar Rayn**	**80.43 293**	P		**P**	**17 41 40.5**	**+0.1**
comp=Z,802nm,0.7s,SNR=65							
RAYN	**Ar Rayn**	**80.43 293**	*e*P		**P**	**17 41 40.8**	**+0.4**
comp=Z,93nm,0.8s							
RSO	**Redoubt South**	**80.46 30**	*e*P		**P**	**17 41 38.5**	**-1.4**
DGRG	**David-gareji**	**80.50 311**	P		**P**	**17 41 41.9**	**+1.5**
IM04	**Indian Mountai**	**80.68 24**	*e*P		**P**	**17 41 40.0**	**-0.8**
IMA2	**Indian Mountai**	**80.74 24**	*e*P		**P**	**17 41 41.4**	**+0.2**
SPU	**Mount Spurr**	**80.88 29**	*e*P		**P**	**17 41 41.9**	**0.0**
GNI	**Garni**	**80.96 310**	*e*P		**P**	**17 41 41.8**	**-1.2**
comp=Z,17nm,0.8s							
GNI	**Garni**	**80.96 310**	P		**P**	**17 41 43.5**	**+0.5**
comp=Z,8.3nm,0.6s,baz=175,slow=11,SNR=3.6							
TBLG	**Delisi**	**80.99 311**	*i* P		**P**	**17 41 43.6**	**+0.7**
TBLG	**Delisi**	**80.99 311**	P		**P**	**17 41 43.6**	**+0.7**
PPLA	**Purkeypile**	**80.99 27**	*e*P		**P**	**17 41 43.5**	**+0.8**
comp=Z,26nm,0.7s							
DUS	**Dusheti**	**81.02 312**	P		**P**	**17 41 44.7**	**+1.6**
LBOS		**81.08 283**	*e*P		**P**	**17 41 45.5**	**+1.3**
ZEI	**Tsey**	**81.62 312**	*e*P		**P**	**17 41 46.0**	**-0.5**
ZEI			pmax	pmax			
comp=Z,43nm,0.8s							
TRF	**Thorofare Moun**	**81.90 27**	*e*P		**P**	**17 41 47.1**	**-0.3**
comp=Z,40nm,1.0s							
AKH	**Akhalkalaki**	**81.92 311**	P		**P**	**17 41 49.3**	**+1.3**
ONI	**Oni**	**81.95 312**	P		**P**	**17 41 49.1**	**+1.1**
TRBA	**At Turbah**	**82.22 283**	*e*P		**P**	**17 41 51.9**	**+1.8**
COLD	**Coldfoot**	**82.25 23**	*e*P		**P**	**17 41 50.2**	**+1.3**
comp=Z,32nm,0.8s							
PMR	**Palmer**	**82.31 29**	*e*P		**P**	**17 41 47.9**	**-1.4**
PMR			pmax	pmax			
comp=Z,35nm,0.7s							
PMR	**Palmer**	**82.31 29**	*e*P		**P**	**17 41 47.9**	**-1.4**
comp=Z,35nm,0.7s							
KBZ	**Khabaz**	**82.36 313**	P		**P**	**17 41 50.3**	**+0.3**
KBZ	**Khabaz**	**82.36 313**	P		**P**	**17 41 50.3**	**+0.3**
KBZ	**Khabaz**	**82.36 313**	P		**P**	**17 41 50.3**	**+0.3**
comp=Z,11nm,0.9s,baz=115,slow=3.9,SNR=19							
OPO	**Ambohidratompo**	**82.37 251**	P		**P**	**17 41 50.9**	**+0.1**
OPO	**Ambohidratompo**	**82.37 251**	P		**P**	**17 41 50.9**	**+0.1**
comp=Z,8.7nm,0.8s,baz=32,slow=1.6,SNR=8.4							
KIV	**Kislovodsk**	**82.51 314**	*e*P		**P**	**17 41 50.9**	**-0.1**
KIV			pmax	pmax			
comp=Z,23nm,0.9s							
KIV	**Kislovodsk**	**82.51 314**	P		**P**	**17 41 51.1**	**+0.1**
comp=Z,165nm,0.8s,SNR=7.5							
MCK	**McKinley**	**82.52 26**	*e*P		**P**	**17 41 50.8**	**+0.3**
MCK			pmax	pmax			
comp=Z,70nm,1.0s							
MCK	**McKinley**	**82.52 26**	*e*P		**P**	**17 41 50.8**	**+0.3**
comp=Z,70nm,1.0s							
SML	**Sawmill**	**82.70 28**	*e*P		**P**	**17 41 52.0**	**+0.5**
SML			pmax	pmax			
comp=Z,13nm,0.8s							
SML	**Sawmill**	**82.70 28**	*e*P		**P**	**17 41 52.0**	**+0.5**
comp=Z,13nm,0.8s							
COLA	**College**	**83.05 25**	*e*P		**P**	**17 41 53.1**	**0.0**
COLA			pmax	pmax			
comp=Z,72nm,0.6s							
COLA	**College**	**83.05 25**	*e*P		**P**	**17 41 53.1**	**0.0**
comp=Z,72nm,0.6s							
VRHR	**Novokhopersk**	**83.23 321**	*e*P		**P**	**17 41 53.6**	**-0.7**
VRHR			pmax	pmax			
comp=N,10.0nm,0.6s							
VRHR			pmax	pmax			
comp=E,20nm,0.6s							
VRHR			pmax	pmax			
comp=Z,60nm,0.6s							
ILAR	**Eielson Array**	**83.46 25**	P		**P**	**17 41 54.3**	**-1.0**
ILAR			pP		**pP**	**17 42 34.6**	**+2.5**
ILAR			PKKPbc		**PKKPbc**	**18 00 13.0**	**-3.1**
ILAR	**Eielson Array**	**83.46 25**	P		**P**	**17 41 54.3**	**-1.0**
comp=Z,12nm,0.6s,baz=245,slow=5.3,SNR=136							
ILAR			pP		**pP**	**17 42 34.6**	**+2.5**
comp=Z,6.0nm,0.9s,baz=248,slow=5.1,SNR=5.2							
ILAR			PKKPbc		**PKKPbc**	**18 00 13.0**	**-3.1**
comp=Z,0.5nm,0.9s,baz=2.9,slow=2.3,SNR=4.1							
ATD	**Arta Tunnel**	**83.57 281**	P		**P**	**17 41 58.4**	**+1.5**
ATD	**Arta Tunnel**	**83.57 281**	P		**P**	**17 41 58.4**	**+1.5**
comp=Z,33nm,0.7s,baz=67,slow=3.4,SNR=18							
DIV	**Divide**	**83.92 29**	*e*P		**P**	**17 41 59.0**	**+1.3**
comp=Z,77nm,0.8s							
PAX	**Paxson**	**84.06 27**	*e*P		P	17 41 54.5	-4.0
PAX			pmax	pmax			
comp=Z,19nm,0.7s							
PAX	**Paxson**	**84.06 27**	*e*P		P	17 41 54.5	-4.0
comp=Z,19nm,0.7s							
BMRM	**Bremner River**	**84.49 29**	*e*P		**P**	**17 42 01.7**	**+1.1**
comp=Z,54nm,0.9s							
SOC	**Sochi**	**84.67 313**	*e*P		**P**	**17 41 59.4**	**-2.4**
SOC			pmax	pmax			
comp=Z,40nm,0.7s							
VORD	**Divnogorie**	**84.70 321**	*e*P		**P**	**17 42 01.4**	**-0.4**
VORD			pmax	pmax			
comp=Z,70nm,0.7s							
VORD			pmax	pmax			
comp=N,20nm,0.8s							
VORD			pmax	pmax			
comp=E,70nm,1.4s							
VSR	**Storozhevoye**	**84.78 321**	*e*P		**P**	**17 42 01.6**	**-0.6**
VSR			pmax	pmax			
comp=N,6.0nm,0.9s							
VSR			pmax	pmax			
comp=E,40nm,0.9s							
VSR			pmax	pmax			
comp=Z,90nm,0.9s							
VNDA	**Vanda**	**84.87 173**	*e*P		**P**	**17 42 02.4**	**+0.3**
VNDA			PKKPbc		**PKKPbc**	**18 00 10.1**	**-3.4**
VNDA	**Vanda**	**84.87 173**	P		**P**	**17 42 02.2**	**+0.2**
comp=Z,6.2nm,0.9s,baz=313,slow=5.6,SNR=27							
VNDA			PKKPbc		**PKKPbc**	**18 00 10.1**	**-3.4**
comp=Z,0.4nm,0.6s,baz=175,slow=8.1,SNR=7.0							
MAW	**Mawson**	**85.40 200**	*e*P		**P**	**17 42 03.6**	**-1.2**
comp=Z,1.1nm,0.8s							
MAW	**Mawson**	**85.40 200**	P		**P**	**17 42 05.2**	**+0.4**
comp=Z,7.4nm,0.8s,baz=44,slow=5.5,SNR=17							
MAW	**Mawson**	**85.40 200**	P		**P**	**17 42 05.6**	**+0.8**
baz=86,SNR=8.7							
MOS	**Moscow**	**85.52 325**	*e*P		**P**	**17 42 03.4**	**-2.3**
SBA	**Scott Base**	**85.77 172**	*e*P		**P**	**17 42 07.7**	**+1.2**
SBA			pmax	pmax			
comp=Z,108nm,2.8s							
SBA	**Scott Base**	**85.77 172**	*e*P		**P**	**17 42 07.7**	**+1.2**
comp=Z,108nm,2.8s							
EGAK	**Eagle**	**85.92 25**	*e*P		**P**	**17 42 08.2**	**+0.6**
comp=Z,6.8nm,0.9s							
OBN	**Obninsk**	**86.15 325**	⇑iP		**P**	**17 42 08.4**	**-0.5**
OBN			pmax	pmax			
comp=Z,46nm,0.6s							
OBN	**Obninsk**	**86.15 325**	P		**P**	**17 42 08.1**	**-0.8**
comp=Z,552nm,0.6s,SNR=8.1							
ANN	**Anapa**	**86.25 314**	*e*P		**P**	**17 42 08.8**	**-0.8**
ANN			pmax	pmax			
comp=Z,65nm,1.0s							
ZALF	**Zalf**	**87.17 303**	*e*P		**P**	**17 42 13.2**	**-1.2**
DRWC	**Darouich**	**87.42 306**	*e*P		**P**	**17 42 17.2**	**+1.6**
ASF	**Jabal al Asfar**	**87.59 302**	P		**P**	**17 42 17.7**	**+1.2**
ASF	**Jabal al Asfar**	**87.59 302**	P		**P**	**17 42 17.7**	**+1.2**
comp=Z,19nm,0.8s,baz=48,slow=2.9,SNR=34							
BTCH	**Batrach**	**87.64 306**	*e*P		**P**	**17 42 16.1**	**-0.5**
SALA	**Sala**	**87.69 302**	*e*P		**P**	**17 42 17.1**	**0.0**
SALA			*e*P		**PcP**	**17 42 17.3**	**-1.5**
MARH	**Ras Al Marh**	**87.79 304**	*e*P		**P**	**17 42 15.9**	**-1.7**
HYT	**Haines Junctio**	**87.96 29**	*e*P		**P**	**17 42 18.2**	**+0.6**
INK	**Inuvik**	**88.52 22**	*e*P		**P**	**17 42 19.6**	**-0.3**
comp=Z,11nm,1.1s							
SIM	**Simferopol'**	**88.59 315**	*e*P		**P**	**17 42 19.0**	**-1.8**
SIM			*e**PP		pP	17 43 10.0	+12
SIM			*e*			17 52 29.0	
SIM			*e*S		S	17 52 44.0	-11
SIM			pmax	pmax			
comp=Z,37nm,0.8s							
ARCES	**ARCESS Array B**	**89.22 340**	P		**P**	**17 42 22.0**	**-1.3**
ARCES			PKiKP		**PKiKP**	**17 47 20.2**	**-0.6**
ARCES			PKKPbc		**PKKPdf**	**17 59 58.5**	**+1.9**
ARCES	**ARCESS Array B**	**89.22 340**	P		**P**	**17 42 22.0**	**-1.3**
comp=Z,22nm,0.8s,baz=80,slow=6.9,SNR=68							
ARCES			PKiKP		**PKiKP**	**17 47 20.2**	**-0.6**
comp=Z,3.1nm,1.0s,baz=64,slow=2.8,SNR=6.5							
ARCES			PKKPbc		**PKKPdf**	**17 59 58.5**	**+1.9**
comp=Z,2.0nm,0.9s,baz=270,slow=1.2,SNR=3.9							
ARE0	**ARCESS Array S**	**89.22 340**	*e*P		**P**	**17 42 22.1**	**-1.1**
EIL	**Elat**	**89.48 300**	P		**P**	**17 42 25.8**	**+0.4**
EIL	**Elat**	**89.48 300**	P		**P**	**17 42 25.8**	**+0.4**
comp=Z,20nm,0.7s,baz=20,slow=4.4,SNR=17							
EIL	**Elat**	**89.48 300**	P		**P**	**17 42 26.1**	**+0.8**
baz=90,SNR=10							
BR131	**Keskin Array S**	**89.50 310**	*e*P		**P**	**17 42 23.8**	**-1.6**
comp=Z,6.1nm,0.7s							
BRTR	**Keskin Array B**	**89.50 310**	P		**P**	**17 42 24.2**	**-1.2**
BRTR	**Keskin Array B**	**89.50 310**	P		**P**	**17 42 24.2**	**-1.2**
comp=Z,9.1nm,0.9s,baz=110,slow=4.2,SNR=37							
KMBO	**Kilima Mbogo**	**90.18 269**	P		**P**	**17 42 29.8**	**+0.6**
KMBO	**Kilima Mbogo**	**90.18 269**	P		**P**	**17 42 29.8**	**+0.6**
comp=Z,0.8nm,0.4s,baz=66,slow=24,SNR=4.4							
KAF	**Kangasniemi**	**90.51 333**	*e*P		**P**	**17 42 27.8**	**-1.6**
KAF			pmax	pmax			
comp=Z,3.0nm,0.4s							
KAF	**Kangasniemi**	**90.51 333**	*e*p		**P**	**17 42 27.8**	**-1.6**
comp=Z,2.5nm,0.4s							
FINES	**FINESS Array B**	**90.76 332**	P		**P**	**17 42 29.3**	**-1.2**
FINES	**FINESS Array B**	**90.76 332**	P		**P**	**17 42 29.3**	**-1.2**
comp=Z,6.7nm,0.5s,baz=62,slow=5.4,SNR=46							
AKASG	**Malin Array Be**	**91.08 321**	P		**P**	**17 42 31.0**	**-1.3**
AKASG	**Malin Array Be**	**91.08 321**	P		**P**	**17 42 31.0**	**-1.3**
AKASG	**Malin Array Be**	**91.08 321**	P		**P**	**17 42 31.0**	**-1.3**
comp=Z,18nm,0.6s,baz=62,slow=5.8,SNR=59							
KIEV	**Kiev**	**91.09 321**	*e*P		**P**	**17 42 29.5**	**-2.8**
KIEV			pmax	pmax			
comp=Z,10.0nm,0.6s							
KIEV	**Kiev**	**91.09 321**	*e*P		**P**	**17 42 29.5**	**-2.8**
comp=Z,10nm,0.6s							
ISP	**Isparta**	**92.16 308**	⇑P		**P**	**17 42 36.2**	**-1.6**
ISP	**Isparta**	**92.16 308**	⇑*i*P		**P**	**17 42 36.2**	**-1.6**
TIRR	**Tirgusor**	**92.68 315**	⇑P		**P**	**17 42 37.5**	**-2.3**
TIRR	**Tirgusor**	**92.68 315**	⇑*i*P		**P**	**17 42 37.5**	**-2.3**
CFR	**Carcaliu**	**92.75 316**	⇑P		**P**	**17 42 39.5**	**-0.6**
CFR	**Carcaliu**	**92.75 316**	⇑*i*P		**P**	**17 42 39.5**	**-0.6**
TESR	**Tescani**	**93.52 317**	⇑*i*P		**P**	**17 42 43.2**	**-0.5**
VRI	**Vrincioaia**	**93.59 317**	⇑P		**P**	**17 42 44.0**	**-0.1**
VRI	**Vrincioaia**	**93.59 317**	⇑*i*P		**P**	**17 42 44.0**	**-0.1**
PLOR	**Plostina**	**93.65 317**	⇑P		**P**	**17 42 43.9**	**-0.4**
PLOR	**Plostina**	**93.65 317**	⇑*i*P		**P**	**17 42 43.9**	**-0.4**
ISR	**Istrita**	**93.87 316**	⇓P		**P**	**17 42 46.0**	**+0.6**
ISR	**Istrita**	**93.87 316**	⇓*i*P		**P**	**17 42 46.0**	**+0.6**
SYO	**Syowa Base**	**94.07 201**	⇑*e*P		**P**	**17 42 44.4**	**-1.2**
BURAR	**Bucovina Array**	**94.25 318**	⇑P		**P**	**17 42 46.7**	**-0.4**
BURAR	**Bucovina Array**	**94.25 318**	⇑*i*P		**P**	**17 42 46.7**	**-0.4**
BUR08	**Bucovina Ar. S**	**94.26 318**	*e*P		**P**	**17 42 45.9**	**-1.3**
VOIR		**94.83 316**	⇓P		**P**	**17 42 49.2**	**-0.6**
VOIR		**94.83 316**	⇓*i*P		**P**	**17 42 49.2**	**-0.6**
ARR	**Arges**	**95.14 316**	⇑*i*P		**P**	**17 42 50.8**	**-0.4**
QSPA	**South Pole Qui**	**95.17 180**	*e*P		**P**	**17 42 51.5**	**+0.6**
QSPA	**South Pole Qui**	**95.17 180**	P		**P**	**17 42 51.1**	**+0.3**
comp=Z,4.3nm,0.8s,baz=342,slow=2.4,SNR=48							
KWP	**Kalwaria Pacla**	**95.40 321**	⇑P		**P**	**17 42 51.9**	**-0.3**
KWP	**Kalwaria Pacla**	**95.40 321**	⇑*i*P		**P**	**17 42 51.9**	**-0.3**
KOLS	**Kolonicke sedl**	**95.85 320**	*e*P		**P**	**17 42 53.8**	**-0.5**
KOLS			pmax	pmax			
comp=Z,8.0nm,1.6s							
KOLS	**Kolonicke sedl**	**95.85 320**	*e*P		**P**	**17 42 53.8**	**-0.5**
KOLS			*e*PP		**PP**	**17 46 45.6**	**-2.4**
UZH	**Uzhgorod**	**95.92 320**	*e*P		**P**	**17 42 53.7**	**-0.8**
UZH			*e**PP		**pP**	**17 43 33.3**	**+1.3**
STHS	**Stebnicka Huta**	**96.38 321**	*e*P		**P**	**17 42 57.4**	**+0.7**
STHS			pmax	pmax			
comp=Z,5.0nm,0.7s							
STHS	**Stebnicka Huta**	**96.38 321**	*e*P		**P**	**17 42 57.4**	**+0.7**
CRVS	**Cervenica-Dubn**	**96.38 320**	*e*P		**P**	**17 42 56.5**	**-0.2**
CRVS			pmax	pmax			
comp=Z,10.0nm,0.9s							
CRVS	**Cervenica-Dubn**	**96.38 320**	*e*P		**P**	**17 42 56.5**	**-0.2**
CRVS			*e*PP		**PP**	**17 46 49.9**	**-2.1**
GZR	**Gura Zlata**	**96.40 317**	⇓P		**P**	**17 42 56.2**	**-0.8**
GZR	**Gura Zlata**	**96.40 317**	⇓*i*P		**P**	**17 42 56.2**	**-0.8**
VTS	**Vitosha**	**96.77 314**	⇑P		**P**	**17 42 58.0**	**-0.8**
VTS	**Vitosha**	**96.77 314**	⇑*i*P		**P**	**17 42 58.0**	**-0.8**
KECS	**Kecovo**	**97.11 320**	*e*P		**P**	**17 42 59.5**	**-0.5**
KECS			pmax	pmax			
comp=Z,5.0nm,0.8s							
KECS	**Kecovo**	**97.11 320**	*e*P		**P**	**17 42 59.5**	**-0.5**
KECS			*e*PP		**PP**	**17 46 54.9**	**-2.7**
NB2	**NORSAR Subarra**	**97.68 334**	P		**P**	**17 43 00.3**	**-2.0**
comp=Z,2.5nm,0.6s,baz=64,slow=4.6							
NB2	**NORSAR Subarra**	**97.68 334**	P		**P**	**17 43 00.3**	**-2.0**
baz=64,slow=4.6							
NOA	**NORSAR Array B**	**97.68 334**	P		**P**	**17 43 00.6**	**-1.7**
NOA			PP		**PP**	**17 47 03.9**	**+2.3**
NOA	**NORSAR Array B**	**97.68 334**	P		**P**	**17 43 00.6**	**-1.7**
comp=Z,3.9nm,0.8s,baz=65,slow=4.5,SNR=10							
NOA			PP		**PP**	**17 47 03.9**	**+2.3**
comp=Z,0.8nm,0.8s,baz=77,slow=8.2,SNR=3.4							
KSP	**Ksiaz**	**98.98 323**	*e*P		Pdif	17 43 08.4	+0.1
LSZ	**Lusaka**	**100.17 255**	P		**Pdif**	**17 43 14.6**	**+0.1**
LSZ	**Lusaka**	**100.17 255**	P		**Pdif**	**17 43 14.6**	**+0.1**
comp=Z,0.8nm,0.4s,baz=48,slow=7.4,SNR=4.1							
CLL	**Collm**	**100.74 324**	*e*(PP)		**PP**	**17 47 20.0**	**-5.1**
CLL			*e*PPS		PPS	17 57 24.0	
CLL			*e*SS		SS	18 01 42.0	+1.2
GEC2	**GERESS Array S**	**101.25 322**	*e*P		**Pdif**	**17 43 18.6**	**0.0**
GEC2	**GERESS Array S**	**101.25 322**	*e*Pdif		**Pdif**	**17 43 18.6**	**0.0**
GERES	**GERESS Array B**	**101.25 322**	P		**Pdif**	**17 43 18.3**	**-0.3**
GERES			PP		**PP**	**17 47 31.3**	**+2.2**
GERES			PKiKP		**PKiKP**	**17 47 43.1**	**+0.6**
GERES	**GERESS Array B**	**101.25 322**	P		**Pdif**	**17 43 18.3**	**-0.3**
comp=Z,1.5nm,0.8s,baz=70,slow=5.8,SNR=14							
GERES			PP		**PP**	**17 47 31.3**	**+2.2**
comp=Z,0.4nm,0.7s,baz=72,slow=8.6,SNR=3.5							
GERES			PKiKP		**PKiKP**	**17 47 43.1**	**+0.6**
comp=Z,0.3nm,0.4s,baz=94,slow=1.9,SNR=4.2							
NVAR	**Mina Array Bea**	**105.44 48**	PKiKP		**PKiKP**	**17 47 46.7**	**-4.0**
NVAR			PKKPbc		**PKKPbc**	**17 59 16.7**	**-0.4**
NVAR			PKKPab		**PKKPab**	**17 59 33.8**	**-0.8**
NVAR	**Mina Array Bea**	**105.44 48**	PKiKP		**PKiKP**	**17 47 46.7**	**-4.0**
comp=Z,0.6nm,0.7s,baz=270,slow=4.4,SNR=4.5							
NVAR			PKKPbc		**PKKPbc**	**17 59 16.7**	**-0.4**
comp=Z,1.0nm,0.7s,baz=145,slow=4.3,SNR=9.2							
NVAR			PKKPab		**PKKPab**	**17 59 33.8**	**-0.8**
comp=Z,1.0nm,0.7s,baz=130,slow=5.3,SNR=5.9							
HINF	**Hinteralfeld**	**105.84 323**	*e*PKiKP		**PKiKP**	**17 47 50.6**	**-0.3**
PAGF	**Fort de Pagny**	**106.17 324**	*e*PKiKP		**PKiKP**	**17 47 50.1**	**-1.3**
comp=Z,0.7nm,0.4s							
PDAR	**Pinedale Array**	**109.81 41**	PKKPbc		PKKPbc	17 58 59.3	-4.4
PDAR			PKKPab		**PKKPab**	**17 59 13.0**	**-2.3**
PDAR	**Pinedale Array**	**109.81 41**	PKKPbc		PKKPbc	17 58 59.3	-4.4
comp=Z,0.2nm,0.5s,baz=104,slow=6.3,SNR=4.5							
PDAR			PKKPab		**PKKPab**	**17 59 13.0**	**-2.3**
comp=Z,1.6nm,0.8s,baz=113,slow=7.0,SNR=9.9							
MFF	**Saint Martin d**	**110.59 324**	*e*PKiKP		**PKiKP**	**17 47 59.1**	**-0.6**
comp=Z,4.9nm,0.7s							
ETSF	**Etsaut**	**112.80 321**	*e*PKiKP		**PKiKP**	**17 48 03.7**	**-0.4**
comp=Z,12nm,1.2s							
ESDC	**Sonseca Array**	**116.69 320**	PKP		**PKPdf**	**17 48 11.9**	**+0.2**
ESDC	**Sonseca Array**	**116.69 320**	PKP		**PKPdf**	**17 48 11.9**	**+0.2**
comp=Z,0.3nm,0.5s,baz=17,slow=2.1,SNR=4.3							
MVO	**Moncorvo**	**117.76 322**	*e*PKPdf		**PKPdf**	**17 48 14.3**	**+0.6**
PGAV	**Gavieira, Arco**	**118.02 324**	*e*PKPdf		**PKPdf**	**17 48 14.3**	**+0.1**
POLO	**Lamas de Olo**	**118.10 323**	*e*PKPdf		**PKPdf**	**17 48 14.8**	**+0.4**
GDL2	**Guadalupe Moun**	**118.35 49**	*e*PKPdf		PKPdf	17 48 08.3	-6.9
MTE	**Manteigas**	**118.53 322**	*e*PKPdf		**PKPdf**	**17 48 15.6**	**+0.4**
SCHQ	**Schefferville**	**118.96 9**	PKP		**PKPdf**	**17 48 15.6**	**+0.1**
SCHQ	**Schefferville**	**118.96 9**	PKP		**PKPdf**	**17 48 15.6**	**+0.1**
comp=Z,5.4nm,0.5s,baz=325,slow=2.1,SNR=17							
PMRV	**Marv??o**	**119.01 321**	*e*PKPdf		**PKPdf**	**17 48 16.0**	**-0.1**
PCAS	**Casmilo, Conde**	**119.32 322**	*e*PKPdf		**PKPdf**	**17 48 16.8**	**+0.1**
PESTR	**Estremoz**	**119.46 321**	*e*PKPdf		**PKPdf**	**17 48 17.5**	**+0.5**
PBAR	**Barrancos**	**119.51 320**	*e*PKPdf		**PKPdf**	**17 48 17.5**	**+0.4**
EVO	**Evora**	**119.93 321**	*e*PKiKP		**PKPdf**	**17 48 18.1**	**+0.2**
comp=Z,9.0nm,0.8s							
KSU1	**Kansas State U**	**120.04 39**	*e*PKPdf		**PKPdf**	**17 48 17.3**	**-0.7**
TXAR	**Lajitas Array**	**120.18 52**	PKP		**PKPdf**	**17 48 19.0**	**+0.2**
TXAR			pPKP		**pPKPdf**	**17 49 00.8**	**+3.0**
TXAR			PKKPbc		**PKKPbc**	**17 58 26.2**	**-1.1**
TXAR	**Lajitas Array**	**120.18 52**	PKP		**PKPdf**	**17 48 19.0**	**+0.2**
comp=Z,0.8nm,0.7s,baz=282,slow=1.2,SNR=12							
TXAR			pPKP		**pPKPdf**	**17 49 00.8**	**+3.0**
comp=Z,0.5nm,0.7s,baz=265,slow=2.3,SNR=3.3							
TXAR			PKKPbc		**PKKPbc**	**17 58 26.2**	**-1.1**
comp=Z,0.5nm,0.6s,baz=123,slow=6.1,SNR=4.8							
PNCL	**Nicolau / Gran**	**120.50 320**	*e*PKPdf		**PKPdf**	**17 48 19.4**	**+0.4**
JCT	**Junction City**	**122.60 49**	*e*PKiKP		**PKPdf**	**17 48 23.7**	**+0.4**
JCT	**Junction City**	**122.60 49**	*e*PKPdf		**PKPdf**	**17 48 23.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**122.99 289**	PKP		**PKPdf**	**17 48 23.9**	**-0.5**
TORD			pPKP		**pPKPdf**	**17 49 06.0**	**+2.6**
TORD			PKKPbc		**PKKPbc**	**17 58 15.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**122.99 289**	PKP		**PKPdf**	**17 48 23.9**	**-0.5**
comp=Z,9.2nm,0.7s,baz=46,slow=2.0,SNR=48							
TORD			pPKP		**pPKPdf**	**17 49 06.0**	**+2.6**
comp=Z,1.8nm,0.7s,baz=51,slow=2.0,SNR=3.2							
TORD			PKKPbc		**PKKPbc**	**17 58 15.6**	**-0.7**
comp=Z,0.9nm,0.9s,baz=300,slow=3.4,SNR=3.6							
MIAR	**Mount Ida**	**124.73 41**	*e*PKiKP		**PKPdf**	**17 48 28.3**	**+1.1**
MIAR	**Mount Ida**	**124.73 41**	*

CPUP Villa Florida 144.39 217 PKP PKPbc 17 55 26.8 +0.2
1.1nm,0.5s,baz=189,slow=20,SNR=3.6
TXAR Lajitas Array 144.63 36 PKP PKPbc 17 55 27.9 +0.4
2.6nm,0.7s,baz=225,slow=1.1,SNR=9.0

*MAN **16** 17:35:52, 15.67N×118.93E, h13km, mb5.2, ML4.2, MS4.4*
*ISCJB **16** 17:35:58.3±0.9, 15.67N±0.09×119.27E±0.07, h43km, mb3.8/6, Error ellipse: s-maj=13.5km s-min=9.1km az=18.6*
*IDC **16** 17:36:04.2±0.9, 15.66N×119.90E, h88km±8km, mb3.5/7, mb1 3.6/7, mb1mx3.4/25, mbtmp3.5/7, Error ellipse: s-maj=28.2km s-min=15.6km az=62.0*
ISC 16 17:36:00.7±0.9, 15.71N±0.08×119.42E±0.09, h43km, n15, σ2§22/14, mb3.8/6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**1.30**	**59**	‖ *iP*	**Pn**	**17 36 20.6**	**-1.9**
BALP	**Baler**	**2.07**	**89**	*eP*	**Pn**	**17 36 34.0**	**+1.1**
BALP				*eS*	**Sn**	**17 37 00.9**	**+3.3**
TGY	**Tagaytay City**	**2.17**	**137**	P	**Pn**	**17 36 33.7**	**-0.6**
	53nm,0.3s,baz=286,slow=16,SNR=8.8						
ABRA	**Dolores**	**2.29**	**32**	*eP*	**Pn**	**17 36 35.4**	**-0.6**
CAUP	**Cauayan**	**2.61**	**62**	*eP*	**Pn**	**17 36 42.2**	**+1.9**
APYP	**Conner**	**2.76**	**39**	*eP*	**Pn**	**17 36 41.9**	**-0.5**
PALP	**Palanan**	**3.18**	**65**	*eP*	Pn	17 36 50.8	+2.6
CMAR	**Chiang Mai Arr**	**19.77**	**281**	P	**Pn**	**17 40 33.7**	**+4.6**
	3.0nm,0.8s,baz=93,slow=7.8,SNR=11						
KSRS	**Korea Array**	**22.93**	**18**	P	**P**	**17 40 59.1**	**-1.9**
	1.3nm,0.7s,baz=199,slow=10,SNR=7.9						
SONM	**Songino Array**	**33.80**	**344**	pP	pP	17 43 01.0	+11
	1.9nm,0.9s,baz=159,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**41.62**	**160**	P	**P**	**17 43 42.1**	**-2.7**
	2.0nm,0.7s,baz=334,slow=7.0,SNR=7.7						
MKAR	**Makanchi Array**	**43.69**	**323**	P	**P**	**17 44 02.1**	**+0.7**
	0.6nm,0.7s,baz=116,slow=9.8,SNR=3.0						
MKAR				pP	pP	17 44 23.8	+10
	1.2nm,0.7s,baz=133,slow=8.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**46.72**	**333**	P	**P**	**17 44 25.5**	**+0.3**
	0.6nm,0.6s,baz=126,slow=7.3,SNR=2.4						
ZALV				pP	pP	17 44 47.3	+10
	2.7nm,0.8s,baz=144,slow=5.5,SNR=5.0						
KURBB	**Kurchatov Arra**	**47.84**	**326**	P	**P**	**17 44 34.1**	**+0.1**
	1.1nm,0.8s,baz=121,slow=8.5,SNR=3.9						
KURBB				pP	pP	17 44 56.7	+11
	2.9nm,0.8s,baz=121,slow=8.4,SNR=6.4						
PETK	**Petropavlovsk-**	**47.89**	**30**	P	**P**	**17 44 33.2**	**-1.3**
	3.5nm,0.7s,baz=207,slow=6.1,SNR=5.5						

IDC 16 17:37:37.9±1.7, 1.35N×126.04E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=180.2km s-min=21.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.67**	**159**	P	P	17 42 40.8	-0.3
	0.4nm,0.4s,baz=338,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.02**	**163**	P	P	17 43 13.0	+0.2
	0.6nm,0.9s,baz=341,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**59.12**	**326**	P	P	17 47 40.8	+0.4
	0.4nm,0.4s,baz=115,slow=8.1,SNR=5.5						
KURBB	**Kurchatov Arra**	**63.37**	**328**	P	P	17 48 08.7	-0.3
	0.5nm,0.5s,baz=128,slow=6.2,SNR=7.2						

IDC 16 17:43:26.2±4.5, 1.50S×99.86E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=234.9km s-min=30.4km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.36**	**121**	P	P	17 50 49.1	-0.3
	0.5nm,0.7s,baz=297,slow=9.2,SNR=6.3						
ASAR	**Alice Springs**	**39.66**	**126**	P	P	17 51 00.6	+0.3
	0.3nm,0.6s,baz=301,slow=7.7,SNR=8.7						
MKAR	**Makanchi Array**	**50.51**	**344**	P	P	17 52 26.5	+0.3
	0.2nm,0.6s,baz=152,slow=7.9,SNR=2.6						
TXAR	**Lajitas Array**	**144.39**	**37**	PKP	PKPab	18 03 03.4	-0.1
	0.1nm,0.4s,baz=298,slow=3.9,SNR=2.8						

IDC 16 17:44:45.0±3.3, 1.53S×99.60E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/25, mbtmp3.3/6, ML3.7/1, Error ellipse: s-maj=153.7km s-min=21.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	P	17 49 17.4	-0.6
	0.1nm,0.3s,baz=184,slow=9.9,SNR=2.8						
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	17 52 09.8	-0.2
	0.2nm,0.5s,baz=303,slow=9.0,SNR=6.1						
ASAR	**Alice Springs**	**39.84**	**126**	P	P	17 52 20.6	0.0
	0.3nm,0.7s,baz=304,slow=7.8,SNR=4.3						
MKAR	**Makanchi Array**	**50.48**	**345**	P	P	17 53 44.2	-0.5
	0.3nm,0.5s,baz=153,slow=7.9,SNR=5.3						
KURBB	**Kurchatov Arra**	**54.99**	**344**	P	P	17 54 17.4	-0.6
	0.1nm,0.4s,baz=166,slow=7.3,SNR=2.6						
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	P	17 54 31.2	+1.4
	0.3nm,0.3s,baz=176,slow=8.7,SNR=2.4						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPbc	18 04 23.2	+0.1
	0.2nm,0.5s,baz=294,slow=4.5,SNR=2.8						

IDC 16 17:46:01.0±2.9, 17.31S×174.65W, h156km±25km, mb3.3/7, mb1 3.6/8, mb1mx3.4/21, mbtmp3.4/8, Error ellipse: s-maj=37.9km s-min=17.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.37**	**40**	P	Pn	17 47 06.5	0.0
	29nm,0.3s,baz=201,slow=2.2,SNR=91						
AFI				S	Sn	17 47 53.1	-4.4
	47nm,0.3s,baz=240,slow=24,SNR=15						
WRA	**Warramunga Arr**	**48.26**	**258**	P	P	17 54 26.1	-0.5
	0.2nm,0.4s,baz=96,slow=8.0,SNR=8.9						
ASAR	**Alice Springs**	**48.40**	**254**	P	P	17 54 27.6	0.0
	1.4nm,0.6s,baz=92,slow=7.2,SNR=35						
ASAR				PcP	PcP	17 55 51.1	-0.6
	0.3nm,0.5s,baz=107,slow=3.9,SNR=8.0						
QSPA	**South Pole Qui**	**72.74**	**180**	P	P	17 57 12.4	+0.4
	0.6nm,0.9s,baz=319,slow=8.3,SNR=3.4						
PETK	**Petropavlovsk-**	**74.09**	**343**	P	P	17 57 20.5	+0.8
	0.9nm,0.8s,baz=123,slow=7.7,SNR=3.8						
NVAR	**Mina Array Bea**	**76.55**	**42**	P	P	17 57 34.6	+0.2
	0.7nm,0.8s,baz=220,slow=9.3,SNR=5.0						
PDAR	**Pinedale Array**	**84.48**	**42**	P	P	17 58 16.1	-0.6
	0.6nm,1.0s,baz=182,slow=4.5,SNR=3.9						
ILAR	**Eielson Array**	**84.55**	**12**	P	P	17 58 15.7	-0.5
	0.5nm,0.7s,baz=226,slow=5.9,SNR=13						
GERES	**GERESS Array B**	**147.82**	**350**	PKPbc	PKPbc	18 05 27.5	-0.2
	0.4nm,0.6s,baz=350,slow=5.0,SNR=4.9						

*BKK **16** 17:57:13.3±0.8, 21.7N±7.7×101.61E±.7, h10km, M4.6/10, mb4.3/2, mB4.6/2, MLv4.7/10, Mw(mB)3.8/2*
*ISCJB **16** 17:57:14.1±0.4, 20.44N±0.04×100.85E±0.04, h10km, mb3.8/10, Error ellipse: s-maj=6.6km s-min=4.2km az=44.9*
*IDC **16** 17:57:14.8±0.8, 20.32N×100.89E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/26, mbtmp3.8/11, ML4.1/1, Error ellipse: s-maj=19.9km s-min=13.6km az=117.0*
*PLV **16** 17:57:24.7±3.1, 20.27N×101.61E, h17km±24km, MD3.7*
ISC 16 17:57:16.1±0.6, 20.40N±0.04×100.81E±0.03, h10km, n25, σ1§26/36, mb3.8/10, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**0.44**	**248**	P	**Pg**	**17 57 22.9**	**-1.8**
CRAI				S	**Sg**	**17 57 28.6**	**-1.9**
CMAI	**Chiengmai2**	**1.72**	**255**	P	**Pn**	**17 57 44.6**	**-1.6**
DBV	**Dienbien**	**2.30**	**64**	*e*Pn	**Pn**	**17 57 52.9**	**-1.3**
DBV				*e*Pg	**Pg**	**17 57 57.8**	**-2.4**
DBV				*e*Sg	**Sn**	**17 58 22.3**	**-0.3**
CMMT	**Chiang Mai**	**2.35**	**228**	P	**Pn**	**17 57 53.8**	**-1.1**
CMMT				S	**Sb**	**17 58 29.0**	**+1.2**
CHTO	**Chiang Mai**	**2.36**	**228**	P	**Pn**	**17 57 54.3**	**-0.6**
CHTO				S	**Sg**	**17 58 29.3**	**-2.6**
CMAR	**Chiang Mai Arr**	**2.61**	**223**	Pn	**Pn**	**17 57 57.2**	**-1.1**
	8.7nm,0.3s,baz=32,slow=12,SNR=66						
CMAR				Pg	**Pb**	**17 58 02.9**	**0.0**
	50nm,0.3s,baz=36,slow=17,SNR=535						
CMAR				Lg	Lg	17 58 37.5	
	62nm,0.3s,baz=32,slow=33,SNR=16						
TGV	**Tuan Giao**	**2.71**	**64**	*e*Pn	**Pn**	**17 57 58.3**	**-1.5**
TGV				*e*Pg	**Pg**	**17 58 06.3**	**-1.9**
TGV				*e*Sg	**Sn**	**17 58 33.0**	**+0.3**
MCVV	**Moc Chau**	**3.62**	**83**	*e*Pn	**Pn**	**17 58 11.6**	**-0.8**
MCVV				*e*Pg	Pg	17 58 21.8	-3.8
MCVV				*e*Sg	**Sn**	**17 58 56.7**	**+1.4**
PBKT	**Sadao Pong**	**3.81**	**178**	P	**Pn**	**17 58 15.1**	**+0.3**
CHAI	**Chaiyaphum**	**4.61**	**166**	P	**Pn**	**17 58 26.0**	**+0.1**
PANO	**Nakornpanom**	**4.84**	**131**	P	**Pn**	**17 58 28.6**	**-0.5**
UTHA	**Uthaitani**	**4.98**	**195**	P	**Pn**	**17 58 31.2**	**+0.2**
	14nm,0.6s,324nm0.2nm						
KMI	**Kunming**	**5.03**	**20**	Pg	**Pg**	**17 58 51.3**	**-1.2**
KMI				Sg	**Sg**	**17 59 57.3**	**-0.5**
KMI				smax	smax		
	comp=N,53nm,1.2s						
KMI				smax	smax		
	comp=E,50nm,1.0s						
KMI				LR	LR		
	comp=N,330nm,4.5s						
KMI				LR	LR		
	comp=E,230nm,4.7s						
KMI				LR	LR		
	comp=Z,210nm,4.5s						
UBPT	**Khong Chiam**	**6.75**	**138**	P	**Pn**	**17 58 55.6**	**+0.3**
UBPT				S	**Sg**	**18 00 51.2**	**-1.8**
GTA	**Gaotai**	**18.97**	**358**	*e*P	**Pn**	**18 01 38.1**	**-0.3**
GTA				pP	pP	18 01 47.4	+6.8
GTA				sP	sP	18 01 51.8	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**27.75**	**8**	P	**P**	**18 03 05.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=181,slow=9.4,SNR=2.6						
MKAR	**Makanchi Array**	**30.36**	**334**	P	**P**	**18 03 28.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=138,slow=8.0,SNR=18						
ZALV	**Zalesovo Beam**	**35.66**	**344**	P	**P**	**18 04 15.8**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=143,slow=10,SNR=7.8						
MJAR	**Matsushiro Arr**	**36.34**	**56**	P	**P**	**18 04 20.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=266,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**51.82**	**139**	P	**P**	**18 06 23.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=322,slow=8.3,SNR=7.8						
ASAR	**Alice Springs**	**54.39**	**142**	P	**P**	**18 06 43.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=310,slow=6.6,SNR=6.9						
FINES	**FINESS Array B**	**65.00**	**329**	P	**P**	**18 07 57.1**	**+1.1**
	comp=Z,7.2nm,1.1s,baz=29,slow=3.2,SNR=3.4						
ARCES	**ARCESS Array B**	**65.92**	**338**	P	**P**	**18 08 03.7**	**+1.8**
	comp=Z,3.7nm,1.0s,baz=90,slow=7.2,SNR=2.8						
GERES	**GERESS Array B**	**73.06**	**316**	P	**P**	**18 08 48.0**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=80,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**93.81**	**285**	P	**P**	**18 10 35.3**	**+1.1**
	comp=Z,0.5nm,1.0s,baz=71,slow=6.2,SNR=3.3						

IDC 16 18:08:21.7±1.5, 1.73S×99.19E, h0km, mb3.5/8, mb1 3.6/9, mb1mx3.5/27, mbtmp3.5/9, ML2.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/29, Error ellipse: s-maj=67.0km s-min=17.8km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.50**	**357**	Pn	Pn	18 09 31.3	-0.1
	0.3nm,0.3s,baz=155,slow=14,SNR=2.6						
PSI				LR	LR	18 10 52.3	
	comp=Z,111nm,19.3s,baz=229,slow=34						
CMAR	**Chiang Mai Arr**	**20.06**	**359**	P	P	18 12 57.1	+0.4
	0.4nm,0.6s,baz=178,slow=9.9,SNR=4.9						
WRA	**Warramunga Arr**	**38.83**	**120**	P	P	18 15 48.6	-0.2
	1.0nm,0.8s,baz=307,slow=8.6,SNR=9.4						
ASAR	**Alice Springs**	**40.07**	**126**	P	P	18 15 58.8	-0.4
	0.4nm,0.7s,baz=300,slow=7.0,SNR=8.1						
SONM	**Songino Array**	**49.76**	**6**	P	P	18 17 15.8	-0.3
	0.1nm,0.4s,baz=192,slow=13,SNR=2.2						
SONM				PcP	PcP	18 18 36.9	-0.1
	0.2nm,0.6s,baz=201,slow=3.0,SNR=3.5						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	18 17 22.1	+0.1
	1.4nm,0.7s,baz=158,slow=8.9,SNR=13						
KURBB	**Kurchatov Arra**	**55.06**	**344**	P	P	18 17 55.1	-0.1
	0.5nm,1.0s,baz=162,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**56.75**	**350**	P	P	18 18 07.0	-0.3
	1.0nm,0.4s,baz=174,slow=5.5,SNR=6.3						
BVAR	**Borovoye Array**	**59.65**	**340**	P	P	18 18 26.5	-1.1
	0.3nm,0.5s,baz=144,slow=5.2,SNR=2.8						
CFAA	**Coronel Fontan**	**144.77**	**199**	PKP	PKPdf	18 28 02.2	+0.8
	0.3nm,0.8s,baz=198,slow=1.4,SNR=7.0						
TXAR	**Lajitas Array**	**144.97**	**36**	PKP	PKPdf	18 28 01.8	-0.1
	0.8nm,0.6s,baz=264,slow=1.1,SNR=12						

*IDC **16** 18:16:57.4±2.0, 27.16N×88.51E, h0km, mb3.2/5, mb1 3.4/5, mb1mx3.2/28, mbtmp3.2/5, Error ellipse: s-maj=79.2km s-min=22.1km az=68.0*
*ISCJB **16** 18:17:00.7±0.8, 27.23N±0.06×88.15E±0.1, h33km, mb3.3/4, Error ellipse: s-maj=13.9km s-min=8.5km az=169.1*
ISC 16 18:17:02.2±1.2, 27.15N±0.09×88.4E±0.1, h35km, n7, σ0§57/8, mb3.4/4, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**0.45**	**177**	*i* PG	**Pn**	**18 17 11.8**	**-0.4**
SLGI				*i* SG	**Sn**	**18 17 19.4**	**+0.3**
SHL	**Shillong**	**3.51**	**116**	*e*PN	Pn	18 18 00.0	+5.5
SHL				*e*SN	**Sn**	**18 18 35.0**	**+0.1**
MKAR	**Makanchi Array**	**20.19**	**348**	P	**P**	**18 21 33.4**	**-0.4**
	0.2nm,0.5s,baz=171,slow=9.9,SNR=3.1						
KURBB	**Kurchatov Arra**	**24.61**	**345**	P	**P**	**18 22 19.5**	**+0.4**
	0.5nm,0.9s,baz=164,slow=8.8,SNR=3.3						
SONM	**Songino Array**	**24.99**	**30**	P	**P**	**18 22 22.8**	**+0.1**
	0.6nm,0.7s,baz=214,slow=10.0,SNR=6.5						
WRA	**Warramunga Arr**	**64.60**	**132**	P	**P**	**18 27 35.8**	**-0.6**
	0.3nm,0.4s,baz=324,slow=6.7,SNR=9.3						
ASAR	**Alice Springs**	**66.97**	**135**	P	**P**	**18 27 52.5**	**+0.9**
	0.3nm,0.8s,baz=326,slow=6.0,SNR=5.1						

MAN 16 18:30:29, 7.36N×124.44E, h34km, mb4.1, ML2.9, MS2.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.24**	**235**	‖ *eP*	Pb	18 30 37.7	+1.6
CTBH				*i* S	Sb	18 30 43.2	+2.2
BUKP	**Musuan**	**0.80**	**50**	*eP*	Pb	18 30 45.2	+0.6
CGP	**Cagayan de Oro**	**1.12**	**13**	‖ *iP*	Pn	18 30 48.4	+0.2
CGP				*i* S	Sn	18 31 02.5	0.0
PAGZ	**Pagadian**	**1.16**	**295**	*e*P	Pn	18 30 48.9	+0.1
PAGZ				*e*S	Sn	18 31 03.6	+0.1
IPIL	**Ipil**	**1.91**	**283**	*e*P	Pb	18 31 01.5	-1.7

IDC 16 18:36:52.1±3.2, 1.68S×99.26E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=140.8km s-min=21.3km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.02**	**359**	P	P	18 41 27.1	+0.5
	0.2nm,0.4s,baz=184,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**38.79**	**120**	P	P	18 44 18.5	-0.4
	0.8nm,1.1s,baz=342,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**40.03**	**126**	P	P	18 44 29.4	+0.1
	0.2nm,0.4s,baz=297,slow=7.4,SNR=7.8						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	18 45 52.9	+0.7
	0.4nm,0.5s,baz=160,slow=6.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	18 46 36.4	-1.1
	0.6nm,0.4s,baz=186,slow=5.4,SNR=3.0						
TXAR	**Lajitas Array**	**144.89**	**36**	PKP	PKPdf	18 56 31.9	-0.3
	0.5nm,0.5s,baz=288,slow=2.3,SNR=10						

*IDC **16** 18:41:47.9±0.7, 1.51S×99.32E, h0km, mb4.3/16, mb1 4.3/18, mb1mx4.2/28, mbtmp4.2/18, ML3.5/2, Error ellipse: s-maj=30.1km s-min=13.4km az=56.0*
*ISCJB **16** 18:41:50.4±0.5, 1.57S±0.05×99.21E±0.05, h30km, mb4.3/16, Error ellipse: s-maj=7.7km s-min=5.8km az=141.4*
*DJA **16** 18:41:51.7±0.5, 2.3S±3.9×99.9E±.7, h10km, M5.0/12, mb4.6/8, mB5.4/7, MLv5.3/12, Mw(mB)4.8/7*
ISC 16 18:41:52.6±0.6, 1.46S±0.07×99.32E±0.07, h30km, n40, σ1§20/40, mb4.3/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.47**	**47**	P	**Pn**	**18 42 16.8**	**-0.2**
PPI				S	**Sb**	**18 42 36.4**	**-1.1**
SDSI	**Sungai Dareh**	**2.17**	**76**	S	**Sb**	**18 42 57.2**	**-0.5**
BKNI	**Bangkinang**	**2.47**	**44**	P	**Pb**	**18 42 34.0**	**-2.3**
RGRI	**Rengat**	**3.21**	**70**	P	**Pn**	**18 42 42.6**	**+1.6**
MASI	**Maura Aman, Be**	**3.36**	**120**	P	**Pn**	**18 42 44.1**	**+1.0**
KSI	**Kapahiang**	**3.93**	**124**	P	**Pn**	**18 42 51.0**	**+0.1**
PSI	**Prapat**	**4.25**	**355**	Pn	**Pn**	**18 42 54.5**	**-0.9**
	0.7nm,0.3s,baz=176,slow=12,SNR=6.4						
TSI	**Tuntungan**	**4.98**	**351**	P	Pn	18 43 09.5	+4.1
	109nm,0.3s,6μm5.0nm						
KCSI	**Kotacane, Aceh**	**5.18**	**343**	P	Pn	18 43 11.8	+3.6
	25nm,1.2s,3μm2.1nm						
MYKOM	**Kota Tinggi**	**5.56**	**55**	P	**Pn**	**18 43 14.7**	**+1.4**
	25nm,0.9s,2μm1.8nm						
LWLI	**Liwa**	**5.91**	**127**	P	**Pn**	**18 43 18.7**	**+0.5**
	181nm,0.7s,8μm3.3nm						
IPM	**Ipoh**	**6.14**	**16**	P	**Pn**	**18 43 24.2**	**+2.9**
	35nm,0.9s,2μm0.9nm						
KLSI		**6.28**	**121**	P	**Pn**	**18 43 23.4**	**+0.1**
	35nm,0.7s,2μm0.7nm						
KASI	**Kota Agung**	**6.56**	**128**	P	**Pn**	**18 43 27.6**	**+0.6**
	62nm,1.0s,2μm1.4nm						
CISI	**Cisompet, Garu**	**10.41**	**126**	P	**Pn**	**18 44 17.5**	**-2.5**
KKM	**Kota Kinabalu**	**18.44**	**66**	P	**Pn**	**18 46 08.2**	**+2.0**
MMSI	**Mamuju**	**19.61**	**94**	P	**Pn**	**18 46 21.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**18 46 21.4**	**+0.7**
	0.1nm,0.3s,baz=186,slow=10.0,SNR=22						
KAPI	**Kappang**	**20.70**	**100**	P	**P**	**18 46 31.6**	**+1.0**
BKSI	**Bulukumba**	**21.11**	**101**	P	**P**	**18 46 35.8**	**+0.8**
GTOI	**Gorontalo**	**23.78**	**85**	P	**P**	**18 47 02.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.68**	**124**	P	**P**	**18 48 04.0**	**-0.8**
	4.8nm,0.9s,baz=260,slow=4.8,SNR=7.9						
WRA	**Warramunga Arr**	**38.85**	**121**	P	**P**	**18 49 14.8**	**-0.7**
	4.5nm,0.8s,baz=303,slow=9.2,SNR=21						
ASAR	**Alice Springs**	**40.12**	**126**	P	**P**	**18 49 25.2**	**-0.7**
	2.8nm,0.9s,baz=292,slow=7.8,SNR=17						
ASAR				S	**S**	**18 55 30.4**	**-0.3**
	1.5nm,1.2s,baz=302,slow=14,SNR=4.4						
KSRS	**Korea Array**	**46.91**	**31**	P	**P**	**18 50 19.4**	**-0.9**
	1.3nm,0.7s,baz=218,slow=8.8,SNR=7.5						
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**18 50 40.7**	**+0.4**
	1.8nm,0.8s,baz=192,slow=9.3,SNR=7.0						
STKA	**Stephens Creek**	**50.02**	**132**	P	**P**	**18 50 45.1**	**+0.6**
	5.5nm,0.8s,baz=358,slow=22,SNR=6.2						
MKAR	**Makanchi Array**	**50.33**	**345**	P	**P**	**18 50 48.3**	**+1.6**
	5.3nm,0.7s,baz=149,slow=8.0,SNR=44						
USRK	**Ussuriysk Arra**	**54.01**	**29**	P	**P**	**18 51 13.0**	**-0.9**
	2.3nm,0.7s,baz=230,slow=5.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	**P**	**18 51 33.0**	**+1.1**
	8.4nm,0.8s,baz=176,slow=5.9,SNR=35						
KBZ	**Khabaz**	**67.46**	**319**	P	**P**	**18 52 47.2**	**+1.6**
	2.7nm,0.9s,baz=109,slow=6.6,SNR=6.1						
AKASG	**Malin Array Be**	**78.64**	**322**	P	**P**	**18 53 51.2**	**-0.5**
	0.2nm,0.3s,baz=130,slow=12,SNR=3.1						
VNDA	**Vanda**	**82.82**	**169**	P	**P**	**18 54 13.5**	**0.0**
	1.1nm,1.0s,baz=329,slow=5.3,SNR=3.8						
FINES	**FINESS Array B**	**83.32**	**332**	P	**P**	**18 54 15.7**	**-0.6**
	4.1nm,0.9s,baz=152,slow=18,SNR=3.2						
GERES	**GERESS Array B**	**88.20**	**319**	P	**P**	**18 54 39.7**	**-1.2**
	1.0nm,0.8s,baz=66,slow=3.2,SNR=8.7						
SPITS	**Spitsbergen Ar**	**89.97**	**348**	P	**P**	**18 54 47.0**	**-1.6**
	6.0nm,1.0s,baz=171,slow=22,SNR=7.2						
DAVOX	**Davos/Dischmat**	**90.67**	**317**	P	**P**	**18 54 53.0**	**+0.2**
	2.8nm,0.9s,baz=144,slow=8.0,SNR=6.8						
NVAR	**Mina Array Bea**	**129.61**	**38**	PKP	**PKPdf**	**19 01 00.9**	**+1.5**
	0.2nm,0.3s,baz=300,slow=3.8,SNR=4.1						
CPUP	**Villa Florida**	**144.34**	**218**	PKP	**PKPdf**	**19 01 26.8**	**+0.2**
	1.8nm,0.7s,baz=111,slow=3.7,SNR=4.4						
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	**PKPdf**	**19 01 27.2**	**-0.1**
	3.7nm,0.7s,baz=264,slow=1.3,SNR=40						

*BJI **16** 18:42:17.6, 2.11S×98.91E, h20km, mB5.0/30, mb4.7/47, Ms4.9/40, Ms7 4.7/39*
*IDC **16** 18:42:20.0±0.3, 1.54S×99.30E, h0km, mb4.7/35, mb1 4.8/37, mb1mx4.8/38, mbtmp4.7/37, ML4.1/2, Error ellipse: s-maj=12.1km s-min=10.2km az=50.0*
*SZGRF **16** 18:42:21.5, 1.33S×100.44E, h21km, mb4.8, Southern Sumatera, Indonesia*
*ISCJB **16** 18:42:22.9±1.1, 1.60S±0.03×99.24E±0.03, h28km±7km, mb5.0/134, MS4.6/14, Error ellipse: s-maj=5.7km s-min=4.6km az=141.9*
*NEIC **16** 18:42:23.8±2.6, 1.53S×99.27E, h23km±18km, mb5.1/27, Error ellipse: s-maj=8.0km s-min=5.7km az=48.0*
*MOS **16** 18:42:24.0±1.2, 1.43S×99.37E, h33km, mb5.3/39, Error ellipse: s-maj=10.0km s-min=5.1km az=117.3*
*GCMT **16** 18:42:24.8±0.4, 1.46S×99.38E, h15km±1km, MW4.9, Moment Tensor Sol

CMMT	**Chiang Mai**	**20.26 359**	P	Pn	18 47 00.4 +0.4
	26nm,1.3s				
CHTO	**Chiang Mai**	**20.26 359**	*e*P	**P**	**18 46 58.8 +0.9**
CHTO	**Chiang Mai**	**20.26 359**	*e*P	**P**	**18 46 58.8 +0.9**
CHTO			*e*ScP	**ScP**	**18 54 48.2 +2.0**
CHTO	**Chiang Mai**	**20.26 359**	P	Pn	18 47 00.8 +0.8
	29nm,1.3s				
PALK	**Pallekele**	**20.45 296**	*e*Pn	Pn	18 47 03.5 +1.2
PALK			*e*ScP	ScP	18 54 55.1 +8.3
KAPI	**Kappang**	**20.79 100**	P	**P**	**18 47 03.0 -0.8**
KAPI	**Kappang**	**20.79 100**	P	**P**	**18 47 03.0 -0.8**
	35nm,0.9s,baz=297,slow=6.6,SNR=9.9				
PAYA	**Payao**	**20.81 2**	P	Pn	18 47 09.0 +2.5
	15nm,0.8s,162nm				
CMAI	**Chiengmai2**	**21.37 360**	P	P	18 47 15.2 +5.1
	66nm,0.8s,8μm				
QIZ	**Qiongzhong**	**22.98 27**	P	**P**	**18 47 26.9 -0.3**
QIZ			S	**S**	**18 51 36.4 +0.3**
QIZ			pmax	pmax	
	comp=Z,10.0nm,1.0s				
QIZ			LR	LR	
	comp=N,1μm,14.3s				
QIZ			LR	LR	
	comp=Z,2μm,14.9s				
QIZ	**Qiongzhong**	**22.98 27**	*e*P	**P**	**18 47 25.1 -2.1**
LUWI	**Luwuk**	**23.57 89**	P	**P**	**18 47 33.9 +0.9**
	baz=24,SNR=4.6				
TGY	**Tagaytay City**	**26.57 53**	P	**P**	**18 48 00.5 -0.1**
TGY	**Tagaytay City**	**26.57 53**	P	**P**	**18 48 00.5 -0.1**
	comp=Z,74nm,0.3s,baz=120,slow=20,SNR=4.3				
KMI	**Kunming**	**26.75 7**	P	**P**	**18 48 05.3 +3.0**
KMI			sP	**sP**	**18 48 16.8 +3.1**
KMI			S	**S**	**18 52 40.1 +3.3**
KMI			pmax	pmax	
	comp=Z,12nm,1.1s				
KMI			LR	LR	
	comp=N,700nm,16.1s				
KMI			LR	LR	
	comp=E,2μm,13.5s				
KMI			LR	LR	
	comp=Z,1μm,10.0s				
SHL	**Shillong**	**27.89 346**	*e*P	**P**	**18 48 10.0 -2.5**
SHL			*e*S	S	18 53 09.0 +14
MBWA	**Marble Bar**	**27.92 136**	*e*P	**P**	**18 48 13.1 +0.5**
	comp=Z,23nm,1.2s				
GYA	**Guiyang**	**28.78 14**	*e*P	**P**	**18 48 22.6 +2.3**
GYA			pP	**pP**	**18 48 31.3 +2.9**
GYA			PP	**PnPn**	**18 49 16.4 +4.7**
GYA			S	**S**	**18 53 10.9 +2.4**
GYA			sS	**sS**	**18 53 21.6 -0.2**
GYA			ScS	**ScS**	**18 59 04.3 +0.7**
GYA			pmax	pmax	
	comp=Z,20nm,1.0s				
GYA			pmax	pmax	
	comp=Z,120nm,4.8s				
GYA			LR	LR	
	comp=N,780nm,14.6s				
GYA			LR	LR	
	comp=E,650nm,15.0s				
GYA			LR	LR	
	comp=Z,730nm,14.8s				
ODAN	**Odare**	**30.48 339**	*e*P	**P**	**18 48 35.8 +0.3**
	comp=Z,57nm,1.0s				
FITZ	**Fitzroy Crossi**	**30.71 124**	P	**P**	**18 48 36.2 -1.2**
FITZ	**Fitzroy Crossi**	**30.71 124**	P	**P**	**18 48 36.2 -1.2**
	comp=Z,13nm,0.9s,baz=294,slow=5.8,SNR=12				
FITZ	**Fitzroy Crossi**	**30.71 124**	P	**P**	**18 48 36.1 -1.3**
	baz=31,SNR=5.6				
TAPN	**Taplejung**	**30.81 340**	*e*P	**P**	**18 48 39.2 +0.7**
	comp=Z,108nm,1.1s				
RAMN	**Ramite**	**30.85 338**	*e*P	**P**	**18 48 39.7 +0.9**
	comp=Z,40nm,0.8s				
MEEK	**Meekatharra**	**31.13 145**	P	**P**	**18 48 42.4 +1.4**
	baz=31,SNR=3.5				
JIRN	**Jiri**	**31.64 338**	*e*P	**P**	**18 48 46.6 +0.7**
	comp=Z,118nm,1.1s				
MORW	**Morawa**	**31.71 151**	P	**P**	**18 48 47.9 +1.9**
	baz=32,SNR=4.5				
PKI	**Pulchoki**	**31.87 336**	*e*P	**P**	**18 48 47.9 0.0**
PKIN	**Phulchoki**	**31.88 336**	*e*P	**P**	**18 48 47.9 0.0**
GUN	**Gumba**	**31.99 337**	*e*P	**P**	**18 48 49.7 +0.8**
	comp=Z,65nm,0.7s				
DMN	**Daman**	**32.03 336**	*e*P	**P**	**18 48 49.6 +0.4**
	comp=Z,56nm,1.2s				
SWI	**Sorong**	**32.05 89**	P	**P**	**18 48 47.6 -1.7**
	baz=32,SNR=5.5				
KKN	**Kakani**	**32.12 336**	*e*P	**P**	**18 48 50.3 +0.4**
	comp=Z,58nm,1.0s				
KNRA	**Kununurra**	**32.34 117**	P	**P**	**18 48 51.1 -0.6**
	baz=32,SNR=3.6				
TPUB	**Ta-pu**	**32.34 39**	*e*P	**P**	**18 48 51.0 -0.7**
	comp=Z,70nm,1.3s				
CD2	**Chengdu**	**32.59 7**	*e*P	**P**	**18 48 56.8 +3.0**
CD2			pP	**pP**	**18 49 03.8 +1.9**
CD2			sP	**sP**	**18 49 06.9 +1.7**
CD2			PP	**PP**	**18 50 05.9 -1.9**
CD2			PcP	**PcP**	**18 51 42.8 +2.9**
CD2			S	**S**	**18 54 10.3 +2.4**
CD2			sS	**sS**	**18 54 21.8 +0.5**
CD2			SS	**SnSn**	**18 56 08.8 +5.2**
CD2			ScS	**ScS**	**18 59 21.9 +0.1**
CD2			pmax	pmax	
	comp=Z,20nm,1.0s				
CD2			pmax	pmax	
	comp=Z,140nm,5.2s				
CD2			LR	LR	
	comp=N,2μm,13.2s				
CD2			LR	LR	
	comp=E,2μm,9.5s				
CD2			LR	LR	
	comp=Z,2μm,11.8s				
KOLN	**Koldanda**	**32.80 334**	*e*P	**P**	**18 48 56.6 +0.7**
	comp=Z,38nm,0.7s				
YULB	**Yu-li**	**32.83 40**	*e*P	**P**	**18 48 58.0 +2.1**
	comp=Z,14nm,1.0s				
SSLB	**Suanglung**	**32.90 39**	*e*P	**P**	**18 48 58.4 +1.8**
	comp=Z,50nm,1.3s				
FAKI	**Fak Fak**	**33.04 93**	P	P	18 49 04.7 +6.7
	baz=33,SNR=3.2				
ENH	**Enshi**	**33.15 16**	*e*P	P	18 48 54.8 -3.9
	comp=Z,12nm,0.6s				
DANN	**Dangsing**	**33.24 335**	*e*P	**P**	**18 49 00.1 +0.3**
	comp=Z,174nm,1.2s				
NACB	**Ninganchiao**	**33.58 39**	*e*P	**P**	**18 49 01.5 -1.0**
	comp=Z,26nm,1.0s				
YHNB	**Yeheng**	**33.81 38**	*e*P	**P**	**18 49 02.5 -2.1**
	comp=Z,25nm,1.1s				
KDU	**Kakadu**	**34.75 110**	S	S	18 55 00.2 +18
	baz=35,SNR=4.3				
WHN	**Wuhan**	**35.05 23**	P	**P**	**18 49 17.9 +2.8**
WHN			S	S	18 54 58.6 +13
WHN			LR	LR	
	comp=N,2μm,19.2s				
WHN			LR	LR	
	comp=E,3μm,18.1s				
WHN			LR	LR	
	comp=Z,2μm,12.5s				
NWAO	**Narrogin (SRO)**	**35.50 153**	*e*P	**P**	**18 49 18.2 -0.8**
NWAO	**Narrogin (SRO)**	**35.50 153**	P	**P**	**18 49 17.0 -2.0**
	comp=Z,37nm,1.1s,baz=333,slow=8.9,SNR=5.3				
XAN	**Xi'an**	**36.58 14**	P	**P**	**18 49 25.8 -2.5**
XAN			pP	**pP**	**18 49 34.0 -2.4**
XAN			pmax	pmax	
	comp=Z,4.0nm,0.9s				
XAN			pmax	pmax	
	comp=Z,17nm,6.9s				
LZH	**Lanzhou**	**37.71 6**	*e*P	P	18 49 42.8 +4.8
LZH			pmax	pmax	
	comp=Z,19nm,1.0s				
SSE	**Sheshan**	**38.63 31**	P	**P**	**18 49 47.3 +1.7**
SSE			S	**S**	**18 55 38.6 -1.9**
SSE			pmax	pmax	
	comp=Z,25nm,0.6s				
SSE			pmax	pmax	
	comp=Z,43nm,3.4s				
SSE			LR	LR	
	comp=N,1μm,19.8s				
SSE			LR	LR	
	comp=E,960nm,19.8s				
SSE			LR	LR	
	comp=Z,920nm,14.8s				
WRA	**Warramunga Arr**	**38.89 120**	P	**P**	**18 49 46.4 -1.6**
WRA			PcP	**PcP**	**18 51 58.7 0.0**
WRA			S	S	18 55 38.1 -6.8
WRA	**Warramunga Arr**	**38.89 120**	P	**P**	**18 49 46.4 -1.6**
	comp=Z,14nm,0.9s,baz=302,slow=9.1,SNR=26				
WRA			PcP	**PcP**	**18 51 58.7 0.0**
	comp=Z,2.9nm,0.7s,baz=311,slow=2.5,SNR=5.5				
WRA			S	S	18 55 38.1 -6.8
	comp=Z,5.8nm,1.2s,baz=295,slow=17,SNR=5.5				
WRAB	**Tennant Creek**	**38.90 120**	P	**P**	**18 49 46.2 -1.9**
	comp=Z,168nm,0.8s,SNR=9.9				
WRAB	**Tennant Creek**	**38.90 120**	*e*P	**P**	**18 49 46.3 -1.9**
WRAB			*e*S	**S**	**18 55 40.8 -4.2**
WRAB			pmax	pmax	
	comp=Z,27nm,1.0s				
WRAB	**Tennant Creek**	**38.90 120**	*e*P	**P**	**18 49 46.2 -1.9**
	comp=Z,27nm,1.0s				
WRAB			*e*S	**S**	**18 55 40.8 -4.2**
ASAR	**Alice Springs**	**40.15 126**	P	**P**	**18 49 57.5 -0.9**
ASAR			PcP	**PcP**	**18 52 03.2 +0.5**
ASAR			S	**S**	**18 56 01.7 -2.0**
ASAR	**Alice Springs**	**40.15 126**	P	**P**	**18 49 57.5 -0.9**
	comp=Z,8.5nm,0.8s,baz=298,slow=7.7,SNR=14				
ASAR			PcP	**PcP**	**18 52 03.2 +0.5**
	comp=Z,4.2nm,0.8s,baz=307,slow=1.7,SNR=8.5				
ASAR			S	**S**	**18 56 01.7 -2.0**
	comp=Z,4.6nm,1.0s,baz=298,slow=14,SNR=13				
GTA	**Gaotai**	**40.78 1**	*e*P	**P**	**18 50 05.3 +1.7**
GTA			pP	**pP**	**18 50 12.8 +1.0**
GTA			sP	**sP**	**18 50 17.0 +1.9**
GTA			PP	**PnPn**	**18 51 43.0 +0.8**
GTA			PcP	**PcP**	**18 52 05.3 +0.8**
GTA			ScP	**ScP**	**18 55 54.3 +1.8**
GTA			S	**S**	**18 56 12.3 -0.6**
GTA			sS	**sS**	**18 56 27.5 +1.1**
GTA			pmax	pmax	
	comp=Z,20nm,1.1s				
GTA			pmax	pmax	
	comp=Z,150nm,3.8s				
GTA			LR	LR	
	comp=N,260nm,14.7s				
GTA			LR	LR	
	comp=E,670nm,16.6s				
GTA			LR	LR	
	comp=Z,370nm,15.7s				
HHC	**Hu-ho-hao-te**	**43.70 14**	*e*P	**P**	**18 50 29.9 +2.6**
HHC			PP	**PcP**	**18 52 13.8 -0.3**
HHC			ScP	**ScP**	**18 56 05.8 +1.7**
HHC			PcS	**PcS**	**18 56 08.3 +1.3**
HHC			S	**S**	**18 56 58.8 +3.0**
HHC			sS	**sS**	**18 57 10.9 +1.5**
HHC			SS	**SS**	**19 00 07.4 -4.5**
HHC			ScS	**ScS**	**19 00 25.5 +0.4**
HHC			pmax	pmax	
	comp=Z,48nm,0.7s				
HHC			pmax	pmax	
	comp=Z,130nm,5.3s				
HHC			LR	LR	
	comp=N,1μm,16.2s				
HHC			LR	LR	
	comp=E,1μm,16.5s				
HHC			LR	LR	
	comp=Z,1μm,16.6s				
BJI	**Beijing**	**44.23 19**	P	**P**	**18 50 33.0 +1.6**
BJI			S	**S**	**18 57 06.0 +2.7**
BJI			pmax	pmax	
	comp=Z,35nm,1.0s				
BJI			pmax	pmax	
	comp=Z,78nm,3.5s				
BJI			LR	LR	
	comp=N,630nm,16.8s				
BJI			LR	LR	
	comp=E,550nm,16.5s				
BJI			LR	LR	
	comp=Z,340nm,17.4s				
DL2	**Dalian**	**45.25 25**	*e*P	P	18 50 45.6 +6.0
DL2			pmax	pmax	
	comp=Z,25nm,0.9s				
JNU	**Nakatsue**	**45.64 38**	*e*P	**P**	**18 50 42.7 -0.2**
JNU	**Nakatsue**	**45.64 38**	P	**P**	**18 50 42.2 -0.6**
	comp=Z,21nm,0.7s,baz=220,slow=4.5,SNR=12				
KSH	**Kashi**	**46.11 335**	P	**P**	**18 50 45.3 -1.2**
KSH			sP	**sP**	**18 50 55.3 -2.8**
KSH			PP	**PP**	**18 52 33.3 -1.8**
KSH			S	**S**	**18 57 25.4 -5.4**
KSH			SS	**ScS**	**19 00 42.5 +1.9**
KSH			pmax	pmax	
	comp=Z,7.0nm,0.9s				
KSH			pmax	pmax	
	comp=Z,77nm,3.0s				
KSH			LR	LR	
	comp=N,140nm,5.6s				
KSH			LR	LR	
	comp=E,190nm,12.3s				
KSH			LR	LR	
	comp=Z,150nm,7.3s				
WMQ	**Urumqi**	**46.35 348**	*e*P	**P**	**18 50 48.0 -0.3**
WMQ			pP	**pP**	**18 50 55.9 -0.7**
WMQ			PP	**PP**	**18 52 36.3 -1.2**
WMQ			S	**S**	**18 57 32.3 -1.8**
WMQ			ScS	**ScS**	**19 00 39.8 -2.1**
WMQ			pmax	pmax	
	comp=Z,56nm,1.2s				
WMQ			pmax	pmax	
	comp=Z,140nm,4.5s				
WMQ			LR	LR	
	comp=N,140nm,25.0s				
WMQ			LR	LR	
	comp=E,230nm,30.0s				
WMQ			LR	LR	
	comp=Z,130nm,25.0s				
KSAR	**Wonju Array Be**	**47.03 31**	P	**P**	**18 50 52.3 -1.4**
KSRS	**Korea Array**	**47.06 31**	P	**P**	**18 50 52.3 -1.6**
	comp=Z,4.6nm,0.6s,baz=224,slow=4.7,SNR=17				
TKM2	**Tokmak 2**	**49.13 337**	*e*P	**P**	**18 51 10.8 +0.8**
TKM2			pmax	pmax	
	comp=Z,70nm,1.4s				
TKM2	**Tokmak 2**	**49.13 337**	*e*P	**P**	**18 51 10.8 +0.8**
	comp=Z,70nm,1.4s				
AAK	**Ala-Archa**	**49.32 336**⇑	*e*P	**P**	**18 51 12.0 +0.5**
AAK			pmax	pmax	
	comp=Z,64nm,2.5s				
AAK	**Ala-Archa**	**49.32 336**	*e*P	**P**	**18 51 12.6 +1.0**
AAK	**Ala-Archa**	**49.32 336**	P	**P**	**18 51 11.1 -0.4**
	comp=Z,2.5nm,0.3s,baz=158,slow=6.0,SNR=5.8				
FRU	**Bishkek**	**49.44 336**	*e*P	**P**	**18 51 12.0 -0.2**
CTAO	**Charters Tower**	**49.50 115**	*e*P	**P**	**18 51 11.8 -1.2**
CTAO			pmax	pmax	
	comp=Z,15nm,0.9s				
CTAO	**Charters Tower**	**49.50 115**	*e*P	**P**	**18 51 11.8 -1.2**
	comp=Z,15nm,0.9s				
SONM	**Songino Array**	**49.60 6**	P	**P**	**18 51 13.8 +0.3**
SONM			PcP	**PcP**	**18 52 35.0 +0.2**
SONM	**Songino Array**	**49.60 6**	P	**P**	**18 51 13.8 +0.3**
	comp=Z,4.8nm,0.7s,baz=187,slow=10,SNR=12				
SONM			PcP	**PcP**	**18 52 35.0 +0.2**
	comp=Z,4.0nm,0.7s,baz=169,slow=3.3,SNR=4.5				
EKS2	**Erkin-Say**	**49.64 335**	*e*P	**P**	**18 51 14.6 +0.7**
EKS2			pmax	pmax	
	comp=Z,29nm,0.9s				
EKS2	**Erkin-Say**	**49.64 335**	*e*P	**P**	**18 51 14.6 +0.7**
	comp=Z,29nm,0.9s				
ULN	**Ulaanbaatar**	**49.71 7**	*e*P	**P**	**18 51 13.8 -0.5**
	comp=Z,12nm,1.1s				
STKA	**Stephens Creek**	**50.03 132**	*e*P	**P**	**18 51 17.5 +0.6**
	comp=Z,4.6nm,0.8s				
STKA	**Stephens Creek**	**50.03 132**	P	**P**	**18 51 16.4 -0.4**
	comp=Z,19nm,0.7s,baz=299,slow=7.6,SNR=23				
STKA	**Stephens Creek**	**50.03 132**	P	**P**	**18 51 17.3 +0.5**
	baz=50,SNR=5.4				
MK31	**Makanchi Array**	**50.41 345**	*e*P	**P**	**18 51 19.2 -0.3**
MKAR	**Makanchi Array**	**50.41 345**	P	**P**	**18 51 19.2 -0.3**
MKAR	**Makanchi Array**	**50.41 345**	P	**P**	**18 51 19.2 -0.3**
	comp=Z,13nm,0.7s,baz=149,slow=8.1,SNR=20				
CN2	**Changchun**	**50.92 24**	*e*P	**P**	**18 51 25.1 +1.8**
CN2			*e*pP	**pP**	**18 51 35.3 +3.6**
CN2			*e*S	**S**	**18 58 38.0 -0.3**
CN2			pmax	pmax	
	comp=Z,10.0nm,1.0s				
CN2			LR	LR	
	comp=N,720nm,16.0s				
CN2			LR	LR	
	comp=E,350nm,16.0s				
CN2			LR	LR	
	comp=Z,610nm,16.0s				
KKAR	**Karatay Array**	**51.41 333**	*e*P	**P**	**18 51 26.9 -0.2**
KKAR	**Karatay Array**	**51.41 333**	*e*P	**P**	**18 51 26.9 -0.2**
MJAR	**Matsushiro Arr**	**52.45 40**	P	**P**	**18 51 33.2 -1.8**
MJAR	**Matsushiro Arr**	**52.45 40**	P	**P**	**18 51 33.2 -1.8**
	comp=Z,2.0nm,1.0s,baz=189,slow=6.2,SNR=3.0				
HVS	**Khovu-Aksy**	**52.72 356**	*de*P	**P**	**18 51 34.1 -2.6**
HVS			pmax	pmax	
	comp=Z,33nm,1.7s				
RABL	**Rabaul**	**52.95 94**	P	**P**	**18 51 36.3 -2.8**
	baz=53,SNR=4.0				
CMSA	**Cobar Meteorol**	**53.00 129**	P	**P**	**18 51 39.7 +0.6**
	baz=53,SNR=8.1				
MDJ	**Mudanjiang**	**53.36 27**	P	**P**	**18 51 42.3 +0.8**
MDJ			pP	**pP**	**18 51 48.8 -1.1**
MDJ			sP	**sP**	**18 51 51.5 -1.7**
MDJ			PP	**PP**	**18 53 42.8 +0.7**
MDJ			ScP	**ScP**	**18 56 45.8 +1.0**
MDJ			PcS	**PcS**	**18 56 48.3 +0.8**
MDJ			S	**S**	**18 59 13.0 +1.2**
MDJ			sS	**sS**	**18 59 24.9 -0.7**
MDJ			ScS	**ScS**	**19 01 30.8 +1.5**
MDJ			pmax	pmax	
	comp=Z,5.0nm,0.9s				
MDJ			pmax	pmax	
	comp=Z,54nm,5.9s				
MDJ			LR	LR	
	comp=N,410nm,16.3s				
MDJ			LR	LR	
	comp=E,830nm,16.3s				
MDJ			LR	LR	
	comp=Z,710nm,13.6s				
IAKL	**Akhelmad**	**53.42 319**	*e*P	**P**	**18 51 41.6 -0.8**
RMQ	**Roma**	**53.61 122**	P	**P**	**18 51 44.7 +1.0**
	baz=54,SNR=4.8				
OPO	**Ambohidratompo**	**53.69 248**	P	**P**	**18 51 43.5 -1.1**
OPO	**Ambohidratompo**	**53.69 248**	P	**P**	**18 51 43.5 -1.1**
	comp=Z,12nm,0.9s,baz=270,slow=16,SNR=1.8				
USRK	**Ussuriysk Arra**	**54.16 29**	P	**P**	**18 51 45.8 -1.5**
	comp=Z,9.8nm,0.7s,baz=230,slow=5.8,SNR=14				
ISHV	**Shirvan**	**54.65 320**	*e*P	**P**	**18 51 51.4 +0.1**
EIDS	**Eidsvold**	**55.26 120**	P	**P**	**18 51 55.3 -0.4**
	baz=55,SNR=3.0				
YNG	**Young**	**56.21 131**	P	**P**	**18 52 03.2 +0.8**
	baz=56,SNR=5.9				
IKIA	**Kiasar**	**56.60 316**	*e*P	**P**	**18 52 05.4 0.0**
ZALV	**Zalesovo Beam**	**56.60 350**	P	**P**	**18 52 04.3 -0.5**
ZALV	**Zalesovo Beam**	**56.60 350**	P	**P**	**18 52 04.3 -0.5**
ZALV	**Zalesovo Beam**	**56.60 350**	P	**P**	**18 52 04.3 -0.5**
	comp=Z,18nm,0.7s,baz=179,slow=6.1,SNR=14				
ARMA	**Armidale**	**57.30 126**	P	**P**	**18 52 11.6 +1.3**
	baz=57,SNR=5.5				
IDMV	**Damavand**	**57.44 315**	*e*P	**P**	**18 52 11.2 -0.2**
KRAR	**Krasnoyarsk**	**57.62 356**⇑	*e*P	**P**	**18 52 12.2 +0.3**
KRAR			pmax	pmax	
	comp=Z,52nm,1.7s				
NVS	**Novosibirsk**	**57.74 349**	*e*P	**P**	**18 52 10.1 -2.7**
NVS			pmax	pmax	
	comp=Z,16nm,0.8s				
NVS			pmax	pmax	
	comp=N,10.0nm,0.9s				
NVS			pmax	pmax	
	comp=E,17nm,1.4s				
RAYN	**Ar Rayn**	**57.83 299**	*e*P	**P**	**18 52 15.0 +0.8**
	comp=E,22nm,1.6s				
KLR	**Kul'dur**	**57.87 25**	*e*P	P	18 52 03.2 -11
KBD	**Kabd**	**57.94 306**	*e*P	**P**	**18 52 14.6 0.0**
KBD			AMb	AMB	18 52 16.9
	comp=Z,26nm,1.2s				
RDF	**Al-Radifah**	**57.96 306**	*e*P	**P**	**18 52 15.5 +0.6**
RDF			AMb	AMB	18 52 17.5
	comp=Z,58nm,1.2s				
IR5	**Iran Long-Peri**	**58.30 314**	*e*P	**P**	**18 52 17.3 0.0**
NAY	**Al-Naaiem**	**58.33 306**	*e*P	**P**	**18 52 17.5 0.0**
NAY			AMb	AMB	18 52 25.1
	comp=Z,23nm,0.8s				
IMHD	**Mahdasht**	**58.47 314**	*e*P	**P**	**18 52 18.8 +0.4**
HABR	**Khabarovsk**	**58.74 27**	P	P	18 52 16.4 -3.5
HABR			*e**PP	pP	18 52 26.2 -2.2
HABR			*e**SP	sP	18 52 30.4 -1.2
HABR			*e*		18 53 06.0
HABR			*e*		18 54 26.1
HABR			*e*S	**S**	**19 00 18.1 -5.0**
HABR			*e*		19 00 30.7
HABR			*e**SS	sS	19 00 35.8 -1.3
HABR			*e*		19 02 02.8
HABR			*e*SS	**SS**	**19 04 12.5 -4.2**
HABR			MLR	MLR	
	comp=Z,332nm,18.0s				
ERM	**Erimo**	**58.79 37**	*ce*P	**P**	**18 52 20.6 +0.2**
ERM			pmax	pmax	
	comp=Z,37nm,1.7s				
IRAZ	**Razeghan**	**58.86 314**	*e*P	**P**	**18 52 21.4 +0.1**
VOSK	**Vostochnaya**	**59.06 340**	P	**P**	**18 52 20.8 -1.3**
VOSK			pmax	pmax	
	comp=Z,10.0nm,0.8s				
BVA0	**Borovoye Array**	**59.51 340**	*i* P	**P**	**18 52 22.8 -2.4**
BVA0			pmax	pmax	
	comp=Z,15nm,1.0s				
BRVK	**Borovoye**	**59.58 340**	*e*P	**P**	**18 52 24.8 -0.8**
BRVK	**Borovoye**	**59.58 340**	*e*P	**P**	**18 52 24.5 -1.1**
	comp=Z,8.7nm,0.9s				
AB31	**Akbulak array**	**60.89 332**	*ce*P	**P**	**18 52 33.5 -1.2**
AB31			pmax	pmax	
	comp=Z,100nm,1.5s				
ABKAR	**Akbulak array**	**60.89 332**	*e*P	**P**	**18 52 33.8 -0.9**
YSS	**Yuzh-Sakhalins**	**61.54 32**⇑	*e*P	**P**	**18 52 40.5 +1.4**
YSS			pmax	pmax	
	comp=Z,30nm,1.0s				
YSS			MLR	MLR	
	comp=Z,100nm,15.0s				
KMBO	**Kilima Mbogo**	**61.94 270**	*e*P	**P**	**18 52 45.4 +2.6**
KMBO	**Kilima Mbogo**	**61.94 270**	P	**P**	**18 52 44.1 +1.3**
	comp=Z,9.3nm,0.9s,baz=58,slow=9.2,SNR=18				
AKTO	**Aktyubinsk**	**62.60 332**	*i* P	**P**	**18 52 44.1 -2.1**
AKTO			pmax	pmax	
	comp=Z,25nm,1.4s				
GNI	**Garni**	**64.67 316**	*e*P	**P**	**18 52 59.4 -0.9**
	comp=Z,38nm,1.2s				
CASY	**Casey**	**65.08 175**	*e*P	**P**	**18 53 04.6 +2.4**
	comp=Z,42nm,1.4s				
SVE	**Sverdlovsk**	**65.99 338**⇑	*i*P	**P**	**18 53 08.0 -0.3**
SVE			pmax	pmax	
	comp=Z,37nm,1.2s				
ZEI	**Tsey**	**66.39 319**	*e*P	**P**	**18 53 11.0 -0.4**
ZEI			pmax	pmax	
	comp=Z,26nm,1.0s				
ARU	**Arti**	**66.50 337**	*d i*P	**P**	**18 53 10.7 -0.8**
ARU			S	**S**	**19 01 59.7 -0.7**
ARU			SS	**SS**	**19 06 14.2 -3.6**
ARU			pmax	pmax	
	comp=Z,24nm,1.7s				
KBZ	**Khabaz**	**67.47 319**	P	**P**	**18 53 18.2 +0.3**
KBZ	**Khabaz**	**67.47 319**	P	**P**	**18 53 18.2 +0.3**
KBZ	**Khabaz**	**67.47 319**	P	**P**	**18 53 18.2 +0.3**
	comp=Z,12nm,0.8s,baz=120,slow=5.4,SNR=22				
YAK	**Yakutsk**	**67.53 15**	*e*P	**P**	**18 53 15.1 -2.9**
YAK			pmax	pmax	
	comp=Z,40nm,1.2s				
YAK			pmax	pmax	
	comp=N,19nm,1.4s				
YAK			pmax	pmax	
	comp=E,13nm,1.2s				
ASF	**Jabal al Asfar**	**67.69 306**	P	**P**	**18 53 19.3 -0.4**
ASF	**Jabal al Asfar**	**67.69 306**	P	**P**	**18 53 19.3 -0.4**
	comp=E,6.5nm,0.9s,baz=70,slow=3.4,SNR=8.9				
KIV	**Kislovodsk**	**67.70 319**	*e*P	**P**	**18 53 19.3 -0.3**
KIV			*e*		18 53 46.1
KIV			*e*S	**S**	**19 02 14.9 -0.7**
KIV			pmax	pmax	
	comp=Z,36nm,1.0s				
KIV	**Kislovodsk**	**67.70 319**	P	**P**	**18 53 20.0 +0.4**
	comp=Z,200nm,0.9s,SNR=6.3				
MBAR	**Mbarara**	**68.46 270**	P	**P**	**18 53 25.8 +0.7**
MBAR	**Mbarara**	**68.46 270**	P	**P**	**18 53 25.8 +0.7**
	comp=Z,6.0nm,0.9s,baz=230,slow=22,SNR=7.3				
EIL	**Elat**	**68.62 303**	P	**P**	**18 53 26.9 +1.3**
EIL	**Elat**	**68.62 303**	P	**P**	**18 53 26.9 +1.3**
	comp=Z,11nm,0.7s,baz=125,slow=4.6,SNR=7.4				
EIL	**Elat**	**68.62 303**	P	**P**	**18 53 26.9 +1.3**
	baz=69,SNR=3.1				
SOKR	**Solikamsk**	**69.39 338**⇑	*i*P	**P**	**18 53 29.2 -0.4**
SOKR			pmax	pmax	
	comp=Z,10.0nm,0.9s				
SOC	**Sochi**	**69.51 318**	*e*P	**P**	**18 53 28.8 -1.9**
SOC			*e*S	**S**	**19 02 32.9 -3.9**
SOC			*e*		19 03 20.3
SOC			*e*SS	**SS**	**19 06 59.6 -5.2**
SOC			pmax	pmax	
	comp=Z,30nm,1.0s				
MAW	**Mawson**	**70.51 194**	P	**P**	**18 53 37.8 +1.4**

MAW	Mawson	70.51 194	P	P	18 53 37.8	+1.4
	comp=Z,10nm,1.0s,baz=19,slow=7.7,SNR=16					
LSZ	Lusaka	71.28 254	eP	P	18 53 42.6	+0.3
	comp=Z,26nm,1.4s					
LSZ	Lusaka	71.28 254	P	P	18 53 43.9	+1.6
	comp=Z,7.2nm,1.0s,baz=62,slow=9.5,SNR=8.5					
VRHR	Novokhopersk	71.53 326	eP	P	18 53 41.9	-1.0
VRHR			e*PP	pP	18 53 47.6	-4.0
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.7s					
VRHR			pmax	pmax		
	comp=N,10.0nm,0.6s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.6s					
BR131	Keskin Array S	72.45 313	eP	P	18 53 46.2	-2.6
	comp=E,6.8nm,0.9s					
BRTR	Keskin Array B	72.45 313	P	P	18 53 48.1	-0.8
BRTR	Keskin Array B	72.45 313	P	P	18 53 48.1	-0.8
	comp=E,3.2nm,0.7s,baz=128,slow=7.0,SNR=15					
VORD	Divnogorie	72.79 325	eP	P	18 53 49.2	-1.3
VORD			e*PP	pP	18 53 55.5	-3.6
VORD			pmax	pmax		
	comp=Z,10.0nm,0.7s					
VORD			pmax	pmax		
	comp=N,20nm,0.6s					
VORD			pmax	pmax		
	comp=E,20nm,0.7s					
PETK	Petropavlovsk-	72.95 33	P	P	18 53 51.2	-0.2
PETK	Petropavlovsk-	72.95 33	P	P	18 53 51.1	-0.2
PETK	Petropavlovsk-	72.95 33	P	P	18 53 51.1	-0.2
	comp=E,2.4nm,0.8s,baz=169,slow=8.2,SNR=4.7					
VSR	Storozhevoye	72.97 325	eP	P	18 53 50.3	-1.2
VSR			pmax	pmax		
	comp=Z,20nm,0.9s					
VSR			pmax	pmax		
	comp=N,9.0nm,0.4s					
VSR			pmax	pmax		
	comp=E,10.0nm,0.9s					
SIM	Simferopol'	73.75 318	eP	P	18 54 01.0	+4.7
SIM			pmax	pmax		
	comp=Z,12nm,1.0s					
BOSA	Boshof	75.17 241	P	P	18 54 03.9	-1.2
BOSA	Boshof	75.17 241	P	P	18 54 03.9	-1.2
	comp=Z,3.7nm,0.7s,baz=107,slow=11,SNR=7.4					
SEY	Seymchan	75.53 22⇓	eP	P	18 54 05.5	-0.7
TIXI	Tiksi	75.56 9⇑	eP	P	18 54 06.5	+0.3
TIXI			pmax	pmax		
	comp=Z,13nm,1.1s					
MOS	Moscow	75.72 329	eP	P	18 54 06.3	-1.1
MOS			pmax	pmax		
	comp=Z,67nm,1.6s					
OBN	Obninsk	76.01 328⇓	iP	P	18 54 08.8	-0.3
OBN			i		18 54 14.7	
OBN			pmax	pmax		
	comp=Z,21nm,1.2s					
SYO	Syowa Base	78.02 199⇑	eP	P	18 54 21.2	+1.1
AKASG	Malin Array Be	78.66 322	ceP	P	18 54 23.6	-0.4
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.7s					
AKASG	Malin Array Be	78.66 322	P	P	18 54 23.0	-1.1
AKASG	Malin Array Be	78.66 322	P	P	18 54 23.0	-1.1
	comp=Z,2.6nm,0.7s,baz=87,slow=4.8,SNR=13					
VRI	Vrincioaia	79.00 317	⇑P	P	18 54 26.7	+0.6
VRI	Vrincioaia	79.00 317	⇑iP	P	18 54 26.7	+0.6
PLOR	Plostina	79.05 317	⇑P	P	18 54 27.2	+0.8
PLOR	Plostina	79.05 317	⇑iP	P	18 54 27.2	+0.8
TESR	Tescani	79.21 318	⇑iP	P	18 54 27.4	+0.2
TMCR	Tamitsa	79.24 337	eP	P	18 54 26.7	-0.2
TMCR			e		18 54 34.2	
TMCR			pmax	pmax		
	comp=Z,23nm,0.3s					
PRAR	RASCA	79.69 319	⇓iP	P	18 54 30.1	+0.3
VOIR		80.05 317	⇓P	P	18 54 31.7	-0.2
VOIR		80.05 317	⇓iP	P	18 54 31.7	-0.2
BURAR	Bucovina Array	80.42 319	⇑P	P	18 54 34.8	+1.0
BURAR	Bucovina Array	80.42 319	⇑iP	P	18 54 34.8	+1.0
BUR08	Bucovina Ar. S	80.43 319	eP	P	18 54 33.9	-0.1
VTS	Vitosha	80.78 313	⇑P	P	18 54 35.7	-0.3
VTS	Vitosha	80.78 313	⇑iP	P	18 54 35.7	-0.3
LVV	L'vov	81.67 321	eP	P	18 54 39.5	-0.8
BZS	Buzias	82.45 316	⇓P	P	18 54 44.6	+0.1
BZS	Buzias	82.45 316	⇓iP	P	18 54 44.6	+0.1
UZH	Uzhgorod	82.54 319	eP	P	18 54 46.7	+1.8
KOLS	Kolonicke sedl	82.61 320	eP	P	18 54 46.1	+0.8
KOLS			pmax	pmax		
	comp=Z,21nm,1.0s					
KOLS	Kolonicke sedl	82.61 320	eP	P	18 54 46.1	+0.8
KOLS			epP	PcP	18 54 52.1	+1.8
VNDA	Vanda	82.73 169	P	P	18 54 45.3	-0.1
VNDA	Vanda	82.73 169	P	P	18 54 45.3	-0.1
	comp=Z,9.0nm,1.1s,baz=296,slow=4.8,SNR=20					
CRVS	Cervenica-Dubn	83.13 319	eP	P	18 54 48.7	+0.7
CRVS			pmax	pmax		
	comp=Z,35nm,2.2s					
CRVS	Cervenica-Dubn	83.13 319	eP	P	18 54 48.7	+0.7
STHS	Stebnicka Huta	83.36 320	eP	P	18 54 50.5	+1.3
STHS			pmax	pmax		
	comp=Z,10.0nm,0.8s					
STHS	Stebnicka Huta	83.36 320	eP	P	18 54 50.5	+1.3
STHS			epP	pP	18 54 56.2	-1.8
FINES	FINESS Array B	83.36 332	P	P	18 54 48.3	-0.6
FINES	FINESS Array B	83.36 332	P	P	18 54 48.3	-0.6
	comp=Z,2.8nm,0.5s,baz=110,slow=5.3,SNR=12					
KAF	Kangasniemi	83.44 333	eP	P	18 54 49.0	-0.3
KAF			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KAF	Kangasniemi	83.44 333	ep	P	18 54 49.0	-0.3
	comp=Z,2.0nm,0.4s					
KECS	Kecovo	83.70 319	eP	P	18 54 50.9	0.0
KECS			pmax	pmax		
	comp=Z,4.0nm,0.9s					
KECS	Kecovo	83.70 319	eP	P	18 54 50.9	0.0
KECS			epP	pP	18 54 57.6	-2.1
SBA	Scott Base	83.83 169	eP	P	18 54 53.5	+2.5
SBA	Scott Base	83.83 169	eP	P	18 54 53.5	+2.5
PSZ	Piszkesteto	84.00 318	⇑P	P	18 54 52.8	+0.3
PSZ	Piszkesteto	84.00 318	⇑iP	P	18 54 52.8	+0.3
PSZ	Piszkesteto	84.00 318	eP	P	18 54 52.9	+0.3
OJC	Ojcow	84.42 321	eP	P	18 54 55.3	+0.7
OJC	Ojcow	84.42 321	eP	P	18 54 55.2	+0.7
PKSM	Moragy	84.59 317	⇑P	P	18 54 54.3	-1.2
PKSM	Moragy	84.59 317	⇑iP	P	18 54 54.3	-1.2
OKC	Ostrava-Krasne	85.42 320	iP	P	18 55 00.6	+1.0
OKC			e		18 55 06.6	
OKC	Ostrava-Krasne	85.42 320	iP	P	18 55 00.6	+1.0
OKC			epP	pP	18 55 06.6	-1.8
CEL	Celeste	85.71 308	eP	P	18 55 01.0	-0.4
	comp=Z,47nm,1.3s					
MORC	Moravsky Berou	85.80 320	eP	P	18 55 00.7	-0.9
MORC			pmax	pmax		
	comp=Z,16nm,1.3s					
MORC	Moravsky Berou	85.80 320	eP	P	18 55 00.7	-0.9
	comp=Z,16nm,1.3s					
ARCES	ARCESS Array B	85.80 340	P	P	18 54 59.7	-1.4
ARCES	ARCESS Array B	85.80 340	P	P	18 54 59.7	-1.4
	comp=Z,7.0nm,1.0s,baz=111,slow=5.3,SNR=6.4					
ARE0	ARCESS Array S	85.80 340	eP	P	18 55 00.8	-0.3
ZST	Bratislava	85.89 318	eP	P	18 55 03.5	+1.5
ZST	Bratislava	85.89 318	eP	P	18 55 03.5	+1.5
VRAC	Vranov	86.36 319	P	P	18 55 04.3	0.0
VRAC	Vranov	86.36 319	P	P	18 55 04.3	0.0
	comp=Z,1.3nm,0.7s,baz=229,slow=19,SNR=2.7					
DPC	Dobruska-Polom	86.65 320	iP	P	18 55 06.8	+1.1
DPC			e		18 55 12.4	
DPC	Dobruska-Polom	86.65 320	iP	P	18 55 06.8	+1.1
DPC			epP	pP	18 55 12.4	-2.2
DPC	Dobruska-Polom	86.65 320	eP	P	18 55 06.1	+0.3
KSP	Ksiaz	86.72 321	eP	P	18 55 06.6	+0.6
KSP			e*PP	pP	18 55 12.1	-2.8
ARSA	Arzberg	86.85 317	⇑iP	P	18 55 07.4	+0.6
	comp=Z,10nm,1.3s,SNR=6.5					
BOJS	Bojanci	86.86 316	iP	P	18 55 07.3	+0.5
BOJS			i		18 55 13.7	
UPC	Upice	86.86 321	iP	P	18 55 07.5	+0.8
UPC			e		18 55 14.1	
UPC	Upice	86.86 321	iP	P	18 55 07.5	+0.8
UPC			epP	pP	18 55 14.1	-1.5
PERS	Pernice	87.06 317	iP	P	18 55 08.2	+0.4
PERS			i		18 55 14.6	
TREC	Trest	87.07 319	eP	P	18 55 08.3	+0.5
TREC			e		18 55 14.6	
TREC	Trest	87.07 319	eP	P	18 55 08.3	+0.5
TREC			epP	pP	18 55 14.6	-2.0
PDKS	Podkum	87.09 316	iP	P	18 55 09.0	+1.1
PDKS			i		18 55 15.6	
SOKA	Soboth	87.12 317	⇑iP	P	18 55 08.7	+0.6
	comp=Z,11nm,1.0s,SNR=8.3					
LJU	Ljubljana	87.42 316	eP	P	18 55 10.0	+0.5
MAIT	Maitri	87.69 199	eP	P	18 55 07.3	-2.9
MAIT			e		18 55 19.6	
JAVS	Javornik	87.73 316	iP	P	18 55 11.0	-0.1
JAVS			i		18 55 17.1	
PRU	Pruhonice	87.75 320	iP	P	18 55 12.0	+1.0
PRU			e		18 55 17.3	
PRU	Pruhonice	87.75 320	iP	P	18 55 12.0	+1.0
PRU			epP	pP	18 55 17.3	-2.6
PVCC	Panska Ves	87.78 321	eP	P	18 55 12.2	+1.1
PVCC			e		18 55 18.3	
PVCC	Panska Ves	87.78 321	eP	P	18 55 12.2	+1.1
PVCC			epP	pP	18 55 18.3	-1.7
AQU	L'Aquila	87.94 312	eP	P	18 55 12.0	-0.1
	comp=Z,57nm,1.1s					
GEC2	GERESS Array S	88.20 319	eP	P	18 55 14.2	+0.9
	comp=Z,4.0nm,0.9s					
GEC2	GERESS Array S	88.20 319	eP	P	18 55 14.2	+0.9
GEC2			pmax	pmax		
	comp=Z,4.0nm,0.9s					
GERES	GERESS Array B	88.20 319	P	P	18 55 13.8	+0.5
GERES	GERESS Array B	88.20 319	P	P	18 55 13.8	+0.5
	comp=Z,3.2nm,0.7s,baz=94,slow=4.1,SNR=23					
BRG	Berggiesshubel	88.21 321	iP	P	18 55 14.0	+0.8
	comp=Z,34nm,1.8s					
BRG			i		18 55 20.6	
	comp=Z,29nm,1.4s					
BRG	Berggiesshubel	88.21 321	eP	P	18 55 14.2	+1.1
	comp=Z,5.0nm,0.8s					
BRG	Berggiesshubel	88.21 321	iP	P	18 55 14.0	+0.8
BRG			i		18 55 20.6	
BRG			pmax	pmax		
	comp=Z,35nm,1.8s					
BRG			pmax	pmax		
	comp=Z,29nm,1.4s					
KHC	Kasperske Hory	88.31 319	iP	P	18 55 13.8	+0.1
KHC	Kasperske Hory	88.31 319	iP	P	18 55 13.8	+0.1
KHC			epP	PcP	18 55 18.4	+3.0
KHC			ex	x	18 55 41.0	
KHC	Kasperske Hory	88.31 319	eP	P	18 55 13.5	-0.2
QSPA	South Pole Qui	88.39 180	eP	P	18 55 12.1	-1.8
	comp=Z,20nm,1.1s					
WET	Wettzell	88.77 319	eP	P	18 55 16.8	+0.9
	comp=Z,4.0nm,0.8s					
WET	Wettzell	88.77 319	eP	P	18 55 16.8	+0.9
WET			pmax	pmax		
	comp=Z,4.0nm,0.8s					
CLL	Collm	88.83 321	eP	P	18 55 16.8	+0.7
	comp=Z,9.0nm,1.0s					
CLL	Collm	88.83 321	⇑iP	P	18 55 16.5	+0.4
CLL			i		18 55 22.6	
CLL	Collm	88.83 321	⇑iP	P	18 55 16.5	+0.4
CLL			iP	pP	18 55 22.6	-2.3
CLL			eS	S	19 06 06.0	+4.1
CLL			e		19 17 00.0	
CLL			LmV		19 50 00.0	
	comp=Z,100nm,20.1s					
NKC	Novy Kostel	89.11 320	iP	P	18 55 18.3	+0.8
NKC			e		18 55 24.7	
NKC	Novy Kostel	89.11 320	iP	P	18 55 18.3	+0.8
NKC			epP	pP	18 55 24.7	-1.6
TANN	Tannenbergstha	89.12 320	eP	P	18 55 18.4	+0.9
	comp=Z,3.0nm,1.0s					
ROTZ	Rotzenmuhle	89.24 320	eP	P	18 55 19.6	+1.5
	comp=Z,5.0nm,0.9s					
ROTZ			epP	pP	18 55 25.1	-1.8
MANZ	Manzenberg	89.32 320	eP	P	18 55 19.9	+1.4
	comp=Z,8.0nm,0.9s					
MANZ			epP	pP	18 55 26.1	-1.2
WTTA	Wattenberg	89.49 317	⇑iP	P	18 55 19.4	-0.1
	comp=Z,9.5nm,0.8s,SNR=6.5					
WATA	Walderalm	89.53 317	P	P	18 55 19.4	-0.3
	comp=Z,6.9nm,1.0s					
NEUB	Neuenburg	89.60 321	eP	P	18 55 20.8	+1.1
	comp=Z,15nm,0.8s					
NEUB			epP	pP	18 55 27.0	-1.5
MOX	Moxa	89.67 320	eP	P	18 55 21.0	+1.0
	comp=Z,3.0nm,0.9s					
MOX			epP	pP	18 55 27.5	-1.4
MOX	Moxa	89.67 320	eP	P	18 55 21.0	+1.0
MOX			e*PP	pP	18 55 27.5	-1.4
MOX			pmax	pmax		
	comp=Z,3.0nm,0.9s					
MOTA	Moosalm	89.85 317	⇑iP	P	18 55 20.9	-0.3
	comp=Z,14nm,1.1s,SNR=7.7					
GRFO	Grafenberg	89.88 320	eP	P	18 55 22.6	+1.5
GRFO	Grafenberg	89.88 320	eP	P	18 55 22.6	+1.5
SPITS	Spitsbergen Ar	90.05 348	P	P	18 55 20.7	-0.6
SPITS	Spitsbergen Ar	90.05 348	P	P	18 55 20.7	-0.6
	comp=Z,7.9nm,0.7s,baz=104,slow=6.1,SNR=6.7					
RETA	Reutte	90.09 317	iPcP	P	18 55 22.4	+0.2
	comp=Z,8.8nm,0.7s,SNR=5.7					
FETA	Feichten	90.09 317	⇑iPcP	P	18 55 22.7	+0.4
	comp=Z,7.1nm,1.0s,SNR=6.4					
FUORN	Ofenpass-Fuorn	90.40 316	eP	P	18 55 24.8	+0.9
DAVOX	Davos/Dischmat	90.67 317	P	P	18 55 25.9	+0.9
DAVOX	Davos/Dischmat	90.67 317	P	P	18 55 25.9	+0.9
	comp=Z,14nm,0.9s,baz=132,slow=5.9,SNR=23					
DAVA	Damuels	90.68 317	⇑iPcP	P	18 55 25.4	+0.4
	comp=Z,23nm,1.1s,SNR=8.7					
UBBA	Unterbreizbach	90.70 321	eP	P	18 55 25.6	+0.9
	comp=Z,2.0nm,1.0s					
KEST	Kesra	90.79 306	eP	P	18 55 25.1	-0.6
KEST	Kesra	90.79 306	P	P	18 55 27.6	+1.9
	comp=Z,6.6nm,1.0s,baz=332,slow=2.1,SNR=11					
TUE	Stuetta	91.03 316	eP	P	18 55 26.4	-0.4
PGF	Pioggiola	91.20 312	eP	P	18 55 28.1	+0.6
	comp=Z,59nm,1.4s					
TNS	Taunus Mts	91.68 320	eP	P	18 55 30.7	+1.2
	comp=Z,6.0nm,0.8s					
TNS	Taunus Mts	91.68 320	eP	P	18 55 30.7	+1.2
TNS			pmax	pmax		
	comp=Z,6.0nm,0.8s					
BFO	Black Forest	91.75 318	eP	P	18 55 30.4	+0.6
	comp=Z,4.0nm,0.9s					
BFO	Black Forest	91.75 318	eP	P	18 55 30.4	+0.6
BFO			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BFO	Black Forest	91.75 318	eP	P	18 55 28.6	-1.2
	comp=Z,9.0nm,1.1s					
SNAA	Sanae	92.30 198	eP	P	18 55 34.1	+2.2
SBF	Sospel	92.36 314	eP	P	18 55 33.2	+0.4
	comp=Z,61nm,1.2s					
CDF	Champ du Feu	92.45 318	eP	P	18 55 33.2	+0.1
	comp=Z,24nm,1.4s					
ECH	Echery	92.53 318	eP	P	18 55 31.7	-1.7
ECH			pmax	pmax		
	comp=Z,5.0nm,1.0s					
ECH	Echery	92.53 318	eP	P	18 55 31.7	-1.7
	comp=Z,4.7nm,1.0s					
MBDF	Montbardon	92.83 315	eP	P	18 55 34.8	-0.2
LPG	La Plagne	92.83 315	eP	P	18 55 35.7	+0.5
	comp=Z,24nm,1.2s					
LPL	La Plagne	92.85 315	eP	P	18 55 35.7	+0.5
	comp=Z,21nm,1.2s					
BNI	Bardonecchia	92.89 315	eP	P	18 55 38.6	+3.3
BNI	Bardonecchia	92.89 315	eP	P	18 55 38.6	+3.3
FRF	La Foret Royal	92.93 313	eP	P	18 55 35.9	+0.6
	comp=Z,33nm,1.4s					
LMR	La Mourre	93.03 313	eP	P	18 55 36.4	+0.6
	comp=Z,24nm,1.2s					
HAU	Haudompre	93.07 318	eP	P	18 55 36.1	+0.2
	comp=Z,35nm,1.3s					
CABF	La Chapelle	93.28 316	eP	P	18 55 37.5	+0.5
ORIF	Oris-en-Rattie	93.46 315	eP	P	18 55 38.5	+0.6
	comp=Z,4.2nm,0.7s					
SFTF	Sexfontaines	93.95 318	eP	P	18 55 40.2	+0.3
	comp=Z,26nm,1.0s					
VIVF	Saint-Julien-l	94.32 315	eP	P	18 55 42.1	+0.3
BAIF	Baives	94.41 320	eP	P	18 55 42.6	+0.6
	comp=Z,19nm,1.2s					
LOR	Lormes	94.78 317	eP	P	18 55 44.0	+0.2
	comp=Z,9.6nm,1.0s					
SMF	Signal de Mont	94.83 316	eP	P	18 55 44.1	+0.1
	comp=Z,13nm,1.2s					
LASF	Ste Croix	94.94 314	eP	P	18 55 45.0	+0.4
SSF	Saint Saulge	95.03 317	eP	P	18 55 45.3	+0.4
TCF	Toulx Ste Croi	95.97 316	eP	P	18 55 49.7	+0.4
	comp=Z,13nm,1.4s					
MTLF	Montolieu	96.16 313	eP	P	18 55 50.7	+0.5
CAF	Calviac	96.17 315	eP	P	18 55 50.8	+0.6
TORD	Torodi Ar. Bea	97.67 283	P	Pdif	18 55 57.8	+0.2
TORD	Torodi Ar. Bea	97.67 283	P	Pdif	18 55 57.8	+0.2
	comp=Z,0.6nm,0.8s,baz=90,slow=5.8,SNR=4.3					
IMA2	Indian Mountai	98.33 23	eP	Pdif	18 56 00.6	+1.0
ILAR	Eielson Array	101.43 24	PKKPbc	PKKPbc	19 12 22.6	-1.8
ILAR	Eielson Array	101.43 24	PKKPbc	PKKPbc	19 12 22.6	-1.8
	comp=Z,0.8nm,0.6s,baz=157,slow=1.9,SNR=9.2					
LIC	Lamto	104.32 276	eP	Pdif	18 56 27.7	+0.5
	comp=Z,4.2nm,0.7s					
DLMT	Dillon	128.19 28	ePKPdf	PKPdf	19 01 29.5	+0.7
NVAR	Mina Array Bea	129.76 38	PKP	PKPdf	19 01 32.7	+0.6
NVAR			SKPbc	SKPbc	19 04 52.8	+0.1
NVAR	Mina Array Bea	129.76 38	PKP	PKPdf	19 01 32.7	+0.6
	comp=Z,1.7nm,0.8s,baz=282,slow=1.4,SNR=9.6					
NVAR			SKPbc	SKPbc	19 04 52.8	+0.1
	comp=Z,1.1nm,1.0s,baz=298,slow=3.2,SNR=5.4					
ULM	Lac du Bonnet	129.83 13	PKP	PKPdf	19 01 31.1	-0.4
ULM	Lac du Bonnet	129.83 13	PKP	PKPdf	19 01 31.1	-0.4
	comp=Z,4.1nm,0.7s,baz=57,slow=1.8,SNR=3.7					
PDAR	Pinedale Array	131.58 28	PKP	PKPdf	19 01 34.5	-0.9
PDAR			SKPbc	SKPbc	19 04 59.0	-0.2
PDAR	Pinedale Array	131.58 28	PKP	PKPdf	19 01 34.5	-0.9
	comp=Z,0.7nm,0.7s,baz=230,slow=1.2,SNR=7.1					
PDAR			SKPbc	SKPbc	19 04 59.0	-0.2
	comp=Z,0.6nm,0.8s,baz=46,slow=4.3,SNR=4.8					
DUG	Dugway	131.81 33	ePKIKP	PKPdf	19 01 36.1	+0.3
DUG	Dugway	131.81 33	ePKPdf	PKPdf	19 01 36.1	+0.3
Q16A	Castle Valley	133.61 33	ePKPdf	PKPdf	19 01 39.9	+0.6
MNTX	Cornudas Mount	142.10 35	ePKPdf	PKPdf	19 01 54.5	-0.4
BDFB	Brasilia	143.36 241	PKP	PKPdf	19 01 57.9	+0.2
BDFB	Brasilia	143.36 241	PKP	PKPdf	19 01 57.9	+0.2
	comp=Z,3.7nm,0.8s,baz=207,slow=6.6,SNR=4.2					
CPUP	Villa Florida	144.19 218	PKP	PKPdf	19 01 57.9	-0.7
CPUP	Villa Florida	144.19 218	PKP	PKPdf	19 01 57.9	-0.7
	comp=Z,26nm,0.9s,baz=108,slow=2.6,SNR=27					
TXAR	Lajitas Array	144.83 36	PKP	PKPbc	19 01 59.0	+0.1
TXAR	Lajitas Array	144.83 36	PKP	PKPbc	19 01 59.0	+0.1
	comp=Z,11nm,0.7s,baz=264,slow=1.3,SNR=40					
WVT	Waverly	145.00 10	ePKIKP	PKPab	19 01 58.4	-0.7
WVT	Waverly	145.00 10	ePKPdf	PKPab	19 01 58.4	-0.7
JCT	Junction City	146.06 30	ePKP2	PKPbc	19 02 02.3	-0.4
JCT	Junction City	146.06 30	ePKPdf	PKPbc	19 02 02.3	-0.4
CPCT	Cooper Cave	146.11 5	ePKPdf	PKPdf	19 02 01.6	-0.1
OXF	Oxford	146.25 13	ePKP2	PKPdf	19 02 01.9	-0.1
OXF	Oxford	146.25 13	ePKPdf	PKPdf	19 02 01.9	-0.1
HKT	Hockley	148.36 25	ePKIKP	PKPdf	19 02 05.7	+0.1
HKT	Hockley	148.36 25	ePKPdf	PKPdf	19 02 05.7	+0.1
LPAZ	La Paz	158.29 215	PKP	PKPdf	19 02 21.4	+0.4
LPAZ			PKPab	PKPab	19 02 56.8	+1.8
LPAZ	La Paz	158.29 215	PKP	PKPdf	19 02 21.4	+0.4
	comp=Z,2.6nm,1.0s,baz=34,slow=4.4,SNR=7.3					
LPAZ			PKPab	PKPab	19 02 56.8	+1.8
	comp=Z,1.5nm,0.8s,baz=217,slow=4.6,SNR=4.4					

MEX 16 18:46:47.4±0.5, 16.72N×94.76W, h124km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.39	343	iP	Pn	18 47 04.0	-1.2
CMIG				eS	Sn	18 47 16.0	-2.6
TUIG	Tuzandepetl	1.34	14	eP	Pn	18 47 08.5	-4.8
TUIG				iS	Sn	18 47 26.9	-6.1
TGIG		1.57	88	iP	Pn	18 47 14.8	-1.2
TGIG				eS	Sn	18 47 35.2	-2.6
PCIG		1.80	124	iP	Pn	18 47 20.5	+2.0
PCIG				iS	Sn	18 47 44.4	+2.1
VHO	Vista Hermosa	1.92	281	iP	Pn	18 47 19.9	-0.4
VHO				eS	Sn	18 47 43.7	-1.7
CCIG	Comitan	2.56	99	iP	Pn	18 47 27.6	-0.8
CCIG				iS	Sn	18 47 57.7	-2.1
TPIG	Tehuac#an	3.00	305	iP	Pn	18 47 31.8	-2.2
TPIG				iS	Sn	18 48 08.5	-1.4
UTMO	Huajuapan	3.11	291	iP	Pn	18 47 34.0	-1.5
UTMO				eS	Sn	18 48 09.8	-2.8
PNIG	Pinotepa	3.24	265	iP	Pn	18 47 35.6	-1.4
PNIG				eS	Sn	18 48 12.7	-2.6

IDC 16 18:49:08.8±3.5, 0.87S×100.43E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/24, mbtmp3.3/5, ML3.3/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/27, Error ellipse: s-maj=158.1km s-min=21.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.26	356	P	Pn	18 53 36.7	+0.7
	0.0nm,0.3s,baz=181,slow=13,SNR=4.0						
WRA	Warramunga Arr	38.21	122	P	P	18 56 30.2	-0.5
	0.4nm,0.5s,baz=302,slow=9.1,SNR=4.6						
ASAR	Alice Springs	39.58	127	P	P	18 56 42.5	+0.3
	0.3nm,0.6s,baz=303,slow=8.5,SNR=3.0						
KSRS	Korea Array	45.83	31	LR	LR	19 17 45.5	
	comp=Z,288nm,19.9s,baz=218,slow=38						
MKAR	Makanchi Array	50.06	344	P	P	18 58 05.0	-0.4
	0.2nm,0.5s,baz=150,slow=7.9,SNR=3.5						
ZALV	Zalesovo Beam	56.14	349	P	P	18 58 49.6	-0.5
	0.4nm,0.3s,baz=171,slow=11,SNR=2.4						

*IDC **16** 18:50:09.6±0.3, 1.42S×99.40E, h0km, mb4.8/37, mb1 4.9/39, mb1mx4.9/39, mbtmp4.8/39, ML4.3/2, MS4.5/8, Ms1 4.5/8, ms1mx4.0/36, Error ellipse: s-maj=11.7km s-min=9.6km az=59.0*

*DJA **16** 18:50:10.2±0.6, 2.3S±4.3×99.9E±.9, h10km, M5.4/12, mB5.8/4, mb5.3/12, MLv5.5/5, Mw(mB)5.4/4*

*NEIC **16** 18:50:11.1±0.2, 1.46S×99.40E, h10km, mb5.2/19, Error ellipse: s-maj=6.3km s-min=4.9km az=59.0*

*BJI **16** 18:50:12.4, 1.40S×99.50E, h23km, mB5.1/31, mb4.8/48, Ms5.0/37, Ms7 4.8/35*

*ISCJB **16** 18:50:12.2±1.0, 1.44S±0.03×99.41E±0.03, h26km±7km, mb5.0/140, MS4.6/23, Error ellipse: s-maj=5.8km s-min=3.6km az=141.3*

*MOS **16** 18:50:13.4±1.0, 1.36S×99.47E, h33km, mb5.3/45, MS4.6/4, Error ellipse: s-maj=10.6km s-min=4.9km az=115.1*

*SZGRF **16** 18:50:14

232nm,0.8s,1.6nm
KLSI 6.26 121 P **Pn** 18 51 45.7 +1.3
177nm,1.0s,0.8nm
KASI Kota Agung 6.53 128 P **Pn** 18 51 47.6 -0.6
277nm,0.7s,5μm1.9nm
LHMI Lhok Sumawe 7.06 340 P Pn 18 52 00.0 +4.7
baz=7.2,SNR=3.1
KTGM Kuala Trenggan 7.72 29 P **Pn** 18 52 05.0 +0.6
BSI Banda Aceh 8.00 330 P **Pn** 18 52 06.8 -1.6
112nm,0.9s
SKLT Songkhla 8.65 8 P Pn 18 52 26.1 +8.8
131nm,1.1s,0.4nm
DBJI Dramaga 8.95 125 P **Pn** 18 52 21.0 -0.3
170nm,1.0s
LEM Lembang 9.82 123 P **Pn** 18 52 34.0 +0.6
222nm,1.0s
LEM Lembang 9.82 123 P **Pn** 18 52 35.6 +2.2
baz=9.8,SNR=4.8
CISI Cisompet, Garu 10.38 126 P **Pn** 18 52 38.2 -2.9
201nm,0.8s
CISI Cisompet, Garu 10.38 126 P **Pn** 18 52 38.2 -2.9
baz=10,SNR=13
CISI S Sn 18 54 28.2 -8.6
baz=10,SNR=5.7
KSM Kuching 11.33 75 P Pn 18 53 00.6 +6.6
baz=11,SNR=3.9
UGM Wanagama 12.84 120 P **Pn** 18 53 15.5 +0.8
177nm,1.8s
UGM Wanagama 12.84 120 P **Pn** 18 53 15.6 +0.9
baz=13,SNR=8.1
SBUM Sibu 13.43 73 P **Pn** 18 53 22.4 -0.3
PWJI Pagerwojo 14.01 118 P **Pn** 18 53 29.8 -0.9
PHET Kaeng Krachan 14.27 1 P P 18 53 55.7 +15
BBKI Banjar Baru 15.60 98 P **P** 18 53 56.3 +0.3
NAYO Nakonayok 15.78 7 P P 18 54 12.4 +14
CHAI Chaiyaphum 17.43 8 P P 18 54 27.5 +11
UBPT Khong Chiam 17.69 20 P P 18 54 24.8 +5.7
33nm,1.5s,2μm
PBKT Sadao Pong 17.98 5 P P 18 54 29.8 +7.5
41nm,1.5s
KKM Kota Kinabalu 18.41 66 *e*Pn **Pn** 18 54 28.9 +1.5
44nm,0.9s
KKM Kota Kinabalu 18.41 66 P **Pn** 18 54 29.1 +1.8
KKM Kota Kinabalu 18.41 66 P **Pn** 18 54 31.0 +3.7
baz=18,SNR=7.9
SDKM Sandakan 19.16 68 P **P** 18 54 35.7 +0.3
KDM Kudat 19.32 64 P **Pn** 18 54 37.8 -0.4
TSM Tawau 19.36 73 P **P** 18 54 38.0 +0.4
CM31 Chiang Mai Arr 19.79 359 *e*P **P** 18 54 40.6 -1.6
17nm,0.7s
CMAR Chiang Mai Arr 19.79 359 P **P** 18 54 41.5 -0.6
CMAR PcP **PcP** 18 59 00.8 +0.8
CMAR Chiang Mai Arr 19.79 359 P **P** 18 54 41.5 -0.6
1.1nm,0.3s,baz=186,slow=10,SNR=32
CMAR PcP **PcP** 18 59 00.8 +0.8
0.3nm,0.3s,baz=218,slow=3.1,SNR=10.0
LAMP Lampang 19.85 1 P **Pn** 18 54 47.8 +3.3
30nm,0.8s,203nm
CMMT Chiang Mai 20.14 359 P Pn 18 54 51.9 +3.9
27nm,1.4s,2μm
CHTO Chiang Mai 20.14 359 P Pn 18 54 52.3 +4.3
31nm,0.8s
MYLDM Lahad Datu 20.23 71 P Pn 18 54 49.9 +0.9
KAPI Kappang 20.66 100 *e*P **P** 18 54 52.5 +0.7
KAPI Kappang 20.66 100 P **P** 18 54 50.3 -1.5
21nm,0.8s,baz=284,slow=9.0,SNR=7.8
QIZ Qiongzhong 22.81 26 P **P** 18 55 17.5 +2.7
QIZ S **S** 18 59 24.4 +1.7
QIZ pmax pmax
comp=Z,16nm,1.3s
QIZ LR LR
comp=N,1μm,13.7s
QIZ LR LR
comp=Z,2μm,14.6s
LUWI Luwuk 23.41 89 P **P** 18 55 20.6 -0.3
baz=23,SNR=6.3
CTBH Cotabato--PC H 26.29 71 ⇓*i*P **P** 18 55 47.8 +0.5
TGY Tagaytay City 26.38 53 P **P** 18 55 47.3 -1.0
TGY Tagaytay City 26.38 53 P **P** 18 55 47.3 -1.0
comp=Z,43nm,0.3s,baz=205,slow=12,SNR=4.7
KMI Kunming 26.62 7 P **P** 18 55 54.8 +4.3
KMI sP **sP** 18 56 05.6 +4.6
KMI pmax pmax
comp=Z,14nm,1.2s
KMI LR LR
comp=N,2μm,10.3s
KMI LR LR
comp=E,1μm,10.3s
KMI LR LR
comp=Z,1μm,10.3s
SHL Shillong 27.81 345 *e*P **P** 18 56 02.0 +0.8
SHL *e*S S 19 01 12.0 +29
MBWA Marble Bar 27.90 136 *e*P **P** 18 56 01.3 -0.5
comp=Z,23nm,1.1s
ODAN Odare 30.42 339 *e*P **P** 18 56 25.5 +1.1
comp=Z,50nm,0.7s
FITZ Fitzroy Crossi 30.65 124 P **P** 18 56 25.3 -0.9
FITZ Fitzroy Crossi 30.65 124 P **P** 18 56 25.3 -0.9
comp=Z,22nm,0.9s,baz=302,slow=5.6,SNR=30
FITZ Fitzroy Crossi 30.65 124 P **P** 18 56 24.9 -1.3
baz=31,SNR=20
TAPN Taplejung 30.75 339 *e*P **P** 18 56 28.6 +1.2
comp=Z,100nm,0.9s
RAMN Ramite 30.80 337 *e*P **P** 18 56 29.0 +1.3
comp=Z,56nm,0.9s
MEEK Meekatharra 31.14 145 P **P** 18 56 31.3 +0.8
baz=31,SNR=3.6
JIRN Jiri 31.59 337 *e*P **P** 18 56 36.1 +1.2
comp=Z,131nm,0.9s
MORW Morawa 31.74 151 P **P** 18 56 36.9 +1.2
baz=32,SNR=4.6
PKI Pulchoki 31.82 336 *e*P **P** 18 56 37.4 +0.6
comp=Z,44nm,1.0s
PKIN Phulchoki 31.83 336 *e*P **P** 18 56 37.2 +0.3
comp=Z,36nm,1.1s
SWI Sorong 31.90 89 P **P** 18 56 36.8 -0.6
baz=32,SNR=6.7
GUN Gumba 31.94 337 *e*P **P** 18 56 38.8 +0.9
comp=Z,86nm,0.7s
LSA Lhasa 31.95 346 P P 18 56 31.0 -7.1
LSA Lhasa 31.95 346 *e*P **P** 18 56 38.5 +0.4
LSA pmax pmax
comp=Z,36nm,0.8s
LSA Lhasa 31.95 346 *e*P **P** 18 56 38.5 +0.4
comp=Z,36nm,0.8s
DMN Daman 31.98 336 *e*P **P** 18 56 38.7 +0.6
KKN Kakani 32.07 336 *e*P **P** 18 56 39.6 +0.7
comp=Z,58nm,0.9s
TPUB Ta-pu 32.16 39 *e*P **P** 18 56 39.7 +0.2
comp=Z,28nm,0.9s
KNRA Kununurra 32.26 118 P **P** 18 56 37.7 -2.7
baz=32,SNR=3.3
CD2 Chengdu 32.45 7 *e*P P 18 56 45.9 +3.9
CD2 pP pP 18 56 53.9 +4.4
CD2 sP sP 18 56 56.3 +3.8
CD2 PP **PP** 18 57 55.1 -0.6
CD2 S **S** 19 01 59.8 +4.4
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,180nm,6.2s
CD2 LR LR
comp=N,2μm,13.2s
CD2 LR LR
comp=E,2μm,13.2s
CD2 LR LR
comp=Z,2μm,13.1s
YULB Yu-li 32.64 40 *e*P P 18 56 40.6 -3.1
SSLB Suanglung 32.71 39 *e*P **P** 18 56 42.0 -2.4
comp=Z,53nm,1.6s
KOLN Koldanda 32.77 334 *e*P **P** 18 56 46.0 +1.0
comp=Z,96nm,0.8s
ENH Enshi 32.99 16 *e*P **P** 18 56 44.4 -2.3
comp=Z,13nm,0.7s
DANN Dangsing 33.20 334 *e*P **P** 18 56 49.9 +1.0
comp=Z,145nm,1.1s
YHNB Yeheng 33.62 38 *e*P **P** 18 56 52.3 0.0
comp=Z,76nm,1.7s
KLBR Kellerberrin 34.66 152 P **P** 18 57 02.0 +0.8
baz=35,SNR=6.9
WHN Wuhan 34.88 23 P **P** 18 57 01.8 -1.2
NWAO Narrogin (SRO) 35.53 154 P **P** 18 57 07.9 -0.8
NWAO Narrogin (SRO) 35.53 154 P **P** 18 57 07.9 -0.8
comp=Z,20nm,0.8s,baz=317,slow=11,SNR=8.0
PALU Palau 36.11 76 P P 18 57 18.9 +5.0
baz=36,SNR=6.4

XAN Xi'an 36.43 13 P **P** 18 57 16.4 0.0
XAN pP **pP** 18 57 25.9 +2.0
XAN pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 37.58 6 *e*P **P** 18 57 28.6 +2.3
LZH pP **pP** 18 57 34.0 +0.2
LZH sP **sP** 18 57 37.8 +0.9
LZH pmax pmax
comp=Z,14nm,0.9s
NJ2 Nanjing 38.10 27 *e*P P 18 57 34.3 +3.8
NJ2 pP pP 18 57 40.5 +2.4
NJ2 sP sP 18 57 45.5 +4.4
NJ2 S **S** 19 03 23.3 +1.2
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
NJ2 LR LR
comp=N,1μm,23.4s
NJ2 LR LR
comp=E,1μm,22.0s
NJ2 LR LR
comp=Z,1μm,23.9s
WRA Warramunga Arr 38.82 121 P **P** 18 57 35.6 -1.3
WRA PcP **PcP** 18 59 47.7 -0.3
WRA S **S** 19 03 28.1 -5.4
WRA Warramunga Arr 38.82 121 P **P** 18 57 35.6 -1.3
comp=Z,22nm,0.8s,baz=299,slow=9.0,SNR=69
WRA PcP **PcP** 18 59 47.7 -0.3
comp=Z,4.1nm,0.8s,baz=309,slow=2.4,SNR=5.0
WRA S **S** 19 03 28.1 -5.4
comp=Z,2.1nm,0.9s,baz=295,slow=17,SNR=6.3
WRAB Tennant Creek 38.83 121 P **P** 18 57 35.0 -1.9
comp=Z,266nm,0.9s,SNR=17
WRAB Tennant Creek 38.83 121 *e*P **P** 18 57 35.5 -1.4
WRAB *e*S **S** 19 03 29.7 -3.9
WRAB pmax pmax
comp=Z,32nm,0.8s
WRAB Tennant Creek 38.83 121 *e*P **P** 18 57 35.5 -1.4
comp=Z,32nm,0.8s
WRAB *e*S **S** 19 03 29.7 -3.9
FORT Forrest 39.87 140 P **P** 18 57 46.4 +0.9
baz=40,SNR=11
AS31 Alice Springs 40.09 126 *e*P **P** 18 57 45.4 -2.1
ASAR Alice Springs 40.09 126 P **P** 18 57 46.7 -0.8
ASAR PcP **PcP** 18 59 52.7 +0.7
ASAR S **S** 19 03 50.2 -2.3
ASAR Alice Springs 40.09 126 P **P** 18 57 46.7 -0.8
comp=Z,12nm,0.8s,baz=300,slow=7.9,SNR=50
ASAR PcP **PcP** 18 59 52.7 +0.7
comp=Z,6.5nm,0.9s,baz=302,slow=3.1,SNR=9.8
ASAR S **S** 19 03 50.2 -2.3
comp=Z,8.4nm,1.1s,baz=295,slow=16,SNR=23
GTA Gaotai 40.66 1 *e*P **P** 18 57 52.0 0.0
GTA pP **pP** 18 57 59.5 -0.1
GTA sP **sP** 18 58 02.6 0.0
GTA PP **PnPn** 18 59 29.3 -0.8
GTA PcP **PcP** 18 59 54.5 +0.9
GTA ScP **ScP** 19 03 42.9 +1.2
GTA S **S** 19 04 00.0 -0.7
GTA ScS **ScS** 19 07 54.8 -1.5
GTA pmax pmax
comp=Z,12nm,1.4s
GTA pmax pmax
comp=Z,170nm,4.3s
GTA LR LR
comp=N,450nm,15.2s
GTA LR LR
comp=E,800nm,17.1s
GTA LR LR
comp=Z,410nm,15.2s
HHC Hu-ho-hao-te 43.54 13 *e*P **P** 18 58 17.9 +2.4
HHC PP **PcP** 19 00 01.6 -1.4
HHC ScP **ScP** 19 03 53.5 +0.4
HHC PcS **PcS** 19 03 56.6 +0.8
HHC S **S** 19 04 46.0 +2.8
HHC sS **sS** 19 04 58.3 +2.6
HHC SS **SS** 19 07 54.4 -4.1
HHC ScS **ScS** 19 08 13.4 -0.4
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,210nm,4.9s
HHC LR LR
comp=N,1μm,16.4s
HHC LR LR
comp=E,1μm,17.0s
HHC LR LR
comp=Z,1μm,16.3s
BJI Beijing 44.07 19 P **P** 18 58 19.1 -0.4
BJI S **S** 19 04 55.3 +4.8
BJI pmax pmax
comp=Z,15nm,1.1s
BJI pmax pmax
comp=Z,110nm,3.8s
BJI LR LR
comp=N,840nm,16.4s
BJI LR LR
comp=E,520nm,15.7s
BJI LR LR
comp=Z,340nm,18.6s
JNU Nakatsue 45.45 38 *e*P **P** 18 58 32.0 +1.2
JNU Nakatsue 45.45 38 P **P** 18 58 29.7 -1.1
comp=Z,28nm,0.8s,baz=167,slow=3.0,SNR=18
KSH Kashi 46.06 335 P **P** 18 58 34.6 -1.0
KSH sP **sP** 18 58 44.8 -1.5
KSH PP **PP** 19 00 22.6 -1.4
KSH S **S** 19 05 15.0 -4.8
KSH SS **ScS** 19 08 32.0 +2.0
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,100nm,3.8s
KSH LR LR
comp=N,440nm,17.2s
KSH LR LR
comp=E,400nm,14.9s
KSH LR LR
comp=Z,630nm,16.2s
WMQ Urumqi 46.27 348 P **P** 18 58 38.8 +1.8
WMQ pP **pP** 18 58 44.8 +0.1
WMQ PcP **PcP** 19 00 14.6 +2.3
WMQ PP **PP** 19 00 28.6 +2.6
WMQ S **S** 19 05 22.3 -0.2
WMQ sS **sS** 19 05 36.3 +1.2
WMQ ScS **ScS** 19 08 29.5 -1.5
WMQ SS **SS** 19 08 41.6 -6.7
WMQ pmax pmax
comp=Z,60nm,1.2s
WMQ pmax pmax
comp=Z,240nm,3.5s
WMQ LR LR
comp=N,280nm,22.0s
WMQ LR LR
comp=E,150nm,20.0s
WMQ LR LR
comp=Z,220nm,24.0s
KSAR Wonju Array Be 46.85 31 P **P** 18 58 41.0 -0.7
KSAR PcP **PcP** 19 00 15.1 +0.7
KSRS Korea Array 46.88 31 P **P** 18 58 41.0 -0.9
comp=Z,5.6nm,0.7s,baz=224,slow=8.3,SNR=22
KSRS PcP **PcP** 19 00 15.1 +0.6
comp=Z,2.0nm,0.8s,baz=223,slow=3.8,SNR=4.8
TKM2 Tokmak 2 49.08 337 *i*P **P** 18 58 59.9 +0.8
TKM2 Tokmak 2 49.08 337 P **P** 18 58 59.9 +0.8
SNR=17
TKM2 Tokmak 2 49.08 337 *e*P **P** 18 58 59.9 +0.8
comp=Z,37nm,0.8s
KBK Karagaybulak 49.11 336 *i*P **P** 18 59 00.7 +1.4
KBK Karagaybulak 49.11 336 P **P** 18 59 00.7 +1.4
SNR=14
AML Almayashu 49.20 335 *i*P **P** 18 59 01.4 +1.2
AML Almayashu 49.20 335 P **P** 18 59 01.4 +1.2
SNR=6.7
AAK Ala-Archa 49.28 336 ⇑*i*P **P** 18 59 01.5 +0.9
AAK pmax pmax
comp=Z,36nm,1.2s
AAK Ala-Archa 49.28 336 *e*P **P** 18 59 01.4 +0.9
AAK Ala-Archa 49.28 336 P **P** 18 59 00.5 0.0
comp=Z,3.1nm,0.5s,baz=147,slow=8.8,SNR=7.2
FRU Bishkek 49.39 336 *e*P P 18 59 08.0 +6.7
CTAO Charters Tower 49.41 115 *e*P **P** 18 59 01.1 -0.7
CTAO pmax pmax
comp=Z,22nm,0.9s
CTAO Charters Tower 49.41 115 *e*P **P** 18 59 01.1 -0.7
comp=Z,22nm,0.9s
SONM Songino Array 49.47 6 P **P** 18 59 02.3 +0.5

SONM PcP **PcP** 19 00 24.3 +0.5
SONM Songino Array 49.47 6 P **P** 18 59 02.3 +0.5
comp=Z,5.1nm,0.8s,baz=190,slow=8.6,SNR=23
SONM PcP **PcP** 19 00 24.3 +0.5
comp=Z,5.5nm,0.7s,baz=183,slow=1.7,SNR=4.4
CHMS Chumysh 49.48 336 *i*P **P** 18 59 02.4 +0.5
CHMS Chumysh 49.48 336 P **P** 18 59 02.4 +0.5
SNR=7.5
ULN Ulaanbaatar 49.57 7 *e*P **P** 18 59 03.1 +0.4
comp=Z,12nm,1.0s
EKS2 Erkin-Say 49.60 335 *e*P **P** 18 59 04.4 +1.4
EKS2 pmax pmax
comp=Z,33nm,0.8s
EKS2 Erkin-Say 49.60 335 P **P** 18 59 04.3 +1.3
SNR=11
EKS2 Erkin-Say 49.60 335 *e*P **P** 18 59 04.4 +1.4
comp=Z,33nm,0.8s
USP Ospenovka 49.80 336 *i*P **P** 18 59 05.9 +1.5
USP Ospenovka 49.80 336 P **P** 18 59 06.0 +1.5
SNR=10
STKA Stephens Creek 49.99 132 *e*P **P** 18 59 06.6 +0.6
STKA Stephens Creek 49.99 132 P **P** 18 59 06.3 +0.2
comp=Z,34nm,0.8s,baz=308,slow=7.5,SNR=44
STKA Stephens Creek 49.99 132 P **P** 18 59 06.3 +0.2
baz=50,SNR=34
MK31 Makanchi Array 50.33 345 *c*e*P **P** 18 59 08.4 +0.1
MK31 pmax pmax
comp=Z,27nm,0.5s
MK31 Makanchi Array 50.33 345 *e*P **P** 18 59 08.1 -0.2
MKAR Makanchi Array 50.33 345 *c*e*P **P** 18 59 08.6 +0.3
MKAR pmax pmax
comp=Z,19nm,0.7s
MKAR Makanchi Array 50.33 345 P **P** 18 59 08.7 +0.3
MKAR Makanchi Array 50.33 345 P **P** 18 59 08.7 +0.3
comp=Z,19nm,0.7s,baz=149,slow=8.0,SNR=117
CN2 Changchun 50.75 24 *e*P **P** 18 59 11.0 -0.5
CN2 *e*pP **pP** 18 59 21.3 +2.1
CN2 *e*S **S** 19 06 23.8 -1.8
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,470nm,18.0s
CN2 LR LR
comp=E,700nm,18.0s
CN2 LR LR
comp=Z,510nm,20.0s
KK31 Karatay Array 51.38 333 *c*e*P **P** 18 59 16.3 0.0
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 51.38 333 *e*P **P** 18 59 16.4 +0.1
KKAR Karatay Array 51.38 333 *e*P **P** 18 59 16.4 +0.1
MAT Matsushiro 52.26 40 P **P** 18 59 23.7 +0.7
MJAR Matsushiro Arr 52.26 40 P **P** 18 59 22.2 -0.8
MJAR Matsushiro Arr 52.26 40 P **P** 18 59 22.2 -0.8
comp=Z,3.7nm,1.0s,baz=224,slow=7.2,SNR=12
HVS Khovu-Aksy 52.61 356 ⇑*i*P **P** 18 59 24.9 -0.5
HVS pmax pmax
comp=Z,19nm,1.0s
CMSA Cobar Meteorol 52.96 129 P **P** 18 59 28.8 +0.6
baz=53,SNR=23
MDJ Mudanjiang 53.18 27 P **P** 18 59 31.6 +2.0
MDJ pP **pP** 18 59 37.6 +0.2
MDJ sP **sP** 18 59 40.3 -0.1
MDJ PcP **PcP** 19 00 39.8 +2.3
MDJ PP **PP** 19 01 32.3 +2.4
MDJ ScP **ScP** 19 04 34.9 +1.2
MDJ PcS **PcS** 19 04 37.1 +0.9
MDJ sS **sS** 19 07 13.9 +2.1
MDJ pmax pmax
comp=Z,4.0nm,0.7s
MDJ pmax pmax
comp=Z,67nm,5.5s
MDJ LR LR
comp=N,770nm,17.6s
MDJ LR LR
comp=E,470nm,14.7s
MDJ LR LR
comp=Z,700nm,11.7s
RMQ Roma 53.55 122 P **P** 18 59 33.5 +0.8
baz=54,SNR=6.6
IRK Irkutsk 53.66 4 *e*P **P** 18 59 34.8 +1.8
IRK pmax pmax
comp=Z,41nm,1.7s
OPO Ambohidratompo 53.87 248 P **P** 18 59 35.1 -0.3
OPO Ambohidratompo 53.87 248 P **P** 18 59 35.1 -0.3
comp=Z,11nm,0.9s,baz=62,slow=6.1,SNR=6.3
USRK Ussuriysk Arra 53.98 29 P **P** 18 59 34.9 -0.6
comp=Z,11nm,0.7s,baz=211,slow=4.4,SNR=23
ISHV Shirvan 54.65 320 *e*P **P** 18 59 40.4 -0.4
TOO Toolangi 55.55 136 P **P** 18 59 49.1 +2.1
baz=56,SNR=4.3
YNG Young 56.18 131 P **P** 18 59 52.3 +0.7
baz=56,SNR=9.5
ZAA0 Zalesovo Array 56.52 350 *e*P **P** 18 59 53.3 -0.2
ZALV Zalesovo Beam 56.52 350 *i*P **P** 18 59 53.7 +0.1
ZALV pmax pmax
comp=Z,28nm,0.8s
ZALV Zalesovo Beam 56.52 350 P **P** 18 59 53.6 +0.1
ZALV S **S** 19 07 45.2 +1.8
ZALV Zalesovo Beam 56.52 350 P **P** 18 59 53.6 +0.1
comp=Z,28nm,0.8s,baz=176,slow=5.8,SNR=96
ZALV S **S** 19 07 45.2 +1.8
comp=Z,3.5nm,1.0s,baz=157,slow=16,SNR=11
IKIA Kiasar 56.62 316 *e*P **P** 18 59 54.3 -0.7
ARMA Armidale 57.24 126 P **P** 19 00 00.8 +1.5
baz=57,SNR=6.9
IDMV Damavand 57.46 315 *e*P **P** 19 00 00.6 -0.4
KRAR Krasnoyarsk 57.52 356 ⇓*i*P **P** 19 00 02.3 +1.7
KRAR pmax pmax
comp=Z,31nm,1.1s
NVS Novosibirsk 57.66 349 *e*P **P** 19 00 00.3 -1.3
NVS *e*S **S** 19 07 54.3 -4.1
NVS pmax pmax
comp=Z,32nm,1.0s
NVS pmax pmax
comp=N,18nm,1.1s
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,18nm,2.2s
NVS smax smax
comp=N,31nm,2.0s
NVS smax smax
comp=E,16nm,1.6s
KLR Kul'dur 57.70 25 *e*P P 18 59 57.2 -4.8
KLR MLR MLR
comp=Z,900nm,14.0s
RAYN Ar Rayn 57.91 299 P **P** 19 00 03.1 -1.0
comp=Z,41nm,0.9s,SNR=5.0
RAYN Ar Rayn 57.91 299 *e*P **P** 19 00 04.2 +0.1
comp=Z,125nm,2.9s
KBD Kabd 57.99 306 *e*P **P** 19 00 04.2 -0.3
KBD AMb AMB 19 00 05.1
comp=Z,22nm,1.1s
RDF Al-Radifah 58.01 306 *e*P **P** 19 00 04.7 +0.1
RDF AMb AMB 19 00 06.1
comp=Z,46nm,1.2s
IR5 Iran Long-Peri 58.33 314 *e*P **P** 19 00 06.9 0.0
NAY Al-Naaiem 58.38 306 *e*P **P** 19 00 06.6 -0.7
NAY AMb AMB 19 00 14.0
comp=Z,17nm,0.6s
HABR Khabarovsk 58.56 27 *c*e*P P 19 00 04.7 -3.4
HABR *e**PP pP 19 00 15.3 -0.6
HABR *e**SP sP 19 00 19.2 +0.3
HABR *e* 19 00 54.9
HABR *e* 19 02 14.7
HABR *e*S **S** 19 08 06.8 -3.7
HABR *e* 19 08 19.2
HABR *e**SS sS 19 08 24.0 +0.6
HABR *e* 19 09 51.9
HABR *e*SS **SS** 19 12 01.4 -2.2
HABR pmax pmax
comp=Z,33nm,2.9s
HABR pmax pmax
comp=N,17nm,2.4s
HABR pmax pmax
comp=E,37nm,2.4s
HABR MLR MLR
comp=Z,321nm,19.0s
IRAZ Razeghan 58.89 314 *e*P **P** 19 00 10.9 0.0
VOSK Vostochnaya 59.00 340 P **P** 19 00 09.8 -1.3
VOSK pmax pmax
comp=Z,10.0nm,0.7s
IGZV Ghazvin 59.14 315 *e*P **P** 19 00 12.2 -0.5
BVA0 Borovoye Array 59.45 340 P **P** 19 00 13.1 -1.1

BVA0 pmax pmax
comp=Z,39nm,1.7s
BRVK Borovoye 59.51 340 P **P 19 00 14.6 0.0**
comp=Z,81nm,0.9s,SNR=5.6
BRVK Borovoye 59.51 340⇓ *i*P **P 19 00 13.6 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 59.51 340 *e*P **P 19 00 13.2 -1.4**
comp=Z,12nm,0.9s
AB31 Akbulak array 60.85 332 *ce*P **P 19 00 23.1 -0.8**
AB31 pmax pmax
comp=Z,18nm,0.7s
ABKAR Akbulak array 60.85 332 *e*P **P 19 00 23.1 -0.8**
YSS Yuzh-Sakhalins 61.36 32⇑ *e*P **P 19 00 28.1 +0.8**
YSS pmax pmax
comp=Z,20nm,1.0s
YUK Yuzh-Kuril'sk 61.39 37 *d i*P P 19 00 24.4 -3.2
YUK *e* 19 02 39.7
YUK *e*S S 19 08 40.9 -6.1
YUK *i* SSS SSS 19 15 26.7
YUK MLR MLR
comp=E,559nm,21.0s
YUK MLR MLR
comp=Z,344nm,21.0s
KMBO Kilima Mbogo 62.09 269 *e*P **P 19 00 35.0 +1.8**
KMBO Kilima Mbogo 62.09 269 P **P 19 00 33.9 +0.6**
comp=Z,11nm,0.8s,baz=58,slow=9.7,SNR=26
KMBO LR LR 19 22 03.5
comp=Z,339nm,19.3s,baz=272,slow=31
MAK Makhachkala 64.14 320 *e*P **P 19 00 45.9 0.0**
MAK *e* 19 01 20.1
MAK *e* 19 03 05.7
MAK S **S 19 09 21.9 +0.4**
MAK pmax pmax
comp=Z,173nm,2.2s
CASY Casey 65.18 175 *e*P **P 19 00 51.8 -0.5**
comp=Z,34nm,1.3s
SVE Sverdlovsk 65.93 338⇓ *e*P **P 19 00 57.0 -0.3**
SVE pmax pmax
comp=Z,50nm,1.4s
ZEI Tsey 66.40 319 *e*P **P 19 01 00.4 -0.5**
ZEI pmax pmax
comp=Z,18nm,0.8s
ARU Arti 66.45 337 *d i*P **P 19 01 00.2 -0.5**
ARU 19 03 24.0
ARU S **S 19 09 49.6 +0.2**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 66.45 337 P **P 19 00 59.6 -1.1**
comp=Z,102nm,0.9s,SNR=5.5
YAK Yakutsk 67.38 15 *e*P **P 19 01 06.3 -0.1**
YAK *e**PP pP 19 01 20.6 +6.2
YAK *e* 19 01 32.5
YAK *e* 19 03 35.6
YAK *e*PPP PPP 19 05 12.9
YAK *e*S **S 19 09 59.9 -0.5**
YAK *e**SS sS 19 10 24.3 +11
YAK *e* 19 10 59.8
YAK *e*SS **SS 19 14 19.7 -1.0**
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,57nm,3.8s
YAK pmax pmax
comp=N,16nm,2.6s
YAK pmax pmax
comp=E,18nm,2.3s
YAK smax smax
comp=N,31nm,2.7s
YAK smax smax
comp=E,16nm,2.3s
KBZ Khabaz 67.47 319 P **P 19 01 07.6 +0.2**
KBZ Khabaz 67.47 319 P **P 19 01 07.6 +0.2**
KBZ Khabaz 67.47 319 P **P 19 01 07.6 +0.2**
comp=E,14nm,0.8s,baz=121,slow=6.5,SNR=42
KIV Kislovodsk 67.71 319 *e*P **P 19 01 09.2 +0.2**
KIV *e* 19 01 37.3
KIV *e*S **S 19 10 04.6 -0.7**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 67.71 319 P **P 19 01 09.3 +0.2**
comp=Z,141nm,0.9s,SNR=6.5
ASF Jabal al Asfar 67.75 306 P **P 19 01 10.1 +0.6**
ASF Jabal al Asfar 67.75 306 P **P 19 01 10.1 +0.6**
comp=Z,5.7nm,0.8s,baz=75,slow=3.4,SNR=9.1
ASF LR LR 19 30 04.7
comp=Z,335nm,18.7s,baz=71,slow=35
MBAR Mbarara 68.61 270 P **P 19 01 15.1 -0.3**
MBAR Mbarara 68.61 270 P **P 19 01 15.1 -0.3**
comp=Z,11nm,1.0s,baz=237,slow=22,SNR=12
MBAR LR LR 19 25 30.3
comp=Z,346nm,20.3s,baz=162,slow=31
EIL Elat 68.69 303 P **P 19 01 16.0 +0.6**
EIL Elat 68.69 303 P **P 19 01 16.0 +0.6**
comp=Z,19nm,0.8s,baz=137,slow=2.9,SNR=13
EIL Elat 68.69 303 P **P 19 01 16.2 +0.8**
baz=69,SNR=7.8
MMAI Mount Meron Ar 69.19 306 LR LR 19 31 03.0
comp=Z,279nm,18.1s,baz=125,slow=35
SOKR Solikamsk 69.34 338 *d i*P **P 19 01 18.9 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,340nm,23.0s
SOC Sochi 69.52 318 *e*P **P 19 01 18.8 -1.4**
SOC *e*S **S 19 10 25.8 -0.8**
SOC pmax pmax
comp=Z,23nm,1.0s
MAW Mawson 70.66 194 P **P 19 01 27.6 +0.9**
MAW Mawson 70.66 194 P **P 19 01 27.6 +0.9**
comp=Z,8.8nm,0.9s,baz=22,slow=8.4,SNR=19
MAW Mawson 70.66 194 P **P 19 01 28.2 +1.5**
baz=71,SNR=9.0
LSZ Lusaka 71.46 254 P **P 19 01 33.3 +0.5**
LSZ Lusaka 71.46 254 P **P 19 01 33.3 +0.5**
comp=Z,10nm,1.1s,baz=67,slow=7.4,SNR=11
LSZ LR LR 19 27 28.2
comp=Z,294nm,19.7s,baz=288,slow=31
ANN Anapa 71.50 319 *e*P **P 19 01 33.8 +1.5**
ANN pmax pmax
comp=Z,46nm,1.5s
VRHR Novokhopersk 71.52 326 *e*P **P 19 01 30.1 -2.1**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.9s
BR131 Keskin Array S 72.48 313 *e*P **P 19 01 37.2 -1.3**
comp=E,3.5nm,0.7s
BRTR Keskin Array B 72.48 313 P **P 19 01 37.5 -1.0**
BRTR Keskin Array B 72.48 313 P **P 19 01 37.5 -1.0**
comp=E,4.0nm,0.7s,baz=132,slow=7.3,SNR=27
PETK Petropavlovsk- 72.77 32 P **P 19 01 39.6 -0.1**
PETK Petropavlovsk- 72.77 32 P **P 19 01 39.6 -0.1**
PETK Petropavlovsk- 72.77 32 P **P 19 01 39.6 -0.1**
comp=E,3.8nm,0.8s,baz=203,slow=6.1,SNR=7.8
VORD Divnogorie 72.78 325 *e*P **P 19 01 38.4 -1.4**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 72.96 325 *e*P **P 19 01 39.5 -1.4**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
SIM Simferopol' 73.76 318 *e*P **P 19 01 45.0 -0.8**
SIM pmax pmax
comp=Z,12nm,0.9s
BOSA Boshof 75.36 241 P **P 19 01 54.9 -0.7**
BOSA Boshof 75.36 241 P **P 19 01 54.9 -0.7**
comp=Z,5.4nm,0.9s,baz=84,slow=7.9,SNR=8.6
BOSA LR LR 19 27 37.5
comp=Z,396nm,21.5s,baz=77,slow=30
SEY Seymchan 75.36 22⇓ *i*P **P 19 01 55.0 +0.3**
TIXI Tiksi 75.42 9⇑ *i*P **P 19 01 53.4 -1.4**
TIXI pmax pmax
comp=Z,29nm,1.7s
MOS Moscow 75.70 329 *e*P P 19 02 01.4 +4.7
RPZ Rata Peaks 75.82 135 *e*P **P 19 01 58.6 +0.8**
comp=Z,30nm,0.8s
OBN Obninsk 75.99 328⇓ *i*P **P 19 01 58.6 +0.2**
OBN *i* 19 02 10.2
OBN *i* 19 04 50.6
OBN pmax pmax
comp=Z,36nm,1.2s
SYO Syowa Base 78.18 199⇓ *e*P **P 19 02 10.0 -0.5**
AKASG Malin Array Be 78.66 322 *ce*P **P 19 02 12.8 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 78.66 322 P **P 19 02 12.8 -0.6**
AKASG Malin Array Be 78.66 322 P **P 19 02 12.8 -0.6**
comp=Z,1.6nm,0.6s,baz=83,slow=5.1,SNR=14
PLOR Plostina 79.06 317⇑ *i*P **P 19 02 16.4 +0.5**
TMCR Tamitsa 79.19 337 *e*P **P 19 02 15.9 -0.2**
TMCR *e* 19 02 22.7
TMCR *e* 19 05 16.7
TMCR pmax pmax
comp=Z,25nm,0.9s
TESR Tescani 79.22 318⇑ *i*P **P 19 02 16.9 +0.2**
PRAR RASCA 79.70 319⇑ *i*P **P 19 02 19.3 0.0**
VOIR 80.06 317⇑ *i*P **P 19 02 20.7 -0.7**
ARR Arges 80.34 316⇑ *i*P **P 19 02 22.5 -0.4**
BURAR Bucovina Array 80.42 319⇑ *i*P **P 19 02 24.1 +0.8**
VTS Vitosha 80.81 313⇑ *i*P **P 19 02 25.1 -0.4**
GZR Gura Zlata 81.62 316 ⇓ *i*P **P 19 02 30.1 +0.4**
GZR Gura Zlata 81.62 316⇓ *i*P **P 19 02 30.1 +0.4**
DRGR 81.93 318 ⇑ P **P 19 02 32.0 +0.7**
DRGR 81.93 318⇑ *i*P **P 19 02 32.0 +0.7**
TRPA Tarpa 82.30 319⇑ *i*P **P 19 02 33.2 +0.1**
BZS Buzias 82.47 316 ⇑ P **P 19 02 34.0 0.0**
BZS Buzias 82.47 316⇑ *i*P **P 19 02 34.0 0.0**
UZH Uzhgorod 82.55 319 *e*P **P 19 02 34.5 +0.1**
UZH *e* 19 02 51.9
KOLS Kolonicke sedl 82.62 320 *e*P **P 19 02 35.6 +0.8**
KOLS pmax pmax
comp=Z,22nm,0.9s
KOLS Kolonicke sedl 82.62 320 *e*P **P 19 02 35.6 +0.8**
VNDA Vanda 82.82 169 *e*P **P 19 02 35.7 +0.4**
VNDA Vanda 82.82 169 P **P 19 02 35.9 +0.6**
comp=Z,6.7nm,0.9s,baz=298,slow=5.6,SNR=34
VNDA LR LR 19 34 15.5
comp=Z,131nm,18.8s,baz=315,slow=32
CRVS Cervenica-Dubn 83.14 319 *e*P **P 19 02 37.0 -0.5**
CRVS pmax pmax
comp=Z,9.0nm,1.2s
CRVS Cervenica-Dubn 83.14 319 *e*P **P 19 02 37.0 -0.5**
FINES FINESS Array B 83.33 332 P **P 19 02 38.4 +0.3**
FINES FINESS Array B 83.33 332 P **P 19 02 38.4 +0.3**
comp=Z,7.5nm,0.8s,baz=95,slow=5.4,SNR=23
STHS Stebnicka Huta 83.37 320 *e*P **P 19 02 39.6 +0.9**
STHS pmax pmax
comp=Z,10.0nm,0.8s
STHS Stebnicka Huta 83.37 320 *e*P **P 19 02 39.6 +0.9**
KAF Kangasniemi 83.41 333 *e*P **P 19 02 37.8 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 83.41 333 *e*p **P 19 02 37.8 -0.7**
comp=Z,1.1nm,0.4s
KECS Kecovo 83.71 319 *e*P **P 19 02 40.5 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 83.71 319 *e*P **P 19 02 40.5 +0.1**
KECS *e*pP **pP 19 02 47.1 -1.4**
SBA Scott Base 83.92 169 *e*P **P 19 02 42.4 +1.5**
SBA Scott Base 83.92 169 *e*P **P 19 02 42.4 +1.5**
PSZ Piszkesteto 84.01 318⇑ P **P 19 02 42.2 +0.2**
PSZ Piszkesteto 84.01 318⇑ *i*P **P 19 02 42.2 +0.2**
PSZ Piszkesteto 84.01 318 *e*P **P 19 02 42.2 +0.2**
OJC Ojcow 84.43 321 *e*P **P 19 02 44.1 +0.1**
OJC Ojcow 84.43 321 *e*P **P 19 02 44.1 +0.1**
PKSM Moragy 84.61 316 ⇓ P **P 19 02 45.2 +0.2**
PKSM Moragy 84.61 316⇓ *i*P **P 19 02 45.2 +0.2**
OKC Ostrava-Krasne 85.42 320 *i*P **P 19 02 49.5 +0.5**
OKC *e* 19 02 55.9
OKC Ostrava-Krasne 85.42 320⇑ *i*P **P 19 02 49.5 +0.5**
OKC *e*pP **pP 19 02 55.9 -1.3**
ARCES ARCESS Array B 85.74 340 P **P 19 02 50.8 +0.6**
ARCES ARCESS Array B 85.74 340 P **P 19 02 50.8 +0.6**
comp=Z,6.2nm,0.9s,baz=114,slow=5.4,SNR=7.8
ARCES LR LR 19 43 57.6
comp=Z,258nm,19.2s,baz=250,slow=38
CEL Celeste 85.75 308 *e*P **P 19 02 51.9 +0.9**
MORC Moravsky Berou 85.81 320 *e*P **P 19 02 51.3 +0.3**
MORC Moravsky Berou 85.81 320 *e*P **P 19 02 51.3 +0.3**
DPC Dobruska-Polom 86.65 320⇑ *i*P **P 19 02 56.0 +0.8**
DPC *e* 19 03 02.4
DPC Dobruska-Polom 86.65 320⇑ *i*P **P 19 02 56.0 +0.8**
DPC *e*pP **PcP 19 02 59.1 +1.6**
DPC *e*sP **sP 19 03 02.4 -3.9**
DPC Dobruska-Polom 86.65 320 *e*P **P 19 02 56.2 +1.0**
KSP Ksiaz 86.73 321 *e*P **P 19 02 56.1 +0.6**
KSP *e**PP **pP 19 03 02.3 -1.3**
ARSA Arzberg 86.86 317 *i*P **P 19 02 56.7 +0.5**
comp=Z,8.2nm,1.1s,SNR=5.8
UPC Upice 86.87 321 *e*P **P 19 02 56.7 +0.5**
UPC *e* 19 03 03.4
UPC Upice 86.87 321⇑ *e*P **P 19 02 56.7 +0.5**
UPC *e*pP **pP 19 03 03.4 -0.9**
LEGS Legarje 86.88 316 *i*P **P 19 02 56.0 -0.4**
BOJS Bojanci 86.89 316 *i*P **P 19 02 56.6 +0.3**
BOJS *i* 19 03 02.8
PERS Pernice 87.08 317 *i*P **P 19 02 57.4 0.0**
PERS *i* 19 03 03.9
TREC Trest 87.08 319 *e*P **P 19 02 57.6 +0.3**
TREC *e* 19 03 04.0
TREC Trest 87.08 319⇑ *e*P **P 19 02 57.6 +0.3**
TREC *e*pP **pP 19 03 04.0 -1.4**
PDKS Podkum 87.11 316 *i*P **P 19 02 57.8 +0.3**
PDKS *i* 19 03 03.8
SOKA Soboth 87.14 317 *i*P **P 19 02 58.1 +0.4**
comp=Z,11nm,0.9s,SNR=10
JAVS Javornik 87.75 316 *i*P **P 19 03 00.3 -0.3**
JAVS *i* 19 03 06.2
PRU Pruhonice 87.76 320 *i*P **P 19 03 00.9 +0.4**
PRU *e* 19 03 07.4
PRU Pruhonice 87.76 320⇑ *i*P **P 19 03 00.9 +0.4**
PRU *e*pP **pP 19 03 07.4 -1.2**
PVCC Panska Ves 87.79 320 *e*P **P 19 03 01.2 +0.6**
PVCC *e* 19 03 07.7
PVCC Panska Ves 87.79 320⇑ *e*P **P 19 03 01.2 +0.6**
PVCC *e*pP **PcP 19 03 04.3 +1.8**
PVCC *e*sP **sP 19 03 07.7 -4.0**
PRA Prague 87.83 320 ⇑ P **P 19 03 02.0 +1.2**
AQU L'Aquila 87.97 312 *e*P **P 19 03 02.6 +0.8**
BRG Berggiesshubel 88.21 321 *i*P **P 19 03 03.2 +0.6**
comp=Z,8.1nm,0.9s
BRG *i* 19 03 09.8
comp=Z,12nm,1.1s
BRG Berggiesshubel 88.21 321 *e*P **P 19 03 03.5 +0.9**
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 88.21 321 *i*P **P 19 03 03.2 +0.6**
BRG *i* 19 03 09.8
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,1.1s
GEC2 GERESS Array S 88.21 319 *e*P **P 19 03 03.5 +0.7**
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 88.21 319 *e*P **P 19 03 03.5 +0.7**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 88.21 319 P **P 19 03 03.1 +0.3**
GERES GERESS Array B 88.21 319 P **P 19 03 03.1 +0.3**
comp=Z,3.9nm,0.8s,baz=86,slow=3.9,SNR=38
KHC Kasperske Hory 88.32 319 *i*P **P 19 03 03.5 +0.3**
KHC *e* 19 03 08.5
KHC Kasperske Hory 88.32 319⇑ *i*P **P 19 03 03.5 +0.3**
KHC *e*pP **pP 19 03 08.5 -2.9**
KHC Kasperske Hory 88.32 319 *e*P **P 19 03 02.7 -0.5**
QSPA South Pole Qui 88.51 180 *e*P **P 19 03 03.8 0.0**
comp=Z,19nm,1.0s
RJOB Jochberg 88.74 318 *e*P **P 19 03 05.2 -0.1**
comp=Z,3.0nm,0.8s
WET Wettzell 88.78 319 *e*P **P 19 03 06.1 +0.7**
comp=Z,6.0nm,0.8s
WET Wettzell 88.78 319 *e*P **P 19 03 06.1 +0.7**
WET pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 88.83 321 *e*P **P 19 03 05.8 +0.2**
comp=Z,7.0nm,0.9s
CLL Collm 88.83 321 *i*P **P 19 03 05.7 +0.2**
CLL *e* 19 03 12.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 88.83 321 *i*P **P 19 03 05.7 +0.2**
comp=Z,12nm,1.1s
CLL *e*(sP) **sP 19 03 12.0 -4.6**
HFS Hagfors 89.08 330 P **P 19 03 07.1 +0.6**
HFS Hagfors 89.08 330 P **P 19 03 07.1 +0.6**
comp=Z,4.8nm,0.8s,baz=117,slow=5.2,SNR=4.1
NKC Novy Kostel 89.12 320 *i*P **P 19 03 08.0 +1.1**
NKC Novy Kostel 89.12 320⇑ *i*P **P 19 03 08.0 +1.1**
NKC *e*pP **pP 19 03 12.4 -2.7**
TANN Tannenbergstha 89.12 320 *e*P **P 19 03 07.8 +0.8**
comp=Z,4.0nm,1.0s
ROTZ Rotzenmuhle 89.25 320 *e*P **P 19 03 08.9 +1.4**
comp=Z,6.0nm,0.9s
MANZ Manzenberg 89.33 320 *e*P **P 19 03 09.2 +1.3**
comp=Z,9.0nm,0.9s
WTTA Wattenberg 89.50 317⇑ *i*P **P 19 03 08.9 -0.1**
comp=Z,12nm,0.9s,SNR=5.8
WATA Walderalm 89.55 317⇓ *i*P **P 19 03 08.6 -0.6**
comp=Z,4.9nm,0.8s,SNR=6.4
MOX Moxa 89.67 320 *e*P **P 19 03 10.3 +0.8**
comp=Z,3.0nm,0.8s
MOX Moxa 89.67 320 *e*P **P 19 03 10.3 +0.8**
MOX pmax pmax
comp=Z,3.0nm,0.8s
MOTA Moosalm 89.87 317⇓ *i*P **P 19 03 10.4 -0.3**
comp=Z,14nm,1.1s,SNR=7.2
GRF Grafenberg Arr 89.88 320 *e*P **P 19 03 11.8 +1.3**
comp=Z,9.0nm,0.9s
GRF Grafenberg Arr 89.88 320 *e*P **P 19 03 11.8 +1.3**
GRF pmax pmax
comp=Z,9.0nm,0.9s
GRFO Grafenberg 89.89 320 *e*P **P 19 03 10.8 +0.3**
GRFO Grafenberg 89.89 320 *e*P **P 19 03 10.8 +0.3**
SPITS Spitsbergen Ar 89.97 348 P **P 19 03 10.3 -0.1**
SPITS Spitsbergen Ar 89.97 348 P **P 19 03 10.3 -0.1**
comp=Z,15nm,0.8s,baz=132,slow=20,SNR=12
RETA Reutte 90.11 317⇑ *i*P **P 19 03 11.7 0.0**
comp=Z,12nm,0.9s,SNR=7.0
NOA NORSAR Array B 90.35 331 P **P 19 03 12.1 -0.4**
NOA NORSAR Array B 90.35 331 P **P 19 03 12.1 -0.4**
comp=Z,3.0nm,0.9s,baz=93,slow=4.8,SNR=3.6
FUORN Ofenpass-Fuorn 90.42 316 *e*P **P 19 03 13.3 -0.1**
NRDL Niedersach Rie 90.68 322 *e*P **P 19 03 15.0 +1.0**
comp=Z,9.0nm,1.0s
DAVOX Davos/Dischmat 90.69 317 P **P 19 03 14.8 +0.3**
DAVOX Davos/Dischmat 90.69 317 P **P 19 03 14.8 +0.3**
comp=Z,17nm,0.9s,baz=138,slow=6.7,SNR=40
DAVA Damuels 90.70 317 *i* PcP **P 19 03 15.0 +0.5**
comp=Z,22nm,0.9s,SNR=10
KEST Kesra 90.85 306 *e*P **P 19 03 15.2 -0.2**
KEST Kesra 90.85 306 P **P 19 03 15.5 +0.1**
comp=Z,6.5nm,0.9s,baz=297,slow=0.6,SNR=15
KBS Kingsbay 90.91 349⇑ *i*P **P 19 03 15.1 +0.4**
KBS pmax pmax
comp=Z,12nm,1.3s
TUE Stuetta 91.05 316 *e*P **P 19 03 16.1 -0.1**
PGF Pioggiola 91.23 312 *e*P **P 19 03 17.2 +0.1**
comp=Z,37nm,1.1s
TNS Taunus Mts 91.69 320 *e*P **P 19 03 20.0 +1.0**
comp=Z,10.0nm,0.9s
TNS Taunus Mts 91.69 320 *e*P **P 19 03 20.0 +1.0**
TNS pmax pmax
comp=Z,10.0nm,0.9s
BFO Black Forest 91.76 318 *e*P **P 19 03 19.6 +0.3**
comp=Z,4.0nm,0.8s
BFO *e*pP **pP 19 03 25.7 -1.8**
BFO Black Forest 91.76 318 *e*P **P 19 03 19.6 +0.3**
BFO Black Forest 91.76 318 *e*P **P 19 03 19.6 +0.3**
SBF Sospel 92.38 314 *e*P **P 19 03 22.3 0.0**
comp=Z,36nm,1.1s
CDF Champ du Feu 92.46 318 *e*P **P 19 03 22.3 -0.3**
comp=Z,6.3nm,0.9s
SNAA Sanae 92.46 198 *e*P **P 19 03 23.2 +1.1**
SENIN Lac Senin/Sane 92.46 316 *e*P **P 19 03 23.9 +1.1**
MBDF Montbardon 92.85 315 *e*P **P 19 03 23.9 -0.7**
comp=Z,13nm,1.3s
LPG La Plagne 92.86 315 *e*P **P 19 03 24.8 0.0**
comp=Z,8.5nm,0.9s
LPL La Plagne 92.87 315 *e*P **P 19 03 24.7 0.0**
comp=Z,12nm,1.0s
BNI Bardonecchia 92.91 315 *e*P **P 19 03 27.9 +3.0**
BNI Bardonecchia 92.91 315 *e*P **P 19 03 27.9 +3.0**
FRF La Foret Royal 92.96 313 *e*P **P 19 03 25.1 +0.2**
comp=Z,13nm,0.9s
HAU Haudompre 93.09 318 *e*P **P 19 03 25.2 -0.2**
comp=Z,14nm,0.9s
CABF La Chapelle 93.30 316 *e*P **P 19 03 26.7 +0.2**
comp=Z,38nm,1.4s
ORIF Oris-en-Rattie 93.48 315 *e*P **P 19 03 27.5 +0.1**
comp=Z,4.9nm,0.8s
SMRF Simiane la Rot 93.73 314 *e*P **P 19 03 29.1 +0.6**
comp=Z,23nm,1.3s
MEZF Maizieres J'vi 93.94 318 *e*P **P 19 03 29.4 +0.1**
SFTF Sexfontaines 93.96 318 *e*P **P 19 03 29.4 0.0**
comp=Z,22nm,1.0s
VIVF Saint-Julien-l 94.34 315 *e*P **P 19 03 31.2 -0.1**
comp=Z,6.3nm,0.9s
BAIF Baives 94.42 320 *e*P **P 19 03 31.7 +0.2**
comp=Z,7.0nm,0.9s
LOR Lormes 94.80 317 *e*P **P 19 03 33.1 -0.2**
comp=Z,4.8nm,0.8s
SMF Signal de Mont 94.84 317 *e*P **P 19 03 33.2 -0.3**
comp=Z,6.2nm,0.8s
LASF Ste Croix 94.96 314 *e*P **P 19 03 34.3 +0.2**
comp=Z,21nm,1.4s
AVF Avril sur Loir 95.17 317 *e*P **P 19 03 34.8 -0.2**
comp=Z,9.1nm,1.1s
TCF Toulx Ste Croi 95.99 316 *e*P **P 19 03 38.9 +0.1**
MTLF Montolieu 96.19 313 *e*P **P 19 03 39.8 +0.1**
LDF La Druitiere 97.36 319 *e*P **P 19 03 44.5 -0.4**
comp=Z,22nm,1.3s
EPF Esparros 97.58 313 *e*P **P 19 03 45.5 -0.6**
MFF Saint Martin d 97.58 317 *e*P **P 19 03 45.8 -0.2**
TORD Torodi Ar. Bea 97.79 283 P Pdif 19 03 47.8 +0.2
TORD Torodi Ar. Bea 97.79 283 P Pdif 19 03 47.8 +0.2
comp=Z,0.9nm,0.8s,baz=79,slow=4.8,SNR=5.9
GRR Gorron 97.87 319 *e*P **P 19 03 46.9 -0.3**
comp=Z,36nm,1.4s
QUIF Quistinic 99.46 318 *e*P **Pdif 19 03 53.4 -0.9**
comp=Z,10nm,1.0s
ILAR Eielson Array 101.26 24 PKKPbc PKKPbc 19 20 11.6 -2.7
ILAR Eielson Array 101.26 24 PKKPbc PKKPbc 19 20 11.6 -2.7
comp=Z,1.3nm,0.9s,baz=135,slow=2.5,SNR=10
SCHQ Schefferville 125.60 350 PKP **PKPdf 19 09 13.4 +0.6**
SCHQ Schefferville 125.60 350 PKP **PKPdf 19 09 13.4 +0.6**
comp=Z,4.4nm,0.8s,baz=316,slow=3.5,SNR=5.3
DLMT Dillon 128.01 28 *e*PKPdf **PKPdf 19 09 17.4 -0.5**
BOZ Bozeman (W) 128.25 27 *e*PKIKP **PKPdf 19 09 18.5 +0.2**
BOZ Bozeman (W) 128.25 27 *e*PKPdf **PKPdf 19 09 18.5 +0.2**
NVAR Mina Array Bea 129.58 39 PKP **PKPdf 19 09 21.6 +0.4**
NVAR Mina Array Bea 129.58 39 PKP **PKPdf 19 09 21.6 +0.4**
comp=Z,1.7nm,0.8s,baz=255,slow=2.4,SNR=15
ULM Lac du Bonnet 129.68 13 PKP **PKPdf 19 09 20.6 0.0**
ULM Lac du Bonnet 129.68 13 PKP **PKPdf 19 09 20.6 0.0**
comp=Z,3.5nm,0.7s,baz=298,slow=5.5,SNR=4.0
REDW Red Top Meadow 130.34 29 *e*PKPdf **PKPdf 19 09 21.6 -0.9**
PDAR Pinedale Array 131.41 28 PKP **PKPdf 19 09 24.6 0.0**
PDAR SKPbc **SKPab 19 12 49.0 +0.3**
PDAR Pinedale Array 131.41 28 PKP **PKPdf 19 09 24.6 0.0**
comp=Z,1.0nm,0.8s,baz=238,slow=1.5,SNR=8.8
PDAR SKPbc **SKPab 19 12 49.0 +0.3**
comp=Z,0.7nm,0.8s,baz=90,slow=0.3,SNR=5.2
DUG Dugway 131.63 33 *e*PKIKP **PKPdf 19 09 24.7 -0.2**
DUG Dugway 131.63 33 *e*PKPdf **PKPdf 19 09 24.7 -0.2**
ECSD EROS Data Cent 135.56 17 *e*PKPdf **PKPdf 19 09 31.6 -0.4**
BINY Binghamton 139.22 355 *e*PKPdf **PKPdf 19 09 39.0 +0.2**
MNTX Cornudas Mount 141.91 35 *e*PKPdf **PKPdf 19 09 43.9 -0.1**
BDFB Brasilia 143.55 241 PKP **PKPdf 19 09 47.6 +0.2**
BDFB Brasilia 143.55 241 PKP **PKPdf 19 09 47.6 +0.2**
comp=Z,2.2nm,0.8s,baz=187,slow=1.6,SNR=4.1
CPUP Villa Florida 144.37 218 *e*PKPdf **PKPab 19 09 46.3 -0.1**
CPUP PKP PKPbc 19 09 47.2 +0.5
CPUP Villa Florida 144.37 218 PKP PKPbc 19 09 47.2 +0.5
comp=Z,22nm,0.8s,baz=96,slow=2.4,SNR=46
TXAR Lajitas Array 144.65 36 PKP **PKPdf 19 09 48.4 -0.6**
TXAR Lajitas Array 144.65 36 PKP **PKPdf 19 09 48.4 -0.6**
comp=Z,15nm,0.7s,baz=259,slow=1.3,SNR=128
WVT Waverly 144.85 10 *e*PKIKP **PKPab 19 09 46.8 -1.2**
WVT Waverly 144.85 10 *e*PKPdf **PKPab 19 09 46.8 -1.2**

MIAR	Mount Ida	144.93	19	*e*PKIKP	PKPab	19 09 48.2	-0.1
MIAR	Mount Ida	144.93	19	*e*PKPdf	PKPab	19 09 48.2	-0.1
TZTN	Tazewell	144.98	4	*e*PKPdf	PKPab	19 09 47.3	-1.1
TKL	Tuckaleechee C	145.84	5	*e*PKPdf	PKPdf	19 09 49.9	-0.9
JCT	Junction City	145.88	30	*e*PKP2	PKPdf	19 09 51.1	+0.1
JCT	Junction City	145.88	30	*e*PKPdf	PKPdf	19 09 51.1	+0.1
CPCT	Cooper Cave	145.98	6	*e*PKPdf	PKPdf	19 09 50.9	-0.1
OXF	Oxford	146.10	13	*e*PKP2	PKPdf	19 09 51.4	+0.2
OXF	Oxford	146.10	13	*e*PKPdf	PKPdf	19 09 51.4	+0.2
LRAL	Lakeview Retre	148.02	10	*e*PKPdf	PKPdf	19 09 53.6	-0.9
HKT	Hockley	148.19	26	*e*PKP2	PKPbc	19 09 57.5	-0.5
HKT	Hockley	148.19	26	*e*PKPbc	PKPbc	19 09 57.5	-0.5
LPAZ	La Paz	158.47	215	*e*PKPdf	PKPdf	19 10 11.1	+0.4
LPAZ				PKP	PKPdf	19 10 11.5	+0.8
LPAZ	La Paz	158.47	215	PKP	PKPdf	19 10 11.5	+0.8
	comp=Z,1.8nm,0.8s,baz=56,slow=2.1,SNR=8.4						
SAML	Samuel	159.77	239	*e*PKPdf	PKPdf	19 10 11.4	-0.1

IDC 16 19:13:49.8±2.9, 1°.64S×99°.31E, h0km, mb3.4/4, mb1 3.4/6, mb1mx3.3/25, mbtmp3.2/6, ML2.8/1, Error ellipse: s-maj=120.2km s-min=20.4km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.43	355	Pn	Pn	19 14 58.0	-0.4
	0.5nm,0.3s,baz=164,slow=18,SNR=2.2						
CMAR	Chiang Mai Arr	19.97	359	P	P	19 18 23.4	-0.4
	baz=189,slow=5.4,SNR=3.2						
WRA	Warramunga Arr	38.77	120	P	P	19 21 16.1	-0.3
	0.3nm,0.6s,baz=304,slow=9.0,SNR=4.8						
ASAR	Alice Springs	40.02	126	P	P	19 21 26.9	+0.1
	0.3nm,0.9s,baz=307,slow=7.9,SNR=3.8						
MKAR	Makanchi Array	50.50	345	P	P	19 22 50.1	+0.4
	0.2nm,0.5s,baz=155,slow=8.6,SNR=5.0						
ZALV	Zalesovo Beam	56.69	350	P	P	19 23 34.2	-0.7
	0.3nm,0.3s,baz=172,slow=4.4,SNR=2.4						
TXAR	Lajitas Array	144.83	36	PKP	PKPdf	19 33 29.5	-0.2
	0.2nm,0.4s,baz=305,slow=4.4,SNR=3.8						

*IDC **16** 19:17:22.0±0.6, 1°.51S×99°.41E, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.1/29, mbtmp4.0/20, ML3.8/2, Error ellipse: s-maj=26.5km s-min=12.6km az=54.0*
*NEIC **16** 19:17:23.0±0.3, 1°.55S×99°.38E, h10km, mb4.7/3, Error ellipse: s-maj=12.6km s-min=6.1km az=64.0*
*ISCJB **16** 19:17:24.8±0.5, 1°.39S±0°.06×99°.51E±0°.07, h30km, mb4.2/21, Error ellipse: s-maj=9.9km s-min=8.6km az=162.7*
*DJA **16** 19:17:37.0±1.8, 1°.5S±3°×10°0E±3°.5, h11km±17km, M4.5/5, mb4.8/1, MLv4.4/5*

ISC 16 19:17:26.6±0.5, 1°.40S±0°.05×99°.63E±0°.07, h30km, n67, σ0°.95/65, mb4.3/20, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.21	39	P	Pb	19 17 49.8	+0.9
BKNI	Bangkinang	2.22	39	P	Pb	19 18 06.9	+0.9
BKNI				S	Sn	19 18 27.6	-0.2
RGRI	Rengat	2.90	69	P	Pb	19 18 15.9	-1.7
MASI	Maura Aman, Be	3.13	124	P	Pb	19 18 22.9	+1.4
KSI	Kapahiang	3.71	127	P	Pb	19 18 31.5	+0.1
PSI	Prapat	4.24	350	Pn	Pn	19 18 27.9	-1.3
PSI	Prapat	4.24	350	Pn	Pn	19 18 27.9	-1.3
	0.9nm,0.3s,baz=346,slow=19,SNR=4.2						
KCSI	Kotacane, Aceh	5.23	339	P	Pb	19 18 58.9	+1.5
MYKOM	Kota Tinggi	5.28	53	P	Pn	19 18 35.1	-8.3
LWLI	Liwa	5.69	129	P	Pn	19 18 57.7	+8.4
IPM	Ipoh	6.01	13	*e*Pn	Pn	19 18 57.2	+3.8
	38nm,1.0s						
IPM	Ipoh	6.01	13	P	Pb	19 19 03.7	-6.9
KLI	Kotabumi	6.25	124	P	Pn	19 19 04.2	+7.4
CMAR	Chiang Mai Arr	19.75	358	P	P	19 21 53.8	-0.3
CMAR	Chiang Mai Arr	19.75	358	P	P	19 21 53.8	-0.3
	0.4nm,0.3s,baz=186,slow=9.6,SNR=16						
FITZ	Fitzroy Crossi	30.45	125	P	P	19 23 36.8	0.0
FITZ	Fitzroy Crossi	30.45	125	P	P	19 23 36.8	0.0
	4.6nm,0.9s,baz=273,slow=6.5,SNR=7.8						
LSA	Lhasa	31.97	346	*e*P	P	19 23 49.4	-1.2
	6.6nm,0.8s						
WRA	Warramunga Arr	38.61	121	P	P	19 24 48.1	+0.7
WRA				PcP	PcP	19 27 00.3	+0.7
WRA	Warramunga Arr	38.61	121	P	P	19 24 48.1	+0.7
	7.2nm,0.8s,baz=302,slow=9.0,SNR=35						
WRA				PcP	PcP	19 27 00.3	+0.7
	0.6nm,0.6s,baz=311,slow=2.4,SNR=6.3						
WRAB	Tennant Creek	38.62	121	*e*P	P	19 24 47.5	+0.1
ASAR	Alice Springs	39.90	126	P	P	19 24 58.6	+0.4
ASAR				PcP	PcP	19 27 04.9	+1.3
ASAR	Alice Springs	39.90	126	P	P	19 24 58.6	+0.4
	2.6nm,1.0s,baz=300,slow=7.4,SNR=24						
ASAR				PcP	PcP	19 27 04.9	+1.3
	1.0nm,0.9s,baz=306,slow=3.0,SNR=5.4						
KSAR	Wonju Array Be	46.67	31	P	P	19 25 53.6	+1.1
KSRS	Korea Array	46.70	31	P	P	19 25 53.6	+0.8
	0.3nm,0.4s,baz=229,slow=6.4,SNR=3.9						
TKM2	Tokmak 2	49.14	337	*e*P	P	19 26 11.0	-0.9
SONM	Songino Array	49.39	6	P	P	19 26 15.0	+1.4
SONM				PcP	PcP	19 27 36.6	+0.9
SONM	Songino Array	49.39	6	P	P	19 26 15.0	+1.4
	0.5nm,0.7s,baz=189,slow=9.1,SNR=5.6						
SONM				PcP	PcP	19 27 36.6	+0.9
	1.1nm,0.6s,baz=189,slow=3.9,SNR=5.4						
EKS2	Erkin-Say	49.67	335	*e*P	P	19 26 15.2	-0.6
STKA	Stephens Creek	49.82	132	P	P	19 26 18.1	+1.0
STKA	Stephens Creek	49.82	132	P	P	19 26 18.1	+1.0
	5.4nm,0.7s,baz=64,slow=5.8,SNR=11						
MK31	Makanchi Array	50.36	345	*e*P	P	19 26 21.0	+0.2
MKAR	Makanchi Array	50.36	345	P	P	19 26 21.6	+0.7
MKAR	Makanchi Array	50.36	345	P	P	19 26 21.6	+0.7
	2.7nm,0.5s,baz=155,slow=8.6,SNR=32						
USRK	Ussuriysk Arra	53.81	28	P	P	19 26 48.2	+1.7
	1.1nm,0.5s,baz=237,slow=9.6,SNR=3.2						
ZAA0	Zalesovo Array	56.52	350	*e*P	P	19 27 06.2	+0.3
ZALV	Zalesovo Beam	56.52	350	P	P	19 27 06.3	+0.5
ZALV	Zalesovo Beam	56.52	350	P	P	19 27 06.3	+0.5
	9.0nm,1.0s,baz=174,slow=5.9,SNR=17						
ABKAR	Akbulak array	60.94	331	*e*P	P	19 27 34.9	-1.8
	2.3nm,0.7s						
AKTO	Aktyubinsk	62.66	331	P	P	19 27 48.7	+0.4
AKTO	Aktyubinsk	62.66	331	P	P	19 27 48.7	+0.4
	0.4nm,0.4s,baz=90,slow=16,SNR=2.4						
CASY	Casey	65.21	175	*e*P	P	19 28 01.8	-2.9
	25nm,0.5s						
KBZ	Khabaz	67.62	319	P	P	19 28 20.3	-0.3
KBZ	Khabaz	67.62	319	P	P	19 28 20.3	-0.3
	1.7nm,0.8s,baz=143,slow=4.8,SNR=5.0						
BRTR	Keskin Array B	72.65	312	P	P	19 28 50.8	-1.0
BRTR	Keskin Array B	72.65	312	P	P	19 28 50.8	-1.0
	0.4nm,0.7s,baz=120,slow=8.5,SNR=2.8						
MLR	Muntele Rosu	79.62	317	P	P	19 29 30.6	-0.7
MLR	Muntele Rosu	79.62	317	P	P	19 29 30.6	-0.7
	0.4nm,0.8s,baz=190,slow=6.1,SNR=2.9						
VNDA	Vanda	82.81	169	P	P	19 29 48.2	+0.7
VNDA	Vanda	82.81	169	P	P	19 29 48.2	+0.7
	0.6nm,0.7s,baz=324,slow=5.9,SNR=3.6						
FINES	FINESS Array B	83.42	332	P	P	19 29 50.9	+0.1
FINES	FINESS Array B	83.42	332	P	P	19 29 50.9	+0.1
	2.7nm,0.7s,baz=112,slow=4.5,SNR=8.9						
GERES	GERESS Array B	88.36	319	P	P	19 30 15.1	-0.7
GERES	GERESS Array B	88.36	319	P	P	19 30 15.1	-0.7
	0.4nm,0.6s,baz=90,slow=2.7,SNR=4.3						
DAVOX	Davos/Dischmat	90.84	317	P	P	19 30 26.3	-1.2
DAVOX	Davos/Dischmat	90.84	317	P	P	19 30 26.3	-1.2
	1.5nm,0.6s,baz=146,slow=7.6,SNR=6.2						
TORD	Torodi Ar. Bea	98.05	283	P	Pdif	19 31 01.2	+0.2
TORD	Torodi Ar. Bea	98.05	283	P	Pdif	19 31 01.2	+0.2
	0.7nm,1.1s,baz=168,slow=9.7,SNR=2.5						
TXAR	Lajitas Array	144.45	36	PKP	PKPdf	19 37 00.9	+0.1
TXAR	Lajitas Array	144.45	36	PKP	PKPdf	19 37 00.9	+0.1
	3.0nm,0.6s,baz=259,slow=1.3,SNR=41						
CPUP	Villa Florida	144.58	217	PKP	PKPbc	19 37 00.1	+0.4
CPUP	Villa Florida	144.58	217	PKP	PKPbc	19 37 00.1	+0.4
	2.1nm,0.6s,baz=77,slow=3.4,SNR=6.3						
MIAR	Mount Ida	144.80	19	*e*PKPdf	PKPdf	19 37 00.8	-0.4
TZTN	Tazewell	144.91	4	*e*PKPdf	PKPab	19 37 00.1	-0.3
JCT	Junction City	145.70	31	*e*PKPdf	PKPdf	19 37 02.9	0.0
TKL	Tuckaleechee C	145.77	5	*e*PKPdf	PKPbc	19 37 03.3	+0.1
CPCT	Cooper Cave	145.91	6	*e*PKPdf	PKPbc	19 37 03.4	-0.2

GUC 16 19:28:14.5±1.1, 37°.02S×72°.19W, h92km±9km, ML3.7, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	Chillan	0.42	13	*e*P	Pn	19 28 29.4	+0.5
CCHI				*e*S	Sn	19 28 39.7	+0.1
CCHI				AML	AML	19 28 40.3	
	comp=N,3μm,0.3s						
CCSP	San Pedro de C	0.76	283	*e*P	Pn	19 28 31.9	+0.3
CCSP				*e*S	Sn	19 28 43.5	-1.0
CCSP				AML	AML	19 28 46.9	
	comp=E,64μm,0.2s						
COCH	Cobquecura	1.01	331	*e*P	Pn	19 28 36.4	+2.0
COCH				*e*S	Sn	19 28 49.7	+0.4
COCH				AML	AML	19 28 53.5	
	comp=N,293nm,0.1s						
TALC	Talca	1.68	16	*e*P	Pn	19 28 42.6	0.0
TALC				*e*S	Sn	19 29 04.1	+0.2
TALC				AML	AML	19 29 07.7	
	comp=E,1μm,0.2s						
CACH	El Canelo	3.17	25	*e*P	Pn	19 29 05.6	+3.1
CACH				*e*S	Sn	19 29 42.8	+3.2
LMEL	Las Melosas	3.56	28	*e*P	Pn	19 29 11.9	+4.1
LMEL				*e*S	Sn	19 29 53.4	+4.4

*IDC **16** 19:31:32.6±1.6, 1°.58S×99°.51E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.8/25, mbtmp3.9/9, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/44, Error ellipse: s-maj=61.9km s-min=18.0km az=58.0*
*DJA **16** 19:31:41.6±1.5, 2°.5S±6°×10°0E±1°.4, h10km, M4.2/6, mb4.0/1, MLv4.3/6*

ISC 16 19:31:36.8±0.9, 1°.61S±0°.07×99°.5E±0°.1, h30km, n18, σ1°.17/17, mb4.1/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.45	38	P	Pb	19 32 05.5	+2.4
SDSI	Sungai Dareh	2.03	71	P	Pb	19 32 13.8	+0.7
BKNI	Bangkinang	2.46	39	P	Pb	19 32 22.7	+2.4
BKNI				S	Sb	19 32 49.2	-1.0
RGRI	Rengat	3.09	66	P	Pb	19 32 30.7	-0.4
MASI	Maura Aman, Be	3.12	119	P	Pb	19 32 32.9	+1.2
KSI	Kapahiang	3.69	123	P	Pb	19 32 37.4	-3.9
PSI	Prapat	4.42	352	Pn	Pn	19 32 40.2	-1.8
	0.8nm,0.3s,baz=100,slow=16,SNR=4.9						
PSI				LR	LR	19 34 23.6	
	comp=Z,129nm,20.2s,baz=326,slow=40						
MYKOM	Kota Tinggi	5.50	52	P	Pb	19 33 06.7	-5.4
IPM	Ipoh	6.23	14	P	Pn	19 33 12.6	+5.7
CMAR	Chiang Mai Arr	19.95	358	P	P	19 36 06.2	-0.4
	0.2nm,0.3s,baz=188,slow=10,SNR=7.4						
WRA	Warramunga Arr	38.61	121	P	P	19 38 57.7	+0.1
	0.9nm,0.5s,baz=304,slow=8.9,SNR=22						
ASAR	Alice Springs	39.88	126	P	P	19 39 08.8	+0.6
	0.6nm,0.5s,baz=303,slow=7.9,SNR=14						
SONM	Songino Array	49.61	6	P	P	19 40 25.0	-0.5
	0.6nm,0.6s,baz=195,slow=9.0,SNR=4.7						
SONM				PcP	PcP	19 41 47.6	+0.9
	0.4nm,0.5s,baz=191,slow=3.7,SNR=2.9						
MKAR	Makanchi Array	50.52	345	P	P	19 40 32.8	+0.4
	2.2nm,0.7s,baz=150,slow=8.2,SNR=19						
USRK	Ussuriysk Arra	54.05	29	P	P	19 40 58.3	-0.2
	1.3nm,0.6s,baz=240,slow=11,SNR=4.2						
ZALV	Zalesovo Beam	56.70	350	P	P	19 41 17.4	+0.1
	1.6nm,0.4s,baz=156,slow=7.6,SNR=9.3						
FINES	FINESS Array B	83.54	332	P	P	19 44 01.6	-0.2
	8.0nm,1.2s,baz=96,slow=3.8,SNR=6.9						
TXAR	Lajitas Array	144.69	36	PKP	PKPdf	19 51 11.6	+0.1
	1.7nm,0.5s,baz=285,slow=2.2,SNR=25						

IDC 16 19:39:32.4±3.5, 1°.33S×99°.77E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/24, mbtmp3.3/5, Error ellipse: s-maj=156.9km s-min=21.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.68	358	P	P	19 44 03.4	+0.1
	baz=172,slow=7.3,SNR=3.0						
WRA	Warramunga Arr	38.53	121	P	P	19 46 56.6	-0.4
	0.3nm,0.5s,baz=303,slow=9.1,SNR=5.0						
ASAR	Alice Springs	39.84	127	P	P	19 47 08.2	+0.2
	0.2nm,0.6s,baz=303,slow=7.6,SNR=4.0						
MKAR	Makanchi Array	50.32	344	P	P	19 48 30.8	-0.2
	0.4nm,0.5s,baz=163,slow=9.0,SNR=4.4						
ZALV	Zalesovo Beam	56.47	349	P	P	19 49 15.9	0.0
	0.6nm,0.6s,baz=190,slow=7.5,SNR=3.9						
TXAR	Lajitas Array	144.31	37	PKP	PKPdf	19 59 10.7	-0.8
	0.5nm,0.8s,baz=297,slow=4.0,SNR=2.0						

IDC 16 19:51:49.8±2.7, 1°.44S×99°.81E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=115.9km s-min=16.9km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.30	348	Pn	Pn	19 52 55.5	-1.3
	0.6nm,0.3s,baz=192,slow=12,SNR=3.8						
CMAR	Chiang Mai Arr	19.79	358	P	P	19 56 21.6	-0.4
	0.1nm,0.3s,baz=191,slow=9.2,SNR=3.7						
WRA	Warramunga Arr	38.44	121	P	P	19 59 13.6	-0.2
	1.1nm,0.6s,baz=303,slow=9.1,SNR=22						
ASAR	Alice Springs	39.74	126	P	P	19 59 24.8	+0.2
	0.7nm,0.5s,baz=302,slow=8.1,SNR=20						
SONM	Songino Array	49.41	6	P	P	20 00 41.5	-0.1
	0.3nm,0.5s,baz=194,slow=5.5,SNR=3.3						
STKA	Stephens Creek	49.66	132	P	P	20 00 43.3	-0.4
	1.9nm,0.7s,baz=253,slow=13,SNR=3.2						
MKAR	Makanchi Array	50.44	344	P	P	20 00 49.5	+0.2
	1.1nm,0.7s,baz=162,slow=8.3,SNR=7.7						
ZALV	Zalesovo Beam	56.59	349	P	P	20 01 34.1	-0.1
	0.3nm,0.3s,baz=148,slow=14,SNR=3.0						
TXAR	Lajitas Array	144.37	37	PKP	PKPbc	20 11 27.6	+0.3
	0.4nm,0.4s,baz=270,slow=1.8,SNR=9.5						

*ISCJB **16** 19:53:23.9±1.0, 1°.46S±0°.03×99°.38E±0°.03, h12km±6km, mb4.8/102, MS4.0/10, Error ellipse: s-maj=5.4km s-min=3.6km az=136.9*
*IDC **16** 19:53:23.6±0.4, 1°.45S×99°.39E, h0km, mb4.7/34, mb1 4.7/36, mb1mx4.7/37, mbtmp4.6/36, ML4.4/2, MS3.9/4, Ms1 3.9/4, ms1mx3.2/43, Error ellipse: s-maj=13.8km s-min=10.6km az=51.0*
*NEIC **16** 19:53:24.4±0.2, 1°.47S×99°.36E, h10km, mb4.9/30, Error ellipse: s-maj=6.4km s-min=4.8km az=60.0*
*DJA **16** 19:53:26.8±1.9, 1°.5±3°×9°9E±°, h20km±23km, M5.0/21, mB5.4/11, mb5.0/21, MLv5.2/15, Mw(mB)4.8/11*
*BJI **16** 19:53:27.0, 1°.44S×99°.36E, h33km, mB4.9/29, mb4.7/39, Ms4.5/30, Ms7 4.3/30*
*MOS **16** 19:53:27.2±1.0, 1°.36S×99°.48E, h33km, mb5.1/35, Error ellipse: s-maj=11.9km s-min=5.2km az=113.9*
*BKK **16** 19:53:27.5±0.3, 2°.5±4°×9°9E±°, h10km, M4.8/22, mB5.1/10, mb4.7/22, MLv5.3/3, Mw(mB)4.4/10*
*AUST **16** 19:53:29.6, 1°.40S×99°.49E, h30km*

ISC 16 19:53:28.1±0.4, 1°.49S±0°.04×99°.38E±0°.04, h31km±1km, h31km:pP-P, n432, σ1°.22/453, mb4.9/114, MS4.1/11, 24C-23D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.45	45	P	Pn	19 53 51.2	-0.9
BKNI	Bangkinang	2.45	43	P	Pn	19 54 06.4	+0.4
BKNI	Bangkinang	2.45	43	P	Pb	19 54 09.0	-2.6
	baz=2.3,SNR=12						
RGRI	Rengat	3.17	69	P	Pn	19 54 16.2	+0.4
MASI	Maura Aman, Be	3.30	120	P	Pn	19 54 18.9	+1.3
KSI	Kapahiang	3.87	124	P	Pn	19 54 26.3	+0.8
PSI	Prapat	4.29	354	Pn	Pn	19 54 29.7	-1.6
PSI	Prapat	4.29	354	Pn	Pn	19 54 29.7	-1.6
	6.4nm,0.3s,baz=176,slow=10,SNR=14						
PSI	Prapat	4.29	354	P	Pn	19 54 30.9	-0.4
	baz=4.1,SNR=6.7						
MNAI	Manna	4.57	129	P	Pn	19 54 36.4	+1.2
MNAI	Manna	4.57	129	P	Pn	19 54 36.1	+0.9
	baz=4.5,SNR=6.4						
MNAI				S	Sn	19 55 28.7	+1.4
	baz=4.5,SNR=7.0						
SNSI	Sinabang, Aceh	4.93	322	P	Pn	19 54 36.6	-3.4
TSI	Tuntungan	5.02	351	P	Pn	19 54 42.0	+0.7
	334nm,0.8s,4μm1.4nm						
FRIM	Kepong	5.21	26	P	Pn	19 54 42.5	-1.3
BTDF	Bukit Timah Da	5.23	57	P	Pn	19 54 44.1	0.0
	baz=5.1,SNR=6.1						
BTDF				P	Pn	19 54 44.1	0.0
	baz=5.1,SNR=6.1						
KCSI	Kotacane, Aceh	5.23	342	P	Pn	19 54 43.3	-0.9
	126nm,1.1s,2μm0.9nm						
MYKOM	Kota Tinggi	5.53	54	P	Pn	19 54 47.1	-1.2
MYKOM	Kota Tinggi	5.53	54	P	Pn	19 54 47.9	-0.5
	87nm,1.0s,1μm1.6nm						
IPM	Ipoh	6.15	16	*e*Pn	Pn	19 54 56.0	-0.9
IPM	Ipoh	6.15	16	P	Pn	19 54 56.1	-0.9
IPM	Ipoh	6.15	16	P	Pn	19 54 58.1	+1.2
	110nm,1.0s,1μm0.6nm						
KLSI		6.22	121	P	Pn	19 54 59.2	+1.4
	99nm,0.7s,0.4nm						
KLI	Kotabumi	6.42	122	P	Pn	19 54 58.5	-2.0
	220nm,0.8s,3μm0.9nm						
KASI	Kota Agung	6.49	128	P	Pn	19 55 02.0	+0.4
	176nm,0.7s,4μm1.3nm						
PPBI	Pangkal Pinang	6.79	96	P	Pn	19 55 05.6	0.0
	21nm,1.0s,0.4nm						
BLSI	Bandar Lampung	7.01	123	P	Pb	19 55 21.4	-7.8
LHMI	Lhok Sumawe	7.10	340	P	Pn	19 55 09.7	-0.2
	74nm,0.9s,0.7nm						
LHMI	Lhok Sumawe	7.10	340	P	Pn	19 55 11.5	+1.6
	baz=7.1,SNR=3.2						
KTGM	Kuala Trenggan	7.74	29	P	Pn	19 55 17.6	-1.2
BSI	Banda Aceh	8.05	330	P	Pn	19 55 21.2	-1.7
	47nm,1.2s						
TPI	Tanjungpandan	8.37	99	P	Pn	19 55 28.1	+0.8
	32nm,1.1s						
SKLT	Songkhla	8.69	8	P	Pn	19 55 38.3	+6.6
	48nm,1.1s						
SKJI	Sukabumi	9.02	128	P	Pn	19 55 36.8	+0.6
	316nm,0.8s						
LEM	Lembang	9.78	123	P	Pn	19 55 47.8	+1.0
	87nm,1.2s,2μm						
LEM	Lembang	9.78	123	P	Pn	19 55 48.5	+1.7
	baz=9.7,SNR=3.2						
CISI	Cisompet, Garu	10.35	126	P	Pn	19 55 52.9	-1.6
	116nm,0.8s						
CISI	Cisompet, Garu	10.35	126	P	Pn	19 55 52.0	-2.5
	baz=10,SNR=16						
CISI				S	Sn	19 57 44.8	-4.7
	baz=10,SNR=5.3						
COCO	West Island	10.93	193	P	Pn	19 56 03.0	+0.6
	238nm,1.7s						
KSM	Kuching	11.32	75	P	Pn	19 56 08.7	+0.9
	15nm,0.8s						
BJII	Banjamegara	11.82	120	P	Pn	19 56 15.5	+0.8
	44nm,0.9s,2μm						
UGM	Wanagama	12.81	120	P	Pn	19 56 28.5	+0.3
	baz=13,SNR=5.8						
SBUM	Sibu	13.42	73	P	Pn	19 56 36.0	-0.6
SBUM	Sibu	13.42	73	P	Pn	19 56 37.4	+0.8
	43nm,1.4s,673nm						
PCJI	Pacitan	13.51	120	P	Pn	19 56 34.4	-3.3
SJI	Sawahan	13.82	117	P	Pn	19 56 40.5	-1.5
	43nm,0.9s						
PWJI	Pagerwojo	13.98	118	P	Pn	19 56 43.1	-1.0
BBKI	Banjar Baru	15.57	98	P	P	19 57 09.2	-0.3
NAYO	Nakonayok	15.82	7	P	P	19 57 26.5	+14
UTHA	Uthaitani	16.94	0	P	P	19 57 26.7	+2.1
	3.4nm,0.8s,40nm						
CHAI	Chaiyaphum	17.47	8	P	P	19 57 48.0	+17
UBPT	Khong Chiam	17.72	20	P	P	19 57 41.7	+8.5
PBKT	Sadao Pong	18.01	5	P	P	19 57 40.0	+3.6
	15nm,0.7s						
KKM	Kota Kinabalu	18.40	66	P	P	19 57 39.8	-1.1
SDKM	Sandakan	19.15	68	P	P	19 57 49.1	0.0
KDM	Kudat	19.32	64	P	Pn	19 57 53.5	+1.5
TSM	Tawau	19.36	73	P	Pn	19 57 52.0	-0.5
CM31	Chiang Mai Arr	19.83	359	*e*P	P	19 57 54.6	-1.8
	5.2nm,0.5s						
CMAR	Chiang Mai Arr	19.83	359	P	P	19 57 56.0	-0.4
CMAR				PcP	PcP	20 02 15.1	+1.4
CMAR	Chiang Mai Arr	19.83	359	P	P	19 57 56.0	-0.4
	0.9nm,0.3s,baz=187,slow=9.8,SNR=35						
CMAR				PcP	PcP	20 02 15.1	+1.4
	0.2nm,0.3s,baz=216,slow=3.5,SNR=4.5						
CMMT	Chiang Mai	20.18	359	P	Pn	19 58 01.4	-0.9
	17nm,1.1s						
CHTO	Chiang Mai	20.18	359	*e*P	P	19 57 59.1	-1.1
CHTO				pmax	pmax		
	comp=Z,31nm,1.4s						
CHTO	Chiang Mai	20.18	359	*e*P	P	19 57 59.1	-1.1
	comp=Z,31nm,1.4s						
CHTO	Chiang Mai	20.18	359	P	Pn	19 58 01.8	-0.5
	comp=Z,5.4nm,1.0s						
MYLDM	Lahad Datu	20.22	71	P	P	19 58 01.5	+0.8
KAPI	Kappang	20.64	100	*e*P	P	19 58 04.1	-1.2
	comp=Z,49nm,1.1s						
KAPI	Kappang	20.64	100	P	P	19

TPUB	Ta-pu	32.17	39	eP	P	19 59 52.6	-0.8
	comp=Z,24nm,1.0s						
KNRA	Kununurra	32.22	118	P	P	19 59 51.2	-2.6
	baz=32,SNR=4.5						
CD2	Chengdu	32.49	7	eP	P	19 59 57.3	+1.3
CD2				pP	pP	20 00 07.9	+2.8
CD2				sP	sP	20 00 12.3	+3.3
CD2				PP	PP	20 01 07.0	-2.8
CD2				PcP	PcP	20 02 43.3	+0.7
CD2				S	S	20 05 09.3	+0.2
CD2				sS	sS	20 05 27.1	+2.9
CD2				SS	SnSn	20 07 07.3	+3.1
CD2				ScS	ScS	20 10 20.5	-3.4
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,330nm,9.6s						
CD2				LR	LR		
	comp=E,400nm,8.4s						
CD2				LR	LR		
	comp=Z,330nm,9.5s						
SSLB	Suanglung	32.73	39	eP	P	19 59 56.7	-1.5
	comp=Z,40nm,1.6s						
KOLN	Koldanda	32.81	334	eP	P	19 59 58.5	-0.5
	comp=Z,50nm,0.7s						
FAKI	Fak Fak	32.88	93	P	P	20 00 04.4	+4.7
	baz=33,SNR=4.9						
ENH	Enshi	33.02	16	eP	P	19 59 58.6	-2.1
	comp=Z,7.7nm,0.5s						
DANN	Dangsing	33.24	334	eP	P	20 00 01.7	-1.2
	comp=Z,80nm,1.0s						
PALU	Palau	36.10	75	P	P	20 00 33.9	+6.4
	baz=36,SNR=3.7						
LZH	Lanzhou	37.62	6	eP	P	20 00 38.8	-1.5
LZH				pP	pP	20 00 47.8	-1.7
LZH				sP	sP	20 00 51.1	-2.2
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
NJ2	Nanjing	38.12	27	eP	P	20 00 44.4	0.0
NJ2				pP	pP	20 00 56.6	+2.9
NJ2				sP	sP	20 00 57.0	-0.5
NJ2				S	S	20 06 39.4	+3.8
NJ2				sS	sS	20 06 52.3	+1.5
NJ2				pmax	pmax		
	comp=Z,30nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,74nm,4.4s						
NJ2				LR	LR		
	comp=N,270nm,17.3s						
NJ2				LR	LR		
	comp=E,180nm,24.4s						
NJ2				LR	LR		
	comp=Z,230nm,24.4s						
WRA	Warramunga Arr	38.79	121	P	P	20 00 49.4	-0.8
WRA	Warramunga Arr	38.79	121	P	P	20 00 49.4	-0.8
	comp=Z,14nm,0.7s,baz=301,slow=9.0,SNR=54						
WRAB	Tennant Creek	38.79	121	P	P	20 00 49.5	-0.8
	comp=Z,164nm,0.7s,SNR=6.5						
WRAB	Tennant Creek	38.79	121	eP	P	20 00 49.4	-0.8
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s						
WRAB	Tennant Creek	38.79	121	eP	P	20 00 49.4	-0.9
	comp=Z,15nm,0.8s						
FORT	Forrest	39.83	140	P	P	20 01 00.9	+2.1
	baz=40,SNR=6.8						
ASAR	Alice Springs	40.05	126	P	P	20 01 00.6	-0.2
ASAR				S	S	20 07 01.9	-3.2
ASAR	Alice Springs	40.05	126	P	P	20 01 00.6	-0.2
	comp=Z,6.1nm,0.7s,baz=302,slow=7.8,SNR=35						
ASAR				S	S	20 07 01.9	-3.2
	comp=Z,2.2nm,0.9s,baz=297,slow=14,SNR=11						
AS31	Alice Springs	40.06	126	eP	P	20 00 59.1	-1.7
GTA	Gaotai	40.70	1	eP	P	20 01 06.8	+0.8
GTA				pP	pP	20 01 14.3	-1.0
GTA				sP	sP	20 01 17.3	-1.8
GTA				PP	PnPn	20 02 45.3	+0.9
GTA				PcP	PcP	20 03 08.6	+1.3
GTA				ScP	ScP	20 06 56.8	+2.1
GTA				S	S	20 07 15.6	+1.2
GTA				sS	sS	20 07 28.0	-1.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,83nm,5.7s						
GTA				LR	LR		
	comp=N,130nm,16.6s						
GTA				LR	LR		
	comp=E,190nm,18.1s						
GTA				LR	LR		
	comp=Z,140nm,15.2s						
HHC	Hu-ho-hao-te	43.58	13	eP	P	20 01 30.0	+0.6
HHC				S	S	20 07 56.5	-0.3
HHC				pmax	pmax		
	comp=Z,47nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,5.5s						
BJI	Beijing	44.10	19	P	P	20 01 33.8	+0.4
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
JNU	Nakatsue	45.47	38	eP	P	20 01 43.7	-0.8
	comp=Z,8.4nm,0.8s						
JNU	Nakatsue	45.47	38	P	P	20 01 43.8	-0.8
	comp=Z,11nm,0.8s,baz=200,slow=5.0,SNR=6.5						
KSH	Kashi	46.11	335	P	P	20 01 48.5	-1.1
KSH				sP	sP	20 02 02.4	-0.4
KSH				PP	PP	20 03 36.4	-1.8
KSH				S	S	20 08 28.8	-4.7
KSH				sS	sS	20 08 44.6	-4.4
KSH				SS	ScS	20 11 45.8	+2.6
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,72nm,5.7s						
KSH				LR	LR		
	comp=N,150nm,5.0s						
KSH				LR	LR		
	comp=E,84nm,4.3s						
KSH				LR	LR		
	comp=Z,89nm,5.6s						
WMQ	Urumqi	46.31	348	P	P	20 01 52.3	+1.3
WMQ				pP	pP	20 02 00.3	-0.1
WMQ				PcP	PcP	20 03 27.8	+1.8
WMQ				PP	PP	20 03 40.3	+0.1
WMQ				pmax	pmax		
	comp=Z,49nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,96nm,5.4s						
WMQ				LR	LR		
	comp=N,51nm,20.0s						
WMQ				LR	LR		
	comp=E,85nm,30.0s						
WMQ				LR	LR		
	comp=Z,53nm,24.0s						
KSAR	Wonju Array Be	46.88	31	P	P	20 01 55.1	-0.4
KSAR				PcP	PcP	20 03 28.6	+0.5
KSRS	Korea Array	46.91	31	P	P	20 01 55.1	-0.6
	comp=Z,3.1nm,0.7s,baz=223,slow=8.1,SNR=15						
KSRS				PcP	PcP	20 03 28.6	+0.5
	comp=Z,1.5nm,0.9s,baz=221,slow=3.6,SNR=4.3						
TKM2	Tokmak 2	49.12	337	eP	P	20 02 12.2	-0.9
TKM2				pmax	pmax		
	comp=Z,19nm,0.6s						
TKM2	Tokmak 2	49.12	337	i PN	P	20 02 13.9	+0.9
TKM2	Tokmak 2	49.12	337	P	P	20 02 14.0	+0.9
	SNR=5.4						
TKM2	Tokmak 2	49.12	337	eP	P	20 02 12.2	-0.9
	comp=Z,19nm,0.6s						
KBK	Karagaybulak	49.16	336	i P	P	20 02 14.8	+1.5
KBK	Karagaybulak	49.16	336	P	P	20 02 14.8	+1.5
	SNR=5.8						
AML	Almayashu	49.24	335	i P	P	20 02 15.3	+1.1
AML	Almayashu	49.24	335	P	P	20 02 15.3	+1.1
	SNR=9.1						
AAK	Ala-Archa	49.32	336	ceP	P	20 02 15.4	+0.9
AAK				pmax	pmax		
	comp=Z,29nm,1.7s						
AAK	Ala-Archa	49.32	336	cePN	P	20 02 15.4	+0.9
AAK				pmax	pmax		
	comp=Z,29nm,1.7s						
AAK	Ala-Archa	49.32	336	eP	P	20 02 13.2	-1.4
	comp=Z,31nm,1.6s						
AAK	Ala-Archa	49.32	336	P	P	20 02 15.1	+0.6
	comp=Z,3.4nm,0.4s,baz=137,slow=4.2,SNR=5.0						
SONM	Songino Array	49.50	6	P	P	20 02 16.3	+0.5
SONM				PcP	PcP	20 03 38.0	+0.5
SONM	Songino Array	49.50	6	P	P	20 02 16.3	+0.5
	comp=Z,2.1nm,0.5s,baz=189,slow=9.5,SNR=20						
SONM				PcP	PcP	20 03 38.0	+0.5
	comp=Z,5.1nm,0.6s,baz=187,slow=4.2,SNR=9.5						
CHMS	Chumysh	49.52	336	i P	P	20 02 16.8	+0.9
CHMS	Chumysh	49.52	336	i PN	P	20 02 16.8	+0.9
CHMS	Chumysh	49.52	336	P	P	20 02 16.8	+0.9
	SNR=5.7						
ULN	Ulaanbaatar	49.61	7	eP	P	20 02 14.4	-2.3
	comp=Z,6.3nm,0.8s						
EKS2	Erkin-Say	49.64	335	eP	P	20 02 14.4	-2.5
EKS2				pmax	pmax		
	comp=Z,21nm,0.8s						
EKS2	Erkin-Say	49.64	335	P	P	20 02 18.3	+1.4
	SNR=9.9						
EKS2	Erkin-Say	49.64	335	eP	P	20 02 14.4	-2.5
	comp=Z,21nm,0.8s						
USP	Ospenovka	49.85	336	i P	P	20 02 19.2	+0.8
USP	Ospenovka	49.85	336	i PN	P	20 02 19.2	+0.8
USP	Ospenovka	49.85	336	P	P	20 02 19.2	+0.8
	SNR=12						
STKA	Stephens Creek	49.95	132	P	P	20 02 20.3	+0.9
STKA	Stephens Creek	49.95	132	P	P	20 02 20.3	+0.9
	comp=Z,16nm,0.8s,baz=309,slow=6.3,SNR=24						
STKA	Stephens Creek	49.95	132	P	P	20 02 20.2	+0.8
	baz=50,SNR=18						
MK31	Makanchi Array	50.37	345	eP	P	20 02 22.4	+0.1
MK31	Makanchi Array	50.37	345	eP	P	20 02 22.4	+0.1
MKAR	Makanchi Array	50.37	345	eP	P	20 02 22.7	+0.4
MKAR	Makanchi Array	50.37	345	eP	P	20 02 22.7	+0.4
MKAR	Makanchi Array	50.37	345	P	P	20 02 22.7	+0.4
	comp=Z,22nm,0.6s,baz=148,slow=8.2,SNR=145						
CN2	Changchun	50.78	24	eP	P	20 02 29.1	+3.8
CN2				epP	pP	20 02 39.3	+4.5
CN2				eS	S	20 09 46.3	+7.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,140nm,18.0s						
CN2				LR	LR		
	comp=E,210nm,18.0s						
CN2				LR	LR		
	comp=Z,370nm,18.0s						
KKAR	Karatay Array	51.42	333	eP	P	20 02 30.2	0.0
KKAR	Karatay Array	51.42	333	eP	P	20 02 30.2	0.0
MJAR	Matsushiro Arr	52.28	40	P	P	20 02 37.6	+0.8
MJAR	Matsushiro Arr	52.28	40	P	P	20 02 37.6	+0.8
	comp=Z,1.9nm,1.0s,baz=227,slow=8.7,SNR=8.0						
HVS	Khovu-Aksy	52.65	356	ceP	P	20 02 38.9	-0.4
HVS				pmax	pmax		
	comp=Z,42nm,1.7s						
CMSA	Cobar Meteorol	52.92	129	P	P	20 02 42.5	+0.9
	baz=53,SNR=16						
MDJ	Mudanjiang	53.21	27	P	P	20 02 43.3	-0.2
MDJ				pP	pP	20 02 51.9	-1.1
MDJ				sP	sP	20 02 55.8	-0.9
MDJ				PP	PP	20 04 42.8	-1.0
MDJ				ScP	ScP	20 07 46.1	-0.6
MDJ				PcS	PcS	20 07 49.3	-0.6
MDJ				S	S	20 10 12.4	0.0
MDJ				sS	sS	20 10 27.8	-0.3
MDJ				ScS	ScS	20 12 30.1	-0.7
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,43nm,6.3s						
MDJ				LR	LR		
	comp=N,110nm,17.1s						
MDJ				LR	LR		
	comp=E,190nm,20.1s						
MDJ				LR	LR		
	comp=Z,140nm,9.1s						
RMQ	Roma	53.51	122	P	P	20 02 47.3	+1.3
	baz=54,SNR=3.9						
OPO	Ambohidratompo	53.88	248	LR	LR	20 20 46.2	
	comp=Z,177nm,19.5s,baz=280,slow=30						
USRK	Ussuriysk Arra	54.01	29	P	P	20 02 49.0	-0.2
	comp=Z,8.4nm,0.7s,baz=235,slow=5.3,SNR=21						
USRK				LR	LR	20 25 40.9	
	comp=Z,72nm,20.9s,baz=197,slow=36						
KURBB	Kurchatov Arra	54.89	344	P	P	20 02 55.7	+0.2
	comp=Z,6.6nm,0.8s,baz=166,slow=7.2,SNR=52						
KURBB				PcP	PcP	20 03 58.4	+1.0
	comp=Z,3.1nm,0.8s,baz=158,slow=3.6,SNR=4.9						
KURK	Kurchatov	54.95	344	P	P	20 02 55.7	-0.3
KURK						20 03 58.4	
KURK	Kurchatov	54.95	344	P	P	20 02 55.7	-0.3
KURK				PcP	PcP	20 03 58.4	+0.8
EIDS	Eidsvold	55.15	120	P	P	20 02 50.9	-7.1
	baz=55,SNR=3.3						
YNG	Young	56.14	131	P	P	20 03 06.1	+1.2
	baz=56,SNR=5.3						
ZAA0	Zalesovo Array	56.56	350	eP	P	20 03 06.0	-1.5
ZALV	Zalesovo Beam	56.56	350	P	P	20 03 07.7	+0.2
ZALV	Zalesovo Beam	56.56	350	P	P	20 03 07.7	+0.2
ZALV	Zalesovo Beam	56.56	350	P	P	20 03 07.7	+0.2
	comp=Z,11nm,0.3s,baz=179,slow=5.7,SNR=84						
JTH	Tanhata	56.61	38	eS	S	20 11 13.3	+15
JTM	Tenmabayashi	56.63	37	eS	S	20 11 11.5	+13
JANG	Nango	56.66	38	eS	S	20 11 11.7	+13
ARMA	Armidale	57.20	126	P	P	20 03 14.5	+1.7
	baz=57,SNR=5.2						
KRAR	Krasnoyarsk	57.56	356	eP	P	20 03 15.8	+1.3
KRAR				pmax	pmax		
	comp=Z,42nm,1.2s						
ATD	Arta Tunnel	57.64	285	LR	LR	20 22 09.2	
	comp=Z,47nm,20.6s,baz=268,slow=30						
NVS	Novosibirsk	57.70	349	eP	P	20 03 22.6	+7.1
NVS				eS	S	20 11 11.3	-0.7
NVS				e		20 13 05.0	
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.8s						
NVS				smax	smax		
	comp=E,7.0nm,1.0s						
NVS				smax	smax		
	comp=N,3.0nm,0.8s						
KLR	Kul'dur	57.73	25	eP	P	20 03 11.7	-4.2
RAYN	Ar Rayn	57.94	299	eP	P	20 03 16.8	-1.2
	comp=N,5.5nm,0.8s						
KBD	Kabd	58.03	306	eP	P	20 03 18.2	-0.1
KBD				AMb	AMB	20 03 19.7	
	comp=Z,27nm,1.2s						
RDF	Al-Radifah	58.05	306	eP	P	20 03 18.3	-0.2
RDF				AMb	AMB	20 03 20.3	
	comp=Z,39nm,1.0s						
UMR	Umm Al-Rimmam	58.15	306	eP	P	20 03 19.4	+0.2
NAY	Al-Naaiem	58.42	306	eP	P	20 03 20.8	-0.3
NAY				AMb	AMB	20 03 21.8	
	comp=Z,20nm,0.8s						
BVAR	Borovoye Array	59.49	340	P	P	20 03 27.5	-0.6
BVAR	Borovoye Array	59.49	340	P	P	20 03 27.5	-0.6
BVAR	Borovoye Array	59.49	340	P	P	20 03 27.5	-0.6
	comp=Z,6.2nm,0.7s,baz=140,slow=8.8,SNR=36						
ASAJ	Asahikawa	59.55	35	P	P	20 03 29.2	+0.6
ASAJ	Asahikawa	59.55	35	P	P	20 03 29.2	+0.6
	comp=Z,1.4nm,0.4s,baz=242,slow=31,SNR=5.2						
BRVK	Borovoye	59.56	340	ceP	P	20 03 27.7	-0.8
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BRVK	Borovoye	59.56	340	eP	P	20 03 26.9	-1.6
	comp=Z,7.2nm,0.8s						
ABKAR	Akbulak array	60.90	332	eP	P	20 03 36.6	-1.2
YSS	Yuzh-Sakhalins	61.38	32	eP	P	20 03 43.2	+2.1
YSS				e		20 03 49.7	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
KMBO	Kilima Mbogo	62.11	270	eP	P	20 03 45.5	-1.4
	comp=Z,7.2nm,0.9s						
KMBO	Kilima Mbogo	62.11	270	P	P	20 03 47.9	+0.9
	comp=Z,5.8nm,0.8s,baz=60,slow=9.1,SNR=14						
AKTO	Aktyubinsk	62.61	332	P	P	20 03 48.4	-0.9
AKTO	Aktyubinsk	62.61	332	P	P	20 03 48.4	-0.9
AKTO	Aktyubinsk	62.61	332	P	P	20 03 48.4	-0.9
	comp=Z,4.1nm,0.9s,baz=135,slow=7.0,SNR=9.7						
SVE	Sverdlovsk	65.98	338	eP	P	20 04 11.2	0.0
SVE				pmax	pmax		
	comp=Z,21nm,1.1s						
ZEI	Tsey	66.45	319	eP	P	20 04 14.5	-0.3
ZEI				pmax	pmax		
	comp=Z,13nm,0.8s						
ARU	Arti	66.49	337	c i P	P	20 04 13.9	-0.7
ARU						20 06 38.3	
ARU				S	S	20 13 03.8	+0.8
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
ARU	Arti	66.49	337	c i P	P	20 04 13.9	-0.7
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
YAK	Yakutsk	67.41	15	eP	P	20 04 18.2	-2.0
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
KBZ	Khabaz	67.52	319	P	P	20 04 21.7	+0.4
KBZ	Khabaz	67.52	319	P	P	20 04 21.7	+0.4
KBZ	Khabaz	67.52	319	P	P	20 04 21.7	+0.4
	comp=Z,11nm,0.8s,baz=116,slow=5.7,SNR=29						
KIV	Kislovodsk	67.75	319	eP	P	20 04 22.9	0.0
KIV				pmax	pmax		
	comp=Z,20nm,1.0s						
ASF	Jabal al Asfar	67.79	306	P	P	20 04 23.4	0.0
ASF	Jabal al Asfar	67.79	306	P	P	20 04 23.4	0.0
	comp=Z,5.4nm,0.9s,baz=69,slow=4.7,SNR=7.1						
EIL	Elat	68.72	303	P	P	20 04 29.7	+0.5
EIL	Elat	68.72	303	P	P	20 04 29.7	+0.5
	comp=Z,13nm,0.8s,baz=220,slow=2.0,SNR=10						
SOKR	Solikamsk	69.38	338	i P	P	20 04 33.4	+0.8
SOKR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SOKR	Solikamsk	69.38	338	i P	P	20 04 33.4	+0.8
SOKR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAW	Mawson	70.62	194	eP	P	20 04 40.5	+0.4
	comp=Z,1.0nm,0.9s						
MAW	Mawson	70.62	194	P	P	20 04 41.4	+1.3
	comp=Z,5.0nm,0.9s,baz=20,slow=6.4,SNR=11						
VRHR	Novokhopersk	71.56	326	eP	P	20 04 45.1	-1.0
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
BR131	Keskin Array S	72.52	313	eP	P	20 04 50.6	-1.7
	comp=E,2.4nm,0.7s						
BRTR	Keskin Array B	72.52	313	P	P	20 04 51.8	-0.6
BRTR	Keskin Array B	72.52	313	P	P	20 04 51.8	-0.6
	comp=E,3.0nm,0.7s,baz=133,slow=7.1,SNR=19						
PETK	Petropavlovsk-	72.79	32	P	P	20 04 53.9	+0.4
PETK	Petropavlovsk-	72.79	32	P	P	20 04 53.9	+0.4
PETK	Petropavlovsk-	72.79	32	P	P	20 04 53.9	+0.4
	comp=E,1.3nm,0.4s,baz=352,slow=30,SNR=5.1						
VORD	Divnogorie	72.83	325	eP	P	20 04 52.5	-1.2
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,30nm,0.7s						
VSR	Storozhevoye	73.00	325	eP	P	20 04 53.8	-0.9
VSR				pmax	pmax		
	comp=N,6.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SIM	Simferopol'	73.81	318	eP	P	20 04 59.0	-0.6
SIM				pmax	pmax		
	comp=Z,13nm,0.8s						
BOSA	Boshof	75.36	241	P	P	20 05 09.1	-0.1
BOSA	Boshof	75.36	241	P	P	20 05 09.1	-0.1
	comp=Z,5.2nm,1.2s,baz=237,slow=15,SNR=5.0						
SEY	Seymchan	75.39	22	eP	P	20 05 08.7	+0.3
TIXI	Tiksi	75.46	9	eP	P	20 05 07.8	-0.8
MOS	Moscow	75.74	329	eP	P	20 05 09.3	-1.3
OBN	Obninsk	76.03	328	eP	P	20 05 12.5	+0.3
OBN				i		20 05 18.4	
OBN				e		20 05 22.7	
OBN				pmax	pmax		
	comp=Z,45nm,2.5s						
TIRR	Tirgusor	77.56	316	i P	P	20 05 21.5	+0.4
TIRR	Tirgusor	77.56	316	i P	P	20 05 21.5	+0.4
SYO	Syowa Base	78.15	199	eP	P	20 05 22.6	-1.3
LEOM	Leova	78.18	318	i P	P	20 05 25.3	+0.8
LEOM	Leova	78.18	318	i P	P	20 05 25.3	+0.8
AKASG	Malin Array Be	78.70	322	P	P	20 05 26.6	-0.7
AKASG	Malin Array Be	78.70	322	P	P	20 05 26.6	-0.7
AKASG	Malin Array Be	78.70	322	P	P	20 05 26.6	-0.7
	comp=Z,3.1nm,0.7s,baz=83,slow=5.3,SNR=13						
VRI	Vrincioaia	79.06	317	i P	P	20 05 30.5	+1.1
VRI	Vrincioaia	79.06	317	i P	P	20 05 30.5	+1.1
PLOR	Plostina	79.11	317	i P	P	20 05 30.9	+1.2
PLOR	Plostina	79.11	317	i P	P	20 05 30.9	+1.2
TMCR	Tamitsa	79.23	337	eP	P	20 05 30.0	+0.1
TMCR				e		20 05 38.3	
TMCR				e		20 08 28.1	
TMCR				pmax	pmax		
	comp=Z,23nm,1.1s						
TESR	Tescani	79.26	318	i P	P	20 05 31.1	+0.6
MLR	Muntele Rosu	79.50	317	i P	P	20 05 32.8	+0.8
VOIR		80.11	317	i P	P	20 05 34.8	-0.4
VOIR		80.11	317	i P	P	20 05 34.8	-0.4
ARR	Arges	80.38	316	i P	P	20 05 36.8	+0.1
BURAR	Bucovina Array	80.47	319	i P	P	20 05 38.2	+1.1
BURAR	Bucovina Array	80.47	319	i P	P	20 05 38.2	+1.1
BUR08	Bucovina Ar. S	80.48	319	eP	P	20 05 36.9	-0.3
VTS	Vitosha	80.85	313	i P	P	20 05 39.9	+0.6
VTS	Vitosha	80.85	313	i P	P	20 05 39.9	+0.6
DEV	Deva	81.67	317	i P	P	20 05 45.2	+1.8
DEV	Deva	81.67	317	i P	P	20 05 45.2	+1.8
DRGR		81.97	318	i P	P	20 05 46.1	+1.0
DRGR		81.97	318	i P	P	20 05 46.1	+1.0
VSU	Vasula	82.25	330	eP	P	20 05 45.5	-0.7
VSU				pmax	pmax		
	comp=Z,42nm,1.0s						
TRPA	Tarpa	82.34	319	i P	P	20 05 48.2	+1.3
BZS	Buzias	82.51	316	i P	P	20 05 48.4	+0.6
BZS	Buzias	82.51	316	i P	P	20 05 48.4	+0.6
KWP	Kalwaria Pacla	82.52	320	i P	P	20 05 48.6	+0.8
KWP	Kalwaria Pacla	82.52	320	i P	P	20 05 48.6	+0.8
UZH	Uzhgorod	82.59	319	eP	P	20 05 49.1	+0.9
KOLS	Kolonicke sedl	82.66	320	eP	P	20 05 49.7	+1.1
KOLS				pmax	pmax		
	comp=Z,15nm,0.9s						
KOLS	Kolonicke sedl	82.66	320	eP	P	20 05 49.7	+1.1
KOLS				epP	pP	20 05 57.4	-1.2
VNDA	Vanda	82.78	169	eP	P	20 05 49.2	+0.5
	comp=Z,9.7nm,1.4s						
VNDA	Vanda	82.78	169	P	P	20 05 50.0	+1.3
	comp=Z,4.6nm,1.0s,baz=305,slow=5.0,SNR=14						
SUW	Suwalki	83.11	325	eP	P	20 05 50.5	-0.2
SUW				pmax	pmax		
	comp=Z,33nm,0.9s						
SUW	Suwalki	83.11	325	eP	P	20 05 50.5	-0.2
	comp=Z,33nm,0.9s						
CRVS	Cervenica-Dubn	83.18	319	eP	P	20 05 52.5	+1.2
CRVS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CRVS	Cervenica-Dubn	83.18	319	epP	P	20 05 52.5	+1.2
FINES	FINESS Array B	83.37	332	P	P	20 05 52.4	+0.4
FINES	FINESS Array B	83.37	332	P	P	20 05 52.4	+0.4
	comp=Z,5.1nm,0.5s,baz=108,slow=5.5,SNR=44						
STHS	Stebnicka Huta	83.41	320	eP	P	20 05 53.9	+1.4
STHS				pmax	pmax		
	comp=Z,8.0nm,0.7s						
STHS	Stebnicka Huta	83.41	320	eP	P	20 05 53.9	+1.4
STHS				epP	pP	20 06 02.4	-0.1
KAF	Kangasniemi	83.45	333	eP	P	20 05 52.3

OKC e 20 06 10.9
OKC Ostrava-Krasne 85.47 320 eP **P** **20 06 03.5 +0.7**
OKC ex x 20 06 10.9
ARCES ARCESS Array B 85.78 340 P **P** **20 06 04.5 +0.4**
ARCES ARCESS Array B 85.78 340 P **P** **20 06 04.5 +0.4**
comp=Z,5.6nm,0.8s,baz=79,slow=6.3,SNR=8.0
CEL Celeste 85.79 308 eP **P** **20 06 02.5 -2.3**
comp=Z,19nm,1.0s
MORC Moravsky Berou 85.85 320 eP **P** **20 06 03.6 -1.2**
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 85.85 320 eP **P** **20 06 03.6 -1.2**
comp=Z,7.4nm,1.1s
DPC Dobruska-Polom 86.70 320 i P **P** **20 06 09.9 +0.9**
DPC e 20 06 18.5
DPC Dobruska-Polom 86.70 320 i P **P** **20 06 09.9 +0.9**
DPC ex x 20 06 16.4
DPC ex x 20 06 18.5
DPC Dobruska-Polom 86.70 320 eP **P** **20 06 08.8 -0.2**
PERS Pernice 87.12 317 i P **P** **20 06 09.7 -1.4**
TREC Trest 87.12 319 eP **P** **20 06 10.9 -0.2**
TREC e 20 06 18.4
TREC Trest 87.12 319 eP **P** **20 06 10.9 -0.2**
TREC ex x 20 06 18.4
SOKA Soboth 87.18 317 i PcP **P** **20 06 12.3 +0.8**
comp=Z,7.4nm,0.9s,SNR=7.9
PRU Pruhonice 87.80 320 i P **P** **20 06 15.3 +1.1**
PRU e 20 06 23.4
PRU Pruhonice 87.80 320 i P **P** **20 06 15.3 +1.1**
PRU ex x 20 06 21.4
PRU ex x 20 06 23.4
PVCC Panska Ves 87.83 320 eP **P** **20 06 15.4 +1.0**
PVCC Panska Ves 87.83 320 eP **P** **20 06 15.4 +1.0**
AQU L'Aquila 88.01 312 eP **P** **20 06 14.6 -0.9**
comp=Z,22nm,0.9s
BRG Berggiesshubel 88.25 321 i P **P** **20 06 17.4 +1.0**
comp=Z,5.9nm,0.8s
BRG e 20 06 25.7
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 88.25 321 i P **P** **20 06 17.4 +1.0**
BRG e 20 06 25.7
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 88.26 319 P **P** **20 06 17.2 +0.6**
GERES GERESS Array B 88.26 319 P **P** **20 06 17.2 +0.6**
comp=Z,2.7nm,0.7s,baz=84,slow=4.0,SNR=32
KHC Kasperske Hory 88.36 319 i P **P** **20 06 17.7 +0.7**
KHC e 20 06 25.0
KHC Kasperske Hory 88.36 319 i P **P** **20 06 17.7 +0.7**
KHC ex x 20 06 25.0
KHC Kasperske Hory 88.36 319 eP **P** **20 06 16.2 -0.8**
QSPA South Pole Qui 88.47 180 eP **P** **20 06 17.1 -0.2**
comp=Z,10nm,1.0s
QSPA South Pole Qui 88.47 180 LR LR 20 37 52.6
comp=Z,116nm,21.0s,baz=189,slow=30
CLL Collm 88.88 321 i P **P** **20 06 19.7 +0.4**
CLL e 20 06 25.0
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 88.88 321 i P **P** **20 06 19.7 +0.4**
comp=Z,8.0nm,1.1s
CLL esP sP 20 06 25.0 -8.0
ATKA Atka Island 88.97 38 eP **P** **20 06 19.6 -0.1**
comp=Z,27nm,1.0s
NKC Novy Kostel 89.16 320 eP **P** **20 06 21.7 +1.0**
NKC e 20 06 27.9
NKC Novy Kostel 89.16 320 eP **P** **20 06 21.7 +1.0**
NKC ex x 20 06 27.9
MOTA Moosalm 89.91 317⇑ i PcP **P** **20 06 24.4 -0.1**
comp=Z,5.3nm,0.7s,SNR=7.9
GRFO Grafenberg 89.93 320 eP **P** **20 06 24.0 -0.3**
GRFO pmax pmax
comp=Z,9.0nm,0.9s
GRFO Grafenberg 89.93 320 eP **P** **20 06 24.0 -0.3**
comp=Z,8.8nm,0.9s
SPITS Spitsbergen Ar 90.01 348 P **P** **20 06 24.0 -0.1**
SPITS Spitsbergen Ar 90.01 348 P **P** **20 06 24.0 -0.1**
comp=Z,6.3nm,0.5s,baz=106,slow=8.2,SNR=24
RETA Reutte 90.15 317⇑ i PcP **P** **20 06 25.8 +0.4**
comp=Z,7.3nm,0.7s,SNR=5.4
FUORN Ofenpass-Fuorn 90.46 316 eP **P** **20 06 26.6 -0.6**
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 90.73 317 P **P** **20 06 29.3 +0.9**
DAVOX Davos/Dischmat 90.73 317 P **P** **20 06 29.3 +0.9**
comp=Z,8.9nm,0.6s,baz=139,slow=4.6,SNR=36
DAVA Damuels 90.74 317⇑ i PcP **PcP** **20 06 29.1 -0.3**
comp=Z,15nm,1.0s,SNR=6.4
KEST Kesra 90.88 306 eP **P** **20 06 28.6 -0.6**
KEST Kesra 90.88 306 P **P** **20 06 30.3 +1.1**
comp=Z,3.9nm,0.9s,baz=268,slow=1.8,SNR=11
TUE Stuetta 91.09 316 eP **P** **20 06 28.8 -1.3**
comp=Z,4.5nm,1.0s
BFO Black Forest 91.80 318 eP **P** **20 06 32.0 -1.1**
BFO Black Forest 91.80 318 eP **P** **20 06 31.9 -1.1**
SBF Sospel 92.42 314 eP **P** **20 06 36.6 +0.5**
comp=Z,17nm,0.8s
CDF Champ du Feu 92.50 318 eP **P** **20 06 36.6 +0.2**
comp=Z,1.5nm,0.6s
SENIN Lac Senin/Sane 92.50 316 eP **P** **20 06 35.7 -0.9**
comp=Z,42nm,2.3s
LPG La Plagne 92.90 315 eP **P** **20 06 39.0 +0.5**
comp=Z,6.4nm,0.8s
LPL La Plagne 92.91 315 eP **P** **20 06 39.0 +0.5**
comp=Z,3.8nm,0.6s
HAU Haudompre 93.13 318 eP **P** **20 06 39.4 +0.2**
comp=Z,3.7nm,0.5s
CABF La Chapelle 93.34 316 eP **P** **20 06 40.9 +0.6**
ORIF Oris-en-Rattie 93.52 315 eP **P** **20 06 41.8 +0.6**
comp=Z,2.8nm,0.6s
MEZF Maizieres J'vi 93.98 318 eP **P** **20 06 43.5 +0.4**
SFTF Sexfontaines 94.00 318 eP **P** **20 06 43.6 +0.4**
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 94.38 315 eP **P** **20 06 45.5 +0.4**
LOR Lormes 94.84 317 eP **P** **20 06 47.4 +0.3**
comp=Z,5.6nm,0.8s
SMF Signal de Mont 94.88 317 eP **P** **20 06 47.5 +0.2**
BGF Bois d'Agland 95.57 316 eP **P** **20 06 51.2 +0.8**
comp=Z,8.9nm,1.0s
MTLF Montolieu 96.23 313 eP **P** **20 06 54.1 +0.6**
LDF La Druitiere 97.40 319 eP Pdif 20 06 58.8 +0.1
FLN La Foliniere 97.62 319 eP Pdif 20 06 59.8 +0.1
EPF Esparros 97.62 313 eP **P** **20 06 59.5 -0.4**
TORD Torodi Ar. Bea 97.82 283 P Pdif 20 07 01.7 +0.4
TORD Torodi Ar. Bea 97.82 283 P Pdif 20 07 01.7 +0.4
comp=Z,0.9nm,0.9s,baz=67,slow=4.1,SNR=4.5
IMA2 Indian Mountai 98.19 23 eP **P** **20 07 01.6 -0.4**
ILAR Eielson Array 101.29 24 PKKPbc PKKPbc 20 23 25.6 -2.1
ILAR Eielson Array 101.29 24 PKKPbc PKKPbc 20 23 25.6 -2.1
comp=Z,0.7nm,0.8s,baz=138,slow=2.8,SNR=7.3
SCHQ Schefferville 125.64 350 PKP **PKPdf** **20 12 26.8 +0.4**
SCHQ Schefferville 125.64 350 PKP **PKPdf** **20 12 26.8 +0.4**
comp=Z,6.2nm,1.0s,baz=78,slow=4.9,SNR=5.0
C17A Wharram Farm, 127.14 25 P **PKPdf** **20 12 29.4 -0.2**
baz=127
D17A Six Diamond Ra 127.54 26 P **PKPdf** **20 12 29.6 -0.9**
baz=127
DLMT Dillon 128.04 28 ePKPdf **PKPdf** **20 12 31.0 -0.5**
NVAR Mina Array Bea 129.60 39 PKP **PKPdf** **20 12 35.3 +0.6**
NVAR Mina Array Bea 129.60 39 PKP **PKPdf** **20 12 35.3 +0.6**
comp=Z,1.1nm,0.7s,baz=241,slow=1.8,SNR=9.8
ULM Lac du Bonnet 129.71 13 PKP **PKPdf** **20 12 34.7 +0.4**
ULM Lac du Bonnet 129.71 13 PKP **PKPdf** **20 12 34.7 +0.4**
comp=Z,1.5nm,0.4s,baz=84,slow=1.2,SNR=3.2
ANMO Albuquerque 138.93 33 PKP **PKPdf** **20 12 52.3 0.0**
ANMO Albuquerque 138.93 33 PKP **PKPdf** **20 12 52.3 0.0**
comp=Z,1.4nm,0.7s,baz=320,slow=5.8,SNR=5.1
V24A Rampart Ranch, 138.96 31 P **PKPdf** **20 12 53.0 +0.6**
baz=139
Z20A Nine Sixteen R 139.03 37 P **PKPdf** **20 12 53.2 +0.7**
baz=139
Z21A St. Cloud Mine 139.44 36 P **PKPdf** **20 12 53.9 +0.6**
baz=139
W27A Bowe Ranch, En 140.60 30 P **PKPdf** **20 12 56.3 +1.1**
baz=140
X26A CR and CF Fran 140.63 31 P **PKPdf** **20 12 56.2 +0.9**
baz=140
Y25A Mesa, Roswell 140.65 32 P **PKPdf** **20 12 56.2 +0.8**
baz=140
Z24A Sheeppen Canyo 140.74 34 P **PKPdf** **20 12 57.2 +1.5**
baz=141
124A Stringfield Ra 141.15 34 P **PKPdf** **20 12 57.0 +0.6**
baz=141
224A Cornudas Mount 141.57 35 P **PKPdf** **20 12 58.2 +1.1**
baz=141
MNTX Cornudas Mount 141.93 35 ePKPdf **PKPdf** **20 12 55.4 -2.2**
226B Tecolote Peak, 142.34 34 P **PKPdf** **20 12 59.3 +0.9**
baz=142
325A Bean Ranch, Si 142.41 35 P **PKPdf** **20 12 56.1 -2.5**
baz=142
425A Indio Mountain 142.83 36 P **PKPdf** **20 12 57.1 -2.3**
baz=143,SNR=6.1
426A McDonald Obser 143.47 35 P PKPbc 20 12 57.8 0.0
baz=143
328A Wristen Ranch, 143.62 33 P PKPbc 20 12 58.1 +0.1
baz=144
427A Hayter Ranch, 143.69 34 P PKPbc 20 12 58.5 +0.2
baz=144
Z32A Haskell 143.74 27 P PKPbc 20 12 58.2 -0.1
baz=144
526A Mary Lane Ranc 143.89 36 P PKPbc 20 12 59.6 +0.6
baz=144,SNR=8.2
329A Wagon Wheel Ra 143.98 32 P PKPbc 20 12 59.3 +0.3
baz=144,SNR=6.1
527A Woodward Ranch 144.10 35 P PKPbc 20 13 00.5 +0.9
baz=144,SNR=23
230A Sterling City 144.11 31 P PKPbc 20 12 59.6 +0.1
baz=144,SNR=6.5
428A Kincaid Ranch, 144.19 34 P PKPbc 20 13 00.5 +0.7
baz=144,SNR=18
626A Big Bend Ranch 144.23 36 P PKPbc 20 13 00.8 +0.9
baz=144,SNR=19
CPUP Villa Florida 144.35 218 ePKPdf PKPbc 20 13 00.8 +0.5
CPUP PKP **PKPdf** **20 13 01.2 -0.7**
CPUP Villa Florida 144.35 218 PKP **PKPdf** **20 13 01.2 -0.7**
comp=Z,17nm,0.8s,baz=98,slow=2.8,SNR=34
330A Mertzon 144.46 31 P PKPbc 20 13 00.7 +0.1
baz=144,SNR=11
528A Cox Ranch, San 144.56 34 P PKPbc 20 13 01.0 0.0
baz=144,SNR=8.1
TXAR Lajitas Array 144.67 36 PKP **PKPdf** **20 13 02.2 -0.3**
TXAR Lajitas Array 144.67 36 PKP **PKPdf** **20 13 02.2 -0.3**
comp=Z,13nm,0.7s,baz=259,slow=1.3,SNR=144
429A Davenport Ranc 144.70 33 P **PKPab** **20 13 01.0 -0.3**
baz=145,SNR=6.8
627A Terlingua Ranc 144.75 36 P **PKPdf** **20 13 02.5 -0.2**
baz=145,SNR=45
232A Coleman 144.84 29 P PKPbc 20 13 02.0 +0.2
baz=145,SNR=10
WVT Waverly 144.89 10 ePKIKP **PKPab** **20 13 01.4 -0.2**
WVT Waverly 144.89 10 ePKPdf **PKPab** **20 13 01.4 -0.2**
430A Baggett Ranch, 144.92 32 P PKPbc 20 13 02.2 +0.2
baz=145,SNR=13
331A San Angelo 144.92 30 P PKPbc 20 13 02.5 +0.4
baz=145,SNR=5.3
MIAR Mount Ida 144.96 19 ePKIKP PKPbc 20 13 02.2 +0.2
MIAR Mount Ida 144.96 19 ePKPdf PKPbc 20 13 02.2 +0.2
628A Black Gap, Mar 145.01 35 P **PKPdf** **20 13 03.1 +0.1**
baz=145,SNR=15
TZTN Tazewell 145.01 4 ePKPdf **PKPab** **20 13 01.3 -0.8**
UALR University of 145.13 17 ePKPdf **PKPbc** **20 13 01.8 -0.7**
332A Millersview 145.20 29 P **PKPdf** **20 13 03.4 +0.1**
baz=145,SNR=28
431A Sonora 145.33 31 P **PKPdf** **20 13 03.6 0.0**
baz=145,SNR=13
530A J-C Ranch, Com 145.37 33 P **PKPdf** **20 13 04.5 +0.8**
baz=145,SNR=52
432A Menard 145.59 30 P **PKPab** **20 13 04.3 -0.1**
baz=146,SNR=12
531A Rocksprings 145.78 32 P **PKPab** **20 13 05.5 +0.3**
baz=146,SNR=50
TKL Tuckaleechee C 145.88 5 PKPbc **PKPbc** **20 13 04.7 -0.2**
TKL Tuckaleechee C 145.88 5 PKPbc **PKPbc** **20 13 04.7 -0.2**
comp=Z,20nm,0.7s,baz=98,slow=1.8,SNR=36
JCT Junction City 145.91 30 P **PKPab** **20 13 05.6 -0.1**
baz=146,SNR=37
CPCT Cooper Cave 146.02 6 ePKPdf **PKPdf** **20 13 04.5 -0.1**
OXF Oxford 146.14 13 ePKIKP **PKPdf** **20 13 03.6 -1.2**
OXF Oxford 146.14 13 ePKPdf **PKPdf** **20 13 03.6 -1.2**
532A Rocksprings 146.14 31 P **PKPbc** **20 13 06.2 +0.2**
baz=146,SNR=15
631A Perdido Creek 146.35 33 P **PKPdf** **20 13 05.2 -0.1**
baz=146
KMSC Kings Mountain 146.51 1 P **PKPdf** **20 13 06.0 +0.6**
baz=146
632A Uvalde 146.70 31 P **PKPdf** **20 13 06.6 +0.7**
baz=147
732A Laxson Ranch, 147.22 33 P **PKPdf** **20 13 07.2 +0.4**
baz=147
LRAL Lakeview Retre 148.05 10 ePKPbc **PKPbc** **20 13 10.7 -0.5**
HKT Hockley 148.22 26 ePKP2 **PKPbc** **20 13 11.2 -0.4**
HKT Hockley 148.22 26 ePKPbc **PKPbc** **20 13 11.2 -0.4**
LPAZ La Paz 158.45 214 PKP **PKPdf** **20 13 24.4 +0.2**
LPAZ La Paz 158.45 214 PKP **PKPdf** **20 13 24.4 +0.2**
comp=Z,0.9nm,0.8s,baz=10,slow=2.8,SNR=4.0

*IDC **16** 19:55:18.6±0.5, 1.°52S×99.°32E, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.4/33, mbtmp4.4/25, ML4.5/1, MS3.8/5, Ms1 3.9/5, ms1mx3.2/43, Error ellipse: s-maj=21.6km s-min=12.9km az=49.0*
*NEIC **16** 19:55:20.0±0.2, 1.°54S×99.°36E, h10km, mb4.5/3, Error ellipse: s-maj=10.8km s-min=5.7km az=48.0*
*ISCJB **16** 19:55:21.8±0.4, 1.°47S±0.°08×99.°48E±0.°08, h30km, mb4.5/32, MS3.9/5, Error ellipse: s-maj=13.9km s-min=8.3km az=137.7*
ISC 16 19:55:23.6±0.5, 1.°48S±0.°08×99.°4E±0.°1, h30km, n81, σ1§18/93, mb4.5/32, MS3.9/5, 2C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.82**	**359**	P	**P**	**19 59 51.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.82**	**359**	P	**P**	**19 59 51.8**	**-0.2**
0.5nm,0.3s,baz=188,slow=10,SNR=5.5							
CMAR				LR	LR	20 08 04.8	
comp=Z,264nm,18.9s,baz=180,slow=39							
FITZ	**Fitzroy Crossi**	**30.61**	**124**	P	**P**	**20 01 34.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.61**	**124**	P	**P**	**20 01 34.4**	**-1.0**
7.3nm,0.8s,baz=249,slow=4.2,SNR=5.4							
NWAO	**Narrogin (SRO)**	**35.49**	**154**	LR	LR	20 15 05.7	
comp=Z,185nm,18.5s,baz=241,slow=33							
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**20 02 45.1**	**-0.9**
WRA				PcP	**PcP**	20 04 57.4	+0.2
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**20 02 45.1**	**-0.9**
9.0nm,0.7s,baz=297,slow=9.3,SNR=9.0							
WRA				PcP	**PcP**	**20 04 57.4**	**+0.2**
1.6nm,0.9s,baz=313,slow=2.3,SNR=6.1							
WRAB	**Tennant Creek**	**38.79**	**121**	eP	**P**	**20 02 43.5**	**-2.5**
6.3nm,0.8s							
ASAR	**Alice Springs**	**40.05**	**126**	P	**P**	**20 02 56.4**	**-0.1**
ASAR				PcP	**PcP**	**20 05 01.9**	**+0.7**
ASAR				S	**S**	**20 09 02.2**	**+1.3**
ASAR	**Alice Springs**	**40.05**	**126**	P	**P**	**20 02 56.4**	**-0.1**
4.4nm,1.0s,baz=297,slow=8.1,SNR=4.9							
ASAR				PcP	**PcP**	**20 05 01.9**	**+0.7**
2.1nm,0.9s,baz=290,slow=2.5,SNR=4.4							
ASAR				S	**S**	**20 09 02.2**	**+1.3**
10.0nm,1.4s,baz=300,slow=14,SNR=5.3							
GTA	**Gaotai**	**40.70**	**1**	eP	**P**	**20 03 03.4**	**+1.7**
GTA				pP	**pP**	**20 03 12.8**	**+2.2**
GTA				sP	**sP**	**20 03 16.8**	**+2.5**
GTA				PP	**PnPn**	**20 04 40.6**	**+0.6**
GTA				PcP	**PcP**	**20 05 06.6**	**+3.6**
GTA				S	**S**	**20 09 11.3**	**+1.1**
GTA				sS	**sS**	**20 09 25.1**	**+0.2**
GTA				SS	**SS**	**20 12 04.8**	**-6.7**
GTA				pmax	pmax		
comp=Z,4.0nm,1.3s							
GTA				pmax	pmax		
comp=Z,110nm,4.3s							
GTA				LR	LR		
comp=N,120nm,14.7s							
GTA				LR	LR		
comp=E,190nm,16.6s							
GTA				LR	LR		
comp=Z,140nm,15.2s							
JNU	**Nakatsue**	**45.47**	**38**	eP	**P**	**20 03 40.0**	**-0.3**
comp=Z,6.4nm,0.8s							
JNU	**Nakatsue**	**45.47**	**38**	P	**P**	**20 03 39.9**	**-0.3**
comp=Z,10nm,0.9s,baz=135,slow=6.0,SNR=4.9							
JNU				LR	LR	20 20 23.2	
comp=Z,83nm,21.1s,baz=5.1,slow=33							
KSAR	**Wonju Array Be**	**46.87**	**31**	P	**P**	**20 03 50.6**	**-0.5**
KSRS	**Korea Array**	**46.90**	**31**	P	**P**	**20 03 50.6**	**-0.8**
comp=Z,2.0nm,0.6s,baz=223,slow=7.8,SNR=5.9							
PMG	**Port Moresby**	**48.16**	**101**	LR	LR	20 25 12.1	
comp=Z,133nm,21.5s,baz=45,slow=37							
CTAO	**Charters Tower**	**49.37**	**115**	eP	**P**	**20 04 10.4**	**-0.5**
comp=Z,4.7nm,0.9s							
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**20 04 11.6**	**+0.1**
SONM				PcP	**PcP**	**20 05 33.9**	**+0.7**
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**20 04 11.6**	**+0.1**
comp=Z,3.5nm,0.9s,baz=191,slow=10,SNR=3.4							
SONM				PcP	**PcP**	**20 05 33.9**	**+0.7**
comp=Z,1.5nm,0.6s,baz=195,slow=3.2,SNR=4.2							
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**20 04 14.8**	**-0.3**
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**20 04 14.8**	**-0.3**
comp=Z,11nm,0.8s,baz=320,slow=7.8,SNR=5.9							
STKA				LR	LR	20 26 58.0	
comp=Z,144nm,20.1s,baz=278,slow=38							
MKAR	**Makanchi Array**	**50.37**	**345**	P	**P**	**20 04 18.6**	**+0.5**
MKAR	**Makanchi Array**	**50.37**	**345**	P	**P**	**20 04 18.6**	**+0.5**
comp=Z,4.6nm,0.5s,baz=157,slow=8.3,SNR=5.9							
USRK	**Ussuriysk Arra**	**54.00**	**29**	P	**P**	**20 04 44.8**	**-0.2**
comp=Z,3.9nm,0.7s,baz=222,slow=4.1,SNR=4.5							
KURBB	**Kurchatov Arra**	**54.88**	**344**	P	**P**	**20 04 51.0**	**-0.3**
comp=Z,2.1nm,0.6s,baz=169,slow=6.6,SNR=4.6							
KURK	**Kurchatov**	**54.94**	**344**	P	**P**	**20 04 51.0**	**-0.7**
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**20 05 02.8**	**-0.5**
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**20 05 02.8**	**-0.5**
comp=Z,4.7nm,0.5s,baz=162,slow=6.6,SNR=5.4							
BVAR	**Borovoye Array**	**59.49**	**340**	P	**P**	**20 05 23.0**	**-0.8**
BVAR	**Borovoye Array**	**59.49**	**340**	P	**P**	**20 05 23.0**	**-0.8**
comp=Z,1.8nm,0.7s,baz=139,slow=9.0,SNR=4.0							
KMBO	**Kilima Mbogo**	**62.11**	**270**	P	**P**	**20 05 42.0**	**-0.8**
KMBO	**Kilima Mbogo**	**62.11**	**270**	P	**P**	**20 05 42.0**	**-0.8**
comp=Z,3.4nm,0.8s,baz=57,slow=14,SNR=6.9							
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**20 06 16.7**	**-0.4**
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**20 06 16.7**	**-0.4**
comp=Z,5.2nm,0.8s,baz=123,slow=6.3,SNR=5.2							
KIV	**Kislovodsk**	**67.75**	**319**	eP	**P**	**20 06 20.6**	**+1.9**
KIV				pmax	pmax		
comp=Z,8.0nm,1.0s							
ASF	**Jabal al Asfar**	**67.79**	**306**	P	**P**	**20 06 18.5**	**-0.7**
ASF	**Jabal al Asfar**	**67.79**	**306**	P	**P**	**20 06 18.5**	**-0.7**
comp=Z,5.1nm,1.1s,baz=127,slow=4.4,SNR=4.5							
EIL	**Elat**	**68.73**	**303**	P	**P**	**20 06 24.6**	**-0.4**
EIL	**Elat**	**68.73**	**303**	P	**P**	**20 06 24.6**	**-0.4**
comp=Z,4.3nm,0.7s,baz=51,slow=3.2,SNR=4.0							
BRTR	**Keskin Array B**	**72.52**	**313**	P	**P**	**20 06 46.8**	**-1.3**
BRTR	**Keskin Array B**	**72.52**	**313**	P	**P**	**20 06 46.8**	**-1.3**
comp=Z,1.4nm,0.8s,baz=131,slow=7.5,SNR=4.4							
TIXI	**Tiksi**	**75.45**	**9**	ceP	P	20 07 00.3	-4.0
TIXI				pmax	pmax		
comp=Z,6.0nm,1.2s							
AKASG	**Malin Array Be**	**78.70**	**322**	ceP	**P**	**20 07 21.0**	**-2.1**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**78.70**	**322**	P	**P**	**20 07 21.8**	**-1.3**
AKASG	**Malin Array Be**	**78.70**	**322**	P	**P**	**20 07 21.8**	**-1.3**
comp=Z,0.3nm,0.4s,baz=123,slow=3.4,SNR=4.5							
MLR	**Muntele Rosu**	**79.50**	**317**	P	**P**	**20 07 27.6**	**-0.1**
MLR	**Muntele Rosu**	**79.50**	**317**	P	**P**	**20 07 27.6**	**-0.1**
comp=Z,1.1nm,0.8s,baz=137,slow=1.2,SNR=3.7							
KOLS	**Kolonicke sedl**	**82.66**	**320**	eP	**P**	**20 07 45.6**	**+1.2**
KOLS	**Kolonicke sedl**	**82.66**	**320**	eP	**P**	**20 07 45.5**	**+1.2**
VNDA	**Vanda**	**82.78**	**169**	P	**P**	**20 07 44.0**	**-0.4**
VNDA	**Vanda**	**82.78**	**169**	P	**P**	**20 07 44.0**	**-0.4**
comp=Z,3.7nm,1.1s,baz=309,slow=5.4,SNR=4.2							
CRVS	**Cervenica-Dubn**	**83.18**	**319**	eP	**P**	**20 07 47.0**	**-0.1**
CRVS	**Cervenica-Dubn**	**83.18**	**319**	eP	**P**	**20 07 47.0**	**-0.1**
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**20 07 47.5**	**-0.2**
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**20 07 47.5**	**-0.2**
comp=Z,3.9nm,0.8s,baz=100,slow=6.6,SNR=7.4							
STHS	**Stebnicka Huta**	**83.41**	**320**	eP	**P**	**20 07 49.4**	**+1.2**
STHS	**Stebnicka Huta**	**83.41**	**320**	eP	**P**	**20 07 49.4**	**+1.2**
KECS	**Kecovo**	**83.75**	**319**	eP	**P**	**20 07 50.9**	**+0.9**
KECS	**Kecovo**	**83.75**	**319**	eP	**P**	**20 07 50.9**	**+0.9**
BRG	**Berggiesshubel**	**88.25**	**321**	e(P)	**P**	**20 08 13.3**	**+1.2**
comp=Z,19nm,1.6s							
BRG	**Berggiesshubel**	**88.25**	**321**	eP	**P**	**20 08 13.3**	**+1.2**
BRG				pmax	pmax		
comp=Z,19nm,1.6s							
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**20 08 11.7**	**-0.7**
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**20 08 11.7**	**-0.7**
comp=Z,1.0nm,0.7s,baz=95,slow=3.7,SNR=6.5							
SPITS	**Spitsbergen Ar**	**90.00**	**348**	P	**P**	**20 08 19.9**	**0.0**
SPITS	**Spitsbergen Ar**	**90.00**	**348**	P	**P**	**20 08 19.9**	**0.0**
comp=Z,3.7nm,0.6s,baz=115,slow=7.4,SNR=5.0							
DAVOX	**Davos/Dischmat**	**90.73**	**317**	P	**P**	**20 08 24.9**	**+0.8**
DAVOX	**Davos/Dischmat**	**90.73**	**317**	P	**P**	**20 08 24.9**	**+0.8**
comp=Z,5.5nm,0.9s,baz=116,slow=5.2,SNR=6.1							
CDF	**Champ du Feu**	**92.50**	**318**	eP	**P**	**20 08 32.0**	**-0.2**
LPG	**La Plagne**	**92.90**	**315**	eP	**P**	**20 08 34.8**	**+0.5**
LPL	**La Plagne**	**92.91**	**315**	eP	**P**	**20 08 34.7**	**+0.4**
comp=Z,4.1nm,0.8s							
CABF	**La Chapelle**	**93.34**	**316**	eP	**P**	**20 08 36.6**	**+0.5**
comp=Z,4.3nm,0.9s							
ORIF	**Oris-en-Rattie**	**93.53**	**315**	eP	**P**	**20 08 37.4**	**+0.4**
SMF	**Signal de Mont**	**94.88**	**317**	eP	**P**	**20 08 43.1**	**0.0**
EVO	**Evora**	**104.50**	**309**	eP	**Pdif**	**20 09 26.0**	**-0.3**
comp=Z,12nm,1.1s							
CPUP	**Villa Florida**	**144.36**	**218**	PKP	**PKPdf**	**20 14 57.0**	**-0.7**
CPUP	**Villa Florida**	**144.36**	**218**	PKP	**PKPdf**	**20 14 57.0**	**-0.7**
comp=Z,7.5nm,0.8s,baz=100,slow=4.1,SNR=6.0							
TXAR	**Lajitas Array**	**144.66**	**36**	PKP	**PKPdf**	**20 14 58.0**	**-0.4**
TXAR	**Lajitas Array**	**144.66**	**36**	PKP	**PKPdf**	**20 14 58.0**	**-0.4**
comp=Z,3.7nm,0.6s,baz=265,slow=2.2,SNR=13							
MIAR	**Mount Ida**	**144.95**	**19**	ePKPdf	PKPbc	20 14 58.0	+0.3
TKL	**Tuckaleechee C**	**145.87**	**5**	ePKPdf	**PKPdf**	**20 14 59.7**	**-0.4**
TKL				PKPbc	**PKPdf**	**20 15 00.2**	**+0.1**
TKL	**Tuckaleechee C**	**145.87**	**5**	PKPbc	**PKPdf**	**20 15 00.2**	**+0.1**
comp=Z,4.4nm,0.6s,baz=154,slow=3.9,SNR=4.6							

*IDC **16** 20:00:35.8±0.5, 1.°40S×99.°45E, h0km, mb4.3/26, mb1 4.3/28, mb1mx4.2/37, mbtmp4.3/28, ML3.8/2, Error ellipse: s-maj=19.1km s-min=12.0km az=46.0*
*AUST **16** 20:00:36.4±6.1, 1.°50S×99.°02E, h0km, Error ellipse: s-maj=2.8km s-min=1.2km az=251.0*
*NEIC **16** 20:00:37.2±0.3, 1.°39S×99.°48E, h10km, mb4.8/2, Error ellipse: s-maj=9.0km s-min=5.6km az=54.0*
*ISCJB **16** 20:00:38.8±0.4, 1.°30S±0.°06×99.°46E±0.°07, h30km, mb4.4/31, Error ellipse: s-maj=11.2km s-min=7.3km az=140.1*
ISC 16 20:00:40.6±0.5, 1.°26S±0.°07×99.°49E±0.°08, h30km, n83, σ0§91/75, mb4.4/31, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.20**	**49**	P	**Pb**	**20 01 03.5**	**+0.8**
baz=1.7,SNR=51							
BKNI	**Bangkinang**	**2.21**	**45**	P	**Pb**	**20 01 21.0**	**+1.2**
baz=2.7,SNR=23							
PSI	**Prapat**	**4.07**	**352**	Pn	**Pn**	**20 01 40.4**	**-0.6**
PSI	**Prapat**	**4.07**	**352**	Pn	**Pn**	**20 01 40.4**	**-0.6**
1.0nm,0.3s,baz=180,slow=11,SNR=5.8							
PSI	**Prapat**	**4.07**	**352**	P	Pn	20 01 45.2	+4.3
baz=4.2,SNR=3.5							
MNAI	**Manna**	**4.63**	**132**	P	**Pn**	**20 01 50.4**	**+1.

4.6nm,0.6s,baz=62,slow=2.9,SNR=5.8
KSAR Wonju Array Be 46.62 31 P **P 20 09 06.7 +0.5**
KSRS Korea Array 46.65 31 P **P 20 09 06.7 +0.3**
1.5nm,0.7s,baz=226,slow=8.5,SNR=4.9
SONM Songino Array 49.26 6 P **P 20 09 27.6 +1.0**
SONM Songino Array 49.26 6 P **P 20 09 27.6 +1.0**
1.3nm,0.6s,baz=191,slow=9.1,SNR=6.8
STKA Stephens Creek 50.02 132 P **P 20 09 32.1 -0.5**
STKA Stephens Creek 50.02 132 P **P 20 09 32.1 -0.5**
2.9nm,0.9s,baz=4.4,slow=6.6,SNR=5.9
STKA Stephens Creek 50.02 132 P **P 20 09 34.2 +1.6**
baz=50,SNR=4.0
MK31 Makanchi Array 50.18 345 *e*P **P 20 09 33.4 -0.1**
MKAR Makanchi Array 50.18 345 P **P 20 09 35.0 +1.5**
MKAR Makanchi Array 50.18 345 P **P 20 09 35.0 +1.5**
5.0nm,0.6s,baz=147,slow=8.2,SNR=35
MJAR Matsushiro Arr 52.02 40 P **P 20 09 47.9 +0.3**
MJAR Matsushiro Arr 52.02 40 P **P 20 09 47.9 +0.3**
0.6nm,0.7s,baz=188,slow=7.4,SNR=4.1
CMSA Cobar Meteorol 52.97 129 P **P 20 09 55.0 +0.4**
baz=53,SNR=6.1
USRK Ussuriysk Arra 53.75 29 P **P 20 10 01.1 +1.0**
2.6nm,0.6s,baz=229,slow=5.5,SNR=9.0
KURBB Kurchatov Arra 54.70 344 P **P 20 10 08.4 +1.5**
2.4nm,0.8s,baz=165,slow=7.1,SNR=14
KURK Kurchatov 54.76 344 P **P 20 10 08.4 +1.1**
ZALV Zalesovo Beam 56.35 350 P **P 20 10 19.9 +1.2**
ZALV Zalesovo Beam 56.35 350 P **P 20 10 19.9 +1.2**
9.0nm,0.9s,baz=163,slow=5.4,SNR=22
RDF Al-Radifah 58.01 306 *e*P **P 20 10 31.6 +0.6**
RDF AMb AMB 20 10 32.7
comp=Z,37nm,1.1s
NAY Al-Naaiem 58.38 306 *e*P **P 20 10 33.3 -0.2**
NAY AMb AMB 20 10 34.1
comp=Z,14nm,0.6s
BVAR Borovoye Array 59.31 340 P **P 20 10 39.4 -0.2**
BVAR Borovoye Array 59.31 340 P **P 20 10 39.4 -0.2**
comp=Z,2.3nm,0.6s,baz=140,slow=8.8,SNR=12
ABKAR Akbulak array 60.75 331 *e*P **P 20 10 48.9 -0.5**
comp=Z,16nm,1.0s
KMBO Kilima Mbogo 62.23 269 P **P 20 11 00.0 -0.4**
KMBO Kilima Mbogo 62.23 269 P **P 20 11 00.0 -0.4**
comp=Z,1.5nm,0.6s,baz=49,slow=24,SNR=6.1
AKTO Aktyubinsk 62.46 331 P **P 20 11 00.3 -0.8**
AKTO Aktyubinsk 62.46 331 P **P 20 11 00.3 -0.8**
comp=Z,0.9nm,0.6s,baz=139,slow=7.1,SNR=4.0
KBZ Khabaz 67.42 319 P **P 20 11 33.7 +0.3**
KBZ Khabaz 67.42 319 P **P 20 11 33.7 +0.3**
comp=Z,4.7nm,0.8s,baz=120,slow=4.8,SNR=12
ASF Jabal al Asfar 67.75 306 P **P 20 11 36.4 +0.6**
ASF Jabal al Asfar 67.75 306 P **P 20 11 36.4 +0.6**
comp=Z,1.1nm,0.3s,baz=66,slow=8.2,SNR=4.2
EIL Elat 68.69 302 P **P 20 11 41.7 0.0**
EIL Elat 68.69 302 P **P 20 11 41.7 0.0**
comp=Z,5.9nm,0.7s,baz=12,slow=16,SNR=5.4
BRTR Keskin Array B 72.45 312 P **P 20 12 04.1 -0.5**
BRTR Keskin Array B 72.45 312 P **P 20 12 04.1 -0.5**
comp=Z,1.4nm,0.7s,baz=134,slow=7.2,SNR=8.5
MLR Muntele Rosu 79.41 317 P **P 20 12 43.7 -0.6**
MLR Muntele Rosu 79.41 317 P **P 20 12 43.7 -0.6**
comp=Z,1.0nm,0.8s,baz=154,slow=5.8,SNR=8.0
BUR08 Bucovina Ar. S 80.39 319 *e*P **P 20 12 49.8 +0.4**
FINES FINESS Array B 83.22 332 P **P 20 13 04.5 +0.6**
FINES FINESS Array B 83.22 332 P **P 20 13 04.5 +0.6**
comp=Z,2.1nm,0.7s,baz=95,slow=5.8,SNR=14
GERES GERESS Array B 88.16 319 P **P 20 13 29.5 +0.7**
GERES GERESS Array B 88.16 319 P **P 20 13 29.5 +0.7**
comp=Z,0.9nm,0.7s,baz=76,slow=5.6,SNR=10
QSPA South Pole Qui 88.70 180 P **P 20 13 31.4 +0.4**
QSPA South Pole Qui 88.70 180 P **P 20 13 31.4 +0.4**
comp=Z,1.3nm,0.7s,baz=316,slow=1.4,SNR=11
SPITS Spitsbergen Ar 89.81 348 P **P 20 13 36.4 +0.5**
SPITS Spitsbergen Ar 89.81 348 P **P 20 13 36.4 +0.5**
comp=Z,3.0nm,0.7s,baz=122,slow=9.0,SNR=4.8
DAVOX Davos/Dischmat 90.64 317 P **P 20 13 41.9 +1.2**
DAVOX Davos/Dischmat 90.64 317 P **P 20 13 41.9 +1.2**
comp=Z,3.6nm,0.6s,baz=144,slow=5.5,SNR=14
LPG La Plagne 92.81 315 *e*P **P 20 13 51.0 +0.1**
comp=Z,0.7nm,0.3s
LPL La Plagne 92.83 315 *e*P **P 20 13 50.9 +0.1**
comp=Z,2.4nm,0.5s
TXAR Lajitas Array 144.41 36 PKP **PKPdf 20 20 14.6 -0.2**
TXAR Lajitas Array 144.41 36 PKP **PKPdf 20 20 14.6 -0.2**
comp=Z,1.7nm,0.8s,baz=311,slow=4.2,SNR=12
CPUP Villa Florida 144.61 218 PKP PKPbc 20 20 13.9 +0.2
CPUP Villa Florida 144.61 218 PKP PKPbc 20 20 13.9 +0.2
comp=Z,4.9nm,0.7s,baz=106,slow=1.9,SNR=12
TZTN Tazewell 144.77 4 *e*PKPdf PKPbc 20 20 14.2 +0.1
TKL Tuckaleechee C 145.64 5 PKPbc **PKPdf 20 20 16.1 -0.5**
TKL Tuckaleechee C 145.64 5 PKPbc **PKPdf 20 20 16.1 -0.5**
comp=Z,1.6nm,0.6s,baz=120,slow=5.0,SNR=5.2
CPCT Cooper Cave 145.77 6 *e*PKPdf **PKPdf 20 20 16.4 -0.5**

IDC 16 20:06:52.6±3.5, 1°.42S×99°.97E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/24, mbtmp3.3/5, Error ellipse: s-maj=159.5km s-min=21.5km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.78**	**357**	P	P	20 11 24.3	-0.3
baz=182,slow=9.6,SNR=2.7							
WRA	**Warramunga Arr**	**38.31**	**121**	P	P	20 14 14.9	-0.5
0.3nm,0.6s,baz=303,slow=9.0,SNR=4.6							
ASAR	**Alice Springs**	**39.62**	**127**	P	P	20 14 26.8	+0.4
0.5nm,1.1s,baz=298,slow=7.8,SNR=3.3							
MKAR	**Makanchi Array**	**50.47**	**344**	P	P	20 15 52.4	+0.1
0.2nm,0.4s,baz=147,slow=7.4,SNR=2.7							
ZALV	**Zalesovo Beam**	**56.60**	**349**	P	P	20 16 37.3	+0.2
0.3nm,0.4s,baz=156,slow=7.4,SNR=2.8							
TXAR	**Lajitas Array**	**144.26**	**37**	PKP	PKPab	20 26 29.2	-0.2
0.3nm,0.5s,baz=242,slow=1.9,SNR=4.6							

---

*ISCJB **16** 20:07:02.1±0.5, 47°.15N±0°.06×152°.5E±0°.1, h128km, mb4.0/31, Error ellipse: s-maj=12.6km s-min=4.4km az=42.7*
*MOS **16** 20:07:02.6±1.2, 47°.21N×152°.48E, h134km, mb4.0/16, Error ellipse: s-maj=11.8km s-min=7.9km az=94.6*
*BJI **16** 20:07:03.5, 46°.99N×152°.13E, h115km, mB4.4/4, mb4.2/5*
*IDC **16** 20:07:03.2±2.5, 47°.29N×152°.51E, h125km±22km, mb3.6/22, mb1 3.7/25, mb1mx3.7/34, mbtmp3.6/25, Error ellipse: s-maj=15.5km s-min=12.8km az=143.0*

ISC 16 20:07:03.3±0.7, 47°.27N±0°.09×152°.54E±0°.08, h128km, n99, σ1§39/98, mb4.0/31, 13C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**240**	⇓*i*PN	**Pn**	**20 08 01.1**	**+0.4**
KUR				*i* S	**Sn**	**20 08 45.4**	**+0.2**
KUR				pmax	pmax		
comp=Z,23nm,0.5s							
KUR				pmax	pmax		
comp=N,34nm,0.1s							
KUR				pmax	pmax		
comp=E,27nm,0.1s							
KUR				smax	smax		
comp=N,89nm,0.6s							
KUR				smax	smax		
comp=E,40nm,0.3s							
SKR	**Severo-Kuril's**	**4.14**	**33**	*e*PN	**Pn**	**20 08 01.8**	**-3.0**
SKR				*e*S	**Sn**	**20 08 47.8**	**-4.8**
SKR				smax	smax		
comp=N,40nm,0.5s							
SKR				smax	smax		
comp=E,70nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.69**	**238**	*d i*P	**Pn**	**20 08 24.9**	**-0.7**
YUK				pmax	pmax		
comp=Z,57nm,1.0s							
YUK				pmax	pmax		
comp=E,16nm,0.5s							
YUK				pmax	pmax		
comp=N,22nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.69**	**238**	*d i*PN	**Pn**	**20 08 24.9**	**-0.7**
YUK				*e*S	**Sn**	**20 09 27.8**	**-1.9**
YUK				pmax	pmax		
comp=Z,57nm,1.0s							
YUK				pmax	pmax		
comp=E,16nm,0.5s							
YUK				pmax	pmax		
comp=N,22nm,0.5s							
YUK				smax	smax		
comp=E,71nm,0.7s							
YUK				smax	smax		
comp=N,57nm,1.0s							
JRA	**Rausu**	**6.18**	**240**	P	**Pn**	**20 08 31.3**	**-0.8**
NEM2	**Nemuro 2**	**6.18**	**233**	P	Pn	20 08 28.7	-3.5
NEM2				*e*S	Sn	20 09 33.2	-8.4
JNK	**Nakash**	**6.62**	**239**	P	**Pn**	**20 08 36.7**	**-1.4**
YSS	**Yuzh-Sakhalins**	**6.69**	**271**	⇑*e*PN	Pn	20 08 47.5	+8.6
PETK	**Petropavlovsk-**	**6.71**	**28**	*e*P	**Pn**	**20 08 41.1**	**+1.9**
PETK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**6.71**	**28**	*e*PN	**Pn**	**20 08 41.1**	**+1.9**
PETK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**6.71**	**28**	P	**Pn**	**20 08 39.3**	**+0.1**
comp=Z,0.6nm,0.3s,baz=198,slow=14,SNR=4.3							
JAK	**Akkeshi**	**7.00**	**235**	P	Pn	20 08 39.6	-3.6
JAK				*e*S	Sn	20 09 53.4	-8.0
JAR	**Ashorobuto**	**7.35**	**240**	P	**Pn**	**20 08 47.1**	**-0.8**
ASAJ	**Asahikawa**	**7.64**	**249**	P	**Pn**	**20 08 52.9**	**+1.1**
comp=Z,0.5nm,0.3s,baz=68,slow=13,SNR=6.6							
JKK2	**Kamakawa 2**	**7.67**	**247**	P	**Pn**	**20 08 52.8**	**+0.6**
JCH	**Churui**	**8.01**	**238**	P	**Pn**	**20 08 54.0**	**-2.7**
JCH				*e*S	Sn	20 10 17.9	-7.7
JEM	**Erimo**	**8.51**	**235**	P	**Pn**	**20 09 00.7**	**-2.8**
JEM				*e*S	Sn	20 10 27.7	-10
ERM	**Erimo**	**8.51**	**235**	⇑*e*PN	**Pn**	**20 09 01.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**8.57**	**238**	P	Pn	20 09 00.4	-3.9
JNBK				*e*S	Sn	20 10 28.9	-10
JYM2	**Yakumo 2**	**10.08**	**244**	P	**Pn**	**20 09 23.1**	**-1.5**
OFUJ	**Ofunato**	**11.40**	**228**	*e*S	Sn	20 11 33.8	-14
JRG	**Rokugo**	**11.70**	**232**	*e*S	Sn	20 11 42.9	-12
JIO	**Ouri**	**12.04**	**227**	*e*S	Sn	20 11 47.7	-15
KLR	**Kul'dur**	**13.99**	**286**	*e*P	**Pn**	**20 10 15.3**	**-0.5**
FX1	**Attu Island--F**	**14.36**	**59**	S	Sn	20 12 50.5	-8.5
comp=Z,2.2nm,0.3s,baz=180,slow=23,SNR=6.3							
USRK	**Ussuriysk Arra**	**14.67**	**265**	P	**Pn**	**20 10 24.6**	**+0.3**
comp=Z,0.4nm,0.3s,baz=64,slow=12,SNR=5.7							
SEY	**Seymchan**	**15.70**	**360**	⇑*e*P	**P**	**20 10 39.6**	**+1.2**
KSRS	**Korea Array**	**20.59**	**250**	P	**P**	**20 11 32.6**	**+0.6**
comp=Z,2.6nm,0.8s,baz=61,slow=10,SNR=13							
TIXI	**Tiksi**	**26.86**	**344**	⇑*e*P	**P**	**20 12 30.5**	**-0.9**
TIXI				pmax	pmax		
comp=Z,10.0nm,1.4s							
SONM	**Songino Array**	**30.79**	**288**	P	**P**	**20 13 06.5**	**-0.2**
comp=Z,0.3nm,0.4s,baz=57,slow=10,SNR=3.2							
ILAR	**Eielson Array**	**36.38**	**39**	P	**P**	**20 13 53.7**	**-1.0**
comp=Z,0.2nm,0.7s,baz=264,slow=9.0,SNR=3.8							
ZALV	**Zalesovo Beam**	**41.99**	**305**	P	**P**	**20 14 40.3**	**-1.1**
ZALV	**Zalesovo Beam**	**41.99**	**305**	P	**P**	**20 14 40.3**	**-1.1**
comp=Z,0.4nm,0.4s,baz=45,slow=9.0,SNR=2.6							
MKAR	**Makanchi Array**	**46.35**	**297**	P	**P**	**20 15 16.1**	**-0.2**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**46.35**	**297**	P	**P**	**20 15 16.1**	**-0.2**
comp=Z,2.1nm,0.7s,baz=66,slow=8.0,SNR=18							
KURK	**Kurchatov**	**46.75**	**303**	P	**P**	**20 15 19.6**	**+0.4**
KURK				pmax	pmax		
comp=Z,3.0nm,0.7s							
KURBB	**Kurchatov Arra**	**46.84**	**303**	P	**P**	**20 15 19.6**	**-0.3**
comp=Z,2.5nm,0.7s,baz=69,slow=8.4,SNR=14							
BVAR	**Borovoye Array**	**50.23**	**309**	P	**P**	**20 15 45.6**	**-0.2**
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**50.23**	**309**	P	**P**	**20 15 45.6**	**-0.2**
comp=Z,1.2nm,0.3s,baz=61,slow=8.2,SNR=16							
BRVK	**Borovoye**	**50.27**	**309**	⇑*e*P	**P**	**20 15 45.9**	**-0.2**
BRVK				*i* *PP	**pP**	**20 16 19.2**	**+3.4**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.7s							
RES	**Resolute Bay**	**50.46**	**19**	P	**P**	**20 15 46.5**	**-0.7**
comp=Z,19nm,0.8s,baz=283,slow=3.1,SNR=3.5							
ARU	**Arti**	**54.36**	**317**	*c i*P	**P**	**20 16 15.9**	**-0.4**
ARU				*PP	**pP**	**20 16 46.9**	**+0.6**
ARU						20 18 16.7	
ARU				S	**S**	**20 23 43.6**	**-0.6**
ARU				SS	**SS**	**20 27 24.4**	**-3.0**
ARU				pmax	pmax		
comp=Z,10.0nm,1.7s							
ARCES	**ARCESS Array B**	**57.23**	**340**	P	**P**	**20 16 36.2**	**-0.3**
comp=Z,0.8nm,0.5s,baz=25,slow=7.7,SNR=5.4							
AKTO	**Aktyubinsk**	**58.09**	**311**	P	**P**	**20 16 42.3**	**-0.5**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**58.09**	**311**	P	**P**	**20 16 42.3**	**-0.5**
comp=Z,0.6nm,0.4s,baz=64,slow=5.0,SNR=4.2							
NVAR	**Mina Array Bea**	**62.53**	**62**	P	**P**	**20 17 14.8**	**+1.3**
comp=Z,0.5nm,0.4s,baz=298,slow=7.3,SNR=5.2							
FINES	**FINESS Array B**	**63.40**	**334**	P	**P**	**20 17 18.7**	**+0.2**
comp=Z,2.3nm,0.4s,baz=30,slow=7.8,SNR=33							
NB2	**NORSAR Subarra**	**67.61**	**341**	P	**P**	**20 17 46.2**	**+0.5**
comp=Z,2.3nm,0.5s,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**67.61**	**341**	P	**P**	**20 17 46.6**	**+0.9**
comp=Z,3.0nm,0.6s,baz=28,slow=6.4,SNR=12							
WRA	**Warramunga Arr**	**68.88**	**198**	P	**P**	**20 17 53.2**	**-0.8**
comp=Z,0.4nm,0.7s,baz=19,slow=6.6,SNR=6.2							
KBZ	**Khabaz**	**70.22**	**313**	P	**P**	**20 18 01.4**	**-0.6**
KBZ				pmax	pmax		
comp=Z,1.0nm,0.4s							
KBZ	**Khabaz**	**70.22**	**313**	P	**P**	**20 18 01.4**	**-0.6**
comp=Z,1.1nm,0.4s,baz=89,slow=5.1,SNR=5.5							
AKASG	**Malin Array Be**	**70.89**	**326**	*e*P	**P**	**20 18 06.1**	**+0.1**
AKASG				pmax	pmax		
comp=Z,0.2nm,0.3s							
AKASG	**Malin Array Be**	**70.89**	**326**	P	**P**	**20 18 05.6**	**-0.4**
comp=Z,1.8nm,0.3s,baz=37,slow=6.2,SNR=6.9							
ASAR	**Alice Springs**	**72.58**	**198**	P	**P**	**20 18 17.1**	**+0.8**
comp=Z,1.0nm,0.8s,baz=11,slow=5.9,SNR=13							
STHS	**Stebnicka Huta**	**74.87**	**329**	*e*P	**P**	**20 18 31.0**	**+1.5**
STHS				pmax	pmax		
comp=Z,2.0nm,0.8s							
STHS	**Stebnicka Huta**	**74.87**	**329**	*e*P	**P**	**20 18 31.0**	**+1.5**
KOLS	**Kolonicke sedl**	**74.91**	**329**	*e*P	**P**	**20 18 30.6**	**+0.8**
KOLS	**Kolonicke sedl**	**74.91**	**329**	*e*P	**P**	**20 18 30.6**	**+0.8**
BURAR	**Bucovina Array**	**74.94**	**326**	⇑P	**P**	**20 18 31.0**	**+0.9**
BURAR	**Bucovina Array**	**74.94**	**326**	⇑*i*P	**P**	**20 18 31.0**	**+0.9**
CRVS	**Cervenica-Dubn**	**75.23**	**329**	*e*P	**P**	**20 18 32.6**	**+1.0**
CRVS	**Cervenica-Dubn**	**75.23**	**329**	*e*P	**P**	**20 18 32.6**	**+1.0**
TESR	**Tescani**	**75.29**	**325**	⇑*i*P	**P**	**20 18 33.0**	**+1.0**
TRPA	**Tarpa**	**75.50**	**328**	⇑*i*P	**P**	**20 18 34.3**	**+1.2**
TLCR		**75.50**	**323**	⇑P	**P**	**20 18 33.9**	**+0.7**
TLCR		**75.50**	**323**	⇑*i*P	**P**	**20 18 33.9**	**+0.7**
EKA	**Eskdalemuir Ar**	**75.74**	**346**	P	**P**	**20 18 35.4**	**+1.1**
comp=Z,0.4nm,0.4s,baz=25,slow=5.2,SNR=6.1							
CLL	**Collm**	**75.83**	**335**	*i* P	**P**	**20 18 35.8**	**+0.9**
CLL	**Collm**	**75.83**	**335**	*i* P	**P**	**20 18 35.8**	**+0.9**
KECS	**Kecovo**	**75.92**	**325**	*e*P	**P**	**20 18 36.9**	**+1.4**
KECS	**Kecovo**	**75.92**	**329**	*e*P	**P**	**20 18 36.9**	**+1.4**
MLR	**Muntele Rosu**	**76.41**	**324**	⇑*i*P	**P**	**20 18 40.7**	**+2.2**
MLR	**Muntele Rosu**	**76.41**	**324**	P	**P**	**20 18 39.4**	**+0.9**
comp=Z,1.6nm,0.6s,baz=249,slow=1.5,SNR=23							
DRGR		**76.56**	**327**	⇓P	**P**	**20 18 40.3**	**+1.0**
DRGR		**76.56**	**327**	⇓*i*P	**P**	**20 18 40.3**	**+1.0**
VOIR		**76.81**	**325**	⇓P	**P**	**20 18 42.3**	**+1.6**
VOIR		**76.81**	**325**	⇓*i*P	**P**	**20 18 42.3**	**+1.6**
ARR	**Arges**	**77.03**	**325**	⇓*i*P	**P**	**20 18 44.6**	**+2.7**
TXAR	**Lajitas Array**	**77.57**	**60**	P	**P**	**20 18 45.4**	**+0.2**
comp=Z,1.1nm,0.7s,baz=305,slow=4.4,SNR=8.8							
KHC	**Kasperske Hory**	**77.60**	**334**	*i* P	**P**	**20 18 46.4**	**+1.4**
KHC	**Kasperske Hory**	**77.60**	**334**	*i* P	**P**	**20 18 46.4**	**+1.4**
BRTR	**Keskin Array B**	**77.74**	**316**	P	**P**	**20 18 46.8**	**+0.7**
comp=Z,1.5nm,0.9s,baz=96,slow=6.2,SNR=7.3							
GERES	**GERESS Array B**	**77.81**	**334**	P	**P**	**20 18 46.5**	**+0.3**
comp=Z,0.8nm,0.5s,baz=30,slow=6.9,SNR=8.8							
BZS	**Buzias**	**77.96**	**327**	⇓P	**P**	**20 18 48.4**	**+1.4**
BZS	**Buzias**	**77.96**	**327**	⇓*i*P	**P**	**20 18 48.4**	**+1.4**
VTS	**Vitosha**	**79.92**	**325**	⇓P	**P**	**20 18 59.7**	**+1.8**
VTS	**Vitosha**	**79.92**	**325**	⇓*i*P	**P**	**20 18 59.7**	**+1.8**
CDF	**Champ du Feu**	**80.02**	**337**	*e*P	**P**	**20 18 59.3**	**+1.0**
comp=Z,2.4nm,0.6s							
PAGF	**Fort de Pagny**	**80.29**	**338**	*e*P	**P**	**20 19 01.6**	**+2.0**
comp=Z,1.6nm,0.5s							
SFTF	**Sexfontaines**	**80.78**	**339**	*e*P	**P**	**20 19 04.0**	**+1.7**
DAVOX	**Davos/Dischmat**	**80.80**	**335**	P	**P**	**20 19 04.0**	**+1.4**
comp=Z,1.0nm,0.6s,baz=360,slow=20,SNR=4.8							
LOR	**Lormes**	**81.95**	**339**	*e*P	**P**	**20 19 10.1**	**+1.7**
SGMF	**Saint Gilles**	**82.42**	**344**	*e*P	**P**	**20 19 12.6**	**+1.8**
AVF	**Avril sur Loir**	**82.52**	**339**	*e*P	**P**	**20 19 12.6**	**+1.2**
comp=Z,1.7nm,0.4s							
SMF	**Signal de Mont**	**82.53**	**339**	*e*P	**P**	**20 19 12.7**	**+1.2**
LPL	**La Plagne**	**82.83**	**337**	*e*P	**P**	**20 19 15.0**	**+1.6**
MBDF	**Montbardon**	**83.55**	**336**	*e*P	**P**	**20 19 17.7**	**+0.7**
ORIF	**Oris-en-Rattie**	**83.62**	**337**	*e*P	**P**	**20 19 19.5**	**+2.3**
comp=Z,2.6nm,0.6s							

IDC 16 20:12:29.1±0.8, 14°.04N×92°.96E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.7/29, mbtmp3.7/13, ML3.8/1, Error ellipse: s-maj=31.8km s-min=15.7km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.23**	**52**	Pn	Pn	20 14 16.9	+0.6
0.4nm,0.3s,baz=241,slow=15,SNR=5.4							
MKAR	**Makanchi Array**	**33.86**	**347**	P	P	20 19 14.1	+0.7
0.6nm,0.7s,baz=173,slow=9.3,SNR=6.6							
SONM	**Songino Array**	**35.50**	**16**	P	P	20 19 27.9	+0.2
0.5nm,0.7s,baz=179,slow=7.4,SNR=5.1							
KURBB	**Kurchatov Arra**	**38.33**	**345**	P	P	20 19 50.8	-0.8
1.0nm,0.8s,baz=160,slow=8.0,SNR=7.0							
ZALV	**Zalesovo Beam**	**40.33**	**353**	P	P	20 20 07.4	-0.9
0.5nm,0.4s,baz=177,slow=5.1,SNR=4.9							
FITZ	**Fitzroy Crossi**	**45.37**	**134**	P	P	20 20 48.9	-0.7
1.5nm,0.9s,baz=304,slow=8.9,SNR=3.8							
WRA	**Warramunga Arr**	**52.89**	**129**	P	P	20 21 47.3	0.0
0.6nm,0.8s,baz=305,slow=10,SNR=4.7							
WRA				PcP	PcP	20 22 55.5	-1.0
0.4nm,0.7s,baz=317,slow=3.2,SNR=6.9							
ASAR	**Alice Springs**	**54.83**	**133**	P	P	20 22 02.0	+0.6
0.4nm,0.7s,baz=315,slow=6.6,SNR=7.1							
BRTR	**Keskin Array B**	**57.63**	**308**	P	P	20 22 21.2	-0.3
0.7nm,0.8s,baz=119,slow=10,SNR=4.8							
FINES	**FINESS Array B**	**66.77**	**331**	P	P	20 23 22.1	-0.1
2.5nm,0.8s,baz=94,slow=12,SNR=5.0							
ARCES	**ARCESS Array B**	**69.11**	**340**	P	P	20 23 37.2	+0.3
9.0nm,1.1s,baz=75,slow=9.4,SNR=4.6							
GERES	**GERESS Array B**	**72.52**	**317**	P	P	20 23 58.1	0.0
0.5nm,0.8s,baz=76,slow=5.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**88.08**	**283**	P	P	20 25 22.9	+0.6
0.4nm,0.8s,baz=68,slow=4.7,SNR=3.4							

---

*IDC **16** 20:15:52.4±0.6, 1°.66S×99°.44E, h0km, mb4.2/25, mb1 4.4/26, mb1mx4.3/32, mbtmp4.2/26, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/39, Error ellipse: s-maj=20.4km s-min=11.9km az=45.0*
*NEIC **16** 20:15:53.7±0.3, 1°.70S×99°.39E, h10km, mb4.9/5, Error ellipse: s-maj=10.9km s-min=6.9km az=51.0*
*BJI **16** 20:15:54.1, 1°.73S×98°.78E, h14km, mB4.8/7, mb4.3/13*
*DJA **16** 20:15:55.7±0.7, 2°.5±4°×10°1E±°, h10km, M4.8/13, mb4.8/11, mB5.1/4, MLv4.9/13, Mw(mB)4.5/4*
*ISCJB **16** 20:15:55.4±0.3, 1°.66S±0°.05×99°.41E±0°.04, h30km, mb4.5/46, Error ellipse: s-maj=8.3km s-min=3.9km az=42.0*
*AUST **16** 20:15:56.2±3.2, 1°.68S×99°.31E, h16km, Error ellipse: s-maj=2.5km s-min=1.0km az=247.0*
*MOS **16** 20:15:56.4±0.9, 1°.51S×99°.59E, h33km, mb5.0/14, Error ellipse: s-maj=15.9km s-min=7.2km az=110.2*
*BKK **16** 20:16:25.4±0.4, 0°.5±4°×10°1E±°, h10km, M4.3/7, mB4.9/1, mb4.3/7, MLv4.3/5, Mw(mB)4.2/1*

ISC 16 20:15:57.2±0.4, 1°.75S±0°.06×99°.38E±0°.07, h30km, n160, σ1§23/149, mb4.5/46, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.64**	**38**	P	**Pn**	**20 16 23.9**	**-0.1**
BKNI	**Bangkinang**	**2.65**	**39**	P	**Pn**	**20 16 36.2**	**-1.7**
BKNI	**Bangkinang**	**2.65**	**39**	P	**Pn**	**20 16 36.3**	**-1.5**
baz=2.6,SNR=33							
MASI	**Maura Aman, Be**	**3.17**	**116**	P	**Pn**	**20 16 45.3**	**+0.2**
RGRI	**Rengat**	**3.26**	**65**	P	**Pn**	**20 16 48.7**	**+2.4**
KSI	**Kapahiang**	**3.72**	**121**	P	**Pn**	**20 16 53.3**	**+0.6**
MNAI	**Manna**	**4.41**	**126**	P	**Pn**	**20 17 02.5**	**+0.4**
MNAI	**Manna**	**4.41**	**126**	P	**Pn**	**20 17 02.6**	**+0.5**
baz=4.5,SNR=11							
MNAI				S	**Sn**	**20 17 55.0**	**+2.5**
baz=4.5,SNR=4.3							
PSI	**Prapat**	**4.55**	**354**	Pn	Pn	20 17 01.6	-2.5
PSI	**Prapat**	**4.55**	**354**	Pn	Pn	20 17 01.6	-2.5
1.9nm,0.3s,baz=167,slow=11,SNR=12							
PSI				LR	LR	20 18 50.8	
comp=Z,422nm,19.2s,baz=168,slow=41							
PSI	**Prapat**	**4.55**	**354**	P	Pn	20 17 01.8	-2.4
baz=4.4,SNR=7.7							
TSI	**Tuntungan**	**5.28**	**351**	P	Pb	20 17 24.2	-4.6
BTDF	**Bukit Timah Da**	**5.37**	**55**	P	**Pn**	**20 17 16.9**	**+1.6**
baz=5.4,SNR=5.4							
BTDF				P	**Pn**	**20 17 16.9**	**+1.6**
baz=5.4,SNR=5.4							
**L

XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,36nm,9.5s						
WRA	**Warramunga Arr**	**38.65**	**120**	P	**P**	**20 23 17.4**	**-0.9**
WRA				PcP	**PcP**	**20 25 29.2**	**-1.1**
WRA	**Warramunga Arr**	**38.65**	**120**	P	**P**	**20 23 17.4**	**-0.9**
	comp=Z,6.1nm,0.8s,baz=302,slow=9.1,SNR=30						
WRA				PcP	**PcP**	**20 25 29.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=314,slow=2.5,SNR=3.0						
ASAR	**Alice Springs**	**39.90**	**126**	P	**P**	**20 23 28.8**	**0.0**
ASAR				S	**S**	**20 29 31.2**	**-0.8**
ASAR	**Alice Springs**	**39.90**	**126**	P	**P**	**20 23 28.8**	**0.0**
	comp=Z,3.7nm,0.6s,baz=303,slow=7.8,SNR=47						
ASAR				S	**S**	**20 29 31.2**	**-0.8**
	comp=Z,2.5nm,1.1s,baz=292,slow=13,SNR=10						
AS31	**Alice Springs**	**39.90**	**126**	*e*P	**P**	**20 23 28.0**	**-0.8**
GTA	**Gaotai**	**40.97**	**1**	*e*P	**P**	**20 23 39.3**	**+1.9**
GTA				pP	**pP**	**20 23 49.3**	**+2.9**
GTA				sP	**sP**	**20 23 53.1**	**+3.1**
GTA				PcP	**PcP**	**20 25 38.8**	**+1.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**43.83**	**13**	*e*P	**P**	**20 24 01.6**	**+0.9**
HHC				S	**S**	**20 30 31.9**	**+2.0**
JNU	**Nakatsue**	**45.68**	**38**	P	**P**	**20 24 13.8**	**-1.7**
JNU	**Nakatsue**	**45.68**	**38**	P	**P**	**20 24 13.8**	**-1.7**
	comp=Z,6.1nm,0.9s,baz=220,slow=0.7,SNR=4.0						
WMQ	**Urumqi**	**46.57**	**348**	*e*P	**P**	**20 24 22.4**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,25nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.6s						
KSAR	**Wonju Array Be**	**47.10**	**31**	P	**P**	**20 24 25.6**	**-0.8**
KSRS	**Korea Array**	**47.13**	**31**	P	**P**	**20 24 25.6**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=224,slow=7.9,SNR=8.6						
TKM2	**Tokmak 2**	**49.36**	**337**	*e*P	**P**	**20 24 43.3**	**-0.9**
TKM2	**Tokmak 2**	**49.36**	**337**	*e*P	**P**	**20 24 43.3**	**-0.9**
SONM	**Songino Array**	**49.76**	**6**	P	**P**	**20 24 46.8**	**-0.2**
SONM				PcP	**PcP**	**20 26 07.6**	**-0.1**
SONM	**Songino Array**	**49.76**	**6**	P	**P**	**20 24 46.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=189,slow=9.5,SNR=13						
SONM				PcP	**PcP**	**20 26 07.6**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=181,slow=4.6,SNR=2.7						
STKA	**Stephens Creek**	**49.77**	**132**	P	**P**	**20 24 48.0**	**+0.7**
STKA	**Stephens Creek**	**49.77**	**132**	P	**P**	**20 24 48.0**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=353,slow=5.2,SNR=11						
STKA	**Stephens Creek**	**49.77**	**132**	P	**P**	**20 24 49.5**	**+2.2**
	baz=50,SNR=11						
ULN	**Ulaanbaatar**	**49.87**	**7**	*e*P	**P**	**20 24 47.0**	**-0.9**
	comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**20 24 53.4**	**-0.1**
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**20 24 53.4**	**-0.1**
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**20 24 53.4**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=151,slow=7.5,SNR=32						
MJAR	**Matsushiro Arr**	**52.48**	**40**	P	**P**	**20 25 05.6**	**-1.9**
MJAR	**Matsushiro Arr**	**52.48**	**40**	P	**P**	**20 25 05.6**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=226,slow=7.9,SNR=4.8						
CMSA	**Cobar Meteorol**	**52.74**	**129**	P	**P**	**20 25 10.6**	**+1.0**
	baz=53,SNR=11						
HVS	**Khovu-Aksy**	**52.91**	**356⇑**	*e*P	**P**	**20 25 09.9**	**-0.6**
HVS				pmax	pmax		
	comp=Z,36nm,1.6s						
USRK	**Ussuriysk Arra**	**54.24**	**29**	P	**P**	**20 25 19.5**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=219,slow=6.1,SNR=11						
KURBB	**Kurchatov Arra**	**55.14**	**344**	P	**P**	**20 25 25.2**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=161,slow=6.5,SNR=14						
KURK	**Kurchatov**	**55.20**	**344**	P	**P**	**20 25 25.2**	**-1.9**
KURK	**Kurchatov**	**55.20**	**344**	P	**P**	**20 25 25.2**	**-1.9**
ZALV	**Zalesovo Beam**	**56.82**	**350**	*i* P	**P**	**20 25 38.4**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,13nm,0.9s						
ZALV	**Zalesovo Beam**	**56.82**	**350**	P	**P**	**20 25 37.5**	**-1.1**
ZALV	**Zalesovo Beam**	**56.82**	**350**	P	**P**	**20 25 37.5**	**-1.1**
	comp=Z,13nm,0.9s,baz=164,slow=5.9,SNR=39						
NVS	**Novosibirsk**	**57.96**	**349**	*e*P	**P**	**20 25 44.7**	**-1.9**
NVS				pmax	pmax		
	comp=Z,22nm,1.9s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
KLR	**Kul'dur**	**57.96**	**24**	*e*P	P	20 25 42.4	-4.4
RDF	**Al-Radifah**	**58.21**	**306**	*e*P	**P**	**20 25 49.1**	**+0.2**
RDF				AMb	AMB	20 25 51.3	
	comp=Z,31nm,1.6s						
NAY	**Al-Naaiem**	**58.58**	**306**	*e*P	**P**	**20 25 50.9**	**-0.6**
NAY				AMb	AMB	20 25 59.1	
	comp=Z,9.4nm,1.0s						
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**20 25 58.4**	**-0.7**
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**20 25 58.4**	**-0.7**
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**20 25 58.4**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=143,slow=10,SNR=8.9						
BRVK	**Borovoye**	**59.81**	**340⇓**	*i* P	**P**	**20 25 58.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ABKAR	**Akbulak array**	**61.13**	**332**	*e*P	**P**	**20 26 07.0**	**-1.7**
YSS	**Yuzh-Sakhalins**	**61.60**	**32⇓**	*e*P	P	20 26 19.0	+7.1
KMBO	**Kilima Mbogo**	**62.11**	**270**	P	**P**	**20 26 17.3**	**+1.0**
KMBO	**Kilima Mbogo**	**62.11**	**270**	P	**P**	**20 26 17.3**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=57,slow=24,SNR=5.5						
SVE	**Sverdlovsk**	**66.22**	**338⇑**	*e*P	**P**	**20 26 41.6**	**-0.5**
SVE				pmax	pmax		
	comp=Z,14nm,1.2s						
ARU	**Arti**	**66.74**	**337**	*d i*P	**P**	**20 26 44.6**	**-0.8**
ARU						20 29 10.1	
ARU				S	**S**	**20 35 34.5**	**-0.8**
ARU				SS	SS	20 39 47.1	-6.5
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
YAK	**Yakutsk**	**67.66**	**15**	*e*P	P	20 26 48.9	-2.2
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**67.72**	**319**	P	**P**	**20 26 52.5**	**+0.6**
KBZ	**Khabaz**	**67.72**	**319**	P	**P**	**20 26 52.5**	**+0.6**
KBZ	**Khabaz**	**67.72**	**319**	P	**P**	**20 26 52.5**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=150,slow=4.9,SNR=7.8						
ASF	**Jabal al Asfar**	**67.94**	**306**	P	**P**	**20 26 54.8**	**+1.1**
ASF	**Jabal al Asfar**	**67.94**	**306**	P	**P**	**20 26 54.8**	**+1.1**
	comp=Z,2.4nm,1.0s,baz=87,slow=9.6,SNR=3.4						
KIV	**Kislovodsk**	**67.95**	**319**	*e*P	**P**	**20 26 53.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
MCQ	**Macquarie Isla**	**71.34**	**148**	P	P	20 27 08.1	-5.9
	baz=72,SNR=4.1						
BRTR	**Keskin Array B**	**72.70**	**313**	P	**P**	**20 27 21.1**	**-1.7**
BRTR	**Keskin Array B**	**72.70**	**313**	P	**P**	**20 27 21.1**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=141,slow=8.2,SNR=6.8						
PETK	**Petropavlovsk-**	**73.01**	**32**	P	**P**	**20 27 23.1**	**-0.9**
PETK	**Petropavlovsk-**	**73.01**	**32**	P	**P**	**20 27 23.1**	**-0.9**
PETK	**Petropavlovsk-**	**73.01**	**32**	P	**P**	**20 27 23.1**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=225,slow=1.7,SNR=3.7						
VSR	**Storozhevoye**	**73.22**	**325**	*e*P	**P**	**20 27 24.4**	**-0.9**
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY	**Seymchan**	**75.63**	**22⇑**	*e*P	**P**	**20 27 38.9**	**-0.2**
MOS	**Moscow**	**75.97**	**329**	*e*P	**P**	**20 27 40.2**	**-1.0**
OBN	**Obninsk**	**76.26**	**328**	*e*P	**P**	**20 27 43.7**	**+0.9**
OBN				*i*		20 27 50.0	
OBN				pmax	pmax		
	comp=Z,22nm,1.6s						
AKASG	**Malin Array Be**	**78.91**	**322**	*c*eP	**P**	**20 27 57.7**	**-0.1**
AKASG	**Malin Array Be**	**78.91**	**322**	P	**P**	**20 27 56.9**	**-0.8**
AKASG	**Malin Array Be**	**78.91**	**322**	P	**P**	**20 27 56.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=99,slow=4.1,SNR=8.2						
MLR	**Muntele Rosu**	**79.70**	**317**	P	**P**	**20 28 01.9**	**-0.4**
MLR	**Muntele Rosu**	**79.70**	**317**	P	**P**	**20 28 01.9**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=97,slow=2.3,SNR=9.6						
BUR08	**Bucovina Ar. S**	**80.69**	**319**	*e*P	**P**	**20 28 07.0**	**-0.6**
KOLS	**Kolonicke sedl**	**82.87**	**320**	*e*P	**P**	**20 28 20.1**	**+1.2**
KOLS				*e*		20 28 25.8	
KOLS	**Kolonicke sedl**	**82.87**	**320**	*e*P	**P**	**20 28 20.1**	**+1.2**
KOLS				*e*pP	**PcP**	**20 28 25.8**	**+2.1**
FINES	**FINESS Array B**	**83.61**	**332**	P	**P**	**20 28 21.9**	**-0.5**
FINES	**FINESS Array B**	**83.61**	**332**	P	**P**	**20 28 21.9**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=107,slow=4.6,SNR=9.2						
STHS	**Stebnicka Huta**	**83.62**	**320**	*e*P	**P**	**20 28 24.6**	**+1.8**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	**Stebnicka Huta**	**83.62**	**320**	*e*P	**P**	**20 28 24.6**	**+1.8**
STHS				*e*pP	**PcP**	**20 28 29.9**	**+2.9**
KECS	**Kecovo**	**83.95**	**319**	*e*P	**P**	**20 28 25.2**	**+0.7**
KECS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KECS	**Kecovo**	**83.95**	**319**	*e*P	**P**	**20 28 25.2**	**+0.7**
ARCES	**ARCESS Array B**	**86.03**	**340**	P	**P**	**20 28 34.7**	**+0.2**
ARCES	**ARCESS Array B**	**86.03**	**340**	P	**P**	**20 28 34.7**	**+0.2**
	comp=Z,5.8nm,1.1s,baz=96,slow=5.4,SNR=3.7						
ZST	**Bratislava**	**86.14**	**318**	*e*P	**P**	**20 28 36.8**	**+1.3**
ZST	**Bratislava**	**86.14**	**318**	*e*P	**P**	**20 28 36.8**	**+1.3**
DPC	**Dobruska-Polom**	**86.90**	**320**	*e*P	**P**	**20 28 40.4**	**+1.1**
DPC				*e*		20 28 47.3	
DPC	**Dobruska-Polom**	**86.90**	**320**	*e*P	**P**	**20 28 40.4**	**+1.1**
DPC				*ex*	x	20 28 47.3	
GERES	**GERESS Array B**	**88.46**	**319**	P	**P**	**20 28 46.7**	**-0.1**
GERES	**GERESS Array B**	**88.46**	**319**	P	**P**	**20 28 46.7**	**-0.1**
	comp=Z,2.1nm,1.1s,baz=90,slow=4.0,SNR=11						
BRG	**Berggiesshubel**	**88.46**	**321**	*e*(P)	**P**	**20 28 47.8**	**+1.1**
	comp=Z,18nm,1.9s						
BRG	**Berggiesshubel**	**88.46**	**321**	*e*P	**P**	**20 28 47.8**	**+1.1**
BRG				pmax	pmax		
	comp=Z,19nm,1.9s						
KHC	**Kasperske Hory**	**88.56**	**319**	*e*P	**P**	**20 28 46.8**	**-0.4**
KHC				*e*		20 28 57.5	
KHC	**Kasperske Hory**	**88.56**	**319**	*e*P	**P**	**20 28 46.8**	**-0.4**
KHC				*ex*	x	20 28 57.5	
CLL	**Collm**	**89.09**	**321**	*e*P	**P**	**20 28 50.0**	**+0.4**
CLL	**Collm**	**89.09**	**321**	*e*(P)	**P**	**20 28 50.0**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**90.66**	**316**	*e*P	**P**	**20 28 57.8**	**+0.4**
CPUP	**Villa Florida**	**144.15**	**217**	PKP	**PKPab**	**20 35 29.8**	**+1.3**
CPUP				*e*PKPdf	PKPbc	20 35 30.1	+1.1
CPUP	**Villa Florida**	**144.15**	**217**	PKP	**PKPab**	**20 35 29.8**	**+1.3**
	comp=Z,4.8nm,0.7s,baz=76,slow=4.1,SNR=13						
TXAR	**Lajitas Array**	**144.88**	**36**	PKP	**PKPab**	**20 35 31.5**	**+0.2**
TXAR	**Lajitas Array**	**144.88**	**36**	PKP	**PKPab**	**20 35 31.5**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=264,slow=1.1,SNR=22						
WVT	**Waverly**	**145.15**	**10**	*e*PKIKP	**PKPbc**	**20 35 31.6**	**-0.2**
WVT	**Waverly**	**145.15**	**10**	*e*PKPdf	**PKPbc**	**20 35 31.6**	**-0.2**
TZTN	**Tazewell**	**145.28**	**4**	*e*PKPdf	**PKPbc**	**20 35 31.1**	**-1.2**
JCT	**Junction City**	**146.13**	**31**	*e*PKP2	**PKPdf**	**20 35 33.1**	**-1.2**
JCT	**Junction City**	**146.13**	**31**	*e*PKPdf	**PKPdf**	**20 35 33.1**	**-1.2**
CPCT	**Cooper Cave**	**146.28**	**6**	*e*PKPdf	**PKPdf**	**20 35 33.7**	**-0.6**

SZGRF ***16*** *20:23:40.8, 1°.81S×99°.34E, h27km, mb5.1, Southern Sumatera, Indonesia*
IDC ***16*** *20:23:40.5±0.3, 1°.39S×99°.52E, h0km, mb4.9/34, mb1 4.9/35, mb1mx4.9/36, mbtmp4.8/35, ML4.3/2, MS4.2/23, Ms1 4.2/23, ms1mx4.0/42, Error ellipse: s-maj=11.4km s-min=10.2km az=51.0*
BJI ***16*** *20:23:41.7, 1°.94S×99°.37E, h46km, mB5.0/35, mb4.7/48, Ms4.9/45, Ms7 4.7/44*
DJA ***16*** *20:23:43.2±0.2, 1°.5±2°.×9°9E±°, h10km, M5.1/61, mb5.3/61, mB5.5/33, MLv5.5/17, Mw(mB)5.0/33*
ISCJB ***16*** *20:23:43.3±0.8, 1°.43S±0°.02×99°.42E±0°.02, h28km±5km, mb5.1/171, MS4.4/42, Error ellipse: s-maj=4.4km s-min=3.3km az=37.8*
MOS ***16*** *20:23:44.2±1.0, 1°.32S×99°.58E, h33km, mb5.3/57, Error ellipse: s-maj=9.7km s-min=4.5km az=119.2*
NEIC ***16*** *20:23:44.6±1.8, 1°.38S×99°.55E, h30km±12km, mb5.1/51, Error ellipse: s-maj=6.1km s-min=4.2km az=223.0*
BKK ***16*** *20:23:44.7±0.2, 2°.5±3°.×9°9E±°, h10km, M5.0/32, mB5.3/12, mb5.0/32, MLv5.4/5, Mw(mB)4.7/12*
GCMT ***16*** *20:23:46.1±0.3, 1°.49S×99°.53E, h19km, MW5.0, Moment Tensor Solution. s32,c43; s64,c98; Moment tensor: Scale 10^16Nm; Mrr3.30±.16; Mθθ-0.48±.09; Mφφ-2.82±.11; Mrθ0.55±.23; Mφφ0.52±.06; Mφr2.09±.22; Best double couple: Mo3.80000×10^16 NP1:φs2.00000°, δ62.00000°, λ101.00000°. NP2:φs158.00000°, δ30.00000°, λ69.00000°. Principal axes: T 4.0500, Plg71.0000°, Azm296.0000°; N -0.5400, Plg10.0000°, Azm176.0000°; P -3.5000, Plg16.0000°, Azm83.0000°; Data Used: II IU IC G CN.*
ISC 16 20:23:47.1±0.4, 1°.46S±0°.03×99°.45E±0°.04, h47km±2km, h47km:pP-P,n570,σ1§40/607, mb5.1/176, MS4.3/44, 34C-44D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.38**	**43**	P	**Pn**	**20 24 07.4**	**-2.5**
BKNI	**Bangkinang**	**2.38**	**42**	P	**Pn**	**20 24 22.6**	**-1.1**
BKNI				S	**Sn**	**20 24 52.3**	**+0.5**
RGRI	**Rengat**	**3.09**	**69**	P	**Pn**	**20 24 32.8**	**-0.6**
RGRI				S	**Sn**	**20 25 11.5**	**+2.4**
MASI	**Maura Aman, Be**	**3.25**	**121**	P	**Pn**	**20 24 35.5**	**-0.1**
MASI				S	**Sn**	**20 25 15.0**	**+1.9**
KSI	**Kapahiang**	**3.82**	**125**	P	**Pn**	**20 24 43.2**	**-0.3**
KSI				S	**Sn**	**20 25 30.3**	**+3.1**
PSI	**Prapat**	**4.27**	**353**	Pn	Pn	20 24 46.4	-3.4
PSI	**Prapat**	**4.27**	**353**	Pn	Pn	20 24 46.4	-3.4
	4.2nm,0.3s,baz=163,slow=2.2,SNR=25						
MNAI	**Manna**	**4.53**	**130**	P	**Pn**	**20 24 55.0**	**+1.7**
MNAI				S	**Sn**	**20 25 44.6**	**-0.1**
SNSI	**Sinabang, Aceh**	**4.95**	**321**	P	**Pn**	**20 24 58.8**	**-0.2**
TSI	**Tuntungan**	**5.01**	**350**	P	**Pn**	**20 24 59.0**	**-0.8**
	671nm,0.8s,9μm3.2nm						
FRIM	**Kepong**	**5.15**	**25**	P	**Pn**	**20 25 00.3**	**-1.5**
KCSI	**Kotacane, Aceh**	**5.23**	**341**	P	**Pn**	**20 25 00.7**	**-2.1**
	293nm,0.7s,5μm1.9nm						
MYKOM	**Kota Tinggi**	**5.46**	**54**	P	**Pn**	**20 25 05.7**	**-0.2**
MYKOM	**Kota Tinggi**	**5.46**	**54**	P	**Pn**	**20 25 04.8**	**-1.2**
	218nm,1.0s,4μm2.8nm						
PMBI	**Palembang**	**5.51**	**105**	P	Pn	20 25 19.3	+13
LWLI	**Liwa**	**5.80**	**128**	P	**Pn**	**20 25 10.4**	**-0.4**
	1μm,0.8s,11μm4.0nm						
IPM	**Ipoh**	**6.11**	**15**	*e*Pn	**Pn**	**20 25 13.6**	**-1.3**
IPM	**Ipoh**	**6.11**	**15**	P	**Pn**	**20 25 13.3**	**-1.6**
IPM	**Ipoh**	**6.11**	**15**	P	**Pn**	**20 25 15.1**	**+0.2**
	216nm,0.8s,2μm1.7nm						
KLSI		**6.17**	**121**	P	**Pn**	**20 25 15.5**	**-0.2**
	340nm,0.9s,3μm0.9nm						
KLI	**Kotabumi**	**6.37**	**122**	P	**Pn**	**20 25 18.7**	**+0.3**
	463nm,0.8s,6μm2.4nm						
KASI	**Kota Agung**	**6.45**	**129**	P	**Pn**	**20 25 18.2**	**-1.4**
	341nm,0.9s,5μm1.5nm						
PPBI	**Pangkal Pinang**	**6.72**	**96**	P	**Pn**	**20 25 23.5**	**+0.2**
	50nm,1.0s,1μm1.1nm						
BLSI	**Bandar Lampung**	**6.96**	**124**	P	**Pn**	**20 25 27.4**	**+0.7**
	223nm,0.9s,3μm0.7nm						
LHMI	**Lhok Sumawe**	**7.10**	**339**	P	**Pn**	**20 25 27.7**	**-0.8**
	114nm,0.8s,1.3nm						
KTGM	**Kuala Trenggan**	**7.68**	**29**	P	**Pn**	**20 25 36.2**	**-0.3**
BSI	**Banda Aceh**	**8.06**	**329**	P	Pn	20 25 38.5	-3.2
	93nm,0.5s						
SBJI	**Serang**	**8.11**	**125**	P	Pn	20 25 39.0	-3.4
	147nm,1.0s,3μm						
TPI	**Tanjungpandan**	**8.30**	**99**	P	**Pn**	**20 25 45.7**	**+0.8**
	52nm,0.9s						
SKLT	**Songkhla**	**8.65**	**8**	P	Pn	20 25 54.1	+4.3
	94nm,1.3s,1μm0.3nm						
DBJI	**Dramaga**	**8.86**	**125**	P	**Pn**	**20 25 49.9**	**-2.8**
	158nm,1.1s,3μm						
SKJI	**Sukabumi**	**8.97**	**128**	P	Pn	20 25 50.4	-3.8
	294nm,1.0s,3μm						
PKDT	**Phuket**	**9.36**	**353**	P	Pn	20 26 12.8	+13
LEM	**Lembang**	**9.73**	**123**	P	**Pn**	**20 26 06.5**	**+1.8**
	210nm,1.0s						
CISI	**Cisompet, Garu**	**10.30**	**126**	P	Pn	20 26 07.8	-4.7
	184nm,0.5s,3μm						
KSM	**Kuching**	**11.24**	**75**	*e*Pn	**Pn**	**20 26 22.7**	**-2.6**
KSM	**Kuching**	**11.24**	**75**	P	**Pn**	**20 26 25.1**	**-0.2**
KSM	**Kuching**	**11.24**	**75**	P	**Pn**	**20 26 26.2**	**+0.9**
	38nm,0.8s						
CLJI	**Cilicap**	**11.38**	**123**	P	**Pn**	**20 26 27.9**	**+0.8**
	55nm,0.8s,7μm						
BJII	**Banjamegara**	**11.77**	**120**	P	**Pn**	**20 26 34.0**	**+1.4**
	58nm,1.5s						
PBKI	**Pangkalan Bun**	**12.27**	**96**	P	**Pn**	**20 26 40.2**	**+0.8**
	158nm,1.1s						
SBUM	**Sibu**	**13.35**	**73**	P	**Pn**	**20 26 56.4**	**+2.4**
SBUM	**Sibu**	**13.35**	**73**	P	**Pn**	**20 26 56.0**	**+2.0**
	65nm,0.9s,1μm						
SJI	**Sawahan**	**13.76**	**117**	P	**Pn**	**20 26 57.8**	**-2.0**
	70nm,1.1s						
PWJI	**Pagerwojo**	**13.92**	**118**	P	**Pn**	**20 27 00.7**	**-1.2**
	67nm,0.9s,13μm						
PHET	**Kaeng Krachan**	**14.28**	**1**	P	P	20 27 17.0	+4.2
KMMI	**Kalianget**	**15.50**	**111**	P	P	20 27 31.7	+5.4
BBKI	**Banjar Baru**	**15.50**	**98**	P	**Pn**	**20 27 23.7**	**+0.9**
	110nm,1.3s						
NAYO	**Nakonayok**	**15.79**	**7**	P	P	20 27 39.2	+10
KBKI	**Kotabaru**	**16.80**	**97**	P	**Pn**	**20 27 38.7**	**-0.5**
	81nm,1.1s						
UTHA	**Uthaitani**	**16.91**	**360**	P	**P**	**20 27 44.2**	**+2.2**
	3.4nm,0.9s,56nm						
SRBI	**Singaraja**	**17.02**	**113**	P	**Pn**	**20 27 38.3**	**-3.7**
	86nm,0.8s						
CHAI	**Chaiyaphum**	**17.43**	**8**	P	P	20 27 57.7	+10
UBPT	**Khong Chiam**	**17.67**	**19**	P	**P**	**20 27 55.0**	**+4.6**
	34nm,1.8s						
PBKT	**Sadao Pong**	**17.98**	**5**	P	**P**	**20 27 57.0**	**+3.2**
	26nm,1.2s						
KKM	**Kota Kinabalu**	**18.32**	**66**	*e*Pn	**P**	**20 27 55.3**	**-2.5**
	55nm,0.9s						
KKM	**Kota Kinabalu**	**18.32**	**66**	P	**Pn**	**20 27 58.7**	**+0.6**
KKM	**Kota Kinabalu**	**18.32**	**66**	P	**Pn**	**20 28 02.5**	**+4.4**
	70nm,0.9s,843nm						
SDKM	**Sandakan**	**19.07**	**68**	P	**Pn**	**20 28 06.8**	**-0.3**
PANO	**Nakornpanom**	**19.18**	**15**	P	Pn	20 28 18.2	+10
KDM	**Kudat**	**19.24**	**64**	P	**Pn**	**20 28 09.1**	**+0.1**
TSM	**Tawau**	**19.28**	**73**	P	**P**	**20 28 08.5**	**+0.5**
MMSI	**Mamuju**	**19.48**	**94**	P	**Pn**	**20 28 11.1**	**-0.9**
	230nm,0.9s,2μm						
CM31	**Chiang Mai Arr**	**19.80**	**359**	*e*P	**P**	**20 28 13.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**20 28 10.9**	**-2.9**
CMAR				PcP	**PcP**	**20 32 30.6**	**0.0**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**20 28 10.9**	**-2.9**
	1.0nm,0.3s,baz=186,slow=10,SNR=77						
CMAR				PcP	**PcP**	**20 32 30.6**	**0.0**
	0.2nm,0.3s,baz=247,slow=3.9,SNR=5.3						
MYLDM	**Lahad Datu**	**20.14**	**71**	P	**P**	**20 28 18.4**	**+0.9**
MYLDM	**Lahad Datu**	**20.14**	**71**	P	Pn	20 28 19.6	-0.1
	105nm,0.9s,1μm						
CMMT	**Chiang Mai**	**20.15**	**359**	P	Pn	20 28 19.2	-0.6
	20nm,0.8s						
CHTO	**Chiang Mai**	**20.16**	**359**	*e*P	**P**	**20 28 16.3**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**20.16**	**359**	*e*Pn	**P**	**20 28 16.3**	**-1.3**
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**20.16**	**359**	P	Pn	20 28 19.7	-0.1
	comp=Z,22nm,0.8s						
CHTO	**Chiang Mai**	**20.16**	**359**	P	Pn	20 28 19.7	-0.1
	comp=Z,22nm,0.8s						
TTSI	**Tana Toraja**	**20.41**	**95**	P	**P**	**20 28 20.8**	**+0.3**
	comp=Z,92nm,0.8s,comp=Z,1μm						
KAPI	**Kappang**	**20.57**	**100**	P	**P**	**20 28 20.5**	**-1.7**
	comp=Z,605nm,1.4s,SNR=5.8						
KAPI	**Kappang**	**20.57**	**100**	*e*P	**P**	**20 28 19.6**	**-2.5**
	comp=Z,106nm,1.0s						
KAPI	**Kappang**	**20.57**	**100**	P	**P**	**20 28 23.2**	**+1.0**
	comp=Z,112nm,1.1s,comp=Z,834nm						
KAPI	**Kappang**	**20.57**	**100**	P	**P**	**20 28 20.5**	**-1.7**
	comp=Z,11nm,1.1s,baz=289,slow=9.8,SNR=16						
PALK	**Pallekele**	**20.62**	**295**	Pn	Pn	20 28 24.2	-1.3
	comp=Z,604nm,0.7s,SNR=6.5						
PALK	**Pallekele**	**20.62**	**295**	*e*Pn	**P**	**20 28 23.7**	**+1.0**
	comp=Z,81nm,0.8s						
PALK	**Pallekele**	**20.62**	**295**	P	Pn	20 28 24.6	-0.9
	comp=Z,108nm,1.2s						
BKSI	**Bulukumba**	**20.98**	**101**	P	**P**	**20 28 26.0**	**-0.7**
	comp=Z,123nm,0.9s,comp=Z,904nm						
CMAI	**Chiengmai2**	**21.27**	**359**	P	**P**	**20 28 32.2**	**+2.4**
	comp=Z,54nm,1.0s						
TOLI	**Toli-Toli**	**21.50**	**83**	P	**P**	**20 28 33.0**	**+0.8**
	comp=Z,274nm,1.0s,comp=Z,2μm						
**

QZH LR LR
comp=E,2μm,17.0s
QZH LR LR
comp=Z,1μm,12.0s
CD2 Chengdu 32.45 7 *eP* **P 20 30 14.8 +1.7**
CD2 pP **pP 20 30 28.3 +2.8**
CD2 sP **sP 20 30 34.3 +3.2**
CD2 PP **PP 20 31 24.8 -2.4**
CD2 PcP **PcP 20 33 00.8 +1.3**
CD2 S **S 20 35 25.3 +0.6**
CD2 sS **sS 20 35 48.0 +2.4**
CD2 SS **SnSn 20 37 24.1 +2.7**
CD2 ScS **ScS 20 40 36.8 -2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,200nm,4.8s
CD2 LR LR
comp=N,980nm,13.2s
CD2 LR LR
comp=Z,800nm,9.6s
SSLB Suanglung 32.66 38 *eP* **P 20 30 12.7 -2.3**
comp=Z,28nm,1.2s
FAKI Fak Fak 32.80 93 P P 20 30 25.6 +9.2
comp=Z,90nm,0.9s
KOLN Koldanda 32.82 333 *eP* **P 20 30 17.1 +0.6**
comp=Z,52nm,0.7s
ENH Enshi 32.98 16 *eP* P 20 30 13.6 -4.1
comp=Z,7.2nm,0.5s
DANN Dangsing 33.25 334 *eP* **P 20 30 20.7 +0.4**
comp=Z,182nm,1.3s
RKPI Ransiki, Papua 34.72 91 P P 20 30 37.2 +4.2
comp=Z,173nm,0.8s,comp=Z,2μm
WHN Wuhan 34.85 23 P **P 20 30 34.4 +0.6**
WHN LR LR
comp=N,1μm,11.3s
WHN LR LR
comp=E,770nm,10.4s
WHN LR LR
comp=Z,2μm,12.2s
XAN Xi'an 36.42 13 P **P 20 30 44.5 -2.8**
XAN pP **pP 20 30 57.0 -2.9**
XAN sP **sP 20 31 02.3 -3.2**
XAN PcP **PcP 20 33 10.8 -0.1**
XAN ScS **ScS 20 40 54.6 -5.5**
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,16nm,6.8s
XAN LR LR
comp=N,810nm,14.9s
XAN LR LR
comp=E,120nm,11.2s
XAN LR LR
comp=Z,490nm,15.2s
BAKI Biak 36.65 90 P P 20 30 53.0 +3.5
comp=Z,143nm,0.9s,comp=Z,1μm
SRPI Serui, Papua 36.78 91 P P 20 31 00.1 +9.5
comp=Z,149nm,0.8s
LZH Lanzhou 37.58 6 *eP* P 20 31 03.0 +5.7
LZH pP pP 20 31 14.4 +4.5
LZH PcP **PcP 20 33 16.3 +1.8**
LZH *eS* **S 20 36 49.0 +5.4**
LZH sS sS 20 37 04.4 -0.4
LZH SS **SnSn 20 39 26.1 +0.5**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,130nm,3.6s
LZH LR LR
comp=N,900nm,13.6s
LZH LR LR
comp=E,620nm,13.0s
LZH LR LR
comp=Z,1μm,14.5s
NJ2 Nanjing 38.07 27 *eP* **P 20 31 01.3 0.0**
NJ2 S **S 20 36 49.1 -1.7**
NJ2 sS **sS 20 37 16.0 +4.1**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NJ2 pmax pmax
comp=Z,40nm,5.0s
NJ2 LR LR
comp=N,1μm,24.4s
NJ2 LR LR
comp=E,660nm,25.4s
NJ2 LR LR
comp=Z,1μm,23.4s
SSE Sheshan 38.41 31 P **P 20 31 02.8 -1.4**
SSE S **S 20 36 57.3 +1.3**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,27nm,4.4s
SSE LR LR
comp=N,410nm,18.8s
SSE LR LR
comp=E,490nm,18.5s
SSE LR LR
comp=Z,270nm,17.6s
WRA Warramunga Arr 38.74 121 P **P 20 31 06.1 -1.1**
WRA PcP **PcP 20 33 19.2 +1.0**
WRA S **S 20 36 56.3 -5.0**
WRA Warramunga Arr 38.74 121 P **P 20 31 06.1 -1.1**
comp=Z,11nm,0.6s,baz=303,slow=9.1,SNR=84
WRA PcP **PcP 20 33 19.2 +1.0**
comp=Z,3.0nm,0.7s,baz=314,slow=2.2,SNR=3.4
WRA S **S 20 36 56.3 -5.0**
comp=Z,5.9nm,1.1s,baz=294,slow=19,SNR=6.3
WRA LR LR 20 49 55.9
comp=Z,348nm,19.7s,baz=280,slow=41
WRAB Tennant Creek 38.74 121 P **P 20 31 06.0 -1.2**
comp=Z,268nm,0.7s,SNR=46
WRAB Tennant Creek 38.74 121 *eP* **P 20 31 05.9 -1.2**
WRAB pmax pmax
comp=Z,33nm,0.8s
WRAB Tennant Creek 38.74 121 *eP* **P 20 31 05.9 -1.2**
comp=Z,32nm,0.8s
AS31 Alice Springs 40.01 126 *eP* **P 20 31 16.6 -1.2**
ASAR Alice Springs 40.01 126 P **P 20 31 17.8 0.0**
ASAR PcP **PcP 20 33 23.2 +1.0**
ASAR ScP **ScP 20 37 11.4 +3.8**
ASAR S **S 20 37 17.4 -3.1**
ASAR Alice Springs 40.01 126 P **P 20 31 17.8 0.0**
comp=Z,17nm,0.8s,baz=302,slow=7.7,SNR=115
ASAR PcP **PcP 20 33 23.2 +1.0**
comp=Z,3.7nm,0.7s,baz=312,slow=2.8,SNR=4.9
ASAR ScP **ScP 20 37 11.4 +3.8**
comp=Z,2.6nm,1.1s,baz=307,slow=3.2,SNR=5.7
ASAR S **S 20 37 17.4 -3.1**
comp=Z,11nm,1.1s,baz=299,slow=14,SNR=22
GTA Gaotai 40.68 0 *eP* **P 20 31 23.0 -0.1**
GTA PP **PnPn 20 33 00.6 -1.3**
GTA PcP **PcP 20 33 25.4 +1.2**
GTA S **S 20 37 29.5 -0.5**
GTA ScS **ScS 20 41 24.0 -0.7**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=N,480nm,14.3s
GTA LR LR
comp=E,590nm,17.1s
GTA LR LR
comp=Z,470nm,14.2s
JAY Jayapura 41.24 92 P P 20 31 40.4 +12
HHC Hu-ho-hao-te 43.53 13 *eP* **P 20 31 48.1 +1.7**
HHC S **S 20 38 13.8 +1.7**
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,340nm,5.7s
BJI Beijing 44.05 19 P **P 20 31 50.1 -0.2**
BJI S **S 20 38 19.0 -0.4**
BJI pmax pmax
comp=Z,8.0nm,1.0s
BJI pmax pmax
comp=Z,97nm,4.1s
BJI LR LR
comp=N,430nm,15.8s
BJI LR LR
comp=E,630nm,19.0s
BJI LR LR
comp=Z,130nm,24.1s
JNU Nakatsue 45.41 38 *eP* **P 20 31 59.3 -2.1**
comp=Z,20nm,1.0s
JNU Nakatsue 45.41 38 P **P 20 32 00.2 -1.2**
comp=Z,14nm,0.7s,baz=185,slow=10,SNR=13
JNU LR LR 20 53 08.1
comp=Z,202nm,18.5s,baz=77,slow=39
KBL Kabul 45.78 324 *eP* **P 20 32 03.2 -1.3**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 45.78 324 *eP* **P 20 32 03.2 -1.3**
comp=Z,9.7nm,1.0s
KSH Kashi 46.12 335 P **P 20 32 04.9 -2.0**
KSH sP **sP 20 32 27.0 +1.6**
KSH S S 20 38 42.8 -6.8
KSH sS **sS 20 39 08.6 -2.6**
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,66nm,3.7s
KSH LR LR
comp=N,240nm,8.6s
KSH LR LR
comp=E,130nm,6.0s
KSH LR LR
comp=Z,300nm,19.3s
WMQ Urumqi 46.30 348 P **P 20 32 08.8 +0.6**
WMQ PcP **PcP 20 33 42.8 -0.2**
WMQ PP **PP 20 33 55.8 -1.8**
WMQ S **S 20 38 52.8 +0.8**
WMQ pmax pmax
comp=Z,120nm,1.0s
WMQ pmax pmax
comp=Z,95nm,5.0s
WMQ LR LR
comp=N,150nm,21.0s
WMQ LR LR
comp=E,200nm,22.0s
WMQ LR LR
comp=Z,190nm,22.0s
KSAR Wonju Array Be 46.82 31 P **P 20 32 11.3 -1.0**
KSRS Korea Array 46.84 31 P **P 20 32 11.3 -1.2**
comp=Z,3.0nm,0.7s,baz=225,slow=8.0,SNR=17
KSRS LR LR 20 55 13.7
comp=Z,211nm,18.3s,baz=37,slow=40
SNY Shenyang 48.32 24 ⇓P P 20 32 33.8 +10
SNY S **S 20 39 16.5 -4.1**
SNY pmax pmax
comp=Z,10.0nm,1.3s
SNY LR LR
comp=N,260nm,14.1s
SNY LR LR
comp=E,520nm,16.8s
SNY LR LR
comp=Z,520nm,15.0s
TKM2 Tokmak 2 49.12 337 *eP* **P 20 32 28.1 -2.2**
TKM2 pmax pmax
comp=Z,30nm,1.0s
TKM2 Tokmak 2 49.12 337 P **P 20 32 30.9 +0.6**
SNR=15
TKM2 Tokmak 2 49.12 337 *eP* **P 20 32 28.1 -2.2**
comp=Z,30nm,1.0s
KBK Karagaybulak 49.16 336 *i* P **P 20 32 32.1 +1.5**
KBK Karagaybulak 49.16 336 P **P 20 32 32.1 +1.5**
SNR=14
AML Almayashu 49.25 335 *i* P **P 20 32 32.5 +1.0**
AML Almayashu 49.25 335 P **P 20 32 32.5 +1.0**
SNR=8.6
CTAO Charters Tower 49.32 115 *eP* P 20 32 28.3 -3.7
CTAO pmax pmax
comp=Z,41nm,1.1s
CTAO Charters Tower 49.32 115 *eP* P 20 32 28.2 -3.7
comp=Z,41nm,1.1s
AAK Ala-Archa 49.33 336*c i* P **P 20 32 32.2 +0.4**
AAK pmax pmax
comp=Z,53nm,1.7s
AAK Ala-Archa 49.33 336 *eP* **P 20 32 32.0 +0.2**
comp=Z,18nm,1.2s
AAK Ala-Archa 49.33 336 P **P 20 32 32.3 +0.5**
comp=Z,4.0nm,0.6s,baz=178,slow=7.5,SNR=7.3
AAK LR LR 20 56 09.6
comp=Z,339nm,20.1s,baz=135,slow=40
SONM Songino Array 49.47 6 P **P 20 32 32.6 -0.2**
SONM PcP **PcP 20 33 55.0 +0.6**
SONM Songino Array 49.47 6 P **P 20 32 32.6 -0.2**
comp=Z,2.4nm,0.5s,baz=190,slow=9.8,SNR=17
SONM PcP **PcP 20 33 55.0 +0.6**
comp=Z,4.2nm,0.7s,baz=190,slow=4.4,SNR=2.8
SONM LR LR 20 56 08.4
comp=Z,580nm,18.2s,baz=192,slow=39
CHMS Chumysh 49.53 336 *i* P **P 20 32 33.8 +0.6**
CHMS Chumysh 49.53 336 P **P 20 32 33.8 +0.6**
SNR=9.7
ULN Ulaanbaatar 49.57 7 *eP* **P 20 32 33.3 -0.3**
comp=Z,12nm,1.0s
ULN Ulaanbaatar 49.57 7 P **P 20 32 34.8 +1.2**
comp=Z,13nm,1.3s
EKS2 Erkin-Say 49.65 335 *eP* **P 20 32 33.8 -0.5**
EKS2 pmax pmax
comp=Z,25nm,0.9s
EKS2 Erkin-Say 49.65 335 P **P 20 32 35.5 +1.3**
SNR=11
EKS2 Erkin-Say 49.65 335 *eP* **P 20 32 33.8 -0.5**
comp=Z,25nm,0.9s
USP Ospenovka 49.85 336 *i* P **P 20 32 36.2 +0.5**
USP Ospenovka 49.85 336 P **P 20 32 36.2 +0.5**
SNR=21
STKA Stephens Creek 49.91 132 *eP* **P 20 32 35.0 -1.3**
comp=Z,7.7nm,0.9s
STKA Stephens Creek 49.91 132 P **P 20 32 36.9 +0.5**
comp=Z,21nm,0.9s,baz=316,slow=6.9,SNR=33
STKA LR LR 20 53 00.3
comp=Z,339nm,18.3s,baz=106,slow=35
MK31 Makanchi Array 50.37 345*ce*P **P 20 32 39.1 -0.4**
MK31 pmax pmax
comp=Z,21nm,0.6s
MK31 Makanchi Array 50.37 345 *eP* **P 20 32 38.6 -0.9**
MKAR Makanchi Array 50.37 345 *eP* **P 20 32 39.2 -0.3**
MKAR Makanchi Array 50.37 345 *eP* **P 20 32 39.2 -0.3**
MKAR Makanchi Array 50.37 345 P **P 20 32 39.2 -0.3**
comp=Z,20nm,0.6s,baz=158,slow=8.0,SNR=131
CN2 Changchun 50.72 24 *eP* P 20 32 46.0 +3.8
CN2 *ep*P pP 20 32 59.4 +4.2
CN2 *eS* **S 20 39 56.6 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=N,230nm,18.0s
CN2 LR LR
comp=E,740nm,18.0s
CN2 LR LR
comp=Z,460nm,16.0s
KK31 Karatay Array 51.43 333*ce*P **P 20 32 46.9 -0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 51.43 333 *eP* **P 20 32 46.1 -1.4**
KKAR Karatay Array 51.43 333 *eP* **P 20 32 46.1 -1.4**
MAT Matsushiro 52.21 40 P **P 20 32 51.6 -1.9**
MJAR Matsushiro Arr 52.21 40 P **P 20 32 52.0 -1.4**
MJAR Matsushiro Arr 52.21 40 P **P 20 32 52.0 -1.4**
comp=Z,4.2nm,1.0s,baz=224,slow=6.7,SNR=12
HVS Khovu-Aksy 52.63 355*de*P **P 20 32 55.9 -0.5**
HVS pmax pmax
comp=Z,62nm,1.7s
MDJ Mudanjiang 53.15 27 P P 20 33 04.9 +4.6
MDJ pP pP 20 33 17.8 +4.4
MDJ ScP **ScP 20 38 03.0 +1.2**
MDJ PcS **PcS 20 38 08.3 +1.6**
MDJ S **S 20 40 27.4 -0.2**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,53nm,5.5s
MDJ LR LR
comp=N,390nm,17.0s
MDJ LR LR
comp=E,500nm,17.9s
MDJ LR LR
comp=Z,470nm,14.4s
IRK Irkutsk 53.66 4 *eP* P 20 33 00.7 -3.2
IRK pmax pmax
comp=Z,23nm,1.7s
USRK Ussuriysk Arra 53.95 29 P **P 20 33 05.6 -0.5**
comp=Z,7.1nm,0.7s,baz=226,slow=5.8,SNR=21
USRK LR LR 20 57 31.0
comp=Z,250nm,18.1s,baz=23,slow=38
OPO Ambohidratompo 53.96 248 P **P 20 33 07.4 +0.5**
OPO Ambohidratompo 53.96 248 P **P 20 33 07.4 +0.5**
comp=Z,17nm,0.8s,baz=55,slow=5.1,SNR=12
OPO LR LR 20 54 23.9
comp=Z,408nm,18.4s,baz=127,slow=34
KURBB Kurchatov Arra 54.88 344 P **P 20 33 12.9 +0.2**
comp=Z,9.7nm,0.9s,baz=162,slow=6.8,SNR=47
KURK Kurchatov 54.94 344 P **P 20 33 13.0 -0.2**
KURK Kurchatov 54.94 344 P **P 20 33 12.9 -0.2**
ZAA0 Zalesovo Array 56.54 350 *eP* **P 20 33 23.7 -0.9**
ZALV Zalesovo Beam 56.54 350 *i* P **P 20 33 24.1 -0.5**
ZALV pmax pmax
comp=Z,53nm,0.9s
ZALV Zalesovo Beam 56.54 350 P **P 20 33 24.1 -0.5**
ZALV Zalesovo Beam 56.54 350 P **P 20 33 24.1 -0.5**
comp=Z,53nm,0.9s,baz=160,slow=4.7,SNR=73
KRAR Krasnoyarsk 57.54 356*de*P **P 20 33 32.7 +1.1**
KRAR pmax pmax
comp=Z,52nm,1.7s
KLR Kul'dur 57.67 24 *eP* P 20 33 28.7 -4.0
KLR MLR MLR
comp=Z,700nm,14.5s
NVS Novosibirsk 57.69 349⇓*iP* **P 20 33 32.0 -0.6**
NVS *e*S **S 20 41 28.7 +1.0**
NVS pmax pmax
comp=Z,40nm,1.2s
NVS pmax pmax
comp=N,22nm,1.4s
NVS pmax pmax
comp=E,31nm,1.4s
NVS smax smax
comp=N,17nm,1.8s
ATD Arta Tunnel 57.71 285 LR LR 20 52 07.6
comp=N,119nm,21.1s,baz=254,slow=30
RAYN Ar Rayn 58.00 299 P **P 20 33 35.0 -0.5**
comp=N,160nm,0.8s,SNR=12
RAYN Ar Rayn 58.00 299 *eP* **P 20 33 34.1 -1.4**
comp=N,20nm,0.8s
KBD Kabd 58.07 306 *eP* **P 20 33 35.8 -0.1**
KBD AMb AMB 20 33 36.9
comp=Z,78nm,1.1s
RDF Al-Radifah 58.09 306 *eP* **P 20 33 36.3 +0.2**
RDF AMb AMB 20 33 37.5
comp=Z,176nm,1.0s
UMR Umm Al-Rimmam 58.20 306 *eP* **P 20 33 36.8 0.0**
UMR AMb AMB 20 33 37.8
comp=Z,138nm,0.7s
NAY Al-Naaiem 58.46 306 *eP* **P 20 33 38.1 -0.5**
NAY AMb AMB 20 33 39.0
comp=Z,66nm,0.7s
ASAJ Asahikawa 59.49 35 P **P 20 33 45.1 -0.3**
ASAJ Asahikawa 59.49 35 P **P 20 33 45.1 -0.3**
comp=Z,1.7nm,0.4s,baz=272,slow=14,SNR=7.1
ASAJ LR LR 20 58 49.5
comp=Z,129nm,21.0s,baz=1.5,slow=36
BVAR Borovoye Array 59.49 340 P **P 20 33 43.4 -1.9**
BVAR Borovoye Array 59.49 340 P **P 20 33 43.4 -1.9**
BVAR Borovoye Array 59.49 340 P **P 20 33 43.4 -1.9**
comp=Z,6.9nm,0.8s,baz=134,slow=8.5,SNR=36
BVAR LR LR 21 02 02.7
comp=Z,184nm,21.7s,baz=360,slow=39
BRVK Borovoye 59.56 340*ce*P **P 20 33 44.6 -1.1**
BRVK pmax pmax
comp=Z,15nm,1.7s
BRVK Borovoye 59.56 340 *eP* **P 20 33 44.0 -1.8**
comp=Z,14nm,0.9s
AB31 Akbulak array 60.91 332*ce*P **P 20 33 53.8 -1.2**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR Akbulak array 60.91 332 *eP* **P 20 33 53.8 -1.3**
YSS Yuzh-Sakhalins 61.32 32⇑*eP* **P 20 33 59.2 +1.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YUK Yuzh-Kuril'sk 61.34 37*c iP* P 20 34 02.9 +4.8
YUK *e* 20 34 37.0
YUK *e*S S 20 42 29.9 +15
YUK *i* 20 43 35.4
KMBO Kilima Mbogo 62.18 270 *eP* **P 20 34 04.6 0.0**
comp=Z,28nm,0.9s
KMBO Kilima Mbogo 62.18 270 P **P 20 34 06.4 +1.7**
comp=Z,24nm,0.8s,baz=60,slow=8.9,SNR=58
KMBO LR LR 20 56 14.4
comp=Z,204nm,20.5s,baz=275,slow=31
DGRG David-gareji 64.90 318 P **P 20 34 22.6 +0.8**
CASY Casey 65.16 175 *eP* **P 20 34 23.4 +0.4**
comp=Z,25nm,1.2s
TBLG Delisi 65.45 318 P **P 20 34 25.8 +0.4**
TBLG Delisi 65.45 318 P **P 20 34 25.8 +0.4**
SVE Sverdlovsk 65.98 338⇑*iP* **P 20 34 28.4 0.0**
SVE pmax pmax
comp=Z,36nm,1.1s
ZEI Tsey 66.47 319 *eP* **P 20 34 31.6 -0.6**
ZEI pmax pmax
comp=Z,22nm,0.9s
ARU Arti 66.50 337*d iP* **P 20 34 30.3 -1.4**
ARU 20 36 55.7
ARU S **S 20 43 19.2 +0.4**
ARU SS **SS 20 47 35.2 -1.4**
ARU pmax pmax
comp=Z,29nm,1.7s
ARU Arti 66.50 337 P **P 20 34 30.5 -1.2**
comp=Z,91nm,1.0s,SNR=8.2
ONI Oni 66.69 318 P **P 20 34 34.1 +0.7**
YAK Yakutsk 67.36 15 *eP* **P 20 34 36.2 -0.9**
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.1s
KBZ Khabaz 67.54 319 P **P 20 34 39.1 +0.5**
KBZ Khabaz 67.54 319 P **P 20 34 39.1 +0.5**
KBZ Khabaz 67.54 319 P **P 20 34 39.1 +0.5**
comp=N,26nm,0.9s,baz=121,slow=5.6,SNR=50
ZALF Zalf 67.70 307 *eP* **P 20 34 40.5 +0.6**
ZALF Zalf 67.70 307 *eP* **P 20 34 40.5 +0.6**
SNR=46
KIV Kislovodsk 67.78 319 *eP* **P 20 34 39.9 -0.4**
KIV pmax pmax
comp=Z,37nm,1.0s
KIV MLR MLR
comp=Z,50nm,17.0s
KIV Kislovodsk 67.78 319 P **P 20 34 40.5 +0.2**
comp=Z,203nm,1.0s,SNR=10
ASF Jabal al Asfar 67.83 306 P **P 20 34 41.2 +0.3**
ASF Jabal al Asfar 67.83 306 P **P 20 34 41.2 +0.3**
comp=Z,17nm,0.9s,baz=67,slow=3.1,SNR=22
ASF LR LR 21 07 46.1
comp=Z,101nm,18.2s,baz=261,slow=39
SALA Sala 68.12 306 *eP* **P 20 34 43.5 +0.8**
SALA Sala 68.12 306 *eP* **P 20 34 43.5 +0.8**
SNR=46
TOTH TOTAH 68.55 307 *eP* **P 20 34 43.0 -2.3**
TOTH TOTAH 68.55 307 *eP* **P 20 34 43.0 -2.3**
SNR=46
MBAR Mbarara 68.70 270 P **P 20 34 47.7 +0.9**
MBAR Mbarara 68.70 270 P **P 20 34 47.7 +0.9**
comp=Z,14nm,0.9s,baz=125,slow=8.0,SNR=17
EIL Elat 68.77 303 P **P 20 34 47.6 +0.9**
EIL Elat 68.77 303 P **P 20 34 47.6 +0.9**
comp=Z,47nm,0.9s,baz=110,slow=1.3,SNR=34
EIL LR LR 21 05 55.9
comp=Z,209nm,19.0s,baz=96,slow=37
BRBR Barbar 68.95 307 *eP* **P 20 34 46.8 -1.2**
BRBR Barbar 68.95 307 *eP* **P 20 34 46.8 -1.2**
SNR=46
BTCH Batrach 69.32 309 *eP* P 20 34 46.5 -3.5
BTCH Batrach 69.32 309 *eP* P 20 34 46.5 -3.5
SNR=46
DRWC Darouich 69.34 310 *eP* **P 20 34 52.7 +2.5**
DRWC Darouich 69.34 310 *eP* **P 20 34 52.7 +2.5**
SNR=46
SOKR Solikamsk 69.38 338*d iP* **P 20 34 49.9 +0.2**
SOKR pmax pmax
comp=Z,20nm,0.8s
SOC Sochi 69.59 318 *eP* **P 20 34 49.5 -1.9**
SOC pmax pmax
comp=Z,46nm,0.9s
MAW Mawson 70.67 194 *eP* **P 20 34 58.3 +0.7**
comp=Z,3.8nm,1.0s
MAW Mawson 70.67 194 P **P 20 34 58.6 +1.1**
comp=Z,13nm,0.8s,baz=28,slow=7.4,SNR=28
MAW LR LR 21 00 34.3
comp=Z,258nm,18.2s,baz=24,slow=31
CSS Prodhromos 71.46 308 *eP* **P 20 35 02.3 -0.7**
comp=Z,48nm,1.1s
LSZ Lusaka 71.54 254 *eP* **P 20 35 04.1 +0.1**
comp=Z,7.0nm,0.9s
LSZ Lusaka 71.54 254 P **P 20 35 04.5 +0.5**
comp=Z,5.9nm,1.0s,baz=50,slow=11,SNR=7.7

VRHR Novokhopersk 71.58 326 *eP* **P 20 35 02.3 -1.1**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,40nm,1.0s
BR131 Keskin Array S 72.56 312 *eP* **P 20 35 08.9 -0.7**
comp=E,2.4nm,0.6s
BRTR Keskin Array B 72.56 312 P **P 20 35 08.9 -0.7**
BRTR Keskin Array B 72.56 312 P **P 20 35 08.9 -0.7**
comp=E,6.9nm,0.8s,baz=131,slow=7.0,SNR=43
BRTR LR LR 21 06 05.7
comp=E,69nm,19.5s,baz=273,slow=35
PETK Petropavlovsk- 72.73 32 P **P 20 35 09.8 -0.4**
PETK Petropavlovsk- 72.73 32 P **P 20 35 09.8 -0.4**
PETK Petropavlovsk- 72.73 32 P **P 20 35 09.8 -0.4**
comp=E,2.5nm,0.7s,baz=197,slow=4.5,SNR=5.3
PETK LR LR 21 08 52.0
comp=E,95nm,19.6s,baz=23,slow=37
VORD Divnogorie 72.85 325 *eP* **P 20 35 09.6 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD pmax pmax
comp=E,20nm,1.8s
VSR Storozhevoye 73.03 325 *eP* **P 20 35 10.4 -1.6**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
ANTO Ankara 73.22 312 ⇑P **P 20 35 13.7 +0.2**
ANTO Ankara 73.22 312 ⇑*iP* **P 20 35 13.7 +0.2**
ANTO Ankara 73.22 312 *eP* **P 20 35 13.0 -0.5**
comp=Z,18nm,1.0s
SIM Simferopol' 73.83 318 *d iP* **P 20 35 16.0 -0.9**
SIM pmax pmax
comp=Z,25nm,0.9s
ISP Isparta 74.39 310 ⇓P **P 20 35 19.7 -0.7**
ISP Isparta 74.39 310 ⇓*iP* **P 20 35 19.7 -0.7**
LBTB Lobatse 74.76 245 *eP* **P 20 35 24.2 +1.4**
comp=Z,162nm,2.6s
SEY Seymchan 75.34 22⇑*eP* **P 20 35 25.9 +0.7**
TIXI Tiksi 75.42 9⇓*eP* **P 20 35 25.5 0.0**
TIXI pmax pmax
comp=Z,28nm,1.7s
BOSA Boshof 75.44 241 P **P 20 35 26.1 -0.7**
BOSA Boshof 75.44 241 P **P 20 35 26.1 -0.7**
comp=Z,7.0nm,0.7s,baz=87,slow=6.9,SNR=13
BOSA LR LR 21 02 35.2
comp=Z,282nm,20.9s,baz=128,slow=31
RPZ Rata Peaks 75.75 135 *eP* **P 20 35 29.8 +1.8**
comp=Z,50nm,0.9s
MOS Moscow 75.76 329 *eP* **P 20 35 26.7 -1.1**
MOS pmax pmax
comp=Z,56nm,1.0s
OBN Obninsk 76.05 328 *c iP* **P 20 35 28.9 -0.5**
OBN *i* 20 35 36.1
OBN *i* 20 35 42.3
OBN pmax pmax
comp=Z,78nm,1.6s
OBN MLR MLR
comp=Z,100nm,20.0s
KARP Karpathos 76.51 307 *eP* **P 20 35 32.7 +0.1**
TIRR Tirgusor 77.59 316 ⇓P **P 20 35 38.4 0.0**
TIRR Tirgusor 77.59 316 ⇓*iP* **P 20 35 38.4 0.0**
LAST Lasithi 77.78 306 *eP* **P 20 35 39.6 -0.2**
CHOS Chios island 77.95 310 *eP* **P 20 35 40.5 -0.1**
CFR Carcaliu 77.96 317 ⇓P **P 20 35 40.1 -0.3**
CFR Carcaliu 77.96 317 ⇓*iP* **P 20 35 40.1 -0.3**
SYO Syowa Base 78.20 199 ⇑*iP* **P 20 35 41.8 +0.6**
SYO Syowa Base 78.20 199⇓*epP* pP 20 35 50.4 -4.6
LEOM Leova 78.21 318 ⇑P **P 20 35 42.6 +0.8**
LEOM Leova 78.21 318 ⇑*iP* **P 20 35 42.6 +0.8**
SIVA Sivas 78.30 306 *eP* **P 20 35 42.2 -0.3**
PGOR Pogoanele 78.69 316 ⇑*iP* **P 20 35 46.1 +1.7**
AKASG Malin Array Be 78.73 322 P **P 20 35 44.0 -0.5**
AKASG 20 38 42.3
AKASG Malin Array Be 78.73 322 P **P 20 35 44.0 -0.5**
AKASG PP **PP 20 38 42.2 -1.0**
AKASG Malin Array Be 78.73 322 P **P 20 35 44.0 -0.5**
comp=Z,2.7nm,0.7s,baz=84,slow=5.2,SNR=30
AKASG PP **PP 20 38 42.2 -1.0**
comp=Z,0.5nm,0.5s,baz=107,slow=6.4,SNR=4.3
KIEV Kiev 78.73 322 *eP* **P 20 35 43.5 -1.1**
KIEV pmax pmax
comp=Z,25nm,1.4s
KIEV Kiev 78.73 322 *eP* **P 20 35 43.5 -1.1**
comp=Z,25nm,1.4s
VAM Vamos 78.86 306 *eP* **P 20 35 45.8 +0.2**
RDO Rodhopi 78.90 312 *eP* **P 20 35 44.7 -1.0**
ISR Istrita 79.04 316 ⇑P **P 20 35 48.1 +1.6**
ISR Istrita 79.04 316 ⇑*iP* **P 20 35 48.0 +1.6**
VRI Vrincioaia 79.09 317 ⇓P **P 20 35 47.2 +0.5**
VRI Vrincioaia 79.09 317 ⇓*iP* **P 20 35 47.2 +0.5**
PLOR Plostina 79.14 317 ⇑P **P 20 35 48.0 +1.0**
PLOR Plostina 79.14 317 ⇑*iP* **P 20 35 48.0 +1.0**
TMCR Tamitsa 79.23 337 *eP* **P 20 35 47.5 +0.5**
TMCR *e* 20 35 55.7
TMCR pmax pmax
comp=Z,23nm,1.1s
TESR Tescani 79.29 318 ⇓*iP* **P 20 35 48.4 +0.6**
SECR 79.35 316 ⇓*iP* **P 20 35 49.5 +1.4**
MLR Muntele Rosu 79.53 317 ⇓*iP* **P 20 35 49.3 0.0**
PTL Penteli 79.58 309 *eP* **P 20 35 48.6 -0.9**
ANKY Antikythira Is 79.65 307 *eP* **P 20 35 48.9 -1.0**
AOS Alonnisos 79.76 310 *eP* pP 20 36 04.7 +0.4
DID Didima 79.97 308 *eP* **P 20 35 50.3 -1.4**
PAIG Paliouri 80.05 311 *eP* **P 20 35 51.2 -0.8**
VOIR 80.14 317 ⇓P **P 20 35 52.3 -0.2**
VOIR 80.14 317 ⇓*iP* **P 20 35 52.3 -0.2**
NVR Nevrokopi 80.17 312 *eP* **P 20 35 51.9 -0.8**
PLG Polygyros 80.31 311 *eP* **P 20 35 52.3 -1.2**
ARR Arges 80.41 316 ⇓*iP* **P 20 35 54.0 +0.1**
SOH Sokhos 80.46 312 *eP* **P 20 35 53.3 -1.0**
BURAR Bucovina Array 80.50 319 ⇓P **P 20 35 55.4 +1.0**
BURAR Bucovina Array 80.50 319 ⇓*iP* **P 20 35 55.4 +1.0**
BUR08 Bucovina Ar. S 80.51 319 *eP* **P 20 35 54.4 -0.1**
DYR Agios Nikonas 80.57 307 *eP* **P 20 35 54.2 -0.7**
VLX Vlachokerasia 80.63 308 *eP* **P 20 35 54.5 -0.8**
GUR Goura 80.74 309 *eP* **P 20 35 54.5 -1.4**
VTS Vitosha 80.88 313 ⇑P **P 20 35 56.8 +0.2**
VTS Vitosha 80.88 313 ⇑*iP* **P 20 35 56.8 +0.2**
KLV Kalavryta, Ach 80.91 309 *eP* **P 20 35 55.9 -0.9**
AGG Agios Georgios 80.93 310 *eP* **P 20 35 55.1 -1.7**
ITM Ithomi 80.95 308 *eP* **P 20 35 55.6 -1.4**
KALE Kalithea 80.97 309 *eP* **P 20 35 55.8 -1.3**
LIT Litokhoron 80.98 311 *eP* **P 20 35 56.0 -1.1**
TRIZ Trizonia 81.02 309 *eP* **P 20 35 56.3 -0.9**
LOT Lotru 81.02 316 ⇑*iP* **P 20 35 57.4 +0.1**
PYL PYLOS 81.06 308 *eP* **P 20 35 56.1 -1.4**
LAKA Lakka 81.08 309 *eP* **P 20 35 56.7 -0.9**
EFP Efpalio 81.16 309 *eP* **P 20 35 57.7 -0.3**
THL Klokotos Trika 81.26 310 *eP* **P 20 35 57.0 -1.5**
NACGM Naroch 81.30 326 *e* **P 20 35 56.0 -2.3**
EVR Evrytania 81.31 310 *eP* **P 20 35 58.0 -0.9**
IDID Didziasalis 81.43 326 *eP* **P 20 35 58.6 -0.4**
IDID AMB AMB 20 36 00.9
comp=Z,13nm,0.9s
RLS Riolos of Patr 81.45 309 *eP* **P 20 35 59.4 -0.1**
GZR Gura Zlata 81.70 316 ⇓P **P 20 36 00.7 -0.1**
GZR Gura Zlata 81.70 316 ⇓*iP* **P 20 36 00.6 -0.2**
DEV Deva 81.70 317 ⇓P **P 20 36 02.2 +1.5**
DEV Deva 81.70 317 ⇓*iP* **P 20 36 02.2 +1.5**
IIGN Ignalina 81.72 326 *eP* **P 20 36 00.4 -0.2**
IIGN AMB AMB 20 36 02.5
comp=Z,23nm,1.2s
LVV L'vov 81.74 321 *eP* **P 20 35 59.9 -0.9**
TSUM Tsumeb 81.84 251 *eP* **P 20 36 01.7 -0.4**
comp=Z,9.7nm,0.9s
FNA Florina 81.93 311 *eP* **P 20 36 00.5 -1.6**
DRGR 82.00 318 ⇓P **P 20 36 03.2 +0.8**
DRGR 82.00 318 ⇓*iP* **P 20 36 03.2 +0.8**
VLS Valsamata 82.15 309 *eP* **P 20 36 02.1 -1.1**
LKD2 Lefkada island 82.18 309 *eP* **P 20 36 03.3 -0.1**
TRPA Tarpa 82.37 319 ⇓*iP* **P 20 36 05.2 +1.1**
BZS Buzias 82.54 316 ⇑P **P 20 36 05.9 +0.8**
BZS Buzias 82.54 316 ⇑*iP* **P 20 36 05.9 +0.8**
KWP Kalwaria Pacla 82.54 320 ⇓P **P 20 36 05.8 +0.7**
KWP Kalwaria Pacla 82.54 320 ⇓*iP* **P 20 36 05.8 +0.7**
KWP Kalwaria Pacla 82.54 320 *eP* **P 20 36 05.7 +0.7**
UZH Uzhgorod 82.62 319 *eP* **P 20 36 05.7 +0.3**
UZH *e* 20 36 21.9
KOLS Kolonicke sedl 82.69 320 *eP* **P 20 36 07.0 +1.2**
KOLS pmax pmax
comp=Z,35nm,1.0s
KOLS Kolonicke sedl 82.69 320 *eP* **P 20 36 07.0 +1.2**
VNDA Vanda 82.79 169 *eP* **P 20 36 06.1 +0.3**
comp=Z,12nm,1.1s
VNDA Vanda 82.79 169 P **P 20 36 06.8 +1.0**
comp=Z,7.6nm,1.0s,baz=291,slow=5.5,SNR=21
VNDA LR LR 21 07 57.3
comp=Z,133nm,19.6s,baz=320,slow=32
KEK Kerkira 82.97 310 *eP* **P 20 36 06.6 -0.9**
SUW Suwalki 83.13 325 *eP* **P 20 36 07.2 -0.8**
SUW pmax pmax
comp=Z,99nm,1.1s
SUW Suwalki 83.13 325 *eP* **P 20 36 07.2 -0.8**
comp=Z,99nm,1.1s
SUW Suwalki 83.13 325 *eP* **P 20 36 08.1 +0.2**
CRVS Cervenica-Dubn 83.21 319 *eP* **P 20 36 09.1 +0.6**
CRVS pmax pmax
comp=Z,10.0nm,1.1s
CRVS Cervenica-Dubn 83.21 319 *eP* **P 20 36 09.1 +0.6**
FINES FINESS Array B 83.38 332 P **P 20 36 09.1 0.0**
FINES FINESS Array B 83.38 332 P **P 20 36 09.1 0.0**
comp=Z,6.5nm,0.7s,baz=102,slow=6.2,SNR=24
STHS Stebnicka Huta 83.44 320 *eP* **P 20 36 11.1 +1.4**
STHS pmax pmax
comp=Z,15nm,0.8s
STHS Stebnicka Huta 83.44 320 *eP* **P 20 36 11.1 +1.4**
KAF Kangasniemi 83.46 333 *eP* **P 20 36 09.0 -0.5**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 83.46 333 *ep* **P 20 36 09.0 -0.5**
comp=Z,1.8nm,0.4s
KECS Kecovo 83.78 319 *eP* **P 20 36 11.9 +0.5**
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 83.78 319 *eP* **P 20 36 11.9 +0.5**
SBA Scott Base 83.89 169 *eP* **P 20 36 11.9 +0.5**
SBA pmax pmax
comp=Z,12nm,0.9s
SBA Scott Base 83.89 169 *eP* **P 20 36 11.9 +0.5**
comp=Z,12nm,0.9s
NIE Niedzica 84.04 320 *eP* **P 20 36 15.8 +3.0**
PSZ Piszkesteto 84.08 318 ⇓P **P 20 36 13.7 +0.6**
PSZ Piszkesteto 84.08 318 ⇓*iP* **P 20 36 13.6 +0.5**
PSZ Piszkesteto 84.08 318 *eP* **P 20 36 12.7 -0.4**
comp=Z,16nm,0.9s
BEL Belsk 84.14 322 *eP* **P 20 36 14.1 +0.9**
OJC Ojcow 84.50 321 *eP* **P 20 36 15.5 +0.4**
OJC pmax pmax
comp=Z,14nm,1.0s
OJC Ojcow 84.50 321 *eP* **P 20 36 15.5 +0.4**
comp=Z,14nm,1.0s
PKSM Moragy 84.68 316 ⇑P **P 20 36 16.8 +0.7**
PKSM Moragy 84.68 316 ⇑*iP* **P 20 36 16.8 +0.7**
OKC Ostrava-Krasne 85.49 320 *eP* **P 20 36 20.4 +0.4**
OKC *e* 20 36 28.7
OKC Ostrava-Krasne 85.49 320 *eP* **P 20 36 20.4 +0.4**
OKC *ep*P pP 20 36 28.7 -5.3
ARCES ARCESS Array B 85.78 340 P **P 20 36 20.9 -0.2**
ARCES ARCESS Array B 85.78 340 P **P 20 36 20.9 -0.2**
comp=Z,11nm,1.0s,baz=189,slow=3.1,SNR=11
ARCES LR LR 21 18 16.2
comp=Z,169nm,21.4s,baz=252,slow=38
SMOL Smolenice 85.80 319 *eP* **P 20 36 22.3 +0.7**
SMOL Smolenice 85.80 319 *eP* **P 20 36 22.3 +0.7**
CEL Celeste 85.83 308 *eP* **P 20 36 21.9 -0.1**
comp=Z,36nm,0.9s
MORC Moravsky Berou 85.88 320 *eP* **P 20 36 22.7 +0.7**
MORC pmax pmax
comp=Z,14nm,1.0s
MORC Moravsky Berou 85.88 320 *eP* **P 20 36 22.7 +0.7**
comp=Z,14nm,1.0s
ZST Bratislava 85.97 318 *eP* **P 20 36 23.7 +1.2**
ZST Bratislava 85.97 318 *eP* **P 20 36 23.7 +1.2**
CUC Castrocucco 86.05 310 *eP* **P 20 36 22.6 -0.4**
comp=Z,13nm,0.9s
GKP Gorka Klasztor 86.50 323 *eP* **P 20 36 25.2 +0.3**
DPC Dobruska-Polom 86.72 320 *iP* **P 20 36 27.4 +1.2**
DPC *e* 20 36 35.9
DPC Dobruska-Polom 86.72 320 *iP* **P 20 36 27.4 +1.2**
DPC *ep*P **pP 20 36 35.9 -4.2**
DPC Dobruska-Polom 86.72 320 *eP* **P 20 36 26.9 +0.7**
comp=Z,86nm,1.0s
CONA Conrad Observa 86.77 318 ⇑*iP* **P 20 36 26.7 +0.2**
comp=Z,6.1nm,1.0s,SNR=5.1
KSP Ksiaz 86.80 321 *eP* **P 20 36 27.0 +0.6**
KSP Ksiaz 86.80 321 *eP* **P 20 36 27.2 +0.8**
ARSA Arzberg 86.93 317 ⇑*iPcP* **P 20 36 27.9 +0.6**
comp=Z,18nm,1.2s,SNR=9.8
UPC Upice 86.94 321 *eP* **P 20 36 28.1 +0.9**
UPC *e* 20 36 35.0
UPC Upice 86.94 321 *eP* **P 20 36 28.1 +0.9**
UPC *ep*P PcP 20 36 35.0 +5.7
BOJS Bojanci 86.96 316 *iP* **P 20 36 27.6 +0.3**
TREC Trest 87.15 319 *iP* **P 20 36 28.8 +0.5**
TREC Trest 87.15 319 *iP* **P 20 36 28.8 +0.5**
SOKA Soboth 87.22 317 ⇓*iPcP* **P 20 36 29.4 +0.7**
comp=Z,20nm,1.0s,SNR=22
OBKA Obir 87.53 316 ⇓*iPcP* **P 20 36 30.8 +0.6**
comp=Z,11nm,1.2s,SNR=5.5
PRU Pruhonice 87.83 320 *iP* **P 20 36 32.2 +0.8**
PRU *e* 20 36 40.6
PRU Pruhonice 87.83 320 *iP* **P 20 36 32.2 +0.8**
PRU *ep*P **pP 20 36 40.6 -4.8**
PVCC Panska Ves 87.86 320 *iP* **P 20 36 32.7 +1.1**
PVCC *e* 20 36 39.6
PVCC Panska Ves 87.86 320 *iP* **P 20 36 32.7 +1.1**
PVCC *ep*P pP 20 36 39.6 -6.0
MAIT Maitri 87.87 199 *eP* **P 20 36 31.9 +0.7**
AQU L'Aquila 88.05 312 *eP* **P 20 36 33.3 +0.5**
comp=Z,60nm,1.0s
MYKA Terra Mystica 88.17 317 *iPcP* **P 20 36 33.7 +0.5**
comp=Z,12nm,1.2s,SNR=7.6
BRG Berggiesshubel 88.28 321 ⇓*iP* **P 20 36 34.7 +1.1**
comp=Z,18nm,1.1s
BRG *e* 20 36 43.0
comp=Z,20nm,1.4s
BRG Berggiesshubel 88.28 321 *eP* **P 20 36 34.7 +1.1**
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 88.28 321 ⇓*iP* **P 20 36 34.7 +1.1**
BRG *e* 20 36 43.0
BRG pmax pmax
comp=Z,18nm,1.1s
BRG pmax pmax
comp=Z,20nm,1.4s
GEC2 GERESS Array S 88.28 319 *eP* **P 20 36 34.7 +0.9**
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 88.28 319 *eP* **P 20 36 34.7 +0.9**
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GERES GERESS Array B 88.28 319 P **P 20 36 34.5 +0.8**
GERES GERESS Array B 88.28 319 P **P 20 36 34.5 +0.8**
comp=Z,6.1nm,0.8s,baz=97,slow=4.2,SNR=69
GERES LR LR 21 21 53.8
comp=Z,51nm,19.0s,baz=277,slow=40
KHC Kasperske Hory 88.39 319 *iP* **P 20 36 34.7 +0.5**
KHC *e* 20 36 42.2
KHC Kasperske Hory 88.39 319 *iP* **P 20 36 34.7 +0.5**
KHC *ep*P pP 20 36 42.2 -6.0
KHC Kasperske Hory 88.39 319 *eP* **P 20 36 34.0 -0.2**
comp=Z,4.5nm,0.8s
KBA Koelnbreinsper 88.40 317 ⇓*iP* **P 20 36 34.0 -0.4**
comp=Z,7.2nm,1.2s
QSPA South Pole Qui 88.50 180 *eP* **P 20 36 34.5 +0.1**
comp=Z,20nm,1.0s
RJOB Jochberg 88.81 318 *eP* **P 20 36 36.4 +0.1**
comp=Z,6.0nm,0.8s
WET Wettzell 88.85 319 *eP* **P 20 36 37.4 +1.1**
comp=Z,9.0nm,0.9s
WET Wettzell 88.85 319 *eP* **P 20 36 37.4 +1.1**
WET pmax pmax
comp=Z,9.0nm,0.9s
ATKA Atka Island 88.90 38 *eP* **P 20 36 35.4 -1.0**
comp=Z,30nm,1.0s
CLL Collm 88.90 321 *eP* **P 20 36 37.1 +0.6**
comp=Z,10.0nm,0.9s
CLL Collm 88.90 321 *iP* **P 20 36 36.7 +0.2**
CLL *i* 20 36 45.0
CLL *e*S **S 20 47 22.0 +1.3**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 88.90 321 *iP* **P 20 36 36.7 +0.2**
comp=Z,15nm,1.0s
CLL *i*pP pP 20 36 45.0 -5.5
CLL *e*S **S 20 47 22.0 +1.3**
CLL *e*PS **PS 20 48 36.0 +5.2**
CLL *e*SS **SS 20 53 18.0 +4.0**
CLL *e* 20 58 00.0
CLL *e* 20 59 24.0
CLL Lm MLR 21 25 00.0
comp=Z,100nm,19.9s
ABTA Abfaltersbach 88.95 317 ⇓*iP* **P 20 36 36.8 -0.1**
comp=Z,9.4nm,1.1s,SNR=6.6
NKC Novy Kostel 89.19 320 *iP* **P 20 36 39.0 +1.1**
NKC *e* 20 36 47.4
NKC Novy Kostel 89.19 320 *iP* **P 20 36 39.0 +1.1**
NKC *e*PCP **PcP 20 36 41.2 +1.9**
NKC *ep*P **pP 20 36 47.4 -4.5**
TANN Tannenbergstha 89.19 320 *eP* **P 20 36 38.8 +0.8**
comp=Z,6.0nm,1.0s
ROTZ Rotzenmuhle 89.32 320 *eP* **P 20 36 39.9 +1.4**
comp=Z,8.0nm,0.9s
MANZ Manzenberg 89.39 320 *eP* **P 20 36 40.4 +1.5**
comp=Z,13nm,0.9s
WTTA Wattenberg 89.58 317⇑*iPcP* **P 20 36 40.0 0.0**
comp=Z,18nm,0.9s,SNR=10
WATA Walderalm 89.62 317⇑*iP* **P 20 36 39.9 -0.2**
comp=Z,15nm,1.1s,SNR=6.7
NEUB Neuenburg 89.67 321 *eP* **P 20 36 41.3 +1.2**
comp=Z,24nm,0.9s
MOX Moxa 89.74 320 *eP* **P 20 36 41.6 +1.1**
comp=Z,8.0nm,1.0s
MOX *ep*P pP 20 36 49.2 -5.3
MOX Moxa 89.74 320 *eP* **P 20 36 41.6 +1.1**
MOX *e*PP pP 20 36 49.2 -5.3
MOX pmax pmax
comp=Z,8.0nm,1.0s
MOTA Moosalm 89.94 317⇑*iPcP* **P 20 36 41.7 0.0**
comp=Z,22nm,1.1s,SNR=13
GRF Grafenberg Arr 89.95 320 *eP* **P 20 36 42.8 +1.3**
comp=Z,13nm,0.9s
GRF Grafenberg Arr 89.95 320 *eP* **P 20 36 42.8 +1.3**
GRF pmax pmax
comp=Z,13nm,0.9s
GRFO Grafenberg 89.95 320 *eP* **P 20 36 41.3 -0.2**
GRFO pmax pmax
comp=Z,18nm,1.0s
GRFO Grafenberg 89.95 320 *eP* **P 20 36 41.3 -0.2**
comp=Z,18nm,1.0s
RETA Reutte 90.18 317⇑*iPcP* **P 20 36 43.1 +0.4**
comp=Z,19nm,1.0s,SNR=11
FETA Feichten 90.18 317⇓*iPcP* **P 20 36 43.3 +0.4**
comp=Z,15nm,1.1s,SNR=7.4
NOA NORSAR Array B 90.41 331 LR LR 21 21 27.5
comp=Z,104nm,19.7s,baz=90,slow=38
FUORN Ofenpass-Fuorn 90.49 316 *eP* **P 20 36 44.0 -0.3**
comp=Z,28nm,0.9s
NRDL Niedersach Rie 90.75 322 *eP* **P 20 36 46.4 +1.4**
comp=Z,20nm,1.2s
DAVA Damuels 90.77 317⇓*iPcP* **PcP 20 36 46.3 -0.3**
comp=Z,37nm,1.0s,SNR=16
UBBA Unterbreizbach 90.77 321 *eP* **P 20 36 46.1 +1.0**
comp=Z,2.0nm,0.9s
KEST Kesra 90.93 306 *eP* **P 20 36 45.9 -0.5**
KEST Kesra 90.93 306 P **P 20 36 47.3 +0.9**
comp=Z,12nm,0.9s,baz=196,slow=0.8,SNR=28
TUE Stuetta 91.12 316 *eP* **P 20 36 46.5 -0.7**
comp=Z,7.7nm,1.0s
STU Stuttgart 91.26 319 *eP* **P 20 36 48.5 +0.9**
comp=Z,7.0nm,0.7s
PGF Pioggiola 91.31 312 *eP* **P 20 36 48.6 +0.5**
comp=Z,45nm,1.1s
TNS Taunus Mts 91.76 320 *eP* **P 20 36 51.2 +1.3**
comp=Z,14nm,0.9s
TNS Taunus Mts 91.76 320 *eP* **P 20 36 51.2 +1.3**
TNS pmax pmax
comp=Z,14nm,0.9s
BFO Black Forest 91.83 318 P **P 20 36 50.6 +0.3**
comp=Z,62nm,0.9s,SNR=6.1
BFO Black Forest 91.83 318 *eP* **P 20 36 50.8 +0.5**
comp=Z,6.0nm,0.8s
BFO *ep*P pP 20 36 59.1 -5.2
BFO Black Forest 91.83 318 *eP* **P 20 36 50.8 +0.5**
BFO *e*PP pP 20 36 59.1 -5.2
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 91.83 318 *eP* **P 20 36 49.3 -0.9**
SBF Sospel 92.46 314 *eP* **P 20 36 53.7 +0.4**
SNAA Sanae 92.48 198 *eP* **P 20 36 55.1 +2.3**
CDF Champ du Feu 92.53 318 *eP* **P 20 36 53.7 +0.1**
comp=Z,12nm,1.1s
SENIN Lac Senin/Sane 92.54 316 *eP* **P 20 36 52.9 -0.9**
comp=Z,6.0nm,0.9s
ECH Echery 92.61 318 *eP* **P 20 36 53.5 -0.4**
ECH pmax pmax
comp=Z,5.0nm,1.0s
ECH Echery 92.61 318 *eP* **P 20 36 53.5 -0.4**
comp=Z,5.1nm,1.0s
MBDF Montbardon 92.93 315 *eP* **P 20 36 55.3 -0.3**
comp=Z,8.2nm,0.9s
LPG La Plagne 92.93 315 *eP* **P 20 36 56.1 +0.4**
comp=Z,10nm,0.8s
LPL La Plagne 92.94 315 *eP* **P 20 36 56.1 +0.4**
comp=Z,9.1nm,0.6s
BNI Bardonecchia 92.99 315 *eP* **P 20 36 56.4 +0.6**
BNI pmax pmax
comp=Z,6.0nm,1.1s
BNI Bardonecchia 92.99 315 *eP* **P 20 36 56.4 +0.6**
comp=Z,6.5nm,1.1s
FRF La Foret Royal 93.03 313 *eP* **P 20 36 56.4 +0.5**
comp=Z,13nm,0.8s
HAU Haudompre 93.16 318 *eP* **P 20 36 56.6 +0.2**
comp=Z,33nm,1.1s
CABF La Chapelle 93.37 316 *eP* **P 20 36 58.0 +0.5**
ORIF Oris-en-Rattie 93.56 315 *eP* **P 20 36 58.9 +0.5**
comp=Z,9.5nm,0.9s
PAGF Fort de Pagny 93.56 318 *eP* **P 20 36 58.5 +0.3**
SMRF Simiane la Rot 93.80 314 *eP* **P 20 37 00.4 +0.9**
comp=Z,15nm,1.1s
SFTF Sexfontaines 94.03 318 *eP* **P 20 37 00.7 +0.3**
comp=Z,54nm,1.2s
VNA2 Neumayer--Watz 94.09 198 *eP* **P 20 37 00.1 -0.1**
VIVF Saint-Julien-l 94.42 315 *eP* **P 20 37 02.5 +0.2**
comp=Z,4.8nm,0.7s
VNA1 Neumayer--Stat 94.44 199 *eP* **P 20 37 04.5 +2.7**
LOR Lormes 94.87 317 *eP* **P 20 37 04.5 +0.2**
comp=Z,10nm,0.9s
SMF Signal de Mont 94.92 317 *eP* **P 20 37 04.6 +0.1**
comp=Z,6.5nm,0.8s
AVF Avril sur Loir 95.24 317 *eP* **P 20 37 06.2 +0.3**
comp=Z,6.3nm,1.0s
BGF Bois d'Agland 95.61 316 *eP* **P 20 37 08.3 +0.7**
MTLF Montolieu 96.27 313 *eP* **P 20 37 11.1 +0.4**
comp=Z,2.2nm,0.7s
LDF La Druitiere 97.43 319 *eP* Pdif 20 37 15.9 0.0
comp=Z,8.7nm,0.9s
MFF Saint Martin d 97.66 317 *eP* Pdif 20 37 17.0 0.0
TORD Torodi Ar. Bea 97.88 283 P Pdif 20 37 18.9 +0.3
TORD PP **PP 20 41 19.7 +2.1**
TORD Torodi Ar. Bea 97.88 283 P Pdif 20 37 18.9 +0.3
comp=Z,1.9nm,0.8s,baz=75,slow=4.4,SNR=11
TORD PP **PP 20 41 19.7 +2.1**
comp=Z,0.5nm,0.9s,baz=76,slow=6.9,SNR=4.0
TORD LR LR 21 19 49.0
comp=Z,71nm,20.0s,baz=120,slow=34
IM04 Indian Mountai 98.12 23 *eP* **P 20 37 18.0 -0.6**
IMA2 Indian Mountai 98.13 23 *eP* **P 20 37 18.0 -0.8**
ILAR Eielson Array 101.24 24 PKKPbc PKKPbc 20 53 42.7 -2.3
ILAR Eielson Array 101.24 24 PKKPbc PKKPbc 20 53 42.7 -2.3
comp=Z,1.4nm,0.8s,baz=138,slow=2.0,SNR=9.5
LIC Lamto 104.55 276 *eP* **Pdif 20 37 48.1 -0.2**
DLMT Dillon 127.98 28 *e*PKPdf **PKPdf 20 42 47.6 -0.7**
BOZ Bozeman (W) 128.22 27 *e*PKIKP **PKPdf 20 42 48.1 -0.7**
BOZ Bozeman (W) 128.22 27 *e*PKPdf **PKPdf 20 42 48.1 -0.7**
HLID Hailey 128.38 31 *e*PKPdf **PKPdf 20 42 49.8 +0.7**
QLMT Earthquake Lak 128.93 28 *e*PKPdf **PKPdf 20 42 49.4 -0.8**
NVAR Mina Array Bea 129.53 39 PKP **PKPdf 20 42 52.2 +0.6**
NVAR SKPbc SKPbc 20 46 11.6 +1.8
NVAR Mina Array Bea 129.53 39 PKP **PKPdf 20 42 52.2 +0.6**
comp=Z,1.0nm,0.8s,baz=266,slow=3.0,SNR=6.1
NVAR SKPbc SKPbc 20 46 11.6 +1.8
comp=Z,0.6nm,0.9s,baz=318,slow=2.0,SNR=4.0
RRI2 Red Ridge 130.09 29 *e*PKPdf **PKPdf 20 42 50.5 -2.1**
REDW Red Top Meadow 130.30 29 *e*PKPdf **PKPdf 20 42 53.7 +0.8**
BGU Big Grassy Mou 130.96 33 *e*PKPdf **PKPdf 20 42 53.9 -0.2**
PDAR Pinedale Array 131.37 28 PKP **PKPdf 20 42 55.6 +0.6**

PDAR SKPbc **SKPab** **20 46 18.1 +1.4**
PDAR Pinedale Array 131.37 28 PKP **PKPdf** **20 42 55.6 +0.6**
comp=Z,0.6nm,0.7s,baz=222,slow=2.0,SNR=6.2
PDAR SKPbc **SKPab** **20 46 18.1 +1.4**
comp=Z,2.1nm,1.1s,baz=333,slow=2.0,SNR=8.1
DUG Dugway 131.59 33 *e*PKIKP **PKPdf** **20 42 55.4 0.0**
DUG Dugway 131.59 33 *e*PKPdf **PKPdf** **20 42 55.4 0.0**
RSSD Black Hills 132.68 23 *e*PKIKP **PKPdf** **20 42 55.9 -1.5**
RSSD Black Hills 132.68 23 *e*PKPdf **PKPdf** **20 42 55.9 -1.5**
SRU San Rafael 133.60 32 *e*PKIKP **PKPdf** **20 42 58.8 -0.4**
SRU San Rafael 133.60 32 *e*PKPdf **PKPdf** **20 42 58.8 -0.4**
ECSD EROS Data Cent 135.55 17 *e*PKPdf **PKPdf** **20 43 00.6 -1.9**
ANMO Albuquerque 138.86 33 *e*PKPdf **PKPdf** **20 43 08.1 -1.1**
WCI Wyandotte Cave 143.03 8 *e*PKIKP PKPbc 20 43 13.9 +0.8
WCI Wyandotte Cave 143.03 8 *e*PKPdf PKPbc 20 43 13.9 +0.8
BDFB Brasilia 143.63 241 PKP PKPbc 20 43 16.6 +1.1
BDFB Brasilia 143.63 241 PKP PKPbc 20 43 16.6 +1.1
comp=Z,2.7nm,0.4s,baz=185,slow=2.7,SNR=6.0
CPUP Villa Florida 144.42 217 PKP **PKPdf** **20 43 18.3 -0.7**
CPUP Villa Florida 144.42 217 PKP **PKPdf** **20 43 18.3 -0.7**
comp=Z,45nm,0.8s,baz=93,slow=2.3,SNR=101
TXAR Lajitas Array 144.60 36 PKP **PKPdf** **20 43 18.8 -0.6**
TXAR Lajitas Array 144.60 36 PKP **PKPdf** **20 43 18.8 -0.6**
comp=Z,10.0nm,0.8s,baz=253,slow=1.3,SNR=50
WVT Waverly 144.85 10 *e*PKIKP **PKPab** **20 43 17.9 -0.6**
WVT Waverly 144.85 10 *e*PKPdf **PKPab** **20 43 17.9 -0.6**
MIAR Mount Ida 144.91 19 *e*PKIKP PKPbc 20 43 18.8 0.0
MIAR Mount Ida 144.91 19 *e*PKPdf **PKPab** **20 43 18.8 0.0**
TZTN Tazewell 144.98 4 *e*PKPdf **PKPab** **20 43 18.3 -0.7**
UALR University of 145.08 17 *e*PKPdf **PKPbc** **20 43 18.2 -1.1**
TKL Tuckaleechee C 145.84 5 *e*PKPdf **PKPdf** **20 43 21.1 -0.2**
JCT Junction City 145.85 30 *e*PKP2 **PKPbc** **20 43 21.9 -0.1**
JCT Junction City 145.85 30 *e*PKPdf **PKPbc** **20 43 21.9 -0.1**
CPCT Cooper Cave 145.98 6 *e*PKPdf **PKPdf** **20 43 21.4 -0.1**
OXF Oxford 146.09 13 *e*PKP2 **PKPdf** **20 43 21.8 +0.1**
OXF Oxford 146.09 13 *e*PKPdf **PKPdf** **20 43 21.8 +0.1**
LRAL Lakeview Retre 148.01 10 *e*PKPbc **PKPbc** **20 43 27.6 -0.4**
HKT Hockley 148.16 26 *e*PKIKP **PKPdf** **20 43 24.6 -0.6**
HKT Hockley 148.16 26 *e*PKPdfr **PKPdf** **20 43 24.6 -0.6**
LPAZ La Paz 158.52 214 PKP **PKPdf** **20 43 41.1 -0.2**
LPAZ PKPab **PKPab** **20 44 16.5 +0.5**
LPAZ La Paz 158.52 214 PKP **PKPdf** **20 43 41.1 -0.2**
comp=Z,2.4nm,0.9s,baz=90,slow=2.3,SNR=9.8
LPAZ PKPab **PKPab** **20 44 16.5 +0.5**
comp=Z,2.2nm,0.8s,baz=173,slow=0.3,SNR=4.1
ROSC El Rosal 172.93 299 PKP **PKPdf** **20 43 53.3 +0.5**
ROSC El Rosal 172.93 299 PKP **PKPdf** **20 43 53.3 +0.5**
comp=Z,3.8nm,0.5s,baz=264,slow=22,SNR=3.9
OTAV Otavalo 177.57 240 *e*PKPdf **PKPdf** **20 43 54.3 +0.1**

*CSEM **16** 20:26:30.3, 42.˚25N×13.˚51E, h6km, MD1.9/6, After ROM*
ROM 16 20:26:30.3±0.0, 42.˚25N×13.˚51E, h6km, Md1.9/6, Ml1.5/2, Error ellipse: s-maj=0.4km s-min=0.3km az=14.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.06**	**71**	Pg	Pg	20 26 32.1	+0.2
FAGN				Sg	Sg	20 26 33.3	+0.3
511nm,0.2s							
FAGN	**Fagnano**	**0.06**	**71**	Pg	Pg	20 26 32.1	+0.2
FAGN				Sg	Sg	20 26 33.3	+0.3
511nm,0.2s							
AQU	**L'Aquila**	**0.13**	**322**	Pg	Pg	20 26 33.7	+0.5
AQU				Sg	Sg	20 26 35.8	+0.7
52nm,0.3s							
AQU	**L'Aquila**	**0.13**	**322**	Pg	Pg	20 26 33.7	+0.5
AQU				Sg	Sg	20 26 35.8	+0.7
52nm,0.3s							
PTQR	**Pietraquaria**	**0.24**	**200**	Pg	Pg	20 26 35.8	+0.6
3.0nm,0.3s							
PTQR	**Pietraquaria**	**0.24**	**200**	Pg	Pg	20 26 35.8	+0.6
3.0nm,0.3s							
VCEL	**Villa Celiera**	**0.28**	**59**	Pg	Pg	20 26 36.8	+0.7
VCEL				Sg	Sg	20 26 41.3	+1.3
VCEL	**Villa Celiera**	**0.28**	**59**	Pg	Pg	20 26 36.8	+0.7
VCEL				Sg	Sg	20 26 41.3	+1.3

IDC 16 20:41:17.8±0.7, 11.˚37N×141.˚17E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/25, mbtmp4.0/14, Error ellipse: s-maj=32.5km s-min=16.1km az=85.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**25.20**	**354**	P	P	20 46 45.4	+0.2
1.0nm,0.7s,baz=183,slow=10,SNR=5.8							
WRA	**Warramunga Arr**	**31.84**	**192**	P	P	20 47 42.9	-1.6
1.0nm,0.8s,baz=12,slow=9.4,SNR=4.8							
USRK	**Ussuriysk Arra**	**33.65**	**348**	P	P	20 48 01.1	+0.9
1.4nm,0.8s,baz=168,slow=8.6,SNR=5.3							
ASAR	**Alice Springs**	**35.54**	**192**	P	P	20 48 17.9	+1.1
0.5nm,0.8s,baz=17,slow=12,SNR=7.9							
STKA	**Stephens Creek**	**43.00**	**179**	P	P	20 49 19.2	+0.1
2.6nm,0.7s,baz=5.0,slow=1.2,SNR=4.3							
SONM	**Songino Array**	**46.57**	**328**	P	P	20 49 48.6	+1.1
0.4nm,0.7s,baz=137,slow=7.1,SNR=4.3							
MKAR	**Makanchi Array**	**60.62**	**318**	P	P	20 51 30.7	+0.2
1.2nm,1.0s,baz=105,slow=9.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**61.36**	**326**	P	P	20 51 34.9	-0.5
0.8nm,0.8s,baz=90,slow=5.8,SNR=4.1							
KURBB	**Kurchatov Arra**	**64.02**	**321**	P	P	20 51 53.0	-0.2
0.8nm,0.3s,baz=103,slow=7.0,SNR=5.9							
ILAR	**Eielson Array**	**72.11**	**25**	P	P	20 52 42.8	-1.0
2.1nm,0.7s,baz=248,slow=6.0,SNR=36							
YKA	**Yellowknife Ar**	**86.47**	**27**	P	P	20 54 02.8	+0.6
2.5nm,0.8s,baz=290,slow=5.7,SNR=3.7							
ARCES	**ARCESS Array B**	**88.05**	**342**	P	P	20 54 09.5	-0.3
1.6nm,0.7s,baz=54,slow=12,SNR=4.2							
NVAR	**Mina Array Bea**	**91.12**	**51**	P	P	20 54 26.1	+0.9
1.5nm,0.8s,baz=268,slow=6.9,SNR=9.6							
FINES	**FINESS Array B**	**91.60**	**334**	P	P	20 54 24.8	-1.7
2.9nm,0.8s,baz=87,slow=3.1,SNR=6.2							
TORD	**Torodi Ar. Bea**	**132.98**	**300**	PKP	PKPdf	21 00 36.4	+0.2
0.4nm,1.0s,baz=48,slow=2.7,SNR=3.1							
LPAZ	**La Paz**	**151.15**	**103**	PKPbc	PKPbc	21 01 14.4	-0.4
1.6nm,0.8s,baz=344,slow=1.7,SNR=9.2							

*IDC **16** 20:44:16.1±0.5, 1.˚65S×99.˚49E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.3/30, mbtmp4.2/26, ML3.8/2, Error ellipse: s-maj=17.4km s-min=11.4km az=57.0*
*AUST **16** 20:44:18.0, 1.˚89S×99.˚49E, h0km*
*NEIC **16** 20:44:17.6±0.2, 1.˚62S×99.˚51E, h10km, mb4.5/2, Error ellipse: s-maj=8.1km s-min=4.8km az=61.0*
*ISCJB **16** 20:44:18.9±0.4, 1.˚55S±0.˚05×99.˚50E±0.˚06, h30km, mb4.3/27, Error ellipse: s-maj=11.1km s-min=4.7km az=140.8*
*DJA **16** 20:44:24.0±6.6, 2.˚S±11.˚×10.˚1E±5.˚5, h344km±55km, M4.2/5, MLv4.2/5*
ISC 16 20:44:20.8±0.4, 1.˚54S±0.˚07×99.˚56E±0.˚07, h30km, n99, σ19/103, mb4.3/27, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.98**	**106**	P	**Pb**	**20 44 57.7**	**+1.5**
RGRI	**Rengat**	**3.01**	**67**	P	**Pb**	**20 45 12.3**	**-1.5**
RGRI	**Rengat**	**3.01**	**67**	P	**Pb**	**20 45 12.6**	**-1.2**
MASI	**Maura Aman, Be**	**3.11**	**121**	P	**Pn**	**20 45 10.4**	**+2.5**
MASI	**Maura Aman, Be**	**3.11**	**121**	P	**Pn**	**20 45 10.5**	**+2.5**
KSI	**Kapahiang**	**3.68**	**125**	P	**Pn**	**20 45 17.6**	**+1.8**
KSI	**Kapahiang**	**3.68**	**125**	P	**Pn**	**20 45 17.3**	**+1.5**
PSI	**Prapat**	**4.36**	**352**	Pn	**Pn**	**20 45 23.8**	**-1.3**
PSI	**Prapat**	**4.36**	**352**	Pn	**Pn**	**20 45 23.8**	**-1.3**
1.3nm,0.3s,baz=166,slow=8.3,SNR=6.2							
PSI	**Prapat**	**4.36**	**352**	P	**Pn**	**20 45 27.6**	**+2.4**
baz=4.6,SNR=5.3							
MNAI	**Manna**	**4.40**	**130**	P	**Pn**	**20 45 26.6**	**+1.0**
MNAI	**Manna**	**4.40**	**130**	P	**Pn**	**20 45 27.0**	**+1.4**
baz=4.3,SNR=20							
MNAI				S	**Sn**	**20 46 17.2**	**+1.3**
baz=4.3,SNR=6.8							
BTDF	**Bukit Timah Da**	**5.10**	**56**	P	Pn	20 45 40.7	+5.5
baz=5.4,SNR=5.4							
BTDF				P	Pn	20 45 40.7	+5.5
baz=5.4,SNR=5.4							
MYKOM	**Kota Tinggi**	**5.41**	**52**	P	Pn	20 45 43.5	+4.0
MYKOM	**Kota Tinggi**	**5.41**	**52**	P	Pn	20 45 45.8	+6.3
LWLI	**Liwa**	**5.67**	**128**	P	**Pn**	**20 45 45.5**	**+2.4**
KLSI		**6.04**	**121**	P	Pn	20 45 37.0	-11
KLSI		**6.04**	**121**	P	**Pn**	**20 45 50.7**	**+2.6**
IPM	**Ipoh**	**6.15**	**14**	*e*Pn	**Pn**	**20 45 51.3**	**+1.5**
20nm,0.6s							
KASI	**Kota Agung**	**6.32**	**129**	P	Pn	20 45 41.2	-11
KASI	**Kota Agung**	**6.32**	**129**	P	**Pn**	**20 45 52.9**	**+0.9**
CISI	**Cisompet, Garu**	**10.17**	**126**	P	**Pn**	**20 46 43.2**	**-1.7**
baz=10.0,SNR=6.2							
CISI				S	**Sn**	**20 48 32.7**	**-5.3**
baz=10.0,SNR=4.8							
UGM	**Wanagama**	**12.62**	**120**	P	**Pn**	**20 47 18.6**	**+0.2**
baz=12,SNR=4.0							
CM31	**Chiang Mai Arr**	**19.88**	**358**	*e*P	**P**	**20 48 48.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**20 48 49.8**	**-0.1**
CMAR				PcP	**PcP**	**20 53 06.7**	**0.0**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**20 48 49.8**	**-0.1**
0.4nm,0.3s,baz=186,slow=10,SNR=20							
CMAR				PcP	**PcP**	**20 53 06.7**	**0.0**
baz=203,slow=2.2,SNR=5.0							
KAPI	**Kappang**	**20.45**	**100**	P	**P**	**20 48 57.0**	**+0.9**
KAPI	**Kappang**	**20.45**	**100**	P	**P**	**20 48 57.0**	**+0.9**
6.3nm,0.5s,baz=288,slow=14,SNR=10							
FITZ	**Fitzroy Crossi**	**30.43**	**124**	P	**P**	**20 50 29.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**30.43**	**124**	P	**P**	**20 50 29.5**	**-1.4**
2.9nm,0.7s,baz=265,slow=9.1,SNR=11							
FITZ	**Fitzroy Crossi**	**30.43**	**124**	P	**P**	**20 50 30.7**	**-0.2**
baz=30,SNR=7.4							
KNRA	**Kununurra**	**32.04**	**118**	P	**P**	**20 50 43.4**	**-1.6**
baz=32,SNR=5.0							
MTN	**Manton Dam**	**33.22**	**111**	S	S	20 56 28.4	+15
baz=33,SNR=4.1							
WRA	**Warramunga Arr**	**38.60**	**121**	P	**P**	**20 51 39.9**	**-1.7**
WRA	**Warramunga Arr**	**38.60**	**121**	P	**P**	**20 51 39.9**	**-1.7**
5.0nm,0.6s,baz=303,slow=9.1,SNR=63							
WRAB	**Tennant Creek**	**38.61**	**121**	*e*P	**P**	**20 51 41.1**	**-0.5**
6.2nm,0.6s							
AS31	**Alice Springs**	**39.88**	**126**	*e*P	**P**	**20 51 52.2**	**-0.1**
ASAR	**Alice Springs**	**39.88**	**126**	P	**P**	**20 51 52.1**	**-0.1**
ASAR				PcP	**PcP**	**20 53 57.6**	**-0.1**
ASAR				S	**S**	**20 57 52.9**	**-2.5**
ASAR	**Alice Springs**	**39.88**	**126**	P	**P**	**20 51 52.1**	**-0.1**
2.2nm,0.5s,baz=296,slow=7.6,SNR=48							
ASAR				PcP	**PcP**	**20 53 57.6**	**-0.1**
1.1nm,0.7s,baz=308,slow=1.7,SNR=5.8							
ASAR				S	**S**	**20 57 52.9**	**-2.5**
0.9nm,0.7s,baz=299,slow=16,SNR=6.3							
JNU	**Nakatsue**	**45.40**	**38**	P	**P**	**20 52 37.2**	**+0.3**
JNU	**Nakatsue**	**45.40**	**38**	P	**P**	**20 52 37.2**	**+0.3**
3.7nm,0.7s,baz=305,slow=2.6,SNR=3.5							
KSAR	**Wonju Array Be**	**46.82**	**31**	P	**P**	**20 52 48.3**	**+0.3**
KSRS	**Korea Array**	**46.85**	**31**	P	**P**	**20 52 48.3**	**+0.1**
1.5nm,0.8s,baz=217,slow=9.0,SNR=6.6							
TKM2	**Tokmak 2**	**49.24**	**337**	*e*P	**P**	**20 53 06.9**	**+0.1**
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**20 53 10.2**	**+1.3**
SONM				PcP	**PcP**	**20 54 31.5**	**+1.0**
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**20 53 10.2**	**+1.3**
1.6nm,0.7s,baz=189,slow=8.9,SNR=14							
SONM				PcP	**PcP**	**20 54 31.5**	**+1.0**
2.1nm,0.7s,baz=190,slow=4.9,SNR=9.7							
STKA	**Stephens Creek**	**49.78**	**132**	P	**P**	**20 53 10.8**	**-0.1**
STKA	**Stephens Creek**	**49.78**	**132**	P	**P**	**20 53 10.8**	**-0.1**
3.0nm,0.5s,baz=307,slow=9.6,SNR=19							
STKA	**Stephens Creek**	**49.78**	**132**	P	**P**	**20 53 12.0**	**+1.1**
baz=50,SNR=14							
MK31	**Makanchi Array**	**50.47**	**345**	*e*P	**P**	**20 53 16.6**	**+0.7**
MKAR	**Makanchi Array**	**50.47**	**345**	P	**P**	**20 53 17.0**	**+1.0**
MKAR	**Makanchi Array**	**50.47**	**345**	P	**P**	**20 53 17.0**	**+1.0**
3.5nm,0.7s,baz=149,slow=8.0,SNR=23							
MJAR	**Matsushiro Arr**	**52.20**	**40**	P	**P**	**20 53 29.6**	**+0.6**
MJAR	**Matsushiro Arr**	**52.20**	**40**	P	**P**	**20 53 29.6**	**+0.6**
0.4nm,0.6s,baz=298,slow=2.6,SNR=2.8							
CMSA	**Cobar Meteorol**	**52.74**	**129**	P	**P**	**20 53 34.6**	**+1.5**
baz=53,SNR=8.5							
USRK	**Ussuriysk Arra**	**53.97**	**28**	P	**P**	**20 53 42.5**	**+0.6**
3.4nm,0.8s,baz=236,slow=8.1,SNR=13							
KURBB	**Kurchatov Arra**	**54.99**	**344**	P	**P**	**20 53 49.5**	**+0.3**
3.1nm,0.2s,baz=165,slow=7.4,SNR=9.2							
KURK	**Kurchatov**	**55.05**	**344**	P	**P**	**20 53 49.5**	**-0.1**
ZAA0	**Zalesovo Array**	**56.64**	**350**	*e*P	**P**	**20 54 00.8**	**-0.2**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**20 54 01.6**	**+0.7**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**20 54 01.6**	**+0.7**
5.9nm,0.7s,baz=174,slow=5.7,SNR=29							
BVAR	**Borovoye Array**	**59.60**	**340**	P	**P**	**20 54 21.0**	**-0.8**
BVAR	**Borovoye Array**	**59.60**	**340**	P	**P**	**20 54 21.0**	**-0.8**
1.9nm,0.8s,baz=137,slow=7.4,SNR=5.0							
ABKAR	**Akbulak array**	**61.03**	**331**	*e*P	**P**	**20 54 31.0**	**-0.6**
2.7nm,0.8s							
KMBO	**Kilima Mbogo**	**62.29**	**270**	P	**P**	**20 54 40.5**	**-0.6**
KMBO	**Kilima Mbogo**	**62.29**	**270**	P	**P**	**20 54 40.5**	**-0.6**
0.4nm,0.3s,baz=228,slow=23,SNR=4.1							
KBZ	**Khabaz**	**67.67**	**319**	P	**P**	**20 55 15.3**	**+0.1**
KBZ	**Khabaz**	**67.67**	**319**	P	**P**	**20 55 15.3**	**+0.1**
3.8nm,0.9s,baz=121,slow=5.1,SNR=8.5							
MAW	**Mawson**	**70.62**	**194**	P	**P**	**20 55 32.6**	**-0.5**
MAW	**Mawson**	**70.62**	**194**	P	**P**	**20 55 32.6**	**-0.5**
1.3nm,0.5s,baz=17,slow=8.7,SNR=5.3							
BRTR	**Keskin Array B**	**72.69**	**312**	P	**P**	**20 55 45.7**	**-0.6**
BRTR	**Keskin Array B**	**72.69**	**312**	P	**P**	**20 55 45.7**	**-0.6**
1.1nm,0.6s,baz=139,slow=7.0,SNR=7.8							
BOSA	**Boshof**	**75.50**	**241**	P	**P**	**20 56 02.4**	**-0.5**
BOSA	**Boshof**	**75.50**	**241**	P	**P**	**20 56 02.4**	**-0.5**
3.2nm,1.1s,baz=178,slow=3.1,SNR=3.7							
AKASG	**Malin Array Be**	**78.85**	**322**	P	**P**	**20 56 20.2**	**-0.8**
AKASG	**Malin Array Be**	**78.85**	**322**	P	**P**	**20 56 20.2**	**-0.8**
0.1nm,0.3s,baz=88,slow=5.2,SNR=4.3							
BUR08	**Bucovina Ar. S**	**80.64**	**319**	*e*P	**P**	**20 56 32.2**	**+1.2**
VNDA	**Vanda**	**82.69**	**169**	P	**P**	**20 56 40.9**	**-0.2**
VNDA	**Vanda**	**82.69**	**169**	P	**P**	**20 56 40.9**	**-0.2**
0.4nm,0.7s,baz=276,slow=9.8,SNR=4.0							
FINES	**FINESS Array B**	**83.50**	**332**	P	**P**	**20 56 46.3**	**+0.8**
FINES	**FINESS Array B**	**83.50**	**332**	P	**P**	**20 56 46.3**	**+0.8**
16nm,1.2s,baz=108,slow=6.4,SNR=11							
KAF	**Kangasniemi**	**83.58**	**333**	*e*p	**P**	**20 56 44.9**	**-1.0**
0.6nm,0.4s							
ARCES	**ARCESS Array B**	**85.89**	**340**	P	**P**	**20 56 58.7**	**+1.3**
ARCES	**ARCESS Array B**	**85.89**	**340**	P	**P**	**20 56 58.7**	**+1.3**
3.9nm,0.9s,baz=87,slow=5.0,SNR=6.1							
AFI	**Afiamalu**	**88.33**	**104**	P	**P**	**20 57 11.6**	**+1.1**
AFI	**Afiamalu**	**88.33**	**104**	P	**P**	**20 57 11.6**	**+1.1**
13nm,0.7s,baz=122,slow=19,SNR=6.0							
GERES	**GERESS Array B**	**88.42**	**319**	P	**P**	**20 57 10.6**	**+0.3**
GERES	**GERESS Array B**	**88.42**	**319**	P	**P**	**20 57 10.6**	**+0.3**
0.4nm,0.6s,baz=111,slow=6.3,SNR=6.5							
NVAR	**Mina Array Bea**	**129.52**	**39**	PKP	**PKPdf**	**21 03 27.9**	**+0.4**
NVAR	**Mina Array Bea**	**129.52**	**39**	PKP	**PKPdf**	**21 03 27.9**	**+0.4**
0.3nm,0.6s,baz=336,slow=2.0,SNR=2.9							
PDAR	**Pinedale Array**	**131.39**	**29**	PKP	**PKPdf**	**21 03 31.3**	**+0.3**
PDAR	**Pinedale Array**	**131.39**	**29**	PKP	**PKPdf**	**21 03 31.3**	**+0.3**
0.2nm,0.6s,baz=224,slow=2.5,SNR=2.7							
CPUP	**Villa Florida**	**144.43**	**217**	PKP	**PKPdf**	**21 03 54.4**	**-0.6**
CPUP	**Villa Florida**	**144.43**	**217**	PKP	**PKPdf**	**21 03 54.4**	**-0.6**
6.9nm,0.7s,baz=104,slow=2.8,SNR=18							
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	**PKPdf**	**21 03 55.4**	**0.0**
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	**PKPdf**	**21 03 55.4**	**0.0**
3.2nm,0.5s,baz=259,slow=1.3,SNR=51							
TZTN	**Tazewell**	**145.05**	**4**	*e*PKPdf	**PKPab**	**21 03 55.2**	**+0.1**
JCT	**Junction City**	**145.86**	**31**	*e*PKPdf	**PKPdf**	**21 03 56.9**	**-0.5**
CPCT	**Cooper Cave**	**146.05**	**6**	*e*PKPdf	**PKPbc**	**21 03 58.0**	**-0.3**

IDC 16 20:46:22.1±1.8, 1.˚51S×99.˚49E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=52.9km s-min=26.5km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.85**	**358**	P	Pn	20 50 55.8	-0.7
0.2nm,0.3s,baz=188,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**38.68**	**121**	P	P	20 53 48.3	+0.3
1.5nm,0.5s,baz=302,slow=9.0,SNR=4.9							
KSRS	**Korea Array**	**46.87**	**31**	P	P	20 54 53.1	-1.1
0.9nm,0.6s,baz=230,slow=7.8,SNR=3.6							
SONM	**Songino Array**	**49.52**	**6**	P	P	20 55 15.2	+0.5
0.6nm,0.5s,baz=186,slow=6.9,SNR=3.8							
MKAR	**Makanchi Array**	**50.43**	**345**	P	P	20 55 22.0	+0.5
2.5nm,0.7s,baz=151,slow=8.5,SNR=5.2							
USRK	**Ussuriysk Arra**	**53.98**	**29**	P	P	20 55 47.6	-0.3
1.0nm,0.7s,baz=258,slow=5.6,SNR=3.4							
ZALV	**Zalesovo Beam**	**56.60**	**350**	P	P	20 56 06.9	+0.2
1.2nm,0.4s,baz=173,slow=6.4,SNR=4.2							
BVAR	**Borovoye Array**	**59.56**	**340**	P	P	20 56 26.9	-0.6
0.7nm,0.7s,baz=160,slow=4.6,SNR=3.2							
FINES	**FINESS Array B**	**83.45**	**332**	P	P	20 58 50.8	-0.6
2.1nm,0.7s,baz=67,slow=5.0,SNR=4.1							
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	PKPdf	21 06 01.1	-0.6
1.3nm,0.5s,baz=271,slow=2.0,SNR=8.1							

IDC 16 20:49:53.6±7.0, 1.˚38S×99.˚25E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse: s-maj=338.7km s-min=23.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.95**	**121**	P	P	20 57 20.9	-0.8
0.5nm,0.8s,baz=296,slow=8.0,SNR=5.4							
ASAR	**Alice Springs**	**40.22**	**126**	P	P	20 57 32.8	+0.5
0.3nm,0.6s,baz=296,slow=7.8,SNR=5.0							
MKAR	**Makanchi Array**	**50.23**	**345**	P	P	20 58 50.9	-0.6
0.4nm,0.5s,baz=159,slow=8.9,SNR=4.0							
ZALV	**Zalesovo Beam**	**56.42**	**350**	P	P	20 59 37.1	+0.3
0.2nm,0.4s,baz=145,slow=5.3,SNR=2.2							

IDC 16 21:08:33.5±1.8, 1.˚60S×99.˚42E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.6/8, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/37, Error ellipse: s-maj=77.9km s-min=18.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.40**	**354**	Pn	Pn	21 09 40.5	-1.3
0.4nm,0.3s,baz=165,slow=15,SNR=2.9							
CMAR	**Chiang Mai Arr**	**19.94**	**359**	P	P	21 13 06.9	-0.3
0.1nm,0.3s,baz=188,slow=9.7,SNR=4.8							
WRA	**Warramunga Arr**	**38.69**	**121**	P	P	21 15 59.0	-0.6
0.8nm,0.6s,baz=302,slow=9.0,SNR=10							
ASAR	**Alice Springs**	**39.95**	**126**	P	P	21 16 10.4	+0.3
0.3nm,0.5s,baz=307,slow=6.9,SNR=3.5							
SONM	**Songino Array**	**49.61**	**6**	P	P	21 17 27.3	+0.5
0.1nm,0.3s,baz=186,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	21 17 33.7	+0.3
1.0nm,0.7s,baz=154,slow=7.8,SNR=10.0							
ZALV	**Zalesovo Beam**	**56.67**	**350**	P	P	21 18 17.4	-1.2
0.5nm,0.3s,baz=162,slow=5.1,SNR=5.4							
PETK	**Petropavlovsk-**	**72.86**	**32**	LR	LR	21 55 14.1	
comp=Z,29nm,18.4s,baz=214,slow=38							
FINES	**FINESS Array B**	**83.49**	**332**	P	P	21 21 03.2	+0.2
3.4nm,0.9s,baz=127,slow=23,SNR=2.9							
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	PKPdf	21 28 12.8	-0.5
0.8nm,0.6s,baz=318,slow=1.7,SNR=9.5							

*IDC **16** 21:10:16.0±0.7, 1.˚52S×99.˚38E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/29, mbtmp4.2/20, ML3.9/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/37, Error ellipse: s-maj=24.1km s-min=12.8km az=51.0*
*ISCJB **16** 21:10:18.6±0.4, 1.˚51S±0.˚05×99.˚37E±0.˚05, h30km, mb4.3/22, MS3.6/7, Error ellipse: s-maj=8.4km s-min=4.9km az=142.2*
*NEIC **16** 21:10:18.9±4.6, 1.˚54S×99.˚41E, h19km±27km, mb4.5/5, Error ellipse: s-maj=15.1km s-min=5.7km az=51.0*
*DJA **16** 21:10:20.8±0.5, 1.˚S±4.˚×10.˚0E±.˚, h10km, M4.6/13, mb4.8/9, mB5.0/6, MLv4.6/13, Mw(mB)4.4/6*
ISC 16 21:10:20.8±0.5, 1.˚49S±0.˚06×99.˚39E±0.˚07, h30km, n75, σ0.92/73, mb4.3/22, MS3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.

KMBO	Kilima Mbogo	62.12 270	P		P	21 20 40.2 +0.3
	0.7nm,0.4s,baz=59,slow=23,SNR=3.5					
KBZ	Khabaz	67.52 319	P		P	21 21 13.8 -0.4
KBZ	Khabaz	67.52 319	P		P	21 21 13.8 -0.4
	1.9nm,0.9s,baz=108,slow=4.1,SNR=3.8					
ASF	Jabal al Asfar	67.79 306	LR		LR	21 52 31.2
	comp=Z,57nm,20.1s,baz=310,slow=37					
BRTR	Keskin Array B	72.53 313	P		P	21 21 44.9 -0.3
BRTR	Keskin Array B	72.53 313	P		P	21 21 44.9 -0.3
	0.7nm,0.6s,baz=146,slow=8.1,SNR=4.5					
BUR08	Bucovina Ar. S	80.49 319	*e*P		P	21 22 29.8 -0.3
FINES	FINESS Array B	83.37 332	P		P	21 22 44.0 -0.9
FINES	FINESS Array B	83.37 332	P		P	21 22 44.0 -0.9
	2.5nm,0.5s,baz=118,slow=6.6,SNR=20					
KAF	Kangasniemi	83.45 333	*e*p		P	21 22 44.2 -1.0
	0.7nm,0.5s					
ARCES	ARCESS Array B	85.78 340	P		P	21 22 57.9 +1.0
ARCES	ARCESS Array B	85.78 340	P		P	21 22 57.9 +1.0
	3.9nm,1.0s,baz=74,slow=9.5,SNR=3.4					
GERES	GERESS Array B	88.26 319	P		P	21 23 10.2 +0.8
GERES	GERESS Array B	88.26 319	P		P	21 23 10.2 +0.8
	0.3nm,0.6s,baz=129,slow=4.3,SNR=6.6					
Q16A	Castle Valley	133.44 33	*e*PKPdf		PKPdf	21 29 35.7 +0.8
CPUP	Villa Florida	144.36 218	PKP		PKPbc	21 29 53.8 +0.6
CPUP	Villa Florida	144.36 218	PKP		PKPbc	21 29 53.8 +0.6
	1.1nm,0.5s,baz=143,slow=6.0,SNR=4.6					
TXAR	Lajitas Array	144.66 36	PKP		PKPdf	21 29 55.0 -0.5
TXAR	Lajitas Array	144.66 36	PKP		PKPdf	21 29 55.0 -0.5
	3.1nm,0.5s,baz=274,slow=1.6,SNR=59					

IDC ***16*** *21:27:01.6±0.7, 1˙.46S×99˙.39E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.0/27, mbtmp4.0/15, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/43, Error ellipse: s-maj=28.6km s-min=13.5km az=62.0*

NEIC ***16*** *21:27:02.9±0.4, 1˙.53S×99˙.33E, h10km, mb4.1/7, Error ellipse: s-maj=14.7km s-min=6.7km az=69.0*

ISCJB ***16*** *21:27:03.8±0.5, 1˙.51S±0˙.05×99˙.26E±0˙.07, h30km, mb4.1/17, MS3.2/2, Error ellipse: s-maj=11.6km s-min=5.2km az=147.7*

DJA ***16*** *21:27:03.0±0.7, 2˙.5S±.5˚×.9˙9E±˚, h10km, M4.6/10, mb4.7/6, mB5.1/2, MLv4.6/10, Mw(mB)4.4/2*

AUST ***16*** *21:27:11.5±0.0, 0˙.88S×100˙.52E, h31km, Error ellipse: s-maj=2.9km s-min=1.0km az=248.0*

ISC 16 21:27:05.9±0.6, 1˙.45S±0˙.07×99˙.40E±0˙.09, h30km, n71, σ1§05/66, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.41	45	P	Pn	21 27 29.4	-0.1
PPI	Padang Panjang	1.41	45	S	Sn	21 27 29.5	-18
	baz=0.4,SNR=91						
SDSI	Sungai Dareh	2.09	76	P	Pb	21 27 41.6	-1.6
BKNI	Bangkinang	2.41	43	P	Pb	21 27 47.3	-1.4
BKNI	Bangkinang	2.41	43	S	Sn	21 27 48.9	-23
	baz=1.3,SNR=11						
RGRI	Rengat	3.13	70	P	Pb	21 27 59.9	-1.0
MASI	Maura Aman, Be	3.30	121	P	Pn	21 27 57.4	+1.8
KSI	Kapahiang	3.87	124	P	Pn	21 28 04.6	+1.2
PSI	Prapat	4.25	354	Pn	Pn	21 28 08.1	-0.7
PSI	Prapat	4.25	354	Pn	Pn	21 28 08.1	-0.7
	1.7nm,0.3s,baz=156,slow=9.6,SNR=8.2						
PSI				LR	LR	21 30 01.8	
	comp=Z,241nm,19.8s,baz=341,slow=43						
PSI	Prapat	4.25	354	P	Pn	21 28 08.7	-0.1
	baz=3.9,SNR=4.1						
MNAI	Manna	4.58	129	P	Pn	21 28 14.2	+1.1
	baz=4.2,SNR=11						
TSI	Tuntungan	4.99	350	P	Pn	21 28 20.1	+1.2
	108nm,0.9s,0.4nm						
KCSI	Kotacane, Aceh	5.20	342	P	Pn	21 28 21.8	0.0
	48nm,0.7s,783nm0.2nm						
MYKOM	Kota Tinggi	5.49	54	P	Pn	21 28 30.7	+4.9
LWLI	Liwa	5.84	127	P	Pn	21 28 32.0	+1.3
	141nm,0.7s,3μm0.7nm						
IPM	Ipoh	6.11	15	*e*Pn	Pn	21 28 37.0	+2.8
	25nm,0.6s						
IPM				*e*Sn	Sn	21 29 49.2	+5.9
IPM	Ipoh	6.11	15	P	Pn	21 28 37.1	+2.8
	40nm,1.0s,0.1nm						
KLSI		6.22	121	P	Pn	21 28 37.3	+1.6
	28nm,0.7s,0.1nm						
KASI	Kota Agung	6.50	129	P	Pn	21 28 38.9	-0.7
BSI	Banda Aceh	8.03	329	P	Pn	21 28 54.1	-6.5
CISI	Cisompet, Garu	10.35	126	P	Pn	21 29 30.1	-2.4
	baz=9.9,SNR=3.4						
CM31	Chiang Mai Arr	19.79	359	*e*P	P	21 31 34.5	+0.5
	1.7nm,0.5s						
CMAR	Chiang Mai Arr	19.79	359	P	P	21 31 34.5	+0.5
CMAR	Chiang Mai Arr	19.79	359	P	P	21 31 34.5	+0.5
	0.3nm,0.3s,baz=186,slow=10,SNR=22						
CHTO	Chiang Mai	20.14	359	*e*P	P	21 31 36.1	-1.8
	3.2nm,0.8s						
KAPI	Kappang	20.62	100	LR	LR	21 40 55.9	
	comp=Z,97nm,18.1s,baz=283,slow=40						
FITZ	Fitzroy Crossi	30.61	124	P	P	21 33 16.9	-0.7
FITZ	Fitzroy Crossi	30.61	124	P	P	21 33 16.9	-0.7
	4.2nm,0.9s,baz=279,slow=4.0,SNR=7.2						
FITZ	Fitzroy Crossi	30.61	124	P	P	21 33 17.4	-0.2
	baz=30,SNR=3.3						
LSA	Lhasa	31.97	346	*e*P	P	21 33 30.4	+0.5
	4.4nm,0.6s						
TLE	Tual	33.52	98	P	P	21 33 41.1	-2.2
	baz=32,SNR=5.7						
WRA	Warramunga Arr	38.78	121	P	P	21 34 27.8	-0.4
WRA				PcP	PcP	21 36 39.7	+0.3
WRA	Warramunga Arr	38.78	121	P	P	21 34 27.8	-0.4
	4.2nm,0.8s,baz=302,slow=9.0,SNR=36						
WRA				PcP	PcP	21 36 39.7	+0.3
	0.4nm,0.8s,baz=312,slow=2.7,SNR=4.8						
WRAB	Tennant Creek	38.79	121	*e*P	P	21 34 27.9	-0.4
	4.0nm,0.6s						
ASAR	Alice Springs	40.06	126	P	P	21 34 39.2	+0.4
ASAR	Alice Springs	40.06	126	P	P	21 34 39.2	+0.4
	1.1nm,0.6s,baz=300,slow=7.4,SNR=13						
JNU	Nakatsue	45.43	38	LR	LR	21 55 51.6	
	comp=Z,26nm,18.1s,baz=229,slow=38						
KSAR	Wonju Array Be	46.84	31	P	P	21 35 32.6	-0.6
KSRS	Korea Array	46.86	31	P	P	21 35 32.6	-0.8
	0.7nm,0.7s,baz=231,slow=9.4,SNR=3.8						
SONM	Songino Array	49.47	6	P	P	21 35 54.6	+1.1
SONM				PcP	PcP	21 37 15.7	+0.4
SONM	Songino Array	49.47	6	P	P	21 35 54.6	+1.1
	0.6nm,0.5s,baz=190,slow=9.1,SNR=7.0						
SONM				PcP	PcP	21 37 15.7	+0.4
	0.8nm,0.9s,baz=185,slow=3.0,SNR=2.6						
ULN	Ulaanbaatar	49.57	7	*e*P	P	21 35 55.1	+0.8
	2.1nm,0.9s						
STKA	Stephens Creek	49.96	132	*e*P	P	21 35 58.4	+1.0
	1.4nm,0.8s						
STKA	Stephens Creek	49.96	132	P	P	21 35 58.5	+1.1
	5.5nm,0.7s,baz=300,slow=8.4,SNR=10.0						
STKA	Stephens Creek	49.96	132	P	P	21 35 58.8	+1.3
	baz=50,SNR=5.4						
MK31	Makanchi Array	50.35	345	*e*P	P	21 36 00.9	+0.8
MKAR	Makanchi Array	50.35	345	P	P	21 36 00.9	+0.8
MKAR	Makanchi Array	50.35	345	P	P	21 36 00.9	+0.8
	1.6nm,0.5s,baz=158,slow=8.2,SNR=23						
RABL	Rabaul	52.76	94	P	P	21 36 29.4	+11
	baz=52,SNR=4.3						
CMSA	Cobar Meteorol	52.92	129	P	P	21 36 21.0	+1.4
	baz=52,SNR=5.7						
USRK	Ussuriysk Arra	53.97	29	P	P	21 36 26.7	-0.3
	1.2nm,0.5s,baz=226,slow=5.8,SNR=6.0						
ZAA0	Zalesovo Array	56.53	350	*e*P	P	21 36 46.2	+0.9
ZALV	Zalesovo Beam	56.53	350	P	P	21 36 45.7	+0.4
ZALV	Zalesovo Beam	56.53	350	P	P	21 36 45.7	+0.4
	2.1nm,0.5s,baz=180,slow=6.7,SNR=16						
ABKAR	Akbulak array	60.88	332	*e*P	P	21 37 15.2	-0.5
	1.0nm,0.6s						
BRTR	Keskin Array B	72.51	312	P	P	21 38 29.7	-0.6
BRTR	Keskin Array B	72.51	312	P	P	21 38 29.7	-0.6
	0.7nm,0.9s,baz=76,slow=6.1,SNR=2.9						
BUR08	Bucovina Ar. S	80.47	319	*e*P	P	21 39 15.1	-0.2
FINES	FINESS Array B	83.35	332	P	P	21 39 28.8	-1.1
FINES	FINESS Array B	83.35	332	P	P	21 39 28.8	-1.1
	2.2nm,0.8s,baz=149,slow=4.4,SNR=5.1						
GERES	GERESS Array B	88.25	319	P	P	21 39 54.8	+0.2
GERES	GERESS Array B	88.25	319	P	P	21 39 54.8	+0.2
	0.1nm,0.3s,baz=95,slow=3.1,SNR=3.6						
QSPA	South Pole Qui	88.50	180	P	P	21 39 56.5	+1.0
QSPA	South Pole Qui	88.50	180	P	P	21 39 56.4	+1.0
	0.9nm,0.7s,baz=321,slow=1.5,SNR=8.1						
CPUP	Villa Florida	144.39	218	PKP	PKPbc	21 46 39.2	+0.8
CPUP	Villa Florida	144.39	218	PKP	PKPbc	21 46 39.2	+0.8
	1.3nm,0.5s,baz=100,slow=2.4,SNR=6.2						
TXAR	Lajitas Array	144.63	36	PKP	PKPdf	21 46 40.5	0.0
TXAR	Lajitas Array	144.63	36	PKP	PKPdf	21 46 40.5	0.0
	1.5nm,0.5s,baz=254,slow=0.9,SNR=29						
CFAA	Coronel Fontan	145.09	199	PKPbc	PKPdf	21 46 41.5	+0.2
CFAA	Coronel Fontan	145.09	199	PKPbc	PKPdf	21 46 41.5	+0.2
	1.2nm,0.7s,baz=160,slow=4.9,SNR=13						

IDC 16 21:43:51.5±3.5, 1˙.29S×99˙.61E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/24, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=163.6km s-min=21.1km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.12	350	Pn	Pn	21 44 56.3	+0.4
	0.3nm,0.3s,baz=149,slow=13,SNR=2.2						
WRA	Warramunga Arr	38.69	121	P	P	21 51 17.6	0.0
	0.3nm,0.4s,baz=301,slow=9.4,SNR=8.0						
ASAR	Alice Springs	39.99	126	P	P	21 51 28.2	-0.1
	0.2nm,0.5s,baz=300,slow=7.4,SNR=3.4						
MKAR	Makanchi Array	50.24	345	P	P	21 52 49.3	-0.2
	0.3nm,0.3s,baz=160,slow=8.7,SNR=8.9						
ZALV	Zalesovo Beam	56.40	350	P	P	21 53 33.9	-0.8
	0.8nm,0.5s,baz=151,slow=3.4,SNR=4.1						
TXAR	Lajitas Array	144.37	36	PKP	PKPdf	22 03 30.0	-0.7
	0.2nm,0.4s,baz=328,slow=3.2,SNR=4.2						

IDC ***16*** *21:53:10.7±0.4, 1˙.47S×99˙.45E, h0km, mb4.7/34, mb1 4.8/36, mb1mx4.7/37, mbtmp4.7/36, ML4.3/2, MS4.0/11, Ms1 4.0/11, ms1mx3.6/55, Error ellipse: s-maj=13.5km s-min=9.8km az=48.0*

NEIC ***16*** *21:53:12.0±0.2, 1˙.51S×99˙.39E, h10km, mb4.9/36, Error ellipse: s-maj=6.0km s-min=4.5km az=57.0*

DJA ***16*** *21:53:13.0±0.7, 2˙.5±3˙×.9˙9E±˚, h10km, M5.2/7, mB5.4/6, mb5.3/7, MLv5.4/3, Mw(mB)4.8/6*

ISCJB ***16*** *21:53:13.5±1.1, 1˙.51S±0˙.03×99˙.39E±0˙.04, h29km±7km, mb4.9/125, MS4.1/21, Error ellipse: s-maj=6.4km s-min=4.2km az=148.8*

MOS ***16*** *21:53:14.4±1.1, 1˙.36S×99˙.52E, h33km, mb5.2/43, Error ellipse: s-maj=11.1km s-min=4.7km az=117.4*

AUST ***16*** *21:53:14.3±3.6, 1˙.61S×99˙.41E, h18km, Error ellipse: s-maj=1.6km s-min=0.8km az=240.0*

BJI ***16*** *21:53:14.2, 1˙.57S×99˙.13E, h41km, mB4.9/31, mb4.8/42, Ms4.5/31, Ms7 4.3/31*

SZGRF ***16*** *21:53:17.0, 1˙.70S×98˙.73E, h28km, mb4.7, Southern Sumatera, Indonesia*

BKK ***16*** *21:53:17.6±0.9, 1˚S±6˚×.9˚9E±˚, h10km, M5.0/8, mB5.3/4, mb4.9/8, MLv5.2/5, Mw(mB)4.8/4*

ISC 16 21:53:13.6±0.6, 1˙.50S±0˙.04×99˙.39E±0˙.05, h19km±2km, n477, σ1§26/491, mb5.0/135, MS4.2/21, 31C-23D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.45	44	P	Pn	21 53 38.6	-0.2
PPI				S	Sg	21 54 01.2	+0.8
PPI	Padang Panjang	1.45	44	P	Pn	21 53 38.6	-0.2
	baz=1.5,SNR=205						
BKNI	Bangkinang	2.45	42	P	Pb	21 53 55.6	-1.5
BKNI	Bangkinang	2.45	42	P	Pb	21 53 55.6	-1.5
	baz=2.5,SNR=20						
RGRI	Rengat	3.16	69	P	Pn	21 54 03.4	+1.0
MASI	Maura Aman, Be	3.28	120	P	Pb	21 54 07.7	-3.6
KSI	Kapahiang	3.84	124	P	Pn	21 54 13.4	+1.5
PSI	Prapat	4.30	354	Pn	Pn	21 54 17.8	-0.4
PSI	Prapat	4.30	354	Pn	Pn	21 54 17.8	-0.4
	3.2nm,0.3s,baz=181,slow=9.8,SNR=20						
PSI				LR	LR	21 55 18.2	
	comp=Z,424nm,20.5s,baz=165,slow=31						
PSI	Prapat	4.30	354	P	Pn	21 54 17.9	-0.4
	baz=4.3,SNR=17						
MNAI	Manna	4.55	129	P	Pn	21 54 21.0	-0.6
	baz=4.5,SNR=8.8						
TSI	Tuntungan	5.04	351	P	Pn	21 54 29.8	+1.5
	427nm,0.7s,5μm						
FRIM	Kepong	5.21	25	P	Pn	21 54 31.9	+1.3
BTDF	Bukit Timah Da	5.22	57	P	Pn	21 54 33.7	+2.9
	baz=5.3,SNR=5.5						
BTDF				P	Pn	21 54 33.7	+2.9
	baz=5.3,SNR=5.5						
MYKOM	Kota Tinggi	5.53	54	P	Pn	21 54 37.9	+2.9
MYKOM	Kota Tinggi	5.53	54	P	Pn	21 54 37.8	+2.9
	164nm,0.9s,3μm						
LWLI	Liwa	5.82	127	P	Pn	21 54 40.7	+1.6
	727nm,0.7s,7μm						
IPM	Ipoh	6.16	15	*e*Pn	Pn	21 54 45.7	+2.0
IPM	Ipoh	6.16	15	P	Pn	21 54 46.3	+2.6
IPM	Ipoh	6.16	15	P	Pn	21 54 46.4	+2.6
KLSI		6.20	121	P	Pn	21 54 46.0	+1.8
	126nm,0.8s,1μm						
KLI	Kotabumi	6.39	122	P	Pn	21 54 50.9	+4.0
KASI	Kota Agung	6.47	128	P	Pn	21 54 48.2	+0.2
	207nm,0.8s,2μm						
KTGM	Kuala Trenggan	7.75	29	P	Pn	21 55 06.8	+1.4
SKLT	Songkhla	8.70	8	P	Pn	21 55 24.0	+5.4
	75nm,0.9s,0.3nm						
DBJI	Dramaga	8.89	125	P	Pn	21 55 21.3	+0.1
	97nm,1.1s						
LEM	Lembang	9.76	123	P	Pn	21 55 37.9	+4.7
CISI	Cisompet, Garu	10.32	126	P	Pn	21 55 38.2	-2.7
CISI	Cisompet, Garu	10.32	126	P	Pn	21 55 38.9	-2.1
	baz=10,SNR=12						
KSM	Kuching	11.31	75	*e*Pn	Pn	21 56 01.7	+7.4
KSM	Kuching	11.31	75	P	Pn	21 56 07.2	+13
PBKI	Pangkalan Bun	12.33	96	P	Pn	21 56 22.6	+14
UGM	Wanagama	12.79	120	P	Pn	21 56 13.6	-1.0
	baz=13,SNR=5.3						
PBKT	Sadao Pong	18.02	5	P	P	21 57 25.4	+1.8
	16nm,0.8s						
KKM	Kota Kinabalu	18.39	66	*e*P	Pn	21 57 29.0	+1.1
	26nm,0.8s						
KKM	Kota Kinabalu	18.39	66	P	Pn	21 57 31.8	+3.9
	baz=18,SNR=5.0						
SDKM	Sandakan	19.14	68	P	Pn	21 57 37.6	+0.6
KDM	Kudat	19.31	64	P	P	21 57 34.9	-3.0
CM31	Chiang Mai Arr	19.84	359	*e*P	P	21 57 43.1	-0.4
	14nm,0.7s						
CMAR	Chiang Mai Arr	19.84	359	P	P	21 57 43.8	+0.2
CMAR				PcP	PcP	22 02 02.4	+1.2
CMAR	Chiang Mai Arr	19.84	359	P	P	21 57 43.8	+0.2
	1.1nm,0.3s,baz=190,slow=10,SNR=96						
CMAR				PcP	PcP	22 02 02.4	+1.2
	0.1nm,0.3s,baz=224,slow=2.5,SNR=9.2						
CMAR				LR	LR	22 06 02.5	
	comp=Z,360nm,20.6s,baz=7.1,slow=39						
CHTO	Chiang Mai	20.19	359	*e*P	P	21 57 46.0	-1.4
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	Chiang Mai	20.19	359	*e*P	P	21 57 46.0	-1.4
	comp=Z,8.8nm,0.7s						
CHTO	Chiang Mai	20.19	359	P	P	21 57 47.6	+0.2
KAPI	Kappang	20.62	100	*e*P	P	21 57 51.2	-0.9
	comp=Z,61nm,1.0s						
KAPI	Kappang	20.62	100	P	P	21 57 51.5	-0.6
	comp=Z,17nm,0.7s,baz=291,slow=9.8,SNR=14						
QIZ	Qiongzhong	22.84	26	P	P	21 58 17.3	+1.4
QIZ				S	S	22 02 25.3	+0.7
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
QIZ				LR	LR		
	comp=N,300nm,9.6s						
QIZ				LR	LR		
	comp=Z,380nm,12.6s						
LUWI	Luwuk	23.38	89	P	P	21 58 21.7	+0.2
	baz=23,SNR=4.9						
KMI	Kunming	26.67	7	P	P	21 58 52.8	+1.0
KMI				pP	pP	21 59 00.6	+3.1
KMI				S	S	22 03 24.3	-2.1
KMI				pmax	pmax		
	comp=Z,13nm,0.9s						
KMI				LR	LR		
	comp=N,400nm,14.1s						
KMI				LR	LR		
	comp=E,200nm,8.5s						
KMI				LR	LR		
	comp=Z,410nm,14.5s						
SHL	Shillong	27.87	345	*e*P	P	21 59 03.0	+0.4
GYA	Guiyang	28.67	14	*e*P	P	21 59 12.8	+3.2
GYA				pP	pP	21 59 22.5	+7.1
GYA				sP	sP	21 59 27.3	+10
GYA				PP	PnPn	22 00 06.0	+5.8
GYA				PcP	PcP	22 02 21.9	+1.6
GYA				S	S	22 03 58.8	+1.0
GYA				sS	sS	22 04 15.3	+8.0
GYA				SS	SnSn	22 05 27.0	+8.2
GYA				ScP	SS	22 05 58.4	-1.2
GYA				ScS	ScS	22 09 51.5	-3.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,680nm,14.9s						
GYA				LR	LR		
	comp=E,550nm,15.4s						
GYA				LR	LR		
	comp=Z,630nm,14.6s						
ODAN	Odare	30.48	339	*e*P	P	21 59 26.7	+0.9
	comp=Z,41nm,0.8s						
FITZ	Fitzroy Crossi	30.59	124	P	P	21 59 25.4	-1.2
FITZ	Fitzroy Crossi	30.59	124	P	P	21 59 25.4	-1.2
	comp=Z,16nm,0.9s,baz=303,slow=4.3,SNR=28						
FITZ	Fitzroy Crossi	30.59	124	P	P	21 59 26.0	-0.6
	baz=31,SNR=6.6						
TAPN	Taplejung	30.81	339	*e*P	P	21 59 30.0	+1.2
	comp=Z,99nm,1.1s						
RAMN	Ramite	30.86	337	*e*P	P	21 59 30.2	+1.0
	comp=Z,32nm,0.8s						
MEEK	Meekatharra	31.07	145	P	P	21 59 32.1	+1.2
	baz=31,SNR=3.9						
JIRN	Jiri	31.66	337	*e*P	P	21 59 37.3	+1.0
	comp=Z,86nm,0.9s						
PKI	Pulchoki	31.88	336	*e*P	P	21 59 38.8	+0.5
PKIN	Phulchoki	31.89	336	*e*P	P	21 59 38.5	+0.2
	comp=Z,32nm,1.2s						
GUN	Gumba	32.00	337	*e*P	P	21 59 40.4	+1.1
	comp=Z,70nm,0.7s						
LSA	Lhasa	32.01	346	P	P	21 59 40.0	+0.5
LSA				pmax	pmax		
	comp=Z,30nm,1.0s						
LSA	Lhasa	32.01	346	*e*P	P	21 59 40.1	+0.5
LSA				*e*		22 02 29.9	
LSA				pmax	pmax		
	comp=Z,24nm,0.8s						
LSA	Lhasa	32.01	346	*e*P	P	21 59 40.1	+0.6
	comp=Z,24nm,0.8s						
LSA				*e*PcP	PcP	22 02 29.9	+0.6
DMN	Daman	32.04	336	*e*P	P	21 59 40.5	+0.9
KKN	Kakani	32.13	336	*e*P	P	21 59 41.0	+0.7
	comp=Z,48nm,0.9s						
TPUB	Ta-pu	32.17	39	*e*P	P	21 59 41.6	+1.1
	comp=Z,20nm,0.9s						
KNRA	Kununurra	32.20	118	P	P	21 59 38.5	-2.3
	baz=32,SNR=3.9						
CD2	Chengdu	32.50	7	*e*P	P	21 59 46.5	+3.2
CD2				pP	pP	21 59 56.8	+7.7
CD2				sP	sP	22 00 00.8	+9.4
CD2				PP	PP	22 00 56.3	-0.7
CD2				PcP	PcP	22 02 32.1	+2.0
CD2				S	S	22 04 59.5	+1.9
CD2				sS	sS	22 05 16.1	+9.0
CD2				SS	SnSn	22 06 58.3	+6.5
CD2				ScS	ScS	22 10 10.3	-2.4
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,6.2s						
CD2				LR	LR		
	comp=N,510nm,13.2s						
CD2				LR	LR		
	comp=E,600nm,14.2s						
CD2				LR	LR		
	comp=Z,360nm,16.6s						
YULB	Yu-li	32.66	39	*e*P	P	21 59 46.3	+1.5
	comp=Z,7.7nm,0.8s						
SSLB	Suanglung	32.73	39	*e*P	P	21 59 46.9	+1.4
	comp=Z,56nm,1.8s						
KOLN	Koldanda	32.83	334	*e*P	P	21 59 47.3	+0.9
	comp=Z,60nm,0.8s						
FAKI	Fak Fak	32.86	93	P	P	21 59 45.8	-0.9
	baz=33,SNR=5.1						
ENH	Enshi	33.03	16	*e*P	P	21 59 45.3	-2.7
	comp=Z,8.5nm,0.6s						
DANN	Dangsing	33.26	334	*e*P	P	21 59 51.1	+0.8
	comp=Z,112nm,1.2s						
MTN	Manton Dam	33.39	111	S	S	22 04 50.2	-22
	baz=33,SNR=5.4						
NWAO	Narrogin (SRO)	35.47	154	LR	LR	22 12 45.0	
	comp=Z,274nm,21.0s,baz=127,slow=33						
XAN	Xi'an	36.47	13	P	P	22 00 15.6	-2.1
XAN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NJ2	Nanjing	38.13	27	*e*P	P	22 00 34.0	+2.3
WRA	Warramunga Arr	38.77	121	P	P	22 00 35.9	-1.4
WRA				PcP	PcP	22 02 49.2	+0.4
WRA				S	S	22 06 29.0	-5.1
WRA	Warramunga Arr	38.77	121	P	P	22 00 35.9	-1.4
	comp=Z,19nm,0.7s,baz=302,slow=9.1,SNR=132						
WRA				PcP	PcP	22 02 49.2	+0.4
	comp=Z,3.6nm,0.8s,baz=311,slow=2.2,SNR=5.0						
WRA				S	S	22 06 29.0	-5.1
	comp=Z,2.5nm,0.9s,baz=296,slow=17,SNR=6.9						
WRAB	Tennant Creek	38.77	121	P	P	22 00 36.2	-1.1
	comp=Z,252nm,0.6s,SNR=31						
WRAB	Tennant Creek	38.77	121	*e*P	P	22 00 35.8	-1.6
WRAB				pmax	pmax		
	comp=Z,27nm,0.7s						
WRAB	Tennant Creek	38.77	121	*e*P	P	22 00 35.8	-1.6
	comp=Z,27nm,0.7s						
FORT	Forrest	39.81	140	P	P	22 00 47.3	+1.5
	baz=40,SNR=7.2						
AS31	Alice Springs	40.03	126	*e*P	P	22 00 47.6	-0.3
AS31				*e*PcP	PcP	22 02 53.0	+0.2
ASAR	Alice Springs	40.03	126	P	P	22 00 47

	comp=Z,91nm,3.7s						
BJI				LR	LR		
	comp=N,150nm,16.3s						
BJI				LR	LR		
	comp=E,150nm,17.5s						
BJI				LR	LR		
	comp=Z,73nm,21.5s						
JNU	**Nakatsue**	**45.48**	**38**	*e*P	**P**	**22 01 31.3**	**-0.6**
JNU	**Nakatsue**	**45.48**	**38**	P	**P**	**22 01 31.0**	**-0.9**
	comp=Z,14nm,0.8s,baz=156,slow=4.2,SNR=9.8						
JNU				LR	LR	22 22 16.1	
	comp=Z,102nm,18.3s,baz=142,slow=38						
KBL	**Kabul**	**45.78**	**324**	*e*P	**P**	**22 01 33.7**	**-0.8**
KBL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBL	**Kabul**	**45.78**	**324**	*e*P	**P**	**22 01 33.7**	**-0.8**
	comp=Z,2.2nm,0.6s						
KSH	**Kashi**	**46.13**	**335**	P	**P**	**22 01 35.4**	**-1.6**
KSH				sP	sP	22 01 48.4	+3.1
KSH				PP	**PP**	**22 03 23.4**	**-2.1**
KSH				S	S	22 08 14.4	-7.8
KSH				sS	**sS**	**22 08 30.8**	**-1.1**
KSH				SS	**ScS**	**22 11 31.5**	**-0.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,58nm,4.9s						
KSH				LR	LR		
	comp=N,70nm,5.0s						
KSH				LR	LR		
	comp=E,130nm,4.5s						
KSH				LR	LR		
	comp=Z,170nm,5.8s						
WMQ	**Urumqi**	**46.32**	**348**	P	**P**	**22 01 39.3**	**+0.9**
WMQ				pP	pP	22 01 49.9	+5.5
WMQ				PcP	**PcP**	**22 03 14.5**	**+1.0**
WMQ				PP	**PP**	**22 03 26.1**	**-1.4**
WMQ				S	**S**	**22 08 23.3**	**-1.5**
WMQ				sS	sS	22 08 39.8	+5.3
WMQ				pmax	pmax		
	comp=Z,54nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,120nm,3.5s						
WMQ				LR	LR		
	comp=N,45nm,18.0s						
WMQ				LR	LR		
	comp=E,100nm,21.0s						
WMQ				LR	LR		
	comp=Z,87nm,20.0s						
KSAR	**Wonju Array Be**	**46.88**	**31**	P	**P**	**22 01 41.9**	**-1.0**
KSAR				PcP	**PcP**	**22 03 15.8**	**+0.2**
KSRS	**Korea Array**	**46.91**	**31**	P	**P**	**22 01 41.9**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=225,slow=8.0,SNR=19						
KSRS				PcP	**PcP**	**22 03 15.8**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=238,slow=2.4,SNR=5.2						
TKM2	**Tokmak 2**	**49.14**	**337**	*e*P	**P**	**22 02 00.2**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,16nm,0.8s						
TKM2	**Tokmak 2**	**49.14**	**337**	P	**P**	**22 02 01.1**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**49.14**	**337**	*e*P	**P**	**22 02 00.2**	**-0.3**
	comp=Z,16nm,0.8s						
KBK	**Karagaybulak**	**49.17**	**336**	*i* P	**P**	**22 02 02.4**	**+1.7**
KBK	**Karagaybulak**	**49.17**	**336**	P	**P**	**22 02 02.4**	**+1.7**
	SNR=8.7						
AML	**Almayashu**	**49.26**	**335**	*i* P	**P**	**22 02 02.7**	**+1.1**
AML	**Almayashu**	**49.26**	**335**	P	**P**	**22 02 02.7**	**+1.1**
	SNR=6.4						
AAK	**Ala-Archa**	**49.34**	**336***c*	*i*P	**P**	**22 02 02.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,31nm,1.5s						
AAK	**Ala-Archa**	**49.34**	**336**	P	**P**	**22 02 01.6**	**-0.3**
AAK	**Ala-Archa**	**49.34**	**336**	P	**P**	**22 02 01.6**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=158,slow=5.2,SNR=4.4						
CTA	**Charters Tower**	**49.36**	**115**	P	**P**	**22 02 01.8**	**-0.5**
CTA	**Charters Tower**	**49.36**	**115**	P	**P**	**22 02 01.8**	**-0.5**
	comp=Z,14nm,0.8s,baz=290,slow=8.4,SNR=11						
CTAO	**Charters Tower**	**49.36**	**115**	*e*P	**P**	**22 02 01.7**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**49.36**	**115**	*e*P	**P**	**22 02 01.7**	**-0.6**
	comp=Z,17nm,0.8s						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**22 02 03.6**	**+0.4**
SONM				PcP	**PcP**	**22 03 25.2**	**+0.3**
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**22 02 03.6**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=188,slow=9.2,SNR=38						
SONM				PcP	**PcP**	**22 03 25.2**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=192,slow=4.5,SNR=7.2						
CHMS	**Chumysh**	**49.54**	**336**	*i* P	**P**	**22 02 04.0**	**+0.7**
CHMS	**Chumysh**	**49.54**	**336**	P	**P**	**22 02 04.0**	**+0.7**
	SNR=6.3						
ULN	**Ulaanbaatar**	**49.62**	**7**	*e*P	**P**	**22 02 04.0**	**0.0**
	comp=Z,7.6nm,0.9s						
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**22 02 05.7**	**+1.3**
EKS2				pmax	pmax		
	comp=Z,18nm,0.8s						
EKS2	**Erkin-Say**	**49.66**	**335**	P	**P**	**22 02 05.4**	**+1.0**
	SNR=8.1						
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**22 02 05.7**	**+1.3**
	comp=Z,18nm,0.8s						
USP	**Ospenovka**	**49.87**	**336**	*i* P	**P**	**22 02 05.8**	**0.0**
USP	**Ospenovka**	**49.87**	**336**	P	**P**	**22 02 05.8**	**0.0**
	SNR=14						
STKA	**Stephens Creek**	**49.93**	**132**	*e*P	**P**	**22 02 07.3**	**+0.8**
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**22 02 07.2**	**+0.7**
	comp=Z,23nm,0.8s,baz=297,slow=7.0,SNR=21						
STKA				LR	LR	22 23 47.7	
	comp=Z,379nm,18.1s,baz=113,slow=37						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**22 02 07.4**	**+0.8**
	baz=50,SNR=8.7						
MK31	**Makanchi Array**	**50.39**	**345**	*e*P	**P**	**22 02 09.7**	**0.0**
MK31	**Makanchi Array**	**50.39**	**345**	*e*P	**P**	**22 02 09.7**	**0.0**
MKAR	**Makanchi Array**	**50.39**	**345**	*e*P	**P**	**22 02 09.8**	**+0.1**
MKAR	**Makanchi Array**	**50.39**	**345**	*e*P	**P**	**22 02 09.8**	**+0.1**
MKAR	**Makanchi Array**	**50.39**	**345**	P	**P**	**22 02 09.8**	**+0.1**
	comp=Z,16nm,0.6s,baz=150,slow=8.0,SNR=168						
CN2	**Changchun**	**50.78**	**24**	*e*P	P	22 02 16.9	+4.2
CN2				*e*S	**S**	**22 09 30.3**	**+2.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,190nm,16.0s						
CN2				LR	LR		
	comp=E,310nm,16.0s						
CN2				LR	LR		
	comp=Z,240nm,18.0s						
KK31	**Karatay Array**	**51.44**	**333***c*	*e*P	**P**	**22 02 16.7**	**-1.0**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**51.44**	**333**	*e*P	**P**	**22 02 17.4**	**-0.3**
KKAR	**Karatay Array**	**51.44**	**333**	*e*P	**P**	**22 02 17.4**	**-0.3**
MJAR	**Matsushiro Arr**	**52.28**	**40**	P	**P**	**22 02 23.6**	**-0.4**
MJAR	**Matsushiro Arr**	**52.28**	**40**	P	**P**	**22 02 23.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=206,slow=7.3,SNR=5.2						
HVS	**Khovu-Aksy**	**52.66**	**355***d*	*i* P	**P**	**22 02 26.5**	**-0.2**
HVS				pmax	pmax		
	comp=Z,33nm,1.2s						
CMSA	**Cobar Meteorol**	**52.90**	**129**	P	**P**	**22 02 29.3**	**+0.6**
	baz=53,SNR=17						
MDJ	**Mudanjiang**	**53.22**	**27**	P	**P**	**22 02 32.8**	**+2.0**
MDJ				pP	pP	22 02 41.9	+5.1
MDJ				sP	sP	22 02 45.6	+6.5
MDJ				PP	**PP**	**22 04 34.6**	**+3.5**
MDJ				S	**S**	**22 10 03.4**	**+2.4**
MDJ				sS	sS	22 10 18.3	+7.5
MDJ				ScS	**ScS**	**22 12 18.4**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,32nm,3.9s						
MDJ				LR	LR		
	comp=N,170nm,14.3s						
MDJ				LR	LR		
	comp=E,91nm,17.6s						
MDJ				LR	LR		
	comp=Z,210nm,12.6s						
USRK	**Ussuriysk Arra**	**54.01**	**29**	P	**P**	**22 02 36.3**	**-0.3**
	comp=Z,7.4nm,0.7s,baz=231,slow=6.1,SNR=22						
KURBB	**Kurchatov Arra**	**54.91**	**344**	P	**P**	**22 02 43.0**	**-0.1**
	comp=Z,8.2nm,0.9s,baz=162,slow=6.5,SNR=45						
KURK	**Kurchatov**	**54.96**	**344**	P	**P**	**22 02 43.0**	**-0.5**
KURK	**Kurchatov**	**54.96**	**344**	P	**P**	**22 02 43.0**	**-0.5**
YNG	**Young**	**56.12**	**131**	P	**P**	**22 02 53.0**	**+0.9**
	baz=56,SNR=4.9						
ZAA0	**Zalesovo Array**	**56.57**	**350**	*e*P	**P**	**22 02 54.5**	**-0.4**
ZAA0				*e*PcP	**PcP**	**22 03 50.2**	**-1.0**
ZAA0				*e*ScP	**ScP**	**22 07 48.5**	**-1.5**
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	**P**	**22 02 54.8**	**-0.1**
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	**P**	**22 02 54.8**	**-0.1**
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	**P**	**22 02 54.8**	**-0.1**
	comp=Z,25nm,0.7s,baz=177,slow=5.6,SNR=147						
ARMA	**Armidale**	**57.18**	**126**	P	**P**	**22 03 01.5**	**+1.7**
	baz=57,SNR=6.5						
KRAR	**Krasnoyarsk**	**57.57**	**356**⇓	*e*P	**P**	**22 03 03.4**	**+1.5**
KRAR				pmax	pmax		
	comp=Z,75nm,1.2s						
NVS	**Novosibirsk**	**57.71**	**349**⇓	*e*P	**P**	**22 03 02.1**	**-0.9**
NVS				*e*S	**S**	**22 10 58.1**	**-2.6**
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				smax	smax		
	comp=N,17nm,1.9s						
NVS				smax	smax		
	comp=E,12nm,1.8s						
KLR	**Kul'dur**	**57.73**	**25**	*e*P	P	22 02 58.5	-4.7
RAYN	**Ar Rayn**	**57.97**	**299**	P	**P**	**22 03 05.7**	**+0.3**
	comp=E,58nm,0.8s,SNR=5.9						
RAYN	**Ar Rayn**	**57.97**	**299**	*e*P	**P**	**22 03 05.5**	**+0.1**
	comp=E,7.1nm,0.8s						
KBD	**Kabd**	**58.05**	**306**	*e*P	**P**	**22 03 05.5**	**-0.3**
KBD				AMb	AMB	22 03 06.8	
	comp=Z,34nm,1.1s						
RDF	**Al-Radifah**	**58.07**	**306**	*e*P	**P**	**22 03 05.8**	**-0.2**
RDF				AMb	AMB	22 03 07.4	
	comp=Z,62nm,1.0s						
NAY	**Al-Naaiem**	**58.44**	**306**	*e*P	**P**	**22 03 07.7**	**-0.9**
NAY				AMb	AMB	22 03 08.8	
	comp=Z,24nm,0.6s						
ASAJ	**Asahikawa**	**59.55**	**35**	P	**P**	**22 03 15.9**	**-0.1**
ASAJ	**Asahikawa**	**59.55**	**35**	P	**P**	**22 03 15.9**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=340,slow=10,SNR=5.4						
BRVK	**Borovoye**	**59.58**	**340***c*	*i* P	**P**	**22 03 14.7**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**59.58**	**340**	*e*P	**P**	**22 03 14.1**	**-1.9**
	comp=Z,6.3nm,0.8s						
AB31	**Akbulak array**	**60.92**	**332***ce*	P	**P**	**22 03 23.7**	**-1.5**
AB31				pmax	pmax		
	comp=Z,20nm,0.9s						
ABKAR	**Akbulak array**	**60.92**	**332**	*e*P	**P**	**22 03 24.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**61.39**	**32**⇓	*e*P	P	22 03 22.2	-6.3
YSS				*e*		22 03 29.2	
KMBO	**Kilima Mbogo**	**62.12**	**270**	*e*P	**P**	**22 03 35.6**	**+1.2**
	comp=Z,11nm,0.9s						
KMBO	**Kilima Mbogo**	**62.12**	**270**	P	**P**	**22 03 35.9**	**+1.5**
	comp=Z,8.1nm,0.8s,baz=57,slow=9.1,SNR=23						
AKTO	**Aktyubinsk**	**62.63**	**332**	*i* P	**P**	**22 03 35.0**	**-1.8**
AKTO				pmax	pmax		
	comp=Z,13nm,1.2s						
GNI	**Garni**	**64.75**	**316**	P	**P**	**22 03 51.8**	**+0.6**
GNI	**Garni**	**64.75**	**316**	P	**P**	**22 03 51.8**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=274,slow=18,SNR=3.4						
CASY	**Casey**	**65.13**	**175**	*e*P	**P**	**22 03 53.3**	**+0.4**
	comp=Z,22nm,1.4s						
TBLG	**Delisi**	**65.44**	**318**	P	**P**	**22 03 55.5**	**0.0**
TBLG	**Delisi**	**65.44**	**318**	P	**P**	**22 03 55.5**	**0.0**
DUS	**Dusheti**	**65.63**	**318**	P	P	22 03 53.1	-3.7
SVE	**Sverdlovsk**	**66.00**	**338**⇓	*i*P	**P**	**22 03 58.0**	**-0.7**
SVE				pmax	pmax		
	comp=Z,27nm,1.1s						
AKH	**Akhalkalaki**	**66.15**	**317**	P	**P**	**22 04 00.8**	**+0.6**
ZEI	**Tsey**	**66.47**	**319**	*e*P	**P**	**22 04 01.5**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	**Arti**	**66.51**	**337***d*	*i*P	**P**	**22 04 01.4**	**-0.6**
ARU						22 06 26.9	
ARU				S	**S**	**22 12 51.8**	**+0.1**
ARU				SS	**SS**	**22 17 04.5**	**-4.5**
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
ONI	**Oni**	**66.68**	**318**	P	**P**	**22 04 04.0**	**+0.5**
YAK	**Yakutsk**	**67.42**	**15**	*e*P	**P**	**22 04 06.0**	**-1.7**
YAK				*e*PP	**PcP**	**22 04 37.3**	**+2.3**
YAK				*e*		22 06 31.1	
YAK				*e*S	S	22 12 56.4	-6.0
YAK				*e*SS	sS	22 13 42.0	+29
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,40nm,3.2s						
YAK				smax	smax		
	comp=N,22nm,2.8s						
YAK				smax	smax		
	comp=E,36nm,3.3s						
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**22 04 08.8**	**0.0**
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**22 04 08.8**	**0.0**
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**22 04 08.8**	**0.0**
	comp=E,13nm,0.8s,baz=128,slow=5.0,SNR=31						
KIV	**Kislovodsk**	**67.77**	**319**	*e*P	**P**	**22 04 09.9**	**-0.5**
KIV				pmax	pmax		
	comp=Z,27nm,1.1s						
KIV				MLR	MLR		
	comp=Z,37nm,18.0s						
ASF	**Jabal al Asfar**	**67.81**	**306**	P	**P**	**22 04 12.0**	**+1.1**
ASF	**Jabal al Asfar**	**67.81**	**306**	P	**P**	**22 04 12.0**	**+1.1**
	comp=Z,7.4nm,0.9s,baz=83,slow=1.8,SNR=11						
MBAR	**Mbarara**	**68.65**	**270**	P	**P**	**22 04 19.1**	**+2.5**
	comp=Z,88nm,0.4s,SNR=5.4						
MBAR	**Mbarara**	**68.65**	**270**	P	**P**	**22 04 17.0**	**+0.4**
MBAR	**Mbarara**	**68.65**	**270**	P	**P**	**22 04 17.0**	**+0.4**
	comp=Z,23nm,0.2s,baz=185,slow=23,SNR=18						
EIL	**Elat**	**68.74**	**303**	P	**P**	**22 04 17.0**	**+0.3**
EIL	**Elat**	**68.74**	**303**	P	**P**	**22 04 17.0**	**+0.3**
	comp=Z,16nm,0.8s,baz=338,slow=1.9,SNR=14						
EIL	**Elat**	**68.74**	**303**	P	**P**	**22 04 17.2**	**+0.6**
	baz=69,SNR=7.6						
SOKR	**Solikamsk**	**69.40**	**338**⇑	*i*P	**P**	**22 04 20.1**	**0.0**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SOC	**Sochi**	**69.58**	**318**	*e*P	**P**	**22 04 20.3**	**-1.3**
SOC				pmax	pmax		
	comp=Z,28nm,0.9s						
MAW	**Mawson**	**70.61**	**194**	*e*P	**P**	**22 04 27.6**	**+0.2**
	comp=Z,1.6nm,1.0s						
MAW	**Mawson**	**70.61**	**194**	P	**P**	**22 04 28.7**	**+1.3**
	comp=Z,5.6nm,0.9s,baz=26,slow=7.6,SNR=11						
MAW				LR	LR	22 28 50.4	
	comp=Z,104nm,19.9s,baz=290,slow=30						
MAW	**Mawson**	**70.61**	**194**	P	**P**	**22 04 29.4**	**+2.0**
	baz=71,SNR=6.7						
LSZ	**Lusaka**	**71.48**	**254**	LR	LR	22 30 16.7	
	comp=Z,87nm,19.2s,baz=15,slow=31						
VRHR	**Novokhopersk**	**71.58**	**326**	*e*P	**P**	**22 04 31.4**	**-2.2**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=N,20nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
BR131	**Keskin Array S**	**72.54**	**313**	*e*P	**P**	**22 04 38.5**	**-1.3**
	comp=E,2.2nm,0.8s						
BRTR	**Keskin Array B**	**72.54**	**313**	P	**P**	**22 04 38.5**	**-1.3**
BRTR	**Keskin Array B**	**72.54**	**313**	P	**P**	**22 04 38.5**	**-1.3**
	comp=E,3.3nm,0.7s,baz=134,slow=8.0,SNR=20						
PETK	**Petropavlovsk-**	**72.79**	**32**	P	**P**	**22 04 40.0**	**-0.9**
PETK	**Petropavlovsk-**	**72.79**	**32**	P	**P**	**22 04 40.0**	**-0.9**
PETK	**Petropavlovsk-**	**72.79**	**32**	P	**P**	**22 04 40.0**	**-0.9**
	comp=E,2.7nm,0.8s,baz=208,slow=5.0,SNR=3.7						
VORD	**Divnogorie**	**72.85**	**325**	*e*P	**P**	**22 04 39.0**	**-2.2**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VORD				pmax	pmax		
	comp=N,5.0nm,0.3s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.4s						
VSR	**Storozhevoye**	**73.03**	**325**	*e*P	**P**	**22 04 40.7**	**-1.5**
VSR				pmax	pmax		
	comp=Z,30nm,0.9s						
VSR				pmax	pmax		
	comp=N,3.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,20nm,0.9s						
LBTB	**Lobatse**	**74.69**	**245**	LR	LR	22 32 56.9	
	comp=E,156nm,19.5s,baz=306,slow=32						
BOSA	**Boshof**	**75.36**	**241**	P	**P**	**22 04 56.1**	**-0.5**
BOSA	**Boshof**	**75.36**	**241**	P	**P**	**22 04 56.1**	**-0.5**
	comp=E,2.4nm,0.7s,baz=1.8,slow=12,SNR=4.6						
BOSA				LR	LR	22 31 41.9	
	comp=E,162nm,20.6s,baz=165,slow=31						
SEY	**Seymchan**	**75.40**	**22***ce*	P	**P**	**22 04 55.4**	**-0.4**
TIXI	**Tiksi**	**75.47**	**9***de*	P	**P**	**22 04 55.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,24nm,1.7s						
RPZ	**Rata Peaks**	**75.76**	**135**	P	**P**	**22 04 58.1**	**-0.3**
RPZ	**Rata Peaks**	**75.76**	**135**	P	**P**	**22 04 58.1**	**-0.3**
	comp=Z,13nm,0.6s,baz=247,slow=6.5,SNR=5.6						
MOS	**Moscow**	**75.76**	**329**	*e*P	**P**	**22 04 56.7**	**-1.4**
OBN	**Obninsk**	**76.06**	**328**	*e*P	**P**	**22 04 59.4**	**-0.3**
OBN				*e*		22 05 10.2	
OBN				pmax	pmax		
	comp=Z,58nm,2.5s						
TIRR	**Tirgusor**	**77.58**	**316**	⇑P	**P**	**22 05 08.6**	**0.0**
TIRR	**Tirgusor**	**77.58**	**316**	⇑*i*P	**P**	**22 05 08.6**	**0.0**
SYO	**Syowa Base**	**78.14**	**199**⇑	*e*P	**P**	**22 05 11.2**	**0.0**
LEOM	**Leova**	**78.20**	**318**	⇑P	**P**	**22 05 12.3**	**+0.3**
LEOM	**Leova**	**78.20**	**318**	⇑*i*P	**P**	**22 05 12.3**	**+0.3**
AKASG	**Malin Array Be**	**78.72**	**322**	P	**P**	**22 05 13.6**	**-1.2**
AKASG	**Malin Array Be**	**78.72**	**322**	P	**P**	**22 05 13.6**	**-1.2**
AKASG	**Malin Array Be**	**78.72**	**322**	P	**P**	**22 05 13.6**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=84,slow=5.2,SNR=16						
ISR	**Istrita**	**79.03**	**316**	⇓P	**P**	**22 05 17.8**	**+1.1**
ISR	**Istrita**	**79.03**	**316**	⇓*i*P	**P**	**22 05 17.8**	**+1.1**
VRI	**Vrincioaia**	**79.08**	**317**	⇑P	**P**	**22 05 17.0**	**+0.1**
VRI	**Vrincioaia**	**79.08**	**317**	⇑*i*P	**P**	**22 05 17.0**	**+0.1**
PLOR	**Plostina**	**79.13**	**317**	⇑P	**P**	**22 05 18.0**	**+0.8**
PLOR	**Plostina**	**79.13**	**317**	⇑*i*P	**P**	**22 05 18.0**	**+0.8**
SULR		**79.13**	**316**	⇑*i*P	**P**	**22 05 17.5**	**+0.3**
TESR	**Tescani**	**79.28**	**318**	⇑*i*P	**P**	**22 05 18.1**	**+0.1**
SECR		**79.34**	**316**	⇓*i*P	**P**	**22 05 19.4**	**+1.1**
URZ	**Urewera**	**79.43**	**129**	LR	LR	22 41 52.3	
	comp=Z,114nm,18.6s,baz=273,slow=37						
MLR	**Muntele Rosu**	**79.52**	**317**	⇑*i*P	**P**	**22 05 19.8**	**+0.3**
SUR	**Sutherland**	**79.55**	**237**	LR	LR	22 34 44.8	
	comp=Z,5.4nm,20.6s,baz=247,slow=31						
VOIR		**80.13**	**317**	⇑P	**P**	**22 05 21.7**	**-1.0**
VOIR		**80.13**	**317**	⇑*i*P	**P**	**22 05 21.6**	**-1.1**
ARR	**Arges**	**80.40**	**316**	⇑*i*P	**P**	**22 05 23.5**	**-0.7**
BURAR	**Bucovina Array**	**80.49**	**319**	⇓P	**P**	**22 05 25.3**	**+0.7**
BURAR	**Bucovina Array**	**80.49**	**319**	⇓*i*P	**P**	**22 05 25.3**	**+0.7**
BUR08	**Bucovina Ar. S**	**80.51**	**319**	*e*P	**P**	**22 05 24.6**	**-0.1**
VTS	**Vitosha**	**80.87**	**313**	⇑P	**P**	**22 05 26.0**	**-0.8**
VTS	**Vitosha**	**80.87**	**313**	⇑*i*P	**P**	**22 05 26.0**	**-0.8**
LOT	**Lotru**	**81.01**	**316**	⇓*i*P	**P**	**22 05 27.3**	**-0.2**
GZR	**Gura Zlata**	**81.69**	**316**	⇓P	P	22 05 26.5	-4.5
GZR	**Gura Zlata**	**81.69**	**316**	⇓*i*P	P	22 05 26.5	-4.5
TSUM	**Tsumeb**	**81.77**	**251**	LR	LR	22 39 38.1	
	comp=Z,193nm,20.3s,baz=237,slow=34						
DRGR		**81.99**	**318**	⇓P	**P**	**22 05 33.4**	**+0.8**
DRGR		**81.99**	**318**	⇓*i*P	**P**	**22 05 33.4**	**+0.8**
TRPA	**Tarpa**	**82.36**	**319**	⇑*i*P	**P**	**22 05 34.9**	**+0.5**
BZS	**Buzias**	**82.53**	**316**	⇑P	**P**	**22 05 35.4**	**0.0**
BZS	**Buzias**	**82.53**	**316**	⇑*i*P	**P**	**22 05 35.4**	**0.0**
KWP	**Kalwaria Pacla**	**82.54**	**320**	⇓P	**P**	**22 05 35.6**	**+0.3**
KWP	**Kalwaria Pacla**	**82.54**	**320**	⇓*i*P	**P**	**22 05 35.6**	**+0.3**
KWP	**Kalwaria Pacla**	**82.54**	**320**	*e*P	**P**	**22 05 34.8**	**-0.6**
	comp=Z,17nm,1.0s						
KOLS	**Kolonicke sedl**	**82.68**	**320**	*e*P	**P**	**22 05 36.7**	**+0.6**
KOLS				pmax	pmax		
	comp=Z,19nm,0.9s						
KOLS	**Kolonicke sedl**	**82.68**	**320**	*e*P	**P**	**22 05 36.7**	**+0.6**
VNDA	**Vanda**	**82.76**	**169**	*e*P	**P**	**22 05 37.0**	**+1.0**
VNDA	**Vanda**	**82.76**	**169**	P	**P**	**22 05 36.9**	**+0.9**
	comp=Z,4.9nm,1.1s,baz=307,slow=5.8,SNR=18						
SUW	**Suwalki**	**83.13**	**325**	*e*P	**P**	**22 05 38.0**	**-0.3**
SUW				pmax	pmax		
	comp=Z,60nm,1.1s						
SUW	**Suwalki**	**83.13**	**325**	*e*P	**P**	**22 05 38.0**	**-0.3**
	comp=Z,60nm,1.1s						
CRVS	**Cervenica-Dubn**	**83.20**	**319**	*e*P	**P**	**22 05 39.1**	**+0.3**
CRVS				pmax	pmax		
	comp=Z,39nm,2.4s						
CRVS	**Cervenica-Dubn**	**83.20**	**319**	*e*P	**P**	**22 05 39.1**	**+0.3**
FIA1	**FINESS Array S**	**83.39**	**332**	*e*P	**P**	**22 05 39.5**	**+0.1**
FINES	**FINESS Array B**	**83.39**	**332**	P	**P**	**22 05 39.6**	**+0.2**
FINES	**FINESS Array B**	**83.39**	**332**	P	**P**	**22 05 39.6**	**+0.2**
	comp=Z,5.2nm,0.5s,baz=96,slow=5.1,SNR=45						
STHS	**Stebnicka Huta**	**83.43**	**320**	*e*P	**P**	**22 05 40.9**	**+0.9**
STHS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
STHS	**Stebnicka Huta**	**83.43**	**320**	*e*P	**P**	**22 05 40.9**	**+0.9**
KAF	**Kangasniemi**	**83.47**	**333**	*e*P	**P**	**22 05 39.3**	**-0.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**83.47**	**333**	*e*p	**P**	**22 05 39.3**	**-0.5**
	comp=Z,1.9nm,0.4s						
KECS	**Kecovo**	**83.77**	**319**	*e*P	**P

BRG			*e*			22 06 12.9	
BRG			pmax	pmax			
	comp=Z,9.0nm,1.0s						
BRG			pmax	pmax			
	comp=Z,7.0nm,1.0s						
GEC2	**GERESS Array S**	**88.28 319**	*e*P	**P**		**22 06 04.6**	**+0.5**
	comp=Z,3.0nm,0.8s						
GEC2	**GERESS Array S**	**88.28 319**	*e*P	**P**		**22 06 04.6**	**+0.5**
GEC2			pmax	pmax			
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**88.28 319**	P	**P**		**22 06 04.6**	**+0.5**
GERES	**GERESS Array B**	**88.28 319**	P	**P**		**22 06 04.6**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=99,slow=4.2,SNR=29						
KHC	**Kasperske Hory**	**88.38 319**	*e*P	**P**		**22 06 04.6**	**+0.1**
KHC			pmax	pmax			
	comp=Z,24nm,2.2s						
KHC	**Kasperske Hory**	**88.38 319**	*i* P	**P**		**22 06 04.6**	**+0.1**
KHC			*ex*	x		22 06 11.6	
KHC	**Kasperske Hory**	**88.38 319**	*e*P	**P**		**22 06 04.6**	**+0.1**
	comp=Z,24nm,2.2s						
QSPA	**South Pole Qui**	**88.46 180**	*e*P	**P**		**22 06 05.5**	**+0.9**
	comp=Z,20nm,1.3s						
RJOB	**Jochberg**	**88.81 318**	*e*P	**P**		**22 06 06.3**	**-0.3**
	comp=Z,3.0nm,0.9s						
WET	**Wettzell**	**88.84 319**	*e*P	**P**		**22 06 07.2**	**+0.5**
	comp=Z,4.0nm,0.8s						
WET	**Wettzell**	**88.84 319**	*e*P	**P**		**22 06 07.2**	**+0.5**
WET			pmax	pmax			
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**88.90 321**	*e*P	**P**		**22 06 07.4**	**+0.6**
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**88.90 321** ⇓	*i*P	**P**		**22 06 07.3**	**+0.5**
CLL			*e*			22 06 15.0	
CLL			pmax	pmax			
	comp=Z,13nm,1.1s						
CLL	**Collm**	**88.90 321** ⇓	*i*P	**P**		**22 06 07.3**	**+0.5**
	comp=Z,13nm,1.1s						
CLL			*e*(sP)	**sP**		**22 06 15.0**	**-0.3**
NKC	**Novy Kostel**	**89.18 320**	*i* P	**P**		**22 06 09.1**	**+0.9**
NKC	**Novy Kostel**	**89.18 320**	*i* P	**P**		**22 06 09.1**	**+0.9**
TANN	**Tannenbergstha**	**89.19 320**	*e*P	**P**		**22 06 08.7**	**+0.4**
	comp=Z,2.0nm,1.0s						
ROTZ	**Rotzenmuhle**	**89.31 320**	*e*P	**P**		**22 06 09.9**	**+1.1**
	comp=Z,3.0nm,0.9s						
MANZ	**Manzenberg**	**89.39 320**	*e*P	**P**		**22 06 10.3**	**+1.1**
	comp=Z,7.0nm,0.9s						
MANZ			*e*pP	pP		22 06 18.4	+2.9
NEUB	**Neuenburg**	**89.66 321**	*e*P	**P**		**22 06 11.2**	**+0.8**
	comp=Z,12nm,0.8s						
MOX	**Moxa**	**89.74 320**	*e*P	**P**		**22 06 11.4**	**+0.6**
	comp=Z,3.0nm,0.9s						
MOX	**Moxa**	**89.74 320**	*e*P	**P**		**22 06 11.4**	**+0.6**
MOX			pmax	pmax			
	comp=Z,3.0nm,0.9s						
MOTA	**Moosalm**	**89.93 317** ⇑	*i*P	**P**		**22 06 11.3**	**-0.7**
	comp=Z,11nm,1.1s,SNR=9.8						
GRF	**Grafenberg Arr**	**89.95 320**	*e*P	**P**		**22 06 12.8**	**+1.0**
	comp=Z,7.0nm,0.9s						
GRF	**Grafenberg Arr**	**89.95 320**	*e*P	**P**		**22 06 12.8**	**+1.0**
GRF			pmax	pmax			
	comp=Z,7.0nm,0.9s						
GRFO	**Grafenberg**	**89.95 320**	*e*P	**P**		**22 06 11.3**	**-0.5**
GRFO			pmax	pmax			
	comp=Z,10.0nm,1.1s						
GRFO	**Grafenberg**	**89.95 320**	*e*P	**P**		**22 06 11.3**	**-0.5**
	comp=Z,10.0nm,1.1s						
NRDL	**Niedersach Rie**	**90.74 322**	*e*P	**P**		**22 06 16.4**	**+1.1**
	comp=Z,6.0nm,1.0s						
DAVA	**Damuels**	**90.76 317** ⇑	*i*PcP	**P**		**22 06 16.0**	**+0.2**
	comp=Z,18nm,1.0s,SNR=9.5						
UBBA	**Unterbreizbach**	**90.77 321**	*e*P	**P**		**22 06 16.0**	**+0.6**
	comp=Z,2.0nm,0.9s						
KEST	**Kesra**	**90.91 306**	*e*P	**P**		**22 06 17.6**	**+0.9**
KEST	**Kesra**	**90.91 306**	P	**P**		**22 06 18.0**	**+1.3**
	comp=Z,4.8nm,0.9s,baz=148,slow=3.6,SNR=13						
TUE	**Stuetta**	**91.11 316**	*e*P	**P**		**22 06 17.0**	**-0.5**
	comp=Z,5.2nm,1.1s						
PGF	**Pioggiola**	**91.30 312**	*e*P	**P**		**22 06 18.5**	**+0.1**
	comp=Z,8.4nm,0.8s						
TNS	**Taunus Mts**	**91.75 320**	*e*P	**P**		**22 06 21.1**	**+0.9**
	comp=Z,7.0nm,0.9s						
TNS	**Taunus Mts**	**91.75 320**	*e*P	**P**		**22 06 21.1**	**+0.9**
TNS			pmax	pmax			
	comp=Z,7.0nm,0.9s						
BFO	**Black Forest**	**91.82 318**	*e*P	**P**		**22 06 20.7**	**+0.1**
	comp=Z,2.0nm,0.9s						
BFO	**Black Forest**	**91.82 318**	*e*P	**P**		**22 06 20.5**	**-0.1**
BFO			pmax	pmax			
	comp=Z,5.0nm,1.2s						
BFO	**Black Forest**	**91.82 318**	*e*P	**P**		**22 06 20.4**	**-0.1**
	comp=Z,4.8nm,1.2s						
SNAA	**Sanae**	**92.42 198**	*e*P	**P**		**22 06 24.7**	**+1.8**
SBF	**Sospel**	**92.45 314**	*e*P	**P**		**22 06 23.5**	**-0.1**
	comp=Z,26nm,1.0s						
CDF	**Champ du Feu**	**92.52 318**	*e*P	**P**		**22 06 23.6**	**-0.3**
	comp=Z,10nm,1.2s						
ECH	**Echery**	**92.60 318**	*e*P	**P**		**22 06 23.3**	**-0.9**
ECH			pmax	pmax			
	comp=Z,3.0nm,0.9s						
ECH	**Echery**	**92.60 318**	*e*P	**P**		**22 06 23.3**	**-0.9**
	comp=Z,3.2nm,0.9s						
LPG	**La Plagne**	**92.92 315**	*e*P	**P**		**22 06 26.0**	**-0.1**
	comp=Z,6.2nm,0.7s						
LPL	**La Plagne**	**92.93 315**	*e*P	**P**		**22 06 25.8**	**-0.2**
	comp=Z,6.5nm,0.7s						
FRF	**La Foret Royal**	**93.02 313**	*e*P	**P**		**22 06 26.2**	**0.0**
LMR	**La Mourre**	**93.12 313**	*e*P	**P**		**22 06 26.7**	**0.0**
	comp=Z,21nm,1.4s						
HAU	**Haudompre**	**93.15 318**	*e*P	**P**		**22 06 26.5**	**-0.2**
	comp=Z,16nm,1.1s						
CABF	**La Chapelle**	**93.36 316**	*e*P	**P**		**22 06 27.8**	**0.0**
	comp=Z,10.0nm,0.9s						
SMRF	**Simiane la Rot**	**93.79 314**	*e*P	**P**		**22 06 30.4**	**+0.6**
	comp=Z,16nm,1.3s						
MEZF	**Maizieres J'vi**	**94.00 318**	*e*P	**P**		**22 06 29.7**	**-0.9**
VIVF	**Saint-Julien-l**	**94.41 315**	*e*P	**P**		**22 06 32.3**	**-0.3**
BAIF	**Baives**	**94.48 320**	*e*P	**P**		**22 06 32.9**	**+0.2**
	comp=Z,16nm,1.1s						
LOR	**Lormes**	**94.86 317**	*e*P	**P**		**22 06 34.4**	**-0.2**
	comp=Z,4.5nm,0.8s						
LASF	**Ste Croix**	**95.02 314**	*e*P	**P**		**22 06 35.6**	**+0.2**
	comp=Z,4.0nm,0.8s						
BGF	**Bois d'Agland**	**95.59 316**	*e*P	**P**		**22 06 38.1**	**+0.2**
TCF	**Toulx Ste Croi**	**96.05 316**	*e*P	**P**		**22 06 40.1**	**0.0**
MTLF	**Montolieu**	**96.25 313**	*e*P	**P**		**22 06 41.0**	**0.0**
TORD	**Torodi Ar. Bea**	**97.83 283**	P	**P**		**22 06 47.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**97.83 283**	P	**P**		**22 06 47.6**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=77,slow=4.5,SNR=4.9						
IMA2	**Indian Mountai**	**98.19 23**	*e*P		Pdif	22 06 49.7	+0.3
ILAR	**Eielson Array**	**101.30 24**	PKKPbc	PKKPbc		22 23 12.7	-2.5
ILAR	**Eielson Array**	**101.30 24**	PKKPbc	PKKPbc		22 23 12.7	-2.5
	comp=Z,0.8nm,0.8s,baz=104,slow=1.8,SNR=7.3						
LIC	**Lamto**	**104.50 276**	*e*P		**Pdif**	**22 07 16.9**	**-1.6**
	comp=Z,77nm,1.9s						
NEW	**Newport**	**123.80 29**	P	**PKPdf**		**22 12 10.2**	**-0.4**
	baz=124						
BSMT	**Bassoo Peak**	**125.19 28**	*e*PKPdf	**PKPdf**		**22 12 13.0**	**-0.5**
MSO	**Missoula**	**126.33 28**	P	**PKPdf**		**22 12 15.5**	**0.0**
	baz=126						
B17A	**L&G Farms, Che**	**126.61 25**	P	**PKPdf**		**22 12 15.9**	**-0.2**
	baz=126						
WVOR	**Wild Horse Val**	**126.90 35**	*e*PKIKP	**PKPdf**		**22 12 17.2**	**+0.4**
WVOR	**Wild Horse Val**	**126.90 35**	*e*PKPdf	**PKPdf**		**22 12 17.2**	**+0.4**
A19A	**Klindworth Far**	**126.94 23**	P	**PKPdf**		**22 12 16.5**	**-0.2**
	baz=127						
C17A	**Wharram Farm,**	**127.14 25**	P	**PKPdf**		**22 12 16.7**	**-0.4**
	baz=127						
A20A	**Cobblestone Ra**	**127.29 22**	P	**PKPdf**		**22 12 17.6**	**+0.3**
	baz=127						
D17A	**Six Diamond Ra**	**127.55 26**	P	**PKPdf**		**22 12 18.0**	**+0.1**
	baz=127						
MFID	**Camas Ranch**	**127.80 32**	P	**PKPdf**		**22 12 19.2**	**+0.7**
	baz=128						
E17A	**Martinsdale**	**128.01 26**	P	**PKPdf**		**22 12 19.1**	**+0.2**
	baz=128						
DLMT	**Dillon**	**128.04 28**	*e*PKPdf	**PKPdf**		**22 12 19.1**	**+0.1**
HLID	**Hailey**	**128.44 31**	P	**PKPdf**		**22 12 20.2**	**+0.4**
	baz=128						
F17A	**Fitzpatrick Pl**	**128.52 27**	P	**PKPdf**		**22 12 20.4**	**+0.6**
	baz=128						
G17A	**Pierce Place,**	**128.94 27**	P	**PKPdf**		**22 12 20.3**	**-0.3**
	baz=129						
F18A	**Big Timber**	**128.94 26**	P	**PKPdf**		**22 12 20.6**	**0.0**
	baz=129						
NVAR	**Mina Array Bea**	**129.60 39**	PKP	**PKPdf**		**22 12 23.8**	**+1.6**
NVAR	**Mina Array Bea**	**129.60 39**	PKP	**PKPdf**		**22 12 23.8**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=262,slow=3.9,SNR=7.3						
I20A	**Worland**	**131.17 26**	P	**PKPdf**		**22 12 25.4**	**+0.5**
	baz=131						
R11A	**Troy Canyon, C**	**131.31 37**	P	**PKPdf**		**22 12 25.6**	**+0.2**
	baz=131						
PDAR	**Pinedale Array**	**131.44 28**	PKP	**PKPdf**		**22 12 26.1**	**+0.4**
PDAR	**Pinedale Array**	**131.44 28**	PKP	**PKPdf**		**22 12 26.1**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=130,slow=1.3,SNR=6.1						
M21A	**Separation Pea**	**133.37 28**	P	**PKPdf**		**22 12 29.2**	**-0.1**
	baz=133						
GMRC	**Granite Mounta**	**133.50 41**	P	**PKPdf**		**22 12 30.3**	**+0.7**
	baz=133						
N20A	**Spence Gulch,**	**133.54 29**	P	**PKPdf**		**22 12 30.4**	**+0.7**
	baz=133						
L23A	**Garrett**	**133.71 26**	P	**PKPdf**		**22 12 29.5**	**-0.4**
	baz=134						
N21A	**Black Mountain**	**133.95 29**	P	**PKPdf**		**22 12 30.4**	**0.0**
	baz=134						
ECSD	**EROS Data Cent**	**135.60 17**	*e*PKPdf	**PKPdf**		**22 12 32.7**	**-0.4**
S21A	**Coal Bank Pass**	**136.18 32**	P	**PKPdf**		**22 12 35.5**	**+0.7**
	baz=136						
R22A	**Saguache, Gunn**	**136.28 30**	P	**PKPdf**		**22 12 37.0**	**+2.1**
	baz=136						
P26A	**Davis Ranch, A**	**136.82 26**	P	**PKPdf**		**22 12 37.3**	**+1.6**
	baz=137						
V24A	**Rampart Ranch,**	**138.97 31**	P	**PKPdf**		**22 12 40.4**	**+0.5**
	baz=139						
W24A	**Lazy 6 Ranch,**	**139.29 32**	P	**PKPdf**		**22 12 41.7**	**+1.2**
	baz=139						
220A	**Playas Peak, P**	**139.91 38**	P	**PKPdf**		**22 12 42.7**	**+1.1**
	baz=140						
Y23A	**Lovelace Mesa,**	**139.91 34**	P	**PKPdf**		**22 12 42.2**	**+0.6**
	baz=140						
Y24A	**Capitan**	**140.25 33**	P	**PKPdf**		**22 12 42.6**	**+0.4**
	baz=140						
W27A	**Bowe Ranch, En**	**140.60 30**	P	**PKPdf**		**22 12 43.4**	**+0.7**
	baz=140						
Y25A	**Mesa, Roswell**	**140.66 32**	P	**PKPdf**		**22 12 42.8**	**0.0**
	baz=140						
Z24A	**Sheeppen Canyo**	**140.74 34**	P	**PKPdf**		**22 12 44.4**	**+1.3**
	baz=141						
SSPA	**Standing Stone**	**140.97 357**	*e*PKPdf	**PKPdf**		**22 12 42.8**	**-0.2**
MSTX	**Muleshoe**	**141.62 30**	P	**PKPdf**		**22 12 43.4**	**-1.1**
	baz=142						
MNTX	**Cornudas Mount**	**141.94 35**	*e*PKPdf	**PKPdf**		**22 12 44.6**	**-0.4**
324A	**Moseley Ranch,**	**142.06 36**	P	**PKPdf**		**22 12 42.2**	**-3.2**
	baz=142						
325A	**Bean Ranch, Si**	**142.41 35**	P	**PKPdf**		**22 12 43.3**	**-2.9**
	baz=142						
425A	**Indio Mountain**	**142.83 36**	P	**PKPdf**		**22 12 44.7**	**-2.1**
	baz=143,SNR=5.8						
BDFB	**Brasilia**	**143.56 241**	PKP	**PKPdf**		**22 12 47.8**	**-0.7**
BDFB	**Brasilia**	**143.56 241**	PKP	**PKPdf**		**22 12 47.8**	**-0.7**
	comp=Z,2.4nm,0.8s,baz=219,slow=3.8,SNR=3.4						
Z32A	**Haskell**	**143.75 27**	P	PKPab		22 12 45.2	+0.2
	baz=144						
131A	**Roby**	**143.84 29**	P	PKPbc		22 12 45.8	-0.2
	baz=144						
526A	**Mary Lane Ranc**	**143.89 36**	P	PKPbc		22 12 47.1	+0.7
	baz=144,SNR=8.2						
329A	**Wagon Wheel Ra**	**143.98 32**	P	PKPbc		22 12 46.6	0.0
	baz=144,SNR=9.3						
527A	**Woodward Ranch**	**144.10 35**	P	PKPbc		22 12 47.4	+0.3
	baz=144,SNR=34						
230A	**Sterling City**	**144.12 31**	P	PKPbc		22 12 46.8	-0.1
	baz=144						
428A	**Kincaid Ranch,**	**144.19 34**	P	**PKPdf**		**22 12 48.2**	**-0.9**
	baz=144,SNR=9.7						
626A	**Big Bend Ranch**	**144.23 37**	P	PKPbc		22 12 47.7	+0.3
	baz=144,SNR=30						
CPUP	**Villa Florida**	**144.35 217**	*e*PKPdf	PKPbc		22 12 48.0	+0.3
CPUP			PKP	**PKPab**		**22 12 48.2**	**+0.9**
CPUP	**Villa Florida**	**144.35 217**	PKP	PKPbc		22 12 48.2	+0.5
	comp=Z,16nm,0.8s,baz=95,slow=3.1,SNR=35						
330A	**Mertzon**	**144.47 31**	P	PKPbc		22 12 47.9	-0.2
	baz=144,SNR=13						
231A	**Bronte**	**144.48 30**	P	PKPbc		22 12 48.0	0.0
	baz=144						
528A	**Cox Ranch, San**	**144.56 34**	P	PKPbc		22 12 48.8	+0.4
	baz=144,SNR=13						
TXAR	**Lajitas Array**	**144.67 36**	PKP	PKPbc		22 12 49.2	+0.4
TXAR	**Lajitas Array**	**144.67 36**	PKP	PKPbc		22 12 49.2	+0.4
	comp=Z,20nm,0.7s,baz=259,slow=1.3,SNR=177						
429A	**Davenport Ranc**	**144.70 33**	P	**PKPab**		**22 12 48.4**	**-0.3**
	baz=145,SNR=9.3						
627A	**Terlingua Ranc**	**144.75 36**	P	PKPbc		22 12 49.5	+0.4
	baz=145,SNR=59						
232A	**Coleman**	**144.84 29**	P	PKPbc		22 12 49.3	+0.1
	baz=145,SNR=7.0						
WVT	**Waverly**	**144.90 10**	*e*PKIKP	**PKPab**		**22 12 48.4**	**-0.7**
WVT	**Waverly**	**144.90 10**	*e*PKPdf	**PKPab**		**22 12 48.4**	**-0.7**
430A	**Baggett Ranch,**	**144.93 32**	P	PKPbc		22 12 49.6	0.0
	baz=145,SNR=13						
331A	**San Angelo**	**144.93 30**	P	**PKPab**		**22 12 49.0**	**-0.5**
	baz=145,SNR=8.6						
MIAR	**Mount Ida**	**144.97 19**	*e*PKIKP	PKPbc		22 12 49.5	0.0
MIAR	**Mount Ida**	**144.97 19**	*e*PKPdf	PKPbc		22 12 49.5	0.0
628A	**Black Gap, Mar**	**145.01 35**	P	**PKPdf**		**22 12 50.2**	**-0.4**
	baz=145						
TZTN	**Tazewell**	**145.03 4**	*e*PKP	**PKPbc**		**22 12 48.5**	**-1.2**
UALR	**University of**	**145.13 17**	*e*PKPbc	**PKPbc**		**22 12 48.2**	**-1.8**
332A	**Millersview**	**145.21 29**	P	**PKPab**		**22 12 50.4**	**-0.1**
	baz=145,SNR=29						
431A	**Sonora**	**145.34 31**	P	**PKPbc**		**22 12 50.7**	**-0.1**
	baz=145,SNR=9.3						
530A	**J-C Ranch, Com**	**145.37 33**	P	**PKPdf**		**22 12 51.5**	**+0.3**
	baz=145,SNR=59						
432A	**Menard**	**145.59 30**	P	**PKPbc**		**22 12 51.6**	**-0.1**
	baz=146,SNR=21						
WHTX	**Lake Whitney**	**145.76 26**	P	**PKPab**		**22 12 52.2**	**-0.2**
	baz=146						
531A	**Rocksprings**	**145.78 32**	P	**PKPab**		**22 12 52.5**	**-0.2**
	baz=146,SNR=54						
TKL	**Tuckaleechee C**	**145.89 5**	*e*PKPdf	**PKPdf**		**22 12 51.6**	**-0.3**
JCT	**Junction City**	**145.91 30**	*e*PKP2	**PKPbc**		**22 12 52.4**	**-0.3**
JCT	**Junction City**	**145.91 30**	*e*PKPdf	**PKPbc**		**22 12 52.4**	**-0.3**
JCT	**Junction City**	**145.91 30**	P	**PKPbc**		**22 12 52.6**	**0.0**
	baz=146,SNR=53						
CPCT	**Cooper Cave**	**146.03 6**	*e*PKPdf	**PKPdf**		**22 12 52.0**	**-0.1**
532A	**Rocksprings**	**146.14 31**	P	**PKPbc**		**22 12 53.2**	**-0.2**
	baz=146,SNR=17						
OXF	**Oxford**	**146.15 13**	*e*PKP2	**PKPdf**		**22 12 52.1**	**-0.2**
OXF	**Oxford**	**146.15 13**	*e*PKPdf	**PKPdf**		**22 12 52.1**	**-0.2**
KMSC	**Kings Mountain**	**146.53 1**	P	**PKPdf**		**22 12 53.2**	**+0.3**
	baz=146						
632A	**Uvalde**	**146.70 31**	P	**PKPab**		**22 12 55.6**	**-0.5**
	baz=147,SNR=25						
732A	**Laxson Ranch,**	**147.22 33**	P	**PKPbc**		**22 12 56.2**	**-0.2**
	baz=147						
LRAL	**Lakeview Retre**	**148.06 10**	*e*PKPdf	**PKPdf**		**22 12 55.3**	**-0.3**
HKT	**Hockley**	**148.22 26**	*e*PKIKP	**PKPdf**		**22 12 56.1**	**+0.3**
HKT	**Hockley**	**148.22 26**	*e*PKPdf	**PKPdf**		**22 12 56.1**	**+0.3**
LPAZ	**La Paz**	**158.45 214**	PKP	**PKPdf**		**22 13 11.8**	**+0.2**
LPAZ	**La Paz**	**158.45 214**	PKP	**PKPdf**		**22 13 11.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=76,slow=5.2,SNR=7.0						
SAML	**Samuel**	**159.77 239**	*e*PKPab	**PKPab**		**22 13 51.2**	**-0.1**

*NEIC **16** 21:55:28.9, 18°.92N×65°.15W, h12km, MD3.2(RSPR), After RSPR.*

RSPR 16 21:55:28.9, 18°.92N×65°.15W, h11km±2km, MD3.1/7, 11C-15D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.60 162**	⇑	*i*P	Pg	21 55 40.1	-0.5
STVI	**Saint Thomas**	**0.60 162**		*e*S	Sg	21 55 48.6	+0.2
STVI	**Saint Thomas**	**0.60 162**		*i* Pu	Pg	21 55 40.1	-0.5
STVI				*e*S	Sg	21 55 48.6	+0.2
STVI	**Saint Thomas**	**0.60 162**	⇑	*i*P	Pg	21 55 40.6	+0.1
STVI				*e*S	Sg	21 55 48.6	+0.2
TBVI	**Tortola**	**0.71 135**	⇑	*i*P	Pg	21 55 41.3	-1.4
TBVI				*e*S	Sg	21 55 51.2	-0.9
TBVI	**Tortola**	**0.71 135**		*i* Pu	Pg	21 55 41.3	-1.4
TBVI				*e*S	Sg	21 55 51.2	-0.9
TBVI	**Tortola**	**0.71 135**	⇑	*i*P	Pg	21 55 41.3	-1.4
TBVI				*e*S	Sg	21 55 51.2	-0.9
ABV	**Anegada**	**0.80 104**	⇓	*i*P	Pg	21 55 43.0	-1.3
ABV	**Anegada**	**0.80 104**	⇓	*i*P	Pg	21 55 43.1	-1.2
ABVI	**Anegada Island**	**0.80 104**	⇓	*i*P	Pg	21 55 43.0	-1.3
MTP	**Monte Pirata**	**0.91 205**	⇑	*e*P	Pg	21 55 44.4	-2.0
MTP	**Monte Pirata**	**0.91 205**		*e*S	Sg	21 55 56.4	-1.8
MTP	**Monte Pirata**	**0.91 205**	⇑	*e*P	Pg	21 55 44.4	-2.0
MTP				*e*S	Sg	21 55 56.4	-1.8
MTP	**Monte Pirata**	**0.91 205**	⇑	*e*P	Pg	21 55 44.4	-2.0
MTP				*e*S	Sg	21 55 56.4	-1.8
CBYP	**Canovanas**	**0.93 226**	⇓	*e*P	Pg	21 55 44.1	-3.0
CBYP	**Canovanas**	**0.93 226**		*e*S	Sg	21 55 56.0	-3.3
CBYP	**Canovanas**	**0.93 226**	⇓	*e*P	Pg	21 55 44.1	-3.0
CBYP				*e*S	Sg	21 55 56.0	-3.3
CBYP	**Canovanas**	**0.93 226**	⇓	*e*P	Pg	21 55 44.7	-2.3
CBYP				*e*S	Sg	21 55 56.0	-3.3
CPD	**Cerro la Pandu**	**1.14 220**	⇓	*e*P	Pb	21 55 47.8	-2.9
CPD	**Cerro la Pandu**	**1.14 220**		*e*S	Sb	21 56 01.8	-3.8
CPD	**Cerro la Pandu**	**1.14 220**	⇓	*e*P	Pb	21 55 47.8	-2.9
CPD				*e*S	Sb	21 56 01.8	-3.8
CPD	**Cerro la Pandu**	**1.14 220**	⇓	*e*P	Pb	21 55 47.8	-2.9
CPD				*e*S	Sb	21 56 01.8	-3.8
SJG	**San Juan**	**1.25 230**	⇑	*e*P	Pn	21 55 48.7	-3.6
SJG	**San Juan**	**1.25 230**	⇑	*e*P	Pn	21 55 48.7	-3.6
SJG	**San Juan**	**1.25 230**	⇑	*e*P	Pn	21 55 48.7	-3.6
CELP	**Cerrillos**	**1.60 238**	⇓	*e*P	Pn	21 55 54.1	-3.0
CELP				*e*S	Sn	21 56 14.3	-3.5
CELP	**Cerrillos**	**1.60 238**	⇓	*e*P	Pn	21 55 54.1	-3.0
CELP				*e*S	Sn	21 56 14.3	-3.5
CELP	**Cerrillos**	**1.60 238**	⇓	*e*P	Pn	21 55 54.1	-3.0
CELP				*e*S	Sn	21 56 14.3	-3.5
AOPR	**Arecibo Observ**	**1.63 250**	⇑	*e*P	Pn	21 55 54.0	-3.5
AOPR	**Arecibo Observ**	**1.63 250**		*e*S	Sn	21 56 14.5	-4.0
AOPR	**Arecibo Observ**	**1.63 250**	⇑	*e*P	Pn	21 55 54.0	-3.5
AOPR				*e*S	Sn	21 56 14.5	-4.0
AOPR	**Arecibo Observ**	**1.63 250**	⇑	*e*P	Pn	21 55 54.2	-3.3
AOPR				*e*S	Sn	21 56 14.5	-4.0
CRPR	**Cabo Rojo, PR**	**2.07 244**	⇓	*e*P	Pn	21 56 01.0	-2.6
CRPR	**Cabo Rojo, PR**	**2.07 244**		*e*S	Sn	21 56 26.1	-3.3
CRPR	**Cabo Rojo, PR**	**2.07 244**	⇓	*e*P	Pn	21 56 01.0	-2.6
CRPR				*e*S	Sn	21 56 26.1	-3.3
CRPR	**Cabo Rojo, PR**	**2.07 244**	⇓	*e*P	Pn	21 56 01.4	-2.2
CRPR				*e*S	Sn	21 56 26.1	-3.3

*IDC **16** 21:58:03.8±1.2, 1°.71S×99°.22E, h0km, mb3.9/10, mb1 3.9/11, mb1mx3.8/25, mbtmp3.8/11, ML2.9/1, Error ellipse: s-maj=39.8km s-min=19.6km az=58.0*
*NEIC **16** 21:58:05.1±0.5, 1°.71S×99°.21E, h10km, mb4.0/2, Error ellipse: s-maj=17.9km s-min=7.6km az=61.0*
*ISCJB **16** 21:58:06.5±0.9, 1°.6S±0°.1×99°.3E±0°.2, h30km, mb4.0/11, Error ellipse: s-maj=27.6km s-min=11.8km az=148.7*

ISC 16 21:58:08.6±0.9, 1°.6S±0°.1×99°.3E±0°.2, h30km, n29, σ0°63/29, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.36 355**		Pn	**Pn**	**21 59 11.9**	**-1.0**
PSI	**Prapat**	**4.36 355**		Pn	**Pn**	**21 59 11.9**	**-1.0**
	0.6nm,0.3s,baz=139,slow=20,SNR=4.1						
CMAR	**Chiang Mai Arr**	**19.90 359**		P	**Pn**	**22 02 39.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.90 359**		P	**Pn**	**22 02 39.3**	**-0.4**
	0.9nm,0.6s,baz=187,slow=10,SNR=9.1						
WRA	**Warramunga Arr**	**38.82 120**		P	**P**	**22 05 30.7**	**-0.5**
WRA	**Warramunga Arr**	**38.82 120**		P	**P**	**22 05 30.7**	**-0.5**
	0.9nm,0.7s,baz=304,slow=8.9,SNR=6.3						
WRAB	**Tennant Creek**	**38.82 120**	*e*P		**P**	**22 05 30.5**	**-0.7**
	3.0nm,0.6s						
ASAR	**Alice Springs**	**40.07 126**		P	**P**	**22 05 41.1**	**-0.5**
ASAR	**Alice Springs**	**40.07 126**		P	**P**	**22 05 41.1**	**-0.5**
	0.9nm,0.7s,baz=300,slow=7.8,SNR=4.2						
KSAR	**Wonju Array Be**	**46.98 31

	1.5nm,0.7s,baz=301,slow=9.0,SNR=9.7					
ASAR	**Alice Springs**	**39.95 126**	P	P	22 08 28.1	+0.4
	0.4nm,0.5s,baz=303,slow=7.2,SNR=4.4					
JNU	**Nakatsue**	**45.47 38**	P	P	22 09 12.9	+0.5
	3.1nm,0.5s,baz=350,slow=4.2,SNR=6.0					
SONM	**Songino Array**	**49.55 6**	P	P	22 09 44.2	+0.1
	0.4nm,0.4s,baz=187,slow=9.8,SNR=5.3					
SONM			PcP	PcP	22 11 05.8	-0.1
	0.3nm,0.4s,baz=208,slow=2.8,SNR=5.8					
MKAR	**Makanchi Array**	**50.45 345**	P	P	22 09 50.9	+0.1
	1.7nm,0.6s,baz=154,slow=8.7,SNR=11					
USRK	**Ussuriysk Arra**	**54.02 29**	P	P	22 10 16.2	-1.1
	0.8nm,0.5s,baz=248,slow=6.6,SNR=3.0					
ZALV	**Zalesovo Beam**	**56.63 350**	P	P	22 10 35.7	-0.2
	1.2nm,0.5s,baz=177,slow=5.3,SNR=5.4					
TXAR	**Lajitas Array**	**144.66 36**	PKP	PKPab	22 20 29.4	-0.1
	1.2nm,0.6s,baz=298,slow=2.7,SNR=7.3					

*DJA **16** 22:03:02.1±3.0, 18°S±12°×17°9W±2°3, h573km±27km, M5.5/4, mB5.8/3, mb5.5/4, Mw(mB)5.3/3*
*MOS **16** 22:03:06.6±1.0, 17°83S×179°38W, h600km, mb4.9/38, Error ellipse: s-maj=8.7km s-min=7.3km az=48.4*
*BKK **16** 22:03:07.8±1.2, 18°S±6°×17°9W±1°0, h606km±14km, M5.2/41, mB5.7/27, mb5.4/41, Mw(mB)5.2/27*
*SZGRF **16** 22:03:08.4, 17°90S×178°11W, h618km, Fiji Islands region*
*BJI **16** 22:03:08.5, 17°77S×179°28W, h628km, mB5.1/25, mb5.1/45*
*ISCJB **16** 22:03:08.4±0.4, 17°96S±0°04×179°36W±0°03, h629km±5km, mb4.9/177, Error ellipse: s-maj=6.1km s-min=3.3km az=159.4*
*IDC **16** 22:03:08.3±0.5, 17°90S×179°38W, h612km±4km, mb4.5/32, mb1 4.6/34, mb1mx4.5/35, mbtmp4.5/34, Error ellipse: s-maj=8.6km s-min=6.9km az=142.0*
*NEIC **16** 22:03:09.2±0.4, 17°94S×179°40W, h626km±4km, mb4.9/106, MW5.5, Error ellipse: s-maj=4.9km s-min=3.2km az=150.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.85; $M_{\theta\theta}$2.06; $M_{\phi\phi}$-1.21; $M_{r\theta}$-1.05; $M_{\theta\phi}$-0.02; $M_{\phi r}$-1.30; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s53.00000°, δ76.00000°, λ-132.00000°. NP2:ϕ_s308.00000°, δ43.00000°, λ-20.00000°. Principal axes: T 2.4400, Plg20.0000°, Azm172.0000°; N 0.0100, Plg40.0000°, Azm64.0000°; P -2.4600, Plg43.0000°, Azm282.0000°;*
*BGS **16** 22:03:09.8±4.7, 17°94S×179°40W, h627km, mb4.9(NEIC)*
*AUST **16** 22:03:09.1±2.4, 17°92S×179°21W, h626km, Error ellipse: s-maj=1.8km s-min=1.1km az=242.0*
*GCMT **16** 22:03:11.0±0.2, 17°94S×179°18W, h649km±2km, MW5.5, Moment Tensor Solution. s83,c138; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35±.03; $M_{\theta\theta}$1.51±.05; $M_{\phi\phi}$-1.16±.05; $M_{r\theta}$-0.26±.05; $M_{\theta\phi}$0.83±.05; $M_{\phi r}$-1.45±.05; Best double couple: $M_0$2.20000×10^{17} NP1:ϕ_s31.00000°, δ80.00000°, λ-139.00000°. NP2:ϕ_s293.00000°, δ50.00000°, λ-13.00000°. Principal axes: T 1.9700, Plg19.0000°, Azm156.0000°; N 0.3600, Plg48.0000°, Azm43.0000°; P -2.3300, Plg35.0000°, Azm260.0000°; Data Used: II IU IC G CN.*

ISC 16 22:03:09.2±0.2, 17°96S±0°04×179°30W±0°04, h626km±2km, h626km; pP-P, n1190, σ1.9 15/1415, mb4.9/177, 53C-78D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.53**	**275**	⇑*iP*	**P**	**22 04 29.2**	**+0.9**
MSVF				*eS*	**S**	**22 05 32.9**	**+0.3**
MSVF	**Nonsavu**	**2.53**	**275**	⇑*iP*	**P**	**22 04 29.2**	**+0.9**
MSVF				*eS*	**S**	**22 05 32.9**	**+0.3**
AFI	**Afiamalu**	**8.28**	**62**	P	P	22 05 08.7	-3.6
AFI				*eS*	**S**	**22 06 50.4**	**-2.6**
AFI	**Afiamalu**	**8.28**	**62**	P	P	22 05 08.7	-3.6
	101nm,0.3s,baz=339,slow=1.0,SNR=103						
NIUE	**Niue**	**8.96**	**99**	S	**S**	**22 07 02.8**	**-1.8**
	baz=8.9,SNR=8.1						
FUNA	**Funafuti**	**9.49**	**351**	*eP*	**P**	**22 05 22.1**	**-1.6**
DZM	**Mont Dzumac**	**14.01**	**251**	*eP*	**P**	**22 06 06.8**	**-0.6**
	51nm,1.6s						
DZM	**Mont Dzumac**	**14.01**	**251**	*eP*	**P**	**22 06 07.0**	**-0.4**
DZM				ScP	**ScP**	**22 13 16.9**	**+2.7**
DZM	**Mont Dzumac**	**14.01**	**251**	P	**P**	**22 06 05.9**	**-1.5**
	8.1nm,0.3s,baz=80,slow=14,SNR=44						
DZM				ScP	**ScP**	**22 13 16.9**	**+2.7**
	0.4nm,0.3s,baz=50,slow=18,SNR=10.0						
NOUC	**Port Laguerre**	**14.14**	**251**	*eP*	**P**	**22 06 08.8**	**+0.2**
NFK	**Norfolk Island**	**16.07**	**224**	P	**P**	**22 06 29.8**	**+3.7**
	baz=16,SNR=6.0						
NFK				S	S	22 09 34.5	+28
	baz=16,SNR=4.4						
RAR	**Rarotonga**	**18.68**	**103**	P	**P**	**22 06 50.2**	**+0.2**
RAR	**Rarotonga**	**18.68**	**103**	P	**P**	**22 06 50.2**	**+0.2**
	3.6nm,0.3s,baz=43,slow=0.0,SNR=6.5						
URZ	**Urewera**	**20.47**	**188**	*eP*	**P**	**22 07 03.8**	**-2.0**
URZ				*eS*	**S**	**22 10 17.1**	**+0.7**
URZ	**Urewera**	**20.47**	**188**	P	**P**	**22 07 06.2**	**+0.4**
	6.7nm,0.3s,baz=322,slow=7.4,SNR=11						
URZ				S	**S**	**22 10 10.9**	**-5.6**
	6.9nm,0.7s,baz=108,slow=20,SNR=4.4						
TARA	**Tarawa**	**20.66**	**337**	*eP*	**P**	**22 07 07.2**	**-0.6**
	562nm,1.1s						
RPZ	**Rata Peaks**	**26.94**	**196**	P	**P**	**22 08 02.9**	**-0.1**
RPZ				S	**S**	**22 11 54.0**	**-3.9**
RPZ	**Rata Peaks**	**26.94**	**196**	P	**P**	**22 08 02.9**	**-0.1**
	36nm,0.7s,baz=313,slow=0.8,SNR=9.5						
RPZ				S	**S**	**22 11 54.0**	**-3.9**
	13nm,0.6s,baz=199,slow=22,SNR=4.5						
PAE	**Paea**	**28.29**	**94**	*eP*	**P**	**22 08 14.5**	**-0.5**
	39nm,1.3s						
ODZ	**Otahua Downs**	**28.29**	**195**	*eP*	**P**	**22 08 13.9**	**-0.7**
	119nm,2.0s						
ODZ				*ep*P	**PP**	**22 09 53.6**	**-0.3**
PPT2	**Papeete2**	**28.30**	**94**	*eP*	**P**	**22 08 14.9**	**-0.3**
	194nm,1.4s						
PPT	**Papeete**	**28.30**	**94**	P	**P**	**22 08 15.3**	**+0.2**
PPT				ScP	**ScP**	**22 13 52.6**	**+2.7**
PPT	**Papeete**	**28.30**	**94**	P	**P**	**22 08 15.3**	**+0.2**
	82nm,0.7s,baz=326,slow=4.5,SNR=11						
PPT				ScP	**ScP**	**22 13 52.6**	**+2.7**
	128nm,0.9s,baz=345,slow=1.5,SNR=4.5						
TBI	**Tubuai**	**28.40**	**106**	*eP*	**P**	**22 08 16.2**	**+0.3**
	268nm,0.8s						
EIDS	**Eidsvold**	**28.45**	**250**	P	**P**	**22 08 16.0**	**-0.4**
	baz=28,SNR=40						
EIDS				S	**S**	**22 12 21.3**	**-0.5**
	baz=28,SNR=5.1						
TIAR	**Tiarei**	**28.52**	**94**	*eP*	**P**	**22 08 16.8**	**-0.2**
	157nm,0.9s						
TVO	**Taravao**	**28.59**	**94**	*eP*	**P**	**22 08 17.4**	**-0.3**
	105nm,0.8s						
ARMA	**Armidale**	**29.18**	**239**	P	**P**	**22 08 23.5**	**+0.8**
	baz=29,SNR=30						
XMAS	**Kiritimati**	**29.30**	**49**	*eP*	**P**	**22 08 23.3**	**-0.5**
PMOR	**Pomariorio Ree**	**30.24**	**89**	*eP*	**P**	**22 08 31.6**	**-0.2**
	178nm,0.9s						
MGCD	**Mangrove Creek**	**30.57**	**234**	P	**P**	**22 08 35.5**	**+1.0**
	baz=31,SNR=18						
RMQ	**Roma**	**30.70**	**248**	P	**P**	**22 08 36.2**	**+0.6**
	baz=31,SNR=26						
CTA	**Charters Tower**	**32.60**	**261**	P	**P**	**22 08 51.7**	**-0.1**
CTA				PcP	**PcP**	**22 11 18.1**	**-0.5**
CTA				ScP	**ScP**	**22 14 06.7**	**+2.4**
CTA	**Charters Tower**	**32.60**	**261**	P	**P**	**22 08 51.7**	**-0.1**
	103nm,0.9s,baz=86,slow=11,SNR=63						
CTA				PcP	**PcP**	**22 11 18.1**	**-0.5**
	12nm,0.9s,baz=56,slow=3.2,SNR=3.7						
CTA				ScP	**ScP**	**22 14 06.7**	**+2.4**
	30nm,1.0s,baz=33,slow=1.8,SNR=11						
CTAO	**Charters Tower**	**32.60**	**261**	*eP*	**P**	**22 08 51.7**	**-0.1**
CTAO				*e*		22 11 18.1	
CTAO				pmax	pmax		
	comp=Z,239nm,1.1s						
CTAO	**Charters Tower**	**32.60**	**261**	*eP*	**P**	**22 08 51.7**	**-0.1**
	comp=Z,239nm,1.1s						
CTAO				*e*PcP	**PcP**	**22 11 18.1**	**-0.5**
CNB	**Canberra Magne**	**32.73**	**232**	P	**P**	**22 08 53.4**	**+0.7**
	baz=33,SNR=72						
CAN	**Canberra**	**33.00**	**232**	*eP*	**P**	**22 08 55.1**	**+0.1**
CAN				pmax	pmax		
	comp=Z,150nm,1.1s						
CAN	**Canberra**	**33.00**	**232**	*eP*	**P**	**22 08 55.1**	**+0.1**
	comp=Z,150nm,1.1s						
CAN				*ep*P	**pP**	**22 10 33.8**	**-1.2**

YNG	**Young**	**33.07**	**234**	P	**P**	**22 08 56.1**	**+0.5**
	baz=33,SNR=12						
PATS	**Pohnpei**	**33.10**	**316**	P	**P**	**22 08 56.2**	**+0.2**
	baz=33,SNR=3.3						
MILA	**Mila**	**33.61**	**229**	P	**P**	**22 09 01.4**	**+1.4**
	baz=34,SNR=7.4						
PMG	**Port Moresby**	**33.63**	**280**	*eP*	**P**	**22 08 59.5**	**-1.0**
	comp=Z,572nm,1.0s						
PMG				*ep*P	**pP**	**22 10 39.4**	**-1.5**
PMG	**Port Moresby**	**33.63**	**280**	P	**P**	**22 09 01.3**	**+0.8**
PMG	**Port Moresby**	**33.63**	**280**	P	**P**	**22 09 00.6**	**+0.1**
	comp=Z,395nm,0.9s,baz=81,slow=6.1,SNR=56						
CMSA	**Cobar Meteorol**	**34.39**	**240**	P	**P**	**22 09 06.8**	**+0.3**
	baz=34,SNR=92						
MTSU	**Mount Surprise**	**34.56**	**264**	P	**P**	**22 09 08.1**	**-0.1**
	baz=35,SNR=40						
MTSU				S	S	22 14 14.2	+19
	baz=35,SNR=12						
COEN	**Coen**	**36.26**	**271**	P	**P**	**22 09 22.7**	**+0.6**
	baz=36,SNR=66						
COEN				S	**S**	**22 14 19.5**	**-0.7**
	baz=36,SNR=4.5						
TOO	**Toolangi**	**36.48**	**230**	P	**P**	**22 09 24.4**	**+0.7**
	baz=37,SNR=35						
TOO				S	**S**	**22 14 23.7**	**+0.6**
	baz=37,SNR=5.6						
MOO	**Moorlands**	**37.48**	**222**	P	**P**	**22 09 32.5**	**+0.8**
	baz=38,SNR=6.2						
STKA	**Stephens Creek**	**37.86**	**241**	*eP*	**P**	**22 09 35.8**	**+0.7**
	comp=Z,83nm,1.1s						
STKA				ScP	**ScP**	**22 14 25.4**	**+1.9**
STKA	**Stephens Creek**	**37.86**	**241**	P	**P**	**22 09 35.7**	**+0.7**
	comp=Z,359nm,1.0s,baz=79,slow=8.3,SNR=115						
STKA				ScP	**ScP**	**22 14 25.4**	**+1.9**
	comp=Z,13nm,0.8s,baz=49,slow=5.7,SNR=5.6						
STKA	**Stephens Creek**	**37.86**	**241**	P	**P**	**22 09 35.8**	**+0.7**
	baz=38,SNR=88						
STKA				S	S	22 14 26.6	-17
	baz=38,SNR=4.9						
ARPS	**Mount Arapiles**	**38.94**	**233**	P	**P**	**22 09 43.7**	**+0.2**
	baz=39,SNR=20						
RKT	**Rikitea**	**41.71**	**105**	*eP*	**P**	**22 10 05.5**	**-0.2**
	comp=Z,121nm,1.1s						
BBOO	**Buckleboo**	**42.64**	**241**	P	**P**	**22 10 13.0**	**+0.1**
	baz=43,SNR=231						
WRAB	**Tennant Creek**	**43.78**	**260**	*eP*	**P**	**22 10 20.9**	**-0.9**
WRAB				*e*		22 11 53.8	
WRAB				pmax	pmax		
	comp=Z,259nm,1.1s						
WRAB	**Tennant Creek**	**43.78**	**260**	*eP*	**P**	**22 10 20.9**	**-0.9**
	comp=Z,259nm,1.1s						
WRAB				*e*PcP	**PcP**	**22 11 53.8**	**-0.4**
WRAB				*e*ScP	**ScP**	**22 14 48.6**	**+1.4**
WRA	**Warramunga Arr**	**43.79**	**260**	P	**P**	**22 10 20.5**	**-1.4**
WRA				PcP	**PcP**	**22 11 54.2**	**+0.1**
WRA				ScP	**ScP**	**22 14 49.0**	**+1.7**
WRA	**Warramunga Arr**	**43.79**	**260**	P	**P**	**22 10 20.5**	**-1.4**
	comp=Z,112nm,0.9s,baz=91,slow=8.1,SNR=420						
WRA				PcP	**PcP**	**22 11 54.2**	**+0.1**
	comp=Z,21nm,0.9s,baz=88,slow=4.0,SNR=6.3						
WRA				ScP	**ScP**	**22 14 49.0**	**+1.7**
	comp=Z,19nm,0.9s,baz=89,slow=4.4,SNR=13						
AS31	**Alice Springs**	**43.96**	**254**	*eP*	**P**	**22 10 22.9**	**-0.3**
AS31				*e*PcP	**PcP**	**22 11 54.5**	**-0.3**
AS31				*e*ScP	**ScP**	**22 14 48.2**	**+0.3**
ASAR	**Alice Springs**	**43.96**	**254**	P	**P**	**22 10 23.1**	**-0.2**
ASAR				PcP	**PcP**	**22 11 54.5**	**-0.3**
ASAR				ScP	**ScP**	**22 14 49.9**	**+1.9**
ASAR				S	**S**	**22 16 10.4**	**-1.0**
ASAR	**Alice Springs**	**43.96**	**254**	P	**P**	**22 10 23.1**	**-0.2**
	comp=Z,528nm,0.7s,baz=89,slow=7.6,SNR=1968						
ASAR				PcP	**PcP**	**22 11 54.5**	**-0.3**
	comp=Z,15nm,0.7s,baz=110,slow=3.7,SNR=4.6						
ASAR				ScP	**ScP**	**22 14 49.9**	**+1.9**
	comp=Z,29nm,0.9s,baz=99,slow=4.1,SNR=22						
ASAR				S	**S**	**22 16 10.4**	**-1.0**
	comp=Z,8.5nm,1.0s,baz=89,slow=14,SNR=8.4						
KIP	**Kipapa**	**44.35**	**29**	*ceP*	**P**	**22 10 26.6**	**+0.6**
KIP				pmax	pmax		
	comp=Z,65nm,0.8s						
HKL	**Haleakala**	**44.58**	**31**	*eP*	**P**	**22 10 28.8**	**+0.5**
HKL	**Haleakala**	**44.58**	**31**	*eP*	**P**	**22 10 28.8**	**+0.5**
KDU	**Kakadu**	**46.71**	**269**	P	**P**	**22 10 43.5**	**-0.6**
	baz=47,SNR=49						
BAKI	**Biak**	**46.84**	**286**	P	**P**	**22 10 45.8**	**+0.7**
	comp=Z,317nm,1.1s,comp=Z,3μm						
GUMO	**Guam**	**47.24**	**309**	*eP*	**P**	**22 10 48.4**	**+0.3**
	comp=Z,294nm,0.8s						
GUMO				*ep*P	**pP**	**22 12 36.8**	**-2.1**
GUMO				*e*ScP	**ScP**	**22 15 01.7**	**0.0**
MTN	**Manton Dam**	**47.95**	**269**	P	**P**	**22 10 52.5**	**-0.8**
	baz=48,SNR=32						
MTN				S	**S**	**22 17 04.2**	**-2.6**
	baz=48,SNR=4.7						
TLE	**Tual**	**48.37**	**279**	P	**P**	**22 10 56.9**	**+0.4**
TLE	**Tual**	**48.37**	**279**	P	**P**	**22 10 57.4**	**+0.9**
	baz=48,SNR=8.3						
RKPI	**Ransiki, Papua**	**48.49**	**284**	P	**P**	**22 10 57.3**	**-0.1**
FORT	**Forrest**	**49.22**	**245**	P	**P**	**22 11 01.8**	**-0.7**
	baz=49,SNR=30						
FORT				S	**S**	**22 17 23.1**	**-0.7**
	baz=49,SNR=6.7						
KNRA	**Kununurra**	**49.64**	**264**	P	**P**	**22 11 05.3**	**-0.5**
	baz=50,SNR=83						
FAKI	**Fak Fak**	**49.76**	**282**	P	**P**	**22 11 06.8**	**+0.1**
FAKI	**Fak Fak**	**49.76**	**282**	P	**P**	**22 11 06.3**	**-0.3**
	baz=50,SNR=12						
SWI	**Sorong**	**51.43**	**284**	P	**P**	**22 11 18.9**	**+0.2**
	baz=52,SNR=24						
PALU	**Palau**	**52.10**	**295**	P	**P**	**22 11 23.9**	**+0.4**
	baz=52,SNR=21						
FITZ	**Fitzroy Crossi**	**52.18**	**261**	P	**P**	**22 11 24.0**	**0.0**
FITZ	**Fitzroy Crossi**	**52.18**	**261**	P	**P**	**22 11 24.0**	**0.0**
	comp=Z,57nm,1.0s,baz=93,slow=6.2,SNR=120						
FITZ	**Fitzroy Crossi**	**52.18**	**261**	P	**P**	**22 11 24.0**	**0.0**
	baz=52,SNR=43						
LBMI	**Labuha**	**55.00**	**282**	P	**P**	**22 11 45.0**	**+1.1**
	comp=Z,318nm,1.0s,comp=Z,3μm						
SOEI	**Soe**	**55.22**	**270**	P	**P**	**22 11 46.4**	**+0.8**
SOEI	**Soe**	**55.22**	**270**	P	**P**	**22 11 46.8**	**+1.2**
	baz=55,SNR=44						
TNTI	**Ternate**	**55.65**	**284**	P	**P**	**22 11 48.2**	**-0.2**
MBWA	**Marble Bar**	**57.24**	**256**	P	**P**	**22 11 59.1**	**-0.1**
	SNR=13						
MBWA	**Marble Bar**	**57.24**	**256**	*eP*	**P**	**22 11 58.5**	**-0.7**
	comp=Z,259nm,1.2s						
MBWA				*e*PcP	**PcP**	**22 12 43.0**	**-1.6**
MEEK	**Meekatharra**	**57.62**	**249**	P	**P**	**22 12 00.9**	**-0.9**
	baz=58,SNR=32						
KLBR	**Kellerberrin**	**58.05**	**244**	P	**P**	**22 12 03.6**	**-0.9**
	baz=58,SNR=62						
NWAO	**Narrogin (SRO)**	**58.44**	**242**	*eP*	**P**	**22 12 06.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**58.44**	**242**	P	**P**	**22 12 06.5**	**-0.6**
	comp=Z,107nm,1.2s,baz=74,slow=5.7,SNR=18						
BLDU	**Ballidu**	**58.99**	**245**	P	**P**	**22 12 09.9**	**-0.9**
	baz=59,SNR=38						
WSI	**Waingapu**	**59.02**	**269**	P	**P**	**22 12 11.4**	**+0.2**
LUWI	**Luwuk**	**59.28**	**280**	P	**P**	**22 12 13.3**	**+0.4**
LUWI	**Luwuk**	**59.28**	**280**	P	**P**	**22 12 13.3**	**+0.4**
	baz=59,SNR=22						
KKSI	**Kolaka, Sulawe**	**59.31**	**276**	P	**P**	**22 12 13.5**	**+0.3**
GTOI	**Gorontalo**	**59.64**	**282**	P	**P**	**22 12 16.1**	**+0.7**
MORW	**Morawa**	**59.68**	**246**	P	**P**	**22 12 14.6**	**-0.8**
	baz=60,SNR=35						
LBFI	**Labuhan Bajo,**	**59.73**	**271**	P	**P**	**22 12 14.9**	**-1.0**
DAV	**Davao City (W)**	**59.81**	**290**	P	**P**	**22 12 15.9**	**-0.6**
DAV	**Davao City (W)**	**59.81**	**290**	P	**P**	**22 12 15.9**	**-0.6**
	comp=Z,95nm,0.3s,baz=38,slow=23,SNR=6.7						
SBA	**Scott Base**	**60.32**	**183**	*eP*	**P**	**22 12 19.9**	**+1.2**
SBA				pmax	pmax		
	comp=Z,46nm,0.8s						
SBA	**Scott Base**	**60.32**	**183**	*eP*	**P**	**22 12 19.9**	**+1.2**
	comp=Z,46nm,0.8s						
VNDA	**Vanda**	**60.33**	**185**	*eP*	**P**	**22 12 19.6**	**+0.8**
	comp=Z,15nm,0.6s						
VNDA				*e*PcP	**PcP**	**22 12 55.7**	**-0.2**
VNDA				*e*ScP	**ScP**	**22 15 59.2**	**+1.4**
VNDA				ScP	ScP	22 15 59.5	+1.7
VNDA	**Vanda**	**60.33**	**185**	P	**P**	**22 12 19.6**	**+0.8**
	comp=Z,14nm,0.6s,baz=357,slow=7.4,SNR=97						
VNDA				ScP	**ScP**	**22 15 59.5**	**+1.7**
	comp=Z,6.5nm,0.7s,baz=355,slow=4.8,SNR=7.3						
KAPI	**Kappang**	**60.85**	**274**	P	**P**	**22 12 22.6**	**-0.7**
	SNR=6.1						
KAPI	**Kappang**	**60.85**	**274**	*eP*	**P**	**22 12 21.6**	**-1.7**
	comp=Z,129nm,1.3s						

KAPI	**Kappang**	**60.85**	**274**	P	**P**	**22 12 22.0**	**-1.3**
KAPI	**Kappang**	**60.85**	**274**	P	**P**	**22 12 22.0**	**-1.3**
	comp=Z,36nm,0.8s,baz=181,slow=2.4,SNR=13						
CTBH	**Cotabato--PC H**	**61.08**	**289**	⇓*iP*	**P**	**22 12 24.8**	**0.0**
MYLDM	**Lahad Datu**	**65.50**	**284**	P	**P**	**22 12 54.8**	**+1.9**
MYLDM	**Lahad Datu**	**65.50**	**284**	P	**P**	**22 12 54.5**	**+1.6**
CASY	**Casey**	**65.74**	**205**	*eP*	**P**	**22 12 53.7**	**+0.2**
	comp=Z,52nm,1.1s						
TSM	**Tawau**	**65.75**	**283**	P	**P**	**22 12 54.9**	**+0.4**
SDKM	**Sandakan**	**66.88**	**284**	P	**P**	**22 13 02.1**	**+0.6**
TGY	**Tagaytay City**	**66.99**	**294**	P	**P**	**22 13 02.2**	**+0.1**
TGY	**Tagaytay City**	**66.99**	**294**	P	**P**	**22 13 02.2**	**+0.1**
	comp=Z,136nm,0.3s,baz=160,slow=6.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**67.44**	**324**	P	**P**	**22 13 03.8**	**-0.6**
MJAR				PcP	**PcP**	**22 13 26.2**	**+0.1**
MJAR	**Matsushiro Arr**	**67.44**	**324**	P	**P**	**22 13 03.8**	**-0.6**
	comp=Z,27nm,0.7s,baz=159,slow=6.0,SNR=111						
MJAR				PcP	**PcP**	**22 13 26.2**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=159,slow=4.0,SNR=5.1						
MAT	**Matsushiro**	**67.44**	**324**	P	**P**	**22 13 03.8**	**-0.6**
MAT				S	**S**	**22 21 11.6**	**-1.1**
JOW	**Kunigami**	**67.60**	**310**	*eP*	**P**	**22 13 06.2**	**+0.6**
	comp=Z,36nm,0.9s						
JOW				*e*PcP	**PcP**	**22 13 26.9**	**-0.1**
KDM	**Kudat**	**67.69**	**286**	P	**P**	**22 13 07.0**	**+0.7**
KKM	**Kota Kinabalu**	**67.93**	**284**	*eP*	**P**	**22 13 08.0**	**+0.1**
	comp=Z,391nm,1.9s						
KKM	**Kota Kinabalu**	**67.93**	**284**	P	**P**	**22 13 08.2**	**+0.2**
KKM	**Kota Kinabalu**	**67.93**	**284**	P	**P**	**22 13 08.0**	**+0.1**
	baz=68,SNR=12						
UGM	**Wanagama**	**68.80**	**268**	P	**P**	**22 13 12.8**	**-0.3**
	baz=69,SNR=12						
ERM	**Erimo**	**69.02**	**331**	*eP*	**P**	**22 13 14.6**	**+0.9**
ERM				pmax	pmax		
	comp=Z,18nm,0.8s						
ERM	**Erimo**	**69.02**	**331**	*eP*	**P**	**22 13 14.6**	**+0.9**
	comp=Z,18nm,0.8s						
JNU	**Nakatsue**	**69.59**	**317**	*eP*	**P**	**22 13 17.1**	**-0.3**
JNU	**Nakatsue**	**69.59**	**317**	P	**P**	**22 13 17.2**	**-0.2**
	comp=Z,31nm,1.1s,baz=76,slow=5.5,SNR=8.8						
BTM	**Bintulu**	**69.82**	**280**	P	**P**	**22 13 20.3**	**+1.1**
ATKA	**Atka Island**	**70.00**	**3**	*eP*	**P**	**22 13 18.5**	**-0.8**
	comp=Z,68nm,0.8s						
SBUM	**Sibu**	**70.38**	**279**	P	**P**	**22 13 23.2**	**+0.8**
SBUM	**Sibu**	**70.38**	**279**	P	**P**	**22 13 22.6**	**+0.2**
FX1	**Attu Island--F**	**70.84**	**355**	*eP*	**P**	**22 13 23.4**	**-0.9**
FX1	**Attu Island--F**	**70.84**	**355**	P	**P**	**22 13 23.4**	**-0.9**
	comp=Z,31nm,0.6s,baz=71,slow=24,SNR=14						
ASAJ	**Asahikawa**	**70.92**	**332**	*eP*	**P**	**22 13 26.0**	**+1.1**
ASAJ	**Asahikawa**	**70.92**	**332**	P	**P**	**22 13 25.1**	**+0.2**
	comp=Z,28nm,0.6s,baz=208,slow=7.7,SNR=53						
TWG	**Pinlang**	**70.98**	**303**	*eP*	**P**	**22 13 24.0**	**-1.8**
	comp=Z,93nm,0.7s						
YULB	**Yu-li**	**71.08**	**303**	*eP*	**P**	**22 13 24.6**	**-1.7**
	comp=Z,92nm,1.5s						
NACB	**Ninganchiao**	**71.24**	**304**	*eP*	**P**	**22 13 26.4**	**-0.8**
	comp=Z,141nm,1.1s						
CISI	**Cisompet, Garu**	**71.47**	**268**	P	**P**	**22 13 28.0**	**-0.9**
	baz=72,SNR=5.1						
SSLB	**Suanglung**	**71.55**	**303**	*eP*	**P**	**22 13 27.6**	**-1.5**
	comp=Z,36nm,0.6s						
TPUB	**Ta-pu**	**71.57**	**303**	*eP*	**P**	**22 13 27.4**	**-1.8**
	comp=Z,124nm,0.8s						
YHNB	**Yeheng**	**71.66**	**304**	*eP*	**P**	**22 13 29.0**	**-0.7**
	comp=Z,103nm,1.0s						
TATO	**Taipei**	**71.73**	**305**	P	**P**	**22 13 30.2**	**+0.2**
	SNR=6.2						
TATO	**Taipei**	**71.73**	**305**	*eP*	**P**	**22 13 29.0**	**-1.0**
	comp=Z,160nm,1.2s						
KSM	**Kuching**	**71.85**	**278**	*eP*	**P**	**22 13 31.6**	**+0.6**
	comp=Z,328nm,1.0s						
KSM	**Kuching**	**71.85**	**278**	P	**P**	**22 13 31.8**	**+0.7**
KSM	**Kuching**	**71.85**	**278**	P	**P**	**22 13 31.6**	**+0.6**
	baz=72,SNR=85						
LEM	**Lembang**	**71.86**	**269**	P	**P**	**22 13 31.6**	**+0.2**
	baz=72,SNR=18						
QSPA	**South Pole Qui**	**72.10**	**180**	*eP*	**P**	**22 13 31.2**	**-0.5**
	comp=Z,124nm,1.0s						
AKUT	**Akutan**	**72.73**	**8**	*eP*	**P**	**22 13 33.5**	**-1.6**
	comp=Z,157nm,1.8s						
MIR	**Mirnyy**	**72.77**	**205

KHMM *e*pP **pP** 22 16 15.8 +1.9
OHAK Old Harbor 77.98 14 *e*P **P** 22 14 03.8 -0.2
comp=Z,22nm,0.7s
BTDF Bukit Timah Da 77.99 275 P **P** 22 14 05.6 +0.4
baz=78,SNR=7.5
BTDF P **P** 22 14 05.6 +0.4
baz=78,SNR=7.5
109C Camp Elliot, M 78.00 50 P **P** 22 14 05.5 +0.7
baz=78
MWC Mount Wilson 78.00 48 *e*P **P** 22 14 05.5 +0.5
MWC pmax pmax
comp=Z,29nm,0.8s
MWC Mount Wilson 78.00 48 *e*P **P** 22 14 05.5 +0.5
comp=Z,29nm,0.8s
MYKOM Kota Tinggi 78.06 276 P **P** 22 14 06.0 +0.5
VES Vestal, Richgr 78.14 46 P **P** 22 14 06.0 +0.6
baz=78,SNR=8.5
BAR Barrett 78.21 50 *e*P P 22 13 58.7 -7.2
comp=Z,9.0nm,0.8s
MURC Murrieta 78.29 49 P **P** 22 14 07.0 +0.6
baz=78
BFSC Mount Baldy Ra 78.29 48 P **P** 22 14 06.9 +0.4
baz=78,SNR=7.0
EDW2 Edwards Air Fo 78.39 47 P **P** 22 14 07.7 +0.8
baz=79,SNR=33
CMB Columbia Colle 78.46 44 *e*P **P** 22 14 07.6 +0.4
CMB *e**PP **pP** 22 16 18.0 +1.3
CMB pmax pmax
comp=Z,35nm,0.8s
CMB Columbia Colle 78.46 44 *e*P **P** 22 14 07.6 +0.4
comp=Z,35nm,0.8s
CMB *e*pP **pP** 22 16 18.0 +1.3
ISA Isabella 78.47 47 *e*P **P** 22 14 08.0 +0.7
ISA pmax pmax
comp=Z,36nm,0.9s
ISA Isabella 78.47 47 *e*P **P** 22 14 08.0 +0.7
comp=Z,36nm,0.9s
ISA Isabella 78.47 47 P **P** 22 14 08.2 +0.9
baz=79,SNR=22
OHCM Honcut 78.48 42 *e*P **P** 22 14 07.5 +0.4
OHCM *e*pP **pP** 22 16 13.8 -2.8
MONP Monument Peak 78.50 50 P **P** 22 14 08.6 +0.9
baz=79,SNR=31
WDC Whiskeytown Da 78.53 41 *e*P **P** 22 14 08.0 +0.6
WDC *e**PP **pP** 22 16 18.6 +1.6
WDC pmax pmax
comp=Z,36nm,1.4s
WDC Whiskeytown Da 78.53 41 *e*P **P** 22 14 08.0 +0.6
comp=Z,36nm,1.4s
WDC *e*pP **pP** 22 16 18.6 +1.6
DVTC Desert V Tower 78.61 50 P **P** 22 14 09.2 +1.0
baz=79
KDAK Kodiak Island 78.66 14 P **P** 22 14 08.4 +0.8
KDAK Kodiak Island 78.66 14 P **P** 22 14 08.4 +0.8
comp=Z,12nm,0.7s,baz=216,slow=3.7,SNR=10.0
QIZ Qiongzhong 78.70 294 P **P** 22 14 08.4 -0.4
QIZ pP **pP** 22 16 18.0 -0.3
QIZ S **S** 22 23 16.1 -0.6
QIZ pmax pmax
comp=Z,19nm,1.6s
PFO Pinyon Flat Ob 78.83 49 *e*P **P** 22 14 10.0 +0.6
comp=Z,41nm,1.9s
PFO Pinyon Flat Ob 78.83 49 P **P** 22 14 10.2 +0.8
baz=79
LRMC Laurel Mountai 78.91 47 P **P** 22 14 10.5 +0.8
baz=79
SWSC Sam W. Stewart 78.97 50 P **P** 22 14 10.8 +0.9
baz=79,SNR=9.0
YBH Yreka Blue Hor 79.10 40 *e*P **P** 22 14 11.4 +0.8
comp=Z,30nm,0.8s
YBH *e*pP **pP** 22 16 21.9 +1.5
YBH Yreka Blue Hor 79.10 40 P **P** 22 14 11.6 +1.0
comp=Z,22nm,0.6s,baz=181,slow=2.0,SNR=78
YBH pP **pP** 22 16 19.7 -0.6
comp=Z,5.1nm,1.0s,baz=213,slow=6.3,SNR=3.8
CWC Cottonwood Cre 79.15 46 P **P** 22 14 11.9 +0.9
baz=79
MLAC Mammoth Lakes 79.27 45 P **P** 22 14 12.8 +1.1
baz=80
MTUM Tungsten Hills 79.30 45 *e*P **P** 22 14 12.8 +1.0
MPMC Manual Prospec 79.35 47 P **P** 22 14 12.9 +0.8
baz=80,SNR=22
BELC Belle Mtn. Jos 79.36 49 P **P** 22 14 13.0 +0.9
baz=80,SNR=12
TIN Tinemaha 79.37 45 P **P** 22 14 13.2 +1.2
baz=80,SNR=9.9
LBCM Butte Creek Ri 79.42 41 P **P** 22 14 13.0 +0.7
GSC Goldstone 79.44 48 *e*P **P** 22 14 13.0 +0.5
GSC *e**PP **pP** 22 16 23.7 +1.3
GSC pmax pmax
comp=Z,24nm,1.3s
GSC Goldstone 79.44 48 *e*P **P** 22 14 13.0 +0.5
comp=Z,24nm,1.3s
GSC *e*pP **pP** 22 16 23.7 +1.3
GSC Goldstone 79.44 48 P **P** 22 14 13.1 +0.7
baz=80,SNR=9.9
HUMO Hull Mountain 79.47 39 *e*P **P** 22 14 13.5 +1.2
comp=Z,29nm,1.0s
BEKR Beckworth 79.50 42 *e*P **P** 22 14 13.0 +0.2
comp=Z,17nm,0.9s
BEKR *e*pP **pP** 22 16 22.9 +0.1
LTIM Timbered Crate 79.53 41 P **P** 22 14 13.7 +0.9
HEC Hector,Ludlow 79.53 48 P **P** 22 14 13.6 +0.6
baz=80,SNR=10
CN2 Changchun 79.54 323 ⇓*i*P **P** 22 14 13.3 +0.6
CN2 *e*pP **pP** 22 16 23.0 +0.3
CN2 *e*sP **sP** 22 17 27.0 +1.2
CN2 *e*S **S** 22 23 26.8 +2.4
CN2 *e*SKS **SKSac** 22 23 29.5 -0.9
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,380nm,3.0s
BC3 Big Chuckawall 79.58 50 P **P** 22 14 14.3 +1.0
baz=80,SNR=7.5
KLR Kul'dur 79.72 330 *e*P P 22 14 10.1 -3.4
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,43nm,1.4s
GLA Glamis 79.74 50 *e*P **P** 22 14 15.3 +1.3
GLA pmax pmax
comp=Z,30nm,0.9s
GLA Glamis 79.74 50 *e*P **P** 22 14 15.3 +1.3
comp=Z,30nm,0.9s
GLA Glamis 79.74 50 P **P** 22 14 15.0 +1.0
baz=80,SNR=8.8
KTGM Kuala Trenggan 79.87 279 P **P** 22 14 16.0 +0.9
GRAC Grapevine Rang 79.92 46 P **P** 22 14 16.0 +1.1
baz=80,SNR=13
WHN Wuhan 79.95 307 ⇓*i*P **P** 22 14 15.4 +0.3
WHN S **S** 22 23 31.6 +2.5
WHN pmax pmax
comp=Z,150nm,1.2s
GMRC Granite Mounta 79.99 49 P **P** 22 14 16.0 +0.7
baz=80,SNR=9.2
FURC Furnace Creek, 80.00 47 P **P** 22 14 16.0 +0.8
baz=80,SNR=11
PAHR Pah Rah Range 80.03 43 *e*P **P** 22 14 16.3 +0.8
comp=Z,35nm,0.9s
IRM Iron Mountain 80.05 49 P **P** 22 14 16.7 +1.1
baz=80,SNR=9.4
NVAR Mina Array Bea 80.05 44 P **P** 22 14 16.4 +0.7
NVAR pP **pP** 22 16 24.3 -1.7
NVAR Mina Array Bea 80.05 44 P **P** 22 14 16.4 +0.7
comp=Z,20nm,0.7s,baz=225,slow=9.1,SNR=121
NVAR pP **pP** 22 16 24.3 -1.7
comp=Z,4.2nm,1.0s,baz=226,slow=9.1,SNR=6.1
SHOC Shoshone 80.11 47 P **P** 22 14 16.8 +1.0
baz=80,SNR=7.0
TUQ Turquoise Moun 80.13 48 P **P** 22 14 16.9 +0.7
baz=80,SNR=18
NV11 Mina Array Sit 80.15 44 *e*P **P** 22 14 16.5 +0.4
NV11 *e*pP **pP** 22 16 26.2 -0.3
Y12C Blythe 80.30 50 P **P** 22 14 18.0 +1.1
baz=80,SNR=8.8
113A Mohawk Valley, 80.38 51 P **P** 22 14 18.4 +1.1
baz=81,SNR=8.1
FRIM Kepong 80.62 276 P **P** 22 14 19.4 +0.4
PPI Padang Panjang 80.63 273 P P 22 14 29.9 +11
baz=81,SNR=4.9
214A Organ Pipe Nat 80.71 52 P **P** 22 14 20.0 +0.9
baz=81,SNR=12
PDMCI Parker Dam,Lak 80.84 50 P **P** 22 14 20.4 +0.8
baz=81
RSO Redoubt South 81.04 13 *e*P **P** 22 14 19.3 -0.9

SVW2 Sparrevohn 81.05 11 *e*P **P** 22 14 19.4 -0.7
UBPT Khong Chiam 81.14 289 P **P** 22 14 21.7 +0.2
comp=Z,68nm,1.0s
SHPR Sheep Range 81.20 47 *e*P **P** 22 14 22.4 +0.8
SHPR *e*pP **pP** 22 16 33.6 +1.2
Z14A Wintersburg 81.27 51 P **P** 22 14 23.2 +1.4
baz=82,SNR=9.3
W13A Hualapai Mount 81.41 49 P **P** 22 14 23.8 +0.9
baz=82,SNR=15
Y14A Wickenburg 81.50 50 P **P** 22 14 23.9 +0.8
baz=82,SNR=21
IPM Ipoh 81.58 277 *e*P **P** 22 14 24.3 +0.4
IPM Ipoh 81.58 277 P **P** 22 14 24.4 +0.4
IPM Ipoh 81.58 277 P **P** 22 14 24.5 +0.6
BMN Battle Mountai 81.82 43 *e*P **P** 22 14 25.4 +0.7
BMN pmax pmax
comp=Z,42nm,1.0s
BMN Battle Mountai 81.82 43 *e*P **P** 22 14 25.4 +0.7
comp=Z,42nm,1.0s
NLWA Neilton Lookou 81.83 34 *e*P **P** 22 14 25.3 +0.9
comp=Z,39nm,1.1s
R11A Troy Canyon, C 81.83 45 *e*P **P** 22 14 25.0 +0.2
comp=Z,12nm,1.0s
R11A *e*pP **pP** 22 16 38.3 +2.4
R11A Troy Canyon, C 81.83 45 P **P** 22 14 25.0 +0.2
baz=82
SPU Mount Spurr 81.84 13 *e*P **P** 22 14 22.9 -1.2
VLL Laurance Lake 81.89 37 P **P** 22 14 25.5 +0.6
FL2 Flat Top 2 81.94 36 P **P** 22 14 26.3 +1.1
WVOR Wild Horse Val 82.00 41 *e*P **P** 22 14 26.1 +0.6
WVOR *e**PP **pP** 22 16 37.5 +0.9
WVOR pmax pmax
comp=Z,41nm,1.0s
WVOR Wild Horse Val 82.00 41 *e*P **P** 22 14 26.1 +0.6
comp=Z,41nm,1.0s
WVOR *e*pP **pP** 22 16 37.5 +0.9
TDL Tradedollar La 82.11 36 P **P** 22 14 26.8 +0.8
KULM Kulim 82.20 278 *e*P **P** 22 14 27.2 +0.2
comp=Z,108nm,1.3s
KULM *e*PP **PP** 22 17 46.9 -0.7
TUC Tucson 82.40 53 *e*P **P** 22 14 29.1 +1.4
TUC *e**PP **pP** 22 16 40.9 +1.9
TUC pmax pmax
comp=Z,210nm,1.5s
TUC Tucson 82.40 53 *e*P **P** 22 14 29.1 +1.4
comp=Z,210nm,1.5s
TUC *e*pP **pP** 22 16 40.9 +1.9
LON Longmire 82.57 36 *e*P **P** 22 14 28.3 +0.1
LON pmax pmax
comp=Z,9.0nm,0.8s
LON Longmire 82.57 36 *e*P **P** 22 14 28.3 +0.1
comp=Z,9.1nm,0.8s
PANO Nakornpanom 82.59 291 P **P** 22 14 29.1 +0.3
comp=Z,161nm,1.1s
BLN Blyn Mountain 82.69 34 P **P** 22 14 29.6 +0.9
WPW White Pass 82.69 36 P **P** 22 14 29.3 +0.4
PGC Sidney 82.82 34 *e*P **P** 22 14 29.8 +0.5
comp=Z,1.0nm,0.6s
SKLT Songkhla 82.83 280 P **P** 22 14 31.2 +1.0
comp=Z,139nm,1.2s,comp=Z,1μm
PMR Palmer 82.85 14 *e*P **P** 22 14 28.4 -0.7
PMR pmax pmax
comp=Z,20nm,0.6s
PMR Palmer 82.85 14 *e*P **P** 22 14 28.4 -0.7
comp=Z,20nm,0.6s
X16A Lo Mia Camp, P 82.87 51 P **P** 22 14 31.4 +1.2
baz=83,SNR=37
CCUT Cedar City 82.96 47 *e*P **P** 22 14 31.7 +1.1
comp=Z,21nm,1.1s
CCUT *e*pP **pP** 22 16 44.6 +2.5
ARUT Antelope Range 83.03 47 *e*P **P** 22 14 31.2 +0.4
ARUT *e**PP **pP** 22 16 43.7 +1.3
ARUT pmax pmax
comp=Z,11nm,1.0s
ARUT Antelope Range 83.03 47 *e*P **P** 22 14 31.2 +0.4
comp=Z,11nm,1.0s
ARUT *e*pP **pP** 22 16 43.7 +1.3
PSI Prapat 83.04 275 P **P** 22 14 30.4 -0.9
PSI PP **PP** 22 17 52.6 -1.9
PSI Prapat 83.04 275 P **P** 22 14 30.4 -0.9
comp=Z,74nm,0.9s,baz=128,slow=3.2,SNR=67
PSI PP **PP** 22 17 52.6 -1.9
comp=Z,14nm,1.0s,baz=161,slow=3.3,SNR=7.2
PSI Prapat 83.04 275 P **P** 22 14 30.5 -0.9
baz=83,SNR=53
319A Douglas 83.14 54 P **P** 22 14 33.1 +1.6
baz=83,SNR=18
U15A North Rim 83.19 48 P **P** 22 14 32.8 +1.0
baz=83
BJT Baijiatuau 83.22 316 *e*P **P** 22 14 31.0 -0.5
comp=Z,46nm,0.9s
BJI Beijing 83.22 316 P **P** 22 14 31.9 +0.4
BJI S **S** 22 23 59.8 -1.5
SML Sawmill 83.23 14 *e*P **P** 22 14 30.5 -0.6
SML pmax pmax
comp=Z,3.0nm,0.8s
SML Sawmill 83.23 14 *e*P **P** 22 14 30.5 -0.6
comp=Z,3.3nm,0.8s
DIV Divide 83.27 16 *e*P **P** 22 14 31.1 -0.3
comp=Z,45nm,0.7s
JCW Jim Creek 83.36 35 P **P** 22 14 32.4 +0.3
PPLA Purkeypile 83.36 12 *e*P **P** 22 14 30.6 -1.2
comp=Z,21nm,1.4s
WUAZ Wupatki 83.42 50 *e*P **P** 22 14 32.5 -0.3
comp=Z,30nm,1.1s
WUAZ *e*pP **pP** 22 16 45.9 +1.4
WUAZ Wupatki 83.42 50 P **P** 22 14 33.7 +0.9
baz=84
BMRM Bremner River 83.44 16 *e*P **P** 22 14 32.0 -0.2
comp=Z,36nm,0.6s
MAW Mawson 83.53 200 P **P** 22 14 33.1 +0.6
MAW Mawson 83.53 200 P **P** 22 14 33.1 +0.6
comp=Z,27nm,0.6s,baz=126,slow=6.3,SNR=90
MAW Mawson 83.53 200 P **P** 22 14 33.0 +0.4
baz=83,SNR=45
ENH Enshi 83.60 304 *e*P **P** 22 14 33.9 +0.3
comp=Z,110nm,1.0s
SEY Seymchan 83.64 347 *d*iP **P** 22 14 32.4 -0.6
SEY *i **PP **pP** 22 16 43.7 -1.1
320A Kipp Ranch, An 83.70 54 P **P** 22 14 36.1 +1.8
baz=84,SNR=20
TNA Tin City 83.71 5 *e*P **P** 22 14 32.9 -0.4
ETW Entiat 83.89 36 P **P** 22 14 35.1 +0.3
220A Playas Peak, P 83.95 54 P **P** 22 14 36.9 +1.4
baz=84,SNR=12
X18A Snowflake 84.02 51 P **P** 22 14 36.9 +1.1
baz=84,SNR=8.4
PMSA Palmer Station 84.10 157 *e*P P 22 14 26.7 -8.7
comp=Z,46nm,1.1s
BMO Blue Mountains 84.12 39 *e*P **P** 22 14 35.8 -0.1
BMO *e**PP **pP** 22 16 47.9 -0.1
BMO pmax pmax
comp=Z,12nm,1.2s
BMO Blue Mountains 84.12 39 *e*P **P** 22 14 35.8 -0.1
comp=Z,12nm,1.2s
BMO *e*pP **pP** 22 16 47.9 -0.1
120A U Bar Ranch, L 84.14 53 P **P** 22 14 37.3 +0.8
baz=84
TRF Thorofare Moun 84.24 13 *e*P **P** 22 14 34.5 -1.7
comp=Z,42nm,0.7s
MSU Marysvale 84.25 47 *e*P **P** 22 14 38.1 +1.2
MSU Marysvale 84.25 47 *e*P **P** 22 14 38.1 +1.2
MFID Camas Ranch 84.27 41 P **P** 22 14 37.2 +0.5
baz=84,SNR=21
GYA Guiyang 84.32 300 ⇓*i*P **P** 22 14 37.6 +0.2
GYA pP **pP** 22 16 51.0 +1.5
GYA sP **sP** 22 17 51.8 -0.3
GYA PP **PP** 22 18 05.4 +0.8
GYA SKS **SKSac** 22 24 01.9 -0.8
GYA S **SKKSac** 22 24 11.0 +0.6
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.3s
Z20A Nine Sixteen R 84.42 53 P **P** 22 14 38.6 +0.9
baz=85
CHAI Chaiyaphum 84.50 289 P **P** 22 14 38.3 0.0
comp=Z,14nm,1.0s,comp=Z,132nm
NAYO Nakonayok 84.56 287 P **P** 22 14 39.5 +0.9
comp=Z,72nm,1.2s,comp=Z,10μm
221A Mesquite Ranch 84.57 54 P **P** 22 14 40.0 +1.5
baz=85
DUG Dugway 84.61 45 *e*P **P** 22 14 39.1 +0.6
DUG pmax pmax
comp=Z,3.0nm,0.8s

DUG Dugway 84.61 45 *e*P **P** 22 14 39.1 +0.6
comp=Z,3.0nm,0.8s
DUG Dugway 84.61 45 P **P** 22 14 38.9 +0.3
baz=85
OD2 Odessa Site #2 84.68 36 P **P** 22 14 38.8 +0.3
F10A Beach Ranch, E 84.76 38 P **P** 22 14 39.0 0.0
MCK McKinley 84.78 13 *e*P **P** 22 14 38.2 -0.4
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 84.78 13 *e*P **P** 22 14 38.2 -0.4
comp=Z,22nm,0.9s
121A Cookes Peak, D 84.78 54 P **P** 22 14 40.9 +1.3
baz=85
BGU Big Grassy Mou 84.82 44 *e*P **P** 22 14 40.1 +0.5
comp=Z,11nm,1.8s
Y20A Horse Springs, 84.92 52 P **P** 22 14 41.3 +1.0
baz=85,SNR=13
Q16A Castle Valley 85.13 47 P **P** 22 14 42.4 +1.3
baz=85
222A Williams Famil 85.13 54 P **P** 22 14 42.3 +1.1
baz=85,SNR=9.0
Z21A St. Cloud Mine 85.20 53 P **P** 22 14 43.0 +1.4
baz=85,SNR=8.7
PKDT Phuket 85.21 280 P **P** 22 14 43.0 +1.2
comp=Z,73nm,1.5s,comp=Z,1μm
HLID Hailey 85.23 41 *e*P **P** 22 14 42.4 +0.9
comp=Z,21nm,0.8s
HLID *e*pP **pP** 22 16 56.6 +2.7
HLID Hailey 85.23 41 P **P** 22 14 42.4 +0.9
baz=86,SNR=52
TMUT Trail Mountain 85.28 46 *e*P **P** 22 14 41.5 -0.5
comp=Z,30nm,1.2s
MENT Mentasta 85.32 15 *e*P **P** 22 14 41.0 -0.3
W20A Ramah 85.35 51 P **P** 22 14 43.3 +1.0
baz=86,SNR=13
HVU Hansel Valley 85.40 43 *e*P **P** 22 14 42.9 +0.6
HVU pmax pmax
comp=Z,12nm,0.7s
HVU Hansel Valley 85.40 43 *e*P **P** 22 14 42.9 +0.6
comp=Z,12nm,0.7s
122A Conniff Cattle 85.45 54 P **P** 22 14 43.9 +1.2
baz=86
Y21A Point of Rocks 85.49 52 P **P** 22 14 44.2 +1.2
baz=86,SNR=18
X21A Alamocita Cree 85.59 52 P **P** 22 14 44.7 +1.2
baz=86,SNR=9.3
XAN Xi'an 85.62 308 P **P** 22 14 44.1 +0.7
XAN pP **pP** 22 16 54.3 -1.7
XAN sP **sP** 22 17 54.5 -4.0
XAN PP **PP** 22 18 14.6 -0.1
XAN SKS **SKSac** 22 24 13.3 +3.1
XAN S **S** 22 24 26.3 +1.5
XAN SS **SS** 22 30 19.1 -2.0
XAN pmax pmax
comp=Z,32nm,1.3s
XAN pmax pmax
comp=Z,28nm,3.1s
PBKT Sadao Pong 85.65 289 P **P** 22 14 44.4 +0.6
comp=Z,55nm,1.1s,comp=Z,1μm
V20A Brimhall 85.67 50 P **P** 22 14 44.3 +0.6
baz=86
SRU San Rafael 85.67 47 *e*P **P** 22 14 44.2 +0.6
SRU pmax pmax
comp=Z,15nm,0.8s
SRU San Rafael 85.67 47 *e*P **P** 22 14 44.2 +0.6
comp=Z,15nm,0.8s
SRU *e*pP **pP** 22 16 59.3 +3.0
LOEI Loei 85.70 290 P **P** 22 14 42.7 -1.4
comp=Z,235nm,1.2s
Z22A Elephant Butte 85.71 53 P **P** 22 14 45.2 +1.2
baz=86
JLU Jordanelle 85.72 45 *e*P **P** 22 14 44.9 +0.9
comp=Z,5.5nm,0.8s
IM04 Indian Mountai 85.86 10 *e*P **P** 22 14 42.6 -1.2
U20A Newcomb 85.88 50 P **P** 22 14 45.3 +0.6
baz=86
HIA Hailar 85.92 325 *e*P **P** 22 14 44.1 -0.3
comp=Z,31nm,1.1s
IMA2 Indian Mountai 85.97 10 *e*P **P** 22 14 43.6 -0.8
Y22A Socorro 86.00 53 P **P** 22 14 46.2 +0.8
baz=86,SNR=8.2
COLA College 86.01 13 *e*P **P** 22 14 43.5 -0.9
COLA pmax pmax
comp=Z,85nm,0.6s
COLA College 86.01 13 *e*P **P** 22 14 43.5 -0.9
comp=Z,85nm,0.6s
NEW Newport 86.05 36 *e*P **P** 22 14 44.2 -0.8
comp=Z,9.4nm,0.6s
NEW Newport 86.05 36 P **P** 22 14 45.1 0.0
baz=86,SNR=11
LAZ Ladron 86.06 52 *e*P **P** 22 14 46.6 +0.9
comp=Z,1.0nm,0.7s
LAZ *e*pP **pP** 22 17 00.1 +1.6
LENM Lemitar 86.08 52 *e*P **P** 22 14 46.8 +1.0
LENM *e*pP **pP** 22 17 00.5 +1.9
HWUT Hardware Ranch 86.12 44 *e*P **P** 22 14 45.6 -0.2
comp=Z,4.3nm,0.8s
HWUT *e*pP **pP** 22 16 58.2 -0.4
324A Moseley Ranch, 86.12 55 P **P** 22 14 46.7 +0.8
baz=86,SNR=23
ILAR Eielson Array 86.13 13 P **P** 22 14 43.6 -1.3
ILAR pP **pP** 22 16 57.0 -1.0
ILAR PKKPbc **PKKPdf** 22 32 38.7 +3.2
ILAR Eielson Array 86.13 13 P **P** 22 14 43.6 -1.3
comp=Z,11nm,0.7s,baz=234,slow=5.9,SNR=112
ILAR pP **pP** 22 16 57.0 -1.0
comp=Z,2.0nm,1.0s,baz=233,slow=6.2,SNR=3.2
ILAR PKKPbc **PKKPdf** 22 32 38.7 +3.2
comp=Z,0.4nm,0.5s,baz=331,slow=2.5,SNR=6.1
425A Indio Mountain 86.25 56 P **P** 22 14 47.8 +1.2
baz=86,SNR=19
Z23A Rita Site, Whi 86.28 53 P **P** 22 14 47.9 +1.3
baz=86,SNR=6.5
V21A Milan 86.28 51 P **P** 22 14 47.0 +0.3
baz=86
MNTX Cornudas Mount 86.30 55 *e*P **P** 22 14 47.4 +0.8
comp=Z,9.5nm,0.7s
MNTX *e*pP **pP** 22 17 00.8 +1.2
BNM Barren Site 86.34 52 *e*P **P** 22 14 46.8 -0.2
comp=Z,7.4nm,0.9s
BNM *e*pP **pP** 22 17 01.9 +1.9
224A Cornudas Mount 86.34 55 P **P** 22 14 48.1 +1.1
baz=86,SNR=30
LPM Los Pinos Moun 86.40 52 *e*P **P** 22 14 48.1 +0.9
LPM *e*pP **pP** 22 17 02.1 +1.8
626A Big Bend Ranch 86.45 58 P **P** 22 14 48.9 +1.5
baz=87,SNR=43
PV04 Paradox Valley 86.48 48 *e*P **P** 22 14 48.5 +1.0
325A Bean Ranch, Si 86.49 56 P **P** 22 14 48.4 +0.7
baz=87,SNR=15
U21A Nageezi 86.53 50 P **P** 22 14 48.5 +0.6
baz=87,SNR=22
S20A Disappointment 86.62 49 P **P** 22 14 49.0 +0.8
baz=87,SNR=6.0
124A Stringfield Ra 86.64 54 P **P** 22 14 49.4 +0.9
baz=87,SNR=14
NANT Nan 86.65 291 P **P** 22 14 49.1 +0.6
comp=Z,75nm,1.1s
M17A Scullys Gap (B 86.65 45 P **P** 22 14 48.5 +0.2
baz=87,SNR=8.4
526A Mary Lane Ranc 86.68 57 P **P** 22 14 49.9 +1.3
baz=87,SNR=18
Y23A Lovelace Mesa, 86.68 53 P **P** 22 14 49.4 +0.8
baz=87,SNR=9.5
HHC Hu-ho-hao-te 86.70 315 *e*P **P** 22 14 49.0 +0.6
HHC pP **pP** 22 16 57.6 -4.0
HHC sP sP 22 17 57.6 -6.3
HHC PP **PP** 22 18 25.3 +2.1
HHC SKS **SKSac** 22 24 17.1 +0.5
HHC S **S** 22 24 35.4 +0.6
HHC sS sS 22 28 24.4 -7.6
HHC SS **SS** 22 30 39.8 +3.2
HHC pmax pmax
comp=Z,80nm,1.1s
HHC pmax pmax
comp=Z,580nm,6.0s
TXAR Lajitas Array 86.74 58 P **P** 22 14 50.3 +1.4
TXAR pP **pP** 22 17 01.0 -1.0
TXAR Lajitas Array 86.74 58 P **P** 22 14 50.3 +1.4
comp=Z,31nm,0.9s,baz=217,slow=6.0,SNR=42
TXAR pP **pP** 22 17 01.0 -1.0
comp=Z,2.5nm,1.1s,baz=147,slow=8.5,SNR=3.2
R20A Redvale 86.76 48 P **P** 22 14 49.1 +0.2
baz=87
ANMO Albuquerque 86.79 52 *e*P **P** 22 14 49.3 +0.2
comp=Z,12nm,1.0s

ANMO				*e*pP	**pP**	22 17 04.0 +1.7
MCMT	**McKenzie Canyo**	86.83	41	*e*P	**P**	22 14 49.5 +0.4
	comp=Z,8.1nm,0.8s					
MCMT				*e*pP	**pP**	22 17 02.9 +0.6
X23A	**Hourglass Bar**	86.85	52	P	**P**	22 14 49.8 +0.4
	baz=87					
T21A	**Navajo Lake**	86.86	50	P	**P**	22 14 49.9 +0.6
	baz=87					
V22A	**San Miguel Ran**	86.86	51	P	**P**	22 14 49.7 +0.3
	baz=87					
225A	**Deer Hill, Car**	86.90	55	P	**P**	22 14 50.7 +1.1
	baz=87,SNR=18					
S21A	**Coal Bank Pass**	86.95	49	P	**P**	22 14 50.5 +0.6
	baz=87,SNR=14					
426A	**McDonald Obser**	86.96	57	P	**P**	22 14 51.1 +1.1
	baz=87,SNR=21					
Z24A	**Sheeppen Canyo**	86.97	54	P	**P**	22 14 50.6 +0.7
	baz=87,SNR=5.2					
P19A	**Cripple Cowboy**	86.97	47	P	**P**	22 14 50.4 +0.5
	baz=87,SNR=5.5					
627A	**Terlingua Ranc**	87.01	58	P	**P**	22 14 50.5 +0.3
	baz=87,SNR=43					
RRI2	**Red Ridge**	87.09	43	*e*P	**P**	22 14 51.3 +0.9
	comp=Z,41nm,0.9s					
RRI2				*e*pP	**pP**	22 17 04.5 +0.8
U22A	**Llaves**	87.09	50	P	**P**	22 14 51.2 +0.7
	baz=87					
527A	**Woodward Ranch**	87.09	57	P	**P**	22 14 51.6 +1.0
	baz=87,SNR=18					
KMI	**Kunming**	87.10	297	P	**P**	22 14 52.0 +1.2
KMI				pP	**pP**	22 17 05.0 +0.9
KMI				pmax	pmax	
	comp=Z,54nm,1.2s					
Y24A	**Capitan**	87.15	53	P	**P**	22 14 51.3 +0.5
	baz=87,SNR=22					
MSO	**Missoula**	87.15	39	*e*P	**P**	22 14 50.2 -0.1
	comp=Z,6.2nm,0.6s					
MSO	**Missoula**	87.15	39	P	**P**	22 14 50.7 +0.3
	baz=87,SNR=6.9					
Q20A	**Ridgley Place,**	87.15	48	P	**P**	22 14 51.2 +0.6
	baz=87,SNR=12					
O19A	**Miners Draw (B**	87.17	46	P	**P**	22 14 51.4 +0.7
	baz=87,SNR=8.1					
BSMT	**Bassoo Peak**	87.17	37	*e*P	**P**	22 14 50.4 -0.1
I16A	**Newdale**	87.23	42	P	**P**	22 14 52.2 +1.3
	baz=88,SNR=24					
125A	**Gardner Draw,**	87.25	55	P	**P**	22 14 51.9 +0.7
	baz=87,SNR=7.8					
DLMT	**Dillon**	87.25	40	*e*P	P	22 14 46.6 -4.3
	comp=Z,20nm,1.1s					
326A	**Caldwell Ranch**	87.25	56	P	**P**	22 14 51.7 +0.5
	baz=87,SNR=6.4					
L18A	**Fontenelle, Gr**	87.28	44	P	**P**	22 14 52.3 +1.1
	baz=88					
GDL2	**Guadalupe Moun**	87.29	55	*e*P	**P**	22 14 52.4 +1.0
GDL2				*e*pP	**pP**	22 17 06.7 +1.9
T22A	**Edith**	87.32	50	P	**P**	22 14 51.9 +0.4
	baz=88					
V23A	**Ortiz Mt. (NFS**	87.33	51	P	**P**	22 14 52.8 +1.2
	baz=88,SNR=7.1					
TPAW	**Teton Pass**	87.40	43	*e*P	**P**	22 14 52.5 +0.7
	comp=Z,17nm,1.0s					
TPAW				*e*pP	**pP**	22 17 06.2 +0.9
REDW	**Red Top Meadow**	87.40	43	*e*P	**P**	22 14 52.4 +0.6
	comp=Z,35nm,1.1s					
REDW				*e*pP	**pP**	22 17 05.5 +0.3
226B	**Tecolote Peak,**	87.40	55	P	**P**	22 14 52.7 +0.9
	baz=88,SNR=23					
JTMT	**Jette**	87.41	38	*e*P	**P**	22 14 51.0 -0.6
628A	**Black Gap, Mar**	87.43	58	P	**P**	22 14 53.1 +1.1
	baz=88					
R21A	**Cimarron**	87.43	48	P	**P**	22 14 53.0 +0.9
	baz=88,SNR=12					
Z25A	**Roswell**	87.44	54	P	**P**	22 14 53.0 +0.9
	baz=88,SNR=7.9					
SWMT	**Swartz Lake**	87.46	38	*e*P	**P**	22 14 51.5 -0.2
EGAK	**Eagle**	87.48	15	*e*P	**P**	22 14 51.2 -0.2
	comp=Z,15nm,0.7s					
SNOW	**Snow King Moun**	87.51	43	*e*P	**P**	22 14 52.6 +0.3
	comp=Z,13nm,0.5s					
SNOW				*e*pP	**pP**	22 17 07.3 +1.5
427A	**Hayter Ranch,**	87.53	57	P	**P**	22 14 53.7 +1.2
	baz=88,SNR=24					
LRM	**Limekiln Ridge**	87.56	40	*e*P	**P**	22 14 53.1 +0.6
U23A	**El Rito**	87.56	51	P	**P**	22 14 53.0 +0.4
	baz=88					
IMW	**Indian Meadow**	87.59	42	*e*P	**P**	22 14 53.6 +0.9
	comp=Z,23nm,0.9s					
CHMT	**Chamberlain Mo**	87.60	39	*e*P	**P**	22 14 52.5 -0.1
Q21A	**Lamborn Mesa,**	87.61	48	P	**P**	22 14 53.3 +0.5
	baz=88					
COLD	**Coldfoot**	87.62	11	*e*P	**P**	22 14 51.9 0.0
	comp=Z,15nm,0.6s					
SLMT	**Seeley Lake**	87.62	38	*e*P	**P**	22 14 52.2 -0.4
YBMT	**Yellow Bay**	87.63	38	*e*P	**P**	22 14 52.1 -0.5
	comp=Z,3.2nm,0.8s					
MOOW	**Moose Ponds**	87.65	42	*e*P	**P**	22 14 53.5 +0.6
	comp=Z,9.5nm,1.0s					
LOHW	**Long Hollow**	87.68	43	*e*P	**P**	22 14 53.6 +0.5
	comp=Z,8.1nm,0.8s					
M19A	**Rock Springs**	87.68	45	P	**P**	22 14 53.5 +0.4
	baz=88,SNR=18					
S22A	**4UR Ranch, Cre**	87.68	49	P	**P**	22 14 54.2 +0.9
	baz=88,SNR=14					
W24A	**Lazy 6 Ranch,**	87.69	52	P	**P**	22 14 53.8 +0.5
	baz=88,SNR=6.2					
O20A	**White River Ci**	87.70	47	P	**P**	22 14 53.9 +0.7
	baz=88,SNR=17					
Y25A	**Mesa, Roswell**	87.72	53	P	**P**	22 14 53.7 +0.4
	baz=88					
QLMT	**Earthquake Lak**	87.72	41	*e*P	**P**	22 14 54.4 +1.2
126A	**Clayton Basin,**	87.73	55	P	**P**	22 14 54.0 +0.5
	baz=88,SNR=5.2					
528A	**Cox Ranch, San**	87.76	57	P	**P**	22 14 54.8 +1.2
	baz=88,SNR=14					
H16A	**Russell Place,**	87.77	41	P	**P**	22 14 54.9 +1.4
	baz=88,SNR=12					
L19A	**Farson**	87.81	44	P	**P**	22 14 54.4 +0.7
	baz=88,SNR=32					
CLNS	**Chul'man**	87.82	333	*e*P	**P**	22 14 52.6 -0.5
CLNS				pmax	pmax	
	comp=Z,12nm,0.8s					
CLNS				pmax	pmax	
	comp=N,10.0nm,1.1s					
CLNS				pmax	pmax	
	comp=E,5.0nm,1.1s					
R22A	**Saguache, Gunn**	87.94	49	P	**P**	22 14 54.8 +0.3
	baz=88,SNR=12					
BW06	**Boulder Array**	87.97	44	*e*P	**P**	22 14 54.6 +0.1
	comp=E,26nm,1.2s					
BW06				*e*pP	**pP**	22 17 07.8 -0.3
PDAR	**Pinedale Array**	87.97	44	P	**P**	22 14 54.4 -0.1
PDAR				pP	**pP**	22 17 06.1 -2.0
PDAR				PKKPbc	**PKKPbc**	22 32 35.9 -1.6
PDAR	**Pinedale Array**	87.97	44	P	**P**	22 14 54.4 -0.1
	comp=E,11nm,0.8s,baz=218,slow=3.0,SNR=81					
PDAR				pP	**pP**	22 17 06.1 -2.0
	comp=E,3.2nm,1.1s,baz=231,slow=4.7,SNR=6.8					
PDAR				PKKPbc	**PKKPbc**	22 32 35.9 -1.6
	comp=E,0.3nm,0.6s,baz=25,slow=3.9,SNR=3.5					
X25A	**Clemmons Ranch**	87.98	53	P	**P**	22 14 55.2 +0.6
	baz=88					
N20A	**Spence Gulch,**	87.99	46	P	**P**	22 14 55.2 +0.7
	baz=88,SNR=8.3					
P21A	**Newcastle**	87.99	47	P	**P**	22 14 55.5 +0.9
	baz=88					
V24A	**Rampart Ranch,**	88.00	52	P	**P**	22 14 55.3 +0.6
	baz=88,SNR=5.1					
Z26A	**Caprock**	88.01	54	P	**P**	22 14 55.1 +0.4
	baz=88,SNR=19					
H17A	**Grant Village**	88.05	42	P	**P**	22 14 56.0 +1.1
	baz=88,SNR=5.1					
428A	**Kincaid Ranch,**	88.06	57	P	**P**	22 14 56.2 +1.3
	baz=88,SNR=7.1					
227A	**Bennet, Jal**	88.06	56	P	**P**	22 14 55.7 +0.8
	baz=88					
Q22A	**Crested Butte,**	88.09	48	P	**P**	22 14 56.0 +0.8
	baz=88,SNR=14					
CM31	**Chiang Mai Arr**	88.10	290	*e*P	**P**	22 14 55.6 +0.3
	comp=E,41nm,1.0s					
CMAR	**Chiang Mai Arr**	88.10	290	P	**P**	22 14 54.8 -0.5
CMAR				PP	**PP**	22 18 39.4 +4.8
CMAR				PKKPbc	**PKKPbc**	22 32 36.4 +0.5
CMAR	**Chiang Mai Arr**	88.10	290	P	**P**	22 14 54.8 -0.5
	comp=E,2.9nm,0.9s,baz=112,slow=2.4,SNR=4.0					
CMAR				PP	**PP**	22 18 39.4 +4.8
	comp=E,2.3nm,1.0s,baz=144,slow=6.7,SNR=5.0					
CMAR				PKKPbc	**PKKPbc**	22 32 36.4 +0.5
	comp=E,0.8nm,0.4s,baz=281,slow=4.7,SNR=6.2					
SMCO	**Snowmass**	88.18	48	*e*P	**P**	22 14 56.3 +0.6
	comp=E,9.6nm,0.9s					
SMCO				*e*pP	**pP**	22 17 12.2 +2.7
328A	**Wristen Ranch,**	88.20	56	P	**P**	22 14 56.0 +0.5
	baz=88,SNR=15					
CMMT	**Chiang Mai**	88.22	290	P	**P**	22 14 55.8 0.0
	comp=E,50nm,1.1s,comp=E,606nm					
CHTO	**Chng Mai**	88.22	290	*e*P	**P**	22 14 56.5 +0.7
CHTO	**Chiang Mai**	88.22	290	P	**P**	22 14 56.8 +0.9
	SNR=21					
CHTO	**Chiang Mai**	88.22	290	*e*P	**P**	22 14 56.5 +0.7
CHTO	**Chiang Mai**	88.22	290	P	**P**	22 14 56.2 +0.4
	comp=E,55nm,1.1s,comp=E,621nm					
I18A	**Diamond G Ranc**	88.22	43	P	**P**	22 14 56.4 +0.7
	baz=88,SNR=5.1					
127A	**Arkansas Junct**	88.26	55	P	**P**	22 14 56.3 +0.4
	baz=88					
O21A	**Pagoda**	88.27	47	P	**P**	22 14 56.2 +0.3
	baz=88					
WALA	**Waterton Lakes**	88.28	37	*e*P	**P**	22 14 55.4 -0.2
	comp=E,0.2nm,0.8s					
WALA				*e*pP	**pP**	22 17 10.4 +1.0
M20A	**Sweetwater, Wa**	88.33	45	P	**P**	22 14 56.9 +0.8
	baz=88,SNR=8.1					
HRY	**Holter Researc**	88.36	39	*e*P	**P**	22 14 56.5 +0.5
G17A	**Pierce Place,**	88.38	41	P	**P**	22 14 57.4 +1.2
	baz=89					
Y26A	**Elida**	88.38	54	P	**P**	22 14 57.0 +0.5
	baz=89					
CD2	**Chengdu**	88.38	303	*e*P	**P**	22 14 57.0 +0.6
CD2				pP	**pP**	22 17 11.9 +1.7
CD2				sP	**sP**	22 18 13.4 +1.0
CD2				PP	**PP**	22 18 39.4 +2.8
CD2				SKS	**SKSac**	22 24 26.4 -0.4
CD2				S	**S**	22 24 48.9 -1.7
CD2				sS	**sS**	22 28 47.8 -1.3
CD2				SS	**SS**	22 31 03.1 +2.1
CD2				pmax	pmax	
	comp=Z,20nm,0.8s					
CD2				pmax	pmax	
	comp=Z,200nm,8.2s					
W25A	**X Bar L Ranch,**	88.40	52	P	**P**	22 14 56.9 +0.4
	baz=89,SNR=11					
L20A	**Wamsutter**	88.45	45	P	**P**	22 14 57.6 +0.9
	baz=89,SNR=24					
N21A	**Black Mountain**	88.47	46	P	**P**	22 14 57.7 +0.9
	baz=89,SNR=17					
K19A	**Absolon Red Bu**	88.47	44	P	**P**	22 14 56.8 0.0
	baz=89,SNR=17					
P22A	**Eagle**	88.50	48	P	**P**	22 14 57.5 +0.5
	baz=89					
J19A	**Crowheart**	88.53	43	P	**P**	22 14 57.3 +0.3
	baz=89,SNR=13					
V25A	**Rancho No Teng**	88.53	52	P	**P**	22 14 57.5 +0.3
	baz=89,SNR=5.5					
R23A	**Moffat**	88.59	49	P	**P**	22 14 58.2 +0.7
	baz=89					
Z27A	**Tatum**	88.62	54	P	**P**	22 14 57.7 +0.2
	baz=89,SNR=6.6					
228A	**UT Block 9, Go**	88.65	56	P	**P**	22 14 58.0 +0.3
	baz=89,SNR=6.3					
429A	**Davenport Ranc**	88.65	57	P	**P**	22 14 58.4 +0.7
	baz=89,SNR=41					
F17A	**Fitzpatrick Pl**	88.70	41	P	**P**	22 14 58.8 +1.1
	baz=89,SNR=6.3					
K20A	**Yellowstone Ra**	88.73	44	P	**P**	22 14 57.9 0.0
	baz=89,SNR=19					
H18A	**Shoshone NF, C**	88.76	42	P	**P**	22 14 58.7 +0.6
	baz=89					
S24A	**Houchin Ranch,**	88.81	50	P	**P**	22 14 58.6 +0.1
	baz=89,SNR=6.9					
Q23A	**Hartsel**	88.87	48	P	**P**	22 14 59.5 +0.7
	baz=89					
Y27A	**Causey**	88.87	54	P	**P**	22 14 59.2 +0.5
	baz=89,SNR=9.5					
W26A	**Owens Ranch, T**	88.88	53	P	**P**	22 14 58.8 +0.1
	baz=89					
O22A	**Kremmling**	88.89	47	P	**P**	22 14 59.5 +0.6
	baz=89,SNR=20					
329A	**Wagon Wheel Ra**	88.90	56	P	**P**	22 14 59.5 +0.7
	baz=89,SNR=10					
U25A	**Circle Dot Ran**	88.91	51	P	**P**	22 14 59.0 +0.1
	baz=89					
I19A	**Meeteetse**	88.91	43	P	**P**	22 14 59.5 +0.7
	baz=89,SNR=7.2					
SYO	**Syowa Base**	88.92	193	*e*P	**P**	22 14 56.0 -2.1
SYO	**Syowa Base**	88.92	193	*e*PcP	**P**	22 14 57.4 -0.7
530A	**J-C Ranch, Com**	88.92	58	P	**P**	22 14 59.7 +0.8
	baz=89,SNR=6.2					
128A	**Castleberry Fa**	88.92	55	P	**P**	22 14 59.4 +0.5
	baz=89,SNR=11					
M21A	**Separation Pea**	88.93	45	P	**P**	22 14 59.1 +0.2
	baz=89,SNR=19					
P23A	**Jefferson**	89.06	48	P	**P**	22 15 01.0 +1.2
	baz=89,SNR=6.3					
RWWY	**Rawlins**	89.07	45	*e*P	**P**	22 14 59.8 +0.2
	comp=Z,32nm,1.4s					
L21A	**Rawlins**	89.08	45	P	**P**	22 14 59.8 +0.2
	baz=89,SNR=6.2					
G18A	**Lazy EL Ranch,**	89.12	41	P	**P**	22 15 00.2 +0.6
	baz=89,SNR=7.0					
R24A	**Sanders Place,**	89.12	49	P	**P**	22 15 00.8 +1.0
	baz=89					
V26A	**Tequesquite Ra**	89.13	52	P	**P**	22 15 00.3 +0.4
	baz=89					
H19A	**Powell**	89.19	42	P	**P**	22 15 01.1 +1.1
	baz=89,SNR=8.6					
T25A	**Trinidad**	89.19	50	P	**P**	22 15 00.5 +0.2
	baz=89					
J20A	**Shoshoni**	89.20	44	P	**P**	22 15 00.8 +0.8
	baz=89,SNR=12					
MSTX	**Muleshoe**	89.21	54	*e*P	**P**	22 15 00.4 +0.2
	comp=Z,23nm,0.8s					
MSTX	**Muleshoe**	89.21	54	P	**P**	22 15 00.7 +0.4
	baz=89,SNR=11					
229A	**Bryant Ranch,**	89.21	56	P	**P**	22 15 00.8 +0.6
	baz=89,SNR=5.6					
X27A	**F and S Farms,**	89.21	53	P	**P**	22 15 00.6 +0.3
	baz=89					
RLMT	**Red Lodge**	89.22	42	*e*P	**P**	22 15 00.1 -0.1
	comp=Z,12nm,1.1s					
N22A	**Wattenberg Ran**	89.22	47	P	**P**	22 15 01.3 +1.0
	baz=89,SNR=15					
430A	**Baggett Ranch,**	89.24	57	P	**P**	22 15 00.8 +0.4
	baz=89,SNR=9.0					
Z28A	**Tucker Farm, M**	89.25	55	P	**P**	22 15 00.4 0.0
	baz=89,SNR=6.9					
D17A	**Six Diamond Ra**	89.26	39	P	**P**	22 15 00.9 +0.7
	baz=90,SNR=23					
631A	**Perdido Creek**	89.28	59	P	**P**	22 15 01.4 +0.9
	baz=90,SNR=6.4					
F18A	**Big Timber**	89.28	41	P	**P**	22 15 01.3 +1.0
	baz=90,SNR=7.0					
YAK	**Yakutsk**	89.31	338	*e*P	**P**	22 14 58.3 -1.5
YAK				*e*		22 18 37.9
YAK				*e*S	**SKSac**	22 24 30.4 -0.2
YAK				*e*		22 24 54.5
YAK				pmax	pmax	
	comp=Z,22nm,1.0s					
YAK				pmax	pmax	
	comp=N,5.0nm,1.0s					
YAK				pmax	pmax	
	comp=E,7.0nm,1.3s					
YAK				pmax	pmax	
	comp=Z,18nm,1.3s					
YAK				pmax	pmax	
	comp=N,13nm,1.4s					
YAK				pmax	pmax	
	comp=E,69nm,4.1s					
YAK				smax	smax	
	comp=N,30nm,1.9s					
YAK				smax	smax	
	comp=E,24nm,2.0s					
O23A	**Lake Granby, G**	89.35	47	P	**P**	22 15 02.0 +1.0
	baz=90					
M22A	**Cedar Creek Ra**	89.37	46	P	**P**	22 15 01.5 +0.5
	baz=90,SNR=6.9					
S25A	**Robets Cordova**	89.38	50	P	**P**	22 15 01.4 +0.3
	baz=90,SNR=7.6					
Q24A	**Divide**	89.39	49	P	**P**	22 15 01.8 +0.6
	baz=90					
ISCO	**Idaho Springs**	89.39	48	*e*P	**P**	22 15 01.8 +0.6
ISCO				pmax	pmax	
	comp=Z,17nm,1.5s					
ISCO	**Idaho Springs**	89.39	48	*e*P	**P**	22 15 01.9 +0.6
	baz=90,SNR=5.2					
U26A	**Atchley Ranch,**	89.40	51	P	**P**	22 15 01.2 0.0
	baz=90,SNR=10					
W27A	**Bowe Ranch, En**	89.40	53	P	**P**	22 15 01.4 +0.3
	baz=90,SNR=5.1					
129A	**Stewart Farms,**	89.41	55	P	**P**	22 15 01.7 +0.5
	baz=90,SNR=11					
I20A	**Worland**	89.43	43	P	**P**	22 15 01.5 +0.4
	baz=90,SNR=7.7					
C17A	**Wharram Farm,**	89.44	39	P	**P**	22 15 01.4 +0.4
	baz=90,SNR=25					
K21A	**Alcova**	89.44	45	P	**P**	22 15 01.6 +0.3
	baz=90,SNR=13					
E18A	**Harlowton**	89.46	40	P	**P**	22 15 02.3 +1.1
	baz=90,SNR=5.2					
330A	**Mertzon**	89.51	57	P	**P**	22 15 01.8 +0.1
	baz=90					
732A	**Laxson Ranch,**	89.53	60	P	**P**	22 15 02.8 +1.1
	baz=90,SNR=10					
531A	**Rocksprings**	89.57	58	P	**P**	22 15 02.6 +0.7
	baz=90,SNR=20					
N23A	**Red Feather La**	89.61	47	P	**P**	22 15 03.0 +0.9
	baz=90,SNR=19					
J21A	**Lysite**	89.62	44	P	**P**	22 15 02.6 +0.6
	baz=90,SNR=24					
B17A	**L&G Farms, Che**	89.72	38	P	**P**	22 15 02.6 +0.4
	baz=90,SNR=6.4					
230A	**Sterling City**	89.73	56	P	**P**	22 15 02.9 +0.2
	baz=90					
L22A	**Ellis Ranch, M**	89.74	45	P	**P**	22 15 03.6 +0.9
	baz=90,SNR=5.5					
F19A	**Roth Farm, Mol**	89.74	41	P	**P**	22 15 02.8 +0.4
	baz=90					
H20A	**Greybull**	89.75	43	P	**P**	22 15 03.0 +0.5
	baz=90					
D18A	**Linhart Farms,**	89.82	40	P	**P**	22 15 03.5 +0.7
	baz=90					
X28A	**Dimmitt**	89.85	54	P	**P**	22 15 03.4 +0.2
	baz=90					
O24A	**Longmont**	89.90	48	P	**P**	22 15 04.5 +1.1
	baz=90					
I21A	**Big Trails, Te**	89.92	44	P	**P**	22 15 03.5 +0.2
	baz=90,SNR=11					
K22A	**Casper**	89.94	45	P	**P**	22 15 03.6 +0.1
	baz=90					
632A	**Uvalde**	89.95	59	P	**P**	22 15 04.4 +0.7
	baz=90,SNR=14					
M23A	**Laramie**	90.00	46	P	**P**	22 15 04.6 +0.7
	baz=90,SNR=5.8					
Y29A	**Porterfield Fa**	90.02	54	P	**P**	22 15 04.4 +0.5
	baz=90					
331A	**San Angelo**	90.07	57	P	**P**	22 15 04.2 -0.1
	baz=90,SNR=10					
S26A	**Kim**	90.07	50	P	**P**	22 15 04.6 +0.4
	baz=90,SNR=6.4					
532A	**Rocksprings**	90.07	58	P	**P**	22 15 04.8 +0.5
	baz=90,SNR=9.7					
U27A	**Thompson Grove**	90.09	52	P	**P**	22 15 04.3 0.0
	baz=90,SNR=5.3					
130A	**Snyder**	90.11	56	P	**P**	22 15 04.8 +0.4
	baz=90					
PHWY	**Pilot Hill**	90.11	46	*e*P	**P**	22 15 05.2 +0.7
	comp=Z,10nm,0.8s					
E19A	**Rath Farm, Rou**	90.11	41	P	**P**	22 15 04.7 +0.6
	baz=90,SNR=7.8					
X29A	**Tulia**	90.21	54	P	**P**	22 15 05.0 +0.2
	baz=90					
EGMT	**Eagleton**	90.22	39	P	**P**	22 15 04.8 +0.3
	baz=90					
Z30A	**Sanderson Ranc**	90.23	55	P	**P**	22 15 04.8 -0.1
	baz=90					
LZH	**Lanzhou**	90.25	308	*e*P	**P**	22 15 06.3 +1.2
LZH				pP	**pP**	22 17 21.9 +2.5
LZH				sP	**sP**	22 18 22.3 +1.0
LZH				SKS	**SKSac**	22 24 37.0 -0.6
LZH				*e*S	**ScS**	22 25 11.0 +1.5
LZH				sS	**sS**	22 29 04.0 -3.3
LZH				SS	**SS**	22 31 24.5 -3.2
LZH				pmax	pmax	
	comp=Z,85nm,0.9s					
LZH				pmax	pmax	
	comp=Z,240nm,3.6s					
L23A	**Garrett**	90.27	46	P	**P**	22 15 05.5 +0.4
	baz=90,SNR=19					
JCT	**Junction City**	90.28	58	*e*P	**P**	22 15 05.7 +0.5
JCT				pmax	pmax	
	comp=Z,12nm,0.8s					
JCT	**Junction City**	90.28	58	*e*P	**P**	22 15 05.7 +0.5
	comp=Z,12nm,0.8s					
JCT	**Junction City**	90.28	58	P	**P**	22 15 05.6 +0.5
	baz=90					
J22A	**Midwest**	90.29	44	P	**P**	22 15 05.3 +0.2
	baz=90,SNR=5.7					
V28A	**Channing**	90.29	52	P	**P**	22 15 05.8 +0.6
	baz=90					
P25A	**Willow Gulch B**	90.30	48	P	**P**	22 15 06.3 +1.1
	baz=90,SNR=7.2					
N24A	**Carr**	90.32	47	P	**P**	22 15 06.4 +1.1
	baz=90					
R26A	**Arlington**	90.35	50	P	**P**	22 15 05.8 +0.3
	baz=91,SNR=7.9					
D19A	**Cripps Ranch,**	90.36	40	P	**P**	22 15 06.1 +0.9
	baz=91,SNR=9.3					
B18A	**Beardsley Farm**	90.37	39	P	**P**	22 15 06.0 +0.7
	baz=91,SNR=5.7					
231A	**Bronte**	90.38	57	P	**P**	22 15 05.6 0.0
	baz=91,SNR=16					
AMTX	**Amarillo**	90.38	53	*e*P	**P**	22 15 05.2 -0.4
	comp=Z,12nm,0.9s					
T27A	**Campo**	90.41	51	P	**P**	22 15 05.9 +0.1
	baz=91					
432A	**Menard**	90.43	58	P	**P**	22 15 06.1 +0.2
	baz=91,SNR=22					
I22A	**9 Mile Ranch,**	90.48	44	P	**P**	22 15 06.4 +0.4
	baz=91,SNR=6.8					
W29A	**Amraillo**	90.50	53	P	**P**	22 15 06.3 +0.1
	baz=91					
C19A	**Slack Wire Ran**	90.51	39	P	**P**	22 15 06.9 +1.0
	baz=91,SNR=10.0					
U28A	**Mallet**	90.53	52	P	**P**	22 15 06.6 +0.3
	baz=91					
Q26A	**Hugo**	90.54	49	P	**P**	22 15 06.9 +0.5
	baz=91					
E20A	**Meyer Farm, Mu**	90.54	41	P	**P**	22 15 06.5 +0.4
	baz=91,SNR=5.3					
SNAA	**Sanae**	90.57	179	*e*P	**P**	22 15 04.9 -0.9
SNAA	**Sanae**	90.57	179	*e*P	**P**	22 15 04.8 -1.0
	comp=Z,23nm,0.6s					
A18A	**Metzger Ranch,**	90.57	38	P	**P**	22 15 06.2 +0.1
	baz=

A19A **Klindworth Far** 91.23 38 P P 22 15 09.4 +0.2
baz=91
U29A **Oasis Ranch, S** 91.27 52 P P 22 15 09.6 0.0
baz=92
VNA1 **Neumayer--Stat** 91.40 177 *e*P P 22 15 09.2 -0.3
P27A **Ficken Ranch,** 91.45 49 P P 22 15 10.8 +0.3
baz=92
V30A **Spur Ranch, Mi** 91.46 53 P P 22 15 11.0 +0.4
baz=92
L25A **Engebretsen Ra** 91.47 46 P P 22 15 11.5 +0.9
baz=92
D21A **La Casta Ranch** 91.48 41 P P 22 15 11.0 +0.6
baz=92
T29A **Hugoton** 91.50 51 P P 22 15 11.0 +0.3
baz=92
Z32A **Haskell** 91.53 56 P P 22 15 11.2 +0.3
baz=92,SNR=10
R28A **Tribune** 91.56 50 P P 22 15 11.5 +0.5
baz=92
X31A **McDonald Ranch** 91.60 54 P P 22 15 11.3 +0.1
baz=92
A20A **Cobblestone Ra** 91.69 39 P P 22 15 11.8 +0.5
baz=92
G23A **Biddle** 91.73 43 P P 22 15 11.9 +0.3
baz=92
O27A **Beecher Island** 91.76 48 P P 22 15 12.1 +0.2
baz=92
M26A **McRoberts Ranc** 91.78 47 P P 22 15 12.6 +0.7
baz=92
Y32A **R-V Farms, Ver** 91.80 55 P P 22 15 12.2 +0.1
baz=92,SNR=5.1
S29A **Ulysses** 91.80 51 P P 22 15 12.7 +0.6
baz=92
W31A **Holland Ranch,** 91.82 54 P P 22 15 12.8 +0.6
baz=92,SNR=5.9
E22A **Miles City** 91.88 42 P P 22 15 13.0 +0.8
baz=92
PLCA **Paso Flores** 91.91 134 *e*P P 22 15 13.8 +1.2
PLCA PP **PP** 22 19 04.1 +1.0
PLCA **Paso Flores** 91.91 134 P P 22 15 13.4 +0.7
comp=Z,9.5nm,0.9s,baz=248,slow=5.4,SNR=10
PLCA PP **PP** 22 19 04.1 +1.0
comp=Z,2.4nm,1.0s,baz=283,slow=3.9,SNR=3.1
F23A **Volborg** 91.93 42 P P 22 15 13.2 +0.7
baz=92
N27A **Anderson Farm,** 91.95 48 P P 22 15 13.1 +0.3
baz=92
D22A **Cohagen** 92.02 41 P P 22 15 13.5 +0.6
baz=92
T30A **Plains** 92.04 52 P P 22 15 13.1 -0.1
baz=92
P28A **Saint Francis** 92.05 49 P P 22 15 13.5 +0.3
baz=92
R29A **Marienthal** 92.08 50 P P 22 15 13.7 +0.4
baz=92
H24A **Dirks Ranch, A** 92.10 43 P P 22 15 13.6 +0.3
baz=92,SNR=11
V31A **Spring Creek L** 92.11 53 P P 22 15 14.8 +1.3
baz=92,SNR=7.3
INK **Inuvik** 92.16 15 *e*P P 22 15 11.4 -1.4
comp=Z,11nm,1.0s
RSSD **Black Hills** 92.19 44 *e*P P 22 15 13.4 -0.5
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD **Black Hills** 92.19 44 *e*P P 22 15 13.4 -0.5
comp=Z,8.4nm,1.0s
K26A **Motz Farm, Whi** 92.22 46 P P 22 15 14.7 +0.7
baz=92
S30A **Montezuma** 92.30 51 P P 22 15 14.8 +0.4
baz=92,SNR=5.6
U31A **Nine Bar Ranch** 92.31 53 P P 22 15 15.0 +0.6
baz=92
I25A **Rochford** 92.35 44 P P 22 15 14.6 0.0
baz=93,SNR=7.5
Q29A **Oakley** 92.36 50 P P 22 15 14.9 +0.2
baz=93
B22A **Reddig Ranch S** 92.61 40 P P 22 15 16.2 +0.7
baz=93
N28A **Pribbeno Ranch** 92.61 48 P P 22 15 16.2 +0.4
baz=93
D23A **Lindsay** 92.64 41 P P 22 15 16.7 +1.0
baz=93
ULN **Ulaanbaatar** 92.64 320 P P 22 15 16.1 +0.3
SNR=9.3
ULN **Ulaanbaatar** 92.64 320 *e*P P 22 15 15.6 -0.2
comp=Z,13nm,1.1s
P29A **Atwood** 92.65 49 P P 22 15 16.6 +0.6
baz=93
R30A **Dighton** 92.66 51 P P 22 15 16.5 +0.5
baz=93
H25A **Fruitdale** 92.67 44 P P 22 15 16.6 +0.6
baz=93
T31A **Randall Ranch,** 92.69 52 P P 22 15 16.5 +0.3
baz=93,SNR=8.2
C23A **Lambert** 92.91 40 P P 22 15 17.9 +1.0
baz=93,SNR=9.5
A22A **Carney Farms,** 92.94 39 P P 22 15 17.5 +0.5
baz=93
Q30A **Quinter** 92.95 50 P P 22 15 17.9 +0.6
baz=93,SNR=6.3
S31A **Mullinville** 93.02 52 P P 22 15 18.1 +0.5
baz=93
SONM **Songino Array** 93.03 319 P P 22 15 16.4 -1.1
SONM pP **pP** 22 17 30.4 -1.8
SONM PKKPbc **PKKPdf** 22 32 23.0 +0.1
SONM **Songino Array** 93.03 319 P P 22 15 16.4 -1.1
comp=Z,3.7nm,1.0s,baz=118,slow=4.7,SNR=22
SONM pP **pP** 22 17 30.4 -1.8
comp=Z,2.1nm,1.2s,baz=46,slow=4.3,SNR=5.5
SONM PKKPbc **PKKPdf** 22 32 23.0 +0.1
comp=Z,0.3nm,0.4s,baz=232,slow=3.1,SNR=3.9
P30A **Selden** 93.13 49 P P 22 15 18.6 +0.5
baz=93
D24A **Glendive** 93.17 41 P P 22 15 18.7 +0.6
baz=93,SNR=5.3
R31A **Burdett** 93.22 51 P P 22 15 18.7 +0.2
baz=93
C24A **Savage** 93.27 41 P P 22 15 19.3 +0.8
baz=94,SNR=5.3
B23A **Brockton** 93.29 40 P P 22 15 19.7 +1.1
baz=94,SNR=5.4
DGMT **Dagmar** 93.78 40 *e*P P 22 15 21.7 +0.9
comp=Z,30nm,0.8s
DGMT **Dagmar** 93.78 40 P P 22 15 21.6 +0.9
baz=94,SNR=6.5
G27A **Dupree** 94.05 44 P P 22 15 22.1 -0.1
baz=94
I28A **Midland** 94.06 45 P P 22 15 22.6 +0.4
baz=94
A24A **Westby** 94.07 40 P P 22 15 22.6 +0.5
baz=94
K29A **Lazy Trails An** 94.21 46 P P 22 15 23.3 +0.4
baz=94
GTA **Gaotai** 94.41 310 P P 22 15 24.3 +0.3
GTA pP **pP** 22 17 41.1 +2.3
GTA PP **PP** 22 19 24.6 +1.5
GTA SKS **SKSac** 22 24 58.5 -1.6
GTA pmax pmax
comp=Z,21nm,1.0s
YKA **Yellowknife Ar** 94.73 25 P P 22 15 24.1 -0.6
YKA **Yellowknife Ar** 94.73 25 P P 22 15 24.1 -0.6
comp=Z,1.6nm,0.5s,baz=235,slow=4.8,SNR=8.2
KSU1 **Kansas State U** 95.64 51 *e*P P 22 15 30.6 +1.2
comp=Z,18nm,0.6s
BRSD **Miller** 95.71 45 *e*P P 22 15 22.6 -7.0
comp=Z,70nm,0.5s
ECSD **EROS Data Cent** 97.08 46 *e*P Pdif 22 15 35.5 -0.3
HVS **Khovu-Aksy** 101.92 320 *c*e*P **Pdif** 22 15 57.1 -0.1
LPAZ **La Paz** 104.17 113 *e*Pdif **Pdif** 22 16 09.6 +0.9
LPAZ **La Paz** 104.17 113 Pdiff **Pdif** 22 16 10.8 +2.1
comp=Z,2.3nm,0.7s,baz=261,slow=4.0,SNR=9.9
ZAA0 **Zalesovo Array** 107.75 322 *e*PKIKP **PKiKP** 22 20 24.9 -1.5
ZALV **Zalesovo Beam** 107.75 322 PKiKP **PKiKP** 22 20 24.9 -1.5
ZALV PP **PP** 22 21 04.7 +3.7
ZALV PKKPbc **PKKPbc** 22 31 39.4 -3.8
ZALV **Zalesovo Beam** 107.75 322 PKiKP **PKiKP** 22 20 24.9 -1.5
comp=Z,2.5nm,0.6s,baz=165,slow=1.7,SNR=11
ZALV PP **PP** 22 21 04.7 +3.7
comp=Z,1.9nm,0.8s,baz=92,slow=4.6,SNR=5.7
ZALV PKKPbc **PKKPbc** 22 31 39.4 -3.8
comp=Z,0.8nm,0.4s,baz=251,slow=4.1,SNR=4.9
MK31 **Makanchi Array** 108.56 314 *e*PKiKP **PKiKP** 22 20 26.6 -1.6
MKAR **Makanchi Array** 108.56 314 P **Pdif** 22 16 29.2 +2.4
MKAR 22 21 11.6
MKAR **Makanchi Array** 108.56 314 Pdif **Pdif** 22 16 29.2 +2.4
MKAR PKiKP **PKiKP** 22 20 26.9 -1.3
MKAR PP **PP** 22 21 11.6 +4.5
MKAR *e* 22 23 05.4
MKAR PKKPbc **PKKPbc** 22 31 39.2 -1.4
MKAR PKKP **PKKPdf** 22 31 54.2 +0.2
MKAR **Makanchi Array** 108.56 314 Pdiff **Pdif** 22 16 29.2 +2.4
comp=Z,1.0nm,0.9s,baz=76,slow=7.6,SNR=5.3
MKAR PKiKP **PKiKP** 22 20 26.9 -1.3
comp=Z,2.6nm,0.7s,baz=69,slow=1.3,SNR=20
MKAR PP **PP** 22 21 11.6 +4.5
comp=Z,1.3nm,0.9s,baz=104,slow=8.9,SNR=4.0
MKAR SKiKP **SKiKP** 22 23 05.4 +0.1
comp=Z,0.6nm,0.7s,baz=64,slow=2.8,SNR=4.3
MKAR PKKPbc **PKKPbc** 22 31 39.2 -1.4
comp=Z,0.9nm,0.5s,baz=281,slow=2.9,SNR=9.0
MKAR PKKP **PKKPdf** 22 31 54.2 +0.2
comp=Z,2.1nm,0.8s,baz=278,slow=3.3,SNR=6.7
KURK **Kurchatov** 111.30 318 PKKPbc PKKPbc 22 31 30.7 -1.2
KURBB **Kurchatov Arra** 111.35 318 PKKPbc PKKPbc 22 31 30.7 -1.0
comp=Z,2.7nm,0.5s,baz=267,slow=4.0,SNR=16
KSH **Kashi** 112.42 306 *e*PKP **PKiKP** 22 20 33.8 -2.1
KSH PP **PP** 22 21 36.8 +2.1
KSH SKS **SKSdf** 22 26 48.8 -1.0
KSH SKKS **SKKSac** 22 27 27.8 -4.0
KSH SS **SS** 22 36 31.9 +2.2
KSH AMB AMB
comp=Z,140nm,6.6s
AAK **Ala-Archa** 113.75 309 *d i* PKIKP **PKiKP** 22 20 37.3 -1.1
AAK pmax pmax
comp=Z,6.0nm,1.0s
BVAR **Borovoye Array** 116.35 321 PKKPbc PKKPbc 22 31 13.4 -1.7
BVAR PKKPab **PKKPab** 22 31 20.3 +0.6
BVAR **Borovoye Array** 116.35 321 PKKPbc PKKPbc 22 31 13.4 -1.7
comp=Z,0.7nm,0.5s,baz=282,slow=3.6,SNR=5.7
BVAR PKKPab **PKKPab** 22 31 20.3 +0.6
comp=Z,2.0nm,0.6s,baz=260,slow=3.6,SNR=11
BRVK **Borovoye** 116.41 321 *d i* PKIKP **PKPdf** 22 20 41.6 -1.3
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK **Borovoye** 116.41 321 *e*PKPdf **PKPdf** 22 20 41.4 -1.5
KKAR **Karatay Array** 116.69 310 *e*PKIKP **PKPdf** 22 20 42.5 -1.3
KKAR **Karatay Array** 116.69 310 *e*PKPdf **PKPdf** 22 20 42.5 -1.3
KKAR *e*SKPdf **SKiKP** 22 23 21.1 -0.1
KBL **Kabul** 117.58 300 *e*PKIKP **PKPdf** 22 20 45.2 -0.9
KBL **Kabul** 117.58 300 *e*PKPdf **PKPdf** 22 20 45.2 -0.9
KBL **Kabul** 117.58 300 P **PKPdf** 22 20 45.6 -0.4
baz=118,SNR=7.4
SVE **Sverdlovsk** 121.21 326 *e*PKIKP **PKPdf** 22 20 51.3 -0.7
SVE pmax pmax
comp=Z,14nm,0.9s
BDFB **Brasilia** 121.53 122 PKP **PKPdf** 22 20 53.2 -0.9
BDFB PKKPbc **PKKPbc** 22 30 56.3 -0.2
BDFB **Brasilia** 121.53 122 PKP **PKPdf** 22 20 53.2 -0.9
comp=Z,3.0nm,0.5s,baz=3.0,slow=10,SNR=6.4
BDFB PKKPbc **PKKPbc** 22 30 56.3 -0.2
comp=Z,1.4nm,0.5s,baz=213,slow=8.6,SNR=4.9
OPO **Ambohidratompo** 121.64 234 PKP **PKPdf** 22 20 53.2 -1.1
OPO **Ambohidratompo** 121.64 234 PKP **PKPdf** 22 20 53.2 -1.1
comp=Z,8.8nm,0.9s,baz=97,slow=7.7,SNR=5.8
SOKR **Solikamsk** 122.27 330 *d i* PKIKP **PKPdf** 22 20 52.0 -1.9
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU **Arti** 122.42 326 *i* PKIKP **PKPdf** 22 20 53.2 -1.2
ABKAR **Akbulak array** 123.40 318 *e*PKPdf **PKPdf** 22 20 55.4 -1.1
LVZ **Lovozero** 125.62 345 *d i* PKIKP **PKPdf** 22 20 59.7 -0.6
LVZ pmax pmax
comp=Z,126nm,2.5s
ARCES **ARCESS Array B** 126.21 349 PKP **PKPdf** 22 21 00.5 -0.8
ARCES PKKPbc **PKKPab** 22 30 36.9 +0.4
ARCES **ARCESS Array B** 126.21 349 PKP **PKPdf** 22 21 00.5 -0.8
comp=Z,12nm,0.9s,baz=17,slow=1.4,SNR=31
ARCES PKKPbc **PKKPab** 22 30 36.9 +0.4
comp=Z,3.0nm,0.9s,baz=193,slow=1.9,SNR=14
BOSA **Boshof** 127.97 208 PKP **PKPdf** 22 21 07.0 +0.9
BOSA PP **PP** 22 23 22.8 +5.0
BOSA **Boshof** 127.97 208 PKP **PKPdf** 22 21 07.0 +0.9
comp=Z,2.0nm,0.4s,baz=52,slow=22,SNR=8.9
BOSA PP **PP** 22 23 22.8 +5.0
comp=Z,8.6nm,1.1s,baz=172,slow=6.9,SNR=4.1
LBTB **Lobatse** 130.88 210 PKP **PKPdf** 22 21 12.6 +0.8
LBTB SKPbc **SKPab** 22 23 39.9 +0.3
LBTB **Lobatse** 130.88 210 PKP **PKPdf** 22 21 12.6 +0.8
comp=Z,2.0nm,0.5s,baz=247,slow=13,SNR=5.5
LBTB SKPbc **SKPab** 22 23 39.9 +0.3
comp=Z,4.4nm,0.7s,baz=151,slow=6.1,SNR=7.3
KAF **Kangasniemi** 132.38 344 *e*PKIKP PKPpre 22 21 06.6
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF **Kangasniemi** 132.38 344 *e*p PKPpre 22 21 06.6
comp=Z,1.4nm,0.4s
KAF **Kangasniemi** 132.38 344 *e*p pPKPdf 22 23 34.2 -2.7
comp=Z,1.3nm,0.4s
FINES **FINESS Array B** 133.00 344 PKPpre PKPpre 22 21 02.1
FINES PKP **PKPdf** 22 21 12.3 -2.0
FINES SKPbc **SKPbc** 22 23 45.4 +0.7
FINES **FINESS Array B** 133.00 344 PKhKP PKPpre 22 21 02.1
comp=Z,1.7nm,0.6s,baz=41,slow=6.1,SNR=5.4
FINES PKP **PKPdf** 22 21 12.3 -2.0
comp=Z,4.8nm,0.6s,baz=102,slow=3.5,SNR=13
FINES SKPbc **SKPbc** 22 23 45.4 +0.7
comp=Z,10nm,0.7s,baz=47,slow=3.8,SNR=13
MOS **Moscow** 133.09 332 *e*PKIKP PKPdf 22 21 26.4 +12
MOS *e* 22 23 47.0
VRHR **Novokhopersk** 133.74 325 *e*PKIKP **PKPdf** 22 21 14.7 -1.3
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
OBN **Obninsk** 133.95 332⇑ *i* PKIKP **PKPdf** 22 21 15.5 -0.8
OBN pmax pmax
comp=Z,51nm,2.5s
VSR **Storozhevoye** 134.99 326 *e*PKIKP **PKPdf** 22 21 17.5 -0.9
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.9s
VORD **Divnogorie** 135.06 326 *e*PKIKP **PKPdf** 22 21 18.6 +0.1
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
DGRG **David-gareji** 135.31 311 P **PKPdf** 22 21 20.5 +1.1
DGRG S **SKPbc** 22 23 54.5 +1.6
DUS **Dusheti** 135.59 312 P x 22 21 40.8
DUS S **SKiKP** 22 23 56.7 -2.7
TBLG **Delisi** 135.68 312 PKIKP **PKPdf** 22 21 21.6 +1.6
TBLG **Delisi** 135.68 312 P **PKPdf** 22 21 21.6 +1.6
TBLG S **SKPbc** 22 23 55.0 +1.1
UMR **Umm Al-Rimmam** 135.71 294 *e*P **SKPbc** 22 23 55.0 +0.6
UMR AMb AMB 22 23 56.2
comp=Z,119nm,1.2s
KBD **Kabd** 135.76 294 *e*P **SKPbc** 22 23 54.9 +0.4
KBD AMb AMB 22 23 56.4
comp=Z,46nm,1.3s
RDF **Al-Radifah** 135.90 293 *e*P **SKPbc** 22 23 55.3 +0.4
RDF AMb AMB 22 23 57.4
comp=Z,153nm,1.0s
NAY **Al-Naaiem** 136.15 294 *e*P **SKPbc** 22 23 55.7 0.0
NAY AMb AMB 22 23 58.1
comp=Z,33nm,1.5s
GNI **Garni** 136.16 310 PKP **PKPdf** 22 21 21.6 +0.4
GNI SKPbc **SKPbc** 22 23 56.8 +1.2
GNI **Garni** 136.16 310 PKP **PKPdf** 22 21 21.6 +0.4
comp=Z,7.2nm,0.8s,baz=347,slow=18,SNR=5.6
GNI SKPbc **SKPbc** 22 23 56.8 +1.2
comp=Z,2.6nm,0.6s,baz=216,slow=16,SNR=6.6
KBZ **Khabaz** 136.24 315 PKIKP **PKPdf** 22 21 21.7 +0.7
KBZ **Khabaz** 136.24 315 PKP **PKPdf** 22 21 21.7 +0.7
KBZ SKPbc **SKPbc** 22 23 56.2 +0.8
KBZ **Khabaz** 136.24 315 PKP **PKPdf** 22 21 21.7 +0.7
comp=Z,2.3nm,0.9s,baz=177,slow=3.5,SNR=5.7
KBZ SKPbc **SKPbc** 22 23 56.2 +0.8
comp=Z,8.1nm,1.0s,baz=339,slow=1.7,SNR=8.6
ONI **Oni** 136.28 313 P **PKPdf** 22 21 16.6 -4.6
ONI S **SKPbc** 22 23 56.9 +1.1
KIV **Kislovodsk** 136.30 316 *i* PKIKP **PKPdf** 22 21 20.8 -0.4
KIV *e* 22 24 08.9
KIV *e*SS SS 22 41 23.1 -1.6
KIV *e*SSS SSS 22 46 38.0
KIV pmax pmax
comp=Z,10.0nm,1.0s
NB2 **NORSAR Subarra** 136.32 353 PKPdf PKPpre 22 21 10.0
comp=Z,1.0nm,0.6s,baz=31,slow=1.9
NOA **NORSAR Array B** 136.32 353 PKPpre PKPpre 22 21 10.7
NOA PKP **PKPdf** 22 21 21.0 +0.4
NOA **NORSAR Array B** 136.32 353 PKhKP PKPpre 22 21 10.7
comp=Z,0.8nm,0.8s,baz=15,slow=3.7,SNR=10
NOA PKP **PKPdf** 22 21 21.0 +0.4
comp=Z,2.0nm,0.8s,baz=27,slow=2.0,SNR=4.2
AKH **Akhalkalaki** 136.66 312 P **PKPdf** 22 21 20.5 -1.6
AKH S **SKPbc** 22 23 58.7 +1.6
LSZ **Lusaka** 137.28 221 PKPpre PKPpre 22 21 16.4
LSZ PKP **PKPdf** 22 21 24.5 +0.6
LSZ SKPbc **SKiKP** 22 24 01.8 -1.9
LSZ **Lusaka** 137.28 221 PKhKP PKPpre 22 21 16.4
comp=Z,0.9nm,0.4s,baz=106,slow=5.5,SNR=5.1
LSZ PKP **PKPdf** 22 21 24.5 +0.6
comp=Z,3.5nm,0.4s,baz=87,slow=7.6,SNR=11
LSZ SKPbc **SKiKP** 22 24 01.8 -1.9
comp=Z,6.5nm,0.9s,baz=68,slow=4.5,SNR=11
ATD **Arta Tunnel** 138.81 267 SKPbc **SKiKP** 22 24 05.8 -1.0
ATD **Arta Tunnel** 138.81 267 SKPbc **SKiKP** 22 24 05.8 -1.0
comp=Z,24nm,1.0s,baz=301,slow=2.4,SNR=8.5
KMBO **Kilima Mbogo** 139.33 246 PKPpre PKPpre 22 21 19.9
KMBO *e*PKPdf **PKPdf** 22 21 27.8 -0.1
KMBO PKP **PKPdf** 22 21 28.4 +0.5
KMBO SKPbc **SKiKP** 22 24 07.9 -0.3
KMBO **Kilima Mbogo** 139.33 246 PKhKP PKPpre 22 21 19.9
comp=Z,2.8nm,0.7s,baz=240,slow=24,SNR=5.9
KMBO PKP **PKPdf** 22 21 28.4 +0.5
comp=Z,5.7nm,0.9s,baz=85,slow=1.1,SNR=11
KMBO SKPbc **SKiKP** 22 24 07.9 -0.3
comp=Z,9.6nm,1.1s,baz=40,slow=2.6,SNR=8.4
TSUM **Tsumeb** 139.52 205 PKPpre PKPpre 22 21 21.9
TSUM PKP **PKiKP** 22 21 29.7 -0.8
TSUM **Tsumeb** 139.52 205 PKhKP PKPpre 22 21 21.9
comp=Z,1.2nm,0.4s,baz=97,slow=7.8,SNR=7.2
TSUM PKP **PKiKP** 22 21 29.7 -0.8
comp=Z,4.0nm,0.8s,baz=101,slow=6.7,SNR=5.6
AKASG **Malin Array Be** 140.21 332 PKHKP PKPpre 22 21 20.7
AKASG 22 21 28.8
AKASG **Malin Array Be** 140.21 332 PKPpre PKPpre 22 21 20.7
AKASG PKP **PKPdf** 22 21 28.8 +0.8
AKASG SKPbc **SKPbc** 22 24 06.5 +0.2
AKASG SKKPbc **SKKPbc** 22 32 40.0 -0.3
AKASG **Malin Array Be** 140.21 332 PKhKP PKPpre 22 21 20.7
comp=Z,4.1nm,0.5s,baz=40,slow=4.4,SNR=19
AKASG PKP **PKPdf** 22 21 28.8 +0.8
comp=Z,6.1nm,0.7s,baz=48,slow=2.7,SNR=12
AKASG SKPbc **SKPbc** 22 24 06.5 +0.2
comp=Z,2.4nm,0.7s,baz=36,slow=3.2,SNR=10
AKASG SKKPbc **SKKPbc** 22 32 40.0 -0.3
comp=Z,0.2nm,0.3s,baz=236,slow=4.4,SNR=5.0
KPL **Plockton** 140.40 5 *e*P PKPdf 22 21 21.8 -6.3
SIM **Simferopol'** 141.26 321 *c i* PKHKP PKPpre 22 21 25.0
SIM *e* 22 21 32.0
SIM pmax pmax
comp=Z,20nm,0.9s
SVSK **Karacayir** 141.80 313 *e*P **PKPdf** 22 21 28.0 -3.2
GKP **Gorka Klasztor** 142.47 344 *e*PKP **PKPdf** 22 21 29.3 -2.6
ESK **Eskdalemuir** 142.59 4 *e*P **PKPdf** 22 21 28.4 -3.7
BEL **Belsk** 142.65 339 *i* PKPdf **PKPdf** 22 21 30.1 -2.2
ECK **Cauldkaine Hil** 142.73 4 *e*P **PKPdf** 22 21 28.9 -3.4
KMRS **Kahramanmaras** 142.81 309 *e*P **PKPdf** 22 21 29.8 -3.3
BZK **Bozkurt** 142.89 317 *e*P **PKPdf** 22 21 31.1 -2.0
GAL1 **Galloway** 142.93 5 *e*P **PKPdf** 22 21 29.5 -3.2
KIS **Kishinev** 142.94 328 ⇑PKIKP **PKPdf** 22 21 30.5 -2.5
KIS **Kishinev** 142.94 328 ⇑ *i* P **PKPdf** 22 21 30.5 -2.5
BNN **Bunyan** 143.05 312 *e*P PKPbc 22 21 32.0 -0.1
LVV **L'vov** 143.09 335 *e*PKIKP PKPab 22 21 31.0 -0.2
DRWC **Darouich** 143.30 308 *e*P **SKiKP** 22 24 14.5 -1.0
CORM **Corum** 143.33 314 *e*P PKPbc 22 21 33.2 +0.3
BSEG **Bad Segeberg** 143.33 350 *e*PKPbc PKPab 22 21 31.6 -0.3
BSEG **Bad Segeberg** 143.33 350 *e*PKIKP PKPab 22 21 31.6 -0.3
TOS **Tosya** 143.33 316 *e*P PKPbc 22 21 33.2 +0.4
IAS **Iasi** 143.44 329 ⇓PKIKP PKPab 22 21 32.5 -0.1
IAS **Iasi** 143.44 329 ⇓ *i* P PKPab 22 21 32.5 -0.1
LEOM **Leova** 143.59 327 ⇑PKIKP PKPab 22 21 33.4 +0.2
LEOM **Leova** 143.59 327 ⇑ *i* P PKPab 22 21 33.4 +0.2
KOZT **Kozan** 143.61 310 *e*P **PKPdf** 22 21 34.3 -0.2
BTCH **Batrach** 143.66 307 *e*P PKPbc 22 21 33.9 -0.1
BTCH **Batrach** 143.66 307 *e*P **SKiKP** 22 24 16.2 0.0
KFRA **Kufra** 143.68 305 *e*P **PKPdf** 22 21 35.0 +0.3
KWP **Kalwaria Pacla** 143.77 336 ⇓PKIKP PKPab 22 21 33.9 0.0
KWP **Kalwaria Pacla** 143.77 336 ⇓ *i* P PKPab 22 21 33.9 0.0
KWP **Kalwaria Pacla** 143.77 336 *e*PKPbc PKPbc 22 21 33.4 -0.3
KWP **Kalwaria Pacla** 143.77 336 *i* PKPdf PKPbc 22 21 33.3 -0.4
CANT **Cankiri** 143.81 316 *e*P PKPbc 22 21 34.3 +0.1
CEYT **Ceyhan** 143.85 309 *e*P PKPbc 22 21 34.2 -0.2
WRHH **Warideh** 143.88 306 *e*P **PKPdf** 22 21 35.3 +0.2
ZALF **Zalf** 143.92 306 *e*P PKPbc 22 21 34.7 -0.1
ZALF **Zalf** 143.92 302 *e*P SKiKP 22 24 09.6 -7.2
HPK **Haverah Park** 144.03 2 *e*P PKPbc 22 21 33.8 -0.5
ARNB **Al Arnab** 144.09 307 *e*P **PKPab** 22 21 36.9 +1.2
ARNB **Al Arnab** 144.09 307 *e*P **SKiKP** 22 24 19.0 +1.9
SAFT **Safranbolu** 144.11 317 *e*P PKPbc 22 21 34.8 -0.2
BIDA **Albida** 144.11 305 *e*P **PKPdf** 22 21 35.5 0.0
TLCR 144.13 325 ⇓PKIKP **PKPdf** 22 21 35.0 -0.1
TLCR 144.13 325 ⇓ *i* P **PKPdf** 22 21 35.0 -0.1
BR131 **Keskin Array S** 144.21 314 *e*PKPbc PKPbc 22 21 35.2 -0.4
BRTR **Keskin Array B** 144.21 314 PKP PKPbc 22 21 34.8 -0.8
BRTR SKPbc **SKiKP** 22 24 17.1 -0.2
BRTR SKKPbc **SKKPab** 22 32 23.0 -0.3
BRTR **Keskin Array B** 144.21 314 PKP PKPbc 22 21 34.8 -0.8
comp=Z,38nm,0.9s,baz=141,slow=4.0,SNR=164
BRTR SKPbc **SKiKP** 22 24 17.1 -0.2
comp=Z,7.0nm,0.8s,baz=116,slow=2.9,SNR=6.9
BRTR SKKPbc **SKKPab** 22 32 23.0 -0.3
comp=Z,2.9nm,0.9s,baz=217,slow=3.9,SNR=11
BUR08 **Bucovina Ar. S** 144.24 331 *e*PKPdf PKPbc 22 21 35.2 -0.2
NIG **Nigde** 144.24 311 *e*P PKPbc 22 21 35.0 -0.9
BURAR **Bucovina Array** 144.25 331 ⇑PKIKP **PKPab** 22 21 36.4 +0.5
BURAR **Bucovina Array** 144.25 331 ⇑ *i* P **PKPab** 22 21 36.4 +0.5
KARA **Karaisali** 144.26 310 *e*P **PKPdf** 22 21 34.7 -0.9
MARH **Ras Al Marh** 144.29 304 *e*P **PKPab** 22 21 36.6 -0.2
MARH **Ras Al Marh** 144.29 304 *e*P **SKiKP** 22 24 15.7 -2.2
GHRR 144.29 328 ⇑ *i* P **PKPab** 22 21 36.1 +0.1
OJC **Ojcow** 144.36 339 *e*PKIKP **PKPdf** 22 21 35.3 -0.1
TESR **Tescani** 144.37 329 ⇓ *i* P **PKPdf** 22 21 35.2 -0.3
WME **Myndd Eilian** 144.42 5 *e*P **PKPdf** 22 21 34.4 -0.9
SALA **Sala** 144.47 301 *e*P **PKPab** 22 21 37.2 -0.2
ASF **Jabal al Asfar** 144.47 300 PKP PKPbc 22 21 36.6 +0.1
ASF SKPbc **SKiKP** 22 24 19.0 +1.0
ASF **Jabal al Asfar** 144.47 300 PKP PKPbc 22 21 36.6 +0.1
comp=Z,48nm,0.9s,baz=62,slow=1.1,SNR=67
ASF SKPbc **SKiKP** 22 24 19.0 +1.0
comp=Z,6.1nm,0.8s,baz=155,slow=2.0,SNR=4.4
KOLS **Kolonicke sedl** 144.50 335 *e*PKIKP PKPbc 22 21 35.9 -0.1
KOLS **Kolonicke sedl** 144.50 335 *e*PKP PKPbc 22 21 35.9 -0.1
CFR **Carcaliu** 144.50 326 ⇑PKIKP PKPbc 22 21 36.1 +0.1
CFR **Carcaliu** 144.50 326 ⇑ *i* P PKPbc 22 21 36.1 +0.1
STHS **Stebnicka Huta** 144.51 337 *e*PKIKP PKPbc 22 21 36.0 0.0
STHS **Stebnicka Huta** 144.51 337 *e*PKP PKPbc 22 21 36.0 0.0
WLF1 **Llynfaes** 144.52 5 *e*P **PKPdf** 22 21 34.0 -1.5
TOTH **TOTAH** 144.53 303 *e*P **PKPab** 22 21 38.1 +0.7
YRC **Rhoscolyn** 144.54 5 *e*P **PKPdf** 22 21 35.0 -0.5
WPM1 **Penmaenmawr** 144.59 5 *e*P **PKPdf** 22 21 35.2 -0.4
PETR **Petresti** 144.62 327 ⇓ *i* P **PKPab** 22 21 37.3 +0.1
HWQ **Hawqa** 144.64 304 *e*P **PKPdf** 22 21 36.7 +0.2
ANTO **Ankara** 144.72 315 *e*P **PKPdf** 22 21 36.2 -0.2
ANTO **Ankara** 144.72 315 ⇑PKIKP **PKPdf** 22 21 36.5 +0.1
ANTO **Ankara** 144.72 315 PKPdf **PKPdf** 22 21 36.6 +0.2
SNR=14
ANTO **Ankara** 144.72 315 ⇑ *i* P **PKPdf** 22 21 36.5 +0.1
ANTO **Ankara** 144.72 315 *e*PKPdf **PKPdf** 22 21 35.8 -0.6
ANTO *e*SKPbc **SKiKP** 22 24 18.3 +0.1
AFSR Af̄ar-Bala (A 144.73 314 *e*P PKPbc 22 21 36.8 -0.3
KBI1 **Birley Grange** 144.73 2 *e*P **PKPdf** 22 21 35.3 -0.6
UZH **Uzhgorod** 144.73 335 *e*PKIKP **PKPdf** 22 21 35.4 -0.6
NRDL **Niedersach Rie** 144.75 350 *e*PKPbc PKPbc 22 21 36.2 -0.3
VRI **Vrincioaia** 144.77 328 ⇓PKIKP PKPbc 22 21 36.8 -0.1
VRI **Vrincioaia** 144.77 328 ⇓ *i* P PKPbc 22 21 36.8 -0.1
TIRR **Tirgusor** 144.82 325 ⇑PKIKP PKPbc 22 21 37.2 +0.2
TIRR **Tirgusor** 144.82 325 ⇑ *i* P PKPbc 22 21 37.2 +0.2
TIRR **Tirgusor** 144.82 325 *e*PKPdf **PKPdf** 22 21 36.6 +0.3
PLOR **Plostina** 144.82 328 ⇓PKIKP PKPbc 22 21 37.0 -0.1
PLOR **Plostina** 144.82 328 ⇓ *i* P PKPbc 22 21 37.0 -0.1
CRVS **Cervenica-Dubn** 144.84 336 *e*PKIKP **PKPdf** 22 21 36.1 -0.1
CRVS **Cervenica-Dubn** 144.84 336 *e*PKP **PKPdf** 22 21 36.1 -0.1
NIE **Niedzica** 144.85 338 *e*PKIKP **PKPab** 22 21 38.8 +0.7
KSP **Ksiaz** 144.91 343 *e*PKIKP PKPbc 22 21 37.4 +0.3
KSP **Ksiaz** 144.91 343 *i* PKPdf PKPbc 22 21 37.3 +0.2
RCY **Rachaya** 144.97 303 *e*P PKPbc 22 21 37.7 -0.4

GRER		144.98 327	⇓iP	PKPab	22 21 38.6	-0.1
SULT	Sultanhani-AKS	144.99 312	eP	PKPdf	22 21 36.6	-0.3
BHL	Bhannes	144.99 304	eP	PKPbc	22 21 37.8	-0.3
FOEL	Foel Wylfa	145.01 4	eP	PKPdf	22 21 36.8	+0.4
RAC	Raciborz	145.01 340	ePKIKP	PKPbc	22 21 37.8	+0.4
TRPA	Tarpa	145.03 334	⇑iP	PKPbc	22 21 37.4	-0.1
MANR	Mangalia	145.13 324	⇓iP	PKPab	22 21 38.7	-0.6
MBAR	Mbarara	145.16 241	PKPbc	PKPdf	22 21 38.5	+0.5
MBAR	Mbarara	145.16 241	PKPbc	PKPdf	22 21 38.5	+0.5
	comp=Z,29nm,0.9s,baz=133,slow=5.7,SNR=39					
OKC	Ostrava-Krasne	145.24 340	⇓iPKIKP	PKPbc	22 21 38.0	-0.1
OKC	Ostrava-Krasne	145.24 340	⇓iPKP	PKPbc	22 21 38.0	-0.1
IBBN	Ibbenburen	145.28 352	ePKPbc	PKPbc	22 21 37.9	-0.2
UPC	Upice	145.29 343	⇓iPKP2	PKPbc	22 21 38.5	+0.2
UPC	Upice	145.29 343	⇓iPKP	PKPbc	22 21 38.5	+0.2
UPC			ex	x	22 21 41.8	
UPC			epPKP	pPKPdf	22 24 04.7	+3.7
UPC			eSKP		22 24 20.5	
PGOR	Pogoanele	145.29 326	⇑iP	PKPbc	22 21 38.9	+0.5
AMRR	Amara	145.31 326	⇓iPKP2	PKPab	22 21 39.3	-0.6
AMRR	Amara	145.31 326	⇓iP	PKPab	22 21 39.3	-0.6
CLL	Collm	145.32 346	ePKPbc	PKPbc	22 21 38.2	-0.1
CLL	Collm	145.32 346	⇓iPKIKP	PKPbc	22 21 38.2	-0.1
CLL			pmax	pmax		
	comp=Z,140nm,0.9s					
CLL	Collm	145.32 346	⇓iPKPbc	PKPbc	22 21 38.2	-0.1
	comp=Z,140nm,0.9s					
CLL			eSKPbc	SKiKP	22 24 20.0	+1.0
CLL			eSS	SS	22 43 01.0	-5.1
CLL			esSS		22 46 51.0	
CLL			esPSPS		22 47 46.0	
CLL			e(SSS)		22 49 30.0	
CLL			eSSSS		22 52 42.0	
DPC	Dobruska-Polom	145.34 342	ePKIKP	PKPdf	22 21 37.1	0.0
DPC			i		22 21 38.9	
DPC	Dobruska-Polom	145.34 342	ePKP	PKPdf	22 21 37.1	0.0
DPC			i x	x	22 21 38.9	
DPC			epPKP	pPKPdf	22 24 02.7	+1.6
DPC			eSKP		22 24 19.0	
ISR	Istrita	145.38 327	⇑PKP2	PKPbc	22 21 39.1	+0.3
ISR	Istrita	145.38 327	⇑iP	PKPbc	22 21 39.1	+0.3
HLM1	Long Mynd	145.40 4	eP	PKPbc	22 21 37.8	-0.7
MLR	Muntele Rosu	145.43 328	⇓iP	PKPdf	22 21 38.2	+0.7
MMAI	Mount Meron Ar	145.45 302	PKPbc	PKPdf	22 21 38.2	+0.4
MMAI			SKPbc	SKiKP	22 24 21.4	+1.3
MMAI	Mount Meron Ar	145.45 302	PKPbc	PKPdf	22 21 38.2	+0.4
	comp=Z,63nm,0.8s,baz=64,slow=5.0,SNR=11					
MMAI			SKPbc	SKiKP	22 24 21.4	+1.3
	comp=Z,14nm,0.8s,baz=70,slow=5.4,SNR=8.3					
MDUB	Mudurnu	145.47 317	eP	PKPbc	22 21 38.5	-0.7
MORC	Moravsky Berou	145.48 341	ePKIKP	PKPdf	22 21 36.7	-0.7
MORC	Moravsky Berou	145.48 341	ePKPdf	PKPdf	22 21 36.6	-0.7
BRG	Berggiesshubel	145.50 345	ePKP	PKPdf	22 21 37.1	-0.2
	comp=Z,7.3nm,1.1s					
BRG			i		22 21 45.9	
	comp=Z,21nm,1.0s					
BRG			pPKP	pPKPdf	22 24 04.6	+3.2
	comp=Z,3.1nm,0.9s					
BRG			SKP		22 24 20.8	
	comp=Z,6.6nm,1.1s					
BRG	Berggiesshubel	145.50 345	ePKPbc	PKPbc	22 21 38.8	0.0
BRG	Berggiesshubel	145.50 345	ePKIKP	PKPdf	22 21 37.1	-0.2
BRG			pmax	pmax		
	comp=Z,7.0nm,1.1s					
BRG			pmax	pmax		
	comp=Z,84nm,1.2s					
BRG			pmax	pmax		
	comp=Z,21nm,1.0s					
BRG			pmax	pmax		
	comp=Z,3.0nm,1.0s					
BRG			pmax	pmax		
	comp=N,7.0nm,1.1s					
KECS	Kecovo	145.56 337	ePKIKP	PKPbc	22 21 39.1	0.0
KECS	Kecovo	145.56 337	ePKP	PKPbc	22 21 39.1	0.0
EREN	Erenkoy	145.58 307	eP	PKPdf	22 21 37.3	-0.6
FBE	Freiberg	145.60 346	ePKPbc	PKPbc	22 21 39.4	+0.3
CJR	Cluj-Napoca	145.66 332	⇓iP	PKPbc	22 21 39.9	+0.4
PVCC	Panska Ves	145.66 344	⇓iPKIKP	PKPdf	22 21 36.8	-0.8
PVCC			i		22 21 39.6	
PVCC	Panska Ves	145.66 344	⇓iPKP	PKPdf	22 21 36.8	-0.8
PVCC			i x	x	22 21 39.6	
PVCC			epPKP	pPKPdf	22 24 04.7	+3.1
PVCC			eSKP		22 24 20.9	
NEUB	Neuenburg	145.67 348	ePKPbc	PKPbc	22 21 39.2	-0.1
IKL	Isikli	145.68 309	eP	PKPbc	22 21 39.0	-0.8
SECR		145.68 327	⇑iP	PKPbc	22 21 39.7	+0.1
LPW	Lampeter	145.71 5	eP	PKPdf	22 21 38.1	+0.6
WTSB	Winterswijk	145.72 353	ePKPbc	PKPbc	22 21 39.0	-0.4
	comp=N,97nm,0.9s					
LADK	Ladik-KONYA	145.79 313	eP	PKPdf	22 21 39.2	+0.9
KIZT	Kizilcal	145.81 314	eP	PKPbc	22 21 39.3	-1.0
SULR		145.83 327	⇓iP	PKPbc	22 21 39.8	-0.1
MCH1	Michaelchurch	145.91 4	eP	PKPdf	22 21 37.4	-0.5
KONT	Konya--Tatoy	145.91 312	eP	PKPdf	22 21 39.3	+0.9
VOIR		145.91 329	⇑PKIKP	PKPbc	22 21 40.1	-0.2
VOIR		145.91 329	⇑iP	PKPbc	22 21 40.1	-0.2
DRGR		146.00 333	⇑PKP2	PKPbc	22 21 40.5	0.0
DRGR		146.00 333	⇑iP	PKPbc	22 21 40.5	0.0
SSW	Stow on the Wo	146.00 3	eP	PKPbc	22 21 39.8	-0.5
BUC	Bucharest	146.09 327	⇓PKP2	PKPbc	22 21 41.0	+0.3
PRA	Prague	146.12 344	⇓PKPDF	PKPdf	22 21 38.0	-0.3
PRA			⇑PKP	PKPbc	22 21 41.0	+0.4
PRA			PKPAB	PKPab	22 21 44.0	+1.0
PRA			pPKP	pPKPdf	22 24 07.0	+4.6
PRU	Pruhonice	146.16 344	⇓ePKPDF	PKPdf	22 21 37.0	-1.4
PRU			⇑iPKP	PKPbc	22 21 40.6	-0.1
PRU			ePKPAB	PKPab	22 21 43.1	-0.1
PRU			epPKP	pPKPdf	22 24 06.7	+4.2
ARR	Arges	146.17 329	⇑iP	PKPdf	22 21 38.6	-0.1
BUC1	Bucharest	146.18 327	⇓iP	PKPbc	22 21 41.0	+0.1
CIOR	Ciorogarla	146.18 327	⇑iP	PKPbc	22 21 40.0	-0.9
BUG	Bochum--Univer	146.19 353	ePKPbc	PKPbc	22 21 40.0	-0.7
PRD	Provadia	146.19 324	eP	PKPbc	22 21 41.2	+0.2
MOX	Moxa	146.24 347	ePKPbc	PKPbc	22 21 40.6	-0.3
MOX	Moxa	146.24 347	ePKIKP	PKPbc	22 21 40.6	-0.3
PSZ	Piszkesteto	146.25 337	⇓PKP2	PKPbc	22 21 41.1	0.0
PSZ	Piszkesteto	146.25 337	⇓iP	PKPbc	22 21 41.1	0.0
PSZ	Piszkesteto	146.25 337	ePKPdf	PKPdf	22 21 38.8	+0.1
PSZ	Piszkesteto	146.25 337	⇓eS	PKPdf	22 21 40.9	+2.2
TANN	Tannenbergstha	146.28 346	ePKPbc	PKPbc	22 21 41.0	-0.1
PLN	Plauen	146.28 347	ePKPbc	PKPbc	22 21 40.8	-0.2
WERD	Werda	146.28 347	ePKPbc	PKPbc	22 21 41.0	-0.1
SKP1	Kophill	146.29 2	eP	PKPbc	22 21 39.9	-1.0
GUNZ	Gunzen	146.35 347	ePKPbc	PKPbc	22 21 41.4	+0.1
UBBA	Unterbreizbach	146.38 349	ePKPbc	PKPbc	22 21 40.5	-0.6
WERN	Wernitzgruen	146.41 346	ePKPbc	PKPbc	22 21 41.4	0.0
CSS	Prodhromos	146.43 307	P	PKPbc	22 21 41.2	-0.8
	comp=N,1.1nm,0.9s					
CSS	Prodhromos	146.43 307	ePKPbc	PKPbc	22 21 40.9	-1.1
MAMC	Mammari	146.44 307	P	PKPbc	22 21 41.3	-0.6
NKC	Novy Kostel	146.45 346	⇓iPKP2	PKPbc	22 21 41.6	+0.1
NKC	Novy Kostel	146.45 346	⇓iPKPBC	PKPbc	22 21 41.6	+0.1
NKC			ePKPAB	PKPab	22 21 44.1	-0.3
NKC			epPKP	pPKPdf	22 24 05.6	+2.6
NKC			eSKP		22 24 22.1	
SWN1	Swindon	146.46 3	eP	PKPbc	22 21 40.8	-0.7
LOT	Lotru	146.53 330	⇓iP	PKPbc	22 21 41.3	-0.7
TREC	Trest	146.53 342	ePKIKP	PKPdf	22 21 38.7	-0.4
TREC			e		22 21 44.8	
TREC	Trest	146.53 342	⇓ePKPDF	PKPdf	22 21 38.7	-0.4
TREC			⇑iPKP	PKPbc	22 21 41.7	-0.1
TREC			ePKPAB	PKPab	22 21 44.8	+0.1
TREC			epPKP	pPKPdf	22 24 03.9	+0.7
DEV	Deva	146.60 331	⇓PKP2	PKPbc	22 21 43.0	+1.0
DEV	Deva	146.60 331	⇓iP	PKPbc	22 21 43.0	+1.0
SMOL	Smolenice	146.62 340	ePKP2	PKPbc	22 21 42.5	+0.5
SMOL	Smolenice	146.62 340	ePKP	PKPbc	22 21 42.5	+0.5
WOL	Wolverton	146.69 2	eP	PKPbc	22 21 40.7	-1.4
EIL	Elat	146.69 297	PKPbc	PKPbc	22 21 42.6	-0.2
EIL			SKPbc	SKiKP	22 24 23.5	+0.9
EIL	Elat	146.69 297	PKPbc	PKPbc	22 21 42.6	-0.2
	comp=N,50nm,1.0s,baz=45,slow=1.5,SNR=27					
EIL			SKPbc	SKiKP	22 24 23.5	+0.9
	comp=N,15nm,1.1s,baz=272,slow=3.9,SNR=3.6					
LEF	Lefka	146.71 307	eP	PKPbc	22 21 41.9	-0.7
MANZ	Manzenberg	146.76 347	ePKPbc	PKPbc	22 21 42.3	-0.1
SHUT	Suhut-Afyon	146.88 314	eP	PKPdf	22 21 40.0	-0.1
ALFC	Alevga	146.91 308	P	PKPbc	22 21 42.1	-1.2
	comp=N,3.0nm,0.9s					
ROTZ	Rotzenmuhle	146.94 346	ePKPbc	PKPbc	22 21 43.0	+0.2
SZH	Strazhica	146.96 325	eP	PKPbc	22 21 42.6	-0.5
BEBN	Eben Emael	147.00 354	PKPbc	PKPbc	22 21 43.0	+0.1
ZST	Bratislava	147.00 340	ePKP2	PKPbc	22 21 42.9	-0.1
ZST	Bratislava	147.00 340	ePKP	PKPbc	22 21 42.9	-0.1
HGN	Heimansgroeve	147.00 354	ePKPdf	PKPdf	22 21 39.4	-0.3
	comp=N,16nm,1.1s					
HGN			ePKPbc	PKPbc	22 21 42.9	0.0
	comp=N,37nm,1.0s					
HGN			ePKPab	PKPab	22 21 45.9	-0.6
	comp=N,30nm,1.0s					
GZR	Gura Zlata	147.03 331	⇓PKIKP	PKPbc	22 21 42.7	-0.6
GZR	Gura Zlata	147.03 331	⇓iP	PKPbc	22 21 42.7	-0.6
SUTC	Sutluce-Ispart	147.09 312	eP	PKPdf	22 21 41.5	+0.9
JMB	Yambol	147.12 323	eP	PKPbc	22 21 43.6	+0.1
MEM	Membach	147.15 354	PKPbc	PKPbc	22 21 43.0	-0.3
HMNX	Herstmonceux	147.16 0	eP	PKPbc	22 21 43.0	-0.3
AKMC	Akamas	147.17 307	P	PKPbc	22 21 42.5	-1.4
KHC	Kasperske Hory	147.20 344	ePKIKP	PKPdf	22 21 40.0	-0.2
KHC			e		22 21 47.8	
KHC	Kasperske Hory	147.20 344	ePKPDF	PKPdf	22 21 40.0	-0.2
KHC			⇑iPKP	PKPbc	22 21 43.6	0.0
KHC			ePKPAB	PKPab	22 21 47.8	+0.3
KHC			epPKP	pPKPdf	22 24 08.6	+4.2
KHC			eSKP		22 24 24.5	
KHC	Kasperske Hory	147.20 344	ePKPdf	PKPdf	22 21 39.8	-0.4
KHC			ePKPbc	PKPbc	22 21 43.4	-0.2
KHC			ePKPab	PKPab	22 21 48.0	+0.6
PPCY	Paphos	147.21 307	P	PKPbc	22 21 42.7	-1.3
TNS	Taunus Mts	147.22 351	ePKPbc	PKPbc	22 21 43.4	-0.2
TNS			epPKPbc	pPKPbc	22 24 00.3	-4.8
TNS	Taunus Mts	147.22 351	ePKP2	PKPbc	22 21 43.4	-0.2
GRF	Grafenberg Arr	147.23 347	ePKPbc	PKPbc	22 21 43.6	0.0
GRF	Grafenberg Arr	147.23 347	ePKP2	PKPbc	22 21 43.6	0.0
GRFO	Grafenberg	147.23 347	ePKIKP	PKPbc	22 21 43.2	-0.4
GRFO	Grafenberg	147.23 347	ePKPbc	PKPbc	22 21 43.2	-0.4
PKSG		147.25 338	⇓e	PKPbc	22 21 43.2	-0.5
ISP	Isparta	147.26 313	⇑PKIKP	PKPbc	22 21 43.1	-1.1
ISP	Isparta	147.26 313	⇑iP	PKPbc	22 21 43.1	-1.1
ISP	Isparta	147.26 313	ePKPdf	PKPdf	22 21 40.1	-0.7
PVL	Pavlikeni	147.31 326	eP	PKPbc	22 21 44.0	0.0
CSKK	Cs¨±kako	147.32 338	⇓eS	PKPdf	22 21 43.6	+3.2
WET	Wettzell	147.37 345	ePKPbc	PKPbc	22 21 43.9	-0.1
WET	Wettzell	147.37 345	ePKP2	PKPbc	22 21 43.9	-0.1
BZS	Buzias	147.39 332	⇓PKIKP	PKPdf	22 21 40.4	-0.2
BZS	Buzias	147.39 332	⇓iP	PKPdf	22 21 40.3	-0.3
GEC2	GERESS Array S	147.43 344	ePKPbc	PKPbc	22 21 44.1	-0.1
GEC2	GERESS Array S	147.43 344	ePKP2	PKPbc	22 21 44.1	-0.1
GERES	GERESS Array B	147.43 344	PKP	PKPdf	22 21 39.6	-1.1
GERES			PKPbc	PKPbc	22 21 44.1	-0.1
GERES	GERESS Array B	147.43 344	PKP	PKPdf	22 21 39.6	-1.1
	comp=N,20nm,0.8s,baz=48,slow=2.0,SNR=11					
GERES			PKPbc	PKPbc	22 21 44.1	-0.1
	comp=N,20nm,0.8s,baz=30,slow=2.6,SNR=146					
TIM	Timisoara	147.47 333	⇑PKP2	PKPbc	22 21 44.2	-0.1
TIM	Timisoara	147.47 333	⇑iP	PKPbc	22 21 44.2	-0.1
PKST	T¨s	147.49 338	⇓eS	PKPdf	22 21 43.6	+2.9
SOP	Sopron	147.63 340	⇓e	PKPbc	22 21 44.7	+0.1
CONA	Conrad Observa	147.64 341	⇑iPKPdf	PKPdf	22 21 40.5	-0.6
	comp=N,4.6nm,1.3s,SNR=33					
PKS2	Kecel	147.69 336	⇑eS	PKPdf	22 21 45.1	+4.1
GIVF	Givet	147.76 355	ePKIKP	PKPdf	22 21 40.4	-0.7
DOU	Dourbes	147.79 355	PKPbc	PKPbc	22 21 44.9	-0.1
DOU			PKPab	PKPab	22 21 49.0	-0.7
WLF	Walferdange	148.07 353	PKPbc	PKPbc	22 21 46.0	+0.3
WLF	Walferdange	148.07 353	ePKPbc	PKPbc	22 21 46.0	+0.3
WLF	Walferdange	148.07 353	ePKPdf	PKPdf	22 21 41.9	+0.4
WLF			ePKPbc	PKPbc	22 21 45.9	+0.2
PKSM	Moragy	148.14 336	⇓PKHKP	PKPpre	22 21 45.3	
PKSM	Moragy	148.14 336	⇓iP	PKPbc	22 21 45.3	-0.7
PKSM	Moragy	148.14 336	⇓e	PKPbc	22 21 45.5	-0.5
MOA	Molln	148.19 343	⇑iPKPdf	PKPdf	22 21 37.7	-4.2
	comp=N,3.9nm,1.3s,SNR=13					
ELL	Elmali	148.20 312	eP	PKPbc	22 21 45.7	-0.9
KDZ	Kurdzhali	148.31 323	eP	PKPbc	22 21 46.1	-0.5
ARSA	Arzberg	148.34 341	⇓iPKPbc	PKPbc	22 21 46.0	-0.5
	comp=N,2.6nm,1.2s,SNR=12					
STU	Stuttgart	148.50 349	ePKPdf	PKPdf	22 21 42.4	+0.1
STU			ePKPbc	PKPbc	22 21 45.7	-1.1
STU			ePKPab	PKPab	22 21 52.3	-0.4
LANF	Langenberg	148.52 351	PKP	PKPdf	22 21 39.3	-3.1
RDO	Rodhopi	148.57 323	eP	PKPbc	22 21 45.9	-1.3
RZN	Rozhen	148.68 324	eP	PKPbc	22 21 46.9	-0.8
RJOB	Jochberg	148.69 344	ePKPbc	PKPbc	22 21 46.9	-0.5
JSA	Saint Aubin	148.76 4	eP	PKPbc	22 21 46.9	-0.5
VTS	Vitosha	148.87 327	eP	PKPbc	22 21 47.5	-0.6
VTS	Vitosha	148.87 327	⇓iP	PKPbc	22 21 47.7	-0.4
SMTH	Samothraki Isl	149.00 322	eP	PKPbc	22 21 46.9	-1.4
SOKA	Soboth	149.01 341	⇑iPKPdf	PKPdf	22 21 42.3	-1.0
	comp=N,5.2nm,1.3s,SNR=22					
PERS	Pernice	149.02 341	iPKPbc	PKPbc	22 21 47.0	-1.2
BFO	Black Forest	149.07 350	ePKPbc	PKPbc	22 21 47.8	-0.4
BFO			epPKPbc	pPKPbc	22 24 11.6	+1.0
BFO	Black Forest	149.07 350	ePKPdf	PKPdf	22 21 42.3	-1.0
BFO			ePKPbc	PKPbc	22 21 47.7	-0.6
BFO			ePKPab	PKPab	22 21 54.7	-0.4
KBA	Koelnbreinsper	149.15 343	⇓iPKPdf	PKPdf	22 21 42.6	-1.0
	comp=N,3.0nm,1.0s,SNR=18					
CDF	Champ du Feu	149.15 351	ePKIKP	PKPdf	22 21 42.7	-0.8
PAGF	Fort de Pagny	149.21 353	ePKIKP	PKPdf	22 21 43.2	-0.2
	comp=N,3.4nm,0.9s					
FLN	La Foliniere	149.26 2	ePKIKP	PKPdf	22 21 42.8	-0.7
MMB	Musomiste	149.29 325	eP	PKPbc	22 21 48.2	-0.8
PRK	Paraskevi	149.30 319	eP	PKPbc	22 21 48.0	-1.0
OBKA	Obir	149.31 341	⇑iPKPbc	PKPbc	22 21 48.2	-0.7
	comp=N,2.0nm,1.1s,SNR=11					
MEZF	Maizieres J'vi	149.33 354	ePKIKP	PKPdf	22 21 43.5	-0.1
	comp=N,16nm,0.9s					
ECH	Echery	149.36 352	ePKIKP	PKPdf	22 21 43.1	-0.6
ECH			e		22 21 56.2	
ECH	Echery	149.36 352	ePKPdf	PKPdf	22 21 43.1	-0.6
ECH			ePKPbc	PKPbc	22 21 48.0	-0.9
ECH			ePKPab	PKPab	22 21 56.2	-0.2
ECH	Echery	149.36 352	PKP	PKPdf	22 21 41.5	-2.2
WATA	Walderalm	149.37 345	⇑iPKPdf	PKPdf	22 21 44.1	+0.1
	comp=N,1.4nm,0.8s,SNR=25					
NVR	Nevrokopi	149.38 324	eP	PKPbc	22 21 48.3	-0.9
MLSB	Milas	149.41 314	eP	PKPbc	22 21 48.8	-0.6
RETA	Reutte	149.41 347	⇑iPKPdf	PKPdf	22 21 43.3	-0.6
	comp=N,2.5nm,1.2s,SNR=13					
WTTA	Wattenberg	149.42 345	⇑iPKPdf	PKPdf	22 21 43.3	-0.8
	comp=N,7.0nm,1.4s,SNR=24					
LDF	La Druitiere	149.44 1	ePKIKP	PKPdf	22 21 42.9	-0.9
	comp=N,6.8nm,1.0s					
KKB	Krupnik	149.45 326	eP	PKPbc	22 21 48.8	-0.5
MOTA	Moosalm	149.47 346	⇓iPKPdf	PKPdf	22 21 43.7	-0.4
	comp=N,5.3nm,1.1s,SNR=25					
MYKA	Terra Mystica	149.47 342	⇓iPKPdf	PKPdf	22 21 41.5	-2.5
	comp=N,1.5nm,0.9s,SNR=22					
THEF	They Montfort	149.50 353	PKP	PKPdf	22 21 41.9	-2.0
ROSF	Rostrenen	149.53 5	ePKIKP	PKPdf	22 21 44.1	+0.2
	comp=N,10nm,1.0s					
MOZS	Mozjanca	149.53 341	ePKPbc	PKPbc	22 21 48.5	-1.0
LIA	Limnos Island	149.57 321	eP	PKPbc	22 21 48.2	-1.4
PDKS	Podkum	149.57 340	iPKPdf	PKPdf	22 21 42.5	-1.6
PDKS			iPKPbc	PKPbc	22 21 48.7	-0.8
GRR	Gorron	149.62 2	ePKIKP	PKPdf	22 21 43.4	-0.7
SFTF	Sexfontaines	149.62 354	ePKIKP	PKPdf	22 21 43.8	-0.3
	comp=N,20nm,1.0s					
ABTA	Abfaltersbach	149.68 344	⇑iPKPdf	PKPdf	22 21 43.3	-1.1
	comp=N,8.5nm,1.4s,SNR=6.3					
HAU	Haudompre	149.68 352	ePKIKP	PKPdf	22 21 43.5	-0.7
	comp=N,12nm,1.1s					
ARG	Arkhangelos	149.71 312	eP	PKPbc	22 21 49.5	-0.6
DAVA	Damuels	149.79 348	⇑iPKPdf	PKPdf	22 21 44.0	-0.6
	comp=N,5.0nm,1.0s,SNR=21					
HINF	Hinteralfeld	149.80 352	ePKIKP	PKPdf	22 21 43.5	-0.9
	comp=N,6.5nm,0.9s					
SMG	Samos	149.81 316	eP	PKPbc	22 21 48.8	-1.5
DAT	Datca	149.84 314	eP	PKPbc	22 21 48.7	-1.8
VOY	Vojsko	149.94 341	ePKPbc	PKPbc	22 21 49.3	-1.1
VOY			e		22 21 56.0	
CHOS	Chios island	149.94 318	eP	PKPbc	22 21 49.5	-1.2
QUIF	Quistinic	149.95 5	ePKIKP	PKPdf	22 21 43.6	-1.0
	comp=N,18nm,1.2s					
BOJS	Bojanci	149.97 339	ePKPdf	PKPdf	22 21 44.0	-0.8
BOJS			iPKPbc	PKPbc	22 21 50.3	-0.1
JAVS	Javornik	150.01 341	iPKPdf	PKPdf	22 21 43.0	-1.9
JAVS			iPKPbc	PKPbc	22 21 49.6	-1.0
JAVS			iPKPab	PKPab	22 21 58.3	-0.9
SOH	Sokhos	150.02 324	eP	PKPbc	22 21 48.7	-2.0
VAY	Valandovo	150.10 326	iPKP	PKPbc	22 21 49.0	-1.9
PLE	Pljevlja	150.17 332	⇓iPKP	PKPbc	22 21 50.4	-0.7
NIS1	Nisyros Isl.	150.18 314	eP	PKPbc	22 21 50.3	-0.9
SKO	Skopje	150.23 328	iPKP	PKPbc	22 21 51.8	+0.6
LOMF	Lomont	150.26 352	PKP	PKPdf	22 21 44.3	-0.9
TRI	Trieste	150.27 341	ePKIKP	PKPdf	22 21 45.7	+0.6
TRI	Trieste	150.27 341	ePKPdf	PKPdf	22 21 45.7	+0.6
TRI			ePKPbc	PKPbc	22 21 49.9	-1.2
PLG	Polygyros	150.27 323	eP	PKPbc	22 21 49.4	-1.9
IVA	Berane	150.30 331	⇓iPKP	PKPbc	22 21 50.8	-0.6
PAIG	Paliouri	150.43 323	eP	PKPbc	22 21 49.7	-1.9
PVY	Plav	150.48 330	ePKP	PKPbc	22 21 50.4	-1.5
UPM	Unac-Piva	150.49 332	⇓iPKP	PKPbc	22 21 50.7	-1.2
LOR	Lormes	150.65 356	ePKIKP	PKPdf	22 21 45.3	-0.4
	comp=N,12nm,1.1s					
TUE	Stuetta	150.68 348	ePKPdf	PKPdf	22 21 45.2	-0.8
TUE			ePKPbc	PKPbc	22 21 52.2	-0.1
KARP	Karpathos	150.72 312	eP	PKPbc	22 21 51.4	-1.1
NKY	Niksic	150.76 332	ePKP	PKPbc	22 21 51.4	-1.1
AOS	Alonnisos	150.81 321	eP	PKPbc	22 21 50.3	-2.2
NKME	Niksic	150.81 332	⇓iPKP	PKPbc	22 21 51.6	-0.9
SSF	Saint Saulge	150.88 356	ePKIKP	PKPdf	22 21 45.7	-0.4
	comp=N,18nm,1.1s					
BRY	Bratogost	150.89 332	⇓iPKP	PKPbc	22 21 51.7	-1.1
TTG	Podgorica	150.94 331	⇓iPKP	PKPbc	22 21 51.9	-0.8
BIA	Bitola	150.98 327	iPKP	PKPbc	22 21 51.1	-1.8
LIT	Litokhoron	151.00 324	eP	PKPbc	22 21 50.9	-2.1
APE	Apeiranthos	151.03 316	⇑PKIKP	PKPbc	22 21 50.7	-2.5
APE	Apeiranthos	151.03 316	eP	PKPbc	22 21 50.7	-2.5
APE	Apeiranthos	151.03 316	⇑iP	PKPbc	22 21 50.7	-2.5
CABF	La Chapelle	151.08 352	ePKIKP	PKPdf	22 21 46.4	-0.1
NEO1	Neokhori	151.11 322	eP	PKPbc	22 21 51.4	-1.9
FNA	Florina	151.12 326	eP	PKPbc	22 21 51.9	-1.4
DRME	Dracevica, Mon	151.16 331	⇓iPKP	PKPbc	22 21 51.9	-1.3
AVF	Avril sur Loir	151.16 356	ePKIKP	PKPdf	22 21 45.8	-0.7
BUM	Brajici-Budva	151.21 331	⇓iPKP	PKPbc	22 21 52.4	-1.0
KZN	Kozani	151.25 325	eP	PKPbc	22 21 51.7	-1.9
HCY	Herceg Novi	151.27 332	⇓iPKP	PKPbc	22 21 52.3	-1.2
SMF	Signal de Mont	151.27 355	ePKIKP	PKPdf	22 21 45.9	-0.8
	comp=N,23nm,1.5s					
ULC	Ulcinj	151.31 330	⇓iPKP	PKPbc	22 21 52.5	-1.1
BGF	Bois d'Agland	151.42 357	ePKIKP	PKPdf	22 21 46.6	-0.3
	comp=N,8.3nm,0.9s					
MFF	Saint Martin d	151.43 1	ePKIKP	PKPdf	22 21 46.3	-0.6
	comp=N,7.3nm,0.9s					
PTL	Penteli	151.52 319	eP	PKPbc	22 21 52.8	-1.4
ZKR	Zakros	151.61 312	eP	PKPdf	22 21 49.7	+2.2
THL	Klokotos Trika	151.63 324	eP	PKPbc	22 21 52.9	-1.4
ATH	Athens Observa	151.66 319	eP	PKPbc	22 21 53.1	-1.4
LKR	Lokris	151.67 321	eP	PKPbc	22 21 52.6	-1.9
TCF	Toulx Ste Croi	151.72 358	ePKIKP	PKPdf	22 21 46.0	-1.4
	comp=N,28nm,1.4s	

comp=N,3.7nm,1.1s,baz=323,slow=1.1,SNR=11
TORD PKPab **PKPab 22 23 49.3 -0.2**
comp=N,2.9nm,0.6s,baz=185,slow=3.7,SNR=18
TORD pPKPab **pPKPab 22 26 04.2 -0.6**
comp=N,0.7nm,0.9s,baz=167,slow=4.6,SNR=1.4
TORD PP **PP 22 27 41.4 +0.2**
comp=N,2.8nm,0.9s,baz=172,slow=4.4,SNR=6.5

---

*JMA **16** 22:07:00.4±0.4, 42°.28N×134°.27E, h507km, M3.3*
*IDC **16** 22:07:00.8±1.3, 42°.39N×133°.91E, h463km±13km, mb2.6/1, mb1 2.9/5, mb1mx2.6/29, mbtmp2.9/5, Error ellipse: s-maj=30.3km s-min=20.5km az=37.0*
*ISCJB **16** 22:07:01.6±0.6, 42°.24N±0°.07×134°.04E±0°.08, h448km, mb3.0/1, Error ellipse: s-maj=9.5km s-min=7.8km az=35.7*
ISC 16 22:07:01.9±1.3, 42°.2N±0°.1×134°.06E±0°.10, h448km, n23, σ1§49/27, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**2.51**	**324**	P	**P**	**22 08 05.1**	**-0.1**
	6.0nm,0.3s,baz=149,slow=5.6,SNR=70						
USRK				S	**S**	**22 08 55.7**	**-1.0**
	baz=118,slow=8.8,SNR=5.3						
JOSM	**Okushiri--Mats**	**4.03**	**90**	P	**P**	**22 08 18.3**	**+1.2**
JSH	**Shimam**	**4.45**	**82**	P	**P**	**22 08 22.0**	**+1.1**
JIW	**Iwasaki**	**4.75**	**108**	P	**P**	**22 08 25.4**	**+1.7**
JSK	**Shakotan**	**4.86**	**74**	P	**P**	**22 08 25.8**	**+1.1**
JKB	**Kayabe**	**5.20**	**91**	P	**P**	**22 08 29.1**	**+1.1**
JOT	**Ohata**	**5.28**	**96**	P	**P**	**22 08 29.9**	**+1.0**
JRG	**Rokugo**	**5.71**	**117**	P	**P**	**22 08 34.8**	**+1.6**
JRG				*e*S	**S**	**22 09 49.3**	**+1.5**
JHK	**Hiroka**	**6.24**	**141**	P	**P**	**22 08 40.1**	**+1.5**
JMK	**Ichinoseki**	**6.33**	**118**	P	**P**	**22 08 39.7**	**+0.1**
JMK				*e*S	**S**	**22 09 58.3**	**-1.1**
MAT	**Matsushiro**	**6.49**	**149**	P	**P**	**22 08 41.7**	**+0.4**
MJAR	**Matsushiro Arr**	**6.49**	**149**	P	**P**	**22 08 43.0**	**+1.7**
	0.5nm,0.3s,baz=328,slow=11,SNR=12						
ASAJ	**Asahikawa**	**6.53**	**70**	P	**P**	**22 08 41.5**	**-0.1**
	5.7nm,0.3s,baz=253,slow=2.7,SNR=30						
JKSM	**Kasumi**	**6.61**	**176**	P	**P**	**22 08 43.6**	**+1.1**
KSRS	**Korea Array**	**6.69**	**227**	P	**P**	**22 08 43.9**	**+0.6**
	0.5nm,0.3s,baz=41,slow=10,SNR=20						
JMM	**Marumori**	**6.73**	**128**	P	**P**	**22 08 43.7**	**0.0**
JMM				*e*S	**S**	**22 10 06.6**	**-0.4**
JAG	**Ashikaga**	**7.11**	**142**	P	**P**	**22 08 48.5**	**+0.7**
JHS	**Saijyo**	**7.22**	**186**	P	**P**	**22 08 50.8**	**+1.8**
JRY	**Ryogami san**	**7.22**	**147**	P	**P**	**22 08 51.5**	**+2.5**
JHO	**Hitachi**	**7.51**	**136**	P	**P**	**22 08 51.0**	**-1.0**
JHO				*e*S	**S**	**22 10 18.2**	**-4.1**
JIE	**Ise**	**8.06**	**164**	P	**P**	**22 08 59.5**	**+1.5**
NEM2	**Nemuro 2**	**8.67**	**78**	P	**P**	**22 09 04.3**	**-0.1**
MKAR	**Makanchi Array**	**36.67**	**295**	P	P	22 13 25.0	-3.9
	0.3nm,0.5s,baz=78,slow=9.0,SNR=5.1						

IDC 16 22:10:16.3±32.0, 17°.05S×179°.25W, h475km±324km, mb3.4/3, mb1 3.6/3, mb1mx3.0/19, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/15, Error ellipse: s-maj=176.5km s-min=119.2km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.20**	**175**	LR	LR	22 17 16.6	
	comp=Z,299nm,18.2s,baz=269,slow=34						
STKA	**Stephens Creek**	**38.35**	**240**	P	P	22 16 55.3	-0.3
	2.6nm,0.7s,baz=96,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**44.01**	**259**	P	P	22 17 41.0	+0.1
	0.9nm,0.5s,baz=90,slow=7.8,SNR=7.7						
ASAR	**Alice Springs**	**44.26**	**253**	P	P	22 17 42.8	-0.1
	9.2nm,0.6s,baz=88,slow=8.0,SNR=43						
BRTR	**Keskin Array B**	**143.62**	**315**	PKP	PKPab	22 28 54.8	-0.5
	0.9nm,0.9s,baz=48,slow=1.8,SNR=3.8						
MMAI	**Mount Meron Ar**	**145.01**	**304**	PKPbc	PKPdf	22 28 58.9	-0.5
	0.6nm,0.4s,baz=69,slow=4.6,SNR=4.2						
GERES	**GERESS Array B**	**146.58**	**344**	PKPbc	PKPbc	22 29 04.0	0.0
	0.6nm,0.7s,baz=46,slow=3.9,SNR=5.2						

IDC 16 22:12:42.5±31.0, 16°.17S×178°.93W, h0km, mb4.5/4, mb1 4.7/4, mb1mx3.9/20, mbtmp4.5/4, Error ellipse: s-maj=583.0km s-min=126.8km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.06**	**239**	P	P	22 20 11.0	-0.4
	3.4nm,0.4s,baz=73,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**44.48**	**258**	P	P	22 20 56.6	+0.6
	1.6nm,0.4s,baz=91,slow=7.9,SNR=44						
ASAR	**Alice Springs**	**44.81**	**253**	P	P	22 20 58.5	-0.2
	20nm,0.5s,baz=89,slow=7.8,SNR=187						
FITZ	**Fitzroy Crossi**	**52.84**	**259**	P	P	22 21 59.8	-0.6
	0.9nm,0.4s,baz=79,slow=7.4,SNR=5.6						

---

*JMA **16** 22:22:01.3±0.1, 36°.69N×141°.23E, h46km±1km, M3.4*
*IDC **16** 22:22:01.7±7.9, 36°.49N×141°.39E, h48km±60km, mb3.7/3, mb1 3.6/4, mb1mx3.2/27, mbtmp3.6/4, ML3.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/51, Error ellipse: s-maj=78.2km s-min=61.1km az=8.0*
ISC 16 22:22:00.3±2.7, 36°.73N±0°.08×141°.4E±0°.1, h25km±13km, n14, σ0§65/21, mb3.5/3, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**310**	∥P	**Pn**	**22 22 12.5**	**-0.5**
ONAJ				*e*S	**Sn**	**22 22 20.7**	**-0.9**
JHO	**Hitachi**	**0.64**	**259**	∥P	**Pb**	**22 22 12.7**	**-0.2**
JHO				*e*S	**Sb**	**22 22 20.9**	**-0.5**
JFK	**Kawauchi**	**0.74**	**329**	∥P	**Pn**	**22 22 15.1**	**-0.1**
JFK				*e*S	**Sb**	**22 22 24.8**	**+0.5**
JFT	**Otama**	**1.12**	**314**	∥P	**Pb**	**22 22 21.2**	**+0.1**
JFT				*e*S	**Sb**	**22 22 35.7**	**+0.3**
JMM	**Marumori**	**1.21**	**339**	∥P	**Pn**	**22 22 21.8**	**+0.1**
JMM				*e*S	**Sb**	**22 22 37.6**	**-0.3**
JFY	**Yanaizu**	**1.48**	**298**	P	**Pn**	**22 22 25.9**	**+0.6**
JAG	**Ashikaga**	**1.56**	**259**	∥P	**Pn**	**22 22 25.9**	**-0.5**
JKT	**Katashina**	**1.69**	**272**	P	**Pn**	**22 22 28.6**	**+0.3**
JKT				*e*S	**Sn**	**22 22 47.9**	**-1.2**
MJAR	**Matsushiro Arr**	**2.53**	**267**	P	**Pn**	**22 22 40.3**	**+0.5**
	6.3nm,0.3s,baz=90,slow=15,SNR=51						
MJAR				S	**Sn**	**22 23 10.7**	**+0.8**
	3.8nm,0.3s,baz=88,slow=15,SNR=5.5						
MAT	**Matsushiro**	**2.53**	**267**	P	**Pn**	**22 22 40.7**	**+0.8**
MAT				S	**Sn**	**22 23 10.5**	**+0.6**
ASAJ	**Asahikawa**	**7.43**	**7**	LR	LR	22 27 47.6	
	comp=Z,59nm,19.5s,baz=213,slow=45						
SONM	**Songino Array**	**27.91**	**304**	P	**P**	**22 27 49.4**	**+1.0**
	0.7nm,0.8s,baz=109,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**44.23**	**302**	P	**P**	**22 30 06.9**	**-0.6**
	0.3nm,0.6s,baz=90,slow=9.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**46.14**	**308**	P	**P**	**22 30 22.2**	**-0.3**
	2.8nm,0.2s,baz=85,slow=7.8,SNR=4.5						

IDC 16 22:22:16.6±3.1, 1°.00S×100°.01E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.4/24, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=129.3km s-min=20.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.36**	**357**	P	P	22 26 43.9	-0.1
	0.1nm,0.3s,baz=190,slow=9.8,SNR=2.6						
WRA	**Warramunga Arr**	**38.49**	**122**	P	P	22 29 40.9	0.0
	0.3nm,0.6s,baz=304,slow=9.1,SNR=4.3						
ASAR	**Alice Springs**	**39.83**	**127**	P	P	22 29 52.0	-0.1
	0.4nm,0.8s,baz=301,slow=7.5,SNR=2.8						
SONM	**Songino Array**	**48.95**	**6**	P	P	22 31 04.8	0.0
	0.2nm,0.6s,baz=188,slow=8.7,SNR=2.3						
MKAR	**Makanchi Array**	**50.08**	**344**	P	P	22 31 14.3	+1.1
	0.5nm,0.6s,baz=151,slow=7.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**56.20**	**349**	P	P	22 31 57.2	-1.0
	0.6nm,0.5s,baz=166,slow=3.0,SNR=3.1						
TXAR	**Lajitas Array**	**143.90**	**37**	PKP	PKPbc	22 41 53.2	+0.7
	0.1nm,0.4s,baz=282,slow=0.8,SNR=3.4						

IDC 16 22:32:06.1±2.2, 0°.87N×126°.57E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/15, Error ellipse: s-maj=185.0km s-min=26.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**6.24**	**351**	LR	LR	22 35 39.4	
	comp=Z,54nm,20.0s,baz=218,slow=34						
WRA	**Warramunga Arr**	**22.04**	**160**	P	P	22 37 01.8	-0.7
	0.4nm,0.5s,baz=339,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.41**	**164**	P	P	22 37 36.0	+0.5
	0.3nm,0.4s,baz=343,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**59.81**	**326**	P	P	22 42 13.2	-0.1
	0.3nm,0.5s,baz=123,slow=8.3,SNR=4.5						

---

*IDC **16** 22:32:42.6±1.3, 33°.92N×25°.37E, h0km, mb3.4/4, mb1 3.4/8, mb1mx3.4/28, mbtmp3.3/8, ML3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/36, Error ellipse: s-maj=34.4km s-min=20.4km az=157.0*
*ISCJB **16** 22:32:44.0±0.8, 33°.95N±0°.05×25°.48E±0°.06, h17km, mb3.3/4, MS3.4/1, Error ellipse: s-maj=7.6km s-min=6.5km az=39.4*
*CSEM **16** 22:32:46.0, 34°.13N×25°.45E, h13km, MD3.4, After ATH*
*ATH **16** 22:32:46.0, 34°.13N×25°.45E, h13km±3km, MD3.4/10*
ISC 16 22:32:45.0±1.0, 34°.07N±0°.07×25°.50E±0°.04, h17km, n31, σ1§25/36, mb3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.09**	**359**	*e*PG	**Pb**	**22 33 04.9**	**-0.6**
LAST				*e*SB	**Sg**	**22 33 19.5**	**-1.0**
LAST	**Lasithi**	**1.09**	**359**	*e*Pg	**Pb**	**22 33 04.9**	**-0.6**
LAST				*e*Sb	**Sg**	**22 33 19.5**	**-1.0**
SIVA	**Sivas**	**1.10**	**329**	*e*PN	**Pb**	**22 33 05.8**	**+0.1**
SIVA				*e*SB	**Sn**	**22 33 20.4**	**-0.2**
SIVA	**Sivas**	**1.10**	**329**	*e*Pn	**Pb**	**22 33 05.8**	**+0.1**
SIVA				*e*Sb	**Sn**	**22 33 20.4**	**-0.2**
NPS	**Neapolis**	**1.20**	**4**	*e*PB	**Pn**	**22 33 06.7**	**-0.3**
NPS	**Neapolis**	**1.20**	**4**	*e*Pb	**Pn**	**22 33 06.7**	**-0.3**
ZKR	**Zakros**	**1.20**	**29**	*e*PB	**Pg**	**22 33 08.7**	**+0.5**
ZKR				*e*SB	**Sg**	**22 33 24.1**	**+0.2**
ZKR	**Zakros**	**1.20**	**29**	*e*Pb	**Pg**	**22 33 08.7**	**+0.5**
ZKR				*e*Sb	**Sg**	**22 33 24.1**	**+0.2**
VAM	**Vamos**	**1.71**	**322**	*e*PG	**Pb**	**22 33 15.7**	**-0.3**
VAM				*e*SB	**Sg**	**22 33 39.1**	**-1.1**
VAM	**Vamos**	**1.71**	**322**	*e*Pg	**Pb**	**22 33 15.7**	**-0.3**
VAM				*e*Sb	**Sg**	**22 33 39.1**	**-1.1**
KARP	**Karpathos**	**2.01**	**42**	*e*PN	**Pb**	**22 33 21.8**	**+0.6**
KARP	**Karpathos**	**2.01**	**42**	*e*Pn	**Pb**	**22 33 21.8**	**+0.6**
SANT	**Santorini**	**2.30**	**359**	*e*PN	**Pb**	**22 33 25.7**	**-0.4**
SANT	**Santorini**	**2.30**	**359**	*e*Pn	**Pb**	**22 33 25.7**	**-0.4**
KYTH	**Kithira**	**2.99**	**318**	*e*PN	**Pn**	**22 33 33.9**	**+2.2**
KYTH	**Kithira**	**2.99**	**318**	*e*Pn	**Pn**	**22 33 33.9**	**+2.2**
APE	**Apeiranthos**	**3.00**	**0**	*e*PB	**Pb**	**22 33 36.0**	**-1.9**
APE	**Apeiranthos**	**3.00**	**0**	*e*Pb	**Pb**	**22 33 36.0**	**-1.9**
ARG	**Arkhangelos**	**3.04**	**44**	*e*PN	Pn	22 33 36.0	+3.7
ARG	**Arkhangelos**	**3.04**	**44**	*e*Pn	Pn	22 33 36.0	+3.7
VLI	**Veliai**	**3.37**	**322**	*e*PN	**Pn**	**22 33 39.7**	**+2.8**
VLI	**Veliai**	**3.37**	**322**	*e*Pn	**Pn**	**22 33 39.7**	**+2.8**
MMAI	**Mount Meron Ar**	**8.33**	**94**	Pn	**Pn**	**22 34 45.8**	**+0.7**
	0.6nm,0.3s,baz=271,slow=12,SNR=4.6						
MMAI				Sn	**Sn**	**22 36 16.6**	**-2.4**
	0.7nm,0.3s,baz=235,slow=28,SNR=3.7						
BRTR	**Keskin Array B**	**8.62**	**47**	Pn	Pn	22 34 52.8	+3.6
	0.1nm,0.3s,baz=220,slow=13,SNR=4.3						
AKASG	**Malin Array Be**	**16.84**	**8**	Pn	**P**	**22 36 41.6**	**-0.3**
	0.7nm,0.3s,baz=200,slow=11,SNR=5.6						
GERES	**GERESS Array B**	**17.18**	**333**	P	**P**	**22 36 46.5**	**+0.7**
	0.1nm,0.3s,baz=146,slow=12,SNR=5.5						
ESDC	**Sonseca Array**	**24.16**	**292**	P	**P**	**22 37 59.2**	**-1.2**
	0.4nm,0.7s,baz=83,slow=9.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**22 38 52.3**	**-0.8**
	0.4nm,0.7s,baz=31,slow=7.6,SNR=2.7						
BORG	**Borgarnes**	**41.64**	**332**	LR	LR	22 56 53.3	
	comp=Z,49nm,19.1s,baz=13,slow=35						
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**	**22 40 53.9**	**+1.2**
	0.8nm,0.5s,baz=277,slow=6.5,SNR=13						
SONM	**Songino Array**	**59.97**	**50**	P	**P**	**22 42 51.7**	**+1.2**
	0.1nm,0.3s,baz=261,slow=5.7,SNR=2.9						

IDC 16 22:35:26.1±3.9, 1°.50S×99°.42E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/24, mbtmp3.3/5, ML2.3/1, Error ellipse: s-maj=169.9km s-min=21.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.30**	**353**	Pn	Pn	22 36 31.6	-1.3
	0.2nm,0.3s,baz=182,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**38.74**	**121**	P	P	22 42 51.3	-1.2
	0.8nm,1.0s,baz=304,slow=9.0,SNR=7.6						
ASAR	**Alice Springs**	**40.01**	**126**	P	P	22 43 04.1	+1.0
	0.1nm,0.3s,baz=290,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	22 44 24.9	-0.3
	0.2nm,0.4s,baz=166,slow=8.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	P	22 45 10.4	0.0
	0.4nm,0.6s,baz=166,slow=7.4,SNR=2.6						

IDC 16 22:43:18.4±2.6, 1°.46S×99°.60E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/25, mbtmp3.7/7, Error ellipse: s-maj=113.3km s-min=20.6km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.80**	**358**	P	P	22 47 50.4	-0.2
	baz=185,slow=9.1,SNR=5.6						
WRA	**Warramunga Arr**	**38.61**	**121**	P	P	22 50 43.4	-0.4
	0.5nm,0.6s,baz=296,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	22 50 54.6	+0.1
	0.3nm,0.5s,baz=308,slow=7.7,SNR=4.1						
SONM	**Songino Array**	**49.45**	**6**	P	P	22 52 10.8	+0.4
	0.5nm,0.4s,baz=187,slow=10.0,SNR=5.8						
MKAR	**Makanchi Array**	**50.40**	**345**	P	P	22 52 18.1	+0.5
	1.0nm,0.5s,baz=160,slow=8.4,SNR=17						
KURBB	**Kurchatov Arra**	**54.92**	**344**	P	P	22 52 50.9	0.0
	0.2nm,0.3s,baz=157,slow=6.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**56.56**	**350**	P	P	22 53 01.6	-1.1
	1.7nm,0.6s,baz=180,slow=4.4,SNR=8.7						
TXAR	**Lajitas Array**	**144.51**	**36**	PKP	PKPdf	23 02 57.5	-0.4
	0.4nm,0.4s,baz=288,slow=2.8,SNR=10.0						

---

*ISCJB **16** 22:48:37.8±1.4, 1°.47S±0°.03×99°.31E±0°.04, h9km±8km, mb4.6/52, MS3.9/6, Error ellipse: s-maj=6.7km s-min=4.5km az=142.1*
*IDC **16** 22:48:37.6±0.5, 1°.43S×99°.44E, h0km, mb4.3/28, mb1 4.4/30, mb1mx4.4/34, mbtmp4.3/30, ML4.6/1, Error ellipse: s-maj=17.0km s-min=11.5km az=55.0*
*NEIC **16** 22:48:39.2±0.2, 1°.46S×99°.38E, h10km, mb4.7/11, Error ellipse: s-maj=8.8km s-min=5.6km az=62.0*
*DJA **16** 22:48:41.3±1.4, 1°.5±4°.×9°.9E±°., h16km±15km, M4.8/14, mb4.8/12, mB5.2/4, MLv4.9/14, Mw(mB)4.6/4*
*AUST **16** 22:48:41.8, 1°.40S×99°.49E, h0km*
*BJI **16** 22:48:43.0, 1°.54S×98°.94E, h42km, mB4.8/12, mb4.7/23, Ms4.4/13, Ms7 4.1/14*
*BKK **16** 22:48:55.0±1.6, 1°.5±15°.×10°.0E±°., h5km, M4.5/7, mB6.6/2, mb4.5/7, MLv4.5/5, Mw(mB)6.4/2*
ISC 16 22:48:43.5±0.4, 1°.50S±0°.04×99°.29E±0°.06, h36km±2km, h36km:pP-P, n175, σ1§51/196, mb4.5/52, MS4.0/6, 4C-6D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.52**	**47**	P	**Pn**	**22 49 05.0**	**-3.1**
PPI	**Padang Panjang**	**1.52**	**47**	P	**Pn**	**22 49 05.0**	**-3.1**
	baz=1.3,SNR=163						
BKNI	**Bangkinang**	**2.52**	**44**	P	**Pn**	**22 49 20.5**	**-1.4**
BKNI	**Bangkinang**	**2.52**	**44**	P	**Pn**	**22 49 22.9**	**+1.0**
	baz=2.3,SNR=17						
RGRI	**Rengat**	**3.25**	**69**	P	**Pn**	**22 49 30.0**	**-2.0**
MASI	**Maura Aman, Be**	**3.37**	**119**	P	**Pn**	**22 49 33.4**	**-0.2**
KSI	**Kapahiang**	**3.93**	**123**	P	**Pn**	**22 49 41.0**	**-0.4**
PSI	**Prapat**	**4.29**	**355**	Pn	Pn	22 49 42.7	-3.7
PSI	**Prapat**	**4.29**	**355**	Pn	Pn	22 49 42.7	-3.7
	0.7nm,0.3s,baz=169,slow=8.8,SNR=13						
PSI	**Prapat**	**4.29**	**355**	P	**Pn**	**22 49 44.2**	**-2.2**
	baz=4.1,SNR=7.5						
MNAI	**Manna**	**4.63**	**128**	P	**Pn**	**22 49 51.0**	**0.0**
MNAI	**Manna**	**4.63**	**128**	P	**Pn**	**22 49 50.5**	**-0.6**
	baz=4.5,SNR=16						
MNAI				S	**Sn**	**22 50 45.3**	**+1.6**
	baz=4.5,SNR=5.4						
TSI	**Tuntungan**	**5.02**	**352**	P	**Pn**	**22 49 56.1**	**-0.2**
FRIM	**Kepong**	**5.25**	**26**	P	**Pn**	**22 49 58.5**	**-1.0**
MYKOM	**Kota Tinggi**	**5.61**	**54**	P	**Pn**	**22 50 03.1**	**-1.4**
MYKOM	**Kota Tinggi**	**5.61**	**54**	P	**Pn**	**22 50 02.7**	**-1.7**
	74nm,0.8s,0.5nm						
LWLI	**Liwa**	**5.91**	**126**	P	**Pn**	**22 50 08.0**	**-0.6**
	232nm,0.7s,1.5nm						
IPM	**Ipoh**	**6.19**	**16**	*e*Pn	**Pn**	**22 50 12.6**	**+0.2**
IPM	**Ipoh**	**6.19**	**16**	P	**Pn**	**22 50 13.3**	**+0.9**
IPM	**Ipoh**	**6.19**	**16**	P	**Pn**	**22 50 12.4**	**0.0**
	119nm,0.9s,892nm0.3nm						
KLSI		**6.29**	**120**	P	**Pn**	**22 50 13.7**	**-0.1**
	48nm,0.8s,0.2nm						
KLI	**Kotabumi**	**6.49**	**121**	P	**Pn**	**22 50 14.8**	**-1.7**
	100nm,0.9s,4μm0.5nm						
KASI	**Kota Agung**	**6.56**	**128**	P	**Pn**	**22 50 16.7**	**-0.7**
	71nm,0.7s,3μm0.8nm						
KULM	**Kulim**	**6.88**	**11**	*e*Pn	**Pn**	**22 50 21.1**	**-0.8**
	46nm,0.8s						
KULM				*e*Sn	**Sn**	**22 51 38.3**	**-0.7**
KULM	**Kulim**	**6.88**	**11**	P	**Pn**	**22 50 23.4**	**+1.5**
KTGM	**Kuala Trenggan**	**7.80**	**30**	P	**Pn**	**22 50 33.5**	**-1.0**
BSI	**Banda Aceh**	**8.01**	**330**	P	**Pn**	**22 50 35.3**	**-2.1**
	25nm,1.1s,0.1nm						
SKLT	**Songkhla**	**8.72**	**9**	P	Pn	22 50 52.9	+5.8
	31nm,1.4s,0.1nm						
LEM	**Lembang**	**9.85**	**123**	P	Pn	22 51 08.9	+6.1
CISI	**Cisompet, Garu**	**10.41**	**126**	P	**Pn**	**22 51 09.0**	**-1.4**
	71nm,0.7s						
CISI	**Cisompet, Garu**	**10.41**	**126**	P	**Pn**	**22 51 07.9**	**-2.5**
	baz=10,SNR=4.7						
CISI				S	Sn	22 52 59.5	-6.4
	baz=10,SNR=4.2						
SBUM	**Sibu**	**13.51**	**73**	P	**Pn**	**22 51 50.6**	**-2.2**
	14nm,1.3s						
KKM	**Kota Kinabalu**	**18.49**	**66**	P	**Pn**	**22 52 57.6**	**+0.5**
SDKM	**Sandakan**	**19.24**	**68**	P	**P**	**22 53 04.1**	**-0.9**
KDM	**Kudat**	**19.40**	**64**	P	**Pn**	**22 53 07.6**	**-0.4**
TSM	**Tawau**	**19.44**	**73**	P	**P**	**22 53 06.8**	**-0.4**
MMSI	**Mamuju**	**19.64**	**94**	P	**P**	**22 53 07.9**	**-1.5**
	56nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.84**	**359**	P	**P**	**22 53 10.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**19.84**	**359**	P	**P**	**22 53 10.1**	**-1.3**
	0.8nm,0.3s,baz=188,slow=10.0,SNR=16						
CMMT	**Chiang Mai**	**20.19**	**359**	P	Pn	22 53 19.3	+2.0
	14nm,0.7s						
CHTO	**Chiang Mai**	**20.19**	**359**	*e*P	**P**	**22 53 13.2**	**-2.0**
	8.4nm,0.7s						
CHTO	**Chiang Mai**	**20.19**	**359**	P	Pn	22 53 17.9	+0.6
CHTO	**Chiang Mai**	**20.19**	**359**	P	Pn	22 53 19.7	+2.4
	15nm,0.8s						
MYLDM	**Lahad Datu**	**20.31**	**71**	P	**P**	**22 53 16.9**	**+0.3**
MYLDM	**Lahad Datu**	**20.31**	**71**	P	**P**	**22 53 15.1**	**-1.4**
	24nm,0.9s						
TTSI	**Tana Toraja**	**20.57**	**95**	P	Pn	22 53 21.4	-0.4
KAPI	**Kappang**	**20.72**	**100**	*e*P	**P**	**22 53 20.9**	**-0.1**
	17nm,0.8s						
BKSI	**Bulukumba**	**21.14**	**101**	P	**P**	**22 53 24.2**	**-1.3**
CMAI	**Chiengmai2**	**21.30**	**359**	P	P	22 53 41.1	+14
CRAI	**Chiangrai**	**21.62**	**3**	P	P	22 53 38.8	+8.2
	47μm,1.3s						
QIZ	**Qiongzhong**	**22.89**	**26**	P	**P**	**22 53 44.3**	**+0.1**
QIZ				S	**S**	**22 57 52.1**	**+0.5**
QIZ				LR	LR		
	comp=N,190nm,9.6s						
QIZ				LR	LR		
	comp=Z,210nm,13.0s						
KMI	**Kunming**	**26.68**	**7**	P	**P**	**22 54 21.1**	**+1.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MBWA	**Marble Bar**	**27.91**	**136**	*e*P	**P**	**22 54 31.3**	**+0.8**
	comp=Z,38nm,1.5s						
GYA	**Guiyang**	**28.70**	**14**	*e*P	**P**	**22 54 39.5**	**+2.1**
GYA				pP	**pP**	**22 54 49.8**	**+2.1**
GYA				sP	sP	22 54 55.3	+3.3
GYA				PP	**PnPn**	**22 55 32.8**	**+4.0**
GYA				PcP	**PcP**	**22 57 48.9**	**+1.3**
GYA				S	**S**	**22 59 25.3**	**+1.0**
GYA				sS	**sS**	**22 59 42.1**	**+0.8**
GYA				SS	**SnSn**	**23 00 54.8**	**+7.9**
GYA				ScP	**ScP**	**23 01 25.0**	**-1.4**
GYA				ScS	**ScS**	**23 05 19.4**	**-0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,14.9s						
GYA				LR	LR		
	comp=E,380nm,15.4s						
GYA				LR	LR		
	comp=

HHC ScS **ScS** **23 06 41.1 -0.3**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.5s
HHC LR LR
comp=N,300nm,16.9s
HHC LR LR
comp=E,190nm,17.1s
HHC LR LR
comp=Z,330nm,16.7s
JNU Nakatsue 45.54 38 *eP* **P** **22 56 58.1 -1.8**
comp=Z,4.3nm,0.7s
KSH Kashi 46.08 335 *eP* **P** **22 57 05.1 +0.9**
WMQ Urumqi 46.30 348 P **P** **22 57 06.5 +0.7**
WMQ pP **pP** **22 57 14.3 -2.1**
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,73nm,5.0s
WMQ LR LR
comp=N,32nm,19.0s
WMQ LR LR
comp=E,24nm,22.0s
WMQ LR LR
comp=Z,28nm,20.0s
KSAR Wonju Array Be 46.93 31 P **P** **22 57 08.8 -1.9**
KSRS Korea Array 46.96 31 P **P** **22 57 08.8 -2.1**
comp=Z,1.6nm,0.6s,baz=224,slow=8.2,SNR=10.0
TKM2 Tokmak 2 49.10 337 *eP* **P** **22 57 26.9 -0.8**
comp=Z,6.7nm,0.8s
SONM Songino Array 49.52 6 P **P** **22 57 30.0 -0.7**
SONM PcP **PcP** **22 58 52.1 -0.1**
SONM Songino Array 49.52 6 P **P** **22 57 30.0 -0.7**
comp=Z,1.5nm,0.6s,baz=188,slow=9.1,SNR=10
SONM PcP **PcP** **22 58 52.1 -0.1**
comp=Z,1.3nm,0.6s,baz=179,slow=3.0,SNR=3.5
EKS2 Erkin-Say 49.62 335 *eP* **P** **22 57 30.8 -0.8**
comp=Z,7.3nm,0.8s
ULN Ulaanbaatar 49.63 7 *eP* **P** **22 57 30.2 -1.4**
comp=Z,6.5nm,1.3s
STKA Stephens Creek 50.01 132 P **P** **22 57 34.5 -0.1**
STKA Stephens Creek 50.01 132 P **P** **22 57 34.5 -0.1**
comp=Z,3.7nm,0.8s,baz=331,slow=6.2,SNR=5.8
MK31 Makanchi Array 50.36 345 *eP* **P** **22 57 36.8 -0.2**
MKAR Makanchi Array 50.36 345 *eP* **P** **22 57 37.1 +0.1**
MKAR Makanchi Array 50.36 345 P **P** **22 57 37.0 -0.1**
comp=Z,4.1nm,0.7s,baz=149,slow=7.6,SNR=17
CN2 Changchun 50.82 24 *eP* P 22 57 45.4 +4.9
CN2 epP pP 22 57 55.5 +4.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CMSA Cobar Meteorol 52.98 129 P **P** **22 57 57.0 +0.2**
baz=53,SNR=5.0
OPO Ambohidratompo 53.79 248 P **P** **22 58 03.9 +0.7**
OPO Ambohidratompo 53.79 248 P **P** **22 58 03.9 +0.7**
comp=Z,5.6nm,0.9s,baz=94,slow=21,SNR=3.7
USRK Ussuriysk Arra 54.06 29 P **P** **22 58 02.9 -1.6**
comp=Z,3.4nm,0.7s,baz=224,slow=3.8,SNR=9.9
KURBB Kurchatov Arra 54.88 344 P **P** **22 58 09.9 -0.3**
comp=Z,1.6nm,0.8s,baz=162,slow=7.0,SNR=9.4
KURK Kurchatov 54.93 344 P **P** **22 58 09.9 -0.7**
ZAA0 Zalesovo Array 56.55 350 *eP* **P** **22 58 21.4 -0.8**
ZALV Zalesovo Beam 56.55 350 P **P** **22 58 21.7 -0.5**
ZALV Zalesovo Beam 56.55 350 P **P** **22 58 21.7 -0.5**
comp=Z,8.9nm,0.8s,baz=177,slow=5.7,SNR=29
KBD Kabd 57.96 306 *eP* **P** **22 58 32.8 +0.2**
KBD AMb AMB 22 58 33.4
comp=Z,20nm,0.8s
RDF Al-Radifah 57.98 306 *eP* **P** **22 58 32.8 -0.1**
RDF AMb AMB 22 58 34.4
comp=Z,22nm,0.8s
UMR Umm Al-Rimmam 58.09 306 *eP* **P** **22 58 33.5 -0.1**
UMR AMb AMB 22 58 34.2
comp=Z,31nm,0.8s
NAY Al-Naaiem 58.35 306 *eP* **P** **22 58 35.0 -0.5**
NAY AMb AMB 22 58 36.2
comp=Z,12nm,0.9s
BVAR Borovoye Array 59.48 340 P **P** **22 58 41.7 -1.1**
BVAR Borovoye Array 59.48 340 P **P** **22 58 41.7 -1.1**
comp=Z,1.9nm,0.7s,baz=141,slow=7.3,SNR=9.9
ABKAR Akbulak array 60.87 332 *eP* **P** **22 58 51.6 -0.7**
KMBO Kilima Mbogo 62.02 270 P **P** **22 59 01.9 +0.7**
KMBO Kilima Mbogo 62.02 270 P **P** **22 59 01.9 +0.7**
comp=Z,4.5nm,0.9s,baz=232,slow=23,SNR=10
AKTO Aktyubinsk 62.58 332 P **P** **22 59 03.1 -0.8**
AKTO Aktyubinsk 62.58 332 P **P** **22 59 03.1 -0.8**
comp=Z,1.3nm,0.7s,baz=85,slow=8.8,SNR=4.4
KBZ Khabaz 67.47 319 P **P** **22 59 35.2 -0.5**
KBZ Khabaz 67.47 319 P **P** **22 59 35.2 -0.5**
comp=Z,5.7nm,0.8s,baz=116,slow=5.7,SNR=15
ASF Jabal al Asfar 67.72 306 P **P** **22 59 37.5 -0.2**
ASF Jabal al Asfar 67.72 306 P **P** **22 59 37.5 -0.2**
comp=Z,2.9nm,1.0s,baz=202,slow=5.1,SNR=4.2
EIL Elat 68.66 303 P **P** **22 59 44.2 +0.6**
EIL Elat 68.66 303 P **P** **22 59 44.2 +0.6**
comp=Z,7.8nm,0.7s,baz=168,slow=3.4,SNR=8.2
MMAI Mount Meron Ar 69.17 306 P **P** **22 59 47.4 +0.6**
MMAI Mount Meron Ar 69.17 306 P **P** **22 59 47.4 +0.6**
comp=Z,1.9nm,0.6s,baz=92,slow=7.5,SNR=4.9
MAW Mawson 70.59 194 P **P** **22 59 55.3 +0.6**
MAW Mawson 70.59 194 P **P** **22 59 55.3 +0.6**
comp=Z,2.7nm,0.8s,baz=32,slow=7.4,SNR=5.4
BRTR Keskin Array B 72.46 313 P **P** **23 00 05.8 -0.9**
BRTR Keskin Array B 72.46 313 P **P** **23 00 05.8 -0.9**
comp=Z,1.9nm,0.8s,baz=135,slow=6.9,SNR=9.5
PETK Petropavlovsk- 72.85 33 P **P** **23 00 06.7 -1.8**
PETK Petropavlovsk- 72.85 33 P **P** **23 00 06.7 -1.8**
comp=Z,1.5nm,0.4s,baz=215,slow=12,SNR=2.7
ABKASG Malin Array Be 78.66 322 P **P** **23 00 39.9 -1.9**
ABKASG Malin Array Be 78.66 322 P **P** **23 00 39.9 -1.9**
comp=Z,0.9nm,0.6s,baz=80,slow=5.9,SNR=5.0
VRI Vrincioaia 79.00 317 ⇑ *iP* **P** **23 00 43.9 0.0**
PLOR Plostina 79.05 317 ⇑ *iP* **P** **23 00 44.3 +0.1**
TESR Tescani 79.21 318 ⇑ *iP* **P** **23 00 44.8 -0.2**
MLR Muntele Rosu 79.45 317 ⇓ *iP* **P** **23 00 46.9 +0.4**
MLR Muntele Rosu 79.45 317 P **P** **23 00 45.7 -0.8**
MLR Muntele Rosu 79.45 317 P **P** **23 00 45.7 -0.8**
comp=Z,1.8nm,0.9s,baz=146,slow=5.3,SNR=12
VOIR 80.05 317 ⇑ *iP* **P** **23 00 48.7 -1.0**
ARR Arges 80.33 316 ⇑ *iP* **P** **23 00 50.6 -0.5**
BURAR Bucovina Array 80.42 319 ⇓ *iP* **P** **23 00 52.3 +0.7**
VTS Vitosha 80.79 313 ⇓ *iP* **P** **23 00 53.0 -0.8**
BZS Buzias 82.46 316 ⇓ *iP* **P** **23 01 02.5 +0.2**
KOLS Kolonicke sedl 82.61 320 *eP* **P** **23 01 04.1 +1.0**
KOLS epP **pP** **23 01 12.7 -1.7**
VNDA Vanda 82.78 169 *eP* **P** **23 01 04.5 +1.0**
VNDA Vanda 82.78 169 P **P** **23 01 03.5 +0.1**
comp=Z,2.3nm,1.0s,baz=288,slow=3.2,SNR=11
CRVS Cervenica-Dubn 83.13 319 *eP* **P** **23 01 06.1 +0.3**
FINES FINESS Array B 83.34 332 P **P** **23 01 06.5 0.0**
FINES FINESS Array B 83.34 332 P **P** **23 01 06.5 0.0**
comp=Z,2.4nm,0.6s,baz=94,slow=4.3,SNR=8.7
STHS Stebnicka Huta 83.36 320 *eP* **P** **23 01 08.2 +1.2**
STHS epP **pP** **23 01 17.3 -1.0**
KAF Kangasniemi 83.42 333 *ep* P 23 01 03.9 -3.0
comp=Z,0.5nm,0.4s
KECS Kecovo 83.70 319 *eP* **P** **23 01 09.2 +0.5**
KECS epP **pP** **23 01 17.1 -2.9**
PKSM Moragy 84.60 317 ⇓ *iP* **P** **23 01 13.4 +0.1**
SMOL Smolenice 85.72 319 *eP* **P** **23 01 20.9 +2.0**
ARCES ARCESS Array B 85.77 340 P **P** **23 01 18.8 +0.1**
ARCES ARCESS Array B 85.77 340 P **P** **23 01 18.8 +0.1**
comp=Z,2.7nm,0.9s,baz=72,slow=16,SNR=4.1
ZST Bratislava 85.89 332 *eP* **P** **23 01 19.9 +0.2**
SOKA Soboth 87.13 317 *i P* **P** **23 01 26.5 +0.5**
SNR=6.0
AQU L'Aquila 87.95 312 *eP* **P** **23 01 30.7 +0.8**
comp=Z,11nm,0.9s
GERES GERESS Array B 88.21 319 P **P** **23 01 31.5 +0.4**
GERES GERESS Array B 88.21 319 P **P** **23 01 31.5 +0.4**
comp=Z,1.4nm,0.7s,baz=87,slow=4.0,SNR=16
BRG Berggiesshubel 88.21 321 *i P* **P** **23 01 31.5 +0.6**
comp=Z,2.8nm,0.8s
BRG *e* 23 01 40.3
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 88.31 319 *eP* P 23 01 25.0 -6.5
CLL Collm 88.83 321 *eP* **P** **23 01 34.0 +0.2**
CLL *e* 23 01 44.0
FUORN Ofenpass-Fuorn 90.41 316 *eP* **P** **23 01 42.6 +0.9**
comp=Z,10.0nm,1.3s
KEST Kesra 90.82 306 P **P** **23 01 45.0 +1.3**
KEST Kesra 90.82 306 P **P** **23 01 45.0 +1.3**
comp=Z,2.6nm,0.9s,baz=251,slow=1.0,SNR=7.7
NVAR Mina Array Bea 129.66 38 PKP **PKPdf** **23 07 50.6 +1.0**
comp=Z,0.4nm,0.7s,baz=232,slow=1.7,SNR=3.8
PDAR Pinedale Array 131.48 28 PKP **PKPdf** **23 07 52.5 -0.5**
PDAR Pinedale Array 131.48 28 PKP **PKPdf** **23 07 52.5 -0.5**
comp=Z,0.3nm,0.6s,baz=292,slow=0.5,SNR=2.9
CPUP Villa Florida 144.29 218 *e*PKPdf PKPbc 23 08 15.3 +0.5
CPUP PKP **PKPdf** **23 08 15.6 -0.9**
CPUP Villa Florida 144.29 218 PKP PKPbc 23 08 15.6 +0.8
comp=Z,9.0nm,0.7s,baz=117,slow=2.8,SNR=26
TXAR Lajitas Array 144.73 36 PKP PKPbc 23 08 16.4 +0.1
TXAR Lajitas Array 144.73 36 PKP PKPbc 23 08 16.4 +0.1
comp=Z,3.2nm,0.8s,baz=276,slow=2.4,SNR=23
WVT Waverly 144.92 10 *e*PKPdf **PKPab** **23 08 14.8 -1.7**
MIAR Mount Ida 145.00 19 *e*PKPab **PKPab** **23 08 16.1 -0.8**
TZTN Tazewell 145.03 4 *e*PKPab **PKPbc** **23 08 16.0 -0.9**
TKL Tuckaleechee C 145.90 4 *e*PKPdf **PKPdf** **23 08 18.2 -0.9**
JCT Junction City 145.96 30 *e*PKPdf **PKPdf** **23 08 18.7 -0.7**
CPCT Cooper Cave 146.04 6 *e*PKPdf **PKPdf** **23 08 19.0 -0.3**
LPAZ La Paz 158.39 215 PKP **PKPdf** **23 08 39.5 +0.7**
LPAZ La Paz 158.39 215 PKP **PKPdf** **23 08 39.5 +0.7**
comp=Z,0.7nm,0.7s,baz=91,slow=5.8,SNR=5.0

*IDC **16** 22:50:08.8±1.0, 13°.86N×93°.00E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/29, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=36.2km s-min=16.5km az=60.0*
*ISCJB **16** 22:50:11.5±0.7, 13°.99N±0°.08×93°.06E±0°.09, h32km, mb4.0/13, Error ellipse: s-maj=14.4km s-min=8.9km az=137.9*
*NEIC **16** 22:50:14.1±0.5, 13°.93N×93°.09E, h35km, mb4.1/3, Error ellipse: s-maj=10.5km s-min=8.3km az=63.0*
ISC 16 22:50:13.7±1.0, 14°.0N±0°.1×93°.0E±0°.1, h32km, n30, σ 0s96/31, mb4.0/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.20**	**51**	Pn	**Pn**	**22 51 56.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**7.20**	**51**	Pn	**Pn**	**22 51 56.6**	**-0.1**
0.8nm,0.3s,baz=240,slow=15,SNR=15							
CHTO	**Chiang Mai**	**7.42**	**49**	*e*Pn	**Pn**	**22 52 00.0**	**+0.2**
4.3nm,0.4s							
TAPN	**Taplejung**	**14.19**	**340**	*e*P	**Pn**	**22 53 29.9**	**-2.8**
RAMN	**Ramite**	**14.22**	**336**	*e*P	**Pn**	**22 53 32.0**	**-1.2**
PKI	**Pulchoki**	**15.26**	**333**	*e*P	**Pn**	**22 53 45.9**	**-1.4**
5.3nm,0.3s							
PKIN	**Phulchoki**	**15.28**	**333**	*e*P	**Pn**	**22 53 45.9**	**-1.4**
KOLN	**Koldanda**	**16.28**	**329**	*e*P	**Pn**	**22 54 00.1**	**-0.2**
ENH	**Enshi**	**22.19**	**40**	*e*P	**P**	**22 55 07.6**	**+0.2**
4.3nm,0.3s							
XAN	**Xi'an**	**24.61**	**33**	P	**P**	**22 55 30.9**	**-0.3**
XAN				pP	**pP**	**22 55 40.5**	**+0.1**
XAN				pmax	pmax		
comp=Z,3.0nm,0.7s							
XAN				pmax	pmax		
comp=Z,15nm,5.5s							
MKAR	**Makanchi Array**	**33.91**	**347**	P	**P**	**22 56 54.6**	**+0.9**
MKAR	**Makanchi Array**	**33.91**	**347**	P	**P**	**22 56 54.6**	**+0.9**
comp=Z,1.0nm,0.6s,baz=181,slow=10,SNR=8.2							
SONM	**Songino Array**	**35.52**	**16**	P	**P**	**22 57 09.1**	**+1.4**
SONM	**Songino Array**	**35.52**	**16**	P	**P**	**22 57 09.1**	**+1.4**
comp=Z,1.1nm,0.8s,baz=201,slow=9.5,SNR=9.2							
KURBB	**Kurchatov Arra**	**38.38**	**345**	P	**P**	**22 57 32.9**	**+1.0**
comp=Z,1.6nm,0.8s,baz=159,slow=8.2,SNR=16							
KURK	**Kurchatov**	**38.45**	**345**	P	**P**	**22 57 32.9**	**+0.5**
ZALV	**Zalesovo Beam**	**40.38**	**353**	P	**P**	**22 57 49.2**	**+0.7**
ZALV	**Zalesovo Beam**	**40.38**	**353**	P	**P**	**22 57 49.2**	**+0.7**
comp=Z,1.0nm,0.4s,baz=179,slow=10,SNR=9.9							
ABKAR	**Akbulak array**	**44.41**	**329**	*e*P	**P**	**22 58 21.3**	**-0.1**
comp=Z,0.3nm,0.3s							
FITZ	**Fitzroy Crossi**	**45.29**	**134**	P	**P**	**22 58 27.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**45.29**	**134**	P	**P**	**22 58 27.9**	**-0.8**
comp=Z,1.7nm,0.5s,baz=92,slow=16,SNR=5.6							
WRA	**Warramunga Arr**	**52.80**	**129**	P	**P**	**22 59 25.4**	**-1.0**
WRA	**Warramunga Arr**	**52.80**	**129**	P	**P**	**22 59 25.4**	**-1.0**
comp=Z,1.1nm,0.6s,baz=308,slow=7.7,SNR=5.2							
WRAB	**Tennant Creek**	**52.81**	**129**	*e*P	**P**	**22 59 25.7**	**-0.6**
comp=Z,1.5nm,0.6s							
ASAR	**Alice Springs**	**54.75**	**133**	P	**P**	**22 59 40.4**	**-0.2**
ASAR	**Alice Springs**	**54.75**	**133**	P	**P**	**22 59 40.4**	**-0.2**
comp=Z,1.2nm,0.5s,baz=308,slow=6.9,SNR=11							
FINES	**FINESS Array B**	**66.84**	**331**	P	**P**	**23 01 02.0**	**-0.1**
FINES	**FINESS Array B**	**66.84**	**331**	P	**P**	**23 01 02.0**	**-0.1**
comp=Z,3.6nm,1.0s,baz=113,slow=9.2,SNR=6.1							
TORD	**Torodi Ar. Bea**	**88.16**	**283**	P	**P**	**23 03 02.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**88.16**	**283**	P	**P**	**23 03 02.8**	**+0.7**
comp=Z,0.6nm,0.8s,baz=83,slow=3.8,SNR=5.5							

IDC 16 22:55:53.5±2.2, 1°.53S×99°.46E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/25, mbtmp3.8/6, ML2.6/1, Error ellipse: s-maj=111.6km s-min=23.8km az=64.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.33**	**353**	Pn	Pn	22 57 00.6	-0.3
0.3nm,0.3s,baz=192,slow=14,SNR=3.2							
CMAR	**Chiang Mai Arr**	**19.87**	**359**	P	P	23 00 26.0	-0.4
baz=189,slow=9.5,SNR=5.8							
SONM	**Songino Array**	**49.53**	**6**	P	P	23 04 45.9	-0.3
0.2nm,0.4s,baz=182,slow=13,SNR=2.4							
STKA	**Stephens Creek**	**49.87**	**132**	P	P	23 04 48.8	-0.1
6.1nm,1.1s,baz=315,slow=11,SNR=2.2							
MKAR	**Makanchi Array**	**50.43**	**345**	P	P	23 04 53.6	+0.7
1.3nm,0.7s,baz=149,slow=7.3,SNR=9.9							
KURBB	**Kurchatov Arra**	**54.95**	**344**	P	P	23 05 25.3	-0.9
0.2nm,0.3s,baz=160,slow=5.7,SNR=6.0							
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	P	23 05 37.5	-0.5
0.9nm,0.4s,baz=174,slow=4.5,SNR=5.7							
TXAR	**Lajitas Array**	**144.65**	**36**	PKP	PKPdf	23 15 33.0	-0.1
0.8nm,0.5s,baz=279,slow=2.4,SNR=13							

*ISCJB **16** 22:59:18.8±0.4, 7°.21S±0°.04×129°.32E±0°.08, h139km, mb3.9/13, Error ellipse: s-maj=11.9km s-min=4.9km az=169.3*
*NEIC **16** 22:59:19.4±1.6, 7°.01S×129°.38E, h122km±16km, mb4.1/4, Error ellipse: s-maj=13.3km s-min=8.5km az=55.0*
*IDC **16** 22:59:19.4±3.8, 7°.01S×129°.39E, h120km±35km, mb3.8/10, mb1 4.1/13, mb1mx3.8/24, mbtmp3.9/13, MS3.1/1, Ms1 3.1/1, ms1mx2.4/38, Error ellipse: s-maj=27.4km s-min=17.5km az=67.0*
ISC 16 22:59:20.4±0.6, 7°.22S±0°.06×129°.4E±0°.1, h139km, n40, σ 1s61/49, mb4.0/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.42**	**198**	P	**Pn**	**23 02 01.3**	**+1.8**
FITZ				S	**Sn**	**23 04 02.6**	**-2.9**
FITZ	**Fitzroy Crossi**	**11.42**	**198**	P	**Pn**	**23 02 01.3**	**+1.8**
4.8nm,0.3s,baz=33,slow=11,SNR=47							
FITZ				S	**Sn**	**23 04 02.6**	**-2.9**
5.4nm,0.3s,baz=221,slow=20,SNR=5.8							
FITZ				LR	LR	23 06 37.8	
comp=Z,103nm,20.5s,baz=146,slow=38							
WRAB	**Tennant Creek**	**13.52**	**160**	*e*Pn	**Pn**	**23 02 28.6**	**+1.9**
32nm,0.9s							
WRAB				*e*Sn	**Sn**	**23 04 52.4**	**-3.9**
WRA	**Warramunga Arr**	**13.52**	**160**	P	**Pn**	**23 02 28.4**	**+1.5**
WRA				S	**Sn**	**23 04 53.6**	**-2.8**
WRA	**Warramunga Arr**	**13.52**	**160**	P	**Pn**	**23 02 28.4**	**+1.5**
4.3nm,0.3s,baz=336,slow=14,SNR=50							
WRA				S	**Sn**	**23 04 53.6**	**-2.8**
6.4nm,0.3s,baz=331,slow=22,SNR=11							
MBWA	**Marble Bar**	**16.71**	**213**	*e*Pn	**Pn**	**23 03 08.3**	**+1.9**
MBWA				*e*Sn	Sn	23 06 03.8	-9.2
AS31	**Alice Springs**	**16.91**	**166**	*e*Pn	**Pn**	**23 03 12.1**	**+3.1**
AS31				*e*Sn	**Sn**	**23 06 16.6**	**-1.3**
ASAR	**Alice Springs**	**16.91**	**166**	P	**Pn**	**23 03 12.6**	**+3.6**
ASAR				S	Sn	23 06 10.2	-7.7
ASAR	**Alice Springs**	**16.91**	**166**	P	**Pn**	**23 03 12.6**	**+3.6**
3.6nm,0.3s,baz=347,slow=10,SNR=213							
ASAR				S	Sn	23 06 10.2	-7.7
1.0nm,0.3s,baz=334,slow=16,SNR=4.6							
PSI	**Prapat**	**32.00**	**287**	P	**P**	**23 05 33.6**	**-0.4**
PSI	**Prapat**	**32.00**	**287**	P	**P**	**23 05 33.6**	**-0.4**
6.6nm,0.8s,baz=71,slow=7.5,SNR=7.9							
CMAR	**Chiang Mai Arr**	**39.42**	**311**	P	**P**	**23 06 37.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**39.42**	**311**	P	**P**	**23 06 37.2**	**+0.1**
1.6nm,0.4s,baz=140,slow=6.9,SNR=18							
CHTO	**Chiang Mai**	**39.63**	**311**	*e*P	**P**	**23 06 37.8**	**-1.0**
3.9nm,1.0s							
MJAR	**Matsushiro Arr**	**44.31**	**10**	P	**P**	**23 07 15.1**	**-1.5**
0.8nm,0.5s,baz=186,slow=9.8,SNR=3.9							
ULN	**Ulaanbaatar**	**58.29**	**342**	*e*P	**P**	**23 08 60.0**	**-0.8**
1.0nm,0.5s							
SONM	**Songino Array**	**58.46**	**342**	P	**P**	**23 09 01.4**	**-0.5**
SONM				PcP	**PcP**	**23 09 50.8**	**-0.2**
SONM	**Songino Array**	**58.46**	**342**	P	**P**	**23 09 01.4**	**-0.5**
0.5nm,0.3s,baz=155,slow=6.6,SNR=7.8							
SONM				PcP	**PcP**	**23 09 50.8**	**-0.2**
0.5nm,0.5s,baz=165,slow=5.5,SNR=3.6							
PETK	**Petropavlovsk-**	**64.72**	**18**	P	**P**	**23 09 43.9**	**+0.3**
PETK	**Petropavlovsk-**	**64.72**	**18**	P	**P**	**23 09 43.9**	**+0.3**
1.3nm,0.7s,baz=214,slow=7.0,SNR=2.4							
MK31	**Makanchi Array**	**68.08**	**327**	*e*P	**P**	**23 10 04.5**	**-0.6**
MK31				*e*PcP	**PcP**	**23 10 30.4**	**+0.1**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**23 10 05.2**	**0.0**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**23 10 05.2**	**0.0**
2.7nm,0.5s,baz=118,slow=8.0,SNR=37							
KBL	**Kabul**	**70.45**	**310**	*e*P	**P**	**23 10 20.1**	**-0.1**
ZALV	**Zalesovo Beam**	**71.52**	**334**	P	**P**	**23 10 25.4**	**-0.6**
ZALV	**Zalesovo Beam**	**71.52**	**334**	P	**P**	**23 10 25.4**	**-0.6**
1.5nm,0.6s,baz=133,slow=6.5,SNR=8.0							
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**23 10 31.1**	**-0.1**
1.8nm,0.6s,baz=126,slow=4.8,SNR=21							
KURK	**Kurchatov**	**72.39**	**329**	P	**P**	**23 10 31.1**	**-0.1**
BVAR	**Borovoye Array**	**77.93**	**328**	P	**P**	**23 11 02.8**	**-0.2**
BVAR	**Borovoye Array**	**77.93**	**328**	P	**P**	**23 11 02.8**	**-0.2**
0.7nm,0.5s,baz=122,slow=10,SNR=5.9							
ABKAR	**Akbulak array**	**82.31**	**322**	*e*P	**P**	**23 11 25.9**	**-0.6**
0.9nm,0.4s							
AKTO	**Aktyubinsk**	**83.88**	**322**	P	**P**	**23 11 35.1**	**+0.5**
AKTO	**Aktyubinsk**	**83.88**	**322**	P	**P**	**23 11 35.1**	**+0.5**
0.8nm,0.5s,baz=90,slow=12,SNR=4.4							
TORD	**Torodi Ar. Bea**	**128.26**	**281**	PKP	**PKPdf**	**23 18 12.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**128.26**	**281**	PKP	**PKPdf**	**23 18 12.5**	**+1.1**
0.3nm,0.5s,baz=42,slow=1.9,SNR=7.2							
CPUP	**Villa Florida**	**146.01**	**169**	PKPbc	**PKPab**	**23 18 45.2**	**-0.2**
CPUP	**Villa Florida**	**146.01**	**169**	PKPbc	**PKPab**	**23 18 45.2**	**-0.2**
0.5nm,0.3s,baz=161,slow=4.4,SNR=4.3							
LPAZ	**La Paz**	**150.91**	**144**	PKPbc	**PKPbc**	**23 18 60.0**	**+1.5**
LPAZ	**La Paz**	**150.91**	**144**	PKPbc	**PKPbc**	**23 18 60.0**	**+1.5**
0.8nm,0.4s,baz=30,slow=4.2,SNR=12							

*ISCJB **16** 23:14:13.6±1.1, 4°.6S±0°.1×145°.0E±0°.1, h38km, mb4.0/6, Error ellipse: s-maj=19.7km s-min=14.1km az=161.1*
*IDC **16** 23:14:15.7±4.3, 4°.69S×144°.98E, h42km±39km, mb3.7/6, mb1 4.0/8, mb1mx3.7/19, mbtmp3.9/8, ML3.8/2, Error ellipse: s-maj=30.0km s-min=23.8km az=41.0*
ISC 16 23:14:14.9±1.1, 4°.6S±0°.1×145°.0E±0°.1, h38km, n15, σ 1s67/14, mb4.0/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.26**	**157**	P	**Pn**	**23 15 32.0**	**+0.9**
12nm,0.3s,baz=346,slow=4.5,SNR=22							
PMG				S	**Sn**	**23 16 28.1**	**-2.4**
9.7nm,0.3s,baz=136,slow=21,SNR=21							
COEN	**Coen**	**9.53**	**191**	P	Pn	23 16 32.7	+3.0
baz=5.1,SNR=19							
MTSU	**Mount Surprise**	**13.52**	**183**	P	**Pn**	**23 17 27.0**	**+2.7**
baz=9.4,SNR=7.8							
KDU	**Kakadu**	**14.82**	**236**	P	Pn	23 17 33.9	-8.0
baz=11,SNR=9.6							
WRA	**Warramunga Arr**	**18.52**	**213**	P	**Pn**	**23 18 27.7**	**-0.9**
0.5nm,0.3s,baz=37,slow=12,SNR=17							
KNRA	**Kununurra**	**19.45**	**234**	P	**Pn**	**23 18 40.9**	**+1.1**
baz=16,SNR=6.7							
ASAR	**Alice Springs**	**21.84**	**208**	P	**P**	**23 19 04.0**	**-0.2**
5.8nm,0.8s,baz=35,slow=13,SNR=12							
FITZ	**Fitzroy Crossi**	**23.27**	**233**	P	**P**	**23 19 18.3**	**-1.1**
8.2nm,0.6s,baz=68,slow=6.8,SNR=39							
FITZ	**Fitzroy Crossi**	**23.27**	**233**	P	**P**	**23 19 20.3**	**+1.0**
baz=20,SNR=15							
STKA	**Stephens Creek**	**27.38**	**186**	P	**P**	**23 19 55.5**	**-1.2**
3.4nm,0.8s,baz=16,slow=11,SNR=4.7							
MEEK	**Meekatharra**	**33.47**	**226**	P	**P**	**23 20 50.6**	**-0.2**
baz=29,SNR=5.0							
CMAR	**Chiang Mai Arr**	**50.85**	**298**	P	**P**	**23 23 11.8**	**-0.6**
0.6nm,0.3s,baz=116,slow=8.1,SNR=4.0							
VNDA	**Vanda**	**73.47**	**176**	P	**P**	**23 25 42.8**	**-0.3**
0.9nm,0.5s,baz=328,slow=5.3,SNR=14							
ILAR	**Eielson Array**	**84.93**	**24**	P	**P**	**23 26 47.3**	**+1.6**
0.3nm,0.6s,baz=253,slow=5.4,SNR=5.7							
ILAR				pP	pP	23 27 09.2	+12
0.7nm,0.8s,baz=267,slow=4.7,SNR=6.2							
TORD	**Torodi Ar. Bea**	**142.83**	**286**	PKP	**PKPdf**	**23 33 42.6**	**-2.9**
0.5nm,1.1s,baz=103,slow=1.9,SNR=4.1							

IDC 16 23:19:32.4±1.0, 1°.53S×99°.36E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/25, mbtmp3.9/11, ML3.6/2, Error ellipse: s-maj=47.2km s-min=16.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.33**	**354**	Pn	Pn	23 20 37.5	-2.1
0.7nm,0.3s,baz=172,slow=8.2,SNR=2.5							
CMAR	**Chiang Mai Arr**	**19.87**	**359**	P	P	23 24 05.0	-0.4
0.3nm,0.3s,baz=189,slow=9.6,SNR=4.8							
WRA	**Warramunga Arr**	**38.78**	**121**	P	P	23 26 58.2	-0.9
1.4nm,0.5s,baz=300,slow=9.0,SNR=5.1							
ASAR	**Alice Springs**	**40.05**	**126**	P	P	23 27 10.1	+0.4
1.0nm,0.6s,baz=302,slow=7.9,SNR=12							
SONM	**Songino Array**	**49

AUST ***16*** *23:36:23.9, 17.°28S×175.°39W, h300km*
ISCJB ***16*** *23:37:08.6±1.0, 17.°7S±0.°1×179.°1W±0.°2, h562km, mb4.1/13, Error ellipse: s-maj=20.8km s-min=16.4km az=27.7*
IDC ***16*** *23:37:13.5±1.9, 17.°82S×179.°26W, h598km±22km, mb3.5/12, mb1 3.7/14, mb1mx3.4/26, mbtmp3.6/14, Error ellipse: s-maj=20.9km s-min=15.5km az=149.0*

ISC 16 23:37:09.9±0.9, 17.°8S±0.°2×179.°1W±0.°1, h562km, n47, σ0=91/43, mb4.0/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.99**	**62**	P	P	23 39 15.0	+7.0
	5.2nm,0.3s,baz=179,slow=6.4,SNR=7.5						
DZM	**Mont Dzumac**	**14.29**	**250**	P	**P**	**23 40 13.5**	**+1.3**
	1.6nm,0.3s,baz=90,slow=18,SNR=15						
NFK	**Norfolk Island**	**16.36**	**224**	S	S	23 43 47.1	+30
	baz=19,SNR=4.8						
EIDS	**Eidsvold**	**28.74**	**250**	P	**P**	**23 42 22.8**	**0.0**
	baz=32,SNR=4.2						
ARMA	**Armidale**	**29.48**	**239**	P	**P**	**23 42 30.4**	**+1.1**
	baz=33,SNR=5.8						
MGCD	**Mangrove Creek**	**30.87**	**234**	P	**P**	**23 42 42.5**	**+1.4**
	baz=34,SNR=6.0						
RMQ	**Roma**	**30.98**	**248**	P	**P**	**23 42 43.3**	**+1.1**
	baz=34,SNR=10						
CTA	**Charters Tower**	**32.87**	**260**	P	**P**	**23 42 57.7**	**-0.6**
	9.3nm,0.6s,baz=93,slow=11,SNR=16						
CNB	**Canberra Magne**	**33.02**	**232**	P	**P**	**23 43 00.3**	**+0.9**
	baz=36,SNR=14						
PMG	**Port Moresby**	**33.84**	**280**	P	**P**	**23 43 06.1**	**-0.4**
	40nm,0.9s,baz=54,slow=5.9,SNR=5.8						
CMSA	**Cobar Meteorol**	**34.68**	**240**	P	**P**	**23 43 13.6**	**+0.3**
	baz=38,SNR=25						
MTSU	**Mount Surprise**	**34.82**	**264**	P	**P**	**23 43 14.9**	**+0.2**
	baz=38,SNR=13						
COEN	**Coen**	**36.50**	**270**	P	**P**	**23 43 29.6**	**+1.0**
	baz=40,SNR=13						
TOO	**Toolangi**	**36.78**	**230**	P	**P**	**23 43 31.4**	**+0.8**
	baz=40,SNR=5.8						
STKA	**Stephens Creek**	**38.16**	**241**	P	**P**	**23 43 42.5**	**+0.6**
	13nm,0.5s,baz=88,slow=9.9,SNR=47						
STKA	**Stephens Creek**	**38.16**	**241**	P	**P**	**23 43 42.6**	**+0.7**
	baz=41,SNR=39						
BBOO	**Buckleboo**	**42.93**	**241**	P	**P**	**23 44 19.8**	**-0.1**
	baz=46,SNR=46						
WRA	**Warramunga Arr**	**44.06**	**259**	P	**P**	**23 44 27.4**	**-1.4**
	9.4nm,0.5s,baz=92,slow=7.0,SNR=82						
ASAR	**Alice Springs**	**44.24**	**254**	P	**P**	**23 44 29.9**	**-0.3**
	87nm,0.6s,baz=88,slow=8.2,SNR=989						
KDU	**Kakadu**	**46.95**	**269**	P	**P**	**23 44 50.7**	**-0.2**
	baz=50,SNR=7.0						
FORT	**Forrest**	**49.51**	**244**	P	**P**	**23 45 08.7**	**-1.0**
	baz=53,SNR=21						
KNRA	**Kununurra**	**49.90**	**264**	P	**P**	**23 45 12.2**	**-0.6**
	baz=53,SNR=9.9						
BNDI	**Bandanaira**	**51.62**	**278**	S	S	23 52 41.4	+36
	baz=55,SNR=3.8						
FITZ	**Fitzroy Crossi**	**52.45**	**261**	P	**P**	**23 45 31.1**	**-0.1**
	1.8nm,0.3s,baz=116,slow=4.2,SNR=28						
FITZ	**Fitzroy Crossi**	**52.45**	**261**	P	**P**	**23 45 30.9**	**-0.3**
	baz=56,SNR=16						
SOEI	**Soe**	**55.46**	**270**	P	**P**	**23 45 54.0**	**+1.4**
	baz=59,SNR=3.4						
MEEK	**Meekatharra**	**57.91**	**249**	P	**P**	**23 46 07.7**	**-1.4**
	baz=61,SNR=11						
KLBR	**Kellerberrin**	**58.34**	**243**	P	**P**	**23 46 10.6**	**-1.3**
	baz=62,SNR=7.7						
NWAO	**Narrogin (SRO)**	**58.73**	**242**	P	**P**	**23 46 13.7**	**-0.8**
	5.2nm,0.7s,baz=190,slow=2.3,SNR=3.6						
MORW	**Morawa**	**59.97**	**246**	P	**P**	**23 46 21.7**	**-1.2**
	baz=63,SNR=8.0						
MJAR	**Matsushiro Arr**	**67.45**	**324**	P	**P**	**23 47 10.0**	**-0.3**
	1.2nm,0.6s,baz=161,slow=6.0,SNR=4.7						
UGM	**Wanagama**	**69.04**	**268**	P	**P**	**23 47 19.8**	**-0.6**
	baz=72,SNR=3.8						
QSPA	**South Pole Qui**	**72.26**	**180**	P	**P**	**23 47 39.0**	**+0.5**
	0.7nm,0.5s,baz=296,slow=1.1,SNR=9.4						
PSI	**Prapat**	**83.27**	**275**	P	**P**	**23 48 37.0**	**-1.8**
	3.2nm,0.7s,baz=240,slow=14,SNR=3.9						
MAW	**Mawson**	**83.77**	**200**	P	**P**	**23 48 39.4**	**-0.6**
	0.9nm,0.7s,baz=142,slow=7.0,SNR=7.9						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**23 48 50.6**	**+0.3**
	0.4nm,0.8s,baz=221,slow=5.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**88.27**	**290**	P	**P**	**23 49 03.4**	**+1.0**
	1.2nm,0.8s,baz=101,slow=2.8,SNR=7.1						
ARCES	**ARCESS Array B**	**126.09**	**350**	PKP	**PKPdf**	**23 55 06.8**	**-1.2**
	4.8nm,1.1s,baz=19,slow=4.1,SNR=4.1						
AKASG	**Malin Array Be**	**140.17**	**332**	PKP	**PKPdf**	**23 55 35.0**	**+0.1**
	0.6nm,0.6s,baz=46,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**144.27**	**315**	PKP	PKPbc	23 55 42.1	-0.3
	2.2nm,0.8s,baz=93,slow=2.7,SNR=13						
ASF	**Jabal al Asfar**	**144.60**	**301**	PKP	**PKPdf**	**23 55 42.9**	**-0.5**
	3.4nm,1.0s,baz=165,slow=5.6,SNR=4.5						
CLL	**Collm**	**145.21**	**347**	⇓*i*PKP	**PKPdf**	**23 55 44.9**	**+1.2**
	comp=Z,8.0nm,0.7s						
CLL				*e*		23 56 14.0	
DPC	**Dobruska-Polom**	**145.26**	**343**	*i* P	**PKPdf**	**23 55 45.6**	**+1.7**
BRG	**Berggiesshubel**	**145.40**	**345**	*i* P	**PKPbc**	**23 55 46.1**	**+0.8**
	comp=Z,6.9nm,1.4s						
PRU	**Pruhonice**	**146.07**	**344**	*i* P	**PKPbc**	**23 55 47.7**	**+0.4**
KHC	**Kasperske Hory**	**147.11**	**345**	*i* P	**PKPbc**	**23 55 50.6**	**+0.4**
KHC				*ex*	x	23 55 55.1	
GERES	**GERESS Array B**	**147.34**	**344**	PKPbc	**PKPbc**	**23 55 50.9**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=21,slow=3.1,SNR=20						

IDC 16 23:49:31.8±1.7, 1.°62S×99.°39E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.6/25, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=56.4km s-min=19.0km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.42**	**354**	Pn	Pn	23 50 39.7	-0.6
	0.5nm,0.3s,baz=155,slow=17,SNR=3.4						
CMAR	**Chiang Mai Arr**	**19.96**	**359**	P	Pn	23 54 07.0	-0.3
	0.4nm,0.3s,baz=185,slow=9.1,SNR=3.8						
WRA	**Warramunga Arr**	**38.71**	**120**	P	P	23 56 58.0	0.0
	0.5nm,0.4s,baz=304,slow=9.0,SNR=6.4						
ASAR	**Alice Springs**	**39.97**	**126**	P	P	23 57 08.8	+0.3
	0.6nm,0.7s,baz=294,slow=7.6,SNR=4.0						
KSRS	**Korea Array**	**47.01**	**31**	P	P	23 58 04.1	-0.9
	0.6nm,0.4s,baz=228,slow=8.8,SNR=3.4						
SONM	**Songino Array**	**49.63**	**6**	P	P	23 58 25.6	+0.3
	0.3nm,0.4s,baz=188,slow=8.2,SNR=3.5						
MKAR	**Makanchi Array**	**50.50**	**345**	P	P	23 58 32.0	+0.3
	0.9nm,0.6s,baz=154,slow=7.7,SNR=10						
USRK	**Ussurisk Arra**	**54.12**	**29**	P	P	23 58 58.0	-0.6
	0.8nm,0.5s,baz=224,slow=6.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**56.69**	**350**	P	P	23 59 15.8	-1.2
	1.0nm,0.5s,baz=177,slow=5.3,SNR=4.4						
CPUP	**Villa Florida**	**144.25**	**217**	PKP	PKPbc	00 09 09.1	+0.3
	2.6nm,0.8s,baz=128,slow=4.3,SNR=5.3						
TXAR	**Lajitas Array**	**144.77**	**36**	PKP	PKPdf	00 09 11.8	+0.1
	0.5nm,0.6s,baz=269,slow=1.8,SNR=6.1						

IDC 16 23:57:01.3±3.1, 1.°67S×99.°59E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=129.1km s-min=20.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.49**	**352**	Pn	Pn	23 58 09.3	-1.5
	0.5nm,0.3s,baz=137,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**38.52**	**121**	P	P	00 04 25.5	-0.3
	0.5nm,0.7s,baz=302,slow=9.4,SNR=7.6						
ASAR	**Alice Springs**	**39.78**	**126**	P	P	00 04 36.4	0.0
	0.3nm,0.4s,baz=306,slow=7.9,SNR=3.6						
SONM	**Songino Array**	**49.66**	**6**	P	P	00 05 54.9	0.0
	0.3nm,0.5s,baz=170,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**50.60**	**345**	P	P	00 06 01.8	-0.2
	0.6nm,0.6s,baz=166,slow=7.4,SNR=10.0						
ZALV	**Zalesovo Beam**	**56.77**	**350**	P	P	00 06 46.9	-0.1
	0.7nm,0.4s,baz=155,slow=7.0,SNR=4.3						
TXAR	**Lajitas Array**	**144.69**	**37**	PKP	PKPdf	00 16 40.5	-0.5
	0.3nm,0.5s,baz=264,slow=1.7,SNR=8.7						

CSEM ***17*** *00:01:11.0±0.5, 39.°72N×44.°13E, h10km, MD3.0, Error ellipse: s-maj=13.5km s-min=9.0km az=123.0*
DDA ***17*** *00:01:24.0, 39.°75N×43.°64E, h28km, MD3.0*

ISK 17 00:01:10.3, 39.70N×44.°14E, h5km, MD2.9,

Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.38**	**246**	*i* P	Pb	00 01 20.0	+0.1
DYDN				*i* S	Sb	00 01 34.1	+7.8
DYDN	**Diyadin**	**0.38**	**246**	*i* P	Pb	00 01 20.0	+0.1
DYDN				*i* S	Sb	00 01 34.1	+7.8
CLDR	**Caldiran**	**0.58**	**197**	*e*PG	Pg	00 01 22.2	+0.3
CLDR				*e*SG	Sb	00 01 31.9	-0.2
CLDR	**Caldiran**	**0.58**	**197**	*e*Pg	Pg	00 01 22.2	+0.4
CLDR				*e*Sg	Sb	00 01 31.9	-0.2
GNI	**Garni**	**0.65**	**46**	*e*PG	Pb	00 01 24.1	-0.2
GNI	**Garni**	**0.65**	**46**	*e*Pg	Pb	00 01 24.1	-0.2
AGRB	**Hanur-Agry**	**0.90**	**262**	*e*PG	Pb	00 01 28.8	+0.2
AGRB	**Hanur-Agry**	**0.90**	**262**	*e*Pg	Pb	00 01 28.8	+0.2
DIGO	**Kars**	**0.93**	**321**	*i* P	Pg	00 01 28.5	0.0
DIGO				*i* S	Sn	00 01 47.5	+3.2
DIGO	**Kars**	**0.93**	**321**	*i* P	Pg	00 01 28.5	0.0
DIGO				*i* S	Sn	00 01 47.5	+3.2
TUTA	**Tutak**	**1.07**	**254**	*i* P	Pg	00 01 30.1	-1.1
TUTA				*i* S	Sn	00 01 47.9	+0.2
TUTA	**Tutak**	**1.07**	**254**	*i* P	Pg	00 01 30.1	-1.0
TUTA				*i* S	Sn	00 01 47.9	+0.2
KARS	**Kars**	**1.23**	**319**	*e*PN	Pb	00 01 34.4	0.0
KARS	**Kars**	**1.23**	**319**	*e*Pn	Pn	00 01 34.4	0.0

NIED ***17*** *00:05:00.23.°40N×123.°60E, h35km, Mw6.7 Best double couple: M0=1.15000×10^19 NP1:φs=42.00000°, δ=82.00000°, λ=161.00000°. NP2:φs=134.00000°, δ=71.00000°, λ=8.00000°.*
BGS ***17*** *00:05:32.3±1.8, 21.°19N×126.°75E, h20km, mb6.0, MS7.0*
BJI ***17*** *00:05:43.7, 23.°45N×123.°81E, h11km, mB6.5/42, mb5.9/64, Ms6.9/74, Ms7 6.6/67*
IDC ***17*** *00:05:45.6±0.3, 23.°53N×123.°60E, h0km, mb5.8/48, mb1 5.9/53, mb1mx5.9/54, mbtmp5.9/53, ML5.2/4, MS6.5/33, Ms1 6.5/33, ms1mx6.5/41, Error ellipse: s-maj=9.8km s-min=6.8km az=71.0*
TAP ***17*** *00:05:45.9, 23.°37N×123.°88E, h43km±6km, ML6.8, D*
SZGRF ***17*** *00:05:47.4, 22.°81N×124.°13E, h33km, mb6.3, MS7.1, Southeast of Taiwan*
DJA ***17*** *00:05:47.1±0.3, 24.°N±4.°×12.°4E±.°, h10km, M6.7/27, mb6.3/27, mB6.8/26, Mw(mB)6.7/26*
NEIC ***17*** *00:05:47.0±0.0, 23.°49N×123.°50E, h15km*
BKK ***17*** *00:05:48.7±0.3, 24.°N±4.°×12.°4E±.°, h10km, M6.6/49, mb6.1/49, mB6.7/45, MLv6.4/1, Mw(mB)6.5/45, Mwp6.8/19*
ISCJB ***17*** *00:05:48.8±0.4, 23.°50N±0.°01×123.°59E±0.°01, h30km±2km, mb6.1/420, MS6.6/250, Error ellipse: s-maj=2.1km s-min=1.8km az=147.5*
NEIC ***17*** *00:05:49.0±0.1, 23.°50N×123.°50E, h20km, mb6.2/176, ME7.1, MS6.6/144, MW6.6, MW6.6, MW6.7(NIED), MW6.7(USGS), Error ellipse: s-maj=3.5km s-min=3.1km az=174.0, Moment Tensor Solution. s71 Moment tensor: Scale 10^19Nm; Mrr0.17; Mθθ0.88; Mφφ-1.05; Mrθ0.36; Mrφ0.15; Mθφ0.09; Best double couple: M0=1.10000×10^19 NP1:φs=133.00000°, δ=72.00000°, λ=14.00000°. NP2: φs=38.00000°, δ=76.00000°, λ=162.00000°. Principal axes: T 1.0500, Plg22.0000°, Azm354.0000°; N 0.0200, Plg67.0000°, Azm183.0000°; P -1.0600, Plg2.0000°, Azm86.0000°; Broadband fault plane solution: P waves. NP1:φs=41.00000°, δ=76.00000°, λ=164.00000°. NP2: φs=135.00000°, δ=75.00000°, λ=15.00000°. Principal axes: T Plg21.0000°, Azm358.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm88.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Gushikawa and Ishigaki. Felt [III] at Taipei and [II] at Hsin-chu, Taiwan. Also felt at Chu-pei, Hsia-yuan-lin, Hsin-chuang, Kang-shan, Pan-ch'iao, P'ing-tung, T'ai-chung, T'ai-nan and Yung-ho. Also felt at Xiamen, China. Recorded [3 JMA] on Iriomote-jima, Ishigaki-jima, Tarama-shima and Yonaguni-jima and [2 JMA] on Miyako-jima. Recorded [4 TAP] in T'ai-tung; [3 TAP] in Chang-hua, Hua-lien, I-lan, Nan-t'ou, T'ai-chung and Yun-lin; [2 TAP] in Chia-i, Hsin-chu, Kao-hsiung, Miao-li, P'eng-hu, P'ing-tung and T'ao-yuan.
MOS ***17*** *00:05:49.1±1.0, 23.°54N×123.°65E, h33km, mb6.5/121, MS6.5/86 Error ellipse: s-maj=6.0km s-min=3.4km az=117.5*
JMA ***17*** *00:05:49.0±0.1, 23.°44N×123.°63E, h48km±2km, M6.7*
JMA Felt III J1.
GCMT ***17*** *00:05:53.1±0.1, 23.°29N×123.°57E, h24km, MW6.7, Moment Tensor Solution. s115, c269; s99, c221; Moment tensor: Scale 10^19Nm; Mrr-0.04±.01; Mθθ1.17±.01; Mφφ-1.13±.01; Mrθ0.35±.01; Mθφ0.07±.01; Mφr0.08±.01; Best double couple: M0=1.20000×10^19 NP1:φs=43.00000°, δ=82.00000°, λ=166.00000°. NP2: φs=134.00000°, δ=76.00000°, λ=8.00000°. Principal axes: T 1.2700, Plg15.0000°, Azm358.0000°; N -0.1400, Plg74.0000°, Azm194.0000°; P -1.1400, Plg4.0000°, Azm89.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 104 sta. Surface waves: sta=117, comp=258, per= 50.*
NEIC ***17*** *00:06:00.2±0.0, 23.°19N×123.°96E, h31km, Moment Tensor Solution. s151 Moment tensor: Scale 10^19Nm; Mrr-0.04; Mθθ1.09; Mφφ-1.05; Mrθ0.30; Mθφ0.10; Mφr0.10; Best double couple: M0=1.10000×10^19 NP1:φs=133.00000°, δ=76.00000°, λ=7.00000°. NP2:φs=42.00000°, δ=84.00000°, λ=166.00000°. Principal axes: T 1.1700, Plg14.0000°, Azm356.0000°; N -0.1100, Plg74.0000°, Azm196.0000°; P -1.0600, Plg5.0000°, Azm88.0000°;*

ISC 17 00:05:49.0±0.3, 23.°51N±0.°02×123.°59E±0.°02, h22km±1km, h22km:pP-P, n2419, σ1.°43/2489, mb6.2/418, MS6.6/257, 547C-402D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.58**	**20**	⇑P	**Pn**	**00 06 01.9**	**0.0**
HATJ				*e*S	**Sn**	**00 06 11.1**	**+0.3**
JKRS	**Kuro-shima**	**0.82**	**28**	⇑P	**Pn**	**00 06 05.2**	**0.0**
JKRS				*e*S	**Sn**	**00 06 17.2**	**+0.5**
IRIF	**Iriomote-Funau**	**0.83**	**9**	⇑P	**Pn**	**00 06 05.6**	**+0.2**
JIJ	**Ishigaki jima**	**0.99**	**30**	⇑P	**Pb**	**00 06 07.3**	**-0.1**
JIJ				S	**Sn**	**00 06 20.7**	**-0.2**
YOJ	**Yonaguni jima**	**1.09**	**331**	⇑*i*P	**Pb**	**00 06 09.6**	**+0.4**
	baz=315						
YOJ				*e*S	**Sn**	**00 06 27.0**	**+3.7**
	baz=315						
YOJ	**Yonaguni jima**	**1.09**	**331**	⇑P	**Pb**	**00 06 09.4**	**+0.3**
YOJ				*e*S	**Sn**	**00 06 23.9**	**+0.6**
JTJ	**Tarama**	**1.52**	**42**	⇑P	**Pn**	**00 06 14.8**	**0.0**
JTJ				*e*S	**Sn**	**00 06 34.2**	**+0.3**
EHP	**Heping Village**	**1.87**	**296**	*e*P	**Pn**	**00 06 19.5**	**-0.2**
	baz=295						
HWA	**Hwalien**	**1.88**	**285**	⇑*i*P	**Pn**	**00 06 19.1**	**-0.7**
	baz=276						
TEGC	**Jichi Village**	**1.89**	**277**	*e*P	**Pn**	**00 06 19.5**	**-0.5**
	baz=269						
TEGC				*e*S	**Sn**	**00 06 42.4**	**-0.8**
	baz=269						
TWD	**Chiawan**	**1.92**	**288**	⇑*i*P	**Pn**	**00 06 19.5**	**-0.8**
	baz=277						
ENA	**Nanau**	**1.93**	**299**	⇑*i*P	**Pn**	**00 06 20.8**	**+0.4**
	baz=298						
TWC	**Suao**	**1.94**	**305**	⇑*i*P	**Pn**	**00 06 21.0**	**+0.5**
	baz=303						
NACB	**Ninganchiao**	**1.95**	**290**	*e*Pn	**Pn**	**00 06 19.7**	**-1.0**
NACB				*e*Sn	**Sn**	**00 06 42.7**	**-1.8**
ESL	**Shilin**	**2.00**	**279**	⇑*i*P	**Pn**	**00 06 20.2**	**-1.3**
	baz=281						
JMJ	**Miyako jima 2**	**2.03**	**50**	*e*P	**Pn**	**00 06 21.6**	**-0.2**
	baz=41						
JMJ				*e*S	**Sn**	**00 06 45.4**	**-1.1**
	baz=41						
JMJ	**Miyako jima 2**	**2.03**	**50**	⇓P	**Pn**	**00 06 21.6**	**-0.2**
JMJ				*e*S	**Sn**	**00 06 46.2**	**-0.3**
JOGS	**Gusukube**	**2.08**	**53**	⇓P	**Pn**	**00 06 22.3**	**-0.2**
JOGS				*e*S	**Sn**	**00 06 47.8**	**+0.1**
EHY	**Hungye**	**2.08**	**270**	⇑*i*P	**Pn**	**00 06 21.6**	**-1.0**
	baz=273						
CHKT	**Chengkung**	**2.09**	**259**	⇑*i*P	**Pn**	**00 06 20.8**	**-1.9**
	baz=263						
CHKT				*e*S	**Sn**	**00 06 44.9**	**-3.0**
	baz=263						
TWB1	**Santiao Chiao**	**2.09**	**316**	⇓P	**Pn**	**00 06 23.5**	**+0.7**
	baz=313						
ILA	**Ilan**	**2.10**	**307**	*e*P	**Pn**	**00 06 24.4**	**+1.6**
	baz=305						
TWF1	**Yuli**	**2.11**	**266**	⇑*i*P	**Pn**	**00 06 21.8**	**-1.3**
	baz=278						
TWE	**Neicheng**	**2.13**	**305**	⇑*i*P	**Pn**	**00 06 24.4**	**+1.1**
	baz=303						
WHF	**Hehuan Shan**	**2.22**	**287**	⇑*i*P	**Pn**	**00 06 24.4**	**-0.6**
	baz=288						
NNS	**Nan Shan**	**2.23**	**295**	⇑*i*P	**Pn**	**00 06 25.2**	**+0.5**
	baz=285						
NNS				*e*S	**Sn**	**00 06 52.7**	**+0.9**
	baz=285						
NWF	**Wu-fen Shan**	**2.27**	**314**	⇑*i*P	**Pn**	**00 06 26.4**	**+1.1**
	baz=298						
YHNB	**Yeheng**	**2.33**	**300**	*e*Pn	**Pn**	**00 06 26.8**	**+0.7**
YHNB				*e*Sn	**Sn**	**00 06 48.8**	**-5.4**
TWT	**Tachien**	**2.33**	**289**	⇑*i*P	**Pn**	**00 06 26.8**	**+0.5**
	baz=289						
TWA	**Mucha**	**2.35**	**309**	*e*P	**Pn**	**00 06 27.5**	**+1.2**
	baz=317						
TWA				*e*S	**Sb**	**00 06 57.4**	**-1.8**
	baz=317						
NSK	**Sanguang**	**2.35**	**300**	⇑*i*P	**Pn**	**00 06 27.3**	**+1.0**
	baz=299						
TTN	**Taitung**	**2.37**	**252**	⇑*i*P	**Pn**	**00 06 25.3**	**-1.2**
	baz=256						
LAY	**Lan-yu**	**2.38**	**233**	⇑P	**Pn**	**00 06 24.4**	**-2.4**
	baz=238						
TATO	**Taipei**	**2.41**	**308**	P	**Pn**	**00 06 28.2**	**+1.1**
	SNR=822						
TATO	**Taipei**	**2.41**	**308**	*e*Pn	**Pn**	**00 06 28.1**	**+0.9**
TATO				*e*Sn	**Sn**	**00 06 54.8**	**-1.3**
TWG	**Pinlang**	**2.42**	**254**	⇑P	**Pn**	**00 06 25.6**	**-1.6**
	baz=258						
TWG				*e*S	**Sn**	**00 06 53.8**	**-2.4**
	baz=258						
TWG	**Pinlang**	**2.42**	**254**	*e*Pn	**Pn**	**00 06 25.4**	**-1.9**
TWG				*e*Sn	**Sn**	**00 06 53.7**	**-2.4**
YUS	**Yu-Shan**	**2.42**	**270**	⇑*i*P	**Pn**	**00 06 27.4**	**-0.3**
	baz=272						
TAP1	**Taipei**	**2.43**	**309**	*e*P	**Pn**	**00 06 28.4**	**+1.1**
	baz=307						
SSLB	**Suanglung**	**2.44**	**277**	*e*Pn	**Pn**	**00 06 26.9**	**-0.6**
SSLB				*e*Sn	**Sn**	**00 06 53.5**	**-3.2**
TAP	**Taipei**	**2.44**	**309**	*e*P	**Pn**	**00 06 28.6**	**+1.0**
	baz=307						
TAP				*e*S	**Sn**	**00 06 59.0**	**+2.3**
	baz=307						
SMLT	**Sun Moon Lake**	**2.50**	**279**	⇑*i*P	**Pn**	**00 06 28.5**	**+0.1**
	baz=281						
PCYT	**Pengchaiyu**	**2.53**	**327**	⇓*i*P	**Pn**	**00 06 30.2**	**+1.5**
	baz=313						
TWY	**Chenhua**	**2.53**	**315**	*e*P	**Pn**	**00 06 29.9**	**+1.1**
	baz=312						
TYC	**Yuchr**	**2.54**	**280**	⇑*i*P	**Pn**	**00 06 29.0**	**+0.1**
	baz=281						
NCU	**National Centr**	**2.63**	**304**	*e*P	**Pn**	**00 06 31.3**	**+1.1**
	baz=303						
CHN5	**Tsauling**	**2.68**	**273**	⇑*i*P	**Pn**	**00 06 31.9**	**+1.0**
	baz=274						
WNT	**Mingjian**	**2.69**	**278**	⇑*e*P	**Pn**	**00 06 32.5**	**+1.5**
	baz=280						
TWQ1	**Liyutan**	**2.71**	**289**	⇑*e*P	**Pn**	**00 06 33.1**	**+1.8**
	baz=289						
TWQ1				*e*S	**Sn**	**00 07 05.8**	**+2.4**
	baz=289						
HSN	**Hsinchu**	**2.72**	**299**	*e*P	**Pn**	**00 06 32.9**	**+1.5**
	baz=299						
TPUB	**Ta-pu**	**2.73**	**266**	*e*Pn	**Pn**	**00 06 31.4**	**-0.1**
TPUB				*e*Sn	**Sn**	**00 07 05.3**	**+1.4**
TAW	**Tawu**	**2.74**	**246**	⇑*i*P	**Pn**	**00 06 30.3**	**-1.3**
	baz=260						
TAW				*e*S	**Sn**	**00 07 01.8**	**-2.2**
	baz=260						
NSY	**Sanyi**	**2.74**	**290**	⇑*e*P	**Pn**	**00 06 33.7**	**+2.0**
	baz=290						
TCU	**Taichung**	**2.75**	**284**	⇑*e*P	**Pn**	**00 06 33.7**	**+2.0**
	baz=285						
CHN4	**Tsaushan**	**2.76**	**267**	⇑*e*P	**Pn**	**00 06 32.9**	**+1.0**
	baz=277						
WGK	**Gukeng**	**2.79**	**274**	⇑*e*P	**Pn**	**00 06 33.6**	**+1.3**
	baz=276						
SGST	**Jiashian**	**2.80**	**262**	⇑*e*P	**Pn**	**00 06 33.2**	**+0.8**
	baz=259						
CHN1	**Nanshi**	**2.83**	**264**	⇑*e*P	**Pn**	**00 06 34.1**	**+1.1**
	baz=260						
CHY	**Chiayi**	**2.91**	**270**	⇑*e*P	**Pn**	**00 06 35.5**	**+1.5**
	baz=272						
TSEB	**Hengchuen, Pin**	**2.96**	**238**	⇑P	**Pn**	**00 06 34.3**	**-0.3**
	baz=253						
SGLT	**Jiouru**	**2.96**	**255**	*e*P	**Pn**	**00 06 36.0**	**+1.3**
	baz=258						
SCZT	**Fangliau**	**2.96**	**248**	⇑P	**Pn**	**00 06 33.9**	**-0.8**
	baz=258						
CHN3	**Shinhua**	**3.00**	**262**	⇑*e*P	**Pn**	**00 06 37.5**	**+2.3**
	baz=265						
HEN	**Hengchun**	**3.03**	**241**	⇑*i*P	**Pn**	**00 06 35.0**	**-0.6**
	baz=245						
WTCT	**Ta-ch'eng**	**3.06**	**277**	⇑*e*P	**Pn**	**00 06 37.6**	**+1.6**
	baz=278						
WSF	**Szhu**	**3.10**	**273**	⇑*e*P	**Pn**	**00 06 37.7**	**+1.2**
	baz=274						
WSF				*e*S	**Sn**	**00 07 14.3**	**+1.5**
	baz=274						
TAI1	**Yung-k'ang**	**3.13**	**262**	⇑*e*P	**Pn**	**00 06 38.7**

SSE LR LR
comp=E,232μm,18.6s
SSE LR LR
comp=Z,424μm,18.1s
BALP Baler 7.96 194 *e*P **Pn 00 07 42.6 -0.8**
JNN Nakanoshima 8.45 40 P **Pn 00 07 47.7 -2.4**
JNN *e*S **Sn 00 09 23.8 -1.0**
HKC Hong Kong Obse 8.77 264 *i* P **Pn 00 07 54.0 -0.4**
JKC Kuchinoerabu 9.09 39 P Pn 00 07 54.6 -4.3
GZH Guangzhou 9.43 269 P Pn 00 07 59.5 -4.1
GZH S **Sn 00 09 44.4 -4.5**
GZH smax smax
comp=N,5μm,1.1s
GZH smax smax
comp=E,5μm,1.1s
NJ2 Nanjing 9.49 335 *e*P **Pn 00 08 04.8 +0.5**
NJ2 pP 00 08 08.1
NJ2 sP 00 08 10.5
NJ2 S **Sn 00 09 52.8 +2.5**
NJ2 sS 00 10 03.3
NJ2 pmax pmax
comp=Z,320nm,1.4s
NJ2 pmax pmax
comp=Z,17μm,11.0s
NJ2 LR LR
comp=N,475μm,22.5s
NJ2 LR LR
comp=E,644μm,22.3s
NJ2 LR LR
comp=Z,403μm,21.4s
LQP Lukban 9.54 192⇑ *e*P **Pn 00 08 05.1 -0.2**
GQP Guinayangan 9.61 187⇑ *e*P **Pn 00 08 05.7 -0.4**
TGY Tagaytay City 9.69 195 Pn **Pn 00 08 08.0 +0.8**
TGY Sn **Sn 00 09 54.2 -1.2**
TGY Tagaytay City 9.69 195 Pn **Pn 00 08 08.0 +0.8**
comp=Z,528nm,0.3s,baz=14,slow=8.3,SNR=32
TGY Sn **Sn 00 09 54.2 -1.2**
comp=Z,313nm,0.3s,baz=90,slow=17,SNR=2.3
TGY LR LR 00 11 53.1
comp=Z,2μm,18.8s,baz=85,slow=38
PVCP Virac 9.87 177⇑ *e*P **Pn 00 08 07.5 -2.2**
PVCP *e*S Sn 00 09 42.5 -17
WHN Wuhan 10.81 312 P **Pn 00 08 23.3 +0.8**
WHN S **Sn 00 10 18.8 -4.0**
WHN LR LR
comp=N,697μm,14.6s
WHN LR LR
comp=E,947μm,17.6s
WHN LR LR
comp=Z,428μm,12.1s
CNP Cataraman 10.98 175 *e*P **Pn 00 08 25.1 +0.2**
JNU Nakatsue 11.53 32 *e*Pn **Pn 00 08 30.6 -1.7**
JNU Sn **Sn 00 10 44.8 +4.4**
JNU Nakatsue 11.53 32 Pn **Pn 00 08 30.6 -1.7**
comp=Z,8.7nm,0.3s,baz=205,slow=11,SNR=34
JNU Sn **Sn 00 10 44.8 +4.4**
comp=Z,3.9nm,0.3s,baz=146,slow=3.6,SNR=1.6
RCP Roxas 11.91 184⇓ *e*P **Pn 00 08 39.3 +1.8**
PLP Palo 12.35 174⇓ *e*P **Pn 00 08 43.0 -0.6**
LLP Lapu-Lapu 13.12 178⇑ *e*P **Pn 00 08 54.0 -0.2**
LLP *e*S Sn 00 11 09.7 -10
TJN Taejon 13.23 13 *i* P **Pn 00 08 56.3 +0.7**
QIZ Qiongzhong 13.57 253 P **Pn 00 09 00.0 -0.2**
QIZ S **Sn 00 11 30.5 +0.1**
QIZ pmax pmax
comp=Z,470nm,1.3s
QIZ pmax pmax
comp=Z,16μm,12.5s
QIZ LR LR
comp=N,480μm,20.2s
QIZ LR LR
comp=Z,251μm,17.7s
QIZ Qiongzhong 13.57 253 *e*Pn **Pn 00 09 00.2 -0.1**
comp=Z,437nm,0.8s
TIA Tai'an 13.84 338 ⇑P **Pn 00 09 06.9 +3.0**
TIA PP P 00 09 20.0 +7.9
TIA S **Sn 00 11 42.3 +5.3**
TIA pmax pmax
comp=Z,900nm,1.2s
TIA pmax pmax
comp=Z,42μm,10.0s
TIA LR LR
comp=N,286μm,17.2s
TIA LR LR
comp=E,159μm,14.0s
TIA LR LR
comp=Z,336μm,17.4s
INCN Inchon 14.17 10 Pn **Pn 00 09 10.8 +2.4**
SNR=192
INCN Inchon 14.17 10 *e*Pn **Pn 00 09 11.0 +2.5**
ENH Enshi 14.27 301 *e*Pn **Pn 00 09 12.3 +2.5**
comp=Z,4.6nm,0.4s
KSAR Wonju Array Be 14.37 14 Pn **Pn 00 09 11.7 +0.6**
KSRS Korea Array 14.39 14 Pn **Pn 00 09 11.7 +0.3**
comp=Z,5.2nm,0.3s,baz=197,slow=12,SNR=132
KSRS LR LR 00 15 60.0
comp=Z,254μm,18.0s,baz=5.4,slow=43
PPR Puerto Princes 14.42 200⇓ *e*P P 00 09 23.4 +4.7
DCPH Dipolog City 14.84 181⇓ *e*P **Pn 00 09 17.4 -0.2**
CGP Cagayan de Oro 15.00 176⇓ *e*P **P 00 09 22.6 -2.5**
DL2 Dalian 15.44 354⇑ *i*P **Pn 00 09 27.3 +1.9**
DL2 S **Sn 00 12 20.5 +4.6**
DL2 pmax pmax
comp=Z,1μm,1.5s
DL2 pmax pmax
comp=Z,40μm,8.9s
DL2 LR LR
comp=N,147μm,16.8s
DL2 LR LR
comp=E,104μm,14.1s
DL2 LR LR
comp=Z,172μm,15.6s
GYA Guiyang 15.63 284⇓ *i*P **Pn 00 09 28.5 +0.4**
GYA PP **pP 00 09 41.8 +3.6**
GYA S **Sn 00 12 19.6 -1.1**
GYA SS **S 00 12 40.3 +4.6**
GYA PcP **PcP 00 14 31.0 +2.0**
GYA pmax pmax
comp=Z,1μm,1.0s
GYA pmax pmax
comp=Z,25μm,14.3s
GYA LR LR
comp=N,422μm,15.5s
GYA LR LR
comp=E,187μm,18.3s
GYA LR LR
comp=Z,253μm,19.2s
DAV Davao City (W) 16.45 173 Pn **Pn 00 09 39.1 +0.4**
SNR=49
DAV Davao City (W) 16.45 173⇑ *e*P **Pn 00 09 37.4 -1.2**
DAV Davao City (W) 16.45 173 *e*Pn **Pn 00 09 39.0 +0.4**
comp=Z,5μm,1.4s
DAV Davao City (W) 16.45 173 P **P 00 09 45.6 +4.4**
DAV Davao City (W) 16.45 173 Pn **Pn 00 09 39.4 +0.8**
comp=Z,28nm,0.3s,baz=12,slow=5.9,SNR=14
XAN Xi'an 16.58 313 P **Pn 00 09 40.0 -0.2**
XAN sP **sP 00 09 46.8 -4.7**
XAN PP **PnPn 00 09 53.9 +4.4**
XAN S **Sn 00 12 41.8 -1.9**
XAN SS **SnSn 00 13 01.0 +4.0**
XAN pmax pmax
comp=Z,9μm,14.2s
XAN LR LR
comp=N,389μm,24.2s
XAN LR LR
comp=E,102μm,23.8s
XAN LR LR
comp=Z,65μm,20.3s
TIY Taiyuan 17.09 329 *e*P **P 00 09 48.4 +0.2**
TIY PP PnPn 00 10 05.4 +8.9
TIY S **Sn 00 12 56.3 +0.3**
TIY pmax pmax
comp=Z,33μm,12.0s
TIY LR LR
comp=N,209μm,14.0s
TIY LR LR
comp=Z,265μm,16.4s
GSPH General Santos 17.37 175⇑ *e*P **P 00 09 53.3 +1.9**
BJT Baijiatuan 17.62 341 *e*Pn **P 00 09 53.7 -0.3**
comp=Z,850nm,0.8s
BJI Beijing 17.64 341 P **P 00 09 54.0 -0.1**
BJI S **S 00 13 13.3 -3.0**
BJI pmax pmax
comp=Z,370nm,1.4s
BJI pmax pmax
comp=Z,50μm,12.0s
BJI LR LR
comp=N,168μm,18.0s
BJI LR LR
comp=E,240μm,24.8s
BJI LR LR
comp=Z,108μm,31.7s
KDM Kudat 17.73 203 P **P 00 09 56.8 +1.5**
MAT Matsushiro 18.11 41 P **Pn 00 09 57.4 -1.7**
MAT S **Sn 00 13 19.8 -0.8**
MJAR Matsushiro Arr 18.11 41 P **P 00 09 60.0 +0.6**
MJAR *e* 00 44 45.8
MJAR Matsushiro Arr 18.11 41 P **P 00 09 60.0 +0.6**
comp=Z,9.5nm,0.3s,baz=228,slow=9.6,SNR=137
MJAR LR LR 00 16 42.1
comp=Z,62μm,19.9s,baz=230,slow=36
MJAR P3KPbc 00 44 45.8
baz=31,slow=2.8,SNR=9.3
SNY Shenyang 18.27 360 ⇑P **Pn 00 10 00.9 -0.1**
SNY S **Sn 00 13 19.1 -5.3**
SNY pmax pmax
comp=Z,480nm,1.2s
SNY pmax pmax
comp=Z,54μm,13.1s
SNY LR LR
comp=N,371μm,17.5s
SNY LR LR
comp=E,140μm,13.5s
SNY LR LR
comp=Z,468μm,16.2s
KKM Kota Kinabalu 18.76 203 *e*Pn **Pn 00 10 07.8 +0.5**
comp=Z,2μm,1.0s
KKM Kota Kinabalu 18.76 203 P **Pn 00 10 08.3 +1.0**
KKM Kota Kinabalu 18.76 203 P **Pn 00 10 07.7 +0.5**
SDKM Sandakan 18.80 200 P **Pn 00 10 09.0 +1.3**
MYLDM Lahad Datu 18.87 196 P **Pn 00 10 11.4 +2.9**
MYLDM Lahad Datu 18.87 196 P **Pn 00 10 10.2 +1.7**
PANO Nakornpanom 18.88 254 P **Pn 00 10 10.6 +1.9**
comp=Z,2μm,1.4s,comp=Z,63μm
KMI Kunming 19.07 279 ⇓P **Pn 00 10 12.3 +1.1**
KMI pP **pP 00 10 15.1 -1.3**
KMI S **Sn 00 13 41.3 -3.1**
KMI SS **SnSn 00 14 06.1 +7.6**
KMI pmax pmax
comp=Z,490nm,1.5s
KMI pmax pmax
comp=Z,46μm,13.5s
KMI LR LR
comp=N,477μm,16.9s
KMI LR LR
comp=E,145μm,17.5s
KMI LR LR
comp=Z,148μm,22.0s
CD2 Chengdu 19.11 297⇑ *i*P **Pn 00 10 12.3 +1.0**
CD2 pP **pP 00 10 15.8 -0.7**
CD2 sP **sP 00 10 19.3 0.0**
CD2 PP **PnPn 00 10 29.0 +4.9**
CD2 S **Sn 00 13 40.1 -4.8**
CD2 SS **SnSn 00 14 07.3 +8.3**
CD2 pmax pmax
comp=Z,810nm,0.8s
CD2 pmax pmax
comp=Z,69μm,11.8s
CD2 LR LR
comp=N,330μm,21.4s
CD2 LR LR
comp=E,188μm,15.5s
CD2 LR LR
comp=Z,251μm,18.2s
TSM Tawau 19.88 197 P **Pn 00 10 20.7 0.0**
HHC Hu-ho-hao-te 20.03 333 ⇑P Pn 00 10 21.6 -0.8
HHC pP pP 00 10 25.8 -0.8
HHC sP sP 00 10 28.8 -0.7
HHC PP **PnPn 00 10 40.9 +4.0**
HHC S **S 00 14 03.3 -1.5**
HHC sS Sn 00 14 08.3 +1.1
HHC SS **SnSn 00 14 30.1 +8.3**
HHC pmax pmax
comp=Z,600nm,1.2s
HHC pmax pmax
comp=Z,50μm,5.3s
HHC LR LR
comp=N,336μm,15.7s
HHC LR LR
comp=E,329μm,13.3s
HHC LR LR
comp=Z,427μm,15.2s
CN2 Changchun 20.30 4⇑ *i*P **P 00 10 22.8 -0.5**
CN2 *e*PP **PnPn 00 10 41.8 +1.4**
CN2 *e*S **S 00 14 05.8 -4.1**
CN2 pmax pmax
comp=Z,2μm,1.2s
CN2 pmax pmax
comp=Z,31μm,8.0s
BTO Baotou 20.52 329 *e*P **P 00 10 26.5 +0.6**
VLA Vladivostok 20.73 17⇑ *i*P **P 00 10 27.0 -0.9**
VLA *e*S **S 00 14 17.1 -1.3**
VLA pmax pmax
comp=Z,746nm,2.3s
VLA MLR MLR
comp=E,3095μm,18.0s
LZH Lanzhou 21.18 311 ⇑P **P 00 10 34.6 +1.5**
LZH pP **pP 00 10 37.3 -2.0**
LZH sP **sP 00 10 39.4 -2.7**
LZH S **S 00 14 25.8 -2.1**
LZH SS **SnSn 00 14 57.5 +7.3**
LZH pmax pmax
comp=Z,2μm,1.1s
LZH pmax pmax
comp=Z,23μm,9.7s
LZH LR LR
comp=N,227μm,18.1s
LZH LR LR
comp=E,178μm,17.2s
LZH LR LR
comp=Z,334μm,19.3s
MDJ Mudanjiang 21.62 12 P **P 00 10 37.5 -0.1**
MDJ S **S 00 14 31.3 -4.8**
MDJ pmax pmax
comp=Z,220nm,1.2s
MDJ LR LR
comp=N,193μm,19.8s
MDJ LR LR
comp=E,83μm,14.3s
MDJ LR LR
comp=Z,241μm,20.1s
MDJ Mudanjiang 21.62 12 *e*P **P 00 10 35.7 -1.9**
comp=Z,327nm,0.8s
MDJ LR LR
comp=Z,254μm,20.0s
CHAI Chaiyaphum 21.68 254 P **P 00 10 39.3 +0.8**
comp=Z,533nm,1.3s,comp=Z,5μm
USRK Ussuriysk Arra 21.76 16 P **P 00 10 36.8 -2.3**
comp=Z,100nm,0.7s,baz=206,slow=9.6,SNR=81
PBKT Sadao Pong 22.33 256 P **P 00 10 46.5 +1.1**
comp=Z,621nm,1.3s,comp=Z,20μm
TOLI Toli-Toli 22.42 187 P **P 00 10 50.0 +3.7**
comp=Z,2μm,1.1s,comp=Z,36μm
GUMO Guam 22.43 112 *e*P **P 00 10 46.6 +0.1**
comp=Z,4μm,1.1s
GUMO LR LR
comp=Z,112μm,19.0s
GTOI Gorontalo 22.74 182 P **P 00 10 47.4 -2.3**
KMSI Cibinong 22.80 179 P **P 00 10 54.2 +3.9**
TNTI Ternate 22.89 170 P **P 00 10 51.3 0.0**
LAMP Lampang 22.90 262 P **P 00 10 49.2 -2.2**
comp=Z,115nm,1.1s,comp=Z,1μm
NAYO Nakonayok 22.94 250 P **P 00 10 52.8 +0.9**
comp=Z,1μm,1.6s,comp=Z,30μm
MRSI Marisa 22.95 184 P **P 00 10 52.7 +0.8**
CMAI Chiengmai2 23.07 266 P **P 00 10 54.4 +1.0**
comp=Z,673nm,2.2s,comp=Z,23μm
CMMT Chiang Mai 23.44 263 P **P 00 10 56.9 0.0**
comp=Z,467nm,1.7s,comp=Z,17μm
CHTO Chiang Mai 23.44 263 *e*P **P 00 10 57.7 +0.7**
CHTO pmax pmax
comp=Z,545nm,1.1s
CHTO MLR MLR
comp=Z,91μm,22.0s
CHTO Chiang Mai 23.44 263 P **P 00 10 57.9 +0.9**
SNR=405
CHTO Chiang Mai 23.44 263 *e*P **P 00 10 57.6 +0.7**
comp=Z,545nm,1.1s
CHTO LR LR
comp=Z,91μm,22.0s
CHTO Chiang Mai 23.44 263 P **P 00 10 57.4 +0.4**
CHTO Chiang Mai 23.44 263 P **P 00 10 57.3 +0.3**
comp=Z,520nm,1.7s,comp=Z,19μm
CM31 Chiang Mai Arr 23.54 262 *e*P **P 00 10 59.2 +1.3**
comp=Z,277nm,1.0s
CMAR Chiang Mai Arr 23.54 262 P **P 00 10 58.8 +0.9**
CMAR PcP **PcP 00 14 42.9 -0.3**
CMAR Chiang Mai Arr 23.54 262 P **P 00 10 58.8 +0.9**
comp=Z,44nm,0.8s,baz=63,slow=8.0,SNR=190
CMAR PcP **PcP 00 14 42.9 -0.3**
comp=Z,20nm,0.8s,baz=71,slow=1.2,SNR=4.9
SBUM Sibu 23.65 209 P **P 00 10 58.0 -1.0**
UTHA Uthaitani 24.07 255 P **P 00 11 03.9 +1.0**
comp=Z,150nm,1.3s,comp=Z,1μm
LBMI Labuha 24.30 170 P **P 00 11 06.2 +1.2**
LUWI Luwuk 24.41 182 P **P 00 11 06.5 +0.4**
comp=Z,2μm,1.3s,comp=Z,43μm
ERM Erimo 24.62 37 P **P 00 11 06.1 -1.7**
comp=Z,8μm,0.7s,SNR=95
ERM Erimo 24.62 37 *de*P **P 00 11 05.9 -1.9**
ERM pmax pmax
comp=Z,1μm,1.0s
ERM MLR MLR
comp=Z,194μm,18.0s
ERM Erimo 24.62 37 *e*P **P 00 11 05.7 -2.0**
comp=Z,2μm,0.9s
ERM *e*S **S 00 15 29.3 +1.5**
ERM LR LR
comp=Z,168μm,22.0s
PHET Kaeng Krachan 25.04 249 P **P 00 11 12.7 +0.9**
comp=Z,1μm,1.3s,comp=Z,14μm
SWI Sorong 25.34 162 P **P 00 11 14.3 -0.2**
comp=Z,1μm,1.2s,comp=Z,23μm
KSM Kuching 25.41 212 *e*P **P 00 11 14.1 -1.0**
comp=Z,2μm,1.3s
KSM LR LR
comp=Z,38μm,21.0s
KSM Kuching 25.41 212 P **P 00 11 14.8 -0.3**
BKB Balikpapan 25.46 196 P P 00 11 20.9 +5.3
GTA Gaotai 25.63 314 P **P 00 11 16.6 -0.5**
GTA pP **pP 00 11 21.1 -2.6**
GTA sP **sP 00 11 23.8 -2.6**
GTA S **S 00 15 44.8 +0.5**
GTA sS **sS 00 15 52.3 -2.9**
GTA SS SnSn 00 16 51.1 +12
GTA pmax pmax
comp=Z,110nm,1.3s
GTA pmax pmax
comp=Z,6μm,7.8s
GTA LR LR
comp=N,241μm,22.1s
GTA LR LR
comp=E,154μm,21.6s
GTA LR LR
comp=Z,94μm,19.9s
MTKI Muara Teweh, K 25.73 200 P **P 00 11 22.6 +4.6**
comp=Z,2μm,1.1s,comp=Z,28μm
ASAJ Asahikawa 25.81 33 *e*P **P 00 11 17.5 -0.9**
comp=Z,418nm,0.8s
ASAJ *e*S **S 00 15 46.2 -0.5**
ASAJ Asahikawa 25.81 33 P **P 00 11 17.2 -1.3**
comp=Z,481nm,0.6s,baz=223,slow=9.2,SNR=136
HIA Hailar 25.89 354 *e*P **P 00 11 17.4 -1.8**
comp=Z,1μm,0.8s
HIA LR LR
comp=Z,246μm,20.0s
STKI Sintang 26.10 208 P **P 00 11 23.2 +1.8**
comp=Z,551nm,1.3s,comp=Z,12μm
KLR Kul'dur 26.47 12 *e*P P 00 11 18.6 -5.8
KLR *e*S **S 00 15 59.0 +2.0**
KLR pmax pmax
comp=N,250nm,1.8s
KLR pmax pmax
comp=E,400nm,1.8s
KLR pmax pmax
comp=Z,1μm,1.8s
HABR Khabarovsk 26.52 17 *c i*P **P 00 11 21.3 -3.6**
HABR *e**PP **pP 00 11 31.0 -0.5**
HABR *e**SP **sP 00 11 35.2 +1.0**
HABR *e*PPP PPP 00 12 10.5
HABR 00 14 46.5
HABR *e*S **S 00 15 53.5 -4.4**
HABR *e**SS **sS 00 16 09.6 +0.9**
HABR *e*SSS SSS 00 17 11.7
HABR *e* 00 22 13.1
HABR pmax pmax
comp=Z,1μm,2.5s
HABR pmax pmax
comp=Z,461nm,1.8s
HABR MLR MLR
comp=Z,152μm,17.0s
HABR MLR MLR
comp=N,130μm,19.0s
HABR MLR MLR
comp=E,109μm,15.0s
NLAI Namlea 26.80 172 P **P 00 11 30.3 +2.6**
RKPI Ransiki, Papua 26.92 156 P **P 00 11 29.0 +0.3**
SKLT Songkhla 27.40 237 P **P 00 11 34.0 +0.9**
comp=E,296nm,1.9s,comp=E,7μm
AAI Ambon 27.40 170 P **P 00 11 32.6 -0.4**
BAKI Biak 27.40 152 P P 00 11 39.7 +6.6
YUK Yuzh-Kuril'sk 27.45 36 *i* P **P 00 11 33.0 -0.2**
YUK *i* S **S 00 16 13.6 +1.1**
YUK pmax pmax
comp=Z,16μm,1.9s
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=N,3μm,2.0s
YUK MLR MLR
comp=E,121μm,20.0s
YUK MLR MLR
comp=Z,141μm,20.0s
YUK MLR MLR
comp=N,18μm,20.0s
FAKI Fak Fak 27.59 161 P **P 00 11 34.8 0.0**
ULN Ulaanbaatar 27.65 336 P **P 00 11 34.5 -0.8**
SNR=207
ULN Ulaanbaatar 27.65 336 *e*P **P 00 11 34.4 -0.8**
comp=N,286nm,0.8s
ULN LR LR
comp=Z,128μm,20.0s
ULN Ulaanbaatar 27.65 336 P **P 00 11 34.6 -0.7**
SONM Songino Array 27.88 335 P **P 00 11 36.2 -1.1**
SONM Songino Array 27.88 335 P **P 00 11 36.2 -1.1**
comp=Z,470nm,0.9s,baz=146,slow=9.1,SNR=594
SONM LR LR 00 24 26.7
comp=Z,175μm,18.1s,baz=144,slow=40
YSS Yuzh-Sakhalins 28.00 29 *α i*P **P 00 11 38.0 -0.2**
YSS *e* 00 12 34.0
YSS *e*S **S 00 16 19.0 -2.2**
YSS pmax pmax
comp=N,3μm,1.9s
YSS pmax pmax
comp=E,2μm,1.9s
YSS pmax pmax
comp=Z,5μm,1.9s
YSS pmax pmax
comp=N,8μm,16.0s
YSS pmax pmax
comp=E,6μm,16.0s
YSS pmax pmax
comp=Z,12μm,16.0s
YSS smax smax
comp=N,8μm,16.0s
YSS smax smax
comp=E,14μm,22.0s
YSS MLR MLR
comp=Z,124μm,17.0s
SRPI Serui, Papua 28.07 152 P **P 00 11 40.8 +1.7**
comp=Z,452nm,0.4s,comp=Z,16μm
BBKI Banjar Baru 28.13 199 P **P 00 11 41.3 +1.7**
BNDI Bandanaira 28.53 167 P P 00 11 59.4 +16
KULM Kulim 28.58 234 PFAKE 00 12 00.0 +16
KULM LR LR
comp=Z,87μm,19.0s
KAPI Kappang 28.59 188 P **P 00 11 43.6 -0.1**
comp=Z,2μm,1.2s,SNR=28
KAPI Kappang 28.59 188 P **P 00 11 43.7 -0.1**
SNR=29
KAPI Kappang 28.59 188 P **P 00 11 42.6 -1.1**
KAPI Kappang 28.59 188 P **P 00 11 42.6 -1.1**
comp=Z,72nm,1.1s,baz=26,slow=11,SNR=27
KAPI LR LR 00 23 10.5
comp=Z,95μm,20.5s,baz=3.0,slow=36
PKDT Phuket 28.77 241 P **P 00 11 45.8 +0.5**
comp=Z,297nm,1.1s,comp=Z,5μm

IPM	**Ipoh**	**28.85 232**	P	**P**	**00 11 45.2 -0.9**
MYKOM	**Kota Tinggi**	**28.85 224**	P	**P**	**00 11 46.6 +0.6**
SHL	**Shillong**	**28.89 281**	*e*P	**P**	**00 11 47.2 +0.7**
SHL			AMB	AMB	00 12 09.1
	comp=Z,265nm,1.3s				
KUR	**Kuril'sk**	**29.32 36**	*i* P	**P**	**00 11 48.8 -1.1**
KUR			*i* S	**S**	**00 16 36.5 -5.4**
KUR			pmax	pmax	
	comp=Z,264nm,1.1s				
KUR			pmax	pmax	
	comp=Z,1μm,1.1s				
KUR			pmax	pmax	
	comp=N,541nm,1.1s				
KUR			MLR	MLR	
	comp=N,64μm,21.0s				
KUR			MLR	MLR	
	comp=E,151μm,21.0s				
KUR			MLR	MLR	
	comp=Z,90μm,21.0s				
CIT	**Chita**	**29.50 347**	*e*P	**P**	**00 11 50.2 -1.3**
CIT			*e*		00 12 44.2
CIT			pmax	pmax	
	comp=Z,1μm,2.0s				
LSA	**Lhasa**	**29.59 289**	P	**P**	**00 11 54.6 +1.4**
LSA			S	**S**	**00 16 43.3 -4.3**
LSA			LR	LR	
	comp=N,124μm,18.4s				
LSA			LR	LR	
	comp=E,113μm,21.2s				
LSA			LR	LR	
	comp=Z,140μm,21.8s				
LSA	**Lhasa**	**29.59 289**	*e*P	**P**	**00 11 54.5 +1.4**
LSA			pmax	pmax	
	comp=Z,282nm,0.8s				
LSA			MLR	MLR	
	comp=Z,154μm,22.0s				
LSA	**Lhasa**	**29.59 289**	*e*P	**P**	**00 11 54.5 +1.4**
	comp=Z,282nm,0.8s				
LSA			LR	LR	
	comp=Z,154μm,22.0s				
BSSI	**Bau Bau, Buton**	**29.62 186**	P	P	00 12 04.6 +12
TLE	**Tual**	**30.31 162**	P	P	00 12 02.3 +3.3
TPI	**Tanjungpandan**	**30.37 213**	P	**P**	**00 12 02.5 +3.0**
	comp=Z,124nm,1.4s,comp=Z,4μm				
JAY	**Jayapura**	**30.77 145**	P	P	00 12 08.4 +5.3
DGPR	**DIGLIPUR**	**30.80 256**	*e*P	**P**	**00 12 03.2 -0.1**
TSI	**Tuntungan**	**31.32 234**	P	**P**	**00 12 10.5 +2.6**
LHMI	**Lhok Sumawe**	**31.46 239**	P	**P**	**00 12 10.4 +1.3**
PSI	**Prapat**	**31.52 233**	P	**P**	**00 12 10.2 +0.4**
PSI	**Prapat**	**31.52 233**	P	**P**	**00 12 10.2 +0.4**
	comp=Z,58nm,0.6s,baz=23,slow=9.2,SNR=16				
PSI			LR	LR	00 25 25.2
	comp=Z,46μm,18.5s,baz=42,slow=37				
PBA	**Port Blair**	**31.61 253**	*e*P	P	00 12 10.8 +0.4
PBA			AMB	AMB	00 12 15.9
	comp=Z,352nm,0.6s				
KMMI	**Kalianget**	**31.79 198**	P	P	00 12 23.5 +11
MMRI	**Maumere**	**31.97 183**	P	**P**	**00 12 15.5 +1.9**
LBFI	**Labuhan Bajo,**	**32.00 187**	P	**P**	**00 12 13.8 0.0**
IRK	**Irkutsk**	**32.28 338**	*e*P	**P**	**00 12 14.4 -1.6**
IRK			*e*		00 17 26.6
IRK			pmax	pmax	
	comp=Z,346nm,2.0s				
SRBI	**Singaraja**	**32.45 196**	P	P	00 12 22.7 +4.9
	comp=Z,327nm,1.5s,comp=Z,9μm				
BLJI	**Banyuglugur**	**32.56 199**	P	**P**	**00 12 20.7 +1.9**
	comp=Z,242nm,1.1s,comp=Z,10μm				
TAPN	**Taplejung**	**32.56 284**	*e*P	**P**	**00 12 20.4 +1.3**
	comp=Z,1μm,1.0s				
BYJI	**Banyuwangi**	**32.79 197**	P	P	00 12 35.3 +15
ODAN	**Odare**	**32.86 283**	*e*P	**P**	**00 12 22.6 +0.9**
	comp=Z,928nm,0.9s				
CMBY	**CAMPBELL BAY**	**32.87 245**	*e*P	**P**	**00 12 22.0 +0.4**
NBBI	**Negara**	**32.87 197**	P	**P**	**00 12 24.4 +2.9**
	comp=Z,567nm,1.1s,comp=Z,14μm				
DNP	**Denpasar**	**33.02 195**	P	**P**	**00 12 25.3 +2.5**
	comp=Z,1μm,1.4s,comp=Z,30μm				
MOY	**Mondy**	**33.06 334**	*e*P	**P**	**00 12 22.1 -0.9**
MOY			pmax	pmax	
	comp=Z,418nm,2.4s				
GMJI	**Gumukmas**	**33.11 199**	P	P	00 12 36.2 +13
WSI	**Waingapu**	**33.13 186**	P	P	00 12 27.7 +4.0
	comp=Z,1μm,0.9s,comp=Z,25μm				
SJI	**Sawahan**	**33.13 202**	P	**P**	**00 12 26.7 +2.8**
	comp=Z,335nm,1.0s,comp=Z,10μm				
IGBI	**Denpasar**	**33.17 195**	P	**P**	**00 12 25.8 +1.7**
	comp=Z,447nm,2.1s,comp=Z,10μm				
CLNS	**Chul'man**	**33.31 1**	*e*P	**P**	**00 12 25.6 +0.6**
CLNS			*e**PP	**pP**	**00 12 33.6 +2.0**
CLNS			*e*		00 13 44.1
CLNS			*e*S	S	00 17 51.7 +7.5
CLNS			*e*SS	**SS**	**00 20 13.3 +5.2**
CLNS			pmax	pmax	
	comp=Z,541nm,2.1s				
CLNS			pmax	pmax	
	comp=E,136nm,1.7s				
CLNS			pmax	pmax	
	comp=N,323nm,1.6s				
CLNS			pmax	pmax	
	comp=E,47nm,0.8s				
CLNS			pmax	pmax	
	comp=Z,91nm,1.8s				
CLNS			pmax	pmax	
	comp=N,81nm,1.1s				
CLNS			smax	smax	
	comp=N,6μm,14.0s				
CLNS			smax	smax	
	comp=E,3μm,12.5s				
CLNS			MLR	MLR	
	comp=N,181μm,16.0s				
CLNS			MLR	MLR	
	comp=Z,186μm,15.0s				
CLNS			MLR	MLR	
	comp=E,45μm,14.0s				
PWJI	**Pagerwojo**	**33.39 202**	P	P	00 12 29.7 +3.7
	comp=E,316nm,1.0s,comp=E,15μm				
BJII	**Banjamegara**	**33.52 206**	P	P	00 12 30.6 +3.4
KLSI		**33.53 216**	P	P	00 12 38.6 +11
RAMN	**Ramite**	**33.56 284**	*e*P	**P**	**00 12 28.8 +1.0**
	comp=E,493nm,0.9s				
YOGI	**Yogyakarta**	**33.74 204**	P	P	00 12 34.6 +5.6
	comp=E,1μm,1.7s,comp=E,23μm				
UGM	**Wanagama**	**33.74 204**	*e*P	P	00 12 32.5 +3.4
	comp=E,2μm,1.6s				
UGM	**Wanagama**	**33.74 204**	P	P	00 12 32.9 +3.8
	comp=E,614nm,1.6s,comp=E,15μm				
TNG	**Tangerang**	**33.82 211**	P	P	00 12 41.4 +12
TNG	**Tangerang**	**33.82 211**	P	P	00 12 41.4 +12
JIRN	**Jiri**	**33.90 285**	*e*P	**P**	**00 12 31.9 +1.0**
	comp=E,314nm,0.8s				
LEM	**Lembang**	**33.95 209**	P	P	00 12 42.0 +11
SBJI	**Serang**	**34.03 212**	P	P	00 12 38.0 +6.4
DBJI	**Dramaga**	**34.11 211**	P	P	00 12 43.9 +12
GUN	**Gumba**	**34.17 285**	*e*P	**P**	**00 12 33.6 +0.4**
	comp=E,908nm,1.1s				
BOK	**Bokaro**	**34.48 278**	*e*P	**P**	**00 12 36.5 +1.0**
BOK			AMB	AMB	00 12 40.3
	comp=Z,268nm,0.4s				
CISI	**Cisompet, Garu**	**34.51 208**	P	**P**	**00 12 37.6 +1.8**
PKI	**Pulchoki**	**34.60 285**	*e*P	**P**	**00 12 37.1 +0.2**
	comp=Z,240nm,0.9s				
PKIN	**Phulchoki**	**34.61 285**	*e*P	**P**	**00 12 37.2 +0.3**
	comp=Z,170nm,0.8s				
KKN	**Kakani**	**34.71 285**	*e*P	**P**	**00 12 38.0 +0.3**
	comp=Z,332nm,0.8s				
DMN	**Daman**	**34.87 285**	*e*P	**P**	**00 12 39.5 +0.4**
	comp=Z,310nm,0.8s				
WMQ	**Urumqi**	**35.72 313**	P	**P**	**00 12 46.3 +0.3**
WMQ			pP	**pP**	**00 12 50.8 -1.9**
WMQ			PP	**PP**	**00 14 06.8 -0.5**
WMQ			PcP	**PcP**	**00 15 15.8 +1.9**
WMQ			S	**S**	**00 18 21.3 -0.5**
WMQ			sS	**sS**	**00 18 30.8 -1.9**
WMQ			SS	**SnSn**	**00 20 41.1 -3.0**
WMQ			ScS	**ScS**	**00 23 01.8 -1.9**
WMQ			pmax	pmax	
	comp=Z,160nm,1.5s				
WMQ			pmax	pmax	
	comp=Z,8μm,9.0s				
WMQ			LR	LR	
	comp=N,190μm,23.0s				
WMQ			LR	LR	
	comp=E,42μm,21.5s				
WMQ			LR	LR	
	comp=Z,59μm,25.0s				
HVS	**Khovu-Aksy**	**35.96 328***c* *i*P		**P**	**00 12 47.1 -0.9**
HVS			pmax	pmax	
	comp=Z,1μm,1.1s				
HVS			MLR	MLR	
	comp=Z,524μm,17.0s				
DANN	**Dangsing**	**36.03 286**	*e*P	**P**	**00 12 49.8 +0.6**
	comp=Z,607nm,1.0s				
KOLN	**Koldanda**	**36.19 285**	*e*P	**P**	**00 12 51.0 +0.5**
	comp=Z,318nm,0.8s				
SKR	**Severo-Kuril's**	**37.02 35**⇑	*i*P	P	00 12 52.0 -5.0
SKR			*i*		00 13 01.2
SKR			*i*		00 13 08.5
SKR			*e*S	**S**	**00 18 36.0 -5.3**
SKR			pmax	pmax	
	comp=N,130nm,1.0s				
SKR			smax	smax	
	comp=E,21μm,12.0s				
SKR			smax	smax	
	comp=E,34μm,10.0s				
SKR			MLR	MLR	
	comp=E,66μm,20.0s				
SKR			MLR	MLR	
	comp=Z,113μm,20.0s				
SKR			MLR	MLR	
	comp=N,30μm,22.0s				
VIS	**Vishakhapatnam**	**38.03 269**	*e*P	**P**	**00 13 07.3 +1.4**
YAK	**Yakutsk**	**38.73 5**	*i* P	**P**	**00 13 09.0 -2.2**
YAK			*e**PP	**pP**	**00 13 16.8 -1.1**
YAK			*e*		00 14 43.4
YAK			*e*		00 15 10.1
YAK			*e*S	**S**	**00 19 06.5 -0.4**
YAK			pmax	pmax	
	comp=E,50nm,1.1s				
YAK			pmax	pmax	
	comp=Z,650nm,0.9s				
YAK			pmax	pmax	
	comp=N,369nm,1.4s				
YAK			pmax	pmax	
	comp=E,249nm,2.3s				
YAK			pmax	pmax	
	comp=N,880nm,2.4s				
YAK			pmax	pmax	
	comp=Z,1μm,2.5s				
YAK			smax	smax	
	comp=E,291nm,2.5s				
YAK			smax	smax	
	comp=N,500nm,2.7s				
YAK			MLR	MLR	
	comp=Z,166μm,18.0s				
YAK			MLR	MLR	
	comp=N,111μm,14.0s				
YAK			MLR	MLR	
	comp=E,55μm,19.0s				
PTH	**Pithoragarh**	**39.10 288**	*e*P	**P**	**00 13 13.0 -2.1**
PTH			*e*x	x	00 19 19.0
PEA0B	**Petropavlovsk-**	**39.23 32**	*e*P	**P**	**00 13 14.7 -0.8**
PEA0B			*e*S	**S**	**00 19 14.3 -0.4**
PETK	**Petropavlovsk-**	**39.23 32**	P	**P**	**00 13 15.0 -0.5**
PETK			S	**S**	**00 19 17.1 +2.4**
PETK	**Petropavlovsk-**	**39.23 32**	P	**P**	**00 13 15.0 -0.5**
PETK			S	**S**	**00 19 17.1 +2.4**
PETK	**Petropavlovsk-**	**39.23 32**	P	**P**	**00 13 15.0 -0.5**
	comp=E,171nm,0.9s,baz=211,slow=5.2,SNR=137				
PETK			S	**S**	**00 19 17.1 +2.4**
	comp=E,7.3nm,1.0s,baz=288,slow=10,SNR=3.6				
PETK			LR	LR	00 31 41.5
	comp=E,48μm,19.6s,baz=232,slow=40				
KRAR	**Krasnoyarsk**	**39.52 333***c*e*P		**P**	**00 13 18.0 +0.1**
KRAR			pmax	pmax	
	comp=Z,539nm,1.0s				
KRAR			MLR	MLR	
	comp=Z,174μm,18.0s				
PET	**Petropavlovsk**	**39.65 33***α* *i*P		**P**	**00 13 18.6 -0.4**
PET			*e*S	**S**	**00 19 21.2 +0.2**
PET			pmax	pmax	
	comp=Z,2μm,1.5s				
PET			pmax	pmax	
	comp=Z,8μm,12.5s				
PET			smax	smax	
	comp=N,10μm,13.8s				
PET			smax	smax	
	comp=N,22μm,16.1s				
PET			smax	smax	
	comp=E,185nm,1.5s				
PET			MLR	MLR	
	comp=Z,80μm,21.0s				
PET			MLR	MLR	
	comp=Z,58μm,20.0s				
JBP	**Jabalpur**	**39.93 278**⇑	*i*P	**P**	**00 13 21.7 -0.1**
JBP			*e*x	x	00 18 51.4
PMG	**Port Moresby**	**40.02 142**	*e*P	**P**	**00 13 22.3 -0.2**
	comp=Z,486nm,1.1s				
PMG	**Port Moresby**	**40.02 142**	P	**P**	**00 13 23.1 +0.6**
	comp=Z,600nm,0.9s,comp=Z,8μm				
PMG	**Port Moresby**	**40.02 142**	P	**P**	**00 13 22.8 +0.3**
	comp=Z,156nm,1.0s,baz=326,slow=8.5,SNR=19				
PMG			LR	LR	00 29 03.1
	comp=Z,84μm,18.9s,baz=318,slow=35				
WAKE	**Wake Island**	**40.21 88**	*e*P	**P**	**00 13 23.5 -0.6**
	comp=Z,632nm,1.0s				
WAKE			LR	LR	
	comp=Z,35μm,20.0s				
MK31	**Makanchi Array**	**40.36 316**	*e*P	**P**	**00 13 24.9 -0.2**
MK31	**Makanchi Array**	**40.36 316**	*e*P	**P**	**00 13 24.9 -0.2**
MKAR	**Makanchi Array**	**40.36 316**	*e*P	**P**	**00 13 25.0 -0.1**
MKAR	**Makanchi Array**	**40.36 316**	*e*P	**P**	**00 13 25.0 -0.1**
MKAR	**Makanchi Array**	**40.36 316**	P	**P**	**00 13 25.0 -0.1**
	comp=Z,62nm,0.6s,baz=99,slow=8.3,SNR=274				
DDI	**Dehra Dun**	**40.95 290**	*e*P	**P**	**00 13 31.6 +1.3**
DDI			AMB	AMB	00 13 37.1
	comp=Z,2μm,1.0s				
NGP	**Nagpur**	**41.15 276**	*e*x	P	00 13 28.3 -3.6
NGP			AMB	AMB	00 13 33.4
	comp=Z,205nm,1.2s				
NGP			*e*S	**S**	**00 19 41.5 -2.7**
FITZ	**Fitzroy Crossi**	**41.40 177**	P	**P**	**00 13 33.4 -0.4**
FITZ	**Fitzroy Crossi**	**41.40 177**	P	**P**	**00 13 33.4 -0.4**
	comp=Z,125nm,0.8s,baz=9.8,slow=7.1,SNR=34				
FITZ			LR	LR	00 30 55.5
	comp=Z,20μm,19.9s,baz=226,slow=36				
SMLA	**Simla**	**41.70 291**	*i* P	**P**	**00 13 37.5 +1.2**
SMLA			AMb	AMB	00 13 46.3
	comp=Z,2μm,0.7s				
SMLA			*i* x	x	00 19 24.8
SDNR	**Sundarnagar**	**41.86 292**	*e*P	**P**	**00 13 40.4 +2.7**
SDNR			*e*x	x	00 19 43.0
ZAA0	**Zalesovo Array**	**42.02 326**	*e*P	**P**	**00 13 37.2 -1.4**
ZALV	**Zalesovo Beam**	**42.02 326**	*i* P	**P**	**00 13 37.4 -1.2**
ZALV			pmax	pmax	
	comp=Z,477nm,0.7s				
ZALV	**Zalesovo Beam**	**42.02 326**	P	**P**	**00 13 37.4 -1.2**
ZALV			*e*		00 51 20.8
ZALV	**Zalesovo Beam**	**42.02 326**	P	**P**	**00 13 37.4 -1.2**
	comp=Z,481nm,0.7s,baz=110,slow=8.1,SNR=438				
ZALV			LR	LR	00 32 42.6
	comp=Z,92μm,18.4s,baz=130,slow=38				
ZALV			P4KPbc		00 51 20.8
	comp=Z,5.7nm,1.0s,baz=142,slow=7.3,SNR=14				
BHPL	**Bhopal**	**42.24 279**	*e*P	**P**	**00 13 40.6 -0.3**
BHPL			AMB	AMB	00 13 44.9
	comp=Z,177nm,1.0s				
MDRS	**Chennai**	**42.30 264**	*e*P	**P**	**00 13 41.2 -0.2**
MDRS			AMB	AMB	00 13 46.5
	comp=Z,368nm,0.0s				
BHK	**Bhakra**	**42.34 291**	*e*P	**P**	**00 13 43.0 +1.5**
DHRM	**DHARAMSHALA**	**42.42 293**	*e*P	**P**	**00 13 43.3 +0.9**
DHRM			AMB	AMB	00 13 58.9
	comp=Z,631nm,1.7s				
HYB	**Hyderabad**	**42.50 270**	*i* P	**P**	**00 13 43.0 0.0**
	comp=Z,200nm,1.0s				
HYB			*e*PP	PP	00 15 28.0 +6.3
HYB			*e*S	**S**	**00 20 04.0 -0.3**
HYB			LR	LR	00 27 30.0
	comp=Z,49nm,28.0s				
HYB	**Hyderabad**	**42.50 270**	*e*P	**P**	**00 13 43.6 +0.6**
HYB			AMB	AMB	00 13 48.1
	comp=Z,225nm,2.7s				
DLH	**Dalhousie**	**42.70 293**	*e*x	P	00 13 48.0 +3.3
DLH			*e*x	x	00 14 08.0
THN	**Thein Dam**	**42.91 293**	*e*x	P	00 13 39.0 -7.2
THN			*e*x	x	00 19 47.5
AAA	**Alma-Ata**	**43.01 309**	*i* P	**P**	**00 13 48.5 +1.6**
AAA			*e*S	**S**	**00 20 10.8 -0.6**
AAA			pmax	pmax	
	comp=Z,7μm,12.0s				
AAA			smax	smax	
	comp=N,22μm,11.9s				
AAA			MLR	MLR	
	comp=Z,77μm,20.0s				
KSH	**Kashi**	**43.11 303**⇑	*i*P	P	00 13 52.1 +4.2
KSH			sP	sP	00 13 59.1 +1.8
KSH			PP	**PcP**	**00 15 35.0 -2.5**
KSH			S	S	00 20 20.0 +6.9
KSH			sS	sS	00 20 28.3 +4.1
KSH			SS	**SS**	**00 23 26.1 +0.3**
KSH			pmax	pmax	
	comp=Z,340nm,1.1s				
KSH			pmax	pmax	
	comp=Z,2μm,3.4s				
KSH			LR	LR	
	comp=N,181μm,21.1s				
KSH			LR	LR	
	comp=E,85μm,22.2s				
KSH			LR	LR	
	comp=Z,57μm,21.6s				
NVS	**Novosibirsk**	**43.27 327**⇑	*i*P	**P**	**00 13 47.6 -1.1**
NVS			*i*		00 15 41.6
NVS			*e*S	S	00 20 07.4 -7.2
NVS			*e*		00 23 42.1
NVS			pmax	pmax	
	comp=N,155nm,1.1s				
NVS			pmax	pmax	
	comp=E,220nm,1.1s				
NVS			pmax	pmax	
	comp=Z,317nm,1.1s				
NVS			smax	smax	
	comp=E,337nm,2.6s				
ULHL	**Ulahol**	**43.33 307**	*i* P	**P**	**00 13 51.4 +1.7**
ULHL	**Ulahol**	**43.33 307**	P	**P**	**00 13 51.4 +1.7**
	SNR=29				
SEY	**Seymchan**	**43.89 19***c*e*P		**P**	**00 13 52.7 -0.9**
TKM2	**Tokmak 2**	**43.92 308**	*i* P	**P**	**00 13 55.8 +1.4**
TKM2	**Tokmak 2**	**43.92 308**	P	**P**	**00 13 55.8 +1.4**
	SNR=549				
TKM2	**Tokmak 2**	**43.92 308**	*e*P	**P**	**00 13 55.8 +1.4**
	comp=E,572nm,0.8s				
TKM2			LR	LR	
	comp=Z,57μm,19.0s				
KZA	**Kyzart**	**44.02 307**	*i* P	**P**	**00 13 57.6 +2.1**
KZA	**Kyzart**	**44.02 307**	P	**P**	**00 13 57.6 +2.1**
	SNR=149				
KURK	**Kurchatov**	**44.03 320**	P	**P**	**00 13 54.5 -0.4**
KURK			S	**S**	**00 20 27.5 +1.7**
KURK	**Kurchatov**	**44.03 320**	P	**P**	**00 13 54.5 -0.4**
KURK			S	**S**	**00 20 27.5 +1.7**
KURK			P'P'		00 45 40.6
KURBB	**Kurchatov Arra**	**44.05 320**	P	**P**	**00 13 54.5 -0.6**
	comp=Z,71nm,0.4s,baz=112,slow=9.4,SNR=203				
KURBB			S	**S**	**00 20 27.5 +1.4**
	comp=Z,9.8nm,1.0s,baz=101,slow=16,SNR=5.2				
KURBB			PKPPKP	P'P'df	00 45 40.6 -6.3
	comp=Z,3.9nm,1.1s,baz=267,slow=3.6,SNR=4.9				
LATR	**Latur**	**44.06 273**	*e*P	**P**	**00 13 53.9 -1.7**
LATR			AMB	AMB	00 13 59.5
	comp=Z,584nm,1.4s				
COCO	**West Island**	**44.09 219**	*e*P	**P**	**00 13 55.9 +0.2**
COCO			pmax	pmax	
	comp=Z,2μm,1.8s				
COCO			MLR	MLR	
	comp=Z,12μm,20.0s				
COCO	**West Island**	**44.09 219**	*e*P	**P**	**00 13 55.9 +0.2**
	comp=Z,2μm,1.8s				
COCO			LR	LR	
	comp=Z,12μm,20.0s				
COCO	**West Island**	**44.09 219**	P	P	00 13 59.5 +3.8
	comp=Z,298nm,1.6s,comp=Z,8μm				
PALK	**Pallekele**	**44.18 256**	P	**P**	**00 13 58.6 +1.9**
	comp=Z,1μm,0.9s,SNR=20				
PALK	**Pallekele**	**44.18 256**	P	**P**	**00 13 59.4 +2.8**
	SNR=18				
PALK	**Pallekele**	**44.18 256**	*e*P	**P**	**00 13 57.8 +1.1**
	comp=Z,468nm,1.3s				
PALK	**Pallekele**	**44.18 256**	P	**P**	**00 13 58.9 +2.2**
	comp=Z,332nm,1.4s,comp=Z,5μm				
KBK	**Karagaybulak**	**44.34 308**	*i* P	**P**	**00 13 59.5 +1.8**
KBK	**Karagaybulak**	**44.34 308**	P	**P**	**00 13 59.5 +1.8**
	SNR=162				
WRAB	**Tennant Creek**	**44.43 165**	*e*P	**P**	**00 13 57.5 -0.9**
WRAB			pmax	pmax	
	comp=Z,835nm,1.1s				
WRAB			MLR	MLR	
	comp=Z,40μm,20.0s				
WRAB	**Tennant Creek**	**44.43 165**	*e*P	**P**	**00 13 57.5 -0.9**
	comp=Z,834nm,1.1s				
WRAB			LR	LR	
	comp=Z,40μm,20.0s				
WRA	**Warramunga Arr**	**44.44 165**	P	**P**	**00 13 58.0 -0.5**
WRA			S	**S**	**00 20 32.6 +0.3**
WRA			P'P'		00 45 28.1
WRA			*e*		00 51 52.9
WRA	**Warramunga Arr**	**44.44 165**	P	**P**	**00 13 58.0 -0.5**
	comp=Z,166nm,0.8s,baz=348,slow=8.4,SNR=161				
WRA			S	**S**	**00 20 32.6 +0.3**
	comp=Z,23nm,1.4s,baz=347,slow=16,SNR=4.7				
WRA			LR	LR	00 34 59.6
	comp=Z,33μm,18.0s,baz=345,slow=40				
WRA			PKPPKP	P'P'df	00 45 28.1 -7.2
	comp=Z,3.2nm,1.1s,baz=130,slow=1.6,SNR=4.8				
WRA			P4KPbc		00 51 52.9
	comp=Z,0.7nm,1.0s,baz=350,slow=5.2,SNR=4.9				
CHMS	**Chumysh**	**44.54 308**	*i* P	**P**	**00 14 00.2 +1.0**
CHMS	**Chumysh**	**44.54 308**	P	**P**	**00 14 00.1 +1.0**
	SNR=228				
KWAJ	**Kwajalein Atol**	**44.54 102**	*e*P	**P**	**00 13 59.4 -0.1**
KWAJ			pmax	pmax	
	comp=Z,381nm,1.3s				
KWAJ	**Kwajalein Atol**	**44.54 102**	*e*P	**P**	**00 13 59.4 -0.1**
	comp=Z,381nm,1.3s				
MBWA	**Marble Bar**	**44.55 185**	P	**P**	**00 14 00.1 +0.8**
	SNR=29				
MBWA	**Marble Bar**	**44.55 185**	*e*P	**P**	**00 13 58.1 -1.2**
	comp=Z,590nm,1.2s				
MBWA			LR	LR	
	comp=Z,17μm,20.0s				
UCH	**Uchtor**	**44.59 307**	*i* P	**P**	**00 14 02.0 +1.9**
UCH	**Uchtor**	**44.59 307**	P	**P**	**00 14 02.0 +1.9**
	SNR=94				
FRU	**Bishkek**	**44.61 308**⇑	*i*P	**P**	**00 14 00.0 +0.2**
FRU			*e*		00 14 16.0
FRU			*e*S	**S**	**00 20 40.0 +5.4**
FRU			pmax	pmax	
	comp=Z,580nm,2.0s				
FRU			MLR	MLR	
	comp=E,15μm,23.0s				
AAK	**Ala-Archa**	**44.67 307***c* *i*P		**P**	**00 14 01.6 +1.3**
AAK			pmax	pmax	
	comp=Z,352nm,0.7s				
AAK			MLR	MLR	
	comp=Z,433μm,27.0s				
AAK	**Ala-Archa**	**44.67 307**	P	**P**	**00 14 02.0 +1.6**
	SNR=74				
AAK	**Ala-Archa**	**44.67 307**	P	**P**	**00 14 01.7 +1.3**
	SNR=79				
AAK	**Ala-Archa**	**44.67 307**	*e*P	**P**	**00 14 01.6 +1.3**
	comp=Z,471nm,1.4s				
AAK	**Ala-Archa**	**44.67 307**	P	**P**	**00 14 01.8 +1.4**
	comp=Z,134nm,0.7s,baz=90,slow=7.7,SNR=63				
AAK			LR	LR	00 35 37.1
	comp=Z,63μm,21.0s,baz=77,slow=40				
USP	**Ospenovka**	**44.77 308**	*i* P	**P**	**00 14 01.9 +0.9**
USP	**Ospenovka**	**44.77 308**	P	**P**	**00 14 01.9 +0.9**
	SNR=86				
AML	**Almayashu**	**45.18 307**	*i* P	**P**	**00 14 06.6 +1.9**
AML	**Almayashu**	**45.18 307**	P	**P**	**00 14 06.6 +1.9**
	SNR=177				
EKS2	**Erkin-Say**	**45.19 307**	*e*P	**P**	**00 14 05.8 +1.3**
EKS2			pmax	pmax	
	comp=Z,138nm,0.8s				
EKS2			MLR	MLR	
	comp=Z,69μm,19.0s				
EKS2	**Erkin-Say**	**45.19 307**	P	**P**	**00 14 05.9 +1.3**
	SNR=128				
EKS2	**Erkin-Say**	**45.19 307**	*e*P	**P**	**00 14 05.8 +1.3**
	comp=Z,138nm,0.8s				
EKS2			LR	LR	
	comp=Z,69μm,19.0s				
POO	**Poona**	**46.52 274**	*e*P	**P**	**00 14 15.7 +0.6**
POO			AMB	AMB	00 14 21.0
	comp=Z,399nm,0.8s				
TRD	**Trivandrum**	**47.02 259**	*e*P	**P**	**00 14 20.7 +1.7**
GOA	**Goa**	**47.40 270**	*e*P	**P**	**00 14 22.9 +1.0**
GOA			AMB	AMB	00 14 28.2

comp=Z,320nm,2.3s
FX1 Attu Island--F 47.45 39 *e*P **P 00 14 23.1 +1.2**
FX1 Attu Island--F 47.45 39 P **P 00 14 22.4 +0.5**
comp=Z,503nm,1.0s,baz=268,slow=6.0,SNR=46
KK31 Karatay Array 47.63 308 *i* P **P 00 14 24.4 +0.9**
KK31 pmax pmax
comp=Z,94nm,0.6s
KKAR Karatay Array 47.63 308 *e*P **P 00 14 24.3 +0.8**
KKAR Karatay Array 47.63 308 *e*P **P 00 14 24.3 +0.8**
SMY Shemya 47.94 39 *e*P **P 00 14 27.3 +1.6**
SMY pmax pmax
comp=Z,2μm,1.4s
SMY Shemya 47.94 39 *e*P **P 00 14 27.3 +1.6**
comp=Z,2μm,1.4s
AS31 Alice Springs 47.95 167 *e*P **P 00 14 25.6 -0.5**
ASAR Alice Springs 47.95 167 P **P 00 14 26.1 +0.1**
ASAR P'P' 00 45 21.9
ASAR *e* 00 52 08.1
ASAR Alice Springs 47.95 167 P **P 00 14 26.1 +0.1**
comp=Z,87nm,0.9s,baz=348,slow=6.1,SNR=101
ASAR PKPPKP P'P'df 00 45 21.9 -9.1
comp=Z,1.9nm,0.9s,baz=111,slow=3.0,SNR=4.6
ASAR P4KPbc 00 52 08.1
comp=Z,2.2nm,0.7s,baz=346,slow=3.9,SNR=14
TIXI Tiksi 48.26 2*c i*P **P 00 14 25.8 -2.1**
TIXI pmax pmax
comp=Z,1μm,2.1s
TIXI MLR MLR
comp=Z,261μm,19.0s
HNR Honiara 48.33 128 P **P 00 14 29.3 +0.1**
HNR Honiara 48.33 128 P **P 00 14 29.3 +0.1**
comp=Z,44nm,0.3s,baz=167,slow=9.7,SNR=4.9
HNR LR LR 00 30 36.9
comp=Z,37μm,21.4s,baz=309,slow=31
KBL Kabul 48.44 296 *e*P **P 00 14 31.4 +1.3**
KBL pmax pmax
comp=Z,524nm,0.9s
KBL Kabul 48.44 296 *e*P **P 00 14 31.4 +1.3**
comp=Z,524nm,0.9s
CTA Charters Tower 48.64 151 P **P 00 14 32.0 +0.6**
CTA Charters Tower 48.64 151 P **P 00 14 32.0 +0.6**
comp=Z,43nm,0.9s,baz=333,slow=11,SNR=32
CTA LR LR 00 32 28.4
comp=Z,71μm,21.3s,baz=334,slow=33
CTAO Charters Tower 48.64 151 *e*P **P 00 14 31.7 +0.2**
CTAO pmax pmax
comp=Z,483nm,1.3s
CTAO MLR MLR
comp=Z,78μm,22.0s
CTAO Charters Tower 48.64 151 *e*P **P 00 14 31.7 +0.2**
comp=Z,484nm,1.3s
CTAO LR LR
comp=Z,78μm,22.0s
VOSK Vostochnaya 49.17 320 P **P 00 14 34.1 -1.1**
VOSK pmax pmax
comp=Z,116nm,0.8s
BHJ Bhuj 49.26 281 *e*P **P 00 14 38.1 +1.9**
BHJ AMB AMB 00 14 42.8
comp=Z,359nm,0.4s
BVA0 Borovoye Array 49.59 321 P **P 00 14 38.2 -0.2**
BVA0 pmax pmax
comp=Z,670nm,1.7s
BVAR Borovoye Array 49.59 321 P **P 00 14 38.3 -0.1**
BVAR S **S 00 21 45.1 -0.3**
BVAR Borovoye Array 49.59 321 P **P 00 14 38.3 -0.1**
BVAR S **S 00 21 45.1 -0.3**
BVAR *e* 00 52 14.6
BVAR Borovoye Array 49.59 321 P **P 00 14 38.3 -0.1**
comp=Z,163nm,0.5s,baz=104,slow=6.1,SNR=144
BVAR S **S 00 21 45.1 -0.3**
comp=Z,14nm,1.1s,baz=105,slow=17,SNR=3.7
BVAR LR LR 00 35 46.8
comp=Z,69μm,21.9s,baz=103,slow=36
BVAR P4KPbc 00 52 14.6
comp=Z,1.9nm,0.7s,baz=106,slow=4.3,SNR=11
BRVK Borovoye 49.66 321 P **P 00 14 39.8 +0.8**
comp=Z,3μm,0.6s
BRVK Borovoye 49.66 321*c i*P **P 00 14 38.9 0.0**
BRVK pmax pmax
comp=Z,323nm,0.8s
BRVK MLR MLR
comp=Z,93μm,23.0s
BRVK Borovoye 49.66 321 P **P 00 14 39.3 +0.3**
SNR=124
BRVK Borovoye 49.66 321 *e*P **P 00 14 39.0 0.0**
comp=Z,314nm,0.6s
BRVK *e*S **S 00 21 43.5 -2.8**
BRVK LR LR
comp=Z,83μm,22.0s
AMKA Amchitka 50.72 42 *e*P **P 00 14 47.4 +0.4**
comp=Z,473nm,0.6s
HMDM Hanimaadhoo 51.14 259 P P 00 14 56.9 +6.3
TARA Tarawa 52.60 107 *e*P **P 00 15 01.7 +0.2**
comp=Z,251nm,1.1s
TARA LR LR
comp=Z,30μm,22.0s
MIDW Midway 52.89 72 *e*P **P 00 15 03.7 +0.1**
comp=Z,502nm,1.2s
MIDW LR LR
comp=Z,22μm,21.0s
ADK Adak 53.27 42 PFAKE 00 15 20.0 +14
ADK LR LR
comp=Z,10μm,20.0s
GSTR Great Sitkin T 53.68 42 *e*P **P 00 15 10.8 +1.8**
KAAM Kaadhehdhoo 54.12 252 P P 00 15 16.6 +3.9
ATKA Atka Island 54.83 42 *e*P **P 00 15 17.1 -0.2**
comp=Z,314nm,0.7s
ABKAR Akbulak array 55.49 315 *e*P **P 00 15 22.4 +0.3**
SVE Sverdlovsk 55.89 324*d i*P **P 00 15 25.3 +0.4**
SVE *e* 00 17 37.9
SVE *e*S **S 00 23 08.7 -2.5**
SVE *e* 00 25 03.2
SVE pmax pmax
comp=Z,949nm,0.8s
SVE pmax pmax
comp=Z,5μm,18.8s
SVE MLR MLR
comp=Z,42μm,16.0s
SVE MLR MLR
comp=E,38μm,18.0s
NWAO Narrogin (SRO) 56.45 186 P **P 00 15 30.5 +1.4**
SNR=10
NWAO Narrogin (SRO) 56.45 186 *e*P **P 00 15 29.6 +0.6**
comp=E,461nm,1.2s
NWAO LR LR
comp=Z,12μm,19.0s
NWAO Narrogin (SRO) 56.45 186 P **P 00 15 29.7 +0.6**
comp=Z,44nm,1.0s,baz=21,slow=8.6,SNR=12
AKTO Aktyubinsk 56.79 316 P **P 00 15 31.2 -0.3**
AKTO pmax pmax
comp=Z,431nm,1.0s
AKTO Aktyubinsk 56.79 316 P **P 00 15 31.9 +0.4**
AKTO *e* 00 52 45.3
AKTO Aktyubinsk 56.79 316 P **P 00 15 31.9 +0.4**
comp=Z,203nm,0.8s,baz=97,slow=8.5,SNR=151
AKTO LR LR 00 40 42.0
comp=Z,56μm,21.1s,baz=97,slow=37
AKTO P4KPbc 00 52 45.3
comp=Z,1.1nm,0.5s,baz=87,slow=7.9,SNR=5.5
ARU Arti 56.97 323*c i*P **P 00 15 32.4 -0.2**
ARU 00 16 23.2
ARU 00 17 37.4
ARU PPP PPP 00 18 55.5
ARU S **S 00 23 26.0 +0.5**
ARU 00 25 12.8
ARU SSS SSS 00 29 21.8
ARU pmax pmax
comp=Z,636nm,1.0s
ARU pmax pmax
comp=Z,6μm,20.8s
ARU smax smax
comp=E,6μm,11.6s
ARU MLR MLR
comp=Z,37μm,19.0s
ARU Arti 56.97 323 P **P 00 15 32.3 -0.3**
comp=Z,4μm,0.7s
SPIA Saint Paul Isl 57.68 36 *e*P **P 00 15 38.9 +1.3**
comp=Z,4μm,1.7s
STKA Stephens Creek 57.70 162 *e*P **P 00 15 37.0 -0.9**
comp=Z,43nm,0.9s
STKA Stephens Creek 57.70 162 P **P 00 15 37.2 -0.8**
comp=Z,90nm,0.8s,baz=343,slow=7.3,SNR=53
STKA LR LR 00 41 48.8
comp=Z,56μm,20.0s,baz=340,slow=38
SOKR Solikamsk 58.30 327*c i*P **P 00 15 41.9 0.0**
SOKR pmax pmax
comp=Z,380nm,1.1s
DGAR Diego Garcia 58.64 245 PFAKE 00 16 00.0 +15
DGAR LR LR
comp=Z,29μm,19.0s
WBK Wadi Bani Khal 58.99 283 P **P 00 15 49.1 +1.7**
SNR=25
SMDO Samad 59.70 284 P **P 00 15 53.8 +1.4**
SNR=42
JMDO Jabal Madar 59.83 283 P **P 00 15 54.6 +1.5**
SNR=29
TNA Tin City 59.95 27 *e*P **P 00 15 54.0 +0.8**
comp=Z,2μm,1.7s
AKUT Akutan 60.02 40 *e*P **P 00 15 55.0 +1.2**
comp=Z,223nm,0.8s
HOQ Hoqain 60.23 285 P **P 00 15 57.6 +1.8**
SNR=54
BSY Bisya 60.54 284 P **P 00 15 59.3 +1.3**
SNR=44
BANOM Banah 60.56 287 P P 00 16 01.5 +3.4
SNR=6.8
HATD Hatta, Dubai 60.97 286 P **P 00 16 03.6 +2.7**
SNR=13
ARQ Araqi 60.99 285 P **P 00 16 02.5 +1.4**
SNR=37
ASHO Ashiyiah 61.06 286 P **P 00 16 04.1 +2.5**
SNR=14
NAZ Nazwa, Dubai 61.34 287 P **P 00 16 05.4 +2.0**
SNR=14
NOUC Port Laguerre 61.50 134 *e*P **P 00 16 06.3 +2.0**
DZM Mont Dzumac 61.57 134 *e*P **P 00 16 05.9 +0.9**
comp=Z,517nm,1.4s
DZM *e*S **S 00 24 23.4 -2.6**
comp=Z,25μm,30.1s
DZM *e*LQ LQ 00 31 48.7
comp=Z,117μm,28.1s
DZM *e*LR LR 00 34 25.5
comp=Z,148μm,28.1s
DZM Mont Dzumac 61.57 134 *e*P **P 00 16 03.5 -1.5**
DZM Mont Dzumac 61.57 134 *e*P **P 00 16 05.2 +0.3**
comp=Z,303nm,1.4s
DZM Mont Dzumac 61.57 134 P **P 00 16 05.7 +0.7**
comp=Z,124nm,1.1s,baz=1.7,slow=5.7,SNR=30
DZM LR LR 00 38 01.8
comp=Z,49μm,21.9s,baz=323,slow=31
ASUD Al Ashush, Dub 61.72 286 P **P 00 16 08.7 +2.7**
SNR=11
FUNA Funafuti 62.97 114 *e*P **P 00 16 14.7 +0.3**
comp=Z,1μm,1.7s
FUNA LR LR
comp=Z,24μm,21.0s
SDPT Sand Point 63.06 38 *e*P **P 00 16 13.5 -0.9**
comp=Z,663nm,0.6s
CAN Canberra 63.27 157 *e*P **P 00 16 17.1 +1.1**
CAN pmax pmax
comp=Z,149nm,0.9s
CAN MLR MLR
comp=Z,43μm,19.0s
CAN Canberra 63.27 157 *e*P **P 00 16 17.1 +1.1**
comp=Z,149nm,0.9s
CAN LR LR
comp=Z,43μm,19.0s
CHGN Chignik 64.17 37 *e*P **P 00 16 20.9 -0.8**
MAK Makhachkala 64.45 308 *e*P **P 00 16 21.2 -2.6**
MAK *e* 00 16 55.9
MAK *e* 00 18 44.3
MAK *e*PPP PPP 00 20 23.7
MAK *e*S **S 00 24 59.9 -1.5**
MAK *e* 00 26 15.3
MAK *e*SS **SS 00 29 15.8 +4.4**
MAK *e*SSS SSS 00 32 00.4
MAK pmax pmax
comp=Z,4μm,7.8s
MAK pmax pmax
comp=Z,1μm,2.6s
MAK pmax pmax
comp=N,315nm,0.8s
MAK pmax pmax
comp=E,695nm,2.0s
MAK smax smax
comp=N,11μm,8.9s
MAK smax smax
comp=E,9μm,9.3s
MAK MLR MLR
comp=N,51μm,18.0s
MAK MLR MLR
comp=E,68μm,18.0s
MAK MLR MLR
comp=Z,61μm,20.0s
RBK Rabkut 64.73 279 P **P 00 16 26.7 +0.7**
SNR=29
SVW2 Sparrevohn 65.31 32 *e*P **P 00 16 30.5 +1.4**
comp=Z,296nm,1.0s
ABTO Aybut 65.60 279 P **P 00 16 32.6 +0.8**
SNR=16
IM04 Indian Mountai 65.79 26 *e*P **P 00 16 32.8 +0.7**
IMA2 Indian Mountai 65.82 26 *e*P **P 00 16 33.3 +0.8**
DGRG David-gareji 66.27 306 P **P 00 16 38.1 +2.4**
DUS Dusheti 66.64 307 P P 00 16 41.2 +3.1
TBLG Delisi 66.68 307 *e*P **P 00 16 40.3 +2.0**
TBLG Delisi 66.68 307 P **P 00 16 40.3 +2.0**
PPLA Purkeypile 66.74 30 *e*P **P 00 16 39.6 +1.2**
comp=Z,2μm,1.6s
RSO Redoubt South 66.75 32 *e*P **P 00 16 39.1 +0.5**
OHAK Old Harbor 66.88 36 *e*P **P 00 16 39.7 +0.5**
comp=Z,301nm,0.9s
KZR Kazreti 66.99 307 P P 00 16 45.4 +5.1
GNI Garni 67.00 305 *e*P **P 00 16 41.7 +1.2**
GNI Garni 67.00 305 P **P 00 16 42.5 +1.9**
SNR=42
GNI Garni 67.00 305 *e*P **P 00 16 41.7 +1.2**
comp=Z,354nm,1.1s
GNI LR LR
comp=Z,36μm,22.0s
GNI Garni 67.00 305 P **P 00 16 41.9 +1.3**
comp=Z,64nm,0.8s,baz=110,slow=1.0,SNR=27
SPU Mount Spurr 67.00 32 *e*P **P 00 16 40.6 +0.6**
ZEI Tsey 67.08 308 *e*P **P 00 16 41.2 +0.1**
ZEI *e*S **S 00 25 32.6 -1.5**
ZEI pmax pmax
comp=Z,324nm,0.9s
ZEI pmax pmax
comp=E,360nm,0.8s
ZEI pmax pmax
comp=N,152nm,0.7s
ZEI pmax pmax
comp=Z,1μm,8.4s
ZEI MLR MLR
comp=Z,37μm,17.0s
ZEI MLR MLR
comp=E,20μm,16.0s
ZEI MLR MLR
comp=N,20μm,16.0s
COLD Coldfoot 67.11 25 *e*P **P 00 16 41.9 +1.4**
comp=N,1μm,2.0s
VRHR Novokhopersk 67.13 317 *e*P **P 00 16 40.2 -0.7**
VRHR *e**SP **sP 00 16 54.5 +4.0**
VRHR *e*S **S 00 25 30.8 -3.1**
VRHR *e*SS **SS 00 29 58.8 +6.2**
VRHR pmax pmax
comp=N,440nm,1.3s
VRHR pmax pmax
comp=E,1μm,1.3s
VRHR pmax pmax
comp=Z,1μm,1.3s
VRHR pmax pmax
comp=E,420nm,0.9s
VRHR pmax pmax
comp=Z,820nm,0.9s
VRHR pmax pmax
comp=N,70nm,0.4s
VRHR smax smax
comp=E,4μm,4.1s
VRHR smax smax
comp=Z,2μm,4.1s
VRHR smax smax
comp=N,2μm,2.0s
VRHR MLR MLR
comp=N,8μm,22.0s
VRHR MLR MLR
comp=E,13μm,22.0s
VRHR MLR MLR
comp=Z,36μm,22.0s
MSVF Nonsavu 67.14 123 *e*P **P 00 16 42.5 +1.0**
MSVF pmax pmax
comp=Z,207nm,0.9s
MSVF MLR MLR
comp=Z,16μm,20.0s
MSVF Nonsavu 67.14 123 *e*P **P 00 16 42.5 +1.0**
comp=Z,207nm,0.9s
MSVF LR LR
comp=Z,16μm,20.0s
KBD Kabd 67.17 293 *e*P **P 00 16 41.3 -0.3**
KBD AMb AMB 00 16 47.2
comp=Z,379nm,1.4s
KDAK Kodiak Island 67.18 35 *e*P **P 00 16 41.5 +0.4**
comp=Z,772nm,1.1s
KDAK LR LR
comp=Z,25μm,22.0s
KDAK Kodiak Island 67.18 35 P **P 00 16 41.8 +0.7**
comp=Z,2μm,1.0s,SNR=18
KDAK Kodiak Island 67.18 35 P **P 00 16 41.4 +0.4**
comp=Z,210nm,0.9s,baz=270,slow=3.6,SNR=45
TMCR Tamitsa 67.19 332 *e*P **P 00 16 41.4 +0.4**
TMCR *e* 00 17 09.3
TMCR *e*S **S 00 25 32.3 -1.9**
TMCR pmax pmax
comp=Z,742nm,1.0s
MIB Mutribah 67.31 294 *e*P **P 00 16 42.2 -0.2**
MIB AMb AMB 00 16 49.8
comp=Z,494nm,1.0s
RDF Al-Radifah 67.36 293 *e*P **P 00 16 43.1 +0.4**
RDF AMb AMB 00 16 48.8
comp=Z,780nm,1.4s
ONI Oni 67.45 308 P **P 00 16 45.0 +1.8**
ONI S **S 00 25 41.3 +3.1**
TRF Thorofare Moun 67.53 29 *e*P **P 00 16 43.7 +0.2**
comp=Z,2μm,2.1s
NAY Al-Naaiem 67.54 293 *e*P **P 00 16 43.8 -0.1**
NAY AMb AMB 00 16 47.5
comp=Z,219nm,0.7s
KBZ Khabaz 67.62 309 P **P 00 16 44.8 +0.6**
KBZ Khabaz 67.62 309 P **P 00 16 44.8 +0.6**
KBZ Khabaz 67.62 309 P **P 00 16 44.8 +0.6**
comp=Z,213nm,0.8s,baz=84,slow=5.7,SNR=129
IBDR Badra 67.65 298 *i* P 00 16 41.0 -3.6
IBDR *i* pP pP 00 16 58.0 +6.4
IBDR *i* PPP PPP 00 20 48.0
IBDR *i* S **S 00 25 37.0 -3.8**
AKH Akhalkalaki 67.66 307 P **P 00 16 46.6 +1.9**
KIV Kislovodsk 67.72 310 *i* P **P 00 16 45.6 +0.6**
KIV *e* 00 17 11.7
KIV *e* 00 19 17.8
KIV *e*S **S 00 25 42.1 +0.6**
KIV pmax pmax
comp=Z,324nm,3.2s
KIV pmax pmax
comp=Z,886nm,1.1s
KIV MLR MLR
comp=Z,58μm,18.0s
KIV Kislovodsk 67.72 310 P **P 00 16 45.5 +0.6**
comp=Z,4μm,0.7s
CLDR Caldiran 67.83 304 *e*P **P 00 16 46.9 +1.0**
LVZ Lovozero 68.07 336*c i*P **P 00 16 47.4 +0.8**
LVZ pmax pmax
comp=Z,318nm,0.9s
LVZ MLR MLR
comp=Z,71μm,19.0s
LVZ Lovozero 68.07 336 P **P 00 16 46.6 0.0**
comp=Z,2μm,0.8s,SNR=11
MCK McKinley 68.09 29 *e*P **P 00 16 47.1 +0.3**
MCK pmax pmax
comp=Z,796nm,1.1s
MCK McKinley 68.09 29 *e*P **P 00 16 47.1 +0.3**
comp=Z,796nm,1.1s
KARS Kars 68.14 306 *e*P **P 00 16 47.6 -0.1**
PMR Palmer 68.34 31 *e*P **P 00 16 48.1 -0.2**
PMR pmax pmax
comp=Z,1μm,1.8s
PMR Palmer 68.34 31 *e*P **P 00 16 48.1 -0.2**
comp=Z,1μm,1.8s
COLA College 68.38 27 *e*P **P 00 16 49.1 +0.6**
COLA pmax pmax
comp=Z,969nm,0.8s
COLA MLR MLR
comp=Z,25μm,19.0s
COLA College 68.38 27 *e*P **P 00 16 49.1 +0.6**
comp=Z,969nm,0.8s
COLA LR LR
comp=Z,25μm,19.0s
AGRB Hanur-Agry 68.44 305 *e*P **P 00 16 51.0 +1.4**
CUKT Cukurca 68.50 302 *e*P **P 00 16 50.5 +0.4**
VOR Voronezh 68.51 318 *e*P **P 00 16 49.0 -0.6**
VOR *e*S **S 00 25 47.0 -3.4**
VOR pmax pmax
comp=Z,900nm,1.0s
APA Apatity 68.59 336 ||*i*P **P 00 16 50.0 +0.2**
APA *i* 00 17 14.0
APA *i* S **S 00 25 50.0 -0.8**
APA *i* 00 26 40.0
APA MLR MLR
comp=Z,92μm,19.0s
VORD Divnogorie 68.60 317 *e*P **P 00 16 50.0 -0.2**
VORD *e*S **S 00 25 47.5 -4.0**
VORD *e*SS **SS 00 30 10.2 -5.2**
VORD pmax pmax
comp=N,600nm,1.0s
VORD pmax pmax
comp=E,1μm,1.0s
VORD pmax pmax
comp=Z,490nm,1.0s
VORD pmax pmax
comp=N,520nm,0.8s
VORD pmax pmax
comp=E,820nm,0.8s
VORD pmax pmax
comp=Z,310nm,0.8s
VORD smax smax
comp=N,5μm,4.8s
VORD smax smax
comp=E,4μm,4.8s
VORD smax smax
comp=Z,1μm,4.8s
VSR Storozhevoye 68.63 318 *e*P **P 00 16 49.9 -0.5**
VSR *e**SP sP 00 17 07.4 +7.4
VSR *e*S **S 00 25 48.7 -3.1**
VSR *e*SS **SS 00 30 13.2 -2.7**
VSR pmax pmax
comp=E,1μm,1.8s
VSR pmax pmax
comp=Z,2μm,1.8s
VSR pmax pmax
comp=N,220nm,0.9s
VSR pmax pmax
comp=N,130nm,0.9s
VSR pmax pmax
comp=E,510nm,0.9s
VSR pmax pmax
comp=Z,580nm,0.9s
VSR smax smax
comp=N,5μm,5.1s
VSR smax smax
comp=E,4μm,5.1s
VSR smax smax
comp=Z,2μm,5.1s
VSR MLR MLR
comp=N,37μm,25.0s
VSR MLR MLR
comp=E,17μm,25.0s
VSR MLR MLR
comp=Z,41μm,25.0s
SML Sawmill 68.67 31 *e*P **P 00 16 50.9 +0.4**
SML pmax pmax
comp=Z,172nm,1.2s
SML Sawmill 68.67 31 *e*P **P 00 16 50.9 +0.4**
comp=Z,172nm,1.2s
MOS Moscow 68.68 323 *e*P **P 00 16 48.5 -2.1**
MOS *e* 00 17 15.6
MOS *e* 00 19 19.8
MOS *e*S **S 00 25 47.9 -4.4**
MOS *e* 00 26 47.0
MOS pmax pmax
comp=Z,550nm,1.1s
MOS pmax pmax
comp=Z,2μm,2.0s
MOS smax smax
comp=N,8μm,4.9s
MOS smax smax
comp=E,7μm,5.0s
MOS MLR MLR
comp=E,33μm,18.0s
MOS MLR MLR
comp=Z,46μm,18.0s
ILAR Eielson Array 68.80 27 P **P 00 16 50.5 -0.8**

ILAR P'P' 00 45 03.4
ILAR Eielson Array 68.80 27 P **P 00 16 50.5 -0.8**
comp=Z,54nm,0.8s,baz=284,slow=5.4,SNR=77
ILAR PKPPKP P'P'df 00 45 03.4 -6.2
comp=Z,4.7nm,1.2s,baz=164,slow=1.7,SNR=5.6
ILAR LR LR 00 49 47.7
comp=Z,29μm,20.4s,baz=102,slow=38
BHD Baghdad 68.87 298 *i* P **P 00 16 51.0 -1.2**
BHD *i* pP pP 00 17 05.0 +5.8
BHD *i* PcP PcP 00 17 43.0 +26
BHD *i* PPP PPP 00 20 57.0
BHD *i* S **S 00 25 52.0 -3.3**
BHD *i* PS PnS 00 26 34.0 +13
BHD *i* ScS **ScS 00 26 58.0 +6.4**
BCA Borcka 69.03 307 *e*P **P 00 16 53.4 +0.3**
SIRT Sirnak 69.35 303 *e*P **P 00 16 56.8 +1.5**
OBN Obninsk 69.39 322 P **P 00 16 54.7 -0.3**
comp=Z,2μm,1.0s,SNR=12
EZM Erzurum 69.58 306 *e*P **P 00 16 58.0 +1.1**
TAU Tasmania Unive 69.61 162 *e*P **P 00 16 57.2 +0.8**
TAU pmax pmax
comp=Z,339nm,1.2s
TAU MLR MLR
comp=Z,42μm,19.0s
TAU Tasmania Unive 69.61 162 *e*P **P 00 16 57.1 +0.8**
comp=Z,339nm,1.2s
TAU LR LR
comp=Z,42μm,19.0s
PZAR Pazar-Rize 69.62 307 *e*P **P 00 16 57.4 +0.7**
PAX Paxson 69.76 29 *e*P **P 00 16 58.4 +1.1**
PAX pmax pmax
comp=Z,197nm,0.8s
PAX Paxson 69.76 29 *e*P **P 00 16 58.4 +1.1**
comp=Z,197nm,0.8s
SOC Sochi 69.90 310*c i*P **P 00 16 58.4 0.0**
SOC *e**PP **pP 00 17 06.5 +1.1**
SOC *e**SP **sP 00 17 10.9 +2.8**
SOC *e* 00 17 18.0
SOC *i* S **S 00 26 04.7 -2.5**
SOC pmax pmax
comp=Z,1μm,2.6s
SOC pmax pmax
comp=Z,274nm,1.0s
SOC MLR MLR
comp=N,37μm,21.0s
SOC MLR MLR
comp=E,28μm,21.0s
SOC MLR MLR
comp=Z,55μm,21.0s
DIV Divide 70.01 31 *e*P **P 00 17 00.0 +1.2**
comp=Z,877nm,1.4s
BNGB Bing ¶‖ 70.32 305 *e*P **P 00 17 01.6 +0.4**
BAYT Ayd ‒ntepe-Bay 70.37 306 *e*P **P 00 17 01.8 +0.3**
MUKL Al Mukalla 70.41 278⇑ *e*P **P 00 17 01.6 -0.4**
MENT Mentasta 70.55 29 *e*P **P 00 17 03.4 +1.3**
BMRM Bremner River 70.60 31 *e*P **P 00 17 03.4 +1.0**
comp=Z,510nm,1.0s
SPA0 Spitsbergen Ar 70.61 348⇑ *i*P **P 00 17 02.3 +0.1**
RAYN Ar Rayn 70.65 288 *e*P **P 00 17 03.7 +0.3**
comp=Z,316nm,1.4s
GUMT Gumushane 70.84 307 *e*P **P 00 17 05.8 +1.4**
ERZN Erzincan 70.89 306 *e*P **P 00 17 05.1 +0.4**
ARCES ARCESS Array B 70.98 338 P **P 00 17 04.2 -0.4**
ARCES ARCESS Array B 70.98 338 P **P 00 17 04.2 -0.4**
comp=Z,150nm,0.8s,baz=66,slow=6.1,SNR=64
ARCES LR LR 00 56 15.9
comp=Z,50μm,18.7s,baz=69,slow=43
ARE0 ARCESS Array S 70.98 338⇑ *i*P **P 00 17 03.9 -0.7**
ARE0 ARCESS Array S 70.98 338 *e*P **P 00 17 04.0 -0.5**
EZC Erzincan 71.12 306 *e*P **P 00 17 06.2 +0.1**
KBS Kingsbay 71.12 349⇑ *i*P **P 00 17 05.3 0.0**
KBS AMB AMB 00 17 11.4
comp=Z,266nm,1.0s
KBS *e*S **S 00 26 17.3 -3.0**
KBS AMS AMS 00 52 05.8
comp=Z,47μm,18.7s
KBS Kingsbay 71.12 349*c i*P **P 00 17 05.2 0.0**
KBS pmax pmax
comp=Z,220nm,1.1s
KBS MLR MLR
comp=Z,58μm,20.0s
KBS Kingsbay 71.12 349 *e*P **P 00 17 05.4 +0.2**
comp=Z,148nm,0.8s
KBS LR LR
comp=Z,56μm,20.0s
EGAK Eagle 71.19 27 *e*P **P 00 17 06.4 +0.5**
comp=Z,293nm,1.0s
EGAK LR LR
comp=Z,39μm,22.0s
ANN Anapa 71.20 311*c i*P **P 00 17 06.0 -0.3**
ANN *i* S **S 00 26 19.4 -2.8**
ANN pmax pmax
comp=N,175nm,1.2s
ANN pmax pmax
comp=E,130nm,1.2s
ANN pmax pmax
comp=Z,623nm,1.2s
ANN pmax pmax
comp=N,839nm,10.0s
ANN pmax pmax
comp=E,417nm,10.0s
ANN pmax pmax
comp=Z,2μm,10.0s
ANN smax smax
comp=N,9μm,7.9s
ANN smax smax
comp=E,3μm,7.9s
ANN smax smax
comp=Z,2μm,7.9s
ANN MLR MLR
comp=N,26μm,24.0s
ANN MLR MLR
comp=E,7μm,24.0s
ANN MLR MLR
comp=Z,48μm,24.0s
HSP Hornsund 71.22 347 *e*P **P 00 17 06.1 +0.3**
ESPY Espiye-Giresun 71.28 307 *e*P **P 00 17 06.5 -0.4**
BJO Bjornoya 71.30 344 *e* P 00 17 09.4 +3.1
BJO AMS AMS 00 45 26.8
comp=Z,56μm,18.1s
PTK Pertek 71.31 305 *e*P **P 00 17 08.5 +1.1**
KIP Kipapa 71.57 74⇑ *i*P **P 00 17 07.9 -1.0**
KIP pmax pmax
comp=Z,67nm,1.0s
KIP MLR MLR
comp=Z,18μm,19.0s
KIP Kipapa 71.57 74 PFAKE 00 17 20.0 +11
KIP LR LR
comp=Z,19μm,19.0s
PUL Pulkovo 71.61 328⇓ *e*P **P 00 17 08.9 +0.5**
PUL pmax pmax
comp=Z,595nm,1.1s
PUL MLR MLR
comp=Z,59μm,17.0s
ILIC ilic-Erzincan 71.78 306 *e*P **P 00 17 11.4 +1.3**
KTK1 Kautokeino 71.91 338 *e*P **P 00 17 09.9 -0.2**
KTK1 AMB AMB 00 17 18.1
comp=Z,2μm,0.9s
KTK1 *e*S **S 00 26 32.6 +3.0**
KTK1 AMS AMS 00 51 53.6
comp=Z,117μm,23.8s
MSEY Mahe Island 72.00 257 P P 00 17 15.1 +3.4
SNR=7.1
MSEY Mahe Island 72.00 257 *e*P **P 00 17 10.4 -1.2**
comp=Z,249nm,1.1s
MSEY LR LR
comp=Z,14μm,19.0s
DAWY Dawson 72.13 27 *e*P **P 00 17 12.2 +0.5**
URFA Urfa 72.14 304 *e*P **P 00 17 13.4 +1.2**
MYA Malataya 72.20 305 *e*P **P 00 17 13.7 +1.2**
RSDY Resadiye-TOKAT 72.44 307 *e*P **P 00 17 14.0 +0.1**
SVSK Karacayir 72.82 307 *e*P **P 00 17 15.0 -1.0**
KAF Kangasniemi 72.83 331 *e*P **P 00 17 15.4 -0.3**
KAF pmax pmax
comp=Z,206nm,0.8s
KAF Kangasniemi 72.83 331 *e*p **P 00 17 15.4 -0.3**
comp=Z,206nm,0.8s
DARE Darende-Malaty 72.84 305 *e*P **P 00 17 17.1 +0.7**
INK Inuvik 73.02 22 *e*P **P 00 17 16.8 +0.1**
comp=Z,634nm,1.4s
TOKT Tokat 73.04 307 *e*P **P 00 17 18.4 +0.9**
FIA1 FINESS Array S 73.13 330 *e*P **P 00 17 17.0 -0.5**
FINES FINESS Array B 73.13 330 P **P 00 17 17.1 -0.4**
FINES FINESS Array B 73.13 330 P **P 00 17 17.1 -0.4**
comp=Z,111nm,0.7s,baz=53,slow=5.3,SNR=113

FINES LR LR 00 53 56.8
comp=Z,104μm,18.2s,baz=74,slow=40
TRO Tromso 73.13 339⇑ *i*P **P 00 17 16.2 -1.2**
TRO AMB AMB 00 17 23.9
comp=Z,231nm,1.1s
TRO AMS AMS 00 56 34.9
comp=Z,76μm,23.0s
KVT Kavak 73.18 308 *e*P **P 00 17 19.3 +1.0**
AFI Afiamalu 73.31 114 *e*P **P 00 17 19.9 +0.5**
comp=Z,394nm,1.5s
AFI LR LR
comp=Z,23μm,22.0s
SIM Simferopol' 73.43 312*ce*P **P 00 17 18.9 -0.7**
SIM *e*S **S 00 26 44.0 -3.8**
SIM pmax pmax
comp=Z,700nm,10.0s
SIM MLR MLR
comp=Z,42μm,21.0s
DIKM Dikmen 73.59 309 *e*P **P 00 17 19.8 -0.8**
KMRS Kahramanmaras 73.59 304 *e*P **P 00 17 21.2 +0.5**
VSU Vasula 73.75 327*c i*P **P 00 17 20.8 -0.4**
VSU pmax pmax
comp=Z,1μm,1.0s
VSU MLR MLR
comp=Z,187μm,23.0s
HYT Haines Junctio 73.97 30 *e*P **P 00 17 24.3 +1.7**
BNN Bunyan 73.98 306 *e*P **P 00 17 23.0 -0.2**
DRWC Darouich 74.03 303 *e*P P 00 17 28.2 +4.8
DRWC Darouich 74.03 303 *e*P P 00 17 28.2 +4.8
SNR=145
LBOS 74.06 278⇑ *e*P **P 00 17 25.9 +1.8**
LBOS AMb AMB 00 17 26.8
comp=Z,66nm,0.7s
ALE Alert 74.14 1 P **P 00 17 24.0 +0.8**
comp=Z,1μm,1.0s,SNR=46
POHA Pohakuloa 74.31 75 PFAKE 00 17 40.0 +14
POHA LR LR
comp=Z,15μm,19.0s
BTCH Batrach 74.36 303 *e*P **P 00 17 26.4 +1.1**
BTCH Batrach 74.36 303 *e*P **P 00 17 26.5 +1.1**
SNR=144
BZK Bozkurt 74.39 309 *e*P **P 00 17 25.0 -0.2**
MICGM Minsk 74.40 323⇑ *e*P **P 00 17 23.0 -2.1**
KOZT Kozan 74.41 304 *e*P **P 00 17 26.4 +0.9**
MNK Minsk 74.43 323*c i*P **P 00 17 23.0 -2.3**
MNK *e* 00 17 40.0
MNK *e* 00 20 16.0
MNK *e*S **SKiKP 00 26 52.0 +1.4**
MNK *e*PS **PnS 00 27 32.0 -1.8**
MNK *e*SSS SSS 00 34 56.0
MNK pmax pmax
comp=Z,8μm,6.0s
MNK pmax pmax
comp=Z,2μm,1.0s
MNK smax smax
comp=E,12μm,10.0s
MNK smax smax
comp=N,24μm,12.0s
MNK MLR MLR
comp=Z,110μm,18.0s
MNK MLR MLR
comp=E,59μm,16.0s
MNK MLR MLR
comp=N,72μm,18.0s
CORM Corum 74.48 307 *e*P **P 00 17 26.5 +0.5**
HTY Hatay 74.59 303 *e*P **P 00 17 27.1 +0.6**
CEYT Ceyhan 74.61 304 *e*P **P 00 17 27.3 +0.6**
ZALF Zalf 74.64 299 *e*P **P 00 17 29.3 +2.3**
ZALF Zalf 74.64 299 *e*P **P 00 17 29.3 +2.3**
SNR=142
TOS Tosya 74.66 308 *e*P **P 00 17 26.1 -1.0**
PUH Pauahi 74.72 75 *e*P **P 00 17 29.1 +1.3**
IDID Didziasalis 74.76 324 *e*P **P 00 17 27.7 +0.5**
IDID AMB AMB 00 17 31.8
comp=Z,278nm,0.8s
BIDA Albida 74.79 302 *e*P **P 00 17 27.8 0.0**
BIDA Albida 74.79 302 *e*P **P 00 17 27.8 0.0**
SNR=143
ARNB Al Arnab 74.80 303 *e*P **P 00 17 28.5 +0.6**
ARNB Al Arnab 74.80 303 *e*P **P 00 17 28.5 +0.6**
SNR=141
STCH Steam Cracks 74.80 75 *e*P **P 00 17 27.9 -0.2**
AKASG Malin Array Be 74.83 319 P **P 00 17 26.9 -0.8**
AKASG S **S 00 27 01.4 -1.9**
AKASG Malin Array Be 74.83 319 P **P 00 17 26.9 -0.8**
AKASG S **S 00 27 01.4 -1.9**
AKASG P'P' 00 45 01.6
AKASG Malin Array Be 74.83 319 P **P 00 17 26.9 -0.8**
comp=Z,141nm,0.7s,baz=57,slow=6.5,SNR=189
AKASG S **S 00 27 01.4 -1.9**
comp=Z,1.9nm,0.9s,baz=66,slow=10,SNR=6.6
AKASG PKPPKP **P'P'df 00 45 01.6 +2.7**
comp=Z,0.5nm,0.6s,baz=278,slow=2.5,SNR=4.9
AKASG LR LR 00 51 30.1
comp=Z,38μm,19.9s,baz=40,slow=37
KIEV Kiev 74.84 319 *e*P **P 00 17 26.8 -0.9**
KIEV pmax pmax
comp=Z,226nm,0.8s
KIEV MLR MLR
comp=Z,35μm,20.0s
KIEV Kiev 74.84 319 *e*P **P 00 17 26.8 -0.9**
comp=Z,226nm,0.8s
KIEV LR LR
comp=Z,35μm,20.0s
HAWK Haweek 74.87 301 *e*P **P 00 17 29.7 +1.3**
HAWK Haweek 74.87 301 *e*P **P 00 17 29.7 +1.3**
SNR=142
NACGM Naroch 74.88 324 *e*P **P 00 17 26.0 -1.9**
FKH Fakeheh 74.96 301 *e*P **P 00 17 30.0 +1.1**
MARH Ras Al Marh 74.97 301 *e*P **P 00 17 30.8 +1.6**
MARH Ras Al Marh 74.97 301 *e*P **P 00 17 30.8 +1.6**
SNR=142
IIGN Ignalina 75.03 324 *e*P **P 00 17 29.1 +0.4**
IIGN AMB AMB 00 17 33.1
comp=Z,145nm,1.0s
STEI Steigen 75.05 338 *e*P **P 00 17 28.6 +0.1**
STEI AMB AMB 00 17 35.3
comp=Z,258nm,1.1s
KARA Karaisali 75.06 304 *e*P **P 00 17 28.6 -0.7**
CANT Cankiri 75.08 308 *e*P **P 00 17 29.7 +0.3**
NIG Nigde 75.13 305 *e*P **P 00 17 30.6 +0.6**
SALA Sala 75.18 299 *e*P **P 00 17 33.2 +2.9**
SALA Sala 75.18 299 *e*P **P 00 17 33.2 +2.9**
SNR=138
OUZ Omahuta 75.20 140 *e*P **P 00 17 31.3 +1.4**
comp=Z,314nm,1.8s
TOTH TOTAH 75.22 300 *e*P **P 00 17 32.8 +2.5**
TOTH TOTAH 75.22 300 *e*P **P 00 17 32.8 +2.5**
SNR=139
ASF Jabal al Asfar 75.22 299 P **P 00 17 31.5 +1.1**
ASF Jabal al Asfar 75.22 299 P **P 00 17 31.5 +1.1**
comp=Z,50nm,0.8s,baz=31,slow=1.8,SNR=15
ASF LR LR 00 56 10.6
comp=Z,28μm,19.7s,baz=221,slow=40
QASN Qassioun 75.29 300 *e*P **P 00 17 30.3 -0.5**
QASN Qassioun 75.29 300 *e*P **P 00 17 30.3 -0.5**
SNR=139
HWQ Hawqa 75.31 301 *e*P **P 00 17 31.1 +0.2**
HWQ Hawqa 75.31 301 *e*P **P 00 17 31.1 +0.2**
TRBA At Turbah 75.32 278⇑ *e*P **P 00 17 32.3 +0.9**
TRBA AMb AMB 00 17 33.6
comp=Z,24nm,0.8s
BR131 Keskin Array S 75.34 307 *e*P **P 00 17 31.5 +0.4**
comp=Z,149nm,0.8s
BRTR Keskin Array B 75.34 307 P **P 00 17 31.2 +0.2**
BRTR Keskin Array B 75.34 307 P **P 00 17 31.2 +0.2**
comp=Z,92nm,0.8s,baz=88,slow=5.5,SNR=128
KAMT Kaman 75.40 307 *e*P **P 00 17 31.0 -0.4**
SKAG Skagway 75.47 31 *e*P **P 00 17 33.0 +1.9**
comp=Z,373nm,1.0s
LOF Lofoten 75.53 339 *e*P P 00 17 27.9 -3.5
LOF AMB AMB 00 17 37.6
comp=Z,198nm,1.6s
LOF *e*S **S 00 27 13.2 +2.7**
LOF AMS AMS 00 58 17.6
comp=Z,43μm,21.2s
SAFT Safranbolu 75.55 309 *e*P P 00 17 28.7 -3.3
BRBR Barbar 75.58 300 *e*P **P 00 17 34.9 +2.3**
BRBR Barbar 75.58 300 *e*P **P 00 17 34.9 +2.3**
SNR=137
RCY Rachaya 75.65 300 *e*P **P 00 17 34.1 +1.2**
BHL Bhannes 75.66 301 *e*P **P 00 17 32.8 -0.1**
BHL Bhannes 75.66 301 *e*P **P 00 17 32.8 -0.1**
TCHB Talchebab 75.81 300 *e*P P 00 17 37.4 +3.7
TCHB Talchebab 75.81 300 *e*P P 00 17 37.4 +3.7

SNR=135
AFSR Af´ar-Bala (A 75.85 307 *e*P **P 00 17 34.2 +0.3**
ANTO Ankara 75.91 307 *e*P **P 00 17 34.5 +0.3**
ANTO Ankara 75.91 307 *e*P **P 00 17 34.6 +0.4**
ANTO pmax pmax
comp=Z,707nm,1.5s
ANTO MLR MLR
comp=Z,23μm,21.0s
ANTO Ankara 75.91 307 P **P 00 17 35.0 +0.8**
SNR=39
ANTO Ankara 75.91 307⇑ *i*P **P 00 17 34.7 +0.4**
ANTO Ankara 75.91 307 *e*P **P 00 17 34.6 +0.4**
comp=Z,707nm,1.5s
ANTO LR LR
comp=Z,23μm,21.0s
SULT Sultanhani-AKS 75.92 306 *e*P **P 00 17 33.8 -0.6**
LOD Lodumlu 75.93 308 *e*P **P 00 17 34.3 0.0**
MOR8 Moi Rana 76.11 337 *e*P **P 00 17 33.3 -1.4**
MOR8 AMB AMB 00 17 49.8
comp=Z,326nm,1.7s
EREN Erenkoy 76.29 303 *e*P P 00 17 31.9 -4.4
KIS Kishinev 76.30 315⇑ *i*P **P 00 17 35.0 -1.2**
comp=Z,400nm,1.0s
KIS Kishinev 76.30 315 *i* PcP PcP 00 17 54.0 +6.0
KIS Kishinev 76.30 315 *e*PP PP 00 20 38.0 +11
KIS Kishinev 76.30 315 *i* PS 00 27 40.0
KIS *e*SS SS 00 32 02.0 -11
KIS *e*SSS SSS 00 35 16.0
KIS *e*LQ LQ 00 43 40.0
comp=Z,51μm,22.0s
KIS LRM MLR 00 53 16.0
comp=Z,66μm,24.0s
KIS Kishinev 76.30 315*α i*P **P 00 17 35.0 -1.2**
KIS *i* 00 17 54.0
KIS *i* S **S 00 27 16.0 -3.7**
KIS *i* PS PnS 00 27 40.0 -18
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,4μm,18.0s
KIS smax smax
comp=N,8μm,13.0s
KIS smax smax
comp=E,4μm,16.0s
KIS MLR MLR
comp=E,53μm,22.0s
KIS MLR MLR
comp=Z,70μm,22.0s
KIS MLR MLR
comp=N,21μm,18.0s
KIS MLR MLR
comp=Z,66μm,24.0s
KIS Kishinev 76.30 315⇑ *i*P **P 00 17 35.2 -1.0**
NAQL Naqoura 76.32 300 *e*P **P 00 17 36.5 -0.1**
SIT Sitka 76.36 33 *e*P **P 00 17 38.3 +2.0**
SIT pmax pmax
comp=Z,354nm,1.0s
SIT Sitka 76.36 33 *e*P **P 00 17 38.3 +2.0**
comp=Z,354nm,1.0s
KDZE Karadeniz Ereo 76.41 309 *e*P **P 00 17 35.4 -1.6**
FLOS Flostrand 76.42 337 *e*P **P 00 17 37.7 +1.3**
IKL Isikli 76.43 304 *e*P **P 00 17 35.3 -1.8**
KONS Konsvik 76.44 337 *e*P **P 00 17 36.2 -0.3**
STOK Stokkvaagen 76.55 337 *e*P **P 00 17 36.7 -0.5**
STOK *e*P **pP 00 17 39.4 -4.9**
STOK *e*S **S 00 27 21.8 +0.1**
PHNC Paralimni 76.57 302 P P 00 17 41.1 +3.2
comp=Z,3.2nm,0.9s
PHNC Paralimni 76.57 302 P P 00 17 41.1 +3.2
comp=Z,3.2nm,0.9s
LADK Ladik-KONYA 76.78 306 *e*P **P 00 17 36.9 -2.3**
LEOM Leova 76.85 315 ‖P **P 00 17 39.1 -0.2**
LEOM Leova 76.85 315 ‖*i*P **P 00 17 39.1 -0.2**
KONT Konya--Tatoy 76.86 306 *e*P **P 00 17 39.5 -0.1**
LFK Lefkose 76.86 303 *e*P **P 00 17 39.0 -0.7**
MDUB Mudurnu 76.87 308 *e*P **P 00 17 39.2 -0.5**
KIZT Kizilcal 76.91 307 *e*P **P 00 17 39.4 -0.6**
RAO Raoul Island 76.91 130 PFAKE 00 17 50.0 +10
RAO LR LR
comp=Z,19μm,22.0s
TLCR 76.92 314 ‖P **P 00 17 40.0 +0.3**
TLCR 76.92 314 ‖*i*P **P 00 17 40.0 +0.3**
SVRH Sivrihisar-ESK 76.98 307 *e*P **P 00 17 40.1 -0.2**
IAS Iasi 77.04 316 P **P 00 17 40.7 +0.4**
IAS Iasi 77.04 316⇑ *i*P **P 00 17 40.7 +0.4**
ATD Arta Tunnel 77.09 277 P **P 00 17 43.4 +2.1**
ATD Arta Tunnel 77.09 277 P **P 00 17 43.4 +2.1**
comp=Z,44nm,1.0s,baz=62,slow=5.1,SNR=16
CSS Prodhromos 77.13 303 P **P 00 17 41.7 +0.6**
comp=Z,8.5nm,1.1s
CSS Prodhromos 77.13 303 *e*P **P 00 17 41.4 +0.2**
CSS Prodhromos 77.13 303 P **P 00 17 40.9 -0.2**
CSS Prodhromos 77.13 303 *e*P **P 00 17 41.2 +0.1**
comp=Z,610nm,1.0s
CSS LR LR
comp=Z,21μm,21.0s
MAMC Mammari 77.14 303 P **P 00 17 42.5 +1.3**
SUW Suwalki 77.16 323 *e*P **P 00 17 40.4 -0.5**
SUW pmax pmax
comp=Z,1μm,0.9s
SUW Suwalki 77.16 323 *e*P **P 00 17 40.4 -0.5**
comp=Z,1μm,0.9s
SUW Suwalki 77.16 323 *e*P **P 00 17 40.6 -0.3**
SUW *e*pP **pP 00 17 43.5 -4.5**
SUW *e*S **S 00 27 25.6 -3.2**
SUW *e*SKSac **SKSac 00 27 49.1 -3.1**
SUW LMZ LR 00 55 36.2
DAG Danmarks Havn 77.36 352⇑ *i*P **P 00 17 41.3 -0.3**
comp=Z,247nm,0.8s
DAG *i* S **S 00 27 29.1 -1.2**
DAG
comp=Z,28μm,17.0s
CFR Carcaliu 77.37 314 P **P 00 17 42.6 +0.4**
CFR Carcaliu 77.37 314⇑ *i*P **P 00 17 42.6 +0.4**
GULT Gulveren 77.37 309 *e*P **P 00 17 43.1 +0.6**
LEF Lefka 77.41 303 *e*P **P 00 17 43.4 +0.7**
SPNC Sapanca-Adapaz 77.43 309 *e*P **P 00 17 41.5 -1.2**
TIRR Tirgusor 77.44 313 ⇑P **P 00 17 42.5 -0.1**
TIRR Tirgusor 77.44 313⇑ *i*P **P 00 17 42.5 -0.1**
TIRR Tirgusor 77.44 313 *e*P **P 00 17 42.5 -0.1**
comp=Z,199nm,0.9s
ESKT Eskisehir 77.44 308 *e*P **P 00 17 41.8 -1.2**
GHRR 77.54 315⇑ *i*P **P 00 17 44.6 +1.4**
ALFC Alevga 77.62 303 P **P 00 17 43.7 -0.2**
comp=Z,6.3nm,0.6s
EIL Elat 77.63 297 P **P 00 17 44.6 +0.6**
EIL Elat 77.63 297 P **P 00 17 44.6 +0.6**
comp=Z,119nm,1.1s,baz=62,slow=4.4,SNR=31
EIL LR LR 00 55 51.3
comp=Z,26μm,21.3s,baz=69,slow=39
HARR Harsova 77.68 313 ‖P **P 00 17 44.7 +0.7**
HARR Harsova 77.68 313 ‖*i*P **P 00 17 44.7 +0.7**
MRIV Mauritius Mete 77.74 241 *e*P P 00 17 41.4 -3.3
SILT Sile 77.75 310 *e*P P 00 17 54.8 +10
PETR Petresti 77.77 315 ‖*i*P **P 00 17 45.5 +1.0**
NSS Namsos 77.80 336 *e*P **P 00 17 43.7 -0.6**
NSS AMB AMB 00 17 52.8
comp=Z,48nm,0.9s
NSS *e*PP **PP 00 20 38.7 -0.6**
NSS *e*S **S 00 27 38.0 +2.7**
NSS AMS AMS 00 56 43.1
comp=Z,18μm,16.9s
PRAR RASCA 77.83 316⇑ *i*P **P 00 17 44.4 -0.4**
HRT Hereke 77.84 309 *e*P **P 00 17 44.9 -0.1**
PSN Preselentsi 77.87 312 *e*P **P 00 17 46.6 +1.6**
TESR Tescani 77.87 315⇑ *i*P **P 00 17 45.0 0.0**
AKMC Akamas 77.88 303 P **P 00 17 45.1 -0.2**
PPCY Paphos 77.91 303 P **P 00 17 44.5 -1.0**
ADVT Abdulvahap 77.93 309 *e*P **P 00 17 43.1 -2.4**
CAVI Cavuskoy 77.94 309 *e*P **P 00 17 46.1 +0.6**
SHUT Suhut-Afyon 78.00 307 *e*P **P 00 17 45.7 -0.3**
SUTC Sutluce-Ispart 78.04 306 *e*P **P 00 17 45.7 -0.6**
VRI Vrincioaia 78.05 315 ⇑P **P 00 17 46.6 +0.5**
VRI Vrincioaia 78.05 315⇑ *i*P **P 00 17 46.6 +0.5**
GRER 78.06 314 ‖*i*P **P 00 17 48.3 +2.2**
AMRR Amara 78.11 313 ⇑P **P 00 17 47.4 +1.1**
AMRR Amara 78.11 313⇑ *i*P **P 00 17 47.4 +1.1**
PLOR Plostina 78.11 315 ⇑P **P 00 17 46.8 +0.4**
PLOR Plostina 78.11 315⇑ *i*P **P 00 17 46.8 +0.4**
CRAG Craig 78.12 34 *e*P **P 00 17 46.8 +0.6**
comp=Z,224nm,1.1s
WRAK Wrangell Islan 78.12 33 *e*P **P 00 17 47.4 +1.2**
comp=Z,198nm,1.0s

WRAK LR LR
comp=Z,17μm,22.0s
KLYT Kilyos 78.14 310 *eP* **P 00 17 46.2 -0.4**
YLV Yalova 78.14 309 *eP* **P 00 17 46.3 -0.4**
ISK Istanbul-Kandi 78.19 310 *eP* **P 00 17 45.6 -1.3**
PGOR Pogoanele 78.23 314⇓*iP* **P 00 17 48.0 +1.0**
LVV L'vov 78.27 319 *eP* **P 00 17 47.8 +0.7**
LVV *e* 00 17 58.2
LVV *eS* **S 00 27 41.4 +0.4**
LVV *e* 00 28 33.8
LVV *e* 00 36 04.6
LVV MLR MLR
comp=Z,29μm,23.0s
LVV MLR MLR
comp=N,24μm,22.0s
LVV MLR MLR
comp=E,15μm,22.0s
ISP Isparta 78.27 306 *eP* **P 00 17 46.9 -0.7**
ISP Isparta 78.27 306 P **P 00 17 47.2 -0.4**
ISP Isparta 78.27 306⇓*iP* **P 00 17 47.6 0.0**
ISP Isparta 78.27 306⇓*iP* **P 00 17 47.6 0.0**
ISP Isparta 78.27 306 *eP* **P 00 17 46.9 -0.7**
comp=E,392nm,1.2s
ISP LR LR
comp=Z,23μm,20.0s
BCK Bucak 78.35 306 *eP* P 00 17 43.5 -4.4
BGKT Bogazkoy 78.35 310 *eP* **P 00 17 49.5 +1.8**
BUR08 Bucovina Ar. S 78.37 317 *eP* **P 00 17 47.9 -0.1**
BURAR Bucovina Array 78.37 317⇓*iP* **P 00 17 48.7 +0.8**
BURAR Bucovina Array 78.37 317⇓*iP* **P 00 17 48.7 +0.8**
DLBC Dease Lake 78.40 31 *eP* **P 00 17 48.7 +0.8**
ISR Istrita 78.44 314⇓*iP* **P 00 17 49.6 +1.3**
ISR Istrita 78.44 314⇓*iP* **P 00 17 49.6 +1.3**
ARMT Armutlu 78.51 309 *eP* **P 00 17 47.5 -1.2**
MDNY Mudanya-Bursa 78.56 309 *eP* **P 00 17 48.5 -0.4**
PRD Provadia 78.57 312 *eP* **P 00 17 50.4 +1.4**
MLR Muntele Rosu 78.70 315⇑*iP* **P 00 17 50.2 +0.4**
SECR 78.79 314⇑*iP* **P 00 17 51.3 +1.1**
SULR 78.80 314⇑*iP* **P 00 17 50.7 +0.5**
KHL Karahalli 78.83 307 *eP* **P 00 17 49.3 -1.3**
RES Resolute Bay 78.97 10 LR LR 00 56 51.9
comp=Z,50μm,20.0s,baz=322,slow=39
KCTX Karacabey (Bur 78.97 309 *eP* **P 00 17 49.9 -1.4**
BSTR Bucharest-Ştcie 78.99 314⇑*iP* **P 00 17 52.2 +1.0**
BAPR Bucharest-Chil 78.99 314⇑*iP* **P 00 17 52.2 +1.0**
BVCR Bucharest-Old 78.99 314⇑*iP* **P 00 17 52.5 +1.3**
BUC Bucharest 79.00 314⇓*iP* P 00 17 56.1 +4.8
DST Dursunbey 79.03 308 *eP* **P 00 17 50.1 -1.5**
XMAS Kiritimati 79.06 93 *eP* **P 00 17 53.2 +1.0**
comp=Z,438nm,1.2s
XMAS LR LR
comp=Z,18μm,21.0s
BUC1 Bucharest 79.07 314⇓*iP* P 00 17 56.1 +4.4
TBLU Trondheim 79.10 335 *eP* **P 00 17 52.9 +1.5**
TBLU AMB AMB 00 18 03.6
comp=Z,453nm,2.1s
TBLU *eS* **S 00 27 48.0 -1.4**
TBLU AMS AMS 01 00 42.8
comp=Z,40μm,14.9s
ELL Elmali 79.11 305 *eP* P 00 17 48.5 -3.7
KWP Kalwaria Pacla 79.13 319⇑⇑P **P 00 17 52.4 +0.5**
KWP Kalwaria Pacla 79.13 319⇑*iP* **P 00 17 52.4 +0.5**
KWP Kalwaria Pacla 79.13 319 *eP* **P 00 17 52.2 +0.3**
comp=Z,653nm,0.9s
KWP LR LR
comp=Z,38μm,21.0s
KWP Kalwaria Pacla 79.13 319 *eP* **P 00 17 52.4 +0.5**
KWP *eS* **S 00 27 48.2 -2.1**
KWP *e*SKSac **SKSac 00 28 02.4 -4.3**
KWP LMZ LR 00 51 13.4
TKR Tekirdag 79.29 310 *eP* **P 00 17 50.6 -2.4**
VOIR 79.30 315⇑⇑P **P 00 17 53.5 +0.4**
VOIR 79.30 315⇑*iP* **P 00 17 53.5 +0.4**
URZ Urewera 79.33 140 *eP* **P 00 17 53.1 +0.1**
comp=Z,225nm,1.1s
URZ Urewera 79.33 140 P **P 00 17 52.4 -0.6**
comp=Z,71nm,0.6s,baz=37,slow=2.7,SNR=34
BEL Belsk 79.35 322 *eP* **P 00 17 53.5 +0.5**
BEL *ep*P **pP 00 17 55.9 -4.3**
BEL *eS* **S 00 27 52.7 +0.3**
BEL *e*SKSac **SKSac 00 28 07.3 -0.7**
BEL LMZ LR 00 54 04.1
KULA Kula-Manisa 79.39 307 *eP* **P 00 17 50.6 -3.1**
KULA Kula-Manisa 79.39 307 P **P 00 17 53.6 -0.1**
KULA Kula-Manisa 79.39 307 P **P 00 17 53.6 -0.1**
JMB Yambol 79.40 312 P **P 00 17 54.5 +1.0**
JMB Yambol 79.40 312 P **P 00 17 54.5 +1.0**
JMB Yambol 79.40 312 *eP* **P 00 17 54.3 +0.8**
JMB Yambol 79.40 312 P **P 00 17 54.5 +1.0**
MDB Medias 79.46 316⇑⇑P **P 00 17 52.3 -1.5**
MDB Medias 79.46 316⇑*iP* **P 00 17 52.3 -1.5**
EDRB Edirne 79.52 311 *eP* **P 00 17 52.2 -2.0**
EDRB Edirne 79.52 311 P **P 00 17 54.3 +0.1**
EDRB Edirne 79.52 311 P **P 00 17 54.3 +0.1**
GONE Gonen-Balikesi 79.53 309 *eP* **P 00 17 52.6 -1.7**
BALB Balikesir 79.55 309 *eP* **P 00 17 52.5 -1.9**
MFT Murefte 79.55 310 *eP* **P 00 17 51.5 -3.0**
RER Riviere de l'E 79.58 242 *eP* **P 00 17 54.6 -0.3**
comp=Z,114nm,0.8s
RER LR LR
comp=Z,12μm,19.0s
ARR Arges 79.60 315⇓*iP* **P 00 17 55.4 +0.7**
RKY Sarkoy-Tekirda 79.66 310 *eP* P 00 17 49.1 -6.0
KOLS Kolonicke sedl 79.67 319 *eP* **P 00 17 54.9 0.0**
KOLS pmax pmax
comp=Z,121nm,0.9s
KOLS Kolonicke sedl 79.67 319 *eP* **P 00 17 54.9 0.0**
KOLS *eS* **S 00 27 51.3 -4.7**
KOLS *e*SS SS 00 33 34.6 +31
KRBG Karabiga-Canak 79.68 309 *eP* P 00 17 50.9 -4.2
CJR Cluj-Napoca 79.74 316⇓*iP* **P 00 17 56.8 +1.4**
FETY Fethiye 79.77 305 *eP* **P 00 17 54.4 -1.3**
ZIMR 79.78 313⇑⇑P **P 00 17 56.0 +0.5**
ZIMR 79.78 313⇑*iP* **P 00 17 56.0 +0.5**
UZH Uzhgorod 79.78 319 *eP* **P 00 17 54.4 -1.0**
UZH *e* 00 18 01.4
UZH *e* 00 20 58.6
UZH *e*PPP PPP 00 22 44.8
UZH *eS* **S 00 27 52.2 -4.9**
UZH *e* 00 28 04.6
UZH *e* 00 28 15.8
UZH *eP*S **PnS 00 28 37.0 -5.3**
UZH *eS*S **SS 00 33 06.6 +1.1**
UZH *eS*SS SSS 00 36 25.8
RPZ Rata Peaks 79.81 147 *eP* **P 00 17 55.6 0.0**
comp=Z,260nm,0.9s
RPZ Rata Peaks 79.81 147 P **P 00 17 55.5 0.0**
comp=Z,317nm,1.0s,baz=316,slow=2.6,SNR=61
TRPA Tarpa 79.83 318⇓*iP* **P 00 17 56.0 +0.3**
NB2 NORSAR Subarra 79.84 333 P **P 00 17 54.8 -0.8**
comp=Z,185nm,0.8s,baz=57,slow=5.6
NB2 NORSAR Subarra 79.84 333 P **P 00 17 54.8 -0.8**
baz=57,slow=5.6
NOA NORSAR Array B 79.84 333 P **P 00 17 54.9 -0.7**
NOA NORSAR Array B 79.84 333 P **P 00 17 54.9 -0.7**
comp=Z,129nm,0.8s,baz=57,slow=5.4,SNR=98
NOA LR LR 00 57 10.1
comp=Z,73μm,18.5s,baz=50,slow=39
NC602 NORSAR Array S 79.86 332 *eP* **P 00 17 55.8 +0.1**
PVL Pavlikeni 79.97 313 *eP* **P 00 17 57.6 +1.0**
JNW Jan Mayen West 79.99 346 *eP* **P 00 17 58.0 +1.8**
SNZO South Karori 80.02 143 PFAKE 00 18 10.0 +13
SNZO LR LR
comp=Z,26μm,19.0s
DALY Dalyan (Mu'la 80.03 306 *eP* **P 00 17 54.4 -2.6**
JMIC Jan Mayen 80.04 346 *eP* **P 00 17 57.5 +1.0**
JMIC AMB AMB 00 18 04.3
comp=Z,525nm,1.4s
JMIC *e*PP **PP 00 20 56.8 -1.1**
JMIC *eS* **S 00 28 01.6 +2.6**
JMIC *e*SS **SS 00 33 11.3 +3.1**
JMIC AMS AMS 00 57 05.8
comp=Z,30μm,19.7s
LPK Lapseki 80.07 310 *eP* **P 00 17 55.4 -1.8**
NAO01 NORSAR Array S 80.08 333 *eP* **P 00 17 55.7 -1.2**
comp=Z,102nm,0.9s
STHS Stebnicka Huta 80.09 320 *eP* **P 00 17 57.6 +0.4**
STHS pmax pmax
comp=Z,148nm,0.9s
STHS Stebnicka Huta 80.09 320 *eP* **P 00 17 57.6 +0.4**
LOT Lotru 80.13 315⇑*iP* **P 00 17 57.8 +0.2**
KHZ Kahutara 80.16 145 *eP* **P 00 17 56.3 -1.1**
comp=Z,706nm,1.7s
CRVS Cervenica-Dubn 80.17 319 *eP* **P 00 17 58.1 +0.5**
CRVS pmax pmax
comp=Z,539nm,1.7s
CRVS Cervenica-Dubn 80.17 319 *eP* **P 00 17 58.1 +0.5**
CRVS *eS* **S 00 27 56.2 -5.1**
CRVS *e*SS **SS 00 33 17.9 +6.5**
YER Yerkesik 80.18 306 *eP* **P 00 17 57.8 -0.1**
DRGR 80.27 317⇓⇓P **P 00 17 58.9 +0.7**
DRGR 80.27 317⇓*iP* **P 00 17 58.9 +0.7**
DIM Dimitrovgrad 80.28 312 *eP* **P 00 17 58.9 +0.6**
ENEZ Enez 80.36 310 *eP* P 00 17 49.3 -9.4
IZM Izmir 80.46 308 *eP* **P 00 17 59.2 -0.2**
MLSB Milas 80.50 306 *eP* **P 00 18 00.8 +1.1**
DEV Deva 80.51 316⇓⇓P **P 00 18 00.6 +1.1**
DEV Deva 80.51 316⇓*iP* **P 00 18 00.6 +1.1**
MOL Molde 80.51 335 *eP* **P 00 17 59.5 +0.4**
MOL AMB AMB 00 18 12.4
comp=Z,440nm,1.7s
KDZ Kurdzhali 80.52 311 *eP* **P 00 17 59.9 +0.3**
ODZ Otahua Downs 80.58 148 *eP* **P 00 18 02.2 +2.6**
comp=Z,231nm,1.8s
EZN Ezine 80.59 309 *eP* **P 00 17 59.7 -0.3**
OJC Ojcow 80.60 321⇑⇑*iP* **P 00 18 00.2 +0.3**
OJC *e* 00 18 07.0
OJC *eS* **S 00 28 01.3 -4.4**
OJC *e* 00 28 16.1
OJC Ojcow 80.60 321 *eP* **P 00 18 00.1 +0.3**
comp=Z,378nm,0.9s
OSL Oslo 80.62 332 *e* **P 00 17 59.7 0.0**
NIE Niedzica 80.64 320⇑*iP* **P 00 18 02.9 +2.8**
NIE *eS* **S 00 28 07.3 +1.0**
ARG Arkhangelos 80.64 305 P **P 00 18 00.4 +0.1**
ARG Arkhangelos 80.64 305 P **P 00 18 00.4 +0.1**
ARG Arkhangelos 80.64 305 *eP* **P 00 18 00.5 +0.1**
ARG Arkhangelos 80.64 305 P **P 00 18 00.4 +0.1**
GKP Gorka Klasztor 80.69 324 *eP* **P 00 18 00.0 -0.2**
GKP *eS* **S 00 28 06.2 -0.3**
GKP *e*SKSac **SKSac 00 28 16.7 -0.6**
GKP LMZ LR 00 54 56.8
GZR Gura Zlata 80.79 315⇑⇑P **P 00 18 00.9 -0.2**
GZR Gura Zlata 80.79 315⇑*iP* **P 00 18 00.9 -0.2**
PLD Plovdiv 80.83 312 P **P 00 18 01.6 +0.4**
PLD Plovdiv 80.83 312 P **P 00 18 01.6 +0.4**
PLD Plovdiv 80.83 312 *eP* **P 00 18 01.4 +0.2**
PLD Plovdiv 80.83 312 P **P 00 18 01.6 +0.4**
PRK Paraskevi 80.85 309 P **P 00 18 01.1 -0.3**
PRK Paraskevi 80.85 309 P **P 00 18 01.1 -0.3**
PRK Paraskevi 80.85 309 *eP* **P 00 18 01.1 -0.3**
PRK Paraskevi 80.85 309 P **P 00 18 01.1 -0.3**
DAT Datca 80.86 306 *eP* **P 00 18 01.1 -0.6**
BODT Bodrum 80.93 306 *eP* **P 00 18 01.5 -0.5**
KECS Kecovo 80.93 319 *eP* **P 00 18 01.9 +0.2**
KECS pmax pmax
comp=Z,95nm,0.8s
KECS Kecovo 80.93 319 *eP* **P 00 18 01.9 +0.2**
PGB Panagyurishte 81.02 312 *eP* **P 00 18 03.5 +1.2**
SMG Samos 81.03 307 P **P 00 18 02.9 +0.5**
SMG Samos 81.03 307 *eP* **P 00 18 03.2 +0.8**
SMG Samos 81.03 307 P **P 00 18 02.9 +0.5**
BSD Bornholm Skovb 81.04 327 *iP* **P 00 18 01.6 -0.5**
comp=Z,196nm,0.8s
BSD Bornholm Skovb 81.04 327 *i*S **S 00 28 07.2 -2.9**
BSD
comp=Z,58μm,21.0s
SIGR SIGRI 81.16 309 P **P 00 18 03.0 0.0**
SIGR SIGRI 81.16 309 P **P 00 18 03.0 0.0**
NIS1 Nisyros Isl. 81.20 306 P **P 00 18 03.7 +0.3**
NIS1 Nisyros Isl. 81.20 306 P **P 00 18 03.7 +0.3**
KONO Kongsberg 81.25 332 *eP* **P 00 18 04.8 +1.7**
KONO *eS* **S 00 28 11.9 -0.3**
KONO AMS AMS 00 58 11.7
comp=Z,80μm,20.6s
KONO Kongsberg 81.25 332 *eP* **P 00 18 03.2 +0.1**
KONO pmax pmax
comp=Z,163nm,1.1s
KONO MLR MLR
comp=Z,87μm,19.0s
KONO Kongsberg 81.25 332 *eP* **P 00 18 03.2 +0.1**
comp=Z,163nm,1.1s
KONO LR LR
comp=Z,87μm,19.0s
KAVA Kavala 81.40 311 P **P 00 18 04.6 +0.3**
KAVA Kavala 81.40 311 P **P 00 18 04.6 +0.3**
BZS Buzias 81.44 316⇑⇑P **P 00 18 04.8 +0.4**
BZS Buzias 81.44 316⇑*iP* **P 00 18 04.8 +0.4**
PSZ Piszkesteto 81.53 319⇑⇑P **P 00 18 05.2 +0.2**
PSZ Piszkesteto 81.53 319⇑*iP* **P 00 18 05.2 +0.2**
PSZ Piszkesteto 81.53 319 *eP* **P 00 18 05.1 +0.2**
comp=Z,270nm,1.0s
PSZ LR LR
comp=Z,39μm,22.0s
RAC Raciborz 81.59 321 *eP* **P 00 18 05.6 +0.5**
RAC *eS* **S 00 28 14.0 -2.0**
RAC MLR MLR
comp=Z,37μm,22.7s
KARP Karpathos 81.62 305 P **P 00 18 05.2 -0.5**
KARP Karpathos 81.62 305 P **P 00 18 05.2 -0.5**
TIM Timisoara 81.64 316⇓⇓P **P 00 18 06.7 +1.2**
TIM Timisoara 81.64 316⇓*iP* **P 00 18 06.7 +1.2**
VTS Vitosha 81.65 313 P **P 00 18 06.2 +0.4**
VTS Vitosha 81.65 313⇑⇑P **P 00 18 06.1 +0.3**
VTS Vitosha 81.65 313 *eP* **P 00 18 05.8 0.0**
VTS Vitosha 81.65 313⇑*iP* **P 00 18 06.1 +0.3**
VTS Vitosha 81.65 313 P **P 00 18 06.2 +0.4**
MMB Musomiste 81.70 312 *eP* **P 00 18 06.0 0.0**
NVR Nevrokopi 81.71 311 P **P 00 18 05.7 -0.3**
NVR Nevrokopi 81.71 311 *eP* **P 00 18 05.9 -0.1**
NVR Nevrokopi 81.71 311 P **P 00 18 05.7 -0.3**
OKC Ostrava-Krasne 81.72 321⇑⇑*iP* **P 00 18 06.1 +0.3**
OKC *e* 00 28 15.5
OKC MLR MLR
comp=Z,27μm,21.3s
OKC Ostrava-Krasne 81.72 321⇑*iP* **P 00 18 06.1 +0.3**
OKC *ep*P **PcP 00 18 10.0 -1.6**
OKC *eS* **S 00 28 15.5 -1.9**
OKC AMS AMS 00 58 50.0
comp=Z,27μm,21.3s
HYA Hoyanger 81.83 334⇑⇑*iP* **P 00 18 08.4 +2.2**
HYA AMB AMB 00 18 19.2
comp=Z,348nm,1.5s
SRS Serrai 81.99 311 P **P 00 18 06.5 -0.9**
SRS Serrai 81.99 311 P **P 00 18 06.5 -0.9**
SRS Serrai 81.99 311 P **P 00 18 06.5 -0.9**
COP Copenhagen 82.00 328 *iP* **P 00 18 07.8 +0.7**
comp=Z,123nm,0.9s
COP Copenhagen 82.00 328 *i*S **S 00 28 19.9 0.0**
COP
comp=Z,19μm,19.0s
KKB Krupnik 82.03 312 *eP* **P 00 18 07.8 +0.1**
OUR Ouranopolis 82.04 310 P **P 00 18 08.5 +0.8**
OUR Ouranopolis 82.04 310 P **P 00 18 08.5 +0.8**
OUR Ouranopolis 82.04 310 P **P 00 18 08.5 +0.8**
MORC Moravsky Berou 82.10 321 *eP* **P 00 18 08.2 +0.3**
MORC pmax pmax
comp=Z,315nm,1.5s
MORC Moravsky Berou 82.10 321 *eP* **P 00 18 08.2 +0.3**
comp=Z,315nm,1.5s
RGN Rugen 82.12 327 *eP* **P 00 18 08.1 +0.3**
comp=Z,282nm,1.0s
RGN Rugen 82.12 327 *eP* **P 00 18 07.5 -0.3**
comp=Z,244nm,0.9s
APE Apeiranthos 82.24 307⇑⇑P **P 00 18 10.2 +1.3**
APE Apeiranthos 82.24 307⇑*iP* **P 00 18 10.2 +1.3**
SOH Sokhos 82.27 311 P **P 00 18 08.9 -0.1**
SOH Sokhos 82.27 311 P **P 00 18 08.9 -0.1**
SOH Sokhos 82.27 311 P **P 00 18 08.9 -0.1**
LLD Lille Linde 82.28 328 *iP* **P 00 18 11.2 +2.6**
comp=Z,208nm,0.8s
KSP Ksiaz 82.32 322⇑*eP* **P 00 18 09.3 +0.3**
KSP *eS* **S 00 28 21.9 -1.6**
KSP MLR MLR
comp=Z,68μm,27.8s
KSP Ksiaz 82.32 322 *eP* **P 00 18 09.3 +0.3**
KSP *eS* **S 00 28 19.6 -3.9**
KSP *e*SKSac **SKSac 00 28 29.5 +0.9**
KSP LMZ LR 00 54 42.2
ODD1 Odda 82.37 333 *eP* **P 00 18 11.0 +1.9**
ODD1 AMB AMB 00 18 22.3
comp=Z,319nm,1.8s
ODD1 AMS AMS 00 58 22.7
comp=Z,67μm,20.0s
PLG Polygyros 82.39 311 P **P 00 18 09.1 -0.5**
PLG Polygyros 82.39 311 P **P 00 18 09.1 -0.5**
PLG Polygyros 82.39 311 *eP* **P 00 18 09.2 -0.4**
PLG Polygyros 82.39 311 P **P 00 18 09.1 -0.5**
PAIG Paliouri 82.41 310 P **P 00 18 09.3 -0.4**
PAIG Paliouri 82.41 310 P **P 00 18 09.3 -0.4**
PAIG Paliouri 82.41 310 P **P 00 18 09.3 -0.4**
KNT Kendrikon 82.45 312 P **P 00 18 10.8 +0.9**
KNT Kendrikon 82.45 312 P **P 00 18 10.8 +0.9**
KNT Kendrikon 82.45 312 P **P 00 18 10.8 +0.9**
SUE Sulen 82.46 335 *eP* **P 00 18 11.6 +2.2**
SUE AMB AMB 00 18 22.7
comp=Z,350nm,1.5s
SUE *eS* **S 00 28 23.4 -1.1**
SUE AMS AMS 00 59 49.3
comp=Z,55μm,15.8s
HOMB Homborsund 82.47 331 *e* **P 00 18 06.9 -2.7**
HOMB AMS AMS 00 59 07.0
comp=Z,55μm,19.9s
ZKR Zakros 82.50 305 P **P 00 18 10.2 0.0**
ZKR Zakros 82.50 305 P **P 00 18 10.2 0.0**
DPC Dobruska-Polom 82.53 322⇑⇑*iP* **P 00 18 10.6 +0.4**
DPC *e* 00 28 24.2
DPC Dobruska-Polom 82.53 322⇑⇑*iP* **P 00 18 10.6 +0.4**
DPC *ep*P **PcP 00 18 15.4 +0.2**
DPC *ex* x 00 21 31.8
DPC *eS* **S 00 28 24.2 -1.7**
DPC AMS AMS 00 59 00.0
DPC Dobruska-Polom 82.53 322 *eP* **P 00 18 10.6 +0.4**
comp=Z,807nm,0.8s
HORT Hortiatis 82.54 311 P **P 00 18 09.2 -1.2**
HORT Hortiatis 82.54 311 P **P 00 18 09.2 -1.2**
SANT Santorini 82.57 306 P **P 00 18 10.0 -0.6**
SANT Santorini 82.57 306 *eP* **P 00 18 09.4 -1.2**
comp=Z,479nm,0.9s
SANT LR LR
comp=Z,12μm,20.0s
THR1 Thera Island 82.57 306 P **P 00 18 10.4 -0.2**
RUND Rundenannen 82.59 334 *e* **P 00 18 10.3 +0.1**
THR3 Thira Island, 82.60 306 P **P 00 18 10.1 -0.6**
THR3 Thira Island, 82.60 306 P **P 00 18 10.1 -0.6**
WNDE Wendo Genet 82.60 275 *iP* **P 00 18 14.4 +3.0**
VAY Valandovo 82.61 312 P **P 00 18 09.5 -1.1**
VAY Valandovo 82.61 312 P **P 00 18 09.5 -1.1**
VAY Valandovo 82.61 312 *iP* P 00 18 01.8 -8.8
VAY Valandovo 82.61 312 P **P 00 18 09.5 -1.1**
THE Thessaloniki 82.62 311 P **P 00 18 09.6 -1.1**
THE Thessaloniki 82.62 311 P **P 00 18 09.6 -1.1**
THE Thessaloniki 82.62 311 P **P 00 18 09.6 -1.1**
ASK Askoy 82.62 334 *eP* **P 00 18 10.8 +0.5**
ASK AMB AMB 00 18 21.1
comp=Z,419nm,1.8s
BER Bergen 82.63 334 *eP* **P 00 18 10.6 +0.3**
BER AMB AMB 00 18 16.2
comp=Z,355nm,1.2s
BER *eS* **S 00 28 23.2 -3.0**
BER AMS AMS 00 58 51.4
comp=Z,67μm,17.4s
UPC Upice 82.64 322⇑⇑*iP* **P 00 18 11.1 +0.5**
UPC Upice 82.64 322⇑⇑*iP* **P 00 18 11.1 +0.5**
YKW3 Yellowknife Ar 82.68 23 *eP* **P 00 18 10.4 -0.1**
comp=Z,8.7nm,1.0s
BLS5 Blasjo 82.72 333 *eP* **P 00 18 11.6 +0.7**
BLS5 AMB AMB 00 18 29.5
comp=Z,446nm,1.4s
YKA Yellowknife Ar 82.72 23 P **P 00 18 10.8 0.0**
YKA PKKPbc **PKKPbc 00 36 32.6 -3.7**
YKA Yellowknife Ar 82.72 23 P **P 00 18 10.8 0.0**
comp=Z,42nm,0.6s,baz=307,slow=4.4,SNR=44
YKA PKKPbc **PKKPbc 00 36 32.6 -3.7**
comp=Z,5.0nm,0.9s,baz=134,slow=1.9,SNR=6.4
EGD Espegrend 82.73 334 *eP* **P 00 18 11.1 +0.2**
SMOL Smolenice 82.74 320 *eP* **P 00 18 12.2 +1.0**
SMOL Smolenice 82.74 320 *eP* **P 00 18 12.2 +1.0**
NPS Neapolis 82.90 305 P **P 00 18 11.4 -0.9**
NPS Neapolis 82.90 305 P **P 00 18 11.4 -0.9**
NPS Neapolis 82.90 305 *eP* **P 00 18 12.7 +0.4**
NPS Neapolis 82.90 305 P **P 00 18 11.4 -0.9**
XOR Xorichti 82.99 310 P **P 00 18 11.5 -1.2**
XOR Xorichti 82.99 310 P **P 00 18 11.5 -1.2**
NEO Neokhori 82.99 310 P **P 00 18 12.6 -0.2**
NEO Neokhori 82.99 310 *eP* **P 00 18 12.5 -0.2**
NEO Neokhori 82.99 310 P **P 00 18 12.6 -0.2**
SNART Snartemo 83.00 332 *eP* **P 00 18 13.0 +0.6**
SNART AMB AMB 00 18 21.5
comp=Z,186nm,1.9s
LAST Lasithi 83.04 305 P **P 00 18 12.6 -0.5**
LAST Lasithi 83.04 305 P **P 00 18 12.6 -0.5**
PKSM Moragy 83.05 317⇑⇑P **P 00 18 12.9 0.0**
PKSM Moragy 83.05 317⇑*iP* **P 00 18 12.9 0.0**
ZST Bratislava 83.08 320 *eP* **P 00 18 12.9 -0.1**
ZST *eS* S 00 28 24.9 -6.5
ZST Bratislava 83.08 320 *eP* **P 00 18 12.9 -0.1**
SKO Skopje 83.10 313 P **P 00 18 14.6 +1.4**
SKO Skopje 83.10 313 P **P 00 18 14.6 +1.4**
SKO Skopje 83.10 313 *iP* **P 00 18 14.5 +1.3**
SKO Skopje 83.10 313 P **P 00 18 14.6 +1.4**
DIVS Divibare 83.14 315 P **P 00 18 13.3 -0.2**
ATHU Athens Univers 83.14 308 P **P 00 18 12.1 -1.4**
ATHU Athens Univers 83.14 308 P **P 00 18 12.1 -1.4**
MUD Monsted U'grnd 83.16 329 *iP* **P 00 18 13.7 +0.6**
comp=Z,109nm,1.0s
MUD Monsted U'grnd 83.16 329 *i*S **S 00 28 30.8 -0.9**
MUD
comp=Z,62μm,18.0s
SCO Scoresbysund 83.16 349⇑*iP* **P 00 18 14.4 +1.5**
comp=Z,95nm,1.0s
SCO
comp=Z,45μm,18.0s
LIT Litokhoron 83.17 311 P **P 00 18 12.6 -1.1**
LIT Litokhoron 83.17 311 P **P 00 18 12.6 -1.1**
LIT Litokhoron 83.17 311 P **P 00 18 12.6 -1.1**
SMIA Simia 83.18 309 P **P 00 18 13.5 -0.2**
STAV Stavanger 83.31 333 *e* 00 19 14.7
ATAL Atalanti 83.39 309 P P 00 18 10.9 -3.9
ATAL Atalanti 83.39 309 P P 00 18 10.9 -3.9
SUMG Summit 83.39 355 *eP* **P 00 18 14.3 -0.3**
SUMG pmax pmax
comp=Z,436nm,1.0s
SUMG Summit 83.39 355 *iP* **P 00 18 14.9 +0.3**
comp=Z,189nm,0.8s
SUMG Summit 83.39 355 *i*S **S 00 28 36.0 +1.5**
SUMG
comp=Z,31μm,18.0s
SUMG Summit 83.39 355 *eP* **P 00 18 14.3 -0.3**
comp=Z,436nm,1.0s
LKR Lokris 83.42 309 *eP* **P 00 18 14.7 -0.2**
PVCC Panska Ves 83.43 323⇑⇑*iP* **P 00 18 15.2 +0.5**
PVCC *e* 00 28 33.7
PVCC MLR MLR
comp=Z,44μm,18.1s
PVCC Panska Ves 83.43 323⇑⇑*iP* **P 00 18 15.2 +0.5**
PVCC *ep*P **PcP 00 18 19.3 +0.2**
PVCC *ex* x 00 21 39.0
PVCC *e*SKS **S 00 28 33.7 -1.2**
PVCC AMS AMS 00 59 20.0
comp=Z,44μm,18.1s
TREC Trest 83.51 321⇑*iP* **P 00 18 15.5 +0.3**
TREC *e* 00 28 35.4
TREC MLR MLR
comp=Z,39μm,18.1s
TREC Trest 83.51 321⇑⇑*iP* **P 00 18 15.5 +0.3**
TREC *e*SKS **S 00 28 35.4 -0.4**
TREC AMS AMS 00 59 50.0
comp=Z,39μm,18.1s
KZN Kozani 83.58 311 P **P 00 18 14.7 -1.1**
KZN Kozani 83.58 311 P **P 00 18 14.7 -1.1**
KZN Kozani 83.58 311 *eP* **P 00 18 14.7 -1.1**
KZN Kozani 83.58 311 P **P 00 18 14.7 -1.1**
BIA Bitola 83.59 312 *iP* **P 00 18 14.2 -1.6**
SIVA Sivas 83.60 305 P **P 00 18 16.2 +0.3**
SIVA Sivas 83.60 305 P **P 00 18 16.2 +0.3**
BRG Berggiesshubel 83.61 323⇑*iP* **P 00 18 15.6 0.0**
comp=Z,126nm,1.2s
BRG *e* 00 18 34.0
comp=Z,270nm,1.4s
BRG PP **PP 00 21 28.1 +0.2**
comp=Z,48nm,1.0s
BRG S **S 00 28 36.0 -0.7**
BRG SP **SPn 00 29 23.0 -3.6**
BRG SS **SS 00 34 06.0 +3.7**
BRG PKKP **PKKPbc 00 36 37.1 +3.2**

comp=Z,2.4nm,1.0s
BRG
comp=Z,72μm,16.8s
BRG
comp=N,48μm,19.9s
BRG
comp=E,53μm,19.9s
BRG Berggiesshubel 83.61 323 *e*P **P 00 18 15.7 0.0**
comp=Z,270nm,1.4s
BRG Berggiesshubel 83.61 323⇑*i*P **P 00 18 15.6 0.0**
BRG *e* 00 18 34.0
BRG 00 21 28.1
BRG S **S 00 28 36.0 -0.7**
BRG SP **SPn 00 29 23.0 -3.6**
BRG SS **SS 00 34 06.0 +3.7**
BRG pmax pmax
comp=Z,126nm,1.2s
BRG pmax pmax
comp=Z,48nm,1.0s
BRG MLR MLR
comp=Z,72μm,16.8s
BRG MLR MLR
comp=N,48μm,19.9s
BRG MLR MLR
comp=E,53μm,19.9s
AXAR Agios Charalam 83.61 309 P **P 00 18 14.9 -1.1**
AXAR Agios Charalam 83.61 309 P **P 00 18 14.9 -1.1**
FNA Florina 83.65 312 P **P 00 18 14.8 -1.4**
FNA Florina 83.65 312 P **P 00 18 14.8 -1.4**
FNA Florina 83.65 312 P **P 00 18 14.8 -1.4**
PRU Pruhonice 83.71 322⇑*i*P **P 00 18 16.5 +0.3**
PRU *e* 00 28 36.6
PRU MLR MLR
comp=Z,42μm,25.6s
PRU Pruhonice 83.71 322⇑*i*P **P 00 18 16.5 +0.3**
PRU *ex* x 00 21 43.2
PRU *e*SKS **SKSac 00 28 36.6 -1.2**
PRU AMS AMS 01 00 00.0
comp=Z,42μm,25.6s
THL Klokotos Trika 83.73 310 P **P 00 18 14.8 -1.7**
THL Klokotos Trika 83.73 310 *e*P **P 00 18 15.4 -1.1**
PRA Prague 83.73 322 SKS **SKSac 00 28 39.0 +1.1**
PRA AMS AMS 01 01 30.0
AGG Agios Georgios 83.74 310 P **P 00 18 14.1 -2.5**
AGG Agios Georgios 83.74 310 P **P 00 18 14.1 -2.5**
AGG Agios Georgios 83.74 310 P **P 00 18 14.1 -2.5**
IVA Berane 83.74 314⇑*i*P **P 00 18 17.1 +0.5**
PVY Plav 83.82 314⇑*i*P **P 00 18 18.1 +1.0**
ACOR Acrocorinthos 83.83 309 P **P 00 18 14.9 -2.2**
DSF Desfina 83.86 309 P **P 00 18 15.3 -2.0**
DSF Desfina 83.86 309 P **P 00 18 15.3 -2.0**
PLE Pljevlja 83.87 315⇑*i*P **P 00 18 17.8 +0.5**
MAKR Makrakomi, Fth 83.88 310 P **P 00 18 16.0 -1.3**
MAKR Makrakomi, Fth 83.88 310 P **P 00 18 16.0 -1.3**
VAM Vamos 83.89 306 P **P 00 18 18.0 +0.6**
VAM Vamos 83.89 306 P **P 00 18 18.0 +0.6**
VAM Vamos 83.89 306 *e*P **P 00 18 17.8 +0.4**
VAM Vamos 83.89 306 P **P 00 18 18.0 +0.6**
PHP Peshkopia 83.90 313 P **P 00 18 16.2 -1.2**
PHP Peshkopia 83.90 313 P **P 00 18 16.2 -1.2**
PHP Peshkopia 83.90 313 P **P 00 18 16.2 -1.2**
CLL Collm 83.91 324 *e*P **P 00 18 17.0 -0.2**
comp=Z,169nm,0.9s
CLL Collm 83.91 324 *i*P **P 00 18 17.0 -0.2**
CLL *i* 00 18 22.2
CLL *e*S **S 00 28 39.0 -0.6**
CLL pmax pmax
comp=Z,141nm,1.3s
CLL MLR MLR
comp=Z,52μm,20.8s
CLL Collm 83.91 324 *i*P **P 00 18 17.0 -0.2**
comp=Z,141nm,1.3s
CLL *e*Pmax 00 18 18.0
CLL *i* 00 18 20.3
comp=Z,169nm,0.9s
CLL *i*pP **pP 00 18 23.9 -0.4**
CLL *e* 00 18 37.0
CLL *e* 00 21 12.0
CLL *i*PP **PP 00 21 31.9 +1.7**
comp=Z,71nm,0.9s
CLL *e*PPP PPP 00 23 24.0
CLL *e*PPPP 00 24 54.0
CLL *e*S **S 00 28 39.0 -0.6**
CLL *e*PS **PnS 00 29 36.0 +2.6**
CLL *e*SS **SS 00 34 06.0 -0.7**
CLL *e* 00 34 42.0
CLL *e*SSS SSS 00 37 30.0
CLL *e* 00 38 36.0
CLL *e*SSSS 00 40 36.0
CLL *e*PKPPKPd **P'P'df 00 44 38.0 -4.4**
comp=Z,49nm,2.4s
CLL LmV 00 56 00.0
comp=Z,52μm,20.8s
FBE Freiberg 83.91 323 *e*P **P 00 18 17.6 +0.4**
comp=Z,719nm,1.7s
CONA Conrad Observa 83.94 320 *i*P **P 00 18 18.1 +0.5**
comp=Z,829nm,1.4s,SNR=124
BSEG Bad Segeberg 83.95 327 *e*P **P 00 18 17.7 +0.4**
comp=Z,310nm,1.1s
BSEG Bad Segeberg 83.95 327 *e*P **P 00 18 17.7 +0.4**
BSEG pmax pmax
comp=Z,310nm,1.1s
NEST Nestorio 84.04 311 P **P 00 18 17.1 -1.1**
KBN Korca 84.12 312 P **P 00 18 18.0 -0.6**
KBN Korca 84.12 312 P **P 00 18 18.0 -0.6**
KBN Korca 84.12 312 P **P 00 18 18.0 -0.6**
KALE Kalithea 84.14 309 P **P 00 18 16.9 -1.8**
KALE Kalithea 84.14 309 P **P 00 18 16.9 -1.8**
EVR Evrytania 84.15 310 P **P 00 18 17.5 -1.3**
EVR Evrytania 84.15 310 *e*P **P 00 18 18.4 -0.4**
EVR Evrytania 84.15 310 P **P 00 18 17.5 -1.3**
GUR Goura 84.19 309 P **P 00 18 18.3 -0.7**
TRIZ Trizonia 84.20 309 P **P 00 18 18.2 -0.7**
UPM Unac-Piva 84.24 315 *e*P **P 00 18 18.9 -0.4**
VLI Veliai 84.28 307 P **P 00 18 18.1 -1.2**
VLI Veliai 84.28 307 *e*P **P 00 18 17.6 -1.7**
VLI Veliai 84.28 307 P **P 00 18 18.1 -1.2**
KLV Kalavryta, Ach 84.28 309 P **P 00 18 18.0 -1.4**
KLV Kalavryta, Ach 84.28 309 *e*P **P 00 18 18.4 -1.0**
KLV Kalavryta, Ach 84.28 309 P **P 00 18 18.0 -1.4**
EFP Efpalio 84.29 309 P **P 00 18 18.4 -1.0**
LAKA Lakka 84.32 309 P **P 00 18 18.0 -1.6**
LAKA Lakka 84.32 309 P **P 00 18 18.0 -1.6**
PDG Podgorica 84.36 314 P **P 00 18 19.4 -0.2**
TTG Podgorica 84.36 314⇑*i*P **P 00 18 19.2 -0.4**
TTG Podgorica 84.36 314 P **P 00 18 19.4 -0.2**
TTG Podgorica 84.36 314 P **P 00 18 19.4 -0.2**
NKY Niksic 84.36 314⇑*i*P **P 00 18 19.5 -0.3**
ANKY Antikythira Is 84.37 307 *e*P **P 00 18 20.6 +0.8**
KYTH Kithira 84.39 307 P **P 00 18 19.7 -0.3**
KYTH Kithira 84.39 307 P **P 00 18 19.7 -0.3**
NKME Niksic 84.41 314 *e*P **P 00 18 19.5 -0.4**
VLX Vlachokerasia 84.41 308 P **P 00 18 19.5 -0.6**
KOGS Kog 84.42 318 *i*P **P 00 18 19.2 -0.6**
TIR Tirane 84.43 313 *e*P **P 00 18 19.3 -0.8**
TIR pmax pmax
comp=Z,348nm,0.8s
TIR MLR MLR
comp=Z,27μm,22.0s
TIR Tirane 84.43 313 *e*P **P 00 18 19.2 -0.8**
comp=Z,348nm,0.8s
TIR LR LR
comp=Z,27μm,22.0s
ARSA Arzberg 84.47 319 *i*P **P 00 18 20.2 +0.1**
comp=Z,257nm,1.6s,SNR=81
DRME Dracevica, Mon 84.51 314⇑*i*P **P 00 18 20.1 -0.3**
ULC Ulcinj 84.58 313⇑*i*P **P 00 18 20.9 +0.1**
BRY Bratogost 84.62 315⇑*i*P **P 00 18 20.7 -0.4**
NEUB Neuenburg 84.62 324 *e*P **P 00 18 20.8 0.0**
comp=Z,264nm,1.1s
BUM Brajici-Budva 84.66 314 *e*P **P 00 18 20.6 -0.6**
TANN Tannenbergstha 84.66 323 *e*P **P 00 18 21.1 0.0**
comp=Z,128nm,1.2s
KHC Kasperske Hory 84.68 322⇑*i*P **P 00 18 21.3 +0.1**
KHC *e* 00 28 44.1
KHC MLR MLR
comp=Z,47μm,19.2s
KHC Kasperske Hory 84.68 322⇑*i*P **P 00 18 21.3 +0.1**
KHC *ex* x 00 18 41.0
KHC *ex* x 00 21 48.0
KHC *e*SKS **SKSac 00 28 44.1 -0.1**
KHC AMS AMS 01 00 20.0
comp=Z,47μm,19.2s
KHC Kasperske Hory 84.68 322 *e*P **P 00 18 21.2 0.0**
comp=Z,348nm,1.4s
DYR Agios Nikonas 84.70 308 P **P 00 18 20.9 -0.6**
WERD Werda 84.73 323 *e*P **P 00 18 21.4 0.0**
comp=Z,210nm,1.5s
GEC2 GERESS Array S 84.75 321 *e*P **P 00 18 21.8 +0.2**
comp=Z,223nm,1.0s
GEC2 GERESS Array S 84.75 321 *e*P **P 00 18 21.8 +0.2**
GEC2 pmax pmax
comp=Z,223nm,1.0s
GERES GERESS Array B 84.75 321 P **P 00 18 21.4 -0.2**
GERES PKKPbc **PKKPbc 00 36 28.8 -2.5**
GERES P'P' 00 44 38.1
GERES GERESS Array B 84.75 321 P **P 00 18 21.5 -0.2**
comp=Z,121nm,0.8s,baz=57,slow=3.9,SNR=283
GERES PKKPbc **PKKPbc 00 36 28.8 -2.5**
comp=Z,0.8nm,0.7s,baz=225,slow=4.0,SNR=6.2
GERES PKPPKP **P'P'df 00 44 38.1 -2.8**
comp=Z,0.9nm,0.9s,baz=248,slow=1.4,SNR=6.1
GERES LR LR 00 59 48.1
comp=Z,45μm,19.7s,baz=226,slow=38
GUNZ Gunzen 84.76 323 *e*P **P 00 18 21.7 +0.2**
comp=Z,170nm,1.0s
NKC Novy Kostel 84.76 323⇑*i*P **P 00 18 21.5 0.0**
NKC *e* 00 28 44.1
NKC MLR MLR
comp=Z,33μm,18.4s
NKC Novy Kostel 84.76 323⇑*i*P **P 00 18 21.5 0.0**
NKC *e*pP **PcP 00 18 24.5 -0.5**
NKC *e*SKS **S 00 28 44.1 -4.1**
NKC AMS AMS 01 00 10.0
comp=Z,33μm,18.4s
RLS Riolos of Patr 84.76 309 P **P 00 18 21.7 -0.1**
RLS Riolos of Patr 84.76 309 *e*P **P 00 18 22.0 +0.2**
RLS Riolos of Patr 84.76 309 P **P 00 18 21.7 -0.1**
AXS Araxos 84.77 309 P **P 00 18 21.0 -0.8**
WERN Wernitzgruen 84.77 323 *e*P **P 00 18 21.8 +0.2**
comp=Z,238nm,1.0s
PLN Plauen 84.79 323 *e*P **P 00 18 21.7 0.0**
comp=Z,2μm,1.9s
ITM Ithomi 84.81 308 P **P 00 18 21.1 -1.0**
ITM Ithomi 84.81 308 *e*P **P 00 18 20.9 -1.2**
ITM Ithomi 84.81 308 P **P 00 18 21.1 -1.0**
AMT Artemida-Makis 84.82 309 P **P 00 18 21.1 -1.0**
NRDL Niedersach Rie 84.83 326 *e*P **P 00 18 22.1 +0.4**
comp=Z,418nm,1.5s
HCY Herceg Novi 84.85 314⇑*i*P **P 00 18 21.5 -0.7**
IGT Igoumenitsa 84.92 311 P **P 00 18 21.2 -1.3**
IGT Igoumenitsa 84.92 311 P **P 00 18 21.2 -1.3**
IGT Igoumenitsa 84.92 311 P **P 00 18 21.2 -1.3**
MOA Molln 84.92 320 *i*P **P 00 18 22.8 +0.4**
comp=Z,236nm,0.9s,SNR=77
SRN Sarande 84.99 311 P **P 00 18 22.2 -0.7**
SRN Sarande 84.99 311 P **P 00 18 22.2 -0.7**
MOX Moxa 85.00 324 *e*P **P 00 18 22.8 +0.1**
comp=Z,174nm,1.3s
MOX *e*L L 01 01 17.8
comp=Z,81μm,20.9s
MOX Moxa 85.00 324 *e*P **P 00 18 22.8 +0.1**
MOX pmax pmax
comp=Z,174nm,1.3s
PERS Pernice 85.01 319 *i*P **P 00 18 22.6 -0.3**
PERS *e*S SKSac 00 28 39.0 -7.4
LKD2 Lefkada island 85.02 310 P **P 00 18 22.2 -0.9**
LKD2 Lefkada island 85.02 310 P **P 00 18 22.2 -0.9**
SOKA Soboth 85.04 319 *i*P **P 00 18 23.0 -0.1**
comp=Z,176nm,0.9s,SNR=108
PYL PYLOS 85.07 308 P **P 00 18 22.2 -1.1**
MANZ Manzenberg 85.07 323 *e*P **P 00 18 23.3 +0.2**
comp=Z,179nm,1.4s
WET Wettzell 85.07 322 *e*P **P 00 18 23.3 +0.1**
comp=Z,281nm,1.5s
WET Wettzell 85.07 322 *e*P **P 00 18 23.3 +0.1**
WET pmax pmax
comp=Z,281nm,1.5s
ROTZ Rotzenmuhle 85.13 323 *e*P **P 00 18 23.9 +0.5**
comp=Z,263nm,1.2s
STON Ston 85.18 315 P **P 00 18 24.0 +0.3**
KEK Kerkira 85.21 311 P **P 00 18 23.5 -0.5**
KEK Kerkira 85.21 311 *e*P **P 00 18 22.9 -1.1**
KEK Kerkira 85.21 311 P **P 00 18 23.5 -0.5**
LRW Lerwick 85.33 336 *e*P **P 00 18 24.8 +0.6**
comp=Z,417nm,1.5s
LRW AMS AMS 01 01 15.3
comp=Z,48μm,18.0s
VLS Valsamata 85.33 310 P **P 00 18 23.6 -1.1**
VLS Valsamata 85.33 310 P **P 00 18 23.6 -1.1**
VLS Valsamata 85.33 310 *e*P **P 00 18 23.6 -1.1**
VLS Valsamata 85.33 310 P **P 00 18 23.6 -1.1**
PDKS Podkum 85.36 319 *i*P **P 00 18 24.4 -0.3**
PDKS *e*S **SKSac 00 28 42.7 -6.0**
OBKA Obir 85.42 319 *i*P **P 00 18 24.7 -0.3**
comp=Z,261nm,1.1s,SNR=63
OPO Ambohidratompo 85.46 248 P **P 00 18 25.5 -0.2**
OPO Ambohidratompo 85.46 248 P **P 00 18 25.5 -0.2**
comp=Z,110nm,0.8s,baz=62,slow=4.9,SNR=44
OPO LR LR 00 53 54.6
comp=Z,17μm,20.0s,baz=62,slow=34
BOJS Bojanci 85.48 318 *i*P **P 00 18 25.3 +0.1**
BOJS *e*S **SKSac 00 28 44.5 -4.8**
ABPO Ambohimpanom 85.62 247 *e*P **P 00 18 26.4 -0.1**
ABPO pmax pmax
comp=Z,265nm,1.0s
ABPO MLR MLR
comp=Z,16μm,21.0s
ABPO Ambohimpanom 85.62 247 *e*P **P 00 18 26.4 -0.1**
comp=Z,265nm,1.0s
ABPO LR LR
comp=Z,16μm,21.0s
UDBI Udbina 85.63 317 P **P 00 18 26.5 +0.4**
LJU Ljubljana 85.66 319 *e*P **P 00 18 24.0 -2.1**
GRF Grafenberg Arr 85.72 323 *e*P **P 00 18 26.6 +0.3**
comp=Z,379nm,1.2s
GRF *e*L L 01 01 19.6
comp=Z,65μm,21.4s
GRF Grafenberg Arr 85.72 323 *e*P **P 00 18 26.6 +0.3**
GRF pmax pmax
comp=Z,379nm,1.2s
GRFO Grafenberg 85.72 323 *e*P **P 00 18 26.6 +0.3**
GRFO pmax pmax
comp=Z,236nm,1.0s
GRFO Grafenberg 85.72 323 *e*P **P 00 18 26.6 +0.3**
comp=Z,236nm,1.0s
UBBA Unterbreizbach 85.78 324 *e*P **P 00 18 26.5 0.0**
comp=Z,328nm,1.5s
RJOB Jochberg 85.84 321 *e*P **P 00 18 26.9 -0.1**
comp=Z,151nm,1.0s
KBA Koelnbreinsper 85.85 320⇓*i*P **P 00 18 26.7 -0.5**
comp=Z,351nm,1.7s,SNR=53
MYKA Terra Mystica 85.90 320⇑*i*P **P 00 18 26.5 -0.8**
comp=Z,100nm,1.0s,SNR=20
NLLB Nanaimo Lost L 85.99 37 P **P 00 18 28.5 +0.8**
JAVS Javornik 86.01 319 *i*P **P 00 18 27.1 -0.8**
JAVS *e*S **SKSac 00 28 48.9 -3.9**
VOY Vojsko 86.05 319 *e*P **P 00 18 27.2 -0.9**
IBBN Ibbenburen 86.14 326 *e*P **P 00 18 28.5 +0.2**
comp=Z,658nm,1.4s
NVLJ Novalja 86.17 317 P **P 00 18 29.0 +0.4**
TRI Trieste 86.29 319 *e*P **P 00 18 29.4 +0.2**
TRI pmax pmax
comp=Z,182nm,1.2s
TRI Trieste 86.29 319 *e*P **P 00 18 29.4 +0.2**
comp=Z,182nm,1.2s
FUR Furstenfeldbru 86.49 322 *e*P **P 00 18 30.4 +0.2**
comp=Z,1μm,1.7s
FUR Furstenfeldbru 86.49 322 *e*P **P 00 18 30.4 +0.2**
FUR pmax pmax
comp=Z,1μm,1.7s
ABTA Abfaltersbach 86.51 320 *i*P **P 00 18 29.3 -1.1**
comp=Z,151nm,1.2s,SNR=61
PGC Sidney 86.59 38 *e*P **P 00 18 32.0 +1.4**
comp=Z,6.7nm,0.9s
PAF Port-aux-Franc 86.67 212 PFAKE 00 18 40.0 +9.3
PAF LR LR
comp=Z,8μm,20.0s
WATA Walderalm 86.75 321⇓*i*P **P 00 18 30.7 -0.9**
comp=Z,31nm,0.6s,SNR=35
WTTA Wattenberg 86.75 321 *i*P **P 00 18 31.2 -0.6**
comp=Z,97nm,0.8s,SNR=56
WTSB Winterswijk 86.81 326 *e*P **P 00 18 31.0 -0.6**
comp=Z,113nm,1.0s
RAR Rarotonga 86.83 115 PFAKE 00 18 40.0 +7.8
RAR LR LR
comp=Z,14μm,20.0s
BUG Bochum--Univer 86.87 326 *e*P **P 00 18 32.0 +0.1**
comp=Z,664nm,1.4s
TNS Taunus Mts 86.94 324 *e*P **P 00 18 32.3 -0.1**
comp=Z,226nm,1.2s
TNS Taunus Mts 86.94 324 *e*P **P 00 18 32.4 0.0**
TNS pmax pmax
comp=Z,226nm,1.2s
MOTA Moosalm 87.02 321⇑*i*P **P 00 18 32.1 -0.9**
comp=Z,76nm,0.8s,SNR=54
NLWA Neilton Lookou 87.02 39 *e*P **P 00 18 34.1 +1.2**
comp=Z,240nm,1.4s
NLWA LR LR
comp=Z,15μm,20.0s
KMBO Kilima Mbogo 87.09 268 P **P 00 18 35.5 +1.5**
SNR=34
KMBO Kilima Mbogo 87.09 268 *e*P **P 00 18 34.6 +0.6**
comp=Z,172nm,1.2s
KMBO Kilima Mbogo 87.09 268 P **P 00 18 34.6 +0.6**
comp=Z,70nm,0.9s,baz=60,slow=6.5,SNR=68
KMBO LR LR 00 58 47.6
comp=Z,15μm,18.9s,baz=47,slow=36
RETA Reutte 87.14 321⇑*i*P **P 00 18 32.8 -0.7**
comp=Z,60nm,1.1s,SNR=17
BLN Blyn Mountain 87.21 38 P **P 00 18 35.4 +1.7**
STU Stuttgart 87.33 323 *e*P **P 00 18 33.9 -0.4**
comp=Z,419nm,1.6s
STU Stuttgart 87.33 323 *e*P **P 00 18 34.6 +0.3**
STU pmax pmax
comp=Z,173nm,1.0s
STU Stuttgart 87.33 323 *e*P **P 00 18 34.6 +0.3**
comp=Z,173nm,1.0s
MBW Mount Baker 87.39 37 P **P 00 18 35.5 +0.7**
FETA Feichten 87.41 321⇓*i*P **P 00 18 34.3 -0.6**
comp=Z,436nm,1.8s,SNR=50
DAVA Damuels 87.75 321⇑*i*P **P 00 18 36.1 -0.4**
comp=Z,449nm,1.9s,SNR=32
CUC Castrocucco 87.79 313 *e*P **P 00 18 36.4 -0.3**
comp=Z,150nm,1.3s
CUC LR LR
comp=Z,29μm,22.0s
MCD Coleburn Disti 87.84 334 *e*P **P 00 18 36.1 -0.4**
FUORN Ofenpass-Fuorn 87.89 321 *e*P **P 00 18 37.2 -0.1**
comp=Z,1μm,2.0s
MME1 Meikle Cairn 87.91 334 *e*P **P 00 18 36.6 -0.2**
BORG Borgarnes 87.94 346 *e*P **P 00 18 38.2 +1.5**
comp=Z,599nm,2.1s
BORG Borgarnes 87.94 346 LR LR 00 56 17.6
comp=Z,17μm,21.8s,baz=21,slow=34
HGN Heimansgroeve 87.95 326 *e*P **P 00 18 36.1 -1.1**
comp=Z,81nm,1.1s
HGN *e*PP **PP 00 22 06.6 +3.7**
HGN *e*S **S 00 29 13.5 -5.7**
HGN Heimansgroeve 87.95 326 *e*L L 01 01 43.2
comp=Z,53μm,21.4s
MVH1 Achvaich 87.97 335 *e*P **P 00 18 35.4 -1.7**
LANF Langenberg 87.98 324 *e*P **P 00 18 37.2 -0.2**
DRUM Mains of Drumt 87.99 334 *e*P **P 00 18 37.4 +0.2**
DRUM AMB AMB 00 18 44.9
comp=Z,140nm,2.3s
DRUM *e* 00 21 59.7
DRUM AMS AMS 01 02 46.9
comp=Z,54μm,18.2s
MEM Membach 88.00 326 P **P 00 18 37.0 -0.4**
comp=Z,89nm,1.5s
DAVOX Davos/Dischmat 88.03 321 PKKP 00 36 17.9
comp=Z,0.6nm,0.5s,baz=328,slow=9.5,SNR=3.2
BFO Black Forest 88.06 323 P **P 00 18 37.4 -0.4**
comp=Z,371nm,0.9s,SNR=38
BFO Black Forest 88.06 323 *e*P **P 00 18 37.3 -0.5**
comp=Z,225nm,1.3s
BFO Black Forest 88.06 323 *e*P **P 00 18 37.3 -0.5**
BFO pmax pmax
comp=Z,174nm,1.2s
BFO MLR MLR
comp=Z,39μm,21.0s
BFO Black Forest 88.06 323 *e*P **P 00 18 37.3 -0.5**
comp=Z,174nm,1.2s
BFO LR LR
comp=Z,39μm,21.0s
BEBN Eben Emael 88.06 326 P **P 00 18 37.1 -0.6**
comp=Z,56nm,1.6s
AQU L'Aquila 88.20 316 *e*P **P 00 18 39.2 +0.6**
comp=Z,333nm,1.0s
AQU LR LR
comp=Z,34μm,19.0s
STR Strasbourg 88.22 323 *e*P **P 00 18 39.1 +0.6**
MDO Dochfour 88.38 335 *e*P **P 00 18 38.1 -0.9**
WLF Walferdange 88.48 325 P **P 00 18 40.1 +0.4**
comp=Z,22nm,1.4s
WLF Walferdange 88.48 325 *e*P **P 00 18 40.0 +0.3**
comp=Z,357nm,1.2s
WLF Walferdange 88.48 325 *e*P **P 00 18 39.8 +0.1**
WLF pmax pmax
comp=Z,217nm,1.0s
WLF MLR MLR
comp=Z,61μm,21.0s
WLF Walferdange 88.48 325 *e*P **P 00 18 39.8 +0.1**
comp=Z,217nm,1.0s
WLF LR LR
comp=Z,61μm,21.0s
BCLA Clavier 88.48 326 P **P 00 18 40.2 +0.5**
comp=Z,90nm,1.7s
TUE Stuetta 88.50 321 *e*P **P 00 18 39.6 -0.6**
comp=Z,609nm,1.8s
TUE LR LR
comp=Z,55μm,21.0s
TDL Tradedollar La 88.54 39 P **P 00 18 41.5 +1.3**
FL2 Flat Top 2 88.55 39 P **P 00 18 41.7 +1.4**
WLS Welschbruch 88.55 323 *e*P **P 00 18 38.1 -2.0**
LON Longmire 88.56 39 *e*P **P 00 18 41.2 +1.0**
LON pmax pmax
comp=Z,194nm,1.5s
LON Longmire 88.56 39 *e*P **P 00 18 41.2 +1.0**
comp=Z,194nm,1.5s
CEL Celeste 88.58 311 *e*P **P 00 18 40.5 0.0**
comp=Z,1μm,1.5s
CEL LR LR
comp=Z,21μm,21.0s
CDF Champ du Feu 88.59 323⇑*i*P **P 00 18 40.0 -0.4**
comp=Z,844nm,1.4s
KAC Achnashellach 88.70 335 *e*P **P 00 18 40.0 -0.6**
ESY Stoneypath 88.71 333 *e*P **P 00 18 39.3 -1.4**
WPW White Pass 88.73 39 P **P 00 18 42.3 +1.2**
ECH Echery 88.77 323 *e*P **P 00 18 40.3 -0.8**
ECH pmax pmax
comp=Z,185nm,1.3s
ECH MLR MLR
comp=Z,50μm,19.0s
ECH Echery 88.77 323 *e*P **P 00 18 40.3 -0.8**
comp=Z,185nm,1.3s
ECH LR LR
comp=Z,50μm,19.0s
ECH Echery 88.77 323 *e*P **P 00 18 40.0 -1.1**
GIVF Givet 88.92 326⇑*i*P **P 00 18 41.4 -0.3**
comp=Z,82nm,0.8s
EDI Edinburgh 88.94 333 *e*P **P 00 18 40.4 -1.3**
EDI AMB AMB 00 18 43.8
comp=Z,70nm,2.3s
EDI *e* 00 22 08.2
EDI AMS AMS 01 00 08.2
comp=Z,42μm,22.1s
KPL Plockton 88.95 335 *e*P **P 00 18 40.3 -1.4**
KPL *e* 00 22 08.4
KPL AMS AMS 01 03 23.2
comp=Z,59μm,17.2s
EBL Broad Law 88.99 333 *e*P **P 00 18 41.4 -0.6**
MOF Molkenrain 88.99 323 *e*P **P 00 18 41.2 -1.1**
DOU Dourbes 89.04 326 P **P 00 18 41.7 -0.6**
comp=Z,32nm,0.9s
WTV Waterville 89.07 37 P **P 00 18 43.9 +1.2**
EDM Edmonton 89.09 30 *e*P **P 00 18 43.8 +1.2**
EDM Edmonton 89.09 30 *e*P **P 00 18 43.8 +1.2**
KEBM Edson Butte 89.13 43 *e*P **P 00 18 44.5 +1.5**
comp=Z,170nm,1.0s
VLC Villacollemand 89.14 319 *e*P **P 00 18 43.4 +0.4**
comp=Z,106nm,1.1s
VLC LR LR
comp=Z,51μm,22.0s
HINF Hinteralfeld 89.16 323⇑*i*P **P 00 18 42.2 -0.8**
comp=Z,324nm,1.3s
EAB Aberfoyle 89.23 334 *e*P **P 00 18 43.1 0.0**
BAIF Baives 89.26 326 *e*P **P 00 18 43.1 -0.2**
comp=Z,180nm,1.2s
HAU Haudompre 89.33 323⇑*i*P **P 00 18 43.0 -0.8**
comp=Z,154nm,0.8s
HAU *e*R
comp=Z,42μm,21.8s

EKA Eskdalemuir Ar 89.33 333 P P 00 18 43.0 -0.5
EKA PKKPbc **PKKPbc 00 36 17.9 -2.6**
EKA Eskdalemuir Ar 89.33 333 P P 00 18 43.0 -0.5
comp=Z,27nm,0.8s,baz=42,slow=2.9,SNR=23
EKA PKKPbc **PKKPbc 00 36 17.9 -2.6**
comp=Z,1.8nm,0.8s,baz=243,slow=1.3,SNR=3.7
EKA LR LR 00 57 43.2
comp=Z,20µm,21.7s,baz=5.0,slow=35
LMK Market Rasen 89.34 330 *eP* **P 00 18 43.9 +0.2**
LMK AMB AMB 00 18 47.1
comp=Z,323nm,1.1s
PAGF Fort de Pagny 89.35 324⇑*iP* **P 00 18 43.6 -0.2**
comp=Z,131nm,1.2s
ESK Eskdalemuir 89.36 333 *eP* **P 00 18 42.3 -1.4**
ESK AMB AMB 00 18 45.5
comp=Z,55nm,1.4s
ESK *e* 00 22 11.8
ESK AMS AMS 01 05 03.9
comp=Z,38µm,18.4s
ESK Eskdalemuir 89.36 333 *eP* **P 00 18 42.8 -0.9**
ESK pmax pmax
comp=Z,106nm,1.2s
ESK MLR MLR
comp=Z,46µm,19.0s
ESK Eskdalemuir 89.36 333 *eP* **P 00 18 42.8 -0.9**
comp=Z,106nm,1.2s
ESK LR LR
comp=Z,46µm,19.0s
THEF They Montfort 89.40 324 *eP* **P 00 18 42.5 -1.6**
ECK Cauldkaine Hil 89.42 333 *eP* **P 00 18 43.3 -0.7**
LOMF Lomont 89.44 323 *eP* **P 00 18 43.4 -1.0**
KBO Bosley Butte 89.54 43 *eP* **P 00 18 43.1 -1.8**
comp=Z,349nm,1.6s
PGBU Glenifferbraes 89.55 334 *e* 00 22 13.2
PGBU AMS AMS 01 03 43.7
comp=Z,44µm,17.7s
HPK Haverah Park 89.59 331 *eP* **P 00 18 44.8 -0.1**
HPK AMB AMB 00 18 50.4
comp=Z,116nm,1.0s
HPK *e* 00 22 12.9
HPK AMS AMS 01 00 43.1
comp=Z,40µm,22.8s
SFJD Kangerlussuaq 89.67 358 *i* P **P 00 18 43.4 -1.5**
comp=Z,69nm,0.8s
SFJD
comp=Z,29µm,20.0s
SFJD Kangerlussuaq 89.67 358 *eP* **P 00 18 43.8 -1.2**
comp=Z,120nm,0.9s
SFJD LR LR
comp=Z,41µm,22.0s
SENIN Lac Senin/Sane 89.74 322 *eP* **P 00 18 45.6 -0.4**
comp=Z,160nm,1.0s
MEZF Maizieres J'vi 89.74 324⇑*iP* **P 00 18 45.4 -0.3**
comp=Z,409nm,1.3s
KESW Keswick, Cumbr 89.82 332 *e* 00 22 15.0
KESW AMS AMS 01 04 58.2
comp=Z,48µm,16.9s
SFTF Sexfontaines 89.93 324⇑*iP* **P 00 18 46.1 -0.4**
comp=Z,559nm,1.1s
OD2 Odessa Site #2 89.94 37 P **P 00 18 47.3 +0.7**
GCD Castle Douglas 89.98 333 *eP* **P 00 18 46.5 -0.2**
D08A Wollman Farm, 90.02 37 P **P 00 18 48.0 +1.1**
KBI1 Birley Grange 90.02 331 *eP* **P 00 18 46.5 -0.3**
CASY Casey 90.05 185 *eP* **P 00 18 46.6 +0.2**
comp=Z,106nm,1.1s
CASY LR LR
comp=Z,7µm,20.0s
HUMO Hull Mountain 90.13 43 *eP* **P 00 18 48.8 +1.1**
comp=Z,634nm,2.5s
ELSH Elham, Standar 90.13 328 *eP* **P 00 18 48.1 +0.7**
ELSH AMB AMB 00 18 52.1
comp=Z,165nm,1.1s
ELSH *e* 00 22 17.1
ELSH AMS AMS 00 58 05.3
comp=Z,38µm,22.4s
CABF La Chapelle 90.28 322⇑*iP* **P 00 18 47.8 -0.6**
comp=Z,169nm,1.1s
NEW Newport 90.28 36 *eP* **P 00 18 49.3 +1.0**
comp=Z,216nm,1.1s
NEW PP PP 00 22 27.6 +5.9
NEW LR LR
comp=Z,18µm,21.0s
NEW Newport 90.28 36 PP PP 00 22 27.6 +5.9
comp=Z,27nm,1.2s,baz=344,slow=7.2,SNR=4.1
NEW Newport 90.28 36 ⇓P **P 00 18 48.8 +0.6**
baz=90
GAL1 Galloway 90.30 333 *eP* **P 00 18 47.2 -0.9**
GAL1 AMB AMB 00 18 53.4
comp=Z,56nm,1.1s
GAL1 *e* 00 22 19.0
GAL1 AMS AMS 01 00 59.7
comp=Z,44µm,22.2s
STNC Stoke 90.43 331 *eP* **P 00 18 48.6 -0.2**
STNC *e* 00 22 18.6
STNC AMS AMS 00 58 54.0
comp=Z,37µm,23.0s
RSL Roselend 90.51 321 *eP* **P 00 18 48.8 -0.7**
LPG La Plagne 90.55 321⇑*iP* **P 00 18 49.8 -0.1**
comp=Z,333nm,0.7s
LPL La Plagne 90.55 321⇑*iP* **P 00 18 49.7 -0.1**
comp=Z,390nm,0.9s
KHMM Horse Mountain 90.56 44 *eP* P 00 18 53.2 +3.3
comp=Z,727nm,2.7s
SKP1 Kophill 90.69 329 *eP* **P 00 18 48.4 -1.7**
HMNX Herstmonceux 90.70 328 *e* 00 22 20.9
HMNX AMS AMS 01 02 45.2
comp=Z,44µm,21.8s
WDD Wield Dalam 90.70 310 *eP* **P 00 18 50.7 +0.3**
comp=Z,182nm,0.9s
WDD LR LR
comp=Z,18µm,22.0s
DRV Dumont d'Urvil 90.75 174 PP PP 00 22 11.0 -15
DRV S **SKSac 00 29 16.0 -3.5**
DRV SS SS 00 35 18.0 -29
YBH Yreka Blue Hor 90.75 43 *eP* **P 00 18 52.3 +1.7**
comp=Z,76nm,1.3s
BNI Bardonecchia 90.85 321 *eP* **P 00 18 50.8 -0.3**
BNI pmax pmax
comp=Z,116nm,0.9s
BNI MLR MLR
comp=Z,66µm,20.0s
BNI Bardonecchia 90.85 321 *eP* **P 00 18 50.8 -0.3**
comp=Z,116nm,0.9s
BNI LR LR
comp=Z,66µm,20.0s
PGF Pioggiola 90.86 318⇑*iP* **P 00 18 50.9 -0.3**
comp=Z,349nm,1.1s
SAOF Saorge 90.94 320 *eP* **P 00 18 50.8 -0.6**
MBDF Montbardon 90.98 320 *eP* **P 00 18 50.8 -0.9**
comp=Z,87nm,0.8s
AUTN L'Aution 91.01 320 *eP* **P 00 18 50.1 -1.9**
FOEL Foel Wylfa 91.01 331 *eP* **P 00 18 50.5 -1.0**
FOEL AMB AMB 00 18 55.0
comp=Z,84nm,1.6s
FOEL *e* 00 22 24.1
FOEL AMS AMS 01 05 32.9
comp=Z,42µm,19.1s
SSW Stow on the Wo 91.02 330 *eP* **P 00 18 50.8 -0.7**
WPM1 Penmaenmawr 91.07 332 *eP* **P 00 18 51.5 -0.2**
SBF Sospel 91.08 320⇑*iP* **P 00 18 51.3 -0.8**
comp=Z,261nm,0.8s
TOUF Mont Tournerai 91.11 320 *eP* **P 00 18 51.9 -0.5**
LUCF Luceram 91.12 320 *eP* **P 00 18 51.7 -0.6**
HLM1 Long Mynd 91.12 331 *eP* **P 00 18 50.8 -1.2**
HLM1 AMB AMB 00 18 55.4
comp=Z,60nm,1.2s
LOR Lormes 91.13 324⇑*iP* **P 00 18 51.4 -0.8**
comp=Z,219nm,1.2s
LOR *eR*
comp=Z,44µm,19.5s
WME Myndd Eilian 91.15 332 *eP* **P 00 18 51.5 -0.6**
WOL Wolverton 91.16 329 *eP* **P 00 18 51.3 -0.9**
WOL AMB AMB 00 18 55.9
comp=Z,66nm,2.1s
WOL *e* 00 22 24.1
WOL AMS AMS 01 04 25.9
comp=Z,57µm,19.5s
REVF Revere 91.19 319 *eP* **P 00 18 52.8 +0.2**
MVIF Mont Vial 91.23 320 *eP* **P 00 18 52.0 -0.9**
OSPF L'Ospedale 91.23 317 *eP* **P 00 18 52.6 -0.3**
GMM Mts of Mourne 91.26 333 *eP* **P 00 18 52.2 -0.3**
WLF1 Llynfaes 91.26 332 *eP* **P 00 18 52.0 -0.6**
WLF1 *e* 00 22 25.5
WLF1 AMS AMS 01 01 54.9
comp=Z,39µm,22.5s
KCPM Cahto Peak 91.29 45 *eP* **P 00 18 53.4 +0.2**
comp=Z,28nm,1.2s
SWN1 Swindon 91.30 329 *eP* **P 00 18 52.2 -0.6**
SWN1 *e* 00 22 25.4
SWN1 AMS AMS 01 05 26.9
comp=Z,65µm,18.1s
YRC Rhoscolyn 91.37 332 *eP* **P 00 18 52.5 -0.5**
ORIF Oris-en-Rattie 91.39 321⇑*iP* **P 00 18 53.4 -0.1**
comp=Z,246nm,1.0s
ORIF *eR*
comp=Z,47µm,22.0s
SSF Saint Saulge 91.44 324⇑*iP* **P 00 18 53.1 -0.5**
comp=Z,167nm,1.2s
CALN Calern 91.47 320 *eP* **P 00 18 53.4 -0.6**
WALA Waterton Lakes 91.47 34 *eP* **P 00 18 54.9 +1.0**
comp=Z,0.1nm,0.5s
WDC Whiskeytown Da 91.48 44 *eP* **P 00 18 55.3 +1.4**
WDC pmax pmax
comp=Z,56nm,1.3s
WDC Whiskeytown Da 91.48 44 *eP* **P 00 18 55.3 +1.4**
comp=Z,56nm,1.3s
YRE Yr Eifl 91.49 332 *eP* **P 00 18 52.4 -1.3**
SMF Signal de Mont 91.51 323⇑*iP* **P 00 18 53.5 -0.5**
comp=Z,531nm,1.1s
MCH1 Michaelchurch 91.52 330 AMB AMB 00 18 55.8
comp=Z,103nm,1.0s
MCH1 *e* 00 22 26.0
MCH1 AMS AMS 01 05 21.6
comp=Z,57µm,18.0s
AVF Avril sur Loir 91.69 324⇑*iP* **P 00 18 54.3 -0.4**
comp=Z,462nm,1.3s
FRF La Foret Royal 91.72 320⇑*iP* **P 00 18 54.4 -0.6**
comp=Z,127nm,0.9s
BSMT Bassoo Peak 91.78 35 *eP* **P 00 18 56.7 +1.3**
HYF Humbligny 91.78 324 *eP* **P 00 18 55.3 +0.1**
BLMT Blacktail Moun 91.90 35 *eP* **P 00 18 57.6 +1.6**
OG26 St.-Nazaire-De 91.92 321 *eP* **P 00 18 55.3 -0.7**
LPW Lampeter 91.93 331 *eP* **P 00 18 55.5 -0.2**
LPW *e* 00 22 30.3
LPW AMS AMS 01 06 12.0
comp=Z,494µm,18.6s
LMR La Mourre 91.94 319⇑*iP* **P 00 18 55.6 -0.3**
comp=Z,369nm,1.4s
SSB Saint Sauveur 91.94 322 *eP* **P 00 18 55.4 -0.6**
SSB pmax pmax
comp=Z,190nm,1.3s
SSB MLR MLR
comp=Z,31µm,20.0s
SSB Saint Sauveur 91.94 322 *eP* **P 00 18 55.4 -0.6**
comp=Z,190nm,1.3s
SSB LR LR
comp=Z,31µm,20.0s
SSB Saint Sauveur 91.94 322 *eP* **P 00 18 55.5 -0.6**
JTMT Jette 92.11 35 *eP* **P 00 18 58.2 +1.3**
BGF Bois d'Agland 92.11 324 *eP* **P 00 18 56.3 -0.4**
comp=Z,111nm,1.1s
SMRF Simiane la Rot 92.11 320⇑*iP* **P 00 18 56.8 0.0**
comp=Z,321nm,1.4s
VIVF Saint-Julien-l 92.12 321⇑*iP* **P 00 18 56.5 -0.3**
comp=Z,319nm,1.0s
YBMT Yellow Bay 92.18 35 *eP* **P 00 18 58.1 +1.0**
comp=Z,81nm,1.0s
BMO Blue Mountains 92.22 38 *eP* **P 00 18 57.9 +0.5**
BMO pmax pmax
comp=Z,306nm,1.0s
BMO MLR MLR
comp=Z,16µm,22.0s
BMO Blue Mountains 92.22 38 *eP* **P 00 18 57.9 +0.5**
comp=Z,306nm,1.0s
BMO LR LR
comp=Z,16µm,22.0s
AGO Saint Agoulin 92.26 323 *eP* **P 00 18 57.6 +0.1**
VSL Villasalto 92.30 315 *eP* **P 00 18 57.5 -0.3**
comp=Z,180nm,1.0s
VSL LR LR
comp=Z,19µm,20.0s
FCC Fort Churchill 92.30 19 *eP* **P 00 18 58.5 +1.2**
FCC Fort Churchill 92.30 19 *eP* **P 00 18 58.5 +1.2**
comp=Z,5.4nm,1.0s
LDF La Druitiere 92.39 326⇑*iP* **P 00 18 56.7 -1.2**
comp=Z,93nm,1.1s
SWMT Swartz Lake 92.41 35 *eP* **P 00 18 58.9 +0.7**
FLN La Foliniere 92.46 327⇑*iP* **P 00 18 58.1 -0.2**
comp=Z,56nm,0.9s
FLN *eR*
comp=Z,59µm,21.2s
PYM Petit Puy Mans 92.52 323 *eP* **P 00 18 58.2 -0.5**
TCF Toulx Ste Croi 92.62 324⇑*iP* **P 00 18 58.9 -0.2**
comp=Z,186nm,1.2s
LBL Lubilhac 92.70 322 *eP* **P 00 18 59.5 -0.1**
MIR Mirnyy 92.70 192⇑*iP* P 00 19 02.0 +3.3
MIR *i* 00 19 08.0
MIR *e*PPP PPP 00 24 50.0
MIR *e*S S 00 29 54.0 -7.9
MIR *e*SS **SS 00 36 18.0 +2.6**
MIR *e*SSS SSS 00 39 58.0
MIR pmax pmax
comp=Z,125nm,1.5s
MIR MLR MLR
comp=N,7µm,20.0s
MIR MLR MLR
comp=E,7µm,20.0s
MIR MLR MLR
comp=Z,15µm,20.0s
SLMT Seeley Lake 92.84 35 *eP* **P 00 19 00.5 +0.2**
OHCM Honcut 92.84 45 *eP* P 00 19 03.6 +3.4
FFC Flin Flon 92.85 25 *eP* **P 00 18 59.9 0.0**
FFC pmax pmax
comp=Z,639nm,1.1s
FFC MLR MLR
comp=Z,12µm,22.0s
FFC Flin Flon 92.85 25 *eP* **P 00 18 59.9 0.0**
comp=Z,639nm,1.1s
FFC LR LR
comp=Z,12µm,22.0s
FFC Flin Flon 92.85 25 P **P 00 19 00.0 0.0**
comp=Z,2µm,0.6s,SNR=22
MBAR Mbarara 92.86 271 P **P 00 19 00.7 -0.2**
MBAR LR LR
comp=Z,489nm,21.0s
MBAR Mbarara 92.86 271 P **P 00 19 00.7 -0.2**
comp=Z,11nm,0.8s,baz=78,slow=7.1,SNR=19
MSO Missoula 92.87 35 *eP* **P 00 19 01.2 +0.8**
comp=Z,166nm,1.4s
MSO Missoula 92.87 35 ⇓P **P 00 19 00.3 -0.1**
baz=93
WVOR Wild Horse Val 92.87 41 *eP* **P 00 19 01.6 +1.2**
WVOR pmax pmax
comp=Z,95nm,1.2s
WVOR MLR MLR
comp=Z,11µm,20.0s
WVOR Wild Horse Val 92.87 41 *eP* **P 00 19 01.6 +1.2**
comp=Z,95nm,1.2s
WVOR LR LR
comp=Z,11µm,20.0s
HTL Hartland 92.89 330 *e* 00 22 37.4
HTL AMS AMS 01 06 32.1
comp=Z,77µm,18.0s
GRR Gorron 92.89 327⇑*iP* **P 00 19 00.5 +0.2**
comp=Z,119nm,1.1s
DYA Yadsworthy 93.02 329 *eP* **P 00 19 01.3 +0.5**
DYA AMB AMB 00 19 04.7
comp=Z,54nm,1.8s
DYA *e* 00 22 30.6
DYA AMS AMS 01 06 29.4
comp=Z,61µm,18.1s
JSA Saint Aubin 93.02 328 *eP* **P 00 19 00.6 -0.2**
JSA AMB AMB 00 19 10.3
comp=Z,33nm,1.0s
JSA *e* 00 22 38.6
JSA AMS AMS 01 04 04.9
comp=Z,55µm,22.4s
LASF Ste Croix 93.05 321⇑*iP* **P 00 19 01.1 0.0**
comp=Z,470nm,1.3s
CHMT Chamberlain Mo 93.18 35 *eP* **P 00 19 02.5 +0.6**
BEKR Beckworth 93.27 44 *eP* **P 00 19 02.6 +0.2**
comp=Z,26nm,0.9s
B17A L&G Farms, Che 93.54 33⇑P **P 00 19 03.1 -0.3**
baz=93
CAF Calviac 93.55 323⇑*iP* **P 00 19 03.5 +0.1**
comp=Z,439nm,1.2s
A18A Metzger Ranch, 93.59 32 ⇓P **P 00 19 03.7 +0.2**
baz=93
RJF Les Rejaudoux 93.61 323 *eP* **P 00 19 04.0 +0.3**
comp=Z,403nm,1.3s
RJF *eR*
comp=Z,48µm,22.5s
MFF Saint Martin d 93.69 325⇑*iP* **P 00 19 03.2 -0.8**
comp=Z,55nm,1.0s
CCA1 Carnmenellis 93.79 330 *eP* **P 00 19 03.9 -0.4**
CCA1 *e* 00 22 36.6
CCA1 AMS AMS 01 07 01.1
comp=Z,54µm,18.1s
SGMF Saint Gilles 93.83 327⇑*iP* **P 00 19 03.6 -1.0**
comp=Z,127nm,1.1s
MFID Camas Ranch 93.94 39⇑P **P 00 19 05.4 0.0**
baz=94
B18A Beardsley Farm 93.98 32⇑P **P 00 19 05.3 0.0**
baz=94
PAHR Pah Rah Range 93.98 44 *eP* **P 00 19 06.8 +1.1**
comp=Z,79nm,1.1s
C17A Wharram Farm, 94.00 33⇑P **P 00 19 05.0 -0.5**
baz=94
PPT Papeete 94.05 107 LR LR 00 53 04.2
comp=Z,23µm,21.8s,baz=281,slow=30
HRY Holter Researc 94.06 35 *eP* **P 00 19 06.5 +0.7**
PPT2 Papeete2 94.06 107 *e*PP PP 00 22 47.1 -5.7
comp=Z,1µm,26.5s
PPT2 *e*S **S 00 30 12.4 -3.7**
comp=Z,31µm,25.8s
PPT2 Papeete2 94.06 107 *e*PS PS 00 31 31.5 -1.8
comp=Z,17µm,30.2s
PPT2 Papeete2 94.06 107 *e*LQ LQ 00 45 06.1
comp=Z,63µm,33.5s
PPT2 *e*LR LR 00 49 27.6
comp=Z,54µm,23.0s,baz=293
A19A Klindworth Far 94.12 32 ⇓P **P 00 19 05.5 -0.5**
baz=94
ROSF Rostrenen 94.13 328⇑*iP* **P 00 19 04.9 -1.1**
comp=Z,72nm,0.8s
EGMT Eagleton 94.24 33 *eP* **P 00 19 07.3 +0.7**
comp=Z,75nm,0.8s
EGMT LR LR
comp=Z,14µm,21.0s
EGMT Eagleton 94.24 33 ⇓P **P 00 19 06.1 -0.5**
baz=94
LFF La Frestale 94.27 323 *eP* **P 00 19 06.9 +0.2**
comp=Z,238nm,1.3s
CMB Columbia Colle 94.28 45 *eP* **P 00 19 07.6 +0.6**
CMB pmax pmax
comp=Z,74nm,1.1s
CMB Columbia Colle 94.28 45 *eP* **P 00 19 07.6 +0.6**
comp=Z,74nm,1.1s
SAO San Andreas Ge 94.29 47 *eP* **P 00 19 09.9 +3.0**
SAO San Andreas Ge 94.29 47 *eP* **P 00 19 09.9 +3.0**
LRM Limekiln Ridge 94.31 36 *eP* **P 00 19 08.2 +1.0**
B19A Brinkman Farms 94.34 32⇑P **P 00 19 07.0 0.0**
baz=94
D17A Six Diamond Ra 94.35 34 ⇓P **P 00 19 07.2 0.0**
baz=94
QUIF Quistinic 94.36 327⇑*iP* **P 00 19 05.8 -1.2**
comp=Z,85nm,1.1s
KEST Kesra 94.37 312 *eP* **P 00 19 07.9 +0.5**
KEST Kesra 94.37 312 P **P 00 19 07.9 +0.5**
comp=Z,11nm,0.9s,baz=129,slow=3.9,SNR=18
MTLF Montolieu 94.44 321⇑*iP* **P 00 19 07.4 -0.1**
comp=Z,205nm,1.2s
LRDF Laroque-de-Fa 94.51 321 *eP* **P 00 19 07.3 -0.5**
DLMT Dillon 94.52 36 *eP* **P 00 19 09.2 +1.2**
comp=Z,144nm,1.0s
A20A Cobblestone Ra 94.54 31 ⇓P **P 00 19 08.1 +0.1**
baz=94
HLID Hailey 94.66 38 *eP* **P 00 19 10.0 +1.2**
comp=Z,122nm,1.3s
HLID LR LR
comp=Z,19µm,22.0s
HLID Hailey 94.66 38⇑P **P 00 19 08.7 -0.1**
baz=94
VAL Valentia 94.71 333 *eP* P 00 19 02.2 -6.3
VAL *e*PP **PP 00 22 56.3 +0.2**
VAL *e*S **SKSac 00 29 40.2 -2.5**
E17A Martinsdale 94.72 34⇑P **P 00 19 08.8 -0.2**
baz=94
FILF Fillols 94.72 321 *eP* **P 00 19 09.7 +0.8**
MCMT McKenzie Canyo 94.73 37 *eP* **P 00 19 11.1 +1.9**
comp=Z,48nm,0.5s
D18A Linhart Farms, 94.77 33 ⇓P **P 00 19 09.0 -0.1**
baz=95
C19A Slack Wire Ran 94.78 33 ⇓P **P 00 19 09.2 +0.1**
baz=95
BOZ Bozeman (W) 94.86 35 *eP* **P 00 19 10.0 +0.4**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ MLR MLR
comp=Z,15µm,19.0s
BOZ Bozeman (W) 94.86 35 *eP* **P 00 19 10.0 +0.4**
comp=Z,15nm,0.8s
BOZ LR LR
comp=Z,15µm,19.0s
CARF Carcanieres 94.89 321 *eP* **P 00 19 08.7 -1.1**
BMN Battle Mountai 94.91 42 *eP* **P 00 19 10.9 +1.0**
BMN pmax pmax
comp=Z,82nm,1.4s
BMN MLR MLR
comp=Z,12µm,19.0s
BMN Battle Mountai 94.91 42 *eP* **P 00 19 10.9 +1.0**
comp=Z,82nm,1.4s
BMN LR LR
comp=Z,12µm,19.0s
A21A Bergtoll Ranch 94.94 31 ⇓P **P 00 19 09.7 0.0**
baz=95
E18A Harlowton 95.14 34⇑P **P 00 19 11.1 +0.3**
baz=95
CMAH Djebel Manchou 95.17 314 P P 00 19 06.0 -5.1
F17A Fitzpatrick Pl 95.20 35⇑P **P 00 19 11.2 +0.1**
baz=95
D19A Cripps Ranch, 95.26 33⇑P **P 00 19 11.6 +0.3**
baz=95
B21A Ellsworth Farm 95.29 31 ⇓P **P 00 19 11.6 +0.3**
baz=95
C20A Veseth Ranch, 95.31 32 ⇓P **P 00 19 11.9 +0.4**
baz=95
MLS Moulis 95.32 322 *eP* **P 00 19 12.0 +0.4**
ABSA Djebel Ababsia 95.33 313 P P 00 19 05.7 -6.2
NVAR Mina Array Bea 95.40 44 P **P 00 19 12.8 +0.5**
NVAR PP **PP 00 23 06.9 +4.6**
NVAR PKKPbc **PKKPbc 00 36 05.1 +0.4**
NVAR Mina Array Bea 95.40 44 P **P 00 19 12.8 +0.5**
comp=Z,41nm,1.1s,baz=294,slow=4.9,SNR=38
NVAR PP **PP 00 23 06.9 +4.6**
comp=Z,10nm,1.0s,baz=297,slow=7.7,SNR=4.5
NVAR PKKPbc **PKKPbc 00 36 05.1 +0.4**
comp=Z,0.7nm,0.7s,baz=138,slow=2.7,SNR=3.8
NVAR LR LR 00 59 11.7
comp=Z,11µm,21.3s,baz=298,slow=34
A22A Carney Farms, 95.41 30 ⇓P **P 00 19 12.1 +0.2**
baz=95
NV11 Mina Array Sit 95.50 44 *eP* **P 00 19 13.6 +0.9**
QLMT Earthquake Lak 95.50 36 *eP* **P 00 19 13.5 +0.9**
MLAC Mammoth Lakes 95.52 45⇑P **P 00 19 13.0 +0.1**
baz=95
G17A Pierce Place, 95.54 35⇑P **P 00 19 12.9 +0.2**
baz=95
MELF Melles 95.57 322 *eP* **P 00 19 12.7 -0.1**
C21A Desert Coulee 95.67 32 ⇓P **P 00 19 13.0 -0.1**
baz=96
D20A Manuel Ranch, 95.68 33 ⇓P **P 00 19 13.4 +0.2**
baz=96
H16A Russell Place, 95.68 36⇑P **P 00 19 13.7 +0.3**
baz=96
F18A Big Timber 95.69 34 ⇓P **P 00 19 14.0 +0.7**
baz=96
EPF Esparros 95.71 322⇑*iP* **P 00 19 14.4 +1.0**
comp=Z,74nm,1.1s
CKFL Kef-Lekhel 95.76 314 P **P 00 19 12.0 -1.9**
E19A Rath Farm, Rou 95.78 33⇑P **P 00 19 14.2 +0.5**
baz=96
LABF Labassere 95.85 322 *eP* **P 00 19 15.7 +1.7**
RESF Ens 95.85 322 *eP* **P 00 19 14.3 +0.2**
YMR Madison River 95.85 36 *eP* **P 00 19 15.2 +0.9**
comp=Z,60nm,1.1s
MTUM Tungsten Hills 95.86 45 *eP* **P 00 19 15.5 +1.1**
B22A Reddig Ranch S 95.86 31⇑P **P 00 19 14.3 +0.3**
baz=96
A23A Redstone 95.91 30 ⇓P **P 00 19 13.3 -0.9**
baz=96
YNR Norris Junctio 95.97 36 *eP* **P 00 19 17.6 +2.8**
comp=Z,45nm,1.2s
CASM Ain Smara 96.00 314 P **P 00 19 14.5 -0.3**
RCTC Rector, Farmer 96.01 46 ⇓P **P 00 19 15.0 +0.1**
baz=96
YFT Old Faithful 96.07 36 *eP* P 00 19 19.1 +3.9
comp=Z,94nm,1.2s
SMMC Simmler 96.07 47 ⇓P **P 00 19 15.7 +0.5**

	baz=96						
E20A	Meyer Farm, Mu	96.09	33	⇑P	P	00 19 15.5	+0.5
	baz=96						
I16A	Newdale	96.09	37	⇓P	P	00 19 16.2	+0.9
	baz=96						
REYF	Montagne du Re	96.09	322	eP	P	00 19 15.3	+0.1
F19A	Roth Farm, Mol	96.12	34	⇓P	P	00 19 14.9	-0.4
	baz=96						
G18A	Lazy EL Ranch,	96.16	35	⇓P	P	00 19 14.9	-0.7
	baz=96						
CTEI	Djebel Teioual	96.16	314	P	P	00 19 15.4	-0.3
B23A	Brockton	96.21	30	⇑P	P	00 19 16.0	+0.5
	baz=96						
LKWY	Lake	96.22	36	eP	P	00 19 13.6	-2.4
LKWY				pmax	pmax		
	comp=Z,70nm,1.1s						
LKWY				MLR	MLR		
	comp=Z,20µm,21.0s						
LKWY	Lake	96.22	36	eP	P	00 19 13.6	-2.4
	comp=Z,70nm,1.1s						
LKWY				LR	LR		
	comp=Z,20µm,21.0s						
DFRA	Djebel Bou Aff	96.24	314	P	P	00 19 18.0	+2.0
H17A	Grant Village	96.24	36	⇓P	P	00 19 16.4	+0.3
	baz=96						
TIN	Tinemaha	96.25	45	⇓P	P	00 19 16.7	+0.7
	baz=96						
ATE	Arette	96.26	322	eP	P	00 19 16.0	+0.2
D21A	La Casta Ranch	96.26	32	⇑P	P	00 19 15.5	-0.3
	baz=96						
ETSF	Etsaut	96.30	322	⇑iP	P	00 19 16.2	+0.1
	comp=Z,84nm,1.0s						
ORDF	Ordiarp	96.31	323	eP	P	00 19 15.5	-0.5
C22A	Vida	96.31	31	⇓P	P	00 19 15.3	-0.7
	baz=96						
A24A	Westby	96.33	29	⇑P	P	00 19 15.2	-0.9
	baz=96						
VES	Vestal, Richgr	96.38	47	⇓P	P	00 19 16.9	+0.4
	baz=96						
FLWY	Flagg Ranch	96.38	36	eP	P	00 19 17.7	+1.0
	comp=Z,67nm,1.2s						
TBI	Tubuai	96.39	113	ePP	PP	00 22 55.5	-15
	comp=Z,900nm,31.0s						
TBI				eSKSac	SKSac	00 29 49.5	-2.9
	comp=Z,5µm,30.8s						
TBI	Tubuai	96.39	113	ePS	PS	00 32 00.2	+1.5
	comp=Z,7µm,33.8s						
TBI	Tubuai	96.39	113	eLQ	LQ	00 46 25.3	
	comp=Z,42µm,30.2s						
TBI				eLR	LR	00 50 20.2	
	comp=Z,31µm,32.8s,baz=297						
PKM	Peak Mountain	96.42	48	⇑P	P	00 19 17.5	+0.5
	baz=96						
LARF	Larrau	96.45	323	eP	P	00 19 16.9	+0.2
RLMT	Red Lodge	96.45	35	eP	P	00 19 17.2	+0.3
	comp=Z,15nm,0.7s						
RLMT				LR	LR		
	comp=Z,20µm,22.0s						
SJPF	Ste Jean	96.53	323	⇑iP	P	00 19 17.2	+0.1
	comp=Z,126nm,1.2s						
H18A	Shoshone NF, C	96.54	35	⇑P	P	00 19 17.4	+0.1
	baz=96						
I17A	Pilgrim Ck.	96.56	36	⇓P	P	00 19 16.7	-0.8
	baz=96						
F20A	Billings	96.56	34	⇑P	P	00 19 16.5	-0.8
	baz=96						
DGMT	Dagmar	96.57	30	PFAKE		00 19 30.0	+13
DGMT				LR	LR		
	comp=Z,24µm,19.0s						
DGMT	Dagmar	96.57	30	⇑P	P	00 19 16.9	-0.2
	baz=96						
MOOW	Moose Ponds	96.58	36	eP	P	00 19 19.8	+2.2
	comp=Z,69nm,1.8s						
E21A	Keefer Ranch,	96.58	33	⇑P	P	00 19 16.2	-1.1
	baz=96						
D22A	Cohagen	96.59	32	⇓P	P	00 19 16.8	-0.6
	baz=96						
C23A	Lambert	96.60	31	⇓P	P	00 19 16.8	-0.5
	baz=96						
CWC	Cottonwood Cre	96.70	46	⇑P	P	00 19 17.7	-0.5
	baz=97						
A25A	Svangstu Ranch	96.71	29	⇓P	P	00 19 17.5	-0.3
	baz=96						
HVU	Hansel Valley	96.72	39	eP	P	00 19 22.4	+4.2
HVU				pmax	pmax		
	comp=Z,65nm,1.5s						
HVU	Hansel Valley	96.72	39	eP	P	00 19 22.4	+4.2
	comp=Z,65nm,1.5s						
LOHW	Long Hollow	96.75	36	eP	P	00 19 20.0	+1.7
	comp=Z,49nm,1.7s						
SBC	Santa Barbara	96.75	48	⇓P	P	00 19 17.6	-0.6
	baz=97						
SET	Setif	96.75	314	P	P	00 19 22.0	+3.7
REDW	Red Top Meadow	96.78	37	eP	P	00 19 22.4	+3.9
	comp=Z,49nm,1.4s						
GRAC	Grapevine Rang	96.84	45	⇑P	P	00 19 18.4	-0.3
	baz=97						
ISA	Isabella	96.89	46	eP	P	00 19 18.1	-0.9
ISA				pmax	pmax		
	comp=Z,18nm,1.1s						
ISA	Isabella	96.89	46	eP	P	00 19 18.1	-0.9
	comp=Z,18nm,1.1s						
ISA	Isabella	96.89	46	⇑P	P	00 19 18.8	-0.2
	baz=97						
H19A	Powell	96.90	35	⇓P	P	00 19 18.6	-0.3
	baz=97						
G20A	Bridger	96.93	34	⇑P	P	00 19 18.3	-0.7
	baz=97						
ARVC	Arvin	96.96	47	⇑P	P	00 19 18.3	-0.9
	baz=97						
D23A	Lindsay	97.04	31	⇑P	P	00 19 18.6	-0.8
	baz=97						
F21A	Absaloka Mine,	97.06	33	⇑P	P	00 19 19.2	-0.3
	baz=97						
I18A	Diamond G Ranc	97.11	36	⇑P	P	00 19 19.2	-0.8
	baz=97						
BGU	Big Grassy Mou	97.12	40	eP	Pdif	00 19 23.8	+3.7
	comp=Z,120nm,1.9s						
C24A	Savage	97.15	31	⇓P	P	00 19 19.7	-0.2
	baz=97						
R11A	Troy Canyon, C	97.17	43	eP	Pdif	00 19 20.7	+0.3
R11A	Troy Canyon, C	97.17	43	⇓P	P	00 19 19.5	-0.8
	baz=97						
B25A	Knox Farm, Ray	97.19	29	⇓P	P	00 19 19.2	-0.7
	baz=97						
E22A	Miles City	97.21	32	⇑P	Pdif	00 19 20.3	+0.1
	baz=97						
A26A	Wade Farm, Ken	97.22	28	⇑P	P	00 19 19.5	-0.5
	baz=97						
MPMC	Manual Prospec	97.31	46	⇓P	P	00 19 20.1	-0.9
	baz=97						
OSI	Osito Adit	97.33	47	eP	Pdif	00 19 22.4	+1.4
	comp=Z,23nm,0.7s						
OSI	Osito Adit	97.33	47	⇑P	Pdif	00 19 21.3	+0.3
	baz=97						
I19A	Meeteetse	97.33	35	⇑P	P	00 19 20.9	0.0
	baz=97						
BLG	Laguna Peak	97.38	48	⇓P	Pdif	00 19 21.8	+0.6
	baz=97						
G21A	Lodge Grass	97.44	34	⇑P	Pdif	00 19 21.6	+0.2
	baz=97						
E23A	Ismay	97.48	32	⇓P	P	00 19 20.9	-0.4
	baz=97						
FURC	Furnace Creek,	97.48	45	⇑P	P	00 19 20.8	-0.6
	baz=97						
D24A	Glendive	97.50	31	⇑P	P	00 19 21.0	-0.4
	baz=97						
LRMC	Laurel Mountai	97.52	46	⇑P	P	00 19 21.2	-0.7
	baz=97						
B26A	Jensen Ranch,	97.52	29	⇓P	P	00 19 21.1	-0.4
	baz=97						
F22A	Rosebud	97.52	33	⇑P	P	00 19 20.7	-0.9
	baz=97						
HWUT	Hardware Ranch	97.53	38	eP	Pdif	00 19 23.8	+1.9
	comp=Z,32nm,1.0s						
HWUT				LR	LR		
	comp=Z,16µm,20.0s						
H20A	Greybull	97.54	34	⇓P	P	00 19 21.1	-0.7
	baz=97						
C25A	Freed Ranch, W	97.56	30	⇑P	P	00 19 21.5	-0.2
	baz=97						
EDW2	Edwards Air Fo	97.67	47	⇑P	P	00 19 22.1	-0.3
	baz=98						
DUG	Dugway	97.71	40	eP	Pdif	00 19 23.7	+1.0
DUG				pmax	pmax		
	comp=Z,46nm,1.4s						
DUG				MLR	MLR		
	comp=Z,13µm,20.0s						
DUG	Dugway	97.71	40	eP	Pdif	00 19 23.7	+1.0
	comp=Z,46nm,1.4s						
DUG				LR	LR		
	comp=Z,13µm,20.0s						
DUG	Dugway	97.71	40	⇑P	P	00 19 22.2	-0.5
	baz=98						
DECC	Green Verdugo	97.80	48	⇑P	P	00 19 22.1	-1.0
	baz=98						
J19A	Crowheart	97.82	36	⇑P	P	00 19 22.5	-0.7
	baz=98						
I20A	Worland	97.84	35	⇓P	P	00 19 22.8	-0.3
	baz=98						
BW06	Boulder Array	97.88	37	eP	Pdif	00 19 24.2	+0.7
	comp=Z,82nm,0.3s						
BW06				LR	LR		
	comp=Z,12µm,19.0s						
PDAR	Pinedale Array	97.88	37	P	Pdif	00 19 23.7	+0.2
PDAR				PP	PP	00 23 13.7	-7.6
PDAR				PKKPbc	PKKPbc	00 35 57.2	-1.0
PDAR	Pinedale Array	97.88	37	P	Pdif	00 19 23.7	+0.2
	comp=Z,5.8nm,1.0s,baz=84,slow=0.9,SNR=20						
PDAR				PP	PP	00 23 13.7	-7.6
	comp=Z,7.2nm,1.0s,baz=316,slow=4.1,SNR=4.2						
PDAR				PKKPbc	PKKPbc	00 35 57.2	-1.0
	comp=Z,2.2nm,0.9s,baz=134,slow=5.1,SNR=7.0						
G22A	Birney	97.90	33	⇑P	P	00 19 23.2	-0.1
	baz=98						
E24A	Baker	97.91	31	⇓P	P	00 19 23.3	0.0
	baz=98						
B27A	Peters Farms,	97.93	28	⇓P	P	00 19 22.7	-0.6
	baz=98						
H21A	Big Horn, Sher	97.94	34	⇓P	P	00 19 23.2	-0.3
	baz=98						
D25A	Fairfield	97.94	30	⇑P	Pdif	00 19 23.8	+0.3
	baz=98						
PASC	Pasadena Art C	97.94	48	eP	Pdif	00 19 25.4	+1.7
	comp=Z,19nm,1.1s						
A28A	Rude Farm, Bot	97.97	27	⇓P	P	00 19 23.5	0.0
	baz=98						
F23A	Volborg	97.98	32	⇓P	P	00 19 23.1	-0.5
	baz=98						
C26A	Wahner Farm, P	98.00	29	⇑P	P	00 19 23.4	-0.2
	baz=98						
MWC	Mount Wilson	98.00	47	eP	Pdif	00 19 26.1	+1.9
MWC				pmax	pmax		
	comp=Z,261nm,2.5s						
MWC	Mount Wilson	98.00	47	eP	Pdif	00 19 26.1	+1.9
	comp=Z,260nm,2.5s						
M17A	Scullys Gap (B	98.12	38	⇓P	P	00 19 24.1	-0.5
	baz=98						
FMP	Fort Macarthur	98.13	48	⇑P	P	00 19 24.3	-0.1
	baz=98						
L18A	Fontenelle, Gr	98.18	37	⇓P	P	00 19 24.4	-0.5
	baz=98						
SHOC	Shoshone	98.20	45	⇓P	P	00 19 24.0	-0.7
	baz=98						
GSC	Goldstone	98.21	46	eP	Pdif	00 19 26.6	+1.7
GSC				pmax	pmax		
	comp=Z,61nm,1.4s						
GSC	Goldstone	98.21	46	eP	Pdif	00 19 26.6	+1.6
	comp=Z,62nm,1.4s						
GSC	Goldstone	98.21	46	⇓P	P	00 19 24.4	-0.5
	baz=98						
K19A	Absolon Red Bu	98.23	36	⇑P	P	00 19 24.3	-0.7
	baz=98						
CIS	Catalina Islan	98.23	48	⇓P	P	00 19 23.8	-1.2
	baz=98						
JLU	Jordanelle	98.24	39	eP	Pdif	00 19 27.2	+2.0
	comp=Z,272nm,2.9s						
BFSC	Mount Baldy Ra	98.26	47	⇑P	P	00 19 25.1	-0.1
	baz=98						
J20A	Shoshoni	98.28	35	⇑P	P	00 19 24.6	-0.6
	baz=98						
B28A	Dugan Ranch, T	98.28	28	⇑P	P	00 19 24.5	-0.4
	baz=98						
NLU	North Lily Min	98.30	40	eP	Pdif	00 19 26.7	+1.2
H22A	Clearmont	98.31	34	⇑P	P	00 19 24.9	-0.3
	baz=98						
RRX	Edison Barstow	98.33	46	⇑P	Pdif	00 19 25.6	+0.2
	baz=98						
C27A	Sayler Ranch,	98.34	29	⇑P	P	00 19 24.8	-0.4
	baz=98						
F24A	Ekalaka	98.36	32	⇑P	P	00 19 25.1	-0.3
	baz=98						
G23A	Biddle	98.36	33	⇓P	P	00 19 25.3	-0.1
	baz=98						
I21A	Big Trails, Te	98.38	35	⇑P	P	00 19 25.2	-0.4
	baz=98						
SCI	San Clemente I	98.38	49	⇓P	P	00 19 25.4	-0.1
	baz=98						
E25A	Miller Ranch,	98.38	31	⇓P	P	00 19 25.0	-0.5
	baz=98						
D26A	Manning	98.44	30	⇓P	P	00 19 25.4	-0.2
	baz=98						
L19A	Farson	98.44	37	⇓P	P	00 19 25.3	-0.7
	baz=98						
DAU	Daniels Canyon	98.48	39	eP	Pdif	00 19 30.7	+4.4
DAU	Daniels Canyon	98.48	39	eP	Pdif	00 19 30.7	+4.3
MPU	Maple Canyon	98.52	40	eP	Pdif	00 19 30.9	+4.5
	comp=Z,107nm,2.0s						
SHPR	Sheep Range	98.56	44	eP	Pdif	00 19 28.1	+1.6
K20A	Yellowstone Ra	98.61	36	⇓P	P	00 19 25.6	-1.1
	baz=98						
J21A	Lysite	98.62	35	⇓P	P	00 19 26.3	-0.4
	baz=98						
ULM	Lac du Bonnet	98.68	24	eP	Pdif	00 19 27.9	+1.4
	comp=Z,67nm,1.4s						
ULM				PP	PP	00 23 19.1	-7.6
ULM				PKiKP	PKiKP	00 23 57.0	-0.9
ULM				PKKPbc	PKKPdf	00 35 57.0	-1.0
ULM	Lac du Bonnet	98.68	24	P	Pdif	00 19 27.5	+0.9
	comp=Z,33nm,1.0s,baz=323,slow=5.8,SNR=12						
ULM				PP	PP	00 23 19.1	-7.6
	comp=Z,17nm,1.1s,baz=345,slow=7.3,SNR=3.4						
ULM				PKiKP	PKiKP	00 23 57.0	-0.9
	comp=Z,16nm,0.9s,baz=328,slow=6.1,SNR=4.3						
ULM				PKKPbc	PKKPdf	00 35 57.0	-1.0
	comp=Z,4.8nm,0.9s,baz=131,slow=1.1,SNR=3.5						
ULM				LR	LR	01 11 34.6	
	comp=Z,35µm,18.9s,baz=338,slow=40						
TUQ	Turquoise Moun	98.71	45	⇓Pdiff	Pdif	00 19 27.4	+0.2
	baz=99						
TUQ	Turquoise Moun	98.71	45	⇓Pdiff	Pdif	00 19 27.4	+0.2
	baz=99						
I22A	9 Mile Ranch,	98.74	34	⇓Pdiff	Pdif	00 19 27.2	0.0
	baz=98						
I22A	9 Mile Ranch,	98.74	34	⇓Pdiff	Pdif	00 19 27.2	0.0
	baz=98						
BBRC	Big Bear Solar	98.74	47	⇑Pdiff	P	00 19 27.4	-0.1
	baz=99						
BBRC	Big Bear Solar	98.74	47	⇑Pdiff	P	00 19 27.4	-0.1
	baz=99						
G24A	Alzada	98.75	32	⇓Pdiff	Pdif	00 19 27.4	+0.2
	baz=98						
G24A	Alzada	98.75	32	⇓Pdiff	Pdif	00 19 27.4	+0.2
	baz=98						
F25A	Bowman	98.78	31	⇓Pdiff	Pdif	00 19 27.5	+0.3
	baz=99						
F25A	Bowman	98.78	31	⇓Pdiff	Pdif	00 19 27.5	+0.3
	baz=99						
D27A	Center	98.79	29	⇓Pdiff	P	00 19 27.1	0.0
	baz=99						
D27A	Center	98.79	29	⇓Pdiff	P	00 19 27.1	0.0
	baz=99						
HEC	Hector,Ludlow	98.80	46	⇓Pdiff	Pdif	00 19 28.0	+0.4
	baz=99						
HEC	Hector,Ludlow	98.80	46	⇓Pdiff	Pdif	00 19 28.0	+0.4
	baz=99						
H23A	Clabaugh Cattl	98.81	33	⇑Pdiff	P	00 19 27.3	-0.1
	baz=99						
H23A	Clabaugh Cattl	98.81	33	⇑Pdiff	P	00 19 27.3	-0.1
	baz=99						
C28A	Hausauer Farms	98.83	28	⇑Pdiff	Pdif	00 19 27.6	+0.2
	baz=99						
C28A	Hausauer Farms	98.83	28	⇑Pdiff	Pdif	00 19 27.6	+0.2
	baz=99						
E26A	Carlson Angus	98.84	30	⇓Pdiff	P	00 19 27.4	-0.1
	baz=99						
E26A	Carlson Angus	98.84	30	⇓Pdiff	P	00 19 27.4	-0.1
	baz=99						
ARUT	Antelope Range	98.85	42	eP	Pdif	00 19 30.8	+3.0
ARUT				pmax	pmax		
	comp=Z,14nm,1.0s						
ARUT	Antelope Range	98.85	42	eP	Pdif	00 19 30.8	+3.0
	comp=Z,14nm,1.0s						
MURC	Murrieta	98.94	48	⇓Pdiff	P	00 19 28.1	0.0
	baz=99						
MURC	Murrieta	98.94	48	⇓Pdiff	P	00 19 28.1	0.0
	baz=99						
M19A	Rock Springs	98.95	37	⇓Pdiff	P	00 19 27.8	-0.5
	baz=99						
M19A	Rock Springs	98.95	37	⇓Pdiff	P	00 19 27.8	-0.5
	baz=99						
CCUT	Cedar City	99.04	42	eP	Pdif	00 19 32.4	+3.6
	comp=Z,162nm,2.8s						
L20A	Wamsutter	99.06	36	⇓Pdiff	Pdif	00 19 28.8	+0.1
	baz=99						
L20A	Wamsutter	99.06	36	⇓Pdiff	Pdif	00 19 28.8	+0.1
	baz=99						
MDND	Maddock	99.07	28	eP	Pdif	00 19 32.5	+4.1
	comp=Z,96nm,1.2s						
MDND	Maddock	99.07	28	⇑Pdiff	Pdif	00 19 28.6	+0.2
	baz=99						
MDND	Maddock	99.07	28	⇑Pdiff	Pdif	00 19 28.6	+0.2
	baz=99						
J22A	Midwest	99.08	34	⇑Pdiff	Pdif	00 19 28.8	0.0
	baz=99						
J22A	Midwest	99.08	34	⇑Pdiff	Pdif	00 19 28.8	0.0
	baz=99						
H24A	Dirks Ranch, A	99.10	33	⇑Pdiff	Pdif	00 19 28.6	-0.2
	baz=99						
H24A	Dirks Ranch, A	99.10	33	⇑Pdiff	Pdif	00 19 28.6	-0.2
	baz=99						
MSU	Marysvale	99.16	41	eP	Pdif	00 19 31.4	+2.1
MSU	Marysvale	99.16	41	eP	Pdif	00 19 31.4	+2.1
TAOE	Nuku Hiva Isla	99.18	96	eS	S	00 30 53.9	-6.6
	comp=Z,15µm,30.6s						
TAOE	Nuku Hiva Isla	99.18	96	eLR	LR	00 51 40.6	
	comp=Z,20µm,24.0s						
F26A	Lodgepole	99.20	31	⇓Pdiff	Pdif	00 19 29.2	+0.1
	baz=99						
F26A	Lodgepole	99.20	31	⇓Pdiff	Pdif	00 19 29.2	+0.1
	baz=99						
I23A	Meade Ranch, G	99.21	34	⇑Pdiff	Pdif	00 19 29.5	+0.2
	baz=99						
I23A	Meade Ranch, G	99.21	34	⇑Pdiff	Pdif	00 19 29.5	+0.2
	baz=99						
K21A	Alcova	99.21	35	⇓Pdiff	Pdif	00 19 29.5	+0.1
	baz=99						
K21A	Alcova	99.21	35	⇓Pdiff	Pdif	00 19 29.5	+0.1
	baz=99						
GMRC	Granite Mounta	99.27	46	⇑Pdiff	Pdif	00 19 30.1	+0.4
	baz=99						
GMRC	Granite Mounta	99.27	46	⇑Pdiff	Pdif	00 19 30.1	+0.4
	baz=99						
E27A	Carson	99.28	30	⇑Pdiff	Pdif	00 19 29.5	+0.1
	baz=99						
E27A	Carson	99.28	30	⇑Pdiff	Pdif	00 19 29.5	+0.1
	baz=99						
G25A	Newell	99.33	32	⇑Pdiff	Pdif	00 19 29.8	+0.1
	baz=99						
G25A	Newell	99.33	32	⇑Pdiff	Pdif	00 19 29.8	+0.1
	baz=99						
109C	Camp Elliot, M	99.42	48	⇓Pdiff	Pdif	00 19 30.4	+0.2
	baz=99						
109C	Camp Elliot, M	99.42	48	⇓Pdiff	Pdif	00 19 30.4	+0.2
	baz=99						
PFO	Pinyon Flat Ob	99.44	47	eP	Pdif	00 19 33.3	+2.8
	comp=Z,29nm,1.0s						
PFO				LR	LR		
	comp=Z,24µm,20.0s						
PFO	Pinyon Flat Ob	99.44	47	P	Pdif	00 19 32.0	+1.5
	comp=Z,15nm,1.1s,baz=331,slow=5.3						
PFO	Pinyon Flat Ob	99.44	47	⇑Pdiff	Pdif	00 19 31.0	+0.5
	baz=99						
PFO	Pinyon Flat Ob	99.44	47	⇑Pdiff	Pdif	00 19 31.0	+0.5
	baz=99						
LDFC	Landfair	99.45	45	ePcP	Pdif	00 19 32.1	+1.6
	comp=Z,34nm,0.4s						
F27A	Lemmon	99.49	30	⇓Pdiff	Pdif	00 19 30.5	+0.1
	baz=99						
F27A	Lemmon	99.49	30	⇓Pdiff	Pdif	00 19 30.5	+0.1
	baz=99						
M20A	Sweetwater, Wa	99.49	37	⇓Pdiff	Pdif	00 19 30.8	0.0
	baz=99						
M20A	Sweetwater, Wa	99.49	37	⇓Pdiff	Pdif	00 19 30.8	0.0
	baz=99						
Q16A	Castle Valley	99.50	40	ePdif	Pdif	00 19 32.1	+1.4
Q16A	Castle Valley	99.50	40	⇑Pdiff	Pdif	00 19 30.9	+0.1
	baz=99						
Q16A	Castle Valley	99.50	40	⇑Pdiff	Pdif	00 19 30.9	+0.1
	baz=99						
BELC	Belle Mtn. Jos	99.51	47	⇓Pdiff	Pdif	00 19 30.8	-0.1
	baz=99						
BELC	Belle Mtn. Jos	99.51	47	⇓Pdiff	Pdif	00 19 30.8	-0.1
	baz=99						
J23A	Dilts Ranch, B	99.56	34	⇓Pdiff	Pdif	00 19 30.6	-0.2
	baz=99						
J23A	Dilts Ranch, B	99.56	34	⇓Pdiff	Pdif	00 19 30.6	-0.2
	baz=99						
K22A	Casper	99.59	35	⇓Pdiff	Pdif	00 19 31.0	-0.1
	baz=99						
K22A	Casper	99.59	35	⇓Pdiff	Pdif	00 19 31.0	-0.1
	baz=99						
L21A	Rawlins	99.61	36	⇓Pdiff	Pdif	00 19 31.3	+0.1
	baz=99						
L21A	Rawlins	99.61	36	⇓Pdiff	Pdif	00 19 31.3	+0.1
	baz=99						
G26A	Maurine	99.65	31	⇑Pdiff	Pdif	00 19 31.0	-0.1
	baz=99						
G26A	Maurine	99.65	31	⇑Pdiff	Pdif	00 19 31.0	-0.1
	baz=99						
H25A	Fruitdale	99.66	32	⇑Pdiff	Pdif	00 19 31.1	-0.1
	baz=100						
H25A	Fruitdale	99.66	32	⇑Pdiff	Pdif	00 19 31.1	-0.1
	baz=100						
I24A	Kuemmerle Ranc	99.71	33	⇑Pdiff	Pdif	00 19 31.3	-0.2
	baz=100						
I24A	Kuemmerle Ranc	99.71	33	⇑Pdiff	Pdif	00 19 31.3	-0.2
	baz=100						
SRU	San Rafael	99.76	40	eP	Pdif	00 19 34.5	+2.6
SRU				pmax	pmax		
	comp=Z,17nm,0.9s						
SRU	San Rafael	99.76	40	ePdif	Pdif	00 19 34.5	+2.6
	comp=Z,16nm,0.9s						
O19A	Miners Draw (B	99.78	38	⇓Pdiff	Pdif	00 19 31.5	-0.5
	baz=100						
O19A	Miners Draw (B	99.78	38	⇓Pdiff	Pdif	00 19 31.5	-0.5
	baz=100						
RSSD	Black Hills	99.81	33	eP	Pdif	00 19 33.5	+1.4
RSSD				pmax	pmax		
	comp=Z,24nm,1.1s						
RSSD	Black Hills	99.81	33	ePdif	Pdif	00 19 33.5	+1.4
	comp=Z,24nm,1.1s						
BAR	Barrett	99.84	48	ePdif	Pdif	00 19 33.2	+1.0
	comp=Z,82nm,1.8s						
M21A	Separation Pea	99.86	36	⇓Pdiff	Pdif	00 19 32.1	-0.3
	baz=100						
M21A	Separation Pea	99.86	36	⇓Pdiff	Pdif	00 19 32.1	-0.3
	baz=100						
MONP	Monument Peak	99.89	48	⇑Pdiff	Pdif	00 19 32.1	-0.5
	baz=100						
MONP	Monument Peak	99.89	48	⇑Pdiff	Pdif	00 19 32.1	-0.5
	baz=100						
RWWY	Rawlins	99.89	36	ePdif	Pdif	00 19 33.4	+0.9
N20A	Spence Gulch,	99.90	37	⇑Pdiff	Pdif	00 19 32.0	-0.6
	baz=100						
N20A	Spence Gulch,	99.90	37

baz=100
BC3 Big Chuckawall 100.08 47 ⇓Pdiff Pdif 00 19 34.0 +0.7
baz=100
BC3 Big Chuckawall 100.08 47 ⇓Pdiff Pdif 00 19 34.0 +0.7
baz=100
W13A Hualapai Mount 100.23 45 ⇑Pdiff Pdif 00 19 34.9 +0.8
baz=100
W13A Hualapai Mount 100.23 45 ⇑Pdiff Pdif 00 19 34.9 +0.8
baz=100
DVTC Desert V Tower 100.24 48 ⇓Pdiff Pdif 00 19 34.6 +0.6
baz=100
DVTC Desert V Tower 100.24 48 ⇓Pdiff Pdif 00 19 34.6 +0.6
baz=100
AGMN Agassiz Nation 100.26 26 *e*Pdif Pdif 00 19 35.5 +1.8
comp=Z,10nm,0.8s
AGMN LR LR
comp=Z,23µm,20.0s
SWSC Sam W. Stewart 100.28 47 ⇓Pdiff Pdif 00 19 34.0 0.0
baz=100
SWSC Sam W. Stewart 100.28 47 ⇓Pdiff Pdif 00 19 34.0 0.0
baz=100
P19A Cripple Cowboy 100.30 39 ⇓Pdiff Pdif 00 19 34.8 +0.5
baz=100
P19A Cripple Cowboy 100.30 39 ⇓Pdiff Pdif 00 19 34.8 +0.5
baz=100
ESDC Sonseca Array 100.35 322 P Pdif 00 19 34.2 -0.1
ESDC PP PP 00 23 34.6 -5.4
ESDC PKKPbc **PKKPbc 00 35 50.1 -0.9**
ESDC Sonseca Array 100.35 322 P Pdif 00 19 34.2 -0.1
comp=Z,2.9nm,1.0s,baz=32,slow=3.5,SNR=11
ESDC PP PP 00 23 34.6 -5.4
comp=Z,16nm,1.0s,baz=44,slow=8.0,SNR=6.3
ESDC PKKPbc **PKKPbc 00 35 50.1 -0.9**
comp=Z,3.1nm,1.1s,baz=278,slow=3.6,SNR=6.5
ESLA Sonseca Array 100.35 322 *e*Pdif Pdif 00 19 33.5 -0.8
comp=Z,7.0nm,1.3s
N21A Black Mountain 100.36 37 ⇑Pdiff Pdif 00 19 35.1 +0.5
baz=100
N21A Black Mountain 100.36 37 ⇑Pdiff Pdif 00 19 35.1 +0.5
baz=100
O20A White River Ci 100.39 38 *e*Pdif Pdif 00 19 35.7 +1.0
O20A White River Ci 100.39 38 ⇑Pdiff Pdif 00 19 34.0 -0.7
baz=100
O20A White River Ci 100.39 38 ⇑Pdiff Pdif 00 19 34.0 -0.7
baz=100
H27A Howes 100.39 31 ⇑Pdiff Pdif 00 19 33.7 -0.7
baz=100
H27A Howes 100.39 31 ⇑Pdiff Pdif 00 19 33.7 -0.7
baz=100
L23A Garrett 100.40 35 ⇑Pdiff Pdif 00 19 35.1 +0.3
baz=100
L23A Garrett 100.40 35 ⇑Pdiff Pdif 00 19 35.1 +0.3
baz=100
U15A North Rim 100.41 43 ⇓Pdiff Pdif 00 19 35.6 +0.6
baz=100
U15A North Rim 100.41 43 ⇓Pdiff Pdif 00 19 35.6 +0.6
baz=100
PBRG Braganca 100.42 325 *e*Pdif Pdif 00 19 35.4 +0.8
PBRG Braganca 100.42 325 *e*PP PP 00 23 39.4 -1.0
M22A Cedar Creek Ra 100.42 36 ⇑Pdiff Pdif 00 19 35.5 +0.6
baz=100
M22A Cedar Creek Ra 100.42 36 ⇑Pdiff Pdif 00 19 35.5 +0.6
baz=100
K24A Anderson Ranch 100.43 34 ⇑Pdiff Pdif 00 19 35.3 +0.6
baz=100
K24A Anderson Ranch 100.43 34 ⇑Pdiff Pdif 00 19 35.3 +0.6
baz=100
I26A New Underwood 100.46 32 ⇑Pdiff Pdif 00 19 34.8 0.0
baz=100
I26A New Underwood 100.46 32 ⇑Pdiff Pdif 00 19 34.8 0.0
baz=100
J25A Sunshine Ranch 100.46 33 ⇑Pdiff Pdif 00 19 35.6 +0.8
baz=100
J25A Sunshine Ranch 100.46 33 ⇑Pdiff Pdif 00 19 35.6 +0.8
baz=100
PDMCI Parker Dam,Lak 100.56 45 ⇑Pdiff Pdif 00 19 35.0 -0.2
baz=100
PDMCI Parker Dam,Lak 100.56 45 ⇑Pdiff Pdif 00 19 35.0 -0.2
baz=100
G28A Parade 100.60 30 ⇑Pdiff Pdif 00 19 34.8 -0.5
baz=100
G28A Parade 100.60 30 ⇑Pdiff Pdif 00 19 34.8 -0.5
baz=100
Y12C Blythe 100.64 46 ⇓Pdiff Pdif 00 19 35.4 -0.2
baz=100
Y12C Blythe 100.64 46 ⇓Pdiff Pdif 00 19 35.4 -0.2
baz=100
PAB San Pablo 100.66 322 PFAKE 00 19 50.0 +14
PAB LR LR
comp=Z,52µm,20.0s
P20A De Beque 100.73 38 ⇓Pdiff Pdif 00 19 36.3 +0.1
baz=100
P20A De Beque 100.73 38 ⇓Pdiff Pdif 00 19 36.3 +0.1
baz=100
O21A Pagoda 100.76 37 ⇓Pdiff Pdif 00 19 35.8 -0.6
baz=101
O21A Pagoda 100.76 37 ⇓Pdiff Pdif 00 19 35.8 -0.6
baz=101
LSZ Lusaka 100.79 258 *e*Pdif Pdif 00 19 34.9 -1.8
comp=Z,19nm,0.8s
LSZ PP **PP 00 23 42.6 -2.1**
LSZ LR LR
comp=Z,16µm,20.0s
LSZ Lusaka 100.79 258 P Pdif 00 19 35.9 -0.8
comp=Z,15nm,0.8s,baz=57,slow=8.8,SNR=22
LSZ PP **PP 00 23 42.6 -2.1**
comp=Z,6.1nm,0.9s,baz=77,slow=10.0,SNR=4.2
I27A Quinn 100.82 32 ⇑Pdiff Pdif 00 19 35.6 -0.7
baz=101
I27A Quinn 100.82 32 ⇑Pdiff Pdif 00 19 35.6 -0.7
baz=101
M23A Laramie 100.84 35 ⇓Pdiff Pdif 00 19 37.3 +0.6
baz=101
M23A Laramie 100.84 35 ⇓Pdiff Pdif 00 19 37.3 +0.6
baz=101
L24A Wheatland 100.85 35 ⇓Pdiff Pdif 00 19 37.4 +0.7
baz=101
L24A Wheatland 100.85 35 ⇓Pdiff Pdif 00 19 37.4 +0.7
baz=101
H28A Mission Ridge 100.86 31 ⇑Pdiff Pdif 00 19 36.1 -0.3
baz=101
H28A Mission Ridge 100.86 31 ⇑Pdiff Pdif 00 19 36.1 -0.3
baz=101
GLA Glamis 100.86 47 ⇓Pdiff Pdif 00 19 36.6 -0.1
baz=101
GLA Glamis 100.86 47 ⇓Pdiff Pdif 00 19 36.6 -0.1
baz=101
J26A Sides Ranch, S 100.88 33 ⇑Pdiff Pdif 00 19 37.3 +0.7
baz=101
J26A Sides Ranch, S 100.88 33 ⇑Pdiff Pdif 00 19 37.3 +0.7
baz=101
N22A Wattenberg Ran 100.92 36 ⇑Pdiff Pdif 00 19 37.5 +0.4
baz=101
N22A Wattenberg Ran 100.92 36 ⇑Pdiff Pdif 00 19 37.5 +0.4
baz=101
K25A Mack Ranch, Ha 100.99 34 ⇑Pdiff Pdif 00 19 36.8 -0.4
baz=101
K25A Mack Ranch, Ha 100.99 34 ⇑Pdiff Pdif 00 19 36.8 -0.4
baz=101
MVO Moncorvo 101.02 324 *e*Pdif Pdif 00 19 38.3 +1.0
MVO Moncorvo 101.02 324 *e*PP PP 00 23 46.0 +1.0
MVO Moncorvo 101.02 324 *i* P x 00 51 20.2
MVO *e*LR LR 00 56 03.3
comp=Z,44µm,20.0s
PGAV Gavieira, Arco 101.11 326 *e*Pdif Pdif 00 19 37.7 0.0
PGAV Gavieira, Arco 101.11 326 *e*PP PP 00 23 46.9 +1.3
PGAV Gavieira, Arco 101.11 326 *i* P x 00 50 05.9
PGAV *e*LR LR 00 56 03.7
comp=Z,34µm,18.0s
N23A Red Feather La 101.13 36 ⇓Pdiff Pdif 00 19 38.7 +0.7
baz=101
N23A Red Feather La 101.13 36 ⇓Pdiff Pdif 00 19 38.7 +0.7
baz=101
Q20A Ridgley Place, 101.15 39 ⇓Pdiff Pdif 00 19 38.6 +0.5
baz=101
Q20A Ridgley Place, 101.15 39 ⇓Pdiff Pdif 00 19 38.6 +0.5
baz=101
PCAB Cabril 101.16 325 *e*Pdif Pdif 00 19 38.5 +0.6
PCAB Cabril 101.16 325 *e*PP PP 00 23 49.7 +3.7
PV04 Paradox Valley 101.18 39 *e*Pdif Pdif 00 19 42.0 +3.7
MAW Mawson 101.20 200 P Pdif 00 19 36.7 -0.4
MAW Mawson 101.20 200 P Pdif 00 19 36.7 -0.4
comp=Z,4.1nm,0.7s,baz=78,slow=2.6,SNR=10
P21A Newcastle 101.25 38 ⇑Pdiff Pdif 00 19 39.0 +0.5
baz=101
P21A Newcastle 101.25 38 ⇑Pdiff Pdif 00 19 39.0 +0.5
baz=101

L25A Engebretsen Ra 101.27 34 ⇓Pdiff Pdif 00 19 38.8 +0.3
baz=101
L25A Engebretsen Ra 101.27 34 ⇓Pdiff Pdif 00 19 38.8 +0.3
baz=101
K26A Motz Farm, Whi 101.27 33 ⇓Pdiff Pdif 00 19 38.8 +0.3
baz=101
K26A Motz Farm, Whi 101.27 33 ⇓Pdiff Pdif 00 19 38.8 +0.3
baz=101
POLO Lamas de Olo 101.28 325 *e*Pdif Pdif 00 19 39.9 +1.4
POLO Lamas de Olo 101.28 325 *e*PP PP 00 23 47.5 +0.6
I28A Midland 101.30 31 ⇓Pdiff Pdif 00 19 39.1 +0.7
baz=101
I28A Midland 101.30 31 ⇓Pdiff Pdif 00 19 39.1 +0.7
baz=101
O22A Kremmling 101.31 37 ⇓Pdiff Pdif 00 19 39.1 +0.2
baz=101
O22A Kremmling 101.31 37 ⇓Pdiff Pdif 00 19 39.1 +0.2
baz=101
M24A Cheyenne 101.32 35 ⇓Pdiff Pdif 00 19 39.1 +0.4
baz=101
M24A Cheyenne 101.32 35 ⇓Pdiff Pdif 00 19 39.1 +0.4
baz=101
J27A Elkhorn Farm, 101.45 32 ⇑Pdiff Pdif 00 19 39.2 0.0
baz=101
J27A Elkhorn Farm, 101.45 32 ⇑Pdiff Pdif 00 19 39.2 0.0
baz=101
SCHQ Schefferville 101.47 6 *e*Pdif Pdif 00 19 40.8 +1.9
SCHQ PP **PP 00 23 44.2 -3.4**
SCHQ Schefferville 101.47 6 P Pdif 00 19 39.5 +0.6
comp=Z,14nm,1.0s,baz=348,slow=5.1,SNR=10
SCHQ PP **PP 00 23 44.2 -3.4**
comp=Z,23nm,1.0s,baz=355,slow=7.9,SNR=6.0
Y14A Wickenburg 101.52 45 ⇑Pdiff Pdif 00 19 40.5 +0.9
baz=101
Y14A Wickenburg 101.52 45 ⇑Pdiff Pdif 00 19 40.5 +0.9
baz=101
PV01 Paradox Valley 101.55 39 *e*Pdif Pdif 00 19 41.8 +1.8
comp=Z,2µm,1.2s
WUAZ Wupatki 101.57 43 *e*Pdif Pdif 00 19 42.1 +2.1
comp=Z,21nm,1.2s
WUAZ LR LR
comp=Z,10µm,22.0s
WUAZ Wupatki 101.57 43 ⇑Pdiff Pdif 00 19 39.9 -0.1
baz=101
WUAZ Wupatki 101.57 43 ⇑Pdiff Pdif 00 19 39.9 -0.1
baz=101
P22A Eagle 101.58 37 ⇓Pdiff Pdif 00 19 40.7 +0.6
baz=101
P22A Eagle 101.58 37 ⇓Pdiff Pdif 00 19 40.7 +0.6
baz=101
O23A Lake Granby, G 101.62 36 ⇓Pdiff Pdif 00 19 40.5 +0.2
baz=101
O23A Lake Granby, G 101.62 36 ⇓Pdiff Pdif 00 19 40.5 +0.2
baz=101
R20A Redvale 101.62 39 ⇑Pdiff Pdif 00 19 40.6 +0.3
baz=101
R20A Redvale 101.62 39 ⇑Pdiff Pdif 00 19 40.6 +0.3
baz=101
Q21A Lamborn Mesa, 101.65 38 ⇑Pdiff Pdif 00 19 40.7 +0.3
baz=102
Q21A Lamborn Mesa, 101.65 38 ⇑Pdiff Pdif 00 19 40.7 +0.3
baz=102
J28A Allard Ranch, 101.69 32 ⇑Pdiff Pdif 00 19 40.8 +0.5
baz=102
J28A Allard Ranch, 101.69 32 ⇑Pdiff Pdif 00 19 40.8 +0.5
baz=102
113A Mohawk Valley, 101.74 46 ⇑Pdiff Pdif 00 19 40.9 +0.3
baz=102
113A Mohawk Valley, 101.74 46 ⇑Pdiff Pdif 00 19 40.9 +0.3
baz=102
K27A Flueckinger Fa 101.74 33 ⇑Pdiff Pdif 00 19 41.3 +0.8
baz=102
K27A Flueckinger Fa 101.74 33 ⇑Pdiff Pdif 00 19 41.3 +0.8
baz=102
N24A Carr 101.74 35 ⇑Pdiff Pdif 00 19 41.5 +0.8
baz=102
N24A Carr 101.74 35 ⇑Pdiff Pdif 00 19 41.5 +0.8
baz=102
M25A Palm-Egli Farm 101.75 35 ⇓Pdiff Pdif 00 19 41.5 +0.8
baz=102
M25A Palm-Egli Farm 101.75 35 ⇓Pdiff Pdif 00 19 41.5 +0.8
baz=102
SMCO Snowmass 101.75 38 *e*Pdif Pdif 00 19 44.0 +3.0
PVIS Viseu 101.80 324 *e*Pdif Pdif 00 19 43.6 +2.8
L26A Underwood Farm 101.81 34 ⇓Pdiff Pdif 00 19 42.0 +1.2
baz=102
L26A Underwood Farm 101.81 34 ⇓Pdiff Pdif 00 19 42.0 +1.2
baz=102
MTE Manteigas 101.84 324 *e*Pdif Pdif 00 19 43.1 +2.2
MTE Manteigas 101.84 324 *e*PP PP 00 23 53.9 +2.8
MTE Manteigas 101.84 324 *i* P x 00 49 52.2
MTE *e*LR LR 00 56 10.4
comp=Z,50µm,20.0s
MTE Manteigas 101.84 324 *e*Pdif Pdif 00 19 40.8 -0.1
comp=Z,34nm,1.1s
MTE LR LR
comp=Z,55µm,21.0s
S20A Disappointment 101.87 40 ⇑Pdiff Pdif 00 19 42.3 +0.9
baz=102
S20A Disappointment 101.87 40 ⇑Pdiff Pdif 00 19 42.3 +0.9
baz=102
Z14A Wintersburg 101.92 46 ⇑Pdiff Pdif 00 19 41.1 -0.3
baz=102
Z14A Wintersburg 101.92 46 ⇑Pdiff Pdif 00 19 41.1 -0.3
baz=102
R21A Cimarron 101.98 39 ⇓Pdiff Pdif 00 19 43.0 +1.2
baz=102
R21A Cimarron 101.98 39 ⇓Pdiff Pdif 00 19 43.0 +1.2
baz=102
BRSD Miller 101.99 30 ⇓Pdiff Pdif 00 19 41.1 -0.3
baz=102
BRSD Miller 101.99 30 ⇓Pdiff Pdif 00 19 41.1 -0.3
baz=102
Q22A Crested Butte, 102.01 38 ⇑Pdiff Pdif 00 19 43.4 +1.4
baz=102
Q22A Crested Butte, 102.01 38 ⇑Pdiff Pdif 00 19 43.4 +1.4
baz=102
ISCO Idaho Springs 102.08 37 *e*P Pdif 00 19 45.1 +2.8
ISCO MLR MLR
comp=Z,13µm,19.0s
ISCO Idaho Springs 102.08 37 *e*Pdif Pdif 00 19 45.1 +2.8
ISCO LR LR
comp=Z,13µm,19.0s
ISCO Idaho Springs 102.08 37 ⇑Pdiff Pdif 00 19 43.6 +1.2
baz=102
ISCO Idaho Springs 102.08 37 ⇑Pdiff Pdif 00 19 43.6 +1.2
baz=102
O24A Longmont 102.14 36 ⇓Pdiff Pdif 00 19 42.5 +0.1
baz=102
O24A Longmont 102.14 36 ⇓Pdiff Pdif 00 19 42.5 +0.1
baz=102
L27A T5 Ranch, Ells 102.16 33 ⇑Pdiff Pdif 00 19 42.3 -0.1
baz=102
L27A T5 Ranch, Ells 102.16 33 ⇑Pdiff Pdif 00 19 42.3 -0.1
baz=102
K28A Ten Mile Ranch 102.16 32 ⇓Pdiff Pdif 00 19 42.6 +0.2
baz=102
K28A Ten Mile Ranch 102.16 32 ⇓Pdiff Pdif 00 19 42.6 +0.2
baz=102
N25A Grover 102.17 35 ⇑Pdiff Pdif 00 19 43.2 +0.7
baz=102
N25A Grover 102.17 35 ⇑Pdiff Pdif 00 19 43.2 +0.7
baz=102
M26A McRoberts Ranc 102.19 34 ⇑Pdiff Pdif 00 19 43.4 +0.9
baz=102
M26A McRoberts Ranc 102.19 34 ⇑Pdiff Pdif 00 19 43.4 +0.9
baz=102
EYMN Ely 102.21 23 *e*Pdif Pdif 00 19 44.6 +2.3
EYMN LR LR
comp=Z,27µm,20.0s
MVCO Mesa Verde 102.21 40 *e*Pdif Pdif 00 19 46.8 +3.9
MVCO LR LR
comp=Z,11µm,20.0s
MVCO Mesa Verde 102.21 40 ⇑Pdiff Pdif 00 19 42.3 -0.6
baz=102
MVCO Mesa Verde 102.21 40 ⇑Pdiff Pdif 00 19 42.3 -0.6
baz=102
X16A Lo Mia Camp, P 102.23 44 ⇓Pdiff Pdif 00 19 42.8 -0.1
baz=102
X16A Lo Mia Camp, P 102.23 44 ⇓Pdiff Pdif 00 19 42.8 -0.1
baz=102
P23A Jefferson 102.25 37 ⇓Pdiff Pdif 00 19 43.9 +0.7
baz=102
P23A Jefferson 102.25 37 ⇓Pdiff Pdif 00 19 43.9 +0.7
baz=102
S21A Coal Bank Pass 102.32 39 ⇓Pdiff Pdif 00 19 43.7 +0.2
baz=102
S21A Coal Bank Pass 102.32 39 ⇓Pdiff Pdif 00 19 43.7 +0.2

baz=102
PMRV Marv??o 102.44 323 *e*Pdif Pdif 00 19 44.9 +1.3
PMRV Marv??o 102.44 323 *e*PP PP 00 23 58.3 +2.7
PMRV Marv??o 102.44 323 *i* P x 00 51 01.5
PMRV *e*LR LR 00 57 18.1
comp=Z,43µm,20.0s
R22A Saguache, Gunn 102.53 38 ⇑Pdiff Pdif 00 19 45.3 +0.9
baz=102
R22A Saguache, Gunn 102.53 38 ⇑Pdiff Pdif 00 19 45.3 +0.9
baz=102
M27A Reverse DX Ran 102.53 34 ⇑Pdiff Pdif 00 19 44.4 +0.3
baz=102
M27A Reverse DX Ran 102.53 34 ⇑Pdiff Pdif 00 19 44.4 +0.3
baz=102
Q23A Hartsel 102.58 37 ⇑Pdiff Pdif 00 19 45.7 +1.0
baz=102
Q23A Hartsel 102.58 37 ⇑Pdiff Pdif 00 19 45.7 +1.0
baz=102
PCAS Casmilo, Conde 102.60 324 *e*Pdif Pdif 00 19 49.6 +5.3
PCAS *i* P x 00 19 56.4
PCAS Casmilo, Conde 102.60 324 *e*PP PP 00 23 58.6 +1.8
N26A Koester Ranch, 102.62 35 ⇑Pdiff Pdif 00 19 44.6 +0.1
baz=102
N26A Koester Ranch, 102.62 35 ⇑Pdiff Pdif 00 19 44.6 +0.1
baz=102
K29A Lazy Trails An 102.64 32 ⇓Pdiff Pdif 00 19 44.9 +0.5
baz=102
K29A Lazy Trails An 102.64 32 ⇓Pdiff Pdif 00 19 44.9 +0.5
baz=102
O25A Wiggins 102.66 36 ⇑Pdiff Pdif 00 19 45.2 +0.5
baz=102
O25A Wiggins 102.66 36 ⇑Pdiff Pdif 00 19 45.2 +0.5
baz=102
P24A Kohler Place, 102.66 36 ⇓Pdiff Pdif 00 19 45.1 +0.3
baz=102
P24A Kohler Place, 102.66 36 ⇓Pdiff Pdif 00 19 45.1 +0.3
baz=102
U20A Newcomb 102.75 41 ⇑Pdiff Pdif 00 19 45.1 -0.2
baz=103
U20A Newcomb 102.75 41 ⇑Pdiff Pdif 00 19 45.1 -0.2
baz=103
S22A 4UR Ranch, Cre 102.82 39 ⇑Pdiff Pdif 00 19 45.4 -0.2
baz=103
S22A 4UR Ranch, Cre 102.82 39 ⇑Pdiff Pdif 00 19 45.4 -0.2
baz=103
W18A Petrified Fore 102.85 42 ⇑Pdiff Pdif 00 19 45.7 0.0
baz=103
W18A Petrified Fore 102.85 42 ⇑Pdiff Pdif 00 19 45.7 0.0
baz=103
214A Organ Pipe Nat 102.88 47 ⇓Pdiff Pdif 00 19 46.0 +0.2
baz=103
214A Organ Pipe Nat 102.88 47 ⇓Pdiff Pdif 00 19 46.0 +0.2
baz=103
Q24A Divide 102.92 37 ⇑Pdiff Pdif 00 19 46.4 +0.3
baz=103
Q24A Divide 102.92 37 ⇑Pdiff Pdif 00 19 46.4 +0.3
baz=103
T21A Navajo Lake 102.92 40 ⇓Pdiff Pdif 00 19 45.8 -0.2
baz=103
T21A Navajo Lake 102.92 40 ⇓Pdiff Pdif 00 19 45.8 -0.2
baz=103
PESTR Estremoz 102.94 323 A A 01 26 41.6
comp=Z,1.7nm,0.7s
PESTR Estremoz 102.94 323 *e*PP PP 00 23 59.1 -0.3
N27A Anderson Farm, 102.99 34 ⇓Pdiff Pdif 00 19 46.8 +0.7
baz=103
N27A Anderson Farm, 102.99 34 ⇓Pdiff Pdif 00 19 46.8 +0.7
baz=103
O26A Horse Wrangler 103.00 35 ⇑Pdiff Pdif 00 19 46.6 +0.4
baz=103
O26A Horse Wrangler 103.00 35 ⇑Pdiff Pdif 00 19 46.6 +0.4
baz=103
P25A Willow Gulch B 103.06 36 ⇑Pdiff Pdif 00 19 46.8 +0.2
baz=103
P25A Willow Gulch B 103.06 36 ⇑Pdiff Pdif 00 19 46.8 +0.2
baz=103
R23A Moffat 103.08 38 ⇑Pdiff Pdif 00 19 47.0 +0.2
baz=103
R23A Moffat 103.08 38 ⇑Pdiff Pdif 00 19 47.0 +0.2
baz=103
L29A Maesberg Ranch 103.09 32 ⇑Pdiff Pdif 00 19 46.6 +0.2
baz=103
L29A Maesberg Ranch 103.09 32 ⇑Pdiff Pdif 00 19 46.6 +0.2
baz=103
X18A Snowflake 103.10 43 ⇓Pdiff Pdif 00 19 46.5 -0.4
baz=103
X18A Snowflake 103.10 43 ⇓Pdiff Pdif 00 19 46.5 -0.4
baz=103
PBAR Barrancos 103.12 322 *e*Pdif Pdif 00 19 46.2 -0.4
PBAR Barrancos 103.12 322 *e*PP PP 00 24 01.6 +0.9
M28A Bar X Bar Ranc 103.14 33 ⇓Pdiff Pdif 00 19 46.6 -0.2
baz=103
M28A Bar X Bar Ranc 103.14 33 ⇓Pdiff Pdif 00 19 46.6 -0.2
baz=103
OGNE Ogallala 103.14 34 PFAKE 00 20 00.0 +13
OGNE LR LR
comp=Z,20µm,20.0s
OGNE Ogallala 103.14 34 ⇓Pdiff Pdif 00 19 47.1 +0.3
baz=103
OGNE Ogallala 103.14 34 ⇓Pdiff Pdif 00 19 47.1 +0.3
baz=103
PMTG Montargil 103.15 323 *e*PP PP 00 24 03.4 +2.5
V20A Brimhall 103.17 41 ⇑Pdiff Pdif 00 19 46.4 -0.8
baz=103
V20A Brimhall 103.17 41 ⇑Pdiff Pdif 00 19 46.4 -0.8
baz=103
U21A Nageezi 103.23 40 ⇑Pdiff Pdif 00 19 47.6 +0.1
baz=103
U21A Nageezi 103.23 40 ⇑Pdiff Pdif 00 19 47.6 +0.1
baz=103
T22A Edith 103.28 39 ⇓Pdiff Pdif 00 19 47.9 +0.2
baz=103
T22A Edith 103.28 39 ⇓Pdiff Pdif 00 19 47.9 +0.2
baz=103
VNDA Vanda 103.31 172 PKiKP PKiKP 00 24 06.7 +1.3
VNDA PKKPbc **PKKPbc 00 35 43.9 +0.2**
VNDA Vanda 103.31 172 PKiKP PKiKP 00 24 06.7 +1.3
comp=Z,4.4nm,0.8s,baz=330,slow=1.4,SNR=4.1
VNDA PKKPbc **PKKPbc 00 35 43.9 +0.2**
comp=Z,2.8nm,0.8s,baz=190,slow=1.9,SNR=7.5
S23A Nye Farm, Mont 103.32 38 ⇓Pdiff Pdif 00 19 47.4 -0.5
baz=103
S23A Nye Farm, Mont 103.32 38 ⇓Pdiff Pdif 00 19 47.4 -0.5
baz=103
EVO Evora 103.42 323 *i* P x 00 24 03.7
M29A Burnside Ranch 103.45 33 ⇓Pdiff Pdif 00 19 48.7 +0.6
baz=103
M29A Burnside Ranch 103.45 33 ⇓Pdiff Pdif 00 19 48.7 +0.6
baz=103
Q25A Bedland, Calha 103.45 36 ⇑Pdiff Pdif 00 19 48.3 0.0
baz=103
Q25A Bedland, Calha 103.45 36 ⇑Pdiff Pdif 00 19 48.3 0.0
baz=103
R24A Sanders Place, 103.46 37 ⇓Pdiff Pdif 00 19 48.7 +0.3
baz=103
R24A Sanders Place, 103.46 37 ⇓Pdiff Pdif 00 19 48.7 +0.3
baz=103
O27A Beecher Island 103.47 35 ⇓Pdiff Pdif 00 19 48.1 -0.2
baz=103
O27A Beecher Island 103.47 35 ⇓Pdiff Pdif 00 19 48.1 -0.2
baz=103
P26A Davis Ranch, A 103.47 36 ⇓Pdiff Pdif 00 19 48.7 +0.3
baz=103
P26A Davis Ranch, A 103.47 36 ⇓Pdiff Pdif 00 19 48.7 +0.3
baz=103
SDCO Great Sand Dun 103.58 38 PFAKE 00 20 00.0 +11
SDCO LR LR
comp=Z,19µm,21.0s
N28A Pribbeno Ranch 103.59 34 ⇓Pdiff Pdif 00 19 49.2 +0.4
baz=103
N28A Pribbeno Ranch 103.59 34 ⇓Pdiff Pdif 00 19 49.2 +0.4
baz=103
ECSD EROS Data Cent 103.59 29 PFAKE 00 20 00.0 +11
ECSD LR LR
comp=Z,21µm,22.0s
W20A Ramah 103.60 42 ⇓Pdiff Pdif 00 19 48.7 -0.4
baz=103
W20A Ramah 103.60 42 ⇓Pdiff Pdif 00 19 48.7 -0.4
baz=103
V21A Milan 103.67 41 ⇑Pdiff Pdif 00 19 49.0 -0.4
baz=104
V21A Milan 103.67 41 ⇑Pdiff Pdif 00 19 49.0 -0.4
baz=104
PBEJ Beja 103.69 322 *e*Pdif Pdif 00 19 50.7 +1.6
U22A Llaves 103.74 40 ⇓Pdiff Pdif 00 19 50.7 +1.0
baz=104
U22A Llaves 103.74 40 ⇓Pdiff Pdif 00 19 50.7 +1.0
baz=104

T23A	Casias Ranch,	103.77	39	⇓Pdiff	Pdif	00 19 50.8	+0.9
	baz=104						
T23A	Casias Ranch,	103.77	39	⇓Pdiff	Pdif	00 19 50.8	+0.9
	baz=104						
M30A	Dale-Ortello V	103.78	32	⇑Pdiff	Pdif	00 19 49.3	-0.3
	baz=104						
M30A	Dale-Ortello V	103.78	32	⇑Pdiff	Pdif	00 19 49.3	-0.3
	baz=104						
PMAFR	Mafra	103.81	324	*e*PP	PP	00 24 05.6	-0.2
S24A	Houchin Ranch,	103.81	38	⇓Pdiff	Pdif	00 19 50.6	+0.4
	baz=104						
S24A	Houchin Ranch,	103.81	38	⇓Pdiff	Pdif	00 19 50.6	+0.4
	baz=104						
Q26A	Hugo	103.84	36	⇑Pdiff	Pdif	00 19 50.2	+0.2
	baz=104						
Q26A	Hugo	103.84	36	⇑Pdiff	Pdif	00 19 50.2	+0.2
	baz=104						
P27A	Ficken Ranch,	103.88	35	⇑Pdiff	Pdif	00 19 50.5	+0.4
	baz=104						
P27A	Ficken Ranch,	103.88	35	⇑Pdiff	Pdif	00 19 50.5	+0.4
	baz=104						
O28A	Krutsinger Ran	103.88	34	⇑Pdiff	Pdif	00 19 50.6	+0.6
	baz=104						
O28A	Krutsinger Ran	103.88	34	⇑Pdiff	Pdif	00 19 50.6	+0.6
	baz=104						
LIS	Lisbon	103.91	324	*e*P	Pdif	00 19 48.1	-2.0
LIS				*e*PP	PP	00 24 06.5	0.0
LIS				*e*S	SKSac	00 30 30.0	+1.0
LIS				AMS	AMS	01 04 38.5	
	comp=E,88µm,20.3s						
LIS	Lisbon	103.91	324	*e*P	Pdif	00 19 49.9	-0.2
LIS				*e*		00 24 06.5	
LIS				*e*S	SKSac	00 30 30.0	+1.0
PMST	Lisbon--Monsan	103.91	324	*e*PP	PP	00 24 06.7	+0.1
N29A	Votaw Ranch, W	103.95	33	⇓Pdiff	Pdif	00 19 50.4	0.0
	baz=104						
N29A	Votaw Ranch, W	103.95	33	⇓Pdiff	Pdif	00 19 50.4	0.0
	baz=104						
R25A	Fountain Ranch	103.98	37	⇓Pdiff	Pdif	00 19 50.7	+0.1
	baz=104						
R25A	Fountain Ranch	103.98	37	⇓Pdiff	Pdif	00 19 50.7	+0.1
	baz=104						
SPMN	St. Paul	103.98	26	*e*Pdif	Pdif	00 19 53.4	+3.1
SPMN	St. Paul	103.98	26	⇑Pdiff	Pdif	00 19 49.7	-0.6
	baz=104						
SPMN	St. Paul	103.98	26	⇑Pdiff	Pdif	00 19 49.7	-0.6
	baz=104						
TUC	Tucson	103.99	45	*e*P	Pdif	00 19 51.1	+0.4
TUC				MLR	MLR		
	comp=Z,23µm,21.0s						
TUC	Tucson	103.99	45	*e*Pdif	Pdif	00 19 51.1	+0.4
TUC				LR	LR		
	comp=Z,23µm,21.0s						
PNCL	Nicolau / Gran	104.00	323	*e*PKiKP	PKiKP	00 24 07.7	-0.2
V22A	San Miguel Ran	104.03	40	⇓Pdiff	Pdif	00 19 50.5	-0.5
	baz=104						
V22A	San Miguel Ran	104.03	40	⇓Pdiff	Pdif	00 19 50.5	-0.5
	baz=104						
PVAQ	Vaqueiros	104.05	322	A	A	01 26 42.6	
	comp=Z,0.7nm,0.3s						
PVAQ	Vaqueiros	104.05	322	*e*PP	PP	00 24 09.7	+2.1
PVAQ	Vaqueiros	104.05	322	*i* P	x	00 52 02.3	
PVAQ				*e*LR	LR	00 58 22.9	
	comp=Z,25µm,22.0s						
W21A	San Fidel	104.12	41	⇑Pdiff	Pdif	00 19 51.0	-0.4
	baz=104						
W21A	San Fidel	104.12	41	⇑Pdiff	Pdif	00 19 51.0	-0.4
	baz=104						
U23A	El Rito	104.16	39	⇓Pdiff	Pdif	00 19 52.0	+0.4
	baz=104						
U23A	El Rito	104.16	39	⇓Pdiff	Pdif	00 19 52.0	+0.4
	baz=104						
SBA	Scott Base	104.23	171	PFAKE		00 20 00.0	+10
SBA				LR	LR		
	comp=Z,13µm,22.0s						
TAM	Tamanrasset	104.23	303	*e*P	Pdif	00 19 50.9	-1.1
TAM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TAM				MLR	MLR		
	comp=Z,14µm,19.0s						
TAM	Tamanrasset	104.23	303	*e*Pdif	Pdif	00 19 50.9	-1.1
	comp=Z,2.2nm,0.8s						
TAM				LR	LR		
	comp=Z,14µm,19.0s						
S25A	Robets Cordova	104.24	37	⇓Pdiff	Pdif	00 19 52.3	+0.4
	baz=104						
S25A	Robets Cordova	104.24	37	⇓Pdiff	Pdif	00 19 52.3	+0.4
	baz=104						
KSCO	Kaye Shedlock'	104.25	35	⇑Pdiff	Pdif	00 19 51.7	-0.1
	baz=104						
KSCO	Kaye Shedlock'	104.25	35	⇑Pdiff	Pdif	00 19 51.7	-0.1
	baz=104						
PBDV	Barranco-do-Ve	104.28	322	*e*PKiKP	PKiKP	00 24 09.0	+0.5
P28A	Saint Francis	104.30	35	⇓Pdiff	Pdif	00 19 52.9	+1.0
	baz=104						
P28A	Saint Francis	104.30	35	⇓Pdiff	Pdif	00 19 52.9	+1.0
	baz=104						
R26A	Arlington	104.33	36	⇑Pdiff	Pdif	00 19 52.7	+0.5
	baz=104						
R26A	Arlington	104.33	36	⇑Pdiff	Pdif	00 19 52.7	+0.5
	baz=104						
O29A	4D Ranch, Culb	104.38	34	⇑Pdiff	Pdif	00 19 52.3	0.0
	baz=104						
O29A	4D Ranch, Culb	104.38	34	⇑Pdiff	Pdif	00 19 52.3	0.0
	baz=104						
Y20A	Horse Springs,	104.48	43	⇑Pdiff	Pdif	00 19 54.1	+1.0
	baz=104						
Y20A	Horse Springs,	104.48	43	⇑Pdiff	Pdif	00 19 54.1	+1.0
	baz=104						
X21A	Alamocita Cree	104.49	42	⇓Pdiff	Pdif	00 19 52.4	-0.7
	baz=104						
X21A	Alamocita Cree	104.49	42	⇓Pdiff	Pdif	00 19 52.4	-0.7
	baz=104						
V23A	Ortiz Mt. (NFS	104.57	40	⇑Pdiff	Pdif	00 19 54.1	+0.7
	baz=104						
V23A	Ortiz Mt. (NFS	104.57	40	⇑Pdiff	Pdif	00 19 54.1	+0.7
	baz=104						
T25A	Trinidad	104.62	38	⇑Pdiff	Pdif	00 19 54.4	+0.8
	baz=104						
T25A	Trinidad	104.62	38	⇑Pdiff	Pdif	00 19 54.4	+0.8
	baz=104						
W22A	Albuquerque	104.62	41	⇑Pdiff	Pdif	00 19 53.2	-0.4
	baz=104						
W22A	Albuquerque	104.62	41	⇑Pdiff	Pdif	00 19 53.2	-0.4
	baz=104						
Q28A	Sharon Springs	104.64	35	⇓Pdiff	Pdif	00 19 54.4	+1.0
	baz=104						
Q28A	Sharon Springs	104.64	35	⇓Pdiff	Pdif	00 19 54.4	+1.0
	baz=104						
U24A	Moreno Valley	104.64	39	⇓Pdiff	Pdif	00 19 54.5	+0.7
	baz=104						
U24A	Moreno Valley	104.64	39	⇓Pdiff	Pdif	00 19 54.5	+0.7
	baz=104						
MORF	Marmelete	104.64	322	*e*P	Pdif	00 19 51.9	-1.5
MORF				*e*		00 24 11.7	
MORF				*e*S	SKSac	00 30 32.6	0.0
R27A	Eads	104.69	36	⇓Pdiff	Pdif	00 19 53.7	0.0
	baz=104						
R27A	Eads	104.69	36	⇓Pdiff	Pdif	00 19 53.7	0.0
	baz=104						
P29A	Atwood	104.70	34	⇓Pdiff	Pdif	00 19 53.7	0.0
	baz=104						
P29A	Atwood	104.70	34	⇓Pdiff	Pdif	00 19 53.7	0.0
	baz=104						
O30A	MW Ranch, Wils	104.72	33	⇑Pdiff	Pdif	00 19 53.3	-0.5
	baz=104						
O30A	MW Ranch, Wils	104.72	33	⇑Pdiff	Pdif	00 19 53.3	-0.5
	baz=104						
S26A	Kim	104.80	37	⇑Pdiff	Pdif	00 19 54.9	+0.6
	baz=105						
S26A	Kim	104.80	37	⇑Pdiff	Pdif	00 19 54.9	+0.6
	baz=105						
Y21A	Point of Rocks	104.85	42	⇓Pdiff	Pdif	00 19 54.2	-0.5
	baz=105						
Y21A	Point of Rocks	104.85	42	⇓Pdiff	Pdif	00 19 54.2	-0.5
	baz=105						
PFVI	Vila Bisbo	104.86	322	*e*PP	PP	00 24 15.4	+1.7
Z20A	Nine Sixteen R	104.88	43	⇑Pdiff	Pdif	00 19 55.5	+0.8
	baz=105						
Z20A	Nine Sixteen R	104.88	43	⇑Pdiff	Pdif	00 19 55.5	+0.8
	baz=105						
X22A	Bernardo	104.92	41	⇓Pdiff	Pdif	00 19 55.4	+0.5
	baz=105						
X22A	Bernardo	104.92	41	⇓Pdiff	Pdif	00 19 55.4	+0.5
	baz=105						
ANMO	Albuquerque	104.96	41	*e*Pdif	Pdif	00 19 57.4	+2.3
ANMO				PKKP	PKKPab	00 35 52.8	-4.8
ANMO				LR	LR		
	comp=Z,15µm,20.0s						
ANMO	Albuquerque	104.96	41	Pdiff	Pdif	00 19 58.0	+2.9
	comp=Z,1.7nm,0.9s,baz=344,slow=7.4,SNR=4.6						
ANMO				PKKP	PKKPab	00 35 52.8	-4.8
	comp=Z,2.6nm,0.9s,baz=116,slow=6.9,SNR=4.3						
W23A	Werner Place,	104.99	40	⇓Pdiff	Pdif	00 19 56.4	+1.1
	baz=105						
W23A	Werner Place,	104.99	40	⇓Pdiff	Pdif	00 19 56.4	+1.1
	baz=105						
T26A	Comanche Natio	105.05	37	⇑Pdiff	Pdif	00 19 54.3	-1.2
	baz=105						
T26A	Comanche Natio	105.05	37	⇑Pdiff	Pdif	00 19 54.3	-1.2
	baz=105						
S27A	Las Animas	105.07	37	⇓Pdiff	Pdif	00 19 55.9	+0.4
	baz=105						
S27A	Las Animas	105.07	37	⇓Pdiff	Pdif	00 19 55.9	+0.4
	baz=105						
P30A	Selden	105.10	34	⇑Pdiff	Pdif	00 19 56.5	+1.0
	baz=105						
P30A	Selden	105.10	34	⇑Pdiff	Pdif	00 19 56.5	+1.0
	baz=105						
V24A	Rampart Ranch,	105.12	39	⇑Pdiff	Pdif	00 19 56.5	+0.6
	baz=105						
V24A	Rampart Ranch,	105.12	39	⇑Pdiff	Pdif	00 19 56.5	+0.6
	baz=105						
U25A	Circle Dot Ran	105.14	38	⇓Pdiff	Pdif	00 19 56.6	+0.7
	baz=105						
U25A	Circle Dot Ran	105.14	38	⇓Pdiff	Pdif	00 19 56.6	+0.7
	baz=105						
R28A	Tribune	105.18	35	⇓Pdiff	Pdif	00 19 56.4	+0.5
	baz=105						
R28A	Tribune	105.18	35	⇓Pdiff	Pdif	00 19 56.4	+0.5
	baz=105						
Q29A	Oakley	105.21	35	⇑Pdiff	Pdif	00 19 56.5	+0.6
	baz=105						
Q29A	Oakley	105.21	35	⇑Pdiff	Pdif	00 19 56.5	+0.6
	baz=105						
Y22D	IRIS PASSCAL I	105.27	42	⇑Pdiff	Pdif	00 19 55.7	-0.8
	baz=105						
Y22D	IRIS PASSCAL I	105.27	42	⇑Pdiff	Pdif	00 19 55.7	-0.8
	baz=105						
Z21A	St. Cloud Mine	105.32	43	⇓Pdiff	Pdif	00 19 56.2	-0.6
	baz=105						
Z21A	St. Cloud Mine	105.32	43	⇓Pdiff	Pdif	00 19 56.2	-0.6
	baz=105						
Y22A	Socorro	105.34	42	⇓Pdiff	Pdif	00 19 54.4	-2.4
	baz=105						
Y22A	Socorro	105.34	42	⇓Pdiff	Pdif	00 19 54.4	-2.4
	baz=105						
X23A	Hourglass Bar	105.37	41	⇑Pdiff	Pdif	00 19 55.1	-1.9
	baz=105						
X23A	Hourglass Bar	105.37	41	⇑Pdiff	Pdif	00 19 55.1	-1.9
	baz=105						
BNM	Barren Site	105.40	41	*e*Pdif	Pdif	00 19 58.1	+1.0
	comp=Z,5.4nm,1.0s						
W24A	Lazy 6 Ranch,	105.40	40	⇓Pdiff	Pdif	00 19 54.5	-2.5
	baz=105						
W24A	Lazy 6 Ranch,	105.40	40	⇓Pdiff	Pdif	00 19 54.5	-2.5
	baz=105						
V25A	Rancho No Teng	105.42	39	⇓Pdiff	Pdif	00 19 55.9	-1.2
	baz=105						
V25A	Rancho No Teng	105.42	39	⇓Pdiff	Pdif	00 19 55.9	-1.2
	baz=105						
R29A	Marienthal	105.47	35	⇓Pdiff	Pdif	00 19 56.2	-1.0
	baz=105						
R29A	Marienthal	105.47	35	⇓Pdiff	Pdif	00 19 56.2	-1.0
	baz=105						
U26A	Atchley Ranch,	105.53	38	⇑Pdiff	Pdif	00 19 56.9	-0.7
	baz=105						
U26A	Atchley Ranch,	105.53	38	⇑Pdiff	Pdif	00 19 56.9	-0.7
	baz=105						
Q30A	Quinter	105.54	34	⇓Pdiff	Pdif	00 19 56.9	-0.6
	baz=105						
Q30A	Quinter	105.54	34	⇓Pdiff	Pdif	00 19 56.9	-0.6
	baz=105						
P31A	Stockton	105.56	33	⇑Pdiff	Pdif	00 19 56.7	-0.8
	baz=105						
P31A	Stockton	105.56	33	⇑Pdiff	Pdif	00 19 56.7	-0.8
	baz=105						
319A	Douglas	105.57	45	⇑Pdiff	Pdif	00 19 57.0	-0.8
	baz=105						
319A	Douglas	105.57	45	⇑Pdiff	Pdif	00 19 57.0	-0.8
	baz=105						
T27A	Campo	105.62	37	⇑Pdiff	Pdif	00 19 56.7	-1.3
	baz=105						
T27A	Campo	105.62	37	⇑Pdiff	Pdif	00 19 56.7	-1.3
	baz=105						
S28A	Manter	105.68	36	⇓Pdiff	Pdif	00 19 57.0	-1.2
	baz=106						
S28A	Manter	105.68	36	⇓Pdiff	Pdif	00 19 57.0	-1.2
	baz=106						
220A	Playas Peak, P	105.71	44	⇓Pdiff	Pdif	00 19 57.5	-1.0
	baz=106						
220A	Playas Peak, P	105.71	44	⇓Pdiff	Pdif	00 19 57.5	-1.0
	baz=106						
121A	Cookes Peak, D	105.77	43	⇓Pdiff	Pdif	00 19 57.6	-1.2
	baz=106						
121A	Cookes Peak, D	105.77	43	⇓Pdiff	Pdif	00 19 57.6	-1.2
	baz=106						
Z22A	Elephant Butte	105.80	42	Pdiff	Pdif	00 19 57.6	-1.2
	baz=106						
Z22A	Elephant Butte	105.80	42	Pdiff	Pdif	00 19 57.6	-1.2
	baz=106						
X24A	Lazy VL Ranch,	105.83	40	Pdiff	Pdif	00 19 58.1	-0.9
	baz=106						
X24A	Lazy VL Ranch,	105.83	40	Pdiff	Pdif	00 19 58.1	-0.9
	baz=106						
Y23A	Lovelace Mesa,	105.89	41	Pdiff	Pdif	00 19 58.3	-1.0
	baz=106						
Y23A	Lovelace Mesa,	105.89	41	Pdiff	Pdif	00 19 58.3	-1.0
	baz=106						
T28A	Walsh	105.91	37	⇑Pdiff	Pdif	00 19 58.2	-1.0
	baz=106						
T28A	Walsh	105.91	37	⇑Pdiff	Pdif	00 19 58.2	-1.0
	baz=106						
RTC	Rabat Centre	105.91	319	PFAKE		00 24 20.0	
RTC				LR	LR		
	comp=Z,16µm,21.0s						
V26A	Tequesquite Ra	105.93	38	⇓Pdiff	Pdif	00 19 58.0	-1.3
	baz=106						
V26A	Tequesquite Ra	105.93	38	⇓Pdiff	Pdif	00 19 58.0	-1.3
	baz=106						
Q31A	Ellis	105.94	34	⇑Pdiff	Pdif	00 19 58.0	-1.2
	baz=106						
Q31A	Ellis	105.94	34	⇑Pdiff	Pdif	00 19 58.0	-1.2
	baz=106						
W25A	X Bar L Ranch,	105.95	39	⇓Pdiff	Pdif	00 19 58.4	-1.0
	baz=106						
W25A	X Bar L Ranch,	105.95	39	⇓Pdiff	Pdif	00 19 58.4	-1.0
	baz=106						
U27A	Thompson Grove	106.02	37	⇑Pdiff	Pdif	00 19 59.1	-0.6
	baz=106						
U27A	Thompson Grove	106.02	37	⇑Pdiff	Pdif	00 19 59.1	-0.6
	baz=106						
R30A	Dighton	106.03	35	⇑Pdiff	Pdif	00 19 58.9	-0.7
	baz=106						
R30A	Dighton	106.03	35	⇑Pdiff	Pdif	00 19 58.9	-0.7
	baz=106						
S29A	Ulysses	106.08	36	⇑Pdiff	Pdif	00 19 59.2	-0.7
	baz=106						
S29A	Ulysses	106.08	36	⇑Pdiff	Pdif	00 19 59.2	-0.7
	baz=106						
320A	Kipp Ranch, An	106.08	45	⇑Pdiff	Pdif	00 19 59.3	-0.8
	baz=106						
320A	Kipp Ranch, An	106.08	45	⇑Pdiff	Pdif	00 19 59.3	-0.8
	baz=106						
221A	Mesquite Ranch	106.12	44	⇑Pdiff	Pdif	00 20 00.2	-0.1
	baz=106						
221A	Mesquite Ranch	106.12	44	⇑Pdiff	Pdif	00 20 00.2	-0.1
	baz=106						
122A	Conniff Cattle	106.15	43	Pdiff	Pdif	00 19 59.3	-1.1
	baz=106						
122A	Conniff Cattle	106.15	43	Pdiff	Pdif	00 19 59.3	-1.1
	baz=106						
Z23A	Rita Site, Whi	106.24	42	Pdiff	Pdif	00 19 59.4	-1.3
	baz=106						
Z23A	Rita Site, Whi	106.24	42	Pdiff	Pdif	00 19 59.4	-1.3
	baz=106						
Y24A	Capitan	106.27	41	Pdiff	Pdif	00 19 60.0	-1.0
	baz=106						
Y24A	Capitan	106.27	41	Pdiff	Pdif	00 19 60.0	-1.0
	baz=106						
X25A	Clemmons Ranch	106.31	40	Pdiff	Pdif	00 20 00.0	-1.1
	baz=106						
X25A	Clemmons Ranch	106.31	40	Pdiff	Pdif	00 20 00.0	-1.1
	baz=106						
T29A	Hugoton	106.33	36	⇓Pdiff	Pdif	00 20 00.3	-0.7
	baz=106						
T29A	Hugoton	106.33	36	⇓Pdiff	Pdif	00 20 00.3	-0.7
	baz=106						
U28A	Mallet	106.39	37	⇑Pdiff	Pdif	00 20 00.4	-0.9
	baz=106						
U28A	Mallet	106.39	37	⇑Pdiff	Pdif	00 20 00.4	-0.9
	baz=106						
S30A	Montezuma	106.41	35	⇑Pdiff	Pdif	00 20 01.0	-0.3
	baz=106						
S30A	Montezuma	106.41	35	⇑Pdiff	Pdif	00 20 01.0	-0.3
	baz=106						
R31A	Burdett	106.41	34	⇑Pdiff	Pdif	00 20 00.4	-0.9
	baz=106						
R31A	Burdett	106.41	34	⇑Pdiff	Pdif	00 20 00.4	-0.9
	baz=106						
W26A	Owens Ranch, T	106.44	39	Pdiff	Pdif	00 20 00.3	-1.4
	baz=106						
W26A	Owens Ranch, T	106.44	39	Pdiff	Pdif	00 20 00.3	-1.4
	baz=106						
222A	Williams Famil	106.48	43	Pdiff	Pdif	00 20 00.9	-1.0
	baz=106						
222A	Williams Famil	106.48	43	Pdiff	Pdif	00 20 00.9	-1.0
	baz=106						
V27A	Dan Oppiter Fa	106.49	38	⇓Pdiff	Pdif	00 20 01.4	-0.5
	baz=106						
V27A	Dan Oppiter Fa	106.49	38	⇓Pdiff	Pdif	00 20 01.4	-0.5
	baz=106						
123A	Bell Site, Whi	106.65	42	Pdiff	Pdif	00 20 00.7	-1.9
	baz=106						
123A	Bell Site, Whi	106.65	42	Pdiff	Pdif	00 20 00.7	-1.9
	baz=106						
Z24A	Sheeppen Canyo	106.72	41	Pdiff	Pdif	00 20 00.8	-2.2
	baz=107						
Z24A	Sheeppen Canyo	106.72	41	Pdiff	Pdif	00 20 00.8	-2.2
	baz=107						
X26A	CR and CF Fran	106.80	39	Pdiff	Pdif	00 20 00.9	-2.3
	baz=107						
X26A	CR and CF Fran	106.80	39	Pdiff	Pdif	00 20 00.9	-2.3
	baz=107						
T30A	Plains	106.81	36	⇓Pdiff	Pdif	00 20 03.3	+0.2
	baz=107						
T30A	Plains	106.81	36	⇓Pdiff	Pdif	00 20 03.3	+0.2
	baz=107						
V28A	Channing	106.84	38	⇓Pdiff	Pdif	00 20 02.2	-1.2
	baz=107						
V28A	Channing	106.84	38	⇓Pdiff	Pdif	00 20 02.2	-1.2
	baz=107						
U29A	Oasis Ranch, S	106.86	36	⇓Pdiff	Pdif	00 20 03.4	0.0
	baz=107						
U29A	Oasis Ranch, S	106.86	36	⇓Pdiff	Pdif	00 20 03.4	0.0
	baz=107						
W27A	Bowe Ranch, En	106.86	39	⇓Pdiff	Pdif	00 20 02.8	-0.6
	baz=107						
W27A	Bowe Ranch, En	106.86	39	⇓Pdiff	Pdif	00 20 02.8	-0.6
	baz=107						
JFWS	Jewell Farm	106.92	25	PFAKE		00 24 30.0	
JFWS				LR	LR		
	comp=Z,21µm,20.0s						
S31A	Mullinville	106.94	35	⇓Pdiff	Pdif	00 20 02.8	-0.9
	baz=107						
S31A	Mullinville	106.94	35	⇓Pdiff	Pdif	00 20 02.8	-0.9
	baz=107						
223A	Chaparral, Ant	106.97	43	⇑Pdiff	Pdif	00 20 03.5	-0.6
	baz=107						
223A	Chaparral, Ant	106.97	43	⇑Pdiff	Pdif	00 20 03.5	-0.6
	baz=107						
124A	Stringfield Ra	107.10	42	Pdiff	Pdif	00 20 02.0	-2.7
	baz=107						
124A	Stringfield Ra	107.10	42	Pdiff	Pdif	00 20 02.0	-2.7
	baz=107						
U30A	WK&E Inc. Balk	107.14	36	⇑Pdiff	Pdif	00 20 03.3	-1.3
	baz=107						
U30A	WK&E Inc. Balk	107.14	36	⇑Pdiff	Pdif	00 20 03.3	-1.3
	baz=107						
X27A	F and S Farms,	107.14	39	⇑Pdiff	Pdif	00 20 03.5	-1.2
	baz=107						
X27A	F and S Farms,	107.14	39	⇑Pdiff	Pdif	00 20 03.5	-1.2
	baz=107						
V29A	Stinnett	107.14	37	⇓Pdiff	Pdif	00 20 03.9	-0.7
	baz=107						
V29A	Stinnett	107.14	37	⇓Pdiff	Pdif	00 20 03.9	-0.7
	baz=107						
Z25A	Roswell	107.15	41	Pdiff	Pdif	00 20 02.6	-2.2
	baz=107						
Z25A	Roswell	107.15	41	Pdiff	Pdif	00 20 02.6	-2.2
	baz=107						
W28A	Vega	107.21	38	⇓Pdiff	Pdif	00 20 03.9	-1.1
	baz=107						
W28A	Vega	107.21	38	⇓Pdiff	Pdif	00 20 03.9	-1.1
	baz=107						
Y26A	Elida	107.23	40	Pdiff	Pdif	00 20 03.7	-1.4
	baz=107						
Y26A	Elida	107.23	40	Pdiff	Pdif	00 20 03.7	-1.4
	baz=107						
T31A	Randall Ranch,	107.23	35	⇓Pdiff	Pdif	00 20 04.1	-0.9
	baz=107						
T31A	Randall Ranch,	107.23	35	⇓Pdiff	Pdif	00 20 04.1	-0.9
	baz=107						
KSU1	Kansas State U	107.24	32	PFAKE		00 24 30.0	
KSU1				LR	LR		
	comp=Z,20µm,20.0s						
224A	Cornudas Mount	107.49	42	Pdiff	Pdif	00 20 03.7	-2.6
	baz=107						
224A	Cornudas Mount	107.49	42	Pdiff	Pdif	00 20 03.7	-2.6
	baz=107						
Z26A	Caprock	107.60	40	Pdiff	Pdif	00 20 05.4	-1.3
	baz=107						
Z26A	Caprock	107.60	40	Pdiff	Pdif	00 20 05.4	-1.3
	baz=107						
125A	Gardner Draw,	107.62	41	Pdiff	Pdif	00 20 05.0	-1.9
	baz=107						
125A	Gardner Draw,	107.62	41	Pdiff	Pdif	00 20 05.0	-1.9
	baz=107						
W29A	Amraillo	107.62	38	⇓Pdiff	Pdif	00 20 05.4	-1.4
	baz=107						
W29A	Amraillo	107.62	38	⇓Pdiff	Pdif	00 20 05.4	-1.4
	baz=107						
Y27A	Causey	107.64	39	Pdiff	Pdif	00 20 05.0	-2.0
	baz=108						
Y27A	Causey	107.64	39	Pdiff	Pdif	00 20 05.0	-2.0
	baz=108						
V30A	Spur Ranch, Mi	107.68	37	⇓Pdiff	Pdif	00 20 05.9	-1.2
	baz=108						
V30A	Spur Ranch, Mi	107.68	37	⇓Pdiff	Pdif

baz=108
X29A Tulia 108.08 38 ⇓Pdiff **Pdif 00 20 08.2 -0.7**
X29A Tulia 108.08 38 ⇓Pdiff **Pdif 00 20 08.2 -0.7**
baz=108
V31A Spring Creek L 108.14 36 ⇑Pdiff **Pdif 00 20 07.9 -1.1**
baz=108
V31A Spring Creek L 108.14 36 ⇑Pdiff **Pdif 00 20 07.9 -1.1**
baz=108
Y28A McKinney Farm, 108.16 39 ⇓Pdiff **Pdif 00 20 08.2 -1.1**
baz=108
Y28A McKinney Farm, 108.16 39 ⇓Pdiff **Pdif 00 20 08.2 -1.1**
baz=108
W30A Crocket Farms 108.17 37 Pdiff **Pdif 00 20 07.0 -2.3**
baz=108
W30A Crocket Farms 108.17 37 Pdiff **Pdif 00 20 07.0 -2.3**
baz=108
325A Bean Ranch, Si 108.31 42 ⇑Pdiff **Pdif 00 20 08.5 -1.6**
baz=108
325A Bean Ranch, Si 108.31 42 ⇑Pdiff **Pdif 00 20 08.5 -1.6**
baz=108
226B Tecolote Peak, 108.32 41 Pdiff **Pdif 00 20 08.8 -1.2**
baz=108
226B Tecolote Peak, 108.32 41 Pdiff **Pdif 00 20 08.8 -1.2**
baz=108
127A Arkansas Junct 108.39 40 Pdiff **Pdif 00 20 09.9 -0.4**
baz=108
127A Arkansas Junct 108.39 40 Pdiff **Pdif 00 20 09.9 -0.4**
baz=108
W31A Holland Ranch, 108.52 37 Pdiff **Pdif 00 20 10.1 -0.6**
baz=108
W31A Holland Ranch, 108.52 37 Pdiff **Pdif 00 20 10.1 -0.6**
baz=108
Z28A Tucker Farm, M 108.52 39 Pdiff **Pdif 00 20 10.2 -0.7**
baz=108
Z28A Tucker Farm, M 108.52 39 Pdiff **Pdif 00 20 10.2 -0.7**
baz=108
Y29A Porterfield Fa 108.52 39 Pdiff **Pdif 00 20 09.7 -1.2**
baz=108
Y29A Porterfield Fa 108.52 39 Pdiff **Pdif 00 20 09.7 -1.2**
baz=108
X30A Coker Ranch, T 108.55 38 ⇑Pdiff **Pdif 00 20 10.7 -0.2**
baz=108
X30A Coker Ranch, T 108.55 38 ⇑Pdiff **Pdif 00 20 10.7 -0.2**
baz=108
425A Indio Mountain 108.70 43 ⇑Pdiff **Pdif 00 20 10.4 -1.4**
baz=108
425A Indio Mountain 108.70 43 ⇑Pdiff **Pdif 00 20 10.4 -1.4**
baz=108
RKT Rikitea 108.81 108 *e*PP PP 00 24 32.1 -12
comp=Z,951nm,28.2s
RKT *e*SKSac **SKSac 00 30 47.6 -3.4**
comp=Z,4μm,37.2s
RKT *e*SP **SP 00 34 02.4 -4.8**
comp=Z,12μm,37.0s
RKT *e*SS **SS 00 40 01.3 -0.1**
comp=Z,11μm,33.5s
RKT Rikitea 108.81 108 *e*LQ LQ 00 51 27.8
comp=Z,27μm,34.8s
RKT *e*LR LR 00 56 05.6
comp=Z,35μm,25.0s,baz=293
227A Bennet, Jal 108.89 41 ⇑Pdiff **Pdif 00 20 11.9 -0.6**
baz=109
227A Bennet, Jal 108.89 41 ⇑Pdiff **Pdif 00 20 11.9 -0.6**
baz=109
X31A McDonald Ranch 108.91 37 ⇑Pdiff **Pdif 00 20 12.4 -0.1**
baz=109
X31A McDonald Ranch 108.91 37 ⇑Pdiff **Pdif 00 20 12.4 -0.1**
baz=109
Z29A Hungry Hill Ra 108.94 39 ⇑Pdiff **Pdif 00 20 13.0 +0.3**
baz=109
Z29A Hungry Hill Ra 108.94 39 ⇑Pdiff **Pdif 00 20 13.0 +0.3**
baz=109
128A Castleberry Fa 108.94 40 ⇓Pdiff **Pdif 00 20 13.5 +0.7**
baz=109
128A Castleberry Fa 108.94 40 ⇓Pdiff **Pdif 00 20 13.5 +0.7**
baz=109
SADO Sadowa 108.95 17 PP PP 00 24 41.2 -1.9
SADO PKKP **PKKPdf 00 35 35.3 -3.9**
SADO Sadowa 108.95 17 PP PP 00 24 41.2 -1.9
comp=Z,10nm,0.9s,baz=24,slow=4.8,SNR=4.9
SADO PKKP **PKKPdf 00 35 35.3 -3.9**
comp=Z,5.6nm,0.6s,baz=137,slow=3.1,SNR=3.1
Y30A Stafford Cattl 108.95 38 ⇓Pdiff **Pdif 00 20 13.0 +0.2**
baz=109
Y30A Stafford Cattl 108.95 38 ⇓Pdiff **Pdif 00 20 13.0 +0.2**
baz=109
MSKU Masuku 108.96 277 PFAKE 00 24 30.0
MSKU LR LR
comp=Z,2.0nm,20.0s
326A Caldwell Ranch 108.96 42 ⇓Pdiff **Pdif 00 20 11.0 -1.8**
baz=109
326A Caldwell Ranch 108.96 42 ⇓Pdiff **Pdif 00 20 11.0 -1.8**
baz=109
327A Balmorhea Ranc 109.22 42 ⇓Pdiff **Pdif 00 20 12.0 -2.0**
baz=109
327A Balmorhea Ranc 109.22 42 ⇓Pdiff **Pdif 00 20 12.0 -2.0**
baz=109
228A UT Block 9, Go 109.24 40 ⇑Pdiff **Pdif 00 20 13.0 -1.0**
baz=109
228A UT Block 9, Go 109.24 40 ⇑Pdiff **Pdif 00 20 13.0 -1.0**
baz=109
Y31A Rekieta Farm, 109.25 38 ⇑Pdiff **Pdif 00 20 13.0 -1.0**
baz=109
Y31A Rekieta Farm, 109.25 38 ⇑Pdiff **Pdif 00 20 13.0 -1.0**
baz=109
Z30A Sanderson Ranc 109.25 39 ⇓Pdiff **Pdif 00 20 14.0 0.0**
baz=109
Z30A Sanderson Ranc 109.25 39 ⇓Pdiff **Pdif 00 20 14.0 0.0**
baz=109
129A Stewart Farms, 109.30 40 ⇓Pdiff **Pdif 00 20 14.1 -0.2**
baz=109
129A Stewart Farms, 109.30 40 ⇓Pdiff **Pdif 00 20 14.1 -0.2**
baz=109
HDIL Hopedale 109.30 26 PFAKE 00 24 30.0
HDIL LR LR
comp=Z,28μm,22.0s
426A McDonald Obser 109.38 42 ⇑Pdiff **Pdif 00 20 14.3 -0.6**
baz=109
426A McDonald Obser 109.38 42 ⇑Pdiff **Pdif 00 20 14.3 -0.6**
baz=109
WMOK Wichita Mounta 109.48 36 PFAKE 00 24 30.0
WMOK LR LR
comp=Z,14μm,20.0s
328A Wristen Ranch, 109.63 41 ⇓Pdiff **Pdif 00 20 14.4 -1.4**
baz=110
328A Wristen Ranch, 109.63 41 ⇓Pdiff **Pdif 00 20 14.4 -1.4**
baz=110
427A Hayter Ranch, 109.64 42 ⇑Pdiff **Pdif 00 20 14.8 -1.1**
baz=110
427A Hayter Ranch, 109.64 42 ⇑Pdiff **Pdif 00 20 14.8 -1.1**
baz=110
Y32A R-V Farms, Ver 109.67 37 ⇓Pdiff **Pdif 00 20 14.8 -1.0**
baz=110
Y32A R-V Farms, Ver 109.67 37 ⇓Pdiff **Pdif 00 20 14.8 -1.0**
baz=110
526A Mary Lane Ranc 109.76 43 ⇑Pdiff **Pdif 00 20 15.5 -1.0**
baz=110
526A Mary Lane Ranc 109.76 43 ⇑Pdiff **Pdif 00 20 15.5 -1.0**
baz=110
Z31A Sharp Cattle R 109.79 38 ⇓Pdiff **Pdif 00 20 16.1 -0.4**
baz=110
Z31A Sharp Cattle R 109.79 38 ⇓Pdiff **Pdif 00 20 16.1 -0.4**
baz=110
229A Bryant Ranch, 109.81 40 ⇑Pdiff **Pdif 00 20 14.9 -1.6**
baz=110
229A Bryant Ranch, 109.81 40 ⇑Pdiff **Pdif 00 20 14.9 -1.6**
baz=110
130A Snyder 109.85 39 ⇑Pdiff **Pdif 00 20 16.2 -0.5**
baz=110
130A Snyder 109.85 39 ⇑Pdiff **Pdif 00 20 16.2 -0.5**
baz=110
527A Woodward Ranch 110.00 43 ⇑Pdiff **Pdif 00 20 15.5 -2.1**
baz=110
527A Woodward Ranch 110.00 43 ⇑Pdiff **Pdif 00 20 15.5 -2.1**
baz=110
329A Wagon Wheel Ra 110.05 41 ⇓Pdiff **Pdif 00 20 16.6 -1.1**
baz=110
329A Wagon Wheel Ra 110.05 41 ⇓Pdiff **Pdif 00 20 16.6 -1.1**
baz=110
626A Big Bend Ranch 110.08 43 ⇑Pdiff **Pdif 00 20 16.7 -1.2**
baz=110
626A Big Bend Ranch 110.08 43 ⇑Pdiff **Pdif 00 20 16.7 -1.2**
baz=110
131A Roby 110.12 39 ⇓Pdiff **Pdif 00 20 17.7 -0.2**
baz=110
131A Roby 110.12 39 ⇓Pdiff **Pdif 00 20 17.7 -0.2**
baz=110

TUL1 Tulsa 110.14 33 ⇑Pdiff **Pdif 00 20 17.2 -0.7**
baz=110
TUL1 Tulsa 110.14 33 ⇑Pdiff **Pdif 00 20 17.2 -0.7**
baz=110
428A Kincaid Ranch, 110.17 42 ⇓Pdiff **Pdif 00 20 17.8 -0.4**
baz=110
428A Kincaid Ranch, 110.17 42 ⇓Pdiff **Pdif 00 20 17.8 -0.4**
baz=110
Z32A Haskell 110.17 38 ⇑Pdiff **Pdif 00 20 17.3 -0.8**
baz=110
Z32A Haskell 110.17 38 ⇑Pdiff **Pdif 00 20 17.3 -0.8**
baz=110
LONY Lake Ozonia 110.20 14 PFAKE 00 24 30.0
LONY LR LR
comp=Z,28μm,20.0s
230A Sterling City 110.28 40 ⇓Pdiff **Pdif 00 20 18.0 -0.7**
baz=110
230A Sterling City 110.28 40 ⇓Pdiff **Pdif 00 20 18.0 -0.7**
baz=110
SFIN Scholer Farm 110.31 25 ⇓Pdiff **Pdif 00 20 16.7 -1.8**
baz=110
SFIN Scholer Farm 110.31 25 ⇓Pdiff **Pdif 00 20 16.7 -1.8**
baz=110
528A Cox Ranch, San 110.50 42 ⇑Pdiff **Pdif 00 20 18.9 -0.8**
baz=110
528A Cox Ranch, San 110.50 42 ⇑Pdiff **Pdif 00 20 18.9 -0.8**
baz=110
TXAR Lajitas Array 110.53 43 Pdif **Pdif 00 20 24.1 +4.2**
TXAR PKKP **PKKPab 00 35 29.1 -3.4**
TXAR Lajitas Array 110.53 43 Pdiff **Pdif 00 20 24.1 +4.2**
comp=Z,1.9nm,0.9s,baz=298,slow=1.9,SNR=8.7
TXAR PKKP **PKKPab 00 35 29.1 -3.4**
comp=Z,2.2nm,0.7s,baz=20,slow=2.9,SNR=7.3
PKME Peaks-Kenny Pk 110.56 10 PFAKE 00 24 30.0
PKME LR LR
comp=Z,42μm,22.0s
ABTX Abilene, Hawle 110.58 38 ⇑Pdiff **Pdif 00 20 19.1 -0.9**
baz=110
ABTX Abilene, Hawle 110.58 38 ⇑Pdiff **Pdif 00 20 19.1 -0.9**
baz=110
330A Mertzon 110.59 40 ⇓Pdiff **Pdif 00 20 19.6 -0.5**
baz=110
330A Mertzon 110.59 40 ⇓Pdiff **Pdif 00 20 19.6 -0.5**
baz=110
627A Terlingua Ranc 110.62 43 ⇑Pdiff **Pdif 00 20 18.6 -1.7**
baz=110
627A Terlingua Ranc 110.62 43 ⇑Pdiff **Pdif 00 20 18.6 -1.7**
baz=110
231A Bronte 110.70 39 ⇑Pdiff **Pdif 00 20 20.3 -0.2**
baz=110
231A Bronte 110.70 39 ⇑Pdiff **Pdif 00 20 20.3 -0.2**
baz=110
429A Davenport Ranc 110.72 41 ⇓Pdiff **Pdif 00 20 20.8 +0.2**
baz=111
429A Davenport Ranc 110.72 41 ⇓Pdiff **Pdif 00 20 20.8 +0.2**
baz=111
529A Stev Forest Ra 110.87 42 ⇑Pdiff **Pdif 00 20 19.6 -1.7**
baz=111
529A Stev Forest Ra 110.87 42 ⇑Pdiff **Pdif 00 20 19.6 -1.7**
baz=111
NCB Newcomb 110.89 14 PFAKE 00 24 30.0
NCB LR LR
comp=Z,24μm,20.0s
628A Black Gap, Mar 110.91 43 ⇓Pdiff **Pdif 00 20 21.2 -0.3**
baz=111
628A Black Gap, Mar 110.91 43 ⇓Pdiff **Pdif 00 20 21.2 -0.3**
baz=111
430A Baggett Ranch, 111.00 41 ⇓Pdiff **Pdif 00 20 21.9 0.0**
baz=111
430A Baggett Ranch, 111.00 41 ⇓Pdiff **Pdif 00 20 21.9 0.0**
baz=111
331A San Angelo 111.10 40 ⇑Pdiff **Pdif 00 20 22.1 -0.2**
baz=111
331A San Angelo 111.10 40 ⇑Pdiff **Pdif 00 20 22.1 -0.2**
baz=111
LBNH Lisbon 111.10 12 PFAKE 00 24 30.0
LBNH LR LR
comp=Z,48μm,20.0s
232A Coleman 111.12 39 ⇓Pdiff **Pdif 00 20 21.7 -0.7**
baz=111
232A Coleman 111.12 39 ⇓Pdiff **Pdif 00 20 21.7 -0.7**
baz=111
530A J-C Ranch, Com 111.39 41 ⇓Pdiff **Pdif 00 20 22.6 -1.0**
baz=111
530A J-C Ranch, Com 111.39 41 ⇓Pdiff **Pdif 00 20 22.6 -1.0**
baz=111
332A Millersview 111.44 39 ⇓Pdiff **Pdif 00 20 23.7 -0.1**
baz=111
332A Millersview 111.44 39 ⇓Pdiff **Pdif 00 20 23.7 -0.1**
baz=111
431A Sonora 111.44 40 ⇑Pdiff **Pdif 00 20 24.2 +0.4**
baz=111
431A Sonora 111.44 40 ⇑Pdiff **Pdif 00 20 24.2 +0.4**
baz=111
TSUM Tsumeb 111.65 258 PFAKE 00 24 30.0
TSUM LR LR
comp=Z,14μm,19.0s
TSUM Tsumeb 111.65 258 PKKP **PKKPab 00 35 28.6 +3.6**
comp=Z,3.3nm,0.8s,baz=203,slow=1.9,SNR=4.3
432A Menard 111.78 39 ⇓Pdiff **Pdif 00 20 24.9 -0.5**
baz=112
432A Menard 111.78 39 ⇓Pdiff **Pdif 00 20 24.9 -0.5**
baz=112
531A Rocksprings 111.86 41 ⇓Pdiff **Pdif 00 20 25.5 -0.2**
baz=112
531A Rocksprings 111.86 41 ⇓Pdiff **Pdif 00 20 25.5 -0.2**
baz=112
JCT Junction City 112.07 40 PFAKE 00 24 40.0
JCT LR LR
comp=Z,15μm,19.0s
JCT Junction City 112.07 40 ⇓Pdiff **Pdif 00 20 25.9 -0.7**
baz=112
JCT Junction City 112.07 40 ⇓Pdiff **Pdif 00 20 25.9 -0.7**
baz=112
BINY Binghamton 112.16 16 PFAKE 00 24 30.0
BINY LR LR
comp=Z,25μm,22.0s
532A Rocksprings 112.26 40 ⇓Pdiff **Pdif 00 20 26.3 -1.2**
baz=112
532A Rocksprings 112.26 40 ⇓Pdiff **Pdif 00 20 26.3 -1.2**
baz=112
WHTX Lake Whitney 112.28 37 ⇓Pdiff **Pdif 00 20 25.8 -1.7**
baz=112
WHTX Lake Whitney 112.28 37 ⇓Pdiff **Pdif 00 20 25.8 -1.7**
baz=112
MIAR Mount Ida 112.33 33 PFAKE 00 24 40.0
MIAR LR LR
comp=Z,16μm,19.0s
PGRA Graciosa 112.34 336 *e*PP PP 00 25 08.1 +0.4
PGRA *e*SP SP 00 34 30.3 -8.7
PGRA Graciosa 112.34 336 *e*LQ LQ 00 51 38.9
631A Perdido Creek 112.38 41 ⇓Pdiff **Pdif 00 20 27.0 -1.0**
baz=112
631A Perdido Creek 112.38 41 ⇓Pdiff **Pdif 00 20 27.0 -1.0**
baz=112
CMLA Cha da Macela 112.49 334 *e*PP PP 00 25 10.1 +1.2
CMLA Cha da Macela 112.49 334 *e*LQ LQ 00 51 28.6
CMLA Cha da Macela 112.49 334 PFAKE 00 24 40.0
CMLA LR LR
comp=Z,22μm,20.0s
TORD Torodi Ar. Bea 112.51 296 Pdif **Pdif 00 20 31.4 +2.6**
TORD PKiKP **PKiKP 00 24 23.9 -0.4**
TORD PP **PP 00 25 08.9 -1.5**
TORD PKKPbc **PKKPbc 00 35 13.3 +0.4**
TORD PKKPab **PKKPab 00 35 21.6 -1.4**
TORD Torodi Ar. Bea 112.51 296 Pdiff **Pdif 00 20 31.4 +2.6**
comp=Z,1.4nm,0.9s,baz=56,slow=5.0,SNR=5.6
TORD PKiKP **PKiKP 00 24 23.9 -0.4**
comp=Z,4.4nm,0.7s,baz=64,slow=1.9,SNR=20
TORD PP **PP 00 25 08.9 -1.5**
comp=Z,5.5nm,0.8s,baz=48,slow=3.7,SNR=4.1
TORD PKKPbc **PKKPbc 00 35 13.3 +0.4**
comp=Z,1.8nm,0.9s,baz=232,slow=2.2,SNR=7.3
TORD PKKPab **PKKPab 00 35 21.6 -1.4**
comp=Z,8.2nm,1.0s,baz=214,slow=1.5,SNR=11
PSET Sete Cidades 112.52 334 *e*PP PP 00 25 09.7 +0.6
PSET *e*SP SP 00 34 37.2 -3.6
PSET Sete Cidades 112.52 334 *e*LQ LQ 00 51 08.0
SUR Sutherland 112.53 243 PFAKE 00 24 40.0
SUR LR LR
comp=Z,16μm,20.0s
ROSA Rosais 112.71 336 *e*PP PP 00 25 11.7 +1.3
ROSA *e*SP SP 00 34 43.1 +0.7
ROSA Rosais 112.71 336 *e*LQ LQ 00 51 59.5
632A Uvalde 112.78 40 ⇓Pdiff **Pdif 00 20 28.3 -1.5**
baz=113
632A Uvalde 112.78 40 ⇓Pdiff **Pdif 00 20 28.3 -1.5**

baz=113
PSMN Pico do Norte, 112.95 333 *e*PP PP 00 25 10.4 -1.8
PSMN *e*SP SP 00 34 39.1 -5.7
PSMN Pico do Norte, 112.95 333 *e*LQ LQ 00 51 49.2
732A Laxson Ranch, 113.24 41 ⇓Pdiff **Pdif 00 20 31.1 -0.7**
baz=113
732A Laxson Ranch, 113.24 41 ⇓Pdiff **Pdif 00 20 31.1 -0.7**
baz=113
QSPA South Pole Qui 113.30 180 PKiKP **PKiKP 00 24 25.0 +0.6**
QSPA PP **PP 00 25 16.9 +1.7**
QSPA PKKPbc **PKKPbc 00 35 11.3 -0.9**
QSPA LR LR
comp=Z,25μm,20.0s
QSPA South Pole Qui 113.30 180 PKiKP **PKiKP 00 24 25.0 +0.6**
comp=Z,9.3nm,1.0s,baz=262,slow=1.3,SNR=8.3
QSPA PP **PP 00 25 16.9 +1.7**
comp=Z,76nm,1.2s,baz=332,slow=6.0,SNR=7.2
QSPA PKKPbc **PKKPbc 00 35 11.3 -0.9**
comp=Z,11nm,0.8s,baz=159,slow=2.7,SNR=7.1
OXF Oxford 114.33 30 PFAKE 00 24 40.0 +13
OXF LR LR
comp=Z,28μm,19.0s
KVTX Kingsville 115.35 41 PFAKE 00 24 40.0 +10
KVTX LR LR
comp=Z,12μm,21.0s
BLA Blacksburg 115.51 21 PFAKE 00 24 40.0 +10
BLA LR LR
comp=Z,40μm,20.0s
CBN Corbin 115.53 18 PFAKE 00 24 40.0 +10
CBN LR LR
comp=Z,38μm,20.0s
TKL Tuckaleechee C 115.70 25 PKP **PKPdf 00 24 30.7 +0.6**
TKL PP **PP 00 25 31.8 +0.1**
TKL Tuckaleechee C 115.70 25 PKP **PKPdf 00 24 30.7 +0.6**
comp=Z,7.9nm,0.8s,baz=90,slow=1.0,SNR=11
TKL PP **PP 00 25 31.8 +0.1**
comp=Z,10nm,0.8s,baz=123,slow=4.6,SNR=5.3
VBMS Vicksburg 115.71 32 PFAKE 00 24 40.0 +10
VBMS LR LR
comp=Z,26μm,19.0s
LRAL Lakeview Retre 116.66 29 PFAKE 00 24 40.0 +8.1
LRAL LR LR
comp=Z,19μm,19.0s
KMSC Kings Mountain 117.06 23 ⇑Pdiff **Pdif 00 20 43.4 -5.3**
baz=117
KMSC Kings Mountain 117.06 23 ⇑Pdiff **Pdif 00 20 43.4 -5.3**
baz=117
CNNC Cliffs of the 118.13 20 PFAKE 00 24 50.0 +15
CNNC LR LR
comp=Z,37μm,20.0s
BRAL Brewton 118.34 30 PFAKE 00 24 50.0 +15
BRAL LR LR
comp=Z,26μm,19.0s
MAIT Maitri 119.17 201 *e*P **PKPdf 00 24 32.9 -2.6**
MAIT *e* 00 24 53.7
DBIC Dimbokro 121.42 294 *e*PKPdf **PKPdf 00 24 40.9 -0.6**
DBIC PKP **PKPdf 00 24 41.9 +0.4**
DBIC PKKPbc **PKKPab 00 34 43.1 -0.6**
DBIC Dimbokro 121.42 294 PKP **PKPdf 00 24 41.9 +0.4**
comp=Z,9.8nm,0.7s,baz=29,slow=2.6,SNR=21
DBIC PKKPbc **PKKPab 00 34 43.1 -0.6**
comp=Z,5.1nm,1.0s,baz=246,slow=5.2,SNR=4.1
KIC Kosan Boka 121.48 294 *e*PKIKP **PKPdf 00 24 43.0 +1.3**
comp=Z,105nm,1.0s
TIC Toumodi 121.57 294 *e*PKIKP **PKPdf 00 24 43.1 +1.3**
comp=Z,70nm,1.0s
LIC Lamto 121.80 294 *e*PKIKP **PKPdf 00 24 41.7 -0.5**
comp=Z,46nm,0.8s
LIC *e*R
comp=Z,19μm,21.8s
LIC Lamto 121.80 294 *e*PKIKP **PKPdf 00 24 43.2 +1.0**
comp=Z,72nm,0.8s
SNAA Sanae 123.28 198 *e*P **PKPdf 00 24 44.4 +1.0**
SNAA Sanae 123.28 198 *e* **PKiKP 00 24 47.1 +3.4**
SNAA Sanae 123.28 198 *e*PKPdf **PKPdf 00 24 43.6 +0.1**
SNAA PKKPbc **PKKPbc 00 34 34.3 -1.2**
SNAA Sanae 123.28 198 PKP **PKPdf 00 24 43.6 +0.1**
comp=Z,2.7nm,0.7s,baz=192,slow=2.7,SNR=25
SNAA PKKPbc **PKKPbc 00 34 34.3 -1.2**
comp=Z,1.6nm,1.0s,baz=274,slow=4.6,SNR=5.9
BBSR BB Station 123.88 8 PFAKE 00 25 00.0 +14
BBSR LR LR
comp=Z,12μm,20.0s
VNA2 Neumayer--Watz 124.92 198 *e*P **PKPdf 00 24 47.3 +0.8**
VNA2 Neumayer--Watz 124.92 198 *e* 00 24 50.3
VNA1 Neumayer--Stat 125.32 198 *e*P **PKPdf 00 24 47.6 +0.4**
VNA1 Neumayer--Stat 125.32 198 *e* 00 24 49.6
BBTS Babate 125.60 310 PP PP 00 26 41.8 +1.6
BBTS Babate 125.60 310 PP PP 00 26 41.8 +1.6
comp=Z,42nm,0.9s,baz=258,slow=2.1,SNR=4.1
TEIG Tepich 126.57 38 PKPpre PKPpre 00 24 46.3
TEIG PKP **PKiKP 00 24 53.1 +1.4**
TEIG PP **PP 00 26 49.6 +3.3**
TEIG LR LR
comp=Z,16μm,20.0s
TEIG Tepich 126.57 38 PKhKP PKPpre 00 24 46.3
comp=Z,12nm,1.0s,baz=12,slow=1.2,SNR=3.1
TEIG PKP **PKiKP 00 24 53.1 +1.4**
comp=Z,17nm,1.0s,baz=319,slow=7.7,SNR=4.2
TEIG PP **PP 00 26 49.6 +3.3**
comp=Z,10nm,0.8s,baz=192,slow=4.5,SNR=3.6
SACV Santiago Islan 130.09 317 PFAKE 00 25 10.0 +12
SACV LR LR
comp=Z,21μm,21.0s
SHEL Horse Pasture 131.92 269 PFAKE 00 25 10.0 +8.5
SHEL LR LR
comp=Z,10μm,20.0s
LMGC Las Mercedes 132.26 27 *e* PKPdf 00 25 18.7 +17
RPN Rapa Nui 132.31 106 PFAKE 00 25 10.0 +8.1
RPN LR LR
comp=Z,7μm,20.0s
RCC Rio Carpintero 132.85 25 *e* **PKPdf 00 25 02.1 -1.1**
GRTK Grand Turk 133.01 19 PFAKE 00 25 20.0 +17
GRTK LR LR
comp=Z,17μm,21.0s
GTBY Guantanamo Bay 133.13 24 PFAKE 00 25 20.0 +16
GTBY LR LR
comp=Z,17μm,20.0s
SDDR Presa de Saban 135.34 20 PFAKE 00 25 20.0 +12
SDDR LR LR
comp=Z,33μm,22.0s
JTS JuntasAbangare 136.32 43 PKP **PKPdf 00 25 12.0 +2.1**
JTS JuntasAbangare 136.32 43 PKP **PKPdf 00 25 12.0 +2.1**
comp=Z,15nm,0.9s,baz=270,slow=7.4,SNR=5.8
ASCN Ascension 136.85 284 PFAKE 00 25 20.0 +9.2
ASCN LR LR
comp=Z,3μm,20.0s
LRS Lares 137.22 15 *e*PKPdf **PKPdf 00 25 07.8 -3.6**
CELP Cerrillos 137.50 14 *e*PKPdf **PKPdf 00 25 11.2 -0.7**
STVI Saint Thomas 137.57 12 *e*PKPdf **PKPdf 00 25 11.4 -0.6**
PMSA Palmer Station 138.44 175 PKP **PKPdf 00 25 13.4 +1.3**
PMSA *e*PKPdf **PKiKP 00 25 13.6 -0.6**
PMSA LR LR
comp=Z,8μm,20.0s
PMSA Palmer Station 138.44 175 PKP **PKPdf 00 25 13.4 +1.3**
comp=Z,12nm,1.1s,baz=167,slow=4.5,SNR=5.0
ANWB Willy Bob 138.74 8 PFAKE 00 25 30.0 +16
ANWB LR LR
comp=Z,10μm,21.0s
SKI Saint Kitts 138.94 9 *e* PP 00 27 51.3 -14
TRIS Tristan da Cun 139.94 240 PFAKE 00 25 30.0 +14
TRIS LR LR
comp=Z,8μm,20.0s
BCIP Isla Barro Col 140.26 38 PFAKE 00 25 30.0 +13
BCIP LR LR
comp=Z,17μm,19.0s
FDF Fort de France 141.71 7 *e*PKIKP **PKPdf 00 25 17.3 -2.4**
FDF MLR MLR
comp=Z,14μm,21.0s
FDF Fort de France 141.71 7 *e*PKPdf **PKPdf 00 25 17.3 -2.4**
FDF LR LR
comp=Z,14μm,21.0s
MCLT Moule a Chique 142.75 7 *e* PP 00 28 33.6 +5.5
SVB Belmont 143.14 8 *e* PKPbc 00 25 20.4 +1.4
BBGH Gun Hill 143.44 5 PFAKE 00 25 30.0 +7.3
BBGH LR LR
comp=Z,23μm,21.0s
GRW Mount Saint Ca 144.18 9 *e* PKPbc 00 25 22.7 +0.5
GRGR Grenville 144.21 9 *e*PKPdf PKPbc 00 25 22.1 0.0
GRGR LR LR
comp=Z,21μm,22.0s
SDV Santo Domingo 144.93 25 *e*PKPdf PKPbc 00 25 24.7 0.0
SDV LR LR
comp=Z,3μm,21.0s
TOSP Speyside 145.17 7 *e* **PKPab 00 25 25.5 +0.2**

TPR	**Prospect**	**145.26**	**8**	*e*	**PKPdf**	**00 25 27.1**	**+1.2**
TCE	**Chacachacare**	**145.61**	**9**	*e*	**PKPdf**	**00 25 25.4**	**-1.1**
TRN	**Trinidad (W)**	**145.71**	**9**	*e*	**PKPbc**	**00 25 26.9**	**0.0**
TBH	**Brigand Hill**	**145.91**	**8**	*e*	**PKPbc**	**00 25 27.4**	**-0.2**
TPP	**Pointe-a-Pierr**	**146.02**	**9**	*e*	**PKPab**	**00 25 28.2**	**-0.2**
ROSC	**El Rosal**	**146.82**	**34**	*e*PKPdf	**PKPdf**	**00 25 28.9**	**-0.2**
ROSC				PKPbc	**PKPab**	**00 25 31.8**	**-0.2**
ROSC	**El Rosal**	**146.82**	**34**	PKPbc	**PKPab**	**00 25 31.8**	**-0.2**
comp=Z,31nm,0.6s,baz=152,slow=2.7,SNR=20							
USHA	**Ushuaia**	**147.45**	**167**	PKPbc	**PKPbc**	**00 25 30.9**	**0.0**
USHA	**Ushuaia**	**147.45**	**167**	PKPbc	**PKPbc**	**00 25 30.9**	**0.0**
comp=Z,168nm,0.8s,baz=174,slow=4.0,SNR=40							
OTAV	**Otavalo**	**148.13**	**45**	*e*PKPdf	**PKPbc**	**00 25 33.6**	**-1.0**
OTAV				LR	LR		
comp=Z,15μm,21.0s							
EFI	**East Falkland**	**151.85**	**178**	*e*PKIKP	**PKPbc**	**00 25 41.3**	**-0.5**
EFI				MLR	MLR		
comp=Z,6μm,22.0s							
EFI	**East Falkland**	**151.85**	**178**	*e*PKPbc	**PKPbc**	**00 25 41.3**	**-0.5**
EFI				LR	LR		
comp=Z,6μm,22.0s							
ATAH	**Atahualpa**	**153.34**	**56**	PKP	**PKPdf**	**00 25 40.9**	**+1.6**
ATAH				PKPbc	**PKiKP**	**00 25 48.8**	**+1.8**
ATAH	**Atahualpa**	**153.34**	**56**	PKP	**PKPdf**	**00 25 40.9**	**+1.6**
comp=Z,28nm,1.1s,baz=300,slow=1.6,SNR=24							
ATAH				PKPbc	**PKiKP**	**00 25 48.8**	**+1.8**
comp=Z,47nm,0.9s,baz=309,slow=2.8,SNR=15							
RCBR	**Riachuelo**	**153.56**	**308**	PFAKE		00 25 50.0	+3.1
RCBR				LR	LR		
comp=Z,18μm,22.0s							
PLCA	**Paso Flores**	**159.11**	**149**	PKP	**PKPdf**	**00 25 46.2**	**+0.6**
PLCA				*e*PKPdf	**PKPdf**	**00 25 46.6**	**+1.0**
PLCA				PKPab	**PKPab**	**00 26 22.9**	**+0.5**
PLCA				PP	PP	00 30 08.3	+5.5
PLCA	**Paso Flores**	**159.11**	**149**	PKP	**PKPdf**	**00 25 46.2**	**+0.6**
comp=Z,8.4nm,1.1s,baz=318,slow=1.5,SNR=4.9							
PLCA				PKPab	**PKPab**	**00 26 22.9**	**+0.5**
comp=Z,18nm,0.7s,baz=224,slow=4.7,SNR=7.0							
PLCA				PP	PP	00 30 08.3	+5.5
comp=Z,7.0nm,1.1s,baz=227,slow=6.5,SNR=3.3							
BESB	**Sao Joao Dos P**	**159.18**	**322**	⇓*i*P	PKPdf	00 25 37.9	-8.5
BESB				*i*		00 26 03.9	
BESB				*i*		00 30 01.3	
BESB				*i*		00 36 05.5	
BESB				*i*		00 40 40.9	
BESB				*i*		00 43 27.6	
BESB				*i*		00 44 47.3	
SAML	**Samuel**	**164.14**	**25**	*e*PKPdf	**PKPdf**	**00 25 51.9**	**+0.3**
SAML				*e*PKPab	**PKPab**	**00 26 44.4**	**-0.4**
SAML				LR	LR		
comp=Z,18μm,22.0s							
TRQA	**Tornquist**	**164.73**	**163**	*e*PKPdf	**PKPdf**	**00 25 53.3**	**+1.9**
TRQA				*e*PKPab	**PKPab**	**00 26 46.8**	**-0.1**
TRQA				LR	LR		
comp=Z,18μm,19.0s							
LCO	**Las Campanas**	**166.06**	**116**	*e*PKPdf	**PKPdf**	**00 25 54.4**	**+1.3**
LCO				LR	LR		
comp=Z,12μm,21.0s							
LPAZ	**La Paz**	**166.85**	**59**	*e*PKPdf	**PKPdf**	**00 25 55.5**	**+1.0**
LPAZ				PKP	PKPdf	00 25 56.0	+1.6
LPAZ				PP	**PP**	**00 30 49.5**	**+4.1**
LPAZ	**La Paz**	**166.85**	**59**	PKP	**PKPdf**	**00 25 56.0**	**+1.6**
comp=Z,63nm,1.2s,baz=306,slow=1.4,SNR=45							
LPAZ				PP	**PP**	**00 30 49.5**	**+4.1**
comp=Z,26nm,1.2s,baz=229,slow=4.8,SNR=3.5							
LVC	**Limon Verde**	**168.45**	**88**	*e*PKPdf	**PKPdf**	**00 25 56.9**	**+1.9**
LVC				LR	LR		
comp=Z,9μm,22.0s							
LPA	**La Plata**	**168.56**	**174**	PKIKP	**PKPdf**	**00 25 59.0**	**+4.6**
LPA				SKIKP		00 29 23.0	
LPA				PKIKS		00 29 26.0	
LPA				PP	PP	00 30 58.0	+6.2
LPA				PP(2)		00 32 40.0	
BDFB	**Brasilia**	**168.88**	**313**	PKP	**PKPdf**	**00 25 55.4**	**+0.1**
BDFB				PKPab	**PKPab**	**00 27 06.3**	**+0.4**
BDFB				PP	**PP**	**00 30 58.7**	**+3.9**
BDFB	**Brasilia**	**168.88**	**313**	PKP	**PKPdf**	**00 25 55.4**	**+0.1**
comp=Z,22nm,0.8s,baz=90,slow=2.0,SNR=27							
BDFB				PKPab	**PKPab**	**00 27 06.3**	**+0.4**
comp=Z,26nm,0.9s,baz=28,slow=2.3,SNR=3.7							
BDFB				PP	**PP**	**00 30 58.7**	**+3.9**
comp=Z,13nm,1.1s,baz=98,slow=3.1,SNR=3.5							
SIV	**San Ignacio**	**171.33**	**31**	PKP	**PKPdf**	**00 25 57.2**	**+0.7**
SIV				PKPab	**PKPab**	**00 27 15.8**	**-0.8**
SIV				PP	**PP**	**00 31 11.1**	**+4.7**
SIV	**San Ignacio**	**171.33**	**31**	PKP	**PKPdf**	**00 25 57.2**	**+0.7**
comp=Z,21nm,0.9s,baz=274,slow=0.7,SNR=47							
SIV				PKPab	**PKPab**	**00 27 15.8**	**-0.8**
comp=Z,26nm,0.7s,baz=337,slow=2.8,SNR=9.1							
SIV				PP	**PP**	**00 31 11.1**	**+4.7**
comp=Z,16nm,1.0s,baz=348,slow=4.1,SNR=5.0							
CPUP	**Villa Florida**	**177.07**	**164**	*e*PKPdf	**PKPdf**	**00 25 58.2**	**0.0**
CPUP				PKP	PKPdf	00 25 58.8	+0.6
CPUP				PKPab	PKPab	00 27 42.7	+1.0
CPUP	**Villa Florida**	**177.07**	**164**	PKP	**PKPdf**	**00 25 58.8**	**+0.6**
comp=Z,4.8nm,0.7s,baz=196,slow=2.1,SNR=11							
CPUP				PKPab	PKPab	00 27 42.7	+1.0
comp=Z,20nm,0.9s,baz=192,slow=4.1,SNR=7.2							

*IDC **17** 00:07:09.1±0.7, 4°.32S×101°.79E, h0km, mb5.1/13, mb1 5.1/15, mb1mx4.8/28, mbtmp5.0/15, ML4.3/2, Error ellipse: s-maj=24.9km s-min=13.9km az=75.0*
*ISCJB **17** 00:07:11.7±0.5, 4°.43S±0°.05×101°.60E±0°.05, h30km, mb4.9/19, Error ellipse: s-maj=8.4km s-min=5.5km az=143.2*
*NEIC **17** 00:07:14.7±1.5, 4°.32S×101°.81E, h39km±12km, mb5.3/4, Error ellipse: s-maj=17.7km s-min=9.9km az=58.0*
*DJA **17** 00:07:16.7±1.0, 4°.S±4°×10°.2E±°, h25km±9km, M5.2/3, mb5.0/3, mB5.2/1, MLv5.2/3, Mw(mB)4.6/1*

ISC 17 00:07:13.6±0.6, 4°.38S±0°.06×101°.73E±0°.07, h30km, n75, σ1§36/67, mb5.1/19, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.12**	**50**	P	**Pb**	**00 07 35.1**	**+0.7**
KSI				S	**Sn**	**00 07 47.8**	**0.0**
MNAI	**Manna**	**1.22**	**89**	P	**Pb**	**00 07 36.1**	**0.0**
MNAI				S	**Sn**	**00 07 47.3**	**-2.9**
MASI	**Maura Aman, Be**	**1.33**	**22**	P	**Pb**	**00 07 38.2**	**+0.3**
KASI	**Kota Agung**	**2.98**	**113**	P	**Pn**	**00 08 00.1**	**+1.2**
KLSI		**3.00**	**96**	P	**Pn**	**00 08 01.5**	**+2.3**
PMBI	**Palembang**	**3.36**	**65**	P	**Pn**	**00 08 06.3**	**+2.3**
BLSI	**Bandar Lampung**	**3.64**	**106**	P	**Pn**	**00 08 10.8**	**+2.9**
RGRI	**Rengat**	**4.04**	**9**	P	Pn	00 08 18.1	+4.6
PPI	**Padang Panjang**	**4.12**	**341**	P	**Pn**	**00 08 15.5**	**+1.0**
SBJI	**Serang**	**4.71**	**112**	P	**Pb**	**00 08 32.8**	**-2.7**
BKNI	**Bangkinang**	**4.72**	**352**	P	**Pn**	**00 08 24.3**	**+1.5**
TNG	**Tangerang**	**5.21**	**110**	P	**Pb**	**00 08 44.6**	**+0.6**
TNG	**Tangerang**	**5.21**	**110**	P	**Pb**	**00 08 44.7**	**+0.7**
DBJI	**Dramaga**	**5.44**	**114**	P	**Pn**	**00 08 34.6**	**+1.8**
LEM	**Lembang**	**6.34**	**113**	P	**Pn**	**00 08 47.5**	**+2.2**
MYKOM	**Kota Tinggi**	**6.48**	**19**	P	Pn	00 08 51.9	+4.9
MYKOM	**Kota Tinggi**	**6.48**	**19**	P	Pn	00 08 50.7	+3.7
129nm,1.0s,2μm0.6nm							
CISI	**Cisompet, Garu**	**6.83**	**118**	P	**Pn**	**00 08 51.3**	**-0.5**
FRIM	**Kepong**	**7.56**	**359**	P	Pn	00 09 06.1	+4.3
PSI	**Prapat**	**7.66**	**338**	Pn	**Pn**	**00 09 00.6**	**-2.7**
PSI	**Prapat**	**7.66**	**338**	Pn	**Pn**	**00 09 00.6**	**-2.7**
3.1nm,0.3s,baz=158,slow=9.8,SNR=17							
TSI	**Tuntungan**	**8.44**	**338**	P	Pn	00 09 22.9	+9.0
BJII	**Banjamegara**	**8.46**	**111**	P	Pn	00 09 19.7	+5.4
54nm,1.4s,0.3nm							
IPM	**Ipoh**	**8.82**	**355**	*e*Pn	Pn	00 09 22.6	+3.4
IPM	**Ipoh**	**8.82**	**355**	P	Pn	00 09 23.5	+4.3
KULM	**Kulim**	**9.66**	**354**	*e*Pn	**Pn**	**00 09 31.3**	**+0.6**
KULM	**Kulim**	**9.66**	**354**	P	**Pn**	**00 09 33.1**	**+2.4**
KTGM	**Kuala Trenggan**	**9.74**	**8**	P	Pn	00 09 38.8	+7.1
KSM	**Kuching**	**10.35**	**56**	P	Pn	00 09 57.7	+18
SJI	**Sawahan**	**10.52**	**109**	P	**Pn**	**00 09 44.2**	**+1.6**
SBUM	**Sibu**	**12.48**	**57**	P	P	00 10 16.6	-4.2
BTM	**Bintulu**	**13.61**	**57**	P	**P**	**00 10 36.3**	**+3.0**
KAPI	**Kappang**	**17.97**	**93**	P	**Pn**	**00 11 19.6**	**-1.8**
KAPI	**Kappang**	**17.97**	**93**	P	**Pn**	**00 11 19.6**	**-1.8**
1.8nm,0.3s,baz=271,slow=13,SNR=6.8							
CMAR	**Chiang Mai Arr**	**22.86**	**353**	P	**P**	**00 12 13.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**22.86**	**353**	P	**P**	**00 12 13.4**	**-1.2**
17nm,0.9s,baz=178,slow=9.3,SNR=3.8							
FITZ	**Fitzroy Crossi**	**27.07**	**122**	P	**P**	**00 12 53.4**	**-0.4**
3.6nm,0.4s,baz=297,slow=6.8,SNR=20							
AS31	**Alice Springs**	**36.48**	**125**	*e*P	**P**	**00 14 16.2**	**-0.1**
ASAR	**Alice Springs**	**36.48**	**125**	P	**P**	**00 14 16.2**	**-0.1**
ASAR	**Alice Springs**	**36.48**	**125**	P	**P**	**00 14 16.2**	**-0.1**
12nm,0.7s,baz=296,slow=8.1,SNR=106							
JNU	**Nakatsue**	**46.40**	**34**	P	**P**	**00 15 36.7**	**-0.9**
JNU	**Nakatsue**	**46.40**	**34**	P	**P**	**00 15 36.7**	**-0.9**
9.4nm,0.7s,baz=263,slow=8.1,SNR=5.3							
KSAR	**Wonju Array Be**	**48.20**	**28**	P	**P**	**00 15 51.6**	**+0.2**
KSRS	**Korea Array**	**48.23**	**28**	P	**P**	**00 15 51.6**	**0.0**
18nm,0.8s,baz=213,slow=6.9,SNR=6.2							
SONM	**Songino Array**	**52.15**	**4**	P	**P**	**00 16 22.0**	**+0.6**
SONM				PcP	**PcP**	**00 17 33.2**	**+0.3**
SONM	**Songino Array**	**52.15**	**4**	P	**P**	**00 16 22.0**	**+0.6**
50nm,0.8s,baz=182,slow=8.7,SNR=10							
SONM				PcP	**PcP**	**00 17 33.2**	**+0.3**
9.2nm,0.7s,baz=201,slow=4.7,SNR=3.1							
ULN	**Ulaanbaatar**	**52.23**	**5**	*e*P	**P**	**00 16 22.6**	**+0.5**
12nm,0.6s							
AAK	**Ala-Archa**	**52.91**	**335**	*e*P	**P**	**00 16 25.2**	**-2.0**
53nm,1.0s							
MJAR	**Matsushiro Arr**	**53.08**	**37**	P	**P**	**00 16 26.6**	**-1.7**
MJAR	**Matsushiro Arr**	**53.08**	**37**	P	**P**	**00 16 26.6**	**-1.7**
16nm,0.7s,baz=215,slow=7.5,SNR=10							
MKAR	**Makanchi Array**	**53.77**	**344**	P	**P**	**00 16 33.2**	**-0.1**
MKAR	**Makanchi Array**	**53.77**	**344**	P	**P**	**00 16 33.2**	**-0.1**
31nm,0.8s,baz=158,slow=7.8,SNR=6.1							
USRK	**Ussuriysk Arra**	**55.47**	**26**	P	**P**	**00 16 45.4**	**-0.2**
58nm,0.7s,baz=223,slow=5.5,SNR=23							
ZALV	**Zalesovo Beam**	**59.82**	**349**	P	**P**	**00 17 15.3**	**-0.7**
ZALV	**Zalesovo Beam**	**59.82**	**349**	P	**P**	**00 17 15.3**	**-0.7**
28nm,0.4s,baz=162,slow=6.1,SNR=8.7							
ASAJ	**Asahikawa**	**60.62**	**33**	*e*P	**P**	**00 17 21.6**	**-0.1**
12nm,0.4s							
ASAJ	**Asahikawa**	**60.62**	**33**	P	**P**	**00 17 21.7**	**0.0**
34nm,0.6s,baz=208,slow=8.6,SNR=6.1							
BVAR	**Borovoye Array**	**63.00**	**339**	P	**P**	**00 17 36.5**	**-1.1**
BVAR	**Borovoye Array**	**63.00**	**339**	P	**P**	**00 17 36.5**	**-1.1**
14nm,0.6s,baz=149,slow=11,SNR=2.5							
DZM	**Mont Dzumac**	**64.95**	**112**	*e*P	P	00 17 46.9	-4.2
25nm,0.8s							
PETK	**Petropavlovsk-**	**73.98**	**31**	P	**P**	**00 18 45.0**	**-1.1**
PETK	**Petropavlovsk-**	**73.98**	**31**	P	**P**	**00 18 45.0**	**-1.1**
4.7nm,0.8s,baz=231,slow=6.5,SNR=4.5							
SYO	**Syowa Base**	**76.20**	**199**	⇓*e*P	**P**	**00 19 00.4**	**+1.8**
VNDA	**Vanda**	**79.51**	**169**	P	**P**	**00 19 17.1**	**+0.2**
VNDA	**Vanda**	**79.51**	**169**	P	**P**	**00 19 17.1**	**+0.2**
0.8nm,0.6s,baz=329,slow=5.8,SNR=11							
QSPA	**South Pole Qui**	**85.60**	**180**	P	**P**	**00 19 49.5**	**+0.4**
QSPA	**South Pole Qui**	**85.60**	**180**	P	**P**	**00 19 49.5**	**+0.4**
1.0nm,1.0s,baz=358,slow=1.6,SNR=3.6							
SNAA	**Sanae**	**90.43**	**198**	P	**P**	**00 20 13.1**	**+1.1**
SNAA	**Sanae**	**90.43**	**198**	P	**P**	**00 20 13.1**	**+1.1**
0.3nm,0.7s,baz=135,slow=2.9,SNR=9.7							
NVAR	**Mina Array Bea**	**130.28**	**41**	PKP	**PKPdf**	**00 26 22.5**	**+0.7**
NVAR	**Mina Array Bea**	**130.28**	**41**	PKP	**PKPdf**	**00 26 22.5**	**+0.7**
2.1nm,0.7s,baz=354,slow=0.9,SNR=3.9							
TXAR	**Lajitas Array**	**145.43**	**41**	PKPbc	**PKPab**	**00 26 50.0**	**+0.3**
TXAR	**Lajitas Array**	**145.43**	**41**	PKPbc	**PKPab**	**00 26 50.0**	**+0.3**
28nm,0.7s,baz=232,slow=3.0,SNR=5.5							
TKL	**Tuckaleechee C**	**148.46**	**9**	PKPbc	**PKPbc**	**00 26 57.1**	**-0.8**
TKL	**Tuckaleechee C**	**148.46**	**9**	PKPbc	**PKPbc**	**00 26 57.1**	**-0.8**
19nm,0.6s,baz=130,slow=3.7,SNR=6.3							

IDC 17 00:18:25.4±1.0, 1°.66S×99°.45E, h0km, mb4.1/7, mb1 4.2/9, mb1mx3.9/25, mbtmp4.0/9, ML3.8/2, Error ellipse: s-maj=46.0km s-min=19.3km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.46**	**353**	Pn	Pn	00 19 33.2	-1.3
0.6nm,0.3s,baz=168,slow=9.8,SNR=4.2							
CMAR	**Chiang Mai Arr**	**20.00**	**359**	P	P	00 23 00.1	+0.4
0.6nm,0.3s,baz=189,slow=11,SNR=3.1							
WRA	**Warramunga Arr**	**38.64**	**120**	P	P	00 25 50.5	-0.4
0.5nm,0.4s,baz=300,slow=9.9,SNR=4.6							
ASAR	**Alice Springs**	**39.90**	**126**	P	P	00 26 00.9	-0.6
0.5nm,0.5s,baz=297,slow=7.5,SNR=4.6							
SONM	**Songino Array**	**49.67**	**6**	P	P	00 27 18.8	-0.3
1.3nm,0.7s,baz=194,slow=7.9,SNR=3.4							
MKAR	**Makanchi Array**	**50.56**	**345**	P	P	00 27 26.0	+0.3
1.1nm,0.4s,baz=152,slow=7.9,SNR=17							
ZALV	**Zalesovo Beam**	**56.74**	**350**	P	P	00 28 10.8	-0.1
1.4nm,0.5s,baz=161,slow=6.1,SNR=4.6							
BRTR	**Keskin Array B**	**72.69**	**313**	P	P	00 29 54.5	-1.1
0.7nm,0.8s,baz=141,slow=5.3,SNR=2.9							
FINES	**FINESS Array B**	**83.56**	**332**	P	P	00 30 55.2	0.0
2.8nm,0.8s,baz=104,slow=5.9,SNR=5.8							
CPUP	**Villa Florida**	**144.26**	**217**	PKP	PKPdf	00 38 03.4	-0.9
1.9nm,0.7s,baz=111,slow=4.2,SNR=3.6							
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPbc	00 38 04.6	+0.5
0.5nm,0.4s,baz=292,slow=2.8,SNR=9.8							
CFAA	**Coronel Fontan**	**144.91**	**198**	PKP	PKPdf	00 38 05.7	+0.3
0.9nm,0.7s,baz=167,slow=4.1,SNR=11							
LPAZ	**La Paz**	**158.35**	**214**	PKP	PKPdf	00 38 28.0	+1.4
0.6nm,0.3s,baz=307,slow=5.1,SNR=5.8							

*IDC **17** 00:22:08.3±0.8, 38°.40N×102°.79W, h0km, mb3.8/3, mb1 4.3/8, mb1mx3.9/32, mbtmp4.1/8, ML4.1/5, MS4.1/1, Ms1 4.1/1, ms1mx3.7/43, Error ellipse: s-maj=13.4km s-min=10.2km az=86.0*
*NEIC **17** 00:22:10.9±0.2, 38°.47N×102°.68W, h5km, MN4.1, MW3.9(USGS), Error ellipse: s-maj=2.5km s-min=2.5km az=11.0*
NEIC Felt [III] at Eads, Holly and Sheridan Lake; [II] at Lamar. Also felt at Cheyenne Wells and Kit Carson and by a few people at Colorado Springs and in the Denver area. Felt [II] at Garden City, Lakin, Leoti, Syracuse and Tribune, Kansas. Also felt at Kendall, Oakley, Sharon Springs and Ulysses.

ISC 17 00:22:09.7±0.5, 38°.47N±0°.01×102°.76W±0°.01, h10km, n265, σ1§64/319, mb3.7/3, 117C-94D, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R27A	**Eads**	**0.19**	**189**	⇑*i*P	**Pg**	**00 22 15.0**	**+1.3**
R27A	**Eads**	**0.19**	**189**	⇑P	**Pg**	**00 22 15.0**	**+1.3**
baz=0.2,SNR=1000							
R27A				⇑S	**Sg**	**00 22 17.9**	**+1.4**
baz=0.2							
KSCO	**Kaye Shedlock'**	**0.55**	**11**	⇑*i*P	**Pb**	**00 22 21.3**	**-0.3**
KSCO				*e*S	**Sg**	**00 22 28.5**	**+0.8**
KSCO	**Kaye Shedlock'**	**0.55**	**11**	⇑P	**Pb**	**00 22 21.3**	**-0.3**
baz=0.5,SNR=1000							
KSCO				⇑S	**Sg**	**00 22 28.4**	**+0.7**
baz=0.5							
R26A	**Arlington**	**0.56**	**253**	⇑*e*P	**Pb**	**00 22 22.2**	**+0.4**
R26A	**Arlington**	**0.56**	**253**	⇓P	**Pb**	**00 22 22.2**	**+0.4**
baz=0.6,SNR=435							
R26A				⇓S	**Sb**	**00 22 30.1**	**+0.1**
baz=0.6							
Q26A	**Hugo**	**0.75**	**308**	⇑*i*P	**Pb**	**00 22 25.5**	**+0.6**
Q26A	**Hugo**	**0.75**	**308**	P	**Pb**	**00 22 25.5**	**+0.6**
baz=0.8,SNR=1000							
Q26A				⇓S	**Sb**	**00 22 35.7**	**+0.5**
baz=0.8							
R28A	**Tribune**	**0.76**	**99**	P	**Pg**	**00 22 24.7**	**+0.4**
R28A	**Tribune**	**0.76**	**99**	⇓P	**Pg**	**00 22 24.7**	**+0.4**
baz=0.7,SNR=1000							
R28A				⇑S	**Sg**	**00 22 34.2**	**0.0**
baz=0.7							
S27A	**Las Animas**	**0.79**	**188**	⇑*i*P	**Pb**	**00 22 26.0**	**+0.3**
S27A	**Las Animas**	**0.79**	**188**	P	**Pb**	**00 22 26.0**	**+0.3**
baz=0.8,SNR=234							
S27A				⇑S	**Sb**	**00 22 36.5**	**0.0**
baz=0.8							
Q28A	**Sharon Springs**	**0.94**	**51**	P	**Pg**	**00 22 28.0**	**+0.3**
Q28A	**Sharon Springs**	**0.94**	**51**	P	**Pg**	**00 22 28.0**	**+0.3**
baz=0.9,SNR=844							
Q28A				⇓S	**Sb**	**00 22 40.5**	**-0.1**
baz=0.9							
S26A	**Kim**	**1.02**	**214**	⇑*i*P	**Pb**	**00 22 30.1**	**+0.6**
S26A	**Kim**	**1.02**	**214**	P	**Pb**	**00 22 30.1**	**+0.6**
baz=1.1,SNR=340							
S26A				⇑S	**Sb**	**00 22 43.3**	**+0.4**
baz=1.1							
P27A	**Ficken Ranch,**	**1.09**	**7**	P	**Pn**	**00 22 31.3**	**+0.1**
P27A				S	**Sb**	**00 22 45.5**	**+0.3**
P27A	**Ficken Ranch,**	**1.09**	**7**	⇑P	**Pn**	**00 22 31.3**	**+0.1**
baz=1.1,SNR=1000							
P27A				⇑S	**Sb**	**00 22 45.7**	**+0.5**
baz=1.1							
S28A	**Manter**	**1.11**	**142**	P	**Pb**	**00 22 31.5**	**+0.4**
S28A	**Manter**	**1.11**	**142**	⇓P	**Pb**	**00 22 31.5**	**+0.4**
baz=1.1,SNR=1000							
S28A				⇓S	**Sb**	**00 22 45.7**	**0.0**
baz=1.1							
P26A	**Davis Ranch, A**	**1.18**	**337**	P	**Pg**	**00 22 33.4**	**+1.0**
P26A				S	**Sn**	**00 22 48.8**	**+0.2**
P26A	**Davis Ranch, A**	**1.18**	**337**	⇑P	**Pg**	**00 22 33.4**	**+1.0**
baz=1.2,SNR=1000							
P26A				⇓S	**Sn**	**00 22 48.9**	**+0.2**
baz=1.2							
R25A	**Fountain Ranch**	**1.24**	**255**	⇑*e*P	**Pg**	**00 22 34.2**	**+0.7**
R25A	**Fountain Ranch**	**1.24**	**255**	⇑P	**Pg**	**00 22 34.2**	**+0.7**
baz=1.3,SNR=230							
R25A				⇑S	**Sn**	**00 22 50.7**	**+0.6**
baz=1.3							
Q25A	**Bedland, Calha**	**1.25**	**291**	⇑*i*P	**Pg**	**00 22 35.0**	**+1.3**
Q25A	**Bedland, Calha**	**1.25**	**291**	⇑P	**Pg**	**00 22 35.0**	**+1.3**
baz=1.3,SNR=249							
Q25A				⇓S	**Sn**	**00 22 52.0**	**+1.7**
baz=1.3							
R29A	**Marienthal**	**1.27**	**92**	P	**Pb**	**00 22 34.0**	**+0.1**
R29A	**Marienthal**	**1.27**	**92**	⇑P	**Pb**	**00 22 33.9**	**+0.1**
baz=1.2,SNR=1000							
R29A				⇓S	**Sb**	**00 22 49.8**	**-0.5**
baz=1.2							
P28A	**Saint Francis**	**1.35**	**35**	P	**Pb**	**00 22 35.4**	**+0.3**
P28A				S	**Sg**	**00 22 53.0**	**-0.2**
P28A	**Saint Francis**	**1.35**	**35**	⇑P	**Pb**	**00 22 35.4**	**+0.3**
baz=1.3,SNR=659							
P28A				⇓S	**Sg**	**00 22 53.2**	**0.0**
baz=1.3							
T27A	**Campo**	**1.41**	**179**	⇑*i*P	**Pg**	**00 22 37.0**	**+0.3**
T27A	**Campo**	**1.41**	**179**	⇑P	**Pg**	**00 22 37.0**	**+0.3**
baz=1.4,SNR=1000							
T27A				⇓S	**Sg**	**00 22 55.2**	**+0.2**
baz=1.4							
T28A	**Walsh**	**1.44**	**159**	⇑*i*P	**Pb**	**00 22 37.3**	**+0.6**
T28A	**Walsh**	**1.44**	**159**	⇑P	**Pb**	**00 22 37.3**	**+0.6**
baz=1.4,SNR=1000							
T28A				⇑S	**Sb**	**00 22 55.9**	**+0.7**
baz=1.4							
T26A	**Comanche Natio**	**1.45**	**207**	⇑*i*P	**Pg**	**00 22 37.8**	**+0.2**
T26A	**Comanche Natio**	**1.45**	**207**	⇓P	**Pg**	**00 22 37.8**	**+0.2**
baz=1.5,SNR=244							
T26A				⇑S	**Sg**	**00 22 56.6**	**+0.1**
baz=1.5							
Q29A	**Oakley**	**1.46**	**73**	P	**Pb**	**00 22 37.2**	**+0.2**
Q29A	**Oakley**	**1.46**	**73**	P	**Pb**	**00 22 37.2**	**+0.2**
baz=1.4,SNR=1000							
Q29A				⇑S	**Sn**	**00 22 55.5**	**+0.2**
baz=1.4							
P25A	**Willow Gulch B**	**1.51**	**314**	⇑P	**Pg**	**00 22 39.6**	**+0.8**
baz=1.6,SNR=176							
P25A				⇓S	**Sg**	**00 22 59.5**	**+1.1**
baz=1.6							
S25A	**Robets Cordova**	**1.55**	**239**	*e*P	**Pg**	**00 22 39.4**	**-0.1**
S25A	**Robets Cordova**	**1.55**	**239**	⇑P	**Pg**	**00 22 39.3**	**-0.1**
baz=1.6,SNR=1000							
S25A				⇓S	**Sg**	**00 22 59.9**	**+0.4**
baz=1.6							
S29A	**Ulysses**	**1.55**	**123**	P	**Pb**	**00 22 38.9**	**+0.3**
S29A	**Ulysses**	**1.55**	**123**	P	**Pb**	**00 22 38.9**	**+0.3**
baz=1.5,SNR=1000							
S29A				⇑S	**Sb**	**00 22 58.9**	**+0.6**
baz=1.5							
O27A	**Beecher Island**	**1.73**	**7**	⇓P	**Pb**	**00 22 42.3**	**+0.6**
baz=1.7,SNR=482							
O27A				⇑S	**Sg**	**00 23 04.8**	**-0.5**
baz=1.7							
T29A	**

baz=2.6,SNR=24
U30A WK&E Inc. Balk 2.56 138 P Pn 00 22 53.0 +1.6
baz=2.5,SNR=67
P23A Jefferson 2.56 292 ⇓P Pb 00 22 55.2 -0.8
baz=2.6
ISCO Idaho Springs 2.58 302⇓ ePn Pb 00 22 55.0 -1.4
ISCO eSn **Sb 00 23 27.1 -1.2**
ISCO Idaho Springs 2.58 302 ⇓P Pb 00 22 54.3 -2.1
baz=2.6,SNR=220
Q31A Ellis 2.69 78 ⇑P Pn 00 22 54.6 +1.6
baz=2.6,SNR=43
O30A MW Ranch, Wils 2.70 50 P Pn 00 22 55.0 +1.7
baz=2.7,SNR=73
V27A Dan Oppiter Fa 2.71 181 P Pn 00 22 55.8 +2.3
baz=2.7,SNR=107
S31A Mullinville 2.72 107 ⇓P Pn 00 22 55.5 +1.9
baz=2.7,SNR=110
V28A Channing 2.75 171 ⇓P Pn 00 22 56.0 +2.0
baz=2.7,SNR=24
V29A Stinnett 2.77 159 ⇑P Pn 00 22 55.8 +1.5
baz=2.8
V26A Tequesquite Ra 2.79 197 ⇑P Pn 00 22 56.4 +1.8
baz=2.8,SNR=17
T31A Randall Ranch, 2.80 118 ⇓P Pn 00 22 55.7 +1.1
baz=2.7,SNR=17
P31A Stockton 2.84 67 ⇓P Pn 00 22 56.4 +1.3
baz=2.8,SNR=166
N29A Votaw Ranch, W 2.87 34 ⇓P Pn 00 22 56.8 +1.2
baz=2.8,SNR=13
M26A McRoberts Ranc 3.01 355 ⇑P Pn 00 23 00.0 +2.5
baz=3.0,SNR=19
V25A Rancho No Teng 3.02 210 ⇑P Pn 00 23 00.5 +2.7
baz=3.0,SNR=12
M27A Reverse DX Ran 3.07 5 ⇓P Pn 00 23 01.1 +2.7
baz=3.1
M28A Bar X Bar Ranc 3.11 20 ⇑P Pn 00 23 00.1 +1.1
baz=3.1,SNR=36
M25A Palm-Egli Farm 3.12 342 ⇓P Pn 00 23 00.3 +1.1
baz=3.1
U31A Nine Bar Ranch 3.12 131 ⇓P Pn 00 23 00.4 +1.3
baz=3.1,SNR=19
V30A Spur Ranch, Mi 3.17 148 P Pn 00 23 01.4 +1.7
baz=3.1,SNR=20
W28A Vega 3.24 172 ⇑P Pn 00 23 02.9 +2.2
baz=3.2,SNR=38
Q22A Crested Butte, 3.27 278 ⇑P Pn 00 23 04.3 +3.0
baz=3.3
P22A Eagle 3.31 291 ⇑P Pn 00 23 05.1 +3.4
baz=3.4
SMCO Snowmass 3.37 283 ePn Pn 00 23 06.1 +3.4
SMCO eSn **Sn 00 23 45.0 +2.0**
M29A Burnside Ranch 3.37 28 ⇑P Pn 00 23 03.6 +1.2
baz=3.3
M24A Cheyenne 3.39 333 ⇑P Pn 00 23 06.4 +3.6
baz=3.4,SNR=44
O22A Kremmling 3.39 301 P Pn 00 23 06.0 +3.1
baz=3.4,SNR=166
W27A Bowe Ranch, En 3.41 184 ⇓P Pn 00 23 05.2 +2.1
baz=3.4,SNR=66
N23A Red Feather La 3.45 316 ⇓P Pb 00 23 07.5 -3.5
baz=3.5
W29A Amraillo 3.46 165 P Pn 00 23 05.6 +1.9
baz=3.5,SNR=41
U23A El Rito 3.47 233 ⇑P Pn 00 23 07.4 +3.4
baz=3.5
W26A Owens Ranch, T 3.47 194 ⇓P Pn 00 23 06.3 +2.4
baz=3.5,SNR=37
PHWY Pilot Hill 3.51 325 ePn **Pn 00 23 07.7 +3.1**
PHWY eSn **Sn 00 23 48.8 +2.5**
W25A X Bar L Ranch, 3.52 203 ⇓P Pn 00 23 07.9 +3.3
baz=3.5
V31A Spring Creek L 3.56 138 ⇓P Pn 00 23 06.6 +1.5
baz=3.5,SNR=11
L26A Underwood Farm 3.57 356 ⇓P Pn 00 23 07.4 +2.1
baz=3.6
T22A Edith 3.59 247 ⇓P Pn 00 23 09.1 +3.4
baz=3.6
AMTX Amarillo 3.68 166 ePn **Pn 00 23 08.6 +1.8**
AMTX eSn **Sn 00 23 53.7 +3.3**
X27A F and S Farms, 3.83 184 ⇓P Pn 00 23 10.8 +2.0
baz=3.8,SNR=54
L24A Wheatland 3.94 336 ⇓P Pn 00 23 13.1 +2.7
baz=4.0,SNR=18
X28A Dimmitt 3.97 173 ⇓P Pn 00 23 12.6 +1.8
baz=4.0,SNR=15
W31A Holland Ranch, 3.98 145 ⇓P Pn 00 23 12.0 +1.1
baz=3.9,SNR=7.8
L29A Maesberg Ranch 3.99 25 ⇓P Pn 00 23 12.7 +1.6
baz=4.0,SNR=20
X26A CR and CF Fran 4.00 193 P Pn 00 23 13.1 +1.9
baz=4.0,SNR=29
S21A Coal Bank Pass 4.05 260 ⇓P Pn 00 23 14.9 +2.9
baz=4.1
X29A Tulia 4.11 168 ⇑P Pn 00 23 14.3 +1.7
baz=4.1,SNR=89
K25A Mack Ranch, Ha 4.22 349 ⇑P Pn 00 23 16.6 +2.4
baz=4.2,SNR=30
K26A Motz Farm, Whi 4.24 356 ⇓P Pn 00 23 16.2 +1.8
baz=4.2,SNR=32
K27A Flueckinger Fa 4.25 5 ⇓P Pn 00 23 16.4 +1.9
baz=4.2,SNR=52
L23A Garrett 4.28 329 ⇑P Pn 00 23 17.8 +2.7
baz=4.3,SNR=33
X30A Coker Ranch, T 4.29 159 ⇑P Pn 00 23 16.8 +1.7
baz=4.3,SNR=23
K28A Ten Mile Ranch 4.37 14 ⇑P Pn 00 23 17.7 +1.5
baz=4.4
X31A McDonald Ranch 4.44 149 ⇓P Pn 00 23 18.5 +1.3
baz=4.4,SNR=12
MSTX Muleshoe 4.49 180 ePn **Pn 00 23 19.7 +1.7**
MSTX eSn **Sn 00 24 12.8 +2.5**
MSTX Muleshoe 4.49 180 ⇑P Pn 00 23 19.7 +1.7
baz=4.5,SNR=25
Y28A McKinney Farm, 4.57 175 ⇑P Pn 00 23 20.6 +1.6
baz=4.6,SNR=64
PV01 Paradox Valley 4.58 268 ePg Pg 00 23 34.2 -3.2
Y27A Causey 4.59 184 ⇑P Pn 00 23 21.1 +1.8
baz=4.6,SNR=95
BGNE Belgrade 4.60 49 ePn **Pn 00 23 20.8 +1.5**
BGNE eSn **Sn 00 24 12.1 -0.7**
BGNE Belgrade 4.60 49 ⇓P Pn 00 23 20.6 +1.3
baz=4.5,SNR=17
ANMO Albuquerque 4.60 221 ePn **Pn 00 23 21.0 +1.4**
ANMO ePg Pb 00 23 34.2 +3.5
ANMO eSn **Sb 00 24 20.7 -5.5**
ANMO Lg Lg 00 24 33.1
ANMO Albuquerque 4.60 221 Pn **Pn 00 23 20.1 +0.6**
0.3nm,0.3s,baz=37,slow=12,SNR=5.0
ANMO Pg **Pb 00 23 32.4 +1.7**
12nm,0.3s,baz=44,slow=17,SNR=86
ANMO Lg Lg 00 24 33.1
19nm,0.3s,baz=315,slow=18,SNR=6.5
ANMO LR LR 00 24 47.8
comp=Z,2μm,19.5s,baz=142,slow=35
Y26A Elida 4.62 191 ⇓P Pn 00 23 21.5 +1.8
baz=4.6,SNR=12
K29A Lazy Trails An 4.67 23 ⇓P Pn 00 23 21.7 +1.4
baz=4.7,SNR=11
Y29A Porterfield Fa 4.69 169 P Pn 00 23 22.2 +1.7
baz=4.7,SNR=94
RWWY Rawlins 4.69 315 ePn Pn 00 23 24.5 +3.7
RWWY ePg **Pg 00 23 36.8 -2.7**
RWWY eSg **Sg 00 24 36.5 -3.7**
MVCO Mesa Verde 4.71 256 ePn **Pn 00 23 24.1 +3.0**
MVCO ePg **Pg 00 23 41.1 +1.1**
MVCO eSn **Sn 00 24 20.9 +5.0**
J27A Elkhorn Farm, 4.81 7 ⇑P Pn 00 23 24.0 +1.7
baz=4.8
PV04 Paradox Valley 4.83 271 ePn Pn 00 23 26.5 +3.9
PV04 eSn **Sn 00 24 21.3 +2.7**
Y30A Stafford Cattl 4.83 161 ⇑P Pn 00 23 24.5 +2.0
baz=4.8
J26A Sides Ranch, S 4.84 357 ⇓P Pn 00 23 24.7 +2.0
baz=4.9,SNR=30
KSU1 Kansas State U 4.85 81 ePn **Pn 00 23 23.5 +0.8**
KSU1 eSn **Sn 00 24 17.2 -1.7**
WMOK Wichita Mounta 4.91 138 ePn **Pn 00 23 24.1 +0.5**
WMOK eSn **Sn 00 24 18.7 -1.8**
J25A Sunshine Ranch 4.98 351 ⇑P Pn 00 23 26.2 +1.6
baz=5.0,SNR=80
J24A Dixon Ranch, L 5.06 344 ⇑P Pn 00 23 27.9 +2.1
baz=5.1,SNR=13
J28A Allard Ranch, 5.08 13 ⇑P Pn 00 23 27.8 +1.8
baz=5.1,SNR=31
Z27A Tatum 5.16 184 ⇓P Pn 00 23 29.0 +1.9
baz=5.2,SNR=66
Z28A Tucker Farm, M 5.18 177 ⇑P Pn 00 23 28.8 +1.4
baz=5.2,SNR=64
LPM Los Pinos Moun 5.19 218 ePg **Pg 00 23 46.7 -2.5**
LPM eSg **Sg 00 24 51.2 -5.2**
Y32A R-V Farms, Ver 5.20 148 ⇓P Pn 00 23 29.2 +1.6
baz=5.2
Z29A Hungry Hill Ra 5.27 170 ⇑P Pn 00 23 30.1 +1.5
baz=5.3
Z26A Caprock 5.28 191 ⇑P Pn 00 23 30.9 +2.1
baz=5.3,SNR=28
Z30A Sanderson Ranc 5.34 165 P Pn 00 23 31.2 +1.7
baz=5.3,SNR=48
J23A Dilts Ranch, B 5.36 338 ⇑P Pn 00 23 32.4 +2.5
baz=5.4,SNR=18
LAZ Ladron 5.38 222 ePg Pg 00 23 49.6 -3.2
53nm,0.7s
LAZ eSg **Sg 00 24 57.5 -4.9**
Z25A Roswell 5.42 198 ⇓P Pn 00 23 33.0 +2.3
baz=5.4,SNR=34
LENM Lemitar 5.48 220 ePg **Pg 00 23 52.1 -2.5**
I26A New Underwood 5.56 359 ⇑P Pn 00 23 34.8 +2.3
baz=5.6,SNR=17
Z31A Sharp Cattle R 5.56 157 ⇑P Pn 00 23 34.1 +1.6
baz=5.5
I24A Kuemmerle Ranc 5.56 346 ⇑P Pn 00 23 35.0 +2.3
baz=5.6
I25A Rochford 5.59 353 ⇓P Pn 00 23 35.2 +2.1
baz=5.6,SNR=51
I27A Quinn 5.62 5 ⇓P Pn 00 23 35.6 +2.2
baz=5.6
I28A Midland 5.65 12 ⇓P Pn 00 23 35.9 +2.1
baz=5.6,SNR=28
J22A Midwest 5.68 331 ⇓P Pn 00 23 36.7 +2.4
baz=5.7,SNR=33
RSSD Black Hills 5.73 351 ePn **Pn 00 23 37.5 +2.5**
RSSD eSg **Sg 00 25 14.9 +1.4**
Z32A Haskell 5.80 152 ⇑P Pn 00 23 37.0 +1.2
baz=5.8,SNR=7.3
127A Arkansas Junct 5.80 185 ⇑P Pn 00 23 37.5 +1.6
baz=5.8
128A Castleberry Fa 5.84 178 ⇓P Pn 00 23 38.1 +1.7
baz=5.9,SNR=13
129A Stewart Farms, 5.87 173 ⇓P Pn 00 23 38.1 +1.2
baz=5.9,SNR=7.6
126A Clayton Basin, 5.90 190 ⇑P Pn 00 23 39.3 +2.0
baz=5.9
125A Gardner Draw, 6.00 195 ⇑P Pn 00 23 40.9 +2.2
baz=6.0,SNR=8.0
130A Snyder 6.04 165 ⇓P Pn 00 23 40.7 +1.5
baz=6.0,SNR=7.4
131A Roby 6.10 161 ⇑P Pn 00 23 41.1 +1.2
baz=6.1,SNR=6.1
SRU San Rafael 6.10 278 ePn **Pn 00 23 41.3 +1.2**
29nm,0.6s
SRU ePg **Pg 00 24 03.7 -2.8**
I22A 9 Mile Ranch, 6.10 334 ⇓P Pn 00 23 42.2 +2.2
baz=6.1,SNR=6.4
TUL1 Tulsa 6.12 113 ePn **Pn 00 23 42.7 +2.5**
TUL1 eSn **Sn 00 24 49.1 -1.2**
TUL1 Tulsa 6.12 113 ⇑P Pn 00 23 41.7 +1.5
baz=6.1,SNR=28
H26A Fairpoint 6.14 360 ⇑P Pn 00 23 42.4 +1.9
baz=6.1
H27A Howes 6.18 5 ⇑P Pn 00 23 43.1 +2.0
baz=6.2,SNR=30
CLNB Carlsbad 6.26 189 ePn **Pn 00 23 44.1 +1.8**
17nm,0.4s
CLNB ePg Pg 00 24 06.2 -3.4
CLNB eSg **Sg 00 25 26.0 -4.6**
H28A Mission Ridge 6.33 11 ⇑P Pn 00 23 44.8 +1.6
baz=6.3,SNR=37
I21A Big Trails, Te 6.34 329 ⇑P Pn 00 23 46.0 +2.7
baz=6.4,SNR=89
228A UT Block 9, Go 6.34 179 ⇑P Pn 00 23 45.0 +1.7
baz=6.4,SNR=9.3
ABTX Abilene, Hawle 6.36 156 P Pn 00 23 44.3 +0.7
baz=6.3,SNR=19
GDL2 Guadalupe Moun 6.39 192 ePn **Pn 00 23 46.6 +2.6**
GDL2 eSn **Sn 00 24 58.5 +1.3**
226B Tecolote Peak, 6.48 191 ⇓P Pn 00 23 46.9 +1.7
baz=6.5
W18A Petrified Fore 6.52 241 ePn Pn 00 23 50.8 +4.9
BRSD Miller 6.62 24 ePn **Pn 00 23 48.2 +1.3**
BRSD Miller 6.62 24 ⇓P Pn 00 23 48.0 +1.0
baz=6.6,SNR=21
TMUT Trail Mountain 6.64 280 ePn Pn 00 23 51.3 +3.7
TMUT eSn **Sn 00 25 06.8 +3.2**
H22A Clearmont 6.68 337 ⇑P Pn 00 23 50.4 +2.4
baz=6.7,SNR=23
230A Sterling City 6.71 168 P Pn 00 23 49.2 +0.9
baz=6.7,SNR=17
PDAR Pinedale Array 6.72 312 Pn **Pn 00 23 51.6 +3.0**
PDAR Pg **Pg 00 24 16.5 -1.9**
PDAR Lg Lg 00 25 40.3
PDAR Pinedale Array 6.72 312 Pn **Pn 00 23 51.6 +3.0**
3.2nm,0.3s,baz=130,slow=16,SNR=63
PDAR Pg **Pg 00 24 16.5 -1.9**
2.6nm,0.3s,baz=120,slow=21,SNR=8.9
PDAR Lg Lg 00 25 40.3
4.4nm,0.3s,baz=118,slow=31,SNR=3.8
G28A Parade 6.74 11 ⇑P Pn 00 23 50.2 +1.4
baz=6.7,SNR=16
G26A Maurine 6.82 1 ⇓P Pn 00 23 51.4 +1.6
baz=6.8,SNR=10.0
DAU Daniels Canyon 6.86 289 ePn **Pn 00 23 53.7 +3.1**
170nm,1.7s
G27A Dupree 6.93 5 ⇑P Pn 00 23 52.9 +1.6
baz=6.9,SNR=23
MNTX Cornudas Mount 7.09 198 ePn **Pn 00 23 56.7 +3.1**
40nm,0.6s
MNTX ePg Pg 00 24 19.8 -5.6
MNTX eSg Sg 00 25 49.0 -8.2
330A Mertzon 7.17 169 ⇑P Pn 00 23 55.3 +0.6
baz=7.2,SNR=69
326A Caldwell Ranch 7.21 188 ⇓P Pn 00 23 56.7 +1.5
baz=7.2,SNR=10
331A San Angelo 7.40 164 ⇑P Pn 00 23 57.8 0.0
baz=7.4
332A Millersview 7.49 160 ⇑P Pn 00 23 59.2 +0.1
baz=7.5
WUAZ Wupatki 7.50 249 ePn **Pn 00 24 00.1 +0.9**
WUAZ eSg **Sg 00 26 06.3 -4.0**
F23A Volborg 7.51 346 ⇑P Pn 00 24 01.2 +1.9
baz=7.5,SNR=11
427A Hayter Ranch, 7.62 184 ⇓P Pn 00 24 02.6 +1.7
baz=7.6,SNR=6.2
428A Kincaid Ranch, 7.73 180 ⇑P Pn 00 24 03.9 +1.5
baz=7.7,SNR=11
430A Baggett Ranch, 7.77 170 ⇓P Pn 00 24 03.0 +0.1
baz=7.8
WHTX Lake Whitney 7.78 145 ⇑P Pn 00 24 03.4 +0.3
baz=7.8,SNR=23
SNOW Snow King Moun 7.84 312 ePn Pn 00 24 07.6 +3.6
LOHW Long Hollow 7.84 313 ePn Pn 00 24 07.4 +3.4
426A McDonald Obser 7.85 188 ⇑P Pn 00 24 05.9 +1.7
baz=7.9,SNR=11
429A Davenport Ranc 7.86 175 ⇑P Pn 00 24 04.1 0.0
baz=7.9
G20A Bridger 7.88 331 ⇑P Pn 00 24 05.6 +1.2
baz=7.9,SNR=50
432A Menard 7.96 161 ⇑P Pn 00 24 05.6 +0.1
baz=8.0
431A Sonora 7.97 167 ⇑P Pn 00 24 05.8 +0.2
baz=8.0
528A Cox Ranch, San 8.29 180 ⇑P Pn 00 24 11.2 +1.1
baz=8.3,SNR=16
527A Woodward Ranch 8.33 185 ⇓P Pn 00 24 11.9 +1.1
baz=8.4,SNR=10
JCT Junction City 8.34 162 ePn **Pn 00 24 11.5 +0.9**
529A Stev Forest Ra 8.34 177 ⇓P Pn 00 24 11.5 +0.8
baz=8.4,SNR=11
F20A Billings 8.35 333 ⇑P Pn 00 24 12.4 +1.7
baz=8.4
MIAR Mount Ida 8.37 115 ePn **Pn 00 24 11.0 0.0**
MIAR eSn **Sn 00 25 42.8 -2.9**
530A J-C Ranch, Com 8.38 172 ⇑P Pn 00 24 11.6 +0.2
baz=8.4
531A Rocksprings 8.48 167 ⇓P Pn 00 24 13.0 +0.3
baz=8.5,SNR=18
532A Rocksprings 8.65 163 ⇑P Pn 00 24 15.4 +0.4
baz=8.7,SNR=24
626A Big Bend Ranch 8.97 188 ⇑P Pn 00 24 20.7 +1.3
baz=9.0,SNR=6.8
TXAR Lajitas Array 9.14 185 Pn **Pn 00 24 20.6 -1.3**
TXAR Pg 00 24 57.9
TXAR Lg Lg 00 26 57.3
TXAR Lajitas Array 9.14 185 Pn **Pn 00 24 20.6 -1.3**
0.8nm,0.3s,baz=11,slow=11,SNR=22
TXAR Pg 00 24 57.9
4.8nm,0.3s,baz=7.8,slow=14,SNR=12
TXAR Lg Lg 00 26 57.3
6.8nm,0.3s,baz=10.0,slow=26,SNR=13
UALR University of 9.15 111 ePn **Pn 00 24 23.5 +1.7**
29nm,0.5s
631A Perdido Creek 9.21 168 ⇓P Pn 00 24 23.0 +0.3
baz=9.2,SNR=15
632A Uvalde 9.28 164 ⇓P Pn 00 24 23.9 +0.4
baz=9.3,SNR=26
SPMN St. Paul 10.03 45 ePn **Pn 00 24 33.1 -0.7**
SPMN St. Paul 10.03 45 ⇓P Pn 00 24 33.6 -0.1
baz=10.0,SNR=6.6
HDIL Hopedale 10.61 74 ePn **Pn 00 24 39.5 -2.3**
SIUC Southern Illin 10.70 90 ePn **Pn 00 24 43.5 +0.5**
SFIN Scholer Farm 12.27 76 ePn Pn 00 25 01.2 -3.2
ULM Lac du Bonnet 12.76 20 Pn **Pn 00 25 08.1 -2.9**
ULM Lg Lg 00 28 45.8
ULM Lac du Bonnet 12.76 20 Pn **Pn 00 25 08.1 -2.9**
2.9nm,0.3s,baz=202,slow=12,SNR=9.2
ULM Lg Lg 00 28 45.8
4.9nm,0.3s,baz=294,slow=18,SNR=5.0
TKL Tuckaleechee C 15.42 95 Pn **Pn 00 25 45.0 -2.3**
TKL Tuckaleechee C 15.42 95 Pn **Pn 00 25 45.0 -2.3**
0.5nm,0.3s,baz=284,slow=8.3,SNR=3.5
YBH Yreka Blue Hor 15.61 288 Pn **P 00 25 53.9 -0.2**
YBH Lg Lg 00 30 20.6
YBH Yreka Blue Hor 15.61 288 Pn **P 00 25 53.9 -0.2**
0.1nm,0.3s,baz=100,slow=6.1,SNR=2.2
YBH Lg Lg 00 30 20.7
0.1nm,0.3s,baz=342,slow=21,SNR=3.9
YKA Yellowknife Ar 25.12 347 P **P 00 27 34.2 -0.3**
YKA Yellowknife Ar 25.12 347 P **P 00 27 34.2 -0.3**
0.8nm,0.6s,baz=157,slow=11,SNR=3.8
SCHQ Schefferville 29.18 44 P **P 00 28 11.1 +0.1**
SCHQ Schefferville 29.18 44 P **P 00 28 11.1 +0.1**
1.9nm,0.7s,baz=250,slow=15,SNR=3.8
ILAR Eielson Array 36.75 330 P **P 00 29 18.1 +1.1**
ILAR Eielson Array 36.75 330 P **P 00 29 18.1 +1.1**
1.1nm,0.8s,baz=116,slow=6.9,SNR=9.4

IDC 17 00:26:07.6±2.6, 40.77°S×120.25°E, h0km, mb4.1/5, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, ML3.5/2, Error ellipse: s-maj=51.3km s-min=33.1km az=9.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**8.19**	**342**	Pn	Pn	00 28 08.4	+0.7
	4.2nm,0.3s,baz=161,slow=12,SNR=28						
NWAO				Sn	Sn	00 29 40.0	-0.9
	5.2nm,0.3s,baz=90,slow=20,SNR=4.9						
STKA	**Stephens Creek**	**19.32**	**69**	P	P	00 30 34.1	-0.2
	0.2nm,0.3s,baz=230,slow=7.9,SNR=3.1						
ASAR	**Alice Springs**	**20.55**	**38**	P	P	00 30 48.3	+0.5
	1.4nm,0.8s,baz=206,slow=9.2,SNR=7.1						
WRA	**Warramunga Arr**	**23.99**	**34**	P	P	00 31 24.2	+0.2
	2.0nm,0.7s,baz=203,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**62.16**	**337**	P	P	00 36 30.6	-0.1
	1.8nm,0.7s,baz=177,slow=6.1,SNR=9.6						
SONM	**Songino Array**	**89.07**	**351**	P	P	00 39 03.5	-0.7
	0.4nm,0.5s,baz=164,slow=4.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**98.06**	**335**	P	Pdif	00 39 45.5	+0.1
	0.2nm,0.3s,baz=126,slow=4.7,SNR=4.3						

---

*IDC **17** 00:33:45.4±0.4, 1.55°S×99.56°E, h0km, mb4.6/34, mb1 4.7/36, mb1mx4.7/38, mbtmp4.6/36, ML4.4/2, Error ellipse: s-maj=13.0km s-min=10.5km az=56.0*
*NEIC **17** 00:33:47.0±0.2, 1.57°S×99.55°E, h10km, mb4.9/27, Error ellipse: s-maj=6.1km s-min=4.9km az=72.0*
*DJA **17** 00:33:48.3±0.6, 2°S±4°×9°9E±°, h10km, M5.4/7, mB6.5/1, mb5.2/7, MLv5.4/3, Mw(mB)6.2/1*
*BJI **17** 00:33:49.8, 1.50S×99.60E, h42km, mB5.0/6, mb4.9/42, Ms5.3/10, Ms7 5.1/5*
*MOS **17** 00:33:49.4±1.0, 1.45S×99.63E, h33km, mb5.2/31, Error ellipse: s-maj=11.0km s-min=5.7km az=111.3*
*ISCJB **17** 00:33:50.7±0.8, 1.50S±0.04×99.58E±0.04, h46km±6km, mb4.9/94, MS5.4/4, Error ellipse: s-maj=7.9km s-min=5.4km az=142.6*

ISC 17 00:33:50.4±0.5, 1.57S±0.04×99.50E±0.05, h32km±2km, h32km:pP-P, n284, σ1$30/308, mb4.9/94, MS5.4/4, 23C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.42**	**39**	P	**Pn**	**00 34 13.5**	**-0.5**
BKNI	**Bangkinang**	**2.43**	**39**	P	**Pn**	**00 34 28.3**	**+0.4**
MASI	**Maura Aman, Be**	**3.15**	**120**	P	**Pn**	**00 34 39.8**	**+2.0**
KSI	**Kapahiang**	**3.72**	**124**	P	Pn	00 34 49.2	+3.6
PSI	**Prapat**	**4.38**	**352**	Pn	**Pn**	**00 34 53.5**	**-1.3**
PSI	**Prapat**	**4.38**	**352**	Pn	**Pn**	**00 34 53.5**	**-1.3**
	3.6nm,0.3s,baz=183,slow=11,SNR=46						
TSI	**Tuntungan**	**5.12**	**349**	P	**Pn**	**00 35 06.0**	**+1.1**
	521nm,0.8s						
FRIM	**Kepong**	**5.22**	**24**	P	**Pn**	**00 35 07.1**	**+0.8**
FRIM	**Kepong**	**5.22**	**24**	P	**Pn**	**00 35 07.1**	**+0.8**
MYKOM	**Kota Tinggi**	**5.48**	**53**	P	**Pn**	**00 35 12.2**	**+2.4**
MYKOM	**Kota Tinggi**	**5.48**	**53**	P	**Pn**	**00 35 10.8**	**+1.0**
	141nm,0.9s						
KLSI		**6.07**	**121**	P	**Pn**	**00 35 19.9**	**+1.9**
	97nm,0.7s						
IPM	**Ipoh**	**6.20**	**14**	ePn	**Pn**	**00 35 21.3**	**+1.5**
IPM	**Ipoh**	**6.20**	**14**	P	**Pn**	**00 35 20.8**	**+1.0**
IPM	**Ipoh**	**6.20**	**14**	P	**Pn**	**00 35 21.9**	**+2.1**
	198nm,0.9s						
KASI	**Kota Agung**	**6.35**	**128**	P	**Pn**	**00 35 22.3**	**+0.6**
	155nm,0.8s						
KULM	**Kulim**	**6.91**	**10**	ePn	**Pn**	**00 35 29.9**	**+0.4**
	123nm,0.8s						
KULM	**Kulim**	**6.91**	**10**	P	**Pn**	**00 35 30.1**	**+0.6**
KTGM	**Kuala Trenggan**	**7.75**	**28**	P	**Pn**	**00 35 41.8**	**+0.8**
BSI	**Banda Aceh**	**8.18**	**329**	P	**Pn**	**00 35 45.2**	**-1.8**
	49nm,0.6s						
DBJI	**Dramaga**	**8.76**	**125**	P	Pn	00 36 02.0	+7.1
SBUM	**Sibu**	**13.33**	**73**	P	Pn	00 37 01.2	+3.7
KKM	**Kota Kinabalu**	**18.32**	**65**	ePn	**P**	**00 38 01.9**	**-0.3**
	58nm,1.0s						
KKM	**Kota Kinabalu**	**18.32**	**65**	P	**Pn**	**00 38 03.3**	**+1.0**
SDKM	**Sandakan**	**19.07**	**68**	P	**Pn**	**00 38 11.4**	**+0.1**
KDM	**Kudat**	**19.24**	**64**	P	**Pn**	**00 38 14.3**	**+0.9**
TSM	**Tawau**	**19.26**	**72**	P	**Pn**	**00 38 14.6**	**+1.0**
CM31	**Chiang Mai Arr**	**19.91**	**358**	eP	**P**	**00 38 17.1**	**-2.4**
	19nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.91**	**358**	P	**P**	**00 38 17.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**19.91**	**358**	P	**P**	**00 38 17.4**	**-2.1**
	1.8nm,0.3s,baz=188,slow=11,SNR=28						
MYLDM	**Lahad Datu**	**20.13**	**70**	P	Pn	00 38 25.2	+1.3
CHTO	**Chiang Mai**	**20.26**	**358**	eP	**P**	**00 38 21.5**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,25nm,1.0s						
CHTO	**Chiang Mai**	**20.26**	**358**	eP	**P**	**00 38 21.4**	**-1.9**
	comp=Z,25nm,1.0s						
KAPI	**Kappang**	**20.50**	**100**	eP	**P**	**00 38 24.5**	**-1.5**
	comp=Z,47nm,0.9s						
KAPI	**Kappang**	**20.50**	**100**	P	**P**	**00 38 24.5**	**-1.5**
	comp=Z,62nm,1.1s,baz=289,slow=11,SNR=12						
QIZ	**Qiongzhong**	**22.86**	**26**	P	**P**	**00 38 50.3**	**-0.9**
QIZ				pmax	pmax		
	comp=Z,26nm,1.0s						
QIZ	**Qiongzhong**	**22.86**	**26**	eP	**P**	**00 38 50.2**	**-0.9**
	comp=Z,25nm,1.0s						
TGY	**Tagaytay City**	**26.34**	**53**	P	**P**	**00 39 23.1**	**-0.6**
TGY	**Tagaytay City**	**26.34**	**53**	P	**P**	**00 39 23.1**	**-0.6**
	comp=Z,96nm,0.3s,baz=155,slow=8.5,SNR=3.8						
KMI	**Kunming**	**26.72**	**7**	P	**P**	**00 39 27.5**	**+0.2**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
GYA	**Guiyang**	**28.71**	**13**	P	**P**	**00 39 47.8**	**+2.8**
GYA				pP	pP	00 39 58.8	+4.6
GYA				sP	sP	00 40 04.3	+6.2
GYA				PP	**PnPn**	**00 40 42.3**	**+6.1**
GYA				PcP	**PcP**	**00 42 58.0**	**+2.9**
GYA				S	**S**	**00 44 34.8**	**+2.5**
GYA				sS	sS	00 44 51.9	+4.3
GYA				ScP	**SS**	**00 46 35.4**	**+0.7**
GYA				ScS	**ScS**	**00 50 27.9**	**-0.1**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
FITZ	**Fitzroy Crossi**	**30.46**	**124**	P	**P**	**00 39 59.2**	**-1.3**

FITZ Fitzroy Crossi 30.46 124 P **P 00 39 59.2 -1.3**
comp=Z,8.0nm,0.8s,baz=296,slow=6.7,SNR=16
ODAN Odare 30.58 338 *eP* **P 00 40 03.0 +1.3**
comp=Z,24nm,0.5s
TAPN Taplejung 30.91 339 *eP* **P 00 40 05.8 +1.1**
comp=Z,76nm,1.0s
RAMN Ramite 30.96 337 *eP* **P 00 40 06.8 +1.7**
comp=Z,16nm,0.5s
JIRN Jiri 31.76 337 *eP* **P 00 40 13.7 +1.5**
comp=Z,30nm,0.7s
PKI Pulchoki 31.99 336 *eP* **P 00 40 14.7 +0.5**
LSA Lhasa 32.10 346 P **P 00 40 15.5 +0.2**
LSA Lhasa 32.10 346 *eP* **P 00 40 16.1 +0.8**
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 32.10 346 *eP* **P 00 40 16.1 +0.8**
comp=Z,23nm,0.6s
GUN Gumba 32.10 337 *eP* **P 00 40 16.7 +1.5**
comp=Z,40nm,0.6s
TPUB Ta-pu 32.16 39 *eP* **P 00 40 14.8 -0.5**
comp=Z,60nm,0.9s
KKN Kakani 32.24 336 *eP* **P 00 40 17.2 +1.0**
comp=Z,29nm,0.8s
CD2 Chengdu 32.55 7 *eP* **P 00 40 21.8 +3.0**
CD2 pP **pP 00 40 30.8 +2.8**
CD2 sP **sP 00 40 35.1 +3.2**
CD2 PP **PP 00 41 31.0 -1.8**
CD2 S **S 00 45 34.3 +2.0**
CD2 sS **sS 00 45 50.8 +3.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YULB Yu-li 32.64 39 *eP* **P 00 40 19.1 -0.5**
comp=Z,11nm,0.8s
SSLB Suanglung 32.72 38 *eP* **P 00 40 20.0 -0.3**
comp=Z,46nm,1.2s
KOLN Koldanda 32.94 333 *eP* **P 00 40 23.1 +0.7**
comp=Z,33nm,0.6s
ENH Enshi 33.07 16 *eP* **P 00 40 21.5 -1.7**
comp=Z,16nm,0.5s
DANN Dangsing 33.37 334 *eP* **P 00 40 26.7 +0.5**
XAN Xi'an 36.51 13 P **P 00 40 51.3 -1.7**
XAN pP **pP 00 41 00.4 -1.9**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,5μm,14.1s
LZH Lanzhou 37.68 6 *eP* **P 00 41 03.1 +0.1**
LZH pP **pP 00 41 13.5 +1.1**
LZH sP **sP 00 41 17.6 +1.3**
LZH PP **PnPn 00 42 33.0 +2.4**
LZH *e*S **S 00 46 52.0 +0.7**
LZH sS **ScP 00 47 09.3 +4.0**
LZH pmax pmax
comp=Z,45nm,1.2s
LZH pmax pmax
comp=Z,180nm,5.5s
LZH LR LR
comp=N,1μm,12.8s
LZH LR LR
comp=E,1μm,12.0s
LZH LR LR
comp=Z,2μm,16.5s
NJ2 Nanjing 38.14 27 *eP* P 00 41 10.3 +3.6
NJ2 pP pP 00 41 19.1 +3.0
NJ2 sP sP 00 41 22.3 +2.3
NJ2 S **ScP 00 47 02.8 -4.1**
NJ2 pmax pmax
comp=Z,14nm,0.8s
WRA Warramunga Arr 38.64 121 P **P 00 41 09.9 -1.3**
WRA PcP **PcP 00 43 23.1 0.0**
WRA Warramunga Arr 38.64 121 P **P 00 41 09.9 -1.3**
comp=Z,13nm,0.7s,baz=298,slow=9.2,SNR=71
WRA PcP **PcP 00 43 23.1 0.0**
comp=Z,0.9nm,0.6s,baz=312,slow=2.4,SNR=9.0
WRAB Tennant Creek 38.64 121 P **P 00 41 10.0 -1.2**
comp=Z,155nm,0.8s,SNR=15
WRAB Tennant Creek 38.64 121 *eP* **P 00 41 10.4 -0.8**
WRAB pmax pmax
comp=Z,17nm,0.7s
WRAB Tennant Creek 38.64 121 *eP* **P 00 41 10.4 -0.8**
comp=Z,17nm,0.7s
AS31 Alice Springs 39.91 126 *eP* **P 00 41 21.4 -0.4**
ASAR Alice Springs 39.91 126 P **P 00 41 21.3 -0.5**
ASAR PcP **PcP 00 43 27.5 +0.4**
ASAR S **S 00 47 21.1 -3.8**
ASAR Alice Springs 39.91 126 P **P 00 41 21.3 -0.5**
comp=Z,7.7nm,0.6s,baz=300,slow=7.8,SNR=81
ASAR PcP **PcP 00 43 27.5 +0.4**
comp=Z,1.8nm,0.7s,baz=307,slow=2.7,SNR=5.3
ASAR S **S 00 47 21.1 -3.8**
comp=Z,6.0nm,1.1s,baz=294,slow=16,SNR=14
GTA Gaotai 40.78 0 *eP* **P 00 41 29.3 +0.4**
GTA pmax pmax
comp=Z,12nm,1.4s
HHC Hu-ho-hao-te 43.63 13 *eP* **P 00 41 52.6 +0.6**
HHC PP **PP 00 43 36.3 +2.4**
HHC ScP **ScP 00 47 26.9 -1.6**
HHC PcS **PcS 00 47 31.5 -0.4**
HHC S **S 00 48 20.9 +1.3**
HHC sS **sS 00 48 37.0 +1.7**
HHC SS **SS 00 51 29.0 -6.5**
HHC ScS **ScS 00 51 47.0 -2.4**
HHC pmax pmax
comp=Z,69nm,0.7s
HHC LR LR
comp=N,1μm,17.4s
HHC LR LR
comp=E,3μm,17.1s
HHC LR LR
comp=Z,2μm,17.2s
BJT Baijiatuau 44.11 18 *eP* **P 00 41 55.5 -0.2**
comp=Z,36nm,1.1s
JNU Nakatsue 45.46 38 *eP* **P 00 42 06.0 -0.7**
comp=Z,15nm,0.9s
JNU Nakatsue 45.46 38 P **P 00 42 06.3 -0.4**
comp=Z,28nm,0.8s,baz=229,slow=11,SNR=15
KSH Kashi 46.23 335 *eP* **P 00 42 12.9 +0.1**
KSH sP **sP 00 42 25.9 -0.3**
KSH PP **PP 00 44 00.9 -0.9**
KSH S **S 00 48 53.1 -4.4**
KSH sS **sS 00 49 09.0 -4.2**
KSH SS **ScS 00 52 10.0 +3.8**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH pmax pmax
comp=Z,26μm,13.1s
KSH LR LR
comp=N,2μm,9.9s
KSH LR LR
comp=E,1μm,8.5s
WMQ Urumqi 46.41 348 P **P 00 42 15.8 +1.8**
WMQ pP **pP 00 42 25.3 +1.7**
WMQ pmax pmax
comp=Z,57nm,1.1s
WMQ LR LR
comp=N,9μm,22.0s
WMQ LR LR
comp=E,2μm,15.0s
WMQ LR LR
comp=Z,5μm,22.0s
KSAR Wonju Array Be 46.88 31 P **P 00 42 17.0 -0.8**
KSRS Korea Array 46.91 31 P **P 00 42 17.0 -1.0**
comp=Z,8.9nm,0.8s,baz=224,slow=8.7,SNR=36
CTAO Charters Tower 49.23 115 *eP* **P 00 42 35.7 -0.6**
CTAO pmax pmax
comp=Z,10.0nm,1.0s
CTAO Charters Tower 49.23 115 *eP* **P 00 42 35.7 -0.6**
comp=Z,10nm,1.0s
TKM2 Tokmak 2 49.24 337 *eP* **P 00 42 36.5 +0.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 49.24 337 *eP* **P 00 42 36.5 +0.3**
comp=Z,9.4nm,0.8s
SONM Songino Array 49.57 6 P **P 00 42 38.6 +0.1**
SONM PcP **PcP 00 44 00.2 +0.3**
SONM Songino Array 49.57 6 P **P 00 42 38.6 +0.1**
comp=Z,12nm,0.6s,baz=188,slow=9.5,SNR=101
SONM PcP **PcP 00 44 00.2 +0.3**
comp=Z,3.2nm,0.7s,baz=176,slow=4.2,SNR=3.4
ULN Ulaanbaatar 49.67 7 *eP* **P 00 42 38.8 -0.5**
comp=Z,11nm,0.7s
EKS2 Erkin-Say 49.77 335 *eP* **P 00 42 42.1 +2.0**
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 49.77 335 *eP* **P 00 42 42.1 +2.0**
comp=Z,15nm,0.8s
STKA Stephens Creek 49.80 132 P **P 00 42 40.8 +0.4**
STKA Stephens Creek 49.80 132 P **P 00 42 40.8 +0.4**
comp=Z,9.2nm,0.8s,baz=306,slow=8.6,SNR=16
MK31 Makanchi Array 50.48 345 *i P* **P 00 42 45.8 +0.5**
MK31 pmax pmax
comp=Z,21nm,0.6s
MKAR Makanchi Array 50.48 345 *eP* **P 00 42 46.1 +0.8**
MKAR Makanchi Array 50.48 345 *eP* **P 00 42 46.1 +0.8**
MKAR Makanchi Array 50.48 345 P **P 00 42 45.6 +0.3**
comp=Z,23nm,0.5s,baz=157,slow=8.4,SNR=133
CN2 Changchun 50.80 24 *eP* **P 00 42 46.4 -1.3**
CN2 *ep*P **pP 00 42 55.3 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 51.55 333 *i P* **P 00 42 54.9 +1.5**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 51.55 333 *eP* P 00 42 57.0 +3.6
KKAR Karatay Array 51.55 333 *eP* P 00 42 57.0 +3.6
MJAR Matsushiro Arr 52.26 40 P **P 00 42 58.0 -0.8**
MJAR Matsushiro Arr 52.26 40 P **P 00 42 58.0 -0.8**
comp=Z,4.3nm,0.8s,baz=225,slow=8.5,SNR=13
HVS Khovu-Aksy 52.74 355 ⇓*i P* **P 00 43 02.1 -0.1**
HVS pmax pmax
comp=Z,29nm,0.6s
USRK Ussuriysk Arra 54.02 29 P **P 00 43 11.0 -0.6**
comp=Z,26nm,0.8s,baz=229,slow=5.5,SNR=54
KURBB Kurchatov Arra 55.00 344 P **P 00 43 18.9 +0.4**
comp=Z,16nm,0.8s,baz=160,slow=7.1,SNR=33
KURK Kurchatov 55.06 344 P **P 00 43 19.0 0.0**
KURK Kurchatov 55.06 344 P **P 00 43 18.9 0.0**
ZALV Zalesovo Beam 56.66 350 *i P* **P 00 43 30.6 +0.2**
ZALV pmax pmax
comp=Z,53nm,0.8s
ZALV Zalesovo Beam 56.66 350 P **P 00 43 30.4 0.0**
ZALV Zalesovo Beam 56.66 350 P **P 00 43 30.4 0.0**
comp=Z,53nm,0.8s,baz=172,slow=6.4,SNR=156
KRAR Krasnoyarsk 57.65 356 ⇓*i P* **P 00 43 38.6 +1.3**
KRAR pmax pmax
comp=Z,60nm,0.7s
NVS Novosibirsk 57.80 349 *eP* **P 00 43 37.9 -0.5**
NVS pmax pmax
comp=Z,63nm,2.1s
NVS pmax pmax
comp=N,11nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
RDF Al-Radifah 58.20 306 *eP* **P 00 43 41.6 -0.2**
RDF AMb AMB 00 43 43.3
comp=Z,33nm,1.3s
NAY Al-Naaiem 58.57 306 *eP* **P 00 43 44.0 -0.3**
NAY AMb AMB 00 43 45.5
comp=Z,12nm,1.3s
MIB Mutribah 58.70 307 *eP* **P 00 43 44.5 -0.8**
MIB AMb AMB 00 43 46.4
comp=Z,33nm,1.2s
VOSK Vostochnaya 59.16 340 P **P 00 43 47.0 -1.0**
VOSK pmax pmax
comp=Z,10.0nm,0.9s
ASAJ Asahikawa 59.54 35 *eP* **P 00 43 50.9 +0.1**
comp=Z,4.2nm,0.8s
BVAR Borovoye Array 59.61 340 P **P 00 43 50.6 -0.6**
BVAR Borovoye Array 59.61 340 P **P 00 43 50.6 -0.6**
BVAR Borovoye Array 59.61 340 P **P 00 43 50.6 -0.6**
comp=Z,4.2nm,0.6s,baz=138,slow=8.8,SNR=24
BRVK Borovoye 59.68 340 ⇑*i P* **P 00 43 51.6 0.0**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 59.68 340 *eP* **P 00 43 51.4 -0.2**
comp=Z,5.4nm,0.6s
AB31 Akbulak array 61.03 332 P **P 00 44 00.2 -0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 61.03 332 *eP* **P 00 44 00.8 -0.1**
YSS Yuzh-Sakhalins 61.38 32 *eP* **P 00 44 04.0 +0.7**
YSS *i* 00 44 13.3
YSS pmax pmax
comp=Z,40nm,1.0s
KMBO Kilima Mbogo 62.23 270 P **P 00 44 11.3 +1.3**
KMBO Kilima Mbogo 62.23 270 P **P 00 44 11.3 +1.3**
comp=Z,5.1nm,0.8s,baz=63,slow=13,SNR=13
AKTO Aktyubinsk 62.74 332 P **P 00 44 12.5 +0.1**
AKTO Aktyubinsk 62.74 332 P **P 00 44 12.5 +0.1**
AKTO Aktyubinsk 62.74 332 P **P 00 44 12.5 +0.1**
comp=Z,4.2nm,0.9s,baz=133,slow=2.4,SNR=4.5
SVE Sverdlovsk 66.10 338 *eP* **P 00 44 33.9 -0.3**
SVE pmax pmax
comp=Z,22nm,1.0s
ZEI Tsey 66.58 319 *eP* **P 00 44 37.5 -0.4**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 66.62 337 *c iP* **P 00 44 37.8 +0.3**
ARU 00 46 59.7
ARU S **S 00 53 26.3 -0.3**
ARU pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 67.66 319 P **P 00 44 44.9 +0.5**
KBZ Khabaz 67.66 319 P **P 00 44 44.9 +0.5**
KBZ Khabaz 67.66 319 P **P 00 44 44.9 +0.5**
comp=Z,5.0nm,0.7s,baz=116,slow=7.6,SNR=14
KIV Kislovodsk 67.89 319 *eP* **P 00 44 46.7 +0.7**
KIV pmax pmax
comp=Z,18nm,1.1s
ASF Jabal al Asfar 67.94 306 P **P 00 44 46.9 +0.3**
ASF Jabal al Asfar 67.94 306 P **P 00 44 46.9 +0.3**
comp=Z,4.8nm,1.1s,baz=120,slow=3.7,SNR=4.5
EIL Elat 68.87 303 P **P 00 44 52.3 0.0**
EIL Elat 68.87 303 P **P 00 44 52.3 0.0**
comp=Z,4.6nm,0.8s,baz=74,slow=5.2,SNR=5.0
DRV Dumont d'Urvil 70.87 164 L L 00 45 00.0
DRV R 00 49 00.0
VRHR Novokhopersk 71.70 326 *eP* **P 00 45 08.2 -0.9**
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
BR131 Keskin Array S 72.67 312 *eP* **P 00 45 14.1 -1.3**
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 72.67 312 P **P 00 45 14.7 -0.8**
BRTR Keskin Array B 72.67 312 P **P 00 45 14.7 -0.8**
comp=Z,1.7nm,0.6s,baz=129,slow=6.0,SNR=14
PETK Petropavlovsk- 72.79 32 P **P 00 45 15.1 -0.6**
PETK Petropavlovsk- 72.79 32 P **P 00 45 15.1 -0.6**
PETK Petropavlovsk- 72.79 32 P **P 00 45 15.1 -0.6**
comp=Z,5.6nm,0.8s,baz=207,slow=4.7,SNR=8.6
PET Petropavlovsk 73.27 33 *i P* **P 00 45 18.3 -0.1**
LBTB Lobatse 74.76 245 P **P 00 45 27.6 -0.3**
LBTB Lobatse 74.76 245 P **P 00 45 27.6 -0.3**
comp=Z,3.5nm,0.8s,baz=97,slow=11,SNR=3.8
SEY Seymchan 75.42 22 ⇓*iP* **P 00 45 30.8 0.0**
BOSA Boshof 75.43 241 P **P 00 45 31.1 -0.6**
BOSA Boshof 75.43 241 P **P 00 45 31.1 -0.6**
comp=Z,3.4nm,0.8s,baz=90,slow=5.5,SNR=6.8
TIXI Tiksi 75.51 9 ⇓*eP* **P 00 45 32.6 +1.4**
TIXI pmax pmax
comp=Z,16nm,1.7s
OBN Obninsk 76.17 328 P **P 00 45 35.0 -0.2**
OBN *e*PP **pP 00 45 44.3 -0.9**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,4μm,17.0s
AKASG Malin Array Be 78.84 322 P **P 00 45 49.1 -1.1**
AKASG Malin Array Be 78.84 322 P **P 00 45 49.1 -1.1**
AKASG Malin Array Be 78.84 322 P **P 00 45 49.1 -1.1**
comp=Z,0.3nm,0.3s,baz=87,slow=5.4,SNR=7.1
VRI Vrincioaia 79.20 317 ⇑P **P 00 45 52.9 +0.5**
VRI Vrincioaia 79.20 317 ⇑*i*P **P 00 45 52.9 +0.5**
TESR Tescani 79.41 318 ⇑*i*P **P 00 45 53.8 +0.3**
MLR Muntele Rosu 79.65 317 ⇑*i*P **P 00 45 55.6 +0.6**
PRAR RASCA 79.89 319 ⇑*i*P **P 00 45 56.7 +0.6**
VOIR 80.25 317 ⇑P **P 00 45 57.9 -0.3**
VOIR 80.25 317 ⇑*i*P **P 00 45 57.9 -0.3**
ARR Arges 80.52 316 ⇑*i*P **P 00 45 59.3 -0.3**
BURAR Bucovina Array 80.61 319 ⇑P **P 00 46 01.0 +0.9**
BURAR Bucovina Array 80.61 319 ⇑*i*P **P 00 46 01.0 +0.9**
VTS Vitosha 80.99 313 ⇑P **P 00 46 02.2 -0.1**
VTS Vitosha 80.99 313 ⇑*i*P **P 00 46 02.2 -0.1**
FX1 Attu Island--F 81.44 36 *eP* **P 00 46 03.9 -0.4**
TSUM Tsumeb 81.85 251 P **P 00 46 07.9 +0.6**
TSUM Tsumeb 81.85 251 P **P 00 46 07.9 +0.6**
comp=Z,4.3nm,0.9s,baz=95,slow=3,3,SNR=6.7
BZS Buzias 82.65 316 ⇑P **P 00 46 10.9 +0.1**
BZS Buzias 82.65 316 ⇑*i*P **P 00 46 10.9 +0.1**
KWP Kalwaria Pacla 82.66 320 ⇑P **P 00 46 12.5 +1.7**
KWP Kalwaria Pacla 82.66 320 ⇑*i*P **P 00 46 12.4 +1.7**
VNDA Vanda 82.68 169 *eP* **P 00 46 11.4 +1.1**
comp=Z,11nm,1.5s
VNDA Vanda 82.68 169 P **P 00 46 10.9 +0.6**
comp=Z,2.2nm,0.9s,baz=320,slow=6.1,SNR=9.4
KOLS Kolonicke sedl 82.80 320 *eP* **P 00 46 12.5 +1.0**
KOLS Kolonicke sedl 82.80 320 *eP* **P 00 46 12.5 +1.0**
SUW Suwalki 83.25 325 *eP* **P 00 46 13.4 -0.3**
SUW pmax pmax
comp=Z,47nm,1.0s
SUW Suwalki 83.25 325 *eP* **P 00 46 13.4 -0.3**
comp=Z,47nm,1.0s
CRVS Cervenica-Dubn 83.33 319 *eP* P 00 46 19.8 +5.6
CRVS Cervenica-Dubn 83.33 319 *eP* P 00 46 19.8 +5.6
FINES FINESS Array B 83.50 332 P **P 00 46 15.0 +0.2**
FINES FINESS Array B 83.50 332 P **P 00 46 15.0 +0.2**
comp=Z,3.5nm,0.6s,baz=104,slow=5,9,SNR=18
STHS Stebnicka Huta 83.56 320 *eP* **P 00 46 16.6 +1.2**
STHS Stebnicka Huta 83.56 320 *eP* **P 00 46 16.6 +1.2**
KAF Kangasniemi 83.58 333 *eP* **P 00 46 16.0 +0.8**
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 83.58 333 *ep* **P 00 46 16.0 +0.8**
comp=Z,6.9nm,0.6s
SBA Scott Base 83.77 169 *eP* **P 00 46 17.5 +1.6**
SBA pmax pmax
comp=Z,48nm,2.2s
SBA Scott Base 83.77 169 *eP* **P 00 46 17.5 +1.6**
comp=Z,48nm,2.2s
KECS Kecovo 83.89 319 *eP* **P 00 46 17.8 +0.7**
KECS Kecovo 83.89 319 *eP* **P 00 46 17.8 +0.7**
PKSM Moragy 84.80 316 ⇑P **P 00 46 21.8 +0.1**
PKSM Moragy 84.80 316 ⇑*i*P **P 00 46 21.8 +0.1**
OKC Ostrava-Krasne 85.61 320 *eP* **P 00 46 27.5 +1.8**
OKC *e* 00 46 36.0
OKC Ostrava-Krasne 85.61 320 *eP* **P 00 46 27.5 +1.8**
OKC *ex* x 00 46 36.0
ARCES ARCESS Array B 85.90 340 P **P 00 46 28.0 +1.2**
ARCES ARCESS Array B 85.90 340 P **P 00 46 28.0 +1.2**
comp=Z,8.9nm,1.1s,baz=101,slow=4.9,SNR=14
ZST Bratislava 86.09 318 *eP* **P 00 46 28.5 +0.4**
ZST Bratislava 86.09 318 *eP* **P 00 46 28.5 +0.4**
DPC Dobruska-Polom 86.84 320 *eP* **P 00 46 32.5 +0.6**
DPC *e* 00 46 40.5
DPC Dobruska-Polom 86.84 320 *eP* **P 00 46 32.5 +0.6**
DPC *ex* x 00 46 40.5
KSP Ksiaz 86.91 321 *eP* **P 00 46 32.1 0.0**
BOJS Bojanci 87.07 316 *i P* **P 00 46 33.5 +0.5**
PERS Pernice 87.27 317 *i P* **P 00 46 34.8 +0.8**
PDKS Podkum 87.30 316 *i P* **P 00 46 35.2 +1.0**
SOKA Soboth 87.33 317 ⇓*iP* **P 00 46 34.7 +0.4**
comp=Z,7.8nm,1.1s
JAVS Javornik 87.93 316 *i P* **P 00 46 36.7 -0.6**
PRU Pruhonice 87.94 320 *eP* **P 00 46 37.8 +0.7**
PRU *e* 00 46 47.3
PRU Pruhonice 87.94 320 *eP* **P 00 46 37.8 +0.7**
PRU *ex* x 00 46 47.3
AQU L'Aquila 88.16 312 *eP* **P 00 46 39.3 +0.9**
comp=Z,20nm,0.9s
QSPA South Pole Qui 88.39 180 P **P 00 46 39.7 +0.6**
QSPA South Pole Qui 88.39 180 P **P 00 46 39.7 +0.6**
comp=Z,5.7nm,1.0s,baz=325,slow=2.2,SNR=8.0
BRG Berggiesshubel 88.40 321 *eP* **P 00 46 41.4 +2.1**
comp=Z,4.3nm,1.1s
BRG *e* 00 46 49.9
comp=Z,12nm,1.5s
BRG Berggiesshubel 88.40 321 *eP* **P 00 46 41.4 +2.1**
BRG *e* 00 46 49.9
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.5s
GERES GERESS Array B 88.40 319 P **P 00 46 39.6 +0.2**
GERES GERESS Array B 88.40 319 P **P 00 46 39.6 +0.2**
comp=Z,2.0nm,1.0s,baz=92,slow=3.3,SNR=9.2
KHC Kasperske Hory 88.50 319 *eP* **P 00 46 40.5 +0.6**
KHC *e* 00 46 49.3
KHC Kasperske Hory 88.50 319 *eP* **P 00 46 40.5 +0.6**
KHC *ex* x 00 46 49.3
CLL Collm 89.02 321 *eP* **P 00 46 42.0 -0.2**
CLL *i* *PP **pP 00 46 50.8 -1.6**
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 89.02 321 *eP* **P 00 46 42.0 -0.2**
comp=Z,5.0nm,1.2s
CLL *i* (sP) **pP 00 46 50.8 -1.6**
comp=Z,8.0nm,1.1s
WTTA Wattenberg 89.69 317 ⇓*iP* **P 00 46 45.2 -0.5**
comp=Z,7.1nm,0.9s
MOTA Moosalm 90.06 317 ⇓*iP* **P 00 46 47.4 +0.1**
comp=Z,8.7nm,1.0s
GRFO Grafenberg 90.07 320 *eP* **P 00 46 48.1 +1.0**
GRFO pmax pmax
comp=Z,8.0nm,0.9s
GRFO Grafenberg 90.07 320 *eP* **P 00 46 48.1 +1.0**
comp=Z,8.0nm,0.9s
RETA Reutte 90.29 317 ⇑*i*PcP **PcP 00 46 48.9 -0.6**
comp=Z,8.6nm,1.0s
FETA Feichten 90.30 317 ⇑*iP* **P 00 46 48.2 -0.3**
comp=Z,6.6nm,1.0s
FUORN Ofenpass-Fuorn 90.61 316 *eP* **P 00 46 51.2 +1.1**
comp=Z,18nm,1.0s
DAVOX Davos/Dischmat 90.87 317 P **P 00 46 52.1 +0.9**
DAVOX Davos/Dischmat 90.87 317 P **P 00 46 52.1 +0.9**
comp=Z,4.9nm,0.8s,baz=128,slow=3.9,SNR=11
DAVA Damuels 90.89 317 ⇑*i*PcP **PcP 00 46 51.7 -0.5**
comp=Z,14nm,1.0s
KEST Kesra 91.03 306 *eP* **P 00 46 52.9 +0.9**
KEST Kesra 91.03 306 P **P 00 46 53.0 +0.9**
comp=Z,2.4nm,1.0s,baz=315,slow=4.3,SNR=5.3
BFO Black Forest 91.94 318 *eP* P 00 47 04.2 +8.3
BFO pmax pmax
comp=Z,5.0nm,1.0s
BFO Black Forest 91.94 318 *eP* P 00 47 04.2 +8.3
comp=Z,4.7nm,1.0s
SNAA Sanae 92.39 198 P **P 00 46 58.6 +1.0**
SNAA Sanae 92.39 198 P **P 00 46 58.6 +1.0**
comp=Z,0.5nm,0.8s,baz=158,slow=7.3,SNR=6.6
LPG La Plagne 93.04 315 *eP* **P 00 47 01.8 +0.4**
LPL La Plagne 93.06 315 *eP* **P 00 47 01.7 +0.3**
comp=Z,11nm,1.0s
HAU Hauodmpre 93.27 318 *eP* **P 00 47 02.1 0.0**
comp=Z,7.8nm,0.9s
MEZF Maizieres J'vi 94.12 318 *eP* **P 00 47 06.3 +0.4**
LOR Lormes 94.98 317 *eP* **P 00 47 10.0 +0.1**
comp=Z,11nm,1.2s
SMF Signal de Mont 95.03 317 *eP* **P 00 47 10.2 +0.1**
comp=Z,14nm,1.2s
TORD Torodi Ar. Bea 97.96 283 P **P 00 47 23.8 -0.3**
TORD Torodi Ar. Bea 97.96 283 P **P 00 47 23.8 -0.3**
comp=Z,0.4nm,0.7s,baz=89,slow=5.0,SNR=3.3
IMA2 Indian Mountai 98.21 23 *eP* Pdif 00 47 25.0 +0.7
ILAR Eielson Array 101.31 24 PKKPbc PKKPbc 01 03 47.5 -2.5
ILAR Eielson Array 101.31 24 PKKPbc PKKPbc 01 03 47.5 -2.5
comp=Z,0.5nm,0.7s,baz=151,slow=2.4,SNR=6.2
BSMT Bassoo Peak 125.20 28 *e*PKPdf **PKPdf 00 52 47.8 -0.4**
DLMT Dillon 128.05 28 *e*PKPdf **PKPdf 00 52 54.7 +1.0**
NVAR Mina Array Bea 129.58 39 PKP **PKPdf 00 52 58.3 +1.4**
NVAR Mina Array Bea 129.58 39 PKP **PKPdf 00 52 58.3 +1.4**
comp=Z,0.6nm,0.7s,baz=298,slow=1.9,SNR=4.2
PDAR Pinedale Array 131.44 28 PKP **PKPdf 00 53 00.4 0.0**
PDAR SKPbc **SKPbc 00 56 23.6 +0.3**
PDAR Pinedale Array 131.44 28 PKP **PKPdf 00 53 00.4 0.0**
comp=Z,0.4nm,0.6s,baz=207,slow=1.8,SNR=3.6
PDAR SKPbc **SKPbc 00 56 23.6 +0.3**
comp=Z,0.4nm,0.3s,baz=297,slow=1.3,SNR=5.7
MNTX Cornudas Mount 141.93 36 *e*PKPdf **PKPdf 00 53 18.4 -1.4**
JSRW J. Sargeant Re 143.97 356 *e*PKPdf PKPab 00 53 19.6 -0.8
CPUP Villa Florida 144.36 217 *e*PKPdf PKPbc 00 53 22.7 +0.2
CPUP PKP **PKPab 00 53 22.9 +0.8**
CPUP Villa Florida 144.36 217 PKP PKPbc 00 53 22.9 +0.5
comp=Z,16nm,0.7s,baz=109,slow=2.1,SNR=53
TXAR Lajitas Array 144.66 36 PKP PKPbc 00 53 24.1 +0.5
TXAR Lajitas Array 144.66 36 PKP PKPbc 00 53 24.1 +0.5
comp=Z,8.5nm,0.7s,baz=290,slow=2.7,SNR=84
WVT Waverly 144.95 10 *e*PKIKP **PKPab 00 53 23.3 -0.8**
WVT Waverly 144.95 10 *e*PKPdf **PKPab 00 53 23.3 -0.8**
MIAR Mount Ida 145.00 19 *e*PKIKP PKPbc 00 53 24.5 +0.2
MIAR Mount Ida 145.00 19 *e*PKPdf PKPbc 00 53 24.5 +0.2
CFAA Coronel Fontan 145.01 198 PKPbc **PKPdf 00 53 25.2 0.0**

CFAA	Coronel Fontan	145.01	198	PKPbc	PKPdf	00 53 25.2	0.0
	comp=Z,3.5nm,0.7s,baz=150,slow=3.3,SNR=60						
TZTN	Tazewell	145.09	4	ePKPdf	PKPbc	00 53 24.2	-0.3
UALR	University of	145.17	17	ePKPdf	PKPbc	00 53 24.3	-0.5
JCT	Junction City	145.91	31	ePKP2	PKPab	00 53 27.7	-0.2
JCT	Junction City	145.91	31	ePKPdf	PKPab	00 53 27.7	-0.2
TKL	Tuckaleechee C	145.95	5	ePKPdf	PKPdf	00 53 26.6	0.0
CPCT	Cooper Cave	146.08	6	ePKPdf	PKPbc	00 53 27.3	-0.4
OXF	Oxford	146.19	13	ePKP2	PKPbc	00 53 27.8	-0.3
OXF	Oxford	146.19	13	ePKPdf	PKPbc	00 53 27.8	-0.3
CNNC	Cliffs of the	146.41	356	ePKPdf	PKPbc	00 53 28.8	+0.2
LRAL	Lakeview Retre	148.11	10	ePKPbc	PKPbc	00 53 33.1	-0.4
HKT	Hockley	148.24	26	ePKIKP	PKPdf	00 53 29.5	-1.0
HKT	Hockley	148.24	26	ePKPdf	PKPdf	00 53 29.5	-1.0
SIV	San Ignacio	154.06	227	PKPbc	PKPbc	00 53 47.8	-0.2
SIV	San Ignacio	154.06	227	PKPbc	PKPbc	00 53 47.8	-0.2
	comp=Z,1.7nm,0.7s,baz=110,slow=3.0,SNR=6.8						

KRSC 17 00:35:35.6±0.7, 55°.15N×160°.36E, h5km±5km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.18	317	eP		Pg 00 35 40.0	+0.6
KMNR	Kamenistaya	0.61	353	eP		Pg 00 35 48.1	+0.6
KMNR				eS		Sb 00 35 57.5	-0.5
BZMR	Bezymyannaya	0.79	5	P		Pb 00 35 52.5	+0.4
BZMR				i S		Sn 00 36 05.4	-0.6
KIRR	Kirishev	0.81	359	eP		Pb 00 35 52.0	-0.3
KIRR				eS		Sb 00 36 04.4	+0.8
BZGR	Bezymyannyi-Gr	0.81	13	eP		Pb 00 35 52.7	+0.3
BZGR				eS		Sn 00 36 05.4	-1.1
BZWR	Bezymyannyi-We	0.82	5	P		Pb 00 35 53.2	+0.6
BZWR				i S		Sn 00 36 06.6	-0.1
KPT	Kopyto	0.82	355	eP		Pb 00 35 53.0	+0.5
KPT				eS		Sn 00 36 05.8	-0.8
ZLN	Zelenaya	0.91	16	P		Pn 00 35 54.8	-0.3
ZLN				i S		Sn 00 36 09.6	+0.9
KOZ	Kozyrevsk	0.95	343	P		Pb 00 35 55.1	+0.5
KOZ				i S		Sn 00 36 09.4	-0.2
LGNR	Loginova	0.95	11	P		Pn 00 35 56.1	+0.1
LGNR				i S		Sn 00 36 11.1	+0.8
MKZ	Mys Kozlova	0.99	126	P		Pb 00 35 55.0	-0.2
MKZ				i S		Sn 00 36 09.7	-0.8
CIRR	Tsirk	0.99	13	eP		Pb 00 35 55.9	+0.4
CIRR				eS		Sn 00 36 11.5	+0.6
KRSR	Krestovskiy	1.08	6	P		Pb 00 35 57.0	+0.1
KRSR				i S		Sn 00 36 13.0	+0.1
KLY	Klyuchi	1.18	8	eP		Pn 00 35 58.9	+0.2
KLY				eS		Sn 00 36 16.0	+0.9
ESO	Esso	1.22	310	eP		Pg 00 35 57.4	-1.7
ESO				eS		Sg 00 36 13.8	-1.2
SRDR	Sredinnyy	1.23	343	P		Pb 00 35 59.3	0.0
SRDR				i S		Sn 00 36 16.4	-0.1
KII	Karymskiy	1.24	206	eP		Pn 00 35 59.7	+0.1
KII				eS		Sn 00 36 17.3	+0.5
BDR	Baidarnaya	1.50	18	eP		Pg 00 36 04.7	+0.2
BDR				eS		Sg 00 36 25.5	+1.5
SMKR	Semkarok	1.56	23	eP		Pg 00 36 05.6	-0.1
SMKR				eS		Sg 00 36 27.4	+1.3
SRKR	Sorokina	1.57	16	eP		Pb 00 36 05.5	+0.2
SRKR				eS		Sg 00 36 27.4	+1.0
KBTR	Krutoberegovo	1.75	52	eP		Pn 00 36 07.3	+0.7
KBTR				eS		Sb 00 36 30.6	+0.1
GNL	Ganaly	2.03	225	eP		Pn 00 36 11.5	+0.9
GNL				eS		Sn 00 36 37.5	+1.1
SDLR	Sedlovina	2.07	205	eP		Pb 00 36 13.3	-0.4
SDLR				eS		Sg 00 36 41.3	-1.0
SPN	Mys Shipunski	2.07	186	eP		Pn 00 36 11.4	+0.5
SPN				eS		Sn 00 36 37.4	+0.4
NLC	Nalytchevo	2.07	197	eP		Pb 00 36 12.5	-1.1
NLC				eS		Sb 00 36 39.5	-0.1
KRER	Koryakskii	2.08	208	eP		Pb 00 36 14.3	+0.3
SMAR	Somma	2.10	206	eP		Pb 00 36 14.1	-0.3
SMAR				eS		Sg 00 36 42.5	-1.1
AVH	Avacha	2.12	207	eP		Pb 00 36 14.1	-0.4
KOK	Koryaka	2.12	209	eP		Pb 00 36 14.5	-0.1
KOK				eS		Sg 00 36 43.4	-0.5
UGLR	Uglovaya	2.14	206	eP		Pb 00 36 14.6	-0.5
UGLR				eS		Sb 00 36 43.3	+1.3
RUS	Russkaya	2.93	203	eP		Pn 00 36 25.3	+2.5
RUS				eS		Sn 00 37 01.1	+2.7
BKI	Bering	3.22	87	P		Pn 00 36 27.1	+0.4
BKI				i S		Sn 00 37 05.1	-0.3

IDC 17 00:47:15.1±2.4, 14°.06S×14°.12W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/24, mbtmp3.9/5, MS4.7/1, Ms1 4.6/1, ms1mx4.4/25, Error ellipse: s-maj=186.7km s-min=29.0km az=101.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	31.24	31	P		P 00 53 37.0	+0.4
	0.6nm,0.6s,baz=217,slow=9.5,SNR=11						
BDFB	Brasilia	32.78	263	LR		LR 01 06 10.7	
	comp=Z,1μm,19.7s,baz=5.6,slow=35						
SNAA	Sanae	57.99	176	P		P 00 57 09.3	0.0
	0.5nm,1.0s,baz=348,slow=9.3,SNR=4.3						
GERES	GERESS Array B	67.31	20	P		P 00 58 12.0	+0.3
	0.4nm,0.6s,baz=190,slow=5.0,SNR=6.8						
AKASG	Malin Array Be	74.78	27	P		P 00 58 56.0	-0.9
	1.4nm,0.7s,baz=220,slow=5.6,SNR=7.9						
FINES	FINESS Array B	81.69	18	P		P 00 59 35.4	+0.4
	9.8nm,1.2s,baz=225,slow=5.7,SNR=4.5						

IDC 17 00:48:35.6±1.9, 1°.82S×99°.07E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML2.9/1, MS4.5/1, Ms1 4.5/1, ms1mx3.7/37, Error ellipse: s-maj=78.5km s-min=20.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.59	358	Pn		Pn 00 49 44.0	-2.5
	0.6nm,0.3s,baz=204,slow=10.0,SNR=3.8						
PSI				LR		LR 00 51 06.8	
	comp=Z,6μm,18.6s,baz=223,slow=34						
CMAR	Chiang Mai Arr	20.15	360	P		P 00 53 11.0	-0.5
	1.1nm,0.3s,baz=185,slow=9.9,SNR=3.2						
WRA	Warramunga Arr	38.88	120	P		P 00 56 02.5	-0.7
	0.8nm,0.8s,baz=303,slow=8.9,SNR=5.7						
ASAR	Alice Springs	40.11	126	P		P 00 56 13.2	-0.2
	0.6nm,0.8s,baz=311,slow=8.5,SNR=4.0						
SONM	Songino Array	49.86	6	P		P 00 57 31.5	+0.7
	0.2nm,0.3s,baz=188,slow=8.7,SNR=3.4						
MKAR	Makanchi Array	50.61	345	P		P 00 57 36.0	-0.3
	0.9nm,0.7s,baz=161,slow=8.5,SNR=6.9						
ZALV	Zalesovo Beam	56.83	350	P		P 00 58 21.3	-0.4
	0.9nm,0.3s,baz=164,slow=5.8,SNR=5.8						
BVAR	Borovoye Array	59.70	340	P		P 00 58 41.6	-0.3
	0.6nm,0.6s,baz=139,slow=9.0,SNR=3.5						
CPUP	Villa Florida	143.91	218	PKP		PKPdf 01 08 12.8	-1.0
	0.5nm,0.4s,baz=114,slow=5.8,SNR=3.6						
TXAR	Lajitas Array	145.11	36	PKPbc		PKPdf 01 08 15.9	0.0
	0.9nm,0.7s,baz=306,slow=2.1,SNR=9.1						

IDC 17 01:08:25.6±2.1, 23°.41N×123°.79E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=167.9km s-min=19.6km az=66.0
JMA 17 01:08:29.3±0.3, 23°.35N×123°.80E, h43km±4km, M3.8
ISCJB 17 01:08:30.0±1.3, 23°.39N±0°.09×123°.79E±0°.06, h48km±13km, mb3.5/5, Error ellipse: s-maj=15.3km s-min=9.4km az=178.9

ISC 17 01:08:29.9±2.1, 23°.39N±0°.09×123°.79E±0°.07, h29km±14km, n13, σ0°.42/20, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.66	1	P		Pb 01 08 43.0	0.0
HATJ				eS		Sn 01 08 52.7	0.0
JKRS	Kuro-shima	0.86	13	P		Pn 01 08 46.1	0.0
JKRS				S		Sn 01 08 58.8	+1.1
IRIF	Iriomote-Funau	0.94	356	P		Pn 01 08 47.2	+0.1
IRIF				eS		Sb 01 08 59.7	-0.1
JIJ	Ishigaki jima	1.02	18	P		Pn 01 08 47.9	-0.3
JIJ				S		Sn 01 09 01.1	-0.4
YOJ	Yonaguni jima	1.28	326	P		Pn 01 08 52.0	+0.2
YOJ				eS		Sn 01 09 08.2	+0.2
JTJ	Tarama	1.50	34	P		Pn 01 08 54.9	+0.2
JTJ				S		Sn 01 09 13.4	+0.1
JMJ	Miyako jima 2	1.97	44	eS		Sn 01 09 25.0	0.0
JOGS	Gusukube	2.01	47	P		Pn 01 09 01.7	-0.1
JOGS				eS		Sn 01 09 26.5	+0.6
SONM	Songino Array	28.06	335	P		P 01 14 18.7	-0.2
	0.3nm,0.5s,baz=161,slow=9.2,SNR=3.6						
MKAR	Makanchi Array	40.57	316	P		P 01 16 06.9	+0.2
	0.4nm,0.5s,baz=102,slow=11,SNR=8.7						
ZALV	Zalesovo Beam	42.21	326	P		P 01 16 19.4	-0.7
	0.8nm,0.4s,baz=115,slow=6.4,SNR=4.0						
WRA	Warramunga Arr	44.28	166	P		P 01 16 36.9	-0.2
	0.5nm,0.7s,baz=346,slow=8.7,SNR=2.6						
ASAR	Alice Springs	47.80	167	P		P 01 17 05.3	+0.5
	0.2nm,0.2s,baz=354,slow=8.6,SNR=4.5						

WEL 17 01:09:18.3±0.9, 47°.73S×165°.44E, h33km, ML3.7/5, Error ellipse: s-maj=8.0km s-min=7.3km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	1.95	64	PN	Pn	01 09 47.6	-1.5
APZ				SN	Sn	01 10 11.1	-1.4
WHZ	Wether Hill Ro	2.51	44	PN	Pn	01 09 55.3	-1.5
DCZ	Deep Cove	2.54	28	PN	Pn	01 09 54.0	-3.1
DCZ				AML	AML	01 10 06.1	
DCZ				AML	AML	01 10 06.1	
SYZ	Scrubby Hill	2.79	66	PN	Pn	01 09 59.8	-0.8
MLZ	Mavora Lakes	3.04	39	PN	Pn	01 10 02.7	-1.3
MLZ	Mavora Lakes	3.04	39	PN	Pn	01 10 02.6	-1.4
MLZ				AML	AML	01 10 30.7	
TUZ	Tuapeka	3.38	60	PN	Pn	01 10 08.5	-0.1
EAZ	Earnscleugh	3.65	48	PN	Pn	01 10 12.1	-0.4
WKZ	Wanaka	3.81	42	PN	Pn	01 10 15.3	+0.6
WKZ	Wanaka	3.81	42	PN	Pn	01 10 14.9	+0.2

WEL 17 01:09:39.3±0.4, 45°.99S×166°.27E, h29km±1km, ML3.2/10, Error ellipse: s-maj=4.8km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.80	51	SN	Sb	01 10 04.9	-0.3
DCZ				SN	Sn	01 10 05.0	-0.6
WHZ	Wether Hill Ro	1.18	86	PN	Pn	01 09 59.9	+0.1
WHZ				SN	Sb	01 10 15.9	-0.1
WHZ				AML	AML	01 10 29.2	
APZ	The Paps	1.46	126	PN	Pn	01 10 03.9	0.0
SYZ	Scrubby Hill	2.07	107	PN	Pn	01 10 13.3	+1.2
EAZ	Earnscleugh	2.26	72	ePN	Pn	01 10 16.4	+1.6
TUZ	Tuapeka	2.35	90	PN	Pn	01 10 17.5	+1.6
TUZ				AML	AML	01 10 53.3	
ODZ	Otahua Downs	3.22	75	ePN	Pn	01 10 29.2	+1.3

NSSP 17 01:11:10.2, 38°.48N×45°.02E, h10km, Ms2.7
ISK 17 01:11:13.8, 38°.56N×44°.98E, h5km, MD3.5
CSEM 17 01:11:14.9±0.7, 38°.52N×44°.94E, h2km, MD3.5, Error ellipse: s-maj=18.2km s-min=7.9km az=97.0
DDA 17 01:11:18.3, 38°.50N×44°.61E, h2km, MD3.2

ISC 17 01:11:14.4±2.0, 38°.52N±0°.04×45°.11E±0°.08, h14km±14km, n20, σ1°.46/30, 3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	1.12	304	ePG	Pb	01 11 34.1	-1.7
CLDR				eSG	Sb	01 11 49.5	-0.8
CLDR	Caldiran	1.12	304	ePg	Pb	01 11 34.1	-1.7
CLDR				eSg	Sb	01 11 49.5	-0.8
HAKT	HAKKARI	1.47	229	i P	Pb	01 11 40.7	-1.0
HAKT				i S	Sg	01 12 08.0	+6.2
HAKT	HAKKARI	1.47	229	i P	Pb	01 11 40.7	-1.0
DYDN	Diyadin	1.51	313	i P	Pb	01 11 42.1	-0.3
DYDN				i S	Sg	01 12 07.0	+4.0
DYDN	Diyadin	1.51	313	i P	Pb	01 11 42.1	-0.3
GEVA	Gevas	1.63	263	i P	Pn	01 11 41.4	-1.5
GEVA				i S	Sg	01 12 07.3	+0.4
GEVA	Gevas	1.63	263	i P	Pn	01 11 41.4	-1.5
GEVA				i S	Sg	01 12 07.3	+0.4
GNI	Garni	1.65	350	ePN	Pb	01 11 44.2	-0.5
GNI				eSN	Sb	01 12 06.7	+1.2
GNI	Garni	1.65	350	⇓i P	Pb	01 11 44.3	-0.5
GNI				⇓i S	Sg	01 12 08.0	+0.4
GNI	Garni	1.65	350	⇓P	Pb	01 11 44.3	-0.5
GNI				eSn	Sb	01 12 06.7	+1.2
GNI				S	Sg	01 12 08.0	+0.4
CUKT	Cukurca	1.74	224	ePN	Pb	01 11 45.9	-0.5
CUKT	Cukurca	1.74	224	ePn	Pb	01 11 45.9	-0.5
AGRB	Hanur-Agry	1.96	303	ePN	Pn	01 11 47.8	+0.3
AGRB	Hanur-Agry	1.96	303	ePn	Pn	01 11 47.8	+0.3
DIGO	Kars	2.32	325	i P	Pg	01 11 57.6	-1.4
DIGO				i S	Sg	01 12 38.0	+9.0
DIGO	Kars	2.32	325	i P	Pg	01 11 57.6	-1.4
SIRT	Sirnak	2.34	245	ePN	Pn	01 11 53.8	+1.1
SIRT	Sirnak	2.34	245	ePn	Pn	01 11 53.8	+1.1
BEST	Besiri	3.09	259	i P	Pn	01 12 05.3	+2.4
BEST				i S	Sg	01 12 56.9	+3.1

JMA 17 01:19:55.4±0.3, 23°.38N×123°.80E, h41km±4km, M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.67	0	P	Pn	01 20 08.5	0.0
HATJ				S	Sn	01 20 17.8	-0.1
JKRS	Kuro-shima	0.88	13	P	Pn	01 20 12.0	+0.7
JKRS				S	Sn	01 20 23.6	+0.8
IRIF	Iriomote-Funau	0.95	356	P	Pn	01 20 12.7	+0.4
IRIF				S	Sn	01 20 25.4	+0.7
JIJ	Ishigaki jima	1.03	18	P	Pn	01 20 13.5	+0.1
JIJ				S	Sn	01 20 26.6	0.0
YOJ	Yonaguni jima	1.30	326	P	Pn	01 20 17.7	+0.7
YOJ				eS	Sn	01 20 33.7	+0.5
JTJ	Tarama	1.50	33	P	Pn	01 20 20.4	+0.5
JTJ				S	Sn	01 20 39.6	+1.4
JMJ	Miyako jima 2	1.98	43	eS	Sn	01 20 51.2	+1.3
JOGS	Gusukube	2.01	47	P	Pn	01 20 27.5	+0.7
JOGS				S	Sn	01 20 52.0	+1.2

IDC 17 01:32:49.1±4.0, 1°.74S×99°.07E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/24, mbtmp3.4/5, Error ellipse: s-maj=170.7km s-min=21.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.92	120	P		P 01 40 16.3	-0.7
	0.2nm,0.7s,baz=294,slow=8.0,SNR=2.8						
ASAR	Alice Springs	40.16	126	P		P 01 40 27.4	+0.1
	0.2nm,0.7s,baz=294,slow=8.0,SNR=2.8						
SONM	Songino Array	49.78	6	P		P 01 41 43.6	-0.1
	0.1nm,0.4s,baz=190,slow=5.9,SNR=2.0						
MKAR	Makanchi Array	50.53	345	P		P 01 41 48.7	-0.6
	0.5nm,0.6s,baz=143,slow=8.4,SNR=5.3						
ZALV	Zalesovo Beam	56.75	350	P		P 01 42 34.4	-0.2
	0.4nm,0.4s,baz=140,slow=7.5,SNR=2.4						
TXAR	Lajitas Array	145.05	36	PKPbc		PKPab 01 52 28.8	+0.1
	0.2nm,0.5s,baz=241,slow=1.9,SNR=2.7						

NOU 17 01:36:26.4±1.4, 20°.39S×169°.26E, h10km, MD3.3, ML3.3
IDC 17 01:36:26.8±1.9, 19°.96S×168°.55E, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, ML3.6/1, Error ellipse: s-maj=76.6km s-min=24.5km az=137.0
ISCJB 17 01:36:28.4±1.5, 20°.3S±0°.2×168°.8E±0°.3, h31km, mb4.0/6, Error ellipse: s-maj=43.2km s-min=8.8km az=38.6

ISC 17 01:36:30.0±1.5, 20°.4S±0°.3×168°.9E±0°.3, h31km, n14, σ1°.24/17, mb4.0/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	2.58	226	eP	Pn	01 37 08.5	-1.2
BAYA				eS	Sn	01 37 39.6	-0.5
BAYA				AMP		01 37 40.6	
	comp=Z,13nm,9.9s						
DZM	Mont Dzumac	2.84	233	eP	Pn	01 37 11.4	-1.9
DZM				AMP		01 37 48.7	
	comp=Z,836nm,1.8s						
DZM	Mont Dzumac	2.84	233	Pn	Pn	01 37 12.7	-0.6
	comp=Z,9.9nm,0.3s,baz=56,slow=17,SNR=183						
DZM				Sn	Sn	01 37 46.5	-0.1
	comp=Z,22nm,0.3s,baz=106,slow=20,SNR=7.0						
NOUC	Port Laguerre	2.97	234	eP	Pn	01 37 16.1	+1.2
NOUC				eS	Sn	01 37 51.0	+1.5
NOUC				AMP		01 38 03.4	
	comp=Z,61nm,3.5s						
CTA	Charters Tower	21.23	267	P		P 01 41 14.5	+0.9
	comp=Z,6.1nm,0.9s,baz=89,slow=12,SNR=5.7						
STKA	Stephens Creek	26.98	239	P		P 01 42 10.4	+1.4
	comp=Z,1.4nm,0.6s,baz=59,slow=8.7,SNR=4.2						
WRA	Warramunga Arr	32.40	265	P		P 01 42 56.2	-1.0
	comp=Z,2.1nm,0.5s,baz=91,slow=8.4,SNR=37						
ASAR	Alice Springs	32.55	258	P		P 01 42 58.2	-0.3
	comp=Z,5.8nm,0.7s,baz=85,slow=9.0,SNR=50						
SONM	Songino Array	87.91	323	P		P 01 49 14.4	-2.3
	comp=Z,0.7nm,0.9s,baz=140,slow=4.9,SNR=4.1						
ILAR	Eielson Array	91.39	17	P		P 01 49 33.4	+1.0
	comp=Z,0.4nm,0.8s,baz=226,slow=4.8,SNR=2.9						
VRAC	Vranov	143.62	329	PKP		PKPdf 01 56 02.6	+0.9
	comp=Z,2.8nm,0.4s,baz=189,slow=8.4,SNR=3.7						
EKA	Eskdalemuir Ar	144.56	352	PKP		PKPab 01 56 01.6	0.0
	comp=Z,0.8nm,0.6s,baz=2.9,slow=2.1,SNR=4.8						
GERES	GERESS Array B	145.30	331	PKP		PKPbc 01 56 04.4	-0.1
	comp=Z,0.7nm,0.8s,baz=28,slow=2.8,SNR=6.9						
DAVOX	Davos/Dischmat	148.56	332	PKPbc		PKPbc 01 56 15.2	+1.1
	comp=Z,1.4nm,0.5s,baz=27,slow=2.3,SNR=6.9						

ISCJB 17 01:40:13.8±0.5, 6°.89N±0°.07×73°.00W±0°.07, h164km±5km, mb3.5/7, Error ellipse: s-maj=14.3km s-min=7.3km az=136.8
IDC 17 01:40:14.2±2.1, 6°.75N×72°.92W, h163km±20km, mb3.3/7, mb1 3.6/8, mb1mx3.3/23, mbtmp3.3/8, MS4.4/1, Ms1 4.4/1, ms1mx4.2/23, Error ellipse: s-maj=29.5km s-min=21.6km az=75.0
FUNV 17 01:40:18.2, 6°.99N×72°.95W, h149km, MW3.6

ISC 17 01:40:15.0±0.9, 6°.97N±0°.07×73°.01W±0°.08, h153km±8km, n27, σ1°.38/31, mb3.5/7, 10C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.12	38⇑	eP	Pn	01 40 43.6	+2.1
CAPV				eS	Sn	01 41 01.1	-0.5
VIGV	El Vigia	2.47	41⇑	eP	Pn	01 40 58.0	+2.0
VIGV				eS	Sn	01 41 26.8	-0.8
ROSC	El Rosal	2.48	212	P	Pn	01 40 55.3	-1.2
	36nm,0.3s,baz=85,slow=17,SNR=79						
ROSC				S	Sn	01 41 26.1	-2.3
	61nm,0.3s,baz=72,slow=19,SNR=12						
ROSC				LR	LR	01 42 03.6	
	comp=Z,8μm,19.7s,baz=6.7,slow=46						
SOCV	Socops	2.50	58⇑	eP	Pn	01 40 57.7	+1.3
SOCV				eS	Sn	01 41 26.7	-1.6
ELOV	Elorza	3.50	89⇑	eP	Pn	01 41 09.8	+1.0
VIRV	Villa del Rosa	3.56	10⇑	eP	Pn	01 41 10.3	+0.6
VIRV				eS	Sn	01 41 49.6	-2.6
CURV	Curarigua	4.27	45⇑	eP	Pn	01 41 20.3	+1.3
DABV	Dabajuro	4.57	31	eP	Pn	01 41 24.4	+1.5
TEPV	Terepaima	4.80	52⇑	eP	Pn	01 41 27.2	+1.2
SIQV	Siquisique	4.83	41⇑	eP	Pn	01 41 27.3	+1.0
BAUV	El Baul	5.29	68⇑	eP	Pn	01 41 32.0	-0.5
MAPV	Macapo	5.32	57⇑	eP	Pn	01 41 33.6	+0.7
MONV	Montecano	5.79	31	eP	Pn	01 41 39.7	+0.7
TURV	Turiamo	6.17	56	eP	Pn	01 41 44.8	+0.7
MERV	Las Mercedes	7.02	71	eP	Pn	01 41 54.8	-0.6
BIRV	Birongo	7.52	62	eP	Pn	01 42 01.4	-0.7
CUPV	Cœpira	7.77	66	eP	Pn	01 42 04.9	-0.6
PCRV	Puerto La Cruz	8.87	68⇓	eP	Pn	01 42 20.0	-0.1
TXAR	Lajitas Array	36.45	311	P	P	01 47 05.2	-0.2
	0.7nm,0.6s,baz=135,slow=10,SNR=9.2						
SCHQ	Schefferville	47.98	5	P	P	01 48 38.0	-0.2
	1.8nm,0.5s,baz=214,slow=8.4,SNR=5.3						
PDAR	Pinedale Array	48.02	324	P	P	01 48 38.7	-0.4
	0.5nm,0.5s,baz=121,slow=8.8,SNR=5.3						
NVAR	Mina Array Bea	51.46	314	P	P	01 49 05.0	0.0
	0.3nm,0.5s,baz=122,slow=6.5,SNR=3.8						
YKA	Yellowknife Ar	63.16	340	P	P	01 50 25.8	-0.5
	1.7nm,0.6s,baz=130,slow=6.8,SNR=8.7						
TORD	Torodi Ar. Bea	73.60	78	P	P	01 51 29.8	-2.4
	0.5nm,1.0s,baz=287,slow=5.8,SNR=3.6						
ILAR	Eielson Array	76.88	335	P	P	01 51 49.6	-0.4
	0.2nm,0.6s,baz=121,slow=6.4,SNR=3.4						
ASAR	Alice Springs	149.29	234	PKPbc	PKPdf	01 59 44.0	+1.9
	0.7nm,0.6s,baz=117,slow=3.4,SNR=7.6						
WRA	Warramunga Arr	150.51	241	PKPbc	PKPdf	01 59 47.2	+3.1
	0.5nm,0.4s,baz=108,slow=2.5,SNR=18						

NEIC 17 01:42:10.6, 45°.45S×166°.55E, h5km, ML4.1(WEL), After WEL.

WEL 17 01:42:12.4±0.3, 45°.55S×166°.66E, h22km±1km, ML4.1/16, 1C-2D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.36	78	P*	Pb	01 42 19.9	-0.1
DCZ				S*	Sb	01 42 24.8	-0.4
DCZ				AML	AML	01 42 25.0	
DCZ				AML	AML	01 42 25.1	
DCZ				AML	AML	01 42 25.1	
DCZ	Deep Cove	0.36	78	Pg	Pb	01 42 19.5	-0.5
DCZ				Sg	Sb	01 42 24.8	-0.4
WHZ	Wether Hill Ro	0.97	111	⇑PN	Pb	01 42 30.2	-0.3
WHZ				S*	Sn	01 42 44.0	+0.2
WHZ

Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrramunga Arr**	**33.88**	**196**	P	P	01 57 05.8	-0.5
	1.7nm,0.8s,baz=17,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**37.56**	**195**	P	P	01 57 37.5	+0.3
	0.7nm,0.7s,baz=18,slow=13,SNR=8.1						
SONM	**Songino Array**	**46.57**	**326**	P	P	01 58 49.1	-0.2
	0.2nm,0.4s,baz=138,slow=7.1,SNR=2.5						
MKAR	**Makanchi Array**	**61.10**	**317**	P	P	02 00 33.8	+0.1
	0.2nm,0.6s,baz=91,slow=7.2,SNR=3.0						
ILAR	**Eielson Array**	**69.72**	**25**	P	P	02 01 28.2	0.0
	0.4nm,0.8s,baz=251,slow=6.0,SNR=5.0						
FINES	**FINESS Array B**	**91.24**	**335**	P	P	02 03 21.6	-0.3
	2.8nm,0.9s,baz=74,slow=5.9,SNR=3.6						

*ISCJB **17** 02:00:02.5±0.5, 35.°70N±0.°05×140.°73E±0.°07, h55km±4km, mb3.8/14, Error ellipse: s-maj=9.6km s-min=8.4km az=152.3*
*JMA **17** 02:00:02.7±0.1, 35.°73N×140.°70E, h49km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s=12.00000°, δ65.00000°, λ69.00000°. NP2:ϕ_s=234.00000°, δ33.00000°, λ127.00000°. Principal axes: T Plg64.0000°, Azm246.0000°; N Plg19.0000°, Azm21.0000°; P Plg17.0000°, Azm117.0000°;*
JMA Felt I J1.
*IDC **17** 02:00:05.3±2.3, 35.°52N×140.°66E, h71km±19km, mb3.6/14, mb1 3.7/18, mb1mx3.7/30, mbtmp3.6/18 Error ellipse: s-maj=18.6km s-min=16.8km az=82.0*
ISC 17 02:00:03.4±0.8, 35.°67N±0.°06×140.°76E±0.°06, h50km±6km, n28, σ1°27/33, mb3.8/14, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.08**	**70**	⇑P	**Pn**	**02 00 10.3**	**-0.8**
CHOJ				*e*S	**Sn**	**02 00 16.9**	**+0.3**
JCN	**Nagara**	**0.53**	**241**	⇓P	**Pn**	**02 00 14.8**	**-0.1**
JCN				S	**Sn**	**02 00 23.7**	**+0.5**
JYT	**Yasato**	**0.72**	**320**	⇓P	**Pn**	**02 00 15.8**	**-1.6**
JYT				S	**Sn**	**02 00 25.2**	**-2.3**
BSO4	**Boso 4**	**0.77**	**207**	P	**Pn**	**02 00 17.9**	**0.0**
BSO3	**Boso 3**	**0.90**	**193**	P	**Pn**	**02 00 19.6**	**+0.2**
JHO	**Hitachi**	**0.95**	**350**	⇓P	**Pn**	**02 00 19.4**	**-1.0**
MJAR	**Matsushiro Arr**	**2.24**	**293**	P	**Pn**	**02 00 37.8**	**-0.2**
	11nm,0.3s,baz=95,slow=13,SNR=78						
MJAR				S	**Sn**	**02 01 07.7**	**+3.1**
	13nm,0.3s,baz=138,slow=20,SNR=8.0						
MAT	**Matsushiro**	**2.24**	**293**	P	**Pn**	**02 00 37.9**	**-0.2**
MAT				S	**Sn**	**02 01 06.1**	**+1.5**
ASAJ	**Asahikawa**	**8.55**	**9**	P	**Pn**	**02 02 06.9**	**+2.5**
	1.6nm,0.3s,baz=197,slow=15,SNR=5.6						
KSRS	**Korea Array**	**10.48**	**284**	P	**Pn**	**02 02 30.4**	**-0.4**
	0.2nm,0.3s,baz=92,slow=14,SNR=3.5						
USRK	**Ussuriysk Arra**	**10.85**	**324**	P	**Pn**	**02 02 36.9**	**+1.1**
	0.3nm,0.3s,baz=138,slow=16,SNR=3.7						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**02 05 49.4**	**-1.4**
	0.5nm,0.6s,baz=100,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**02 07 52.9**	**-0.2**
	0.8nm,0.3s,baz=101,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**02 08 08.7**	**-0.3**
	1.2nm,0.6s,baz=85,slow=9.5,SNR=9.3						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**02 09 00.1**	**+0.9**
	1.1nm,0.8s,baz=268,slow=6.4,SNR=13						
WRA	**Warrramunga Arr**	**55.65**	**187**	P	**P**	**02 09 32.0**	**-2.3**
	0.6nm,0.4s,baz=2.0,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**59.37**	**187**	P	**P**	**02 09 60.0**	**-0.6**
	0.3nm,0.4s,baz=17,slow=9.8,SNR=7.4						
FINES	**FINESS Array B**	**69.77**	**332**	P	**P**	**02 11 07.8**	**-0.1**
	2.7nm,0.9s,baz=74,slow=7.4,SNR=5.1						
AKASG	**Malin Array Be**	**75.05**	**322**	P	**P**	**02 11 38.9**	**-0.6**
	0.3nm,0.4s,baz=49,slow=5.4,SNR=5.8						
HFS	**Hagfors**	**75.11**	**336**	P	**P**	**02 11 39.9**	**+0.2**
	9.1nm,1.2s,baz=192,slow=2.9,SNR=6.1						
NB2	**NORSAR Subarra**	**75.23**	**337**	P	**P**	**02 11 40.1**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**75.23**	**337**	P	**P**	**02 11 40.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=43,slow=5.5,SNR=3.1						
NVAR	**Mina Array Bea**	**76.23**	**53**	P	**P**	**02 11 48.9**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=302,slow=5.2,SNR=3.1						
PDAR	**Pinedale Array**	**79.00**	**45**	P	**P**	**02 12 03.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=251,slow=2.8,SNR=4.8						
BRTR	**Keskin Array B**	**79.36**	**311**	P	**P**	**02 12 04.3**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=29,slow=3.3,SNR=3.6						
TXAR	**Lajitas Array**	**91.37**	**52**	P	**P**	**02 13 04.3**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=316,slow=5.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**117.90**	**314**	PKP	**PKPdf**	**02 18 43.7**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=23,slow=3.3,SNR=2.4						
LPAZ	**La Paz**	**147.82**	**61**	PKPbc	**PKPbc**	**02 19 44.9**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=180,slow=3.0,SNR=5.6						

*IDC **17** 02:08:34.1±0.7, 51.°34N×159.°69E, h0km, mb3.7/17, mb1 3.9/19, mb1mx3.8/30, mbtmp3.7/19, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/53, Error ellipse: s-maj=20.0km s-min=12.4km az=173.0*
*KRSC **17** 02:08:36.3±0.4, 51.°25N×160.°02E, h55km±55km, ML4.2*
*MOS **17** 02:08:37.2±1.6, 51.°27N×159.°85E, h44km, mb4.2/5, Error ellipse: s-maj=13.3km s-min=7.0km az=93.2*
ISC 17 02:08:35.0±4.7, 51.°22N±0.°05×160.°04E±0.°04, h14km±29km, n57, σ1°37/71, mb3.6/17, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.54**	**323**	PN	**Pn**	**02 09 02.4**	**+0.3**
RUS				S	**Sn**	**02 09 22.0**	**0.0**
RUS	**Russkaya**	**1.54**	**323**	P	**Pn**	**02 09 02.4**	**+0.3**
RUS				*i* S	**Sn**	**02 09 22.0**	**0.0**
MTVR	**Mutnovka**	**1.71**	**319**	P	**Pn**	**02 09 05.1**	**+0.5**
MTVR				*i* S	**Sn**	**02 09 25.5**	**-0.9**
ASAK	**Asacha**	**1.77**	**312**	P	**Pn**	**02 09 05.9**	**+0.6**
GRL	**Gorelyy**	**1.81**	**319**	P	**Pn**	**02 09 06.6**	**+0.7**
SPN	**Mys Shipunski**	**1.89**	**360**	PN	**Pn**	**02 09 07.6**	**+0.7**
SPN				S	**Sn**	**02 09 30.0**	**-0.5**
SPN	**Mys Shipunski**	**1.89**	**360**	P	**Pn**	**02 09 07.6**	**+0.7**
SPN				*i* S	**Sn**	**02 09 30.0**	**-0.5**
PET	**Petropavlovsk**	**2.00**	**335**	*e*PN	**Pn**	**02 09 09.2**	**+0.8**
PET				pmax	pmax		
	comp=Z,65nm,0.4s						
PET	**Petropavlovsk**	**2.00**	**335**	P	**Pn**	**02 09 09.2**	**+0.8**
NLC	**Nalytchevo**	**2.00**	**348**	PN	**Pn**	**02 09 09.5**	**+1.0**
NLC				S	**Sn**	**02 09 33.3**	**-0.1**
NLC	**Nalytchevo**	**2.00**	**348**	P	**Pn**	**02 09 09.5**	**+1.0**
NLC				*i* S	**Sn**	**02 09 33.3**	**-0.1**
PAU	**Pauzhetka**	**2.04**	**278**	PN	**Pn**	**02 09 09.0**	**+0.1**
PAU	**Pauzhetka**	**2.04**	**278**	P	**Pn**	**02 09 09.0**	**+0.1**
UGLR	**Uglovaya**	**2.13**	**340**	P	**Pn**	**02 09 11.8**	**+1.4**
SDLR	**Sedlovina**	**2.19**	**342**	P	**Pn**	**02 09 12.0**	**+0.9**
SMAR	**Somma**	**2.19**	**340**	P	**Pn**	**02 09 12.8**	**+1.6**
AVH	**Avacha**	**2.20**	**339**	P	**Pn**	**02 09 13.0**	**+1.7**
KRER	**Koryakskii**	**2.24**	**340**	P	**Pn**	**02 09 13.7**	**+1.8**
KRER				*i* S	**Sn**	**02 09 40.8**	**+1.4**
KOK	**Koryaka**	**2.25**	**338**	P	**Pn**	**02 09 13.8**	**+1.8**
MIPR	**Malaya Ipel'ka**	**2.30**	**299**	P	**Pn**	**02 09 13.7**	**+1.2**
PETK	**Petropavlovsk-**	**2.38**	**324**	PN	**Pn**	**02 09 12.7**	**-1.0**
PETK						02 09 45.6	
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				smax	smax		
	comp=N,16nm,0.3s						
PETK	**Petropavlovsk-**	**2.38**	**324**	Pn	**Pn**	**02 09 12.7**	**-1.0**
	comp=N,9.2nm,0.3s,baz=129,slow=18,SNR=52						
PETK				Sn	**Sb**	**02 09 45.5**	**-1.4**
	comp=N,16nm,0.3s,baz=128,slow=18,SNR=5.4						
PETK				LR	LR	02 10 02.9	
	comp=N,739nm,20.8s,baz=64,slow=41						
APC	**Apacha**	**2.47**	**315**	P	**Pn**	**02 09 15.5**	**+0.7**
SKR	**Severo-Kuril's**	**2.53**	**259**	*e*PN	Pn	02 09 11.4	-4.3
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.4s						
SKR	**Severo-Kuril's**	**2.53**	**259**	*e*P	**Pn**	**02 09 15.4**	**-0.3**
SKR				*i* S	**Sn**	**02 09 44.8**	**-1.6**
GNL	**Ganaly**	**2.79**	**334**	P	**Pn**	**02 09 21.4**	**+1.9**
KII	**Karymskiy**	**2.85**	**353**	P	**Pn**	**02 09 21.4**	**+1.2**
MKZ	**Mys Kozlova**	**3.50**	**16**	PN	**Pn**	**02 09 29.8**	**+0.8**
MKZ				S	**Sn**	**02 10 09.0**	**-1.2**
MKZ	**Mys Kozlova**	**3.50**	**16**	*e*P	**Pn**	**02 09 29.8**	**+0.8**
MKZ				*i* S	**Sn**	**02 10 09.0**	**-1.2**
ESO	**Esso**	**4.79**	**351**	PN	**Pn**	**02 09 48.1**	**+1.4**
ESO	**Esso**	**4.79**	**351**	P	**Pn**	**02 09 48.1**	**+1.4**
KBTR	**Krutoberegovo**	**5.27**	**17**	PN	**Pn**	**02 09 54.6**	**+1.3**
KBTR	**Krutoberegovo**	**5.27**	**17**	P	**Pn**	**02 09 54.6**	**+1.3**
KBTR				*i* S	**Sn**	**02 10 53.5**	**-0.3**
BKI	**Bering**	**5.36**	**39**	PN	**Pn**	**02 09 54.7**	**+0.2**
BKI	**Bering**	**5.36**	**39**	*e*P	**Pn**	**02 09 54.7**	**+0.2**
BKI				*e*S	**Sn**	**02 10 52.5**	**-3.4**
FX1	**Attu Island--F**	**8.27**	**73**	Pn	**Pn**	**02 10 36.4**	**+2.0**
	comp=E,12nm,0.3s,baz=234,slow=19,SNR=74						
FX1				Sn	**Sn**	**02 12 02.4**	**-5.2**
	comp=E,9.6nm,0.3s,baz=184,slow=19,SNR=7.8						
KLR	**Kul'dur**	**18.16**	**275**	*e*P	**Pn**	**02 12 45.2**	**-1.5**
YAK	**Yakutsk**	**19.70**	**315**	*e*P	**P**	**02 13 01.3**	**-2.3**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**21.39**	**235**	P	**P**	**02 13 21.7**	**-0.5**
	comp=N,1.7nm,0.8s,baz=35,slow=12,SNR=4.6						
KSRS	**Korea Array**	**26.53**	**251**	P	**P**	**02 14 13.8**	**+1.7**
	comp=N,1.9nm,0.7s,baz=53,slow=8.9,SNR=7.4						
SONM	**Songino Array**	**34.34**	**286**	P	**P**	**02 15 20.3**	**-0.9**
	comp=N,0.2nm,0.4s,baz=76,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**48.96**	**297**	P	**P**	**02 17 19.4**	**-1.3**
MKAR	**Makanchi Array**	**48.96**	**297**	P	**P**	**02 17 19.4**	**-1.3**
	comp=N,0.4nm,0.4s,baz=59,slow=7.3,SNR=7.9						
ARCES	**ARCESS Array B**	**55.06**	**342**	P	**P**	**02 18 06.8**	**+0.9**
	comp=N,3.6nm,0.9s,baz=17,slow=8.5,SNR=4.9						
NVAR	**Mina Array Bea**	**56.44**	**69**	P	**P**	**02 18 18.6**	**+2.2**
	comp=N,0.2nm,0.4s,baz=301,slow=7.3,SNR=2.3						
PDAR	**Pinedale Array**	**58.49**	**60**	P	**P**	**02 18 32.5**	**+1.7**
	comp=N,0.2nm,0.6s,baz=305,slow=9.5,SNR=2.8						
FINES	**FINESS Array B**	**61.83**	**337**	P	**P**	**02 18 52.9**	**-0.2**
	comp=N,4.2nm,0.9s,baz=57,slow=8.4,SNR=5.9						
NOA	**NORSAR Array B**	**65.34**	**344**	P	**P**	**02 19 17.2**	**+0.9**
	comp=N,0.9nm,0.8s,baz=23,slow=6.8,SNR=3.2						
HFS	**Hagfors**	**65.73**	**342**	P	**P**	**02 19 18.5**	**-0.3**
	comp=N,2.0nm,0.8s,baz=50,slow=7.7,SNR=5.2						
AKASG	**Malin Array Be**	**70.21**	**329**	P	**P**	**02 19 45.9**	**-1.2**
AKASG	**Malin Array Be**	**70.21**	**329**	P	**P**	**02 19 45.9**	**-1.2**
	comp=N,0.5nm,0.4s,baz=30,slow=5.4,SNR=6.2						
TXAR	**Lajitas Array**	**71.42**	**66**	P	**P**	**02 19 56.8**	**+1.8**
	comp=N,0.2nm,0.5s,baz=302,slow=5.2,SNR=3.4						
EKA	**Eskdalemuir Ar**	**72.90**	**350**	P	**P**	**02 20 03.0**	**-0.2**
	comp=N,0.2nm,0.5s,baz=19,slow=5.2,SNR=2.3						
WRA	**Warrramunga Arr**	**74.36**	**205**	P	**P**	**02 20 12.7**	**+0.6**
	comp=N,0.2nm,0.5s,baz=19,slow=6.1,SNR=3.2						
GERES	**GERESS Array B**	**76.24**	**338**	P	**P**	**02 20 23.1**	**+0.2**
	comp=N,0.2nm,0.4s,baz=7.8,slow=7.9,SNR=3.9						
ASAR	**Alice Springs**	**78.03**	**204**	P	**P**	**02 20 34.9**	**+1.9**
	comp=N,0.2nm,0.3s,baz=12,slow=4.7,SNR=3.2						
BRTR	**Keskin Array B**	**78.05**	**321**	P	**P**	**02 20 33.3**	**+0.1**
	comp=N,0.4nm,0.7s,baz=352,slow=9.2,SNR=2.6						

WEL 17 02:15:00.8±0.3, 46.°71S×165.°45E, h33km, ML3.6/11, 1D, Error ellipse: s-maj=3.5km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.71**	**44**	PN	Pn	02 15 27.9	-0.3
DCZ				SN	Sn	02 15 47.9	-1.0
DCZ				AML	AML	02 15 50.0	
DCZ				AML	AML	02 15 50.1	
DCZ				AML	AML	02 16 02.7	
APZ	**The Paps**	**1.75**	**95**	⇓PN	Pn	02 15 28.1	-0.7
APZ				SN	Sn	02 15 49.5	-0.5
WHZ	**Wether Hill Ro**	**1.91**	**66**	PN	Pn	02 15 31.7	+0.6
WHZ				SN	Sn	02 15 53.7	-0.3
WHZ				AML	AML	02 15 56.7	
MLZ	**Mavora Lakes**	**2.34**	**55**	PN	Pn	02 15 37.9	+1.0
MLZ				AML	AML	02 16 12.0	
MLZ				AML	AML	02 16 13.9	
SYZ	**Scrubby Hill**	**2.55**	**87**	PN	Pn	02 15 40.5	+0.8
TUZ	**Tuapeka**	**2.99**	**77**	PN	Pn	02 15 46.5	+0.7
TUZ				AML	AML	02 16 22.7	
TUZ				AML	AML	02 16 23.7	
EAZ	**Earnscleugh**	**3.07**	**63**	PN	Pn	02 15 48.6	+1.7
EAZ				AML	AML	02 16 24.9	
EAZ				AML	AML	02 16 26.0	
ODZ	**Otahua Downs**	**3.99**	**67**	PN	Pn	02 15 58.6	-1.0

IDC 17 02:16:16.4±2.5, 1.°56S×99.°32E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx3.4/44, Error ellipse: s-maj=107.0km s-min=17.8km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.35**	**355**	Pn	Pn	02 17 21.8	-2.2
	baz=176,slow=13,SNR=2.4						
PSI				LR	LR	02 19 08.9	
	comp=Z,729nm,21.7s,baz=316,slow=41						
CMAR	**Chiang Mai Arr**	**19.90**	**359**	P	Pn	02 20 50.6	-0.6
	0.3nm,0.3s,baz=188,slow=10.0,SNR=5.3						
WRA	**Warrramunga Arr**	**38.80**	**121**	P	P	02 23 42.9	-0.5
	0.8nm,0.6s,baz=302,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**40.06**	**126**	P	P	02 23 53.9	0.0
	0.4nm,0.6s,baz=305,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**49.58**	**6**	P	P	02 25 09.4	-0.1
	0.2nm,0.4s,baz=180,slow=8.6,SNR=2.8						
STKA	**Stephens Creek**	**49.95**	**132**	P	P	02 25 12.6	+0.2
	1.5nm,0.6s,baz=280,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**50.43**	**345**	P	P	02 25 16.1	+0.2
	1.0nm,0.6s,baz=147,slow=8.6,SNR=11						
ZALV	**Zalesovo Beam**	**56.62**	**350**	P	P	02 26 00.4	-0.7
	0.8nm,0.4s,baz=162,slow=5.6,SNR=4.5						
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPbc	02 35 55.4	+0.2
	0.6nm,0.6s,baz=222,slow=1.2,SNR=11						

IDC 17 02:19:38.9±8.0, 5.°97S×149.°27E, h55km±67km, mb3.3/3, mb1 3.7/4, mb1mx3.3/19, mbtmp3.5/4, ML3.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.1/22, Error ellipse: s-maj=102.1km s-min=50.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.01**	**211**	P	Pn	02 20 38.4	+0.6
	9.8nm,0.3s,baz=21,slow=7.8,SNR=14						
PMG				S	Sn	02 21 23.8	+0.2
	18nm,0.3s,baz=39,slow=23,SNR=8.9						
HNR	**Honiara**	**11.13**	**109**	LR	LR	02 25 30.0	
	comp=Z,896nm,19.2s,baz=302,slow=32						
WRA	**Warrramunga Arr**	**20.09**	**225**	P	P	02 24 08.6	+0.4
	1.7nm,0.6s,baz=50,slow=11,SNR=13						
ASAR	**Alice Springs**	**22.99**	**218**	P	P	02 24 39.5	+0.3
	0.5nm,0.5s,baz=49,slow=9.4,SNR=7.7						
FITZ	**Fitzroy Crossi**	**26.03**	**240**	P	P	02 25 07.6	+0.5
	0.9nm,0.4s,baz=60,slow=9.9,SNR=16						
TORD	**Torodi Ar. Bea**	**147.26**	**285**	PKPbc	PKPdf	02 39 15.7	+0.7
	0.3nm,0.6s,baz=72,slow=1.9,SNR=8.6						

IDC 17 02:26:26.0±1.0, 1.°65S×99.°17E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/26, mbtmp3.9/12, ML3.7/2, MS4.2/3, Ms1 4.2/3, ms1mx3.6/39, Error ellipse: s-maj=46.5km s-min=17.1km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.43**	**357**	Pn	Pn	02 27 34.3	-0.4
	0.8nm,0.3s,baz=173,slow=10.0,SNR=3.7						
PSI				LR	LR	02 28 58.4	
	comp=Z,698nm,20.4s,baz=209,slow=35						
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	Pn	02 31 01.2	-0.7
	0.3nm,0.3s,baz=184,slow=9.7,SNR=4.7						
WRA	**Warrramunga Arr**	**38.88**	**120**	P	P	02 33 53.0	-0.5
	0.9nm,0.5s,baz=303,slow=9.1,SNR=9.5						
WRA				LR	LR	02 52 28.3	
	comp=Z,856nm,19.9s,baz=175,slow=40						
ASAR	**Alice Springs**	**40.12**	**126**	P	P	02 34 04.0	+0.1
	0.4nm,0.6s,baz=300,slow=7.4,SNR=4.7						
SONM	**Songino Array**	**49.69**	**6**	P	P	02 35 19.8	-0.1
	0.7nm,0.9s,baz=179,slow=7.1,SNR=4.5						
SONM				PcP	PcP	02 36 40.1	-1.1
	0.6nm,0.5s,baz=201,slow=1.7,SNR=3.6						
STKA	**Stephens Creek**	**50.00**	**131**	P	P	02 35 22.9	+0.5
	1.8nm,0.8s,baz=301,slow=5.9,SNR=3.4						
MKAR	**Makanchi Array**	**50.48**	**345**	P	P	02 35 25.7	-0.1
	1.9nm,0.6s,baz=146,slow=8.2,SNR=19						
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	P	02 36 10.1	-1.0
	3.5nm,0.9s,baz=142,slow=5.4,SNR=6.9						
MATP	**Matopo**	**71.32**	**249**	LR	LR	03 02 21.5	
	comp=Z,315nm,21.7s,baz=155,slow=30						
BRTR	**Keskin Array B**	**72.48**	**313**	P	P	02 37 54.5	-0.4
	0.4nm,0.6s,baz=148,slow=6.3,SNR=2.7						
FINES	**FINESS Array B**	**83.42**	**332**	P	P	02 38 55.1	0.0
	3.2nm,0.9s,baz=97,slow=7.1,SNR=5.5						
GERES	**GERESS Array B**	**88.25**	**319**	P	P	02 39 19.8	+0.3
	0.2nm,0.5s,baz=99,slow=5.1,SNR=3.8						
DAVOX	**Davos/Dischmat**	**90.71**	**317**	P	P	02 39 31.9	+0.7
	0.7nm,0.4s,baz=313,slow=21,SNR=4.0						
CPUP	**Villa Florida**	**144.10**	**218**	PKP	PKPdf	02 46 04.4	-0.2
	0.3nm,0.3s,baz=189,slow=3.6,SNR=4.0						
TXAR	**Lajitas Array**	**144.92**	**36**	PKP	PKPbc	02 46 05.4	+0.2
	1.3nm,0.6s,baz=232,slow=1.0,SNR=20						

*IDC **17** 02:31:32.7±3.3, 23.°42N×123.°48E, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.8/27, mbtmp3.9/11, ML3.5/2, Error ellipse: s-maj=75.1km s-min=29.9km az=168.0*
*JMA **17** 02:31:36.6±0.4, 23.°45N×123.°66E, h50km, M3.1*
ISC 17 02:31:37.7±1.3, 23.°5N±0.°1×123.°57E±0.°08, h30km, n17, σ0°84/23, mb3.9/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.56**	**22**	P	**Pb**	**02 31 49.3**	**+0.1**
HATJ				S	**Sn**	**02 31 58.7**	**+0.6**
JKRS	**Kuro-shima**	**0.81**	**29**	P	**Pn**	**02 31 52.5**	**-0.6**
JKRS				*e*S	**Sn**	**02 32 04.7**	**+0.6**
IRIF	**Iriomote-Funau**	**0.81**	**10**	P	**Pb**	**02 31 53.1**	**-0.3**
IRIF				*e*S	**Sn**	**02 32 05.1**	**+0.9**
JIJ	**Ishigaki jima**	**0.98**	**32**	P	**Pn**	**02 31 54.6**	**-0.8**
JIJ				S	**Sn**	**02 32 06.3**	**-2.0**
YOJ	**Yonaguni jima**	**1.06**	**331**	P	**Pb**	**02 31 57.1**	**-0.4**
YOJ				*e*S	**Sn**	**02 32 09.8**	**-0.5**
JTJ	**Tarama**	**1.51**	**43**	P	**Pn**	**02 32 02.1**	**-0.7**
JTJ				S	**Sn**	**02 32 20.5**	**-0.9**
KSRS	**Korea Array**	**14.37**	**14**	Pn	**Pn**	**02 35 00.3**	**+1.2**
	0.1nm,0.3s,baz=194,slow=11,SNR=6.3						
MJAR	**Matsushiro Arr**	**18.10**	**41**	P	**P**	**02 35 47.6**	**+0.5**
	0.3nm,0.3s,baz=230,slow=9.8,SNR=5.0						
ASAJ	**Asahikawa**	**25.79**	**33**	P	**P**	**02 37 06.8**	**+0.7**
	3.0nm,0.4s,baz=294,slow=10.0,SNR=5.3						
SONM	**Songino Array**	**27.85**	**335**	P	**P**	**02 37 24.7**	**-0.1**
	1.5nm,0.8s,baz=143,slow=8.7,SNR=6.9						
MKAR	**Makanchi Array**	**40.33**	**316**	P	**P**	**02 39 12.6**	**+0.1**
	0.5nm,0.6s,baz=98,slow=8.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**41.99**	**326**	P	**P**	**02 39 24.3**	**-1.7**
	0.8nm,0.3s,baz=115,slow=6.8,SNR=3.7						
ILAR	**Eielson Array**	**68.79**	**27**	P	**P**	**02 42 38.9**	**+0.1**
	0.3nm,0.7s,baz=284,slow=6.5,SNR=5.2						
ARCES	**ARCESS Array B**	**70.95**	**338**	P	**P**	**02 42 52.2**	**+0.2**
	1.8nm,0.8s,baz=69,slow=4.9,SNR=2.5						
FINES	**FINESS Array B**	**73.10**	**330**	P	**P**	**02 43 05.3**	**+0.3**
	3.8nm,1.0s,baz=148,slow=11,SNR=2.3						
AKASG	**Malin Array Be**	**74.80**	**319**	P	**P**	**02 43 14.8**	**-0.3**
	0.3nm,0.3s,baz=55,slow=7.3,SNR=3.6						
GERES	**GERESS Array B**	**84.72**	**321**	P	**P**	**02 44 09.7**	**+0.6**
	0.5nm,0.6s,baz=56,slow=6.1,SNR=6.1						

IDC 17 02:31:58.4±2.2, 4.°57S×130.°13E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=101.8km s-min=27.4km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.15**	**198**	Pn	Pn	02 35 20.0	-0.2
	0.0nm,0.3s,baz=27,slow=14,SNR=3.2						
FITZ				Sn	Sn	02 37 44.4	-14
	0.0nm,0.3

TWT	**Tachien**	**2.18**	**313**	*eP*	**Pb**	**02 43 49.7**	**-0.2**
	baz=313						
TWT				*eS*	**Sn**	**02 44 14.1**	**+0.9**
	baz=313						
NNS	**Nan Shan**	**2.19**	**320**	*eP*	**Pn**	**02 43 47.5**	**+0.9**
	baz=327						
TYC	**Yuchr**	**2.20**	**302**	*eP*	**Pn**	**02 43 48.2**	**+1.6**
	baz=309						
TYC				*eS*	**Sn**	**02 44 15.0**	**+1.4**
	baz=309						
CHN4	**Tsaushan**	**2.21**	**286**	*eP*	**Pb**	**02 43 49.4**	**-1.0**
	baz=293						
CHN4				*eS*	**Sb**	**02 44 16.4**	**-1.1**
	baz=293						
CHN5	**Tsauling**	**2.21**	**293**	*eP*	**Pb**	**02 43 50.2**	**-0.2**
	baz=291						
CHN5				*eS*	**Sb**	**02 44 17.1**	**-0.6**
	baz=291						
NSK	**Sanguang**	**2.38**	**324**	*eP*	**Pn**	**02 43 50.1**	**+1.0**
	baz=324						
NSK				*eS*	**Sn**	**02 44 17.3**	**-0.7**
	baz=324						
JTJ	**Tarama**	**2.49**	**41**	P	**Pn**	**02 43 51.0**	**+0.4**
JTJ				*eS*	**Sn**	**02 44 20.1**	**-0.6**

*IDC **17** 02:50:31.1±1.5,23°.40N×123°.53E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/26,mbtmp3.5/7,ML3.7/1,Error ellipse: s-maj=78.0km s-min=23.7km az=68.0*
*ISCJB **17** 02:50:34.9±1.7,23°.41N±0°.10×123°.67E±0°.08, h43km±14km,mb3.4/6,Error ellipse: s-maj=16.9km s-min=12.6km az=15.1*
*JMA **17** 02:50:34.4±0.4,23°.39N×123°.65E,h41km,M2.9*
ISC 17 02:50:36.4±1.2,**23°.5N**±0°.2×**123°.67E**±0°.09,**h39**km±7km, **n13**,σ0°.70/19,**mb3.4/6,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.60**	**12**	P	**Pn**	**02 50 47.6**	**-1.0**
HATJ				S	**Sn**	**02 50 57.1**	**0.0**
JKRS	**Kuro-shima**	**0.83**	**22**	P	**Pn**	**02 50 51.4**	**-0.2**
JKRS				S	**Sn**	**02 51 03.4**	**+0.7**
IRIF	**Iriomote-Funau**	**0.87**	**3**	P	**Pn**	**02 50 51.3**	**-0.9**
IRIF				S	**Sn**	**02 51 03.7**	**+0.1**
JIJ	**Ishigaki jima**	**0.99**	**26**	P	**Pn**	**02 50 52.9**	**-1.0**
JIJ				S	**Sn**	**02 51 06.7**	**0.0**
YOJ	**Yonaguni jima**	**1.16**	**329**	P	**Pn**	**02 50 55.6**	**-0.6**
YOJ				S	**Sn**	**02 51 11.6**	**+0.7**
JTJ	**Tarama**	**1.50**	**39**	P	**Pn**	**02 51 00.3**	**-0.5**
JTJ				S	**Sn**	**02 51 20.1**	**+0.9**
KSRS	**Korea Array**	**14.41**	**14**	Pn	**Pn**	**02 53 58.2**	**+0.5**
	0.3nm,0.3s,baz=197,slow=11,SNR=3.4						
SONM	**Songino Array**	**27.95**	**335**	P	**P**	**02 56 22.8**	**-0.4**
	0.5nm,0.8s,baz=133,slow=8.4,SNR=4.3						
MKAR	**Makanchi Array**	**40.44**	**316**	P	**P**	**02 58 11.6**	**+0.5**
	0.4nm,0.6s,baz=100,slow=8.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.09**	**326**	P	**P**	**02 58 23.8**	**-0.7**
	0.4nm,0.3s,baz=101,slow=7.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**44.13**	**320**	P	**P**	**02 58 40.5**	**-0.5**
	0.3nm,0.5s,baz=115,slow=8.2,SNR=3.2						
WRA	**Warramunga Arr**	**44.38**	**166**	P	**P**	**02 58 43.0**	**-0.2**
	0.3nm,0.7s,baz=345,slow=8.9,SNR=2.7						
GERES	**GERESS Array B**	**84.83**	**321**	P	**P**	**03 03 08.0**	**+0.9**
	0.3nm,0.7s,baz=50,slow=6.5,SNR=4.0						

IDC 17 02:58:45.6±0.9,**21°.92S**×**68°.47W,h111**km±8km,**mb3.5/7, mb1 3.6/9,mb1mx3.4/20,mbtmp3.4/9,Error ellipse: s-maj=21.4km s-min=19.7km az=89.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.61**	**3**	P	Pn	03 00 09.2	+1.6
	1.4nm,0.3s,baz=214,slow=6.6,SNR=38						
LPAZ				S	Sn	03 00 57.7	-14
	0.6nm,0.3s,baz=192,slow=15,SNR=6.5						
SIV	**San Ignacio**	**9.15**	**51**	P	Pn	03 00 54.0	-0.9
	1.0nm,0.3s,baz=252,slow=13,SNR=17						
SIV				S	Sn	03 02 30.7	-5.5
	baz=139,slow=19,SNR=3.3						
BDFB	**Brasilia**	**20.34**	**76**	P	P	03 03 13.2	-0.3
	1.7nm,0.3s,baz=236,slow=9.5,SNR=11						
TXAR	**Lajitas Array**	**61.20**	**325**	P	P	03 08 48.3	-0.7
	0.2nm,0.5s,baz=163,slow=7.4,SNR=3.5						
TXAR				pP	pP	03 09 14.9	-1.2
	0.1nm,0.5s,baz=134,slow=6.4,SNR=3.2						
SNAA	**Sanae**	**61.75**	**161**	P	P	03 08 51.9	-0.2
	0.6nm,0.8s,baz=283,slow=7.5,SNR=9.3						
QSPA	**South Pole Qui**	**68.27**	**180**	P	P	03 09 34.9	+0.4
	1.0nm,1.1s,baz=41,slow=3.4,SNR=7.0						
DBIC	**Dimbokro**	**68.47**	**73**	P	P	03 09 36.2	0.0
	4.7nm,0.9s,baz=230,slow=8.3,SNR=6.4						
PDAR	**Pinedale Array**	**74.67**	**330**	P	P	03 10 13.0	-0.2
	0.2nm,0.6s,baz=165,slow=4.7,SNR=3.1						
PDAR				pP	pP	03 10 42.2	+0.9
	0.4nm,0.8s,baz=148,slow=7.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	P	03 10 27.4	0.0
	1.2nm,0.4s,baz=252,slow=5.2,SNR=49						
TORD				pP	pP	03 10 55.7	+0.1
	0.7nm,0.8s,baz=256,slow=4.4,SNR=2.0						
MKAR	**Makanchi Array**	**145.73**	**37**	PKPbc	PKPbc	03 18 11.7	+0.1
	0.4nm,0.6s,baz=323,slow=2.2,SNR=3.7						

*IDC **17** 03:14:39.0±3.0,1°.42S×99°.67E,h0km,mb3.6/5,mb1 3.7/7, mb1mx3.6/25,mbtmp3.6/7,ML3.6/2,MS3.5/1,Ms1 3.5/1, ms1mx2.8/42,Error ellipse: s-maj=125.5km s-min=19.7km az=59.0*
*ISCJB **17** 03:14:40.7±0.9,1°.45S±0°.08×99°.27E±0°.07,h30km, mb3.6/5,Error ellipse: s-maj=11.1km s-min=9.8km az=0.4*
*DJA **17** 03:14:45.3±1.1,1°S±5°×10°0E±1°0,h10km,M4.5/5, MLv4.5/5*
ISC 17 03:14:42.9±1.1,**1°.39S**±0°.08×**99°.43E**±0°.08,**h30**km,**n14**, σ1§**40**/16,**mb3.5/5,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.14**	**65**	P	**Pn**	**03 15 02.5**	**-0.3**
PDSI				S	**Sb**	**03 15 19.1**	**+0.7**
PPI	**Padang Panjang**	**1.34**	**46**	P	**Pb**	**03 15 06.4**	**-1.0**
PPI				S	**Sb**	**03 15 24.8**	**+0.6**
SDSI	**Sungai Dareh**	**2.05**	**77**	P	**Pb**	**03 15 17.7**	**-1.8**
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pb**	**03 15 25.8**	**+1.3**
RGRI	**Rengat**	**3.08**	**70**	P	**Pn**	**03 15 31.4**	**+1.8**
PSI	**Prapat**	**4.19**	**353**	Pn	**Pn**	**03 15 45.0**	**+0.1**
	0.5nm,0.3s,baz=293,slow=7.7,SNR=2.2						
PSI				LR	LR	03 17 14.2	
	comp=Z,560nm,20.7s,baz=260,slow=37						
MNAI	**Manna**	**4.60**	**130**	P	**Pn**	**03 15 52.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**Pn**	**03 19 10.1**	**-1.8**
	0.3nm,0.3s,baz=174,slow=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**03 22 03.1**	**-2.2**
	0.4nm,0.5s,baz=303,slow=9.0,SNR=6.0						
ASAR	**Alice Springs**	**40.07**	**126**	P	**P**	**03 22 15.3**	**-0.6**
	0.4nm,0.4s,baz=300,slow=7.9,SNR=7.7						
SONM	**Songino Array**	**49.40**	**6**	P	**P**	**03 23 30.7**	**+0.7**
	0.3nm,0.6s,baz=175,slow=9.9,SNR=2.4						
MKAR	**Makanchi Array**	**50.29**	**345**	P	**P**	**03 23 37.7**	**+1.0**
	0.4nm,0.3s,baz=156,slow=8.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**56.47**	**350**	P	**P**	**03 24 23.2**	**+1.4**
	0.7nm,0.5s,baz=155,slow=7.1,SNR=2.5						
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	**PKPdf**	**03 34 17.1**	**-0.4**
	0.3nm,0.5s,baz=294,slow=2.1,SNR=6.1						

*TRN **17** 03:19:36.4,18°.80N×64°.68W,h34km*
*NEIC **17** 03:19:38.5,18°.83N×64°.63W,h42km,MD2.8(RSPR), After RSPR.*
RSPR 17 03:19:38.9,18°.84N×64°.67W,h37km±2km,**MD2.9/5, 11C-7D,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.34**	**110**	‖*eP*	Pn	03 19 46.0	-1.2
ABVI				*eS*	Sn	03 19 52.7	-1.4
ABV	**Anegada**	**0.34**	**110**	‖*eP*	Pn	03 19 46.0	-1.2
ABV	**Anegada**	**0.34**	**110**	*eS*	Sn	03 19 52.4	-1.7
ABV	**Anegada**	**0.34**	**110**	‖*eP*	Pn	03 19 46.2	-1.1
ABV	**Anegada**	**0.34**	**110**	*eS*	Sn	03 19 52.7	-1.4
ABV	**Anegada**	**0.34**	**110**	‖*eP*	Pn	03 19 46.2	-1.1
ABV				*eS*	Sn	03 19 52.7	-1.4
TBVI	**Tortola**	**0.43**	**173**	‖*eP*	Pn	03 19 47.6	-0.7
TBVI				*eS*	Sn	03 19 54.3	-0.9
TBVI	**Tortola**	**0.43**	**173**	‖*eP*	Pn	03 19 47.6	-0.7
TBVI				*eS*	Sn	03 19 54.3	-0.9
TBVI	**Tortola**	**0.43**	**173**	‖*eP*	Pn	03 19 47.6	-0.7
STVI	**Saint Thomas**	**0.56**	**209**	‖*eP*	Pn	03 19 49.2	-1.3
STVI	**Saint Thomas**	**0.56**	**209**	‖*eP*	Pn	03 19 49.3	-1.2
STVI	**Saint Thomas**	**0.56**	**209**	*eS*	Sn	03 19 57.5	-1.0
STVI	**Saint Thomas**	**0.56**	**209**	‖*eP*	Pn	03 19 49.2	-1.3
STVI				*eS*	Sn	03 19 57.4	-1.1
STVI	**Saint Thomas**	**0.56**	**209**	‖*eP*	Pn	03 19 49.3	-1.2
STVI				*eS*	Sn	03 19 57.5	-1.0
MTP	**Monte Pirata**	**1.12**	**229**	‖*eP*	Pn	03 19 56.9	-1.1
MTP	**Monte Pirata**	**1.12**	**229**	*eS*	Sn	03 20 11.6	-0.6
MTP	**Monte Pirata**	**1.12**	**229**	‖*eP*	Pn	03 19 57.0	-1.0
MTP	**Monte Pirata**	**1.12**	**229**	*ePn*	Pn	03 19 57.0	-1.0
MTP				*eS*	Sn	03 20 12.0	-0.2
MTP	**Monte Pirata**	**1.12**	**229**	‖*eP*	Pn	03 19 57.0	-1.0
MTP				*eS*	Sn	03 20 11.0	-1.2
CBYP	**Canovanas**	**1.26**	**243**	‖*eP*	Pn	03 19 58.9	-1.1
CBYP	**Canovanas**	**1.26**	**243**	‖*eP*	Pn	03 19 59.0	-1.1
CBYP	**Canovanas**	**1.26**	**243**	*eS*	Sn	03 20 14.4	-1.4
CBYP	**Canovanas**	**1.26**	**243**	*ePn*	Pn	03 19 58.6	-1.4
CBYP				*eS*	Sn	03 20 15.7	-0.1
CBYP	**Canovanas**	**1.26**	**243**	‖*eP*	Pn	03 19 59.1	-1.0
CBYP				*eS*	Sn	03 20 14.4	-1.4

WEL 17 03:20:34.2±0.3,**35°.91S**×**177°.93E,h237**km±4km,**ML3.6/6, Error ellipse: s-maj=6.9km s-min=4.1km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**2.44**	**195**	PN	Pn	03 21 20.3	+0.5
URZ				SN	S	03 21 56.5	+0.7
URZ				AML	AML	03 22 03.0	
MWZ	**Matawai**	**2.44**	**187**	PN	Pn	03 21 20.2	+0.2
MWZ				SN	S	03 21 55.4	-0.7
MWZ				AML	AML	03 22 14.2	
CNGZ	**Carnagh Statio**	**2.58**	**175**	PN	Pn	03 21 21.5	+0.1
BKZ	**Black Stump Fm**	**3.45**	**199**	PN	Pn	03 21 33.0	+2.0
PNHZ	**Pukenui**	**4.23**	**198**	PN	Pn	03 21 40.7	+0.6
PNHZ				SN	S	03 22 34.0	+1.5
BFZ	**Birch Farm**	**4.95**	**195**	PN	Pn	03 21 49.0	+0.2
MRZ	**Mangatainoka R**	**5.09**	**201**	PN	Pn	03 21 50.9	+0.2
MRZ				SN	S	03 22 50.4	-1.1
KIW	**Kapiti Island**	**5.49**	**205**	PN	Pn	03 21 55.7	+0.2
MTW	**Mount Morrison**	**5.58**	**199**	PN	Pn	03 21 57.4	+0.8
THZ	**Tophouse**	**7.04**	**212**	PN	Pn	03 22 15.7	+0.5

*ISCJB **17** 03:24:15.6±0.6,4°.47S±0°.05×131°.82E±0°.08,h33km, mb4.0/7,Error ellipse: s-maj=11.3km s-min=7.8km az=178.7*
*IDC **17** 03:24:15.2±0.8,4°.28S×130°.96E,h0km,mb4.0/7, mb1 4.2/9,mb1mx4.0/19,mbtmp4.1/9,ML4.2/2,Error ellipse: s-maj=41.9km s-min=17.7km az=78.0*
*DJA **17** 03:24:20.7±1.2,4°S±12°×13°2E±1°,h59km±25km,M3.8/3, MLv3.8/3*
ISC 17 03:24:18.4±0.7,**4°.45S**±0°.07×**131°.73E**±0°.08,**h35**km,**n19**, σ2§**49**/18,**mb4.0/7,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.60**	**19**	P	**Pn**	**03 24 41.7**	**-2.5**
BNDI	**Bandanaira**	**1.82**	**268**	P	**Pn**	**03 24 47.6**	**+0.3**
MSAI	**Masohi**	**3.00**	**291**	P	Pn	03 25 04.6	+1.1
SWI	**Sorong**	**3.59**	**352**	P	Pn	03 25 03.7	-7.9
AAI	**Ambon**	**3.61**	**282**	P	**Pn**	**03 25 10.7**	**-1.1**
RKPI	**Ransiki, Papua**	**3.80**	**40**	P	**Pn**	**03 25 13.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**14.82**	**203**	Pn	**Pn**	**03 27 43.7**	**-1.9**
	0.9nm,0.3s,baz=31,slow=9.6,SNR=28						
FITZ				Sn	**Sn**	**03 30 23.2**	**-5.5**
	0.5nm,0.3s,baz=90,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**15.61**	**171**	Pn	**Pn**	**03 27 55.5**	**-0.4**
	0.5nm,0.3s,baz=350,slow=14,SNR=20						
WRA				Sn	**Sn**	**03 30 45.3**	**-2.6**
	0.6nm,0.3s,baz=351,slow=24,SNR=8.8						
ASAR	**Alice Springs**	**19.22**	**174**	P	**Pn**	**03 28 45.0**	**+4.3**
	0.6nm,0.3s,baz=348,slow=7.9,SNR=25						
ASAR				S	**Sn**	**03 32 15.9**	**+0.5**
	0.2nm,0.3s,baz=357,slow=27,SNR=4.5						
CMAR	**Chiang Mai Arr**	**39.52**	**306**	P	P	03 31 42.0	-4.2
	0.5nm,0.3s,baz=139,slow=7.2,SNR=7.4						
SONM	**Songino Array**	**56.62**	**340**	P	**P**	**03 33 57.3**	**-0.7**
	0.2nm,0.2s,baz=151,slow=6.3,SNR=4.5						
PETK	**Petropavlovsk-**	**61.38**	**18**	P	**P**	**03 34 33.5**	**+2.7**
	2.0nm,0.4s,baz=180,slow=2.9,SNR=5.3						
MKAR	**Makanchi Array**	**67.08**	**325**	P	**P**	**03 35 07.7**	**-0.6**
	2.2nm,0.6s,baz=116,slow=8.3,SNR=27						
ZALV	**Zalesovo Beam**	**70.09**	**333**	P	**P**	**03 35 24.8**	**-2.1**
	0.7nm,0.4s,baz=116,slow=5.0,SNR=4.4						
VNDA	**Vanda**	**74.77**	**174**	P	P	03 35 58.2	+3.8
	0.9nm,0.8s,baz=320,slow=6.8,SNR=6.5						
MAW	**Mawson**	**77.94**	**201**	P	**P**	**03 36 13.8**	**+1.3**
	0.7nm,0.4s,baz=54,slow=8.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**129.96**	**283**	PKP	**PKPdf**	**03 43 26.0**	**+0.5**
	0.2nm,0.8s,baz=52,slow=3.7,SNR=3.4						
CPUP	**Villa Florida**	**148.17**	**164**	PKPbc	**PKPab**	**03 44 04.8**	**+0.7**
	0.7nm,0.4s,baz=176,slow=2.6,SNR=5.5						
LPAZ	**La Paz**	**151.53**	**137**	PKPbc	**PKPbc**	**03 44 13.7**	**+3.0**
	0.8nm,0.7s,baz=258,slow=3.0,SNR=4.0						

*IDC **17** 03:31:36.3±1.2,36°.18N×141°.00E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.6/26,mbtmp3.6/6,ML3.2/1,MS3.6/2, Ms1 3.6/2,ms1mx3.1/43,Error ellipse: s-maj=28.8km s-min=18.0km az=13.0*
*ISCJB **17** 03:31:40.9±0.8,36°.30N±0°.04×141°.03E±0°.07,h45km±8km, mb3.5/5,Error ellipse: s-maj=9.5km s-min=6.8km az=177.6*
*JMA **17** 03:31:41.2±0.1,36°.31N×141°.01E,h46km±2km,M3.6*
JMA Felt I J1.
ISC 17 03:31:41.0±1.3,**36°.31N**×**141°.06E**±0°.07,**h32**km±10km, **n17**,σ0§**81**/23,**mb3.5/5,1C-7D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.50**	**308**	‖P	**Pb**	**03 31 51.5**	**0.0**
CHOJ	**Chosi**	**0.62**	**195**	‖P	**Pb**	**03 31 53.8**	**+0.3**
CHOJ				*eS*	**Sb**	**03 32 02.3**	**+0.2**
JYT	**Yasato**	**0.70**	**264**	‖P	**Pn**	**03 31 54.5**	**-0.2**
JYT				S	**Sb**	**03 32 03.5**	**-0.8**
JFK	**Kawauchi**	**1.07**	**352**	‖P	**Pn**	**03 31 59.0**	**-0.8**
JFK				S	**Sn**	**03 32 11.8**	**-1.8**
JAG	**Ashikaga**	**1.30**	**276**	‖P	**Pn**	**03 32 03.1**	**+0.1**
JAG				*eS*	**Sn**	**03 32 18.3**	**-1.0**
JFT	**Otama**	**1.34**	**335**	‖P	**Pn**	**03 32 04.4**	**+0.9**
JFT				S	**Sn**	**03 32 20.5**	**+0.2**
JKT	**Katashina**	**1.53**	**288**	‖P	**Pn**	**03 32 06.9**	**+0.7**
JKT				S	**Sn**	**03 32 24.4**	**-0.6**
JFY	**Yanaizu**	**1.54**	**316**	‖P	**Pn**	**03 32 06.9**	**+0.6**
JFY				*eS*	**Sn**	**03 32 26.5**	**+1.2**
MJAR	**Matsushiro Arr**	**2.31**	**277**	Pn	**Pn**	**03 32 16.4**	**-0.5**
	6.4nm,0.3s,baz=106,slow=8.8,SNR=49						
MJAR				Lg	Lg	03 32 46.5	
	13nm,0.3s,baz=103,slow=31,SNR=9.6						
MJAR				LR	LR	03 33 04.4	
	comp=Z,967nm,19.9s,baz=105,slow=39						
MAT	**Matsushiro**	**2.31**	**277**	P	**Pn**	**03 32 17.8**	**+0.9**
MAT				S	**Sn**	**03 32 43.5**	**-0.7**
JNU	**Nakatsue**	**8.96**	**252**	LR	LR	03 36 40.1	
	comp=Z,626nm,20.4s,baz=313,slow=34						
USRK	**Ussuriysk Arra**	**10.49**	**322**	Pn	Pn	03 34 13.6	+4.6
	0.1nm,0.3s,baz=123,slow=10,SNR=4.8						
SONM	**Songino Array**	**27.96**	**305**	P	**P**	**03 37 28.8**	**+0.1**
	0.4nm,0.6s,baz=107,slow=7.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.20**	**313**	P	**P**	**03 39 31.0**	**+0.4**
	0.7nm,0.4s,baz=101,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**44.27**	**303**	P	**P**	**03 39 48.2**	**+0.7**
	0.6nm,0.7s,baz=88,slow=8.9,SNR=5.5						
ILAR	**Eielson Array**	**50.26**	**32**	P	**P**	**03 40 34.4**	**+0.5**
	0.4nm,0.8s,baz=272,slow=5.9,SNR=5.9						
WRA	**Warramunga Arr**	**56.30**	**188**	P	**P**	**03 41 17.7**	**-1.0**
	0.3nm,0.3s,baz=6.0,slow=7.2,SNR=13						

*IDC **17** 03:32:08.5±1.4,1°.37S×99°.72E,h0km,mb3.6/3,mb1 3.8/5, mb1mx3.5/25,mbtmp3.6/5,ML3.8/2,MS3.1/1,Ms1 3.1/1, ms1mx2.5/42,Error ellipse: s-maj=66.3km s-min=23.4km az=65.0*
*ISCJB **17** 03:32:09.5±1.3,1°.5S±0°.1×99°.24E±0°.08,h30km,mb3.7/3, Error ellipse: s-maj=18.1km s-min=10.8km az=170.4*
*DJA **17** 03:32:16.1±1.6,1°S±12°×10°0E±1°,h12km,M4.0/3, MLv4.0/3*
ISC 17 03:32:12.0±1.2,**1°.4S**±0°.1×**99°.36E**±0°.09,**h30**km,**n10**, σ1§**42**/12,**mb3.6/3,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**67**	P	**Pn**	**03 32 32.5**	**-0.2**
PDSI				S	**Sb**	**03 32 49.9**	**+0.8**
PPI	**Padang Panjang**	**1.38**	**49**	P	**Pb**	**03 32 36.4**	**-0.8**
PPI				S	**Sb**	**03 32 53.7**	**-0.7**
BKNI	**Bangkinang**	**2.38**	**45**	P	**Pb**	**03 32 55.2**	**+1.0**
PSI	**Prapat**	**4.17**	**354**	Pn	**Pn**	**03 33 11.9**	**-1.8**
	0.6nm,0.3s,baz=150,slow=8.1,SNR=5.1						
PSI				LR	LR	03 35 08.8	
	comp=Z,233nm,20.2s,baz=205,slow=44						
CMAR	**Chiang Mai Arr**	**19.71**	**359**	P	**P**	**03 36 39.2**	**0.0**
	0.5nm,0.3s,baz=195,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**38.86**	**121**	P	**P**	**03 39 33.1**	**-1.9**
	0.6nm,0.6s,baz=303,slow=9.1,SNR=7.0						
MKAR	**Makanchi Array**	**50.26**	**345**	P	**P**	**03 41 07.8**	**+2.2**
	0.4nm,0.6s,baz=152,slow=8.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.44**	**350**	P	**P**	**03 41 52.6**	**+1.8**
	0.4nm,0.3s,baz=174,slow=14,SNR=2.5						
TXAR	**Lajitas Array**	**144.58**	**36**	PKP	**PKPdf**	**03 51 46.5**	**0.0**
	0.2nm,0.6s,baz=170,slow=1.6,SNR=5.3						
CFAA	**Coronel Fontan**	**145.16**	**199**	PKPbc	**PKPab**	**03 51 47.4**	**+0.5**
	0.1nm,0.5s,baz=182,slow=4.1,SNR=6.0						

IDC 17 03:43:57.2±3.5,**1°.68S**×**99°.44E,h0**km,**mb3.4/3,mb1 3.5/4, mb1mx3.4/25,mbtmp3.3/4,MLL2.4/1,MS3.7/1,Ms1 3.9/1, ms1mx2.9/31,Error ellipse: s-maj=151.6km s-min=25.6km az=57.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.48**	**353**	Pn	Pn	03 45 06.9	+0.3
	0.2nm,0.3s,baz=153,slow=16,SNR=1.8						
CMAR	**Chiang Mai Arr**	**20.02**	**359**	LR	LR	03 57 43.4	
	comp=Z,188nm,19.3s,baz=314,slow=41						
WRA	**Warramunga Arr**	**38.64**	**120**	P	P	03 51 23.0	+0.2
	0.6nm,0.8s,baz=302,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	03 51 33.0	-0.2
	0.3nm,0.5s,baz=298,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**50.57**	**345**	P	P	03 52 57.1	-0.6
	0.2nm,0.4s,baz=155,slow=7.6,SNR=4.2						
TXAR	**Lajitas Array**	**144.79**	**36**	PKP	PKPab	04 03 35.9	0.0
	0.3nm,0.5s,baz=302,slow=2.0,SNR=6.0						

*NIED **17** 03:46:00,23°.10N×123°.40E,h5km,Mw4.2 Best double couple: M0 1.94000×10^15 NP1:φs233.00000°,δ75.00000°, λ-120.00000°. NP2:φs119.00000°,δ33.00000°, λ-28.00000°.*
*IDC **17** 03:46:46.4±0.9,22°.98N×123°.37E,h0km,mb3.8/10, mb1 3.9/12,mb1mx3.8/27,mbtmp3.8/12,ML3.6/2,Error ellipse: s-maj=34.0km s-min=18.5km az=70.0*
*JMA **17** 03:46:50.1±0.4,23°.09N×123°.35E,h63km,M3.8*
ISC 17 03:46:48.4±2.2,**23°.08N**±0°.07×**123°.38E**±0°.08,**h11**km±13km, **n20**,σ0§**80**/28,**mb3.8/10,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.05**	**22**	P	**Pn**	**03 47 09.0**	**0.0**
HATJ				*eS*	**Sb**	**03 47 23.0**	**+0.6**
JKRS	**Kuro-shima**	**1.29**	**26**	P	**Pg**	**03 47 13.0**	**-0.3**
JKRS				*eS*	**Sb**	**03 47 28.4**	**-0.9**
IRIF	**Iriomote-Funau**	**1.29**	**14**	P	**Pb**	**03 47 12.6**	**-0.1**
IRIF				*eS*	**Sb**	**03 47 28.5**	**-0.8**
YOJ	**Yonaguni jima**	**1.42**	**346**	P	**Pn**	**03 47 13.7**	**-0.4**
YOJ				S	**Sn**	**03 47 32.0**	**-0.8**
JIJ	**Ishigaki jima**	**1.46**	**29**	P	**Pn**	**03 47 14.4**	**-0.3**
JIJ				S	**Sn**	**03 47 32.8**	**-1.0**
JTJ	**Tarama**	**1.97**	**38**	P	**Pn**	**03 47 21.6**	**-0.1**
JTJ				S	**Sn**	**03 47 46.0**	**-0.5**
JMJ	**Miyako jima 2**	**2.46**	**45**	P	**Pn**	**03 47 28.5**	**0.0**
JMJ				*eS*	**Sn**	**03 47 58.2**	**-0.3**
JOGS	**Gusukube**	**2.50**	**48**	P	**Pn**	**03 47 29.1**	**+0.1**
JOGS				S	**Sn**	**03 47 59.5**	**0.0**
KSRS	**Korea Array**	**14.86**	**14**	Pn	**Pn**	**03 50 19.9**	**+1.6**
	0.2nm,0.3s,baz=178,slow=13,SNR=7.3						
MJAR	**Matsushiro Arr**	**18.56**	**40**	P	**Pn**	**03 51 07.1**	**+1.7**
	0.2nm,0.3s,baz=226,slow=9.8,SNR=3.7						
SONM	**Songino Array**	**

TAP 17 04:06:53.4, 24°.89N×122°.64E, h7km, ML3.6, D
JMA 17 04:06:54.5±0.1, 24°.93N×122°.78E, h30km, M2.8
IDC 17 04:07:17.8±11.0, 25°.03N×122°.81E, h241km±133km, mb3.1/8, mb1 3.2/9, mb1mx3.0/28, mbtmp3.1/9, MS3.3/1, Ms1 3.3/1, ms1mx2.4/15, Error ellipse: s-maj=70.3km s-min=13.6km az=60.0

ISC 17 04:06:54.0±0.7, 24°.84N±0°.05×122°.65E±0°.03, h16km, n46, σ1s09/46, mb3.7/7, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.50**	**139**	⇑ *i P*	**Pb**	**04 07 04.8**	**+0.4**
	baz=141						
YOJ				*e*S	**Sn**	**04 07 13.3**	**-1.4**
	baz=141						
YOJ	**Yonaguni jima**	**0.50**	**139**	P	**Pb**	**04 07 04.8**	**+0.4**
YOJ				*e*S	**Sb**	**04 07 12.2**	**+0.8**
TWB1	**Santiao Chiao**	**0.62**	**286**	P	**Pn**	**04 07 06.3**	**-1.8**
	baz=281						
TWC	**Suao**	**0.76**	**253**	*e*P	**Pn**	**04 07 08.8**	**-1.3**
	baz=248						
NWF	**Wu-fen Shan**	**0.82**	**286**	P	**Pn**	**04 07 09.8**	**-1.2**
	baz=283						
TWE	**Neicheng**	**0.90**	**263**	*e*P	**Pn**	**04 07 11.4**	**-0.6**
	baz=259						
ENA	**Nanau**	**0.92**	**244**	*e*P	**Pn**	**04 07 11.5**	**-0.8**
	baz=240						
PCYT	**Pengchaiyu**	**0.94**	**326**	*i* P	**Pn**	**04 07 11.5**	**-1.1**
	baz=325						
TWA	**Mucha**	**0.98**	**278**	*e*P	**Pn**	**04 07 12.8**	**-0.3**
	baz=275						
TAP1	**Taipei**	**1.04**	**281**	*e*P	**Pg**	**04 07 14.2**	**0.0**
	baz=278						
TWY	**Chenhua**	**1.05**	**295**	*e*P	**Pg**	**04 07 14.4**	**+0.2**
	baz=292						
IRIF	**Iriomote-Funau**	**1.10**	**117**	P	**Pn**	**04 07 13.2**	**-1.6**
IRIF				*e*S	**Sb**	**04 07 26.3**	**-2.5**
NSK	**Sanguang**	**1.19**	**262**	*e*P	**Pg**	**04 07 16.1**	**-0.8**
	baz=259						
TWD	**Chiawan**	**1.22**	**232**	*e*P	**Pg**	**04 07 17.9**	**+0.3**
	baz=229						
NNS	**Nan Shan**	**1.23**	**251**	*e*P	**Pg**	**04 07 17.1**	**-0.6**
	baz=248						
HATJ	**Hateruma jima**	**1.31**	**126**	P	**Pn**	**04 07 16.7**	**-0.9**
JKRS	**Kuro-shima**	**1.38**	**116**	P	**Pn**	**04 07 17.6**	**-0.9**
JIJ	**Ishigaki jima**	**1.44**	**109**	P	**Pn**	**04 07 18.1**	**-1.3**
WHF	**Hehuan Shan**	**1.44**	**242**	P	**Pg**	**04 07 20.6**	**-1.1**
	baz=239						
TWT	**Tachien**	**1.46**	**247**	*e*P	**Pg**	**04 07 22.4**	**+0.2**
	baz=244						
ESL	**Shilin**	**1.51**	**228**	*e*P	**Pg**	**04 07 21.9**	**-1.1**
	baz=225						
NSY	**Sanyi**	**1.77**	**257**	*e*P	**Pg**	**04 07 28.1**	**+0.1**
	baz=254						
TWQ1	**Liyutan**	**1.78**	**254**	*e*P	**Pg**	**04 07 28.0**	**-0.1**
	baz=252						
EHY	**Hungye**	**1.80**	**223**	*e*P	**Pb**	**04 07 25.9**	**-0.6**
	baz=221						
SMLT	**Sun Moon Lake**	**1.86**	**240**	*e*P	**Pg**	**04 07 29.0**	**-0.7**
	baz=237						
TYC	**Yuchr**	**1.88**	**241**	*e*P	**Pg**	**04 07 29.0**	**-1.2**
	baz=238						
TCU	**Taichung**	**1.93**	**249**	*e*P	**Pg**	**04 07 29.9**	**-1.1**
	baz=247						
TWF1	**Yuli**	**1.93**	**220**	*e*P	**Pn**	**04 07 26.6**	**+0.4**
	baz=218						
YUS	**Yu-Shan**	**2.05**	**229**	*e*P	**Pb**	**04 07 30.1**	**-1.0**
	baz=227						
CHKT	**Chengkung**	**2.09**	**214**	*e*P	**Pn**	**04 07 28.8**	**+0.4**
	baz=213						
ALS	**Alishan**	**2.14**	**232**	*e*P	**Pb**	**04 07 33.3**	**+0.7**
	baz=230						
CHN4	**Tsaushan**	**2.39**	**232**	*e*P	**Pb**	**04 07 35.5**	**-1.2**
	baz=230						
TWG	**Pinlang**	**2.48**	**216**	*e*P	**Pn**	**04 07 34.6**	**+1.0**
	baz=214						
SGST	**Jiashian**	**2.58**	**228**	*e*P	**Pb**	**04 07 38.5**	**-1.4**
	baz=226						
LAY	**Lan-yu**	**2.96**	**200**	*e*P	**Pn**	**04 07 40.8**	**+0.4**
	baz=199						
SCZT	**Fangliau**	**3.08**	**218**	*e*P	**Pb**	**04 07 46.1**	**-2.3**
	baz=216						
HEN	**Hengchun**	**3.32**	**212**	*e*P	Pb	04 07 48.5	-4.0
	baz=211						
KSRS	**Korea Array**	**13.36**	**18**	P	P	04 10 15.8	+3.4
	0.1nm,0.3s,baz=191,slow=12,SNR=9.1						
KSRS				LR	LR	04 15 41.4	
	comp=Z,139nm,20.9s,baz=130,slow=38						
USRK	**Ussuriysk Arra**	**20.77**	**19**	P	Pn	04 11 38.0	+1.5
	1.9nm,0.6s,baz=197,slow=12,SNR=4.1						
SONM	**Songino Array**	**26.31**	**335**	P	**P**	**04 12 30.0**	**+0.9**
	1.9nm,1.0s,baz=152,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**38.81**	**315**	P	**P**	**04 14 19.1**	**+1.0**
	1.4nm,0.8s,baz=110,slow=9.3,SNR=11						
ZALV	**Zalesovo Beam**	**40.44**	**326**	P	**P**	**04 14 31.6**	**+0.1**
	0.8nm,0.4s,baz=131,slow=8.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**42.48**	**319**	P	**P**	**04 14 49.0**	**+0.8**
	0.9nm,0.7s,baz=110,slow=8.2,SNR=5.8						
WRA	**Warramunga Arr**	**45.94**	**165**	P	**P**	**04 15 16.9**	**+0.7**
	0.7nm,0.7s,baz=346,slow=8.5,SNR=8.4						
BVAR	**Borovoye Array**	**48.02**	**320**	P	**P**	**04 15 32.9**	**+0.7**
	0.5nm,0.4s,baz=98,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**49.44**	**166**	P	**P**	**04 15 45.7**	**+2.3**
	0.1nm,0.3s,baz=352,slow=12,SNR=2.9						

IDC 17 04:33:55.6±1.7, 13°.85N×92°.62E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/28, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=58.4km s-min=21.0km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.61**	**52**	Pn	Pn	04 35 48.1	+0.2
	0.3nm,0.3s,baz=244,slow=14,SNR=2.6						
CMAR				Sn	Sn	04 37 05.7	-9.2
	0.4nm,0.3s,baz=239,slow=26,SNR=3.4						
MKAR	**Makanchi Array**	**33.96**	**347**	P	P	04 40 41.1	+0.3
	0.8nm,0.6s,baz=161,slow=7.7,SNR=7.3						
SONM	**Songino Array**	**35.77**	**16**	P	P	04 40 56.2	-0.3
	0.1nm,0.3s,baz=198,slow=9.1,SNR=2.6						
KURBB	**Kurchatov Arra**	**38.42**	**346**	P	P	04 41 18.6	-0.2
	0.8nm,0.8s,baz=163,slow=7.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**40.47**	**353**	P	P	04 41 35.6	-0.3
	0.9nm,0.6s,baz=186,slow=7.0,SNR=3.6						
WRA	**Warramunga Arr**	**53.03**	**128**	P	P	04 43 14.5	-0.3
	0.4nm,0.8s,baz=310,slow=7.5,SNR=3.9						
ASAR	**Alice Springs**	**54.95**	**132**	P	P	04 43 28.9	+0.1
	0.7nm,0.6s,baz=309,slow=6.4,SNR=7.5						

IDC 17 04:55:27.1±2.9, 1°.22S×100°.08E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=143.2km s-min=17.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.15**	**344**	Pn	Pn	04 56 31.5	-0.5
	0.6nm,0.3s,baz=122,slow=2.7,SNR=2.6						
CMAR	**Chiang Mai Arr**	**19.58**	**357**	P	P	04 59 56.7	-0.2
	0.3nm,0.3s,baz=195,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**38.32**	**121**	P	P	05 02 50.1	+0.1
	1.4nm,0.5s,baz=302,slow=9.0,SNR=8.9						
ASAR	**Alice Springs**	**39.65**	**127**	P	P	05 03 00.8	-0.4
	0.9nm,0.5s,baz=302,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**49.61**	**132**	P	P	05 04 20.9	+0.4
	2.1nm,0.9s,baz=323,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**50.30**	**344**	P	P	05 04 25.0	-0.5
	0.8nm,0.5s,baz=159,slow=8.8,SNR=7.9						
KURBB	**Kurchatov Arra**	**54.83**	**343**	P	P	05 04 59.8	+0.8
	0.3nm,0.5s,baz=154,slow=7.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**56.42**	**349**	P	P	05 05 09.6	-0.7
	0.9nm,0.4s,baz=152,slow=8.7,SNR=2.2						
TXAR	**Lajitas Array**	**144.03**	**37**	PKP	PKPbc	05 15 03.9	+0.4
	0.5nm,0.5s,baz=283,slow=3.0,SNR=12						

IDC 17 05:06:28.2±1.8, 1°.27S×99°.91E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.9/2, MS3.2/1, Ms1 3.4/1, ms1mx2.5/38, Error ellipse: s-maj=62.5km s-min=16.9km az=60.0
NEIC 17 05:06:33.3±0.9, 1°.20S×100°.01E, h35km, mb4.4/2, Error ellipse: s-maj=31.3km s-min=10.4km az=65.0
ISCJB 17 05:06:34.2±0.9, 1°.1S±0°.1×100°.0E±0°.2, h57km, mb4.0/11, Error ellipse: s-maj=28.5km s-min=10.2km az=153.9

ISC 17 05:06:35.4±1.1, 1°.1S±0°.1×99°.9E±0°.2, h57km, n28, σ1s45/26, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.03**	**345**	Pn	**Pn**	**05 07 33.0**	**-1.7**
PSI	**Prapat**	**4.03**	**345**	Pn	**Pn**	**05 07 33.0**	**-1.7**
	1.6nm,0.3s,baz=39,slow=0.6,SNR=5.6						
IPM	**Ipoh**	**5.67**	**11**	*e*Pn	**Pn**	**05 07 56.7**	**-0.4**
	46nm,0.5s						
KULM	**Kulim**	**6.41**	**6**	*e*Pn	**Pn**	**05 08 05.0**	**-2.3**
	60nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.48**	**357**	P	**Pn**	**05 10 58.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**19.48**	**357**	P	**Pn**	**05 10 58.6**	**-0.9**
	0.4nm,0.3s,baz=187,slow=10,SNR=7.9						
CMAR				LR	LR	05 18 48.4	
	comp=Z,65nm,19.2s,baz=200,slow=38						
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**05 13 51.4**	**-1.0**
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**05 13 51.4**	**-1.0**
	0.3nm,0.4s,baz=306,slow=8.7,SNR=5.4						
ASAR	**Alice Springs**	**39.82**	**127**	P	**P**	**05 14 04.1**	**+0.6**
ASAR	**Alice Springs**	**39.82**	**127**	P	**P**	**05 14 04.1**	**+0.6**
	0.3nm,0.5s,baz=302,slow=7.5,SNR=3.2						
KSAR	**Wonju Array Be**	**46.27**	**31**	P	**P**	**05 14 56.6**	**+1.3**
KSRS	**Korea Array**	**46.30**	**31**	P	**P**	**05 14 56.6**	**+1.1**
	1.0nm,0.7s,baz=220,slow=8.3,SNR=4.5						
SONM	**Songino Array**	**49.08**	**6**	P	**P**	**05 15 18.1**	**+1.0**
SONM	**Songino Array**	**49.08**	**6**	P	**P**	**05 15 18.1**	**+1.0**
	0.8nm,0.2s,baz=208,slow=8.1,SNR=7.0						
STKA	**Stephens Creek**	**49.78**	**132**	P	**P**	**05 15 22.1**	**-0.4**
STKA	**Stephens Creek**	**49.78**	**132**	P	**P**	**05 15 22.1**	**-0.4**
	0.7nm,0.4s,baz=311,slow=11,SNR=2.9						
MK31	**Makanchi Array**	**50.17**	**344**	*e*P	**P**	**05 15 27.7**	**+2.4**
MKAR	**Makanchi Array**	**50.17**	**344**	P	**P**	**05 15 25.2**	**-0.1**
MKAR	**Makanchi Array**	**50.17**	**344**	P	**P**	**05 15 25.2**	**-0.1**
	1.3nm,0.5s,baz=157,slow=8.6,SNR=12						
USRK	**Ussuriysk Arra**	**53.42**	**28**	P	**P**	**05 15 50.8**	**+1.3**
	2.2nm,0.7s,baz=90,slow=2.5,SNR=5.6						
KURBB	**Kurchatov Arra**	**54.70**	**343**	P	**P**	**05 16 01.4**	**+2.8**
	0.3nm,0.3s,baz=165,slow=7.1,SNR=7.9						
KURK	**Kurchatov**	**54.75**	**344**	P	**P**	**05 16 01.4**	**+2.4**
ZALV	**Zalesovo Beam**	**56.30**	**349**	P	**P**	**05 16 11.8**	**+1.7**
ZALV	**Zalesovo Beam**	**56.30**	**349**	P	**P**	**05 16 11.8**	**+1.7**
	1.8nm,0.6s,baz=166,slow=6.9,SNR=6.1						
ABKAR	**Akbulak array**	**60.85**	**331**	P	**P**	**05 16 41.0**	**-0.8**
	0.2nm,0.4s						
DZM	**Mont Dzumac**	**67.85**	**113**	*e*P	**P**	**05 17 27.3**	**-1.1**
	26nm,0.8s						
TXAR	**Lajitas Array**	**144.04**	**37**	PKP	PKPbc	05 26 04.2	+0.7
TXAR	**Lajitas Array**	**144.04**	**37**	PKP	PKPbc	05 26 04.2	+0.7
	0.3nm,0.4s,baz=284,slow=2.7,SNR=8.0						

IDC 17 05:11:18.6±1.4, 1°.60S×99°.57E, h0km, mb3.9/9, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.8/2, Error ellipse: s-maj=50.2km s-min=18.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.42**	**352**	Pn	Pn	05 12 25.8	-1.4
	0.7nm,0.3s,baz=182,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**19.94**	**358**	P	P	05 15 52.5	+0.2
	0.5nm,0.3s,baz=193,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	05 18 43.4	-0.1
	1.8nm,0.6s,baz=303,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**39.84**	**126**	P	P	05 18 54.5	+0.4
	0.8nm,0.6s,baz=311,slow=8.6,SNR=10						
KSRS	**Korea Array**	**46.90**	**31**	P	P	05 19 49.1	-1.8
	4.3nm,0.8s,baz=117,slow=38,SNR=6.3						
SONM	**Songino Array**	**49.59**	**6**	P	P	05 20 12.4	+0.6
	0.5nm,0.6s,baz=189,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	05 20 19.6	+0.9
	1.1nm,0.5s,baz=157,slow=7.7,SNR=7.7						
USRK	**Ussuriysk Arra**	**54.02**	**28**	P	P	05 20 45.0	+0.4
	0.7nm,0.5s,baz=218,slow=6.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**55.05**	**344**	P	P	05 20 51.4	-0.6
	0.4nm,0.6s,baz=160,slow=6.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	P	05 21 03.9	+0.1
	0.9nm,0.3s,baz=170,slow=9.0,SNR=2.9						
FINES	**FINESS Array B**	**83.56**	**332**	P	P	05 23 48.0	-0.4
	1.1nm,0.6s,baz=120,slow=13,SNR=4.3						
CPUP	**Villa Florida**	**144.38**	**217**	PKP	PKPab	05 30 55.7	0.0
	0.3nm,0.3s,baz=15,slow=3.0,SNR=2.6						
TXAR	**Lajitas Array**	**144.64**	**37**	PKP	PKPdf	05 30 57.7	-0.6
	0.8nm,0.5s,baz=258,slow=1.8,SNR=14						

MAN 17 05:21:34, 19°.76N×120°.75E, h12km, mb4.7, ML3.6, MS3.5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.43**	**185**	⇓ *i P*	Pn	05 21 57.5	-2.3
APYP	**Conner**	**1.94**	**166**	*e*P	Pn	05 22 06.0	-0.9
APYP				*e*S	Sn	05 22 26.7	-4.5
CAUP	**Cauayan**	**2.98**	**160**	*e*P	Pb	05 22 24.2	-2.8
PALP	**Palanan**	**3.12**	**149**	*e*P	Pb	05 22 27.4	-2.0

WEL 17 05:31:15.5±0.5, 46°.02S×166°.11E, h28km±2km, ML3.9/15, Error ellipse: s-maj=5.2km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.91**	**54**	PN	Pn	05 31 31.7	-0.6
DCZ				SN	Sb	05 31 44.3	0.0
DCZ				AML	AML	05 31 45.8	
DCZ				AML	AML	05 31 48.3	
DCZ				AML	AML	05 31 48.3	
WHZ	**Wether Hill Ro**	**1.29**	**85**	PN	Pn	05 31 37.8	+0.2
WHZ				SN	Sb	05 31 54.9	-0.4
WHZ				AML	AML	05 31 57.3	
APZ	**The Paps**	**1.54**	**123**	PN	Pn	05 31 40.6	-0.5
MLZ	**Mavora Lakes**	**1.59**	**66**	PN	Pn	05 31 43.0	+1.1
MLZ				AML	AML	05 32 09.5	
MLZ				AML	AML	05 32 12.4	
MSZ	**Milford Sound**	**1.86**	**44**	*e*PN	Pn	05 31 46.5	+1.1
MSZ				AML	AML	05 32 23.1	
MSZ				AML	AML	05 32 23.1	
MSZ				AML	AML	05 32 25.3	
MSZ				AML	AML	05 32 25.4	
SYZ	**Scrubby Hill**	**2.17**	**105**	PN	Pn	05 31 50.8	+1.1
WKZ	**Wanaka**	**2.37**	**61**	PN	Pb	05 31 55.5	-2.0
WKZ				AML	AML	05 32 29.1	
WKZ				AML	AML	05 32 33.3	
EAZ	**Earnscleugh**	**2.38**	**72**	PN	Pb	05 31 55.2	-2.4
EAZ				AML	AML	05 32 31.4	
EAZ				AML	AML	05 32 38.0	
TUZ	**Tuapeka**	**2.46**	**90**	PN	Pn	05 31 55.5	+1.9
TUZ				AML	AML	05 32 26.4	
TUZ				AML	AML	05 32 30.5	
JCZ	**Jackson Bay**	**2.70**	**45**	PN	Pn	05 31 59.5	+2.4
JCZ				AML	AML	05 32 48.9	
JCZ				AML	AML	05 32 49.5	
LBZ	**Lake Benmore**	**3.31**	**62**	PN	Pn	05 32 06.6	+1.2
LBZ				AML	AML	05 32 50.2	
ODZ	**Otahua Downs**	**3.33**	**75**	PN	Pn	05 32 05.9	+0.2
FOZ	**Fox Glacier**	**3.54**	**47**	PN	Pn	05 32 11.4	+3.0
RPZ	**Rata Peaks**	**4.20**	**59**	PN	Pn	05 32 18.1	+0.5
WVZ	**Waitaha Valley**	**4.42**	**50**	PN	Pn	05 32 22.6	+1.9

IDC 17 05:49:54.6±1.7, 1°.58S×99°.50E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/44, Error ellipse: s-maj=67.5km s-min=18.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**352**	Pn	Pn	05 51 01.3	-1.4
	0.3nm,0.3s,baz=80,slow=17,SNR=2.3						
CMAR	**Chiang Mai Arr**	**19.91**	**358**	P	P	05 54 28.3	+0.2
	0.3nm,0.3s,baz=182,slow=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**38.64**	**121**	P	P	05 57 19.8	-0.4
	0.5nm,0.5s,baz=302,slow=8.9,SNR=6.6						
ASAR	**Alice Springs**	**39.91**	**126**	P	P	05 57 31.1	+0.4
	0.8nm,0.7s,baz=303,slow=7.7,SNR=11						
JNU	**Nakatsue**	**45.47**	**38**	LR	LR	06 18 21.1	
	comp=Z,52nm,18.6s,baz=80,slow=38						
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	05 58 54.3	-0.2
	0.7nm,0.5s,baz=156,slow=7.8,SNR=8.0						
USRK	**Ussuriysk Arra**	**54.03**	**29**	P	P	05 59 20.2	-0.6
	1.4nm,0.6s,baz=233,slow=9.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**55.00**	**344**	P	P	05 59 28.1	+0.4
	0.1nm,0.5s,baz=166,slow=8.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.66**	**350**	P	P	05 59 39.5	-0.1
	0.5nm,0.4s,baz=167,slow=7.0,SNR=4.3						
CPUP	**Villa Florida**	**144.36**	**217**	PKP	PKPbc	06 09 32.4	+0.5
	2.0nm,0.7s,baz=160,slow=7.3,SNR=4.3						
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	PKPbc	06 09 33.2	+0.3
	0.7nm,0.6s,baz=278,slow=0.9,SNR=11						

ATH 17 06:00:39.8, 37°.69N×26°.97E, h11km±3km, MD3.0/3
DDA 17 06:00:40.8, 37°.70N×26°.85E, h7km, MD3.0
ISK 17 06:00:41.1, 37°.71N×26°.91E, h5km, MD2.8
CSEM 17 06:00:41.2±0.2, 37°.70N×26°.85E, h5km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.6km az=62.0
ISCJB 17 06:00:41.4±0.4, 37°.68N±0°.02×26°.89E±0°.03, h5km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=141.3
THE 17 06:00:41.2, 37°.71N×26°.90E, h9km±1km, ML2.8/2, Error ellipse: s-maj=4.1km s-min=0.9km az=85.0

ISC 17 06:00:41.1±0.8, 37°.70N±0°.02×26°.91E±0°.02, h9km±5km, n37, σ0s84/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.06**	**280**	P	**Pg**	**06 00 43.1**	**+0.1**
SMG	**Samos**	**0.06**	**280**	*e*PG	**Pg**	**06 00 43.1**	**+0.1**
SMG				*e*SG	**Sg**	**06 00 44.4**	**0.0**
SMG	**Samos**	**0.06**	**280**	P	**Pg**	**06 00 43.1**	**+0.1**
SMG				*e*Sg	**Sg**	**06 00 44.4**	**0.0**
GCAM	**G?zelcaml?**	**0.25**	**90**	*i* Pg	**Pb**	**06 00 47.6**	**-0.2**
GCAM				*i* Sg	**Sb**	**06 00 52.2**	**-0.1**
URLA	**Izmir**	**0.71**	**339**	*e*P	**Pg**	**06 00 53.9**	**-0.8**
URLA				*e*S	**Sg**	**06 01 04.7**	**+0.8**
URLA	**Izmir**	**0.71**	**339**	*e*P	**Pg**	**06 00 53.9**	**-0.8**
URLA				*e*S	**Sg**	**06 01 04.7**	**+0.8**
BODT	**Bodrum**	**0.71**	**153**	*e*PG	**Pg**	**06 00 55.3**	**+0.6**
BODT				*e*SG	**Sb**	**06 01 05.9**	**+0.4**
BODT	**Bodrum**	**0.71**	**153**	*e*Pg	**Pg**	**06 00 55.3**	**+0.6**
BODT				*e*Sg	**Sb**	**06 01 05.9**	**+0.4**
IZM	**Izmir**	**0.75**	**21**	*e*PG	**Pg**	**06 00 55.7**	**+0.2**
IZM				*e*SG	**Sb**	**06 01 06.8**	**0.0**
IZM	**Izmir**	**0.75**	**21**	*e*Pg	**Pg**	**06 00 55.7**	**+0.2**
IZM				*e*Sg	**Sb**	**06 01 06.8**	**0.0**
BDRM	**Kayabasi**	**0.76**	**146**	*e*P	**Pg**	**06 00 56.1**	**+0.4**
BDRM				*e*S	**Sg**	**06 01 06.2**	**+0.6**
BDRM	**Kayabasi**	**0.76**	**146**	*e*P	**Pg**	**06 00 56.1**	**+0.4**
BDRM				*e*S	**Sg**	**06 01 06.2**	**+0.6**
AYDN	**Tasoluk**	**0.77**	**93**	*e*P	**Pb**	**06 00 56.9**	**+0.3**
AYDN				*e*S	**Sb**	**06 01 07.9**	**+0.7**
AYDN	**Tasoluk**	**0.77**	**93**	*e*P	**Pb**	**06 00 56.9**	**+0.3**
AYDN				*e*S	**Sb**	**06 01 07.9**	**+0.7**
MLSB	**Milas**	**0.80**	**120**	*e*PG	**Pb**	**06 00 57.3**	**+0.2**
MLSB	**Milas**	**0.80**	**120**	*e*Pg	**Pb**	**06 00 57.3**	**+0.2**
CHOS	**Chios island**	**0.96**	**316**	P	**Pg**	**06 00 58.7**	**-0.9**
CHOS				S	**Sb**	**06 01 13.0**	**0.0**
CHOS	**Chios island**	**0.96**	**316**	*e*PB	**Pg**	**06 00 58.8**	**-0.9**
CHOS				*e*SB	**Sb**	**06 01 13.0**	**0.0**
CHOS	**Chios island**	**0.96**	**316**	*e*Pb	**Pg**	**06 00 58.8**	**-0.9**
CHOS				S	**Sb**	**06 01 13.0**	**0.0**
YER	**Yerkesik**	**1.23**	**117**	*e*PN	**Pg**	**06 01 05.3**	**+0.7**
YER	**Yerkesik**	**1.23**	**117**	*e*Pn	**Pg**	**06 01 05.3**	**+0.7**
APE	**Apeiranthos**	**1.27**	**241**	*e*PN	**Pg**	**06 01 05.8**	**+0.4**
APE				*e*SN	**Sn**	**06 01 23.9**	**+1.6**
APE	**Apeiranthos**	**1.27**	**241**	P	**Pn**	**06 01 04.0**	**-1.0**
APE				S	**Sb**	**06 01 21.1**	**-0.5**
APE	**Apeiranthos**	**1.27**	**241**	*e*PB	**Pn**	**06 01 04.4**	**-0.6**
APE	**Apeiranthos**	**1.27**	**241**	P	**Pn**	**06 01 04.0**	**-1.0**
APE	**Apeiranthos**	**1.27**	**241**	*e*Pb	**Pn**	**06 01 04.4**	**-0.6**
APE	**Apeiranthos**	**1.27**	**241**	*e*Pn	**Pg**	**06 01 05.8**	**+0.4**
APE				S	**Sb**	**06 01 21.1**	**-0.5**
APE				*e*Sn	**Sn**	**06 01 23.9**	**+1.6**
AKHS	**Akhisar**	**1.38**	**31**	*e*P	**Pg**	**06 01 07.5**	**+0.1**
AKHS				*e*S	**Sg**	**06 01 26.5**	**+1.2**
AKHS	**Akhisar**	**1.38**	**31**	*e*P	**Pg**	**06 01 07.5**	**+0.1**
AKHS				*e*S	**Sg**	**06 01 26.5**	**+1.2**
TURN	**Turunc**	**1.58**	**121**	*e*P	**Pn**	**06 01 06.8**	**-2.4**
TURN				*e*S	**Sn**	**06 01 28.2**	**-1.6**
TURN	**Turunc**	**1.58**	**121**	*e*P	**Pn**	**06 01 06.8**	**-2.4**
TURN				*e*S	**Sn**	**06 01 28.2**	**-1.6**
KULA	**Kula-Manisa**	**1.60**	**59**	*e*PN	**Pb**	**06 01 10.8**	**-0.1**
KULA	**Kula-Man

comp=Z,1.8nm,0.9s,baz=67,slow=8.5,SNR=6.5
ARCES **ARCESS Array B 58.13 341** P **P** **06 23 08.0 -0.7**
comp=Z,2.1nm,0.8s,baz=50,slow=8.0,SNR=4.2
NVAR **Mina Array Bea 62.52 62** P **P** **06 23 40.8 +1.4**
comp=Z,0.7nm,0.7s,baz=285,slow=6.8,SNR=6.6
FINES **FINESS Array B 64.32 335** P **P** **06 23 49.6 -1.0**
comp=Z,6.1nm,1.1s,baz=38,slow=6.4,SNR=7.6
PDAR **Pinedale Array 64.87 54** P **P** **06 23 53.4 -1.5**
comp=Z,0.1nm,0.3s,baz=92,slow=34,SNR=3.5
WRA **Warramunga Arr 68.27 199** P **P** **06 24 15.2 -1.2**
comp=Z,1.2nm,1.2s,baz=41,slow=34,SNR=2.9
NB2 **NORSAR Subarra 68.51 341** P **P** **06 24 17.6 +0.1**
comp=Z,0.9nm,0.5s,baz=28,slow=6.5
NOA **NORSAR Array B 68.51 341** P **P** **06 24 17.9 +0.4**
comp=Z,1.1nm,0.5s,baz=28,slow=6.5,SNR=8.1
AKASG **Malin Array Be 71.81 326** P **P** **06 24 37.3 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be 71.81 326** P **P** **06 24 37.2 -0.5**
comp=Z,1.7nm,0.4s,baz=32,slow=6.5,SNR=6.6
ASAR **Alice Springs 71.96 199** P **P** **06 24 39.1 +0.2**
comp=Z,0.3nm,0.7s,baz=206,slow=28,SNR=3.0
TXAR **Lajitas Array 77.58 61** P **P** **06 25 12.2 +0.5**
comp=Z,0.9nm,0.6s,baz=306,slow=4.5,SNR=9.7

IDC 17 06:14:47.8±2.9,29°.69S×138°.85E,h0km,mb1 3.0/3, mb1mx3.0/15,mbtmp2.8/3,ML3.1/3,Error ellipse: s-maj=97.6km s-min=25.6km az=51.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.22**	**133**	Pn	Pn	06 15 39.6	0.0
	0.6nm,0.3s,baz=320,slow=16,SNR=8.2						
STKA				Sn	Sn	06 16 11.6	-7.1
	1.0nm,0.3s,baz=208,slow=10,SNR=5.3						
STKA				Lg	Lg	06 16 22.4	
	1.4nm,0.3s,baz=34,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**7.45**	**322**	Pn	Pn	06 16 37.4	-0.5
	0.1nm,0.3s,baz=150,slow=12,SNR=4.9						
ASAR				Sn	Sn	06 18 04.4	+1.2
	0.1nm,0.3s,baz=14,slow=36,SNR=3.3						
WRA	**Warramunga Arr**	**10.53**	**336**	Pn	Pn	06 17 20.6	+0.5
	0.6nm,0.3s,baz=156,slow=15,SNR=26						

IDC 17 06:23:18.7±3.0,1°.44S×100°.40E,h0km,mb4.1/5, mb1 4.1/7,mb1mx3.7/26,mbtmp4.1/7,ML4.3/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/31,Error ellipse: s-maj=117.6km s-min=57.2km az=74.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.46**	**341**	Pn	Pn	06 24 28.0	+0.2
	13nm,0.3s,baz=142,slow=18,SNR=31						
CMAR	**Chiang Mai Arr**	**19.82**	**356**	P	Pn	06 27 52.1	-0.6
	0.4nm,0.3s,baz=187,slow=14,SNR=3.6						
SONM	**Songino Array**	**49.35**	**5**	P	P	06 32 10.0	0.0
	0.5nm,0.4s,baz=181,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**50.60**	**344**	P	P	06 32 18.8	-0.6
	1.0nm,0.3s,baz=155,slow=8.4,SNR=51						
KURBB	**Kurchatov Arra**	**55.13**	**343**	P	P	06 32 52.2	-0.5
	0.4nm,0.4s,baz=159,slow=6.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**56.70**	**349**	P	P	06 33 02.7	-1.2
	2.1nm,0.5s,baz=181,slow=5.9,SNR=9.6						
ZALV				LR	LR	07 02 55.9	
	comp=Z,28nm,19.6s,baz=71,slow=42						
ARCES	**ARCESS Array B**	**86.08**	**340**	P	P	06 36 02.1	+0.9
	3.2nm,0.8s,baz=92,slow=6.1,SNR=9.9						
TXAR	**Lajitas Array**	**144.01**	**37**	PKP	PKPdf	06 42 57.6	+0.3
	0.1nm,0.4s,baz=260,slow=3.8,SNR=4.6						

IDC 17 06:26:03.5±9.0,8°.32S×129°.34E,h159km±70km,mb3.5/1, mb1 3.5/4,mb1mx3.1/19,mbtmp3.4/4,Error ellipse: s-maj=69.9km s-min=50.1km az=7.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.37**	**200**	P	Pn	06 28 27.9	-0.3
	0.4nm,0.3s,baz=18,slow=11,SNR=13						
FITZ				S	Sn	06 30 23.5	+0.3
	0.7nm,0.3s,baz=90,slow=16,SNR=7.7						
WRA	**Warramunga Arr**	**12.53**	**158**	P	Pn	06 28 55.5	-0.9
	0.6nm,0.3s,baz=348,slow=13,SNR=10.0						
WRA				S	Sn	06 31 16.7	+1.5
	1.3nm,0.3s,baz=329,slow=24,SNR=8.3						
ASAR	**Alice Springs**	**15.87**	**165**	P	P	06 29 39.8	+0.9
	0.4nm,0.3s,baz=344,slow=10,SNR=24						
ASAR				S	S	06 32 34.4	-1.0
	0.1nm,0.3s,baz=338,slow=19,SNR=3.9						
STKA	**Stephens Creek**	**26.07**	**156**	P	P	06 31 22.3	0.0
	2.0nm,1.0s,baz=324,slow=14,SNR=2.1						

*SKO **17** 06:30:39.5,41°.99N×19°.26E,h0km,M3.2,ML3.6*
*TIR **17** 06:30:39.1±3.1,41°.96N×19°.28E,h20km±8km,ML3.4*
*IDC **17** 06:30:39.2±1.2,41°.80N×19°.43E,h0km,mb3.7/6, mb1 3.8/11,mb1mx3.7/30,mbtmp3.7/11,ML3.8/5,MS2.9/1, Ms1 2.9/1,ms1mx2.1/42,Error ellipse: s-maj=16.7km s-min=12.6km az=10.0*
*ISCJB **17** 06:30:40.4±0.3,41°.94N±0°.01×19°.33E±0°.02,h10km±1km, mb3.8/5,Error ellipse: s-maj=2.8km s-min=1.7km az=145.8*
*CSEM **17** 06:30:40.8±0.1,41°.93N×19°.35E,h2km,Ms3.1,Error ellipse: s-maj=3.4km s-min=2.2km az=51.0*
*PDG **17** 06:30:40.8±0.8,41°.95N×19°.34E,h11km±1km,MD3.5/11, ML3.5/11,Error ellipse: s-maj=1.1km s-min=1.0km az=90.0*
*THE **17** 06:30:40.8,41°.92N×19°.32E,h0km±3km,ML3.4/4,Error ellipse: s-maj=3.4km s-min=1.3km az=266.0*
*BEO **17** 06:30:41.5±0.4,41°.93N×19°.43E,h5km±2km,ML3.5/1*
*VIE **17** 06:30:43.6±1.2,42°.07N×19°.34E,h10km,mb3.0/2,Ms3.1/2, Error ellipse: s-maj=9.9km s-min=8.0km az=15.0*

ISC 17 06:30:41.2±0.8,41°.93N±0°.01×19°.37E±0°.02,h11km±5km, n195,σ1°.30/293,mb4.0/5,31C-21D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.10**	**291**	⇑*i*Pg	**Pg**	**06 30 43.6**	**-0.3**
ULC				*e*Sg	**Sg**	**06 30 45.8**	**0.0**
ULC	**Ulcinj**	**0.10**	**291**	⇑*i*Pg	**Pg**	**06 30 43.6**	**-0.3**
ULC				*e*Sg	**Sg**	**06 30 45.8**	**0.0**
DRME	**Dracevica, Mon**	**0.29**	**332**	⇓*i*Pg	**Pg**	**06 30 46.7**	**-0.4**
DRME				*e*Sg	**Sg**	**06 30 51.3**	**+0.2**
DRME	**Dracevica, Mon**	**0.29**	**332**	⇓*i*Pg	**Pg**	**06 30 46.7**	**-0.4**
DRME				*e*Sg	**Sg**	**06 30 51.3**	**+0.2**
PUK	**Puka**	**0.41**	**74**	*e*PG	**Pg**	**06 30 48.3**	**-1.0**
PUK				*i* SG	**Sg**	**06 30 54.4**	**-0.3**
PUK	**Puka**	**0.41**	**74**	*e*Pg	**Pg**	**06 30 48.3**	**-1.0**
	SNR=92						
PUK				*i* Sg	**Sg**	**06 30 54.4**	**-0.3**
	SNR=92						
PDG	**Podgorica**	**0.51**	**351**	P	**Pg**	**06 30 50.2**	**-0.9**
PDG				S	**Sg**	**06 30 58.6**	**+0.8**
PDG	**Podgorica**	**0.51**	**351**	⇑*i*Pg	**Pg**	**06 30 50.2**	**-0.9**
PDG	**Podgorica**	**0.51**	**351**	P	**Pg**	**06 30 50.2**	**-0.9**
PDG				*e*Sg	**Sg**	**06 30 57.8**	**0.0**
PDG				S	**Sg**	**06 30 58.6**	**+0.8**
TTG	**Podgorica**	**0.51**	**351**	⇓*i*Pg	**Pg**	**06 30 50.0**	**-1.1**
TTG				*e*Sg	**Sg**	**06 30 57.8**	**0.0**
BUM	**Brajici-Budva**	**0.51**	**317**	⇑*i*Pg	**Pg**	**06 30 49.9**	**-1.3**
BUM				*e*Sg	**Sg**	**06 30 58.0**	**0.0**
BUM	**Brajici-Budva**	**0.51**	**317**	⇑*i*Pg	**Pg**	**06 30 49.9**	**-1.3**
BUM				*e*Sg	**Sg**	**06 30 58.0**	**0.0**
BCI	**Bajram Curri**	**0.68**	**50**	*e*PG	**Pg**	**06 30 52.9**	**-1.5**
BCI	**Bajram Curri**	**0.68**	**50**	*e*Pg	**Pg**	**06 30 52.9**	**-1.5**
	SNR=90						
TIR	**Tirane**	**0.69**	**147**	*e*PG	**Pg**	**06 30 53.5**	**-1.1**
TIR				*i* SG	**Sb**	**06 31 04.6**	**-0.2**
TIR	**Tirane**	**0.69**	**147**	P	**Pg**	**06 30 53.4**	**-1.1**
TIR				S	**Sb**	**06 31 04.7**	**0.0**
TIR	**Tirane**	**0.69**	**147**	*e*P	**Pg**	**06 30 53.4**	**-1.1**
TIR	**Tirane**	**0.69**	**147**	*e*Pg	**Pg**	**06 30 53.4**	**-1.1**
TIR				*i* Sg	**Sg**	**06 31 04.0**	**+0.5**
TIR	**Tirane**	**0.69**	**147**	*e*Pg	**Pg**	**06 30 53.5**	**-1.1**
	SNR=90						
TIR				*i* Sg	**Sg**	**06 31 04.0**	**+0.5**
PVY	**Plav**	**0.80**	**33**	⇓*i*Pg	**Pg**	**06 30 55.1**	**-1.5**
PVY				*e*Sg	**Sg**	**06 31 07.5**	**+0.5**
PVY	**Plav**	**0.80**	**33**	⇓*i*Pg	**Pg**	**06 30 55.1**	**-1.5**
PVY				*e*Sg	**Sg**	**06 31 07.5**	**+0.5**
HCY	**Herceg Novi**	**0.83**	**309**	⇑*i*Pg	**Pg**	**06 30 55.8**	**-1.4**
HCY				*e*Sg	**Sb**	**06 31 08.8**	**0.0**
HCY	**Herceg Novi**	**0.83**	**309**	⇑*i*Pg	**Pg**	**06 30 55.8**	**-1.4**
HCY				*e*Sg	**Sb**	**06 31 08.8**	**0.0**
PHP	**Peshkopia**	**0.84**	**107**	*e*PG	**Pg**	**06 30 56.2**	**-1.2**
PHP				*i* SG	**Sb**	**06 31 09.3**	**+0.2**
PHP	**Peshkopia**	**0.84**	**107**	P	**Pg**	**06 30 56.1**	**-1.2**
PHP				S	**Sb**	**06 31 09.6**	**+0.5**
PHP	**Peshkopia**	**0.84**	**107**	*e*Pg	**Pg**	**06 30 56.2**	**-1.2**
	SNR=91						
PHP				*i* Sg	**Sb**	**06 31 09.3**	**+0.2**
	SNR=91						
NKME	**Niksic**	**0.89**	**340**	⇓*i*Pg	**Pg**	**06 30 56.6**	**-1.8**
NKME				*e*Sg	**Sb**	**06 31 10.8**	**+0.1**
NKME	**Niksic**	**0.89**	**340**	⇓*i*Pg	**Pg**	**06 30 56.6**	**-1.8**
NKME				*e*Sg	**Sb**	**06 31 10.8**	**+0.1**
NKY	**Niksic**	**0.93**	**343**	⇓*i*Pg	**Pg**	**06 30 57.4**	**-1.6**
NKY				*e*Sg	**Sb**	**06 31 11.8**	**+0.1**
NKY	**Niksic**	**0.93**	**343**	⇓*i*Pg	**Pg**	**06 30 57.4**	**-1.6**
NKY				*e*Sg	**Sb**	**06 31 11.8**	**+0.1**
BEY	**Berane**	**1.02**	**22**	⇑*i*Pg	**Pg**	**06 30 59.4**	**-1.4**
BEY				*e*Sg	**Sb**	**06 31 15.2**	**+0.8**
IVA	**Berane**	**1.02**	**22**	⇑*i*Pg	**Pg**	**06 30 59.4**	**-1.4**
IVA				*e*Sg	**Sb**	**06 31 15.2**	**+0.8**
BRY	**Bratogost**	**1.15**	**328**	*e*Pg	**Pb**	**06 31 01.4**	**-1.8**
BRY				*e*Sg	**Sn**	**06 31 19.9**	**+0.7**
BRY	**Bratogost**	**1.15**	**328**	*e*Pg	**Pb**	**06 31 01.4**	**-1.8**
BRY				*e*Sg	**Sn**	**06 31 19.9**	**+0.7**
UPM	**Unac-Piva**	**1.32**	**345**	⇓*i*Pg	**Pn**	**06 31 04.4**	**-1.3**
UPM				*e*Sg	**Sg**	**06 31 25.2**	**+1.5**
UPM	**Unac-Piva**	**1.32**	**345**	⇓*i*Pg	**Pn**	**06 31 04.4**	**-1.3**
UPM				*e*Sg	**Sg**	**06 31 25.2**	**+1.5**
PLE	**Pljevlja**	**1.40**	**1**	⇑*i*Pg	**Pn**	**06 31 06.4**	**-0.4**
PLE				*e*Sg	**Sg**	**06 31 27.6**	**+1.3**
PLE	**Pljevlja**	**1.40**	**1**	⇑*i*Pg	**Pn**	**06 31 06.4**	**-0.4**
PLE				*e*Sg	**Sg**	**06 31 27.6**	**+1.3**
SJES	**Sjenica**	**1.41**	**18**	*e*Pg	**Pn**	**06 31 05.4**	**-1.5**
SJES				*i* Sg	**Sg**	**06 31 26.8**	**+0.4**
SJES	**Sjenica**	**1.41**	**18**	*e*Pg	**Pn**	**06 31 05.4**	**-1.5**
SJES				*i* Sg	**Sg**	**06 31 26.8**	**+0.4**
SKO	**Skopje**	**1.55**	**88**	P	**Pb**	**06 31 10.0**	**+0.2**
SKO				S	**Sg**	**06 31 31.3**	**+0.4**
SKO	**Skopje**	**1.55**	**88**	*i* Pn	Pn	06 31 01.6	-7.1
SKO				*e*Lg	Lg	06 31 36.2	
	comp=N,589nm,0.4s						
SKO	**Skopje**	**1.55**	**88**	P	**Pb**	**06 31 10.0**	**+0.2**
SKO				S	**Sg**	**06 31 31.3**	**+0.4**
SKO				*e*Lg	Lg	06 31 36.2	
	comp=N,589nm,0.4s						
STON	**Ston**	**1.55**	**308**	*i* Pn	**Pn**	**06 31 08.7**	**0.0**
STON				Sn	**Sg**	**06 31 32.4**	**+1.3**
STON	**Ston**	**1.55**	**308**	*e*Pn	**Pn**	**06 31 09.0**	**+0.3**
STON				*i* Sn	**Sg**	**06 31 32.2**	**+1.1**
STON	**Ston**	**1.55**	**308**	*e*Pn	**Pn**	**06 31 09.0**	**+0.3**
STON				*i* Sn	**Sg**	**06 31 32.2**	**+1.1**
KBN	**Korca**	**1.69**	**140**	*e*PN	**Pg**	**06 31 13.2**	**-0.3**
KBN				*i* SN	**Sg**	**06 31 35.3**	**-0.1**
KBN	**Korca**	**1.69**	**140**	*e*Pn	**Pg**	**06 31 13.2**	**-0.3**
	SNR=40						
KBN				*i* Sn	**Sg**	**06 31 35.3**	**-0.1**
	SNR=40						
BIA	**Bitola**	**1.73**	**121**	P	**Pb**	**06 31 12.4**	**-0.6**
BIA				S	**Sg**	**06 31 36.1**	**-0.6**
BIA	**Bitola**	**1.73**	**121**	P	**Pb**	**06 31 12.4**	**-0.6**
BIA				S	**Sg**	**06 31 36.1**	**-0.6**
SELS	**Selova**	**1.83**	**44**	*e*Pn	**Pn**	**06 31 12.8**	**+0.2**
SELS				*e*Sn	**Sn**	**06 31 35.6**	**-0.1**
SELS	**Selova**	**1.83**	**44**	*e*Pn	**Pn**	**06 31 12.8**	**+0.2**
SELS				*e*Sn	**Sn**	**06 31 35.6**	**-0.1**
PE1	**Pezze di Greco**	**1.84**	**233**	*e*Pn	**Pn**	**06 31 11.3**	**-1.4**
FNA	**Florina**	**1.90**	**126**	P	**Pb**	**06 31 14.9**	**-0.9**
FNA				S	**Sg**	**06 31 41.6**	**-0.5**
FNA	**Florina**	**1.90**	**126**	*e*P	**Pb**	**06 31 14.9**	**-0.9**
FNA	**Florina**	**1.90**	**126**	P	**Pb**	**06 31 14.9**	**-0.9**
FNA				S	**Sg**	**06 31 41.6**	**-0.5**
BBLS	**Lazići**	**1.94**	**1**	⇑*i*Pn	**Pb**	**06 31 15.5**	**-1.0**
BBLS				*i* Sn	**Sb**	**06 31 40.2**	**-0.5**
BBLS	**Lazići**	**1.94**	**1**	⇑*i*Pn	**Pb**	**06 31 15.5**	**-1.0**
BBLS				*i* Sn	**Sb**	**06 31 40.2**	**-0.5**
NEST	**Nestorio**	**1.97**	**139**	P	**Pb**	**06 31 16.5**	**-0.7**
NEST				S	**Sb**	**06 31 43.0**	**+1.2**
NEST	**Nestorio**	**1.97**	**139**	P	**Pb**	**06 31 16.5**	**-0.7**
NEST				S	**Sb**	**06 31 43.0**	**+1.2**
BARS	**Barje**	**2.02**	**63**	*e*Pn	**Pn**	**06 31 15.6**	**+0.4**
BARS				*i* Sn	**Sn**	**06 31 41.7**	**+1.3**
BARS	**Barje**	**2.02**	**63**	*e*Pn	**Pn**	**06 31 15.6**	**+0.4**
BARS				*i* Sn	**Sn**	**06 31 41.7**	**+1.3**
BAI	**Bari**	**2.04**	**247**	*e*Pn	**Pn**	**06 31 14.6**	**-0.8**
GRUS	**Gruza**	**2.19**	**26**	*e*Pn	**Pn**	**06 31 18.0**	**+0.4**
GRUS				*e*Sn	**Sn**	**06 31 45.6**	**+0.8**
GRUS	**Gruza**	**2.19**	**26**	*e*Pn	**Pn**	**06 31 18.0**	**+0.4**
GRUS				*e*Sn	**Sn**	**06 31 45.6**	**+0.8**
DIVS	**Divibare**	**2.22**	**12**	P	**Pn**	**06 31 18.5**	**+0.6**
DIVS				S	**Sb**	**06 31 48.5**	**-0.3**
DIVS	**Divibare**	**2.22**	**12**	*e*Pn	**Pn**	**06 31 18.6**	**+0.6**
DIVS				*i* Sn	**Sb**	**06 31 47.3**	**-1.5**
DIVS	**Divibare**	**2.22**	**12**	*e*Pn	**Pn**	**06 31 18.6**	**+0.6**
DIVS				*i* Sn	**Sb**	**06 31 47.3**	**-1.5**
DIVS				S	**Sb**	**06 31 48.5**	**-0.3**
KEK	**Kerkira**	**2.24**	**171**	P	**Pn**	**06 31 17.6**	**-0.6**
KEK				S	**Sb**	**06 31 48.1**	**-1.2**
KEK	**Kerkira**	**2.24**	**171**	*e*P	**Pn**	**06 31 17.7**	**-0.5**
KEK	**Kerkira**	**2.24**	**171**	P	**Pn**	**06 31 17.6**	**-0.6**
KEK				S	**Sb**	**06 31 48.1**	**-1.2**
TRUS	**Trudelj**	**2.42**	**18**	*e*Pn	**Pn**	**06 31 20.2**	**-0.5**
TRUS	**Trudelj**	**2.42**	**18**	*e*Pn	**Pn**	**06 31 20.2**	**-0.5**
KZN	**Kozani**	**2.43**	**131**	*e*P	**Pn**	**06 31 22.6**	**+1.7**
VAY	**Valandovo**	**2.48**	**103**	*i* Pn	**Pn**	**06 31 22.7**	**+1.3**
VAY				*e*Lg	Lg	06 31 59.7	
	comp=N,194nm,0.8s						
VAY				*e*Lg	Lg	06 32 01.3	
	comp=E,141nm,0.7s						
VAY	**Valandovo**	**2.48**	**103**	*e*Pn	**Pn**	**06 31 21.5**	**+0.1**
VAY				*i* Sn	**Sn**	**06 31 52.3**	**+0.6**
VAY	**Valandovo**	**2.48**	**103**	*i* Pn	**Pn**	**06 31 22.7**	**+1.3**
VAY				*i* Sn	**Sn**	**06 31 52.3**	**+0.6**
VAY				*e*Lg	Lg	06 32 01.2	
	comp=E,141nm,0.7s						
IGT	**Igoumenitsa**	**2.50**	**163**	P	**Pn**	**06 31 21.9**	**+0.1**
IGT				S	**Sn**	**06 31 53.9**	**+1.5**
IGT	**Igoumenitsa**	**2.50**	**163**	P	**Pn**	**06 31 21.9**	**+0.1**
IGT				S	**Sn**	**06 31 53.9**	**+1.5**
TEKS	**Tekeris**	**2.62**	**3**	⇑*i*Pn	**Pn**	**06 31 25.0**	**+1.5**
TEKS	**Tekeris**	**2.62**	**3**	⇑*i*Pn	**Pn**	**06 31 25.0**	**+1.5**
BOLS	**Boljevac**	**2.69**	**44**	*e*Pn	**Pn**	**06 31 24.0**	**-0.4**
BOLS				*i* Sn	**Sn**	**06 31 57.8**	**+0.9**
BOLS	**Boljevac**	**2.69**	**44**	*e*Pn	**Pn**	**06 31 24.0**	**-0.4**
BOLS				*i* Sn	**Sn**	**06 31 57.8**	**+0.9**
ZAPS	**Zavoj**	**2.76**	**60**	*e*Pn	**Pn**	**06 31 26.8**	**+1.4**
ZAPS				*e*Sn	**Sn**	**06 31 58.3**	**-0.5**
ZAPS	**Zavoj**	**2.76**	**60**	*e*Pn	**Pn**	**06 31 26.8**	**+1.4**
ZAPS				*e*Sn	**Sn**	**06 31 58.3**	**-0.5**
VTS	**Vitosha**	**2.93**	**76**	P	**Pn**	**06 31 29.3**	**+1.5**
VTS	**Vitosha**	**2.93**	**76**	⇑*i*P	**Pn**	**06 31 29.8**	**+1.9**
VTS	**Vitosha**	**2.93**	**76**	S	**Sn**	**06 32 05.7**	**+2.7**
VTS	**Vitosha**	**2.93**	**76**	*e*Pn	**Pn**	**06 31 29.7**	**+1.9**
VTS	**Vitosha**	**2.93**	**76**	P	**Pn**	**06 31 29.3**	**+1.5**
VTS	**Vitosha**	**2.93**	**76**	*e*Pn	**Pn**	**06 31 29.7**	**+1.9**
LIT	**Litokhoron**	**2.99**	**127**	*e*P	**Pb**	**06 31 35.3**	**+0.9**
THL	**Klokotos Trika**	**3.10**	**139**	*e*P	**Pn**	**06 31 32.5**	**+2.5**
SOH	**Sokhos**	**3.20**	**109**	*e*P	**Pn**	**06 31 32.7**	**+1.3**
SRS	**Serrai**	**3.27**	**103**	P	**Pn**	**06 31 34.0**	**+1.6**
SRS	**Serrai**	**3.27**	**103**	P	**Pn**	**06 31 34.0**	**+1.6**
LKD2	**Lefkada island**	**3.29**	**162**	P	**Pn**	**06 31 32.0**	**-0.6**
LKD2	**Lefkada island**	**3.29**	**162**	*e*P	**Pn**	**06 31 32.2**	**-0.4**
LKD2	**Lefkada island**	**3.29**	**162**	P	**Pn**	**06 31 32.0**	**-0.6**
NVR	**Nevrokopi**	**3.42**	**98**	*e*P	**Pn**	**06 31 36.5**	**+2.1**
PLG	**Polygyros**	**3.45**	**115**	*e*P	**Pn**	**06 31 35.3**	**+0.4**
EVR	**Evrytania**	**3.54**	**147**	*e*P	**Pn**	**06 31 37.8**	**+1.6**
AGG	**Agios Georgios**	**3.68**	**141**	P	**Pn**	**06 31 39.0**	**+1.0**
AGG	**Agios Georgios**	**3.68**	**141**	*e*P	**Pn**	**06 31 39.1**	**+1.0**
AGG	**Agios Georgios**	**3.68**	**141**	P	**Pn**	**06 31 39.0**	**+1.0**
UDBI	**Udbina**	**3.70**	**316**	*e*Pn	**Pn**	**06 31 40.1**	**+1.8**
UDBI				Sn	**Sn**	**06 32 24.8**	**+2.9**
UDBI	**Udbina**	**3.70**	**316**	*e*Pn	**Pn**	**06 31 40.1**	**+1.8**
UDBI				Sn	**Sn**	**06 32 24.8**	**+2.9**
PAIG	**Paliouri**	**3.83**	**120**	*e*P	**Pn**	**06 31 42.0**	**+1.9**
VLS	**Valsamata**	**3.86**	**166**	*e*P	**Pn**	**06 31 39.6**	**-0.9**
NEO	**Neokhori**	**3.93**	**130**	*e*P	**Pn**	**06 31 42.4**	**+0.9**
EFP	**Efpalio**	**4.00**	**150**	*e*P	**Pn**	**06 31 44.2**	**+1.8**
BZS	**Buzias**	**4.03**	**23**	⇓*i*P	**Pn**	**06 31 43.3**	**+0.5**
BZS	**Buzias**	**4.03**	**23**	S	**Sn**	**06 32 29.0**	**-1.0**
TRIZ	**Trizonia**	**4.12**	**149**	*e*P	**Pn**	**06 31 43.7**	**-0.3**
KALE	**Kalithea**	**4.12**	**148**	*e*P	**Pn**	**06 31 45.4**	**+1.3**
RLS	**Riolos of Patr**	**4.19**	**157**	*e*P	**Pn**	**06 31 45.1**	**+0.1**
LAKA	**Lakka**	**4.19**	**151**	*e*P	**Pn**	**06 31 46.0**	**+0.9**
NVLJ	**Novalja**	**4.21**	**310**	*e*Pn	**Pn**	**06 31 45.4**	**+0.2**
NVLJ				Sn	**Sn**	**06 32 34.2**	**-0.2**
GZR	**Gura Zlata**	**4.26**	**34**	⇑*i*P	**Pn**	**06 31 47.1**	**+1.1**
LKR	**Lokris**	**4.29**	**138**	*e*P	**Pn**	**06 31 46.7**	**+0.3**
PKSM	**Moragy**	**4.31**	**353**	⇓*i*P	**Pn**	**06 31 47.4**	**+0.7**
PKSM	**Moragy**	**4.31**	**353**	S	**Sn**	**06 32 35.6**	**-1.4**
PKSM	**Moragy**	**4.31**	**353**	⇑*e*pn	**Pn**	**06 31 47.1**	**+0.4**
PKSM				*e*sn	**Sn**	**06 32 36.6**	**-0.4**
KLV	**Kalavryta, Ach**	**4.43**	**150**	*e*P	**Pn**	**06 31 49.8**	**+1.4**
GUR	**Goura**	**4.60**	**149**	*e*P	**Pn**	**06 31 52.1**	**+1.4**
BOJS	**Bojanci**	**4.66**	**322**	*i* Pn	**Pn**	**06 31 52.4**	**+1.0**
BOJS				*i* Sn	**Sn**	**06 32 47.2**	**+1.8**
BOJS	**Bojanci**	**4.66**	**322**	*i* Pn	**Pn**	**06 31 52.4**	**+1.0**
BOJS				*i* Sn	**Sn**	**06 32 47.2**	**+1.8**
DEV	**Deva**	**4.71**	**32**	⇓*i*P	**Pn**	**06 31 52.6**	**+0.5**
AMT	**Artemida-Makis**	**4.75**	**157**	*e*P	**Pn**	**06 31 50.3**	**-2.4**
GBRS	**Gornja Briga**	**4.88**	**319**	*i* Pn	**Pn**	**06 31 56.2**	**+1.6**
ITM	**Ithomi**	**5.14**	**157**	*e*P	**Pn**	**06 31 57.4**	**-0.7**
ARR	**Arges**	**5.14**	**46**	⇓*i*P	**Pn**	**06 32 00.0**	**+1.9**
PDKS	**Podkum**	**5.20**	**324**	*i* Pn	**Pn**	**06 31 59.7**	**+0.8**
PDKS				*i* Sn	**Sn**	**06 33 00.1**	**+1.3**
PDKS	**Podkum**	**5.20**	**324**	*i* Pn	**Pn**	**06 31 59.7**	**+0.8**
PDKS				*i* Sn	**Sn**	**06 33 00.1**	**+1.3**
DID	**Didima**	**5.33**	**145**	*e*P	**Pn**	**06 32 01.2**	**+0.5**
PYL	**PYLOS**	**5.35**	**159**	*e*P	**Pn**	**06 31 59.5**	**-1.5**
PKST	**T^'s**	**5.41**	**350**	⇑*e*pn	**Pn**	**06 32 03.3**	**+1.5**
PKST				*e*sn	**Sn**	**06 33 08.2**	**+4.1**
PKST	**T^'s**	**5.41**	**350**	⇑*e*Pn	**Pn**	**06 32 03.3**	**+1.5**
PKST				*e*Sn	**Sn**	**06 33 08.2**	**+4.1**
DRGR		**5.42**	**25**	⇓*i*P	**Pn**	**06 32 02.7**	**+0.7**
DRGR		**5.42**	**25**	S	**Sn**	**06 33 02.1**	**-2.3**
CSKK	**Cs^‡kako**	**5.49**	**352**	⇑*e*pn	**Pn**	**06 32 04.8**	**+1.9**
CSKK				*e*sn	**Sn**	**06 33 08.4**	**+2.4**
CSKK	**Cs^‡kako**	**5.49**	**352**	⇑*e*Pn	**Pn**	**06 32 04.8**	**+1.9**
CSKK				*e*Sn	**Sn**	**06 33 08.4**	**+2.4**
PKSG		**5.51**	**353**	*e*	**Sn**	**06 33 08.2**	**+1.8**
PKSG		**5.51**	**353**	*e*Sn	**Sn**	**06 33 08.2**	**+1.8**
JAVS	**Javornik**	**5.51**	**318**	*i* Pn	**Pn**	**06 32 03.5**	**+0.3**
JAVS				*i* Sn	**Sn**	**06 33 07.0**	**+0.4**
JAVS	**Javornik**	**5.51**	**318**	*i* Pn	**Pn**	**06 32 03.5**	**+0.3**
JAVS				*i* Sn	**Sn**	**06 33 07.1**	**+0.4**
BUD	**Budapest**	**5.56**	**358**	*e*PP	**Pn**	**06 32 04.5**	**+0.7**
BUD	**Budapest**	**5.56**	**358**	*e*Pn	**Pn**	**06

LMEL				*e*S	Sn	06 42 00.3	+3.7
LMEL				AML	AML	06 42 05.1	
	comp=N,69nm,0.1s						

IDC 17 06:46:54.1±1.9, 6°.88S×128°.43E, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, ML3.4/2, Error ellipse: s-maj=112.3km s-min=30.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.20**	**157**	Pn	Pn	06 50 15.3	-1.4
	0.1nm,0.3s,baz=335,slow=14,SNR=9.0						
WRA				Sn	Sn	06 52 39.7	-15
	0.4nm,0.3s,baz=336,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**17.50**	**163**	P	P	06 51 00.6	-0.5
	0.2nm,0.3s,baz=345,slow=11,SNR=16						
ASAR				S	Sn	06 54 00.6	-15
	0.2nm,0.3s,baz=318,slow=20,SNR=4.6						
MKAR	**Makanchi Array**	**67.28**	**328**	P	P	06 57 50.7	0.0
	0.5nm,0.4s,baz=120,slow=8.5,SNR=9.5						

MEX 17 07:19:07.3±0.9, 19°.91N×96°.29W, h5km, MD3.8, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.22**	**213**	*i* P	Pg	07 19 11.1	-0.5
LVIG				*i* S	Sg	07 19 15.8	+1.3
TPIG	**Tehuac#an**	**1.79**	**214**	*i* P	Pn	07 19 36.1	-3.1
TPIG				*i* S	Sn	07 19 58.1	-4.4
PPM	**Popocatepetl**	**2.36**	**250**	*i* P	Pn	07 19 44.0	-3.3
PPM				*i* P	Pb	07 19 44.9	-6.0
PPM				*i* S	Sn	07 20 12.9	-4.3
UTMO	**Huajuapan**	**2.52**	**215**	*i* P	Pn	07 19 46.7	-2.4
UTMO				*i* S	Sn	07 20 17.5	-2.9
DEIG	**Demacu**	**2.61**	**279**	*i* P	Pn	07 19 46.9	-3.6
DEIG				*i* S	Sn	07 20 20.0	-2.8
OXX	**Oaxaca**	**2.84**	**188**	*i* P	Pn	07 19 51.0	-2.6
VHO	**Vista Hermosa**	**2.85**	**189**	*i* P	Pn	07 19 51.9	-1.8
VHO				*i* S	Sn	07 20 25.9	-2.8
CMIG	**Matias Romero**	**3.10**	**154**	*i* P	Pn	07 19 54.2	-2.8
CMIG				*i* S	Sn	07 20 31.2	-3.3
PNIG	**Pinotepa**	**3.91**	**207**	*i* P	Pn	07 20 06.3	-1.7
PNIG				*i* S	Sn	07 20 51.4	-3.0
HUIG	**Huatulco**	**4.12**	**178**	*i* P	Pn	07 20 09.5	-1.4
HUIG				*i* S	Sn	07 20 57.5	-2.1
TGIG		**4.33**	**135**	*i* P	Pn	07 20 11.6	-2.3
TGIG				*i* S	Sn	07 21 02.4	-2.5
ACX	**Acapulco**	**4.54**	**229**	*i* P	Pn	07 20 15.4	-1.4
LNIG	**Linares**	**5.77**	**330**	*i* P	Pn	07 20 30.7	-2.9

ISCJB 17 07:19:51.7±1.9, 1°.6S±0°.2×99°.2E±0°.4, h10km, mb3.6/6, Error ellipse: s-maj=62.8km s-min=11.6km az=146.7
IDC 17 07:19:51.9±2.5, 1°.63S×99°.26E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/25, mbtmp3.6/7, ML2.6/1, Error ellipse: s-maj=107.1km s-min=19.2km az=57.0
DJA 17 07:21:23.2±1.8, 7°.5±5°.×10°.4E±°.7, h6km±17km, M3.7/4, MLv3.7/4

ISC 17 07:19:54.7±2.3, 1°.4S±0°.3×99°.4E±0°.4, h10km, n13, σ1§14/10, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.20**	**354**	Pn	**Pn**	**07 20 59.1**	**+0.2**
	0.3nm,0.3s,baz=156,slow=18,SNR=2.1						
LWLI	**Liwa**	**5.91**	**128**	P	**Pg**	**07 21 49.8**	**+1.9**
LWLI				S	Sn	07 22 13.6	-17
KLSI		**6.28**	**121**	P	**Pg**	**07 21 54.6**	**-0.4**
KASI	**Kota Agung**	**6.56**	**129**	P	Pn	07 21 40.7	+9.4
KASI				S	Pb	07 21 55.2	+6.2
BLSI	**Bandar Lampung**	**7.07**	**124**	P	Pn	07 21 47.6	+9.2
BLSI				S	Pb	07 22 07.3	+10
CBJI	**Citeko**	**8.98**	**124**	P	**Pn**	**07 22 04.9**	**+0.3**
WRA	**Warramunga Arr**	**38.84**	**121**	P	**P**	**07 27 18.7**	**-1.7**
	0.8nm,0.7s,baz=298,slow=9.0,SNR=4.3						
ASAR	**Alice Springs**	**40.12**	**126**	P	**P**	**07 27 29.6**	**-1.4**
	0.4nm,0.6s,baz=291,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**49.42**	**6**	P	**P**	**07 28 45.3**	**+0.3**
	0.1nm,0.4s,baz=200,slow=7.7,SNR=2.3						
MKAR	**Makanchi Array**	**50.29**	**345**	P	**P**	**07 28 51.9**	**+0.5**
	0.9nm,0.6s,baz=146,slow=8.3,SNR=9.4						
KURBB	**Kurchatov Arra**	**54.80**	**344**	P	P	07 29 24.8	0.0
	0.2nm,0.2s,baz=164,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**56.47**	**350**	P	**P**	**07 29 36.8**	**+0.1**
	1.1nm,0.5s,baz=179,slow=7.1,SNR=2.2						
TXAR	**Lajitas Array**	**144.61**	**36**	PKP	**PKPab**	**07 39 30.9**	**-0.2**
	0.6nm,0.6s,baz=270,slow=1.3,SNR=10						

IDC 17 07:23:27.0±0.7, 1°.49S×99°.43E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.1/28, mbtmp4.1/19, ML4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/45, Error ellipse: s-maj=28.3km s-min=14.0km az=60.0
NEIC 17 07:23:28.4±0.4, 1°.56S×99°.40E, h10km, mb4.0/3, Error ellipse: s-maj=13.7km s-min=7.1km az=62.0
ISCJB 17 07:23:29.7±0.6, 1°.46S±0°.08×99°.5E±0°.1, h30km, mb4.1/19, MS3.4/2, Error ellipse: s-maj=16.5km s-min=8.5km az=151.0

ISC 17 07:23:31.4±0.6, 1°.50S±0°.10×99°.4E±0°.1, h30km, n50, σ0§88/52, mb4.2/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.30**	**354**	Pn	**Pn**	**07 24 33.1**	**-1.8**
PSI	**Prapat**	**4.30**	**354**	Pn	**Pn**	**07 24 33.1**	**-1.8**
	2.5nm,0.3s,baz=166,slow=10,SNR=9.6						
PSI				LR	LR	07 26 28.3	
	comp=Z,220nm,19.6s,baz=177,slow=43						
IPM	**Ipoh**	**6.16**	**16**	*e*Pn	**Pn**	**07 25 02.7**	**+2.2**
	16nm,0.4s						
KULM	**Kulim**	**6.86**	**11**	*e*Pn	**Pn**	**07 25 11.3**	**+1.2**
	11nm,0.6s						
KULM				*e*Sn	Sn	07 26 34.9	+7.6
CMAR	**Chiang Mai Arr**	**19.84**	**359**	P	**P**	**07 27 59.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.84**	**359**	P	**P**	**07 27 59.9**	**-0.1**
	1.0nm,0.3s,baz=186,slow=10.0,SNR=17						
KAPI	**Kappang**	**20.64**	**100**	*e*P	**P**	**07 28 06.5**	**-2.3**
	5.7nm,0.7s						
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**07 30 52.8**	**-0.9**
WRA				PcP	**PcP**	**07 33 05.3**	**+0.4**
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**07 30 52.8**	**-0.9**
	1.2nm,0.5s,baz=302,slow=9.0,SNR=5.4						
WRA				PcP	**PcP**	**07 33 05.3**	**+0.4**
	0.3nm,0.5s,baz=314,slow=2.5,SNR=4.2						
WRAB	**Tennant Creek**	**38.79**	**121**	*e*P	**P**	**07 30 53.2**	**-0.5**
	0.9nm,0.5s						
ASAR	**Alice Springs**	**40.05**	**126**	P	**P**	**07 31 03.6**	**-0.7**
ASAR				PcP	**PcP**	**07 33 09.1**	**+0.2**
ASAR	**Alice Springs**	**40.05**	**126**	P	**P**	**07 31 03.6**	**-0.7**
	0.7nm,0.5s,baz=299,slow=7.6,SNR=13						
ASAR				PcP	**PcP**	**07 33 09.1**	**+0.2**
	0.7nm,1.0s,baz=301,slow=2.2,SNR=4.3						
JNU	**Nakatsue**	**45.48**	**38**	P	**P**	**07 31 47.7**	**-0.5**
JNU	**Nakatsue**	**45.48**	**38**	P	**P**	**07 31 47.7**	**-0.5**
	3.9nm,0.6s,baz=147,slow=8.1,SNR=5.6						
KSAR	**Wonju Array Be**	**46.89**	**31**	P	**P**	**07 31 58.5**	**-0.6**
KSRS	**Korea Array**	**46.91**	**31**	P	**P**	**07 31 58.5**	**-0.8**
	1.5nm,0.6s,baz=222,slow=8.6,SNR=6.4						
AAK	**Ala-Archa**	**49.33**	**336**	LR	LR	07 54 49.2	
	comp=Z,41nm,18.1s,baz=114,slow=38						
CTAO	**Charters Tower**	**49.37**	**115**	*e*P	**P**	**07 32 17.5**	**-1.2**
SONM	**Songino Array**	**49.51**	**6**	P	**P**	**07 32 19.6**	**+0.2**
SONM	**Songino Array**	**49.51**	**6**	P	**P**	**07 32 19.6**	**+0.2**
	0.9nm,0.4s,baz=187,slow=9.4,SNR=8.6						
STKA	**Stephens Creek**	**49.95**	**132**	*e*P	**P**	**07 32 25.2**	**+2.4**
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**07 32 23.6**	**+0.7**
	1.4nm,0.7s,baz=340,slow=9.5,SNR=6.1						
MK31	**Makanchi Array**	**50.38**	**345**	*e*P	**P**	**07 32 26.9**	**+1.0**
MKAR	**Makanchi Array**	**50.38**	**345**	P	**P**	**07 32 26.6**	**+0.7**
MKAR	**Makanchi Array**	**50.38**	**345**	P	**P**	**07 32 26.6**	**+0.7**
	2.3nm,0.4s,baz=158,slow=8.7,SNR=22						
USRK	**Ussuriysk Arra**	**54.02**	**29**	P	**P**	**07 32 52.5**	**-0.4**
	2.8nm,0.7s,baz=237,slow=5.9,SNR=8.2						
KURBB	**Kurchatov Arra**	**54.90**	**344**	P	**P**	**07 32 59.6**	**+0.4**
	0.8nm,0.3s,baz=160,slow=7.4,SNR=6.6						
KURK	**Kurchatov**	**54.96**	**344**	P	**P**	**07 32 59.6**	**0.0**
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	**P**	**07 33 11.5**	**+0.4**
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	**P**	**07 33 11.5**	**+0.4**
	4.2nm,0.7s,baz=163,slow=8.2,SNR=11						
BVAR	**Borovoye Array**	**59.50**	**340**	P	**P**	**07 33 31.7**	**0.0**
BVAR	**Borovoye Array**	**59.50**	**340**	P	**P**	**07 33 31.7**	**0.0**
	0.5nm,0.3s,baz=136,slow=9.5,SNR=4.7						
ABKAR	**Akbulak array**	**60.91**	**332**	*e*P	**P**	**07 33 41.0**	**-0.4**
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**62.62**	**332**	LR	LR	08 01 53.7	
	comp=Z,25nm,19.6s,baz=11,slow=37						
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**07 34 25.2**	**+0.3**
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**07 34 25.2**	**+0.3**
	2.2nm,0.8s,baz=106,slow=7.1,SNR=5.1						
BRTR	**Keskin Array B**	**72.53**	**313**	P	**P**	**07 34 55.6**	**-0.4**
BRTR	**Keskin Array B**	**72.53**	**313**	P	**P**	**07 34 55.6**	**-0.4**
	0.7nm,0.5s,baz=135,slow=6.2,SNR=3.6						
VNDA	**Vanda**	**82.77**	**169**	P	**P**	**07 35 53.2**	**+1.1**
VNDA	**Vanda**	**82.77**	**169**	P	**P**	**07 35 53.2**	**+1.1**
	0.5nm,0.7s,baz=298,slow=8.1,SNR=3.7						
FINES	**FINESS Array B**	**83.38**	**332**	P	**P**	**07 35 56.1**	**+0.6**
FINES	**FINESS Array B**	**83.38**	**332**	P	**P**	**07 35 56.1**	**+0.6**
	1.8nm,0.7s,baz=117,slow=6.6,SNR=6.0						
ARCES	**ARCESS Array B**	**85.79**	**340**	P	**P**	**07 36 08.0**	**+0.4**
ARCES	**ARCESS Array B**	**85.79**	**340**	P	**P**	**07 36 08.0**	**+0.4**
	4.5nm,0.9s,baz=96,slow=6.4,SNR=3.2						
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**07 36 20.5**	**+0.3**
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**07 36 20.5**	**+0.3**
	0.3nm,0.2s,baz=62,slow=6.5,SNR=4.1						
CPUP	**Villa Florida**	**144.34**	**218**	PKP	**PKPdf**	**07 43 05.1**	**-0.4**
CPUP	**Villa Florida**	**144.34**	**218**	PKP	**PKPdf**	**07 43 05.1**	**-0.4**
	4.1nm,0.6s,baz=88,slow=1.5,SNR=13						
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	**PKPdf**	**07 43 05.8**	**-0.3**
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	**PKPdf**	**07 43 05.8**	**-0.3**
	1.8nm,0.7s,baz=263,slow=1.0,SNR=22						

IDC 17 07:28:19.1±2.8, 1°.48S×99°.46E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, ML4.3/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/46, Error ellipse: s-maj=114.9km s-min=20.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.29**	**353**	Pn	Pn	07 29 24.1	-1.7
	baz=168,slow=14,SNR=5.3						
CMAR	**Chiang Mai Arr**	**19.82**	**359**	P	P	07 32 51.5	0.0
	0.3nm,0.3s,baz=187,slow=9.5,SNR=3.1						
FITZ	**Fitzroy Crossi**	**30.55**	**124**	LR	LR	07 45 41.7	
	comp=Z,144nm,21.4s,baz=120,slow=34						
WRA	**Warramunga Arr**	**38.72**	**121**	P	P	07 35 45.2	-0.2
	0.6nm,0.6s,baz=297,slow=9.3,SNR=6.7						
ASAR	**Alice Springs**	**39.99**	**126**	P	P	07 35 55.9	0.0
	0.3nm,0.5s,baz=301,slow=8.7,SNR=4.1						
PMG	**Port Moresby**	**48.09**	**101**	LR	LR	08 03 15.8	
	comp=Z,87nm,18.1s,baz=77,slow=44						
SONM	**Songino Array**	**49.49**	**6**	P	P	07 37 11.5	+0.1
	0.3nm,0.5s,baz=181,slow=7.2,SNR=2.9						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	07 37 18.2	+0.1
	1.4nm,0.6s,baz=155,slow=8.9,SNR=12						
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	P	07 38 03.1	-0.3
	1.2nm,0.3s,baz=163,slow=5.6,SNR=4.5						
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	PKPbc	07 47 57.8	+0.5
	0.6nm,0.5s,baz=258,slow=1.8,SNR=9.5						

IDC 17 07:59:42.2±5.9, 0°.91S×100°.42E, h0km, mb3.2/2, mb1 3.4/2, mb1mx3.2/23, mbtmp3.2/2, Error ellipse: s-maj=303.6km s-min=31.4km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.20**	**122**	P	P	08 07 04.0	0.0
	0.2nm,0.3s,baz=295,slow=12,SNR=9.0						
MKAR	**Makanchi Array**	**50.10**	**344**	P	P	08 08 39.1	0.0
	0.1nm,0.3s,baz=160,slow=9.4,SNR=2.8						
TXAR	**Lajitas Array**	**143.58**	**37**	PKP	PKPbc	08 19 18.4	+1.2
	0.2nm,0.6s,baz=270,slow=1.8,SNR=3.8						

IDC 17 08:01:38.5±6.8, 1°.29S×99°.65E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/23, mbtmp3.2/3, Error ellipse: s-maj=370.6km s-min=27.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.66**	**121**	P	P	08 09 04.4	+0.2
	0.4nm,0.9s,baz=306,slow=9.4,SNR=2.7						
ASAR	**Alice Springs**	**39.95**	**127**	P	P	08 09 14.8	-0.3
	0.1nm,0.3s,baz=309,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**50.25**	**345**	P	P	08 10 36.7	+0.1
	0.3nm,0.5s,baz=162,slow=9.1,SNR=3.4						
TXAR	**Lajitas Array**	**144.35**	**36**	PKP	PKPbc	08 21 16.2	+0.3
	0.3nm,0.5s,baz=297,slow=4.0,SNR=7.4						

IDC 17 08:07:05.0±1.1, 1°.56S×99°.40E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/26, mbtmp4.1/12, ML2.9/1, MS3.6/3, Ms1 3.6/3, ms1mx2.9/38, Error ellipse: s-maj=43.8km s-min=15.0km az=60.0
NEIC 17 08:07:06.3±0.5, 1°.60S×99°.35E, h10km, mb4.2/4, Error ellipse: s-maj=16.2km s-min=7.3km az=66.0
ISCJB 17 08:07:07.3±0.5, 1°.57S±0°.05×99°.31E±0°.05, h30km, mb4.2/15, MS3.6/3, Error ellipse: s-maj=8.0km s-min=5.8km az=143.8
DJA 17 08:07:13.1±0.7, 2°.5±2°.×10°.0E±°, h10km, M4.6/10, mb4.5/4, mB5.3/2, MLv4.6/10, Mw(mB)4.7/2

ISC 17 08:07:09.2±0.6, 1°.59S±0°.05×99°.33E±0°.07, h30km, n47, σ0§93/51, mb4.2/15, MS3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.32**	**59**	P	**Pn**	**08 07 29.3**	**-2.3**
PDSI				S	**Sn**	**08 07 46.7**	**-1.5**
PPI	**Padang Panjang**	**1.55**	**43**	P	**Pn**	**08 07 33.8**	**-1.0**
PPI				S	**Sn**	**08 07 53.2**	**-0.7**
BKNI	**Bangkinang**	**2.56**	**42**	P	**Pb**	**08 07 56.0**	**+1.5**
BKNI				S	**Sb**	**08 08 26.2**	**+0.7**
RGRI	**Rengat**	**3.25**	**68**	P	Pb	08 08 02.2	-4.0
MASI	**Maura Aman, Be**	**3.29**	**118**	P	**Pn**	**08 07 59.6**	**+0.8**
MBSI	**MBSI**	**3.64**	**126**	P	**Pb**	**08 08 11.2**	**-1.8**
KSI	**Kapahiang**	**3.85**	**122**	P	Pn	08 08 10.5	+4.0
KSI				S	**Sn**	**08 08 50.0**	**-0.8**
PSI	**Prapat**	**4.38**	**355**	Pn	**Pn**	**08 08 12.1**	**-1.8**
PSI	**Prapat**	**4.38**	**355**	Pn	**Pn**	**08 08 12.1**	**-1.8**
	0.7nm,0.3s,baz=187,slow=6.6,SNR=5.3						
EGSI	**Enggano, Bengk**	**4.76**	**142**	P	**Pn**	**08 08 18.3**	**-0.6**
MYKOM	**Kota Tinggi**	**5.63**	**53**	P	Pn	08 08 34.5	+3.6
	32nm,0.9s,557nm0.3nm						
LWLI	**Liwa**	**5.82**	**126**	P	**Pn**	**08 08 35.1**	**+1.4**
	206nm,0.7s,14μm2.0nm						
KLSI		**6.21**	**120**	P	**Pn**	**08 08 41.2**	**+2.3**
	32nm,1.0s,0.1nm						
IPM	**Ipoh**	**6.26**	**16**	*e*Pn	**Pn**	**08 08 39.3**	**-0.4**
	23nm,0.7s						
IPM	**Ipoh**	**6.26**	**16**	P	Pn	08 08 46.2	+6.5
KULM	**Kulim**	**6.96**	**11**	*e*Pn	**Pn**	**08 08 49.2**	**0.0**
	11nm,0.8s						
KAPI	**Kappang**	**20.67**	**100**	LR	LR	08 21 06.3	
	comp=Z,97nm,18.6s,baz=148,slow=41						
WRA	**Warramunga Arr**	**38.78**	**120**	P	**P**	**08 14 30.8**	**-0.7**
WRA				PcP	**PcP**	**08 16 43.4**	**+0.7**
WRA	**Warramunga Arr**	**38.78**	**120**	P	**P**	**08 14 30.8**	**-0.7**
	2.0nm,0.6s,baz=301,slow=9.0,SNR=30						
WRA				PcP	**PcP**	**08 16 43.4**	**+0.7**
	0.4nm,0.6s,baz=313,slow=2.7,SNR=4.9						
WRAB	**Tennant Creek**	**38.78**	**120**	*e*P	**P**	**08 14 31.4**	**-0.1**
	2.6nm,0.6s						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**08 14 41.8**	**-0.1**
ASAR				PcP	**PcP**	**08 16 47.7**	**+1.0**
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**08 14 41.8**	**-0.1**
	0.9nm,0.6s,baz=297,slow=7.9,SNR=12						
ASAR				PcP	**PcP**	**08 16 47.7**	**+1.0**
	0.5nm,0.8s,baz=310,slow=2.8,SNR=5.7						
KSAR	**Wonju Array Be**	**46.99**	**31**	P	**P**	**08 15 37.2**	**-0.5**
KSRS	**Korea Array**	**47.02**	**31**	P	**P**	**08 15 37.2**	**-0.7**
	0.5nm,0.3s,baz=225,slow=7.7,SNR=2.8						
TKM2	**Tokmak 2**	**49.20**	**337**	*e*P	**P**	**08 15 55.8**	**+0.9**
	5.1nm,0.9s						
AAK	**Ala-Archa**	**49.39**	**336**	LR	LR	08 38 28.0	
	comp=Z,47nm,18.0s,baz=0.3,slow=38						
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**08 15 58.2**	**+0.3**
SONM				PcP	**PcP**	**08 17 19.4**	**+0.3**
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**08 15 58.2**	**+0.3**
	0.8nm,0.5s,baz=187,slow=7.2,SNR=6.4						
SONM				PcP	**PcP**	**08 17 19.4**	**+0.3**
	0.7nm,0.6s,baz=180,slow=4.6,SNR=2.7						
EKS2	**Erkin-Say**	**49.71**	**335**	*e*P	**P**	**08 15 60.0**	**+1.1**
	2.9nm,0.8s						
STKA	**Stephens Creek**	**49.92**	**132**	*e*P	**P**	**08 16 01.5**	**+1.0**
STKA	**Stephens Creek**	**49.92**	**132**	P	**P**	**08 16 00.6**	**+0.2**
	1.9nm,0.6s,baz=297,slow=7.3,SNR=8.2						
STKA				LR	LR	08 35 37.6	
	comp=Z,137nm,19.6s,baz=204,slow=34						
MKAR	**Makanchi Array**	**50.46**	**345**	P	**P**	**08 16 04.8**	**+0.5**
MKAR	**Makanchi Array**	**50.46**	**345**	P	**P**	**08 16 04.8**	**+0.5**
	3.2nm,0.6s,baz=148,slow=8.1,SNR=16						
USRK	**Ussuriysk Arra**	**54.12**	**29**	P	**P**	**08 16 31.0**	**-0.5**
	1.2nm,0.6s,baz=228,slow=3.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**54.97**	**344**	P	**P**	**08 16 37.7**	**+0.2**
	2.4nm,0.2s,baz=162,slow=6.5,SNR=5.1						
KURK	**Kurchatov**	**55.03**	**344**	P	**P**	**08 16 37.7**	**-0.3**
ZALV	**Zalesovo Beam**	**56.65**	**350**	P	**P**	**08 16 49.7**	**+0.3**
ZALV	**Zalesovo Beam**	**56.65**	**350**	P	**P**	**08 16 49.7**	**+0.3**
	3.4nm,0.8s,baz=175,slow=5.5,SNR=9.6						
BVAR	**Borovoye Array**	**59.57**	**340**	P	**P**	**08 17 09.4**	**-0.6**
BVAR	**Borovoye Array**	**59.57**	**340**	P	**P**	**08 17 09.4**	**-0.6**
	0.4nm,0.3s,baz=152,slow=6.5,SNR=4.0						
ABKAR	**Akbulak array**	**60.96**	**332**	*e*P	**P**	**08 17 19.0**	**-0.5**
	0.6nm,0.4s						
FINES	**FINESS Array B**	**83.44**	**332**	P	**P**	**08 19 34.1**	**+0.5**
FINES	**FINESS Array B**	**83.44**	**332**	P	**P**	**08 19 34.1**	**+0.5**
	1.1nm,0.5s,baz=111,slow=7.6,SNR=5.4						
CPUP	**Villa Florida**	**144.24**	**217**	PKP	**PKPdf**	**08 26 42.6**	**-0.5**
CPUP	**Villa Florida**	**144.24**	**217**	PKP	**PKPdf**	**08 26 42.6**	**-0.5**
	2.8nm,0.8s,baz=86,slow=5.5,SNR=5.9						
TXAR	**Lajitas Array**	**144.78**	**36**	PKP	**PKPdf**	**08 26 43.8**	**-0.3**
TXAR	**Lajitas Array**	**144.78**	**36**	PKP	**PKPdf**	**08 26 43.8**	**-0.3**
	1.9nm,0.6s,baz=270,slow=1.0,SNR=32						

IDC 17 08:16:54.6±6.5, 1°.14S×99°.94E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=350.0km s-min=28.6km az=53.0
ISCJB 17 08:17:00.8±1.1, 1°.81S±0°.08×99°.9E±0°.1, h33km, mb3.3/3, Error ellipse: s-maj=15.4km s-min=10.6km az=16.4
DJA 17 08:17:05.3±1.1, 1°.5±2°.×10°.0E±°, h10km, M3.8/4, MLv3.8/4

ISC 17 08:17:01.2±1.3, 1°.7S±0°.1×99°.83E±0°.09, h33km, n8, σ1§57/9, mb3.3/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.83**	**297**	P	**Pb**	**08 17 18.4**	**+1.2**
PDSI	**Padang**	**1.01**	**39**	P	**Pn**	**08 17 18.5**	**-0.6**
PDSI				S	**Sb**	**08 17 34.8**	**+1.5**
PPI	**Padang Panjang**	**1.37**	**24**	P	**Pn**	**08 17 23.7**	**-0.3**
PPI				S	**Sb**	**08 17 41.2**	**-2.2**
BKNI	**Bangkinang**	**2.36**	**31**	P	**Pb**	**08 17 44.5**	**+1.5**
WRA	**Warramunga Arr**	**38.28**	**121**	P	**P**	**08 24 18.4**	**-0.5**
	0.3nm,0.6s,baz=297,slow=8.1,SNR=4.3						
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**08 24 30.2**	**+0.7**
	0.2nm,0.4s,baz=299,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**50.71**	**344**	P	P	08 25 52.2	-5.5
	0.4nm,0.6s,baz=160,slow=8.6,SNR=4.5						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	**PKPab**	**08 36 31.9**	**-1.7**
	0.3nm,0.6s,baz=267,slow=2.4,SNR=3.9						

CSEM 17 08:17:06.4, 36°.36N×36°.96E, h7km, MD2.8, After DDA

DDA 17 08:17:06.4, 36°.36N×36°.96E, h7km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.43**	**13**	*e*P	Pg	08 17 14.4	-0.5
KUZU	**Kuzuini**	**0.43**	**13**	*e*P	Pg	08 17 14.4	-0.4
COBT	**Iskenderun**	**0.59**	**286**	*i* P	Pg	08 17 17.4	-0.6
COBT				*i* S	Sg	08 17 26.6	+0.6
COBT	**Iskenderun**	**0.59**	**286**	*i* P	Pg	08 17 17.4	-0.6
COBT				*i* S	Sg	08 17 26.6	+0.7
YAYL	**Yayladag**	**0.76**	**245**	*i* P	Pg	08 17 20.9	-0.2
YAYL				*i* S	Sb	08 17 32.7	-0.1
YAYL	**Yayladag**	**0.76**	**245**	*i* P	Pg	08 17 21.0	-0.2
YAYL				*i* S	Sb	08 17 32.7	-0.1
**AYK

DYR	Agios Nikonas	3.74	319	*e*PN	Pn	08 37 37.1	+2.3
DYR	Agios Nikonas	3.74	319	*e*Pn	Pn	08 37 37.1	+2.3
PYL	PYLOS	4.17	315	*e*PN	Pn	08 37 43.4	+2.8
PYL	PYLOS	4.17	315	*e*Pn	Pn	08 37 43.4	+2.8
BRTR	Keskin Array B	8.74	47	Pn	Pn	08 38 43.1	-0.5
	0.1nm,0.3s,baz=222,slow=15,SNR=3.1						
AKASG	Malin Array Be	16.94	8	Pn	Pn	08 40 33.7	-0.4
	1.4nm,0.3s,baz=200,slow=10,SNR=7.8						
GERES	GERESS Array B	17.22	333	P	Pn	08 40 37.9	+0.2
	0.2nm,0.3s,baz=150,slow=14,SNR=8.2						
ESDC	Sonseca Array	24.12	292	P	P	08 41 53.1	-0.2
	0.9nm,0.6s,baz=86,slow=9.2,SNR=7.0						
TORD	Torodi Ar. Bea	29.90	232	P	P	08 42 45.4	0.0
	0.6nm,0.6s,baz=35,slow=9.2,SNR=4.9						
MKAR	Makanchi Array	44.27	56	P	P	08 44 46.8	-0.1
	1.8nm,0.6s,baz=276,slow=6.5,SNR=10						
ZALV	Zalesovo Beam	45.68	45	P	P	08 44 57.4	-0.6
	1.3nm,0.5s,baz=270,slow=7.4,SNR=5.3						
SONM	Songino Array	60.08	50	P	P	08 46 44.2	-0.5
	0.5nm,0.5s,baz=282,slow=7.4,SNR=4.5						
SCHQ	Schefferville	64.21	320	P	P	08 47 11.6	-0.5
	1.9nm,0.6s,baz=45,slow=7.1,SNR=4.0						
ILAR	Eielson Array	81.39	357	P	P	08 48 53.3	-0.7
	0.3nm,0.7s,baz=356,slow=3.9,SNR=3.9						

IDC 17 08:45:02.4±1.9, 1°.45S×99°.66E, h0km, mb3.7/7, mb1 3.7/9, mb1mx3.7/25, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=65.8km s-min=19.2km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.29	350	Pn	Pn	08 46 08.3	-0.8
	1.1nm,0.3s,baz=223,slow=14,SNR=2.4						
CMAR	Chiang Mai Arr	19.80	358	P	P	08 49 34.9	+0.3
	0.2nm,0.3s,baz=189,slow=9.7,SNR=4.8						
WRA	Warramunga Arr	38.57	121	P	P	08 52 27.3	-0.1
	0.4nm,0.7s,baz=303,slow=9.0,SNR=7.4						
ASAR	Alice Springs	39.85	126	P	P	08 52 38.1	0.0
	0.2nm,0.6s,baz=295,slow=7.4,SNR=5.0						
ASAR				PcP	PcP	08 54 44.1	-0.1
	0.3nm,0.9s,baz=290,slow=2.8,SNR=2.6						
KSRS	Korea Array	46.73	31	P	P	08 53 32.7	-0.7
	0.6nm,0.6s,baz=230,slow=7.5,SNR=2.9						
SONM	Songino Array	49.44	6	P	P	08 53 54.0	-0.4
	0.2nm,0.3s,baz=194,slow=10,SNR=3.3						
MKAR	Makanchi Array	50.41	345	P	P	08 54 01.3	-0.4
	1.1nm,0.4s,baz=163,slow=8.3,SNR=21						
USRK	Ussuriysk Arra	53.84	28	P	P	08 54 27.2	0.0
	1.0nm,0.7s,baz=238,slow=5.6,SNR=4.2						
ZALV	Zalesovo Beam	56.57	350	P	P	08 54 47.0	+0.3
	0.7nm,0.3s,baz=168,slow=8.0,SNR=3.5						
TXAR	Lajitas Array	144.47	37	PKP	PKPbc	09 04 40.6	+0.4
	0.2nm,0.5s,baz=225,slow=0.5,SNR=5.0						

CASC 17 08:52:54.3±2.2, 10°.19N×84°.39W, h87km±7km, MD3.5, 3C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGA2	Cerro Gallo 2	0.19	204⇑	*e*P	Pn	08 53 07.1	0.0
CGA2				*e*S	Sn	08 53 16.9	+0.3
SJS	Escuela Geolog	0.41	128⇑	*i*P	Pn	08 53 08.6	+0.3
SJS				*e*S	Sn	08 53 19.6	+0.9
URSC	Urasca	0.70	121	⇓*i*P	Pn	08 53 11.2	+0.5
URSC				*e*S	Sn	08 53 24.7	+1.7
AMAS	Alto Masis	0.73	305	*i*P	Pn	08 53 11.0	0.0
PTEN	Parque Tenorio	0.79	311	*i*P	Pn	08 53 12.5	+1.0
PTEN				*i*S	Sn	08 53 25.6	+1.2
JCR	Jicaral	0.79	245	*e*P	Pn	08 53 11.6	0.0
JCR				*e*S	Sn	08 53 24.4	-0.1
QCR	Quepos	0.80	164⇑	*e*P	Pn	08 53 11.8	+0.3
QCR				*e*S	Sn	08 53 25.6	+1.2
BUS	Buena Vista	0.89	136⇓	*e*P	Pn	08 53 13.2	0.0
BUS				*e*S	Sn	08 53 27.9	+0.8
COLC	Colonia	0.93	300	*i*P	Pn	08 53 13.2	+0.2
COLC				*i*S	Sn	08 53 27.0	-0.2
LIM1	Limonal	0.99	301	*i*P	Pn	08 53 13.8	+0.1
VCR	Vista de Mar	1.23	267⇓	*e*P	Pn	08 53 16.5	-0.1
VCR				*e*S	Sn	08 53 33.4	-0.1
ACR	Cerro Adams	1.95	142	*e*P	Pn	08 53 27.5	+1.7
CNI	Changuinola	2.00	113	*e*P	Pn	08 53 26.5	+0.1
CNI				*e*S	Sn	08 53 49.5	-1.3
CTCR	Cotoan	2.06	129	*e*S	Sn	08 53 53.9	+1.1
BRU2	Volcan	2.17	130	*e*P	Pn	08 53 28.3	-0.6
BRU2				*e*S	Sn	08 53 54.9	-0.5
TBS2		2.20	129	*e*P	Pn	08 53 30.4	+1.1
TBS2				*e*S	Sn	08 53 56.9	+0.8

*IDC **17** 09:06:59.0±0.5, 1°.50S×99°.50E, h0km, mb4.4/28, mb1 4.5/30, mb1mx4.4/35, mbtmp4.4/30, ML3.3/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/42, Error ellipse: s-maj=18.8km s-min=10.7km az=50.0*

*NEIC **17** 09:07:00.4±0.2, 1°.59S×99°.47E, h10km, mb4.6/6, Error ellipse: s-maj=8.6km s-min=5.0km az=60.0*

*BJI **17** 09:07:01.8, 1°.74S×98°.94E, h28km, mB4.8/16, mb4.7/21, Ms4.6/11, Ms7 4.2/12*

*MOS **17** 09:07:02.6±0.9, 1°.42S×99°.57E, h33km, mb4.7/16, Error ellipse: s-maj=15.1km s-min=7.1km az=111.5*

*ISCJB **17** 09:07:04.4±1.0, 1°.44S±0°.05×99°.49E±0°.06, h51km±8km, mb4.5/55, MS3.9/9, Error ellipse: s-maj=11.7km s-min=5.9km az=145.2*

*DJA **17** 09:07:07.5±0.9, 1°.5S±3°×10°.0E±°, h10km, M4.9/5, mb4.8/3, mB5.1/3, MLv4.9/5, Mw(mB)4.4/3*

ISC 17 09:07:03.5±0.8, 1°.61S±0°.05×99°.38E±0°.06, h29km±4km, n148, σ1°56/166, mb4.6/56, MS3.8/9, 5C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.28	58	P	Pn	09 07 23.7	-1.7
PDSI				S	Sn	09 07 39.6	-2.0
PPI	Padang Panjang	1.53	42	P	Pn	09 07 26.5	-2.3
BKNI	Bangkinang	2.54	41	P	Pb	09 07 46.2	-2.1
MASI	Maura Aman, Be	3.24	118	P	Pn	09 07 55.3	+2.9
KSI	Kapahiang	3.80	122	P	Pb	09 08 08.6	-1.3
KSI				S	Sn	09 08 48.1	+4.2
PSI	Prapat	4.40	354	Pn	Pn	09 08 05.8	-2.6
PSI	Prapat	4.40	354	Pn	Pn	09 08 05.8	-2.6
	0.8nm,0.3s,baz=175,slow=13,SNR=7.2						
PSI				LR	LR	09 10 03.3	
	comp=Z,273nm,20.6s,baz=15,slow=44						
MYKOM	Kota Tinggi	5.60	53	P	Pn	09 08 28.7	+3.9
	43nm,0.7s,858nm						
LWLI	Liwa	5.77	126	P	Pn	09 08 29.3	+2.0
	280nm,0.7s,4μm						
KLSI		6.16	120	P	Pn	09 08 34.2	+1.7
IPM	Ipoh	6.26	15	*e*Pn	Pn	09 08 34.4	+0.4
KULM	Kulim	6.96	10	*e*Pn	Pn	09 08 44.5	+0.9
CM31	Chiang Mai Arr	19.94	359	*e*P	P	09 11 33.0	-0.3
CMAR	Chiang Mai Arr	19.94	359	P	P	09 11 32.3	-0.9
CMAR	Chiang Mai Arr	19.94	359	P	P	09 11 32.3	-0.9
	0.1nm,0.3s,baz=186,slow=9.9,SNR=11						
CHTO	Chiang Mai	20.30	359	*e*P	P	09 11 37.3	+0.2
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	Chiang Mai	20.30	359	*e*P	P	09 11 37.3	+0.2
	comp=Z,7.3nm,0.9s						
KAPI	Kappang	20.61	100	P	P	09 11 39.1	-1.5
KAPI	Kappang	20.61	100	P	P	09 11 39.1	-1.5
	comp=Z,3.8nm,0.3s,baz=183,slow=17,SNR=2.9						
QIZ	Qiongzhong	22.94	26	P	P	09 12 03.8	-1.7
QIZ				S	S	09 16 16.4	+2.6
QIZ				LR	LR		
	comp=N,120nm,10.5s						
QIZ				LR	LR		
	comp=Z,140nm,12.6s						
GYA	Guiyang	28.77	14	P	P	09 13 01.8	+2.8
GYA				pP	pP	09 13 12.8	+5.2
GYA				sP	sP	09 13 18.0	+6.8
GYA				PP	PnPn	09 13 56.3	+5.9
GYA				PcP	PcP	09 16 11.0	+2.3
GYA				S	S	09 17 49.6	+2.7
GYA				sS	sS	09 18 06.5	+5.4
GYA				ScP	ScP	09 19 47.1	-1.1
GYA				ScS	ScS	09 23 41.0	-1.0
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,14.8s						
GYA				LR	LR		
	comp=E,380nm,15.4s						
GYA				LR	LR		
	comp=Z,420nm,14.9s						
FITZ	Fitzroy Crossi	30.55	124	P	P	09 13 13.8	-0.8
FITZ	Fitzroy Crossi	30.55	124	P	P	09 13 13.8	-0.8
	comp=Z,3.2nm,0.8s,baz=276,slow=10,SNR=6.9						
CD2	Chengdu	32.60	7	*e*P	P	09 13 36.8	+4.2
CD2				pP	pP	09 13 46.8	+5.5
CD2				sP	sP	09 13 50.8	+5.9
CD2				PP	PP	09 14 47.3	+0.6
CD2				S	S	09 18 51.0	+4.3
CD2				sS	sS	09 19 07.8	+6.8
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
CD2				LR	LR		
	comp=N,140nm,14.2s						
CD2				LR	LR		
	comp=Z,170nm,13.2s						
NWAO	Narrogin (SRO)	35.39	154	LR	LR	09 26 32.1	
	comp=Z,153nm,20.1s,baz=270,slow=33						
XAN	Xi'an	36.57	13	P	P	09 14 12.4	+5.5
XAN				pP	pP	09 14 20.3	+4.6
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,16nm,7.2s						
LZH	Lanzhou	37.73	6	*e*P	P	09 14 19.5	+2.6
LZH				pP	pP	09 14 30.0	+4.4
LZH				sP	sP	09 14 34.1	+4.9
LZH				PP	PnPn	09 15 50.1	+5.5
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,5.2s						
LZH				LR	LR		
	comp=N,410nm,13.7s						
LZH				LR	LR		
	comp=E,430nm,14.0s						
LZH				LR	LR		
	comp=Z,500nm,17.0s						
NJ2	Nanjing	38.23	27	*e*P	P	09 14 22.8	+1.9
NJ2				pmax	pmax		
	comp=Z,13nm,0.9s						
WRA	Warramunga Arr	38.73	120	P	P	09 14 24.4	-0.9
WRA				PcP	PcP	09 16 36.4	-0.5
WRA	Warramunga Arr	38.73	120	P	P	09 14 24.4	-0.9
	comp=Z,5.7nm,0.7s,baz=298,slow=9.0,SNR=61						
WRA				PcP	PcP	09 16 36.4	-0.5
	comp=Z,1.2nm,0.6s,baz=313,slow=2.6,SNR=6.9						
WRAB	Tennant Creek	38.73	120	*e*P	P	09 14 24.3	-1.1
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRAB	Tennant Creek	38.73	120	*e*P	P	09 14 24.3	-1.1
	comp=Z,6.6nm,0.6s						
ASAR	Alice Springs	39.98	126	P	P	09 14 35.5	-0.3
ASAR				PcP	PcP	09 16 40.5	-0.3
ASAR				S	S	09 20 37.8	-2.0
ASAR	Alice Springs	39.98	126	P	P	09 14 35.5	-0.3
	comp=Z,2.3nm,0.6s,baz=297,slow=7.7,SNR=30						
ASAR				PcP	PcP	09 16 40.5	-0.3
	comp=Z,2.3nm,0.9s,baz=306,slow=2.7,SNR=9.5						
ASAR				S	S	09 20 37.8	-2.0
	comp=Z,2.8nm,1.2s,baz=308,slow=14,SNR=7.1						
AS31	Alice Springs	39.98	126	*e*P	P	09 14 35.0	-0.9
GTA	Gaotai	40.82	1	*e*P	P	09 14 51.8	+9.2
GTA				pP	pP	09 14 56.0	+4.6
GTA				sP	sP	09 14 58.8	+3.9
GTA				S	S	09 21 07.8	+16
GTA				sS	sS	09 21 16.0	+10
GTA				SS	SnSn	09 24 09.0	+7.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,53nm,5.0s						
GTA				LR	LR		
	comp=N,51nm,16.2s						
GTA				LR	LR		
	comp=E,90nm,15.7s						
GTA				LR	LR		
	comp=Z,66nm,16.6s						
HHC	Hu-ho-hao-te	43.69	13	*e*P	P	09 15 08.3	+2.4
HHC				pP	pP	09 15 18.3	+3.5
HHC				sP	sP	09 15 21.5	+3.2
HHC				PP	PcP	09 16 50.3	-2.5
HHC				S	S	09 21 37.9	+3.7
HHC				sS	sS	09 21 53.5	+4.7
HHC				SS	SS	09 24 47.4	-2.9
HHC				pmax	pmax		
	comp=Z,52nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,6.5s						
HHC				LR	LR		
	comp=N,290nm,15.2s						
HHC				LR	LR		
	comp=E,250nm,15.7s						
HHC				LR	LR		
	comp=Z,280nm,16.7s						
JNU	Nakatsue	45.56	38	P	P	09 15 19.6	-1.4
JNU	Nakatsue	45.56	38	P	P	09 15 19.6	-1.4
	comp=Z,6.0nm,0.7s,baz=296,slow=5.1,SNR=4.8						
KSH	Kashi	46.21	335	*e*P	P	09 15 24.3	-1.8
KSH				sP	sP	09 15 37.3	-1.2
KSH				PP	PP	09 17 13.1	-1.8
KSH				S	S	09 22 03.8	-7.1
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,87nm,5.3s						
KSH				LR	LR		
	comp=N,130nm,8.4s						
KSH				LR	LR		
	comp=E,130nm,6.5s						
KSH				LR	LR		
	comp=Z,90nm,6.0s						
WMQ	Urumqi	46.42	348	P	P	09 15 27.8	+0.2
WMQ				pmax	pmax		
	comp=Z,11nm,1.5s						
KSAR	Wonju Array Be	46.97	31	P	P	09 15 30.4	-1.4
KSRS	Korea Array	47.00	31	P	P	09 15 30.4	-1.7
	comp=Z,1.6nm,0.6s,baz=224,slow=9.2,SNR=6.9						
TKM2	Tokmak 2	49.23	337	*e*P	P	09 15 49.7	+0.2
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	Tokmak 2	49.23	337	*e*P	P	09 15 49.7	+0.2
	comp=Z,6.0nm,0.6s						
CTA	Charters Tower	49.32	115	P	P	09 15 49.5	-0.9
CTA	Charters Tower	49.32	115	P	P	09 15 49.5	-0.9
	comp=Z,3.6nm,0.7s,baz=275,slow=6.6,SNR=5.3						
AAK	Ala-Archa	49.43	336	⇑*i*P	P	09 15 50.8	-0.2
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	Songino Array	49.62	6	P	P	09 15 51.4	-0.9
SONM				PcP	PcP	09 17 13.2	-0.3
SONM	Songino Array	49.62	6	P	P	09 15 51.4	-0.9
	comp=Z,1.8nm,0.8s,baz=189,slow=8.2,SNR=12						
SONM				PcP	PcP	09 17 13.2	-0.3
	comp=Z,1.9nm,0.7s,baz=183,slow=3.4,SNR=6.9						
EKS2	Erkin-Say	49.75	335	*e*P	P	09 15 54.2	+0.8
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
EKS2	Erkin-Say	49.75	335	*e*P	P	09 15 54.2	+0.8
	comp=Z,7.6nm,0.8s						
STKA	Stephens Creek	49.87	132	P	P	09 15 54.7	+0.3
STKA	Stephens Creek	49.87	132	P	P	09 15 54.7	+0.3
	comp=Z,5.9nm,0.7s,baz=306,slow=8.9,SNR=15						
MK31	Makanchi Array	50.49	345	*i*P	P	09 15 57.9	-0.9
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	Makanchi Array	50.49	345	*e*P	P	09 15 58.5	-0.3
MKAR	Makanchi Array	50.49	345	*ce*P	P	09 15 58.5	-0.3
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	Makanchi Array	50.49	345	*e*P	P	09 15 58.8	0.0
MKAR	Makanchi Array	50.49	345	P	P	09 15 58.5	-0.3
	comp=Z,7.8nm,0.7s,baz=149,slow=7.9,SNR=77						
USRK	Ussuriysk Arra	54.11	29	P	P	09 16 24.4	-1.2
	comp=Z,3.6nm,0.8s,baz=227,slow=6.4,SNR=12						
KURBB	Kurchatov Arra	55.00	344	P	P	09 16 31.6	-0.5
	comp=Z,2.9nm,0.8s,baz=163,slow=7.1,SNR=11						
KURBB				PcP	PcP	09 17 33.8	+0.3
	comp=Z,0.7nm,0.7s,baz=168,slow=3.2,SNR=4.8						
KURK	Kurchatov	55.06	344	P	P	09 16 31.6	-0.9
KURK						09 17 33.8	
KURK	Kurchatov	55.06	344	P	P	09 16 31.6	-0.9
KURK				PcP	PcP	09 17 33.8	+0.1
ZAA0	Zalesovo Array	56.67	350	*e*P	P	09 16 43.0	-0.9
ZALV	Zalesovo Beam	56.67	350	*i*P	P	09 16 43.2	-0.7
ZALV				pmax	pmax		
	comp=Z,25nm,1.1s						
ZALV	Zalesovo Beam	56.67	350	P	P	09 16 43.3	-0.6
ZALV	Zalesovo Beam	56.67	350	P	P	09 16 43.3	-0.6
	comp=Z,25nm,1.1s,baz=160,slow=5.9,SNR=24						
NVS	Novosibirsk	57.81	349	*e*P	P	09 16 50.8	-1.2
RAYN	Ar Rayn	58.01	299	*e*P	P	09 16 54.4	+0.4
	comp=Z,4.3nm,0.9s						
RDF	Al-Radifah	58.12	306	*e*P	P	09 16 54.6	-0.1
RDF				AMb	AMB	09 16 56.1	
	comp=Z,33nm,1.1s						
MIB	Mutribah	58.62	307	*e*P	P	09 16 57.9	-0.3
MIB				AMb	AMB	09 16 59.2	
	comp=Z,29nm,0.9s						
RST	Umm Al-Ruwaisa	58.78	306	*e*P	P	09 16 58.6	-0.7
RST				AMb	AMB	09 16 59.9	
	comp=Z,144nm,0.8s						
BRVK	Borovoye	59.67	340	⇓*i*P	P	09 17 03.5	-1.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
AB31	Akbulak array	61.00	332	*i*P	P	09 17 12.9	-1.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	Yuzh-Sakhalins	61.48	32	*e*P	P	09 17 17.5	+0.1
KMBO	Kilima Mbogo	62.11	270	P	P	09 17 24.4	+1.8
KMBO	Kilima Mbogo	62.11	270	P	P	09 17 24.4	+1.8
	comp=Z,1.1nm,0.4s,baz=233,slow=21,SNR=3.7						
ARU	Arti	66.60	337	*d*P	P	09 17 48.1	-2.8
ARU				S	S	09 26 37.9	-2.2
ARU				SS	SS	09 30 49.5	-8.4
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KBZ	Khabaz	67.61	319	P	P	09 17 57.6	+0.1
KBZ	Khabaz	67.61	319	P	P	09 17 57.6	+0.1
KBZ	Khabaz	67.61	319	P	P	09 17 57.6	+0.1
	comp=Z,4.8nm,0.8s,baz=124,slow=6.2,SNR=12						
KIV	Kislovodsk	67.84	319	*e*P	P	09 17 58.7	-0.5
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,27nm,18.0s						
EIL	Elat	68.79	303	P	P	09 18 04.8	-0.5
EIL	Elat	68.79	303	P	P	09 18 04.8	-0.5
	comp=Z,4.4nm,0.6s,baz=121,slow=5.9,SNR=4.0						
BRTR	Keskin Array B	72.60	313	P	P	09 18 27.4	-1.0
BRTR	Keskin Array B	72.60	313	P	P	09 18 27.4	-1.0
	comp=Z,1.5nm,0.6s,baz=132,slow=8.0,SNR=7.0						
BRTR				LR	LR	09 50 32.1	
	comp=Z,47nm,19.3s,baz=274,slow=36						
BOSA	Boshof	75.31	241	P	P	09 18 45.6	+1.1
BOSA	Boshof	75.31	241	P	P	09 18 45.6	+1.1
	comp=Z,3.1nm,1.0s,baz=45,slow=7.1,SNR=3.1						
SEY	Seymchan	75.50	22	⇑*i*P	P	09 18 43.4	-1.3
TIXI	Tiksi	75.57	9	*e*P	P	09 18 44.5	-0.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
RPZ	Rata Peaks	75.70	135	P	P	09 18 46.8	+0.4
RPZ	Rata Peaks	75.70	135	P	P	09 18 46.8	+0.4
	comp=Z,6.9nm,0.7s,baz=309,slow=6.0,SNR=8.6						
AKASG	Malin Array Be	78.80	322	*ce*P	P	09 19 03.0	-0.5
AKASG	Malin Array Be	78.80	322	P	P	09 19 03.9	+0.5
AKASG	Malin Array Be	78.80	322	P	P	09 19 03.9	+0.5
	comp=Z,0.3nm,0.3s,baz=87,slow=5.1,SNR=5.3						
KIEV	Kiev	78.80	322	*i*P	P	09 19 02.4	-1.1
VRI	Vrincioaia	79.14	317	⇓*i*P	P	09 19 06.2	+0.7
MLR	Muntele Rosu	79.59	317	⇑*i*P	P	09 19 08.7	+0.6
MLR	Muntele Rosu	79.59	317	P	P	09 19 08.7	+0.6
MLR	Muntele Rosu	79.59	317	P	P	09 19 08.7	+0.6
	comp=Z,1.4nm,0.7s,baz=182,slow=6.7,SNR=10.0						
BUR08	Bucovina Ar. S	80.57	319	*e*P	P	09 19 13.7	+0.3
BZS	Buzias	82.60	316	⇓*i*P	P	09 19 24.5	+0.5
VNDA	Vanda	82.67	169	P	P	09 19 24.9	+1.2
VNDA	Vanda	82.67	169	P	P	09 19 24.9	+1.2
	comp=Z,1.2nm,0.7s,baz=297,slow=5.3,SNR=5.9						
KOLS	Kolonicke sedl	82.75	320	*e*P	P	09 19 25.4	+0.7
KOLS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KOLS	Kolonicke sedl	82.75	320	*e*P	P	09 19 25.4	+0.7
CRVS	Cervenica-Dubn	83.27	319	*e*P	P	09 19 28.6	+1.2
CRVS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CRVS	Cervenica-Dubn	83.27	319	*e*P	P	09 19 28.6	+1.2
FINES	FINESS Array B	83.48	332	P	P	09 19 28.1	-0.1
FINES	FINESS Array B	83.48	332	P	P	09 19 28.1	-0.1
	comp=Z,3.9nm,0.6s,baz=101,slow=6.0,SNR=13						
STHS	Stebnicka Huta	83.50	320	*e*P	P	09 19 29.7	+1.1
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STHS	Stebnicka Huta	83.50	320	*e*P	P	09 19 29.7	+1.1
KECS	Kecovo	83.84	319	*e*P	P	09 19 30.6	+0.3
KECS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KECS	Kecovo	83.84	319	*e*P	P	09 19 30.6	+0.3
ARCES	ARCESS Array B	85.89	340	P	P	09 19 40.1	-0.2
ARCES	ARCESS Array B	85.89	340	P	P	09 19 40.1	-0.2
	comp=Z,4.0nm,0.8s,baz=57,slow=6.6,SNR=5.6						
GERES	GERESS Array B	88.35	319	P	P	09 19 53.0	+0.3
GERES	GERESS Array B	88.35	319	P	P	09 19 53.0	+0.3
	comp=Z,0.6nm,0.4s,baz=92,slow=4.0,SNR=8.5						
SPITS	Spitsbergen Ar	90.12	348	P	P	09 20 00.0	-0.3
SPITS	Spitsbergen Ar	90.12	348	P	P	09 20 00.0	-0.3
	comp=Z,1.5nm,0.5s,baz=111,slow=3.2,SNR=5.0						
FUORN	Ofenpass-Fuorn	90.55	316	*e*P	P	09 20 04.2	+1.0
	comp=Z,4.4nm,0.8s						
DAVOX	Davos/Dischmat	90.82	317	P	P	09 20 04.9	+0.5
DAVOX	Davos/Dischmat	90.82	317	P	P	09 20 04.9	+0.5
	comp=Z,3.2nm,0.5s,baz=166,slow=4.2,SNR=7.8						
DAVA	Damuels	90.83	317	⇓*i*PcP	P	09 20 05.3	+0.9
	comp=Z,3.2nm,0.6s						
KEST	Kesra	90.95	306	P	P	09 20 06.7	+1.6
KEST	Kesra	90.95	306	P	P	09 20 06.7	+1.6
	comp=

0.4nm,0.3s,baz=152,slow=9.5,SNR=2.5
FITZ Fitzroy Crossi 44.67 131 P P 09 27 34.2 -0.7
1.2nm,0.6s,baz=309,slow=13,SNR=6.2
WRA Warramunga Arr 52.42 126 P P 09 28 34.9 +0.1
0.8nm,0.6s,baz=307,slow=8.1,SNR=9.3
ASAR Alice Springs 54.17 130 P P 09 28 47.8 +0.2
0.4nm,0.7s,baz=305,slow=7.4,SNR=5.6

IDC 17 09:23:39.8±1.4, 1°.53S×99°.42E, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.8/26, mbtmp3.9/11, ML2.8/1, Error ellipse: s-maj=64.0km s-min=15.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.33**	**353**	Pn	Pn	09 24 46.3	-0.8
0.5nm,0.3s,baz=170,slow=14,SNR=4.3							
CMAR	**Chiang Mai Arr**	**19.87**	**359**	P	P	09 28 12.4	-0.3
baz=189,slow=9.0,SNR=4.1							
WRA	**Warramunga Arr**	**38.73**	**121**	P	P	09 31 05.7	-0.4
0.8nm,0.5s,baz=302,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**40.00**	**126**	P	P	09 31 16.4	-0.3
0.6nm,0.7s,baz=298,slow=7.4,SNR=7.4							
SONM	**Songino Array**	**49.54**	**6**	P	P	09 32 32.4	-0.1
0.4nm,0.6s,baz=189,slow=8.3,SNR=3.5							
STKA	**Stephens Creek**	**49.90**	**132**	P	P	09 32 35.9	+0.5
2.3nm,0.7s,baz=216,slow=4.5,SNR=6.5							
MKAR	**Makanchi Array**	**50.42**	**345**	P	P	09 32 39.3	+0.2
2.8nm,0.6s,baz=150,slow=8.0,SNR=35							
KURBB	**Kurchatov Arra**	**54.94**	**344**	P	P	09 33 12.2	-0.2
1.1nm,0.9s,baz=165,slow=7.0,SNR=9.9							
ZALV	**Zalesovo Beam**	**56.60**	**350**	P	P	09 33 24.2	-0.2
1.6nm,0.4s,baz=183,slow=6.1,SNR=13							
KBZ	**Khabaz**	**67.57**	**319**	P	P	09 34 38.2	0.0
1.7nm,0.9s,baz=111,slow=8.6,SNR=3.2							
FINES	**FINESS Array B**	**83.43**	**332**	P	P	09 36 08.9	0.0
2.4nm,0.8s,baz=77,slow=10.0,SNR=3.5							
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	PKPdf	09 43 18.9	-0.6
1.4nm,0.6s,baz=270,slow=1.3,SNR=22							

*BJI **17** 09:24:16.1, 2°.35S×99°.27E, h40km, mB5.0/21, mb4.7/30, Ms4.6/16, Ms7 4.3/13*
*IDC **17** 09:24:18.2±0.5, 1°.52S×99°.44E, h0km, mb4.5/29, mb1 4.6/31, mb1mx4.5/34, mbtmp4.5/31, ML4.0/2, MS3.5/6, Ms1 3.5/6, ms1mx3.1/42, Error ellipse: s-maj=17.4km s-min=11.0km az=45.0*
*NEIC **17** 09:24:19.6±0.2, 1°.59S×99°.43E, h10km, mb4.9/10, Error ellipse: s-maj=7.1km s-min=4.4km az=57.0*
*ISCJB **17** 09:24:20.4±1.8, 1°.52S±0°.05×99°.43E±0°.05, h26km±12km, mb4.7/68, MS3.9/11, Error ellipse: s-maj=10.2km s-min=6.4km az=142.1*
*MOS **17** 09:24:21.9±1.0, 1°.38S×99°.58E, h33km, mb5.1/26, Error ellipse: s-maj=12.5km s-min=5.7km az=110.7*
*DJA **17** 09:24:22.1±1.4, 2°.5±7°.9×9°.8E±1°.3, h59km±8km, M5.1/7, mb4.7/7, MLv5.3/2*
ISC 17 09:24:23.7±0.5, 1°.65±0°.05×99°.32E±0°.07, h36km±1km, n199, σ1°.31/216, mb4.8/69, MS4.0/12, 8C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.36**	**57**	P	Pn	09 24 50.3	+4.2
MNSI	**Mandailing Nat**	**2.44**	**6**	P	Pn	09 25 09.2	+8.2
RGRI	**Rengat**	**3.28**	**67**	P	Pn	09 25 25.8	+13
KSI	**Kapahiang**	**3.83**	**121**	P	Pn	09 25 26.4	+6.2
PSI	**Prapat**	**4.44**	**355**	Pn	Pn	09 25 24.6	-4.0
PSI	**Prapat**	**4.44**	**355**	Pn	Pn	09 25 24.6	-4.0
3.1nm,0.3s,baz=167,slow=13,SNR=11							
EGSI	**Enggano, Bengk**	**4.72**	**141**	P	**Pn**	**09 25 33.3**	**+1.0**
IPM	**Ipoh**	**6.32**	**16**	*e*Pn	**Pn**	**09 25 54.5**	**0.0**
KULM	**Kulim**	**7.02**	**11**	*e*Pn	**Pn**	**09 26 03.2**	**-0.8**
28nm,0.6s							
SBUM	**Sibu**	**13.53**	**73**	P	**P**	**09 27 43.2**	**+1.4**
28nm,1.5s							
MMSI	**Mamuju**	**19.60**	**93**	P	**Pn**	**09 28 51.9**	**+1.3**
68nm,1.2s							
CM31	**Chiang Mai Arr**	**19.98**	**359**	*e*P	**P**	**09 28 52.0**	**-1.1**
16nm,0.9s							
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	**P**	**09 28 51.5**	**-1.6**
CMAR				PcP	**PcP**	**09 33 08.8**	**0.0**
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	**P**	**09 28 51.5**	**-1.6**
0.4nm,0.3s,baz=187,slow=9.8,SNR=20							
CMAR				PcP	**PcP**	**09 33 08.8**	**0.0**
0.6nm,0.3s,baz=210,slow=4.0,SNR=4.5							
CMAR				LR	LR	09 36 18.0	
comp=Z,73nm,18.7s,baz=185,slow=36							
MYLDM	**Lahad Datu**	**20.33**	**70**	P	Pn	09 29 05.0	+5.9
38nm,1.3s							
CHTO	**Chiang Mai**	**20.34**	**359**	*e*P	**P**	**09 28 55.8**	**-1.2**
CHTO				pmax	pmax		
comp=Z,11nm,1.0s							
CHTO	**Chiang Mai**	**20.34**	**359**	*e*P	**P**	**09 28 55.8**	**-1.2**
comp=Z,11nm,1.0s							
CHTO	**Chiang Mai**	**20.34**	**359**	P	Pn	09 29 00.3	+1.1
comp=Z,13nm,1.2s							
KAPI	**Kappang**	**20.67**	**100**	*e*P	**P**	**09 28 58.4**	**-2.3**
comp=Z,73nm,1.3s							
KAPI	**Kappang**	**20.67**	**100**	P	Pn	09 29 03.3	+0.2
comp=Z,35nm,1.2s							
KAPI	**Kappang**	**20.67**	**100**	P	**P**	**09 28 59.2**	**-1.5**
comp=Z,35nm,1.1s,baz=279,slow=11,SNR=4.8							
KAPI				LR	LR	09 37 44.7	
comp=Z,180nm,19.6s,baz=286,slow=39							
BKSI	**Bulukumba**	**21.08**	**100**	P	P	09 29 10.0	+4.9
comp=Z,42nm,1.0s							
QIZ	**Qiongzhong**	**23.01**	**26**	P	**P**	**09 29 25.4**	**-0.2**
QIZ				S	**S**	**09 33 28.6**	**-5.2**
QIZ				LR	LR		
comp=N,210nm,12.6s							
QIZ				LR	LR		
comp=Z,250nm,12.0s							
GTOI	**Gorontalo**	**23.80**	**85**	P	P	09 29 38.0	+4.6
KMI	**Kunming**	**26.82**	**7**	P	**P**	**09 30 02.9**	**+1.9**
KMI				pP	**pP**	**09 30 13.6**	**+2.3**
KMI				sP	**sP**	**09 30 17.5**	**+1.8**
KMI				S	**S**	**09 34 36.8**	**+1.7**
KMI				pmax	pmax		
comp=Z,12nm,1.2s							
KMI				pmax	pmax		
comp=Z,42nm,5.7s							
KMI				LR	LR		
comp=N,190nm,9.7s							
KMI				LR	LR		
comp=E,220nm,10.2s							
KMI				LR	LR		
comp=Z,180nm,11.0s							
DAV	**Davao City (W)**	**27.60**	**71**	LR	LR	09 42 40.1	
comp=Z,120nm,19.4s,baz=255,slow=40							
FITZ	**Fitzroy Crossi**	**30.57**	**124**	P	**P**	**09 30 33.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.57**	**124**	P	**P**	**09 30 33.5**	**-0.7**
comp=Z,11nm,1.0s,baz=310,slow=7.9,SNR=12							
FITZ				LR	LR	09 43 15.3	
comp=Z,86nm,19.7s,baz=312,slow=37							
ODAN	**Odare**	**30.59**	**339**	*e*P	**P**	**09 30 34.7**	**+0.2**
comp=Z,40nm,0.7s							
TAPN	**Taplejung**	**30.92**	**340**	*e*P	**P**	**09 30 38.0**	**+0.4**
comp=Z,71nm,1.0s							
RAMN	**Ramite**	**30.96**	**338**	*e*P	**P**	**09 30 38.3**	**+0.4**
comp=Z,33nm,0.9s							
JIRN	**Jiri**	**31.76**	**337**	*e*P	**P**	**09 30 45.2**	**+0.2**
comp=Z,56nm,0.8s							
PKI	**Pulchoki**	**31.99**	**336**	*e*P	**P**	**09 30 46.6**	**-0.4**
PKIN	**Phulchoki**	**32.00**	**336**	*e*P	**P**	**09 30 46.5**	**-0.5**
GUN	**Gumba**	**32.10**	**337**	*e*P	**P**	**09 30 48.2**	**+0.2**
comp=Z,58nm,0.6s							
LSA	**Lhasa**	**32.14**	**347**	P	**P**	**09 30 48.3**	**-0.1**
LSA	**Lhasa**	**32.14**	**347**	*e*P	**P**	**09 30 47.8**	**-0.6**
LSA				pmax	pmax		
comp=Z,34nm,1.0s							
LSA	**Lhasa**	**32.14**	**347**	*e*P	**P**	**09 30 47.8**	**-0.6**
comp=Z,34nm,1.0s							
DMN	**Daman**	**32.14**	**336**	*e*P	**P**	**09 30 48.1**	**-0.2**
comp=Z,39nm,1.1s							
KKN	**Kakani**	**32.23**	**336**	*e*P	**P**	**09 30 48.8**	**-0.2**
comp=Z,47nm,1.0s							
TPUB	**Ta-pu**	**32.33**	**39**	*e*P	**P**	**09 30 48.2**	**-1.5**
comp=Z,16nm,1.0s							
CD2	**Chengdu**	**32.65**	**7**	*e*P	P	09 30 55.3	+2.9
CD2				pP	pP	09 31 04.9	+2.1
CD2				sP	sP	09 31 09.5	+2.3
CD2				PP	**PP**	**09 32 05.3**	**-1.4**
CD2				S	**S**	**09 36 08.9**	**+2.7**
CD2				sS	sS	09 36 25.8	+2.4
CD2				SS	**SnSn**	**09 38 07.9**	**+4.7**
CD2				pmax	pmax		
comp=Z,10.0nm,0.8s							
CD2				pmax	pmax		
comp=Z,50nm,5.2s							
CD2				LR	LR		
comp=E,400nm,15.4s							
CD2				LR	LR		
comp=Z,260nm,10.8s							
KOLN	**Koldanda**	**32.93**	**334**	*e*P	**P**	**09 30 55.2**	**+0.1**
comp=Z,46nm,0.8s							
DANN	**Dangsing**	**33.36**	**335**	*e*P	**P**	**09 30 58.8**	**-0.1**
LZH	**Lanzhou**	**37.78**	**6**	*e*P	**P**	**09 31 39.3**	**+2.7**
LZH				pP	**pP**	**09 31 49.6**	**+2.5**
LZH				sP	**sP**	**09 31 53.8**	**+2.3**
LZH				PP	**PnPn**	**09 33 09.5**	**+4.8**
LZH				*e*S	**S**	**09 37 28.0**	**+2.9**
LZH				sS	sS	09 37 45.3	+2.8
LZH				*e*SS	**SnSn**	**09 40 07.3**	**-0.1**
LZH				pmax	pmax		
comp=Z,25nm,1.3s							
LZH				pmax	pmax		
comp=Z,110nm,5.2s							
LZH				LR	LR		
comp=N,560nm,17.0s							
LZH				LR	LR		
comp=E,450nm,17.1s							
LZH				LR	LR		
comp=Z,740nm,18.0s							
NJ2	**Nanjing**	**38.29**	**27**	*e*P	**P**	**09 31 41.9**	**+1.1**
NJ2				pmax	pmax		
comp=Z,15nm,1.0s							
WRA	**Warramunga Arr**	**38.76**	**120**	P	**P**	**09 31 44.0**	**-0.9**
WRA				PcP	**PcP**	**09 33 56.2**	**0.0**
WRA	**Warramunga Arr**	**38.76**	**120**	P	**P**	**09 31 44.0**	**-0.9**
comp=Z,9.7nm,0.7s,baz=303,slow=9.0,SNR=36							
WRA				PcP	**PcP**	**09 33 56.2**	**0.0**
comp=Z,0.5nm,0.5s,baz=313,slow=2.5,SNR=5.1							
WRAB	**Tennant Creek**	**38.76**	**120**	*e*P	**P**	**09 31 44.0**	**-1.0**
WRAB				pmax	pmax		
comp=Z,27nm,1.1s							
WRAB	**Tennant Creek**	**38.76**	**120**	*e*P	**P**	**09 31 44.0**	**-1.0**
comp=Z,26nm,1.1s							
AS31	**Alice Springs**	**40.01**	**126**	*e*P	**P**	**09 31 55.3**	**-0.1**
ASAR	**Alice Springs**	**40.01**	**126**	P	**P**	**09 31 54.9**	**-0.5**
ASAR				PcP	**PcP**	**09 33 60.0**	**-0.2**
ASAR				S	**S**	**09 37 59.2**	**+0.4**
ASAR	**Alice Springs**	**40.01**	**126**	P	**P**	**09 31 54.9**	**-0.5**
comp=Z,4.2nm,0.7s,baz=298,slow=7.9,SNR=21							
ASAR				PcP	**PcP**	**09 33 60.0**	**-0.2**
comp=Z,2.7nm,0.9s,baz=298,slow=2.7,SNR=8.2							
ASAR				S	**S**	**09 37 59.2**	**+0.4**
comp=Z,3.3nm,1.2s,baz=295,slow=12,SNR=9.0							
GTA	**Gaotai**	**40.86**	**1**	*e*P	**P**	**09 32 01.4**	**-0.9**
GTA				PcP	**PcP**	**09 34 04.0**	**+1.3**
GTA				S	**S**	**09 38 09.8**	**-1.5**
GTA				pmax	pmax		
comp=Z,8.0nm,1.9s							
GTA				pmax	pmax		
comp=Z,140nm,6.4s							
GTA				LR	LR		
comp=N,60nm,17.1s							
GTA				LR	LR		
comp=E,170nm,16.2s							
HHC	**Hu-ho-hao-te**	**43.75**	**13**	*e*P	**P**	**09 32 28.3**	**+2.6**
HHC				pP	**pP**	**09 32 38.1**	**+1.7**
HHC				sP	**sP**	**09 32 42.0**	**+1.3**
HHC				PP	**PcP**	**09 34 12.8**	**+0.6**
HHC				S	**S**	**09 38 57.8**	**+4.0**
HHC				sS	**sS**	**09 39 13.4**	**+2.1**
HHC				SS	**SS**	**09 42 06.8**	**-3.6**
HHC				pmax	pmax		
comp=Z,33nm,0.9s							
HHC				pmax	pmax		
comp=Z,140nm,5.1s							
HHC				LR	LR		
comp=N,360nm,15.1s							
HHC				LR	LR		
comp=E,320nm,15.3s							
HHC				LR	LR		
comp=Z,260nm,15.3s							
JNU	**Nakatsue**	**45.63**	**38**	P	**P**	**09 32 38.9**	**-1.9**
JNU	**Nakatsue**	**45.63**	**38**	P	**P**	**09 32 38.9**	**-1.9**
comp=Z,6.5nm,0.7s,baz=169,slow=6.3,SNR=4.3							
KSH	**Kashi**	**46.23**	**335**	P	**P**	**09 32 43.8**	**-1.7**
KSH				sP	**sP**	**09 32 56.6**	**-3.9**
KSH				PP	**PP**	**09 34 31.6**	**-2.9**
KSH				S	S	09 39 23.3	-6.5
KSH				pmax	pmax		
comp=Z,6.0nm,0.9s							
KSH				pmax	pmax		
comp=Z,55nm,3.5s							
KSH				LR	LR		
comp=N,200nm,8.8s							
KSH				LR	LR		
comp=E,220nm,13.0s							
KSH				LR	LR		
comp=Z,79nm,4.4s							
WMQ	**Urumqi**	**46.45**	**348**	P	**P**	**09 32 47.8**	**+0.7**
WMQ				sP	**sP**	**09 33 01.0**	**-1.1**
WMQ				pmax	pmax		
comp=Z,34nm,1.0s							
WMQ				pmax	pmax		
comp=Z,110nm,4.0s							
KSAR	**Wonju Array Be**	**47.04**	**31**	P	**P**	**09 32 50.0**	**-1.8**
KSRS	**Korea Array**	**47.07**	**31**	P	**P**	**09 32 50.0**	**-2.0**
comp=Z,2.7nm,0.8s,baz=224,slow=8.9,SNR=9.6							
KSRS				PcP	**PcP**	**09 34 23.5**	**-0.1**
comp=Z,1.5nm,0.9s,baz=224,slow=4.7,SNR=4.8							
KSRS				LR	LR	09 51 46.3	
comp=Z,46nm,19.9s,baz=52,slow=35							
TKM2	**Tokmak 2**	**49.24**	**337**	P	**P**	**09 33 08.7**	**-0.2**
TKM2				pmax	pmax		
comp=Z,23nm,1.3s							
TKM2	**Tokmak 2**	**49.24**	**337**	P	**P**	**09 33 09.1**	**+0.1**
SNR=14							
TKM2	**Tokmak 2**	**49.24**	**337**	*e*P	**P**	**09 33 08.8**	**-0.2**
comp=Z,12nm,0.6s							
KBK	**Karagaybulak**	**49.28**	**336**	*i* P	**P**	**09 33 10.1**	**+0.9**
KBK	**Karagaybulak**	**49.28**	**336**	P	**P**	**09 33 10.1**	**+0.9**
SNR=6.0							
AML	**Almayashu**	**49.36**	**335**	*i* P	**P**	**09 33 10.7**	**+0.6**
AML	**Almayashu**	**49.36**	**335**	P	**P**	**09 33 10.7**	**+0.6**
SNR=5.9							
CTA	**Charters Tower**	**49.36**	**115**	P	**P**	**09 33 09.0**	**-1.0**
CTA	**Charters Tower**	**49.36**	**115**	P	**P**	**09 33 09.0**	**-1.0**
comp=Z,7.4nm,1.0s,baz=284,slow=9.0,SNR=4.6							
CTAO	**Charters Tower**	**49.36**	**115**	*e*P	**P**	**09 33 09.2**	**-0.8**
CTAO				pmax	pmax		
comp=Z,17nm,1.2s							
CTAO	**Charters Tower**	**49.36**	**115**	*e*P	**P**	**09 33 09.2**	**-0.8**
comp=Z,17nm,1.2s							
AAK	**Ala-Archa**	**49.44**	**336**	⇑*i* P	**P**	**09 33 09.9**	**-0.5**
AAK				pmax	pmax		
comp=Z,31nm,2.5s							
AAK	**Ala-Archa**	**49.44**	**336**	*e*P	**P**	**09 33 10.2**	**-0.2**
FRU	**Bishkek**	**49.56**	**336**	*e*P	**P**	**09 33 11.0**	**-0.2**
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**09 33 10.8**	**-1.2**
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**09 33 10.8**	**-1.2**
comp=Z,3.0nm,0.6s,baz=189,slow=9.3,SNR=16							
SONM				PcP	**PcP**	**09 34 33.0**	**+0.1**
comp=Z,4.4nm,0.9s,baz=188,slow=4.3,SNR=7.0							
EKS2	**Erkin-Say**	**49.76**	**335**	*e*P	**P**	**09 33 13.3**	**+0.5**
EKS2				pmax	pmax		
comp=Z,15nm,0.9s							
EKS2	**Erkin-Say**	**49.76**	**335**	P	**P**	**09 33 13.4**	**+0.6**
SNR=11							
EKS2	**Erkin-Say**	**49.76**	**335**	*e*P	**P**	**09 33 13.3**	**+0.5**
comp=Z,15nm,0.9s							
STKA	**Stephens Creek**	**49.89**	**132**	P	**P**	**09 33 13.3**	**-0.6**
STKA	**Stephens Creek**	**49.89**	**132**	P	**P**	**09 33 13.3**	**-0.6**
comp=Z,10nm,1.0s,baz=335,slow=8.6,SNR=7.7							
USP	**Ospenovka**	**49.97**	**336**	*i* P	**P**	**09 33 14.3**	**0.0**
USP	**Ospenovka**	**49.97**	**336**	P	**P**	**09 33 14.3**	**0.0**
SNR=12							
MK31	**Makanchi Array**	**50.51**	**345**	*i* P	**P**	**09 33 17.4**	**-0.9**
MK31				pmax	pmax		
comp=Z,20nm,0.7s							
MK31	**Makanchi Array**	**50.51**	**345**	*e*P	**P**	**09 33 18.2**	**-0.1**
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**09 33 17.7**	**-0.6**
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**09 33 17.7**	**-0.6**
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**09 33 17.7**	**-0.6**
comp=Z,16nm,0.6s,baz=153,slow=8.5,SNR=46							
CN2	**Changchun**	**50.94**	**24**	*e*P	P	09 33 29.6	+8.0
KK31	**Karatay Array**	**51.53**	**333**	*i* P	**P**	**09 33 24.5**	**-1.5**
KK31				pmax	pmax		
comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**51.53**	**333**	*e*P	**P**	**09 33 25.4**	**-0.6**
KKAR	**Karatay Array**	**51.53**	**333**	*e*P	**P**	**09 33 25.4**	**-0.6**
MJAR	**Matsushiro Arr**	**52.44**	**40**	P	**P**	**09 33 31.6**	**-1.3**
MJAR	**Matsushiro Arr**	**52.44**	**40**	P	**P**	**09 33 31.6**	**-1.3**
comp=Z,1.5nm,0.9s,baz=226,slow=8.2,SNR=4.8							
MJAR				LR	LR	09 56 11.5	
comp=Z,65nm,20.1s,baz=180,slow=37							
HVS	**Khovu-Aksy**	**52.80**	**356**	*e*P	**P**	**09 33 33.7**	**-1.7**
HVS				pmax	pmax		
comp=Z,16nm,1.3s							
TLY	**Talaya**	**53.26**	**3**	*i* P	**P**	**09 33 38.3**	**-0.4**
USRK	**Ussuriysk Arra**	**54.18**	**29**	P	**P**	**09 33 44.0**	**-1.4**
comp=Z,9.2nm,0.9s,baz=221,slow=6.3,SNR=14							
KURBB	**Kurchatov Arra**	**55.02**	**344**	P	**P**	**09 33 50.7**	**-0.8**
comp=Z,8.0nm,0.9s,baz=164,slow=6.8,SNR=33							
KURK	**Kurchatov**	**55.08**	**344**	P	**P**	**09 33 50.7**	**-1.2**
KURK	**Kurchatov**	**55.08**	**344**	P	**P**	**09 33 50.7**	**-1.2**
ZAA0	**Zalesovo Array**	**56.70**	**350**	*e*P	**P**	**09 34 02.7**	**-0.8**
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	**P**	**09 34 02.7**	**-0.8**
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	**P**	**09 34 02.7**	**-0.8**
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	**P**	**09 34 02.7**	**-0.8**
comp=Z,8.6nm,0.4s,baz=177,slow=5.7,SNR=41							
KRAR	**Krasnoyarsk**	**57.71**	**356**	*e*P	**P**	**09 34 10.3**	**-0.2**
KRAR				pmax	pmax		
comp=Z,29nm,1.2s							
NVS	**Novosibirsk**	**57.84**	**349**	*e*P	**P**	**09 34 09.4**	**-2.1**
NVS				pmax	pmax		
comp=Z,17nm,1.2s							
NVS				pmax	pmax		
comp=N,11nm,1.5s							
NVS				pmax	pmax		
comp=E,6.0nm,1.3s							
KLR	**Kul'dur**	**57.89**	**25**	*e*P	P	09 34 06.2	-5.8
RDF	**Al-Radifah**	**58.10**	**306**	*e*P	**P**	**09 34 13.5**	**-0.3**
MIB	**Mutribah**	**58.60**	**307**	*e*P	**P**	**09 34 16.3**	**-1.0**
MIB				AMb	AMB	09 34 18.5	
comp=Z,35nm,1.0s							
RST	**Umm Al-Ruwaisa**	**58.76**	**306**	*e*P	**P**	**09 34 17.6**	**-0.8**
VOSK	**Vostochnaya**	**59.17**	**340**	P	**P**	**09 34 18.4**	**-2.5**
VOSK				pmax	pmax		
comp=Z,7.0nm,1.0s							
BRVK	**Borovoye**	**59.69**	**340**	*c i* P	**P**	**09 34 22.9**	**-1.5**
BRVK				pmax	pmax		
comp=Z,8.0nm,1.7s							
AB31	**Akbulak array**	**61.01**	**332**	*i* P	**P**	**09 34 32.2**	**-1.3**
AB31				pmax	pmax		
comp=Z,8.0nm,0.7s							
ABKAR	**Akbulak array**	**61.01**	**332**	*e*P	**P**	**09 34 32.4**	**-1.1**
comp=Z,5.2nm,0.7s							
YSS	**Yuzh-Sakhalins**	**61.55**	**32**	*e*P	**P**	**09 34 35.4**	**-1.8**
KMBO	**Kilima Mbogo**	**62.05**	**270**	*e*P	**P**	**09 34 43.0**	**+1.5**
KMBO	**Kilima Mbogo**	**62.05**	**270**	P	**P**	**09 34 42.6**	**+1.1**
comp=Z,3.7nm,0.7s,baz=44,slow=7.1,SNR=8.5							
AKTO	**Aktyubinsk**	**62.73**	**332**	P	**P**	**09 34 43.4**	**-1.6**
AKTO				pmax	pmax		
comp=Z,13nm,1.5s							
SVE	**Sverdlovsk**	**66.10**	**338**	⇑*e*P	**P**	**09 35 06.6**	**-0.4**
SVE				pmax	pmax		
comp=Z,22nm,1.2s							
ZEI	**Tsey**	**66.52**	**319**	*e*P	**P**	**09 35 08.0**	**-2.3**
ZEI				pmax	pmax		
comp=Z,9.0nm,0.6s							
ARU	**Arti**	**66.62**	**337**	*d i* P	**P**	**09 35 09.2**	**-1.1**
ARU						09 37 31.2	
ARU				S	**S**	**09 43 59.5**	**+0.5**
ARU				SS	SS	09 48 08.3	-8.6
ARU				pmax	pmax		
comp=Z,18nm,1.7s							
YAK	**Yakutsk**	**67.58**	**15**	*e*P	**P**	**09 35 13.5**	**-2.7**
KBZ	**Khabaz**	**67.60**	**319**	P	**P**	**09 35 16.8**	**0.0**
KBZ	**Khabaz**	**67.60**	**319**	P	**P**	**09 35 16.8**	**0.0**
KBZ	**Khabaz**	**67.60**	**319**	P	**P**	**09 35 16.8**	**0.0**
comp=Z,7.3nm,0.8s,baz=136,slow=5.6,SNR=14							
ASF	**Jabal al Asfar**	**67.83**	**306**	P	**P**	**09 35 19.2**	**+0.5**
ASF	**Jabal al Asfar**	**67.83**	**306**	P	**P**	**09 35 19.2**	**+0.5**
comp=Z,2.0nm,0.6s,baz=281,slow=2.0,SNR=3.7							
KIV	**Kislovodsk**	**67.83**	**319**	*e*P	**P**	**09 35 18.1**	**-0.3**
KIV				pmax	pmax		
comp=Z,14nm,1.0s							
MBAR	**Mbarara**	**68.57**	**270**	P	**P**	**09 35 24.6**	**+0.9**
MBAR	**Mbarara**	**68.57**	**270**	P	**P**	**09 35 24.6**	**+0.9**
comp=Z,2.0nm,0.2s,baz=185,slow=21,SNR=4.2							
VRHR	**Novokhopersk**	**71.66**	**326**	*e*P	**P**	**09 35 40.7**	**-0.9**
VRHR				pmax	pmax		
comp=N,8.0nm,0.8s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.8s							
VRHR				pmax	pmax		
comp=Z,20nm,0.8s							
BRTR	**Keskin Array B**	**72.58**	**313**	P	**P**	**09 35 46.8**	**-0.9**
BRTR	**Keskin Array B**	**72.58**	**313**	P	**P**	**09 35 46.8**	**-0.9**
comp=Z,1.8nm,0.7s,baz=116,slow=7.0,SNR=7.7							
PETK	**Petropavlovsk-**	**72.95**	**32**	P	**P**	**09 35 48.3**	**-1.0**
PETK	**Petropavlovsk-**	**72.95**	**32**	P	**P**	**09 35 48.3**	**-1.0**
PETK	**Petropavlovsk-**	**72.95**	**32**	P	**P**	**09 35 48.3**	**-1.0**
comp=Z,1.1nm,0.7s,baz=186,slow=4.1,SNR=4.1							
VSR	**Storozhevoye**	**73.10**	**325**	*e*P	**P**	**09 35 49.1**	**-1.2**
VSR				pmax	pmax		
comp=Z,10.0nm,0.9s							
VSR				pmax	pmax		
comp=N,3.0nm,0.3s							
VSR				pmax	pmax		
comp=E,20nm,0.9s							
SEY	**Seymchan**	**75.56**	**22**	⇑*i* P	**P**	**09 36 03.0**	**-1.3**
TIXI	**Tiksi**	**75.62**	**9**	*d i* P	**P**	**09 36 02.9**	**-1.6**
TIXI				pmax	pmax		
comp=Z,28nm,1.7s							
OBN	**Obninsk**	**76.14**	**328**	⇑*e*P	**P**	**09 36 08.3**	**+0.5**
O

comp=Z,1.4nm,0.9s,baz=101,slow=4.8,SNR=2.7
FUORN **Ofenpass-Fuorn** 90.54 316 *e*P P 09 37 23.5 +1.1
DAVOX **Davos/Dischmat** 90.81 317 P P 09 37 24.2 +0.6
DAVOX **Davos/Dischmat** 90.81 317 P P 09 37 24.2 +0.6
comp=Z,3.3nm,0.6s,baz=197,slow=3.5,SNR=6.7
DAVA **Damuels** 90.82 317 ⇑*i*PcP PcP 09 37 24.2 -0.4
comp=Z,11nm,1.0s
KEST **Kesra** 90.93 306 *e*P P 09 37 24.6 +0.3
KEST **Kesra** 90.93 306 P P 09 37 25.2 +0.9
comp=Z,2.5nm,0.9s,baz=304,slow=3.6,SNR=5.5
ILAR **Eielson Array** 101.46 24 PKKPbc PKKPbc 09 54 18.9 -3.3
ILAR **Eielson Array** 101.46 24 PKKPbc PKKPbc 09 54 18.9 -3.3
comp=Z,0.4nm,0.8s,baz=108,slow=2.0,SNR=4.3
DLMT **Dillon** 128.20 28 *e*PKPdf PKPdf 09 43 26.9 +0.2
NVAR **Mina Array Bea** 129.76 39 PKP PKPdf 09 43 30.8 +0.9
NVAR **Mina Array Bea** 129.76 39 PKP PKPdf 09 43 30.8 +0.9
comp=Z,1.0nm,0.8s,baz=236,slow=2.4,SNR=7.2
PDAR **Pinedale Array** 131.60 28 PKP PKPdf 09 43 33.4 +0.1
PDAR **Pinedale Array** 131.60 28 PKP PKPdf 09 43 33.4 +0.1
comp=Z,0.3nm,0.7s,baz=90,slow=0.9,SNR=4.2
CPUP **Villa Florida** 144.19 217 PKP PKPdf 09 43 56.3 -0.2
CPUP **Villa Florida** 144.19 217 PKP PKPdf 09 43 56.3 -0.2
comp=Z,5.6nm,0.7s,baz=129,slow=3.3,SNR=15
TXAR **Lajitas Array** 144.83 36 PKP PKPdf 09 43 57.1 -0.6
TXAR **Lajitas Array** 144.83 36 PKP PKPdf 09 43 57.1 -0.6
comp=Z,8.5nm,0.7s,baz=259,slow=1.3,SNR=57
WVT **Waverly** 145.06 10 *e*PKIKP PKPbc 09 43 56.2 -0.9
WVT **Waverly** 145.06 10 *e*PKPdf PKPbc 09 43 56.2 -0.9
MIAR **Mount Ida** 145.13 19 *e*PKIKP PKPbc 09 43 56.9 -0.5
MIAR **Mount Ida** 145.13 19 *e*PKPdf PKPbc 09 43 56.9 -0.5
TZTN **Tazewell** 145.18 4 *e*PKPdf PKPbc 09 43 56.6 -0.9
UALR **University of** 145.29 17 *e*PKPbc PKPbc 09 43 56.8 -1.2
TKL **Tuckaleechee C** 146.04 5 *e*PKPdf PKPdf 09 43 59.4 -0.2
JCT **Junction City** 146.07 30 *e*PKP2 PKPbc 09 44 00.3 -0.3
JCT **Junction City** 146.07 30 *e*PKPdf PKPbc 09 44 00.3 -0.3
CPCT **Cooper Cave** 146.18 6 *e*PKPdf PKPbc 09 44 00.1 -0.6
LRAL **Lakeview Retre** 148.22 10 *e*PKPdf PKPbc 09 44 04.9 -1.6

IDC ***17*** *09:36:33.7±2.6, 22°.53N×12°.11W, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/28, mbtmp3.7/6, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/42, Error ellipse: s-maj=75.6km s-min=31.0km az=93.0*
ISCJB ***17*** *09:36:36.6±1.2, 22°.61N±0°.07×11°.6W±0°.2, h10km, mb3.5/3, MS3.2/3, Error ellipse: s-maj=21.6km s-min=9.9km az=169.4*
ISC 17 09:36:36.8±1.5, 22°.51N±0°.10×11°.8W±0°.2, h10km, n14, σ1§22/12, mb3.5/3, MS3.1/3, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**12.05**	**30**	Pn	**Pn**	**09 39 29.9**	**+1.2**
	0.6nm,0.3s,baz=194,slow=17,SNR=9.3						
TORD	**Torodi Ar. Bea**	**15.83**	**124**	Pn	**Pn**	**09 40 19.6**	**-0.2**
	0.1nm,0.3s,baz=313,slow=12,SNR=7.5						
TORD				Sn	**Sn**	**09 43 14.3**	**-1.1**
	0.2nm,0.3s,baz=310,slow=22,SNR=4.9						
TIC	**Toumodi**	**17.06**	**157**	*e*P	**P**	**09 40 38.3**	**+0.9**
	21nm,0.3s						
DBIC	**Dimbokro**	**17.10**	**156**	P	**Pn**	**09 40 36.3**	**+0.3**
	0.8nm,0.3s,baz=328,slow=12,SNR=6.7						
KIC	**Kosan Boka**	**17.43**	**156**	*e*P	**P**	**09 40 43.0**	**+1.6**
	64nm,1.6s						
LIC	**Lamto**	**17.45**	**157**	*e*P	**P**	**09 40 41.9**	**+0.3**
	17nm,0.5s						
DAVOX	**Davos/Dischmat**	**29.86**	**31**	LR	LR	09 54 38.6	
	comp=Z,44nm,21.0s,baz=86,slow=36						
GERES	**GERESS Array B**	**33.14**	**31**	P	**P**	**09 43 11.6**	**-1.7**
	0.5nm,0.5s,baz=218,slow=8.4,SNR=3.9						
NOA	**NORSAR Array B**	**41.67**	**17**	LR	LR	10 02 04.0	
	comp=Z,16nm,19.5s,baz=205,slow=37						
BRTR	**Keskin Array B**	**42.00**	**55**	P	**P**	**09 44 30.1**	**+1.6**
	0.5nm,0.5s,baz=254,slow=8.5,SNR=2.9						
EIL	**Elat**	**42.33**	**70**	LR	LR	10 03 46.3	
	comp=Z,86nm,18.9s,baz=278,slow=38						
MKAR	**Makanchi Array**	**76.60**	**45**	P	**P**	**09 48 26.8**	**-0.9**
	0.2nm,0.5s,baz=287,slow=4.6,SNR=3.8						
WRA	**Warramunga Arr**	**148.33**	**92**	PKPbc	**PKPbc**	**09 56 23.2**	**-0.9**
	0.3nm,0.6s,baz=291,slow=2.7,SNR=4.5						
ASAR	**Alice Springs**	**148.44**	**99**	PKPbc	**PKPbc**	**09 56 23.6**	**-0.8**
	0.4nm,0.6s,baz=274,slow=2.0,SNR=9.4						

ISCJB ***17*** *09:47:54.5±0.5, 37°.92N±0°.02×27°.41E±0°.03, h3km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=36.7*
ISK ***17*** *09:47:54.5, 37°.94N×27°.46E, h8km, MD2.8*
CSEM ***17*** *09:47:54.8±0.2, 37°.92N×27°.40E, h10km, ML3.9, Error ellipse: s-maj=3.8km s-min=3.4km az=70.0*
DDA ***17*** *09:47:54.4, 37°.92N×27°.40E, h7km, ML3.9*
ATH ***17*** *09:47:54.4, 37°.90N×27°.44E, h12km±2km, MD3.1/4*
ISC 17 09:47:54.6±0.9, 37°.92N±0°.02×27°.42E±0°.02, h14km±7km, n50, σ0§57/77, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.26**	**214**	*i*P	**Pg**	**09 47 59.9**	**-0.2**
GCAM				*i*S	**Sg**	**09 48 04.0**	**+0.2**
GCAM	**G?zelcaml?**	**0.26**	**214**	*i*P	**Pg**	**09 47 59.9**	**-0.2**
GCAM				*i*S	**Sg**	**09 48 04.0**	**+0.2**
AYDN	**Tasoluk**	**0.45**	**125**	*i*P	**Pb**	**09 48 04.4**	**+0.2**
AYDN				*i*S	**Sb**	**09 48 10.1**	**-0.7**
AYDN	**Tasoluk**	**0.45**	**125**	*i*P	**Pb**	**09 48 04.4**	**+0.2**
AYDN				*i*S	**Sb**	**09 48 10.1**	**-0.7**
IZM	**Izmir**	**0.50**	**346**	*e*PG	**Pg**	**09 48 04.1**	**-0.3**
IZM	**Izmir**	**0.50**	**346**	*e*Pg	**Pg**	**09 48 04.1**	**-0.3**
SMG	**Samos**	**0.51**	**246**	*e*PG	**Pg**	**09 48 04.1**	**-0.5**
SMG				*e*SB	**Sg**	**09 48 11.9**	**+0.6**
SMG	**Samos**	**0.51**	**246**	*e*Pg	**Pg**	**09 48 04.1**	**-0.5**
SMG				*e*Sb	**Sg**	**09 48 11.9**	**+0.6**
MLSB	**Milas**	**0.68**	**155**	*e*PG	**Pb**	**09 48 08.4**	**+0.1**
MLSB				*e*SG	**Sb**	**09 48 17.7**	**+0.1**
MLSB	**Milas**	**0.68**	**155**	*e*Pg	**Pb**	**09 48 08.4**	**+0.1**
MLSB				*e*Sg	**Sb**	**09 48 17.7**	**+0.1**
URLA	**Izmir**	**0.79**	**305**	*e*P	**Pg**	**09 48 09.7**	**-0.1**
URLA				*i*S	**Sg**	**09 48 20.2**	**0.0**
URLA	**Izmir**	**0.79**	**305**	*e*P	**Pg**	**09 48 09.7**	**-0.1**
URLA				*i*S	**Sg**	**09 48 20.2**	**0.0**
BDRM	**Kayabasi**	**0.85**	**179**	*i*P	**Pb**	**09 48 11.0**	**-0.1**
BDRM				*i*S	**Sb**	**09 48 23.0**	**+0.6**
BDRM	**Kayabasi**	**0.85**	**179**	*i*P	**Pb**	**09 48 11.0**	**-0.1**
BDRM				*i*S	**Sb**	**09 48 23.0**	**+0.6**
BODT	**Bodrum**	**0.86**	**186**	*e*PG	**Pn**	**09 48 11.8**	**-0.4**
BODT				*e*SG	**Sn**	**09 48 25.0**	**+0.4**
BODT	**Bodrum**	**0.86**	**186**	*e*Pg	**Pn**	**09 48 11.8**	**-0.4**
BODT				*e*Sg	**Sn**	**09 48 25.0**	**+0.4**
AKHS	**Akhisar**	**1.01**	**18**	*i*P	**Pg**	**09 48 14.0**	**-0.1**
AKHS				*i*S	**Sn**	**09 48 28.3**	**-0.1**
AKHS	**Akhisar**	**1.01**	**18**	*i*P	**Pg**	**09 48 14.0**	**-0.1**
AKHS				*i*S	**Sn**	**09 48 28.3**	**-0.1**
YER	**Yerkesik**	**1.04**	**138**	*e*PG	**Pn**	**09 48 15.7**	**+0.9**
YER	**Yerkesik**	**1.04**	**138**	*e*Pg	**Pn**	**09 48 15.7**	**+0.9**
MANT	**Manisa**	**1.06**	**57**	*e*P	**Pn**	**09 48 14.9**	**-0.4**
MANT	**Manisa**	**1.06**	**57**	*e*P	**Pn**	**09 48 14.9**	**-0.4**
KULA	**Kula-Manisa**	**1.15**	**58**	*e*PN	**Pg**	**09 48 16.5**	**-0.2**
KULA	**Kula-Manisa**	**1.15**	**58**	*e*Pn	**Pg**	**09 48 16.5**	**-0.2**
CHOS	**Chios island**	**1.17**	**294**	*e*PN	**Pn**	**09 48 16.4**	**-0.3**
CHOS				*e*SB	**Sn**	**09 48 33.4**	**+0.9**
CHOS	**Chios island**	**1.17**	**294**	*e*Pn	**Pn**	**09 48 16.4**	**-0.3**
CHOS				*e*Sb	**Sn**	**09 48 33.4**	**+0.9**
DAT	**Datca**	**1.19**	**174**	*e*PN	**Pg**	**09 48 17.6**	**0.0**
DAT	**Datca**	**1.19**	**174**	*e*Pn	**Pg**	**09 48 17.6**	**0.0**
DNZL	**Cakiroluk**	**1.31**	**99**	*i*P	**Pg**	**09 48 21.4**	**+1.6**
DNZL				*i*S	**Sg**	**09 48 37.1**	**+0.3**
DNZL	**Cakiroluk**	**1.31**	**99**	*i*P	**Pg**	**09 48 21.4**	**+1.6**
DNZL				*i*S	**Sg**	**09 48 37.1**	**+0.3**
TURN	**Turunc**	**1.41**	**138**	*i*P	**Pn**	**09 48 18.5**	**-1.2**
TURN				*i*S	**Sn**	**09 48 37.3**	**-0.8**
TURN	**Turunc**	**1.41**	**138**	*i*P	**Pn**	**09 48 18.5**	**-1.2**
TURN				*i*S	**Sn**	**09 48 37.3**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.47**	**138**	*e*PN	**Pb**	**09 48 21.7**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.47**	**138**	*e*Pn	**Pb**	**09 48 21.7**	**0.0**
DEMI	**Demirci**	**1.52**	**42**	*i*P	**Pg**	**09 48 23.6**	**-0.1**
DEMI	**Demirci**	**1.52**	**42**	*i*P	**Pg**	**09 48 23.6**	**-0.1**
PRK	**Paraskevi**	**1.60**	**326**	*e*PB	**Pg**	**09 48 25.2**	**-0.2**
PRK	**Paraskevi**	**1.60**	**326**	*e*Pb	**Pg**	**09 48 25.2**	**-0.2**
KHAL	**Karahalli**	**1.69**	**74**	*e*P	**Pg**	**09 48 26.0**	**-1.1**
KHAL				*i*S	**Sg**	**09 48 48.5**	**-0.7**
KHAL	**Karahalli**	**1.69**	**74**	*e*P	**Pg**	**09 48 26.0**	**-1.1**
KHAL				*i*S	**Sg**	**09 48 48.5**	**-0.7**
KHL	**Karahalli**	**1.71**	**76**	*e*PN	**Pn**	**09 48 24.6**	**+0.6**
KHL	**Karahalli**	**1.71**	**76**	*e*Pn	**Pn**	**09 48 24.6**	**+0.6**
APE	**Apeiranthos**	**1.73**	**241**	*e*PN	**Pb**	**09 48 26.6**	**+0.5**
APE	**Apeiranthos**	**1.73**	**241**	*e*PG	**Pg**	**09 48 26.9**	**-0.8**
APE				*e*SN	**Sg**	**09 48 49.8**	**-0.3**
APE	**Apeiranthos**	**1.73**	**241**	*e*Pn	**Pb**	**09 48 26.6**	**+0.5**
APE	**Apeiranthos**	**1.73**	**241**	*e*Pg	**Pg**	**09 48 26.9**	**-0.8**
APE				*e*Sn	**Sg**	**09 48 49.8**	**-0.3**
BALY	**Balya**	**1.83**	**5**	*e*P	**Pn**	**09 48 25.9**	**+0.3**
BALY				*i*S	**Sg**	**09 48 54.0**	**+0.7**
BALY	**Balya**	**1.83**	**5**	*e*P	**Pn**	**09 48 25.9**	**+0.3**
DURS	**Dursunbey**	**1.87**	**26**	*i*P	**Pn**	**09 48 26.0**	**-0.3**
DURS	**Dursunbey**	**1.87**	**26**	*i*P	**Pn**	**09 48 26.0**	**-0.3**

IDC 17 09:55:18.1±3.6, 1°.60S×99°.55E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=162.1km s-min=21.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.58**	**121**	P	P	10 02 42.9	-0.3
	1.0nm,0.5s,baz=304,slow=9.1,SNR=20						
ASAR	**Alice Springs**	**39.85**	**126**	P	P	10 02 53.8	+0.1
	0.4nm,0.5s,baz=301,slow=8.0,SNR=16						
SONM	**Songino Array**	**49.60**	**6**	P	P	10 04 11.2	-0.1
	0.3nm,0.5s,baz=185,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	10 04 18.3	+0.1
	0.2nm,0.3s,baz=153,slow=8.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**56.70**	**350**	P	P	10 05 03.0	-0.3
	0.6nm,0.4s,baz=160,slow=4.6,SNR=3.6						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPbc	10 14 57.0	+0.5
	0.6nm,0.4s,baz=259,slow=1.8,SNR=20						

IDC ***17*** *10:08:20.2±0.8, 21°.38S×174°.63W, h0km, mb4.2/11, mb1 4.5/13, mb1mx4.4/25, mbtmp4.3/13, ML3.2/2, MS4.6/2, Ms1 4.6/2, ms1mx4.0/38, Error ellipse: s-maj=30.4km s-min=16.1km az=138.0*
ISCJB ***17*** *10:08:23.5±0.4, 21°.56S±0°.10×174°.7W±0°.1, h30km, mb4.7/27, MS4.6/2, Error ellipse: s-maj=17.3km s-min=8.6km az=137.1*
NEIC ***17*** *10:08:34.7±2.0, 21°.69S×174°.70W, h119km±17km, mb4.6/17, Error ellipse: s-maj=14.6km s-min=8.6km az=129.0*
ISC 17 10:08:25.0±0.6, 21°.6S±0°.1×174°.6W±0°.1, h30km, n51, σ1§01/49, mb4.8/27, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.91**	**298**	*e*Pn	Pn	10 10 27.3	+9.2
	161nm,1.1s						
AFI	**Afiamalu**	**8.07**	**20**	Pn	Pn	10 10 15.0	-5.4
AFI				Sn	Sn	10 11 36.0	-15
AFI	**Afiamalu**	**8.07**	**20**	Pn	Pn	10 10 15.0	-5.4
	2.9nm,0.3s,baz=0.0,slow=19,SNR=3.0						
AFI				Sn	Sn	10 11 36.1	-15
	6.2nm,0.3s,baz=100,slow=17,SNR=3.5						
AFI				LR	LR	10 12 43.5	
	comp=Z,294nm,20.4s,baz=354,slow=33						
DZM	**Mont Dzumac**	**17.61**	**265**	*e*Pn	**P**	**10 12 31.2**	**+2.0**
	43nm,1.3s						
URZ	**Urewera**	**18.11**	**201**	P	**P**	**10 12 34.6**	**+0.1**
URZ	**Urewera**	**18.11**	**201**	P	**P**	**10 12 34.6**	**+0.1**
	0.4nm,0.3s,baz=326,slow=11,SNR=3.2						
PPT	**Papeete**	**23.90**	**85**	LR	LR	10 21 14.1	
	comp=Z,440nm,20.0s,baz=78,slow=32						
RPZ	**Rata Peaks**	**25.10**	**205**	*e*P	**P**	**10 13 47.2**	**+0.1**
	388nm,2.8s						
RPZ	**Rata Peaks**	**25.10**	**205**	P	**P**	**10 13 47.4**	**+0.2**
	12nm,0.6s,baz=21,slow=3.5,SNR=5.8						
CTA	**Charters Tower**	**36.56**	**265**	P	**P**	**10 15 27.6**	**-0.8**
CTA	**Charters Tower**	**36.56**	**265**	P	**P**	**10 15 27.6**	**-0.8**
	2.5nm,0.4s,baz=99,slow=11,SNR=7.1						
CTAO	**Charters Tower**	**36.56**	**265**	*e*P	**P**	**10 15 29.1**	**+0.7**
	18nm,1.4s						
STKA	**Stephens Creek**	**40.22**	**246**	P	**P**	**10 15 57.1**	**-2.0**
STKA	**Stephens Creek**	**40.22**	**246**	P	**P**	**10 15 57.1**	**-2.0**
	3.1nm,0.9s,baz=95,slow=10,SNR=4.2						
AS31	**Alice Springs**	**47.38**	**257**	*e*P	**P**	**10 16 56.8**	**0.0**
ASAR	**Alice Springs**	**47.38**	**257**	P	**P**	**10 16 57.0**	**+0.2**
ASAR				PcP	**PcP**	**10 18 28.4**	**+1.1**
ASAR	**Alice Springs**	**47.38**	**257**	P	**P**	**10 16 57.0**	**+0.2**
	8.5nm,0.9s,baz=91,slow=8.3,SNR=62						
ASAR				PcP	**PcP**	**10 18 28.4**	**+1.1**
	1.7nm,0.9s,baz=100,slow=4.2,SNR=4.0						
WRAB	**Tennant Creek**	**47.60**	**262**	*e*P	**P**	**10 16 58.2**	**-0.3**
	18nm,1.1s						
WRA	**Warramunga Arr**	**47.60**	**262**	P	**P**	**10 16 58.4**	**-0.2**
WRA				PcP	**PcP**	**10 18 29.3**	**+1.1**
WRA	**Warramunga Arr**	**47.60**	**262**	P	**P**	**10 16 58.4**	**-0.2**
	10nm,0.9s,baz=98,slow=7.4,SNR=43						
WRA				PcP	**PcP**	**10 18 29.3**	**+1.1**
	1.8nm,0.9s,baz=99,slow=3.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**56.03**	**262**	P	**P**	**10 18 00.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**56.03**	**262**	P	**P**	**10 18 00.9**	**-0.6**
	6.3nm,1.0s,baz=76,slow=4.6,SNR=9.1						
VNDA	**Vanda**	**57.16**	**186**	P	**P**	**10 18 09.9**	**+1.3**
VNDA	**Vanda**	**57.16**	**186**	P	**P**	**10 18 09.9**	**+1.3**
	1.0nm,0.8s,baz=33,slow=8.0,SNR=4.1						
ADK	**Adak**	**73.16**	**359**	P	**P**	**10 19 54.2**	**+1.8**
ATKA	**Atka Island**	**73.45**	**0**	*e*P	**P**	**10 19 54.2**	**0.0**
	269nm,1.1s						
PMSA	**Palmer Station**	**79.04**	**156**	LR	LR	10 47 32.5	
	comp=Z,1μm,20.3s,baz=275,slow=30						
NVAR	**Mina Array Bea**	**79.66**	**42**	P	**P**	**10 20 29.4**	**-0.6**
NVAR	**Mina Array Bea**	**79.66**	**42**	P	**P**	**10 20 29.4**	**-0.6**
	1.1nm,0.9s,baz=222,slow=8.0,SNR=7.9						
TPH	**Tonopah**	**80.12**	**42**	*e*P	P	10 20 25.8	-6.6
	36nm,1.2s						
CCUT	**Cedar City**	**82.29**	**45**	*e*P	**P**	**10 20 45.9**	**+1.8**
	10nm,1.7s						
MSU	**Marysvale**	**83.60**	**44**	*e*P	**P**	**10 20 52.4**	**+1.5**
BMO	**Blue Mountains**	**84.21**	**37**	*e*P	**P**	**10 20 52.4**	**-1.3**
	7.9nm,1.4s						
TMUT	**Trail Mountain**	**84.66**	**44**	*e*P	**P**	**10 20 57.3**	**+0.9**
	11nm,1.1s						
MNTX	**Cornudas Mount**	**84.81**	**53**	*e*P	**P**	**10 20 56.7**	**-0.2**
	2.1nm,1.1s						
TXAR	**Lajitas Array**	**84.98**	**56**	P	**P**	**10 20 58.3**	**+0.4**
TXAR	**Lajitas Array**	**84.98**	**56**	P	**P**	**10 20 58.3**	**+0.4**
	0.5nm,0.8s,baz=201,slow=9.7,SNR=4.7						
SRU	**San Rafael**	**85.01**	**45**	*e*P	**P**	**10 20 57.6**	**-0.4**
	10.0nm,1.2s						
HLID	**Hailey**	**85.10**	**39**	*e*P	**P**	**10 20 58.0**	**-0.3**
	3.2nm,1.0s						
DAU	**Daniels Canyon**	**85.25**	**43**	*e*P	**P**	**10 20 58.6**	**-0.6**
ANMO	**Albuquerque**	**85.62**	**50**	*e*P	**P**	**10 21 00.6**	**-0.5**
	7.5nm,1.2s						
SNAA	**Sanae**	**86.83**	**177**	*e*P	**P**	**10 21 05.3**	**-1.0**
	7.4nm,1.2s						
TRF	**Thorofare Moun**	**86.86**	**11**	*e*P	**P**	**10 21 05.7**	**-0.8**
	268nm,1.5s						
MCK	**McKinley**	**87.36**	**11**	*e*P	**P**	**10 21 09.0**	**+0.3**
	237nm,1.1s						
PDAR	**Pinedale Array**	**87.59**	**42**	P	**P**	**10 21 08.8**	**-1.9**
PDAR	**Pinedale Array**	**87.59**	**42**	P	**P**	**10 21 08.7**	**-1.9**
	0.8nm,0.8s,baz=224,slow=3.1,SNR=7.0						
BOZ	**Bozeman (W)**	**87.92**	**39**	*e*P	**P**	**10 21 11.1**	**-0.9**
	8.1nm,2.0s						
COLA	**College**	**88.60**	**11**	*e*P	**P**	**10 21 14.6**	**+0.1**
	14nm,1.1s						
ILAR	**Eielson Array**	**88.68**	**11**	P	**P**	**10 21 14.2**	**-0.7**
ILAR	**Eielson Array**	**88.68**	**11**	P	**P**	**10 21 14.2**	**-0.7**
	0.9nm,0.8s,baz=206,slow=6.7,SNR=9.4						
ECSD	**EROS Data Cent**	**96.39**	**46**	*e*P	**P**	**10 21 50.9**	**-0.2**
	9.8nm,1.3s						

NIED ***17*** *10:10:00, 23°.30N×123°.70E, h5km, Mw6.1 Best double couple: M0=1.62000×10^18 NP1:φs=306.00000°, δ78.00000°, λ-44.00000°. NP2:φs=47.00000°, δ47.00000°, λ-163.00000°.*
BGS ***17*** *10:10:44.5±2.9, 21°.50N×125°.91E, h20km, mb5.8, MS6.7*
BJI ***17*** *10:10:51.9, 23°.45N×123°.79E, h9km, mB6.1/47, mb5.5/62, Ms6.6/77, Ms7 6.5/66*
IDC ***17*** *10:10:53.8±0.3, 23°.49N×123°.67E, h0km, mb5.4/55, mb1 5.5/60, mb1mx5.5/61, mbtmp5.4/60, ML5.2/5, MS6.1/39, Ms1 6.1/39, ms1mx6.0/50, Error ellipse: s-maj=10.8km s-min=7.6km az=66.0*
JMA ***17*** *10:10:54.1±0.2, 23°.28N×123°.67E, h42km±3km, M6.6*
JMA Felt II J1.
ISCJB ***17*** *10:10:54.2±0.5, 23°.42N±0°.01×123°.58E±0°.01, h8km±3km, mb5.8/370, MS6.3/244, Error ellipse: s-maj=2.1km s-min=1.8km az=155.9*
SZGRF ***17*** *10:10:54.2, 23°.24N×124°.15E, h10km, mb6.0, MS6.6, Southwestern Ryukyu Islands, Japan*
TAP ***17*** *10:10:55.4, 23°.32N×123°.67E, h32km±3km, ML5.9, D*
NEIC ***17*** *10:10:56.5±0.1, 23°.43N×123°.52E, h15km, mb5.9/195, ME6.6, MS6.2/141, MW6.0, MW6.1(NIED), MW6.1(USGS), Error ellipse: s-maj=3.3km s-min=2.9km az=177.0 Broadband fault plane solution: P waves. NP1: φs23.00000°, δ30.00000°, λ-176.00000°. NP2: φs290.00000°, δ88.00000°, λ-60.00000°. Principal axes: T Plg36.0000°, Azm354.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm227.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Taipei, Taiwan. Recorded [2 JMA] on Hateruma-jima, Iriomote-jima and Ishigaki-jima and [1 JMA] on Miyako-jima, Tarama-shima and Yonaguni-jima. Recorded [3 TAP] in T'ai-tung; [2 TAP] in Chang-hua, Hua-lien, I-lan, Nan-t'ou and Yun-lin; [1 TAP] in Chia-i, Kao-hsiung, Miao-li, P'eng-hu, P'ing-tung, T'ai-chung and T'ai-nan, Taiwan.
NEIC ***17*** *10:10:56.0±0.0, 23°.42N×123°.47E, h15km*
TEH ***17*** *10:10:56.0, 23°.40N×123°.55E, h10km, ML6.4*
MOS ***17*** *10:10:57.8±1.3, 23°.50N×123°.63E, h33km, mb6.1/81, MS6.1/51, Error ellipse: s-maj=6.4km s-min=4.2km az=113.8*
GCMT ***17*** *10:10:58.6±0.1, 23°.34N×123°.51E, h12km, MW6.1, Moment Tensor Solution. s107, c245; s84, c139; Moment tensor: Scale 10^18 Nm; Mrr=0.64±.01; Mθθ 1.82±.01; Mφφ-1.18±.01; Mrθ 1.05±.03; Mrφ-0.02±.01; Mθφ-0.56±.03; Best double couple: M0 1.90000×10^18 NP1:φs306.00000°, δ79.00000°, λ-45.00000°. NP2: φs47.00000°, δ46.00000°, λ-165.00000°. Principal axes: T 2.2200, Plg21.0000°, Azm4.0000°; N -0.5800, Plg44.0000°, Azm116.0000°; P -1.6400, Plg39.0000°, Azm256.0000°; Data Used: II IU CN IC G. Surface waves: sta=110, comp=224, per= 50.*
DJA ***17*** *10:10:59.4±1.3, 24°N±3°×12°3E±°, h20km±10km, M6.2/56, mb6.0/56, mB6.5/47, Mw(mB)6.2/47*
NEIC ***17*** *10:11:02.5±0.0, 23°.09N×123°.45E, h10km, Moment Tensor Solution. s136 Moment tensor: Scale 10^18 Nm; Mrr=0.62; Mθθ 1.50; Mφφ-0.88; Mrθ 0.01; Mθφ-0.02; Mφr-0.33; Best double couple: M0 1.30000×10^18 NP1:φs310.00000°, δ67.00000°, λ-25.00000°. NP2:φs51.00000°, δ66.00000°, λ-153.00000°. Principal axes: T 1.5000, Plg0.0000°, Azm0.0000°; N -0.4000, Plg55.0000°, Azm90.0000°; P -1.1000, Plg34.0000°, Azm270.0000°;*
ISC 17 10:10:56.6±0.3, 23°.45N±0°.02×123°.62E±0°.02, h18km±1km, h17km:pP-P, n2236, σ1§47/2228, mb5.9/374, MS6.3/245, 464C-409D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.63**	**16**	⇑P	**Pb**	**10 11 08.9**	**-0.3**
HATJ				*e*S	**Sn**	**10 11 19.2**	**-1.2**
JKRS	**Kuro-shima**	**0.87**	**25**	⇑P	**Pb**	**10 11 12.2**	**-1.0**
JKRS				*e*S	**Sn**	**10 11 25.6**	**-0.6**
IRIF	**Iriomote-Funau**	**0.89**	**7**	⇑P	**Pb**	**10 11 12.8**	**-0.8**
IRIF				*e*S	**Sn**	**10 11 26.8**	**0.0**
JIJ	**Ishigaki jima**	**1.03**	**28**	⇑P	**Pb**	**10 11 14.1**	**-1.9**
JIJ				*e*S	**Sb**	**10 11 29.0**	**-0.3**
YOJ	**Yonaguni jima**	**1.15**	**331**	⇑*i*P	**Pn**	**10 11 17.3**	**-0.6**
	baz=331						
YOJ				*e*S	**Sg**	**10 11 35.0**	**+1.0**
	baz=331						
YOJ	**Yonaguni jima**	**1.15**	**331**	⇑P	**Pn**	**10 11 16.7**	**-1.2**
YOJ				S	**Sn**	**10 11 33.5**	**+0.3**
JTJ	**Tarama**	**1.55**	**40**	⇑P	**Pn**	**10 11 21.6**	**-1.8**
JTJ				*e*S	**Sn**	**10 11 42.2**	**-0.8**
HWA	**Hwalien**	**1.92**	**286**	*e*P	**Pn**	**10 11 26.7**	**-1.7**
	baz=289						
TEGC	**Jichi Village**	**1.92**	**278**	*e*P	**Pn**	**10 11 26.5**	**-1.9**
	baz=281						
TWD	**Chiawan**	**1.95**	**289**	*e*P	**Pn**	**10 11 26.8**	**-2.1**
	baz=291						
TWD				*e*S	**Sn**	**10 11 51.7**	**-1.3**
	baz=291						
ENA	**Nanau**	**1.97**	**300**	*e*P	**Pn**	**10 11 28.3**	**-0.9**
	baz=302						
NACB	**Ninganchiao

TYC	Yuchr	2.57 281	⇓	eP		Pn	10 11 36.7 -0.7
	baz=282						
TYC				eS		Sn	10 12 06.5 -1.7
	baz=282						
ALS	Alishan	2.58 272	⇑	P		Pn	10 11 36.8 -1.0
	baz=274						
ALS				eS		Sn	10 12 08.7 -0.2
	baz=274						
TWY	Chenhua	2.59 315		eP		Pn	10 11 37.6 0.0
	baz=315						
PCYT	Pengchaiyu	2.59 327		eP		Pn	10 11 37.6 0.0
	baz=327						
NCU	National Centr	2.69 305		eP		Pn	10 11 40.2 +1.2
	baz=305						
CHN5	Tsauling	2.70 274		eP		Pn	10 11 39.0 -0.3
	baz=275						
WNT	Mingjian	2.72 280	⇑	P		Pn	10 11 39.9 +0.5
	baz=281						
WNT				eS		Sn	10 12 12.0 0.0
	baz=281						
TAW	Tawu	2.73 247		P		Pn	10 11 37.3 -2.3
	baz=249						
TAW				eS		Sn	10 12 09.7 -2.5
	baz=249						
TPUB	Ta-pu	2.75 268		ePn		Pn	10 11 39.4 -0.5
TWQ1	Liyutan	2.75 290		eP		Pn	10 11 40.6 +0.7
	baz=291						
TWQ1				eS		Sn	10 12 13.5 +0.7
	baz=291						
HSN	Hsinchu	2.77 300		eP		Pn	10 11 41.6 +1.5
	baz=301						
HSN				eS		Sn	10 12 13.1 -0.1
	baz=301						
CHN4	Tsaushan	2.78 269		eP		Pn	10 11 40.0 -0.3
	baz=270						
TCU	Taichung	2.78 285	⇑	iP		Pn	10 11 40.9 +0.6
	baz=286						
TCU				eS		Sn	10 12 13.4 0.0
	baz=286						
NSY	Sanyi	2.78 291		eP		Pn	10 11 41.5 +1.2
	baz=292						
NSY				eS		Sn	10 12 14.2 +0.7
	baz=292						
SGST	Jiashian	2.81 263		eP		Pn	10 11 40.1 -0.6
	baz=265						
WGK	Gukeng	2.81 276		eP		Pn	10 11 41.0 +0.3
	baz=277						
CHN1	Nanshi	2.85 265	⇑	iP		Pn	10 11 41.3 0.0
	baz=267						
CHY	Chiayi	2.93 272	⇑	iP		Pn	10 11 42.9 +0.6
	baz=273						
TSEB	Hengchuen, Pin	2.94 239		eP		Pn	10 11 41.5 -1.0
	baz=241						
TSEB				eS		Sn	10 12 16.3 -1.1
	baz=241						
SCZT	Fangliau	2.96 249		eP		Pn	10 11 41.0 -1.7
	baz=251						
SCZT				eS		Sn	10 12 17.2 -0.6
	baz=251						
SGLT	Jiouru	2.96 257		eP		Pn	10 11 43.4 +0.6
	baz=258						
CHN3	Shinhua	3.01 264		eP		Pn	10 11 44.7 +1.2
	baz=265						
HEN	Hengchun	3.02 242	⇑	iP		Pn	10 11 42.0 -1.5
	baz=244						
HEN				eS		Sn	10 12 16.6 -2.6
	baz=244						
WTCT	Ta-ch'eng	3.08 278		eP		Pn	10 11 45.3 +0.8
	baz=279						
WTCT				eS		Sn	10 12 21.9 +1.0
	baz=279						
WSF	Szhu	3.12 274		eP		Pn	10 11 46.2 +1.3
	baz=275						
WSF				eS		Sn	10 12 22.7 +0.9
	baz=275						
SCLT	Jiali	3.16 266		eP		Pn	10 11 46.4 +0.9
	baz=267						
KAU	Kaohsiung	3.17 255		eP		Pn	10 11 45.9 +0.3
	baz=256						
TWP	Hsiaoliuchiu	3.19 251		eP		Pn	10 11 47.5 +1.6
	baz=252						
WDGT	Dungji	3.64 268		eP		Pn	10 11 51.3 -0.7
	baz=268						
WDGT				eS		Sn	10 12 32.0 -2.6
	baz=268						
JKE	Kume jima 2	4.07 44		P		Pn	10 11 54.4 -3.5
JAGN	Aguni-jima	4.54 46		P		Pn	10 12 00.8 -3.7
JJT2	Tamagusuku 2	4.62 54		P		Pn	10 12 00.8 -4.7
QZH	Quanzhou	4.82 289	⇓	iPn		Pn	10 12 05.4 -3.0
QZH				Sn		Sn	10 12 58.0 -5.8
QZH				LR		LR	
	comp=N,602μm,11.4s						
QZH				LR		LR	
	comp=E,290μm,10.0s						
QZH				LR		LR	
	comp=Z,456μm,14.7s						
KNM	Kinmen	4.84 283		eP		Pn	10 12 08.9 +0.3
	baz=282						
JIH	Iheya	5.32 47		P		Pn	10 12 11.7 -3.5
SGCP	Mt. Cagua	5.38 196		eP		Pn	10 12 14.7 -1.4
JOW	Kunigami	5.40 50		eP		Pn	10 12 12.8 -3.6
	baz=49						
JOW	Kunigami	5.40 50		ePn		Pn	10 12 13.6 -2.7
JOW	Kunigami	5.40 50		P		Pn	10 12 12.6 -3.8
PIP	Pasuquin	5.81 209	⇓	iP		Pn	10 12 21.7 -0.3
PIP				eS		Sn	10 13 26.6 -1.6
CVP	Callao Caves	5.96 197	⇑	iP		Pn	10 12 22.5 -1.4
APYP	Conner	5.98 202		eP		Pn	10 12 23.1 -1.2
SIPP	Brgy, Tapao	6.24 209	⇑	iP		Pn	10 12 29.5 +1.7
SIPP				eS		Pg	10 12 58.1 +2.0
ABRA	Dolores	6.38 206		eP		Pn	10 12 29.9 +0.2
PALP	Palanan	6.45 190		eP		Pn	10 12 29.5 -1.2
PALP	Palanan	6.45 190	⇑	eP		Pn	10 12 30.2 -0.5
PALP				eS		Sn	10 13 35.7 -8.2
JTK	Tokunoshima	6.47 47		P		Pn	10 12 26.3 -4.7
CAUP	Cauayan	6.68 195		eP		Pn	10 12 34.4 +0.4
JAMN	Amaminishikomi	6.92 45		P		Pn	10 12 32.5 -4.7
JAMN				S		Sn	10 13 51.1 -4.4
JMZ	Minamidaito 2	7.31 70		P		Pn	10 12 37.4 -5.2
JMZ				S		Sn	10 13 53.1 -12
JAM	Amami Oshima	7.32 46		P		Pn	10 12 37.8 -4.8
JAM				S		Sn	10 14 01.3 -3.9
BALP	Baler	7.90 194		eP		Pn	10 12 50.3 -0.4
SSE	Sheshan	7.92 345		P		Pn	10 12 50.8 -0.1
SSE				S		Sn	10 14 22.9 +2.8
SSE				pmax		pmax	
	comp=Z,460nm,0.6s						
SSE				pmax		pmax	
	comp=Z,7μm,10.7s						
SSE				LR		LR	
	comp=N,301μm,15.2s						
SSE				LR		LR	
	comp=E,82μm,15.2s						
SSE				LR		LR	
	comp=Z,392μm,15.9s						
JNN	Nakanoshima	8.48 40		P		Pn	10 12 55.9 -2.7
HKC	Hong Kong Obse	8.78 264		iP		Pn	10 13 01.0 -1.7
GZH	Guangzhou	9.45 270		P		Pn	10 13 07.1 -4.8
GZH				S		Sn	10 14 53.4 -4.4
GZH				smax		smax	
	comp=N,1μm,1.2s						
GZH				smax		smax	
	comp=E,1μm,1.3s						
LQP	Lukban	9.49 192	⇑	eP		Pn	10 13 08.4 -4.3
NJ2	Nanjing	9.55 335		eP		Pn	10 13 12.9 -0.4
NJ2				pP			10 13 17.3
NJ2				sP			10 13 20.0
NJ2				S		Sn	10 15 06.3 +6.1
NJ2				pmax		pmax	
	comp=Z,170nm,1.1s						
NJ2				pmax		pmax	
	comp=Z,6μm,12.0s						
NJ2				LR		LR	
	comp=N,270μm,15.3s						
NJ2				LR		LR	
	comp=E,306μm,20.6s						
NJ2				LR		LR	
	comp=Z,326μm,20.7s						
GQP	Guinayangan	9.55 187	⇑	eP		Pn	10 13 12.9 -0.4
TGY	Tagaytay City	9.63 196		Pn		Pn	10 13 15.6 +1.1
TGY				Sn		Sn	10 15 01.6 -0.8
TGY	Tagaytay City	9.63 196		Pn		Pn	10 13 15.6 +1.1
	comp=Z,75nm,0.3s,baz=35,slow=3.3,SNR=42						
TGY				Sn		Sn	10 15 01.6 -0.8
	comp=Z,84nm,0.3s,baz=232,slow=19,SNR=3.2						
TGY				LR		LR	10 17 05.8
	comp=Z,191nm,20.2s,baz=249,slow=38						
PVCP	Virac	9.81 177	⇑	eP		Pn	10 13 14.9 -2.0
PVCP				iS		Sn	10 14 56.4 -10
JSJ	Shimokoshiki	9.82 32		P		Pn	10 13 13.1 -3.9
JSU	Suzuyama	10.06 36		P		Pn	10 13 18.1 -2.2
AUQP	San Andres	10.11 185		eP		Pn	10 13 23.9 +2.9
JFU	Fukue jima 2	10.23 25		P		Pn	10 13 24.4 +1.8
JNAR	Kushima--Naru	10.53 38		P		Pn	10 13 21.8 -4.9
JZO	Okuchi	10.64 34		P		Pn	10 13 24.8 -3.4
NGSJ	Nagasakinomoza	10.65 29		P		Pn	10 13 27.5 -0.9
JTZ	Takazaki	10.71 37		P		Pn	10 13 24.5 -4.7
WHN	Wuhan	10.87 313		P		Pn	10 13 31.3 0.0
WHN				S		Sn	10 15 29.8 -2.7
WHN				LR		LR	
	comp=N,253μm,12.6s						
WHN				LR		LR	
	comp=E,402μm,15.4s						
WHN				LR		LR	
	comp=Z,276μm,12.8s						
CNP	Catarman	10.92 175		eP		Pn	10 13 33.4 +1.2
JIU2	Izumi 2	11.07 33		P		Pn	10 13 31.2 -2.9
JUR	Ureshino	11.11 29		P		Pn	10 13 36.0 +1.3
JTSN	Tsuno	11.20 37		P		Pn	10 13 31.6 -4.3
JTA	Tamana	11.27 31		P		Pn	10 13 35.1 -1.8
JNU	Nakatsue	11.57 32		ePn		Pn	10 13 38.4 -2.5
JNU	Nakatsue	11.57 32		P		Pn	10 13 38.4 -2.5
JNU	Nakatsue	11.57 32		Pn		Pn	10 13 38.3 -2.6
	comp=Z,4.4nm,0.3s,baz=235,slow=6.5,SNR=48						
RCP	Roxas	11.85 184	⇓	eP		Pn	10 13 46.0 +1.2
PLP	Palo	12.28 174		eP		Pn	10 13 49.3 -1.5
LLP	Lapu-Lapu	13.06 178		eP		Pn	10 14 01.6 +0.2
TJN	Taejon	13.29 13		iP		Pn	10 14 04.6 +0.2
QIZ	Qiongzhong	13.57 254		P		Pn	10 14 07.8 -0.5
QIZ				S		Sn	10 16 34.9 -3.9
QIZ				pmax		pmax	
	comp=Z,150nm,1.1s						
QIZ				pmax		pmax	
	comp=Z,5μm,12.6s						
QIZ				LR		LR	
	comp=N,126μm,20.1s						
QIZ				LR		LR	
	comp=Z,179μm,16.3s						
QIZ	Qiongzhong	13.57 254		ePn		Pn	10 14 07.9 -0.4
	comp=Z,813nm,1.6s						
TIA	Tai'an	13.91 338	⇑	P		Pn	10 14 13.6 +0.7
TIA				pP		P	10 14 22.3 +1.3
TIA				S		Sn	10 16 52.1 +5.2
TIA				pmax		pmax	
	comp=Z,170nm,1.6s						
TIA				pmax		pmax	
	comp=Z,21μm,10.2s						
TIA				LR		LR	
	comp=N,192μm,15.6s						
TIA				LR		LR	
	comp=E,115μm,12.8s						
TIA				LR		LR	
	comp=Z,262μm,15.4s						
INCN	Inchon	14.23 10		Pn		P	10 14 23.9 -0.7
	SNR=57						
INCN	Inchon	14.23 10		ePn		P	10 14 21.0 -3.6
ENH	Enshi	14.32 301		ePn		Pn	10 14 20.7 +2.2
	comp=Z,275nm,1.0s						
KSAR	Wonju Array Be	14.43 14		Pn		Pn	10 14 19.5 -0.4
KSRS	Korea Array	14.45 14		Pn		Pn	10 14 19.5 -0.7
	comp=Z,4.3nm,0.3s,baz=196,slow=11,SNR=45						
KSRS				LR		LR	10 21 06.2
	comp=Z,217μm,18.0s,baz=199,slow=43						
DCPH	Dipolog City	14.78 181	⇓	eP		Pn	10 14 25.6 +0.7
CGP	Cagayan de Oro	14.94 176	⇓	eP		P	10 14 33.2 +0.7
DL2	Dalian	15.51 354		P		Pn	10 14 34.8 +0.4
DL2				S		Sn	10 17 29.4 +3.7
DL2				pmax		pmax	
	comp=Z,300nm,1.2s						
DL2				pmax		pmax	
	comp=Z,16μm,10.6s						
DL2				LR		LR	
	comp=N,140μm,15.0s						
DL2				LR		LR	
	comp=E,53μm,14.4s						
DL2				LR		LR	
	comp=Z,164μm,15.5s						
GYA	Guiyang	15.66 285	⇑	iP		Pn	10 14 37.3 +0.6
GYA				PP		pP	10 14 48.8 +3.1
GYA				S		Sn	10 17 31.8 +1.9
GYA				SS		S	10 17 48.0 +3.1
GYA				PcP		PcP	10 19 39.5 +2.1
GYA				pmax		pmax	
	comp=Z,820nm,1.0s						
GYA				pmax		pmax	
	comp=Z,4μm,13.4s						
GYA				LR		LR	
	comp=N,233μm,17.0s						
GYA				LR		LR	
	comp=E,107μm,14.6s						
GYA				LR		LR	
	comp=Z,109μm,15.8s						
CTBH	Cotabato--PC H	16.14 178	⇑	iP		Pn	10 14 43.4 +0.6
DAV	Davao City (W)	16.39 173	⇑	eP		Pn	10 14 47.1 +1.2
DAV	Davao City (W)	16.39 173		Pn		Pn	10 14 46.9 +1.0
DAV	Davao City (W)	16.39 173		Pn		Pn	10 14 46.9 +1.0
	comp=Z,38nm,0.3s,baz=65,slow=5.1,SNR=1.4						
DAV				LR		LR	10 20 48.6
	comp=Z,48μm,18.8s,baz=100,slow=36						
XAN	Xi'an	16.64 313		P		P	10 14 52.3 +0.9
XAN				sP		sP	10 14 59.1 +0.4
XAN				PP		PnPn	10 15 05.3 +6.9
XAN				S		Sn	10 17 49.8 -3.6
XAN				pmax		pmax	
	comp=Z,30nm,1.4s						
XAN				LR		LR	
	comp=N,131μm,20.1s						
XAN				LR		LR	
	comp=E,40μm,21.5s						
XAN				LR		LR	
	comp=Z,28μm,12.9s						
TIY	Taiyuan	17.15 329		eP		P	10 14 56.8 -0.3
TIY				PP		PnPn	10 15 12.3 +6.8
TIY				S		Sn	10 18 09.5 +3.6
TIY				pmax		pmax	
	comp=Z,15μm,11.1s						
TIY				LR		LR	
	comp=N,160μm,14.8s						
TIY				LR		LR	
	comp=E,31μm,12.3s						
TIY				LR		LR	
	comp=Z,147μm,15.8s						
KDM	Kudat	17.68 203		P		P	10 15 02.8 -0.1
BJT	Baijiatuan	17.68 341		ePn		Pn	10 15 02.2 +0.3
	comp=Z,232nm,0.8s						
BJI	Beijing	17.70 341		P		Pn	10 15 02.1 -0.1
BJI				S		Sn	10 18 22.0 +3.0
BJI				pmax		pmax	
	comp=Z,210nm,1.1s						
BJI				pmax		pmax	
	comp=Z,23μm,12.0s						
BJI				LR		LR	
	comp=N,146μm,16.3s						
BJI				LR		LR	
	comp=E,142μm,17.5s						
BJI				LR		LR	
	comp=Z,82μm,19.4s						
MAT	Matsushiro	18.14 41		P		P	10 15 08.0 +0.1
MAT				S		Sn	10 18 32.2 +2.5
MJAR	Matsushiro Arr	18.14 41		P		Pn	10 15 06.4 -1.3
MJAR				e			10 49 56.0
MJAR	Matsushiro Arr	18.14 41		P		Pn	10 15 06.4 -1.3
	comp=Z,8.3nm,0.3s,baz=224,slow=8.9,SNR=102						
MJAR				P3KPbc			10 49 56.0
	comp=Z,0.1nm,0.3s,baz=38,slow=2.5,SNR=4.4						
SNY	Shenyang	18.33 360	⇑	P		Pn	10 15 08.6 -1.3
SNY				S		S	10 18 38.8 0.0
SNY				pmax		pmax	
	comp=Z,180nm,0.6s						
SNY				LR		LR	
	comp=N,237μm,16.1s						
SNY				LR		LR	
	comp=E,91μm,14.9s						
SNY				LR		LR	
	comp=Z,289μm,16.1s						
KKM	Kota Kinabalu	18.71 204		ePn		Pn	10 15 14.8 0.0
	comp=Z,494nm,1.0s						
KKM	Kota Kinabalu	18.71 204		P		Pn	10 15 14.7 -0.1
KKM	Kota Kinabalu	18.71 204		P		Pn	10 15 15.3 +0.5
SDKM	Sandakan	18.75 200		P		Pn	10 15 16.0 +0.7
MYLDM	Lahad Datu	18.82 196		P		Pn	10 15 19.4 +3.4
MYLDM	Lahad Datu	18.82 196		P		Pn	10 15 18.1 +2.1
KMI	Kunming	19.10 279		P		Pn	10 15 20.3 +0.6
KMI				pP		pP	10 15 23.1 -0.8
KMI				PP		PnPn	10 15 37.5 +5.1
KMI				S		Sn	10 18 50.8 -2.7
KMI				sS		sS	10 18 59.5 -3.6
KMI				pmax		pmax	
	comp=Z,280nm,1.3s						
KMI				pmax		pmax	
	comp=Z,13μm,12.0s						
KMI				LR		LR	
	comp=N,192μm,18.0s						
KMI				LR		LR	
	comp=E,48μm,17.8s						
KMI				LR		LR	
	comp=Z,51μm,18.2s						
CD2	Chengdu	19.15 297	⇑	iP		Pn	10 15 20.3 +0.3
CD2				pP		pP	10 15 24.3 +0.1
CD2				sP		sP	10 15 27.3 +0.8
CD2				PP		PnPn	10 15 37.4 +4.6
CD2				S		Sn	10 18 48.9 -5.4
CD2				sS		S	10 18 55.8 +0.1
CD2				SS		SnSn	10 19 15.8 +7.4
CD2				pmax		pmax	
	comp=Z,610nm,1.2s						
CD2				pmax		pmax	
	comp=Z,6μm,8.7s						
CD2				LR		LR	
	comp=N,198μm,17.8s						
CD2				LR		LR	
	comp=E,174μm,15.4s						
CD2				LR		LR	
	comp=Z,154μm,14.2s						
TSM	Tawau	19.83 197		P		P	10 15 27.0 +0.5
HHC	Hu-ho-hao-te	20.09 333		eP		P	10 15 29.6 +0.2
HHC				pP		pP	10 15 33.8 -0.7
HHC				sP		sP	10 15 36.8 0.0
HHC				PP		PnPn	10 15 49.4 +3.6
HHC				S		S	10 19 10.8 -3.8
HHC				sS		Sn	10 19 17.3 +0.3
HHC				SS		SnSn	10 19 40.1 +8.4
HHC				pmax		pmax	
	comp=Z,500nm,1.6s						
HHC				pmax		pmax	
	comp=Z,22μm,7.8s						
HHC				LR		LR	
	comp=N,149μm,14.9s						
HHC				LR		LR	
	comp=E,220μm,14.1s						
HHC				LR		LR	
	comp=Z,283μm,14.0s						
CN2	Changchun	20.36 4		eP		P	10 15 30.3 -1.8
CN2				ePP		PnPn	10 15 49.5 +0.2
CN2				eS		S	10 19 11.3 -8.3
CN2				pmax		pmax	
	comp=Z,140nm,1.2s						
CN2				pmax		pmax	
	comp=Z,14μm,7.0s						
BTO	Baotou	20.59 329		eP		P	10 15 34.0 -0.7
VLA	Vladivostok	20.78 17	c	iP		P	10 15 33.3 -3.4
LZH	Lanzhou	21.24 311	⇑	P		P	10 15 42.3 +0.4
LZH				pP		pP	10 15 45.1 -1.9
LZH				sP		sP	10 15 47.0 -2.3
LZH				PP		PnPn	10 16 05.4 +3.8
LZH				S		S	10 19 33.0 -4.5
LZH				sS		Sn	10 19 39.5 -5.3
LZH				SS		SnSn	10 20 05.6 +5.8
LZH				pmax		pmax	
	comp=Z,720nm,1.0s						
LZH				pmax		pmax	
	comp=Z,9μm,7.2s						
LZH				LR		LR	
	comp=N,90μm,12.5s						
LZH				LR		LR	
	comp=E,102μm,14.0s						
LZH				LR		LR	
	comp=Z,130μm,14.7s						
MDJ	Mudanjiang	21.68 12		P		P	10 15 42.3 -4.0
MDJ				pP		pP	10 15 50.3 -1.1
MDJ				sP		sP	10 15 51.8 -1.9
MDJ				S		S	10 19 48.3 +2.7
MDJ				sS		sS	10 19 53.3 -0.4
MDJ				PcS		PcS	10 23 26.1 +0.7
MDJ				ScS		ScS	10 27 09.3 +1.5
MDJ				pmax		pmax	
	comp=Z,46nm,1.1s						
MDJ				pmax		pmax	
	comp=Z,7μm,6.2s						
MDJ				LR		LR	
	comp=N,109μm,17.8s						
MDJ				LR		LR	
	comp=E,140μm,16.6s						
MDJ				LR		LR	
	comp=Z,181μm,16.8s						
MDJ	Mudanjiang	21.68 12		eP		P	10 15 45.9 -0.5
	comp=Z,134nm,1.0s						
MDJ				LR		LR	
	comp=Z,134μm,19.0s						
USRK	Ussuriysk Arra	21.82 16		P		P	10 15 45.4 -2.5
	comp=Z,46nm,0.8s,baz=204,slow=12,SNR=30						
USRK				LR		LR	10 25 26.3
	comp=Z,121μm,18.9s,baz=184,slow=40						
TOLI	Toli-Toli	22.36 187		P		P	10 15 55.0 +1.1
GUMO	Guam	22.38 112		eP		P	10 15 54.4 +0.2
	comp=Z,27nm,0.9s						
GUMO				LR		LR	
	comp=Z,3μm,19.0s						
BTM	Bintulu	22.56 208		P		P	10 15 54.9 -1.1
GTOI	Gorontalo	22.68 182		P		P	10 15 58.7 +1.4
KMSI	Cibinong	22.74 179		P		P	10 16 03.6 +5.7
TNTI	Ternate	22.83 170		P		P	10 15 59.1 +0.2
MRSI	Marisa	22.89 184		P		P	10 16 01.7 +2.2
CHTO	Chiang Mai	23.46 263		eP		P	10 16 05.3 0.0
CHTO				pmax		pmax	
	comp=Z,945nm,1.8s						
CHTO				MLR		MLR	
	comp=Z,52μm,21.0s						
CHTO	Chiang Mai	23.46 263		P		P	10 16 05.6 +0.3
	SNR=231						
CHTO	Chiang Mai	23.46 263		eP		P	10 16 05.3 0.0
	comp=Z,236nm,1.8s						
CHTO				LR		LR	
	comp=Z,52μm,21.0s						
CHTO	Chiang Mai	23.46 263		P		P	10 16 05.6 +0.3
CM31	Chiang Mai Arr	23.56 262		eP		P	10 16 06.8 +0.5
	comp=Z,57nm,0.9s						
CMAR	Chiang Mai Arr	23.56 262		P		P	10 16 06.3 +0.1
CMAR				PcP		PcP	10 19 52.0 +0.5
CMAR	Chiang Mai Arr	23.56 262		P		P	10 16 06.3 +0.1
	comp=Z,37nm,1.0s,baz=61,slow=7.4,SNR=72						
CMAR				PcP		PcP	10 19 52.0 +0.5
	comp=Z,8.4nm,0.8s,baz=50,slow=0.9,SNR=5.6						
CMAR				LR		LR	10 25 39.7
	comp=Z,44μm,21.4s,baz=295,slow=38						
SBUM	Sibu	23.61 210		P		P	10 16 06.3 -0.4
SBUM	Sibu	23.61 210		P		P	10 16 05.5 -1.2
LBMI	Labuha	24.23 170		P		P	10 16 14.2 +1.5
LUWI	Luwuk	24.35 182		P		P	10 16 15.9 +2.2
SMKI	Samarinda	24.55 196		P		P	10 16 23.1 +7.6
ERM	Erimo	24.66 37	d	iP		P	10 16 12.8 -3.5
ERM	Erimo	24.66 37		eP		P	10 16 14.1 -2.2
	comp=Z,990nm,1.4s						
ERM				LR		LR	
	comp=Z,60μm,22.0s						
SWI	Sorong	25.28 162		P		P	10 16 24.3 +2.2
KSM	Kuching	25.37 212		eP		P	10 16 22.2 -0.8
	comp=Z,755nm,1.4s						
KSM				LR		LR	
	comp=Z,17μm,22.0s						
KSM	Kuching	25.37 212		P		P	10 16 24.0 +1.1
KSM	Kuching	25.37 212		P		P	10 16 22.4 -0.5
BKB	Balikpapan	25.41 196		P		P	10 16 34.1 +11
MTKI	Muara Teweh, K	25.68 200		P		P	10 16 28.3 +2.5
GTA	Gaotai	25.69 314	⇑	P		P	10 16 25.1 -0.8
GTA				pP		pP	10 16 29.4 -1.9
GTA				sP		sP	10 16 32.3 -1.2
GTA				S		S	10 20 54.3 +0.5
GTA				sS		sS	10 21 01.6 -1.2
GTA				pmax		pmax	
	comp=Z,19nm,1.8s						
GTA				pmax		pmax	
	comp=Z,3μm,6.7s						
GTA				LR		LR	
	comp=N,88μm,21.4s						
GTA				LR		LR	

comp=E,58μm,20.0s
GTA LR LR
comp=Z,71μm,17.6s
ASAJ Asahikawa 25.85 33 *e*P **P 10 16 26.8 -0.2**
comp=Z,137nm,0.8s
ASAJ Asahikawa 25.85 33 P **P 10 16 24.9 -2.1**
comp=Z,141nm,0.6s,baz=233,slow=12,SNR=110
SKSI Soroako, Sulaw 25.91 185 P **P 10 16 30.3 +2.4**
HIA Hailar 25.95 354 *e*P **P 10 16 26.2 -1.8**
comp=Z,527nm,0.9s
HIA LR LR
comp=Z,114μm,19.0s
STKI Sintang 26.06 209 P **P 10 16 31.1 +1.9**
MMSI Mamuju 26.38 191 P **P 10 16 32.6 +0.5**
TTSI Tana Toraja 26.59 188 P **P 10 16 34.4 +0.4**
KTGM Kuala Trenggan 26.72 231 P **P 10 16 37.3 +2.0**
NLAI Namlea 26.74 172 P **P 10 16 38.2 +2.9**
RKPI Ransiki, Papua 26.85 156 P **P 10 16 39.8 +3.4**
MSAI Masohi 27.13 168 P **P 10 16 41.4 +2.6**
BAKI Biak 27.34 152 P P 10 16 54.9 +14
YUK Yuzh-Kuril'sk 27.48 36 *i* P **P 10 16 40.7 -1.1**
YUK *i* S **S 10 21 22.8 +1.1**
YUK pmax pmax
comp=E,1μm,1.7s
YUK pmax pmax
comp=Z,3μm,1.7s
YUK pmax pmax
comp=N,2μm,1.7s
YUK pmax pmax
comp=Z,6μm,1.9s
YUK MLR MLR
comp=E,12μm,17.0s
YUK MLR MLR
comp=Z,50μm,17.0s
YUK MLR MLR
comp=N,12μm,17.0s
SPSI Sidrap Palu 27.50 188 P **P 10 16 42.8 +0.6**
KKSI Kolaka, Sulawe 27.52 184 P P 10 16 50.1 +7.8
FAKI Fak Fak 27.52 161 P **P 10 16 43.3 +0.9**
ULN Ulaanbaatar 27.72 336 P **P 10 16 42.6 -1.5**
SNR=42
ULN Ulaanbaatar 27.72 336 *e*P **P 10 16 43.3 -0.8**
comp=N,203nm,1.4s
ULN LR LR
comp=Z,51μm,22.0s
ULN Ulaanbaatar 27.72 336 P **P 10 16 43.3 -0.8**
SONM Songino Array 27.95 335 P **P 10 16 44.2 -1.9**
SONM PcP **PcP 10 20 02.4 +1.2**
SONM Songino Array 27.95 335 P **P 10 16 44.2 -1.9**
comp=Z,66nm,0.8s,baz=144,slow=9.3,SNR=75
SONM PcP **PcP 10 20 02.4 +1.2**
comp=Z,12nm,1.0s,baz=174,slow=3.8,SNR=4.1
SONM LR LR 10 29 23.9
comp=Z,63μm,20.3s,baz=145,slow=40
SRPI Serui, Papua 28.00 152 P P 10 16 50.6 +3.9
comp=Z,234nm,1.1s
YSS Yuzh-Sakhalins 28.05 29α *i* P **P 10 16 45.0 -1.8**
YSS *i* 10 17 03.0
YSS *e* 10 17 44.0
YSS *e*S **S 10 21 26.0 -4.5**
YSS pmax pmax
comp=N,150nm,1.0s
YSS pmax pmax
comp=N,4μm,14.0s
YSS pmax pmax
comp=E,3μm,14.0s
YSS pmax pmax
comp=Z,7μm,14.0s
YSS smax smax
comp=E,4μm,18.0s
YSS MLR MLR
comp=Z,54μm,18.0s
YSS MLR MLR
comp=N,49μm,19.0s
YSS MLR MLR
comp=E,30μm,18.0s
BBKI Banjar Baru 28.08 199 P **P 10 16 49.4 +2.0**
PBKI Pangkalan Bun 28.48 206 P P 10 17 00.0 +9.1
KAPI Kappang 28.54 188 P **P 10 16 52.2 +0.8**
SNR=20
KAPI Kappang 28.54 188 P **P 10 16 50.8 -0.7**
KAPI Kappang 28.54 188 P **P 10 16 51.8 +0.4**
comp=E,275nm,1.4s,comp=E,6μm
KAPI Kappang 28.54 188 P **P 10 16 50.8 -0.7**
comp=E,194nm,1.3s,baz=27,slow=5.0,SNR=14
KAPI LR LR 10 28 36.9
comp=E,25μm,18.9s,baz=6.2,slow=37
KULM Kulim 28.56 234 *e*P **P 10 16 51.4 -0.4**
comp=E,182nm,1.4s
KULM LR LR
comp=Z,28μm,19.0s
KULM Kulim 28.56 234 P **P 10 16 53.5 +1.7**
KULM Kulim 28.56 234 P **P 10 16 52.0 +0.3**
comp=Z,98nm,1.3s,comp=Z,4μm
BBSI Bau Bau 28.77 182 P P 10 17 01.8 +8.3
BKSI Bulukumba 28.79 187 P P 10 16 57.4 +3.7
MYKOM Kota Tinggi 28.82 225 P **P 10 16 53.9 0.0**
MYKOM Kota Tinggi 28.82 225 P **P 10 16 53.6 -0.4**
comp=Z,306nm,1.2s,comp=Z,5μm
IPM Ipoh 28.82 233 *e*P **P 10 16 53.3 -0.8**
comp=Z,203nm,1.1s
IPM Ipoh 28.82 233 P **P 10 16 55.2 +1.1**
IPM Ipoh 28.82 233 P **P 10 16 53.4 -0.7**
comp=Z,169nm,1.2s,comp=Z,4μm
SHL Shillong 28.92 281 *e*P **P 10 16 54.5 -0.5**
SHL AMB AMB 10 17 13.3
comp=Z,93nm,1.2s
SHL *i* x x 10 22 51.5
SHL *e*SKS 10 27 23.5
KGM Kluang 28.99 226 P **P 10 16 56.9 +1.4**
LSA Lhasa 29.63 289 P **P 10 17 03.0 +1.3**
LSA S **S 10 21 56.9 +0.1**
LSA LR LR
comp=N,80μm,17.7s
LSA LR LR
comp=E,42μm,17.7s
LSA LR LR
comp=Z,42μm,17.7s
LSA Lhasa 29.63 289 *e*P **P 10 17 03.3 +1.6**
LSA pmax pmax
comp=Z,106nm,0.9s
LSA MLR MLR
comp=Z,37μm,21.0s
LSA Lhasa 29.63 289 *e*P **P 10 17 03.3 +1.6**
comp=Z,106nm,0.9s
LSA LR LR
comp=Z,37μm,21.0s
TLE Tual 30.25 162 P P 10 17 13.7 +7.1
comp=Z,548nm,1.2s,comp=Z,7μm
TPI Tanjungpandan 30.33 213 P **P 10 17 08.3 +0.9**
comp=Z,123nm,1.3s,comp=Z,3μm
PPBI Pangkal Pinang 30.62 216 P **P 10 17 10.9 +1.0**
comp=Z,89nm,0.9s,comp=Z,12μm
TSI Tuntungan 31.30 234 P **P 10 17 18.1 +2.2**
comp=Z,279nm,1.2s,comp=Z,6μm
LHMI Lhok Sumawe 31.44 239 P P 10 17 21.5 +4.3
comp=Z,266nm,0.8s,comp=Z,5μm
PSI Prapat 31.50 233 LR LR 10 29 04.0
comp=Z,18μm,20.3s,baz=42,slow=34
PBA Port Blair 31.61 254 *e*P P 10 17 15.9 -2.7
PBA AMB AMB 10 17 36.3
comp=Z,167nm,1.9s
KMMI Kalianget 31.74 198 P P 10 17 28.1 +8.3
BKNI Bangkinang 31.76 227 P **P 10 17 21.2 +1.2**
comp=Z,460nm,1.3s,comp=Z,7μm
KCSI Kotacane, Aceh 31.88 235 P **P 10 17 19.5 -1.6**
comp=Z,122nm,1.6s,comp=Z,2μm
MMRI Maumere 31.91 183 P **P 10 17 22.1 +0.8**
comp=Z,704nm,1.6s,comp=Z,11μm
LBFI Labuhan Bajo, 31.94 187 P **P 10 17 20.8 -0.7**
comp=Z,3μm,1.4s,comp=Z,31μm
PMBI Palembang 32.00 217 P P 10 17 28.7 +6.6
comp=Z,335nm,1.4s,comp=Z,6μm
TLY Talaya 32.11 336 *i* P **P 10 17 21.0 -1.7**
TLY Talaya 32.11 336 P **P 10 17 21.1 -1.7**
comp=Z,339nm,0.6s,SNR=19
SRBI Singaraja 32.40 196 P P 10 17 29.8 +4.3
comp=Z,248nm,1.3s,comp=Z,4μm
BLJI Banyuglugur 32.51 199 P P 10 17 33.2 +6.7
comp=Z,150nm,1.4s,comp=Z,11μm
BSI Banda Aceh 32.60 241 P **P 10 17 28.0 +0.6**
comp=Z,169nm,1.1s,comp=Z,4μm
PPI Padang Panjang 32.77 227 P **P 10 17 28.6 -0.2**
comp=Z,520nm,1.4s,comp=Z,8μm
NBBI Negara 32.82 197 P **P 10 17 31.6 +2.4**
comp=Z,671nm,1.2s,comp=Z,7μm

CMBY CAMPBELL BAY 32.87 245 *e*P **P 10 17 29.1 -0.6**
ODAN Odare 32.90 284 *e*P **P 10 17 30.7 +0.5**
DNP Denpasar 32.97 195 P P 10 17 36.8 +6.3
comp=Z,905nm,1.3s,comp=Z,22μm
SOEI Soe 33.00 179 P **P 10 17 30.0 -1.0**
comp=Z,209nm,1.2s,comp=Z,5μm
GMJI Gumukmas 33.05 199 P P 10 17 37.8 +6.5
comp=Z,177nm,1.0s
SJI Sawahan 33.08 202 P **P 10 17 33.8 +2.1**
comp=Z,278nm,1.5s,comp=Z,5μm
IGBI Denpasar 33.12 195 P P 10 17 38.6 +6.8
comp=Z,332nm,0.8s
PWJI Pagerwojo 33.34 202 P **P 10 17 35.7 +1.9**
comp=Z,134nm,1.6s,comp=Z,16μm
CLNS Chul'man 33.37 1 *e*P **P 10 17 31.8 -1.9**
CLNS *e**PP **pP 10 17 41.6 +2.4**
CLNS *e* 10 18 43.0
CLNS *e* 10 20 10.8
CLNS *e*S **S 10 22 53.4 -0.3**
CLNS *e*SS **SnSn 10 24 59.4 +4.2**
CLNS *e* 10 27 52.9
CLNS pmax pmax
comp=Z,39nm,1.0s
CLNS pmax pmax
comp=N,36nm,1.0s
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS pmax pmax
comp=E,17nm,1.7s
CLNS pmax pmax
comp=N,33nm,1.1s
CLNS pmax pmax
comp=Z,31nm,1.4s
CLNS smax smax
comp=N,4μm,14.8s
CLNS smax smax
comp=E,3μm,17.5s
CLNS MLR MLR
comp=Z,231μm,16.0s
CLNS MLR MLR
comp=N,194μm,16.0s
CLNS MLR MLR
comp=E,28μm,15.0s
BJII Banjamegara 33.47 206 P **P 10 17 37.4 +2.3**
comp=E,393nm,1.2s,comp=E,6μm
KLSI 33.49 216 P **P 10 17 35.1 -0.1**
comp=E,247nm,0.9s,comp=E,4μm
KLI Kotabumi 33.57 215 P **P 10 17 36.9 +1.1**
comp=E,420nm,1.0s,comp=E,5μm
RAMN Ramite 33.60 284 *e*P **P 10 17 36.8 +0.4**
comp=E,582nm,1.3s
MASI Maura Aman, Be 33.65 221 P **P 10 17 37.9 +1.3**
comp=E,900nm,1.3s,comp=E,11μm
YOGI Yogyakarta 33.69 204 P P 10 17 41.3 +4.4
comp=E,1μm,1.3s,comp=E,10μm
UGM Wanagama 33.69 204 P P 10 17 45.7 +8.8
SNSI Sinabang, Aceh 33.69 236 P **P 10 17 39.8 +2.8**
comp=E,273nm,1.4s,comp=E,6μm
TNG Tangerang 33.78 211 P P 10 17 46.7 +9.0
TNG Tangerang 33.78 211 P P 10 17 46.6 +8.9
KSI Kapahiang 33.85 220 P **P 10 17 39.5 +1.2**
comp=E,359nm,1.1s,comp=E,7μm
LEM Lembang 33.91 209 P **P 10 17 41.3 +2.4**
comp=E,283nm,1.0s,comp=E,6μm
SBJI Serang 33.99 212 P **P 10 17 42.2 +2.7**
comp=E,368nm,1.5s,comp=E,6μm
DBJI Dramaga 34.07 211 P **P 10 17 42.8 +2.6**
comp=E,345nm,1.5s,comp=E,9μm
CLJI Cilicap 34.10 206 P P 10 17 50.9 +10
LWLI Liwa 34.13 216 P **P 10 17 42.0 +1.2**
comp=E,551nm,0.9s
GUN Gumba 34.21 286 *e*P **P 10 17 43.9 +2.1**
comp=E,507nm,1.0s
KASI Kota Agung 34.31 215 P **P 10 17 43.4 +1.1**
comp=E,371nm,0.9s,comp=E,4μm
CISI Cisompet, Garu 34.47 208 P **P 10 17 46.1 +2.4**
comp=E,399nm,1.3s
BOK Bokaro 34.50 278 *e*P **P 10 17 44.8 +0.9**
BOK AMB AMB 10 17 48.8
comp=Z,159nm,1.4s
PKIN Phulchoki 34.65 285 *e*P **P 10 17 46.1 +0.6**
DMN Daman 34.90 285 *e*P **P 10 17 48.5 +0.8**
WMQ Urumqi 35.77 313 P **P 10 17 55.8 +1.0**
WMQ sP **sP 10 18 02.4 -0.1**
WMQ PP **PP 10 19 17.9 +1.8**
WMQ PcP **PcP 10 20 22.9 +0.5**
WMQ S **S 10 23 31.5 +0.3**
WMQ sS **sS 10 23 39.4 -0.9**
WMQ SS **SnSn 10 25 53.5 -0.3**
WMQ ScS **ScS 10 28 12.0 -0.8**
WMQ pmax pmax
comp=Z,70nm,1.8s
WMQ pmax pmax
comp=Z,1μm,6.6s
WMQ LR LR
comp=N,34μm,13.0s
WMQ LR LR
comp=E,53μm,11.0s
WMQ LR LR
comp=Z,22μm,19.0s
HVS Khovu-Aksy 36.02 328⇑ *i* P **P 10 17 55.6 -1.2**
HVS pmax pmax
comp=Z,115nm,0.8s
HVS MLR MLR
comp=Z,317μm,16.0s
DANN Dangsing 36.07 286 *e*P **P 10 17 59.4 +1.6**
comp=Z,876nm,1.4s
KOLN Koldanda 36.23 285 *e*P **P 10 17 59.9 +0.9**
comp=Z,158nm,0.9s
SKR Severo-Kuril's 37.06 35 *e*P P 10 18 01.2 -4.3
SKR *i* S **S 10 23 48.0 -2.5**
SKR pmax pmax
comp=E,480nm,1.5s
SKR pmax pmax
comp=Z,1μm,1.5s
SKR pmax pmax
comp=N,4μm,14.0s
SKR pmax pmax
comp=E,3μm,16.0s
SKR smax smax
comp=N,17μm,14.0s
SKR smax smax
comp=E,19μm,14.0s
SKR MLR MLR
comp=N,12μm,16.0s
SKR MLR MLR
comp=E,12μm,16.0s
SKR MLR MLR
comp=Z,27μm,16.0s
VIS Vishakhapatnam 38.05 269 *e*P **P 10 18 15.6 +1.2**
YAK Yakutsk 38.79 5*c* *i* P P 10 18 16.6 -3.3
YAK *e**PP pP 10 18 26.4 +0.9
YAK *e* 10 19 47.1
YAK *e* 10 20 32.1
YAK *e*S S 10 24 09.9 -6.5
YAK *e* 10 24 24.0
YAK *e*SS **SnSn 10 27 05.0 -1.0**
YAK *e* 10 28 24.9
YAK pmax pmax
comp=Z,167nm,1.5s
YAK pmax pmax
comp=N,114nm,1.5s
YAK pmax pmax
comp=E,33nm,1.3s
YAK pmax pmax
comp=N,148nm,2.0s
YAK pmax pmax
comp=Z,175nm,2.0s
YAK pmax pmax
comp=E,79nm,2.2s
YAK smax smax
comp=N,2μm,5.2s
YAK smax smax
comp=E,845nm,6.0s
YAK MLR MLR
comp=Z,109μm,14.0s
YAK MLR MLR
comp=N,95μm,14.0s
YAK MLR MLR
comp=E,34μm,15.0s
PEA0B Petropavlovsk- 39.27 32 *e*P **P 10 18 23.9 -0.2**
PETK Petropavlovsk- 39.27 32 P **P 10 18 22.4 -1.7**
PETK Petropavlovsk- 39.27 32 P **P 10 18 22.4 -1.7**
PETK Petropavlovsk- 39.27 32 P **P 10 18 22.4 -1.7**
comp=E,49nm,0.6s,baz=233,slow=6.9,SNR=13
PETK LR LR 10 36 14.5
comp=E,15μm,18.3s,baz=232,slow=39
PET Petropavlovsk 39.69 33α *i* P **P 10 18 26.2 -1.4**
PET *e* 10 20 00.6
PET *e*S **S 10 24 27.2 -3.0**
PET pmax pmax
comp=Z,4μm,8.2s
PET pmax pmax
comp=Z,4μm,15.9s
PET pmax pmax
comp=Z,1μm,0.9s
PET smax smax
comp=E,13μm,17.0s
PET smax smax
comp=E,10μm,13.9s
PET MLR MLR
comp=Z,32μm,19.0s
PET MLR MLR
comp=Z,25μm,19.0s
PMG Port Moresby 39.95 142 *e*P **P 10 18 30.4 +0.2**
comp=Z,30nm,1.0s
PMG Port Moresby 39.95 142 P **P 10 18 32.2 +2.0**
comp=Z,148nm,1.2s,comp=Z,3μm
PMG Port Moresby 39.95 142 P **P 10 18 29.5 -0.7**
comp=Z,116nm,1.1s,baz=338,slow=7.6,SNR=9.4
PMG LR LR 10 34 21.9
comp=Z,15μm,19.1s,baz=57,slow=35
JBP Jabalpur 39.96 279⇓ *i* P **P 10 18 31.0 +0.7**
JBP *e*S **S 10 24 34.1 -0.8**
WAKE Wake Island 40.19 87 *e*P **P 10 18 32.4 +0.2**
comp=Z,329nm,1.1s
WAKE LR LR
comp=Z,12μm,20.0s
MK31 Makanchi Array 40.42 316 *i* P **P 10 18 33.2 -0.6**
MK31 pmax pmax
comp=Z,43nm,0.6s
MK31 Makanchi Array 40.42 316 *e*P **P 10 18 33.5 -0.3**
MKAR Makanchi Array 40.42 316*c e*P **P 10 18 33.2 -0.7**
MKAR pmax pmax
comp=Z,42nm,0.5s
MKAR Makanchi Array 40.42 316 P **P 10 18 33.1 -0.7**
MKAR PcP **PcP 10 20 36.1 -0.6**
MKAR Makanchi Array 40.42 316 P **P 10 18 33.1 -0.7**
comp=Z,42nm,0.5s,baz=102,slow=10,SNR=123
MKAR PcP **PcP 10 20 36.1 -0.6**
comp=Z,21nm,0.9s,baz=114,slow=3.5,SNR=2.8
DDI Dehra Dun 40.99 290 *e*PN **P 10 18 38.3 -0.6**
DDI *e*P **pP 10 18 40.6 -3.8**
DDI AMB AMB 10 18 42.2
comp=Z,921nm,1.2s
DDI *e*x x 10 19 24.0
NGP Nagpur 41.17 276 *e*P **P 10 18 37.9 -2.4**
NGP AMB AMB 10 18 38.6
comp=Z,110nm,1.2s
NGP *e*x x 10 24 46.7
FITZ Fitzroy Crossi 41.34 177 P **P 10 18 40.2 -1.4**
FITZ Fitzroy Crossi 41.34 177 P **P 10 18 40.2 -1.4**
comp=Z,92nm,0.9s,baz=22,slow=9.8,SNR=57
SMLA Simla 41.74 291 *i* P **P 10 18 45.7 +0.9**
SMLA AMb AMB 10 19 03.7
comp=Z,1μm,0.9s
SMLA *i* x x 10 25 00.5
NDI New Delhi 41.80 287 *e*P **P 10 18 45.0 -0.5**
NDI *e*x x 10 19 04.9
NDI *e*x x 10 22 53.0
SDNR Sundarnagar 41.90 292 *e*P **P 10 18 49.0 +2.7**
SDNR *e*4 10 21 59.0
ZAA0 Zalesovo Array 42.08 326 *e*P **P 10 18 45.8 -1.6**
ZALV Zalesovo Beam 42.08 326 *i* P **P 10 18 45.9 -1.4**
ZALV pmax pmax
comp=Z,63nm,0.5s
ZALV Zalesovo Beam 42.08 326 P **P 10 18 45.4 -1.9**
ZALV PcP **PcP 10 20 41.2 -0.6**
ZALV Zalesovo Beam 42.08 326 P **P 10 18 45.4 -1.9**
comp=Z,63nm,0.5s,baz=111,slow=7.9,SNR=77
ZALV PcP **PcP 10 20 41.2 -0.6**
comp=Z,14nm,0.6s,baz=107,slow=4.5,SNR=4.2
ZALV LR LR 10 38 38.4
comp=Z,30μm,18.5s,baz=128,slow=40
BHPL Bhopal 42.27 279 *e*P **P 10 18 48.4 -0.9**
BHPL AMB AMB 10 18 51.5
comp=Z,55nm,1.6s
BHK Bhakra 42.38 291 *e*P **P 10 18 51.2 +1.1**
DHRM DHARAMSHALA 42.46 293 *e*P **P 10 18 51.9 +0.8**
DHRM AMB AMB 10 19 03.2
comp=Z,304nm,0.5s
HYB Hyderabad 42.52 271 *i* P **P 10 18 51.5 +0.1**
HYB *e*PP **PcP 10 20 40.0 -4.0**
HYB *e*S **S 10 25 16.0 +2.8**
HYB LR LR 10 37 30.0
comp=Z,16nm,16.0s
HYB Hyderabad 42.52 271 *e*P **P 10 18 52.6 +1.2**
HYB AMB AMB 10 18 54.9
comp=Z,82nm,0.0s
DLH Dalhousie 42.74 293 *e*P **P 10 18 55.0 +1.7**
DLH *e*x x 10 19 10.0
PONG Pong 42.77 292 *e*P **P 10 18 55.0 +1.8**
AAA Alma-Ata 43.07 309 *e*P **P 10 18 57.0 +1.4**
AAA *e*S **S 10 25 24.0 +3.2**
AAA pmax pmax
comp=Z,3μm,7.3s
AAA smax smax
comp=E,8μm,13.2s
AAA MLR MLR
comp=Z,34μm,17.0s
KSH Kashi 43.16 303 P P 10 19 00.3 +3.8
KSH pP pP 10 19 04.3 +2.2
KSH sP sP 10 19 07.3 +3.0
KSH PP **PcP 10 20 43.0 -3.0**
KSH S **S 10 25 27.3 +4.9**
KSH sS sS 10 25 35.1 +3.5
KSH SS **SS 10 28 34.3 -1.0**
KSH pmax pmax
comp=Z,310nm,1.4s
KSH LR LR
comp=N,34μm,14.5s
KSH LR LR
comp=E,48μm,16.1s
KSH LR LR
comp=Z,62μm,15.8s
ULHL Ulahol 43.38 307 *i* P **P 10 18 59.6 +1.3**
ULHL Ulahol 43.38 307 P **P 10 18 59.6 +1.3**
SNR=96
SEY Seymchan 43.94 18*c* *i* P **P 10 19 00.8 -1.4**
TKM2 Tokmak 2 43.97 308 P **P 10 19 03.6 +0.5**
TKM2 pmax pmax
comp=Z,406nm,1.1s
TKM2 Tokmak 2 43.97 308 P **P 10 19 03.7 +0.6**
SNR=270
TKM2 Tokmak 2 43.97 308 *e*P **P 10 19 03.9 +0.8**
comp=Z,433nm,0.5s
TKM2 LR LR
comp=Z,30μm,20.0s
COCO West Island 44.06 219 *e*P **P 10 19 02.8 -0.9**
COCO pmax pmax
comp=Z,582nm,1.4s
COCO MLR MLR
comp=Z,4μm,20.0s
COCO West Island 44.06 219 *e*P **P 10 19 02.8 -0.9**
comp=Z,582nm,1.4s
COCO LR LR
comp=Z,4μm,20.0s
COCO West Island 44.06 219 P P 10 19 10.4 +6.7
comp=Z,321nm,1.6s
KZA Kyzart 44.08 307 *i* P **P 10 19 06.0 +1.8**
KZA Kyzart 44.08 307 P **P 10 19 06.0 +1.8**
SNR=174
LATR Latur 44.09 273 *e*P **P 10 19 01.9 -2.1**
LATR AMB AMB 10 19 04.1
comp=Z,196nm,1.3s
KURK Kurchatov 44.09 320 P **P 10 19 02.5 -1.1**
KURK 10 20 48.4
KURK Kurchatov 44.09 320 P **P 10 19 02.5 -1.1**
KURK PcP **PcP 10 20 48.4 -0.2**
KURBB Kurchatov Arra 44.11 320 P **P 10 19 02.5 -1.3**
comp=Z,29nm,0.7s,baz=114,slow=8.5,SNR=62
KURBB PcP **PcP 10 20 48.4 -0.3**
comp=Z,12nm,0.8s,baz=111,slow=2.9,SNR=3.0
PALK Pallekele 44.19 256 P P 10 19 08.6 +3.7
SNR=8.3
PALK Pallekele 44.19 256 *e*P **P 10 19 05.9 +1.0**
comp=Z,72nm,1.1s
PALK Pallekele 44.19 256 P **P 10 19 07.7 +2.8**
comp=Z,114nm,1.8s,comp=Z,3μm
WRAB Tennant Creek 44.37 165 *e*P **P 10 19 05.2 -0.9**
WRAB pmax pmax

comp=Z,59nm,2.1s
WRAB MLR MLR
comp=Z,9μm,21.0s
WRAB Tennant Creek 44.37 165 eP P 10 19 05.2 -0.9
comp=Z,59nm,2.1s
WRAB LR LR
comp=Z,9μm,21.0s
WRA Warramunga Arr 44.38 166 P P 10 19 04.5 -1.7
WRA PcP PcP 10 20 50.1 0.0
WRA Warramunga Arr 44.38 166 P P 10 19 04.5 -1.7
comp=Z,82nm,0.8s,baz=347,slow=8.4,SNR=79
WRA PcP PcP 10 20 50.1 0.0
comp=Z,13nm,0.7s,baz=344,slow=3.8,SNR=2.9
KBK Karagaybulak 44.39 308 i P P 10 19 08.1 +1.7
KBK Karagaybulak 44.39 308 P P 10 19 08.1 +1.7
SNR=58
MBWA Marble Bar 44.50 185 P P 10 19 07.3 +0.2
SNR=12
MBWA Marble Bar 44.50 185 eP P 10 19 05.5 -1.6
comp=Z,70nm,0.8s
MBWA LR LR
comp=Z,4μm,20.0s
KWAJ Kwajalein Atol 44.51 102 eP P 10 19 10.0 +2.6
KWAJ pmax pmax
comp=Z,137nm,1.1s
KWAJ Kwajalein Atol 44.51 102 eP P 10 19 10.0 +2.6
comp=Z,137nm,1.1s
CHMS Chumysh 44.59 308 i P P 10 19 08.9 +1.1
CHMS Chumysh 44.59 308 P P 10 19 08.9 +1.1
SNR=48
UCH Uchtor 44.64 307 P P 10 19 12.4 +3.7
SNR=53
AAK Ala-Archa 44.72 308 i P P 10 19 10.3 +1.3
AAK pmax pmax
comp=Z,165nm,1.2s
AAK MLR MLR
comp=Z,65μm,18.0s
AAK Ala-Archa 44.72 308 P P 10 19 10.5 +1.4
SNR=87
AAK Ala-Archa 44.72 308 P P 10 19 10.3 +1.3
SNR=26
AAK Ala-Archa 44.72 308 eP P 10 19 10.1 +1.1
comp=Z,140nm,1.0s
AAK Ala-Archa 44.72 308 P P 10 19 10.1 +1.1
comp=Z,44nm,0.8s,baz=120,slow=6.3,SNR=57
AAK LR LR 10 38 46.4
comp=Z,42μm,19.0s,baz=76,slow=37
USP Ospenovka 44.82 308 i P P 10 19 10.5 +0.8
USP Ospenovka 44.82 308 P P 10 19 10.5 +0.8
SNR=40
AML Almayashu 45.23 307 i P P 10 19 15.4 +2.0
AML Almayashu 45.23 307 P P 10 19 15.4 +2.0
SNR=80
EKS2 Erkin-Say 45.25 307 eP P 10 19 14.2 +1.0
EKS2 pmax pmax
comp=Z,110nm,0.9s
EKS2 MLR MLR
comp=Z,40μm,20.0s
EKS2 Erkin-Say 45.25 307 P P 10 19 14.3 +1.1
SNR=55
EKS2 Erkin-Say 45.25 307 eP P 10 19 14.2 +1.0
comp=Z,110nm,0.9s
EKS2 LR LR
comp=Z,40μm,20.0s
POO Poona 46.54 274⇓i P P 10 19 22.0 -1.6
comp=Z,230nm,1.0s
POO eP pP 10 19 23.9 -5.3
POO AMB AMB 10 19 26.1
comp=Z,144nm,1.1s
POO i PCP **PcP 10 20 57.0 -0.8**
POO i PP **PP 10 21 11.0 -2.1**
POO i PPP PPP 10 21 55.0
POO ePCS **PcS 10 24 50.5 -2.4**
POO ePPS PPS 10 26 24.0
POO i SSS SSS 10 30 34.0
TRD Trivandrum 47.02 259 eP P 10 19 27.6 +0.3
GOA Goa 47.42 270 eP P 10 19 30.9 +0.5
GOA AMB AMB 10 19 33.6
comp=Z,164nm,0.8s
FX1 Attu Island--F 47.48 39 eP P 10 19 31.3 +0.9
FX1 Attu Island--F 47.48 39 P P 10 19 29.9 -0.6
comp=Z,36nm,0.6s,baz=277,slow=4.1,SNR=4.0
FX1 LR LR 10 38 03.4
comp=Z,9μm,19.9s,baz=265,slow=34
KK31 Karatay Array 47.69 308 i P P 10 19 33.2 +1.0
KK31 pmax pmax
comp=Z,66nm,0.8s
KKAR Karatay Array 47.69 308 eP P 10 19 33.3 +1.1
KKAR pmax pmax
comp=Z,50nm,0.6s
KKAR Karatay Array 47.69 308 eP P 10 19 33.3 +1.1
comp=Z,50nm,0.6s
AS31 Alice Springs 47.88 167 eP P 10 19 33.4 -0.4
ASAR Alice Springs 47.88 167 P P 10 19 32.7 -1.1
ASAR PcP **PcP 10 21 03.5 +1.2**
ASAR P'P' 10 50 49.7
ASAR e 10 57 15.8
ASAR Alice Springs 47.88 167 P P 10 19 32.7 -1.1
comp=Z,23nm,0.5s,baz=352,slow=7.0,SNR=150
ASAR PcP **PcP 10 21 03.5 +1.2**
comp=Z,15nm,0.8s,baz=353,slow=4.0,SNR=2.2
ASAR LR LR 10 38 00.8
comp=Z,9μm,20.1s,baz=344,slow=34
ASAR PKPPKP P'P'df 10 50 49.7 +11
comp=Z,1.8nm,1.0s,baz=121,slow=3.6,SNR=6.2
ASAR P4KPbc 10 57 15.8
comp=Z,1.1nm,0.8s,baz=349,slow=3.8,SNR=14
SMY Shemya 47.98 39 eP P 10 19 36.4 +2.2
SMY pmax pmax
comp=Z,551nm,1.3s
SMY Shemya 47.98 39 eP P 10 19 36.4 +2.2
comp=Z,551nm,1.3s
HNR Honiara 48.27 128 P P 10 19 37.6 +0.7
HNR Honiara 48.27 128 P P 10 19 37.6 +0.7
comp=Z,78nm,0.8s,baz=180,slow=7.1,SNR=1.8
HNR LR LR 10 36 53.1
comp=Z,6μm,19.2s,baz=122,slow=32
TIXI Tiksi 48.32 2c i P P 10 19 33.8 -2.8
TIXI pmax pmax
comp=Z,132nm,0.8s
TIXI MLR MLR
comp=Z,143μm,17.0s
KBL Kabul 48.49 296 eP P 10 19 39.9 +1.2
KBL pmax pmax
comp=Z,431nm,1.2s
KBL Kabul 48.49 296 eP P 10 19 39.9 +1.2
comp=Z,431nm,1.2s
CTA Charters Tower 48.58 151 P P 10 19 39.3 +0.1
CTA Charters Tower 48.58 151 P P 10 19 39.3 +0.1
comp=Z,52nm,1.0s,baz=330,slow=11,SNR=21
CTA LR LR 10 37 38.8
comp=Z,10μm,21.0s,baz=334,slow=33
CTAO Charters Tower 48.58 151 eP P 10 19 40.6 +1.4
CTAO pmax pmax
comp=Z,181nm,1.3s
CTAO MLR MLR
comp=Z,12μm,20.0s
CTAO Charters Tower 48.58 151 eP P 10 19 40.6 +1.4
comp=Z,181nm,1.3s
CTAO LR LR
comp=Z,12μm,20.0s
BHJ Bhuj 49.29 281 eP P 10 19 46.8 +2.0
BHJ AMB AMB 10 19 48.3
comp=Z,185nm,1.4s
BVAR Borovoye Array 49.65 321 PcP PcP 10 21 09.2 +0.9
BVAR Borovoye Array 49.65 321 PcP PcP 10 21 09.2 +0.9
comp=Z,15nm,0.5s,baz=99,slow=3.7,SNR=4.5
BVAR LR LR 10 40 24.2
comp=Z,23μm,21.0s,baz=103,slow=36
BRVK Borovoye 49.72 321c i P P 10 19 46.7 -1.0
BRVK pmax pmax
comp=Z,260nm,2.5s
BRVK MLR MLR
comp=Z,19μm,15.0s
BRVK Borovoye 49.72 321 P P 10 19 50.0 +2.3
SNR=61
BRVK Borovoye 49.72 321 eP P 10 19 47.5 -0.2
comp=Z,139nm,0.9s
BRVK LR LR
comp=Z,29μm,20.0s
AMKA Amchitka 50.75 42 eP P 10 19 56.1 +0.7
comp=Z,206nm,0.8s
TARA Tarawa 52.56 107 PFAKE 10 20 20.0 +11
TARA LR LR
comp=Z,7μm,22.0s
MIDW Midway 52.89 72 eP P 10 20 13.5 +1.7
comp=Z,174nm,1.0s
MIDW LR LR
comp=Z,7μm,22.0s
ADK Adak 53.30 42 eP P 10 20 15.6 +1.2
ADK pmax pmax
comp=Z,1μm,1.1s
ADK MLR MLR
comp=Z,7μm,19.0s
ADK Adak 53.30 42 eP P 10 20 15.6 +1.2
comp=Z,296nm,1.1s
ADK LR LR
comp=Z,7μm,19.0s
ABKAR Akbulak array 55.55 315 eP P 10 20 31.1 +0.2
comp=Z,145nm,0.7s
IMYA Miami 55.66 299 eP P 10 20 33.4 +1.3
ISRO Mashad 56.17 299 eP P 10 20 37.6 +1.9
IDAH Dahanechah 56.27 295 eP P 10 20 38.7 +2.1
IMOG Moghan 56.29 299 eP P 10 20 38.1 +1.3
NWAO Narrogin (SRO) 56.39 186 eP P 10 20 36.7 -0.2
comp=Z,108nm,1.3s
NWAO LR LR
comp=Z,4μm,21.0s
IAKL Akhelmad 56.71 299 eP P 10 20 41.9 +2.2
AKTO Aktyubinsk 56.85 316 P P 10 20 39.6 -0.5
AKTO Aktyubinsk 56.85 316 P P 10 20 39.6 -0.5
AKTO Aktyubinsk 56.85 316 P P 10 20 39.6 -0.5
comp=Z,66nm,0.9s,baz=96,slow=10,SNR=58
IKRD Kardeh 56.89 300 eP P 10 20 37.4 -3.5
ARU Arti 57.03 323c i P P 10 20 39.9 -1.4
ARU 10 21 37.6
ARU 10 22 48.5
ARU PPP PPP 10 24 04.1
ARU S **S 10 28 36.5 +1.5**
ARU 10 30 24.4
ARU SS **SS 10 32 19.2 -4.1**
ARU SSS SSS 10 34 37.5
ARU pmax pmax
comp=Z,198nm,1.2s
ARU MLR MLR
comp=Z,17μm,18.0s
ARU Arti 57.03 323 P P 10 20 40.8 -0.5
comp=Z,1μm,0.6s,SNR=44
IKOO Kooshah 57.03 294 eP P 10 20 44.1 +2.0
ISFR Sfrayin 57.27 300 eP P 10 20 46.6 +2.9
STKA Stephens Creek 57.64 162 eP P 10 20 45.3 -0.5
comp=Z,25nm,1.1s
STKA ⇑e 10 50 44.2
STKA Stephens Creek 57.64 162 P P 10 20 45.1 -0.7
comp=Z,36nm,0.8s,baz=342,slow=6.0,SNR=43
STKA LR LR 10 46 47.0
comp=Z,9μm,19.8s,baz=338,slow=37
STKA PKP2bc 10 50 44.2
comp=Z,3.2nm,0.9s,baz=301,slow=6.9,SNR=3.2
DGAR Diego Garcia 58.63 245 PFAKE 10 21 00.0 +6.9
DGAR LR LR
comp=Z,10μm,22.0s
WBK Wadi Bani Khal 59.03 283 P P 10 20 57.6 +1.8
SNR=26
SMDO Samad 59.74 284 P P 10 21 02.2 +1.4
SNR=28
JMDO Jabal Madar 59.86 283 P P 10 21 03.9 +2.2
SNR=16
TNA Tin City 60.00 27 eP P 10 21 04.0 +2.3
comp=Z,355nm,1.4s
IBND Bandar-abas 60.04 289 eP P 10 21 04.8 +2.0
AKUT Akutan 60.05 40 eP P 10 21 02.7 +0.4
comp=Z,85nm,0.8s
IBAF Bafgh 60.05 294 eP P 10 21 03.7 +0.7
IBAF Bafgh 60.05 294 eP P 10 21 03.2 +0.2
HOQ Hoqain 60.26 285 P P 10 21 05.2 +0.9
SNR=41
BSY Bisya 60.57 284 P P 10 21 08.9 +2.3
SNR=27
IANJ Anjilo 60.75 299 eP P 10 21 09.9 +2.1
IKIA Kiasar 60.82 300 eP P 10 21 10.8 +2.5
IMEH Mehriz 60.89 294 eP P 10 21 09.6 +0.8
ICHK Chekchek 60.90 295 eP P 10 21 10.3 +1.4
ICHK Chekchek 60.90 295 eP P 10 21 09.6 +0.7
ARQ Araqi 61.03 285 P P 10 21 10.6 +1.0
SNR=24
ASHO Ashiyiah 61.10 286 P P 10 21 12.9 +2.8
SNR=7.6
ISHM Shahmirzad 61.20 299 eP P 10 21 13.0 +2.1
FALS False Pass 61.42 39 eP P 10 21 13.4 +1.7
comp=Z,114nm,0.6s
DZM Mont Dzumac 61.51 134 eP P 10 21 15.7 +2.9
comp=Z,198nm,1.3s
DZM eS **S 10 29 31.5 -2.4**
comp=Z,6μm,23.4s
DZM eLQ LQ 10 36 31.0
comp=Z,12μm,25.4s
DZM eLR LR 10 39 25.6
comp=Z,24μm,26.7s
DZM Mont Dzumac 61.51 134 eP P 10 21 13.1 +0.2
DZM Mont Dzumac 61.51 134 eP P 10 21 14.4 +1.6
comp=Z,129nm,1.4s
DZM Mont Dzumac 61.51 134 P P 10 21 13.0 +0.2
comp=Z,40nm,0.9s,baz=5.4,slow=8.0,SNR=17
ISAD Sadrabad 61.56 295 eP P 10 21 14.8 +1.4
ISAD Sadrabad 61.56 295 eP P 10 21 14.4 +1.0
IFIR Firoozkooh 61.66 299 eP P 10 21 16.3 +2.3
ISFB Sefidab 62.30 298 eP P 10 21 19.2 +1.1
IZEF Zefreh 62.50 296 eP P 10 21 20.8 +1.1
IZEF Zefreh 62.50 296 eP P 10 21 22.0 +2.3
IPAR Pars 62.52 293 eP P 10 21 21.2 +1.2
ISRV Sarvestan 62.57 292 eP P 10 21 21.5 +1.2
IVRN Varamin 62.59 298 eP P 10 21 21.6 +1.5
IKLH Kolahrood 63.03 297 eP P 10 21 24.7 +1.5
IR3 Iran Long-Peri 63.07 299 eP P 10 21 23.8 +0.5
SDPT Sand Point 63.10 38 eP P 10 21 21.7 -1.2
comp=Z,248nm,0.7s
CAN Canberra 63.20 157 eP P 10 21 24.1 +0.2
CAN pmax pmax
comp=Z,113nm,1.2s
CAN MLR MLR
comp=Z,7μm,19.0s
CAN Canberra 63.20 157 eP P 10 21 24.1 +0.2
comp=Z,113nm,1.2s
CAN LR LR
comp=Z,7μm,19.0s
IMHD Mahdasht 63.32 299 eP P 10 21 27.0 +2.1
IGZV Ghazvin 63.55 300 eP P 10 21 28.6 +2.0
IRAZ Razeghan 63.96 299 eP P 10 21 30.2 +0.9
CHGN Chignik 64.20 37 eP P 10 21 28.7 -1.5
RBK Rabkut 64.76 279 P P 10 21 36.3 +1.8
SNR=14
ABTO Aybut 65.63 279 P P 10 21 40.7 +0.5
SNR=12
IM04 Indian Mountai 65.84 26 eP P 10 21 41.9 +1.2
IMA2 Indian Mountai 65.87 26 eP P 10 21 40.9 -0.1
DGRG David-gareji 66.32 307 P P 10 21 45.3 +1.0
DGRG S S 10 30 39.7 +6.4
ILIN Lien 66.44 299 eP P 10 21 46.9 +1.5
DUS Dusheti 66.69 307 P P 10 21 49.1 +2.4
TBLG Delisi 66.74 307 P P 10 21 48.4 +1.4
TBLG S **S 10 30 38.1 -0.2**
PPLA Purkeypile 66.78 30 eP P 10 21 47.7 +0.7
comp=Z,430nm,1.4s
RSO Redoubt South 66.79 32 eP P 10 21 48.6 +1.5
comp=Z,477nm,1.1s
OHAK Old Harbor 66.92 36 eP P 10 21 48.1 +0.4
comp=Z,455nm,1.4s
IDHR Dehrash 66.95 299 eP P 10 21 49.2 +0.5
KZR Kazreti 67.04 307 P P 10 21 50.9 +2.0
GNI Garni 67.05 305 P P 10 21 52.5 +3.3
SNR=14
GNI Garni 67.05 305 P P 10 21 49.8 +0.7
GNI LR LR
comp=Z,9μm,19.0s
GNI Garni 67.05 305 P P 10 21 49.8 +0.7
comp=Z,12nm,0.4s,baz=12,slow=7.8,SNR=17
MSVF Nonsavu 67.09 123 eP P 10 21 51.2 +1.8
MSVF pmax pmax
comp=Z,96nm,1.0s
MSVF MLR MLR
comp=Z,4μm,19.0s
MSVF Nonsavu 67.09 123 eP P 10 21 51.2 +1.8
comp=Z,109nm,1.0s
MSVF LR LR
comp=Z,4μm,19.0s
UMR Umm Al-Rimmam 67.10 293 eP P 10 21 49.1 -0.3
UMR AMb AMB 10 22 04.3
comp=Z,211nm,1.0s
COLD Coldfoot 67.16 25 eP P 10 21 50.7 +1.6
comp=Z,142nm,1.2s
KBD Kabd 67.22 293 eP P 10 21 50.1 -0.1
KBD AMb AMB 10 21 57.0
comp=Z,152nm,1.1s
KDAK Kodiak Island 67.22 35 eP P 10 21 49.5 -0.2
comp=Z,691nm,1.4s
KDAK LR LR
comp=Z,8μm,19.0s
KDAK Kodiak Island 67.22 35 P P 10 21 50.0 +0.4
KDAK Kodiak Island 67.22 35 P P 10 21 48.9 -0.7
comp=Z,75nm,0.9s,baz=268,slow=6.0,SNR=38
MIB Mutribah 67.36 294 eP P 10 21 51.0 0.0
MIB AMb AMB 10 21 57.6
comp=Z,264nm,0.9s
RDF Al-Radifah 67.40 293 eP P 10 21 51.2 -0.1
RDF AMb AMB 10 22 03.0
comp=Z,484nm,1.0s
ONI Oni 67.50 308 P P 10 21 53.9 +2.1
ONI S **S 10 30 50.0 +2.5**
TRF Thorofare Moun 67.57 29 eP P 10 21 52.7 +0.7
comp=Z,154nm,1.3s
KBZ Khabaz 67.67 309 P P 10 21 53.0 +0.3
KBZ Khabaz 67.67 309 P P 10 21 53.0 +0.3
KBZ Khabaz 67.67 309 P P 10 21 53.0 +0.3
comp=Z,67nm,1.1s,baz=82,slow=5.2,SNR=60
KBZ LR LR 10 53 24.9
comp=Z,25μm,19.7s,baz=66,slow=38
IBDR Badra 67.70 298 i P P 10 21 51.0 -2.1
IBDR i PcP PcP 10 22 12.0 -8.0
IBDR i S S 10 30 43.0 -7.0
AKH Akhalkalaki 67.72 307 P P 10 21 55.5 +2.2
AKH S **S 10 30 52.6 +2.3**
RST Umm Al-Ruwaisa 67.72 294 eP P 10 21 53.1 -0.3
KIV Kislovodsk 67.78 310 eP P 10 21 54.7 +1.1
KIV e 10 22 21.0
KIV eS **S 10 30 52.8 +2.0**
KIV pmax pmax
comp=Z,312nm,1.0s
KIV pmax pmax
comp=Z,485nm,6.8s
KIV MLR MLR
comp=Z,17μm,18.0s
KIV Kislovodsk 67.78 310 P P 10 21 55.6 +2.0
comp=Z,2μm,0.9s,SNR=19
DYDN Diyadin 67.97 305 eP P 10 21 57.0 +1.9
DIGO Kars 68.02 306 eP P 10 21 57.6 +2.3
LVZ Lovozero 68.13 336 eP P 10 21 55.6 +0.3
LVZ pmax pmax
comp=Z,79nm,1.3s
LVZ MLR MLR
comp=Z,33μm,20.0s
LVZ Lovozero 68.13 336 P P 10 21 56.8 +1.5
comp=Z,392nm,0.7s,SNR=7.2
MCK McKinley 68.13 29 eP P 10 21 56.2 +0.9
MCK pmax pmax
comp=Z,276nm,1.1s
MCK McKinley 68.13 29 eP P 10 21 56.2 +0.9
comp=Z,276nm,1.1s
PMR Palmer 68.38 31 eP P 10 21 56.5 -0.4
PMR pmax pmax
comp=Z,244nm,1.3s
PMR Palmer 68.38 31 eP P 10 21 56.5 -0.4
comp=Z,244nm,1.3s
COLA College 68.42 27 eP P 10 21 57.7 +0.6
COLA pmax pmax
comp=Z,367nm,0.8s
COLA MLR MLR
comp=Z,11μm,20.0s
COLA College 68.42 27 eP P 10 21 57.7 +0.6
comp=Z,98nm,0.8s
COLA LR LR
comp=Z,11μm,20.0s
SML Sawmill 68.72 31 eP P 10 21 59.1 +0.1
SML pmax pmax
comp=Z,54nm,1.0s
SML Sawmill 68.72 31 eP P 10 21 59.1 +0.1
comp=Z,54nm,1.0s
GEVA Gevas 68.73 304 eP P 10 22 00.1 +0.4
MOS Moscow 68.74 323 eP P 10 21 55.7 -3.5
MOS e 10 22 18.7
MOS i PPP PPP 10 26 09.5
MOS eS S 10 30 54.5 -7.1
MOS pmax pmax
comp=Z,275nm,1.1s
MOS pmax pmax
comp=Z,600nm,2.7s
MOS smax smax
comp=N,5μm,7.0s
MOS smax smax
comp=E,4μm,6.0s
MOS MLR MLR
comp=Z,24μm,16.0s
MOS MLR MLR
comp=N,17μm,15.0s
MOS MLR MLR
comp=E,17μm,16.0s
ILAR Eielson Array 68.84 27 P P 10 21 58.4 -1.4
ILAR ⇑e 10 50 12.9
ILAR Eielson Array 68.84 27 P P 10 21 58.4 -1.4
comp=E,12nm,0.5s,baz=262,slow=6.0,SNR=80
ILAR PKP2bc 10 50 12.9
comp=E,2.8nm,1.1s,baz=92,slow=2.5,SNR=8.1
ILAR LR LR 10 55 24.3
comp=E,12μm,18.3s,baz=302,slow=39
ARTV Artvin 68.92 307 eP P 10 22 02.3 +1.4
BHD Baghdad 68.92 298 i P P 10 21 59.0 -1.7
BHD i PcP **PcP 10 22 20.0 -5.1**
BHD i S **S 10 31 02.0 -2.5**
DAGI Agillar 68.95 307 eP P 10 22 01.8 +0.8
DBOC Borcka 69.07 307 eP P 10 22 02.9 +1.3
DDEM Demirkent 69.11 307 eP P 10 22 03.4 +1.4
DBAD Bademkaya 69.12 307 eP P 10 22 03.0 +1.0
HOMI Horasan 69.19 306 eP P 10 22 04.4 +1.7
TATV Tatvan 69.29 304 eP P 10 22 05.3 +2.0
OBN Obninsk 69.45 322κ i P P 10 22 04.3 +0.7
OBN i 10 22 11.1
OBN e 10 22 24.6
OBN i S **S 10 31 05.4 -4.6**
OBN eSS **SS 10 35 34.2 -2.7**
OBN eSSS SSS 10 38 47.0
OBN pmax pmax
comp=Z,354nm,1.7s
OBN MLR MLR
comp=Z,16μm,15.0s
OBN Obninsk 69.45 322 P P 10 22 04.3 +0.7
comp=Z,961nm,0.5s,SNR=7.0
TAU Tasmania Unive 69.55 162 PFAKE 10 22 10.0 +5.8
TAU LR LR
comp=Z,9μm,19.0s
ERZM Erzurum 69.63 306 eP P 10 22 07.5 +2.0
PAX Paxson 69.81 29 eP P 10 22 06.2 +0.4
PAX pmax pmax
comp=Z,96nm,0.9s
PAX Paxson 69.81 29 eP P 10 22 06.2 +0.4
comp=Z,96nm,0.9s
SOC Sochi 69.96 310c i P P 10 22 06.5 -0.5
SOC e 10 22 26.6
SOC e 10 24 38.8
SOC i S **S 10 31 14.7 -1.8**
SOC e 10 32 10.4
SOC pmax pmax
comp=Z,161nm,1.1s
SOC pmax pmax
comp=Z,271nm,1.7s
SOC MLR MLR
comp=Z,14μm,13.0s
SOC MLR MLR
comp=N,3μm,13.0s
SOC MLR MLR
comp=E,7μm,13.0s
BNGL BINGOL 70.03 305 eP P 10 22 08.7 +0.9
DIV Divide 70.05 31 eP P 10 22 08.1 +0.7
comp=E,139nm,0.8s
KOPT Kop Dagi 70.25 306 eP P 10 22 10.0 +0.7
MENT Mentasta 70.59 29 eP P 10 22 11.3 +0.7
BMRM Bremner River 70.64 31 eP P 10 22 11.6 +0.7
comp=E,210nm,1.1s
SPA0 Spitsbergen Ar 70.67 348 eP P 10 22 10.3 -0.6
SPA0 eS **S 10 31 26.0 +2.2**
SPITS Spitsbergen Ar 70.67 348 P P 10 22 10.3 -0.6
SPITS Spitsbergen Ar 70.67 348 P P 10 22 10.3 -0.6
comp=E,35nm,0.5s,baz=80,slow=9.4,SNR=3.1
MARD Mardin 70.72 303 eP P 10 22 12.9 +0.9
ARCES ARCESS Array B 71.05 338 P P 10 22 12.8 -0.4
ARCES ARCESS Array B 71.05 338 P P 10 22 12.8 -0.4

comp=E,72nm,1.0s,baz=62,slow=3.5,SNR=24
ARCES LR LR 10 59 45.8
comp=E,25µm,19.4s,baz=76,slow=41
ARE0 ARCESS Array S 71.05 338 *e*P **P 10 22 14.5 +1.3**
ARE0 *e*S **S 10 31 23.7 -4.7**
ARE0 ARCESS Array S 71.05 338 *e*P **P 10 22 13.9 +0.7**
DIYA Diyarbakir 71.07 304 *e*P **P 10 22 15.2 +1.2**
KELT Kelkit 71.14 306 *e*P **P 10 22 14.3 -0.3**
KBS Kingsbay 71.18 349 *e*P **P 10 22 13.8 0.0**
KBS AMB AMB 10 22 27.1
comp=Z,153nm,1.6s
KBS *e* 10 31 17.8
KBS AMS AMS 10 56 52.8
comp=Z,27µm,18.6s
KBS Kingsbay 71.18 349 *e*P **P 10 22 13.9 0.0**
KBS pmax pmax
comp=Z,70nm,0.8s
KBS MLR MLR
comp=Z,31µm,19.0s
KBS Kingsbay 71.18 349 *e*P **P 10 22 13.9 +0.1**
comp=Z,18nm,0.8s
KBS LR LR
comp=Z,31µm,19.0s
EGAK Eagle 71.24 27 *e*P **P 10 22 14.7 +0.2**
comp=Z,145nm,0.9s
EGAK LR LR
comp=Z,16µm,20.0s
ANN Anapa 71.25 311 *d i*P **P 10 22 15.6 +0.7**
ANN *i* S **S 10 31 31.2 -0.3**
ANN pmax pmax
comp=Z,629nm,1.8s
ANN MLR MLR
comp=N,4µm,16.0s
ANN MLR MLR
comp=E,3µm,16.0s
ANN MLR MLR
comp=Z,12µm,16.0s
HSP Hornsund 71.28 347 *e*P P 10 22 18.2 +3.7
BJO Bjornoya 71.36 344 *e* P 10 22 26.4 +11
BJO AMS AMS 10 50 39.8
comp=Z,43µm,16.5s
KIP Kipapa 71.57 74 PFAKE 10 22 30.0 +13
KIP LR LR
comp=Z,11µm,22.0s
GRSN GIRESUNGRSN 71.66 307 *e*P **P 10 22 15.1 -2.4**
PUL Pulkovo 71.67 328 *e*P **P 10 22 16.3 -0.8**
PUL pmax pmax
comp=Z,242nm,1.3s
PUL MLR MLR
comp=Z,37µm,16.0s
SUSE Susehri 71.90 307 *e*P **P 10 22 17.8 -1.3**
KEMA Kemaliye 71.94 306 *e*P **P 10 22 19.4 +0.1**
KTK1 Kautokeino 71.97 338 *e*P **P 10 22 19.1 +0.3**
KTK1 AMB AMB 10 22 31.7
comp=Z,1µm,1.1s
KTK1 *e*S **S 10 31 39.1 +0.1**
KTK1 AMS AMS 11 01 42.0
comp=Z,51µm,16.3s
MSEY Mahe Island 72.01 257 *e*P **P 10 22 21.0 +1.1**
comp=Z,162nm,1.3s
MSEY LR LR
comp=Z,8µm,20.0s
DAWY Dawson 72.17 27 *e*P **P 10 22 20.5 +0.4**
comp=Z,221nm,1.1s
ATAB Bozova 72.59 304 *e*P **P 10 22 25.0 +1.9**
SCER sogukcermik 72.79 306 *e*P **P 10 22 25.6 +1.2**
ERBA Erbaa 72.83 307 *e*P **P 10 22 25.2 +0.7**
KAF Kangasniemi 72.89 331 *e*p **P 10 22 24.8 +0.5**
comp=Z,53nm,0.8s
INK Inuvik 73.07 22 *e*P **P 10 22 26.1 +0.8**
comp=Z,124nm,0.9s
INK Inuvik 73.07 22 P **P 10 22 24.7 -0.5**
comp=Z,48nm,0.9s,baz=291,slow=7.3,SNR=55
INK LR LR 10 59 13.3
comp=Z,17µm,18.4s,baz=286,slow=40
GZT Gaziantep 73.18 304 *e*P **P 10 22 27.3 +0.5**
FIA1 FINESS Array S 73.20 330 *e*P **P 10 22 26.9 +0.7**
FINES FINESS Array B 73.20 330 P **P 10 22 26.3 +0.1**
FINES FINESS Array B 73.20 330 P **P 10 22 26.3 +0.1**
comp=Z,29nm,0.6s,baz=64,slow=4.6,SNR=60
FINES LR LR 10 58 43.7
comp=Z,47µm,18.4s,baz=74,slow=39
TRO Tromso 73.20 339 *e*P **P 10 22 25.0 -1.0**
TRO AMB AMB 10 22 38.4
comp=Z,121nm,0.6s
TRO *e*S **S 10 31 54.1 +1.2**
TRO AMS AMS 11 01 08.9
comp=Z,33µm,19.7s
AFI Afiamalu 73.27 114 PFAKE 10 22 40.0 +13
AFI LR LR
comp=Z,3µm,20.0s
HAVZ Havza 73.47 308 *e*P **P 10 22 30.0 +1.7**
SIM Simferopol' 73.48 312 *e*P **P 10 22 28.8 +0.6**
SIM *e*S **S 10 31 54.0 -3.1**
SIM pmax pmax
comp=Z,246nm,9.6s
SIM pmax pmax
comp=Z,800nm,11.4s
PINB Pinarbasi 73.67 305 *e*P **P 10 22 30.5 +0.7**
KUZU Kuzuini 73.72 303 *e*P **P 10 22 30.1 +0.3**
AYKD Aykdinkavak 73.74 304 *e*P **P 10 22 30.3 +0.4**
BDHA Al Bayda' 73.77 278⇑ *e*P **P 10 22 31.4 +0.8**
BDHA AMb AMB 10 22 32.9
comp=Z,104nm,1.5s
VSU Vasula 73.81 327 *c i*P **P 10 22 29.3 -0.6**
VSU pmax pmax
comp=Z,500nm,1.2s
VSU MLR MLR
comp=Z,95µm,16.0s
HYT Haines Junctio 74.01 30 *e*P **P 10 22 33.0 +1.9**
comp=Z,149nm,1.1s
ANDN Andirin 74.04 304 *e*P **P 10 22 32.8 +1.0**
DRWC Darouich 74.08 303 *e*P P 10 22 44.2 +12
LBOS 74.09 278⇑ *e*P **P 10 22 33.4 +0.8**
LBOS AMb AMB 10 22 35.6
comp=Z,486nm,1.3s
ALE Alert 74.20 1 P **P 10 22 32.0 +0.2**
comp=Z,774nm,1.5s,SNR=15
CTKT Corum 74.28 308 *e*P **P 10 22 34.7 +1.5**
COBT Iskenderun 74.42 303 *e*P **P 10 22 35.4 +1.2**
MICGM Minsk 74.47 323⇓ *e*P **P 10 22 32.0 -1.7**
MNK Minsk 74.49 323 *e*P **P 10 22 32.0 -1.9**
MNK *e* 10 25 26.0
MNK *e*PPP PPP 10 27 06.0
MNK *e*S **SKiKP 10 32 00.0 +0.6**
MNK pmax pmax
comp=Z,430nm,1.2s
MNK pmax pmax
comp=E,450nm,1.0s
MNK MLR MLR
comp=E,36µm,14.0s
MNK MLR MLR
comp=N,26µm,12.0s
MNK MLR MLR
comp=Z,36µm,12.0s
WRDH Warideh 74.61 302 *e*P **P 10 22 33.5 -1.6**
DHBB Dhamar BB 74.62 279⇑ *e*P **P 10 22 36.5 +0.8**
DHBB AMb AMB 10 22 38.5
comp=Z,998nm,1.8s
YAYL Yayladag 74.69 303 *e*P **P 10 22 35.6 0.0**
YURE YUREGIR 74.81 304 *e*P **P 10 22 36.3 +0.2**
IDID Didziasalis 74.83 324 *e*P **P 10 22 35.9 +0.1**
IDID AMB AMB 10 22 48.0
comp=Z,122nm,1.1s
BIDA Albida 74.84 302 *e*P **P 10 22 35.8 -0.6**
CDAG Cicekdag 74.89 307 *e*P **P 10 22 36.9 +0.2**
AKASG Malin Array Be 74.89 319 *i* P **P 10 22 35.2 -1.1**
AKASG pmax pmax
comp=Z,28nm,0.6s
AKASG Malin Array Be 74.89 319 P **P 10 22 35.1 -1.1**
AKASG Malin Array Be 74.89 319 P **P 10 22 35.1 -1.1**
comp=Z,28nm,0.6s,baz=58,slow=6.2,SNR=114
AKASG LR LR 11 01 43.8
comp=Z,11µm,18.1s,baz=85,slow=41
KIEV Kiev 74.91 319 *e*P **P 10 22 35.6 -0.8**
KIEV pmax pmax
comp=Z,102nm,0.7s
KIEV MLR MLR
comp=Z,11µm,20.0s
KIEV Kiev 74.91 319 *e*P **P 10 22 35.6 -0.8**
comp=Z,102nm,0.7s
KIEV LR LR
comp=Z,11µm,20.0s
HAWK Haweek 74.92 301 *e*P **P 10 22 38.7 +1.8**
ILGA Ilgaz 74.93 308 *e*P **P 10 22 38.4 +1.4**

NACGM Naroch 74.94 324 *e*P **P 10 22 34.0 -2.5**
MARH Ras Al Marh 75.02 301 *e*P **P 10 22 39.7 +1.9**
IIGN Ignalina 75.09 324 *e*P **P 10 22 37.5 +0.1**
IIGN AMB AMB 10 22 49.5
comp=Z,70nm,0.9s
STEI Steigen 75.11 338 *e*P **P 10 22 36.8 -0.5**
UDYN Al 'Udayn 75.22 279⇑ *e*P **P 10 22 39.7 +0.7**
SALA Sala 75.23 299 *e*P **P 10 22 40.0 +1.1**
ASF Jabal al Asfar 75.27 299 P **P 10 22 39.9 +0.9**
ASF Jabal al Asfar 75.27 299 P **P 10 22 39.9 +0.9**
comp=Z,42nm,0.9s,baz=23,slow=1.5,SNR=40
ASF LR LR 11 03 02.1
comp=Z,7µm,18.8s,baz=192,slow=42
GULE Gulek 75.32 304 *e*P **P 10 22 40.8 +1.6**
TRBA At Turbah 75.35 278⇑ *e*P **P 10 22 40.6 +0.8**
HWQ Hawqa 75.36 301 *e*P **P 10 22 40.9 +1.4**
BR131 Keskin Array S 75.40 307 *e*P **P 10 22 40.3 +0.6**
comp=Z,79nm,0.9s
BRTR Keskin Array B 75.40 307 P **P 10 22 39.5 -0.1**
BRTR Keskin Array B 75.40 307 P **P 10 22 39.5 -0.1**
comp=Z,45nm,1.0s,baz=71,slow=8.0,SNR=114
BRTR LR LR 10 59 48.0
comp=Z,7µm,20.5s,baz=256,slow=39
SKAG Skagway 75.51 31 *e*P **P 10 22 41.3 +1.6**
comp=Z,206nm,1.1s
LOF Lofoten 75.60 339 *e*P **P 10 22 41.8 +1.8**
LOF *e* 10 32 15.4
LOF AMS AMS 11 05 07.6
comp=Z,27µm,17.8s
BHL Bhannes 75.71 301 *e*P **P 10 22 43.1 +1.6**
BBAL Bala 75.83 307 *e*P **P 10 22 43.4 +1.2**
TCHB Talchebab 75.86 300 *e*P **P 10 22 40.7 -1.6**
ANTO Ankara 75.97 308 *e*P **P 10 22 43.7 +0.9**
ANTO pmax pmax
comp=Z,91nm,0.9s
ANTO MLR MLR
comp=Z,8µm,20.0s
ANTO Ankara 75.97 308 P **P 10 22 44.6 +1.8**
SNR=24
ANTO Ankara 75.97 308⇑ *i*P **P 10 22 44.0 +1.2**
ANTO Ankara 75.97 308 *e*P **P 10 22 43.7 +0.9**
comp=Z,91nm,0.9s
ANTO LR LR
comp=Z,8µm,20.0s
KIZK Mersin 76.05 304 *e*P **P 10 22 40.8 -2.5**
MOR8 Moi Rana 76.17 337 *e*P **P 10 22 42.3 -1.1**
MOR8 AMB AMB 10 22 59.2
comp=Z,186nm,0.8s
MMAI Mount Meron Ar 76.19 300 P **P 10 22 44.9 +0.7**
MMAI Mount Meron Ar 76.19 300 P **P 10 22 44.9 +0.7**
comp=Z,19nm,0.7s,baz=80,slow=6.9,SNR=24
KIS Kishinev 76.36 315 *e*P **P 10 22 44.0 -0.8**
comp=Z,900nm,10.0s
KIS Kishinev 76.36 315 *e*PcP P 10 22 50.0 +5.2
KIS Kishinev 76.36 315 *e*PP PP 10 25 30.0 -6.0
KIS Kishinev 76.36 315 *e*PPP PPP 10 26 50.0
KIS *e*S S 10 32 23.0 -6.0
comp=Z,4µm,15.0s
KIS Kishinev 76.36 315 *i* PS 10 32 46.0
KIS *e*SS SS 10 37 04.0 -19
KIS *e*SSS SSS 10 40 22.0
KIS *e*LQ LQ 10 49 56.0
KIS LRM MLR 10 54 18.0
comp=Z,16µm,19.0s
SIT Sitka 76.40 33 *e*P **P 10 22 46.7 +1.9**
SIT pmax pmax
comp=Z,468nm,1.4s
SIT Sitka 76.40 33 *e*P **P 10 22 46.6 +1.9**
comp=Z,468nm,1.4s
FLOS Flostrand 76.49 337 *e*P **P 10 22 45.8 +0.7**
STOK Stokkvaagen 76.61 337 *e*P **P 10 22 48.0 +2.2**
STOK *e* 10 32 27.5
PHNC Paralimni 76.62 302 P **P 10 22 47.7 +1.2**
RAO Raoul Island 76.86 130 P **P 10 22 47.4 -0.4**
RAO Raoul Island 76.86 130 P **P 10 22 47.4 -0.4**
comp=Z,218nm,0.4s,baz=60,slow=20,SNR=3.1
LEOM Leova 76.91 315⇓ *i*P **P 10 22 48.9 +1.0**
ERMK Ermenek 76.94 304 *e*P **P 10 22 47.9 -0.6**
TLCR 76.97 314⇓ *i*P **P 10 22 49.2 +0.9**
ATD Arta Tunnel 77.12 277 P **P 10 22 52.0 +2.3**
ATD Arta Tunnel 77.12 277 P **P 10 22 52.0 +2.3**
comp=Z,33nm,1.0s,baz=114,slow=23,SNR=7.6
ATD LR LR 10 56 51.2
comp=Z,7µm,20.9s,baz=272,slow=36
CSS Prodhromos 77.18 303 P **P 10 22 49.7 0.0**
comp=Z,4.0nm,1.3s
CSS Prodhromos 77.18 303 P **P 10 22 50.3 +0.6**
CSS Prodhromos 77.18 303 *e*P **P 10 22 49.7 0.0**
comp=Z,30nm,0.8s
CSS LR LR
comp=Z,2µm,20.0s
SUW Suwalki 77.22 323 *e*P **P 10 22 50.4 +0.9**
SUW pmax pmax
comp=Z,461nm,0.9s
SUW Suwalki 77.22 323 *e*P **P 10 22 50.4 +0.9**
comp=Z,461nm,0.9s
SUW Suwalki 77.22 323 *e*P **P 10 22 50.2 +0.7**
SUW *e*S **S 10 32 39.3 +1.1**
SUW LMZ LR 11 00 51.6
DAG Danmarks Havn 77.43 352⇑ *i*P **P 10 22 48.9 -1.4**
comp=Z,113nm,1.0s
DAG *i* S **S 10 32 35.4 -4.3**
DAG
comp=Z,13µm,17.0s
CFR Carcaliu 77.43 314⇑ *i*P **P 10 22 51.4 +0.6**
TIRR Tirgusor 77.50 313 *e*P **P 10 22 51.6 +0.4**
TIRR pmax pmax
comp=Z,106nm,1.0s
TIRR Tirgusor 77.50 313⇑ *i*P **P 10 22 52.2 +1.0**
TIRR Tirgusor 77.50 313 *e*P **P 10 22 51.6 +0.4**
comp=Z,106nm,1.0s
GAZI Gazipasa 77.53 304 *e*P **P 10 22 51.0 -0.6**
EIL Elat 77.67 297 P **P 10 22 52.5 -0.1**
EIL Elat 77.67 297 P **P 10 22 52.5 -0.1**
comp=Z,90nm,1.2s,baz=31,slow=2.7,SNR=31
EIL LR LR 11 00 26.2
comp=Z,10µm,19.5s,baz=70,slow=38
ALFC Alevga 77.68 303 P **P 10 22 53.3 +0.8**
comp=Z,3.8nm,0.9s
BOLV Bolvadin 77.70 307 *e*P **P 10 22 53.2 +0.6**
MRIV Mauritius Mete 77.73 241 *e*P **P 10 22 53.8 +0.9**
PETR Petresti 77.83 315⇑ *i*P **P 10 22 55.4 +2.3**
NSS Namsos 77.86 336 *e*P **P 10 22 55.4 +2.5**
NSS AMS AMS 11 02 04.0
comp=Z,12µm,14.3s
TESR Tescani 77.92 315⇓ *i*P **P 10 22 54.7 +1.1**
AKMC Akamas 77.93 303 P **P 10 22 53.7 -0.2**
PPCY Paphos 77.97 303 P **P 10 22 54.1 +0.1**
VRI Vrincioaia 78.11 315⇓ *i*P **P 10 22 56.6 +1.9**
CRAG Craig 78.16 34 *e*P **P 10 22 55.9 +1.3**
comp=Z,162nm,1.2s
AMRR Amara 78.16 313⇓ *i*P **P 10 22 57.2 +2.3**
PLOR Plostina 78.16 315⇑ *i*P **P 10 22 56.7 +1.7**
WRAK Wrangell Islan 78.16 33 *e*P **P 10 22 56.7 +2.0**
comp=Z,197nm,1.3s
WRAK LR LR
comp=Z,9µm,19.0s
PGOR Pogoanele 78.29 314⇑ *i*P **P 10 22 58.5 +2.9**
LVV L'vov 78.32 319⇓ *i*P **P 10 22 57.0 +1.2**
LVV *i* S **S 10 32 48.0 -2.3**
LVV MLR MLR
comp=Z,6µm,16.0s
ISP Isparta 78.33 306 P **P 10 22 56.6 +0.4**
ISP Isparta 78.33 306 *e*P **P 10 22 56.0 -0.1**
ISP pmax pmax
comp=Z,307nm,1.4s
ISP MLR MLR
comp=Z,10µm,19.0s
ISP Isparta 78.33 306⇓ *i*P **P 10 22 56.5 +0.4**
ISP Isparta 78.33 306 *e*P **P 10 22 56.0 -0.1**
comp=Z,307nm,1.4s
ISP LR LR
comp=Z,10µm,19.0s
BUR08 Bucovina Ar. S 78.43 317 *e*P **P 10 22 56.5 0.0**
BURAR Bucovina Array 78.43 317⇓ *i*P **P 10 22 57.2 +0.7**
DLBC Dease Lake 78.44 31 *e*P **P 10 22 57.8 +1.5**
comp=Z,187nm,1.3s
DLBC Dease Lake 78.44 31 P **P 10 22 57.2 +0.9**
comp=Z,20nm,1.0s,baz=288,slow=3.4,SNR=16
ISR Istrita 78.50 314⇓ *i*P **P 10 22 59.6 +2.7**
ULDT Uludag 78.52 309 *e*P **P 10 22 57.3 +0.1**
PRD Provadia 78.63 312 P **P 10 22 58.7 +1.2**
GDZ Gediz 78.64 308 *e*P **P 10 22 56.8 -1.1**
KORT Korkueli 78.74 305 *e*P **P 10 22 57.7 -0.8**

MLR Muntele Rosu 78.76 315⇓ *i*P **P 10 22 59.5 +1.1**
MLR Muntele Rosu 78.76 315 P **P 10 22 58.8 +0.4**
MLR Muntele Rosu 78.76 315 P **P 10 22 58.8 +0.4**
comp=Z,12nm,0.9s,baz=314,slow=3.0,SNR=53
SECR 78.85 314⇓ *i*P **P 10 23 01.0 +2.3**
SULR 78.86 314⇓ *i*P **P 10 23 00.6 +1.9**
KHAL Karahalli 78.89 307 *e*P **P 10 22 58.9 -0.4**
RES Resolute Bay 79.02 10 P **P 10 23 00.1 +1.0**
RES Resolute Bay 79.02 10 P **P 10 23 00.1 +1.0**
comp=Z,106nm,1.0s,baz=311,slow=4.7,SNR=13
XMAS Kiritimati 79.04 93 *e*P **P 10 23 02.9 +2.6**
comp=Z,366nm,1.4s
XMAS LR LR
comp=Z,6µm,21.0s
TBLU Trondheim 79.16 335 *e*P **P 10 23 02.6 +2.6**
TBLU AMB AMB 10 23 36.5
comp=Z,195nm,1.4s
TBLU *e* 10 33 03.5
TBLU AMS AMS 11 02 36.6
comp=Z,24µm,15.1s
DURS Dursunbey 79.19 308 *e*P **P 10 23 01.0 +0.2**
KWP Kalwaria Pacla 79.19 319 *e*P **P 10 23 00.9 +0.4**
KWP pmax pmax
comp=Z,387nm,1.0s
KWP MLR MLR
comp=Z,11µm,20.0s
KWP Kalwaria Pacla 79.19 319⇓ *i*P **P 10 23 01.0 +0.4**
KWP Kalwaria Pacla 79.19 319 *e*P **P 10 23 00.9 +0.4**
comp=Z,387nm,1.0s
KWP LR LR
comp=Z,11µm,20.0s
KWP Kalwaria Pacla 79.19 319 *e*P **P 10 23 01.1 +0.6**
KWP *e*S **S 10 32 59.8 +0.2**
KWP *e*SKSac **SKSac 10 33 13.4 -2.4**
KWP LMZ LR 11 01 13.5
DEMI Demirci 79.22 308 *e*P **P 10 23 01.6 +0.7**
GOLH Golhisar 79.25 306 *e*P **P 10 23 01.5 +0.3**
URZ Urewera 79.27 140 *e*P **P 10 23 01.5 +0.6**
comp=Z,136nm,1.2s
URZ Urewera 79.27 140 P **P 10 23 01.5 +0.6**
comp=Z,42nm,0.6s,baz=24,slow=0.9,SNR=19
URZ LR LR 10 57 59.1
comp=Z,5µm,18.7s,baz=138,slow=36
HFS Hagfors 79.29 331 P **P 10 23 02.0 +1.1**
HFS Hagfors 79.29 331 P **P 10 23 02.0 +1.1**
comp=Z,15nm,0.4s,baz=101,slow=4.7,SNR=29
VOIR 79.36 315⇑ *i*P **P 10 23 02.7 +1.1**
BEL Belsk 79.41 322 *e*P **P 10 23 03.1 +1.5**
BEL *e*S **S 10 32 57.1 -4.7**
BEL LMZ LR 11 01 10.9
JMB Yambol 79.46 312 P **P 10 23 03.5 +1.4**
JMB Yambol 79.46 312 P **P 10 23 03.5 +1.4**
DNZL Cakiroluk 79.47 306 *e*P **P 10 23 01.0 -1.5**
RER Riviere de l'E 79.57 242 *e*P **P 10 23 02.9 -0.2**
comp=Z,92nm,0.9s
RER LR LR
comp=Z,6µm,20.0s
AKAS Kas 79.58 305 *i* P **P 10 23 03.1 0.0**
SZH Strazhica 79.60 313 P **P 10 23 03.6 +0.7**
KSL Kastellorizon 79.62 305 *e*P **P 10 23 03.0 -0.1**
ARR Arges 79.66 315⇓ *i*P **P 10 23 05.1 +1.8**
KOLS Kolonicke sedl 79.73 319 *e*P **P 10 23 04.2 +0.7**
KOLS *e*S S 10 32 59.0 -6.3
BALY Balya 79.75 309 *e*P **P 10 23 04.3 +0.5**
RPZ Rata Peaks 79.75 147 *e*P **P 10 23 03.2 -0.3**
comp=Z,137nm,0.9s
RPZ Rata Peaks 79.75 147 P **P 10 23 03.1 -0.4**
comp=Z,123nm,0.9s,baz=19,slow=2.5,SNR=37
RPZ LR LR 10 55 05.4
comp=Z,5µm,22.0s,baz=315,slow=33
UZH Uzhgorod 79.84 319 *e*P **P 10 23 02.0 -2.0**
UZH *e*S **S 10 33 02.0 -4.4**
TRPA Tarpa 79.89 318⇓ *i*P **P 10 23 05.9 +1.6**
NB2 NORSAR Subarra 79.91 333 P **P 10 23 05.1 +0.9**
comp=Z,88nm,1.0s,baz=57,slow=5.6
NB2 NORSAR Subarra 79.91 333 P **P 10 23 05.1 +0.9**
baz=57,slow=5.6
NOA NORSAR Array B 79.91 333 P **P 10 23 04.0 -0.3**
NOA NORSAR Array B 79.91 333 P **P 10 23 04.0 -0.3**
comp=Z,28nm,0.7s,baz=56,slow=5.5,SNR=51
NOA LR LR 11 02 24.3
comp=Z,17µm,18.8s,baz=65,slow=39
NC602 NORSAR Array S 79.92 332 *e*P **P 10 23 02.6 -1.7**
NC602 *e*S **S 10 33 02.4 -4.5**
AKHS Akhisar 79.93 308 *e*P **P 10 23 05.3 +0.5**
SNZO South Karori 79.96 143 PFAKE 10 23 20.0 +15
SNZO LR LR
comp=Z,4µm,22.0s
TURN Turunc 80.09 306 *e*P P 10 23 00.0 -5.6
KHZ Kahutara 80.10 145 *e*P **P 10 23 05.7 +0.4**
comp=Z,130nm,1.2s
JMIC Jan Mayen 80.10 346 *e*P **P 10 23 04.5 -0.6**
JMIC AMB AMB 10 23 23.2
comp=Z,347nm,3.3s
JMIC AMS AMS 11 04 08.3
comp=Z,18µm,17.4s
JMIC Jan Mayen 80.10 346 P **P 10 23 05.7 +0.6**
JMIC Jan Mayen 80.10 346 P **P 10 23 05.7 +0.6**
comp=Z,58nm,0.9s,baz=163,slow=4.5
NAO01 NORSAR Array S 80.14 333 *e*P **P 10 23 06.0 +0.5**
comp=Z,77nm,1.0s
STHS Stebnicka Huta 80.15 320 *e*P **P 10 23 07.1 +1.3**
CRVS Cervenica-Dubn 80.23 319 *e*P **P 10 23 07.6 +1.4**
CRVS *e*S **S 10 33 05.4 -5.2**
DRGR 80.32 317⇑ *i*P **P 10 23 08.1 +1.3**
AYDN Tasoluk 80.34 307 *e*P **P 10 23 08.6 +1.5**
DEV Deva 80.57 316⇑ *i*P **P 10 23 10.1 +2.0**
MOL Molde 80.58 335 *e*P **P 10 23 09.4 +1.7**
MOL AMB AMB 10 23 36.0
comp=Z,142nm,1.3s
MOL *e*S **S 10 33 14.9 +1.3**
MOL AMS AMS 11 02 59.6
comp=Z,22µm,14.9s
AYVA Ayvalik 80.58 309 *e*P **P 10 23 08.4 +0.2**
ARG Arkhangelos 80.69 305 P **P 10 23 09.8 +0.9**
ARG Arkhangelos 80.69 305 P **P 10 23 09.8 +0.9**
ARG Arkhangelos 80.69 305 *e*P **P 10 23 10.0 +1.1**
ARG Arkhangelos 80.69 305 P **P 10 23 09.8 +0.9**
GKP Gorka Klasztor 80.75 324 *e*P **P 10 23 10.3 +1.5**
GKP *e*S **S 10 33 16.7 +0.9**
GKP *e*SKSac **SKSac 10 33 26.0 -0.5**
GKP LMZ LR 11 01 06.8
GCAM G?zelcaml? 80.80 307 *e*P **P 10 23 10.4 +1.0**
BOZC Bozcaada 80.83 309 *e*P **P 10 23 08.4 -1.2**
GZR Gura Zlata 80.85 315⇓ *i*P **P 10 23 11.1 +1.4**
BDRM Kayabasi 80.88 306 *e*P **P 10 23 08.6 -1.3**
PLD Plovdiv 80.89 312 P **P 10 23 11.0 +1.2**
PLD Plovdiv 80.89 312 P **P 10 23 11.0 +1.2**
PLD Plovdiv 80.89 312 P **P 10 23 11.0 +1.2**
PRK Paraskevi 80.90 309 P **P 10 23 10.6 +0.6**
PRK Paraskevi 80.90 309 P **P 10 23 10.6 +0.6**
PRK Paraskevi 80.90 309 P **P 10 23 10.6 +0.6**
SMTH Samothraki Isl 80.95 310 *e*P **P 10 23 12.0 +1.8**
KECS Kecovo 80.99 319 *e*P **P 10 23 11.0 +0.7**
MPEP Malo Peshtene 81.04 313 P **P 10 23 11.8 +1.2**
RZN Rozhen 81.04 311 P **P 10 23 11.9 +1.0**
SMG Samos 81.08 307 P **P 10 23 11.6 +0.6**
SMG Samos 81.08 307 *e*P **P 10 23 11.5 +0.6**
SMG Samos 81.08 307 P **P 10 23 11.6 +0.6**
BSD Bornholm Skovb 81.10 327 *i* P **P 10 23 11.3 +0.6**
comp=Z,78nm,1.0s
BSD Bornholm Skovb 81.10 327 *i* S **S 10 33 16.3 -3.1**
BSD
comp=Z,35µm,16.0s
SIGR SIGRI 81.21 309 P **P 10 23 12.2 +0.6**
SIGR SIGRI 81.21 309 P **P 10 23 12.2 +0.6**
KONO Kongsberg 81.32 332 *e*P **P 10 23 10.6 -1.2**
KONO *e*S **S 10 33 17.8 -3.7**
KONO AMS AMS 11 03 17.7
comp=Z,52µm,16.9s
KONO Kongsberg 81.32 332 PFAKE 10 23 20.0 +8.2
KONO LR LR
comp=Z,25µm,19.0s
CHOS Chios island 81.39 308 P **P 10 23 14.2 +1.5**
KAVA Kavala 81.45 311 P **P 10 23 13.5 +0.6**
KAVA Kavala 81.45 311 P **P 10 23 13.5 +0.6**
BZS Buzias 81.50 316⇑ *i*P **P 10 23 14.0 +1.0**
PSZ Piszkesteto 81.59 319 ⇓P **P 10 23 14.9 +1.3**
PSZ Piszkesteto 81.59 319⇓ *i*P **P 10 23 14.9 +1.3**
PSZ Piszkesteto 81.59 319 *e*P **P 10 23 14.9 +1.3**
comp=Z,112nm,1.0s
PSZ LR LR
comp=Z,12µm,19.0s

KARP Karpathos 81.67 305 P **P** **10 23 15.2 +1.0**
KARP Karpathos 81.67 305 *e*P **P** **10 23 15.0 +0.8**
KARP Karpathos 81.67 305 P **P** **10 23 15.2 +1.0**
VTS Vitosha 81.70 313 P **P** **10 23 15.5 +1.1**
VTS Vitosha 81.70 313 ⇑P **P** **10 23 15.5 +1.1**
VTS Vitosha 81.70 313 P **P** **10 23 15.1 +0.7**
VTS Vitosha 81.70 313 ⇑*i*P **P** **10 23 15.5 +1.1**
VTS Vitosha 81.70 313 P **P** **10 23 15.5 +1.1**
MMB Musomiste 81.76 312 P **P** **10 23 15.3 +0.8**
NVR Nevrokopi 81.76 311 P **P** **10 23 14.8 +0.2**
NVR Nevrokopi 81.76 311 P **P** **10 23 14.8 +0.2**
OKC Ostrava-Krasne 81.78 321 *i* P **P** **10 23 16.0 +1.6**
OKC *e*pP **pP** **10 23 21.9 +1.6**
OKC *e*S **S** **10 33 24.2 -2.5**
OKC AMS AMS 11 14 10.0
comp=Z,13μm,16.8s
HYA Hoyanger 81.90 334 *e*P **P** **10 23 16.1 +1.3**
HYA AMB AMB 10 23 50.4
comp=Z,142nm,1.4s
HYA AMS AMS 11 03 52.8
comp=Z,27μm,16.7s
SRS Serrai 82.04 311 P **P** **10 23 15.8 -0.2**
SRS Serrai 82.04 311 P **P** **10 23 15.8 -0.2**
SRS Serrai 82.04 311 P **P** **10 23 15.8 -0.2**
COP Copenhagen 82.06 328 *i* P **P** **10 23 16.7 +1.0**
comp=Z,39nm,0.8s
COP Copenhagen 82.06 328 *i* S **S** **10 33 28.3 -1.0**
COP
comp=Z,12μm,15.0s
KKB Krupnik 82.09 312 P **P** **10 23 17.2 +1.0**
OUR Ouranopolis 82.09 310 P **P** **10 23 17.0 +0.8**
OUR Ouranopolis 82.09 310 P **P** **10 23 17.0 +0.8**
OUR Ouranopolis 82.09 310 P **P** **10 23 17.0 +0.8**
MORC Moravsky Berou 82.16 321 *e*P **P** **10 23 17.0 +0.5**
MORC pmax pmax
comp=Z,59nm,0.9s
MORC Moravsky Berou 82.16 321 *e*P **P** **10 23 17.0 +0.5**
comp=Z,59nm,0.9s
BBB Bella Bella 82.27 36 P **P** **10 23 17.8 +0.9**
BBB Bella Bella 82.27 36 P **P** **10 23 17.8 +0.9**
comp=Z,16nm,1.1s,baz=282,slow=9.3,SNR=4.7
APE Apeiranthos 82.29 307 *e*P P 10 23 28.5 +11
APE Apeiranthos 82.29 307 ⇑*i*P P 10 23 25.5 +8.1
SOH Sokhos 82.33 311 P **PP** **10 26 27.7 +1.7**
KSP Ksiaz 82.38 322 *e*P **P** **10 23 18.4 +0.8**
KSP LMZ LR 11 01 25.4
ODD1 Odda 82.43 333 *e*P **P** **10 23 18.4 +0.7**
ODD1 AMS AMS 11 04 02.6
comp=Z,31μm,15.5s
PLG Polygyros 82.45 311 P **P** **10 23 18.1 -0.1**
PLG Polygyros 82.45 311 P **P** **10 23 18.1 -0.1**
PLG Polygyros 82.45 311 *e*P **P** **10 23 19.0 +0.8**
PLG Polygyros 82.45 311 P **P** **10 23 18.1 -0.1**
PAIG Paliouri 82.47 310 P **P** **10 23 17.9 -0.3**
PAIG Paliouri 82.47 310 P **P** **10 23 17.9 -0.3**
PAIG Paliouri 82.47 310 *e*P **P** **10 23 18.0 -0.3**
PAIG Paliouri 82.47 310 P **P** **10 23 17.9 -0.3**
KNT Kendrikon 82.50 312 P **P** **10 23 18.4 0.0**
KNT Kendrikon 82.50 312 P **P** **10 23 18.4 0.0**
KNT Kendrikon 82.50 312 P **P** **10 23 18.4 0.0**
SUE Sulen 82.53 335 *e*P **P** **10 23 17.2 -0.9**
SUE AMS AMS 11 04 13.3
comp=Z,37μm,15.1s
HOMB Homborsund 82.54 331 *e*P **P** **10 23 15.8 -2.4**
HOMB *e* 10 33 28.4
HOMB AMS AMS 11 04 02.3
comp=Z,26μm,18.3s
ZKR Zakros 82.55 305 *e*P **P** **10 23 20.0 +1.2**
DPC Dobruska-Polom 82.59 322 *i* P **P** **10 23 19.6 +0.8**
DPC *e*pP **pP** **10 23 26.2 +1.5**
DPC *e*S **S** **10 33 32.7 -2.5**
DPC AMS AMS 11 04 30.0
HORT Hortiatis 82.60 311 P **P** **10 23 18.6 -0.4**
HORT Hortiatis 82.60 311 P **P** **10 23 18.6 -0.4**
SANT Santorini 82.62 306 *e*P **P** **10 23 18.3 -0.8**
comp=Z,346nm,1.3s
SANT LR LR
comp=Z,8μm,22.0s
WNDE Wendo Genet 82.63 275 *e*P **P** **10 23 21.5 +1.7**
AOS Alonnisos 82.64 309 P **P** **10 23 18.8 -0.3**
AOS Alonnisos 82.64 309 *e*P **P** **10 23 19.0 -0.1**
AOS Alonnisos 82.64 309 P **P** **10 23 18.8 -0.3**
RUND Rundenannen 82.66 334 *e*P **P** **10 23 18.7 -0.1**
VAY Valandovo 82.66 312 *i* P **P** **10 23 19.3 +0.1**
BER Bergen 82.69 334 *e*P **P** **10 23 19.3 +0.4**
BER *e*S **S** **10 33 33.6 -1.9**
BER AMS AMS 11 04 14.3
comp=Z,37μm,14.1s
UPC Upice 82.70 322 *i* P **P** **10 23 20.7 +1.5**
UPC *e*x x 10 23 26.7
YKW3 Yellowknife Ar 82.73 23 *e*P **P** **10 23 19.7 +0.6**
comp=Z,3.1nm,1.0s
YKA Yellowknife Ar 82.77 23 P **P** **10 23 19.0 -0.4**
YKA PKKPbc **PKKPbc** **10 41 40.7 -3.8**
YKA P'P' 10 49 56.5
YKA Yellowknife Ar 82.77 23 P **P** **10 23 19.0 -0.4**
comp=Z,25nm,1.0s,baz=311,slow=4.9,SNR=68
YKA PKKPbc **PKKPbc** **10 41 40.7 -3.8**
comp=Z,2.2nm,0.7s,baz=130,slow=2.6,SNR=12
YKA PKPPKP **P'P'df** **10 49 56.5 +3.7**
comp=Z,2.3nm,1.1s,baz=122,slow=1.9,SNR=3.7
BLS5 Blasjo 82.78 333 *e*P **P** **10 23 20.5 +1.0**
BLS5 AMB AMB 10 23 29.2
comp=Z,189nm,1.5s
SMOL Smolenice 82.80 320 *e*P **P** **10 23 22.0 +2.2**
VRAC Vranov 82.93 321 P **P** **10 23 21.4 +1.0**
VRAC Vranov 82.93 321 P **P** **10 23 21.4 +1.0**
comp=Z,55nm,1.0s,baz=68,slow=5.6,SNR=67
NPS Neapolis 82.95 305 P **P** **10 23 20.6 -0.3**
NPS Neapolis 82.95 305 P **P** **10 23 20.6 -0.3**
NPS Neapolis 82.95 305 *e*P **P** **10 23 21.0 +0.1**
NPS Neapolis 82.95 305 P **P** **10 23 20.6 -0.3**
XOR Xorichti 83.04 310 P **P** **10 23 20.1 -1.2**
XOR Xorichti 83.04 310 P **P** **10 23 20.1 -1.2**
SNART Snartemo 83.07 332 *e*P **P** **10 23 21.9 +0.9**
SNART AMB AMB 10 23 28.5
comp=Z,99nm,1.8s
LAST Lasithi 83.09 305 *e*P **P** **10 23 21.5 -0.2**
PTL Penteli 83.11 308 *e*P **P** **10 23 22.0 +0.4**
PKSM Moragy 83.11 317 ⇓*i*P **P** **10 23 22.2 +0.8**
ZST Bratislava 83.14 320 *e*P **P** **10 23 21.7 +0.1**
ZST Bratislava 83.14 320 *e*S **S** **10 33 35.3 -5.4**
SKO Skopje 83.16 313 *i* P **P** **10 23 23.7 +1.9**
DIVS Divibare 83.19 315 P **P** **10 23 22.4 +0.4**
MUD Monsted U'grnd 83.22 329 *i* P P 10 23 25.1 +3.4
MUD Monsted U'grnd 83.22 329 *i* S **S** **10 33 40.0 -1.1**
MUD
comp=Z,33μm,15.0s
SCO Scoresbysund 83.22 349 *i* P **P** **10 23 22.3 +0.8**
SCO
comp=Z,28μm,16.0s
LIT Litokhoron 83.23 311 P **P** **10 23 21.9 -0.3**
LIT Litokhoron 83.23 311 P **P** **10 23 21.9 -0.3**
LIT Litokhoron 83.23 311 *e*P **P** **10 23 22.0 -0.3**
LIT Litokhoron 83.23 311 P **P** **10 23 21.9 -0.3**
SUMG Summit 83.45 355 *e*P **P** **10 23 23.6 +0.4**
SUMG pmax pmax
comp=Z,106nm,0.9s
SUMG Summit 83.45 355 *i* P **P** **10 23 23.2 0.0**
comp=Z,105nm,1.0s
SUMG Summit 83.45 355 *i* S **S** **10 33 41.6 -2.3**
SUMG
comp=Z,17μm,17.0s
SUMG Summit 83.45 355 *e*P **P** **10 23 23.6 +0.4**
comp=Z,106nm,0.9s
LKR Lokris 83.48 309 *e*P P 10 23 33.5 +10
IDI Anoyia 83.48 306 P **P** **10 23 23.4 -0.2**
IDI Anoyia 83.48 306 *e*P **P** **10 23 23.5 -0.2**
IDI Anoyia 83.48 306 *e*P **P** **10 23 23.2 -0.4**
comp=Z,58nm,0.6s
PVCC Panska Ves 83.50 323 *e*P **P** **10 23 25.0 +1.7**
PVCC *e*SKS **S** **10 33 41.3 -2.9**
PVCC AMS AMS 11 10 40.0
comp=Z,22μm,15.5s
NAIG Nisos Aigina 83.50 308 *e*P **P** **10 23 22.5 -1.1**
TREC Trest 83.57 321 *e*P **P** **10 23 24.6 +0.8**
TREC *e*pP **pP** **10 23 31.1 +1.4**
TREC *e*SKS **S** **10 33 43.0 -2.1**
TREC AMS AMS 11 15 10.0
comp=Z,21μm,16.9s
KZN Kozani 83.64 311 P **P** **10 23 23.5 -0.9**
KZN Kozani 83.64 311 P **P** **10 23 23.5 -0.9**
KZN Kozani 83.64 311 *e*P **P** **10 23 24.5 +0.1**
KZN Kozani 83.64 311 P **P** **10 23 23.5 -0.9**
BIA Bitola 83.64 312 *i* P **P** **10 23 24.1 -0.3**
SIVA Sivas 83.65 305 P **P** **10 23 25.1 +0.7**
SIVA Sivas 83.65 305 *e*P **P** **10 23 25.5 +1.1**
SIVA Sivas 83.65 305 P **P** **10 23 25.1 +0.7**
AXAR Agios Charalam 83.67 309 P **P** **10 23 24.3 -0.2**
AXAR Agios Charalam 83.67 309 P **P** **10 23 24.3 -0.2**
BRG Berggiesshubel 83.67 323 *i* P **P** **10 23 25.6 +1.3**
comp=Z,87nm,1.4s
BRG *i* 10 23 31.4
comp=Z,82nm,1.2s
BRG *i* 10 23 42.6
comp=Z,67nm,1.1s
BRG Berggiesshubel 83.67 323 *e*P **P** **10 23 25.5 +1.3**
comp=Z,82nm,1.2s
BRG Berggiesshubel 83.67 323 S **S** **10 33 43.0 -3.0**
BRG SS **SS** **10 39 07.0 -4.9**
FNA Florina 83.71 312 P **P** **10 23 24.7 0.0**
FNA Florina 83.71 312 P **P** **10 23 24.7 0.0**
FNA Florina 83.71 312 *e*P **P** **10 23 24.5 -0.2**
FNA Florina 83.71 312 P **P** **10 23 24.7 0.0**
LTK Loutraki 83.76 309 *e*P **P** **10 23 24.0 -1.0**
PRU Pruhonice 83.77 322 *i* P **P** **10 23 26.3 +1.5**
PRU *e*pP **pP** **10 23 32.3 +1.6**
PRU *e*SKS **S** **10 33 44.7 -2.3**
PRU AMS AMS 11 07 30.0
comp=Z,17μm,16.2s
DID Didima 83.78 308 P **P** **10 23 23.9 -1.2**
DID Didima 83.78 308 *e*P **P** **10 23 24.0 -1.2**
THL Klokotos Trika 83.79 310 P **P** **10 23 24.5 -0.5**
THL Klokotos Trika 83.79 310 *e*P **P** **10 23 26.0 +1.0**
AGG Agios Georgios 83.80 310 P **P** **10 23 23.8 -1.4**
AGG Agios Georgios 83.80 310 P **P** **10 23 23.8 -1.4**
AGG Agios Georgios 83.80 310 *e*P **P** **10 23 24.0 -1.2**
AGG Agios Georgios 83.80 310 P **P** **10 23 23.8 -1.4**
PRA Prague 83.80 322 P **P** **10 23 27.0 +2.1**
PRA SKS **S** **10 33 45.0 -2.2**
PRA AMS AMS 11 08 00.0
IVA Berane 83.80 314 ⇓*i*P **P** **10 23 26.4 +1.2**
PVY Plav 83.88 314 ⇓*i*P **P** **10 23 26.5 +0.9**
DSF Desfina 83.91 309 P **P** **10 23 23.8 -2.0**
DSF Desfina 83.91 309 P **P** **10 23 23.8 -2.0**
PLE Pljevlja 83.93 315 ⇓*i*P **P** **10 23 27.9 +2.0**
MAKR Makrakomi, Fth 83.94 310 P **P** **10 23 24.7 -1.2**
MAKR Makrakomi, Fth 83.94 310 P **P** **10 23 24.7 -1.2**
VAM Vamos 83.95 306 P **P** **10 23 26.9 +1.0**
VAM Vamos 83.95 306 P **P** **10 23 26.9 +1.0**
VAM Vamos 83.95 306 *e*P **P** **10 23 27.0 +1.0**
VAM Vamos 83.95 306 P **P** **10 23 26.9 +1.0**
PHP Peshkopia 83.95 313 *e*P P 10 23 21.4 -4.6
PHP Peshkopia 83.95 313 P **P** **10 23 25.7 -0.3**
PHP Peshkopia 83.95 313 P **P** **10 23 25.7 -0.3**
PHP Peshkopia 83.95 313 P **P** **10 23 25.7 -0.3**
CLL Collm 83.97 324 *e*P **P** **10 23 26.9 +1.1**
comp=Z,112nm,1.0s
FBE Freiberg 83.97 323 *e*P **P** **10 23 27.4 +1.6**
comp=Z,148nm,0.9s
CONA Conrad Observa 84.00 320 ⇑*i*pP **P** **10 23 26.9 +0.7**
comp=Z,201nm,1.2s,SNR=71
BSEG Bad Segeberg 84.01 327 *e*P **P** **10 23 26.8 +0.9**
comp=Z,209nm,1.3s
NEST Nestorio 84.09 311 P **P** **10 23 25.8 -0.9**
PUK Puka 84.16 313 *e*P **P** **10 23 26.3 -0.7**
KBN Korca 84.18 312 *e*P P 10 23 23.1 -4.1
KBN Korca 84.18 312 P **P** **10 23 27.6 +0.4**
KBN Korca 84.18 312 P **P** **10 23 27.6 +0.4**
KBN Korca 84.18 312 P **P** **10 23 27.6 +0.4**
KALE Kalithea 84.20 309 *e*P **P** **10 23 27.0 -0.3**
EVR Evrytania 84.21 310 P **P** **10 23 26.7 -0.7**
EVR Evrytania 84.21 310 *e*P P 10 23 33.5 +6.1
EVR Evrytania 84.21 310 P **P** **10 23 26.7 -0.7**
GUR Goura 84.25 309 P **P** **10 23 26.9 -0.7**
GUR Goura 84.25 309 *e*P P 10 23 24.0 -3.6
TRIZ Trizonia 84.26 309 P **P** **10 23 27.4 -0.1**
TRIZ Trizonia 84.26 309 *e*P **P** **10 23 27.0 -0.5**
UPM Unac-Piva 84.30 315 ⇓*i*P **P** **10 23 28.2 +0.3**
VLI Veliai 84.33 307 P **P** **10 23 26.8 -1.1**
VLI Veliai 84.33 307 *e*P **P** **10 23 26.5 -1.4**
VLI Veliai 84.33 307 P **P** **10 23 26.8 -1.1**
KLV Kalavryta, Ach 84.34 309 P **P** **10 23 27.5 -0.5**
KLV Kalavryta, Ach 84.34 309 *e*P **P** **10 23 28.0 0.0**
KLV Kalavryta, Ach 84.34 309 P **P** **10 23 27.5 -0.5**
EFP Efpalio 84.35 309 P **P** **10 23 27.9 0.0**
EFP Efpalio 84.35 309 *e*P **P** **10 23 28.0 0.0**
LAKA Lakka 84.38 309 P **P** **10 23 26.6 -1.5**
LAKA Lakka 84.38 309 *e*P **P** **10 23 27.0 -1.1**
LAKA Lakka 84.38 309 P **P** **10 23 26.6 -1.5**
PDG Podgorica 84.42 314 P **P** **10 23 29.5 +1.3**
TTG Podgorica 84.42 314 ⇓*i*P **P** **10 23 29.3 +1.1**
TTG Podgorica 84.42 314 P **P** **10 23 29.5 +1.3**
TTG Podgorica 84.42 314 P **P** **10 23 29.5 +1.3**
NKY Niksic 84.42 314 ⇓*i*P **P** **10 23 29.2 +0.8**
ANKY Antikythira Is 84.42 307 *e*P **P** **10 23 29.0 +0.6**
VLX Vlachokerasia 84.46 308 P **P** **10 23 28.1 -0.6**
VLX Vlachokerasia 84.46 308 *e*P **P** **10 23 28.5 -0.2**
NKME Niksic 84.46 314 ⇓*i*P **P** **10 23 29.5 +1.0**
KOGS Kog 84.47 318 *i* P **P** **10 23 29.4 +1.0**
TIR Tirane 84.49 313 *e*P **P** **10 23 25.7 -2.9**
TIR Tirane 84.49 313 *e*P **P** **10 23 29.6 +1.0**
TIR pmax pmax
comp=Z,429nm,1.1s
TIR MLR MLR
comp=Z,7μm,20.0s
TIR Tirane 84.49 313 *e*P **P** **10 23 29.6 +1.0**
comp=Z,429nm,1.1s
TIR LR LR
comp=Z,7μm,20.0s
ARSA Arzberg 84.53 319 ⇑*i*P **P** **10 23 28.5 -0.2**
comp=Z,87nm,1.4s,SNR=27
JAN Janina 84.56 311 *e*P P 10 23 33.5 +4.5
DRME Dracevica, Mon 84.57 314 ⇓*i*P **P** **10 23 30.1 +1.1**
ULC Ulcinj 84.63 313 ⇓*i*P **P** **10 23 30.1 +0.7**
BRY Bratogost 84.67 315 ⇓*i*P **P** **10 23 30.0 +0.3**
NEUB Neuenburg 84.69 324 *e*P **P** **10 23 30.7 +1.3**
comp=Z,191nm,1.3s
BUM Brajici-Budva 84.71 314 ⇓*i*P **P** **10 23 30.1 +0.3**
TANN Tannenbergstha 84.72 323 *e*P **P** **10 23 30.8 +1.1**
comp=Z,87nm,1.4s
KHC Kasperske Hory 84.74 322 *e*P **P** **10 23 30.3 +0.5**
KHC pmax pmax
comp=Z,72nm,0.9s
KHC Kasperske Hory 84.74 322 *i* P **P** **10 23 30.2 +0.5**
KHC *e*pP **pP** **10 23 36.2 +0.5**
KHC *e*SKS **S** **10 33 51.9 -5.0**
KHC AMS AMS 11 05 30.0
comp=Z,20μm,16.7s
KHC Kasperske Hory 84.74 322 *e*P **P** **10 23 30.3 +0.5**
comp=Z,72nm,0.9s
DYR Agios Nikonas 84.75 308 P **P** **10 23 29.7 -0.4**
DYR Agios Nikonas 84.75 308 *e*P **P** **10 23 30.0 -0.1**
WERD Werda 84.79 323 *e*P **P** **10 23 31.1 +1.1**
comp=Z,83nm,1.3s
GEC2 GERESS Array S 84.81 321 *e*P **P** **10 23 31.5 +1.3**
comp=Z,151nm,0.9s
GERES GERESS Array B 84.81 321 P **P** **10 23 29.5 -0.8**
GERES PKKPbc **PKKPbc** **10 41 38.7 -0.8**
GERES P'P' 10 49 51.5
GERES GERESS Array B 84.81 321 P **P** **10 23 29.5 -0.8**
comp=Z,37nm,0.8s,baz=56,slow=5.6,SNR=168
GERES PKKPbc **PKKPbc** **10 41 38.7 -0.8**
comp=Z,0.4nm,0.4s,baz=258,slow=2.9,SNR=3.7
GERES PKPPKP **P'P'df** **10 49 51.5 +2.3**
comp=Z,0.4nm,0.7s,baz=254,slow=5.0,SNR=3.5
GERES LR LR 11 07 41.8
comp=Z,14μm,18.6s,baz=60,slow=40
GUNZ Gunzen 84.82 323 *e*P **P** **10 23 31.6 +1.5**
comp=Z,105nm,0.9s
RLS Riolos of Patr 84.82 309 P **P** **10 23 31.2 +0.9**
RLS Riolos of Patr 84.82 309 *e*P **P** **10 23 31.0 +0.7**
RLS Riolos of Patr 84.82 309 P **P** **10 23 31.2 +0.9**
NKC Novy Kostel 84.82 323 *i* P **P** **10 23 30.7 +0.6**
NKC *e*pP **pP** **10 23 37.0 +0.9**
NKC *e*SKS **S** **10 33 52.8 -4.7**
NKC AMS AMS 11 05 20.0
comp=Z,18μm,16.1s
AXS Araxos 84.82 309 P **P** **10 23 30.4 +0.1**
WERN Wernitzgruen 84.83 323 *e*P **P** **10 23 31.6 +1.4**
comp=Z,100nm,0.9s
PLN Plauen 84.85 323 *e*P **P** **10 23 31.5 +1.2**
comp=Z,482nm,1.4s
ITM Ithomi 84.87 308 P **P** **10 23 28.9 -1.7**
ITM Ithomi 84.87 308 *e*P **P** **10 23 30.5 -0.1**
ITM Ithomi 84.87 308 P **P** **10 23 28.9 -1.7**
AMT Artemida-Makis 84.87 309 P **P** **10 23 30.2 -0.5**
AMT Artemida-Makis 84.87 309 *e*P **P** **10 23 31.0 +0.3**
NRDL Niedersach Rie 84.89 326 *e*P **P** **10 23 32.0 +1.7**
comp=Z,252nm,1.5s
HCY Herceg Novi 84.91 314 ⇓*i*P **P** **10 23 31.2 +0.5**
IGT Igoumenitsa 84.97 311 P **P** **10 23 30.5 -0.6**
IGT Igoumenitsa 84.97 311 P **P** **10 23 30.5 -0.6**
IGT Igoumenitsa 84.97 311 P **P** **10 23 30.5 -0.6**
MOA Molln 84.98 320 ⇓*i*PcP **P** **10 23 32.3 +1.3**
comp=Z,114nm,0.8s,SNR=32
SRN Sarande 85.05 311 *e*P P 10 23 25.1 -6.3
SRN Sarande 85.05 311 P **P** **10 23 30.9 -0.5**
SRN Sarande 85.05 311 P **P** **10 23 30.9 -0.5**
MOX Moxa 85.06 324 *e*P **P** **10 23 32.4 +1.1**
comp=Z,107nm,1.3s
MOX *e*L L 11 06 22.2
comp=Z,26μm,20.4s
PERS Pernice 85.07 319 *i* P **P** **10 23 32.4 +0.9**
PERS *e* 10 23 38.2
PERS *e*S **S** **10 33 56.0 -4.3**
LKD2 Lefkada island 85.07 310 P **P** **10 23 31.3 -0.3**
LKD2 Lefkada island 85.07 310 *e*P **P** **10 23 31.5 -0.1**
LKD2 Lefkada island 85.07 310 P **P** **10 23 31.3 -0.3**
SOKA Soboth 85.10 319 ⇑*i*P **P** **10 23 31.6 -0.1**
comp=Z,80nm,1.1s,SNR=38
PYL PYLOS 85.12 308 P **P** **10 23 31.0 -0.9**
PYL PYLOS 85.12 308 *e*P **P** **10 23 31.0 -0.9**
MANZ Manzenberg 85.13 323 *e*P **P** **10 23 32.9 +1.2**
comp=Z,100nm,1.3s
WET Wettzell 85.13 322 *e*P **P** **10 23 33.0 +1.3**
comp=Z,99nm,1.5s
ROTZ Rotzenmuhle 85.19 323 *e*P **P** **10 23 33.6 +1.6**
comp=Z,109nm,1.0s
KEK Kerkira 85.26 311 P **P** **10 23 32.4 -0.1**
KEK Kerkira 85.26 311 *e*P **P** **10 23 31.5 -1.0**
KEK Kerkira 85.26 311 P **P** **10 23 32.4 -0.1**
KFL Anninata 85.28 309 P **P** **10 23 32.7 +0.1**
VLS Valsamata 85.39 310 P **P** **10 23 32.8 -0.4**
VLS Valsamata 85.39 310 P **P** **10 23 32.8 -0.4**
VLS Valsamata 85.39 310 *e*P **P** **10 23 32.5 -0.7**
VLS Valsamata 85.39 310 P **P** **10 23 32.8 -0.4**
LRW Lerwick 85.40 336 *e*P **P** **10 23 33.4 +0.7**
LRW AMB AMB 10 23 41.1
comp=Z,148nm,2.1s
LRW AMS AMS 11 06 22.0
comp=Z,25μm,17.5s
PDKS Podkum 85.42 319 *i* P **P** **10 23 34.2 +1.0**
PDKS *i* 10 23 40.0
PDKS *e*S **S** **10 34 01.4 -2.3**
OPO Ambohidratompo 85.46 248 LR LR 11 03 06.0
comp=Z,6μm,18.0s,baz=59,slow=37
OBKA Obir 85.47 319 ⇑*i*PcP **P** **10 23 34.3 +0.7**
comp=Z,81nm,1.0s,SNR=19
BOJS Bojanci 85.54 318 *i* P **P** **10 23 35.1 +1.3**
BOJS *i* 10 23 40.9
BOJS *e*S S 10 33 55.1 -10
ABPO Ambohimpanom 85.62 247 *e*P **P** **10 23 34.2 -0.6**
ABPO pmax pmax
comp=Z,117nm,1.0s
ABPO MLR MLR
comp=Z,7μm,21.0s
ABPO Ambohimpanom 85.62 247 *e*P **P** **10 23 34.2 -0.6**
comp=Z,117nm,1.0s
ABPO LR LR
comp=Z,7μm,21.0s
GRF Grafenberg Arr 85.78 323 *e*P **P** **10 23 36.4 +1.5**
comp=Z,233nm,1.3s
GRF *e*L L 11 06 24.2
comp=Z,21μm,19.4s
GRFO Grafenberg 85.78 323 *e*P **P** **10 23 36.0 +1.1**
GRFO pmax pmax
comp=Z,152nm,1.1s
GRFO Grafenberg 85.78 323 *e*P **P** **10 23 36.0 +1.1**
comp=Z,152nm,1.1s
UBBA Unterbreizbach 85.84 324 *e*P **P** **10 23 36.3 +1.2**
comp=Z,186nm,1.8s
RJOB Jochberg 85.90 321 *e*P **P** **10 23 36.6 +1.0**
comp=Z,76nm,1.0s
KBA Koelnbreinsper 85.91 320 ⇓*i*P **P** **10 23 36.0 +0.2**
comp=Z,112nm,1.2s,SNR=22
MYKA Terra Mystica 85.96 320 ⇑*i*P **P** **10 23 35.3 -0.6**
comp=Z,33nm,1.1s,SNR=11
JAVS Javornik 86.07 319 *i* P **P** **10 23 36.8 +0.2**
JAVS *e* 10 23 42.9
JAVS *e*S SKSac 10 33 47.1 -15
VOY Vojsko 86.11 319 *e*(P) **P** **10 23 36.3 -0.4**
VOY *e* 10 23 43.7
VOY *e* 10 24 06.0
VOY *e* 10 24 16.8
VOY *e* 10 24 23.9
VOY *e* 10 24 31.5
IBBN Ibbenburen 86.20 326 *e*P **P** **10 23 38.4 +1.5**
comp=Z,310nm,1.2s
TRI Trieste 86.35 319 *e*P **P** **10 23 38.2 +0.5**
TRI pmax pmax
comp=Z,32nm,0.9s
TRI Trieste 86.35 319 *e*P **P** **10 23 38.2 +0.5**
comp=Z,32nm,0.9s
FUR Furstenfeldbru 86.55 322 *e*P **P** **10 23 40.0 +1.2**
comp=Z,265nm,1.1s
ABTA Abfaltersbach 86.57 320 ⇑*i*P **P** **10 23 38.4 -0.6**
comp=Z,73nm,1.4s,SNR=18
PGC Sidney 86.63 38 *e*P **P** **10 23 40.7 +1.6**
comp=Z,40nm,0.8s
PAF Port-aux-Franc 86.63 212 PFAKE 10 23 50.0 +11
PAF LR LR
comp=Z,4μm,19.0s
RAR Rarotonga 86.78 115 PFAKE 10 23 50.0 +10
RAR LR LR
comp=Z,5μm,21.0s
WATA Walderalm 86.81 321 ⇓*i*PcP **P** **10 23 40.5 +0.2**
comp=Z,40nm,1.1s,SNR=8.2
WTTA Wattenberg 86.81 321 ⇑*i*PcP **P** **10 23 40.4 +0.1**
comp=Z,95nm,1.5s,SNR=27
OSD Olympics--Snow 86.93 39 P **P** **10 23 43.6 +2.8**
BUG Bochum--Univer 86.94 326 *e*P **P** **10 23 41.6 +1.1**
comp=Z,225nm,1.2s
TNS Taunus Mts 87.00 324 *e*P **P** **10 23 42.1 +1.1**
comp=Z,113nm,1.4s
NLWA Neilton Lookou 87.06 39 *e*P **P** **10 23 42.9 +1.6**
comp=Z,111nm,1.3s
NLWA LR LR
comp=Z,5μm,20.0s
MOTA Moosalm 87.08 321 ⇓*i*PcP **P** **10 23 41.6 0.0**
comp=Z,28nm,0.9s,SNR=13
KMBO Kilima Mbogo 87.10 268 P **P** **10 23 43.0 +0.6**
SNR=27
KMBO Kilima Mbogo 87.10 268 *e*P **P** **10 23 42.4 0.0**
comp=Z,17nm,1.1s
KMBO Kilima Mbogo 87.10 268 P **P** **10 23 43.7 +1.4**
comp=Z,35nm,0.9s,baz=49,slow=7.1,SNR=34
KMBO LR LR 11 03 52.3
comp=Z,8μm,18.9s,baz=50,slow=36
RETA Reutte 87.20 321 ⇑*i*PcP **P** **10 23 42.2 +0.2**
comp=Z,25nm,1.0s,SNR=12
STU Stuttgart 87.39 323 *e*P **P** **10 23 43.8 +1.0**
comp=Z,89nm,1.1s
STU Stuttgart 87.39 323 *e*P **P** **10 23 43.3 +0.5**
STU pmax pmax
comp=Z,90nm,1.1s
STU Stuttgart 87.39 323 *e*P **P** **10 23 43.3 +0.5**
comp=Z,90nm,1.1s
FETA Feichten 87.47 321 ⇓*i*PcP **P** **10 23 43.3 -0.2**
comp=Z,44nm,1.0s,SNR=30
B06A Marblemount 87.80 37 P **P** **10 23 44.2 -0.5**
DAVA Damuels 87.81 321 ⇑*i*PcP **P** **10 23 45.5 +0.4**
comp=Z,85nm,1.8s,SNR=19
CUC Castrocucco 87.85 313 *e*P **P** **10 23 43.1 -2.1**
comp=Z,66nm,1.3s
CUC LR LR
comp=Z,6μm,19.0s
BORG Borgarnes 88.00 346 PFAKE 10 24 00.0 +15
BORG LR LR
comp=Z,21μm,19.0s
LANF Langenberg 88.04 324 *e*P **P** **10 23 47.1 +1.1**
DRUM Mains of Drumt 88.05 334 *e*P **P** **10 23 48.1 +2.3**
DRUM AMB AMB 10 23 52.2
comp=Z,92nm,4.0s
DRUM AMS AMS 11 07 52.1
comp=Z,27μm,17.0s
MEM Membach 88.07 326 P **P** **10 23 47.2 +1.2**
comp=Z,27nm,1.6s
DAVOX Davos/Dischmat 88.09 321 P **P** **10 23 46.6 +0.2**

DAVOX	**Davos/Dischmat**	88.09	321	P	**P**	**10 23 46.6 +0.2**
	comp=Z,21nm,0.8s,baz=78,slow=4.2,SNR=34					
BFO	**Black Forest**	88.12	323	*e*P	**P**	**10 23 46.8 +0.5**
	comp=Z,143nm,1.9s					
BFO	**Black Forest**	88.12	323	*e*P	**P**	**10 23 45.9 -0.4**
BFO				pmax	pmax	
	comp=Z,38nm,1.1s					
BFO				MLR	MLR	
	comp=Z,18µm,20.0s					
BFO	**Black Forest**	88.12	323	*e*P	**P**	**10 23 45.9 -0.4**
	comp=Z,38nm,1.1s					
BFO				LR	LR	
	comp=Z,18µm,20.0s					
BEBN	**Eben Emael**	88.13	326	P	**P**	**10 23 47.7 +1.5**
	comp=Z,20nm,1.6s					
AQU	**L'Aquila**	88.26	316	*e*P	**P**	**10 23 48.4 +1.2**
	comp=Z,140nm,0.9s					
AQU				LR	LR	
	comp=Z,10µm,19.0s					
WLF	**Walferdange**	88.54	325	P	**P**	**10 23 49.6 +1.3**
	comp=Z,70nm,1.3s					
WLF	**Walferdange**	88.54	325	*e*P	**P**	**10 23 49.7 +1.4**
	comp=Z,118nm,1.1s					
WLF	**Walferdange**	88.54	325	*e*P	**P**	**10 23 49.5 +1.3**
WLF				pmax	pmax	
	comp=Z,63nm,0.9s					
WLF				MLR	MLR	
	comp=Z,25µm,19.0s					
WLF	**Walferdange**	88.54	325	*e*P	**P**	**10 23 49.5 +1.2**
	comp=Z,63nm,0.9s					
WLF				LR	LR	
	comp=Z,25µm,19.0s					
BCLA	**Clavier**	88.54	326	P	**P**	**10 23 49.5 +1.2**
	comp=Z,27nm,1.8s					
TUE	**Stuetta**	88.56	321	*e*P	**P**	**10 23 49.4 +0.7**
	comp=Z,28nm,0.8s					
TUE				LR	LR	
	comp=Z,19µm,19.0s					
RCS	**Mount Rainier-**	88.57	39	P	**P**	**10 23 51.8 +2.9**
TDL	**Tradedollar La**	88.57	39	P	**P**	**10 23 50.6 +1.9**
FL2	**Flat Top 2**	88.58	39	P	**P**	**10 23 51.2 +2.5**
LON	**Longmire**	88.59	39	*e*P	**P**	**10 23 50.0 +1.3**
LON				pmax	pmax	
	comp=Z,52nm,1.0s					
LON	**Longmire**	88.59	39	*e*P	**P**	**10 23 50.0 +1.3**
	comp=Z,52nm,1.0s					
CEL	**Celeste**	88.63	311	*e*P	**P**	**10 23 49.2 +0.2**
	comp=Z,208nm,1.1s					
CEL				LR	LR	
	comp=Z,8µm,19.0s					
CDF	**Champ du Feu**	88.65	323	*e*P	**P**	**10 23 48.8 -0.2**
	comp=Z,256nm,1.3s					
CDF	**Champ du Feu**	88.65	323	*e*P	**P**	**10 23 48.8 -0.2**
	comp=Z,256nm,1.3s					
WPW	**White Pass**	88.77	39	P	**P**	**10 23 51.2 +1.6**
ECH	**Echery**	88.83	323	*e*P	**P**	**10 23 49.2 -0.5**
ECH				pmax	pmax	
	comp=Z,35nm,0.9s					
ECH				MLR	MLR	
	comp=Z,19µm,19.0s					
ECH	**Echery**	88.83	323	*e*P	**P**	**10 23 49.2 -0.5**
	comp=Z,35nm,0.9s					
ECH				LR	LR	
	comp=Z,19µm,19.0s					
ECH	**Echery**	88.83	323	*e*P	**P**	**10 23 50.3 +0.6**
COR	**Corvallis**	88.88	41	*e*P	**P**	**10 23 50.3 +0.3**
COR				pmax	pmax	
	comp=Z,98nm,1.0s					
COR	**Corvallis**	88.88	41	*e*P	**P**	**10 23 50.3 +0.3**
	comp=Z,16nm,1.0s					
GIVF	**Givet**	88.98	326	*e*P	**P**	**10 23 50.1 -0.2**
	comp=Z,73nm,1.2s					
GIVF	**Givet**	88.98	326	*e*P	**P**	**10 23 50.1 -0.2**
	comp=Z,73nm,1.2s					
EDI	**Edinburgh**	89.01	333	AMS	AMS	11 09 02.6
	comp=Z,15µm,16.3s					
KPL	**Plockton**	89.01	335	AMS	AMS	11 08 38.0
	comp=Z,34µm,16.9s					
MOF	**Molkenrain**	89.05	323	*e*P	**P**	**10 23 51.4 +0.6**
B08A	**Colville Reser**	89.07	36	P	**P**	**10 23 50.7 -0.2**
DOU	**Dourbes**	89.10	326	P	**P**	**10 23 51.1 +0.2**
	comp=Z,16nm,1.5s					
EDM	**Edmonton**	89.14	30	*e*P	**P**	**10 23 52.2 +1.1**
EDM	**Edmonton**	89.14	30	*e*P	**P**	**10 23 52.2 +1.1**
	comp=Z,214nm,1.1s					
KEBM	**Edson Butte**	89.16	43	*e*P	**P**	**10 23 51.7 +0.3**
	comp=Z,115nm,1.1s					
VLC	**Villacollemand**	89.20	319	*e*P	**P**	**10 23 51.8 +0.3**
	comp=Z,48nm,1.0s					
VLC				LR	LR	
	comp=Z,14µm,22.0s					
HINF	**Hinteralfeld**	89.22	323	*e*P	**P**	**10 23 51.0 -0.6**
	comp=Z,96nm,1.0s					
HINF	**Hinteralfeld**	89.22	323	*e*P	**P**	**10 23 51.0 -0.6**
	comp=Z,96nm,1.0s					
BAIF	**Baives**	89.32	326	*e*P	**P**	**10 23 51.8 -0.1**
	comp=Z,69nm,1.3s					
BAIF	**Baives**	89.32	326	*e*P	**P**	**10 23 51.8 -0.1**
	comp=Z,69nm,1.3s					
HAU	**Haudompre**	89.39	323	*e*P	**P**	**10 23 51.8 -0.6**
	comp=Z,82nm,0.8s					
HAU				*e*R		
	comp=Z,28µm,17.2s					
HAU	**Haudompre**	89.39	323	*e*P	**P**	**10 23 51.8 -0.6**
	comp=Z,82nm,0.8s					
EKA	**Eskdalemuir Ar**	89.40	333	P	**P**	**10 23 51.8 -0.4**
EKA	**Eskdalemuir Ar**	89.40	333	P	**P**	**10 23 51.8 -0.4**
	comp=Z,7.7nm,0.8s,baz=52,slow=5.4,SNR=12					
EKA				LR	LR	11 10 29.3
	comp=Z,19µm,19.4s,baz=55,slow=40					
PAGF	**Fort de Pagny**	89.41	324	*e*P	**P**	**10 23 52.4 0.0**
	comp=Z,60nm,1.3s					
PAGF	**Fort de Pagny**	89.41	324	*e*P	**P**	**10 23 52.4 0.0**
	comp=Z,60nm,1.3s					
ESK	**Eskdalemuir**	89.43	333	*e*P	**P**	**10 23 52.9 +0.6**
ESK				AMS	AMS	11 10 01.7
	comp=Z,20µm,17.2s					
ESK	**Eskdalemuir**	89.43	333	*i* P	**P**	**10 23 53.9 +1.6**
ESK	**Eskdalemuir**	89.43	333	*e*P	**P**	**10 23 51.7 -0.6**
	comp=Z,15nm,1.3s					
ESK				LR	LR	
	comp=Z,24µm,20.0s					
THEF	**They Montfort**	89.46	324	*e*P	**P**	**10 23 52.9 +0.2**
LOMF	**Lomont**	89.50	323	*e*P	**P**	**10 23 53.6 +0.6**
PGBU	**Glenifferbraes**	89.62	334	AMS	AMS	11 08 57.7
	comp=Z,20µm,16.2s					
HPK	**Haverah Park**	89.66	331	*e*P	**P**	**10 23 54.3 +0.9**
HPK				AMB	AMB	10 24 02.3
	comp=Z,80nm,3.3s					
HPK				AMS	AMS	11 10 43.7
	comp=Z,20µm,16.4s					
SFJD	**Kangerlussuaq**	89.73	358	*e*P	**P**	**10 23 53.4 -0.1**
	comp=Z,42nm,1.0s					
SFJD	**Kangerlussuaq**	89.73	358	LR	LR	11 08 52.4
	comp=Z,18µm,19.1s,baz=354,slow=39					
MEZF	**Maizieres J'vi**	89.81	324	*e*P	**P**	**10 23 54.3 +0.1**
	comp=Z,91nm,0.9s					
MEZF	**Maizieres J'vi**	89.81	324	*e*P	**P**	**10 23 54.3 +0.1**
	comp=Z,91nm,0.9s					
KESW	**Keswick, Cumbr**	89.88	332	AMS	AMS	11 09 46.5
	comp=Z,26µm,16.3s					
SFTF	**Sexfontaines**	89.99	324	*e*P	**P**	**10 23 54.9 -0.2**
	comp=Z,380nm,1.4s					
SFTF	**Sexfontaines**	89.99	324	*e*P	**P**	**10 23 54.9 -0.2**
	comp=Z,380nm,1.4s					
CASY	**Casey**	89.99	185	*e*P	**P**	**10 23 53.5 -0.9**
	comp=Z,54nm,1.1s					
CASY				LR	LR	
	comp=Z,2µm,19.0s					
HUMO	**Hull Mountain**	90.16	43	*e*P	**P**	**10 23 57.2 +1.1**
	comp=Z,64nm,1.4s					
ELSH	**Elham, Standar**	90.19	328	AMS	AMS	11 09 52.7
	comp=Z,17µm,15.5s					
NEW	**Newport**	90.32	36	*e*P	**P**	**10 23 57.2 +0.5**
	comp=Z,106nm,1.1s					
NEW				LR	LR	
	comp=Z,6µm,20.0s					
NEW	**Newport**	90.32	36	P	**P**	**10 23 57.2 +0.5**
	comp=Z,62nm,1.0s,baz=306,slow=3.9,SNR=56					
NEW	**Newport**	90.32	36	⇓P	**P**	**10 23 56.5 -0.3**
	baz=90					
CABF	**La Chapelle**	90.34	322	*e*P	**P**	**10 23 56.6 -0.3**
	comp=Z,186nm,1.4s					
CABF	**La Chapelle**	90.34	322	*e*P	**P**	**10 23 56.6 -0.3**
	comp=Z,186nm,1.4s					
GAL1	**Galloway**	90.37	333	AMS	AMS	11 09 00.3
	comp=Z,15µm,21.2s					
STNC	**Stoke**	90.49	331	AMS	AMS	11 11 21.2
	comp=Z,22µm,15.9s					
RSL	**Roselend**	90.57	321	*e*P	**P**	**10 23 58.3 +0.2**
LPG	**La Plagne**	90.61	321	*e*P	**P**	**10 23 58.5 +0.1**
	comp=Z,203nm,0.8s					
LPG	**La Plagne**	90.61	321	*e*P	**P**	**10 23 58.5 +0.1**
	comp=Z,203nm,0.8s					
LPL	**La Plagne**	90.61	321	*e*P	**P**	**10 23 58.4 0.0**
	comp=Z,265nm,1.1s					
LPL	**La Plagne**	90.61	321	*e*P	**P**	**10 23 58.4 0.0**
	comp=Z,265nm,1.1s					
DRV	**Dumont d'Urvil**	90.68	174	PP	PP	10 27 24.0 -9.3
DRV				S	SKSac	10 34 16.0 -12
DRV				SS	SS	10 40 38.0 -17
DRV				L	L	10 48 00.0
DRV				R		10 54 00.0
DRV	**Dumont d'Urvil**	90.68	174	PP	PP	10 27 32.0 -1.3
DRV	**Dumont d'Urvil**	90.68	174	L	L	10 54 00.0
DRV				R		11 00 00.0
WDD	**Wield Dalam**	90.76	310	*e*P	**P**	**10 23 58.9 0.0**
	comp=Z,159nm,0.9s					
WDD				LR	LR	
	comp=Z,4µm,22.0s					
HMNX	**Herstmonceux**	90.76	328	AMS	AMS	11 11 36.7
	comp=Z,21µm,16.7s					
YBH	**Yreka Blue Hor**	90.78	43	*e*P	**P**	**10 24 00.5 +1.4**
	comp=Z,80nm,1.5s					
YBH	**Yreka Blue Hor**	90.78	43	P	**P**	**10 24 00.6 +1.5**
	comp=Z,15nm,1.1s,baz=292,slow=1.4,SNR=11					
BNI	**Bardonecchia**	90.91	321	*e*P	**P**	**10 23 59.5 -0.2**
BNI				pmax	pmax	
	comp=Z,93nm,1.1s					
BNI				MLR	MLR	
	comp=Z,19µm,20.0s					
BNI	**Bardonecchia**	90.91	321	*e*P	**P**	**10 23 59.5 -0.2**
	comp=Z,93nm,1.1s					
BNI				LR	LR	
	comp=Z,19µm,20.0s					
PGF	**Pioggiola**	90.92	318	*e*P	**P**	**10 23 59.7 0.0**
	comp=Z,169nm,1.2s					
PGF	**Pioggiola**	90.92	318	*e*P	**P**	**10 23 59.7 0.0**
	comp=Z,169nm,1.2s					
SAOF	**Saorge**	91.00	320	*e*P	**P**	**10 24 00.2 +0.3**
MBDF	**Montbardon**	91.04	320	*e*P	**P**	**10 23 59.4 -0.9**
	comp=Z,75nm,0.9s					
MBDF	**Montbardon**	91.04	320	*e*P	**P**	**10 23 59.4 -0.9**
	comp=Z,75nm,0.9s					
AUTN	**L'Aution**	91.07	320	*e*P	**P**	**10 24 00.9 +0.4**
FOEL	**Foel Wylfa**	91.07	331	*e*P	**P**	**10 24 00.1 0.0**
FOEL				AMB	AMB	10 24 08.5
	comp=Z,69nm,1.3s					
FOEL				AMS	AMS	11 10 37.4
	comp=Z,16µm,16.5s					
WPM1	**Penmaenmawr**	91.13	332	*e*P	**P**	**10 23 59.0 -1.3**
SBF	**Sospel**	91.14	320	*e*P	**P**	**10 24 00.0 -0.6**
	comp=Z,113nm,0.7s					
SBF	**Sospel**	91.14	320	*e*P	**P**	**10 24 00.0 -0.6**
	comp=Z,113nm,0.7s					
TOUF	**Mont Tournerai**	91.17	320	*e*P	**P**	**10 24 00.9 0.0**
LUCF	**Luceram**	91.18	320	*e*P	**P**	**10 24 00.9 0.0**
LOR	**Lormes**	91.19	324	*e*P	**P**	**10 24 00.2 -0.5**
	comp=Z,100nm,1.1s					
LOR				*e*R		
	comp=Z,20µm,19.2s					
LOR	**Lormes**	91.19	324	*e*P	**P**	**10 24 00.2 -0.5**
	comp=Z,100nm,1.1s					
WME	**Myndd Eilian**	91.21	332	*e*P	**P**	**10 24 01.1 +0.4**
WOL	**Wolverton**	91.22	329	AMS	AMS	11 10 46.3
	comp=Z,24µm,17.5s					
MVIF	**Mont Vial**	91.29	320	*e*P	**P**	**10 24 01.8 +0.4**
OSPF	**L'Ospedale**	91.29	317	*e*P	**P**	**10 24 02.3 +0.9**
WLF1	**Llynfaes**	91.33	332	*e*P	**P**	**10 24 01.1 0.0**
WLF1				AMB	AMB	10 24 08.9
	comp=Z,64nm,1.5s					
WLF1				AMS	AMS	11 09 55.6
	comp=Z,20µm,18.7s					
SWN1	**Swindon**	91.36	329	AMS	AMS	11 10 03.7
	comp=Z,24µm,18.1s					
ORIF	**Oris-en-Rattie**	91.45	321	*e*P	**P**	**10 24 02.0 -0.1**
	comp=Z,276nm,1.4s					
ORIF				*e*R		
	comp=Z,18µm,19.5s					
ORIF	**Oris-en-Rattie**	91.45	321	*e*P	**P**	**10 24 02.0 -0.1**
	comp=Z,276nm,1.4s					
SSF	**Saint Saulge**	91.50	324	*e*P	**P**	**10 24 01.8 -0.4**
	comp=Z,80nm,1.1s					
SSF	**Saint Saulge**	91.50	324	*e*P	**P**	**10 24 01.8 -0.4**
	comp=Z,80nm,1.1s					
WALA	**Waterton Lakes**	91.51	34	*e*P	**P**	**10 24 03.0 +0.6**
	comp=Z,197nm,1.4s					
WDC	**Whiskeytown Da**	91.51	44	*e*P	**P**	**10 24 02.1 -0.3**
WDC				pmax	pmax	
	comp=Z,53nm,1.4s					
WDC	**Whiskeytown Da**	91.51	44	*e*P	**P**	**10 24 02.1 -0.3**
	comp=Z,53nm,1.4s					
CALN	**Calern**	91.53	320	*e*P	**P**	**10 24 03.5 +1.0**
SMF	**Signal de Mont**	91.57	323	*e*P	**P**	**10 24 02.2 -0.3**
	comp=Z,169nm,1.0s					
SMF	**Signal de Mont**	91.57	323	*e*P	**P**	**10 24 02.2 -0.3**
	comp=Z,169nm,1.0s					
MCH1	**Michaelchurch**	91.59	330	*e*P	**P**	**10 24 01.1 -1.4**
MCH1				AMB	AMB	10 24 08.6
	comp=Z,80nm,1.2s					
MCH1				AMS	AMS	11 10 26.4
	comp=Z,27µm,16.9s					
AVF	**Avril sur Loir**	91.75	324	*e*P	**P**	**10 24 03.0 -0.3**
	comp=Z,255nm,1.4s					
AVF	**Avril sur Loir**	91.75	324	*e*P	**P**	**10 24 03.0 -0.3**
	comp=Z,255nm,1.4s					
FRF	**La Foret Royal**	91.78	320	*e*P	**P**	**10 24 03.1 -0.4**
	comp=Z,128nm,1.3s					
FRF	**La Foret Royal**	91.78	320	*e*P	**P**	**10 24 03.1 -0.4**
	comp=Z,128nm,1.3s					
BSMT	**Bassoo Peak**	91.82	35	*e*P	**P**	**10 24 04.8 +0.9**
	comp=Z,50nm,1.0s					
HYF	**Humbligny**	91.84	324	*e*P	**P**	**10 24 04.0 +0.2**
HYF	**Humbligny**	91.84	324	*e*P	**P**	**10 24 04.0 +0.2**
BLMT	**Blacktail Moun**	91.94	35	*e*P	**P**	**10 24 05.6 +1.2**
	comp=Z,70nm,1.2s					
OG26	**St.-Nazaire-De**	91.98	321	*e*P	**P**	**10 24 05.4 +0.9**
LPW	**Lampeter**	91.99	331	*e*P	**P**	**10 24 04.4 +0.1**
LPW				AMB	AMB	10 24 06.1
	comp=Z,266nm,1.3s					
LPW				AMS	AMS	11 11 19.3
	comp=Z,214µm,16.9s					
LMR	**La Mourre**	91.99	319	*e*P	**P**	**10 24 04.3 -0.2**
	comp=Z,140nm,1.2s					
LMR	**La Mourre**	91.99	319	*e*P	**P**	**10 24 04.3 -0.2**
	comp=Z,140nm,1.2s					
SSB	**Saint Sauveur**	92.00	322	*e*P	**P**	**10 24 04.5 -0.1**
SSB				pmax	pmax	
	comp=Z,40nm,0.9s					
SSB				MLR	MLR	
	comp=Z,13µm,22.0s					
SSB	**Saint Sauveur**	92.00	322	*e*P	**P**	**10 24 04.5 -0.1**
	comp=Z,40nm,0.9s					
SSB				LR	LR	
	comp=Z,13µm,22.0s					
SSB	**Saint Sauveur**	92.00	322	*e*P	**P**	**10 24 05.1 +0.5**
JTMT	**Jette**	92.15	35	*e*P	**P**	**10 24 06.2 +0.9**
	comp=Z,50nm,1.1s					
BGF	**Bois d'Agland**	92.17	324	*e*P	**P**	**10 24 05.0 -0.3**
	comp=Z,114nm,1.4s					
BGF	**Bois d'Agland**	92.17	324	*e*P	**P**	**10 24 05.0 -0.3**
	comp=Z,114nm,1.4s					
SMRF	**Simiane la Rot**	92.17	320	*e*P	**P**	**10 24 05.4 0.0**
	comp=Z,125nm,1.4s					
SMRF	**Simiane la Rot**	92.17	320	*e*P	**P**	**10 24 05.4 0.0**
	comp=Z,125nm,1.4s					
VIVF	**Saint-Julien-l**	92.18	321	*e*P	**P**	**10 24 05.2 -0.2**
	comp=Z,152nm,1.0s					
VIVF	**Saint-Julien-l**	92.18	321	*e*P	**P**	**10 24 05.2 -0.2**
	comp=Z,152nm,1.0s					
YBMT	**Yellow Bay**	92.22	35	*e*P	**P**	**10 24 06.6 +0.9**
	comp=Z,49nm,1.2s					
BMO	**Blue Mountains**	92.26	38	*e*P	**P**	**10 24 06.4 +0.5**
BMO				pmax	pmax	
	comp=Z,104nm,1.4s					
BMO				MLR	MLR	
	comp=Z,5µm,19.0s					
BMO	**Blue Mountains**	92.26	38	*e*P	**P**	**10 24 06.4 +0.5**
	comp=Z,104nm,1.4s					
BMO				LR	LR	
	comp=Z,5µm,19.0s					
AGO	**Saint Agoulin**	92.32	323	*e*P	**P**	**10 24 07.3 +1.3**
FCC	**Fort Churchill**	92.35	19	*e*P	**P**	**10 24 06.3 +0.5**
FCC				pmax	pmax	
	comp=Z,2.0nm,0.9s					
FCC	**Fort Churchill**	92.35	19	*e*P	**P**	**10 24 06.3 +0.5**
	comp=Z,59nm,0.9s					
VSL	**Villasalto**	92.36	315	*e*P	**P**	**10 24 06.6 +0.3**
	comp=Z,78nm,1.1s					
VSL				LR	LR	
	comp=Z,6µm,20.0s					
SWMT	**Swartz Lake**	92.44	35	*e*P	**P**	**10 24 07.2 +0.5**
	comp=Z,37nm,1.0s					
LDF	**La Druitiere**	92.45	326	*e*P	**P**	**10 24 05.6 -0.9**
	comp=Z,56nm,1.1s					
LDF	**La Druitiere**	92.45	326	*e*P	**P**	**10 24 05.6 -0.9**
	comp=Z,56nm,1.1s					
FLN	**La Foliniere**	92.52	327	*e*P	**P**	**10 24 05.7 -1.1**
	comp=Z,27nm,0.9s					
FLN				*e*R		
	comp=Z,28µm,19.0s					
FLN	**La Foliniere**	92.52	327	*e*P	**P**	**10 24 05.7 -1.1**
	comp=Z,27nm,0.9s					
PYM	**Petit Puy Mans**	92.58	323	*e*P	**P**	**10 24 07.8 +0.5**
TCF	**Toulx Ste Croi**	92.68	324	*e*P	**P**	**10 24 07.7 0.0**
	comp=Z,77nm,1.1s					
TCF	**Toulx Ste Croi**	92.68	324	*e*P	**P**	**10 24 07.7 0.0**
	comp=Z,77nm,1.1s					
LBL	**Lubilhac**	92.76	322	*e*P	**P**	**10 24 08.5 +0.4**
MBAR	**Mbarara**	92.88	271	PFAKE		10 24 20.0 +11
MBAR				LR	LR	
	comp=Z,830nm,21.0s					
SLMT	**Seeley Lake**	92.88	35	*e*P	**P**	**10 24 09.7 +0.9**
	comp=Z,114nm,1.1s					
FFC	**Flin Flon**	92.90	25	*e*P	**P**	**10 24 08.9 +0.5**
FFC				pmax	pmax	
	comp=Z,163nm,0.8s					
FFC				MLR	MLR	
	comp=Z,6µm,19.0s					
FFC	**Flin Flon**	92.90	25	*e*P	**P**	**10 24 08.9 +0.5**
	comp=Z,66nm,0.8s					
FFC				LR	LR	
	comp=Z,9µm,19.0s					
FFC	**Flin Flon**	92.90	25	P	**P**	**10 24 09.9 +1.5**
	comp=Z,507nm,0.8s,SNR=11					
WVOR	**Wild Horse Val**	92.90	41	*e*P	**P**	**10 24 09.3 +0.4**
WVOR				pmax	pmax	
	comp=Z,121nm,1.6s					
WVOR				MLR	MLR	
	comp=Z,5µm,19.0s					
WVOR	**Wild Horse Val**	92.90	41	*e*P	**P**	**10 24 09.3 +0.4**
	comp=Z,121nm,1.6s					
WVOR				LR	LR	
	comp=Z,5µm,19.0s					
MSO	**Missoula**	92.91	35	⇓P	**P**	**10 24 08.5 -0.3**
	baz=93					
HTL	**Hartland**	92.95	330	AMS	AMS	11 11 56.0
	comp=Z,37µm,15.7s					
GRR	**Gorron**	92.96	327	*e*P	**P**	**10 24 09.1 +0.3**
	comp=Z,86nm,1.3s					
GRR	**Gorron**	92.96	327	*e*P	**P**	**10 24 09.1 +0.3**
	comp=Z,86nm,1.3s					
DYA	**Yadsworthy**	93.08	329	*e*P	**P**	**10 24 09.2 -0.2**
DYA				AMS	AMS	11 12 18.2
	comp=Z,25µm,15.3s					
JSA	**Saint Aubin**	93.08	328	AMS	AMS	11 16 36.9
	comp=Z,21µm,16.1s					
LASF	**Ste Croix**	93.11	321	*e*P	**P**	**10 24 09.8 +0.1**
	comp=Z,112nm,1.1s					
LASF	**Ste Croix**	93.11	321	*e*P	**P**	**10 24 09.8 +0.1**
	comp=Z,112nm,1.1s					
CHMT	**Chamberlain Mo**	93.22	35	*e*P	**P**	**10 24 11.5 +1.1**
	comp=Z,34nm,1.4s					
BEKR	**Beckworth**	93.30	44	*e*P	**P**	**10 24 11.8 +1.0**
	comp=Z,14nm,1.1s					
B17A	**L&G Farms, Che**	93.58	33	⇓P	**P**	**10 24 11.5 -0.3**
	baz=93,SNR=17					
CAF	**Calviac**	93.61	323	*e*P	**P**	**10 24 12.3 +0.3**
	comp=Z,131nm,1.0s					
CAF	**Calviac**	93.61	323	*e*P	**P**	**10 24 12.3 +0.3**
	comp=Z,131nm,1.0s					
A18A	**Metzger Ranch,**	93.63	32	⇓P	**P**	**10 24 11.8 -0.2**
	baz=93,SNR=23					
RJF	**Les Rejaudoux**	93.68	323	*e*P	**P**	**10 24 12.6 +0.3**
	comp=Z,100nm,0.9s					
RJF				*e*R		
	comp=Z,22µm,19.0s					
RJF	**Les Rejaudoux**	93.68	323	*e*P	**P**	**10 24 12.6 +0.3**
	comp=Z,100nm,0.9s					
MFF	**Saint Martin d**	93.75	325	*e*P	**P**	**10 24 11.9 -0.6**
	comp=Z,33nm,1.0s					
MFF	**Saint Martin d**	93.75	325	*e*P	**P**	**10 24 11.9 -0.6**
	comp=Z,33nm,1.0s					
CCA1	**Carnmenellis**	93.85	330	AMS	AMS	11 11 56.6
	comp=Z,23µm,18.4s					
SGMF	**Saint Gilles**	93.90	327	*e*P	**P**	**10 24 12.4 -0.8**
	comp=Z,87nm,1.2s					
SGMF	**Saint Gilles**	93.90	327	*e*P	**P**	**10 24 12.4 -0.8**
	comp=Z,87nm,1.2s					
MFID	**Camas Ranch**	93.97	39	⇓P	**P**	**10 24 13.6 -0.2**
	baz=94					
PAHR	**Pah Rah Range**	94.01	44	*e*P	**P**	**10 24 14.9 +0.8**
	comp=Z,36nm,1.1s					
PPT	**Papeete**	94.01	107	LR	LR	10 58 08.9
	comp=Z,4µm,21.9s,baz=113,slow=30					
PPT2	**Papeete2**	94.02	107	*e*S	S	10 35 18.0 -6.5
	comp=Z,13µm,25.0s					
PPT2				*e*SP	**SP**	**10 36 41.0 +2.3**
	comp=Z,2µm,27.2s					
PPT2				*e*SS	**SS**	**10 41 41.0 -3.9**
	comp=Z,1µm,25.0s					
PPT2				*e*LQ	LQ	10 50 32.0
	comp=Z,9µm,29.8s					
PPT2				*e*LR	LR	10 54 36.1
	comp=Z,10µm,25.0s,baz=295					
B18A	**Beardsley Farm**	94.02	32	⇑P	**P**	**10 24 13.6 -0.2**
	baz=94,SNR=12					
C17A	**Wharram Farm,**	94.04	33	⇓P	**P**	**10 24 13.7 -0.3**
	baz=94,SNR=7.3					
A19A	**Klindworth Far**	94.16	32	⇑P	**P**	**10 24 14.1 -0.3**
	baz=94,SNR=10					
ROSF	**Rostrenen**	94.20	328	*e*P	**P**	**10 24 13.8 -0.8**
	comp=Z,50nm,0.9s					
ROSF	**Rostrenen**	94.20	328	*e*P	**P**	**10 24 13.8 -0.8**
	comp=Z,50nm,0.9s					
EGMT	**Eagleton**	94.28	33	*e*P	**P**	**10 24 16.0 +0.9**
	comp=Z,62nm,1.1s					
EGMT				LR	LR	
	comp=Z,9µm,20.0s					
EGMT	**Eagleton**	94.28	33	⇑P	**P**	**10 24 14.4 -0.7**
	baz=94,SNR=21					
CMB	**Columbia Colle**	94.31	45	*e*P	**P**	**10 24 15.7 +0.3**
CMB				pmax	pmax	
	comp=Z,60nm,1.4s					
CMB	**Columbia Colle**	94.31	45	*e*P	**P**	**10 24 15.7 +0.3**
	comp=Z,60nm,1.4s					
LFF	**La Frestale**	94.33	323	*e*P	**P**	**10 24 15.5 +0.3**
	comp=Z,86nm,1.2s					
LFF	**La Frestale**	94.33	323	*e*P	**P**	**10 24 15.5 +0.3**
	comp=Z,86nm,1.2s					
B19A	**Brinkman Farms**	94.39	32	⇓P	**P**	**10 24 15.1 -0.4**
	baz=94					
D17A	**Six Diamond Ra**	94.39	34

VAL	Valentia	94.78	333	⇓/SS	SS	10 41 54.8	+2.4
D18A	Linhart Farms, baz=95	94.81	33	⇑P	P	10 24 17.2	-0.3
C19A	Slack Wire Ran baz=95,SNR=19	94.83	33	⇓P	P	10 24 17.3	-0.3
B20A	Solberg Farm, baz=95	94.84	32	⇓P	P	10 24 17.6	-0.1
BOZ	Bozeman (W)	94.89	35	eP	P	10 24 19.1	+1.1
BOZ	comp=Z,3.0nm,0.6s			pmax	pmax		
BOZ	comp=Z,7µm,22.0s			MLR	MLR		
BOZ	Bozeman (W) comp=Z,3.1nm,0.6s	94.89	35	eP	P	10 24 19.1	+1.1
BOZ	comp=Z,6µm,22.0s			LR	LR		
BMN	Battle Mountai	94.94	42	eP	P	10 24 20.4	+2.0
BMN	comp=Z,46nm,1.2s			pmax	pmax		
BMN	comp=Z,4µm,19.0s			MLR	MLR		
BMN	Battle Mountai comp=Z,46nm,1.2s	94.94	42	eP	P	10 24 20.4	+2.0
BMN	comp=Z,4µm,19.0s			LR	LR		
A21A	Bergtoll Ranch baz=95,SNR=14	94.98	31	⇑P	P	10 24 18.0	-0.3
E18A	Harlowton baz=95,SNR=10	95.18	34	⇓P	P	10 24 19.5	+0.2
CMAH	Djebel Manchou	95.23	314	P	P	10 24 21.1	+1.5
F17A	Fitzpatrick Pl baz=95	95.23	35	⇑P	P	10 24 19.0	-0.6
D19A	Cripps Ranch, baz=95,SNR=11	95.30	33	⇓P	P	10 24 19.5	-0.2
B21A	Ellsworth Farm baz=95	95.33	31	⇑P	P	10 24 19.1	-0.7
C20A	Veseth Ranch, baz=95,SNR=16	95.35	32	⇑P	P	10 24 19.6	-0.4
MLS	Moulis	95.38	322	eP	P	10 24 20.4	+0.3
ABSA	Djebel Ababsia	95.39	313	P	P	10 24 21.9	+1.5
NVAR	Mina Array Bea	95.43	44	P	P	10 24 21.6	+0.9
NVAR				PP	PP	10 28 18.7	+7.9
NVAR				PKKP	PKKPdf	10 41 09.5	-2.9
NVAR	Mina Array Bea comp=Z,13nm,0.9s,baz=293,slow=4.8,SNR=50	95.43	44	P	P	10 24 21.6	+0.9
NVAR	comp=Z,4.2nm,1.0s,baz=292,slow=7.5,SNR=4.3			PP	PP	10 28 18.7	+7.9
NVAR	comp=Z,0.5nm,0.7s,baz=130,slow=2.5,SNR=3.5			PKKP	PKKPdf	10 41 09.5	-2.9
NVAR	comp=Z,5µm,21.0s,baz=42,slow=34			LR	LR	11 04 07.9	
A22A	Carney Farms, baz=95,SNR=10	95.45	30	⇑P	P	10 24 20.5	+0.1
NV11	Mina Array Sit	95.53	44	eP	P	10 24 21.8	+0.7
QLMT	Earthquake Lak comp=Z,2.2nm,1.1s	95.53	36	eP	P	10 24 22.6	+1.6
MLAC	Mammoth Lakes baz=95,SNR=11	95.55	45	⇑P	P	10 24 21.2	-0.1
G17A	Pierce Place, baz=95	95.58	35	⇓P	P	10 24 21.0	-0.2
C21A	Desert Coulee baz=96	95.72	32	⇓P	P	10 24 21.4	-0.2
H16A	Russell Place, baz=96,SNR=8.7	95.72	36	⇓P	P	10 24 22.0	+0.1
D20A	Manuel Ranch, baz=96,SNR=8.0	95.72	33	⇓P	P	10 24 21.7	+0.1
F18A	Big Timber baz=96	95.73	34	⇓P	P	10 24 21.3	-0.5
EPF	Esparros comp=Z,40nm,1.1s	95.77	322	eP	P	10 24 22.9	+1.0
EPF	Esparros comp=Z,40nm,1.1s	95.77	322	eP	P	10 24 22.9	+1.0
CKFL	Kef-Lekhel	95.82	314	P	P	10 24 23.3	+0.9
E19A	Rath Farm, Rou baz=96	95.83	33	⇓P	P	10 24 22.2	+0.1
YMR	Madison River	95.89	36	eP	P	10 24 25.9	+3.2
B22A	Reddig Ranch S baz=96	95.90	31	⇓P	P	10 24 22.6	+0.2
RESF	Ens	95.91	322	eP	P	10 24 23.8	+1.1
A23A	Redstone baz=96	95.95	30	⇑P	P	10 24 22.8	+0.2
RCTC	Rector, Farmer baz=96,SNR=8.6	96.04	46	⇓P	P	10 24 23.8	+0.6
VIEF	Viey	96.04	322	eP	P	10 24 24.5	+1.3
CASM	Ain Smara	96.05	314	P	P	10 24 24.9	+1.5
SMMC	Simmler baz=96	96.09	47	⇑P	P	10 24 23.7	+0.1
YFT	Old Faithful comp=Z,49nm,1.2s	96.10	36	eP	P	10 24 26.1	+2.4
E20A	Meyer Farm, Mu baz=96,SNR=5.8	96.13	33	⇓P	P	10 24 23.5	0.0
I16A	Newdale baz=96,SNR=7.2	96.13	37	⇑P	P	10 24 24.6	+0.9
F19A	Roth Farm, Mol baz=96	96.16	34	⇓P	P	10 24 23.4	-0.3
G18A	Lazy EL Ranch, baz=96	96.20	35	⇑P	P	10 24 22.1	-1.9
B23A	Brockton baz=96,SNR=6.9	96.25	30	⇓P	P	10 24 24.5	+0.5
LKWY	Lake	96.26	36	PFAKE		10 24 40.0	+16
LKWY	comp=Z,14µm,20.0s			LR	LR		
TIN	Tinemaha baz=96,SNR=6.6	96.28	45	⇓P	P	10 24 24.6	+0.1
H17A	Grant Village baz=96,SNR=12	96.28	36	⇑P	P	10 24 27.3	+2.7
DFRA	Djebel Bou Aff	96.30	314	P	P	10 24 25.9	+1.3
D21A	La Casta Ranch baz=96,SNR=9.1	96.30	32	⇑P	P	10 24 24.8	+0.5
TPH	Tonopah	96.33	44	PFAKE		10 24 40.0	+15
TPH	comp=Z,5µm,21.0s			LR	LR		
C22A	Vida baz=96	96.35	31	⇓P	P	10 24 23.9	-0.6
TBI	Tubuai comp=Z,8µm,26.0s	96.35	113	eS	S	10 35 39.1	-5.3
TBI	Tubuai comp=Z,1µm,29.0s	96.35	113	ePS	PS	10 37 04.9	-1.5
TBI	comp=Z,4µm,27.0s			eSS	SS	10 42 14.1	-3.7
TBI	comp=Z,9µm,28.5s			eLQ	LQ	10 51 33.8	
TBI	comp=Z,6µm,31.0s,baz=300			eLR	LR	10 55 43.6	
ETSF	Etsaut comp=Z,47nm,1.0s	96.36	322	eP	P	10 24 25.0	+0.3
ETSF	Etsaut comp=Z,47nm,1.0s	96.36	322	eP	P	10 24 25.0	+0.3
A24A	Westby baz=96	96.37	29	⇓P	P	10 24 24.3	-0.2
VES	Vestal, Richgr baz=96	96.41	47	⇓P	P	10 24 26.3	+1.3
IMW	Indian Meadow	96.41	36	eP	P	10 24 26.7	+1.5
PKM	Peak Mountain baz=96,SNR=6.7	96.45	48	⇑P	P	10 24 26.7	+1.3
RLMT	Red Lodge	96.49	35	eP	P	10 24 26.7	+1.3
RLMT	comp=Z,8µm,19.0s			LR	LR		
LARF	Larrau	96.51	323	eP	P	10 24 26.9	+1.6
RRI2	Red Ridge comp=Z,33nm,1.5s	96.56	37	eP	P	10 24 28.2	+2.3
H18A	Shoshone NF, C baz=96	96.58	35	⇓P	P	10 24 24.6	-1.2
SJPF	Ste Jean comp=Z,56nm,1.1s	96.59	323	eP	P	10 24 26.0	+0.4
SJPF	Ste Jean comp=Z,56nm,1.1s	96.59	323	eP	P	10 24 26.0	+0.4
I17A	Pilgrim Ck. baz=96	96.59	36	⇓P	P	10 24 25.8	-0.1
F20A	Billings baz=96	96.60	34	⇓P	P	10 24 25.0	-0.7
DGMT	Dagmar comp=Z,54nm,1.1s	96.61	30	eP	P	10 24 26.4	+0.8
DGMT	comp=Z,12µm,19.0s			LR	LR		
DGMT	Dagmar baz=96	96.61	30	⇓P	P	10 24 25.0	-0.6
MOOW	Moose Ponds	96.62	36	eP	P	10 24 28.4	+2.3
E21A	Keefer Ranch, baz=96	96.62	33	⇑P	P	10 24 25.5	-0.3
D22A	Cohagen baz=96	96.63	32	⇑P	P	10 24 25.5	-0.3
C23A	Lambert baz=96	96.64	31	⇓P	P	10 24 25.2	-0.6
TPAW	Teton Pass	96.67	37	eP	P	10 24 26.9	+0.5
CWC	Cottonwood Cre baz=97	96.73	46	⇓P	P	10 24 27.3	+0.7
HVU	Hansel Valley	96.75	39	eP	P	10 24 27.5	+0.9
HVU	comp=Z,54nm,1.8s			pmax	pmax		
HVU	Hansel Valley comp=Z,45nm,1.8s	96.75	39	eP	P	10 24 27.5	+0.9
A25A	Svangstu Ranch baz=96	96.76	29	⇓P	P	10 24 26.4	+0.1
SBC	Santa Barbara baz=97	96.78	48	⇓P	P	10 24 27.6	+1.0
LOHW	Long Hollow comp=Z,11nm,1.3s	96.78	36	eP	P	10 24 28.7	+1.9
SNOW	Snow King Moun comp=Z,12nm,1.3s	96.80	37	eP	P	10 24 29.0	+2.1
REDW	Red Top Meadow comp=Z,17nm,1.2s	96.81	37	eP	P	10 24 28.4	+1.5
GRAC	Grapevine Rang baz=97,SNR=14	96.87	45	⇑P	P	10 24 28.6	+1.6
ISA	Isabella	96.92	46	eP	P	10 24 27.6	+0.3
ISA	comp=Z,21nm,1.4s			pmax	pmax		
ISA	Isabella comp=Z,5.1nm,1.4s	96.92	46	eP	P	10 24 27.6	+0.3
ISA	Isabella baz=97,SNR=9.3	96.92	46	⇓P	P	10 24 28.0	+0.6
H19A	Powell baz=97	96.94	35	⇓P	P	10 24 27.3	0.0
G20A	Bridger baz=97	96.97	34	⇑P	P	10 24 27.4	0.0
ARVC	Arvin baz=97	96.99	47	⇑P	P	10 24 27.0	-0.6
BSC	Santa Cruz Isl baz=97	97.08	48	⇓P	Pdif	10 24 28.6	+0.4
D23A	Lindsay baz=97	97.08	31	⇑P	P	10 24 26.1	-1.8
F21A	Absaloka Mine, baz=97	97.10	33	⇑P	P	10 24 26.9	-1.1
BGU	Big Grassy Mou comp=Z,47nm,1.4s	97.15	40	eP	Pdif	10 24 29.5	+1.0
I18A	Diamond G Ranc baz=97	97.15	36	⇑P	P	10 24 28.3	-0.2
C24A	Savage baz=97	97.19	31	⇑P	Pdif	10 24 28.4	0.0
R11A	Troy Canyon, C baz=97,SNR=14	97.20	43	⇓P	Pdif	10 24 29.5	+0.7
B25A	Knox Farm, Ray baz=97	97.23	29	⇓P	Pdif	10 24 29.3	+0.7
E22A	Miles City baz=97,SNR=5.1	97.25	32	⇑P	Pdif	10 24 29.4	+0.7
A26A	Wade Farm, Ken baz=97	97.26	28	⇓P	P	10 24 27.9	-0.6
MPMC	Manual Prospec baz=97,SNR=16	97.34	46	⇑P	Pdif	10 24 30.1	+0.6
OSI	Osito Adit comp=Z,3.2nm,0.9s	97.35	47	eP	Pdif	10 24 30.7	+1.3
OSI	Osito Adit baz=97	97.35	47	⇑P	Pdif	10 24 30.5	+1.1
I19A	Meeteetse baz=97	97.36	35	⇑P	P	10 24 28.9	-0.5
BLG	Laguna Peak baz=97	97.41	48	⇑P	Pdif	10 24 30.4	+0.8
G21A	Lodge Grass baz=97	97.48	34	⇑P	P	10 24 29.7	0.0
FURC	Furnace Creek, baz=97,SNR=15	97.51	45	⇓P	Pdif	10 24 30.6	+0.7
E23A	Ismay baz=97	97.52	32	⇑P	Pdif	10 24 29.9	0.0
D24A	Glendive baz=97	97.54	31	⇑P	P	10 24 28.8	-1.0
LRMC	Laurel Mountai baz=97,SNR=13	97.55	46	⇓P	Pdif	10 24 30.9	+0.6
HWUT	Hardware Ranch comp=Z,30nm,1.3s	97.56	38	eP	Pdif	10 24 31.8	+1.4
HWUT	comp=Z,7µm,21.0s			LR	LR		
F22A	Rosebud baz=97	97.56	33	⇓P	Pdif	10 24 30.1	0.0
B26A	Jensen Ranch, baz=97	97.57	29	⇓P	Pdif	10 24 30.4	+0.4
H20A	Greybull baz=97	97.58	34	⇓P	P	10 24 28.9	-0.4
C25A	Freed Ranch, W baz=97	97.60	30	⇓P	Pdif	10 24 30.6	+0.4
EDW2	Edwards Air Fo baz=98,SNR=8.9	97.69	47	⇑P	Pdif	10 24 31.6	+0.7
DUG	Dugway	97.74	40	eP	Pdif	10 24 32.9	+1.8
DUG	comp=Z,36nm,1.5s			pmax	pmax		
DUG	comp=Z,5µm,19.0s			MLR	MLR		
DUG	Dugway comp=Z,36nm,1.5s	97.74	40	eP	Pdif	10 24 32.9	+1.8
DUG	comp=Z,5µm,19.0s			LR	LR		
DUG	Dugway baz=98,SNR=6.5	97.74	40	⇓P	Pdif	10 24 31.6	+0.5
DECC	Green Verdugo baz=98	97.83	48	⇓P	Pdif	10 24 31.9	+0.4
J19A	Crowheart baz=98	97.86	36	⇑P	P	10 24 31.4	-0.1
I20A	Worland baz=98	97.88	35	⇓P	Pdif	10 24 31.9	+0.3
BW06	Boulder Array comp=Z,4.5nm,0.9s	97.92	37	eP	P	10 24 31.8	-0.1
BW06	comp=Z,8µm,19.0s			LR	LR		
PDAR	Pinedale Array	97.92	37	P	P	10 24 31.0	-0.9
PDAR				PP	PP	10 28 24.4	-5.4
PDAR				PKKPbc	PKKPbc	10 41 04.5	-1.9
PDAR	Pinedale Array comp=Z,1.8nm,0.9s,baz=249,slow=0.9,SNR=11	97.92	37	P	P	10 24 31.0	-0.9
PDAR	comp=Z,2.0nm,1.0s,baz=300,slow=4.1,SNR=3.2			PP	PP	10 28 24.4	-5.4
PDAR				PKKPbc	PKKPbc	10 41 04.5	-1.9
PDAR	comp=Z,1.2nm,1.0s,baz=120,slow=3.2,SNR=5.9						
G22A	Birney baz=98	97.94	33	⇑P	Pdif	10 24 32.1	+0.3
E24A	Baker baz=98	97.95	31	⇓P	P	10 24 31.4	-0.4
B27A	Peters Farms, baz=98	97.97	28	⇓P	P	10 24 31.1	-0.7
H21A	Big Horn, Sher baz=98	97.98	34	⇑P	P	10 24 31.6	-0.4
D25A	Fairfield baz=98	97.98	30	⇑P	Pdif	10 24 31.9	0.0
A28A	Rude Farm, Bot baz=98	98.02	28	⇑P	P	10 24 31.3	-0.7
MWC	Mount Wilson	98.03	47	eP	Pdif	10 24 33.9	+1.3
MWC	comp=Z,34nm,1.4s			pmax	pmax		
MWC	Mount Wilson comp=Z,34nm,1.4s	98.03	47	eP	Pdif	10 24 33.9	+1.3
F23A	Volborg baz=98,SNR=8.3	98.03	32	⇑P	Pdif	10 24 32.6	+0.4
C26A	Wahner Farm, P baz=98	98.04	29	⇑P	Pdif	10 24 32.1	0.0
M17A	Scullys Gap (B baz=98	98.16	38	⇑P	Pdif	10 24 33.2	+0.1
FMP	Fort Macarthur baz=98	98.16	48	⇑P	Pdif	10 24 33.4	+0.5
L18A	Fontenelle, Gr baz=98	98.21	37	⇓P	P	10 24 33.1	-0.2
SHOC	Shoshone baz=98	98.22	45	⇑P	Pdif	10 24 33.3	+0.1
GSC	Goldstone baz=98	98.23	46	eP	Pdif	10 24 34.3	+0.9
GSC	comp=Z,31nm,1.4s			pmax	pmax		
GSC	Goldstone comp=Z,7.4nm,1.4s	98.23	46	eP	Pdif	10 24 34.3	+1.0
GSC	Goldstone baz=98,SNR=11	98.23	46	⇓P	Pdif	10 24 34.2	+0.9
CIS	Catalina Islan baz=98	98.26	48	⇑P	Pdif	10 24 34.2	+0.8
K19A	Absolon Red Bu baz=98	98.26	36	⇓P	P	10 24 33.3	-0.2
JLU	Jordanelle comp=Z,13nm,1.3s	98.28	39	eP	Pdif	10 24 35.2	+1.6
BFSC	Mount Baldy Ra baz=98	98.29	47	⇓P	Pdif	10 24 34.3	+0.6
J20A	Shoshoni baz=98	98.31	35	⇓P	Pdif	10 24 34.6	+1.0
B28A	Dugan Ranch, T baz=98	98.33	28	⇑P	Pdif	10 24 33.4	0.0
NLU	North Lily Min comp=Z,8.8nm,1.1s	98.33	40	eP	Pdif	10 24 35.8	+1.9
H22A	Clearmont baz=98	98.35	34	⇑P	P	10 24 32.9	-0.8
RRX	Edison Barstow baz=98	98.35	46	⇓P	P	10 24 33.5	-0.3
C27A	Sayler Ranch, baz=98	98.39	29	⇓P	Pdif	10 24 34.1	+0.4
F24A	Ekalaka baz=98	98.40	32	⇓P	P	10 24 33.1	-0.8
G23A	Biddle baz=98	98.40	33	⇓P	P	10 24 33.5	-0.4
SCI	San Clemente I baz=98	98.40	49	⇑P	Pdif	10 24 34.5	+0.5
I21A	Big Trails, Te baz=98	98.41	35	⇓P	P	10 24 32.1	-2.0
E25A	Miller Ranch, baz=98	98.42	31	⇓P	Pdif	10 24 34.2	+0.3
L19A	Farson baz=98	98.47	37	⇓P	P	10 24 34.2	-0.2
D26A	Manning baz=98	98.48	30	⇑P	P	10 24 32.3	-1.8
SHPR	Sheep Range comp=Z,26nm,1.4s	98.58	44	eP	Pdif	10 24 37.1	+2.2
K20A	Yellowstone Ra baz=98	98.65	36	⇓Pdiff	P	10 24 33.9	-1.3
K20A	Yellowstone Ra baz=98	98.65	36	⇓Pdiff	P	10 24 33.9	-1.3
J21A	Lysite baz=98	98.66	35	⇓Pdiff	P	10 24 34.2	-0.9
J21A	Lysite baz=98	98.66	35	⇓Pdiff	P	10 24 34.2	-0.9
ULM	Lac du Bonnet comp=Z,36nm,1.5s	98.72	24	eP	Pdif	10 24 35.7	+0.7
ULM				PP	PP	10 28 33.2	-2.1
ULM				PKKPbc	PKKPbc	10 41 02.5	-1.6
ULM	Lac du Bonnet comp=Z,8.8nm,1.0s,baz=3.7,slow=5.4,SNR=4.0	98.72	24	P	Pdif	10 24 36.2	+1.1
ULM	comp=Z,11nm,1.1s,baz=322,slow=9.8,SNR=4.1			PP	PP	10 28 33.2	-2.1
ULM	comp=Z,3.2nm,0.6s,baz=345,slow=3.3,SNR=3.0			PKKPbc	PKKPbc	10 41 02.5	-1.6
ULM	comp=Z,18µm,18.1s,baz=99,slow=40			LR	LR	11 17 33.1	
TUQ	Turquoise Moun baz=99	98.73	45	⇑Pdiff	P	10 24 35.5	-0.1
TUQ	Turquoise Moun baz=99	98.73	45	⇑Pdiff	P	10 24 35.5	-0.1
BBRC	Big Bear Solar baz=99	98.77	47	⇑Pdiff	P	10 24 35.3	-0.6
BBRC	Big Bear Solar baz=99	98.77	47	⇑Pdiff	P	10 24 35.3	-0.6
I22A	9 Mile Ranch, baz=99	98.78	34	⇓Pdiff	Pdif	10 24 35.9	+0.2
I22A	9 Mile Ranch, baz=99	98.78	34	⇓Pdiff	Pdif	10 24 35.9	+0.2
G24A	Alzada baz=99	98.79	32	⇑Pdiff	P	10 24 35.2	-0.4
G24A	Alzada baz=99	98.79	32	⇑Pdiff	P	10 24 35.2	-0.4
F25A	Bowman baz=99	98.82	31	⇑Pdiff	P	10 24 35.6	0.0
F25A	Bowman baz=99	98.82	31	⇑Pdiff	P	10 24 35.6	0.0
HEC	Hector,Ludlow baz=99	98.83	46	⇓Pdiff	P	10 24 34.8	-1.1
HEC	Hector,Ludlow baz=99	98.83	46	⇓Pdiff	P	10 24 34.8	-1.1
D27A	Center baz=99	98.83	29	⇓Pdiff	Pdif	10 24 36.0	+0.4
D27A	Center baz=99	98.83	29	⇓Pdiff	Pdif	10 24 36.0	+0.4
H23A	Clabaugh Cattl baz=99	98.86	33	⇑Pdiff	P	10 24 35.5	-0.5
H23A	Clabaugh Cattl baz=99	98.86	33	⇑Pdiff	P	10 24 35.5	-0.5
C28A	Hausauer Farms baz=99	98.88	28	⇓Pdiff	P	10 24 35.5	-0.3
C28A	Hausauer Farms baz=99	98.88	28	⇓Pdiff	P	10 24 35.5	-0.3
E26A	Carlson Angus baz=99	98.88	30	⇓Pdiff	P	10 24 35.9	0.0
E26A	Carlson Angus baz=99	98.88	30	⇓Pdiff	P	10 24 35.9	0.0
MURC	Murrieta baz=99	98.97	48	⇑Pdiff	Pdif	10 24 37.0	+0.4
MURC	Murrieta baz=99	98.97	48	⇑Pdiff	Pdif	10 24 37.0	+0.4
M19A	Rock Springs baz=99	98.98	37	⇑Pdiff	P	10 24 36.5	-0.2
M19A	Rock Springs baz=99	98.98	37	⇑Pdiff	P	10 24 36.5	-0.2
L20A	Wamsutter baz=99	99.09	36	⇓Pdiff	Pdif	10 24 36.9	-0.2
L20A	Wamsutter baz=99	99.09	36	⇓Pdiff	Pdif	10 24 36.9	-0.2
MDND	Maddock baz=99	99.11	28	⇑Pdiff	Pdif	10 24 36.9	0.0
MDND	Maddock baz=99	99.11	28	⇑Pdiff	Pdif	10 24 36.9	0.0
J22A	Midwest baz=99	99.12	34	⇑Pdiff	Pdif	10 24 38.1	+0.9
J22A	Midwest baz=99	99.12	34	⇑Pdiff	Pdif	10 24 38.1	+0.9
H24A	Dirks Ranch, A baz=99	99.14	33	⇓Pdiff	Pdif	10 24 37.5	+0.3
H24A	Dirks Ranch, A baz=99	99.14	33	⇓Pdiff	Pdif	10 24 37.5	+0.3
MSU	Marysvale	99.19	41	eP	Pdif	10 24 40.4	+2.7
MSU	comp=Z,24nm,1.4s			pmax	pmax		
MSU	Marysvale comp=Z,1.5nm,1.4s	99.19	41	eP	Pdif	10 24 40.4	+2.7
F26A	Lodgepole baz=99	99.25	31	⇓Pdiff	Pdif	10 24 37.2	-0.4
F26A	Lodgepole baz=99	99.25	31	⇓Pdiff	Pdif	10 24 37.2	-0.4
I23A	Meade Ranch, G baz=99	99.25	34	⇓Pdiff	Pdif	10 24 37.6	-0.2
I23A	Meade Ranch, G baz=99	99.25	34	⇓Pdiff	Pdif	10 24 37.6	-0.2
K21A	Alcova baz=99	99.25	35	⇓Pdiff	Pdif	10 24 38.0	+0.1
K21A	Alcova baz=99	99.25	35	⇓Pdiff	Pdif	10 24 38.0	+0.1
GMRC	Granite Mounta baz=99	99.30	46	⇓Pdiff	Pdif	10 24 38.4	+0.2
GMRC	Granite Mounta baz=99	99.30	46	⇓Pdiff	Pdif	10 24 38.4	+0.2
E27A	Carson baz=99	99.33	30	⇓Pdiff	Pdif	10 24 37.1	-0.8
E27A	Carson baz=99	99.33	30	⇓Pdiff	Pdif	10 24 37.1	-0.8
G25A	Newell baz=99	99.37	32	⇑Pdiff	Pdif	10 24 38.1	-0.1
G25A	Newell baz=99	99.37	32	⇑Pdiff	Pdif	10 24 38.1	-0.1
109C	Camp Elliot, M baz=99	99.45	48	⇑Pdiff	Pdif	10 24 37.6	-1.0
109C	Camp Elliot, M baz=99	99.45	48	⇑Pdiff	Pdif	10 24 37.6	-1.0
PFO	Pinyon Flat Ob comp=Z,28nm,1.4s	99.47	47	eP	Pdif	10 24 40.1	+1.2
PFO	comp=Z,9µm,20.0s			LR	LR		
PFO	Pinyon Flat Ob comp=Z,9.3nm,1.2s,baz=314,slow=2.4,SNR=10	99.47	47	P	Pdif	10 24 40.4	+1.5
PFO	Pinyon Flat Ob baz=99	99.47	47	⇑Pdiff	Pdif	10 24 39.9	+1.0
PFO	Pinyon Flat Ob baz=99	99.47	47	⇑Pdiff	Pdif	10 24 39.9	+1.0
LDFC	Landfair comp=Z,32nm,1.1s	99.48	45	eP	Pdif	10 24 40.5	+1.6
M20A	Sweetwater, Wa baz=99	99.53	37	⇓Pdiff	Pdif	10 24 38.9	-0.3
M20A	Sweetwater, Wa baz=99	99.53	37	⇓Pdiff	Pdif	10 24 38.9	-0.3
F27A	Lemmon baz=99	99.53	30	⇓Pdiff	Pdif	10 24 37.7	-1.2
F27A	Lemmon baz=99	99.53	30	⇓Pdiff	Pdif	10 24 37.7	-1.2
Q16A	Castle Valley baz=99	99.53	40	⇑Pdiff	Pdif	10 24 38.2	-1.0
Q16A	Castle Valley baz=99	99.53	40	⇑Pdiff	Pdif	10 24 38.2	-1.0
BELC	Belle Mtn. Jos baz=99	99.54	47	⇓Pdiff	Pdif	10 24 39.9	+0.6
BELC	Belle Mtn. Jos baz=99	99.54	47	⇓Pdiff	Pdif	10 24 39.9	+0.6
J23A	Dilts Ranch, B baz=99	99.60	34	⇑Pdiff	Pdif	10 24 39.2	-0.2
J23A	Dilts Ranch, B baz=99	99.60	34	⇑Pdiff	Pdif	10 24 39.2	-0.2
K22A	Casper	99.62	35	⇓Pdiff	Pdif	10 24 38.9	-0.6

	baz=99							
K22A	Casper	99.62	35	⇓Pdiff	Pdif	10 24 38.9	-0.6	
	baz=99							
L21A	Rawlins	99.65	36	⇓Pdiff	Pdif	10 24 39.4	-0.3	
	baz=100							
L21A	Rawlins	99.65	36	⇓Pdiff	Pdif	10 24 39.4	-0.3	
	baz=100							
G26A	Maurine	99.69	31	⇑Pdiff	Pdif	10 24 38.8	-0.8	
	baz=100							
G26A	Maurine	99.69	31	⇑Pdiff	Pdif	10 24 38.8	-0.8	
	baz=100							
H25A	Fruitdale	99.70	32	⇓Pdiff	Pdif	10 24 38.5	-1.2	
	baz=100							
H25A	Fruitdale	99.70	32	⇓Pdiff	Pdif	10 24 38.5	-1.2	
	baz=100							
I24A	Kuemmerle Ranc	99.75	33	⇓Pdiff	Pdif	10 24 38.7	-1.3	
	baz=100							
I24A	Kuemmerle Ranc	99.75	33	⇓Pdiff	Pdif	10 24 38.7	-1.3	
	baz=100							
O19A	Miners Draw (B	99.81	38	⇑Pdiff	Pdif	10 24 39.1	-1.3	
	baz=100							
O19A	Miners Draw (B	99.81	38	⇑Pdiff	Pdif	10 24 39.1	-1.3	
	baz=100							
M21A	Separation Pea	99.90	36	⇓Pdiff	Pdif	10 24 40.1	-0.7	
	baz=100							
M21A	Separation Pea	99.90	36	⇓Pdiff	Pdif	10 24 40.1	-0.7	
	baz=100							
MONP	Monument Peak	99.91	48	⇓Pdiff	Pdif	10 24 40.8	-0.2	
	baz=100							
MONP	Monument Peak	99.91	48	⇓Pdiff	Pdif	10 24 40.8	-0.2	
	baz=100							
N20A	Spence Gulch,	99.94	37	⇑Pdiff	Pdif	10 24 40.0	-1.0	
	baz=100							
N20A	Spence Gulch,	99.94	37	⇑Pdiff	Pdif	10 24 40.0	-1.0	
	baz=100							
G27A	Dupree	99.94	31	⇓Pdiff	Pdif	10 24 40.6	-0.1	
	baz=100							
G27A	Dupree	99.94	31	⇓Pdiff	Pdif	10 24 40.6	-0.1	
	baz=100							
IRM	Iron Mountain	100.01	46	⇑Pdiff	Pdif	10 24 41.9	+0.8	
	baz=100							
IRM	Iron Mountain	100.01	46	⇑Pdiff	Pdif	10 24 41.9	+0.8	
	baz=100							
K23A	Bowen Ranch, D	100.02	35	⇑Pdiff	Pdif	10 24 41.0	-0.2	
	baz=100							
K23A	Bowen Ranch, D	100.02	35	⇑Pdiff	Pdif	10 24 41.0	-0.2	
	baz=100							
I25A	Rochford	100.08	33	⇑Pdiff	Pdif	10 24 41.2	-0.3	
	baz=100							
I25A	Rochford	100.08	33	⇑Pdiff	Pdif	10 24 41.2	-0.3	
	baz=100							
L22A	Ellis Ranch, M	100.11	35	⇑Pdiff	Pdif	10 24 40.7	-1.0	
	baz=100							
L22A	Ellis Ranch, M	100.11	35	⇑Pdiff	Pdif	10 24 40.7	-1.0	
	baz=100							
H26A	Fairpoint	100.11	32	⇑Pdiff	Pdif	10 24 40.6	-0.8	
	baz=100							
H26A	Fairpoint	100.11	32	⇑Pdiff	Pdif	10 24 40.6	-0.8	
	baz=100							
BC3	Big Chuckawall	100.11	47	⇓Pdiff	Pdif	10 24 42.4	+0.6	
	baz=100							
BC3	Big Chuckawall	100.11	47	⇓Pdiff	Pdif	10 24 42.4	+0.6	
	baz=100							
J24A	Dixon Ranch, L	100.11	34	⇑Pdiff	Pdif	10 24 40.7	-0.9	
	baz=100							
J24A	Dixon Ranch, L	100.11	34	⇑Pdiff	Pdif	10 24 40.7	-0.9	
	baz=100							
W13A	Hualapai Mount	100.26	45	⇓Pdiff	Pdif	10 24 41.2	-1.4	
	baz=100							
W13A	Hualapai Mount	100.26	45	⇓Pdiff	Pdif	10 24 41.2	-1.4	
	baz=100							
DVTC	Desert V Tower	100.27	48	⇑Pdiff	Pdif	10 24 40.9	-1.5	
	baz=100							
DVTC	Desert V Tower	100.27	48	⇑Pdiff	Pdif	10 24 40.9	-1.5	
	baz=100							
AGMN	Agassiz Nation	100.30	26	PFAKE		10 24 50.0	+7.8	
AGMN				LR	LR			
	comp=Z,11μm,19.0s							
SWSC	Sam W. Stewart	100.31	47	⇑Pdiff	Pdif	10 24 42.5	+0.1	
	baz=100							
SWSC	Sam W. Stewart	100.31	47	⇑Pdiff	Pdif	10 24 42.5	+0.1	
	baz=100							
P19A	Cripple Cowboy	100.34	39	⇓Pdiff	Pdif	10 24 41.0	-1.8	
	baz=100							
P19A	Cripple Cowboy	100.34	39	⇓Pdiff	Pdif	10 24 41.0	-1.8	
	baz=100							
N21A	Black Mountain	100.40	37	⇑Pdiff	Pdif	10 24 40.9	-2.2	
	baz=100							
N21A	Black Mountain	100.40	37	⇑Pdiff	Pdif	10 24 40.9	-2.2	
	baz=100							
ESDC	Sonseca Array	100.41	322	Pdif	Pdif	10 24 48.1	+5.2	
ESDC				PP	PP	10 28 44.6	-4.0	
ESDC				PKKP	PKKPbc	10 41 01.0	+1.9	
ESDC	Sonseca Array	100.41	322	Pdif	Pdif	10 24 48.1	+5.2	
	comp=Z,0.3nm,0.3s,baz=3.0,slow=3.9,SNR=3.8							
ESDC				PP	PP	10 28 44.6	-4.0	
	comp=Z,4.5nm,0.9s,baz=53,slow=9.1,SNR=7.0							
ESDC				PKKP	PKKPbc	10 41 01.0	+1.9	
	comp=Z,0.3nm,0.3s,baz=242,slow=2.8,SNR=4.0							
O20A	White River Ci	100.42	38	⇑Pdiff	Pdif	10 24 41.4	-1.7	
	baz=100							
O20A	White River Ci	100.42	38	⇑Pdiff	Pdif	10 24 41.4	-1.7	
	baz=100							
H27A	Howes	100.43	31	⇓Pdiff	Pdif	10 24 41.3	-1.6	
	baz=100							
H27A	Howes	100.43	31	⇓Pdiff	Pdif	10 24 41.3	-1.6	
	baz=100							
L23A	Garrett	100.44	35	⇑Pdiff	Pdif	10 24 39.9	-3.3	
	baz=100							
L23A	Garrett	100.44	35	⇑Pdiff	Pdif	10 24 39.9	-3.3	
	baz=100							
U15A	North Rim	100.44	43	⇓Pdiff	Pdif	10 24 40.5	-2.9	
	baz=100							
U15A	North Rim	100.44	43	⇓Pdiff	Pdif	10 24 40.5	-2.9	
	baz=100							
M22A	Cedar Creek Ra	100.46	36	⇑Pdiff	Pdif	10 24 39.3	-4.0	
	baz=100							
M22A	Cedar Creek Ra	100.46	36	⇑Pdiff	Pdif	10 24 39.3	-4.0	
	baz=100							
K24A	Anderson Ranch	100.47	34	⇑Pdiff	Pdif	10 24 39.7	-3.5	
	baz=100							
K24A	Anderson Ranch	100.47	34	⇑Pdiff	Pdif	10 24 39.7	-3.5	
	baz=100							
I26A	New Underwood	100.50	32	⇓Pdiff	Pdif	10 24 40.1	-3.1	
	baz=100							
I26A	New Underwood	100.50	32	⇓Pdiff	Pdif	10 24 40.1	-3.1	
	baz=100							
J25A	Sunshine Ranch	100.50	33	⇓Pdiff	Pdif	10 24 39.0	-4.2	
	baz=100							
J25A	Sunshine Ranch	100.50	33	⇓Pdiff	Pdif	10 24 39.0	-4.2	
	baz=100							
PDMCI	Parker Dam,Lak	100.59	45	⇓Pdiff	Pdif	10 24 40.8	-2.9	
	baz=100							
PDMCI	Parker Dam,Lak	100.59	45	⇓Pdiff	Pdif	10 24 40.8	-2.9	
	baz=100							
G28A	Parade	100.64	30	⇑Pdiff	Pdif	10 24 41.5	-2.3	
	baz=100							
G28A	Parade	100.64	30	⇑Pdiff	Pdif	10 24 41.5	-2.3	
	baz=100							
Y12C	Blythe	100.67	46	⇑Pdiff	Pdif	10 24 40.1	-4.0	
	baz=100							
Y12C	Blythe	100.67	46	⇑Pdiff	Pdif	10 24 40.1	-4.0	
	baz=100							
PAB	San Pablo	100.72	322	PFAKE		10 24 50.0	+5.7	
PAB				LR	LR			
	comp=Z,15μm,19.0s							
P20A	De Beque	100.77	38	⇑Pdiff	Pdif	10 24 41.8	-2.8	
	baz=101							
P20A	De Beque	100.77	38	⇑Pdiff	Pdif	10 24 41.8	-2.8	
	baz=101							
O21A	Pagoda	100.80	37	⇑Pdiff	Pdif	10 24 43.0	-1.8	
	baz=101							
O21A	Pagoda	100.80	37	⇑Pdiff	Pdif	10 24 43.0	-1.8	
	baz=101							
LSZ	Lusaka	100.80	258	PP	PP	10 28 49.7	-3.4	
LSZ				LR	LR			
	comp=Z,10μm,21.0s							
LSZ	Lusaka	100.80	258	PP	PP	10 28 49.7	-3.4	
	comp=Z,4.3nm,0.9s,baz=51,slow=10,SNR=3.6							
I27A	Quinn	100.86	32	⇑Pdiff	Pdif	10 24 43.6	-1.2	
	baz=101							
I27A	Quinn	100.86	32	⇑Pdiff	Pdif	10 24 43.6	-1.2	
	baz=101							
M23A	Laramie	100.88	35	⇓Pdiff	Pdif	10 24 44.1	-1.1	
	baz=101							
M23A	Laramie	100.88	35	⇓Pdiff	Pdif	10 24 44.1	-1.1	
	baz=101							
L24A	Wheatland	100.89	35	⇑Pdiff	Pdif	10 24 43.4	-1.7	
	baz=101							
L24A	Wheatland	100.89	35	⇑Pdiff	Pdif	10 24 43.4	-1.7	
	baz=101							
GLA	Glamis	100.89	47	⇑Pdiff	Pdif	10 24 43.3	-1.9	
	baz=101							
GLA	Glamis	100.89	47	⇑Pdiff	Pdif	10 24 43.3	-1.9	
	baz=101							
H28A	Mission Ridge	100.90	31	⇓Pdiff	Pdif	10 24 42.6	-2.3	
	baz=101							
H28A	Mission Ridge	100.90	31	⇓Pdiff	Pdif	10 24 42.6	-2.3	
	baz=101							
J26A	Sides Ranch, S	100.92	33	⇓Pdiff	Pdif	10 24 43.1	-2.0	
	baz=101							
J26A	Sides Ranch, S	100.92	33	⇓Pdiff	Pdif	10 24 43.1	-2.0	
	baz=101							
N22A	Wattenberg Ran	100.95	36	⇑Pdiff	Pdif	10 24 43.3	-2.2	
	baz=101							
N22A	Wattenberg Ran	100.95	36	⇑Pdiff	Pdif	10 24 43.3	-2.2	
	baz=101							
K25A	Mack Ranch, Ha	101.03	34	⇑Pdiff	Pdif	10 24 43.3	-2.4	
	baz=101							
K25A	Mack Ranch, Ha	101.03	34	⇑Pdiff	Pdif	10 24 43.3	-2.4	
	baz=101							
MVO	Moncorvo	101.08	324	*e*Pdif	Pdif	10 24 50.0	+4.1	
MVO	Moncorvo	101.08	324	*e*PP	PP	10 28 57.5	+3.8	
MVO				*e*SKSac	SKSac	10 35 26.1	+1.5	
MVO	Moncorvo	101.08	324	*e*LQ	LQ	10 56 00.7		
MVO				*e*LR	LR	11 01 03.1		
	comp=Z,21μm,18.0s							
N23A	Red Feather La	101.16	36	⇑Pdiff	Pdif	10 24 44.6	-1.9	
	baz=101							
N23A	Red Feather La	101.16	36	⇑Pdiff	Pdif	10 24 44.6	-1.9	
	baz=101							
PGAV	Gavieira, Arco	101.17	326	*e*Pdif	Pdif	10 24 49.7	+3.4	
PGAV	Gavieira, Arco	101.17	326	*e*PP	PP	10 28 57.6	+3.3	
PGAV				*e*SKSac	SKSac	10 35 26.0	+1.0	
PGAV	Gavieira, Arco	101.17	326	*e*LQ	LQ	10 56 02.8		
PGAV				*e*LR	LR	11 01 44.9		
	comp=Z,16μm,18.0s							
Q20A	Ridgley Place,	101.19	39	⇑Pdiff	Pdif	10 24 44.1	-2.5	
	baz=101							
Q20A	Ridgley Place,	101.19	39	⇑Pdiff	Pdif	10 24 44.1	-2.5	
	baz=101							
P21A	Newcastle	101.28	38	⇑Pdiff	Pdif	10 24 46.3	-0.7	
	baz=101							
P21A	Newcastle	101.28	38	⇑Pdiff	Pdif	10 24 46.3	-0.7	
	baz=101							
L25A	Engebretsen Ra	101.31	34	⇓Pdiff	Pdif	10 24 46.4	-0.6	
	baz=101							
L25A	Engebretsen Ra	101.31	34	⇓Pdiff	Pdif	10 24 46.4	-0.6	
	baz=101							
K26A	Motz Farm, Whi	101.31	33	⇓Pdiff	Pdif	10 24 45.6	-1.3	
	baz=101							
K26A	Motz Farm, Whi	101.31	33	⇓Pdiff	Pdif	10 24 45.6	-1.3	
	baz=101							
I28A	Midland	101.34	31	⇑Pdiff	Pdif	10 24 47.2	+0.3	
	baz=101							
I28A	Midland	101.34	31	⇑Pdiff	Pdif	10 24 47.2	+0.3	
	baz=101							
O22A	Kremmling	101.35	37	⇑Pdiff	Pdif	10 24 47.3	-0.1	
	baz=101							
O22A	Kremmling	101.35	37	⇑Pdiff	Pdif	10 24 47.3	-0.1	
	baz=101							
M24A	Cheyenne	101.36	35	⇑Pdiff	Pdif	10 24 47.0	-0.3	
	baz=101							
M24A	Cheyenne	101.36	35	⇑Pdiff	Pdif	10 24 47.0	-0.3	
	baz=101							
J27A	Elkhorn Farm,	101.49	32	⇑Pdiff	Pdif	10 24 47.1	-0.5	
	baz=101							
J27A	Elkhorn Farm,	101.49	32	⇑Pdiff	Pdif	10 24 47.1	-0.5	
	baz=101							
SCHQ	Schefferville	101.53	6	Pdif	Pdif	10 24 53.4	+5.9	
SCHQ				PP	PP	10 28 56.0	-0.3	
SCHQ	Schefferville	101.53	6	Pdiff	Pdif	10 24 53.4	+5.9	
	comp=Z,3.7nm,0.8s,baz=12,slow=3.6,SNR=4.2							
SCHQ				PP	PP	10 28 56.0	-0.3	
	comp=Z,7.4nm,1.0s,baz=6.5,slow=11,SNR=4.1							
Y14A	Wickenburg	101.55	45	⇑Pdiff	Pdif	10 24 47.3	-0.8	
	baz=101							
Y14A	Wickenburg	101.55	45	⇑Pdiff	Pdif	10 24 47.3	-0.8	
	baz=101							
WUAZ	Wupatki	101.60	43	PFAKE		10 25 00.0	+12	
WUAZ				LR	LR			
	comp=Z,5μm,20.0s							
WUAZ	Wupatki	101.60	43	⇑Pdiff	Pdif	10 24 47.4	-1.0	
	baz=101							
WUAZ	Wupatki	101.60	43	⇑Pdiff	Pdif	10 24 47.4	-1.0	
	baz=101							
P22A	Eagle	101.62	37	⇑Pdiff	Pdif	10 24 47.1	-1.5	
	baz=101							
P22A	Eagle	101.62	37	⇑Pdiff	Pdif	10 24 47.1	-1.5	
	baz=101							
R20A	Redvale	101.66	39	⇓Pdiff	Pdif	10 24 47.6	-1.0	
	baz=102							
R20A	Redvale	101.66	39	⇓Pdiff	Pdif	10 24 47.6	-1.0	
	baz=102							
O23A	Lake Granby, G	101.66	37	⇓Pdiff	Pdif	10 24 47.9	-0.8	
	baz=102							
O23A	Lake Granby, G	101.66	37	⇓Pdiff	Pdif	10 24 47.9	-0.8	
	baz=102							
Q21A	Lamborn Mesa,	101.68	38	⇑Pdiff	Pdif	10 24 47.7	-1.0	
	baz=102							
Q21A	Lamborn Mesa,	101.68	38	⇑Pdiff	Pdif	10 24 47.7	-1.0	
	baz=102							
J28A	Allard Ranch,	101.74	32	⇓Pdiff	Pdif	10 24 48.2	-0.5	
	baz=102							
J28A	Allard Ranch,	101.74	32	⇓Pdiff	Pdif	10 24 48.2	-0.5	
	baz=102							
113A	Mohawk Valley,	101.77	46	⇓Pdiff	Pdif	10 24 47.9	-1.1	
	baz=102							
113A	Mohawk Valley,	101.77	46	⇓Pdiff	Pdif	10 24 47.9	-1.1	
	baz=102							
N24A	Carr	101.78	35	⇑Pdiff	Pdif	10 24 47.7	-1.4	
	baz=102							
N24A	Carr	101.78	35	⇑Pdiff	Pdif	10 24 47.7	-1.4	
	baz=102							
K27A	Flueckinger Fa	101.78	33	⇑Pdiff	Pdif	10 24 48.4	-0.6	
	baz=102							
K27A	Flueckinger Fa	101.78	33	⇑Pdiff	Pdif	10 24 48.4	-0.6	
	baz=102							
M25A	Palm-Egli Farm	101.78	35	⇑Pdiff	Pdif	10 24 47.7	-1.4	
	baz=102							
M25A	Palm-Egli Farm	101.78	35	⇑Pdiff	Pdif	10 24 47.7	-1.4	
	baz=102							
L26A	Underwood Farm	101.85	34	⇑Pdiff	Pdif	10 24 48.0	-1.3	
	baz=102							
L26A	Underwood Farm	101.85	34	⇑Pdiff	Pdif	10 24 48.0	-1.3	
	baz=102							
MTE	Manteigas	101.90	324	*e*Pdif	Pdif	10 24 52.6	+3.1	
MTE	Manteigas	101.90	324	*e*PP	PP	10 29 05.9	+6.1	
MTE				*e*SKSac	SKSac	10 35 29.6	+1.1	
MTE	Manteigas	101.90	324	*e*LR	LR	11 02 04.0		
	comp=Z,20μm,20.0s							
MTE	Manteigas	101.90	324	PFAKE		10 25 00.0	+10	
MTE				LR	LR			
	comp=Z,21μm,20.0s							
S20A	Disappointment	101.91	40	⇑Pdiff	Pdif	10 24 48.0	-1.9	
	baz=102							
S20A	Disappointment	101.91	40	⇑Pdiff	Pdif	10 24 48.0	-1.9	
	baz=102							
Z14A	Wintersburg	101.95	46	⇓Pdiff	Pdif	10 24 48.7	-1.1	
	baz=102							
Z14A	Wintersburg	101.95	46	⇓Pdiff	Pdif	10 24 48.7	-1.1	
	baz=102							
R21A	Cimarron	102.01	39	⇑Pdiff	Pdif	10 24 48.8	-1.5	
	baz=102							
R21A	Cimarron	102.01	39	⇑Pdiff	Pdif	10 24 48.8	-1.5	
	baz=102							
BRSD	Miller	102.03	30	⇓Pdiff	Pdif	10 24 48.7	-1.2	
	baz=102							
BRSD	Miller	102.03	30	⇓Pdiff	Pdif	10 24 48.7	-1.2	
	baz=102							
Q22A	Crested Butte,	102.04	38	⇑Pdiff	Pdif	10 24 48.9	-1.6	
	baz=102							
Q22A	Crested Butte,	102.04	38	⇑Pdiff	Pdif	10 24 48.9	-1.6	
	baz=102							
ISCO	Idaho Springs	102.11	37	PFAKE		10 25 00.0	+9.2	
ISCO				LR	LR			
	comp=Z,8μm,19.0s							
ISCO	Idaho Springs	102.11	37	⇓Pdiff	Pdif	10 24 48.9	-1.9	
	baz=102							
ISCO	Idaho Springs	102.11	37	⇓Pdiff	Pdif	10 24 48.9	-1.9	
	baz=102							
O24A	Longmont	102.18	36	⇓Pdiff	Pdif	10 24 49.5	-1.4	
	baz=102							
O24A	Longmont	102.18	36	⇓Pdiff	Pdif	10 24 49.5	-1.4	
	baz=102							
L27A	T5 Ranch, Ells	102.20	33	⇓Pdiff	Pdif	10 24 50.7	-0.2	
	baz=102							
L27A	T5 Ranch, Ells	102.20	33	⇓Pdiff	Pdif	10 24 50.7	-0.2	
	baz=102							
K28A	Ten Mile Ranch	102.20	32	⇑Pdiff	Pdif	10 24 50.7	-0.2	
	baz=102							
K28A	Ten Mile Ranch	102.20	32	⇑Pdiff	Pdif	10 24 50.7	-0.2	
	baz=102							
N25A	Grover	102.21	35	⇓Pdiff	Pdif	10 24 50.4	-0.6	
	baz=102							
N25A	Grover	102.21	35	⇓Pdiff	Pdif	10 24 50.4	-0.6	
	baz=102							
M26A	McRoberts Ranc	102.23	34	⇓Pdiff	Pdif	10 24 51.9	+0.9	
	baz=102							
M26A	McRoberts Ranc	102.23	34	⇓Pdiff	Pdif	10 24 51.9	+0.9	
	baz=102							
MVCO	Mesa Verde	102.24	40	PFAKE		10 25 00.0	+8.7	
MVCO				LR	LR			
	comp=Z,6μm,20.0s							
MVCO	Mesa Verde	102.24	40	⇓Pdiff	Pdif	10 24 51.0	-0.3	
	baz=102							
MVCO	Mesa Verde	102.24	40	⇓Pdiff	Pdif	10 24 51.0	-0.3	
	baz=102							
EYMN	Ely	102.25	23	PFAKE		10 25 00.0	+9.1	
EYMN				LR	LR			
	comp=Z,14μm,20.0s							
X16A	Lo Mia Camp, P	102.26	44	⇓Pdiff	Pdif	10 24 50.8	-0.6	
	baz=102							
X16A	Lo Mia Camp, P	102.26	44	⇓Pdiff	Pdif	10 24 50.8	-0.6	
	baz=102							
P23A	Jefferson	102.29	37	⇑Pdiff	Pdif	10 24 51.1	-0.5	
	baz=102							
P23A	Jefferson	102.29	37	⇑Pdiff	Pdif	10 24 51.1	-0.5	
	baz=102							
S21A	Coal Bank Pass	102.35	39	⇓Pdiff	Pdif	10 24 51.1	-0.8	
	baz=102							
S21A	Coal Bank Pass	102.35	39	⇓Pdiff	Pdif	10 24 51.1	-0.8	
	baz=102							
PMRV	Marv??o	102.50	323	*e*PP	PP	10 29 09.1	+4.8	
PMRV				*e*SKSac	SKSac	10 35 33.9	+2.6	
PMRV	Marv??o	102.50	323	*e*LR	LR	11 02 25.4		
	comp=Z,20μm,18.0s							
R22A	Saguache, Gunn	102.56	38	⇓Pdiff	Pdif	10 24 53.5	+0.6	
	baz=102							
R22A	Saguache, Gunn	102.56	38	⇓Pdiff	Pdif	10 24 53.5	+0.6	
	baz=102							
M27A	Reverse DX Ran	102.57	34	⇑Pdiff	Pdif	10 24 53.4	+0.9	
	baz=102							
M27A	Reverse DX Ran	102.57	34	⇑Pdiff	Pdif	10 24 53.4	+0.9	
	baz=102							
Q23A	Hartsel	102.62	37	⇑Pdiff	Pdif	10 24 49.3	-3.8	
	baz=102							
Q23A	Hartsel	102.62	37	⇑Pdiff	Pdif	10 24 49.3	-3.8	
	baz=102							
N26A	Koester Ranch,	102.66	35	⇓Pdiff	Pdif	10 24 49.7	-3.2	
	baz=102							
N26A	Koester Ranch,	102.66	35	⇓Pdiff	Pdif	10 24 49.7	-3.2	
	baz=102							
L28A	Connealy Angus	102.66	33	⇑Pdiff	Pdif	10 24 51.2	-1.7	
	baz=102							
L28A	Connealy Angus	102.66	33	⇑Pdiff	Pdif	10 24 51.2	-1.7	
	baz=102							
K29A	Lazy Trails An	102.68	32	⇓Pdiff	Pdif	10 24 51.6	-1.3	
	baz=102							
K29A	Lazy Trails An	102.68	32	⇓Pdiff	Pdif	10 24 51.6	-1.3	
	baz=102							
O25A	Wiggins	102.70	36	⇑Pdiff	Pdif	10 24 52.9	-0.3	
	baz=102							
O25A	Wiggins	102.70	36	⇑Pdiff	Pdif	10 24 52.9	-0.3	
	baz=102							
P24A	Kohler Place,	102.70	36	⇓Pdiff	Pdif	10 24 53.3	0.0	
	baz=102							
P24A	Kohler Place,	102.70	36	⇓Pdiff	Pdif	10 24 53.3	0.0	
	baz=102							
U20A	Newcomb	102.79	41	⇑Pdiff	Pdif	10 24 53.0	-0.6	
	baz=103							
U20A	Newcomb	102.79	41	⇑Pdiff	Pdif	10 24 53.0	-0.6	
	baz=103							
S22A	4UR Ranch, Cre	102.85	39	⇑Pdiff	Pdif	10 24 54.0	-0.1	
	baz=103							
S22A	4UR Ranch, Cre	102.85	39	⇑Pdiff	Pdif	10 24 54.0	-0.1	
	baz=103							
W18A	Petrified Fore	102.88	42	⇓Pdiff	Pdif	10 24 53.8	-0.3	
	baz=103							
W18A	Petrified Fore	102.88	42	⇓Pdiff	Pdif	10 24 53.8	-0.3	
	baz=103							
214A	Organ Pipe Nat	102.91	47	⇓Pdiff	Pdif	10 24 55.2	+1.0	
	baz=103							
214A	Organ Pipe Nat	102.91	47	⇓Pdiff	Pdif	10 24 55.2	+1.0	
	baz=103							
Q24A	Divide	102.95	37	⇓Pdiff	Pdif	10 24 54.8	+0.3	
	baz=103							
Q24A	Divide	102.95	37	⇓Pdiff	Pdif	10 24 54.8	+0.3	
	baz=103							
T21A	Navajo Lake	102.96	40	⇑Pdiff	Pdif	10 24 54.5	0.0	
	baz=103							
T21A	Navajo Lake	102.96	40	⇑Pdiff	Pdif	10 24 54.5	0.0	
	baz=103							
N27A	Anderson Farm,	103.03	34	⇓Pdiff	Pdif	10 24 54.3	-0.2	
	baz=103							
N27A	Anderson Farm,	103.03	34	⇓Pdiff	Pdif	10 24 54.3	-0.2	
	baz=103							
O26A	Horse Wrangler	103.03	35	⇓Pdiff	Pdif	10 24 54.8	+0.1	
	baz=103							
O26A	Horse Wrangler	103.03	35

	baz=103						
O27A	Beecher Island	103.51	35	⇓Pdiff	Pdif	10 24 56.1	-0.6
	baz=103						
O27A	Beecher Island	103.51	35	⇓Pdiff	Pdif	10 24 56.1	-0.6
	baz=103						
P26A	Davis Ranch, A	103.51	36	⇓Pdiff	Pdif	10 24 57.2	+0.4
	baz=103						
P26A	Davis Ranch, A	103.51	36	⇓Pdiff	Pdif	10 24 57.2	+0.4
	baz=103						
SDCO	Great Sand Dun	103.61	38	PFAKE		10 25 10.0	+13
SDCO				LR	LR		
	comp=Z,8μm,19.0s						
N28A	Pribbeno Ranch	103.63	34	⇓Pdiff	Pdif	10 24 57.7	+0.5
	baz=103						
N28A	Pribbeno Ranch	103.63	34	⇓Pdiff	Pdif	10 24 57.7	+0.5
	baz=103						
W20A	Ramah	103.63	42	⇓Pdiff	Pdif	10 24 58.7	+1.1
	baz=104						
W20A	Ramah	103.63	42	⇓Pdiff	Pdif	10 24 58.7	+1.1
	baz=104						
ECSD	EROS Data Cent	103.64	29	PFAKE		10 25 10.0	+13
ECSD				LR	LR		
	comp=Z,11μm,19.0s						
V21A	Milan	103.70	41	⇑Pdiff	Pdif	10 24 59.3	+1.5
	baz=104						
V21A	Milan	103.70	41	⇑Pdiff	Pdif	10 24 59.3	+1.5
	baz=104						
U22A	Llaves	103.78	40	⇑Pdiff	Pdif	10 24 58.2	0.0
	baz=104						
U22A	Llaves	103.78	40	⇑Pdiff	Pdif	10 24 58.2	0.0
	baz=104						
T23A	Casias Ranch,	103.80	39	⇓Pdiff	Pdif	10 24 59.3	+1.0
	baz=104						
T23A	Casias Ranch,	103.80	39	⇓Pdiff	Pdif	10 24 59.3	+1.0
	baz=104						
M30A	Dale-Ortello V	103.82	32	⇑Pdiff	Pdif	10 24 59.3	+1.3
	baz=104						
M30A	Dale-Ortello V	103.82	32	⇑Pdiff	Pdif	10 24 59.3	+1.3
	baz=104						
S24A	Houchin Ranch,	103.85	38	⇓Pdiff	Pdif	10 24 58.4	-0.1
	baz=104						
S24A	Houchin Ranch,	103.85	38	⇓Pdiff	Pdif	10 24 58.4	-0.1
	baz=104						
Q26A	Hugo	103.88	36	⇓Pdiff	Pdif	10 24 57.8	-0.7
	baz=104						
Q26A	Hugo	103.88	36	⇓Pdiff	Pdif	10 24 57.8	-0.7
	baz=104						
P27A	Ficken Ranch,	103.92	35	⇓Pdiff	Pdif	10 24 56.1	-2.5
	baz=104						
P27A	Ficken Ranch,	103.92	35	⇓Pdiff	Pdif	10 24 56.1	-2.5
	baz=104						
O28A	Krutsinger Ran	103.92	34	⇓Pdiff	Pdif	10 24 57.2	-1.3
	baz=104						
O28A	Krutsinger Ran	103.92	34	⇓Pdiff	Pdif	10 24 57.2	-1.3
	baz=104						
LIS	Lisbon	103.97	324	*e*PP	PP	10 29 16.1	+0.9
LIS				AMS	AMS	11 18 54.4	
	comp=E,20μm,21.1s						
N29A	Votaw Ranch, W	103.99	33	⇓Pdiff	Pdif	10 24 59.7	+0.9
	baz=104						
N29A	Votaw Ranch, W	103.99	33	⇓Pdiff	Pdif	10 24 59.7	+0.9
	baz=104						
R25A	Fountain Ranch	104.01	37	⇑Pdiff	Pdif	10 24 58.4	-0.7
	baz=104						
R25A	Fountain Ranch	104.01	37	⇑Pdiff	Pdif	10 24 58.4	-0.7
	baz=104						
TUC	Tucson	104.02	45	PFAKE		10 25 10.0	+11
TUC				LR	LR		
	comp=Z,8μm,21.0s						
SPMN	St. Paul	104.03	26	⇓Pdiff	Pdif	10 24 58.3	-0.5
	baz=104						
SPMN	St. Paul	104.03	26	⇓Pdiff	Pdif	10 24 58.3	-0.5
	baz=104						
V22A	San Miguel Ran	104.06	40	⇑Pdiff	Pdif	10 24 59.0	-0.4
	baz=104						
V22A	San Miguel Ran	104.06	40	⇑Pdiff	Pdif	10 24 59.0	-0.4
	baz=104						
PVAQ	Vaqueiros	104.11	322	*e*Pdif	Pdif	10 25 02.4	+3.1
PVAQ	Vaqueiros	104.11	322	PP	PP	10 29 19.9	+3.6
PVAQ				*e*SKSac	SKSac	10 35 41.3	+2.5
PVAQ	Vaqueiros	104.11	322	*e*LR	LR	11 03 29.7	
	comp=Z,14μm,18.0s						
W21A	San Fidel	104.16	41	⇓Pdiff	Pdif	10 25 00.2	+0.4
	baz=104						
W21A	San Fidel	104.16	41	⇓Pdiff	Pdif	10 25 00.2	+0.4
	baz=104						
SBA	Scott Base	104.16	171	PFAKE		10 25 10.0	+12
SBA				LR	LR		
	comp=Z,2μm,22.0s						
U23A	El Rito	104.20	40	⇑Pdiff	Pdif	10 24 58.5	-1.5
	baz=104						
U23A	El Rito	104.20	40	⇑Pdiff	Pdif	10 24 58.5	-1.5
	baz=104						
S25A	Robets Cordova	104.27	38	⇑Pdiff	Pdif	10 25 00.7	+0.4
	baz=104						
S25A	Robets Cordova	104.27	38	⇑Pdiff	Pdif	10 25 00.7	+0.4
	baz=104						
TAM	Tamanrasset	104.28	303	PFAKE		10 25 10.0	+9.4
TAM				LR	LR		
	comp=Z,7μm,20.0s						
KSCO	Kaye Shedlock'	104.29	35	⇓Pdiff	Pdif	10 24 59.2	-1.0
	baz=104						
KSCO	Kaye Shedlock'	104.29	35	⇓Pdiff	Pdif	10 24 59.2	-1.0
	baz=104						
P28A	Saint Francis	104.34	35	⇑Pdiff	Pdif	10 24 59.8	-0.6
	baz=104						
P28A	Saint Francis	104.34	35	⇑Pdiff	Pdif	10 24 59.8	-0.6
	baz=104						
R26A	Arlington	104.36	36	⇑Pdiff	Pdif	10 24 59.6	-1.0
	baz=104						
R26A	Arlington	104.36	36	⇑Pdiff	Pdif	10 24 59.6	-1.0
	baz=104						
O29A	4D Ranch, Culb	104.42	34	⇑Pdiff	Pdif	10 25 00.5	-0.2
	baz=104						
O29A	4D Ranch, Culb	104.42	34	⇑Pdiff	Pdif	10 25 00.5	-0.2
	baz=104						
Y20A	Horse Springs,	104.52	43	⇓Pdiff	Pdif	10 25 01.1	-0.4
	baz=104						
Y20A	Horse Springs,	104.52	43	⇓Pdiff	Pdif	10 25 01.1	-0.4
	baz=104						
X21A	Alamocita Cree	104.52	42	⇑Pdiff	Pdif	10 25 00.0	-1.5
	baz=104						
X21A	Alamocita Cree	104.52	42	⇑Pdiff	Pdif	10 25 00.0	-1.5
	baz=104						
V23A	Ortiz Mt. (NFS	104.61	40	⇑Pdiff	Pdif	10 25 00.7	-1.1
	baz=104						
V23A	Ortiz Mt. (NFS	104.61	40	⇑Pdiff	Pdif	10 25 00.7	-1.1
	baz=104						
T25A	Trinidad	104.66	38	⇑Pdiff	Pdif	10 25 02.0	0.0
	baz=104						
T25A	Trinidad	104.66	38	⇑Pdiff	Pdif	10 25 02.0	0.0
	baz=104						
W22A	Albuquerque	104.66	41	⇓Pdiff	Pdif	10 25 01.7	-0.3
	baz=104						
W22A	Albuquerque	104.66	41	⇓Pdiff	Pdif	10 25 01.7	-0.3
	baz=104						
U24A	Moreno Valley	104.67	39	⇑Pdiff	Pdif	10 25 01.7	-0.5
	baz=104						
U24A	Moreno Valley	104.67	39	⇑Pdiff	Pdif	10 25 01.7	-0.5
	baz=104						
Q28A	Sharon Springs	104.67	35	⇑Pdiff	Pdif	10 25 02.8	+0.8
	baz=104						
Q28A	Sharon Springs	104.67	35	⇑Pdiff	Pdif	10 25 02.8	+0.8
	baz=104						
R27A	Eads	104.73	36	⇑Pdiff	Pdif	10 25 02.7	+0.5
	baz=104						
R27A	Eads	104.73	36	⇑Pdiff	Pdif	10 25 02.7	+0.5
	baz=104						
P29A	Atwood	104.74	34	⇑Pdiff	Pdif	10 25 01.6	-0.6
	baz=104						
P29A	Atwood	104.74	34	⇑Pdiff	Pdif	10 25 01.6	-0.6
	baz=104						
BGNE	Belgrade	104.75	31	⇑Pdiff	Pdif	10 25 01.2	-0.9
	baz=104						
BGNE	Belgrade	104.75	31	⇑Pdiff	Pdif	10 25 01.2	-0.9
	baz=104						
O30A	MW Ranch, Wils	104.76	33	⇑Pdiff	Pdif	10 25 01.3	-0.9
	baz=105						
O30A	MW Ranch, Wils	104.76	33	⇑Pdiff	Pdif	10 25 01.3	-0.9
	baz=105						
S26A	Kim	104.84	37	⇓Pdiff	Pdif	10 25 02.8	+0.1
	baz=105						
S26A	Kim	104.84	37	⇓Pdiff	Pdif	10 25 02.8	+0.1
	baz=105						
Y21A	Point of Rocks	104.88	42	⇑Pdiff	Pdif	10 25 03.9	+0.7
	baz=105						
Y21A	Point of Rocks	104.88	42	⇑Pdiff	Pdif	10 25 03.9	+0.7
	baz=105						
Z20A	Nine Sixteen R	104.91	43	⇑Pdiff	Pdif	10 25 04.0	+0.8
	baz=105						
Z20A	Nine Sixteen R	104.91	43	⇑Pdiff	Pdif	10 25 04.0	+0.8
	baz=105						
X22A	Bernardo	104.96	41	⇑Pdiff	Pdif	10 25 02.7	-0.7
	baz=105						
X22A	Bernardo	104.96	41	⇑Pdiff	Pdif	10 25 02.7	-0.7
	baz=105						
ANMO	Albuquerque	104.99	41	PFAKE		10 29 30.0	
ANMO				LR	LR		
	comp=Z,7μm,19.0s						
W23A	Werner Place,	105.03	40	⇑Pdiff	Pdif	10 25 02.2	-1.5
	baz=105						
W23A	Werner Place,	105.03	40	⇑Pdiff	Pdif	10 25 02.2	-1.5
	baz=105						
T26A	Comanche Natio	105.09	37	⇑Pdiff	Pdif	10 25 02.4	-1.5
	baz=105						
T26A	Comanche Natio	105.09	37	⇑Pdiff	Pdif	10 25 02.4	-1.5
	baz=105						
S27A	Las Animas	105.11	37	⇑Pdiff	Pdif	10 25 04.4	+0.4
	baz=105						
S27A	Las Animas	105.11	37	⇑Pdiff	Pdif	10 25 04.4	+0.4
	baz=105						
P30A	Selden	105.14	34	⇑Pdiff	Pdif	10 25 04.1	+0.1
	baz=105						
P30A	Selden	105.14	34	⇑Pdiff	Pdif	10 25 04.1	+0.1
	baz=105						
V24A	Rampart Ranch,	105.15	39	⇓Pdiff	Pdif	10 25 04.6	+0.3
	baz=105						
V24A	Rampart Ranch,	105.15	39	⇓Pdiff	Pdif	10 25 04.6	+0.3
	baz=105						
U25A	Circle Dot Ran	105.18	38	⇓PKiKP	PKiKP	10 29 17.4	-1.3
	baz=105						
U25A	Circle Dot Ran	105.18	38	⇓PKiKP	PKiKP	10 29 17.4	-1.3
	baz=105						
R28A	Tribune	105.22	35	⇓PKiKP	PKiKP	10 29 17.4	-1.2
	baz=105						
R28A	Tribune	105.22	35	⇓PKiKP	PKiKP	10 29 17.4	-1.2
	baz=105						
Q29A	Oakley	105.25	35	⇓PKiKP	PKiKP	10 29 18.6	0.0
	baz=105						
Q29A	Oakley	105.25	35	⇓PKiKP	PKiKP	10 29 18.6	0.0
	baz=105						
Y22D	IRIS PASSCAL I	105.30	42	⇑PKiKP	PKiKP	10 29 18.4	-0.5
	baz=105						
Y22D	IRIS PASSCAL I	105.30	42	⇑PKiKP	PKiKP	10 29 18.4	-0.5
	baz=105						
Z21A	St. Cloud Mine	105.35	43	⇑PKiKP	PKiKP	10 29 18.8	-0.3
	baz=105						
Z21A	St. Cloud Mine	105.35	43	⇑PKiKP	PKiKP	10 29 18.8	-0.3
	baz=105						
Y22A	Socorro	105.37	42	⇓PKiKP	PKiKP	10 29 18.9	-0.2
	baz=105						
Y22A	Socorro	105.37	42	⇓PKiKP	PKiKP	10 29 18.9	-0.2
	baz=105						
X23A	Hourglass Bar	105.40	41	⇓PKiKP	PKiKP	10 29 18.9	-0.3
	baz=105						
X23A	Hourglass Bar	105.40	41	⇓PKiKP	PKiKP	10 29 18.9	-0.3
	baz=105						
W24A	Lazy 6 Ranch,	105.43	40	⇑PKiKP	PKiKP	10 29 18.2	-1.0
	baz=105						
W24A	Lazy 6 Ranch,	105.43	40	⇑PKiKP	PKiKP	10 29 18.2	-1.0
	baz=105						
V25A	Rancho No Teng	105.45	39	⇓PKiKP	PKiKP	10 29 18.3	-1.0
	baz=105						
V25A	Rancho No Teng	105.45	39	⇓PKiKP	PKiKP	10 29 18.3	-1.0
	baz=105						
R29A	Marienthal	105.51	35	⇓PKiKP	PKiKP	10 29 18.3	-0.8
	baz=105						
R29A	Marienthal	105.51	35	⇓PKiKP	PKiKP	10 29 18.3	-0.8
	baz=105						
U26A	Atchley Ranch,	105.56	38	⇓PKiKP	PKiKP	10 29 18.4	-1.0
	baz=105						
U26A	Atchley Ranch,	105.56	38	⇓PKiKP	PKiKP	10 29 18.4	-1.0
	baz=105						
Q30A	Quinter	105.58	34	⇑PKiKP	PKiKP	10 29 18.4	-0.7
	baz=105						
Q30A	Quinter	105.58	34	⇑PKiKP	PKiKP	10 29 18.4	-0.7
	baz=105						
P31A	Stockton	105.59	33	⇑PKiKP	PKiKP	10 29 17.7	-1.4
	baz=105						
P31A	Stockton	105.59	33	⇑PKiKP	PKiKP	10 29 17.7	-1.4
	baz=105						
319A	Douglas	105.60	45	⇓PKiKP	PKiKP	10 29 18.6	-0.9
	baz=106						
319A	Douglas	105.60	45	⇓PKiKP	PKiKP	10 29 18.6	-0.9
	baz=106						
T27A	Campo	105.65	37	⇓PKiKP	PKiKP	10 29 19.0	-0.5
	baz=106						
T27A	Campo	105.65	37	⇓PKiKP	PKiKP	10 29 19.0	-0.5
	baz=106						
S28A	Manter	105.72	36	⇑PKiKP	PKiKP	10 29 19.8	+0.3
	baz=106						
S28A	Manter	105.72	36	⇑PKiKP	PKiKP	10 29 19.8	+0.3
	baz=106						
220A	Playas Peak, P	105.74	44	⇑PKiKP	PKiKP	10 29 21.4	+1.6
	baz=106						
220A	Playas Peak, P	105.74	44	⇑PKiKP	PKiKP	10 29 21.4	+1.6
	baz=106						
121A	Cookes Peak, D	105.80	43	⇓PKiKP	PKiKP	10 29 21.5	+1.6
	baz=106						
121A	Cookes Peak, D	105.80	43	⇓PKiKP	PKiKP	10 29 21.5	+1.6
	baz=106						
Z22A	Elephant Butte	105.83	42	⇓PKiKP	PKiKP	10 29 18.6	-1.3
	baz=106						
Z22A	Elephant Butte	105.83	42	⇓PKiKP	PKiKP	10 29 18.6	-1.3
	baz=106						
Y23A	Lovelace Mesa,	105.92	41	⇓PKiKP	PKiKP	10 29 19.9	-0.2
	baz=106						
Y23A	Lovelace Mesa,	105.92	41	⇓PKiKP	PKiKP	10 29 19.9	-0.2
	baz=106						
T28A	Walsh	105.94	37	⇓PKiKP	PKiKP	10 29 19.1	-0.8
	baz=106						
T28A	Walsh	105.94	37	⇓PKiKP	PKiKP	10 29 19.1	-0.8
	baz=106						
V26A	Tequesquite Ra	105.96	38	⇑PKiKP	PKiKP	10 29 20.3	+0.2
	baz=106						
V26A	Tequesquite Ra	105.96	38	⇑PKiKP	PKiKP	10 29 20.3	+0.2
	baz=106						
RTC	Rabat Centre	105.97	319	PFAKE		10 29 30.0	
RTC				LR	LR		
	comp=Z,10μm,19.0s						
Q31A	Ellis	105.98	34	⇑PKiKP	PKiKP	10 29 19.9	0.0
	baz=106						
Q31A	Ellis	105.98	34	⇑PKiKP	PKiKP	10 29 19.9	0.0
	baz=106						
W25A	X Bar L Ranch,	105.98	39	⇓PKiKP	PKiKP	10 29 20.0	-0.2
	baz=106						
W25A	X Bar L Ranch,	105.98	39	⇓PKiKP	PKiKP	10 29 20.0	-0.2
	baz=106						
U27A	Thompson Grove	106.06	37	⇓PKiKP	PKiKP	10 29 19.7	-0.5
	baz=106						
U27A	Thompson Grove	106.06	37	⇓PKiKP	PKiKP	10 29 19.7	-0.5
	baz=106						
R30A	Dighton	106.07	35	⇓PKiKP	PKiKP	10 29 19.0	-1.1
	baz=106						
R30A	Dighton	106.07	35	⇓PKiKP	PKiKP	10 29 19.0	-1.1
	baz=106						
320A	Kipp Ranch, An	106.11	45	⇓PKiKP	PKiKP	10 29 20.6	+0.1
	baz=106						
320A	Kipp Ranch, An	106.11	45	⇓PKiKP	PKiKP	10 29 20.6	+0.1
	baz=106						
S29A	Ulysses	106.12	36	⇑PKiKP	PKiKP	10 29 19.8	-0.4
	baz=106						
S29A	Ulysses	106.12	36	⇑PKiKP	PKiKP	10 29 19.8	-0.4
	baz=106						
221A	Mesquite Ranch	106.15	44	⇓PKiKP	PKiKP	10 29 21.4	+0.9
	baz=106						
221A	Mesquite Ranch	106.15	44	⇓PKiKP	PKiKP	10 29 21.4	+0.9
	baz=106						
122A	Conniff Cattle	106.18	43	⇓PKiKP	PKiKP	10 29 21.8	+1.3
	baz=106						
122A	Conniff Cattle	106.18	43	⇓PKiKP	PKiKP	10 29 21.8	+1.3
	baz=106						
Z23A	Rita Site, Whi	106.27	42	⇑PKiKP	PKiKP	10 29 20.5	-0.2
	baz=106						
Z23A	Rita Site, Whi	106.27	42	⇑PKiKP	PKiKP	10 29 20.5	-0.2
	baz=106						
Y24A	Capitan	106.30	41	⇑PKiKP	PKiKP	10 29 21.7	+0.9
	baz=106						
Y24A	Capitan	106.30	41	⇑PKiKP	PKiKP	10 29 21.7	+0.9
	baz=106						
X25A	Clemmons Ranch	106.35	40	⇑PKiKP	PKiKP	10 29 21.4	+0.5
	baz=106						
X25A	Clemmons Ranch	106.35	40	⇑PKiKP	PKiKP	10 29 21.4	+0.5
	baz=106						
T29A	Hugoton	106.36	36	⇓PKiKP	PKiKP	10 29 20.3	-0.4
	baz=106						
T29A	Hugoton	106.36	36	⇓PKiKP	PKiKP	10 29 20.3	-0.4
	baz=106						
U28A	Mallet	106.42	37	⇑PKiKP	PKiKP	10 29 21.1	+0.3
	baz=106						
U28A	Mallet	106.42	37	⇑PKiKP	PKiKP	10 29 21.1	+0.3
	baz=106						
S30A	Montezuma	106.45	35	⇑PKiKP	PKiKP	10 29 20.8	0.0
	baz=106						
S30A	Montezuma	106.45	35	⇑PKiKP	PKiKP	10 29 20.8	0.0
	baz=106						
R31A	Burdett	106.45	34	⇑PKiKP	PKiKP	10 29 20.8	0.0
	baz=106						
R31A	Burdett	106.45	34	⇑PKiKP	PKiKP	10 29 20.8	0.0
	baz=106						
W26A	Owens Ranch, T	106.47	39	⇑PKiKP	PKiKP	10 29 20.9	-0.2
	baz=106						
W26A	Owens Ranch, T	106.47	39	⇑PKiKP	PKiKP	10 29 20.9	-0.2
	baz=106						
222A	Williams Famil	106.52	43	⇓PKiKP	PKiKP	10 29 21.4	+0.2
	baz=106						
222A	Williams Famil	106.52	43	⇓PKiKP	PKiKP	10 29 21.4	+0.2
	baz=106						
V27A	Dan Oppiter Fa	106.53	38	⇓PKiKP	PKiKP	10 29 21.3	+0.2
	baz=106						
V27A	Dan Oppiter Fa	106.53	38	⇓PKiKP	PKiKP	10 29 21.3	+0.2
	baz=106						
123A	Bell Site, Whi	106.68	42	⇑PKiKP	PKiKP	10 29 21.7	+0.2
	baz=106						
123A	Bell Site, Whi	106.68	42	⇑PKiKP	PKiKP	10 29 21.7	+0.2
	baz=106						
Z24A	Sheeppen Canyo	106.76	41	⇓PKiKP	PKiKP	10 29 21.4	-0.3
	baz=107						
Z24A	Sheeppen Canyo	106.76	41	⇓PKiKP	PKiKP	10 29 21.4	-0.3
	baz=107						
X26A	CR and CF Fran	106.83	39	⇑PKiKP	PKiKP	10 29 21.9	+0.2
	baz=107						
X26A	CR and CF Fran	106.83	39	⇑PKiKP	PKiKP	10 29 21.9	+0.2
	baz=107						
V28A	Channing	106.88	38	⇑PKiKP	PKiKP	10 29 23.1	+1.4
	baz=107						
V28A	Channing	106.88	38	⇑PKiKP	PKiKP	10 29 23.1	+1.4
	baz=107						
U29A	Oasis Ranch, S	106.89	36	⇑PKiKP	PKiKP	10 29 23.1	+1.4
	baz=107						
U29A	Oasis Ranch, S	106.89	36	⇑PKiKP	PKiKP	10 29 23.1	+1.4
	baz=107						
W27A	Bowe Ranch, En	106.90	39	⇑PKiKP	PKiKP	10 29 23.1	+1.3
	baz=107						
W27A	Bowe Ranch, En	106.90	39	⇑PKiKP	PKiKP	10 29 23.1	+1.3
	baz=107						
JFWS	Jewell Farm	106.97	25	PFAKE		10 29 30.0	
JFWS				LR	LR		
	comp=Z,10μm,19.0s						
S31A	Mullinville	106.98	35	⇓PKiKP	PKiKP	10 29 22.1	+0.4
	baz=107						
S31A	Mullinville	106.98	35	⇓PKiKP	PKiKP	10 29 22.1	+0.4
	baz=107						
223A	Chaparral, Ant	107.00	43	⇓PKiKP	PKiKP	10 29 23.0	+0.9
	baz=107						
223A	Chaparral, Ant	107.00	43	⇓PKiKP	PKiKP	10 29 23.0	+0.9
	baz=107						
124A	Stringfield Ra	107.13	42	⇓PKiKP	PKiKP	10 29 23.6	+1.2
	baz=107						
124A	Stringfield Ra	107.13	42	⇓PKiKP	PKiKP	10 29 23.6	+1.2
	baz=107						
U30A	WK&E Inc. Balk	107.17	36	⇑PKiKP	PKiKP	10 29 23.6	+1.4
	baz=107						
U30A	WK&E Inc. Balk	107.17	36	⇑PKiKP	PKiKP	10 29 23.6	+1.4
	baz=107						
X27A	F and S Farms,	107.17	39	⇑PKiKP	PKiKP	10 29 23.3	+0.9
	baz=107						
X27A	F and S Farms,	107.17	39	⇑PKiKP	PKiKP	10 29 23.3	+0.9
	baz=107						
V29A	Stinnett	107.18	37	⇓PKiKP	PKiKP	10 29 23.3	+1.0
	baz=107						
V29A	Stinnett	107.18	37	⇓PKiKP	PKiKP	10 29 23.3	+1.0
	baz=107						
Z25A	Roswell	107.18	41	⇓PKiKP	PKiKP	10 29 21.8	-0.5
	baz=107						
Z25A	Roswell	107.18	41	⇓PKiKP	PKiKP	10 29 21.8	-0.5
	baz=107						
W28A	Vega	107.25	38	⇑PKiKP	PKiKP	10 29 23.0	+0.6
	baz=107						
W28A	Vega	107.25	38	⇑PKiKP	PKiKP	10 29 23.0	+0.6
	baz=107						
Y26A	Elida	107.26	40	⇓PKiKP	PKiKP	10 29 23.8	+1.3
	baz=107						
Y26A	Elida	107.26	40	⇓PKiKP	PKiKP	10 29 23.8	+1.3
	baz=107						
T31A	Randall Ranch,	107.27	35	⇑PKiKP	PKiKP	10 29 23.1	+0.7
	baz=107						
T31A	Randall Ranch,	107.27	35	⇑PKiKP	PKiKP	10 29 23.1	+0.7
	baz=107						
KSU1	Kansas State U	107.28	32	PFAKE		10 29 30.0	
KSU1				LR	LR		
	comp=Z,10μm,19.0s						
224A	Cornudas Mount	107.52	42	⇑PKiKP	PKiKP	10 29 23.2	+0.1
	baz=107						
224A	Cornudas Mount	107.52	42	⇑PKiKP	PKiKP	10 29 23.2	+0.1
	baz=107						
Z26A	Caprock	107.63	40	⇓PKiKP	PKiKP	10 29 23.8	+0.6
	baz=108						
Z26A	Caprock	107.63	40	⇓PKiKP	PKiKP	10 29 23.8	+0.6
	baz=108						
125A	Gardner Draw,	107.65	41	⇓PKiKP	PKiKP	10 29 24.2	+0.9
	baz=108						
125A	Gardner Draw,	107.65	41	⇓PKiKP	PKiKP	10 29 24.2	+0.9
	baz=108						
W29A	Amraillo	107.66	38	⇓PKiKP	PKiKP	10 29 23.4	+0.2
	baz=108						
W29A	Amraillo	107.66	38	⇓PKiKP	PKiKP	10 29 23.4	+0.2
	baz=108						
Y27A	Causey	107.68	40	⇑PKiKP	PKiKP	10 29 23.5	+0.2
	baz=108						
Y27A	Causey	107.68	40	⇑PKiKP	PKiKP	10 29 23.5	+0.2
	baz=108						
V30A	Spur Ranch, Mi	107.72	37	⇑PKiKP	PKiKP	10 29 24.7	+1.4
	baz=108						
V30A	Spur Ranch, Mi	107.72	37	⇑PKiKP	PKiKP	10 29 24.7	+1.4
	baz=108				

W30A	Crocket Farms	108.21	37	⇑PKiKP	PKiKP	10 29 26.3	+2.1
	baz=108						
W30A	Crocket Farms	108.21	37	⇑PKiKP	PKiKP	10 29 26.3	+2.1
	baz=108						
325A	Bean Ranch, Si	108.34	43	⇑PKiKP	PKiKP	10 29 26.6	+1.9
	baz=108						
325A	Bean Ranch, Si	108.34	43	⇑PKiKP	PKiKP	10 29 26.6	+1.9
	baz=108						
226B	Tecolote Peak,	108.35	41	⇑PKiKP	PKiKP	10 29 26.2	+1.7
	baz=108						
226B	Tecolote Peak,	108.35	41	⇑PKiKP	PKiKP	10 29 26.2	+1.7
	baz=108						
127A	Arkansas Junct	108.42	41	⇑PKiKP	PKiKP	10 29 26.7	+2.0
	baz=108						
127A	Arkansas Junct	108.42	41	⇑PKiKP	PKiKP	10 29 26.7	+2.0
	baz=108						
W31A	Holland Ranch,	108.55	37	⇑PKiKP	PKiKP	10 29 25.5	+0.7
	baz=108						
W31A	Holland Ranch,	108.55	37	⇑PKiKP	PKiKP	10 29 25.5	+0.7
	baz=108						
Z28A	Tucker Farm, M	108.56	39	⇑PKiKP	PKiKP	10 29 27.0	+2.1
	baz=108						
Z28A	Tucker Farm, M	108.56	39	⇑PKiKP	PKiKP	10 29 27.0	+2.1
	baz=108						
Y29A	Porterfield Fa	108.56	39	⇑PKiKP	PKiKP	10 29 26.6	+1.7
	baz=108						
Y29A	Porterfield Fa	108.56	39	⇑PKiKP	PKiKP	10 29 26.6	+1.7
	baz=108						
X30A	Coker Ranch, T	108.58	38	⇓PKiKP	PKiKP	10 29 27.0	+2.1
	baz=108						
X30A	Coker Ranch, T	108.58	38	⇓PKiKP	PKiKP	10 29 27.0	+2.1
	baz=108						
425A	Indio Mountain	108.73	43	⇑PKiKP	PKiKP	10 29 27.3	+2.0
	baz=109						
425A	Indio Mountain	108.73	43	⇑PKiKP	PKiKP	10 29 27.3	+2.0
	baz=109						
RKT	Rikitea	108.77	108	*e*SS	SS	10 45 12.4	+2.8
	comp=Z,2μm,32.8s						
RKT	Rikitea	108.77	108	*e*LR	LR	11 01 27.1	
	comp=Z,6μm,27.2s,baz=293						
227A	Bennet, Jal	108.92	41	⇓PKiKP	PKiKP	10 29 28.1	+2.4
	baz=109						
227A	Bennet, Jal	108.92	41	⇓PKiKP	PKiKP	10 29 28.1	+2.4
	baz=109						
X31A	McDonald Ranch	108.95	37	⇓PKiKP	PKiKP	10 29 28.1	+2.5
	baz=109						
X31A	McDonald Ranch	108.95	37	⇓PKiKP	PKiKP	10 29 28.1	+2.5
	baz=109						
Z29A	Hungry Hill Ra	108.97	39	⇑PKiKP	PKiKP	10 29 28.1	+2.4
	baz=109						
Z29A	Hungry Hill Ra	108.97	39	⇑PKiKP	PKiKP	10 29 28.1	+2.4
	baz=109						
128A	Castleberry Fa	108.97	40	⇓PKiKP	PKiKP	10 29 28.5	+2.8
	baz=109						
128A	Castleberry Fa	108.97	40	⇓PKiKP	PKiKP	10 29 28.5	+2.8
	baz=109						
Y30A	Stafford Cattl	108.99	38	⇑PKiKP	PKiKP	10 29 28.5	+2.8
	baz=109						
Y30A	Stafford Cattl	108.99	38	⇑PKiKP	PKiKP	10 29 28.5	+2.8
	baz=109						
326A	Caldwell Ranch	108.99	42	⇑PKiKP	PKiKP	10 29 27.8	+2.0
	baz=109						
326A	Caldwell Ranch	108.99	42	⇑PKiKP	PKiKP	10 29 27.8	+2.0
	baz=109						
SADO	Sadowa	109.00	17	PKKP	PKKPab	10 40 44.3	-3.7
	comp=Z,3.8nm,0.8s,baz=156,slow=15,SNR=4.2						
327A	Balmorhea Ranc	109.25	42	⇓PKiKP	PKiKP	10 29 29.1	+2.8
	baz=109						
327A	Balmorhea Ranc	109.25	42	⇓PKiKP	PKiKP	10 29 29.1	+2.8
	baz=109						
228A	UT Block 9, Go	109.27	40	⇓PKiKP	PKiKP	10 29 28.3	+2.1
	baz=109						
228A	UT Block 9, Go	109.27	40	⇓PKiKP	PKiKP	10 29 28.3	+2.1
	baz=109						
Y31A	Rekieta Farm,	109.28	38	⇑PKiKP	PKiKP	10 29 29.1	+2.9
	baz=109						
Y31A	Rekieta Farm,	109.28	38	⇑PKiKP	PKiKP	10 29 29.1	+2.9
	baz=109						
Z30A	Sanderson Ranc	109.29	39	⇑PKiKP	PKiKP	10 29 28.0	+1.7
	baz=109						
Z30A	Sanderson Ranc	109.29	39	⇑PKiKP	PKiKP	10 29 28.0	+1.7
	baz=109						
129A	Stewart Farms,	109.33	40	⇑PKiKP	PKiKP	10 29 27.7	+1.3
	baz=109						
129A	Stewart Farms,	109.33	40	⇑PKiKP	PKiKP	10 29 27.7	+1.3
	baz=109						
426A	McDonald Obser	109.41	42	⇑PKiKP	PKiKP	10 29 29.0	+2.2
	baz=109						
426A	McDonald Obser	109.41	42	⇑PKiKP	PKiKP	10 29 29.0	+2.2
	baz=109						
WMOK	Wichita Mounta	109.52	36	PFAKE		10 29 40.0	
WMOK				LR	LR		
	comp=Z,9μm,19.0s						
328A	Wristen Ranch,	109.66	41	⇑PKiKP	PKiKP	10 29 26.5	-0.5
	baz=110						
328A	Wristen Ranch,	109.66	41	⇑PKiKP	PKiKP	10 29 26.5	-0.5
	baz=110						
427A	Hayter Ranch,	109.67	42	⇑PKiKP	PKiKP	10 29 28.0	+0.9
	baz=110						
427A	Hayter Ranch,	109.67	42	⇑PKiKP	PKiKP	10 29 28.0	+0.9
	baz=110						
Y32A	R-V Farms, Ver	109.71	37	⇑PKiKP	PKiKP	10 29 28.8	+1.8
	baz=110						
Y32A	R-V Farms, Ver	109.71	37	⇑PKiKP	PKiKP	10 29 28.8	+1.8
	baz=110						
526A	Mary Lane Ranc	109.79	43	⇓PKiKP	PKiKP	10 29 27.1	-0.3
	baz=110						
526A	Mary Lane Ranc	109.79	43	⇓PKiKP	PKiKP	10 29 27.1	-0.3
	baz=110						
Z31A	Sharp Cattle R	109.82	38	⇑PKiKP	PKiKP	10 29 27.1	-0.1
	baz=110						
Z31A	Sharp Cattle R	109.82	38	⇑PKiKP	PKiKP	10 29 27.1	-0.1
	baz=110						
229A	Bryant Ranch,	109.84	40	⇓PKiKP	PKiKP	10 29 26.4	-0.9
	baz=110						
229A	Bryant Ranch,	109.84	40	⇓PKiKP	PKiKP	10 29 26.4	-0.9
	baz=110						
130A	Snyder	109.88	39	⇑PKiKP	PKiKP	10 29 27.2	-0.1
	baz=110						
130A	Snyder	109.88	39	⇑PKiKP	PKiKP	10 29 27.2	-0.1
	baz=110						
527A	Woodward Ranch	110.03	43	⇓PKiKP	PKiKP	10 29 26.8	-1.0
	baz=110						
527A	Woodward Ranch	110.03	43	⇓PKiKP	PKiKP	10 29 26.8	-1.0
	baz=110						
329A	Wagon Wheel Ra	110.08	41	⇑PKiKP	PKiKP	10 29 28.4	+0.6
	baz=110						
329A	Wagon Wheel Ra	110.08	41	⇑PKiKP	PKiKP	10 29 28.4	+0.6
	baz=110						
626A	Big Bend Ranch	110.11	43	⇑PKiKP	PKiKP	10 29 28.5	+0.5
	baz=110						
626A	Big Bend Ranch	110.11	43	⇑PKiKP	PKiKP	10 29 28.5	+0.5
	baz=110						
131A	Roby	110.16	39	⇑PKiKP	PKiKP	10 29 28.5	+0.6
	baz=110						
131A	Roby	110.16	39	⇑PKiKP	PKiKP	10 29 28.5	+0.6
	baz=110						
TUL1	Tulsa	110.19	33	⇑PKiKP	PKiKP	10 29 28.5	+0.7
	baz=110						
TUL1	Tulsa	110.19	33	⇑PKiKP	PKiKP	10 29 28.5	+0.7
	baz=110						
428A	Kincaid Ranch,	110.20	42	⇑PKiKP	PKiKP	10 29 29.0	+0.9
	baz=110						
428A	Kincaid Ranch,	110.20	42	⇑PKiKP	PKiKP	10 29 29.0	+0.9
	baz=110						
Z32A	Haskell	110.21	38	⇑PKiKP	PKiKP	10 29 28.6	+0.7
	baz=110						
Z32A	Haskell	110.21	38	⇑PKiKP	PKiKP	10 29 28.6	+0.7
	baz=110						
LONY	Lake Ozonia	110.25	14	PFAKE		10 29 40.0	
LONY				LR	LR		
	comp=Z,12μm,20.0s						
230A	Sterling City	110.31	40	⇓PKiKP	PKiKP	10 29 29.2	+1.0
	baz=110						
230A	Sterling City	110.31	40	⇓PKiKP	PKiKP	10 29 29.2	+1.0
	baz=110						
SFIN	Scholer Farm	110.36	25	⇓PKiKP	PKiKP	10 29 29.9	+1.9
	baz=110						
SFIN	Scholer Farm	110.36	25	⇓PKiKP	PKiKP	10 29 29.9	+1.9
	baz=110						
528A	Cox Ranch, San	110.53	42	⇓PKiKP	PKiKP	10 29 29.6	+0.9
	baz=110						
528A	Cox Ranch, San	110.53	42	⇓PKiKP	PKiKP	10 29 29.6	+0.9
	baz=110						
TXAR	Lajitas Array	110.56	43	Pdif	Pdif	10 25 35.7	+7.4
TXAR				PKiKP	PKiKP	10 29 28.0	-0.7
TXAR				PP	PP	10 30 03.8	-0.2
TXAR				PKKPbc	PKKPbc	10 40 30.0	+1.9
TXAR				PKKPab	PKKPab	10 40 39.6	-1.1
TXAR	Lajitas Array	110.56	43	Pdiff	Pdif	10 25 35.7	+7.4
	comp=Z,0.6nm,0.7s,baz=290,slow=3.6,SNR=6.0						
TXAR				PKiKP	PKiKP	10 29 28.0	-0.7
	comp=Z,1.5nm,0.6s,baz=237,slow=2.6,SNR=20						
TXAR				PP	PP	10 30 03.8	-0.2
	comp=Z,3.1nm,0.8s,baz=306,slow=7.7,SNR=5.3						
TXAR				PKKPbc	PKKPbc	10 40 30.0	+1.9
	comp=Z,0.9nm,1.0s,baz=140,slow=6.6,SNR=4.4						
TXAR				PKKPab	PKKPab	10 40 39.6	-1.1
	comp=Z,2.1nm,0.8s,baz=139,slow=8.2,SNR=4.6						
PKME	Peaks-Kenny Pk	110.62	10	PFAKE		10 29 40.0	
PKME				LR	LR		
	comp=Z,18μm,20.0s						
330A	Mertzon	110.62	40	⇓PKiKP	PKiKP	10 29 29.8	+1.0
	baz=110						
330A	Mertzon	110.62	40	⇓PKiKP	PKiKP	10 29 29.8	+1.0
	baz=110						
ABTX	Abilene, Hawle	110.62	38	⇓PKiKP	PKiKP	10 29 29.7	+1.0
	baz=110						
ABTX	Abilene, Hawle	110.62	38	⇓PKiKP	PKiKP	10 29 29.7	+1.0
	baz=110						
627A	Terlingua Ranc	110.65	43	⇑PKiKP	PKiKP	10 29 29.9	+0.9
	baz=110						
627A	Terlingua Ranc	110.65	43	⇑PKiKP	PKiKP	10 29 29.9	+0.9
	baz=110						
231A	Bronte	110.74	39	⇑PKiKP	PKiKP	10 29 30.0	+1.0
	baz=111						
231A	Bronte	110.74	39	⇑PKiKP	PKiKP	10 29 30.0	+1.0
	baz=111						
429A	Davenport Ranc	110.75	41	⇓PKiKP	PKiKP	10 29 30.0	+0.9
	baz=111						
429A	Davenport Ranc	110.75	41	⇓PKiKP	PKiKP	10 29 30.0	+0.9
	baz=111						
529A	Stev Forest Ra	110.91	42	⇑PKiKP	PKiKP	10 29 30.3	+0.9
	baz=111						
529A	Stev Forest Ra	110.91	42	⇑PKiKP	PKiKP	10 29 30.3	+0.9
	baz=111						
628A	Black Gap, Mar	110.94	43	⇑PKiKP	PKiKP	10 29 30.8	+1.3
	baz=111						
628A	Black Gap, Mar	110.94	43	⇑PKiKP	PKiKP	10 29 30.8	+1.3
	baz=111						
NCB	Newcomb	110.95	14	PFAKE		10 29 40.0	
NCB				LR	LR		
	comp=Z,10μm,19.0s						
430A	Baggett Ranch,	111.03	41	⇑PKiKP	PKiKP	10 29 31.6	+2.1
	baz=111						
430A	Baggett Ranch,	111.03	41	⇑PKiKP	PKiKP	10 29 31.6	+2.1
	baz=111						
331A	San Angelo	111.13	40	⇓PKiKP	PKiKP	10 29 31.5	+1.7
	baz=111						
331A	San Angelo	111.13	40	⇓PKiKP	PKiKP	10 29 31.5	+1.7
	baz=111						
LBNH	Lisbon	111.16	12	PFAKE		10 29 40.0	
LBNH				LR	LR		
	comp=Z,17μm,20.0s						
232A	Coleman	111.16	39	⇑PKiKP	PKiKP	10 29 31.5	+1.7
	baz=111						
232A	Coleman	111.16	39	⇑PKiKP	PKiKP	10 29 31.5	+1.7
	baz=111						
530A	J-C Ranch, Com	111.42	41	⇓PKiKP	PKiKP	10 29 31.3	+1.0
	baz=111						
530A	J-C Ranch, Com	111.42	41	⇓PKiKP	PKiKP	10 29 31.3	+1.0
	baz=111						
332A	Millersview	111.47	39	⇑PKiKP	PKiKP	10 29 31.4	+1.0
	baz=111						
332A	Millersview	111.47	39	⇑PKiKP	PKiKP	10 29 31.4	+1.0
	baz=111						
431A	Sonora	111.48	40	⇓PKiKP	PKiKP	10 29 31.4	+1.0
	baz=111						
431A	Sonora	111.48	40	⇓PKiKP	PKiKP	10 29 31.4	+1.0
	baz=111						
TSUM	Tsumeb	111.66	258	PFAKE		10 29 40.0	
TSUM				LR	LR		
	comp=Z,6μm,20.0s						
432A	Menard	111.82	40	⇓PKiKP	PKiKP	10 29 33.1	+2.1
	baz=112						
432A	Menard	111.82	40	⇓PKiKP	PKiKP	10 29 33.1	+2.1
	baz=112						
531A	Rocksprings	111.89	41	⇓PKiKP	PKiKP	10 29 32.9	+1.7
	baz=112						
531A	Rocksprings	111.89	41	⇓PKiKP	PKiKP	10 29 32.9	+1.7
	baz=112						
JCT	Junction City	112.10	40	*e*PKIKP		10 29 32.7	
JCT				MLR	MLR		
	comp=Z,5μm,19.0s						
JCT	Junction City	112.10	40	*e*PKPdf		10 29 32.7	
JCT				LR	LR		
	comp=Z,5μm,19.0s						
JCT	Junction City	112.10	40	⇑PKiKP	PKiKP	10 29 32.2	+0.6
	baz=112						
JCT	Junction City	112.10	40	⇑PKiKP	PKiKP	10 29 32.2	+0.6
	baz=112						
BINY	Binghamton	112.22	16	PFAKE		10 29 40.0	
BINY				LR	LR		
	comp=Z,13μm,20.0s						
532A	Rocksprings	112.30	40	⇑PKiKP	PKiKP	10 29 33.3	+1.3
	baz=112						
532A	Rocksprings	112.30	40	⇑PKiKP	PKiKP	10 29 33.3	+1.3
	baz=112						
WHTX	Lake Whitney	112.32	37	⇓PKiKP	PKiKP	10 29 33.3	+1.4
	baz=112						
WHTX	Lake Whitney	112.32	37	⇓PKiKP	PKiKP	10 29 33.3	+1.4
	baz=112						
MIAR	Mount Ida	112.37	33	PFAKE		10 29 40.0	
MIAR				LR	LR		
	comp=Z,7μm,19.0s						
PGRA	Graciosa	112.40	336	*e*PP	PP	10 30 15.3	-1.2
PGRA	Graciosa	112.40	336	*e*PKKP	PKKPdf	10 40 57.2	+16
PGRA	Graciosa	112.40	336	*e*LQ	LQ	10 57 25.1	
PGRA				*e*LR	LR	11 05 13.0	
	comp=Z,394nm,19.9s						
631A	Perdido Creek	112.41	41	⇓PKiKP	PKiKP	10 29 32.8	+0.6
	baz=112						
631A	Perdido Creek	112.41	41	⇓PKiKP	PKiKP	10 29 32.8	+0.6
	baz=112						
SUR	Sutherland	112.52	243	PFAKE		10 29 40.0	
SUR				LR	LR		
	comp=Z,6μm,21.0s						
CMLA	Cha da Macela	112.55	334	*e*PP	PP	10 30 18.1	+0.5
CMLA	Cha da Macela	112.55	334	*e*PKKP	PKKPdf	10 40 59.2	+18
CMLA	Cha da Macela	112.55	334	*e*LQ	LQ	10 57 07.7	
CMLA				*e*LR	LR	11 05 24.1	
CMLA	Cha da Macela	112.55	334	PFAKE		10 29 40.0	
CMLA				LR	LR		
	comp=Z,18μm,21.0s						
TORD	Torodi Ar. Bea	112.56	296	PKiKP	PKiKP	10 29 31.7	-1.0
TORD	Torodi Ar. Bea	112.56	296	Pdiff	Pdif	10 25 51.4	+14
	comp=Z,0.7nm,0.9s,baz=48,slow=5.3,SNR=4.0						
TORD				PKiKP	PKiKP	10 29 31.7	-1.0
	comp=Z,3.2nm,0.9s,baz=59,slow=2.1,SNR=13						
TORD				PKKPbc	PKKPbc	10 40 22.8	+1.7
	comp=Z,1.1nm,0.9s,baz=232,slow=2.7,SNR=4.0						
TORD				PKKPab	PKKPab	10 40 31.1	+0.1
	comp=Z,3.8nm,1.1s,baz=260,slow=2.6,SNR=7.1						
PSET	Sete Cidades	112.58	334	*e*PP	PP	10 30 18.1	+0.3
PSET	Sete Cidades	112.58	334	*e*PKKP	PKKPdf	10 41 04.0	+23
PSET	Sete Cidades	112.58	334	*e*LQ	LQ	10 57 37.8	
PSET				*e*LR	LR	11 05 16.1	
	comp=Z,499nm,15.4s						
PMOZ	Porto Moniz, M	112.70	325	*e*PP	PP	10 30 21.0	+1.9
PMOZ	Porto Moniz, M	112.70	325	A	A	11 23 56.9	
	comp=Z,7μm,18.0s						
ROSA	Rosais	112.77	336	*e*PP	PP	10 30 21.4	+2.3
ROSA	Rosais	112.77	336	*e*LQ	LQ	10 57 48.9	
ROSA				*e*LR	LR	11 04 57.1	
	comp=Z,464nm,18.3s						
632A	Uvalde	112.82	41	⇑PKiKP	PKiKP	10 29 33.9	+1.0
	baz=113						
632A	Uvalde	112.82	41	⇑PKiKP	PKiKP	10 29 33.9	+1.0
	baz=113						
PSMN	Pico do Norte,	113.02	333	*e*PP	PP	10 30 19.7	-1.2
PSMN	Pico do Norte,	113.02	333	*e*PKKP	PKKPdf	10 41 01.2	+21
PSMN	Pico do Norte,	113.02	333	*e*LQ	LQ	10 57 45.8	
PSMN				*e*LR	LR	11 05 25.6	
	comp=Z,463nm,17.3s						
QSPA	South Pole Qui	113.24	180	PKiKP	PKiKP	10 29 32.1	-0.5
QSPA				PP	PP	10 30 20.4	-2.6
QSPA				PKKPbc	PKKPbc	10 40 18.9	-1.9
QSPA				LR	LR		
	comp=Z,4μm,20.0s						
QSPA	South Pole Qui	113.24	180	PKiKP	PKiKP	10 29 32.1	-0.5
	comp=Z,2.8nm,0.8s,baz=296,slow=3.0,SNR=3.6						
QSPA				PP	PP	10 30 20.4	-2.6
	comp=Z,11nm,1.1s,baz=295,slow=7.9,SNR=3.4						
QSPA				PKKPbc	PKKPbc	10 40 18.9	-1.9
	comp=Z,2.4nm,0.9s,baz=295,slow=0.7,SNR=7.5						
732A	Laxson Ranch,	113.27	41	⇑PKiKP	PKiKP	10 29 34.8	+1.0
	baz=113						
732A	Laxson Ranch,	113.27	41	⇑PKiKP	PKiKP	10 29 34.8	+1.0
	baz=113						
WVT	Waverly	113.71	27	*e*PKIKP	PKiKP	10 29 34.1	-0.4
WVT	Waverly	113.71	27	*e*PKPdf	PKiKP	10 29 34.1	-0.4
OXF	Oxford	114.38	30	PFAKE		10 29 50.0	+14
OXF				LR	LR		
	comp=Z,17μm,19.0s						
KVTX	Kingsville	115.38	41	PFAKE		10 29 50.0	+12
KVTX				LR	LR		
	comp=Z,5μm,19.0s						
BLA	Blacksburg	115.56	21	PFAKE		10 29 50.0	+12
BLA				LR	LR		
	comp=Z,22μm,20.0s						
CBN	Corbin	115.59	18	PFAKE		10 29 50.0	+12
CBN				LR	LR		
	comp=Z,18μm,20.0s						
CPCT	Cooper Cave	115.64	25	*e*PKPdf	PKPdf	10 29 38.6	+0.4
VBMS	Vicksburg	115.75	32	PFAKE		10 29 50.0	+12
VBMS				LR	LR		
	comp=Z,14μm,19.0s						
TKL	Tuckaleechee C	115.75	25	*e*PKPdf	PKPdf	10 29 38.9	+0.5
LRAL	Lakeview Retre	116.70	29	PFAKE		10 29 50.0	+10
LRAL				LR	LR		
	comp=Z,7μm,19.0s						
KMSC	Kings Mountain	117.11	23	⇑PKiKP	PKiKP	10 29 42.0	+1.0
	baz=117						
KMSC	Kings Mountain	117.11	23	⇑PKiKP	PKiKP	10 29 42.0	+1.0
	baz=117						
CNNC	Cliffs of the	118.18	20	PFAKE		10 29 50.0	+7.0
CNNC				LR	LR		
	comp=Z,22μm,19.0s						
BRAL	Brewton	118.39	30	PFAKE		10 29 50.0	+6.4
BRAL				LR	LR		
	comp=Z,11μm,19.0s						
DBIC	Dimbokro	121.46	294	PKP	PKPdf	10 29 49.5	-0.4
DBIC				PKKPbc	PKKPbc	10 39 50.1	+0.6
DBIC	Dimbokro	121.46	294	PKP	PKPdf	10 29 49.5	-0.4
	comp=Z,4.5nm,0.7s,baz=50,slow=4.2,SNR=5.1						
DBIC				PKKPbc	PKKPbc	10 39 50.1	+0.6
	comp=Z,7.1nm,1.1s,baz=253,slow=3.9,SNR=2.8						
KIC	Kosan Boka	121.53	294	*e*P	PKPdf	10 29 47.4	-2.6
	comp=Z,68nm,1.2s						
TIC	Toumodi	121.61	294	*e*P	PKPdf	10 29 46.8	-3.4
	comp=Z,7.0nm,0.2s						
LIC	Lamto	121.84	294	*e*PKIKP	PKPdf	10 29 49.6	-1.0
	comp=Z,25nm,0.8s						
LIC				*e*R			
	comp=Z,7μm,22.2s						
LIC	Lamto	121.84	294	*e*P	PKPdf	10 29 50.3	-0.3
	comp=Z,38nm,0.8s						
LIC	Lamto	121.84	294	*e*PKPdf	PKPdf	10 29 49.6	-1.0
SNAA	Sanae	123.23	198	*e*P	PKPdf	10 29 52.5	+0.8
SNAA	Sanae	123.23	198	*e*PKPdf	PKPdf	10 29 51.6	0.0
SNAA				PKKPbc	PKKPbc	10 39 42.7	-1.2
SNAA	Sanae	123.23	198	PKKPbc	PKKPbc	10 39 42.7	-1.2
	comp=Z,0.8nm,1.2s,baz=225,slow=4.3,SNR=2.9						
BBSR	BB Station	123.93	8	PFAKE		10 30 00.0	+5.8
BBSR				LR	LR		
	comp=Z,6μm,20.0s						
VNA2	Neumayer--Watz	124.87	198	*e*P	PKPdf	10 29 55.8	+1.1
VNA2	Neumayer--Watz	124.87	198	*e*PP	PP	10 31 41.3	-1.7
VNA1	Neumayer--Stat	125.26	198	*e*P	PKPdf	10 29 56.6	+1.2
TEIG	Tepich	126.61	38	PFAKE		10 30 10.0	+10
TEIG				LR	LR		
	comp=Z,5μm,20.0s						
SACV	Santiago Islan	130.15	317	PFAKE		10 30 20.0	+14
SACV				LR	LR		
	comp=Z,7μm,20.0s						
SHEL	Horse Pasture	131.94	269	PFAKE		10 30 20.0	+10
SHEL				LR	LR		
	comp=Z,4μm,20.0s						
RPN	Rapa Nui	132.27	106	PFAKE		10 30 20.0	+10
RPN				LR	LR		
	comp=Z,2μm,19.0s						
GRTK	Grand Turk	133.06	19	PFAKE		10 30 20.0	+8.2
GRTK				LR	LR		
	comp=Z,7μm,20.0s						
GTBY	Guantanamo Bay	133.18	24	PFAKE		10 30 20.0	+7.9
GTBY				LR	LR		
	comp=Z,8μm,19.0s						
MTDJ	Mount Denham	133.72	28	PFAKE		10 30 20.0	+6.7
MTDJ				LR	LR		
	comp=Z,13μm,20.0s						
SDDR	Presa de Saban	135.39	20	PFAKE		10 30 30.0	+14
SDDR				LR	LR		
	comp=Z,10μm,20.0s						
ASCN	Ascension	136.89	284	PFAKE		10 30 30.0	+11
ASCN				LR	LR		
	comp=Z,3μm,20.0s						
CELP	Cerrillos	137.55	14	*e*PKPdf	PKPdf	10 30 20.6	+0.3
MTP	Monte Pirata	137.75	13	*e*PKPdf	PKPdf	10 30 21.3	+0.6
PMSA	Palmer Station	138.38	175	PKP	PKPdf	10 30 19.7	-0.6
PMSA				LR	LR		
	comp=Z,3μm,22.0s						
PMSA	Palmer Station	138.38	175	PKP	PKPdf	10 30 19.7	-0.6
	comp=Z,2.7nm,0.7s,baz=267,slow=11,SNR=3.3						
ANWB	Willy Bob	138.80	8	PFAKE		10 30 30.0	+7.4
ANWB				LR	LR		
	comp=Z,4μm,20.0s						
TRIS	Tristan da Cun	139.93	240	PFAKE		10 30 30.0	+6.0
TRIS				LR	LR		
	comp=Z,4μm,20.0s						
BCIP	Isla Barro Col	140.29	38	PFAKE		10 30 40.0	+15
BCIP				LR	LR		
	comp=Z,6μm,21.0s						
FDF	Fort de France	141.77	7	*e*PKIKP	PKPdf	10 30 28.1	0.0
FDF				MLR	MLR		
	comp=Z,6μm,21.0s						
FDF	Fort de France	141.77	7	*e*

comp=Z,1.1nm,1.0s,baz=259,slow=3.3,SNR=10
CFAA PKPab **PKPab 10 32 05.1 +0.8**
comp=Z,1.3nm,0.9s,baz=245,slow=2.6,SNR=5.1
LPAZ La Paz 166.86 59 PKP **PKPdf 10 31 03.4 +0.6**
LPAZ *e*PKPdf PKPdf 10 31 04.5 +1.7
LPAZ La Paz 166.86 59 PKP **PKPdf 10 31 03.4 +0.6**
comp=Z,50nm,1.3s,baz=16,slow=2.2,SNR=41
LVC Limon Verde 168.43 88 *e*PKPdf **PKPdf 10 31 04.2 +0.9**
LVC LR LR
comp=Z,4μm,22.0s
BDFB Brasilia 168.93 313 PKP **PKPdf 10 31 04.5 +0.8**
BDFB PKPab **PKPab 10 32 14.9 +0.4**
BDFB Brasilia 168.93 313 PKP **PKPdf 10 31 04.5 +0.8**
comp=Z,16nm,0.9s,baz=263,slow=1.4,SNR=16
BDFB PKPab **PKPab 10 32 14.9 +0.4**
comp=Z,7.7nm,0.8s,baz=38,slow=6.5,SNR=4.5
SIV San Ignacio 171.37 32 PKP **PKPdf 10 31 05.0 +0.2**
SIV PKPab **PKPab 10 32 25.1 0.0**
SIV San Ignacio 171.37 32 PKP **PKPdf 10 31 05.0 +0.2**
comp=Z,17nm,0.9s,baz=76,slow=0.5,SNR=38
SIV PKPab **PKPab 10 32 25.0 0.0**
comp=Z,11nm,0.9s,baz=319,slow=2.5,SNR=6.4
CPUP Villa Florida 177.00 164 PKP **PKPdf 10 31 05.7 -0.7**
CPUP *e*PKPdf PKPdf 10 31 06.7 +0.3
CPUP PKPab PKPab 10 32 51.1 +1.4
CPUP Villa Florida 177.00 164 PKP **PKPdf 10 31 05.7 -0.7**
comp=Z,3.9nm,0.7s,baz=57,slow=1.6,SNR=9.2
CPUP PKPab PKPab 10 32 51.1 +1.4
comp=Z,7.0nm,0.7s,baz=206,slow=5.3,SNR=7.4

NIED **17** *10:15:00,23˚.40N×123˚.70E,h8km,Mw5.6 Best double couple: M0 2.61000×10^17 NP1:φs=318.00000°,δ86.00000°, λ-9.00000°. NP2:φs=49.00000°,δ81.00000°,λ-176.00000°.*
IDC **17** *10:15:02.9±0.3,23˚.43N×123˚.72E,h0km,mb5.0/49, mb1 5.0/54,mb1mx5.0/57,mbtmp5.0/54,ML4.5/4,Error ellipse: s-maj=12.7km s-min=9.2km az=69.0*
ISCJB **17** *10:15:04.9±0.5,23˚.39N±0˚.02×123˚.67E±0˚.02,h20km±3km, mb5.4/150,MS6.1/4,Error ellipse: s-maj=3.2km s-min=2.2km az=151.1*
NEIC **17** *10:15:05.0±0.2,23˚.42N×123˚.71E,h10km,mb5.7/51, MW5.5(NIED),Error ellipse: s-maj=5.0km s-min=4.6km az=162.0*
NEIC Recorded [2 TAP] in T'ai-tung and [1 TAP] in Hua-lien, Nan-t'ou and T'ai-chung, Taiwan.
JMA **17** *10:15:05.9±0.3,23˚.38N×123˚.66E,h43km±4km,M5.3*
JMA Felt II J1.
BJI **17** *10:15:05.8,23˚.66N×123˚.56E,h9km,mB6.1/11,mb5.2/27, Ms6.2/18,Ms7 6.0/17*
GCMT **17** *10:15:06.2±0.3,23˚.37N×123˚.61E,h17km±1km,MW5.7, Moment Tensor Solution. s19,c23; s13,c13; Moment tensor: Scale 10^17Nm; Mrr-2.19±.23; Mθθ3.84±.16; Mφφ-1.65±.13; Mrθ-0.09±.35; Mθφ-0.16±.10; Mφr1.79±.47; Best double couple: M0 3.80000×10^17 NP1:φs=125.00000°, δ59.00000°,λ-40.00000°. NP2:φs=239.00000°,δ56.00000°, λ-142.00000°. Principal axes: T 3.8500, Plg2.0000°, Azm182.0000°; N -0.1200, Plg41.0000°, Azm274.0000°; P -3.7300, Plg49.0000°, Azm90.0000°; Data Used: II IU CN IC G. Surface waves: sta= 78, comp=126, per= 50.*
TAP **17** *10:15:06.7,23˚.36N×123˚.56E,h55km±2km,ML5.4,D*
TEH **17** *10:15:06.0,23˚.44N×123˚.71E,h10km,ML5.6*
MOS **17** *10:15:07.5±1.2,23˚.65N×123˚.76E,h33km,mb5.7/30,Error ellipse: s-maj=8.2km s-min=5.3km az=104.8*
ISC 17 10:15:07.2±0.4,23˚.42N±0˚.03×123˚.68E±0˚.02,h25km±2km, h25km:pP-P,n452,σ1$62/510,mb5.5/149,MS6.1/4, 20C-10D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.64**	**11**	P	**Pb**	**10 15 19.2**	**-0.6**
HATJ				*e*S	**Sb**	**10 15 28.8**	**+0.5**
JKRS	**Kuro-shima**	**0.86**	**21**	P	**Pb**	**10 15 23.0**	**-0.6**
JKRS				*e*S	**Sb**	**10 15 34.2**	**-0.6**
IRIF	**Iriomote-Funau**	**0.91**	**3**	P	**Pb**	**10 15 22.9**	**-1.4**
IRIF				*e*S	**Sn**	**10 15 36.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.03**	**25**	P	**Pn**	**10 15 24.6**	**-1.4**
JIJ				*e*S	**Sb**	**10 15 36.0**	**-3.4**
YOJ	**Yonaguni jima**	**1.20**	**330**	*e*P	**Pn**	**10 15 27.2**	**-1.1**
	baz=335						
YOJ				*e*S	**Sn**	**10 15 43.8**	**0.0**
	baz=335						
YOJ	**Yonaguni jima**	**1.20**	**330**	P	**Pn**	**10 15 27.2**	**-1.1**
YOJ				*e*S	**Sn**	**10 15 42.3**	**-1.5**
JTJ	**Tarama**	**1.53**	**38**	P	**Pn**	**10 15 32.4**	**-0.5**
JTJ				*e*S	**Sn**	**10 15 51.5**	**-0.5**
TEGC	**Jichi Village**	**1.98**	**279**	*e*P	**Pn**	**10 15 37.4**	**-1.7**
	baz=280						
TEGC				*e*S	**Sn**	**10 15 59.5**	**-3.6**
	baz=280						
TWD	**Chiawan**	**2.01**	**289**	*e*P	**Pn**	**10 15 37.5**	**-2.0**
	baz=291						
TWD				*e*S	**Sn**	**10 15 58.8**	**-5.2**
	baz=291						
JMJ	**Miyako jima 2**	**2.02**	**47**	*e*P	**Pn**	**10 15 38.8**	**-1.0**
	baz=47						
JMJ	**Miyako jima 2**	**2.02**	**47**	P	**Pn**	**10 15 39.0**	**-0.7**
JMJ				*e*S	**Sn**	**10 16 01.9**	**-2.3**
ENA	**Nanau**	**2.03**	**300**	*e*P	**Pn**	**10 15 38.8**	**-1.0**
	baz=302						
ENA				*e*S	**Sn**	**10 16 01.8**	**-2.7**
	baz=302						
TWC	**Suao**	**2.04**	**306**	*e*P	**Pn**	**10 15 38.8**	**-1.2**
	baz=308						
NACB	**Ninganchiao**	**2.05**	**292**	*e*Pn	**Pn**	**10 15 40.0**	**0.0**
NACB				*e*Sn	**Sb**	**10 16 08.6**	**-0.1**
JOGS	**Gusukube**	**2.07**	**50**	P	**Pn**	**10 15 39.8**	**-0.5**
JOGS				*e*S	**Sn**	**10 16 05.1**	**-0.1**
ESL	**Shilin**	**2.09**	**281**	*e*P	**Pn**	**10 15 38.3**	**-2.3**
	baz=283						
ESL				*e*S	**Sn**	**10 16 01.1**	**-4.8**
	baz=283						
CHKT	**Chengkung**	**2.15**	**262**	*e*P	**Pn**	**10 15 38.8**	**-2.6**
	baz=262						
EHY	**Hungye**	**2.16**	**273**	*e*P	**Pn**	**10 15 39.1**	**-2.5**
	baz=274						
EHY				*e*S	**Sn**	**10 16 03.7**	**-3.9**
	baz=274						
YULB	**Yu-li**	**2.19**	**270**	*e*Pn	**Pn**	**10 15 40.0**	**-1.9**
TWF1	**Yuli**	**2.19**	**269**	*e*P	**Pn**	**10 15 39.5**	**-2.4**
	baz=269						
TWF1				*e*S	**Sn**	**10 16 04.6**	**-3.6**
	baz=269						
TWB1	**Santiao Chiao**	**2.20**	**316**	*e*P	**Pn**	**10 15 41.6**	**-0.6**
	baz=318						
TWE	**Neicheng**	**2.24**	**306**	*e*P	**Pn**	**10 15 42.8**	**+0.1**
	baz=308						
WHF	**Hehuan Shan**	**2.32**	**288**	*e*P	**Pn**	**10 15 43.0**	**-1.2**
	baz=290						
WHF				*e*S	**Sn**	**10 16 08.0**	**-4.1**
	baz=290						
NNS	**Nan Shan**	**2.34**	**296**	*e*P	**Pn**	**10 15 42.1**	**-2.0**
	baz=298						
NWF	**Wu-fen Shan**	**2.38**	**314**	*e*P	**Pn**	**10 15 43.2**	**-1.6**
	baz=316						
NWF				*e*S	**Sn**	**10 16 11.0**	**-2.2**
	baz=316						
LAY	**Lan-yu**	**2.40**	**235**	*e*P	**Pn**	**10 15 42.6**	**-2.3**
	baz=234						
LAY				*e*S	**Sn**	**10 16 07.6**	**-5.8**
	baz=234						
TTN	**Taitung**	**2.42**	**255**	*e*P	**Pn**	**10 15 42.6**	**-2.6**
	baz=254						
TTN				*e*S	**Sn**	**10 16 10.2**	**-3.8**
	baz=254						
TWT	**Tachien**	**2.43**	**290**	*e*P	**Pn**	**10 15 44.2**	**-1.2**
	baz=292						
YHNB	**Yeheng**	**2.44**	**301**	*e*Pn	**Pn**	**10 15 45.0**	**-0.5**
NSK	**Sanguang**	**2.46**	**301**	*e*P	**Pn**	**10 15 45.3**	**-0.5**
	baz=303						
TWA	**Mucha**	**2.46**	**309**	*e*P	**Pn**	**10 15 45.7**	**0.0**
	baz=311						
TWA				*e*S	**Sn**	**10 16 15.2**	**+0.3**
	baz=311						
TWG	**Pinlang**	**2.47**	**256**	*e*P	**Pn**	**10 15 43.6**	**-2.2**
	baz=256						
TWG				*e*S	**Sn**	**10 16 10.8**	**-4.5**
	baz=256						
TWG	**Pinlang**	**2.47**	**256**	*e*Pn	**Pn**	**10 15 43.5**	**-2.4**
TWG				*e*Sn	Sn	10 16 08.7	-6.6
YUS	**Yu-Shan**	**2.50**	**272**	*e*P	**Pn**	**10 15 45.4**	**-1.3**
	baz=273						
YUS				*e*S	**Sn**	**10 16 12.3**	**-4.4**
	baz=273						
SSLB	**Suanglung**	**2.52**	**279**	*e*Pn	**Pn**	**10 15 47.4**	**+0.8**
TATO	**Taipei**	**2.52**	**308**	*e*Pn	**Pn**	**10 15 46.9**	**+0.3**
SMLT	**Sun Moon Lake**	**2.58**	**281**	*e*P	**Pn**	**10 15 46.7**	**-0.8**
	baz=282						
SMLT				*e*S	**Sn**	**10 16 15.3**	**-2.9**
	baz=282						
TYC	**Yuchr**	**2.63**	**281**	*e*P	**Pn**	**10 15 47.1**	**-0.8**
	baz=282						
TYC				*e*S	**Sn**	**10 16 15.7**	**-3.4**
	baz=282						
ALS	**Alishan**	**2.64**	**272**	*e*P	**Pn**	**10 15 47.7**	**-0.7**
	baz=273						
PCYT	**Pengchaiyu**	**2.64**	**327**	*e*P	**Pn**	**10 15 45.8**	**-2.3**
	baz=329						
TWY	**Chenhua**	**2.64**	**315**	*e*P	**Pn**	**10 15 46.9**	**-1.3**
	baz=316						
NCU	**National Centr**	**2.74**	**305**	*e*P	**Pn**	**10 15 48.9**	**-0.7**
	baz=306						
CHN5	**Tsauling**	**2.76**	**274**	*e*P	**Pn**	**10 15 49.4**	**-0.5**
	baz=275						
TAW	**Tawu**	**2.77**	**248**	*e*P	**Pn**	**10 15 47.8**	**-2.2**
	baz=247						
TAW				*e*S	**Sn**	**10 16 18.9**	**-3.8**
	baz=247						
WNT	**Mingjian**	**2.78**	**280**	*e*P	**Pn**	**10 15 51.0**	**+0.9**
	baz=281						
WNT				*e*S	**Sn**	**10 16 21.7**	**-1.2**
	baz=281						
TPUB	**Ta-pu**	**2.80**	**268**	*e*Pn	**Pn**	**10 15 50.0**	**-0.5**
TPUB				*e*Sn	**Sn**	**10 16 23.5**	**+0.1**
TWQ1	**Liyutan**	**2.81**	**290**	*e*P	**Pn**	**10 15 49.6**	**-1.0**
	baz=291						
HSN	**Hsinchu**	**2.83**	**300**	*e*P	**Pn**	**10 15 50.0**	**-0.7**
	baz=302						
CHN4	**Tsaushan**	**2.83**	**269**	*e*P	**Pn**	**10 15 50.5**	**-0.4**
	baz=269						
TCU	**Taichung**	**2.84**	**285**	*e*P	**Pn**	**10 15 51.3**	**+0.4**
	baz=286						
NSY	**Sanyi**	**2.84**	**291**	*e*P	**Pn**	**10 15 51.8**	**+0.8**
	baz=292						
NSY				*e*S	**Sn**	**10 16 24.5**	**0.0**
	baz=292						
SGST	**Jiashian**	**2.86**	**264**	*e*P	**Pn**	**10 15 50.6**	**-0.7**
	baz=264						
SGST				*e*S	**Sn**	**10 16 23.8**	**-1.2**
	baz=264						
WGK	**Gukeng**	**2.87**	**276**	*e*P	**Pn**	**10 15 50.8**	**-0.5**
	baz=276						
CHN1	**Nanshi**	**2.90**	**266**	*e*P	**Pn**	**10 15 51.8**	**-0.1**
	baz=266						
CHN1				*e*S	**Sn**	**10 16 24.9**	**-1.0**
	baz=266						
TSEB	**Hengchuen, Pin**	**2.98**	**240**	*e*P	**Pn**	**10 15 51.8**	**-1.0**
	baz=239						
TSEB				*e*S	**Sn**	**10 16 25.0**	**-2.8**
	baz=239						
CHY	**Chiayi**	**2.99**	**272**	*e*P	**Pn**	**10 15 53.1**	**+0.1**
	baz=272						
SCZT	**Fangliau**	**3.01**	**250**	*e*P	**Pn**	**10 15 51.0**	**-2.2**
	baz=250						
SGLT	**Jiouru**	**3.01**	**257**	*e*P	**Pn**	**10 15 52.5**	**-0.8**
	baz=257						
HEN	**Hengchun**	**3.06**	**243**	*e*P	**Pn**	**10 15 51.2**	**-2.7**
	baz=242						
CHN3	**Shinhua**	**3.06**	**264**	*e*P	**Pn**	**10 15 54.8**	**+0.8**
	baz=264						
WTCT	**Ta-ch'eng**	**3.14**	**279**	*e*P	**Pn**	**10 15 54.6**	**-0.5**
	baz=279						
WSF	**Szhu**	**3.18**	**275**	*e*P	**Pn**	**10 15 53.3**	**-2.2**
	baz=275						
SCLT	**Jiali**	**3.21**	**266**	*e*P	**Pn**	**10 15 55.9**	**-0.1**
	baz=266						
TWP	**Hsiaoliuchiu**	**3.24**	**251**	*e*P	**Pn**	**10 15 57.8**	**+1.4**
	baz=251						
WDGT	**Dungji**	**3.69**	**268**	*e*P	**Pn**	**10 16 01.6**	**-1.0**
	baz=268						
WDGT				*e*S	**Sn**	**10 16 41.0**	**-4.4**
	baz=268						
JKE	**Kume jima 2**	**4.04**	**44**	P	**Pn**	**10 16 04.9**	**-2.5**
JKE				*e*S	**Sn**	**10 16 53.7**	**-0.3**
JAGN	**Aguni-jima**	**4.52**	**45**	P	Pn	10 16 10.4	-3.6
JJT2	**Tamagusuku 2**	**4.58**	**53**	P	**Pn**	**10 16 13.9**	**-1.0**
QZH	**Quanzhou**	**4.88**	**289**	*e*Pn	Pn	10 16 14.0	-5.0
QZH				Sn	Sn	10 17 07.1	-7.6
QZH				LR	LR		
	comp=N,144μm,7.4s						
QZH				LR	LR		
	comp=E,100μm,10.0s						
QZH				LR	LR		
	comp=Z,155μm,14.8s						
KNM	**Kinmen**	**4.90**	**283**	*e*P	**Pn**	**10 16 18.6**	**-0.6**
	baz=282						
JOW	**Kunigami**	**5.37**	**50**	*e*Pn	**Pn**	**10 16 22.8**	**-2.9**
JOW	**Kunigami**	**5.37**	**50**	P	**Pn**	**10 16 23.3**	**-2.5**
PIP	**Pasuquin**	**5.82**	**210**	||*i*P	**Pn**	**10 16 31.6**	**-0.3**
PIP				*e*S	**Sn**	**10 17 36.5**	**-1.5**
APYP	**Conner**	**5.98**	**203**	*e*P	**Pn**	**10 16 33.1**	**-1.1**
SIPP	**Brgy, Tapao**	**6.25**	**209**	||*i*P	**Pn**	**10 16 39.4**	**+1.6**
PALP	**Palanan**	**6.44**	**191**	*e*P	**Pn**	**10 16 39.1**	**-1.3**
PALP	**Palanan**	**6.44**	**191**	*e*P	**Pn**	**10 16 40.4**	**0.0**
JTK	**Tokunoshima**	**6.44**	**47**	P	**Pn**	**10 16 37.7**	**-2.8**
CAUP	**Cauayan**	**6.68**	**195**	*e*P	**Pn**	**10 16 45.9**	**+2.2**
JAMN	**Amaminishikomi**	**6.90**	**45**	P	Pn	10 16 42.5	-4.2
JMZ	**Minamidaito 2**	**7.27**	**69**	P	Pn	10 16 47.4	-4.4
JAM	**Amami Oshima**	**7.29**	**46**	P	Pn	10 16 47.4	-4.7
BALP	**Baler**	**7.89**	**195**	*e*P	**Pn**	**10 17 01.5**	**+1.1**
GQP	**Guinayangan**	**9.54**	**187**	||*e*P	**Pn**	**10 17 22.7**	**-0.3**
NJ2	**Nanjing**	**9.60**	**335**	*e*P	**Pn**	**10 17 24.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,120nm,0.7s						
TGY	**Tagaytay City**	**9.63**	**196**	Pn	**Pn**	**10 17 23.7**	**-0.6**
TGY				Sn	**Sn**	**10 19 16.8**	**+5.1**
TGY	**Tagaytay City**	**9.63**	**196**	Pn	**Pn**	**10 17 23.7**	**-0.6**
	comp=Z,15nm,0.3s,baz=330,slow=4.5,SNR=5.1						
TGY				Sn	**Sn**	**10 19 16.8**	**+5.1**
	comp=Z,13nm,0.3s,baz=144,slow=19,SNR=3.4						
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**10 17 48.3**	**-2.3**
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**10 17 48.3**	**-2.3**
	comp=Z,2.2nm,0.3s,baz=228,slow=12,SNR=12						
TJN	**Taejon**	**13.30**	**13**	*e*P	**Pn**	**10 18 12.0**	**-2.3**
QIZ	**Qiongzhong**	**13.62**	**254**	P	**Pn**	**10 18 19.5**	**+0.7**
QIZ				S	**Sn**	**10 20 52.1**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,56nm,1.1s						
INCN	**Inchon**	**14.24**	**10**	*e*Pn	**Pn**	**10 18 29.6**	**+2.4**
KSAR	**Wonju Array Be**	**14.43**	**14**	Pn	**Pn**	**10 18 29.5**	**-0.3**
KSRS	**Korea Array**	**14.45**	**14**	Pn	**Pn**	**10 18 29.5**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=191,slow=10,SNR=6.5						
GYA	**Guiyang**	**15.72**	**285**	P	**Pn**	**10 18 48.8**	**+1.6**
GYA				PP	**pP**	**10 19 01.0**	**+3.2**
GYA				S	**Sn**	**10 21 44.4**	**+3.6**
GYA				SS	S	10 22 02.8	+7.6
GYA				PcP	**PcP**	**10 23 50.0**	**+3.1**
GYA				pmax	pmax		
	comp=Z,120nm,1.0s						
GYA				pmax	pmax		
	comp=Z,2μm,4.8s						
GYA				LR	LR		
	comp=N,24μm,17.0s						
GYA				LR	LR		
	comp=E,16μm,14.6s						
GYA				LR	LR		
	comp=Z,20μm,15.8s						
CTBH	**Cotabato--PC H**	**16.12**	**178**	*e*P	**P**	**10 18 54.8**	**-0.5**
DAV	**Davao City (W)**	**16.36**	**173**	Pn	**Pn**	**10 18 55.9**	**+0.6**
DAV	**Davao City (W)**	**16.36**	**173**	Pn	**Pn**	**10 18 55.9**	**+0.6**
	comp=Z,58nm,0.3s,baz=358,slow=15,SNR=3.4						
BJT	**Baijiatuau**	**17.72**	**341**	*e*Pn	**P**	**10 19 12.7**	**-0.1**
BJI	**Beijing**	**17.74**	**341**	P	**P**	**10 19 12.8**	**-0.2**
BJI				pmax	pmax		
	comp=Z,65nm,1.7s						
MAT	**Matsushiro**	**18.12**	**41**	P	**Pn**	**10 19 16.5**	**-0.6**
MJAR	**Matsushiro Arr**	**18.12**	**41**	P	**Pn**	**10 19 16.1**	**-1.1**
MJAR	**Matsushiro Arr**	**18.12**	**41**	P	**Pn**	**10 19 16.0**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=233,slow=9.0,SNR=10						
KKM	**Kota Kinabalu**	**18.71**	**204**	*e*P	**Pn**	**10 19 24.4**	**-0.1**
	comp=Z,530nm,1.5s						
KMI	**Kunming**	**19.16**	**279**	P	**Pn**	**10 19 32.3**	**+2.2**
KMI				pmax	pmax		
	comp=Z,94nm,1.8s						
KMI				LR	LR		
	comp=N,62μm,13.5s						
KMI				LR	LR		
	comp=E,27μm,9.2s						
KMI				LR	LR		
	comp=Z,46μm,12.8s						
CD2	**Chengdu**	**19.21**	**297**	*e*P	**Pn**	**10 19 32.6**	**+2.2**
CD2				pP	**pP**	**10 19 36.3**	**0.0**
CD2				sP	**sP**	**10 19 39.5**	**0.0**
CD2				PP	**PnPn**	**10 19 49.8**	**+6.3**
CD2				S	**Sn**	**10 23 03.6**	**-1.5**
CD2				sS	**S**	**10 23 09.0**	**+3.4**
CD2				SS	SnSn	10 23 29.5	+10
CD2				pmax	pmax		
	comp=Z,170nm,1.3s						
CD2				LR	LR		
	comp=E,30μm,12.0s						
CD2				LR	LR		
	comp=Z,33μm,12.0s						
HHC	**Hu-ho-hao-te**	**20.14**	**332**	*e*P	Pn	10 19 41.1	-0.4
HHC				pP	pP	10 19 45.3	-1.1
HHC				sP	sP	10 19 48.3	-1.4
HHC				PP	**PnPn**	**10 20 01.1**	**+4.9**
HHC				S	**S**	**10 23 22.8**	**-1.8**
HHC				sS	Sn	10 23 28.5	+1.0
HHC				SS	**SnSn**	**10 23 51.3**	**+9.1**
HHC				pmax	pmax		
	comp=Z,220nm,1.4s						
HHC				LR	LR		
	comp=N,25μm,13.3s						
HHC				LR	LR		
	comp=E,32μm,12.2s						
HHC				LR	LR		
	comp=Z,35μm,11.8s						
CN2	**Changchun**	**20.38**	**4**	*e*P	**P**	**10 19 41.0**	**-0.9**
CN2				*e*PP	**PnPn**	**10 20 00.8**	**+1.4**
CN2				*e*S	**S**	**10 23 24.3**	**-4.7**
CN2				pmax	pmax		
	comp=Z,110nm,0.9s						
CN2				LR	LR		
	comp=N,54μm,13.0s						
CN2				LR	LR		
	comp=E,53μm,13.0s						
CN2				LR	LR		
	comp=Z,77μm,13.0s						
VLA	**Vladivostok**	**20.79**	**17**	*e*P	**P**	**10 19 44.3**	**-2.1**
VLA				pmax	pmax		
	comp=Z,35nm,1.3s						
MDJ	**Mudanjiang**	**21.69**	**11**	P	**P**	**10 19 57.3**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,44nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,7μm,7.6s						
USRK	**Ussuriysk Arra**	**21.82**	**16**	P	**P**	**10 19 56.0**	**-1.5**
	comp=Z,7.2nm,0.7s,baz=187,slow=8.4,SNR=5.0						
GUMO	**Guam**	**22.32**	**112**	*e*P	**P**	**10 20 03.4**	**+0.3**
	comp=Z,816nm,1.2s						
CHTO	**Chiang Mai**	**23.51**	**263**	*e*P	**P**	**10 20 18.0**	**+2.6**
CHTO				pmax	pmax		
	comp=Z,217nm,1.5s						
CHTO	**Chiang Mai**	**23.51**	**263**	*e*P	**P**	**10 20 18.0**	**+2.6**
	comp=Z,217nm,1.5s						
CMAR	**Chiang Mai Arr**	**23.61**	**263**	P	**P**	**10 20 16.7**	**+0.3**
CMAR				PcP	**PcP**	**10 23 59.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**23.61**	**263**	P	**P**	**10 20 16.7**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=65,slow=6.4,SNR=4.0						
CMAR				PcP	**PcP**	**10 23 59.8**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=51,slow=1.0,SNR=3.7						
ERM	**Erimo**	**24.64**	**37**	P	**P**	**10 20 24.6**	**-1.1**
	comp=Z,676nm,0.9s,SNR=8.5						
ERM	**Erimo**	**24.64**	**37**	*e*P	**P**	**10 20 23.4**	**-2.3**
ERM				pmax	pmax		
	comp=Z,121nm,1.2s						
ERM	**Erimo**	**24.64**	**37**	*e*P	**P**	**10 20 24.4**	**-1.3**
	comp=Z,309nm,1.5s						
GTA	**Gaotai**	**25.74**	**314**	*e*P	**P**	**10 20 37.9**	**+2.0**
GTA				pP	**pP**	**10 20 42.4**	**-0.9**
GTA				sP	**sP**	**10 20 44.9**	**-1.5**
GTA				pmax	pmax		
	comp=Z,17nm,1.6s						
ASAJ	**Asahikawa**	**25.83**	**32**	P	**P**	**10 20 36.1**	**-0.4**
ASAJ	**Asahikawa**	**25.83**	**32**	P	**P**	**10 20 36.1**	**-0.4**
	comp=Z,43nm,0.6s,baz=184,slow=5.8,SNR=15						
HIA	**Hailar**	**25.98**	**354**	*e*P	**P**	**10 20 35.4**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**27.47**	**36**	*e*P	**P**	**10 20 51.3**	**+0.1**
SONM	**Songino Array**	**27.99**	**335**	P	**P**	**10 20 54.8**	**-1.2**
SONM				PcP	**PcP**	**10 24 08.8**	**-1.8**
SONM	**Songino Array**	**27.99**	**335**	P	**P**	**10 20 54.8**	**-1.2**
	comp=Z,34nm,1.0s,baz=141,slow=7.1,SNR=5.9						
SONM				PcP	**PcP**	**10 24 08.9**	**-1.8**
	comp=Z,4.8nm,1.1s,baz=110,slow=3.8,SNR=1.9						
YSS	**Yuzh-Sakhalins**	**28.04**	**28**	*e*P	**P**	**10 20 54.3**	**-2.0**
LSA	**Lhasa**	**29.69**	**289**	*e*P	P	10 21 15.1	+3.3
LSA	**Lhasa**	**29.69**	**289**	*e*P	P	10 21 15.1	+3.3
TLY	**Talaya**	**32.15**	**336**	*e*P	**P**	**10 21 30.5**	**-2.2**
WMQ	**Urumqi**	**35.83**	**313**	*e*P	**P**	**10 22 07.0**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,32nm,1.4s						
HVS	**Khovu-Aksy**	**36.07**	**328**	*e*P	**P**	**10 22 05.1**	**-1.6**
HVS				pmax	pmax		
	comp=Z,103nm,1.3s						
YAK	**Yakutsk**	**38.80**	**5**	*e*P	**P**	**10 22 26.9**	**-2.7**
PEA0B	**Petropavlovsk-**	**39.25**	**32**	*e*P	**P**	**10 22 34.2**	**+0.6**
PETK	**Petropavlovsk-**	**39.25**	**32**	P	**P**	**10 22 33.9**	**+0.4**
PETK	**Petropavlovsk-**	**39.25**	**32**	P	**P**	**10 22 33.9**	**+0.4**
PETK	**Petropavlovsk-**	**39.25**	**32**	P	**P**	**10 22 33.9**	**+0.4**
	comp=Z,17nm,0.7s,baz=181,slow=5.7,SNR=19						
PET	**Petropavlovsk**	**39.68**	**33**	||*i*P	**P**	**10 22 37.1**	**+0.1**
PET				*e*S	**S**	**10 28 36.7**	**-2.1**
PET				pmax	pmax		
	comp=Z,900nm,2.2s						
PET				pmax	pmax		
	comp=Z,283nm,1.0s						
PET				MLR	MLR		
	comp=Z,17μm,18.0s						
PET				MLR	MLR		
	comp=Z,11μm,16.0s						
PMG	**Port Moresby**	**39.91**	**142**	P	**P**	**10 22 39.2**	**-0.1**
PMG	**Port Moresby**	**39.91**	**142**	P	**P**	**10 22 39.2**	**-0.1**
	comp=Z,11nm,0.7s,baz=14,slow=4.2,SNR=3.1						
MKAR	**Makanchi Array**	**40.47**	**316**	P	**P**	**10 22 42.5**	**-1.3**
MKAR						10 24 46.8	
MKAR	**Makanchi Array**	**40.47**	**316**	P	**P**	**10 22 42.5**	**-1.3**
MKAR				PcP	**PcP**	**10 24 46.8**	**+0.6**
MKAR	**Makanchi Array**	**40.47**	**316**	P	**P**	**10 22 42.5**	**-1.3**
	comp=Z,16nm,0.7s,baz=97,slow=8.0,S

CHMS Chumysh 44.65 308 P **P** **10 23 18.4 +0.6**
SNR=5.9
AAK Ala-Archa 44.78 308 *eP* **P** **10 23 18.2 -0.8**
AAK pmax pmax
comp=Z,36nm,0.9s
AAK Ala-Archa 44.78 308 *eP* **P** **10 23 19.1 +0.2**
AAK Ala-Archa 44.78 308 P **P** **10 23 18.3 -0.8**
comp=Z,12nm,0.8s,baz=80,slow=3.8,SNR=4.2
AML Almayashu 45.29 307 P **P** **10 23 24.9 +1.6**
SNR=6.0
FX1 Attu Island--F 47.47 39 *eP* **P** **10 23 41.0 +1.2**
FX1 Attu Island--F 47.47 39 P **P** **10 23 39.7 -0.1**
comp=Z,21nm,0.6s,baz=294,slow=7.5,SNR=7.1
ASAR Alice Springs 47.85 167 P **P** **10 23 42.1 -1.0**
ASAR Alice Springs 47.85 167 P **P** **10 23 42.1 -1.0**
comp=Z,6.1nm,0.5s,baz=352,slow=8.6,SNR=12
HNR Honiara 48.22 128 *eP* **P** **10 23 48.5 +2.5**
comp=Z,26nm,0.9s
TIXI Tiksi 48.34 2 *eP* **P** **10 23 44.4 -1.8**
TIXI pmax pmax
comp=Z,26nm,0.9s
CTA Charters Tower 48.53 151 P **P** **10 23 48.5 +0.1**
CTA Charters Tower 48.53 151 P **P** **10 23 48.5 +0.1**
comp=Z,7.3nm,0.9s,baz=337,slow=16,SNR=2.6
KBL Kabul 48.55 296 *eP* **P** **10 23 51.0 +2.3**
KBL pmax pmax
comp=Z,161nm,1.4s
KBL Kabul 48.55 296 *eP* **P** **10 23 51.0 +2.3**
comp=Z,161nm,1.4s
BVAR Borovoye Array 49.70 321 P **P** **10 23 56.4 -0.7**
BVAR 10 25 17.8
BVAR Borovoye Array 49.70 321 P **P** **10 23 56.4 -0.7**
BVAR PcP **PcP** **10 25 17.8 -0.2**
BVAR Borovoye Array 49.70 321 P **P** **10 23 56.4 -0.7**
comp=Z,9.4nm,0.6s,baz=102,slow=9.2,SNR=8.1
BVAR PcP **PcP** **10 25 17.8 -0.2**
comp=Z,6.9nm,0.7s,baz=103,slow=4.1,SNR=2.6
BRVK Borovoye 49.77 321 P **P** **10 23 58.6 +1.1**
comp=Z,207nm,1.1s,SNR=5.1
BRVK Borovoye 49.77 321 *eP* **P** **10 23 55.2 -2.3**
BRVK pmax pmax
comp=Z,25nm,0.9s
ADK Adak 53.28 42 *eP* **P** **10 24 23.6 -0.1**
ADK pmax pmax
comp=Z,189nm,1.0s
ADK Adak 53.28 42 *eP* **P** **10 24 23.6 -0.1**
comp=Z,189nm,1.0s
ATKA Atka Island 54.84 42 *eP* **P** **10 24 34.4 -0.8**
comp=Z,131nm,1.4s
AKTO Aktyubinsk 56.91 316 P **P** **10 24 49.9 -0.1**
AKTO Aktyubinsk 56.91 316 P **P** **10 24 49.9 -0.1**
AKTO Aktyubinsk 56.91 316 P **P** **10 24 49.8 -0.1**
comp=Z,25nm,0.8s,baz=92,slow=8.1,SNR=6.0
ARU Arti 57.08 323*c i*P **P** **10 24 49.1 -2.0**
ARU 10 25 41.2
ARU 10 26 57.2
ARU S **S** **10 32 43.2 -1.2**
ARU pmax pmax
comp=Z,57nm,1.0s
STKA Stephens Creek 57.60 162 P **P** **10 24 54.1 -0.9**
STKA Stephens Creek 57.60 162 P **P** **10 24 54.1 -0.9**
comp=Z,9.2nm,0.7s,baz=304,slow=12,SNR=3.6
SPIA Saint Paul Isl 57.70 36 *eP* **P** **10 24 56.3 +0.9**
comp=Z,633nm,1.8s
SPIA *ep*P **pP** **10 25 05.8 +2.4**
FALS False Pass 61.41 39 *eP* **P** **10 25 22.6 +1.5**
comp=Z,61nm,1.1s
DZM Mont Dzumac 61.46 134 *eP* **P** **10 25 22.3 +0.4**
DZM Mont Dzumac 61.46 134 P **P** **10 25 22.1 +0.2**
comp=Z,14nm,1.0s,baz=12,slow=12,SNR=4.2
SDPT Sand Point 63.08 38 *eP* **P** **10 25 31.3 -1.0**
comp=Z,48nm,0.7s
CHGN Chignik 64.19 37 *eP* **P** **10 25 38.5 -1.0**
IM04 Indian Mountai 65.83 26 *eP* **P** **10 25 51.0 +0.8**
PPLA Purkeypile 66.77 30 *eP* **P** **10 25 57.2 +0.8**
comp=Z,142nm,1.3s
RSO Redoubt South 66.78 32 *eP* **P** **10 25 57.1 +0.6**
OHAK Old Harbor 66.90 36 *eP* **P** **10 25 56.4 -0.7**
MSVF Nonsavu 67.03 123 *eP* **P** **10 25 59.3 +0.8**
MSVF pmax pmax
comp=Z,56nm,1.1s
MSVF Nonsavu 67.03 123 *eP* **P** **10 25 59.4 +0.8**
MSVF Nonsavu 67.03 123 *eP* **P** **10 25 59.3 +0.8**
comp=Z,56nm,1.1s
SPU Mount Spurr 67.03 32 *eP* **P** **10 25 58.6 +0.7**
GNI Garni 67.11 305 P **P** **10 25 59.4 +0.4**
GNI Garni 67.11 305 P **P** **10 25 59.4 +0.4**
comp=Z,15nm,0.4s,baz=192,slow=9.3,SNR=3.6
COLD Coldfoot 67.15 25 *eP* **P** **10 26 00.0 +1.5**
comp=Z,54nm,1.3s
QRN Al-Qurain 67.20 293 *eP* **P** **10 25 58.4 -1.1**
QRN AMb AMB 10 26 09.0
comp=Z,3.9nm,0.7s
KDAK Kodiak Island 67.20 35 *eP* **P** **10 25 59.0 0.0**
KDAK Kodiak Island 67.20 35 P **P** **10 25 59.3 +0.3**
comp=Z,299nm,1.4s,SNR=7.7
KDAK Kodiak Island 67.20 35 P **P** **10 25 58.8 -0.2**
comp=Z,58nm,1.1s,baz=169,slow=3.4,SNR=7.0
KBD Kabd 67.28 293 *eP* **P** **10 25 59.0 -0.9**
KBD AMb AMB 10 26 13.9
comp=Z,52nm,1.2s
MIB Mutribah 67.41 294 *eP* **P** **10 25 59.7 -1.2**
MIB AMb AMB 10 26 12.7
comp=Z,87nm,1.0s
RDF Al-Radifah 67.46 293 *eP* **P** **10 26 00.3 -0.8**
RDF AMb AMB 10 26 12.8
comp=Z,72nm,1.5s
TRF Thorofare Moun 67.56 29 *eP* **P** **10 26 02.5 +1.0**
comp=Z,36nm,1.0s
KBZ Khabaz 67.73 309 P **P** **10 26 03.2 +0.7**
KBZ Khabaz 67.73 309 P **P** **10 26 03.2 +0.7**
KBZ Khabaz 67.73 309 P **P** **10 26 03.2 +0.7**
comp=Z,30nm,0.8s,baz=143,slow=4.0,SNR=6.4
IBDR Badra 67.76 298 *i* P P 10 26 13.0 +10
IBDR *i* S **S** **10 35 02.0 +2.5**
KIV Kislovodsk 67.83 310 *eP* **P** **10 26 02.0 -1.4**
MCK McKinley 68.12 29 *eP* **P** **10 26 05.0 +0.2**
MCK pmax pmax
comp=Z,127nm,1.4s
MCK McKinley 68.12 29 *eP* **P** **10 26 05.0 +0.2**
comp=Z,127nm,1.4s
LVZ Lovozero 68.17 336 *eP* **P** **10 26 04.4 -0.6**
LVZ pmax pmax
comp=Z,23nm,1.3s
PMR Palmer 68.37 31 *eP* **P** **10 26 05.9 -0.3**
PMR pmax pmax
comp=Z,53nm,1.0s
PMR Palmer 68.37 31 *eP* **P** **10 26 05.9 -0.3**
comp=Z,53nm,1.0s
COLA College 68.41 27 *eP* **P** **10 26 07.7 +1.2**
COLA pmax pmax
comp=Z,146nm,0.8s
COLA College 68.41 27 *eP* **P** **10 26 07.7 +1.2**
comp=Z,146nm,0.8s
SML Sawmill 68.71 31 *eP* **P** **10 26 08.9 +0.5**
SML pmax pmax
comp=Z,17nm,0.9s
SML Sawmill 68.71 31 *eP* **P** **10 26 08.9 +0.5**
comp=Z,17nm,0.9s
ILAR Eielson Array 68.84 27 P **P** **10 26 08.3 -0.8**
ILAR Eielson Array 68.84 27 P **P** **10 26 08.3 -0.8**
comp=Z,3.8nm,0.5s,baz=266,slow=5.5,SNR=14
BHD Baghdad 68.97 298 *i* P P 10 26 21.0 +10
BHD *i* S S 10 35 26.0 +12
OBN Obninsk 69.50 322*cei*P **P** **10 26 13.9 +0.5**
OBN *i* 10 26 25.3
OBN *e* 10 26 35.0
OBN *i* S **S** **10 35 19.4 0.0**
OBN pmax pmax
comp=Z,52nm,1.6s
PAX Paxson 69.80 29 *eP* **P** **10 26 15.5 +0.2**
PAX pmax pmax
comp=Z,88nm,1.5s
PAX Paxson 69.80 29 *eP* **P** **10 26 15.5 +0.2**
comp=Z,88nm,1.5s
DIV Divide 70.04 31 *eP* **P** **10 26 17.4 +0.6**
comp=Z,85nm,1.0s
BMRM Bremner River 70.63 31 *eP* **P** **10 26 20.8 +0.5**
SPITS Spitsbergen Ar 70.70 348 P **P** **10 26 19.3 -1.2**
SPITS Spitsbergen Ar 70.70 348 P **P** **10 26 19.3 -1.2**
comp=Z,31nm,1.0s,baz=88,slow=9.3,SNR=9.3
RAGM Ragged Mountai 70.73 32 *eP* **P** **10 26 22.1 +1.1**
comp=Z,334nm,1.7s
RAGM *ep*P **pP** **10 26 32.7 +3.7**
ARCES ARCESS Array B 71.09 338 P **P** **10 26 22.0 -0.9**
ARCES ARCESS Array B 71.09 338 P **P** **10 26 22.0 -0.9**
comp=Z,11nm,1.0s,baz=58,slow=4.0,SNR=5.5
KBS Kingsbay 71.21 349 *eP* **P** **10 26 23.5 0.0**
KBS pmax pmax
comp=Z,56nm,1.0s
KBS Kingsbay 71.21 349 *eP* **P** **10 26 23.5 0.0**
comp=Z,56nm,1.0s
PUL Pulkovo 71.72 328 *eP* **P** **10 26 26.8 0.0**
PUL pmax pmax
comp=Z,51nm,0.7s
INK Inuvik 73.07 22 P **P** **10 26 34.6 -0.1**
INK Inuvik 73.07 22 P **P** **10 26 34.6 -0.1**
comp=Z,32nm,1.1s,baz=270,slow=5.2,SNR=7.7
FIA1 FINESS Array S 73.24 330 *eP* **P** **10 26 36.0 +0.1**
FINES FINESS Array B 73.24 330 P **P** **10 26 35.8 -0.1**
FINES FINESS Array B 73.24 330 P **P** **10 26 35.8 -0.1**
comp=Z,19nm,0.8s,baz=62,slow=4.6,SNR=6.5
VSU Vasula 73.86 327 *eP* **P** **10 26 38.5 -1.1**
VSU pmax pmax
comp=Z,117nm,0.9s
VSU Vasula 73.86 327 *eP* **P** **10 26 38.5 -1.1**
AKASG Malin Array Be 74.94 319 *i* P **P** **10 26 45.5 -0.5**
AKASG pmax pmax
comp=Z,17nm,0.7s
AKASG Malin Array Be 74.94 319 P **P** **10 26 45.6 -0.4**
AKASG Malin Array Be 74.94 319 P **P** **10 26 45.6 -0.4**
comp=Z,9.1nm,0.6s,baz=56,slow=6.6,SNR=7.9
KIEV Kiev 74.96 319 *eP* **P** **10 26 45.7 -0.4**
KIEV pmax pmax
comp=Z,63nm,1.0s
KIEV Kiev 74.96 319 *eP* **P** **10 26 45.7 -0.4**
comp=Z,63nm,1.0s
NACGM Naroch 74.99 324 *e* P 10 26 43.0 -3.2
ASF Jabal al Asfar 75.33 299 P **P** **10 26 50.4 +1.6**
ASF Jabal al Asfar 75.33 299 P **P** **10 26 50.4 +1.6**
comp=Z,10nm,1.1s,baz=325,slow=8.0,SNR=2.7
BR131 Keskin Array S 75.45 307 *eP* **P** **10 26 50.7 +1.3**
comp=Z,56nm,1.1s
BRTR Keskin Array B 75.45 307 P **P** **10 26 49.7 +0.3**
BRTR Keskin Array B 75.45 307 P **P** **10 26 49.7 +0.3**
comp=Z,16nm,1.0s,baz=137,slow=2.6,SNR=4.7
SKAG Skagway 75.50 31 *eP* **P** **10 26 49.9 +0.8**
comp=Z,69nm,1.0s
ANTO Ankara 76.02 308 *eP* **P** **10 26 54.5 +1.9**
ANTO pmax pmax
comp=Z,123nm,1.4s
ANTO Ankara 76.02 308 ⇑*iP* **P** **10 26 54.4 +1.9**
ANTO Ankara 76.02 308 *eP* **P** **10 26 54.5 +1.9**
comp=Z,123nm,1.4s
MMAI Mount Meron Ar 76.25 300 P **P** **10 26 55.3 +1.3**
MMAI Mount Meron Ar 76.25 300 P **P** **10 26 55.3 +1.3**
comp=Z,1.3nm,0.4s,baz=132,slow=2.1,SNR=3.4
TLCR 77.03 314 ⇑*iP* **P** **10 26 58.6 +0.6**
CSS Prodhromos 77.23 303 *eP* **P** **10 27 00.2 +0.7**
comp=Z,156nm,1.3s
SUW Suwalki 77.27 323 *eP* **P** **10 27 00.8 +1.6**
SUW pmax pmax
comp=Z,269nm,1.0s
SUW Suwalki 77.27 323 *eP* **P** **10 27 00.8 +1.6**
comp=Z,269nm,1.0s
SUW Suwalki 77.27 323 *eP* P 10 27 09.5 +10
CFR Carcaliu 77.48 314 ⇑*iP* **P** **10 27 02.4 +1.8**
TIRR Tirgusor 77.55 313 ⇑P **P** **10 27 01.1 +0.1**
TIRR Tirgusor 77.55 313 ⇑*iP* **P** **10 27 01.1 +0.1**
TIRR Tirgusor 77.55 313 *eP* **P** **10 27 01.0 0.0**
comp=Z,62nm,1.2s
EIL Elat 77.73 297 P **P** **10 27 01.9 -0.4**
EIL Elat 77.73 297 P **P** **10 27 01.9 -0.4**
comp=Z,10nm,0.8s,baz=90,slow=4.0,SNR=2.5
TESR Tescani 77.98 316 ⇑*iP* **P** **10 27 00.4 -3.0**
WRAK Wrangell Islan 78.15 33 *eP* **P** **10 27 06.2 +2.2**
VRI Vrincioaia 78.16 315 ⇑*iP* **P** **10 27 05.7 +1.3**
PLOR Plostina 78.22 315 ⇑*iP* **P** **10 27 07.3 +2.5**
ISP Isparta 78.38 306 ⇑P **P** **10 27 07.2 +1.3**
ISP Isparta 78.38 306 ⇑*iP* **P** **10 27 07.2 +1.3**
ISP Isparta 78.38 306 *eP* **P** **10 27 07.1 +1.2**
comp=Z,527nm,2.2s
DLBC Dease Lake 78.43 31 P **P** **10 27 05.2 -0.5**
DLBC Dease Lake 78.43 31 P **P** **10 27 05.2 -0.5**
comp=Z,7.7nm,1.0s,baz=272,slow=6.3,SNR=3.5
BURAR Bucovina Array 78.48 317 ⇓*iP* **P** **10 27 06.9 +0.6**
MLR Muntele Rosu 78.81 315 ⇓*iP* **P** **10 27 09.0 +0.9**
MLR Muntele Rosu 78.81 315 P **P** **10 27 08.7 +0.5**
MLR Muntele Rosu 78.81 315 P **P** **10 27 08.7 +0.5**
comp=Z,6.2nm,0.9s,baz=100,slow=4.5,SNR=4.2
XMAS Kiritimati 78.98 93 *eP* **P** **10 27 09.7 +0.3**
comp=Z,76nm,1.3s
RES Resolute Bay 79.03 10 P **P** **10 27 07.5 -1.1**
RES Resolute Bay 79.03 10 P **P** **10 27 07.5 -1.1**
comp=Z,16nm,0.9s,baz=306,slow=19,SNR=2.4
URZ Urewera 79.22 140 P **P** **10 27 09.1 -1.0**
URZ Urewera 79.22 140 P **P** **10 27 09.1 -1.0**
comp=Z,11nm,0.6s,baz=66,slow=3.7,SNR=8.9
KWP Kalwaria Pacla 79.24 319 ⇑*iP* **P** **10 27 10.9 +0.6**
KWP Kalwaria Pacla 79.24 319 *eP* **P** **10 27 12.2 +1.9**
HFS Hagfors 79.33 331 P **P** **10 27 10.3 -0.2**
HFS Hagfors 79.33 331 P **P** **10 27 10.3 -0.2**
comp=Z,13nm,0.9s,baz=108,slow=4.7,SNR=4.8
BEL Belsk 79.46 322 *eP* **P** **10 27 13.6 +2.2**
RPZ Rata Peaks 79.70 147 *eP* **P** **10 27 13.2 +0.6**
RPZ Rata Peaks 79.70 147 P **P** **10 27 12.0 -0.6**
comp=Z,26nm,0.9s,baz=217,slow=2.1,SNR=7.6
ARR Arges 79.71 315 ⇓*iP* **P** **10 27 12.6 -0.4**
KOLS Kolonicke sedl 79.78 319 *ep*P P 10 27 16.8 +3.6
TRPA Tarpa 79.94 318 ⇑*iP* **P** **10 27 15.5 +1.4**
NB2 NORSAR Subarra 79.95 333 P **P** **10 27 13.9 0.0**
comp=Z,73nm,1.4s,baz=59,slow=5.9
NB2 NORSAR Subarra 79.95 333 P **P** **10 27 13.9 0.0**
baz=59,slow=5.9
NOA NORSAR Array B 79.95 333 P **P** **10 27 13.7 -0.2**
NOA NORSAR Array B 79.95 333 P **P** **10 27 13.7 -0.2**
comp=Z,8.1nm,0.9s,baz=52,slow=5.7,SNR=5.4
KHZ Kahutara 80.05 145 *eP* **P** **10 27 13.7 -0.8**
comp=Z,47nm,1.1s
JMIC Jan Mayen 80.14 346 P **P** **10 27 16.3 +1.6**
JMIC Jan Mayen 80.14 346 P **P** **10 27 16.3 +1.6**
comp=Z,19nm,0.6s,baz=150,slow=4.5,SNR=3.3
STHS Stebnicka Huta 80.20 320 *ep*P P 10 27 19.6 +4.1
CRVS Cervenica-Dubn 80.28 319 *ep*P **P** **10 27 19.1 +3.2**
DRGR 80.38 317 ⇑*iP* **P** **10 27 17.2 +0.6**
OJC Ojcow 80.71 321 *eP* **P** **10 27 18.8 +0.6**
OJC pmax pmax
comp=Z,84nm,0.9s
OJC Ojcow 80.71 321 *eP* **P** **10 27 18.8 +0.6**
comp=Z,84nm,0.9s
GZR Gura Zlata 80.90 316 ⇓*iP* **P** **10 27 20.5 +1.1**
KECS Kecovo 81.05 319 *eP* **P** **10 27 20.6 +0.6**
PSZ Piszkesteto 81.64 319 *eP* **P** **10 27 23.8 +0.5**
PSZ pmax pmax
comp=Z,49nm,1.2s
PSZ Piszkesteto 81.64 319 ⇓*iP* **P** **10 27 25.4 +2.1**
PSZ Piszkesteto 81.64 319 *eP* **P** **10 27 23.8 +0.5**
comp=Z,49nm,1.2s
VTS Vitosha 81.76 313 ⇓*iP* **P** **10 27 24.4 +0.3**
OKC Ostrava-Krasne 81.83 321 *eP* **P** **10 27 25.5 +1.4**
OKC *ep*P **pP** **10 27 31.5 -0.8**
BBB Bella Bella 82.26 36 P **P** **10 27 24.5 -1.8**
BBB Bella Bella 82.26 36 P **P** **10 27 24.5 -1.8**
comp=Z,10nm,1.1s,baz=238,slow=11,SNR=2.6
KSP Ksiaz 82.43 322 *eP* **P** **10 27 27.7 +0.4**
DPC Dobruska-Polom 82.64 322 *eP* **P** **10 27 29.4 +0.9**
DPC pmax pmax
comp=Z,1μm,1.9s
DPC Dobruska-Polom 82.64 322 *eP* **P** **10 27 29.0 +0.5**
DPC *ep*P **pP** **10 27 35.4 -1.2**
DPC *ex* x 10 27 39.8
DPC Dobruska-Polom 82.64 322 *eP* **P** **10 27 29.4 +0.9**
comp=Z,1μm,1.9s
YKW3 Yellowknife Ar 82.72 23 *eP* **P** **10 27 29.9 +1.4**
UPC Upice 82.75 322 *eP* **P** **10 27 30.6 +1.7**
UPC *ex* x 10 27 36.7
UPC *ex* x 10 27 42.9
YKA Yellowknife Ar 82.77 23 P **P** **10 27 28.5 -0.3**
YKA Yellowknife Ar 82.77 23 P **P** **10 27 28.5 -0.3**
comp=Z,7.4nm,0.8s,baz=304,slow=5.2,SNR=9.0
VRAC Vranov 82.98 321 P **P** **10 27 31.2 +1.0**
VRAC Vranov 82.98 321 P **P** **10 27 31.2 +1.0**
comp=Z,16nm,0.9s,baz=46,slow=3.5,SNR=4.8
PKSM Moragy 83.17 318 ⇓*iP* **P** **10 27 31.1 -0.1**
SUMG Summit 83.48 355 *eP* **P** **10 27 34.9 +2.1**
SUMG pmax pmax
comp=Z,102nm,1.1s
SUMG Summit 83.48 355 *eP* **P** **10 27 34.9 +2.1**
comp=Z,102nm,1.1s
PVCC Panska Ves 83.55 323 *eP* **P** **10 27 32.5 -0.5**
TREC Trest 83.62 321 *eP* **P** **10 27 34.0 +0.5**
TREC *ex* x 10 27 40.3
BRG Berggiesshubel 83.72 323 *i* P **P** **10 27 35.9 +2.0**
comp=Z,52nm,1.6s
BRG *i* 10 27 45.8
comp=Z,44nm,1.4s
BRG
comp=Z,32μm,15.3s
BRG
comp=N,13μm,15.9s
BRG
comp=E,18μm,15.8s
PRU Pruhonice 83.82 322 *eP* **P** **10 27 34.8 +0.3**
PRU *ep*P **pP** **10 27 40.9 -1.7**
PRU *ex* x 10 27 46.2
PRA Prague 83.84 322 P **P** **10 27 35.0 +0.4**
CLL Collm 84.02 324 *i* P **P** **10 27 37.0 +1.6**
comp=Z,25nm,0.9s
CLL *i* 10 27 46.0
CLL *i* 10 27 50.3
CLL *e*PP **PP** **10 30 51.0 +2.1**
CLL *e*SS SS 10 43 30.0 +4.2
CLL *e* 10 44 24.0
CONA Conrad Observa 84.06 320 ⇑*i*P **P** **10 27 37.7 +1.9**
comp=Z,92nm,1.1s
KHC Kasperske Hory 84.79 322 *eP* **P** **10 27 39.9 +0.4**
KHC *ep*P **pP** **10 27 45.5 -2.2**
KHC *ex* x 10 27 51.5
GERES GERESS Array B 84.87 321 P **P** **10 27 39.9 0.0**
GERES GERESS Array B 84.87 321 P **P** **10 27 39.9 0.0**
comp=Z,17nm,0.8s,baz=56,slow=5.1,SNR=12
NKC Novy Kostel 84.87 323 *eP* **P** **10 27 38.5 -1.3**
PERS Pernice 85.12 319 *i* P **P** **10 27 42.4 +1.2**
SOKA Soboth 85.15 319 ⇑*i*PcP **P** **10 27 42.6 +1.2**
comp=Z,35nm,1.0s
PDKS Podkum 85.47 319 *eP* **P** **10 27 44.5 +1.6**
BOJS Bojanci 85.59 318 *i* P **P** **10 27 46.3 +2.8**
ABPO Ambohimpanom 85.66 247 *eP* **P** **10 27 45.1 +0.6**
ABPO Ambohimpanom 85.66 247 *eP* **P** **10 27 45.0 +0.6**
GRFO Grafenberg 85.83 323 *eP* **P** **10 27 46.0 +1.4**
GRFO Grafenberg 85.83 323 *eP* **P** **10 27 46.0 +1.4**
JAVS Javornik 86.12 319 *i* P **P** **10 27 44.4 -1.9**
KMBO Kilima Mbogo 87.16 268 P **P** **10 27 53.2 +1.2**
KMBO Kilima Mbogo 87.16 268 P **P** **10 27 53.2 +1.2**
comp=Z,15nm,1.1s,baz=32,slow=7.8,SNR=5.4
FETA Feichten 87.52 321 ⇑*i*P **P** **10 27 52.1 -1.0**
comp=Z,57nm,1.5s
DAVOX Davos/Dischmat 88.14 321 P **P** **10 27 56.4 +0.3**
DAVOX Davos/Dischmat 88.14 321 P **P** **10 27 56.4 +0.3**
comp=Z,7.6nm,0.7s,baz=37,slow=5.9,SNR=5.2
AQU L'Aquila 88.31 316 *eP* **P** **10 27 58.6 +1.8**
comp=Z,86nm,1.1s
CEL Celeste 88.69 311 *eP* **P** **10 27 58.7 0.0**
comp=Z,124nm,1.2s
CDF Champ du Feu 88.70 323 *eP* **P** **10 27 58.4 -0.2**
comp=Z,201nm,1.3s
ECH Echery 88.88 323 *eP* **P** **10 28 00.1 +0.7**
ECH Echery 88.88 323 *eP* **P** **10 28 00.1 +0.7**
GIVF Givet 89.03 326 *eP* **P** **10 27 59.8 -0.2**
comp=Z,64nm,1.3s
KEBM Edson Butte 89.13 43 *eP* **P** **10 28 01.4 +0.7**
comp=Z,114nm,1.3s
HINF Hinteralfeld 89.27 323 *eP* **P** **10 28 00.6 -0.7**
comp=Z,55nm,1.0s
BAIF Baives 89.37 326 *eP* **P** **10 28 01.5 -0.1**
comp=Z,23nm,0.9s
EKA Eskdalemuir Ar 89.44 333 P **P** **10 28 02.4 +0.6**
EKA Eskdalemuir Ar 89.44 333 P **P** **10 28 02.4 +0.6**
comp=Z,7.1nm,1.0s,baz=40,slow=3.8,SNR=3.2
HAU Haudompre 89.44 323 *eP* **P** **10 28 01.5 -0.5**
comp=Z,69nm,1.0s
PAGF Fort de Pagny 89.46 324 *eP* **P** **10 28 02.1 0.0**
comp=Z,42nm,1.3s
SENIN Lac Senin/Sane 89.85 322 *eP* **P** **10 28 06.2 +1.9**
comp=Z,45nm,1.3s
MEZF Maizieres J'vi 89.86 324 *eP* **P** **10 28 04.0 +0.1**
comp=Z,67nm,1.1s
CASY Casey 89.98 185 *eP* **P** **10 28 04.6 +0.9**
comp=Z,41nm,1.5s
SFTF Sexfontaines 90.04 324 *eP* **P** **10 28 04.5 -0.3**
comp=Z,112nm,1.1s
NEW Newport 90.31 36 *eP* **P** **10 28 06.5 +0.4**
NEW Newport 90.31 36 P **P** **10 28 05.9 -0.1**
comp=Z,17nm,1.0s,baz=286,slow=2.9,SNR=5.8
CABF La Chapelle 90.39 322 *eP* **P** **10 28 06.3 -0.3**
comp=Z,71nm,1.2s
LPG La Plagne 90.66 321 *eP* **P** **10 28 08.3 +0.2**
comp=Z,187nm,1.1s
LPL La Plagne 90.66 321 *eP* **P** **10 28 08.1 +0.1**
comp=Z,205nm,1.2s
PGF Pioggiola 90.98 318 *eP* **P** **10 28 09.3 -0.1**
comp=Z,104nm,1.3s
SBF Sospel 91.19 320 *eP* **P** **10 28 09.9 -0.4**
comp=Z,53nm,0.9s
LOR Lormes 91.24 324 *eP* **P** **10 28 09.9 -0.5**
comp=Z,63nm,1.2s
ORIF Oris-en-Rattie 91.50 321 *eP* **P** **10 28 11.8 +0.1**
comp=Z,203nm,1.5s
SSF Saint Saulge 91.55 324 *eP* **P** **10 28 11.5 -0.3**
comp=Z,71nm,1.4s
SMF Signal de Mont 91.62 323 *eP* **P** **10 28 11.8 -0.4**
comp=Z,158nm,1.2s
AVF Avril sur Loir 91.80 324 *eP* **P** **10 28 12.6 -0.4**
comp=Z,108nm,1.2s
FRF La Foret Royal 91.83 320 *eP* **P** **10 28 12.8 -0.4**
comp=Z,76nm,1.3s
LMR La Mourre 92.05 319 *eP* **P** **10 28 13.9 -0.3**
comp=Z,134nm,1.5s
SSB Saint Sauveur 92.05 322 *eP* **P** **10 28 14.5 +0.3**
SSB Saint Sauveur 92.05 322 *eP* **P** **10 28 14.5 +0.3**
BGF Bois d'Agland 92.22 324 *eP* **P** **10 28 14.6 -0.3**
SMRF Simiane la Rot 92.23 320 *eP* **P** **10 28 15.2 +0.1**
comp=Z,118nm,1.5s
VIVF Saint-Julien-l 92.23 321 *eP* **P** **10 28 14.9 -0.2**
comp=Z,127nm,1.3s
VSL Villasalto 92.41 315 P **P** **10 28 16.9 +1.0**
LDF La Druitiere 92.50 326 *eP* **P** **10 28 15.3 -0.9**
comp=Z,97nm,1.5s
FLN La Foliniere 92.57 327 *eP* **P** **10 28 17.4 +0.9**
comp=Z,43nm,1.1s
TCF Toulx Ste Croi 92.73 324 *eP* **P** **10 28 17.4 +0.1**
comp=Z,82nm,1.5s
FFC Flin Flon 92.89 25 *eP* **P** **10 28 17.9 0.0**
FFC pmax pmax
comp=Z,89nm,1.2s
FFC Flin Flon 92.89 25 *eP* **P** **10 28 17.9 0.0**
comp=Z,89nm,1.2s
LASF Ste Croix 93.16 321 *eP* **P** **10 28 19.6 +0.2**
comp=Z,128nm,1.4s
CAF Calviac 93.66 323 *eP* **P** **10 28 22.0 +0.4**
comp=Z,140nm,1.4s
RJF Les Rejaudoux 93.73 323 *eP* **P** **10 28 22.3 +0.4**
comp=Z,209nm,1.6s
SGMF Saint Gilles 93.94 327 *eP* **P** **10 28 22.1 -0.7**
comp=Z,30nm,1.0s
ROSF Rostrenen 94.24 328 *eP* **P** **10 28 23.4 -0.8**
comp=Z,73nm,1.3s
QUIF Quistinic 94.47 327 *eP* **P** **10 28 24.1 -1.1**
comp=Z,39nm,1.2s
MTLF Montolieu 94.55 321 *eP* **P** **10 28 25.8 +0.1**
comp=Z,78nm,1.5s
BMN Battle Mountai 94.91 42 *eP* **P** **10 28 28.3 +0.6**
BMN pmax pmax
comp=Z,20nm,1.4s
BMN Battle Mountai 94.91 42 *eP* **P** **10 28 28.3 +0.6**
comp=Z,20nm,1.4s
NVAR Mina Array Bea 95.41 44 P **P** **10 28 31.2 +1.1**
NVAR Mina Array Bea 95.41 44 P **P** **10 28 31.2 +1.1**
comp=Z,0.7nm,0.6s,baz=312,slow=6.7,SNR=4.3
HVU Hansel Valley 96.74 39 P **P** **10 28 36.5 +0.5**
HVU pmax pmax
comp=Z,22nm,1.3s
HVU Hansel Valley 96.74 39 P **P** **10 28 36.5 +0.5**
comp=Z,22nm,1.3s
HWUT Hardware Ranch 97.54 38 *eP* Pdif 10 28 39.7 0.0
comp=Z,15nm,1.3s
PDAR Pinedale Array 97.90 37 PKKP 10 45 25.3
comp=Z,0.7nm,1.0s,baz=105,slow=1.7,SNR=4.0
GSC Goldstone 98.21 46 *eP* **P** **10 28 41.0 -1.6**
GSC pmax pmax
comp=Z,20nm,1.3s
GSC Goldstone 98.21 46 *eP* **P** **10 28 41.0 -1.6**
comp=Z,20nm,1.3s
JLU Jordanelle 98.26 39 *eP* P 10 28 36.4 -6.6
comp=Z,30nm,1.6s

NLU	North Lily Min	98.31	40	eP	P	10 28 37.1	-6.0
	comp=Z,17nm,1.4s						
SHPR	Sheep Range	98.56	44	eP	Pdif	10 28 46.8	+2.5
MDND	Maddock	99.11	28	eP	Pdif	10 28 49.8	+3.5
	comp=Z,59nm,1.1s						
TMUT	Trail Mountain	99.25	40	eP	Pdif	10 28 46.5	-0.9
	comp=Z,36nm,1.2s						
ESDC	Sonseca Array	100.46	322	PP	PP	10 33 02.1	+3.6
ESDC	Sonseca Array	100.46	322	PP	PP	10 33 02.1	+3.6
	comp=Z,0.3nm,0.3s,baz=40,slow=7.7,SNR=4.8						
VNDA	Vanda	103.22	172	PKiKP	PKiKP	10 33 22.5	-0.4
VNDA	Vanda	103.22	172	PKiKP	PKiKP	10 33 22.5	-0.4
	comp=Z,3.4nm,1.1s,baz=41,slow=4.1,SNR=3.6						
SYO	Syowa Base	109.55	202	eP	Pdiff	10 29 38.0	-2.2
TXAR	Lajitas Array	110.54	43	PKiKP	PKiKP	10 33 38.0	-0.1
TXAR	Lajitas Array	110.54	43	PKiKP	PKiKP	10 33 38.0	-0.1
	comp=Z,1.2nm,0.9s,baz=267,slow=1.5,SNR=4.3						
TORD	Torodi Ar. Bea	112.62 296		PP	PP	10 34 38.0	+9.1
TORD				PKKPbc	PKKPab	10 44 36.9	-3.3
TORD	Torodi Ar. Bea	112.62 296		PP	PP	10 34 38.0	+9.1
	comp=Z,4.8nm,1.1s,baz=49,slow=5.8,SNR=4.5						
TORD				PKKPbc	PKKPab	10 44 36.9	-3.3
	comp=Z,3.5nm,1.1s,baz=251,slow=4.3,SNR=5.5						
SNAA	Sanae	123.22 198		eP	PKPdf	10 34 00.7	-0.3
VNA2	Neumayer--Watz	124.87 198		eP	PKPdf	10 34 03.7	-0.4
VNA1	Neumayer--Stat	125.26 198		eP	PKPdf	10 34 05.1	+0.3
SDV	Santo Domingo	144.97	25	ePKPdf	PKPab	10 34 42.2	-0.4
USHA	Ushuaia	147.36 167		PKPbc	PKPbc	10 34 47.4	-0.9
USHA	Ushuaia	147.36 167		PKPbc	PKPbc	10 34 47.4	-0.9
	comp=Z,20nm,0.8s,baz=229,slow=6.3,SNR=5.8						
OTAV	Otavalo	148.13	46	ePKPdf	PKPbc	10 34 51.1	-1.1
PLCA	Paso Flores	159.00 149		PKP	PKPdf	10 35 03.0	-0.2
PLCA				PKPab	PKPab	10 35 39.2	-0.4
PLCA	Paso Flores	159.00 149		PKP	PKPdf	10 35 03.0	-0.2
	comp=Z,3.1nm,0.7s,baz=112,slow=18,SNR=3.3						
PLCA				PKPab	PKPab	10 35 39.2	-0.4
	comp=Z,2.4nm,0.6s,baz=238,slow=7.7,SNR=5.3						
LPAZ	La Paz	166.82	60	PKP	PKPdf	10 35 10.2	-1.9
LPAZ	La Paz	166.82	60	PKP	PKPdf	10 35 10.2	-1.9
	comp=Z,30nm,1.4s,baz=349,slow=4.1,SNR=5.8						
SIV	San Ignacio	171.36	32	PKP	PKPdf	10 35 14.4	+0.1
SIV	San Ignacio	171.36	32	PKP	PKPdf	10 35 14.4	+0.1
	comp=Z,7.3nm,1.1s,baz=109,slow=5.2,SNR=4.7						

JMA 17 10:19:33.9±0.2,23°.37N×123°.70E,h47km±3km,M4.3
NEIC 17 10:19:36.7±0.6,24°.13N×123°.20E,h10km,mb4.6/2,Error ellipse: s-maj=12.8km s-min=8.8km az=143.0
IDC 17 10:19:36.1±0.8,24°.25N×123°.30E,h0km,mb4.1/16, mb1 4.1/19,mb1mx4.1/32,mbtmp4.1/19,ML3.6/3,Error ellipse: s-maj=23.0km s-min=18.5km az=73.0

ISC 17 10:19:36.8±2.1,24°.23N±0°.08×123°.35E±0°.03,h7km±13km, n54,σ1.9°17/54,mb4.0/18,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.36	74	P	Pn	10 19 51.1	+2.7
IRIF				S	Sb	10 20 03.8	+12
YOJ	Yonaguni jima	0.38	307	P	Pn	10 19 55.8	+7.1
YOJ				S	Sb	10 20 11.2	+19
HATJ	Hateruma jima	0.46	113	P	Pn	10 19 47.5	-2.2
HATJ				S	Sb	10 19 57.3	+3.3
JKRS	Kuro-shima	0.60	90	P	Pn	10 19 50.7	-1.0
JKRS				S	Sn	10 20 03.2	+1.5
JIJ	Ishigaki jima	0.74	80	P	Pn	10 19 52.7	-0.9
JIJ				S	Sn	10 20 06.1	+1.1
JTJ	Tarama	1.30	72	P	Pn	10 19 59.9	-1.4
JTJ				S	Sg	10 20 19.8	+1.2
NACB	Ninganchiao	1.60	268	Pn	Pb	10 20 05.2	-1.5
TATO	Taipei	1.84	294	ePn	Pn	10 20 06.1	-2.7
YHNB	Yeheng	1.85	284	ePn	Pn	10 20 08.1	-0.8
JMJ	Miyako jima 2	1.86	72	P	Pn	10 20 06.9	-2.2
JMJ				S	Sn	10 20 31.3	-1.6
JOGS	Gusukube	1.95	74	P	Pn	10 20 07.5	-2.7
JOGS				S	Sn	10 20 32.9	-2.0
YULB	Yu-li	2.06	246	Pn	Pn	10 20 07.3	-4.4
TWG	Pinlang	2.52	236	Pn	Pn	10 20 11.1	-7.0
TPUB	Ta-pu	2.66	250	ePn	Pn	10 20 18.0	-2.0
JNU	Nakatsue	11.05	35	Pn	Pn	10 22 15.7	+0.4
JNU	Nakatsue	11.05	35	Pn	Pn	10 22 15.7	+0.4
	0.4nm,0.3s,baz=18,slow=3.2,SNR=3.2						
KSAR	Wonju Array Be	13.73	15	Pn	Pn	10 22 52.0	+0.2
KSRS	Korea Array	13.75	15	Pn	Pn	10 22 52.0	-0.1
	0.2nm,0.3s,baz=190,slow=12,SNR=4.5						
MJAR	Matsushiro Arr	17.72	43	P	P	10 23 45.1	+0.2
MJAR	Matsushiro Arr	17.72	43	P	P	10 23 45.1	+0.2
	0.3nm,0.3s,baz=231,slow=7.7,SNR=4.5						
ERM	Erimo	24.19	38	eP	P	10 24 48.2	-5.5
	14nm,0.7s						
ASAJ	Asahikawa	25.32	34	P	P	10 25 03.5	-0.5
ASAJ	Asahikawa	25.32	34	P	P	10 25 03.5	-0.5
	8.8nm,0.7s,baz=223,slow=10,SNR=6.5						
SONM	Songino Array	27.13	334	P	P	10 25 20.6	+0.1
SONM	Songino Array	27.13	334	P	P	10 25 20.6	+0.1
	2.1nm,0.9s,baz=159,slow=11,SNR=3.7						
PETK	Petropavlovsk-	38.74	33	P	P	10 27 01.9	+0.4
PETK	Petropavlovsk-	38.74	33	P	P	10 27 01.9	+0.4
	2.2nm,0.8s,baz=197,slow=4.5,SNR=4.9						
MKAR	Makanchi Array	39.69	315	P	P	10 27 09.5	0.0
MKAR	Makanchi Array	39.69	315	P	P	10 27 09.5	0.0
	0.8nm,0.4s,baz=99,slow=6.7,SNR=13						
ZALV	Zalesovo Beam	41.29	326	P	P	10 27 22.0	-0.6
ZALV	Zalesovo Beam	41.29	326	P	P	10 27 22.0	-0.6
	2.4nm,0.5s,baz=110,slow=7.7,SNR=3.3						
KURK	Kurchatov	43.33	319	P	P	10 27 39.4	+0.1
KURBB	Kurchatov Arra	43.35	319	P	P	10 27 39.4	-0.1
	1.6nm,0.8s,baz=110,slow=24,SNR=5.4						
WRAB	Tennant Creek	45.19	165	P	P	10 27 52.8	-1.7
	5.7nm,1.0s						
WRA	Warramunga Arr	45.20	165	P	P	10 27 54.9	+0.4
WRA	Warramunga Arr	45.20	165	P	P	10 27 54.9	+0.4
	1.0nm,0.5s,baz=345,slow=8.9,SNR=5.2						
ASAR	Alice Springs	48.71	167	P	P	10 28 22.6	+0.6
ASAR	Alice Springs	48.71	167	P	P	10 28 22.6	+0.6
	1.3nm,0.9s,baz=352,slow=8.1,SNR=5.6						
BVAR	Borovoye Array	48.89	320	P	P	10 28 23.5	+0.4
BVAR	Borovoye Array	48.89	320	P	P	10 28 23.5	+0.4
	1.6nm,0.5s,baz=102,slow=9.1,SNR=4.4						
ILAR	Eielson Array	68.26	27	P	P	10 30 38.5	+0.5
ILAR	Eielson Array	68.26	27	P	P	10 30 38.5	+0.5
	0.4nm,0.5s,baz=254,slow=4.8,SNR=5.4						
SPITS	Spitsbergen Ar	69.85	348	P	P	10 30 48.7	+1.0
SPITS	Spitsbergen Ar	69.85	348	P	P	10 30 48.7	+1.0
	8.9nm,0.9s,baz=110,slow=7.2,SNR=3.5						
ARCES	ARCESS Array B	70.23	338	P	P	10 30 51.6	+1.6
ARCES	ARCESS Array B	70.23	338	P	P	10 30 51.6	+1.6
	4.6nm,1.0s,baz=83,slow=7.4,SNR=2.3						
FINES	FINESS Array B	72.39	330	P	P	10 31 03.3	+0.1
FINES	FINESS Array B	72.39	330	P	P	10 31 03.3	+0.1
	3.3nm,1.0s,baz=38,slow=5.3,SNR=2.7						
AKASG	Malin Array Be	74.14	319	P	P	10 31 13.1	-0.7
AKASG	Malin Array Be	74.14	319	P	P	10 31 13.1	-0.7
	0.2nm,0.3s,baz=61,slow=7.3,SNR=2.6						
NOA	NORSAR Array B	79.09	333	P	P	10 31 42.0	+0.3
NOA	NORSAR Array B	79.09	333	P	P	10 31 42.0	+0.3
	0.3nm,0.5s,baz=56,slow=5.1,SNR=2.5						
YKA	Yellowknife Ar	82.15	23	P	P	10 31 59.4	+1.4
YKA	Yellowknife Ar	82.15	23	P	P	10 31 59.3	+1.4
	0.6nm,0.6s,baz=311,slow=5.4,SNR=4.5						

IDC 17 10:34:37.7±0.5,1°.51S×99°.38E,h0km,mb4.3/26, mb1 4.4/28,mb1mx4.3/34,mbtmp4.3/28,ML4.0/2,Error ellipse: s-maj=17.9km s-min=11.5km az=54.0
NEIC 17 10:34:39.2±0.2,1°.54S×99°.40E,h10km,mb4.3/5,Error ellipse: s-maj=8.9km s-min=5.5km az=68.0
ISCJB 17 10:34:40.6±0.3,1°.49S±0°.04×99°.31E±0°.04,h30km, mb4.5/32,Error ellipse: s-maj=5.9km s-min=4.9km az=43.0
DJA 17 10:34:41.6±1.0,2°.5±4°.9×9°.9E±1°.0,h10km,M4.8/7,mb4.6/3, MLv4.9/7

ISC 17 10:34:42.1±0.4,1°.55S±0°.05×99°.46E±0°.05,h30km,n107, σ1.9°10/106,mb4.4/32,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	Padang	1.19	58	P	Pn	10 35 02.1	-0.6
PDSI				S	Sb	10 35 19.8	+0.7
PPI	Padang Panjang	1.44	41	P	Pn	10 35 05.7	-0.4
BKNI	Bangkinang	2.44	40	P	Pb	10 35 24.2	-1.2
RGRI	Rengat	3.11	68	P	Pb	10 35 34.7	-2.1
MASI	Maura Aman, Be	3.20	120	P	Pb	10 35 35.8	-2.5
KSI	Kapahiang	3.77	124	P	Pn	10 35 42.0	+3.8
PSI	Prapat	4.35	353	Pn	Pn	10 35 44.7	-1.7
PSI	Prapat	4.35	353	Pn	Pn	10 35 44.7	-1.7
	2.7nm,0.3s,baz=263,slow=9.7,SNR=6.9						
MNAI	Manna	4.47	129	P	Pn	10 35 51.7	+3.8
MNAI				S	Sn	10 36 39.5	+0.5
EGSI	Enggano, Bengk	4.71	143	P	Pn	10 35 51.9	+0.7
FRIM	Kepong	5.22	24	P	Pn	10 35 60.0	+1.7
KGM	Kluang	5.24	47	P	Pn	10 36 00.8	+2.3
MYKOM	Kota Tinggi	5.50	53	P	Pn	10 36 05.8	+3.7
MYKOM	Kota Tinggi	5.50	53	P	Pn	10 36 06.8	+4.7
KLSI		6.12	121	P	Pn	10 36 13.3	+2.7
	45nm,0.7s,0.2nm						
IPM	Ipoh	6.19	15	ePn	Pn	10 36 12.7	+1.1
	9.5nm,0.6s						
IPM	Ipoh	6.19	15	P	Pn	10 36 14.0	+2.4
IPM	Ipoh	6.19	15	P	Pn	10 36 13.6	+2.0
	43nm,0.7s,0.4nm						
KASI	Kota Agung	6.39	128	P	Pn	10 36 18.2	+3.9
KULM	Kulim	6.90	10	ePn	Pn	10 36 21.1	-0.1
	19nm,0.6s						
KULM	Kulim	6.90	10	P	Pn	10 36 21.9	+0.6
KULM	Kulim	6.90	10	P	Pn	10 36 22.2	+0.9
KTGM	Kuala Trenggan	7.76	28	P	Pn	10 36 35.9	+2.9
SBUM	Sibu	13.36	73	P	P	10 37 56.1	-3.0
SDKM	Sandakan	19.10	68	P	Pn	10 39 05.2	+1.4
KDM	Kudat	19.27	64	P	Pn	10 39 08.4	+2.7
TSM	Tawau	19.30	72	P	Pn	10 39 07.3	+1.3
CM31	Chiang Mai Arr	19.89	359	eP	P	10 39 11.0	-0.3
	5.2nm,0.6s						
CMAR	Chiang Mai Arr	19.89	359	P	P	10 39 11.4	+0.2
CMAR	Chiang Mai Arr	19.89	359	P	P	10 39 11.4	+0.2
	0.4nm,0.3s,baz=188,slow=9.9,SNR=18						
MYLDM	Lahad Datu	20.16	71	P	Pn	10 39 18.1	+1.8
CHTO	Chiang Mai	20.24	359	eP	P	10 39 13.8	-1.4
	5.3nm,0.8s						
KAPI	Kappang	20.55	100	P	Pn	10 39 20.5	-0.4
KAPI	Kappang	20.55	100	P	Pn	10 39 20.5	-0.4
	3.9nm,0.5s,baz=45,slow=7.9,SNR=5.8						
FITZ	Fitzroy Crossi	30.51	124	P	P	10 40 52.8	-0.1
FITZ	Fitzroy Crossi	30.51	124	P	P	10 40 52.8	-0.1
	1.9nm,0.9s,baz=257,slow=2.5,SNR=6.6						
WRA	Warramunga Arr	38.69	121	P	P	10 42 03.8	+0.2
WRA				PcP	PcP	10 44 16.2	+0.9
WRA	Warramunga Arr	38.69	121	P	P	10 42 03.8	+0.2
	3.2nm,0.5s,baz=306,slow=8.9,SNR=53						
WRA				PcP	PcP	10 44 16.3	+0.9
	0.7nm,0.5s,baz=308,slow=2.6,SNR=5.7						
WRAB	Tennant Creek	38.69	121	eP	P	10 42 02.8	-0.8
	4.7nm,0.6s						
ASAR	Alice Springs	39.95	126	P	P	10 42 14.6	+0.4
ASAR				PcP	PcP	10 44 20.3	+0.9
ASAR				S	S	10 48 15.8	-2.1
ASAR	Alice Springs	39.95	126	P	P	10 42 14.6	+0.4
	1.0nm,0.4s,baz=310,slow=5.5,SNR=36						
ASAR				PcP	PcP	10 44 20.3	+0.9
	1.1nm,0.8s,baz=297,slow=2.5,SNR=5.2						
ASAR				S	S	10 48 15.8	-2.1
	0.8nm,0.9s,baz=290,slow=16,SNR=6.2						
AS31	Alice Springs	39.95	126	eP	P	10 42 14.4	+0.2
HHC	Hu-ho-hao-te	43.62	13	eP	P	10 42 43.0	-1.0
HHC				S	S	10 49 11.3	-0.4
HHC				pmax	pmax		
	comp=Z,65nm,0.7s						
HHC				pmax	pmax		
	comp=Z,21μm,5.4s						
JNU	Nakatsue	45.47	38	P	P	10 42 58.5	-0.4
JNU	Nakatsue	45.47	38	P	P	10 42 58.4	-0.4
	comp=Z,5.1nm,0.7s,baz=237,slow=3.2,SNR=5.6						
KSAR	Wonju Array Be	46.89	31	P	P	10 43 09.6	-0.2
KSRS	Korea Array	46.91	31	P	P	10 43 09.6	-0.4
	comp=Z,1.6nm,0.6s,baz=227,slow=8.1,SNR=6.0						
SONM	Songino Array	49.55	6	P	P	10 43 30.9	+0.5
SONM	Songino Array	49.55	6	P	P	10 43 30.9	+0.5
	comp=Z,1.7nm,0.5s,baz=186,slow=8.1,SNR=10.0						
STKA	Stephens Creek	49.85	132	P	P	10 43 33.3	+0.5
STKA	Stephens Creek	49.85	132	P	P	10 43 33.3	+0.5
	comp=Z,3.3nm,0.6s,baz=316,slow=6.3,SNR=13						
MK31	Makanchi Array	50.45	345	eP	P	10 43 37.6	+0.4
MKAR	Makanchi Array	50.45	345	P	P	10 43 37.6	+0.5
MKAR	Makanchi Array	50.45	345	P	P	10 43 37.6	+0.5
	comp=Z,3.6nm,0.5s,baz=150,slow=8.0,SNR=3.6						
USRK	Ussuriysk Arra	54.02	29	P	P	10 44 04.3	+0.6
	comp=Z,2.1nm,0.5s,baz=238,slow=8.3,SNR=4.1						
KURBB	Kurchatov Arra	54.97	344	P	P	10 44 10.2	-0.2
	comp=Z,1.4nm,0.5s,baz=164,slow=7.0,SNR=10						
KURK	Kurchatov	55.03	344	P	P	10 44 10.2	-0.6
ZAA0	Zalesovo Array	56.63	350	eP	P	10 44 21.8	-0.4
ZALV	Zalesovo Beam	56.63	350	P	P	10 44 21.4	-0.8
ZALV	Zalesovo Beam	56.63	350	P	P	10 44 21.4	-0.8
	comp=Z,3.3nm,0.4s,baz=169,slow=5.6,SNR=14						
RDF	Al-Radifah	58.15	306	eP	P	10 44 33.0	-0.5
UMR	Umm Al-Rimmam	58.25	306	eP	P	10 44 34.4	+0.2
UMR				AMb	AMB	10 44 35.4	
	comp=Z,27nm,0.6s						
MIB	Mutribah	58.65	307	eP	P	10 44 37.1	+0.1
MIB				AMb	AMB	10 44 37.9	
	comp=Z,19nm,0.7s						
RST	Umm Al-Ruwaisa	58.81	306	eP	P	10 44 37.7	-0.4
RST				AMb	AMB	10 44 39.2	
	comp=Z,123nm,0.9s						
BVAR	Borovoye Array	59.58	340	P	P	10 44 41.2	-1.8
BVAR	Borovoye Array	59.58	340	P	P	10 44 41.2	-1.8
	comp=Z,1.3nm,0.6s,baz=138,slow=7.9,SNR=6.3						
ABKAR	Akbulak array	60.99	332	eP	P	10 44 51.6	-1.0
	comp=Z,1.9nm,0.6s						
KMBO	Kilima Mbogo	62.19	270	P	P	10 45 01.6	-0.2
KMBO	Kilima Mbogo	62.19	270	P	P	10 45 01.6	-0.2
	comp=Z,1.8nm,0.5s,baz=50,slow=16,SNR=6.2						
KBZ	Khabaz	67.61	319	P	P	10 45 36.2	+0.1
KBZ	Khabaz	67.61	319	P	P	10 45 36.2	+0.1
	comp=Z,3.4nm,0.7s,baz=116,slow=7.7,SNR=9.9						
MMAI	Mount Meron Ar	69.33	306	P	P	10 45 47.1	-0.2
MMAI	Mount Meron Ar	69.33	306	P	P	10 45 47.1	-0.2
	comp=Z,1.0nm,0.3s,baz=134,slow=6.2,SNR=5.6						
BRTR	Keskin Array B	72.62	313	P	P	10 46 06.5	-0.6
BRTR	Keskin Array B	72.62	313	P	P	10 46 06.5	-0.6
	comp=Z,1.2nm,0.5s,baz=129,slow=6.8,SNR=6.7						
BOSA	Boshof	75.40	241	P	P	10 46 23.6	-0.1
BOSA	Boshof	75.40	241	P	P	10 46 23.6	-0.1
	comp=Z,3.5nm,1.0s,baz=80,slow=12,SNR=2.8						
AKASG	Malin Array Be	78.80	322	P	P	10 46 41.0	-1.0
AKASG	Malin Array Be	78.80	322	P	P	10 46 41.0	-1.0
	comp=Z,0.3nm,0.3s,baz=81,slow=5.8,SNR=4.3						
SUR	Sutherland	79.58	238	P	P	10 46 48.0	+0.9
SUR	Sutherland	79.58	238	P	P	10 46 48.0	+0.9
	comp=Z,13nm,1.1s,baz=162,slow=20,SNR=3.4						
BUR08	Bucovina Ar. S	80.58	319	eP	P	10 46 52.6	+0.6
VNDA	Vanda	82.70	169	P	P	10 47 03.7	+1.2
VNDA	Vanda	82.70	169	P	P	10 47 03.7	+1.2
	comp=Z,1.1nm,0.8s,baz=290,slow=5.0,SNR=5.2						
FINES	FINESS Array B	83.46	332	P	P	10 47 07.2	+0.5
FINES	FINESS Array B	83.46	332	P	P	10 47 07.2	+0.5
	comp=Z,2.3nm,0.5s,baz=98,slow=5.9,SNR=13						
SBA	Scott Base	83.80	169	eP	P	10 47 10.6	+2.4
	comp=Z,3.6nm,0.7s						
ARCES	ARCESS Array B	85.87	340	P	P	10 47 18.7	0.0
ARCES	ARCESS Array B	85.87	340	P	P	10 47 18.7	0.0
	comp=Z,2.7nm,0.8s,baz=64,slow=5.8,SNR=4.7						
GERES	GERESS Array B	88.36	319	P	P	10 47 31.6	+0.3
GERES	GERESS Array B	88.36	319	P	P	10 47 31.6	+0.3
	comp=Z,0.2nm,0.3s,baz=33,slow=3.2,SNR=5.0						
QSPA	South Pole Qui	88.41	180	P	P	10 47 32.5	+1.3
QSPA	South Pole Qui	88.41	180	P	P	10 47 32.5	+1.3
	comp=Z,1.4nm,0.5s,baz=300,slow=3.5,SNR=3.1						
HFS	Hagfors	89.21	330	P	P	10 47 35.5	+0.5
HFS	Hagfors	89.21	330	P	P	10 47 35.5	+0.5
	comp=Z,3.6nm,1.0s,baz=132,slow=2.1,SNR=4.0						
ILAR	Eielson Array	101.31	24	PKKPbc	PKKPbc	11 04 39.6	-2.3
ILAR	Eielson Array	101.31	24	PKKPbc	PKKPbc	11 04 39.6	-2.3
	comp=Z,0.2nm,0.5s,baz=184,slow=4.3,SNR=4.9						
PDAR	Pinedale Array	131.44	28	PKP	PKPdf	10 53 52.1	-0.3
PDAR	Pinedale Array	131.44	28	PKP	PKPdf	10 53 52.1	-0.3
	comp=Z,0.2nm,0.6s,baz=324,slow=2.5,SNR=3.0						
CPUP	Villa Florida	144.35	217	ePKPdf	PKPbc	10 54 14.8	+0.3
CPUP				PKP	PKPdf	10 54 15.7	-0.5
CPUP	Villa Florida	144.35	217	PKP	PKPdf	10 54 15.7	-0.5
	comp=Z,5.8nm,0.7s,baz=107,slow=2.9,SNR=18						
TXAR	Lajitas Array	144.67	36	PKP	PKPdf	10 54 16.8	-0.1
TXAR	Lajitas Array	144.67	36	PKP	PKPdf	10 54 16.8	-0.1
	comp=Z,1.9nm,0.5s,baz=286,slow=2.6,SNR=44						
MIAR	Mount Ida	144.99	19	ePKPdf	PKPab	10 54 16.3	0.0
TZTN	Tazewell	145.07	4	ePKPdf	PKPbc	10 54 16.0	-0.5
JCT	Junction City	145.92	31	ePKPdf	PKPbc	10 54 19.6	+0.1
TKL	Tuckaleechee C	145.93	5	ePKPdf	PKPdf	10 54 18.7	0.0

IDC 17 10:38:28.0±0.6,23°.42N×123°.52E,h0km,mb3.8/14, mb1 3.9/16,mb1mx3.8/29,mbtmp3.8/16,ML3.5/2,Error ellipse: s-maj=21.2km s-min=13.2km az=80.0
NEIC 17 10:38:29.5±0.3,23°.44N×123°.54E,h10km,mb4.4/3,Error ellipse: s-maj=6.2km s-min=5.8km az=169.0
JMA 17 10:38:30.5±0.4,23°.37N×123°.60E,h44km,M3.6

ISC 17 10:38:28.3±2.3,23°.41N±0°.05×123°.60E±0°.04,h4km±14km, n52,σ0.9°75/60,mb3.8/16,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.68	16	P	Pn	10 38 44.3	-0.4
HATJ				S	Sn	10 38 53.9	-1.8
JKRS	Kuro-shima	0.91	24	P	Pn	10 38 48.0	+0.1
JKRS				eS	Sn	10 39 00.8	-0.6
IRIF	Iriomote-Funau	0.93	7	P	Pn	10 38 48.0	-0.2
IRIF				eS	Sn	10 39 01.7	-0.3
JIJ	Ishigaki jima	1.08	27	P	Pb	10 38 49.8	+0.3
JIJ				S	Sg	10 39 02.8	-0.2
YOJ	Yonaguni jima	1.18	333	P	Pn	10 38 51.5	-0.1
YOJ				S	Sg	10 39 06.1	-0.2
JTJ	Tarama	1.59	39	P	Pn	10 38 56.7	-0.6
JTJ				eS	Sn	10 39 17.1	-1.2
NACB	Ninganchiao	1.99	293	ePn	Pn	10 39 01.3	-1.5
JMJ	Miyako jima 2	2.09	47	P	Pn	10 39 04.5	+0.4
YULB	Yu-li	2.11	270	ePn	Pn	10 39 03.3	-1.2
JOGS	Gusukube	2.13	50	P	Pn	10 39 05.1	+0.4
JOGS				eS	Sn	10 39 30.4	-1.3
YHNB	Yeheng	2.39	302	ePn	Pn	10 39 08.4	+0.1
TWG	Pinlang	2.40	256	ePn	Pn	10 39 07.6	-0.8
SSLB	Suanglung	2.46	279	ePn	Pn	10 39 08.6	-0.6
TATO	Taipei	2.48	309	ePn	Pn	10 39 09.5	0.0
TPUB	Ta-pu	2.73	268	ePn	Pn	10 39 13.8	+0.8
JKE	Kume jima 2	4.10	44	P	Pn	10 39 30.2	-1.6
JKE				eS	Sn	10 40 19.1	-1.2
KSAR	Wonju Array Be	14.47	14	Pn	Pn	10 41 54.1	+0.2
KSRS	Korea Array	14.49	14	Pn	Pn	10 41 54.1	-0.1
	0.1nm,0.3s,baz=198,slow=10,SNR=3.2						
DAV	Davao City (W)	16.35	173	Pn	P	10 42 21.2	-0.7
DAV	Davao City (W)	16.35	173	Pn	P	10 42 21.2	-0.7
	48nm,0.3s,baz=293,slow=7.7,SNR=2.0						
MJAR	Matsushiro Arr	18.18	41	P	Pn	10 42 41.7	0.0
MJAR	Matsushiro Arr	18.18	41	P	Pn	10 42 41.7	0.0
	0.2nm,0.3s,baz=230,slow=8.7,SNR=6.5						
CMAR	Chiang Mai Arr	23.54	263	P	P	10 43 40.4	+0.5
CMAR	Chiang Mai Arr	23.54	263	P	P	10 43 40.4	+0.5
	0.4nm,0.4s,baz=77,slow=9.4,SNR=3.6						
ERM	Erimo	24.70	37	eP	P	10 43 50.1	-0.4
	29nm,1.8s						
ASAJ	Asahikawa	25.89	32	eP	P	10 44 01.2	0.0
	1.9nm,0.7s						
ASAJ	Asahikawa	25.89	32	P	P	10 44 02.1	+0.8
	4.1nm,0.6s,baz=196,slow=9.3,SNR=10						
SONM	Songino Array	27.98	335	P	P	10 44 20.8	+0.6
SONM	Songino Array	27.98	335	P	P	10 44 20.8	+0.6
	0.5nm,0.3s,baz=157,slow=7.8,SNR=2.3		

1.4nm,0.6s,baz=95,slow=8.3,SNR=8.5
ZALV Zalesovo Beam 62.13 325 P **P 10 53 10.8 -0.8**
ZALV PcP **PcP 10 53 51.1 -0.4**
ZALV Zalesovo Beam 62.13 325 P **P 10 53 10.8 -0.8**
0.9nm,0.4s,baz=109,slow=7.0,SNR=4.1
ZALV PcP **PcP 10 53 51.1 -0.4**
1.5nm,0.6s,baz=94,slow=4.1,SNR=4.1
KURK Kurchatov 64.95 320 P **P 10 53 30.4 +0.2**
KURBB Kurchatov Arra 64.99 320 P **P 10 53 30.4 -0.1**
5.4nm,0.8s,baz=104,slow=6.7,SNR=32
KDAK Kodiak Island 65.91 32 P **P 10 53 36.3 +0.1**
KDAK Kodiak Island 65.91 32 P **P 10 53 36.3 +0.1**
2.9nm,0.6s,baz=7.5,slow=12,SNR=4.3
RSO Redoubt South 66.60 29 *eP* **P 10 53 40.5 -0.5**
PMR Palmer 68.61 28 *eP* **P 10 53 52.0 -1.3**
8.2nm,0.7s
SML Sawmill 69.03 28 *eP* **P 10 53 55.7 -0.3**
3.1nm,0.7s
BVAR Borovoye Array 70.35 322 P **P 10 54 04.7 +0.4**
BVAR Borovoye Array 70.35 322 P **P 10 54 04.7 +0.4**
4.6nm,0.5s,baz=106,slow=7.8,SNR=20
ILAR Eielson Array 70.37 25 P **P 10 54 02.5 -1.6**
ILAR Eielson Array 70.37 25 P **P 10 54 02.5 -1.6**
3.3nm,0.4s,baz=250,slow=5.8,SNR=73
BRVK Borovoye 70.42 322 *eP* **P 10 54 05.1 +0.4**
4.4nm,0.8s
PAX Paxson 70.59 27 *eP* **P 10 54 04.9 -0.8**
2.6nm,0.5s
MENT Mentasta 71.37 27 *eP* **P 10 54 10.0 -0.3**
EGAK Eagle 72.78 26 *eP* **P 10 54 20.1 +1.4**
62nm,2.5s
INK Inuvik 76.14 22 P **P 10 54 38.2 0.0**
INK Inuvik 76.14 22 P **P 10 54 38.2 0.0**
13nm,0.9s,baz=280,slow=6.1,SNR=31
YKW3 Yellowknife Ar 84.65 27 *eP* **P 10 55 24.1 +0.1**
0.1nm,0.8s
YKA Yellowknife Ar 84.67 27 P **P 10 55 24.3 +0.3**
YKA Yellowknife Ar 84.67 27 P **P 10 55 24.3 +0.3**
2.8nm,0.4s,baz=286,slow=5.1,SNR=36
NEW Newport 87.08 41 *eP* **P 10 55 37.2 +0.8**
9.3nm,0.8s
EDM Edmonton 88.00 36 *eP* **P 10 55 41.3 +0.6**
ARCES ARCESS Array B 88.10 342 P **P 10 55 40.8 0.0**
ARCES ARCESS Array B 88.10 342 P **P 10 55 40.8 0.0**
3.7nm,0.6s,baz=69,slow=7.4,SNR=30
BSMT Bassoo Peak 88.70 41 *eP* **P 10 55 45.6 +1.2**
NVAR Mina Array Bea 88.73 51 P **P 10 55 45.6 +0.9**
NVAR Mina Array Bea 88.73 51 P **P 10 55 45.6 +0.9**
4.3nm,0.6s,baz=266,slow=5.4,SNR=51
HLID Hailey 90.18 45 *eP* **P 10 55 52.5 +1.1**
2.3nm,0.9s
GSC Goldstone 90.69 54 *eP* **P 10 55 54.7 +0.9**
4.6nm,0.8s
R11A Troy Canyon, C 90.81 51 *eP* **P 10 55 55.2 +0.7**
18nm,2.3s
LRM Limekiln Ridge 90.84 43 *eP* **P 10 55 55.1 +0.7**
HRY Holter Researc 90.96 42 *eP* **P 10 55 55.9 +1.0**
SHPR Sheep Range 91.65 52 *eP* **P 10 55 58.9 +0.5**
FINES FINESS Array B 91.98 335 P **P 10 55 57.9 -1.1**
FINES FINESS Array B 91.98 335 P **P 10 55 57.9 -1.1**
7.0nm,0.6s,baz=73,slow=4.7,SNR=16
IMW Indian Meadow 92.47 44 *eP* **P 10 56 03.6 +1.5**
1.8nm,0.8s
PDAR Pinedale Array 93.81 45 P **P 10 56 07.7 -0.6**
PDAR Pinedale Array 93.81 45 P **P 10 56 07.6 -0.6**
0.2nm,0.5s,baz=276,slow=3.5,SNR=3.1
NOA NORSAR Array B 97.98 339 P **P 10 56 24.5 -2.1**
NOA NORSAR Array B 97.98 339 P **P 10 56 24.5 -2.1**
1.1nm,0.9s,baz=50,slow=5.2,SNR=3.2
TORD Torodi Ar. Bea 134.69 302 PKP **PKPdf 11 02 09.4 -0.7**
TORD Torodi Ar. Bea 134.69 302 PKP **PKPdf 11 02 09.4 -0.7**
0.7nm,0.9s,baz=66,slow=2.3,SNR=2.9
LPAZ La Paz 148.91 101 PKPbc **PKPbc 11 02 40.7 +0.6**
LPAZ La Paz 148.91 101 PKPbc **PKPbc 11 02 40.7 +0.6**
4.5nm,0.8s,baz=335,slow=2.1,SNR=16

IDC 17 10:43:44.2±3.1, **1°.61S**×**99°.63E, h0**km, **mb3.7**/3, **mb1 3.7**/5, **mb1mx3.5**/25, **mbtmp3.5**/5, **ML3.3**/2, **MS4.2**/1, **Ms1 4.2**/1, **ms1mx4.0**/43, **Error ellipse: s-maj=130.4km s-min=22.0km az=59.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.43**	**351**	Pn	Pn	10 44 52.3	-0.7
	0.5nm,0.3s,baz=344,slow=15,SNR=2.4						
PSI				LR	LR	10 46 30.3	
	comp=Z,3μm,19.0s,baz=352,slow=38						
CMAR	**Chiang Mai Arr**	**19.95**	**358**	P	P	10 48 18.3	+0.2
	0.1nm,0.3s,baz=190,slow=9.7,SNR=3.2						
WRA	**Warramunga Arr**	**38.51**	**121**	P	P	10 51 08.3	-0.5
	1.0nm,0.8s,baz=300,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**39.78**	**126**	P	P	10 51 19.7	+0.3
	0.6nm,0.5s,baz=304,slow=8.1,SNR=6.6						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	10 52 44.2	-0.3
	0.5nm,0.5s,baz=156,slow=8.0,SNR=7.4						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPbc	11 03 22.7	+0.2
	0.3nm,0.4s,baz=308,slow=4.4,SNR=8.6						

IDC 17 10:50:01.6±18.0, **23°.22S**×**174°.12W, h0**km, **mb4.2**/5, **mb1 4.3**/5, **mb1mx3.9**/20, **mbtmp4.2**/5, **Error ellipse: s-maj=340.9km s-min=152.1km az=83.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.88**	**267**	P	P	10 57 12.7	+0.6
	4.5nm,0.3s,baz=100,slow=8.6,SNR=5.6						
STKA	**Stephens Creek**	**39.97**	**248**	P	P	10 57 36.4	-1.6
	1.9nm,0.8s,baz=76,slow=8.3,SNR=3.7						
ASAR	**Alice Springs**	**47.46**	**259**	P	P	10 58 38.0	-0.6
	0.4nm,0.3s,baz=94,slow=6.8,SNR=22						
WRA	**Warramunga Arr**	**47.84**	**264**	P	P	10 58 41.2	-0.2
	1.5nm,0.3s,baz=99,slow=6.9,SNR=100						
FITZ	**Fitzroy Crossi**	**56.26**	**263**	P	P	10 59 45.3	+1.1
	1.4nm,0.6s,baz=101,slow=5.2,SNR=5.6						

BJI ***17*** *10:53:07.7, 54°.66N*×*160°.17E, h64*km*, mB4.2/1, mb4.5/11*
ISCJB ***17*** *10:53:12.9*±*0.2, 54°.00N*±*0°.02*×*159°.99E*±*0°.06, h109*km±*1*km*, mb4.3/55, Error ellipse: s-maj=6.1km s-min=2.1km az=26.7*
IDC ***17*** *10:53:13.0*±*0.6, 54°.24N*×*159°.80E, h87*km±*5*km*, mb3.9/33, mb1 4.1/34, mb1mx4.1/38, mbtmp4.0/34, Error ellipse: s-maj=12.9km s-min=7.1km az=142.0*
KRSC ***17*** *10:53:12.0*±*0.8, 53°.94N*×*160°.27E, h94*km±*46*km*, ML4.7, FELT [III-IV] at GMS Semyachiki, GMS Kronoki; [II] at Petropavlovsk.*
NEIC ***17*** *10:53:12.5*±*0.8, 54°.21N*×*159°.87E, h83*km±*8*km*, mb4.6/14, Error ellipse: s-maj=9.3km s-min=4.4km az=163.0*
MOS ***17*** *10:53:12.1*±*1.3, 54°.11N*×*159°.96E, h103*km*, mb4.8/8, Error ellipse: s-maj=10.1km s-min=5.6km az=75.6*
ISC 17 10:53:12.7±0.5, **53°.94N**±**0°.02**×**160°.19E**±**0°.03, h94**km±**3**km**, n485,** σ1$59/537**, mb4.4**/55**, 163C-152D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.45**	**283**	*i* P	**Pn**	10 53 27.3	-0.2
SPN	**Mys Shipunski**	**0.85**	**187**	PN	**Pn**	10 53 31.0	0.0
SPN	**Mys Shipunski**	**0.85**	**187**	*i* P	**Pn**	10 53 31.0	0.0
NLC	**Nalytchevo**	**0.92**	**214**	PN	**Pn**	10 53 32.2	+0.5
NLC	**Nalytchevo**	**0.92**	**214**	*i* P	**Pn**	10 53 32.2	+0.5
SDLR	**Sedlovina**	**1.02**	**230**	*e*P	**Pn**	10 53 33.7	+0.7
KRER	**Koryakskii**	**1.07**	**234**	*i* P	**Pn**	10 53 34.4	+0.8
KRER				*i* S	**Sn**	10 53 50.4	+1.1
SMAR	**Somma**	**1.07**	**231**	*i* P	**Pn**	10 53 34.3	+0.7
SMAR				*i* S	**Sn**	10 53 50.2	+0.9
UGLR	**Uglovaya**	**1.09**	**229**	*i* P	**Pn**	10 53 34.6	+0.8
UGLR				*i* S	**Sn**	10 53 50.8	+1.1
AVH	**Avacha**	**1.10**	**233**	*i* P	**Pn**	10 53 34.6	+0.8
AVH				*i* S	**Sn**	10 53 50.6	+0.9
MKZ	**Mys Kozlova**	**1.10**	**55**	PN	**Pn**	10 53 33.5	-0.2
MKZ				S	**Sn**	10 53 48.7	-0.8
MKZ	**Mys Kozlova**	**1.10**	**55**	*i* P	**Pn**	10 53 33.5	-0.2
MKZ				*i* S	**Sn**	10 53 48.7	-0.8
KOK	**Koryaka**	**1.13**	**236**	*i* P	**Pn**	10 53 35.2	+1.0
KOK				*i* S	**Sn**	10 53 51.5	+1.1
PET	**Petropavlovsk**	**1.30**	**226**α	*i* PN	**Pn**	10 53 36.5	+0.4
PET				*e*S	**Sn**	10 53 54.9	+1.2
PET				pmax	pmax		
	comp=Z,3μm,0.4s						
PET				pmax	pmax		
	comp=Z,3μm,0.3s						
PET				smax	smax		
	comp=N,13μm,0.8s						
PET				smax	smax		
	comp=E,13μm,0.5s						
PET				smax	smax		
	comp=E,20μm,0.4s						
PET				smax	smax		
	comp=N,20μm,0.5s						
PET	**Petropavlovsk**	**1.30**	**226**	*e*P	**Pn**	10 53 36.8	+0.7
PET				*i* S	**Sn**	10 53 54.7	+1.0
TUMR	**Tumrok**	**1.35**	**359**	*i* P	**Pn**	10 53 37.3	+0.4
TUMR				*i* S	**Sn**	10 53 55.5	+0.4
GNL	**Ganaly**	**1.35**	**261**	*i* P	**Pn**	10 53 37.4	+0.5
PETK	**Petropavlovsk-**	**1.70**	**242**	PN	**Pn**	10 53 42.0	+0.8
PETK				S	**Sn**	10 54 03.5	+0.7
PETK	**Petropavlovsk-**	**1.70**	**242**	P	**Pn**	10 53 42.0	+0.8
PETK				S	**Sn**	10 54 03.5	+0.7
PETK	**Petropavlovsk-**	**1.70**	**242**	P	**Pn**	10 53 42.0	+0.8
	comp=N,308nm,0.3s,baz=69,slow=17,SNR=3013						
PETK				S	**Sn**	10 54 03.5	+0.7
	comp=N,99nm,0.3s,baz=81,slow=19,SNR=7.4						
RUS	**Russkaya**	**1.81**	**215**	PN	**Pn**	10 53 43.2	+0.6
RUS				S	**Sn**	10 54 05.5	+0.2
RUS	**Russkaya**	**1.81**	**215**	*i* P	**Pn**	10 53 43.2	+0.6
RUS				*i* S	**Sn**	10 54 05.5	+0.2
KMNR	**Kamenistaya**	**1.82**	**1**	*e*P	**Pn**	10 53 43.5	+0.7
KMNR				*i* S	**Sn**	10 54 06.2	+0.5
GRL	**Gorelyy**	**1.88**	**223**	*e*P	**Pn**	10 53 45.1	+1.5
GRL				*i* S	**Sn**	10 54 09.1	+2.0
MTVR	**Mutnovka**	**1.89**	**220**	*e*P	**Pn**	10 53 45.0	+1.3
MTVR				*i* S	**Sn**	10 54 09.0	+1.6
BZMR	**Bezymyannaya**	**2.01**	**5**	*i* P	**Pn**	10 53 46.3	+1.0
BZMR				*i* S	**Sn**	10 54 10.9	+0.8
KIRR	**Kirishev**	**2.02**	**2**	*e*P	**Pn**	10 53 46.0	+0.6
KIRR				*i* S	**Sn**	10 54 10.4	0.0
BZGR	**Bezymyannyi-Gr**	**2.03**	**8**	*i* P	**Pn**	10 53 46.5	+1.0
BZGR				*i* S	**Sn**	10 54 11.4	+0.9
KPT	**Kopyto**	**2.03**	**0**	*i* P	**Pn**	10 53 46.3	+0.8
KPT				*i* S	**Sn**	10 54 10.9	+0.3
BZWR	**Bezymyannyi-We**	**2.04**	**5**	*i* P	**Pn**	10 53 46.8	+1.1
BZWR				*i* S	**Sn**	10 54 11.7	+0.9
APC	**Apacha**	**2.08**	**242**	*i* P	**Pn**	10 53 47.6	+1.6
APC				*i* S	**Sn**	10 54 13.6	+2.2
ASAK	**Asacha**	**2.08**	**222**	*i* P	**Pn**	10 53 47.4	+1.3
ASAK				*i* S	**Sn**	10 54 13.6	+2.0
ZLN	**Zelenaya**	**2.12**	**9**	*i* P	**Pn**	10 53 48.1	+1.5
ZLN				*i* S	**Sn**	10 54 14.3	+1.8
KOZ	**Kozyrevsk**	**2.13**	**355**	*e*P	**Pn**	10 53 47.6	+0.8
KOZ				*i* S	**Sn**	10 54 13.3	+0.5
KOZR	**Kozyr**	**2.14**	**356**	PN	**Pn**	10 53 47.6	+0.7
KOZR				S	**Sn**	10 54 13.3	+0.3
ESO	**Esso**	**2.17**	**337**	PN	**Pn**	10 53 47.5	+0.2
ESO				S	**Sn**	10 54 13.6	-0.1
ESO	**Esso**	**2.17**	**337**	*i* P	**Pn**	10 53 47.5	+0.2
ESO				*i* S	**Sn**	10 54 13.6	-0.1
LGNR	**Loginova**	**2.17**	**7**	*i* P	**Pn**	10 53 48.9	+1.4
LGNR				*i* S	**Sn**	10 54 15.4	+1.4
CIRR	**Tsirk**	**2.21**	**8**	*i* P	**Pn**	10 53 49.2	+1.4
CIRR				*i* S	**Sn**	10 54 16.1	+1.4
KRSR	**Krestovskiy**	**2.30**	**5**	*i* P	**Pn**	10 53 49.9	+0.9
KRSR				*i* S	**Sn**	10 54 17.4	+0.7
KLY	**Klyuchi**	**2.40**	**6**	PN	**Pn**	10 53 51.5	+1.3
KLY				S	**Sn**	10 54 19.9	+1.0
KLY	**Klyuchi**	**2.40**	**6**	*e*P	**Pn**	10 53 51.5	+1.3
KLY				*i* S	**Sn**	10 54 19.9	+1.0
SRDR	**Sredinnyy**	**2.40**	**354**	*i* P	**Pn**	10 53 51.0	+0.7
SRDR				*i* S	**Sn**	10 54 19.2	+0.1
MIPR	**Malaya Ipel'ka**	**2.66**	**233**	*i* P	**Pn**	10 53 55.1	+1.4
BDR	**Baidarnaya**	**2.70**	**12**	*i* P	**Pn**	10 53 55.6	+1.3
BDR				*i* S	**Sn**	10 54 27.0	+0.7
KBTR	**Krutoberegovo**	**2.73**	**33**	PN	**Pn**	10 53 54.7	0.0
KBTR				S	**Sn**	10 54 25.2	-1.7
KBTR	**Krutoberegovo**	**2.73**	**33**	*e*P	**Pn**	10 53 54.7	0.0
KBTR				*i* S	**Sn**	10 54 25.2	-1.7
SMKR	**Semkarok**	**2.75**	**15**	*i* P	**Pn**	10 53 56.2	+1.2
SMKR				*i* S	**Sn**	10 54 28.2	+0.7
SRKR	**Sorokina**	**2.78**	**11**	*i* P	**Pn**	10 53 56.8	+1.4
SRKR				*i* S	**Sn**	10 54 29.2	+1.0
PAU	**Pauzhetka**	**3.22**	**221**	PN	**Pn**	10 54 03.5	+2.3
PAU				S	**Sn**	10 54 40.6	+2.1
PAU	**Pauzhetka**	**3.22**	**221**	*e*P	**Pn**	10 54 03.5	+2.3
PAU				*i* S	**Sn**	10 54 40.6	+2.1
BKI	**Bering**	**3.60**	**67**	PN	**Pn**	10 54 05.9	-0.3
BKI				S	**Sn**	10 54 45.3	-2.4
BKI	**Bering**	**3.60**	**67**	*i* P	**Pn**	10 54 05.9	-0.3
BKI				*i* S	**Sn**	10 54 45.3	-2.4
SKR	**Severo-Kuril's**	**4.11**	**219**	*e*PN	**Pn**	10 54 10.5	-2.7
SKR				*e*S	**Sn**	10 54 56.0	-4.0
SKR				smax	smax		
	comp=N,410nm,0.6s						
SKR				smax	smax		
	comp=E,550nm,0.5s						
SKR				smax	smax		
	comp=Z,110nm,0.5s						
SKR	**Severo-Kuril's**	**4.11**	**219**	*e*P	**Pn**	10 54 15.0	+1.8
SKR				*i* S	**Sn**	10 55 00.8	+0.8
PALN	**Palana**	**5.17**	**359**	*e*P	**Pn**	10 54 28.5	+1.0
TILK	**Tilichiki**	**7.28**	**24**	*e*P	**Pn**	10 54 58.2	+2.0
FX1	**Attu Island--F**	**7.83**	**93**	P	**Pn**	10 55 03.5	-0.3
FX1				S	Sn	10 56 25.1	-5.5
FX1	**Attu Island--F**	**7.83**	**93**	P	**Pn**	10 55 03.5	-0.3
	comp=Z,17nm,0.3s,baz=301,slow=5.3,SNR=79						
FX1				S	Sn	10 56 25.1	-5.5
	comp=Z,73nm,0.3s,baz=140,slow=22,SNR=17						
SEY	**Seymchan**	**9.90**	**339**	*i* PN	Pn	10 55 28.2	-3.6
KUR	**Kuril'sk**	**11.81**	**227**	PN	**Pn**	10 56 00.5	+2.7
KUR				MLR	MLR		
	comp=N,879nm,14.0s						
KUR				MLR	MLR		
	comp=E,1μm,14.0s						
KUR				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**13.11**	**245**	*e*PN	Pn	10 56 18.0	+3.0
YUK	**Yuzh-Kuril'sk**	**13.64**	**229**	*i* P	**Pn**	10 56 22.9	+0.9
ASAJ	**Asahikawa**	**15.12**	**237**	P	**Pn**	10 56 42.9	+1.9
ASAJ	**Asahikawa**	**15.12**	**237**	P	**Pn**	10 56 42.9	+1.9
	comp=Z,2.0nm,0.3s,baz=79,slow=10,SNR=25						
ERM	**Erimo**	**16.45**	**230**	*i* P	**Pn**	10 56 55.8	-1.9
ERM				pmax	pmax		
	comp=Z,25nm,1.2s						
YAK	**Yakutsk**	**17.94**	**309**	*e*P	**P**	10 57 13.3	-1.7
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,23nm,1.5s						
KLR	**Kul'dur**	**18.22**	**267**	*e*P	**P**	10 57 16.6	-1.7
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
USRK	**Ussuriysk Arra**	**20.76**	**254**	P	**P**	10 57 43.4	-2.4
	comp=Z,1.7nm,0.7s,baz=42,slow=13,SNR=4.4						
VLA	**Vladivostok**	**21.50**	**251**	*e*P	**P**	10 57 50.8	-2.9
VLA				pmax	pmax		
	comp=Z,16nm,0.9s						
TIXI	**Tiksi**	**22.34**	**334**	*e*P	P	10 57 58.1	-4.3
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MJA0	**Matsu Arr-Jizo**	**23.11**	**230**	*e*P	**P**	10 58 12.1	+1.6
MJA0				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAT	**Matsushiro**	**23.12**	**230**	P	**P**	10 58 11.1	+0.5
MJAR	**Matsushiro Arr**	**23.12**	**230**	P	**P**	10 58 11.0	+0.4
MJAR	**Matsushiro Arr**	**23.12**	**230**	P	**P**	10 58 11.0	+0.4
	comp=Z,7.9nm,0.7s,baz=15,slow=11,SNR=21						
KDAK	**Kodiak Island**	**26.35**	**62**	P	**P**	10 58 39.9	+0.3
KDAK	**Kodiak Island**	**26.35**	**62**	P	**P**	10 58 39.9	+0.3
	comp=Z,6.8nm,0.7s,baz=289,slow=6.5,SNR=8.5						
COLA	**College**	**27.77**	**46**	*i* P	**P**	10 58 52.9	+0.7
ILAR	**Eielson Array**	**28.18**	**46**	P	**P**	10 58 56.6	+0.7
ILAR	**Eielson Array**	**28.18**	**46**	P	**P**	10 58 56.6	+0.7
	comp=Z,4.1nm,0.8s,baz=270,slow=8.8,SNR=52						
TJN	**Taejon**	**28.69**	**246**	*e*P	**P**	10 58 59.9	-0.8
JNU	**Nakatsue**	**29.40**	**237**	P	**P**	10 59 07.7	+0.7
JNU	**Nakatsue**	**29.40**	**237**	P	**P**	10 59 07.7	+0.7
	comp=Z,2.7nm,0.7s,baz=210,slow=20,SNR=4.4						
INK	**Inuvik**	**33.17**	**38**	P	**P**	10 59 40.0	+0.3
INK	**Inuvik**	**33.17**	**38**	P	**P**	10 59 40.0	+0.3
	comp=Z,2.4nm,0.4s,baz=296,slow=6.5,SNR=17						
SONM	**Songino Array**	**33.77**	**282**	P	**P**	10 59 44.0	-1.4
SONM				pP	**pP**	11 00 03.9	-2.8
SONM				PcP	**PcP**	11 02 22.9	+0.4
SONM				ScP	**ScP**	11 05 59.4	+1.1
SONM	**Songino Array**	**33.77**	**282**	P	**P**	10 59 44.0	-1.4
	comp=Z,2.1nm,0.6s,baz=61,slow=7.9,SNR=16						
SONM				pP	**pP**	11 00 03.9	-2.8
	comp=Z,0.9nm,0.6s,baz=39,slow=9.3,SNR=2.9						
SONM				PcP	**PcP**	11 02 22.9	+0.4
	comp=Z,1.0nm,0.6s,baz=106,slow=2.2,SNR=7.1						
SONM				ScP	**ScP**	11 05 59.4	+1.1
	comp=Z,0.7nm,0.5s,baz=81,slow=4.5,SNR=6.8						
KRAR	**Krasnoyarsk**	**37.31**	**301**	*e*P	P	11 00 11.7	-3.7
KRAR				pmax	pmax		
	comp=Z,34nm,0.6s						
HVS	**Khovu-Aksy**	**39.20**	**294**	*e*P	**P**	11 00 29.6	-1.8
HVS				pmax	pmax		
	comp=Z,15nm,1.2s						
ZALV	**Zalesovo Beam**	**42.37**	**302**	P	P	11 00 54.8	-2.5
ZALV	**Zalesovo Beam**	**42.37**	**302**	P	P	11 00 54.8	-2.5
ZALV	**Zalesovo Beam**	**42.37**	**302**	P	P	11 00 54.8	-2.5
	comp=Z,0.9nm,0.5s,baz=47,slow=5.7,SNR=2.0						
YKA	**Yellowknife Ar**	**42.50**	**43**	P	**P**	11 00 58.6	+0.4
YKA	**Yellowknife Ar**	**42.50**	**43**	P	**P**	11 00 58.6	+0.4
	comp=Z,2.9nm,0.5s,baz=298,slow=7.5,SNR=25						
GTA	**Gaotai**	**42.58**	**276**	*e*P	**P**	11 00 58.8	-0.5
GTA				pP	pP	11 01 14.3	-7.0
GTA				sP	sP	11 01 21.5	-10
GTA				pmax	pmax		
	comp=Z,8.0nm,1.6s						
KURK	**Kurchatov**	**47.34**	**301**	P	**P**	11 01 34.7	-2.0
KURK	**Kurchatov**	**47.34**	**301**	P	**P**	11 01 34.7	-2.0
KURBB	**Kurchatov Arra**	**47.44**	**301**	P	P	11 01 34.7	-2.8
	comp=Z,2.0nm,0.4s,baz=57,slow=7.9,SNR=20						
MKAR	**Makanchi Array**	**47.84**	**295**	P	P	11 01 38.2	-2.5
MKAR				*PP	pP	11 01 58.9	-4.2
MKAR	**Makanchi Array**	**47.84**	**295**	P	P	11 01 38.1	-2.5
MKAR				pP	pP	11 01 58.9	-4.2
MKAR				ScP	**ScP**	11 06 52.7	-0.7
MKAR	**Makanchi Array**	**47.84**	**295**	P	P	11 01 38.1	-2.5
	comp=Z,2.3nm,0.6s,baz=56,slow=6.6,SNR=24						
MKAR				pP	pP	11 01 58.9	-4.2
	comp=Z,1.6nm,0.6s,baz=58,slow=6.7,SNR=5.1						
MKAR				ScP	**ScP**	11 06 52.7	-0.7
	comp=Z,0.3nm,0.7s,baz=49,slow=2.9,SNR=2.4						
EDM	**Edmonton**	**48.21**	**54**	*e*P	**P**	11 01 44.1	+0.6
EDM	**Edmonton**	**48.21**	**54**	*e*P	**P**	11 01 44.1	+0.6
NEW	**Newport**	**49.44**	**61**	⇑P	**P**	11 01 54.1	+1.3
	baz=49						
BVAR	**Borovoye Array**	**49.91**	**308**	P	**P**	11 01 54.2	-2.2
BVAR				*PP	**pP**	11 02 16.2	-2.7
BVAR	**Borovoye Array**	**49.91**	**308**	P	**P**	11 01 54.2	-2.2
BVAR				pP	**pP**	11 02 16.2	-2.7
BVAR	**Borovoye Array**	**49.91**	**308**	P	**P**	11 01 54.2	-2.2
	comp=Z,1.9nm,0.6s,baz=53,slow=9.8,SNR=8.6						
BVAR				pP	**pP**	11 02 16.2	-2.7
	comp=Z,1.4nm,0.7s,baz=71,slow=9.6,SNR=2.9						
BRVK	**Borovoye**	**49.94**	**308**↓	*i* P	**P**	11 01 54.3	-2.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WALA	**Waterton Lakes**	**50.56**	**58**	*e*P	**P**	11 02 02.1	+0.6
	comp=Z,0.1nm,0.7s						
BSMT	**Bassoo Peak**	**50.90**	**60**	*e*P	**P**	11 02 05.5	+1.4
	comp=Z,14nm,0.6s						
JTMT	**Jette**	**51.23**	**60**	*e*P	**P**	11 02 07.8	+1.3
	comp=Z,5.3nm,0.8s						
MSO	**Missoula**	**52.01**	**60**	⇓P	**P**	11 02 13.5	+1.2
	baz=52						
ARCES	**ARCESS Array B**	**52.50**	**342**	P	**P**	11 02 14.6	-0.9
ARCES	**ARCESS Array B**	**52.50**	**342**	P	**P**	11 02 14.6	-0.9
	comp=Z,6.9nm,1.2s,baz=40,slow=7.1,SNR=3.0						
B17A	**L&G Farms, Che**	**52.62**	**57**	⇓P	**P**	11 02 17.4	+0.7
	baz=52						
A18A	**Metzger Ranch,**	**52.67**	**56**	⇑P	**P**	11 02 18.1	+1.0
	baz=52						
ARU	**Arti**	**52.82**	**317**d	*i* P	**P**	11 02 16.2	-1.8
ARU						11 04 14.4	
ARU				S	**S**	11 09 37.1	-1.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
B18A	**Beardsley Farm**	**53.06**	**57**	⇓P	**P**	11 02 20.6	+0.6
	baz=53,SNR=5.5						
C17A	**Wharram Farm,**	**53.08**	**58**	⇑P	**P**	11 02 20.6	+0.5
	baz=53,SNR=7.2						
HRY	**Holter Researc**	**53.16**	**59**	*e*P	**P**	11 02 22.5	+1.6
	comp=Z,6.3nm,0.8s						
A19A	**Klindworth Far**	**53.20**	**55**	⇑P	**P**	11 02 22.1	+1.1
	baz=53						
MFID	**Camas Ranch**	**53.31**	**65**	⇓P	**P**	11 02 23.8	+1.8
	baz=53						
EGMT	**Eagleton**	**53.32**	**57**	⇓P	**P**	11 02 23.5	+1.6
	baz=53						
B19A	**Brinkman Farms**	**53.43**	**56**	⇑P	**P**	11

H19A	Powell baz=56	56.02	59	⇓P	P	11 02 43.6 +2.1
G20A	Bridger baz=56,SNR=6.6	56.02	58	⇓P	P	11 02 42.6 +1.1
D23A	Lindsay baz=56	56.13	55	⇑P	P	11 02 43.9 +1.7
E22A	Miles City baz=56	56.29	56	⇓P	P	11 02 44.9 +1.6
I19A	Meeteetse baz=56	56.46	60	⇑P	P	11 02 46.8 +2.1
G21A	Lodge Grass baz=56	56.52	58	⇑P	P	11 02 46.3 +1.3
F22A	Rosebud baz=56	56.60	57	⇑P	P	11 02 47.2 +1.7
SMMC	Simmler baz=57	56.66	74	⇓P	P	11 02 48.9 +2.8
C25A	Freed Ranch, W baz=56	56.69	53	⇓P	P	11 02 47.9 +1.8
VES	Vestal, Richgr baz=57	56.80	73	⇓P	P	11 02 49.3 +2.3
HWUT	Hardware Ranch comp=Z,8.4nm,0.9s	56.83	64	eP	P	11 02 49.4 +2.0
GRAC	Grapevine Rang baz=57	56.94	71	⇑P	P	11 02 51.1 +3.1
I20A	Worland baz=57	56.96	59	⇓P	P	11 02 49.7 +1.6
R11A	Troy Canyon, C baz=57,SNR=5.3	56.97	69	⇓P	P	11 02 49.8 +1.4
J19A	Crowheart baz=57	56.97	61	⇓P	P	11 02 50.5 +2.1
G22A	Birney baz=57	56.98	57	⇑P	P	11 02 49.9 +1.6
E24A	Baker baz=57	57.00	55	⇑P	P	11 02 50.6 +2.3
H21A	Big Horn, Sher baz=57	57.03	58	⇓P	P	11 02 50.3 +1.7
PKM	Peak Mountain baz=57	57.06	75	⇓P	P	11 02 51.8 +2.7
PDAR	Pinedale Array	57.06	61	P	P	11 02 51.0 +1.9
PDAR	Pinedale Array comp=Z,5.1nm,0.8s,baz=324,slow=2.8,SNR=50	57.06	61	P	P	11 02 51.0 +1.9
F23A	Volborg baz=57	57.06	56	⇓P	P	11 02 50.4 +1.6
C26A	Wahner Farm, P baz=57	57.15	53	⇑P	P	11 02 49.8 +0.4
DUG	Dugway baz=57,SNR=6.3	57.17	66	⇑P	P	11 02 51.6 +1.9
SFJD	Kangerlussuaq	57.18	14	P	P	11 02 48.6 -0.5
SFJD	Kangerlussuaq comp=Z,4.0nm,0.4s,baz=306,slow=8.7,SNR=3.4	57.18	14	P	P	11 02 48.6 -0.5
A28A	Rude Farm, Bot baz=57	57.22	51	⇑P	P	11 02 51.3 +1.4
ISA	Isabella baz=57	57.27	73	⇓P	P	11 02 52.0 +1.6
K19A	Absolon Red Bu baz=57	57.39	61	⇑P	P	11 02 52.7 +1.3
H22A	Clearmont baz=57	57.40	58	⇑P	P	11 02 53.1 +1.8
M17A	Scullys Gap (B baz=57,SNR=12	57.40	63	⇓P	P	11 02 53.1 +1.6
J20A	Shoshoni baz=57	57.41	60	⇑P	P	11 02 53.9 +2.5
L18A	Fontenelle, Gr baz=57,SNR=8.2	57.41	62	⇑P	P	11 02 52.9 +1.4
G23A	Biddle baz=57	57.44	57	⇓P	P	11 02 53.5 +2.0
I21A	Big Trails, Te baz=57	57.48	59	⇓P	P	11 02 54.1 +2.2
E25A	Miller Ranch, baz=57	57.48	54	⇓P	P	11 02 53.2 +1.5
B28A	Dugan Ranch, T baz=57	57.51	51	⇑P	P	11 02 53.7 +1.9
MPMC	Manual Prospec baz=57	57.54	72	⇑P	P	11 02 54.8 +2.3
FURC	Furnace Creek, baz=58,SNR=11	57.60	71	⇑P	P	11 02 54.8 +2.2
L19A	Farson baz=58	57.64	62	⇓P	P	11 02 55.4 +2.3
J21A	Lysite baz=58	57.74	60	⇑P	P	11 02 55.4 +1.6
K20A	Yellowstone Ra baz=58	57.77	61	⇓P	P	11 02 55.1 +1.2
G24A	Alzada baz=58	57.83	56	⇓P	P	11 02 55.8 +1.5
I22A	9 Mile Ranch, baz=58	57.83	58	⇑P	P	11 02 56.2 +1.8
LRMC	Laurel Mountai baz=58	57.85	73	⇑P	P	11 02 56.4 +1.9
E26A	Carlson Angus baz=58	57.95	54	⇑P	P	11 02 56.5 +1.4
C28A	Hausauer Farms baz=58	58.03	52	⇑P	P	11 02 57.2 +1.7
EDW2	Edwards Air Fo baz=58,SNR=5.1	58.11	73	⇑P	P	11 02 57.8 +1.5
J22A	Midwest baz=58,SNR=6.8	58.18	59	⇓P	P	11 02 58.4 +1.6
H24A	Dirks Ranch, A baz=58,SNR=5.0	58.18	57	⇑P	P	11 02 57.7 +1.0
ULM	Lac du Bonnet	58.20	47	P	P	11 02 57.7 +1.1
ULM	Lac du Bonnet comp=Z,5.4nm,0.3s,baz=315,slow=7.1,SNR=10.0	58.20	47	P	P	11 02 57.7 +1.1
L20A	Wamsutter baz=58,SNR=6.2	58.24	61	⇑P	P	11 02 59.0 +1.7
MDND	Maddock baz=58	58.30	51	⇑P	P	11 02 58.4 +1.1
F26A	Lodgepole baz=58,SNR=5.3	58.30	55	⇓P	P	11 02 58.9 +1.5
SHOC	Shoshone baz=58	58.34	71	⇑P	P	11 03 00.3 +2.5
K21A	Alcova baz=58,SNR=10.0	58.35	60	⇑P	P	11 02 59.1 +1.1
E27A	Carson baz=58	58.41	53	⇑P	P	11 02 59.6 +1.4
CMAR	Chiang Mai Arr	58.42	258	P	P	11 02 58.2 -0.4
CMAR	Chiang Mai Arr comp=Z,1.4nm,0.7s,baz=20,slow=6.6,SNR=6.9	58.42	258	P	P	11 02 58.2 -0.4
G25A	Newell baz=58	58.42	56	⇑P	P	11 02 59.8 +1.5
GSC	Goldstone baz=58,SNR=5.6	58.48	72	⇓P	P	11 03 00.5 +1.7
F27A	Lemmon baz=58	58.60	54	⇓P	P	11 03 00.8 +1.2
M20A	Sweetwater, Wa baz=58	58.69	62	⇑P	P	11 03 02.1 +1.7
K22A	Casper baz=58	58.71	60	⇑P	P	11 03 02.5 +2.0
G26A	Maurine baz=58,SNR=7.4	58.74	55	⇓P	P	11 03 01.6 +1.1
H25A	Fruitdale baz=58	58.74	56	⇑P	P	11 03 02.1 +1.5
BFSC	Mount Baldy Ra baz=59	58.76	74	⇓P	P	11 03 03.0 +2.0
L21A	Rawlins baz=59	58.77	61	⇑P	P	11 03 02.6 +1.6
I24A	Kuemmerle Ranc baz=59	58.79	57	⇓P	P	11 03 02.3 +1.4
TUQ	Turquoise Moun baz=59,SNR=5.3	58.87	72	⇑P	P	11 03 03.6 +1.9
RSSD	Black Hills	58.89	57	eP	P	11 03 03.1 +1.3
RSSD				pmax	pmax	
RSSD	Black Hills comp=Z,14nm,0.6s	58.89	57	eP	P	11 03 03.1 +1.3
CIS	Catalina Islan baz=59	58.95	75	⇓P	P	11 03 04.1 +2.0
Q16A	Castle Valley baz=59	58.97	66	⇓P	P	11 03 04.7 +2.3
G27A	Dupree baz=59,SNR=9.6	59.00	55	⇓P	P	11 03 03.4 +1.1
M21A	Separation Pea baz=59,SNR=6.3	59.03	61	⇑P	P	11 03 04.1 +1.2
O19A	Miners Draw (B baz=59,SNR=5.2	59.06	63	⇓P	P	11 03 04.2 +1.3
HEC	Hector,Ludlow baz=59	59.09	72	⇓P	P	11 03 05.5 +2.4
K23A	Bowen Ranch, D baz=59	59.09	59	⇓P	P	11 03 04.7 +1.6
I25A	Rochford baz=59,SNR=5.6	59.12	57	⇑P	P	11 03 04.3 +1.0
N20A	Spence Gulch, baz=59,SNR=11	59.12	62	⇓P	P	11 03 05.5 +2.1
H26A	Fairpoint baz=59	59.15	56	⇓P	P	11 03 04.9 +1.5
BBRC	Big Bear Solar baz=59	59.16	73	⇓P	P	11 03 06.3 +2.5
SRU	San Rafael	59.17	65	eP	P	11 03 05.4 +1.6
SRU				pmax	pmax	
SRU	San Rafael comp=Z,12nm,0.9s	59.17	65	eP	P	11 03 05.4 +1.6
L22A	Ellis Ranch, M baz=59	59.20	60	⇑P	P	11 03 06.7 +2.7
FINES	FINESS Array B	59.37	336	P	P	11 03 03.6 -0.9
FINES	FINESS Array B comp=Z,0.8nm,0.4s,baz=29,slow=9.5,SNR=6.9	59.37	336	P	P	11 03 03.6 -0.9
H27A	Howes baz=59,SNR=5.4	59.48	55	⇑P	P	11 03 07.3 +1.7
MURC	Murrieta baz=59	59.49	74	⇓P	P	11 03 08.8 +2.9
GMRC	Granite Mounta baz=59,SNR=6.8	59.50	72	⇓P	P	11 03 07.7 +1.7
L23A	Garrett baz=59,SNR=5.8	59.52	59	⇑P	P	11 03 07.5 +1.3
I26A	New Underwood baz=59	59.54	56	⇑P	P	11 03 08.0 +1.9
J25A	Sunshine Ranch baz=59	59.54	57	⇓P	P	11 03 07.3 +1.2
N21A	Black Mountain baz=59	59.56	62	⇓P	P	11 03 08.9 +2.4
M22A	Cedar Creek Ra baz=59	59.58	61	⇑P	P	11 03 09.1 +2.5
P19A	Cripple Cowboy baz=59,SNR=7.6	59.62	64	⇓P	P	11 03 08.5 +1.6
O20A	White River Ci baz=60	59.64	63	⇓P	P	11 03 08.8 +1.8
G28A	Parade baz=60	59.71	54	⇓P	P	11 03 09.0 +1.8
BELC	Belle Mtn. Jos baz=60	59.88	73	⇑P	P	11 03 10.4 +1.8
I27A	Quinn baz=60,SNR=6.6	59.90	56	⇑P	P	11 03 09.8 +1.3
J26A	Sides Ranch, S baz=60	59.96	57	⇓P	P	11 03 10.7 +1.7
H28A	Mission Ridge baz=60,SNR=5.2	59.96	55	⇓P	P	11 03 10.3 +1.4
M23A	Laramie baz=60	59.98	60	⇓P	P	11 03 11.0 +1.7
O21A	Pagoda baz=60	59.99	62	⇓P	P	11 03 11.3 +1.8
P20A	De Beque baz=60	60.03	63	⇑P	P	11 03 11.2 +1.6
N22A	Wattenberg Ran baz=60,SNR=6.4	60.09	61	⇑P	P	11 03 11.7 +1.6
U15A	North Rim baz=60	60.17	68	⇑P	P	11 03 12.7 +1.9
IRM	Iron Mountain baz=60	60.24	72	⇓P	P	11 03 13.2 +2.3
W13A	Hualapai Mount baz=60	60.26	70	⇑P	P	11 03 13.4 +2.1
N23A	Red Feather La baz=60,SNR=8.8	60.28	61	⇑P	P	11 03 13.0 +1.5
K26A	Motz Farm, Whi baz=60	60.35	57	⇓P	P	11 03 13.1 +1.3
I28A	Midland baz=60	60.38	55	⇑P	P	11 03 13.1 +1.3
M24A	Cheyenne baz=60	60.43	59	⇑P	P	11 03 14.3 +1.9
BC3	Big Chuckawall baz=60	60.44	73	⇓P	P	11 03 14.4 +2.0
MONP	Monument Peak baz=60	60.45	74	⇓P	P	11 03 14.9 +2.3
Q20A	Ridgley Place, baz=60	60.48	64	⇓P	P	11 03 14.5 +1.8
P21A	Newcastle baz=60,SNR=6.1	60.50	63	⇓P	P	11 03 14.8 +1.9
O22A	Kremmling baz=60	60.51	62	⇑P	P	11 03 15.5 +2.5
J27A	Elkhorn Farm, baz=60	60.53	56	⇑P	P	11 03 14.5 +1.7
PDMCI	Parker Dam,Lak baz=61	60.70	71	⇑P	P	11 03 16.5 +2.4
J28A	Allard Ranch, baz=60,SNR=12	60.78	56	⇓P	P	11 03 16.0 +1.5
O23A	Lake Granby, G baz=61,SNR=7.5	60.80	61	⇑P	P	11 03 16.9 +1.9
P22A	Eagle baz=61,SNR=5.5	60.81	62	⇑P	P	11 03 16.7 +1.6
K27A	Flueckinger Fa baz=61	60.82	57	⇓P	P	11 03 16.0 +1.1
M25A	Palm-Egli Farm baz=61	60.85	59	⇑P	P	11 03 17.5 +2.3
Y12C	Blythe baz=61	60.89	72	⇓P	P	11 03 17.6 +2.3
PV01	Paradox Valley comp=Z,144nm,0.5s	60.93	64	eP	P	11 03 16.2 +0.4
Q21A	Lamborn Mesa, baz=61,SNR=5.2	60.95	63	⇑P	P	11 03 17.7 +1.8
R20A	Redvale baz=61	60.99	64	⇑P	P	11 03 18.2 +2.0
SMCO	Snowmass comp=Z,4.6nm,0.9s	61.01	63	eP	P	11 03 18.2 +1.6
BRSD	Miller baz=61	61.12	53	⇑P	P	11 03 18.1 +1.3
GLA	Glamis baz=61	61.24	73	⇓P	P	11 03 20.2 +2.4
K28A	Ten Mile Ranch baz=61	61.24	56	⇓P	P	11 03 19.2 +1.5
ISCO	Idaho Springs baz=61,SNR=8.6	61.26	61	⇑P	P	11 03 20.0 +1.9
S20A	Disappointment baz=61,SNR=5.8	61.27	65	⇑P	P	11 03 19.5 +1.4
Q22A	Crested Butte, baz=61,SNR=7.9	61.27	63	⇓P	P	11 03 20.0 +1.8
R21A	Cimarron baz=61,SNR=11	61.30	64	⇓P	P	11 03 20.5 +2.1
WUAZ	Wupatki baz=61	61.34	68	⇓P	P	11 03 20.8 +2.3
Y14A	Wickenburg baz=62	61.60	71	⇓P	P	11 03 22.5 +2.3
M27A	Reverse DX Ran baz=61	61.62	58	⇑P	P	11 03 22.6 +2.3
MVCO	Mesa Verde comp=Z,1.9nm,0.5s	61.65	65	eP	P	11 03 22.4 +1.7
MVCO	Mesa Verde baz=62	61.65	65	⇑P	P	11 03 22.5 +1.7
S21A	Coal Bank Pass baz=62,SNR=9.8	61.70	64	⇓P	P	11 03 23.1 +2.0
N26A	Koester Ranch, baz=62	61.72	59	⇓P	P	11 03 22.9 +2.0
Q23A	Hartsel baz=62	61.81	62	⇑P	P	11 03 24.5 +2.7
R22A	Saguache, Gunn baz=62,SNR=5.2	61.82	63	⇓P	P	11 03 24.3 +2.3
P24A	Kohler Place, baz=62	61.84	61	⇓P	P	11 03 23.7 +1.8
113A	Mohawk Valley, baz=62	62.04	72	⇑P	P	11 03 25.2 +2.1
O26A	Horse Wrangler baz=62	62.11	59	⇓P	P	11 03 25.6 +1.9
X16A	Lo Mia Camp, P baz=62	62.12	69	⇓P	P	11 03 26.3 +2.4
S22A	4UR Ranch, Cre baz=62,SNR=9.6	62.14	64	⇓P	P	11 03 26.5 +2.4
L29A	Maesberg Ranch baz=62	62.17	56	⇓P	P	11 03 25.9 +2.0
P25A	Willow Gulch B baz=62,SNR=6.0	62.22	60	⇑P	P	11 03 26.2 +1.8
M28A	Bar X Bar Ranc baz=62	62.23	57	⇓P	P	11 03 25.8 +1.5
T21A	Navajo Lake baz=62	62.33	65	⇓P	P	11 03 27.6 +2.3
R23A	Moffat baz=62	62.34	63	⇓P	P	11 03 27.3 +2.0
M29A	Burnside Ranch baz=62	62.53	57	⇑P	P	11 03 28.0 +1.7
W18A	Petrified Fore baz=62	62.53	68	⇓P	P	11 03 28.7 +2.2
O27A	Beecher Island baz=62,SNR=6.5	62.57	59	⇑P	P	11 03 28.1 +1.4
P26A	Davis Ranch, A baz=62,SNR=5.8	62.60	60	⇓P	P	11 03 28.7 +1.8
Q25A	Bedland, Calha baz=62	62.62	61	⇑P	P	11 03 29.1 +1.9
T22A	Edith baz=62,SNR=5.9	62.65	64	⇑P	P	11 03 29.3 +1.9
N28A	Pribbeno Ranch baz=62,SNR=5.4	62.67	58	⇓P	P	11 03 28.6 +1.3
U21A	Nageezi baz=62,SNR=6.2	62.68	65	⇑P	P	11 03 30.0 +2.3
R24A	Sanders Place, baz=62	62.69	62	⇑P	P	11 03 29.4 +1.8
V20A	Brimhall baz=63	62.72	66	⇓P	P	11 03 29.5 +1.7
NOA	NORSAR Array B	62.75	344	P	P	11 03 27.1 -0.3
NOA	NORSAR Array B comp=Z,0.6nm,0.7s,baz=23,slow=6.8,SNR=3.3	62.75	344	P	P	11 03 27.2 -0.3
ECSD	EROS Data Cent comp=Z,3.6nm,0.7s	62.76	53	eP	P	11 03 28.4 +0.7
X18A	Snowflake baz=63	62.85	68	⇑P	P	11 03 30.9 +2.2
O28A	Krutsinger Ran baz=63	62.98	58	⇑P	P	11 03 31.1 +1.7
Q26A	Hugo baz=63,SNR=5.3	62.99	60	⇓P	P	11 03 31.1 +1.6
P27A	Ficken Ranch, baz=63	63.00	59	⇑P	P	11 03 31.1 +1.6
N29A	Votaw Ranch, W baz=63	63.03	57	⇑P	P	11 03 31.5 +1.9
S24A	Houchin Ranch, baz=63	63.08	63	⇓P	P	11 03 32.4 +2.1
T23A	Casias Ranch, baz=63	63.09	64	⇑P	P	11 03 32.4 +2.0
U22A	Llaves baz=63	63.15	65	⇑P	P	11 03 32.5 +1.7
V21A	Milan baz=63	63.16	66	⇑P	P	11 03 32.8 +2.0
R25A	Fountain Ranch baz=63,SNR=5.6	63.18	62	⇓P	P	11 03 32.3 +1.5
214A	Organ Pipe Nat baz=63	63.19	72	⇑P	P	11 03 32.9 +2.2
W20A	Ramah baz=63,SNR=6.3	63.20	67	⇑P	P	11 03 32.7 +1.6
SPMN	St. Paul baz=63	63.36	49	⇑P	P	11 03 32.7 +1.0
S25A	Robets Cordova baz=63	63.47	62	⇑P	P	11 03 34.2 +1.4
V22A	San Miguel Ran baz=63	63.47	65	⇑P	P	11 03 34.8 +1.9
R26A	Arlington baz=63,SNR=13	63.50	61	⇓P	P	11 03 34.3 +1.5
U23A	El Rito baz=63,SNR=7.3	63.54	64	⇓P	P	11 03 35.2 +1.9
O30A	MW Ranch, Wils baz=64	63.80	57	⇓P	P	11 03 36.4 +1.7
P29A	Atwood baz=64	63.80	58	⇑P	P	11 03 36.5 +1.7
R27A	Eads baz=64	63.84	60	⇓P	P	11 03 36.9 +1.8
T25A	Trinidad baz=64	63.87	62	⇓P	P	11 03 37.4 +2.0
U24A	Moreno Valley baz=64	63.97	64	⇑P	P	11 03 38.3 +2.1
V23A	Ortiz Mt. (NFS baz=64,SNR=7.9	63.98	65	⇑P	P	11 03 38.3 +2.1
S26A	Kim baz=64,SNR=5.2	64.00	61	⇓P	P	11 03 36.8 +0.7
X21A	Alamocita Cree baz=64,SNR=11	64.10	67	⇑P	P	11 03 39.2 +2.2
Y20A	Horse Springs, baz=64,SNR=5.3	64.18	67	⇑P	P	11 03 39.6 +2.0
P30A	Selden baz=64	64.19	58	⇓P	P	11 03 39.2 +1.9
T26A	Comanche Natio baz=64,SNR=8.5	64.27	62	⇓P	P	11 03 38.9 +0.8
R28A	Tribune baz=64	64.31	60	⇓P	P	11 03 40.1 +2.0
Q29A	Oakley baz=64	64.31	59	⇑P	P	11 03 39.5 +1.4
U25A	Circle Dot Ran baz=64,SNR=6.5	64.43	63	⇓P	P	11 03 40.5 +1.5
W23A	Werner Place, baz=64	64.44	65	⇑P	P	11 03 41.7 +2.5
X22A	Bernardo baz=64	64.47	66	⇑P	P	11 03 41.8 +2.4
LAZ	Ladron comp=Z,0.9nm,0.6s	64.48	66	eP	P	11 03 41.6 +2.2
V24A	Rampart Ranch, baz=64,SNR=6.1	64.48	64	⇓P	P	11 03 41.3 +1.8
Y21A	Point of Rocks baz=64	64.49	67	⇓P	P	11 03 42.3 +2.8
Q30A	Quinter baz=64	64.63	58	⇓P	P	11 03 41.3 +1.1
Z20A	Nine Sixteen R baz=64	64.66	68	⇑P	P	11 03 42.6 +2.0
V25A	Rancho No Teng baz=65	64.75	63	⇓P	P	11 03 43.0 +1.9
U26A	Atchley Ranch, baz=65	64.78	62	⇓P	P	11 03 43.0 +1.6
W24A	Lazy 6 Ranch, baz=65	64.80	64	⇓P	P	11 03 43.6 +2.1
T27A	Campo baz=65	64.81	61	⇓P	P	11 03 43.3 +1.8
S28A	Manter baz=65	64.83	60	⇓P	P	11 03 43.6 +2.0
SCHQ	Schefferville	64.88	28	P	P	11 03 40.9 -0.5
SCHQ	Schefferville comp=Z,1.9nm,0.6s,baz=56,slow=16,SNR=3.6	64.88	28	P	P	11 03 40.9 -0.5
Y22A	Socorro baz=65	64.93	66	⇑P	P	11 03 44.9 +2.6
Z21A	St. Cloud Mine baz=65,SNR=5.4	65.02	67	⇓P	P	11 03 45.0 +2.0
T28A	Walsh baz=65	65.08	61	⇓P	P	11 03 44.6 +1.4
R30A	Dighton baz=65	65.13	59	⇑P	P	11 03 44.6 +1.2
S29A	Ulysses baz=65	65.21	60	⇑P	P	11 03 45.4 +1.4
V26A	Tequesquite Ra baz=65	65.22	63	⇓P	P	11 03 45.4 +1.3
U27A	Thompson Grove baz=65,SNR=8.5	65.25	62	⇓P	P	11 03 45.2 +0.9
W25A	X Bar L Ranch, baz=65	65.30	64	⇑P	P	11 03 46.2 +1.5
Y23A	Lovelace Mesa, baz=65,SNR=8.5	65.42	66	⇑P	P	11 03 47.3 +1.8
Z22A	Elephant Butte baz=65	65.44	67	⇑P	P	11 03 47.7 +2.1
121A	Cookes Peak, D baz=65	65.54	68	⇑P	P	11 03 49.0 +2.7
319A	Douglas baz=66	65.60	70	⇑P	P	11 03 48.5 +1.9
220A	Playas Peak, P baz=66	65.61	69	⇑P	P	11 03 48.7 +2.0
Y24A	Capitan baz=66,SNR=7.4	65.76	65	⇓P	P	11 03 49.9 +2.1
Z24A	Sheeppen Canyo baz=66	66.25	66	⇓P	P	11 03 52.8 +1.9
X27A	F and S Farms, baz=66	66.46	63	⇓P	P	11 03 53.8 +1.7
Z25A	Roswell baz=66	66.64	65	⇑P	P	11 03 55.6 +2.4
124A	Stringfield Ra baz=66	66.69	66	⇑P	P	11 03 55.6 +1.9
Y27A	Causey baz=67,SNR=5.0	67.01	64	⇑P	P	11 03 56.5 +1.0
Z26A	Caprock baz=67,SNR=7.8	67.04	65	⇓P	P	11 03 57.0 +1.2
224A	Cornudas Mount baz=67,SNR=5.5	67.13	67	⇑P	P	11 03 57.7 +1.3
125A	Gardner Draw, baz=67,SNR=5.4	67.15	66	⇑P	P	11 03 57.7 +1.2
MSTX	Muleshoe baz=67,SNR=5.3	67.15	64	⇑P	P	11 03 57.6 +1.1
X29A	Tulia baz=67	67.35	62	⇓P	P	11 03 59.0 +1.3
Z27A	Tatum baz=67,SNR=5.6	67.42	64	⇓P	P	11 03 59.3 +1.2
Y28A	McKinney Farm, baz=67	67.47	63	⇑P	P	11 04 00.4 +1.9
225A	Deer Hill, Car baz=67	67.48	66	⇓P	P	11 04 01.0 +2.3
126A	Clayton Basin, baz=67	67.50	65	⇑P	P	11 04 00.5 +1.8
W31A	Holland Ranch, baz=68	67.69	61	⇓P	P	11 04 01.2 +1.4
X30A	Coker Ranch, T baz=68	67.78	62	⇓P	P	11 04 01.8 +1.5
226B	Tecolote Peak, baz=68,SNR=6.7	67.86	66	⇑P	P	11 04 02.2 +1.3
AKASG	Malin Array Be	67.92	329	P	P	11 03 59.0 -1.9
AKASG	Malin Array Be	67.92	329	P	P	11 03 59.0 -1.9
AKASG	Malin Array Be comp=Z,0.6nm,0.4s,baz=31,slow=7.6,SNR=3.2	67.92	329	P	P	11 03 59.0 -1.9
325A	Bean Ranch, Si baz=68	67.97	67	⇑P	P	11 04 03.5 +1.8
X31A	McDonald Ranch baz=68,SNR=6.1	68.10	61	⇓P	P	11 04 03.2 +0.9
Y30A	Stafford Cattl baz=68	68.21	62	⇓P	P	11 04 04.3 +1.3
Z29A	Hungry Hill Ra baz=68	68.26	63	⇑P	P	11 04 04.9 +1.5
128A	Castleberry Fa baz=68	68.34	64	⇑P	P	11 04 05.5 +1.6
425A	Indio Mountain	68.41	67	⇑P	P	11 04 06.7 +2.2

	baz=68						
Y31A	Rekieta Farm,	68.47	62	⇑P		P	11 04 06.0 +1.3
	baz=68						
Z30A	Sanderson Ranc	68.54	63	⇓P		P	11 04 05.9 +0.7
	baz=68,SNR=7.2						
326A	Caldwell Ranch	68.55	66	⇓P		P	11 04 06.7 +1.5
	baz=68						
WMOK	Wichita Mounta	68.63	60	*e*P		P	11 04 06.3 +0.6
WMOK				pmax		pmax	
	comp=Z,8.0nm,0.9s						
WMOK	Wichita Mounta	68.63	60	*e*P		P	11 04 06.2 +0.6
	comp=Z,7.5nm,0.9s						
228A	UT Block 9, Go	68.67	65	⇑P		P	11 04 07.4 +1.4
	baz=68						
Y32A	R-V Farms, Ver	68.87	61	⇓P		P	11 04 08.2 +1.1
	baz=69						
KBZ	Khabaz	68.96	316	P		P	11 04 05.2 -2.3
KBZ	Khabaz	68.96	316	P		P	11 04 05.2 -2.3
KBZ	Khabaz	68.96	316	P		P	11 04 05.2 -2.3
	comp=Z,2.3nm,0.7s,baz=26,slow=3.2,SNR=4.7						
426A	McDonald Obser	69.02	67	⇓P		P	11 04 10.0 +1.7
	baz=69						
Z31A	Sharp Cattle R	69.04	62	⇑P		P	11 04 09.1 +0.9
	baz=69						
328A	Wristen Ranch,	69.13	65	⇑P		P	11 04 10.2 +1.4
	baz=69						
130A	Snyder	69.17	63	⇑P		P	11 04 10.3 +1.3
	baz=69						
427A	Hayter Ranch,	69.22	66	⇑P		P	11 04 11.2 +1.8
	baz=69						
TUL1	Tulsa	69.23	57	⇓P		P	11 04 10.1 +0.9
	baz=69						
Z32A	Haskell	69.39	62	⇑P		P	11 04 11.4 +1.1
	baz=69						
131A	Roby	69.41	63	⇓P		P	11 04 12.0 +1.5
	baz=69						
526A	Mary Lane Ranc	69.46	67	⇓P		P	11 04 12.4 +1.4
	baz=69,SNR=7.5						
329A	Wagon Wheel Ra	69.49	65	⇑P		P	11 04 12.2 +1.2
	baz=69						
230A	Sterling City	69.64	64	⇓P		P	11 04 14.0 +2.1
	baz=70						
527A	Woodward Ranch	69.65	67	⇑P		P	11 04 14.1 +2.0
	baz=70						
428A	Kincaid Ranch,	69.70	66	⇓P		P	11 04 14.2 +1.8
	baz=70,SNR=10						
SFIN	Scholer Farm	69.75	49	⇓P		P	11 04 12.7 +0.2
	baz=69						
626A	Big Bend Ranch	69.83	67	⇑P		P	11 04 14.5 +1.3
	baz=70,SNR=6.2						
ABTX	Abilene, Hawle	69.84	62	⇓P		P	11 04 14.8 +1.7
	baz=70						
330A	Mertzon	69.98	64	⇓P		P	11 04 15.6 +1.5
	baz=70						
231A	Bronte	70.02	63	⇑P		P	11 04 15.6 +1.3
	baz=70						
528A	Cox Ranch, San	70.09	66	⇓P		P	11 04 16.4 +1.6
	baz=70,SNR=7.3						
429A	Davenport Ranc	70.21	65	⇑P		P	11 04 16.8 +1.4
	baz=70						
EKA	Eskdalemuir Ar	70.23	350	P		P	11 04 14.4 -0.7
EKA	Eskdalemuir Ar	70.23	350	P		P	11 04 14.4 -0.7
	comp=Z,0.8nm,0.7s,baz=27,slow=6.4,SNR=2.4						
TXAR	Lajitas Array	70.25	67	P		P	11 04 17.5 +1.7
TXAR	Lajitas Array	70.25	67	P		P	11 04 17.5 +1.7
	comp=Z,4.6nm,0.6s,baz=300,slow=5.2,SNR=57						
627A	Terlingua Ranc	70.31	67	⇓P		P	11 04 17.4 +1.2
	baz=70,SNR=5.6						
232A	Coleman	70.41	63	⇑P		P	11 04 17.6 +0.9
	baz=70,SNR=5.0						
529A	Stev Forest Ra	70.42	66	⇑P		P	11 04 17.8 +1.0
	baz=70,SNR=6.1						
430A	Baggett Ranch,	70.43	65	⇑P		P	11 04 18.4 +1.5
	baz=70						
331A	San Angelo	70.46	64	⇓P		P	11 04 18.4 +1.5
	baz=70						
628A	Black Gap, Mar	70.56	67	⇑P		P	11 04 19.8 +2.2
	baz=70						
332A	Millersview	70.76	63	⇓P		P	11 04 19.7 +0.9
	baz=71,SNR=8.1						
431A	Sonora	70.85	64	⇑P		P	11 04 20.1 +0.8
	baz=71,SNR=5.7						
530A	J-C Ranch, Com	70.88	65	⇑P		P	11 04 21.3 +1.8
	baz=71						
432A	Menard	71.13	63	⇓P		P	11 04 22.7 +1.7
	baz=71						
PSI	Prapat	71.15	248	P		P	11 04 22.5 +1.1
PSI	Prapat	71.15	248	P		P	11 04 22.5 +1.1
	comp=Z,2.3nm,0.4s,baz=217,slow=5.1,SNR=2.9						
531A	Rocksprings	71.29	64	⇑P		P	11 04 23.3 +1.3
	baz=71						
JCT	Junction City	71.44	64	⇓P		P	11 04 24.6 +1.7
	baz=71						
532A	Rocksprings	71.66	64	⇑P		P	11 04 25.5 +1.3
	baz=72						
CRVS	Cervenica-Dubn	71.78	333	*e*P		P	11 04 23.8 -0.8
CRVS	Cervenica-Dubn	71.78	333	*e*P		P	11 04 23.8 -0.8
631A	Perdido Creek	71.86	65	⇑P		P	11 04 26.8 +1.4
	baz=72						
632A	Uvalde	72.21	64	⇓P		P	11 04 29.2 +1.7
	baz=72						
732A	Laxson Ranch,	72.73	65	⇑P		P	11 04 32.1 +1.6
	baz=73,SNR=5.1						
BRTR	Keskin Array B	76.01	320	P		P	11 04 48.5 -1.1
BRTR	Keskin Array B	76.01	320	P		P	11 04 48.5 -1.1
	comp=Z,0.5nm,0.6s,baz=52,slow=2.4,SNR=3.0						
KMSC	Kings Mountain	76.64	48	⇓P		P	11 04 53.6 +0.6
	baz=76						
WRA	Warramunga Arr	76.87	205	P		P	11 04 55.4 +1.0
WRA				pP		pP	11 05 17.6 -0.9
WRA	Warramunga Arr	76.87	205	P		P	11 04 55.4 +1.0
	comp=Z,0.9nm,0.4s,baz=23,slow=6.2,SNR=28						
WRA				pP		pP	11 05 17.6 -0.9
	comp=Z,0.7nm,0.5s,baz=20,slow=6.2,SNR=3.3						
FITZ	Fitzroy Crossi	77.64	214	P		P	11 05 00.2 +1.6
FITZ	Fitzroy Crossi	77.64	214	P		P	11 05 00.2 +1.6
	comp=Z,1.2nm,0.6s,baz=356,slow=3.5,SNR=4.8						
ASAR	Alice Springs	80.55	204	P		P	11 05 16.1 +1.6
ASAR				pP		pP	11 05 38.2 -0.6
ASAR	Alice Springs	80.55	204	P		P	11 05 16.1 +1.6
	comp=Z,1.2nm,0.8s,baz=16,slow=5.7,SNR=18						
ASAR				pP		pP	11 05 38.3 -0.6
	comp=Z,1.6nm,0.8s,baz=9.2,slow=5.0,SNR=5.1						
ESDC	Sonseca Array	85.77	348	P		P	11 05 41.3 -0.1
ESDC	Sonseca Array	85.77	348	P		P	11 05 41.3 -0.1
	comp=Z,0.3nm,0.3s,baz=2.7,slow=5.4,SNR=4.9						
KEST	Kesra	87.20	337	P		P	11 05 48.2 -0.3
KEST	Kesra	87.20	337	P		P	11 05 48.2 -0.3
	comp=Z,1.0nm,0.5s,baz=244,slow=1.3,SNR=4.8						

IDC 17 10:54:40.9±2.4, 1°78S×99°32E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, ML2.9/1, Error ellipse: s-maj=98.8km s-min=18.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.57	355	Pn	Pn	10 55 50.7	-0.8
	0.6nm,0.3s,baz=169,slow=15,SNR=2.7						
CMAR	Chiang Mai Arr	20.11	359	P	P	10 59 16.2	-0.3
	0.9nm,0.5s,baz=191,slow=9.7,SNR=5.4						
WRA	Warramunga Arr	38.69	120	P	P	11 02 06.4	-0.5
	1.0nm,0.6s,baz=303,slow=9.1,SNR=11						
ASAR	Alice Springs	39.93	126	P	P	11 02 17.5	+0.2
	0.4nm,0.6s,baz=303,slow=7.9,SNR=11						
SONM	Songino Array	49.80	6	P	P	11 03 35.8	+0.2
	0.7nm,0.6s,baz=194,slow=7.0,SNR=3.6						
MKAR	Makanchi Array	50.64	345	P	P	11 03 42.1	+0.2
	1.2nm,0.8s,baz=153,slow=9.0,SNR=5.3						
KURBB	Kurchatov Arra	55.15	344	P	P	11 04 14.9	-0.2
	0.6nm,0.2s,baz=168,slow=6.3,SNR=2.6						
ZALV	Zalesovo Beam	56.83	350	P	P	11 04 26.3	-0.7
	1.6nm,0.5s,baz=160,slow=5.7,SNR=6.0						
TXAR	Lajitas Array	144.93	36	PKP	PKPdf	11 14 21.0	-0.1
	0.5nm,0.5s,baz=280,slow=2.3,SNR=7.3						

IDC 17 11:01:22.3±0.8, 23°40N×123°67E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.8/29, mbtmp3.8/15, ML3.4/1, Error ellipse: s-maj=25.1km s-min=18.2km az=75.0
NEIC 17 11:01:23.5±0.5, 23°36N×123°54E, h10km, mb4.0/2, Error ellipse: s-maj=10.4km s-min=7.1km az=167.0
ISCJB 17 11:01:24.2±1.0, 23°38N±0°05×123°56E±0°03, h29km±6km, mb3.7/15, Error ellipse: s-maj=8.4km s-min=3.9km az=156.8

JMA 17 11:01:24.2±0.2, 23°35N×123°61E, h40km±3km, M3.7
ISC 17 11:01:23.2±2.4, 23°38N±0°07×123°57E±0°04, h9km±13km, n48, σ1°24/62, mb3.8/15, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.71	18	P	Pb	11 01 38.0	+0.2
HATJ				*e*S	Sb	11 01 48.2	+0.5
JKRS	Kuro-shima	0.95	25	P	Pb	11 01 41.7	-0.2
JKRS				*e*S	Sg	11 01 54.2	+0.4
IRIF	Iriomote-Funau	0.97	9	P	Pb	11 01 41.9	-0.3
IRIF				*e*S	Sg	11 01 54.7	+0.3
JIJ	Ishigaki jima	1.11	28	P	Pb	11 01 43.5	-1.2
JIJ				*e*S	Sb	11 01 57.5	-1.9
YOJ	Yonaguni jima	1.19	335	P	Pb	11 01 45.7	-0.3
YOJ				*e*S	Sb	11 02 00.7	-0.9
JTJ	Tarama	1.63	39	P	Pn	11 01 51.5	-0.6
JTJ				*e*S	Sn	11 02 11.6	-1.7
NACB	Ninganchiao	1.97	294	*e*Pn	Pn	11 01 55.5	-1.4
YULB	Yu-li	2.08	271	*e*Pn	Pn	11 01 57.1	-1.3
YULB				*e*Sn	Sn	11 02 20.0	-4.5
JMJ	Miyako jima 2	2.13	47	P	Pn	11 01 58.4	-0.6
JMJ				*e*S	Sn	11 02 23.9	-1.7
JOGS	Gusukube	2.17	50	P	Pn	11 01 59.4	-0.2
JOGS				*e*S	Sn	11 02 25.5	-1.2
TWG	Pinlang	2.36	257	*e*Pn	Pn	11 02 01.5	-0.7
TWG				*e*Sn	Sn	11 02 28.2	-3.1
YHNB	Yeheng	2.38	303	*e*Pn	Pn	11 02 02.8	+0.2
SSLB	Suanglung	2.43	280	*e*Pn	Pn	11 02 02.5	-0.7
SSLB				*e*Sn	Sn	11 02 31.0	-2.1
TATO	Taipei	2.48	310	*e*Pn	Pn	11 02 04.7	+0.9
TATO				*e*Sn	Sn	11 02 32.8	-1.4
TPUB	Ta-pu	2.70	269	*e*Pn	Pn	11 02 07.4	+0.6
TPUB				*e*Sn	Sn	11 02 39.3	-0.4
JKE	Kume jima 2	4.14	44	P	Pn	11 02 24.5	-2.2
JKE				*e*S	Sn	11 03 14.0	-1.3
KSAR	Wonju Array Be	14.50	14	Pn	Pn	11 04 49.3	+0.6
KSRS	Korea Array	14.52	14	Pn	Pn	11 04 49.3	+0.4
	0.2nm,0.3s,baz=192,slow=13,SNR=6.8						
ERM	Erimo	24.74	37	P	P	11 06 44.6	-0.4
ASAJ	Asahikawa	25.93	32	*e*P	P	11 06 55.2	-0.5
	1.3nm,0.6s						
ASAJ	Asahikawa	25.93	32	P	P	11 06 55.5	-0.2
	3.5nm,0.7s,baz=214,slow=14,SNR=8.2						
SONM	Songino Array	27.99	335	P	P	11 07 13.6	-0.8
SONM	Songino Array	27.99	335	P	P	11 07 13.6	-0.8
	0.4nm,0.7s,baz=120,slow=8.5,SNR=2.5						
PETK	Petropavlovsk-	39.35	32	P	P	11 08 52.3	-0.5
PETK	Petropavlovsk-	39.35	32	P	P	11 08 52.3	-0.5
	1.1nm,0.7s,baz=122,slow=5.4,SNR=5.9						
MKAR	Makanchi Array	40.44	316	P	P	11 09 02.9	+1.0
MKAR	Makanchi Array	40.44	316	P	P	11 09 02.9	+1.0
	0.5nm,0.6s,baz=100,slow=10,SNR=5.1						
ZALV	Zalesovo Beam	42.11	327	P	P	11 09 15.5	-0.1
ZALV	Zalesovo Beam	42.11	327	P	P	11 09 15.5	-0.1
	0.8nm,0.4s,baz=138,slow=11,SNR=3.5						
KURK	Kurchatov	44.11	320	P	P	11 09 32.6	+0.9
KURBB	Kurchatov Arra	44.13	320	P	P	11 09 32.6	+0.7
	0.5nm,0.2s,baz=113,slow=7.8,SNR=4.8						
WRA	Warramunga Arr	44.32	165	P	P	11 09 33.4	-0.4
WRA	Warramunga Arr	44.32	165	P	P	11 09 33.3	-0.4
	0.4nm,0.7s,baz=343,slow=8.8,SNR=3.3						
ASAR	Alice Springs	47.83	167	P	P	11 10 02.2	+0.8
ASAR	Alice Springs	47.83	167	P	P	11 10 02.2	+0.8
	0.3nm,0.5s,baz=351,slow=7.2,SNR=6.1						
ABKAR	Akbulak array	55.56	315	*e*P	P	11 10 59.6	+0.7
	1.4nm,0.6s						
KDAK	Kodiak Island	67.30	35	P	P	11 12 18.6	+0.4
KDAK	Kodiak Island	67.30	35	P	P	11 12 18.6	+0.4
	2.2nm,0.6s,baz=312,slow=14,SNR=2.5						
ILAR	Eielson Array	68.93	27	P	P	11 12 29.1	+0.7
ILAR	Eielson Array	68.93	27	P	P	11 12 29.1	+0.7
	0.3nm,0.7s,baz=294,slow=6.8,SNR=4.6						
INK	Inuvik	73.15	22	P	P	11 12 54.7	+0.9
INK	Inuvik	73.15	22	P	P	11 12 54.7	+0.9
	1.2nm,0.7s,baz=10.0,slow=6.1,SNR=4.5						
NOA	NORSAR Array B	79.94	333	P	P	11 13 33.9	+1.3
NOA	NORSAR Array B	79.94	333	P	P	11 13 33.9	+1.3
	0.7nm,0.7s,baz=52,slow=5.1,SNR=2.4						
YKA	Yellowknife Ar	82.85	23	P	P	11 13 46.7	-1.1
YKA	Yellowknife Ar	82.85	23	P	P	11 13 46.7	-1.1
	0.4nm,0.6s,baz=307,slow=5.2,SNR=2.5						
GERES	GERESS Array B	84.84	321	P	P	11 14 00.6	+2.1
GERES	GERESS Array B	84.84	321	P	P	11 14 00.6	+2.1
	0.3nm,0.2s,baz=36,slow=8.7,SNR=2.6						

JMA 17 11:25:30.7±0.3, 23°33N×123°75E, h43km±5km, M3.8
IDC 17 11:25:33.3±1.6, 23°91N×123°20E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=76.5km s-min=26.7km az=70.0
ISC 17 11:25:30.8±2.8, 23°3N±0°1×123°76E±0°06, h30km±14km, n16, σ1°01/25, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.73	3	P	Pb	11 25 44.6	-0.3
HATJ				S	Sb	11 25 54.7	+0.1
JKRS	Kuro-shima	0.93	14	P	Pn	11 25 47.9	0.0
JKRS				S	Sb	11 26 01.1	+0.7
IRIF	Iriomote-Funau	1.00	358	P	Pn	11 25 48.9	+0.1
IRIF				*e*S	Sn	11 26 01.5	-0.4
JIJ	Ishigaki jima	1.09	19	P	Pn	11 25 49.6	-0.4
JIJ				S	Sn	11 26 03.1	-1.0
YOJ	Yonaguni jima	1.32	329	P	Pn	11 25 53.2	0.0
YOJ				S	Sn	11 26 08.4	-1.4
JTJ	Tarama	1.56	33	P	Pn	11 25 57.0	+0.5
JTJ				S	Sn	11 26 16.4	+0.6
JMJ	Miyako jima 2	2.04	43	P	Pn	11 26 03.7	+0.6
JMJ				S	Sn	11 26 27.5	0.0
JOGS	Gusukube	2.07	46	P	Pn	11 26 04.0	+0.5
JOGS				S	Sn	11 26 29.4	+1.0
JKE	Kume jima 2	4.06	42	P	Pn	11 26 29.6	-1.2
JKE				S	Sn	11 27 17.4	+0.1
JOW	Kunigami	5.38	49	P	Pn	11 26 46.7	-2.3
JTK	Tokunoshima	6.45	45	P	Pn	11 27 03.6	-0.2
JTK				*e*S	Sn	11 28 15.2	-1.2
JAMN	Amaminishikomi	6.91	44	P	Pn	11 27 08.1	-1.9
KSRS	Korea Array	14.53	13	Pn	Pn	11 28 55.3	+1.0
	0.2nm,0.3s,baz=192,slow=13,SNR=5.9						
SONM	Songino Array	28.11	335	P	P	11 31 19.3	-0.8
	0.2nm,0.4s,baz=141,slow=4.8,SNR=2.8						
MKAR	Makanchi Array	40.59	316	P	P	11 33 09.0	+1.2
	0.2nm,0.3s,baz=104,slow=10,SNR=4.5						
WRA	Warramunga Arr	44.23	166	P	P	11 33 49.9	+12
	0.3nm,0.6s,baz=347,slow=8.9,SNR=4.8						

IDC 17 11:30:16.6±2.8, 46°15S×166°43E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/15, mbtmp3.5/3, ML3.3/1, MS4.0/2, Ms1 4.0/2, ms1mx3.7/22, Error ellipse: s-maj=72.2km s-min=28.5km az=168.0
WEL 17 11:30:19.7±0.3, 46°06S×166°39E, h30km±1km, ML3.6/12, Error ellipse: s-maj=3.2km s-min=2.0km az=90.0
ISC 17 11:30:16.6±2.2, 46°15S±0°06×166°37E±0°08, h0km±13km, n15, σ0°98/19, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.87	40	PN	Pb	11 30 34.4	-0.1
DCZ				SN	Sg	11 30 45.1	+0.6
DCZ				AML	AML	11 30 46.9	
DCZ				AML	AML	11 30 55.6	
DCZ				AML	AML	11 30 55.7	
APZ	The Paps	1.31	122	PN	Pg	11 30 41.7	0.0
APZ				SN	Sb	11 30 59.4	-0.1
MLZ	Mavora Lakes	1.50	58	PN	Pg	11 30 45.6	+0.3
MLZ				SN	Sg	11 31 04.9	+0.2
MLZ				AML	AML	11 31 17.3	
MSZ	Milford Sound	1.84	37	PN	Pn	11 30 48.9	-0.5
MSZ				AML	AML	11 31 32.8	
MSZ				AML	AML	11 31 35.0	
MSZ				AML	AML	11 31 35.1	
MSZ				AML	AML	11 31 35.2	
SYZ	Scrubby Hill	1.96	102	PN	Pn	11 30 51.7	+0.7
SYZ				SN	Sn	11 31 16.1	-0.2
EAZ	Earnscleugh	2.26	67	PN	Pb	11 30 57.3	-0.9
EAZ				AML	AML	11 31 34.6	
EAZ				AML	AML	11 31 40.4	
TUZ	Tuapeka	2.28	86	PN	Pb	11 30 57.1	-1.6
TUZ				SN	Sn	11 31 25.0	+0.7
TUZ				AML	AML	11 31 35.3	
WKZ	Wanaka	2.29	56	PN	Pb	11 30 58.9	+0.2
WKZ				AML	AML	11 31 37.8	
WKZ				AML	AML	11 31 45.4	
LBZ	Lake Benmore	3.22	58	PN	Pn	11 31 10.4	+1.9
FOZ	Fox Glacier	3.50	44	PN	Pb	11 31 17.3	-2.1
RPZ	Rata Peaks	4.12	55	Pn	Pn	11 31 21.0	+0.2
	1.9nm,0.3s,baz=226,slow=5.6,SNR=9.0						
RPZ				Sn	Sn	11 32 08.9	-0.9
	2.9nm,0.3s,baz=11,slow=22,SNR=6.4						
RPZ				LR	LR	11 32 24.7	
	comp=Z,926nm,19.7s,baz=125,slow=31						
RAO	Raoul Island	20.89	42	LR	LR	11 42 23.2	
	comp=Z,907nm,20.9s,baz=230,slow=35						
ASAR	Alice Springs	34.44	300	P	P	11 37 06.3	+0.5
	0.5nm,0.6s,baz=133,slow=7.7,SNR=11						
WRA	Warramunga Arr	37.04	304	P	P	11 37 28.2	0.0
	0.4nm,0.6s,baz=140,slow=8.1,SNR=7.0						
TORD	Torodi Ar. Bea	144.64	206	PKP	PKPbc	11 49 54.7	+0.6
	0.2nm,0.6s,baz=160,slow=2.1,SNR=3.5						

WEL 17 11:38:53.1±0.1, 42°72S×173°91E, h12km, ML3.7/28, 1C-3D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.41	318	⇑P*	Pb	11 39 02.2	-0.1
KHZ				S*	Sg	11 39 06.6	0.0
KHZ				AML	AML	11 39 08.1	
CMWZ	Cape Campbell	1.00	13	P*	Pg	11 39 12.7	+0.3
CMWZ				S*	Sn	11 39 26.4	-0.5
CMWZ				AML	AML	11 39 28.2	
BSWZ	Blackbirch Sta	1.01	359	P*	Pb	11 39 12.4	-0.1
BSWZ				S*	Sg	11 39 25.0	-0.7
BSWZ				AML	AML	11 39 27.0	
THZ	Tophouse	1.21	322	P*	Pn	11 39 14.7	-1.3
THZ				S*	Sb	11 39 30.6	-1.2
THZ				AML	AML	11 39 31.8	
CRLZ	Canterbury Las	1.27	227	PN	Pn	11 39 16.4	-0.3
CRLZ				AML	AML	11 39 34.9	
CRLZ				AML	AML	11 39 35.1	
TUWZ	Tuamarina	1.29	1	PN	Pn	11 39 16.1	-0.9
TUWZ				AML	AML	11 39 34.2	
TUWZ				AML	AML	11 39 35.2	
MQZ	McQueen's Vall	1.35	223	PN	Pn	11 39 16.9	-0.9
MQZ				SN	Sb	11 39 33.5	-2.0
BHW	Baring Head	1.49	29	PN	Pn	11 39 19.0	-0.7
BHW				AML	AML	11 39 53.3	
BHW				AML	AML	11 39 53.4	
PLWZ	Palliser	1.52	41	PN	Pn	11 39 19.4	-0.9
SNZO	South Karori	1.53	23	⇓PN	Pn	11 39 19.6	-0.6
SNZO				AML	AML	11 39 38.4	
SNZO				AML	AML	11 39 38.7	
TCW	Tory Channel	1.53	10	PN	Pn	11 39 19.5	-0.8
TCW				AML	AML	11 39 39.0	
TCW				AML	AML	11 39 43.0	
NNZ	Nelson	1.55	345	PN	Pn	11 39 19.6	-0.9
NNZ				AML	AML	11 39 42.6	
NNZ				AML	AML	11 39 43.0	
WEL	Wellington	1.57	24	⇓PN	Pn	11 39 20.3	-0.5
MSWZ	Moikau Station	1.64	38	PN	Pn	11 39 20.8	-1.0
MSWZ				AML	AML	11 39 40.8	
MSWZ				AML	AML	11 39 41.1	
PAWZ	Paruwai Farm	1.75	41	PN	Pn	11 39 22.1	-1.2
PAWZ				AML	AML	11 39 44.0	
PAWZ				AML	AML	11 39 45.5	
CAW	Cannon Point	1.83	29	⇓PN	Pn	11 39 23.6	-0.7
CAW				AML	AML	11 39 44.9	
CAW				AML	AML	11 39 45.3	
DSZ	Denniston Nort	1.84	301	PN	Pn	11 39 24.1	-0.6
TRWZ	Traveller	1.87	46	PN	Pn	11 39 23.9	-1.1
DUWZ	D'Urville Isla	1.92	0	PN	Pn	11 39 25.4	-0.2
DUWZ				AML	AML	11 39 52.9	
DUWZ				AML	AML	11 39 58.0	
MTW	Mount Morrison	1.96	38	PN	Pn	11 39 25.0	-1.2
MTW				AML	AML	11 39 48.5	
MTW				AML	AML	11 39 48.5	
KIW	Kapiti Island	2.00	22	PN	Pn	11 39 26.0	-0.7
KIW				AML	AML	11 39 48.8	
KIW				AML	AML	11 39 49.7	
OGWZ	Otaki Gorge	2.12	27	PN	Pn	11 39 27.6	-0.8
QRZ	Quartz Range	2.16	331	PN	Pn	11 39 28.9	0.0
QRZ				AML	AML	11 39 36.4	
QRZ				AML	AML	11 39 57.3	
HOWZ	Holdsworth Sta	2.18	34	PN	Pn	11 39 28.0	-1.2
TMWZ	Te Maipa	2.19	43	PN	Pn	11 39 28.3	-1.0
WVZ	Waitaha Valley	2.36	260	PN	Pn	11 39 31.6	0.0
WVZ				AML	AML	11 39 59.3	
WVZ				AML	AML	11 39 59.4	
MRZ	Mangatainoka R	2.41	32	PN	Pn	11 39 31.2	-1.1
MRZ				AML	AML	11 39 59.3	
MRZ				AML	AML	11 40 01.6	
TIWZ	Tintock	2.44	38	PN	Pn	11 39 31.3	-1.5
BFZ	Birch Farm	2.69	41	PN	Pn	11 39 34.6	-1.6
DVHZ	Dannevirke	2.95	36	PN	Pn	11 39 38.0	-1.9
TSZ	Takapari Road	3.07	31	PN	Pn	11 39 40.2	-1.4
LBZ	Lake Benmore	3.18	237	PN	Pn	11 39 42.9	0.0
FOZ	Fox Glacier	3.20	253	PN	Pn	11 39 42.2	-1.0
WPHZ	Waipukurau	3.27	36	PN	Pn	11 39 44.3	+0.2
PNHZ	Pukenui	3.29	32	PN	Pn	11 39 42.8	-1.7
DFE	Dawson Falls	3.39	3	PN	Pn	11 39 48.2	+2.2
NEZ	North Egmont	3.45	2	PN	Pn	11 39 48.4	+1.6
PXZ	Pawanui	3.49	41	PN	Pn	11 39 44

*IDC **17** 11:40:09.9±1.3, 33°.73N×130°.17E, h0km, mb3.3/2, mb1 3.3/5, mb1mx3.2/30, mbtmp3.3/5, ML2.7/3, Error ellipse: s-maj=27.0km s-min=8.8km az=50.0*
*ISCJB **17** 11:40:11.2±0.5, 33°.72N±0°.05×130°.21E±0°.05, h24km±7km, mb3.2/2, Error ellipse: s-maj=9.8km s-min=5.2km az=37.0*
*JMA **17** 11:40:11.5, 33°.72N×130°.20E, h14km, M3.9*
JMA Felt III J1.
ISC 17 11:40:11.7±0.9, 33°.68N±0°.05×130°.18E±0°.04, h15km±8km, n11, σ0§92/17, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.31**	**145**	⇑P	**Pg**	**11 40 18.4**	**+0.2**
JFI				S	**Sg**	**11 40 23.0**	**+0.4**
JII	**Iki**	**0.39**	**287**	⇓P	**Pg**	**11 40 19.6**	**0.0**
JII				S	**Sg**	**11 40 25.2**	**+0.2**
JFA	**Akaike**	**0.51**	**86**	⇓P	**Pg**	**11 40 21.0**	**-0.9**
JFA				eS	**Sg**	**11 40 28.1**	**-0.7**
JTA	**Tamana**	**0.77**	**157**	⇑P	**Pg**	**11 40 26.6**	**-0.2**
JTA				eS	**Sb**	**11 40 37.3**	**+0.1**
JNU	**Nakatsue**	**0.81**	**133**	Pg	**Pb**	**11 40 26.6**	**-0.8**
	172nm,0.3s,baz=288,slow=5.5,SNR=1408						
JNU				Lg	Lg	11 40 37.4	
	818nm,0.3s,baz=20,slow=12,SNR=55						
JTU	**Tsushima**	**1.06**	**323**	⇑P	**Pb**	**11 40 30.5**	**-1.3**
JTU				S	**Sb**	**11 40 44.5**	**-0.9**
KSRS	**Korea Array**	**4.19**	**335**	Pn	**Pn**	**11 41 14.5**	**-0.5**
	0.7nm,0.3s,baz=148,slow=14,SNR=9.4						
KSRS				Pg	**Pb**	**11 41 26.9**	**+1.9**
	6.3nm,0.3s,baz=152,slow=16,SNR=72						
KSRS				Lg	Lg	11 42 19.9	
	7.3nm,0.3s,baz=147,slow=29,SNR=6.5						
MJAR	**Matsushiro Arr**	**7.17**	**64**	Pn	**Pn**	**11 41 57.4**	**+1.3**
	0.3nm,0.3s,baz=241,slow=14,SNR=4.1						
MJAR				Lg	Lg	11 43 57.7	
	0.1nm,0.3s,baz=231,slow=32,SNR=5.7						
USRK	**Ussuriysk Arra**	**10.60**	**7**	Pn	**Pn**	**11 42 43.3**	**+0.4**
	0.2nm,0.3s,baz=184,slow=12,SNR=3.3						
SONM	**Songino Array**	**22.78**	**315**	P	**P**	**11 45 12.9**	**-0.8**
	0.7nm,0.7s,baz=125,slow=9.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**40.97**	**310**	P	**P**	**11 47 53.4**	**-0.2**
	0.4nm,0.5s,baz=95,slow=9.2,SNR=4.2						

*IDC **17** 11:54:20.7±14.0, 17°.66S×167°.01E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=238.2km s-min=37.8km az=67.0*
ISC 17 11:54:22.5±5.6, 17°.7S±0°.2×167°.0E±0°.6, h12km, n5, σ1§01/7, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.38**	**187**	*e*P	**Pn**	**11 55 28.8**	**-0.2**
DZM				*e*S	**Sn**	**11 56 19.6**	**-0.4**
DZM	**Mont Dzumac**	**4.38**	**187**	Pn	**Pn**	**11 55 28.9**	**0.0**
	5.7nm,0.3s,baz=106,slow=23,SNR=44						
DZM				Sn	**Sn**	**11 56 20.0**	**0.0**
	1.1nm,0.3s,baz=322,slow=19,SNR=4.3						
STKA	**Stephens Creek**	**26.97**	**234**	P	**P**	**12 00 05.8**	**+1.6**
	3.4nm,0.8s,baz=48,slow=8.8,SNR=6.1						
WRA	**Warramunga Arr**	**30.99**	**261**	P	**P**	**12 00 39.0**	**-1.1**
	0.6nm,0.9s,baz=92,slow=8.6,SNR=3.6						
ASAR	**Alice Springs**	**31.50**	**253**	P	**P**	**12 00 44.4**	**-0.2**
	0.5nm,0.5s,baz=80,slow=8.3,SNR=21						

*IDC **17** 11:55:22.6±0.9, 23°.47N×123°.50E, h0km, mb3.6/9, mb1 3.7/12, mb1mx3.6/28, mbtmp3.6/12, ML3.7/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/45, Error ellipse: s-maj=27.4km s-min=19.1km az=88.0*
*JMA **17** 11:55:26.2±0.2, 23°.42N×123°.60E, h47km±3km, M3.4*
ISC 17 11:55:25.4±2.5, 23°.46N±0°.10×123°.58E±0°.07, h18km±11km, n21, σ0§69/29, mb3.5/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.63**	**19**	P	**Pn**	**11 55 39.4**	**0.0**
HATJ				S	**Sn**	**11 55 48.9**	**-0.1**
JKRS	**Kuro-shima**	**0.87**	**27**	P	**Pn**	**11 55 43.0**	**+0.3**
JKRS				S	**Sn**	**11 55 55.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.88**	**9**	P	**Pn**	**11 55 43.1**	**+0.2**
IRIF				S	**Sn**	**11 55 55.4**	**+0.1**
JIJ	**Ishigaki jima**	**1.04**	**30**	P	**Pb**	**11 55 44.7**	**-0.1**
JIJ				S	**Sb**	**11 55 58.2**	**+0.1**
YOJ	**Yonaguni jima**	**1.13**	**333**	P	**Pb**	**11 55 46.6**	**+0.3**
YOJ				S	**Sn**	**11 56 01.2**	**-0.1**
JTJ	**Tarama**	**1.56**	**41**	P	**Pn**	**11 55 52.6**	**+0.4**
JTJ				S	**Sn**	**11 56 12.4**	**+0.4**
JMJ	**Miyako jima 2**	**2.07**	**49**	P	**Pn**	**11 55 59.7**	**+0.5**
JMJ				S	**Sn**	**11 56 24.6**	**+0.1**
JOGS	**Gusukube**	**2.11**	**52**	P	**Pn**	**11 56 00.1**	**+0.3**
JOGS				S	**Sn**	**11 56 25.6**	**0.0**
JKE	**Kume jima 2**	**4.08**	**45**	P	**Pn**	**11 56 25.3**	**-1.6**
JNU	**Nakatsue**	**11.57**	**32**	Pn	**Pn**	**11 58 08.5**	**-1.3**
	0.3nm,0.3s,baz=184,slow=18,SNR=4.0						
KSRS	**Korea Array**	**14.44**	**14**	Pn	**Pn**	**11 58 49.8**	**+0.9**
	0.2nm,0.3s,baz=200,slow=11,SNR=6.6						
KSRS				LR	LR	12 04 11.2	
	comp=Z,744nm,18.2s,baz=282,slow=37						
MJAR	**Matsushiro Arr**	**18.15**	**41**	P	**P**	**11 59 37.7**	**+0.9**
	0.3nm,0.3s,baz=226,slow=7.9,SNR=5.9						
ASAJ	**Asahikawa**	**25.85**	**33**	P	**P**	**12 00 55.9**	**+0.1**
	3.8nm,0.7s,baz=243,slow=4.5,SNR=7.2						
SONM	**Songino Array**	**27.92**	**335**	P	**P**	**12 01 14.1**	**-0.5**
	0.4nm,0.4s,baz=141,slow=9.3,SNR=2.4						
PETK	**Petropavlovsk-**	**39.27**	**32**	P	**P**	**12 02 52.8**	**-0.1**
	1.0nm,0.6s,baz=122,slow=5.0,SNR=6.7						
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**12 03 01.3**	**-1.0**
	0.2nm,0.3s,baz=113,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**42.05**	**326**	P	**P**	**12 03 14.3**	**-1.5**
	0.4nm,0.3s,baz=90,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**44.40**	**165**	P	**P**	**12 03 34.7**	**-0.4**
	0.5nm,0.9s,baz=343,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**47.91**	**167**	P	**P**	**12 04 03.1**	**+0.4**
	0.2nm,0.5s,baz=351,slow=8.0,SNR=8.1						
ILAR	**Eielson Array**	**68.85**	**27**	P	**P**	**12 06 28.7**	**+0.2**
	0.1nm,0.5s,baz=263,slow=5.3,SNR=3.1						
GERES	**GERESS Array B**	**84.78**	**321**	P	**P**	**12 08 00.1**	**+1.3**
	0.2nm,0.3s,baz=40,slow=6.4,SNR=2.0						

IDC 17 12:31:27.9±2.8, 6°.66S×106°.09E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=147.0km s-min=25.0km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.43**	**118**	P	P	12 37 42.4	0.0
	0.3nm,0.3s,baz=290,slow=10,SNR=12						
ASAR	**Alice Springs**	**31.62**	**125**	P	P	12 37 52.7	-0.2
	0.1nm,0.3s,baz=300,slow=7.9,SNR=13						
STKA	**Stephens Creek**	**41.54**	**132**	P	P	12 39 17.6	+0.2
	0.6nm,0.4s,baz=303,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**57.27**	**341**	P	P	12 41 17.3	-0.1
	0.2nm,0.3s,baz=144,slow=8.9,SNR=2.8						

*NIED **17** 12:50:00, 23°.40N×123°.70E, h5km, Mw4.1 Best double couple: M0:1.87000×10^15 NP1:φ=134.00000°, δ=84.00000°, λ=-25.00000°. NP2:φ=227.00000°, δ=65.00000°, λ=-173.00000°.*
*IDC **17** 12:50:48.6±0.6, 23°.35N×123°.67E, h0km, mb4.0/21, mb1 4.2/24, mb1mx4.1/33, mbtmp4.0/24, ML3.4/3, Error ellipse: s-maj=18.0km s-min=14.1km az=81.0*
*NEIC **17** 12:50:50.0±0.4, 23°.32N×123°.66E, h10km, mb4.4/5, Error ellipse: s-maj=8.0km s-min=5.8km az=160.0*
*ISCJB **17** 12:50:50.5±0.9, 23°.33N±0°.04×123°.70E±0°.03, h27km±6km, mb4.0/28, Error ellipse: s-maj=8.1km s-min=4.2km az=154.6*
*JMA **17** 12:50:51.6±0.2, 23°.35N×123°.74E, h45km±3km, M4.3*
*MOS **17** 12:50:52.0±1.0, 23°.46N×123°.73E, h33km, mb4.5/10, Error ellipse: s-maj=13.2km s-min=8.3km az=105.3*
ISC 17 12:50:51.4±0.9, 23°.34N±0°.06×123°.69E±0°.04, h20km±6km, n92, σ1§06/98, mb4.1/28, 2C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.72**	**8**	P	**Pb**	**12 51 05.3**	**0.0**
HATJ				S	**Sb**	**12 51 15.3**	**+0.5**
JKRS	**Kuro-shima**	**0.94**	**18**	P	**Pn**	**12 51 08.3**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS				S	**Sn**	**12 51 20.9**	**-1.4**
IRIF	**Iriomote-Funau**	**0.99**	**2**	P	**Pn**	**12 51 09.4**	**-0.7**
JIJ	**Ishigaki jima**	**1.10**	**22**	P	**Pn**	**12 51 10.5**	**-1.1**
JIJ				S	**Sn**	**12 51 23.5**	**-2.7**
YOJ	**Yonaguni jima**	**1.28**	**331**	P	**Pn**	**12 51 13.9**	**-0.2**
YOJ				S	**Sn**	**12 51 28.7**	**-1.9**
JTJ	**Tarama**	**1.59**	**35**	P	**Pn**	**12 51 17.8**	**-0.6**
JTJ				S	**Sn**	**12 51 37.3**	**-1.1**
JMJ	**Miyako jima 2**	**2.07**	**45**	P	**Pn**	**12 51 24.4**	**-0.6**
JMJ				S	**Sn**	**12 51 49.5**	**-0.8**
NACB	**Ninganchiao**	**2.09**	**294**	*e*Pn	**Pn**	**12 51 24.0**	**-1.3**
JOGS	**Gusukube**	**2.11**	**48**	P	**Pn**	**12 51 24.9**	**-0.6**
JOGS				S	**Sn**	**12 51 50.4**	**-0.8**
YULB	**Yu-li**	**2.20**	**272**	*e*Pn	**Pn**	**12 51 25.2**	**-1.6**
TWG	**Pinlang**	**2.47**	**258**	*e*Pn	**Pn**	**12 51 29.0**	**-1.5**
TWG				*e*Sn	**Sn**	**12 51 58.0**	**-2.0**
YHNB	**Yeheng**	**2.50**	**302**	*e*Pn	**Pn**	**12 51 30.7**	**-0.2**
SSLB	**Suanglung**	**2.55**	**281**	*e*Pn	**Pn**	**12 51 30.2**	**-1.4**
SSLB				*e*Sn	**Sn**	**12 52 02.5**	**+0.4**
TATO	**Taipei**	**2.59**	**309**	*e*Pn	**Pn**	**12 51 32.5**	**+0.4**
TPUB	**Ta-pu**	**2.81**	**270**	*e*Pn	**Pn**	**12 51 35.4**	**+0.1**
TPUB				*e*Sn	**Sn**	**12 52 06.0**	**-2.6**
JKE	**Kume jima 2**	**4.09**	**43**	P	**Pn**	**12 51 50.9**	**-1.9**
JAGN	**Aguni-jima**	**4.57**	**44**	P	**Pn**	**12 51 57.3**	**-2.0**
JOW	**Kunigami**	**5.42**	**49**	P	**Pn**	**12 52 08.7**	**-2.3**
JMZ	**Minamidaito 2**	**7.28**	**69**	P	Pn	12 52 33.1	-3.6
TGY	**Tagaytay City**	**9.55**	**196**	Pn	Pn	12 53 12.7	+4.8
TGY	**Tagaytay City**	**9.55**	**196**	Pn	Pn	12 53 12.7	+4.8
	baz=24,slow=20,SNR=3.6						
JNU	**Nakatsue**	**11.62**	**31**	Pn	**Pn**	**12 53 37.4**	**+1.3**
JNU	**Nakatsue**	**11.62**	**31**	Pn	**Pn**	**12 53 37.4**	**+1.3**
	0.2nm,0.3s,baz=105,slow=12,SNR=3.0						
KSAR	**Wonju Array Be**	**14.51**	**13**	Pn	**Pn**	**12 54 16.3**	**+0.7**
KSRS	**Korea Array**	**14.53**	**14**	Pn	**Pn**	**12 54 16.3**	**+0.5**
	0.1nm,0.3s,baz=192,slow=13,SNR=14						
MJAR	**Matsushiro Arr**	**18.18**	**40**	P	**P**	**12 55 03.1**	**+0.4**
MJAR	**Matsushiro Arr**	**18.18**	**40**	P	**P**	**12 55 03.1**	**+0.4**
	0.3nm,0.3s,baz=217,slow=9.4,SNR=7.0						
CMAR	**Chiang Mai Arr**	**23.61**	**263**	P	**P**	**12 56 02.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**23.61**	**263**	P	**P**	**12 56 02.9**	**+1.7**
	1.0nm,0.8s,baz=63,slow=8.2,SNR=10						
ERM	**Erimo**	**24.70**	**36**	*e*P	**P**	**12 56 08.9**	**-2.2**
ERM				pmax	pmax		
	comp=Z,26nm,1.7s						
ERM	**Erimo**	**24.70**	**36**	*e*P	**P**	**12 56 09.3**	**-1.8**
	comp=Z,12nm,0.7s						
ASAJ	**Asahikawa**	**25.90**	**32**	*e*P	**P**	**12 56 21.7**	**-0.2**
	comp=Z,3.4nm,0.7s						
ASAJ	**Asahikawa**	**25.90**	**32**	P	**P**	**12 56 22.6**	**+0.7**
	comp=Z,8.0nm,0.6s,baz=226,slow=11,SNR=20						
SONM	**Songino Array**	**28.07**	**335**	P	**P**	**12 56 41.6**	**0.0**
SONM	**Songino Array**	**28.07**	**335**	P	**P**	**12 56 41.6**	**0.0**
	comp=Z,0.8nm,0.7s,baz=155,slow=8.6,SNR=5.5						
PETK	**Petropavlovsk-**	**39.32**	**32**	P	**P**	**12 58 19.6**	**+0.7**
PETK	**Petropavlovsk-**	**39.32**	**32**	P	**P**	**12 58 19.6**	**+0.7**
PETK	**Petropavlovsk-**	**39.32**	**32**	P	**P**	**12 58 19.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=165,slow=5.8,SNR=8.0						
PET	**Petropavlovsk**	**39.74**	**33**	*e*P	P	12 58 18.3	-4.1
MK31	**Makanchi Array**	**40.54**	**316**	*e*P	**P**	**12 58 29.1**	**-0.1**
MK31	**Makanchi Array**	**40.54**	**316**	*e*P	**P**	**12 58 29.1**	**-0.1**
MKAR	**Makanchi Array**	**40.54**	**316**	P	**P**	**12 58 29.6**	**+0.4**
MKAR	**Makanchi Array**	**40.54**	**316**	P	**P**	**12 58 29.6**	**+0.4**
MKAR	**Makanchi Array**	**40.54**	**316**	P	**P**	**12 58 29.6**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=97,slow=11,SNR=17						
FITZ	**Fitzroy Crossi**	**41.23**	**177**	P	**P**	**12 58 34.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**41.23**	**177**	P	**P**	**12 58 34.1**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=25,slow=6.4,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.21**	**326**	*i* P	**P**	**12 58 41.7**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.21**	**326**	P	**P**	**12 58 42.0**	**-0.7**
ZALV	**Zalesovo Beam**	**42.21**	**326**	P	**P**	**12 58 42.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=105,slow=8.5,SNR=7.5						
NVS	**Novosibirsk**	**43.46**	**327**	*e*P	P	12 59 06.6	+14
TKM2	**Tokmak 2**	**44.09**	**308**	P	**P**	**12 58 59.7**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TKM2	**Tokmak 2**	**44.09**	**308**	*e*P	**P**	**12 58 60.0**	**+1.6**
	comp=Z,6.3nm,0.8s						
KURK	**Kurchatov**	**44.21**	**320**	P	**P**	**12 58 59.5**	**+0.5**
KURK	**Kurchatov**	**44.21**	**320**	P	**P**	**12 58 59.5**	**+0.5**
KURBB	**Kurchatov Arra**	**44.23**	**320**	P	**P**	**12 58 59.5**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=114,slow=8.2,SNR=7.1						
WRA	**Warramunga Arr**	**44.26**	**166**	P	**P**	**12 59 00.1**	**+0.4**
WRA	**Warramunga Arr**	**44.26**	**166**	P	**P**	**12 59 00.1**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=348,slow=8.9,SNR=15						
AAK	**Ala-Archa**	**44.84**	**308**	*e*P	**P**	**12 59 04.8**	**+0.4**
AAK				pmax	pmax		
	comp=Z,18nm,2.5s						
AAK	**Ala-Archa**	**44.84**	**308**	P	**P**	**12 59 05.2**	**+0.9**
AAK	**Ala-Archa**	**44.84**	**308**	P	**P**	**12 59 05.2**	**+0.9**
	comp=Z,2.1nm,0.4s,baz=180,slow=3.0,SNR=3.2						
ASAR	**Alice Springs**	**47.77**	**167**	P	**P**	**12 59 28.7**	**+1.4**
ASAR	**Alice Springs**	**47.77**	**167**	P	**P**	**12 59 28.7**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=348,slow=14,SNR=14						
KK31	**Karatay Array**	**47.80**	**308**	*i* P	**P**	**12 59 27.8**	**+0.3**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**47.80**	**308**	P	**P**	**12 59 28.0**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**47.80**	**308**	P	**P**	**12 59 28.0**	**+0.5**
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**49.78**	**321**	P	**P**	**12 59 42.8**	**+0.3**
BVAR	**Borovoye Array**	**49.78**	**321**	P	**P**	**12 59 42.8**	**+0.3**
BVAR	**Borovoye Array**	**49.78**	**321**	P	**P**	**12 59 42.8**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=103,slow=8.8,SNR=11						
AB31	**Akbulak array**	**55.67**	**315**	*i* P	**P**	**13 00 27.0**	**+0.9**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**55.67**	**315**	*e*P	**P**	**13 00 26.9**	**+0.8**
	comp=Z,5.1nm,0.6s						
ARU	**Arti**	**57.16**	**323**	*c* iP	**P**	**13 00 35.5**	**-1.1**
ARU						13 02 38.4	
ARU				S	**S**	**13 08 30.4**	**-0.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KBZ	**Khabaz**	**67.79**	**309**	P	**P**	**13 01 48.6**	**+0.7**
KBZ	**Khabaz**	**67.79**	**309**	P	**P**	**13 01 48.5**	**+0.7**
KBZ	**Khabaz**	**67.79**	**309**	P	**P**	**13 01 48.5**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=221,slow=6.2,SNR=3.7						
ILAR	**Eielson Array**	**68.91**	**27**	P	**P**	**13 01 55.1**	**+0.6**
ILAR	**Eielson Array**	**68.91**	**27**	P	**P**	**13 01 55.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=227,slow=6.5,SNR=7.3						
FINES	**FINESS Array B**	**73.32**	**330**	P	**P**	**13 02 21.2**	**0.0**
FINES	**FINESS Array B**	**73.32**	**330**	P	**P**	**13 02 21.2**	**0.0**
	comp=Z,5.0nm,1.0s,baz=46,slow=5.5,SNR=3.6						
AKASG	**Malin Array Be**	**75.02**	**319**	*c*eP	**P**	**13 02 32.7**	**+1.3**
AKASG	**Malin Array Be**	**75.02**	**319**	P	**P**	**13 02 30.7**	**-0.7**
AKASG	**Malin Array Be**	**75.02**	**319**	P	**P**	**13 02 30.7**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=59,slow=6.2,SNR=4.3						
ASF	**Jabal al Asfar**	**75.38**	**299**	P	**P**	**13 02 34.4**	**+0.4**
ASF	**Jabal al Asfar**	**75.38**	**299**	P	**P**	**13 02 34.4**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=78,slow=5.4,SNR=2.8						
BRTR	**Keskin Array B**	**75.52**	**307**	P	**P**	**13 02 35.7**	**+1.0**
BRTR	**Keskin Array B**	**75.52**	**307**	P	**P**	**13 02 35.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=101,slow=6.4,SNR=5.3						
NOA	**NORSAR Array B**	**80.03**	**333**	P	**P**	**13 02 58.6**	**-0.7**
NOA	**NORSAR Array B**	**80.03**	**333**	P	**P**	**13 02 58.6**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=55,slow=5.2,SNR=2.4						
YKA	**Yellowknife Ar**	**82.84**	**23**	P	**P**	**13 03 14.2**	**+0.1**
YKA	**Yellowknife Ar**	**82.84**	**23**	P	**P**	**13 03 14.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=307,slow=5.1,SNR=3.7						
GERES	**GERESS Array B**	**84.94**	**321**	P	**P**	**13 03 25.4**	**+0.2**
GERES	**GERESS Array B**	**84.94**	**321**	P	**P**	**13 03 25.4**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=67,slow=4.5,SNR=4.5						
ESK	**Eskdalemuir**	**89.55**	**333**	*i* P	**P**	**13 03 44.9**	**-2.4**

*IDC **17** 12:56:33.1±1.0, 23°.37N×123°.31E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/27, mbtmp3.6/10, ML3.3/2, Error ellipse: s-maj=36.0km s-min=19.5km az=70.0*
*JMA **17** 12:56:35.8±0.3, 23°.38N×123°.58E, h34km±4km, M3.3*
*ISCJB **17** 12:56:36.6±1.4, 23°.42N±0°.08×123°.54E±0°.07, h37km±13km, mb3.5/8, Error ellipse: s-maj=13.0km s-min=10.1km az=18.3*
ISC 17 12:56:37.0±2.2, 23°.46N±0°.09×123°.54E±0°.07, h24km±15km, n18, σ1§27/25, mb3.5/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.64**	**22**	P	**Pb**	**12 56 49.2**	**-0.3**
HATJ				S	**Sn**	**12 56 59.1**	**-0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.88**	**29**	P	**Pn**	**12 56 53.3**	**-0.6**
JKRS				S	**Sn**	**12 57 05.4**	**-0.6**
IRIF	**Iriomote-Funau**	**0.89**	**11**	P	**Pn**	**12 56 53.3**	**-0.7**
IRIF				*e*S	**Sn**	**12 57 06.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.05**	**31**	P	**Pn**	**12 56 55.2**	**-1.1**
JIJ				S	**Sn**	**12 57 08.6**	**-1.6**
YOJ	**Yonaguni jima**	**1.11**	**334**	P	**Pn**	**12 56 56.9**	**-0.1**
YOJ				S	**Sb**	**12 57 10.9**	**-0.6**
JTJ	**Tarama**	**1.58**	**42**	P	**Pn**	**12 57 03.3**	**-0.3**
JTJ				S	**Sn**	**12 57 21.7**	**-1.6**
JMJ	**Miyako jima 2**	**2.09**	**50**	P	**Pn**	**12 57 10.0**	**-0.6**
JOGS	**Gusukube**	**2.14**	**52**	P	**Pn**	**12 57 10.6**	**-0.6**
JOGS				*e*S	**Sn**	**12 57 37.2**	**+0.1**
KSRS	**Korea Array**	**14.45**	**14**	Pn	**Pn**	**13 00 02.5**	**+2.5**
	0.1nm,0.3s,baz=124,slow=28,SNR=2.4						
MJAR	**Matsushiro Arr**	**18.17**	**41**	P	**P**	**13 00 51.2**	**+3.3**
	0.2nm,0.3s,baz=227,slow=11,SNR=2.9						
SONM	**Songino Array**	**27.90**	**335**	P	**P**	**13 02 24.7**	**-0.5**
	0.2nm,0.5s,baz=141,slow=9.3,SNR=2.0						
MKAR	**Makanchi Array**	**40.36**	**316**	P	**P**	**13 04 12.9**	**+0.1**
	0.4nm,0.7s,baz=122,slow=11,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.03**	**326**	P	**P**	**13 04 24.6**	**-1.8**
	0.2nm,0.3s,baz=115,slow=6.5,SNR=2.1						
KURBB	**Kurchatov Arra**	**44.05**	**320**	P	**P**	**13 04 41.6**	**-1.2**
	1.5nm,0.2s,baz=105,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**44.41**	**165**	P	**P**	**13 04 44.8**	**-1.2**
	0.8nm,0.9s,baz=348,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**47.92**	**167**	P	**P**	**13 05 13.7**	**+0.1**
	0.3nm,0.6s,baz=346,slow=13,SNR=4.8						
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**13 07 39.3**	**0.0**
	0.3nm,0.7s,baz=288,slow=7.5,SNR=5.1						
GERES	**GERESS Array B**	**84.76**	**321**	P	**P**	**13 09 09.8**	**+0.4**
	0.7nm,0.6s,baz=59,slow=3.6,SNR=6.6						

IDC 17 13:04:48.7±3.4, 1°.34S×99°.80E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, ML4.0/1, Error ellipse: s-maj=147.5km s-min=24.5km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.69**	**358**	P	Pn	13 09 20.5	-0.6
	0.2nm,0.3s,baz=183,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**38.50**	**121**	P	P	13 12 13.0	-0.1
	0.3nm,0.6s,baz=301,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**39.80**	**127**	P	P	13 12 23.9	0.0
	0.2nm,0.6s,baz=301,slow=7.3,SNR=7.3						
MKAR	**Makanchi Array**	**50.34**	**344**	P	P	13 13 47.1	-0.3
	0.3nm,0.5s,baz=155,slow=8.4,SNR=5.2						
TXAR	**Lajitas Array**	**144.30**	**37**	PKP	PKPbc	13 24 26.5	+0.6
	0.3nm,0.5s,baz=333,slow=0.6,SNR=3.9						

CASC 17 13:05:19.8±3.2, 9°.34N×84°.19W, h16km±8km, MD3.7, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.09**	**13**	⇓*i*P	Pg	13 05 23.1	0.0
QCR				*e*S	Sg	13 05 26.5	+1.2
BUS	**Buena Vista**	**0.47**	**63**	⇓*i*P	Pg	13 05 29.2	-0.7
BUS				*e*S	Sb	13 05 37.9	+0.4
SJS	**Esc

North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.60**	**200**	PN	Pn	13 40 32.0	0.0
MARZ	**Manawahe**	**0.71**	**189**	PN	Pn	13 40 32.6	+0.1
TARZ	**Mount Tarawera**	**0.98**	**194**	PN	Pn	13 40 34.4	+0.4
RRRZ	**Republican Roa**	**1.08**	**193**	PN	Pn	13 40 34.3	-0.2
RRRZ				SN	S	13 41 00.5	-0.3
MWZ	**Matawai**	**1.19**	**152**	PN	Pn	13 40 35.1	-0.2
MWZ				SN	S	13 41 01.4	-0.7
MWZ				AML	AML	13 41 04.5	
MWZ				AML	AML	13 41 04.7	
MXZ	**Matakaoa Point**	**1.22**	**104**	AML	AML	13 41 04.5	
MXZ				AML	AML	13 41 04.5	
PRRZ	**Plateau Road**	**1.26**	**195**	⇑PN	Pn	13 40 35.7	0.0
ALRZ	**Allen Road**	**1.33**	**196**	PN	Pn	13 40 36.0	-0.2
CNGZ	**Carnagh Statio**	**1.63**	**138**	⇑PN	Pn	13 40 39.5	+1.0
RAHZ	**Arahi**	**1.65**	**173**	⇑PN	Pn	13 40 38.9	+0.2
RAHZ				SN	S	13 41 08.6	+0.4
NMHZ	**Naumai**	**1.81**	**180**	PN	Pn	13 40 40.4	+0.1
PRGZ	**Paritu Road**	**1.84**	**153**	PN	Pn	13 40 40.5	0.0
RITZ	**Rihia Road**	**1.85**	**204**	PN	Pn	13 40 40.5	-0.1
KNZ	**Kokohu**	**1.86**	**159**	⇑PN	Pn	13 40 40.4	-0.1
KRVZ	**Karewarewa**	**2.03**	**207**	PN	Pn	13 40 41.9	-0.5
MHGZ	**Mahia Peninsul**	**2.06**	**156**	PN	Pn	13 40 42.4	0.0
OTVZ	**Oturere**	**2.08**	**205**	PN	Pn	13 40 42.3	-0.6
TWVZ	**Taurewa**	**2.09**	**211**	PN	Pn	13 40 42.1	-0.8
NGZ	**Ngauruhoe**	**2.12**	**206**	PN	Pn	13 40 42.7	-0.6
MCHZ	**McNeill Hill**	**2.16**	**182**	PN	Pn	13 40 43.2	-0.3
WPVZ	**Whakapapa**	**2.16**	**207**	PN	Pn	13 40 42.7	-0.9
TUVZ	**Tukino**	**2.18**	**204**	PN	Pn	13 40 42.9	-1.0
TUVZ				SN	S	13 41 16.0	-1.3
FWVZ	**Far West T-bar**	**2.21**	**206**	PN	Pn	13 40 43.2	-1.0
WNVZ	**Wahianoa**	**2.25**	**205**	PN	Pn	13 40 43.5	-1.1
BHHZ	**Black Hill Sta**	**2.28**	**195**	PN	Pn	13 40 43.5	-1.2
MOVZ	**Moawhango**	**2.28**	**201**	PN	Pn	13 40 43.3	-1.4
PKVZ	**Pokaka**	**2.31**	**210**	PN	Pn	13 40 43.9	-1.2
MTVZ	**Mangateitei**	**2.35**	**206**	PN	Pn	13 40 44.3	-1.1
CKHZ	**Cape Kidnapper**	**2.38**	**175**	PN	Pn	13 40 44.9	-0.8
CKHZ				SN	S	13 41 19.0	-1.7
KAHZ	**Kahuranaki**	**2.51**	**179**	PN	Pn	13 40 46.2	-0.8
PNHZ	**Pukenui**	**2.67**	**190**	PN	Pn	13 40 47.1	-1.7
PXZ	**Pawanui**	**2.75**	**179**	PN	Pn	13 40 48.0	-1.5
PXZ				AML	AML	13 41 26.2	
PXZ				AML	AML	13 41 26.2	
PXZ				AML	AML	13 41 29.5	
PXZ				AML	AML	13 41 29.5	
WPHZ	**Waipukurau**	**2.79**	**186**	PN	Pn	13 40 48.5	-1.6
TSZ	**Takapari Road**	**2.85**	**193**	PN	Pn	13 40 48.8	-2.0
TSZ				AML	AML	13 41 28.4	
TSZ				AML	AML	13 41 29.2	
DVHZ	**Dannevirke**	**3.06**	**189**	PN	Pn	13 40 50.8	-2.2
POWZ	**Post Office Ro**	**3.21**	**194**	PN	Pn	13 40 52.5	-2.3
BFZ	**Birch Farm**	**3.42**	**187**	PN	Pn	13 40 54.7	-2.5
MRZ	**Mangatainoka R**	**3.51**	**196**	PN	Pn	13 40 55.2	-3.0
MRZ				AML	AML	13 41 40.5	
MRZ				AML	AML	13 41 42.6	
TIWZ	**Tintock**	**3.56**	**191**	PN	Pn	13 40 56.5	-2.3
HOWZ	**Holdsworth Sta**	**3.75**	**195**	PN	Pn	13 40 57.8	-3.2
OGWZ	**Otaki Gorge**	**3.75**	**199**	PN	Pn	13 40 58.0	-3.0
KIW	**Kapiti Island**	**3.87**	**202**	PN	Pn	13 40 59.1	-3.3
KIW				AML	AML	13 41 47.3	
TMWZ	**Te Maipa**	**3.89**	**190**	PN	Pn	13 41 00.1	-2.6
MTW	**Mount Morrison**	**4.00**	**194**	PN	Pn	13 41 00.4	-3.7
MTW				AML	AML	13 41 49.1	
MTW				AML	AML	13 41 49.6	
CAW	**Cannon Point**	**4.05**	**199**	PN	Pn	13 41 01.2	-3.5
CAW				AML	AML	13 41 53.2	
CAW				AML	AML	13 41 53.4	
DUWZ	**D'Urville Isla**	**4.17**	**212**	PN	Pn	13 41 02.3	-3.8
TRWZ	**Traveller**	**4.20**	**192**	PN	Pn	13 41 03.4	-3.0
PAWZ	**Paruwai Farm**	**4.23**	**194**	PN	Pn	13 41 03.3	-3.5
PAWZ				AML	AML	13 41 54.6	
MSWZ	**Moikau Station**	**4.30**	**196**	PN	Pn	13 41 03.7	-3.9
MSWZ				AML	AML	13 41 54.4	
MSWZ				AML	AML	13 41 55.0	
WEL	**Wellington**	**4.30**	**201**	PN	Pn	13 41 03.9	-3.7
SNZO	**South Karori**	**4.34**	**201**	PN	Pn	13 41 04.3	-3.8
BHW	**Baring Head**	**4.39**	**199**	PN	Pn	13 41 04.9	-3.7
BHW				AML	AML	13 41 57.9	
TCW	**Tory Channel**	**4.39**	**206**	PN	Pn	13 41 05.0	-3.8
TCW				AML	AML	13 41 58.7	
TCW				AML	AML	13 41 59.9	
PLWZ	**Palliser**	**4.45**	**195**	PN	Pn	13 41 05.6	-3.9
TUWZ	**Tuamarina**	**4.70**	**207**	PN	Pn	13 41 08.3	-4.2
TUWZ				AML	AML	13 42 03.7	
NNZ	**Nelson**	**4.75**	**213**	PN	Pn	13 41 08.7	-4.4
QRZ	**Quartz Range**	**4.86**	**222**	PN	Pn	13 41 09.7	-4.9
BSWZ	**Blackbirch Sta**	**4.97**	**206**	PN	Pn	13 41 12.0	-3.9
THZ	**Tophouse**	**5.40**	**213**	PN	Pn	13 41 16.5	-4.8
KHZ	**Kahutara**	**5.71**	**205**	PN	Pn	13 41 21.0	-4.2
DSZ	**Denniston Nort**	**5.91**	**219**	PN	Pn	13 41 21.8	-5.9
CRLZ	**Canterbury Las**	**7.05**	**206**	PN	Pn	13 41 36.0	-6.1
MQZ	**McQueen's Vall**	**7.16**	**205**	PN	Pn	13 41 37.9	-5.6
WVZ	**Waitaha Valley**	**7.42**	**217**	PN	Pn	13 41 41.8	-5.1
FOZ	**Fox Glacier**	**8.30**	**219**	PN	Pn	13 41 51.9	-6.1
ODZ	**Otahua Downs**	**9.04**	**209**	PN	Pn	13 42 03.4	-4.2

IDC ***17*** *13:55:35.9±0.3, 1°.43S×99°.49E, h0km, mb4.8/31, mb1 4.9/33, mb1mx4.9/33, mbtmp4.8/33, ML4.2/2, MS3.9/13, Ms1 3.9/13, ms1mx3.6/48, Error ellipse: s-maj=13.3km s-min=9.1km az=69.0*

BJI ***17*** *13:55:36.0, 2°.01S×99°.49E, h44km, mB4.9/36, mb4.8/47, Ms4.7/38, Ms7 4.5/37*

NEIC ***17*** *13:55:37.5±0.2, 1°.44S×99°.45E, h10km, mb5.0/28, Error ellipse: s-maj=6.0km s-min=4.6km az=66.0*

NEIC Felt at Padang, Sumatra.

ISCJB ***17*** *13:55:39.1±0.9, 1°.43S±0°.03×99°.44E±0°.03, h33km±6km, mb5.1/125, MS4.2/22, Error ellipse: s-maj=5.1km s-min=3.7km az=40.2*

MOS ***17*** *13:55:39.7±1.1, 1°.28S×99°.58E, h33km, mb5.3/46, Error ellipse: s-maj=10.4km s-min=4.7km az=115.4*

DJA ***17*** *13:55:40.2±0.8, 1°.5±3°×9°9E±°, h21km±7km, M4.9/36, mB5.3/23, mb5.2/36, MLv5.4/19, Mw(mB)4.7/23, Mwp7.4/1*

TEH ***17*** *13:55:43.0, 1°.37S×99°.50E, h45km, ML4.9*

ISC 17 13:55:42.1±0.4, 1°.46S±0°.04×99°.42E±0°.05, h44km±2km, n473, σ1°.31/519, mb5.1/125, MS4.2/23, 42C-16D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**63**	P	Pn	13 55 58.8	-3.3
PDSI				S	**Sn**	**13 56 16.5**	**-0.4**
PPI	**Padang Panjang**	**1.39**	**45**	P	**Pn**	**13 56 02.4**	**-2.7**
BKNI	**Bangkinang**	**2.40**	**42**	P	**Pn**	**13 56 17.8**	**-1.1**
RGRI	**Rengat**	**3.11**	**69**	P	**Pn**	**13 56 27.2**	**-1.5**
MASI	**Maura Aman, Be**	**3.28**	**121**	P	**Pn**	**13 56 30.0**	**-1.0**
KSI	**Kapahiang**	**3.85**	**125**	P	**Pn**	**13 56 37.9**	**-1.0**
PSI	**Prapat**	**4.26**	**353**	Pn	**Pn**	**13 56 42.2**	**-2.3**
PSI	**Prapat**	**4.26**	**353**	Pn	**Pn**	**13 56 42.2**	**-2.3**
	3.3nm,0.3s,baz=175,slow=9.2,SNR=33						
PSI				LR	LR	13 57 45.0	
	comp=Z,228nm,20.0s,baz=6.0,slow=31						
MNAI	**Manna**	**4.56**	**129**	P	**Pn**	**13 56 48.6**	**0.0**
EGSI	**Enggano, Bengk**	**4.81**	**144**	P	**Pn**	**13 56 49.1**	**-2.9**
TSI	**Tuntungan**	**5.00**	**350**	P	**Pn**	**13 56 54.6**	**0.0**
FRIM	**Kepong**	**5.16**	**25**	P	Pn	13 57 00.7	+3.9
KGM	**Kluang**	**5.20**	**49**	P	Pn	13 57 01.5	+4.0
KCSI	**Kotacane, Aceh**	**5.21**	**342**	P	**Pn**	**13 56 55.5**	**-2.1**
	316nm,0.9s,4μm1.9nm						
MYKOM	**Kota Tinggi**	**5.48**	**54**	P	Pn	13 57 04.7	+3.5
MYKOM	**Kota Tinggi**	**5.48**	**54**	P	**Pn**	**13 57 00.3**	**-0.9**
	348nm,0.8s,4μm3.7nm						
PMBI	**Palembang**	**5.54**	**105**	P	Pn	13 57 13.2	+11
LWLI	**Liwa**	**5.83**	**127**	P	**Pn**	**13 57 04.9**	**-1.2**
	677nm,0.8s,8μm3.4nm						
IPM	**Ipoh**	**6.11**	**15**	*e*P	**Pn**	**13 57 10.2**	**+0.2**
	134nm,0.6s						
IPM	**Ipoh**	**6.11**	**15**	P	**Pn**	**13 57 10.2**	**+0.2**
IPM	**Ipoh**	**6.11**	**15**	P	**Pn**	**13 57 09.9**	**0.0**
	179nm,0.9s,2μm1.1nm						
KLSI		**6.20**	**121**	P	**Pn**	**13 57 10.3**	**-0.8**
	174nm,0.9s,2μm0.6nm						
KLI	**Kotabumi**	**6.40**	**122**	P	Pn	13 57 18.2	+4.4
	292nm,0.9s,3μm1.8nm						
KASI	**Kota Agung**	**6.48**	**129**	P	**Pn**	**13 57 13.3**	**-1.7**
	185nm,0.9s,2μm0.9nm						
PPBI	**Pangkal Pinang**	**6.75**	**96**	P	**Pn**	**13 57 21.5**	**+2.8**
	39nm,1.0s,0.6nm						
KULM	**Kulim**	**6.81**	**10**	*e*P	**Pn**	**13 57 18.4**	**-1.2**
	100nm,0.6s						
KULM	**Kulim**	**6.81**	**10**	P	**Pn**	**13 57 18.7**	**-0.8**
KULM	**Kulim**	**6.81**	**10**	P	**Pn**	**13 57 18.9**	**-0.7**
	149nm,0.9s,1μm1.2nm						
BLSI	**Bandar Lampung**	**6.99**	**124**	P	**Pn**	**13 57 23.4**	**+1.4**
	202nm,0.9s,0.6nm						
LHMI	**Lhok Sumawe**	**7.08**	**340**	P	**Pn**	**13 57 25.4**	**+2.1**
	124nm,1.0s,1.5nm						
KTGM	**Kuala Trenggan**	**7.69**	**29**	P	**Pn**	**13 57 33.7**	**+2.1**
BSI	**Banda Aceh**	**8.04**	**329**	P	**Pn**	**13 57 33.5**	**-2.9**
	123nm,0.9s						
SBJI	**Serang**	**8.14**	**125**	P	**Pn**	**13 57 39.4**	**+1.6**
	124nm,0.8s,3μm						
TPI	**Tanjungpandan**	**8.33**	**99**	P	**Pn**	**13 57 41.4**	**+1.1**
	31nm,0.9s,340nm						
DBJI	**Dramaga**	**8.89**	**125**	P	**Pn**	**13 57 47.9**	**-0.2**
	150nm,1.2s,2μm						
LEM	**Lembang**	**9.76**	**123**	P	**Pn**	**13 58 00.6**	**+0.5**
	145nm,1.1s						
CISI	**Cisompet, Garu**	**10.33**	**126**	P	**Pn**	**13 58 06.0**	**-1.8**
	154nm,0.6s,2μm						
KSM	**Kuching**	**11.27**	**75**	P	Pn	13 58 24.6	+3.9
	17nm,0.8s						
KSM	**Kuching**	**11.27**	**75**	P	**Pn**	**13 58 21.3**	**+0.7**
KSM	**Kuching**	**11.27**	**75**	P	Pn	13 58 30.7	+10
PBKI	**Pangkalan Bun**	**12.30**	**96**	P	Pn	13 58 38.6	+3.8
	114nm,1.3s						
SBUM	**Sibu**	**13.37**	**73**	P	**Pn**	**13 58 49.0**	**-0.4**
SBUM	**Sibu**	**13.37**	**73**	P	**Pn**	**13 58 51.3**	**+1.9**
	37nm,1.1s,589nm						
SJI	**Sawahan**	**13.79**	**117**	P	Pn	13 58 51.9	-3.3
	65nm,1.2s,3μm						
BTM	**Bintulu**	**14.42**	**71**	P	**Pn**	**13 59 04.2**	**+0.6**
BBKI	**Banjar Baru**	**15.53**	**98**	P	**Pn**	**13 59 19.8**	**+1.5**
	88nm,1.1s						
KKM	**Kota Kinabalu**	**18.35**	**66**	*e*P	**Pn**	**13 59 53.9**	**+0.3**
	49nm,0.8s						
SDKM	**Sandakan**	**19.10**	**68**	P	**Pn**	**14 00 02.5**	**-0.1**
TSM	**Tawau**	**19.30**	**73**	P	**Pn**	**14 00 04.7**	**-0.3**
MMSI	**Mamuju**	**19.52**	**94**	P	**P**	**14 00 06.7**	**+0.7**
	154nm,1.0s,2μm						
CM31	**Chiang Mai Arr**	**19.79**	**359**	*e*P	**P**	**14 00 08.5**	**-0.4**
	8.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.79**	**359**	P	**P**	**14 00 07.8**	**-1.1**
CMAR				S	**Sn**	**14 03 54.0**	**+1.6**
CMAR				PcP	**PcP**	**14 04 27.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**19.79**	**359**	P	**P**	**14 00 07.8**	**-1.1**
	0.8nm,0.3s,baz=186,slow=9.9,SNR=4.1						
CMAR				S	**Sn**	**14 03 54.0**	**+1.6**
	0.1nm,0.3s,baz=171,slow=14,SNR=2.2						
CMAR				PcP	**PcP**	**14 04 27.0**	**+1.0**
	0.1nm,0.3s,baz=206,slow=3.0,SNR=8.9						
CMAR				LR	LR	14 08 31.1	
	comp=Z,283nm,20.5s,baz=190,slow=39						
CHTO	**Chiang Mai**	**20.15**	**359**	*e*P	**P**	**14 00 11.8**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**20.15**	**359**	*e*P	**P**	**14 00 11.8**	**-1.0**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**20.15**	**359**	P	**P**	**14 00 11.9**	**-0.9**
	comp=Z,23nm,0.9s						
MYLDM	**Lahad Datu**	**20.17**	**71**	P	Pn	14 00 14.6	-0.6
MYLDM	**Lahad Datu**	**20.17**	**71**	P	**P**	**14 00 13.9**	**+0.9**
	comp=Z,82nm,1.0s,comp=Z,959nm						
TTSI	**Tana Toraja**	**20.44**	**95**	P	**P**	**14 00 16.6**	**+0.6**
	comp=Z,88nm,0.9s,comp=Z,625nm						
SPSI	**Sidrap Palu**	**20.48**	**97**	P	**P**	**14 00 15.4**	**-1.0**
	comp=Z,34nm,0.9s						
PALK	**Pallekele**	**20.59**	**295**	*e*P	Pn	14 00 19.5	-0.8
	comp=Z,144nm,1.3s						
PALK	**Pallekele**	**20.59**	**295**	P	Pn	14 00 19.7	-0.6
	comp=Z,82nm,1.2s						
KAPI	**Kappang**	**20.60**	**100**	*e*P	Pn	14 00 19.6	-0.7
KAPI	**Kappang**	**20.60**	**100**	P	**P**	**14 00 15.9**	**-1.9**
	comp=Z,67nm,0.8s,comp=Z,711nm						
KAPI	**Kappang**	**20.60**	**100**	P	**P**	**14 00 16.6**	**-1.2**
	comp=Z,18nm,0.6s,baz=284,slow=8.1,SNR=11						
KAPI				LR	LR	14 08 27.9	
	comp=Z,354nm,21.8s,baz=6.5,slow=38						
BKSI	**Bulukumba**	**21.02**	**101**	P	**P**	**14 00 20.6**	**-1.6**
	comp=Z,79nm,0.9s,comp=Z,842nm						
SKSI	**Soroako, Sulaw**	**21.93**	**93**	P	**P**	**14 00 32.3**	**+0.2**
	comp=Z,36nm,0.8s,comp=Z,26μm						
MRSI	**Marisa**	**22.60**	**85**	P	**P**	**14 00 37.5**	**-1.7**
	comp=Z,85nm,0.7s,comp=Z,808nm						
QIZ	**Qiongzhong**	**22.79**	**26**	P	**P**	**14 00 41.6**	**+0.4**
QIZ				sP	**sP**	**14 00 56.9**	**-0.5**
QIZ				S	**S**	**14 04 47.5**	**+0.2**
QIZ				sS	Sn	14 05 04.6	+0.3
QIZ				pmax	pmax		
	comp=Z,13nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,86nm,5.9s						
QIZ				LR	LR		
	comp=E,540nm,14.7s						
QIZ				LR	LR		
	comp=Z,540nm,12.4s						
QIZ	**Qiongzhong**	**22.79**	**26**	*e*P	**P**	**14 00 39.1**	**-2.0**
GTOI	**Gorontalo**	**23.68**	**85**	P	**P**	**14 00 47.6**	**-2.4**
	comp=Z,128nm,0.7s,comp=Z,1μm						
KMSI	**Cibinong**	**24.64**	**85**	P	**P**	**14 01 00.7**	**+1.9**
	comp=Z,196nm,1.0s						
VIS	**Vishakhapatnam**	**24.79**	**321**	*e*P	**P**	**14 00 58.8**	**-1.3**
VIS				AMB	AMB	14 01 01.8	
	comp=Z,81nm,0.5s						
TGY	**Tagaytay City**	**26.33**	**53**	P	**P**	**14 01 13.7**	**-0.5**
TGY	**Tagaytay City**	**26.33**	**53**	P	**P**	**14 01 13.7**	**-0.5**
	comp=Z,125nm,0.4s,baz=141,slow=14,SNR=2.3						
KMI	**Kunming**	**26.62**	**7**	P	**P**	**14 01 18.3**	**+1.4**
KMI				PP	**PnPn**	**14 02 03.3**	**+4.2**
KMI				S	**S**	**14 05 51.3**	**+2.2**
KMI				SS	SnSn	14 07 05.0	+10
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				LR	LR		
	comp=N,410nm,11.4s						
KMI				LR	LR		
	comp=E,460nm,9.3s						
KMI				LR	LR		
	comp=Z,440nm,9.3s						
SHL	**Shillong**	**27.84**	**345**	*e*P	**P**	**14 01 25.6**	**-2.2**
SHL				AMB	AMB	14 01 27.6	
	comp=Z,19nm,1.0s						
SHL				*ex*	x	14 01 28.0	
SHL				*ex*	x	14 04 56.5	
BOK	**Bokaro**	**28.34**	**333**	*e*P	**P**	**14 01 33.7**	**+1.6**
GYA	**Guiyang**	**28.62**	**14**	P	**P**	**14 01 37.3**	**+2.7**
GYA				pP	**pP**	**14 01 48.5**	**+2.1**
GYA				sP	**sP**	**14 01 53.3**	**+1.7**
GYA				PP	**PnPn**	**14 02 31.0**	**+4.7**
GYA				PcP	**PcP**	**14 04 45.6**	**+0.6**
GYA				S	**S**	**14 06 21.5**	**+1.1**
GYA				SS	**SnSn**	**14 07 49.5**	**+6.1**
GYA				ScP	**ScP**	**14 08 23.3**	**+0.3**
GYA				ScS	**ScS**	**14 12 15.6**	**-1.0**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,550nm,14.8s						
GYA				LR	LR		
	comp=E,480nm,15.4s						
GYA				LR	LR		
	comp=Z,520nm,14.9s						
ODAN	**Odare**	**30.45**	**338**	*e*P	**P**	**14 01 51.9**	**+0.9**
TAPN	**Taplejung**	**30.78**	**339**	*e*P	**P**	**14 01 55.1**	**+1.1**
	comp=Z,148nm,1.0s						
RAMN	**Ramite**	**30.83**	**337**	*e*P	**P**	**14 01 55.6**	**+1.2**
	comp=Z,96nm,1.2s						
JIRN	**Jiri**	**31.62**	**337**	*e*P	**P**	**14 02 02.4**	**+0.9**
	comp=Z,132nm,0.9s						
SWI	**Sorong**	**31.84**	**89**	P	**P**	**14 02 01.6**	**-1.6**
	comp=Z,65nm,1.0s,comp=Z,756nm						
PKI	**Pulchoki**	**31.85**	**336**	*e*P	**P**	**14 02 03.8**	**+0.3**
	comp=Z,66nm,1.2s						
PKIN	**Phulchoki**	**31.86**	**336**	*e*P	**P**	**14 02 03.7**	**+0.2**
	comp=Z,14nm,0.6s						
GUN	**Gumba**	**31.97**	**337**	*e*P	**P**	**14 02 05.4**	**+0.9**
	comp=Z,86nm,0.8s						
LSA	**Lhasa**	**31.97**	**346**	P	**P**	**14 02 05.1**	**+0.4**
LSA	**Lhasa**	**31.97**	**346**	*e*P	**P**	**14 02 05.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,21nm,0.6s						
LSA	**Lhasa**	**31.97**	**346**	*e*P	**P**	**14 02 05.1**	**+0.4**
	comp=Z,21nm,0.6s						
DMN	**Daman**	**32.01**	**336**	*e*P	**P**	**14 02 05.4**	**+0.6**
	comp=Z,62nm,0.9s						
POO	**Poona**	**32.05**	**309**	*e*P	**P**	**14 02 05.1**	**+0.1**
POO				AMB	AMB	14 02 06.6	
	comp=Z,28nm,0.0s						
KKN	**Kakani**	**32.10**	**336**	*e*P	**P**	**14 02 06.0**	**+0.5**
	comp=Z,76nm,1.0s						
TPUB	**Ta-pu**	**32.12**	**39**	*e*P	**P**	**14 02 04.6**	**-0.9**
CD2	**Chengdu**	**32.45**	**7**	*e*P	**P**	**14 02 10.3**	**+2.0**
CD2				sP	**sP**	**14 02 27.9**	**+2.5**
CD2				PP	**PP**	**14 03 20.1**	**-2.3**
CD2				S	**S**	**14 07 21.5**	**+1.3**
CD2				sS	**sS**	**14 07 41.8**	**+1.9**
CD2				SS	**SnSn**	**14 09 19.8**	**+3.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,100nm,4.8s						
CD2				LR	LR		
	comp=N,460nm,14.2s						
CD2				LR	LR		
	comp=E,760nm,19.0s						
CD2				LR	LR		
	comp=Z,290nm,13.2s						
BHPL	**Bhopal**	**32.58**	**320**	*e*P	**P**	**14 02 08.8**	**-0.8**
BHPL				AMB	AMB	14 02 27.1	
	comp=Z,18nm,3.9s						
YULB	**Yu-li**	**32.61**	**39**	*e*P	**P**	**14 02 09.9**	**+0.1**
SSLB	**Suanglung**	**32.68**	**39**	*e*P	**P**	**14 02 10.2**	**-0.2**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**32.80**	**334**	*e*P	**P**	**14 02 12.5**	**+0.9**
	comp=Z,95nm,0.8s						
ENH	**Enshi**	**32.98**	**16**	P	**P**	**14 02 10.3**	**-2.7**
	comp=Z,12nm,0.5s						
DANN	**Dangsing**	**33.23**	**334**	*e*P	**P**	**14 02 16.1**	**+0.6**
	comp=Z,120nm,0.9s						
NWAO	**Narrogin (SRO)**	**35.50**	**154**	P	**P**	**14 02 35.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.50**	**154**	P	**P**	**14 02 35.2**	**+0.4**
	comp=Z,21nm,1.1s,baz=297,slow=6.8,SNR=3.6						
XAN	**Xi'an**	**36.42**	**13**	P	**P**	**14 02 40.0**	**-2.7**
XAN				pP	**pP**	**14 02 52.3**	**-2.3**
XAN				sP	**sP**	**14 02 57.3**	**-2.5**
XAN				ScS	**ScS**	**14 12 52.8**	**-3.1**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,26nm,8.0s						
XAN				LR	LR		
	comp=N,370nm,19.3s						
XAN				LR	LR		
	comp=E,130nm,18.3s						
XAN				LR	LR		
	comp=Z,280nm,14.6s						
LZH	**Lanzhou**	**37.58**	**6**	*e*P	**P**	**14 02 53.5**	**+0.9**
LZH				pP	**pP**	**14 03 05.8**	**+1.3**
LZH				sP	**sP**	**14 03 11.3**	**+1.6**
LZH				PP	**PnPn**	**14 04 23.1**	**+2.9**
LZH				*e*S	**S**	**14 08 40.0**	**+0.8**
LZH				sS	**sS**	**14 09 00.8**	**+1.7**
LZH				*e*SS	**SnSn**	**14 11 16.8**	**-3.8**
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,6.0s						
LZH				LR	LR		
	comp=N,660nm,14.6s						
LZH				LR	LR		
	comp=E,520nm,13.2s						
LZH				LR	LR		
	comp=Z,830nm,15.4s						
NJ2	**Nanjing**	**38.08**	**27**	*e*P	**P**	**14 02 58.3**	**+1.7**
NJ2				pP	**pP**	**14 03 09.1**	**+0.5**
NJ2				sP	**sP**	**14 03 14.3**	**+0.5**
NJ2				S	**S**	**14 08 50.5**	**+4.0**
NJ2				sS	**sS**	**14 09 07.9**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,1μm,7.8s						
NJ2				LR	LR		
	comp=N,1μm,20.1s						
NJ2				LR	LR		
	comp=E,610nm,18.2s						
NJ2				LR	LR		
	comp=Z,800nm,22.1s						
SMLA	**Simla**	**38.70**	**329**	*e*P	**P**	**14 03 00.5**	**-1.4**
SMLA				AMB	AMB	14 03 02.6	
	comp=Z,38nm,0.9s						
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**14 03 01.3**	**-1.4**
WRA				PcP	**PcP**	**14 05 14.0**	**+0.3**
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**14 03 01.3**	**-1.4**
	comp=Z,12nm,0.7s,baz=302,slow=9.2,SNR=68						
WRA				PcP	**PcP**	**14 05 14.0**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=314,slow=2.6,SNR=7.2						
WRA				LR	LR	14 19 26.5	
	comp=Z,129nm,21.9s,baz=280,slow=37						
WRAB	**Tennant Creek**	**38.77**	**121**	P	**P**	**14 03 01.0**	**-1.8**
	comp=Z,151nm,0.5s,SNR=36						
**WRAB

KSH Kashi 46.10 335 P **P** **14 04 01.0 -1.1**
KSH sP **sP** **14 04 15.0 -4.5**
KSH PP **PP** **14 05 49.0 -1.9**
KSH S **S** **14 10 39.6 -5.4**
KSH pmax pmax
comp=Z,9.0nm,0.7s
KSH pmax pmax
comp=Z,87nm,5.5s
KSH LR LR
comp=N,77nm,6.4s
KSH LR LR
comp=E,110nm,6.6s
KSH LR LR
comp=Z,130nm,6.5s
WMQ Urumqi 46.28 348 P **P** **14 04 04.3 +0.8**
WMQ pP **pP** **14 04 16.5 +0.9**
WMQ PP **PP** **14 05 53.3 +0.5**
WMQ pmax pmax
comp=Z,55nm,1.2s
WMQ pmax pmax
comp=Z,170nm,3.3s
WMQ LR LR
comp=N,150nm,21.0s
WMQ LR LR
comp=E,76nm,20.0s
WMQ LR LR
comp=Z,61nm,19.5s
KSAR Wonju Array Be 46.83 31 P **P** **14 04 07.0 -0.7**
KSRS Korea Array 46.85 31 P **P** **14 04 07.0 -0.9**
comp=Z,7.6nm,0.7s,baz=224,slow=8.4,SNR=40
PMG Port Moresby 48.13 101 LR LR 14 25 27.4
comp=Z,110nm,20.2s,baz=242,slow=37
ULHL Ulahol 48.28 337 *i* P **P** **14 04 20.2 +0.9**
ULHL Ulahol 48.28 337 P **P** **14 04 20.2 +0.9**
SNR=7.9
KZA Kyzart 48.54 336 *i* P **P** **14 04 21.9 +0.5**
KZA Kyzart 48.54 336 P **P** **14 04 21.9 +0.5**
SNR=5.5
TKM2 Tokmak 2 49.11 337 *e*P **P** **14 04 25.9 +0.4**
TKM2 pmax pmax
comp=Z,34nm,0.9s
TKM2 Tokmak 2 49.11 337 P **P** **14 04 26.2 +0.7**
SNR=42
TKM2 Tokmak 2 49.11 337 *e*P **P** **14 04 25.9 +0.4**
comp=Z,34nm,0.9s
KBK Karagaybulak 49.14 336 P **P** **14 04 27.6 +1.8**
SNR=11
AML Almayashu 49.23 335 *i* P **P** **14 04 27.5 +0.8**
AML Almayashu 49.23 335 P **P** **14 04 27.5 +0.8**
SNR=8.3
AAK Ala-Archa 49.31 336*c i*P **P** **14 04 26.9 -0.1**
AAK pmax pmax
comp=Z,68nm,2.5s
AAK Ala-Archa 49.31 336 *e*P **P** **14 04 27.5 +0.5**
comp=Z,6.2nm,0.7s
AAK Ala-Archa 49.31 336 P **P** **14 04 27.8 +0.7**
comp=Z,4.3nm,0.6s,baz=129,slow=12,SNR=3.6
AAK LR LR 14 28 05.8
comp=Z,138nm,20.4s,baz=353,slow=40
CTAO Charters Tower 49.35 115 *e*P **P** **14 04 26.9 -0.7**
CTAO pmax pmax
comp=Z,30nm,1.4s
CTAO Charters Tower 49.35 115 *e*P **P** **14 04 26.9 -0.7**
comp=Z,30nm,1.4s
FRU Bishkek 49.42 336 *e*P **P** **14 04 28.0 +0.2**
FRU pmax pmax
comp=Z,42nm,1.8s
SONM Songino Array 49.47 6 P **P** **14 04 28.2 +0.1**
SONM PcP **PcP** **14 05 50.3 +0.6**
SONM Songino Array 49.47 6 P **P** **14 04 28.2 +0.1**
comp=Z,6.5nm,0.6s,baz=190,slow=9.6,SNR=53
SONM PcP **PcP** **14 05 50.3 +0.6**
comp=Z,4.2nm,0.7s,baz=190,slow=5.5,SNR=4.5
SONM LR LR 14 28 11.7
comp=Z,354nm,18.2s,baz=194,slow=40
CHMS Chumysh 49.51 336 *i* P **P** **14 04 28.9 +0.5**
CHMS Chumysh 49.51 336 P **P** **14 04 28.9 +0.5**
SNR=5.5
ULN Ulaanbaatar 49.57 7 *e*P **P** **14 04 28.4 -0.5**
comp=Z,7.1nm,0.7s
ULN *e*PcP **PcP** **14 05 50.2 +0.1**
EKS2 Erkin-Say 49.63 335 *e*P **P** **14 04 30.4 +1.0**
EKS2 *e* 14 04 37.3
EKS2 pmax pmax
comp=Z,31nm,0.9s
EKS2 Erkin-Say 49.63 335 P **P** **14 04 30.6 +1.2**
SNR=19
EKS2 Erkin-Say 49.63 335 *e*P **P** **14 04 30.4 +1.0**
comp=Z,31nm,0.9s
EKS2 *e* 14 04 37.2
USP Ospenovka 49.83 336 *i* P **P** **14 04 31.4 +0.5**
USP Ospenovka 49.83 336 P **P** **14 04 31.4 +0.5**
SNR=28
STKA Stephens Creek 49.94 132 *e*P **P** **14 04 31.5 -0.4**
STKA Stephens Creek 49.94 132 P **P** **14 04 31.1 -0.7**
comp=Z,11nm,0.8s,baz=308,slow=8.3,SNR=17
STKA LR LR 14 26 03.9
comp=Z,231nm,19.4s,baz=112,slow=37
MK31 Makanchi Array 50.35 345 *i* P **P** **14 04 34.8 0.0**
MK31 pmax pmax
comp=Z,12nm,0.5s
MK31 Makanchi Array 50.35 345 *e*P **P** **14 04 34.7 0.0**
MKAR Makanchi Array 50.35 345 P **P** **14 04 35.2 +0.5**
MKAR S **S** **14 11 49.3 +4.6**
MKAR Makanchi Array 50.35 345 P **P** **14 04 35.2 +0.5**
MKAR S **S** **14 11 49.3 +4.6**
MKAR Makanchi Array 50.35 345 P **P** **14 04 35.2 +0.5**
comp=Z,26nm,0.7s,baz=150,slow=8.1,SNR=228
MKAR S **S** **14 11 49.3 +4.6**
comp=Z,0.7nm,0.9s,baz=174,slow=17,SNR=4.3
CN2 Changchun 50.73 24 *e*P **P** **14 04 36.0 -1.6**
CN2 *e*PP **PP** **14 06 33.3 -0.7**
CN2 *e*S **S** **14 11 47.1 -2.8**
CN2 *e*SS **SS** **14 15 22.3 -2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,120nm,5.0s
CN2 LR LR
comp=N,390nm,15.0s
CN2 LR LR
comp=E,470nm,15.0s
CN2 LR LR
comp=Z,480nm,16.0s
KK31 Karatay Array 51.41 333 *i* P **P** **14 04 42.0 -0.7**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 51.41 333 *e*P **P** **14 04 42.4 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 51.41 333 *e*P **P** **14 04 42.4 -0.3**
comp=Z,3.4nm,0.6s
MJAR Matsushiro Arr 52.23 40 P **P** **14 04 46.9 -2.1**
MJAR Matsushiro Arr 52.23 40 P **P** **14 04 46.9 -2.1**
comp=Z,1.6nm,0.6s,baz=222,slow=6.9,SNR=8.4
IMYA Miami 52.44 320 *e*P **P** **14 04 49.8 -1.0**
HVS Khovu-Aksy 52.62 355*c i*P **P** **14 04 50.9 -0.8**
HVS pmax pmax
comp=Z,21nm,1.3s
IBAF Bafgh 52.98 312 *e*P **P** **14 04 54.6 -0.2**
VLA Vladivostok 53.10 29 *e*P P 14 04 51.6 -3.7
VLA *e*S **S** **14 12 18.7 -3.9**
VLA pmax pmax
comp=Z,17nm,0.7s
MDJ Mudanjiang 53.16 27 P **P** **14 04 56.6 +0.9**
MDJ pP **pP** **14 05 08.1 0.0**
MDJ sP **sP** **14 05 13.1 0.0**
MDJ PcP **PcP** **14 06 00.3 -3.1**
MDJ PP **PP** **14 06 55.0 -1.1**
MDJ S **S** **14 12 21.0 -2.3**
MDJ sS **sS** **14 12 45.1 +1.2**
MDJ ScS **ScS** **14 14 38.9 -2.8**
MDJ SS **SS** **14 16 04.3 +0.8**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,48nm,5.6s
MDJ LR LR
comp=N,530nm,16.6s
MDJ LR LR
comp=E,400nm,17.1s
MDJ LR LR
comp=Z,450nm,15.5s
IPAY Payeh 53.23 319 *e*P **P** **14 04 56.6 0.0**
IAKL Akhelmad 53.47 319 *e*P P 14 04 48.6 -10

IMEH Mehriz 53.60 312 *e*P **P** **14 04 58.2 -1.2**
IKRD Kardeh 53.73 319 *e*P P 14 04 55.2 -5.1
USRK Ussuriysk Arra 53.96 29 P **P** **14 05 00.9 -0.6**
comp=Z,14nm,0.7s,baz=226,slow=6.1,SNR=33
ICHK Chekchek 54.16 312 *e*P **P** **14 05 02.2 -1.4**
KURBB Kurchatov Arra 54.87 344 S S 14 12 56.4 +10
comp=Z,0.5nm,0.8s,baz=156,slow=13,SNR=5.2
IZEF Zefreh 56.02 312 *e*P **P** **14 05 16.1 -0.9**
IANJ Anjilo 56.13 315 *e*P **P** **14 05 16.8 -0.9**
ZAA0 Zalesovo Array 56.53 350 *e*P **P** **14 05 19.6 -0.3**
ZALV Zalesovo Beam 56.53 350 P **P** **14 05 20.2 +0.3**
ZALV S **S** **14 13 10.9 +2.7**
ZALV Zalesovo Beam 56.53 350 P **P** **14 05 20.1 +0.3**
ZALV S **S** **14 13 10.9 +2.7**
ZALV Zalesovo Beam 56.53 350 P **P** **14 05 20.1 +0.3**
comp=Z,39nm,1.0s,baz=164,slow=5.9,SNR=93
ZALV S **S** **14 13 10.9 +2.7**
comp=Z,0.6nm,0.4s,baz=154,slow=14,SNR=6.7
IKIA Kiasar 56.67 316 *e*P **P** **14 05 21.6 +0.1**
ISHM Shahmirzad 56.74 316 *e*P **P** **14 05 21.6 -0.5**
ILAS Lasjerd 56.76 315 *e*P **P** **14 05 21.9 -0.3**
IFIR Firoozkooh 57.03 315 *e*P **P** **14 05 24.2 0.0**
IVRN Varamin 57.45 314 *e*P **P** **14 05 27.2 +0.3**
IDMV Damavand 57.51 315 *e*P **P** **14 05 27.4 -0.2**
KRAR Krasnoyarsk 57.53 356 *e*P **P** **14 05 25.5 -1.4**
KRAR pmax pmax
comp=Z,29nm,1.0s
NVS Novosibirsk 57.67 349 *e*P **P** **14 05 26.9 -1.0**
NVS *e*S **S** **14 13 22.2 -1.0**
NVS pmax pmax
comp=Z,21nm,1.2s
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS smax smax
comp=N,14nm,2.1s
ATD Arta Tunnel 57.68 285 LR LR 14 25 21.0
comp=N,116nm,20.8s,baz=92,slow=31
KLR Kul'dur 57.68 25 *e*P P 14 05 23.2 -4.9
RAYN Ar Rayn 57.97 299 P **P** **14 05 30.4 -0.3**
comp=N,142nm,0.7s,SNR=7.7
KBD Kabd 58.04 306 *e*P **P** **14 05 30.9 -0.1**
KBD AMb AMB 14 05 31.9
comp=Z,59nm,0.7s
RDF Al-Radifah 58.07 306 *e*P **P** **14 05 31.4 +0.2**
RDF AMb AMB 14 05 32.9
comp=Z,124nm,0.9s
UMR Umm Al-Rimmam 58.17 306 *e*P **P** **14 05 31.8 -0.1**
UMR AMb AMB 14 05 33.1
comp=Z,120nm,0.7s
IR3 Iran Long-Peri 58.19 314 *e*P **P** **14 05 32.3 +0.3**
IR5 Iran Long-Peri 58.38 314 *e*P **P** **14 05 33.8 +0.3**
RST Umm Al-Ruwaisa 58.73 306 *e*P **P** **14 05 35.2 -0.6**
RST AMb AMB 14 05 36.6
comp=Z,788nm,0.8s
IRAZ Razeghan 58.94 314 *e*P **P** **14 05 37.8 +0.3**
VOSK Vostochnaya 59.03 340 P **P** **14 05 36.2 -1.2**
VOSK pmax pmax
comp=Z,14nm,0.9s
IGZV Ghazvin 59.19 315 *e*P **P** **14 05 39.5 +0.3**
BVA0 Borovoye Array 59.48 340 P **P** **14 05 39.5 -1.1**
BVA0 pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 59.48 340 P **P** **14 05 39.5 -1.0**
BVAR Borovoye Array 59.48 340 P **P** **14 05 39.5 -1.0**
BVAR Borovoye Array 59.48 340 P **P** **14 05 39.5 -1.0**
baz=142,slow=8.5
BRVK Borovoye 59.54 340 P **P** **14 05 40.5 -0.5**
comp=Z,79nm,0.8s,SNR=5.4
BRVK Borovoye 59.54 340 P **P** **14 05 39.9 -1.1**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 59.54 340 *e*P **P** **14 05 40.0 -0.9**
comp=Z,8.7nm,0.8s
AB31 Akbulak array 60.89 332 *i* P **P** **14 05 49.6 -0.7**
AB31 pmax pmax
comp=Z,19nm,0.7s
ABKAR Akbulak array 60.89 332 *e*P **P** **14 05 49.4 -0.8**
comp=Z,14nm,0.7s
YSS Yuzh-Sakhalins 61.33 32 *e*P **P** **14 05 53.0 -0.3**
YSS pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 62.15 269 *e*P **P** **14 06 01.3 +1.5**
KMBO Kilima Mbogo 62.15 269 P **P** **14 06 00.8 +1.1**
comp=Z,12nm,0.9s,baz=62,slow=9.4,SNR=25
DGRG David-gareji 64.88 318 P **P** **14 06 18.0 +1.0**
TBLG Delisi 65.43 318 *e*P **P** **14 06 20.6 0.0**
TBLG Delisi 65.43 318 P **P** **14 06 20.6 0.0**
DUS Dusheti 65.61 318 P **P** **14 06 22.8 +1.0**
SVE Sverdlovsk 65.96 338⇓ *e*P **P** **14 06 23.5 -0.2**
SVE pmax pmax
comp=Z,35nm,1.1s
AKH Akhalkalaki 66.13 317 P **P** **14 06 22.3 -3.0**
ZEI Tsey 66.44 319 *e*P **P** **14 06 26.9 -0.5**
ZEI pmax pmax
comp=Z,23nm,0.9s
ARU Arti 66.48 337*d i*P **P** **14 06 26.2 -0.7**
ARU 14 08 48.7
ARU S **S** **14 15 15.5 +1.2**
ARU pmax pmax
comp=Z,29nm,1.2s
ARU Arti 66.48 337 P **P** **14 06 26.3 -0.7**
comp=Z,102nm,0.6s,SNR=5.1
ONI Oni 66.66 318 P **P** **14 06 29.2 +0.6**
YAK Yakutsk 67.37 15 *i* P **P** **14 06 31.1 -1.4**
KBZ Khabaz 67.52 319 P **P** **14 06 33.7 -0.2**
KBZ Khabaz 67.52 319 P **P** **14 06 33.6 -0.2**
KBZ Khabaz 67.52 319 P **P** **14 06 33.6 -0.2**
comp=Z,25nm,0.8s,baz=122,slow=5.7,SNR=50
KIV Kislovodsk 67.75 319 *e*P **P** **14 06 35.9 +0.4**
KIV pmax pmax
comp=Z,45nm,1.0s
ASF Jabal al Asfar 67.80 306 P **P** **14 06 36.3 +0.3**
ASF Jabal al Asfar 67.80 306 P **P** **14 06 36.3 +0.3**
comp=Z,13nm,0.9s,baz=66,slow=1.9,SNR=14
ASF LR LR 14 37 59.5
comp=Z,112nm,19.2s,baz=292,slow=38
MALT Malatya 68.55 312⇑ *i*P P 14 07 02.8 +22
EIL Elat 68.74 303 P **P** **14 06 41.9 +0.1**
EIL Elat 68.74 303 P **P** **14 06 41.9 +0.1**
comp=Z,34nm,0.9s,baz=90,slow=0.9,SNR=16
SOC Sochi 69.57 318 *e*P **P** **14 06 44.6 -2.0**
SOC pmax pmax
comp=Z,37nm,0.8s
MAW Mawson 70.67 194 P **P** **14 06 54.3 +1.5**
MAW Mawson 70.67 194 P **P** **14 06 54.3 +1.5**
comp=Z,11nm,0.9s,baz=40,slow=11,SNR=12
VRHR Novokhopersk 71.56 326 *e*P **P** **14 06 58.0 -0.6**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
BR131 Keskin Array S 72.53 312 *e*P **P** **14 07 03.8 -1.1**
comp=Z,4.9nm,0.6s
BRTR Keskin Array B 72.53 312 P **P** **14 07 04.3 -0.6**
BRTR Keskin Array B 72.53 312 P **P** **14 07 04.3 -0.6**
comp=Z,7.3nm,0.7s,baz=133,slow=6.7,SNR=32
PETK Petropavlovsk- 72.74 32 P **P** **14 07 04.9 -0.8**
PETK Petropavlovsk- 72.74 32 P **P** **14 07 04.8 -0.8**
PETK Petropavlovsk- 72.74 32 P **P** **14 07 04.8 -0.8**
comp=Z,1.5nm,0.6s,baz=189,slow=5.6,SNR=9.8
VORD Divnogorie 72.83 325 *e*P **P** **14 07 05.1 -1.1**
VORD pmax pmax
comp=Z,30nm,1.1s
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=E,60nm,0.6s
VSR Storozhevoye 73.00 325 *e*P **P** **14 07 06.1 -1.1**
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,40nm,1.2s
VSR pmax pmax
comp=Z,60nm,1.2s
PET Petropavlovsk 73.21 33 *i* P **P** **14 07 07.2 -1.2**
SEY Seymchan 75.34 22*c i*P **P** **14 07 20.2 -0.4**
BOSA Boshof 75.41 241 P **P** **14 07 22.5 +0.5**
BOSA Boshof 75.41 241 P **P** **14 07 22.5 +0.5**
comp=Z,2.4nm,0.7s,baz=80,slow=14,SNR=6.1
TIXI Tiksi 75.42 9*c i*P **P** **14 07 19.7 -1.2**
TIXI pmax pmax

comp=Z,24nm,1.2s
MOS Moscow 75.74 329 *e*P **P** **14 07 22.0 -1.0**
MOS *e* 14 07 28.6
MOS pmax pmax
comp=Z,61nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.0s
RPZ Rata Peaks 75.77 135 P **P** **14 07 24.0 +0.5**
RPZ Rata Peaks 75.77 135 P **P** **14 07 24.0 +0.5**
comp=Z,16nm,0.8s,baz=268,slow=5.2,SNR=5.8
OBN Obninsk 76.03 328*c e*P **P** **14 07 24.5 -0.2**
OBN *e* 14 07 31.9
OBN *e* 14 07 40.5
OBN pmax pmax
comp=Z,50nm,1.2s
TIRR Tirgusor 77.56 316 ⇓ *i*P **P** **14 07 33.6 0.0**
TIRR Tirgusor 77.56 316 ⇓ *i*P **P** **14 07 33.6 0.0**
CHOS Chios island 77.92 310 *e*P **P** **14 07 36.5 +0.7**
SYO Syowa Base 78.19 199⇓ *e*P **P** **14 07 36.4 -0.2**
AKASG Malin Array Be 78.70 322 *i* P **P** **14 07 39.0 -0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 78.70 322 P **P** **14 07 39.1 -0.7**
AKASG Malin Array Be 78.70 322 P **P** **14 07 39.1 -0.7**
comp=Z,7.0nm,0.8s,baz=84,slow=4.9,SNR=21
KIEV Kiev 78.71 322 *e*P **P** **14 07 38.8 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 78.71 322 *e*P **P** **14 07 38.8 -1.0**
comp=Z,4.6nm,0.6s
SMTH Samothraki Isl 78.74 312 *e*P **P** **14 07 40.0 -0.2**
VAM Vamos 78.83 306 *e*P **P** **14 07 39.0 -1.8**
LIA Limnos Island 78.88 311 *e*P **P** **14 07 41.0 0.0**
VRI Vrincioaia 79.06 317 ⇑ *i*P **P** **14 07 42.8 +0.9**
VRI Vrincioaia 79.06 317⇑ *i*P **P** **14 07 42.8 +0.9**
PLOR Plostina 79.11 317 ⇓ P P 14 07 36.4 -5.8
PLOR Plostina 79.11 317 ⇓ *i*P P 14 07 36.4 -5.8
TMCR Tamitsa 79.22 337 *e*P **P** **14 07 41.7 -0.6**
TMCR *e* 14 07 49.6
TMCR *e* 14 10 39.4
TMCR pmax pmax
comp=Z,32nm,1.0s
TESR Tescani 79.27 318 ⇓ *i*P **P** **14 07 43.3 +0.3**
URZ Urewera 79.44 129 LR LR 14 40 25.1
comp=Z,112nm,19.7s,baz=279,slow=34
MLR Muntele Rosu 79.51 317⇑ *i*P **P** **14 07 44.9 +0.4**
DID Didima 79.95 308 *e*P **P** **14 07 46.0 -0.9**
DOPR Dopca 80.00 317 ⇓ *i*P **P** **14 07 45.3 -1.7**
PAIG Paliouri 80.03 311 *e*P **P** **14 07 46.0 -1.2**
VOIR 80.11 317 ⇑ P **P** **14 07 47.4 -0.3**
VOIR 80.11 317⇑ *i*P **P** **14 07 47.4 -0.3**
MMB Musomiste 80.29 312 *e*P **P** **14 07 47.8 -0.9**
ARR Arges 80.39 316 ⇓ *i*P **P** **14 07 49.3 +0.1**
BURAR Bucovina Array 80.47 319 ⇑ P **P** **14 07 50.7 +1.1**
BURAR Bucovina Array 80.47 319⇑ *i*P **P** **14 07 50.7 +1.1**
DYR Agios Nikonas 80.54 307 *e*P **P** **14 07 50.5 +0.4**
VLX Vlachokerasia 80.60 308 *e*P **P** **14 07 50.0 -0.5**
MPEP Malo Peshtene 80.61 314 *e*P **P** **14 07 50.4 0.0**
GUR Goura 80.72 309 *e*P **P** **14 07 50.5 -0.7**
KKB Krupnik 80.82 313 *e*P **P** **14 07 50.7 -0.8**
VTS Vitosha 80.86 313 ⇑ P **P** **14 07 51.6 -0.3**
VTS Vitosha 80.86 313 *e*P **P** **14 07 51.5 -0.3**
VTS Vitosha 80.86 313⇑ *i*P **P** **14 07 51.6 -0.3**
KLV Kalavryta, Ach 80.88 309 *e*P **P** **14 07 51.5 -0.5**
AGG Agios Georgios 80.90 310 *e*P **P** **14 07 51.0 -1.0**
ITM Ithomi 80.93 308 *e*P **P** **14 07 51.5 -0.7**
LIT Litokhoron 80.95 311 *e*P **P** **14 07 51.5 -0.8**
TRIZ Trizonia 81.00 309 *e*P **P** **14 07 52.5 0.0**
PYL PYLOS 81.03 308 *e*P **P** **14 07 52.0 -0.7**
LAKA Lakka 81.05 309 *e*P **P** **14 07 52.5 -0.3**
EFP Efpalio 81.13 309 *e*P P 14 07 49.5 -3.7
THL Klokotos Trika 81.23 310 *e*P **P** **14 07 52.5 -1.2**
EVR Evrytania 81.28 310 *e*P **P** **14 07 54.5 +0.3**
IDID Didziasalis 81.41 326 *e*P **P** **14 07 55.1 +0.8**
GZR Gura Zlata 81.67 316 ⇑ P P 14 07 48.3 -7.7
GZR Gura Zlata 81.67 316⇑ *i*P P 14 07 48.3 -7.7
IIGN Ignalina 81.70 326 *e*P **P** **14 07 56.4 +0.6**
DRGR 81.98 318 ⇑ P **P** **14 07 58.3 +0.7**
DRGR 81.98 318⇑ *i*P **P** **14 07 58.3 +0.7**
LKD2 Lefkada island 82.16 309 *e*P **P** **14 07 59.0 +0.3**
BZS Buzias 82.52 316 ⇑ P **P** **14 08 00.3 0.0**
BZS Buzias 82.52 316⇑ *i*P **P** **14 08 00.3 0.0**
KWP Kalwaria Pacla 82.52 320 ⇓ P **P** **14 08 01.1 +0.8**
KWP Kalwaria Pacla 82.52 320 ⇓ *i*P **P** **14 08 01.1 +0.8**
KWP Kalwaria Pacla 82.52 320 *e*P **P** **14 08 01.2 +0.9**
KOLS Kolonicke sedl 82.67 320 *e*P **P** **14 08 02.1 +1.0**
KOLS pmax pmax
comp=Z,32nm,0.9s
KOLS Kolonicke sedl 82.67 320 *e*P **P** **14 08 02.1 +1.0**
VNDA Vanda 82.80 169 P **P** **14 08 00.9 -0.3**
VNDA Vanda 82.80 169 P **P** **14 08 00.9 -0.3**
comp=Z,5.6nm,1.0s,baz=302,slow=5.0,SNR=21
SUW Suwalki 83.11 325 *e*P **P** **14 08 03.1 -0.1**
SUW Suwalki 83.11 325 *e*P **P** **14 08 03.1 -0.1**
SUW Suwalki 83.11 325 *e*P **P** **14 08 03.3 +0.1**
CRVS Cervenica-Dubn 83.19 319 *e*P **P** **14 08 04.6 +0.8**
CRVS pmax pmax
comp=Z,8.0nm,1.0s
CRVS Cervenica-Dubn 83.19 319 *e*P **P** **14 08 04.6 +0.8**
FIA1 FINESS Array S 83.36 332 *e*P **P** **14 08 03.8 -0.6**
FINES FINESS Array B 83.36 332 P **P** **14 08 04.3 -0.1**
FINES FINESS Array B 83.36 332 P **P** **14 08 04.3 -0.1**
comp=Z,9.8nm,0.5s,baz=101,slow=5.6,SNR=46
STHS Stebnicka Huta 83.42 320 *e*P **P** **14 08 06.3 +1.3**
STHS pmax pmax
comp=Z,15nm,0.8s
STHS Stebnicka Huta 83.42 320 *e*P **P** **14 08 06.3 +1.3**
KAF Kangasniemi 83.44 333 *e*P **P** **14 08 05.6 +0.9**
KAF pmax pmax
comp=Z,30nm,0.7s
KAF Kangasniemi 83.44 333 *e*p **P** **14 08 05.6 +0.9**
comp=Z,30nm,0.7s
KECS Kecovo 83.75 319 *e*P **P** **14 08 07.1 +0.4**
KECS pmax pmax
comp=Z,6.0nm,0.8s
KECS Kecovo 83.75 319 *e*P **P** **14 08 07.1 +0.4**
SBA Scott Base 83.90 169 *e*P **P** **14 08 08.2 +1.4**
SBA pmax pmax
comp=Z,13nm,1.0s
SBA Scott Base 83.90 169 *e*P **P** **14 08 08.2 +1.4**
comp=Z,13nm,1.0s
NIE Niedzica 84.02 320 *e*P **P** **14 08 10.8 +2.8**
PSZ Piszkesteto 84.06 318 ⇑ P **P** **14 08 08.8 +0.5**
PSZ Piszkesteto 84.06 318⇑ *i*P **P** **14 08 08.8 +0.5**
PSZ Piszkesteto 84.06 318 *e*P **P** **14 08 08.5 +0.2**
comp=Z,16nm,0.9s
OJC Ojcow 84.47 321 *e*P **P** **14 08 10.5 +0.2**
PKSM Moragy 84.66 316 ⇓ P **P** **14 08 11.4 +0.1**
PKSM Moragy 84.66 316 ⇓ *i*P **P** **14 08 11.4 +0.1**
OKC Ostrava-Krasne 85.47 320 *e*P **P** **14 08 16.3 +1.0**
OKC Ostrava-Krasne 85.47 320⇓ *e*P **P** **14 08 16.3 +1.0**
ARCES ARCESS Array B 85.77 340 P **P** **14 08 17.2 +0.8**
ARCES ARCESS Array B 85.77 340 P **P** **14 08 17.2 +0.8**
comp=Z,18nm,1.0s,baz=120,slow=4.8,SNR=12
SMOL Smolenice 85.77 319 *e*P **P** **14 08 19.4 +2.6**
SMOL Smolenice 85.77 319 *e*P **P** **14 08 19.3 +2.5**
CEL Celeste 85.80 308 *e*P **P** **14 08 18.3 +1.0**
comp=Z,41nm,1.0s
CEL *e* 14 08 25.8
MORC Moravsky Berou 85.85 320 *e*P **P** **14 08 17.7 +0.4**
MORC pmax pmax
comp=Z,11nm,1.0s
MORC Moravsky Berou 85.85 320 *e*P **P** **14 08 17.7 +0.4**
comp=Z,11nm,1.0s
DPC Dobruska-Polom 86.70 320⇑ *i*P **P** **14 08 22.6 +1.2**
DPC Dobruska-Polom 86.70 320⇑ *i*P **P** **14 08 22.6 +1.2**
KSP Ksiaz 86.77 321 *e*P **P** **14 08 22.5 +0.8**
KSP Ksiaz 86.77 321 *e*P **P** **14 08 22.8 +1.1**
ARSA Arzberg 86.91 317⇑ *i*P **P** **14 08 23.0 +0.5**
comp=Z,14nm,1.1s,SNR=5.5
UPC Upice 86.91 321 *e*P **P** **14 08 23.7 +1.3**
UPC Upice 86.91 321⇑ *e*P **P** **14 08 23.7 +1.3**
PERS Pernice 87.13 317 *i*P **P** **14 08 24.1 +0.5**
TREC Trest 87.13 319 *e*P **P** **14 08 24.4 +0.9**
TREC Trest 87.13 319⇑ *e*P **P** **14 08 24.4 +0.9**
PDKS Podkum 87.16 316 *i*P **P** **14 08 24.4 +0.6**
SOKA Soboth 87.19 317 ⇓ *i*P **P** **14 08 24.5 +0.5**
comp=Z,14nm,0.8s,SNR=11
JAVS Javornik 87.80 316 *i*P **P** **14 08 26.7 -0.2**
PRU Pruhonice 87.80 320⇑ *i*P **P** **14 08 27.5 +0.8**
PRU Pruhonice 87.80 320⇑ *i*P **P** **14 08 27.5 +0.8**
AQU L'Aquila 88.02 312 *e*P **P** **14 08 28.8 +0.8**

	comp=Z,36nm,1.0s						
BRG	**Berggiesshubel**	**88.26**	**321**	⇑*iP*	**P**	**14 08 29.8**	**+0.9**
	comp=Z,11nm,0.8s						
BRG				*e*		14 08 38.3	
	comp=Z,19nm,1.7s						
BRG	**Berggiesshubel**	**88.26**	**321**	⇑*iP*	**P**	**14 08 29.8**	**+0.9**
BRG				*e*		14 08 38.3	
BRG				pmax	pmax		
	comp=Z,11nm,0.8s						
BRG				pmax	pmax		
	comp=Z,19nm,1.7s						
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**14 08 29.7**	**+0.7**
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**14 08 29.7**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=97,slow=4.3,SNR=39						
KHC	**Kasperske Hory**	**88.36**	**319**	*e*P	**P**	**14 08 29.7**	**+0.2**
KHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KHC	**Kasperske Hory**	**88.36**	**319**	⇑*e*P	**P**	**14 08 30.2**	**+0.8**
KHC				epP	PcP	14 08 36.8	+5.7
KHC	**Kasperske Hory**	**88.36**	**319**	*e*P	**P**	**14 08 29.7**	**+0.2**
	comp=Z,2.8nm,0.6s						
KBA	**Koelnbreinsper**	**88.38**	**317**	⇑*iP*	**P**	**14 08 29.5**	**-0.2**
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**88.50**	**180**	P	**P**	**14 08 30.8**	**+0.9**
QSPA	**South Pole Qui**	**88.50**	**180**	P	**P**	**14 08 30.8**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=304,slow=1.0,SNR=92						
CLL	**Collm**	**88.88**	**321**	⇑*iP*	**P**	**14 08 32.2**	**+0.5**
CLL				*i*		14 08 38.6	
CLL				pmax	pmax		
	comp=Z,13nm,1.0s						
CLL	**Collm**	**88.88**	**321**	⇑*iP*	**P**	**14 08 32.2**	**+0.5**
	comp=Z,13nm,1.0s						
CLL				*i* (sP)	sP	14 08 38.6	-11
ABTA	**Abfaltersbach**	**88.92**	**317**	⇑*iP*	**P**	**14 08 32.2**	**-0.1**
	comp=Z,7.2nm,1.0s,SNR=5.1						
WTTA	**Wattenberg**	**89.55**	**317**	⇑*iP*	**P**	**14 08 35.0**	**-0.2**
	comp=Z,14nm,0.8s						
MOTA	**Moosalm**	**89.92**	**317**	⇑*iP*	**P**	**14 08 36.9**	**-0.1**
	comp=Z,9.7nm,0.7s,SNR=6.1						
RETA	**Reutte**	**90.15**	**317**	⇑*iP*	**P**	**14 08 38.2**	**+0.3**
	comp=Z,15nm,0.7s,SNR=11						
FETA	**Feichten**	**90.16**	**317**	*i* PcP	**P**	**14 08 38.5**	**+0.5**
	comp=Z,12nm,1.2s,SNR=6.5						
NB2	**NORSAR Subarra**	**90.39**	**331**	P	**P**	**14 08 38.4**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=91,slow=5.1						
NOA	**NORSAR Array B**	**90.39**	**331**	P	**P**	**14 08 38.6**	**-0.1**
NOA	**NORSAR Array B**	**90.39**	**331**	P	**P**	**14 08 38.6**	**-0.1**
	comp=Z,2.4nm,1.0s,baz=89,slow=5.9,SNR=4.7						
DAVA	**Damuels**	**90.75**	**317**	⇓*i*PcP	**PcP**	**14 08 41.4**	**-0.4**
	comp=Z,34nm,1.1s,SNR=10						
KEST	**Kesra**	**90.90**	**306**	*e*P	**P**	**14 08 43.2**	**+1.5**
KEST	**Kesra**	**90.90**	**306**	P	**P**	**14 08 42.8**	**+1.1**
	comp=Z,9.9nm,0.9s,baz=4.2,slow=1.8,SNR=22						
TUE	**Stuetta**	**91.10**	**316**	*e*P	**P**	**14 08 41.9**	**-0.6**
	comp=Z,13nm,1.3s						
SNAA	**Sanae**	**92.48**	**198**	*e*P	**P**	**14 08 49.8**	**+1.6**
SNAA	**Sanae**	**92.48**	**198**	P	**P**	**14 08 49.8**	**+1.6**
SNAA	**Sanae**	**92.48**	**198**	P	**P**	**14 08 49.8**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=106,slow=5.8,SNR=12						
CDF	**Champ du Feu**	**92.51**	**318**	*e*P	**P**	**14 08 48.9**	**+0.1**
	comp=Z,5.6nm,0.7s						
ECH	**Echery**	**92.59**	**318**	*e*P	**P**	**14 08 49.0**	**-0.2**
ECH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ECH	**Echery**	**92.59**	**318**	*e*P	**P**	**14 08 49.0**	**-0.2**
	comp=Z,6.2nm,1.1s						
MBDF	**Montbardon**	**92.90**	**315**	*e*P	**P**	**14 08 50.5**	**-0.3**
LPG	**La Plagne**	**92.91**	**315**	*e*P	**P**	**14 08 51.4**	**+0.4**
	comp=Z,11nm,0.7s						
LPL	**La Plagne**	**92.92**	**315**	*e*P	**P**	**14 08 51.3**	**+0.3**
FRF	**La Foret Royal**	**93.01**	**313**	*e*P	**P**	**14 08 51.7**	**+0.5**
	comp=Z,14nm,0.7s						
HAU	**Haudompre**	**93.14**	**318**	*e*P	**P**	**14 08 51.7**	**0.0**
CABF	**La Chapelle**	**93.34**	**316**	*e*P	**P**	**14 08 52.6**	**-0.2**
	comp=Z,7.5nm,0.7s						
ORIF	**Oris-en-Rattie**	**93.53**	**315**	*e*P	**P**	**14 08 54.2**	**+0.5**
	comp=Z,4.8nm,0.6s						
SFTF	**Sexfontaines**	**94.01**	**318**	*e*P	**P**	**14 08 55.9**	**+0.3**
VNA2	**Neumayer--Watz**	**94.08**	**198**	*e*P	**P**	**14 08 56.6**	**+1.1**
VNA2	**Neumayer--Watz**	**94.08**	**198**	*e*sP	sP	14 09 06.9	-6.8
LOR	**Lormes**	**94.84**	**317**	*e*P	**P**	**14 08 59.6**	**+0.1**
	comp=Z,5.4nm,0.7s						
SMF	**Signal de Mont**	**94.89**	**317**	*e*P	**P**	**14 08 59.8**	**0.0**
AVF	**Avril sur Loir**	**95.22**	**317**	*e*P	**P**	**14 09 01.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**97.85**	**283**	P	Pdif	14 09 14.3	+0.4
TORD	**Torodi Ar. Bea**	**97.85**	**283**	P	Pdif	14 09 14.3	+0.4
	comp=Z,1.3nm,0.9s,baz=78,slow=4.2,SNR=6.6						
TORD				LR	LR	14 52 34.3	
	comp=Z,91nm,20.5s,baz=145,slow=35						
IM04	**Indian Mountai**	**98.12**	**23**	*e*P	**P**	**14 09 13.4**	**-0.6**
IMA2	**Indian Mountai**	**98.14**	**23**	*e*P	Pdif	14 09 14.3	+0.1
ILAR	**Eielson Array**	**101.24**	**24**	PKKPbc	PKKPbc	14 25 37.8	-2.5
ILAR	**Eielson Array**	**101.24**	**24**	PKKPbc	PKKPbc	14 25 37.8	-2.5
	comp=Z,1.6nm,1.0s,baz=150,slow=2.1,SNR=9.3						
BSMT	**Bassoo Peak**	**125.13**	**28**	*e*PKPdf	**PKPdf**	**14 14 38.5**	**+0.2**
CHMT	**Chamberlain Mo**	**126.53**	**27**	*e*PKPdf	**PKPdf**	**14 14 41.1**	**+0.1**
WVOR	**Wild Horse Val**	**126.85**	**35**	*e*PKIKP	**PKPdf**	**14 14 42.5**	**+0.9**
WVOR	**Wild Horse Val**	**126.85**	**35**	*e*PKPdf	**PKPdf**	**14 14 42.5**	**+0.9**
EGMT	**Eagleton**	**127.20**	**24**	*e*PKPdf	**PKPdf**	**14 14 42.8**	**+0.7**
DLMT	**Dillon**	**127.99**	**28**	*e*PKPdf	**PKPdf**	**14 14 44.9**	**+1.1**
BOZ	**Bozeman (W)**	**128.22**	**27**	*e*PKIKP	**PKPdf**	**14 14 45.1**	**+0.9**
BOZ	**Bozeman (W)**	**128.22**	**27**	*e*PKPdf	**PKPdf**	**14 14 45.1**	**+0.9**
HLID	**Hailey**	**128.39**	**31**	*e*PKPdf	**PKPdf**	**14 14 46.1**	**+1.5**
NVAR	**Mina Array Bea**	**129.54**	**39**	PKP	**PKPdf**	**14 14 47.4**	**+0.4**
NVAR	**Mina Array Bea**	**129.54**	**39**	PKP	**PKPdf**	**14 14 47.4**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=300,slow=2.3,SNR=10						
ULM	**Lac du Bonnet**	**129.67**	**13**	PKP	**PKPdf**	**14 14 46.9**	**+0.3**
ULM	**Lac du Bonnet**	**129.67**	**13**	PKP	**PKPdf**	**14 14 46.9**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=343,slow=3.4,SNR=3.1						
RLMT	**Red Lodge**	**129.69**	**26**	*e*PKPdf	**PKPdf**	**14 14 48.4**	**+1.4**
RRI2	**Red Ridge**	**130.09**	**29**	*e*PKPdf	**PKPdf**	**14 14 48.6**	**+0.6**
LOHW	**Long Hollow**	**130.24**	**28**	*e*PKPdf	**PKPdf**	**14 14 49.0**	**+0.8**
REDW	**Red Top Meadow**	**130.31**	**29**	*e*PKPdf	**PKPdf**	**14 14 49.8**	**+1.4**
BW06	**Boulder Array**	**131.38**	**28**	*e*PKPdf	**PKPdf**	**14 14 50.5**	**+0.1**
PDAR	**Pinedale Array**	**131.38**	**28**	PKP	**PKPdf**	**14 14 50.8**	**+0.4**
PDAR				SKPbc	**SKPab**	**14 18 14.3**	**+1.8**
PDAR	**Pinedale Array**	**131.38**	**28**	PKP	**PKPdf**	**14 14 50.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=321,slow=1.9,SNR=9.9						
PDAR				SKPbc	**SKPab**	**14 18 14.3**	**+1.8**
	comp=Z,1.9nm,1.0s,baz=329,slow=1.7,SNR=8.7						
DUG	**Dugway**	**131.60**	**33**	*e*PKIKP	**PKPdf**	**14 14 51.9**	**+1.1**
DUG	**Dugway**	**131.60**	**33**	*e*PKPdf	**PKPdf**	**14 14 51.9**	**+1.1**
MSU	**Marysvale**	**133.13**	**34**	*e*PKIKP	**PKPdf**	**14 14 54.9**	**+1.1**
MSU	**Marysvale**	**133.13**	**34**	*e*PKPdf	**PKPdf**	**14 14 54.9**	**+1.1**
RWWY	**Rawlins**	**133.32**	**27**	*e*PKPdf	**PKPdf**	**14 14 54.7**	**+0.6**
PHWY	**Pilot Hill**	**134.42**	**26**	*e*PKPdf	**PKPdf**	**14 14 56.1**	**-0.1**
ECSD	**EROS Data Cent**	**135.55**	**17**	*e*PKPdf	**PKPdf**	**14 14 58.0**	**+0.1**
WUAZ	**Wupatki**	**135.65**	**37**	*e*PKPdf	**PKPdf**	**14 14 59.8**	**+1.2**
MVCO	**Mesa Verde**	**136.09**	**33**	*e*PKPdf	**PKPdf**	**14 15 00.4**	**+1.0**
SSPA	**Standing Stone**	**140.92**	**357**	PKPdf	**PKPdf**	**14 15 07.2**	**-0.6**
BDFB	**Brasilia**	**143.60**	**241**	PKP	**PKPdf**	**14 15 13.6**	**+0.2**
BDFB	**Brasilia**	**143.60**	**241**	PKP	**PKPdf**	**14 15 13.6**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=267,slow=3.6,SNR=4.0						
CPUP	**Villa Florida**	**144.41**	**217**	*e*PKP	PKPbc	14 15 13.2	+0.4
CPUP				PKP	**PKPdf**	**14 15 13.8**	**-0.6**
CPUP	**Villa Florida**	**144.41**	**217**	PKP	**PKPdf**	**14 15 13.8**	**-0.6**
	comp=Z,32nm,0.8s,baz=112,slow=2.8,SNR=58						
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	**PKPdf**	**14 15 14.6**	**-0.3**
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	**PKPdf**	**14 15 14.5**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=262,slow=1.8,SNR=58						
WVT	**Waverly**	**144.85**	**10**	*e*PKIKP	**PKPab**	**14 15 13.4**	**-0.5**
WVT	**Waverly**	**144.85**	**10**	*e*PKP	**PKPab**	**14 15 13.3**	**-0.5**
MIAR	**Mount Ida**	**144.91**	**19**	*e*PKIKP	PKPbc	14 15 14.4	+0.2
MIAR	**Mount Ida**	**144.91**	**19**	*e*PKP	PKPbc	14 15 14.4	+0.1
TZTN	**Tazewell**	**144.98**	**4**	*e*PKP	**PKPab**	**14 15 13.9**	**-0.5**
UALR	**University of**	**145.08**	**17**	*e*PKP	**PKPab**	**14 15 14.8**	**+0.1**
TKL	**Tuckaleechee C**	**145.84**	**5**	*e*PKPdf	**PKPdf**	**14 15 16.5**	**-0.1**
JCT	**Junction City**	**145.86**	**30**	*e*PKP2	**PKPbc**	**14 15 17.6**	**+0.2**
JCT	**Junction City**	**145.86**	**30**	*e*PKPbc	**PKPbc**	**14 15 17.6**	**+0.2**
CPCT	**Cooper Cave**	**145.98**	**6**	*e*PKPdf	**PKPdf**	**14 15 17.1**	**+0.2**
OXF	**Oxford**	**146.09**	**13**	*e*PKP2	**PKPdf**	**14 15 17.1**	**0.0**
OXF	**Oxford**	**146.09**	**13**	*e*PKPdf	**PKPdf**	**14 15 17.1**	**0.0**
LRAL	**Lakeview Retre**	**148.01**	**10**	*e*PKPbc	**PKPbc**	**14 15 22.7**	**-0.7**
HKT	**Hockley**	**148.17**	**26**	*e*PKP2	**PKPbc**	**14 15 24.5**	**+0.6**
HKT	**Hockley**	**148.17**	**26**	*e*PKPbc	**PKPbc**	**14 15 24.5**	**+0.6**
LPAZ	**La Paz**	**158.51**	**214**	PKP	**PKPdf**	**14 15 37.5**	**+0.9**
LPAZ	**La Paz**	**158.51**	**214**	PKP	**PKPdf**	**14 15 37.5**	**+0.9**
	comp=Z,3.1nm,1.1s,baz=61,slow=3.3,SNR=5.2						
SAML	**Samuel**	**159.82**	**239**	*e*PKPdf	**PKPdf**	**14 15 38.0**	**+0.5**
ROSC	**El Rosal**	**172.91**	**299**	PKP	**PKPdf**	**14 15 49.2**	**+1.1**
ROSC	**El Rosal**	**172.91**	**299**	PKP	**PKPdf**	**14 15 49.2**	**+1.1**
	comp=Z,3.8nm,0.4s,baz=37,slow=5.1,SNR=3.9						

NIED ***17*** *14:08:00,23.˚40N×123.˚50E,h8km,Mw4.3 Best double couple: M0 3.75000×10^15 NP1:φ=227.00000°, δ69.00000°, λ-154.00000°. NP2:φ=127.00000°, δ65.00000°, λ-23.00000°.*

IDC ***17*** *14:08:48.7±0.4,23.˚50N×123.˚52E,h0km,mb4.1/28, mb1 4.2/31,mb1mx4.2/37,mbtmp4.1/31,ML3.5/3,MS3.9/4, Ms1 3.9/4,ms1mx3.2/39,Error ellipse: s-maj=16.6km s-min=10.8km az=78.0*

NEIC ***17*** *14:08:50.6±0.3,23.˚49N×123.˚49E,h10km,mb4.6/9, MW4.3(NIED),Error ellipse: s-maj=5.6km s-min=5.3km az=165.0*

ISCJB ***17*** *14:08:51.4±0.8,23.˚45N±0.˚03×123.˚53E±0.˚03,h30km±5km, mb4.3/48,MS4.0/8,Error ellipse: s-maj=5.6km s-min=4.0km az=156.3*

JMA ***17*** *14:08:51.4±0.2,23.˚42N×123.˚54E,h44km±3km,M4.5*

BJI ***17*** *14:08:52.1,23.˚74N×123.˚32E,h10km,mB4.6/23,mb4.3/21, Ms4.2/22,Ms7 4.0/21*

MOS ***17*** *14:08:52.1±1.1,23.˚45N×123.˚45E,h33km,mb4.9/14,Error ellipse: s-maj=11.7km s-min=7.6km az=98.8*

ISC 17 14:08:51.5±0.6,23.˚48N±0.˚04×123.˚52E±0.˚03,h16km±2km, n147,σ1§74/173,mb4.3/48,MS4.2/8,2C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.64**	**25**	P	**Pb**	**14 09 04.7**	**+0.4**
HATJ				S	**Sn**	**14 09 14.5**	**-1.2**
IRIF	**Iriomote-Funau**	**0.88**	**13**	P	**Pb**	**14 09 08.2**	**-0.2**
IRIF				S	**Sg**	**14 09 20.8**	**+0.7**
JKRS	**Kuro-shima**	**0.88**	**31**	P	**Pg**	**14 09 08.5**	**-0.1**
JKRS				S	**Sg**	**14 09 20.5**	**+0.2**
JIJ	**Ishigaki jima**	**1.05**	**33**	P	**Pb**	**14 09 10.4**	**-1.0**
JIJ				S	**Sb**	**14 09 23.8**	**-1.2**
YOJ	**Yonaguni jima**	**1.08**	**335**	P	**Pb**	**14 09 11.5**	**-0.4**
YOJ				S	**Sb**	**14 09 25.8**	**-0.1**
JTJ	**Tarama**	**1.59**	**43**	P	**Pn**	**14 09 18.3**	**-0.7**
JTJ				S	**Sn**	**14 09 37.2**	**-2.0**
NACB	**Ninganchiao**	**1.89**	**292**	*e*P	**Pn**	**14 09 21.9**	**-1.3**
YULB	**Yu-li**	**2.04**	**268**	*e*P	**Pn**	**14 09 23.8**	**-1.4**
JMJ	**Miyako jima 2**	**2.10**	**50**	P	**Pn**	**14 09 25.5**	**-0.6**
JMJ				*e*S	**Sn**	**14 09 48.9**	**-3.0**
JOGS	**Gusukube**	**2.15**	**53**	P	**Pn**	**14 09 26.1**	**-0.6**
JOGS				S	**Sn**	**14 09 52.8**	**-0.3**
YHNB	**Yeheng**	**2.29**	**302**	*e*P	**Pn**	**14 09 29.0**	**+0.3**
TWG	**Pinlang**	**2.34**	**254**	*e*P	**Pn**	**14 09 28.2**	**-1.1**
SSLB	**Suanglung**	**2.37**	**278**	*e*P	**Pn**	**14 09 29.1**	**-0.7**
TATO	**Taipei**	**2.38**	**309**	*e*P	**Pn**	**14 09 29.2**	**-0.7**
TPUB	**Ta-pu**	**2.66**	**267**	*e*P	**Pn**	**14 09 34.3**	**+0.5**
JKE	**Kume jima 2**	**4.11**	**46**	P	**Pn**	**14 09 51.2**	**-2.5**
JAGN	**Aguni-jima**	**4.59**	**47**	P	**Pn**	**14 09 58.0**	**-2.2**
QZH	**Quanzhou**	**4.73**	**289**	⇑*i*Pn	**Pn**	**14 10 01.1**	**-1.0**
QZH				Sn	**Sn**	**14 10 51.3**	**-5.4**
QZH				LR	LR		
	comp=N,3μm,16.5s						
QZH				LR	LR		
	comp=E,2μm,15.8s						
QZH				LR	LR		
	comp=Z,2μm,11.6s						
JOW	**Kunigami**	**5.46**	**51**	*e*P	**Pn**	**14 10 09.5**	**-2.6**
	comp=Z,16nm,0.8s						
JOW	**Kunigami**	**5.46**	**51**	P	**Pn**	**14 10 09.6**	**-2.6**
NJ2	**Nanjing**	**9.49**	**335**	*e*P	**Pn**	**14 11 08.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TGY	**Tagaytay City**	**9.64**	**195**	Pn	**Pn**	**14 11 10.6**	**+0.9**
TGY	**Tagaytay City**	**9.64**	**195**	Pn	**Pn**	**14 11 10.6**	**+0.9**
	comp=Z,18nm,0.3s,baz=307,slow=20,SNR=2.3						
JNU	**Nakatsue**	**11.59**	**32**	Pn	**Pn**	**14 11 34.8**	**-1.6**
JNU	**Nakatsue**	**11.59**	**32**	Pn	**Pn**	**14 11 34.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=236,slow=15,SNR=2.5						
KSAR	**Wonju Array Be**	**14.42**	**14**	Pn	**Pn**	**14 12 15.5**	**+0.5**
KSRS	**Korea Array**	**14.44**	**14**	Pn	**Pn**	**14 12 15.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=3.0						
KSRS				LR	LR	14 17 35.1	
	comp=Z,114nm,19.8s,baz=20,slow=37						
GYA	**Guiyang**	**15.57**	**284**	*e*P	**Pn**	**14 12 30.3**	**-0.2**
GYA				PP	**pP**	**14 12 42.5**	**+3.3**
GYA				S	**Sn**	**14 15 22.8**	**-0.1**
GYA				SS	**S**	**14 15 40.4**	**+2.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.5s						
GYA				LR	LR		
	comp=N,390nm,14.9s						
GYA				LR	LR		
	comp=E,310nm,15.0s						
GYA				LR	LR		
	comp=Z,380nm,14.5s						
BJI	**Beijing**	**17.64**	**341**	P	**Pn**	**14 12 56.9**	**+0.3**
BJI				S	**Sn**	**14 16 14.8**	**+2.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,140nm,4.9s						
BJI				LR	LR		
	comp=N,320nm,18.7s						
BJI				LR	LR		
	comp=E,490nm,16.6s						
BJI				LR	LR		
	comp=Z,190nm,20.4s						
MJAR	**Matsushiro Arr**	**18.18**	**41**	P	**Pn**	**14 13 02.9**	**-0.4**
MJAR	**Matsushiro Arr**	**18.18**	**41**	P	**Pn**	**14 13 02.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=224,slow=9.6,SNR=10						
CD2	**Chengdu**	**19.05**	**297**	*e*P	**Pn**	**14 13 14.8**	**+0.8**
CD2				pP	**pP**	**14 13 17.8**	**+0.2**
CD2				sP	**sP**	**14 13 21.8**	**+2.1**
CD2				PP	**PnPn**	**14 13 30.9**	**+4.2**
CD2				S	**Sn**	**14 16 43.3**	**-4.0**
CD2				sS	**S**	**14 16 48.5**	**-0.6**
CD2				SS	**SnSn**	**14 17 08.5**	**+7.2**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=N,470nm,13.2s						
CD2				LR	LR		
	comp=E,510nm,14.2s						
CD2				LR	LR		
	comp=Z,860nm,15.5s						
HHC	**Hu-ho-hao-te**	**20.03**	**333**	*e*P	**P**	**14 13 24.1**	**+0.3**
HHC				PP	**PnPn**	**14 13 43.4**	**+3.4**
HHC				S	**S**	**14 17 04.1**	**-4.4**
HHC				sS	Sn	14 17 09.5	-1.1
HHC				SS	**SnSn**	**14 17 31.1**	**+5.9**
HHC				pmax	pmax		
	comp=Z,48nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,5.8s						
HHC				LR	LR		
	comp=N,1μm,13.7s						
HHC				LR	LR		
	comp=E,710nm,11.2s						
HHC				LR	LR		
	comp=Z,940nm,13.7s						
CN2	**Changchun**	**20.34**	**4**	*e*P	**P**	**14 13 28.0**	**+1.0**
CN2				*e*PP	**PnPn**	**14 13 48.8**	**+4.7**
CN2				LR	LR		
	comp=N,150nm,14.0s						
CN2				LR	LR		
	comp=E,240nm,14.0s						
CN2				LR	LR		
	comp=Z,220nm,15.0s						
LZH	**Lanzhou**	**21.15**	**311**	*e*P	**P**	**14 13 37.0**	**+0.9**
LZH				pP	**pP**	**14 13 39.8**	**-0.8**
LZH				sP	**sP**	**14 13 41.8**	**-0.8**
LZH				PP	**PnPn**	**14 14 00.3**	**+4.8**
LZH				*e*S	**S**	**14 17 26.0**	**-5.1**
LZH				sS	**sS**	**14 17 33.1**	**-5.0**
LZH				*e*SS	**SnSn**	**14 17 58.8**	**+5.9**
LZH				pmax	pmax		
	comp=Z,36nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,4.5s						
LZH				LR	LR		
	comp=N,670nm,12.5s						
LZH				LR	LR		
	comp=E,520nm,13.2s						
LZH				LR	LR		
	comp=Z,790nm,13.6s						
MDJ	**Mudanjiang**	**21.67**	**12**	P	**P**	**14 13 42.4**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MDJ				pmax	pmax		
	comp=Z,45nm,6.7s						
GUMO	**Guam**	**22.48**	**112**	P	**P**	**14 13 51.9**	**+1.5**
	comp=Z,84nm,1.4s						
GUMO				*e*		14 14 02.8	
CMAR	**Chiang Mai Arr**	**23.47**	**262**	P	**P**	**14 13 59.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**23.47**	**262**	P	**P**	**14 13 59.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=78,slow=8.4,SNR=2.9						
GTA	**Gaotai**	**25.60**	**314**	*e*P	**P**	**14 14 19.9**	**-0.4**
GTA				pP	**pP**	**14 14 24.1**	**-0.9**
GTA				sP	**sP**	**14 14 26.9**	**0.0**
GTA				S	**S**	**14 18 47.5**	**-0.4**
GTA				sS	**sS**	**14 18 54.6**	**-1.1**
GTA				pmax	pmax		
	comp=Z,36nm,5.5s						
GTA				LR	LR		
	comp=N,160nm,18.5s						
GTA				LR	LR		
	comp=E,98nm,19.2s						
GTA				LR	LR		
	comp=Z,96nm,18.8s						
ASAJ	**Asahikawa**	**25.87**	**33**	P	**P**	**14 14 21.4**	**-1.0**
ASAJ	**Asahikawa**	**25.87**	**33**	P	**P**	**14 14 21.4**	**-1.0**
	comp=Z,4.9nm,0.7s,baz=229,slow=22,SNR=8.4						
HIA	**Hailar**	**25.91**	**354**	P	**P**	**14 14 20.9**	**-1.9**
	comp=Z,4.3nm,0.5s						
KLR	**Kul'dur**	**26.51**	**12**	*e*P	**P**	**14 14 32.2**	**+4.0**
YUK	**Yuzh-Kuril'sk**	**27.52**	**36**	*i* P	P	14 14 42.5	+5.2
YUK				*i* S	Px	14 14 56.3	
YUK				pmax	pmax		
	comp=E,54nm,0.1s						
YUK				pmax	pmax		
	comp=N,46nm,0.2s						
YUK				pmax	pmax		
	comp=Z,349nm,0.2s						
SONM	**Songino Array**	**27.88**	**335**	P	**P**	**14 14 39.8**	**-0.9**
SONM	**Songino Array**	**27.88**	**335**	P	**P**	**14 14 39.8**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=143,slow=8.8,SNR=7.8						
YSS	**Yuzh-Sakhalins**	**28.06**	**29**	*e*P	P	14 14 47.0	+4.9
YSS				*e*		14 15 01.6	
TLY	**Talaya**	**32.05**	**336**	*e*P	P	14 15 28.6	+11
WMQ	**Urumqi**	**35.69**	**313**	*e*P	**P**	**14 15 50.6**	**+1.4**
HVS	**Khovu-Aksy**	**35.95**	**328**	*e*P	P	14 16 02.1	+11
HVS				pmax	pmax		
	comp=Z,23nm,1.3s						
YAK	**Yakutsk**	**38.77**	**5**	*e*P	P	14 16 29.6	+15
PETK	**Petropavlovsk-**	**39.29**	**32**	P	**P**	**14 16 18.6**	**-0.9**
PETK	**Petropavlovsk-**	**39.29**	**32**	P	**P**	**14 16 18.6**	**-0.9**
PETK	**Petropavlovsk-**	**39.29**	**32**	P	**P**	**14 16 18.6**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=203,slow=3.1,SNR=8.1						
MK31	**Makanchi Array**	**40.33**	**316**	*e*P	**P**	**14 16 28.2**	**-0.1**
MK31	**Makanchi Array**	**40.33**	**316**	*e*P	**P**	**14 16 28.2**	**-0.1**
MKAR	**Makanchi Array**	**40.33**	**316**	*e*P	P	14 16 40.7	+12
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**40.33**	**316**	P	**P**	**14 16 28.4**	**+0.1**
MKAR				PcP	**PcP**	**14 18 31.1**	**-0.5**
MKAR	**Makanchi Array**	**40.33**	**316**	P	**P**	**14 16 28.4**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=102,slow=10,SNR=17						
MKAR				PcP	**PcP**	**14 18 31.1**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=100,slow=4.2,SNR=5.3						
FITZ	**Fitzroy Crossi**	**41.38**	**177**	P	**P**	**14 16 35.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**41.38**	**177**	P	**P**	**14 16 35.9**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=23,slow=9.7,SNR=6.6						
FITZ				LR	LR	14 34 33.0	
	comp=Z,269nm,19.0s,baz=314,slow=37						
ZALV	**Zalesovo Beam**	**42.00**	**326**	P	**P**	**14 16 40.2**	**-1.7**
ZALV						14 18 36.1	

KDAK	**Kodiak Island**	**67.25**	**35**	P	**P**	**14 19 44.9**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=270,slow=4.0,SNR=3.5						
KBZ	**Khabaz**	**67.58**	**309**	P	**P**	**14 19 48.5**	**+1.1**
KBZ	**Khabaz**	**67.58**	**309**	P	**P**	**14 19 48.5**	**+1.1**
KBZ	**Khabaz**	**67.58**	**309**	P	**P**	**14 19 48.5**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=23,slow=7.7,SNR=2.9						
MCK	**McKinley**	**68.15**	**29**	P	**P**	**14 19 51.8**	**+1.1**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MCK	**McKinley**	**68.15**	**29**	P	**P**	**14 19 51.8**	**+1.1**
	comp=Z,3.7nm,0.8s						
COLA	**College**	**68.44**	**27**	*e*P	**P**	**14 19 53.8**	**+1.4**
COLA				*e*		14 20 01.9	
COLA				pmax	pmax		
	comp=Z,19nm,0.9s						
COLA	**College**	**68.44**	**27**	*e*P	**P**	**14 19 53.8**	**+1.4**
	comp=Z,18nm,0.9s						
COLA				*e*		14 20 01.9	
VSR	**Storozhevoye**	**68.60**	**318**	*e*P	P	14 20 04.2	+11
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**14 19 54.5**	**-0.6**
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**14 19 54.5**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=279,slow=6.7,SNR=10						
OBN	**Obninsk**	**69.37**	**322**	P	P	14 20 06.0	+7.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**70.99**	**338**	P	**P**	**14 20 08.4**	**+0.3**
ARCES	**ARCESS Array B**	**70.99**	**338**	P	**P**	**14 20 08.4**	**+0.3**
	comp=Z,7.8nm,1.1s,baz=84,slow=9.2,SNR=2.7						
EGAK	**Eagle**	**71.25**	**27**	*e*P	**P**	**14 20 09.7**	**-0.1**
	comp=Z,5.6nm,0.9s						
DAWY	**Dawson**	**72.19**	**27**	*e*P	**P**	**14 20 15.7**	**+0.2**
INK	**Inuvik**	**73.08**	**22**	*e*P	**P**	**14 20 20.7**	**+0.2**
INK	**Inuvik**	**73.08**	**22**	P	**P**	**14 20 20.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=285,slow=7.3,SNR=4.5						
FINES	**FINESS Array B**	**73.13**	**330**	P	**P**	**14 20 21.2**	**+0.2**
FINES	**FINESS Array B**	**73.13**	**330**	P	**P**	**14 20 21.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=64,slow=6.3,SNR=9.3						
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**14 20 30.2**	**-0.8**
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**14 20 30.2**	**-0.8**
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**14 20 30.2**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=58,slow=6.6,SNR=4.4						
KIEV	**Kiev**	**74.82**	**319**	*e*P	P	14 20 41.7	+11
BRTR	**Keskin Array B**	**75.31**	**307**	P	**P**	**14 20 33.9**	**-0.4**
BRTR	**Keskin Array B**	**75.31**	**307**	P	**P**	**14 20 33.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=57,slow=8.8,SNR=3.0						
HFS	**Hagfors**	**79.22**	**331**	LR	LR	14 59 55.0	
	comp=Z,172nm,19.4s,baz=76,slow=39						
RPZ	**Rata Peaks**	**79.82**	**147**	P	**P**	**14 20 59.4**	**+0.3**
RPZ	**Rata Peaks**	**79.82**	**147**	P	**P**	**14 20 59.4**	**+0.3**
	comp=Z,8.8nm,0.8s,baz=0.0,slow=2.0,SNR=4.5						
NB2	**NORSAR Subarra**	**79.84**	**333**	P	**P**	**14 20 58.2**	**-0.9**
	comp=Z,3.0nm,0.7s,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**79.84**	**333**	P	**P**	**14 20 58.2**	**-0.9**
NOA	**NORSAR Array B**	**79.84**	**333**	P	**P**	**14 20 58.2**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=59,slow=5.8,SNR=3.0						
DPC	**Dobruska-Polom**	**82.51**	**322**	*e*P	P	14 21 25.5	+12
DPC	**Dobruska-Polom**	**82.51**	**322**	*e*P	P	14 21 25.5	+12
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**14 21 14.8**	**+0.1**
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**14 21 14.8**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=316,slow=5.8,SNR=5.1						
SUMG	**Summit**	**83.42**	**355**	*i* P	P	14 21 31.1	+13
	comp=Z,7.5nm,1.1s						
CLL	**Collm**	**83.89**	**324**	*i* P	P	14 21 32.3	+12
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**83.89**	**324**	*i* P	P	14 21 32.3	+12
	comp=Z,5.0nm,1.0s						
KHC	**Kasperske Hory**	**84.66**	**322**	*e*P	P	14 21 30.0	+5.4
KHC				*e*		14 21 36.4	
KHC	**Kasperske Hory**	**84.66**	**322**	*e*P	P	14 21 30.0	+5.4
KHC				*e*x	x	14 21 36.4	
GERES	**GERESS Array B**	**84.73**	**321**	P	**P**	**14 21 24.4**	**-0.7**
GERES	**GERESS Array B**	**84.73**	**321**	P	**P**	**14 21 24.4**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=59,slow=5.1,SNR=13						
NVAR	**Mina Array Bea**	**95.47**	**44**	P	**P**	**14 22 16.5**	**+0.3**
NVAR	**Mina Array Bea**	**95.47**	**44**	P	**P**	**14 22 16.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=297,slow=4.0,SNR=3.4						
SNAA	**Sanae**	**123.23**	**198**	PKP	**PKPdf**	**14 27 46.3**	**-0.6**
SNAA	**Sanae**	**123.23**	**198**	PKP	**PKPdf**	**14 27 46.3**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=123,slow=7.5,SNR=3.8						

NIED ***17*** *14:11:00, 23.°40N×123.°60E, h8km, Mw3.8 Best double couple: M0 6.66000×10¹⁴ NP1:φ=286.00000°, δ=50.00000°, λ=-57.00000°. NP2:φ=61.00000°, δ=50.00000°, λ=-123.00000°.*

IDC ***17*** *14:11:20.3±0.8, 23.°49N×123.°48E, h0km, mb3.9/15, mb1 3.9/16, mb1mx3.8/29, mbtmp3.8/16, ML3.5/1, Error ellipse: s-maj=29.2km s-min=19.1km az=64.0*

JMA ***17*** *14:11:23.6±0.3, 23.°44N×123.°59E, h45km±3km, M3.5*

ISC 17 14:11:23.4±1.0, 23.°5N±0.°1×123.°59E±0.°07, h21km±7km, n25, σ=0.68/33, mb3.8/15, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.59**	**19**	P	**Pn**	**14 11 36.4**	**-0.2**
HATJ				S	**Sn**	**14 11 45.9**	**+0.2**
JKRS	**Kuro-shima**	**0.83**	**27**	P	**Pn**	**14 11 40.2**	**+0.3**
JKRS				*e*S	**Sn**	**14 11 51.4**	**-0.2**
IRIF	**Iriomote-Funau**	**0.85**	**9**	P	**Pn**	**14 11 40.2**	**+0.1**
IRIF				*e*S	**Sn**	**14 11 52.4**	**+0.5**
JIJ	**Ishigaki jima**	**1.00**	**30**	P	**Pn**	**14 11 42.1**	**-0.2**
JIJ				S	**Sb**	**14 11 55.1**	**+0.3**
YOJ	**Yonaguni jima**	**1.10**	**331**	P	**Pn**	**14 11 43.6**	**0.0**
YOJ				S	**Sn**	**14 11 57.9**	**-0.2**
JTJ	**Tarama**	**1.53**	**41**	P	**Pn**	**14 11 49.8**	**+0.3**
JTJ				*e*S	**Sn**	**14 12 08.2**	**-0.6**
JOGS	**Gusukube**	**2.08**	**52**	P	**Pn**	**14 11 57.4**	**+0.3**
JKE	**Kume jima 2**	**4.05**	**45**	P	**Pn**	**14 12 22.4**	**-1.7**
JAGN	**Aguni-jima**	**4.53**	**46**	P	**Pn**	**14 12 30.5**	**-0.2**
MJAR	**Matsushiro Arr**	**18.12**	**41**	P	**P**	**14 15 34.5**	**+0.4**
	0.1nm,0.3s,baz=225,slow=11,SNR=2.6						
SONM	**Songino Array**	**27.89**	**335**	P	**P**	**14 17 10.6**	**-1.3**
	0.7nm,0.6s,baz=155,slow=11,SNR=3.8						
PETK	**Petropavlovsk-**	**39.24**	**32**	P	**P**	**14 18 50.2**	**0.0**
	0.8nm,0.6s,baz=217,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**40.37**	**316**	P	**P**	**14 18 59.8**	**0.0**
	0.5nm,0.4s,baz=98,slow=9.5,SNR=6.9						
MKAR				PcP	**PcP**	**14 21 02.0**	**-0.7**
	0.6nm,0.9s,baz=87,slow=3.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**42.03**	**326**	P	**P**	**14 19 12.2**	**-0.9**
	0.7nm,0.3s,baz=118,slow=9.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**44.06**	**320**	P	**P**	**14 19 28.3**	**-1.4**
	0.9nm,0.6s,baz=114,slow=8.7,SNR=4.1						
WRA	**Warramunga Arr**	**44.43**	**165**	P	**P**	**14 19 32.6**	**-0.3**
	0.8nm,0.7s,baz=347,slow=8.5,SNR=4.0						
ASAR	**Alice Springs**	**47.94**	**167**	P	**P**	**14 20 00.8**	**+0.3**
	0.3nm,0.5s,baz=349,slow=7.4,SNR=6.0						
BVAR	**Borovoye Array**	**49.60**	**321**	P	**P**	**14 20 12.5**	**-0.5**
	0.7nm,0.6s,baz=85,slow=3.5,SNR=3.1						
BVAR				PcP	**PcP**	**14 21 34.5**	**+0.1**
	0.6nm,0.5s,baz=127,slow=3.8,SNR=3.4						
AKTO	**Aktyubinsk**	**56.80**	**316**	P	**P**	**14 21 06.2**	**+0.1**
	0.9nm,0.5s,baz=113,slow=9.1,SNR=3.5						
ILAR	**Eielson Array**	**68.81**	**27**	P	**P**	**14 22 27.4**	**+1.5**
	0.4nm,0.6s,baz=260,slow=5.4,SNR=4.6						
FINES	**FINESS Array B**	**73.14**	**330**	P	**P**	**14 22 52.0**	**-0.2**
	1.4nm,0.6s,baz=76,slow=8.0,SNR=5.2						
AKASG	**Malin Array Be**	**74.84**	**319**	P	**P**	**14 23 02.0**	**-0.3**
	0.7nm,0.4s,baz=56,slow=5.9,SNR=2.6						
BRTR	**Keskin Array B**	**75.35**	**307**	P	**P**	**14 23 06.4**	**+0.8**
	0.8nm,0.8s,baz=52,slow=9.3,SNR=3.3						
MMAI	**Mount Meron Ar**	**76.15**	**300**	P	**P**	**14 23 11.0**	**+0.7**
	0.6nm,0.3s,baz=71,slow=5.6,SNR=3.4						
GERES	**GERESS Array B**	**84.76**	**321**	P	**P**	**14 23 56.5**	**+0.2**
	1.5nm,0.8s,baz=56,slow=5.0,SNR=7.4						

BJI ***17*** *14:14:05.7, 2.°10S×99.°36E, h55km, mB5.0/23, mb4.6/33, Ms4.7/22, Ms7 4.3/20*

IDC ***17*** *14:14:05.2±0.3, 1.°35S×99.°47E, h0km, mb4.6/40, mb1 4.6/42, mb1mx4.6/42, mbtmp4.6/42, ML4.3/2, MS3.9/12, Ms1 3.9/12, ms1mx3.6/38, Error ellipse: s-maj=13.9km s-min=9.0km az=54.0*

NEIC ***17*** *14:14:06.7±0.2, 1.°44S×99.°43E, h10km, mb4.8/17, Error ellipse: s-maj=8.0km s-min=4.9km az=61.0*

NEIC Felt at Padang, Sumatra.

DJA ***17*** *14:14:08.7±0.6, 1.°3S±4.°9×99.°9E±.°, h10km, M5.3/3, mB5.7/3, mb5.5/3, MLv5.2/2, Mw(mB)5.2/3*

MOS ***17*** *14:14:08.7±1.0, 1.°29S×99.°52E, h33km, mb5.1/34, Error ellipse: s-maj=11.7km s-min=5.2km az=115.7*

ISCJB ***17*** *14:14:10.1±0.6, 1.°41S±0.°03×99.°44E±0.°04, h46km±5km, mb4.8/93, MS4.2/20, Error ellipse: s-maj=7.2km s-min=4.4km az=148.6*

ISC 17 14:14:09.7±0.6, 1.°38S±0.°04×99.°47E±0.°05, h30km±3km, n295, σ=1.9/23/307, mb4.9/93, MS4.2/20, 16C-11D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.09**	**65**	P	**Pb**	**14 14 29.8**	**-0.3**
PPI	**Padang Panjang**	**1.30**	**45**	P	**Pn**	**14 14 32.1**	**+0.2**
BKNI	**Bangkinang**	**2.31**	**43**	P	**Pn**	**14 14 48.2**	**+2.4**
RGRI	**Rengat**	**3.04**	**70**	P	Pn	14 14 58.9	+3.1
MASI	**Maura Aman, Be**	**3.27**	**122**	P	**Pn**	**14 15 00.4**	**+1.3**
KSI	**Kapahiang**	**3.85**	**126**	P	**Pn**	**14 15 08.1**	**+1.1**
PSI	**Prapat**	**4.19**	**352**	Pn	**Pn**	**14 15 10.3**	**-1.5**
PSI	**Prapat**	**4.19**	**352**	Pn	**Pn**	**14 15 10.3**	**-1.5**
	4.7nm,0.3s,baz=174,slow=9.8,SNR=22						
PSI				LR	LR	14 16 46.5	
	comp=Z,378nm,19.1s,baz=200,slow=40						
MNAI	**Manna**	**4.57**	**130**	P	**Pn**	**14 15 18.5**	**+1.6**
TSI	**Tuntungan**	**4.93**	**349**	P	Pn	14 15 26.6	+4.7
FRIM	**Kepong**	**5.07**	**25**	P	**Pn**	**14 15 26.3**	**+2.6**
KGM	**Kluang**	**5.12**	**49**	P	Pn	14 15 29.0	+4.6
KCSI	**Kotacane, Aceh**	**5.16**	**341**	P	**Pn**	**14 15 25.0**	**0.0**
MYKOM	**Kota Tinggi**	**5.39**	**54**	P	Pn	14 15 32.1	+3.9
MYKOM	**Kota Tinggi**	**5.39**	**54**	P	Pn	14 15 31.5	+3.3
LWLI	**Liwa**	**5.83**	**128**	P	**Pn**	**14 15 35.2**	**+0.8**
IPM	**Ipoh**	**6.03**	**15**	*e*P	**Pn**	**14 15 39.7**	**+2.8**
	65nm,0.6s						
IPM	**Ipoh**	**6.03**	**15**	P	Pn	14 15 40.5	+3.5
IPM	**Ipoh**	**6.03**	**15**	P	Pn	14 15 40.8	+3.9
KLSI		**6.19**	**122**	P	**Pn**	**14 15 41.0**	**+1.8**
KLI	**Kotabumi**	**6.39**	**123**	P	Pn	14 15 45.5	+3.6
	248nm,1.0s,3μm1.6nm						
KULM	**Kulim**	**6.73**	**10**	*e*P	**Pn**	**14 15 48.2**	**+1.6**
	54nm,0.8s						
KULM	**Kulim**	**6.73**	**10**	P	**Pn**	**14 15 49.5**	**+2.9**
KULM	**Kulim**	**6.73**	**10**	P	Pn	14 15 50.0	+3.4
BLSI	**Bandar Lampung**	**6.99**	**125**	P	Pb	14 16 01.2	-9.3
KTGM	**Kuala Trenggan**	**7.60**	**29**	P	Pn	14 16 03.1	+4.5
BSI	**Banda Aceh**	**8.00**	**329**	P	Pb	14 16 16.0	-12
LEM	**Lembang**	**9.76**	**124**	P	Pn	14 16 32.3	+4.0
SBUM	**Sibu**	**13.30**	**73**	P	**Pn**	**14 17 16.6**	**-0.1**
SDKM	**Sandakan**	**19.02**	**68**	P	**Pn**	**14 18 32.7**	**+2.2**
CM31	**Chiang Mai Arr**	**19.72**	**359**	P	**Pn**	**14 18 38.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.72**	**359**	P	**Pn**	**14 18 38.0**	**-0.6**
CMAR				PcP	**PcP**	**14 22 56.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.72**	**359**	P	**Pn**	**14 18 38.0**	**-0.6**
	0.8nm,0.3s,baz=187,slow=10,SNR=20						
CMAR				PcP	**PcP**	**14 22 56.5**	**+1.1**
	0.4nm,0.3s,baz=224,slow=3.1,SNR=4.6						
CHTO	**Chiang Mai**	**20.07**	**359**	*e*P	Pn	14 18 42.1	-0.8
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**20.07**	**359**	*e*P	Pn	14 18 42.1	-0.8
	comp=Z,8.3nm,0.9s						
KAPI	**Kappang**	**20.56**	**101**	*e*P	Pn	14 18 48.3	-0.3
KAPI	**Kappang**	**20.56**	**101**	P	**P**	**14 18 45.8**	**-0.5**
	comp=Z,46nm,1.1s,baz=262,slow=15,SNR=3.5						
PALK	**Pallekele**	**20.61**	**295**	*e*P	Pn	14 18 48.4	-0.8
	comp=Z,51nm,1.3s						
QIZ	**Qiongzhong**	**22.70**	**26**	P	**P**	**14 19 10.5**	**+1.3**
QIZ				S	**S**	**14 23 14.8**	**-1.1**
QIZ				LR	LR		
	comp=N,430nm,13.2s						
QIZ				LR	LR		
	comp=Z,650nm,13.4s						
GYA	**Guiyang**	**28.54**	**14**	P	**P**	**14 20 05.6**	**+2.5**
GYA				pP	pP	14 20 19.3	+7.6
GYA				sP	sP	14 20 27.5	+12
GYA				PP	**PP**	**14 21 01.0**	**-6.9**
GYA				PcP	**PcP**	**14 23 15.4**	**+1.0**
GYA				S	**S**	**14 24 49.8**	**+0.4**
GYA				sS	sS	14 25 14.6	+11
GYA				ScS	**ScS**	**14 30 42.3**	**-4.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,350nm,14.8s						
GYA				LR	LR		
	comp=E,280nm,15.4s						
GYA				LR	LR		
	comp=Z,320nm,14.9s						
ODAN	**Odare**	**30.40**	**338**	*e*P	**P**	**14 20 20.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**30.59**	**125**	P	**P**	**14 20 20.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.59**	**125**	P	**P**	**14 20 20.5**	**-0.8**
	comp=Z,13nm,0.9s,baz=295,slow=4.3,SNR=12						
TAPN	**Taplejung**	**30.73**	**339**	*e*P	**P**	**14 20 24.0**	**+1.3**
	comp=Z,41nm,0.9s						
RAMN	**Ramite**	**30.78**	**337**	*e*P	**P**	**14 20 24.2**	**+1.1**
JIRN	**Jiri**	**31.57**	**337**	*e*P	**P**	**14 20 31.2**	**+0.9**
	comp=Z,91nm,1.2s						
PKI	**Pulchoki**	**31.81**	**336**	*e*P	**P**	**14 20 32.7**	**+0.4**
PKIN	**Phulchoki**	**31.82**	**336**	*e*P	**P**	**14 20 32.6**	**+0.3**
LSA	**Lhasa**	**31.91**	**346**	P	**P**	**14 20 34.3**	**+1.0**
LSA	**Lhasa**	**31.91**	**346**	*e*P	**P**	**14 20 34.1**	**+0.8**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s						
LSA	**Lhasa**	**31.91**	**346**	*e*P	**P**	**14 20 34.1**	**+0.8**
	comp=Z,13nm,0.7s						
GUN	**Gumba**	**31.92**	**337**	*e*P	**P**	**14 20 34.1**	**+0.8**
	comp=Z,48nm,0.7s						
DMN	**Daman**	**31.96**	**335**	*e*P	**P**	**14 20 34.1**	**+0.5**
	comp=Z,35nm,1.1s						
KKN	**Kakani**	**32.05**	**336**	*e*P	**P**	**14 20 34.8**	**+0.5**
	comp=Z,46nm,1.1s						
CD2	**Chengdu**	**32.37**	**7**	*e*P	P	14 20 40.1	+3.3
CD2				pP	pP	14 20 54.1	+8.6
CD2				PP	**PP**	**14 21 50.0**	**-0.4**
CD2				S	**S**	**14 25 50.3**	**+1.0**
CD2				sS	sS	14 26 14.3	+11
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,220nm,8.3s						
CD2				LR	LR		
	comp=N,480nm,10.8s						
CD2				LR	LR		
	comp=E,710nm,15.6s						
CD2				LR	LR		
	comp=Z,550nm,14.2s						
KOLN	**Koldanda**	**32.76**	**333**	*e*P	**P**	**14 20 41.4**	**+1.0**
	comp=Z,25nm,0.6s						
DANN	**Dangsing**	**33.19**	**334**	*e*P	**P**	**14 20 45.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**35.55**	**154**	P	**P**	**14 21 03.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.55**	**154**	P	**P**	**14 21 03.9**	**-0.4**
	comp=Z,30nm,1.1s,baz=317,slow=7.1,SNR=3.6						
XAN	**Xi'an**	**36.34**	**13**	P	**P**	**14 21 09.5**	**-1.7**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,11.0s						
LZH	**Lanzhou**	**37.50**	**6**	*e*P	**P**	**14 21 23.5**	**+2.4**
LZH				pP	pP	14 21 37.6	+7.7
LZH				sP	sP	14 21 45.1	+12
LZH				PP	**PnPn**	**14 22 53.8**	**+5.8**
LZH				*e*S	**S**	**14 27 09.3**	**+1.0**
LZH				sS	ScP	14 27 33.6	+9.0
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.7s						
LZH				LR	LR		
	comp=N,310nm,12.0s						
LZH				LR	LR		
	comp=E,320nm,10.8s						
LZH				LR	LR		
	comp=Z,480nm,14.3s						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**14 21 31.0**	**-0.9**
WRA				PcP	**PcP**	**14 23 43.9**	**+0.6**
WRA				S	**S**	**14 27 24.0**	**-3.7**
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**14 21 31.0**	**-0.9**
	comp=Z,11nm,0.9s,baz=302,slow=9.2,SNR=35						
WRA				PcP	**PcP**	**14 23 43.8**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=308,slow=2.8,SNR=5.4						
WRA				S	**S**	**14 27 24.0**	**-3.7**
	comp=Z,4.1nm,1.1s,baz=296,slow=18,SNR=6.0						
WRA				LR	LR	14 40 30.0	
	comp=Z,118nm,19.3s,baz=250,slow=41						
WRAB	**Tennant Creek**	**38.77**	**121**	*e*P	**P**	**14 21 30.6**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**38.77**	**121**	*e*P	**P**	**14 21 30.6**	**-1.3**
	comp=Z,15nm,0.7s						
AS31	**Alice Springs**	**40.04**	**126**	*e*P	**P**	**14 21 42.3**	**-0.2**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**14 21 42.5**	**-0.1**
ASAR				PcP	**PcP**	**14 23 47.9**	**+0.6**
ASAR				S	**S**	**14 27 43.8**	**-3.1**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**14 21 42.5**	**-0.1**
	comp=Z,8.9nm,0.9s,baz=302,slow=7.2,SNR=33						
ASAR				PcP	**PcP**	**14 23 47.9**	**+0.6**
	comp=Z,5.4nm,1.0s,baz=304,slow=2.3,SNR=6.5						
ASAR				S	**S**	**14 27 43.8**	**-3.1**
	comp=Z,9.6nm,1.2s,baz=296,slow=13,SNR=21						
GTA	**Gaotai**	**40.59**	**0**	*e*P	**P**	**14 21 47.9**	**+0.9**
GTA				pP	**pP**	**14 21 57.8**	**+2.0**
GTA				PcP	**PcP**	**14 23 49.9**	**+1.1**
GTA				S	**S**	**14 27 56.5**	**+1.7**
GTA				SS	**SS**	**14 30 53.3**	**-2.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,210nm,6.9s						
GTA				LR	LR		
	comp=N,190nm,19.0s						
GTA				LR	LR		
	comp=E,350nm,18.8s						
GTA				LR	LR		
	comp=Z,250nm,20.0s						
HHC	**Hu-ho-hao-te**	**43.45**	**13**	*e*P	**P**	**14 22 10.9**	**+0.6**
HHC				pP	pP	14 22 26.3	+7.2
HHC				sP	sP	14 22 33.6	+11
HHC				PP	**PcP**	**14 23 55.6**	**-2.6**
HHC				S	**S**	**14 28 35.4**	**-1.5**
HHC				sS	sS	14 29 01.4	+10
HHC				pmax	pmax		
	comp=Z,45nm,0.9s						
HHC				pmax	pmax		
	comp=Z,900nm,6.4s						
HHC				LR	LR		
	comp=N,1μm,13.3s						
HHC				LR	LR		
	comp=E,750nm,13.7s						
HHC				LR	LR		
	comp=Z,990nm,15.3s						
JNU	**Nakatsue**	**45.33**	**38**	P	**P**	**14 22 25.1**	**-0.2**
JNU	**Nakatsue**	**45.33**	**38**	P	**P**	**14 22 25.1**	**-0.2**
	comp=Z,8.1nm,0.8s,baz=163,slow=4.4,SNR=8.3						
JNU				LR	LR	14 42 59.2	
	comp=Z,98nm,18.5s,baz=230,slow=38						
KSH	**Kashi**	**46.05**	**335**	P	**P**	**14 22 29.8**	**-1.2**
KSH				sP	sP	14 22 52.9	+9.4
KSH				PP	**PP**	**14 24 18.8**	**-0.6**
KSH				S	S	14 29 06.9	-7.9
KSH				sS	sS	14 29 34.0	+4.6
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,65nm,6.5s						
KSH				LR	LR		
	comp=N,190nm,11.7s						
KSH				LR	LR		
	comp=E,120nm,6.6s						
KSH				LR	LR		
	comp=Z,210nm,13.7s						
WMQ	**Urumqi**	**46.22**	**348**	P	**P**	**14 22 33.0**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,34nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,3.2s						
WMQ				LR	LR		
	comp=N,86nm,20.0s						
WMQ				LR	LR		
	comp=E,78nm,21.0s						
WMQ				LR	LR		
	comp=Z,110nm,23.0s						
WMQ	**Urumqi**	**46.22**	**348**	P	**P**	**14 22 33.5**	**+1.3**
WMQ				sP	sP	14 22 52.8	+8.1
WMQ				PcP	**PcP**	**14 24 09.8**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,34nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,180nm,3.5s						
WMQ				LR	LR		
	comp=N,86nm,19.5s						
WMQ				LR	LR		
	comp=E,78nm,20.0s						
WMQ				LR	LR		
	comp=Z,110nm,23.0s						
KSAR	**Wonju Array Be**	**46.73**	**31**	P	**P**	**14 22 35.1**	**-1.1**
KSRS	**Korea Array**	**46.76**	**31**	P	**P**	**14 22 35.1**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=225,slow=8.2,SNR=11						
KSRS				LR	LR	14 44 03.6	
	comp=Z,104nm,18.2s,baz=42,slow=38						
TKM2	**Tokmak 2**	**49.06**	**337**	P	**P**	**14 22 55.1**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,26nm,1.3s						
TKM2	**Tokmak 2**	**49.06**	**337**	*e*P	**P**	**14 22 55.0**	**+0.6**
	comp=Z,26nm,1.2s						
AAK	**Ala-Archa**	**49.

KURK	**Kurchatov**	**54.87 344**	P	**P**		**14 23 37.0**	**-0.3**
ZAA0	**Zalesovo Array**	**56.47 350**	*e*P	**P**		**14 23 48.6**	**-0.1**
ZALV	**Zalesovo Beam**	**56.47 350**	P	**P**		**14 23 48.9**	**+0.1**
ZALV			S	**S**		**14 31 37.2**	**-0.7**
ZALV	**Zalesovo Beam**	**56.47 350**	P	**P**		**14 23 48.9**	**+0.1**
ZALV			S	**S**		**14 31 37.2**	**-0.7**
ZALV	**Zalesovo Beam**	**56.47 350**	P	**P**		**14 23 48.9**	**+0.1**
	comp=Z,5.9nm,0.4s,baz=162,slow=6.1,SNR=51						
ZALV			S	**S**		**14 31 37.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=153,slow=11,SNR=4.0						
CAN	**Canberra**	**57.01 132**	*e*P	**P**		**14 23 54.7**	**+1.6**
CAN			pmax	pmax			
	comp=Z,25nm,1.0s						
CAN	**Canberra**	**57.01 132**	*e*P	**P**		**14 23 54.7**	**+1.6**
	comp=Z,25nm,1.0s						
KRAR	**Krasnoyarsk**	**57.46 356**	*e*P	**P**		**14 23 54.8**	**-0.9**
KRAR			pmax	pmax			
	comp=Z,14nm,1.0s						
KLR	**Kul'dur**	**57.59 24**	*e*P	P		14 23 53.1	-3.7
NVS	**Novosibirsk**	**57.61 349**	*e*P	P		14 23 49.6	-7.2
NVS			pmax	pmax			
	comp=Z,21nm,1.5s						
NVS			pmax	pmax			
	comp=N,13nm,1.4s						
NVS			pmax	pmax			
	comp=E,11nm,1.4s						
KBD	**Kabd**	**58.04 306**	*e*P	**P**		**14 24 00.2**	**-0.2**
KBD			AMb	AMB		14 24 01.3	
	comp=Z,41nm,1.2s						
RDF	**Al-Radifah**	**58.06 306**	*e*P	**P**		**14 24 00.4**	**-0.1**
RDF			AMb	AMB		14 24 01.8	
	comp=Z,63nm,1.1s						
UMR	**Umm Al-Rimmam**	**58.17 306**	*e*P	**P**		**14 24 00.9**	**-0.3**
UMR			AMb	AMB		14 24 02.1	
	comp=Z,67nm,1.3s						
HABR	**Khabarovsk**	**58.45 27**	*e*P	**P**		**14 24 00.3**	**-2.5**
HABR			*e**PP	**pP**		**14 24 10.3**	**-1.6**
HABR			*e**SP	**sP**		**14 24 14.6**	**-0.8**
HABR			*e*			14 24 50.1	
HABR			*e*S	**S**		**14 32 02.3**	**-1.8**
HABR			*e*			14 32 14.6	
HABR			*e*			14 33 47.4	
HABR			*e*SS	**SS**		**14 35 56.9**	**0.0**
HABR			pmax	pmax			
	comp=E,40nm,2.7s						
HABR			pmax	pmax			
	comp=Z,12nm,1.8s						
HABR			pmax	pmax			
	comp=N,24nm,2.7s						
HABR			MLR	MLR			
	comp=Z,223nm,22.0s						
MIB	**Mutribah**	**58.57 306**	*e*P	**P**		**14 24 03.7**	**-0.3**
MIB			AMb	AMB		14 24 05.0	
	comp=Z,72nm,1.0s						
RST	**Umm Al-Ruwaisa**	**58.73 306**	*e*P	**P**		**14 24 04.4**	**-0.7**
RST			AMb	AMB		14 24 05.6	
	comp=Z,330nm,1.0s						
VOSK	**Vostochnaya**	**58.98 340**	P	**P**		**14 24 04.4**	**-2.0**
VOSK			pmax	pmax			
	comp=Z,14nm,1.5s						
ASAJ	**Asahikawa**	**59.41 35**	P	**P**		**14 24 11.0**	**+1.4**
ASAJ	**Asahikawa**	**59.41 35**	P	**P**		**14 24 11.0**	**+1.4**
	comp=Z,1.2nm,0.4s,baz=253,slow=11,SNR=4.9						
ASAJ			LR	LR		14 49 13.7	
	comp=Z,79nm,19.3s,baz=170,slow=36						
BVA0	**Borovoye Array**	**59.43 340**	P	**P**		**14 24 06.9**	**-2.6**
BVA0			pmax	pmax			
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**59.43 340**	P	**P**		**14 24 08.7**	**-0.8**
BVAR	**Borovoye Array**	**59.43 340**	P	**P**		**14 24 08.7**	**-0.8**
BVAR	**Borovoye Array**	**59.43 340**	P	**P**		**14 24 08.7**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=145,slow=8.7,SNR=19						
BRVK	**Borovoye**	**59.49 340**⇑	*e*P	**P**		**14 24 09.1**	**-0.9**
BRVK			pmax	pmax			
	comp=Z,10.0nm,1.7s						
AB31	**Akbulak array**	**60.85 331**	P	**P**		**14 24 18.2**	**-1.1**
AB31			pmax	pmax			
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**60.85 331**	*e*P	**P**		**14 24 18.4**	**-0.9**
	comp=Z,5.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**61.24 32**	*e*P	P		14 24 25.2	+3.2
YSS			*e*			14 24 32.5	
KMBO	**Kilima Mbogo**	**62.20 269**	*e*P	**P**		**14 24 30.1**	**+0.6**
	comp=Z,14nm,1.0s						
KMBO	**Kilima Mbogo**	**62.20 269**	P	**P**		**14 24 30.5**	**+1.0**
	comp=Z,9.5nm,0.8s,baz=52,slow=8.6,SNR=16						
AKTO	**Aktyubinsk**	**62.56 332**	P	**P**		**14 24 30.0**	**-0.9**
AKTO	**Aktyubinsk**	**62.56 332**	P	**P**		**14 24 29.9**	**-0.9**
AKTO	**Aktyubinsk**	**62.56 332**	P	**P**		**14 24 29.9**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=122,slow=5.4,SNR=11						
SVE	**Sverdlovsk**	**65.91 338**⇓	*e*P	**P**		**14 24 52.0**	**-0.7**
SVE			pmax	pmax			
	comp=Z,27nm,1.2s						
ZEI	**Tsey**	**66.42 318**	*e*P	**P**		**14 24 56.0**	**-0.6**
ZEI			pmax	pmax			
	comp=Z,7.0nm,0.4s						
ARU	**Arti**	**66.43 337**	*c i*P	**P**		**14 24 55.0**	**-1.1**
ARU			S	**S**		**14 33 43.7**	**-0.6**
ARU			pmax	pmax			
	comp=Z,21nm,1.7s						
KBZ	**Khabaz**	**67.50 319**	P	**P**		**14 25 03.2**	**+0.1**
KBZ	**Khabaz**	**67.50 319**	P	**P**		**14 25 03.1**	**+0.1**
KBZ	**Khabaz**	**67.50 319**	P	**P**		**14 25 03.1**	**+0.1**
	comp=Z,13nm,0.9s,baz=120,slow=4.7,SNR=20						
KIV	**Kislovodsk**	**67.73 319**	*e*P	**P**		**14 25 04.3**	**-0.4**
KIV			pmax	pmax			
	comp=Z,24nm,1.0s						
ASF	**Jabal al Asfar**	**67.80 306**	P	**P**		**14 25 04.4**	**-1.0**
ASF	**Jabal al Asfar**	**67.80 306**	P	**P**		**14 25 04.4**	**-1.0**
	comp=Z,8.6nm,0.9s,baz=29,slow=2.2,SNR=10						
DZM	**Mont Dzumac**	**68.18 113**	P	**P**		**14 25 08.6**	**+0.7**
DZM	**Mont Dzumac**	**68.18 113**	P	**P**		**14 25 08.6**	**+0.7**
	comp=Z,8.8nm,1.0s,baz=249,slow=16,SNR=3.3						
EIL	**Elat**	**68.75 303**	P	**P**		**14 25 11.6**	**+0.3**
EIL	**Elat**	**68.75 303**	P	**P**		**14 25 11.6**	**+0.3**
	comp=Z,12nm,0.6s,baz=68,slow=3.1,SNR=9.0						
EIL			LR	LR		14 56 18.6	
	comp=Z,160nm,18.1s,baz=279,slow=37						
MMAI	**Mount Meron Ar**	**69.25 306**	P	**P**		**14 25 15.6**	**+1.2**
MMAI	**Mount Meron Ar**	**69.25 306**	P	**P**		**14 25 15.6**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=99,slow=9.6,SNR=6.9						
MAW	**Mawson**	**70.75 194**	*e*P	**P**		**14 25 23.8**	**+1.0**
	comp=Z,2.6nm,1.1s						
MAW	**Mawson**	**70.75 194**	P	**P**		**14 25 24.1**	**+1.3**
	comp=Z,7.8nm,0.9s,baz=21,slow=7.2,SNR=14						
MAW			LR	LR		14 50 38.8	
	comp=Z,186nm,18.2s,baz=131,slow=31						
VRHR	**Novokhopersk**	**71.53 326**	*e*P	**P**		**14 25 26.3**	**-1.5**
VRHR			pmax	pmax			
	comp=N,20nm,0.7s						
VRHR			pmax	pmax			
	comp=E,10.0nm,0.7s						
VRHR			pmax	pmax			
	comp=Z,10.0nm,0.7s						
BR131	**Keskin Array S**	**72.52 312**	*e*P	**P**		**14 25 32.9**	**-1.3**
	comp=Z,0.8nm,0.5s						
BRTR	**Keskin Array B**	**72.52 312**	P	**P**		**14 25 33.0**	**-1.3**
BRTR	**Keskin Array B**	**72.52 312**	P	**P**		**14 25 33.0**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=132,slow=7.2,SNR=13						
PETK	**Petropavlovsk-**	**72.65 32**	P	**P**		**14 25 34.1**	**-0.4**
PETK	**Petropavlovsk-**	**72.65 32**	P	**P**		**14 25 34.1**	**-0.4**
PETK	**Petropavlovsk-**	**72.65 32**	P	**P**		**14 25 34.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=213,slow=6.9,SNR=3.3						
PETK			LR	LR		14 56 22.5	
	comp=Z,64nm,19.4s,baz=36,slow=35						
VORD	**Divnogorie**	**72.79 325**	*e*P	**P**		**14 25 33.7**	**-1.7**
VORD			pmax	pmax			
	comp=Z,20nm,1.3s						
VORD			pmax	pmax			
	comp=N,7.0nm,0.4s						
VORD			pmax	pmax			
	comp=E,20nm,0.6s						
PET	**Petropavlovsk**	**73.12 33**	*e*P	**P**		**14 25 37.9**	**+0.6**
SEY	**Seymchan**	**75.25 22**	*e*P	**P**		**14 25 49.9**	**+0.4**
TIXI	**Tiksi**	**75.33 9**	*e*P	**P**		**14 25 49.2**	**-0.6**
TIXI			pmax	pmax			
	comp=Z,26nm,1.7s						
BOSA	**Boshof**	**75.49 241**	P	**P**		**14 25 51.9**	**0.0**
BOSA	**Boshof**	**75.49 241**	P	**P**		**14 25 51.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=18,slow=3.2,SNR=2.4						
BOSA			LR	LR		14 54 10.2	
	comp=Z,167nm,18.2s,baz=17,slow=32						
MOS	**Moscow**	**75.70 329**	*e*P	**P**		**14 25 51.1**	**-1.1**
MOS			pmax	pmax			
	comp=Z,68nm,1.3s						
RPZ	**Rata Peaks**	**75.79 135**	P	**P**		**14 25 53.4**	**+0.3**
RPZ	**Rata Peaks**	**75.79 135**	P	**P**		**14 25 53.4**	**+0.3**
	comp=Z,23nm,1.1s,baz=76,slow=2.8,SNR=6.3						
OBN	**Obninsk**	**75.99 328**⇓	*i*P	**P**		**14 25 53.8**	**-0.1**
OBN			*e*			14 26 04.3	
OBN			*e*			14 26 12.4	
OBN			pmax	pmax			
	comp=Z,51nm,1.7s						
SYO	**Syowa Base**	**78.28 199**⇓	*e*P	**P**		**14 26 05.8**	**-0.7**
AKASG	**Malin Array Be**	**78.68 322**	*c e*P	**P**		**14 26 07.9**	**-1.1**
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**78.68 322**	P	**P**		**14 26 07.2**	**-1.8**
AKASG	**Malin Array Be**	**78.68 322**	P	**P**		**14 26 07.2**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=88,slow=4.7,SNR=13						
VRI	**Vrincioaia**	**79.04 317**⇑	*i*P	**P**		**14 26 11.5**	**+0.3**
VRI	**Vrincioaia**	**79.04 317**⇑	*i*P	**P**		**14 26 11.5**	**+0.3**
PLOR	**Plostina**	**79.09 317**⇓	P	**P**		**14 26 10.1**	**-1.4**
PLOR	**Plostina**	**79.09 317**⇓	*i*P	**P**		**14 26 10.1**	**-1.4**
TESR	**Tescani**	**79.25 318**⇑	*i*P	**P**		**14 26 12.3**	**0.0**
URZ	**Urewera**	**79.44 129**	P	**P**		**14 26 12.9**	**-0.6**
URZ	**Urewera**	**79.44 129**	P	**P**		**14 26 12.9**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=270,slow=3.0,SNR=2.0						
MLR	**Muntele Rosu**	**79.49 317**⇑	*i*P	**P**		**14 26 13.9**	**+0.1**
VOIR		**80.09 316**⇓	P	**P**		**14 26 16.4**	**-0.6**
VOIR		**80.09 316**⇓	*i*P	**P**		**14 26 16.4**	**-0.6**
BURAR	**Bucovina Array**	**80.45 319**⇑	P	**P**		**14 26 19.7**	**+0.8**
BURAR	**Bucovina Array**	**80.45 319**⇑	*i*P	**P**		**14 26 19.7**	**+0.8**
VTS	**Vitosha**	**80.84 313**⇓	P	**P**		**14 26 19.5**	**-1.7**
VTS	**Vitosha**	**80.84 313**⇓	*i*P	**P**		**14 26 19.5**	**-1.7**
GZR	**Gura Zlata**	**81.66 316**⇑	P	**P**		**14 26 22.9**	**-2.5**
GZR	**Gura Zlata**	**81.66 316**⇑	*i*P	**P**		**14 26 22.9**	**-2.5**
DRGR		**81.96 318**⇓	P	**P**		**14 26 27.1**	**+0.2**
DRGR		**81.96 318**⇓	*i*P	**P**		**14 26 27.1**	**+0.2**
KWP	**Kalwaria Pacla**	**82.49 320**⇑	P	**P**		**14 26 29.9**	**+0.3**
KWP	**Kalwaria Pacla**	**82.49 320**⇑	*i*P	**P**		**14 26 29.9**	**+0.3**
KWP	**Kalwaria Pacla**	**82.49 320**	*e*P	**P**		**14 26 30.4**	**+0.8**
KOLS	**Kolonicke sedl**	**82.64 320**	*e*P	**P**		**14 26 31.1**	**+0.7**
KOLS			pmax	pmax			
	comp=Z,24nm,1.1s						
KOLS	**Kolonicke sedl**	**82.64 320**	*e*P	**P**		**14 26 31.1**	**+0.7**
KOLS			*ep*P	**pP**		**14 26 40.1**	**+0.3**
VNDA	**Vanda**	**82.87 169**	P	**P**		**14 26 31.5**	**+0.5**
VNDA	**Vanda**	**82.87 169**	P	**P**		**14 26 31.5**	**+0.5**
	comp=Z,7.3nm,1.1s,baz=299,slow=4.8,SNR=13						
VNDA			LR	LR		14 58 48.3	
	comp=Z,60nm,19.8s,baz=101,slow=32						
SUW	**Suwalki**	**83.08 325**	*e*P	**P**		**14 26 32.5**	**0.0**
CRVS	**Cervenica-Dubn**	**83.16 319**	*e*P	**P**		**14 26 33.5**	**+0.4**
CRVS			pmax	pmax			
	comp=Z,8.0nm,1.3s						
CRVS	**Cervenica-Dubn**	**83.16 319**	*e*P	**P**		**14 26 33.5**	**+0.4**
CRVS			*ep*P	pP		14 26 45.9	+3.4
FIA1	**FINESS Array S**	**83.32 332**	*e*P	**P**		**14 26 34.0**	**+0.4**
FINES	**FINESS Array B**	**83.32 332**	P	**P**		**14 26 33.6**	**0.0**
FINES	**FINESS Array B**	**83.32 332**	P	**P**		**14 26 33.6**	**0.0**
	comp=Z,2.6nm,0.5s,baz=111,slow=6.0,SNR=21						
STHS	**Stebnicka Huta**	**83.39 320**	*e*P	**P**		**14 26 34.8**	**+0.5**
STHS			pmax	pmax			
	comp=Z,10.0nm,1.1s						
STHS	**Stebnicka Huta**	**83.39 320**	*e*P	**P**		**14 26 34.8**	**+0.5**
STHS			*ep*P	**pP**		**14 26 45.0**	**+1.3**
KECS	**Kecovo**	**83.73 319**	*e*P	**P**		**14 26 35.9**	**-0.1**
KECS			pmax	pmax			
	comp=Z,4.0nm,1.0s						
KECS	**Kecovo**	**83.73 319**	*e*P	**P**		**14 26 35.8**	**-0.2**
KECS			*ep*P	**pP**		**14 26 45.6**	**+0.1**
SBA	**Scott Base**	**83.96 169**	*e*P	**P**		**14 26 37.8**	**+1.2**
SBA			pmax	pmax			
	comp=Z,10.0nm,0.9s						
SBA	**Scott Base**	**83.96 169**	*e*P	**P**		**14 26 37.8**	**+1.2**
	comp=Z,9.7nm,0.9s						
OKC	**Ostrava-Krasne**	**85.45 320**	*e*P	**P**		**14 26 45.8**	**+1.2**
OKC			*e*			14 26 55.4	
OKC	**Ostrava-Krasne**	**85.45 320**	*e*P	**P**		**14 26 45.8**	**+1.2**
OKC			*ex*	x		14 26 55.4	
ARCES	**ARCESS Array B**	**85.72 340**	P	**P**		**14 26 46.0**	**+0.4**
ARCES	**ARCESS Array B**	**85.72 340**	P	**P**		**14 26 46.0**	**+0.4**
	comp=Z,5.7nm,1.0s,baz=85,slow=5.1,SNR=5.6						
ZST	**Bratislava**	**85.93 318**	*e*P	P		14 26 51.4	+4.3
ZST	**Bratislava**	**85.93 318**	*ep*P	P		14 26 51.4	+4.3
DPC	**Dobruska-Polom**	**86.67 320**	*i* P	**P**		**14 26 50.9**	**+0.1**
DPC			*e*			14 27 00.3	
DPC	**Dobruska-Polom**	**86.67 320**	*i* P	**P**		**14 26 50.9**	**+0.1**
DPC			*ep*P	**pP**		**14 26 56.5**	**-3.8**
DPC			*ex*	x		14 27 00.3	
KSP	**Ksiaz**	**86.75 321**	*e*P	**P**		**14 26 51.3**	**+0.3**
UPC	**Upice**	**86.89 321**	*e*P	**P**		**14 26 52.3**	**+0.5**
UPC			*e*			14 27 00.6	
UPC	**Upice**	**86.89 321**	*e*P	**P**		**14 26 52.3**	**+0.5**
UPC			*ex*	x		14 27 00.6	
TREC	**Trest**	**87.11 319**	*i* P	**P**		**14 26 53.5**	**+0.6**
TREC			*e*			14 27 04.6	
TREC	**Trest**	**87.11 319**	*i* P	**P**		**14 26 53.5**	**+0.6**
TREC			*ex*	x		14 27 04.6	
SOKA	**Soboth**	**87.17 317**	*i* P	**P**		**14 26 53.6**	**+0.3**
	comp=Z,14nm,1.3s,SNR=9.1						
PRU	**Pruhonice**	**87.78 320**	*i* P	**P**		**14 26 56.8**	**+0.8**
PRU	**Pruhonice**	**87.78 320**	*i* P	**P**		**14 26 56.8**	**+0.8**
BRG	**Berggiesshubel**	**88.23 321**	*i* P	**P**		**14 26 58.8**	**+0.6**
	comp=Z,18nm,1.4s						
BRG			*e*			14 27 08.0	
	comp=Z,13nm,1.3s						
BRG	**Berggiesshubel**	**88.23 321**	*i* P	**P**		**14 26 58.8**	**+0.6**
BRG			*e*			14 27 08.0	
BRG			pmax	pmax			
	comp=Z,18nm,1.4s						
BRG			pmax	pmax			
	comp=Z,13nm,1.3s						
GERES	**GERESS Array B**	**88.24 319**	P	**P**		**14 26 58.7**	**+0.3**
GERES	**GERESS Array B**	**88.24 319**	P	**P**		**14 26 58.7**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=106,slow=4.7,SNR=24						
KHC	**Kasperske Hory**	**88.34 319**	*e*P	**P**		**14 26 57.7**	**-1.1**
KHC			*e*			14 27 03.5	
KHC	**Kasperske Hory**	**88.34 319**	*e*P	**P**		**14 26 57.7**	**-1.1**
KHC			*ep*P	**pP**		**14 27 03.5**	**-4.8**
CLL	**Collm**	**88.85 321**⇑	*i*P	**P**		**14 27 01.2**	**+0.1**
CLL			pmax	pmax			
	comp=Z,12nm,1.1s						
CLL	**Collm**	**88.85 321**⇑	*i*P	**P**		**14 27 01.2**	**+0.1**
	comp=Z,12nm,1.1s						
NKC	**Novy Kostel**	**89.14 320**	*e*P	**P**		**14 27 03.4**	**+0.9**
NKC			*e*			14 27 12.3	
NKC	**Novy Kostel**	**89.14 320**	*e*P	**P**		**14 27 03.4**	**+0.9**
NKC			*ex*	x		14 27 12.3	
NOA	**NORSAR Array B**	**90.35 331**	P	**P**		**14 27 08.3**	**+0.3**
NOA	**NORSAR Array B**	**90.35 331**	P	**P**		**14 27 08.3**	**+0.3**
	comp=Z,2.5nm,1.1s,baz=91,slow=4.6,SNR=2.6						
DAVA	**Damuels**	**90.73 317**⇑	*i*PcP	**P**		**14 27 10.4**	**+0.2**
	comp=Z,27nm,1.2s,SNR=6.7						
KEST	**Kesra**	**90.90 306**	*e*P	**P**		**14 27 12.5**	**+1.3**
KEST	**Kesra**	**90.90 306**	P	**P**		**14 27 11.7**	**+0.5**
	comp=Z,6.1nm,0.9s,baz=325,slow=1.3,SNR=15						
TUE	**Stuetta**	**91.08 316**	*e*P	**P**		**14 27 12.0**	**+0.1**
	comp=Z,5.9nm,0.9s						
PGF	**Pioggiola**	**91.27 312**	*e*P	**P**		**14 27 12.3**	**-0.5**
SBF	**Sospel**	**92.42 314**	*e*P	**P**		**14 27 17.8**	**-0.2**
	comp=Z,72nm,1.2s						
CDF	**Champ du Feu**	**92.49 318**	*e*P	**P**		**14 27 17.8**	**-0.4**
	comp=Z,10nm,1.0s						
SNAA	**Sanae**	**92.56 198**	*e*P	**P**		**14 27 19.6**	**+1.5**
SNAA	**Sanae**	**92.56 198**	P	**P**		**14 27 19.0**	**+1.0**
SNAA	**Sanae**	**92.56 198**	P	**P**		**14 27 19.0**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=78,slow=6.8,SNR=8.7						
LPG	**La Plagne**	**92.89 315**	*e*P	**P**		**14 27 20.3**	**-0.1**
LPL	**La Plagne**	**92.90 315**	*e*P	**P**		**14 27 20.2**	**-0.2**
	comp=Z,5.1nm,0.5s						
FRF	**La Foret Royal**	**93.00 313**	*e*P	**P**		**14 27 20.6**	**0.0**
	comp=Z,35nm,1.2s						
CABF	**La Chapelle**	**93.33 316**	*e*P	**P**		**14 27 22.1**	**0.0**
SMRF	**Simiane la Rot**	**93.76 314**	*e*P	**P**		**14 27 24.6**	**+0.5**
VNA2	**Neumayer--Watz**	**94.17 198**	*e*P	**P**		**14 27 26.9**	**+1.5**
VNA2	**Neumayer--Watz**	**94.17 198**	*ep*P	pP		14 27 38.7	+3.8
LOR	**Lormes**	**94.83 317**	*e*P	**P**		**14 27 28.6**	**-0.3**
SMF	**Signal de Mont**	**94.87 317**	*e*P	**P**		**14 27 28.7**	**-0.4**
LASF	**Ste Croix**	**95.00 314**	*e*P	**P**		**14 27 29.8**	**0.0**
MTLF	**Montolieu**	**96.23 313**	*e*P	**P**		**14 27 35.3**	**-0.1**
	comp=Z,6.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**97.89 283**	P	Pdif		14 27 43.4	-0.1
TORD	**Torodi Ar. Bea**	**97.89 283**	P	Pdif		14 27 43.4	-0.1
	comp=Z,0.8nm,0.9s,baz=131,slow=2.4,SNR=4.7						
ROSF	**Rostrenen**	**99.50 319**	*e*P	**Pdif**		**14 27 49.5**	**-0.5**
ILAR	**Eielson Array**	**101.15 24**	PKKPbc	PKKPbc		14 44 07.2	-2.9
ILAR	**Eielson Array**	**101.15 24**	PKKPbc	PKKPbc		14 44 07.2	-2.9
	comp=Z,0.7nm,0.5s,baz=135,slow=2.3,SNR=7.3						
NVAR	**Mina Array Bea**	**129.45 39**	PKP	**PKPdf**		**14 33 17.1**	**+0.8**
NVAR	**Mina Array Bea**	**129.45 39**	PKP	**PKPdf**		**14 33 17.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=251,slow=1.9,SNR=4.7						
PDAR	**Pinedale Array**	**131.29 28**	PKP	**PKPdf**		**14 33 19.6**	**-0.2**
PDAR	**Pinedale Array**	**131.29 28**	PKP	**PKPdf**		**14 33 19.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=234,slow=1.3,SNR=4.4						
BDFB	**Brasilia**	**143.69 241**	PKP	**PKPdf**		**14 33 43.3**	**+0.2**
BDFB	**Brasilia**	**143.69 241**	PKP	**PKPdf**		**14 33 43.3**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=64,slow=4.2,SNR=3.3						
CPUP	**Villa Florida**	**144.50 217**	PKP	PKPbc		14 33 42.9	+0.3
CPUP	**Villa Florida**	**144.50 217**	PKP	PKPbc		14 33 42.9	+0.3
	comp=Z,28nm,0.8s,baz=98,slow=2.9,SNR=42						
TXAR	**Lajitas Array**	**144.53 36**	PKP	PKPbc		14 33 43.5	+0.7
TXAR	**Lajitas Array**	**144.53 36**	PKP	PKPbc		14 33 43.5	+0.7
	comp=Z,8.6nm,0.9s,baz=270,slow=2.4,SNR=28						
WVT	**Waverly**	**144.77 10**	*e*PKIKP	**PKPab**		**14 33 42.7**	**-0.4**
WVT	**Waverly**	**144.77 10**	*e*PKP	**PKPab**		**14 33 42.7**	**-0.4**
MIAR	**Mount Ida**	**144.83 19**	*e*PKIKP	**PKPab**		**14 33 43.4**	**0.0**
MIAR	**Mount Ida**	**144.83 19**	*e*PKP	**PKPab**		**14 33 43.4**	**0.0**
TZTN	**Tazewell**	**144.90 4**	*e*PKP	**PKPab**		**14 33 43.1**	**-0.5**
TKL	**Tuckaleechee C**	**145.76 5**	*e*PKP	**PKPdf**		**14 33 45.8**	**-0.3**
JCT	**Junction City**	**145.77 30**	*e*PKP2	**PKPbc**		**14 33 46.9**	**+0.3**
JCT	**Junction City**	**145.77 30**	*e*PKPbc	**PKPbc**		**14 33 46.9**	**+0.3**
CPCT	**Cooper Cave**	**145.90 6**	*e*PKP	**PKPdf**		**14 33 46.3**	**0.0**
OXF	**Oxford**	**146.01 13**	*e*PKP2	**PKPbc**		**14 33 47.0**	**-0.2**
OXF	**Oxford**	**146.01 13**	*e*PKPdf	**PKPbc**		**14 33 47.0**	**-0.2**
HKT	**Hockley**	**148.08 26**	*e*PKP2	**PKPbc**		**14 33 53.6**	**+0.5**
HKT	**Hockley**	**148.08 26**	*e*PKPbc	**PKPbc**		**14 33 53.6**	**+0.5**
LPAZ	**La Paz**	**158.60 214**	PKP	**PKPdf**		**14 34 07.0**	**+0.7**
LPAZ			PKPab	**PKPab**		**14 34 41.3**	**+0.1**
LPAZ	**La Paz**	**158.60 214**	PKP	**PKPdf**		**14 34 07.0**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=72,slow=5.6,SNR=5.4						
LPAZ			PKPab	**PKPab**		**14 34 41.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=2.3,slow=1.1,SNR=5.1						

ISCJB ***17*** *14:20:21.9±0.8, 30°.78N±0°.06×142°.0E±0°.2, h24km, mb3.8/5, MS3.7/3, Error ellipse: s-maj=22.3km s-min=6.6km az=166.2*
JMA ***17*** *14:20:22.6±0.3, 30°.70N×141°.98E, h50km, M3.9*
IDC ***17*** *14:20:29.2±4.3, 30°.54N×140°.80E, h50km±44km, mb3.5/5, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, ML3.6/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/28, Error ellipse: s-maj=107.7km s-min=21.2km az=73.0*

ISC 17 14:20:23.1±1.3, 30°.81N±0°.08×142°.2E±0°.2, h24km, n20, σ1§92/25, mb3.6/5, MS3.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.06**	**319**	*e*S	**Sn**	**14 21 44.8**	**-1.1**
BSO1	**Boso 1**	**3.97**	**345**	P	**Pn**	**14 21 23.9**	**+1.9**
BSO1				*e*S	**Sn**	**14 22 07.6**	**+0.1**
BSO2	**Boso 2**	**4.12**	**343**	*e*S	**Sn**	**14 22 14.4**	**+2.9**
BSO3	**Boso 3**	**4.23**	**341**	P	**Pn**	**14 21 27.3**	**+1.5**
BSO4	**Boso 4**	**4.46**	**340**	*e*S	**Sn**	**14 22 20.9**	**+0.8**
JHU	**Hanno**	**5.59**	**335**	P	**Pn**	**14 21 47.0**	**+2.2**
JHU				*e*S	**Sn**	**14 22 45.2**	**-3.1**
JYT	**Yasato**	**5.66**	**343**	P	**Pn**	**14 21 47.4

JTJ	**Tarama**	**1.52**	**39**	P	**Pn**	**14 31 54.5**	**+0.6**
JTJ				S	**Sb**	**14 32 14.2**	**-0.1**
JMJ	**Miyako jima 2**	**2.02**	**48**	P	**Pn**	**14 32 01.3**	**+0.5**
JMJ				S	**Sn**	**14 32 26.4**	**+0.4**
JOGS	**Gusukube**	**2.06**	**51**	P	**Pn**	**14 32 02.0**	**+0.6**
JOGS				S	**Sn**	**14 32 27.9**	**+0.8**
JKE	**Kume jima 2**	**4.03**	**44**	P	**Pn**	**14 32 27.2**	**-1.3**
JKE				S	**Sn**	**14 33 14.6**	**-1.1**
JAGN	**Aguni-jima**	**4.51**	**46**	P	**Pn**	**14 32 34.2**	**-0.9**
JAGN				*e*S	**Sn**	**14 33 27.2**	**-0.2**
JOW	**Kunigami**	**5.37**	**50**	P	**Pn**	**14 32 45.3**	**-1.7**
KSRS	**Korea Array**	**14.42**	**14**	Pn	**Pn**	**14 34 50.0**	**-0.9**
0.1nm,0.3s,baz=200,slow=11,SNR=3.0							
MJAR	**Matsushiro Arr**	**18.11**	**41**	P	**P**	**14 35 39.6**	**+0.8**
0.2nm,0.3s,baz=229,slow=9.1,SNR=4.1							
MJAR				LR	LR	14 43 03.4	
comp=Z,72nm,20.8s,baz=260,slow=38							
ASAJ	**Asahikawa**	**25.81**	**32**	P	**P**	**14 36 58.4**	**+0.4**
1.9nm,0.5s,baz=228,slow=7.5,SNR=5.2							
SONM	**Songino Array**	**27.94**	**335**	P	**P**	**14 37 16.7**	**-0.5**
1.3nm,0.7s,baz=149,slow=8.7,SNR=8.3							
PETK	**Petropavlovsk-**	**39.23**	**32**	P	**P**	**14 38 56.2**	**+1.1**
0.5nm,0.6s,baz=231,slow=7.8,SNR=3.2							
MKAR	**Makanchi Array**	**40.42**	**316**	P	**P**	**14 39 04.8**	**-0.2**
0.6nm,0.6s,baz=100,slow=8.2,SNR=8.4							
ZALV	**Zalesovo Beam**	**42.08**	**326**	P	**P**	**14 39 17.4**	**-1.1**
1.3nm,0.5s,baz=115,slow=6.8,SNR=5.3							
WRA	**Warramunga Arr**	**44.39**	**166**	P	**P**	**14 39 37.0**	**-0.6**
0.4nm,0.7s,baz=346,slow=9.1,SNR=3.7							
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**14 40 06.6**	**+1.4**
0.2nm,0.5s,baz=351,slow=7.9,SNR=4.3							
BVAR	**Borovoye Array**	**49.65**	**321**	P	**P**	**14 40 18.3**	**-0.1**
0.6nm,0.5s,baz=106,slow=7.6,SNR=4.0							
AKTO	**Aktyubinsk**	**56.85**	**316**	P	**P**	**14 41 11.2**	**-0.2**
0.4nm,0.4s,baz=85,slow=12,SNR=3.2							

IDC 17 14:34:08.9±2.9, 1°.43S×99°.49E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=120.1km s-min=18.6km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.25**	**352**	Pn	Pn	14 35 15.0	-0.1
0.5nm,0.3s,baz=195,slow=12,SNR=2.8							
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	Pn	14 38 42.2	-0.2
0.3nm,0.3s,baz=192,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**38.72**	**121**	P	P	14 41 34.3	-0.9
0.3nm,0.7s,baz=301,slow=9.2,SNR=4.9							
ASAR	**Alice Springs**	**39.99**	**126**	P	P	14 41 46.1	+0.3
0.4nm,0.6s,baz=302,slow=8.3,SNR=8.1							
SONM	**Songino Array**	**49.44**	**6**	P	P	14 42 59.3	-1.6
0.1nm,0.3s,baz=202,slow=7.4,SNR=2.5							
STKA	**Stephens Creek**	**49.90**	**132**	P	P	14 43 05.4	+0.8
1.9nm,0.9s,baz=286,slow=15,SNR=3.3							
MKAR	**Makanchi Array**	**50.35**	**345**	P	P	14 43 07.6	-0.1
1.1nm,0.7s,baz=158,slow=9.0,SNR=4.3							
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	P	14 43 52.8	-0.2
0.4nm,0.5s,baz=185,slow=7.1,SNR=2.6							
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	PKPbc	14 53 47.0	+0.1
0.2nm,0.3s,baz=315,slow=1.5,SNR=2.7							

*IDC **17** 14:35:22.7±1.9, 23°.61N×123°.80E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, Error ellipse: s-maj=175.1km s-min=20.1km az=66.0*
*ISCJB **17** 14:35:27.8±1.2, 23°.48N±0°.09×123°.62E±0°.06, h48km±10km, mb3.7/8, Error ellipse: s-maj=14.4km s-min=9.3km az=179.2*
*JMA **17** 14:35:27.0±0.3, 23°.43N×123°.58E, h45km±4km, M3.2*
ISC 17 14:35:28.5±1.0, 23°.5N±0°.1×123°.59E±0°.08, h39km±7km, n16, σ0°.80/24, mb3.6/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.59**	**19**	P	**Pn**	**14 35 40.0**	**-0.5**
HATJ				S	**Sn**	**14 35 49.3**	**+0.3**
JKRS	**Kuro-shima**	**0.83**	**27**	P	**Pn**	**14 35 43.7**	**0.0**
JKRS				*e*S	**Sn**	**14 35 55.3**	**+0.5**
IRIF	**Iriomote-Funau**	**0.84**	**9**	P	**Pn**	**14 35 43.6**	**-0.3**
IRIF				*e*S	**Sn**	**14 35 56.5**	**+1.4**
JIJ	**Ishigaki jima**	**1.00**	**30**	P	**Pn**	**14 35 45.6**	**-0.5**
JIJ				S	**Sn**	**14 35 58.5**	**-0.4**
YOJ	**Yonaguni jima**	**1.10**	**331**	P	**Pn**	**14 35 47.1**	**-0.3**
YOJ				S	**Sn**	**14 36 01.1**	**-0.2**
JTJ	**Tarama**	**1.52**	**41**	P	**Pn**	**14 35 53.2**	**-0.1**
JTJ				*e*S	**Sn**	**14 36 12.6**	**+0.7**
JOGS	**Gusukube**	**2.08**	**52**	P	**Pn**	**14 36 00.9**	**0.0**
JOGS				*e*S	**Sn**	**14 36 25.2**	**-0.4**
JKE	**Kume jima 2**	**4.04**	**45**	P	**Pn**	**14 36 27.1**	**-0.8**
JKE				*e*S	**Sn**	**14 37 14.4**	**+0.4**
SONM	**Songino Array**	**27.89**	**335**	P	**P**	**14 41 15.1**	**+0.3**
0.3nm,0.4s,baz=133,slow=9.0,SNR=4.0							
MKAR	**Makanchi Array**	**40.37**	**316**	P	**P**	**14 43 03.3**	**+0.7**
0.9nm,0.6s,baz=102,slow=9.3,SNR=6.2							
ZALV	**Zalesovo Beam**	**42.02**	**326**	P	**P**	**14 43 13.8**	**-2.2**
0.3nm,0.3s,baz=110,slow=8.3,SNR=2.4							
WRA	**Warramunga Arr**	**44.43**	**165**	P	**P**	**14 43 34.9**	**-0.9**
0.6nm,0.8s,baz=346,slow=9.1,SNR=3.8							
ASAR	**Alice Springs**	**47.94**	**167**	P	**P**	**14 44 04.4**	**+1.0**
0.4nm,0.7s,baz=351,slow=6.9,SNR=7.8							
FINES	**FINESS Array B**	**73.14**	**330**	P	**P**	**14 46 55.5**	**+0.8**
2.0nm,0.9s,baz=64,slow=6.3,SNR=3.8							
VRAC	**Vranov**	**82.87**	**321**	P	**P**	**14 47 49.3**	**+0.2**
1.7nm,0.4s,baz=45,slow=7.1,SNR=2.3							
GERES	**GERESS Array B**	**84.76**	**321**	P	**P**	**14 47 58.9**	**+0.1**
0.3nm,0.2s,baz=64,slow=6.1,SNR=5.3							

*CSEM **17** 14:39:40.2, 45°.76N×26°.58E, h147km, MD4.1/2, After BUC*
BUC 17 14:39:40.2±1.2, 45°.76N×26°.58E, h147km±10km, MD4.1/2, 63C, Error ellipse: s-maj=9.6km s-min=8.0km az=325.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.10**	**29**	S	Sn	14 40 14.3	-0.9
PLOR	**Plostina**	**0.10**	**29**	*i* S	Sn	14 40 14.3	-0.9
PLOR	**Plostina**	**0.10**	**29**	*i* S	Sn	14 40 14.3	-0.9
VRI	**Vrincioaia**	**0.15**	**45**	P	Pn	14 39 59.9	-0.2
VRI	**Vrincioaia**	**0.15**	**45**	P	Pn	14 39 59.9	-0.2
VRI				*i* S	Sn	14 40 13.9	-1.3
VRI	**Vrincioaia**	**0.15**	**45**	P	Pn	14 39 59.9	-0.2
VRI				*i* S	Sn	14 40 13.9	-1.3
ODBI	**Odobesti**	**0.33**	**90**	P	Pn	14 40 01.3	+0.8
ODBI	**Odobesti**	**0.33**	**90**	P	Pn	14 40 01.3	+0.8
ODBI				*i* S	Sn	14 40 16.1	+0.2
ODBI	**Odobesti**	**0.33**	**90**	P	Pn	14 40 01.3	+0.8
ODBI				*i* S	Sn	14 40 16.1	+0.2
PETR	**Petresti**	**0.46**	**95**	P	Pn	14 40 01.2	+0.2
PETR	**Petresti**	**0.46**	**95**	P	Pn	14 40 01.2	+0.2
PETR				*i* S	Sn	14 40 16.6	-0.2
PETR	**Petresti**	**0.46**	**95**	P	Pn	14 40 01.2	+0.2
PETR				*i* S	Sn	14 40 16.6	-0.2
GRER		**0.47**	**144**	P	Pn	14 40 02.0	+0.9
GRER		**0.47**	**144**	P	Pn	14 40 02.0	+0.9
GRER				*i* S	Sn	14 40 14.7	-2.3
GRER		**0.47**	**144**	P	Pn	14 40 02.0	+0.9
GRER				*i* S	Sn	14 40 14.7	-2.3
MLR	**Muntele Rosu**	**0.52**	**239**	P	Pn	14 40 01.4	-0.1
MLR	**Muntele Rosu**	**0.52**	**239**	P	Pn	14 40 01.4	-0.1
MLR				*i* S	Sn	14 40 15.8	-1.9
MLR	**Muntele Rosu**	**0.52**	**239**	P	Pn	14 40 01.4	-0.1
MLR				*i* S	Sn	14 40 15.8	-1.9
ISR	**Istrita**	**0.65**	**182**	P	Pn	14 40 02.3	+0.1
ISR	**Istrita**	**0.65**	**182**	P	Pn	14 40 02.3	+0.1
ISR				*i* S	Sn	14 40 17.5	-1.3
ISR	**Istrita**	**0.65**	**182**	P	Pn	14 40 02.3	+0.1
ISR				*i* S	Sn	14 40 17.5	-1.3
GHRR		**0.65**	**62**	P	Pn	14 40 02.3	+0.2
GHRR		**0.65**	**62**	P	Pn	14 40 02.3	+0.2
GHRR		**0.65**	**62**	P	Pn	14 40 02.3	+0.2
TESR	**Tescani**	**0.75**	**4**	P	Pn	14 40 02.6	-0.2
TESR	**Tescani**	**0.75**	**4**	P	Pn	14 40 02.6	-0.2
TESR				*i* S	Sn	14 40 18.4	-1.6
TESR	**Tescani**	**0.75**	**4**	P	Pn	14 40 02.6	-0.2
TESR				*i* S	Sn	14 40 18.4	-1.6
PGOR	**Pogoanele**	**0.90**	**161**	P	Pn	14 40 03.8	-0.1
PGOR	**Pogoanele**	**0.90**	**161**	P	Pn	14 40 03.8	-0.1
PGOR				*i* S	Sn	14 40 20.5	-1.4
PGOR	**Pogoanele**	**0.90**	**161**	P	Pn	14 40 03.8	-0.1
PGOR				*i* S	Sn	14 40 20.5	-1.4
PLAR	**PLOIESTI**	**0.93**	**205**	S	Sn	14 40 22.3	-0.1
PLAR	**PLOIESTI**	**0.93**	**205**	*i* S	Sn	14 40 22.3	-0.1
PLAR	**PLOIESTI**	**0.93**	**205**	*i* S	Sn	14 40 22.3	-0.1
SULR		**1.11**	**192**	P	Pn	14 40 05.6	-0.1
SULR		**1.11**	**192**	P	Pn	14 40 05.6	-0.1
SULR				*i* S	Sn	14 40 24.5	-0.6
SULR		**1.11**	**192**	P	Pn	14 40 05.6	-0.1
SULR				*i* S	Sn	14 40 24.5	-0.6
VOIR		**1.12**	**254**	P	Pn	14 40 05.8	-0.1
VOIR		**1.12**	**254**	P	Pn	14 40 05.8	-0.1
VOIR				*i* S	Sn	14 40 23.9	-1.6
VOIR		**1.12**	**254**	P	Pn	14 40 05.8	-0.1
VOIR				*i* S	Sn	14 40 23.9	-1.6
MTUR	**Matau**	**1.20**	**244**	P	Pn	14 40 06.8	+0.2
MTUR	**Matau**	**1.20**	**244**	P	Pn	14 40 06.8	+0.2
MTUR	**Matau**	**1.20**	**244**	P	Pn	14 40 06.8	+0.2
CFR	**Carcaliu**	**1.24**	**118**	P	Pn	14 40 06.4	-0.5
CFR	**Carcaliu**	**1.24**	**118**	P	Pn	14 40 06.4	-0.5
CFR				*i* S	Sn	14 40 25.0	-2.2
CFR	**Carcaliu**	**1.24**	**118**	P	Pn	14 40 06.4	-0.5
CFR				*i* S	Sn	14 40 25.0	-2.2
AMRR	**Amara**	**1.27**	**155**	P	Pn	14 40 07.1	-0.1
AMRR	**Amara**	**1.27**	**155**	P	Pn	14 40 07.1	-0.1
AMRR				*i* S	Sn	14 40 26.7	-1.1
AMRR	**Amara**	**1.27**	**155**	P	Pn	14 40 07.1	-0.1
AMRR				*i* S	Sn	14 40 26.7	-1.1
INCR	**INCERC-Sediu C**	**1.35**	**193**	S	Sn	14 40 27.4	-1.9
INCR	**INCERC-Sediu C**	**1.35**	**193**	*i* S	Sn	14 40 27.4	-1.9
INCR	**INCERC-Sediu C**	**1.35**	**193**	*i* S	Sn	14 40 27.4	-1.9
LEOM	**Leova**	**1.36**	**58**	P	Pn	14 40 08.5	+0.5
LEOM	**Leova**	**1.36**	**58**	P	Pn	14 40 08.5	+0.5
LEOM				*i* S	Sn	14 40 28.8	-0.5
LEOM	**Leova**	**1.36**	**58**	P	Pn	14 40 08.5	+0.5
LEOM				*i* S	Sn	14 40 28.8	-0.5
CIOR	**Ciorogarla**	**1.41**	**201**	P	Pn	14 40 08.3	-0.3
CIOR	**Ciorogarla**	**1.41**	**201**	P	Pn	14 40 08.3	-0.3
CIOR				*i* S	Sn	14 40 28.7	-1.5
CIOR	**Ciorogarla**	**1.41**	**201**	P	Pn	14 40 08.3	-0.3
CIOR				*i* S	Sn	14 40 28.7	-1.5
HARR	**Harsova**	**1.44**	**138**	P	Pn	14 40 08.5	-0.4
HARR	**Harsova**	**1.44**	**138**	P	Pn	14 40 08.5	-0.4
HARR	**Harsova**	**1.44**	**138**	P	Pn	14 40 08.5	-0.4
BUC1	**Bucharest**	**1.47**	**196**	S	Sn	14 40 29.9	-1.5
BUC1	**Bucharest**	**1.47**	**196**	*i* S	Sn	14 40 29.9	-1.5
BUC1	**Bucharest**	**1.47**	**196**	*i* S	Sn	14 40 29.9	-1.5
TLCR		**1.67**	**109**	P	Pn	14 40 11.1	-0.3
TLCR		**1.67**	**109**	P	Pn	14 40 11.1	-0.3
TLCR				*i* S	Sn	14 40 34.0	-1.3
TLCR		**1.67**	**109**	P	Pn	14 40 11.1	-0.3
TLCR				*i* S	Sn	14 40 34.0	-1.3
CVD	**Cernavoda**	**1.78**	**144**	P	Pn	14 40 12.0	-0.6
CVD	**Cernavoda**	**1.78**	**144**	P	Pn	14 40 12.0	-0.6
CVD				*i* S	Sn	14 40 34.3	-3.1
CVD	**Cernavoda**	**1.78**	**144**	P	Pn	14 40 12.0	-0.6
CVD				*i* S	Sn	14 40 34.3	-3.1
TIRR	**Tirgusor**	**1.84**	**135**	P	Pn	14 40 12.9	-0.4
TIRR	**Tirgusor**	**1.84**	**135**	P	Pn	14 40 12.9	-0.4
TIRR				*i* S	Sn	14 40 35.6	-3.0
TIRR	**Tirgusor**	**1.84**	**135**	P	Pn	14 40 12.9	-0.4
TIRR				*i* S	Sn	14 40 35.6	-3.0
DRGR		**2.87**	**292**	P	Pn	14 40 26.0	+0.1
DRGR		**2.87**	**292**	P	Pn	14 40 26.0	+0.1
DRGR		**2.87**	**292**	P	Pn	14 40 26.0	+0.1

*ISCJB **17** 14:39:51.7±0.8, 6°.88N±0°.07×72°.87W±0°.07, h138km±11km, Error ellipse: s-maj=13.9km s-min=8.5km az=42.5*
*IDC **17** 14:39:53.1±6.6, 6°.69N×73°.19W, h172km±74km, mb1 3.2/1, mb1mx2.7/23, mbtmp3.5/1, Error ellipse: s-maj=970.6km s-min=84.6km az=125.0*
*FUNV **17** 14:39:56.3, 7°.09N×72°.84W, h146km, MW3.5*
ISC 17 14:39:51.8±1.2, 6°.99N±0°.06×72°.94W±0°.07, h149km±10km, n18, σ2°.40/28, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.06**	**35**	P	**Pn**	**14 40 19.8**	**+2.5**
CAPV				*e*S	**Sn**	**14 40 37.3**	**+0.5**
VIGV	**El Vigia**	**2.41**	**40**	*e*P	**Pn**	**14 40 34.4**	**+2.6**
VIGV				*e*S	**Sn**	**14 41 01.3**	**-1.3**
SOCV	**Socops**	**2.43**	**58**	*e*P	**Pn**	**14 40 34.1**	**+2.1**
SOCV				*e*S	**Sn**	**14 41 01.6**	**-1.5**
ROSC	**El Rosal**	**2.53**	**213**	P	**Pn**	**14 40 31.9**	**-1.8**
15nm,0.3s,baz=252,slow=22,SNR=29							
ROSC				S	**Sn**	**14 41 02.1**	**-3.9**
25nm,0.3s,baz=81,slow=21,SNR=13							
ELOV	**Elorza**	**3.43**	**90**	*e*P	**Pn**	**14 40 46.0**	**+1.3**
ELOV				*e*S	**Sn**	**14 41 23.3**	**-2.3**
VIRV	**Villa del Rosa**	**3.53**	**9**	*e*P	**Pn**	**14 40 46.8**	**+0.9**
VIRV				*e*S	**Sn**	**14 41 24.8**	**-3.1**
QARV	**Quebrada Arrib**	**3.99**	**37**	*e*P	**Pn**	**14 40 53.3**	**+1.4**
QARV				*e*S	**Sn**	**14 41 35.7**	**-3.0**
SANV	**Sanarito**	**4.19**	**53**	*e*P	**Pn**	**14 40 56.4**	**+1.7**
SANV				*e*S	**Sn**	**14 41 40.0**	**-3.5**
CURV	**Curarigua**	**4.20**	**44**	*e*P	**Pn**	**14 40 56.6**	**+1.8**
CURV				*e*S	**Sn**	**14 41 40.4**	**-3.4**
TEPV	**Terepaima**	**4.74**	**51**	*e*P	**Pn**	**14 41 03.7**	**+1.9**
SIQV	**Siquisique**	**4.77**	**40**	*e*P	**Pn**	**14 41 03.5**	**+1.3**
SIQV				*e*S	**Sn**	**14 41 52.5**	**-4.7**
BAUV	**El Baul**	**5.22**	**68**	*e*P	**Pn**	**14 41 08.7**	**+0.4**
IMOV	**Isla Los Monje**	**5.70**	**20**	*e*P	**Pn**	**14 41 15.3**	**+0.8**
MONV	**Montecano**	**5.73**	**30**	*e*P	**Pn**	**14 41 16.0**	**+0.9**
TURV	**Turiamo**	**6.10**	**55**	*e*P	**Pn**	**14 41 20.6**	**+0.8**
CUPV	**Cœpira**	**7.70**	**66**	*e*P	**Pn**	**14 41 41.1**	**-0.3**
ASAR	**Alice Springs**	**149.36**	**234**	PKPbc	**PKPdf**	**14 59 21.2**	**+1.7**
0.3nm,0.8s,baz=122,slow=3.6,SNR=6.5							
WRA	**Warramunga Arr**	**150.58**	**241**	PKPbc	**PKPdf**	**14 59 24.2**	**+2.7**
0.2nm,0.5s,baz=108,slow=2.2,SNR=4.7							

IDC 17 15:06:53.7±3.0, 1°.45S×99°.56E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/24, mbtmp3.6/7, ML2.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/44, Error ellipse: s-maj=133.8km s-min=18.8km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.27**	**351**	Pn	Pn	15 08 00.2	0.0
0.6nm,0.3s,baz=163,slow=18,SNR=3.5							
PSI				LR	LR	15 10 03.9	
comp=Z,127nm,18.4s,baz=240,slow=46							
WRA	**Warramunga Arr**	**38.65**	**121**	P	P	15 14 17.9	-1.5
0.3nm,0.7s,baz=303,slow=9.1,SNR=6.2							
ASAR	**Alice Springs**	**39.93**	**126**	P	P	15 14 31.1	+1.1
0.3nm,0.5s,baz=304,slow=7.8,SNR=16							
SONM	**Songino Array**	**49.45**	**6**	P	P	15 15 45.4	-0.4
0.3nm,0.5s,baz=220,slow=5.6,SNR=2.6							
STKA	**Stephens Creek**	**49.84**	**132**	P	P	15 15 49.1	+0.2
1.2nm,0.8s,baz=292,slow=8.2,SNR=2.1							
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	15 15 52.8	0.0
0.6nm,0.4s,baz=157,slow=9.0,SNR=13							
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	P	15 16 37.5	-0.4
0.4nm,0.3s,baz=157,slow=7.8,SNR=2.8							
TXAR	**Lajitas Array**	**144.53**	**36**	PKP	PKPab	15 26 31.1	-0.4
0.3nm,0.4s,baz=29,slow=2.1,SNR=2.8							

*NEIC **17** 15:09:11.0, 19°.16N×65°.72W, h106km, MD3.6(RSPR), After RSPR.*
NEIC Felt [II] at San Juan.
RSPR 17 15:09:11.0, 19°.16N×65°.72W, h106km±4km, MD3.6/12, 34C-11D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.90**	**188**	*e*P	Pn	15 09 29.8	-1.1
CBYP	**Canovanas**	**0.90**	**188**	*e*S	Sn	15 09 45.3	-0.5
CBYP	**Canovanas**	**0.90**	**188**	*e*P	Pn	15 09 29.8	-1.1
CBYP				*e*S	Sn	15 09 45.3	-0.5
CBYP	**Canovanas**	**0.90**	**188**	*e*P	Pn	15 09 29.8	-1.1
CBYP				*e*S	Sn	15 09 45.3	-0.5
MTP	**Monte Pirata**	**1.07**	**171**	*e*P	Pn	15 09 31.8	-0.8
MTP	**Monte Pirata**	**1.07**	**171**	*e*S	Sn	15 09 48.6	-0.4
MTP	**Monte Pirata**	**1.07**	**171**	*e*P	Pn	15 09 31.8	-0.8
MTP				*e*S	Sn	15 09 48.6	-0.4
MTP	**Monte Pirata**	**1.07**	**171**	*e*P	Pn	15 09 31.8	-0.8
MTP				*e*S	Sn	15 09 48.6	-0.4
STVI	**Saint Thomas**	**1.09**	**138**	*e*P	Pn	15 09 32.4	-0.4
STVI	**Saint Thomas**	**1.09**	**138**	*e*S	Sn	15 09 49.5	+0.3
STVI	**Saint Thomas**	**1.09**	**138**	*e*P	Pn	15 09 32.4	-0.4
STVI				*e*S	Sn	15 09 49.5	+0.3
STVI	**Saint Thomas**	**1.09**	**138**	*e*P	Pn	15 09 32.4	-0.4
STVI				*e*S	Sn	15 09 49.5	+0.3
SJG	**San Juan**	**1.12**	**201**	*e*P	Pn	15 09 32.6	-0.6
SJG				*e*S	Sn	15 09 49.6	-0.3
SJG	**San Juan**	**1.12**	**201**	*e*P	Pn	15 09 32.6	-0.6
SJG				*e*S	Sn	15 09 49.6	-0.3
SJG	**San Juan**	**1.12**	**201**	*e*P	Pn	15 09 32.6	-0.6
SJG				*e*S	Sn	15 09 49.6	-0.3
CPD	**Cerro la Pandu**	**1.13**	**189**	*e*P	Pn	15 09 33.1	-0.3
CPD	**Cerro la Pandu**	**1.13**	**189**	*e*S	Sn	15 09 50.3	0.0
CPD	**Cerro la Pandu**	**1.13**	**189**	*e*P	Pn	15 09 33.1	-0.3
CPD				*e*S	Sn	15 09 50.3	0.0
CPD	**Cerro la Pandu**	**1.13**	**189**	*e*P	Pn	15 09 33.1	-0.3
CPD				*e*S	Sn	15 09 50.3	0.0
AOPR	**Arecibo Observ**	**1.27**	**230**	*e*P	Pn	15 09 34.1	-0.8
AOPR				*e*S	Sn	15 09 52.8	-0.2
AOPR	**Arecibo Observ**	**1.27**	**230**	*e*P	Pn	15 09 33.9	-1.0
AOPR	**Arecibo Observ**	**1.27**	**230**	*e*P	Pn	15 09 34.1	-0.8
AOPR				*e*S	Sn	15 09 52.8	-0.2
AOPR	**Arecibo Observ**	**1.27**	**230**	*e*P	Pn	15 09 33.9	-1.0
AOPR	**Arecibo Observ**	**1.27**	**230**	*e*P	Pn	15 09 34.8	-0.1
AOPR				*e*S	Sn	15 09 52.8	-0.2
AOPR				*e*S	Sn	15 09 52.8	-0.2
TBVI	**Tortola**	**1.28**	**125**	*e*P	Pn	15 09 34.2	-0.8
TBVI				*e*S	Sn	15 09 52.8	-0.4
TBVI	**Tortola**	**1.28**	**125**	*e*P	Pn	15 09 34.2	-0.8
TBVI				*e*S	Sn	15 09 52.8	-0.4
TBVI	**Tortola**	**1.28**	**125**	*e*P	Pn	15 09 34.2	-0.8
TBVI				*e*S	Sn	15 09 52.8	-0.4
CELP	**Cerrillos**	**1.35**	**217**	*i*P	Pn	15 09 35.7	-0.2
CELP				*e*S	Sn	15 09 54.5	-0.1
CELP	**Cerrillos**	**1.35**	**217**	*i* Pu	Pn	15 09 35.7	-0.2
CELP				*e*S	Sn	15 09 54.5	-0.1
CELP	**Cerrillos**	**1.35**	**217**	*i*P	Pn	15 09 35.7	-0.2
CELP				*e*S	Sn	15 09 54.5	-0.1
LRS	**Lares**	**1.37**	**231**	*e*P	Pn	15 09 35.0	-1.1
LRS				*e*S	Sn	15 09 54.2	-0.9
LRS	**Lares**	**1.37**	**231**	*e*P	Pn	15 09 35.0	-1.1
LRS				*e*S	Sn	15 09 54.2	-0.9
LRS	**Lares**	**1.37**	**231**	*e*P	Pn	15 09 35.1	-1.0
LRS				*e*S	Sn	15 09 54.2	-0.9
ABV	**Anegada**	**1.39**	**108**	*e*P	Pn	15 09 35.7	-0.5
ABV	**Anegada**	**1.39**	**108**	*e*S	Sn	15 09 55.8	+0.5
ABV	**Anegada**	**1.39**	**108**	*e*P	Pn	15 09 35.7	-0.5
ABV				*e*S	Sn	15 09 55.8	+0.5
ABVI	**Anegada Island**	**1.39**	**108**	*e*P	Pn	15 09 35.7	-0.5
ABVI				*e*S	Sn	15 09 55.8	+0.5
OBIP	**Obispado Ponce**	**1.39**	**217**	*e*P	Pn	15 09 36.4	+0.1
OBIP	**Obispado Ponce**	**1.39**	**217**	*e*S	Sn	15 09 56.0	+0.5
OBIP	**Obispado Ponce**	**1.39**	**217**	*e*P	Pn	15 09 36.4	+0.1
OBIP				*e*S	Sn	15 09 56.0	+0.5
OBIP	**Obispado Ponce**	**1.39**	**217**	*e*P	Pn	15 09 36.4	+0.1
OBIP				*e*S	Sn	15 09 56.0	+0.5
AGPR	**Aguadilla, PR**	**1.48**	**242**	*e*P	Pn	15 09 36.7	-0.7
AGPR	**Aguadilla, PR**	**1.48**	**242**	*e*S	Sn	15 09 58.0	+0.5
AGPR	**Aguadilla, PR**	**1.48**	**242**	*e*P	Pn	15 09 36.7	-0.7
AGPR				*e*S	Sn	15 09 58.0	+0.5
AGPR	**Aguadilla, PR**	**1.48**	**242**	*e*P	Pn	15 09 36.7	-0.7
AGPR				*e*S	Sn	15 09 58.0	+0.5
LSP	**Las Mesas**	**1.62**	**233**	*e*P	Pn	15

PMG LR LR 15 25 59.0
comp=Z,6μm,18.9s,baz=45,slow=38
CTA Charters Tower 15.70 211 Pn **Pn 15 24 42.2 -0.7**
CTA Charters Tower 15.70 211 Pn **Pn 15 24 42.2 -0.7**
0.2nm,0.3s,baz=39,slow=15,SNR=14
CTAO Charters Tower 15.70 211 *e*P **Pn 15 24 41.9 -1.1**
CTAO pmax pmax
comp=Z,213nm,0.9s
CTAO Charters Tower 15.70 211 *e*P **Pn 15 24 41.9 -1.1**
comp=Z,213nm,0.9s
NOUC Port Laguerre 19.01 145 *e*P **Pn 15 25 24.1 0.0**
DZM Mont Dzumac 19.06 145 *e*LR LR 15 29 52.1
comp=Z,2μm,24.0s
DZM Mont Dzumac 19.06 145 *e*P **Pn 15 25 25.0 +0.1**
DZM Mont Dzumac 19.06 145 P **Pn 15 25 26.7 +1.8**
DZM Mont Dzumac 19.06 145 P **Pn 15 25 26.7 +1.8**
comp=Z,1.0nm,0.3s,baz=340,slow=10,SNR=21
DZM LR LR 15 31 48.5
comp=Z,1μm,19.5s,baz=354,slow=34
TARA Tarawa 19.82 67 *e*P **Pn 15 25 34.5 +0.6**
comp=Z,266nm,1.2s
KWAJ Kwajalein Atol 20.01 40 P Pn 15 25 37.5 +1.4
KWAJ pmax pmax
comp=Z,248nm,0.8s
KWAJ Kwajalein Atol 20.01 40 P Pn 15 25 37.5 +1.4
comp=Z,248nm,0.8s
RKPI Ransiki, Papua 21.11 283 P P 15 25 52.6 +6.4
comp=Z,134nm,1.2s,comp=Z,4μm
TLE Tual 21.89 271 P **P 15 25 55.8 +1.3**
comp=Z,354nm,1.0s,comp=Z,7μm
GUMO Guam 22.35 334 *e*P **P 15 25 58.6 -0.9**
comp=Z,110nm,1.1s
FAKI Fak Fak 22.70 278 P P 15 26 09.2 +6.0
comp=Z,99nm,2.2s,comp=Z,2μm
WRAB Tennant Creek 23.79 234 P **P 15 26 12.0 -2.1**
comp=Z,747nm,1.2s,SNR=47
WRAB Tennant Creek 23.79 234 *e*P **P 15 26 12.4 -1.7**
WRAB pmax pmax
comp=Z,210nm,1.3s
WRAB Tennant Creek 23.79 234 *e*P **P 15 26 12.4 -1.7**
comp=Z,210nm,1.3s
WRA Warramunga Arr 23.80 234 P **P 15 26 12.4 -1.8**
WRA PcP **PcP 15 29 57.3 0.0**
WRA ScP **ScP 15 33 35.7 +2.4**
WRA Warramunga Arr 23.80 234 P **P 15 26 12.4 -1.8**
comp=Z,169nm,1.2s,baz=59,slow=8.8,SNR=118
WRA PcP **PcP 15 29 57.3 0.0**
comp=Z,6.3nm,0.8s,baz=57,slow=2.2,SNR=8.6
WRA ScP **ScP 15 33 35.7 +2.4**
comp=Z,5.8nm,1.1s,baz=63,slow=3.1,SNR=6.2
WRA LR LR 15 35 10.4
comp=Z,2μm,19.1s,baz=55,slow=36
SWI Sorong 24.10 283 P **P 15 26 17.2 +0.2**
comp=Z,124nm,1.1s,comp=Z,2μm
MSVF Nonsavu 25.29 118 *e*P **P 15 26 29.8 +1.9**
MSVF pmax pmax
comp=Z,70nm,1.3s
MSVF Nonsavu 25.29 118 *e*P **P 15 26 29.8 +1.9**
comp=Z,70nm,1.3s
AS31 Alice Springs 26.21 228 *e*P **P 15 26 34.8 -1.4**
ASAR Alice Springs 26.21 228 P **P 15 26 34.7 -1.5**
ASAR PcP **PcP 15 30 03.0 +0.4**
ASAR ScP **ScP 15 33 41.7 +1.6**
ASAR Alice Springs 26.21 228 P **P 15 26 34.7 -1.5**
comp=Z,17nm,1.0s,baz=57,slow=9.6,SNR=80
ASAR PcP **PcP 15 30 03.0 +0.4**
comp=Z,3.3nm,0.9s,baz=52,slow=2.8,SNR=4.4
ASAR ScP **ScP 15 33 41.7 +1.6**
comp=Z,11nm,1.2s,baz=55,slow=3.1,SNR=14
ASAR LR LR 15 37 13.1
comp=Z,2μm,18.0s,baz=53,slow=37
LBMI Labuha 27.80 281 P **P 15 26 51.3 +0.8**
comp=Z,218nm,1.1s,comp=Z,3μm
STKA Stephens Creek 27.95 204 *e*P **P 15 26 50.1 -1.5**
comp=Z,7.3nm,0.9s
STKA Stephens Creek 27.95 204 P **P 15 26 50.5 -1.0**
comp=Z,18nm,0.6s,baz=31,slow=11,SNR=30
STKA LR LR 15 37 29.0
comp=Z,2μm,20.5s,baz=26,slow=35
TNTI Ternate 28.28 284 P P 15 27 06.4 +12
SOEI Soe 30.30 262 P **P 15 27 12.0 -0.8**
comp=Z,45nm,1.2s
FITZ Fitzroy Crossi 30.56 245 P **P 15 27 13.4 -1.5**
FITZ Fitzroy Crossi 30.56 245 P **P 15 27 13.4 -1.5**
comp=Z,34nm,0.9s,baz=89,slow=6.9,SNR=50
BBSI Bau Bau 31.99 270 P P 15 27 33.5 +5.8
comp=Z,76nm,1.2s,comp=Z,1μm
DAV Davao City (W) 32.11 295 LR LR 15 40 42.7
comp=Z,749nm,18.4s,baz=90,slow=37
MMRI Maumere 32.26 264 P **P 15 27 29.6 -0.4**
comp=Z,72nm,1.1s,comp=Z,1μm
GTOI Gorontalo 32.47 282 P **P 15 27 32.9 +1.1**
comp=Z,158nm,1.0s,comp=Z,1μm
LBFI Labuhan Bajo, 34.58 265 P P 15 28 01.8 +12
KAPI Kappang 34.83 271 P **P 15 27 50.2 -2.2**
KAPI Kappang 34.83 271 P **P 15 27 50.2 -2.2**
comp=Z,13nm,0.9s,baz=131,slow=11,SNR=2.4
TTSI Tana Toraja 34.96 274 P P 15 28 08.3 +15
MBWA Marble Bar 36.79 243 *e*P **P 15 28 07.4 -1.7**
comp=Z,27nm,1.0s
URZ Urewera 37.45 150 P **P 15 28 15.9 +1.5**
URZ Urewera 37.45 150 P **P 15 28 15.9 +1.5**
comp=Z,14nm,0.8s,baz=123,slow=4.0,SNR=3.9
URZ LR LR 15 40 39.8
comp=Z,320nm,21.3s,baz=335,slow=31
MYLDM Lahad Datu 38.02 287 P **P 15 28 19.8 +0.2**
MYLDM Lahad Datu 38.02 287 P **P 15 28 21.5 +1.9**
MYLDM Lahad Datu 38.02 287 P **P 15 28 22.4 +2.8**
TSM Tawau 38.36 285 P **P 15 28 22.4 -0.1**
KHZ Kahutara 39.33 158 *e*P **P 15 28 30.8 +0.5**
comp=Z,35nm,0.9s
SDKM Sandakan 39.39 287 P **P 15 28 33.3 +2.1**
RPZ Rata Peaks 39.62 161 P **P 15 28 33.3 +0.7**
RPZ Rata Peaks 39.62 161 P **P 15 28 33.3 +0.7**
comp=Z,18nm,0.8s,baz=57,slow=1.8,SNR=8.1
RPZ LR LR 15 42 11.7
comp=Z,868nm,18.5s,baz=327,slow=32
KKM Kota Kinabalu 40.45 287 P **P 15 28 41.4 +1.4**
KKM Kota Kinabalu 40.45 287 P P 15 28 52.0 +12
JOW Kunigami 42.00 323 *e*P **P 15 28 52.8 +0.3**
comp=Z,11nm,0.9s
BTM Bintulu 42.71 282 P **P 15 28 58.8 +0.3**
SBUM Sibu 43.38 281 P **P 15 29 05.0 +1.1**
TWG Pinlang 44.06 313 *e*P **P 15 29 08.2 -0.9**
comp=Z,56nm,0.8s
YULB Yu-li 44.24 313 *e*P **P 15 29 09.9 -0.8**
comp=Z,40nm,0.8s
NACB Ninganchiao 44.52 315 *e*P **P 15 29 13.0 +0.2**
comp=Z,94nm,1.1s
TPUB Ta-pu 44.67 313 *e*P **P 15 29 13.8 -0.3**
comp=Z,31nm,0.7s
SSLB Suanglung 44.73 314 *e*P **P 15 29 14.8 +0.1**
comp=Z,44nm,0.8s
YHNB Yeheng 44.99 315 *e*P **P 15 29 17.5 +0.9**
comp=Z,85nm,1.0s
KSM Kuching 45.06 279 *e*P **P 15 29 16.8 -0.6**
comp=Z,20nm,0.8s
KSM Kuching 45.06 279 P **P 15 29 17.9 +0.6**
TATO Taipei 45.10 315 *e*P **P 15 29 18.1 +0.6**
comp=Z,63nm,1.0s
JNU Nakatsue 45.57 332 *e*P **P 15 29 19.9 -1.3**
comp=Z,7.9nm,0.8s
MJAR Matsushiro Arr 45.66 341 P **P 15 29 19.5 -2.2**
MJAR Matsushiro Arr 45.66 341 P **P 15 29 19.5 -2.2**
comp=Z,1.8nm,0.8s,baz=165,slow=8.4,SNR=4.6
TJN Taejon 49.90 331 *i*P **P 15 29 53.7 -0.8**
KSRS Korea Array 50.50 332 P **P 15 29 58.4 -0.8**
comp=Z,8.5nm,0.8s,baz=146,slow=8.3,SNR=55
KSRS LR LR 15 51 41.2
comp=Z,282nm,18.1s,baz=325,slow=36
KSAR Wonju Array Be 50.51 332 P **P 15 29 58.4 -0.8**
QIZ Qiongzhong 51.05 301 P **P 15 30 03.9 +0.3**
QIZ sP **sP 15 30 17.3 -0.3**
QIZ S **S 15 37 17.1 -2.1**
QIZ sS **sS 15 37 34.8 -0.9**
QIZ pmax pmax
comp=Z,8.0nm,0.9s
QIZ pmax pmax
comp=Z,130nm,6.2s
QIZ LR LR
comp=N,290nm,18.0s
QIZ LR LR
comp=Z,450nm,19.5s
YUK Yuzh-Kuril'sk 51.07 352 *e*P **P 15 30 05.3 +2.0**
YUK *i* S **S 15 37 15.0 -3.6**
YUK PPP PPP 15 33 04.4

INCN Inchon 51.13 331 *e*P **P 15 30 03.1 -0.8**
comp=Z,32nm,0.9s
MYKOM Kota Tinggi 51.47 278 P **P 15 30 07.4 +0.5**
NJ2 Nanjing 51.47 321 *e*P **P 15 30 07.1 +0.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 LR LR
comp=Z,580nm,22.9s
KGM Kluang 52.03 278 P **P 15 30 11.4 +0.4**
WHN Wuhan 53.50 316 ⇑P **P 15 30 23.6 +2.0**
WHN S **S 15 37 55.3 +2.9**
WHN LR LR
comp=N,260nm,10.0s
WHN LR LR
comp=E,1μm,21.3s
WHN LR LR
comp=Z,910nm,19.2s
FRIM Kepong 53.91 279 P **P 15 30 25.4 +0.5**
KIP Kipapa 54.09 58 *e*P P 15 30 29.5 +3.4
YSS Yuzh-Sakhalins 54.41 350 *e*P **P 15 30 30.0 +2.1**
YSS *e* 15 30 40.2
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=Z,200nm,16.0s
USRK Ussuriysk Arra 54.61 340 P **P 15 30 28.9 -0.6**
comp=Z,4.1nm,0.8s,baz=164,slow=7.5,SNR=9.0
IPM Ipoh 54.73 280 *e*P **P 15 30 30.6 -0.4**
comp=Z,22nm,1.0s
IPM *e* 15 30 40.6
IPM Ipoh 54.73 280 P **P 15 30 31.7 +0.7**
KULM Kulim 55.26 281 *e*P **P 15 30 34.3 -0.4**
comp=Z,12nm,1.1s
KULM Kulim 55.26 281 P **P 15 30 35.6 +0.9**
PPT Papeete 55.35 107 LR LR 15 52 14.5
comp=Z,279nm,18.9s,baz=281,slow=34
PPT2 Papeete2 55.36 107 *e*S **S 15 38 19.9 +1.9**
comp=Z,340nm,24.5s
PPT2 *e*LQ LQ 15 44 24.3
comp=Z,722nm,27.2s
PPT2 *e*LR LR 15 46 48.3
comp=Z,369nm,22.8s,baz=278
MDJ Mudanjiang 55.81 338 P **P 15 30 37.5 -0.6**
MDJ pP **pP 15 30 46.8 -1.4**
MDJ sP **sP 15 30 50.5 -1.7**
MDJ PP **PP 15 32 42.1 -0.9**
MDJ ScP **ScP 15 35 36.8 +3.2**
MDJ S **S 15 38 18.5 -4.5**
MDJ ScS **ScS 15 40 23.8 -1.0**
MDJ SS **SS 15 42 06.3 -2.9**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,65nm,8.5s
MDJ LR LR
comp=N,150nm,17.9s
MDJ LR LR
comp=E,160nm,13.4s
MDJ LR LR
comp=Z,190nm,19.6s
TBI Tubuai 56.06 114 *e*LQ LQ 15 44 40.7
comp=Z,1μm,28.0s
TBI *e*LR LR 15 47 02.3
comp=Z,546nm,32.5s
CN2 Changchun 56.76 335 *e*P **P 15 30 44.1 -0.8**
CN2 *e*sP **sP 15 30 58.1 -0.8**
CN2 *e*PP **PP 15 32 51.9 +0.4**
CN2 *e*S **S 15 38 33.3 -2.3**
CN2 *e*SS **SS 15 42 22.5 -1.6**
CN2 pmax pmax
comp=Z,70nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,300nm,21.0s
ENH Enshi 56.80 313 *e*P **P 15 30 45.8 +0.3**
comp=Z,36nm,0.9s
GYA Guiyang 57.03 307 ⇑*i*P **P 15 30 47.6 +0.3**
GYA pP **pP 15 30 58.8 +1.4**
GYA PP **PP 15 32 57.0 +2.7**
GYA S **S 15 38 37.8 -2.2**
GYA sS **sS 15 38 55.4 -1.3**
GYA SS **SS 15 42 28.9 -0.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,550nm,20.8s
GYA LR LR
comp=E,480nm,21.4s
GYA LR LR
comp=Z,520nm,19.9s
HABR Khabarovsk 57.54 345 *e*P **P 15 30 49.2 -1.1**
HABR *e**PP pP 15 31 07.3 +6.9
HABR *e* 15 32 57.5
HABR *e*S **S 15 38 41.4 -4.2**
HABR *e* 15 39 02.1
HABR *e* 15 40 31.7
HABR *e*SS **SS 15 42 33.3 -2.9**
HABR pmax pmax
comp=N,4.0nm,0.7s
HABR pmax pmax
comp=Z,21nm,1.8s
HABR pmax pmax
comp=E,22nm,1.8s
HABR MLR MLR
comp=Z,159nm,19.0s
BJI Beijing 58.48 326 P **P 15 30 57.9 +0.9**
BJI S **S 15 39 00.9 +2.6**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI pmax pmax
comp=Z,140nm,5.0s
BJI LR LR
comp=N,230nm,20.4s
BJI LR LR
comp=E,250nm,20.4s
BJI LR LR
comp=Z,150nm,27.6s
KLR Kul'dur 59.15 343 *e*P P 15 30 57.2 -4.3
XAN Xi'an 59.27 316 P **P 15 31 02.3 -0.4**
XAN pP **pP 15 31 12.5 -0.4**
XAN sP **sP 15 31 16.3 -0.5**
XAN PcP **PcP 15 31 51.8 +1.0**
XAN PP **PP 15 33 12.3 -1.7**
XAN S **S 15 39 06.4 -2.5**
XAN ScS **ScS 15 40 45.8 -4.9**
XAN SS **SS 15 42 59.8 -4.3**
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,28nm,5.3s
XAN LR LR
comp=N,170nm,18.3s
XAN LR LR
comp=E,70nm,20.6s
XAN LR LR
comp=Z,94nm,18.9s
PET Petropavlovsk 59.53 3 *e*P P 15 31 08.0 +4.0
PET *e*S **S 15 39 16.0 +4.6**
PET pmax pmax
comp=Z,29nm,1.2s
PET pmax pmax
comp=Z,100nm,7.7s
PEA0B Petropavlovsk- 59.57 2 *e*P **P 15 31 04.5 +0.1**
PETK Petropavlovsk- 59.57 2 P **P 15 31 04.4 0.0**
PETK Petropavlovsk- 59.57 2 P **P 15 31 04.4 0.0**
PETK Petropavlovsk- 59.57 2 P **P 15 31 04.4 0.0**
comp=Z,4.7nm,0.8s,baz=172,slow=8.2,SNR=13
PETK LR LR 15 54 59.7
comp=Z,256nm,19.1s,baz=176,slow=34
KMI Kunming 59.60 304 P **P 15 31 06.8 +1.4**
KMI pP **pP 15 31 14.6 -1.0**
KMI S **S 15 39 11.6 -2.2**
KMI SS **SS 15 43 07.3 -2.6**
KMI pmax pmax
comp=Z,36nm,0.9s
KMI LR LR
comp=N,180nm,15.1s

KMI LR LR
comp=E,200nm,17.2s
KMI LR LR
comp=Z,310nm,22.4s
CM31 Chiang Mai Arr 60.39 295 *e*P **P 15 31 12.4 +1.7**
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 60.39 295 P **P 15 31 11.7 +1.0**
CMAR ⇑*e* 16 00 47.4
CMAR Chiang Mai Arr 60.39 295 P **P 15 31 11.7 +1.0**
comp=Z,12nm,0.8s,baz=114,slow=5.0,SNR=83
CMAR LR LR 15 57 52.3
comp=Z,156nm,18.6s,baz=116,slow=37
CMAR PKP2bc 16 00 47.4
comp=Z,0.4nm,0.3s,baz=278,slow=5.0,SNR=4.3
CHTO Chiang Mai 60.51 296 *e*P **P 15 31 11.5 0.0**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 60.51 296 *e*P **P 15 31 11.5 0.0**
comp=Z,18nm,1.1s
DRV Dumont d'Urvil 60.79 187 P P 15 31 07.0 -5.5
DRV Dumont d'Urvil 60.79 187 SS SKiKP 15 42 21.0 +38
DRV R 15 50 00.0
FX1 Attu Island--F 61.33 13 *e*P **P 15 31 16.9 +0.5**
CD2 Chengdu 61.38 310 *e*P **P 15 31 18.3 +1.0**
CD2 pP **pP 15 31 29.0 +1.5**
CD2 sP **sP 15 31 32.5 +1.1**
CD2 PcP **PcP 15 32 00.1 +0.8**
CD2 PP **PP 15 33 36.0 +3.2**
CD2 S **S 15 39 35.3 -0.8**
CD2 sS **sS 15 39 52.5 -0.5**
CD2 ScS **SKKSac 15 41 03.3 -3.3**
CD2 SS **SS 15 43 37.8 +0.4**
CD2 pmax pmax
comp=Z,110nm,0.8s
CD2 pmax pmax
comp=Z,540nm,6.2s
CD2 LR LR
comp=N,280nm,16.8s
CD2 LR LR
comp=E,380nm,19.0s
CD2 LR LR
comp=Z,410nm,20.2s
HHC Hu-ho-hao-te 61.65 324 *e*P **P 15 31 19.3 +0.3**
HHC pP **pP 15 31 29.4 +0.2**
HHC sP **sP 15 31 33.3 +0.2**
HHC PP **PP 15 33 37.8 +2.8**
HHC S **S 15 39 38.8 -0.5**
HHC sS **sS 15 39 56.0 -0.1**
HHC SS **SS 15 43 41.4 0.0**
HHC pmax pmax
comp=Z,43nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.7s
HHC LR LR
comp=N,530nm,17.1s
HHC LR LR
comp=E,490nm,17.1s
HHC LR LR
comp=Z,780nm,17.3s
ADK Adak 63.22 19 *e*P **P 15 31 29.2 +0.2**
ADK Adak 63.22 19 *e*P **P 15 31 29.2 +0.2**
comp=Z,123nm,0.9s
HIA Hailar 63.49 335 *e*P **P 15 31 30.3 -0.6**
comp=Z,13nm,0.8s
LZH Lanzhou 63.88 316 *e*P **P 15 31 34.4 +0.4**
LZH pP **pP 15 31 45.0 +0.8**
LZH sP **sP 15 31 48.6 +0.5**
LZH PP **PP 15 33 57.0 +2.2**
LZH *e*S **S 15 40 06.0 -1.5**
LZH *e*SS **SS 15 44 15.6 -0.9**
LZH pmax pmax
comp=Z,26nm,1.5s
LZH pmax pmax
comp=Z,140nm,8.7s
LZH LR LR
comp=N,630nm,15.8s
LZH LR LR
comp=E,580nm,15.1s
LZH LR LR
comp=Z,740nm,19.3s
CASY Casey 66.85 198 *e*P **P 15 31 52.3 -0.1**
comp=Z,42nm,1.5s
GTA Gaotai 68.30 317 ⇑P **P 15 32 02.5 +0.2**
GTA pP **pP 15 32 13.0 +0.4**
GTA sP **sP 15 32 16.9 +0.4**
GTA S **S 15 41 02.9 +1.7**
GTA sS **sS 15 41 19.6 +1.4**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA pmax pmax
comp=Z,91nm,5.5s
GTA LR LR
comp=N,160nm,18.5s
GTA LR LR
comp=E,160nm,19.5s
GTA LR LR
comp=Z,210nm,20.9s
ULN Ulaanbaatar 68.56 328 *e*P **P 15 32 03.7 -0.1**
comp=Z,17nm,1.1s
SHL Shillong 68.89 301 *e*P **P 15 32 06.8 +0.5**
SONM Songino Array 68.89 327 P **P 15 32 06.0 +0.2**
SONM ⇑*e* 16 00 21.6
SONM Songino Array 68.89 327 P **P 15 32 06.0 +0.2**
comp=Z,3.6nm,0.8s,baz=130,slow=6.1,SNR=18
SONM PKP2bc 16 00 21.6
comp=Z,1.3nm,0.8s,baz=288,slow=2.5,SNR=7.7
SONM LR LR 16 04 20.0
comp=Z,462nm,18.4s,baz=119,slow=38
RKT Rikitea 69.32 112 *e*LR LR 15 53 18.2
comp=Z,808nm,26.2s
SEY Seymchan 69.39 359 ⇑*e*P **P 15 32 07.5 -0.9**
LSA Lhasa 70.85 304 P **P 15 32 19.4 +0.8**
LSA Lhasa 70.85 304 *e*P **P 15 32 19.5 +0.8**
LSA *e* 15 32 29.9
LSA pmax pmax
comp=Z,38nm,0.8s
LSA Lhasa 70.85 304 *e*P **P 15 32 19.5 +0.8**
comp=Z,38nm,0.8s
LSA *e* 15 32 29.9
VNDA Vanda 70.94 178 *e*P **P 15 32 18.6 +0.8**
comp=Z,6.9nm,0.8s
VNDA *e* 15 32 28.9
VNDA Vanda 70.94 178 P **P 15 32 19.1 +1.3**
comp=Z,4.3nm,0.8s,baz=327,slow=7.0,SNR=24
YAK Yakutsk 71.15 348 *i*P **P 15 32 18.9 -0.3**
TLY Talaya 72.62 329 *e*P **P 15 32 27.8 -0.5**
TAPN Taplejung 72.99 301 *e*P **P 15 32 32.1 +0.8**
comp=Z,159nm,1.0s
ODAN Odare 73.12 301 *e*P **P 15 32 32.4 +0.4**
comp=Z,188nm,0.8s
RAMN Ramite 73.82 300 *e*P **P 15 32 36.4 +0.2**
JIRN Jiri 74.37 301 *e*P **P 15 32 39.9 +0.4**
comp=Z,81nm,0.8s
GUN Gumba 74.71 301 *e*P **P 15 32 42.0 +0.6**
comp=Z,245nm,0.9s
PKI Pulchoki 75.01 301 *e*P **P 15 32 43.3 +0.1**
comp=Z,170nm,1.0s
PKIN Phulchoki 75.03 301 *e*P **P 15 32 43.3 +0.1**
comp=Z,86nm,1.0s
KKN Kakani 75.18 301 *e*P **P 15 32 44.3 +0.3**
comp=Z,104nm,0.8s
DMN Daman 75.28 301 *e*P **P 15 32 45.2 +0.5**
comp=Z,317nm,1.0s
KOLN Koldanda 76.61 300 *e*P **P 15 32 52.3 +0.1**
comp=Z,119nm,0.7s
DANN Dangsing 76.63 301 *e*P **P 15 32 52.4 0.0**
comp=Z,114nm,0.7s
HVS Khovu-Aksy 77.64 326 *d i*P **P 15 32 57.5 +0.2**
HVS pmax pmax
comp=Z,56nm,1.1s
WMQ Urumqi 78.38 317 P P 15 33 05.4 +3.8
WMQ sP sP 15 33 19.8 +3.9
WMQ PP PP 15 36 04.4 +5.2
WMQ S **S 15 42 57.0 +1.9**
WMQ SKS **SKSac 15 43 12.8 -1.2**
WMQ sS **SKKSac 15 43 14.3 -0.8**
WMQ ScS **ScS 15 43 18.8 -1.1**
WMQ SS **SS 15 48 00.9 +2.2**
WMQ pmax pmax
comp=Z,16nm,1.4s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=N,91nm,20.0s
WMQ LR LR

comp=E,88nm,24.0s
WMQ LR LR
HYB Hyderabad 78.90 289 *i* P **P 15 33 04.0 -0.9**
TIXI Tiksi 79.97 352⇑ *eP* **P 15 33 12.4 +2.9**
TIXI pmax pmax
comp=Z,17nm,1.7s
PMR Palmer 80.57 24 *eP* **P 15 33 14.9 +2.0**
PMR pmax pmax
comp=Z,16nm,1.2s
PMR Palmer 80.57 24 *eP* **P 15 33 14.9 +2.0**
comp=Z,16nm,1.2s
SML Sawmill 81.01 24 P **P 15 33 15.5 +0.1**
SML pmax pmax
comp=Z,9.0nm,1.1s
SML Sawmill 81.01 24 P **P 15 33 15.4 +0.1**
comp=Z,8.7nm,1.1s
TRF Thorofare Moun 81.17 22 *eP* **P 15 33 14.8 -1.5**
comp=Z,7.5nm,0.9s
IM04 Indian Mountai 81.46 19 *eP* **P 15 33 17.4 -0.3**
IMA2 Indian Mountai 81.55 19 *eP* **P 15 33 18.1 -0.2**
MCK McKinley 81.83 22 *eP* **P 15 33 19.2 -0.5**
MCK pmax pmax
comp=Z,25nm,1.0s
MCK McKinley 81.83 22 *eP* **P 15 33 19.2 -0.5**
comp=Z,25nm,1.0s
NDI New Delhi 82.30 300 *ex* **P 15 33 21.0 -1.9**
COLA College 82.85 21 *eP* **P 15 33 23.5 -1.4**
COLA pmax pmax
comp=Z,39nm,0.9s
COLA College 82.85 21 *eP* **P 15 33 23.5 -1.4**
comp=Z,39nm,0.9s
MK31 Makanchi Array 82.96 319 *eP* **P 15 33 25.8 -0.1**
MK31 Makanchi Array 82.96 319 *eP* **P 15 33 25.8 -0.1**
MKAR Makanchi Array 82.96 319 P **P 15 33 26.3 +0.3**
MKAR Makanchi Array 82.96 319 P **P 15 33 26.3 +0.3**
MKAR PKKPbc **PKKPbc 15 51 49.2 -1.3**
MKAR Makanchi Array 82.96 319 P **P 15 33 26.3 +0.3**
comp=Z,15nm,0.7s,baz=102,slow=5.3,SNR=118
MKAR PKKPbc **PKKPbc 15 51 49.2 -1.3**
comp=Z,0.3nm,0.7s,baz=270,slow=1.2,SNR=3.8
MKAR LR LR 16 13 01.2
comp=Z,157nm,18.3s,baz=244,slow=38
ILAR Eielson Array 83.14 22 P **P 15 33 25.3 -1.2**
ILAR Eielson Array 83.14 22 P **P 15 33 25.3 -1.2**
comp=Z,2.5nm,0.8s,baz=261,slow=4.5,SNR=18
ILAR LR LR 16 07 09.0
comp=Z,783nm,20.4s,baz=278,slow=33
COLD Coldfoot 83.36 19 P **P 15 33 28.0 +0.5**
comp=Z,6.4nm,1.0s
POO Poona 83.50 289 *ex* **P 15 33 27.0 -2.4**
ZAA0 Zalesovo Array 83.74 326 *eP* **P 15 33 28.4 -1.3**
ZAA0 *e* 15 33 39.4
ZALV Zalesovo Beam 83.74 326 *i* P **P 15 33 28.7 -1.0**
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV Zalesovo Beam 83.74 326 P **P 15 33 28.8 -0.9**
ZALV Zalesovo Beam 83.74 326 P **P 15 33 28.8 -0.9**
comp=Z,9.3nm,0.8s,baz=108,slow=5.7,SNR=39
ZALV LR LR 16 10 42.2
comp=Z,198nm,19.5s,baz=339,slow=36
MAW Mawson 84.62 203 P **P 15 33 34.6 +0.6**
MAW Mawson 84.62 203 P **P 15 33 34.6 +0.6**
comp=Z,14nm,0.8s,baz=96,slow=7.7,SNR=18
MAW LR LR 16 07 16.2
comp=Z,256nm,18.5s,baz=115,slow=33
NVS Novosibirsk 84.91 327 *eP* **P 15 33 33.7 -1.9**
NVS pmax pmax
comp=E,15nm,1.7s
NVS pmax pmax
comp=Z,23nm,1.7s
HYT Haines Junctio 85.18 27 *eP* **P 15 33 37.5 +0.4**
EGAK Eagle 85.29 23 *eP* **P 15 33 37.5 +0.1**
comp=Z,14nm,1.0s
KSH Kashi 85.58 310 P **P 15 33 41.4 +1.9**
KSH sP **sP 15 33 56.4 +2.4**
KSH PP **PP 15 37 02.3 +3.7**
KSH S **S 15 44 09.3 -0.2**
KSH sS **sS 15 44 27.4 +0.4**
KSH SS **SS 15 49 50.3 +4.3**
KSH pmax pmax
comp=Z,18nm,0.8s
KSH pmax pmax
comp=Z,190nm,5.3s
KSH LR LR
comp=N,91nm,5.1s
KSH LR LR
comp=E,47nm,5.0s
KSH LR LR
comp=Z,140nm,6.5s
TKM2 Tokmak 2 86.58 314 P **P 15 33 44.6 +0.1**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 86.58 314 *eP* **P 15 33 44.8 +0.3**
comp=Z,10nm,1.1s
FRU Bishkek 87.27 313 *eP* **P 15 33 50.0 +2.4**
FRU pmax pmax
comp=Z,34nm,2.2s
AAK Ala-Archa 87.31 313 *ceP* **P 15 33 48.6 +0.5**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 87.31 313 P **P 15 33 47.8 -0.3**
comp=Z,5.7nm,0.8s
EKS2 Erkin-Say 87.84 313 *eP* **P 15 33 50.8 +0.3**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 87.84 313 *eP* **P 15 33 50.8 +0.3**
comp=Z,5.7nm,0.8s
YBH Yreka Blue Hor 88.85 48 LR LR 16 08 24.3
comp=Z,926nm,19.5s,baz=253,slow=32
INK Inuvik 89.48 21 LR LR 16 15 37.7
comp=Z,521nm,18.5s,baz=133,slow=37
KBL Kabul 90.18 305 *eP* **P 15 34 00.9 -0.9**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 90.18 305 *eP* **P 15 34 00.9 -0.9**
comp=Z,7.4nm,0.8s
KK31 Karatay Array 90.28 313 *i* P **P 15 34 01.9 +0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 90.28 313 *eP* **P 15 34 01.1 -0.7**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 90.28 313 *eP* **P 15 34 01.1 -0.7**
comp=Z,3.0nm,0.8s
CIS Catalina Islan 91.01 57 ⇓P **P 15 34 06.6 +1.1**
baz=91
ISA Isabella 91.23 54 *eP* **P 15 34 07.7 +1.2**
ISA pmax pmax
comp=Z,3.0nm,0.7s
ISA Isabella 91.23 54 *eP* **P 15 34 07.7 +1.2**
comp=Z,2.7nm,0.7s
ISA Isabella 91.23 54 ⇓P **P 15 34 07.0 +0.5**
baz=91
MWC Mount Wilson 91.39 56 *eP* **P 15 34 08.7 +1.2**
MWC *e* 15 34 19.5
MWC pmax pmax
comp=Z,18nm,0.8s
MWC Mount Wilson 91.39 56 *eP* **P 15 34 08.7 +1.2**
comp=Z,18nm,0.8s
MWC *e* 15 34 19.5
VOSK Vostochnaya 91.45 323 P P 15 34 03.6 -3.4
VOSK pmax pmax
comp=Z,3.0nm,0.7s
EDW2 Edwards Air Fo 91.53 55 ⇓P **P 15 34 08.3 +0.4**
baz=92,SNR=11
CWC Cottonwood Cre 91.64 54 ⇓P **P 15 34 09.5 +1.0**
baz=92,SNR=5.2
NVAR Mina Array Bea 91.71 52 P **P 15 34 10.3 +1.5**
NVAR Mina Array Bea 91.71 52 P **P 15 34 10.3 +1.5**
comp=Z,11nm,0.9s,baz=252,slow=6.8,SNR=62
NVAR LR LR 16 13 23.7
comp=Z,384nm,19.1s,baz=312,slow=34
BFSC Mount Baldy Ra 91.72 56 ⇓P **P 15 34 09.7 +0.8**
baz=92
NV11 Mina Array Sit 91.83 52 *eP* **P 15 34 10.2 +0.9**
LRMC Laurel Mountai 91.84 55 ⇑P **P 15 34 10.2 +0.7**
baz=92,SNR=8.2
BVA0 Borovoye Array 91.85 323 P P 15 34 04.4 -4.5
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 91.85 323 LR LR 16 18 44.7
comp=Z,167nm,18.8s,baz=276,slow=38
BRVK Borovoye 91.92 323 *c i* P **P 15 34 07.9 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 91.92 323 *eP* **P 15 34 07.6 -1.6**
comp=Z,5.8nm,0.9s
MPMC Manual Prospec 92.07 54 ⇑P **P 15 34 10.9 +0.4**
baz=92,SNR=11
GRAC Grapevine Rang 92.28 53 ⇑P **P 15 34 12.2 +0.9**
baz=92
GSC Goldstone 92.54 55 *eP* **P 15 34 14.3 +1.7**
GSC pmax pmax
comp=Z,6.0nm,0.8s
GSC Goldstone 92.54 55 *eP* **P 15 34 14.3 +1.7**
comp=Z,6.4nm,0.8s
GSC Goldstone 92.54 55 ⇓P **P 15 34 13.7 +1.1**
baz=93
MONP Monument Peak 92.60 57 ⇓P **P 15 34 13.7 +0.6**
baz=93
FURC Furnace Creek, 92.62 54 ⇓P **P 15 34 14.1 +1.3**
baz=93,SNR=7.7
PFO Pinyon Flat Ob 92.65 57 *eP* **P 15 34 14.8 +1.6**
comp=Z,6.6nm,0.9s
PFO Pinyon Flat Ob 92.65 57 ⇑P **P 15 34 13.4 +0.2**
baz=93,SNR=5.4
HEC Hector,Ludlow 92.88 55 ⇑P **P 15 34 15.2 +1.0**
baz=93,SNR=12
SHOC Shoshone 93.03 54 ⇓P **P 15 34 16.1 +1.4**
baz=93
BELC Belle Mtn. Jos 93.07 56 ⇓P **P 15 34 16.0 +0.9**
baz=93,SNR=12
SWSC Sam W. Stewart 93.13 57 ⇓P **P 15 34 16.1 +0.9**
baz=93
BMO Blue Mountains 93.19 45 P **P 15 34 14.7 -0.7**
BMO pmax pmax
comp=Z,3.0nm,1.0s
BMO Blue Mountains 93.19 45 P **P 15 34 14.7 -0.7**
comp=Z,3.3nm,1.0s
TUQ Turquoise Moun 93.27 55 ⇓P **P 15 34 17.0 +0.9**
baz=93,SNR=8.1
GMRC Granite Mounta 93.42 56 ⇑P **P 15 34 17.7 +0.9**
baz=94,SNR=12
BC3 Big Chuckawall 93.48 57 ⇓P **P 15 34 18.3 +1.3**
baz=94,SNR=5.1
NEW Newport 93.67 42 ⇑P **P 15 34 18.3 +0.9**
baz=94
IRM Iron Mountain 93.78 56 ⇑P **P 15 34 19.9 +1.6**
baz=94,SNR=16
R11A Troy Canyon, C 93.83 52 ⇑P **P 15 34 19.5 +0.9**
baz=94
LDFC Landfair 93.90 55 *eP* **P 15 34 20.9 +2.0**
comp=Z,8.2nm,0.3s
SHPR Sheep Range 93.99 54 *eP* **P 15 34 20.7 +1.3**
comp=Z,9.9nm,0.9s
MFID Camas Ranch 94.11 47 ⇑P **P 15 34 20.9 +1.2**
baz=94
PDMCI Parker Dam,Lak 94.63 56 ⇑P **P 15 34 23.3 +1.2**
baz=95
W13A Hualapai Mount 94.90 55 ⇑P **P 15 34 24.9 +1.3**
baz=95,SNR=7.4
ARUT Antelope Range 95.47 53 *eP* **P 15 34 27.9 +1.8**
ARUT pmax pmax
comp=Z,4.0nm,1.0s
ARUT Antelope Range 95.47 53 *eP* **P 15 34 27.9 +1.8**
comp=Z,4.4nm,1.0s
CCUT Cedar City 95.51 53 *eP* **P 15 34 27.9 +1.5**
comp=Z,2.8nm,0.8s
YKA Yellowknife Ar 96.15 28 P **P 15 34 28.8 +0.4**
YKA Yellowknife Ar 96.15 28 P **P 15 34 28.8 +0.4**
comp=Z,3.3nm,0.9s,baz=265,slow=4.6,SNR=9.4
U15A North Rim 96.29 54 ⇑P **P 15 34 30.5 +0.5**
baz=96
F17A Fitzpatrick Pl 97.93 45 ⇑P Pdif 15 34 38.0 +0.9
baz=98
D17A Six Diamond Ra 97.94 43 ⇓P Pdif 15 34 37.7 +0.6
baz=98
E18A Harlowton 98.46 44 ⇑Pdiff Pdif 15 34 39.9 +0.5
baz=99
E18A Harlowton 98.46 44 ⇑Pdiff Pdif 15 34 39.9 +0.5
baz=99
PDAR Pinedale Array 98.66 48 P **P 15 34 40.1 -0.4**
PDAR Pinedale Array 98.66 48 P **P 15 34 40.1 -0.4**
comp=Z,1.4nm,0.9s,baz=222,slow=2.0,SNR=8.7
PDAR LR LR 16 15 58.8
comp=Z,568nm,18.8s,baz=283,slow=33
O19A Miners Draw (B 98.94 50 ⇑Pdiff Pdif 15 34 42.4 +0.6
baz=99
O19A Miners Draw (B 98.94 50 ⇑Pdiff Pdif 15 34 42.4 +0.6
baz=99
P19A Cripple Cowboy 99.03 51 ⇓Pdiff **Pdif 15 34 43.0 +0.7**
baz=99
P19A Cripple Cowboy 99.03 51 ⇓Pdiff **Pdif 15 34 43.0 +0.7**
baz=99
J19A Crowheart 99.04 47 ⇓Pdiff **Pdif 15 34 42.7 +0.6**
baz=99
J19A Crowheart 99.04 47 ⇓Pdiff **Pdif 15 34 42.7 +0.6**
baz=99
B19A Brinkman Farms 99.13 42 ⇓Pdiff **Pdif 15 34 43.0 +0.8**
baz=99
B19A Brinkman Farms 99.13 42 ⇓Pdiff **Pdif 15 34 43.0 +0.8**
baz=99
F19A Roth Farm, Mol 99.13 45 ⇑Pdiff **Pdif 15 34 43.0 +0.7**
baz=99
F19A Roth Farm, Mol 99.13 45 ⇑Pdiff **Pdif 15 34 43.0 +0.7**
baz=99
D19A Cripps Ranch, 99.17 43 ⇑Pdiff **Pdif 15 34 43.2 +0.7**
baz=99
D19A Cripps Ranch, 99.17 43 ⇑Pdiff **Pdif 15 34 43.2 +0.7**
baz=99
K19A Absolon Red Bu 99.18 48 ⇓Pdiff **Pdif 15 34 43.1 +0.2**
baz=99
K19A Absolon Red Bu 99.18 48 ⇓Pdiff **Pdif 15 34 43.1 +0.2**
baz=99
220A Playas Peak, P 99.19 59 ⇓Pdiff **Pdif 15 34 42.8 -0.2**
baz=99
220A Playas Peak, P 99.19 59 ⇓Pdiff **Pdif 15 34 42.8 -0.2**
baz=99
E19A Rath Farm, Rou 99.24 44 ⇑Pdiff **Pdif 15 34 43.5 +0.7**
baz=99
E19A Rath Farm, Rou 99.24 44 ⇑Pdiff **Pdif 15 34 43.5 +0.7**
baz=99
S20A Disappointment 99.49 53 ⇑Pdiff **Pdif 15 34 44.7 +0.3**
baz=100
S20A Disappointment 99.49 53 ⇑Pdiff **Pdif 15 34 44.7 +0.3**
baz=100
L20A Wamsutter 99.55 49 ⇑Pdiff **Pdif 15 34 44.9 +0.4**
baz=100
L20A Wamsutter 99.55 49 ⇑Pdiff **Pdif 15 34 44.9 +0.4**
baz=100
O20A White River Ci 99.61 51 ⇓Pdiff **Pdif 15 34 45.2 +0.4**
baz=100
O20A White River Ci 99.61 51 ⇓Pdiff **Pdif 15 34 45.2 +0.4**
baz=100
S21A Coal Bank Pass 99.94 53 ⇑Pdiff **Pdif 15 34 47.7 +1.3**
baz=100
S21A Coal Bank Pass 99.94 53 ⇑Pdiff **Pdif 15 34 47.7 +1.3**
baz=100
Q21A Lamborn Mesa, 100.12 52 ⇑Pdiff **Pdif 15 34 48.0 +0.9**
baz=100
Q21A Lamborn Mesa, 100.12 52 ⇑Pdiff **Pdif 15 34 48.0 +0.9**
baz=100
J21A Lysite 100.21 47 ⇑Pdiff **Pdif 15 34 48.4 +1.0**
baz=100
J21A Lysite 100.21 47 ⇑Pdiff **Pdif 15 34 48.4 +1.0**
baz=100
L21A Rawlins 100.28 49 ⇑Pdiff **Pdif 15 34 48.4 +0.7**
baz=100
L21A Rawlins 100.28 49 ⇑Pdiff **Pdif 15 34 48.4 +0.7**
baz=100
M21A Separation Pea 100.28 49 ⇓Pdiff **Pdif 15 34 48.7 +0.9**
baz=100
M21A Separation Pea 100.28 49 ⇓Pdiff **Pdif 15 34 48.7 +0.9**
baz=100
B21A Ellsworth Farm 100.41 42 ⇑Pdiff **Pdif 15 34 48.4 +0.5**
baz=100
B21A Ellsworth Farm 100.41 42 ⇑Pdiff **Pdif 15 34 48.4 +0.5**
baz=100
A21A Bergtoll Ranch 100.45 42 ⇓Pdiff **Pdif 15 34 48.9 +0.8**
baz=101
A21A Bergtoll Ranch 100.45 42 ⇓Pdiff **Pdif 15 34 48.9 +0.8**
baz=101
SNAA Sanae 100.46 187 *eP*diff **Pdif 15 34 46.6 -1.1**
SNAA Sanae 100.46 187 *ep*Pdiff pPdif 15 35 05.0 +6.6
Q22A Crested Butte, 100.64 52 ⇑Pdiff **Pdif 15 34 50.8 +1.3**
baz=101
Q22A Crested Butte, 100.64 52 ⇑Pdiff **Pdif 15 34 50.8 +1.3**
baz=101
K22A Casper 100.89 48 ⇑Pdiff **Pdif 15 34 51.4 +1.0**
baz=101
K22A Casper 100.89 48 ⇑Pdiff **Pdif 15 34 51.4 +1.0**
baz=101
O22A Kremmling 100.91 50 ⇓Pdiff **Pdif 15 34 51.5 +0.8**
baz=101
O22A Kremmling 100.91 50 ⇓Pdiff **Pdif 15 34 51.5 +0.8**
baz=101
D22A Cohagen 101.02 43 ⇑Pdiff **Pdif 15 34 50.9 +0.2**
baz=101
D22A Cohagen 101.02 43 ⇑Pdiff **Pdif 15 34 50.9 +0.2**
baz=101
N23A Red Feather La 101.36 50 ⇓Pdiff **Pdif 15 34 53.5 +0.9**
baz=102
N23A Red Feather La 101.36 50 ⇓Pdiff **Pdif 15 34 53.5 +0.9**
baz=102
C23A Lambert 101.66 43 ⇑Pdiff **Pdif 15 34 54.0 +0.5**
baz=102
C23A Lambert 101.66 43 ⇑Pdiff **Pdif 15 34 54.0 +0.5**
baz=102
VNA2 Neumayer--Watz 101.67 186 *e*Pdiff **Pdif 15 34 49.5 -3.6**
VNA2 Neumayer--Watz 101.67 186 *ep*Pdiff pPdif 15 35 09.1 +5.4
FINES FINESS Array B 113.50 336 PKIKP **PKiKP 15 39 38.6 +0.1**
FINES FINESS Array B 113.50 336 PKiKP **PKiKP 15 39 38.6 +0.1**
comp=Z,5.0nm,1.1s,baz=53,slow=2.6,SNR=4.7
AKASG Malin Array Be 117.10 324 PKIKP **PKPdf 15 39 45.2 -0.6**
AKASG Malin Array Be 117.10 324 PKP **PKPdf 15 39 45.2 -0.6**
AKASG PKKPbc **PKKPbc 15 50 10.7 -1.6**
AKASG Malin Array Be 117.10 324 PKP **PKPdf 15 39 45.2 -0.6**
comp=Z,0.8nm,0.5s,baz=55,slow=3.1,SNR=5.6
AKASG PKKPbc **PKKPbc 15 50 10.7 -1.6**
comp=Z,0.4nm,0.4s,baz=254,slow=4.3,SNR=5.6
KMBO Kilima Mbogo 117.13 265 PKP **PKPdf 15 39 46.9 -0.4**
KMBO Kilima Mbogo 117.13 265 PKP **PKPdf 15 39 46.9 -0.4**
comp=Z,0.6nm,0.3s,baz=224,slow=23,SNR=3.8
PLCA Paso Flores 117.17 143 PKP **PKPdf 15 39 46.2 -0.2**
PLCA Paso Flores 117.17 143 PKP **PKPdf 15 39 46.2 -0.2**
comp=Z,2.8nm,1.1s,baz=264,slow=11,SNR=3.5
BRTR Keskin Array B 117.95 312 PKP **PKPdf 15 39 47.4 -0.6**
BRTR PKKPbc **PKKPbc 15 50 08.8 -0.3**
BRTR Keskin Array B 117.95 312 PKP **PKPdf 15 39 47.4 -0.6**
comp=Z,0.8nm,0.6s,baz=186,slow=2.5,SNR=5.2
BRTR PKKPbc **PKKPbc 15 50 08.8 -0.3**
comp=Z,1.1nm,0.8s,baz=194,slow=4.7,SNR=5.8
NB2 NORSAR Subarra119.28 341 PKPdf **PKPdf 15 39 49.0 -0.8**
comp=Z,0.2nm,0.7s,baz=54,slow=2.5
NOA NORSAR Array B119.28 341 PKP **PKPdf 15 39 49.0 -0.8**
NOA NORSAR Array B119.28 341 PKP **PKPdf 15 39 49.0 -0.8**
comp=Z,1.0nm,0.6s,baz=46,slow=1.9,SNR=5.3
BOSA Boshof 120.03 232 PKP **PKPdf 15 39 52.6 +0.2**
BOSA Boshof 120.03 232 PKP **PKPdf 15 39 52.6 +0.2**
comp=Z,5.0nm,1.0s,baz=226,slow=2.9,SNR=4.8
KOLS Kolonicke sedl 121.90 325 *e*PKIKP **PKPdf 15 39 55.4 +0.3**
KOLS Kolonicke sedl 121.90 325 *e*PKP **PKPdf 15 39 55.3 +0.2**
SSPA Standing Stone 122.24 46 *e*PKPdf **PKPdf 15 39 55.5 -0.5**
CRVS Cervenica-Dubn 122.38 325 *e*PKIKP **PKPdf 15 39 55.8 -0.3**
CRVS Cervenica-Dubn 122.38 325 *e*PKP **PKPdf 15 39 55.8 -0.3**
OKC Ostrava-Krasne 123.69 328 AMS AMS 16 42 50.0
comp=Z,200nm,20.9s
CFAA Coronel Fontan 124.08 135 PKP **PKPdf 15 39 59.8 -0.1**
CFAA Coronel Fontan 124.08 135 PKP **PKPdf 15 39 59.8 -0.1**
comp=Z,0.6nm,0.7s,baz=246,slow=4.0,SNR=14
DPC Dobruska-Polom 124.34 329 *e*PKIKP **PKPdf 15 40 04.7 +4.9**
DPC Dobruska-Polom 124.34 329 *e*PKPdf **PKPdf 15 40 04.7 +4.9**
DPC *ep*PKP **pPKPdf 15 40 08.3 -2.5**
BRG Berggiesshubel 125.20 331 *e*PKP PKPdf 15 40 09.3 +7.9
comp=Z,5.8nm,0.9s
CLL Collm 125.37 332 *e*PKIKP **PKPdf 15 40 04.0 +2.3**
CLL *e* 15 40 14.0
CLL Collm 125.37 332 *e*PKPdf **PKPdf 15 40 04.0 +2.3**
CLL *ep*PKPdf **pPKPdf 15 40 14.0 +1.4**
CLL *e* 15 40 21.0
CLL *e*PP PP 15 42 00.0 +8.2
CLL *e*PPS PPS 15 53 18.0
CLL *e*SS SS 15 58 42.0 -5.3
CLL *e* 15 59 42.0
CLL *e* 16 01 30.0
CLL *e*SSS SSS 16 03 24.0
CLL LmV 16 43 00.0
comp=Z,200nm,19.1s
TREC Trest 125.41 328 *e*PKIKP **PKPdf 15 40 01.8 -0.1**
TREC MLR MLR
comp=Z,200nm,18.0s
TREC Trest 125.41 328 *e*PKPdf **PKPdf 15 40 01.8 -0.1**
TREC AMS AMS 16 33 10.0
comp=Z,200nm,18.0s
PRU Pruhonice 125.47 330 AMS AMS 16 34 20.0
comp=Z,100nm,16.5s
KHC Kasperske Hory 126.49 329 *i* PKIKP **PKPdf 15 40 05.4 +1.4**
KHC MLR MLR
comp=Z,200nm,23.3s
KHC Kasperske Hory 126.49 329 *i* PKPdf **PKPdf 15 40 05.4 +1.4**
KHC *ex* x 15 40 09.6
KHC AMS AMS 16 38 00.0
comp=Z,200nm,23.3s
KHC Kasperske Hory 126.49 329 *e*PKPdf **PKPdf 15 40 04.1 +0.2**
GERES GERESS Array B 126.61 329 PKP **PKPdf 15 40 04.2 0.0**
GERES GERESS Array B 126.61 329 PKP **PKPdf 15 40 04.2 0.0**
comp=Z,1.2nm,0.6s,baz=54,slow=2.3,SNR=8.8
EKA Eskdalemuir Ar 128.32 344 PKP **PKPdf 15 40 07.9 +0.7**
EKA Eskdalemuir Ar 128.32 344 PKP **PKPdf 15 40 07.9 +0.7**
comp=Z,0.6nm,0.5s,baz=200,slow=4.4,SNR=5.1
CDF Champ du Feu 130.06 332 *e*PKIKP **PKPdf 15 40 10.7 -0.1**
TUE Stuetta 130.39 329 *e*PKPdf **PKPdf 15 40 12.2 +0.5**
LPAZ La Paz 131.86 119 PKP **PKPdf 15 40 16.3 +0.5**
LPAZ La Paz 131.86 119 PKP **PKPdf 15 40 16.3 +0.5**
comp=Z,3.7nm,1.0s,baz=315,slow=1.4,SNR=10
CABF La Chapelle 131.91 331 *e*PKIKP **PKPdf 15 40 13.5 -0.9**
comp=Z,8.6nm,0.8s
LOR Lormes 132.46 333 *e*PKIKP **PKPdf 15 40 14.2 -1.1**
TCF Toulx Ste Croi 133.94 334 *e*PKIKP **PKPdf 15 40 17.1 -1.1**
CPUP Villa Florida 134.82 138 PKP **PKPdf 15 40 20.6 +0.2**
CPUP *e*PKPdf **PKiKP 15 40 20.7 -1.1**
CPUP Villa Florida 134.82 138 PKP **PKPdf 15 40 20.6 +0.2**
comp=Z,2.9nm,0.7s,baz=222,slow=2.2,SNR=8.3
SDV Santo Domingo 135.02 84 *e*PKPdf **PKPdf 15 40 21.4 +0.1**
SIV San Ignacio 138.03 123 PKPpre PKPpre 15 40 16.5
SIV PKP **PKPdf 15 40 27.3 +0.6**
SIV San Ignacio 138.03 123 PKiKP PKPpre 15 40 16.5
comp=Z,1.6nm,0.7s,baz=268,slow=3.1,SNR=6.8
SIV PKP **PKPdf 15 40 27.3 +0.6**
comp=Z,3.1nm,0.8s,baz=204,slow=1.2,SNR=7.8
EVO Evora 144.61 336 *e*PKIKP **PKPab 15 40 34.9 -1.4**
comp=Z,31nm,1.3s
TAM Tamanrasset 146.27 302 *e*PKP2 **PKPbc 15 40 42.6 +0.2**
TAM Tamanrasset 146.27 302 *e*PKPbc **PKPbc 15 40 42.6 +0.2**
BDFB Brasilia 148.42 135 PKP **PKPdf 15 40 45.6 +0.6**
BDFB PKPbc **PKPbc 15 40 49.2 +0.7**
BDFB Brasilia 148.42 135 PKP **PKPdf 15 40 45.6 +0.6**
comp=Z,11nm,0.8s,baz=269,slow=1.0,SNR=12
BDFB PKPbc **PKPbc 15 40 49.2 +0.7**
comp=Z,37nm,0.8s,baz=213,slow=1.8,SNR=18
TOA0 Torodi Ar. Sit 152.67 286 *e*PKPdf **PKPdf 15 40 50.5 -0.9**
TOA0 *e*PKPbc **PKPbc 15 40 57.7 -0.8**
TORD Torodi Ar. Bea 152.67 286 PKP **PKPdf 15 40 51.5 0.0**
TORD PKPbc **PKPbc 15 40 58.5 0.0**
TORD PKPab **PKPab 15 41 08.3 -1.0**
TORD Torodi Ar. Bea 152.67 286 PKP **PKPdf 15 40 51.5 0.0**
comp=Z,5.1nm,0.8s,baz=32,slow=2.0,SNR=28
TORD PKPbc **PKPbc 15 40 58.5 0.0**
comp=Z,42nm,0.7s,baz=76,slow=1.9,SNR=101
TORD PKPab **PKPab 15 41 08.3 -1.0**
comp=Z,42nm,1.0s,baz=62,slow=2.5,SNR=11
DBIC Dimbokro 159.72 271 PKP **PKPdf 15 41 01.9 +1.1**
DBIC PKPab **PKPab 15 41 39.8 +0.2**
DBIC Dimbokro 159.72 271 PKP **PKPdf 15 41 01.9 +1.1**
comp=Z,2.3nm,0.6s,baz=184,slow=3.7,SNR=3.0
DBIC PKPab **PKPab 15 41 39.8 +0.2**
comp=Z,11nm,1.0s,baz=80,slow=5.7,SNR=4.2
LIC Lamto 159.88 270 *e*PKIKP **PKPdf 15 41 00.4 -0.5**
comp=Z,17nm,1.1s

IDC 17 15:23:00.3±4.1, 20.75S×178.46W, h638km±42km, mb3.3/8, mb1 3.5/8, mb1mx3.3/19, mbtmp3.3/8, 1D, Error ellipse: s-maj=49.3km s-min=19.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.04**	**257**	P	P	15 30 14.2	+0.1
	6.7nm,0.8s,baz=92,slow=7.2,SNR=13						
ASAR				S	S	15 36 02.1	-0.1
	0.3nm,0.7s,baz=100,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**44.14**	**262**	P	P	15 30 14.3	-0.6
	3.0nm,0.7s,baz=97,slow=7.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**52.56**	**263**	P	P	15 31 17.3	+0.3
	4.7nm,0.7s,baz=124,slow=3.6,SNR=5.8						
MJAR	**Matsushiro Arr**	**70.15**	**324**	P	P	15 33 10.0	-0.7
	1.8nm,0.6s,baz=158,slow=6.1,SNR=4.7						

PETK	Petropavlovsk-	76.40	345	P	P	15 33 45.1 -0.6
	2.8nm,0.7s,baz=141,slow=11,SNR=6.1					
KSRS	Korea Array	76.79	319	P	P	15 33 48.8 +0.6
	0.2nm,0.5s,baz=125,slow=5.2,SNR=4.1					
USRK	Ussuriysk Arra	78.92	326	P	P	15 34 00.5 +1.1
	2.6nm,0.8s,baz=106,slow=4.3,SNR=4.4					
CMAR	Chiang Mai Arr	89.79	290	P	P	15 34 54.9 +1.8
	1.7nm,0.9s,baz=128,slow=3.0,SNR=6.4					
ZALV	Zalesovo Beam	110.41	321	PKiKP	PKiKP	15 40 20.4 -0.8
	0.6nm,0.5s,baz=101,slow=1.5,SNR=3.3					
MKAR	Makanchi Array	111.05	313	PKiKP	PKiKP	15 40 21.9 -0.8
	0.3nm,0.4s,baz=209,slow=0.4,SNR=6.0					
ARCES	ARCESS Array B	129.09	349	PKP	PKPdf	15 40 57.4 +0.8
	4.7nm,1.0s,baz=90,slow=1.2,SNR=6.3					
FINES	FINESS Array B	135.89	343	PKP	PKPdf	15 41 10.7 +1.2
	4.8nm,1.1s,baz=90,slow=1.4,SNR=3.2					
AKASG	Malin Array Be	143.02	331	PKP	PKPab	15 41 20.5 -0.3
	2.8nm,0.5s,baz=42,slow=4.3,SNR=17					
EKA	Eskdalemuir Ar	145.29	5	PKPbc	PKPdf	15 41 26.5 -0.1
	1.1nm,0.5s,baz=10,slow=2.0,SNR=3.9					
BRTR	Keskin Array B	146.68	312	PKPbc	PKPbc	15 41 32.6 +0.1
	1.4nm,0.6s,baz=137,slow=4.0,SNR=4.7					
CLL	Collm	148.20	346	↓i PKPbc	PKPbc	15 41 36.4 +0.6
	comp=Z,7.0nm,0.7s					
CLL				i PKPab	PKPab	15 41 41.1 -0.3
	comp=Z,6.0nm,0.9s					
GERES	GERESS Array B	150.32	344	PKPbc	PKPbc	15 41 41.8 +0.7
	comp=Z,0.5nm,0.6s,baz=43,slow=2.4,SNR=3.5					

IDC 17 15:29:31.0±53.0, 22°.29S×178°.33W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/30, Error ellipse: s-maj=973.3km s-min=155.1km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	6.95	177	LR	LR	15 33 31.0	
	comp=Z,397nm,19.1s,baz=178,slow=35						
STKA	Stephens Creek	36.76	246	P	P	15 36 39.1	-1.3
	2.3nm,0.9s,baz=105,slow=7.9,SNR=4.7						
ASAR	Alice Springs	43.84	259	P	P	15 37 39.1	-0.1
	0.3nm,0.6s,baz=99,slow=8.1,SNR=10.0						
WRA	Warramunga Arr	44.08	264	P	P	15 37 42.0	+0.8
	0.6nm,0.5s,baz=98,slow=8.4,SNR=12						

IDC 17 15:41:12.0±13.0, 7°.06S×153°.90E, h215km±107km, mb3.1/5, mb1 3.2/6, mb1mx3.0/19, mbtmp3.1/6, Error ellipse: s-maj=82.5km s-min=37.2km az=74.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	14.92	209	P	Pn	15 44 31.2	-1.6
	0.1nm,0.3s,baz=32,slow=13,SNR=4.9						
WRA	Warramunga Arr	22.89	234	P	P	15 45 57.1	-0.2
	1.8nm,0.9s,baz=54,slow=9.3,SNR=8.0						
ASAR	Alice Springs	25.32	227	P	P	15 46 18.4	-0.9
	0.2nm,0.6s,baz=58,slow=9.4,SNR=7.6						
STKA	Stephens Creek	27.23	203	P	P	15 46 37.5	+1.3
	2.0nm,0.9s,baz=29,slow=10,SNR=6.7						
CMAR	Chiang Mai Arr	59.83	296	P	P	15 50 57.0	+1.6
	0.4nm,0.7s,baz=116,slow=6.5,SNR=4.8						
MKAR	Makanchi Array	82.74	319	P	P	15 53 11.1	-0.9
	0.4nm,0.7s,baz=108,slow=4.0,SNR=5.1						
TORD	Torodi Ar. Bea	151.99	285	PKPbc	PKPbc	16 00 42.6	-0.1
	1.3nm,0.8s,baz=60,slow=2.5,SNR=8.1						
TORD				PKPab	PKPab	16 00 51.6	-1.3
	0.6nm,0.8s,baz=85,slow=2.4,SNR=2.9						

IDC 17 15:46:33.9±5.7, 0°.39N×101°.78E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.2/3, MS3.6/2, Ms1 3.6/2, ms1mx3.0/16, Error ellipse: s-maj=323.9km s-min=29.4km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	24.64	74	LR	LR	16 02 48.1	
	comp=Z,128nm,19.7s,baz=153,slow=40						
WRA	Warramunga Arr	37.75	124	P	P	15 53 53.3	+1.3
	0.4nm,0.9s,baz=304,slow=8.9,SNR=3.3						
ASAR	Alice Springs	39.30	130	P	P	15 54 03.1	-1.9
	0.7nm,0.8s,baz=309,slow=7.7,SNR=4.9						
JNU	Nakatsue	42.53	37	LR	LR	16 15 24.3	
	comp=Z,91nm,18.5s,baz=52,slow=41						
MKAR	Makanchi Array	49.27	342	P	P	15 55 24.4	-0.1
	0.2nm,0.4s,baz=165,slow=9.5,SNR=4.1						

IDC 17 15:50:46.8±26.0, 21°.25S×173°.28W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/21, mbtmp4.2/4, Error ellipse: s-maj=489.9km s-min=147.8km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.81	264	P	P	15 58 06.2	+0.9
	3.8nm,0.3s,baz=94,slow=10.0,SNR=14						
STKA	Stephens Creek	41.47	246	P	P	15 58 34.3	-1.3
	0.8nm,0.3s,baz=99,slow=10,SNR=7.6						
ASAR	Alice Springs	48.64	257	P	P	15 59 32.5	-0.3
	1.3nm,0.5s,baz=96,slow=7.6,SNR=66						
WRA	Warramunga Arr	48.86	262	P	P	15 59 34.7	+0.1
	1.7nm,0.4s,baz=94,slow=8.5,SNR=46						

NIED ***17*** *16:01:00, 23°.40N×123°.70E, h14km, Mw3.9 Best double couple: M₀9.02000×10¹⁴ NP1:φs247.00000°, δ66.00000°, λ71.00000°. NP2:φs108.00000°, δ30.00000°, λ127.00000°.*
IDC ***17*** *16:01:55.7±0.8, 23°.52N×123°.69E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.7/28, mbtmp3.7/12, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/45, Error ellipse: s-maj=26.5km s-min=17.1km az=77.0*
JMA ***17*** *16:01:58.5±0.3, 23°.39N×123°.66E, h45km±4km, M4.0*
ISC 17 16:01:56.2±2.1, 23°.47N±0°.07×123°.75E±0°.06, h2km±12km, n23, σ0°93/31, mb3.6/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.58	5	P	Pn	16 02 11.9	+0.4
HATJ				S	Sn	16 02 21.4	-0.2
JKRS	Kuro-shima	0.80	18	P	Pn	16 02 14.6	+0.1
JKRS				S	Sn	16 02 27.6	+0.7
IRIF	Iriomote-Funau	0.86	359	P	Pn	16 02 15.8	+0.5
IRIF				S	Sn	16 02 28.2	-0.2
JIJ	Ishigaki jima	0.96	22	P	Pn	16 02 17.4	+0.7
JIJ				eS	Sb	16 02 28.3	-0.4
YOJ	Yonaguni jima	1.19	326	P	Pn	16 02 19.9	0.0
YOJ				S	Sg	16 02 33.7	-0.8
JTJ	Tarama	1.45	37	P	Pg	16 02 24.9	+0.8
JTJ				eS	Sn	16 02 44.6	+1.5
JMJ	Miyako jima 2	1.94	46	P	Pb	16 02 32.0	-0.4
JMJ				S	Sb	16 02 56.4	-0.7
JOGS	Gusukube	1.99	50	P	Pb	16 02 32.5	-0.6
JOGS				S	Sn	16 02 56.6	+0.3
JKE	Kume jima 2	3.96	44	P	Pn	16 02 58.3	+0.3
JAGN	Aguni-jima	4.44	45	P	Pn	16 03 02.5	-2.0
KSRS	Korea Array	14.39	13	Pn	Pn	16 05 21.5	+0.6
	0.1nm,0.3s,baz=198,slow=12,SNR=3.5						
MJAR	Matsushiro Arr	18.04	41	P	P	16 06 09.1	+0.5
	0.2nm,0.3s,baz=234,slow=9.2,SNR=4.7						
ASAJ	Asahikawa	25.76	32	P	P	16 07 28.3	+0.1
	2.5nm,0.7s,baz=222,slow=12,SNR=5.9						
SONM	Songino Array	27.97	335	P	P	16 07 46.7	-1.6
	0.3nm,0.7s,baz=153,slow=8.1,SNR=3.3						
PETK	Petropavlovsk-	39.18	32	P	P	16 09 26.2	+0.8
	1.2nm,0.7s,baz=194,slow=5.4,SNR=3.9						
PETK				LR	LR	16 26 22.0	
	comp=Z,34nm,19.5s,baz=54,slow=37						
MKAR	Makanchi Array	40.48	316	P	P	16 09 36.0	-0.4
	0.5nm,0.6s,baz=102,slow=10.0,SNR=8.6						
ZALV	Zalesovo Beam	42.12	326	P	P	16 09 49.0	-0.7
	0.6nm,0.5s,baz=134,slow=8.3,SNR=3.3						
KURBB	Kurchatov Arra	44.16	320	P	P	16 10 05.4	-0.9
	0.5nm,0.7s,baz=111,slow=7.8,SNR=4.8						
WRA	Warramunga Arr	44.37	166	P	P	16 10 08.1	-0.2
	2.0nm,0.8s,baz=346,slow=9.0,SNR=11						
ASAR	Alice Springs	47.89	167	P	P	16 10 36.5	+0.5
	0.7nm,0.5s,baz=350,slow=8.2,SNR=38						
AKTO	Aktyubinsk	56.91	316	P	P	16 11 44.7	+2.0
	0.7nm,0.5s,baz=82,slow=9.2,SNR=3.6						
ILAR	Eielson Array	68.77	27	P	P	16 12 59.6	-1.8
	0.2nm,0.6s,baz=283,slow=8.1,SNR=2.6						
GERES	GERESS Array B	84.87	321	P	P	16 14 33.1	+0.4
	0.6nm,0.5s,baz=57,slow=4.9,SNR=7.5						

IDC 17 16:05:35.6±0.8, 1°.48N×126°.57E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=65.2km s-min=15.2km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.61	161	P	P	16 10 37.7	-0.4
	1.8nm,0.5s,baz=338,slow=10,SNR=14						
ASAR	Alice Springs	25.99	165	P	P	16 11 10.7	+0.3
	0.9nm,0.4s,baz=348,slow=13,SNR=22						
ASAR				PcP	PcP	16 14 38.6	-0.4
	0.1nm,0.4s,baz=358,slow=2.2,SNR=5.1						
KSRS	Korea Array	35.82	2	P	P	16 12 37.3	+0.5
	1.3nm,0.7s,baz=179,slow=10,SNR=7.6						
STKA	Stephens Creek	36.10	159	P	P	16 12 39.1	-0.2
	0.8nm,0.5s,baz=342,slow=9.4,SNR=6.5						
USRK	Ussuriysk Arra	42.81	6	P	P	16 13 34.4	-0.8
	2.7nm,0.9s,baz=210,slow=6.5,SNR=4.2						
MKAR	Makanchi Array	59.32	326	P	P	16 15 38.9	-0.5
	0.3nm,0.3s,baz=121,slow=7.7,SNR=13						
KURBB	Kurchatov Arra	63.55	328	P	P	16 16 08.2	+0.3
	0.8nm,0.5s,baz=128,slow=6.3,SNR=15						
VNDA	Vanda	81.22	173	P	P	16 17 53.0	+0.1
	0.3nm,0.5s,baz=329,slow=4.8,SNR=5.1						

IDC 17 16:12:16.0±1.9, 1°.72S×98°.96E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML3.0/1, Error ellipse: s-maj=84.1km s-min=16.0km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	4.49	359	Pn	Pn	16 13 24.2	-1.3
	0.8nm,0.3s,baz=163,slow=17,SNR=3.1						
CMAR	Chiang Mai Arr	20.05	360	P	P	16 16 49.6	-1.3
	0.6nm,0.7s,baz=185,slow=10,SNR=7.2						
WRA	Warramunga Arr	39.03	120	P	P	16 19 43.2	-1.5
	0.5nm,0.6s,baz=305,slow=8.8,SNR=3.3						
ASAR	Alice Springs	40.26	126	P	P	16 19 54.6	-0.4
	0.3nm,0.5s,baz=303,slow=7.7,SNR=16						
SONM	Songino Array	49.78	7	P	P	16 21 12.0	+1.5
	0.6nm,0.6s,baz=176,slow=6.7,SNR=4.0						
STKA	Stephens Creek	50.11	131	P	P	16 21 14.3	+1.1
	1.5nm,1.0s,baz=315,slow=7.1,SNR=3.0						
MKAR	Makanchi Array	50.49	345	P	P	16 21 15.9	+0.1
	0.5nm,0.4s,baz=149,slow=7.4,SNR=11						
KURBB	Kurchatov Arra	54.99	344	P	P	16 21 48.8	-0.2
	0.4nm,0.8s,baz=161,slow=6.3,SNR=5.8						
ZALV	Zalesovo Beam	56.71	350	P	P	16 22 00.7	-0.5
	0.9nm,0.4s,baz=180,slow=5.5,SNR=5.9						
BVAR	Borovoye Array	59.57	340	P	P	16 22 20.3	-1.1
	0.5nm,0.6s,baz=132,slow=6.6,SNR=3.9						
TXAR	Lajitas Array	145.10	36	PKPbc	PKPab	16 31 56.0	+0.2
	0.4nm,0.4s,baz=112,slow=1.3,SNR=6.6						

IDC 17 16:20:26.2±27.0, 20°.78S×173°.18W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/22, mbtmp4.0/4, Error ellipse: s-maj=507.5km s-min=161.7km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.95	264	P	P	16 27 47.0	+1.1
	2.6nm,0.4s,baz=104,slow=11,SNR=6.9						
STKA	Stephens Creek	41.75	245	P	P	16 28 16.0	-1.4
	0.6nm,0.4s,baz=100,slow=11,SNR=4.3						
ASAR	Alice Springs	48.84	256	P	P	16 29 13.4	-0.5
	0.7nm,0.5s,baz=97,slow=7.6,SNR=33						
WRA	Warramunga Arr	49.03	261	P	P	16 29 15.4	+0.1
	0.7nm,0.3s,baz=92,slow=8.5,SNR=26						

IDC ***17*** *16:21:58.6±1.1, 23°.19N×122°.94E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/26, mbtmp3.4/7, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=42.8km s-min=20.6km az=72.0*
JMA ***17*** *16:22:00.1±0.4, 23°.39N×123°.57E, h40km±5km, M3.6*
NIED ***17*** *16:22:00, 23°.40N×123°.60E, h38km, Mw4.0 Best double couple: M₀1.11000×10¹⁵ NP1:φs248.00000°, δ88.00000°, λ-176.00000°. NP2:φs158.00000°, δ86.00000°, λ-2.00000°.*
ISC 17 16:22:01.5±2.1, 23°.49N±0°.09×123°.59E±0°.07, h28km±14km, n17, σ0°60/23, mb3.4/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.59	19	P	Pb	16 22 13.4	0.0
HATJ				S	Sn	16 22 23.7	+0.8
JKRS	Kuro-shima	0.83	27	P	Pb	16 22 17.6	+0.2
JKRS				S	Sn	16 22 29.2	+0.4
IRIF	Iriomote-Funau	0.85	8	P	Pn	16 22 17.2	-0.4
IRIF				eS	Sn	16 22 29.4	+0.3
JIJ	Ishigaki jima	1.00	30	P	Pn	16 22 19.5	-0.2
JIJ				S	Sn	16 22 32.6	-0.4
YOJ	Yonaguni jima	1.10	331	P	Pn	16 22 20.9	-0.2
YOJ				S	Sn	16 22 35.0	-0.4
JTJ	Tarama	1.53	41	P	Pn	16 22 26.9	-0.1
JTJ				S	Sn	16 22 45.8	-0.1
JMJ	Miyako jima 2	2.04	49	P	Pn	16 22 33.1	-0.9
JMJ				eS	Sn	16 22 58.9	+0.4
JOGS	Gusukube	2.08	52	P	Pn	16 22 34.9	+0.3
JKE	Kume jima 2	4.04	45	P	Pn	16 23 00.5	-1.1
JAGN	Aguni-jima	4.52	46	P	Pn	16 23 07.8	-0.4
KSRS	Korea Array	14.40	14	Pn	P	16 25 30.1	0.0
	0.2nm,0.3s,baz=198,slow=12,SNR=3.4						
KSRS				LR	LR	16 32 10.6	
	comp=Z,44nm,18.6s,baz=205,slow=41						
MJAR	Matsushiro Arr	18.12	41	P	P	16 26 19.4	+8.1
	baz=227,slow=12,SNR=3.7						
MKAR	Makanchi Array	40.37	316	P	P	16 29 38.0	+1.1
	0.3nm,0.7s,baz=101,slow=10,SNR=3.7						
ZALV	Zalesovo Beam	42.03	326	P	P	16 29 50.9	+0.5
	0.3nm,0.4s,baz=129,slow=8.3,SNR=2.5						
WRA	Warramunga Arr	44.42	165	P	P	16 30 09.9	-0.2
	0.6nm,0.8s,baz=346,slow=8.6,SNR=3.3						
ASAR	Alice Springs	47.94	167	P	P	16 30 38.4	+0.6
	0.2nm,0.6s,baz=351,slow=7.8,SNR=6.0						
GERES	GERESS Array B	84.77	321	P	P	16 34 32.4	-1.0
	0.4nm,0.6s,baz=89,slow=6.0,SNR=3.6						

IDC 17 16:30:08.3±6.6, 7°.85S×128°.52E, h172km±70km, mb3.5/5, mb1 3.4/8, mb1mx3.3/21, mbtmp3.4/8, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=69.7km s-min=28.1km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.57	195	P	Pn	16 32 35.3	-0.3
	0.4nm,0.3s,baz=27,slow=9.8,SNR=25						
FITZ				S	Sn	16 34 29.3	-3.7
	0.9nm,0.3s,baz=95,slow=16,SNR=7.3						
FITZ				LR	LR	16 36 18.6	
	comp=Z,100nm,18.1s,baz=199,slow=35						
WRA	Warramunga Arr	13.29	155	P	Pn	16 33 09.6	-0.9
	0.4nm,0.3s,baz=339,slow=13,SNR=21						
WRA				S	Sn	16 35 32.3	-5.9
	1.6nm,0.3s,baz=326,slow=23,SNR=11						
ASAR	Alice Springs	16.56	162	P	Pn	16 33 52.3	+1.4
	0.2nm,0.3s,baz=336,slow=9.6,SNR=15						
ASAR				S	S	16 36 54.0	-0.1
	0.5nm,0.3s,baz=347,slow=26,SNR=6.0						
CMAR	Chiang Mai Arr	39.17	312	P	P	16 37 19.8	0.0
	0.9nm,0.8s,baz=145,slow=7.7,SNR=9.0						
SONM	Songino Array	58.79	343	P	P	16 39 48.8	+0.2
	1.4nm,0.8s,baz=165,slow=6.2,SNR=9.6						
MKAR	Makanchi Array	68.14	328	P	P	16 40 49.9	+0.1
	2.1nm,0.8s,baz=126,slow=8.1,SNR=22						
ZALV	Zalesovo Beam	71.70	335	P	P	16 41 10.6	-0.7
	0.7nm,0.3s,baz=114,slow=4.1,SNR=5.0						
KURBB	Kurchatov Arra	72.47	329	P	P	16 41 16.0	0.0
	1.2nm,0.7s,baz=133,slow=5.0,SNR=9.6						

IDC 17 16:33:10.4±2.3, 1°.79S×99°.22E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, ML2.6/1, Error ellipse: s-maj=97.7km s-min=17.3km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	4.56	356	Pn	Pn	16 34 18.2	-2.8
	0.3nm,0.3s,baz=176,slow=14,SNR=2.9						

CMAR	Chiang Mai Arr	20.12	359	P	P	16 37 44.7 -1.4
	1.0nm,0.6s,baz=186,slow=10,SNR=7.7					
WRA	Warramunga Arr	38.78	120	P	P	16 40 36.1 -1.0
	0.7nm,0.5s,baz=300,slow=9.2,SNR=4.3					
ASAR	Alice Springs	40.01	126	P	P	16 40 47.7 +0.2
	0.4nm,0.5s,baz=301,slow=7.8,SNR=4.9					
SONM	Songino Array	49.81	6	P	P	16 42 04.7 -0.6
	0.7nm,0.4s,baz=190,slow=10.0,SNR=6.5					
STKA	Stephens Creek	49.88	131	P	P	16 42 06.5 +0.6
	1.3nm,0.7s,baz=328,slow=13,SNR=3.1					
MKAR	Makanchi Array	50.62	345	P	P	16 42 11.1 -0.2
	1.3nm,0.4s,baz=153,slow=8.1,SNR=26					
KURBB	Kurchatov Arra	55.13	344	P	P	16 42 45.5 +1.0
	0.6nm,0.5s,baz=165,slow=7.2,SNR=4.7					
ZALV	Zalesovo Beam	56.82	350	P	P	16 42 56.2 -0.3
	1.5nm,0.6s,baz=165,slow=6.2,SNR=5.4					
TXAR	Lajitas Array	145.00	36	PKPbc	PKPbc	16 52 50.2 +0.3
	0.4nm,0.4s,baz=277,slow=2.3,SNR=8.4					

TAP 17 16:41:47.6, 24°.19N×121°.87E, h26km±1km, ML2.2, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	Nanau	0.26	334	i P	Pb	16 41 54.3	+0.2
	baz=335						
ENA				S	Sb	16 41 59.5	+1.0
	baz=335						
TWD	Chiawan	0.27	245	eP	Pb	16 41 55.0	+0.8
	baz=244						
TWD				eS	Sn	16 42 00.3	-0.9
	baz=244						
TWC	Suao	0.41	358	eP	Pb	16 41 56.8	+0.4
	baz=359						
TWC				eS	Sn	16 42 05.0	+0.2
	baz=359						
NNS	Nan Shan	0.51	299	eP	Pb	16 41 58.2	0.0
	baz=298						
NNS				eS	Sb	16 42 06.5	+1.0
	baz=298						
ESL	Shilin	0.55	226	eP	Pb	16 41 58.2	-0.4
	baz=225						
ESL				eS	Sn	16 42 07.3	-0.8
	baz=225						
WHF	Hehuan Shan	0.55	265	↓i P	Pb	16 41 59.3	0.0
	baz=264						
WHF				S	Sb	16 42 07.5	+0.3
	baz=264						
TWE	Neicheng	0.56	341	eP	Pb	16 41 59.2	+0.5
	baz=342						
TWE				eS	Sn	16 42 08.2	-0.1
	baz=342						
TWT	Tachien	0.63	275	eS	Sn	16 42 10.7	+0.1
	baz=274						
NSK	Sanguang	0.67	316	eP	Pn	16 42 01.9	+0.4
	baz=316						
NSK				eS	Sn	16 42 10.8	-0.4
	baz=316						
SMLT	Sun Moon Lake	0.94	251	eP	Pb	16 42 05.8	+0.4
	baz=250						
TYC	Yuchr	0.97	253	eP	Pb	16 42 07.3	+1.7
	baz=252						

JMA 17 16:42:13.8±0.4, 23°.36N×123°.61E, h44km±5km, M2.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.72	14	P	Pn	16 42 27.5	-0.1
HATJ				eS	Sn	16 42 37.2	-0.3
JKRS	Kuro-shima	0.95	23	P	Pn	16 42 31.3	+0.6
JKRS				eS	Sn	16 42 44.2	+1.1
IRIF	Iriomote-Funau	0.98	6	P	Pn	16 42 31.3	+0.2
IRIF				eS	Sn	16 42 44.5	+0.7
JIJ	Ishigaki jima	1.11	26	P	Pn	16 42 32.8	-0.1
JIJ				S	Sn	16 42 46.6	-0.5
YOJ	Yonaguni jima	1.23	334	P	Pn	16 42 35.1	+0.6
YOJ				S	Sn	16 42 50.0	+0.1
JTJ	Tarama	1.62	38	P	Pn	16 42 40.6	+0.7
JTJ				S	Sn	16 43 00.4	+0.8
JMJ	Miyako jima 2	2.11	46	P	Pn	16 42 47.6	+0.9
JOGS	Gusukube	2.15	49	P	Pn	16 42 48.0	+0.8
JOGS				eS	Sn	16 43 15.0	+2.3
JKE	Kume jima 2	4.13	44	P	Pn	16 43 13.6	-0.7

IDC ***17*** *16:52:46.4±1.4, 14°.32N×93°.04E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/28, mbtmp3.6/8, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/35, Error ellipse: s-maj=38.8km s-min=18.8km az=72.0*
ISCJB ***17*** *16:52:48.6±0.7, 14°.52N±0°.07×92°.91E±0°.07, h33km, mb3.6/7, Error ellipse: s-maj=11.3km s-min=7.5km az=45.0*
ISC 17 16:52:50.1±1.1, 14°.4N±0°.1×92°.8E±0°.1, h35km, n18, σ1°18/17, mb3.5/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.09	55	Pn	Pn	16 54 30.3	-1.2
	0.5nm,0.3s,baz=243,slow=15,SNR=8.2						
CMAR				Sn	Sn	16 55 50.5	-0.4
	0.4nm,0.3s,baz=235,slow=26,SNR=3.3						
PSI	Prapat	13.03	152	Pn	Pn	16 55 56.2	+3.2
	baz=340,slow=18,SNR=3.4						
PSI				LR	LR	17 01 17.1	
	comp=Z,125nm,18.3s,baz=33,slow=40						
ODAN	Odare	13.36	338	eP	Pn	16 55 56.4	-1.1
	25nm,0.3s						
TAPN	Taplejung	13.71	340	eP	Pn	16 56 01.5	-0.8
	11nm,0.2s						
RAMN	Ramite	13.74	336	eP	Pn	16 56 01.9	-0.8
	16nm,0.3s						
JIRN	Jiri	14.54	336	eP	Pn	16 56 13.1	-0.6
	13nm,0.3s						
PKI	Pulchoki	14.78	333	eP	Pn	16 56 16.3	-0.7
	32nm,0.4s						
PKIN	Phulchoki	14.79	333	eP	Pn	16 56 16.1	-1.0
	28nm

Ms5.1/10,Ms7 4.7/9
MOS ***17*** *16:56:42.2±1.8, 45°.89S×165°.44E, h33km, mb5.1/5, Error ellipse: s-maj=26.5km s-min=13.3km az=121.4*
NEIC ***17*** *16:56:42.1±0.2, 45°.83S×166°.04E, h35km, mb5.0/8, ML5.2(WEL), Error ellipse: s-maj=7.2km s-min=3.7km az=159.0*
NEIC Felt at Invercargill.
ISC 17 16:56:42.4±0.4, 45°.89S±0°.04×166°.00E±0°.05, h34km±1km, h34km:pP-P, n208, σ1§50/257, mb4.9/26, MS4.4/21, 7C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.91**	**63**	PN	**Pn**	**16 56 56.5**	**-2.1**
DCZ				SN	**Sn**	**16 57 09.5**	**-1.0**
DCZ				SN	**Sb**	**16 57 10.0**	**-1.5**
DCZ				AML	AML	16 57 11.6	
DCZ				AML	AML	16 57 11.6	
DCZ	**Deep Cove**	**0.91**	**63**	P*	**Pn**	**16 56 56.5**	**-2.1**
DCZ				S*	**Sn**	**16 57 09.5**	**-1.0**
DCZ				S*	**Sb**	**16 57 10.0**	**-1.5**
MLZ	**Mavora Lakes**	**1.62**	**71**	PN	**Pn**	**16 57 07.6**	**-0.9**
MLZ				AML	AML	16 57 33.8	
MLZ				AML	AML	16 57 38.0	
MLZ	**Mavora Lakes**	**1.62**	**71**	Pn	**Pn**	**16 57 07.6**	**-0.9**
APZ	**The Paps**	**1.67**	**125**	⇑PN	**Pn**	**16 57 08.0**	**-1.2**
APZ				SN	**Sn**	**16 57 30.1**	**+0.7**
APZ	**The Paps**	**1.67**	**125**	⇑Pn	**Pn**	**16 57 08.0**	**-1.2**
MSZ	**Milford Sound**	**1.83**	**49**	PN	**Pn**	**16 57 10.3**	**-1.0**
MSZ				AML	AML	16 57 48.5	
MSZ				AML	AML	16 57 48.6	
MSZ				AML	AML	16 57 54.8	
MSZ				AML	AML	16 57 54.9	
MSZ	**Milford Sound**	**1.83**	**49**	P	**Pn**	**16 57 10.3**	**-1.0**
MSZ	**Milford Sound**	**1.83**	**49**	Pn	**Pn**	**16 57 10.3**	**-1.0**
SYZ	**Scrubby Hill**	**2.27**	**108**	PN	**Pn**	**16 57 16.9**	**-0.5**
SYZ	**Scrubby Hill**	**2.27**	**108**	Pn	**Pn**	**16 57 16.9**	**-0.5**
WKZ	**Wanaka**	**2.38**	**64**	PN	**Pn**	**16 57 19.2**	**+0.3**
WKZ				AML	AML	16 58 04.2	
WKZ				AML	AML	16 58 04.2	
WKZ				AML	AML	16 58 08.8	
WKZ				AML	AML	16 58 08.8	
WKZ	**Wanaka**	**2.38**	**64**	Pn	**Pn**	**16 57 19.2**	**+0.3**
EAZ	**Earnscleugh**	**2.41**	**75**	PN	**Pn**	**16 57 19.7**	**+0.3**
EAZ				AML	AML	16 58 01.3	
EAZ				AML	AML	16 58 01.3	
EAZ				AML	AML	16 58 03.2	
EAZ				AML	AML	16 58 03.2	
EAZ	**Earnscleugh**	**2.41**	**75**	Pn	**Pn**	**16 57 19.7**	**+0.3**
TUZ	**Tuapeka**	**2.53**	**93**	PN	**Pn**	**16 57 21.1**	**+0.1**
TUZ				AML	AML	16 57 58.5	
TUZ				AML	AML	16 58 16.0	
TUZ	**Tuapeka**	**2.53**	**93**	Pn	**Pn**	**16 57 21.1**	**+0.1**
LBZ	**Lake Benmore**	**3.32**	**65**	*e*PN	**Pn**	**16 57 30.7**	**-1.2**
LBZ				AML	AML	16 58 27.1	
LBZ				AML	AML	16 58 27.1	
LBZ				AML	AML	16 58 31.7	
LBZ				AML	AML	16 58 31.7	
LBZ	**Lake Benmore**	**3.32**	**65**	*e*Pn	**Pn**	**16 57 30.7**	**-1.2**
ODZ	**Otahua Downs**	**3.37**	**77**	PN	**Pn**	**16 57 31.4**	**-1.2**
ODZ	**Otahua Downs**	**3.37**	**77**	*e*P	**Pn**	**16 57 31.8**	**-0.8**
FOZ	**Fox Glacier**	**3.51**	**50**	*e*PN	**Pn**	**16 57 33.9**	**-0.5**
FOZ				AML	AML	16 57 53.5	
FOZ				AML	AML	16 58 41.9	
FOZ	**Fox Glacier**	**3.51**	**50**	*e*Pn	**Pn**	**16 57 33.9**	**-0.5**
RPZ	**Rata Peaks**	**4.20**	**61**	Pn	**Pn**	**16 57 42.6**	**-1.4**
RPZ				Sn	**Sn**	**16 58 33.3**	**+1.4**
RPZ	**Rata Peaks**	**4.20**	**61**	Pn	**Pn**	**16 57 42.6**	**-1.4**
	30nm,0.3s,baz=220,slow=5.9,SNR=102						
RPZ				Sn	**Sn**	**16 58 33.3**	**+1.4**
	89nm,0.3s,baz=58,slow=18,SNR=10						
WVZ	**Waitaha Valley**	**4.40**	**52**	*e*PN	**Pn**	**16 57 44.9**	**-1.9**
WVZ				AML	AML	16 58 50.8	
WVZ				AML	AML	16 59 25.1	
WVZ	**Waitaha Valley**	**4.40**	**52**	*e*Pn	**Pn**	**16 57 44.9**	**-1.9**
MQZ	**McQueen's Vall**	**5.21**	**68**	*e*PN	**Pn**	**16 57 55.4**	**-2.4**
MQZ	**McQueen's Vall**	**5.21**	**68**	*e*Pn	**Pn**	**16 57 55.4**	**-2.4**
CRLZ	**Canterbury Las**	**5.25**	**66**	*e*PN	**Pn**	**16 57 56.5**	**-1.8**
CRLZ				AML	AML	16 59 40.3	
CRLZ				AML	AML	16 59 46.6	
CRLZ	**Canterbury Las**	**5.25**	**66**	*e*Pn	**Pn**	**16 57 56.5**	**-1.8**
LTZ	**Lake Taylor**	**5.46**	**58**	PN	**Pn**	**16 57 59.3**	**-2.1**
LTZ				AML	AML	16 59 32.7	
LTZ				AML	AML	16 59 32.8	
LTZ	**Lake Taylor**	**5.46**	**58**	Pn	**Pn**	**16 57 59.2**	**-2.1**
DSZ	**Denniston Nort**	**5.90**	**47**	*e*PN	**Pn**	**16 58 04.6**	**-2.7**
DSZ				AML	AML	16 59 31.5	
DSZ				AML	AML	16 59 31.5	
DSZ				AML	AML	16 59 36.8	
DSZ				AML	AML	16 59 36.8	
DSZ	**Denniston Nort**	**5.90**	**47**	*e*Pn	**Pn**	**16 58 04.7**	**-2.7**
KHZ	**Kahutara**	**6.44**	**60**	PN	**Pn**	**16 58 13.4**	**-1.3**
KHZ				AML	AML	17 00 02.2	
KHZ				AML	AML	17 01 01.8	
KHZ	**Kahutara**	**6.44**	**60**	*e*P	**Pn**	**16 58 14.8**	**+0.2**
THZ	**Tophouse**	**6.48**	**53**	*e*PN	**Pn**	**16 58 12.7**	**-2.6**
THZ				AML	AML	16 59 48.7	
THZ				AML	AML	17 00 06.5	
THZ	**Tophouse**	**6.48**	**53**	*e*Pn	**Pn**	**16 58 12.7**	**-2.6**
QRZ	**Quartz Range**	**6.95**	**46**	*e*PN	**Pn**	**16 58 20.4**	**-1.2**
QRZ	**Quartz Range**	**6.95**	**46**	*e*Pn	**Pn**	**16 58 20.4**	**-1.2**
NNZ	**Nelson**	**7.11**	**52**	*e*PN	**Pn**	**16 58 22.3**	**-1.6**
NNZ				AML	AML	16 59 51.5	
NNZ	**Nelson**	**7.11**	**52**	*e*Pn	**Pn**	**16 58 22.3**	**-1.6**
TUWZ	**Tuamarina**	**7.28**	**55**	PN	**Pn**	**16 58 27.7**	**+1.5**
TUWZ				AML	AML	16 59 55.0	
TUWZ				AML	AML	17 00 00.8	
TCW	**Tory Channel**	**7.61**	**55**	*e*PN	**Pn**	**16 58 32.1**	**+1.3**
TCW				AML	AML	17 00 02.6	
TCW	**Tory Channel**	**7.61**	**55**	*e*Pn	**Pn**	**16 58 32.1**	**+1.3**
DUWZ	**D'Urville Isla**	**7.69**	**51**	PN	**Pn**	**16 58 31.9**	**0.0**
DUWZ				AML	AML	17 00 13.9	
DUWZ				AML	AML	17 00 14.9	
DUWZ	**D'Urville Isla**	**7.69**	**51**	Pn	**Pn**	**16 58 31.9**	**0.0**
CAW	**Cannon Point**	**8.14**	**57**	*e*PN	**Pn**	**16 58 36.2**	**-1.9**
CAW				AML	AML	17 00 17.7	
CAW				AML	AML	17 00 19.5	
CAW	**Cannon Point**	**8.14**	**57**	*e*Pn	**Pn**	**16 58 36.2**	**-1.9**
KIW	**Kapiti Island**	**8.21**	**55**	PN	**Pn**	**16 58 38.9**	**-0.1**
KIW				AML	AML	17 00 23.7	
MTW	**Mount Morrison**	**8.37**	**59**	PN	**Pn**	**16 58 40.7**	**-0.5**
MTW				AML	AML	17 00 38.1	
MTW				AML	AML	17 00 41.6	
MRZ	**Mangatainoka R**	**8.72**	**57**	*e*PN	**Pn**	**16 58 43.5**	**-2.5**
MRZ				AML	AML	17 00 31.0	
MRZ	**Mangatainoka R**	**8.72**	**57**	*e*Pn	**Pn**	**16 58 43.5**	**-2.5**
NWEZ	**Newall Road**	**8.79**	**44**	PN	**Pn**	**16 58 45.2**	**-1.8**
NEZ	**North Egmont**	**8.91**	**45**	*e*PN	**Pn**	**16 58 46.3**	**-2.3**
NEZ	**North Egmont**	**8.91**	**45**	*e*Pn	**Pn**	**16 58 46.4**	**-2.3**
PKE	**Pukeiti**	**8.91**	**44**	*e*PN	**Pn**	**16 58 46.9**	**-1.8**
PKE	**Pukeiti**	**8.91**	**44**	*e*Pn	**Pn**	**16 58 46.9**	**-1.8**
URZ	**Urewera**	**11.23**	**51**	Pn	**Pn**	**16 59 18.9**	**-1.4**
URZ	**Urewera**	**11.23**	**51**	Pn	**Pn**	**16 59 18.9**	**-1.4**
	0.7nm,0.3s,baz=282,slow=9.3,SNR=5.0						
OUZ	**Omahuta**	**12.12**	**31**	*e*P	**Pn**	**16 59 31.3**	**-1.1**
	26nm,0.6s						
TAU	**Tasmania Unive**	**13.69**	**276**	Pn	Pn	16 59 48.0	-5.9
	318nm,1.0s,SNR=8.9						
CAN	**Canberra**	**16.65**	**303**	*e*P	**Pn**	**17 00 29.2**	**-3.8**
CAN				pmax	pmax		
	comp=Z,51nm,1.1s						
CAN	**Canberra**	**16.65**	**303**	*e*P	**Pn**	**17 00 29.2**	**-3.8**
	comp=Z,51nm,1.1s						
STKA	**Stephens Creek**	**23.48**	**298**	P	**P**	**17 01 48.5**	**-0.3**
STKA				PP	pP	17 02 04.5	+6.3
STKA	**Stephens Creek**	**23.48**	**298**	P	**P**	**17 01 48.5**	**-0.3**
	comp=Z,13nm,0.8s,baz=122,slow=10,SNR=22						
STKA				PP	pP	17 02 04.5	+6.3
	comp=Z,17nm,0.8s,baz=131,slow=8.9,SNR=7.8						
STKA				LR	LR	17 09 23.0	
	comp=Z,1μm,19.8s,baz=105,slow=33						
DZM	**Mont Dzumac**	**23.77**	**1**	*e*P	**P**	**17 01 51.9**	**+0.2**
	comp=Z,57nm,1.1s						
DZM				*e*LR	LR	17 07 42.5	
	comp=Z,330nm,31.1s						
DZM	**Mont Dzumac**	**23.77**	**1**	*e*P	**P**	**17 01 51.2**	**-0.5**
DZM	**Mont Dzumac**	**23.77**	**1**	P	**P**	**17 01 52.5**	**+0.7**
DZM	**Mont Dzumac**	**23.77**	**1**	P	**P**	**17 01 52.5**	**+0.7**
	comp=Z,6.7nm,0.7s,baz=233,slow=20,SNR=3.0						
MSVF	**Nonsavu**	**29.81**	**24**	*e*P	**P**	**17 02 46.5**	**+0.3**
VNDA	**Vanda**	**31.78**	**182**	LR	LR	17 13 29.5	
	comp=Z,521nm,18.3s,baz=12,slow=32						
AS31	**Alice Springs**	**34.09**	**300**	*e*P	**P**	**17 03 21.8**	**-1.9**
ASAR	**Alice Springs**	**34.09**	**300**	P	**P**	**17 03 21.9**	**-1.8**
ASAR				PcP	**PcP**	**17 05 58.6**	**-2.0**
ASAR	**Alice Springs**	**34.09**	**300**	P	**P**	**17 03 21.9**	**-1.8**
	comp=Z,5.3nm,0.8s,baz=126,slow=8.4,SNR=46						
ASAR				PcP	**PcP**	**17 05 58.6**	**-2.0**
	comp=Z,2.2nm,0.8s,baz=134,slow=3.6,SNR=5.3						
ASAR				LR	LR	17 16 54.3	
	comp=Z,907nm,19.1s,baz=136,slow=36						
CASY	**Casey**	**35.44**	**215**	*e*P	**P**	**17 03 34.3**	**-0.5**
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**36.69**	**304**	P	**P**	**17 03 44.2**	**-1.8**
WRA				PcP	**PcP**	**17 06 06.8**	**-1.5**
WRA	**Warramunga Arr**	**36.69**	**304**	P	**P**	**17 03 44.2**	**-1.8**
	comp=Z,6.0nm,0.7s,baz=141,slow=7.8,SNR=30						
WRA				PcP	**PcP**	**17 06 06.8**	**-1.5**
	comp=Z,2.6nm,0.9s,baz=137,slow=3.1,SNR=5.9						
WRA				LR	LR	17 17 44.1	
	comp=Z,683nm,18.7s,baz=140,slow=35						
WRAB	**Tennant Creek**	**36.69**	**304**	P	**P**	**17 03 44.6**	**-1.4**
	comp=Z,70nm,0.8s,SNR=6.6						
WRAB	**Tennant Creek**	**36.69**	**304**	*e*P	**P**	**17 03 44.2**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WRAB	**Tennant Creek**	**36.69**	**304**	*e*P	**P**	**17 03 44.2**	**-1.8**
	comp=Z,9.5nm,0.8s						
NWAO	**Narrogin (SRO)**	**39.26**	**272**	LR	LR	17 16 53.4	
	comp=Z,295nm,18.1s,baz=189,slow=31						
TBI	**Tubuai**	**42.30**	**73**	*e*LR	LR	17 16 13.9	
	comp=Z,283nm,30.8s						
FITZ	**Fitzroy Crossi**	**43.35**	**296**	PcP	**PcP**	**17 06 29.5**	**0.0**
FITZ	**Fitzroy Crossi**	**43.35**	**296**	PcP	**PcP**	**17 06 29.5**	**0.0**
	baz=142,slow=3.4						
FITZ				LR	LR	17 21 49.8	
	comp=Z,436nm,18.4s,baz=148,slow=35						
QSPA	**South Pole Qui**	**44.23**	**180**	P	**P**	**17 04 48.6**	**+0.6**
QSPA	**South Pole Qui**	**44.23**	**180**	P	**P**	**17 04 48.6**	**+0.6**
	comp=Z,12nm,0.8s,baz=18,slow=2.2,SNR=47						
PPT2	**Papeete2**	**46.31**	**67**	*e*LR	LR	17 18 00.6	
	comp=Z,178nm,21.2s						
RKT	**Rikitea**	**52.38**	**85**	*e*LR	LR	17 20 50.0	
	comp=Z,758nm,24.8s						
MAW	**Mawson**	**53.11**	**208**	P	**P**	**17 05 55.9**	**0.0**
MAW				PcP	**PcP**	**17 07 04.1**	**+0.3**
MAW	**Mawson**	**53.11**	**208**	P	**P**	**17 05 55.9**	**0.0**
	comp=Z,7.7nm,1.0s,baz=118,slow=12,SNR=8.2						
MAW				PcP	**PcP**	**17 07 04.1**	**+0.3**
	comp=Z,6.5nm,1.0s,baz=146,slow=5.6,SNR=3.6						
MAW				LR	LR	17 26 33.6	
	comp=Z,498nm,18.3s,baz=115,slow=34						
SYO	**Syowa Base**	**58.78**	**200⇑**	*e*P	**P**	**17 06 34.6**	**-1.9**
SYO	**Syowa Base**	**58.78**	**200⇑**	*e*sP	sP	17 06 51.2	+0.3
SNAA	**Sanae**	**62.47**	**184**	*e*P	**P**	**17 07 00.8**	**-0.9**
SNAA	**Sanae**	**62.47**	**184**	*e*sP	sP	17 07 15.6	-0.5
SNAA	**Sanae**	**62.47**	**184**	*e*P	**P**	**17 07 01.6**	**-0.2**
	comp=Z,21nm,1.1s						
SNAA	**Sanae**	**62.47**	**184**	P	**P**	**17 07 01.5**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=179,slow=7.1,SNR=55						
VNA2	**Neumayer--Watz**	**63.40**	**182**	*e*P	**P**	**17 07 07.9**	**+0.1**
	baz=171,slow=4.5						
VNA2	**Neumayer--Watz**	**63.40**	**182**	*e*pP	pP	17 07 13.7	-4.5
	baz=171,slow=4.5						
VNA2	**Neumayer--Watz**	**63.40**	**182**	*e*sP	sP	17 07 20.7	-1.5
	baz=171,slow=4.5						
VNA2	**Neumayer--Watz**	**63.40**	**182**	*e*PcP	**PcP**	**17 07 40.7**	**-3.7**
	baz=171,slow=4.5						
VNA1	**Neumayer--Stat**	**63.70**	**182**	*e*P	**P**	**17 07 10.1**	**+0.4**
DAV	**Davao City (W)**	**63.88**	**314**	LR	LR	17 36 37.9	
	comp=Z,198nm,20.3s,baz=203,slow=38						
KSM	**Kuching**	**67.96**	**297**	P	**P**	**17 07 37.7**	**-0.3**
	comp=Z,25nm,1.1s						
KKM	**Kota Kinabalu**	**68.06**	**305**	*e*P	**P**	**17 07 38.1**	**-0.6**
	comp=Z,14nm,0.9s						
PSI	**Prapat**	**76.29**	**289**	P	**P**	**17 08 25.1**	**-2.8**
PSI	**Prapat**	**76.29**	**289**	P	**P**	**17 08 25.1**	**-2.8**
	comp=Z,6.6nm,0.9s,baz=181,slow=8.6,SNR=8.4						
PSI				LR	LR	17 40 38.8	
	comp=Z,387nm,19.7s,baz=313,slow=35						
PLCA	**Paso Flores**	**80.06**	**140**	P	**P**	**17 08 49.6**	**+1.2**
PLCA	**Paso Flores**	**80.06**	**140**	P	**P**	**17 08 49.6**	**+1.2**
	comp=Z,3.0nm,1.0s,baz=186,slow=5.7,SNR=3.8						
PLCA				LR	LR	17 39 41.7	
	comp=Z,185nm,18.4s,baz=136,slow=32						
QIZ	**Qiongzhong**	**82.19**	**308**	P	**P**	**17 09 00.5**	**+0.7**
QIZ				S	**S**	**17 19 14.6**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,15nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,120nm,7.0s						
QIZ				LR	LR		
	comp=Z,130nm,16.8s						
MJAR	**Matsushiro Arr**	**85.80**	**338**	P	**P**	**17 09 18.4**	**+0.5**
MJAR	**Matsushiro Arr**	**85.80**	**338**	P	**P**	**17 09 18.4**	**+0.5**
	comp=Z,5.1nm,1.1s,baz=169,slow=5.7,SNR=9.9						
MJAR				LR	LR	17 39 27.0	
	comp=Z,58nm,21.9s,baz=195,slow=30						
MAT	**Matsushiro**	**85.80**	**338**	P	**P**	**17 09 16.9**	**-0.9**
CM31	**Chiang Mai Arr**	**88.10**	**299**	*e*P	**P**	**17 09 30.1**	**+0.7**
	comp=Z,9.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**88.10**	**299**	P	**P**	**17 09 30.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.10**	**299**	P	**P**	**17 09 30.2**	**+0.8**
	comp=Z,8.6nm,1.0s,baz=160,slow=3.5,SNR=32						
CMAR				LR	LR	17 51 19.2	
	comp=Z,116nm,19.3s,baz=332,slow=37						
CHTO	**Chiang Mai**	**88.37**	**299**	*e*P	**P**	**17 09 30.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,15nm,1.4s						
CHTO	**Chiang Mai**	**88.37**	**299**	*e*P	**P**	**17 09 30.7**	**0.0**
	comp=Z,15nm,1.4s						
NJ2	**Nanjing**	**88.55**	**321**	*e*P	**P**	**17 09 32.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
KSRS	**Korea Array**	**89.77**	**331**	P	**P**	**17 09 38.1**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=148,slow=5.4,SNR=4.2						
KSRS				LR	LR	17 47 54.3	
	comp=Z,55nm,18.9s,baz=23,slow=34						
KSAR	**Wonju Array Be**	**89.77**	**331**	P	**P**	**17 09 38.1**	**+1.4**
GYA	**Guiyang**	**89.88**	**310**	*e*P	**P**	**17 09 38.8**	**+1.0**
GYA				pP	**pP**	**17 09 49.5**	**+0.9**
GYA				sP	**sP**	**17 09 53.3**	**+0.8**
GYA				PP	**PP**	**17 13 14.0**	**+2.9**
GYA				SKS	**SKSac**	**17 20 03.6**	**-2.3**
GYA				S	**S**	**17 20 27.3**	**-0.4**
GYA				sS	**sS**	**17 20 45.0**	**-0.6**
GYA				SS	**SS**	**17 26 28.8**	**+2.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=N,530nm,20.4s						
GYA				LR	LR		
	comp=E,470nm,21.0s						
GYA				LR	LR		
	comp=Z,540nm,20.5s						
KMI	**Kunming**	**91.00**	**306**	P	**P**	**17 09 45.0**	**+1.9**
KMI				pP	**pP**	**17 09 53.8**	**-0.2**
KMI				sP	**sP**	**17 09 59.3**	**+1.4**
KMI				S	**S**	**17 20 35.9**	**-2.3**
KMI				SS	**SS**	**17 26 38.5**	**-4.3**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KMI				pmax	pmax		
	comp=Z,95nm,5.0s						
KMI				LR	LR		
	comp=N,130nm,21.4s						
KMI				LR	LR		
	comp=E,120nm,19.1s						
KMI				LR	LR		
	comp=Z,130nm,24.5s						
ENH	**Enshi**	**91.47**	**314**	*e*P	**P**	**17 09 44.4**	**-0.6**
CD2	**Chengdu**	**94.95**	**310**	*e*P	**P**	**17 10 02.3**	**+1.3**
CD2				pP	**pP**	**17 10 13.3**	**+1.4**
CD2				sP	**sP**	**17 10 17.5**	**+1.8**
CD2				PP	**PP**	**17 13 54.3**	**+3.4**
CD2				SKS	**SKSac**	**17 20 33.9**	**+0.1**
CD2				S	**S**	**17 21 11.3**	**-1.4**
CD2				sS	**sS**	**17 21 30.0**	**-0.8**
CD2				SS	**SS**	**17 27 41.6**	**+2.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,9.2s						
CD2				LR	LR		
	comp=N,130nm,19.0s						
CD2				LR	LR		
	comp=E,220nm,21.4s						
CD2				LR	LR		
	comp=Z,150nm,15.6s						
MDJ	**Mudanjiang**	**95.71**	**335**	P	**P**	**17 10 05.8**	**+1.7**
MDJ				pP	**pP**	**17 10 15.5**	**+0.6**
MDJ				sP	**sP**	**17 10 19.0**	**+0.2**
MDJ				PP	**PP**	**17 13 57.1**	**+0.6**
MDJ				S	**ScS**	**17 21 21.9**	**+2.7**
MDJ				sS	**sS**	**17 21 38.5**	**+1.9**
MDJ				SS	**SS**	**17 27 51.5**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,63nm,5.3s						
PETK	**Petropavlovsk-**	**98.88**	**355**	LR	LR	17 52 15.4	
	comp=Z,48nm,20.9s,baz=276,slow=34						
LZH	**Lanzhou**	**98.95**	**314**	*e*P	Pdif	17 10 20.8	+1.7
LZH				pP	pP	17 10 31.3	+1.3
LZH				sP	sP	17 10 35.3	+1.4
LZH				*e*PP	**PP**	**17 14 25.4**	**+3.6**
LZH				SKS	**SKSac**	**17 20 55.1**	**+0.6**
LZH				*e*S	**S**	**17 21 46.0**	**-1.0**
LZH				sS	sS	17 22 03.5	-1.6
LZH				*e*SS	**SS**	**17 28 37.3**	**+1.7**
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
LZH				pmax	pmax		
	comp=Z,100nm,9.6s						
LZH				LR	LR		
	comp=N,390nm,17.6s						
LZH				LR	LR		
	comp=E,310nm,18.2s						
LZH				LR	LR		
	comp=Z,410nm,19.7s						
HHC	**Hu-ho-hao-te**	**99.10**	**321**	*e*P	**Pdif**	**17 10 19.9**	**+0.3**
HHC				pP	**pP**	**17 10 30.6**	**+0.1**
HHC				sP	**sP**	**17 10 34.3**	**-0.1**
HHC				PP	**PP**	**17 14 26.3**	**+3.5**
HHC				SKS	**SKSac**	**17 20 54.3**	**-0.6**
HHC				S	**S**	**17 21 46.8**	**-1.2**
HHC				sS	**sS**	**17 22 03.0**	**-3.1**
HHC				SS	**SS**	**17 28 40.3**	**+2.7**
HHC				pmax	pmax		
	comp=Z,48nm,0.9s						
HHC				pmax	pmax		
	comp=Z,320nm,6.7s						
HHC				LR	LR		
	comp=N,210nm,17.3s						
HHC				LR	LR		
	comp=E,230nm,18.8s						
HHC				LR	LR		
	comp=Z,210nm,17.3s						
MNTX	**Cornudas Mount**	**111.09**	**66**	*e*Pdif	**Pdif**	**17 11 12.1**	**-0.9**
WMQ	**Urumqi**	**113.04**	**310**	*e*PKP	**PKiKP**	**17 15 14.9**	**-0.5**
WMQ				PP	**PP**	**17 16 08.0**	**+2.5**
WMQ				PKS	**PKSdf**	**17 18 51.1**	**-0.9**
WMQ				SKS	**SKSdf**	**17 22 22.4**	**-2.2**
WMQ				SKKS	SKKSac	17 22 54.8	-9.2
WMQ				SS	**SS**	**17 31 46.3**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,23nm,9.0s						
WMQ				LR	LR		
	comp=N,58nm,28.0s						
WMQ				LR	LR		
	comp=E,74nm,24.0s						
ILAR	**Eielson Array**	**116.29**	**21**	PKP	**PKPdf**	**17 15 20.7**	**-0.2**
ILAR	**Eielson Array**	**116.29**	**21**	PKP	**PKPdf**	**17 15 20.7**	**-0.2**
	comp=E,0.6nm,0.7s,baz=297,slow=3.0,SNR=5.9						
KSH	**Kashi**	**116.99**	**300**	*e*PKP	**PKPdf**	**17 15 24.3**	**+1.1**
KSH				PP	PP	17 16 39.9	+6.3
KSH				SKS	**SKSdf**	**17 22 31.3**	**-1.2**
KSH				SS	**SS**	**17 32 42.4**	**+2.8**
KSH				AMB	AMB		
	comp=Z,93nm,6.5s						
KSH				LR	LR		
	comp=N,84nm,8.3s						
KSH				LR	LR		
	comp=E,53nm,7.0s						
KSH				LR	LR		
	comp=Z,81nm,7.0s						
MKAR	**Makanchi Array**	**117.87**	**309**	PKIKP	**PKPdf**	**17 15 23.7**	**-0.8**
MKAR	**Makanchi Array**	**117.87**	**309**	PKP	**PKPdf**	**17 15 23.7**	**-0.8**
MKAR	**Makanchi Array**	**117.87**	**309**	PKP	**PKPdf**	**17 15 23.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=8.1,slow=1.7,SNR=7.4						
AAK	**Ala-Archa**	**119.77**	**302⇑**	*i*PKIKP	**PKPdf**	**17 15 28.8**	**+0.3**
EKS2	**Erkin-Say**	**120.22**	**301**	*e*PKIKP	**PKPdf**	**17 15 29.5**	**+0.2**
EKS2	**Erkin-Say**	**120.22**	**301**	*e*PKPdf	**PKPdf**	**17 15 29.5**	**+0.2**
ZALV	**Zalesovo Beam**	**120.93**	**317**	PKIKP	**PKPdf**	**17 15 30.2**	**+0.1**
ZALV	**Zalesovo Beam**	**120.93**	**317**	PKP	**PKPdf**	**17 15 30.2**	**+0.1**
ZALV	**Zalesovo Beam**	**120.93**	**317**	PKP	**PKPdf**	**17 15 30.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=107,slow=2.1,SNR=2.5						
KKAR	**Karatay Array**	**122.43**	**300**	*e*PKIKP	**PKPdf**	**17 15 33.0**	**-0.4**
KKAR	**Karatay Array**	**122.43**	**300**	*e*PKPdf	**PKPdf**	**17 15 33.0**	**-0.4**
BRVK	**Borovoye**	**127.78**	**311⇑**	*i*PKIKP	**PKPdf**	**17 15 43.6**	**+0.3

CRVS	**Cervenica-Dubn**	**155.94 292**	*e*PKP2	**PKPab**	**17 17 01.6**	**+2.1**
OKC	**Ostrava-Krasne**	**158.17 292**	*e*PKP2	**PKPab**	**17 17 10.0**	**+1.0**
OKC	**Ostrava-Krasne**	**158.17 292**	*e*PKPAB	**PKPab**	**17 17 10.0**	**+1.0**
OKC			*ep*PKP	**pPKPab**	**17 17 18.0**	**-1.9**
DPC	**Dobruska-Polom**	**159.35 293**	*e*PKP2	**PKPab**	**17 17 14.6**	**+0.4**
DPC	**Dobruska-Polom**	**159.35 293**	*e*PKPAB	**PKPab**	**17 17 14.6**	**+0.4**
DPC			*ep*PKP	**pPKPab**	**17 17 23.5**	**-1.6**
UPC	**Upice**	**159.55 294**	*e*PKP2	**PKPab**	**17 17 16.0**	**+1.0**
UPC	**Upice**	**159.55 294**	*e*PKPAB	**PKPab**	**17 17 16.0**	**+1.0**
KEST	**Kesra**	**159.69 248**	PKPab	**PKPab**	**17 17 15.4**	**-0.7**
KEST	**Kesra**	**159.69 248**	PKPab	**PKPab**	**17 17 15.4**	**-0.7**
	comp=Z,3.5nm,1.1s,baz=124,slow=3.6,SNR=4.9					
TREC	**Trest**	**159.89 290**	*e*PKP2	**PKPab**	**17 17 13.9**	**-2.6**
TREC	**Trest**	**159.89 290**	*e*PKPAB	**PKPab**	**17 17 13.9**	**-2.6**
SOKA	**Soboth**	**159.97 283**	⇓*i*PKPab	**PKPab**	**17 17 15.7**	**-1.4**
	comp=Z,8.1nm,1.2s					
PRU	**Pruhonice**	**160.50 292**	*e*PKP2	**PKPab**	**17 17 19.2**	**0.0**
PRU	**Pruhonice**	**160.50 292**	*e*PKPAB	**PKPab**	**17 17 19.2**	**0.0**
PRU			*ep*PKP	**pPKPab**	**17 17 28.0**	**-2.1**
BRG	**Berggiesshubel**	**160.85 295**	*e*PKP	**PKPab**	**17 17 20.9**	**+0.3**
	comp=Z,7.4nm,1.3s					
BRG			*e*		17 17 29.4	
	comp=Z,15nm,1.6s					
BRG	**Berggiesshubel**	**160.85 295**	*e*PKP2	**PKPab**	**17 17 21.0**	**+0.3**
BRG			pmax	pmax		
	comp=Z,7.0nm,1.3s					
BRG			pmax	pmax		
	comp=Z,15nm,1.6s					
GERES	**GERESS Array B**	**161.05 289**	PKPab	**PKPab**	**17 17 21.5**	**-0.2**
GERES	**GERESS Array B**	**161.05 289**	PKPab	**PKPab**	**17 17 21.5**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=92,slow=4.4,SNR=15					
KHC	**Kasperske Hory**	**161.14 290**	*e*PKIKP	**PKPdf**	**17 16 39.7**	**+1.3**
KHC			*e*		17 17 21.1	
KHC	**Kasperske Hory**	**161.14 290**	*e*PKPDF	**PKPdf**	**17 16 39.7**	**+1.3**
KHC			*e*PKPAB	pPKPab	17 17 21.1	-12
KHC			*ep*PKP	PKPab	17 17 30.5	+8.5
DAVOX	**Davos/Dischmat**	**163.50 282**	PKPab	**PKPab**	**17 17 31.9**	**-0.8**
DAVOX	**Davos/Dischmat**	**163.50 282**	PKPab	**PKPab**	**17 17 31.9**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=122,slow=5.2,SNR=4.2					
DAVA	**Damuels**	**163.54 283**	⇑*i*PKPab	**PKPab**	**17 17 32.3**	**-0.5**
	comp=Z,5.6nm,1.0s					
ESDC	**Sonseca Array**	**170.36 233**	PKPab	**PKPab**	**17 18 03.0**	**+0.1**
ESDC	**Sonseca Array**	**170.36 233**	PKPab	**PKPab**	**17 18 03.0**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=131,slow=4.1,SNR=10					

*IDC **17** 17:13:00.4±2.3, 45°.82S×165°.83E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/15, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=70.9km s-min=27.8km az=174.0*
*WEL **17** 17:13:02.6±0.2, 45°.99S×165°.82E, h33km, ML4.1/13, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0*
ISC 17 17:13:01.5±3.1, 45°.91S±0°.08×165°.85E±0°.07, h9km±18km, n21, σ0s84/26, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**65**	PN	**Pb**	**17 13 21.0**	**-0.3**
DCZ				SN	**Sg**	**17 13 34.0**	**-0.1**
DCZ				SN	**Sb**	**17 13 34.4**	**-0.3**
DCZ				AML	AML	17 13 34.5	
DCZ				AML	AML	17 13 34.7	
MLZ	**Mavora Lakes**	**1.73**	**72**	PN	**Pn**	**17 13 32.4**	**+0.6**
MLZ				SN	**Sb**	**17 13 54.7**	**-0.6**
MLZ				AML	AML	17 14 02.0	
APZ	**The Paps**	**1.75**	**123**	PN	**Pn**	**17 13 32.1**	**+0.1**
APZ				SN	**Sn**	**17 13 53.8**	**-0.6**
MSZ	**Milford Sound**	**1.92**	**51**	PN	**Pn**	**17 13 35.2**	**+0.8**
MSZ				AML	AML	17 14 11.8	
MSZ				AML	AML	17 14 11.8	
MSZ				AML	AML	17 14 19.7	
MSZ				AML	AML	17 14 19.7	
SYZ	**Scrubby Hill**	**2.37**	**106**	PN	**Pn**	**17 13 41.5**	**+0.9**
SYZ				SN	**Sn**	**17 14 10.2**	**+0.5**
WKZ	**Wanaka**	**2.48**	**65**	PN	**Pn**	**17 13 44.0**	**+1.8**
WKZ				AML	AML	17 14 24.0	
WKZ				AML	AML	17 14 32.2	
WKZ				AML	AML	17 14 32.2	
EAZ	**Earnscleugh**	**2.52**	**76**	PN	**Pn**	**17 13 44.4**	**+1.7**
EAZ				AML	AML	17 14 23.4	
EAZ				AML	AML	17 14 23.4	
EAZ				AML	AML	17 14 23.9	
EAZ				AML	AML	17 14 26.7	
TUZ	**Tuapeka**	**2.64**	**92**	PN	**Pn**	**17 13 45.3**	**+1.0**
TUZ				AML	AML	17 14 22.0	
TUZ				AML	AML	17 14 25.9	
LBZ	**Lake Benmore**	**3.43**	**65**	PN	**Pn**	**17 13 55.8**	**+0.6**
LBZ				AML	AML	17 14 43.2	
LBZ				AML	AML	17 14 46.6	
ODZ	**Otahua Downs**	**3.48**	**77**	PN	**Pn**	**17 13 55.9**	**0.0**
FOZ	**Fox Glacier**	**3.60**	**51**	PN	**Pn**	**17 13 59.2**	**+1.7**
RPZ	**Rata Peaks**	**4.31**	**61**	Pn	**Pn**	**17 14 07.4**	**+0.1**
	4.2nm,0.3s,baz=220,slow=4.9,SNR=17						
RPZ				Sn	**Sn**	**17 14 57.0**	**-0.6**
	9.4nm,0.3s,baz=1.0,slow=22,SNR=13						
WVZ	**Waitaha Valley**	**4.50**	**53**	PN	**Pn**	**17 14 10.3**	**+0.4**
LTZ	**Lake Taylor**	**5.57**	**58**	PN	**Pn**	**17 14 24.3**	**-0.3**
DSZ	**Denniston Nort**	**5.99**	**48**	PN	**Pn**	**17 14 30.1**	**-0.3**
THZ	**Tophouse**	**6.57**	**53**	PN	**Pn**	**17 14 38.4**	**-0.1**
QRZ	**Quartz Range**	**7.04**	**46**	PN	**Pn**	**17 14 45.2**	**+0.5**
ASAR	**Alice Springs**	**34.01 300**		P	**P**	**17 19 45.4**	**-0.4**
	0.3nm,0.8s,baz=128,slow=8.7,SNR=6.3						
WRA	**Warramunga Arr**	**36.61 304**		P	**P**	**17 20 07.7**	**-0.5**
	0.5nm,0.9s,baz=138,slow=7.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**144.69 207**		PKP	PKPbc	17 32 37.9	+0.2
	0.5nm,0.8s,baz=179,slow=0.5,SNR=3.3						
BRTR	**Keskin Array B**	**144.83 277**		PKP	**PKPdf**	**17 32 39.4**	**+0.7**
	0.7nm,0.7s,baz=132,slow=2.1,SNR=4.6						

IDC 17 17:17:13.0±1.4, 13°.80N×92°.98E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/29, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=52.8km s-min=18.4km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.37**	**50**	Pn	Pn	17 19 02.0	0.0
	0.1nm,0.3s,baz=239,slow=16,SNR=5.8						
CMAR				Sn	Sn	17 20 19.6	-6.8
	0.3nm,0.3s,baz=239,slow=28,SNR=7.7						
MKAR	**Makanchi Array**	**34.10**	**347**	P	P	17 23 60.0	+0.6
	0.3nm,0.7s,baz=168,slow=7.4,SNR=3.3						
SONM	**Songino Array**	**35.73**	**16**	P	P	17 24 12.9	-0.6
	0.1nm,0.3s,baz=187,slow=10,SNR=3.0						
KURBB	**Kurchatov Arra**	**38.56**	**345**	P	P	17 24 36.3	-1.1
	0.5nm,0.2s,baz=158,slow=8.0,SNR=3.7						
FITZ	**Fitzroy Crossi**	**45.19**	**134**	P	P	17 25 31.0	-1.0
	1.5nm,0.7s,baz=306,slow=6.7,SNR=6.2						
WRA	**Warramunga Arr**	**52.72**	**129**	P	P	17 26 29.8	-0.1
	0.3nm,0.6s,baz=301,slow=9.9,SNR=4.7						
WRA				PcP	PcP	17 27 39.9	+0.1
	0.6nm,0.6s,baz=315,slow=3.1,SNR=7.9						
ASAR	**Alice Springs**	**54.66**	**133**	P	P	17 26 44.4	+0.3
	0.6nm,0.5s,baz=306,slow=6.6,SNR=29						
ASAR				PcP	PcP	17 27 47.6	+0.5
	0.4nm,0.8s,baz=315,slow=3.5,SNR=4.1						

*JMA **17** 17:25:35.0±0.5, 27°.87N×127°.72E, h8km±5km, M3.3*
*ISCJB **17** 17:25:36.4±0.9, 27°.81N±0°.05×127°.78E±0°.06, h10km, mb3.2/4, Error ellipse: s-maj=8.9km s-min=5.6km az=39.7*
*IDC **17** 17:25:37.4±1.3, 27°.36N×127°.91E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/26, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=54.7km s-min=21.8km az=72.0*
ISC 17 17:25:37.5±1.1, 27°.68N±0°.08×127°.91E±0°.08, h10km, n13, σ1s12/15, mb3.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.65**	**176**	P	**Pb**	**17 25 51.3**	**+0.3**
JIH				*e*S	**Sn**	**17 26 03.0**	**-0.1**
JOW	**Kunigami**	**0.91**	**159**	P	**Pb**	**17 25 55.9**	**+0.5**
JOW				*e*S	**Sn**	**17 26 11.5**	**+2.0**
JTK	**Tokunoshima**	**0.92**	**83**	P	**Pg**	**17 25 55.5**	**+0.2**
JTK				S	**Sn**	**17 26 10.1**	**+0.2**
JAGN	**Aguni-jima**	**1.24**	**209**	P	**Pn**	**17 25 59.3**	**-1.7**
JAGN				*e*S	**Sb**	**17 26 17.7**	**+0.5**
JAMN	**Amaminishikomi**	**1.25**	**63**	P	**Pn**	**17 25 59.9**	**-1.1**
JJT2	**Tamagusuku 2**	**1.55**	**186**	P	**Pb**	**17 26 06.1**	**-0.2**
JAM	**Amami Oshima**	**1.66**	**64**	P	**Pn**	**17 26 05.9**	**-0.8**
JKE	**Kume jima 2**	**1.69**	**217**	P	**Pn**	**17 26 06.5**	**-0.6**
JNU	**Nakatsue**	**5.99**	**25**	Pn	Pn	17 27 10.8	+4.5
	0.5nm,0.3s,baz=263,slow=3.8,SNR=5.2						
SONM	**Songino Array**	**26.19**	**326**	P	P	17 31 18.0	+5.6
	0.5nm,0.6s,baz=136,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**40.37**	**311**	P	**P**	**17 33 17.1**	**+1.6**
	0.2nm,0.6s,baz=105,slow=9.3,SNR=2.7						
WRA	**Warramunga Arr**	**47.75**	**172**	P	**P**	**17 34 13.3**	**-1.6**
	0.2nm,0.3s,baz=354,slow=8.5,SNR=8.6						
ASAR	**Alice Springs**	**51.38**	**173**	P	**P**	**17 34 42.1**	**-0.5**
	0.2nm,0.8s,baz=360,slow=10,SNR=4.2						

IDC 17 17:30:00.2±2.0, 1°.60S×99°.34E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/25, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=81.8km s-min=19.5km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.39**	**355**	Pn	Pn	17 31 07.2	-1.3
	0.6nm,0.3s,baz=164,slow=16,SNR=2.5						
CMAR	**Chiang Mai Arr**	**19.94**	**359**	P	P	17 34 33.1	-0.9
	0.1nm,0.3s,baz=190,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**38.76**	**120**	P	P	17 37 26.8	0.0
	0.7nm,0.7s,baz=301,slow=8.9,SNR=6.7						
ASAR	**Alice Springs**	**40.02**	**126**	P	P	17 37 37.0	-0.3
	0.2nm,0.5s,baz=308,slow=7.4,SNR=5.8						
SONM	**Songino Array**	**49.62**	**6**	P	P	17 38 54.3	+0.7
	0.2nm,0.6s,baz=197,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**50.47**	**345**	P	P	17 39 00.6	+0.6
	1.0nm,0.6s,baz=145,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**56.66**	**350**	P	P	17 39 43.6	-1.6
	0.6nm,0.4s,baz=155,slow=6.8,SNR=5.1						
FINES	**FINESS Array B**	**83.46**	**332**	P	P	17 42 29.7	+0.2
	4.7nm,1.1s,baz=146,slow=8.5,SNR=3.8						
TXAR	**Lajitas Array**	**144.78**	**36**	PKP	PKPdf	17 49 39.7	-0.4
	0.5nm,0.5s,baz=242,slow=1.9,SNR=4.4						

*NEIC **17** 17:39:16.3, 19°.36N×65°.74W, h10km, MD3.3(RSPR), After RSPR.*
RSPR 17 17:39:16.3, 19°.36N×65°.74W, h10km±31km, MD3.3/14, 35C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.09**	**186**	⇓*e*P	Pb	17 39 33.6	-3.7
CBYP	**Canovanas**	**1.09**	**186**	*e*S	Sg	17 39 48.1	-3.4
CBYP	**Canovanas**	**1.09**	**186**	⇓*e*P	Pb	17 39 33.6	-3.7
CBYP				*e*S	Sg	17 39 48.1	-3.4
CBYP	**Canovanas**	**1.09**	**186**	⇓*e*P	Pb	17 39 33.6	-3.7
CBYP				*e*S	Sg	17 39 48.1	-3.4
STVI	**Saint Thomas**	**1.25**	**143**	⇑*e*P	Pn	17 39 37.1	-2.7
STVI	**Saint Thomas**	**1.25**	**143**	⇑*e*P	Pn	17 39 37.1	-2.7
STVI	**Saint Thomas**	**1.25**	**143**	⇑*e*P	Pn	17 39 37.6	-2.2
MTP	**Monte Pirata**	**1.27**	**172**	⇑*e*P	Pn	17 39 36.7	-3.4
MTP	**Monte Pirata**	**1.27**	**172**	*e*S	Sb	17 39 53.0	-3.6
MTP	**Monte Pirata**	**1.27**	**172**	⇑*e*P	Pn	17 39 36.7	-3.4
MTP				*e*S	Sb	17 39 53.0	-3.6
MTP	**Monte Pirata**	**1.27**	**172**	⇑*e*P	Pn	17 39 36.7	-3.4
MTP				*e*S	Sb	17 39 53.2	-3.4
SJG	**San Juan**	**1.30**	**198**	⇑*e*P	Pn	17 39 37.9	-2.6
SJG				*e*S	Sb	17 39 54.0	-3.6
SJG	**San Juan**	**1.30**	**198**	⇑*e*P	Pn	17 39 37.9	-2.6
SJG				*e*S	Sb	17 39 54.0	-3.6
SJG	**San Juan**	**1.30**	**198**	⇑*e*P	Pn	17 39 37.9	-2.6
SJG				*e*S	Sb	17 39 54.1	-3.5
CPD	**Cerro la Pandu**	**1.32**	**187**	⇑*e*P	Pn	17 39 37.4	-3.5
CPD	**Cerro la Pandu**	**1.32**	**187**	*e*S	Sb	17 39 54.7	-3.7
CPD	**Cerro la Pandu**	**1.32**	**187**	⇑*e*P	Pn	17 39 37.4	-3.5
CPD				*e*S	Sb	17 39 54.7	-3.7
CPD	**Cerro la Pandu**	**1.32**	**187**	⇑*e*P	Pn	17 39 37.4	-3.5
CPD				*e*S	Sb	17 39 54.7	-3.7
AOPR	**Arecibo Observ**	**1.39**	**224**	⇓*e*P	Pn	17 39 38.3	-3.5
AOPR	**Arecibo Observ**	**1.39**	**224**	⇓*e*P	Pn	17 39 38.8	-3.1
AOPR				*e*S	Sn	17 39 56.9	-3.4
AOPR	**Arecibo Observ**	**1.39**	**224**	*e*S	Sn	17 39 56.0	-4.4
AOPR	**Arecibo Observ**	**1.39**	**224**	⇓*e*P	Pn	17 39 38.3	-3.5
AOPR				*e*S	Sn	17 39 56.9	-3.4
AOPR	**Arecibo Observ**	**1.39**	**224**	⇓*e*P	Pn	17 39 38.3	-3.5
AOPR	**Arecibo Observ**	**1.39**	**224**	⇓*e*P	Pn	17 39 38.8	-3.1
AOPR				*e*S	Sn	17 39 56.0	-4.4
AOPR				*e*S	Sb	17 39 56.9	-3.4
TBVI	**Tortola**	**1.41**	**131**	⇑*e*P	Pn	17 39 38.9	-3.2
TBVI				*e*S	Sn	17 39 56.3	-4.5
TBVI	**Tortola**	**1.41**	**131**	⇑*e*P	Pn	17 39 38.9	-3.2
TBVI				*e*S	Sn	17 39 56.3	-4.5
TBVI	**Tortola**	**1.41**	**131**	⇑*e*P	Pn	17 39 38.9	-3.2
TBVI				*e*S	Sn	17 39 56.3	-4.5
ABV	**Anegada**	**1.47**	**115**	⇑*e*P	Pn	17 39 40.5	-2.3
ABV	**Anegada**	**1.47**	**115**	⇑*e*P	Pn	17 39 40.5	-2.3
ABVI	**Anegada Island**	**1.47**	**115**	⇑*e*P	Pn	17 39 40.5	-2.3
LRS	**Lares**	**1.49**	**225**	⇑*e*P	Pn	17 39 40.1	-3.1
LRS				*e*S	Sn	17 39 57.8	-5.0
LRS	**Lares**	**1.49**	**225**	⇑*e*P	Pn	17 39 40.1	-3.1
LRS				*e*S	Sn	17 39 57.8	-5.0
LRS	**Lares**	**1.49**	**225**	⇑*e*P	Pn	17 39 40.1	-3.1
LRS				*e*S	Sn	17 39 57.8	-5.0
CELP	**Cerrillos**	**1.50**	**212**	⇑*e*P	Pn	17 39 40.2	-3.2
CELP				*e*S	Sn	17 39 59.7	-3.3
CELP	**Cerrillos**	**1.50**	**212**	⇑*e*P	Pn	17 39 40.2	-3.2
CELP				*e*S	Sn	17 39 59.7	-3.3
CELP	**Cerrillos**	**1.50**	**212**	⇑*e*P	Pn	17 39 40.2	-3.2
CELP				*e*S	Sn	17 39 59.7	-3.3
OBIP	**Obispado Ponce**	**1.55**	**212**	⇑*e*P	Pn	17 39 41.1	-2.8
OBIP	**Obispado Ponce**	**1.55**	**212**	*e*S	Sn	17 40 00.9	-3.1
OBIP	**Obispado Ponce**	**1.55**	**212**	⇑*e*P	Pn	17 39 41.1	-2.8
OBIP				*e*S	Sn	17 40 00.9	-3.1
OBIP	**Obispado Ponce**	**1.55**	**212**	⇑*e*P	Pn	17 39 41.1	-2.8
OBIP				*e*S	Sn	17 40 00.9	-3.1
CDVI	**St. Croix**	**1.84**	**150**	⇑*e*P	Pn	17 39 46.5	-1.4
CDVI	**St. Croix**	**1.84**	**150**	⇑*e*P	Pn	17 39 46.5	-1.4
CDVI	**St. Croix**	**1.84**	**150**	⇑*e*P	Pn	17 39 46.5	-1.4
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	⇑*e*P	Pn	17 39 45.4	-3.0
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	*e*S	Sn	17 40 07.7	-4.4
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	⇑*e*P	Pn	17 39 45.4	-3.0
CRPR				*e*S	Sn	17 40 07.7	-4.4
CRPR	**Cabo Rojo, PR**	**1.87**	**224**	⇑*e*P	Pn	17 39 45.4	-3.0
CRPR				*e*S	Sn	17 40 07.7	-4.4

IDC 17 17:39:57.1±3.1, 1°.46S×99°.45E, h0km, mb3.6/4, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, ML3.1/2, Error ellipse: s-maj=132.6km s-min=20.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.26**	**353**	Pn	Pn	17 41 03.2	-0.3
	0.5nm,0.3s,baz=160,slow=15,SNR=2.6						
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	P	17 44 28.4	-0.9
	0.0nm,0.3s,baz=188,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**38.74**	**121**	P	P	17 47 23.2	-0.4
	0.7nm,1.0s,baz=302,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**40.02**	**126**	P	P	17 47 34.4	+0.2
	0.3nm,0.7s,baz=304,slow=7.6,SNR=7.4						
MKAR	**Makanchi Array**	**50.36**	**345**	P	P	17 48 55.8	-0.2
	0.6nm,0.6s,baz=161,slow=8.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	P	17 49 41.3	+0.1
	0.5nm,0.4s,baz=156,slow=7.6,SNR=5.2						
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	PKPbc	17 59 35.7	+0.4
	0.5nm,0.8s,baz=298,slow=1.9,SNR=3.8						

IDC 17 17:46:50.6±3.3, 21°.76S×122°.31E, h0km, mb1 3.7/5, mb1mx3.4/19, mbtmp3.6/5, ML3.4/4, Error ellipse: s-maj=44.4km s-min=23.5km az=122.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**4.81**	**41**	Pn	Pn	17 48 05.4	+1.0
	0.8nm,0.3s,baz=221,slow=11,SNR=110						
FITZ				Sn	Sn	17 48 58.3	-2.5
	1.8nm,0.3s,baz=319,slow=19,SNR=9.9						
FITZ				Lg	Lg	17 49 22.7	
	0.9nm,0.3s,baz=344,slow=20,SNR=3.7						
ASAR	**Alice Springs**	**10.87**	**102**	Pn	Pn	17 49 28.3	+0.6
	0.4nm,0.3s,baz=283,slow=12,SNR=33						
ASAR				Sn	Sn	17 51 25.4	-4.8
	0.1nm,0.3s,baz=276,slow=23,SNR=3.8						
ASAR				Lg	Lg	17 52 34.5	
	0.0nm,0.3s,baz=295,slow=28,SNR=2.9						
WRA	**Warramunga Arr**	**11.40**	**83**	Pn	Pn	17 49 33.8	-1.1
	0.2nm,0.3s,baz=264,slow=14,SNR=11						
WRA				Sn	Sn	17 51 36.8	-6.2
	0.2nm,0.3s,baz=261,slow=22,SNR=5.3						
NWAO	**Narrogin (SRO)**	**11.99**	**201**	Pn	Pn	17 49 41.7	-1.3
	0.3nm,0.3s,baz=23,slow=14,SNR=3.1						
NWAO				Sn	Sn	17 51 48.4	-9.1
	0.4nm,0.3s,baz=270,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**19.92**	**124**	P	P	17 51 24.8	+0.7
	0.1nm,0.3s,baz=312,slow=12,SNR=3.3						

WEL 17 17:51:11.0±0.3, 45°.97S×165°.89E, h33km, ML3.5/12, 2C, Error ellipse: s-maj=2.9km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**61**	PN	Pn	17 51 28.5	-0.3
DCZ				SN	Sn	17 51 41.7	-0.2
DCZ				AML	AML	17 51 42.0	
DCZ				AML	AML	17 51 42.0	
DCZ				AML	AML	17 51 42.3	
WHZ	**Wether Hill Ro**	**1.44**	**88**	⇑PN	Pb	17 51 36.0	-1.2
WHZ				AML	AML	17 51 59.1	
WHZ				AML	AML	17 52 02.0	
APZ	**The Paps**	**1.69**	**122**	PN	Pb	17 51 39.9	-1.6
MLZ	**Mavora Lakes**	**1.72**	**70**	⇑PN	Pn	17 51 39.8	+1.2
MLZ				SN	Sb	17 52 02.1	-1.1
MLZ				AML	AML	17 52 08.3	
MSZ	**Milford Sound**	**1.94**	**49**	PN	Pb	17 51 43.8	-1.8
MSZ				AML	AML	17 52 19.1	
MSZ				AML	AML	17 52 19.1	
MSZ				AML	AML	17 52 24.9	
MSZ				AML	AML	17 52 25.0	
SYZ	**Scrubby Hill**	**2.32**	**105**	PN	Pn	17 51 49.0	+2.1
SYZ				SN	Sb	17 52 17.5	-3.0
WKZ	**Wanaka**	**2.48**	**64**	PN	Pb	17 51 52.4	-2.5
EAZ	**Earnscleugh**	**2.51**	**74**	PN	Pn	17 51 52.0	+2.6
EAZ				AML	AML	17 52 23.4	
EAZ				AML	AML	17 52 23.4	
EAZ				AML	AML	17 52 26.1	
TUZ	**Tuapeka**	**2.61**	**91**	PN	Pn	17 51 53.2	+2.4
TUZ				AML	AML	17 52 27.1	
TUZ				AML	AML	17 53 46.4	
LBZ	**Lake Benmore**	**3.42**	**64**	PN	Pn	17 52 03.1	+1.0
ODZ	**Otahua Downs**	**3.47**	**76**	PN	Pn	17 52 03.8	+1.1
FOZ	**Fox Glacier**	**3.62**	**50**	PN	Pn	17 52 06.8	+2.1
WVZ	**Waitaha Valley**	**4.51**	**52**	PN	Pn	17 52 18.2	+1.2

IDC 17 18:06:09.3±3.5, 4°.94S×152°.62E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, MS4.7/1, Ms1 4.7/1, ms1mx2.8/33, Error ellipse: s-maj=143.2km s-min=45.9km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**228**	P	P	18 11 18.4	+0.1
	2.5nm,0.9s,baz=53,slow=9.8,SNR=9.1						
ASAR	**Alice Springs**	**25.93**	**222**	P	P	18 11 43.5	0.0
	0.8nm,0.8s,baz=56,slow=9.3,SNR=9.6						
FITZ	**Fitzroy Crossi**	**29.44**	**241**	P	P	18 12 14.4	-0.5
	1.5nm,0.8s,baz=62,slow=7.5,SNR=4.0						
RPZ	**Rata Peaks**	**41.91**	**160**	LR	LR	18 27 16.2	
	comp=Z,880nm,18.8s,baz=39,slow=30						
TORD	**Torodi Ar. Bea**	**150.18**	**288**	PKPbc	PKPbc	18 26 03.2	-0.2
	0.1nm,0.3s,baz=44,slow=4.1,SNR=2.4						

*IDC **17** 18:26:00.9±0.7, 3°.43S×135°.68E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.1/16, ML4.3/1, MS3.7/9, Ms1 3.7/9, ms1mx3.3/33, Error ellipse: s-maj=29.2km s-min=14.6km az=77.0*
*ISCJB **17** 18:26:01.9±0.4, 3°.65S±0°.04×135°.64E±0°.06, h22km, mb4.0/15, MS3.7/7, Error ellipse: s-maj=9.0km s-min=5.5km az=160.3*
*DJA **17** 18:26:07.9±0.4, 3°.S±7°×13°.6E±°, h97km±25km, M5.0/7, mb5.2/4, mB5.4/4, MLv5.0/7, Mw(mB)4.8/4*
**ISC 17 18:26:04.4±0.6

AKTO	Aktyubinsk	84.88 321	P		P	18 38 37.6	+0.1
	1.3nm,0.7s,baz=49,slow=6.1,SNR=4.7						
ILAR	Eielson Array	87.80 25	P		P	18 38 51.1	-0.4
	0.5nm,0.6s,baz=269,slow=4.6,SNR=4.3						
ARCES	ARCESS Array B	100.26 340	P		Pdif	18 39 50.9	+2.3
	3.3nm,0.9s,baz=95,slow=3.9,SNR=3.9						
LPAZ	La Paz	149.30 130	PKPbc		PKPbc	18 45 54.4	+1.1
	0.6nm,0.5s,baz=281,slow=1.3,SNR=3.7						

WEL 17 18:35:08.6±0.5, 38°.10S×175°.96E, h145km±5km, ML3.5/14, 1C-1D, Error ellipse: s-maj=5.5km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.92	100	PN	Pn	18 35 32.3	+0.1
URZ				SN	Sn	18 35 49.7	-0.4
BKZ	Black Stump Fm	1.15	159	⇑PN	Pn	18 35 34.2	0.0
BKZ				SN	Sn	18 35 52.8	-1.1
NMHZ	Naumai	1.20	147	PN	Pn	18 35 35.4	+0.7
RAHZ	Arahi	1.21	133	PN	Pn	18 35 35.1	+0.4
RAHZ				SN	Sn	18 35 54.6	-0.2
MWZ	Matawai	1.26	101	PN	Pn	18 35 35.2	0.0
MWZ				AML	AML	18 35 55.6	
MOVZ	Moawhango	1.32	187	PN	Pn	18 35 35.9	0.0
BHHZ	Black Hill Sta	1.39	177	PN	Pn	18 35 36.5	-0.2
MCHZ	McNeill Hill	1.46	157	PN	Pn	18 35 37.7	+0.4
MCHZ				SN	Sn	18 35 59.0	-0.4
KNZ	Kokohu	1.63	125	PN	Pn	18 35 38.4	-0.6
PUZ	Puketiti	1.81	90	⇓PN	Pn	18 35 40.4	-0.8
WAZ	Wanganui	1.82	204	PN	Pn	18 35 41.6	+0.3
KAHZ	Kahuranaki	1.84	157	PN	Pn	18 35 41.0	-0.6
MHGZ	Mahia Peninsul	1.86	125	PN	Pn	18 35 41.1	-0.6
TSZ	Takapari Road	1.96	180	PN	Pn	18 35 42.0	-0.9
WPHZ	Waipukurau	2.00	169	PN	Pn	18 35 42.3	-1.1
PXZ	Pawanui	2.06	160	PN	Pn	18 35 42.8	-1.2
DVHZ	Dannevirke	2.21	176	PN	Pn	18 35 44.2	-1.6
PRHZ	Porangahau	2.23	167	PN	Pn	18 35 44.7	-1.4
POWZ	Post Office Ro	2.30	184	PN	Pn	18 35 45.4	-1.5
MRZ	Mangatainoka R	2.58	186	PN	Pn	18 35 48.3	-2.1
BFZ	Birch Farm	2.59	175	PN	Pn	18 35 48.4	-2.1
TIWZ	Tintock	2.68	181	PN	Pn	18 35 49.5	-2.2
OGWZ	Otaki Gorge	2.79	192	PN	Pn	18 35 51.0	-2.0
KIW	Kapiti Island	2.88	196	PN	Pn	18 35 51.8	-2.4
MTW	Mount Morrison	3.08	186	PN	Pn	18 35 53.7	-3.0
CAW	Cannon Point	3.08	193	PN	Pn	18 35 54.2	-2.6
TRWZ	Traveller	3.31	184	PN	Pn	18 35 56.4	-3.2
SNZO	South Karori	3.35	196	PN	Pn	18 35 57.1	-3.0
MSWZ	Moikau Station	3.36	189	PN	Pn	18 35 57.0	-3.3
PLWZ	Palliser	3.51	189	PN	Pn	18 35 58.7	-3.6
NNZ	Nelson	3.70	212	PN	Pn	18 36 02.2	-2.4

IDC 17 18:35:18.2±3.6, 5°.22S×153°.03E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.3/18, mbtmp3.6/2, Error ellipse: s-maj=169.5km s-min=47.3km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.35	230	P	P	18 40 28.8	+0.3
	1.4nm,0.7s,baz=54,slow=10.0,SNR=5.5						
ASAR	Alice Springs	26.00	223	P	P	18 40 52.8	-0.4
	0.8nm,0.8s,baz=55,slow=9.9,SNR=5.2						
TORD	Torodi Ar. Bea	150.66	288	PKPbc	PKPbc	18 55 13.2	-0.3
	0.2nm,0.7s,baz=95,slow=0.7,SNR=2.4						

IDC 17 18:37:15.1±3.8, 7°.36S×124°.26E, h254km±43km, mb3.2/4, mb1 3.6/8, mb1mx3.3/23, mbtmp3.4/8, Error ellipse: s-maj=93.9km s-min=13.3km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.05	297	P	Pn	18 38 30.9	-0.8
	3.9nm,0.3s,baz=90,slow=12,SNR=14						
FITZ	Fitzroy Crossi	10.76	173	P	Pn	18 39 45.1	+1.8
	2.3nm,0.3s,baz=0.9,slow=13,SNR=27						
FITZ				S	S	18 41 36.8	-7.1
	0.5nm,0.3s,baz=131,slow=3.6,SNR=6.5						
WRA	Warramunga Arr	15.88	143	P	P	18 40 43.9	-0.6
	1.5nm,0.3s,baz=317,slow=12,SNR=42						
WRA				S	S	18 43 40.7	+2.1
	0.2nm,0.3s,baz=316,slow=24,SNR=3.1						
ASAR	Alice Springs	18.67	151	P	P	18 41 14.9	0.0
	0.0nm,0.3s,baz=332,slow=13,SNR=4.3						
ASAR				S	S	18 44 27.7	-6.3
	baz=326,slow=20,SNR=3.1						
STKA	Stephens Creek	29.26	149	P	P	18 42 53.0	-1.0
	2.9nm,0.8s,baz=327,slow=8.3,SNR=4.1						
CMAR	Chiang Mai Arr	35.80	316	P	P	18 43 50.6	-0.2
	0.5nm,0.7s,baz=149,slow=8.2,SNR=5.8						
SONM	Songino Array	57.18	346	P	P	18 46 36.5	+0.6
	0.4nm,0.5s,baz=161,slow=8.6,SNR=4.4						
MKAR	Makanchi Array	65.53	330	P	P	18 47 31.5	-0.1
	0.6nm,0.5s,baz=130,slow=7.6,SNR=17						

IDC 17 18:42:56.7±3.4, 4°.97S×152°.46E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.7/29, Error ellipse: s-maj=142.2km s-min=45.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.08	228	P	P	18 48 04.3	+0.2
	1.2nm,0.9s,baz=54,slow=10,SNR=4.8						
ASAR	Alice Springs	25.80	222	P	P	18 48 29.3	-0.4
	0.8nm,0.9s,baz=57,slow=9.1,SNR=6.0						
FITZ	Fitzroy Crossi	29.28	241	P	P	18 49 01.4	+0.5
	1.7nm,1.0s,baz=68,slow=11,SNR=2.9						
RAO	Raoul Island	36.99	134	LR	LR	19 02 40.3	
	comp=Z,267nm,21.7s,baz=267,slow=32						
TORD	Torodi Ar. Bea	150.04	288	PKPbc	PKPbc	19 02 49.7	-0.7
	0.2nm,0.7s,baz=77,slow=2.6,SNR=2.4						

IDC 17 18:46:10.3±12.0, 38°.49S×137°.32E, h0km, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=160.4km s-min=68.0km az=160.0, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	7.47	29	Pn	Pn	18 48 01.4	+0.8
	0.3nm,0.3s,baz=208,slow=13,SNR=7.9						
STKA				Sn	Sn	18 49 25.7	-0.3
	0.3nm,0.3s,baz=339,slow=12,SNR=3.9						
ASAR	Alice Springs	15.07	348	Pn	Pn	18 49 45.5	+0.9
	0.0nm,0.3s,baz=166,slow=12,SNR=2.6						
WRA	Warramunga Arr	18.67	351	P	P	18 50 29.2	-0.8
	0.0nm,0.3s,baz=176,slow=11,SNR=2.8						

IDC 17 18:50:52.3±3.4, 4°.47S×152°.16E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/16, Error ellipse: s-maj=129.9km s-min=46.3km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.19	227	P	P	18 56 01.5	+0.6
	0.4nm,0.8s,baz=51,slow=9.7,SNR=3.3						
ASAR	Alice Springs	25.97	221	P	P	18 56 26.4	-0.4
	0.4nm,0.9s,baz=57,slow=9.7,SNR=4.5						
STKA	Stephens Creek	29.01	199	LR	LR	19 09 04.5	
	comp=Z,116nm,18.2s,baz=24,slow=38						
FITZ	Fitzroy Crossi	29.27	240	P	P	18 56 56.4	0.0
	0.8nm,0.6s,baz=71,slow=10,SNR=4.3						
TORD	Torodi Ar. Bea	149.60	288	PKPbc	PKPbc	19 10 44.4	-0.6
	0.4nm,0.8s,baz=76,slow=2.2,SNR=4.1						

*ISCJB **17** 18:51:00.7±0.4, 52°.4N±0°.1×172°.44W±0°.06, h76km±5km, mb3.9/13, Error ellipse: s-maj=21.9km s-min=3.5km az=166.3*
*NEIC **17** 18:51:00.9, 51°.95N×172°.26W, h26km, mb4.1/1, ML4.0(AEIC), After AEIC.*
*IDC **17** 18:51:02.2±3.5, 52°.32N×172°.39W, h75km±32km, mb3.7/13, mb1 3.9/16, mb1mx3.6/34, mbtmp3.6/16, Error ellipse: s-maj=32.7km s-min=10.7km az=170.0*
ISC 17 18:51:01.1±1.0, 52°.2N±0°.2×172°.36W±0°.05, h66km±8km, n46, σ0°.84/54, mb4.0/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.13	269	P	Pn	18 51 20.7	-0.2
ATKA				S	Sn	18 51 36.3	+0.5
NIKH	Nikolski High	2.26	70	P	Pn	18 51 35.5	-0.6
NIKH				S	Sn	18 52 02.3	-0.6
GSTR	Great Sitkin T	2.28	268	eP	Pn	18 51 37.1	+0.7
GSMY	Great Sitkin M	2.29	266	P	Pn	18 51 36.8	+0.3
GSTD	Great Sitkin T	2.34	267	P	Pn	18 51 37.5	+0.3
GSTD				S	Sn	18 52 06.2	+1.3
GSCK	Great Sitkin C	2.35	266	P	Pn	18 51 37.8	+0.4
ETKA	Kagalaska Isla	2.53	263	P	Pn	18 51 40.0	+0.2
ETKA				S	Sn	18 52 09.4	0.0
ADAG	Mount Adagdak	2.63	266	P	Pn	18 51 42.2	+1.1
OKSP	Okmok Steeple	2.67	66	P	Pn	18 51 42.7	+0.9
OKSP				S	Sn	18 52 15.3	+2.3
ADK	Adak	2.69	264	P	Pn	18 51 42.3	+0.4
ADK				S	Sn	18 52 13.9	+0.6
OKCE	Okmok Cone E	2.81	63	P	Pn	18 51 44.0	+0.4
OKTU	Okmok Mt. Tuli	2.86	65	P	Pn	18 51 45.5	+1.2
KIRH	Kanaga Island	2.94	265	P	Pn	18 51 46.2	+0.8
KINC	Kanaga Island	2.96	266	P	Pn	18 51 45.8	+0.3
KIKV	Kanaga Island	2.99	265	P	Pn	18 51 46.5	+0.5
KICM	Kanaga Island	3.00	266	P	Pn	18 51 46.5	+0.3
TAFP	Tanaga Falls P	3.49	267	P	Pn	18 51 53.1	+0.3
TASE	Tanaga Southea	3.53	266	P	Pn	18 51 53.9	+0.5
MSOM	Makushin Julie	3.63	62	P	Pn	18 51 55.4	+0.7
MTBL	Makushin Table	3.84	61	P	Pn	18 51 58.4	+0.8
GANE	Gareloi Northe	3.98	266	P	Pn	18 51 59.9	+0.3
AKGG	Akutan Green G	4.30	60	P	Pn	18 52 04.7	+0.8
AKUT	Akutan	4.39	62	P	Pn	18 52 07.2	+2.0
CERAA	Semis' Rag'd T	4.92	269	P	Pn	18 52 12.6	+0.2
CEAP	Semis' Anvil P	4.97	270	P	Pn	18 52 13.8	+0.7
CESW	Semis' Southwe	4.99	269	P	Pn	18 52 14.1	+0.7
CETU	Semis' Tuman	5.03	270	P	Pn	18 52 14.1	+0.2
AMKA	Amchitka	5.24	264	P	Pn	18 52 16.5	-0.3
FX1	Attu Island--F	8.84	280	P	Pn	18 53 06.8	+0.8
	1.4nm,0.3s,baz=352,slow=17,SNR=12						
FX1				S	Sn	18 54 43.1	-0.9
	0.8nm,0.3s,baz=250,slow=15,SNR=2.8						
ILAR	Eielson Array	18.12	36	P	P	18 55 06.1	-1.2
	0.5nm,0.3s,baz=229,slow=8.8,SNR=22						
PETK	Petropavlovsk-	18.12	285	P	Pn	18 55 08.6	+0.7
	0.4nm,0.3s,baz=95,slow=12,SNR=7.3						
EGAK	Eagle	20.30	40	eP	P	18 55 32.0	+0.9
	5.8nm,0.6s						
INK	Inuvik	24.47	34	P	P	18 56 13.1	-0.3
	3.0nm,0.5s,baz=259,slow=6.8,SNR=20						
DLBC	Dease Lake	24.52	59	P	P	18 56 15.9	+1.8
	4.9nm,0.5s,baz=280,slow=6.1,SNR=10						
YKA	Yellowknife Ar	31.70	48	P	P	18 57 17.2	-0.8
	0.4nm,0.4s,baz=274,slow=8.0,SNR=3.7						
YBH	Yreka Blue Hor	34.82	87	P	P	18 57 46.5	+1.0
	1.2nm,0.5s,baz=317,slow=9.4,SNR=4.1						
MJAR	Matsushiro Arr	37.85	265	P	P	18 58 11.1	-0.1
	1.5nm,0.5s,baz=37,slow=6.2,SNR=9.5						
PDAR	Pinedale Array	42.23	77	P	P	18 58 47.6	-0.1
	6.9nm,0.7s,baz=305,slow=3.7,SNR=23						
PDAR				pP	pP	18 59 02.6	-1.5
	2.1nm,0.7s,baz=295,slow=4.5,SNR=4.8						
KSRS	Korea Array	43.59	275	P	P	18 58 59.6	+1.2
	0.4nm,0.6s,baz=61,slow=7.3,SNR=3.1						
JNU	Nakatsue	44.62	268	P	P	18 59 07.0	+0.2
	3.7nm,0.6s,baz=34,slow=7.3,SNR=6.3						
SONM	Songino Array	49.77	299	P	P	18 59 46.3	-0.5
	0.3nm,0.6s,baz=60,slow=6.5,SNR=3.0						
TXAR	Lajitas Array	54.59	87	P	P	19 00 22.1	-0.6
	1.9nm,0.6s,baz=309,slow=5.7,SNR=19						
MKAR	Makanchi Array	62.53	312	P	P	19 01 16.9	-0.7
	0.1nm,0.3s,baz=53,slow=6.3,SNR=4.3						
CMAR	Chiang Mai Arr	74.84	281	P	P	19 02 34.5	0.0
	1.4nm,0.7s,baz=27,slow=6.9,SNR=14						
ASAR	Alice Springs	88.93	228	P	P	19 03 47.8	-0.3
	0.5nm,0.8s,baz=22,slow=4.9,SNR=7.7						
BOSA	Boshof	153.00	324	PKPbc	PKPbc	19 10 50.5	-0.2
	4.1nm,1.1s,baz=315,slow=2.9,SNR=3.2						

IDC 17 18:51:50.8±1.2, 5°.34S×152°.93E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML1.9/1, Error ellipse: s-maj=37.7km s-min=18.0km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.01	234	Pn	Pn	18 53 35.3	+0.5
	0.1nm,0.3s,baz=45,slow=16,SNR=1.8						
PMG				Sn	Sn	18 54 55.8	+0.5
	0.9nm,0.3s,baz=176,slow=18,SNR=2.1						
WRA	Warramunga Arr	23.19	230	P	P	18 57 00.0	+0.5
	5.9nm,0.9s,baz=53,slow=9.8,SNR=16						
ASAR	Alice Springs	25.85	223	P	P	18 57 24.4	+0.1
	2.3nm,0.8s,baz=55,slow=9.3,SNR=17						
STKA	Stephens Creek	28.46	201	P	P	18 57 47.5	0.0
	1.2nm,0.8s,baz=131,slow=23,SNR=2.7						
FITZ	Fitzroy Crossi	29.52	242	P	P	18 57 56.7	-0.5
	2.1nm,0.8s,baz=49,slow=7.5,SNR=5.5						
CMAR	Chiang Mai Arr	58.23	295	P	P	19 01 47.1	-0.3
	0.4nm,0.9s,baz=95,slow=5.4,SNR=4.2						
PETK	Petropavlovsk-	58.37	3	P	P	19 01 47.9	+0.2
	12nm,1.3s,baz=185,slow=7.2,SNR=3.1						
VNDA	Vanda	72.29	178	P	P	19 03 17.6	0.0
	0.9nm,0.8s,baz=328,slow=6.0,SNR=4.4						
MKAR	Makanchi Array	80.81	319	P	P	19 04 07.4	+0.8
	0.2nm,0.8s,baz=90,slow=5.8,SNR=2.6						
ZALV	Zalesovo Beam	81.67	326	P	P	19 04 10.4	-0.5
	0.5nm,0.5s,baz=94,slow=5.8,SNR=2.9						
TORD	Torodi Ar. Bea	150.59	287	PKPbc	PKPbc	19 11 44.9	-1.0
	1.1nm,1.0s,baz=78,slow=1.6,SNR=4.3						

*NEIC **17** 18:52:27.4, 19°.29N×65°.74W, h81km, MD3.3(RSPR), After RSPR.*
RSPR 17 18:52:27.4, 19°.29N×65°.74W, h81km±12km, MD3.2/5, 9C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.20	141	⇑eP	Pn	18 52 48.8	-0.2
STVI	Saint Thomas	1.20	141	eP	Pn	18 52 48.8	-0.2
STVI	Saint Thomas	1.20	141	eP	Pn	18 52 48.8	-0.2
MTP	Monte Pirata	1.20	171	eP	Pn	18 52 48.2	-0.9
MTP	Monte Pirata	1.20	171	eP	Pn	18 52 48.2	-0.9
MTP	Monte Pirata	1.20	171	eP	Pn	18 52 48.2	-0.9
SJG	San Juan	1.24	198	⇓eP	Pn	18 52 48.4	-1.0
SJG				eS	Sn	18 53 05.8	-0.2
SJG	San Juan	1.24	198	⇓eP	Pn	18 52 48.4	-1.0
SJG				eS	Sn	18 53 05.8	-0.2
SJG	San Juan	1.24	198	⇓eP	Pn	18 52 48.4	-1.0
SJG				eS	Sn	18 53 05.8	-0.2
AOPR	Arecibo Observ	1.34	226	⇑eP	Pn	18 52 50.1	-0.8
AOPR	Arecibo Observ	1.34	226	eS	Sn	18 53 07.6	-0.9
AOPR	Arecibo Observ	1.34	226	⇑eP	Pn	18 52 50.1	-0.8
AOPR				eS	Sn	18 53 07.6	-0.9
AOPR	Arecibo Observ	1.34	226	⇑eP	Pn	18 52 50.9	+0.1
AOPR				eS	Sn	18 53 07.6	-0.9
LRS	Lares	1.44	226	eS	Sn	18 53 10.7	-0.1
LRS	Lares	1.44	226	eS	Sn	18 53 10.7	-0.1
CELP	Cerrillos	1.45	213	⇓eP	Pn	18 52 51.4	-0.8
CELP	Cerrillos	1.45	213	⇓eP	Pn	18 52 51.4	-0.8
CELP	Cerrillos	1.45	213	⇓eP	Pn	18 52 51.4	-0.8
CRPR	Cabo Rojo, PR	1.82	226	⇓eP	Pn	18 52 56.9	-0.1
CRPR	Cabo Rojo, PR	1.82	226	⇓eP	Pn	18 52 56.9	-0.1
CRPR	Cabo Rojo, PR	1.82	226	⇓eP	Pn	18 52 56.9	-0.1

IDC 17 19:00:11.6±17.0, 17°.70S×175°.89W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/21, mbtmp4.2/5, Error ellipse: s-maj=325.7km s-min=131.2km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.85	260	P	P	19 07 14.5	+1.1
	2.2nm,0.5s,baz=80,slow=9.7,SNR=6.9						
STKA	Stephens Creek	40.84	242	P	P	19 07 55.5	+0.2
	1.6nm,0.4s,baz=78,slow=8.4,SNR=16						
WRA	Warramunga Arr	47.03	259	P	P	19 08 44.3	-0.9
	0.9nm,0.5s,baz=94,slow=8.2,SNR=27						
ASAR	Alice Springs	47.16	254	P	P	19 08 45.4	-0.8
	6.3nm,0.6s,baz=90,slow=8.9,SNR=235						
FITZ	Fitzroy Crossi	55.43	260	P	P	19 09 48.5	+0.2
	1.3nm,0.9s,baz=105,slow=12,SNR=3.7						

*NEIC **17** 19:05:39.4, 19°.33N×65°.71W, h64km, MD3.5(RSPR), After RSPR.*
RSPR 17 19:05:39.4, 19°.33N×65°.71W, h64km±16km, MD3.5/7, 13C-29D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	Canovanas	1.06	188	⇓eP	Pn	19 05 56.7	-1.8
CBYP				eS	Sn	19 06 12.0	-0.6
CBYP	Canovanas	1.06	188	⇓eP	Pn	19 05 56.7	-1.8
CBYP				eS	Sn	19 06 12.0	-0.6
CBYP	Canovanas	1.06	188	⇓eP	Pn	19 05 56.7	-1.8
CBYP				eS	Sn	19 06 12.1	-0.5
STVI	Saint Thomas	1.20	143	⇑eP	Pn	19 06 00.5	+0.2
STVI	Saint Thomas	1.20	143	⇑eP	Pn	19 06 00.5	+0.2
STVI	Saint Thomas	1.20	143	⇑eP	Pn	19 06 00.5	+0.2
MTP	Monte Pirata	1.23	173	⇑iP	Pn	19 05 59.9	-0.8
MTP	Monte Pirata	1.23	173	i Pu	Pn	19 05 59.9	-0.8
MTP	Monte Pirata	1.23	173	⇑iP	Pn	19 05 59.9	-0.8
SJG	San Juan	1.28	199	⇓iP	Pn	19 06 00.1	-1.2
SJG	San Juan	1.28	199	⇓iP	Pn	19 06 00.1	-1.2
SJG	San Juan	1.28	199	⇓iP	Pn	19 06 00.1	-1.2
CPD	Cerro la Pandu	1.30	189	⇓eP	Pn	19 06 00.4	-1.2
CPD	Cerro la Pandu	1.30	189	eS	Sn	19 06 18.3	+0.1
CPD	Cerro la Pandu	1.30	189	⇓eP	Pn	19 06 00.4	-1.2
CPD				eS	Sn	19 06 18.3	+0.1
CPD	Cerro la Pandu	1.30	189	⇓eP	Pn	19 06 00.4	-1.2
CPD				eS	Sn	19 06 18.3	+0.1
TBVI	Tortola	1.37	131	⇑eP	Pn	19 06 01.9	-0.6
TBVI	Tortola	1.37	131	⇑eP	Pn	19 06 01.9	-0.6
TBVI	Tortola	1.37	131	⇑eP	Pn	19 06 01.9	-0.6
AOPR	Arecibo Observ	1.39	226	⇓eP	Pn	19 06 01.3	-1.5
AOPR	Arecibo Observ	1.39	226	⇓eP	Pn	19 06 01.6	-1.2
AOPR	Arecibo Observ	1.39	226	eS	Sn	19 06 19.6	-0.7
AOPR	Arecibo Observ	1.39	226	⇓eP	Pn	19 06 01.6	-1.2
AOPR				eS	Sn	19 06 19.6	-0.7
AOPR	Arecibo Observ	1.39	226	⇓eP	Pn	19 06 01.3	-1.5
AOPR	Arecibo Observ	1.39	226	⇓eP	Pn	19 06 01.6	-1.2
AOPR				eS	Sn	19 06 19.6	-0.7
LRS	Lares	1.49	226	⇓eP	Pn	19 06 02.9	-1.2
LRS	Lares	1.49	226	⇓eP	Pn	19 06 02.9	-1.2
LRS	Lares	1.49	226	⇓eP	Pn	19 06 02.9	-1.2
CELP	Cerrillos	1.49	214	⇓eP	Pn	19 06 03.1	-1.0
CELP	Cerrillos	1.49	214	⇓eP	Pn	19 06 03.1	-1.0
CELP	Cerrillos	1.49	214	⇓eP	Pn	19 06 03.1	-1.0
OBIP	Obispado Ponce	1.53	214	⇓eP	Pn	19 06 04.1	-0.6
OBIP	Obispado Ponce	1.53	214	⇓eP	Pn	19 06 04.1	-0.6
OBIP	Obispado Ponce	1.53	214	⇓eP	Pn	19 06 04.1	-0.6
LSP	Las Mesas	1.73	229	⇑eP	Pn	19 06 06.7	-0.8
LSP	Las Mesas	1.73	229	⇑eP	Pn	19 06 06.7	-0.8
LSP	Las Mesas	1.73	229	⇑eP	Pn	19 06 06.7	-0.8
GBPR	Guanica, Bosqu	1.74	220	⇑eP	Pn	19 06 07.2	-0.3
GBPR	Guanica, Bosqu	1.74	220	⇑eP	Pn	19 06 07.2	-0.3
GBPR	Guanica, Bosqu	1.74	220	⇑eP	Pn	19 06 07.2	-0.3
CRPR	Cabo Rojo, PR	1.86	226	⇓eP	Pn	19 06 08.9	-0.2
CRPR	Cabo Rojo, PR	1.86	226	⇓eP	Pn	19 06 08.9	-0.2
CRPR	Cabo Rojo, PR	1.86	226	⇓eP	Pn	19 06 08.9	-0.2
IDE	Isla Desecheo	1.91	241	⇓iP	Pn	19 06 09.7	-0.2
IDE	Isla Desecheo	1.91	241	⇓iP	Pn	19 06 09.7	-0.2
IDE	Isla Desecheo	1.91	241	⇓iP	Pn	19 06 09.7	-0.2

IDC 17 19:12:09.8±3.2, 5°.11S×152°.85E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=125.6km s-min=45.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.27	229	P	P	19 17 19.1	-0.2
	1.1nm,0.7s,baz=55,slow=9.8,SNR=10						
ASAR	Alice Springs	25.95	223	P	P	19 17 44.7	+0.5
	0.8nm,0.8s,baz=56,slow=9.5,SNR=18						
FITZ	Fitzroy Crossi	29.55	242	P	P	19 18 15.8	-0.7
	0.8nm,0.5s,baz=54,slow=8.7,SNR=6.6						
TORD	Torodi Ar. Bea	150.45	288	PKPbc	PKPbc	19 32 04.3	-0.2
	0.5nm,0.8s,baz=83,slow=2.0,SNR=3.3						

*ISCJB **17** 19:16:45.8±0.3, 37°.94S±0°.04×175°.91E±0°.06, h300km, mb3.4/6, Error ellipse: s-maj=6.8km s-min=5.2km az=29.5*
*NEIC **17** 19:16:45.6, 37°.76S×176°.03E, h299km, After WEL.*
NEIC Felt at Levin and Wellington.
*IDC **17** 19:16:46.1±0.7, 37°.76S×175°.87E, h267km±8km, mb3.2/6, mb1 3.4/7, mb1mx3.2/17, mbtmp3.3/7, Error ellipse: s-maj=30.6km s-min=13.5km az=58.0*
*WEL **17** 19:16:47.6±0.4, 37°.80S×176°.14E, h281km±3km, ML5.4/20, Error ellipse: s-maj=3.5km s-min=3.1km az=90.0, MM 5.*
WEL Felt between Whanganui, Wellington and Manawatu, maximum reported intensity.
**ISC 17 19:16:46.5±0.8, 37

WPVZ	Whakapapa	1.39 197	PN	Pn	19 17 28.4	-0.7
WPVZ	Whakapapa	1.39 197	Pn	Pn	19 17 28.4	-0.7
TUVZ	Tukino	1.43 193	⇑PN	Pn	19 17 29.0	-0.3
TUVZ	Tukino	1.43 193	Pn	Pn	19 17 29.0	-0.3
FWVZ	Far West T-bar	1.44 196	⇓PN	Pn	19 17 28.9	-0.6
FWVZ	Far West T-bar	1.44 196	Pn	Pn	19 17 28.9	-0.6
DRZ	Dome Shelter	1.46 196	PN	Pn	19 17 29.3	-0.4
DRZ	Dome Shelter	1.46 196	Pn	Pn	19 17 29.3	-0.4
TRVZ	Turoa	1.48 196	PN	Pn	19 17 29.4	-0.3
TRVZ	Turoa	1.48 196	Pn	Pn	19 17 29.4	-0.3
WNVZ	Wahianoa	1.50 194	⇑PN	Pn	19 17 29.4	-0.4
WNVZ	Wahianoa	1.50 194	Pn	Pn	19 17 29.4	-0.4
PKVZ	Pokaka	1.52 202	Pn	Pn	19 17 29.4	-0.5
MOVZ	Moawhango	1.55 189	⇑PN	Pn	19 17 29.3	-0.7
MOVZ	Moawhango	1.55 189	Pn	Pn	19 17 29.4	-0.7
MTVZ	Mangateitei	1.58 197	⇓PN	Pn	19 17 29.9	-0.3
MTVZ	Mangateitei	1.58 197	Pn	Pn	19 17 29.9	-0.3
BHHZ	Black Hill Sta	1.61 180	⇑PN	Pn	19 17 30.0	-0.4
BHHZ	Black Hill Sta	1.61 180	Pn	Pn	19 17 30.0	-0.4
VRZ	Vera Road	1.62 219	PN	Pn	19 17 30.1	-0.3
VRZ	Vera Road	1.62 219	Pn	Pn	19 17 30.1	-0.3
MCHZ	McNeill Hill	1.64 163	PN	Pn	19 17 30.7	+0.1
MCHZ	McNeill Hill	1.64 163	Pn	Pn	19 17 30.7	+0.1
KNZ	Kokohu	1.70 133	⇓PN	Pn	19 17 30.6	-0.3
KNZ	Kokohu	1.70 133	Pn	Pn	19 17 30.6	-0.3
PUZ	Puketiti	1.74 97	PN	Pn	19 17 30.3	-1.0
PUZ			AML	AML	19 18 04.8	
PUZ			AML	AML	19 18 05.1	
PUZ	Puketiti	1.74 97	Pn	Pn	19 17 30.3	-1.0
PRGZ	Paritu Road	1.77 127	PN	Pn	19 17 31.0	-0.5
PRGZ	Paritu Road	1.77 127	Pn	Pn	19 17 31.0	-0.5
CNGZ	Carnagh Statio	1.79 111	⇓PN	Pn	19 17 31.5	-0.1
CNGZ	Carnagh Statio	1.79 111	Pn	Pn	19 17 31.6	-0.1
MXZ	Matakaoa Point	1.80 81	AML	AML	19 18 06.3	
MXZ			AML	AML	19 18 07.2	
MHEZ	Mangahewa	1.82 228	⇑PN	Pn	19 17 32.4	+0.6
MHEZ	Mangahewa	1.82 228	Pn	Pn	19 17 32.5	+0.6
MHGZ	Mahia Peninsul	1.93 132	⇓PN	Pn	19 17 32.6	0.0
MHGZ	Mahia Peninsul	1.93 132	Pn	Pn	19 17 32.6	0.0
CKHZ	Cape Kidnapper	1.95 156	⇓PN	Pn	19 17 33.0	+0.2
CKHZ	Cape Kidnapper	1.95 156	Pn	Pn	19 17 33.0	+0.2
DREZ	Durham Road	1.97 228	Pn	Pn	19 17 33.3	+0.4
KAHZ	Kahuranaki	2.02 162	⇓PN	Pn	19 17 33.7	+0.3
KAHZ	Kahuranaki	2.02 162	Pn	Pn	19 17 33.7	+0.3
PNHZ	Pukenui	2.04 177	PN	Pn	19 17 33.2	-0.3
PNHZ	Pukenui	2.04 177	Pn	Pn	19 17 33.2	-0.3
WAZ	Wanganui	2.06 204	⇑PN	Pn	19 17 33.4	-0.3
WAZ	Wanganui	2.06 204	Pn	Pn	19 17 33.5	-0.3
NEZ	North Egmont	2.08 227	PN	Pn	19 17 34.6	+0.6
NEZ	North Egmont	2.08 227	Pn	Pn	19 17 34.6	+0.6
PKE	Pukeiti	2.10 230	⇑PN	Pn	19 17 34.5	+0.4
PKE	Pukeiti	2.10 230	Pn	Pn	19 17 34.5	+0.4
DFE	Dawson Falls	2.12 226	PN	Pn	19 17 34.5	+0.3
DFE	Dawson Falls	2.12 226	Pn	Pn	19 17 34.5	+0.3
TSZ	Takapari Road	2.19 182	⇑PN	Pn	19 17 34.4	-0.4
TSZ			AML	AML	19 18 14.3	
TSZ			AML	AML	19 18 14.5	
TSZ	Takapari Road	2.19 182	Pn	Pn	19 17 34.4	-0.4
WPHZ	Waipukurau	2.21 173	PN	Pn	19 17 34.8	-0.1
WPHZ	Waipukurau	2.21 173	Pn	Pn	19 17 34.8	-0.1
NWEZ	Newall Road	2.22 230	PN	Pn	19 17 35.6	+0.6
NWEZ	Newall Road	2.22 230	Pn	Pn	19 17 35.6	+0.6
PXZ	Pawanui	2.24 164	⇓PN	Pn	19 17 35.3	+0.1
PXZ			AML	AML	19 18 13.6	
PXZ			AML	AML	19 18 14.4	
PXZ			AML	AML	19 18 15.0	
PXZ			AML	AML	19 18 15.0	
PXZ	Pawanui	2.24 164	Pn	Pn	19 17 35.3	+0.1
WCZ	Waipu Caves	2.37 324	⇑PN	Pn	19 17 35.1	-1.3
WCZ	Waipu Caves	2.37 324	Pn	Pn	19 17 35.1	-1.3
DVHZ	Dannevirke	2.42 178	⇑PN	Pn	19 17 36.3	-0.5
DVHZ	Dannevirke	2.42 178	Pn	Pn	19 17 36.3	-0.5
PRHZ	Porangahau	2.43 170	⇑PN	Pn	19 17 36.9	+0.1
PRHZ	Porangahau	2.43 170	Pn	Pn	19 17 36.9	+0.1
POWZ	Post Office Ro	2.53 185	⇑PN	Pn	19 17 37.2	-0.5
POWZ	Post Office Ro	2.53 185	Pn	Pn	19 17 37.2	-0.5
BFZ	Birch Farm	2.81 177	PN	Pn	19 17 40.0	-0.3
BFZ	Birch Farm	2.81 177	Pn	Pn	19 17 40.0	-0.3
MRZ	Mangatainoka R	2.81 188	PN	Pn	19 17 39.6	-0.7
MRZ			AML	AML	19 18 22.4	
MRZ			AML	AML	19 18 22.4	
MRZ	Mangatainoka R	2.81 188	Pn	Pn	19 17 39.6	-0.7
TIWZ	Tintock	2.90 183	PN	Pn	19 17 40.7	-0.5
TIWZ	Tintock	2.90 183	Pn	Pn	19 17 40.7	-0.5
OGWZ	Otaki Gorge	3.09 193	⇑PN	Pn	19 17 41.8	-0.6
OGWZ	Otaki Gorge	3.09 193	Pn	Pn	19 17 41.8	-0.6
HOWZ	Holdsworth Sta	3.05 188	⇑PN	Pn	19 17 41.8	-0.9
HOWZ	Holdsworth Sta	3.05 188	Pn	Pn	19 17 41.8	-0.9
KIW	Kapiti Island	3.12 196	⇑PN	Pn	19 17 42.5	-0.8
KIW			AML	AML	19 18 26.6	
KIW			AML	AML	19 18 27.3	
KIW	Kapiti Island	3.12 196	Pn	Pn	19 17 42.5	-0.8
TMWZ	Te Maipa	3.23 182	⇑PN	Pn	19 17 43.9	-0.6
TMWZ	Te Maipa	3.23 182	Pn	Pn	19 17 43.9	-0.6
MTW	Mount Morrison	3.31 187	⇑PN	Pn	19 17 44.3	-1.0
MTW			AML	AML	19 18 31.2	
MTW			AML	AML	19 18 31.5	
MTW	Mount Morrison	3.31 187	Pn	Pn	19 17 44.3	-1.0
CAW	Cannon Point	3.32 193	⇑PN	Pn	19 17 44.6	-0.8
CAW			AML	AML	19 18 31.5	
CAW			AML	AML	19 18 31.8	
CAW	Cannon Point	3.32 193	Pn	Pn	19 17 44.6	-0.8
DUWZ	D'Urville Isla	3.37 209	⇑PN	Pn	19 17 44.8	-1.1
DUWZ	D'Urville Isla	3.37 209	Pn	Pn	19 17 44.8	-1.1
TRWZ	Traveller	3.53 185	⇑PN	Pn	19 17 46.9	-0.7
TRWZ			AML	AML	19 18 35.6	
TRWZ			AML	AML	19 18 37.5	
TRWZ	Traveller	3.53 185	Pn	Pn	19 17 47.0	-0.7
PAWZ	Paruwai Farm	3.54 188	⇑PN	Pn	19 17 46.7	-1.0
PAWZ			AML	AML	19 18 34.9	
PAWZ			AML	AML	19 18 36.5	
PAWZ	Paruwai Farm	3.54 188	Pn	Pn	19 17 46.7	-1.0
WEL	Wellington	3.55 196	PN	Pn	19 17 47.1	-0.6
WEL	Wellington	3.55 196	Pn	Pn	19 17 47.1	-0.6
SNZO	South Karori	3.59 197	⇑PN	Pn	19 17 47.0	-1.2
SNZO			AML	AML	19 18 35.8	
SNZO			AML	AML	19 18 35.8	
SNZO			AML	AML	19 18 35.9	
SNZO			AML	AML	19 18 35.9	
SNZO	South Karori	3.59 197	Pn	Pn	19 17 47.0	-1.2
MSWZ	Moikau Station	3.59 190	PN	Pn	19 17 47.2	-1.1
MSWZ			AML	AML	19 18 35.4	
MSWZ			AML	AML	19 18 35.9	
MSWZ	Moikau Station	3.59 190	Pn	Pn	19 17 47.2	-1.1
TCW	Tory Channel	3.61 202	PN	Pn	19 17 47.5	-0.9
TCW			AML	AML	19 18 37.1	
TCW			AML	AML	19 18 38.7	
TCW	Tory Channel	3.61 202	Pn	Pn	19 17 47.5	-0.9
BHW	Baring Head	3.65 194	⇑PN	Pn	19 17 47.6	-1.2
BHW			AML	AML	19 18 37.3	
BHW			AML	AML	19 18 38.4	
BHW	Baring Head	3.65 194	⇑Pn	Pn	19 17 47.6	-1.2
PLWZ	Palliser	3.75 189	PN	Pn	19 17 48.7	-1.2
PLWZ	Palliser	3.75 189	Pn	Pn	19 17 48.7	-1.2
TUWZ	Tuamarina	3.91 204	⇑PN	Pn	19 17 50.5	-1.1
TUWZ			AML	AML	19 18 42.5	
TUWZ			AML	AML	19 18 43.9	
TUWZ	Tuamarina	3.91 204	⇑Pn	Pn	19 17 50.5	-1.1
NNZ	Nelson	3.94 211	⇑PN	Pn	19 17 50.3	-1.6
NNZ	Nelson	3.94 211	Pn	Pn	19 17 50.3	-1.6
QRZ	Quartz Range	4.03 222	PN	Pn	19 17 50.8	-2.2
QRZ	Quartz Range	4.03 222	Pn	Pn	19 17 50.8	-2.2
BSWZ	Blackbirch Sta	4.19 203	PN	Pn	19 17 53.6	-1.1
BSWZ			AML	AML	19 18 48.9	
BSWZ			AML	AML	19 18 50.7	
BSWZ	Blackbirch Sta	4.19 203	Pn	Pn	19 17 53.6	-1.1
THZ	Tophouse	4.59 211	⇑PN	Pn	19 17 57.4	-1.9
THZ	Tophouse	4.59 211	Pn	Pn	19 17 57.4	-1.9
KHZ	Kahutara	4.94 202	PN	Pn	19 18 02.1	-1.0
KHZ			AML	AML	19 19 03.3	
KHZ			AML	AML	19 19 03.8	
KHZ	Kahutara	4.94 202	Pn	Pn	19 18 02.1	-1.0
DSZ	Denniston Nort	5.08 219	PN	Pn	19 18 02.5	-2.4
DSZ	Denniston Nort	5.08 219	Pn	Pn	19 18 02.5	-2.4
LTZ	Lake Taylor	5.70 209	PN	Pn	19 18 10.2	-2.0
LTZ	Lake Taylor	5.70 209	Pn	Pn	19 18 10.2	-2.0
CRLZ	Canterbury Las	6.27 204	⇓PN	Pn	19 18 16.8	-2.0
CRLZ	Canterbury Las	6.27 204	Pn	Pn	19 18 16.9	-2.0
MQZ	McQueen's Vall	6.38 203	⇓PN	Pn	19 18 18.0	-2.1
MQZ	McQueen's Vall	6.38 203	Pn	Pn	19 18 18.1	-2.1
WVZ	Waitaha Valley	6.60 216	⇓PN	Pn	19 18 20.2	-2.7
WVZ	Waitaha Valley	6.60 216	Pn	Pn	19 18 20.2	-2.7
RPZ	Rata Peaks	6.97 212	⇓PN	Pn	19 18 25.0	-2.3
RPZ	Rata Peaks	6.97 212	Pn	Pn	19 18 25.0	-2.3
RPZ	Rata Peaks	6.97 212	P	Pn	19 18 25.1	-2.3
RPZ	35nm,0.3s,baz=299,slow=2.1,SNR=110		S	S	19 19 42.8	-6.1
FOZ	24nm,0.3s,baz=94,slow=19,SNR=17 Fox Glacier	7.47 218	⇑PN	Pn	19 18 29.4	-4.0
FOZ	Fox Glacier	7.47 218	Pn	Pn	19 18 29.4	-4.0
LBZ	Lake Benmore	7.88 212	PN	Pn	19 18 35.7	-2.7
LBZ	Lake Benmore	7.88 212	Pn	Pn	19 18 35.7	-2.7
ODZ	Otahua Downs	8.24 208	PN	Pn	19 18 41.9	-1.0
ODZ	Otahua Downs	8.24 208	Pn	Pn	19 18 41.9	-1.0
WKZ	Wanaka	8.74 215	PN	Pn	19 18 45.4	-3.6
WKZ	Wanaka	8.74 215	Pn	Pn	19 18 45.4	-3.6
EAZ	Earnscleugh	8.93 212	PN	Pn	19 18 47.8	-3.5
EAZ	Earnscleugh	8.93 212	Pn	Pn	19 18 47.8	-3.5
MSZ	Milford Sound	9.15 219	PN	Pn	19 18 50.7	-3.3
MSZ	Milford Sound	9.15 219	Pn	Pn	19 18 50.7	-3.3
TUZ	Tuapeka	9.39 209	PN	Pn	19 18 55.6	-1.4
MLZ	Mavora Lakes	9.52 216	PN	Pn	19 18 56.1	-2.6
MLZ	Mavora Lakes	9.52 216	Pn	Pn	19 18 56.3	-2.4
WHZ	Wether Hill Ro	10.04 214	PN	Pn	19 19 01.9	-3.1
WHZ	Wether Hill Ro	10.04 214	Pn	Pn	19 19 01.9	-3.1
SYZ	Scrubby Hill	10.07 208	PN	Pn	19 19 04.4	-0.8
DCZ	Deep Cove	10.10 218	PN	Pn	19 19 03.0	-2.7
DCZ	Deep Cove	10.10 218	Pn	Pn	19 19 03.0	-2.7
APZ	The Paps	10.76 211	PN	Pn	19 19 12.2	-1.6
APZ	The Paps	10.76 211	Pn	Pn	19 19 12.2	-1.6
DZM	Mont Dzumac	17.80 330	P	P	19 20 34.6	+0.4
STKA	0.8nm,0.3s,baz=86,slow=24,SNR=10 Stephens Creek	28.80 272	P	P	19 22 19.4	+2.0
CTA	2.2nm,0.9s,baz=100,slow=11,SNR=5.5 Charters Tower	31.34 296	P	P	19 22 40.9	+1.1
ASAR	1.8nm,0.5s,baz=142,slow=11,SNR=4.3 Alice Springs	38.57 279	P	P	19 23 41.6	+0.4
VNDA	1.2nm,0.7s,baz=121,slow=6.7,SNR=22 Vanda	40.22 185	P	P	19 23 58.4	+4.4
WRA	0.4nm,0.9s,baz=1.9,slow=7.9,SNR=2.4 Warramunga Arr	40.28 284	P	P	19 23 55.5	+0.3
QSPA	0.6nm,0.4s,baz=121,slow=8.5,SNR=18 South Pole Qui	52.25 180	P	P	19 25 30.4	+3.1
ARCES	1.1nm,0.4s,baz=262,slow=1.1,SNR=26 ARCESS Array B	144.56 343	PKP	PKPdf	19 35 46.2	+0.1
	1.8nm,0.8s,baz=3.7,slow=2.8,SNR=3.0					

*ISCJB **17** 19:22:12.0±0.5, 30°.32N±0°.04×138°.82E±0°.09, h440km, mb3.2/12, Error ellipse: s-maj=10.0km s-min=5.6km az=3.8*
*JMA **17** 19:22:12.7±0.2, 30°.42N×139°.31E, h455km, M3.6*
*IDC **17** 19:22:13.9±2.0, 30°.32N×138°.67E, h442km±22km, mb2.9/12, mb1 3.1/16, mb1mx3.0/28, mbtmp2.9/16, Error ellipse: s-maj=20.7km s-min=15.1km az=89.0*

ISC 17 19:22:13.5±0.7, 30°.39N±0°.07×138°.8E±0°.1, h440km, n28, σ1°72/38, mb3.2/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.80	17	eS	S	19 24 09.5	-1.3
JHJ2	Mitsune	2.84	17	P	P	19 23 19.0	+0.6
JHJ2				eS	S	19 24 10.6	-0.7
JIE	Ise	4.38	336	P	P	19 23 33.7	+2.4
CBIJ	Chichi jima	4.40	137	P	P	19 23 30.0	-1.7
CBIJ				eS	S	19 24 30.9	-4.5
BSO1	Boso 1	4.62	22	P	P	19 23 33.8	+0.8
BSO1				eS	S	19 24 39.0	+1.1
BSO3	Boso 3	4.62	17	eS	S	19 24 38.7	+0.2
BSO4	Boso 4	4.76	15	P	P	19 23 36.2	+1.4
BSO4				eS	S	19 24 41.1	-0.1
JHU	Hanno	5.46	4	P	P	19 23 41.4	-0.4
JHU				eS	S	19 24 51.6	-2.4
JRY	Ryogami san	5.61	1	P	P	19 23 44.3	+0.9
JRY				eS	S	19 24 56.4	-0.5
JYT	Yasato	5.93	11	P	P	19 23 46.3	-0.3
JYT				eS	S	19 24 59.6	-3.2
JAG	Ashikaga	6.04	5	P	P	19 23 47.3	-0.4
JAG				eS	S	19 25 00.3	-4.6
MJAR	Matsushiro Arr	6.16	355	P	P	19 23 49.0	0.0
MJAR	0.8nm,0.3s,baz=170,slow=11,SNR=9.0			S	S	19 25 05.4	-1.7
JHO	0.2nm,0.3s,baz=149,slow=17,SNR=3.9 Hitachi	6.37	13	P	P	19 23 51.2	0.0
JHO				eS	S	19 25 07.7	-3.5
KSRS	Korea Array	11.48	311	P	P	19 24 47.1	+0.5
ASAJ	0.5nm,0.3s,baz=125,slow=10,SNR=21 Asahikawa	14.03	11	P	P	19 25 17.0	+2.8
USRK	0.3nm,0.3s,baz=207,slow=9.0,SNR=4.2 Ussuriysk Arra	14.82	340	P	P	19 25 23.6	+0.9
SONM	0.3nm,0.3s,baz=165,slow=12,SNR=6.0 Songino Array	30.32	314	P	P	19 27 47.2	-0.1
CMAR	0.4nm,0.4s,baz=124,slow=8.2,SNR=11 Chiang Mai Arr	38.03	261	P	P	19 28 51.8	-0.9
ZALV	0.7nm,0.6s,baz=54,slow=7.5,SNR=9.5 Zalesovo Beam	45.08	318	P	P	19 29 47.8	-0.6
MKAR	0.3nm,0.3s,baz=103,slow=6.4,SNR=3.2 Makanchi Array	46.13	307	P	P	19 29 56.3	-0.4
WRA	0.7nm,0.6s,baz=88,slow=9.2,SNR=8.7 Warramunga Arr	50.23	186	P	P	19 30 26.9	-0.7
ASAR	0.5nm,0.8s,baz=0.7,slow=7.4,SNR=4.7 Alice Springs	53.95	186	P	P	19 30 54.6	0.0
ILAR	0.4nm,0.4s,baz=357,slow=5.8,SNR=4.3 Eielson Array	56.28	30	P	P	19 31 11.5	+1.1
ARCES	0.3nm,0.6s,baz=268,slow=4.5,SNR=3.3 ARCESS Array B	69.46	340	P	P	19 32 36.8	+0.9
FINES	5.6nm,1.1s,baz=64,slow=5.5,SNR=5.5 FINESS Array B	73.69	333	P	P	19 33 00.8	0.0
AKASG	0.6nm,0.3s,baz=45,slow=5.2,SNR=10 Malin Array Be	78.23	322	P	P	19 33 25.6	-0.7
NVAR	0.4nm,0.3s,baz=53,slow=5.2,SNR=4.8 Mina Array Bea	80.76	51	P	P	19 33 41.6	+1.3
BRTR	0.2nm,0.5s,baz=312,slow=5.4,SNR=3.2 Keskin Array B	81.62	311	P	P	19 33 44.9	+0.2
	0.7nm,0.6s,baz=77,slow=3.1,SNR=4.3						

IDC 17 19:23:06.7±1.0, 35°.16S×179°.35W, h0km, mb4.3/6, mb1 4.4/8, mb1mx4.1/19, mbtmp4.3/8, ML4.0/2, MS3.9/5, Ms1 3.8/5, ms1mx3.3/29, Error ellipse: s-maj=26.5km s-min=25.0km az=95.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.20	222	Pn	Pn	19 24 13.1	+1.0
URZ	12nm,0.3s,baz=38,slow=5.7,SNR=31			Sn	Sn	19 25 02.2	+0.3
RPZ	22nm,0.3s,baz=329,slow=23,SNR=15 Rata Peaks	11.31	218	Pn	Pn	19 25 48.7	-0.9
RPZ	0.8nm,0.3s,baz=74,slow=7.4,SNR=3.2			Sn	Sn	19 27 44.2	-13
DZM	2.3nm,0.3s,baz=40,slow=18,SNR=7.1 Mont Dzumac	18.02	313	eLR	LR	19 31 36.2	
TBI	387nm,25.6s Tubuai	28.50	74	eLR	LR	19 36 02.5	
PPT2	120nm,26.2s Papeete2	31.73	64	eLR	LR	19 37 32.7	
PPT	118nm,24.2s Papeete	31.74	64	LR	LR	19 38 57.7	
STKA	comp=Z,143nm,20.6s,baz=162,slow=30 Stephens Creek	32.59	264	P	P	19 29 42.2	+2.3
STKA	1.5nm,0.8s,baz=90,slow=10,SNR=3.8			LR	LR	19 42 03.5	
CTA	comp=Z,106nm,19.7s,baz=198,slow=35 Charters Tower	33.78	287	P	P	19 29 52.0	+1.6
PMG	1.9nm,0.4s,baz=113,slow=9.4,SNR=6.7 Port Moresby	39.88	302	LR	LR	19 44 45.0	
ASAR	comp=Z,130nm,18.4s,baz=244,slow=32 Alice Springs	41.96	273	P	P	19 30 59.5	-0.1
ASAR	7.7nm,0.6s,baz=115,slow=7.5,SNR=154			LR	LR	19 49 11.1	
WRA	comp=Z,181nm,18.0s,baz=140,slow=37 Warramunga Arr	43.38	278	P	P	19 31 10.5	-0.7
FITZ	1.8nm,0.4s,baz=117,slow=7.7,SNR=35 Fitzroy Crossi	51.40	274	P	P	19 32 12.8	-0.8
FITZ	3.0nm,0.9s,baz=80,slow=6.1,SNR=5.5			LR	LR	19 54 35.3	
QSPA	comp=Z,180nm,18.6s,baz=94,slow=37 South Pole Qui	54.96	180	P	P	19 32 40.1	+0.7
PETK	0.9nm,0.9s,baz=47,slow=1.4,SNR=4.5 Petropavlovsk-	90.14	346	P	P	19 36 09.1	+0.9
ARCES	2.5nm,0.6s,baz=153,slow=8.3,SNR=6.0 ARCESS Array B	142.95	346	PKP	PKPdf	19 42 40.9	-0.4
	2.5nm,0.8s,baz=20,slow=2.9,SNR=3.0						
FINES	FINESS Array B	149.13	336	PKPbc	PKPbc	19 42 55.6	-0.6
DBIC	4.0nm,0.8s,baz=36,slow=3.6,SNR=9.7 Dimbokro	151.20	169	PKPbc	PKPbc	19 43 02.5	-0.1
NB2	4.5nm,0.9s,baz=153,slow=2.3,SNR=2.9 NORSAR Subarra	153.23	349	PKP	PKPbc	19 43 10.2	+4.4
BRTR	comp=Z,1.9nm,0.8s,baz=14,slow=4.1 Keskin Array B	153.50	290	PKPbc	PKPbc	19 43 05.8	-1.5
AKASG	comp=Z,0.5nm,0.5s,baz=97,slow=3.0,SNR=4.2 Malin Array Be	154.16	316	PKPbc	PKPbc	19 43 07.2	-0.9
TORD	comp=Z,0.2nm,0.3s,baz=54,slow=3.0,SNR=2.8 Torodi Ar. Bea	158.06	183	PKPab	PKPab	19 43 38.7	-0.7
	comp=Z,0.3nm,0.6s,baz=171,slow=2.1,SNR=3.1						

IDC 17 19:24:41.1±3.4, 35°.04S×179°.64W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, MS3.7/2, Ms1 3.7/2, ms1mx2.8/34, Error ellipse: s-maj=75.0km s-min=37.2km az=117.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.14	218	Pn	Pn	19 25 45.8	+0.2
URZ	baz=333,slow=9.0,SNR=3.2			Sn	Sn	19 26 34.4	-0.3
RPZ	5.6nm,0.3s,baz=163,slow=19,SNR=4.7 Rata Peaks	11.26	217	LR	LR	19 32 04.3	
ASAR	comp=Z,198nm,20.8s,baz=332,slow=39 Alice Springs	41.72	273	P	P	19 32 32.1	+0.1
WRA	2.0nm,0.4s,baz=117,slow=7.2,SNR=7.5 Warramunga Arr	43.13	278	P	P	19 32 43.0	-0.4
FITZ	0.7nm,0.3s,baz=118,slow=7.7,SNR=5.4 Fitzroy Crossi	51.15	274	P	P	19 33 46.1	0.0
ANMO	0.7nm,0.4s,baz=135,slow=4.3,SNR=2.4 Albuquerque	97.52	52	LR	LR	20 17 44.4	
FINES	comp=Z,52nm,18.0s,baz=142,slow=33 FINESS Array B	148.93	336	PKPbc	PKPbc	19 44 29.4	-0.6
	2.1nm,0.8s,baz=67,slow=4.7,SNR=2.4						

*IDC **17** 19:27:24.5±1.0, 45°.94S×166°.08E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=31.4km s-min=26.8km az=9.0*
*ISCJB **17** 19:27:25.3±0.7, 45°.83S±0°.06×165°.87E±0°.06, h12km, mb3.8/4, Error ellipse: s-maj=8.5km s-min=6.5km az=176.9*
*WEL **17** 19:27:26.0±0.3, 45°.92S×165°.84E, h12km, ML4.4/18, Error ellipse: s-maj=3.2km s-min=1.9km az=90.0*

ISC 17 19:27:26.5±0.8, 45°.93S±0°.07×166°.00E±0°.06, h12km, n28, σ0°75/32, mb3.8/4, 2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.93	61	P*	Pg	19 27 44.1	-0.3
DCZ				S*	Sn	19 27 57.7	-0.8
DCZ				AML	AML	19 27 58.4	
DCZ				AML	AML	19 27 58.9	
DCZ				AML	AML	19 27 58.9	
WHZ	Wether Hill Ro	1.36	89	PN	Pb	19 27 51.5	-0.5
WHZ				SN	Sg	19 28 11.1	+0.7
WHZ				AML	AML	19 28 15.0	
MLZ	Mavora Lakes	1.64	70	⇓PN	Pn	19 27 55.4	+0.2
MLZ				AML	AML	19 28 23.3	
MLZ				AML	AML	19 28 27.1	
APZ	The Paps	1.65	124	PN	Pn	19 27 55.2	-0.2
APZ				SN	Sg	19 28 18.8	-0.7
MSZ	Milford Sound	1.85	48	PN	Pn	19 27 57.9	-0.1
MSZ				AML	AML	19 28 36.8	
MSZ				AML	AML	19 28 36.8	
MSZ				AML	AML	19 28 43.9	
MSZ				AML	AML	19 28 43.9	
SYZ	Scrubby Hill	2.27	107	PN	Pn	19 28 04.6	+0.8
WKZ	Wanaka	2.40	64	PN	Pn	19 28 07.2	+1.6
WKZ				AML	AML	19 28 48.9	
WKZ				AML	AML	19 28 49.0	
WKZ				AML	AML	19 28 53.8	
WKZ				AML	AML	19 28 53.8	
EAZ	Earnscleugh	2.43	75	PN	Pn	19 28 07.5	+1.5
EAZ				AML	AML	19 28 48.8	
EAZ				AML	AML	19 28 48.8	
EAZ				AML	AML	19 28 51.6	
EAZ				AML	AML	19 28 51.7	
TUZ	Tuapeka	2.54	92	PN	Pn	19 28 08.5	+1.0
TUZ				AML	AML	19 28 47.4	
TUZ				AML	AML	19 28 50.8	
LBZ	Lake Benmore	3.34	64	PN	Pn	19 28 19.0	+0.5
LBZ				AML	AML	19 29 29.1	
LBZ				AML	AML	19 29 30.9	
ODZ	Otahua Downs	3.39	77	⇓PN	Pn	19 28 19.1	-0.1
FOZ	Fox Glacier	3.54	49	PN	Pn	19 28 22.2	+1.0
FOZ				AML	AML	19 29 29.9	
FOZ				AML	AML	19 29 41.3	
RPZ	Rata Peaks	4.22	60	PN	Pn	19 28 29.9	-0.8
RPZ				AML	AML	19 29 28.3	
RPZ				AML	AML	19 29 29.2	
RPZ	Rata Pe

MLG	Mont-d'or	1.17 319	⇑iP	Pn	19 33 19.4	+1.1
LZG	Guadaloupe-1	1.27 319	⇑iP	Pn	19 33 20.2	+1.0
SEG	Port Louis	1.34 335	⇑iP	Pn	19 33 21.6	+1.6
BPA	Boggy Peak	2.07 334	eP	Pn	19 33 29.7	+1.4
BPA			eS	Sn	19 33 55.2	-0.2
ANWB	Willy Bob	2.61 341	eP	Pn	19 33 35.3	+0.4
SKI	Saint Kitts	2.77 321	eP	Pn	19 33 38.8	+1.9
SKI			eS	Sn	19 34 10.9	-0.1

IDC 17 19:35:05.5±6.0, 18°.79S×168°.74E, h134km±66km, mb3.7/6, mb1 3.8/7, mb1mx3.5/20, mbtmp3.6/7, Error ellipse: s-maj=96.7km s-min=45.3km az=145.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.91	213	eP	Pn	19 36 05.4	+1.1
DZM				eS	Sn	19 36 49.1	-0.8
DZM	Mont Dzumac baz=53,slow=20	3.91	213	P	Pn	19 36 05.3	+1.0
DZM				S	Sn	19 36 49.6	-0.3
	9.9nm,0.3s,baz=192,slow=18,SNR=7.4						
CTA	Charters Tower	21.25	263	P	P	19 39 43.1	+1.9
	2.8nm,0.5s,baz=88,slow=10,SNR=8.5						
WRA	Warramunga Arr	32.45	262	P	P	19 41 22.1	-1.2
	1.2nm,0.9s,baz=85,slow=8.4,SNR=8.2						
ASAR	Alice Springs	32.78	255	P	P	19 41 25.8	-0.4
	4.8nm,0.6s,baz=85,slow=8.9,SNR=114						
FITZ	Fitzroy Crossi	40.82	264	P	P	19 42 34.4	+0.1
	2.2nm,0.6s,baz=106,slow=7.8,SNR=14						
CMAR	Chiang Mai Arr	77.89	294	P	P	19 46 49.4	+0.3
	0.2nm,0.3s,baz=143,slow=4.0,SNR=3.7						
SONM	Songino Array	86.58	323	P	P	19 47 33.5	-0.3
	0.5nm,0.7s,baz=161,slow=5.0,SNR=4.7						

IDC 17 19:46:50.0±1.9, 18°.25S×168°.18E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=49.1km s-min=30.3km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.14	203	Pn	Pn	19 47 55.7	+1.0
	1.3nm,0.3s,baz=174,slow=16,SNR=5.2						
DZM				Sn	Sn	19 48 42.3	-1.6
	4.4nm,0.3s,baz=333,slow=22,SNR=8.4						
WRA	Warramunga Arr	31.99	261	P	P	19 53 17.4	-0.9
	0.3nm,0.9s,baz=84,slow=7.6,SNR=2.5						
ASAR	Alice Springs	32.41	254	P	P	19 53 22.2	+0.3
	0.5nm,0.6s,baz=84,slow=9.0,SNR=8.9						
FITZ	Fitzroy Crossi	40.35	263	P	P	19 54 29.8	+0.1
	1.0nm,0.7s,baz=134,slow=12,SNR=4.1						
NVAR	Mina Array Bea	88.90	49	P	P	19 59 46.6	-0.2
	0.1nm,0.4s,baz=222,slow=9.4,SNR=3.6						

NIED 17 19:48:00, 23°.70N×121°.20E, h23km, Mw3.8 Best double couple: M0=5.17000×10^14 NP1:φs=43.00000°, δ=83.00000°, λ=80.00000°. NP2:φs=279.00000°, δ=12.00000°, λ=145.00000°.
IDC 17 19:48:04.7±1.2, 23°.97N×121°.35E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, Error ellipse: s-maj=50.5km s-min=18.8km az=64.0
JMA 17 19:48:06.0±0.5, 23°.70N×121°.19E, h0km, M3.5
BJI 17 19:48:06.2, 24°.00N×121°.07E, h7km, mb3.8/1, ML3.6/4
TAP 17 19:48:07.7, 23°.98N×121°.06E, h11km, ML4.0, B
ISCJB 17 19:48:08.4±0.2, 23°.97N±0°.01×121°.09E±0°.01, h9km±2km, mb3.5/6, Error ellipse: s-maj=2.4km s-min=1.7km az=42.8

ISC 17 19:48:07.5±0.8, 23°.97N±0°.01×121°.12E±0°.02, h14km±6km, n71, σ1°.23/121, mb3.5/6, 11C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	Sun Moon Lake baz=234	0.22	245	⇑iP	Pg	19 48 12.0	-0.4
SMLT				i S	Sg	19 48 15.1	-0.6
WHF	Hehuan Shan baz=60	0.22	39	⇓iP	Pg	19 48 14.3	+1.7
TYC	Yuchr baz=247	0.25	254	⇑iP	Pg	19 48 12.2	-0.6
TYC				i S	Sg	19 48 15.2	-1.2
TWT	Tachien baz=20	0.28	11	⇓iP	Pb	19 48 13.9	-0.6
TWT				S	Sg	19 48 17.7	+0.1
ESL	Shilin baz=115	0.33	119	⇑iP	Pn	19 48 16.1	-1.8
ESL				S	Sb	19 48 21.4	+1.1
WNT	Mingjian baz=253	0.41	256	⇑iP	Pg	19 48 16.1	+0.5
WNT				i S	Sb	19 48 22.6	+0.1
TCU	Taichung baz=293	0.44	293	⇑iP	Pb	19 48 16.8	-0.2
TCU				S	Sb	19 48 24.0	+0.6
HWA	Hwalien baz=90	0.45	89	i P	Pn	19 48 18.4	-1.1
HWA				i S	Sb	19 48 25.7	+2.0
TWD	Chiawan baz=79	0.45	76	⇑iP	Pn	19 48 17.9	-1.6
TWD				i S	Sb	19 48 24.6	+0.8
TEGC	Jichi Village baz=120	0.47	124	eP	Pn	19 48 19.1	-0.7
TEGC				eS	Sb	19 48 26.3	+1.9
TWQ1	Liyutan baz=336	0.49	320	⇑iP	Pb	19 48 17.8	0.0
TWQ1				eS	Sb	19 48 24.8	0.0
EHY	Hungye baz=146	0.50	158	⇑iP	Pb	19 48 18.5	+0.4
EHY				S	Sb	19 48 25.6	+0.3
YUS	Yu-Shan baz=195	0.51	197	⇓iP	Pg	19 48 17.6	0.0
NNS	Nan Shan baz=39	0.52	27	⇓iP	Pb	19 48 18.4	-0.1
NNS				eS	Sb	19 48 25.9	-0.1
ALS	Alishan baz=194	0.54	212	eP	Pg	19 48 18.4	+0.2
ALS				eS	Sb	19 48 26.6	-0.1
NSY	Sanyi baz=338	0.55	324	⇑iP	Pb	19 48 19.4	+0.5
NSY				eS	Sb	19 48 27.4	+0.8
CHN5	Tsauling baz=221	0.55	227	⇑P	Pg	19 48 18.6	+0.3
CHN5				S	Sg	19 48 26.4	+0.8
WGK	Gukeng baz=236	0.58	241	P	Pg	19 48 19.2	+0.3
WGK				eS	Sg	19 48 27.5	+0.9
TWF1	Yuli baz=152	0.64	165	⇓iP	Pb	19 48 19.7	+0.4
TWF1				eS	Sb	19 48 29.7	+0.4
EHP	Heping Village baz=74	0.66	60	eP	Pb	19 48 21.0	+0.2
EHP				eS	Sn	19 48 33.2	+0.5
ENA	Nanau baz=48	0.73	52	eP	Pn	19 48 22.6	-0.8
ENA				eS	Sb	19 48 32.5	+0.7
NSK	Sanguang baz=23	0.73	18	⇓iP	Pb	19 48 22.1	0.0
NSK				eS	Sb	19 48 31.5	-0.5
WTCT	Ta-ch'eng baz=260	0.77	262	eP	Pg	19 48 22.1	-0.3
WTCT				eS	Sg	19 48 33.1	+0.5
CHN4	Tsaushan baz=214	0.78	218	eP	Pg	19 48 22.7	+0.1
CHY	Chiayi baz=229	0.79	233	eP	Pg	19 48 22.8	-0.1
CHY				eS	Sg	19 48 33.7	+0.5
HSN	Hsinchu baz=359	0.83	351	eP	Pn	19 48 25.5	+0.7
HSN				eS	Sn	19 48 37.8	+0.9
WSF	Szhu baz=245	0.88	248	eP	Pg	19 48 23.9	-0.7
WSF				eS	Sg	19 48 36.1	-0.1
TWE	Neicheng baz=34	0.90	34	⇓P	Pn	19 48 25.5	-0.2
TWE				eS	Sn	19 48 38.8	+0.3
CHKT	Chengkung baz=161	0.90	165	⇑iP	Pn	19 48 26.0	+0.3
CHKT				eS	Sn	19 48 39.4	+0.9
TWC	Suao baz=50	0.92	46	eP	Pn	19 48 26.2	+0.2
TWC				eS	Sn	19 48 39.1	0.0
CHN1	Nanshi baz=222	0.95	215	eP	Pg	19 48 25.4	-0.5
CHN1				eS	Sb	19 48 38.5	+0.2
ILA	Ilan baz=36	0.98	36	eP	Pn	19 48 27.3	+0.6
NCU	National Centr baz=9.0	0.99	4	eP	Pn	19 48 27.8	+0.7
NCU				S	Sn	19 48 42.3	+1.4
SGST	Jiashian baz=215	1.01	209	eP	Pn	19 48 27.4	+0.1
SGST				eS	Sn	19 48 41.4	+0.1
TWA	Mucha baz=31	1.09	23	eP	Pn	19 48 29.0	+0.6
TAP	Taipei baz=32	1.12	18	eP	Pn	19 48 30.5	+1.8
TAP1	Taipei baz=31	1.12	19	eP	Pn	19 48 30.0	+1.2
TAP1				eS	Sn	19 48 46.9	+2.9
CHN3	Shinhua baz=226	1.13	218	eP	Pn	19 48 29.6	+0.8
CHN3				eS	Sn	19 48 46.4	+2.2
TWG	Pinlang baz=171	1.15	182	eP	Pn	19 48 29.6	+0.4
TWG				eS	Sn	19 48 46.6	+2.0
SCLT	Jiali baz=223	1.16	227	P	Pn	19 48 29.6	+0.3
SCLT				S	Sn	19 48 46.2	+1.3
TTN	Taitung baz=176	1.22	179	eP	Pg	19 48 31.1	+0.3
TAI1	Yung-k'ang baz=217	1.24	221	eP	Pb	19 48 30.8	+0.2
TAI1				eS	Sn	19 48 48.2	+1.5
NWF	Wu-fen Shan baz=33	1.25	29	eP	Pg	19 48 32.1	+0.5
NWF				eS	Sn	19 48 50.1	+2.8
TWB1	Santiao Chiao baz=53	1.30	38	eP	Pg	19 48 32.6	+0.1
TWB1				eS	Sg	19 48 52.1	+2.6
SGLT	Jiouru baz=202	1.37	205	eP	Pg	19 48 34.8	+1.0
TWY	Chenhua baz=21	1.37	19	eP	Pg	19 48 34.1	+0.3
WDGT	Dungji baz=226	1.51	242	eP	Pn	19 48 33.6	-0.5
WDGT				eS	Sn	19 48 53.7	+0.1
TAW	Tawu baz=184	1.62	187	eP	Pg	19 48 37.7	-0.9
TAW				eS	Sg	19 49 00.7	+1.0
SCZT	Fangliau baz=193	1.66	196	eP	Pb	19 48 37.8	0.0
SCZT				eS	Sg	19 48 59.9	-1.0
TWP	Hsiaoliuchiu baz=200	1.76	203	eP	Pg	19 48 41.2	-0.1
YOJ	Yonaguni jima baz=90	1.80	74	⇓iP	Pb	19 48 39.2	-0.9
YOJ				eS	Sg	19 49 03.1	-2.2
YOJ	Yonaguni jima baz=90	1.80	74	P	Pb	19 48 39.3	-0.9
YOJ				S	Sg	19 49 03.0	-2.3
PCYT	Pengchaiyu baz=15	1.86	28	eP	Pb	19 48 40.7	-0.6
PCYT				eS	Sg	19 49 05.7	-1.7
LAY	Lan-yu baz=155	1.97	168	eP	Pn	19 48 40.1	-0.4
HEN	Hengchun baz=187	1.99	190	eP	Pb	19 48 42.9	-0.6
HEN				eS	Sg	19 49 13.2	+1.7
TWK1	Hengchun baz=202	2.04	188	eP	Pb	19 48 44.7	+0.3
TSEB	Hengchuen, Pin baz=178	2.07	186	eP	Pg	19 48 46.5	-0.8
IRIF	Iriomote-Funau	2.42	81	P	Pn	19 48 47.8	+1.2
IRIF				eS	Sb	19 49 18.3	-2.1
HATJ	Hateruma jima	2.46	88	P	Pn	19 48 47.2	0.0
HATJ				eS	Sb	19 49 18.7	-3.0
KNM	Kinmen baz=278	2.49	281	eP	Pn	19 48 48.8	+1.3
QZH	Quanzhou	2.49	293	Pn	Pn	19 48 45.1	-2.5
QZH				Sn	Sn	19 49 13.3	-4.6
QZH	comp=N,780nm,1.2s			smax	smax		
QZH	comp=E,270nm,0.7s			smax	smax		
JKRS	Kuro-shima	2.66	84	P	Pn	19 48 51.6	+1.7
JKRS				eS	Sb	19 49 24.9	-2.4
JIJ	Ishigaki jima	2.79	81	P	Pn	19 48 52.9	+1.1
JIJ				S	Sn	19 49 26.8	+1.5
JTJ	Tarama	3.34	78	P	Pn	19 49 01.0	+1.7
JTJ				S	Sn	19 49 41.6	+2.9
KSRS	Korea Array comp=E,0.1nm,0.3s,baz=199,slow=12,SNR=5.7	14.65	22	Pn	P	19 51 39.0	-1.5
CMAR	Chiang Mai Arr comp=E,0.7nm,0.8s,baz=63,slow=11,SNR=5.8	21.38	259	P	P	19 52 56.2	+1.5
SONM	Songino Array comp=E,1.0nm,1.0s,baz=151,slow=8.8,SNR=6.1	26.54	337	P	P	19 53 45.5	+0.6
MKAR	Makanchi Array comp=E,1.2nm,0.6s,baz=109,slow=9.9,SNR=17	38.45	316	P	P	19 55 29.5	+0.7
ZALV	Zalesovo Beam comp=E,1.6nm,0.7s,baz=118,slow=8.3,SNR=8.9	40.39	327	P	P	19 55 44.6	-0.2
WRA	Warramunga Arr comp=E,0.3nm,0.4s,baz=345,slow=8.8,SNR=13	45.51	162	P	P	19 56 25.5	-1.3
ASAR	Alice Springs comp=E,0.2nm,0.6s,baz=340,slow=6.4,SNR=4.2	48.96	164	P	P	19 56 52.3	-1.2

GUC 17 19:51:39.9±0.7, 22°.84S×69°.01W, h118km±9km, ML3.5, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	0.72	322	eP	Pn	19 52 04.0	+4.8
PB04				eS	Sn	19 52 23.1	+9.4
PB04				AML	AML	19 52 25.9	
	comp=N,596nm,0.2s						
PB09	Plate Boundary	1.06	348	⇓eP	Pn	19 52 03.0	+0.4
PB09				eS	Sn	19 52 20.6	+0.9
PB09				AML	AML	19 52 21.3	
	comp=E,2μm,0.4s						
CEN1	Los Morros	1.22	243	⇓eP	Pn	19 52 06.8	+2.6
CEN1				eS	Sn	19 52 27.5	+4.9
PB07	Plate Boundary	1.37	324	eP	Pn	19 52 06.7	+0.7
PB07				eS	Sn	19 52 26.5	+0.7
PB07				AML	AML	19 52 29.7	
	comp=E,661nm,0.3s						
ANCH	Antofagasta	1.54	237	eP	Pn	19 52 08.0	+0.5
ANCH				eS	Sn	19 52 29.4	+0.7
PB10	Plate Boundary	1.57	244	eP	Pn	19 52 08.5	+0.5
PB10				eS	Sn	19 52 29.9	+0.5
PB10				AML	AML	19 52 35.5	
	comp=E,891nm,0.3s						
PB01	Plate Boundary	1.84	346	eP	Pn	19 52 12.2	+0.8
PB01				eS	Sn	19 52 37.4	+1.9

ISCJB 17 20:03:26.1±1.0, 41°.44N±0°.07×143°.8E±0°.1, h31km, mb3.5/5, Error ellipse: s-maj=11.7km s-min=8.7km az=28.1
JMA 17 20:03:29.0±0.2, 41°.60N×143°.68E, h34km±4km, M2.9
IDC 17 20:03:30.2±3.5, 41°.38N×143°.67E, h54km±26km, mb3.3/5, mb1 3.3/7, mb1mx3.1/27, mbtmp3.2/7, ML2.8/2, Error ellipse: s-maj=33.5km s-min=20.8km az=106.0

ISC 17 20:03:28.2±1.1, 41°.55N±0°.07×143°.72E±0°.08, h31km, n14, σ0°.77/16, mb3.5/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.63	318	P	Pn	20 03 39.7	-1.3
JEM				eS	Sb	20 03 48.8	-0.5
JNBK	Urakawa-nobuka	1.03	316	P	Pn	20 03 47.1	+0.7
JCH	Churui	1.10	346	P	Pn	20 03 47.2	-0.2
JBT2	Biratori 2	1.59	321	P	Pn	20 03 55.0	+0.8
JAK	Akkeshi	1.62	26	P	Pn	20 03 54.3	-0.3
JAK				eS	Sn	20 04 14.2	-0.2
JAR	Ashorobuto	1.75	1	P	Pn	20 03 56.1	-0.3
JFR	Furan	1.82	333	P	Pn	20 03 58.2	+0.9
ASAJ	Asahikawa 1.0nm,0.3s,baz=205,slow=10,SNR=6.4	2.70	343	P	Pn	20 04 13.1	+3.7
ASAJ				S	Sb	20 04 47.0	-1.4
	2.6nm,0.3s,baz=144,slow=17,SNR=4.4						
MJAR	Matsushiro Arr 0.2nm,0.3s,baz=32,slow=14,SNR=3.0	6.58	222	P	Pn	20 05 02.2	-0.6
SONM	Songino Array 0.2nm,0.5s,baz=72,slow=8.1,SNR=4.2	27.07	296	P	P	20 09 08.6	+0.7
MKAR	Makanchi Array 0.3nm,0.5s,baz=82,slow=8.9,SNR=4.7	43.38	299	P	P	20 11 27.7	+0.1
ILAR	Eielson Array 0.3nm,0.3s,baz=256,slow=5.3,SNR=6.6	44.75	35	P	P	20 11 39.1	+0.9
KURBB	Kurchatov Arra 0.4nm,0.5s,baz=76,slow=8.8,SNR=5.4	44.77	305	P	P	20 11 38.2	-0.3
FINES	FINESS Array B 2.2nm,1.0s,baz=32,slow=8.2,SNR=6.3	65.66	332	P	P	20 14 08.9	0.0

IDC 17 20:07:19.9±3.0, 7°.62S×116°.36E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=170.9km s-min=23.6km az=54.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.3nm,0.4s,baz=301,slow=13,SNR=3.6	21.30	127	P	P	20 12 09.1	+0.7
ASAR	Alice Springs 0.4nm,0.3s,baz=312,slow=9.6,SNR=7.5	23.19	135	P	P	20 12 28.1	-0.5
SONM	Songino Array 0.6nm,0.7s,baz=173,slow=7.0,SNR=6.0	55.92	352	P	P	20 16 59.5	-0.3
MKAR	Makanchi Array 0.1nm,0.3s,baz=144,slow=5.3,SNR=4.1	62.07	334	P	P	20 17 42.6	+0.1

IDC 17 20:11:01.5±1.9, 19°.82S×67°.89W, h217km±17km, mb3.2/2, mb1 3.2/6, mb1mx3.1/21, mbtmp3.1/6, Error ellipse: s-maj=26.0km s-min=21.6km az=23.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz 1.2nm,0.3s,baz=206,slow=5.2,SNR=17	3.52	356	P	Pn	20 11 59.4	+0.4
SIV	San Ignacio 5.2nm,0.3s,baz=258,slow=12,SNR=62	7.53	61	P	Pn	20 12 47.4	-1.3
CFAA	Coronel Fontan 0.0nm,0.3s,baz=0.0,slow=19,SNR=4.4	11.74	181	P	Pn	20 13 42.5	0.0
BDFB	Brasilia 0.8nm,0.3s,baz=222,slow=7.8,SNR=4.1	19.38	81	P	P	20 15 11.8	+0.4
NVAR	Mina Array Bea 0.4nm,0.7s,baz=155,slow=7.0,SNR=3.0	74.78	321	P	P	20 22 18.0	-0.1
TORD	Torodi Ar. Bea 0.7nm,0.7s,baz=252,slow=5.2,SNR=12	75.89	70	P	P	20 22 24.9	+0.2
ZALV	Zalesovo Beam 0.7nm,0.4s,baz=318,slow=2.0,SNR=3.6	140.04	25	PKP	PKPdf	20 30 03.2	-0.5
MKAR	Makanchi Array 1.8nm,0.7s,baz=324,slow=3.3,SNR=20	143.72	35	PKP	PKPbc	20 30 09.6	+0.8

MEX 17 20:25:44.9±0.8, 15°.37N×96°.48W, h4km±9km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.53	42	i P	Pg	20 25 54.5	-0.7
HUIG				i S	Sg	20 26 02.9	+0.7
PNIG	Pinotepa	1.88	303	i P	Pn	20 26 15.1	-2.8
PNIG				i S	Sn	20 26 37.1	-5.0
CMIG	Matias Romero	2.30	42	i P	Pn	20 26 20.3	-3.3
CMIG				i S	Sn	20 26 48.1	-4.2
PCIG		3.16	84	i P	Pn	20 26 32.8	-2.6
PCIG				i S	Sn	20 27 09.5	-4.1

IDC 17 20:28:11.8±1.1, 27°.84N×93°.99E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/29, mbtmp3.4/7, ML3.2/1, Error ellipse: s-maj=48.2km s-min=19.5km az=63.0

ISC 17 20:28:13.9±0.9, 27°.96N±0°.08×94°.2E±0°.1, h10km, n9, σ1°.15/10, mb3.5/6, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	3.17	222	ePN	Pb	20 29 09.5	-1.0
SHL				eSN	Sb	20 29 51.0	+1.7
LSA	Lhasa	3.22	303	P	Pn	20 29 05.6	+0.7
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=327,slow=13,SNR=3.8	10.40	154	Pn	Pn	20 30 43.5	+0.4
MKAR	Makanchi Array 0.4nm,0.6s,baz=145,slow=12,SNR=6.0	21.02	337	P	P	20 32 57.0	-0.7
SONM	Songino Array 0.3nm,0.4s,baz=202,slow=12,SNR=4.5	21.99	22	P	P	20 33 09.7	+1.5
KURBB	Kurchatov Arra 0.5nm,0.8s,baz=146,slow=8.8,SNR=5.5	25.59	336	P	P	20 33 43.0	0.0
WRA	Warramunga Arr 0.6nm,0.8s,baz=319,slow=7.9,SNR=11	61.42	136	P	P	20 38 30.3	-0.3
ASAR	Alice Springs 0.4nm,0.7s,baz=320,slow=6.5,SNR=4.1	64.01	139	P	P	20 38 47.8	-0.1
TORD	Torodi Ar. Bea 0.6nm,0.8s,baz=56,slow=4.6,SNR=4.0	86.15	283	P	P	20 40 54.4	-1.4

IDC 17 20:35:32.4±3.9, 6°.06S×153°.96E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/18, mbtmp3.3/2, Error ellipse: s-maj=201.5km s-min=48.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 1.0nm,1.0s,baz=56,slow=9.5,SNR=5.0	23.54	232	P	P	20 40 44.9	+0.4
ASAR	Alice Springs 0.4nm,0.8s,baz=59,slow=9.0,SNR=3.8	26.05	226	P	P	20 41 07.1	-0.6
TORD	Torodi Ar. Bea 0.8nm,0.7s,baz=50,slow=2.0,SNR=6.9	151.78	287	PKPbc	PKPbc	20 55 30.3	+0.1

IDC 17 20:36:16.1±0.7, 11°.50N×124°.51E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/25, mbtmp4.0/14, ML5.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/39, Error ellipse: s-maj=25.9km s-min=15.2km az=71.0
MAN 17 20:36:18, 11°.51N×124°.36E, h17km, mb5.0, ML4.0, MS4.1
NEIC 17 20:36:21.6±1.5, 11°.44N×124°.35E, h38km±14km, mb4.5/7, Error ellipse: s-maj=11.1km s-min=8.4km az=60.0

ISC 17 20:36:17.2±1.2, 11°.50N±0°.03×124°.34E±0°.05, h7km±8km, n57, σ0°.94/60, mb4.1/19, MS3.5/6, 3C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.52	150	eP	Pb	20 36 28.5	-0.2
OCLP				eS	Sb	20 36 38.3	+1.9
PLP	Palo	0.71	118	⇓iP	Pg	20 36 30.9	+0.1
CNP	Catarman	1.05	17	eP	Pg	20 36 36.9	-0.5
BESP	Borongan	1.08	85	eP	Pg	20 36 37.6	-0.3
MMPH	Masbate	1.11	321	⇑eP	Pg	20 36 37.4	-1.0
MMPH				eS	Sg	20 36 52.3	-0.5
LLP	Lapu-Lapu	1.23	198	eP	Pn	20 36 39.6	-1.3
LLP				i S	Sg	20 36 57.5	+0.6
MSLP	Maasin	1.45	159	eP	Pn	20 36 44.4	+0.5
RCP	Roxas	1.57	272	⇓iP	Pn	20 36 44.7	-0.8
TBP	Tagbilaran	1.86	195	eP	Pn	20 36 50.1	+0.5
TBP				eS	Sb	20 37 16.4	+1.3

GUIM	Jordan	1.93 243	eP	Pn	20 36 51.1	+0.6
PVCP	Virac	2.09 355⇑	eP	Pn	20 36 53.0	+0.2
PVCP			eS	Sg	20 37 25.1	+0.6
GQP	Guinayangan	3.02 322⇑	eP	Pn	20 37 06.7	+1.1
DCPH	Dipolog City	3.06 199‖	eP	Pn	20 37 05.5	-0.6
PAGZ	Pagadian	3.75 195	eP	Pn	20 37 16.3	+0.7
IPIL	Ipil	4.08 206	eP	Pn	20 37 21.0	+0.9
TGY	Tagaytay City	4.21 308	Pn	Pn	20 37 24.1	+2.1
TGY	Tagaytay City	4.21 308	Pn	Pn	20 37 24.1	+2.1
	78nm,0.3s,baz=143,slow=5.1,SNR=3.5					
KSM	Kuching	17.12 235	eP	Pn	20 40 16.9	-0.4
	5.8nm,1.0s					
GUMO	Guam	20.14 82	eP	Pn	20 40 54.5	+0.4
	109nm,1.5s					
ENH	Enshi	23.22 326	eP	P	20 41 25.8	+0.7
CMAR	Chiang Mai Arr	25.47 289	P	P	20 41 47.2	+0.9
CMAR	Chiang Mai Arr	25.47 289	P	P	20 41 47.2	+0.9
	1.1nm,0.8s,baz=105,slow=8.3,SNR=8.9					
CMAR			LR	LR	20 52 50.4	
	comp=Z,56nm,19.9s,baz=235,slow=39					
KSAR	Wonju Array Be	26.03 6	P	P	20 41 51.6	+0.5
KSRS	Korea Array	26.04 6	P	P	20 41 51.6	+0.4
	1.1nm,0.8s,baz=188,slow=9.0,SNR=3.4					
PSI	Prapat	26.64 253	LR	LR	20 54 06.8	
	comp=Z,149nm,18.5s,baz=271,slow=40					
MJAR	Matsushiro Arr	27.90 24	P	P	20 42 05.6	-2.4
MJAR	Matsushiro Arr	27.90 24	P	P	20 42 05.6	-2.4
	0.3nm,0.3s,baz=205,slow=11,SNR=4.1					
MJAR			LR	LR	20 52 35.1	
	comp=Z,56nm,19.4s,baz=220,slow=35					
WRA	Warramunga Arr	32.76 162	P	P	20 42 49.9	-1.2
WRA	Warramunga Arr	32.76 162	P	P	20 42 49.9	-1.2
	2.2nm,1.2s,baz=346,slow=8.5,SNR=3.3					
USRK	Ussuriysk Arra	33.24 10	P	P	20 42 54.8	-0.2
	2.3nm,0.9s,baz=189,slow=8.3,SNR=4.5					
ASAR	Alice Springs	36.18 165	P	P	20 43 20.6	-0.1
ASAR	Alice Springs	36.18 165	P	P	20 43 20.6	-0.1
	1.3nm,0.6s,baz=344,slow=7.6,SNR=15					
ASAR			LR	LR	20 57 16.9	
	comp=Z,66nm,20.3s,baz=353,slow=35					
SONM	Songino Array	39.23 341	P	P	20 43 46.9	+0.5
SONM	Songino Array	39.23 341	P	P	20 43 46.9	+0.5
	1.1nm,0.9s,baz=152,slow=9.5,SNR=7.4					
HNR	Honiara	41.06 119	LR	LR	20 58 17.9	
	comp=Z,97nm,18.0s,baz=294,slow=32					
STKA	Stephens Creek	46.19 160	P	P	20 44 42.5	-0.4
STKA	Stephens Creek	46.19 160	P	P	20 44 42.5	-0.4
	4.5nm,1.0s,baz=321,slow=12,SNR=4.2					
PETK	Petropavlovsk-	49.34 26	P	P	20 45 07.9	+0.8
PETK	Petropavlovsk-	49.34 26	P	P	20 45 07.9	+0.8
	2.6nm,0.5s,baz=172,slow=5.4,SNR=3.7					
MK31	Makanchi Array	49.91 323	eP	P	20 45 12.3	+0.6
MKAR	Makanchi Array	49.91 323	P	P	20 45 12.5	+0.9
MKAR			PcP	PcP	20 46 32.2	+0.2
MKAR	Makanchi Array	49.91 323	P	P	20 45 12.5	+0.9
	6.2nm,0.8s,baz=124,slow=8.4,SNR=41					
MKAR			PcP	PcP	20 46 32.2	+0.2
	1.5nm,0.8s,baz=118,slow=5.2,SNR=3.9					
ZAA0	Zalesovo Array	52.65 332	eP	P	20 45 32.3	+0.3
ZALV	Zalesovo Beam	52.65 332	P	P	20 45 31.8	-0.3
ZALV	Zalesovo Beam	52.65 332	P	P	20 45 31.8	-0.3
	1.8nm,0.8s,baz=123,slow=7.1,SNR=9.0					
EKS2	Erkin-Say	53.63 315	eP	P	20 45 40.3	+0.6
	4.2nm,1.1s					
KURK	Kurchatov	53.99 326	P	P	20 45 42.6	+0.7
KURBB	Kurchatov Arra	53.99 326	P	P	20 45 42.6	+0.6
	11nm,1.0s,baz=125,slow=7.0,SNR=48					
KBL	Kabul	55.08 304	eP	P	20 45 51.0	+0.5
	4.9nm,0.8s					
KKAR	Karatay Array	56.05 315	eP	P	20 45 56.7	-0.3
	2.8nm,0.8s					
BRVK	Borovoye	59.66 326	eP	P	20 46 22.3	+0.2
	5.0nm,0.8s					
ABKAR	Akbulak array	64.71 319	eP	P	20 46 56.0	-0.1
	4.0nm,0.9s					
ILAR	Eielson Array	79.16 26	P	P	20 48 21.4	-1.2
ILAR	Eielson Array	79.16 26	P	P	20 48 21.4	-1.2
	0.3nm,0.7s,baz=246,slow=6.8,SNR=4.0					
BRTR	Keskin Array B	83.29 309	P	P	20 48 45.2	-0.1
BRTR	Keskin Array B	83.29 309	P	P	20 48 45.2	-0.1
	0.9nm,0.8s,baz=77,slow=6.4,SNR=2.8					
MBAR	Mbarara	93.65 270	LR	LR	21 29 30.2	
	comp=Z,129nm,18.8s,baz=137,slow=34					

IDC 17 20:49:27.7±16.0, 20°.94S×174°.33W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/22, mbtmp4.1/5, Error ellipse: s-maj=314.7km s-min=136.8km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.86	264	P	P	20 56 38.9	+0.8
	1.1nm,0.3s,baz=60,slow=8.1,SNR=4.3						
STKA	Stephens Creek	40.70	245	P	P	20 57 09.8	-0.4
	1.4nm,0.4s,baz=85,slow=11,SNR=12						
ASAR	Alice Springs	47.76	257	P	P	20 58 06.2	-0.7
	1.6nm,0.7s,baz=99,slow=7.1,SNR=24						
WRA	Warramunga Arr	47.94	262	P	P	20 58 07.6	-0.7
	0.7nm,0.3s,baz=96,slow=8.3,SNR=31						
FITZ	Fitzroy Crossi	56.37	262	P	P	20 59 11.6	+0.5
	0.6nm,0.3s,baz=76,slow=8.1,SNR=12						

IDC 17 20:52:41.1±2.0, 13°.92N×92°.97E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/28, mbtmp3.4/4, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/35, Error ellipse: s-maj=60.9km s-min=26.3km az=67.0
ISCJB 17 20:52:44.2±1.0, 14°.19N±0°.09×93°.26E±0°.08, h32km, mb3.5/3, MS3.8/1, Error ellipse: s-maj=13.8km s-min=10.5km az=24.4
ISC 17 20:52:45.7±1.2, 14°2N±0°.1×93°2E±0°.1, h32km, n11, σ1§44/10, mb3.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.98	52	Pn	Pn	20 54 29.0	+3.2
	0.6nm,0.3s,baz=240,slow=15,SNR=16						
CMAR				Sn	Sn	20 55 43.8	-0.4
	0.5nm,0.3s,baz=247,slow=20,SNR=9.9						
ODAN	Odare	13.74 338		eP	Pn	20 55 59.0	+0.4
RAMN	Ramite	14.12 336		eP	Pn	20 56 05.0	+1.1
JIRN	Jiri	14.92 335		eP	Pn	20 56 12.9	-1.9
PKI	Pulchoki	15.18 333		eP	Pn	20 56 18.4	+0.3
	4.2nm,0.3s						
PKIN	Phulchoki	15.19 333		eP	Pn	20 56 18.6	+0.4
	6.4nm,0.3s						
KOLN	Koldanda	16.21 328		eP	P	20 56 31.9	-2.3
	4.9nm,0.3s						
MKAR	Makanchi Array	33.78 346		P	P	20 59 26.6	+1.9
	0.2nm,0.8s,baz=158,slow=8.5,SNR=2.3						
FITZ	Fitzroy Crossi	45.31 124		P	P	21 01 00.7	-0.2
	1.1nm,0.6s,baz=333,slow=9.0,SNR=5.3						
ASAR	Alice Springs	54.77 133		P	P	21 02 12.8	+0.1
	0.2nm,0.6s,baz=308,slow=6.9,SNR=6.1						
KMBO	Kilima Mbogo	57.42 259		LR	LR	21 26 08.9	
	comp=Z,71nm,19.6s,baz=275,slow=35						

IDC 17 20:56:38.0±0.7, 1°.46S×99°.44E, h0km, mb4.0/16, mb1 4.0/18, mb1mx3.9/29, mbtmp3.9/18, ML3.5/2, Error ellipse: s-maj=31.4km s-min=13.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.27	353	Pn	Pn	20 57 44.5	+0.1
	1.0nm,0.3s,baz=202,slow=10.0,SNR=3.5						
CMAR	Chiang Mai Arr	19.80	359	P	P	21 01 10.9	+0.7
	0.1nm,0.3s,baz=182,slow=10,SNR=4.9						
FITZ	Fitzroy Crossi	30.58	124	P	P	21 02 54.0	+0.2
	0.5nm,0.5s,baz=344,slow=7.4,SNR=4.3						
WRA	Warramunga Arr	38.75	121	P	P	21 04 03.2	-1.3
	1.1nm,0.7s,baz=302,slow=9.0,SNR=9.0						
WRA				PcP	PcP	21 06 16.4	+0.1
	0.4nm,0.5s,baz=316,slow=2.4,SNR=4.9						
ASAR	Alice Springs	40.02	126	P	P	21 04 15.0	-0.1
	0.7nm,0.5s,baz=302,slow=8.0,SNR=13						
KSRS	Korea Array	46.85	31	P	P	21 05 09.2	-0.8
	0.5nm,0.4s,baz=224,slow=7.5,SNR=3.2						
SONM	Songino Array	49.47	6	P	P	21 05 30.4	+0.2
	0.5nm,0.4s,baz=191,slow=9.3,SNR=4.9						
SONM				PcP	PcP	21 06 52.5	+0.1
	0.6nm,0.6s,baz=181,slow=4.2,SNR=3.2						
STKA	Stephens Creek	49.93	132	P	P	21 05 34.9	+1.0
	1.1nm,0.8s,baz=325,slow=9.2,SNR=3.2						
MKAR	Makanchi Array	50.37	345	P	P	21 05 37.5	+0.6
	3.3nm,0.6s,baz=151,slow=8.3,SNR=35						
USRK	Ussuriysk Arra	53.96	29	P	P	21 06 02.7	-0.9
	1.9nm,0.7s,baz=231,slow=4.8,SNR=5.3						
KURBB	Kurchatov Arra	54.88	344	P	P	21 06 10.1	-0.2
	1.1nm,0.7s,baz=166,slow=7.2,SNR=12						
KURBB				PcP	PcP	21 07 12.8	+0.4
	0.1nm,0.3s,baz=160,slow=3.9,SNR=4.2						
ZALV	Zalesovo Beam	56.54	350	P	P	21 06 21.9	-0.2
	1.4nm,0.4s,baz=158,slow=5.7,SNR=10						
MIB	Mutribah	58.58	307	eP	P	21 06 36.5	-0.5
MIB				AMb	AMB	21 06 38.5	
	comp=Z,14nm,0.9s						
RST	Umm Al-Ruwaisa	58.74	306	eP	P	21 06 37.1	-1.0
RST				AMb	AMB	21 06 38.8	
	comp=Z,77nm,0.8s						
KBZ	Khabaz	67.53	319	P	P	21 07 36.2	-0.1
	comp=Z,2.1nm,0.7s,baz=105,slow=7.0,SNR=5.9						
BRTR	Keskin Array B	72.55	312	P	P	21 08 05.9	-1.5
	comp=Z,0.5nm,0.5s,baz=139,slow=7.1,SNR=4.7						
FINES	FINESS Array B	83.38	332	P	P	21 09 06.8	-0.1
	comp=Z,1.3nm,0.6s,baz=102,slow=5.8,SNR=14						
GERES	GERESS Array B	88.28	319	P	P	21 09 31.7	0.0
	comp=Z,0.4nm,0.5s,baz=92,slow=5.1,SNR=2.9						
QSPA	South Pole Qui	88.50	180	P	P	21 09 32.9	+0.5
	comp=Z,1.0nm,0.7s,baz=268,slow=3.5,SNR=6.7						
HFS	Hagfors	89.13	330	P	P	21 09 35.4	+0.1
	comp=Z,3.1nm,1.0s,baz=156,slow=7.6,SNR=3.1						
TXAR	Lajitas Array	144.61	36	PKP	PKPbc	21 16 16.8	+0.6
	comp=Z,1.2nm,0.6s,baz=232,slow=1.0,SNR=9.5						

IDC 17 20:58:59.2±5.5, 24°.72N×142°.42E, h78km±50km, mb3.4/6, mb1 3.6/7, mb1mx3.3/26, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=57.9km s-min=20.3km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	12.32	344	P	Pn	21 01 51.5	-0.2
	0.3nm,0.3s,baz=164,slow=11,SNR=4.4						
KSRS	Korea Array	17.72	319	P	Pn	21 03 04.1	+3.3
	0.1nm,0.3s,baz=121,slow=13,SNR=2.8						
CMAR	Chiang Mai Arr	40.77	270	P	P	21 06 33.2	+0.2
	0.5nm,0.6s,baz=59,slow=8.0,SNR=5.7						
WRA	Warramunga Arr	45.09	191	P	P	21 07 07.3	-0.5
	1.3nm,0.9s,baz=13,slow=9.1,SNR=12						
ASAR	Alice Springs	48.81	190	P	P	21 07 37.0	+0.3
	0.3nm,0.7s,baz=19,slow=12,SNR=3.1						
MKAR	Makanchi Array	52.16	311	P	P	21 08 01.6	-0.2
	0.4nm,0.7s,baz=91,slow=8.6,SNR=3.2						
KURBB	Kurchatov Arra	54.86	316	P	P	21 08 21.0	-0.5
	1.1nm,0.5s,baz=92,slow=8.4,SNR=14						
FINES	FINESS Array B	80.16	334	P	P	21 11 01.0	+0.3
	2.7nm,0.9s,baz=72,slow=4.5,SNR=8.3						

IDC 17 21:17:02.3±1.7, 1°.60S×99°.58E, h0km, mb4.1/8, mb1 4.1/10, mb1mx3.8/26, mbtmp3.9/10, ML3.5/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=80.2km s-min=15.7km az=58.0
NEIC 17 21:17:03.7±0.8, 1°.60S×99°.63E, h10km, mb4.2/2, Error ellipse: s-maj=33.4km s-min=6.9km az=59.0
ISCJB 17 21:17:06.2±1.2, 1°.4S±0°.2×99°.9E±0°.3, h33km, mb4.1/10, MS3.7/1, Error ellipse: s-maj=53.3km s-min=9.6km az=148.9
ISC 17 21:17:08.0±1.5, 1°.4S±0°.2×99°.9E±0°.4, h33km, n26, σ0§77/26, mb4.2/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.23	347	Pn	Pn	21 18 10.1	-0.3
PSI	Prapat	4.23	347	Pn	Pn	21 18 10.1	-0.3
	1.0nm,0.3s,baz=175,slow=7.5,SNR=5.3						
PSI				LR	LR	21 19 52.0	
	comp=Z,148nm,18.2s,baz=335,slow=39						
CMAR	Chiang Mai Arr	19.70	357	P	Pn	21 21 35.4	-1.0
CMAR	Chiang Mai Arr	19.70	357	P	Pn	21 21 35.4	-1.0
	0.1nm,0.3s,baz=186,slow=9.9,SNR=11						
WRA	Warramunga Arr	38.42	121	P	P	21 24 26.5	-0.4
WRA	Warramunga Arr	38.42	121	P	P	21 24 26.5	-0.4
	4.0nm,0.8s,baz=302,slow=9.2,SNR=42						
WRAB	Tennant Creek	38.43	121	eP	P	21 24 26.5	-0.4
	4.8nm,0.6s						
AS31	Alice Springs	39.73	127	eP	P	21 24 37.5	-0.3
ASAR	Alice Springs	39.73	127	P	P	21 24 37.6	-0.1
ASAR	Alice Springs	39.73	127	P	P	21 24 37.6	-0.1
	2.1nm,0.6s,baz=302,slow=8.0,SNR=35						
SONM	Songino Array	49.31	6	P	P	21 25 55.7	+1.7
SONM	Songino Array	49.31	6	P	P	21 25 55.7	+1.7
	0.3nm,0.6s,baz=171,slow=10,SNR=3.9						
ULN	Ulaanbaatar	49.41	6	eP	P	21 25 55.3	+0.5
	0.7nm,0.4s						
STKA	Stephens Creek	49.67	132	P	P	21 25 57.1	+0.3
	3.8nm,0.8s,baz=296,slow=8.6,SNR=9.1						
MK31	Makanchi Array	50.38	344	eP	P	21 26 02.5	+0.5
MKAR	Makanchi Array	50.38	344	P	P	21 26 02.5	+0.4
MKAR	Makanchi Array	50.38	344	P	P	21 26 02.5	+0.4
	1.0nm,0.6s,baz=152,slow=7.7,SNR=12						
KURBB	Kurchatov Arra	54.90	344	P	P	21 26 36.6	+1.2
	0.6nm,0.2s,baz=163,slow=7.8,SNR=4.4						
KURK	Kurchatov	54.95	344	P	P	21 26 36.6	+0.8
ZAA0	Zalesovo Array	56.51	349	eP	P	21 26 47.3	+0.4
ZALV	Zalesovo Beam	56.51	349	P	P	21 26 47.3	+0.4
ZALV	Zalesovo Beam	56.51	349	P	P	21 26 47.3	+0.4
	1.3nm,0.6s,baz=161,slow=5.5,SNR=5.5						
FINES	FINESS Array B	83.49	332	P	P	21 29 31.6	-0.6
FINES	FINESS Array B	83.49	332	P	P	21 29 31.6	-0.6
	2.2nm,1.0s,baz=126,slow=9.7,SNR=5.9						
FINES				LR	LR	22 10 19.6	
	comp=Z,34nm,20.6s,baz=211,slow=38						
TXAR	Lajitas Array	144.25	37	PKP	PKPdf	21 36 41.0	-0.5
TXAR	Lajitas Array	144.25	37	PKP	PKPdf	21 36 41.0	-0.5
	0.8nm,0.5s,baz=193,slow=5.1,SNR=5.3						

CSEM 17 21:17:19.7±0.1, 47°.48N×7°.67E, h19km, ML1.7/7
LDG 17 21:17:20.0±0.1, 47°.47N×7°.67E, h14km, Md1.8/2, Ml1.8/5, Error ellipse: s-maj=1.3km s-min=0.9km az=146.0
ZUR 17 21:17:20.1, 47°.50N×7°.67E, h13km, ML1.0/4, 6C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.16	174	ePg	Pg	21 17 24.0	0.0
	143nm,0.2s						
BALST	Balsthal	0.16	174	ePg	Pg	21 17 24.0	0.0
	143nm,0.2s						
SULZ	Cheisacher	0.30	84⇑	iPg	Pg	21 17 26.6	+0.2
	19nm,0.1s						
SULZ	Cheisacher	0.30	84⇑	iPg	Pg	21 17 26.6	+0.2
	19nm,0.1s						
BOURR	Bourrignon	0.32	251⇑	iPg	Pg	21 17 26.9	+0.2
	18nm,0.4s						
BOURR				eSg	Sg	21 17 31.4	+0.3
	18nm,0.4s						
BOURR	Bourrignon	0.32	251⇑	iPg	Pg	21 17 26.9	+0.2
	18nm,0.4s						
BOURR				eSg	Sg	21 17 31.4	+0.3
	18nm,0.4s						
SLE	Schleitheim	0.62	64⇑	iPg	Pg	21 17 32.4	+0.1
	18nm,0.1s						
SLE				eSg	Sg	21 17 40.6	+0.1
	18nm,0.1s						
SLE	Schleitheim	0.62	64⇑	iPg	Pg	21 17 32.4	+0.1
	18nm,0.1s						
SLE				eSg	Sg	21 17 40.6	+0.1
	18nm,0.1s						
HINF	Hinterlafeld	0.64	301	ePg	Pg	21 17 32.9	+0.2
HINF	Hinterlafeld	0.64	301	ePn	Pb	21 17 33.4	+0.2
HINF				eSg	Sg	21 17 40.6	-0.6
HINF				eSn	Sb	21 17 42.6	+0.5
	2.1nm,0.3s						
HINF	Hinterlafeld	0.64	301	ePg	Pg	21 17 32.9	+0.2
HINF	Hinterlafeld	0.64	301	ePn	Pb	21 17 33.4	+0.2
HINF				eSg	Sg	21 17 40.6	-0.6
HINF				eSn	Sb	21 17 42.6	+0.5
	1.0nm,0.3s						
CDF	Champ du Feu	0.95	344	ePn	Pb	21 17 37.9	-0.8
CDF				eSg	Sg	21 17 51.2	-0.1
	2.9nm,0.3s						
CDF	Champ du Feu	0.95	344	ePn	Pb	21 17 37.9	-0.8
CDF				eSg	Sg	21 17 51.2	-0.1
	1.5nm,0.3s						
HAU	Haudompre	1.03	300	ePg	Pb	21 17 39.5	-0.3
HAU				eSg	Sb	21 17 53.2	-0.1
	3.6nm,0.2s						
HAU	Haudompre	1.03	300	ePg	Pb	21 17 39.5	-0.3
HAU				eSg	Sb	21 17 53.2	-0.1
	1.8nm,0.2s						
CABF	La Chapelle	1.40	231	ePg	Pb	21 17 46.0	-0.2
CABF				eSg	Sb	21 18 04.1	+0.1
	0.8nm,0.2s						
CABF	La Chapelle	1.40	231	ePg	Pb	21 17 46.0	-0.2
CABF				eSg	Sb	21 18 04.1	+0.1
	0.4nm,0.2s						
SFTF	Sexfontaines	1.91	293	eSg	Sg	21 18 20.3	-1.3
	0.7nm,0.2s						
SFTF	Sexfontaines	1.91	293	eSg	Sg	21 18 20.3	-1.3
	0.3nm,0.2s						

IDC 17 21:27:52.4±1.0, 13°.91N×92°.92E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, ML3.6/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/41, Error ellipse: s-maj=26.7km s-min=22.1km az=79.0
ISCJB 17 21:27:55.3±0.3, 14°.04N±0°.03×93°.02E±0°.04, h32km, mb4.1/23, MS3.6/3, Error ellipse: s-maj=6.3km s-min=4.8km az=14.5
NEIC 17 21:27:57.3±0.5, 13°.93N×92°.95E, h35km, mb4.0/4, Error ellipse: s-maj=11.3km s-min=7.3km az=162.0
ISC 17 21:27:57.0±0.6, 14°.02N±0°.06×93°.00E±0°.06, h32km, n63, σ1§10/64, mb4.2/23, MS3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.84	185	eP	Pb	21 28 13.4	+0.2
DGPR				eS	Sn	21 28 21.9	-1.9
DGPR				AML	AML	21 28 33.4	
	comp=N,6μm,0.5s						
DGPR				AML	AML	21 28 35.1	
	comp=E,6μm,0.8s						
PBA	Port Blair	2.36	186	eP	Pn	21 28 32.8	-0.8
PBA				eS	Sn	21 28 59.4	-2.1
CMBY	CAMPBELL BAY	7.02	172	e4		21 27 57.6	
CM31	Chiang Mai Arr	7.22	51	ePn	Pn	21 29 42.9	+2.5
	comp=E,2.9nm,0.4s						
CM31				eSn	Sn	21 31 00.4	-1.0
CMAR	Chiang Mai Arr	7.22	51	Pn	Pn	21 29 41.8	+1.3
CMAR				Sn	Sn	21 30 59.5	-1.8
CMAR	Chiang Mai Arr	7.22	51	Pn	Pn	21 29 41.8	+1.3
	comp=E,0.2nm,0.3s,baz=239,slow=15,SNR=10						
CMAR				Sn	Sn	21 30 59.5	-1.8
	comp=E,0.4nm,0.3s,baz=240,slow=28,SNR=8.0						
CHTO	Chiang Mai	7.44	49	ePn	Pn	21 29 43.7	+0.3
	comp=E,8.3nm,0.9s						
CHTO				eSn	Sn	21 31 03.2	-3.6
VIS	Vishakhapatnam	10.01	293	eP	Pn	21 30 17.5	-1.1
VIS				AMb	AMB	21 30 37.5	
	comp=Z,31nm,1.1s						
VIS				ex	x	21 31 59.8	
BOK	Bokaro	11.82	326	eP	Pn	21 30 42.8	-0.8
BOK				AMB	AMB	21 31 05.9	
	comp=Z,8.2nm,2.9s						
PSI	Prapat	12.59	152	LR	LR	21 36 19.4	
	comp=Z,187nm,18.4s,baz=115,slow=40						
ODAN	Odare	13.81	339	eP	Pn	21 31 10.8	-0.1
	comp=Z,6.1nm,0.3s						
RAMN	Ramite	14.19	336	eP	Pn	21 31 15.9	-0.2
	comp=Z,6.3nm,0.3s						
HYB	Hyderabad	14.31	286	iP	P	21 31 25.0	+0.7
HYB				eS	Sn	21 33 55.0	-0.3
NGP	Nagpur	15.07	300	ex	Pn	21 31 23.5	-4.2
NGP				AMB	AMB	21 31 36.5	
	comp=Z,13nm,2.9s						
PKIN	Phulchoki	15.24	333	eP	Pn	21 31 29.2	-1.1
	comp=Z,5.7nm,0.3s						
DMN	Daman	15.40	333	eP	Pn	21 31 30.1	-2.2
KOLN	Koldanda	16.25	329	eP	Pn	21 31 42.9	-0.3
	comp=Z,5.7nm,0.3s						
LATR	Latur	16.38	288	AMB	AMB	21 31 40.7	
	comp=Z,11nm,3.0s						
LATR				eP	Pn	21 31 43.5	-1.2
SMLA	Simla	22.40	322	eP	P	21 32 52.9	+0.1
SMLA				AMB	AMB	21 32 56.1	
	comp=Z,8.0nm,1.4s						
DHRM	DHARAMSHALA	23.71	323	eP	P	21 33 06.8	+0.2
DHRM				AMB	AMB	21 33 08.2	
	comp=Z,11nm,1.3s						
KBL	Kabul	29.77	318	eP	P	21 34 01.4	+0.4
	comp=Z,1.2nm,0.6s						
MK31	Makanchi Array	33.89	347	eP	P	21 34 37.4	+0.5
MKAR	Makanchi Array	33.89	347	P	P	21 34 37.0	+0.2
MKAR	Makanchi Array	33.89	347	P	P	21 34 37.0	+0.2
	comp=Z,2.8nm,0.9s,baz=160,slow=8.5,SNR=22						
MKAR				LR	LR	21 52 17.3	
	comp=Z,35nm,19.1s,baz=162,slow=43						
KKAR	Karatay Array	34.85	331	eP	P	21 34 44.8	-0.4
SONM	Songino Array	35.51	16	P	P	21 34 52.5	+1.5
SONM	Songino Array	35.51	16	P	P	21 34 52.5	+1.5
	comp=Z,1.0nm,0.8s,baz=200,slow=8.2,SNR=6.2						
ULN	Ulaanbaatar	35.72	16	eP	P	21 34 52.4	-0.4
	comp=Z,1.8nm,1.1s						
KURBB	Kurchatov Arra	38.36	345	P	P	21 35 16.2	+1.2
	comp=Z,2.9nm,0.8s,baz=162,slow=8.0,SNR=22						
KURK	Kurchatov	38.42	345	P	P	21 35 16.2	+0.7
ZALV	Zalesovo Beam	40.36	353	P	P	21 35 32.4	+0.7
ZALV	Zalesovo Beam	40.36	353	P	P	21 35 32.4	+0.7
	comp=Z,1.8nm,0.7s,baz=169,slow=8.8,SNR=9.9						
ABKAR	Akbulak array	44.37	329	eP	P	21 36 04.8	+0.4
	comp=Z,3.2nm,0.8s						
ASAR	Alice Springs	54.79	133	P	P	21 37 23.8	-0.4
ASAR	Alice Springs	54.79	133	P	P	21 37 23.8	-0.4
	comp=Z,0.7n

σ0975/31, **mb3.9**/18, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.27**	**204**	*e*Pn	**P**	**21 34 44.0**	**-0.7**
	3.8nm,0.7s						
WRA	**Warramunga Arr**	**18.28**	**204**	P	**Pn**	**21 34 46.4**	**+1.4**
WRA	**Warramunga Arr**	**18.28**	**204**	P	**Pn**	**21 34 46.4**	**+1.4**
	0.3nm,0.3s,baz=29,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.84**	**200**	P	**P**	**21 35 23.4**	**-0.1**
ASAR	**Alice Springs**	**21.84**	**200**	P	**P**	**21 35 23.4**	**-0.1**
	0.6nm,0.7s,baz=29,slow=11,SNR=8.8						
FITZ	**Fitzroy Crossi**	**21.84**	**226**	P	**P**	**21 35 23.7**	**+0.1**
	5.3nm,1.0s,baz=63,slow=8.4,SNR=7.2						
STKA	**Stephens Creek**	**28.57**	**181**	P	**P**	**21 36 25.9**	**-1.0**
	2.8nm,1.0s,baz=336,slow=10.0,SNR=3.0						
PSI	**Prapat**	**43.45**	**277**	P	**P**	**21 38 33.2**	**-1.1**
PSI	**Prapat**	**43.45**	**277**	P	**P**	**21 38 33.2**	**-1.1**
	1.8nm,0.6s,baz=65,slow=10,SNR=3.6						
ENH	**Enshi**	**45.48**	**319**	*e*P	**P**	**21 38 49.8**	**-0.4**
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**47.51**	**299**	P	**P**	**21 39 06.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**47.51**	**299**	P	**P**	**21 39 06.0**	**-0.2**
	0.5nm,0.8s,baz=125,slow=6.1,SNR=4.7						
USRK	**Ussuriysk Arra**	**47.99**	**350**	P	**P**	**21 39 09.6**	**+0.1**
	2.0nm,0.8s,baz=186,slow=8.7,SNR=6.6						
SONM	**Songino Array**	**59.56**	**333**	P	**P**	**21 40 35.6**	**+1.3**
SONM	**Songino Array**	**59.56**	**333**	P	**P**	**21 40 35.6**	**+1.3**
	0.3nm,0.5s,baz=164,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**72.15**	**321**	P	**P**	**21 41 56.4**	**+1.0**
MKAR	**Makanchi Array**	**72.15**	**321**	P	**P**	**21 41 56.4**	**+1.0**
	1.0nm,0.8s,baz=115,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**73.98**	**329**	P	**P**	**21 42 05.7**	**-0.2**
ZALV	**Zalesovo Beam**	**73.98**	**329**	P	**P**	**21 42 05.7**	**-0.2**
	0.4nm,0.4s,baz=123,slow=5.5,SNR=3.3						
TKM2	**Tokmak 2**	**75.13**	**316**	*e*P	**P**	**21 42 13.7**	**+0.6**
	2.1nm,0.6s						
KURK	**Kurchatov**	**75.97**	**324**	P	**P**	**21 42 18.0**	**+0.5**
KURBB	**Kurchatov Arra**	**75.99**	**324**	P	**P**	**21 42 18.0**	**+0.4**
	0.7nm,0.7s,baz=112,slow=5.4,SNR=7.2						
EKS2	**Erkin-Say**	**76.32**	**315**	*e*P	**P**	**21 42 19.5**	**-0.3**
	1.7nm,0.7s						
KBL	**Kabul**	**77.82**	**306**	*e*P	**P**	**21 42 28.6**	**0.0**
	1.2nm,0.6s						
KKAR	**Karatay Array**	**78.75**	**315**	*e*P	**P**	**21 42 33.4**	**+0.1**
	0.7nm,0.8s						
BRVK	**Borovoye**	**81.63**	**325**	*e*P	**P**	**21 42 48.5**	**-0.1**
	2.6nm,1.0s						
ILAR	**Eielson Array**	**84.89**	**24**	P	**P**	**21 43 04.5**	**-0.6**
ILAR	**Eielson Array**	**84.89**	**24**	P	**P**	**21 43 04.5**	**-0.6**
	1.4nm,0.7s,baz=255,slow=5.0,SNR=11						
ABKAR	**Akbulak array**	**87.18**	**319**	*e*P	**P**	**21 43 16.7**	**0.0**
	0.6nm,0.7s						
LPAZ	**La Paz**	**144.51**	**124**	*e*PKPdf	**PKPdf**	**21 50 09.0**	**+0.2**
LPAZ	**La Paz**	**144.51**	**124**	PKP	**PKPdf**	**21 50 09.5**	**+0.7**
	2.0nm,0.7s,baz=255,slow=2.7,SNR=10						

BJI ***17*** *21:58:42.6, 36.°68N×140.°88E, h39km, mB4.8/28, mb4.7/41, Ms4.2/22, Ms7 4.1/20*

MOS ***17*** *21:58:55.2±0.9, 37.°11N×140.°12E, h91km, mb4.7/32, Error ellipse: s-maj=7.8km s-min=5.5km az=112.8*

ISCJB ***17*** *21:58:55.6±0.3, 36.°94N±0.°04×140.°05E±0.°03, h100km±2km, mb4.5/90, Error ellipse: s-maj=6.6km s-min=4.0km az=157.8*

JMA ***17*** *21:58:55.9±0.1, 36.°86N×140.°22E, h92km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕs173.00000°, δ77.00000°, λ95.00000°. NP2: ϕs332.00000°, δ14.00000°, λ69.00000°. Principal axes: T Plg58.0000°, Azm90.0000°; N Plg5.0000°, Azm352.0000°; P Plg32.0000°, Azm259.0000°;*

JMA Felt III J1.

NEIC ***17*** *21:58:55.8±0.7, 37.°00N×139.°95E, h86km±6km, mb4.6/41, MW4.4(NIED) Error ellipse: s-maj=7.7km s-min=4.4km az=155.0*

NEIC Felt at Ayase, Maebashi, Narita, Tokyo and Tsukuba. Recorded [3 JMA] in Fukushima, Ibaraki and Tochigi; [2 JMA] in Chiba and Gumma; [1 JMA] in Miyagi, Saitama and Tokyo.

IDC ***17*** *21:58:56.3±0.5, 36.°98N×140.°12E, h93km±4km, mb4.0/24, mb1 4.2/27, mb1mx4.2/33, mbtmp4.1/27, MS3.3/10, Ms1 3.4/10, ms1mx3.1/48, Error ellipse: s-maj=10.9km s-min=7.1km az=151.0*

NIED ***17*** *21:59:00, 36.°90N×140.°20E, h95km, Mw4.5 Best double couple: M0:5.93000×10^15 NP1:ϕs182.00000°, δ80.00000°, λ83.00000°. NP2:ϕs38.00000°, δ12.00000°, λ126.00000°.*

ISC 17 21:58:55.8±0.4, 36.°96N±0.°04×140.°13E±0.°04, h92km±3km, n414, σ1§23/449, mb4.6/101, 95C-83D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.17**	**273**	⇑P	**Pn**	**21 59 09.5**	**+0.5**
JSB				S	**Sn**	**21 59 19.8**	**+1.0**
JFY	**Yanaizu**	**0.56**	**323**	S	**Sn**	**21 59 24.6**	**+1.7**
JFT	**Otama**	**0.58**	**17**	S	**Sn**	**21 59 24.6**	**+1.4**
JFK	**Kawauchi**	**0.72**	**56**	S	**Sn**	**21 59 25.3**	**-0.1**
JKT	**Katashina**	**0.73**	**255**	⇑P	**Pn**	**21 59 13.7**	**+0.8**
JKT				S	**Sn**	**21 59 27.3**	**+1.6**
JAG	**Ashikaga**	**0.76**	**226**	⇑P	**Pn**	**21 59 13.3**	**+0.2**
JAG				S	**Sn**	**21 59 26.3**	**+0.3**
JHK	**Hiroka**	**0.93**	**288**	⇑P	**Pn**	**21 59 16.1**	**+1.2**
JHK				S	**Sn**	**21 59 31.1**	**+1.9**
JMM	**Marumori**	**1.05**	**30**	S	**Sn**	**21 59 32.4**	**+0.9**
JNS	**Sasagawa**	**1.07**	**323**	⇑P	**Pn**	**21 59 17.6**	**+1.1**
JNS				S	**Sn**	**21 59 34.0**	**+2.0**
MJAR	**Matsushiro Arr**	**1.60**	**255**	P	**Pn**	**21 59 23.8**	**+0.9**
MJAR				S	**Sn**	**21 59 44.1**	**+0.7**
MJAR	**Matsushiro Arr**	**1.60**	**255**	P	**Pn**	**21 59 23.8**	**+0.9**
	155nm,0.3s,baz=77,slow=14,SNR=2321						
MJAR				S	**Sn**	**21 59 44.1**	**+0.7**
	102nm,0.3s,baz=355,slow=33,SNR=9.4						
ERM	**Erimo**	**5.57**	**24**	*e*P	**Pn**	**22 00 14.7**	**-1.3**
ERM				pmax	pmax		
	comp=Z,29nm,0.7s						
ERM	**Erimo**	**5.57**	**24**	*e*Pn	**Pn**	**22 00 14.7**	**-1.3**
ERM				*e*Sn	**Sn**	**22 01 15.7**	**-2.9**
ASAJ	**Asahikawa**	**7.39**	**14**	*e*Pn	**Pn**	**22 00 39.9**	**-1.0**
ASAJ				*e*Sn	**Sn**	**22 02 02.4**	**-0.7**
ASAJ	**Asahikawa**	**7.39**	**14**	P	**Pn**	**22 00 39.7**	**-1.2**
	comp=Z,4.7nm,0.3s,baz=211,slow=12,SNR=35						
ASAJ				S	**Sn**	**22 02 00.7**	**-2.4**
	comp=Z,1.1nm,0.3s,baz=265,slow=32,SNR=3.0						
YUK	**Yuzh-Kuril'sk**	**8.31**	**30**	*c i*P	**Pn**	**22 00 51.6**	**-1.7**
YUK				*i* S	Sn	22 02 18.4	-7.0
YUK				pmax	pmax		
	comp=E,11nm,0.3s						
YUK				pmax	pmax		
	comp=N,14nm,0.1s						
YUK				pmax	pmax		
	comp=Z,67nm,0.3s						
JNU	**Nakatsue**	**8.49**	**246**	*e*Pn	**Pn**	**22 00 56.2**	**+0.2**
JNU	**Nakatsue**	**8.49**	**246**	P	**Pn**	**22 00 57.2**	**+1.2**
	comp=Z,3.4nm,0.3s,baz=46,slow=12,SNR=19						
VLA	**Vladivostok**	**8.82**	**317**	*e*P	**Pn**	**22 01 00.7**	**+0.4**
USRK	**Ussuriysk Arra**	**9.52**	**322**	P	**Pn**	**22 01 11.9**	**+2.1**
	comp=Z,3.6nm,0.3s,baz=136,slow=12,SNR=61						
KSRS	**Korea Array**	**9.75**	**277**	P	Pn	22 01 16.2	+3.1
	comp=Z,1.1nm,0.3s,baz=87,slow=13,SNR=75						
KSRS				LR	LR	22 04 47.2	
	comp=Z,201nm,20.6s,baz=164,slow=36						
KSAR	**Wonju Array Be**	**9.78**	**277**	P	**Pn**	**22 01 16.2**	**+2.7**
YSS	**Yuzh-Sakhalins**	**10.18**	**10**	*e*P	**Pn**	**22 01 19.4**	**+0.6**
TJN	**Taejon**	**10.27**	**271**	*e*P	**Pn**	**22 01 21.4**	**+1.3**
MDJ	**Mudanjiang**	**11.05**	**317**	P	Pn	22 01 34.0	+3.3
MDJ				pmax	pmax		
	comp=Z,22nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,48nm,4.4s						
MDJ	**Mudanjiang**	**11.05**	**317**	Pn	Pn	22 01 27.1	-3.6
	comp=Z,12nm,0.8s						
CN2	**Changchun**	**13.10**	**306**	*e*P	**Pn**	**22 01 58.8**	**+0.6**
CN2				*e*PP	P	22 02 09.8	+5.0
CN2				*e*S	**Sn**	**22 04 22.9**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**13.69**	**336**	*e*P	**P**	**22 02 11.8**	**+0.4**
BJI	**Beijing**	**18.99**	**287**	P	**P**	**22 03 07.5**	**-2.4**
BJI				pmax	pmax		
	comp=Z,19nm,0.7s						
BJT	**Baijiatuan**	**18.99**	**287**	P	**P**	**22 03 08.4**	**-1.6**
	comp=Z,35nm,0.5s						
PEA0B	**Petropavlovsk-**	**20.28**	**32**	*e*P	**P**	**22 03 23.9**	**+0.1**
PETK	**Petropavlovsk-**	**20.28**	**32**	P	**P**	**22 03 24.4**	**+0.6**
PETK	**Petropavlovsk-**	**20.28**	**32**	P	**P**	**22 03 24.4**	**+0.6**
PETK	**Petropavlovsk-**	**20.28**	**32**	P	**P**	**22 03 24.4**	**+0.6**
	comp=Z,9.1nm,0.9s,baz=206,slow=9.9,SNR=14						
PETK				LR	LR	22 10 33.0	
	comp=Z,32nm,22.0s,baz=141,slow=34						
PET	**Petropavlovsk**	**20.63**	**33**	*e*P	**P**	**22 03 28.3**	**+0.8**
YULB	**Yu-li**	**21.11**	**235**	*e*P	P	22 03 28.2	-4.8
	comp=Z,5.9nm,0.6s						
TPUB	**Ta-pu**	**21.62**	**236**	*e*P	**P**	**22 03 34.4**	**-4.0**
	comp=Z,16nm,0.6s						
TWG	**Pinlang**	**21.66**	**235**	P	**P**	**22 03 36.9**	**-1.9**
	comp=Z,82nm,0.3s						
WHN	**Wuhan**	**22.33**	**261**	⇑P	**P**	**22 03 44.8**	**-1.1**
CLNS	**Chul'man**	**22.35**	**338**	*e*P	**P**	**22 03 46.4**	**+0.5**
CLNS				pmax	pmax		
	comp=Z,11nm,0.8s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**22.52**	**289**	*e*P	**P**	**22 03 44.0**	**-3.9**
HHC				pP	pP	22 03 55.4	-11
HHC				sP	sP	22 04 00.6	-17
HHC				PP	**PnPn**	**22 04 12.4**	**-3.5**
HHC				S	**S**	**22 07 42.8**	**-5.7**
HHC				pmax	pmax		
	comp=Z,40nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.7s						
HHC				LR	LR		
	comp=N,140nm,8.8s						
HHC				LR	LR		
	comp=E,210nm,9.3s						
HHC				LR	LR		
	comp=Z,200nm,11.8s						
ENH	**Enshi**	**26.30**	**264**	*e*P	**P**	**22 04 21.1**	**-1.6**
	comp=Z,33nm,0.6s						
ULN	**Ulaanbaatar**	**26.55**	**305**	*e*P	**P**	**22 04 24.4**	**-0.5**
	comp=Z,14nm,0.9s						
SONM	**Songino Array**	**26.98**	**304**	P	**P**	**22 04 27.9**	**-0.9**
SONM	**Songino Array**	**26.98**	**304**	P	**P**	**22 04 27.9**	**-0.9**
	comp=Z,22nm,0.7s,baz=108,slow=8.3,SNR=100						
SONM				LR	LR	22 14 29.8	
	comp=Z,38nm,20.7s,baz=291,slow=35						
LZH	**Lanzhou**	**29.06**	**279**	*e*P	**P**	**22 04 45.3**	**-2.2**
LZH				pP	pP	22 04 56.8	-12
LZH				sP	sP	22 05 02.5	-17
LZH				PP	**PnPn**	**22 05 39.5**	**-4.7**
LZH				*e*S	**S**	**22 09 30.3**	**-2.2**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,4.9s						
LZH				LR	LR		
	comp=N,390nm,12.0s						
LZH				LR	LR		
	comp=E,370nm,13.5s						
LZH				LR	LR		
	comp=Z,570nm,16.5s						
TLY	**Talaya**	**29.61**	**311**	*i* P	**P**	**22 04 51.9**	**-0.1**
GYA	**Guiyang**	**30.19**	**259**	⇑*i* P	**P**	**22 04 56.1**	**-1.5**
GYA				pP	pP	22 05 08.8	-10
GYA				sP	sP	22 05 15.3	-14
GYA				PP	**PnPn**	**22 05 55.4**	**-3.6**
GYA				S	**S**	**22 09 51.0**	**+0.7**
GYA				sS	sS	22 10 11.4	-15
GYA				ScP	**ScP**	**22 11 36.8**	**+6.4**
GYA				ScS	**ScS**	**22 15 31.0**	**+4.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,510nm,16.8s						
GYA				LR	LR		
	comp=E,460nm,17.0s						
GYA				LR	LR		
	comp=Z,520nm,16.5s						
CD2	**Chengdu**	**30.64**	**269**	*e*P	**P**	**22 05 01.1**	**-0.3**
CD2				pP	pP	22 05 12.3	-10
CD2				sP	sP	22 05 17.5	-16
CD2				PP	**PnPn**	**22 06 01.8**	**-2.9**
CD2				S	**S**	**22 09 58.3**	**+1.2**
CD2				sS	sS	22 10 17.3	-16
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,100nm,4.6s						
CD2				LR	LR		
	comp=N,180nm,16.8s						
CD2				LR	LR		
	comp=Z,190nm,10.2s						
GTA	**Gaotai**	**31.60**	**287**	*e*P	**P**	**22 05 09.6**	**-0.2**
GTA				pP	pP	22 05 21.3	-10
GTA				sP	sP	22 05 27.3	-14
GTA				S	**S**	**22 10 13.3**	**+1.2**
GTA				sS	sS	22 10 33.0	-15
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,5.0s						
GTA				LR	LR		
	comp=N,59nm,14.3s						
GTA				LR	LR		
	comp=E,79nm,14.3s						
GTA				LR	LR		
	comp=Z,79nm,15.4s						
QIZ	**Qiongzhong**	**31.96**	**244**	P	**P**	**22 05 11.3**	**-1.7**
QIZ				S	**S**	**22 10 19.4**	**+1.6**
QIZ				LR	LR		
	comp=N,98nm,8.7s						
QIZ				LR	LR		
	comp=Z,76nm,13.2s						
KMI	**Kunming**	**33.93**	**260**	P	**P**	**22 05 29.0**	**-1.4**
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
HVS	**Khovu-Aksy**	**35.63**	**308**	*e*P	**P**	**22 05 43.9**	**-0.7**
HVS				pmax	pmax		
	comp=Z,18nm,1.0s						
KRAR	**Krasnoyarsk**	**36.81**	**316**	*e*P	**P**	**22 05 54.6**	**+0.2**
WMQ	**Urumqi**	**39.95**	**297**	P	**P**	**22 06 22.0**	**+0.9**
WMQ				sP	sP	22 06 37.9	-15
WMQ				PP	**PnPn**	**22 07 58.9**	**+0.2**
WMQ				S	**S**	**22 12 23.5**	**+4.0**
WMQ				sS	sS	22 12 42.4	-14
WMQ				pmax	pmax		
	comp=Z,18nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,58nm,5.0s						
CHTO	**Chiang Mai**	**40.28**	**255**	*e*P	**P**	**22 06 23.3**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	**Chiang Mai**	**40.28**	**255**	*e*P	**P**	**22 06 23.3**	**-0.6**
	comp=Z,4.2nm,0.7s						
CM31	**Chiang Mai Arr**	**40.48**	**254**	*e*P	**P**	**22 06 23.4**	**-2.2**
	comp=Z,2.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.48**	**254**	P	**P**	**22 06 25.2**	**-0.4**
CMAR				pP	**pP**	**22 06 47.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.48**	**254**	P	**P**	**22 06 25.2**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=49,slow=6.3,SNR=14						
CMAR				pP	**pP**	**22 06 47.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=52,slow=8.3,SNR=1.5						
CMAR				LR	LR	22 23 52.4	
	comp=Z,72nm,18.3s,baz=345,slow=37						
LSA	**Lhasa**	**41.19**	**275**	*e*P	**P**	**22 06 30.5**	**-1.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	**Lhasa**	**41.19**	**275**	*e*P	**P**	**22 06 30.5**	**-1.4**
	comp=Z,6.6nm,0.7s						
ZAA0	**Zalesovo Array**	**41.20**	**312**	*e*P	**P**	**22 06 30.7**	**-0.4**
ZALV	**Zalesovo Beam**	**41.20**	**312**	*i* P	**P**	**22 06 31.1**	**0.0**
ZALV				pmax	pmax		
	comp=Z,15nm,0.6s						
ZALV	**Zalesovo Beam**	**41.20**	**312**	P	**P**	**22 06 31.1**	**0.0**
ZALV				ScP	**ScP**	**22 12 08.7**	**-1.1**
ZALV	**Zalesovo Beam**	**41.20**	**312**	P	**P**	**22 06 31.1**	**0.0**
	comp=Z,15nm,0.6s,baz=90,slow=6.8,SNR=68						
ZALV				ScP	**ScP**	**22 12 08.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=111,slow=6.3,SNR=3.2						
ZALV				LR	LR	22 25 55.3	
	comp=Z,17nm,18.7s,baz=71,slow=39						
NVS	**Novosibirsk**	**42.15**	**314**	*e*P	**P**	**22 06 38.4**	**-0.4**
MK31	**Makanchi Array**	**43.29**	**302**	*i* P	**P**	**22 06 48.2**	**0.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MK31	**Makanchi Array**	**43.29**	**302**	*e*P	**P**	**22 06 48.2**	**0.0**
MKAR	**Makanchi Array**	**43.29**	**302**	*c e*P	**P**	**22 06 48.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MKAR	**Makanchi Array**	**43.29**	**302**	*e*P	**P**	**22 06 48.4**	**+0.2**
MKAR				pP	**pP**	**22 07 10.8**	**+0.7**
MKAR	**Makanchi Array**	**43.29**	**302**	P	**P**	**22 06 48.5**	**+0.3**
	comp=Z,7.1nm,0.7s,baz=89,slow=9.8,SNR=74						
MKAR				pP	**pP**	**22 07 10.7**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=46,slow=14,SNR=2.6						
MKAR				LR	LR	22 24 33.8	
	comp=Z,22nm,19.8s,baz=277,slow=36						
KSM	**Kuching**	**44.77**	**225**	*e*P	**P**	**22 07 00.2**	**0.0**
	comp=Z,10nm,0.7s						
TAPN	**Taplejung**	**44.92**	**273**	*e*P	**P**	**22 07 01.7**	**-0.1**
	comp=Z,21nm,0.6s						
ODAN	**Odare**	**45.39**	**273**	*e*P	**P**	**22 07 05.3**	**-0.1**
	comp=Z,27nm,0.6s						
RAMN	**Ramite**	**45.98**	**273**	*e*P	**P**	**22 07 10.1**	**0.0**
	comp=Z,95nm,0.7s						
JIRN	**Jiri**	**46.00**	**275**	*e*P	**P**	**22 07 10.8**	**+0.4**
	comp=Z,44nm,0.7s						
GUN	**Gumba**	**46.14**	**275**	*e*P	**P**	**22 07 11.4**	**0.0**
	comp=Z,29nm,0.4s						
SVW2	**Sparrevohn**	**46.20**	**37**	*e*P	**P**	**22 07 13.3**	**+2.2**
	comp=Z,7.0nm,0.6s						
PKI	**Pulchoki**	**46.66**	**275**	*e*P	**P**	**22 07 15.2**	**-0.3**
	comp=Z,31nm,0.9s						
PKIN	**Phulchoki**	**46.67**	**275**	*e*P	**P**	**22 07 15.1**	**-0.4**
	comp=Z,8.7nm,0.5s						
KKN	**Kakani**	**46.67**	**275**	*e*P	**P**	**22 07 15.5**	**+0.1**
	comp=Z,37nm,0.7s						
DMN	**Daman**	**46.88**	**275**	*e*P	**P**	**22 07 17.0**	**-0.2**
	comp=Z,15nm,0.7s						
RSO	**Redoubt South**	**47.60**	**38**	*e*P	**P**	**22 07 24.8**	**+2.6**
DANN	**Dangsing**	**47.64**	**277**	*e*P	**P**	**22 07 23.5**	**+0.4**
	comp=Z,124nm,0.7s						
KOLN	**Koldanda**	**48.02**	**276**	*e*P	**P**	**22 07 26.0**	**+0.1**
	comp=Z,17nm,0.6s						
ULHL	**Ulahol**	**48.49**	**297**	*i* P	**P**	**22 07 29.8**	**+0.5**
ULHL	**Ulahol**	**48.49**	**297**	P	**P**	**22 07 29.8**	**+0.5**
	SNR=5.3						
TKM2	**Tokmak 2**	**48.76**	**298**	*i* P	**P**	**22 07 31.6**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,16nm,0.6s						
TKM2	**Tokmak 2**	**48.76**	**298**	P	**P**	**22 07 32.4**	**+1.0**
	SNR=43						
TKM2	**Tokmak 2**	**48.76**	**298**	*e*P	**P**	**22 07 32.4**	**+1.0**
	comp=Z,19nm,0.6s						
KZA	**Kyzart**	**49.24**	**297**	*i* P	**P**	**22 07 36.7**	**+1.4**
KZA	**Kyzart**	**49.24**	**297**	P	**P**	**22 07 36.7**	**+1.4**
	SNR=8.3						
KBK	**Karagaybulak**	**49.29**	**298**	*i* P	**P**	**22 07 36.1**	**+0.7**
KBK	**Karagaybulak**	**49.29**	**298**	P	**P**	**22 07 36.1**	**+0.7**
	SNR=22						
CHMS	**Chumysh**	**49.33**	**298**	*i* P	**P**	**22 07 35.9**	**+0.4**
CHMS	**Chumysh**	**49.33**	**298**	P	**P**	**22 07 35.9**	**+0.4**
	SNR=9.0						
USP	**Ospenovka**	**49.44**	**299**	*i* P	**P**	**22 07 36.6**	**+0.2**
USP	**Ospenovka**	**49.44**	**299**	P	**P**	**22 07 36.6**	**+0.2**
	SNR=16						
KSH	**Kashi**	**49.49**	**294**	P	P	22 07 40.9	+3.9
KSH				sP	sP	22 07 53.9	-16
KSH				PP	**PP**	**22 09 35.9**	**+4.1**
KSH				S	S	22 14 45.1	+7.5
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,71nm,4.2s						
KSH				LR	LR		
	comp=N,70nm,4.7s						
KSH				LR	LR		
	comp=E,54nm,4.9s						
KSH				LR	LR		
	comp=Z,75nm,5.0s						
AAK	**Ala-Archa**	**49.62**	**298**	*i* P	**P**	**22 07 38.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,23nm,0.8s						
AAK	**Ala-Archa**	**49.62**	**298**	P	**P**	**22 07 38.4**	**+0.4**
	SNR=5.3						
AAK	**Ala-Archa**	**49.62**	**298**	*e*P	**P**	**22 07 37.8**	**-0.2**
	comp=Z,12nm,0.6s						
AAK	**Ala-Archa**	**49.62**	**298**	LR	LR	22 31 00.3	
	comp=Z,42nm,18.9s,baz=191,slow=39						
SML	**Sawmill**	**49.66**	**36**	*e*P	**P**	**22 07 38.3**	**+0.5**
SML				pmax	pmax		
	comp=Z,13nm,1.8s						
SML	**Sawmill**	**49.66**	**36**	*e*P	**P**	**22 07 38.3**	**+0.5**
	comp=Z,13nm,1.8s						
BRVK	**Borovoye**	**49.92**	**312**	*d i*P	**P**	**22 07 39.7**	**0.0**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	**Borovoye**	**49.92**	**312**	*e*P	**P**	**22 07 39.8**	**0.0**
	comp=Z,7.4nm,0.8s						
ILAR	**Eielson Array**	**50.11**	**32**	P	**P**	**22 07 41.5**	**+0.4**
ILAR				pP	**pP**	**22 08 03.5**	**0.0**
ILAR	**Eielson Array**	**50.11**	**32**	P	**P**	**22 07 41.5**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=272,slow=6.2,SNR=32						
ILAR				pP	**pP**	**22 08 03.5**	**0.0**
	comp=Z,1.7nm,0.7s,baz=273,slow=6.5,SNR=4.5						
EKS2	**Erkin-Say**	**50.12**	**298**	*e*P	**P**	**22 07 41.9**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
EKS2	**Erkin-Say**	**50.12**	**298**	P	**P**	**22 07 41.9**	**+0.3**
	SNR=15						
EKS2	**Erkin-Say**	**50.12**	**298**	*e*P	**P**	**22 07 41.9**	**+0.3**
	comp=Z,8.6nm,0.6s						
AML	**Almayashu**	**50.33**	**298**	*i* P	**P**	**22 07 44.7**	**+1.1**
AML	**Almayashu**	**50.33**	**298**	P	**P**	**22 07 44.7**	**+1.1**
	SNR=22						
PSI	**Prapat**	**50.88**	**238**	LR	LR	22 31 38.5	
	comp=Z,94nm,18.1s,baz=255,slow=38						
KK31	**Karatay Array**	**52.27**	**300**	*i* P	**P**	**22 07 57.7**	**+0.1**
KK31				pmax	pmax		
	comp=Z,13nm,1.0s						
KKAR	**Karatay Array**	**52.27**	**300**	*e*P	**P**	**22 07 57.6

DZM	Mont Dzumac	63.75	153	P	P	22 09 19.3	+1.4
	comp=Z,5.6nm,0.9s,baz=20,slow=9.6,SNR=3.4						
YKA	Yellowknife Ar	64.39	30	P	P	22 09 21.4	-0.1
YKA	Yellowknife Ar	64.39	30	P	P	22 09 21.4	-0.1
	comp=Z,1.0nm,0.7s,baz=338,slow=4.1,SNR=3.7						
VRHR	Novokhopersk	67.05	317	eP	P	22 09 37.2	-1.6
OBN	Obninsk	67.54	323	P	P	22 09 42.0	+0.2
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AFI	Afiamalu	67.88	129	LR	LR	22 34 50.1	
	comp=Z,56nm,20.1s,baz=54,slow=32						
VSR	Storozhevoye	68.31	318	eP	P	22 09 45.5	-1.2
VSR				pmax	pmax		
	comp=N,9.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.5s						
FINES	FINESS Array B	68.40	332	P	P	22 09 47.1	0.0
FINES				pP	pP	22 10 10.4	-0.2
FINES	FINESS Array B	68.40	332	P	P	22 09 47.1	0.0
	comp=E,6.8nm,0.8s,baz=60,slow=5.5,SNR=13						
FINES				pP	pP	22 10 10.4	-0.2
	comp=E,4.9nm,0.8s,baz=76,slow=8.0,SNR=3.6						
KBZ	Khabaz	70.17	310	P	P	22 09 59.0	+0.7
KBZ	Khabaz	70.17	310	P	P	22 09 59.0	+0.7
KBZ	Khabaz	70.17	310	P	P	22 09 59.0	+0.7
	comp=E,3.7nm,0.7s,baz=63,slow=2.0,SNR=8.7						
KIV	Kislovodsk	70.17	310	eP	P	22 09 59.2	+0.7
KIV				pmax	pmax		
	comp=Z,21nm,1.1s						
NEW	Newport	70.89	44	P	P	22 10 04.0	+1.2
NEW	Newport	70.89	44	P	P	22 10 03.9	+1.2
	comp=Z,2.4nm,0.8s,baz=299,slow=10,SNR=4.1						
NEW	Newport	70.89	44	⇑P	P	22 10 03.5	+0.7
	baz=71						
NACGM	Naroch	72.22	326	e	P	22 10 08.0	-2.5
BMO	Blue Mountains	72.73	47	eP	P	22 10 14.6	+0.7
	comp=Z,7.6nm,1.1s						
SWMT	Swartz Lake	73.05	43	eP	P	22 10 17.3	+1.5
SLMT	Seeley Lake	73.48	43	eP	P	22 10 19.6	+1.2
MSO	Missoula	73.48	44	⇓P	P	22 10 19.0	+0.6
	baz=73						
BEKR	Beckworth	73.72	52	eP	P	22 10 20.2	+0.3
	comp=Z,1.9nm,0.8s						
AKASG	Malin Array Be	73.72	322	ceP	P	22 10 19.0	-0.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	Malin Array Be	73.72	322	P	P	22 10 19.0	-0.4
AKASG	Malin Array Be	73.72	322	P	P	22 10 19.0	-0.4
	comp=Z,3.5nm,0.5s,baz=46,slow=6.1,SNR=28						
KIEV	Kiev	73.73	322	eP	P	22 10 19.2	-0.3
KIEV	Kiev	73.73	322	eP	P	22 10 19.2	-0.3
NB2	NORSAR Subarra	73.85	337	P	P	22 10 20.0	-0.1
	comp=Z,2.1nm,0.8s,baz=42,slow=5.9						
NOA	NORSAR Array B	73.85	337	P	P	22 10 20.3	+0.2
NOA	NORSAR Array B	73.85	337	P	P	22 10 20.3	+0.2
	comp=Z,2.8nm,0.8s,baz=43,slow=5.5,SNR=12						
A18A	Metzger Ranch,	74.39	40	⇓P	P	22 10 23.8	+0.3
	baz=74,SNR=5.4						
PAHR	Pah Rah Range	74.43	52	eP	P	22 10 25.6	+1.6
	comp=Z,8.3nm,1.0s						
MFID	Camas Ranch	74.43	47	⇑P	P	22 10 24.7	+0.8
	baz=74						
C17A	Wharram Farm,	74.72	41	⇓P	P	22 10 25.8	+0.4
	baz=74						
CMB	Columbia Colle	74.75	54	eP	P	22 10 27.3	+1.6
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMB	Columbia Colle	74.75	54	eP	P	22 10 27.3	+1.6
	comp=Z,7.9nm,1.0s						
B18A	Beardsley Farm	74.76	40	⇑P	P	22 10 26.6	+0.9
	baz=75,SNR=7.1						
MIB	Mutribah	74.80	296	eP	P	22 10 25.3	-0.8
MIB				AMb	AMB	22 10 26.1	
	comp=Z,14nm,0.9s						
LRM	Limekiln Ridge	74.92	44	eP	P	22 10 27.8	+0.9
A19A	Klindworth Far	74.95	40	⇓P	P	22 10 27.6	+0.8
	baz=75,SNR=8.9						
EGMT	Eagleton	75.00	41	eP	P	22 10 28.4	+1.3
	comp=Z,16nm,0.9s						
EGMT	Eagleton	75.00	41	⇑P	P	22 10 27.5	+0.4
	baz=75,SNR=6.1						
D17A	Six Diamond Ra	75.05	42	⇓P	P	22 10 27.9	+0.5
	baz=75,SNR=6.1						
DLMT	Dillon	75.11	44	eP	P	22 10 29.4	+1.6
	comp=Z,7.6nm,0.7s						
RDF	Al-Radifah	75.14	295	eP	P	22 10 27.5	-0.6
RDF				AMb	AMB	22 10 28.8	
	comp=Z,30nm,0.8s						
B19A	Brinkman Farms	75.15	40	⇑P	P	22 10 28.3	+0.5
	baz=75,SNR=9.0						
HLID	Hailey	75.17	46	eP	P	22 10 30.0	+1.8
	comp=Z,3.0nm,0.8s						
HLID	Hailey	75.17	46	⇓P	P	22 10 29.2	+0.9
	baz=75,SNR=5.6						
RST	Umm Al-Ruwaisa	75.22	296	eP	P	22 10 27.2	-1.4
RST				AMb	AMB	22 10 29.0	
	comp=Z,124nm,0.9s						
BMN	Battle Mountai	75.35	50	eP	P	22 10 31.3	+1.9
BMN				pmax	pmax		
	comp=Z,258nm,0.8s						
BMN	Battle Mountai	75.35	50	eP	P	22 10 31.3	+1.9
	comp=Z,258nm,0.8s						
E17A	Martinsdale	75.39	42	⇓P	P	22 10 30.1	+0.7
	baz=75						
A20A	Cobblestone Ra	75.40	39	⇓P	P	22 10 30.0	+0.7
	baz=75						
BOZ	Bozeman (W)	75.48	43	eP	P	22 10 31.5	+1.6
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BOZ	Bozeman (W)	75.48	43	eP	P	22 10 31.5	+1.6
	comp=Z,5.9nm,1.1s						
C19A	Slack Wire Ran	75.55	41	⇓P	P	22 10 31.2	+0.9
	baz=75,SNR=7.4						
B20A	Solberg Farm,	75.64	40	⇑P	P	22 10 31.1	+0.4
	baz=75						
A21A	Bergtoll Ranch	75.83	39	⇓P	P	22 10 32.3	+0.6
	baz=76						
E18A	Harlowton	75.83	42	⇑P	P	22 10 32.5	+0.6
	baz=76						
F17A	Fitzpatrick Pl	75.85	43	⇓P	P	22 10 33.0	+1.0
	baz=76,SNR=5.0						
NVAR	Mina Array Bea	75.85	53	P	P	22 10 33.8	+1.5
NVAR	Mina Array Bea	75.85	53	P	P	22 10 33.8	+1.5
	comp=Z,4.4nm,0.8s,baz=285,slow=6.5,SNR=26						
D19A	Cripps Ranch,	76.00	41	⇑P	P	22 10 33.6	+0.8
	baz=76,SNR=9.7						
MALT	Malatya	76.00	307	⇑iP	P	22 10 54.3	+21
C20A	Veseth Ranch,	76.11	40	⇓P	P	22 10 34.1	+0.7
	baz=76,SNR=5.6						
A22A	Carney Farms,	76.34	38	⇓P	P	22 10 35.1	+0.4
	baz=76,SNR=8.4						
F18A	Big Timber	76.36	42	⇓P	P	22 10 35.6	+0.7
	baz=76,SNR=9.7						
D20A	Manuel Ranch,	76.44	41	⇑P	P	22 10 36.1	+0.8
	baz=76,SNR=6.9						
C21A	Desert Coulee	76.50	40	⇓P	P	22 10 36.5	+0.9
	baz=76						
E19A	Rath Farm, Rou	76.50	42	⇑P	P	22 10 36.4	+0.8
	baz=76,SNR=13						
I16A	Newdale	76.66	45	⇓P	P	22 10 38.1	+1.4
	baz=76,SNR=5.7						
B22A	Reddig Ranch S	76.75	39	⇓P	P	22 10 37.4	+0.4
	baz=76						
F19A	Roth Farm, Mol	76.81	42	⇓P	P	22 10 37.9	+0.5
	baz=77						
E20A	Meyer Farm, Mu	76.82	41	⇓P	P	22 10 38.7	+1.3
	baz=77						
H17A	Grant Village	76.84	44	eP	P	22 10 39.8	+2.0
H17A	Grant Village	76.84	44	⇓P	P	22 10 40.4	+2.6
	baz=77						
PKM	Peak Mountain	76.94	56	⇓P	P	22 10 40.1	+1.6
	baz=77						
RRI2	Red Ridge	77.08	45	eP	P	22 10 41.2	+2.0
	comp=Z,5.1nm,0.9s						
B23A	Brockton	77.14	38	⇑P	P	22 10 39.7	+0.6
	baz=77,SNR=7.6						
H18A	Shoshone NF, C	77.17	43	⇑P	P	22 10 40.5	+0.8
	baz=77						
TPAW	Teton Pass	77.20	45	eP	P	22 10 42.0	+2.1
	comp=Z,3.6nm,0.8s						
LOHW	Long Hollow	77.32	45	eP	P	22 10 44.6	+4.1
ISA	Isabella	77.37	55	⇓P	P	22 10 41.2	+0.5
	baz=77						
D22A	Cohagen	77.42	40	⇓P	P	22 10 41.4	+0.7
	baz=77,SNR=5.3						
C23A	Lambert	77.49	39	⇑P	P	22 10 41.8	+0.7
	baz=77,SNR=5.4						
DGMT	Dagmar	77.53	38	⇑P	P	22 10 41.4	+0.1
	baz=77						
KWP	Kalwaria Pacla	77.58	324	⇑P	P	22 10 42.6	+1.0
KWP	Kalwaria Pacla	77.58	324	⇑iP	P	22 10 42.6	+1.0
KWP	Kalwaria Pacla	77.58	324	eP	P	22 10 41.9	+0.4
	comp=Z,5.1nm,0.4s						
BGU	Big Grassy Mou	77.59	48	eP	P	22 10 44.1	+2.1
	comp=Z,13nm,2.0s						
G20A	Bridger	77.61	42	⇑P	P	22 10 42.4	+0.5
	baz=77						
R11A	Troy Canyon, C	77.61	51	⇓P	P	22 10 43.0	+0.8
	baz=78,SNR=10						
BURAR	Bucovina Array	77.73	321	⇑P	P	22 10 42.8	+0.3
BURAR	Bucovina Array	77.73	321	⇑iP	P	22 10 42.8	+0.3
TESR	Tescani	77.73	320	⇑iP	P	22 10 42.5	+0.1
MPMC	Manual Prospec	77.78	54	⇑P	P	22 10 44.0	+0.8
	baz=78						
F21A	Absaloka Mine,	77.80	41	⇓P	P	22 10 43.8	+0.9
	baz=78						
D23A	Lindsay	77.90	39	⇑P	P	22 10 44.2	+0.8
	baz=78,SNR=5.3						
I19A	Meeteetse	77.95	44	⇓P	P	22 10 45.3	+1.4
	baz=78						
E22A	Miles City	78.01	40	⇑P	P	22 10 45.1	+1.1
	baz=78						
HWUT	Hardware Ranch	78.03	47	eP	P	22 10 45.5	+1.1
	comp=Z,15nm,1.7s						
VRI	Vrincioaia	78.11	319	⇑P	P	22 10 45.3	+0.7
VRI	Vrincioaia	78.11	319	⇑iP	P	22 10 45.3	+0.7
BR131	Keskin Array S	78.13	311	eP	P	22 10 45.0	+0.1
	comp=Z,0.8nm,0.5s						
BRTR	Keskin Array B	78.13	311	P	P	22 10 45.7	+0.8
BRTR	Keskin Array B	78.13	311	P	P	22 10 45.7	+0.8
	comp=Z,1.7nm,0.8s,baz=110,slow=4.4,SNR=11						
G21A	Lodge Grass	78.14	42	⇑P	P	22 10 45.5	+0.6
	baz=78						
EDW2	Edwards Air Fo	78.16	55	⇑P	P	22 10 46.2	+1.1
	baz=78						
DUG	Dugway	78.18	48	eP	P	22 10 47.1	+1.9
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	Dugway	78.18	48	eP	P	22 10 47.1	+1.9
	comp=Z,5.0nm,0.9s						
DUG	Dugway	78.18	48	⇓P	P	22 10 46.7	+1.5
	baz=78						
KOLS	Kolonicke sedl	78.27	323	eP	P	22 10 45.8	+0.4
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KOLS	Kolonicke sedl	78.27	323	eP	P	22 10 45.8	+0.4
J19A	Crowheart	78.41	44	⇑P	P	22 10 47.3	+0.8
	baz=78,SNR=5.6						
STHS	Stebnicka Huta	78.42	324	eP	P	22 10 47.5	+1.3
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STHS	Stebnicka Huta	78.42	324	eP	P	22 10 47.5	+1.3
BW06	Boulder Array	78.45	45	eP	P	22 10 47.1	+0.3
	comp=Z,1.6nm,0.6s						
PDAR	Pinedale Array	78.45	45	P	P	22 10 47.6	+0.9
PDAR	Pinedale Array	78.45	45	P	P	22 10 47.6	+0.9
	comp=Z,1.8nm,0.7s,baz=268,slow=2.7,SNR=15						
I20A	Worland	78.48	43	⇓P	P	22 10 48.1	+1.3
	baz=78						
OJC	Ojcow	78.52	326	eP	P	22 10 47.1	+0.4
OJC				pmax	pmax		
	comp=Z,11nm,1.2s						
OJC	Ojcow	78.52	326	eP	P	22 10 47.1	+0.4
	comp=Z,11nm,1.2s						
H21A	Big Horn, Sher	78.63	42	⇓P	P	22 10 48.4	+0.8
	baz=78						
CRVS	Cervenica-Dubn	78.68	324	eP	P	22 10 47.8	+0.2
CRVS	Cervenica-Dubn	78.68	324	eP	P	22 10 47.8	+0.2
TRPA	Tarpa	78.70	323	⇓iP	P	22 10 48.4	+0.7
ISR	Istrita	78.70	319	⇓P	P	22 10 48.9	+1.0
ISR	Istrita	78.70	319	⇓iP	P	22 10 48.9	+1.0
JLU	Jordanelle	78.73	47	eP	P	22 10 49.5	+1.1
BFSC	Mount Baldy Ra	78.76	56	⇓P	P	22 10 48.9	+0.4
	baz=79						
CIS	Catalina Islan	78.76	57	⇑P	P	22 10 49.2	+0.8
	baz=79						
F23A	Volborg	78.77	41	⇓P	P	22 10 49.3	+1.0
	baz=79						
E24A	Baker	78.77	39	⇓P	P	22 10 48.4	+0.2
	baz=79						
J20A	Shoshoni	78.89	44	⇑P	P	22 10 49.9	+0.8
	baz=79						
SHPR	Sheep Range	79.01	53	eP	P	22 10 51.6	+1.7
H22A	Clearmont	79.02	42	⇑P	P	22 10 50.5	+0.9
	baz=79						
I21A	Big Trails, Te	79.03	43	⇓P	P	22 10 50.2	+0.4
	baz=79,SNR=6.6						
A28A	Rude Farm, Bot	79.12	36	⇓P	P	22 10 50.7	+0.7
	baz=79						
G23A	Biddle	79.12	41	⇓P	P	22 10 51.1	+0.9
	baz=79						
TUQ	Turquoise Moun	79.17	54	⇓P	P	22 10 51.6	+0.9
	baz=79						
E25A	Miller Ranch,	79.27	39	⇑P	P	22 10 51.7	+0.8
	baz=79						
VOIR		79.28	320	⇓P	P	22 10 52.2	+1.2
VOIR		79.28	320	⇓iP	P	22 10 52.2	+1.2
I22A	9 Mile Ranch,	79.41	42	⇑P	P	22 10 52.7	+0.8
	baz=79						
ARR	Arges	79.54	320	⇑iP	P	22 10 53.7	+1.3
MSU	Marysvale	79.62	49	eP	P	22 10 55.4	+2.2
MSU	Marysvale	79.62	49	eP	P	22 10 55.4	+2.2
RAYN	Ar Rayn	79.73	292	eP	P	22 10 54.0	+0.2
	comp=Z,8.0nm,1.4s						
GMRC	Granite Mounta	79.74	54	⇑P	P	22 10 54.3	+0.5
	baz=80						
K21A	Alcova	79.83	44	⇑P	P	22 10 55.2	+1.0
	baz=80						
MORC	Moravsky Berou	79.85	326	eP	P	22 10 54.6	+0.6
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MORC	Moravsky Berou	79.85	326	eP	P	22 10 54.6	+0.6
	comp=Z,2.7nm,0.8s						
H24A	Dirks Ranch, A	79.87	41	⇑P	P	22 10 54.4	+0.1
	baz=80						
LOT	Lotru	79.93	320	⇓iP	P	22 10 55.4	+0.8
PFO	Pinyon Flat Ob	79.94	56	⇓P	P	22 10 55.2	+0.3
	baz=80						
DPC	Dobruska-Polom	79.97	327	eP	P	22 10 54.7	+0.1
DPC	Dobruska-Polom	79.97	327	eP	P	22 10 54.7	+0.1
L21A	Rawlins	80.20	44	⇓P	P	22 10 57.0	+0.7
	baz=80						
K22A	Casper	80.22	43	⇑P	P	22 10 56.8	+0.5
	baz=80						
SRU	San Rafael	80.23	48	eP	P	22 10 57.9	+1.4
SRU				pmax	pmax		
	comp=Z,12nm,0.9s						
SRU	San Rafael	80.23	48	eP	P	22 10 57.9	+1.4
	comp=Z,12nm,0.9s						
MONP	Monument Peak	80.40	56	⇓P	P	22 10 57.9	+0.4
	baz=80						
I24A	Kuemmerle Ranc	80.43	42	⇓P	P	22 10 58.1	+0.7
	baz=80						
H25A	Fruitdale	80.45	40	⇑P	P	22 10 58.7	+1.3
	baz=80						
IRM	Iron Mountain	80.45	54	⇑P	P	22 10 58.2	+0.7
	baz=80						
RWWY	Rawlins	80.47	44	eP	P	22 10 58.5	+0.7
G26A	Maurine	80.50	40	⇓P	P	22 10 58.5	+0.9
	baz=80						
BC3	Big Chuckawall	80.57	55	⇑P	P	22 10 59.2	+0.9
	baz=80						
BRG	Berggiesshubel	80.59	329	eP	P	22 10 58.0	+0.1
	comp=Z,3.9nm,1.1s						
BRG	Berggiesshubel	80.59	329	eP	P	22 10 58.0	+0.1
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CLL	Collm	80.64	330	iP	P	22 10 57.9	-0.3
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	Collm	80.64	330	iP	P	22 10 57.9	-0.3
	comp=Z,7.0nm,0.9s						
CLL				ePP	PP	22 14 03.0	+0.7
W13A	Hualapai Mount	80.69	53	⇑P	P	22 10 59.8	+0.8
	baz=81						
ASF	Jabal al Asfar	80.69	303	P	P	22 10 59.4	+0.5
ASF	Jabal al Asfar	80.69	303	P	P	22 10 59.4	+0.5
	comp=Z,1.2nm,0.6s,baz=9.8,slow=2.0,SNR=3.5						
J24A	Dixon Ranch, L	80.77	42	⇑P	P	22 11 00.1	+1.0
	baz=81						
G27A	Dupree	80.78	39	⇓P	P	22 10 59.9	+0.8
	baz=81						
I25A	Rochford	80.79	41	⇑P	P	22 10 59.6	+0.2
	baz=81						
U15A	North Rim	80.86	51	⇑P	P	22 11 00.2	+0.2
	baz=81						
H26A	Fairpoint	80.88	40	⇓P	P	22 11 00.2	+0.5
	baz=81						
BZS	Buzias	80.90	321	⇑P	P	22 10 59.6	-0.1
BZS	Buzias	80.90	321	⇑iP	P	22 10 59.6	-0.1
N21A	Black Mountain	80.91	45	⇑P	P	22 11 00.8	+0.7
	baz=81						
PRU	Pruhonice	81.00	328	iP	P	22 11 00.4	+0.3
PRU	Pruhonice	81.00	328	iP	P	22 11 00.4	+0.3
PDMCI	Parker Dam,Lak	81.02	54	⇑P	P	22 11 01.3	+0.8
	baz=81						
L23A	Garrett	81.03	43	⇑P	P	22 11 01.2	+0.4
	baz=81						
Y12C	Blythe	81.12	54	⇓P	P	22 11 02.2	+1.2
	baz=81						
H27A	Howes	81.23	40	⇑P	P	22 11 02.3	+0.8
	baz=81						
PV04	Paradox Valley	81.66	48	eP	P	22 11 05.4	+1.4
H28A	Mission Ridge	81.74	39	⇓P	P	22 11 05.1	+0.9
	baz=82						
O22A	Kremmling	81.86	45	⇓P	P	22 11 06.4	+1.1
	baz=82						
PKSM	Moragy	81.94	323	⇑P	P	22 11 05.2	+0.1
PKSM	Moragy	81.94	323	⇑iP	P	22 11 05.2	+0.1
Y14A	Wickenburg	81.98	53	⇓P	P	22 11 06.7	+1.0
	baz=82						
WUAZ	Wupatki	82.01	51	⇑P	P	22 11 07.3	+1.3
	baz=82						
KHC	Kasperske Hory	82.06	328	iP	P	22 11 05.5	-0.3
KHC	Kasperske Hory	82.06	328	iP	P	22 11 05.5	-0.3
KHC	Kasperske Hory	82.06	328	eP	P	22 11 05.5	-0.3
	comp=Z,4.6nm,1.1s						
VTS	Vitosha	82.19	318	⇓P	P	22 11 07.6	+0.9
VTS	Vitosha	82.19	318	⇓iP	P	22 11 07.6	+0.9
GERES	GERESS Array B	82.23	328	P	P	22 11 06.7	0.0
GERES				pP	pP	22 11 30.5	-0.4
GERES	GERESS Array B	82.23	328	P	P	22 11 06.7	0.0
	comp=Z,1.3nm,0.6s,baz=31,slow=6.3,SNR=9.6						
GERES				pP	pP	22 11 30.5	-0.4
	comp=Z,0.3nm,0.4s,baz=37,slow=6.9,SNR=2.0						
S20A	Disappointment	82.35	48	⇓P	P	22 11 08.9	+1.0
	baz=82						
Q22A	Crested Butte,	82.52	46	⇓P	P	22 11 09.8	+1.1
	baz=82						
ISCO	Idaho Springs	82.64	45	⇓P	P	22 11 10.4	+1.1
	baz=82						
X16A	Lo Mia Camp, P	82.68	52	⇓P	P	22 11 10.7	+1.3
	baz=82						
MVCO	Mesa Verde	82.68	49	⇓P	P	22 11 10.4	+1.0
	baz=82						
P23A	Jefferson	82.80	46	⇑P	P	22 11 11.5	+1.3
	baz=83						
S21A	Coal Bank Pass	82.80	48	⇑P	P	22 11 11.7	+1.5
	baz=83						
SOKA	Soboth	83.28	325	iP	P	22 11 12.5	+0.3
	comp=Z,5.6nm,1.0s,SNR=5.5						
S22A	4UR Ranch, Cre	83.31	47	⇑P	P	22 11 14.1	+1.2
	baz=83						
214A	Organ Pipe Nat	83.36	55	⇑P	P	22 11 13.5	+0.6
	baz=83						
R23A	Moffat	83.60	46	⇓P	P	22 11 15.4	+1.1
	baz=83						
V20A	Brimhall	83.63	50	⇓P	P	22 11 15.2	+0.9
	baz=84						
U21A	Nageezi	83.70	49	⇓P	P	22 11 15.3	+0.6
	baz=84						
T22A	Edith	83.76	48	⇓P	P	22 11 16.0	+0.9
	baz=84						
R24A	Sanders Place,	83.99	46	⇑P	P	22 11 17.2	+1.1
	baz=84						
W20A	Ramah	84.05	50	⇓P	P	22 11 17.1	+0.6
	baz=84						
SDCO	Great Sand Dun	84.09	47	eP	P	22 11 17.3	+0.5
	comp=Z,3.2nm,1.2s						
V21A	Milan	84.13	49	⇓P	P	22 11 17.8	+0.8
	baz=84						
S24A	Houchin Ranch,	84.33	46	⇑P	P	22 11 19.0	+1.0
	baz=84						
TUC	Tucson	84.45	54	eP	P	22 11 19.8	+1.4
TUC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TUC	Tucson	84.45	54	eP	P	22 11 19.8	+1.4
	comp=Z,10nm,0.8s						
R25A	Fountain Ranch	84.52	46	⇓P	P	22 11 19.6	+0.8
	baz=84						
S25A	Robets Cordova	84.77	46	⇓P	P	22 11 20.9	+0.9
	baz=85						
BFO	Black Forest	84.86	330	eP	P	22 11 20.2	+0.1
BFO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BFO	Black Forest	84.86	330	eP	P	22 11 20.2	+0.1
	comp=Z,4.4nm,0.9s						
R26A	Arlington	84.89	45	⇑P	P	22 11 21.4	+0.8
	baz=85						
Y20A	Horse Springs,	84.93	51	⇓P	P	22 11 22.2	+1.2
	baz=85						
X21A	Alamocita Cree	84.94	50	⇑P	P	22 11 22.5	+1.4
	baz=85						
T25A	Trinidad	85.14	46	⇓P	P	22 11 23.0	+1.1
	baz=85						
S26A	Kim	85.35	46	⇑P	P	22 11 23.3	+0.4
	baz=85						
T26A	Comanche Natio	85.59	46	⇑P	P	22 11 24.5	+0.4
	baz=85						
U25A	Circle Dot Ran	85.65	47	⇑P	P	22 11 25.6	+1.1
	baz=86						
Z21A	St. Cloud Mine	85.77	51	⇑P	P	22 11 26.3	+1.1
	baz=86						
Y22A	Socorro	85.79	50	⇑P	P	22 11 26.5	+1.3
	baz=86						
W24A	Lazy 6 Ranch,	85.87	48	⇑P	P	22 11 27.1	+1.5
	baz=86						
V25A	Rancho No Teng	85.91	47	⇑P	P	22 11 26.8	+1.0
	baz=86						
220A	Playas Peak, P	86.17	53	⇑P	P	22 11 27.4	+0.3
	baz=86						
121A	Cookes Peak, D	86.22	52	⇓P	P	22 11 28.5	+1.2
	baz=86						
S28A	Manter	86.26	45	⇑P	P	22 11 28.5	+1.1
	baz=86						
Y23A	Lovelace Mesa,	86.35	50	⇓P	P	22 11 28.7	+0.7

baz=92
432A Menard 92.26 48 ⇑P P 22 11 55.9 +0.2
baz=92
532A Rocksprings 92.73 49 ⇑P P 22 11 58.4 +0.5
baz=93
TORD Torodi Ar. Bea 116.65 314 PKP PKPdf 22 17 28.4 -1.2
TORD Torodi Ar. Bea 116.65 314 PKP PKPdf 22 17 28.4 -1.2
comp=Z,0.3nm,0.7s,baz=13,slow=1.1,SNR=4.5
VNA2 Neumayer–Watz 141.96 197 *e*PKPdf PKPdf 22 18 11.1 -4.6
VNA2 Neumayer–Watz 141.96 197 *e*PKiKP **PKPdf 22 18 14.0 -1.7**
SAML Samuel 145.01 43 *e*PKPbc **PKPbc 22 18 21.6 -0.6**
LPAZ La Paz 147.61 58 PKPbc **PKPbc 22 18 31.2 +0.6**
LPAZ pPKPbc **pPKPbc 22 18 55.8 -0.2**
LPAZ La Paz 147.61 58 PKPbc **PKPbc 22 18 31.2 +0.6**
comp=Z,2.0nm,0.7s,baz=18,slow=11,SNR=11
LPAZ pPKPbc **pPKPbc 22 18 55.8 -0.2**
comp=Z,1.5nm,0.6s,baz=241,slow=1.4,SNR=3.0

IDC 17 22:02:13.1±55.0, 30°.73S×177°.18W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=1015.0km s-min=200.0km az=99.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.09**	**257**	P	P	22 09 08.2	0.0
	2.0nm,1.0s,baz=111,slow=14,SNR=3.8						
ASAR	**Alice Springs**	**43.80**	**267**	P	P	22 10 21.6	+0.7
	1.1nm,0.7s,baz=116,slow=7.7,SNR=4.3						
WRA	**Warramunga Arr**	**44.82**	**272**	P	P	22 10 28.1	-0.9
	0.9nm,0.4s,baz=112,slow=8.2,SNR=2.8						

MAN 17 22:07:07, 11°.90N×124°.97E, h0km, mb4.1, ML2.9, MS2.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.73**	**179**	⇓*e*P	Pb	22 07 22.9	+0.2
PLP				*e*S	Sn	22 07 36.6	0.0
OCLP	**Ormoc**	**0.92**	**203**	*e*P	Pb	22 07 25.7	-0.1
OCLP				*e*S	Sn	22 07 42.1	+1.0
MSLP	**Maasin**	**1.76**	**183**	*e*P	Pb	22 07 40.0	-0.2
MSLP				*e*S	Sg	22 08 06.4	+2.7

IDC 17 22:24:02.7±4.9, 5°.35S×152°.66E, h94km±39km, mb3.5/6, mb1 3.7/7, mb1mx3.4/21, mbtmp3.6/7, MS4.3/1, Ms1 4.3/1, ms1mx2.8/20, Error ellipse: s-maj=34.4km s-min=22.7km az=24.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.78**	**233**	P	Pn	22 25 38.8	-0.8
	1.2nm,0.3s,baz=49,slow=11,SNR=2.6						
PMG				S	Sn	22 26 57.7	+2.3
	2.1nm,0.3s,baz=138,slow=14,SNR=3.0						
DZM	**Mont Dzumac**	**21.31**	**143**	P	P	22 28 42.1	0.0
	3.3nm,0.7s,baz=303,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**22.98**	**229**	P	P	22 28 59.1	-0.5
	3.3nm,0.8s,baz=55,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**25.65**	**223**	P	P	22 29 23.8	-0.1
	1.2nm,0.8s,baz=51,slow=9.9,SNR=13						
FITZ	**Fitzroy Crossi**	**29.28**	**242**	P	P	22 29 55.8	-0.5
	2.2nm,0.8s,baz=139,slow=5.9,SNR=5.5						
RAO	**Raoul Island**	**36.59**	**134**	LR	LR	22 41 46.0	
	comp=Z,549nm,21.8s,baz=247,slow=29						
CMAR	**Chiang Mai Arr**	**57.99**	**296**	P	P	22 33 46.4	+0.3
	0.5nm,0.4s,baz=120,slow=5.3,SNR=2.5						
VNDA	**Vanda**	**72.29**	**178**	P	P	22 35 17.8	+0.3
	0.4nm,0.7s,baz=339,slow=5.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.34**	**287**	PKPbc	PKPbc	22 43 43.9	-0.3
	0.6nm,0.7s,baz=55,slow=2.9,SNR=4.0						

IDC 17 22:25:41.9±4.4, 2°.93S×147°.08E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.7/18, mbtmp4.2/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=127.6km s-min=64.2km az=114.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**179**	LR	LR	22 29 18.1	
	comp=Z,62nm,20.7s,baz=250,slow=34						
WRA	**Warramunga Arr**	**20.99**	**215**	P	P	22 30 27.0	-0.1
	9.5nm,0.9s,baz=39,slow=12,SNR=22						
ASAR	**Alice Springs**	**24.24**	**211**	P	P	22 31 00.7	-0.1
	3.8nm,0.9s,baz=41,slow=7.8,SNR=17						
FITZ	**Fitzroy Crossi**	**25.86**	**233**	P	P	22 31 16.0	+0.4
	2.8nm,0.8s,baz=59,slow=7.9,SNR=10						
TORD	**Torodi Ar. Bea**	**144.31**	**288**	PKP	PKPbc	22 45 19.4	0.0
	0.6nm,0.9s,baz=83,slow=2.4,SNR=3.5						

*BJI **17** 22:25:55.3, 39°.69N×73°.30E, h13km, mb3.9/2, ML3.6/3, Ms3.6/1, Ms7 3.6/1*
*IDC **17** 22:25:55.1±1.4, 39°.53N×73°.51E, h0km, mb3.7/4, mb1 3.6/10, mb1mx3.5/31, mbtmp3.6/10, ML3.4/6, Error ellipse: s-maj=23.5km s-min=12.6km az=130.0*
*NNC **17** 22:25:57.5±1.6, 39°.65N×73°.37E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=13.9km s-min=6.7km az=6.0*
ISC 17 22:25:59.8±0.7, 39°.76N±0°.05×73°.61E±0°.05, h10km, n35, σ2°.28/42, mb3.7/6, 6C-11D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.84**	**97**	⇑*i*Pg	Pn	22 26 28.1	-3.4
KSH				Sg	**Sn**	**22 26 51.3**	**-3.6**
KSH				smax	smax		
	comp=N,690nm,0.5s						
KSH				smax	smax		
	comp=E,560nm,0.6s						
AML	**Almayashu**	**2.37**	**1**	P	**Pn**	**22 26 40.9**	**+1.8**
	SNR=142						
UCH	**Uchtor**	**2.56**	**15**	P	**Pn**	**22 26 44.4**	**+2.7**
	SNR=11						
KZA	**Kyzart**	**2.62**	**28**	P	**Pb**	**22 26 46.6**	**-0.6**
	SNR=15						
EKS2	**Erkin-Say**	**2.90**	**2**	P	**Pn**	**22 26 48.5**	**+2.4**
	SNR=42						
AAK	**Ala-Archa**	**2.94**	**13**	P	**Pn**	**22 26 50.0**	**+3.2**
	SNR=35						
AAK	**Ala-Archa**	**2.94**	**13**	Pn	**Pn**	**22 26 49.9**	**+3.2**
	comp=E,17nm,0.3s,baz=172,slow=6.0,SNR=46						
AAK				Sn	**Sb**	**22 27 30.5**	**+2.0**
	comp=E,19nm,0.3s,baz=45,slow=18,SNR=7.0						
AAK				Lg	Lg	22 27 36.4	
	comp=E,24nm,0.3s,baz=1.1,slow=17,SNR=8.8						
KBK	**Karagaybulak**	**3.06**	**19**	P	**Pb**	**22 26 52.0**	**-2.4**
	SNR=53						
ULHL	**Ulahol**	**3.18**	**38**	P	**Pb**	**22 26 54.0**	**-2.5**
	SNR=12						
CHMS	**Chumysh**	**3.34**	**14**	P	**Pn**	**22 26 55.1**	**+2.9**
	SNR=27						
TKM2	**Tokmak 2**	**3.49**	**25**	⇓Pn	**Pn**	**22 26 56.2**	**+1.9**
	comp=E,6.3nm,0.5s						
TKM2				⇑Pg	**Pb**	**22 27 04.2**	**+2.4**
	comp=E,15nm,0.3s						
TKM2				⇓Lg	Lg	22 27 53.9	
	comp=E,80nm,0.5s						
TKM2	**Tokmak 2**	**3.49**	**25**	P	**Pn**	**22 26 57.5**	**+3.2**
	SNR=15						
USP	**Ospenovka**	**3.56**	**10**	P	**Pn**	**22 26 57.6**	**+2.5**
	SNR=17						
KK31	**Karatay Array**	**4.07**	**326**	Pn	**Pn**	**22 27 01.9**	**-0.2**
	comp=E,3.6nm,0.3s,baz=134,slow=12,SNR=374						
KK31				Pg	**Pb**	**22 27 11.9**	**+0.3**
	comp=E,8.2nm,0.3s,baz=149,slow=16,SNR=22						
KK31				⇑Sn	**Sn**	**22 27 51.3**	**+1.4**
	comp=E,12nm,0.3s						
KK31				⇓Lg	Lg	22 28 06.5	
	comp=E,20nm,0.3s,baz=195,slow=33,SNR=4.8						
KNDC	**Almaty**	**4.27**	**35**	⇓Pg	**Pg**	**22 27 19.6**	**-2.0**
KNDC				⇓Lg	Lg	22 28 19.2	
DLH	**Dalhousie**	**7.45**	**164**	*e*P	**Pn**	**22 27 48.0**	**-0.8**
DLH				*e*S	**Sn**	**22 29 15.0**	**+1.6**
MK31	**Makanchi Array**	**9.45**	**39**	⇑Pn	**Pn**	**22 28 18.1**	**+2.1**
	comp=E,1.0nm,0.6s,baz=225,slow=14,SNR=6.1						
MK31				⇓Lg	Lg	22 31 03.7	
	comp=E,7.7nm,1.0s,baz=221,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**9.45**	**39**	Pn	**Pn**	**22 28 15.0**	**-1.0**
	comp=E,0.1nm,0.3s,baz=185,slow=24,SNR=5.5						
MKAR				Lg	Lg	22 31 03.7	
	comp=E,0.2nm,0.3s,baz=223,slow=25,SNR=3.7						
KURBB	**Kurchatov Arra**	**11.40**	**16**	⇓Pn	**Pn**	**22 28 42.3**	**-0.2**
	comp=E,2.3nm,1.1s						
KURBB				⇓Lg	Lg	22 32 03.5	
	comp=E,54nm,1.3s						
KURBB	**Kurchatov Arra**	**11.40**	**16**	Pn	**Pn**	**22 28 43.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=2.8						
KURBB				Lg	Lg	22 32 02.7	
	comp=E,0.1nm,0.3s,baz=206,slow=30,SNR=8.1						
VOSK	**Vostochnaya**	**13.09**	**353**	⇓Pn	**Pn**	**22 29 06.4**	**+0.7**
	comp=E,1.3nm,0.6s						
BVA0	**Borovoye Array**	**13.45**	**352**	Pn	**Pn**	**22 29 09.8**	**-0.8**
	comp=E,2.6nm,0.8s,baz=11,slow=9.5,SNR=7.0						
BVAR	**Borovoye Array**	**13.45**	**352**	Pn	**Pn**	**22 29 08.4**	**-2.2**
	comp=E,0.3nm,0.3s,baz=167,slow=13,SNR=7.2						
BVAR				Lg	Lg	22 33 06.3	
	comp=E,0.3nm,0.3s,baz=163,slow=26,SNR=4.0						
BRVK	**Borovoye**	**13.49**	**351**	⇑Pn	**Pn**	**22 29 10.8**	**-0.3**
	comp=E,7.7nm,1.4s						
AB31	**Akbulak array**	**13.59**	**319**	Pn	**Pn**	22 29 08.6	-3.9
	comp=E,0.6nm,0.4s,baz=127,slow=13,SNR=16						
AB31				⇓Sn	**Sn**	**22 31 39.6**	**-3.9**
	comp=E,0.7nm,0.5s,baz=130,slow=13,SNR=4.8						
AKTO	**Aktyubinsk**	**15.30**	**319**	⇓Pn	**Pn**	**22 29 32.8**	**-2.9**
	comp=E,3.5nm,0.8s						
AKTO				⇑Sn	**Sn**	**22 32 23.0**	**-2.2**
	comp=E,1.4nm,0.6s						
AKTO	**Aktyubinsk**	**15.30**	**319**	Pn	**Pn**	**22 29 32.0**	**-3.8**
	comp=E,0.1nm,0.3s,baz=125,slow=15,SNR=3.4						
ZALV	**Zalesovo Beam**	**16.10**	**24**	Pn	**Pn**	**22 29 47.5**	**+1.5**
	comp=E,0.2nm,0.3s,baz=224,slow=10,SNR=5.3						
ZALV				Lg	Lg	22 34 37.6	
	baz=201,slow=33,SNR=2.9						
GTA	**Gaotai**	**20.18**	**83**	*e*P	**P**	**22 30 34.8**	**+0.3**
GTA				pP	**pP**	**22 30 39.4**	**+2.0**
GTA				sP	**sP**	**22 30 41.9**	**+3.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**24.85**	**60**	P	**P**	**22 31 22.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=270,slow=10,SNR=4.9						
BRTR	**Keskin Array B**	**30.56**	**283**	P	**P**	**22 32 11.4**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=94,slow=8.2,SNR=4.5						
FINES	**FINESS Array B**	**36.03**	**323**	P	**P**	**22 32 58.5**	**-2.3**
	comp=Z,1.7nm,0.7s,baz=141,slow=12,SNR=7.3						
ARCES	**ARCESS Array B**	**38.98**	**335**	P	**P**	**22 33 28.4**	**+2.7**
	comp=Z,5.7nm,1.0s,baz=102,slow=8.4,SNR=8.3						
NOA	**NORSAR Array B**	**43.09**	**321**	P	**P**	**22 34 01.8**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=88,slow=5.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**67.85**	**269**	P	P	22 36 54.0	-4.5
	comp=Z,0.3nm,0.4s,baz=56,slow=6.0,SNR=9.5						

IDC 17 22:27:06.0±2.3, 2°.24S×98°.65E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.6/25, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=76.9km s-min=24.4km az=62.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.01**	**3**	Pn	Pn	22 28 20.1	-2.5
	0.4nm,0.3s,baz=351,slow=21,SNR=2.2						
CMAR	**Chiang Mai Arr**	**20.56**	**1**	P	P	22 31 46.6	+0.1
	0.7nm,0.4s,baz=187,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**40.22**	**125**	P	P	22 34 44.1	-0.6
	0.4nm,0.7s,baz=303,slow=7.4,SNR=3.8						
KSRS	**Korea Array**	**47.92**	**32**	P	P	22 35 46.8	+0.6
	0.4nm,0.3s,baz=231,slow=7.7,SNR=4.2						
SONM	**Songino Array**	**50.32**	**7**	P	P	22 36 03.6	-1.0
	0.6nm,0.7s,baz=188,slow=7.4,SNR=3.1						
MKAR	**Makanchi Array**	**50.90**	**346**	P	P	22 36 08.5	-0.4
	0.4nm,0.4s,baz=151,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**57.16**	**350**	P	P	22 36 54.9	+0.5
	1.6nm,0.7s,baz=188,slow=7.3,SNR=4.7						
TXAR	**Lajitas Array**	**145.70**	**36**	PKPbc	PKPbc	22 46 47.6	-0.1
	0.2nm,0.4s,baz=262,slow=2.3,SNR=4.4						

IDC 17 22:28:40.1±15.0, 5°.29S×152°.63E, h68km±133km, mb3.5/3, mb1 3.8/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=121.3km s-min=63.0km az=139.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.80**	**233**	S	Sn	22 31 35.0	+1.7
	0.8nm,0.3s,baz=113,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**23.00**	**229**	P	P	22 33 39.9	+0.4
	2.1nm,0.8s,baz=54,slow=9.8,SNR=6.8						
ASAR	**Alice Springs**	**25.68**	**223**	P	P	22 34 03.9	-0.1
	1.3nm,0.8s,baz=55,slow=9.7,SNR=7.5						
FITZ	**Fitzroy Crossi**	**29.28**	**242**	P	P	22 34 35.7	-0.5
	1.3nm,0.7s,baz=90,slow=6.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**150.29**	**287**	PKPbc	PKPbc	22 48 24.6	-0.1
	0.3nm,0.5s,baz=73,slow=1.9,SNR=7.6						

*ROM **17** 22:52:53.5±0.3, 44°.80N×6°.78E, h7km±2km, Md2.6/10, Ml2.1/3, Error ellipse: s-maj=3.7km s-min=2.0km az=48.0*
*ISCJB **17** 22:52:53.0±0.2, 44°.81N±0°.01×6°.72E±0°.02, h11km±2km, Error ellipse: s-maj=2.7km s-min=2.0km az=154.3*
*LDG **17** 22:52:53.7±0.1, 44°.84N×6°.77E, h5km, Md2.3/1, Ml2.5/17, Error ellipse: s-maj=3.2km s-min=1.6km az=64.0*
*CSEM **17** 22:52:53.7±0.1, 44°.80N×6°.76E, h10km, ML2.6/17, Error ellipse: s-maj=2.7km s-min=2.4km az=49.0*
*STR **17** 22:52:54.4±0.1, 44°.80N×6°.79E, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **17** 22:52:54.3, 44°.80N×6°.77E, h1km, ML2.0*
ISC 17 22:52:53.9±0.8, 44°.80N±0°.01×6°.75E±0°.02, h12km±5km, n88, σ1°.13/148, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.08**	**171**	*e*Pg	**Pg**	**22 52 56.2**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**22 52 57.6**	**-1.0**
	638nm,0.2s						
MBDF	**Montbardon**	**0.08**	**171**	*e*Pg	**Pg**	**22 52 56.2**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**22 52 57.6**	**-1.0**
	319nm,0.2s						
BNI	**Bardonecchia**	**0.25**	**348**	Pg	**Pg**	**22 52 59.4**	**+0.1**
BNI				Sg	**Sg**	**22 53 03.8**	**+0.9**
BNI	**Bardonecchia**	**0.25**	**348**	Pg	**Pg**	**22 52 59.4**	**+0.1**
BNI				Sg	**Sg**	**22 53 03.8**	**+0.9**
SURF	**Saint Ours**	**0.33**	**173**	Pg	**Pg**	**22 53 00.6**	**0.0**
SURF				Sg	**Sg**	**22 53 04.8**	**-0.2**
DOI	**San Damiano**	**0.46**	**130**	Pg	**Pg**	**22 53 02.8**	**-0.2**
DOI				Sg	**Sg**	**22 53 09.3**	**+0.1**
DOI	**San Damiano**	**0.46**	**130**	Pg	**Pg**	**22 53 02.8**	**-0.2**
DOI				Sg	**Sg**	**22 53 09.3**	**+0.1**
RSP	**Reno Superiore**	**0.50**	**46**	Pg	**Pg**	**22 53 04.1**	**+0.3**
RSP				Sg	**Sg**	**22 53 11.3**	**+0.9**
RSP	**Reno Superiore**	**0.50**	**46**	P	**Pg**	**22 53 04.0**	**+0.3**
RSP				S	**Sg**	**22 53 10.8**	**+0.4**
RSP				Sg	**Sg**	**22 53 11.3**	**+0.9**
GDM	**Grand'Maison**	**0.60**	**312**	Pg	**Pg**	**22 53 06.1**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.63**	**281**	*e*Pg	**Pg**	**22 53 06.3**	**+0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 53 13.2**	**-1.4**
	122nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.63**	**281**	*e*Pg	**Pg**	**22 53 06.3**	**+0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 53 13.2**	**-1.4**
	61nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.69**	**360**	*e*P	**Pg**	**22 53 07.5**	**0.0**
LPG				*e*Sg	**Sg**	**22 53 14.7**	**-1.9**
	36nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.69**	**360**	*e*P	**Pg**	**22 53 07.5**	**0.0**
LPG				*e*Sg	**Sg**	**22 53 14.7**	**-1.9**
	18nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.71**	**359**	*e*P	**Pg**	**22 53 07.9**	**+0.1**
LPL				*e*Sg	**Sg**	**22 53 14.7**	**-2.5**
	36nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.71**	**359**	*e*P	**Pg**	**22 53 07.9**	**+0.1**
LPL				*e*Sg	**Sg**	**22 53 14.7**	**-2.5**
	18nm,0.3s,SNR=1.0						
ENR	**Entracque**	**0.75**	**140**	P	**Pg**	**22 53 08.4**	**0.0**
ENR				S	**Sg**	**22 53 18.0**	**-0.2**
GRN	**Grenoble**	**0.84**	**302**	Pg	**Pb**	**22 53 10.8**	**+0.2**
MONC	**Moncucco Torin**	**0.88**	**72**	Pg	**Pb**	**22 53 11.8**	**+0.7**
	65nm,0.3s						
MONC	**Moncucco Torin**	**0.88**	**72**	Pg	**Pb**	**22 53 11.8**	**+0.7**
	65nm,0.3s						
RSL	**Roselend**	**0.89**	**354**	Pg	**Pg**	**22 53 11.3**	**+0.2**
AUTN	**L'Aution**	**0.94**	**149**	Pg	**Pg**	**22 53 11.9**	**-0.2**
AUTN				Sg	**Sg**	**22 53 24.4**	**0.0**
MVIF	**Mont Vial**	**0.95**	**162**	Pg	**Pg**	**22 53 12.3**	**0.0**
MVIF				Sg	**Sb**	**22 53 25.7**	**+0.6**
MRGE	**Morge**	**0.99**	**13**	Pg	**Pg**	**22 53 12.9**	**-0.1**
MRGE	**Morge**	**0.99**	**13**	Pg	**Pg**	**22 53 12.9**	**-0.1**
TRAV	**Traversella**	**1.00**	**44**	Pg	**Pg**	**22 53 12.9**	**-0.3**
TRAV				Sg	**Sg**	**22 53 25.6**	**-0.6**
	27nm,0.2s						
TRAV	**Traversella**	**1.00**	**44**	Pg	**Pg**	**22 53 12.9**	**-0.3**
TRAV				Sg	**Sg**	**22 53 25.6**	**-0.6**
	27nm,0.2s						
TRAV				S	**Sb**	**22 53 26.0**	**-0.4**
SAOF	**Saorge**	**1.00**	**145**	Pg	**Pg**	**22 53 12.6**	**-0.6**
LUCF	**Luceram**	**1.00**	**155**	Pg	**Pb**	**22 53 13.3**	**-0.1**
LUCF				Sg	**Sb**	**22 53 27.3**	**+0.7**
CALN	**Calern**	**1.06**	**175**	Pg	**Pb**	**22 53 14.6**	**+0.3**
SBF	**Sospel**	**1.06**	**152**	*e*Pg	**Pb**	**22 53 14.5**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**22 53 29.3**	**+1.2**
	45nm,0.3s,SNR=1.0						
SBF	**Sospel**	**1.06**	**152**	*e*Pg	**Pb**	**22 53 14.5**	**+0.2**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**22 53 29.3**	**+1.2**
	23nm,0.3s,SNR=1.0						
ROTM	**Rocchetta Tana**	**1.14**	**87**	P	**Pn**	**22 53 16.5**	**+0.8**
ROTM				S	**Sn**	**22 53 31.4**	**+0.1**
REVF	**Revere**	**1.15**	**157**	Pg	**Pb**	**22 53 16.2**	**+0.4**
REVF				Sg	**Sn**	**22 53 32.0**	**+0.3**
RORO	**Rocca Rossa**	**1.17**	**126**	Pg	**Pg**	**22 53 15.3**	**-1.1**
	29nm,0.2s						
RORO	**Rocca Rossa**	**1.17**	**126**	Pg	**Pg**	**22 53 15.3**	**-1.1**
	29nm,0.2s						
RORO				S	**Sg**	**22 53 29.2**	**-2.3**
NEGI	**Seborga**	**1.17**	**144**	P	**Pg**	**22 53 15.3**	**-1.2**
NEGI				S	**Sg**	**22 53 29.8**	**-2.0**
SMRF	**Simiane la Rot**	**1.18**	**226**	*e*P	**Pn**	**22 53 17.5**	**+1.1**
SMRF				*e*Sg	**Sg**	**22 53 31.0**	**-1.1**
	44nm,0.6s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.18**	**226**	*e*P	**Pn**	**22 53 17.5**	**+1.1**
SMRF				*e*Sg	**Sg**	**22 53 31.0**	**-1.1**
	22nm,0.6s,SNR=1.0						
ORO	**Oropa**	**1.20**	**46**	Pg	**Pg**	**22 53 15.9**	**-1.0**
ORO	**Oropa**	**1.20**	**46**	Pg	**Pg**	**22 53 15.9**	**-1.0**
QLNO	**Quiliano**	**1.23**	**112**	Pg	**Pg**	**22 53 16.7**	**-1.0**
QLNO				Sg	**Sg**	**22 53 32.8**	**-0.9**
QLNO	**Quiliano**	**1.23**	**112**	Pg	**Pg**	**22 53 16.7**	**-1.0**
QLNO				Sg	**Sg**	**22 53 32.8**	**-0.9**
FRF	**La Foret Royal**	**1.25**	**184**	*e*Pg	**Pg**	**22 53 17.5**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sn**	**22 53 35.0**	**+1.1**
	35nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.25**	**184**	*e*Pg	**Pg**	**22 53 17.5**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sn**	**22 53 35.0**	**+1.1**
	18nm,0.2s,SNR=1.0						
PCP	**Piancastagn**	**1.30**	**101**	P	**Pn**	**22 53 18.0**	**-0.1**
LMR	**La Mourre**	**1.48**	**187**	*e*Pn	**Pn**	**22 53 20.4**	**0.0**
	SNR=1.0						
LMR	**La Mourre**	**1.48**	**187**	*e*Pg	**Pg**	**22 53 22.3**	**0.0**
LMR				*e*Sg	**Sg**	**22 53 41.9**	**+0.4**
	25nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.48**	**187**	*e*Pn	**Pn**	**22 53 20.4**	**0.0**
	SNR=1.0						
LMR	**La Mourre**	**1.48**	**187**	*e*Pg	**Pg**	**22 53 22.3**	**0.0**
LMR				*e*Sg	**Sg**	**22 53 41.9**	**+0.4**
	12nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.48**	**273**	*e*Pg	**Pn**	**22 53 21.1**	**+0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**22 53 40.1**	**+0.2**
	15nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.48**	**273**	*e*Pg	**Pn**	**22 53 21.1**	**+0.6**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**22 53 40.1**	**+0.2**
	7.3nm,0.4s,SNR=1.0						
SSB	**Saint Sauveur**	**1.64**	**288**	Pn	**Pn**	**22 53 23.4**	**+0.7**
SSB	**Saint Sauveur**	**1.64**	**288**	Pg	**Pg**	**22 53 25.7**	**+0.3**
CABF	**La Chapelle**	**1.87**	**346**	*e*Pg	**Pn**	**22 53 26.5**	**+0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 53 53.5**	**-0.5**
	7.0nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.20**	**252**	*e*Pn	**Pn**	**22 53 29.4**	**-1.0**
	SNR=1.0						
LASF	**Ste Croix**	**2.20**	**252**	*e*P	**Pn**	**22 53 31.1**	**+0.7**
LASF				*e*Sn	**Sn**	**22 53 55.0**	**-2.5**
	3.9nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.20**	**252**	*e*Pn	**Pn**	**22 53 29.4**	**-1.0**
	SNR=1.0						
LASF	**Ste Croix**	**2.20**	**252**	*e*P	**Pn**	**22 53 31.1**	**+0.7**
LASF				*e*Sn	**Sn**	**22 53 55.0**	**-2.5**
	2.0nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.75**	**313**	*e*P	**Pn**	**22 53 38.6**	**+0.7**
SMF				*e*Sn	**Sn**	**22 54 10.1**	**-1.0**
	SNR=1.0						
SMF				*e*Sg	**Sb**	**22 54 18.9**	**+2.2**
	5.7nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.75**

*IDC **17** 23:02:24.3±2.3, 53.88N×160.65E, h20km±15km, mb4.3/33, mb1 4.5/34, mb1mx4.5/35, mbtmp4.3/34, ML4.9/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/38, Error ellipse: s-maj=13.6km s-min=8.6km az=166.0*

*MOS **17** 23:02:25.1±1.2, 53.89N×160.79E, h41km, mb4.8/35, Error ellipse: s-maj=8.1km s-min=5.3km az=86.4*

*KRSC **17** 23:02:26.4±0.5, 53.73N×160.90E, h27km±17km, ML4.7, FELT [III-IV] at GMS Kronoki; [III] at GMS Semyachiki.*

*BJI **17** 23:02:26.1, 54.71N×160.24E, h25km, mb4.7/18, mb4.5/28, Ms4.0/14, Ms7 3.8/15*

*ISCJB **17** 23:02:26.5±0.3, 53.72N±0.02×160.94E±0.04, h59km±2km, mb4.5/143, MS3.6/18, Error ellipse: s-maj=4.4km s-min=2.2km az=32.6*

*NEIC **17** 23:02:26.3±0.3, 53.94N×160.80E, h35km, mb4.7/25, Error ellipse: s-maj=8.7km s-min=4.8km az=162.0*

*SZGRF **17** 23:02:32.8, 55.50N×159.50E, h10km, mb4.7, Kamchatka Peninsula, Russia*

ISC 17 23:02:26.1±0.3, 53.71N±0.02×160.99E±0.03, h41km±2km, h40km:pP-P, n362, σ1.9 31/412, mb4.6/143, MS3.6/18, 42C-24D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.84**	**224**	PN			**Pn**	**23 02 41.7**	**+0.3**
SPN	**Mys Shipunski**	**0.84**	**224**	*i* P			**Pn**	**23 02 41.7**	**+0.3**
KII	**Karymskiy**	**0.97**	**290**	*i* P			**Pn**	**23 02 43.6**	**+0.3**
SDLR	**Sedlovina**	**1.33**	**252**	*i* P			**Pn**	**23 02 49.2**	**+1.0**
SMAR	**Somma**	**1.38**	**252**	*i* P			**Pn**	**23 02 49.9**	**+0.9**
SMAR				*i* S			**Sn**	**23 03 06.8**	**+0.6**
UGLR	**Uglovaya**	**1.39**	**250**	*i* P			**Pn**	**23 02 50.1**	**+1.1**
UGLR				*i* S			**Sn**	**23 03 06.9**	**+0.7**
KRER	**Koryakskii**	**1.40**	**254**	*i* P			**Pn**	**23 02 50.4**	**+1.2**
KRER				*i* S			**Sn**	**23 03 07.3**	**+0.7**
AVH	**Avacha**	**1.42**	**253**	*i* P			**Pn**	**23 02 50.7**	**+1.3**
AVH				*i* S			**Sn**	**23 03 07.8**	**+0.9**
KOK	**Koryaka**	**1.47**	**254**	*i* P			**Pn**	**23 02 51.3**	**+1.2**
KOK				*i* S			**Sn**	**23 03 08.9**	**+0.8**
PET	**Petropavlovsk**	**1.56**	**245**	||*i* PN		**Pn**	**23 02 52.2**	**+1.0**
PET				*e*S			**Sn**	**23 03 11.2**	**+1.0**
PET					pmax		pmax		
	comp=Z,735nm,0.5s								
PET					smax		smax		
	comp=N,6μm,0.6s								
PET					smax		smax		
	comp=E,6μm,0.7s								
PET	**Petropavlovsk**	**1.56**	**245**	*i* P			**Pn**	**23 02 52.3**	**+1.0**
PET				*i* S			**Sn**	**23 03 10.8**	**+0.6**
TUMR	**Tumrok**	**1.65**	**343**	*i* P			**Pn**	**23 02 53.9**	**+1.2**
TUMR				*i* S			**Sn**	**23 03 13.6**	**+0.9**
GNL	**Ganaly**	**1.81**	**271**	*i* P			**Pn**	**23 02 56.3**	**+1.5**
RUS	**Russkaya**	**1.97**	**230**	PN			**Pn**	**23 02 57.4**	**+0.6**
RUS				S			**Sn**	**23 03 20.5**	**+0.3**
RUS	**Russkaya**	**1.97**	**230**	*e*P			**Pn**	**23 02 57.4**	**+0.6**
RUS				*i* S			**Sn**	**23 03 20.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**2.06**	**254**	*e*Pn			**Pn**	**23 02 59.9**	**+1.7**
PEA0B				*e*Sn			**Sn**	**23 03 22.4**	**-0.2**
PETK	**Petropavlovsk-**	**2.06**	**254**	PN			**Pn**	**23 02 59.8**	**+1.6**
PETK							23 03 26.0		
PETK	**Petropavlovsk-**	**2.06**	**254**	Pg			**Pn**	**23 02 59.8**	**+1.6**
PETK				Lg			Lg	23 03 26.0	
PETK	**Petropavlovsk-**	**2.06**	**254**	Pg			**Pn**	**23 02 59.8**	**+1.6**
	comp=E,219nm,0.3s,baz=87,slow=19,SNR=1189								
PETK				Lg			Lg	23 03 26.0	
	comp=E,233nm,0.3s,baz=68,slow=43,SNR=14								
PETK				LR			LR	23 03 56.8	
	comp=E,573nm,21.6s,baz=102,slow=48								
MTVR	**Mutnovka**	**2.09**	**235**	*e*P			**Pn**	**23 02 59.8**	**+1.1**
MTVR				*i* S			**Sn**	**23 03 23.6**	**+0.1**
KMNR	**Kamenistaya**	**2.10**	**348**	*i* P			**Pn**	**23 03 00.5**	**+1.8**
KMNR				*i* S			**Sn**	**23 03 24.9**	**+1.3**
GRL	**Gorelyy**	**2.10**	**238**	*e*P			**Pn**	**23 03 00.5**	**+1.6**
GRL				*i* S			**Sn**	**23 03 24.9**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.24**	**356**	*i* P			**Pn**	**23 03 02.8**	**+2.1**
BZGR				*i* S			**Sn**	**23 03 28.7**	**+1.5**
BZMR	**Bezymyannaya**	**2.25**	**353**	*i* P			**Pn**	**23 03 02.9**	**+2.0**
BZMR				*i* S			**Sn**	**23 03 28.7**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.28**	**353**	*i* P			Pn	23 03 03.5	+2.2
BZWR				*i* S			**Sn**	**23 03 29.9**	**+1.7**
KIRR	**Kirishev**	**2.28**	**351**	*i* P			**Pn**	**23 03 03.2**	**+1.9**
KIRR				*i* S			**Sn**	**23 03 29.4**	**+1.2**
ASAK	**Asacha**	**2.29**	**236**	*i* P			**Pn**	**23 03 03.0**	**+1.6**
ASAK				*i* S			**Sn**	**23 03 29.5**	**+1.2**
KPT	**Kopyto**	**2.31**	**349**	*i* P			**Pn**	**23 03 03.2**	**+1.6**
KPT				*i* S			**Sn**	**23 03 29.7**	**+1.0**
ZLN	**Zelenaya**	**2.31**	**357**	*i* P			**Pn**	**23 03 03.9**	**+2.2**
ZLN				*i* S			**Sn**	**23 03 30.9**	**+1.9**
CIRR	**Tsirk**	**2.42**	**357**	*i* P			Pn	23 03 05.4	+2.2
CIRR				*i* S			**Sn**	**23 03 33.4**	**+1.9**
APC	**Apacha**	**2.43**	**253**	*i* P			**Pn**	**23 03 04.8**	**+1.6**
APC				*i* S			**Sn**	**23 03 32.5**	**+0.9**
KOZ	**Kozyrevsk**	**2.44**	**345**	*i* P			**Pn**	**23 03 05.1**	**+1.7**
KOZ				*i* S			**Sn**	**23 03 32.8**	**+0.8**
KOZR	**Kozyr**	**2.44**	**345**	PN			**Pn**	**23 03 05.1**	**+1.7**
KOZR				S			**Sn**	**23 03 32.8**	**+0.7**
KRSR	**Krestovskiy**	**2.52**	**355**	*i* P			**Pn**	**23 03 06.4**	**+1.8**
KRSR				*i* S			**Sn**	**23 03 35.2**	**+1.0**
ESO	**Esso**	**2.58**	**330**	PN			**Pn**	**23 03 06.4**	**+1.0**
ESO				S			**Sn**	**23 03 35.8**	**+0.3**
ESO	**Esso**	**2.58**	**330**	*i* P			**Pn**	**23 03 06.4**	**+1.0**
ESO				*i* S			**Sn**	**23 03 35.8**	**+0.3**
KLY	**Klyuchi**	**2.62**	**356**	PN			**Pn**	**23 03 07.7**	**+1.9**
KLY				S			**Sn**	**23 03 37.8**	**+1.6**
KLY	**Klyuchi**	**2.62**	**356**	*i* P			**Pn**	**23 03 07.7**	**+1.9**
KLY				*i* S			**Sn**	**23 03 37.8**	**+1.6**
SRDR	**Sredinnyy**	**2.71**	**345**	*e*P			**Pn**	**23 03 08.0**	**+0.8**
KBTR	**Krutoberegovo**	**2.72**	**22**	PN			**Pn**	**23 03 08.5**	**+1.3**
KBTR				S			**Sn**	**23 03 38.7**	**0.0**
KBTR	**Krutoberegovo**	**2.72**	**22**	*e*P			**Pn**	**23 03 08.5**	**+1.3**
KBTR				*i* S			**Sn**	**23 03 38.7**	**0.0**
BDR	**Baidarnaya**	**2.87**	**2**	*i* P			**Pn**	**23 03 11.3**	**+2.0**
BDR				*i* S			**Sn**	**23 03 43.7**	**+1.1**
SMKR	**Semkarok**	**2.89**	**5**	*i* P			**Pn**	**23 03 11.7**	**+2.1**
SMKR				*i* S			**Sn**	**23 03 44.5**	**+1.3**
MIPR	**Malaya Ipel'ka**	**2.93**	**242**	*e*P			Pn	23 03 13.5	+3.4
BKI	**Bering**	**3.27**	**61**	PN			**Pn**	**23 03 15.7**	**+1.0**
BKI	**Bering**	**3.27**	**61**	*i* P			**Pn**	**23 03 15.7**	**+1.0**
BKI				*i* S			**Sn**	**23 03 50.5**	**-1.9**
PAU	**Pauzhetka**	**3.40**	**230**	PN			Pn	23 03 19.2	+2.7
PAU				S			**Sn**	**23 03 57.3**	**+1.8**
PAU	**Pauzhetka**	**3.40**	**230**	*e*P			Pn	23 03 19.2	+2.7
PAU				*i* S			**Sn**	**23 03 57.3**	**+1.8**
SKR	**Severo-Kuril's**	**4.26**	**227**	*e*PN			**Pn**	**23 03 26.0**	**-2.4**
SKR					pmax		pmax		
	comp=Z,70nm,0.6s								
SKR	**Severo-Kuril's**	**4.26**	**227**	*e*P			Pn	23 03 30.9	+2.5
SKR				*i* S			**Sn**	**23 04 17.4**	**+0.6**
PALN	**Palana**	**5.42**	**354**	P			Pn	23 03 48.0	+3.8
TILK	**Tilichiki**	**7.31**	**20**	P			Pn	23 04 13.8	+3.7
FX1	**Attu Island--F**	**7.35**	**92**	*e*Pn			**Pn**	**23 04 11.5**	**+0.8**
FX1				Sn			**Sn**	**23 05 29.4**	**-3.3**
FX1				*e*Sn			Sn	23 05 29.5	-3.2
FX1	**Attu Island--F**	**7.35**	**92**	Pn			**Pn**	**23 04 11.4**	**+0.8**
	comp=Z,57nm,0.3s,baz=316,slow=3.7,SNR=290								
FX1				Sn			**Sn**	**23 05 29.4**	**-3.3**
	comp=Z,24nm,0.3s,baz=165,slow=19,SNR=7.8								
SMY	**Shemya**	**7.93**	**92**	*e*PN			**Pn**	**23 04 20.3**	**+1.6**
SMY	**Shemya**	**7.93**	**92**	*e*Pn			**Pn**	**23 04 20.3**	**+1.6**
SMY				*e*Sn			**Sn**	**23 05 44.7**	**-2.3**
AMKA	**Amchitka**	**11.39**	**94**	*e*Pn			**Pn**	**23 05 07.8**	**+1.8**
AMKA				*e*Sn			**Sn**	**23 07 10.2**	**-1.6**
YSS	**Yuzh-Sakhalins**	**13.45**	**247**	*e*PN			**Pn**	**23 05 33.7**	**-0.4**
ADK	**Adak**	**13.62**	**89**	*e*P			**Pn**	**23 05 37.2**	**+0.7**
ADK	**Adak**	**13.62**	**89**	*e*Pn			**Pn**	**23 05 37.2**	**+0.7**
ASAJ	**Asahikawa**	**15.39**	**239**	Pn			**Pn**	**23 06 01.7**	**+1.5**
ASAJ				*e*Pn			**P**	**23 06 02.9**	**-1.3**
ASAJ	**Asahikawa**	**15.39**	**239**	Pn			**Pn**	**23 06 01.7**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=65,slow=12,SNR=8.7								
ASAJ				LR			LR	23 11 30.6	
	comp=Z,128nm,19.5s,baz=167,slow=36								
ERM	**Erimo**	**16.68**	**233**	*e*P			**P**	**23 06 19.1**	**+0.7**
ERM					pmax		pmax		
	comp=Z,17nm,0.5s								
ERM	**Erimo**	**16.68**	**233**	*e*Pn			**P**	**23 06 19.1**	**+0.7**
	comp=Z,17nm,0.5s								
YAK	**Yakutsk**	**18.45**	**309**	*e*P			**P**	**23 06 35.7**	**-2.1**
YAK				*e*S			**Sn**	**23 09 57.7**	**-5.4**
YAK					pmax		pmax		
	comp=Z,24nm,0.9s								
YAK					pmax		pmax		
	comp=E,8.0nm,0.9s								
YAK					pmax		pmax		
	comp=Z,20nm,0.8s								
YAK					pmax		pmax		
	comp=N,4.0nm,1.0s								
YAK					smax		smax		
	comp=N,29nm,2.5s								
YAK					smax		smax		
	comp=E,10.0nm,1.8s								
YAK					MLR		MLR		
	comp=N,38nm,14.0s								
YAK					MLR		MLR		
	comp=E,85nm,14.0s								
KLR	**Kul'dur**	**18.69**	**268**	*e*P			**Pn**	**23 06 40.9**	**-0.3**
CLNS	**Chul'man**	**20.64**	**293**	*e*P			**P**	**23 06 59.0**	**-2.9**
CLNS					pmax		pmax		
	comp=E,11nm,1.0s								
CLNS					pmax		pmax		
	comp=Z,12nm,0.8s								
CLNS					pmax		pmax		
	comp=N,7.0nm,0.8s								
USRK	**Ussuriysk Arra**	**21.15**	**255**	P			**P**	**23 07 08.6**	**+1.3**
	comp=N,2.4nm,0.5s,baz=50,slow=13,SNR=11								
USRK					LR		LR	23 15 24.0	
	comp=N,82nm,19.6s,baz=66,slow=37								
TIXI	**Tiksi**	**22.75**	**334**	*e*P			**P**	**23 07 22.6**	**-1.6**
TIXI					pmax		pmax		
	comp=Z,17nm,1.3s								
MAT	**Matsushiro**	**23.35**	**232**	P			**P**	**23 07 31.2**	**+0.6**
MJAR	**Matsushiro Arr**	**23.35**	**232**	P			**P**	**23 07 32.0**	**+1.4**
MJAR	**Matsushiro Arr**	**23.35**	**232**	P			**P**	**23 07 32.0**	**+1.4**
	comp=Z,13nm,0.8s,baz=21,slow=10,SNR=34								
MJAR					LR		LR	23 17 11.8	
	comp=Z,47nm,19.8s,baz=295,slow=38								
IM04	**Indian Mountai**	**25.17**	**43**	*e*P			**P**	**23 07 44.6**	**-2.5**
CN2	**Changchun**	**25.19**	**261**	*e*P			**P**	**23 07 45.3**	**-2.2**
CN2				*e*PP			**PnPn**	**23 08 24.5**	**+1.8**
CN2				*e*S			**S**	**23 12 04.8**	**-5.0**
CN2				*e*SS			**SnSn**	**23 13 07.3**	**+4.9**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.8s								
CN2					LR		LR		
	comp=N,190nm,20.0s								
CN2					LR		LR		
	comp=E,140nm,20.0s								
CN2					LR		LR		
	comp=Z,120nm,21.0s								
IMA2	**Indian Mountai**	**25.22**	**43**	*e*P			**P**	**23 07 45.7**	**-2.0**
HIA	**Hailar**	**25.79**	**277**	*e*P			**P**	**23 07 50.9**	**-2.1**
	comp=Z,12nm,0.6s								
COLD	**Coldfoot**	**26.73**	**41**	*e*P			**P**	**23 08 00.2**	**-1.1**
	comp=Z,7.0nm,0.4s								
COLA	**College**	**27.59**	**46**	*e*P			**P**	**23 08 09.4**	**+0.5**
KSRS	**Korea Array**	**27.95**	**248**	P			**P**	**23 08 12.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=44,slow=11,SNR=7.0								
KSAR	**Wonju Array Be**	**27.98**	**248**	P			**P**	**23 08 12.4**	**-0.2**
ILAR	**Eielson Array**	**28.00**	**46**	P			**P**	**23 08 13.2**	**+0.5**
ILAR	**Eielson Array**	**28.00**	**46**	P			**P**	**23 08 13.2**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=263,slow=8.4,SNR=28								
ILAR					LR		LR	23 19 12.5	
	comp=Z,47nm,18.1s,baz=136,slow=36								
JNU	**Nakatsue**	**29.67**	**238**	*e*P			**P**	**23 08 28.7**	**+0.9**
	comp=Z,6.0nm,1.0s								
JNU					P		P	**23 08 28.8**	**+1.0**
JNU	**Nakatsue**	**29.67**	**238**	P			**P**	**23 08 28.8**	**+1.0**
	comp=Z,4.2nm,0.5s,baz=229,slow=5.7,SNR=4.5								
JNU					LR		LR	23 20 30.8	
	comp=Z,51nm,19.8s,baz=231,slow=37								
EGAK	**Eagle**	**30.45**	**46**	*e*P			**P**	**23 08 34.6**	**+0.3**
	comp=Z,5.2nm,0.6s								
INK	**Inuvik**	**33.05**	**38**	P			**P**	**23 08 58.5**	**+1.5**
INK					PcP		**PcP**	**23 11 39.1**	**-0.4**
INK	**Inuvik**	**33.05**	**38**	P			**P**	**23 08 58.5**	**+1.5**
	comp=Z,2.3nm,0.5s,baz=272,slow=7.2,SNR=8.6								
INK					PcP		**PcP**	**23 11 39.1**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=287,slow=3.8,SNR=4.4								
SONM	**Songino Array**	**34.28**	**283**	P			**P**	**23 09 07.3**	**-0.9**
SONM					PcP		**PcP**	**23 11 44.0**	**+0.4**
SONM	**Songino Array**	**34.28**	**283**	P			**P**	**23 09 07.3**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=68,slow=7.6,SNR=9.4								
SONM					PcP		**PcP**	**23 11 44.0**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=60,slow=1.5,SNR=7.9								
SONM					LR		LR	23 24 23.6	
	comp=Z,95nm,18.9s,baz=50,slow=39								
HHC	**Hu-ho-hao-te**	**35.19**	**269**	*e*P			**P**	**23 09 17.3**	**+1.2**
HHC				pP			**pP**	**23 09 26.0**	**-1.3**
HHC				sP			**sP**	**23 09 30.0**	**-2.2**
HHC				PP			**PP**	**23 10 35.6**	**-0.6**
HHC				S			**S**	**23 14 46.8**	**+0.4**
HHC				sS			**sS**	**23 15 02.9**	**-2.3**
HHC				SS			**SnSn**	**23 17 03.8**	**-1.9**
HHC					pmax		pmax		
	comp=Z,33nm,0.8s								
HHC					pmax		pmax		
	comp=Z,120nm,5.4s								
HHC					LR		LR		
	comp=N,230nm,13.2s								
HHC					LR		LR		
	comp=E,200nm,13.2s								
HHC					LR		LR		
	comp=Z,180nm,13.5s								
JOW	**Kunigami**	**36.10**	**235**	*e*P			**P**	**23 09 26.0**	**+2.2**
NJ2	**Nanjing**	**36.96**	**251**	*e*P			P	23 09 33.9	+2.8
NJ2					pmax		pmax		
	comp=Z,12nm,0.7s								
HVS	**Khovu-Aksy**	**39.73**	**295**	*e*P			**P**	**23 09 52.4**	**-1.9**
HVS					pmax		pmax		
	comp=Z,12nm,1.2s								
YKA	**Yellowknife Ar**	**42.34**	**43**	P			**P**	**23 10 16.6**	**+1.1**
YKA	**Yellowknife Ar**	**42.34**	**43**	P			**P**	**23 10 16.6**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=297,slow=7.6,SNR=12								
LZH	**Lanzhou**	**42.88**	**270**	*e*P			**P**	**23 10 22.1**	**+1.7**
LZH				pP			**pP**	**23 10 32.0**	**+0.1**
LZH				sP			**sP**	**23 10 35.8**	**-0.9**
LZH				PP			**PP**	**23 12 04.5**	**+4.3**
LZH					pmax		pmax		
	comp=Z,21nm,1.2s								
LZH					pmax		pmax		
	comp=Z,63nm,6.5s								
LZH					LR		LR		
	comp=N,280nm,13.8s								
LZH					LR		LR		
	comp=E,260nm,14.0s								
LZH					LR		LR		
	comp=Z,380nm,18.1s								
ZALV	**Zalesovo Beam**	**42.90**	**303**	P			P	23 10 16.8	-3.3
ZALV	**Zalesovo Beam**	**42.90**	**303**	P			P	23 10 16.8	-3.3
ZALV	**Zalesovo Beam**	**42.90**	**303**	P			P	23 10 16.8	-3.3
	comp=Z,0.8nm,0.4s,baz=61,slow=6.8,SNR=6.5								
ZALV					LR		LR	23 29 33.4	
	comp=Z,76nm,18.7s,baz=159,slow=38								
GTA	**Gaotai**	**43.07**	**276**	*e*P			**P**	**23 10 21.0**	**-0.9**
GTA				pP			**pP**	**23 10 31.0**	**-2.4**
GTA				sP			**sP**	**23 10 34.6**	**-3.6**
GTA				S			**S**	**23 16 43.8**	**-1.1**
GTA				sS			**sS**	**23 17 00.6**	**-3.3**
GTA				SS			SS	23 19 49.5	-8.3
GTA					pmax		pmax		
	comp=Z,4.0nm,1.2s								
GTA					pmax		pmax		
	comp=Z,76nm,5.9s								
GTA					LR		LR		
	comp=N,71nm,17.8s								
GTA					LR		LR		
	comp=E,100nm,17.3s								
GTA					LR		LR		
	comp=Z,100nm,16.9s								
NVS	**Novosibirsk**	**43.21**	**304**	*e*P			**P**	**23 10 19.7**	**-2.9**
CD2	**Chengdu**	**46.56**	**264**	*e*P			P	23 10 52.3	+2.6
CD2				pP			pP	23 11 02.6	+1.4
CD2				sP			sP	23 11 06.8	+0.8
CD2					pmax		pmax		
	comp=Z,10.0nm,0.9s								
CD2					pmax		pmax		
	comp=Z,30nm,4.8s								
WMQ	**Urumqi**	**47.27**	**289**	P			**P**	**23 10 53.9**	**-1.2**
WMQ				sP			**sP**	**23 11 08.9**	**-2.6**
WMQ				S			**S**	**23 17 43.8**	**-1.5**
WMQ				ScS			**ScS**	**23 20 42.8**	**-2.5**
WMQ					pmax		pmax		
	comp=Z,13nm,1.0s								
WMQ					pmax		pmax		
	comp=Z,99nm,5.0s								
WMQ					LR		LR		
	comp=N,46nm,22.0s								
WMQ					LR		LR		
	comp=E,51nm,24.0s								
WMQ					LR		LR		
	comp=Z,75nm,17.5s								
GYA	**Guiyang**	**48.15**	**258**	*e*P			P	23 11 05.0	+2.8
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
MK31	**Makanchi Array**	**48.37**	**296**	*e*P			**P**	**23 11 00.4**	**-3.1**
MK31	**Makanchi Array**	**48.37**	**296**	*e*P			**P**	**23 11 00.4**	**-3.1**
MKAR	**Makanchi Array**	**48.37**	**296**	P			**P**	**23 11 00.4**	**-3.1**
MKAR	**Makanchi Array**	**48.37**	**296**	P			**P**	**23 11 00.3**	**-3.1**
MKAR				*e*P			**P**	**23 11 00.8**	**-2.8**
MKAR	**Makanchi Array**	**48.37**	**296**	P			**P**	**23 11 00.3**	**-3.1**
	comp=Z,0.8nm,0.4s,baz=55,slow=7.2,SNR=14								
DAG	**Danmarks Havn**	**49.79**	**360**	||*i* P		**P**	**23 11 13.1**	**-0.8**
	comp=Z,3.7nm,0.8s								
BVAR	**Borovoye Array**	**50.42**	**308**	LR			LR	23 35 05.4	
	comp=Z,57nm,18.8s,baz=112,slow=39								
BRVK	**Borovoye**	**50.45**	**308**	*e*P			**P**	**23 11 16.7**	**-2.5**
BRVK					pmax		pmax		
	comp=Z,2.0nm,0.6s								
BSMT	**Bassoo Peak**	**50.60**	**60**	*e*P			**P**	**23 11 22.7**	**+2.0**
ARCES	**ARCESS Array B**	**52.87**	**342**	P			**P**	**23 11 35.8**	**-1.2**
ARCES	**ARCESS Array B**	**52.87**	**342**	P			**P**	**23 11 35.8**	**-1.2**
	comp=Z,6.8nm,1.0s,baz=40,slow=4.8,SNR=9.6								
SUMG	**Summit**	**53.28**	**7**	*e*P			**P**	**23 11 40.1**	**-0.4**
SUMG					pmax		pmax		
	comp=Z,26nm,1.0s								
SUMG	**Summit**	**53.28**	**7**	*i* P			**P**	**23 11 40.8**	**+0.3**
	comp=Z,19nm,1.0s								
SUMG	**Summit**	**53.28**	**7**	*e*P			**P**	**23 11 40.1**	**-0.4**
	comp=Z,26nm,1.0s								
ARU	**Arti**	**53.30**	**317**	*d i*P			**P**	**23 11 39.0**	**-1.4**
ARU								23 13 38.0	
ARU				S			**S**	**23 19 08.4**	**-0.3**
ARU					pmax		pmax		
	comp=Z,7.0nm,1.2s								
PAHR	**Pah Rah Range**	**53.54**	**71**	*e*P			**P**	**23 11 42.1**	**-0.4**
	comp=Z,19nm,1.6s								
GCMT	**Greycliff**	**54.60**	**59**	*e*P			**P**	**23 11 50.1**	**-0.1**
	comp=Z,3.6nm,0.5s								
NVAR	**Mina Array Bea**	**55.03**	**71**	P			P	23 11 57.1	+3.6
NVAR	**Mina Array Bea**	**55.03**	**71**	P			P	23 11 57.1	+3.6
	comp=Z,1.5nm,0.7s,baz=292,slow=7.9,SNR=10								
IMW	**Indian Meadow**	**55.25**	**62**	*e*P			P	23 11 58.1	+3.0
	comp=Z,3.6nm,1.0s								
RLMT	**Red Lodge**	**55.27**	**59**	*e*P			**P**	**23 11 53.7**	**-1.4**
	comp=Z,1.9nm,0.6s								
AAK	**Ala-Archa**	**55.29**	**296**	*e*P			**P**	**23 11 52.9**	**-2.4**
AAK					pmax		pmax		
	comp=Z,3.0nm,1.0s								
KSH	**Kashi**	**56.66**	**293**	*e*P			P	23 12 09.0	+3.9
KSH					pmax		pmax		
	comp=Z,2.0nm,0.7s								
KSH					pmax		pmax		
	comp=Z,100nm,6.4s								
PDAR	**Pinedale Array**	**56.76**	**62**	P			**P**	**23 12 08.0**	**+2.1**
PDAR	**Pinedale Array**	**56.76**	**62**	P			**P**	**23 12 08.0**	**+2.1**
	comp=Z,1.8nm,0.7s,baz=318,slow=3.1,SNR=11								
DUG	**Dugway**	**56.83**	**66**	*e*P			**P**	**23 12 09.0**	**+2.7**
DUG					pmax		pmax		
	comp=Z,3.0nm,0.9s								
DUG	**Dugway**	**56.83**	**66**	*e*P			**P**	**23 12 09.0**	**+2.7**
	comp=Z,3.4nm,0.9s								
KKAR	**Karatay Array**	**57.05**	**299**	*e*P			**P**	**23 12 05.2**	**-2.5**
KKAR	**Karatay Array**	**57.05**	**299**	*e*P			**P**	**23 12 05.2**	**-2.5**
SFJD	**Kangerlussuaq**	**57.29**	**14**	P			**P**	**23 12 08.6**	**-0.3**
SFJD	**Kangerlussuaq**	**57.29**	**14**	P			**P**	**23 12 08.6**	**-0.3**
	comp=Z,4.9nm,0.4s,baz=242,slow=0.9,SNR=4.9								
AKTO	**Aktyubinsk**	**57.80**	**313**	LR			LR	23 38 35.4	
	comp=Z,36nm,18.5s,baz=339,slow=38								
ABKAR	**Akbulak array**	**57.80**	**311**	*e*P			**P**	**23 12 10.5**	**-2.3**
ULM	**Lac du Bonnet**	**58.01**	**47**	P			**P**	**23 12 15.4**	**+1.2**
ULM	**Lac du Bonnet**	**58.01**	**47**	P			**P**	**23 12 15.4**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=341,slow=5.2,SNR=3.3								
ULM				LR			LR	23 39 23.3	
	comp=Z,40nm,18.4s,baz=316,slow=38								
CHTO	**Chiang Mai**	**58.55**	**259**	*e

KBZ LR LR 23 48 55.6
comp=Z,54nm,19.3s,baz=220,slow=40
TXAR Lajitas Array 69.91 68 P **P 23 13 34.8 +2.0**
TXAR Lajitas Array 69.91 68 P **P 23 13 34.8 +2.0**
comp=Z,2.3nm,0.5s,baz=300,slow=6.3,SNR=41
TXAR LR LR 23 42 42.6
comp=Z,34nm,20.7s,baz=80,slow=34
BSEG Bad Segeberg 70.00 342 *eP* **P 23 13 33.4 +0.6**
comp=Z,12nm,1.0s
BSEG Bad Segeberg 70.00 342 *eP* **P 23 13 33.4 +0.6**
BSEG pmax pmax
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 70.54 350 P **P 23 13 36.0 -0.2**
EKA Eskdalemuir Ar 70.54 350 P **P 23 13 36.0 -0.2**
comp=Z,4.3nm,0.7s,baz=21,slow=5.3,SNR=18
SIUC Southern Illin 70.72 52 *eP* **P 23 13 38.6 +1.1**
MIAR Mount Ida 71.14 57 *eP* **P 23 13 41.1 +0.9**
MIAR pmax pmax
comp=Z,4.0nm,0.8s
MIAR Mount Ida 71.14 57 *eP* **P 23 13 41.1 +0.9**
comp=Z,4.4nm,0.8s
KWP Kalwaria Pacla 71.19 333 *eP* **P 23 13 40.8 +0.6**
comp=Z,22nm,1.1s
KWP Kalwaria Pacla 71.19 333 ⇓P **P 23 13 40.6 +0.3**
KWP Kalwaria Pacla 71.19 333 ⇓*i*P **P 23 13 40.6 +0.3**
KWP Kalwaria Pacla 71.19 333 *eP* **P 23 13 40.6 +0.3**
comp=Z,20nm,0.9s
NRDL Niedersach Rie 71.41 342 *eP* **P 23 13 41.7 +0.3**
comp=Z,5.0nm,0.9s
KSP Ksiaz 71.68 337 *eP* **P 23 13 43.1 -0.1**
STHS Stebnicka Huta 71.78 334 *eP* **P 23 13 44.6 +0.8**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 71.78 334 *eP* **P 23 13 44.6 +0.8**
KOLS Kolonicke sedl 71.94 333 *eP* **P 23 13 44.6 -0.2**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 71.94 333 *eP* **P 23 13 44.6 -0.2**
CLL Collm 71.97 340 *eP* **P 23 13 44.8 0.0**
comp=Z,11nm,1.0s
CLL Collm 71.97 340 ⇓*i*P **P 23 13 44.8 0.0**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 71.97 340 ⇓*i*P **P 23 13 44.8 0.0**
comp=Z,17nm,1.1s
UPC Upice 72.06 337 *eP* **P 23 13 45.9 +0.4**
UPC Upice 72.06 337 ⇓*eP* **P 23 13 45.9 +0.4**
DPC Dobruska-Polom 72.14 337 *eP* **P 23 13 46.4 +0.4**
DPC pmax pmax
comp=Z,60nm,1.1s
DPC Dobruska-Polom 72.14 337 *eP* **P 23 13 46.3 +0.4**
DPC Dobruska-Polom 72.14 337 *eP* **P 23 13 46.4 +0.4**
comp=Z,60nm,1.1s
BRG Berggiesshubel 72.18 339 *i* P **P 23 13 45.9 -0.2**
comp=Z,12nm,1.4s
BRG Berggiesshubel 72.18 339 *eP* **P 23 13 46.1 0.0**
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 72.18 339 *i* P **P 23 13 45.9 -0.2**
OKC Ostrava-Krasne 72.18 336 *eP* **P 23 13 46.1 0.0**
OKC Ostrava-Krasne 72.18 336 ⇓*eP* **P 23 13 46.1 0.0**
CRVS Cervenica-Dubn 72.19 333 *eP* **P 23 13 46.1 -0.2**
CRVS pmax pmax
comp=Z,4.0nm,1.1s
CRVS Cervenica-Dubn 72.19 333 *eP* **P 23 13 46.1 -0.2**
BURAR Bucovina Array 72.31 330 ⇑P **P 23 13 46.3 -0.8**
BURAR Bucovina Array 72.31 330 ⇑*i*P **P 23 13 46.3 -0.8**
PVCC Panska Ves 72.36 338 *eP* **P 23 13 48.1 +0.8**
PVCC Panska Ves 72.36 338 ⇓*eP* **P 23 13 48.1 +0.8**
MORC Moravsky Berou 72.38 336 *eP* **P 23 13 47.6 +0.2**
MORC Moravsky Berou 72.38 336 *eP* **P 23 13 47.6 +0.2**
TRPA Tarpa 72.60 332 ⇑*i*P **P 23 13 49.2 +0.5**
WVT Waverly 72.65 52 *eP* **P 23 13 48.9 -0.3**
WVT pmax pmax
comp=Z,5.0nm,0.6s
WVT Waverly 72.65 52 *eP* **P 23 13 48.9 -0.3**
comp=Z,4.7nm,0.6s
KECS Kecovo 72.84 334 *eP* **P 23 13 48.4 -1.7**
KECS pmax pmax
comp=Z,4.0nm,1.7s
KECS Kecovo 72.84 334 *eP* **P 23 13 48.4 -1.7**
TESR Tescani 72.87 329 ⇓*i*P **P 23 13 49.4 -0.9**
MOX Moxa 72.88 340 *eP* **P 23 13 50.6 +0.3**
comp=Z,7.0nm,1.0s
MOX Moxa 72.88 340 *eP* **P 23 13 50.6 +0.3**
MOX pmax pmax
comp=Z,7.0nm,1.0s
PRU Pruhonice 72.88 338 *eP* **P 23 13 50.5 +0.2**
PRU Pruhonice 72.88 338 ⇓*eP* **P 23 13 50.5 +0.2**
TANN Tannenbergstha 72.92 340 *eP* **P 23 13 50.9 +0.2**
comp=Z,2.0nm,0.8s
UBBA Unterbreizbach 73.03 341 *eP* **P 23 13 51.2 +0.1**
comp=Z,2.0nm,0.7s
TREC Trest 73.32 337 *eP* **P 23 13 52.7 -0.2**
TREC Trest 73.32 337 ⇓*eP* **P 23 13 52.7 -0.2**
TLCR 73.36 327 ⇓P **P 23 13 52.0 -1.2**
TLCR 73.36 327 ⇓*i*P **P 23 13 52.0 -1.2**
MANZ Manzenberg 73.40 340 *eP* **P 23 13 53.7 +0.2**
comp=Z,3.0nm,1.0s
VRI Vrincioaia 73.42 329 ⇓P **P 23 13 53.1 -0.5**
VRI Vrincioaia 73.42 329 ⇓*i*P **P 23 13 53.1 -0.5**
ROTZ Rotzenmuhle 73.59 339 *eP* **P 23 13 55.2 +0.7**
comp=Z,3.0nm,0.8s
CFR Carcaliu 73.59 327 ⇓P **P 23 13 53.6 -1.0**
CFR Carcaliu 73.59 327 ⇓*i*P **P 23 13 53.6 -1.0**
GRF Grafenberg Arr 73.86 340 *eP* **P 23 13 56.9 +0.8**
comp=Z,8.0nm,0.8s
GRF Grafenberg Arr 73.86 340 *eP* **P 23 13 56.9 +0.8**
GRF pmax pmax
comp=Z,8.0nm,0.8s
GRFO Grafenberg 73.86 340 *eP* **P 23 13 55.0 -1.1**
GRFO pmax pmax
comp=Z,24nm,1.4s
GRFO Grafenberg 73.86 340 *eP* **P 23 13 55.0 -1.1**
comp=Z,24nm,1.4s
TNS Taunus Mts 73.89 342 *eP* **P 23 13 56.7 +0.3**
comp=Z,4.0nm,0.8s
TNS Taunus Mts 73.89 342 *eP* **P 23 13 56.7 +0.3**
TNS pmax pmax
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 73.90 338 ⇓*i*P **P 23 13 57.0 +0.6**
KHC Kasperske Hory 73.90 338 ⇓*i*P **P 23 13 57.0 +0.6**
KHC Kasperske Hory 73.90 338 *eP* **P 23 13 56.0 -0.4**
comp=Z,9.4nm,1.1s
MEM Membach 73.95 344 P **P 23 13 56.3 -0.3**
comp=Z,15nm,1.1s
MLR Muntele Rosu 74.00 329 ⇓*i*P **P 23 13 57.0 -0.2**
WET Wettzell 74.04 339 *eP* **P 23 13 58.0 +0.8**
comp=Z,5.0nm,0.9s
WET Wettzell 74.04 339 *eP* **P 23 13 58.0 +0.8**
WET pmax pmax
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 74.14 338 *eP* **P 23 13 58.2 +0.3**
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 74.14 338 *eP* **P 23 13 58.2 +0.3**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 74.14 338 P **P 23 13 58.0 +0.1**
GERES GERESS Array B 74.14 338 P **P 23 13 58.0 +0.1**
comp=Z,3.1nm,0.5s,baz=32,slow=5.4,SNR=36
TIRR Tirgusor 74.14 327 ⇓P **P 23 13 57.2 -0.6**
TIRR Tirgusor 74.14 327 ⇓*i*P **P 23 13 57.2 -0.6**
VOIR 74.32 329 ⇑P **P 23 13 59.3 +0.3**
VOIR 74.32 329 ⇑*i*P **P 23 13 59.3 +0.3**
CONA Conrad Observa 74.51 336 ⇑*i*P **P 23 14 00.6 +0.5**
comp=Z,5.6nm,0.7s
ARR Arges 74.51 330 ⇑*i*P **P 23 14 01.7 +1.7**
GIVF Givet 74.63 344 *eP* **P 23 14 00.1 -0.5**
BAIF Baives 74.77 345 ⇑*i*P **P 23 14 01.2 -0.2**
comp=Z,9.9nm,0.8s
WLF Walferdange 74.83 343 *eP* **P 23 14 04.1 +2.3**
comp=Z,7.0nm,1.0s
MOA Molln 74.95 338 ⇓*i*P **P 23 14 02.6 +0.1**
comp=Z,3.6nm,0.8s
STU Stuttgart 75.14 341 *eP* **P 23 14 03.8 +0.2**
comp=Z,7.0nm,1.1s
BZS Buzias 75.16 332 ⇑P **P 23 14 03.4 -0.3**
BZS Buzias 75.16 332 ⇑*i*P **P 23 14 03.4 -0.3**
ARSA Arzberg 75.22 336 ⇑*i*P **P 23 14 04.7 +0.6**
comp=Z,4.2nm,0.6s
RJOB Jochberg 75.39 338 *eP* **P 23 14 05.8 +0.7**
comp=Z,5.0nm,0.8s
PKSM Moragy 75.42 334 ⇑P **P 23 14 04.5 -0.6**
PKSM Moragy 75.42 334 ⇑*i*P **P 23 14 04.5 -0.6**
BFO Black Forest 75.73 342 *eP* **P 23 14 07.0 0.0**
comp=Z,2.0nm,0.8s
BFO Black Forest 75.73 342 *eP* **P 23 14 07.0 0.0**
BFO pmax pmax
comp=Z,2.0nm,0.8s
CDF Champ du Feu 75.84 342 ⇑*i*P **P 23 14 07.6 -0.1**
comp=Z,12nm,0.8s
SOKA Soboth 75.88 337 *i* P **P 23 14 08.2 +0.3**
comp=Z,6.4nm,0.5s,SNR=10
KBA Koelnbreinsper 75.89 338 ⇑*i*P **P 23 14 09.0 +0.9**
comp=Z,32nm,1.1s,SNR=21
PERS Pernice 75.90 337 *i* P **P 23 14 08.4 +0.4**
PAGF Fort de Pagny 75.98 343 ⇑*i*P **P 23 14 08.6 +0.2**
comp=Z,4.2nm,0.7s
WATA Walderalm 76.03 339 ⇑*i*P **P 23 14 09.2 +0.3**
comp=Z,3.5nm,0.6s
ECH Echery 76.06 342 *eP* **P 23 14 07.9 -0.9**
ECH pmax pmax
comp=Z,9.0nm,1.2s
ECH Echery 76.06 342 *eP* **P 23 14 07.9 -0.9**
comp=Z,8.9nm,1.2s
RETA Reutte 76.06 340 ⇑*i*P **P 23 14 09.0 +0.1**
comp=Z,6.5nm,1.1s
WTTA Wattenberg 76.09 339 ⇑*i*P **P 23 14 09.7 +0.5**
comp=Z,6.6nm,0.6s,SNR=6.3
MOTA Moosalm 76.12 339 ⇑*i*P **P 23 14 09.6 +0.2**
comp=Z,6.9nm,0.7s,SNR=10
MEZF Maizieres J'vi 76.14 344 ⇑*i*P **P 23 14 09.3 0.0**
comp=Z,9.1nm,0.7s
OBKA Obir 76.15 337 ⇑*i*P **P 23 14 09.8 +0.4**
comp=Z,11nm,1.0s,SNR=6.5
ABTA Abfaltersbach 76.39 338 ⇑*i*P **P 23 14 10.5 -0.3**
comp=Z,12nm,0.9s,SNR=9.0
HAU Haudompre 76.40 343 ⇑*i*P **P 23 14 10.5 -0.3**
comp=Z,8.3nm,0.7s
HAU *eR*
comp=Z,64nm,20.5s
DAVA Damuels 76.43 340 ⇑*i*P **P 23 14 11.3 +0.2**
comp=Z,4.4nm,0.9s
SFTF Sexfontaines 76.43 344 ⇑*i*P **P 23 14 10.8 -0.2**
comp=Z,17nm,0.7s
BRTR Keskin Array B 76.48 321 P **P 23 14 10.6 -1.0**
BRTR Keskin Array B 76.48 321 P **P 23 14 10.6 -1.0**
comp=Z,1.9nm,0.9s,baz=39,slow=4.3,SNR=8.3
HINF Hinteralfeld 76.50 342 ⇑*i*P **P 23 14 10.8 -0.6**
comp=Z,4.8nm,0.6s
FETA Feichten 76.51 340 ⇑*i*P **P 23 14 12.0 +0.4**
comp=Z,12nm,1.0s,SNR=9.1
FLN La Foliniere 76.70 348 *eP* **P 23 14 12.0 -0.4**
comp=Z,7.7nm,0.8s
FLN *eR*
comp=Z,37nm,21.5s
LDF La Druitiere 76.82 347 *eP* **P 23 14 12.5 -0.6**
comp=Z,15nm,1.1s
WRA Warramunga Arr 76.87 206 P **P 23 14 14.2 +0.6**
WRA Warramunga Arr 76.87 206 P **P 23 14 14.2 +0.6**
comp=Z,3.4nm,0.9s,baz=22,slow=5.9,SNR=8.0
DAVOX Davos/Dischmat 76.91 340 P **P 23 14 14.3 +0.4**
DAVOX Davos/Dischmat 76.91 340 P **P 23 14 14.3 +0.4**
comp=Z,5.8nm,0.7s,baz=360,slow=4.2,SNR=22
GRR Gorron 77.12 348 ⇑*i*P **P 23 14 14.5 -0.3**
comp=Z,13nm,0.7s
TUE Stuetta 77.31 340 *eP* **P 23 14 16.5 +0.3**
comp=Z,8.4nm,0.6s
ROSF Rostrenen 77.46 349 ⇑*i*P **P 23 14 16.6 -0.1**
comp=Z,26nm,1.0s
SGMF Saint Gilles 77.46 349 ⇑*i*P **P 23 14 16.5 -0.2**
comp=Z,18nm,0.9s
LOR Lormes 77.54 344 ⇑*i*P **P 23 14 16.9 -0.3**
comp=Z,14nm,0.8s
LOR *eR*
comp=Z,42nm,22.0s
SSF Saint Saulge 77.80 344 ⇑*i*P **P 23 14 18.4 -0.2**
comp=Z,6.3nm,0.8s
CABF La Chapelle 77.80 343 *eP* **P 23 14 18.9 +0.2**
comp=Z,10nm,0.8s
QUIF Quistinic 77.86 349 *eP* **P 23 14 18.8 -0.1**
comp=Z,5.9nm,0.7s
AVF Avril sur Loir 78.08 345 ⇑*i*P **P 23 14 20.1 -0.1**
comp=Z,8.7nm,0.7s
SMF Signal de Mont 78.14 344 ⇑*i*P **P 23 14 20.4 -0.2**
comp=Z,18nm,1.2s
BGF Bois d'Agland 78.39 345 *eP* **P 23 14 21.9 0.0**
LPL La Plagne 78.74 342 ⇑*i*P **P 23 14 25.0 +0.9**
comp=Z,23nm,0.9s
TCF Toulx Ste Croi 78.75 345 ⇑*i*P **P 23 14 23.9 0.0**
comp=Z,3.8nm,0.7s
LPG La Plagne 78.75 342 ⇑*i*P **P 23 14 25.2 +0.9**
comp=Z,43nm,1.1s
MFF Saint Martin d 78.78 347 *eP* **P 23 14 24.3 +0.3**
MIB Mutribah 79.03 306 *eP* **P 23 14 23.2 -2.5**
MIB AMb AMB 23 14 25.4
comp=Z,15nm,0.6s
BNI Bardonecchia 79.19 342 *eP* **P 23 14 26.8 +0.3**
BNI pmax pmax
comp=Z,8.0nm,1.0s
BNI Bardonecchia 79.19 342 *eP* **P 23 14 26.8 +0.3**
comp=Z,7.6nm,1.0s
RST Umm Al-Ruwaisa 79.44 306 *eP* **P 23 14 25.6 -2.4**
RST AMb AMB 23 14 27.4
comp=Z,123nm,0.8s
ORIF Oris-en-Rattie 79.47 342 *eP* **P 23 14 28.8 +0.8**
comp=Z,7.6nm,0.6s
ORIF *eR*
comp=Z,34nm,21.5s
MBDF Montbardon 79.49 342 *eP* **P 23 14 28.6 +0.4**
comp=Z,8.5nm,0.8s
QRN Al-Qurain 79.62 305 *eP* **P 23 14 26.1 -2.8**
VIVF Saint-Julien-l 79.74 343 *eP* **P 23 14 29.9 +0.5**
comp=Z,23nm,1.3s
RJF Les Rejaudoux 79.81 345 *eP* **P 23 14 30.0 +0.3**
RJF *eR*
comp=Z,36nm,19.0s
CAF Calviac 80.10 345 *eP* **P 23 14 32.0 +0.7**
comp=Z,13nm,1.1s
SBF Sospel 80.20 341 *eP* **P 23 14 31.8 -0.1**
LFF La Frestale 80.29 346 *eP* **P 23 14 32.0 -0.2**
SMRF Simiane la Rot 80.44 342 *eP* **P 23 14 33.9 +0.8**
comp=Z,16nm,1.1s
ASAR Alice Springs 80.54 205 P **P 23 14 35.1 +1.4**
ASAR Alice Springs 80.54 205 P **P 23 14 35.1 +1.4**
comp=Z,3.3nm,0.8s,baz=16,slow=5.1,SNR=22
FRF La Foret Royal 80.64 341 *eP* **P 23 14 34.2 0.0**
LASF Ste Croix 80.64 344 *eP* **P 23 14 34.4 +0.2**
LMR La Mourre 80.88 341 ⇑*i*P **P 23 14 35.7 +0.2**
comp=Z,32nm,1.1s
PGF Pioggiola 81.14 339 ⇑*i*P **P 23 14 36.9 -0.1**
comp=Z,17nm,0.9s
MTLF Montolieu 81.62 345 *eP* **P 23 14 40.3 +0.9**
ASF Jabal al Asfar 81.75 315 P **P 23 14 41.1 +0.7**
ASF Jabal al Asfar 81.75 315 P **P 23 14 41.1 +0.7**
comp=Z,4.1nm,0.9s,baz=82,slow=0.7,SNR=8.5
EPF Esparros 82.21 346 *eP* **P 23 14 42.7 +0.1**
SJPF Ste Jean 82.35 347 *eP* **P 23 14 43.4 +0.1**
comp=Z,2.8nm,0.6s
ETSF Etsaut 82.47 346 *eP* **P 23 14 45.1 +1.1**
comp=Z,4.5nm,0.7s
EIL Elat 84.74 315 P **P 23 14 54.6 -1.1**
EIL Elat 84.74 315 P **P 23 14 54.6 -1.1**
comp=Z,5.4nm,0.6s,baz=348,slow=8.8,SNR=8.1
EIL LR LR 23 56 49.2
comp=Z,55nm,18.7s,baz=323,slow=39
ESDC Sonseca Array 86.09 348 P **P 23 15 02.9 +0.6**
ESDC Sonseca Array 86.09 348 P **P 23 15 02.9 +0.6**
comp=Z,0.8nm,0.6s,baz=0.2,slow=5.4,SNR=10.0
STKA Stephens Creek 86.88 196 P **P 23 15 06.8 +0.8**
STKA Stephens Creek 86.88 196 P **P 23 15 06.8 +0.8**
comp=Z,2.4nm,0.8s,baz=300,slow=9.3,SNR=4.2
KEST Kesra 87.60 337 P **P 23 15 09.6 -0.3**
KEST Kesra 87.60 337 P **P 23 15 09.6 -0.3**
comp=Z,1.1nm,0.6s,baz=45,slow=4.4,SNR=12
LPAZ La Paz 126.71 65 PKP **PKPdf 23 21 25.9 +0.1**
LPAZ La Paz 126.71 65 PKP **PKPdf 23 21 25.9 +0.1**
comp=Z,0.7nm,0.7s,baz=327,slow=0.9,SNR=4.2
SIV San Ignacio 130.14 57 PKP **PKPdf 23 21 31.4 -0.2**
SIV San Ignacio 130.14 57 PKP **PKPdf 23 21 31.4 -0.2**
comp=Z,0.7nm,0.5s,baz=279,slow=2.1,SNR=3.1
VNDA Vanda 130.96 180 PKP **PKPdf 23 21 32.6 +1.3**
VNDA Vanda 130.96 180 PKP **PKPdf 23 21 32.6 +1.3**
comp=Z,0.4nm,0.5s,baz=24,slow=2.1,SNR=5.9
QSPA South Pole Qui 143.46 180 PKPpre PKPpre 23 21 51.2
QSPA *e*PKPdf PKPbc 23 21 51.6 -0.4
QSPA South Pole Qui 143.46 180 PKhKP PKPpre 23 21 51.2
comp=Z,3.1nm,0.8s,baz=334,slow=1.6,SNR=29
SNAA Sanae 160.64 195 *e*PKPab **PKPab 23 23 01.5 -0.3**
VNA2 Neumayer--Watz 161.96 192 *e*PKPab **PKPab 23 23 08.0 +0.4**

IDC 17 23:22:30.9±2.0, 1°.50S×99°.62E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML4.7/1, Error ellipse: s-maj=87.5km s-min=19.9km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.33**	**351**	Pn	Pn	23 23 35.2	-3.1
	0.6nm,0.3s,baz=164,slow=17,SNR=2.6						
CMAR	**Chiang Mai Arr**	**19.85**	**358**	P	P	23 27 03.1	-0.5
	0.9nm,0.3s,baz=272,slow=3.8,SNR=4.4						
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	23 29 55.1	-0.8
	1.1nm,0.5s,baz=303,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**39.85**	**126**	P	P	23 30 07.0	+0.4
	0.3nm,0.5s,baz=306,slow=7.9,SNR=5.1						
SONM	**Songino Array**	**49.49**	**6**	P	P	23 31 23.8	+0.5
	0.3nm,0.3s,baz=174,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**50.45**	**345**	P	P	23 31 31.3	+0.8
	0.6nm,0.5s,baz=125,slow=7.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	P	23 32 15.5	0.0
	0.8nm,0.5s,baz=163,slow=6.7,SNR=6.1						
FINES	**FINESS Array B**	**83.50**	**332**	P	P	23 34 59.7	-0.7
	2.3nm,1.0s,baz=112,slow=8.5,SNR=5.1						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	23 42 09.7	-0.7
	0.8nm,0.6s,baz=240,slow=1.7,SNR=12						

IDC 17 23:28:58.1±3.3, 1°.23S×99°.71E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/25, mbtmp3.6/6, ML3.9/2, Error ellipse: s-maj=148.5km s-min=21.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.08**	**349**	Pn	Pn	23 30 00.2	-1.8
	1.0nm,0.3s,baz=165,slow=8.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**19.58**	**358**	P	P	23 33 28.2	+0.3
	0.6nm,0.3s,baz=179,slow=9.9,SNR=4.3						
WRA	**Warramunga Arr**	**38.63**	**121**	P	P	23 36 23.1	-0.5
	0.5nm,0.7s,baz=304,slow=8.9,SNR=2.6						
ASAR	**Alice Springs**	**39.94**	**127**	P	P	23 36 34.8	+0.3
	0.2nm,0.3s,baz=301,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**50.22**	**344**	P	P	23 37 56.5	+0.6
	0.4nm,0.4s,baz=158,slow=7.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.37**	**349**	P	P	23 38 40.3	-0.6
	0.3nm,0.3s,baz=167,slow=7.2,SNR=4.8						
TXAR	**Lajitas Array**	**144.27**	**36**	PKP	PKPbc	23 48 35.5	+0.3
	0.3nm,0.6s,baz=172,slow=1.2,SNR=4.9						

---

*THE **17** 23:52:07.7, 40°.54N×19°.44E, h0km±2km, ML2.8/5, Error ellipse: s-maj=3.3km s-min=1.1km az=283.0*
*ATH **17** 23:52:07.1, 40°.60N×19°.42E, h5km, MD3.4/6*
*TIR **17** 23:52:11.0±2.2, 40°.42N×19°.76E, h3km±99km, ML3.5*
*CSEM **17** 23:52:12.5±0.2, 40°.39N×19°.79E, h2km, ML2.3, Error ellipse: s-maj=6.4km s-min=3.6km az=71.0*
*PDG **17** 23:52:12.0±0.4, 40°.44N×19°.74E, h4km, ML2.6/11, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*BEO **17** 23:52:25.0±0.7, 40°.97N×20°.24E, h26km, ML2.3/7*

ISC 17 23:52:11.1±1.1, 40°.45N±0°.02×19°.68E±0°.02, h1km±10km, n92, σ1°.60/155, 8C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.62**	**156**	*e*PG	**Pg**	**23 52 23.2**	**+0.3**
SRN				*e*SG	**Sg**	**23 52 31.1**	**+0.2**
SRN	**Sarande**	**0.62**	**156**	P	**Pg**	**23 52 22.4**	**-0.5**
SRN				S	**Sb**	**23 52 34.9**	**+1.0**
SRN	**Sarande**	**0.62**	**156**	P	**Pg**	**23 52 22.4**	**-0.5**
SRN	**Sarande**	**0.62**	**156**	*e*Pg	**Pg**	**23 52 23.2**	**+0.3**
	SNR=98						
SRN				*e*Sg	**Sg**	**23 52 31.1**	**+0.2**
	SNR=98						
KEK	**Kerkira**	**0.74**	**173**	P	**Pg**	**23 52 24.7**	**-0.5**
KEK				S	**Sg**	**23 52 36.6**	**+1.8**
KEK	**Kerkira**	**0.74**	**173**	*e*PB	**Pg**	**23 52 25.0**	**-0.2**
KEK	**Kerkira**	**0.74**	**173**	P	**Pg**	**23 52 24.7**	**-0.5**
KEK	**Kerkira**	**0.74**	**173**	*e*Pb	**Pg**	**23 52 25.0**	**-0.2**
KEK				S	**Sg**	**23 52 36.6**	**+1.8**
KBN	**Korca**	**0.86**	**78**	*e*PG	**Pg**	**23 52 26.6**	**-1.0**
KBN				*e*SG	**Sg**	**23 52 38.2**	**-0.6**
KBN	**Korca**	**0.86**	**78**	P	**Pg**	**23 52 26.5**	**-1.0**
KBN				S	**Sb**	**23 52 42.4**	**+1.4**
KBN	**Korca**	**0.86**	**78**	*e*Pg	**Pg**	**23 52 26.6**	**-1.0**
	SNR=95						
KBN				*e*Sg	**Sg**	**23 52 38.2**	**-0.6**
	SNR=95						
KBN				S	**Sb**	**23 52 42.4**	**+1.4**
TIR	**Tirane**	**0.91**	**9**	*e*PG	**Pb**	**23 52 29.4**	**-0.3**
TIR				*e*SG	**Sb**	**23 52 42.1**	**-0.3**
TIR	**Tirane**	**0.91**	**9**	*e*Pn	Pg	23 52 24.2	-4.3
TIR				*e*Sg	**Sn**	**23 52 44.3**	**-0.6**
TIR	**Tirane**	**0.91**	**9**	*e*Pg	**Pb**	**23 52 29.4**	**-0.3**
	SNR=95						
IGT	**Igoumenitsa**	**1.04**	**151**	P	**Pg**	**23 52 30.4**	**-0.6**
IGT				S	**Sn**	**23 52 49.3**	**+1.2**
IGT	**Igoumenitsa**	**1.04**	**151**	P	**Pg**	**23 52 30.4**	**-0.6**
NEST	**Nestorio**	**1.04**	**91**	P	**Pg**	**23 52 30.2**	**-0.9**
NEST				S	**Sn**	**23 52 48.8**	**+0.5**
NEST	**Nestorio**	**1.04**	**91**	P	**Pg**	**23 52 30.2**	**-0.9**
NEST				S	**Sn**	**23 52 48.8**	**+0.5**
JAN	**Janina**	**1.20**	**131**	P	**Pg**	**23 52 33.8**	**-0.2**
JAN				S	**Sn**	**23 52 53.9**	**+2.0**
JAN	**Janina**	**1.20**	**131**	*e*PG	**Pg**	**23 52 33.8**	**-0.2**
JAN				*e*SB	**Sn**	**23 52 54.7**	**+2.8**
JAN	**Janina**	**1.20**	**131**	P	**Pg**	**23 52 33.8**	**-0.2**
FNA	**Florina**	**1.33**	**75**	P	**Pg**	**23 52 35.3**	**-1.3**
FNA				S	**Sn**	**23 52 56.4**	**+1.0**
FNA	**Florina**	**1.33**	**75**	*e*PB	**Pg**	**23 52 35.8**	**-0.8**
FNA				*e*SB	**Sn**	**23 52 56.2**	**+0.8**
FNA	**Florina**	**1.33**	**75**	P	**Pg**	**23 52 35.3**	**-1.3**
FNA	**Florina**	**1.33**	**75**	*e*Pb	**Pg**	**23 52 35.8**	**-0.8**
FNA				*e*Sb	**Sn**	**23 52 56.2**	**+0.8**
PHP	**Peshkopia**	**1.36**	**25**	*e*PG	**Pb**	**23 52 37.6**	**+0.1**
PHP				*e*SG	**Sn**	**23 52 59.4**	**+3.3**
PHP	**Peshkopia**	**1.36**	**25**	*e*Pg	**Pb**	**23 52 37.6**	**+0.1**
	SNR=93						
PHP				*e*Sg	**Sn**	**23 52 59.4**	**+3.3**
	SNR=93						
BIA	**Bitola**	**1.37**	**65**	P	**Pn**	**23 52 35.4**	**-2.1**
BIA				S	**Sn**	**23 52 57.8**	**+1.4**
BIA	**Bitola**	**1.37**	**65**	*i* Pn	**Pn**	**23 52 35.5**	**-2.1**
BIA	**Bitola**	**1.37**	**65**	P	**Pn**	**23 52 35.4**	**-2.1**
BIA				S	**Sn**	**23 52 57.8**	**+1.4**
ULC	**Ulcinj**	**1.55**	**348**	⇓*i*Pg	**Pg**	**23 52 40.6**	**-0.2**
ULC				*e*Sg	**Sg**	**23 53 05.2**	**+4.3**
ULC	**Ulcinj**	**1.55**	**348**	⇓*i*Pg	**Pg**	**23 52 40.6**	**-0.2**
ULC				*e*Sg	**Sg**	**23 53 05.2**	**+4.3**
PUK	**Puka**	**1.60**	**6**	*e*PG	**Pg**	**23 52 42.7**	**+0.9**
PUK				*e*SG	**Sg**	**23 53 07.5**	**+4.9**
PUK	**Puka**	**1.60**	**6**	*e*Pg	**Pg**	**23 52 42.7**	**+0.9**
	SNR=93						
PUK				*e*Sg	**Sg**	**23 53 07.5**	**+4.9**
	SNR=93						
KZN	**Kozani**	**1.60**	**94**	*e*PN	**Pb**	**23 52 41.7**	**+0.1**
KZN	**Kozani**	**1.60**	**94**	*e*Pn	**Pb**	**23 52 41.7**	**+0.1**
PE1	**Pezze di Greco**	**1.75**	**282**	*e*Pn	**Pg**	**23 52 45.7**	**+1.0**
DRME	**Dracevica, Mon**	**1.78**	**348**	⇑*i*Pn	**Pb**	**23 52 44.1**	**-0.4**
DRME				*e*Sn	**Sg**	**23 53 10.8**	**+2.6**
DRME	**Dracevica, Mon**	**1.78**	**348**	⇑*i*Pn	**Pb**	**23 52 44.1**	**-0.4**
DRME				*e*Sn	**Sg**	**23 53 10.8**	**+2.6**
BCI	**Bajram Curri**	**1.94**	**9**	*e*PG	**Pg**	**23 52 47.7**	**-0.5**
BCI				*e*SG	**Sg**	**23 53 17.3**	**+3.9**
BCI	**Bajram Curri**	**1.94**	**9**	*e*Pg	**Pg**	**23 52 47.7**	**-0.5**
	SNR=92						
BCI				*e*Sg	**Sg**	**23 53 17.3**	**+3.9**
	SNR=92						
BUM	**Brajici-Budva**	**1.94**	**343**	⇓*i*Pn	**Pb**	**23 52 47.1**	**-0.3**
BUM				*e*Sn	**Sg**	**23 53 14.6**	**+1.1**
BUM	**Brajici-Budva**	**1.94**	**343**	⇓*i*Pn	**Pb**	**23 52 47.1**	**-0.3**
BUM				*e*Sn	**Sg**	**23 53 14.6**	**+1.1**
THL	**Klokotos

PVY				*e*Sn		**Sg**	**23 53 18.8**	**-1.5**
PVY	**Plav**	**2.15**	**5**	*e*Pn		**Pb**	**23 52 50.3**	**-0.7**
PVY				*e*Sn		**Sg**	**23 53 18.8**	**-1.5**
HCY	**Herceg Novi**	**2.19**	**336**	⇑*i*Pn		**Pb**	**23 52 51.3**	**-0.2**
HCY				*e*Sn		**Sg**	**23 53 20.2**	**-1.2**
HCY	**Herceg Novi**	**2.19**	**336**	⇑*i*Pn		**Pb**	**23 52 51.3**	**-0.2**
HCY				*e*Sn		**Sg**	**23 53 20.2**	**-1.2**
EVR	**Evrytania**	**2.24**	**132**	*e*PN		**Pb**	**23 52 51.6**	**-0.9**
EVR	**Evrytania**	**2.24**	**132**	*e*Pn		**Pb**	**23 52 51.6**	**-0.9**
VAY	**Valandovo**	**2.36**	**67**	*i* Pn		**Pb**	**23 52 55.5**	**+1.1**
VAY	**Valandovo**	**2.36**	**67**	*i* Pn		**Pb**	**23 52 55.4**	**+1.1**
NKME	**Niksic**	**2.38**	**347**	⇑*i*Pn		**Pb**	**23 52 53.6**	**-1.2**
NKME				*e*Sn		**Sb**	**23 53 24.9**	**+0.2**
NKME	**Niksic**	**2.38**	**347**	⇑*i*Pn		**Pb**	**23 52 53.6**	**-1.2**
NKME				*e*Sn		**Sb**	**23 53 24.9**	**+0.2**
NKY	**Niksic**	**2.42**	**348**	*e*Pn		**Pb**	**23 52 53.4**	**-2.1**
NKY				*e*Sn		**Sb**	**23 53 26.1**	**+0.2**
NKY	**Niksic**	**2.42**	**348**	*e*Pn		**Pb**	**23 52 53.4**	**-2.1**
NKY				*e*Sn		**Sb**	**23 53 26.1**	**+0.2**
BEY	**Berane**	**2.43**	**4**	⇓*i*Pn		**Pb**	**23 52 53.8**	**-1.8**
BEY				*e*Sn		**Sb**	**23 53 25.8**	**-0.3**
IVA	**Berane**	**2.43**	**4**	⇓*i*Pn		**Pb**	**23 52 53.8**	**-1.8**
IVA				*e*Sn		**Sb**	**23 53 25.8**	**-0.3**
BRY	**Bratogost**	**2.60**	**341**	⇑*i*Pn		**Pb**	**23 52 56.7**	**-1.8**
BRY				*e*Sn		**Sb**	**23 53 30.1**	**-0.9**
BRY	**Bratogost**	**2.60**	**341**	⇑*i*Pn		**Pb**	**23 52 56.7**	**-1.8**
BRY				*e*Sn		**Sb**	**23 53 30.1**	**-0.9**
UPM	**Unac-Piva**	**2.81**	**348**	*e*Pn		**Pb**	**23 52 59.8**	**-2.5**
UPM				*e*Sn		**Sb**	**23 53 35.8**	**-1.5**
UPM	**Unac-Piva**	**2.81**	**348**	*e*Pn		**Pb**	**23 52 59.8**	**-2.5**
UPM				*e*Sn		**Sb**	**23 53 35.8**	**-1.5**
SJES	**Sjenica**	**2.82**	**4**	*e*Pn		**Pb**	**23 53 01.5**	**-0.8**
SJES				*e*Sg		**Sb**	**23 53 38.1**	**+0.7**
SJES	**Sjenica**	**2.82**	**4**	*e*Pn		**Pb**	**23 53 01.5**	**-0.8**
SJES				*e*Sg		**Sb**	**23 53 38.1**	**+0.7**
STON	**Ston**	**2.84**	**329**	*e*Pn		**Pn**	**23 52 58.1**	**+0.5**
STON				Sn		**Sn**	**23 53 32.3**	**-0.1**
STON	**Ston**	**2.84**	**329**	*e*Pn		**Pn**	**23 52 58.1**	**+0.5**
STON				Sn		**Sn**	**23 53 32.3**	**-0.1**
BARS	**Barje**	**2.86**	**33**	*e*Pn		**Pn**	**23 52 59.2**	**+1.4**
BARS				*e*Sg		**Sn**	**23 53 35.2**	**+2.3**
BARS	**Barje**	**2.86**	**33**	*e*Pn		**Pn**	**23 52 59.2**	**+1.4**
PLE	**Pljevlja**	**2.89**	**356**	⇓*i*Pn		**Pb**	**23 53 00.9**	**-2.6**
PLE				*e*Sn		**Sb**	**23 53 37.1**	**-2.3**
PLE	**Pljevlja**	**2.89**	**356**	⇓*i*Pn		**Pb**	**23 53 00.9**	**-2.6**
PLE				*e*Sn		**Sb**	**23 53 37.1**	**-2.3**
SELS	**Selova**	**2.97**	**21**	*e*Pn		**Pb**	**23 53 02.2**	**-2.6**
VTS	**Vitosha**	**3.41**	**50**	*e*Sg		**Sb**	**23 53 52.1**	**-2.2**
VTS	**Vitosha**	**3.41**	**50**	*e*Sg		**Sb**	**23 53 52.1**	**-2.2**
BBLS	**Lazići**	**3.42**	**357**	*e*Pn		**Pb**	**23 53 11.1**	**-1.5**
GRUS	**Gruza**	**3.52**	**12**	*e*Pn		Pb	23 53 10.8	-3.4
GRUS				*e*Sg		**Sb**	**23 53 58.4**	**+0.9**
GRUS	**Gruza**	**3.52**	**12**	*e*Pn		Pb	23 53 10.8	-3.4
GRUS				*e*Sg		**Sb**	**23 53 58.4**	**+0.9**
ZAPS	**Zavoj**	**3.58**	**37**	*e*Pn		**Pn**	**23 53 10.5**	**+2.7**
ZAPS				*e*Sg		**Sb**	**23 53 56.9**	**-2.4**
ZAPS	**Zavoj**	**3.58**	**37**	*e*Pn		**Pn**	**23 53 10.5**	**+2.7**
ZAPS				*e*Sg		**Sb**	**23 53 56.9**	**-2.4**
DIVS	**Divibare**	**3.66**	**4**	*e*Pn		Pb	23 53 12.9	-3.6
DIVS				*e*Sg		**Sg**	**23 54 04.8**	**-3.7**
DIVS	**Divibare**	**3.66**	**4**	*e*Pn		Pb	23 53 12.9	-3.6
NVLJ	**Novalja**	**5.43**	**321**	*e*Pn		**Pn**	**23 53 33.9**	**+0.7**
NVLJ				Sn		**Sn**	**23 54 34.4**	**-2.0**
NVLJ	**Novalja**	**5.43**	**321**	*e*Pn		**Pn**	**23 53 33.9**	**+0.7**

IDC 18 00:07:10.7±4.9, 1°.11S×132°.01E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=317.3km s-min=26.2km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.85**	**173**	P	P	00 11 32.2	-0.2
	baz=353,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**22.50**	**175**	P	P	00 12 12.2	+0.1
	0.7nm,0.7s,baz=360,slow=12,SNR=7.0						
MKAR	**Makanchi Array**	**64.53**	**325**	P	P	00 17 49.5	0.0
	0.1nm,0.3s,baz=127,slow=6.2,SNR=3.3						

WEL 18 00:10:02.2±0.3, 37°.20S×177°.21E, h151km±3km, ML4.0/14, 5C-3D, Error ellipse: s-maj=4.2km s-min=3.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.83**	**218**	⇓PN	Pn	00 10 25.6	-0.2
OPRZ				SN	Sn	00 10 44.2	+0.4
MARZ	**Manawahe**	**0.90**	**208**	PN	Pn	00 10 26.4	+0.1
MARZ				SN	Sn	00 10 45.3	+0.5
URZ	**Urewera**	**1.07**	**184**	PN	Pn	00 10 27.6	-0.1
URZ				SN	Sn	00 10 46.7	-0.6
URZ				AML	AML	00 10 47.9	
MWZ	**Matawai**	**1.17**	**168**	⇑PN	Pn	00 10 28.6	-0.1
MWZ				SN	Sn	00 10 49.2	+0.3
MWZ				AML	AML	00 10 57.9	
MWZ				AML	AML	00 10 57.9	
MWZ				AML	AML	00 10 58.4	
PUZ	**Puketiti**	**1.21**	**137**	⇑PN	Pn	00 10 29.2	+0.2
PUZ				AML	AML	00 10 54.9	
PUZ				AML	AML	00 10 58.9	
RRRZ	**Republican Roa**	**1.27**	**205**	PN	Pn	00 10 30.0	+0.4
PRRZ	**Plateau Road**	**1.45**	**206**	PN	Pn	00 10 32.0	+0.5
CNGZ	**Carnagh Statio**	**1.51**	**149**	PN	Pn	00 10 32.7	+0.7
RAHZ	**Arahi**	**1.72**	**183**	PN	Pn	00 10 34.4	0.0
PRGZ	**Paritu Road**	**1.81**	**163**	⇑PN	Pn	00 10 35.2	0.0
KNZ	**Kokohu**	**1.86**	**169**	PN	Pn	00 10 35.3	-0.4
NMHZ	**Naumai**	**1.93**	**189**	PN	Pn	00 10 36.6	0.0
MHGZ	**Mahia Peninsul**	**2.03**	**165**	⇑PN	Pn	00 10 37.9	+0.1
BKZ	**Black Stump Fm**	**2.05**	**196**	⇓PN	Pn	00 10 37.3	-0.8
BKZ				AML	AML	00 11 04.2	
BKZ				AML	AML	00 11 15.3	
MCHZ	**McNeill Hill**	**2.28**	**190**	PN	Pn	00 10 40.9	+0.1
NGZ	**Ngauruhoe**	**2.35**	**212**	PN	Pn	00 10 41.8	0.0
BHHZ	**Black Hill Sta**	**2.46**	**201**	PN	Pn	00 10 42.0	-1.0
CKHZ	**Cape Kidnapper**	**2.46**	**182**	PN	Pn	00 10 42.2	-0.8
WNVZ	**Wahianoa**	**2.48**	**210**	PN	Pn	00 10 42.7	-0.7
MOVZ	**Moawhango**	**2.49**	**207**	PN	Pn	00 10 42.4	-1.0
PKVZ	**Pokaka**	**2.56**	**214**	PN	Pn	00 10 43.7	-0.4
MTZ	**Mangateitei**	**2.58**	**211**	PN	Pn	00 10 44.3	-0.2
KAHZ	**Kahuranaki**	**2.61**	**186**	PN	Pn	00 10 44.0	-0.8
PNHZ	**Pukenui**	**2.83**	**196**	PN	Pn	00 10 44.8	-2.7
PXZ	**Pawanui**	**2.85**	**185**	⇓PN	Pn	00 10 46.5	-1.2
PXZ				AML	AML	00 11 21.9	
PXZ				AML	AML	00 11 21.9	
PXZ				AML	AML	00 11 22.0	
PXZ				AML	AML	00 11 22.0	
WPHZ	**Waipukurau**	**2.93**	**192**	PN	Pn	00 10 47.2	-1.5
TSZ	**Takapari Road**	**3.02**	**198**	PN	Pn	00 10 47.9	-2.0
TSZ				AML	AML	00 11 37.0	
TSZ				AML	AML	00 11 37.5	
WAZ	**Wanganui**	**3.10**	**214**	PN	Pn	00 10 49.8	-1.1
PRHZ	**Porangahau**	**3.10**	**188**	PN	Pn	00 10 49.7	-1.3
DVHZ	**Dannevirke**	**3.21**	**194**	PN	Pn	00 10 50.1	-2.2
POWZ	**Post Office Ro**	**3.39**	**199**	PN	Pn	00 10 52.4	-2.1
BFZ	**Birch Farm**	**3.56**	**192**	PN	Pn	00 10 54.6	-2.2
MRZ	**Mangatainoka R**	**3.69**	**200**	PN	Pn	00 10 55.5	-2.9
MRZ				AML	AML	00 11 38.9	
MRZ				AML	AML	00 11 45.3	
TIWZ	**Tintock**	**3.72**	**196**	PN	Pn	00 10 56.2	-2.7
HOWZ	**Holdsworth Sta**	**3.93**	**199**	PN	Pn	00 10 58.2	-3.3
OGWZ	**Otaki Gorge**	**3.95**	**203**	⇑PN	Pn	00 10 58.7	-3.1
TMWZ	**Te Maipa**	**4.04**	**194**	PN	Pn	00 11 00.1	-3.0
KIW	**Kapiti Island**	**4.08**	**205**	PN	Pn	00 11 00.1	-3.4
KIW				AML	AML	00 11 47.5	
MTW	**Mount Morrison**	**4.17**	**198**	PN	Pn	00 11 00.9	-3.8
CAW	**Cannon Point**	**4.25**	**202**	PN	Pn	00 11 02.0	-3.7
CAW				AML	AML	00 11 51.5	
CAW				AML	AML	00 11 53.5	
TRWZ	**Traveller**	**4.36**	**195**	PN	Pn	00 11 03.6	-3.6
PAWZ	**Paruwai Farm**	**4.40**	**198**	AML	AML	00 11 55.6	
DUWZ	**D'Urville Isla**	**4.42**	**214**	PN	Pn	00 11 04.6	-3.5
MSWZ	**Moikau Station**	**4.48**	**199**	PN	Pn	00 11 04.6	-4.2
SNZO	**South Karori**	**4.55**	**205**	PN	Pn	00 11 05.4	-4.2
SNZO				AML	AML	00 12 01.4	
BHW	**Baring Head**	**4.58**	**203**	AML	AML	00 11 59.3	
TCW	**Tory Channel**	**4.61**	**209**	AML	AML	00 11 60.0	
TUWZ	**Tuamarina**	**4.93**	**210**	AML	AML	00 12 07.5	
TUWZ				AML	AML	00 12 07.8	

IDC 18 00:11:38.2±6.7, 5°.09S×147°.91E, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.2/17, mbtmp3.1/2, ML3.4/1, Error ellipse: s-maj=287.8km s-min=47.5km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.81**	**221**	P	P	00 16 10.2	-0.3
	0.1nm,0.3s,baz=41,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.88**	**215**	P	P	00 16 43.7	+0.1
	0.2nm,0.5s,baz=50,slow=9.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**145.72**	**286**	PKPbc	PKPdf	00 31 19.3	-0.5
	0.6nm,0.8s,baz=91,slow=4.9,SNR=4.1						

IDC 18 00:17:46.1±2.4, 1°.85S×99°.30E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, ML2.7/1, Error ellipse: s-maj=83.7km s-min=18.8km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.63**	**355**	Pn	Pn	00 18 55.0	-2.5
	0.4nm,0.3s,baz=149,slow=14,SNR=2.3						
CMAR	**Chiang Mai Arr**	**20.18**	**359**	P	P	00 22 22.6	+0.2
	1.5nm,0.3s,baz=195,slow=10.0,SNR=3.9						
WRA	**Warramunga Arr**	**38.68**	**120**	P	P	00 25 11.1	-0.8
	1.9nm,0.7s,baz=302,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**39.91**	**126**	P	P	00 25 22.9	+0.6
	1.1nm,0.6s,baz=300,slow=8.1,SNR=14						
SONM	**Songino Array**	**49.86**	**6**	P	P	00 26 40.9	-0.4
	0.5nm,0.6s,baz=184,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**50.70**	**345**	P	P	00 26 47.8	+0.3
	0.7nm,0.5s,baz=164,slow=8.6,SNR=11						
USRK	**Ussuriysk Arra**	**54.36**	**29**	P	P	00 27 13.4	-1.3
	2.0nm,0.8s,baz=223,slow=9.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**56.89**	**350**	P	P	00 27 32.5	-0.2
	1.7nm,0.7s,baz=167,slow=7.0,SNR=9.9						
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPdf	00 37 26.3	-0.1
	0.2nm,0.4s,baz=304,slow=2.9,SNR=6.2						

ISCJB ***18*** *00:27:00.7±1.5, 5°.17S×0°.04×152°.96E±0°.05, h15km±10km, mb4.8/71, MS4.2/29, Error ellipse: s-maj=8.9km s-min=6.4km az=12.3*

IDC ***18*** *00:27:00.2±0.5, 5°.18S×152°.83E, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, MS4.1/15, Ms1 4.1/15, ms1mx3.9/32, Error ellipse: s-maj=18.9km s-min=11.5km az=89.0*

BJI ***18*** *00:27:02.4, 5°.05S×153°.39E, h33km, mB4.9/24, mb4.8/43, Ms4.7/28, Ms7 4.3/28*

MOS ***18*** *00:27:04.1±1.2, 5°.09S×152°.85E, h33km, mb5.1/18, Error ellipse: s-maj=10.8km s-min=7.5km az=92.8*

NEIC ***18*** *00:27:07.2±1.3, 5°.21S×152°.88E, h50km±12km, mb4.9/16, Error ellipse: s-maj=8.7km s-min=5.9km az=75.0*

GCMT ***18*** *00:27:08.1±0.4, 5°.44S×152°.96E, h24km±1km, MW4.9, Moment Tensor Solution. s37,c46; s44,c60; Moment tensor: Scale 10^{16}Nm; M_{rr}1.79±.16; $M_{\theta\theta}$-2.11±.11; $M_{\phi\phi}$0.33±.12; $M_{r\theta}$1.90±.17; $M_{\theta\phi}$-0.19±.10; $M_{\phi r}$1.13±.19; Best double couple: $M_0$3.00000×10^{16} NP1:ϕ_s66.00000°, δ70.00000°, λ74.00000°. NP2:ϕ_s286.00000°, δ25.00000°, λ128.00000°. Principal axes: T 2.9400, Plg61.0000°, Azm312.0000°; N 0.0700, Plg15.0000°, Azm71.0000°; P -3.0000, Plg24.0000°, Azm168.0000°; Data Used: II IU IC G CN.*

BKK ***18*** *00:27:16.6±1.1, 5°.5S×15°.2E±1°.9, h58km, M5.4/18, mB6.0/8, mb4.9/18, MLv5.5/1, Mw(mB)5.7/8*

AUST ***18*** *00:27:40.0, 6°.15S×151°.63E, h300km*

ISC 18 00:27:05.4±0.4, 5°.21S±0°.04×152°.97E±0°.05, h34km±1km, h34km; pP-P, n213, σ1§57/262, mb4.8/71, MS4.2/29, 6C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**6.42**	**299**	P	Pb	00 29 10.1	+14
	baz=5.9,SNR=3.6						
PMG	**Port Moresby**	**7.11**	**234**	*e*Pn	**Pn**	**00 28 48.5**	**+1.4**
PMG				*e*Sn	**Sn**	**00 30 07.6**	**+0.8**
PMG	**Port Moresby**	**7.11**	**234**	Pn	**Pn**	**00 28 48.8**	**+1.7**
	3.6nm,0.3s,baz=57,slow=8.9,SNR=20						
PMG				Sn	**Sn**	**00 30 04.9**	**-1.9**
	14nm,0.3s,baz=331,slow=10,SNR=9.9						
COEN	**Coen**	**12.98**	**227**	P	**P**	**00 30 18.8**	**+1.1**
	baz=11,SNR=5.2						
MTSU	**Mount Surprise**	**15.37**	**213**	P	**P**	**00 30 46.4**	**+2.1**
	baz=14,SNR=35						
CTA	**Charters Tower**	**16.16**	**203**	Pn	**P**	**00 30 52.4**	**-0.7**
CTA	**Charters Tower**	**16.16**	**203**	Pn	**P**	**00 30 52.4**	**-0.7**
	0.3nm,0.3s,baz=42,slow=13,SNR=4.5						
CTA				LR	LR	00 36 00.4	
	comp=Z,652nm,20.4s,baz=19,slow=34						
CTAO	**Charters Tower**	**16.16**	**203**	*e*P	**Pn**	**00 30 51.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,28nm,1.3s						
CTAO	**Charters Tower**	**16.16**	**203**	*e*Pn	**Pn**	**00 30 51.1**	**+0.9**
	comp=Z,28nm,1.3s						
GUMO	**Guam**	**20.34**	**337**	*e*P	**P**	**00 31 38.4**	**-0.6**
DZM	**Mont Dzumac**	**21.24**	**143**	*e*P	**P**	**00 31 50.5**	**+1.7**
	comp=Z,80nm,1.1s						
DZM				*e*LR	LR	00 37 04.6	
	comp=Z,1μm,23.9s						
DZM	**Mont Dzumac**	**21.24**	**143**	*e*P	**P**	**00 31 49.1**	**+0.4**
	comp=Z,30nm,0.8s						
DZM	**Mont Dzumac**	**21.24**	**143**	P	**P**	**00 31 50.5**	**+1.7**
	comp=Z,14nm,0.8s,baz=357,slow=9.5,SNR=12						
RMQ	**Roma**	**21.53**	**190**	P	**P**	**00 31 52.5**	**+0.7**
	baz=20,SNR=21						
KDU	**Kakadu**	**21.55**	**248**	P	**P**	**00 31 50.5**	**-1.6**
	baz=20,SNR=18						
MTN	**Manton Dam**	**22.84**	**249**	P	**P**	**00 32 05.2**	**-0.7**
	baz=21,SNR=4.7						
WRAB	**Tennant Creek**	**23.29**	**229**	*e*P	**P**	**00 32 10.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,93nm,1.2s						
WRAB	**Tennant Creek**	**23.29**	**229**	*e*P	**P**	**00 32 10.3**	**-0.1**
	comp=Z,93nm,1.2s						
WRA	**Warramunga Arr**	**23.30**	**229**	P	**P**	**00 32 09.1**	**-1.5**
WRA				S	**S**	**00 36 16.9**	**-4.1**
WRA	**Warramunga Arr**	**23.30**	**229**	P	**P**	**00 32 09.1**	**-1.5**
	comp=Z,16nm,0.8s,baz=53,slow=10,SNR=57						
WRA				S	**S**	**00 36 16.9**	**-4.1**
	comp=Z,2.9nm,1.1s,baz=54,slow=17,SNR=4.0						
WRA				LR	LR	00 41 14.0	
	comp=Z,450nm,20.6s,baz=60,slow=37						
KNRA	**Kununurra**	**25.94**	**245**	P	**P**	**00 32 35.4**	**+0.5**
	baz=24,SNR=16						
AS31	**Alice Springs**	**25.96**	**223**	*e*P	**P**	**00 32 34.0**	**-1.1**
ASAR	**Alice Springs**	**25.96**	**223**	P	**P**	**00 32 34.5**	**-0.5**
ASAR	**Alice Springs**	**25.96**	**223**	P	**P**	**00 32 34.5**	**-0.5**
	comp=Z,9.1nm,0.8s,baz=61,slow=8.6,SNR=32						
ASAR				LR	LR	00 42 11.7	
	comp=Z,439nm,19.8s,baz=48,slow=35						
CMSA	**Cobar Meteorol**	**27.06**	**194**	P	**P**	**00 32 44.3**	**-0.5**
	baz=26,SNR=7.7						
MSVF	**Nonsavu**	**27.50**	**119**	*e*P	**P**	**00 32 48.6**	**-0.5**
MSVF				pmax	pmax		
	comp=Z,78nm,2.1s						
MSVF	**Nonsavu**	**27.50**	**119**	*e*P	**P**	**00 32 48.6**	**-0.5**
	comp=Z,78nm,2.1s						
STKA	**Stephens Creek**	**28.59**	**201**	*e*P	**P**	**00 32 58.1**	**-0.4**
	comp=Z,1.1nm,0.7s						
STKA	**Stephens Creek**	**28.59**	**201**	P	**P**	**00 32 58.1**	**-0.4**
	comp=Z,8.7nm,1.1s,baz=21,slow=11,SNR=7.0						
STKA				LR	LR	00 44 55.0	
	comp=Z,774nm,18.0s,baz=15,slow=38						
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P	**P**	**00 33 05.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P	**P**	**00 33 05.9**	**-1.8**
	comp=Z,16nm,0.7s,baz=94,slow=7.2,SNR=39						
FITZ	**Fitzroy Crossi**	**29.61**	**242**	P	P	00 32 60.0	-7.8
	baz=28,SNR=20						
DAV	**Davao City (W)**	**29.93**	**294**	LR	LR	00 44 37.3	
	comp=Z,328nm,18.9s,baz=79,slow=36						
MILA	**Mila**	**31.88**	**186**	P	P	00 33 33.7	+6.0
	baz=31,SNR=7.9						
OUZ	**Omahuta**	**35.42**	**150**	*e*P	**P**	**00 33 58.4**	**+0.1**
	comp=Z,36nm,1.3s						
MBWA	**Marble Bar**	**35.91**	**241**	*e*P	**P**	**00 34 01.0**	**-1.8**
MEEK	**Meekatharra**	**39.09**	**233**	P	**P**	**00 34 28.8**	**-0.9**
	baz=38,SNR=14						
RPZ	**Rata Peaks**	**41.53**	**160**	P	**P**	**00 34 49.1**	**-0.5**
RPZ	**Rata Peaks**	**41.53**	**160**	P	**P**	**00 34 49.1**	**-0.5**
	comp=Z,9.6nm,0.9s,baz=336,slow=14,SNR=2.8						
NACB	**Ninganchiao**	**42.28**	**315**	*e*P	**P**	**00 34 57.4**	**+1.4**
YHNB	**Yeheng**	**42.75**	**315**	*e*P	**P**	**00 34 59.6**	**-0.3**
KSM	**Kuching**	**43.13**	**278**	P	P	00 35 12.8	+10
	baz=42,SNR=3.6						
JNU	**Nakatsue**	**43.51**	**333**	*e*P	**P**	**00 35 05.5**	**-0.3**
JNU	**Nakatsue**	**43.51**	**333**	P	**P**	**00 35 05.1**	**-0.7**
	comp=Z,34nm,0.8s,baz=111,slow=2.8,SNR=18						
JNU				LR	LR	00 51 32.2	
	comp=Z,145nm,19.8s,baz=232,slow=34						
MJAR	**Matsushiro Arr**	**43.77**	**343**	P	**P**	**00 35 06.1**	**-1.9**
MJAR	**Matsushiro Arr**	**43.77**	**343**	P	**P**	**00 35 06.1**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=160,slow=7.3,SNR=3.6						
MJAR				LR	LR	00 51 12.9	
	comp=Z,252nm,22.0s,baz=205,slow=33						
TJN	**Taejon**	**47.82**	**332**	*e*P	**P**	**00 35 37.9**	**-1.9**
KSRS	**Korea Array**	**48.44**	**333**	P	**P**	**00 35 44.0**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=151,slow=8.7,SNR=13						
KSAR	**Wonju Array Be**	**48.45**	**333**	P	**P**	**00 35 44.0**	**-0.6**
QIZ	**Qiongzhong**	**48.82**	**301**	P	**P**	**00 35 48.1**	**+0.2**
QIZ				S	**S**	**00 42 49.8**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
QIZ				LR	LR		
	comp=N,130nm,19.8s						
QIZ				LR	LR		
	comp=Z,260nm,21.4s						
NJ2	**Nanjing**	**49.27**	**321**	*e*P	**P**	**00 35 52.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,40nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**49.44**	**353**	*e*P	**P**	**00 35 51.7**	**-0.4**
YUK				*e*		00 37 46.3	
YUK				*e*PPP	PPP	00 38 38.6	
YUK				S	**S**	**00 42 56.0**	**-1.1**
YUK				*e*SS	SS	00 46 17.1	-12
ASAJ	**Asahikawa**	**49.99**	**350**	P	**P**	**00 35 55.9**	**-0.4**
ASAJ	**Asahikawa**	**49.99**	**350**	P	**P**	**00 35 55.9**	**-0.4**
	comp=Z,12nm,0.8s,baz=154,slow=18,SNR=3.6						
ASAJ				LR	LR	00 53 51.1	
	comp=Z,131nm,21.3s,baz=20,slow=32						
WHN	**Wuhan**	**51.27**	**316**	*e*P	P	00 36 12.8	+6.6
WHN				S	S	00 43 30.6	+7.6
WHN				LR	LR		
	comp=Z,670nm,22.5s						
PANO	**Nakornpanom**	**52.68**	**296**	P	**P**	**00 36 17.1**	**+0.1**
	comp=Z,110nm,1.1s,comp=Z,18μm						
USRK	**Ussuriysk Arra**	**52.69**	**341**	P	**P**	**00 36 16.3**	**-0.2**
	comp=Z,6.4nm,0.9s,baz=167,slow=9.5,SNR=7.4						
USRK				LR	LR	00 54 42.6	
	comp=Z,90nm,19.6s,baz=218,slow=32						
YSS	**Yuzh-Sakhalins**	**52.72**	**351**	*e*P	**P**	**00 36 16.5**	**-0.3**
CHBT	**CHBT**	**53.38**	**290**	P	**P**	**00 36 23.5**	**+1.3**
	comp=Z,14nm,0.8s,comp=Z,2μm						
MDJ	**Mudanjiang**	**53.87**	**339**	P	**P**	**00 36 25.5**	**+0.3**
MDJ				pP	**pP**	**00 36 34.6**	**-0.9**
MDJ				sP	**sP**	**00 36 38.4**	**-1.0**
MDJ				PP	**PP**	**00 38 26.8**	**+0.1**
MDJ				PcS	**PcS**	**00 41 30.3**	**+0.6**
MDJ				S	**S**	**00 44 01.8**	**+3.8**
MDJ				sS	**sS**	**00 44 13.0**	**-1.9**
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,26nm,3.2s						
MDJ				LR	LR		
	comp=N,64nm,24.3s						
MDJ				LR	LR		
	comp=E,51nm,26.6s						
MDJ				LR	LR		
	comp=Z,110nm,26.9s						
ENH	**Enshi**	**54.56**	**313**	*e*P	**P**	**00 36 29.8**	**-0.8**
	comp=Z,6.4nm,0.7s						
CN2	**Changchun**	**54.74**	**336**	*e*P	**P**	**00 36 32.3**	**+0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,260nm,14.0s						
CN2				LR	LR		
	comp=E,160nm,14.0s						
CN2				LR	LR		
	comp=Z,190nm,14.0s						
NAYO	**Nakonayok**	**54.77**	**291**	P	**P**	**00 36 32.3**	**0

PETK Petropavlovsk- 58.24 3 P **P 00 36 56.6 +0.2**
PETK Petropavlovsk- 58.24 3 P **P 00 36 56.6 +0.2**
comp=Z,15nm,0.9s,baz=158,slow=5.9,SNR=21
PETK LR LR 00 58 22.2
comp=Z,147nm,21.2s,baz=108,slow=32
CMMT Chiang Mai 58.31 296 P **P 00 36 57.1 -0.4**
comp=Z,9.5nm,1.2s
CHTO Chiang Mai 58.32 296 *e*P **P 00 36 57.2 -0.4**
CHTO Chiang Mai 58.32 296 *e*P **P 00 36 57.2 -0.4**
CHTO Chiang Mai 58.32 296 P **P 00 36 57.5 -0.1**
comp=Z,10nm,1.2s
CMAI Chiengmai2 58.59 297 P **P 00 36 59.9 +0.3**
comp=Z,26nm,1.1s,comp=Z,4μm
CD2 Chengdu 59.13 311 *e*P **P 00 37 05.8 +2.7**
CD2 pP **pP 00 37 16.0 +2.6**
CD2 sP **sP 00 37 19.8 +2.4**
CD2 PP **PP 00 39 18.3 +4.2**
CD2 S **S 00 45 09.3 +0.9**
CD2 sS **sS 00 45 26.3 +0.9**
CD2 SS **SS 00 49 05.3 +2.0**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,180nm,16.6s
CD2 LR LR
comp=Z,130nm,16.0s
HHC Hu-ho-hao-te 59.48 324 *e*P **P 00 37 05.6 +0.2**
HHC pP **pP 00 37 19.5 +3.8**
HHC PP **PP 00 39 18.6 +1.5**
HHC S **S 00 45 12.3 -0.4**
HHC sS **sS 00 45 27.5 -2.2**
HHC SS **SS 00 49 08.8 +0.3**
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.2s
HHC LR LR
comp=N,330nm,16.1s
HHC LR LR
comp=E,320nm,17.7s
HHC LR LR
comp=Z,330nm,17.0s
FX1 Attu Island--F 60.35 14 P **P 00 37 11.5 +0.5**
FX1 Attu Island--F 60.35 14 P **P 00 37 11.5 +0.5**
comp=Z,4.8nm,0.6s,baz=127,slow=9.0,SNR=4.1
LZH Lanzhou 61.64 316 *e*P **P 00 37 19.0 -1.3**
LZH pP **pP 00 37 29.5 -1.2**
LZH sP **sP 00 37 33.6 -1.0**
LZH PP **PP 00 39 37.3 +1.0**
LZH *e*S **S 00 45 37.5 -3.2**
LZH sS **sS 00 45 56.1 -1.6**
LZH *e*SS **SS 00 49 48.5 +5.8**
LZH pmax pmax
comp=Z,18nm,1.5s
LZH pmax pmax
comp=Z,100nm,9.0s
LZH LR LR
comp=N,290nm,17.0s
LZH LR LR
comp=E,340nm,18.1s
LZH LR LR
comp=Z,380nm,19.5s
GTA Gaotai 66.07 317 P **P 00 37 49.6 +0.2**
GTA pP **pP 00 38 00.1 +0.3**
GTA sP **sP 00 38 03.9 +0.1**
GTA S **S 00 46 33.3 -2.2**
GTA sS **sS 00 46 50.8 -1.9**
GTA SS **SS 00 50 50.6 -1.1**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,96nm,5.2s
GTA LR LR
comp=N,130nm,17.8s
GTA LR LR
comp=E,150nm,19.5s
GTA LR LR
comp=Z,200nm,19.5s
ULN Ulaanbaatar 66.43 328 *e*P **P 00 37 52.2 +0.6**
comp=Z,4.9nm,1.0s
SONM Songino Array 66.76 328 P **P 00 37 53.6 0.0**
SONM Songino Array 66.76 328 P **P 00 37 53.6 0.0**
comp=Z,1.8nm,0.6s,baz=144,slow=6.1,SNR=13
SONM LR LR 01 05 30.5
comp=Z,169nm,20.4s,baz=168,slow=35
SEY Seymchan 67.96 360 *e*P **P 00 37 58.6 -2.1**
VNDA Vanda 72.41 178 *e*P **P 00 38 28.6 +0.8**
VNDA Vanda 72.41 178 P **P 00 38 28.4 +0.7**
comp=Z,2.4nm,0.7s,baz=331,slow=5.6,SNR=14
SBA Scott Base 72.96 177 *e*P **P 00 38 31.5 +0.5**
SBA Scott Base 72.96 177 *e*P **P 00 38 31.5 +0.5**
HVS Khovu-Aksy 75.49 326 ||*i*P **P 00 38 45.8 -0.5**
HVS pmax pmax
comp=Z,89nm,1.3s
WMQ Urumqi 76.16 317 *e*P **P 00 38 50.3 0.0**
WMQ sP **sP 00 39 04.6 -0.2**
WMQ PP **PP 00 41 42.5 +0.8**
WMQ S **S 00 48 30.0 -2.1**
WMQ sS **sS 00 48 48.1 -1.5**
WMQ SKS **SKSac 00 48 54.8 -4.2**
WMQ SS **SS 00 53 26.1 -0.1**
WMQ pmax pmax
comp=Z,7.0nm,0.9s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=N,61nm,20.0s
WMQ LR LR
comp=E,90nm,23.0s
WMQ LR LR
comp=Z,120nm,21.0s
SML Sawmill 80.43 24 *e*P **P 00 39 14.1 +0.6**
SML *e**PP **PcP 00 39 19.1 -1.3**
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 80.43 24 *e*P **P 00 39 14.1 +0.6**
comp=Z,3.8nm,1.0s
SML *e*pP **PcP 00 39 19.1 -1.3**
MK31 Makanchi Array 80.75 319 *i*P **P 00 39 14.5 -1.0**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 Makanchi Array 80.75 319 *e*P **P 00 39 15.0 -0.6**
MKAR Makanchi Array 80.75 319 *c e*P **P 00 39 15.6 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 80.75 319 *e*P **P 00 39 15.7 +0.2**
MKAR Makanchi Array 80.75 319 P **P 00 39 15.6 +0.1**
comp=Z,1.7nm,0.6s,baz=100,slow=7.2,SNR=18
MCK McKinley 81.18 22 *e*P **P 00 39 17.3 -0.2**
MCK pmax pmax
comp=Z,16nm,1.0s
MCK McKinley 81.18 22 *e*P **P 00 39 17.3 -0.2**
comp=Z,16nm,1.0s
ZAA0 Zalesovo Array 81.59 326 *e*P **P 00 39 18.4 -1.3**
ZALV Zalesovo Beam 81.59 326 P **P 00 39 18.5 -1.3**
ZALV Zalesovo Beam 81.59 326 P **P 00 39 18.4 -1.3**
ZALV Zalesovo Beam 81.59 326 P **P 00 39 18.4 -1.3**
comp=Z,9.6nm,0.8s,baz=108,slow=5.9,SNR=26
ZALV LR LR 01 16 05.3
comp=Z,114nm,18.6s,baz=160,slow=36
ILAR Eielson Array 82.48 22 P **P 00 39 23.1 -1.1**
ILAR Eielson Array 82.48 22 P **P 00 39 23.1 -1.1**
comp=Z,2.4nm,0.8s,baz=255,slow=4.8,SNR=16
ILAR LR LR 01 13 42.0
comp=Z,104nm,18.3s,baz=236,slow=34
NVS Novosibirsk 82.77 327 *e*P P 00 39 20.0 -5.9
NVS pmax pmax
comp=Z,38nm,2.2s
NVS pmax pmax
comp=N,10.0nm,2.0s
NVS pmax pmax
comp=E,14nm,1.9s
KSH Kashi 83.33 311 P **P 00 39 31.5 +2.1**
KSH sP **sP 00 39 46.5 +2.5**
KSH PP **PP 00 42 46.5 +5.0**
KSH S **S 00 49 47.4 -0.8**
KSH sS **sS 00 50 04.3 -1.6**
KSH SS **SS 00 55 16.4 +2.4**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,71nm,5.5s
KSH LR LR
comp=N,93nm,5.3s
KSH LR LR
comp=E,75nm,4.8s
KSH LR LR
comp=Z,99nm,5.4s
KURK Kurchatov 84.20 322 P **P 00 39 30.9 -2.5**
KURK pmax pmax
comp=Z,3.0nm,0.4s
TKM2 Tokmak 2 84.34 314 P **P 00 39 33.3 -1.3**
TKM2 pmax pmax
comp=Z,6.0nm,1.1s
TKM2 Tokmak 2 84.34 314 *e*P **P 00 39 33.9 -0.7**
comp=Z,17nm,1.6s
QSPA South Pole Qui 84.75 180 *e*P **P 00 39 36.4 +0.3**
comp=Z,8.0nm,0.8s
FRU Bishkek 85.02 314 *e*P **P 00 39 36.6 -1.2**
FRU pmax pmax
comp=Z,31nm,2.0s
AAK Ala-Archa 85.07 313 *e*P **P 00 39 37.8 -0.4**
AAK pmax pmax
comp=Z,46nm,2.5s
AAK Ala-Archa 85.07 313 *e*P **P 00 39 39.0 +0.7**
AAK Ala-Archa 85.07 313 P **P 00 39 38.3 +0.1**
comp=Z,4.0nm,0.7s,baz=108,slow=3.9,SNR=7.8
AAK LR LR 01 19 25.5
comp=Z,90nm,20.1s,baz=147,slow=37
MAW Mawson 85.25 203 *e*P **P 00 39 38.0 -0.4**
comp=Z,1.7nm,1.2s
MAW Mawson 85.25 203 P **P 00 39 38.0 -0.4**
comp=Z,3.4nm,0.7s,baz=84,slow=3.3,SNR=11
EKS2 Erkin-Say 85.59 313 *e*P **P 00 39 41.1 +0.3**
EKS2 pmax pmax
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 85.59 313 *e*P **P 00 39 41.1 +0.3**
comp=Z,9.5nm,1.0s
KBL Kabul 87.93 305 *e*P **P 00 39 51.7 -0.8**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 87.93 305 *e*P **P 00 39 51.7 -0.8**
comp=Z,5.3nm,0.7s
KK31 Karatay Array 88.03 313 *i*P **P 00 39 51.8 -0.7**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 88.03 313 *e*P **P 00 39 52.3 -0.2**
KKAR Karatay Array 88.03 313 *e*P **P 00 39 52.3 -0.2**
INK Inuvik 88.78 21 P **P 00 39 55.6 +0.2**
INK Inuvik 88.78 21 P **P 00 39 55.6 +0.2**
comp=Z,4.9nm,1.0s,baz=226,slow=5.7,SNR=8.4
VOSK Vostochnaya 89.27 323 P **P 00 39 56.0 -2.1**
VOSK pmax pmax
comp=Z,4.0nm,0.9s
BVA0 Borovoye Array 89.67 323 *i*P **P 00 39 58.5 -1.5**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 89.67 323 P **P 00 39 58.7 -1.3**
BVAR Borovoye Array 89.67 323 P **P 00 39 58.7 -1.3**
BVAR Borovoye Array 89.67 323 P **P 00 39 58.7 -1.3**
comp=Z,5.8nm,0.7s,baz=108,slow=6.1,SNR=38
BRVK Borovoye 89.74 323 *c i*P **P 00 39 59.0 -1.3**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 89.74 323 *e*P **P 00 39 59.1 -1.1**
comp=Z,100nm,2.7s
NVAR Mina Array Bea 92.21 52 P **P 00 40 13.0 +0.6**
NVAR Mina Array Bea 92.21 52 P **P 00 40 13.0 +0.6**
comp=Z,1.4nm,0.8s,baz=249,slow=6.9,SNR=8.5
SYO Syowa Base 93.33 199⇑*e*P **P 00 40 15.0 -1.6**
CCUT Cedar City 96.05 53 *e*P **P 00 40 31.9 +1.8**
comp=Z,18nm,2.3s
ARU Arti 96.75 326 *e*P **P 00 40 30.3 -2.2**
ARU 00 44 23.8
ARU S **SKSac 00 51 04.0 -2.8**
ARU SS SS 00 58 17.9 -9.1
ARU MLR MLR
comp=Z,175nm,20.0s
AKTO Aktyubinsk 97.14 320 P **P 00 40 32.3 -2.2**
AKTO Aktyubinsk 97.14 320 P **P 00 40 32.2 -2.2**
AKTO Aktyubinsk 97.14 320 P **P 00 40 32.2 -2.2**
comp=Z,0.8nm,0.7s,baz=16,slow=4.0,SNR=3.6
OBN Obninsk 109.17 327 *e*P **Pdif 00 41 27.1 -0.7**
OBN *e*SS SS 01 01 14.4 -3.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,20.0s
AKASG Malin Array Be 114.93 324 *c i*PKIKP PKPdf 00 45 42.0 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 114.93 324 PKP PKPdf 00 45 41.6 -1.2
AKASG Malin Array Be 114.93 324 PKP PKPdf 00 45 41.6 -1.2
comp=Z,1.1nm,0.7s,baz=59,slow=2.8,SNR=5.2
BRTR Keskin Array B 115.70 312 PKP **PKPdf 00 45 44.4 -0.5**
BRTR Keskin Array B 115.70 312 PKP **PKPdf 00 45 44.4 -0.5**
comp=Z,0.9nm,1.0s,baz=117,slow=2.1,SNR=3.9
KOLS Kolonicke sedl 119.74 325 *e*PKIKP **PKPdf 00 45 53.4 +1.2**
KOLS Kolonicke sedl 119.74 325 *e*PKP **PKPdf 00 45 53.4 +1.2**
STHS Stebnicka Huta 120.08 326 *e*PKIKP **PKPdf 00 45 53.7 +0.9**
STHS Stebnicka Huta 120.08 326 *e*PKP **PKPdf 00 45 53.7 +0.9**
CRVS Cervenica-Dubn 120.22 325 *e*PKIKP **PKPdf 00 45 54.0 +0.9**
CRVS Cervenica-Dubn 120.22 325 *e*PKP **PKPdf 00 45 54.0 +0.9**
KECS Kecovo 120.99 325 *e*PKIKP **PKPdf 00 45 54.5 -0.1**
KECS Kecovo 120.99 325 *e*PKP **PKPdf 00 45 54.5 -0.1**
DPC Dobruska-Polom 122.22 329 *e*PKIKP **PKPdf 00 45 57.6 +0.6**
DPC *e* 00 46 13.6
DPC Dobruska-Polom 122.22 329 *e*PKPdf **PKPdf 00 45 57.6 +0.6**
DPC *ep*PKP **pPKPdf 00 46 13.6 +5.5**
UPC Upice 122.29 329 *e*PKIKP **PKPdf 00 46 01.4 +4.4**
BRG Berggiesshubel 123.11 330 *i*PKP **PKPdf 00 45 59.4 +0.8**
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 123.11 330 *i*PKIKP **PKPdf 00 45 59.4 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 123.29 331 *e*PKIKP **PKPdf 00 45 59.0 +0.1**
CLL *e* 00 46 14.0
CLL Collm 123.29 331 *e*PKPdf **PKPdf 00 45 59.0 +0.1**
CLL *ep*PKPdf **pPKPdf 00 46 14.0 +4.0**
KHC Kasperske Hory 124.38 329 *e*PKIKP **PKPdf 00 46 01.6 +0.5**
KHC *e* 00 46 10.7
KHC Kasperske Hory 124.38 329 *e*PKPdf **PKPdf 00 46 01.6 +0.5**
KHC *ex* x 00 46 10.7
GERES GERESS Array B 124.49 328 PKP **PKPdf 00 46 01.8 +0.4**
GERES GERESS Array B 124.49 328 PKP **PKPdf 00 46 01.8 +0.4**
comp=Z,1.8nm,0.7s,baz=82,slow=2.8,SNR=20
ABTA Abfaltersbach 126.42 327 ||*i*PKIKP **PKPdf 00 46 04.7 -0.5**
comp=Z,4.2nm,0.9s
WTTA Wattenberg 126.56 328 ||*i*PKiKP **PKiKP 00 46 06.0 0.0**
comp=Z,5.9nm,0.9s
MOTA Moosalm 126.79 328 ||*i*PKiKP **PKPdf 00 46 05.8 -0.1**
comp=Z,8.2nm,1.1s
FETA Feichten 127.19 328⇑*i*PKiKP **PKiKP 00 46 07.4 +0.1**
comp=Z,6.0nm,1.0s
DAVA Damuels 127.46 329⇑*i*PKiKP **PKiKP 00 46 08.2 +0.5**
comp=Z,4.2nm,0.8s
GIVF Givet 127.86 334 *e*PKP1 **PKPdf 00 46 07.1 -0.6**
TUE Stuetta 128.27 329 *e*PKPdf **PKPdf 00 46 09.0 +0.1**
HINF Hinteralfeld 128.60 331 *e*PKP1 **PKPdf 00 46 09.4 +0.1**
comp=Z,8.5nm,1.0s
PAGF Fort de Pagny 128.60 333 *e*PKP1 **PKPdf 00 46 08.7 -0.5**
comp=Z,2.5nm,1.0s
HAU Haudompre 128.71 332 *e*PKP1 **PKPdf 00 46 09.7 +0.3**
comp=Z,10nm,1.0s
MEZF Maizieres J'vi 128.95 333 *e*PKP1 **PKPdf 00 46 10.5 +0.7**
comp=Z,9.9nm,1.1s
CABF La Chapelle 129.82 331 *e*PKP1 **PKPdf 00 46 12.2 +0.5**
comp=Z,14nm,1.1s
LOR Lormes 130.40 333 *e*PKP1 **PKPdf 00 46 14.2 +1.5**
comp=Z,14nm,1.2s
SSF Saint Saulge 130.72 333 *e*PKP1 **PKPdf 00 46 14.9 +1.7**
comp=Z,19nm,1.2s
SMF Signal de Mont 130.87 332 *e*PKP1 **PKPdf 00 46 15.0 +1.4**
comp=Z,12nm,1.3s
ORIF Oris-en-Rattie 131.11 329 *e*PKP1 **PKPdf 00 46 14.8 +0.6**
comp=Z,5.8nm,0.9s
LMR La Mourre 131.87 327 *e*PKP1 **PKPdf 00 46 16.1 +0.6**
comp=Z,7.7nm,1.0s
TCF Toulx Ste Croi 131.89 333 *e*PKP1 **PKPdf 00 46 16.6 +1.1**
comp=Z,4.1nm,0.8s
LASF Ste Croix 132.73 330 *e*PKP1 **PKPdf 00 46 18.3 +1.1**
comp=Z,5.8nm,0.9s
ROSC El Rosal 132.89 88 PKP **PKPdf 00 46 20.2 +1.4**
ROSC El Rosal 132.89 88 PKP **PKPdf 00 46 20.2 +1.4**
comp=Z,2.0nm,0.4s,baz=113,slow=17,SNR=3.6
LPAZ La Paz 134.07 119 *e*PKPdf **PKPdf 00 46 21.4 +0.1**
LPAZ PKP **PKPdf 00 46 21.6 +0.4**
LPAZ La Paz 134.07 119 PKP **PKPdf 00 46 21.6 +0.4**
comp=Z,1.3nm,0.7s,baz=345,slow=4.8,SNR=7.8
KEST Kesra 134.82 317 PKP **PKPdf 00 46 21.8 +0.4**
KEST Kesra 134.82 317 PKP **PKPdf 00 46 21.8 +0.4**
comp=Z,1.2nm,1.0s,baz=120,slow=8.1,SNR=2.6
SDV Santo Domingo 136.59 83 *e*PKPdf **PKPdf 00 46 25.5 0.0**
ESDC Sonseca Array 139.87 332 PKPpre PKPpre 00 46 24.8
ESDC Sonseca Array 139.87 332 PKhKP PKPpre 00 46 24.8
comp=Z,0.1nm,0.3s,baz=358,slow=4.4,SNR=2.7
TAM Tamanrasset 144.04 302 *e*PKIKP PKPbc 00 46 37.6 +1.0
TAM Tamanrasset 144.04 302 *e*PKPdf PKPbc 00 46 37.6 +1.0
TOA0 Torodi Ar. Sit 150.59 288 *e*PKPbc **PKPbc 00 46 53.6 -1.4**
TORD Torodi Ar. Bea 150.59 288 PKPbc **PKPbc 00 46 54.3 -0.7**
TORD PKPab **PKPab 00 46 59.0 -2.7**
TORD Torodi Ar. Bea 150.59 288 PKPbc **PKPbc 00 46 54.3 -0.7**
comp=Z,13nm,0.8s,baz=66,slow=2.2,SNR=61
TORD PKPab **PKPab 00 46 59.0 -2.7**
comp=Z,11nm,0.8s,baz=91,slow=1.8,SNR=24
BDFB Brasilia 150.66 135 PKPbc **PKPbc 00 46 56.1 +0.9**
BDFB Brasilia 150.66 135 PKPbc **PKPbc 00 46 56.1 +0.9**
comp=Z,14nm,0.8s,baz=221,slow=3.8,SNR=21
LIC Lamto 158.08 274 *e*PKIKP **PKPdf 00 46 57.2 -2.8**

NEIC ***18*** *00:30:43.4, 19.°31N×64.°76W, h27km, MD3.5(RSPR), After RSPR.*

RSPR 18 00:30:43.4, 19.°31N×64.°76W, h27km±7km, MD3.5/3, 15C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.71**	**145**			*e*P	Pb	00 30 55.4	-1.7
ABV	**Anegada**	**0.71**	**145**		*e*S	Sb	00 31 04.8	-1.7
ABV	**Anegada**	**0.71**	**145**			*e*P	Pb	00 30 55.4	-1.7
ABV					*e*S	Sb	00 31 04.8	-1.7
ABVI	**Anegada Island**	**0.71**	**145**			*e*P	Pb	00 30 55.4	-1.7
ABVI					*e*S	Sb	00 31 04.8	-1.6
TBVI	**Tortola**	**0.90**	**171**			*e*P	Pn	00 30 58.2	-2.0
TBVI					*e*S	Sb	00 31 09.6	-2.3
TBVI	**Tortola**	**0.90**	**171**			*e*P	Pn	00 30 58.2	-2.0
TBVI					*e*S	Sb	00 31 09.6	-2.3
TBVI	**Tortola**	**0.90**	**171**			*e*P	Pn	00 30 58.2	-2.0
TBVI					*e*S	Sb	00 31 09.6	-2.3
STVI	**Saint Thomas**	**0.97**	**191**			*e*P	Pn	00 30 59.2	-2.0
STVI	**Saint Thomas**	**0.97**	**191**		*e*S	Sb	00 31 11.4	-2.6
STVI	**Saint Thomas**	**0.97**	**191**			*e*P	Pn	00 30 59.2	-2.0
STVI					*e*S	Sb	00 31 11.4	-2.6
STVI	**Saint Thomas**	**0.97**	**191**			*e*P	Pn	00 30 59.2	-2.0
STVI					*e*S	Sb	00 31 11.4	-2.6
MTP	**Monte Pirata**	**1.42**	**212**		*e*S	Sn	00 31 22.7	-2.5
MTP	**Monte Pirata**	**1.42**	**212**			*e*P	Pn	00 31 05.3	-2.0
MTP	**Monte Pirata**	**1.42**	**212**			*e*P	Pn	00 31 05.3	-2.0
MTP					*e*S	Sn	00 31 22.7	-2.5
MTP	**Monte Pirata**	**1.42**	**212**			*e*P	Pn	00 31 05.3	-2.0
MTP					*e*S	Sn	00 31 22.7	-2.5
CPD	**Cerro la Pandu**	**1.67**	**221**		*e*S	Sn	00 31 29.0	-2.5
CPD	**Cerro la Pandu**	**1.67**	**221**			*e*P	Pn	00 31 09.0	-1.9
CPD	**Cerro la Pandu**	**1.67**	**221**			*e*P	Pn	00 31 09.0	-1.9
CPD					*e*S	Sn	00 31 29.0	-2.5
CPD	**Cerro la Pandu**	**1.67**	**221**			*e*P	Pn	00 31 09.0	-1.9
CPD					*e*S	Sn	00 31 29.2	-2.3
AOPR	**Arecibo Observ**	**2.12**	**243**			*e*P	Pn	00 31 15.3	-1.7
AOPR	**Arecibo Observ**	**2.12**	**243**		*e*S	Sn	00 31 40.1	-2.4
AOPR	**Arecibo Observ**	**2.12**	**243**			*e*P	Pn	00 31 15.3	-1.7
AOPR					*e*S	Sn	00 31 40.1	-2.4
AOPR	**Arecibo Observ**	**2.12**	**243**			*e*P	Pn	00 31 15.3	-1.7
AOPR					*e*S	Sn	00 31 40.8	-1.6
CRPR	**Cabo Rojo, PR**	**2.58**	**240**			*e*P	Pn	00 31 21.7	-1.6
CRPR	**Cabo Rojo, PR**	**2.58**	**240**		*e*S	Sn	00 31 51.7	-2.0
CRPR	**Cabo Rojo, PR**	**2.58**	**240**			*e*P	Pn	00 31 21.7	-1.6
CRPR					*e*S	Sn	00 31 51.7	-2.0
CRPR	**Cabo Rojo, PR**	**2.58**	**240**			*e*P	Pn	00 31 21.7	-1.6
CRPR					*e*S	Sn	00 31 51.7	-2.0

NIED ***18*** *00:32:00, 41.°20N×137.°60E, h300km, Mw3.9 Best double couple: M0 7.89000×10^14 NP1:φ=191.00000°, δ=66.00000°, λ=72.00000°. NP2:φ=50.00000°, δ=30.00000°, λ=125.00000°.*
ISCJB ***18*** *00:32:17.3±0.3, 41.°28N±0.°03×137.°47E±0.°05, h307km±4km, mb3.8/14, Error ellipse: s-maj=6.9km s-min=4.8km az=23.2*
JMA ***18*** *00:32:17.9±0.2, 41.°22N×137.°60E, h319km±2km, M3.6*
IDC ***18*** *00:32:18.5±1.2, 41.°28N×137.°24E, h306km±12km, mb3.5/14, mb1 3.6/19, mb1mx3.4/35, mbtmp3.5/19, Error ellipse: s-maj=19.6km s-min=10.7km az=172.0*

ISC 18 00:32:18.1±0.7, 41.°24N±0.°05×137.°52E±0.°05, h304km±7km, n42, σ1°39/58, mb3.8/14, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.69**	**59**	P	**Pn**	**00 33 03.8**	**+1.0**
JOSM				*e*S	**S**	**00 33 39.3**	**+0.8**
JOT	**Ohata**	**2.67**	**86**	P	**Pn**	**00 33 11.4**	**+0.5**
JKB	**Kayabe**	**2.72**	**75**	P	**Pn**	**00 33 12.1**	**+0.8**
JSK	**Shakotan**	**3.05**	**45**	P	**Pn**	**00 33 15.4**	**+1.0**
JSK				*e*S	**S**	**00 33 59.3**	**-0.2**
JANG	**Nango**	**3.16**	**105**	P	**Pn**	**00 33 15.7**	**+0.1**
JYK	**Kaneyama**	**3.18**	**136**	P	**Pn**	**00 33 16.6**	**+0.6**
JYK				*e*S	**S**	**00 34 02.8**	**+0.5**
JSD	**Sado**	**3.25**	**170**	P	**Pn**	**00 33 16.8**	**+0.2**
JSD				*e*S	**S**	**00 34 03.6**	**+0.1**
JEW	**Eniwo**	**3.34**	**60**	P	**Pn**	**00 33 18.7**	**+1.3**
JEW				*e*S	**S**	**00 34 05.6**	**+0.7**
JOM	**Ohasama**	**3.38**	**120**	P	**Pn**	**00 33 18.1**	**+0.1**
JOM				*e*S	**S**	**00 34 05.2**	**-0.7**
JHG	**Hegura jima**	**3.42**	**188**	P	**Pn**	**00 33 19.0**	**+0.7**
JMK	**Ichinoseki**	**3.65**	**128**	P	**Pn**	**00 33 20.6**	**-0.1**
JMK				S	**S**	**00 34 09.5**	**-1.3**
JSZ	**Suzu**	**3.79**	**182**	P	**Pn**	**00 33 23.3**	**+1.1**
JHR	**Hokuryu**	**4.00**	**50**	P	**Pn**	**00 33 25.9**	**+1.6**
JNBK	**Urakawa-nobuka**	**4.05**	**73**	P	**Pn**	**00 33 25.4**	**+0.4**
JNBK				*e*S	**S**	**00 34 16.9**	**-1.8**
JCH	**Churui**	**4.57**	**71**	P	**Pn**	**00 33 30.7**	**-0.1**
JCH				S	**S**	**00 34 26.5**	**-2.7**
MAT	**Matsushiro**	**4.72**	**173**	P	**Pn**	**00 33 33.8**	**+1.2**
MAT				*e*S	**S**	**00 34 33.7**	**+1.2**
MJAR	**Matsushiro Arr**	**4.72**	**173**	P	**Pn**	**00 33 34.0**	**+1.3**
1.2nm,0.3s,baz=359,slow=11,SNR=12							
MJAR				S	**S**	**00 34 31.6**	**-0.9**
0.5nm,0.3s,baz=315,slow=19,SNR=2.7							
ASAJ	**Asahikawa**	**4.72**	**51**	P	**Pn**	**00 33 33.2**	**+0.7**
29nm,0.3s,baz=232,slow=10.0,SNR=58							
ASAJ				S	**S**	**00 34 28.9**	**-3.3**
2.6nm,0.3s,baz=116,slow=32,SNR=6.9							
USRK	**Ussuriysk Arra**	**5.03**	**308**	P	**Pn**	**00 33 35.3**	**-0.6**
4.4nm,0.3s,baz=124,slow=11,SNR=78							
USRK				S	**S**	**00 34 35.7**	**-2.8**
baz=129,slow=27,SNR=2.5							
JRY	**Ryogami san**	**5.32**	**168**	P	**Pn**	**00 33 39.5**	**-0.1**
JRY				*e*S	**S**	**00 34 43.6**	**-1.6**
JTKR	**Abashiri--Toko**	**5.45**	**58**	P	**Pn**	**00 33 41.0**	**+0.1**
JTKR				S	**S**	**00 34 44.8**	**-2.7**
NEM2	**Nemuro 2**	**6.46**	**68**	P	**Pn**	**00 33 52.0**	**-0.9**
NEM2				*e*S	S	00 35 02.7	-6.7
BSO1	**Boso 1**	**7.12**	**156**	P	**Pn**	**00 33 59.1**	**-1.3**
BSO1				*e*S	**S**	**00 35 19.1**	**-4.3**
KSRS	**Korea Array**	**8.34**	**246**	P	**Pn**	**00 34 15.7**	**0.0**
0.4nm,0.3s,baz=60,slow=12,SNR=13							
PETK	**Petropavlovsk-**	**18.07**	**42**	P	**P**	**00 36 09.1**	**+1.2**
0.5nm,0.3s,baz=240,slow=13,SNR=4.4							
SONM	**Songino Array**	**23.04**	**297**	P	**P**	**00 36 55.4**	**-1.7**
0.7nm,0.5s,baz=101,slow=9.9,SNR=6.0							
FX1	**Attu Island--F**	**26.65**	**52**	P	**P**	**00 37 31.1**	**+1.8**
7.9nm,0.7s,baz=259,slow=16,SNR=4.7							
ZALV	**Zalesovo Beam**	**36.88**	**308**	P	**P**	**00 38 56.4**	**-1.5**
1.3nm,0.4s,baz=88,slow=8.7,SNR=8.0							
ZALV				PcP	**PcP**	**00 41 12.1**	**0.0**
0.9nm,0.4s,baz=105,slow=2.9,SNR=3.3							
KURBB	**Kurchatov Arra**	**41.08**	**304**	P	**P**	**00 39 30.9**	**-1.6**
3.3nm,0.4s,baz=81,slow=8.4,SNR=44							
KDAK	**Kodiak Island**	**46.11**	**44**	P	**P**	**00 40 12.5**	**+0.4**
9.1nm,1.1s,baz=278,slow=7.1,SNR=2.6							
ILAR	**Eielson Array**	**47.65**	**34**	P	**P**	**00 40 24.8**	**+0.9**
1.9nm,0.5s,baz=263,slow=5.5,SNR=16							
INK	**Inuvik**	**52.07**	**28**	P	**P**	**00 40 57.9**	**+1.1**
1.2nm,0.3s,baz=295,slow=4.1,SNR=12							
AKTO	**Aktyubinsk**	**53.65**	**309**	P	**P**	**00 41 06.8**	**-1.8**
0.6nm,0.4s,baz=27,slow=6.8,SNR=2.5							
YKA	**Yellowknife Ar**	**61.70**	**30**	P	**P**	**00 42 04.7**	**+0.7**
0.9nm,0.6s,baz=308,slow=6.5,SNR=5.1							
FINES	**FINESS Array B**	**63.68**	**330**	P	**P**	**00 42 16.4**	**-0.5**
1.4nm,0.8s,baz=46,slow=8.2,SNR=4.7							

NVAR	Mina Array Bea	74.85	52	P	P	00 43 27.4	+1.6
	1.2nm,0.6s,baz=290,slow=5.7,SNR=7.6						
PDAR	Pinedale Array	76.83	44	P	P	00 43 37.6	+0.7
	1.2nm,0.6s,baz=344,slow=1.1,SNR=10						
ULM	Lac du Bonnet	77.60	32	P	P	00 43 40.6	-0.1
	1.7nm,0.3s,baz=325,slow=7.7,SNR=3.9						
TXAR	Lajitas Array	89.85	50	P	P	00 44 44.1	+1.2
	1.0nm,0.6s,baz=298,slow=2.7,SNR=13						
DBIC	Dimbokro	121.17	315	PKP	PKPdf	00 50 34.1	-1.2
	3.1nm,1.1s,baz=148,slow=9.5,SNR=3.2						
SNAA	Sanae	143.77	200	PKP	PKPbc	00 51 14.0	-0.3
	0.8nm,0.4s,baz=174,slow=3.2,SNR=26						
LPAZ	La Paz	146.72	49	PKPbc	PKPbc	00 51 26.1	+0.7
	0.7nm,0.3s,baz=323,slow=5.7,SNR=7.2						

IDC 18 00:33:41.7±1.3, 32°.54S×178°.27W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, ML3.8/2, MS3.8/3, Ms1 3.8/3, ms1mx3.3/30, Error ellipse: s-maj=35.5km s-min=29.6km az=47.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.84	212	Pn	Pn	00 35 23.6	+0.3
	2.1nm,0.3s,baz=322,slow=19,SNR=17						
URZ				Sn	Sn	00 36 40.9	-1.0
	2.7nm,0.3s,baz=256,slow=17,SNR=8.0						
URZ				LR	LR	00 37 55.7	
	comp=Z,144nm,18.3s,baz=45,slow=37						
RPZ	Rata Peaks	13.96	214	Pn	Pn	00 36 58.9	-1.9
	0.4nm,0.3s,baz=65,slow=19,SNR=2.6						
PMG	Port Moresby	39.36	298	LR	LR	00 52 24.5	
	comp=Z,337nm,20.5s,baz=38,slow=28						
ASAR	Alice Springs	42.81	269	P	P	00 41 41.9	+0.3
	1.3nm,0.7s,baz=105,slow=7.8,SNR=8.7						
WRA	Warramunga Arr	43.99	275	P	P	00 41 50.7	-0.4
	0.7nm,0.3s,baz=115,slow=7.6,SNR=4.6						
WRA				LR	LR	00 58 54.5	
	comp=Z,191nm,20.1s,baz=65,slow=34						
FITZ	Fitzroy Crossi	52.16	272	P	P	00 42 54.1	-0.2
	1.3nm,0.8s,baz=114,slow=10.0,SNR=2.7						
SNAA	Sanae	76.03	179	P	P	00 45 30.5	0.0
	0.4nm,1.0s,baz=174,slow=10,SNR=3.0						
KAF	Kangasniemi	146.47	339	*e*p	PKPdf	00 53 23.0	+0.3
	0.7nm,0.3s						
FINES	FINESS Array B	147.06	339	PKPbc	PKPbc	00 53 25.0	-0.7
	3.3nm,0.7s,baz=45,slow=3.8,SNR=19						
BRTR	Keskin Array B	153.35	295	PKPbc	PKPbc	00 53 42.2	+0.2
	0.6nm,0.7s,baz=94,slow=4.9,SNR=4.0						
TORD	Torodi Ar. Bea	160.70	180	PKP	PKPdf	00 53 42.2	-2.1
	0.4nm,0.7s,baz=222,slow=1.9,SNR=6.2						
TORD				PKPab	PKPab	00 54 26.2	+0.4
	0.5nm,0.6s,baz=177,slow=4.0,SNR=7.3						

IDC 18 00:41:44.7±0.8, 1°.47S×99°.50E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, ML3.7/2, MS4.0/2, Ms1 4.0/2, ms1mx3.0/42, Error ellipse: s-maj=25.4km s-min=14.6km az=51.0
NEIC 18 00:41:46.1±0.4, 1°.50S×99°.52E, h10km, mb4.1/3, Error ellipse: s-maj=12.9km s-min=7.5km az=67.0
ISCJB 18 00:41:47.5±0.5, 1°.42S±0°.06×99°.53E±0°.08, h30km, mb4.1/17, MS4.1/2, Error ellipse: s-maj=12.3km s-min=7.4km az=147.8
AUST 18 00:41:51.0±1.6, 1°.45S×99°.44E, h76km, Error ellipse: s-maj=2.6km s-min=1.3km az=244.0
ISC 18 00:41:49.5±0.6, 1°.35S±0°.07×99°.58E±0°.09, h30km, n54, σ0.90/51, mb4.2/17, 4C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.21	42	P	Pb	00 42 12.3	+0.5
	baz=1.4,SNR=175						
BKNI	Bangkinang	2.21	41	P	Pb	00 42 29.3	+0.4
	baz=2.4,SNR=16						
PSI	Prapat	4.18	351	Pn	Pn	00 42 51.1	-0.3
PSI	Prapat	4.18	351	Pn	Pn	00 42 51.1	-0.3
	1.5nm,0.3s,baz=201,slow=6.0,SNR=7.1						
PSI	Prapat	4.18	351	P	Pn	00 42 52.6	+1.2
	baz=4.2,SNR=5.3						
MNAI	Manna	4.50	132	P	Pn	00 42 57.3	+1.6
	baz=4.6,SNR=6.3						
IPM	Ipoh	5.97	14	*e*Pn	Pn	00 43 19.7	+3.7
	9.9nm,0.5s						
KULM	Kulim	6.69	9	*e*Pn	Pn	00 43 26.0	+0.2
	20nm,0.9s						
KULM				S	Sb	00 45 21.4	+17
CMAR	Chiang Mai Arr	19.70	358	P	Pn	00 46 17.9	-0.2
CMAR	Chiang Mai Arr	19.70	358	P	Pn	00 46 17.9	-0.2
	0.2nm,0.3s,baz=188,slow=10,SNR=11						
CHTO	Chiang Mai	20.05	358	*e*P	P	00 46 20.2	-0.2
WSI	Waingapu	22.19	113	P	P	00 46 42.7	-0.9
	baz=22,SNR=4.3						
BNDI	Bandanaira	30.44	97	P	P	00 47 56.7	-3.1
	baz=31,SNR=4.5						
FITZ	Fitzroy Crossi	30.52	125	P	P	00 47 59.7	-0.7
	2.5nm,0.8s,baz=256,slow=7.1,SNR=4.4						
WRA	Warramunga Arr	38.68	121	P	P	00 49 09.0	-1.9
WRA	Warramunga Arr	38.68	121	P	P	00 49 09.0	-1.9
	2.2nm,0.7s,baz=298,slow=8.9,SNR=6.3						
WRAB	Tennant Creek	38.68	121	*e*P	P	00 49 10.4	-0.6
	3.4nm,0.8s						
ASAR	Alice Springs	39.97	126	P	P	00 49 21.9	+0.3
ASAR	Alice Springs	39.97	126	P	P	00 49 21.9	+0.3
	1.3nm,0.5s,baz=302,slow=7.7,SNR=14						
JNU	Nakatsue	45.24	38	P	P	00 50 04.7	+0.3
JNU	Nakatsue	45.24	38	P	P	00 50 04.7	+0.3
	4.5nm,0.6s,baz=194,slow=4.2,SNR=3.3						
KSAR	Wonju Array Be	46.65	31	P	P	00 50 16.0	+0.6
KSRS	Korea Array	46.68	31	P	P	00 50 16.0	+0.4
	1.0nm,0.5s,baz=224,slow=9.0,SNR=4.8						
TKM2	Tokmak 2	49.08	337	*e*P	P	00 50 34.7	+0.4
	1.6nm,0.4s						
SONM	Songino Array	49.35	6	P	P	00 50 37.2	+1.0
SONM	Songino Array	49.35	6	P	P	00 50 37.2	+1.0
	0.7nm,0.5s,baz=186,slow=9.7,SNR=5.1						
ULN	Ulaanbaatar	49.45	7	P	P	00 50 37.4	+0.3
STKA	Stephens Creek	49.89	132	*e*P	P	00 50 40.5	+0.1
	0.3nm,0.4s						
STKA	Stephens Creek	49.89	132	P	P	00 50 41.6	+1.2
	1.6nm,0.5s,baz=287,slow=8.0,SNR=4.6						
MK31	Makanchi Array	50.30	345	*e*P	P	00 50 44.0	+0.6
MKAR	Makanchi Array	50.30	345	P	P	00 50 44.4	+1.0
MKAR	Makanchi Array	50.30	345	P	P	00 50 44.4	+1.0
	1.7nm,0.5s,baz=152,slow=7.6,SNR=19						
USRK	Ussuriysk Arra	53.79	29	P	P	00 51 09.6	+0.3
	1.8nm,0.7s,baz=229,slow=5.3,SNR=4.1						
ZALV	Zalesovo Beam	56.46	350	P	P	00 51 29.1	+0.7
ZALV	Zalesovo Beam	56.46	350	P	P	00 51 29.1	+0.7
	2.2nm,0.6s,baz=178,slow=5.9,SNR=13						
KMBO	Kilima Mbogo	62.32	269	P	P	00 52 10.4	+0.4
KMBO	Kilima Mbogo	62.32	269	P	P	00 52 10.4	+0.4
	0.7nm,0.3s,baz=68,slow=23,SNR=4.0						
AKTO	Aktyubinsk	62.59	331	LR	LR	01 24 56.3	
	comp=Z,89nm,19.1s,baz=106,slow=41						
KBZ	Khabaz	67.55	319	P	P	00 52 43.1	0.0
KBZ	Khabaz	67.55	319	P	P	00 52 43.1	0.0
	2.2nm,0.7s,baz=109,slow=6.6,SNR=6.3						
NFK	Norfolk Island	70.47	120	P	P	00 52 55.7	-6.0
	baz=71,SNR=3.4						
BRTR	Keskin Array B	72.58	312	P	P	00 53 12.8	-1.6
BRTR	Keskin Array B	72.58	312	P	P	00 53 12.8	-1.6
	0.7nm,0.5s,baz=133,slow=6.9,SNR=7.6						
VRI	Vrincioaia	79.10	317	↑↑*i*P	P	00 53 51.5	+0.2
MLR	Muntele Rosu	79.55	317	↑↑*i*P	P	00 53 53.5	-0.4
BURAR	Bucovina Array	80.50	319	↑↑*i*P	P	00 53 59.8	+0.8
VTS	Vitosha	80.91	313	↑↑*i*P	P	00 54 00.1	-1.2
BZS	Buzias	82.56	316	↑↑*i*P	P	00 54 09.7	0.0
FINES	FINESS Array B	83.35	332	P	P	00 54 13.7	+0.2
FINES	FINESS Array B	83.35	332	P	P	00 54 13.7	+0.2
	1.8nm,0.5s,baz=115,slow=9.3,SNR=4.9						
FINES				LR	LR	01 37 00.4	
	comp=Z,90nm,19.0s,baz=214,slow=40						
GERES	GERESS Array B	88.29	319	P	P	00 54 38.3	-0.1
GERES	GERESS Array B	88.29	319	P	P	00 54 38.3	-0.1
	0.3nm,0.5s,baz=108,slow=3.2,SNR=4.2						
TXAR	Lajitas Array	144.44	36	PKP	PKPdf	01 01 23.3	-0.5
TXAR	Lajitas Array	144.44	36	PKP	PKPdf	01 01 23.3	-0.5
	0.9nm,0.6s,baz=298,slow=2.7,SNR=10						

NIED 18 00:52:00, 23°.40N×123°.60E, h5km, Mw3.9 Best double couple: M0 8.98000×10^14 NP1:φs58.00000°, δ71.00000°, λ-142.00000°. NP2:φs314.00000°, δ54.00000°, λ-24.00000°.
IDC 18 00:52:31.1±0.8, 23°.51N×123°.72E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.9/26, mbtmp3.8/14, ML3.7/2, Error ellipse: s-maj=23.8km s-min=18.7km az=75.0
NEIC 18 00:52:32.8±0.4, 23°.47N×123°.61E, h10km, mb4.5/3, MW3.9(NIED), Error ellipse: s-maj=8.2km s-min=6.9km az=159.0
JMA 18 00:52:34.3±0.3, 23°.37N×123°.62E, h40km±4km, M3.6
ISC 18 00:52:32.9±3.2, 23°.43N±0°.06×123°.60E±0°.04, h12km±20km, n46, σ0.86/59, mb3.8/15, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.66	17	P	Pn	00 52 47.7	-0.3
HATJ				S	Sn	00 52 57.5	-0.8
JKRS	Kuro-shima	0.89	25	P	Pn	00 52 51.5	+0.3
JKRS				S	Sn	00 53 03.5	-0.6
IRIF	Iriomote-Funau	0.91	8	P	Pn	00 52 51.6	+0.1
IRIF				*e*S	Sn	00 53 04.7	+0.1
JIJ	Ishigaki jima	1.06	28	P	Pb	00 52 53.4	+0.3
JIJ				S	Sb	00 53 06.4	-0.6
YOJ	Yonaguni jima	1.16	333	P	Pb	00 52 55.4	+0.5
YOJ				S	Sn	00 53 10.3	-0.5
JTJ	Tarama	1.58	40	P	Pn	00 53 00.8	+0.1
JTJ				S	Sn	00 53 21.1	+0.1
JMJ	Miyako jima 2	2.08	48	P	Pn	00 53 07.6	+0.1
JMJ				*e*S	Sn	00 53 32.5	-0.9
YULB	Yu-li	2.11	270	*e*Pn	Pn	00 53 06.8	-1.2
YULB				*e*Sn	Sn	00 53 33.1	-1.2
JOGS	Gusukube	2.12	51	P	Pn	00 53 08.7	+0.5
YHNB	Yeheng	2.38	302	*e*Pn	Pn	00 53 11.8	+0.1
YHNB				*e*Sn	Sn	00 53 42.2	+1.3
TWG	Pinlang	2.40	256	*e*Pn	Pn	00 53 12.3	+0.3
TWG				*e*Sn	Sn	00 53 38.8	-2.5
SSLB	Suanglung	2.45	279	*e*Pn	Pn	00 53 12.0	-0.7
SSLB				*e*Sn	Sn	00 53 41.2	-1.4
TATO	Taipei	2.47	309	*e*Pn	Pn	00 53 12.7	-0.2
TATO				*e*Sn	Sn	00 53 43.9	+0.9
TPUB	Ta-pu	2.73	268	*e*Pn	Pn	00 53 17.3	+0.8
TPUB				*e*Sn	Sn	00 53 49.6	+0.1
JKE	Kume jima 2	4.09	44	*e*S	Sn	00 54 23.3	+0.3
KSAR	Wonju Array Be	14.45	14	Pn	Pn	00 55 56.3	-0.9
KSRS	Korea Array	14.47	14	Pn	Pn	00 55 56.3	-1.2
	0.3nm,0.3s,baz=191,slow=12,SNR=2.9						
MJAR	Matsushiro Arr	18.17	41	P	P	00 56 45.4	+0.1
MJAR	Matsushiro Arr	18.17	41	P	P	00 56 45.4	+0.1
	0.2nm,0.3s,baz=235,slow=9.6,SNR=3.6						
CMAR	Chiang Mai Arr	23.54	263	P	P	00 57 44.6	+1.5
CMAR	Chiang Mai Arr	23.54	263	P	P	00 57 44.6	+1.5
	0.5nm,0.3s,baz=61,slow=9.4,SNR=4.2						
SONM	Songino Array	27.96	335	P	P	00 58 23.1	-0.2
SONM	Songino Array	27.96	335	P	P	00 58 23.1	-0.2
	0.7nm,0.6s,baz=150,slow=10.0,SNR=5.1						
PETK	Petropavlovsk-	39.29	32	P	P	00 59 59.8	-1.6
PETK	Petropavlovsk-	39.29	32	P	P	00 59 59.8	-1.6
	2.7nm,0.5s,baz=150,slow=3.2,SNR=4.9						
MKAR	Makanchi Array	40.42	316	P	P	01 00 11.5	+0.5
MKAR	Makanchi Array	40.42	316	P	P	01 00 11.5	+0.5
	0.6nm,0.4s,baz=100,slow=8.9,SNR=16						
ZALV	Zalesovo Beam	42.09	326	P	P	01 00 23.9	-0.6
ZALV	Zalesovo Beam	42.09	326	P	P	01 00 23.9	-0.6
	0.8nm,0.5s,baz=119,slow=6.1,SNR=4.4						
TKM2	Tokmak 2	43.97	308	*e*P	P	01 00 42.0	+1.8
	3.5nm,0.8s						
KURK	Kurchatov	44.09	320	P	P	01 00 40.8	0.0
KURBB	Kurchatov Arra	44.11	320	P	P	01 00 40.8	-0.1
	0.4nm,0.4s,baz=114,slow=7.6,SNR=5.7						
WRAB	Tennant Creek	44.35	165	*e*P	P	01 00 44.0	+0.9
	9.1nm,1.3s						
WRA	Warramunga Arr	44.36	165	P	P	01 00 43.3	+0.1
WRA	Warramunga Arr	44.36	165	P	P	01 00 43.3	+0.1
	1.1nm,0.8s,baz=347,slow=8.4,SNR=4.7						
ASAR	Alice Springs	47.87	167	P	P	01 01 11.7	+0.8
ASAR	Alice Springs	47.87	167	P	P	01 01 11.7	+0.8
	0.4nm,0.4s,baz=350,slow=8.0,SNR=6.1						
ABKAR	Akbulak array	55.55	315	*e*P	P	01 02 08.4	+0.4
	3.8nm,0.8s						
KBZ	Khabaz	67.67	309	P	P	01 03 30.1	+0.2
KBZ	Khabaz	67.67	309	P	P	01 03 30.1	+0.2
	1.9nm,1.0s,baz=53,slow=10,SNR=3.6						
ILAR	Eielson Array	68.87	27	P	P	01 03 36.1	-1.0
ILAR	Eielson Array	68.87	27	P	P	01 03 36.1	-1.0
	0.2nm,0.7s,baz=309,slow=5.7,SNR=3.1						
FINES	FINESS Array B	73.21	330	P	P	01 04 03.9	+0.5
FINES	FINESS Array B	73.21	330	P	P	01 04 03.9	+0.5
	3.5nm,1.1s,baz=34,slow=7.8,SNR=6.1						
GERES	GERESS Array B	84.82	321	P	P	01 05 08.3	+0.8
GERES	GERESS Array B	84.82	321	P	P	01 05 08.3	+0.8
	1.1nm,0.7s,baz=49,slow=6.1,SNR=12						

IDC 18 00:59:38.1±0.5, 22°.35S×170°.90E, h0km, mb4.5/16, mb1 4.6/19, mb1mx4.5/24, mbtmp4.5/19, ML3.8/3, MS4.3/13, Ms1 4.3/13, ms1mx4.0/31, Error ellipse: s-maj=17.6km s-min=16.3km az=136.0
BJI 18 00:59:40.7, 22°.50S×170°.70E, h21km, mB5.2/7, mb4.8/14, Ms5.1/1, Ms7 4.7/1
SZGRF 18 00:59:40.7, 23°.18S×171°.64E, h31km, Southeast of Loyalty Islands
BKK 18 00:59:41.2±0.7, 23°S±14°×17°1E±1°9, h10km, M5.3/17, mB5.9/4, mb5.2/17, Mw(mB)5.4/4
MOS 18 00:59:42.9±1.4, 22°.52S×170°.71E, h33km, mb4.9/9, Error ellipse: s-maj=13.2km s-min=9.7km az=162.4
ISCJB 18 00:59:43.3±0.3, 22°.47S±0°.05×170°.71E±0°.04, h42km, mb4.8/45, MS4.4/10, Error ellipse: s-maj=7.1km s-min=5.3km az=13.9
NOU 18 00:59:44.0±0.6, 19°.96S×170°.03E, h10km, MD3.2, ML3.7, MS1.8
NEIC 18 00:59:45.9±0.7, 22°.48S×170°.73E, h55km±6km, mb5.0/19, Error ellipse: s-maj=6.1km s-min=5.6km az=195.0
BGS 18 00:59:46.7±5.4, 22°.48S×170°.73E, h40km, mb5.0(NEIC)
GCMT 18 00:59:46.2±0.2, 22°.64S×170°.74E, h28km, MW5.1, Moment Tensor Solution. s55,c75; s67,c102; Moment tensor: Scale 10^16Nm; Mrr4.86±.14; Mθθ-4.42±.14; Mφφ-0.44±.14; Mrθ2.88±.23; Mθφ2.50±.11; Mφr-0.47±.22; Best double couple: M0 6.00000×10^16 NP1:φs107.00000°, δ60.00000°, λ80.00000°. NP2:φs306.00000°, δ32.00000°, λ106.00000°. Principal axes: T 5.6900, Plg73.0000°, Azm352.0000°; N 0.6400, Plg9.0000°, Azm112.0000°; P -6.3300, Plg14.0000°, Azm204.0000°; Data Used: IU II IC G CN.
AUST 18 00:59:50.2, 23°.00S×171°.09E, h100km
ISC 18 00:59:44.1±0.3, 22°.50S±0°.06×170°.77E±0°.05, h42km, h40km:pP-P, n360, σ1.98/358, mb4.8/45, MS4.4/10, 24C-17D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.61	275	*e*P	Pn	01 00 37.7	+0.2
BAYA				*e*S	Sn	01 01 16.8	-2.1
BAYA				AMP		01 01 23.5	
	comp=Z,42nm,11.3s						
NORM	Noumea	3.97	273	*e*P	Pn	01 00 41.7	-0.8
NORM				*e*S	Sn	01 01 25.3	-2.5
NORM				AMP		01 01 28.5	
	comp=Z,648nm,1.6s						
DZM	Mont Dzumac	4.03	275	*e*Pn	Pn	01 00 43.0	-0.4
	comp=Z,163nm,0.2s						
DZM				*e*Sn	Sn	01 01 25.6	-3.7
	comp=Z,239nm,0.2s						
DZM	Mont Dzumac	4.03	275	*e*P	Pn	01 00 42.5	-0.9
DZM				*e*S	Sn	01 01 27.5	-1.8
DZM	Mont Dzumac	4.03	275	*e*Pn	Pn	01 00 42.9	-0.4
DZM				*e*Sn	Sn	01 01 28.8	-0.5
DZM	Mont Dzumac	4.03	275	Pn	Pn	01 00 42.8	-0.5
	comp=Z,40nm,0.3s,baz=72,slow=20,SNR=693						
DZM				Sn	Sn	01 01 26.5	-2.8
	comp=Z,62nm,0.3s,baz=160,slow=23,SNR=6.7						
NOUC	Port Laguerre	4.15	275	*e*P	Pn	01 00 44.3	-0.7
NOUC				AMP		01 01 38.1	
	comp=Z,195nm,4.6s						
NFK	Norfolk Island	6.99	201	P	Pn	01 01 22.1	-1.9
	baz=6.7,SNR=14						
NFK				S	Sn	01 02 36.8	-5.4
	baz=6.7,SNR=7.6						
MSVF	Nonsavu	8.33	57	Pn	Pn	01 01 48.6	+6.2
	comp=Z,888nm,1.0s,SNR=12						
MSVF	Nonsavu	8.33	57	*e*P	Pn	01 01 45.9	+3.5
MSVF	Nonsavu	8.33	57	*e*Pn	Pn	01 01 45.9	+3.5
RAO	Raoul Island	12.20	126	LR	LR	01 06 12.4	
	comp=Z,1μm,19.7s,baz=269,slow=32						
OUZ	Omahuta	12.91	170	*e*Pn	Pn	01 02 45.7	+0.8
URZ	Urewera	16.62	162	*e*Pn	P	01 03 36.6	+0.7
URZ	Urewera	16.62	162	Pn	P	01 03 35.3	-0.7
	comp=Z,0.4nm,0.3s,baz=338,slow=3.9,SNR=8.1						
URZ				LR	LR	01 08 54.3	
	comp=Z,2μm,18.1s,baz=348,slow=33						
HNR	Honiara	16.63	320	LR	LR	01 08 52.2	
	comp=Z,482nm,20.4s,baz=127,slow=33						
EIDS	Eidsvold	18.22	257	P	Pn	01 03 59.5	+5.6
	baz=18,SNR=4.5						
AFI	Afiamalu	18.64	66	*e*P	Pn	01 03 59.3	+0.1
AFI	Afiamalu	18.64	66	P	P	01 03 56.8	-1.7
	comp=Z,2.4nm,0.3s,baz=241,slow=19,SNR=4.3						
AFI				LR	LR	01 09 33.4	
	comp=Z,836nm,18.8s,baz=261,slow=32						
ARMA	Armidale	18.84	241	P	Pn	01 04 07.2	+5.7
	baz=19,SNR=5.0						
KHZ	Kahutara	19.99	174	*e*P	Pn	01 04 14.7	-0.3
	comp=Z,108nm,1.2s						
MGCD	Mangrove Creek	20.36	234	P	Pn	01 04 21.1	+1.8
	baz=20,SNR=6.7						
RMQ	Roma	20.41	254	P	Pn	01 04 21.4	+1.4
	baz=21,SNR=39						
RPZ	Rata Peaks	21.16	179	*e*P	P	01 04 26.5	+0.9
	comp=Z,57nm,0.9s						
RPZ	Rata Peaks	21.16	179	P	P	01 04 26.6	+1.0
	comp=Z,50nm,0.8s,baz=43,slow=2.4,SNR=17						
CNB	Canberra Magne	22.61	231	P	P	01 04 43.9	+2.6
	baz=22,SNR=6.1						
YNG	Young	22.86	234	P	P	01 04 46.0	+2.1
	baz=23,SNR=8.0						
CAN	Canberra	22.88	231	*e*P	P	01 04 45.0	+0.9
CAN				pmax	pmax		
	comp=Z,72nm,1.4s						
CAN	Canberra	22.88	231	*e*P	P	01 04 45.0	+0.9
	comp=Z,72nm,1.4s						
CTA	Charters Tower	22.96	271	P	P	01 04 46.7	+1.7
CTA	Charters Tower	22.96	271	P	P	01 04 46.7	+1.7
	comp=Z,6.7nm,0.8s,baz=104,slow=13,SNR=9.8						
CTAO	Charters Tower	22.96	271	*e*P	P	01 04 45.6	+0.6
CTAO				pmax	pmax		
	comp=Z,19nm,1.1s						
CTAO	Charters Tower	22.96	271	*e*P	P	01 04 45.6	+0.6
	comp=Z,19nm,1.1s						
CMSA	Cobar Meteorol	24.04	243	P	P	01 04 57.3	+2.1
	baz=24,SNR=43						
CMSA				S	S	01 09 05.8	-3.9
	baz=24,SNR=5.3						
MTSU	Mount Surprise	25.17	275	P	P	01 05 07.7	+1.9
	baz=26,SNR=8.1						
PMG	Port Moresby	26.11	296	P	P	01 05 15.0	+0.8
PMG	Port Moresby	26.11	296	P	P	01 05 15.0	+0.8
	comp=Z,15nm,0.7s,baz=116,slow=12,SNR=4.1						
STKA	Stephens Creek	27.50	244	*e*P	P	01 05 27.7	+1.0
	comp=Z,4.9nm,1.2s						
STKA	Stephens Creek	27.50	244	P	P	01 05 28.4	+1.7
	comp=Z,5.2nm,0.7s,baz=95,slow=12,SNR=10						
STKA				LR	LR	01 15 35.5	
	comp=Z,614nm,18.9s,baz=202,slow=35						
STKA	Stephens Creek	27.50	244	P	P	01 05 28.8	+2.1
	baz=28,SNR=9.8						
COEN	Coen	27.51	283	P	P	01 05 29.1	+2.2
	baz=28,SNR=3.9						
AS31	Alice Springs	33.87	261	*e*P	P	01 06 23.5	+0.5
ASAR	Alice Springs	33.87	261	P	P	01 06 23.3	+0.3
ASAR	Alice Springs	33.87	261	P	P	01 06 23.3	+0.3
	comp=Z,8.7nm,0.8s,baz=89,slow=9.0,SNR=81						
WRAB	Tennant Creek	33.99	267	*e*P	P	01 06 23.6	-0.4
WRAB				pmax	pmax		
	comp=Z,108nm,2.3s						
WRAB	Tennant Creek	33.99	267	*e*P	P	01 06 23.6	-0.4
	comp=Z,108nm,2.3s						
WRA	Warramunga Arr	34.00	267	P	P	01 06 23.5	-0.7
WRA	Warramunga Arr	34.00	267	P	P	01 06 23.5	-0.7
	comp=Z,1.0nm,0.6s,baz=108,slow=8.0,SNR=4.7						
WRA				LR	LR	01 20 20.1	
	comp=Z,827nm,18.9s,baz=95,slow=36						
TBI	Tubuai	36.56	99	*e*LR	LR	01 16 42.5	
	comp=Z,401nm,25.0s						
PPT2	Papeete2	37.50	90	*e*LR	LR	01 17 07.8	
	comp=Z,334nm,25.5s						
PPT	Papeete	37.50	90	LR	LR	01 19 08.1	
	comp=Z,179nm,19.5s,baz=233,slow=31						
MTN	Manton Dam	38.86	277	P	P	01 07 06.0	+0.4
	baz=39,SNR=4.7						
MTN				S	S	01 13 24.9	+24
	baz=39,SNR=4.0						
KNRA	Kununurra	40.17	272	P	P	01 07 15.9	-0.5
	baz=40,SNR=4.1						
FAKI	Fak Fak	42.11	292	P	P	01 07 35.8	+3.3
	baz=43,SNR=3.0						
FITZ	Fitzroy Crossi	42.43	267	P	P	01 07 36.0	+1.0
	baz=43,SNR=18						
MBWA	Marble Bar	47.20	261	*e*P	P	01 08 13.7	+0.7
	comp=Z,16nm,0.9s						
MEEK	Meekatharra	47.35	254	P	P	01 08 14.5	+0.3
	baz=47,SNR=8.3						
NWAO	Narrogin (SRO)	48.08	245	*e*P	P	01 08 20.4	+0.7
KAPI	Kappang	52.22	282

comp=Z,8.6nm,1.0s
CRAI Chiangrai 80.76 296 P P 01 11 57.8 +4.2
comp=Z,123µm,1.5s
CMAR Chiang Mai Arr 81.14 294 P **P** **01 11 58.0 +2.4**
CMAR PKKPbc **PKKPbc** **01 30 32.1 +0.4**
CMAR Chiang Mai Arr 81.14 294 P **P** **01 11 58.0 +2.4**
comp=Z,7.5nm,0.7s,baz=136,slow=4.2,SNR=40
CMAR PKKPbc **PKKPbc** **01 30 32.1 +0.4**
comp=Z,0.6nm,0.3s,baz=287,slow=4.3,SNR=4.9
KMI Kunming 81.20 302 P **P** **01 11 58.3 +2.2**
KMI pP **pP** **01 12 08.3 -0.4**
KMI pmax pmax
comp=Z,13nm,1.3s
CMMT Chiang Mai 81.29 294 P **P** **01 11 58.3 +1.9**
comp=Z,23nm,1.1s,comp=Z,463nm
CHTO Chiang Mai 81.30 294 *e*P P **P** **01 11 58.5 +2.0**
CHTO pmax pmax
comp=Z,20nm,1.1s
CHTO Chiang Mai 81.30 294 *e*P **P** **01 11 58.5 +2.0**
comp=Z,20nm,1.1s
CHTO Chiang Mai 81.30 294 P **P** **01 11 58.7 +2.2**
comp=Z,25nm,1.1s
XAN Xi'an 81.35 312 P **P** **01 11 57.5 +1.0**
XAN pP **pP** **01 12 06.1 -3.0**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,22nm,7.5s
SYO Syowa Base 82.20 196⇓ *e*P **P** **01 12 00.0 -0.3**
SYO Syowa Base 82.20 196⇓ *e*PcP **PcP** **01 12 03.6 -2.0**
SYO Syowa Base 82.20 196⇓ *e*P **P** **01 12 00.0 -0.3**
PMSA Palmer Station 83.37 159 *e*P **P** **01 12 07.0 +0.5**
comp=Z,4.9nm,0.6s
LZH Lanzhou 85.96 312 *e*P **P** **01 12 20.8 +0.6**
LZH pP **PcP** **01 12 25.5 +2.7**
LZH sP sP 01 12 27.8 -10
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,67nm,6.0s
LZH LR LR
comp=N,230nm,13.8s
LZH LR LR
comp=E,230nm,14.0s
LZH LR LR
comp=Z,310nm,17.6s
SNAA Sanae 85.97 182 *e*P **P** **01 12 19.1 -0.5**
SNAA Sanae 85.97 182 *e*I **PcP** **01 12 24.0 +1.7**
SNAA Sanae 85.97 182 *e*I pP 01 12 29.5 -2.8
SNAA Sanae 85.97 182 *e*P **P** **01 12 18.7 -0.9**
comp=Z,17nm,1.0s
VNA2 Neumayer--Watz 86.82 181 *e*P **P** **01 12 23.7 0.0**
VNA2 Neumayer--Watz 86.82 181 *e*I **PcP** **01 12 29.0 +3.1**
VNA2 Neumayer--Watz 86.82 181 *e*I pP 01 12 34.9 -1.5
VNA1 Neumayer--Stat 87.10 180 *e*P **P** **01 12 25.0 0.0**
VNA1 Neumayer--Stat 87.10 180 *e*I **PcP** **01 12 30.3 +3.2**
VNA1 Neumayer--Stat 87.10 180 *e*I pP 01 12 35.3 -2.4
YBH Yreka Blue Hor 88.66 43 LR LR 01 42 56.2
comp=Z,168nm,19.1s,baz=234,slow=29
NVAR Mina Array Bea 89.90 48 P **P** **01 12 39.2 +0.2**
NVAR Mina Array Bea 89.90 48 P **P** **01 12 39.2 +0.2**
comp=Z,1.6nm,0.7s,baz=228,slow=7.8,SNR=9.2
ULN Ulaanbaatar 90.32 323 *e*P **P** **01 12 41.3 +0.6**
comp=Z,18nm,1.0s
GTA Gaotai 90.39 313 *e*P **P** **01 12 42.1 +0.9**
GTA pP **pP** **01 12 52.3 -1.7**
GTA sP **sP** **01 12 56.3 -2.4**
GTA pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 90.67 323 P **P** **01 12 42.4 +0.1**
SONM Songino Array 90.67 323 P **P** **01 12 42.4 +0.1**
comp=Z,11nm,1.0s,baz=139,slow=4.4,SNR=45
WVOR Wild Horse Val 91.63 44 *e*P **P** **01 12 47.0 +0.1**
WVOR pmax pmax
comp=Z,3.0nm,1.1s
WVOR Wild Horse Val 91.63 44 *e*P **P** **01 12 47.0 +0.1**
comp=Z,3.1nm,1.1s
ILAR Eielson Array 92.92 17 P **P** **01 12 51.4 -0.8**
ILAR Eielson Array 92.92 17 P **P** **01 12 51.4 -0.8**
comp=Z,0.5nm,0.6s,baz=239,slow=5.6,SNR=5.9
PLCA Paso Flores 95.16 138 LR LR 01 44 15.6
comp=Z,95nm,20.2s,baz=316,slow=28
INK Inuvik 99.18 18 LR LR 01 52 24.5
comp=Z,124nm,19.8s,baz=285,slow=32
MKAR Makanchi Array 105.05 315 P **Pdif** **01 13 47.9 +0.7**
MKAR Makanchi Array 105.05 315 Pdif **Pdif** **01 13 47.9 +0.7**
MKAR PP **PKiKP** **01 18 04.4 +2.7**
MKAR PKKPbc **PKKPbc** **01 29 28.9 -1.2**
MKAR Makanchi Array 105.05 315 Pdiff **Pdif** **01 13 47.9 +0.7**
comp=Z,0.7nm,0.7s,baz=99,slow=6.7,SNR=6.5
MKAR PP **PKiKP** **01 18 04.4 +2.7**
comp=Z,0.8nm,1.0s,baz=86,slow=5.2,SNR=4.2
MKAR PKKPbc **PKKPbc** **01 29 28.9 -1.2**
comp=Z,0.9nm,0.9s,baz=340,slow=3.2,SNR=5.1
KURK Kurchatov 108.41 318 PKiKP **PKiKP** **01 18 07.7 0.0**
KURK PP **PP** **01 18 32.3 -0.7**
KURK PKKPbc **PKKPbc** **01 29 19.1 -0.6**
KURBB Kurchatov Arra 108.44 318 PKiKP **PKiKP** **01 18 07.7 -0.1**
comp=Z,0.7nm,0.2s,baz=101,slow=1.5,SNR=4.2
KURBB PP **PP** **01 18 32.3 -1.0**
comp=Z,0.5nm,0.4s,baz=102,slow=6.8,SNR=5.1
KURBB PKKPbc **PKKPbc** **01 29 19.1 -0.4**
comp=Z,0.1nm,0.3s,baz=286,slow=3.1,SNR=5.7
BVAR Borovoye Array 113.82 319 PKiKP **PKiKP** **01 18 17.1 -0.8**
BVAR Borovoye Array 113.82 319 PKiKP **PKiKP** **01 18 17.1 -0.8**
comp=Z,0.5nm,0.4s,baz=29,slow=3.4,SNR=5.3
AKTO Aktyubinsk 121.42 316 PKIKP **PKPdf** **01 18 32.4 -0.3**
AKTO Aktyubinsk 121.42 316 PKP **PKPdf** **01 18 32.4 -0.3**
AKTO Aktyubinsk 121.42 316 PKP **PKPdf** **01 18 32.4 -0.3**
comp=Z,1.3nm,0.6s,baz=110,slow=1.7,SNR=7.3
DAG Danmarks Havn 125.48 3 *i* P **PKPdf** **01 18 38.4 -1.3**
comp=Z,6.4nm,0.8s
BDFB Brasilia 126.34 131 PKP **PKPdf** **01 18 42.9 -0.4**
BDFB Brasilia 126.34 131 PKP **PKPdf** **01 18 42.9 -0.4**
comp=Z,2.2nm,0.6s,baz=274,slow=3.2,SNR=5.0
SCHQ Schefferville 126.66 38 PKP **PKPdf** **01 18 41.2 -1.4**
SCHQ Schefferville 126.66 38 PKP **PKPdf** **01 18 41.2 -1.4**
comp=Z,5.3nm,0.9s,baz=21,slow=4.0,SNR=3.6
PQI Presque Isle 127.30 48 *e*PKPdf **PKPdf** **01 18 43.0 -1.1**
SUMG Summit 127.30 11 *i* P **PKPdf** **01 18 43.3 -0.5**
comp=Z,4.4nm,1.0s
ARCES ARCESS Array B 128.57 345 PKP **PKPdf** **01 18 45.2 -0.6**
ARCES ARCESS Array B 128.57 345 PKP **PKPdf** **01 18 45.2 -0.6**
comp=Z,3.9nm,0.7s,baz=68,slow=2.3,SNR=15
FINES FINESS Array B 134.13 337 PKPpre PKPpre 01 18 50.2
FINES PKP **PKPdf** **01 18 55.9 -0.6**
FINES FINESS Array B 134.13 337 PKhKP PKPpre 01 18 50.2
comp=Z,1.9nm,1.0s,baz=115,slow=2.0,SNR=3.3
FINES PKP **PKPdf** **01 18 55.9 -0.6**
comp=Z,4.0nm,1.0s,baz=105,slow=3.0,SNR=5.3
NOA NORSAR Array B 138.95 345 PKPpre PKPpre 01 19 02.5
NOA NORSAR Array B 138.95 345 PKhKP PKPpre 01 19 02.5
comp=Z,0.9nm,0.8s,baz=13,slow=2.0,SNR=3.0
MMAI Mount Meron Ar 139.40 295 PKP **PKPdf** **01 19 08.5 +1.3**
MMAI Mount Meron Ar 139.40 295 PKP **PKPdf** **01 19 08.5 +1.3**
comp=Z,4.1nm,0.8s,baz=170,slow=4.4,SNR=4.0
EIL Elat 139.87 290 PKP **PKPdf** **01 19 08.8 +0.7**
EIL Elat 139.87 290 PKP **PKPdf** **01 19 08.8 +0.7**
comp=Z,5.3nm,1.0s,baz=106,slow=7.2,SNR=4.0
BRTR Keskin Array B 139.90 305 PKPpre PKPpre 01 19 04.0
BRTR Keskin Array B 139.90 305 PKhKP PKPpre 01 19 04.0
comp=Z,0.5nm,0.8s,baz=67,slow=4.2,SNR=3.8
BEL Belsk 142.68 329 *e*PKP PKPdf 01 19 22.4 +10
BURAR Bucovina Array 142.76 321⇑ PKIKP **PKPdf** **01 19 14.9 +2.0**
BURAR Bucovina Array 142.76 321⇑ *i*P **PKPdf** **01 19 14.9 +2.0**
KWP Kalwaria Pacla 143.07 325⇑ PKIKP **PKPdf** **01 19 12.7 -0.6**
KWP Kalwaria Pacla 143.07 325⇑ *i*P **PKPdf** **01 19 12.7 -0.6**
MLR Muntele Rosu 143.34 317⇓ *i*P PKPbc 01 19 11.8 +0.6
MLR Muntele Rosu 143.34 317 PKP **PKPdf** **01 19 13.6 -0.4**
MLR Muntele Rosu 143.34 317 PKP **PKPdf** **01 19 13.6 -0.4**
comp=Z,0.6nm,0.6s,baz=336,slow=7.9,SNR=6.4
KOLS Kolonicke sedl 143.71 324 *e*PKIKP PKPbc 01 19 12.9 +0.9
KOLS pmax pmax
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 143.71 324 *e*PKP PKPbc 01 19 12.9 +0.9
UZH Uzhgorod 143.87 324 *ce*PKIKP **PKPdf** **01 19 13.7 -1.0**
UZH *i* 01 19 28.7
VOIR 143.92 318⇑ PKIKP PKPbc 01 19 13.5 +0.6
VOIR 143.92 318⇑ *i*P PKPbc 01 19 13.5 +0.6
STHS Stebnicka Huta 143.97 326 *e*PKIKP **PKPdf** **01 19 13.9 -1.0**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 143.97 326 *e*PKP **PKPdf** **01 19 13.9 -1.0**
TRPA Tarpa 144.02 323⇓ *i*P **PKPdf** **01 19 13.9 -1.0**
CRVS Cervenica-Dubn 144.16 325 *e*PKIKP PKPbc 01 19 14.0 +0.6
CRVS pmax pmax
comp=Z,5.0nm,0.9s
CRVS Cervenica-Dubn 144.16 325 *e*PKP PKPbc 01 19 14.0 +0.6
ARR Arges 144.21 318⇓ *i*P **PKPdf** **01 19 15.8 +0.3**
SZH Strazhica 144.30 314 *e*P **PKPdf** **01 19 14.7 -0.9**
MVH1 Achvaich 144.43 355 *e*P PKPbc 01 19 13.8 -0.1
DRGR 144.65 321⇓ PKIKP **PKPdf** **01 19 16.9 +0.7**
DRGR 144.65 321⇓ *i*P **PKPdf** **01 19 16.9 +0.7**
MCD Coleburn Disti 144.69 354 *e*P **PKPab** **01 19 13.9 -0.7**
LOT Lotru 144.71 318⇑ *i*P **PKPdf** **01 19 16.5 +0.1**
MDO Dochfour 144.92 355 *e*P **PKPab** **01 19 14.6 -0.8**
KAC Achnashellach 144.93 356 *e*P **PKPab** **01 19 15.1 -0.4**
MME1 Meikle Cairn 144.93 354 *e*P **PKPab** **01 19 14.3 -1.2**
KECS Kecovo 144.93 325 *e*PKIKP **PKPdf** **01 19 16.7 +0.2**
KECS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 144.93 325 *e*PKP **PKPdf** **01 19 16.7 +0.2**
KPL Plockton 145.11 357 *e*P **PKPbc** **01 19 15.7 -0.4**
KPL AMB AMB 01 19 16.3
comp=Z,54nm,1.1s
OKC Ostrava-Krasne 145.25 328 *e*PKIKP **PKPdf** **01 19 17.2 +0.2**
OKC Ostrava-Krasne 145.25 328 *e*PKP **PKPdf** **01 19 17.2 +0.2**
DRUM Mains of Drumt 145.28 354 *e*P **PKPbc** **01 19 15.8 -0.8**
DRUM AMB AMB 01 19 16.9
comp=Z,39nm,0.8s
BSEG Bad Segeberg 145.30 340 *e*PKPbc **PKPdf** **01 19 17.3 +0.4**
BSEG Bad Segeberg 145.30 340 *e*PKIKP **PKPdf** **01 19 17.3 +0.4**
GZR Gura Zlata 145.34 319⇓ *i*P **PKPab** **01 19 17.8 +0.3**
KSP Ksiaz 145.42 331 *e*PKIKP **PKPab** **01 19 17.8 +0.3**
KSP Ksiaz 145.42 331 *e*PKP **PKPab** **01 19 18.2 +0.7**
PSZ Piszkesteto 145.59 325⇑ PKP2 **PKPab** **01 19 18.6 +0.3**
PSZ Piszkesteto 145.59 325⇑ *i*P **PKPab** **01 19 18.6 +0.3**
PSZ Piszkesteto 145.59 325 *e*PKPdf **PKPab** **01 19 18.1 -0.3**
PSZ Piszkesteto 145.59 325⇓ *e*PKPbc **PKPab** **01 19 19.3 +1.0**
MORC Moravsky Berou 145.59 329 *e*PKP2 **PKPab** **01 19 18.4 +0.2**
MORC Moravsky Berou 145.59 329 *e*PKPdf **PKPab** **01 19 18.4 +0.2**
MPEP Malo Peshtene 145.71 315 *e*P **PKPbc** **01 19 18.1 -0.4**
DPC Dobruska-Polom 145.76 331 *e*PKP2 **PKPab** **01 19 19.2 +0.3**
DPC Dobruska-Polom 145.76 331 *e*PKP **PKPab** **01 19 19.2 +0.3**
DPC *ex* x 01 19 28.4
UPC Upice 145.79 331 *e*PKP2 **PKPab** **01 19 19.2 +0.3**
UPC Upice 145.79 331 *e*PKP **PKPab** **01 19 19.2 +0.3**
BZS Buzias 145.92 320⇑ PKP2 **PKPab** **01 19 20.6 +1.0**
BZS Buzias 145.92 320⇑ *i*P **PKPab** **01 19 20.6 +1.0**
EAB Aberfoyle 146.16 355 *e*P **PKPdf** **01 19 18.0 -0.3**
ESY Stoneypath 146.27 353 *e*P **PKPdf** **01 19 18.7 +0.2**
VRAC Vranov 146.36 329 PKPbc **PKPbc** **01 19 20.3 +0.1**
VRAC Vranov 146.36 329 PKPbc **PKPbc** **01 19 20.3 +0.1**
comp=Z,11nm,0.7s,baz=48,slow=4.1,SNR=5.7
VTS Vitosha 146.40 314⇓ PKP2 **PKPbc** **01 19 20.5 -0.3**
VTS Vitosha 146.40 314 *e*P **PKPab** **01 19 21.4 -0.3**
VTS Vitosha 146.40 314⇓ *i*P **PKPbc** **01 19 20.5 -0.3**
PVCC Panska Ves 146.41 332 *e*PKP2 **PKPab** **01 19 21.0 -0.2**
PVCC Panska Ves 146.41 332 *e*PKP **PKPab** **01 19 21.0 -0.2**
BRG Berggiesshubel 146.41 333 *i* PKP **PKPab** **01 19 20.8 -0.5**
comp=Z,23nm,1.0s
BRG Berggiesshubel 146.41 333 *e*PKPbc **PKPab** **01 19 20.8 -0.5**
BRG Berggiesshubel 146.41 333 *i* PKP2 **PKPab** **01 19 20.8 -0.5**
BRG pmax pmax
comp=Z,23nm,1.0s
EBL Broad Law 146.46 354 *e*P **PKPbc** **01 19 19.6 -0.7**
CLL Collm 146.46 335 *e*PKPbc **PKPbc** **01 19 20.7 +0.2**
CLL Collm 146.46 335⇑ *i*PKP2 **PKPbc** **01 19 20.6 +0.1**
CLL pmax pmax
comp=Z,26nm,0.8s
CLL Collm 146.46 335⇑ *i*PKPbc **PKPbc** **01 19 20.6 +0.1**
comp=Z,26nm,0.8s
CLL *ep*PKPdf **pPKPdf** **01 19 33.0 +0.8**
MMB Musomiste 146.48 312 *e*P **PKPbc** **01 19 21.0 +0.1**
NVR Nevrokopi 146.48 312 *e*P **PKPbc** **01 19 21.0 +0.1**
PGBU Glenifferbraes 146.55 355 *e*P **PKPbc** **01 19 19.9 -0.7**
PGBU AMB AMB 01 19 22.1
comp=Z,69nm,2.6s
NRDL Niedersach Rie 146.58 338 *e*PKPbc **PKPab** **01 19 21.1 -0.6**
FBE Freiberg 146.62 334 *e*PKPbc **PKPab** **01 19 21.5 -0.5**
CSKK Cs˘t̂kako 146.80 325⇓ *e*PKPdf **PKPab** **01 19 22.1 -0.8**
PRU Pruhonice 146.81 332 *e*PKP2 **PKPab** **01 19 22.0 -0.8**
PRU Pruhonice 146.81 332 *e*PKP **PKPab** **01 19 22.0 -0.8**
PRU *ex* x 01 19 31.5
ZST Bratislava 146.86 327 *e*PKP **PKPab** **01 19 25.0 +1.9**
TREC Trest 146.89 330 *e*PKP2 **PKPbc** **01 19 22.1 +0.3**
TREC Trest 146.89 330 *e*PKP **PKPbc** **01 19 22.1 +0.3**
TREC *ex* x 01 19 26.2
ESK Eskdalemuir 146.92 354 *e*P **PKPbc** **01 19 20.6 -1.1**
ESK AMB AMB 01 19 21.7
comp=Z,22nm,0.9s
PKST T˘'s 146.98 325⇑ *e*PKPdf **PKPdf** **01 19 20.8 +0.7**
NEUB Neuenburg 147.02 336 *e*PKPbc **PKPab** **01 19 22.7 -0.9**
ECK Cauldkaine Hil 147.05 354⇑ *e*P **PKPbc** **01 19 21.5 -0.5**
SOH Sokhos 147.05 311 *e*P **PKPab** **01 19 24.0 -0.2**
PKSM Moragy 147.30 323⇓ PKP2 **PKPbc** **01 19 23.5 +0.5**
PKSM Moragy 147.30 323⇓ *i*P **PKPbc** **01 19 23.5 +0.5**
PKSM Moragy 147.30 323⇑ *e*PKPdf **PKPbc** **01 19 23.3 +0.3**
TANN Tannenbergstha 147.37 334 *e*PKPbc **PKPbc** **01 19 23.5 +0.3**
WERD Werda 147.41 334 *e*PKPbc **PKPbc** **01 19 23.7 +0.5**
GCD Castle Douglas 147.44 354 *e*P **PKPbc** **01 19 22.0 -1.1**
GUNZ Gunzen 147.47 334 *e*PKPbc **PKPbc** **01 19 24.0 +0.6**
SOP Sopron 147.47 327⇑ *e*PKPdf **PKPdf** **01 19 19.2 -1.7**
IBBN Ibbenburen 147.50 340 *e*PKPbc **PKPbc** **01 19 23.7 +0.4**
IBBN *ep*PKPbc **pPKPbc** **01 19 33.2 -3.2**
GAL1 Galloway 147.50 355 *e*P **PKPbc** **01 19 22.6 -0.7**
GAL1 AMB AMB 01 19 23.4
comp=Z,52nm,1.0s
WERN Wernitzgruen 147.51 334 *e*PKPbc **PKPbc** **01 19 24.1 +0.6**
MOX Moxa 147.53 335 *e*PKPbc **PKPbc** **01 19 23.8 +0.3**
MOX Moxa 147.53 335 *e*PKP2 **PKPbc** **01 19 23.8 +0.3**
KESW Keswick, Cumbr 147.63 353 *e*P **PKPbc** **01 19 23.3 -0.3**
KESW AMB AMB 01 19 24.7
comp=Z,68nm,1.5s
CONA Conrad Observa 147.66 328 *i* PKPbc **PKPdf** **01 19 22.2 +0.9**
comp=Z,14nm,1.1s,SNR=6.9
MANZ Manzenberg 147.85 334 *e*PKPbc **PKPbc** **01 19 24.9 +0.5**
KHC Kasperske Hory 147.87 331 *e*PKIKP **PKPdf** **01 19 21.5 -0.1**
KHC Kasperske Hory 147.87 331 *e*PKP **PKPbc** **01 19 24.9 +0.4**
KHC *ex* x 01 19 33.9
KHC Kasperske Hory 147.87 331 *e*PKPdf **PKPdf** **01 19 21.5 -0.1**
LIT Litokhoron 147.94 311 *e*P **PKPbc** **01 19 25.0 0.0**
ROTZ Rotzenmuhle 147.98 333 *e*PKPbc **PKPbc** **01 19 25.4 +0.6**
UBBA Unterbreizbach 148.00 337 *e*PKPbc **PKPbc** **01 19 24.8 +0.2**
GEC2 GERESS Array S 148.03 331 *e*PKPbc **PKPbc** **01 19 25.3 +0.3**
GEC2 GERESS Array S 148.03 331 *e*PKP2 **PKPbc** **01 19 25.3 +0.3**
GERES GERESS Array B 148.03 331 PKP **PKPdf** **01 19 22.1 +0.2**
GERES PKPbc **PKPbc** **01 19 25.1 +0.1**
GERES GERESS Array B 148.03 331 PKP **PKPdf** **01 19 22.1 +0.2**
comp=Z,3.4nm,0.6s,baz=29,slow=2.2,SNR=33
GERES PKPbc **PKPbc** **01 19 25.1 +0.1**
comp=Z,3.4nm,0.6s,baz=354,slow=1.3,SNR=33
HPK Haverah Park 148.07 351 *e*P **PKPbc** **01 19 24.6 -0.2**
HPK AMB AMB 01 19 28.8
comp=Z,66nm,1.7s
BEHE Becsehely 148.15 325⇑ *e*PKPdf **PKPbc** **01 19 25.0 -0.3**
WET Wettzell 148.17 332 *e*PKPbc **PKPbc** **01 19 25.7 +0.4**
WET Wettzell 148.17 332 *e*PKP2 **PKPbc** **01 19 25.7 +0.4**
DID Didima 148.34 306 *e*P **PKPbc** **01 19 25.5 -0.6**
BUG Bochum--Univer 148.40 340 *e*PKPbc **PKPbc** **01 19 25.8 0.0**
FNA Florina 148.43 312 *e*P **PKPbc** **01 19 27.0 +0.7**
GRF Grafenberg Arr 148.44 334 *e*PKPbc **PKPbc** **01 19 26.5 +0.5**
GRF *ep*PKPbc **pPKPbc** **01 19 35.5 -3.6**
GRF Grafenberg Arr 148.44 334 *e*PKP2 **PKPbc** **01 19 26.5 +0.5**
GRFO Grafenberg 148.44 334 *e*PKIKP **PKPdf** **01 19 23.0 +0.6**
GRFO Grafenberg 148.44 334 *e*PKPdf **PKPdf** **01 19 23.0 +0.6**
AGG Agios Georgios 148.47 309 *e*P **PKPbc** **01 19 26.5 +0.1**
KBI1 Birley Grange 148.74 351 *e*P **PKPbc** **01 19 26.3 -0.3**
VLI Veliai 148.81 304 *e*P **PKPbc** **01 19 27.0 -0.3**
KALE Kalithea 148.85 308 *e*P **PKPbc** **01 19 28.0 +0.5**
GUR Goura 148.86 307 *e*P **PKPbc** **01 19 28.0 +0.4**
EVR Evrytania 148.89 309 *e*P **PKPbc** **01 19 28.5 +0.9**
PERS Pernice 148.91 327 *i* PKPbc **PKPbc** **01 19 26.8 -0.5**
PERS *i* 01 49 23.7
TRIZ Trizonia 148.91 308 *e*P **PKPbc** **01 19 28.5 +1.0**
SOKA Soboth 148.92 327⇑ *i*PKPdf **PKPdf** **01 19 22.7 -0.7**
comp=Z,12nm,1.1s
WME Myndd Eilian 148.93 354 *e*P **PKPbc** **01 19 26.7 -0.3**
KLV Kalavryta, Ach 148.97 307 *e*P **PKPbc** **01 19 27.5 -0.3**
STNC Stoke 148.99 352 *e*P **PKPbc** **01 19 27.1 -0.1**
STNC AMB AMB 01 19 28.5
comp=Z,81nm,1.2s
EFP Efpalio 149.00 308 *e*P **PKPbc** **01 19 29.5 +1.7**
LAKA Lakka 149.02 308 *e*P **PKPbc** **01 19 29.5 +1.6**
WPM1 Penmaenmawr 149.03 354 *e*P **PKPbc** **01 19 26.8 -0.5**
WLF1 Llynfaes 149.04 354 *e*P **PKPbc** **01 19 26.7 -0.6**
WLF1 AMB AMB 01 19 28.5
comp=Z,38nm,0.9s
TNS Taunus Mts 149.05 338 *e*PKPbc **PKPbc** **01 19 28.0 +0.4**
TNS Taunus Mts 149.05 338 *e*PKP2 **PKPbc** **01 19 28.0 +0.4**
YRC Rhoscolyn 149.10 355 *e*P **PKPbc** **01 19 26.6 -0.8**
YLL Llanberis 149.17 354 *e*P **PKPbc** **01 19 26.7 -0.9**
RJOB Jochberg 149.25 330 *e*PKPbc **PKPbc** **01 19 28.2 0.0**
DYR Agios Nikonas 149.26 305 *e*P **PKPbc** **01 19 29.0 +0.5**
FOEL Foel Wylfa 149.31 353 *e*P **PKPbc** **01 19 27.9 -0.2**
FOEL AMB AMB 01 19 28.6
comp=Z,44nm,0.8s
HGN Heimansgroeve 149.41 341 *e*PKP **PKPbc** **01 19 28.5 +0.2**
comp=Z,26nm,1.0s
ITM Ithomi 149.43 306 *e*P **PKPbc** **01 19 29.0 +0.1**
RLS Riolos of Patr 149.46 308 *e*P **PKPbc** **01 19 28.0 -0.9**
AMT Artemida-Makis 149.47 306 *e*P **PKPbc** **01 19 30.5 +1.5**
MEM Membach 149.52 341 PKPbc **PKPbc** **01 19 28.9 +0.3**
MEM Membach 149.52 341 PKPab **PKPab** **01 19 33.6 0.0**
BOJS Bojanci 149.59 325 *i* PKPdf **PKPdf** **01 19 24.9 +0.5**
BOJS *i* PKPbc **PKiKP** **01 19 29.6 -0.5**
BOJS *i* 01 49 20.4
MYKA Terra Mystica 149.65 328 *i* PKPbc **PKPbc** **01 19 28.7 -0.5**
comp=Z,8.0nm,0.6s,SNR=6.9
PYL PYLOS 149.67 305 *e*P **PKPbc** **01 19 29.5 0.0**
LKD2 Lefkada island 149.77 309 *e*P **PKPbc** **01 19 30.5 +0.8**
BCLA Clavier 149.90 341 PKPbc **PKPbc** **01 19 30.0 +0.4**
VOY Vojsko 149.94 327 *e*PKPbc **PKPbc** **01 19 29.4 -0.6**
VOY *e* 01 19 34.7
VOY *e* 01 20 00.3
JAVS Javornik 149.95 327 *i* PKPbc **PKPbc** **01 19 29.6 -0.4**
JAVS *i* 01 49 22.4
STU Stuttgart 149.97 335 *e*PKPbc **PKPbc** **01 19 30.2 +0.4**
STU Stuttgart 149.97 335 *e*PKPbc **PKPbc** **01 19 29.9 +0.1**
SSW Stow on the Wo 150.04 351 *e*P **PKPbc** **01 19 29.9 +0.1**
WATA Walderalm 150.10 331⇑ *i*PKPbc **PKPbc** **01 19 30.2 -0.1**
comp=Z,9.1nm,0.6s,SNR=8.3
ABTA Abfaltersbach 150.11 329⇑ *i*PKPdf **PKPdf** **01 19 24.1 -1.2**
comp=Z,18nm,1.0s,SNR=14
SKP1 Kophill 150.11 349 *e*P **PKPbc** **01 19 29.3 -0.8**
WTTA Wattenberg 150.13 331⇓ *i*PKiKP **PKPbc** **01 19 30.5 0.0**
comp=Z,30nm,1.2s,SNR=11
MCH1 Michaelchurch 150.16 352 *e*P **PKPbc** **01 19 28.3 -1.9**
MCH1 AMB AMB 01 19 29.5
comp=Z,39nm,1.0s
LPW Lampeter 150.17 354 *e*P **PKPbc** **01 19 29.7 -0.5**
LPW AMB AMB 01 19 30.9
comp=Z,186nm,1.6s
SKDS Skadanscina 150.21 326 *i* PKPbc **PKPbc** **01 19 30.4 -0.1**
SKDS *i* 01 49 22.2
WLF Walferdange 150.30 340 PKPbc **PKPbc** **01 19 31.4 +0.9**
WLF Walferdange 150.30 340 *e*PKPbc **PKPbc** **01 19 31.5 +0.9**
WLF Walferdange 150.30 340 *e*PKPbc **PKPbc** **01 19 30.7 +0.1**
MOTA Moosalm 150.31 332⇓ *i*PKPbc **PKPbc** **01 19 30.7 -0.2**
comp=Z,18nm,0.9s,SNR=14
LANF Langenberg 150.32 337 PKP **PKPbc** **01 19 31.0 +0.3**
RETA Reutte 150.35 332⇑ *i*PKPbc **PKPbc** **01 19 30.8 -0.1**
comp=Z,18nm,1.2s,SNR=6.8
DOU Dourbes 150.39 342 PKPbc **PKPbc** **01 19 31.1 +0.4**
SWN1 Swindon 150.47 351 *e*P **PKPbc** **01 19 30.8 -0.2**
SWN1 AMB AMB 01 19 31.5
comp=Z,109nm,0.8s
WOL Wolverton 150.58 350 *e*P **PKPbc** **01 19 30.7 -0.4**
WOL AMB AMB 01 19 31.5
comp=Z,75nm,0.9s
BFO Black Forest 150.66 336 *e*PKPbc **PKPbc** **01 19 31.5 0.0**
BFO Black Forest 150.66 336 *e*PKIKP **PKPdf** **01 19 27.2 +1.2**
BFO Black Forest 150.66 336 *e*PKPdf **PKPdf** **01 19 27.2 +1.2**
FETA Feichten 150.72 331⇑ *i*PKiKP **PKPbc** **01 19 31.9 +0.1**
comp=Z,25nm,1.1s,SNR=10
DAVA Damuels 150.88 333 *i* PKiKP **PKPbc** **01 19 32.2 0.0**
comp=Z,27nm,0.9s,SNR=7.6
ECH Echery 151.19 337 *e*PKPbc **PKPbc** **01 19 32.6 -0.2**
ECH Echery 151.19 337 PKP **PKPbc** **01 19 32.6 -0.2**
HTL Hartland 151.32 354 *e*P **PKPbc** **01 19 32.4 -0.5**
HTL AMB AMB 01 19 36.2
comp=Z,25nm,1.2s
MOF Molkenrain 151.51 337 PKP **PKPbc** **01 19 33.6 0.0**
THEF They Montfort 151.60 338 PKP **PKPbc** **01 19 33.8 +0.1**
TUE Stuetta 151.75 332 *e*PKPdf **PKPdf** **01 19 28.4 +0.4**
TUE *e*PKPbc **PKiKP** **01 19 34.8 +0.1**
LOMF Lomont 152.04 336 PKP **PKPbc** **01 19 34.4 -0.4**
CCA1 Carnmenellis 152.19 354 *e*P **PKPbc** **01 19 34.5 -0.5**
CCA1 AMB AMB 01 19 35.6
comp=Z,28nm,1.8s
AQU L'Aquila 152.64 322 *e*PKPdf **PKPdf** **01 19 30.7 +1.5**
AQU *e*PKPbc **PKiKP** **01 19 36.8 +0.3**
BNI Bardonecchia 154.00 334 *e*PKIKP **PKPdf** **01 19 31.4 +0.1**
BNI *e* 01 19 40.0
BNI Bardonecchia 154.00 334 *e*PKPdf **PKPdf** **01 19 31.4 +0.1**
BNI *e*PKPbc **PKiKP** **01 19 40.0 +0.7**
SAOF Saorge 154.48 331 PKP **PKPbc** **01 19 39.6 -0.6**
TOUF Mont Tournerai 154.59 331 PKP **PKPbc** **01 19 39.9 -0.8**
KEST Kesra 159.14 313 PKPab **PKPab** **01 20 15.3 +0.3**
KEST Kesra 159.14 313 PKPab **PKPab** **01 20 15.3 +0.3**
comp=Z,1.3nm,0.9s,baz=92,slow=6.4,SNR=4.7
ESDC Sonseca Array 162.31 347 PKP **PKPdf** **01 19 40.5 -0.9**
ESDC PKPab **PKPab** **01 20 28.7 +0.2**
ESDC Sonseca Array 162.31 347 PKP **PKPdf** **01 19 40.5 -0.9**
comp=Z,0.2nm,0.3s,baz=0.0,slow=5.1,SNR=4.6
ESDC PKPab **PKPab** **01 20 28.7 +0.2**
comp=Z,0.1nm,0.3s,baz=29,slow=4.2,SNR=4.7
TORD Torodi Ar. Bea 166.05 230 PKP **PKPdf** **01 19 45.0 -0.3**
TORD PKPab **PKPab** **01 20 46.4 +0.6**
TORD Torodi Ar. Bea 166.05 230 PKP **PKPdf** **01 19 45.0 -0.3**
comp=Z,3.5nm,1.0s,baz=340,slow=0.3,SNR=12
TORD PKPab **PKPab** **01 20 46.4 +0.6**
comp=Z,3.1nm,1.1s,baz=107,slow=4.0,SNR=5.7

GUC 18 01:02:46.9±0.3, 23°.86S×67°.13W, h200km, ML4.0, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.69**	**306**	⇑ *i*P	Pn	01 03 40.8	+7.9
PB04				*i* S	Sn	01 04 21.3	+13
PB04				AML	AML	01 04 23.0	
comp=N,108nm,0.7s							
CEN1	**Los Morros**	**2.85**	**279**	*e*P	Pn	01 03 38.5	+3.6
CEN1				*i* S	Sn	01 04 17.3	+4.9
ANCH	**Antofagasta**	**3.01**	**273**	⇑ *i*P	Pn	01 03 38.3	+1.7
ANCH				AML	A

mb1 3.9/4, mb1mx3.7/18, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=140.4km s-min=64.0km az=20.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.06**	**271**	Pn	Pn	01 04 51.2	+1.5
	4.1nm,0.3s,baz=84,slow=18,SNR=28						
DZM				Sn	Sn	01 05 36.8	-1.2
	11nm,0.3s,baz=348,slow=22,SNR=7.1						
STKA	**Stephens Creek**	**27.67**	**243**	P	P	01 09 36.0	+0.1
	1.3nm,0.5s,baz=56,slow=7.3,SNR=3.4						
ASAR	**Alice Springs**	**33.97**	**260**	P	P	01 10 31.8	+0.2
	1.1nm,0.7s,baz=91,slow=8.8,SNR=4.9						
WRA	**Warramunga Arr**	**34.06**	**267**	P	P	01 10 31.7	-0.8
	0.6nm,0.3s,baz=101,slow=8.5,SNR=4.5						

IDC 18 01:04:03.9±7.8, 1°.84S×99°.28E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=355.7km s-min=28.4km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.69**	**120**	P	P	01 11 29.5	-0.3
	0.4nm,0.4s,baz=297,slow=8.3,SNR=3.3						
MKAR	**Makanchi Array**	**50.69**	**345**	P	P	01 13 04.3	-0.8
	0.3nm,0.3s,baz=153,slow=8.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**56.88**	**350**	P	P	01 13 50.8	+0.4
	0.4nm,0.4s,baz=177,slow=9.7,SNR=2.9						
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPab	01 23 42.9	-0.4
	0.2nm,0.4s,baz=267,slow=1.8,SNR=3.6						

*ISCJB **18** 01:12:47.0±0.8, 1°.44S±0°.09×169°.0E±0°.1, h201km, mb3.8/10, Error ellipse: s-maj=20.1km s-min=11.4km az=21.3*
*IDC **18** 01:12:51.0±2.8, 18°.48S×169°.06E, h230km±25km, mb3.5/11, mb1 3.6/12, mb1mx3.5/20, mbtmp3.5/12, Error ellipse: s-maj=20.4km s-min=16.6km az=50.0*

ISC 18 01:12:48.3±0.9, 18°.4S±0°.1×169°.1E±0°.2, h201km, n15, σ1°60/15, mb3.8/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.38**	**214**	*e*P	**Pn**	**01 13 56.4**	**+1.5**
DZM	**Mont Dzumac**	**4.38**	**214**	P	**Pn**	**01 13 57.3**	**+2.3**
	8.3nm,0.3s,baz=276,slow=23,SNR=73						
DZM				S	**S**	**01 14 43.8**	**-3.0**
	baz=119,slow=19,SNR=1.7						
NOUC	**Port Laguerre**	**4.48**	**215**	*e*P	**Pn**	**01 13 58.5**	**+2.4**
URZ	**Urewera**	**20.96**	**162**	P	**P**	**01 17 16.8**	**+1.1**
	3.7nm,0.6s,baz=333,slow=6.8,SNR=3.1						
CTA	**Charters Tower**	**21.60**	**262**	P	**P**	**01 17 23.7**	**+1.0**
	1.8nm,0.5s,baz=72,slow=8.1,SNR=3.5						
STKA	**Stephens Creek**	**28.15**	**236**	P	**P**	**01 18 22.1**	**+0.2**
	3.2nm,0.7s,baz=66,slow=7.4,SNR=7.5						
WRA	**Warramunga Arr**	**32.81**	**262**	P	**P**	**01 19 01.6**	**-1.4**
	0.8nm,0.3s,baz=84,slow=8.4,SNR=8.7						
ASAR	**Alice Springs**	**33.18**	**255**	P	**P**	**01 19 05.8**	**-0.4**
	6.1nm,0.4s,baz=82,slow=8.7,SNR=103						
VNDA	**Vanda**	**59.22**	**182**	P	**P**	**01 22 26.8**	**-1.1**
	0.8nm,1.0s,baz=335,slow=5.8,SNR=3.5						
PETK	**Petropavlovsk-**	**71.92**	**353**	P	**P**	**01 23 49.7**	**+0.4**
	3.7nm,0.8s,baz=157,slow=7.8,SNR=8.7						
CMAR	**Chiang Mai Arr**	**78.03**	**294**	P	**P**	**01 24 25.9**	**+0.7**
	0.4nm,0.3s,baz=123,slow=6.7,SNR=4.3						
MAW	**Mawson**	**79.11**	**202**	P	**P**	**01 24 29.8**	**-0.3**
	1.3nm,0.7s,baz=75,slow=9.6,SNR=4.8						
SONM	**Songino Array**	**86.49**	**323**	P	**P**	**01 25 08.4**	**0.0**
	0.7nm,0.6s,baz=130,slow=5.3,SNR=4.9						
ILAR	**Eielson Array**	**89.52**	**17**	P	**P**	**01 25 20.9**	**-1.3**
	0.4nm,0.7s,baz=246,slow=5.7,SNR=3.5						
GERES	**GERESS Array B**	**143.71**	**332**	PKP	PKPab	01 31 55.9	-0.7
	0.8nm,1.0s,baz=64,slow=3.1,SNR=4.1						

ROM 18 01:16:16.1±0.3, 42°.29N×13°.50E, h8km±3km, Md2.0/4, Ml1.2/2, Error ellipse: s-maj=6.8km s-min=0.9km az=32.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.07**	**112**	Pg	Pg	01 16 18.5	+0.4
FAGN				Sg	Sg	01 16 20.0	+0.4
	104nm,0.6s						
AQU	**L'Aquila**	**0.09**	**311**	Pg	Pg	01 16 18.8	+0.3
AQU				Sg	Sg	01 16 20.8	+0.7
	52nm,0.8s						

MEX 18 01:24:23.4±0.3, 15°.17N×94°.42W, h16km±36km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.27**	**65**	*i* P	Pn	01 24 42.7	-3.8
PCIG				*e*S	Sb	01 24 58.0	-5.1
TGIG		**2.03**	**38**	*i* P	Pn	01 24 53.9	-3.1
TGIG				*e*S	Sn	01 25 16.7	-5.4
THIG		**2.09**	**97**	*i* P	Pn	01 24 54.2	-3.6
THIG				*i* S	Sn	01 25 18.9	-4.7
CCIG	**Comitan**	**2.46**	**63**	*i* P	Pn	01 25 00.5	-2.6
CCIG				*e*S	Sn	01 25 29.0	-4.0

*BJI **18** 01:31:07.0, 1°.47N×127°.62E, h100km, mB5.2/39, mb5.3/59*
*ISCJB **18** 01:31:10.8±0.3, 1°.89N±0°.02×127°.42E±0°.02, h106km±2km, mb5.2/151, Error ellipse: s-maj=3.7km s-min=2.6km az=160.8*
*MOS **18** 01:31:10.1±0.9, 1°.90N×127°.39E, h100km, mb5.3/46, Error ellipse: s-maj=9.8km s-min=5.0km az=115.6*
*AUST **18** 01:31:10.7±0.2, 1°.93N×127°.46E, h99km, Error ellipse: s-maj=0.9km s-min=0.5km az=24.0*
*NEIC **18** 01:31:10.6±0.7, 1°.85N×127°.41E, h92km±6km, mb5.3/54, Error ellipse: s-maj=5.3km s-min=3.5km az=71.0*
*IDC **18** 01:31:11.7±0.5, 1°.82N×127°.37E, h101km±4km, mb4.7/40, mb1 4.8/43, mb1mx4.8/44, mbtmp4.7/43, MS4.0/3, Ms1 4.0/3, ms1mx3.4/35, Error ellipse: s-maj=10.9km s-min=6.9km az=71.0*
*TEH **18** 01:31:12.0, 1°.84N×127°.39E, h106km, ML5.3*
*GCMT **18** 01:31:12.6±0.2, 1°.91N×127°.31E, h106km±1km, MW5.3, Moment Tensor Solution. s69,c99; s90,c157; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s233.00000°, δ70.00000°, λ143.00000°. NP2:ϕ_s338.00000°, δ56.00000°, λ25.00000°. Principal axes: T 0.9700, Plg40.0000°, Azm191.0000°; N 0.1100, Plg49.0000°, Azm29.0000°; P -1.0800, Plg9.0000°, Azm288.0000°; Data Used: II IU IC G CN.*
*DJA **18** 01:31:13.4±0.3, 2°.N±3°×12°.7E±°, h98km±4km, M5.5/72, mb5.6/72, mB5.8/61, MLv5.9/17, Mw(mB)5.4/61*
*BKK **18** 01:31:13.2±0.4, 2°.N±3°×12°.7E±°, h103km±4km, M5.4/46, mB5.7/29, mb5.5/46, MLv6.1/4, Mw(mB)5.3/29*

ISC 18 01:31:12.1±0.2, 1°.91N±0°.03×127°.38E±0°.04, h105km±1km, h105km:pP-P, n937, σ1°30/1083, mb5.3/160, 187C-194D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**0.41**	**100**	P	**Pn**	**01 31 25.5**	**-2.3**
TNTI	**Ternate**	**1.13**	**181**	P	**Pn**	**01 31 34.2**	**-0.1**
TNTI				S	**Sn**	**01 31 55.1**	**+4.0**
LBMI	**Labuha**	**2.53**	**177**	P	**Pn**	**01 31 52.0**	**+0.2**
LBMI				S	**Sn**	**01 32 24.4**	**+2.1**
KMSI	**Cibinong**	**3.65**	**249**	P	**Pn**	**01 32 06.6**	**-0.1**
GTOI	**Gorontalo**	**4.55**	**254**	P	**Pn**	**01 32 20.4**	**+1.6**
SWI	**Sorong**	**4.75**	**125**	P	**Pn**	**01 32 21.6**	**+0.1**
SWI	**Sorong**	**4.75**	**125**	P	**Pn**	**01 32 21.7**	**+0.2**
	baz=4.7,SNR=23						
GSPH	**General Santos**	**4.81**	**330⇑**	*i* P	**Pn**	**01 32 20.8**	**-1.6**
GSPH				*i* S	**Sn**	**01 33 14.1**	**-3.1**
NLAI	**Namlea**	**5.12**	**183**	P	**Pn**	**01 32 26.5**	**0.0**
	1μm,0.7s,22μm7.4nm						
MATI	**Mati**	**5.13**	**347**	*e*P	Px	01 32 53.7	
DAV	**Davao City (W)**	**5.43**	**341**	Pn	**Pn**	**01 32 31.6**	**+0.8**
	SNR=26						
DAV	**Davao City (W)**	**5.43**	**341**	*e*Pn	**Pn**	**01 32 31.1**	**+0.4**
DAV				*e*S	**Sn**	**01 33 33.0**	**+0.9**
DAV	**Davao City (W)**	**5.43**	**341**	P	**Pn**	**01 32 31.2**	**+0.4**
	2μm,0.8s,93μm44nm						
DAV	**Davao City (W)**	**5.43**	**341**	P	**Pn**	**01 32 31.6**	**+0.8**
	165nm,0.3s,baz=234,slow=1.4,SNR=17						
DAV				S	**Sn**	**01 33 33.0**	**+0.9**
	265nm,0.3s,baz=289,slow=20,SNR=5.9						
MSAI	**Masohi**	**5.44**	**164**	P	**Pn**	**01 32 33.7**	**+2.8**
	432nm,1.1s,5μm1.1nm						
LUWI	**Luwuk**	**5.46**	**238**	P	**Pn**	**01 32 30.4**	**-0.8**
	3μm,0.6s,90μm28nm						
LUWI	**Luwuk**	**5.46**	**238**	P	**Pn**	**01 32 30.2**	**-0.9**
	baz=5.5,SNR=93						
DMPH	**Davao City--Mi**	**5.47**	**340⇑**	*e*P	**Pn**	**01 32 32.0**	**+0.7**
DMPH				*e*S	Sn	01 33 19.5	-13
KCP	**Kidapawan**	**5.56**	**336⇑**	*e*P	**Pn**	**01 32 31.9**	**-0.7**
KCP				*i* S	**Sn**	**01 33 34.9**	**-0.3**
AAI	**Ambon**	**5.62**	**172**	P	**Pn**	**01 32 34.4**	**+1.1**
	1μm,0.7s,16μm5.0nm						
AAI	**Ambon**	**5.62**	**172**	P	**Pn**	**01 32 35.2**	**+1.9**
	baz=5.7,SNR=30						
MRSI	**Marisa**	**5.62**	**255**	P	**Pn**	**01 32 33.9**	**+0.6**
	5μm,1.0s,50μm18nm						
CTBH	**Cotabato--PC H**	**6.13**	**329⇑**	*i* P	**Pn**	**01 32 39.5**	**-0.7**
CTBH				*i* S	**Sn**	**01 33 45.8**	**-3.4**
BUKP	**Musuan**	**6.37**	**339**	*e*P	**Pn**	**01 32 44.2**	**+0.8**
TOLI	**Toli-Toli**	**6.63**	**263**	P	**Pn**	**01 32 46.6**	**-0.4**
	3μm,0.6s,29μm9.2nm						
FAKI	**Fak Fak**	**6.83**	**135**	P	**Pn**	**01 32 50.3**	**+0.6**
	285nm,1.0s,3μm1.1nm						
FAKI	**Fak Fak**	**6.83**	**135**	P	**Pn**	**01 32 50.6**	**+0.8**
	baz=6.8,SNR=8.7						
FAKI				S	**Sn**	**01 34 05.6**	**-0.5**
	baz=6.8,SNR=9.2						
BNDI	**Bandanaira**	**6.87**	**158**	P	**Pn**	**01 32 50.0**	**-0.2**
	1μm,1.3s,16μm4.5nm						
PAGZ	**Pagadian**	**7.12**	**326**	*e*P	**Pn**	**01 32 52.9**	**-0.8**
SKSI	**Soroako, Sulaw**	**7.48**	**234**	P	**Pn**	**01 32 57.5**	**-1.2**
	4μm,0.8s,25μm12nm						
RKPI	**Ransiki, Papua**	**7.59**	**117**	P	Pn	01 33 04.6	+4.5
	480nm,1.1s,6μm1.5nm						
PCI	**Palu**	**8.05**	**250**	P	Pn	01 33 14.8	+8.5
KKSI	**Kolaka, Sulawe**	**8.32**	**223**	P	**Pn**	**01 33 09.3**	**-0.7**
	454nm,0.9s						
KMPI	**Kaimana, Papua**	**8.40**	**131**	P	**Pn**	**01 33 12.3**	**+1.3**
	261nm,1.6s,4μm						
MSLP	**Maasin**	**8.55**	**343**	*e*P	**Pn**	**01 33 13.6**	**+0.5**
BBSI	**Bau Bau**	**8.78**	**213**	P	Pn	01 33 19.8	+3.6
	487nm,0.9s,4μm						
PALU	**Palau**	**8.89**	**52**	P	**Pn**	**01 33 18.3**	**+0.5**
	baz=8.8,SNR=15						
TTSI	**Tana Toraja**	**9.02**	**237**	P	**Pn**	**01 33 19.0**	**-0.5**
	2μm,0.7s,20μm						
TLE	**Tual**	**9.21**	**145**	P	**Pn**	**01 33 23.9**	**+1.9**
	684nm,1.0s,7μm						
TLE	**Tual**	**9.21**	**145**	P	**Pn**	**01 33 24.8**	**+2.7**
	baz=9.2,SNR=4.3						
BAKI	**Biak**	**9.25**	**109**	P	**Pn**	**01 33 25.4**	**+2.8**
	3μm,1.2s,33μm						
MYLDM	**Lahad Datu**	**9.44**	**290**	P	**Pn**	**01 33 27.7**	**+2.5**
MYLDM	**Lahad Datu**	**9.44**	**290**	P	**Pn**	**01 33 27.4**	**+2.2**
	2μm,1.3s,21μm						
PLP	**Palo**	**9.50**	**346⇓**	*e*P	**Pn**	**01 33 26.0**	**0.0**
SPSI	**Sidrap Palu**	**9.59**	**233**	P	**Pn**	**01 33 27.2**	**0.0**
	2μm,0.8s,21μm						
SRPI	**Serui, Papua**	**9.62**	**113**	P	Pn	01 33 32.0	+4.4
	453nm,0.8s,9μm						
MMSI	**Mamuju**	**9.62**	**242**	P	**Pn**	**01 33 27.1**	**-0.6**
	298nm,0.7s,3μm						
TSM	**Tawau**	**9.79**	**284**	P	**Pn**	**01 33 30.5**	**+0.5**
GUIM	**Jordan**	**9.88**	**331**	*e*P	**Pn**	**01 33 30.9**	**-0.3**
SGKI	**Sangatta, Kali**	**10.07**	**256**	P	**Pn**	**01 33 32.1**	**-1.7**
	661nm,1.1s,9μm						
BKSI	**Bulukumba**	**10.21**	**225**	P	**Pn**	**01 33 36.2**	**+0.6**
	420nm,0.6s,4μm						
KAPI	**Kappang**	**10.27**	**228**	Pn	**Pn**	**01 33 36.8**	**+0.4**
	3μm,0.4s,SNR=87						
KAPI	**Kappang**	**10.27**	**228**	Pn	**Pn**	**01 33 35.5**	**-0.9**
	SNR=15						
KAPI	**Kappang**	**10.27**	**228**	*e*Pn	**Pn**	**01 33 34.9**	**-1.6**
KAPI				*e*S	**Sn**	**01 35 27.9**	**-1.8**
KAPI	**Kappang**	**10.27**	**228**	P	**Pn**	**01 33 36.0**	**-0.4**
	358nm,0.7s,4μm						
KAPI	**Kappang**	**10.27**	**228**	P	**Pn**	**01 33 35.4**	**-1.0**
	76nm,0.3s,baz=56,slow=8.7,SNR=143						
KAPI				S	**Sn**	**01 35 24.3**	**-5.4**
	37nm,0.3s,baz=304,slow=22,SNR=10						
BSSI	**Bau Bau, Buton**	**10.55**	**221**	P	**Pn**	**01 33 40.2**	**-0.1**
	320nm,0.5s,7μm						
RCP	**Roxas**	**10.64**	**335⇑**	*e*P	**Pn**	**01 33 41.0**	**-0.4**
SDKM	**Sandakan**	**10.82**	**290**	P	**Pn**	**01 33 44.9**	**+0.9**
BKB	**Balikpapan**	**10.95**	**253**	P	**Pn**	**01 33 45.6**	**-0.1**
	260nm,1.0s,4μm						
KDM	**Kudat**	**11.63**	**296**	P	**Pn**	**01 33 57.7**	**+2.8**
MMRI	**Maumere**	**11.66**	**206**	P	**Pn**	**01 33 56.0**	**+0.7**
	192nm,1.8s,3μm						
KKM	**Kota Kinabalu**	**11.87**	**291**	*e*Pn	**Pn**	**01 33 57.9**	**-0.3**
KKM	**Kota Kinabalu**	**11.87**	**291**	P	**Pn**	**01 33 58.4**	**+0.2**
KKM	**Kota Kinabalu**	**11.87**	**291**	P	**Pn**	**01 33 57.9**	**-0.3**
	460nm,1.3s,5μm						
KKM	**Kota Kinabalu**	**11.87**	**291**	P	**Pn**	**01 33 58.2**	**+0.1**
	baz=12,SNR=11						
SOEI	**Soe**	**11.99**	**195**	P	**Pn**	**01 34 02.2**	**+2.4**
	430nm,1.3s,6μm						
SOEI	**Soe**	**11.99**	**195**	P	Pn	01 34 03.2	+3.4
	baz=12,SNR=6.2						
LBFI	**Labuhan Bajo,**	**12.74**	**216**	P	**Pn**	**01 34 10.2**	**+0.7**
	300nm,0.9s,3μm						
MTKI	**Muara Teweh, K**	**12.80**	**257**	P	Pn	01 34 13.6	+3.3
	305nm,0.5s,37μm						
WSI	**Waingapu**	**13.49**	**211**	P	Pn	01 34 09.6	-10
WSI	**Waingapu**	**13.49**	**211**	P	Pn	01 34 09.8	-9.5
	baz=14,SNR=9.3						
BBKI	**Banjar Baru**	**13.62**	**247**	P	**Pn**	**01 34 20.8**	**-0.3**
	341nm,1.7s,7μm						
BTM	**Bintulu**	**14.34**	**275**	P	**Pn**	**01 34 30.7**	**+0.4**
MTN	**Manton Dam**	**15.12**	**166**	P	**P**	**01 34 44.3**	**+1.4**
	baz=15,SNR=3.7						
SBUM	**Sibu**	**15.16**	**272**	P	**P**	**01 34 43.5**	**+0.2**
SBUM	**Sibu**	**15.16**	**272**	P	**Pn**	**01 34 40.8**	**0.0**
	453nm,1.2s,4μm						
KDU	**Kakadu**	**15.36**	**161**	P	**Pn**	**01 34 39.0**	**-4.2**
	baz=15,SNR=91						
SRBI	**Singaraja**	**15.68**	**231**	P	**P**	**01 34 49.3**	**+0.2**
	247nm,1.6s,3μm						
DNP	**Denpasar**	**16.06**	**229**	P	**P**	**01 34 56.7**	**+3.4**
	837nm,1.1s,25μm						
KMMI	**Kalianget**	**16.08**	**236**	P	**P**	**01 34 56.4**	**+2.9**
	810nm,1.3s,9μm						
IGBI	**Denpasar**	**16.20**	**229**	P	**P**	**01 34 57.2**	**+2.4**
	334nm,0.9s,4μm						
BYJI	**Banyuwangi**	**16.43**	**232**	P	**P**	**01 35 01.5**	**+4.1**
	612nm,0.9s						
BLJI	**Banyuglugur**	**16.77**	**235**	P	**P**	**01 35 05.0**	**+3.9**
	515nm,0.9s,4μm						
KSM	**Kuching**	**17.07**	**269**	*e*Pn	**Pn**	**01 35 04.3**	**-0.2**
	216nm,1.1s						
KSM				*e*ScP	**ScP**	**01 43 09.6**	**+0.2**
KSM	**Kuching**	**17.07**	**269**	P	**P**	**01 35 05.7**	**+1.1**
KSM	**Kuching**	**17.07**	**269**	P	**P**	**01 35 04.6**	**0.0**
	186nm,1.3s,2μm						
KSM	**Kuching**	**17.07**	**269**	P	**P**	**01 35 04.9**	**+0.4**
	baz=17,SNR=48						
GMJI	**Gumukmas**	**17.19**	**234**	P	**Pn**	**01 35 07.4**	**+1.6**
	220nm,1.6s,4μm						
KNRA	**Kununurra**	**17.52**	**176**	P	**P**	**01 35 08.1**	**-1.4**
	baz=18,SNR=174						
KRKI	**Karangkates**	**17.94**	**236**	P	**Pn**	**01 35 17.6**	**+2.7**
	580nm,1.0s,23μm						
SJI	**Sawahan**	**18.29**	**238**	P	**Pn**	**01 35 19.1**	**-0.1**
	255nm,0.9s,3μm						
PWJI	**Pagerwojo**	**18.41**	**237**	P	**Pn**	**01 35 20.3**	**-0.2**
	179nm,0.8s,8μm						
PCJI	**Pacitan**	**19.02**	**238**	P	**Pn**	**01 35 27.7**	**-0.1**
	422nm,1.6s,6μm						
UGM	**Wanagama**	**19.44**	**240**	P	**Pn**	**01 35 32.6**	**-0.2**
	282nm,2.0s						
UGM	**Wanagama**	**19.44**	**240**	P	**Pn**	**01 35 32.6**	**-0.2**
	baz=20,SNR=12						
YOGI	**Yogyakarta**	**19.59**	**240**	P	**Pn**	**01 35 33.7**	**-0.8**
	748nm,1.3s						
BJII	**Banjarnegara**	**19.88**	**242**	P	**Pn**	**01 35 36.7**	**-1.2**
	294nm,1.8s,4μm						
FITZ	**Fitzroy Crossi**	**19.96**	**185**	P	**P**	**01 35 34.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**19.96**	**185**	P	**P**	**01 35 34.5**	**-1.6**
	13nm,0.3s,baz=13,slow=8.0,SNR=164						
FITZ				LR	LR	01 42 29.3	
	comp=Z,312nm,21.4s,baz=162,slow=34						
FITZ	**Fitzroy Crossi**	**19.96**	**185**	P	**P**	**01 35 34.5**	**-1.6**
	baz=20,SNR=111						
TPI	**Tanjungpandan**	**20.26**	**257**	P	**P**	**01 35 39.1**	**-0.3**
	57nm,1.6s,704nm						
KPJI	**Karang Pucung**	**20.57**	**243**	P	**P**	**01 35 42.2**	**-0.5**
	116nm,0.9s,1μm						
GUMO	**Guam**	**20.83**	**55**	*e*P	**P**	**01 35 44.8**	**-0.6**
	153nm,1.0s						
LEM	**Lembang**	**21.55**	**246**	P	**P**	**01 35 57.1**	**+3.7**
	222nm,1.0s,3μm						
LEM	**Lembang**	**21.55**	**246**	P	**P**	**01 35 57.6**	**+4.2**
	baz=22,SNR=7.6						
CISI	**Cisompet, Garu**	**21.67**	**244**	P	**P**	**01 35 56.7**	**+2.2**
	181nm,0.7s,2μm						
CISI	**Cisompet, Garu**	**21.67**	**244**	P	**P**	**01 35 57.3**	**+2.7**
	baz=22,SNR=6.3						
CISI				S	**S**	**01 39 47.5**	**-1.0**
	baz=22,SNR=3.2						
TWG	**Pinlang**	**21.67**	**344**	*e*P	**P**	**01 35 52.3**	**-2.1**
	994nm,0.8s						
YULB	**Yu-li**	**22.16**	**345**	*e*P	**P**	**01 35 58.0**	**-1.5**
COEN	**Coen**	**22.21**	**136**	P	**P**	**01 35 59.9**	**-0.3**
	baz=22,SNR=12						
DBJI	**Dramaga**	**22.25**	**248**	P	**P**	**01 36 03.5**	**+2.9**
	162nm,1.3s						
TPUB	**Ta-pu**	**22.25**	**343**	*e*P	**P**	**01 35 59.5**	**-1.0**
SKJI	**Sukabumi**	**22.59**	**247**	P	**P**	**01 36 05.1**	**+1.0**
	218nm,0.7s						
SSLB	**Suanglung**	**22.62**	**345**	*e*P	**P**	**01 36 02.8**	**-1.5**
	303nm,0.9s						
PMG	**Port Moresby**	**22.68**	**120**	*e*P	**P**	**01 36 02.6**	**-2.4**
	52nm,0.9s						
PMG	**Port Moresby**	**22.68**	**120**	P	**P**	**01 36 02.4**	**-2.6**
	68nm,1.1s						
PMG	**Port Moresby**	**22.68**	**120**	P	**P**	**01 36 03.5**	**-1.5**
	46nm,0.9s,baz=292,slow=13,SNR=5.2						
WRAB	**Tennant Creek**	**22.76**	**163**	P	**P**	**01 36 04.0**	**-1.7**
	5μm,0.4s,SNR=54						
WRAB	**Tennant Creek**	**22.76**	**163**	*e*P	**P**	**01 36 04.4**	**-1.3**
WRAB				*e*S	**S**	**01 40 09.4**	**+2.7**
WRAB				pmax	pmax		
	comp=Z,323nm,0.4s						
WRAB	**Tennant Creek**	**22.76**	**163**	*e*P	**P**	**01 36 04.4**	**-1.3**
	comp=Z,323nm,0.4s						
WRAB				*e*S	**S**	**01 40 09.4**	**+2.7**
WRA	**Warramunga Arr**	**22.76**	**163**	P	**P**	**01 36 04.2**	**-1.6**
WRA				S	**S**	**01 40 03.0**	**-3.9**
WRA				ScP	**ScP**	**01 43 21.1**	**-1.4**
WRA	**Warramunga Arr**	**22.76**	**163**	P	**P**	**01 36 04.2**	**-1.6**
	comp=Z,245nm,0.4s,baz=338,slow=11,SNR=166						
WRA				S	**S**	**01 40 03.0**	**-3.9**
	comp=Z,26nm,1.0s,baz=338,slow=19,SNR=5.7						
WRA				ScP	**ScP**	**01 43 21.1**	**-1.4**
	comp=Z,7.0nm,0.9s,baz=337,slow=3.2,SNR=5.1						
NACB	**Ninganchiao**	**22.83**	**346**	*e*P	**P**	**01 36 05.7**	**-0.7**
	comp=Z,101nm,1.0s						
YHNB	**Yeheng**	**23.36**	**346**	*e*P	**P**	**01 36 11.3**	**-0.2**
KLI	**Kotabumi**	**23.49**	**253**	P	**P**	**01 36 15.7**	**+3.0**
	comp=Z,182nm,1.1s,comp=Z,3μm						
MYKOM	**Kota Tinggi**	**23.52**	**270**	P	**P**	**01 36 13.8**	**+0.8**
MYKOM	**Kota Tinggi**	**23.52**	**270**	P	**P**	**01 36 13.2**	**+0.2**
	comp=Z,141nm,1.1s,comp=Z,2μm						
KLSI	**Ciseuk**	**23.56**	**254**	P	**P**	**01 36 13.7**	**+0.3**
	comp=Z,152nm,0.9s,comp=Z,1μm						
BTDF	**Bukit Timah Da**	**23.61**	**269**	P	**P**	**01 36 14.3**	**+0.5**
	baz=24,SNR=5.6						
BTDF				P	**P**	**01 36 14.3**	**+0.5**
	baz=24,SNR=5.6						
TATO	**Taipei**	**23.63**	**347**	*e*P	**P**	**01 36 13.6**	**-0.2**
	comp=Z,90nm,0.8s						
KASI	**Kota Agung**	**24.02**	**252**	P	**P**	**01 36 20.7**	**+3.2**
	comp=Z,301nm,0.9s,comp=Z,3μm						
KGM	**Kluang**	**24.05**	**271**	P	**P**	**01 36 19.2**	**+1.4**
MBWA	**Marble Bar**	**24.12**	**198**	P	**P**	**01 36 17.6**	**-0.6**
	SNR=14						
MBWA	**Marble Bar**	**24.12**	**198**	*e*P	**P**	**01 36 17.2**	**-1.1**
	comp=Z,290nm,1.3s						
QIZ	**Qiongzhong**	**24.18**	**316**	P	**P**	**01 36 18.9**	**+0.1**
QIZ				pP	**pP**	**01 36 41.0**	**-0.4**
QIZ				sP	**sP**	**01 36 53.8**	**-0.4**
QIZ				S	**S**	**01 40 23.9**	**-5.8**
QIZ				sS	**sS**	**01 41 07.0**	**-2.8**
QIZ				pmax	pmax		
	comp=Z,160nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,330nm,6.4s						
QIZ				LR	LR		
	comp=N,3μm,20.0s						
QIZ				LR	LR		
	comp=Z,4μm,16.8s						
QIZ	**Qiongzhong**	**24.18**	**316**	*e*P	**P**	**01 36 19.1**	**+0.2**
	comp=Z,173nm,1.0s						
LWLI	**Liwa**	**24.30**	**253**	P	**P**	**01 36 23.9**	**+3.8**
	comp=Z,249nm,1.2s,comp=Z,10μm						
QZH	**Quanzhou**	**24.42**	**340⇓**	*i* P	**P**	**01 36 20.8**	**-0.1**
QZH				S	**S**	**01 40 34.8**	**+1.4**
QZ

CTA	**Charters Tower**	**28.64**	**141**	P	**P**	**01 36 59.2 +0.2**
CTA				ScP	**ScP**	**01 43 40.2 +0.8**
CTA	**Charters Tower**	**28.64**	**141**	P	**P**	**01 36 59.2 +0.2**
	comp=Z,36nm,1.0s,baz=321,slow=12,SNR=16					
CTA				ScP	**ScP**	**01 43 40.2 +0.8**
	comp=Z,11nm,0.9s,baz=356,slow=5.3,SNR=4.9					
CTAO	**Charters Tower**	**28.64**	**141**	*e*P	**P**	**01 36 58.9 -0.1**
CTAO				pmax	pmax	
	comp=Z,48nm,1.1s					
CTAO	**Charters Tower**	**28.64**	**141**	*e*P	**P**	**01 36 58.9 -0.1**
	comp=Z,48nm,1.1s					
CTAO				*e*ScP	**ScP**	**01 43 40.3 +0.8**
PKDT	**Phuket**	**29.53**	**283**	P	**P**	**01 37 07.5 +0.5**
	comp=Z,49nm,1.5s					
PHET	**Kaeng Krachan**	**29.57**	**293**	P	**P**	**01 37 08.1 +0.8**
	comp=Z,229nm,1.0s					
MEEK	**Meekatharra**	**29.61**	**196**	P	**P**	**01 37 06.5 -1.1**
	baz=30,SNR=148					
PBKT	**Sadao Pong**	**29.80**	**301**	P	**P**	**01 37 09.7 +0.5**
	comp=Z,53nm,1.0s					
LOEI	**Loei**	**29.98**	**303**	P	**P**	**01 37 08.3 -2.6**
	comp=Z,342nm,1.2s,comp=Z,3μm					
NJ2	**Nanjing**	**31.04**	**346**	*e*P	**P**	**01 37 22.4 +2.4**
NJ2				pmax	pmax	
	comp=Z,42nm,0.8s					
WHN	**Wuhan**	**31.04**	**338**	⇓*i*P	**P**	**01 37 22.4 +2.3**
WHN				sP	**sP**	**01 37 56.3 +0.6**
WHN				S	**S**	**01 42 23.3 +5.7**
WHN				pmax	pmax	
	comp=Z,400nm,1.2s					
NANT	**Nan**	**31.07**	**304**	P	**P**	**01 37 22.0 +1.5**
	comp=Z,392nm,1.0s					
JNU	**Nakatsue**	**31.22**	**6**	*e*P	**P**	**01 37 22.5 +0.8**
	comp=Z,19nm,1.0s					
JNU	**Nakatsue**	**31.22**	**6**	P	**P**	**01 37 22.5 +0.8**
	comp=Z,16nm,0.8s,baz=94,slow=2.3,SNR=7.0					
GYA	**Guiyang**	**31.50**	**323**	⇓*i*P	**P**	**01 37 26.8 +2.5**
GYA				pP	**pP**	**01 37 51.5 +3.8**
GYA				sP	sP	01 38 05.3 +5.4
GYA				PP	**PP**	**01 38 35.4 -2.0**
GYA				PcP	**PcP**	**01 40 15.3 +0.3**
GYA				S	**S**	**01 42 27.0 +1.9**
GYA				sS	**sS**	**01 43 07.6 +1.8**
GYA				ScP	**ScP**	**01 43 47.8 -1.0**
GYA				PcS	**PcS**	**01 44 01.3 +1.5**
GYA				ScS	**ScS**	**01 47 45.0 -2.0**
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,140nm,4.9s					
LAMP	**Lampang**	**31.82**	**303**	P	**P**	**01 37 28.6 +1.5**
	comp=Z,20nm,1.2s,comp=Z,193nm					
BSI	**Banda Aceh**	**32.21**	**277**	P	**P**	**01 37 29.1 -1.5**
	comp=Z,44nm,1.5s					
CMAR	**Chiang Mai Arr**	**32.37**	**302**	P	**P**	**01 37 32.8 +0.8**
CMAR				ScP	**ScP**	**01 43 52.8 +1.0**
CMAR	**Chiang Mai Arr**	**32.37**	**302**	P	**P**	**01 37 32.8 +0.8**
	comp=Z,34nm,1.1s,baz=122,slow=7.0,SNR=124					
CMAR				ScP	**ScP**	**01 43 52.8 +1.0**
	comp=Z,7.9nm,0.9s,baz=148,slow=1.9,SNR=22					
FORT	**Forrest**	**32.51**	**179**	P	**P**	**01 37 31.7 -1.2**
	baz=33,SNR=26					
CMMT	**Chiang Mai**	**32.53**	**303**	P	**P**	**01 37 33.5 +0.2**
	comp=Z,97nm,1.3s,comp=Z,1μm					
CHTO	**Chiang Mai**	**32.53**	**303**	*e*P	**P**	**01 37 34.1 +0.7**
CHTO				pmax	pmax	
	comp=Z,179nm,1.4s					
CHTO	**Chiang Mai**	**32.53**	**303**	P	**P**	**01 37 34.5 +1.2**
	SNR=58					
CHTO	**Chiang Mai**	**32.53**	**303**	*e*P	**P**	**01 37 34.1 +0.7**
	comp=Z,179nm,1.4s					
CHTO				*e*ScP	**ScP**	**01 43 53.3 +1.0**
CHTO	**Chiang Mai**	**32.53**	**303**	P	**P**	**01 37 34.3 +1.0**
CHTO	**Chiang Mai**	**32.53**	**303**	P	**P**	**01 37 34.0 +0.7**
	comp=Z,107nm,1.4s,comp=Z,1μm					
MORW	**Morawa**	**32.66**	**199**	P	**P**	**01 37 33.4 -0.9**
	baz=33,SNR=41					
ENH	**Enshi**	**32.92**	**331**	*e*P	**P**	**01 37 37.8 +1.2**
	comp=Z,23nm,0.6s					
CMAI	**Chiengmai2**	**32.98**	**305**	P	**P**	**01 37 37.9 +0.5**
	comp=Z,136nm,1.1s,comp=Z,2μm					
KMI	**Kunming**	**33.13**	**316**	P	**P**	**01 37 40.6 +1.9**
KMI				pP	**pP**	**01 38 02.0 -0.3**
KMI				sP	**sP**	**01 38 11.8 -2.6**
KMI				PP	**PP**	**01 38 56.5 +0.9**
KMI				S	**S**	**01 42 52.8 +2.1**
KMI				pmax	pmax	
	comp=Z,49nm,1.4s					
KMI				pmax	pmax	
	comp=Z,220nm,4.8s					
KMI				LR	LR	
	comp=N,710nm,18.0s					
KMI				LR	LR	
	comp=E,490nm,20.4s					
KMI				LR	LR	
	comp=Z,460nm,24.3s					
BLDU	**Ballidu**	**33.91**	**197**	P	**P**	**01 37 44.0 -1.1**
	baz=34,SNR=18					
TJN	**Taejon**	**34.30**	**360**	*e*P	**P**	**01 37 49.2 +0.8**
KLBR	**Kellerberrin**	**34.55**	**195**	P	**P**	**01 37 49.6 -1.0**
	baz=35,SNR=210					
RMQ	**Roma**	**34.97**	**145**	P	**P**	**01 37 53.9 -0.4**
	baz=35,SNR=6.7					
KSAR	**Wonju Array Be**	**35.36**	**1**	P	**P**	**01 37 58.6 +1.1**
KSAR				pP	**pP**	**01 38 21.1 -0.2**
KSAR				PcP	**PcP**	**01 40 26.4 +0.9**
KSAR				ScP	**ScP**	**01 44 02.6 +0.7**
KSRS	**Korea Array**	**35.38**	**1**	P	**P**	**01 37 58.6 +1.0**
	comp=Z,5.4nm,0.4s,baz=180,slow=10,SNR=38					
KSRS				pP	**pP**	**01 38 21.1 -0.3**
	comp=Z,50nm,1.0s,baz=175,slow=9.7,SNR=9.8					
KSRS				PcP	**PcP**	**01 40 26.4 +0.9**
	comp=Z,4.6nm,0.7s,baz=189,slow=2.9,SNR=5.8					
KSRS				ScP	**ScP**	**01 44 02.6 +0.7**
	comp=Z,5.0nm,0.9s,baz=183,slow=3.9,SNR=11					
BBOO	**Buckleboo**	**35.49**	**167**	P	**P**	**01 37 57.5 -1.2**
	baz=36,SNR=8.6					
EIDS	**Eidsvold**	**35.53**	**141**	P	**P**	**01 37 58.1 -1.0**
	baz=36,SNR=19					
MJAR	**Matsushiro Arr**	**35.89**	**15**	P	**P**	**01 38 01.2 -0.8**
MJAR	**Matsushiro Arr**	**35.89**	**15**	P	**P**	**01 38 01.2 -0.8**
	comp=Z,11nm,0.6s,baz=192,slow=8.6,SNR=32					
MAT	**Matsushiro**	**35.89**	**15**	P	**P**	**01 38 01.5 -0.6**
MAT				S	S	01 43 04.4 -28
NWAO	**Narrogin (SRO)**	**35.95**	**195**	*e*P	**P**	**01 38 02.1 -0.5**
	comp=Z,41nm,0.6s					
NWAO	**Narrogin (SRO)**	**35.95**	**195**	P	**P**	**01 38 01.9 -0.7**
	comp=Z,33nm,0.5s,baz=29,slow=6.8,SNR=74					
STKA	**Stephens Creek**	**36.21**	**159**	*e*P	**P**	**01 38 04.1 -0.7**
	comp=Z,76nm,0.9s					
STKA				*e*PP	**PP**	**01 39 27.2 -2.1**
STKA	**Stephens Creek**	**36.21**	**159**	P	**P**	**01 38 04.2 -0.6**
	comp=Z,318nm,0.8s,baz=332,slow=8.4,SNR=382					
STKA	**Stephens Creek**	**36.21**	**159**	P	**P**	**01 38 04.2 -0.6**
	baz=36,SNR=257					
STKA				S	**S**	**01 43 35.4 -1.9**
	baz=36,SNR=5.2					
XAN	**Xi'an**	**36.33**	**334**	P	**P**	**01 38 06.6 +0.7**
XAN				pP	**pP**	**01 38 31.8 +2.1**
XAN				sP	**sP**	**01 38 43.3 +1.5**
XAN				PP	**PP**	**01 39 30.8 +0.2**
XAN				PcP	**PcP**	**01 40 30.8 +2.2**
XAN				S	**S**	**01 43 39.0 -0.3**
XAN				ScS	**ScS**	**01 48 08.8 -3.2**
XAN				pmax	pmax	
	comp=Z,46nm,1.1s					
XAN				pmax	pmax	
	comp=Z,38nm,4.8s					
CD2	**Chengdu**	**36.49**	**325**	*e*P	**P**	**01 38 08.3 +0.9**
CD2				pP	**pP**	**01 38 32.8 +1.6**
CD2				sP	**sP**	**01 38 45.6 +2.3**
CD2				PP	**PnPn**	**01 39 37.3 +3.8**
CD2				PcP	**PcP**	**01 40 30.3 +1.2**
CD2				S	**S**	**01 43 43.3 +1.4**
CD2				sS	**sS**	**01 44 25.8 +2.6**
CD2				SS	**SnSn**	**01 46 16.3 -5.8**
CD2				ScS	**ScS**	**01 48 11.0 -2.1**
CD2				pmax	pmax	
	comp=Z,80nm,1.1s					
CD2				pmax	pmax	
	comp=Z,210nm,5.3s					
CD2				LR	LR	
	comp=N,470nm,13.2s					
CD2				LR	LR	
	comp=E,560nm,17.8s					
CD2				LR	LR	
	comp=Z,380nm,13.2s					
DL2	**Dalian**	**37.20**	**353**	P	P	01 38 18.8 +5.7
DL2				pP	pP	01 38 42.8 +5.8
DL2				S	**S**	**01 43 57.8 +5.6**
DL2				SS	**SnSn**	**01 46 36.4 -2.3**
DL2				pmax	pmax	
	comp=Z,65nm,0.7s					
CMSA	**Cobar Meteorol**	**37.53**	**154**	P	**P**	**01 38 15.5 -0.6**
	baz=38,SNR=47					
RKGY	**Rocky Gully**	**37.62**	**194**	P	**P**	**01 38 17.2 +0.4**
	baz=38,SNR=100					
BJT	**Baijiatuau**	**39.28**	**346**	*e*P	**P**	**01 38 31.5 +0.9**
	comp=Z,117nm,0.6s					
BJT				*e*	**pP**	**01 38 58.0 +3.4**
BJI	**Beijing**	**39.30**	**346**	P	**P**	**01 38 31.8 +1.1**
BJI				S	**S**	**01 44 24.8 +0.9**
BJI				pmax	pmax	
	comp=Z,150nm,3.6s					
BJI				LR	LR	
	comp=N,3μm,16.6s					
BJI				LR	LR	
	comp=E,3μm,22.9s					
BJI				LR	LR	
	comp=Z,820nm,30.4s					
ARMA	**Armidale**	**39.60**	**146**	P	**P**	**01 38 33.7 +0.2**
	baz=40,SNR=34					
SNY	**Shenyang**	**39.89**	**356**	⇓P	**P**	**01 38 36.5 +0.9**
SNY				S	**S**	**01 44 34.3 +1.7**
SNY				pmax	pmax	
	comp=Z,16nm,0.8s					
SNY				pmax	pmax	
	comp=Z,320nm,5.5s					
SNY				LR	LR	
	comp=N,4μm,15.2s					
SNY				LR	LR	
	comp=Z,5μm,15.3s					
LZH	**Lanzhou**	**40.40**	**330**	⇑P	**P**	**01 38 42.3 +2.2**
LZH				pP	**pP**	**01 39 06.1 +1.8**
LZH				sP	**sP**	**01 39 19.5 +3.2**
LZH				PP	**PnPn**	**01 40 19.0 -0.9**
LZH				S	**S**	**01 44 43.5 +2.7**
LZH				sS	**sS**	**01 45 27.3 +4.8**
LZH				SS	**SS**	**01 47 42.5 -1.5**
LZH				pmax	pmax	
	comp=Z,140nm,1.3s					
LZH				pmax	pmax	
	comp=Z,370nm,5.4s					
LZH				LR	LR	
	comp=N,370nm,13.0s					
LZH				LR	LR	
	comp=E,340nm,12.5s					
LZH				LR	LR	
	comp=Z,800nm,17.0s					
ARPS	**Mount Arapiles**	**40.76**	**162**	P	**P**	**01 38 42.7 -0.2**
	baz=41,SNR=65					
YNG	**Young**	**41.08**	**153**	P	**P**	**01 38 45.9 +0.4**
	baz=41,SNR=11					
HHC	**Hu-ho-hao-te**	**41.32**	**342**	*e*P	**P**	**01 38 49.1 +1.5**
HHC				pP	**pP**	**01 39 10.8 -1.0**
HHC				sP	**sP**	**01 39 22.8 -1.0**
HHC				PP	**PnPn**	**01 40 28.3 -2.3**
HHC				S	**S**	**01 44 56.9 +2.6**
HHC				sS	**sS**	**01 45 36.4 +0.3**
HHC				SS	**SS**	**01 47 59.4 -2.6**
HHC				pmax	pmax	
	comp=Z,82nm,1.0s					
HHC				pmax	pmax	
	comp=Z,250nm,5.8s					
HHC				LR	LR	
	comp=N,4μm,18.8s					
HHC				LR	LR	
	comp=E,5μm,17.8s					
HHC				LR	LR	
	comp=Z,6μm,16.5s					
CN2	**Changchun**	**41.75**	**358**	*e*P	**P**	**01 38 51.5 +0.6**
CN2				*e*S	**S**	**01 45 01.8 +1.6**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CN2				LR	LR	
	comp=N,5μm,14.0s					
CN2				LR	LR	
	comp=E,2μm,14.0s					
CN2				LR	LR	
	comp=Z,5μm,13.0s					
CAN	**Canberra**	**42.20**	**153**	*e*P	**P**	**01 38 55.0 +0.3**
CAN				pmax	pmax	
	comp=Z,139nm,0.9s					
CAN	**Canberra**	**42.20**	**153**	*e*P	**P**	**01 38 55.0 +0.3**
	comp=Z,139nm,0.9s					
USRK	**Ussuriysk Arra**	**42.31**	**5**	P	**P**	**01 38 56.4 +1.0**
	comp=Z,15nm,0.6s,baz=182,slow=5.5,SNR=33					
USRK				pP	**pP**	**01 39 19.5 -0.3**
	comp=Z,94nm,1.0s,baz=189,slow=7.1,SNR=8.8					
CNB	**Canberra Magne**	**42.36**	**153**	P	**P**	**01 38 55.6 -0.5**
	baz=42,SNR=6.3					
ERM	**Erimo**	**42.37**	**17**	*e*P	P	01 39 01.0 +5.1
ERM				pmax	pmax	
	comp=Z,33nm,1.0s					
ERM	**Erimo**	**42.37**	**17**	*e*P	P	01 39 01.0 +5.1
	comp=Z,33nm,1.0s					
MDJ	**Mudanjiang**	**42.57**	**2**	P	**P**	**01 38 58.5 +1.0**
MDJ				pP	**pP**	**01 39 19.8 -2.1**
MDJ				sP	**sP**	**01 39 30.4 -3.5**
MDJ				ScP	**ScP**	**01 44 30.1 +0.6**
MDJ				PcS	**PcS**	**01 44 40.8 +0.7**
MDJ				S	**S**	**01 45 14.4 +2.1**
MDJ				sS	**sS**	**01 45 53.4 -1.0**
MDJ				pmax	pmax	
	comp=Z,26nm,0.9s					
MDJ				LR	LR	
	comp=N,1μm,17.5s					
MDJ				LR	LR	
	comp=E,5μm,20.3s					
MDJ				LR	LR	
	comp=Z,5μm,15.7s					
MDJ	**Mudanjiang**	**42.57**	**2**	*e*P	**P**	**01 38 58.6 +1.0**
	comp=Z,72nm,0.9s					
TOO	**Toolangi**	**42.72**	**159**	P	**P**	**01 38 59.5 +0.6**
	baz=43,SNR=19					
MILA	**Mila**	**43.72**	**155**	P	**P**	**01 39 08.0 +1.0**
	baz=44,SNR=9.4					
LSA	**Lhasa**	**44.13**	**312**	*e*P	**P**	**01 39 12.9 +2.0**
LSA				pmax	pmax	
	comp=Z,367nm,1.5s					
LSA	**Lhasa**	**44.13**	**312**	*e*P	**P**	**01 39 12.8 +2.0**
	comp=Z,367nm,1.5s					
ASAJ	**Asahikawa**	**44.15**	**16**	*e*P	**P**	**01 39 11.2 +1.0**
	comp=Z,5.0nm,0.6s					
ASAJ				*e*pP	**pP**	**01 39 32.5 -2.1**
ASAJ	**Asahikawa**	**44.15**	**16**	P	**P**	**01 39 11.2 +1.0**
	comp=Z,12nm,0.5s,baz=220,slow=14,SNR=11					
DZM	**Mont Dzumac**	**44.97**	**124**	*e*LR	LR	01 52 01.9
	comp=Z,767nm,32.5s					
DZM	**Mont Dzumac**	**44.97**	**124**	*e*P	**P**	**01 39 15.9 -1.3**
DZM	**Mont Dzumac**	**44.97**	**124**	*e*P	**P**	**01 39 17.1 -0.1**
	comp=Z,57nm,1.2s					
DZM	**Mont Dzumac**	**44.97**	**124**	P	**P**	**01 39 17.2 0.0**
	comp=Z,36nm,1.1s,baz=308,slow=5.8,SNR=17					
GTA	**Gaotai**	**44.99**	**330**	⇓P	**P**	**01 39 19.1 +2.0**
GTA				pP	**pP**	**01 39 40.8 -0.9**
GTA				sP	**sP**	**01 39 53.1 -0.5**
GTA				ScP	**ScP**	**01 44 40.4 +0.8**
GTA				S	**S**	**01 45 52.5 +4.6**
GTA				sS	**sS**	**01 46 32.3 +2.0**
GTA				ScS	**ScS**	**01 49 03.5 -0.5**
GTA				SS	**SS**	**01 49 08.8 -3.5**
GTA				pmax	pmax	
	comp=Z,97nm,0.8s					
GTA				pmax	pmax	
	comp=Z,120nm,6.7s					
GTA				LR	LR	
	comp=N,340nm,19.5s					
GTA				LR	LR	
	comp=E,530nm,22.8s					
GTA				LR	LR	
	comp=Z,540nm,19.2s					
TAPN	**Taplejung**	**45.62**	**307**	⇓*i*P	**P**	**01 39 23.8 +1.2**
	comp=Z,269nm,0.9s					
ODAN	**Odare**	**45.66**	**307**	⇓*i*P	**P**	**01 39 23.9 +1.1**
	comp=Z,309nm,0.8s					
RAMN	**Ramite**	**46.34**	**306**	⇓*i*P	**P**	**01 39 29.5 +1.4**
	comp=Z,370nm,0.9s					
PALK	**Pallekele**	**46.81**	**278**	*e*P	**P**	**01 39 32.0 +0.3**
	comp=Z,56nm,1.3s					
YSS	**Yuzh-Sakhalins**	**46.82**	**14**	*e*P	**P**	**01 39 32.2 +1.0**
YSS				*e*		01 40 10.5
HABR	**Khabarovsk**	**46.85**	**7**	*e*P	**P**	**01 39 30.8 -0.6**
HABR				*e**PP	**pP**	**01 39 54.1 -2.1**
HABR				*e**SP	**sP**	**01 40 05.8 -2.2**
HABR				*e*PPP	PPP	01 42 09.8
HABR				*e*S	**S**	**01 46 15.7 +1.6**
HABR				*e**SS	**sS**	**01 46 57.0 +0.3**
HABR				*e*		01 49 14.7
HABR				*e*SSS	SSS	01 50 55.3
HABR				pmax	pmax	
	comp=Z,23nm,1.0s					
HABR				pmax	pmax	
	comp=N,24nm,1.2s					
HABR				pmax	pmax	
	comp=E,14nm,1.0s					
HABR				MLR	MLR	
	comp=Z,276nm,19.0s					
JIRN	**Jiri**	**46.97**	**307**	⇓*i*P	**P**	**01 39 34.4 +1.2**
	comp=Z,197nm,0.7s					
KLR	**Kul'dur**	**47.29**	**4**	*e*P	P	01 39 31.3 -3.6
KLR				MLR	MLR	
	comp=N,1μm,15.5s					
KLR				MLR	MLR	
	comp=E,4μm,15.5s					
GUN	**Gumba**	**47.33**	**307**	⇓*i*P	**P**	**01 39 37.0 +1.0**
	comp=E,400nm,0.8s					
PKI	**Pulchoki**	**47.56**	**306**	⇓*i*P	**P**	**01 39 38.4 +0.7**
	comp=E,254nm,1.2s					
PKIN	**Phulchoki**	**47.57**	**306**	⇓*i*P	**P**	**01 39 38.4 +0.6**
HIA	**Hailar**	**47.63**	**353**	*e*P	**P**	**01 39 38.6 +1.1**
	comp=E,38nm,0.9s					
MOO	**Moorlands**	**47.64**	**160**	P	**P**	**01 39 37.9 +0.3**
	baz=48,SNR=3.8					
KKN	**Kakani**	**47.76**	**307**	⇓*i*P	**P**	**01 39 39.9 +0.8**
	comp=E,190nm,0.9s					
DMN	**Daman**	**47.82**	**306**	⇓*i*P	**P**	**01 39 40.6 +0.9**
	comp=E,253nm,1.0s					
TAU	**Tasmania Unive**	**48.10**	**160**	P	**P**	**01 39 41.3 +0.1**
TAU				pmax	pmax	
	comp=Z,53nm,1.0s					
TAU	**Tasmania Unive**	**48.10**	**160**	P	**P**	**01 39 41.3 +0.1**
	comp=Z,53nm,1.0s					
ULN	**Ulaanbaatar**	**49.04**	**342**	P	**P**	**01 39 50.5 +1.9**
	SNR=34					
ULN	**Ulaanbaatar**	**49.04**	**342**	*e*P	**P**	**01 39 50.0 +1.4**
ULN				*e*ScP	**ScP**	**01 44 57.0 +0.5**
KOLN	**Koldanda**	**49.10**	**306**	⇓*i*P	**P**	**01 39 50.8 +1.4**
	comp=Z,306nm,0.7s					
DANN	**Dangsing**	**49.21**	**307**	⇓*i*P	**P**	**01 39 51.4 +1.1**
	comp=Z,373nm,0.8s					
SONM	**Songino Array**	**49.22**	**341**	P	**P**	**01 39 51.0 +1.1**
SONM				ScP	**ScP**	**01 44 57.6 +0.3**
SONM	**Songino Array**	**49.22**	**341**	P	**P**	**01 39 51.0 +1.1**
	comp=Z,16nm,0.6s,baz=157,slow=8.2,SNR=66					
SONM				ScP	**ScP**	**01 44 57.6 +0.3**
	comp=Z,3.3nm,1.0s,baz=172,slow=3.7,SNR=5.0					
HYB	**Hyderabad**	**50.36**	**291**	*i* P	**P**	**01 39 58.0 -0.9**
HYB				*e*		01 40 29.0
HYB				*e*		01 40 54.0
HYB				*e*S	**S**	**01 47 04.0 -0.4**
CIT	**Chita**	**51.27**	**349**	*e*P	**P**	**01 40 05.4 +0.3**
CIT				*e*		01 40 32.3
TLY	**Talaya**	**53.45**	**342**	*e*P	P	01 40 25.2 +3.9
TLY				*e*		01 40 51.2
TLY				*e*S	**S**	**01 47 48.7 +3.0**
TLY				pmax	pmax	
	comp=Z,18nm,1.3s					
MSVF	**Nonsavu**	**53.58**	**114**	*e*P	**P**	**01 40 22.9 +0.1**
MSVF				pmax	pmax	
	comp=Z,46nm,1.0s					
MSVF	**Nonsavu**	**53.58**	**114**	*e*P	**P**	**01 40 22.9 +0.1**
	comp=Z,46nm,1.0s					
MOY	**Mondy**	**54.31**	**340**	*e*P	**P**	**01 40 29.0 +1.4**
MOY				pmax	pmax	
	comp=Z,28nm,1.2s					
WMQ	**Urumqi**	**54.58**	**325**	P	**P**	**01 40 31.8 +2.1**
WMQ				pP	**pP**	**01 40 56.8 +1.7**
WMQ				PcP	**PcP**	**01 41 35.1 +3.5**
WMQ				PP	**PP**	**01 42 37.5 +4.3**
WMQ				S	**S**	**01 48 03.0 +1.7**
WMQ				sS	**sS**	**01 48 46.9 +2.0**
WMQ				SS	**SS**	**01 51 47.3 +1.7**
WMQ				pmax	pmax	
	comp=Z,65nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,130nm,3.8s					
WMQ				LR	LR	
	comp=N,990nm,27.0s					
WMQ				LR	LR	
	comp=E,290nm,28.0s					
WMQ				LR	LR	
	comp=Z,260nm,26.0s					
CLNS	**Chul'man**	**54.80**	**358**	*e*P	**P**	**01 40 31.7 +0.7**
CLNS				pmax	pmax	
	comp=Z,11nm,0.7s					
CLNS				pmax	pmax	
	comp=N,5.0nm,0.6s					
SMLA	**Simla**	**55.57**	**307**	*i* x	**P**	**01 40 38.6 +1.7**
HVS	**Khovu-Aksy**	**56.66**	**335**	*e*P	**P**	**01 40 45.1 +0.7**
HVS				pmax	pmax	
	comp=Z,248nm,1.2s					
PEA0B	**Petropavlovsk-**	**56.87**	**21**	*e*P	**P**	**01 40 47.1 +1.3**
PETK	**Petropavlovsk-**	**56.87**	**21**	P	**P**	**01 40 46.9 +1.1**
PETK	**Petropavlovsk-**	**56.87**	**21**	P	**P**	**01 40 46.9 +1.1**
PETK	**Petropavlovsk-**	**56.87**	**21**	P	**P**	**01 40 46.9 +1.1**
	comp=Z,19nm,0.8s,baz=197,slow=4.6,SNR=21					
DLH	**Dalhousie**	**57.03**	**308**	*e*4	**P**	**01 40 48.0 +0.4**
DLH				*e*x	x	01 41 18.0
PET	**Petropavlovsk**	**57.15**	**22**	*e*P	**P**	**01 40 48.2 +0.5**
MK31	**Makanchi Array**	**59.42**	**326**	*e*P	**P**	**01 41 04.6 +0.9**
MK31				pmax	pmax	
	comp=Z,31nm,0.4s					
MK31	**Makanchi Array**	**59.42**	**326**	*e*P	**P**	**01 41 05.0 +1.3**
MKAR	**Makanchi Array**	**59.42**	**326**	*ce*P	**P**	**01 41 04.9 +1.2**
MKAR				pmax	pmax	
	comp=Z,65nm,0.5s					
MKAR	**Makanchi Array**	**59.42**	**326**	*e*P	**P**	**01 41 05.1 +1.4**
MKAR				pP	**pP**	**01 41 28.8 -0.6**
MKAR				ScP	**ScP**	**01 45 41.5 -0.2**
MKAR				S	**S**	**01 49 07.8 +3.1**
MKAR				⇑*e*		02 10 42.6
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**01 41 04.9 +1.2**
	comp=Z,65nm,0.5s,baz=119,slow=8.5,SNR=823					
MKAR				pP	**pP**	**01 41 28.8 -0.6**
	comp=Z,19nm,0.7s,baz=121,slow=8.7,SNR=2.8					
MKAR				ScP	**ScP**	**01 45 41.5 -0.2**
	comp=Z,2.6nm,0.7s,baz=127,slow=5.0,SNR=6.0					
MKAR				S	**S**	**01 49 07.8 +3.1**
	comp=Z,2.0nm,0.9s,baz=129,slow=16,SNR=7.8					
MKAR				PKP2bc		02 10 42.6
	comp=Z,1.4nm,1.1s,baz=299,slow=1.2,SNR=3.7					
KSH	**Kashi**	**59.79**	**316**	P	**P**	**01 41 08.9 +2.4**
KSH				sP	**sP**	**01 41 43.8 -0.1**
KSH				PP	**PP**	**01 43 23.8 +4.1**
KSH				S	**S**	**01 49 10.5 +0.6**
KSH				sS	**sS**	**01 49 52.4 -1.8**
KSH				SS	**SS**	**01 53 09.4 +1.6**
KSH				pmax	pmax	
	comp=Z,33nm,0.9s					
KSH				LR	LR	
	comp=N,89nm,6.1s					
KSH				LR	LR	
	comp=E,91nm,5.7s					
KSH				LR	LR	
	comp=Z,99nm,6.2s					
RPZ	**Rata Peaks**	**59.91**	**145**	P	**P**	**01 41 06.6 -0.5**
RPZ	**Rata Peaks**	**59.91**	**145**	P	**P**	**01 41 06.6 -0.5**
	comp=Z,21nm,0.8s,baz=104,slow=22,SNR=6.4					
YAK	**Yakutsk**	**60.00**	**1**	*e*P	**P**	**01 41 07.1 -0.2**
YAK				*e**PP	**pP**	**01 41 33.6 +0.5**
YAK				*e*		01 41 55.4
YAK				*e*		01 43 20.5
YAK				*e*S	**S**	**01 49 11.3 -0.2**
YAK				*e*		01 50 46.6
YAK				*e*SS	**SS**	**01 53 04.1 -5.8**
YAK				*e*SSS	SSS	01 55 48.0
YAK				pmax	pmax	
	comp=N,7.0nm,1.0s					
YAK				pmax	pmax	
	comp=Z,44nm,1.0s					
YAK				pmax

comp=N,107nm,1.6s
YAK smax smax
comp=E,39nm,1.6s
URZ Urewera 60.78 137 P **P 01 41 13.0 -0.1**
URZ Urewera 60.78 137 P **P 01 41 13.0 -0.1**
comp=E,13nm,0.8s,baz=18,slow=4.8,SNR=6.6
ULHL Ulahol 60.81 319 P **P 01 41 15.3 +1.8**
SNR=21
KZA Kyzart 61.39 318 P **P 01 41 20.1 +2.3**
SNR=19
TKM2 Tokmak 2 61.54 319 P **P 01 41 19.4 +1.0**
TKM2 pmax pmax
comp=Z,32nm,0.7s
TKM2 Tokmak 2 61.54 319 P **P 01 41 19.6 +1.1**
SNR=53
TKM2 Tokmak 2 61.54 319 *e*P **P 01 41 19.8 +1.3**
comp=Z,30nm,0.6s
KBK Karagaybulak 61.85 318 *i* P **P 01 41 21.9 +1.4**
KBK Karagaybulak 61.85 318 P **P 01 41 21.9 +1.4**
SNR=12
UCH Uchtor 61.95 318 P **P 01 41 23.7 +2.2**
SNR=14
CHMS Chumysh 62.13 319 *i* P **P 01 41 23.3 +1.1**
CHMS Chumysh 62.13 319 P **P 01 41 23.3 +1.1**
SNR=10.0
AAK Ala-Archa 62.14 318 P **P 01 41 24.5 +2.1**
comp=Z,129nm,0.8s,SNR=5.2
AAK Ala-Archa 62.14 318 *e*P **P 01 41 24.1 +1.7**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 62.14 318 P **P 01 41 24.5 +2.1**
SNR=20
AAK Ala-Archa 62.14 318 P **P 01 41 24.1 +1.7**
SNR=9.1
AAK Ala-Archa 62.14 318 *e*P **P 01 41 24.1 +1.7**
comp=Z,14nm,0.8s
AAK Ala-Archa 62.14 318 P **P 01 41 23.8 +1.4**
comp=Z,13nm,0.7s,baz=99,slow=5.4,SNR=26
USP Ospenovka 62.41 319 *i* P **P 01 41 25.3 +1.3**
USP Ospenovka 62.41 319 P **P 01 41 25.4 +1.3**
SNR=34
AML Almayashu 62.46 317 P **P 01 41 26.6 +1.8**
SNR=20
ZAA0 Zalesovo Array 62.50 333 *e*P **P 01 41 23.9 -0.4**
ZAA0 *e* **pP 01 41 52.5 +2.2**
ZALV Zalesovo Beam 62.50 333 *i* P **P 01 41 24.1 -0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 62.50 333 P **P 01 41 24.1 -0.3**
ZALV pP **pP 01 41 50.5 +0.1**
ZALV ⇑*e* 02 10 34.2
ZALV Zalesovo Beam 62.50 333 P **P 01 41 24.1 -0.3**
comp=Z,7.1nm,0.6s,baz=114,slow=6.6,SNR=28
ZALV pP **pP 01 41 50.5 +0.1**
comp=Z,33nm,0.9s,baz=113,slow=6.8,SNR=6.4
ZALV PKP2bc 02 10 34.2
comp=Z,0.7nm,0.4s,baz=291,slow=4.1,SNR=5.6
EKS2 Erkin-Say 62.63 318 *e*P **P 01 41 27.4 +1.8**
EKS2 pmax pmax
comp=Z,47nm,0.8s
EKS2 Erkin-Say 62.63 318 P **P 01 41 27.4 +1.8**
SNR=42
EKS2 Erkin-Say 62.63 318 *e*P **P 01 41 27.4 +1.8**
comp=Z,48nm,0.8s
KBL Kabul 63.15 308 *e*P **P 01 41 30.2 +0.9**
KBL pmax pmax
comp=Z,39nm,0.7s
KBL Kabul 63.15 308 *e*P **P 01 41 30.2 +0.9**
comp=Z,39nm,0.7s
KBL Kabul 63.15 308 P **P 01 41 30.2 +0.9**
baz=63,SNR=12
FX1 Attu Island--F 63.34 29 *e*P **P 01 41 31.1 +1.1**
FX1 Attu Island--F 63.34 29 P **P 01 41 31.0 +1.1**
comp=Z,7.8nm,0.4s,baz=267,slow=3.8,SNR=24
KURBB Kurchatov Arra 63.62 328 P **P 01 41 32.6 +0.8**
comp=Z,51nm,0.5s,baz=128,slow=6.2,SNR=293
KURBB S **S 01 49 52.6 -4.8**
comp=Z,0.4nm,0.6s,baz=127,slow=15,SNR=5.6
KURK Kurchatov 63.62 328 P **P 01 41 32.6 +0.8**
KURK S **S 01 49 52.7 -4.8**
KURK Kurchatov 63.62 328 P **P 01 41 32.6 +0.8**
KURK S **S 01 49 52.6 -4.8**
SEY Seymchan 63.65 12 *e*P **P 01 41 33.1 +1.3**
NVS Novosibirsk 63.78 333 *e*P **P 01 41 32.4 -0.4**
NVS *i* *PP **pP 01 41 55.5 -3.4**
NVS *i* 01 42 12.7
NVS *e*S **S 01 49 58.5 -0.9**
NVS *e**SS sS 01 50 28.2 -16
NVS pmax pmax
comp=Z,31nm,1.0s
NVS smax smax
comp=E,41nm,1.7s
KK31 Karatay Array 65.00 317 *i* P **P 01 41 41.6 +0.5**
KK31 pmax pmax
comp=Z,62nm,0.9s
KKAR Karatay Array 65.00 317 *e*P **P 01 41 41.7 +0.6**
KKAR Karatay Array 65.00 317 *e*P **P 01 41 41.7 +0.6**
VOSK Vostochnaya 68.74 327 P **P 01 42 04.3 -0.2**
VOSK pmax pmax
comp=Z,21nm,0.5s
CASY Casey 69.10 187 *e*P **P 01 42 05.2 -1.2**
comp=Z,51nm,1.3s
BVA0 Borovoye Array 69.19 327 P **P 01 42 07.3 -0.1**
BVA0 pmax pmax
comp=Z,40nm,0.8s
BVAR Borovoye Array 69.19 327 P **P 01 42 07.7 +0.4**
BVAR S **S 01 51 00.7 -4.2**
BVAR Borovoye Array 69.19 327 P **P 01 42 07.7 +0.4**
BVAR S **S 01 51 00.7 -4.2**
BVAR Borovoye Array 69.19 327 P **P 01 42 07.7 +0.4**
comp=Z,34nm,0.8s,baz=135,slow=8.4,SNR=116
BVAR S **S 01 51 00.7 -4.2**
comp=Z,0.5nm,0.7s,baz=90,slow=8.6,SNR=4.2
BRVK Borovoye 69.27 327 P **P 01 42 08.7 +0.9**
comp=Z,363nm,0.7s,SNR=43
BRVK Borovoye 69.27 327 *c i*P **P 01 42 08.1 +0.3**
BRVK pmax pmax
comp=Z,62nm,1.0s
BRVK Borovoye 69.27 327 P **P 01 42 08.6 +0.8**
SNR=35
BRVK Borovoye 69.27 327 *e*P **P 01 42 08.1 +0.3**
comp=Z,96nm,1.0s
BRVK *e* **pP 01 42 35.0 +0.8**
TIXI Tiksi 69.64 1 *e*P **P 01 42 11.0 +1.3**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
IDAH Dahanechah 70.13 304 *e*P **P 01 42 14.3 +0.5**
IMYA Miami 70.66 308 *e*P **P 01 42 17.1 +0.2**
ITEG Tejag 71.08 304 *e*P **P 01 42 20.2 +0.7**
ISRO Mashad 71.15 308 *e*P **P 01 42 19.3 -0.5**
IMOG Moghan 71.22 308 *e*P **P 01 42 20.7 +0.3**
IPAY Payeh 71.56 308 *e*P **P 01 42 22.7 +0.3**
ARQ Araqi 71.69 294 P **P 01 42 24.3 +1.1**
SNR=5.9
IAKL Akhelmad 71.78 308 *e*P **P 01 42 23.7 -0.1**
IKRD Kardeh 72.00 308 *e*P P 01 42 20.5 -4.6
IEMG Emamgholi 72.02 309 *e*P **P 01 42 25.3 +0.1**
MIR Mirnyy 72.55 194 ⇑*i*P **P 01 42 28.5 +1.2**
MIR pmax pmax
comp=Z,63nm,1.0s
IBAF Bafgh 73.54 302 *e*P **P 01 42 34.2 +0.1**
AB31 Akbulak array 73.97 321 *i* P **P 01 42 36.0 0.0**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 73.97 321 *e*P **P 01 42 36.2 +0.1**
IMEH Mehriz 74.32 302 *e*P **P 01 42 37.3 -1.5**
ICHK Chekchek 74.60 303 *e*P **P 01 42 39.8 -0.6**
AKUT Akutan 75.05 34 *e*P **P 01 42 41.8 -0.4**
comp=Z,56nm,1.0s
ISAD Sadrabad 75.17 302 *e*P **P 01 42 42.3 -1.5**
IANJ Anjilo 75.45 306 *e*P **P 01 42 44.2 -1.0**
IPAR Pars 75.47 300 *e*P **P 01 42 45.8 +0.2**
AKTO Aktyubinsk 75.48 322 S **S 01 52 15.4 -1.4**
comp=Z,1.1nm,0.8s,baz=9.7,slow=20,SNR=8.2
SVE Sverdlovsk 75.84 329 ⇓*e*P **P 01 42 46.5 -0.2**
SVE pmax pmax
comp=Z,62nm,1.0s
ISHM Shahmirzad 76.00 306 *e*P **P 01 42 48.1 -0.3**
ILAS Lasjerd 76.21 306 *e*P **P 01 42 49.2 -0.4**
ISFB Sefidab 76.67 305 *e*P **P 01 42 51.7 -0.3**
ARU Arti 76.81 328 *c i*P **P 01 42 51.6 -0.6**
ARU *PP **pP 01 43 18.2 -0.9**
ARU 01 45 42.8
ARU S **S 01 52 32.6 +1.5**
ARU SS **SS 01 57 26.7 -2.6**
ARU pmax pmax
comp=Z,24nm,0.8s
ARU Arti 76.81 328 P **P 01 42 51.6 -0.6**
comp=Z,215nm,1.0s,SNR=9.8
IPRN Peran 76.82 307 *e*P P 01 42 49.7 -3.2
IDMV Damavand 76.99 306 *e*P **P 01 42 52.8 -1.2**
IVRN Varamin 77.16 305 *e*P **P 01 42 53.9 -0.8**
MUKL Al Mukalla 78.24 284 *e*P **P 01 43 01.8 +0.9**
SOKR Solikamsk 78.62 331 *c i*P **P 01 43 01.6 -0.5**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
IRAZ Razeghan 78.67 306 *e*P **P 01 43 02.4 -0.9**
KBD Kabd 80.07 299 *e*P **P 01 43 10.5 -0.2**
KBD AMb AMB 01 43 15.4
comp=Z,45nm,1.6s
RDF Al-Radifah 80.18 299 *e*P **P 01 43 11.1 -0.2**
RDF AMb AMB 01 43 16.9
comp=Z,59nm,1.2s
IKOM Komasi 80.55 304 *e*P **P 01 43 11.6 -1.8**
RST Umm Al-Ruwaisa 80.69 299 *e*P **P 01 43 13.1 -0.9**
IVIS Veis 81.12 304 *e*P **P 01 43 15.7 -0.7**
MAK Makhachkala 81.29 313 *e*P P 01 43 11.5 -5.4
MAK *e*PP pP 01 43 39.6 -4.4
MAK *e*PPP PPP 01 48 15.2
MAK *e*S **S 01 53 17.9 -1.2**
MAK *e**SS sS 01 54 02.6 -3.1
MAK *e*SS **SS 01 58 34.6 -2.4**
MAK pmax pmax
comp=Z,429nm,1.4s
OPO Ambohidratompo 81.32 251 P **P 01 43 17.8 +0.1**
OPO Ambohidratompo 81.32 251 P **P 01 43 17.8 +0.1**
comp=Z,5.9nm,0.7s,baz=98,slow=5.2,SNR=6.9
IDHR Dehrash 81.51 305 *e*P **P 01 43 15.8 -2.7**
VNDA Vanda 81.55 173 *e*P **P 01 43 16.9 -0.7**
comp=Z,44nm,0.9s
VNDA Vanda 81.55 173 P **P 01 43 16.9 -0.7**
comp=Z,37nm,0.8s,baz=317,slow=6.1,SNR=178
VNDA LR LR 02 20 16.4
comp=Z,131nm,20.6s,baz=339,slow=36
RAYN Ar Rayn 81.80 293 P **P 01 43 20.0 -0.1**
comp=Z,203nm,0.8s,SNR=19
RAYN Ar Rayn 81.80 293 *e*P **P 01 43 20.1 +0.1**
MAW Mawson 82.28 200 *e*P **P 01 43 21.5 0.0**
comp=Z,9.5nm,1.0s
MAW Mawson 82.28 200 P **P 01 43 21.2 -0.3**
comp=Z,33nm,1.0s,baz=79,slow=8.6,SNR=61
MAW LR LR 02 16 08.9
comp=Z,86nm,21.2s,baz=219,slow=33
MAW Mawson 82.28 200 P **P 01 43 21.7 +0.2**
baz=82,SNR=53
SBA Scott Base 82.45 172 *e*P **P 01 43 22.4 +0.1**
SBA pmax pmax
comp=Z,35nm,1.1s
SBA Scott Base 82.45 172 *e*P **P 01 43 22.4 +0.1**
comp=Z,35nm,1.1s
OHAK Old Harbor 82.62 33 *e*P **P 01 43 24.3 +0.8**
comp=Z,32nm,1.0s
DGRG David-gareji 82.75 311 P **P 01 43 25.6 +0.9**
KDAK Kodiak Island 83.07 32 P **P 01 43 26.0 +0.2**
comp=Z,144nm,0.7s,SNR=7.4
KDAK Kodiak Island 83.07 32 *e*P **P 01 43 26.4 +0.6**
comp=Z,14nm,0.7s
KDAK Kodiak Island 83.07 32 P **P 01 43 26.7 +0.9**
comp=Z,16nm,0.7s,baz=275,slow=4.3,SNR=13
BHD Baghdad 83.11 303 *e*P P 01 43 22.0 -4.6
BHD *e*pP pP 01 43 59.0 +5.2
BHD *i* S **S 01 53 34.0 -4.0**
GNI Garni 83.14 310 *e*P **P 01 43 28.8 +1.9**
comp=Z,29nm,1.0s
GNI Garni 83.14 310 P **P 01 43 28.1 +1.2**
comp=Z,2.7nm,0.5s,baz=36,slow=14,SNR=3.0
TBLG Delisi 83.24 312 *e*P **P 01 43 28.2 +1.0**
TBLG Delisi 83.24 312 P **P 01 43 28.2 +1.0**
DUS Dusheti 83.29 312 P P 01 43 37.3 +10
RSO Redoubt South 83.34 29 *e*P **P 01 43 27.7 +0.2**
IM04 Indian Mountai 83.72 24 *e*P **P 01 43 29.9 +0.8**
IMA2 Indian Mountai 83.77 24 *e*P **P 01 43 30.5 +1.0**
SPU Mount Spurr 83.78 29 *e*P **P 01 43 30.1 +0.5**
ZEI Tsey 83.92 313 *e*P **P 01 43 30.5 -0.3**
ZEI pmax pmax
comp=Z,43nm,1.0s
PPT2 Papeete2 83.94 108 *e*S S 01 54 02.7 +16
comp=Z,135nm,27.8s
PPT2 Papeete2 83.94 108 *e*LR LR 02 10 10.5
comp=Z,348nm,31.5s
PPLA Purkeypile 83.94 27 *e*P **P 01 43 31.4 +0.9**
comp=Z,6.8nm,0.7s
AKH Akhalkalaki 84.16 311 P **P 01 43 33.4 +1.3**
ONI Oni 84.24 312 P **P 01 43 33.6 +1.3**
ATD Arta Tunnel 84.27 281 P **P 01 43 34.5 +1.5**
ATD Arta Tunnel 84.27 281 P **P 01 43 34.5 +1.5**
comp=Z,5.4nm,0.3s,baz=102,slow=9.3
TBI Tubuai 84.47 114 *e*LR LR 02 10 18.1
comp=Z,251nm,42.5s
KBZ Khabaz 84.70 314 P **P 01 43 34.8 +0.4**
KBZ Khabaz 84.70 314 P **P 01 43 34.8 +0.4**
KBZ Khabaz 84.70 314 P **P 01 43 34.8 +0.4**
comp=Z,8.9nm,1.0s,baz=116,slow=3.2,SNR=10
KIV Kislovodsk 84.86 314 *e*P **P 01 43 34.6 -0.8**
KIV *e*PP **pP 01 44 00.9 -1.8**
KIV *e**SP **sP 01 44 12.0 -2.0**
KIV *e* 01 53 48.9
KIV pmax pmax
comp=Z,21nm,1.0s
TRF Thorofare Moun 84.87 27 *e*P **P 01 43 34.7 -0.4**
comp=Z,23nm,1.0s
PMR Palmer 85.22 28 *e*P **P 01 43 36.8 +0.1**
PMR pmax pmax
comp=Z,33nm,1.0s
PMR Palmer 85.22 28 *e*P **P 01 43 36.8 +0.1**
comp=Z,33nm,1.0s
COLD Coldfoot 85.31 23 *e*P **P 01 43 38.0 +1.0**
comp=Z,5.2nm,0.7s
COLD *e* **pP 01 44 03.1 -1.3**
MCK McKinley 85.49 26 *e*P **P 01 43 37.9 -0.1**
MCK pmax pmax
comp=Z,5.0nm,0.6s
MCK McKinley 85.49 26 *e*P **P 01 43 37.9 -0.1**
comp=Z,5.0nm,0.6s
VRHR Novokhopersk 85.86 321 *e*P **P 01 43 39.0 -1.0**
VRHR *e*PP **pP 01 44 07.4 0.0**
VRHR *e*S **SKSac 01 53 52.7 -3.4**
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR smax smax
comp=N,70nm,2.3s
VRHR smax smax
comp=E,160nm,2.3s
VRHR smax smax
comp=Z,40nm,2.3s
ILAR Eielson Array 86.46 25 P **P 01 43 41.5 -1.2**
ILAR pP **pP 01 44 09.4 -0.8**
ILAR Eielson Array 86.46 25 P **P 01 43 41.5 -1.2**
comp=Z,1.1nm,0.5s,baz=252,slow=4.0,SNR=12
ILAR pP **pP 01 44 09.4 -0.8**
comp=Z,4.7nm,0.7s,baz=257,slow=5.2,SNR=14
PAX Paxson 87.01 27 *e*P **P 01 43 45.9 +0.3**
PAX pmax pmax
comp=Z,13nm,1.2s
PAX Paxson 87.01 27 *e*P **P 01 43 45.9 +0.3**
comp=Z,13nm,1.2s
BMRM Bremner River 87.38 29 *e*P **P 01 43 49.9 +2.6**
comp=Z,23nm,1.0s
VSR Storozhevoye 87.41 321 *e*P **P 01 43 46.2 -1.4**
VSR *e*S **S 01 54 16.6 -3.0**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,40nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
VSR smax smax
comp=N,160nm,4.4s
VSR smax smax
comp=E,150nm,4.4s
VSR smax smax
comp=Z,190nm,4.4s
MOS Moscow 88.30 326 *e*P **P 01 43 51.4 -0.3**
MOS *e* 01 47 26.5
MOS *e* 01 54 08.3
MOS *e* 01 54 22.2
MOS pmax pmax
comp=Z,31nm,1.0s
ANN Anapa 88.63 315 *e*P P 01 43 43.2 -10
ANN *e**PP PcP 01 44 07.5 +12
ANN pmax pmax
comp=Z,35nm,1.1s
OBN Obninsk 88.92 325 *e*P **P 01 43 53.5 -1.1**
OBN *e**PP **pP 01 44 24.4 +2.2**
OBN *e* 01 47 23.4
OBN *e*S **SKSac 01 54 11.4 -3.1**
OBN *e*PS **PnS 01 55 50.5 -0.8**
OBN pmax pmax
comp=Z,16nm,1.2s
ASF Jabal al Asfar 89.41 302 P **P 01 43 58.3 +0.7**
ASF Jabal al Asfar 89.41 302 P **P 01 43 58.3 +0.7**
comp=Z,11nm,1.0s,baz=54,slow=2.6,SNR=13
KMBO Kilima Mbogo 90.17 269 *e*P **P 01 44 02.5 +0.7**
comp=Z,9.2nm,0.9s
KMBO Kilima Mbogo 90.17 269 P **P 01 44 02.5 +0.7**
comp=Z,7.6nm,0.9s,baz=58,slow=5.6,SNR=18
MMAI Mount Meron Ar 90.64 303 P **P 01 44 04.0 +0.7**
MMAI Mount Meron Ar 90.64 303 P **P 01 44 04.0 +0.7**
comp=Z,4.4nm,0.8s,baz=88,slow=7.6,SNR=6.7
SYO Syowa Base 90.97 201 ⇓*e*P **P 01 44 02.5 -1.4**
SYO Syowa Base 90.97 201 ⇓*e*pP pP 01 44 28.0 -3.5
SIM Simferopol' 90.98 315 *e*P **P 01 44 03.5 -1.1**
SIM pmax pmax
comp=Z,12nm,0.8s
EIL Elat 91.18 300 P **P 01 44 04.7 -1.1**
EIL Elat 91.18 300 P **P 01 44 04.7 -1.1**
comp=Z,2.4nm,0.7s,baz=68,slow=11,SNR=2.8
INK Inuvik 91.61 22 P **P 01 44 06.2 -0.7**
INK Inuvik 91.61 22 P **P 01 44 06.2 -0.7**
comp=Z,3.8nm,1.1s,baz=281,slow=9.3,SNR=5.7
BR131 Keskin Array S 91.68 310 *e*P **P 01 44 07.7 -0.4**
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 91.68 310 P **P 01 44 06.9 -1.2**
BRTR PP **PP 01 47 43.4 -4.6**
BRTR Keskin Array B 91.68 310 P **P 01 44 06.9 -1.2**
comp=Z,2.1nm,0.8s,baz=122,slow=5.9,SNR=12
BRTR PP **PP 01 47 43.4 -4.6**
comp=Z,2.3nm,1.1s,baz=46,slow=5.3,SNR=3.6
QSPA South Pole Qui 91.83 180 *e*P **P 01 44 07.7 -0.5**
comp=Z,40nm,1.4s
CSS Prodhromos 92.24 305 *e*P **P 01 44 10.4 -0.2**
comp=Z,9.6nm,0.8s
ARCES ARCESS Array B 92.37 340 P **P 01 44 09.5 -1.0**
ARCES ARCESS Array B 92.37 340 P **P 01 44 09.5 -1.0**
comp=Z,8.8nm,0.9s,baz=76,slow=4.4,SNR=18
ARE0 ARCESS Array S 92.37 340 *e*P **P 01 44 10.1 -0.4**
KAF Kangasniemi 93.50 332 *e*P **P 01 44 14.8 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 93.50 332 *e*p **P 01 44 14.8 -1.0**
comp=Z,1.0nm,0.4s
FINES FINESS Array B 93.73 332 P **P 01 44 15.6 -1.3**
FINES FINESS Array B 93.73 332 P **P 01 44 15.6 -1.3**
comp=Z,1.7nm,0.5s,baz=50,slow=5.6,SNR=16
CFR Carcaliu 95.18 315 ⇑P **P 01 44 23.1 -0.7**
CFR Carcaliu 95.18 315 ⇑*i*P **P 01 44 23.1 -0.7**
TESR Tescani 96.01 317 ⇑*i*P **P 01 44 27.0 -0.6**
VRI Vrincioaia 96.05 316 ⇑P **P 01 44 27.5 -0.4**
VRI Vrincioaia 96.05 316 ⇑*i*P **P 01 44 27.5 -0.4**
PLOR Plostina 96.11 316 ⇑P **P 01 44 27.6 -0.6**
PLOR Plostina 96.11 316 ⇑*i*P **P 01 44 27.6 -0.6**
MLR Muntele Rosu 96.66 316 ⇓*i*P **P 01 44 28.8 -2.0**
MLR Muntele Rosu 96.66 316 P **P 01 44 29.8 -0.9**
MLR PP **PP 01 48 21.6 -4.9**
MLR Muntele Rosu 96.66 316 P **P 01 44 29.8 -0.9**
comp=Z,1.1nm,0.7s,baz=202,slow=1.8,SNR=13
MLR PP **PP 01 48 21.6 -4.9**
comp=Z,0.8nm,0.9s,baz=327,slow=6.2,SNR=3.2
BURAR Bucovina Array 96.79 318 ⇓P **P 01 44 31.1 -0.2**
BURAR Bucovina Array 96.79 318 ⇓*i*P **P 01 44 31.1 -0.2**
RKT Rikitea 97.78 113 *e*LR LR 02 16 28.4
comp=Z,352nm,42.0s
KWP Kalwaria Pacla 98.02 321 ⇑P Pdif 01 44 36.8 +0.1
KWP Kalwaria Pacla 98.02 321 ⇑*i*P Pdif 01 44 36.8 +0.1
LOT Lotru 98.17 316 ⇓*i*P **P 01 44 37.3 -0.3**
KOLS Kolonicke sedl 98.45 320 *e*P Pdif 01 44 38.7 +0.1
KOLS Kolonicke sedl 98.45 320 PDIF Pdif 01 44 38.7 +0.1
UZH Uzhgorod 98.50 320 *e*P **P 01 44 38.4 -0.4**
UZH *e* 01 45 08.0
CRVS Cervenica-Dubn 98.98 320 *e*P **P 01 44 40.8 -0.2**
CRVS Cervenica-Dubn 98.98 320 PDIF **P 01 44 40.8 -0.2**
STHS Stebnicka Huta 99.00 321 *e*P Pdif 01 44 41.5 +0.4
STHS Stebnicka Huta 99.00 321 PDIF Pdif 01 44 41.5 +0.4
VTS Vitosha 99.12 314 ⇓P **Pdif 01 44 41.1 -0.8**
VTS Vitosha 99.12 314 ⇓*i*P **Pdif 01 44 41.1 -0.8**
DAG Danmarks Havn 99.13 353 *i* P **Pdif 01 44 40.2 -0.8**
KECS Kecovo 99.71 320 *e*P **Pdif 01 44 44.1 -0.1**
KECS Kecovo 99.71 320 PDIF **Pdif 01 44 44.1 -0.1**
HFS Hagfors 99.92 332 P **Pdif 01 44 43.5 -1.4**
HFS Hagfors 99.92 332 P **Pdif 01 44 43.5 -1.4**
comp=Z,3.8nm,1.1s,baz=90,slow=4.4,SNR=4.7
NB2 NORSAR Subarra 100.70 334 P **Pdif 01 44 45.9 -2.5**
comp=Z,1.9nm,0.7s,baz=67,slow=4.4
NB2 NORSAR Subarra 100.70 334 P **Pdif 01 44 45.9 -2.5**
baz=67,slow=4.4
NOA NORSAR Array B 100.70 334 P **Pdif 01 44 46.3 -2.1**
NOA PP PP 01 48 46.5 -10
NOA NORSAR Array B 100.70 334 P **Pdif 01 44 46.3 -2.1**
comp=Z,1.9nm,0.8s,baz=67,slow=4.6,SNR=4.7
NOA PP PP 01 48 46.5 -10
comp=Z,0.9nm,0.8s,baz=59,slow=5.1,SNR=3.7
BOSA Boshof 101.56 241 P **Pdif 01 44 53.2 +0.2**
BOSA PKiKP **PKiKP 01 49 16.1 -0.4**
BOSA Boshof 101.56 241 P **Pdif 01 44 53.2 +0.2**
comp=Z,7.2nm,1.1s,baz=158,slow=17,SNR=3.3
BOSA PKiKP **PKiKP 01 49 16.1 -0.4**
comp=Z,6.4nm,1.2s,baz=56,slow=3.6,SNR=4.0
DPC Dobruska-Polom 101.81 322 *e*PP PP 01 49 06.7 +1.4
DPC *ex* x 01 49 19.5
UPC Upice 101.95 323 *e*PP PP 01 49 08.2 +1.9
PVCC Panska Ves 102.82 323 *e*PP PP 01 49 16.7 +3.9
PRU Pruhonice 103.01 322 *e*PP PP 01 49 10.9 -3.4
PRU *ex* x 01 49 17.8
BRG Berggiesshubel 103.08 323 *e*P Pdif 01 45 36.8 +38
comp=Z,8.9nm,1.5s
BRG PP **PKiKP 01 49 18.4 -0.1**
comp=Z,20nm,1.9s
CLL Collm 103.49 324 *e*PP PP 01 49 13.0 -4.7
CLL *e*(PKiKP) 01 49 21.0
KHC Kasperske Hory 103.89 322 *e*PP PP 01 49 19.3 -1.6
KHC *ex* x 01 49 24.5
GERES GERESS Array B 103.91 321 PKiKP **PKiKP 01 49 20.1 -0.1**
GERES GERESS Array B 103.91 321 PKiKP **PKiKP 01 49 20.1 -0.1**
comp=Z,0.9nm,0.8s,baz=67,slow=3.3,SNR=4.5
DAVOX Davos/Dischmat 107.05 320 PP PP 01 49 46.5 +2.1
DAVOX Davos/Dischmat 107.05 320 PP PP 01 49 46.5 +2.1
comp=Z,3.4nm,0.9s,baz=101,slow=6.9,SNR=9.4
NVAR Mina Array Bea 107.62 49 PKiKP **PKiKP 01 49 28.7 +1.2**
NVAR PKKPbc **PKKPbc 02 00 43.6 +0.5**
NVAR Mina Array Bea 107.62 49 PKiKP **PKiKP 01 49 28.7 +1.2**
comp=Z,0.5nm,0.8s,baz=223,slow=2.2,SNR=3.3
NVAR PKKPbc **PKKPbc 02 00 43.6 +0.5**
comp=Z,1.2nm,0.8s,baz=148,slow=4.6,SNR=10
HLID Hailey 108.70 43 *e*PKPdf **PKiKP 01 49 29.6 +0.2**
HLID Hailey 108.70 43 ⇑PKiKP **PKiKP 01 49 29.4 0.0**
baz=109
HLID Hailey 108.70 43 ⇑PKiKP **PKiKP 01 49 29.4 0.0**
baz=109
BAIF Baives 109.10 325 *e*PKIKP **PKiKP 01 49 29.9 +0.3**
comp=Z,3.7nm,0.7s
LPG La Plagne 109.55 320 *e*PKIKP **PKiKP 01 49 30.9 -0.1**
comp=Z,5.0nm,0.9s
LPL La Plagne 109.56 320 *e*PKIKP **PKiKP 01 49 31.0 +0.1**
comp=Z,5.1nm,0.8s
MBDF Montbardon 109.85 319 *e*PKIKP **PKiKP 01 49 30.9 -0.5**
comp=Z,2.5nm,0.7s
ORIF Oris-en-Rattie 110.35 320 *e*PKIKP **PKiKP 01 49 32.2 -0.1**
comp=Z,3.8nm,0.8s
FRF La Foret Royal 110.40 318 *e*PKIKP **PKiKP 01 49 32.1 -0.2**
F18A Big Timber 110.82 39 ⇓PKiKP **PKiKP 01 49 33.2 0.0**
baz=111
F18A Big Timber 110.82 39 ⇓PKiKP **PKiKP 01 49 33.2 0.0**
baz=111
SMRF Simiane la Rot 110.94 319 *e*PKIKP **PKiKP 01 49 33.6 +0.2**
C20A Veseth Ranch, 111.04 37 ⇓PKiKP **PKiKP 01 49 33.8 +0.4**
baz=111
C20A Veseth Ranch, 111.04 37 ⇓PKiKP **PKiKP 01 49 33.8 +0.4**
baz=111
E19A Rath Farm, Rou 111.15 38 ⇓PKiKP **PKiKP 01 49 33.8 0.0**
baz=111

E19A	Rath Farm, Rou	111.15	38	⇓PKiKP	PKiKP	01 49 33.8	0.0
	baz=111						
KEST	Kesra	111.28	310	PP	PP	01 50 14.6	-0.8
KEST	Kesra	111.28	310	PP	PP	01 50 14.6	-0.8
	comp=Z,1.4nm,0.8s,baz=137,slow=6.8,SNR=4.3						
HWUT	Hardware Ranch	111.39	44	*e*PKPdf	PKiKP	01 49 34.7	+0.2
LASF	Ste Croix	112.02	320	*e*PKiKP	PKiKP	01 49 35.5	+0.1
	comp=Z,6.7nm,1.1s						
TCF	Toulx Ste Croi	112.05	322	*e*PKiKP	PKiKP	01 49 35.4	0.0
M17A	Scullys Gap (B	112.06	43	⇑PKiKP	PKiKP	01 49 35.2	-0.6
	baz=112						
M17A	Scullys Gap (B	112.06	43	⇑PKiKP	PKiKP	01 49 35.2	-0.6
	baz=112						
G20A	Bridger	112.07	39	⇓PKiKP	PKiKP	01 49 35.4	-0.2
	baz=112						
G20A	Bridger	112.07	39	⇓PKiKP	PKiKP	01 49 35.4	-0.2
	baz=112						
PDAR	Pinedale Array	112.28	42	PKiKP	PKiKP	01 49 37.9	+1.7
PDAR				PKKPbc	PKKPbc	02 00 26.5	-1.8
PDAR	Pinedale Array	112.28	42	PKiKP	PKiKP	01 49 37.9	+1.7
	comp=Z,0.6nm,0.8s,baz=50,slow=2.8,SNR=4.9						
PDAR				PKKPbc	PKKPbc	02 00 26.5	-1.8
	comp=Z,2.4nm,0.8s,baz=119,slow=5.1,SNR=20						
LDF	La Druitiere	112.29	325	*e*PKiKP	PKiKP	01 49 35.4	-0.3
L18A	Fontenelle, Gr	112.31	43	⇑PKiKP	PKiKP	01 49 36.3	0.0
	baz=112						
L18A	Fontenelle, Gr	112.31	43	⇑PKiKP	PKiKP	01 49 36.3	0.0
	baz=112						
D22A	Cohagen	112.39	36	⇑PKiKP	PKiKP	01 49 36.5	+0.4
	baz=112						
D22A	Cohagen	112.39	36	⇑PKiKP	PKiKP	01 49 36.5	+0.4
	baz=112						
J19A	Crowheart	112.40	41	⇑PKiKP	PKiKP	01 49 36.4	+0.1
	baz=112						
J19A	Crowheart	112.40	41	⇑PKiKP	PKiKP	01 49 36.4	+0.1
	baz=112						
I20A	Worland	112.70	40	⇑PKiKP	PKiKP	01 49 37.1	+0.3
	baz=113						
I20A	Worland	112.70	40	⇑PKiKP	PKiKP	01 49 37.1	+0.3
	baz=113						
K19A	Absolon Red Bu	112.73	42	⇓PKiKP	PKiKP	01 49 37.0	0.0
	baz=113						
K19A	Absolon Red Bu	112.73	42	⇓PKiKP	PKiKP	01 49 37.0	0.0
	baz=113						
CAF	Calviac	112.78	321	*e*PKiKP	PKiKP	01 49 37.3	+0.5
	comp=Z,12nm,1.1s						
E22A	Miles City	112.88	37	⇑PKiKP	PKiKP	01 49 37.5	+0.5
	baz=113						
E22A	Miles City	112.88	37	⇑PKiKP	PKiKP	01 49 37.5	+0.5
	baz=113						
I21A	Big Trails, Te	113.30	40	⇓PKiKP	PKiKP	01 49 37.9	-0.1
	baz=113						
I21A	Big Trails, Te	113.30	40	⇓PKiKP	PKiKP	01 49 37.9	-0.1
	baz=113						
MFF	Saint Martin d	113.32	323	*e*PKiKP	PKiKP	01 49 37.6	-0.1
	comp=Z,4.7nm,0.7s						
MTLF	Montolieu	113.41	319	*e*PKiKP	PKiKP	01 49 37.9	-0.1
	comp=Z,4.4nm,0.8s						
F23A	Volborg	113.57	37	⇓PKiKP	PKiKP	01 49 38.5	+0.1
	baz=114						
F23A	Volborg	113.57	37	⇓PKiKP	PKiKP	01 49 38.5	+0.1
	baz=114						
LFF	La Frestale	113.60	322	*e*PKiKP	PKiKP	01 49 38.7	+0.4
M20A	Sweetwater, Wa	113.75	43	⇑PKiKP	PKiKP	01 49 38.5	-0.5
	baz=114						
M20A	Sweetwater, Wa	113.75	43	⇑PKiKP	PKiKP	01 49 38.5	-0.5
	baz=114						
WUAZ	Wupatki	113.81	50	⇑PKiKP	PKiKP	01 49 39.4	+0.1
	baz=114						
WUAZ	Wupatki	113.81	50	⇑PKiKP	PKiKP	01 49 39.4	+0.1
	baz=114						
SGMF	Saint Gilles	113.84	326	*e*PKiKP	PKiKP	01 49 38.4	-0.3
K21A	Alcova	113.86	41	⇓PKiKP	PKiKP	01 49 39.2	0.0
	baz=114						
K21A	Alcova	113.86	41	⇓PKiKP	PKiKP	01 49 39.2	0.0
	baz=114						
N20A	Spence Gulch,	113.98	43	⇑PKiKP	PKiKP	01 49 39.9	+0.4
	baz=114						
N20A	Spence Gulch,	113.98	43	⇑PKiKP	PKiKP	01 49 39.9	+0.4
	baz=114						
J22A	Midwest	114.01	40	⇓PKiKP	PKPdf	01 49 39.1	-0.3
	baz=114						
J22A	Midwest	114.01	40	⇓PKiKP	PKPdf	01 49 39.1	-0.3
	baz=114						
X16A	Lo Mia Camp, P	114.15	51	⇓PKiKP	PKiKP	01 49 40.7	+0.8
	baz=114						
X16A	Lo Mia Camp, P	114.15	51	⇓PKiKP	PKiKP	01 49 40.7	+0.8
	baz=114						
ROSF	Rostrenen	114.20	326	*e*PKiKP	PKPdf	01 49 39.0	-0.4
M21A	Separation Pea	114.25	42	⇑PKiKP	PKPdf	01 49 40.0	0.0
	baz=114						
M21A	Separation Pea	114.25	42	⇑PKiKP	PKPdf	01 49 40.0	0.0
	baz=114						
O20A	White River Ci	114.29	44	*e*PKPdf	PKPdf	01 49 40.5	+0.4
O20A	White River Ci	114.29	44	⇑PKiKP	PKPdf	01 49 40.1	0.0
	baz=114						
O20A	White River Ci	114.29	44	⇑PKiKP	PKPdf	01 49 40.1	0.0
	baz=114						
K22A	Casper	114.33	41	⇑PKiKP	PKPdf	01 49 39.9	-0.1
	baz=114						
K22A	Casper	114.33	41	⇑PKiKP	PKPdf	01 49 39.9	-0.1
	baz=114						
QUIF	Quistinic	114.37	326	*e*PKiKP	PKPdf	01 49 39.4	-0.3
N21A	Black Mountain	114.52	43	⇓PKiKP	PKPdf	01 49 40.7	+0.2
	baz=114						
N21A	Black Mountain	114.52	43	⇓PKiKP	PKPdf	01 49 40.7	+0.2
	baz=114						
H24A	Dirks Ranch, A	114.58	38	⇑PKiKP	PKPdf	01 49 40.6	+0.2
	baz=114						
H24A	Dirks Ranch, A	114.58	38	⇑PKiKP	PKPdf	01 49 40.6	+0.2
	baz=114						
L22A	Ellis Ranch, M	114.68	41	⇑PKiKP	PKPdf	01 49 41.1	+0.3
	baz=115						
L22A	Ellis Ranch, M	114.68	41	⇑PKiKP	PKPdf	01 49 41.1	+0.3
	baz=115						
EPF	Esparros	114.77	320	*e*PKiKP	PKPdf	01 49 40.7	0.0
	comp=Z,3.2nm,0.7s						
R20A	Redvale	115.01	46	⇓PKiKP	PKPdf	01 49 42.2	+0.6
	baz=115						
R20A	Redvale	115.01	46	⇓PKiKP	PKPdf	01 49 42.2	+0.6
	baz=115						
F26A	Lodgepole	115.14	36	⇑PKiKP	PKPdf	01 49 41.8	+0.5
	baz=115						
F26A	Lodgepole	115.14	36	⇑PKiKP	PKPdf	01 49 41.8	+0.5
	baz=115						
RSSD	Black Hills	115.21	38	*e*PKiKP	PKPdf	01 49 41.0	-0.7
RSSD	Black Hills	115.21	38	*e*PKPdf	PKPdf	01 49 41.0	-0.7
MVCO	Mesa Verde	115.32	47	⇑PKiKP	PKPdf	01 49 42.5	+0.3
	baz=115						
MVCO	Mesa Verde	115.32	47	⇑PKiKP	PKPdf	01 49 42.5	+0.3
	baz=115						
ETSF	Etsaut	115.41	320	*e*PKiKP	PKPdf	01 49 42.6	+0.6
	comp=Z,6.6nm,0.8s						
O22A	Kremmling	115.45	43	⇓PKiKP	PKiKP	01 49 42.2	-0.3
	baz=115						
O22A	Kremmling	115.45	43	⇓PKiKP	PKiKP	01 49 42.2	-0.3
	baz=115						
I25A	Rochford	115.45	38	⇑PKiKP	PKiKP	01 49 42.1	-0.1
	baz=115						
I25A	Rochford	115.45	38	⇑PKiKP	PKiKP	01 49 42.1	-0.1
	baz=115						
F27A	Lemmon	115.51	36	⇓PKiKP	PKPdf	01 49 42.5	+0.5
	baz=115						
F27A	Lemmon	115.51	36	⇓PKiKP	PKPdf	01 49 42.5	+0.5
	baz=115						
N23A	Red Feather La	115.53	42	⇓PKiKP	PKiKP	01 49 42.5	0.0
	baz=116						
N23A	Red Feather La	115.53	42	⇓PKiKP	PKiKP	01 49 42.5	0.0
	baz=116						
S21A	Coal Bank Pass	115.65	46	⇓PKiKP	PKPdf	01 49 43.6	+0.7
	baz=116						
S21A	Coal Bank Pass	115.65	46	⇓PKiKP	PKPdf	01 49 43.6	+0.7
	baz=116						
J25A	Sunshine Ranch	115.72	39	⇑PKiKP	PKiKP	01 49 42.5	-0.2
	baz=116						
J25A	Sunshine Ranch	115.72	39	⇑PKiKP	PKiKP	01 49 42.5	-0.2
	baz=116						
H26A	Fairpoint	115.73	37	⇓PKiKP	PKPdf	01 49 42.7	+0.2
	baz=116						
H26A	Fairpoint	115.73	37	⇓PKiKP	PKPdf	01 49 42.7	+0.2
	baz=116						
SJPF	Ste Jean	115.73	321	*e*PKiKP	PKPdf	01 49 43.0	+0.5
G27A	Dupree	115.83	36	⇑PKiKP	PKiKP	01 49 42.5	-0.2
	baz=116						
G27A	Dupree	115.83	36	⇑PKiKP	PKiKP	01 49 42.5	-0.2
	baz=116						
O23A	Lake Granby, G	115.86	43	⇑PKiKP	PKiKP	01 49 43.2	-0.1
	baz=116						
O23A	Lake Granby, G	115.86	43	⇑PKiKP	PKiKP	01 49 43.2	-0.1
	baz=116						
T21A	Navajo Lake	116.11	47	⇑PKiKP	PKiKP	01 49 44.4	+0.7
	baz=116						
T21A	Navajo Lake	116.11	47	⇑PKiKP	PKiKP	01 49 44.4	+0.7
	baz=116						
W20A	Ramah	116.14	49	⇑PKiKP	PKiKP	01 49 44.5	+0.7
	baz=116						
W20A	Ramah	116.14	49	⇑PKiKP	PKiKP	01 49 44.5	+0.7
	baz=116						
ULM	Lac du Bonnet	116.23	29	PKKPbc	PKKPbc	02 00 17.5	+2.6
ULM	Lac du Bonnet	116.23	29	PKKPbc	PKKPbc	02 00 17.5	+2.6
	comp=Z,1.8nm,0.5s,baz=104,slow=1.3,SNR=3.6						
U21A	Nageezi	116.25	47	⇑PKiKP	PKiKP	01 49 44.9	+0.8
	baz=116						
U21A	Nageezi	116.25	47	⇑PKiKP	PKiKP	01 49 44.9	+0.8
	baz=116						
ISCO	Idaho Springs	116.25	43	⇑PKiKP	PKiKP	01 49 44.2	+0.2
	baz=116						
ISCO	Idaho Springs	116.25	43	⇑PKiKP	PKiKP	01 49 44.2	+0.2
	baz=116						
P23A	Jefferson	116.29	44	⇑PKiKP	PKiKP	01 49 45.0	+0.8
	baz=116						
P23A	Jefferson	116.29	44	⇑PKiKP	PKiKP	01 49 45.0	+0.8
	baz=116						
S22A	4UR Ranch, Cre	116.31	46	⇓PKiKP	PKiKP	01 49 44.7	+0.5
	baz=116						
S22A	4UR Ranch, Cre	116.31	46	⇓PKiKP	PKiKP	01 49 44.7	+0.5
	baz=116						
Z20A	Nine Sixteen R	116.83	51	⇓PKiKP	PKiKP	01 49 45.9	+0.7
	baz=117						
Z20A	Nine Sixteen R	116.83	51	⇓PKiKP	PKiKP	01 49 45.9	+0.7
	baz=117						
319A	Douglas	116.91	53	⇑PKiKP	PKiKP	01 49 46.0	+0.7
	baz=117						
319A	Douglas	116.91	53	⇑PKiKP	PKiKP	01 49 46.0	+0.7
	baz=117						
X21A	Alamocita Cree	116.94	50	⇓PKiKP	PKiKP	01 49 46.1	+0.6
	baz=117						
X21A	Alamocita Cree	116.94	50	⇓PKiKP	PKiKP	01 49 46.1	+0.6
	baz=117						
120A	U Bar Ranch, L	117.01	52	⇓PKiKP	PKiKP	01 49 46.4	+0.9
	baz=117						
120A	U Bar Ranch, L	117.01	52	⇓PKiKP	PKiKP	01 49 46.4	+0.9
	baz=117						
V22A	San Miguel Ran	117.01	48	⇑PKiKP	PKiKP	01 49 46.6	+1.0
	baz=117						
V22A	San Miguel Ran	117.01	48	⇑PKiKP	PKiKP	01 49 46.6	+1.0
	baz=117						
T23A	Casias Ranch,	117.18	46	⇓PKiKP	PKiKP	01 49 46.8	+1.0
	baz=117						
T23A	Casias Ranch,	117.18	46	⇓PKiKP	PKiKP	01 49 46.8	+1.0
	baz=117						
Y21A	Point of Rocks	117.20	50	⇓PKiKP	PKiKP	01 49 46.9	+0.9
	baz=117						
Y21A	Point of Rocks	117.20	50	⇓PKiKP	PKiKP	01 49 46.9	+0.9
	baz=117						
220A	Playas Peak, P	117.33	52	⇓PKiKP	PKPdf	01 49 46.0	-0.1
	baz=117						
220A	Playas Peak, P	117.33	52	⇓PKiKP	PKPdf	01 49 46.0	-0.1
	baz=117						
U23A	El Rito	117.37	47	⇑PKiKP	PKiKP	01 49 46.8	+0.6
	baz=117						
U23A	El Rito	117.37	47	⇑PKiKP	PKiKP	01 49 46.8	+0.6
	baz=117						
N26A	Koester Ranch,	117.37	41	⇓PKiKP	PKPdf	01 49 45.9	0.0
	baz=117						
N26A	Koester Ranch,	117.37	41	⇓PKiKP	PKPdf	01 49 45.9	0.0
	baz=117						
P25A	Willow Gulch B	117.37	43	⇑PKiKP	PKiKP	01 49 46.6	+0.6
	baz=117						
P25A	Willow Gulch B	117.37	43	⇑PKiKP	PKiKP	01 49 46.6	+0.6
	baz=117						
Z21A	St. Cloud Mine	117.47	51	⇑PKiKP	PKiKP	01 49 47.2	+0.8
	baz=117						
Z21A	St. Cloud Mine	117.47	51	⇑PKiKP	PKiKP	01 49 47.2	+0.8
	baz=117						
S24A	Houchin Ranch,	117.50	45	⇓PKiKP	PKPdf	01 49 46.2	-0.3
	baz=117						
S24A	Houchin Ranch,	117.50	45	⇓PKiKP	PKPdf	01 49 46.2	-0.3
	baz=117						
X22A	Bernardo	117.51	49	⇑PKiKP	PKiKP	01 49 47.5	+1.0
	baz=117						
X22A	Bernardo	117.51	49	⇑PKiKP	PKiKP	01 49 47.5	+1.0
	baz=117						
Q25A	Bedland, Calha	117.60	44	⇓PKiKP	PKiKP	01 49 47.2	+0.6
	baz=118						
Q25A	Bedland, Calha	117.60	44	⇓PKiKP	PKiKP	01 49 47.2	+0.6
	baz=118						
V23A	Ortiz Mt. (NFS	117.62	48	⇑PKiKP	PKiKP	01 49 47.5	+0.8
	baz=118						
V23A	Ortiz Mt. (NFS	117.62	48	⇑PKiKP	PKiKP	01 49 47.5	+0.8
	baz=118						
121A	Cookes Peak, D	117.68	52	⇓PKiKP	PKiKP	01 49 47.3	+0.5
	baz=118						
121A	Cookes Peak, D	117.68	52	⇓PKiKP	PKiKP	01 49 47.3	+0.5
	baz=118						
ANMO	Albuquerque	117.75	49	*e*PKPdf	PKPdf	01 49 47.6	+0.8
Y22A	Socorro	117.77	50	⇑PKiKP	PKiKP	01 49 47.5	+0.6
	baz=118						
Y22A	Socorro	117.77	50	⇑PKiKP	PKiKP	01 49 47.5	+0.6
	baz=118						
P26A	Davis Ranch, A	117.91	43	⇓PKiKP	PKiKP	01 49 47.4	+0.4
	baz=118						
P26A	Davis Ranch, A	117.91	43	⇓PKiKP	PKiKP	01 49 47.4	+0.4
	baz=118						
R25A	Fountain Ranch	117.93	44	⇑PKiKP	PKiKP	01 49 47.6	+0.4
	baz=118						
R25A	Fountain Ranch	117.93	44	⇑PKiKP	PKiKP	01 49 47.6	+0.4
	baz=118						
Z22A	Elephant Butte	118.04	50	⇓PKiKP	PKiKP	01 49 48.3	+0.8
	baz=118						
Z22A	Elephant Butte	118.04	50	⇓PKiKP	PKiKP	01 49 48.3	+0.8
	baz=118						
S25A	Robets Cordova	118.05	45	⇓PKiKP	PKiKP	01 49 47.9	+0.5
	baz=118						
S25A	Robets Cordova	118.05	45	⇓PKiKP	PKiKP	01 49 47.9	+0.5
	baz=118						
122A	Conniff Cattle	118.23	51	⇑PKiKP	PKiKP	01 49 48.5	+0.6
	baz=118						
122A	Conniff Cattle	118.23	51	⇑PKiKP	PKiKP	01 49 48.5	+0.6
	baz=118						
T25A	Trinidad	118.30	45	⇓PKiKP	PKiKP	01 49 48.4	+0.4
	baz=118						
T25A	Trinidad	118.30	45	⇓PKiKP	PKiKP	01 49 48.4	+0.4
	baz=118						
V24A	Rampart Ranch,	118.30	47	⇑PKiKP	PKiKP	01 49 48.6	+0.6
	baz=118						
V24A	Rampart Ranch,	118.30	47	⇑PKiKP	PKiKP	01 49 48.6	+0.6
	baz=118						
W24A	Lazy 6 Ranch,	118.42	48	⇓PKiKP	PKiKP	01 49 48.6	+0.3
	baz=118						
W24A	Lazy 6 Ranch,	118.42	48	⇓PKiKP	PKiKP	01 49 48.6	+0.3
	baz=118						
V25A	Rancho No Teng	118.73	47	⇓PKiKP	PKiKP	01 49 49.0	+0.2
	baz=119						
V25A	Rancho No Teng	118.73	47	⇓PKiKP	PKiKP	01 49 49.0	+0.2
	baz=119						
S26A	Kim	118.74	45	⇑PKiKP	PKiKP	01 49 48.7	0.0
	baz=119						
S26A	Kim	118.74	45	⇑PKiKP	PKiKP	01 49 48.7	0.0
	baz=119						
T26A	Comanche Natio	118.86	45	⇓PKiKP	PKiKP	01 49 49.5	+0.4
	baz=119						
T26A	Comanche Natio	118.86	45	⇓PKiKP	PKiKP	01 49 49.5	+0.4
	baz=119						
R27A	Eads	118.90	44	⇑PKiKP	PKiKP	01 49 49.1	+0.1
	baz=119						
R27A	Eads	118.90	44	⇑PKiKP	PKiKP	01 49 49.1	+0.1
	baz=119						
Y24A	Capitan	118.94	49	⇓PKiKP	PKiKP	01 49 49.6	+0.4
	baz=119						
Y24A	Capitan	118.94	49	⇓PKiKP	PKiKP	01 49 49.6	+0.4
	baz=119						
U26A	Atchley Ranch,	119.11	46	⇑PKiKP	PKiKP	01 49 49.6	+0.1
	baz=119						
U26A	Atchley Ranch,	119.11	46	⇑PKiKP	PKiKP	01 49 49.6	+0.1
	baz=119						
W25A	X Bar L Ranch,	119.12	47	⇑PKiKP	PKiKP	01 49 49.8	+0.3
	baz=119						
W25A	X Bar L Ranch,	119.12	47	⇑PKiKP	PKiKP	01 49 49.8	+0.3
	baz=119						
Q28A	Sharon Springs	119.18	42	⇑PKiKP	PKPdf	01 49 49.3	-0.1
	baz=119						
Q28A	Sharon Springs	119.18	42	⇑PKiKP	PKPdf	01 49 49.3	-0.1
	baz=119						
Z24A	Sheeppen Canyo	119.24	50	⇓PKiKP	PKiKP	01 49 50.2	+0.3
	baz=119						
Z24A	Sheeppen Canyo	119.24	50	⇓PKiKP	PKiKP	01 49 50.2	+0.3
	baz=119						
ESDC	Sonseca Array	119.25	318	PKP	PKPdf	01 49 49.7	+0.2
ESDC				PP	PP	01 51 09.7	-1.2
ESDC				PKKPbc	PKKPbc	02 00 03.0	-0.8
ESDC	Sonseca Array	119.25	318	PKP	PKPdf	01 49 49.7	+0.2
	comp=Z,0.1nm,0.2s,baz=25,slow=3.1,SNR=5.2						
ESDC				PP	PP	01 51 09.7	-1.2
	comp=Z,0.1nm,0.3s,baz=69,slow=7.3,SNR=4.2						
ESDC				PKKPbc	PKKPbc	02 00 03.0	-0.8
	comp=Z,0.2nm,0.3s,baz=251,slow=3.8,SNR=5.3						
V26A	Tequesquite Ra	119.35	47	⇓PKiKP	PKPdf	01 49 49.6	-0.3
	baz=119						
V26A	Tequesquite Ra	119.35	47	⇓PKiKP	PKPdf	01 49 49.6	-0.3
	baz=119						
124A	Stringfield Ra	119.42	50	⇑PKiKP	PKiKP	01 49 50.4	+0.2
	baz=119						
124A	Stringfield Ra	119.42	50	⇑PKiKP	PKiKP	01 49 50.4	+0.2
	baz=119						
Y25A	Mesa, Roswell	119.50	49	⇓PKiKP	PKPdf	01 49 50.3	+0.1
	baz=119						
Y25A	Mesa, Roswell	119.50	49	⇓PKiKP	PKPdf	01 49 50.3	+0.1
	baz=119						
R28A	Tribune	119.55	43	⇓PKiKP	PKPdf	01 49 50.1	0.0
	baz=120						
R28A	Tribune	119.55	43	⇓PKiKP	PKPdf	01 49 50.1	0.0
	baz=120						
224A	Cornudas Mount	119.62	51	⇑PKiKP	PKPdf	01 49 50.5	0.0
	baz=120						
224A	Cornudas Mount	119.62	51	⇑PKiKP	PKPdf	01 49 50.5	0.0
	baz=120						
W26A	Owens Ranch, T	119.68	47	⇓PKiKP	PKPdf	01 49 50.6	0.0
	baz=120						
W26A	Owens Ranch, T	119.68	47	⇓PKiKP	PKPdf	01 49 50.6	0.0
	baz=120						
Z25A	Roswell	119.75	50	⇑PKiKP	PKPdf	01 49 50.8	+0.1
	baz=120						
Z25A	Roswell	119.75	50	⇑PKiKP	PKPdf	01 49 50.8	+0.1
	baz=120						
U27A	Thompson Grove	119.76	46	⇑PKiKP	PKPdf	01 49 50.4	-0.2
	baz=120						
U27A	Thompson Grove	119.76	46	⇑PKiKP	PKPdf	01 49 50.4	-0.2
	baz=120						
Q29A	Oakley	119.84	42	⇓PKiKP	PKPdf	01 49 50.4	-0.2
	baz=120						
Q29A	Oakley	119.84	42	⇓PKiKP	PKPdf	01 49 50.4	-0.2
	baz=120						
S28A	Manter	119.86	44	⇓PKiKP	PKPdf	01 49 50.7	-0.1
	baz=120						
S28A	Manter	119.86	44	⇓PKiKP	PKPdf	01 49 50.7	-0.1
	baz=120						
MNTX	Cornudas Mount	119.88	52	*e*PKPdf	PKPdf	01 49 51.3	+0.5
X26A	CR and CF Fran	119.89	48	⇓PKiKP	PKPdf	01 49 50.6	-0.3
	baz=120						
X26A	CR and CF Fran	119.89	48	⇓PKiKP	PKPdf	01 49 50.6	-0.3
	baz=120						
ECSD	EROS Data Cent	119.89	36	*e*PKPdf	PKPdf	01 49 49.8	-0.8
324A	Moseley Ranch,	119.90	52	⇓PKiKP	PKPdf	01 49 51.1	0.0
	baz=120						
324A	Moseley Ranch,	119.90	52	⇓PKiKP	PKPdf	01 49 51.1	0.0
	baz=120						
T28A	Walsh	119.93	45	⇑PKiKP	PKPdf	01 49 50.8	-0.1
	baz=120						
T28A	Walsh	119.93	45	⇑PKiKP	PKPdf	01 49 50.8	-0.1
	baz=120						
R29A	Marienthal	119.97	43	⇑PKiKP	PKiKP	01 49 51.0	0.0
	baz=120						
R29A	Marienthal	119.97	43	⇑PKiKP	PKiKP	01 49 51.0	0.0
	baz=120						
125A	Gardner Draw,	120.05	50	⇓PKiKP	PKPdf	01 49 51.3	0.0
	baz=120						
125A	Gardner Draw,	120.05	50	⇓PKiKP	PKPdf	01 49 51.3	0.0
	baz=120						
W27A	Bowe Ranch, En	120.21	47	⇓PKiKP	PKiKP	01 49 51.6	0.0
	baz=120						
W27A	Bowe Ranch, En	120.21	47	⇓PKiKP	PKiKP	01 49 51.6	0.0
	baz=120						
Q30A	Quinter	120.30	42	⇓PKiKP	PKiKP	01 49 51.6	0.0
	baz=120						
Q30A	Quinter	120.30	42	⇓PKiKP	PKiKP	01 49 51.6	0.0
	baz=120						
Z26A	Caprock	120.31	49	⇑PKiKP	PKPdf	01 49 51.5	-0.3
	baz=120						
Z26A	Caprock	120.31	49	⇑PKiKP	PKPdf	01 49 51.5	-0.3
	baz=120						
325A	Bean Ranch, Si	120.33	52	⇑PKiKP	PKPdf	01 49 51.6	-0.3
	baz=120						
325A	Bean Ranch, Si	120.33	52	⇑PKiKP	PKPdf	01 49 51.6	-0.3
	baz=120						
126A	Clayton Basin,	120.55	50	⇓PKiKP	PKPdf	01 49 52.0	-0.2
	baz=120						
126A	Clayton Basin,	120.55	50	⇓PKiKP	PKPdf	01 49 52.0	-0.2
	baz=120						
425A	Indio Mountain	120.55	52	⇑PKiKP	PKPdf	01 49 52.2	-0.1
	baz=120						
425A	Indio Mountain	120.55	52	⇑PKiKP	PKPdf	01 49 52.2	-0.1
	baz=120

T31A	Randall Ranch, baz=122	121.64	43	⇓PKiKP	PKiKP	01 49 54.3	+0.1
T31A	Randall Ranch, baz=122	121.64	43	⇓PKiKP	PKiKP	01 49 54.3	+0.1
626A	Big Bend Ranch baz=122	121.71	53	⇑PKiKP	PKPdf	01 49 54.3	-0.3
626A	Big Bend Ranch baz=122	121.71	53	⇑PKiKP	PKPdf	01 49 54.3	-0.3
128A	Castleberry Fa baz=122	121.73	49	⇓PKiKP	PKPdf	01 49 54.2	-0.3
128A	Castleberry Fa baz=122	121.73	49	⇓PKiKP	PKPdf	01 49 54.2	-0.3
427A	Hayter Ranch, baz=122	121.77	52	⇑PKiKP	PKPdf	01 49 54.4	-0.2
427A	Hayter Ranch, baz=122	121.77	52	⇑PKiKP	PKPdf	01 49 54.4	-0.2
Y29A	Porterfield Fa baz=122	121.78	48	⇓PKiKP	PKPdf	01 49 54.4	-0.1
Y29A	Porterfield Fa baz=122	121.78	48	⇓PKiKP	PKPdf	01 49 54.4	-0.1
228A	UT Block 9, Go baz=122	121.86	50	⇑PKiKP	PKPdf	01 49 54.8	0.0
228A	UT Block 9, Go baz=122	121.86	50	⇑PKiKP	PKPdf	01 49 54.8	0.0
527A	Woodward Ranch baz=122	121.89	52	⇑PKiKP	PKPdf	01 49 54.6	-0.4
527A	Woodward Ranch baz=122	121.89	52	⇑PKiKP	PKPdf	01 49 54.6	-0.4
328A	Wristen Ranch, baz=122	122.01	51	⇑PKiKP	PKPdf	01 49 54.6	-0.4
328A	Wristen Ranch, baz=122	122.01	51	⇑PKiKP	PKPdf	01 49 54.6	-0.4
Z29A	Hungry Hill Ra baz=122	122.03	48	⇑PKiKP	PKPdf	01 49 54.7	-0.4
Z29A	Hungry Hill Ra baz=122	122.03	48	⇑PKiKP	PKPdf	01 49 54.7	-0.4
PBAR	Barrancos	122.07	318	*e*PKP	PKPdf	01 49 55.5	+0.7
X30A	Coker Ranch, T baz=122	122.09	47	⇑PKiKP	PKPdf	01 49 54.8	-0.2
X30A	Coker Ranch, T baz=122	122.09	47	⇑PKiKP	PKPdf	01 49 54.8	-0.2
TXAR	Lajitas Array	122.17	53	PKP	PKPdf	01 49 55.5	+0.1
TXAR				PKKPab	PKKPab	01 59 53.5	+0.6
TXAR	Lajitas Array	122.17	53	PKP	PKPdf	01 49 55.5	+0.1
	comp=Z,2.1nm,0.8s,baz=222,slow=1.7,SNR=23						
TXAR				PKKPab	PKKPab	01 59 53.5	+0.6
	comp=Z,1.2nm,0.7s,baz=108,slow=4.1,SNR=17						
129A	Stewart Farms, baz=122	122.19	49	⇑PKiKP	PKPdf	01 49 54.9	-0.4
129A	Stewart Farms, baz=122	122.19	49	⇑PKiKP	PKPdf	01 49 54.9	-0.4
SCHQ	Schefferville	122.25	10	PKP	PKPdf	01 49 54.3	-0.4
SCHQ	Schefferville	122.25	10	PKP	PKPdf	01 49 54.3	-0.4
	comp=Z,4.7nm,0.6s,baz=301,slow=1.8,SNR=6.8						
Y30A	Stafford Cattl baz=122	122.34	47	⇑PKiKP	PKPdf	01 49 55.4	-0.1
Y30A	Stafford Cattl baz=122	122.34	47	⇑PKiKP	PKPdf	01 49 55.4	-0.1
627A	Terlingua Ranc baz=122	122.35	53	⇑PKiKP	PKPdf	01 49 55.7	-0.1
627A	Terlingua Ranc baz=122	122.35	53	⇑PKiKP	PKPdf	01 49 55.7	-0.1
COWI	Conover	122.35	29	*e*PKPdf	PKPdf	01 49 54.9	-0.3
428A	Kincaid Ranch, baz=122	122.39	51	⇑PKiKP	PKiKP	01 49 55.9	-0.1
428A	Kincaid Ranch, baz=122	122.39	51	⇑PKiKP	PKiKP	01 49 55.9	-0.1
W31A	Holland Ranch, baz=122	122.41	46	⇑PKiKP	PKiKP	01 49 55.9	0.0
W31A	Holland Ranch, baz=122	122.41	46	⇑PKiKP	PKiKP	01 49 55.9	0.0
Z30A	Sanderson Ranc baz=122	122.45	48	⇑PKiKP	PKPdf	01 49 55.4	-0.4
Z30A	Sanderson Ranc baz=122	122.45	48	⇑PKiKP	PKPdf	01 49 55.4	-0.4
EVO	Evora	122.52	319	*e*PKP	PKPdf	01 49 55.5	-0.2
229A	Bryant Ranch, baz=122	122.53	50	⇑PKiKP	PKPdf	01 49 55.7	-0.3
229A	Bryant Ranch, baz=122	122.53	50	⇑PKiKP	PKPdf	01 49 55.7	-0.3
KSU1	Kansas State U	122.60	40	*e*PKPdf	PKPdf	01 49 55.9	0.0
329A	Wagon Wheel Ra baz=122	122.61	50	⇑PKiKP	PKPdf	01 49 56.1	-0.1
329A	Wagon Wheel Ra baz=122	122.61	50	⇑PKiKP	PKPdf	01 49 56.1	-0.1
X31A	McDonald Ranch baz=123	122.65	46	⇓PKiKP	PKPdf	01 49 55.9	-0.2
X31A	McDonald Ranch baz=123	122.65	46	⇓PKiKP	PKPdf	01 49 55.9	-0.2
628A	Black Gap, Mar baz=123	122.73	53	⇓PKiKP	PKPdf	01 49 56.2	-0.3
628A	Black Gap, Mar baz=123	122.73	53	⇓PKiKP	PKPdf	01 49 56.2	-0.3
Y31A	Rekieta Farm, baz=123	122.77	47	⇓PKiKP	PKPdf	01 49 56.1	-0.3
Y31A	Rekieta Farm, baz=123	122.77	47	⇓PKiKP	PKPdf	01 49 56.1	-0.3
130A	Snyder baz=123	122.89	49	⇑PKiKP	PKPdf	01 49 56.3	-0.3
130A	Snyder baz=123	122.89	49	⇑PKiKP	PKPdf	01 49 56.3	-0.3
529A	Stev Forest Ra baz=123	123.00	52	⇓PKiKP	PKPdf	01 49 56.8	-0.1
529A	Stev Forest Ra baz=123	123.00	52	⇓PKiKP	PKPdf	01 49 56.8	-0.1
MDT	Midelt	123.04	312	PKP	PKPdf	01 49 57.4	+0.4
MDT	Midelt	123.04	312	PKP	PKPdf	01 49 57.4	+0.4
	comp=Z,2.0nm,0.7s,baz=56,slow=4.1,SNR=5.9						
429A	Davenport Ranc baz=123	123.05	51	⇑PKiKP	PKPdf	01 49 56.8	-0.2
429A	Davenport Ranc baz=123	123.05	51	⇑PKiKP	PKPdf	01 49 56.8	-0.2
230A	Sterling City baz=123	123.09	50	⇑PKiKP	PKPdf	01 49 56.7	-0.4
230A	Sterling City baz=123	123.09	50	⇑PKiKP	PKPdf	01 49 56.7	-0.4
Z31A	Sharp Cattle R baz=123	123.16	48	⇓PKiKP	PKPdf	01 49 56.8	-0.4
Z31A	Sharp Cattle R baz=123	123.16	48	⇓PKiKP	PKPdf	01 49 56.8	-0.4
330A	Mertzon baz=123	123.26	50	⇓PKiKP	PKPdf	01 49 56.8	-0.6
330A	Mertzon baz=123	123.26	50	⇓PKiKP	PKPdf	01 49 56.8	-0.6
131A	Roby baz=123	123.28	48	⇑PKiKP	PKPdf	01 49 56.9	-0.5
131A	Roby baz=123	123.28	48	⇑PKiKP	PKPdf	01 49 56.9	-0.5
Y32A	R-V Farms, Ver baz=123	123.35	46	⇓PKiKP	PKPdf	01 49 57.1	-0.3
Y32A	R-V Farms, Ver baz=123	123.35	46	⇓PKiKP	PKPdf	01 49 57.1	-0.3
WMOK	Wichita Mounta	123.46	45	*e*PKIKP	PKPdf	01 49 57.3	-0.4
WMOK	Wichita Mounta	123.46	45	*e*PKPdf	PKPdf	01 49 57.3	-0.4
430A	Baggett Ranch, baz=123	123.49	51	⇓PKiKP	PKPdf	01 49 57.7	-0.2
430A	Baggett Ranch, baz=123	123.49	51	⇓PKiKP	PKPdf	01 49 57.7	-0.2
Z32A	Haskell baz=124	123.66	47	⇓PKiKP	PKPdf	01 49 58.2	+0.1
Z32A	Haskell baz=124	123.66	47	⇓PKiKP	PKPdf	01 49 58.2	+0.1
231A	Bronte baz=124	123.68	49	⇓PKiKP	PKPdf	01 49 57.7	-0.5
231A	Bronte baz=124	123.68	49	⇓PKiKP	PKPdf	01 49 57.7	-0.5
530A	J-C Ranch, Com baz=124	123.68	51	⇑PKiKP	PKPdf	01 49 58.3	0.0
530A	J-C Ranch, Com baz=124	123.68	51	⇑PKiKP	PKPdf	01 49 58.3	0.0
ABTX	Abilene, Hawle baz=124	123.86	48	⇑PKiKP	PKPdf	01 49 58.3	-0.2
ABTX	Abilene, Hawle baz=124	123.86	48	⇑PKiKP	PKPdf	01 49 58.3	-0.2
331A	San Angelo baz=124	123.88	50	⇓PKiKP	PKPdf	01 49 58.1	-0.4
331A	San Angelo baz=124	123.88	50	⇓PKiKP	PKPdf	01 49 58.1	-0.4
431A	Sonora baz=124	124.02	51	⇓PKiKP	PKPdf	01 49 58.5	-0.3
431A	Sonora baz=124	124.02	51	⇓PKiKP	PKPdf	01 49 58.5	-0.3
TOA0	Torodi Ar. Sit	124.09	287	*e*PKPdf	PKPdf	01 49 59.2	-0.1
TORD	Torodi Ar. Bea	124.09	287	PKP	PKPdf	01 49 59.0	-0.3
TORD				PP	PP	01 51 48.0	+3.2
TORD				SKP		01 53 25.0	
TORD				PKKPbc	PKKPab	01 59 44.8	0.0
	comp=Z,5.3nm,0.4s,baz=58,slow=2.0,SNR=59						
TORD				PP	PP	01 51 48.0	+3.2
	comp=Z,3.4nm,1.0s,baz=72,slow=4.2,SNR=4.6						
TORD				SKP		01 53 25.0	
	comp=Z,2.8nm,0.8s,baz=63,slow=1.8,SNR=5.2						
TORD				PKKPbc	PKKPab	01 59 44.8	0.0
	comp=Z,1.9nm,0.8s,baz=250,slow=2.9,SNR=8.0						
232A	Coleman baz=124	124.20	49	⇑PKiKP	PKPdf	01 49 58.9	-0.3
232A	Coleman baz=124	124.20	49	⇑PKiKP	PKPdf	01 49 58.9	-0.3
531A	Rocksprings baz=124	124.29	51	⇓PKiKP	PKPdf	01 49 59.2	-0.2
531A	Rocksprings baz=124	124.29	51	⇓PKiKP	PKPdf	01 49 59.2	-0.2
332A	Millersview baz=124	124.36	49	⇓PKiKP	PKPdf	01 49 59.3	-0.2
332A	Millersview baz=124	124.36	49	⇓PKiKP	PKPdf	01 49 59.3	-0.2
432A	Menard baz=124	124.56	50	⇓PKiKP	PKPdf	01 49 59.5	-0.4
432A	Menard baz=124	124.56	50	⇓PKiKP	PKPdf	01 49 59.5	-0.4
631A	Perdido Creek baz=124	124.60	52	⇓PKiKP	PKPdf	01 49 59.7	-0.3
631A	Perdido Creek baz=124	124.60	52	⇓PKiKP	PKPdf	01 49 59.7	-0.3
JCT	Junction City	124.73	50	*e*PKIKP	PKPdf	01 50 00.3	0.0
JCT	Junction City	124.73	50	*e*PKPdf	PKPdf	01 50 00.2	0.0
JCT	Junction City baz=125	124.73	50	⇓PKiKP	PKPdf	01 50 00.1	-0.2
JCT	Junction City baz=125	124.73	50	⇓PKiKP	PKPdf	01 50 00.1	-0.2
532A	Rocksprings baz=125	124.81	51	⇓PKiKP	PKPdf	01 50 00.1	-0.3
532A	Rocksprings baz=125	124.81	51	⇓PKiKP	PKPdf	01 50 00.1	-0.3
TUL1	Tulsa baz=125	124.92	43	⇓PKiKP	PKPdf	01 50 00.0	-0.4
TUL1	Tulsa baz=125	124.92	43	⇓PKiKP	PKPdf	01 50 00.0	-0.4
632A	Uvalde baz=125	125.17	51	⇓PKiKP	PKPdf	01 50 01.1	0.0
632A	Uvalde baz=125	125.17	51	⇓PKiKP	PKPdf	01 50 01.1	0.0
732A	Laxson Ranch, baz=125	125.37	52	⇓PKiKP	PKPdf	01 50 01.4	0.0
732A	Laxson Ranch, baz=125	125.37	52	⇓PKiKP	PKPdf	01 50 01.4	0.0
WHTX	Lake Whitney	125.79	48	*e*PKPdf	PKPdf	01 50 02.4	+0.3
WHTX	Lake Whitney baz=126	125.79	48	⇑PKiKP	PKPdf	01 50 02.1	0.0
WHTX	Lake Whitney baz=126	125.79	48	⇑PKiKP	PKPdf	01 50 02.1	0.0
MIAR	Mount Ida	127.18	43	*e*PKIKP	PKPdf	01 50 05.2	+0.5
MIAR	Mount Ida	127.18	43	*e*PKPdf	PKPdf	01 50 05.2	+0.5
SFIN	Scholer Farm baz=127	127.45	33	⇓PKiKP	PKPdf	01 50 04.7	-0.4
SFIN	Scholer Farm baz=127	127.45	33	⇓PKiKP	PKPdf	01 50 04.7	-0.4
WVT	Waverly	129.91	37	*e*PKIKP	PKPdf	01 50 08.8	-1.1
WVT	Waverly	129.91	37	*e*PKPdf	PKPdf	01 50 08.8	-1.1
NCB	Newcomb	130.39	20	*e*PKPdf	PKPdf	01 50 11.1	+0.5
BINY	Binghamton	131.27	23	*e*PKPdf	PKPdf	01 50 12.4	+0.1
KIC	Kosan Boka	131.50	280	*e*PKIKP	PKPdf	01 50 13.9	+0.4
	comp=Z,20nm,0.7s						
DBIC	Dimbokro	131.57	281	PKP	PKPdf	01 50 14.2	+0.6
DBIC				SKPbc	SKPbc	01 53 29.9	+0.1
DBIC	Dimbokro	131.57	281	PKP	PKPdf	01 50 14.2	+0.6
	comp=Z,7.5nm,0.8s,baz=98,slow=4.2,SNR=9.9						
DBIC				SKPbc	SKPbc	01 53 29.9	+0.1
	comp=Z,40nm,0.9s,baz=75,slow=4.2,SNR=24						
TIC	Toumodi	131.74	281	*e*PKIKP	PKPdf	01 50 14.2	+0.2
	comp=Z,41nm,1.0s						
SSPA	Standing Stone	131.79	26	*e*PKPdf	PKPdf	01 50 13.4	+0.1
LIC	Lamto	131.81	280	⇑*e*PKIKP	PKPdf	01 50 14.4	+0.3
	comp=Z,14nm,0.5s						
LIC	Lamto	131.81	280	*e*PKIKP	PKPdf	01 50 14.4	+0.3
	comp=Z,26nm,0.5s						
TKL	Tuckaleechee C	132.63	35	*e*PKPdf	PKPdf	01 50 14.7	-0.4
BLA	Blacksburg	133.31	31	*e*PKIKP	PKPdf	01 50 16.7	+0.3
BLA	Blacksburg	133.31	31	*e*PKPdf	PKPdf	01 50 16.6	+0.3
KMSC	Kings Mountain baz=134	134.38	33	⇓PKiKP	PKPdf	01 50 18.4	+0.1
KMSC	Kings Mountain baz=134	134.38	33	⇓PKiKP	PKPdf	01 50 18.4	+0.1
PLCA	Paso Flores	138.08	159	PKP	PKPdf	01 50 24.9	-0.2
PLCA				SKPbc	SKPbc	01 53 49.9	0.0
PLCA	Paso Flores	138.08	159	PKP	PKPdf	01 50 24.9	-0.2
	comp=Z,3.8nm,0.8s,baz=223,slow=5.2,SNR=7.9						
PLCA				SKPbc	SKPbc	01 53 49.9	0.0
	comp=Z,3.0nm,0.7s,baz=205,slow=3.3,SNR=7.5						
JTS	JuntasAbangare	145.61	69	*e*PKPdf	PKPbc	01 50 39.6	0.0
JTS				*e*PKPbc	PKPab	01 50 39.9	-0.1
CFAA	Coronel Fontan	146.99	155	PKPbc	PKPdf	01 50 41.5	+0.3
CFAA	Coronel Fontan	146.99	155	PKPbc	PKPdf	01 50 41.5	+0.3
	comp=Z,3.2nm,0.6s,baz=234,slow=3.3,SNR=34						
LCO	Las Campanas	148.01	149	*e*PKPbc	PKPbc	01 50 45.8	-0.6
BCIP	Isla Barro Col	150.73	67	*e*PKPbc	PKPbc	01 50 52.6	-0.6
ATAH	Atahualpa	153.79	102	PKPbc	PKPbc	01 51 02.0	+1.4
ATAH				PKPab	PKPab	01 51 15.4	+1.5
ATAH	Atahualpa	153.79	102	PKPbc	PKPbc	01 51 02.0	+1.4
	comp=Z,9.7nm,0.7s,baz=209,slow=5.2,SNR=6.6						
ATAH				PKPab	PKPab	01 51 15.4	+1.5
	comp=Z,19nm,0.9s,baz=145,slow=22,SNR=8.0						
ROSC	El Rosal	157.29	73	PKP	PKPdf	01 50 56.8	-0.5
ROSC				PKPab	PKPab	01 51 29.5	+0.6
ROSC	El Rosal	157.29	73	PKP	PKPdf	01 50 56.8	-0.5
	comp=Z,1.8nm,0.3s,baz=263,slow=23,SNR=3.7						
ROSC				PKPab	PKPab	01 51 29.5	+0.6
	comp=Z,3.3nm,0.5s,baz=88,slow=22,SNR=4.4						
LPAZ	La Paz	159.08	134	*e*PKPdf	PKPdf	01 50 59.5	-0.2
LPAZ				PKP	PKPdf	01 50 59.7	0.0
LPAZ				PKPab	PKPab	01 51 37.2	+0.6
LPAZ	La Paz	159.08	134	PKP	PKPdf	01 50 59.7	0.0
	comp=Z,3.5nm,1.0s,baz=212,slow=2.1,SNR=9.9						
LPAZ				PKPab	PKPab	01 51 37.2	+0.6
	comp=Z,14nm,0.9s,baz=223,slow=1.2,SNR=14						
SIV	San Ignacio	163.71	150	PKP	PKPdf	01 51 03.9	+0.1
SIV				PKPab	PKPab	01 51 55.8	-0.3
SIV	San Ignacio	163.71	150	PKP	PKPdf	01 51 03.9	+0.1
	comp=Z,3.3nm,0.9s,baz=204,slow=1.3,SNR=9.8						
SIV				PKPab	PKPab	01 51 55.8	-0.3
	comp=Z,14nm,0.9s,baz=223,slow=3.6,SNR=23						
BDFB	Brasilia	165.62	198	PKP	PKPdf	01 51 05.0	-0.5
BDFB				PKPab	PKPab	01 52 04.4	-0.1
BDFB	Brasilia	165.62	198	PKP	PKPdf	01 51 05.0	-0.5
	comp=Z,5.5nm,0.9s,baz=35,slow=4.6,SNR=6.5						
BDFB				PKPab	PKPab	01 52 04.4	-0.1
	comp=Z,7.7nm,1.0s,baz=147,slow=4.5,SNR=5.3						
SAML	Samuel	167.37	124	*e*PKPdf	PKPdf	01 51 06.6	-0.2
SAML				*e*PKPab	PKPab	01 52 11.7	-0.8

IDC 18 01:31:34.5±10.0, 3°82S×141°73E, h0km, mb3.9/2, mb1 4.2/4, mb1mx4.1/18, mbtmp4.1/4, ML4.1/2, Error ellipse: s-maj=147.8km s-min=43.6km az=8.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.74	136	Pn	Pn	01 33 29.9	+1.4
	2.7nm,0.3s,baz=335,slow=4.6,SNR=3.5						
PMG				Sn	Sn	01 34 56.5	-0.4
	1.2nm,0.3s,baz=320,slow=19,SNR=2.9						
WRA	Warramunga Arr	17.57	204	P	Pn	01 35 41.4	+0.3
	1.9nm,0.3s,baz=26,slow=11,SNR=15						
ASAR	Alice Springs	21.12	200	P	P	01 36 21.2	+0.1
	2.3nm,0.5s,baz=29,slow=11,SNR=23						
STKA	Stephens Creek	27.91	180	P	P	01 37 25.9	-0.5
	0.9nm,0.4s,baz=353,slow=12,SNR=4.4						

*IDC **18** 01:32:06.6±1.8, 22°94N×123°65E, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.6/22, mbtmp3.8/2, ML5.3/1, Error ellipse: s-maj=53.9km s-min=38.9km az=86.0*
*JMA **18** 01:32:12.6±0.3, 23°42N×123°54E, h38km±4km, M3.0*
ISC 18 01:32:10.0±3.1, 23°34N±0°10×123°63E±0°07, h14km±15km, n14, σ1°904/19, mb3.6/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.73	12	P	Pn	01 32 25.6	-0.3
HATJ				*e*S	Sg	01 32 35.2	+1.2
JKRS	Kuro-shima	0.96	21	P	Pn	01 32 29.6	+0.5
JKRS				*e*S	Sg	01 32 41.5	+0.3
IRIF	Iriomote-Funau	1.00	5	P	Pn	01 32 29.4	-0.2
IRIF				*e*S	Sb	01 32 41.5	-0.6
JIJ	Ishigaki jima	1.12	24	P	Pn	01 32 31.5	+0.2
JIJ				*e*S	Sb	01 32 44.7	-1.0
YOJ	Yonaguni jima	1.26	333	P	Pn	01 32 32.6	-0.5
YOJ				*e*S	Sb	01 32 46.9	-2.6
JTJ	Tarama	1.63	37	P	Pb	01 32 39.4	-0.4
JTJ				*e*S	Sn	01 32 59.2	+0.3
JMJ	Miyako jima 2	2.11	46	*e*S	Sn	01 33 11.8	+0.8
JKE	Kume jima 2	4.13	43	P	Pn	01 33 12.1	-0.6
JOW	Kunigami	5.46	49	P	Pn	01 33 30.1	-0.9
JMZ	Minamidaito 2	7.33	69	P	Pn	01 33 55.2	-1.5
TGY	Tagaytay City	9.53	196	Pn	Pn	01 34 20.1	-6.9
	34nm,0.3s,baz=41,slow=9.3,SNR=2.4						
MKAR	Makanchi Array	40.51	316	P	P	01 39 49.4	+0.8
	0.1nm,0.5s,baz=111,slow=7.4,SNR=2.7						
GERES	GERESS Array B	84.91	321	P	P	01 44 45.6	+0.9
	0.2nm,0.5s,baz=54,slow=5.1,SNR=3.8						
NVAR	Mina Array Bea	95.50	44	P	P	01 45 35.0	-0.1
	0.3nm,0.5s,baz=292,slow=7.4,SNR=3.1						

*IDC **18** 01:46:00.7±0.9, 23°61N×123°63E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, MS4.2/1, Ms1 4.2/1, ms1mx3.0/30, Error ellipse: s-maj=35.9km s-min=18.5km az=68.0*
*JMA **18** 01:46:03.8±0.2, 23°43N×123°56E, h47km±3km, M3.4*
ISC 18 01:46:01.3±2.2, 23°49N±0°08×123°63E±0°06, h7km±12km, n18, σ0°87/26, mb3.8/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.59	16	P	Pn	01 46 16.9	+0.8
HATJ				S	Sn	01 46 26.3	+0.3
JKRS	Kuro-shima	0.82	25	P	Pn	01 46 20.5	+1.1
JKRS				S	Sn	01 46 32.8	+1.0
IRIF	Iriomote-Funau	0.84	6	P	Pn	01 46 20.5	+0.8
IRIF				*e*S	Sn	01 46 32.6	+0.2
JIJ	Ishigaki jima	0.99	28	P	Pn	01 46 22.4	+0.7
JIJ				S	Sn	01 46 36.0	+0.1
YOJ	Yonaguni jima	1.12	330	P	Pn	01 46 23.9	+0.4
YOJ				S	Sb	01 46 38.3	+0.4
JTJ	Tarama	1.51	40	P	Pg	01 46 30.3	0.0
JTJ				*e*S	Sg	01 46 50.5	+0.7
JMJ	Miyako jima 2	2.01	49	P	Pb	01 46 37.5	-0.8
JMJ				*e*S	Sb	01 47 02.9	-0.6
JKE	Kume jima 2	4.02	45	P	Pn	01 47 03.1	-0.3
JKE				*e*S	Sn	01 47 52.0	+1.2
SONM	Songino Array	27.91	335	P	P	01 51 52.1	-0.1
	0.2nm,0.4s,baz=144,slow=5.2,SNR=2.7						
PETK	Petropavlovsk-	39.22	32	P	P	01 53 28.6	-1.6
	1.3nm,0.7s,baz=132,slow=4.3,SNR=4.6						
MKAR	Makanchi Array	40.40	316	P	P	01 53 38.7	-1.4
	0.5nm,0.7s,baz=97,slow=12,SNR=3.2						
ZALV	Zalesovo Beam	42.05	326	P	P	01 53 52.7	-0.8
	0.8nm,0.4s,baz=113,slow=8.8,SNR=2.1						
WRA	Warramunga Arr	44.41	166	P	P	01 54 13.2	+0.2
	1.8nm,0.8s,baz=347,slow=9.1,SNR=5.8						
ASAR	Alice Springs	47.93	167	P	P	01 54 42.5	+1.8
	0.5nm,0.6s,baz=352,slow=15,SNR=8.5						
ASAR				LR	LR	02 13 28.3	
	comp=Z,245nm,19.4s,baz=335,slow=34						
BVAR	Borovoye Array	49.63	321	P	P	01 54 53.5	+0.1
	0.4nm,0.5s,baz=120,slow=10,SNR=2.8						
ILAR	Eielson Array	68.80	27	P	P	01 57 06.5	+0.5
	0.3nm,0.5s,baz=262,slow=5.6,SNR=5.8						
FINES	FINESS Array B	73.17	330	P	P	01 57 32.0	-0.5
	0.9nm,0.6s,baz=64,slow=4.4,SNR=5.7						
GERES	GERESS Array B	84.79	321	P	P	01 58 37.2	+0.6
	0.4nm,0.7s,baz=52,slow=5.2,SNR=4.5						

*BJI **18** 01:47:49.2, 23°44N×123°70E, h6km, mB5.0/38, mb4.7/46, Ms5.0/56, Ms7 5.0/52*
*IDC **18** 01:47:50.2±0.4, 23°48N×123°57E, h0km, mb4.5/40, mb1 4.6/43, mb1mx4.6/46, mbtmp4.5/43, ML4.0/3, MS4.4/15, Ms1 4.4/15, ms1mx4.3/32, Error ellipse: s-maj=12.7km s-min=9.8km az=73.0*
*ISCJB **18** 01:47:51.4±0.8, 23°44N±0°02×123°55E±0°02, h15km±4km, mb4.9/204, MS4.8/42, Error ellipse: s-maj=3.1km s-min=2.5km az=34.6*
*NEIC **18** 01:47:52.2±0.1, 23°47N×123°54E, h10km, mb5.2/60, MW5.0(NIED), Error ellipse: s-maj=4.2km s-min=3.5km az=160.0*
NEIC Recorded [1 JMA] on Hateruma-jima.
*JMA **18** 01:47:53.1±0.3, 23°42N×123°56E, h46km±4km, M5.3*
JMA Felt I J1.
*TEH **18** 01:47:53.0, 23°49N×123°49E, h10km, ML5.3*
*MOS **18** 01:47:54.2±1.1, 23°54N×123°60E, h33km, mb5.3/59, MS4.8/17, Error ellipse: s-maj=7.9km s-min=4.5km az=116.2*
*BKK **18** 01:47:54.3±0.4, 24°N±5°×12°4E±°, h10km, M4.9/21, mB5.4/12, mb4.9/21, MLv4.8/1, Mw(mB)4.9/12*
*GCMT **18** 01:47:55.0±0.2, 23°38N×123°43E, h12km±1km, MW5.0, Moment Tensor Solution. s34,c42; s77,c121; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.21; $M_{\theta\theta}$4.55±.15; $M_{\phi\phi}$-2.13±.16; $M_{r\theta}$-0.52±.29; $M_{\theta\phi}$-0.79±.11; $M_{\phi r}$2.45±.53; Best double couple: $M_0$4.70000×10^{16} NP1:ϕ_s131.00000°, δ65.00000°, λ-42.00000°. NP2:ϕ_s242.00000°, δ53.00000°, λ-148.00000°. Principal axes: T 4.7400, Plg7.0000°, Azm189.0000°; N -0.0100, Plg43.0000°, Azm286.0000°; P -4.7300, Plg46.0000°, Azm92.0000°; Data Used: II IU G IC CN.*
*DJA **18** 01:47:57.7±1.0, 24°N±4°×12°4E±°, h48km±10km, M5.0/26, mB5.6/19, mb5.1/26, MLv4.8/1, Mw(mB)5.1/19*
*SZGRF **18** 01:47:57.5, 23°65N×123°58E, h37km, mb5.1, Southwestern Ryukyu Islands, Japan*
*NIED **18** 01:48:00, 23°30N×123°60E, h8km, Mw5.0 Best double couple: $M_0$4.09000×10^{16} NP1:ϕ_s241.00000°, δ62.00000°, λ-145.00000°. NP2:ϕ_s132.00000°, δ60.00000°, λ-33.00000°.*
**ISC 18

APYP	**Conner**	**5.99 202**	*e*P	**Pn**	**01 49 20.2**	**-0.7**
ABRA	**Dolores**	**6.38 206**	*e*P	**Pn**	**01 49 27.0**	**+0.6**
PALP	**Palanan**	**6.46 190**	*e*P	**Pn**	**01 49 27.3**	**0.0**
JTK	**Tokunoshima**	**6.47 47**	P	Pn	01 49 24.1	-3.4
CAUP	**Cauayan**	**6.69 195**	*e*P	**Pn**	**01 49 32.5**	**+1.8**
JAMN	**Amaminishikomi**	**6.92 45**	P	Pn	01 49 30.5	-3.2
JAM	**Amami Oshima**	**7.31 46**	P	Pn	01 49 35.7	-3.4
JMZ	**Minamidaito 2**	**7.31 70**	P	Pn	01 49 36.0	-3.1
JMZ			*e*S	Sn	01 50 51.4	-11
BALP	**Baler**	**7.91 194**	*e*P	**Pn**	**01 49 47.6**	**+0.2**
SSE	**Sheshan**	**7.91 345**	P	**Pn**	**01 49 47.0**	**-0.3**
SSE			S	**Sn**	**01 51 17.0**	**+0.4**
SSE			pmax	pmax		
	comp=Z,47nm,0.7s					
SSE			pmax	pmax		
	comp=Z,260nm,7.8s					
SSE			LR	LR		
	comp=N,5μm,15.6s					
SSE			LR	LR		
	comp=E,2μm,15.6s					
SSE			LR	LR		
	comp=Z,7μm,13.7s					
NJ2	**Nanjing**	**9.54 335**	*e*P	**Pn**	**01 50 09.6**	**-0.1**
NJ2			pP		01 50 12.3	
NJ2			sP		01 50 16.0	
NJ2			S	**Sn**	**01 51 59.3**	**+2.5**
NJ2			sS		01 52 07.4	
NJ2			pmax	pmax		
	comp=Z,230nm,0.8s					
NJ2			pmax	pmax		
	comp=Z,520nm,6.0s					
GQP	**Guinayangan**	**9.56 187⇓**	*e*P	**Pn**	**01 50 10.9**	**+0.8**
TGY	**Tagaytay City**	**9.64 196**	Pn	**Pn**	**01 50 12.7**	**+1.5**
TGY			Sn	**Sn**	**01 51 58.9**	**-0.4**
TGY	**Tagaytay City**	**9.64 196**	Pn	**Pn**	**01 50 12.7**	**+1.5**
	comp=Z,40nm,0.3s,baz=340,slow=3.8,SNR=8.7					
TGY			Sn	**Sn**	**01 51 58.9**	**-0.4**
	comp=Z,41nm,0.3s,baz=231,slow=14,SNR=1.7					
WHN	**Wuhan**	**10.86 313**	P	**Pn**	**01 50 29.8**	**+2.0**
WHN			S	**Sn**	**01 52 31.9**	**+2.8**
WHN			LR	LR		
	comp=N,6μm,8.8s					
WHN			LR	LR		
	comp=E,8μm,8.5s					
WHN			LR	LR		
	comp=Z,12μm,15.2s					
JNU	**Nakatsue**	**11.56 32**	*e*Pn	**Pn**	**01 50 36.7**	**-0.8**
JNU	**Nakatsue**	**11.56 32**	Pn	**Pn**	**01 50 36.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=200,slow=17,SNR=6.2					
TJN	**Taejon**	**13.28 13**	*e*P	Pn	01 50 58.9	-2.0
QIZ	**Qiongzhong**	**13.57 254**	P	**Pn**	**01 51 04.5**	**-0.4**
QIZ			S	**Sn**	**01 53 34.8**	**-0.7**
QIZ			LR	LR		
	comp=N,3μm,19.0s					
QIZ			LR	LR		
	comp=Z,3μm,17.1s					
QIZ	**Qiongzhong**	**13.57 254**	*e*Pn	**Pn**	**01 51 04.2**	**-0.7**
	comp=Z,28nm,1.3s					
TIA	**Tai'an**	**13.90 338**	⇑P	**Pn**	**01 51 11.4**	**+2.1**
TIA			pmax	pmax		
	comp=Z,570nm,5.1s					
TIA			LR	LR		
	comp=N,4μm,14.7s					
TIA			LR	LR		
	comp=E,2μm,12.9s					
TIA			LR	LR		
	comp=Z,5μm,14.2s					
ENH	**Enshi**	**14.31 301**	*e*Pn	**Pn**	**01 51 16.8**	**+1.7**
	comp=Z,21nm,0.8s					
KSAR	**Wonju Array Be**	**14.42 14**	Pn	**Pn**	**01 51 17.1**	**+0.6**
KSRS	**Korea Array**	**14.44 14**	Pn	**Pn**	**01 51 17.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=191,slow=12,SNR=5.6					
KSRS			LR	LR	01 56 59.0	
	comp=Z,807nm,18.0s,baz=198,slow=38					
DL2	**Dalian**	**15.50 354**	P	**Pn**	**01 51 31.0**	**+0.2**
DL2			S	**Sn**	**01 54 26.9**	**+4.6**
DL2			pmax	pmax		
	comp=Z,62nm,1.3s					
DL2			pmax	pmax		
	comp=Z,390nm,3.9s					
DL2			LR	LR		
	comp=N,3μm,15.2s					
DL2			LR	LR		
	comp=E,730nm,12.0s					
DL2			LR	LR		
	comp=Z,3μm,14.7s					
GYA	**Guiyang**	**15.66 285⇓**	*i*P	**Pn**	**01 51 32.8**	**-0.4**
GYA			S	**Sn**	**01 54 25.4**	**-1.2**
GYA			SS	**S**	**01 54 44.8**	**+3.1**
GYA			PcP	**PcP**	**01 56 36.8**	**+2.7**
GYA			pmax	pmax		
	comp=Z,30nm,0.8s					
GYA			pmax	pmax		
	comp=Z,170nm,4.8s					
GYA			LR	LR		
	comp=N,4μm,15.8s					
GYA			LR	LR		
	comp=E,3μm,16.0s					
GYA			LR	LR		
	comp=Z,5μm,15.5s					
DAV	**Davao City (W)**	**16.40 173**	LR	LR	01 57 34.8	
	comp=Z,1μm,20.3s,baz=346,slow=36					
XAN	**Xi'an**	**16.63 313**	P	**P**	**01 51 48.1**	**+0.2**
XAN			sP	**sP**	**01 51 54.8**	**+0.9**
XAN			PP	**PnPn**	**01 52 01.8**	**+7.0**
XAN			S	**Sn**	**01 54 51.8**	**+1.8**
XAN			SS	**SnSn**	**01 55 11.8**	**+8.6**
XAN			LR	LR		
	comp=N,3μm,21.1s					
XAN			LR	LR		
	comp=E,7μm,21.1s					
XAN			LR	LR		
	comp=Z,860nm,14.2s					
KDM	**Kudat**	**17.69 203**	P	**Pn**	**01 52 00.5**	**+1.7**
BJI	**Beijing**	**17.69 341**	P	**Pn**	**01 51 59.1**	**+0.4**
BJI			S	**Sn**	**01 55 16.8**	**+1.3**
BJI			pmax	pmax		
	comp=Z,21nm,1.1s					
BJI			pmax	pmax		
	comp=Z,260nm,3.7s					
BJI			LR	LR		
	comp=N,3μm,16.0s					
BJI			LR	LR		
	comp=E,3μm,21.8s					
BJI			LR	LR		
	comp=Z,2μm,19.8s					
MAT	**Matsushiro**	**18.14 41**	P	**Pn**	**01 52 05.0**	**+0.8**
MAT			S	**S**	**01 55 34.4**	**+2.5**
MJAR	**Matsushiro Arr**	**18.14 41**	P	**Pn**	**01 52 05.2**	**+0.9**
MJAR	**Matsushiro Arr**	**18.14 41**	P	**Pn**	**01 52 05.2**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=229,slow=9.3,SNR=22					
MJAR			LR	LR	01 59 59.3	
	comp=Z,2μm,18.3s,baz=225,slow=40					
SNY	**Shenyang**	**18.32 360**	⇑P	**Pn**	**01 52 05.1**	**-1.3**
SNY			S	**Sn**	**01 55 29.0**	**-1.8**
SNY			pmax	pmax		
	comp=Z,16nm,0.5s					
SNY			LR	LR		
	comp=N,3μm,12.0s					
SNY			LR	LR		
	comp=Z,3μm,13.0s					
KKM	**Kota Kinabalu**	**18.72 204**	*e*Pn	**P**	**01 52 12.0**	**+0.9**
	comp=Z,235nm,1.8s					
KKM	**Kota Kinabalu**	**18.72 204**	P	**P**	**01 52 12.8**	**+1.7**
KKM	**Kota Kinabalu**	**18.72 204**	P	**P**	**01 52 12.0**	**+0.9**
	comp=Z,61nm,1.3s,comp=Z,1μm					
SDKM	**Sandakan**	**18.76 200**	P	**P**	**01 52 12.9**	**+1.4**
MYLDM	**Lahad Datu**	**18.82 196**	P	**Pn**	**01 52 16.3**	**+3.6**
MYLDM	**Lahad Datu**	**18.82 196**	P	**Pn**	**01 52 15.0**	**+2.3**
	comp=Z,75nm,1.9s,comp=Z,2μm					
PANO	**Nakornpanom**	**18.88 254**	P	**Pn**	**01 52 15.7**	**+2.3**
	comp=Z,70nm,1.3s					
KMI	**Kunming**	**19.10 279**	P	**P**	**01 52 16.6**	**+1.2**
KMI			pP	**pP**	**01 52 22.3**	**+2.7**
KMI			sP	**sP**	**01 52 24.3**	**+2.8**
KMI			PP	**PnPn**	**01 52 33.0**	**+4.1**
KMI			S	**Sn**	**01 55 45.5**	**-4.7**
KMI			sS	**sS**	**01 55 57.8**	**-0.7**
KMI			SS	**SnSn**	**01 56 09.5**	**+5.3**
KMI			pmax	pmax		
	comp=Z,13nm,1.2s					
KMI			pmax	pmax		
	comp=Z,170nm,4.7s					
KMI			LR	LR		
	comp=N,5μm,17.2s					
KMI			LR	LR		
	comp=E,2μm,18.7s					
KMI			LR	LR		
	comp=Z,3μm,13.5s					
CD2	**Chengdu**	**19.14 297**	P	**P**	**01 52 16.3**	**+0.6**
CD2			pP	**pP**	**01 52 20.0**	**+0.2**
CD2			sP	**sP**	**01 52 22.9**	**+1.2**
CD2			PP	**PnPn**	**01 52 32.8**	**+3.5**
CD2			S	Sn	01 55 44.0	-6.9
CD2			SS	**SnSn**	**01 56 11.0**	**+6.0**
CD2			pmax	pmax		
	comp=Z,60nm,1.2s					
CD2			pmax	pmax		
	comp=Z,460nm,5.8s					
CD2			LR	LR		
	comp=N,5μm,13.8s					
CD2			LR	LR		
	comp=E,6μm,13.2s					
CD2			LR	LR		
	comp=Z,8μm,15.6s					
TSM	**Tawau**	**19.84 197**	P	**P**	**01 52 24.9**	**+1.6**
HHC	**Hu-ho-hao-te**	**20.09 333**	*e*P	**P**	**01 52 25.8**	**-0.1**
HHC			pP	Pn	01 52 29.8	+2.0
HHC			sP	**sP**	**01 52 32.8**	**+0.8**
HHC			PP	**PnPn**	**01 52 45.0**	**+2.7**
HHC			S	**S**	**01 56 06.8**	**-4.5**
HHC			sS	Sn	01 56 11.8	-1.8
HHC			SS	**SnSn**	**01 56 33.0**	**+4.8**
HHC			pmax	pmax		
	comp=Z,54nm,1.3s					
HHC			pmax	pmax		
	comp=Z,760nm,4.9s					
HHC			LR	LR		
	comp=N,4μm,13.2s					
HHC			LR	LR		
	comp=E,5μm,13.7s					
HHC			LR	LR		
	comp=Z,6μm,13.9s					
CN2	**Changchun**	**20.35 4**	*e*P	**P**	**01 52 28.5**	**-0.2**
CN2			*e*S	S	01 56 08.0	-8.3
CN2			pmax	pmax		
	comp=Z,20nm,0.9s					
CN2			pmax	pmax		
	comp=Z,340nm,4.0s					
CN2			LR	LR		
	comp=N,5μm,14.0s					
CN2			LR	LR		
	comp=E,2μm,14.0s					
CN2			LR	LR		
	comp=Z,5μm,13.0s					
BTO	**Baotou**	**20.58 329**	*e*P	**P**	**01 52 30.3**	**-1.0**
LZH	**Lanzhou**	**21.23 311**	⇑P	**P**	**01 52 39.1**	**+0.6**
LZH			pP	**pP**	**01 52 42.3**	**-0.3**
LZH			sP	**sP**	**01 52 43.8**	**-0.8**
LZH			PP	**PnPn**	**01 53 02.5**	**+4.5**
LZH			S	**S**	**01 56 29.0**	**-5.2**
LZH			sS	sS	01 56 35.3	-5.6
LZH			SS	**SnSn**	**01 57 02.6**	**+6.2**
LZH			pmax	pmax		
	comp=Z,110nm,1.3s					
LZH			pmax	pmax		
	comp=Z,310nm,4.1s					
LZH			LR	LR		
	comp=N,2μm,13.2s					
LZH			LR	LR		
	comp=E,3μm,13.0s					
LZH			LR	LR		
	comp=Z,5μm,17.2s					
MDJ	**Mudanjiang**	**21.67 12**	P	**P**	**01 52 42.9**	**0.0**
MDJ			pP	**pP**	**01 52 45.8**	**-1.3**
MDJ			sP	**sP**	**01 52 47.1**	**-1.9**
MDJ			S	**S**	**01 56 44.0**	**+1.6**
MDJ			ScP	**ScP**	**02 00 20.8**	**+0.1**
MDJ			PcS	**PcS**	**02 00 21.8**	**-0.3**
MDJ			ScS	**ScS**	**02 04 04.8**	**0.0**
MDJ			LR	LR		
	comp=N,1μm,20.1s					
MDJ			LR	LR		
	comp=E,5μm,18.7s					
MDJ			LR	LR		
	comp=Z,5μm,14.3s					
LOEI	**Loei**	**21.74 258**	P	**P**	**01 52 41.8**	**-2.1**
	comp=Z,74nm,1.6s,comp=Z,1μm					
USRK	**Ussuriysk Arra**	**21.81 16**	P	**P**	**01 52 43.1**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=203,slow=10,SNR=3.8					
USRK			LR	LR	02 01 50.1	
	comp=Z,900nm,19.8s,baz=329,slow=38					
PBKT	**Sadao Pong**	**22.33 256**	P	**P**	**01 52 52.0**	**+1.8**
	comp=Z,30nm,1.5s					
GUMO	**Guam**	**22.39 112**	*e*P	**P**	**01 52 52.4**	**+1.5**
	comp=Z,411nm,1.3s					
BTM	**Bintulu**	**22.56 208**	P	**P**	**01 52 52.4**	**-0.3**
GTOI	**Gorontalo**	**22.69 182**	P	**P**	**01 52 53.4**	**-0.6**
	comp=Z,161nm,1.4s,comp=Z,3μm					
TNTI	**Ternate**	**22.84 170**	P	**P**	**01 52 56.6**	**+1.0**
	comp=Z,266nm,1.4s,comp=Z,4μm					
MRSI	**Marisa**	**22.90 184**	P	**P**	**01 52 56.6**	**+0.4**
	comp=Z,84nm,2.1s,comp=Z,2μm					
LAMP	**Lampang**	**22.91 262**	P	P	01 53 09.9	+14
NAYO	**Nakonayok**	**22.94 251**	P	**P**	**01 52 58.6**	**+1.9**
	comp=Z,87nm,1.1s					
CHTO	**Chiang Mai**	**23.45 263**	*e*P	**P**	**01 53 03.5**	**+1.6**
CHTO			pmax	pmax		
	comp=Z,85nm,1.6s					
CHTO	**Chiang Mai**	**23.45 263**	*e*P	**P**	**01 53 03.5**	**+1.6**
	comp=Z,85nm,1.6s					
CHTO	**Chiang Mai**	**23.45 263**	P	**P**	**01 53 02.7**	**+0.8**
	comp=Z,38nm,2.0s,comp=Z,918nm					
CHTO	**Chiang Mai**	**23.45 263**	P	**P**	**01 53 03.5**	**+1.6**
	comp=Z,22nm,1.8s,comp=Z,918nm					
CMAR	**Chiang Mai Arr**	**23.55 262**	P	**P**	**01 53 02.5**	**-0.4**
CMAR			PcP	**PcP**	**01 56 49.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**23.55 262**	P	**P**	**01 53 02.5**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=60,slow=8.1,SNR=17					
CMAR			PcP	**PcP**	**01 56 49.1**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=70,slow=1.5,SNR=6.1					
CMAR			LR	LR	02 03 55.6	
	comp=Z,1μm,19.8s,baz=72,slow=41					
SBUM	**Sibu**	**23.61 210**	P	**P**	**01 53 03.0**	**-0.5**
SBUM	**Sibu**	**23.61 210**	P	**P**	**01 53 02.4**	**-1.0**
	comp=Z,60nm,1.9s,comp=Z,705nm					
LBMI	**Labuha**	**24.24 170**	P	**P**	**01 53 10.7**	**+1.3**
	comp=Z,243nm,1.8s,comp=Z,4μm					
LUWI	**Luwuk**	**24.36 182**	P	**P**	**01 53 10.6**	**+0.1**
	comp=Z,131nm,1.4s,comp=Z,2μm					
ERM	**Erimo**	**24.66 37**	*e*P	**P**	**01 53 10.8**	**-2.1**
ERM			pmax	pmax		
	comp=Z,37nm,0.8s					
ERM	**Erimo**	**24.66 37**	*e*P	**P**	**01 53 12.0**	**-1.0**
	comp=Z,30nm,0.7s					
PHET	**Kaeng Krachan**	**25.04 249**	P	P	01 53 30.8	+14
SWI	**Sorong**	**25.29 162**	P	**P**	**01 53 19.8**	**+0.9**
	comp=Z,43nm,1.1s,comp=Z,1μm					
KSM	**Kuching**	**25.37 212**	*e*P	**P**	**01 53 19.3**	**-0.4**
	comp=Z,67nm,1.3s					
KSM	**Kuching**	**25.37 212**	P	**P**	**01 53 19.5**	**-0.2**
KSM	**Kuching**	**25.37 212**	P	**P**	**01 53 19.0**	**-0.7**
	comp=Z,47nm,2.0s,comp=Z,760nm					
GTA	**Gaotai**	**25.68 314**	P	**P**	**01 53 21.4**	**-1.1**
GTA			pP	**pP**	**01 53 25.8**	**-1.1**
GTA			sP	**sP**	**01 53 28.4**	**-0.3**
GTA			PcP	**PcP**	**01 56 52.9**	**+0.2**
GTA			S	**S**	**01 57 50.3**	**-0.4**
GTA			sS	**sS**	**01 57 56.6**	**-1.4**
GTA			SS	SnSn	01 58 55.8	+11
GTA			pmax	pmax		
	comp=Z,7.0nm,1.4s					
GTA			pmax	pmax		
	comp=Z,130nm,6.4s					
GTA			LR	LR		
	comp=N,2μm,19.9s					
GTA			LR	LR		
	comp=E,1μm,19.0s					
GTA			LR	LR		
	comp=Z,3μm,16.6s					
ASAJ	**Asahikawa**	**25.84 33**	*e*P	**P**	**01 53 24.0**	**+0.4**
	comp=Z,10nm,1.0s					
ASAJ	**Asahikawa**	**25.84 33**	P	**P**	**01 53 23.6**	**-0.1**
	comp=Z,8.4nm,0.4s,baz=230,slow=11,SNR=12					
SKSI	**Soroako, Sulaw**	**25.92 185**	P	**P**	**01 53 26.2**	**+1.5**
	comp=Z,53nm,1.9s,comp=Z,1μm					
HIA	**Hailar**	**25.94 354**	*e*P	**P**	**01 53 22.4**	**-2.1**
	comp=Z,29nm,0.9s					
MMSI	**Mamuju**	**26.39 191**	P	**P**	**01 53 27.2**	**-1.6**
	comp=Z,132nm,1.4s					
KLR	**Kul'dur**	**26.52 12**	*e*P	P	01 53 25.0	-4.7
HABR	**Khabarovsk**	**26.57 17**	*e*P	**P**	**01 53 27.5**	**-2.7**
HABR			*e*		01 54 07.4	
HABR			*e*S	**S**	**01 58 02.5**	**-1.7**
HABR			*e*		02 04 22.1	
HABR			pmax	pmax		
	comp=Z,19nm,1.5s					
HABR			pmax	pmax		
	comp=N,9.0nm,1.2s					
HABR			pmax	pmax		
	comp=E,26nm,1.5s					
HABR			MLR	MLR		
	comp=Z,2μm,16.0s					
NLAI	**Namlea**	**26.75 172**	P	**P**	**01 53 33.7**	**+1.6**
	comp=Z,173nm,0.9s,comp=Z,2μm					
YUK	**Yuzh-Kuril'sk**	**27.48 36***d*	*i*P	**P**	**01 53 37.1**	**-1.3**
YUK			*i* PPP	PPP	01 54 27.1	
YUK			*e*S	**S**	**01 58 18.7**	**+0.1**
YUK			*i* SSS	SSS	01 59 39.9	
YUK			pmax	pmax		
	comp=E,235nm,1.4s					
YUK			pmax	pmax		
	comp=Z,251nm,1.4s					
YUK			pmax	pmax		
	comp=N,61nm,1.2s					
KKSI	**Kolaka, Sulawe**	**27.52 184**	P	**P**	**01 53 39.0**	**-0.1**
	comp=N,264nm,0.4s					
ULN	**Ulaanbaatar**	**27.71 336**	P	**P**	**01 53 39.6**	**-1.1**
	comp=N,9.1nm,1.9s					
SONM	**Songino Array**	**27.94 335**	P	**P**	**01 53 41.3**	**-1.4**
SONM			PcP	**PcP**	**01 56 57.6**	**-0.2**
SONM	**Songino Array**	**27.94 335**	P	**P**	**01 53 41.3**	**-1.4**
	comp=N,5.7nm,0.8s,baz=146,slow=8.9,SNR=32					
SONM			PcP	**PcP**	**01 56 57.6**	**-0.2**
	comp=N,1.3nm,0.6s,baz=147,slow=2.9,SNR=4.7					
SONM			LR	LR	02 06 17.8	
	comp=N,1μm,21.3s,baz=145,slow=40					
YSS	**Yuzh-Sakhalins**	**28.04 29**	*e*P	P	01 53 49.0	+5.6
YSS			*e*		01 54 00.0	
YSS			*e*		01 54 07.0	
YSS			*e*		01 54 39.0	
YSS			*e*SS	SS	02 00 12.0	-14
YSS			pmax	pmax		
	comp=Z,30nm,1.0s					
YSS			MLR	MLR		
	comp=Z,2μm,15.0s					
YSS			MLR	MLR		
	comp=N,2μm,14.0s					
YSS			MLR	MLR		
	comp=E,1μm,15.0s					
KAPI	**Kappang**	**28.54 188**	LR	LR	02 04 37.3	
	comp=E,320nm,21.2s,baz=200,slow=35					
MYKOM	**Kota Tinggi**	**28.82 225**	P	**P**	**01 53 50.9**	**+0.3**
MYKOM	**Kota Tinggi**	**28.82 225**	P	**P**	**01 53 50.5**	**-0.2**
	comp=E,32nm,1.4s,comp=E,571nm					
LSA	**Lhasa**	**29.63 289**	*e*P	**P**	**01 53 58.5**	**+0.2**
LSA			pmax	pmax		
	comp=Z,17nm,0.7s					
LSA	**Lhasa**	**29.63 289**	*e*P	**P**	**01 53 58.5**	**+0.2**
	comp=Z,17nm,0.7s					
PSI	**Prapat**	**31.50 233**	P	**P**	**01 54 13.5**	**-1.0**
PSI	**Prapat**	**31.50 233**	P	**P**	**01 54 13.5**	**-1.0**
	comp=Z,3.1nm,0.5s,baz=242,slow=7.1,SNR=3.6					
MMRI	**Maumere**	**31.92 183**	P	P	01 54 21.4	+3.4
	comp=Z,142nm,2.0s,comp=Z,2μm					
LBFI	**Labuhan Bajo,**	**31.95 187**	P	**P**	**01 54 17.4**	**-0.8**
	comp=Z,289nm,1.2s,comp=Z,3μm					
TLY	**Talaya**	**32.10 336**	*e*P	**P**	**01 54 18.9**	**-0.5**
TLY			pmax	pmax		
	comp=Z,16nm,1.3s					
MOY	**Mondy**	**33.11 334**	*e*P	**P**	**01 54 29.3**	**+1.0**
KLSI		**33.50 216**	P	**P**	**01 54 32.2**	**+0.3**
	comp=Z,38nm,1.4s					
WMQ	**Urumqi**	**35.77 313**	*e*P	**P**	**01 54 52.8**	**+1.4**
WMQ			pmax	pmax		
	comp=Z,11nm,1.2s					
WMQ			pmax	pmax		
	comp=Z,190nm,4.8s					
WMQ			LR	LR		
	comp=N,800nm,16.0s					
WMQ			LR	LR		
	comp=E,900nm,15.0s					
WMQ			LR	LR		
	comp=Z,380nm,15.0s					
HVS	**Khovu-Aksy**	**36.01 328**	*e*P	P	01 54 51.1	-2.3
HVS			pmax	pmax		
	comp=Z,16nm,1.2s					
YAK	**Yakutsk**	**38.78 5**	*e*P	P	01 55 13.9	-2.6
YAK			*e**PP	pP	01 55 20.8	-0.3
YAK			*e*		01 57 26.1	
YAK			*e*S	**S**	**02 01 11.0**	**-2.3**
YAK			*e**SS	sS	02 01 30.5	+10
YAK			*e*		02 05 20.4	
YAK			pmax	pmax		
	comp=Z,14nm,1.2s					
YAK			pmax	pmax		
	comp=N,8.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,5.0nm,1.2s					
YAK			smax	smax		
	comp=N,56nm,2.2s					
YAK			smax	smax		
	comp=E,26nm,2.2s					
YAK			MLR	MLR		
	comp=Z,2μm,15.0s					
YAK			MLR	MLR		
	comp=N,2μm,14.0s					
YAK			MLR	MLR		
	comp=E,758nm,15.0s					
PEA0B	**Petropavlovsk-**	**39.26 32**	*e*P	**P**	**01 55 20.5**	**-0.2**
PETK	**Petropavlovsk-**	**39.26 32**	P	**P**	**01 55 20.5**	**-0.3**
PETK	**Petropavlovsk-**	**39.26 32**	P	**P**	**01 55 20.4**	**-0.3**
PETK	**Petropavlovsk-**	**39.26 32**	P	**P**	**01 55 20.4**	**-0.3**
	comp=E,8.8nm,0.6s,baz=198,slow=5.7,SNR=26					
PETK			LR	LR	02 13 33.8	
	comp=E,460nm,18.2s,baz=234,slow=39					
PET	**Petropavlovsk**	**39.68 33***c*	*i*P	**P**	**01 55 23.1**	**-1.1**
PET			*e*S	S	02 01 16.3	-11
PET			pmax	pmax		
	comp=Z,100nm,2.9s					
PET			pmax	pmax		
	comp=Z,62nm,1.9s					
PET			pmax	pmax		
	comp=Z,200nm,2.4s					
PET			MLR	MLR		
	comp=Z,1μm,19.0s					
PET			MLR	MLR		
	comp=Z,1μm,18.0s					
MK31	**Makanchi Array**	**40.41 316**	*i* P	**P**	**01 55 29.6**	**-0.8**
MK31			pmax	pmax		
	comp=Z,10.0nm,0.6s					
MK31	**Makanchi Array**	**40.41 316**	*e*P	**P**	**01 55 29.7**	**-0.7**
MKAR	**Makanchi Array**	**40.41 316***ce*P		**P**	**01 55 29.7**	**-0.7**
MKAR			pmax	pmax		
	comp=Z,6.0nm,0.7s					
MKAR	**Makanchi Array**	**40.41 316**	*e*P	**P**	**01 55 30.1**	**-0.3**
MKAR			PcP	**PcP**	**01 57 33.1**	**-0.2**
MKAR	**Makanchi Array**	**40.41 316**	P	**P**	**01 55 29.8**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=104,slow=10,SNR=40					
MKAR			PcP	**PcP**	**01 57 33.1**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=90,slow=6.3,SNR=4.4					
FITZ	**Fitzroy Crossi**	**41.35 177**	P	P	01 55 37.1	-1.2
FITZ	**Fitzroy Crossi**	**41.35 177**	P	P	01 55 37.1	-1.2
	comp=Z,7.4nm,0.9s,baz=11,slow=8.2,SNR=10					
ZAA0	**Zalesovo Array**	**42.07 326**	*e*P	**P**	**01 55 42.3**	**-1.6**
ZALV	**Zalesovo Beam**	**42.07 326**	P	**P**	**01 55 42.1**	**-1.8**
ZALV					01 57 37.3	
ZALV	**Zalesovo Beam**	**42.07 326**	P	**P**	**01 55 42.1**	**-1.8**
ZALV			PcP	**PcP**	**01 57 37.3**	**-1.2**
ZALV	**Zalesovo Beam**	**42.07 326**	P	**P**	**01 55 42.1**	**-1.8**
	comp=Z,8.6nm,0.8s,baz=107,slow=8.0,SNR=27					
ZALV			PcP	**PcP**	**01 57 37.3**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=100,slow=5.1,SNR=3.9					
KSH	**Kashi**	**43.16 303**	P	P	01 55 56.6	+3.4
KSH			sP	sP	01 56 03.3	+3.8
KSH			PP	**PcP**	**01 57 39.6**	**-3.1**
KSH			S	**S**	**02 02 23.9**	**+4.6**
KSH			sS	sS	02 02 31.3	+4.4
KSH			SS	**SS**	**02 05 30.3**	**-1.7**
KSH			pmax	pmax		
	comp=Z,26nm,1.1s					
KSH			pmax	pmax		
	comp=Z,92nm,3.2s					
KSH			LR	LR		
	comp=N,2μm,16.7s					
KSH			LR	LR		
	comp=E,2μm,15.6s					

KSH LR LR
comp=Z,2μm,16.1s
NVS Novosibirsk 43.32 327 *e*P P 01 55 50.2 -3.8
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,18nm,1.6s
NVS pmax pmax
comp=Z,21nm,1.6s
SEY Seymchan 43.93 19 *e*P **P 01 55 57.7 -1.1**
TKM2 Tokmak 2 43.96 308 P **P 01 56 00.2 +0.5**
TKM2 pmax pmax
comp=Z,25nm,0.7s
TKM2 Tokmak 2 43.96 308 *e*P **P 01 56 00.7 +1.0**
comp=Z,29nm,0.8s
KURK Kurchatov 44.08 320 P **P 01 55 59.4 -0.8**
KURK 01 57 44.6
KURK Kurchatov 44.08 320 P **P 01 55 59.4 -0.8**
KURK PcP **PP 01 57 44.6 +1.7**
KURBB Kurchatov Arra 44.10 320 P **P 01 55 59.4 -1.0**
comp=Z,3.9nm,0.6s,baz=115,slow=8.3,SNR=38
KURBB PcP **PP 01 57 44.6 +1.5**
comp=Z,2.6nm,0.6s,baz=113,slow=3.7,SNR=4.4
WRAB Tennant Creek 44.38 165 P **P 01 56 02.0 -0.9**
comp=Z,109nm,0.9s,SNR=5.9
WRAB Tennant Creek 44.38 165 *e*P **P 01 56 02.0 -0.9**
WRAB pmax pmax
comp=Z,42nm,1.4s
WRAB Tennant Creek 44.38 165 *e*P **P 01 56 01.9 -0.9**
comp=Z,42nm,1.4s
WRA Warramunga Arr 44.38 166 P **P 01 56 02.6 -0.4**
WRA Warramunga Arr 44.38 166 P **P 01 56 02.6 -0.4**
comp=Z,13nm,0.9s,baz=347,slow=8.5,SNR=16
WRA LR LR 02 12 57.5
comp=Z,123nm,18.8s,baz=15,slow=34
FRU Bishkek 44.66 308 *e*P **P 01 56 04.0 -1.0**
FRU *i* 01 56 14.0
FRU *e* 01 57 42.0
FRU pmax pmax
comp=Z,80nm,1.6s
FRU MLR MLR
comp=Z,1μm,14.0s
AAK Ala-Archa 44.71 308 *e*P **P 01 56 05.6 -0.1**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 44.71 308 *e*P **P 01 56 06.2 +0.5**
comp=Z,10nm,0.8s
AAK Ala-Archa 44.71 308 P **P 01 56 05.5 -0.1**
comp=Z,2.6nm,0.5s,baz=91,slow=1.2,SNR=6.6
EKS2 Erkin-Say 45.24 307 *e*P **P 01 56 10.3 +0.5**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 45.24 307 *e*P **P 01 56 10.3 +0.5**
comp=Z,12nm,0.8s
FX1 Attu Island--F 47.48 39 *e*P **P 01 56 27.4 +0.4**
KK31 Karatay Array 47.68 308 P **P 01 56 29.3 +0.5**
KK31 pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 47.68 308 *e*P **P 01 56 29.5 +0.7**
KKAR *e* 01 57 57.9
KKAR Karatay Array 47.68 308 *e*P **P 01 56 29.5 +0.7**
KKAR *e*PcP **PcP 01 57 57.9 -0.3**
AS31 Alice Springs 47.89 167 *e*P **P 01 56 30.9 +0.3**
ASAR Alice Springs 47.89 167 P **P 01 56 30.9 +0.4**
ASAR Alice Springs 47.89 167 P **P 01 56 30.9 +0.4**
comp=Z,6.0nm,1.0s,baz=348,slow=6.3,SNR=25
TIXI Tiksi 48.31 2 *e*P **P 01 56 32.3 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.2s
KBL Kabul 48.48 296 *e*P **P 01 56 35.9 +0.5**
KBL pmax pmax
comp=Z,158nm,1.9s
KBL Kabul 48.48 296 *e*P **P 01 56 35.9 +0.5**
comp=Z,158nm,1.9s
CTA Charters Tower 48.59 151 P **P 01 56 36.2 +0.2**
CTA Charters Tower 48.59 151 P **P 01 56 36.2 +0.2**
comp=Z,9.4nm,1.1s,baz=357,slow=8.2,SNR=5.2
CTAO Charters Tower 48.59 151 *e*P **P 01 56 37.0 +1.1**
CTAO pmax pmax
comp=Z,20nm,1.2s
CTAO Charters Tower 48.59 151 *e*P **P 01 56 37.0 +1.1**
comp=Z,20nm,1.2s
VOSK Vostochnaya 49.22 320 P **P 01 56 38.9 -1.6**
VOSK pmax pmax
comp=Z,3.0nm,0.7s
BVA0 Borovoye Array 49.65 321 P **P 01 56 42.9 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 49.65 321 P **P 01 56 42.9 -0.9**
BVAR 01 58 03.7
BVAR Borovoye Array 49.65 321 P **P 01 56 42.9 -0.9**
BVAR PcP **PcP 01 58 03.7 -1.3**
BVAR Borovoye Array 49.65 321 P **P 01 56 42.9 -0.9**
comp=Z,4.4nm,0.6s,baz=104,slow=7.9,SNR=23
BVAR PcP **PcP 01 58 03.7 -1.3**
comp=Z,3.9nm,0.6s,baz=96,slow=2.6,SNR=4.3
BRVK Borovoye 49.72 321 P **P 01 56 43.0 -1.3**
comp=Z,160nm,0.6s,SNR=8.9
BRVK Borovoye 49.72 321 *c i*P **P 01 56 43.6 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 49.72 321 *e*P **P 01 56 43.7 -0.5**
comp=Z,21nm,0.8s
BRVK *e*PcP **PcP 01 58 04.7 -0.6**
AMKA Amchitka 50.74 42 *e*P **P 01 56 52.9 +0.8**
comp=Z,28nm,0.7s
AB31 Akbulak array 55.54 315 P **P 01 57 27.8 +0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 55.54 315 *e*P **P 01 57 27.6 +0.1**
IMYA Miami 55.65 299 *e*P **P 01 57 29.3 +0.6**
SVE Sverdlovsk 55.94 324⇓*e*P P 01 57 37.5 +7.3
SVE pmax pmax
comp=Z,27nm,0.8s
SVE MLR MLR
comp=Z,756nm,15.0s
ISRO Mashad 56.16 299 *e*P P 01 57 28.1 -4.2
IPAY Payeh 56.53 299 *e*P **P 01 57 33.5 -1.6**
IAKL Akhelmad 56.70 299 *e*P **P 01 57 35.0 -1.4**
AKTO Aktyubinsk 56.84 316 P **P 01 57 36.7 -0.1**
AKTO Aktyubinsk 56.84 316 P **P 01 57 36.6 -0.1**
AKTO Aktyubinsk 56.84 316 P **P 01 57 36.6 -0.1**
comp=Z,4.3nm,0.7s,baz=91,slow=7.2,SNR=16
IKRD Kardeh 56.88 300 *e*P P 01 57 33.3 -4.3
ARU Arti 57.02 323 *d i*P **P 01 57 38.0 +0.1**
ARU 01 59 42.8
ARU S **S 02 05 35.9 +4.0**
ARU SS **SS 02 09 15.7 -4.5**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU MLR MLR
comp=Z,363nm,15.0s
STKA Stephens Creek 57.65 162 *e*P **P 01 57 43.1 +0.6**
STKA Stephens Creek 57.65 162 P **P 01 57 42.7 +0.2**
comp=Z,5.3nm,0.8s,baz=347,slow=7.2,SNR=9.7
STKA LR LR 02 24 00.8
comp=Z,186nm,19.0s,baz=242,slow=38
IBAF Bafgh 60.04 294 *e*P P 01 57 56.9 -2.7
IKIA Kiasar 60.81 300 *e*P P 01 58 10.7 +5.8
DZM Mont Dzumac 61.52 134 *e*LR LR 02 16 07.6
comp=Z,398nm,27.1s
DZM Mont Dzumac 61.52 134 P **P 01 58 08.9 -0.7**
DZM Mont Dzumac 61.52 134 P **P 01 58 08.9 -0.7**
comp=Z,13nm,1.0s,baz=326,slow=6.7,SNR=7.1
IFIR Firoozkooh 61.65 299 *e*P **P 01 58 10.6 0.0**
ISFB Sefidab 62.29 298 *e*P P 01 58 13.4 -1.3
IPAR Pars 62.52 293 *e*P P 01 58 13.8 -2.8
IRAZ Razeghan 63.96 299 *e*P P 01 58 22.5 -3.5
CHGN Chignik 64.20 37 *e*P **P 01 58 26.4 -0.4**
IM04 Indian Mountai 65.83 26 *e*P **P 01 58 37.8 +0.4**
IMA2 Indian Mountai 65.86 26 *e*P **P 01 58 38.2 +0.5**
DUS Dusheti 66.69 307 P **P 01 58 43.4 0.0**
TBLG Delisi 66.73 307 *e*P **P 01 58 44.6 +1.1**
TBLG Delisi 66.73 307 P **P 01 58 44.6 +1.1**
PPLA Purkeypile 66.78 30 *e*P **P 01 58 45.1 +1.4**
comp=Z,120nm,2.0s
RSO Redoubt South 66.78 32 *e*P **P 01 58 44.3 +0.5**
SPU Mount Spurr 67.04 32 *e*P **P 01 58 46.1 +0.9**
GNI Garni 67.04 305 *e*P **P 01 58 47.0 +1.3**
comp=Z,50nm,1.4s
GNI Garni 67.04 305 P **P 01 58 47.1 +1.3**
comp=Z,1.3nm,0.3s,baz=9.7,slow=7.9,SNR=3.8
MSVF Nonsavu 67.09 123 *e*P **P 01 58 47.4 +1.2**
MSVF pmax pmax
comp=Z,74nm,1.4s
MSVF Nonsavu 67.09 123 *e*P **P 01 58 47.4 +1.2**
comp=Z,74nm,1.4s
ZEI Tsey 67.14 308 *e*P **P 01 58 45.0 -1.4**
ZEI pmax pmax
comp=Z,17nm,0.6s
COLD Coldfoot 67.15 25 *e*P **P 01 58 47.4 +1.6**
comp=Z,34nm,1.5s
VRHR Novokhopersk 67.18 317 *e*P **P 01 58 44.5 -1.7**
VRHR *e*S **S 02 07 37.5 -2.7**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR smax smax
comp=N,60nm,2.1s
VRHR smax smax
comp=E,110nm,2.1s
VRHR smax smax
comp=Z,70nm,2.1s
VRHR MLR MLR
comp=N,50nm,16.0s
VRHR MLR MLR
comp=E,200nm,16.0s
VRHR MLR MLR
comp=Z,390nm,16.0s
KDAK Kodiak Island 67.22 35 P **P 01 58 47.3 +1.0**
comp=Z,226nm,1.7s,SNR=5.7
KDAK Kodiak Island 67.22 35 *e*P **P 01 58 47.0 +0.7**
comp=Z,107nm,1.5s
KDAK Kodiak Island 67.22 35 P **P 01 58 46.6 +0.4**
comp=Z,16nm,0.7s,baz=133,slow=1.6,SNR=12
TMCR Tamitsa 67.25 332 *e*P **P 01 58 46.2 -0.2**
TMCR *e* 01 59 12.1
TMCR *e* 02 01 15.1
TMCR pmax pmax
comp=Z,62nm,0.8s
MIB Mutribah 67.35 294 *e*P **P 01 58 46.7 -1.0**
MIB AMb AMB 01 58 59.4
comp=Z,44nm,0.8s
RDF Al-Radifah 67.40 293 *e*P **P 01 58 47.1 -0.9**
RDF AMb AMB 01 59 00.1
comp=Z,55nm,0.8s
ONI Oni 67.50 308 P **P 01 58 49.1 +0.7**
TRF Thorofare Moun 67.57 29 *e*P **P 01 58 49.2 +0.5**
comp=Z,12nm,0.9s
KBZ Khabaz 67.66 309 P **P 01 58 48.4 -1.0**
KBZ Khabaz 67.66 309 P **P 01 58 48.4 -1.0**
KBZ Khabaz 67.66 309 P **P 01 58 48.4 -1.0**
comp=Z,4.8nm,0.8s,baz=62,slow=6.8,SNR=9.7
KBZ LR LR 02 30 12.0
comp=Z,415nm,20.0s,baz=62,slow=38
AKH Akhalkalaki 67.71 307 P **P 01 58 50.7 +0.7**
RST Umm Al-Ruwaisa 67.71 294 *e*P **P 01 58 48.6 -1.4**
RST AMb AMB 01 59 01.0
comp=Z,108nm,0.8s
KIV Kislovodsk 67.77 310 *e*P **P 01 58 50.3 +0.1**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,468nm,18.0s
MCK McKinley 68.13 29 *e*P **P 01 58 52.6 +0.6**
MCK pmax pmax
comp=Z,25nm,0.8s
MCK McKinley 68.13 29 *e*P **P 01 58 52.6 +0.6**
comp=Z,25nm,0.8s
PMR Palmer 68.37 31 *e*P **P 01 58 53.8 +0.3**
PMR pmax pmax
comp=Z,18nm,0.7s
PMR Palmer 68.37 31 *e*P **P 01 58 53.8 +0.3**
comp=Z,18nm,0.7s
COLA College 68.42 27 *e*P **P 01 58 54.6 +0.9**
COLA pmax pmax
comp=Z,79nm,0.8s
COLA College 68.42 27 *e*P **P 01 58 54.6 +0.9**
comp=Z,79nm,0.8s
VORD Divnogorie 68.65 318 *e*P **P 01 58 54.5 -0.9**
VORD *e*S S 02 07 48.8 -9.0
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,20nm,1.1s
VORD pmax pmax
comp=Z,20nm,1.1s
VORD smax smax
comp=E,140nm,3.3s
VORD smax smax
comp=Z,5.0nm,0.5s
VORD smax smax
comp=N,20nm,0.8s
VORD MLR MLR
comp=N,240nm,16.0s
VORD MLR MLR
comp=E,330nm,16.0s
VORD MLR MLR
comp=Z,410nm,16.0s
VSR Storozhevoye 68.68 318 *e*P **P 01 58 54.5 -1.1**
VSR *e*S **S 02 07 55.0 -3.1**
VSR pmax pmax
comp=N,20nm,1.6s
VSR pmax pmax
comp=E,50nm,1.6s
VSR pmax pmax
comp=Z,50nm,1.6s
VSR smax smax
comp=N,50nm,3.2s
VSR smax smax
comp=E,150nm,3.2s
VSR smax smax
comp=Z,40nm,3.2s
VSR MLR MLR
comp=N,100nm,14.0s
VSR MLR MLR
comp=E,150nm,14.0s
VSR MLR MLR
comp=Z,300nm,14.0s
SML Sawmill 68.71 31 *e*P **P 01 58 55.7 0.0**
SML pmax pmax
comp=Z,6.0nm,0.8s
SML Sawmill 68.71 31 *e*P **P 01 58 55.7 0.0**
comp=Z,6.0nm,0.8s
MOS Moscow 68.73 323 *e*P P 01 58 53.0 -2.9
MOS *e* 01 59 04.4
MOS *e*S S 02 07 53.9 -4.7
MOS pmax pmax
comp=Z,37nm,1.1s
MOS MLR MLR
comp=N,700nm,22.0s
MOS MLR MLR
comp=Z,1μm,22.0s
MOS MLR MLR
comp=E,600nm,19.0s
ILAR Eielson Array 68.84 27 P **P 01 58 55.9 -0.5**
ILAR Eielson Array 68.84 27 P **P 01 58 55.9 -0.5**
comp=E,3.6nm,0.6s,baz=297,slow=3.6,SNR=42
OBN Obninsk 69.44 322 *e*P **P 01 58 59.8 -0.5**
OBN *e* 01 59 10.5
OBN *e* 01 59 25.9
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,400nm,16.0s
PAX Paxson 69.80 29 *e*P **P 01 59 03.3 +0.8**
PAX pmax pmax
comp=Z,67nm,1.8s
PAX Paxson 69.80 29 *e*P **P 01 59 03.3 +0.8**
comp=Z,67nm,1.8s
SOC Sochi 69.95 310 *e*P **P 01 59 05.8 +2.1**
SOC *e* 02 01 36.5
SOC *e*SS SS 02 12 34.4 -7.8
SOC MLR MLR
comp=Z,408nm,17.0s
DIV Divide 70.05 31 *e*P **P 01 59 05.2 +1.1**
comp=Z,40nm,1.2s
BMRM Bremner River 70.64 31 *e*P **P 01 59 08.6 +0.9**
comp=Z,29nm,1.0s
RAYN Ar Rayn 70.69 288 *e*P **P 01 59 08.3 -0.3**
comp=Z,17nm,1.0s
ARCES ARCESS Array B 71.04 338 P **P 01 59 09.5 -0.4**
ARCES ARCESS Array B 71.04 338 P **P 01 59 09.5 -0.4**
comp=Z,8.8nm,0.9s,baz=59,slow=3.1,SNR=6.9
ARCES LR LR 02 33 32.5
comp=Z,418nm,19.2s,baz=70,slow=39
EGAK Eagle 71.23 27 *e*P **P 01 59 11.9 +0.8**
comp=Z,15nm,0.9s
DAWY Dawson 72.17 27 *e*P **P 01 59 17.6 +0.8**
MALT Malatya 72.24 305⇓*i*P P 01 59 39.2 +21
KAF Kangasniemi 72.88 331 *e*P **P 01 59 20.3 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 72.88 331 *e*p **P 01 59 20.3 -0.7**
comp=Z,0.5nm,0.3s
KAF Kangasniemi 72.88 331 *e*p P 01 59 31.8 +11
comp=Z,2.4nm,0.4s
INK Inuvik 73.06 22 *e*P **P 01 59 21.8 -0.1**
comp=Z,42nm,1.3s
INK Inuvik 73.06 22 P **P 01 59 21.9 -0.1**
comp=Z,12nm,1.0s,baz=298,slow=8.4,SNR=21
FINES FINESS Array B 73.19 330 P **P 01 59 22.3 -0.5**
FINES FINESS Array B 73.19 330 P **P 01 59 22.3 -0.5**
comp=Z,2.4nm,0.5s,baz=60,slow=4.9,SNR=24
FINES LR LR 02 35 47.0
comp=Z,1μm,18.2s,baz=75,slow=39
SIM Simferopol' 73.48 312 *d i*P P 01 59 35.4 +11
SIM *e*S SKiKP 02 09 17.2 +22
SIM pmax pmax
comp=Z,19nm,0.8s
VSU Vasula 73.81 327 *e*P **P 01 59 24.9 -1.6**
VSU pmax pmax
comp=Z,82nm,1.2s
HYT Haines Junctio 74.01 30 *e*P **P 01 59 29.3 +1.4**
KIEV Kiev 74.90 319 *e*P **P 01 59 31.9 -1.1**
KIEV pmax pmax
comp=Z,13nm,0.6s
KIEV Kiev 74.90 319 *e*P **P 01 59 31.9 -1.1**
comp=Z,13nm,0.6s
NACGM Naroch 74.93 324 *e* P 01 59 31.0 -2.1
ASF Jabal al Asfar 75.26 299 P **P 01 59 36.1 +0.5**
ASF Jabal al Asfar 75.26 299 P **P 01 59 36.1 +0.5**
comp=Z,2.0nm,0.8s,baz=165,slow=1.9,SNR=4.2
BR131 Keskin Array S 75.39 307 *e*P **P 01 59 35.9 -0.4**
comp=Z,6.5nm,0.7s
BRTR Keskin Array B 75.39 307 P **P 01 59 35.9 -0.4**
BRTR Keskin Array B 75.39 307 P **P 01 59 35.9 -0.4**
comp=Z,4.9nm,1.0s,baz=104,slow=5.2,SNR=17
ANTO Ankara 75.96 308⇑P **P 01 59 38.9 -0.6**
ANTO Ankara 75.96 308⇑*i*P **P 01 59 38.9 -0.6**
ANTO Ankara 75.96 308 *e*P **P 01 59 39.4 -0.1**
comp=Z,12nm,0.7s
ANTO *e*PcP **PcP 01 59 50.6 -1.2**
KIS Kishinev 76.35 315 *e*P P 01 59 46.0 +4.6
KIS LRM MLR 02 34 40.0
comp=Z,400nm,20.0s
KIS Kishinev 76.35 315 *e*P P 01 59 46.0 +4.6
KIS *e* 02 04 25.0
KIS *e* 02 10 12.0
KIS MLR MLR
comp=Z,400nm,18.0s
KIS MLR MLR
comp=E,300nm,17.0s
KIS MLR MLR
comp=Z,400nm,20.0s
TLCR 76.97 314⇓P **P 01 59 45.0 +0.1**
TLCR 76.97 314⇓*i*P **P 01 59 45.0 +0.1**
CSS Prodhromos 77.17 303 *e*P **P 01 59 45.9 -0.5**
comp=Z,20nm,0.8s
CSS *e*PcP **PcP 01 59 57.1 0.0**
SUW Suwalki 77.21 323 *e*P **P 01 59 45.6 -0.5**
SUW *e* 01 59 56.4
DAG Danmarks Havn 77.42 352 *i* P **P 01 59 45.7 -1.2**
comp=Z,7.2nm,1.0s
DAG *i* 01 59 53.9
CFR Carcaliu 77.42 314⇓P **P 01 59 47.2 -0.3**
CFR Carcaliu 77.42 314⇓*i*P **P 01 59 47.2 -0.3**
GHRR 77.59 315⇑*i*P P 02 00 00.1 +12
EIL Elat 77.67 297 P **P 01 59 49.4 +0.2**
EIL Elat 77.67 297 P **P 01 59 49.4 +0.2**
comp=Z,4.0nm,1.0s,baz=75,slow=12,SNR=3.4
EIL LR LR 02 37 50.0
comp=Z,263nm,19.3s,baz=250,slow=39
HARR Harsova 77.73 313⇓*i*P P 02 00 00.1 +11
PETR Petresti 77.82 315⇑*i*P P 02 00 01.9 +12
TESR Tescani 77.92 315⇓*i*P **P 01 59 50.1 -0.2**
VRI Vrincioaia 78.10 315⇓P **P 01 59 52.1 +0.8**
VRI Vrincioaia 78.10 315⇓*i*P **P 01 59 52.1 +0.8**
PLOR Plostina 78.16 315⇑P P 01 59 57.2 +5.5
PLOR Plostina 78.16 315⇑*i*P P 01 59 57.2 +5.5
BURAR Bucovina Array 78.42 317⇑P **P 01 59 53.1 -0.1**
BURAR Bucovina Array 78.42 317⇑*i*P **P 01 59 53.1 -0.1**
MLR Muntele Rosu 78.75 315⇓*i*P **P 01 59 55.5 +0.4**
MLR Muntele Rosu 78.75 315 P **P 01 59 54.9 -0.1**
MLR Muntele Rosu 78.75 315 P **P 01 59 54.9 -0.1**
comp=Z,1.8nm,0.9s,baz=47,slow=4.8,SNR=11
SECR 78.84 314⇓*i*P **P 01 59 56.6 +1.2**
RES Resolute Bay 79.02 10 *e*P **P 01 59 55.9 +0.1**
comp=Z,14nm,0.8s
KWP Kalwaria Pacla 79.18 319⇓P **P 01 59 57.6 +0.4**
KWP Kalwaria Pacla 79.18 319⇓*i*P **P 01 59 57.6 +0.4**
KWP Kalwaria Pacla 79.18 319 *e*P **P 01 59 57.3 +0.1**
comp=Z,33nm,0.8s
KWP Kalwaria Pacla 79.18 319 *e*P **P 01 59 56.9 -0.3**
KWP *e* 02 00 09.1
HFS Hagfors 79.28 331 P **P 01 59 56.3 -1.2**
HFS Hagfors 79.28 331 P **P 01 59 56.3 -1.2**
comp=Z,6.3nm,0.6s,baz=66,slow=3.6,SNR=14
VOIR 79.35 315⇓P **P 01 59 58.3 0.0**
VOIR 79.35 315⇓*i*P **P 01 59 58.3 0.0**
BEL Belsk 79.40 322 *e*P **P 01 59 58.7 +0.4**
ARR Arges 79.65 315⇑*i*P **P 02 00 00.1 +0.2**
KOLS Kolonicke sedl 79.72 319 *e*P **P 02 00 00.0 -0.2**
KOLS pmax pmax
comp=Z,14nm,1.9s
KOLS Kolonicke sedl 79.72 319 *e*P **P 02 00 00.0 -0.2**
UZH Uzhgorod 79.83 319 *e*P P 01 59 57.4 -3.3
UZH *e* 02 00 11.1
TRPA Tarpa 79.88 318⇑*i*P **P 02 00 01.3 +0.3**
NB2 NORSAR Subarra 79.90 333 P **P 02 00 00.3 -0.6**
comp=Z,15nm,0.8s,baz=61,slow=5.3
NB2 NORSAR Subarra 79.90 333 P **P 02 00 00.3 -0.6**
baz=61,slow=5.3
NOA NORSAR Array B 79.90 333 P **P 01 59 60.0 -0.9**
NOA NORSAR Array B 79.90 333 P **P 01 59 60.0 -0.9**
comp=Z,3.0nm,0.7s,baz=62,slow=4.8,SNR=13
STHS Stebnicka Huta 80.14 320 *e*P **P 02 00 02.8 +0.4**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 80.14 320 *e*P **P 02 00 02.8 +0.4**
LOT Lotru 80.18 315⇓*i*P **P 02 00 03.1 +0.3**
CRVS Cervenica-Dubn 80.22 319 *e*P **P 02 00 02.9 0.0**
CRVS pmax pmax
comp=Z,17nm,1.5s
CRVS Cervenica-Dubn 80.22 319 *e*P **P 02 00 02.9 0.0**
DRGR 80.31 317⇓P **P 02 00 03.1 -0.4**
DRGR 80.31 317⇓*i*P **P 02 00 03.1 -0.4**
OJC Ojcow 80.65 321 *e*P **P 02 00 05.3 +0.2**
OJC Ojcow 80.65 321 *e*P **P 02 00 05.4 +0.2**
comp=Z,21nm,0.6s
GZR Gura Zlata 80.84 315⇑P **P 02 00 06.5 +0.2**
GZR Gura Zlata 80.84 315⇑*i*P **P 02 00 06.5 +0.2**
KECS Kecovo 80.98 319 *e*P **P 02 00 07.2 +0.2**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 80.98 319 *e*P **P 02 00 07.2 +0.2**
BZS Buzias 81.49 316⇑P **P 02 00 09.5 -0.2**
BZS Buzias 81.49 316⇑*i*P **P 02 00 09.5 -0.2**
PSZ Piszkesteto 81.58 319⇓P **P 02 00 09.4 -0.8**
PSZ Piszkesteto 81.58 319⇓*i*P **P 02 00 09.4 -0.8**
PSZ Piszkesteto 81.58 319 *e*P **P 02 00 09.9 -0.4**
comp=Z,9.2nm,0.8s
PSZ Piszkesteto 81.58 319⇑*e*P **P 02 00 10.2 0.0**
VTS Vitosha 81.70 313⇑P **P 02 00 11.3 +0.3**
VTS Vitosha 81.70 313⇑*i*P **P 02 00 11.3 +0.3**
OKC Ostrava-Krasne 81.78 321 *e*P **P 02 00 10.6 -0.5**
OKC *e* 02 00 19.0
OKC MLR MLR
comp=Z,400nm,14.4s
OKC Ostrava-Krasne 81.78 321⇑*e*P **P 02 00 10.6 -0.5**
OKC *ex* x 02 00 19.0
OKC AMS AMS 02 42 10.0
comp=Z,400nm,14.4s
MORC Moravsky Berou 82.15 321 *e*P **P 02 00 13.4 +0.2**
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 82.15 321 *e*P **P 02 00 13.4 +0.2**
comp=Z,6.6nm,0.8s
KSP Ksiaz 82.37 322 *e*P **P 02 00 14.4 +0.2**
KSP *e* 02 00 25.3
KSP Ksiaz 82.37 322 *e*P **P 02 00 14.6 +0.4**
KSP *e* 02 00 25.4

DPC Dobruska-Polom 82.59 322⇑ *i*P P 02 00 15.8 +0.4
DPC *e* 02 00 22.7
DPC MLR MLR
comp=Z,2μm,15.3s
DPC Dobruska-Polom 82.59 322⇑ *i*P P 02 00 15.8 +0.4
DPC *ex* x 02 00 22.7
DPC AMS AMS 02 39 40.0
comp=Z,2μm,15.3s
DPC Dobruska-Polom 82.59 322 *e*P P 02 00 15.9 +0.4
comp=Z,85nm,0.7s
UPC Upice 82.69 322 *e*P P 02 00 16.2 +0.3
UPC *e* 02 00 25.6
UPC Upice 82.69 322⇑ *e*P P 02 00 16.2 +0.3
UPC *ex* x 02 00 25.6
YKW3 Yellowknife Ar 82.72 23 *e*P P 02 00 16.1 +0.3
comp=Z,0.5nm,1.0s
YKA Yellowknife Ar 82.77 23 P P 02 00 15.9 -0.1
YKA Yellowknife Ar 82.77 23 P P 02 00 15.9 -0.1
comp=Z,3.4nm,0.8s,baz=313,slow=5.3,SNR=11
SMOL Smolenice 82.80 320 *e*P P 02 00 17.7 +1.2
SMOL Smolenice 82.80 320 *e*P P 02 00 17.7 +1.2
CSKK Cs˘ťkako 82.82 319⇑ *e*P P 02 00 17.0 +0.4
VRAC Vranov 82.92 321 P P 02 00 17.7 +0.6
VRAC Vranov 82.92 321 P P 02 00 17.7 +0.6
comp=Z,5.8nm,0.8s,baz=82,slow=5.1,SNR=14
PKST T˘'s 83.00 319⇑ *e*P P 02 00 17.5 -0.1
PKSM Moragy 83.11 317 ⇑P P 02 00 18.1 -0.1
PKSM Moragy 83.11 317⇑ *i*P P 02 00 18.0 -0.1
PKSM Moragy 83.11 317⇑ *e*P P 02 00 17.9 -0.2
SUMG Summit 83.45 355 *e*P P 02 00 19.8 -0.1
SUMG pmax pmax
comp=Z,46nm,1.2s
SUMG Summit 83.45 355 *i*P P 02 00 19.2 -0.7
comp=Z,7.2nm,1.0s
SUMG *i* 02 00 32.1
SUMG
comp=Z,400nm,15.0s
SUMG Summit 83.45 355 *e*P P 02 00 19.8 -0.1
comp=Z,46nm,1.2s
PVCC Panska Ves 83.49 323 *e*P P 02 00 20.3 +0.3
PVCC MLR MLR
comp=Z,500nm,15.6s
PVCC Panska Ves 83.49 323⇑ *e*P P 02 00 20.3 +0.3
PVCC AMS AMS 02 41 20.0
comp=Z,500nm,15.6s
TREC Trest 83.56 321 *e*P P 02 00 20.7 +0.2
TREC MLR MLR
comp=Z,500nm,16.4s
TREC Trest 83.56 321⇑ *e*P P 02 00 20.7 +0.2
TREC AMS AMS 02 42 50.0
comp=Z,500nm,16.4s
BRG Berggiesshubel 83.66 323 *i*P P 02 00 21.0 +0.1
comp=Z,10nm,1.4s
BRG *i* 02 00 33.5
comp=Z,8.6nm,0.8s
BRG
comp=Z,867nm,15.9s
BRG
comp=N,503nm,15.2s
BRG
comp=E,492nm,15.2s
BRG Berggiesshubel 83.66 323 *e*P P 02 00 20.9 +0.1
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 83.66 323 *i*P P 02 00 21.0 +0.1
BRG *i* 02 00 33.5
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG MLR MLR
comp=Z,867nm,15.9s
BRG MLR MLR
comp=N,503nm,15.2s
BRG MLR MLR
comp=E,492nm,15.2s
PRU Pruhonice 83.77 322⇑ *i*P P 02 00 21.5 +0.1
PRU *e* 02 00 28.4
PRU MLR MLR
comp=Z,300nm,15.6s
PRU Pruhonice 83.77 322⇑ *i*P P 02 00 21.5 +0.1
PRU *e*pP **PcP 02 00 28.4 +2.8**
PRU AMS AMS 02 40 30.0
comp=Z,300nm,15.6s
PRA Prague 83.79 322 ⇑P P 02 00 22.0 +0.5
CLL Collm 83.96 324 *e*P P 02 00 22.2 -0.2
comp=Z,17nm,1.1s
CLL Collm 83.96 324⇑ *i*P P 02 00 22.1 -0.3
CLL *i* 02 00 32.7
CLL pmax pmax
comp=Z,18nm,1.1s
CLL MLR MLR
comp=Z,600nm,18.4s
CLL Collm 83.96 324⇑ *i*P P 02 00 22.1 -0.3
comp=Z,18nm,1.1s
CLL *i* (sP) **sP 02 00 29.2 +0.2**
CLL *i* 02 00 32.7
CLL *e*(PP) 02 03 42.0
CLL *e* 02 17 12.0
CLL *e* 02 20 42.0
CLL Lm MLR 02 43 00.0
comp=Z,600nm,18.4s
FBE Freiberg 83.96 323 *e*P P 02 00 22.8 +0.4
comp=Z,22nm,1.1s
CONA Conrad Observa 84.00 320 *i*pP P 02 00 23.2 +0.5
comp=Z,18nm,1.1s,SNR=12
ARSA Arzberg 84.52 319⇑ *i*P P 02 00 21.8 -3.6
comp=Z,9.6nm,1.3s
TANN Tannenbergstha 84.71 323 *e*P P 02 00 26.2 -0.1
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 84.73 322 *e*P P 02 00 25.7 -0.8
KHC *e* 02 00 37.0
KHC MLR MLR
comp=Z,600nm,17.1s
KHC Kasperske Hory 84.73 322⇑ *e*P P 02 00 25.7 -0.8
KHC *ex* x 02 00 37.0
KHC AMS AMS 02 42 30.0
comp=Z,600nm,17.1s
KHC Kasperske Hory 84.73 322 *e*P P 02 00 26.0 -0.4
comp=Z,8.2nm,1.0s
WERD Werda 84.78 323 *e*P P 02 00 26.6 0.0
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 84.81 321 *e*P P 02 00 26.9 0.0
comp=Z,16nm,0.9s
GEC2 *e*pP pP 02 00 37.9 +6.1
GEC2 GERESS Array S 84.81 321 *e*P P 02 00 26.9 0.0
GEC2 *e**PP pP 02 00 37.9 +6.1
GEC2 pmax pmax
comp=Z,16nm,0.9s
GERES GERESS Array B 84.81 321 P P 02 00 26.5 -0.4
GERES GERESS Array B 84.81 321 P P 02 00 26.5 -0.4
comp=Z,8.3nm,0.7s,baz=57,slow=4.9,SNR=67
GUNZ Gunzen 84.81 323 *e*P P 02 00 26.9 +0.1
comp=Z,13nm,0.9s
NKC Novy Kostel 84.81 323⇑ *i*P P 02 00 26.7 -0.1
NKC *e* 02 00 37.5
NKC Novy Kostel 84.81 323⇑ *i*P P 02 00 26.7 -0.1
NKC *ex* x 02 00 37.5
WERN Wernitzgruen 84.82 323 *e*P P 02 00 27.0 +0.1
comp=Z,13nm,1.0s
WERN *e*pP pP 02 00 38.0 +6.3
NRDL Niedersach Rie 84.88 326 *e*P P 02 00 27.5 +0.6
comp=Z,19nm,1.2s
MOA Molln 84.97 320 *i*P P 02 00 27.9 +0.2
comp=Z,21nm,0.7s,SNR=5.9
MOX Moxa 85.06 324 *e*P P 02 00 27.9 -0.1
comp=Z,32nm,1.7s
MOX *e*pP pP 02 00 39.7 +6.8
MOX Moxa 85.06 324 *e*P P 02 00 27.9 -0.1
MOX *e**PP pP 02 00 39.7 +6.8
MOX pmax pmax
comp=Z,32nm,1.7s
PERS Pernice 85.06 319 *i*P P 02 00 27.8 -0.4
PERS *i* 02 00 38.6
SOKA Soboth 85.09 319⇑ *i*P P 02 00 28.0 -0.4
comp=Z,18nm,0.7s,SNR=8.5
MANZ Manzenberg 85.12 323 *e*pP pP 02 00 40.3 +7.0
WET Wettzell 85.12 322 *e*P P 02 00 28.3 -0.1
comp=Z,12nm,1.4s
WET Wettzell 85.12 322 *e*P P 02 00 28.3 -0.1
WET pmax pmax
comp=Z,12nm,1.4s
ROTZ Rotzenmuhle 85.18 323 *e*P P 02 00 29.0 +0.3
comp=Z,12nm,1.0s
PDKS Podkum 85.41 319 *e*P P 02 00 29.9 0.0
PDKS *i* 02 00 40.9

OPO Ambohidratompo 85.46 248 P P 02 00 30.3 -0.4
OPO Ambohidratompo 85.46 248 P P 02 00 30.3 -0.4
comp=Z,4.4nm,0.8s,baz=183,slow=10.0,SNR=4.2
BOJS Bojanci 85.53 318 *i*P P 02 00 30.5 +0.1
BOJS *i* 02 00 39.9
GRF Grafenberg Arr 85.77 323 *e*P P 02 00 31.9 +0.3
comp=Z,30nm,1.4s
GRF Grafenberg Arr 85.77 323 *e*P P 02 00 31.9 +0.3
GRF pmax pmax
comp=Z,30nm,1.4s
GRFO Grafenberg 85.77 323 *e*P P 02 00 31.5 -0.1
GRFO pmax pmax
comp=Z,128nm,2.2s
GRFO Grafenberg 85.77 323 *e*P P 02 00 31.5 -0.1
comp=Z,128nm,2.2s
RJOB Jochberg 85.89 321 *e*P P 02 00 32.1 -0.2
comp=Z,7.0nm,1.2s
JAVS Javornik 86.06 319 *i*P P 02 00 32.2 -1.0
JAVS *i* 02 00 44.2
FUR Furstenfeldbru 86.54 322 *e*P P 02 00 35.6 +0.2
comp=Z,46nm,1.5s
FUR Furstenfeldbru 86.54 322 *e*P P 02 00 35.6 +0.2
FUR pmax pmax
comp=Z,46nm,1.5s
BUG Bochum--Univer 86.93 326 *e*P P 02 00 37.2 0.0
comp=Z,23nm,1.3s
KMBO Kilima Mbogo 87.10 268 *e*P P 02 00 39.8 +0.7
comp=Z,76nm,2.2s
KMBO Kilima Mbogo 87.10 268 P P 02 00 38.5 -0.5
comp=Z,2.4nm,0.8s,baz=49,slow=20,SNR=5.1
STU Stuttgart 87.38 323 *e*P P 02 00 39.3 -0.2
comp=Z,23nm,1.5s
MBW Mount Baker 87.42 37 P P 02 00 41.1 +1.2
JCW Jim Creek 87.72 38 P P 02 00 42.5 +1.3
DAVOX Davos/Dischmat 88.08 321 P P 02 00 42.6 -0.5
DAVOX Davos/Dischmat 88.08 321 P P 02 00 42.6 -0.5
comp=Z,4.1nm,0.9s,baz=48,slow=6.4,SNR=10
BFO Black Forest 88.11 323 *e*P P 02 00 42.2 -0.8
BFO pmax pmax
comp=Z,3.0nm,1.0s
BFO Black Forest 88.11 323 *e*P P 02 00 42.2 -0.8
comp=Z,3.1nm,1.0s
AQU L'Aquila 88.25 316 *e*P P 02 00 43.5 -0.4
comp=Z,17nm,0.7s
WLF Walferdange 88.53 325 *e*P P 02 00 45.3 +0.4
comp=Z,17nm,1.1s
LON Longmire 88.59 39 *e*P P 02 00 46.4 +1.1
LON pmax pmax
comp=Z,8.0nm,1.1s
LON Longmire 88.59 39 *e*P P 02 00 46.4 +1.1
comp=Z,7.9nm,1.1s
CEL Celeste 88.62 311 *e*P P 02 00 46.2 +0.5
comp=Z,27nm,1.3s
CDF Champ du Feu 88.64 323⇑ *i*P P 02 00 45.2 -0.4
comp=Z,38nm,1.1s
CDF Champ du Feu 88.64 323 *e*P P 02 00 56.0 +10
comp=Z,34nm,0.9s
ECH Echery 88.82 323 *e*P P 02 00 46.2 -0.2
ECH pmax pmax
comp=Z,6.0nm,1.3s
ECH Echery 88.82 323 *e*P P 02 00 46.2 -0.2
comp=Z,6.0nm,1.3s
ETW Entiat 88.95 37 P P 02 00 48.3 +1.1
GIVF Givet 88.97 326 *e*P P 02 00 46.6 -0.4
ASR Mount Adams--S 89.04 39 P P 02 00 49.0 +1.4
TBM Table Mountain 89.04 38 P P 02 00 48.9 +1.4
EDM Edmonton 89.13 30 *e*P P 02 00 48.6 +0.8
EDM Edmonton 89.13 30 *e*P P 02 00 48.6 +0.8
HINF Hinteralfeld 89.22 323⇑ *i*P P 02 00 47.3 -1.0
comp=Z,9.4nm,0.8s
BAIF Baives 89.31 326 *e*P P 02 00 48.4 -0.2
BAIF Baives 89.31 326 *e*P P 02 00 59.3 +11
comp=Z,14nm,1.1s
HAU Haudompre 89.38 323⇑ *i*P P 02 00 48.2 -0.8
comp=Z,16nm,1.0s
HAU Haudompre 89.38 323 *e*P P 02 00 59.1 +10
comp=Z,20nm,0.8s
HAU *e*R
comp=Z,613nm,18.5s
EKA Eskdalemuir Ar 89.39 333 P P 02 00 47.3 -1.5
EKA Eskdalemuir Ar 89.39 333 P P 02 00 47.3 -1.5
comp=Z,1.5nm,0.7s,baz=33,slow=3.6,SNR=4.9
PAGF Fort de Pagny 89.40 324⇑ *i*P P 02 00 48.9 -0.2
comp=Z,3.4nm,0.8s
PAGF Fort de Pagny 89.40 324 *e*P P 02 00 59.6 +11
comp=Z,4.2nm,0.8s
MXC Moxie City 89.55 38 P P 02 00 51.8 +1.9
MEZF Maizieres J'vi 89.80 324⇑ *i*P P 02 00 50.6 -0.3
comp=Z,26nm,1.2s
MEZF Maizieres J'vi 89.80 324 *e*P P 02 01 01.5 +11
comp=Z,19nm,0.9s
SFTF Sexfontaines 89.98 324⇑ *i*P P 02 00 51.1 -0.7
comp=Z,19nm,0.9s
SFTF Sexfontaines 89.98 324 *e*P P 02 01 02.1 +10
comp=Z,30nm,0.9s
CASY Casey 90.00 185 *e*P P 02 00 51.7 +0.5
comp=Z,112nm,2.7s
NEW Newport 90.32 36 *e*P P 02 00 54.8 +1.3
comp=Z,14nm,0.9s
CABF La Chapelle 90.34 322⇑ *i*P P 02 00 53.0 -0.6
CABF La Chapelle 90.34 322 *e*P P 02 01 03.8 +10
comp=Z,11nm,0.9s
LPG La Plagne 90.60 321⇑ *i*P P 02 00 55.0 -0.1
comp=Z,28nm,1.0s
LPG La Plagne 90.60 321 *e*P P 02 01 05.8 +11
comp=Z,43nm,0.8s
LPL La Plagne 90.60 321⇑ *i*P P 02 00 54.8 -0.2
comp=Z,32nm,1.1s
LPL La Plagne 90.60 321 *e*P P 02 01 05.7 +11
comp=Z,32nm,0.8s
DRV Dumont d'Urvil 90.69 174 PP PP 02 04 08.0 -22
DRV S S 02 11 07.0 -42
DRV SS SS 02 17 39.0 -13
DRV L L 02 26 00.0
BNI Bardonecchia 90.90 321 *e*P P 02 00 55.7 -0.6
BNI pmax pmax
comp=Z,7.0nm,0.9s
BNI Bardonecchia 90.90 321 *e*P P 02 00 55.7 -0.6
comp=Z,6.7nm,0.9s
PGF Pioggiola 90.92 318⇑ *i*P P 02 00 56.0 -0.4
comp=Z,46nm,1.3s
PGF Pioggiola 90.92 318 *e*P P 02 01 06.8 +10
comp=Z,20nm,0.9s
MBDF Montbardon 91.03 320⇑ *i*P P 02 00 55.7 -1.2
MBDF Montbardon 91.03 320 *e*P P 02 01 06.7 +10
comp=Z,8.7nm,0.8s
SBF Sospel 91.13 320⇑ *i*P P 02 00 56.4 -0.9
comp=Z,22nm,1.0s
SBF Sospel 91.13 320 *e*P P 02 01 07.2 +10
comp=Z,20nm,0.7s
LOR Lormes 91.18 324⇑ *i*P P 02 00 56.6 -0.8
comp=Z,10nm,1.0s
LOR Lormes 91.18 324 *e*P P 02 01 07.5 +10
comp=Z,8.6nm,0.8s
LOR *e*R
comp=Z,535nm,18.2s
ORIF Oris-en-Rattie 91.44 321⇑ *i*P P 02 00 58.4 -0.4
comp=Z,16nm,1.2s
ORIF Oris-en-Rattie 91.44 321 *e*P P 02 01 09.3 +11
comp=Z,19nm,0.8s
ORIF *e*R
comp=Z,806nm,17.2s
SSF Saint Saulge 91.50 324 *e*P P 02 00 58.1 -0.8
comp=Z,12nm,1.2s
SSF Saint Saulge 91.50 324 *e*P P 02 01 09.3 +10
comp=Z,5.7nm,0.8s
WALA Waterton Lakes 91.51 34 *e*P P 02 00 59.1 +0.1
comp=Z,0.8nm,1.3s
SMF Signal de Mont 91.56 323⇑ *i*P P 02 00 58.6 -0.6
comp=Z,34nm,1.1s
SMF Signal de Mont 91.56 323 *e*P P 02 01 09.5 +10
comp=Z,26nm,0.9s
AVF Avril sur Loir 91.74 324 *e*P P 02 00 59.4 -0.6
comp=Z,12nm,0.9s
AVF Avril sur Loir 91.74 324 *e*P P 02 01 10.4 +10
comp=Z,15nm,0.8s
FRF La Foret Royal 91.77 320⇑ *i*P P 02 00 59.5 -0.7
comp=Z,4.6nm,0.8s
FRF La Foret Royal 91.77 320 *e*P P 02 01 10.4 +10
comp=Z,10nm,0.8s
BSMT Bassoo Peak 91.81 35 *e*P P 02 00 59.4 -1.2
comp=Z,17nm,1.4s
HYF Humbligny 91.84 324 *e*P P 02 01 00.5 +0.1
HYF Humbligny 91.84 324 *e*P P 02 01 11.5 +11
LMR La Mourre 91.99 319⇑ *i*P P 02 01 00.6 -0.6
comp=Z,24nm,1.3s
LMR La Mourre 91.99 319 *e*P P 02 01 11.4 +10
comp=Z,11nm,1.0s
BGF Bois d'Agland 92.16 324⇑ *i*P P 02 01 01.4 -0.6
BGF Bois d'Agland 92.16 324 *e*P P 02 01 12.1 +10
SMRF Simiane la Rot 92.17 320⇑ *i*P P 02 01 01.9 -0.2
comp=Z,14nm,1.2s
SMRF Simiane la Rot 92.17 320 *e*P P 02 01 12.7 +11
comp=Z,11nm,1.0s
VIVF Saint-Julien-l 92.17 321⇑ *i*P P 02 01 01.6 -0.5
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 92.17 321 *e*P P 02 01 12.5 +10
comp=Z,22nm,0.9s
BMO Blue Mountains 92.25 38 *e*P P 02 01 03.6 +1.1
BMO pmax pmax
comp=Z,13nm,1.3s
BMO Blue Mountains 92.25 38 *e*P P 02 01 03.6 +1.1
comp=Z,13nm,1.3s
LDF La Druitiere 92.44 326 *e*P P 02 01 01.9 -1.3
LDF La Druitiere 92.44 326 *e*P P 02 01 12.8 +10
FLN La Foliniere 92.52 327 *e*P P 02 01 03.4 -0.1
FLN La Foliniere 92.52 327 *e*P P 02 01 14.1 +11
comp=Z,6.6nm,0.8s
FLN *e*R
comp=Z,652nm,17.2s
TCF Toulx Ste Croi 92.67 324 *e*P P 02 01 04.2 -0.2
comp=Z,24nm,1.6s
TCF Toulx Ste Croi 92.67 324 *e*P P 02 01 15.1 +11
comp=Z,7.5nm,1.0s
SLMT Seeley Lake 92.88 35 *e*P P 02 01 06.3 +0.9
FFC Flin Flon 92.89 25 *e*P P 02 01 05.1 0.0
FFC pmax pmax
comp=Z,11nm,0.8s
FFC Flin Flon 92.89 25 *e*P P 02 01 05.1 0.0
comp=Z,11nm,0.8s
GRR Gorron 92.95 327 *e*P P 02 01 16.6 +11
LASF Ste Croix 93.10 321⇑ *i*P P 02 01 06.2 -0.2
comp=Z,14nm,1.2s
LASF Ste Croix 93.10 321 *e*P P 02 01 17.2 +11
comp=Z,5.1nm,0.8s
CAF Calviac 93.60 323⇑ *i*P P 02 01 08.7 0.0
comp=Z,21nm,1.1s
CAF Calviac 93.60 323 *e*P P 02 01 19.5 +11
comp=Z,17nm,0.9s
RJF Les Rejaudoux 93.67 323 *e*P P 02 01 09.1 +0.2
comp=Z,3.4nm,0.6s
RJF Les Rejaudoux 93.67 323 *e*P P 02 01 20.0 +11
comp=Z,12nm,0.9s
RJF *e*R
comp=Z,540nm,18.5s
MFF Saint Martin d 93.74 325⇑ *i*P P 02 01 08.3 -0.9
comp=Z,3.3nm,0.7s
MFF Saint Martin d 93.74 325 *e*P P 02 01 19.1 +10
comp=Z,5.7nm,0.8s
SGMF Saint Gilles 93.89 327⇑ *i*P P 02 01 08.9 -0.9
SGMF Saint Gilles 93.89 327 *e*P P 02 01 19.7 +10
PAHR Pah Rah Range 94.01 44 *e*P P 02 01 11.5 +0.7
comp=Z,5.7nm,1.0s
PPT2 Papeete2 94.02 107 *e*S S 02 12 14.2 -7.4
comp=Z,348nm,31.5s
PPT2 Papeete2 94.02 107 *e*LR LR 02 31 20.9
comp=Z,383nm,22.8s
ROSF Rostrenen 94.19 328 *e*P P 02 01 10.0 -1.2
comp=Z,6.8nm,0.9s
ROSF Rostrenen 94.19 328 *e*P P 02 01 21.0 +10
comp=Z,7.1nm,0.8s
CMB Columbia Colle 94.31 45 *e*P P 02 01 12.8 +0.7
CMB pmax pmax
comp=Z,9.0nm,1.3s
CMB Columbia Colle 94.31 45 *e*P P 02 01 12.8 +0.7
comp=Z,8.9nm,1.3s
KEST Kesra 94.41 312 P P 02 01 10.9 -1.7
KEST Kesra 94.41 312 P P 02 01 10.9 -1.7
comp=Z,1.2nm,0.8s,baz=216,slow=18,SNR=4.1
QUIF Quistinic 94.42 327 *e*P P 02 01 10.9 -1.4
QUIF Quistinic 94.42 327 *e*P P 02 01 21.8 +10
comp=Z,5.0nm,0.7s
MTLF Montolieu 94.49 321⇑ *i*P P 02 01 12.4 -0.4
comp=Z,9.4nm,1.2s
MTLF Montolieu 94.49 321 *e*P P 02 01 23.4 +11
comp=Z,8.0nm,1.1s
HLID Hailey 94.69 38 *e*P P 02 01 15.6 +1.7
comp=Z,12nm,1.4s
NVAR Mina Array Bea 95.43 44 P P 02 01 18.4 +0.9
NVAR Mina Array Bea 95.43 44 P P 02 01 18.4 +0.9
comp=Z,2.0nm,0.8s,baz=298,slow=5.3,SNR=12
EPF Esparros 95.76 322 *e*P P 02 01 19.1 +0.5
ETSF Etsaut 96.35 322⇑ *i*P P 02 01 21.4 +0.1
comp=Z,4.3nm,0.8s
ETSF Etsaut 96.35 322 *e*P P 02 01 32.3 +11
comp=Z,9.2nm,1.1s
TBI Tubuai 96.36 113 *e*LR LR 02 32 23.1
comp=Z,167nm,24.2s
SJPF Ste Jean 96.58 323 *e*P P 02 01 22.4 +0.1
SJPF Ste Jean 96.58 323 *e*P P 02 01 33.2 +11
ULM Lac du Bonnet 98.72 24 LR LR 02 53 26.3
comp=Z,349nm,18.1s,baz=329,slow=40
TXAR Lajitas Array 110.56 43 PKiKP PKiKP 02 06 25.5 0.0
TXAR Lajitas Array 110.56 43 PKiKP PKiKP 02 06 25.5 0.0
comp=Z,0.4nm,0.7s,baz=318,slow=1.7,SNR=6.2
TORD Torodi Ar. Bea 112.55 296 PKiKP PKiKP 02 06 28.2 -1.3
TORD Torodi Ar. Bea 112.55 296 PKiKP PKiKP 02 06 28.2 -1.3
comp=Z,0.5nm,0.8s,baz=5.3,slow=2.0,SNR=2.4
ROSC El Rosal 146.86 34 PKPbc PKPdf 02 07 34.7 +0.5
ROSC *e*PKPdf **PKPbc 02 07 34.8 -1.2**
ROSC El Rosal 146.86 34 PKPbc PKPdf 02 07 34.7 +0.5
comp=Z,2.3nm,0.6s,baz=276,slow=20,SNR=6.0
OTAV Otavalo 148.16 45 *e*PKPdf PKPdf 02 07 35.5 -0.9
OTAV *e*PKPbc **PKPbc 02 07 40.0 +0.4**
ATAH Atahualpa 153.35 56 PKP PKPdf 02 07 43.2 -1.1
ATAH Atahualpa 153.35 56 PKP PKPdf 02 07 43.2 -1.1
comp=Z,2.8nm,0.5s,baz=314,slow=6.3,SNR=4.3
CFAA Coronel Fontan 166.72 130 PKP PKPdf 02 07 58.2 -0.1
CFAA PKPab **PKPab 02 08 59.5 -1.6**
CFAA Coronel Fontan 166.72 130 PKP PKPdf 02 07 58.2 -0.1
comp=Z,0.3nm,0.9s,baz=330,slow=7.6,SNR=2.3
CFAA PKPab **PKPab 02 08 59.5 -1.6**
comp=Z,0.3nm,1.0s,baz=322,slow=6.3,SNR=4.5
LPAZ La Paz 166.86 59 PKP PKPdf 02 07 59.7 +0.2
LPAZ La Paz 166.86 59 PKP PKPdf 02 07 59.7 +0.2
comp=Z,6.7nm,1.2s,baz=31,slow=2.7,SNR=11
BDFB Brasilia 168.93 313 PKP PKPdf 02 07 59.9 -0.4
BDFB PKPab **PKPab 02 09 10.9 -0.3**
BDFB Brasilia 168.93 313 PKP PKPdf 02 07 59.9 -0.4
comp=Z,0.8nm,0.4s,baz=242,slow=4.6,SNR=3.2
BDFB PKPab **PKPab 02 09 10.9 -0.3**
comp=Z,2.6nm,0.9s,baz=66,slow=18,SNR=2.4

IDC 18 02:18:59.6±1.8, 13°.06N×92°.66E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=63.0km s-min=22.3km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.09	48	Pn	Pn	02 20 57.6	-0.9
0.3nm,0.3s,baz=238,slow=17,SNR=3.9							
MKAR	Makanchi Array	34.74	347	P	P	02 25 50.9	-0.7
0.5nm,0.7s,baz=170,slow=10,SNR=4.0							
ZALV	Zalesovo Beam	41.26	353	P	P	02 26 47.2	+0.8
0.5nm,0.4s,baz=174,slow=9.9,SNR=3.0							
WRA	Warramunga Arr	52.52	128	P	P	02 28 14.6	-0.4
1.0nm,0.7s,baz=306,slow=8.2,SNR=5.6							
ASAR	Alice Springs	54.40	132	P	P	02 28 28.8	0.0
0.4nm,0.5s,baz=310,slow=6.9,SNR=6.8							

---

*IDC **18** 02:39:56.9±0.9, 28°.16N×66°.48E, h0km, mb3.8/18, mb1 4.0/19, mb1mx3.9/32, mbtmp3.8/19, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/50, Error ellipse: s-maj=20.5km s-min=15.8km az=7.0*

*ISCJB **18** 02:40:00.5±0.7, 28°.25N±0°.09×66°.61E±0°.07, h33km, mb3.9/23, MS3.4/4, Error ellipse: s-maj=13.9km s-min=7.2km az=158.5*

ISC 18 02:40:01.8±0.9, 28°.1N±0°.1×66°.69E±0°.07, h35km, n34, σ1§49/35, mb4.0/23, MS3.3/4, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	Thamme Wali	6.37	42	‖P	Pn	02 41 33.0	-0.2
CEP	Cherat	7.22	37	P	Pn	02 41 47.5	+2.5
CEP				S	Sn	02 43 06.0	+0.1
NDI	New Delhi	9.28	84	*e*P	Pn	02 42 24.0	+11
NDI				*e*S	Sn	02 43 53.0	-3.4
SMLA	Simla	9.59	69	*i*P	Pn	02 42 18.1	+0.8
SMLA				*i*S	Sn	02 44 01.4	-2.5

SMLA *i* S **Sn** **02 44 02.0 -1.9**
SMLA AML AML 02 44 07.0
comp=E,660nm,0.3s
SMLA AML AML 02 44 08.0
comp=N,506nm,0.3s
AAK Ala-Archa 15.79 22 Pn **Pn** **02 43 40.7 -0.9**
comp=N,0.7nm,0.3s,baz=262,slow=8.7,SNR=3.6
GNI Garni 21.70 309 LR LR 02 54 14.9
comp=N,89nm,18.9s,baz=158,slow=40
MKAR Makanchi Array 22.29 29 P **P** **02 44 55.1 -0.9**
comp=N,1.1nm,0.6s,baz=215,slow=8.3,SNR=11
MKAR LR LR 02 55 16.1
comp=N,116nm,21.9s,baz=75,slow=41
AKTO Aktyubinsk 23.23 346 P **P** **02 45 06.2 +0.5**
comp=N,1.5nm,0.6s,baz=162,slow=11,SNR=5.8
KURBB Kurchatov Arra 24.19 19 P **P** **02 45 15.0 +0.2**
comp=N,2.2nm,0.8s,baz=211,slow=9.1,SNR=10
KBZ Khabaz 24.64 315 P **P** **02 45 17.7 -1.3**
comp=N,2.4nm,0.8s,baz=98,slow=8.2,SNR=5.5
BVAR Borovoye Array 25.01 5 P **P** **02 45 22.2 -0.1**
comp=N,1.8nm,0.5s,baz=171,slow=11,SNR=12
ZALV Zalesovo Beam 29.01 22 P **P** **02 45 59.2 +1.0**
comp=N,1.9nm,0.3s,baz=218,slow=11,SNR=2.3
AKASG Malin Array Be 36.12 319 P **P** **02 46 58.7 -1.6**
comp=N,0.5nm,0.4s,baz=123,slow=7.7,SNR=5.0
SONM Songino Array 36.44 46 P **P** **02 47 05.3 +2.0**
comp=N,1.0nm,0.8s,baz=246,slow=8.2,SNR=5.4
SONM LR LR 03 05 24.8
comp=N,44nm,19.4s,baz=354,slow=42
FINES FINESS Array B 42.81 333 P **P** **02 47 55.1 -0.8**
comp=N,1.0nm,0.7s,baz=123,slow=12,SNR=3.6
GERES GERESS Array B 45.30 312 P **P** **02 48 14.5 -1.7**
comp=N,0.7nm,0.8s,baz=101,slow=5.7,SNR=6.1
ARCES ARCESS Array B 47.71 342 P **P** **02 48 35.2 +0.5**
comp=N,2.6nm,0.9s,baz=122,slow=6.7,SNR=3.3
PGF Pioggiola 48.33 303 *e*P **P** **02 48 40.3 +0.3**
comp=N,37nm,1.2s
KEST Kesra 48.66 294 P **P** **02 48 42.9 +0.2**
comp=N,1.1nm,0.8s,baz=267,slow=11,SNR=9.7
NOA NORSAR Array B 49.20 328 P **P** **02 48 44.5 -1.9**
comp=N,1.3nm,1.0s,baz=106,slow=7.3,SNR=3.2
LPG La Plagne 49.86 307 *e*P **P** **02 48 52.1 +0.2**
MBDF Montbardon 49.87 306 *e*P **P** **02 48 52.9 +1.1**
comp=N,2.4nm,0.6s
LPL La Plagne 49.88 307 *e*P **P** **02 48 52.4 +0.4**
comp=N,3.1nm,0.6s
LMR La Mourre 50.12 304 *e*P **P** **02 48 53.7 +0.2**
KSRS Korea Array 51.51 63 P **P** **02 49 05.3 +1.2**
comp=N,0.5nm,0.3s,baz=279,slow=8.5,SNR=3.5
SMF Signal de Mont 51.85 309 *e*P **P** **02 49 04.2 -2.4**
CAF Calviac 53.20 307 *e*P **P** **02 49 17.7 +1.1**
comp=N,9.0nm,1.1s
ETSF Etsaut 55.31 304 *e*P **P** **02 49 30.5 -1.5**
comp=N,4.0nm,0.8s
ROSF Rostrenen 56.54 311 *e*P **P** **02 49 42.8 +2.1**
ESDC Sonseca Array 58.39 301 P **P** **02 49 52.2 -1.7**
comp=N,0.7nm,0.5s,baz=67,slow=7.7,SNR=9.1
ASAJ Asahikawa 61.29 53 LR LR 03 21 02.4
comp=N,64nm,21.5s,baz=202,slow=40
TORD Torodi Ar. Bea 61.99 270 P **P** **02 50 18.0 -0.8**
comp=N,1.1nm,0.7s,baz=61,slow=5.4,SNR=13
WRA Warramunga Arr 80.97 118 P **P** **02 52 14.5 +1.4**
comp=N,0.6nm,0.9s,baz=310,slow=5.4,SNR=2.7
ASAR Alice Springs 82.74 122 P **P** **02 52 23.8 +1.4**
comp=N,0.7nm,0.7s,baz=308,slow=5.1,SNR=8.2

IDC 18 02:47:42.9±4.6, 5°.63S×152°.62E, h93km±40km, mb3.5/8, mb1 3.7/9, mb1mx3.5/21, mbtmp3.5/9, MS3.7/1, Ms1 3.7/1, ms1mx2.7/23, Error ellipse: s-maj=25.5km s-min=24.8km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**235**	P	Pn	02 49 17.2	0.0
	1.6nm,0.3s,baz=121,slow=1.9,SNR=4.7						
PMG				S	Sn	02 50 35.2	+4.3
	1.8nm,0.3s,baz=120,slow=17,SNR=2.7						
DZM	**Mont Dzumac**	**21.11**	**142**	P	P	02 52 20.2	-0.2
	4.5nm,0.9s,baz=340,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**22.77**	**230**	P	P	02 52 37.3	-0.5
	7.1nm,0.9s,baz=54,slow=10,SNR=19						
ASAR	**Alice Springs**	**25.42**	**223**	P	P	02 53 02.8	+0.6
	2.8nm,0.9s,baz=60,slow=8.5,SNR=15						
STKA	**Stephens Creek**	**28.08**	**200**	P	P	02 53 25.8	0.0
	1.0nm,0.6s,baz=3.6,slow=16,SNR=2.5						
FITZ	**Fitzroy Crossi**	**29.12**	**242**	P	P	02 53 34.7	-0.5
	2.5nm,0.8s,baz=108,slow=10.0,SNR=8.5						
USRK	**Ussuriysk Arra**	**52.97**	**341**	LR	LR	03 15 40.1	
	comp=Z,69nm,18.7s,baz=211,slow=32						
VNDA	**Vanda**	**72.01**	**178**	P	P	02 58 56.9	+0.7
	0.7nm,1.0s,baz=321,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**80.83**	**319**	P	P	02 59 47.8	+1.2
	0.2nm,0.6s,baz=115,slow=5.4,SNR=2.8						
ILAR	**Eielson Array**	**82.99**	**22**	P	P	02 59 57.2	-0.3
	0.2nm,0.8s,baz=246,slow=5.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.39**	**287**	PKPbc	PKPbc	03 07 22.8	-1.9
	0.9nm,0.7s,baz=71,slow=2.2,SNR=5.1						

---

*ISCJB **18** 02:50:16.4±0.2, 40°.73N±0°.02×107°.45W±0°.03, h10km, mb3.3/2, Error ellipse: s-maj=3.0km s-min=2.5km az=0.6*
*NEIC **18** 02:50:17.9±0.3, 40°.69N×107°.57W, h5km, MW3.7(USGS), Error ellipse: s-maj=4.0km s-min=3.1km az=78.0*
NEIC Felt [III] at Craig and [II] at Hayden. Also felt at Hamilton and Maybell. Felt at Rawlins, Wyoming.
*IDC **18** 02:50:17.1±0.9, 40°.88N×107°.58W, h0km, mb3.2/2, mb1 3.7/8, mb1mx3.5/32, mbtmp3.4/8, ML2.8/4, Error ellipse: s-maj=16.8km s-min=10.6km az=67.0*

ISC 18 02:50:17.2±0.3, 40°.66N±0°.01×107°.62W±0°.01, h10km, n314, σ19 53/423, 118C-115D, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N21A	**Black Mountain**	**0.13**	**37**	⇓P	**Pg**	**02 50 21.2**	**+0.8**
	baz=0.1,SNR=1000						
N21A				⇓S	**Sg**	**02 50 24.6**	**+1.9**
	baz=0.1						
O21A	**Pagoda**	**0.46**	**165**	P	**Pg**	**02 50 25.2**	**-1.0**
	baz=0.5,SNR=1000						
O21A				⇓S	**Sg**	**02 50 31.3**	**-0.9**
	baz=0.5						
N20A	**Spence Gulch,**	**0.52**	**290**	⇑P	**Pg**	**02 50 27.1**	**-0.2**
	baz=0.5,SNR=1000						
N20A				⇓S	**Sg**	**02 50 34.6**	**+0.5**
	baz=0.5						
O20A	**White River Ci**	**0.70**	**222**	*e*Pg	**Pg**	**02 50 29.5**	**-1.3**
O20A				*e*S	**Sg**	**02 50 37.2**	**-2.8**
O20A	**White River Ci**	**0.70**	**222**	⇑P	**Pg**	**02 50 29.5**	**-1.3**
	baz=0.8,SNR=1000						
O20A				⇑S	**Sg**	**02 50 38.6**	**-1.4**
	baz=0.8						
N22A	**Wattenberg Ran**	**0.90**	**80**	⇑P	**Pg**	**02 50 33.8**	**-0.7**
	baz=0.9						
N22A				⇑S	**Sg**	**02 50 45.8**	**-0.5**
	baz=0.9						
M20A	**Sweetwater, Wa**	**0.94**	**333**	P	**Pb**	**02 50 35.5**	**-0.1**
	baz=0.9,SNR=1000						
O22A	**Kremmling**	**0.96**	**121**	P	**Pg**	**02 50 34.4**	**-1.2**
	baz=0.9,SNR=1000						
O22A				⇑S	**Sg**	**02 50 46.4**	**-1.8**
	baz=0.9						
M21A	**Separation Pea**	**0.97**	**12**	⇑P	**Pg**	**02 50 35.4**	**-0.5**
	baz=0.9						
M21A				⇑S	**Sb**	**02 50 48.7**	**-0.5**
	baz=0.9						
M22A	**Cedar Creek Ra**	**1.08**	**46**	⇑P	**Pb**	**02 50 37.3**	**-0.8**
	baz=1.0						
M22A				⇑S	**Sn**	**02 50 52.5**	**-1.2**
	baz=1.0						
RWWY	**Rawlins**	**1.08**	**17**	*e*Pg	**Pg**	**02 50 37.3**	**-0.6**
RWWY				*e*S	**Sg**	**02 50 50.1**	**-1.9**
P21A	**Newcastle**	**1.14**	**173**	P	**Pb**	**02 50 37.4**	**-1.7**
	baz=1.2,SNR=283						
P21A				⇓S	**Sb**	**02 50 52.8**	**-1.2**
	baz=1.2						
O19A	**Miners Draw (B**	**1.20**	**253**	P	**Pn**	**02 50 37.9**	**-2.3**
	baz=1.2,SNR=505						
O19A				⇓S	**Sb**	**02 50 53.1**	**-2.6**
	baz=1.2						
P22A	**Eagle**	**1.25**	**148**	P	**Pn**	**02 50 39.5**	**-1.4**
	baz=1.3,SNR=160						
P22A				⇑S	**Sb**	**02 50 55.3**	**-1.9**
	baz=1.3						
N23A	**Red Feather La**	**1.30**	**79**	⇑P	**Pn**	**02 50 41.0**	**-0.6**
	baz=1.2						
N23A				⇓S	**Sg**	**02 50 58.0**	**-0.9**
	baz=1.2						
P20A	**De Beque**	**1.30**	**207**	P	**Pn**	**02 50 40.1**	**-1.4**
	baz=1.3,SNR=97						
L21A	**Rawlins**	**1.32**	**8**	⇑P	**Pb**	**02 50 41.6**	**-0.6**
	baz=1.3						
L21A				⇑S	**Sg**	**02 51 00.0**	**+0.3**
	baz=1.3						
O23A	**Lake Granby, G**	**1.38**	**108**	P	**Pn**	**02 50 42.5**	**-0.2**
	baz=1.3,SNR=573						
O23A				⇓S	**Sb**	**02 51 00.5**	**-0.4**
	baz=1.3						
M19A	**Rock Springs**	**1.44**	**307**	⇓P	**Pn**	**02 50 42.9**	**-0.5**
	baz=1.4,SNR=202						
M19A				⇓S	**Sn**	**02 51 01.3**	**-1.2**
	baz=1.4						
L20A	**Wamsutter**	**1.45**	**338**	Pb	**Pb**	**02 50 44.4**	**0.0**
	baz=1.4,SNR=479						
L20A				⇓S	**Sg**	**02 51 04.0**	**0.0**
	baz=1.4						
L20A	**Wamsutter**	**1.45**	**338**	Pb	**Pb**	**02 50 44.4**	**0.0**
	baz=1.4,SNR=479						
L20A				⇓S	**Sg**	**02 51 04.0**	**0.0**
	baz=1.4						
P19A	**Cripple Cowboy**	**1.46**	**226**	P	**Pn**	**02 50 42.7**	**-1.1**
	baz=1.5,SNR=681						
SMCO	**Snowmass**	**1.56**	**161**	*e*Pn	**Pn**	**02 50 45.1**	**-0.3**
SMCO				*e*S	**Sn**	**02 51 05.5**	**-0.3**
L22A	**Ellis Ranch, M**	**1.64**	**33**	⇓Pb	**Pg**	**02 50 48.2**	**-0.4**
	baz=1.6,SNR=1000						
L22A				⇑Sb	**Sg**	**02 51 10.9**	**+1.0**
	baz=1.6						
L22A	**Ellis Ranch, M**	**1.64**	**33**	⇓Pb	**Pg**	**02 50 48.2**	**-0.4**
	baz=1.6,SNR=1000						
L22A				⇑Sb	**Sg**	**02 51 10.9**	**+1.0**
	baz=1.6						
M23A	**Laramie**	**1.65**	**60**	⇓Pb	**Pg**	**02 50 47.9**	**-0.9**
	baz=1.6,SNR=200						
M23A				⇓Sb	**Sg**	**02 51 10.5**	**+0.2**
	baz=1.6						
M23A	**Laramie**	**1.65**	**60**	⇓Pb	**Pg**	**02 50 47.9**	**-0.9**
	baz=1.6,SNR=200						
M23A				⇓Sb	**Sg**	**02 51 10.5**	**+0.2**
	baz=1.6						
ISCO	**Idaho Springs**	**1.76**	**118**	*e*Pn	**Pb**	**02 50 49.1**	**-0.6**
ISCO				*e*Sn	**Sb**	**02 51 11.5**	**-0.5**
ISCO	**Idaho Springs**	**1.76**	**118**	Pb	**Pb**	**02 50 49.4**	**-0.3**
	baz=1.7,SNR=547						
ISCO	**Idaho Springs**	**1.76**	**118**	Pb	**Pb**	**02 50 49.4**	**-0.3**
	baz=1.7,SNR=547						
PHWY	**Pilot Hill**	**1.76**	**68**	*e*Pn	**Pb**	**02 50 48.9**	**-0.9**
PHWY				*e*S	**Sb**	**02 51 11.3**	**-0.8**
Q21A	**Lamborn Mesa,**	**1.82**	**179**	Pb	**Pn**	**02 50 49.6**	**+0.9**
	baz=1.9,SNR=439						
Q21A	**Lamborn Mesa,**	**1.82**	**179**	Pb	**Pn**	**02 50 49.6**	**+0.9**
	baz=1.9,SNR=439						
Q22A	**Crested Butte,**	**1.88**	**163**	⇓Pb	**Pn**	**02 50 50.9**	**+1.3**
	baz=1.9,SNR=192						
Q22A	**Crested Butte,**	**1.88**	**163**	⇓Pb	**Pn**	**02 50 50.9**	**+1.3**
	baz=1.9,SNR=192						
P23A	**Jefferson**	**1.88**	**133**	⇓Pb	**Pb**	**02 50 51.6**	**-0.1**
	baz=1.9						
P23A				⇓Sb	**Sb**	**02 51 16.1**	**+0.7**
	baz=1.9						
P23A	**Jefferson**	**1.88**	**133**	⇓Pb	**Pb**	**02 50 51.6**	**-0.1**
	baz=1.9						
P23A				⇓Sb	**Sb**	**02 51 16.1**	**+0.7**
	baz=1.9						
L19A	**Farson**	**1.95**	**318**	Pn	**Pn**	**02 50 50.6**	**+0.2**
	baz=1.9,SNR=516						
L19A				⇓Sb	**Sg**	**02 51 19.0**	**-0.8**
	baz=1.9						
L19A	**Farson**	**1.95**	**318**	Pn	**Pn**	**02 50 50.6**	**+0.2**
	baz=1.9,SNR=516						
L19A				⇓Sb	**Sg**	**02 51 19.0**	**-0.8**
	baz=1.9						
K21A	**Alcova**	**1.99**	**8**	⇓Pb	**Pb**	**02 50 53.3**	**-0.3**
	baz=2.0,SNR=731						
K21A	**Alcova**	**1.99**	**8**	⇓Pb	**Pb**	**02 50 53.3**	**-0.3**
	baz=2.0,SNR=731						
O24A	**Longmont**	**2.02**	**105**	⇑Pb	**Pb**	**02 50 54.1**	**0.0**
	baz=2.0						
O24A	**Longmont**	**2.02**	**105**	⇑Pb	**Pb**	**02 50 54.1**	**0.0**
	baz=2.0						
L23A	**Garrett**	**2.05**	**44**	⇑Pb	**Pb**	**02 50 54.5**	**-0.2**
	baz=2.0,SNR=118						
L23A				⇑Sb	**Sg**	**02 51 22.0**	**-1.2**
	baz=2.0						
L23A	**Garrett**	**2.05**	**44**	⇑Pb	**Pb**	**02 50 54.5**	**-0.2**
	baz=2.0,SNR=118						
L23A				⇑Sb	**Sg**	**02 51 22.0**	**-1.2**
	baz=2.0						
K20A	**Yellowstone Ra**	**2.07**	**345**	⇑Pn	**Pn**	**02 50 52.1**	**0.0**
	baz=2.0						
K20A				⇑Sb	**Sg**	**02 51 22.5**	**-1.2**
	baz=2.0						
K20A	**Yellowstone Ra**	**2.07**	**345**	⇑Pn	**Pn**	**02 50 52.1**	**0.0**
	baz=2.0						
K20A				⇑Sb	**Sg**	**02 51 22.5**	**-1.2**
	baz=2.0						
N24A	**Carr**	**2.09**	**84**	⇑Pb	**Pb**	**02 50 54.6**	**-0.6**
	baz=2.0,SNR=35						
N24A				⇑Sb	**Sg**	**02 51 23.3**	**-1.0**
	baz=2.0						
N24A	**Carr**	**2.09**	**84**	⇑Pb	**Pb**	**02 50 54.6**	**-0.6**
	baz=2.0,SNR=35						
N24A				⇑Sb	**Sg**	**02 51 23.3**	**-1.0**
	baz=2.0						
K22A	**Casper**	**2.15**	**22**	⇓Pb	**Pb**	**02 50 56.1**	**-0.3**
	baz=2.1,SNR=315						
K22A				⇓Sb	**Sg**	**02 51 25.6**	**-0.8**
	baz=2.1						
K22A	**Casper**	**2.15**	**22**	⇓Pb	**Pb**	**02 50 56.1**	**-0.3**
	baz=2.1,SNR=315						
K22A				⇓Sb	**Sg**	**02 51 25.6**	**-0.8**
	baz=2.1						
L18A	**Fontenelle, Gr**	**2.22**	**306**	⇑Pb	**Pb**	**02 50 56.8**	**-0.6**
	baz=2.2,SNR=11						
L18A				⇑Sb	**Sb**	**02 51 26.3**	**+1.3**
	baz=2.2						
L18A	**Fontenelle, Gr**	**2.22**	**306**	⇑Pb	**Pb**	**02 50 56.8**	**-0.6**
	baz=2.2,SNR=11						
L18A				⇑Sb	**Sb**	**02 51 26.3**	**+1.3**
	baz=2.2						
Q23A	**Hartsel**	**2.23**	**141**	⇑Pb	**Pb**	**02 50 57.3**	**-0.4**
	baz=2.2,SNR=17						
Q23A				⇑Sb	**Sb**	**02 51 26.1**	**+0.7**
	baz=2.2						
Q23A	**Hartsel**	**2.23**	**141**	⇑Pb	**Pb**	**02 50 57.3**	**-0.4**
	baz=2.2,SNR=17						
Q23A				⇑Sb	**Sb**	**02 51 26.1**	**+0.7**
	baz=2.2						
M24A	**Cheyenne**	**2.27**	**68**	⇓Pb	**Pg**	**02 50 59.0**	**-1.6**
	baz=2.2,SNR=403						
M24A	**Cheyenne**	**2.27**	**68**	⇓Pb	**Pg**	**02 50 59.0**	**-1.6**
	baz=2.2,SNR=403						
R21A	**Cimarron**	**2.29**	**179**	⇓Pb	**Pb**	**02 50 58.3**	**-0.4**
	baz=2.3,SNR=497						
R21A	**Cimarron**	**2.29**	**179**	⇓Pb	**Pb**	**02 50 58.3**	**-0.4**
	baz=2.3,SNR=497						
K19A	**Absolon Red Bu**	**2.35**	**337**	⇓Pn	**Pn**	**02 50 56.4**	**+0.4**
	baz=2.3						
K19A				⇓Sb	**Sb**	**02 51 30.0**	**+1.1**
	baz=2.3						
K19A	**Absolon Red Bu**	**2.35**	**337**	⇓Pn	**Pn**	**02 50 56.4**	**+0.4**
	baz=2.3						
K19A				⇓Sb	**Sb**	**02 51 30.0**	**+1.1**
	baz=2.3						
P24A	**Kohler Place,**	**2.38**	**118**	⇑P	**Pb**	**02 50 58.4**	**-1.8**
	baz=2.4						
P24A				Sb	**Sg**	**02 51 31.9**	**-1.5**
	baz=2.4						
M17A	**Scullys Gap (B**	**2.44**	**290**	⇑Pb	**Pb**	**02 51 00.7**	**-0.6**
	baz=2.5,SNR=276						
M17A				⇑Sb	**Sb**	**02 51 32.2**	**+0.7**
	baz=2.5						
M17A	**Scullys Gap (B**	**2.44**	**290**	⇑Pb	**Pb**	**02 51 00.7**	**-0.6**
	baz=2.5,SNR=276						
M17A				⇑Sb	**Sb**	**02 51 32.2**	**+0.7**
	baz=2.5						
L24A	**Wheatland**	**2.45**	**55**	⇑Pb	**Pb**	**02 51 01.5**	**+0.1**
	baz=2.4,SNR=44						
L24A				Sb	**Sg**	**02 51 34.1**	**-1.9**
	baz=2.4						
L24A	**Wheatland**	**2.45**	**55**	⇑Pb	**Pb**	**02 51 01.5**	**+0.1**
	baz=2.4,SNR=44						
L24A				Sb	**Sg**	**02 51 34.1**	**-1.9**
	baz=2.4						
PV04	**Paradox Valley**	**2.47**	**204**	*e*Pn	**Pn**	**02 50 58.9**	**+1.2**
PV04				*e*S	**Sn**	**02 51 31.1**	**+3.1**
R22A	**Saguache, Gunn**	**2.52**	**164**	⇑Pb	**Pb**	**02 51 02.5**	**-0.1**
	baz=2.5						
R22A	**Saguache, Gunn**	**2.52**	**164**	⇑Pb	**Pb**	**02 51 02.5**	**-0.1**
	baz=2.5						
PV10	**Paradox Valley**	**2.53**	**206**	*e*Pn	**Pn**	**02 51 00.7**	**+2.2**
R20A	**Redvale**	**2.53**	**194**	Pb	**Pb**	**02 51 02.0**	**-0.8**
	baz=2.6						
R20A	**Redvale**	**2.53**	**194**	Pb	**Pb**	**02 51 02.0**	**-0.8**
	baz=2.6						
Q24A	**Divide**	**2.55**	**131**	⇓Pb	**Pb**	**02 51 02.5**	**-0.7**
	baz=2.5,SNR=94						
Q24A				Sb	**Sg**	**02 51 37.2**	**-1.8**
	baz=2.5						
Q24A	**Divide**	**2.55**	**131**	⇓Pb	**Pb**	**02 51 02.5**	**-0.7**
	baz=2.5,SNR=94						
Q24A				Sb	**Sg**	**02 51 37.2**	**-1.8**
	baz=2.5						
BW06	**Boulder Array**	**2.56**	**326**	*e*Pn	**Pn**	**02 50 59.1**	**+0.2**
BW06				*e*S	**Sb**	**02 51 34.2**	**-0.7**
PDAR	**Pinedale Array**	**2.56**	**326**	Pn	**Pn**	**02 50 59.2**	**+0.3**
PDAR				Pg	**Pb**	**02 51 03.6**	**+0.4**
PDAR				Lg	Lg	02 51 33.9	
PDAR	**Pinedale Array**	**2.56**	**326**	Pn	**Pn**	**02 50 59.2**	**+0.3**
	10.0nm,0.3s,baz=132,slow=15,SNR=115						
PDAR				Pg	**Pb**	**02 51 03.6**	**+0.4**
	32nm,0.3s,baz=132,slow=17,SNR=79						
PDAR				Lg	Lg	02 51 33.9	
	33nm,0.3s,baz=136,slow=26,SNR=9.6						
K23A	**Bowen Ranch, D**	**2.58**	**35**	Pb	**Pb**	**02 51 03.4**	**-0.1**
	baz=2.5						
K23A	**Bowen Ranch, D**	**2.58**	**35**	Pb	**Pb**	**02 51 03.4**	**-0.1**
	baz=2.5						
PV01	**Paradox Valley**	**2.62**	**197**	*e*Pn	**Pn**	**02 51 00.8**	**+1.0**
J21A	**Lysite**	**2.69**	**3**	⇓Pb	**Pb**	**02 51 05.3**	**-0.2**
	baz=2.7						
J21A				Sb	**Sg**	**02 51 41.5**	**-2.1**
	baz=2.7						
J21A	**Lysite**	**2.69**	**3**	⇓Pb	**Pb**	**02 51 05.3**	**-0.2**
	baz=2.7						
J21A				Sb	**Sg**	**02 51 41.5**	**-2.1**
	baz=2.7						
N25A	**Grover**	**2.69**	**86**	Sb	**Sg**	**02 51 41.7**	**-1.9**
	baz=2.6						
N25A	**Grover**	**2.69**	**86**	Sb	**Sg**	**02 51 41.7**	**-1.9**
	baz=2.6						
SRU	**San Rafael**	**2.71**	**236**	*e*Pn	**Pn**	**02 51 01.8**	**+0.8**
SRU				*e*S	**Sn**	**02 51 38.1**	**+4.1**
J20A	**Shoshoni**	**2.72**	**353**	⇓Pb	**Pb**	**02 51 05.9**	**0.0**
	baz=2.7,SNR=34						
J20A	**Shoshoni**	**2.72**	**353**	⇓Pb	**Pb**	**02 51 05.9**	**0.0**
	baz=2.7,SNR=34						
O25A	**Wiggins**	**2.73**	**100**	⇓Pb	**Pb**	**02 51 06.8**	**+0.7**
	baz=2.7,SNR=7.1						
O25A				Sb	**Sg**	**02 51 43.0**	**-1.9**
	baz=2.7						
O25A	**Wiggins**	**2.73**	**100**	⇓Pb	**Pb**	**02 51 06.8**	**+0.7**
	baz=2.7,SNR=7.1						
O25A				Sb	**Sg**	**02 51 43.0**	**-1.9**
	baz=2.7						
DAU	**Daniels Canyon**	**2.78**	**266**	*e*Pn	**Pn**	**02 51 05.0**	**+3.0**
DAU				*e*S	**Sb**	**02 51 40.3**	**-1.0**
M25A	**Palm-Egli Farm**	**2.81**	**73**	⇑Pb	**Pb**	**02 51 07.7**	**+0.2**
	baz=2.8,SNR=7.8						
M25A	**Palm-Egli Farm**	**2.81**	**73**	⇑Pb	**Pb**	**02 51 07.7**	**+0.2**
	baz=2.8,SNR=7.8						
J19A	**Crowheart**	**2.82**	**338**	⇑Pn	**Pn**	**02 51 02.8**	**+0.4**
	baz=2.8,SNR=22						
J19A				Sb	**Sb**	**02 51 44.5**	**+2.2**
	baz=2.8						
J19A	**Crowheart**	**2.82**	**338**	⇑Pn	**Pn**	**02 51 02.8**	**+0.4**
	baz=2.8,SNR=22						
J19A				Sb	**Sb**	**02 51 44.5**	**+2.2**
	baz=2.8						
R23A	**Moffat**	**2.83**	**150**	⇓P	**Pn**	**02 51 04.0**	**+1.4**
	baz=2.8						
S20A	**Disappointment**	**2.88**	**192**	⇓P	**Pn**	**02 51 04.5**	**+1.2**
	baz=2.9						
J22A	**Midwest**	**2.88**	**17**	⇑P	**Pn**	**02 51 04.7**	**+1.4**
	baz=2.8						
P25A	**Willow Gulch B**	**2.89**	**112**	⇓P	**Pn**	**02 51 04.8**	**+1.4**
	baz=2.9,SNR=36						
JLU	**Jordanelle**	**2.91**	**270**	*e*Pn	**Pn**	**02 51 06.0**	**+2.2**
JLU				*e*S	**Sb**	**02 51 44.6**	**-0.5**
K24A	**Anderson Ranch**	**2.95**	**45**	⇓P	**Pn**	**02 51 06.1**	**+1.9**
	baz=2.9,SNR=23						
S22A	**4UR Ranch, Cre**	**2.97**	**168**	⇓P	**Pn**	**02 51 05.8**	**+1.2**
	baz=3.0						
S21A	**Coal Bank Pass**	**2.99**	**183**	⇓P	**Pn**	**02 51 06.1**	**+1.1**
	baz=3.0						
TMUT	**Trail Mountain**	**3.07**	**245**	*e*Pn	**Pn**	**02 51 07.5**	**+1.5**
TMUT				*e*S	**Sb**	**02 51 48.2**	**-1.6**
R24A	**Sanders Place,**	**3.11**	**140**	⇑P	**Pn**	**02 51 07.7**	**+1.2**
	baz=3.1,SNR=12						
HWUT	**Hardware Ranch**	**3.12**	**289**	*e*Pn	**Pn**	**02 51 07.6**	**+0.9**
HWUT				*e*S	**Sb**	**02 51 52.7**	**+1.6**
Q25A	**Bedland, Calha**	**3.13**	**123**	⇓P	**Pn**	**02 51 08.0**	**+1.3**
	baz=3.1						
MPU	**Maple Canyon**	**3.13**	**259**	*e*Pn	**Pn**	**02 51 08.5**	**+1.7**
MPU				*e*S	**Sn**	**02 51 47.1**	**+2.8**
CTU	**Camp Tracy**	**3.14**	**272**	*e*Pn	**Pn**	**02 51 09.8**	**+3.0**
CTU				*e*S	**Sb**	**02 51 50.3**	**-1.2**
J23A	**Dilts Ranch, B**	**3.15**	**29**	⇑P	**Pn**	**02 51 08.1**	**+1.2**
	baz=3.1,SNR=13						
I21A	**Big Trails, Te**	**3.16**	**4**	⇓P	**Pn**	**02 51 08.1**	**+1.0**
	baz=3.1,SNR=91						
S23A	**Nye Farm, Mont**	**3.21**	**156**	⇑P	**Pn**	**02 51 09.1**	**+1.2**
	baz=3.2						
Q16A	**Castle Valley**	**3.24**	**239**	*e*Pn	**Pn**	**02 51 09.7**	**+1.4**
Q16A				*e*S	**Sb**	**02 51 54.7**	**+0.2**
Q16A	**Castle Valley**	**3.24**	**239**	⇑P	**Pn**	**02 51 09.1**	**+0.8**
	baz=3.3			

baz=3.8
S25A Robets Cordova 3.88 139 P Pn 02 51 18.5 +1.4
baz=3.9,SNR=20
I24A Kuemmerle Ranc 3.90 34 ⇑P Pn 02 51 18.4 +1.2
baz=3.8,SNR=12
K26A Motz Farm, Whi 3.91 57 ⇑P Pn 02 51 18.4 +1.1
baz=3.8
I17A Pilgrim Ck. 3.93 327 ⇓P Pn 02 51 18.1 +0.4
baz=3.9,SNR=7.9
J25A Sunshine Ranch 3.94 45 ⇓P Pn 02 51 19.3 +1.5
baz=3.9,SNR=19
DUG Dugway 3.99 265 *e*Pn Pn **02 51 21.1 +2.6**
DUG *e*S Sb 02 52 21.9 +6.0
H21A Big Horn, Sher 3.99 6 ⇑P Pn 02 51 19.6 +1.1
baz=4.0
R26A Arlington 4.00 125 ⇑P Pn 02 51 19.5 +0.9
baz=4.0,SNR=46
P27A Ficken Ranch, 4.02 104 ⇓P Pn 02 51 19.6 +0.7
baz=4.0,SNR=8.1
H22A Clearmont 4.04 13 ⇑P Pn 02 51 20.2 +0.9
baz=4.0,SNR=7.4
HVU Hansel Valley 4.04 288 *e*Pn **Pn 02 51 19.8 +0.5**
HVU *e*S **Sb 02 52 18.8 +1.2**
M27A Reverse DX Ran 4.05 76 ⇓P Pn 02 51 20.2 +0.9
baz=4.0
IMW Indian Meadow 4.07 324 *e*Pn **Pn 02 51 19.6 -0.1**
IMW *e*Pg **Pg 02 51 35.1 +0.1**
IMW *e*S **Sb 02 52 21.4 +3.1**
FLWY Flagg Ranch 4.11 327 *e*Pn **Pn 02 51 22.7 +2.5**
FLWY *e*S **Sg 02 52 24.9 -4.3**
BGU Big Grassy Mou 4.11 275 *e*Pn Pn 02 51 23.6 +3.3
BGU *e*S **Sb 02 52 16.5 -3.0**
MSU Marysvale 4.12 240 *e*Pn **Pn 02 51 22.4 +2.1**
MSU *e*S **Sb 02 52 20.7 +0.9**
H19A Powell 4.13 346 ⇑P Pn 02 51 21.6 +1.1
baz=4.1,SNR=20
KSCO Kaye Shedlock' 4.18 112 *e*Pn **Pn 02 51 23.1 +2.0**
KSCO *e*Pg **Pg 02 51 36.1 -1.2**
KSCO *e*S **Sg 02 52 27.3 -4.1**
KSCO Kaye Shedlock' 4.18 112 ⇑P Pn 02 51 23.0 +1.8
baz=4.2
U21A Nageezi 4.22 180 ⇑P Pn 02 51 23.3 +1.5
baz=4.3
OGNE Ogallala 4.25 84 *e*Pn **Pn 02 51 22.9 +0.8**
OGNE *e*Pg **Pg 02 51 37.7 -0.9**
OGNE *e*S **Sg 02 52 28.9 -4.8**
OGNE Ogallala 4.25 84 ⇓P Pn 02 51 22.6 +0.5
baz=4.2
H18A Shoshone NF, C 4.29 340 ⇑P Pn 02 51 22.8 +0.1
baz=4.3,SNR=19
J26A Sides Ranch, S 4.30 50 ⇑P Pn 02 51 24.6 +1.8
baz=4.2
T25A Trinidad 4.32 143 ⇓P Pn 02 51 24.7 +1.6
baz=4.3
H17A Grant Village 4.33 331 *e*Pn **Pn 02 51 23.4 +0.2**
H17A *e*S **Sg 02 52 33.2 -2.8**
RSSD Black Hills 4.36 36 *e*Pn **Pn 02 51 24.6 +0.9**
RSSD *e*Pg **Pg 02 51 38.7 -2.0**
RSSD *e*S **Sb 02 52 27.2 +0.4**
LKWY Lake 4.41 333 *e*Pn **Pn 02 51 26.3 +1.9**
LKWY *e*S **Sb 02 52 32.7 +4.5**
R27A Eads 4.42 121 ⇑P Pn 02 51 25.4 +1.0
baz=4.4,SNR=9.3
I25A Rochford 4.43 39 ⇑P Pn 02 51 25.5 +0.9
baz=4.4,SNR=12
S26A Kim 4.43 132 ⇓P Pn 02 51 25.7 +1.2
baz=4.4,SNR=6.8
U23A El Rito 4.46 165 ⇑P Pn 02 51 26.8 +1.7
baz=4.5
YFT Old Faithful 4.47 329 *e*Pn **Pn 02 51 26.4 +1.1**
YFT *e*S **Sg 02 52 42.2 +1.5**
O28A Krutsinger Ran 4.50 95 ⇑P Pn 02 51 25.8 +0.3
baz=4.5
K27A Flueckinger Fa 4.52 61 ⇑P Pn 02 51 26.3 +0.5
baz=4.5
G21A Lodge Grass 4.58 4 ⇑P Pn 02 51 26.8 +0.3
baz=4.5,SNR=10
G20A Bridger 4.58 355 ⇓P Pn 02 51 26.7 +0.1
baz=4.6,SNR=29
RLMT Red Lodge 4.62 345 *e*Pn **Pn 02 51 28.3 +1.0**
RLMT *e*Pg **Pg 02 51 45.9 +0.2**
RLMT *e*S **Sg 02 52 42.6 -3.0**
N28A Pribbeno Ranch 4.62 88 ⇓P Pn 02 51 27.6 +0.4
baz=4.6
P28A Saint Francis 4.63 102 ⇑P Pn 02 51 27.6 +0.4
baz=4.6
YNR Norris Junctio 4.64 332 *e*Pn **Pn 02 51 29.2 +1.7**
YNR *e*S **Sb 02 52 38.8 +4.0**
G22A Birney 4.66 12 ⇓P Pn 02 51 28.1 +0.4
baz=4.6,SNR=6.3
H24A Dirks Ranch, A 4.67 28 ⇓P Pn 02 51 28.5 +0.7
baz=4.6,SNR=13
YMR Madison River 4.71 330 *e*Pn **Pn 02 51 27.7 -0.7**
YMR *e*S **Sg 02 52 44.6 -3.6**
Q28A Sharon Springs 4.73 108 ⇑P Pn 02 51 29.4 +0.8
baz=4.7
V22A San Miguel Ran 4.77 173 ⇑P Pn 02 51 31.4 +2.1
baz=4.8
M28A Bar X Bar Ranc 4.79 79 ⇑P Pn 02 51 30.6 +1.2
baz=4.7
L28A Connealy Angus 4.79 72 ⇓P Pn 02 51 30.5 +1.0
baz=4.7,SNR=6.6
G23A Biddle 4.83 19 P Pn 02 51 30.9 +1.0
baz=4.8,SNR=20
G18A Lazy EL Ranch, 4.87 344 P Pn 02 51 31.3 +0.7
baz=4.8,SNR=42
U25A Circle Dot Ran 4.94 148 ⇓P Pn 02 51 32.2 +0.6
baz=5.0
QLMT Earthquake Lak 5.03 327 *e*Pn **Pn 02 51 34.5 +1.7**
QLMT *e*S **Sb 02 52 51.5 +5.6**
R28A Tribune 5.05 115 ⇓P Pn 02 51 33.6 +0.5
baz=5.0
K28A Ten Mile Ranch 5.12 64 ⇓P Pn 02 51 35.0 +1.1
baz=5.1
F20A Billings 5.16 356 ⇑P Pn 02 51 34.8 +0.4
baz=5.1,SNR=22
F21A Absaloka Mine, 5.18 4 ⇓P Pn 02 51 34.6 -0.2
baz=5.1
F22A Rosebud 5.22 11 ⇑P Pn 02 51 35.4 +0.1
baz=5.2
G24A Alzada 5.23 26 ⇓P Pn 02 51 36.1 +0.7
baz=5.2
P29A Atwood 5.24 99 ⇑P Pn 02 51 35.8 +0.2
baz=5.2
O29A 4D Ranch, Culb 5.24 94 ⇑P Pn 02 51 36.0 +0.4
baz=5.2
F19A Roth Farm, Mol 5.28 350 ⇑P Pn 02 51 36.9 +0.6
baz=5.3,SNR=11
M29A Burnside Ranch 5.30 79 ⇑P Pn 02 51 36.9 +0.4
baz=5.2,SNR=6.9
F23A Volborg 5.32 17 ⇓P Pn 02 51 37.1 +0.5
baz=5.3,SNR=6.5
H26A Fairpoint 5.33 41 ⇓P Pn 02 51 38.3 +1.4
baz=5.3
GCMT Greycliff 5.34 344 *e*Pn **Pn 02 51 37.2 +0.1**
23nm,0.4s
GCMT *e*S **Sb 02 52 57.5 +2.6**
ARUT Antelope Range 5.35 239 *e*Pn **Pn 02 51 39.6 +2.4**
36nm,0.6s
ARUT *e*Pg **Pg 02 52 01.3 +1.7**
ARUT *e*S Sg 02 53 04.2 -4.7
I27A Quinn 5.35 49 ⇑P Pn 02 51 38.2 +1.0
baz=5.3,SNR=5.1
S28A Manter 5.40 123 ⇓P Pn 02 51 38.3 +0.4
baz=5.4
Q29A Oakley 5.41 107 ⇓P Pn 02 51 38.7 +0.7
baz=5.4
CCUT Cedar City 5.44 237 *e*Pn **Pn 02 51 40.8 +2.3**
CCUT *e*S **Sb 02 53 02.3 +4.6**
F18A Big Timber 5.46 344 ⇓P Pn 02 51 38.6 -0.1
baz=5.4,SNR=18
G25A Newell 5.48 33 ⇑P Pn 02 51 40.5 +1.5
baz=5.4,SNR=8.3
J28A Allard Ranch, 5.50 58 ⇑P Pn 02 51 40.4 +1.2
baz=5.4,SNR=12
L29A Maesberg Ranch 5.56 73 ⇑P Pn 02 51 41.0 +1.0
baz=5.5
W20A Ramah 5.56 187 ⇑P Pn 02 51 40.5 +0.3
baz=5.6
U15A North Rim 5.59 222 ⇓P Pn 02 51 41.4 +0.8
baz=5.6,SNR=30
MCMT McKenzie Canyo 5.67 319 *e*Pn **Pn 02 51 43.8 +2.0**
9.0nm,0.5s
MCMT *e*Pg Pg 02 52 02.6 -3.1
MCMT *e*S **Sg 02 53 14.6 -4.7**
F24A Ekalaka 5.68 23 ⇑P Pn 02 51 42.1 +0.5
baz=5.6
F17A Fitzpatrick Pl 5.69 338 ⇓P Pn 02 51 42.4 +0.5
baz=5.7,SNR=9.7
H27A Howes 5.70 44 ⇑P Pn 02 51 43.5 +1.5
baz=5.6,SNR=5.1
W24A Lazy 6 Ranch, 5.71 161 ⇓P Pn 02 51 44.6 +2.4
baz=5.7
N30A Hueftle Ranch, 5.72 86 ⇑P Pn 02 51 42.6 +0.4
baz=5.7
P30A Selden 5.76 99 ⇑P Pn 02 51 43.0 +0.2
baz=5.7
ANMO Albuquerque 5.78 170 *e*Pn **Pn 02 51 44.0 +0.9**
ANMO *e*Pg Pb 02 52 03.4 +5.2
ANMO Lg Lg 02 53 14.8
ANMO *e*S Sb 02 53 15.2 +7.7
ANMO Albuquerque 5.78 170 Pn Pn 02 51 48.1 +5.0
0.1nm,0.3s,baz=358,slow=16,SNR=3.8
ANMO Pg Pb 02 52 02.1 +4.0
2.1nm,0.3s,baz=354,slow=15,SNR=30
ANMO Lg Lg 02 53 14.8
1.7nm,0.3s,baz=97,slow=19,SNR=3.6
W18A Petrified Fore 5.78 197 *e*Pn **Pn 02 51 44.4 +1.3**
W18A *e*S **Sb 02 53 12.1 +4.6**
W18A Petrified Fore 5.78 197 ⇑P Pn 02 51 44.0 +0.9
baz=5.8
BOZ Bozeman (W) 5.78 331 *e*Pn **Pn 02 51 44.2 +1.0**
7.8nm,0.6s
BOZ *e*Pg **Pg 02 52 05.6 -2.3**
BOZ *e*S Sb 02 53 14.1 +6.5
O30A MW Ranch, Wils 5.79 92 ⇓P Pn 02 51 43.3 +0.1
baz=5.7
HLID Hailey 5.83 302 *e*Pn **Pn 02 51 45.1 +1.3**
HLID *e*S **Sg 02 53 19.9 -4.3**
E20A Meyer Farm, Mu 5.86 357 ⇑P Pn 02 51 44.3 +0.3
baz=5.8
E19A Rath Farm, Rou 5.86 352 ⇓P Pn 02 51 44.3 +0.1
baz=5.8,SNR=12
E21A Keefer Ranch, 5.89 4 ⇑P Pn 02 51 44.9 +0.3
baz=5.9
S29A Ulysses 5.90 119 ⇓P Pn 02 51 45.1 +0.4
baz=5.9
G26A Maurine 5.92 37 ⇑P Pn 02 51 45.9 +1.0
baz=5.9
WUAZ Wupatki 5.92 211 *e*Pn **Pn 02 51 46.6 +1.5**
156nm,0.6s
WUAZ *e*S Sn 02 52 59.8 +6.7
WUAZ Wupatki 5.92 211 ⇓P Pn 02 51 45.9 +0.8
baz=6.0
Q30A Quinter 5.94 104 ⇓P Pn 02 51 45.8 +0.6
baz=5.9
DLMT Dillon 5.95 324 *e*Pn **Pn 02 51 47.2 +1.8**
DLMT *e*S **Sg 02 53 27.0 -1.1**
T29A Hugoton 6.05 123 ⇓P Pn 02 51 47.2 +0.4
baz=6.0
E23A Ismay 6.08 15 ⇓P Pn 02 51 47.7 +0.7
baz=6.0
F25A Bowman 6.08 29 ⇓P Pn 02 51 48.1 +1.0
baz=6.0
E18A Harlowton 6.14 345 ⇑P Pn 02 51 47.9 -0.1
baz=6.1,SNR=13
R30A Dighton 6.16 110 ⇑P Pn 02 51 49.2 +0.9
baz=6.1
LRM Limekiln Ridge 6.25 327 *e*Pn **Pn 02 51 51.9 +2.3**
LRM *e*Pg **Pg 02 52 15.5 -1.3**
LRM *e*S **Sg 02 53 39.9 +2.1**
LAZ Ladron 6.26 176 *e*Pn **Pn 02 51 50.4 +0.7**
18nm,0.6s
LAZ *e*Pg Pb 02 52 10.6 +4.3
LAZ *e*S Sb 02 53 28.4 +7.2
E17A Martinsdale 6.26 339 ⇑P Pn 02 51 50.2 +0.5
baz=6.2,SNR=11
G27A Dupree 6.30 40 ⇓P Pn 02 51 51.0 +0.9
baz=6.2
E24A Baker 6.37 21 ⇑P Pn 02 51 51.9 +0.7
baz=6.3
X18A Snowflake 6.39 198 ⇓P Pn 02 51 51.6 0.0
baz=6.4
P31A Stockton 6.42 98 ⇑P Pn 02 51 52.1 +0.2
baz=6.4
D20A Manuel Ranch, 6.44 357 P Pn 02 51 52.2 +0.1
baz=6.4,SNR=27
LENM Lemitar 6.50 175 *e*Pn **Pn 02 51 50.3 -2.7**
LENM *e*Pg Pg 02 52 17.2 -4.5
BNM Barren Site 6.54 173 *e*Pn Pn 02 51 57.2 +3.5
12nm,0.5s
BNM *e*Pg Pg 02 52 18.4 -4.1
BNM *e*S **Sg 02 53 43.4 -3.8**
D19A Cripps Ranch, 6.57 352 ⇑P Pn 02 51 53.8 0.0
baz=6.5,SNR=7.9
R11A Troy Canyon, C 6.58 252 *e*Pn **Pn 02 51 56.2 +2.1**
R11A *e*S Sb 02 53 37.8 +7.5
T30A Plains 6.60 121 ⇓P Pn 02 51 54.7 +0.4
baz=6.6
R31A Burdett 6.69 108 ⇑P Pn 02 51 56.1 +0.5
baz=6.7
D23A Lindsay 6.74 14 ⇓P Pn 02 51 56.6 +0.4
baz=6.7,SNR=11
HRY Holter Researc 6.78 335 *e*Pn **Pn 02 51 57.9 +1.1**
HRY *e*S **Sg 02 53 50.5 -4.1**
D17A Six Diamond Ra 6.86 342 ⇑P Pn 02 51 57.5 -0.4
baz=6.8,SNR=18
D24A Glendive 6.88 19 ⇑P Pn 02 51 59.3 +1.2
baz=6.8
E26A Carlson Angus 6.91 31 ⇓P Pn 02 51 59.4 +0.8
baz=6.9
X16A Lo Mia Camp, P 6.93 207 ⇓P Pn 02 51 59.4 +0.5
baz=7.0,SNR=8.0
C20A Veseth Ranch, 7.06 358 ⇑P Pn 02 52 00.7 +0.1
baz=7.0,SNR=25
C19A Slack Wire Ran 7.15 352 ⇑P Pn 02 52 02.0 +0.2
baz=7.1
C21A Desert Coulee 7.18 3 ⇑P Pn 02 52 02.6 +0.4
baz=7.1
D25A Fairfield 7.20 24 ⇓P Pn 02 52 02.9 +0.5
baz=7.1
C22A Vida 7.20 9 ⇑P Pn 02 52 03.0 +0.6
baz=7.2
BGNE Belgrade 7.20 81 *e*Pn **Pn 02 52 02.5 -0.1**
BGNE *e*S Sg 02 54 01.7 -6.6
BGNE Belgrade 7.20 81 ⇓P Pn 02 52 02.4 -0.1
baz=7.1
SHPR Sheep Range 7.21 237 *e*Pn **Pn 02 52 05.2 +2.4**
SHPR *e*S Sb 02 53 57.7 +9.0
C23A Lambert 7.36 13 ⇓P Pn 02 52 05.3 +0.7
baz=7.3,SNR=7.8
D26A Manning 7.39 29 ⇓P Pn 02 52 05.6 +0.5
baz=7.3
BRSD Miller 7.43 57 *e*Pn **Pn 02 52 06.0 +0.4**
BRSD *e*S **Sg 02 54 14.0 -1.6**
BRSD Miller 7.43 57 ⇓P Pn 02 52 06.3 +0.7
baz=7.4
W13A Hualapai Mount 7.43 224 ⇑P Pn 02 52 05.8 -0.1
baz=7.5
AMTX Amarillo 7.44 139 *e*Pn **Pn 02 52 08.0 +2.2**
AMTX *e*Pg Pg 02 52 35.3 -4.3
AMTX *e*Sg **Sg 02 54 12.7 -3.2**
CHMT Chamberlain Mo 7.46 329 *e*Pn **Pn 02 52 08.5 +2.3**
CHMT *e*S **Sg 02 54 16.9 +0.3**
EGMT Eagleton 7.52 349 *e*Pn **Pn 02 52 07.1 +0.1**
EGMT *e*Pg Pg 02 52 35.6 -5.5
EGMT *e*S **Sg 02 54 15.5 -3.0**
MSO Missoula 7.68 326 *e*Pn **Pn 02 52 11.7 +2.5**
MSTX Muleshoe 7.71 148 *e*Pn Pn 02 52 12.9 +3.3
MSTX *e*Pg Pg 02 52 41.5 -3.3
MSTX *e*S **Sg 02 54 20.7 -3.9**
B21A Ellsworth Farm 7.78 3 ⇑P Pn 02 52 10.6 +0.1
baz=7.7
B20A Solberg Farm, 7.79 358 ⇑P Pn 02 52 10.1 -0.4
baz=7.8,SNR=16
D27A Center 7.81 32 ⇓P Pn 02 52 11.0 +0.2
baz=7.8
SLMT Seeley Lake 7.83 329 *e*Pn **Pn 02 52 13.6 +2.5**
B19A Brinkman Farms 7.85 354 P Pn 02 52 11.6 +0.1
baz=7.8,SNR=16
B18A Beardsley Farm 7.89 349 ⇓P Pn 02 52 11.6 -0.3
baz=7.9
B23A Brockton 8.03 13 ⇓P Pn 02 52 14.0 +0.1
baz=8.0,SNR=7.7
LDFC Landfair 8.13 229 *e*Pn **Pn 02 52 16.4 +1.1**
LDFC *e*Pg Pg 02 52 47.8 -4.9
LDFC *e*S Sg 02 54 31.2 -6.7
DGMT Dagmar 8.19 16 ⇓P Pn 02 52 16.8 +0.9
baz=8.1
SWMT Swartz Lake 8.24 328 *e*Pn **Pn 02 52 19.1 +2.3**
SWMT *e*S **Sg 02 54 41.5 -0.1**
BMO Blue Mountains 8.27 304 *e*Pn **Pn 02 52 20.1 +2.9**
1.5nm,0.5s
BMO *e*S **Sg 02 54 42.2 0.0**
A19A Klindworth Far 8.31 355 P Pn 02 52 17.4 -0.4
baz=8.3,SNR=18
WVOR Wild Horse Val 8.45 286 *e*Pn Pn 02 52 23.1 +3.4
8.2nm,0.9s
WVOR *e*S Sg 02 54 43.0 -5.2
YBMT Yellow Bay 8.54 330 *e*Pn **Pn 02 52 23.3 +2.4**
3.3nm,0.6s
JTMT Jette 8.55 328 *e*Pn **Pn 02 52 23.4 +2.3**
3.3nm,0.8s
NVAR Mina Array Bea 8.55 258 Pn Pn 02 52 26.4 +5.3
NVAR Lg Lg 02 54 41.7
NVAR Mina Array Bea 8.55 258 Pn Pn 02 52 26.4 +5.3
0.2nm,0.3s,baz=74,slow=13,SNR=10
NVAR Lg Lg 02 54 41.7
0.4nm,0.3s,baz=76,slow=33,SNR=4.4
A24A Westby 8.66 16 ⇑P Pn 02 52 22.8 +0.4
baz=8.6,SNR=5.9
ECSD EROS Data Cent 8.73 66 *e*Pn **Pn 02 52 22.5 -1.0**
ECSD *e*S Sg 02 54 50.0 -7.2
BSMT Bassoo Peak 8.84 327 *e*Pn **Pn 02 52 27.5 +2.4**
A26A Wade Farm, Ken 9.14 24 ⇑P Pn 02 52 28.9 -0.2
baz=9.1
PFO Pinyon Flat Ob 9.96 228 Lg Lg 02 55 26.8
0.2nm,0.3s,baz=180,slow=20,SNR=2.4
NEW Newport 10.19 321 Pn **Pn 02 52 45.3 +1.8**
NEW Lg Lg 02 55 31.3
NEW Newport 10.19 321 Pn **Pn 02 52 45.3 +1.8**
baz=245,slow=8.3,SNR=2.2
NEW Lg Lg 02 55 31.3
0.1nm,0.3s,baz=72,slow=20,SNR=3.0
TXAR Lajitas Array 11.75 163 Pn Pn 02 53 08.2 +3.2
TXAR Lg Lg 02 56 24.5
TXAR Lajitas Array 11.75 163 Pn Pn 02 53 08.2 +3.2
0.0nm,0.3s,baz=353,slow=9.0,SNR=7.3
TXAR Lg Lg 02 56 24.5
0.1nm,0.3s,baz=354,slow=31,SNR=3.7
ULM Lac du Bonnet 12.63 37 Pn Pn 02 53 13.9 -2.9
ULM Lg Lg 02 56 47.4
ULM Lac du Bonnet 12.63 37 Pn Pn 02 53 13.9 -2.9
0.5nm,0.3s,baz=212,slow=7.3,SNR=3.7
ULM Lg Lg 02 56 47.4
0.4nm,0.3s,baz=261,slow=19,SNR=2.5
YKA Yellowknife Ar 22.27 351 P **P 02 55 12.1 -2.0**
YKA Yellowknife Ar 22.27 351 P **P 02 55 12.1 -2.0**
0.6nm,0.7s,baz=157,slow=12,SNR=3.8
ILAR Eielson Array 32.98 330 P **P 02 56 52.1 +0.2**
ILAR Eielson Array 32.98 330 P **P 02 56 52.1 +0.2**
0.5nm,0.8s,baz=127,slow=7.1,SNR=5.4
MAW Mawson 152.50 172 PKPbc **PKPbc 03 10 16.8 +4.4**
MAW Mawson 152.50 172 PKPbc **PKPbc 03 10 16.8 +4.4**
1.0nm,0.7s,baz=267,slow=5.8,SNR=4.6

ISCJB ***18*** *02:52:29.7±0.4,54.75S±0.07×130.7W±0.1,h10km, mb4.7/22,MS4.6/22,Error ellipse: s-maj=11.0km s-min=10.3km az=7.9*
IDC ***18*** *02:52:29.4±0.5,54.66S×130.84W,h0km,mb4.5/14, mb1 4.7/14,mb1mx4.6/18,mbtmp4.5/14,MS4.4/16, Ms1 4.4/16,ms1mx4.3/19,Error ellipse: s-maj=21.9km s-min=14.4km az=160.0*
NEIC ***18*** *02:52:30.8±0.4,54.67S×130.70W,h10km,mb5.0/12, Error ellipse: s-maj=17.3km s-min=12.1km az=151.0*
GCMT ***18*** *02:52:34.5±0.2,54.90S×130.59W,h24km±1km,MW5.2, Moment Tensor Solution. s53,c75; s94,c140; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.11±.21; $M_{\theta\theta}$=4.70±.23; $M_{\phi\phi}$=-4.59±.20; $M_{r\theta}$=1.05±.30; $M_{\theta\phi}$=5.91±.16; $M_{\phi r}$=1.31±.28; Best double couple: M_0=7.70000×10^{16} NP1:ϕ_s=19.00000°, δ86.00000°,λ168.00000°. NP2:ϕ_s=109.00000°,δ78.00000°, λ4.00000°. Principal axes: T 7.8600, Plg11.0000°, Azm334.0000°; N -0.3300, Plg78.0000°, Azm182.0000°; P -7.5300, Plg6.0000°, Azm65.0000°; Data Used: IU II IC G CN.*

ISC 18 02:52:31.3±0.3,54.71S±0.09×130.58W±0.07,h10km,n93, σ1**90**/108**,mb4.7**/22**,MS4.6**/22**,1D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.53**	**201**	*e*P	**P**	**02 58 53.8**	**+0.7**
12nm,1.5s							
RKT	**Rikitea**	**31.71**	**352**	*e*LR	LR	03 07 10.9	
2μm,30.2s,baz=169							
VNDA	**Vanda**	**32.54**	**202**	*e*P	**P**	**02 59 03.3**	**+1.4**
VNDA				PcP	**PcP**	**03 01 49.6**	**+1.6**
VNDA	**Vanda**	**32.54**	**202**	P	**P**	**02 59 02.7**	**+0.8**
1.9nm,0.9s,baz=112,slow=4.8,SNR=8.3							
VNDA				PcP	**PcP**	**03 01 49.6**	**+1.6**
1.4nm,0.9s,baz=296,slow=1.7,SNR=3.7							
PMSA	**Palmer Station**	**33.40**	**134**	LR	LR	03 08 30.1	
comp=Z,1μm,21.3s,baz=251,slow=29							
TBI	**Tubuai**	**34.35**	**328**	*e*S	**S**	**03 04 45.1**	**-0.3**
130nm,25.5s							
TBI				*e*LR	LR	03 08 14.2	
2μm,29.0s,baz=160							
USHA	**Ushuaia**	**34.81**	**116**	LR	LR	03 09 48.9	
comp=Z,480nm,18.8s,baz=185,slow=30							
QSPA	**South Pole Qui**	**35.47**	**180**	*e*P	**P**	**02 59 27.7**	**+0.1**
14nm,1.0s							
QSPA	**South Pole Qui**	**35.47**	**180**	P	**P**	**02 59 27.9**	**+0.3**
7.4nm,0.9s,baz=100,slow=4.4,SNR=16							
PPT2	**Papeete2**	**39.82**	**331**	*e*S	**S**	**03 06 09.3**	**+0.3**
253nm,25.2s							
PPT2				*e*LR	LR	03 10 59.9	
2μm,26.2s,baz=171							
PPT	**Papeete**	**39.84**	**331**	LR	LR	03 12 25.5	
comp=Z,723nm,18.5s,baz=184,slow=30							
PLCA	**Paso Flores**	**41.44**	**96**	*e*P	**P**	**03 00 17.3**	**-0.6**
74nm,2.1s							
PLCA				PcP	**PcP**	**03 02 17.5**	**+1.8**
PLCA	**Paso Flores**	**41.44**	**96**	P	**P**	**03 00 17.5**	**-0.4**
7.3nm,1.1s,baz=233,slow=5.5,SNR=6.9							
PLCA				PcP	**PcP**	**03 02 17.5**	**+1.8**
1.7nm,0.8s,baz=246,slow=10.0,SNR=3.3							
PLCA				LR	LR	03 13 20.9	
comp=Z,366nm,18.1s,baz=144,slow=30							
VNA2	**Neumayer--Watz**	**48.35**	**158**	*e*P	**P**	**03 01 11.0**	**-1.4**
VNA1	**Neumayer--Stat**	**48.37**	**158**	*e*P	**P**	**03 01 14.3**	**+1.8**
SNAA	**Sanae**	**48.69**	**161**	*e*P	**P**	**03 01 15.1**	**-0.1**
SNAA	**Sanae**	**48.69**	**161**	*e*P	**P**	**03 01 12.9**	**-2.3**
5.1nm,1.0s							
CASY	**Casey**	**50.85**	**207**	*e*P	**P**	**03 01 32.8**	**+1.2**
10nm,0.9s							
LVC	**Limon Verde**	**55.54**	**81**	*e*P	**P**	**03 02 06.9**	**-0.1**
53nm,1.8s							
DZM	**Mont Dzumac**	**56.71**	**279**	*e*LR	LR	03 18 42.5	
587nm,28.9s							
DZM	**Mont Dzumac**	**56.71**	**279**	P	**P**	**03 02 14.4**	**-0.7**
DZM	**Mont Dzumac**	**56.71**	**279**	P	**P**	**03 02 14.4**	**-0.7**
3.6nm,0.8s,baz=129,slow=16,SNR=2.6							
DZM				LR	LR	03 21 01.1	
comp=Z,118nm,20.4s,baz=24,slow=30							
MAW	**Mawson**	**57.59**	**186**	P	**P**	**03 02 21.7**	**+1.1**
MAW	**Mawson**	**57.59**	**186**	P	**P**	**03 02 21.7**	**+1.1**
2.6nm,0.8s,baz=192,slow=5.8,SNR=5.9							
MAW				LR	LR	03 25 02.8	
comp=Z,311nm,18.2s,baz=352,slow=34							
LPAZ	**La Paz**	**61.00**	**77**	*e*P	**P**	**03 02 45.2**	**-0.4**
27nm,1.3s							
LPAZ	**La Paz**	**61.00**	**77**	P	**P**	**03 02 45.0**	**-0.6**
9.7nm,1.1s,baz=208,slow=4.4,SNR=23							
LPAZ				LR	LR	03 23 03.4	
comp=Z,181nm,21.6s,baz=284,slow=30							
STKA	**Stephens Creek**	**63.47**	**252**	*e*P	**P**	**03 03 03.2**	**+2.0**
STKA	**Stephens Creek**	**63.47**	**252**	P	**P**	**03 02 59.8**	**-1.4**
13nm,1.1s,baz=124,slow=8.4,SNR=5.7							
STKA				LR	LR	03 25 23.9	
comp=Z,451nm,18.6s,baz=304,slow=31							
OTAV	**Otavalo**	**69.33**	**58**	*e*P	**P**	**03 03 38.6**	**-0.9**
18nm,1.4s							
CTA	**Charters Tower**	**69.94**	**263**	P	**P**	**03 03 42.5**	**-0.2**
CTA	**Charters Tower**	**69.94**	**263**	P	**P**	**03 03 42.5**	**-0.2**
8.3nm,0.8s,baz=139,slow=7.5,SNR=8.5							
CTAO	**Charters Tower**	**69.94**	**263**	*e*P	**P**	**03 03 42.2**	**-0.5**
20nm,0.9s							
BDFB	**Brasilia**	**73.11**	**93**	LR	LR	03 33 04.4	
comp=Z,399nm,19.4s,baz=206,slow=33							
AS31	**Alice Springs**	**74.10**	**252**	*e*P	**P**	**03 04 05.8**	**-1.9**
ASAR	**Alice Springs**	**74.10**	**252**	P	**P**	**03 04 05.6**	**-2.1**
ASAR	**Alice Springs**	**74.10**	**252**	P	**P**	**03 04 05.6**	**-2.1**
17nm,1.1s,baz=142,slow=5.9,SNR=39							
ASAR				LR	LR	03 32 17.4	
comp=Z,234nm,19.4s,baz=171,slow=32							

ROSC	**El Rosal**	**75.36**	**59**	*eP*	**P**	**03 04 15.5**	**+0.2**
ROSC	**El Rosal**	**75.36**	**59**	P	**P**	**03 04 15.8**	**+0.4**
	3.0nm,0.5s,baz=286,slow=21,SNR=7.4						
ROSC				LR	LR	03 29 08.1	
	comp=Z,104nm,19.4s,baz=3.9,slow=29						
WRA	**Warramunga Arr**	**76.83**	**254**	P	**P**	**03 04 21.6**	**-1.8**
WRA	**Warramunga Arr**	**76.83**	**254**	P	**P**	**03 04 21.6**	**-1.8**
	7.6nm,0.8s,baz=142,slow=5.2,SNR=23						
WRA				LR	LR	03 34 44.2	
	comp=Z,306nm,19.4s,baz=160,slow=33						
WRAB	**Tennant Creek**	**76.83**	**254**	*eP*	**P**	**03 04 21.5**	**-1.8**
	22nm,0.9s						
FITZ	**Fitzroy Crossi**	**83.11**	**249**	P	**P**	**03 04 55.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**83.11**	**249**	P	**P**	**03 04 55.7**	**-1.5**
	15nm,1.1s,baz=176,slow=6.5,SNR=18						
FITZ	**Fitzroy Crossi**	**83.11**	**249**	P	**P**	**03 04 56.1**	**-1.2**
	baz=57,SNR=10						
KNRA	**Kununurra**	**83.38**	**252**	P	**P**	**03 04 57.3**	**-1.4**
	baz=56,SNR=3.5						
TXAR	**Lajitas Array**	**86.85**	**23**	P	**P**	**03 05 17.2**	**+1.5**
TXAR	**Lajitas Array**	**86.85**	**23**	P	**P**	**03 05 17.2**	**+1.5**
	0.8nm,0.7s,baz=187,slow=8.8,SNR=11						
ANMO	**Albuquerque**	**91.67**	**20**	*eP*	**P**	**03 05 40.1**	**+1.6**
	27nm,2.5s						
WSI	**Waingapu**	**92.95**	**249**	P	**P**	**03 05 46.8**	**+2.0**
	baz=66,SNR=4.2						
CCUT	**Cedar City**	**93.07**	**14**	*eP*	**P**	**03 05 47.6**	**+2.7**
	1.3nm,0.8s						
NVAR	**Mina Array Bea**	**93.36**	**10**	P	**P**	**03 05 47.4**	**+1.2**
NVAR	**Mina Array Bea**	**93.36**	**10**	P	**P**	**03 05 47.4**	**+1.2**
	0.5nm,0.7s,baz=186,slow=7.3,SNR=5.6						
NVAR				LR	LR	03 40 18.1	
	comp=Z,145nm,18.8s,baz=170,slow=31						
BOSA	**Boshof**	**94.45**	**159**	LR	LR	03 41 45.7	
	comp=Z,325nm,21.5s,baz=177,slow=31						
KAPI	**Kappang**	**97.12**	**251**	LR	LR	03 46 05.9	
	comp=Z,506nm,18.1s,baz=33,slow=33						
PDAR	**Pinedale Array**	**98.74**	**16**	LR	LR	03 42 40.5	
	comp=Z,129nm,20.0s,baz=208,slow=30						
ILAR	**Eielson Array**	**119.80**	**352**	PKP	**PKPdf**	**03 11 18.8**	**-1.3**
ILAR	**Eielson Array**	**119.80**	**352**	PKP	**PKPdf**	**03 11 18.8**	**-1.3**
	1.1nm,0.6s,baz=212,slow=2.3,SNR=13						
TORD	**Torodi Ar. Bea**	**124.36**	**119**	PKP	**PKPdf**	**03 11 30.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**124.36**	**119**	PKP	**PKPdf**	**03 11 30.2**	**-0.2**
	0.4nm,0.7s,baz=216,slow=1.2,SNR=4.3						
WHN	**Wuhan**	**128.60**	**270**	PKP	**PKPdf**	**03 11 40.3**	**+2.2**
MDJ	**Mudanjiang**	**129.85**	**294**	PKP	**PKPdf**	**03 11 39.5**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,45nm,3.3s						
GYA	**Guiyang**	**129.97**	**260**	*e*Pdif	**Pdif**	**03 08 30.0**	**+0.2**
GYA				PKP	**PKiKP**	**03 11 41.3**	**-0.5**
GYA				PP	**PP**	**03 13 56.3**	**+3.0**
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
KMI	**Kunming**	**131.15**	**255**	PKP	**PKPdf**	**03 11 46.8**	**+3.4**
CN2	**Changchun**	**131.54**	**290**	*e*PKP	**PKPdf**	**03 11 46.4**	**+3.2**
CN2				PP	PP	03 14 10.8	+7.5
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,260nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CD2	**Chengdu**	**135.00**	**261**	*e*PKP	**PKPdf**	**03 11 51.0**	**+0.8**
CD2				PP	**PP**	**03 14 30.3**	**+4.9**
CD2				SKS	**SKSdf**	**03 18 59.3**	**-1.9**
CD2				SKKS	**SKKSac**	**03 21 19.8**	**-0.5**
CD2				SS	**SS**	**03 32 21.8**	**+2.5**
CD2				AMB	AMB		
	comp=Z,120nm,10.2s						
CD2				LR	LR		
	comp=N,150nm,21.2s						
CD2				LR	LR		
	comp=Z,140nm,22.4s						
HHC	**Hu-ho-hao-te**	**137.42**	**278**	*e*PKP	**PKPdf**	**03 11 55.1**	**+0.6**
HHC				PP	**PP**	**03 14 45.6**	**+4.8**
HHC				PKS	**PKSdf**	**03 15 28.8**	**-1.9**
HHC				SKS	**SKSdf**	**03 19 03.8**	**-1.2**
HHC				SKKS	**SKKSac**	**03 21 34.6**	**0.0**
HHC				SS	**SS**	**03 32 53.0**	**+4.6**
HHC				AMB	AMB		
	comp=Z,180nm,9.2s						
HHC				LR	LR		
	comp=N,270nm,19.3s						
HHC				LR	LR		
	comp=E,180nm,19.5s						
HHC				LR	LR		
	comp=Z,260nm,19.8s						
LZH	**Lanzhou**	**138.68**	**266**	*e*PKP	**PKPdf**	**03 11 57.3**	**+0.2**
LZH				sPKP		03 12 01.8	
LZH				PP	**PP**	**03 14 53.5**	**+4.8**
LZH				SKKS		03 21 42.5	
LZH				*e*SS	**SS**	**03 33 00.6**	**-2.8**
LZH				AMB	AMB		
	comp=Z,140nm,9.0s						
LZH				LR	LR		
	comp=N,190nm,18.0s						
LZH				LR	LR		
	comp=E,140nm,17.6s						
LZH				LR	LR		
	comp=Z,210nm,19.0s						
ESDC	**Sonseca Array**	**141.72**	**91**	PKP	**PKPdf**	**03 12 02.1**	**-0.2**
ESDC	**Sonseca Array**	**141.72**	**91**	PKP	**PKPdf**	**03 12 02.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=231,slow=2.1,SNR=2.9						
GTA	**Gaotai**	**143.28**	**267**	PKP	PKPbc	03 12 01.8	-0.5
GTA				pPKP	pPKPdf	03 12 12.4	+3.8
GTA				PP	**PP**	**03 15 17.1**	**+0.4**
GTA				SKKS		03 22 02.9	
GTA				SS	**SS**	**03 33 52.0**	**-5.0**
GTA				AMB	AMB		
	comp=Z,67nm,6.4s						
GTA				LR	LR		
	comp=N,120nm,20.4s						
GTA				LR	LR		
	comp=E,130nm,18.5s						
GTA				LR	LR		
	comp=Z,98nm,16.9s						
ULN	**Ulaanbaatar**	**144.22**	**283**	*e*PKPdf	**PKPab**	**03 12 03.8**	**-0.6**
SONM	**Songino Array**	**144.57**	**283**	PKP	**PKPab**	**03 12 04.6**	**-1.2**
SONM	**Songino Array**	**144.57**	**283**	PKP	**PKPab**	**03 12 04.6**	**-1.2**
	comp=Z,8.4nm,1.0s,baz=139,slow=3.8,SNR=26						
KEST	**Kesra**	**146.60**	**108**	*e*PKPdf	**PKPdf**	**03 12 06.9**	**-4.1**
KEST				PKPbc	**PKPab**	**03 12 15.5**	**+1.9**
KEST	**Kesra**	**146.60**	**108**	PKPbc	**PKPab**	**03 12 15.5**	**+1.9**
	comp=Z,2.0nm,0.9s,baz=246,slow=2.1,SNR=6.3						
EKA	**Eskdalemuir Ar**	**150.44**	**67**	PKPbc	**PKPbc**	**03 12 21.9**	**+0.1**
EKA	**Eskdalemuir Ar**	**150.44**	**67**	PKPbc	**PKPbc**	**03 12 21.9**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=248,slow=2.5,SNR=8.8						
BNI	**Bardonecchia**	**151.23**	**92**	*e*PKPbc	**PKPbc**	**03 12 23.9**	**-0.3**
WMQ	**Urumqi**	**153.08**	**262**	*e*PKPbc	**PKPdf**	**03 12 19.6**	**-1.3**
WMQ				PKS	PKSdf	03 15 49.4	-5.8
WMQ				PP	**PP**	**03 16 11.5**	**-2.4**
WMQ				SKS	**SKSdf**	**03 19 24.8**	**-2.9**
WMQ				SKKS	**SKKSac**	**03 23 01.9**	**-1.5**
WMQ				SS	**SS**	**03 35 43.9**	**-3.2**
WMQ				AMB	AMB		
	comp=Z,25nm,12.0s						
WMQ				LR	LR		
	comp=N,37nm,19.0s						
WMQ				LR	LR		
	comp=E,140nm,23.0s						
WMQ				LR	LR		
	comp=Z,120nm,21.0s						
TUE	**Stuetta**	**153.57**	**91**	*e*PKPdf	**PKPdf**	**03 12 20.1**	**-1.6**
TUE				*e*PKPbc	**PKPbc**	**03 12 28.8**	**-0.6**
TUE				*e*PKPab	**PKPab**	**03 12 40.6**	**-1.5**
DAVOX	**Davos/Dischmat**	**154.05**	**91**	PKPbc	**PKPbc**	**03 12 32.4**	**+1.9**
DAVOX	**Davos/Dischmat**	**154.05**	**91**	PKPbc	**PKPbc**	**03 12 32.4**	**+1.9**
	comp=Z,2.3nm,1.0s,baz=136,slow=18,SNR=5.4						
SOKA	**Soboth**	**156.98**	**96**	*i*pPKPdf	pPKPdf	03 12 30.9	+1.3
	comp=Z,1.9nm,0.9s						
GERES	**GERESS Array B**	**157.32**	**90**	PKPbc	PKPdf	03 12 36.7	+10
GERES	**GERESS Array B**	**157.32**	**90**	PKPbc	PKPdf	03 12 36.7	+10
	comp=Z,1.8nm,1.0s,baz=248,slow=0.7,SNR=9.3						
MKAR	**Makanchi Array**	**157.91**	**263**	PKPab	**PKPab**	**03 12 58.6**	**-1.9**
MKAR				PP	**PP**	**03 16 38.4**	**-2.4**
MKAR	**Makanchi Array**	**157.91**	**263**	PKPab	**PKPab**	**03 12 58.6**	**-1.9**
	comp=Z,3.1nm,0.6s,baz=103,slow=5.2,SNR=15						
MKAR				PP	**PP**	**03 16 38.4**	**-2.4**
	comp=Z,0.9nm,0.9s,baz=120,slow=8.5,SNR=5.2						
ZALV	**Zalesovo Beam**	**159.47**	**282**	PKPab	**PKPab**	**03 13 04.9**	**-2.1**
ZALV	**Zalesovo Beam**	**159.47**	**282**	PKPab	**PKPab**	**03 13 04.9**	**-2.1**
	comp=Z,3.6nm,1.0s,baz=113,slow=3.4,SNR=8.1						
BRTR	**Keskin Array B**	**161.64**	**138**	PKPab	**PKPab**	**03 13 15.1**	**-1.9**
BRTR	**Keskin Array B**	**161.64**	**138**	PKPab	**PKPab**	**03 13 15.1**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=332,slow=2.1,SNR=3.1						
AKTO	**Aktyubinsk**	**173.24**	**234**	PKPab	**PKPab**	**03 14 06.2**	**-1.6**
AKTO	**Aktyubinsk**	**173.24**	**234**	PKPab	**PKPab**	**03 14 06.2**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=102,slow=9.9,SNR=3.9						

IDC 18 02:54:26.1±0.7, 21°.00N×144°.48E, h0km, mb3.9/14, mb1 4.1/14, mb1mx4.0/28, mbtmp3.9/14, Error ellipse: s-maj=24.8km s-min=17.5km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.80**	**322**	P	P	02 59 24.1	+4.3
	2.2nm,0.8s,baz=148,slow=9.0,SNR=11						
SONM	**Songino Array**	**40.65**	**320**	P	P	03 02 09.3	+1.1
	0.2nm,0.3s,baz=126,slow=7.7,SNR=3.7						
WRA	**Warramunga Arr**	**41.88**	**194**	P	P	03 02 18.1	-0.2
	1.1nm,0.6s,baz=16,slow=8.6,SNR=5.9						
FITZ	**Fitzroy Crossi**	**43.02**	**207**	P	P	03 02 28.3	+0.7
	1.4nm,0.7s,baz=177,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**45.57**	**194**	P	P	03 02 47.2	-0.8
	0.9nm,0.8s,baz=13,slow=8.1,SNR=8.6						
ZALV	**Zalesovo Beam**	**55.51**	**322**	P	P	03 04 02.7	-0.1
	0.4nm,0.4s,baz=91,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**56.06**	**313**	P	P	03 04 07.4	+0.4
	1.2nm,0.9s,baz=100,slow=10.0,SNR=7.3						
KURBB	**Kurchatov Arra**	**58.86**	**317**	P	P	03 04 26.3	-0.3
	1.2nm,0.6s,baz=92,slow=7.4,SNR=14						
ILAR	**Eielson Array**	**62.11**	**27**	P	P	03 04 48.0	-0.7
	0.7nm,0.8s,baz=252,slow=5.9,SNR=7.7						
BVAR	**Borovoye Array**	**63.99**	**320**	P	P	03 05 01.0	-0.3
	1.2nm,0.5s,baz=87,slow=8.2,SNR=6.0						
ARCES	**ARCESS Array B**	**79.97**	**342**	P	P	03 06 37.2	+0.4
	1.7nm,0.7s,baz=77,slow=7.8,SNR=6.1						
NVAR	**Mina Array Bea**	**82.63**	**52**	P	P	03 06 52.5	+0.6
	1.0nm,0.7s,baz=282,slow=6.5,SNR=5.3						
FINES	**FINESS Array B**	**84.33**	**335**	P	P	03 06 58.7	-1.2
	1.7nm,0.7s,baz=57,slow=7.0,SNR=8.5						
PDAR	**Pinedale Array**	**87.03**	**45**	P	P	03 07 14.3	+0.3
	0.3nm,0.6s,baz=220,slow=3.5,SNR=3.0						
TXAR	**Lajitas Array**	**97.47**	**55**	P	Pdif	03 08 03.0	+0.4
	0.1nm,0.5s,baz=292,slow=4.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**130.12**	**310**	PKP	PKPdf	03 13 38.2	-0.8
	0.3nm,0.8s,baz=25,slow=3.8,SNR=3.1						
LPAZ	**La Paz**	**148.78**	**87**	PKPbc	PKPbc	03 14 16.6	-0.6
	0.8nm,0.5s,baz=23,slow=8.5,SNR=6.8						

IDC 18 03:01:26.1±2.9, 3°.30N×129°.81E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/26, Error ellipse: s-maj=229.6km s-min=23.3km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**169**	P	P	03 06 37.0	-1.1
	1.0nm,0.4s,baz=347,slow=10.0,SNR=9.2						
WRA				LR	LR	03 15 22.8	
	comp=Z,85nm,19.9s,baz=150,slow=36						
ASAR	**Alice Springs**	**27.10**	**172**	P	P	03 07 11.8	+0.9
	0.2nm,0.3s,baz=347,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**36.73**	**163**	P	P	03 08 34.9	-0.4
	2.3nm,1.0s,baz=354,slow=5.6,SNR=3.8						
MKAR	**Makanchi Array**	**59.68**	**324**	P	P	03 11 32.5	+0.1
	0.6nm,0.5s,baz=114,slow=8.3,SNR=9.9						

MEX 18 03:12:42.6±0.3, 18°.11N×103°.41W, h5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.19**	**17**	*i P*	Pg	03 12 46.1	-0.3
MMIG				*e*S	Sg	03 12 48.5	-0.4
R15V		**1.19**	**333**	*i P*	Pg	03 13 02.0	-3.6
R15V				*e*S	Sg	03 13 17.2	-3.9
EZ5V		**1.38**	**352**	*i P*	Pn	03 13 05.3	-3.5
EZ5V				*e*S	Sb	03 13 23.1	-4.3

IDC 18 03:15:29.2±3.0, 48°.12N×154°.02E, h77km±28km, mb3.3/7, mb1 3.6/10, mb1mx3.4/30, mbtmp3.5/10, MS2.9/1, Ms1 2.9/1, ms1mx2.3/20, Error ellipse: s-maj=41.6km s-min=17.5km az=156.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.51**	**24**	P	Pn	03 16 49.2	+0.6
	1.6nm,0.3s,baz=182,slow=17,SNR=12						
PETK				S	Sn	03 18 03.0	+12
	baz=222,slow=22,SNR=2.0						
ASAJ	**Asahikawa**	**8.89**	**247**	P	Pn	03 17 33.9	-0.8
	0.8nm,0.3s,baz=99,slow=14,SNR=14						
FX1	**Attu Island--F**	**13.07**	**61**	P	Pn	03 18 28.0	-3.5
	1.0nm,0.3s,baz=236,slow=7.3,SNR=6.9						
FX1				S	Sn	03 20 41.6	-13
	0.9nm,0.3s,baz=290,slow=9.1,SNR=8.5						
FX1				LR	LR	03 22 49.8	
	comp=Z,59nm,21.1s,baz=57,slow=34						
USRK	**Ussuriysk Arra**	**15.74**	**264**	P	Pn	03 19 06.8	+0.7
	0.2nm,0.3s,baz=75,slow=13,SNR=5.4						
KSRS	**Korea Array**	**21.82**	**250**	P	P	03 20 15.2	+0.3
	0.6nm,0.5s,baz=42,slow=12,SNR=4.2						
INK	**Inuvik**	**40.16**	**33**	P	P	03 22 56.4	-0.8
	1.3nm,0.9s,baz=320,slow=4.2,SNR=3.8						
MKAR	**Makanchi Array**	**46.87**	**297**	P	P	03 23 52.0	+0.6
	0.3nm,0.7s,baz=70,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**61.26**	**64**	P	P	03 25 36.5	+0.1
	0.5nm,0.7s,baz=294,slow=7.4,SNR=3.7						
PDAR	**Pinedale Array**	**63.45**	**55**	P	P	03 25 51.2	+0.3
	0.5nm,0.9s,baz=318,slow=2.0,SNR=5.0						
HFS	**Hagfors**	**67.39**	**340**	P	P	03 26 15.0	-0.8
	2.3nm,0.9s,baz=89,slow=6.5,SNR=4.1						
TXAR	**Lajitas Array**	**76.29**	**61**	P	P	03 27 09.8	+0.1
	0.6nm,0.5s,baz=296,slow=4.0,SNR=11						

*NEIC **18** 03:19:26.4, 19°.21N×65°.74W, h94km, MD3.4(RSPR), After RSPR.*

RSPR 18 03:19:26.4, 19°.21N×65°.74W, h94km±2km, MD3.4/5, 24C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.12**	**171**	*e*Pn	Pn	03 19 46.9	-0.8
MTP				*e*S	Sn	03 19 59.7	-4.1
STVI	**Saint Thomas**	**1.13**	**139**	*e*P	Pn	03 19 47.3	-0.6
STVI	**Saint Thomas**	**1.13**	**139**	*e*S	Sn	03 20 03.7	-0.3
STVI	**Saint Thomas**	**1.13**	**139**	*e*Pn	Pn	03 19 47.6	-0.3
STVI				*e*S	Sn	03 20 06.2	+2.2
STVI	**Saint Thomas**	**1.13**	**139**	*e*P	Pn	03 19 47.3	-0.6
STVI				*e*S	Sn	03 20 03.7	-0.3
SJG	**San Juan**	**1.16**	**200**	*e*P	Pn	03 19 47.8	-0.4
SJG				*e*S	Sn	03 20 04.5	-0.1
SJG	**San Juan**	**1.16**	**200**	*e*P	Pn	03 19 47.8	-0.4
SJG				*e*S	Sn	03 20 04.5	-0.1
SJG	**San Juan**	**1.16**	**200**	*e*P	Pn	03 19 47.8	-0.4
SJG				*e*S	Sn	03 20 04.5	-0.1
CPD	**Cerro la Pandu**	**1.17**	**188**	*e*P	Pn	03 19 48.0	-0.5
CPD	**Cerro la Pandu**	**1.17**	**188**	*e*S	Sn	03 20 04.6	-0.5
CPD	**Cerro la Pandu**	**1.17**	**188**	*e*P	Pn	03 19 48.0	-0.5
CPD				*e*S	Sn	03 20 04.6	-0.5
CPD	**Cerro la Pandu**	**1.17**	**188**	*e*P	Pn	03 19 48.0	-0.5
CPD				*e*S	Sn	03 20 04.6	-0.5
AOPR	**Arecibo Observ**	**1.29**	**229**	*e*P	Pn	03 19 49.1	-0.7
AOPR	**Arecibo Observ**	**1.29**	**229**	*e*S	Sn	03 20 07.0	-0.5
AOPR	**Arecibo Observ**	**1.29**	**229**	*e*P	Pn	03 19 49.1	-0.7
AOPR				*e*S	Sn	03 20 07.0	-0.5
AOPR	**Arecibo Observ**	**1.29**	**229**	*e*P	Pn	03 19 49.1	-0.7
AOPR				*e*S	Sn	03 20 07.0	-0.5
CELP	**Cerrillos**	**1.38**	**215**	*e*P	Pn	03 19 50.4	-0.5
CELP	**Cerrillos**	**1.38**	**215**	*e*Pn	Pn	03 19 50.4	-0.5
CELP				*e*S	Sn	03 20 09.8	+0.4
CELP	**Cerrillos**	**1.38**	**215**	*e*P	Pn	03 19 50.4	-0.5
LRS	**Lares**	**1.39**	**229**	*e*P	Pn	03 19 50.5	-0.5
LRS				*e*S	Sn	03 20 09.3	-0.3
LRS	**Lares**	**1.39**	**229**	*e*Pn	Pn	03 19 50.7	-0.4
LRS				*e*S	Sn	03 20 09.7	+0.1
LRS	**Lares**	**1.39**	**229**	*e*P	Pn	03 19 50.5	-0.5
LRS				*e*S	Sn	03 20 09.3	-0.3
OBIP	**Obispado Ponce**	**1.42**	**216**	*e*P	Pn	03 19 50.9	-0.5
OBIP	**Obispado Ponce**	**1.42**	**216**	*e*S	Sn	03 20 09.9	-0.3
OBIP	**Obispado Ponce**	**1.42**	**216**	*e*Pn	Pn	03 19 51.0	-0.4
OBIP				*e*S	Sn	03 20 11.9	+1.6
OBIP	**Obispado Ponce**	**1.42**	**216**	*e*P	Pn	03 19 50.9	-0.5
OBIP				*e*S	Sn	03 20 09.9	-0.3
AGPR	**Aguadilla, PR**	**1.49**	**241**	*e*P	Pn	03 19 51.7	-0.5
AGPR	**Aguadilla, PR**	**1.49**	**241**	*e*S	Sn	03 20 11.7	-0.2
AGPR	**Aguadilla, PR**	**1.49**	**241**	*e*Pn	Pn	03 19 52.0	-0.3
AGPR				*e*S	Sn	03 20 15.2	+3.3
AGPR	**Aguadilla, PR**	**1.49**	**241**	*e*P	Pn	03 19 51.7	-0.5
AGPR				*e*S	Sn	03 20 11.7	-0.2
LSP	**Las Mesas**	**1.64**	**232**	*e*P	Pn	03 19 53.6	-0.5
LSP	**Las Mesas**	**1.64**	**232**	*e*Pn	Pn	03 19 54.1	0.0
LSP				*e*S	Sn	03 20 16.3	+1.1
LSP	**Las Mesas**	**1.64**	**232**	*e*P	Pn	03 19 53.6	-0.5
CRPR	**Cabo Rojo, PR**	**1.76**	**228**	*e*P	Pn	03 19 55.3	-0.5
CRPR	**Cabo Rojo, PR**	**1.76**	**228**	*e*S	Sn	03 20 17.6	-0.4
CRPR	**Cabo Rojo, PR**	**1.76**	**228**	*e*P	Pn	03 19 55.3	-0.5
CRPR				*e*S	Sn	03 20 17.6	-0.4
CRPR	**Cabo Rojo, PR**	**1.76**	**228**	*e*P	Pn	03 19 55.3	-0.5
CRPR				*e*S	Sn	03 20 17.6	-0.4

RSPR 18 03:20:48.8, 18°.95N×65°.85W, h133km±1km, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.89**	**162**	*e*P	Pn	03 21 10.7	-0.4
MTP	**Monte Pirata**	**0.89**	**162**	*e*S	Sn	03 21 27.8	0.0
MTP	**Monte Pirata**	**0.89**	**162**	*e*P	Pn	03 21 10.7	-0.4
MTP				*e*S	Sn	03 21 27.8	0.0
STVI	**Saint Thomas**	**1.03**	**125**	*e*S	Sn	03 21 30.1	+0.1
STVI	**Saint Thomas**	**1.03**	**125**	*e*S	Sn	03 21 30.1	+0.1
AOPR	**Arecibo Observ**	**1.05**	**235**	*e*P	Pn	03 21 12.1	-0.4
AOPR	**Arecibo Observ**	**1.05**	**235**	*e*S	Sn	03 21 30.4	0.0
AOPR	**Arecibo Observ**	**1.05**	**235**	*e*P	Pn	03 21 12.7	+0.3
AOPR				*e*S	Sn	03 21 30.4	0.0
LRS	**Lares**	**1.15**	**236**	*e*P	Pn	03 21 13.2	-0.2
LRS				*e*S	Sn	03 21 32.1	-0.1
LRS	**Lares**	**1.15**	**236**	*e*P	Pn	03 21 13.2	-0.2
LRS				*e*S	Sn	03 21 32.1	-0.1

*IDC **18** 03:28:00.7±0.6, 2°.21N×96°.28E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.3/31, mbtmp4.3/22, ML4.1/2, MS3.9/6, Ms1 3.9/6, ms1mx3.3/38, Error ellipse: s-maj=19.9km s-min=12.7km az=35.0*

*ISCJB **18** 03:28:03.1±0.3, 2°.17N±0°.04×96°.28E±0°.04, h28km, mb4.5/49, MS4.0/11, Error ellipse: s-maj=7.0km s-min=4.6km az=32.3*

*AUST **18** 03:28:04.0±2.8, 2°.06N×96°.05E, h24km, Error ellipse: s-maj=1.5km s-min=1.0km az=35.0*

*MOS **18** 03:28:03.6±1.0, 2°.20N×96°.27E, h33km, mb4.8/15, Error ellipse: s-maj=12.2km s-min=8.0km az=103.1*

*BKK **18** 03:28:05.8±1.0, 2°N±6°×9°6E±°, h10km, M4.6/14, mB5.1/6, mb4.7/14, MLv4.7/8, Mw(mB)4.4/6*

*NEIC **18** 03:28:08.2±1.0, 2°.28N×96°.40E, h54km±9km, mb4.6/11, Error ellipse: s-maj=9.7km s-min=5.8km az=217.0*

*DJA **18** 03:28:10.4±1.0, 3°N±7°×9°6E±°, h73km±43km, M4.9/5, mb5.1/5, mB5.3/5, MLv4.9/5, Mw(mB)4.7/5*

*BJI **18** 03:28:10.5, 2°.26N×96°.24E, h106km, mB4.9/13, mb4.9/23*

ISC 18 03:28:05.0±0.4, 2°.16N±0°.06×96°.34E±0°.06, h28km, n158, σ1§41/143, mb4.6/49, MS3.9/11, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.59**	**59**	P	**Pn**	**03 28 46.6**	**+1.5**
PSI	**Prapat**	**2.66**	**76**	Pn	**Pn**	**03 28 47.1**	**+1.0**
PSI	**Prapat**	**2.66**	**76**	Pn	**Pn**	**03 28 47.1**	**+1.0**
	13nm,0.3s,baz=280,slow=5.4,SNR=58						
PSI	**Prapat**	**2.66**	**76**	P	**Pn**	**03 28 47.2**	**+1.0**
	baz=2.9,SNR=29						
LHMI	**Lhok Sumawe**	**3.11**	**11**	P	**Pn**	**03 28 53.0**	**+0.8**
LHMI	**Lhok Sumawe**	**3.11**	**11**	P	**Pn**	**03 28 55.3**	**+3.1**
	baz=3.3,SNR=7.3						
BSI	**Banda Aceh**	**3.47**	**343**	P	**Pn**	**03 28 54.5**	**-2.8**
PPI	**Padang Panjang**	**4.82**	**123**	P	**Pn**	**03 29 17.7**	**+1.9**
PPI	**Padang Panjang**	**4.82**	**123**	P	**Pn**	**03 29 17.9**	**+2.2**
	baz=5.0,SNR=4.8						
BKNI	**Bangkinang**	**5.04**	**111**	P	Pb	03 29 25.8	-6.8
	140nm,0.9s,2μm1.1nm						
PDSI	**Padang**	**5.13**	**126**	P	Pb	03 29 29.4	-4.7
	492nm,1.1s,113μm2.2nm						
IPM	**Ipoh**	**5.22**	**64**	*e*Pn	**Pn**	**03 29 22.3**

comp=Z,50nm,0.6s
DMN Daman 27.50 338 *e*P **P 03 33 49.8 +0.4**
comp=Z,34nm,0.9s
KKN Kakani 27.59 338 *e*P **P 03 33 50.4 +0.1**
LSA Lhasa 27.83 350 *e*P **P 03 33 52.6 0.0**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA Lhasa 27.83 350 *e*P **P 03 33 52.6 0.0**
comp=Z,20nm,0.9s
KOLN Koldanda 28.23 336 *e*P **P 03 33 56.6 +0.6**
DANN Dangsing 28.68 336 *e*P **P 03 34 00.9 +0.9**
comp=Z,24nm,0.5s
ENH Enshi 30.61 23 *e*P **P 03 34 15.6 -1.3**
comp=Z,18nm,0.8s
WHN Wuhan 32.99 29 P **P 03 34 37.9 +0.2**
WHN S S 03 39 45.8 -8.6
WHN LR LR
comp=N,430nm,12.6s
WHN LR LR
comp=E,430nm,11.6s
WHN LR LR
comp=Z,600nm,16.7s
XAN Xi'an 33.83 19 P **P 03 34 43.4 -1.6**
XAN pmax pmax
comp=Z,24nm,0.8s
XAN pmax pmax
comp=Z,27nm,7.1s
XAN LR LR
comp=N,200nm,17.2s
XAN LR LR
comp=E,34nm,14.7s
XAN LR LR
comp=Z,75nm,16.7s
LZH Lanzhou 34.47 11 ⇓P **P 03 34 50.0 -0.7**
LZH pmax pmax
comp=Z,32nm,1.3s
LZH pmax pmax
comp=Z,110nm,4.6s
LZH LR LR
comp=N,390nm,11.6s
LZH LR LR
comp=E,340nm,14.0s
LZH LR LR
comp=Z,440nm,16.0s
FITZ Fitzroy Crossi 35.19 126 P **P 03 34 56.5 -0.4**
baz=35,SNR=11
GTA Gaotai 37.21 4 P **P 03 35 13.8 -0.3**
GTA pmax pmax
comp=Z,13nm,1.1s
GTA pmax pmax
comp=Z,68nm,5.7s
GTA LR LR
comp=N,190nm,14.7s
GTA LR LR
comp=E,250nm,13.8s
GTA LR LR
comp=Z,190nm,15.7s
BJT Baijiatuau 41.77 23 *e*P **P 03 35 52.4 +0.5**
comp=Z,58nm,0.7s
WRA Warramunga Arr 43.27 122 P **P 03 36 04.3 -0.2**
WRA Warramunga Arr 43.27 122 P **P 03 36 04.3 -0.2**
comp=Z,6.1nm,0.8s,baz=300,slow=9.1,SNR=21
WRA LR LR 03 55 16.3
comp=Z,149nm,18.5s,baz=275,slow=38
WRAB Tennant Creek 43.28 122 *e*P **P 03 36 04.8 +0.2**
WRAB pmax pmax
comp=Z,20nm,1.2s
WRAB Tennant Creek 43.28 122 *e*P **P 03 36 04.8 +0.2**
comp=Z,20nm,1.2s
FORT Forrest 44.56 140 P P 03 36 23.2 +8.5
baz=45,SNR=9.6
TKM2 Tokmak 2 44.61 338 *e*P **P 03 36 14.8 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 44.61 338 *e*P **P 03 36 14.8 -0.4**
comp=Z,5.4nm,1.0s
ASAR Alice Springs 44.66 127 P **P 03 36 15.8 +0.2**
ASAR PcP **PcP 03 37 58.2 +0.1**
ASAR Alice Springs 44.66 127 P **P 03 36 15.8 +0.2**
comp=Z,2.4nm,0.6s,baz=301,slow=7.8,SNR=28
ASAR PcP **PcP 03 37 58.2 +0.1**
comp=Z,0.9nm,0.8s,baz=310,slow=3.8,SNR=3.0
JNU Nakatsue 44.67 43 P **P 03 36 15.9 +0.3**
JNU Nakatsue 44.67 43 P **P 03 36 15.9 +0.3**
comp=Z,9.5nm,1.2s,baz=265,slow=4.2,SNR=3.0
AAK Ala-Archa 44.78 337 *e*P P 03 36 20.7 +4.2
AAK pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 45.09 336 *e*P **P 03 36 19.3 +0.4**
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 45.09 336 *e*P **P 03 36 19.3 +0.4**
comp=Z,5.6nm,0.7s
KSAR Wonju Array Be 45.53 36 P **P 03 36 21.8 -0.5**
KSRS Korea Array 45.56 36 P **P 03 36 21.8 -0.8**
comp=Z,1.3nm,0.4s,baz=226,slow=9.1,SNR=11
KSRS LR LR 03 57 42.6
comp=Z,114nm,18.2s,baz=38,slow=39
MK31 Makanchi Array 46.11 347 *e*P **P 03 36 26.2 -0.6**
MK31 Makanchi Array 46.11 347 *e*P **P 03 36 26.1 -0.6**
MKAR Makanchi Array 46.11 347 *e*P **P 03 36 26.2 -0.6**
MKAR Makanchi Array 46.11 347 *e*P **P 03 36 26.2 -0.6**
MKAR Makanchi Array 46.11 347 P **P 03 36 26.1 -0.6**
comp=Z,21nm,0.9s,baz=160,slow=7.8,SNR=42
MKAR LR LR 03 59 42.8
comp=Z,48nm,20.8s,baz=147,slow=41
SONM Songino Array 46.32 9 P **P 03 36 27.9 -0.6**
SONM PcP **PcP 03 38 03.4 -0.1**
SONM Songino Array 46.32 9 P **P 03 36 27.9 -0.6**
comp=Z,6.4nm,0.7s,baz=189,slow=8.8,SNR=43
SONM PcP **PcP 03 38 03.4 -0.1**
comp=Z,3.1nm,0.9s,baz=198,slow=3.5,SNR=5.3
KKAR Karatay Array 46.82 334 *e*P **P 03 36 32.9 +0.5**
KKAR Karatay Array 46.82 334 *e*P **P 03 36 32.9 +0.5**
HVS Khovu-Aksy 48.85 358 *e*P **P 03 36 46.1 -2.0**
TLY Talaya 49.73 6 *e*P **P 03 36 55.9 +1.2**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY MLR MLR
comp=Z,78nm,14.0s
MJAR Matsushiro Arr 51.58 43 P **P 03 37 08.6 -0.3**
MJAR Matsushiro Arr 51.58 43 P **P 03 37 08.6 -0.3**
comp=Z,2.6nm,0.8s,baz=198,slow=5.7,SNR=5.6
USRK Ussuriysk Arra 52.41 32 P **P 03 37 15.1 +0.2**
comp=Z,2.6nm,0.8s,baz=231,slow=4.6,SNR=5.1
ZAA0 Zalesovo Array 52.48 351 *e*P **P 03 37 14.6 -0.7**
ZALV Zalesovo Beam 52.48 351 P **P 03 37 14.6 -0.7**
ZALV Zalesovo Beam 52.48 351 P **P 03 37 14.6 -0.7**
ZALV Zalesovo Beam 52.48 351 P **P 03 37 14.6 -0.7**
comp=Z,10nm,0.5s,baz=180,slow=6.2,SNR=39
ZALV LR LR 04 04 01.8
comp=Z,90nm,19.9s,baz=160,slow=41
QRN Al-Qurain 53.11 305 *e*P **P 03 37 20.4 0.0**
QRN AMb AMB 03 37 26.9
comp=Z,0.8nm,0.4s
RDF Al-Radifah 53.48 305 *e*P **P 03 37 22.7 -0.4**
RDF AMb AMB 03 37 27.4
comp=Z,17nm,1.2s
NVS Novosibirsk 53.59 351 *e*P **P 03 37 21.6 -1.8**
CTAO Charters Tower 53.70 117 *e*P **P 03 37 25.1 +0.2**
CTAO pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 53.70 117 *e*P **P 03 37 25.1 +0.2**
comp=Z,8.0nm,1.0s
MIB Mutribah 53.96 306 *e*P P 03 37 21.3 -5.3
MIB AMb AMB 03 37 35.3
comp=Z,28nm,0.9s
STKA Stephens Creek 54.63 132 P **P 03 37 32.0 +0.5**
STKA Stephens Creek 54.63 132 P **P 03 37 32.0 +0.5**
comp=Z,4.0nm,0.7s,baz=310,slow=11,SNR=8.6
STKA Stephens Creek 54.63 132 P **P 03 37 32.5 +0.9**
baz=55,SNR=6.0
BRVK Borovoye 55.13 341 *e*P P 03 37 40.7 +6.0
BRVK pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 55.80 27 *e*P P 03 37 35.6 -4.0
ABKAR Abkulak array 56.27 332 *e*P **P 03 37 42.3 -0.6**
CMSA Cobar Meteorol 57.57 130 P **P 03 37 53.6 +1.1**
baz=58,SNR=8.6
KMBO Kilima Mbogo 59.16 267 P **P 03 38 04.5 +0.3**
KMBO Kilima Mbogo 59.16 267 P **P 03 38 04.5 +0.3**
comp=Z,0.8nm,0.3s,baz=61,slow=18,SNR=4.1
YSS Yuzh-Sakhalins 60.05 35 *e*P **P 03 38 06.5 -3.0**
ARU Arti 61.97 337 *d i*P **P 03 38 21.2 -1.1**
ARU S S 03 46 35.5 -9.2
ARU pmax pmax
comp=Z,9.0nm,1.7s
DAGI Agillar 62.35 316 *i*P **P 03 38 25.1 -0.3**
DBAD Bademkaya 62.48 316 *i*P **P 03 38 26.0 -0.2**
KBZ Khabaz 62.79 319 P **P 03 38 27.7 -0.3**
KBZ Khabaz 62.79 319 P **P 03 38 27.7 -0.3**
KBZ Khabaz 62.79 319 P **P 03 38 27.7 -0.3**
comp=Z,1.6nm,0.7s,baz=153,slow=6.9,SNR=3.6
ASF Jabal al Asfar 63.21 305 P **P 03 38 32.2 +1.0**
ASF Jabal al Asfar 63.21 305 P **P 03 38 32.2 +1.0**
comp=Z,0.6nm,0.4s,baz=243,slow=16,SNR=1.8
EIL Elat 64.22 302 P **P 03 38 39.1 +1.3**
EIL Elat 64.22 302 P **P 03 38 39.1 +1.3**
comp=Z,1.9nm,0.5s,baz=120,slow=20,SNR=2.8
YAK Yakutsk 64.75 17 *e*P **P 03 38 38.8 -1.8**
YAK *e* 03 38 45.4
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
SOC Sochi 64.83 318 *c i*P P 03 38 50.6 +9.1
SOC *e* 03 41 11.5
SOC *e*S S 03 47 31.3 +10
SOC pmax pmax
comp=Z,15nm,0.6s
VRHR Novokhopersk 66.86 326 *e*P P 03 39 00.3 +5.9
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,3.0nm,0.5s
BRTR Keskin Array B 67.83 312 P **P 03 38 59.4 -1.7**
BRTR Keskin Array B 67.83 312 P **P 03 38 59.4 -1.7**
comp=E,0.5nm,0.6s,baz=125,slow=6.5,SNR=4.3
VORD Divnogorie 68.11 325 *e*P P 03 39 06.6 +4.3
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,8.0nm,0.6s
VORD pmax pmax
comp=Z,4.0nm,0.6s
OBN Obninsk 71.36 328 *e*P P 03 39 30.7 +8.5
OBN *e*S **S 03 48 44.0 +5.7**
OBN *e*SS **SS 03 53 17.7 +4.7**
OBN pmax pmax
comp=Z,8.0nm,0.6s
SEY Seymchan 73.22 23 *e*P **P 03 39 34.0 +0.8**
AKASG Malin Array Be 73.98 322 P **P 03 39 36.1 -1.8**
AKASG Malin Array Be 73.98 322 P **P 03 39 36.1 -1.8**
AKASG Malin Array Be 73.98 322 P **P 03 39 36.1 -1.8**
comp=Z,0.6nm,0.5s,baz=87,slow=5.2,SNR=4.8
KOLS Kolonicke sedl 77.93 320 *e*P P 03 40 10.1 +10
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 77.93 320 *e*P P 03 40 10.1 +10
CRVS Cervenica-Dubn 78.45 319 *e*P P 03 40 13.8 +10
CRVS pmax pmax
comp=Z,4.0nm,1.3s
CRVS Cervenica-Dubn 78.45 319 *e*P P 03 40 13.8 +10
STHS Stebnicka Huta 78.68 320 *e*P P 03 40 14.8 +10
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 78.68 320 *e*P P 03 40 14.8 +10
FINES FINESS Array B 78.75 333 P **P 03 40 03.7 -1.1**
FINES FINESS Array B 78.75 333 P **P 03 40 03.7 -1.1**
comp=Z,2.4nm,0.7s,baz=101,slow=8.0,SNR=7.5
KAF Kangasniemi 78.84 333 *e*P P 03 40 10.4 +5.1
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 78.84 333 *e*p P 03 40 10.4 +5.1
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 81.35 340 P **P 03 40 18.2 -0.5**
ARCES ARCESS Array B 81.35 340 P **P 03 40 18.2 -0.5**
comp=Z,2.4nm,0.6s,baz=87,slow=6.2,SNR=13
ARCES LR LR 04 22 36.9
comp=Z,119nm,18.5s,baz=150,slow=40
GERES GERESS Array B 83.53 319 P **P 03 40 29.9 -0.7**
GERES GERESS Array B 83.53 319 P **P 03 40 29.9 -0.7**
comp=Z,0.8nm,0.8s,baz=95,slow=6.7,SNR=7.3
LOR Lormes 90.12 317 *e*P P 03 41 08.7 +6.0
MFF Saint Martin d 92.91 317 *e*P P 03 41 21.6 +6.0
comp=Z,11nm,1.1s
COLA College 98.74 23 *e*P Pdif 03 41 43.6 +1.9
NVAR Mina Array Bea 128.50 35 PKP **PKPdf 03 47 10.0 -0.1**
NVAR Mina Array Bea 128.50 35 PKP **PKPdf 03 47 10.0 -0.1**
comp=Z,0.4nm,0.5s,baz=338,slow=3.9,SNR=3.6
PDAR Pinedale Array 129.54 25 PKP **PKPdf 03 47 11.7 -0.3**
PDAR Pinedale Array 129.54 25 PKP **PKPdf 03 47 11.7 -0.3**
comp=Z,0.3nm,0.8s,baz=306,slow=2.1,SNR=3.2
TXAR Lajitas Array 143.29 30 PKP PKPbc 03 47 35.0 +0.4
TXAR Lajitas Array 143.29 30 PKP PKPbc 03 47 35.0 +0.4
comp=Z,0.6nm,0.7s,baz=262,slow=1.9,SNR=8.4

*IDC **18** 03:29:34.5±2.1, 40°.61N×75°.90E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.1/29, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=69.2km s-min=20.2km az=142.0*
*BJI **18** 03:29:35.0, 40°.17N×76°.83E, h5km, ML3.6/6*
*ISCJB **18** 03:29:37.7±0.8, 39°.98N±0°.05×76°.6E±0°.1, h28km, mb3.1/2, Error ellipse: s-maj=13.8km s-min=6.4km az=12.0*
*NNC **18** 03:29:42.5±6.8, 40°.35N×76°.05E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=61.0km s-min=50.9km az=140.0*
ISC 18 03:29:39.3±1.1, 40°.07N±0°.08×76°.63E±0°.09, h28km, n21, σ1§18/19, 5C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.75**	**223**	⇓*i*Pg	Pn	03 29 59.1	+4.9
KSH				Sg	Sn	03 30 18.4	+14
KSH				smax	smax		
	comp=N,550nm,0.2s						
KSH				smax	smax		
	comp=E,850nm,0.4s						
ULHL	**Ulahol**	**2.19**	**352**	P	**Pn**	**03 30 12.9**	**-1.1**
	SNR=107						
KZA	**Kyzart**	**2.26**	**333**	P	**Pn**	**03 30 14.6**	**-0.6**
	SNR=209						
UCH	**Uchtor**	**2.68**	**324**	P	**Pn**	**03 30 21.1**	**+0.1**
	SNR=37						
KBK	**Karagaybulak**	**2.88**	**334**	P	**Pn**	**03 30 24.4**	**+0.9**
	SNR=20						
TKM2	**Tokmak 2**	**2.95**	**345**	⇑Pn	**Pn**	**03 30 24.6**	**+0.1**
	comp=E,24nm,0.3s						
TKM2				⇓Lg	Lg	03 31 05.2	
	comp=E,70nm,0.7s						
TKM2	**Tokmak 2**	**2.95**	**345**	P	**Pn**	**03 30 24.5**	**0.0**
	SNR=96						
AAK	**Ala-Archa**	**3.02**	**329**	P	**Pn**	**03 30 25.7**	**+0.3**
	SNR=24						
AML	**Almayashu**	**3.03**	**314**	P	**Pn**	**03 30 26.2**	**+0.5**
	SNR=41						
KNDC	**Almaty**	**3.15**	**4**	⇑Pn	**Pb**	**03 30 34.0**	**-0.7**
	comp=E,36nm,0.5s						
KNDC				⇓Lg	Lg	03 31 11.1	
	comp=E,567nm,0.7s						
CHMS	**Chumysh**	**3.25**	**335**	P	**Pn**	**03 30 28.8**	**+0.4**
	SNR=54						
EKS2	**Erkin-Say**	**3.36**	**321**	P	**Pn**	**03 30 30.8**	**+0.8**
	SNR=64						
USP	**Ospenovka**	**3.57**	**334**	P	**Pn**	**03 30 33.0**	**+0.2**
	SNR=26						
KK31	**Karatay Array**	**5.50**	**305**	⇑Pg	**Pb**	**03 31 14.0**	**-0.5**
	comp=E,3.5nm,0.5s,baz=130,slow=16,SNR=6.2						
KK31				⇓Lg	Lg	03 32 22.7	
	comp=E,9.1nm,0.6s,baz=125,slow=26,SNR=3.9						
CEP	**Cherat**	**7.29**	**213**	P	**Pn**	**03 31 23.9**	**-0.2**
CEP				S	**Sn**	**03 32 44.0**	**-2.0**
MK31	**Makanchi Array**	**7.88**	**30**	⇑Pn	**Pn**	**03 31 34.0**	**+2.1**
	comp=E,0.4nm,0.5s,baz=220,slow=16,SNR=7.4						
MK31				⇑Lg	Lg	03 33 46.0	
	comp=E,4.9nm,0.7s,baz=228,slow=24						
MKAR	**Makanchi Array**	**7.88**	**30**	Pn	**Pn**	**03 31 29.4**	**-2.6**
	comp=E,0.2nm,0.3s,baz=217,slow=15,SNR=7.2						
MKAR				Lg	Lg	03 33 36.8	
	comp=E,0.2nm,0.3s,baz=213,slow=26,SNR=3.7						
THW	**Thamme Wali**	**8.26**	**210**	P	**Pn**	**03 31 38.4**	**+1.1**
ZALV	**Zalesovo Beam**	**14.95**	**19**	Pn	Pn	03 33 01.4	-7.0
	comp=E,0.7nm,0.3s,baz=218,slow=11,SNR=4.8						
SONM	**Songino Array**	**22.68**	**60**	P	**P**	**03 34 39.9**	**+1.4**
	comp=E,0.9nm,1.0s,baz=262,slow=10.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**70.17**	**271**	P	P	03 40 45.6	-4.0
	comp=E,0.1nm,0.6s,baz=57,slow=5.2,SNR=2.8						

*TRN **18** 03:47:40.2, 18°.49N×63°.79W, h42km, MD3.9*
*NEIC **18** 03:47:42.4, 18°.55N×63°.79W, h54km, MD3.3(RSPR), After RSPR.*
RSPR 18 03:47:42.4, 18°.55N×63°.79W, h54km±5km, MD3.3/5, 14C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.54**	**290**	⇑*e*P	Pn	03 47 53.5	-0.9
ABV	**Anegada**	**0.54**	**290**	*e*S	Sn	03 48 02.8	-0.3
ABV	**Anegada**	**0.54**	**290**	⇑*e*P	Pn	03 47 53.5	-0.9
ABV				*e*S	Sn	03 48 02.8	-0.3
ABVI	**Anegada Island**	**0.54**	**290**	⇑*e*P	Pn	03 47 53.5	-0.9
ABVI				*e*S	Sn	03 48 02.8	-0.3
STVI	**Saint Thomas**	**1.12**	**260**	⇑*e*P	Pn	03 48 00.4	-1.4
STVI	**Saint Thomas**	**1.12**	**260**	*e*S	Sn	03 48 15.1	-1.1
STVI	**Saint Thomas**	**1.12**	**260**	⇑*e*P	Pn	03 48 00.4	-1.4
STVI				*e*S	Sn	03 48 15.1	-1.1
STVI	**Saint Thomas**	**1.12**	**260**	⇑*e*P	Pn	03 48 00.4	-1.4
STVI				*e*S	Sn	03 48 15.1	-1.1
CDVI	**St. Croix**	**1.22**	**230**	*e*S	Sn	03 48 17.8	-0.7
CDVI	**St. Croix**	**1.22**	**230**	⇑*e*P	Pn	03 48 02.0	-1.1
CDVI	**St. Croix**	**1.22**	**230**	⇑*e*P	Pn	03 48 02.0	-1.1
CDVI				*e*S	Sn	03 48 17.8	-0.7
CDVI	**St. Croix**	**1.22**	**230**	⇑*e*P	Pn	03 48 02.5	-0.6
CDVI				*e*S	Sn	03 48 17.8	-0.7
SKI	**Saint Kitts**	**1.57**	**140**	*e*P	Pn	03 48 06.2	-1.7
SKI				*e*S	Sn	03 48 25.6	-1.6
MTP	**Monte Pirata**	**1.73**	**255**	*e*S	Sn	03 48 30.9	-0.1
MTP	**Monte Pirata**	**1.73**	**255**	⇑*e*P	Pn	03 48 09.3	-0.8
MTP	**Monte Pirata**	**1.73**	**255**	*e*Pn	Pn	03 48 09.3	-0.8
MTP				*e*S	Sn	03 48 29.6	-1.5
MTP	**Monte Pirata**	**1.73**	**255**	⇑*e*P	Pn	03 48 09.3	-0.8
MTP				*e*S	Sn	03 48 30.9	-0.1
CPD	**Cerro la Pandu**	**2.08**	**256**	⇑*e*P	Pn	03 48 14.9	0.0
CPD	**Cerro la Pandu**	**2.08**	**256**	*e*S	Sn	03 48 38.0	-1.7
CPD	**Cerro la Pandu**	**2.08**	**256**	⇑*e*P	Pn	03 48 14.9	0.0
CPD				*e*S	Sn	03 48 38.0	-1.7
CPD	**Cerro la Pandu**	**2.08**	**256**	⇑*e*P	Pn	03 48 14.9	0.0
CPD				*e*S	Sn	03 48 38.0	-1.7

IDC 18 03:48:01.0±5.2, 1°.79S×99°.71E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/24, mbtmp3.5/2, Error ellipse: s-maj=263.0km s-min=32.7km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.35**	**120**	P	P	03 55 24.3	+0.2
	0.6nm,1.0s,baz=297,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**50.75**	**345**	P	P	03 57 03.1	+0.3
	0.4nm,0.5s,baz=153,slow=9.4,SNR=5.8						
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	PKPab	04 07 38.6	-0.7
	0.1nm,0.3s,baz=223,slow=3.7,SNR=3.6						

MEX 18 03:51:00.2±1.2, 16°.89N×100°.06W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**97**	*e*P	Pg	03 51 00.6	-3.5
ACX				*e*S	Sg	03 51 03.5	-3.2
CAIG	**El Cayaco**	**0.25**	**308**	*i*P	Pg	03 51 04.2	-1.0
CAIG				*i*S	Sg	03 51 07.9	-0.6
MEIG	**Mezcala**	**1.11**	**22**	*i*P	Pg	03 51 18.0	-3.6
MEIG				*i*S	Sg	03 51 32.4	-3.8
ARIG	**Puente Sto Nin**	**1.41**	**349**	*i*P	Pn	03 51 23.3	-3.3
ARIG				*i*S	Sb	03 51 41.3	-4.0
ZIIG	**Zihuatanejo**	**1.52**	**298**	*i*P	Pn	03 51 25.3	-2.8
ZIIG				*i*S	Sn	03 51 44.2	-4.0
PLIG	**Platanillo**	**1.58**	**19**	*i*P	Pn	03 51 25.4	-3.6
PLIG				*e*S	Sn	03 51 44.7	-5.3

KRSC 18 03:57:55.6±1.6, 54°.64N×167°.94E, h10km±10km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.27**	**297**	*e*P	Pg	03 58 19.9	0.0
BKI				*e*S	Sn	03 58 37.8	+1.4
KBTR	**Krutoberegovo**	**3.31**	**300**	P	Pn	03 58 48.7	+1.2
KBTR				S	Sn	03 59 27.9	+1.0
MKZ	**Mys Kozlova**	**3.61**	**271**	*e*P	Pn	03 58 53.9	+2.4
MKZ				*e*S	Sn	03 59 36.0	+1.8
SPN	**Mys Shipunski**	**4.93**	**255**	S	Sn	04 00 06.5	-0.3

*IDC **18** 04:04:38.9±0.7, 27°.72S×70°.95W, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.8/19, mbtmp3.6/9, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/26, Error ellipse: s-maj=27.7km s-min=22.1km az=89.0*
*NEIC **18** 04:04:45.9, 27°.94S×70°.76W, h10km, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Copiapo and Tierra Amarilla and [II] at Caldera.
*GUC **18** 04:04:45.9±0.7, 27°.94S×70°.76W, h10km±6km, ML4.1*
ISC 18 04:04:42.2±0.7, 27°.76S±0°.04×71°.19W±0°.09, h20km±5km, n37, σ1§11/41, mb3.7/7, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.84**	**62**	⇑*i*P	**Pn**	**04 04 58.9**	**0.0**
CPCH				*e*S	**Sb**	**04 05 09.0**	**0.0**
CPCH	**Copiapo**	**0.84**	**62**	⇑*i*P	**Pn**	**04 04 58.9**	**0.0**
CPCH				*e*S	**Sb**	**04 05 09.0**	**0.0**
LCO	**Las Campanas**	**1.32**	**161**	⇓*i*P	**Pb**	**04 05 06.3**	**-0.2**
LCO				*e*S	**Sn**	**04 05 21.9**	**-1.0**
LCO	**Las Campanas**	**1.32**	**161**	⇓*i*P	**Pb**	**04 05 06.3**	**-0.2**
LCO				*e*S	**Sn**	**04 05 21.9**	**-1.0**
LCO				AML	AML	04 05 26.2	
	comp=E,6μm,0.3s						
TLL	**Tololo Astrono**	**2.42**	**172**	*e*P	**Pb**	**04 05 25.1**	**-0.2**
TLL				*e*S	**Sb**	**04 05 54.2**	**-0.6**
TLL	**Tololo Astrono**	**2.42**	**172**	*e*P	**Pb**	**04 05 25.1**	**-0.2**
TLL				*e*S	**Sb**	**04 05 54.2**	**-0.6**
TLL				AML	AML	04 06 11.3	
	comp=E,1μm,0.2s						
CMCH	**Combarbala**	**3.41**	**177**	*e*P	**Pn**	**04 05 34.6**	**+0.3**
CMCH				*e*S	**Sn**	**04 06 14.9**	**+0.7**
CMCH	**Combarbala**	**3.41**	**177**	*e*P	**Pn**	**04 05 34.6**	**+0.3**
CMCH				*e*S	**Sn**	**04 06 14.9**	**+0.7**
CEN1	**Los Morros**	**4.44**	**12**	*e*P	Pn	04 05 45.5	-3.1
CEN1				*e*S	**Sn**	**04 06 40.9**	**+1.2**
CFAA	**Coronel Fontan**	**4.61**	**147**	Pn	**Pn**	**04 05 53.0**	**+2.2**
	comp=E,1.4nm,0.3s,baz=334,slow=12,SNR=98						
CFAA				Sn	**Sn**	**04 06 45.6**	**+1.8**
	comp=E,3.4nm,0.3s,baz=252,slow=20,SNR=7.8						
PEL	**Peldehue**	**5.38**	**176**	*e*P	**Pn**	**04 06 01.8**	**+0.4**
LVC	**Limon Verde**	**5.52**	**22**	*e*Pn	**Pn**	**04 06 04.6**	**+1.1**
	comp=E,36nm,0.6s						
LVC				*e*S	Sb	04 07 39.8	+16
CLCH	**Cerro Calan**	**5.65**	**174**	*e*P	**Pn**	**04 06 07.3**	**+2.3**
PCH	**Pirque**	**5.87**	**175**	*e*P	Pn	04 06 12.2	+4.0
PCH	**Pirque**	**5.87**	**175**	*e*P	Pn	04 06 12.2	+4.0
TACH	**Talagante**	**5.88**	**178**	P	**Pn**	**04 06 08.5**	**+0.3**
TACH	**Talagante**	**5.88**	**178**	*e*P	**Pn**	**04 06 08.5**	**+0.3**
CHCH	**Chadas Angostu**	**6.17**	**176**	*e*P	Pn	04 06 16.5	+4.2
CHCH	**Chadas Angostu**	**6.17**	**176**	*e*P	Pn	04 06 16.5	+4.2
CACH	**El Canelo**	**6.36**	**176**	P	**Pn**	**04 06 17.2**	**+2.3**
CACH	**El Canelo**	**6.36**	**176**	*e*P	**Pn**	**04 06 17.2**	**+2.3**
LPAZ	**La Paz**	**11.76**	**15**	*e*Pn	**Pn**	**04 07 29.5**	**0.0**
LPAZ	**La Paz**	**11.76**	**15**	Pn	**Pn**	**04 07 27.9**	**-1.5**
	comp=E,0.1nm,0.3s,baz=193,slow=5.1,SNR=7.1						
TRQA	**Tornquist**	**12.85**	**145**	*e*Pn	**Pn**	**04 07 44.7**	**+1.1**
	comp=E,7.1nm,0.8s						
SIV	**San Ignacio**	**15.00**	**41**	Pn	Pn	04 08 09.1	-4.0
	comp=E,0.2nm,0.3s,baz=252,slow=9.6,SNR=2.9						
SIV				LR	LR	04 13 30.9	
	comp=E,38nm,20.1s,slow=36						
SAML	**Samuel**	**20.18**	**23**	*e*P	**P**	**04 09 16.5**	**+1.0**
	comp=E,1.5nm,0.6s						
BDFB	**Brasilia**	**24.62**	**65**	P	**P**	**04 09 59.2**	**-2.4**
	comp=E,0.8nm,0.5s,baz=181,slow=16,SNR=2.1						
SNAA	**Sanae**	**57.12**	**160**	P	**P**	**04 14 26.3**	**-0.7**
	comp=E,0.3nm,0.7s,baz=274,slow=4.3,SNR=3.8						
TXAR	**Lajitas Array**	**64.73**	**329**	P	**P**	**04 15 20.1**	**+0.9**
	comp=E,0.7nm,0.8s,baz=165,slow=5.2,SNR=7.6						
VNDA	**Vanda**	**70.35**	**191**	P	**P**	**04 15 55.0**	**+1.0**

comp=E,0.6nm,0.9s,baz=162,slow=9.6,SNR=2.8
PDAR Pinedale Array 78.57 332 P **P 04 16 42.4 0.0**
comp=E,0.4nm,0.5s,baz=97,slow=7.6,SNR=4.1
NVAR Mina Array Bea 79.23 324 P **P 04 16 46.2 0.0**
comp=E,0.5nm,0.8s,baz=170,slow=5.5,SNR=2.5
TORD Torodi Ar. Bea 81.41 70 P **P 04 16 57.1 -1.0**
comp=E,0.6nm,0.7s,baz=253,slow=6.0,SNR=13
WRA Warramunga Arr 126.53 210 PKP **PKPdf 04 23 43.8 -0.8**
comp=E,0.2nm,0.5s,baz=160,slow=1.8,SNR=4.6
KURBB Kurchatov Arra 147.63 37 PKPbc **PKPbc 04 24 23.9 -1.0**
comp=E,1.5nm,0.6s,baz=299,slow=3.2,SNR=11
ZALV Zalesovo Beam 148.46 27 PKPbc **PKPbc 04 24 27.1 +0.1**
comp=E,2.7nm,0.5s,baz=300,slow=3.4,SNR=12
MKAR Makanchi Array 151.81 41 PKPbc **PKPbc 04 24 35.0 -0.4**
comp=E,1.1nm,0.4s,baz=331,slow=1.5,SNR=22

IDC 18 04:22:09.6±13.0, 9°.48S×154°.47E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=223.5km s-min=96.3km az=25.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**240**	P	P	04 27 05.4	-0.8
	1.6nm,1.0s,baz=61,slow=10,SNR=3.4						
WRA				LR	LR	04 33 60.0	
	comp=Z,63nm,20.9s,baz=25,slow=32						
ASAR	**Alice Springs**	**24.19**	**232**	P	P	04 27 28.9	+0.9
	0.4nm,0.6s,baz=64,slow=9.3,SNR=6.1						
STKA	**Stephens Creek**	**25.29**	**206**	P	P	04 27 37.5	-0.3
	1.3nm,0.8s,baz=22,slow=11,SNR=2.9						

IDC 18 04:25:19.4±3.5, 1°.72S×99°.81E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, Eurasia ellipse: s-maj=149.6km s-min=25.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	P	04 29 55.0	+0.6
	0.6nm,0.4s,baz=191,slow=9.0,SNR=4.9						
WRA	**Warramunga Arr**	**38.30**	**121**	P	P	04 32 41.8	-0.2
	0.3nm,0.5s,baz=302,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**50.70**	**344**	P	P	04 34 19.1	-1.8
	0.4nm,0.5s,baz=158,slow=8.6,SNR=8.2						
KURBB	**Kurchatov Arra**	**55.22**	**344**	P	P	04 34 53.9	-0.2
	0.1nm,0.3s,baz=161,slow=5.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.85**	**349**	P	P	04 35 07.1	+1.4
	0.4nm,0.3s,baz=144,slow=10,SNR=2.5						

TRN 18 04:29:50.4, 15°.03N×60°.51W, h22km, MD3.6, 3C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.69**	**245**	⇓*i*P	Pn	04 30 06.4	+1.6
FDF				*e*S	Sn	04 30 16.6	+1.7
DBCT	**Belle View Cho**	**0.84**	**287**	*e*P	Pn	04 30 09.3	+2.3
DBCT				*e*S	Sn	04 30 22.1	+3.3
DPMT	**Pointe Michel**	**0.87**	**286**	*e*P	Pn	04 30 09.8	+2.5
DPMT				*e*S	Sn	04 30 22.4	+3.0
MDN	**Morne-Daniel**	**0.90**	**289**	⇑*e*P	Pn	04 30 10.4	+2.6
MDN				*e*S	Sn	04 30 23.7	+3.6
DWS	**Wesley**	**0.94**	**305**	*e*P	Pn	04 30 09.4	+1.0
DWS				*e*S	Sn	04 30 23.8	+2.6
DVCT	**Vielle Casse P**	**1.04**	**304**	*e*P	Pb	04 30 10.7	+0.9
SLW	**Petit Monier**	**1.08**	**203**	⇓*e*P	Pb	04 30 11.5	+1.0
MGG	**Marie-Galante**	**1.18**	**319**	⇑*i*P	Pb	04 30 12.5	+0.4
TBG	**Guadaloupe-3**	**1.37**	**307**	⇓*i*P	Pb	04 30 15.4	0.0
MCLT	**Moule a Chique**	**1.38**	**198**	*e*P	Pb	04 30 15.5	+0.1
MCLT	**Moule a Chique**	**1.38**	**198**	*e*P	Pb	04 30 16.4	+0.9
MCLT				*e*S	Sb	04 30 34.4	+1.8
DEG	**La Desirade**	**1.38**	**338**	*e*P	Pb	04 30 15.7	0.0
DOG	**Dongo Capester**	**1.46**	**313**	*e*P	Pb	04 30 17.8	+0.8
PHG	**Guadaloupe-2**	**1.47**	**312**	*e*P	Pb	04 30 17.3	+0.1
HMG	**Houelmont**	**1.49**	**310**	*e*P	Pb	04 30 17.4	-0.1
ECG	**Echelle**	**1.50**	**313**	*e*P	Pb	04 30 17.6	-0.1
TAG	**Tarade**	**1.50**	**312**	⇑*i*P	Pb	04 30 17.7	-0.1
TAG				*e*S	Sn	04 30 35.8	+0.5
CRG	**Carmichael**	**1.51**	**313**	*e*P	Pb	04 30 17.5	-0.4
SSG	**Sans Toucher**	**1.54**	**313**	*e*P	Pb	04 30 18.2	-0.3
MLG	**Mont-d'or**	**1.55**	**312**	*e*P	Pb	04 30 18.2	-0.3
LZG	**Guadaloupe-1**	**1.65**	**312**	*e*P	Pb	04 30 19.3	-0.7
SEG	**Port Louis**	**1.67**	**325**	*e*P	Pb	04 30 20.7	+0.2
SVB	**Belmont**	**1.89**	**203**	*e*P	Pb	04 30 23.4	-0.8
SVB	**Belmont**	**1.89**	**203**	*e*P	Pb	04 30 23.5	-0.7
SVB				*e*S	Sb	04 30 47.4	-0.1
SKI	**Saint Kitts**	**3.14**	**317**	*e*P	Pn	04 30 41.2	+2.6
SKI				*e*S	Sn	04 31 17.2	+1.8

BJI ***18*** *04:32:57.8, 55°.14N×168°.48E, h15km, mB4.8/15, mb4.6/29, Ms4.6/20, Ms7 4.2/13*
IDC ***18*** *04:32:57.3±0.4, 54°.70N×168°.45E, h0km, mb4.2/33, mb1 4.4/36, mb1mx4.4/41, mbtmp4.2/36, ML3.9/3, MS3.7/21, Ms1 3.7/21, ms1mx3.6/45, Error ellipse: s-maj=12.7km s-min=8.9km az=179.0*
ISCJB ***18*** *04:32:58.9±0.2, 54°.52N±0°.03×168°.35E±0°.02, h24km, mb4.5/88, MS3.8/29, Error ellipse: s-maj=4.4km s-min=1.9km az=4.0*
MOS ***18*** *04:32:58.3±1.1, 54°.54N×168°.40E, h19km, mb4.9/22, Error ellipse: s-maj=7.6km s-min=6.7km az=113.5*
NEIC ***18*** *04:32:59.5±2.4, 54°.57N×168°.40E, h15km±15km, mb4.7/32, Error ellipse: s-maj=7.8km s-min=3.9km az=169.0*
KRSC ***18*** *04:33:00.8±1.1, 54°.34N×167°.82E, h10km±10km, ML4.8*

ISC 18 04:33:00.0±0.3, 54°.50N±0°.05×168°.41E±0°.03, h20km±2km, h20km:pP-P, n442, σ1$48/507, mb4.6/93, MS3.8/30, 101C-88D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.58**	**298**	PN	**Pn**	**04 33 24.7**	**-2.1**
BKI				S	**Sn**	**04 33 42.6**	**-4.0**
BKI	**Bering**	**1.58**	**298**	P	**Pn**	**04 33 24.7**	**-2.1**
BKI				*i*S	**Sn**	**04 33 42.6**	**-4.0**
FX1	**Attu Island--F**	**3.26**	**118**	Pn	**Pn**	**04 33 48.3**	**-1.6**
FX1				Sn	**Sn**	**04 34 24.4**	**-3.6**
FX1	**Attu Island--F**	**3.26**	**118**	Pn	**Pn**	**04 33 48.3**	**-1.6**
	45nm,0.3s,baz=340,slow=6.5,SNR=244						
FX1				Sn	**Sn**	**04 34 24.4**	**-3.6**
	61nm,0.3s,baz=218,slow=15,SNR=15						
KBTR	**Krutoberegovo**	**3.62**	**301**	PN	**Pn**	**04 33 53.3**	**-1.6**
KBTR	**Krutoberegovo**	**3.62**	**301**	P	**Pn**	**04 33 53.3**	**-1.6**
KBTR				*i*S	**Sn**	**04 34 31.7**	**-5.3**
SMY	**Shemya**	**3.82**	**115**	PN	**Pn**	**04 33 57.4**	**-0.3**
SMY	**Shemya**	**3.82**	**115**	P	**Pn**	**04 33 57.4**	**-0.3**
SMY				S	**Sn**	**04 34 40.4**	**-1.6**
MKZ	**Mys Kozlova**	**3.89**	**274**	PN	**Pn**	**04 33 57.9**	**-0.7**
MKZ	**Mys Kozlova**	**3.89**	**274**	P	**Pn**	**04 33 57.9**	**-0.7**
MKZ				*i*S	**Sn**	**04 34 38.7**	**-4.9**
SMKR	**Semkarok**	**4.46**	**301**	P	**Pn**	**04 34 07.6**	**+1.1**
SMKR				*i*S	**Sn**	**04 34 56.4**	**-1.4**
BDR	**Baidarnaya**	**4.59**	**300**	P	**Pn**	**04 34 09.2**	**+1.0**
BDR				*i*S	**Sn**	**04 34 58.7**	**-2.2**
SRKR	**Sorokina**	**4.64**	**301**	P	**Pn**	**04 34 10.5**	**+1.5**
SRKR				*i*S	**Sn**	**04 35 01.2**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**4.65**	**291**	P	**Pn**	**04 34 10.4**	**+1.3**
BZGR				*i*S	**Sn**	**04 35 01.0**	**-1.5**
CIRR	**Tsirk**	**4.67**	**293**	P	**Pn**	**04 34 10.5**	**+1.1**
LGNR	**Loginova**	**4.69**	**293**	P	**Pn**	**04 34 11.1**	**+1.3**
LGNR				*i*S	**Sn**	**04 35 02.7**	**-1.1**
BZMR	**Bezymyannaya**	**4.76**	**291**	P	**Pn**	**04 34 11.4**	**+0.7**
BZMR				*i*S	**Sn**	**04 35 03.1**	**-2.1**
KLY	**Klyuchi**	**4.78**	**296**	PN	**Pn**	**04 34 11.0**	**+0.2**
KLY	**Klyuchi**	**4.78**	**296**	P	**Pn**	**04 34 11.0**	**+0.2**
KLY				*i*S	**Sn**	**04 35 02.6**	**-2.9**
KRSR	**Krestovskiy**	**4.79**	**294**	P	**Pn**	**04 34 12.0**	**+0.9**
KRSR				*i*S	**Sn**	**04 35 04.1**	**-2.0**
TUMR	**Tumrok**	**4.83**	**283**	P	**Pn**	**04 34 12.6**	**+0.9**
TUMR				*i*S	**Sn**	**04 35 05.4**	**-1.7**
KMNR	**Kamenistaya**	**4.86**	**288**	P	**Pn**	**04 34 12.8**	**+0.8**
KMNR				*i*S	**Sn**	**04 35 05.5**	**-2.1**
KPT	**Kopyto**	**4.91**	**291**	P	**Pn**	**04 34 13.8**	**+1.1**
KPT				*i*S	**Sn**	**04 35 07.3**	**-1.7**
KOZR	**Kozyr**	**5.11**	**291**	PN	**Pn**	**04 34 17.3**	**+1.9**
KOZ	**Kozyrevsk**	**5.12**	**291**	P	**Pn**	**04 34 17.3**	**+1.7**
KOZ				*i*S	**Sn**	**04 35 12.9**	**-1.2**
SPN	**Mys Shipunski**	**5.16**	**258**	PN	**Pn**	**04 34 15.0**	**-1.1**
SPN	**Mys Shipunski**	**5.16**	**258**	P	**Pn**	**04 34 15.0**	**-1.1**
SPN				*i*S	Sn	04 35 08.7	-6.3
KII	**Karymskiy**	**5.27**	**269**	P	**Pn**	**04 34 17.2**	**-0.5**
KII				*i*S	**Sn**	**04 35 14.0**	**-3.8**
SRDR	**Sredinnyy**	**5.28**	**294**	P	**Pn**	**04 34 20.1**	**+2.4**
SRDR				*i*S	**Sn**	**04 35 17.8**	**-0.1**
ESO	**Esso**	**5.74**	**288**	PN	**Pn**	**04 34 25.4**	**+1.4**
ESO	**Esso**	**5.74**	**288**	P	**Pn**	**04 34 25.4**	**+1.4**
ESO				*i*S	**Sn**	**04 35 27.4**	**-1.9**
SDLR	**Sedlovina**	**5.76**	**262**	P	**Pn**	**04 34 23.9**	**-0.5**
SDLR				*i*S	**Sn**	**04 35 24.3**	**-5.7**
SMAR	**Somma**	**5.82**	**262**	P	**Pn**	**04 34 24.6**	**-0.6**
SMAR				*i*S	**Sn**	**04 35 25.7**	**-5.7**
UGLR	**Uglovaya**	**5.82**	**261**	P	**Pn**	**04 34 24.4**	**-0.8**
KRER	**Koryakskii**	**5.83**	**262**	P	**Pn**	**04 34 25.3**	**-0.2**
KRER				*i*S	**Sn**	**04 35 27.1**	**-4.8**
AVH	**Avacha**	**5.85**	**262**	P	**Pn**	**04 34 25.4**	**-0.2**
AVH				*i*S	**Sn**	**04 35 27.4**	**-4.7**
KOK	**Koryaka**	**5.90**	**262**	P	**Pn**	**04 34 26.0**	**-0.3**
KOK				*i*S	**Sn**	**04 35 28.1**	**-5.3**
PET	**Petropavlovsk**	**5.97**	**260**	*e*PN	**Pn**	**04 34 26.4**	**-0.8**
PET				pmax	pmax		
	comp=Z,111nm,1.2s						
GNL	**Ganaly**	**6.21**	**267**	P	**Pn**	**04 34 30.9**	**+0.3**
RUS	**Russkaya**	**6.26**	**255**	PN	**Pn**	**04 34 30.4**	**-0.7**
RUS	**Russkaya**	**6.26**	**255**	P	**Pn**	**04 34 30.4**	**-0.7**
RUS				*i*S	**Sn**	**04 35 36.5**	**-5.5**
MTVR	**Mutnovka**	**6.43**	**256**	P	**Pn**	**04 34 32.6**	**-1.0**
MTVR				*i*S	Sn	04 35 39.3	-7.1
GRL	**Gorelyy**	**6.46**	**257**	P	**Pn**	**04 34 33.5**	**-0.6**
PEA0B	**Petropavlovsk-**	**6.50**	**262**	*e*Pn	**Pn**	**04 34 34.7**	**+0.3**
PETK	**Petropavlovsk-**	**6.50**	**262**	PN	**Pn**	**04 34 34.7**	**+0.3**
PETK	**Petropavlovsk-**	**6.50**	**262**	Pn	**Pn**	**04 34 34.7**	**+0.3**
PETK				Sn	**Sn**	**04 35 48.1**	**+0.3**
PETK	**Petropavlovsk-**	**6.50**	**262**	Pn	**Pn**	**04 34 34.7**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=85,slow=18,SNR=37						
PETK				Sn	**Sn**	**04 35 48.1**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=94,slow=19,SNR=3.8						
PALN	**Palana**	**6.53**	**318**	P	Pn	04 34 39.3	+4.5
PALN				*i*S	**Sn**	**04 35 50.7**	**+2.1**
LSSA	**Little Sitkin**	**6.58**	**109**	P	**Pn**	**04 34 35.8**	**+0.2**
LSPA	**Little Sitkin**	**6.61**	**108**	P	**Pn**	**04 34 36.3**	**+0.3**
LSPA				S	**Sn**	**04 35 51.4**	**+0.7**
ASAK	**Asacha**	**6.63**	**256**	*e*P	**Pn**	**04 34 36.2**	**0.0**
ASAK				*i*S	**Sn**	**04 35 45.9**	**-5.3**
APC	**Apacha**	**6.86**	**261**	P	**Pn**	**04 34 40.4**	**+1.0**
APC				*i*S	**Sn**	**04 35 53.5**	**-3.3**
CETU	**Semis' Tuman**	**7.12**	**106**	P	**Pn**	**04 34 43.8**	**+0.8**
CESW	**Semis' Southwe**	**7.19**	**107**	P	**Pn**	**04 34 44.5**	**+0.7**
AMKA	**Amchitka**	**7.29**	**111**	*e*Pn	**Pn**	**04 34 43.7**	**-1.5**
AMKA				*e*S	**Sn**	**04 36 07.0**	**-0.3**
MIPR	**Malaya Ipel'ka**	**7.31**	**257**	P	**Pn**	**04 34 46.8**	**+1.2**
ADK	**Adak**	**9.32**	**100**	*e*PN	**Pn**	**04 35 12.5**	**-0.6**
ADK	**Adak**	**9.32**	**100**	*e*Pn	**Pn**	**04 35 12.5**	**-0.6**
SEY	**Seymchan**	**11.83**	**322**	⇑*e*PN	**Pn**	**04 35 47.9**	**+0.5**
AKUT	**Akutan**	**15.05**	**81**	*e*Pn	**Pn**	**04 36 32.0**	**+0.7**
	comp=Z,64nm,1.1s						
YSS	**Yuzh-Sakhalins**	**17.84**	**256**	*e*P	P	04 37 12.8	+5.4
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
YUK	**Yuzh-Kuril'sk**	**17.98**	**244**	*d*iP	**P**	**04 37 10.6**	**+1.7**
YUK				S	**Sn**	**04 40 24.0**	**-4.2**
CHGN	**Chignik**	**18.83**	**71**	*e*Pn	**Pn**	**04 37 19.7**	**+1.0**
ASAJ	**Asahikawa**	**19.66**	**249**	*e*P	**Pn**	**04 37 29.3**	**+0.3**
	comp=Z,49nm,1.9s						
ASAJ	**Asahikawa**	**19.66**	**249**	P	**Pn**	**04 37 28.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=63,slow=11,SNR=4.2						
ASAJ				LR	LR	04 43 53.0	
	comp=Z,194nm,20.7s,baz=158,slow=33						
SVW2	**Sparrevohn**	**20.09**	**56**	*e*P	Pn	04 37 33.5	-0.4
	comp=Z,23nm,1.2s						
ERM	**Erimo**	**20.80**	**244**	*e*P	Pn	04 37 42.1	-0.2
ERM				pmax	pmax		
	comp=Z,28nm,1.2s						
ERM	**Erimo**	**20.80**	**244**	*e*Pn	Pn	04 37 42.5	+0.1
YAK	**Yakutsk**	**21.43**	**306**	*e*P	**P**	**04 37 46.7**	**+0.3**
YAK				*e**PP	**pP**	**04 37 54.0**	**+1.9**
YAK				*e*		04 38 06.7	
YAK				*e*S	**S**	**04 41 41.2**	**-1.9**
YAK				*e*		04 41 51.9	
YAK				*e*		04 49 06.5	
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=E,21nm,1.1s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				smax	smax		
	comp=N,348nm,3.9s						
YAK				smax	smax		
	comp=E,119nm,3.4s						
YAK				MLR	MLR		
	comp=N,231nm,13.0s						
YAK				MLR	MLR		
	comp=E,122nm,12.0s						
RSO	**Redoubt South**	**21.46**	**58**	*e*P	**P**	**04 37 48.7**	**+1.7**
OHAK	**Old Harbor**	**21.48**	**67**	*e*P	**P**	**04 37 46.1**	**-0.8**
	comp=E,55nm,1.0s						
HABR	**Khabarovsk**	**21.48**	**267**	*e*P	P	04 37 53.9	+6.8
HABR				*e*S	**S**	**04 41 41.5**	**-2.8**
HABR				*e*		04 41 47.3	
HABR				*e*SSS	SSS	04 42 21.4	
HABR				pmax	pmax		
	comp=E,89nm,1.3s						
HABR				pmax	pmax		
	comp=N,33nm,1.3s						
HABR				pmax	pmax		
	comp=Z,103nm,1.3s						
IM04	**Indian Mountai**	**21.61**	**43**	*e*P	**P**	**04 37 48.7**	**+0.3**
IMA2	**Indian Mountai**	**21.67**	**43**	*e*P	**P**	**04 37 49.3**	**+0.2**
KDAK	**Kodiak Island**	**21.77**	**65**	P	**P**	**04 37 49.3**	**-0.8**
KDAK	**Kodiak Island**	**21.77**	**65**	P	**P**	**04 37 49.3**	**-0.8**
	comp=Z,14nm,1.0s,baz=296,slow=2.4,SNR=4.6						
SPU	**Mount Spurr**	**21.80**	**56**	*e*P	**P**	**04 37 51.9**	**+1.4**
PPLA	**Purkeypile**	**21.80**	**52**	*e*P	**P**	**04 37 51.2**	**+0.6**
	comp=Z,101nm,1.5s						
TRF	**Thorofare Moun**	**22.70**	**50**	*e*P	**P**	**04 37 59.5**	**-0.7**
	comp=Z,37nm,0.8s						
KLR	**Kul'dur**	**23.05**	**272**	*e*P	**P**	**04 38 01.8**	**-2.0**
KLR				*e*S	**S**	**04 42 15.0**	**+1.5**
KLR				pmax	pmax		
	comp=E,110nm,2.6s						
KLR				pmax	pmax		
	comp=Z,170nm,2.6s						
PMR	**Palmer**	**23.20**	**55**	*e*P	**P**	**04 38 05.9**	**+0.7**
PMR				pmax	pmax		
	comp=Z,13nm,1.0s						
PMR	**Palmer**	**23.20**	**55**	*e*P	**P**	**04 38 05.9**	**+0.7**
	comp=Z,13nm,1.0s						
COLD	**Coldfoot**	**23.29**	**41**	*e*P	**P**	**04 38 05.8**	**-0.3**
	comp=Z,19nm,0.9s						
MCK	**McKinley**	**23.32**	**50**	*e*P	**P**	**04 38 06.5**	**0.0**
MCK				pmax	pmax		
	comp=Z,26nm,1.0s						
MCK	**McKinley**	**23.32**	**50**	*e*P	**P**	**04 38 06.5**	**0.0**
	comp=Z,26nm,1.0s						
SML	**Sawmill**	**23.57**	**54**	*e*P	**P**	**04 38 08.0**	**-1.0**
SML				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SML	**Sawmill**	**23.57**	**54**	*e*P	**P**	**04 38 08.0**	**-1.0**
	comp=Z,8.3nm,1.0s						
COLA	**College**	**23.88**	**47**	*e*P	**P**	**04 38 11.4**	**-0.3**
COLA				pmax	pmax		
	comp=Z,167nm,0.8s						
COLA	**College**	**23.88**	**47**	*e*P	**P**	**04 38 11.4**	**-0.3**
	comp=Z,167nm,0.8s						
TIXI	**Tiksi**	**24.09**	**330**	*e*P	**P**	**04 38 13.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s						
ILAR	**Eielson Array**	**24.28**	**47**	P	**P**	**04 38 14.0**	**-1.6**
ILAR	**Eielson Array**	**24.28**	**47**	P	**P**	**04 38 14.0**	**-1.6**
	comp=Z,22nm,1.0s,baz=248,slow=7.3,SNR=114						
ILAR				LR	LR	04 47 50.6	
	comp=Z,197nm,19.5s,baz=282,slow=37						
PAX	**Paxson**	**24.88**	**52**	*e*P	**P**	**04 38 21.5**	**+0.4**
PAX				pmax	pmax		
	comp=Z,31nm,1.2s						
PAX	**Paxson**	**24.88**	**52**	*e*P	**P**	**04 38 21.4**	**+0.4**
	comp=Z,31nm,1.2s						
BMRM	**Bremner River**	**25.43**	**56**	*e*P	**P**	**04 38 25.1**	**-0.9**
	comp=Z,18nm,0.8s						
RAGM	**Ragged Mountai**	**25.46**	**58**	*e*P	**P**	**04 38 27.0**	**+0.7**
	comp=Z,56nm,1.3s						
USRK	**Ussuriysk Arra**	**25.59**	**261**	P	**P**	**04 38 28.5**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=64,slow=13,SNR=3.6						
USRK				LR	LR	04 49 27.5	
	comp=Z,216nm,18.6s,baz=112,slow=39						
MENT	**Mentasta**	**25.68**	**52**	*e*P	**P**	**04 38 28.3**	**+0.1**
MDJ	**Mudanjiang**	**26.73**	**264**	P	**P**	**04 38 38.9**	**+1.0**
MDJ				pP	**pP**	**04 38 41.9**	**-2.0**
MDJ				S	**S**	**04 43 14.1**	**+1.8**
MDJ				ScP	**ScP**	**04 45 43.0**	**+3.7**
MDJ				PcS	**PcS**	**04 45 44.3**	**+2.5**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
EGAK	**Eagle**	**26.73**	**47**	*e*P	**P**	**04 38 36.3**	**-1.4**
	comp=Z,20nm,0.9s						
MAT	**Matsushiro**	**27.43**	**242**	P	**P**	**04 38 46.2**	**+1.9**
MAT				S	**S**	**04 43 29.2**	**+5.6**
MJAR	**Matsushiro Arr**	**27.43**	**242**	P	**P**	**04 38 46.3**	**+2.0**
MJAR	**Matsushiro Arr**	**27.43**	**242**	P	**P**	**04 38 46.3**	**+2.0**
	comp=Z,10.0nm,1.0s,baz=23,slow=8.5,SNR=28						
MJAR				LR	LR	04 50 54.6	
	comp=Z,63nm,18.3s,baz=25,slow=39						
DAWY	**Dawson**	**27.54**	**49**	*e*P	**P**	**04 38 45.2**	**+0.1**
HYT	**Haines Junctio**	**28.87**	**55**	*e*P	**P**	**04 38 56.3**	**-0.8**
INK	**Inuvik**	**29.69**	**40**	*e*P	**P**	**04 39 03.9**	**-0.2**
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**29.69**	**40**	P	**P**	**04 39 03.6**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=270,slow=7.6,SNR=11						
INK				LR	LR	04 51 25.2	
	comp=Z,62nm,21.3s,baz=266,slow=38						
KSRS	**Korea Array**	**32.34**	**255**	P	**P**	**04 39 29.2**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=45,slow=8.5,SNR=5.6						
KSRS				LR	LR	04 52 06.9	
	comp=Z,80nm,20.1s,baz=252,slow=35						
KSAR	**Wonju Array Be**	**32.37**	**255**	P	**P**	**04 39 29.2**	**+1.3**
DLBC	**Dease Lake**	**33.19**	**58**	LR	LR	04 54 06.2	
	comp=Z,152nm,18.3s,baz=136,slow=38						
JNU	**Nakatsue**	**33.91**	**246**	LR	LR	04 52 11.7	
	comp=Z,82nm,20.4s,baz=258,slow=34						
BBB	**Bella Bella**	**36.83**	**67**	LR	LR	04 53 06.4	
	comp=Z,184nm,20.2s,baz=63,slow=33						
TLY	**Talaya**	**37.77**	**293**	*e*P	**P**	**04 40 15.2**	**+0.8**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,120nm,16.0s						
ULN	**Ulaanbaatar**	**37.93**	**286**	*e*P	**P**	**04 40 17.2**	**+1.3**
	comp=Z,19nm,1.5s						
SONM	**Songino Array**	**38.31**	**286**	P	**P**	**04 40 19.9**	**+0.7**
SONM				PcP	**PcP**	**04 42 32.7**	**+0.1**
SONM	**Songino Array**	**38.31**	**286**	P	**P**	**04 40 19.9**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=63,slow=8.6,SNR=17						
SONM				PcP	**PcP**	**04 42 32.7**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=25,slow=2.8,SNR=3.4						
SONM				LR	LR	04 57 15.9	
	comp=Z,170nm,21.4s,baz=12,slow=38						
YKA	**Yellowknife Ar**	**38.71**	**46**	P	**P**	**04 40 21.4**	**-0.6**
YKA	**Yellowknife Ar**	**38.71**	**46**	P	**P**	**04 40 21.4**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=301,slow=9.0,SNR=7.3						
HHC	**Hu-ho-hao-te**	**39.53**	**274**	*e*P	**P**	**04 40 29.9**	**+0.5**
HHC				pP	**pP**	**04 40 34.3**	**-1.2**
HHC				sP	**sP**	**04 40 37.3**	**-0.7**
HHC				PP	**PnPn**	**04 42 02.4**	**-0.7**
HHC				S	**S**	**04 46 29.9**	**-0.8**
HHC				SS	**SS**	**04 49 15.8**	**-9.5**
HHC				pmax	pmax		
	comp=Z,44nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,6.2s						
HHC				LR	LR		
	comp=N,300nm,14.6s						
HHC				LR	LR		
	comp=E,370nm,15.0s						
HHC				LR	LR		
	comp=Z,540nm,12.6s						
NJ2	**Nanjing**	**41.38**	**258**	*e*P	**P**	**04 40 46.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HVS	**Khovu-Aksy**	**43.31**	**298**	*e*P	**P**	**04 40 59.2**	**-1.0**
HVS				pmax	pmax		
	comp=Z,13nm,1.0s						
EDM	**Edmonton**	**43.91**	**58**	*e*P	**P**	**04 41 04.6**	**-0.3**
EDM	**Edmonton**	**43.91**	**58**	*e*P	**P**	**04 41 04.6**	**-0.3**
NEW	**Newport**	**44.87**	**66**	*e*P	**P**	**04 41 13.1**	**+0.4**
	comp=Z,2.0nm,1.0s						
NEW	**Newport**	**44.87**	**66**	P	**P**	**04 41 12.7**	**0.0**

baz=49,SNR=5.1
D18A Linhart Farms, 49.39 63 ⇑P P 04 41 47.8 -0.3
baz=49
C19A Slack Wire Ran 49.43 62 ⇑P P 04 41 47.9 -0.4
baz=49
B20A Solberg Farm, 49.50 60 ⇑P P 04 41 48.2 -0.6
baz=49
D19A Cripps Ranch, 49.89 62 ⇓P P 04 41 52.3 +0.4
baz=50
G17A Pierce Place, 50.13 65 ⇓P P 04 41 53.8 +0.1
baz=50
A22A Carney Farms, 50.20 59 ⇑P P 04 41 53.8 -0.3
baz=50
H16A Russell Place, 50.27 66 ⇑P P 04 41 54.5 -0.4
baz=50
F18A Big Timber 50.28 64 ⇑P P 04 41 54.7 -0.1
baz=50
D20A Manuel Ranch, 50.32 62 ⇑P P 04 41 55.2 +0.2
baz=50
C21A Desert Coulee 50.37 61 ⇓P P 04 41 55.4 0.0
baz=50
E19A Rath Farm, Rou 50.40 63 ⇑P P 04 41 56.0 +0.3
baz=50
B22A Reddig Ranch S 50.61 59 ⇑P P 04 41 56.9 -0.3
baz=50
NVAR Mina Array Bea 50.62 77 P P 04 41 57.9 +0.3
NVAR Mina Array Bea 50.62 77 P P 04 41 57.9 +0.3
comp=E,0.9nm,0.7s,baz=297,slow=7.4,SNR=8.1
F19A Roth Farm, Mol 50.72 64 ⇓P P 04 41 58.5 +0.3
baz=50
CD2 Chengdu 50.96 270 *e*P **P 04 42 02.0 +1.9**
CD2 pP **pP 04 42 07.9 +1.6**
CD2 sP **sP 04 42 10.8 +2.0**
CD2 PP **PP 04 43 59.6 +3.2**
CD2 S **S 04 49 15.5 -0.3**
CD2 sS **sS 04 49 25.6 -0.5**
CD2 SS **SS 04 52 47.6 -2.8**
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,100nm,5.8s
CD2 LR LR
comp=N,160nm,15.4s
CD2 LR LR
comp=Z,140nm,14.4s
IMW Indian Meadow 50.97 67 *e*P **P 04 42 00.5 +0.2**
comp=Z,3.0nm,0.9s
C22A Vida 51.04 60 ⇓P P 04 42 00.3 -0.1
baz=51
RLMT Red Lodge 51.04 64 *e*P **P 04 42 01.1 +0.4**
comp=Z,3.4nm,0.8s
WMQ Urumqi 51.05 293 *e*P **P 04 42 01.3 +0.7**
WMQ sP **sP 04 42 10.6 +1.3**
WMQ PcP **PcP 04 43 18.0 +1.7**
WMQ S **S 04 49 16.0 -0.9**
WMQ sS **sS 04 49 24.6 -2.6**
WMQ ScS **ScS 04 51 46.8 -3.1**
WMQ SS **SS 04 52 46.1 -5.3**
WMQ pmax pmax
comp=Z,6.0nm,0.8s
WMQ pmax pmax
comp=Z,130nm,3.0s
WMQ LR LR
comp=N,570nm,22.0s
WMQ LR LR
comp=E,180nm,22.0s
KURK Kurchatov 51.07 305 P **P 04 42 00.7 +0.1**
KURK Kurchatov 51.07 305 P **P 04 42 00.7 +0.1**
H18A Shoshone NF, C 51.13 65 ⇑P P 04 42 01.0 -0.4
baz=51
I17A Pilgrim Ck. 51.15 66 ⇑P P 04 42 00.8 -0.7
baz=51
F20A Billings 51.17 63 ⇑P P 04 42 01.0 -0.6
baz=51
KURBB Kurchatov Arra 51.17 305 P **P 04 42 00.7 -0.7**
comp=E,4.5nm,0.7s,baz=53,slow=7.6,SNR=34
A24A Westby 51.19 58 ⇓P P 04 42 01.4 -0.2
baz=51
E21A Keefer Ranch, 51.23 62 ⇑P P 04 42 01.5 -0.4
baz=51
D22A Cohagen 51.28 61 ⇓P P 04 42 01.9 -0.4
baz=51,SNR=5.2
C23A Lambert 51.35 59 ⇑P P 04 42 01.9 -0.9
baz=51
G20A Bridger 51.53 64 ⇓P P 04 42 03.4 -0.9
baz=51
SUMG Summit 51.85 10 *e*P **P 04 42 07.5 +0.9**
SUMG Summit 51.85 10 *e*P **P 04 42 07.5 +0.9**
E22A Miles City 51.88 61 ⇑P P 04 42 05.9 -0.8
baz=52
MK31 Makanchi Array 51.88 299 *e*P **P 04 42 05.8 -0.9**
MK31 Makanchi Array 51.88 299 *e*P **P 04 42 05.8 -0.9**
MKAR Makanchi Array 51.88 299 P **P 04 42 05.1 -1.6**
MKAR Makanchi Array 51.88 299 P **P 04 42 05.1 -1.6**
MKAR Makanchi Array 51.88 299 P **P 04 42 05.1 -1.6**
comp=E,2.4nm,0.7s,baz=48,slow=7.2,SNR=15
MKAR LR LR 05 04 10.1
comp=E,72nm,20.8s,baz=25,slow=36
A26A Wade Farm, Ken 52.17 57 ⇑P P 04 42 08.8 0.0
baz=52
R11A Troy Canyon, C 52.21 75 ⇓P P 04 42 09.4 -0.1
baz=52
PKM Peak Mountain 52.23 81 ⇑P P 04 42 09.3 -0.4
baz=52
I20A Worland 52.43 65 ⇑P P 04 42 10.3 -0.7
baz=52
DUG Dugway 52.48 71 ⇓P P 04 42 10.5 -0.8
baz=52
BW06 Boulder Array 52.48 67 *e*P **P 04 42 12.1 +0.6**
comp=E,3.0nm,1.0s
PDAR Pinedale Array 52.48 67 P **P 04 42 11.4 -0.1**
PDAR Pinedale Array 52.48 67 P **P 04 42 11.4 -0.1**
comp=E,1.6nm,0.9s,baz=316,slow=3.4,SNR=12
PDAR LR LR 05 04 06.2
comp=E,86nm,18.7s,baz=149,slow=36
G22A Birney 52.53 63 ⇑P P 04 42 11.5 -0.2
baz=52
GYA Guiyang 52.59 264 *e*P **P 04 42 14.0 +1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
F23A Volborg 52.64 62 ⇑P P 04 42 12.8 +0.4
baz=52
L18A Fontenelle, Gr 52.80 68 ⇓P P 04 42 13.8 0.0
baz=53
FURC Furnace Creek, 52.81 77 ⇑P P 04 42 14.1 +0.4
baz=53
K19A Absolon Red Bu 52.82 66 ⇓P P 04 42 13.7 -0.2
baz=53
J20A Shoshoni 52.86 65 ⇑P P 04 42 14.1 -0.1
baz=53
H22A Clearmont 52.92 63 ⇓P P 04 42 14.4 -0.2
baz=53
I21A Big Trails, Te 52.97 64 ⇑P P 04 42 14.8 -0.2
baz=53
G23A Biddle 53.01 62 ⇓P P 04 42 14.1 -1.1
baz=53
L19A Farson 53.04 67 ⇓P P 04 42 14.9 -0.8
baz=53
F24A Ekalaka 53.05 61 ⇓P P 04 42 15.0 -0.4
baz=53
BVAR Borovoye Array 53.26 312 P **P 04 42 16.2 -0.7**
BVAR Borovoye Array 53.26 312 P **P 04 42 16.2 -0.7**
BVAR Borovoye Array 53.26 312 P **P 04 42 16.2 -0.7**
comp=Z,5.8nm,0.6s,baz=52,slow=8.1,SNR=27
BRVK Borovoye 53.28 312 *e*P **P 04 42 16.2 -0.8**
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 53.28 312 *e*P **P 04 42 16.1 -0.8**
comp=Z,7.9nm,0.6s
B28A Dugan Ranch, T 53.29 56 ⇓P P 04 42 16.8 -0.4
baz=53
I22A 9 Mile Ranch, 53.34 64 ⇑P P 04 42 17.3 -0.4
baz=53
ARCES ARCESS Array B 53.37 345 P **P 04 42 15.8 -1.6**
ARCES ARCESS Array B 53.37 345 P **P 04 42 15.8 -1.6**
comp=Z,4.0nm,1.1s,baz=22,slow=6.9,SNR=4.6
ARCES LR LR 05 09 28.5
comp=Z,70nm,18.8s,baz=26,slow=41
G24A Alzada 53.42 61 ⇑P P 04 42 17.4 -0.9
baz=53
E26A Carlson Angus 53.62 59 ⇑P P 04 42 19.3 -0.3
baz=53
L20A Wamsutter 53.66 67 ⇑P P 04 42 20.2 +0.1
baz=53
J22A Midwest 53.67 64 ⇓P P 04 42 20.3 +0.2
baz=53,SNR=5.5
H24A Dirks Ranch, A 53.75 62 ⇑P P 04 42 20.1 -0.5
baz=54
K21A Alcova 53.80 66 ⇓P P 04 42 21.0 -0.2
baz=54
G25A Newell 54.02 61 ⇑P P 04 42 22.5 -0.1
baz=54
MDND Maddock 54.08 56 ⇑P P 04 42 23.7 +0.8
baz=54
ULM Lac du Bonnet 54.16 52 LR LR 05 08 52.1
comp=Z,106nm,18.4s,baz=19,slow=40
H25A Fruitdale 54.33 61 ⇑P P 04 42 24.9 +0.1
baz=54
G26A Maurine 54.37 60 ⇑P P 04 42 24.8 -0.3
baz=54
O19A Miners Draw (B 54.43 69 ⇑P P 04 42 25.0 -0.7
baz=54
M21A Separation Pea 54.46 66 ⇑P P 04 42 25.5 -0.5
baz=54
SRU San Rafael 54.50 71 *e*P **P 04 42 26.9 +0.6**
SRU pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael 54.50 71 *e*P **P 04 42 26.9 +0.6**
comp=Z,6.8nm,1.0s
N20A Spence Gulch, 54.52 68 ⇓P P 04 42 25.7 -0.8
baz=54
K23A Bowen Ranch, D 54.58 64 ⇑P P 04 42 26.2 -0.5
baz=54
G27A Dupree 54.65 60 ⇓P P 04 42 26.7 -0.4
baz=54
N21A Black Mountain 54.97 67 ⇑P P 04 42 29.5 -0.2
baz=55
P19A Cripple Cowboy 54.97 69 ⇑P P 04 42 29.8 0.0
baz=55
L23A Garrett 54.99 65 ⇑P P 04 42 29.5 -0.3
baz=55
O20A White River Ci 55.02 68 ⇑P P 04 42 30.4 +0.3
baz=55
PFO Pinyon Flat Ob 55.08 80 ⇓P P 04 42 29.6 -0.9
baz=55
G28A Parade 55.37 59 ⇓P P 04 42 32.0 -0.3
baz=55
U15A North Rim 55.42 74 ⇑P P 04 42 32.3 -0.8
baz=55
AGMN Agassiz Nation 55.55 54 *e*P **P 04 42 33.2 -0.3**
comp=Z,9.0nm,1.1s
ARU Arti 55.57 321 *d i*P **P 04 42 32.3 -1.3**
ARU S **S 04 50 15.6 -2.1**
ARU SS **SS 04 53 56.2 -5.8**
ARU pmax pmax
comp=Z,19nm,2.5s
K25A Mack Ranch, Ha 55.60 63 ⇑P P 04 42 33.5 -0.6
baz=55
N23A Red Feather La 55.72 66 ⇓P P 04 42 35.4 +0.2
baz=56
Q20A Ridgley Place, 55.83 69 ⇑P P 04 42 35.4 -0.5
baz=56
P21A Newcastle 55.88 68 ⇑P P 04 42 36.2 -0.1
baz=56
KMI Kunming 55.89 266 P P 04 42 39.8 +3.3
KMI pP pP 04 42 43.4 +0.6
KMI sP sP 04 42 46.5 +1.3
KMI S **S 04 50 24.5 +1.4**
KMI sS sS 04 50 32.6 -0.9
KMI SS **SS 04 54 08.5 -0.1**
KMI pmax pmax
comp=Z,5.0nm,1.2s
KMI LR LR
comp=N,150nm,14.8s
KMI LR LR
comp=E,98nm,17.7s
I28A Midland 56.00 61 ⇑P P 04 42 37.4 +0.5
baz=56
J27A Elkhorn Farm, 56.11 62 ⇑P P 04 42 38.1 +0.4
baz=56
P22A Eagle 56.21 68 ⇑P P 04 42 39.0 +0.3
baz=56
O23A Lake Granby, G 56.22 67 ⇓P P 04 42 39.3 +0.5
baz=56
PV01 Paradox Valley 56.27 70 *e*P **P 04 42 40.6 +1.5**
comp=E,124nm,0.7s
Q21A Lamborn Mesa, 56.31 69 ⇓P P 04 42 39.7 +0.3
baz=56
J28A Allard Ranch, 56.38 61 ⇓P P 04 42 39.8 +0.2
baz=56,SNR=5.4
GLA Glamis 56.42 79 *e*P **P 04 42 41.6 +1.6**
GLA pmax pmax
comp=Z,8.0nm,0.8s
GLA Glamis 56.42 79 *e*P **P 04 42 41.6 +1.6**
comp=Z,8.2nm,0.8s
S20A Disappointment 56.60 70 ⇑P P 04 42 42.0 +0.5
baz=56
Q22A Crested Butte, 56.65 69 ⇑P P 04 42 42.1 +0.2
baz=56
R21A Cimarron 56.66 69 ⇑P P 04 42 42.5 +0.6
baz=56
ISCO Idaho Springs 56.68 67 *e*P **P 04 42 43.5 +1.4**
ISCO pmax pmax
comp=Z,14nm,1.6s
ISCO Idaho Springs 56.68 67 *e*P **P 04 42 43.5 +1.4**
comp=Z,14nm,1.6s
ISCO Idaho Springs 56.68 67 ⇑P P 04 42 42.3 +0.2
baz=56,SNR=5.8
Y14A Wickenburg 56.82 77 ⇓P P 04 42 43.0 +0.2
baz=57
K28A Ten Mile Ranch 56.82 62 ⇑P P 04 42 43.5 +0.8
baz=57
MVCO Mesa Verde 56.97 71 ⇓P P 04 42 44.4 +0.3
baz=57
S21A Coal Bank Pass 57.03 70 ⇓P P 04 42 45.3 +0.6
baz=57
R22A Saguache, Gunn 57.19 69 ⇑P P 04 42 46.9 +1.1
baz=57
113A Mohawk Valley, 57.24 78 ⇑P P 04 42 45.8 +0.1
baz=57
X16A Lo Mia Camp, P 57.35 75 ⇓P P 04 42 46.8 0.0
baz=57
S22A 4UR Ranch, Cre 57.50 69 ⇓P P 04 42 48.4 +0.5
baz=57
N27A Anderson Farm, 57.59 64 ⇑P P 04 42 48.4 +0.2
baz=57
TKM2 Tokmak 2 57.99 300 *e*P **P 04 42 50.8 -0.4**
TKM2 pmax pmax
comp=Z,3.0nm,1.0s
TKM2 Tokmak 2 57.99 300 *e*P **P 04 42 50.8 -0.4**
comp=Z,2.9nm,1.0s
T22A Edith 57.99 70 ⇑P P 04 42 51.6 +0.3
baz=58
U21A Nageezi 58.00 71 ⇑P P 04 42 51.7 +0.3
baz=58
O27A Beecher Island 58.06 65 ⇓P P 04 42 52.0 +0.4
baz=58
M29A Burnside Ranch 58.09 62 ⇑P P 04 42 51.4 -0.3
baz=58
214A Organ Pipe Nat 58.38 78 ⇑P P 04 42 54.3 +0.5
baz=58
S24A Houchin Ranch, 58.45 68 ⇓P P 04 42 55.6 +0.9
baz=58
P27A Ficken Ranch, 58.47 65 ⇑P P 04 42 55.1 +0.6
baz=58
O28A Krutsinger Ran 58.48 64 ⇑P P 04 42 55.0 +0.5
baz=58
W20A Ramah 58.48 73 ⇓P P 04 42 55.4 +0.6
baz=58
AAK Ala-Archa 58.75 301 P **P 04 42 55.5 -1.0**
AAK Ala-Archa 58.75 301 P **P 04 42 55.5 -1.0**
AAK Ala-Archa 58.75 301 P **P 04 42 55.5 -1.0**
comp=Z,2.5nm,0.6s,baz=209,slow=5.8,SNR=7.8
S25A Robets Cordova 58.86 68 ⇑P P 04 42 57.6 +0.3
baz=59
U23A El Rito 58.88 70 ⇓P P 04 42 57.9 +0.4
baz=59,SNR=5.4
P28A Saint Francis 58.89 65 ⇑P P 04 42 57.7 +0.3
baz=59
R26A Arlington 58.92 67 ⇓P P 04 42 58.1 +0.4
baz=59
EKS2 Erkin-Say 59.09 301 *e*P **P 04 42 59.2 +0.4**
EKS2 Erkin-Say 59.09 301 *e*P **P 04 42 59.2 +0.4**
TUC Tucson 59.27 77 *e*P **P 04 43 02.1 +2.0**
TUC pmax pmax
comp=Z,15nm,1.2s
TUC Tucson 59.27 77 *e*P **P 04 43 02.1 +2.0**
comp=Z,15nm,1.2s
R27A Eads 59.28 66 ⇑P P 04 43 00.9 +0.8
baz=59
V23A Ortiz Mt. (NFS 59.31 71 ⇑P P 04 43 01.2 +0.7
baz=59
X21A Alamocita Cree 59.38 73 ⇑P P 04 43 01.0 0.0
baz=59,SNR=5.6
P30A Selden 59.70 64 ⇓P P 04 43 03.7 +0.7
baz=60
ANMO Albuquerque 59.75 71 *e*P **P 04 43 04.0 +0.5**
comp=Z,25nm,2.6s
Q29A Oakley 59.80 65 ⇓P P 04 43 03.8 +0.2
baz=60
V25A Rancho No Teng 60.10 69 ⇑P P 04 43 06.4 +0.5
baz=60
W24A Lazy 6 Ranch, 60.13 70 ⇓P P 04 43 06.4 +0.3
baz=60
U26A Atchley Ranch, 60.16 68 ⇑P P 04 43 06.3 0.0
baz=60
X23A Hourglass Bar 60.17 71 ⇑P P 04 43 06.4 0.0
baz=60
P31A Stockton 60.17 63 ⇑P P 04 43 05.9 -0.3
baz=60
S28A Manter 60.27 66 ⇓P P 04 43 06.4 -0.5
baz=60
Z21A St. Cloud Mine 60.29 73 ⇓P P 04 43 08.3 +1.1
baz=60
KSH Kashi 60.29 297 *e*P P 04 43 10.8 +3.7
KSH sP sP 04 43 19.8 +4.0
KSH PP PP 04 45 26.8 +7.1
KSH S **S 04 51 22.0 +1.8**
KSH sS sS 04 51 32.1 +1.4
KSH SS **SS 04 55 21.5 +4.5**
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH LR LR
comp=N,150nm,9.8s
KSH LR LR
comp=E,220nm,10.5s
KSH LR LR
comp=Z,130nm,7.0s
120A U Bar Ranch, L 60.31 75 ⇑P P 04 43 08.4 +1.0
baz=60
ABKAR Akbulak array 60.49 314 *e*P **P 04 43 06.8 -1.3**
comp=Z,2.1nm,0.7s
T28A Walsh 60.51 67 ⇑P P 04 43 08.5 0.0
baz=60
Q31A Ellis 60.55 63 ⇓P P 04 43 08.8 0.0
baz=60
V26A Tequesquite Ra 60.59 69 ⇑P P 04 43 08.5 -0.6
baz=60
R30A Dighton 60.62 65 ⇑P P 04 43 09.4 +0.1
baz=60
FINES FINESS Array B 60.63 340 P **P 04 43 07.9 -0.9**
FINES FINESS Array B 60.63 340 P **P 04 43 07.9 -0.9**
comp=Z,5.0nm,1.1s,baz=23,slow=7.5,SNR=4.9
U27A Thompson Grove 60.64 68 ⇓P P 04 43 09.3 -0.2
baz=60
W25A X Bar L Ranch, 60.65 70 ⇓P P 04 43 10.2 +0.6
baz=60
S29A Ulysses 60.67 66 ⇓P P 04 43 10.2 +0.6
baz=60
121A Cookes Peak, D 60.80 74 ⇑P P 04 43 11.3 +0.6
baz=61
319A Douglas 60.82 76 ⇑P P 04 43 11.0 +0.3
baz=61
220A Playas Peak, P 60.85 75 ⇓P P 04 43 11.1 +0.1
baz=61
R31A Burdett 61.01 64 ⇑P P 04 43 11.3 -0.6
baz=61
Y24A Capitan 61.07 71 ⇓P P 04 43 12.2 -0.4
baz=61
Y25A Mesa, Roswell 61.48 71 ⇑P P 04 43 14.4 -0.8
baz=61,SNR=6.8
T31A Randall Ranch, 61.82 65 ⇑P P 04 43 17.5 +0.1
baz=62
Z25A Roswell 61.95 71 ⇑P P 04 43 18.8 +0.4
baz=62
SCHQ Schefferville 61.96 33 P **P 04 43 16.4 -1.7**
SCHQ Schefferville 61.96 33 P **P 04 43 16.4 -1.7**
comp=Z,2.2nm,0.8s,baz=333,slow=9.0,SNR=3.2
SCHQ LR LR 05 12 42.8
comp=Z,47nm,18.4s,baz=308,slow=39
124A Stringfield Ra 61.98 72 ⇓P P 04 43 18.8 +0.1
baz=62
Y27A Causey 62.35 70 ⇓P P 04 43 21.5 +0.4
baz=62,SNR=7.0
224A Cornudas Mount 62.41 73 ⇓P P 04 43 21.6 +0.1
baz=62
125A Gardner Draw, 62.45 72 ⇓P P 04 43 21.6 -0.1
baz=62
MSTX Muleshoe 62.50 70 ⇑P P 04 43 21.6 -0.5
baz=62
225A Deer Hill, Car 62.77 72 ⇓P P 04 43 24.4 +0.4
baz=63
324A Moseley Ranch, 62.91 73 ⇓P P 04 43 24.8 -0.1
baz=63
127A Arkansas Junct 63.15 71 ⇓P P 04 43 26.0 -0.4
baz=63
226B Tecolote Peak, 63.16 72 ⇓P P 04 43 26.2 -0.2
baz=63
Y29A Porterfield Fa 63.18 69 ⇓P P 04 43 26.5 -0.1
baz=63
325A Bean Ranch, Si 63.24 73 ⇑P P 04 43 27.1 0.0
baz=63
CMAR Chiang Mai Arr 63.27 264 P **P 04 43 28.7 +1.5**
CMAR Chiang Mai Arr 63.27 264 P **P 04 43 28.7 +1.5**
comp=Z,1.4nm,0.3s,baz=25,slow=6.9,SNR=6.2
NB2 NORSAR Subarra 63.40 348 P **P 04 43 26.7 -0.8**
comp=Z,12nm,1.1s,baz=15,slow=6.9
NOA NORSAR Array B 63.40 348 P **P 04 43 26.5 -1.0**
NOA NORSAR Array B 63.40 348 P **P 04 43 26.5 -1.0**
comp=Z,3.6nm,0.8s,baz=16,slow=6.7,SNR=8.3
NOA LR LR 05 10 30.6
comp=Z,38nm,18.9s,baz=10.0,slow=36
X31A McDonald Ranch 63.52 67 ⇓P P 04 43 28.6 -0.1
baz=63
Z29A Hungry Hill Ra 63.62 69 ⇓P P 04 43 29.8 +0.4
baz=63
128A Castleberry Fa 63.68 70 ⇑P P 04 43 30.3 +0.5
baz=64
425A Indio Mountain 63.68 73 ⇑P P 04 43 30.7 +0.8
baz=64
OBN Obninsk 63.82 332 *e*P **P 04 43 29.5 -0.8**
OBN *e* 04 51 58.3
OBN *e*SS SS 04 56 12.4 +1.4
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,17.0s
326A Caldwell Ranch 63.84 72 ⇑P P 04 43 31.3 +0.3
baz=64
Z30A Sanderson Ranc 63.91 69 ⇓P P 04 43 31.5 +0.2
baz=64
HFS Hagfors 63.95 346 P **P 04 43 29.2 -1.9**
HFS Hagfors 63.95 346 P **P 04 43 29.2 -1.9**
comp=Z,2.0nm,0.6s,baz=57,slow=5.5,SNR=5.2
Y32A R-V Farms, Ver 64.28 67 ⇓P P 04 43 33.7 -0.1
baz=64
426A McDonald Obser 64.30 73 ⇓P P 04 43 33.8 -0.4
baz=64
Z31A Sharp Cattle R 64.42 68 ⇑P P 04 43 34.8 +0.2
baz=64
328A Wristen Ranch, 64.44 71 ⇑P P 04 43 35.2 +0.3
baz=64
427A Hayter Ranch, 64.51 72 ⇓P P 04 43 35.5 +0.2
baz=64
526A Mary Lane Ranc 64.73 73 ⇓P P 04 43 37.3 +0.4
baz=64
Z32A Haskell 64.79 68 ⇓P P 04 43 37.5 +0.4
baz=65
329A Wagon Wheel Ra 64.81 71 ⇓P P 04 43 37.6 +0.3
baz=65,SNR=5.2
527A Woodward Ranch 64.93 73 ⇓P P 04 43 38.4 +0.2
baz=65
230A Sterling City 64.99 70 ⇓P P 04 43 38.5 +0.1
baz=65
428A Kincaid Ranch, 65.01 72 ⇑P P 04 43 38.2 -0.4
baz=65
626A Big Bend Ranch 65.09 74 ⇓P P 04 43 38.3 -0.9
baz=65
ABTX Abilene, Hawle 65.22 68 ⇓P P 04 43 39.8 -0.1
baz=65
330A Mertzon 65.32 70 ⇓P P 04 43 40.8 +0.2
baz=65
231A Bronte 65.39 69 ⇓P P 04 43 41.3 +0.3
baz=65
429A Davenport Ranc 65.52 71 ⇑P P 04 43 41.8 -0.1
baz=65
TXAR Lajitas Array 65.52 73 P **P 04 43 42.2 +0.2**
TXAR Lajitas Array 65.52 73 P **P 04 43 42.2 +0.2**
comp=Z,2.9nm,0.9s,baz=310,slow=4.7,SNR=19
627A Terlingua Ranc 65.59 73 ⇑P P 04 43 42.0 -0.4
baz=65
529A Stev Forest Ra 65.72 72 ⇓P P 04 43 43.0 -0.2

	baz=66							
430A	Baggett Ranch,	65.76	71	⇓P		P	04 43 43.2	-0.2
	baz=66							
232A	Coleman	65.79	69	⇓P		P	04 43 43.2	-0.3
	baz=66							
331A	San Angelo	65.81	70	⇑P		P	04 43 43.9	+0.2
	baz=66							
628A	Black Gap, Mar	65.84	73	⇓P		P	04 43 44.1	+0.1
	baz=66							
332A	Millersview	66.12	69	⇑P		P	04 43 45.6	-0.1
	baz=66							
431A	Sonora	66.19	70	⇓P		P	04 43 45.9	-0.2
	baz=66,SNR=6.1							
530A	J-C Ranch, Com	66.19	71	⇑P		P	04 43 46.6	+0.4
	baz=66,SNR=9.2							
531A	Rocksprings	66.62	71	⇑P		P	04 43 49.3	+0.4
	baz=66							
MIAR	Mount Ida	66.96	63	eP		P	04 43 50.5	-0.5
MIAR				pmax		pmax		
	comp=Z,7.0nm,1.1s							
MIAR	Mount Ida	66.96	63	eP		P	04 43 50.5	-0.5
	comp=Z,7.4nm,1.1s							
532A	Rocksprings	67.00	70	⇓P		P	04 43 51.6	+0.2
	baz=67							
631A	Perdido Creek	67.18	71	⇓P		P	04 43 52.5	0.0
	baz=67,SNR=7.9							
732A	Laxson Ranch,	68.04	71	⇑P		P	04 43 58.4	+0.5
	baz=68,SNR=7.1							
AKASG	Malin Array Be	69.75	334	P		P	04 44 07.6	-0.6
AKASG	Malin Array Be	69.75	334	P		P	04 44 07.6	-0.6
AKASG	Malin Array Be	69.75	334	P		P	04 44 07.6	-0.6
	comp=Z,1.5nm,0.5s,baz=25,slow=5.7,SNR=6.8							
KWP	Kalwaria Pacla	72.32	337	eP		P	04 44 25.2	+1.4
KMSC	Kings Mountain	72.55	54	⇓P		P	04 44 24.8	-0.5
	baz=72							
CLL	Collm	72.58	344	eP		P	04 44 26.0	+0.7
CLL	Collm	72.58	344	eP		P	04 44 26.0	+0.7
STHS	Stebnicka Huta	72.84	338	eP		P	04 44 28.7	+1.8
STHS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
STHS	Stebnicka Huta	72.84	338	eP		P	04 44 28.7	+1.8
DPC	Dobruska-Polom	72.94	342	eP		P	04 44 28.7	+1.2
DPC				e			04 44 33.7	
DPC	Dobruska-Polom	72.94	342	eP		P	04 44 28.7	+1.2
DPC				epP		pP	04 44 33.7	-0.3
KOLS	Kolonicke sedl	73.07	337	eP		P	04 44 29.4	+1.1
KOLS				pmax		pmax		
	comp=Z,57nm,3.0s							
KOLS	Kolonicke sedl	73.07	337	eP		P	04 44 29.4	+1.1
CRVS	Cervenica-Dubn	73.28	338	eP		P	04 44 30.8	+1.3
CRVS				pmax		pmax		
	comp=Z,60nm,2.8s							
CRVS	Cervenica-Dubn	73.28	338	eP		P	04 44 30.8	+1.3
PRU	Pruhonice	73.60	343	eP		P	04 44 32.6	+1.2
PRU	Pruhonice	73.60	343	eP		P	04 44 32.6	+1.2
KECS	Kecovo	73.89	338	eP		P	04 44 33.3	+0.2
KECS				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KECS	Kecovo	73.89	338	eP		P	04 44 33.3	+0.2
KHC	Kasperske Hory	74.59	343	eP		P	04 44 38.8	+1.6
KHC				e			04 44 44.1	
KHC	Kasperske Hory	74.59	343	eP		P	04 44 38.8	+1.6
KHC				epP		pP	04 44 44.1	+0.4
GERES	GERESS Array B	74.85	343	P		P	04 44 38.7	-0.1
GERES	GERESS Array B	74.85	343	P		P	04 44 38.7	-0.1
	comp=Z,0.8nm,0.7s,baz=35,slow=4.9,SNR=7.6							
GERES				LR		LR	05 21 32.2	
	comp=Z,40nm,18.3s,baz=200,slow=39							
CONA	Conrad Observa	75.35	341	⇑ipP		P	04 44 43.3	+1.6
	comp=Z,7.6nm,1.1s							
SOKA	Soboth	76.70	342	⇑ipP		P	04 44 50.8	+1.4
	comp=Z,8.9nm,1.1s							
OBKA	Obir	76.95	342	⇑ipP		P	04 44 52.4	+1.5
	comp=Z,12nm,1.0s							
GRR	Gorron	77.09	353	eP		P	04 44 50.9	-0.5
FETA	Feichten	77.10	345	⇑ipP		P	04 44 52.9	+1.2
	comp=Z,3.4nm,1.0s							
DAVOX	Davos/Dischmat	77.47	345	P		P	04 44 54.4	+0.5
DAVOX	Davos/Dischmat	77.47	345	P		P	04 44 54.3	+0.5
	comp=Z,0.8nm,0.3s,baz=6.3,slow=18,SNR=4.6							
AVF	Avril sur Loir	78.29	350	eP		P	04 44 58.6	+0.4
	comp=Z,16nm,1.3s							
SMF	Signal de Mont	78.39	349	eP		P	04 44 59.1	+0.4
BRTR	Keskin Array B	78.45	326	P		P	04 44 59.7	+0.3
BRTR	Keskin Array B	78.45	326	P		P	04 44 59.7	+0.3
	comp=Z,0.9nm,0.8s,baz=46,slow=7.2,SNR=4.7							
BRTR				LR		LR	05 20 48.7	
	comp=Z,36nm,20.9s,baz=287,slow=37							
LPL	La Plagne	79.15	347	eP		P	04 45 03.2	0.0
LPG	La Plagne	79.17	347	eP		P	04 45 03.8	+0.4
	comp=Z,19nm,1.3s							
WRAB	Tennant Creek	79.67	212	iP		P	04 45 07.2	+1.3
WRA	Warramunga Arr	79.68	212	P		P	04 45 07.2	+1.2
WRA	Warramunga Arr	79.68	212	P		P	04 45 07.1	+1.2
	comp=Z,4.3nm,1.0s,baz=23,slow=5.6,SNR=12							
ORIF	Oris-en-Rattie	79.85	347	eP		P	04 45 07.8	+1.0
	comp=Z,14nm,1.2s							
PPT	Papeete	80.23	140	LR		LR	05 15 08.6	
	comp=Z,90nm,20.6s,baz=4.8,slow=32							
CAF	Calviac	80.27	350	eP		P	04 45 10.2	+1.1
	comp=Z,25nm,1.5s							
SBF	Sospel	80.68	346	eP		P	04 45 12.0	+0.7
FITZ	Fitzroy Crossi	81.00	221	P		P	04 45 14.6	+1.6
FITZ	Fitzroy Crossi	81.00	221	P		P	04 45 14.6	+1.6
	comp=Z,3.5nm,0.8s,baz=16,slow=12,SNR=5.2							
FRF	La Foret Royal	81.08	347	eP		P	04 45 14.2	+0.8
ASAR	Alice Springs	83.31	212	P		P	04 45 27.0	+1.9
ASAR	Alice Springs	83.31	212	P		P	04 45 27.0	+1.9
	comp=Z,4.2nm,0.9s,baz=20,slow=4.7,SNR=20							
ASF	Jabal al Asfar	84.11	320	LR		LR	05 30 05.3	
	comp=Z,50nm,18.2s,baz=347,slow=41							
ESDC	Sonseca Array	85.97	354	P		P	04 45 39.0	+0.4
ESDC	Sonseca Array	85.97	354	P		P	04 45 39.0	+0.4
	comp=Z,0.2nm,0.3s,baz=4.1,slow=5.5,SNR=7.6							
MAW	Mawson	144.11	219	PKP		PKPbc	04 52 30.7	+0.1
MAW	Mawson	144.11	219	PKP		PKPbc	04 52 30.7	+0.1
	comp=Z,3.1nm,1.0s,baz=58,slow=2.9,SNR=6.4							
QSPA	South Pole Qui	144.25	180	PKP		PKPab	04 52 30.4	-0.5
QSPA				ePKPdf		PKPbc	04 52 31.0	-0.3
QSPA	South Pole Qui	144.25	180	PKP		PKPab	04 52 30.4	-0.5
	comp=Z,3.3nm,0.9s,baz=347,slow=2.7,SNR=8.3							

IDC 18 04:43:17.2±1.0, 1°.54S×99°.56E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/26, mbtmp4.0/12, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/39, Error ellipse: s-maj=42.3km s-min=14.6km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.35	352		Pn	Pn	04 44 26.8	+1.9
	0.4nm,0.3s,baz=157,slow=22,SNR=3.9							
PSI					LR	LR	04 46 33.3	
	comp=Z,152nm,18.1s,baz=191,slow=46							
CMAR	Chiang Mai Arr	19.88	358	P		P	04 47 50.6	+0.4
	0.2nm,0.3s,baz=188,slow=12,SNR=4.1							
FITZ	Fitzroy Crossi	30.44	124	P		P	04 49 31.0	-0.8
	0.8nm,0.4s,baz=304,slow=8.5,SNR=7.1							
WRA	Warramunga Arr	38.61	121	P		P	04 50 42.1	-0.3
	2.6nm,0.5s,baz=303,slow=9.0,SNR=31							
WRA					PcP	PcP	04 52 54.6	-0.4
	0.5nm,0.6s,baz=315,slow=2.6,SNR=4.1							
ASAR	Alice Springs	39.88	126	P		P	04 50 53.5	+0.3
	0.7nm,0.5s,baz=297,slow=8.1,SNR=12							
KSRS	Korea Array	46.85	31	P		P	04 51 49.2	+0.1
	0.5nm,0.3s,baz=214,slow=8.6,SNR=3.4							
SONM	Songino Array	49.53	6	P		P	04 52 10.1	+0.3
	0.6nm,0.6s,baz=182,slow=9.5,SNR=3.3							
SONM					PcP	PcP	04 53 31.0	-0.8
	0.6nm,0.5s,baz=183,slow=3.6,SNR=3.3							
STKA	Stephens Creek	49.79	132	P		P	04 52 12.2	+0.3
	2.7nm,0.7s,baz=302,slow=5.5,SNR=5.7							
MKAR	Makanchi Array	50.47	345	P		P	04 52 17.0	+0.2
	1.5nm,0.6s,baz=142,slow=8.5,SNR=13							
KURBB	Kurchatov Arra	54.98	344	P		P	04 52 49.4	-0.8
	0.5nm,0.6s,baz=162,slow=7.3,SNR=4.9							
ZALV	Zalesovo Beam	56.63	350	P		P	04 53 02.0	+0.1
	1.5nm,0.5s,baz=176,slow=5.9,SNR=7.5							
FINES	FINESS Array B	83.50	332	P		P	04 55 46.7	0.0
	2.8nm,0.9s,baz=90,slow=1.9,SNR=4.5							
QSPA	South Pole Qui	88.42	180	P		P	04 56 11.9	+0.7
	0.7nm,0.7s,baz=49,slow=18,SNR=5.2							
PDAR	Pinedale Array	131.39	29	PKP		PKPdf	05 02 30.4	-1.9
	0.8nm,0.8s,baz=312,slow=5.6,SNR=6.7							
TXAR	Lajitas Array	144.60	36	PKP		PKPbc	05 02 56.0	+0.6
	1.6nm,0.4s,baz=288,slow=2.7,SNR=41							

*IDC **18** 04:45:20.4±1.1, 54°.72N×168°.47E, h0km, mb3.2/3, mb1 3.6/6, mb1mx3.4/29, mbtmp3.5/6, ML3.7/3, Error ellipse: s-maj=28.0km s-min=12.5km az=22.0*
*ISCJB **18** 04:45:22.5±0.6, 54°.43N±0°.06×168°.39E±0°.06, h24km, mb3.1/3, Error ellipse: s-maj=9.5km s-min=4.5km az=21.0*
*KRSC **18** 04:45:24.2±1.1, 54°.38N×168°.03E, h10km±10km, ML3.9*
ISC 18 04:45:23.4±1.0, 54°.44N±0°.10×168°.50E±0°.06, h24km, n25, σ1°.66/36, mb3.1/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.65	299	eP		Pn	04 45 49.9	-0.9
BKI				eS		Sn	04 46 08.5	-2.7
FX1	Attu Island--F	3.19	117	Pn		Pn	04 46 12.7	+0.7
	12nm,0.3s,baz=333,slow=5.7,SNR=54							
FX1				Sn		Sn	04 46 49.7	+0.5
	43nm,0.3s,baz=35,slow=12,SNR=16							
KBTR	Krutoberegovo	3.70	301	P		Pn	04 46 18.6	-0.4
KBTR				S		Sn	04 46 58.4	-3.3
MKZ	Mys Kozlova	3.95	274	eP		Pn	04 46 23.4	+1.0
MKZ				eS		Sn	04 47 05.9	-2.0
SMKR	Semkarok	4.54	301	P		Pn	04 46 32.5	+1.9
SMKR				S		Sn	04 47 22.7	+0.2
BDR	Baidarnaya	4.66	300	P		Pn	04 46 34.7	+2.4
BDR				S		Sn	04 47 26.4	+0.8
BZGR	Bezymyannyi-Gr	4.72	292	P		Pn	04 46 35.2	+2.1
BZGR				S		Sn	04 47 26.3	-0.7
KRSR	Krestovskiy	4.87	295	S		Sn	04 47 31.6	+0.9
TUMR	Tumrok	4.90	283	P		Pn	04 46 36.6	+1.0
TUMR				eS		Sn	04 47 30.9	-0.6
KMNR	Kamenistaya	4.92	289	P		Pn	04 46 36.8	+0.9
KMNR				S		Sn	04 47 29.7	-2.4
SPN	Mys Shipunski	5.21	258	eP		Pn	04 46 39.3	-0.4
SPN				eS		Sn	04 47 34.2	-4.7
KII	Karymskiy	5.32	269	P		Pn	04 46 42.8	+1.4
SRDR	Sredinnyy	5.35	294	P		Pn	04 46 44.2	+2.5
SDLR	Sedlovina	5.81	262	P		Pn	04 46 48.9	+0.8
UGLR	Uglovaya	5.86	262	P		Pn	04 46 50.1	+1.3
KRER	Koryakskii	5.88	263	P		Pn	04 46 50.2	+1.0
GNL	Ganaly	6.26	267	eP		Pn	04 46 56.5	+2.2
RUS	Russkaya	6.30	255	P		Pn	04 46 56.1	+1.4
MTVR	Mutnovka	6.47	257	P		Pn	04 46 59.5	+2.4
MTVR				S		Sn	04 48 08.6	-1.6
PETK	Petropavlovsk-	6.54	263	Pn		Pn	04 46 59.3	+1.3
	0.7nm,0.3s,baz=82,slow=18,SNR=6.7							
PETK				Sn		Sn	04 48 12.5	+0.7
	0.4nm,0.3s,baz=67,slow=20,SNR=3.0							
ASAK	Asacha	6.66	256	P		Pn	04 47 00.4	+0.6
ASAJ	Asahikawa	19.69	249	P		P	04 49 51.9	+1.1
	1.2nm,0.3s,baz=72,slow=20,SNR=2.3							
ILAR	Eielson Array	24.28	47	P		P	04 50 36.0	-2.4
	0.4nm,0.7s,baz=265,slow=8.1,SNR=3.6							
MKAR	Makanchi Array	51.95	299	P		P	04 54 28.7	-1.4
	0.1nm,0.5s,baz=50,slow=8.2,SNR=2.2							
TXAR	Lajitas Array	65.49	74	P		P	04 56 06.5	+2.0
	0.2nm,0.5s,baz=302,slow=7.2,SNR=3.9							

MEX 18 04:48:52.1±0.3, 16°.60N×99°.57W, h16km±999km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.39	315	iP		Pg	04 48 57.2	-2.9
ACX				eS		Sg	04 49 03.3	-2.2
CAIG	El Cayaco	0.81	304	iP		Pb	04 49 05.0	-2.7
CAIG				eS		Sb	04 49 14.8	-3.6
MEIG	Mezcala	1.32	358	iP		Pn	04 49 11.8	-4.3
MEIG				eS		Sn	04 49 28.2	-5.2
PLIG	Platanillo	1.79	2	iP		Pn	04 49 19.1	-3.4
PLIG				eS		Sn	04 49 40.4	-4.5
ARIG	Puente Sto Nin	1.83	336	iP		Pn	04 49 20.1	-2.9
ARIG				eS		Sn	04 49 40.9	-5.0

IDC 18 04:49:53.0±3.2, 1°.53S×99°.58E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.4/23, mbtmp3.4/6, ML2.6/1, Error ellipse: s-maj=133.9km s-min=21.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.35	351		Pn	Pn	04 50 59.5	-1.0
	0.4nm,0.3s,baz=330,slow=23,SNR=2.0							
WRA	Warramunga Arr	38.59	121	P		P	04 57 16.9	-1.2
	0.3nm,0.4s,baz=303,slow=9.0,SNR=6.0							
ASAR	Alice Springs	39.87	126	P		P	04 57 29.9	+1.1
	0.2nm,0.3s,baz=298,slow=7.9,SNR=4.3							
SONM	Songino Array	49.52	6	P		P	04 58 45.4	-0.1
	0.2nm,0.4s,baz=170,slow=7.5,SNR=2.3							
MKAR	Makanchi Array	50.47	345	P		P	04 58 52.1	-0.5
	0.5nm,0.7s,baz=147,slow=7.2,SNR=4.6							
ZALV	Zalesovo Beam	56.63	350	P		P	04 59 37.8	+0.1
	0.7nm,0.7s,baz=163,slow=6.0,SNR=2.7							
TXAR	Lajitas Array	144.58	36	PKP		PKPbc	05 09 31.6	+0.5
	0.3nm,0.5s,baz=219,slow=0.6,SNR=5.4							

*IDC **18** 04:55:57.1±0.9, 61°.62N±0°.03×147°.87W±0°.02, h8km±9km, n99, σ1°.18/122, mb3.7/3, Southern Alaska*
*IDC **18** 04:55:59.7, 61°.64N×147°.90W, h23km, ML3.7(AEIC), After AEIC.*
NEIC Felt at Anchorage, Palmer and Sutton.
ISC 18 04:55:57.5±1.3, 61°.62N±0°.03×147°.87W±0°.02, h8km±9km, n99, σ1°.18/122, mb3.7/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SML	Sawmill	0.29	311	ePg		Pb	04 56 05.8	+0.8
SML				eS		Sb	04 56 11.2	+1.2
SCM	Sheep Creek Mo	0.34	50	P		Pb	04 56 06.5	+0.7
SCM				S		Sb	04 56 13.5	+2.1
PMR	Palmer	0.60	268	ePg		Pg	04 56 09.8	+0.6
PMR				eS		Sb	04 56 18.7	-0.2
GLI	Glacier Island	0.83	153	P		Pb	04 56 14.5	+0.4
JPK	Jack Peak	0.83	132	P		Pb	04 56 14.3	0.0
VLZ	Valdez	0.89	123	P		Pg	04 56 14.7	+0.1
VLZ				S		Sb	04 56 26.9	-0.2
KLU	Klutina	0.94	97	P		Pg	04 56 15.4	-0.2
FID	Port Fidalgo	1.10	142	P		Pb	04 56 18.5	-0.3
DIV	Divide	1.12	115	ePn		Pb	04 56 18.0	-1.2
DIV				eS		Sb	04 56 31.9	-2.1
SUA	Susitna One	1.39	265	P		Pn	04 56 21.9	-1.3
DHY	Denali Highway	1.48	9	P		Pn	04 56 23.4	-1.2
DHY				S		Sn	04 56 41.4	-2.7
EYAK	Cordova Ski Ar	1.49	135	P		Pn	04 56 24.8	+0.3
EYAK				S		Sb	04 56 44.9	+0.5
HARP	HAARP	1.50	57	P		Pn	04 56 24.4	-0.4
HARP				S		Sn	04 56 44.3	-0.3
HUR	Hurricane	1.59	330	P		Pn	04 56 24.6	-1.4
SLKM	Skilak Lake	1.60	227	P		Pn	04 56 25.6	-0.4
BMRM	Bremner River	1.71	111	ePn		Pn	04 56 26.9	-0.6
BMRM				eS		Sg	04 56 52.1	-0.2
SGAM	Sherman Glacie	1.71	130	P		Pn	04 56 27.7	+0.1
PAX	Paxson	1.76	39	ePn		Pn	04 56 27.6	-0.8
PAX				eS		Sn	04 56 49.7	-1.3
SKT	Skwentna	1.78	283	P		Pn	04 56 27.4	-1.0
GOAT	Goat Mountain	1.85	123	P		Pn	04 56 29.3	-0.2
RND	Reindeer	1.85	346	P		Pn	04 56 28.5	-1.1
NKA	Nikishka	1.85	243	P		Pb	04 56 31.0	-0.6
STLK	Strandline Lak	1.90	268	P		Pn	04 56 29.8	-0.4
RAGM	Ragged Mountai	1.99	127	P		Pn	04 56 31.2	-0.2
SPU	Mount Spurr	2.06	260	P		Pn	04 56 31.8	-0.7
TRF	Thorofare Moun	2.15	330	ePn		Pn	04 56 31.9	-1.9
TRF				eS		Sn	04 56 59.2	-1.5
VRDI	Verde Repeater	2.16	99	P		Pn	04 56 33.4	-0.5
MCK	McKinley	2.18	347	ePn		Pn	04 56 33.1	-0.9
MCK				eS		Sn	04 56 59.9	-1.2
CKL	Chakachamna La	2.19	261	P		Pn	04 56 33.4	-0.9
BGL	Barrier Glacie	2.20	263	P		Pn	04 56 34.1	-0.3
MID	Middleton Isla	2.33	160	ePn		Pb	04 56 38.6	-1.0
MID				eS		Sb	04 57 09.2	+0.8
MCARA	McCarthy VSAT	2.34	94	P		Pn	04 56 36.2	0.0
MENT	Mentasta	2.35	54	ePn		Pn	04 56 36.4	0.0
MENT				eS		Sn	04 57 06.7	+1.3
NICHA	Nichawak Mount	2.36	124	P		Pn	04 56 36.0	-0.5
PPLA	Purkeypile	2.39	304	ePn		Pn	04 56 36.0	-1.1
PPLA				eS		Sn	04 57 06.3	-0.3
KTH	Kantishna Hill	2.40	325	P		Pn	04 56 36.2	-0.9
RDT	Redoubt	2.44	247	P		Pn	04 56 37.0	-0.7
DFR	Drift River	2.56	248	P		Pn	04 56 38.5	-0.7
GRIN	Grindle Hills	2.59	119	P		Pn	04 56 40.9	+1.1
PTPK	Patty Peak	2.63	97	P		Pn	04 56 40.2	-0.3
RSO	Redoubt South	2.65	246	ePn		Pn	04 56 39.7	-0.9
RDWB	Redoubt West	2.67	247	P		Pn	04 56 40.0	-0.9
NCT	North Crescent	2.68	249	P		Pn	04 56 40.4	-0.6
BALM	Baldy	2.73	100	P		Pn	04 56 41.2	-0.4
KIAG	Kiagna River	2.75	102	P		Pn	04 56 41.4	-0.7
HDA	Harding Lake	2.83	8	P		Pn	04 56 42.6	-0.3
WRH	Wood River Hil	2.87	358	P		Pn	04 56 42.3	-1.1
ISLE	Juniper Island	2.87	108	P		Pn	04 56 43.4	-0.3
BARK	Barkley Ridge	2.89	113	P		Pn	04 56 43.7	-0.1
ILIM	Iliamna	2.93	240	P		Pn	04 56 44.0	-0.4
SCRK	Sand Creek	2.96	35	P		Pn	04 56 43.9	-1.0
NEA	Nenana	3.02	350	P		Pn	04 56 44.4	-1.2
BAGL	Bagley Icefiel	3.03	109	P		Pn	04 56 45.8	+0.1
CCB	Clear Creek Bu	3.04	1	P		Pn	04 56 44.6	-1.2
BARN	Barnard Glacie	3.04	98	P		Pn	04 56 46.5	+0.4
GRNC	Granite Creek	3.09	104	P		Pn	04 56 46.3	-0.4
ILAR	Eielson Array	3.20	8	Pn		Pn	04 56 46.8	-1.2
ILAR				Sn		Sn	04 57 24.8	-1.4
ILAR	Eielson Array	3.20	8	Pn		Pn	04 56 46.8	-1.2
	14nm,0.3s,baz=186,slow=14,SNR=209							
ILAR				Sn		Sn	04 57 24.8	-1.4
	40nm,0.3s,baz=189,slow=23,SNR=25							
YAH	Yahtse	3.24	110	P		Pn	04 56 49.0	+0.2
COLA	College	3.27	0	ePn		Pn	04 56 47.8	-1.1
COLA				eS		Sn	04 57 27.2	-0.7
OPT	Oil Point	3.30	236	P		Pn	04 56 49.8	+0.4
MDM	Murphy Dome	3.36	357	P		Pn	04 56 49.1	-1.1
GLM	Gilmore Dome	3.39	3	P		Pn	04 56 50.4	-0.3
TABL	Table Mountain	3.48	107	P		Pn	04 56 52.9	+0.8
AUW	Augustine West	3.57	233	P		Pn	04 56 53.6	+0.5
MLY	Manley	3.66	341	P		Pn	04 56 53.0	-1.4
SVW2	Sparrevohn	3.75	265	P		Pn	04 56 53.9	-1.7
EGAK	Eagle	4.39	41	P		Pn	04 57 04.0	-0.4
KAPH	Katmai Pasha	4.44	230	P		Pn	04 57 05.0	0.0
KDAK	Kodiak Island	4.53	214	ePn		Pn	04 57 04.9	-1.3
KDAK				Sn		Sn	04 57 55.6	-3.4
KDAK				Lg		Lg	04 58 17.3	
KDAK	Kodiak Island	4.53	214	Pn		Pn	04 57 05.2	-1.1
	6.9nm,0.3s,baz=34,slow=11,SNR=103							
KDAK				Sn		Sn	04 57 55.6	-3.4
	6.1nm,0.3s,baz=304,slow=23,SNR=8.3							
KDAK				Lg		Lg	04 58 17.3	
	baz=324,slow=19,SNR=2.9							
DAWY	Dawson	4.60	54	P		Pn	04 57 07.2	-0.1
PNL	Peninsula	4.61	111	P		Pn	04 57 08.1	+0.8
KAKN	Katmai Knife C	4.92	231	P		Pn	04 57 10.6	-1.1
KABR	Katmai Barrier	5.00	229	P		Pn	04 57 11.8	-1.1
HYT	Haines Junctio	5.07	94	ePn		Pb	04 57 23.2	-3.3
HYT				eS		Sb	04 58 20.3	-7.2
KELA	Mount Kelaz	5.07	235	P		Pn	04 57 13.2	-0.6
GCSA	Galena City Sc	5.15	311	P		Pn	04 57 14.4	-0.2
IMA2	Indian Mountai	5.15	333	P		Pn	04 57 13.7	-1.3
CAHL	Cahill	5.18	230	P		Pn	04 57 14.5	-0.8
OHAK	Old Harbor	5.20	214	P		Pn	04 57 14.0	-1.5
KJL	Kejulik	5.28	231	P		Pn	04 57 16.4	-0.3
COLD	Coldfoot	5.72	351	P		Pn	04 57 21.7	-1.0
WHY	Whitehorse	6.36	93	P		Pn	04 57 31.3	-0.2
SKAG	Skagway	6.55	104	ePn		Pn	04 57 33.8	-0.3
CHGN	Chignik	7.62	230	ePn		Pn	04 57 47.7	-1.0
CHGN				eS		Sn	04 59 16.4	+1.4
INK	Inuvik	9.03	36	ePn		Pn	04 58 07.9	-0.1
	2.8nm,0.4s							
INK				eS		Sn	04 59 45.7	-4.0
INK	Inuvik	9.03	36	Pn		Pn	04 58 08.1	+0.1
	0.9nm,0.3s,baz=219,slow=19,SNR=37							
INK				Sn		Sn	04 59 45.9	-3.8
	0.3nm,0.3s,baz=291,slow=17,SNR=2.2							
DLBC	Dease Lake	9.47	102	ePn		Pn	04 58 13.7	-0.4
DLBC	Dease Lake	9.47	102	Pn		Pn	04 58 13.6	-0.6
	0.5nm,0.3s,baz=294,slow=20,SNR=8.5							
TNA	Tin City	9.75	303	ePn		Pn	04 58 18.4	+0.6
TNA				eS		Sn	05 00

mb4.0/14, MS3.3/1, Error ellipse: s-maj=13.1km s-min=10.9km az=7.5
NEIC ***18*** *05:08:19.0±0.5, 6°.53S×154°.32E, h35km, mb4.1/2, Error ellipse: s-maj=12.5km s-min=10.9km az=86.0*
ISC 18 05:08:19.9±0.6, 6°.59S±0°.10×154°.5E±0°.1, h48km, n39, σ0§64/36, mb4.0/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.12**	**118**	*e*P	Pn	05 09 51.6	+3.7
	23nm,0.8s						
HNR	**Honiara**	**6.12**	**118**	LR	LR	05 11 06.0	
	comp=Z,64nm,19.8s,baz=127,slow=28						
CTA	**Charters Tower**	**15.60**	**210**	Pn	**P**	**05 12 00.0**	**-0.2**
CTA	**Charters Tower**	**15.60**	**210**	Pn	**P**	**05 12 00.0**	**-0.2**
	0.3nm,0.3s,baz=41,slow=14,SNR=11						
CTAO	**Charters Tower**	**15.60**	**210**	*e*P	**Pn**	**05 11 57.8**	**+1.1**
	7.3nm,0.8s						
DZM	**Mont Dzumac**	**19.25**	**144**	P	**P**	**05 12 40.3**	**-0.3**
DZM	**Mont Dzumac**	**19.25**	**144**	P	**P**	**05 12 40.3**	**-0.3**
	0.2nm,0.3s,baz=3.3,slow=12,SNR=4.3						
WRAB	**Tennant Creek**	**23.60**	**234**	*e*P	**P**	**05 13 26.2**	**-0.5**
	13nm,1.3s						
WRA	**Warramunga Arr**	**23.61**	**234**	P	**P**	**05 13 26.5**	**-0.3**
WRA				PcP	**PcP**	**05 17 11.9**	**+1.1**
WRA	**Warramunga Arr**	**23.61**	**234**	P	**P**	**05 13 26.5**	**-0.3**
	2.7nm,0.4s,baz=56,slow=9.6,SNR=22						
WRA				PcP	**PcP**	**05 17 11.9**	**+1.1**
	0.3nm,0.5s,baz=63,slow=2.4,SNR=5.0						
ASAR	**Alice Springs**	**26.05**	**227**	P	**P**	**05 13 48.8**	**-0.2**
ASAR	**Alice Springs**	**26.05**	**227**	P	**P**	**05 13 48.8**	**-0.2**
	0.7nm,0.4s,baz=58,slow=9.4,SNR=6.8						
STKA	**Stephens Creek**	**27.88**	**204**	P	**P**	**05 14 04.1**	**-1.2**
STKA	**Stephens Creek**	**27.88**	**204**	P	**P**	**05 14 04.1**	**-1.2**
	1.7nm,0.4s,baz=40,slow=14,SNR=8.3						
STKA				LR	LR	05 25 42.5	
	comp=Z,81nm,19.5s,baz=26,slow=38						
FITZ	**Fitzroy Crossi**	**30.34**	**245**	P	**P**	**05 14 26.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.34**	**245**	P	**P**	**05 14 26.8**	**-0.4**
	4.4nm,0.8s,baz=94,slow=7.5,SNR=9.4						
SBUM	**Sibu**	**43.11**	**281**	P	P	05 16 11.0	-4.9
KSRS	**Korea Array**	**50.34**	**332**	P	**P**	**05 17 11.8**	**-0.3**
	0.5nm,0.3s,baz=148,slow=8.0,SNR=4.4						
KSAR	**Wonju Array Be**	**50.34**	**332**	P	**P**	**05 17 11.8**	**-0.4**
PETK	**Petropavlovsk-**	**59.53**	**2**	P	P	05 18 21.8	+3.5
PETK	**Petropavlovsk-**	**59.53**	**2**	P	P	05 18 21.8	+3.5
	3.4nm,0.9s,baz=178,slow=4.5,SNR=4.9						
ULN	**Ulaanbaatar**	**68.38**	**328**	*e*P	**P**	**05 19 15.8**	**-0.9**
SONM	**Songino Array**	**68.71**	**327**	P	**P**	**05 19 19.8**	**+1.0**
SONM	**Songino Array**	**68.71**	**327**	P	**P**	**05 19 19.8**	**+1.0**
	0.2nm,0.3s,baz=124,slow=4.1,SNR=3.0						
MK31	**Makanchi Array**	**82.75**	**319**	*e*P	**P**	**05 20 39.6**	**+0.7**
MKAR	**Makanchi Array**	**82.75**	**319**	P	**P**	**05 20 38.9**	**0.0**
MKAR	**Makanchi Array**	**82.75**	**319**	P	**P**	**05 20 38.9**	**0.0**
	1.3nm,0.7s,baz=104,slow=5.0,SNR=11						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**05 20 40.0**	**-0.7**
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**05 20 40.0**	**-0.7**
	0.2nm,0.6s,baz=247,slow=5.8,SNR=2.5						
QSPA	**South Pole Qui**	**83.38**	**180**	P	**P**	**05 20 41.9**	**0.0**
QSPA	**South Pole Qui**	**83.38**	**180**	P	**P**	**05 20 41.9**	**0.0**
	1.5nm,1.0s,baz=308,slow=6.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**83.55**	**326**	P	**P**	**05 20 42.4**	**-0.3**
ZALV	**Zalesovo Beam**	**83.55**	**326**	P	**P**	**05 20 42.4**	**-0.3**
	0.5nm,0.4s,baz=104,slow=5.4,SNR=3.6						
MAW	**Mawson**	**84.56**	**203**	P	**P**	**05 20 48.4**	**+0.7**
MAW	**Mawson**	**84.56**	**203**	P	**P**	**05 20 48.4**	**+0.7**
	1.2nm,0.9s,baz=68,slow=5.4,SNR=5.5						
NVAR	**Mina Array Bea**	**91.89**	**52**	P	**P**	**05 21 24.1**	**+0.4**
NVAR	**Mina Array Bea**	**91.89**	**52**	P	**P**	**05 21 24.1**	**+0.4**
	1.2nm,0.9s,baz=250,slow=6.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**152.41**	**286**	PKPbc	**PKPbc**	**05 28 11.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**152.41**	**286**	PKPbc	**PKPbc**	**05 28 11.9**	**+0.1**
	3.2nm,0.8s,baz=54,slow=2.4,SNR=12						

IGQ 18 05:11:54.6, 2°.78S×77°.94W, h9km±162km, Mb4.0, Ms3.8, 6C-20D, Error ellipse: s-maj=3.8km s-min=1.6km az=2.9, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.58**	**334**	⇓S	Sb	05 12 16.3	+0.5
MACE	**Macas**	**0.58**	**334**	⇓P	Pb	05 12 07.3	+0.1
RIOE	**Riobamba**	**1.23**	**326**	⇓S	Sb	05 12 34.6	-0.2
RIOE	**Riobamba**	**1.23**	**326**	⇓P	Pn	05 12 18.1	-0.3
PAT1	**Patacocha**	**1.36**	**339**	⇓P	Pn	05 12 20.2	-0.2
BPAT	**Tungurahua Vol**	**1.36**	**339**	⇓S	Sb	05 12 38.5	-0.3
BPAT	**Tungurahua Vol**	**1.36**	**339**	⇓P	Pn	05 12 20.2	-0.2
ARRY	**Arrayan**	**1.36**	**338**	⇓P	Pn	05 12 20.0	-0.4
BMAS	**Trigal station**	**1.38**	**337**	⇓S	Sn	05 12 39.2	+0.1
BMAS	**Trigal station**	**1.38**	**337**	⇓P	Pn	05 12 20.4	-0.1
ULBA	**Ulba**	**1.40**	**341**	⇑P	Pb	05 12 21.2	-0.3
BULB	**Ulba Tungurahu**	**1.41**	**341**	⇓S	Sn	05 12 39.8	-0.3
BULB	**Ulba Tungurahu**	**1.41**	**341**	⇓P	Pn	05 12 21.1	0.0
RETU	**Refugio**	**1.41**	**339**	⇑S	Sg	05 12 41.5	+0.2
RETU	**Refugio**	**1.41**	**339**	⇑P	Pn	05 12 21.3	+0.1
BRUN	**Tungurahua Vol**	**1.43**	**341**	⇓S	Sg	05 12 41.8	+0.4
BRUN	**Tungurahua Vol**	**1.43**	**341**	⇓P	Pn	05 12 21.4	+0.3
BIL2	**Estacion Bilba**	**1.43**	**337**	S	Sg	05 12 41.7	+0.3
BIL2	**Estacion Bilba**	**1.43**	**337**	P	Pb	05 12 21.9	0.0
RUN5	**Runtun**	**1.44**	**340**	S	Sg	05 12 41.8	0.0
RUN5	**Runtun**	**1.44**	**340**	P	Pn	05 12 21.5	+0.2
JUI6	**Juive**	**1.45**	**339**	⇓P	Pn	05 12 21.5	+0.1
JUI6	**Juive**	**1.45**	**339**	⇓S	Sn	05 12 40.6	-0.1
IGUA	**Igualata**	**1.46**	**331**	⇓S	Sg	05 12 43.1	+0.2
IGUA	**Igualata**	**1.46**	**331**	⇓P	Pb	05 12 22.8	+0.1
PISA	**Pisayambo**	**1.77**	**345**	⇓S	Sb	05 12 50.8	+0.2
PISA	**Pisayambo**	**1.77**	**345**	⇓P	Pb	05 12 27.4	-0.5
BMOR	**Cotopaxi Volca**	**2.10**	**346**	P	Pb	05 12 33.6	-0.1
TAMB	**Tambo**	**2.12**	**348**	P	Pb	05 12 33.1	-0.7
TAMB	**Tambo**	**2.12**	**348**	S	Sg	05 13 02.8	-1.1
BTAM	**Cotopaxi Volca**	**2.14**	**348**	S	Sg	05 13 04.1	-0.6
BTAM	**Cotopaxi Volca**	**2.14**	**348**	P	Pb	05 12 33.6	-0.6
COV1	**Cotopaxi Volc**	**2.14**	**349**	S	Sg	05 13 04.5	-0.4
COV1	**Cotopaxi Volc**	**2.14**	**349**	P	Pb	05 12 35.4	+0.9
BREF	**Cotopaxi Volca**	**2.15**	**347**	S	Sg	05 13 04.0	-1.3
BREF	**Cotopaxi Volca**	**2.15**	**347**	P	Pb	05 12 35.2	+0.6
BNAS	**Cotopaxi Volca**	**2.16**	**346**	⇑P	Pb	05 12 34.4	-0.2
CAMI	**Rancho Maria**	**2.16**	**345**	P	Pb	05 12 34.5	0.0
VC1	**Cotopaxi 1**	**2.17**	**348**	P	Pb	05 12 34.6	-0.2
NAS2	**Nasa**	**2.18**	**346**	P	Pb	05 12 35.1	+0.1
ARNL	**Arenillas**	**2.26**	**250**	P	Pn	05 12 33.7	+1.6
ARNL	**Arenillas**	**2.26**	**250**	S	Sb	05 13 04.8	+1.2
PITA	**Cotopaxi Volc**	**2.26**	**347**	S	Sg	05 13 07.8	-0.6
PITA	**Cotopaxi Volc**	**2.26**	**347**	P	Pb	05 12 36.0	-0.2
ANTI	**Antisana**	**2.33**	**355**	⇑S	Sb	05 13 06.5	-0.4
ANTI	**Antisana**	**2.33**	**355**	⇑P	Pb	05 12 35.9	-1.6
JUA2	**San Juan 2**	**2.63**	**345**	P	Pb	05 12 43.0	+0.4
GGP	**Refugio Guagua**	**2.67**	**346**	P	Pb	05 12 43.3	-0.1
LAV4	**Lava4-Reventad**	**2.69**	**7**	P	Pb	05 12 44.2	+1.0
CHAR	**Charly**	**2.69**	**6**	P	Pg	05 12 46.0	-0.8
PINO	**Pino**	**2.69**	**346**	P	Pb	05 12 45.0	+1.3
CONE	**Cono NE Rev Vo**	**2.71**	**6**	S	Sb	05 13 19.8	+2.5
CONE	**Cono NE Rev Vo**	**2.71**	**6**	P	Pb	05 12 43.5	-0.2
CAYR	**Refugio Cayamb**	**2.78**	**359**	P	Pg	05 12 47.5	-1.3
CAYA	**Cayambe**	**2.83**	**359**	P	Pb	05 12 46.3	+0.2
OTAV	**Otavalo**	**3.04**	**350**	P	Pb	05 12 50.7	+1.2
MAG1	**Magdalena**	**3.25**	**326**	P	Pn	05 12 48.8	+2.9

NEIC ***18*** *05:13:06.2±0.2, 1°.57S×99°.41E, h10km, mb4.5/7, Error ellipse: s-maj=8.1km s-min=4.9km az=64.0*
ISCJB ***18*** *05:13:07.4±0.3, 1°.55S±0°.04×99°.29E±0°.04, h30km, mb4.4/27, Error ellipse: s-maj=6.5km s-min=4.4km az=143.4*
DJA ***18*** *05:13:10.9±0.4, 1°.5±3°.×10°0E±°, h10km, M4.7/5, mb4.8/4, mB4.8/3, MLv4.8/5, Mw(mB)4.1/3*
IDC ***18*** *05:13:10.4±3.2, 1°.50S×99°.47E, h37km±26km, mb4.1/23, mb1 4.2/25, mb1mx4.1/33, mbtmp4.1/25, ML4.0/2, MS3.4/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=18.1km s-min=10.7km az=46.0*
AUST ***18*** *05:13:12.9±1.7, 1°.45S×99°.50E, h52km, Error ellipse: s-maj=2.6km s-min=1.1km az=245.0*
BKK ***18*** *05:13:23.6±1.9, 1°.5±17°.×10°0E±1°0, h10km, M4.4/8, mB4.7/1, mb4.3/8, MLv4.5/4, Mw(mB)3.9/1*
ISC 18 05:13:09.7±0.4, 1°.52S±0°.05×99°.38E±0°.06, h30km, n118, σ1§29/113, mb4.5/27, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.23**	**61**	P	**Pn**	**05 13 29.6**	**-1.4**
PDSI				S	Sn	05 13 39.0	-7.7
PPI	**Padang Panjang**	**1.46**	**44**	P	**Pn**	**05 13 33.0**	**-1.1**
PPI	**Padang Panjang**	**1.46**	**44**	P	**Pn**	**05 13 35.0**	**+1.0**
	baz=1.3,SNR=4.1						
PPI				S	**Sb**	**05 13 55.6**	**+1.1**
	baz=1.3,SNR=3.9						
SDSI	**Sungai Dareh**	**2.13**	**74**	P	**Pn**	**05 13 43.2**	**0.0**
BKNI	**Bangkinang**	**2.47**	**42**	P	**Pn**	**05 13 49.6**	**+1.6**
BKNI	**Bangkinang**	**2.47**	**42**	P	**Pn**	**05 13 48.2**	**+0.3**
	baz=2.4,SNR=5.9						
MASI	**Maura Aman, Be**	**3.28**	**120**	P	Pn	05 14 02.4	+3.3
KSI	**Kapahiang**	**3.84**	**124**	P	**Pn**	**05 14 08.7**	**+1.8**
PSI	**Prapat**	**4.31**	**354**	Pn	**Pn**	**05 14 10.5**	**-3.0**
PSI	**Prapat**	**4.31**	**354**	Pn	**Pn**	**05 14 10.5**	**-3.0**
	3.9nm,0.3s,baz=179,slow=10,SNR=9.0						
PSI				LR	LR	05 16 07.2	
	comp=Z,407nm,20.3s,baz=173,slow=42						
PSI	**Prapat**	**4.31**	**354**	P	**Pn**	**05 14 14.7**	**+1.3**
	baz=4.2,SNR=3.3						
MNAI	**Manna**	**4.55**	**128**	P	**Pn**	**05 14 19.1**	**+2.5**
MNAI	**Manna**	**4.55**	**128**	P	**Pn**	**05 14 19.0**	**+2.4**
	baz=4.5,SNR=12						
MNAI				S	**Sn**	**05 15 09.0**	**+0.4**
	baz=4.5,SNR=4.6						
EGSI	**Enggano, Bengk**	**4.78**	**143**	P	**Pn**	**05 14 19.4**	**-0.4**
TSI	**Tuntungan**	**5.05**	**351**	P	Pb	05 14 43.3	+5.9
FRIM	**Kepong**	**5.23**	**25**	P	**Pn**	**05 14 26.1**	**+0.2**
KCSI	**Kotacane, Aceh**	**5.26**	**342**	P	**Pn**	**05 14 29.4**	**+3.0**
KGM	**Kluang**	**5.27**	**48**	P	**Pn**	**05 14 29.2**	**+2.7**
MYKOM	**Kota Tinggi**	**5.54**	**54**	P	**Pn**	**05 14 32.6**	**+2.3**
MYKOM	**Kota Tinggi**	**5.54**	**54**	P	**Pn**	**05 14 29.6**	**-0.7**
	40nm,0.9s,634nm						
LWLI	**Liwa**	**5.82**	**127**	P	**Pn**	**05 14 35.7**	**+1.5**
	306nm,0.7s						
IPM	**Ipoh**	**6.18**	**15**	*e*Pn	**Pn**	**05 14 40.3**	**+1.3**
	46nm,0.6s						
IPM	**Ipoh**	**6.18**	**15**	P	**Pn**	**05 14 40.5**	**+1.5**
IPM	**Ipoh**	**6.18**	**15**	P	**Pn**	**05 14 40.0**	**+1.0**
	79nm,0.9s,685nm						
KLSI		**6.20**	**121**	P	**Pn**	**05 14 41.4**	**+2.1**
KASI	**Kota Agung**	**6.47**	**128**	P	**Pn**	**05 14 44.6**	**+1.6**
KULM	**Kulim**	**6.88**	**11**	*e*Pn	**Pn**	**05 14 48.6**	**0.0**
	34nm,0.8s						
KULM	**Kulim**	**6.88**	**11**	P	**Pn**	**05 14 49.2**	**+0.6**
KULM	**Kulim**	**6.88**	**11**	P	**Pn**	**05 14 48.9**	**+0.3**
KTGM	**Kuala Trenggan**	**7.76**	**29**	P	**Pn**	**05 15 01.6**	**+0.8**
KSM	**Kuching**	**11.32**	**75**	P	**Pn**	**05 15 50.0**	**+0.4**
PBKT	**Sadao Pong**	**18.04**	**5**	P	P	05 17 28.6	+10
PBKT	**Sadao Pong**	**18.04**	**5**	P	P	05 17 28.6	+10
	5.6nm,0.8s						
KKM	**Kota Kinabalu**	**18.41**	**66**	P	**Pn**	**05 17 26.0**	**+3.0**
SDKM	**Sandakan**	**19.16**	**68**	P	**Pn**	**05 17 34.1**	**+2.1**
KDM	**Kudat**	**19.32**	**64**	P	**Pn**	**05 17 37.3**	**+3.4**
CM31	**Chiang Mai Arr**	**19.85**	**359**	*e*P	**P**	**05 17 38.2**	**-0.3**
	4.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.85**	**359**	P	**P**	**05 17 38.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.85**	**359**	P	**P**	**05 17 38.0**	**-0.4**
	0.3nm,0.3s,baz=186,slow=9.8,SNR=5.9						
CMAR				LR	LR	05 25 53.8	
	comp=Z,134nm,19.1s,baz=190,slow=38						
LAMP	**Lampang**	**19.92**	**1**	P	**Pn**	**05 17 45.2**	**+4.3**
	9.0nm,0.9s						
CMMT	**Chiang Mai**	**20.21**	**359**	P	Pn	05 17 46.8	+2.4
CMMT	**Chiang Mai**	**20.21**	**359**	P	Pn	05 17 47.9	+3.5
	9.6nm,1.1s						
CHTO	**Chiang Mai**	**20.21**	**359**	*e*P	**P**	**05 17 42.0**	**-0.3**
	6.3nm,0.8s						
CHTO	**Chiang Mai**	**20.21**	**359**	P	Pn	05 17 47.1	+2.7
CHTO	**Chiang Mai**	**20.21**	**359**	P	Pn	05 17 48.4	+4.0
	8.5nm,0.9s						
MYLDM	**Lahad Datu**	**20.22**	**71**	P	Pn	05 17 46.6	+2.0
MYLDM	**Lahad Datu**	**20.22**	**71**	P	Pn	05 17 52.7	+8.1
KAPI	**Kappang**	**20.63**	**100**	P	**P**	**05 17 45.2**	**-1.7**
KAPI	**Kappang**	**20.63**	**100**	P	**P**	**05 17 45.2**	**-1.7**
	5.8nm,0.7s,baz=270,slow=15,SNR=1.7						
PAYA	**Payao**	**20.75**	**1**	P	Pn	05 18 06.0	+15
BKSI	**Bulukumba**	**21.04**	**101**	P	**P**	**05 17 51.5**	**+0.1**
CMAI	**Chiengmai2**	**21.32**	**359**	P	P	05 18 00.1	+5.6
WSI	**Waingapu**	**22.32**	**112**	S	S	05 21 59.4	-10
	baz=22,SNR=4.1						
GTOI	**Gorontalo**	**23.72**	**85**	P	**P**	**05 18 18.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**05 19 19.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**05 19 19.3**	**-1.9**
	4.3nm,0.9s,baz=260,slow=5.8,SNR=6.1						
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**05 19 20.6**	**-0.6**
	baz=31,SNR=4.9						
LSA	**Lhasa**	**32.02**	**346**	*e*P	**P**	**05 19 34.0**	**-0.2**
	9.2nm,0.8s						
TLE	**Tual**	**33.53**	**98**	P	**P**	**05 19 47.5**	**+0.3**
	baz=33,SNR=3.8						
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**05 20 30.9**	**-1.0**
WRA				PcP	**PcP**	**05 22 43.2**	**0.0**
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**05 20 30.9**	**-1.0**
	4.9nm,0.6s,baz=302,slow=9.1,SNR=33						
WRA				PcP	**PcP**	**05 22 43.2**	**0.0**
	0.7nm,0.7s,baz=312,slow=2.5,SNR=4.6						
WRAB	**Tennant Creek**	**38.77**	**121**	*e*P	**P**	**05 20 30.3**	**-1.7**
	4.1nm,0.6s						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**05 20 42.2**	**-0.2**
ASAR				PcP	**PcP**	**05 22 47.1**	**-0.1**
ASAR				S	**S**	**05 26 44.1**	**-2.6**
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**05 20 42.2**	**-0.2**
	1.5nm,0.7s,baz=299,slow=7.7,SNR=11						
ASAR				PcP	**PcP**	**05 22 47.1**	**-0.1**
	1.2nm,1.0s,baz=295,slow=2.5,SNR=5.1						
ASAR				S	**S**	**05 26 44.1**	**-2.6**
	0.5nm,0.8s,baz=298,slow=14,SNR=4.1						
JNU	**Nakatsue**	**45.49**	**38**	P	**P**	**05 21 26.1**	**-0.4**
JNU	**Nakatsue**	**45.49**	**38**	P	**P**	**05 21 26.1**	**-0.4**
	3.2nm,0.6s,baz=188,slow=9.5,SNR=3.4						
KSAR	**Wonju Array Be**	**46.90**	**31**	P	**P**	**05 21 36.7**	**-0.8**
KSRS	**Korea Array**	**46.93**	**31**	P	**P**	**05 21 36.7**	**-1.0**
	1.3nm,0.6s,baz=220,slow=8.7,SNR=5.6						
TKM2	**Tokmak 2**	**49.15**	**337**	*e*P	**P**	**05 21 55.6**	**+0.5**
	4.3nm,0.6s						
CTA	**Charters Tower**	**49.36**	**115**	P	**P**	**05 21 56.1**	**-0.7**
CTA	**Charters Tower**	**49.36**	**115**	P	**P**	**05 21 56.1**	**-0.7**
	1.5nm,0.4s,baz=248,slow=5.4,SNR=3.4						
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**05 21 57.5**	**-0.3**
SONM				PcP	**PcP**	**05 23 19.4**	**+0.1**
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**05 21 57.5**	**-0.3**
	1.4nm,0.7s,baz=192,slow=9.0,SNR=8.3						
SONM				PcP	**PcP**	**05 23 19.5**	**+0.1**
	1.1nm,0.6s,baz=180,slow=4.1,SNR=3.4						
EKS2	**Erkin-Say**	**49.67**	**335**	*e*P	**P**	**05 21 59.4**	**+0.5**
	7.7nm,0.7s						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**05 22 00.2**	**-0.8**
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**05 22 00.2**	**-0.8**
	4.7nm,0.7s,baz=310,slow=7.9,SNR=8.8						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**05 22 01.6**	**+0.6**
	baz=50,SNR=6.0						
MK31	**Makanchi Array**	**50.40**	**345**	*e*P	**P**	**05 22 04.5**	**+0.1**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**05 22 04.5**	**+0.1**
MKAR	**Makanchi Array**	**50.40**	**345**	P	**P**	**05 22 04.5**	**+0.1**
	4.1nm,0.6s,baz=148,slow=8.1,SNR=29						
CMSA	**Cobar Meteorol**	**52.89**	**129**	P	**P**	**05 22 24.2**	**+1.0**
	baz=53,SNR=6.5						
USRK	**Ussuriysk Arra**	**54.03**	**29**	P	**P**	**05 22 29.3**	**-2.0**
	1.5nm,0.5s,baz=255,slow=2.5,SNR=5.3						
ZAA0	**Zalesovo Array**	**56.59**	**350**	*e*P	**P**	**05 22 48.9**	**-0.6**
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	**P**	**05 22 49.2**	**-0.3**
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	**P**	**05 22 49.2**	**-0.3**
	5.0nm,0.5s,baz=184,slow=5.9,SNR=23						
ATD	**Arta Tunnel**	**57.65**	**285**	P	**P**	**05 22 58.2**	**+0.3**
ATD	**Arta Tunnel**	**57.65**	**285**	P	**P**	**05 22 58.2**	**+0.3**
	5.9nm,0.3s,baz=156,slow=20,SNR=3.7						
ASAJ	**Asahikawa**	**59.57**	**35**	P	**P**	**05 23 11.4**	**+0.8**
ASAJ	**Asahikawa**	**59.57**	**35**	P	**P**	**05 23 11.4**	**+0.8**
	2.0nm,0.3s,baz=337,slow=13,SNR=2.1						
ABKAR	**Akbulak array**	**60.92**	**332**	*e*P	**P**	**05 23 18.4**	**-1.4**
	3.3nm,0.8s						
KMBO	**Kilima Mbogo**	**62.11**	**270**	P	**P**	**05 23 29.8**	**+0.9**
KMBO	**Kilima Mbogo**	**62.11**	**270**	P	**P**	**05 23 29.8**	**+0.9**
	1.1nm,0.4s,baz=206,slow=21,SNR=5.1						
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**05 24 02.9**	**-0.4**
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**05 24 02.9**	**-0.4**
	3.2nm,0.8s,baz=139,slow=2.6,SNR=8.0						
EIL	**Elat**	**68.74**	**303**	P	**P**	**05 24 10.8**	**-0.4**
EIL	**Elat**	**68.74**	**303**	P	**P**	**05 24 10.8**	**-0.4**
	5.3nm,0.7s,baz=102,slow=10,SNR=3.8						
MAW	**Mawson**	**70.60**	**194**	P	**P**	**05 24 20.8**	**-1.0**
MAW	**Mawson**	**70.60**	**194**	P	**P**	**05 24 20.8**	**-1.0**
	1.6nm,0.8s,baz=26,slow=11,SNR=4.6						
BRTR	**Keskin Array B**	**72.54**	**313**	P	**P**	**05 24 33.0**	**-1.3**
BRTR	**Keskin Array B**	**72.54**	**313**	P	**P**	**05 24 33.0**	**-1.3**
	1.1nm,0.8s,baz=120,slow=7.3,SNR=5.1						
FINES	**FINESS Array B**	**83.40**	**332**	P	**P**	**05 25 33.5**	**-0.4**
FINES	**FINESS Array B**	**83.40**	**332**	P	**P**	**05 25 33.5**	**-0.4**
	2.1nm,0.6s,baz=104,slow=6.1,SNR=8.5						
ARCES	**ARCESS Array B**	**85.81**	**340**	P	**P**	**05 25 45.9**	**-0.1**
ARCES	**ARCESS Array B**	**85.81**	**340**	P	**P**	**05 25 45.9**	**-0.1**
	2.8nm,0.8s,baz=106,slow=6.7,SNR=2.9						
GERES	**GERESS Array B**	**88.28**	**319**	P	**P**	**05 25 57.7**	**-0.8**
GERES	**GERESS Array B**	**88.28**	**319**	P	**P**	**05 25 57.7**	**-0.8**
	0.3nm,0.4s,baz=122,slow=2.0,SNR=4.9						
QSPA	**South Pole Qui**	**88.44**	**180**	P	**P**	**05 25 59.9**	**+1.0**
QSPA	**South Pole Qui**	**88.44**	**180**	P	**P**	**05 25 59.9**	**+1.0**
	1.3nm,0.6s,baz=278,slow=2.6,SNR=18						
PDAR	**Pinedale Array**	**131.45**	**28**	PKP	**PKPdf**	**05 32 19.9**	**-0.1**
PDAR	**Pinedale Array**	**131.45**	**28**	PKP	**PKPdf**	**05 32 19.9**	**-0.1**
	0.3nm,0.7s,baz=45,slow=1.4,SNR=3.1						
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	PKPbc	05 32 43.7	+0.4
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	PKPbc	05 32 43.7	+0.4
	3.7nm,0.6s,baz=270,slow=1.3,SNR=56						
WVT	**Waverly**	**144.92**	**10**	*e*PKPdf	**PKPab**	**05 32 43.0**	**-0.6**
MIAR	**Mount Ida**	**144.99**	**19**	*e*PKPdf	**PKPab**	**05 32 43.5**	**-0.3**
TZTN	**Tazewell**	**145.04**	**4**	*e*PKPbc	**PKPbc**	**05 32 43.0**	**-1.1**
TKL	**Tuckaleechee C**	**145.91**	**5**	*e*PKPdf	**PKPdf**	**05 32 45.9**	**-0.4**
JCT	**Junction City**	**145.93**	**30**	*e*PKPdf	**PKPdf**	**05 32 46.7**	**+0.3**
KMSC	**Kings Mountain**	**146.54**	**1**	*e*PKPdf	**PKPdf**	**05 32 47.8**	**+0.5**

MOS ***18*** *05:24:13.4±1.8, 50°.84N×158°.47E, h44km, mb4.0/4, Error ellipse: s-maj=17.2km s-min=8.0km az=76.9*
ISCJB ***18*** *05:24:15.3±0.8, 50°.93N±0°.05×158°.50E±0°.07, h58km±9km, mb3.7/7, Error ellipse: s-maj=9.9km s-min=5.3km az=138.2*
KRSC ***18*** *05:24:16.5±0.6, 51°.06N×158°.58E, h44km±43km, ML4.4*
IDC ***18*** *05:24:19.7±3.3, 51°.17N×158°.05E, h78km±31km, mb3.3/8, mb1 3.7/9, mb1mx3.4/27, mbtmp3.4/9, Error ellipse: s-maj=39.3km s-min

	baz=7.3,SNR=3.1					
PMG	**Port Moresby**	**7.02 234**	*e*Pn	**Pn**	**05 32 24.8**	**-3.1**
	53nm,0.8s					
PMG			Sn	**Sn**	**05 33 47.7**	**+1.2**
PMG	**Port Moresby**	**7.02 234**	Pn	**Pn**	**05 32 29.5**	**+1.6**
	3.9nm,0.3s,baz=32,slow=8.4,SNR=10					
PMG			Sn	**Sn**	**05 33 47.7**	**+1.2**
	6.1nm,0.3s,baz=124,slow=18,SNR=4.1					
CTA	**Charters Tower**	**16.08 203**	Pn	**Pn**	**05 34 31.2**	**+0.4**
CTA	**Charters Tower**	**16.08 203**	Pn	**Pn**	**05 34 31.2**	**+0.4**
	0.4nm,0.3s,baz=60,slow=20,SNR=3.6					
CTAO	**Charters Tower**	**16.08 203**	*e*P	**Pn**	**05 34 31.0**	**+0.1**
	39nm,1.5s					
EIDS	**Eidsvold**	**20.06 185**	P	Pn	05 35 18.5	-0.9
	baz=17,SNR=4.4					
DZM	**Mont Dzumac**	**21.23 143**	*e*P	**P**	**05 35 31.5**	**+1.3**
	48nm,1.2s					
DZM			*e*LR	LR	05 40 38.5	
	935nm,25.8s					
DZM	**Mont Dzumac**	**21.23 143**	*e*P	**P**	**05 35 29.8**	**-0.5**
	18nm,0.9s					
DZM	**Mont Dzumac**	**21.23 143**	P	**P**	**05 35 31.1**	**+0.9**
	5.9nm,0.6s,baz=297,slow=20,SNR=8.4					
WRAB	**Tennant Creek**	**23.19 229**	*e*P	**P**	**05 35 49.9**	**-1.1**
	34nm,0.9s					
WRA	**Warramunga Arr**	**23.21 229**	P	**P**	**05 35 49.8**	**-1.3**
WRA	**Warramunga Arr**	**23.21 229**	P	**P**	**05 35 49.8**	**-1.3**
	30nm,1.0s,baz=54,slow=10,SNR=80					
KNRA	**Kununurra**	**25.85 245**	P	**P**	**05 36 16.7**	**+1.3**
	baz=24,SNR=9.3					
AS31	**Alice Springs**	**25.87 223**	*e*P	**P**	**05 36 15.3**	**-0.3**
ASAR	**Alice Springs**	**25.87 223**	P	**P**	**05 36 15.5**	**-0.1**
ASAR	**Alice Springs**	**25.87 223**	P	**P**	**05 36 15.5**	**-0.1**
	12nm,0.9s,baz=59,slow=9.3,SNR=33					
CMSA	**Cobar Meteorol**	**26.99 194**	P	**P**	**05 36 25.4**	**-0.1**
	baz=24,SNR=6.8					
STKA	**Stephens Creek**	**28.50 200**	P	**P**	**05 36 36.9**	**-2.3**
STKA	**Stephens Creek**	**28.50 200**	P	**P**	**05 36 36.9**	**-2.3**
	4.6nm,0.8s,baz=12,slow=7.2,SNR=6.4					
STKA	**Stephens Creek**	**28.50 200**	P	**P**	**05 36 39.8**	**+0.6**
	baz=26,SNR=6.3					
FITZ	**Fitzroy Crossi**	**29.52 242**	P	**P**	**05 36 47.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**29.52 242**	P	**P**	**05 36 47.3**	**-1.0**
	4.4nm,0.4s,baz=59,slow=7.6,SNR=42					
FITZ	**Fitzroy Crossi**	**29.52 242**	P	**P**	**05 36 47.8**	**-0.5**
	baz=27,SNR=23					
KKM	**Kota Kinabalu**	**38.31 287**	P	P	05 38 17.4	+13
	baz=38,SNR=3.4					
MEEK	**Meekatharra**	**39.00 233**	P	**P**	**05 38 10.0**	**-0.3**
	baz=36,SNR=15					
URZ	**Urewera**	**39.53 150**	P	**P**	**05 38 14.2**	**-0.2**
URZ	**Urewera**	**39.53 150**	P	**P**	**05 38 14.2**	**-0.2**
	3.8nm,0.4s,baz=254,slow=13,SNR=4.2					
URZ			LR	LR	05 50 13.4	
	comp=Z,88nm,20.7s,baz=257,slow=30					
JNU	**Nakatsue**	**43.52 333**	*e*P	**P**	**05 38 45.7**	**-1.6**
	9.3nm,1.3s					
JNU	**Nakatsue**	**43.52 333**	P	**P**	**05 38 45.6**	**-1.6**
	9.4nm,0.8s,baz=95,slow=2.5,SNR=5.3					
USRK	**Ussuriysk Arra**	**52.72 341**	P	**P**	**05 39 58.1**	**+0.1**
	1.4nm,0.6s,baz=167,slow=7.2,SNR=3.3					
PPT2	**Papeete2**	**57.49 107**	*e*LR	LR	05 57 14.4	
	60nm,21.8s					
TBI	**Tubuai**	**58.28 114**	*e*LR	LR	05 57 44.7	
	196nm,25.8s					
PETK	**Petropavlovsk-**	**58.30 3**	P	**P**	**05 40 39.5**	**+1.4**
PETK	**Petropavlovsk-**	**58.30 3**	P	**P**	**05 40 39.5**	**+1.4**
	2.3nm,0.7s,baz=163,slow=6.2,SNR=5.0					
SONM	**Songino Array**	**66.77 328**	P	**P**	**05 41 35.5**	**+0.6**
SONM	**Songino Array**	**66.77 328**	P	**P**	**05 41 35.5**	**+0.6**
	0.6nm,0.7s,baz=137,slow=4.6,SNR=7.0					
RKT	**Rikitea**	**71.52 113**	*e*LR	LR	06 03 51.6	
	248nm,34.8s					
VNDA	**Vanda**	**72.36 178**	P	**P**	**05 42 09.7**	**+1.0**
VNDA	**Vanda**	**72.36 178**	P	**P**	**05 42 09.7**	**+1.0**
	3.5nm,0.9s,baz=329,slow=6.0,SNR=19					
MKAR	**Makanchi Array**	**80.74 319**	P	**P**	**05 42 56.5**	**-0.1**
MKAR	**Makanchi Array**	**80.74 319**	P	**P**	**05 42 56.5**	**-0.1**
	0.5nm,0.6s,baz=109,slow=5.4,SNR=7.7					
ZALV	**Zalesovo Beam**	**81.60 326**	P	**P**	**05 43 00.6**	**-0.3**
ZALV	**Zalesovo Beam**	**81.60 326**	P	**P**	**05 43 00.6**	**-0.3**
	1.2nm,0.5s,baz=101,slow=5.5,SNR=6.1					
ILAR	**Eielson Array**	**82.56 22**	P	**P**	**05 43 05.0**	**-0.8**
ILAR	**Eielson Array**	**82.56 22**	P	**P**	**05 43 05.0**	**-0.8**
	0.9nm,0.7s,baz=247,slow=5.5,SNR=9.5					
KURK	**Kurchatov**	**84.20 322**	P	**P**	**05 43 15.6**	**+1.0**
KURBB	**Kurchatov Arra**	**84.23 322**	P	**P**	**05 43 15.6**	**+0.9**
	0.8nm,0.9s,baz=105,slow=4.2,SNR=5.8					
QSPA	**South Pole Qui**	**84.69 180**	*e*P	**P**	**05 43 17.2**	**+0.3**
	4.4nm,0.7s					
MAW	**Mawson**	**85.17 203**	*e*P	**P**	**05 43 19.1**	**0.0**
	0.4nm,0.7s					
MAW	**Mawson**	**85.17 203**	P	**P**	**05 43 19.5**	**+0.4**
	2.6nm,0.8s,baz=95,slow=3.9,SNR=8.8					
NVAR	**Mina Array Bea**	**92.30 52**	P	**P**	**05 43 53.7**	**-0.3**
NVAR	**Mina Array Bea**	**92.30 52**	P	**P**	**05 43 53.7**	**-0.3**
	0.3nm,0.8s,baz=288,slow=4.4,SNR=3.1					
CFAA	**Coronel Fontan**	**126.32 136**	PKP	**PKPdf**	**05 49 46.1**	**-0.4**
CFAA	**Coronel Fontan**	**126.32 136**	PKP	**PKPdf**	**05 49 46.1**	**-0.4**
	0.1nm,0.6s,baz=234,slow=4.6,SNR=6.6					
LPAZ	**La Paz**	**134.11 119**	PKP	**PKPdf**	**05 50 03.0**	**+0.6**
LPAZ	**La Paz**	**134.11 119**	PKP	**PKPdf**	**05 50 03.0**	**+0.6**
	0.6nm,0.6s,baz=174,slow=3.2,SNR=4.3					
TOA0	**Torodi Ar. Sit**	**150.54 287**	*e*PKPbc	**PKPbc**	**05 50 34.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**150.54 287**	PKPbc	**PKPbc**	**05 50 35.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**150.54 287**	PKPbc	**PKPbc**	**05 50 35.5**	**-0.4**
	4.0nm,1.0s,baz=56,slow=2.4,SNR=14					
BDFB	**Brasilia**	**150.66 135**	PKPbc	**PKPbc**	**05 50 36.6**	**+0.2**
BDFB	**Brasilia**	**150.66 135**	PKPbc	**PKPbc**	**05 50 36.6**	**+0.2**
	3.0nm,0.7s,baz=208,slow=13,SNR=5.2					

IDC ***18*** *05:30:48.7±6.7, 35°.66N×140°.31E, h62km±45km, mb3.5/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=106.4km s-min=47.0km az=36.0*
JMA ***18*** *05:30:50.3±0.1, 35°.64N×140°.01E, h66km±1km, M3.1*
ISC 18 05:30:48.9±2.6, 35°.55N±0°.10×140°.2E±0°.2, h70km, n7,
σ1§10/10, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.93**	**252**	⇓P	**Pn**	**05 31 06.5**	**0.0**
JOD2				*e*S	**Sn**	**05 31 18.2**	**-1.4**
JAG	**Ashikaga**	**1.05**	**326**	⇓P	**Pn**	**05 31 07.7**	**-0.2**
JAG				*e*S	**Sn**	**05 31 20.2**	**-1.9**
MJAR	**Matsushiro Arr**	**1.87**	**302**	P	**Pn**	**05 31 18.1**	**-0.7**
	20nm,0.3s,baz=121,slow=8.9,SNR=80						
MJAR				S	**Sn**	**05 31 41.7**	**+0.2**
	12nm,0.3s,baz=144,slow=18,SNR=6.1						
MAT	**Matsushiro**	**1.87**	**302**	P	**Pn**	**05 31 19.2**	**+0.4**
MAT				S	**Sn**	**05 31 42.6**	**+1.0**
KSRS	**Korea Array**	**10.04**	**284**	P	Pn	05 33 12.9	+2.7
	0.2nm,0.3s,baz=102,slow=14,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.19**	**314**	P	**P**	**05 38 35.1**	**+0.7**
	0.4nm,0.4s,baz=103,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**44.07**	**303**	P	**P**	**05 38 50.5**	**+0.6**
	0.7nm,0.6s,baz=89,slow=9.2,SNR=9.7						

ISK ***18*** *05:32:03.6, 36°.50N×28°.28E, h29km, MD2.9*
CSEM ***18*** *05:32:04.0±0.3, 36°.50N×28°.26E, h30km, MD2.9, Error ellipse: s-maj=6.9km s-min=3.5km az=13.0*
DDA ***18*** *05:32:04.1, 36°.61N×28°.18E, h45km, ML3.5*
ISC 18 05:32:03.6±1.3, 36°.53N±0°.05×28°.28E±0°.03, h23km±12km, n34, σ0§85/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mu¨la**	**0.42**	**46**	*e*PG	**Pn**	**05 32 13.8**	**-0.4**
DALY				*e*SG	**Sn**	**05 32 20.9**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.42**	**46**	*e*Pg	**Pn**	**05 32 13.8**	**-0.4**
DALY				*e*Sg	**Sn**	**05 32 20.9**	**-0.4**
TURN	**Turunc**	**0.43**	**37**	*i* P	**Pb**	**05 32 12.4**	**-0.3**
TURN				*i* S	**Sb**	**05 32 17.9**	**-1.0**
TURN	**Turunc**	**0.43**	**37**	*i* P	**Pb**	**05 32 12.4**	**-0.3**
TURN				*i* S	**Sb**	**05 32 17.9**	**-1.0**
DAT	**Datca**	**0.60**	**290**	*e*PG	**Pn**	**05 32 16.7**	**-0.1**
DAT				*e*SG	**Sn**	**05 32 26.3**	**+0.5**
DAT	**Datca**	**0.60**	**290**	*e*Pg	**Pn**	**05 32 16.7**	**-0.1**
DAT				*e*Sg	**Sn**	**05 32 26.3**	**+0.5**
YER	**Yerkesik**	**0.61**	**1**	*e*PG	**Pn**	**05 32 16.8**	**-0.1**
YER				*e*SG	**Sn**	**05 32 26.4**	**+0.3**
YER	**Yerkesik**	**0.61**	**1**	*e*Pg	**Pn**	**05 32 16.8**	**-0.1**
YER				*e*Sg	**Sn**	**05 32 26.4**	**+0.3**
FETY	**Fethiye**	**0.66**	**80**	*e*PG	**Pb**	**05 32 17.0**	**+0.5**
FETY	**Fethiye**	**0.66**	**80**	*e*Pg	**Pb**	**05 32 17.0**	**+0.5**
BDRM	**Kayabasi**	**0.86**	**309**	*i* P	**Pn**	**05 32 20.2**	**-0.1**
BDRM				*i* S	**Sb**	**05 32 31.1**	**+0.1**
BDRM	**Kayabasi**	**0.86**	**309**	*i* P	**Pn**	**05 32 20.2**	**-0.1**
BDRM				*i* S	**Sb**	**05 32 31.1**	**+0.1**
MLSB	**Milas**	**0.86**	**333**	*e*PG	**Pn**	**05 32 20.5**	**0.0**
MLSB				*e*SG	**Sn**	**05 32 32.7**	**+0.3**
MLSB	**Milas**	**0.86**	**333**	*e*Pg	**Pn**	**05 32 20.5**	**0.0**
MLSB				*e*Sg	**Sn**	**05 32 32.7**	**+0.3**
BODT	**Bodrum**	**0.94**	**305**	*e*PG	**Pn**	**05 32 21.1**	**-0.4**
BODT				*e*SG	**Sb**	**05 32 34.1**	**+0.7**
BODT	**Bodrum**	**0.94**	**305**	*e*Pg	**Pn**	**05 32 21.1**	**-0.4**
BODT				*e*Sg	**Sb**	**05 32 34.1**	**+0.7**
AKAS	**Kas**	**1.11**	**105**	*e*P	**Pb**	**05 32 24.2**	**-0.1**
AKAS				*i* S	**Sn**	**05 32 37.1**	**-1.5**
AKAS	**Kas**	**1.11**	**105**	*e*P	**Pb**	**05 32 24.2**	**-0.1**
AKAS				*i* S	**Sn**	**05 32 37.1**	**-1.5**
AYDN	**Tasoluk**	**1.18**	**344**	*i* P	**Pn**	**05 32 25.1**	**+0.3**
AYDN				*i* S	**Sn**	**05 32 38.5**	**-1.6**
AYDN	**Tasoluk**	**1.18**	**344**	*i* P	**Pn**	**05 32 25.1**	**+0.3**
AYDN				*i* S	**Sn**	**05 32 38.5**	**-1.6**
GOLH	**Golhisar**	**1.25**	**55**	*i* P	**Pn**	**05 32 26.5**	**+0.7**
GOLH				*i* S	**Sb**	**05 32 44.9**	**+2.5**
GOLH	**Golhisar**	**1.25**	**55**	*i* P	**Pn**	**05 32 26.5**	**+0.7**
GOLH				*i* S	**Sb**	**05 32 44.9**	**+2.5**
DNZL	**Cakiroluk**	**1.31**	**28**	*e*P	**Pn**	**05 32 27.4**	**+0.6**
DNZL				*i* S	**Sb**	**05 32 45.2**	**+0.9**
DNZL	**Cakiroluk**	**1.31**	**28**	*e*P	**Pn**	**05 32 27.4**	**+0.6**
DNZL				*i* S	**Sb**	**05 32 45.2**	**+0.9**
GCAM	**G?zelcaml?**	**1.44**	**325**	*e*P	**Pn**	**05 32 28.2**	**-0.1**
GCAM				*i* S	**Sn**	**05 32 45.5**	**-0.9**
GCAM	**G?zelcaml?**	**1.44**	**325**	*e*P	**Pn**	**05 32 28.2**	**-0.1**
GCAM				*i* S	**Sn**	**05 32 45.5**	**-0.9**
KULA	**Kula-Manisa**	**2.01**	**9**	*e*PN	**Pn**	**05 32 36.8**	**+0.6**
KULA	**Kula-Manisa**	**2.01**	**9**	*e*Pn	**Pn**	**05 32 36.8**	**+0.6**
IZM	**Izmir**	**2.04**	**337**	*e*PN	**Pn**	**05 32 36.3**	**-0.2**
IZM	**Izmir**	**2.04**	**337**	*e*Pn	**Pn**	**05 32 36.3**	**-0.2**
KHAL	**Karahalli**	**2.08**	**27**	*i* P	**Pn**	**05 32 36.8**	**-0.4**
KHAL				*i* S	**Sn**	**05 33 00.5**	**-1.9**
KHAL	**Karahalli**	**2.08**	**27**	*i* P	**Pn**	**05 32 36.8**	**-0.4**
KHAL				*i* S	**Sn**	**05 33 00.5**	**-1.9**
AKHS	**Akhisar**	**2.38**	**351**	*i* P	**Pn**	**05 32 41.1**	**-0.1**
AKHS				*i* S	**Sn**	**05 33 09.4**	**-0.2**
AKHS	**Akhisar**	**2.38**	**351**	*i* P	**Pn**	**05 32 41.1**	**-0.1**
AKHS				*i* S	**Sn**	**05 33 09.4**	**-0.2**

AUST ***18*** *05:33:35.0±5.0, 4°.53S×153°.97E, h0km±1km, Error ellipse: s-maj=3.4km s-min=1.2km az=40.0*
IDC ***18*** *05:33:45.2±0.4, 5°.23S×152°.82E, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/27, mbtmp4.6/24, ML4.0/1, MS4.1/16, Ms1 4.1/16, ms1mx3.9/27, Error ellipse: s-maj=18.4km s-min=11.0km az=84.0*
ISCJB ***18*** *05:33:48.9±0.4, 5°.25S±0°.04×152°.83E±0°.06, h37km, mb4.5/26, MS4.1/15, Error ellipse: s-maj=9.4km s-min=6.0km az=14.8*
NEIC ***18*** *05:33:51.5±1.6, 5°.24S×152°.78E, h45km±13km, mb4.6/7, Error ellipse: s-maj=10.8km s-min=7.0km az=77.0*
ISC 18 05:33:50.8±0.4, 5°.26S±0°.05×152°.88E±0°.07, h37km, n94, σ1§07/97, mb4.6/26, MS4.1/15, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.28**	**326**	P	**Pn**	**05 34 12.4**	**+0.2**
	baz=1.8,SNR=30						
RABL				S	**Sn**	**05 34 32.3**	**+4.2**
	baz=1.8,SNR=5.4						
PMG	**Port Moresby**	**7.01**	**234**	*e*Pn	**Pn**	**05 35 32.1**	**+1.1**
PMG				Sn	**Sn**	**05 36 49.4**	**-0.1**
PMG	**Port Moresby**	**7.01**	**234**	Pn	**Pn**	**05 35 32.5**	**+1.5**
	3.3nm,0.3s,baz=32,slow=8.2,SNR=6.0						
PMG				Sn	**Sn**	**05 36 49.4**	**-0.1**
	7.6nm,0.3s,baz=21,slow=13,SNR=5.6						
PMG				LR	LR	05 37 53.1	
	comp=Z,1μm,18.1s,baz=38,slow=36						
COEN	**Coen**	**12.89**	**227**	P	**P**	**05 37 03.8**	**+2.0**
	baz=14,SNR=4.2						
CTA	**Charters Tower**	**16.09**	**203**	Pn	**Pn**	**05 37 35.1**	**+0.8**
CTA	**Charters Tower**	**16.09**	**203**	Pn	**Pn**	**05 37 35.1**	**+0.8**
	0.4nm,0.3s,baz=35,slow=13,SNR=6.8						
CTAO	**Charters Tower**	**16.09**	**203**	*e*Pn	**Pn**	**05 37 33.9**	**-0.5**
	53nm,1.4s						
EIDS	**Eidsvold**	**20.07**	**185**	P	**P**	**05 38 21.6**	**+0.5**
	baz=21,SNR=4.6						
EIDS	**Eidsvold**	**20.07**	**185**	S	**P**	**05 38 21.6**	**+0.5**
	baz=17,SNR=7.2						
DZM	**Mont Dzumac**	**21.25**	**143**	*e*P	**P**	**05 38 34.0**	**0.0**
DZM	**Mont Dzumac**	**21.25**	**143**	*e*P	**P**	**05 38 34.0**	**0.0**
	36nm,0.8s						
DZM	**Mont Dzumac**	**21.25**	**143**	P	**P**	**05 38 34.3**	**+0.3**
	11nm,0.4s,baz=343,slow=8.6,SNR=23						
KDU	**Kakadu**	**21.45**	**249**	S	**P**	**05 38 36.3**	**+0.1**
	baz=19,SNR=5.6						
KDU	**Kakadu**	**21.45**	**249**	P	**P**	**05 38 35.0**	**-1.2**
	baz=23,SNR=16						
KDU				S	**S**	**05 42 32.0**	**-0.4**
	baz=23,SNR=5.8						
RMQ	**Roma**	**21.47**	**190**	S	**P**	**05 38 36.9**	**+0.6**
	baz=19,SNR=12						
RMQ	**Roma**	**21.47**	**190**	P	**P**	**05 38 36.7**	**+0.4**
	baz=22,SNR=5.7						
MTN	**Manton Dam**	**22.75**	**249**	P	**P**	**05 38 50.0**	**0.0**
	baz=24,SNR=4.0						
MTN				S	**S**	**05 42 54.5**	**-2.0**
	baz=24,SNR=9.3						
WRAB	**Tennant Creek**	**23.19**	**229**	*e*P	**P**	**05 38 53.2**	**-1.4**
WRA	**Warramunga Arr**	**23.21**	**229**	P	**P**	**05 38 53.6**	**-1.1**
WRA	**Warramunga Arr**	**23.21**	**229**	P	**P**	**05 38 53.6**	**-1.1**
	54nm,1.0s,baz=54,slow=10,SNR=35						
KNRA	**Kununurra**	**25.84**	**245**	P	**P**	**05 39 19.8**	**+0.7**
	baz=27,SNR=11						
KNRA				S	S	05 43 57.5	+11
	baz=27,SNR=6.3						
AS31	**Alice Springs**	**25.87**	**223**	*e*P	**P**	**05 39 18.8**	**-0.5**
ASAR	**Alice Springs**	**25.87**	**223**	P	**P**	**05 39 18.7**	**-0.6**
ASAR	**Alice Springs**	**25.87**	**223**	P	**P**	**05 39 18.7**	**-0.6**
	31nm,1.1s,baz=59,slow=8.6,SNR=21						
ASAR				LR	LR	05 48 43.5	
	comp=Z,396nm,20.3s,baz=42,slow=35						
CMSA	**Cobar Meteorol**	**27.00**	**194**	P	**P**	**05 39 28.1**	**-1.2**
	baz=28,SNR=14						
STKA	**Stephens Creek**	**28.51**	**200**	P	**P**	**05 39 41.6**	**-1.3**
STKA	**Stephens Creek**	**28.51**	**200**	P	**P**	**05 39 41.6**	**-1.3**
	6.3nm,0.7s,baz=357,slow=7.9,SNR=7.7						
STKA				LR	LR	05 51 07.8	
	comp=Z,456nm,19.0s,baz=22,slow=37						
STKA	**Stephens Creek**	**28.51**	**200**	P	**P**	**05 39 41.6**	**-1.3**
	baz=30,SNR=7.1						
FITZ	**Fitzroy Crossi**	**29.52**	**242**	P	**P**	**05 39 50.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**29.52**	**242**	P	**P**	**05 39 50.4**	**-1.5**
	15nm,0.6s,baz=109,slow=6.5,SNR=16						
FITZ				LR	LR	05 53 10.3	
	comp=Z,436nm,18.7s,baz=305,slow=40						
DAV	**Davao City (W)**	**29.87**	**294**	LR	LR	05 51 34.3	
	comp=Z,351nm,18.2s,baz=61,slow=36						
WSI	**Waingapu**	**32.59**	**260**	S	S	05 45 51.7	+19
	baz=34,SNR=5.1						
ARPS	**Mount Arapiles**	**32.95**	**196**	P	**P**	**05 40 22.5**	**+0.5**
	baz=34,SNR=5.0						
MBWA	**Marble Bar**	**35.82**	**241**	*e*P	**P**	**05 40 45.5**	**-1.5**
	22nm,1.3s						
MEEK	**Meekatharra**	**38.99**	**233**	P	**P**	**05 41 13.1**	**-0.9**
	baz=40,SNR=21						
URZ	**Urewera**	**39.55**	**150**	P	**P**	**05 41 19.3**	**+0.9**
URZ	**Urewera**	**39.55**	**150**	P	**P**	**05 41 19.3**	**+0.9**
	7.0nm,0.5s,baz=16,slow=2.4,SNR=7.1						
RPZ	**Rata Peaks**	**41.52**	**160**	P	**P**	**05 41 35.4**	**+0.8**
RPZ	**Rata Peaks**	**41.52**	**160**	P	**P**	**05 41 35.4**	**+0.8**
	13nm,0.8s,baz=327,slow=3.9,SNR=4.2						
YULB	**Yu-li**	**41.97**	**314**	*e*P	**P**	**05 41 37.6**	**-1.0**
	3.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**43.13**	**226**	LR	LR	05 59 21.7	
	comp=Z,326nm,19.2s,baz=20,slow=36						
JNU	**Nakatsue**	**43.51**	**333**	*e*P	**P**	**05 41 49.5**	**-1.4**
	10.0nm,0.8s						
JNU	**Nakatsue**	**43.51**	**333**	P	**P**	**05 41 49.6**	**-1.2**
	27nm,0.8s,baz=105,slow=3.5,SNR=16						
MJAR	**Matsushiro Arr**	**43.79**	**343**	P	**P**	**05 41 50.8**	**-2.3**
MJAR	**Matsushiro Arr**	**43.79**	**343**	P	**P**	**05 41 50.8**	**-2.3**
	1.1nm,0.5s,baz=171,slow=9.6,SNR=2.9						
MJAR				LR	LR	05 59 43.2	
	comp=Z,116nm,18.4s,baz=175,slow=36						
KSRS	**Korea Array**	**48.45**	**333**	P	**P**	**05 42 28.8**	**-0.9**
	2.7nm,0.8s,baz=149,slow=7.7,SNR=10						
KSAR	**Wonju Array Be**	**48.45**	**333**	P	**P**	**05 42 28.8**	**-1.0**
ASAJ	**Asahikawa**	**50.02**	**350**	*e*P	**P**	**05 42 40.5**	**-1.1**
	3.7nm,0.8s						
ASAJ	**Asahikawa**	**50.02**	**350**	P	**P**	**05 42 42.0**	**+0.5**
	8.1nm,0.6s,baz=260,slow=14,SNR=8.1						
USRK	**Ussuriysk Arra**	**52.71**	**341**	P	**P**	**05 43 01.7**	**0.0**
	4.1nm,0.7s,baz=168,slow=8.3,SNR=9.7						
CMAR	**Chiang Mai Arr**	**58.15**	**295**	P	**P**	**05 43 42.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**58.15**	**295**	P	**P**	**05 43 42.1**	**+0.7**
	3.5nm,0.7s,baz=115,slow=4.8,SNR=5.1						
CMAR				LR	LR	06 05 09.7	
	comp=Z,82nm,21.2s,baz=330,slow=32						
PETK	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**05 43 41.0**	**-0.7**
PETK	**Petropavlovsk-**	**58.29**	**3**	P	**P**	**05 43 41.0**	**-0.7**
	2.5nm,0.4s,baz=163,slow=5.6,SNR=6.5						
PETK				LR	LR	06 05 08.4	
	comp=Z,131nm,21.0s,baz=223,slow=32						
FX1	**Attu Island--F**	**60.42**	**14**	P	**P**	**05 43 57.2**	**+0.8**
FX1	**Attu Island--F**	**60.42**	**14**	P	**P**	**05 43 57.2**	**+0.8**
	5.5nm,0.5s,baz=273,slow=17,SNR=5.7						
SONM	**Songino Array**	**66.75**	**328**	P	**P**	**05 44 39.4**	**+0.8**
SONM				⇑*e*		06 13 10.7	
SONM	**Songino Array**	**66.75**	**328**	P	**P**	**05 44 39.4**	**+0.8**
	1.0nm,0.6s,baz=151,slow=5.9,SNR=8.7						
SONM				LR	LR	06 11 56.5	
	comp=Z,175nm,20.1s,baz=165,slow=34						
SONM				PKP2bc		06 13 10.7	
	0.5nm,0.7s,baz=276,slow=1.2,SNR=4.6						
VNDA	**Vanda**	**72.37**	**178**	P	**P**	**05 45 12.8**	**+0.2**
VNDA	**Vanda**	**72.37**	**178**	P	**P**	**05 45 12.8**	**+0.2**
	5.1nm,0.7s,baz=332,slow=7.5,SNR=26						
VNDA				LR	LR	06 11 41.1	
	comp=Z,99nm,20.3s,baz=328,slow=31						
MKAR	**Makanchi Array**	**80.72**	**319**	P	**P**	**05 46 00.8**	**+0.4**
MKAR	**Makanchi Array**	**80.72**	**319**	P	**P**	**05 46 00.8**	**+0.4**
	1.3nm,0.6s,baz=96,slow=6.6,SNR=4.1						
MKAR				LR	LR	06 21 41.1	
	comp=Z,82nm,19.0s,baz=172,slow=36						
ZALV	**Zalesovo Beam**	**81.58**	**326**	P	**P**	**05 46 03.8**	**-0.9**
ZALV	**Zalesovo Beam**	**81.58**	**326**	P	**P**	**05 46 03.8**	**-0.9**
	3.2nm,0.6s,baz=118,slow=5.6,SNR=4.9						
ZALV				LR	LR	06 18 29.9	
	comp=Z,82nm,20.2s,baz=160,slow=33						
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**05 46 08.0**	**-1.7**
ILAR	**Eielson Array**	**82.55**	**22**	P	**P**	**05 46 08.0**	**-1.7**
	2.0nm,0.7s,baz=248,slow=4.9,SNR=12						
ILAR				LR	LR	06 22 46.0	
	comp=Z,115nm,18.5s,baz=298,slow=36						
KURK	**Kurchatov**	**84.18**	**322**	P	**P**	**05 46 18.5**	**+0.2**
KURBB	**Kurchatov Arra**	**84.21**	**322**	P	**P**	**05 46 18.5**	**+0.1**
	2.0nm,0.8s,baz=102,slow=4.9,SNR=2.4						
QSPA	**South Pole Qui**	**84.70**	**180**	*e*P	**P**	**05 46 20.7**	**-0.2**
	34nm,1.2s						
MAW	**Mawson**	**85.18**	**203**	P	**P**	**05 46 22.8**	**-0.1**
MAW	**Mawson**	**85.18**	**203**	P	**P**	**05 46 22.8**	**-0.1**
	5.4nm,0.8s,baz=90,slow=6.0,SNR=17						
MAW	**Mawson**	**85.18**	**203**	P	**P**	**05 46 22.7**	**-0.3**
	baz=86,SNR=8.3						
NVAR	**Mina Array Bea**	**92.30**	**52**	P	**P**	**05 46 57.8

CMAI	**Chiengmai2**	**8.36**	**45**	P	**Pn**	**05 39 55.3**	**+0.1**
	comp=Z,37nm,0.7s						
PAYA	**Payao**	**8.59**	**51**	P	**Pn**	**05 39 58.9**	**+0.8**
	comp=Z,18nm,0.7s						
BSI	**Banda Aceh**	**8.84**	**164**	P	**Pn**	**05 40 02.3**	**+0.7**
	comp=Z,102nm,0.8s						
VIS	**Vishakhapatnam**	**9.82**	**293**	*i* P	**Pn**	**05 40 14.2**	**-0.9**
VIS				AMB	AMB	05 40 15.7	
	comp=Z,213nm,0.9s						
VIS				*i* x	Sn	05 41 55.4	-8.9
SKLT	**Songkhla**	**10.27**	**131**	P	**Pn**	**05 40 24.2**	**+2.9**
	comp=Z,30nm,1.0s						
SKLT	**Songkhla**	**10.27**	**131**	P	Pn	05 40 24.5	+3.2
	comp=Z,30nm,1.0s						
SHL	**Shillong**	**11.50**	**356**	AMB	AMB	05 40 34.6	
	comp=Z,24nm,0.4s						
SHL				*e*P	**Pn**	**05 40 38.0**	**-0.2**
KULM	**Kulim**	**11.63**	**138**	*e*Pn	**Pn**	**05 40 42.4**	**+2.5**
KULM	**Kulim**	**11.63**	**138**	P	**Pn**	**05 40 42.1**	**+2.2**
BOK	**Bokaro**	**11.70**	**327**	*e*P	**Pn**	**05 40 39.1**	**-1.7**
BOK				AMB	AMB	05 40 41.9	
	comp=Z,38nm,1.8s						
IPM	**Ipoh**	**12.49**	**139**	*e*Pn	**Pn**	**05 40 52.0**	**+0.4**
PSI	**Prapat**	**12.70**	**151**	Pn	**Pn**	**05 40 55.9**	**+1.3**
PSI	**Prapat**	**12.70**	**151**	Pn	**Pn**	**05 40 55.9**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=329,slow=12,SNR=20						
PSI				LR	LR	05 45 41.0	
	comp=Z,258nm,21.8s,baz=311,slow=37						
PALK	**Pallekele**	**13.66**	**242**	*e*Pn	**Pn**	**05 41 07.3**	**-0.4**
ODAN	**Odare**	**13.72**	**339**	*e*P	Pn	05 41 04.4	-4.2
	comp=Z,95nm,0.2s						
TAPN	**Taplejung**	**14.07**	**341**	*e*P	Pn	05 41 08.5	-4.9
RAMN	**Ramite**	**14.09**	**337**	*e*P	Pn	05 41 09.6	-4.1
	comp=Z,92nm,0.2s						
HYB	**Hyderabad**	**14.13**	**286**	*i* P	**Pn**	**05 41 12.0**	**-2.0**
HYB				*e*S	**Sn**	**05 43 50.0**	**+0.2**
HYB	**Hyderabad**	**14.13**	**286**	*ex*	x	05 43 37.0	
HYB				AMB	AMB	05 43 50.5	
	comp=Z,24nm,1.4s						
KMI	**Kunming**	**14.45**	**39**	P	**P**	**05 41 22.0**	**-3.0**
KMI				pP	Pn	05 41 27.5	+8.9
KMI				PP	**PnPn**	**05 41 30.6**	**+3.9**
KMI				sP		05 41 35.5	
KMI				S	**Sn**	**05 43 57.8**	**-0.1**
KMI				SS	**S**	**05 44 15.9**	**-1.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				pmax	pmax		
	comp=Z,110nm,3.8s						
KMI				LR	LR		
	comp=N,210nm,18.4s						
KMI				LR	LR		
	comp=E,310nm,17.2s						
KMI				LR	LR		
	comp=Z,230nm,25.4s						
JIRN	**Jiri**	**14.89**	**337**	*e*P	Pn	05 41 20.5	-4.1
	comp=Z,76nm,0.3s						
NGP	**Nagpur**	**14.89**	**300**	*ex*	Pn	05 41 18.6	-5.8
NGP				*ex*	x	05 43 52.4	
PKI	**Pulchoki**	**15.13**	**334**	*e*P	Pn	05 41 22.6	-5.1
PKIN	**Phulchoki**	**15.14**	**334**	*e*P	Pn	05 41 22.8	-5.0
	comp=Z,127nm,0.4s						
JBP	**Jabalpur**	**15.16**	**309⇑**	*i* P	**Pn**	**05 41 29.0**	**+1.1**
JBP				*ex*	x	05 44 06.0	
GUN	**Gumba**	**15.23**	**336**	*e*P	**Pn**	**05 41 24.8**	**-4.4**
DMN	**Daman**	**15.29**	**333**	*e*P	**Pn**	**05 41 25.5**	**-4.3**
	comp=Z,133nm,0.5s						
KKN	**Kakani**	**15.37**	**334**	*e*P	**Pn**	**05 41 27.7**	**-3.2**
	comp=Z,31nm,0.2s						
LSA	**Lhasa**	**15.66**	**355**	P	**Pn**	**05 41 34.2**	**-0.6**
LSA				pmax	pmax		
	comp=Z,38nm,0.8s						
LSA	**Lhasa**	**15.66**	**355**	Pn	**Pn**	**05 41 34.2**	**-0.6**
	comp=Z,38nm,0.8s						
KOLN	**Koldanda**	**16.13**	**329**	*e*P	**Pn**	**05 41 38.8**	**-1.8**
	comp=Z,212nm,0.6s						
DANN	**Dangsing**	**16.54**	**331**	*e*P	**Pn**	**05 41 43.3**	**-2.6**
	comp=Z,151nm,0.6s						
QIZ	**Qiongzhong**	**17.07**	**71**	P	**Pn**	**05 41 51.9**	**-0.4**
QIZ				sP	**sP**	**05 42 10.4**	**+4.0**
QIZ				S	**Sn**	**05 44 57.4**	**-3.8**
QIZ				pmax	pmax		
	comp=Z,21nm,0.8s						
QIZ				pmax	pmax		
	comp=Z,120nm,12.4s						
QIZ				LR	LR		
	comp=N,130nm,17.5s						
QIZ				LR	LR		
	comp=Z,190nm,17.4s						
QIZ	**Qiongzhong**	**17.07**	**71**	*e*Pn	**Pn**	**05 41 51.5**	**-0.8**
	comp=Z,17nm,0.8s						
BHPL	**Bhopal**	**17.20**	**304**	*e*P	**P**	**05 41 55.5**	**+0.2**
BHPL				AMB	AMB	05 41 56.1	
	comp=Z,55nm,0.7s						
GYA	**Guiyang**	**17.91**	**44**	P	Pn	05 41 57.8	-5.1
GYA				pP	pP	05 42 12.6	+0.9
GYA				PP	**PnPn**	**05 42 19.0**	**+4.9**
GYA				S	**Sn**	**05 45 15.9**	**-5.9**
GYA				sS	**S**	**05 45 33.4**	**+5.9**
GYA				SS	**SnSn**	**05 45 40.3**	**+4.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,540nm,15.6s						
GYA				LR	LR		
	comp=E,440nm,16.4s						
GYA				LR	LR		
	comp=Z,470nm,15.9s						
MASI	**Maura Aman, Be**	**19.47**	**151**	P	**Pn**	**05 42 21.2**	**-0.5**
	comp=Z,90nm,1.2s						
CD2	**Chengdu**	**19.58**	**29**	*e*P	**Pn**	**05 42 22.4**	**-0.5**
CD2				pP	**pP**	**05 42 33.4**	**+3.5**
CD2				PP	**PnPn**	**05 42 41.5**	**+4.6**
CD2				S	S	05 45 53.3	-7.5
CD2				SS	**SnSn**	**05 46 21.8**	**+5.3**
CD2				pmax	pmax		
	comp=Z,80nm,1.0s						
CD2				pmax	pmax		
	comp=Z,270nm,5.2s						
CD2				LR	LR		
	comp=N,300nm,14.2s						
CD2				LR	LR		
	comp=E,350nm,20.2s						
CD2				LR	LR		
	comp=Z,250nm,15.4s						
NDI	**New Delhi**	**20.53**	**318**	*ex*	S	05 46 10.0	-10
PPBI	**Pangkal Pinang**	**20.83**	**140**	P	**P**	**05 42 35.0**	**-0.1**
DDI	**Dehra Dun**	**21.15**	**322**	*e*P	**P**	**05 42 38.1**	**-0.4**
DDI				AMB	AMB	05 42 42.7	
	comp=Z,255nm,1.5s						
KSM	**Kuching**	**21.34**	**124**	*e*P	**P**	**05 42 40.5**	**-0.1**
KLSI		**22.05**	**147**	P	P	05 42 57.3	+9.1
SMLA	**Simla**	**22.26**	**322**	*e*P	**P**	**05 42 48.6**	**-1.8**
SMLA				AMB	AMB	05 42 55.3	
	comp=Z,35nm,1.3s						
DHRM	**DHARAMSHALA**	**23.58**	**323**	*e*P	**P**	**05 43 04.8**	**+0.5**
DHRM				AMB	AMB	05 43 23.8	
	comp=Z,78nm,1.4s						
LZH	**Lanzhou**	**24.08**	**22**	⇓P	**P**	**05 43 09.3**	**+0.5**
LZH				pP	**pP**	**05 43 22.3**	**+4.3**
LZH				sP	sP	05 43 28.6	+6.7
LZH				PP	**PnPn**	**05 43 44.5**	**+5.9**
LZH				S	**S**	**05 47 19.0**	**-5.5**
LZH				sS	**sS**	**05 47 42.3**	**+2.7**
LZH				SS	**SnSn**	**05 48 13.5**	**+6.5**
LZH				pmax	pmax		
	comp=Z,38nm,1.3s						
LZH				pmax	pmax		
	comp=Z,190nm,5.0s						
LZH				LR	LR		
	comp=N,480nm,11.2s						
LZH				LR	LR		
	comp=E,340nm,12.0s						
LZH				LR	LR		
	comp=Z,670nm,14.5s						
XAN	**Xi'an**	**24.69**	**33**	P	**P**	**05 43 13.0**	**-1.3**
XAN				pP	**pP**	**05 43 23.6**	**+0.1**
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
WHN	**Wuhan**	**25.75**	**47**	P	**P**	**05 43 24.5**	**+0.7**
WHN				S	S	05 47 35.3	-16
WHN				LR	LR		
	comp=Z,570nm,20.2s						
GTA	**Gaotai**	**26.01**	**12**	⇑P	**P**	**05 43 27.6**	**+1.3**
GTA				pP	**pP**	**05 43 38.8**	**+3.3**
GTA				PcP	**PcP**	**05 46 54.3**	**+0.3**
GTA				S	**S**	**05 47 54.8**	**-0.4**
GTA				sS	**sS**	**05 48 15.0**	**+4.5**
GTA				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA				pmax	pmax		
	comp=Z,72nm,5.5s						
TWG	**Pinlang**	**28.16**	**68**	*e*P	**P**	**05 43 46.9**	**+1.3**
	comp=Z,117nm,0.9s						
SSLB	**Suanglung**	**28.29**	**66**	*e*P	**P**	**05 43 48.0**	**+1.2**
	comp=Z,32nm,0.9s						
KSH	**Kashi**	**29.39**	**333**	P	P	05 44 05.3	+8.8
KSH				sP	sP	05 44 27.3	+18
KSH				PP	**PP**	**05 45 02.3**	**-0.8**
KSH				S	S	05 48 58.3	+10
KSH				sS	sS	05 49 23.0	+19
KSH				SS	ScP	05 50 34.0	-7.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,96nm,3.8s						
KSH				LR	LR		
	comp=N,160nm,6.6s						
KSH				LR	LR		
	comp=E,130nm,7.9s						
KSH				LR	LR		
	comp=Z,79nm,5.9s						
NJ2	**Nanjing**	**29.80**	**49**	*e*P	**P**	**05 43 59.8**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
WMQ	**Urumqi**	**30.00**	**353**	*e*P	**P**	**05 44 03.0**	**+1.2**
WMQ				pP	pP	05 44 16.8	+5.7
WMQ				PP	**PnPn**	**05 44 59.9**	**+0.8**
WMQ				S	**S**	**05 48 55.0**	**-2.7**
WMQ				SS	**SnSn**	**05 50 30.8**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,81nm,4.5s						
HHC	**Hu-ho-hao-te**	**31.33**	**28**	*e*P	**P**	**05 44 13.8**	**+0.2**
HHC				S	**S**	**05 49 15.1**	**-3.6**
HHC				pmax	pmax		
	comp=Z,63nm,0.7s						
HHC				pmax	pmax		
	comp=Z,330nm,4.9s						
AAK	**Ala-Archa**	**32.58**	**334**	*i* P	**P**	**05 44 25.2**	**+0.5**
AAK	**Ala-Archa**	**32.58**	**334**	LR	LR	05 58 54.2	
	comp=Z,185nm,21.0s,baz=10,slow=39						
BJI	**Beijing**	**33.02**	**34**	P	**P**	**05 44 28.0**	**-0.3**
BJI				S	**S**	**05 49 42.3**	**-2.6**
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
BJI				pmax	pmax		
	comp=Z,75nm,5.4s						
BJI				LR	LR		
	comp=N,150nm,16.2s						
BJI				LR	LR		
	comp=E,150nm,19.8s						
BJI				LR	LR		
	comp=Z,120nm,28.8s						
MK31	**Makanchi Array**	**33.82**	**347**	*e*P	**P**	**05 44 35.6**	**+0.4**
MK31	**Makanchi Array**	**33.82**	**347**	*e*P	**P**	**05 44 35.6**	**+0.4**
MKAR	**Makanchi Array**	**33.82**	**347**	P	**P**	**05 44 35.8**	**+0.5**
MKAR	**Makanchi Array**	**33.82**	**347**	P	**P**	**05 44 35.8**	**+0.5**
MKAR	**Makanchi Array**	**33.82**	**347**	P	**P**	**05 44 35.8**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=175,slow=7.3,SNR=34						
JOW	**Kunigami**	**35.46**	**63**	*e*P	**P**	**05 44 49.8**	**+0.1**
	comp=Z,7.3nm,0.6s						
SONM	**Songino Array**	**35.54**	**16**	P	**P**	**05 44 50.6**	**+0.4**
SONM				PcP	**PcP**	**05 47 18.9**	**0.0**
SONM	**Songino Array**	**35.54**	**16**	P	**P**	**05 44 50.6**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=195,slow=9.1,SNR=22						
SONM				PcP	**PcP**	**05 47 18.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=202,slow=2.9,SNR=6.2						
ULN	**Ulaanbaatar**	**35.74**	**16**	*e*P	**P**	**05 44 51.6**	**-0.4**
	comp=Z,16nm,1.3s						
HVS	**Khovu-Aksy**	**37.00**	**1⇑**	*e*P	**P**	**05 45 02.1**	**-0.5**
HVS				pmax	pmax		
	comp=Z,50nm,1.3s						
KURBB	**Kurchatov Arra**	**38.28**	**345**	P	**P**	**05 45 13.9**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=164,slow=7.9,SNR=31						
KURK	**Kurchatov**	**38.35**	**345**	P	**P**	**05 45 13.9**	**0.0**
KURK	**Kurchatov**	**38.35**	**345**	P	**P**	**05 45 13.8**	**0.0**
KSAR	**Wonju Array Be**	**38.91**	**47**	P	**P**	**05 45 18.2**	**-0.6**
KSRS	**Korea Array**	**38.95**	**47**	P	**P**	**05 45 18.2**	**-0.8**
	comp=Z,6.8nm,0.7s,baz=241,slow=8.5,SNR=28						
ZAA0	**Zalesovo Array**	**40.31**	**353**	*e*P	**P**	**05 45 29.8**	**-0.4**
ZALV	**Zalesovo Beam**	**40.31**	**353**	P	**P**	**05 45 30.4**	**+0.2**
ZALV	**Zalesovo Beam**	**40.31**	**353**	P	**P**	**05 45 30.4**	**+0.2**
ZALV	**Zalesovo Beam**	**40.31**	**353**	P	**P**	**05 45 30.4**	**+0.2**
	comp=Z,9.6nm,0.6s,baz=176,slow=8.4,SNR=43						
CN2	**Changchun**	**40.71**	**37**	*e*P	**P**	**05 45 33.9**	**+0.2**
CN2				*e*S	**S**	**05 51 38.9**	**-3.0**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				LR	LR		
	comp=N,210nm,18.0s						
CN2				LR	LR		
	comp=E,140nm,18.0s						
NVS	**Novosibirsk**	**41.39**	**352**	*e*P	P	05 45 34.5	-4.6
BVAR	**Borovoye Array**	**42.77**	**340**	LR	LR	06 05 44.0	
	comp=E,47nm,21.0s,baz=108,slow=39						
BRVK	**Borovoye**	**42.83**	**340**	*e*P	**P**	**05 45 52.5**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MDJ	**Mudanjiang**	**43.63**	**38**	P	**P**	**05 45 55.4**	**-2.0**
MDJ				pP	**pP**	**05 46 08.8**	**+1.9**
MDJ				ScP	**ScP**	**05 51 30.5**	**-3.4**
MDJ				PcS	**PcS**	**05 51 36.1**	**-1.0**
MDJ				S	**S**	**05 52 19.4**	**-5.5**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,20nm,2.8s						
QRN	**Al-Qurain**	**44.02**	**297**	*e*P	P	05 46 17.3	+16
QRN				AMb	AMB	05 46 18.7	
	comp=Z,1.5nm,0.9s						
AB31	**Akbulak array**	**44.25**	**329**	P	**P**	**05 46 03.0**	**+0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
ABKAR	**Akbulak array**	**44.25**	**329**	*e*P	**P**	**05 46 02.9**	**+0.5**
	comp=Z,6.4nm,0.8s						
USRK	**Ussuriysk Arra**	**44.88**	**40**	P	**P**	**05 46 07.0**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=245,slow=7.9,SNR=7.8						
RST	**Umm Al-Ruwaisa**	**44.94**	**298**	*e*P	P	05 46 18.9	+11
RST				AMb	AMB	05 46 20.5	
	comp=Z,148nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.48**	**134**	P	**P**	**05 46 11.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**45.48**	**134**	P	**P**	**05 46 11.6**	**-1.0**
	comp=Z,4.9nm,0.9s,baz=338,slow=8.8,SNR=6.3						
FITZ	**Fitzroy Crossi**	**45.48**	**134**	P	P	05 46 22.7	+10
	baz=39,SNR=5.7						
AKTO	**Aktyubinsk**	**45.97**	**330**	LR	LR	06 07 52.1	
	comp=Z,54nm,18.8s,baz=302,slow=39						
MAT	**Matsushiro**	**46.23**	**53**	P	**P**	**05 46 19.4**	**+1.0**
MJAR	**Matsushiro Arr**	**46.24**	**53**	P	**P**	**05 46 18.2**	**-0.1**
MJAR				PcP	**PcP**	**05 47 53.6**	**-0.1**
MJAR	**Matsushiro Arr**	**46.24**	**53**	P	**P**	**05 46 18.2**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=265,slow=9.7,SNR=12						
MJAR				PcP	**PcP**	**05 47 53.6**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=240,slow=2.4,SNR=7.2						
MTN	**Manton Dam**	**46.42**	**123**	P	P	05 46 26.1	+6.1
	baz=41,SNR=6.5						
MEEK	**Meekatharra**	**47.58**	**148**	P	**P**	**05 46 27.9**	**-1.0**
	baz=40,SNR=5.3						
MAK	**Makhachkala**	**48.33**	**316**	*e*P	P	05 46 44.4	+10
GNI	**Garni**	**49.31**	**311**	P	**P**	**05 46 42.8**	**+0.5**
	comp=Z,35nm,1.3s						
ARU	**Arti**	**49.75**	**336**	*d i* P	**P**	**05 46 45.5**	**+0.3**
ARU						05 48 39.8	
ARU				S	**S**	**05 53 52.4**	**+0.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KLBR	**Kellerberrin**	**51.30**	**153**	P	**P**	**05 46 56.7**	**-0.5**
	baz=44,SNR=6.3						
ASAJ	**Asahikawa**	**51.79**	**44**	P	**P**	**05 47 01.4**	**+0.6**
ASAJ	**Asahikawa**	**51.79**	**44**	P	**P**	**05 47 01.4**	**+0.6**
	comp=Z,3.0nm,0.4s,baz=225,slow=10.0,SNR=4.8						
KIV	**Kislovodsk**	**51.96**	**315**	*e*P	**P**	**05 47 02.4**	**+0.2**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
NWAO	**Narrogin (SRO)**	**52.21**	**154**	P	**P**	**05 47 03.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**52.21**	**154**	P	**P**	**05 47 03.5**	**-0.5**
	comp=Z,11nm,0.6s,baz=305,slow=7.3,SNR=7.6						
YSS	**Yuzh-Sakhalins**	**52.88**	**41⇑**	*e*P	**P**	**05 47 09.9**	**+1.1**
WRA	**Warramunga Arr**	**53.01**	**129**	P	**P**	**05 47 09.3**	**-0.8**
WRA	**Warramunga Arr**	**53.01**	**129**	P	**P**	**05 47 09.3**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=311,slow=7.7,SNR=22						
ASF	**Jabal al Asfar**	**53.91**	**300**	LR	LR	06 14 56.4	
	comp=Z,51nm,18.1s,baz=224,slow=41						
AS31	**Alice Springs**	**54.95**	**133**	*e*P	**P**	**05 47 23.6**	**-0.6**
ASAR	**Alice Springs**	**54.95**	**133**	P	**P**	**05 47 23.5**	**-0.8**
ASAR	**Alice Springs**	**54.95**	**133**	P	**P**	**05 47 23.5**	**-0.8**
	comp=Z,4.0nm,0.5s,baz=309,slow=6.8,SNR=69						
BR131	**Keskin Array S**	**57.52**	**308**	*e*P	**P**	**05 47 42.1**	**-0.4**
	comp=Z,1.5nm,0.7s						
BRTR	**Keskin Array B**	**57.52**	**308**	P	**P**	**05 47 42.1**	**-0.4**
BRTR	**Keskin Array B**	**57.52**	**308**	P	**P**	**05 47 42.1**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=112,slow=7.3,SNR=11						
PMG	**Port Moresby**	**58.74**	**110**	P	**P**	**05 47 49.4**	**-1.9**
PMG	**Port Moresby**	**58.74**	**110**	P	**P**	**05 47 49.4**	**-1.9**
	comp=Z,19nm,0.9s,baz=18,slow=3.2,SNR=2.7						
OBN	**Obninsk**	**59.52**	**326**	*e*P	**P**	**05 47 54.8**	**-1.3**
OBN				*e*SS	SS	05 59 58.7	-0.2
OBN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
STKA	**Stephens Creek**	**65.34**	**135**	P	**P**	**05 48 35.0**	**-0.3**
STKA	**Stephens Creek**	**65.34**	**135**	P	**P**	**05 48 35.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=22,slow=22,SNR=4.2						
STKA	**Stephens Creek**	**65.34**	**135**	P	P	05 48 47.0	+12
	baz=59,SNR=4.0						
FINES	**FINESS Array B**	**66.69**	**331**	P	**P**	**05 48 42.7**	**-0.8**
FINES	**FINESS Array B**	**66.69**	**331**	P	**P**	**05 48 42.7**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=106,slow=6.9,SNR=7.6						
CRVS	**Cervenica-Dubn**	**67.30**	**317**	*e*P	**P**	**05 48 50.0**	**+2.3**
CRVS	**Cervenica-Dubn**	**67.30**	**317**	*e*P	**P**	**05 48 50.0**	**+2.3**
CMSA	**Cobar Meteorol**	**68.00**	**133**	P	**P**	**05 48 52.8**	**+0.5**
	baz=62,SNR=6.3						
ARCES	**ARCESS Array B**	**69.06**	**340**	P	**P**	**05 48 58.2**	**-0.1**
ARCES	**ARCESS Array B**	**69.06**	**340**	P	**P**	**05 48 58.2**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=79,slow=6.3,SNR=9.2						
ARCES				LR	LR	06 22 33.8	
	comp=Z,113nm,18.2s,baz=71,slow=39						
DPC	**Dobruska-Polom**	**70.70**	**319**	*e*sP	sP	05 49 27.0	+4.4
GERES	**GERESS Array B**	**72.41**	**317**	P	**P**	**05 49 18.9**	**-0.4**
GERES	**GERESS Array B**	**72.41**	**317**	P	**P**	**05 49 18.9**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=90,slow=5.3,SNR=10						
KHC	**Kasperske Hory**	**72.49**	**317**	*e*sP	sP	05 49 33.4	0.0
NB2	**NORSAR Subarra**	**73.76**	**330**	P	**P**	**05 49 26.1**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=88,slow=5.9						
NOA	**NORSAR Array B**	**73.76**	**330**	P	**P**	**05 49 26.0**	**-0.9**
NOA	**NORSAR Array B**	**73.76**	**330**	P	**P**	**05 49 26.0**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=90,slow=5.7,SNR=5.8						
KEST	**Kesra**	**76.70**	**304**	P	**P**	**05 49 45.4**	**+1.0**
KEST	**Kesra**	**76.70**	**304**	P	**P**	**05 49 45.4**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=114,slow=20,SNR=3.7						
LPG	**La Plagne**	**77.39**	**314**	*e*P	**P**	**05 49 48.4**	**+0.1**
	comp=Z,16nm,0.8s						
MBDF	**Montbardon**	**77.47**	**313**	*e*P	**P**	**05 49 48.9**	**+0.2**
	comp=Z,6.8nm,0.8s						
BOSA	**Boshof**	**77.82**	**236**	P	**P**	**05 49 51.0**	**+0.3**
BOSA	**Boshof**	**77.82**	**236**	P	**P**	**05 49 51.0**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=0.3,slow=11,SNR=6.0						
DZM	**Mont Dzumac**	**80.59**	**116**	P	**P**	**05 50 06.1**	**+0.1**
DZM	**Mont Dzumac**	**80.59**	**116**	P	**P**	**05 50 06.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=243,slow=14,SNR=2.8						
ESDC	**Sonseca Array**	**86.27**	**310**	P	**P**	**05 50 34.8**	**-0.2**
ESDC	**Sonseca Array**	**86.27**	**310**	P	**P**	**05 50 34.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=54,slow=4.5,SNR=4.1						
IMA2	**Indian Mountai**	**86.43**	**22**	*e*P	**P**	**05 50 35.3**	**0.0**
SUMG	**Summit**	**87.88**	**347**	*e*P	**P**	**05 50 41.7**	**-0.8**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	**Summit**	**87.88**	**347**	*e*P	**P**	**05 50 41.7**	**-0.8**
	comp=Z,7.6nm,1.0s						
PPLA	**Purkeypile**	**88.49**	**25**	*e*P	**P**	**05 50 45.0**	**-0.2**
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**89.55**	**22**	P	**P**	**05 50 49.0**	**-1.0**
ILAR	**Eielson Array**	**89.55**	**22**	P	**P**	**05 50 49.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=298,slow=4.5,SNR=19						
SML	**Sawmill**	**90.59**	**25**	*e*P	**P**	**05 50 54.3**	**-0.7**
SML				pmax	pmax		
	comp=Z,24nm,2.0s						
SML	**Sawmill**	**90.59**	**25**	*e*P	**P**	**05 50 54.3**	**-0.7**
	comp=Z,24nm,2.0s						
BW06	**Boulder Array**	**119.85**	**19**	*e*PKPdf	**PKPdf**	**05 56 42.8**	**-0.9**
PDAR	**Pinedale Array**	**119.85**	**19**	PKP	**PKPdf**	**05 56 42.7**	**-1.0**
PDAR	**Pinedale Array**	**119.85**	**19**	PKP	**PKPdf**	**05 56 42.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=279,slow=1.1,SNR=8.9						
NVAR	**Mina Array Bea**	**120.22**	**28**	PKP	**PKPdf**	**05 56 45.2**	**+0.7**
NVAR	**Mina Array Bea**	**120.22**	**28**	PKP	**PKPdf**	**05 56 45.2**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=329,slow=2.0,SNR=15						
ECSD	**EROS Data Cent**	**121.86**	**8**	*e*PKPdf	**PKPdf**	**05 56 46.3**	**-1.0**
MSU	**Marysvale**	**122.72**	**23**	*e*PKIKP	**PKPdf**	**05 56 49.9**	**+0.5**
MSU	**Marysvale**	**122.72**	**23**	*e*PKPdf	**PKPdf**	**05 56 49.9**	**+0.5**
PMSA	**Palmer Station**	**126.89**	**192**	PKP	**PKPdf**	**05 56 57.7**	**+1.6**
PMSA	**Palmer Station**	**126.89**	**192**	PKP	**PKPdf**	**05 56 57.7**	**+1.6**
	comp=Z,2.5nm,0.6s,baz=191,slow=19,SNR=3.0						
TXAR	**Lajitas Array**	**134.04**	**20**	PKP	**PKPdf**	**05 57 11.2**	**+0.2**
TXAR	**Lajitas Array**	**134.04**	**20**	PKP	**

WRA	**Warramunga Arr**	**21.28 157**	P	**P**	**05 51 26.3**	**-1.1**
	7.5nm,0.8s,baz=335,slow=11,SNR=23					
COEN	**Coen**	**22.03 129**	P	**P**	**05 51 36.5**	**+1.1**
	baz=22,SNR=7.9					
AS31	**Alice Springs**	**24.56 161**	*e*P	**P**	**05 52 00.5**	**+0.4**
ASAR	**Alice Springs**	**24.56 161**	P	**P**	**05 52 00.8**	**+0.6**
ASAR	**Alice Springs**	**24.56 161**	P	**P**	**05 52 00.8**	**+0.6**
	4.2nm,0.7s,baz=345,slow=8.5,SNR=28					
MEEK	**Meekatharra**	**27.02 194**	P	**P**	**05 52 24.6**	**+2.2**
	baz=27,SNR=4.2					
CMAR	**Chiang Mai Arr**	**32.18 307**	P	**P**	**05 53 07.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**32.18 307**	P	**P**	**05 53 07.7**	**-0.6**
	0.5nm,0.3s,baz=134,slow=5.2,SNR=4.1					
STKA	**Stephens Creek**	**34.83 156**	P	**P**	**05 53 31.8**	**+0.7**
STKA	**Stephens Creek**	**34.83 156**	P	**P**	**05 53 31.8**	**+0.7**
	7.6nm,0.8s,baz=326,slow=10,SNR=10					
STKA	**Stephens Creek**	**34.83 156**	P	**P**	**05 53 32.0**	**+0.9**
	baz=34,SNR=7.6					
KSAR	**Wonju Array Be**	**37.64 3**	P	**P**	**05 53 56.3**	**+1.3**
KSRS	**Korea Array**	**37.65 3**	P	**P**	**05 53 56.3**	**+1.2**
	2.0nm,0.7s,baz=183,slow=9.8,SNR=7.6					
MJAR	**Matsushiro Arr**	**38.50 16**	P	**P**	**05 54 01.5**	**-0.7**
MJAR	**Matsushiro Arr**	**38.50 16**	P	**P**	**05 54 01.5**	**-0.7**
	1.2nm,0.6s,baz=192,slow=9.9,SNR=4.2					
ARPS	**Mount Arapiles**	**39.25 159**	P	**P**	**05 54 10.4**	**+1.9**
	baz=39,SNR=7.9					
ASAJ	**Asahikawa**	**46.77 17**	P	**P**	**05 55 08.8**	**-0.3**
ASAJ	**Asahikawa**	**46.77 17**	P	**P**	**05 55 08.8**	**-0.3**
	3.3nm,0.3s,baz=233,slow=20,SNR=2.8					
SONM	**Songino Array**	**50.80 343**	P	**P**	**05 55 40.9**	**+0.7**
SONM	**Songino Array**	**50.80 343**	P	**P**	**05 55 40.9**	**+0.7**
	1.6nm,0.7s,baz=157,slow=8.3,SNR=11					
PETK	**Petropavlovsk-**	**59.58 22**	P	**P**	**05 56 44.5**	**+1.2**
PETK	**Petropavlovsk-**	**59.58 22**	P	**P**	**05 56 44.5**	**+1.2**
	4.8nm,0.8s,baz=203,slow=6.4,SNR=6.8					
MK31	**Makanchi Array**	**60.29 327**	*e*P	**P**	**05 56 47.0**	**-1.2**
MKAR	**Makanchi Array**	**60.29 327**	P	**P**	**05 56 46.5**	**-1.7**
MKAR	**Makanchi Array**	**60.29 327**	P	**P**	**05 56 46.5**	**-1.7**
	1.2nm,0.5s,baz=122,slow=8.8,SNR=14					
ZALV	**Zalesovo Beam**	**63.71 334**	P	**P**	**05 57 09.2**	**-1.8**
ZALV	**Zalesovo Beam**	**63.71 334**	P	**P**	**05 57 09.2**	**-1.8**
	0.6nm,0.4s,baz=134,slow=6.2,SNR=2.5					
KURBB	**Kurchatov Arra**	**64.58 329**	P	**P**	**05 57 15.4**	**-1.3**
	0.6nm,0.5s,baz=135,slow=6.4,SNR=7.9					
KURK	**Kurchatov**	**64.58 329**	P	**P**	**05 57 15.4**	**-1.4**
BVAR	**Borovoye Array**	**70.13 328**	P	**P**	**05 57 51.1**	**-0.8**
BVAR	**Borovoye Array**	**70.13 328**	P	**P**	**05 57 51.1**	**-0.8**
	0.6nm,0.5s,baz=189,slow=6.9,SNR=5.0					
ABKAR	**Akbulak array**	**74.60 322**	*e*P	**P**	**05 58 17.5**	**-1.1**
	0.5nm,0.4s					
AKTO	**Aktyubinsk**	**76.16 322**	P	**P**	**05 58 27.4**	**-0.1**
AKTO	**Aktyubinsk**	**76.16 322**	P	**P**	**05 58 27.4**	**-0.1**
	1.4nm,0.5s,baz=92,slow=9.2,SNR=6.5					
VNDA	**Vanda**	**79.58 172**	P	**P**	**05 58 45.1**	**-0.8**
VNDA	**Vanda**	**79.58 172**	P	**P**	**05 58 45.1**	**-0.8**
	0.8nm,0.6s,baz=340,slow=7.1,SNR=5.8					
ILAR	**Eielson Array**	**89.22 25**	P	**P**	**05 59 33.9**	**-1.0**
ILAR	**Eielson Array**	**89.22 25**	P	**P**	**05 59 33.9**	**-1.0**
	0.2nm,0.7s,baz=267,slow=5.7,SNR=3.4					
ESDC	**Sonseca Array**	**119.69 317**	PKP	**PKPdf**	**06 05 28.4**	**-1.3**
ESDC	**Sonseca Array**	**119.69 317**	PKP	**PKPdf**	**06 05 28.4**	**-1.3**
	0.4nm,0.3s,baz=109,slow=4.0,SNR=8.5					
TORD	**Torodi Ar. Bea**	**123.02 285**	PKP	**PKPdf**	**06 05 36.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**123.02 285**	PKP	**PKPdf**	**06 05 36.2**	**-0.4**
	0.6nm,0.7s,baz=51,slow=1.3,SNR=4.3					

CASC 18 06:04:19.7±2.9, 8°37′N×82°83′W, h1km±11km, MD3.7, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.44**	**311**	⇑*e*P	Pg	06 04 29.0	+0.8
ACR				*e*S	Sb	06 04 36.7	-0.8
BRU2	**Volcan**	**0.45**	**18**	⇓*i*P	Pb	06 04 30.1	-0.5
BRU2				*e*S	Sb	06 04 38.7	+0.8
TBS2		**0.46**	**22**	*e*P	Pb	06 04 31.1	+0.3
TBS2				*e*S	Sb	06 04 40.0	+1.7
BRU	**Baru**	**0.51**	**31**	*e*P	Pb	06 04 31.4	-0.7
BRU				*e*S	Sb	06 04 40.0	-0.5
CTCR	**Cotoan**	**0.53**	**8**	⇓*i*P	Pb	06 04 31.4	-0.7
CTCR				*e*S	Sg	06 04 38.3	+1.0
CNI	**Changuinola**	**1.09**	**17**	⇓*i*P	Pg	06 04 40.5	-0.1
CNI				*e*S	Sb	06 04 56.7	+0.6
BUS	**Buena Vista**	**1.50**	**322**	*e*P	Pn	06 04 46.3	-2.0
BUS				*e*S	Sb	06 05 08.3	-0.5
QCR	**Quepos**	**1.69**	**309**	*e*P	Pn	06 04 48.9	-1.4
QCR				*e*S	Sn	06 05 12.2	-0.3
URSC	**Urasca**	**1.73**	**327**	*e*P	Pn	06 04 50.3	-1.0
URSC				*e*S	Sn	06 05 14.2	0.0
SJS	**Escuela Geolog**	**1.98**	**322**	*e*P	Pn	06 04 55.0	+0.5
SJS				*e*S	Sb	06 05 22.2	+0.3
CGA2	**Cerro Gallo 2**	**2.30**	**316**	*e*P	Pn	06 05 00.1	+1.1
CGA2				*e*S	Sb	06 05 31.3	0.0

DJA ***18*** *06:05:41.1±1.6, 1°N±23°×12°6E±°, h10km, M5.5/6, mB7.2/1, mb6.7/1, MLv4.8/6, Mw(mB)7.1/1*
IDC ***18*** *06:05:44.9±0.8, 0°14S×125°72E, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/24, mbtmp4.0/11, ML3.8/2, MS4.3/1, Ms1 4.3/1, ms1mx2.7/41, Error ellipse: s-maj=37.1km s-min=14.9km az=81.0*
NEIC ***18*** *06:05:49.9±0.3, 0°18S×125°74E, h35km, mb4.4/3, Error ellipse: s-maj=9.7km s-min=5.8km az=78.0*

ISC 18 06:05:51.4±0.6, 0°24S±0°07×125°60E±0°06, h49km, n37, σ1§03/33, mb4.1/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.81**	**297**	P	**Pn**	**06 06 21.2**	**+1.1**
LBMI	**Labuha**	**1.95**	**102**	P	**Pn**	**06 06 23.3**	**+1.3**
GTOI	**Gorontalo**	**2.73**	**289**	P	Pn	06 06 37.2	+4.5
LUWI	**Luwuk**	**2.93**	**254**	P	Pn	06 06 45.5	+10
MRSI	**Marisa**	**3.72**	**281**	P	Pn	06 06 55.8	+9.4
SKSI	**Soroako, Sulaw**	**4.83**	**242**	P	**Pn**	**06 07 04.2**	**+2.5**
PCI	**Palu**	**5.80**	**263**	P	Pn	06 07 20.6	+5.7
TTSI	**Tana Toraja**	**6.41**	**244**	P	Pn	06 07 39.5	+16
KAPI	**Kappang**	**7.52**	**231**	Pn	**Pn**	**06 07 39.4**	**+0.9**
KAPI				Sn	**Sn**	**06 09 00.3**	**-2.2**
KAPI	**Kappang**	**7.52**	**231**	Pn	**Pn**	**06 07 39.4**	**+0.9**
	0.7nm,0.3s,baz=55,slow=16,SNR=4.5						
KAPI				Sn	**Sn**	**06 09 00.3**	**-2.2**
	0.2nm,0.3s,baz=102,slow=19,SNR=1.7						
FITZ	**Fitzroy Crossi**	**17.75 180**	P	**Pn**	**06 09 54.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**17.75 180**	P	**Pn**	**06 09 54.7**	**-0.5**
	0.4nm,0.3s,baz=12,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**21.37 157**	*e*P	**P**	**06 10 34.0**	**-0.8**
	15nm,1.5s						
WRA	**Warramunga Arr**	**21.37 157**	P	**P**	**06 10 34.1**	**-0.8**
WRA	**Warramunga Arr**	**21.37 157**	P	**P**	**06 10 34.1**	**-0.8**
	2.8nm,0.3s,baz=335,slow=11,SNR=58						
ASAR	**Alice Springs**	**24.65 161**	P	**P**	**06 11 08.1**	**+0.4**
ASAR	**Alice Springs**	**24.65 161**	P	**P**	**06 11 08.1**	**+0.4**
	1.3nm,0.5s,baz=344,slow=8.1,SNR=15						
IPM	**Ipoh**	**24.99 281**	*e*P	**P**	**06 11 12.2**	**+1.4**
	17nm,0.7s						
KULM	**Kulim**	**25.51 283**	*e*P	**P**	**06 11 16.6**	**+1.0**
	14nm,1.4s						
STKA	**Stephens Creek**	**34.92 156**	P	**P**	**06 12 39.3**	**+0.7**
STKA	**Stephens Creek**	**34.92 156**	P	**P**	**06 12 39.3**	**+0.7**
	2.7nm,0.5s,baz=284,slow=3.8,SNR=6.0						
HNR	**Honiara**	**35.39 106**	LR	LR	06 25 13.1		
	comp=Z,546nm,21.6s,baz=146,slow=33						
KSAR	**Wonju Array Be**	**37.55 3**	P	**P**	**06 12 60.0**	**-1.0**
KSRS	**Korea Array**	**37.57 3**	P	**P**	**06 12 59.9**	**-1.1**
	0.5nm,0.5s,baz=180,slow=10,SNR=2.2						
MJAR	**Matsushiro Arr**	**38.42 16**	P	**P**	**06 13 07.8**	**-0.6**
MJAR	**Matsushiro Arr**	**38.42 16**	P	**P**	**06 13 07.8**	**-0.6**
	0.6nm,0.4s,baz=189,slow=6.9,SNR=3.4						
SONM	**Songino Array**	**50.71 343**	P	**P**	**06 14 46.1**	**-0.2**
SONM	**Songino Array**	**50.71 343**	P	**P**	**06 14 46.1**	**-0.2**
	1.1nm,0.9s,baz=154,slow=8.1,SNR=6.1						
PETK	**Petropavlovsk-**	**59.51 22**	P	**P**	**06 15 48.8**	**-0.7**
PETK	**Petropavlovsk-**	**59.51 22**	P	**P**	**06 15 48.8**	**-0.7**
	1.0nm,0.6s,baz=183,slow=8.7,SNR=2.9						
MK31	**Makanchi Array**	**60.20 327**	*e*P	**P**	**06 15 54.4**	**-0.1**
MKAR	**Makanchi Array**	**60.20 327**	P	**P**	**06 15 54.3**	**-0.1**
MKAR	**Makanchi Array**	**60.20 327**	P	**P**	**06 15 54.3**	**-0.1**
	0.6nm,0.3s,baz=125,slow=8.0,SNR=16						
VNDA	**Vanda**	**79.66 172**	P	**P**	**06 17 53.6**	**+0.3**
VNDA	**Vanda**	**79.66 172**	P	**P**	**06 17 53.6**	**+0.3**
	0.6nm,0.8s,baz=293,slow=17,SNR=3.4						
TORD	**Torodi Ar. Bea**	**122.97 285**	PKP	**PKPdf**	**06 24 43.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.97 285**	PKP	**PKPdf**	**06 24 43.9**	**+0.5**
	0.3nm,0.6s,baz=64,slow=3.4,SNR=3.0					

DDA ***18*** *06:11:40.8, 39°48N×28°07E, h7km, ML3.6*
ISCJB ***18*** *06:11:41.6±0.4, 39°51N±0°02×28°08E±0°02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.8km az=10.7*
ISK ***18*** *06:11:41.4, 39°51N×28°09E, h11km, ML3.5*
CSEM ***18*** *06:11:41.7±0.1, 39°52N×28°09E, h5km, ML3.5, Error ellipse: s-maj=2.4km s-min=2.3km az=69.0*
THE ***18*** *06:11:43.2, 39°68N×27°92E, h5km±31km, ML3.6/3, Error ellipse: s-maj=31.6km s-min=1.8km az=0.0*

ISC 18 06:11:42.2±0.9, 39°50N±0°02×28°08E±0°02, h12km±7km, n109, σ0§78/135, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.20**	**312**	PG	**Pg**	**06 11 46.3**	**-0.3**
BALB				SG	**Sg**	**06 11 50.5**	**+0.8**
BALB	**Balikesir**	**0.20**	**312**	*i* Pg	**Pg**	**06 11 46.3**	**-0.3**
BALB				*i* Sg	**Sg**	**06 11 50.5**	**+0.8**
DURS	**Dursunbey**	**0.32**	**72**	*i* Pg	**Pg**	**06 11 48.1**	**-0.7**
DURS				*i* Sg	**Sg**	**06 11 53.3**	**+0.1**
BALY	**Balya**	**0.42**	**304**	*i* P	**Pg**	**06 11 49.8**	**-0.8**
BALY				*i* S	**Sg**	**06 11 56.0**	**-0.3**
BALY	**Balya**	**0.42**	**304**	*i* P	**Pg**	**06 11 49.8**	**-0.8**
BALY				*i* S	**Sg**	**06 11 56.0**	**-0.3**
DST	**Dursunbey**	**0.43**	**77**	PG	**Pg**	**06 11 50.1**	**-0.6**
DST				SG	**Sg**	**06 11 56.4**	**-0.1**
DST	**Dursunbey**	**0.43**	**77**	*i* Pg	**Pg**	**06 11 50.1**	**-0.6**
DST				*i* Sg	**Sg**	**06 11 56.4**	**-0.1**
GONE	**Gonen-Balikesi**	**0.62**	**331**	PG	**Pg**	**06 11 53.6**	**-0.6**
GONE	**Gonen-Balikesi**	**0.62**	**331**	*i* Pg	**Pg**	**06 11 53.6**	**-0.6**
AKHS	**Akhisar**	**0.66**	**198**	*i* P	**Pg**	**06 11 53.3**	**-1.6**
AKHS				*i* S	**Sg**	**06 12 03.3**	**-0.3**
AKHS	**Akhisar**	**0.66**	**198**	*i* P	**Pg**	**06 11 53.3**	**-1.6**
DEMI	**Demirci**	**0.68**	**133**	*i* P	**Pg**	**06 11 54.7**	**-0.7**
DEMI				*i* S	**Sg**	**06 12 04.3**	**0.0**
DEMI	**Demirci**	**0.68**	**133**	*i* P	**Pg**	**06 11 54.7**	**-0.7**
DEMI				*i* S	**Sg**	**06 12 04.3**	**0.0**
KCTX	**Karacabey (Bur**	**0.79**	**16**	PG	**Pg**	**06 11 56.7**	**-0.8**
KCTX	**Karacabey (Bur**	**0.79**	**16**	*i* Pg	**Pg**	**06 11 56.7**	**-0.8**
ORLT	**Orhaneli**	**0.83**	**49**	PG	**Pg**	**06 11 57.7**	**-0.6**
ORLT	**Orhaneli**	**0.83**	**49**	*i* Pg	**Pg**	**06 11 57.7**	**-0.6**
BNT	**Bandirma**	**0.86**	**352**	PG	**Pg**	**06 11 57.9**	**-0.9**
BNT	**Bandirma**	**0.86**	**352**	*i* Pg	**Pg**	**06 11 57.9**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.06**	**36**	PG	**Pb**	**06 12 02.0**	**-0.4**
MDNY				SG	**Sn**	**06 12 18.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.06**	**36**	*i* Pg	**Pb**	**06 12 02.1**	**-0.4**
KRBG	**Karabiga-Canak**	**1.07**	**326**	*e*PG	**Pg**	**06 12 01.6**	**-1.1**
KRBG				*e*SG	**Sn**	**06 12 17.6**	**-0.1**
KRBG	**Karabiga-Canak**	**1.07**	**326**	*e*Pg	**Pg**	**06 12 01.7**	**-1.1**
KRBG				*e*Sg	**Sn**	**06 12 17.6**	**-0.1**
MANT	**Manisa**	**1.08**	**159**	*i* P	**Pg**	**06 12 02.0**	**-1.0**
MANT				*i* S	**Sg**	**06 12 16.4**	**-1.0**
MANT	**Manisa**	**1.08**	**159**	*i* P	**Pg**	**06 12 02.0**	**-1.0**
AYVA	**Ayvalik**	**1.09**	**260**	*i* P	**Pb**	**06 12 03.0**	**+0.1**
AYVA				*i* S	**Sb**	**06 12 17.9**	**+0.8**
AYVA	**Ayvalik**	**1.09**	**260**	*i* P	**Pb**	**06 12 03.0**	**+0.1**
AYVA				*i* S	**Sb**	**06 12 17.9**	**+0.8**
ARMT	**Armutlu**	**1.22**	**29**	*e*PN	**Pg**	**06 12 04.4**	**-1.2**
ARMT	**Armutlu**	**1.22**	**29**	*e*Pn	**Pg**	**06 12 04.4**	**-1.2**
LPK	**Lapseki**	**1.33**	**311**	*e*PN	**Pn**	**06 12 06.2**	**-0.3**
LPK	**Lapseki**	**1.33**	**311**	*e*Pn	**Pn**	**06 12 06.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.37**	**330**	*e*PN	**Pn**	**06 12 07.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.37**	**330**	*e*Pn	**Pn**	**06 12 07.1**	**0.0**
MFT	**Murefte**	**1.42**	**335**	*e*PN	**Pn**	**06 12 07.7**	**-0.1**
MFT	**Murefte**	**1.42**	**335**	*e*Pn	**Pn**	**06 12 07.7**	**-0.1**
PRK	**Paraskevi**	**1.42**	**260**	P	**Pn**	**06 12 07.5**	**-0.2**
PRK				S	**Sb**	**06 12 26.1**	**-0.5**
PRK	**Paraskevi**	**1.42**	**260**	P	**Pn**	**06 12 07.5**	**-0.2**
PRK				S	**Sb**	**06 12 26.1**	**-0.5**
YLV	**Yalova**	**1.46**	**43**	*e*PN	**Pn**	**06 12 07.9**	**-0.4**
YLV	**Yalova**	**1.46**	**43**	*e*Pn	**Pn**	**06 12 07.9**	**-0.4**
CAVI	**Cavuskoy**	**1.53**	**62**	*e*PN	**Pn**	**06 12 09.2**	**0.0**
CAVI	**Cavuskoy**	**1.53**	**62**	*e*Pn	**Pn**	**06 12 09.3**	**0.0**
TKR	**Tekirdag**	**1.54**	**345**	*e*PN	**Pn**	**06 12 09.5**	**+0.1**
TKR	**Tekirdag**	**1.54**	**345**	*e*Pn	**Pn**	**06 12 09.5**	**+0.1**
BUY	**Buyukada**	**1.57**	**30**	*e*PN	**Pn**	**06 12 09.1**	**-0.6**
BUY	**Buyukada**	**1.57**	**30**	*e*Pn	**Pn**	**06 12 09.1**	**-0.6**
ADVT	**Abdulvahap**	**1.58**	**53**	*e*PN	**Pn**	**06 12 10.0**	**+0.1**
ADVT	**Abdulvahap**	**1.58**	**53**	*e*Pn	**Pn**	**06 12 10.0**	**+0.1**
KHL	**Karahalli**	**1.63**	**136**	*e*PN	**Pn**	**06 12 10.1**	**-0.7**
KHL	**Karahalli**	**1.63**	**136**	*e*Pn	**Pn**	**06 12 10.1**	**-0.7**
SLVT	**Silivri**	**1.73**	**3**	*e*PN	**Pn**	**06 12 12.5**	**+0.5**
SLVT	**Silivri**	**1.73**	**3**	*e*Pn	**Pn**	**06 12 12.5**	**+0.5**
ISK	**Istanbul-Kandi**	**1.73**	**25**	*e*PN	**Pn**	**06 12 11.3**	**-0.7**
ISK	**Istanbul-Kandi**	**1.73**	**25**	*e*Pn	**Pn**	**06 12 11.3**	**-0.7**
SIGR	**SIGRI**	**1.75**	**261**	P	**Pn**	**06 12 11.6**	**-0.6**
SIGR				S	**Sn**	**06 12 34.0**	**-0.3**
SIGR	**SIGRI**	**1.75**	**261**	P	**Pn**	**06 12 11.6**	**-0.6**
SIGR				S	**Sn**	**06 12 34.0**	**-0.3**
BGKT	**Bogazkoy**	**1.76**	**17**	*e*PN	**Pn**	**06 12 11.9**	**-0.5**
BGKT	**Bogazkoy**	**1.76**	**17**	*e*Pn	**Pn**	**06 12 11.9**	**-0.5**
CTKS	**Kestanelik-??a**	**1.76**	**11**	*e*PN	**Pn**	**06 12 12.3**	**-0.1**
CTKS	**Kestanelik-??a**	**1.76**	**11**	*e*Pn	**Pn**	**06 12 12.3**	**-0.1**
HRT	**Hereke**	**1.79**	**42**	*e*PN	**Pn**	**06 12 13.4**	**+0.5**
HRT	**Hereke**	**1.79**	**42**	*e*Pn	**Pn**	**06 12 13.4**	**+0.5**
AYDN	**Tasoluk**	**1.85**	**185**	*e*P	**Pb**	**06 12 15.8**	**-0.1**
AYDN				*e*S	**Sn**	**06 12 37.6**	**+0.7**
AYDN	**Tasoluk**	**1.85**	**185**	*e*P	**Pb**	**06 12 15.8**	**-0.1**
AYDN				*e*S	**Sn**	**06 12 37.6**	**+0.7**
GPA	**Golpazari**	**1.89**	**65**	*e*PN	**Pn**	**06 12 14.0**	**-0.2**
GPA	**Golpazari**	**1.89**	**65**	*e*Pn	**Pn**	**06 12 14.0**	**-0.2**
KLYT	**Kilyos**	**1.90**	**23**	*e*PN	**Pn**	**06 12 14.4**	**+0.1**
KLYT	**Kilyos**	**1.90**	**23**	*e*Pn	**Pn**	**06 12 14.4**	**+0.1**
ENEZ	**Enez**	**1.92**	**310**	*e*PN	**Pn**	**06 12 14.4**	**-0.2**
ENEZ	**Enez**	**1.92**	**310**	*e*Pn	**Pn**	**06 12 14.4**	**-0.2**
CHOS	**Chios island**	**1.93**	**235**	P	**Pn**	**06 12 16.3**	**+1.5**
CHOS				S	**Sb**	**06 12 41.2**	**-0.1**
CHOS	**Chios island**	**1.93**	**235**	P	**Pn**	**06 12 16.3**	**+1.5**
CHOS				S	**Sb**	**06 12 41.2**	**-0.1**
CTYL	**Yal??k??y-??at**	**1.98**	**5**	*e*PN	**Pn**	**06 12 15.5**	**+0.1**
CTYL	**Yal??k??y-??at**	**1.98**	**5**	*e*Pn	**Pn**	**06 12 15.5**	**+0.1**
SILT	**Sile**	**2.04**	**36**	*e*PN	**Pn**	**06 12 17.0**	**+0.8**
SILT	**Sile**	**2.04**	**36**	*e*Pn	**Pn**	**06 12 17.0**	**+0.8**
SMG	**Samos**	**2.04**	**209**	P	**Pb**	**06 12 18.1**	**-1.0**
SMG				S	**Sb**	**06 12 45.9**	**+1.5**
SMG	**Samos**	**2.04**	**209**	P	**Pb**	**06 12 18.1**	**-1.0**
SMG				S	**Sb**	**06 12 45.9**	**+1.5**
SPNC	**Sapanca-Adapaz**	**2.08**	**55**	*e*PN	**Pn**	**06 12 18.0**	**+1.2**
SPNC	**Sapanca-Adapaz**	**2.08**	**55**	*e*Pn	**Pn**	**06 12 18.0**	**+1.2**
GULT	**Gulveren**	**2.09**	**63**	*e*PN	**Pn**	**06 12 17.5**	**+0.4**
GULT	**Gulveren**	**2.09**	**63**	*e*Pn	**Pn**	**06 12 17.5**	**+0.4**
ESKT	**Eskisehir**	**2.15**	**89**	*e*PN	**Pn**	**06 12 18.0**	**+0.1**
ESKT	**Eskisehir**	**2.15**	**89**	*e*Pn	**Pn**	**06 12 18.0**	**+0.1**
SHUT	**Suhut-Afyon**	**2.15**	**115**	*e*PN	**Pn**	**06 12 17.7**	**-0.2**
SHUT	**Suhut-Afyon**	**2.15**	**115**	*e*Pn	**Pn**	**06 12 17.7**	**-0.2**
PHSR	**Pinarhisar**	**2.17**	**349**	*e*PN	**Pn**	**06 12 19.3**	**+1.3**
PHSR	**Pinarhisar**	**2.17**	**349**	*e*Pn	**Pn**	**06 12 19.3**	**+1.3**
MLSB	**Milas**	**2.22**	**186**	*e*PN	**Pn**	**06 12 19.4**	**+0.7**
MLSB	**Milas**	**2.22**	**186**	*e*Pn	**Pn**	**06 12 19.5**	**+0.7**
YER	**Yerkesik**	**2.37**	**176**	*e*PN	**Pn**	**06 12 21.4**	**+0.6**
YER	**Yerkesik**	**2.37**	**176**	*e*Pn	**Pn**	**06 12 21.5**	**+0.6**
BODT	**Bodrum**	**2.51**	**194**	*e*PN	**Pn**	**06 12 23.4**	**+0.6**
BODT	**Bodrum**	**2.51**	**194**	*e*Pn	**Pn**	**06 12 23.4**	**+0.6**
EDRB	**Edirne**	**2.55**	**337**	*e*PN	**Pn**	**06 12 24.6**	**+1.3**
EDRB	**Edirne**	**2.55**	**337**	*e*Pn	**Pn**	**06 12 24.6**	**+1.3**
MDUB	**Mudurnu**	**2.59**	**67**	*e*PN	**Pn**	**06 12 25.1**	**+1.2**
MDUB	**Mudurnu**	**2.59**	**67**	*e*Pn	**Pn**	**06 12 25.1**	**+1.2**
SVRH	**Sivrihisar-ESK**	**2.67**	**90**	*e*PN	**Pn**	**06 12 26.2**	**+1.2**
SVRH	**Sivrihisar-ESK**	**2.67**	**90**	*e*Pn	**Pn**	**06 12 26.2**	**+1.2**
DALY	**Dalyan (Mu¨la**	**2.72**	**170**	*e*PN	**Pn**	**06 12 26.7**	**+1.1**
DALY	**Dalyan (Mu¨la**	**2.72**	**170**	*e*Pn	**Pn**	**06 12 26.7**	**+1.1**
DAT	**Datca**	**2.80**	**188**	*e*PN	**Pn**	**06 12 28.0**	**+1.2**
DAT	**Datca**	**2.80**	**188**	*e*Pn	**Pn**	**06 12 28.0**	**+1.2**
FETY	**Fethiye**	**2.97**	**164**	*e*PN	**Pn**	**06 12 30.5**	**+1.4**
FETY	**Fethiye**	**2.97**	**164**	*e*Pn	**Pn**	**06 12 30.5**	**+1.4**
KIZT	**Kizilcal**	**3.02**	**101**	*e*PN	**Pn**	**06 12 31.1**	**+1.2**
KIZT	**Kizilcal**	**3.02**	**101**	*e*Pn	**Pn**	**06 12 31.1**	**+1.2**
BARS	**Barje**	**5.77**	**307**	*e*Pn	**Pn**	**06 13 09.3**	**+1.8**
SELS	**Selova**	**6.42**	**308**	*e*Pn	**Pn**	**06 13 17.6**	**+1.2**

IDC 18 06:29:27.1±1.4, 5°19S×149°54E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=61.1km s-min=24.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**209**	Pn	Pn	06 30 43.9	+3.2
	14nm,0.3s,baz=22,slow=7.6,SNR=15						
PMG				Sn	Sn	06 31 34.8	-2.4
	16nm,0.3s,baz=0.0,slow=20,SNR=7.9						
WRA	**Warramunga Arr**	**20.82**	**224**	P	P	06 34 10.6	+0.1
	2.7nm,0.4s,baz=50,slow=11,SNR=50						
ASAR	**Alice Springs**	**23.75**	**218**	P	P	06 34 40.4	-0.9
	1.1nm,0.5s,baz=53,slow=9.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**26.64**	**239**	P	P	06 35 08.0	+0.3
	1.4nm,0.4s,baz=71,slow=7.4,SNR=12						
STKA	**Stephens Creek**	**27.57**	**195**	P	P	06 35 16.4	+0.4
	1.2nm,0.4s,baz=24,slow=10.0,SNR=3.1						
ILAR	**Eielson Array**	**83.76**	**23**	P	P	06 41 57.6	-0.2
	0.2nm,0.6s,baz=251,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**147.32**	**286**	PKPbc	PKPbc	06 49 13.1	-0.7
	0.3nm,0.5s,baz=74,slow=4.2,SNR=3.5						

IDC 18 06:51:11.5±5.6, 1°57S×99°70E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.2/23, mbtmp3.4/2, Error ellipse: s-maj=284.8km s-min=33.3km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.47**	**121**	P	P	06 58 35.8	+0.2
	0.5nm,1.1s,baz=298,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	07 00 12.2	+0.5
	0.2nm,0.5s,baz=153,slow=9.1,SNR=4.8						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPab	07 10 48.2	-1.0
	0.1nm,0.5s,baz=298,slow=2.7,SNR=4.4		

320nm,0.2s
RSA Sarsar 1.97 129 *i* P **Pn 06 56 34.0 +1.0**
DKH Dar Khakhour 2.01 108 *i* P **Pn 06 56 36.0 +2.4**
DKH *i* S **Sn 06 56 57.0 -0.8**
LIJA Lijar 2.01 66 *i* P **Pn 06 56 31.9 -1.7**
REAL Reales 2.05 79 *i* P **Pb 06 56 36.8 -1.5**
PNCL Nicolau / Gran 2.09 342 *i* Pn **Pn 06 56 35.5 +0.9**
PNCL *e*Sn **Sn 06 56 58.9 -0.7**
PNCL A A 06 57 11.7
809nm,0.6s
PBAR Barrancos 2.12 14 *e*Pn **Pb 06 56 36.8 -2.5**
PBAR *e*Sn **Sb 06 57 01.2 -4.0**
PBAR A A 06 57 08.6
698nm,0.3s
PBAR Barrancos 2.12 14 P **Pb 06 56 36.8 -2.5**
PBAR S **Sb 06 57 01.2 -4.0**
698nm,0.3s
PBAR Barrancos 2.12 14 P **Pb 06 56 36.8 -2.5**
PBAR S **Sb 06 57 01.2 -4.0**
698nm,0.3s
RTC Rabat Centre 2.24 162 *e*Pn Pn 06 56 34.1 -2.5
EMIJ Mijas 2.41 79 ⇑P **Pn 06 56 40.7 +1.7**
275nm,0.3s,SNR=18
EMIJ S **Sn 06 57 08.2 +0.7**
292nm,0.3s
EMIJ Mijas 2.41 79 P **Pn 06 56 40.7 +1.7**
275nm,0.3s,SNR=18
EMIJ S **Sn 06 57 08.2 +0.7**
292nm,0.3s
EVO Evora 2.42 354 *e*Pn **Pn 06 56 40.2 +1.1**
EVO *e*Sn **Sn 06 57 07.6 -0.1**
2µm,0.3s
EVO Evora 2.42 354 *i* Pn **Pn 06 56 40.4 +1.3**
EVO *e*Sn **Sn 06 57 07.7 0.0**
EVO A A 06 57 09.4
1µm,0.1s
EVO Evora 2.42 354 ⇓P **Pn 06 56 40.4 +1.3**
EVO S **Sn 06 57 07.7 0.0**
1µm,0.1s
EVO Evora 2.42 354 P **Pn 06 56 40.4 +1.3**
EVO S **Sn 06 57 07.7 0.0**
1µm,0.1s
EVOP Sao Brissos 2.42 352 *e*Pn **Pn 06 56 40.2 +1.0**
EVOP *e*Sn **Sn 06 57 07.6 -0.2**
793nm,0.3s
MOE Montemor 2.45 348 *e*Pn **Pn 06 56 41.0 +1.4**
MOE *e*Sn **Sn 06 57 08.5 0.0**
MOE Montemor 2.45 348 P **Pn 06 56 41.0 +1.4**
MOE S **Sn 06 57 08.5 0.0**
MOE Montemor 2.45 348 P **Pn 06 56 41.0 +1.4**
MOE S **Sn 06 57 08.5 0.0**
ECAB El Cabril 2.67 42 ⇑P **Pn 06 56 44.4 +1.7**
20nm,0.1s,SNR=18
ECAB S **Sn 06 57 14.2 +0.2**
321nm,0.1s,SNR=12
ECAB El Cabril 2.67 42 P **Pn 06 56 44.4 +1.7**
20nm,0.1s,SNR=18
ECAB S **Sn 06 57 14.2 +0.2**
321nm,0.1s,SNR=12
EBAD Badajoz 2.69 12 ⇓P **Pn 06 56 44.2 +1.4**
30nm,0.1s,SNR=18
EBAD S **Sn 06 57 13.9 -0.4**
748nm,0.1s,SNR=19
EBAD Badajoz 2.69 12 P **Pn 06 56 44.2 +1.4**
30nm,0.1s,SNR=18
EBAD S **Sn 06 57 13.9 -0.4**
748nm,0.1s,SNR=19
EMAL Malaga-Limoner 2.72 75 ⇑P Pn 06 56 46.0 +2.8
EMAL Malaga-Limoner 2.72 75 P Pn 06 56 46.0 +2.8
PESTR Estremoz 2.74 2 *e*Pn **Pn 06 56 44.8 +1.2**
PESTR *e*Sn **Sn 06 57 15.6 -0.1**
PESTR A A 06 57 29.3
428nm,0.5s
PESTR Estremoz 2.74 2 P **Pn 06 56 44.8 +1.2**
PESTR S **Sn 06 57 15.6 -0.1**
428nm,0.5s
PESTR Estremoz 2.74 2 P **Pn 06 56 44.8 +1.2**
PESTR *e*Sn **Sn 06 57 15.6 -0.1**
428nm,0.5s
PACT Alcochete 2.79 342 *i* Pn **Pn 06 56 45.7 +1.5**
PACT *e*Sn **Sn 06 57 16.6 -0.2**
PACT A A 06 57 37.1
643nm,0.5s
LIS Lisbon 2.83 336 *e*P **Pn 06 56 45.7 +0.9**
LIS *e*S **Sn 06 57 16.8 -1.1**
LIS AML AML 06 57 20.4
comp=N,890nm,0.7s
PMST Lisbon--Monsan 2.86 336 *e*Pn **Pn 06 56 46.3 +1.1**
PMST *e*Sn **Sn 06 57 19.1 +0.4**
PMST A A 06 57 22.5
comp=N,423nm,0.6s
PMST Lisbon--Monsan 2.86 336 *e*Pn **Pn 06 56 46.3 +1.1**
PMST *e*Sn **Sn 06 57 19.1 +0.4**
comp=N,423nm,0.6s
INMG Instituto de M 2.88 337 *e*Pn **Pn 06 56 47.0 +1.6**
INMG *e*Sn **Sn 06 57 20.3 +1.3**
INMG A A 06 57 24.5
comp=N,623nm,0.6s
INMG Instituto de M 2.88 337 P **Pn 06 56 47.0 +1.6**
INMG S **Sn 06 57 20.3 +1.3**
comp=N,312nm,0.6s
INMG Instituto de M 2.88 337 P **Pn 06 56 47.0 +1.6**
INMG *e*Sn **Sn 06 57 20.3 +1.3**
comp=N,623nm,0.6s
PMTG Montargil 2.97 352 *i* Pn **Pn 06 56 47.9 +1.2**
PMTG *e*Sn **Sn 06 57 20.8 -0.5**
PMTG A A 06 57 22.8
comp=N,790nm,0.2s
TGT Taghat 2.98 133 *i* P **Pn 06 56 46.0 -1.0**
ELOJ Sierra Loja 3.03 69 ⇑P Pn 06 56 50.4 +2.7
comp=N,142nm,0.2s,SNR=18
ELOJ S **Sn 06 57 24.1 +1.1**
comp=N,200nm,0.2s,SNR=7.9
ELOJ Sierra Loja 3.03 69 P Pn 06 56 50.4 +2.7
comp=N,142nm,0.2s,SNR=18
ELOJ S **Sn 06 57 24.1 +1.1**
comp=N,200nm,0.2s,SNR=7.9
PMAFR Mafra 3.09 337 *e*Pn **Pn 06 56 49.4 +1.0**
PMAFR *e*Sn **Sn 06 57 23.9 -0.5**
PMAFR A A 06 57 24.9
comp=N,1µm,0.3s
PMAFR Mafra 3.09 337 ⇓P **Pn 06 56 49.4 +1.0**
comp=N,216nm,0.1s,SNR=18
PMAFR S **Sn 06 57 23.9 -0.5**
comp=N,2µm,0.3s,SNR=18
PMAFR Mafra 3.09 337 P **Pn 06 56 49.4 +1.0**
comp=N,216nm,0.1s,SNR=18
PMAFR *e*Sn **Sn 06 57 23.9 -0.5**
comp=N,1µm,0.3s
ALMR Almeirim 3.10 347 *e*P **Pn 06 56 49.7 +1.2**
ALMR *e*S **Sn 06 57 23.9 -0.8**
ALMR AML AML 06 57 27.0
comp=E,1µm,0.1s
ELUQ Luque 3.11 61 ⇑P **Pn 06 56 50.9 +2.2**
SNR=18
ELUQ S **Sn 06 57 25.6 +0.8**
comp=E,218nm,0.2s,SNR=7.9
ELUQ Luque 3.11 61 P **Pn 06 56 50.9 +2.2**
SNR=18
ELUQ S **Sn 06 57 25.6 +0.8**
comp=E,218nm,0.2s,SNR=7.9
MPAL Palemas 3.19 105 *i* P **Pn 06 56 52.0 +2.2**
MPAL *i* S **Sn 06 57 26.0 -0.8**
EADA Adamuz 3.23 50 ⇑P **Pn 06 56 52.4 +2.1**
comp=E,136nm,0.1s,SNR=18
EADA S **Sn 06 57 26.9 -0.8**
comp=E,880nm,0.1s,SNR=13
EADA Adamuz 3.23 50 P **Pn 06 56 52.4 +2.1**
comp=E,136nm,0.1s,SNR=18
EADA S **Sn 06 57 26.9 -0.8**
comp=E,880nm,0.1s,SNR=13
ERON Agron 3.26 73 P **Pn 06 56 53.2 +2.3**
comp=E,384nm,0.4s,SNR=7.9
ERON S **Sn 06 57 30.1 +1.4**
comp=E,46nm,0.2s,SNR=7.9
ERON Agron 3.26 73 P **Pn 06 56 53.2 +2.3**
comp=E,384nm,0.4s,SNR=7.9
ERON S **Sn 06 57 30.1 +1.4**
comp=E,46nm,0.2s,SNR=7.9
PMRV Marv??o 3.31 4 *i* Pn **Pn 06 56 52.9 +1.5**
PMRV *e*Sn **Sn 06 57 30.0 +0.3**
PMRV A A 06 57 31.3
comp=E,419nm,0.3s
PMRV Marv??o 3.31 4 ⇓P **Pn 06 56 52.9 +1.5**
PMRV S **Sn 06 57 30.0 +0.3**
comp=E,419nm,0.3s
PMRV Marv??o 3.31 4 P **Pn 06 56 52.9 +1.5**
PMRV *e*Sn **Sn 06 57 30.0 +0.3**
comp=E,419nm,0.3s
EGUA Guajares 3.41 77 P **Pn 06 56 53.8 +1.0**
comp=E,94nm,0.2s,SNR=7.9
EGUA S **Sn 06 57 31.3 -0.9**
comp=E,213nm,0.2s,SNR=7.9
EGUA Guajares 3.41 77 P **Pn 06 56 53.8 +1.0**
comp=E,94nm,0.2s,SNR=7.9
TOU Touzarine 3.42 109 *i* P **Pn 06 56 54.0 +0.9**
ECOG Cogollos-Vega 3.52 70 ⇓P Pn 06 56 57.2 +2.8
comp=E,512nm,0.2s,SNR=18
ECOG S **Sn 06 57 36.0 +1.0**
comp=E,186nm,0.2s,SNR=5.5
ECOG Cogollos-Vega 3.52 70 P Pn 06 56 57.2 +2.8
comp=E,512nm,0.2s,SNR=18
ECOG S **Sn 06 57 36.0 +1.0**
comp=E,186nm,0.2s,SNR=5.5
TZK Tazeka 3.53 124 *i* P **Pn 06 56 55.0 +0.4**
PTOM Tomar 3.53 351 *i* Pn **Pn 06 56 55.8 +1.3**
PTOM *e*Sn **Sn 06 57 34.2 -1.0**
PTOM A A 06 57 37.3
comp=E,556nm,0.5s
PTOM Tomar 3.53 351 ⇓P **Pn 06 56 55.8 +1.3**
PTOM S **Sn 06 57 34.2 -1.0**
comp=E,278nm,0.5s
PTOM Tomar 3.53 351 P **Pn 06 56 55.8 +1.3**
PTOM *e*Sn **Sn 06 57 34.2 -1.0**
comp=E,556nm,0.5s
EQUE Quentar 3.59 71 ⇑P **Pn 06 56 58.1 +2.7**
comp=E,183nm,0.4s,SNR=18
EQUE S **Sn 06 57 37.9 +1.0**
comp=E,158nm,0.3s,SNR=7.3
EQUE Quentar 3.59 71 P **Pn 06 56 58.1 +2.7**
comp=E,183nm,0.4s,SNR=18
EQUE S **Sn 06 57 37.9 +1.0**
comp=E,158nm,0.3s,SNR=7.3
PCBR Castelo Branco 3.71 3 *i* Pn **Pn 06 56 58.4 +1.4**
PCBR *e*Sn **Sn 06 57 38.9 -0.8**
PCBR A A 06 57 41.3
comp=E,544nm,0.5s
PCBR Castelo Branco 3.71 3 ⇓P **Pn 06 56 58.4 +1.4**
PCBR S **Sn 06 57 38.9 -0.8**
comp=E,272nm,0.5s
PCBR Castelo Branco 3.71 3 P **Pn 06 56 58.4 +1.4**
PCBR S **Sn 06 57 38.9 -0.8**
comp=E,272nm,0.5s
EBAN Banos Encina 3.73 56 ⇑P **Pn 06 56 59.2 +2.0**
comp=E,141nm,0.1s,SNR=18
EBAN S **Sn 06 57 39.0 -1.2**
comp=E,158nm,0.1s,SNR=15
EBAN Banos Encina 3.73 56 P **Pn 06 56 59.2 +2.0**
comp=E,141nm,0.1s,SNR=18
EBAN S **Sn 06 57 39.0 -1.2**
comp=E,158nm,0.1s,SNR=15
EALB Alboran 3.79 91 P **Pn 06 56 59.8 +1.8**
comp=E,4.3nm,0.1s,SNR=7.6
EALB S **Sn 06 57 39.2 -2.3**
comp=E,202nm,0.3s,SNR=8.8
EALB Alboran 3.79 91 P **Pn 06 56 59.8 +1.8**
comp=E,4.3nm,0.1s,SNR=7.6
EMEL Melilla 3.95 101 P **Pn 06 57 01.7 +1.6**
comp=E,57nm,0.1s,SNR=7.9
EMEL S **Sn 06 57 43.5 -1.9**
comp=E,667nm,0.2s,SNR=7.9
EBER Berja 3.96 77 P **Pn 06 57 01.6 +1.2**
comp=E,8.3nm,0.2s,SNR=20
EBER S **Sn 06 57 46.5 +0.6**
comp=E,138nm,0.3s
EBER Berja 3.96 77 P **Pn 06 57 01.6 +1.2**
comp=E,8.3nm,0.2s,SNR=20
EBER S **Sn 06 57 46.5 +0.6**
comp=E,138nm,0.3s
EMLI Melilla 3.96 101 P **Pn 06 57 01.7 +1.5**
comp=E,57nm,0.1s,SNR=7.9
PCAS Casmilo, Conde 3.97 351 *e*Pn **Pn 06 57 01.7 +1.2**
PCAS *e*Sn **Sn 06 57 44.5 -1.6**
PCAS A A 06 57 48.5
comp=E,301nm,0.3s
PCAS Casmilo, Conde 3.97 351 *e*Pn **Pn 06 57 01.7 +1.2**
PCAS *e*Sn **Sn 06 57 44.5 -1.6**
comp=E,301nm,0.3s
EQES Quesada 4.07 64 ⇑P **Pn 06 57 03.9 +1.9**
comp=E,71nm,0.2s,SNR=18
EQES S **Sn 06 57 49.4 +0.7**
comp=E,80nm,0.1s,SNR=6.4
EQES Quesada 4.07 64 P **Pn 06 57 03.9 +1.9**
comp=E,71nm,0.2s,SNR=18
EQES S **Sn 06 57 49.4 +0.7**
comp=E,80nm,0.1s,SNR=6.4
EPLA Plasencia 4.14 18 P **Pn 06 57 04.3 +1.5**
comp=E,29nm,0.1s,SNR=65
EPLA S **Sn 06 57 49.5 -0.7**
comp=E,581nm,0.2s,SNR=24
EPLA Plasencia 4.14 18 P **Pn 06 57 04.3 +1.5**
comp=E,29nm,0.1s,SNR=65
EPLA S **Sn 06 57 49.5 -0.7**
comp=E,581nm,0.2s,SNR=24
MDT Midelt 4.17 141 Pn **Pn 06 57 03.1 -0.3**
MDT Sn Sn 06 57 46.3 -4.8
MDT Midelt 4.17 141 Pn **Pn 06 57 03.1 -0.3**
comp=E,162nm,0.3s,baz=328,slow=9.5,SNR=5021
MDT Sn Sn 06 57 46.3 -4.8
comp=E,197nm,0.3s,baz=327,slow=3.3,SNR=21
MDT Midelt 4.17 141 Pn **Pn 06 57 03.1 -0.3**
ZAI Zaio 4.20 104 *i* P **Pn 06 57 04.0 +0.3**
MTE Manteigas 4.27 2 *i* Pn **Pn 06 57 06.0 +1.3**
MTE *e*Sn **Sn 06 57 52.7 -0.8**
MTE A A 06 57 55.4
comp=E,397nm,0.3s
MTE Manteigas 4.27 2 *e*Pn **Pn 06 57 05.8 +1.1**
MTE Manteigas 4.27 2 ⇓P **Pn 06 57 06.0 +1.3**
MTE S **Sn 06 57 52.7 -0.8**
comp=E,199nm,0.3s
MTE Manteigas 4.27 2 P **Pn 06 57 06.0 +1.3**
MTE S **Sn 06 57 52.7 -0.8**
comp=E,199nm,0.3s
PAB San Pablo 4.33 37 *e*Pn **Pn 06 57 07.2 +1.7**
PAB San Pablo 4.33 37 *e*Pn **Pn 06 57 07.2 +1.7**
EHUE Huescar 4.43 66 ⇑P **Pn 06 57 08.8 +2.0**
comp=E,75nm,0.1s,SNR=18
EHUE S **Sn 06 57 57.1 -0.3**
comp=E,91nm,0.2s,SNR=7.9
EHUE Huescar 4.43 66 P **Pn 06 57 08.8 +2.0**
comp=E,75nm,0.1s,SNR=18
EHUE S **Sn 06 57 57.1 -0.3**
comp=E,91nm,0.2s,SNR=7.9
ENIJ Nijar 4.51 78 P **Pn 06 57 08.9 +1.0**
comp=E,21nm,0.3s,SNR=7.9
ENIJ S **Sn 06 57 59.2 0.0**
comp=E,64nm,0.3s,SNR=7.9
ENIJ Nijar 4.51 78 P **Pn 06 57 08.9 +1.0**
comp=E,21nm,0.3s,SNR=7.9
ENIJ S **Sn 06 57 59.2 0.0**
comp=E,64nm,0.3s,SNR=7.9
PVIS Viseu 4.59 358 *e*Pn **Pn 06 57 10.2 +1.2**
PVIS *e*Sn **Sn 06 58 00.9 -0.4**
PVIS A A 06 58 02.0
comp=E,206nm,0.3s
PVIS Viseu 4.59 358 P **Pn 06 57 10.2 +1.2**
PVIS S **Sn 06 58 00.9 -0.4**
comp=E,103nm,0.3s
PVIS Viseu 4.59 358 P **Pn 06 57 10.2 +1.2**
PVIS S **Sn 06 58 00.9 -0.4**
comp=E,103nm,0.3s
ESDC Sonseca Array 4.62 39 Pn **Pn 06 57 11.2 +1.8**
ESDC Sn **Sn 06 58 01.0 -1.0**
ESDC Sonseca Array 4.62 39 ⇑P **Pn 06 57 11.2 +1.8**
comp=E,123nm,0.2s,baz=222,slow=13,SNR=18
ESDC S **Sn 06 58 00.7 -1.3**
comp=E,101nm,0.2s,baz=224,slow=23,SNR=12
ESDC Sonseca Array 4.62 39 Pn **Pn 06 57 11.2 +1.8**
comp=E,39nm,0.3s,baz=225,slow=13,SNR=123
ESDC Sn **Sn 06 58 01.0 -1.0**
comp=E,102nm,0.3s,baz=224,slow=24,SNR=12
ESDC LR LR 06 59 16.4
comp=E,121nm,19.1s,baz=340,slow=42
ESDC Sonseca Array 4.62 39 P **Pn 06 57 11.2 +1.8**
comp=E,123nm,0.2s,baz=222,slow=13,SNR=18
ESDC S **Sn 06 58 00.7 -1.3**
comp=E,101nm,0.2s,baz=224,slow=23,SNR=12
ESDC Sn **Sn 06 58 01.0 -1.0**
ESLA Sonseca Array 4.62 39 *e*Pn **Pn 06 57 11.0 +1.6**
ESLA *e*Sn **Sn 06 58 01.4 -0.5**
ESLA Sonseca Array 4.62 39 *e*Pn **Pn 06 57 11.0 +1.6**
ESLA *e*Sn **Sn 06 58 01.5 -0.5**
EVIA Vianos 4.84 57 ⇑P **Pn 06 57 13.8 +1.2**
comp=E,120nm,0.1s,SNR=18
EVIA S **Sn 06 58 06.5 -1.2**
comp=E,524nm,0.3s,SNR=9.4
EVIA Vianos 4.84 57 P **Pn 06 57 13.8 +1.2**
comp=E,120nm,0.1s,SNR=18
EVIA S **Sn 06 58 06.5 -1.2**
comp=E,524nm,0.3s,SNR=9.4
PTO Porto 5.06 352 *e*Sn **Sn 06 58 10.5 -2.2**
PTO A A 06 58 13.1
comp=E,857nm,0.1s
PTO Porto 5.06 352 S **Sn 06 58 10.5 -2.2**
comp=E,429nm,0.1s
PTO Porto 5.06 352 S **Sn 06 58 10.5 -2.2**
comp=E,429nm,0.1s
MVO Moncorvo 5.06 6 *e*Pn **Pn 06 57 16.7 +1.1**
MVO *e*Sn **Sn 06 58 11.1 -1.9**
MVO A A 06 58 13.9
comp=E,416nm,0.7s
MVO Moncorvo 5.06 6 ⇓P **Pn 06 57 16.6 +1.1**
comp=E,27nm,0.1s,SNR=18
MVO S **Sn 06 58 10.6 -2.4**
comp=E,395nm,0.3s,SNR=24
MVO Moncorvo 5.06 6 P **Pn 06 57 16.6 +1.1**
comp=E,27nm,0.1s,SNR=18
MVO S **Sn 06 58 10.6 -2.4**
comp=E,395nm,0.3s,SNR=24
MVO *e*Sn **Sn 06 58 11.1 -1.9**
comp=E,416nm,0.7s
POLO Lamas de Olo 5.24 359 *e*Pn **Pn 06 57 19.3 +1.3**
POLO *e*Sn **Sn 06 58 15.2 -2.3**
POLO A A 06 58 18.5
comp=E,114nm,0.4s
POLO Lamas de Olo 5.24 359 *e*Pn **Pn 06 57 19.3 +1.3**
POLO *e*Sn **Sn 06 58 15.2 -2.3**
comp=E,114nm,0.4s
GUD Guadarrama 5.30 31 P **Pn 06 57 21.1 +2.2**
comp=E,83nm,0.2s,SNR=7.9
GUD S **Sn 06 58 19.3 +0.2**
comp=E,101nm,0.3s,SNR=7.9
GUD Guadarrama 5.30 31 P **Pn 06 57 21.1 +2.2**
comp=E,83nm,0.2s,SNR=7.9
GUD S **Sn 06 58 19.3 +0.2**
comp=E,101nm,0.3s,SNR=7.9
EMUR La Murta 5.45 70 ⇑P **Pn 06 57 22.2 +1.3**
comp=E,18nm,0.3s,SNR=18
EMUR S **Sn 06 58 21.3 -1.3**
comp=E,124nm,0.5s,SNR=5.6
EMUR La Murta 5.45 70 P **Pn 06 57 22.2 +1.3**
comp=E,18nm,0.3s,SNR=18
ETOB Tobarra 5.51 61 ⇑P **Pn 06 57 23.0 +1.3**
comp=E,108nm,0.1s,SNR=18
ETOB S **Sn 06 58 21.9 -2.2**
comp=E,82nm,0.1s,SNR=8.5
ETOB Tobarra 5.51 61 P **Pn 06 57 23.0 +1.3**
comp=E,108nm,0.1s,SNR=18
CART Cartagena 5.57 73 *i* P **Pn 06 57 23.8 +1.4**
PCAB Cabril 5.58 358 *e*Pn **Pn 06 57 23.8 +1.1**
PCAB *e*Sn **Sn 06 58 23.4 -2.4**
PCAB A A 06 58 26.9
comp=E,215nm,0.2s
PCAB Cabril 5.58 358 P **Pn 06 57 23.8 +1.1**
PCAB S **Sn 06 58 23.4 -2.4**
comp=E,107nm,0.2s
PCAB Cabril 5.58 358 P **Pn 06 57 23.8 +1.1**
PCAB S **Sn 06 58 23.4 -2.4**
comp=E,107nm,0.2s
PBRG Braganca 5.72 7 *e*Pn **Pn 06 57 25.8 +1.2**
PBRG *e*Sn **Sn 06 58 27.3 -1.9**
PBRG A A 06 58 30.2
comp=E,120nm,0.3s
PBRG Braganca 5.72 7 P **Pn 06 57 25.8 +1.2**
PBRG S **Sn 06 58 27.3 -1.9**
comp=E,60nm,0.3s
PBRG Braganca 5.72 7 P **Pn 06 57 25.8 +1.2**
PBRG S **Sn 06 58 27.3 -1.9**
comp=E,60nm,0.3s
ELOB Lobios 5.74 357 P **Pn 06 57 25.8 +0.9**
comp=E,7.6nm,0.1s,SNR=112
ELOB S **Sn 06 58 27.1 -2.7**
comp=E,124nm,0.1s
ELOB Lobios 5.74 357 P **Pn 06 57 25.8 +0.9**
comp=E,7.6nm,0.1s,SNR=112
ELOB S **Sn 06 58 27.1 -2.7**
SNR=1000
PGAV Gavieira, Arco 5.85 356 *e*Pn **Pn 06 57 27.4 +1.0**
PGAV *e*Sn **Sn 06 58 29.5 -3.0**
PGAV A A 06 58 32.8
comp=E,197nm,0.2s
ECAL Calabor 5.86 7 P **Pn 06 57 27.7 +1.2**
comp=E,12nm,0.1s,SNR=87
ECAL S **Sn 06 58 31.1 -1.5**
comp=E,314nm,0.3s,SNR=14
ECAL Calabor 5.86 7 P **Pn 06 57 27.7 +1.2**
comp=E,12nm,0.1s,SNR=87
ECAL S **Sn 06 58 31.1 -1.5**
comp=E,314nm,0.3s,SNR=14
EZAM Zamans 6.07 353 P **Pn 06 57 30.3 +1.0**
comp=E,7.5nm,0.1s,SNR=7.9
EZAM S **Sn 06 58 34.2 -3.5**
comp=E,41nm,0.2s,SNR=7.9
EZAM Zamans 6.07 353 P **Pn 06 57 30.3 +1.0**
comp=E,7.5nm,0.1s,SNR=7.9
ECHE Chera 6.35 55 P **Pn 06 57 35.0 +1.7**
comp=E,5.3nm,0.1s,SNR=7.7
ECHE S **Sn 06 58 44.0 -0.8**
comp=E,5.2nm,0.2s
ECHE Chera 6.35 55 P **Pn 06 57 35.0 +1.7**
comp=E,5.3nm,0.1s,SNR=7.7
ECHE S **Sn 06 58 44.0 -0.8**
comp=E,5.2nm,0.2s
EBEN Beniarda 6.49 64 ⇑P **Pn 06 57 36.1 +1.0**
comp=E,11nm,0.1s,SNR=18
EBEN S **Sn 06 58 44.5 -3.6**
comp=E,36nm,0.3s,SNR=6.5
EBEN Beniarda 6.49 64 P **Pn 06 57 36.1 +1.0**
comp=E,11nm,0.1s,SNR=18
STS Santiago 6.79 355 P **Pn 06 57 40.3 +1.2**
comp=E,6.4nm,0.1s,SNR=9.4
STS S **Sn 06 58 51.2 -4.2**
comp=E,23nm,0.1s
STS Santiago 6.79 355 P **Pn 06 57 40.3 +1.2**
comp=E,6.4nm,0.1s,SNR=9.4
EMAZ Mazaricos 6.89 352 P **Pn 06 57 41.2 +0.7**
comp=E,7.9nm,0.1s,SNR=34
EMAZ S **Sn 06 58 52.9 -5.0**
comp=E,51nm,0.2s,SNR=7.7
EMAZ Mazaricos 6.89 352 P **Pn 06 57 41.2 +0.7**
comp=E,7.9nm,0.1s,SNR=34
EMOS Mosqueruela 7.09 51 ⇑P **Pn 06 57 45.6 +2.1**
comp=E,10nm,0.2s,SNR=18
EMOS S **Sn 06 58 59.6 -3.6**
comp=E,39nm,0.3s
EMOS Mosqueruela 7.09 51 P **Pn 06 57 45.6 +2.1**
comp=E,10nm,0.2s,SNR=18
EPON Pontenova 7.21 3 P **Pn 06 57 47.0 +2.1**
comp=E,1.3nm,0.1s,SNR=6.1
EPON S **Sn 06 59 06.1 +0.4**
comp=E,9.9nm,0.2s
EPON Pontenova 7.21 3 P **Pn 06 57 47.0 +2.1**
comp=E,1.3nm,0.1s,SNR=6.1
EPON S **Sn 06 59 06.1 +0.4**
comp=E,9.9nm,0.2s
EARI Arriondas 7.42 14 P **Pn 06 57 49.4 +1.5**
comp=E,2.3nm,0.2s,SNR=27
EARI S **Sn 06 59 07.5 -3.5**
comp=E,23nm,0.3s,SNR=7.9
EARI Arriondas 7.42 14 P **Pn 06 57 49.4 +1.5**
comp=E,2.3nm,0.2s,SNR=27
PMPST Porto Santo, M 7.74 249 *e*Pn Pn 06 57 47.5 -4.7
PMPST *e*Sn Sn 06 59 05.3 -14
PMPST A A 06 59 19.8
comp=E,57nm,0.3s
PMPS Porto Santo 7.74 249 *e*Pn Pn 06 57 48.9 -3.4
PMPS *e*Sn Sn 06 59 05.6 -13
PMPS A A 06 59 16.1
comp=E,40nm,0.2s
PMPS Porto Santo 7.74 249 P Pn 06 57 48.9 -3.4
PMPS S Sn 06 59 05.3 -14
comp=E,28nm,0.3s
ESAC San Caprasio 7.94 43 P **Pn 06 57 57.2 +2.2**
comp=E,36nm,0.3s,SNR=35
ESAC S **Sn 06 59 24.4 +0.6**
comp=E,91nm,0.2s,SNR=7.9
ESAC San Caprasio 7.94 43 P **Pn 06 57 57.2 +2.2**
comp=E,36nm,0.3s,SNR=35

ESAC S **Sn** **06 59 24.4 +0.6**
comp=E,91nm,0.2s,SNR=7.9
EARA Aranguren 8.15 34 P **Pn** **06 58 00.5 +2.5**
comp=E,25nm,0.2s,SNR=11
EARA S **Sn** **06 59 26.6 -2.4**
comp=E,35nm,0.2s,SNR=7.9
EARA Aranguren 8.15 34 P **Pn** **06 58 00.5 +2.5**
comp=E,25nm,0.2s,SNR=11
EARA S **Sn** **06 59 26.6 -2.4**
comp=E,35nm,0.2s,SNR=7.9
IUNC Unciti 8.18 34 P Pn 06 58 01.1 +2.8
comp=E,20nm,0.2s,SNR=7.9
IUNC S **Sn** **06 59 28.3 -1.4**
comp=E,53nm,0.3s,SNR=7.9
IUNC Unciti 8.18 34 P Pn 06 58 01.1 +2.8
comp=E,20nm,0.2s,SNR=7.9
IUNC S **Sn** **06 59 28.3 -1.4**
comp=E,53nm,0.3s,SNR=7.9
IZUN Zunzarren 8.28 34 P Pn 06 58 02.5 +2.8
comp=E,23nm,0.2s,SNR=18
IZUN S **Sn** **06 59 30.5 -1.7**
comp=E,45nm,0.4s,SNR=7.9
IZUN Zunzarren 8.28 34 P Pn 06 58 02.5 +2.8
comp=E,23nm,0.2s,SNR=18
IZUN S **Sn** **06 59 30.5 -1.7**
comp=E,45nm,0.4s,SNR=7.9
IEPA Eparoz 8.30 35 P **Pn** **06 58 02.4 +2.4**
comp=E,16nm,0.2s,SNR=7.9
IEPA S **Sn** **06 59 30.8 -1.9**
comp=E,132nm,0.5s,SNR=7.9
IEPA Eparoz 8.30 35 P **Pn** **06 58 02.4 +2.4**
comp=E,16nm,0.2s,SNR=7.9
IEPA S **Sn** **06 59 30.8 -1.9**
comp=E,132nm,0.5s,SNR=7.9
IUSE Utxeti 8.31 33 P **Pn** **06 58 02.6 +2.5**
comp=E,15nm,0.3s,SNR=7.9
IUSE S **Sn** **06 59 31.0 -1.9**
comp=E,25nm,0.3s,SNR=7.9
IUSE Utxeti 8.31 33 P **Pn** **06 58 02.6 +2.5**
comp=E,15nm,0.3s,SNR=7.9
IUSE S **Sn** **06 59 31.0 -1.9**
comp=E,25nm,0.3s,SNR=7.9
PMAR Madeira 8.33 249 *e*Pn Pn 06 57 56.0 -4.5
PMAR *e*Sn Sn 06 59 21.3 -13
PMAR A A 06 59 26.1
comp=E,78nm,0.3s
PMAR Madeira 8.33 249 P Pn 06 57 56.0 -4.5
PMAR S Sn 06 59 21.3 -13
comp=E,39nm,0.3s
IELO Elcoad 8.37 35 P **Pn** **06 58 03.4 +2.5**
comp=E,20nm,0.2s,SNR=7.9
IELO S **Sn** **06 59 30.8 -3.5**
comp=E,53nm,0.3s,SNR=7.9
IELO Elcoad 8.37 35 P **Pn** **06 58 03.4 +2.5**
comp=E,20nm,0.2s,SNR=7.9
ELIZ Elizondo 8.49 32 P **Pn** **06 58 05.0 +2.4**
comp=E,27nm,0.2s,SNR=60
ELIZ S Sn 06 59 31.1 -6.2
comp=E,11nm,0.2s,SNR=7.9
ELIZ Elizondo 8.49 32 P **Pn** **06 58 05.0 +2.4**
comp=E,27nm,0.2s,SNR=60
PMOZ Porto Moniz, M 8.50 250 *e*Pn Pn 06 58 00.5 -2.3
PMOZ *e*Sn Sn 06 59 26.7 -11
PMOZ A A 06 59 34.4
comp=E,80nm,0.5s
EFAM Famara 8.53 217 P Pn 06 57 57.3 -5.8
comp=E,2.7nm,0.2s,SNR=7.9
EFAM S Sn 06 59 24.8 -14
comp=E,48nm,0.3s,SNR=7.9
EALK Alkurruntz 8.54 32 P **Pn** **06 58 05.6 +2.4**
comp=E,32nm,0.2s,SNR=64
EALK S **Sn** **06 59 34.9 -3.7**
comp=E,101nm,0.3s,SNR=7.9
EALK Alkurruntz 8.54 32 P **Pn** **06 58 05.6 +2.4**
comp=E,32nm,0.2s,SNR=64
SJPF Ste Jean 8.58 34 *e*P **Pn** **06 58 06.3 +2.5**
SNR=1.0
SJPF *e*Sn **Sn** **06 59 35.7 -3.9**
comp=E,108nm,0.4s
SJPF Ste Jean 8.58 34 P **Pn** **06 58 06.3 +2.5**
EPOB Poblet 8.62 50 P **Pn** **06 58 05.6 +1.2**
comp=E,8.8nm,0.2s,SNR=25
EPOB S **Sn** **06 59 36.5 -4.1**
comp=E,4.1nm,0.3s,SNR=7.9
EPOB Poblet 8.62 50 P **Pn** **06 58 05.6 +1.2**
comp=E,8.8nm,0.2s,SNR=25
LARF Larrau 8.63 35 P **Pn** **06 58 07.0 +2.5**
OSSF Osses 8.68 33 P **Pn** **06 58 07.2 +2.1**
ETSF Etsaut 8.73 37 *e*P **Pn** **06 58 08.3 +2.4**
SNR=1.0
ETSF *e*Sn **Sn** **06 59 39.8 -3.5**
comp=E,83nm,0.4s
ETSF Etsaut 8.73 37 P **Pn** **06 58 08.3 +2.4**
ORDF Ordiarp 8.79 34 P **Pn** **06 58 09.0 +2.3**
ATE Arette 8.80 36 P **Pn** **06 58 08.6 +1.8**
ATE S Sn 06 59 26.6 -18
EBIE Bielsa 8.93 40 P **Pn** **06 58 10.6 +1.8**
comp=E,88nm,0.3s,SNR=332
EBIE S **Sn** **06 59 45.3 -3.1**
comp=E,37nm,0.4s,SNR=7.9
EBIE Bielsa 8.93 40 P **Pn** **06 58 10.6 +1.8**
comp=E,88nm,0.3s,SNR=332
REYF Montagne du Re 8.94 37 P **Pn** **06 58 10.7 +1.9**
VIEF Viey 9.01 39 P **Pn** **06 58 11.9 +2.2**
ETOS Mallorca 9.07 63 P **Pn** **06 58 10.7 +0.2**
comp=E,9.5nm,0.3s,SNR=50
ETOS S **Sn** **06 59 45.7 -5.8**
comp=E,7.4nm,0.3s,SNR=7.9
ETOS Mallorca 9.07 63 P **Pn** **06 58 10.7 +0.2**
comp=E,9.5nm,0.3s,SNR=50
RESF Ens 9.12 41 P **Pn** **06 58 13.2 +1.9**
RESF S Sn 06 59 34.0 -19
CFUE Fuerteventura 9.13 217 S Sn 06 59 39.4 -14
comp=E,37nm,0.1s,SNR=7.9
LABF Labassere 9.15 39 P **Pn** **06 58 13.8 +2.1**
LABF S Sn 06 59 33.5 -20
EMIR Miracle 9.22 48 P **Pn** **06 58 14.0 +1.4**
comp=E,16nm,0.2s,SNR=13
EMIR S **Sn** **06 59 52.8 -2.4**
comp=E,6.9nm,0.2s,SNR=7.9
EMIR Miracle 9.22 48 P **Pn** **06 58 14.0 +1.4**
comp=E,16nm,0.2s,SNR=13
EPF Esparros 9.28 40 *e*P Pn 06 58 16.7 +3.3
SNR=1.0
EPF *e*Sn **Sn** **06 59 51.9 -4.8**
comp=E,82nm,0.4s
EPF Esparros 9.28 40 P Pn 06 58 16.7 +3.3
MELF Melles 9.39 42 P **Pn** **06 58 16.8 +1.9**
MLS Moulis 9.63 42 P **Pn** **06 58 20.3 +2.2**
CARF Carcanieres 10.04 46 P **Pn** **06 58 25.2 +1.3**
FILF Fillols 10.22 48 P **Pn** **06 58 26.6 +0.3**
EJON La Jonquera 10.35 49 P **Pn** **06 58 29.6 +1.5**
comp=E,3.1nm,0.2s,SNR=19
EJON S **Sn** **07 00 20.0 -3.1**
comp=E,1.0nm,0.2s,SNR=7.9
EJON La Jonquera 10.35 49 P **Pn** **06 58 29.6 +1.5**
comp=E,3.1nm,0.2s,SNR=19
SJAF Saint Jean de 10.37 49 P **Pn** **06 58 29.5 +1.2**
EOSO Osorio 10.42 222 S Sn 07 00 09.5 -16
comp=E,7.8nm,0.2s,SNR=7.9
MTLF Montolieu 10.50 44 *e*P **Pn** **06 58 32.5 +2.5**
SNR=1.0
MTLF *e*Sn **Sn** **07 00 21.3 -5.2**
comp=E,7.0nm,0.3s,SNR=1.0
MTLF Montolieu 10.50 44 P **Pn** **06 58 32.5 +2.5**
EBAJ Bajamar 10.51 226 S Sn 07 00 10.2 -17
comp=E,3.0nm,0.1s,SNR=7.9
LFF La Frestale 10.89 33 *e*Pn **Pn** **06 58 35.9 +0.5**
SNR=1.0
LFF *e*Sn **Sn** **07 00 31.3 -4.9**
comp=E,22nm,0.4s,SNR=1.0
LFF La Frestale 10.89 33 P **Pn** **06 58 35.9 +0.5**
CCAN Las Canadas 10.90 226 S Sn 07 00 19.6 -18
comp=E,2.1nm,0.3s,SNR=7.9
CAF Calviac 11.51 37 *e*Pn **Pn** **06 58 44.9 +1.1**
SNR=1.0
CAF *e*Sn **Sn** **07 00 45.4 -5.8**
comp=E,14nm,0.4s,SNR=1.0
CAF Calviac 11.51 37 P **Pn** **06 58 44.9 +1.1**
RJF Les Rejaudoux 11.53 34 *e*Pn **Pn** **06 58 44.8 +0.7**
SNR=1.0
RJF *e*Sn Sn 07 00 44.1 -7.6
comp=E,22nm,0.5s
RJF Les Rejaudoux 11.53 34 P **Pn** **06 58 44.8 +0.7**
LASF Ste Croix 11.88 45 *e*Pn **Pn** **06 58 49.5 +0.5**
SNR=1.0
LASF *e*Sn Sn 07 00 53.5 -7.0
comp=E,12nm,0.5s,SNR=1.0
LASF Ste Croix 11.88 45 P **Pn** **06 58 49.5 +0.5**
MFF Saint Martin d 11.90 26 *e*Pn **Pn** **06 58 49.0 -0.2**
SNR=1.0
MFF *e*Sn Sn 07 00 53.4 -7.5
comp=E,23nm,0.6s,SNR=1.0
MFF Saint Martin d 11.90 26 P **Pn** **06 58 49.0 -0.2**
QUIF Quistinic 12.26 15 *e*Pn **Pn** **06 58 53.8 -0.2**
SNR=1.0
QUIF *e*Sn Sn 07 01 01.8 -7.7
comp=E,31nm,0.6s,SNR=1.0
QUIF Quistinic 12.26 15 P **Pn** **06 58 53.8 -0.2**
LBL Lubilhac 12.31 39 P **Pn** **06 58 55.6 +0.7**
PYM Petit Puy Mans 12.56 37 P **Pn** **06 58 59.8 +1.5**
TCF Toulx Ste Croi 12.59 33 *e*Pn **Pn** **06 58 58.4 -0.3**
SNR=1.0
TCF *e*Sn Sn 07 01 08.7 -9.1
comp=E,27nm,0.6s
TCF Toulx Ste Croi 12.59 33 P **Pn** **06 58 58.4 -0.3**
ROSF Rostrenen 12.63 14 *e*Pn **Pn** **06 58 59.0 -0.2**
SNR=1.0
ROSF *e*Sn Sn 07 01 10.5 -8.3
comp=E,9.0nm,0.3s,SNR=1.0
ROSF Rostrenen 12.63 14 P **Pn** **06 58 59.0 -0.2**
SGMF Saint Gilles 12.70 16 *e*Pn **Pn** **06 58 59.6 -0.5**
SNR=1.0
SGMF *e*Sn Sn 07 01 11.7 -8.8
comp=E,12nm,0.3s,SNR=1.0
SGMF Saint Gilles 12.70 16 P **Pn** **06 58 59.6 -0.5**
VIVF Saint-Julien-l 12.83 43 *e*Pn **Pn** **06 59 02.5 +0.6**
SNR=1.0
VIVF Saint-Julien-l 12.83 43 P **Pn** **06 59 02.5 +0.6**
SMRF Simiane la Rot 12.83 48 *e*Pn **Pn** **06 59 00.5 -1.5**
SNR=1.0
SMRF Simiane la Rot 12.83 48 *e*P Pn 06 59 05.6 +3.6
SMRF Simiane la Rot 12.83 48 P Pn 06 59 05.6 +3.6
AGO Saint Agoulin 12.84 36 P **Pn** **06 59 02.6 +0.6**
BGF Bois d'Agland 13.08 34 *e*Pn **Pn** **06 59 03.9 -1.4**
SNR=1.0
BGF *e*Sn Sn 07 01 21.5 -8.2
comp=E,18nm,0.3s
LMR La Mourre 13.09 52 *e*Sn Sn 07 01 21.0 -8.9
comp=E,3.2nm,0.5s
GRR Gorron 13.26 20 *e*Pn **Pn** **06 59 06.7 -1.0**
SNR=1.0
GRR *e*Sn Sn 07 01 25.1 -8.8
comp=E,13nm,0.4s
GRR Gorron 13.26 20 P **Pn** **06 59 06.7 -1.0**
FRF La Foret Royal 13.28 52 *e*Pn **Pn** **06 59 06.5 -1.6**
SNR=1.0
FRF La Foret Royal 13.28 52 *e*P Pn 06 59 12.1 +4.0
FRF La Foret Royal 13.28 52 P Pn 06 59 12.1 +4.0
AVF Avril sur Loir 13.49 34 *e*Pn **Pn** **06 59 10.5 -0.3**
SNR=1.0
AVF *e*Sn Sn 07 01 31.9 -7.7
comp=E,6.2nm,0.6s
AVF Avril sur Loir 13.49 34 *e*Pn **Pn** **06 59 10.5 -0.3**
SNR=1.0
ORIF Oris-en-Rattie 13.55 45 *e*Pn Pn 06 59 15.0 +3.2
SNR=1.0
ORIF Oris-en-Rattie 13.55 45 *e*Pn Pn 06 59 15.0 +3.2
SNR=1.0
SMF Signal de Mont 13.61 36 *e*Pn **Pn** **06 59 10.7 -1.8**
SNR=1.0
SMF *e*Sn Sn 07 01 34.7 -7.9
comp=E,7.9nm,0.6s
LDF La Druitiere 13.65 22 *e*Pn **Pn** **06 59 13.3 +0.2**
LDF *e*Sn Sn 07 01 34.1 -10
comp=E,7.3nm,0.4s
LDF La Druitiere 13.65 22 *e*Pn **Pn** **06 59 13.3 +0.2**
FLN La Foliniere 13.70 21 *e*Pn **Pn** **06 59 12.3 -1.4**
baz=194,SNR=1.0
FLN *e*Sn Sn 07 01 36.8 -8.0
comp=E,9.8nm,0.4s
FLN La Foliniere 13.70 21 *e*Pn **Pn** **06 59 12.3 -1.4**
baz=194,SNR=1.0
SSF Saint Saulge 13.76 34 *e*Pn **Pn** **06 59 13.6 -1.0**
SNR=1.0
SSF Saint Saulge 13.76 34 *e*Pn **Pn** **06 59 13.6 -1.0**
SNR=1.0
KEST Kesra 13.83 87 Pn Pn 06 59 18.9 +3.3
KEST Kesra 13.83 87 Pn Pn 06 59 18.9 +3.3
comp=E,0.1nm,0.3s,baz=248,slow=6.9,SNR=5.7
KEST Kesra 13.83 87 Pn Pn 06 59 19.0 +3.3
LOR Lormes 14.07 34 *e*Pn **Pn** **06 59 18.1 -0.8**
baz=219,SNR=1.0
LOR Lormes 14.07 34 *e*Pn **Pn** **06 59 18.1 -0.8**
baz=219,SNR=1.0
LPG La Plagne 14.39 45 *e*P P 06 59 26.8 -3.2
SNR=1.0
LPL La Plagne 14.39 45 *e*P **Pn** **06 59 25.8 +2.5**
PGF Pioggiola 14.42 59 *e*P Pn 06 59 26.7 +3.0
CABF La Chapelle 14.71 40 *e*Pn **Pn** **06 59 26.8 -0.8**
SNR=1.0
CABF La Chapelle 14.71 40 *e*Pn **Pn** **06 59 26.8 -0.8**
SNR=1.0
BAIF Baives 16.39 28 *e*Pn **Pn** **06 59 49.8 +0.4**
BAIF Baives 16.39 28 P **Pn** **06 59 49.8 +0.4**
GIVF Givet 16.66 29 *e*Pn **Pn** **06 59 52.9 +0.1**
SNR=1.0
GIVF Givet 16.66 29 P **Pn** **06 59 52.9 +0.1**
DAVOX Davos/Dischmat 16.91 46 P **P** **06 59 58.3 +0.4**
DAVOX Davos/Dischmat 16.91 46 P **P** **06 59 58.3 +0.4**
comp=E,0.2nm,0.3s,baz=225,slow=11,SNR=9.7
DAVOX LR LR 07 07 23.5
comp=E,53nm,19.8s,baz=227,slow=40
DAVOX Davos/Dischmat 16.91 46 P **P** **06 59 58.3 +0.4**
TAM Tamanrasset 17.56 136 *e*Pn **Pn** **07 00 04.0 -0.3**
EKA Eskdalemuir Ar 19.46 8 P **Pn** **07 00 27.3 +0.2**
EKA Eskdalemuir Ar 19.46 8 P **Pn** **07 00 27.3 +0.2**
baz=187,slow=9.9,SNR=4.3
EKA Eskdalemuir Ar 19.46 8 P **Pn** **07 00 27.3 +0.2**
GERES GERESS Array B 20.18 44 P Pn 07 00 35.1 -0.7
GERES GERESS Array B 20.18 44 P Pn 07 00 35.1 -0.7
comp=E,2.1nm,0.6s,baz=228,slow=9.9,SNR=9.2
GERES GERESS Array B 20.18 44 P Pn 07 00 35.1 -0.7
KHC Kasperske Hory 20.27 43 *e*P Pn 07 00 36.0 -0.7
KHC *ep*P pP 07 00 39.5 -3.2
KHC *es*P sP 07 00 42.7 -3.8
KHC *ex* x 07 00 52.8
KHC Kasperske Hory 20.27 43 *e*P Pn 07 00 35.9 -0.8
comp=E,12nm,0.9s
KHC Kasperske Hory 20.27 43 *e*P Pn 07 00 35.9 -0.8
comp=E,12nm,0.9s
ZST Bratislava 21.89 49 *e*P **P** **07 00 53.4 +1.4**
ZST Bratislava 21.89 49 *e*P **P** **07 00 53.4 +1.4**
DPC Dobruska-Polom 22.42 43 *e*P **P** **07 00 58.9 +1.1**
DPC Dobruska-Polom 22.42 43 P **P** **07 00 58.9 +1.1**
KECS Kecovo 24.08 50 *e*P **P** **07 01 18.3 +4.0**
TOA0 Torodi Ar. Sit 24.39 157 *e*P **P** **07 01 16.2 -1.2**
TOA0 Torodi Ar. Sit 24.39 157 *e*P **P** **07 01 16.2 -1.2**
TORD Torodi Ar. Bea 24.39 157 P **P** **07 01 16.6 -0.7**
TORD Torodi Ar. Bea 24.39 157 P **P** **07 01 16.6 -0.7**
comp=E,13nm,0.6s,baz=338,slow=8.6,SNR=207
TORD Torodi Ar. Bea 24.39 157 P **P** **07 01 16.6 -0.7**
NOA NORSAR Array B 27.69 20 LR LR 07 14 11.8
comp=E,26nm,18.7s,baz=180,slow=39
HFS Hagfors 27.70 23 P **P** **07 01 46.3 -0.5**
HFS Hagfors 27.70 23 P **P** **07 01 46.3 -0.5**
comp=E,1.8nm,0.8s,baz=192,slow=13,SNR=2.5
HFS Hagfors 27.70 23 P **P** **07 01 46.3 -0.5**
DBIC Dimbokro 29.43 174 P P 07 02 00.8 -1.8
DBIC Dimbokro 29.43 174 P P 07 02 00.8 -1.8
comp=E,2.7nm,0.8s,baz=296,slow=12,SNR=3.7
DBIC LR LR 07 15 37.3
comp=E,70nm,20.8s,baz=322,slow=40
BRTR Keskin Array B 32.60 71 P **P** **07 02 31.4 +0.7**
BRTR Keskin Array B 32.60 71 P **P** **07 02 31.4 +0.7**
comp=E,0.6nm,0.7s,baz=265,slow=7.8,SNR=3.2
BRTR Keskin Array B 32.60 71 P **P** **07 02 31.4 +0.7**
FINES FINESS Array B 33.06 29 LR LR 07 14 53.5
comp=E,46nm,21.8s,baz=163,slow=34
ARCES ARCESS Array B 38.03 18 P **P** **07 03 17.5 +0.7**
ARCES ARCESS Array B 38.03 18 P **P** **07 03 17.5 +0.7**
comp=E,2.7nm,0.8s,baz=232,slow=10,SNR=3.3
ARCES ARCESS Array B 38.03 18 P **P** **07 03 17.5 +0.7**
KURBB Kurchatov Arra 60.90 47 P **P** **07 06 12.0 +0.6**
comp=E,1.6nm,0.7s,baz=293,slow=7.8,SNR=7.7
KURK Kurchatov 60.92 47 P **P** **07 06 12.0 +0.5**
KURK Kurchatov 60.92 47 P **P** **07 06 12.0 +0.5**
MKAR Makanchi Array 64.75 49 P **P** **07 06 37.8 +0.7**
MKAR Makanchi Array 64.75 49 P **P** **07 06 37.8 +0.7**
comp=E,1.4nm,0.8s,baz=298,slow=5.7,SNR=13
MKAR Makanchi Array 64.75 49 P **P** **07 06 37.8 +0.7**
PDAR Pinedale Array 74.06 311 P **P** **07 07 34.8 -0.2**
comp=E,0.2nm,0.7s,baz=44,slow=5.3,SNR=2.7
PDAR Pinedale Array 74.06 311 P **P** **07 07 34.8 -0.2**
ILAR Eielson Array 74.47 343 P **P** **07 07 37.6 +1.0**
ILAR Eielson Array 74.47 343 P **P** **07 07 37.6 +1.0**
comp=E,0.2nm,0.6s,baz=14,slow=5.2,SNR=4.1
ILAR Eielson Array 74.47 343 P **P** **07 07 37.7 +1.0**
TXAR Lajitas Array 77.72 297 P **P** **07 07 56.3 +0.4**
TXAR Lajitas Array 77.72 297 P **P** **07 07 56.3 +0.4**
comp=E,0.2nm,0.6s,baz=54,slow=4.6,SNR=3.3
TXAR Lajitas Array 77.72 297 P **P** **07 07 56.3 +0.4**
KDAK Kodiak Island 81.90 342 LR LR 07 44 09.2
comp=E,81nm,18.6s,baz=209,slow=35
ASAR Alice Springs 144.70 80 PKP **PKPab** **07 15 34.5 0.0**
ASAR Alice Springs 144.70 80 PKP **PKPab** **07 15 34.5 0.0**
comp=E,0.5nm,0.6s,baz=305,slow=3.7,SNR=9.5
ASAR Alice Springs 144.70 80 PKIKP **PKPab** **07 15 34.5 0.0**

IDC 18 07:35:20.1±8.8, 18°.72S×173°.05W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/23, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=164.7km s-min=53.1km az=55.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.51**	**257**	P	P	07 39 49.3	+0.1
	0.5nm,0.3s,baz=91,slow=23,SNR=12						
RPZ	**Rata Peaks**	**28.29**	**205**	P	P	07 41 15.3	0.0
	3.1nm,0.4s,baz=39,slow=6.5,SNR=2.6						
STKA	**Stephens Creek**	**42.76**	**243**	P	P	07 43 19.7	+0.1
	0.8nm,0.5s,baz=74,slow=7.4,SNR=2.7						
ASAR	**Alice Springs**	**49.48**	**255**	P	P	07 44 12.7	0.0
	2.0nm,0.6s,baz=95,slow=8.0,SNR=36						
WRA	**Warramunga Arr**	**49.49**	**259**	P	P	07 44 12.3	-0.5
	0.4nm,0.3s,baz=96,slow=7.4,SNR=19						

---

*CSEM **18** 07:35:53.0, 42°.24N×13°.53E, h9km, MD1.9/7, After ROM*
ROM 18 07:35:53.0±0.1, 42°.24N×13°.53E, h9km±1km, Md1.9/7, Ml1.2/4, Error ellipse: s-maj=1.4km s-min=1.3km az=113.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.05**	**59**	Pg	Pg	07 35 55.1	+0.1
FAGN				Sg	Sg	07 35 56.1	-0.3
	1μm,0.3s						
FAGN	**Fagnano**	**0.05**	**59**	Pg	Pg	07 35 55.1	+0.1
FAGN				Sg	Sg	07 35 56.1	-0.3
	1μm,0.3s						
AQU	**L'Aquila**	**0.15**	**319**	Pg	Pg	07 35 57.0	+0.6
AQU				Sg	Sg	07 36 00.3	+1.6
	74nm,0.2s						
AQU	**L'Aquila**	**0.15**	**319**	Pg	Pg	07 35 57.0	+0.6
AQU				Sg	Sg	07 36 00.3	+1.6
	74nm,0.2s						
PTQR	**Pietraquaria**	**0.24**	**204**	Pg	Pg	07 35 58.5	+0.5
PTQR				Sg	Sg	07 36 03.0	+1.6
	7.0nm,0.2s						
PTQR	**Pietraquaria**	**0.24**	**204**	Pg	Pg	07 35 58.5	+0.5
PTQR				Sg	Sg	07 36 03.0	+1.6
	7.0nm,0.2s						
VCEL	**Villa Celiera**	**0.28**	**56**	Pg	Pb	07 35 59.7	-0.6
VCEL				Sg	Sb	07 36 04.4	-0.8
	48nm,0.6s						
VCEL	**Villa Celiera**	**0.28**	**56**	Pg	Pb	07 35 59.7	-0.6
VCEL				Sg	Sb	07 36 04.4	-0.8
	48nm,0.6s						
FIAM	**Fiamignano**	**0.31**	**275**	Pg	Pg	07 35 59.7	+0.4
FIAM				Sg	Sg	07 36 04.8	+1.2
	34nm,0.9s						
FIAM	**Fiamignano**	**0.31**	**275**	Pg	Pg	07 35 59.7	+0.4
FIAM				Sg	Sg	07 36 04.8	+1.2
	34nm,0.9s						
INTR	**Introdacqua**	**0.36**	**130**	Pg	Pg	07 36 00.8	+0.5
INTR				Sg	Sb	07 36 06.9	-0.7
INTR	**Introdacqua**	**0.36**	**130**	Pg	Pg	07 36 00.8	+0.5
INTR				Sg	Sb	07 36 06.9	-0.7
TERO	**Teramo**	**0.38**	**8**	Pg	Pg	07 36 00.8	+0.1
TERO				Sg	Sg	07 36 07.0	+1.1
	15nm,0.4s						
TERO	**Teramo**	**0.38**	**8**	Pg	Pg	07 36 00.8	+0.1
TERO				Sg	Sg	07 36 07.0	+1.1
	15nm,0.4s						
CERT	**Cerreto**	**0.50**	**235**	Pg	Pg	07 36 03.1	+0.2
CERT	**Cerreto**	**0.50**	**235**	Pg	Pg	07 36 03.1	+0.2

---

*BJI **18** 07:39:28.8, 2°.13S×99°.18E, h37km, mB4.8/20, mb4.7/29, Ms4.5/16, Ms7 4.2/18*
*NEIC **18** 07:39:29.5±0.3, 1°.69S×99°.46E, h10km, mb4.6/16, Error ellipse: s-maj=11.3km s-min=6.5km az=62.0*
*ISCJB **18** 07:39:30.7±0.3, 1°.74S±0°.04×99°.43E±0°.04, h30km, mb4.6/63, MS3.9/23, Error ellipse: s-maj=6.7km s-min=6.0km az=43.2*
*MOS **18** 07:39:31.8±1.2, 1°.48S×99°.63E, h33km, mb4.9/25, Error ellipse: s-maj=16.2km s-min=6.4km az=110.2*
*IDC **18** 07:39:34.2±3.2, 1°.57S×99°.64E, h40km±26km, mb4.1/19, mb1 4.2/21, mb1mx4.1/28, mbtmp4.1/21, ML4.1/2, MS3.7/14, Ms1 3.7/14, ms1mx3.4/41, Error ellipse: s-maj=22.2km s-min=12.1km az=44.0*
*DJA **18** 07:39:40.6±0.6, 2°.5S±5°.×10°.0E±°, h10km, M4.9/5, mb5.0/5, mB5.3/5, MLv4.9/5, Mw(mB)4.7/5*
ISC 18 07:39:33.1±0.4, 1°.71S±0°.04×99°.46E±0°.05, h30km, h30km:pP-P, n170, σ1°.75/201, mb4.7/64, MS4.0/23, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.27**	**52**	P	**Pn**	**07 39 52.5**	**-2.4**
PDSI				S	**Sn**	**07 40 08.6**	**-2.4**
MNSI	**Mandailing Nat**	**2.49**	**3**	P	Pb	07 40 21.2	+4.1
BKNI	**Bangkinang**	**2.56**	**38**	P	**Pn**	**07 40 13.2**	**+0.6**
RGRI	**Rengat**	**3.17**	**65**	P	**Pb**	**07 40 26.5**	**-2.3**
MNAI	**Manna**	**4.37**	**127**	P	**Pb**	**07 40 50.8**	**+1.6**
MNAI	**Manna**	**4.37**	**127**	P	Px	07 41 10.2	
	532nm,0.9s,9μm2.4nm						
PSI	**Prapat**	**4.51**	**353**	P	Pn	07 40 36.2	-3.2
PSI	**Prapat**	**4.51**	**353**	P	Pn	07 40 36.2	-3.2
	1.4nm,0.3s,baz=175,slow=13,SNR=8.6						
PSI				LR	LR	07 42 27.6	
	comp=Z,483nm,19.8s,baz=160,slow=40						
TSI	**Tuntungan**	**5.25**	**350**	P	**Pb**	**07 41 01.4**	**-2.8**
	325nm,1.0s,12μm2.0nm						
KCSI	**Kotacane, Aceh**	**5.46**	**342**	P	Pb	07 41 01.4	-6.4
	138nm,1.1s,2μm						
MYKOM	**Kota Tinggi**	**5.60**	**52**	P	Pn	07 40 58.2	+3.9
	103nm,0.9s,1μm1.0nm						
MYKOM	**Kota Tinggi**	**5.60**	**52**	P	Sb	07 42 24.7	+7.9
	228nm,1.4s,4μm						
LWLI	**Liwa**	**5.64**	**126**	P	**Pn**	**07 40 58.2**	**+3.1**
	294nm,0.7s,1.2nm						
KLSI		**6.04**	**120**	P	**Pn**	**07 40 57.7**	**-2.7**
	59nm,1.0s,1μm0.3nm						
KLI	**Kotabumi**	**6.23**	**120**	P	Pn	07 41 09.4	+6.4
	110nm,0.7s,4μm0.7nm						
IPM	**Ipoh**	**6.34**	**14**	*e*Pn	**Pn**	**07 41 06.2**	**+1.6**
IPM	**Ipoh**	**6.34**	**14**	P	Pn	07 41 11.6	+7.0
KULM	**Kulim**	**7.05**	**10**	*e*Pn	**Pn**	**07 41 14.5**	**+0.2**
KULM	**Kulim**	**7.05**	**10**	P	Pb	07 41 25.1	-10
SBUM	**Sibu**	**13.41**	**72**	P	**P**	**07 42 50.8**	**+0.3**
SBUM	**Sibu**	**13.41**	**72**	P	**Pn**	**07 42 42.2**	**+0.8**
	26nm,1.3s,416nm						
KKM	**Kota Kinabalu**	**18.42**	**65**	*e*P	**P**	**07 43 46.2**	**0.0**
	15nm,0.8s						
KKM	**Kota Kinabalu**	**18.42**	**65**	P	**Pn**	**07 43 46.6**	**+0.2**
	20nm,0.9s						
MMSI	**Mamuju**	**19.46**	**93**	P	Pn	07 44 08.5	+10
CMAR	**Chiang Mai Arr**	**20.05**	**359**	P	**P**	**07 44 01.6**	**-2.3**
CMAR				S	Sn	07 47 55.7	+5.1
CMAR	**Chiang Mai Arr**	**20.05**	**359**	P	**P**	**07 44 01.6**	**-2.3**
	1.0nm,0.3s,baz=188,slow=9.9,SNR=19						
CMAR				S	Sn	07 47 55.7	+5.1
	0.7nm,0.3s,baz=179,slow=14,SNR=3.8						
TTSI	**Tana Toraja**	**20.38**	**94**	P	Pn	07 44 20.0	+10
CHTO	**Chiang Mai**	**20.40**	**359**	*e*P	**P**	**07 44 08.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**20.40**	**359**	*e*P	**P**	**07 44 08.2**	**+0.5**
	comp=Z,7.2nm,1.0s						
CHTO	**Chiang Mai**	**20.40**	**359**	P	Pn	07 44 12.6	+2.6
QIZ	**Qiongzhong**	**23.00**	**26**	P	**P**	**07 44 36.6**	**+1.0**

QIZ S **S** **07 48 46.5 +2.2**
QIZ LR LR
comp=N,420nm,11.3s
QIZ LR LR
comp=Z,550nm,11.1s
KMI Kunming 26.86 7 P **P** **07 45 13.6 +2.1**
KMI pP **pP** **07 45 22.3 +2.1**
KMI sP **sP** **07 45 26.1 +2.2**
KMI PP **PnPn** **07 45 59.8 +5.8**
KMI S **S** **07 49 46.8 +0.3**
KMI sS **sS** **07 50 03.8 +2.9**
KMI SS **SnSn** **07 51 01.5 +8.8**
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,85nm,3.6s
KMI LR LR
comp=N,350nm,13.0s
KMI LR LR
comp=E,260nm,13.0s
KMI LR LR
comp=Z,320nm,10.5s
GYA Guiyang 28.85 13 *e*P **P** **07 45 31.3 +2.1**
GYA pP **pP** **07 45 40.6 +2.7**
GYA PP **PnPn** **07 46 24.3 +3.2**
GYA PcP **PcP** **07 48 39.0 +0.6**
GYA S **S** **07 50 17.3 -0.3**
GYA sS **sS** **07 50 34.5 +2.4**
GYA ScP **ScP** **07 52 17.4 -0.5**
GYA ScS **ScS** **07 56 08.8 -3.0**
GYA pmax pmax
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 30.42 124 *e*P **P** **07 45 41.9 -1.1**
comp=Z,10nm,1.1s
LSA Lhasa 32.23 346 *e*P **P** **07 45 58.5 -0.8**
LSA pmax pmax
comp=Z,9.0nm,0.4s
LSA Lhasa 32.23 346 *e*P **P** **07 45 58.5 -0.8**
comp=Z,9.1nm,0.4s
CD2 Chengdu 32.69 7 *e*P **P** **07 46 05.0 +2.0**
CD2 sP **sP** **07 46 19.4 +4.0**
CD2 PP **PP** **07 47 15.3 -2.0**
CD2 S **S** **07 51 18.8 +1.2**
CD2 sS **sS** **07 51 35.5 +3.4**
CD2 SS **SnSn** **07 53 18.5 +4.2**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,270nm,13.2s
CD2 LR LR
comp=E,420nm,10.6s
CD2 LR LR
comp=Z,360nm,13.0s
WHN Wuhan 35.07 23 *e*P **P** **07 46 22.8 -0.7**
NWAO Narrogin (SRO) 35.26 154 LR LR 08 01 11.5
comp=Z,157nm,18.5s,baz=200,slow=37
XAN Xi'an 36.66 13 P **P** **07 46 35.5 -1.7**
XAN pP **pP** **07 46 44.6 -1.4**
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN pmax pmax
comp=Z,15nm,6.3s
LZH Lanzhou 37.82 6 *e*P **P** **07 46 47.6 +0.4**
LZH pP **pP** **07 46 58.1 +2.1**
LZH sP **sP** **07 47 02.3 +2.6**
LZH PcP **PcP** **07 49 03.5 +0.1**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,67nm,5.7s
LZH LR LR
comp=N,380nm,13.2s
LZH LR LR
comp=E,360nm,13.6s
LZH LR LR
comp=Z,450nm,17.2s
NJ2 Nanjing 38.28 27 *e*P **P** **07 46 51.6 +0.7**
NJ2 pmax pmax
comp=Z,80nm,0.8s
WRA Warramunga Arr 38.60 120 P **P** **07 46 52.3 -1.5**
WRA PcP **PcP** **07 49 06.6 +0.6**
WRA Warramunga Arr 38.60 120 P **P** **07 46 52.3 -1.5**
comp=Z,3.5nm,0.5s,baz=303,slow=9.0,SNR=43
WRA PcP **PcP** **07 49 06.6 +0.6**
comp=Z,0.5nm,0.4s,baz=315,slow=2.5,SNR=5.9
WRA LR LR 08 06 48.3
comp=Z,84nm,18.6s,baz=280,slow=42
WRAB Tennant Creek 38.61 120 *e*P **P** **07 46 52.8 -1.1**
WRAB pmax pmax
comp=Z,5.0nm,0.6s
WRAB Tennant Creek 38.61 120 *e*P **P** **07 46 52.8 -1.1**
comp=Z,4.9nm,0.6s
FORT Forrest 39.61 140 *e*P **P** **07 47 03.5 +1.4**
comp=Z,18nm,0.8s
ASAR Alice Springs 39.86 126 P **P** **07 47 03.6 -0.7**
ASAR PcP **PcP** **07 49 10.7 +0.7**
ASAR S **S** **07 53 04.8 -2.5**
ASAR Alice Springs 39.86 126 P **P** **07 47 03.6 -0.7**
comp=Z,2.8nm,0.5s,baz=303,slow=7.9,SNR=34
ASAR PcP **PcP** **07 49 10.7 +0.7**
comp=Z,1.4nm,0.7s,baz=311,slow=2.6,SNR=4.0
ASAR S **S** **07 53 04.8 -2.5**
comp=Z,1.0nm,0.9s,baz=306,slow=15,SNR=7.3
AS31 Alice Springs 39.86 126 *e*P **P** **07 47 03.8 -0.5**
GTA Gaotai 40.92 0 P **P** **07 47 13.4 +0.5**
GTA pP **pP** **07 47 19.3 -2.6**
GTA S **S** **07 53 24.8 +1.9**
GTA SS **SS** **07 56 21.9 -3.4**
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,83nm,4.5s
GTA LR LR
comp=N,120nm,20.9s
GTA LR LR
comp=E,220nm,19.5s
GTA LR LR
comp=Z,170nm,19.0s
HHC Hu-ho-hao-te 43.77 13 *e*P **P** **07 47 36.3 +0.2**
HHC pP **pP** **07 47 46.3 +1.2**
HHC sP **sP** **07 47 50.1 +1.4**
HHC PP **PcP** **07 49 20.5 -2.0**
HHC S **S** **07 54 05.8 +1.0**
HHC sS **sS** **07 54 21.9 +2.3**
HHC SS **SS** **07 57 14.8 -6.6**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=N,300nm,14.9s
HHC LR LR
comp=E,370nm,15.9s
HHC LR LR
comp=Z,190nm,14.7s
BJI Beijing 44.28 18 P **P** **07 47 40.8 +0.8**
BJI S **S** **07 54 13.9 +1.9**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI pmax pmax
comp=Z,56nm,3.8s
BJI LR LR
comp=N,60nm,26.0s
BJI LR LR
comp=E,120nm,27.6s
BJI LR LR
comp=Z,39nm,22.4s
JNU Nakatsue 45.59 38 *e*P **P** **07 47 50.7 0.0**
comp=Z,9.8nm,1.0s
JNU Nakatsue 45.59 38 P **P** **07 47 48.7 -2.0**
comp=Z,3.7nm,0.6s,baz=207,slow=8.1,SNR=6.7
JNU LR LR 08 07 58.8
comp=Z,101nm,18.9s,baz=66,slow=38
KSH Kashi 46.34 335 *e*P **P** **07 47 57.3 +0.7**
KSH pmax pmax
comp=Z,4.0nm,0.4s
KSH pmax pmax
comp=Z,58nm,5.3s
WMQ Urumqi 46.54 348 P **P** **07 47 58.3 +0.3**
WMQ sP **sP** **07 48 13.3 +2.7**
WMQ pmax pmax
comp=Z,19nm,1.2s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,48nm,23.0s
KSAR Wonju Array Be 47.02 31 P **P** **07 48 00.1 -1.7**
KSRS Korea Array 47.05 31 P **P** **07 48 00.1 -1.9**
comp=Z,2.3nm,0.6s,baz=222,slow=7.8,SNR=12
KSRS LR LR 08 07 49.3
comp=Z,74nm,19.5s,baz=34,slow=36
TKM2 Tokmak 2 49.35 337 *e*P **P** **07 48 19.4 -0.6**
TKM2 pmax pmax
comp=Z,11nm,1.0s
TKM2 Tokmak 2 49.35 337 *e*P **P** **07 48 19.4 -0.6**
comp=Z,11nm,1.0s
AAK Ala-Archa 49.55 336⇑ *e*P **P** **07 48 22.2 +0.7**
AAK pmax pmax
comp=Z,40nm,2.5s
AAK MLR MLR
comp=Z,209nm,20.0s
AAK Ala-Archa 49.55 336 LR LR 08 11 52.3
comp=Z,95nm,19.4s,baz=177,slow=39
SONM Songino Array 49.71 6 P **P** **07 48 21.3 -1.2**
SONM PcP **PcP** **07 49 42.9 -0.5**
SONM Songino Array 49.71 6 P **P** **07 48 21.3 -1.2**
comp=Z,2.4nm,0.6s,baz=191,slow=9.2,SNR=16
SONM PcP **PcP** **07 49 42.9 -0.5**
comp=Z,0.5nm,0.3s,baz=171,slow=3.8,SNR=3.3
SONM LR LR 08 13 29.0
comp=Z,95nm,19.1s,baz=194,slow=41
STKA Stephens Creek 49.74 132 *e*P **P** **07 48 23.2 +0.2**
comp=Z,1.2nm,1.0s
STKA Stephens Creek 49.74 132 P **P** **07 48 22.8 -0.1**
comp=Z,6.9nm,1.0s,baz=296,slow=8.9,SNR=8.0
ULN Ulaanbaatar 49.81 7 *e*P **P** **07 48 21.5 -1.9**
comp=Z,4.2nm,0.8s
EKS2 Erkin-Say 49.87 335 *e*P **P** **07 48 24.0 +0.1**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 49.87 335 *e*P **P** **07 48 24.0 +0.1**
comp=Z,8.2nm,0.8s
MK31 Makanchi Array 50.61 345 *i*P **P** **07 48 27.9 -1.3**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 50.61 345 *e*P **P** **07 48 28.3 -0.9**
MKAR Makanchi Array 50.61 345 *e*P **P** **07 48 28.2 -1.0**
MKAR Makanchi Array 50.61 345 *e*P **P** **07 48 28.2 -1.0**
MKAR Makanchi Array 50.61 345 P **P** **07 48 28.2 -1.0**
comp=Z,3.9nm,0.6s,baz=152,slow=8.1,SNR=41
MKAR LR LR 08 10 28.0
comp=Z,31nm,20.5s,baz=167,slow=37
CN2 Changchun 50.94 24 *e*P **P** **07 48 33.8 +2.1**
CN2 *e*pP **pP** **07 48 43.6 +2.8**
CN2 *e*S **S** **07 55 47.1 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,210nm,16.0s
CN2 LR LR
comp=E,110nm,16.0s
CN2 LR LR
comp=Z,120nm,19.0s
KKAR Karatay Array 51.65 333 *e*P **P** **07 48 35.9 -1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 51.65 333 *e*P **P** **07 48 35.9 -1.2**
comp=Z,0.8nm,0.5s
MJAR Matsushiro Arr 52.39 40 LR LR 08 12 01.0
comp=Z,52nm,21.5s,baz=230,slow=37
HVS Khovu-Aksy 52.87 355 *i*P **P** **07 48 46.9 +0.8**
HVS pmax pmax
comp=Z,168nm,3.0s
MDJ Mudanjiang 53.37 27 P **P** **07 48 50.4 +0.6**
MDJ pmax pmax
comp=Z,7.0nm,1.6s
MDJ pmax pmax
comp=Z,45nm,4.5s
USRK Ussuriysk Arra 54.16 29 P **P** **07 48 54.2 -1.4**
comp=Z,5.5nm,0.6s,baz=236,slow=3.3,SNR=16
USRK LR LR 08 14 03.1
comp=Z,85nm,18.7s,baz=133,slow=38
KURBB Kurchatov Arra 55.12 344 P **P** **07 49 01.3 -1.1**
comp=Z,1.9nm,0.6s,baz=162,slow=6.8,SNR=18
KURK Kurchatov 55.18 344 P **P** **07 49 01.3 -1.5**
KURK Kurchatov 55.18 344 P **P** **07 49 01.3 -1.5**
ZAA0 Zalesovo Array 56.79 350 *e*P **P** **07 49 13.0 -1.3**
ZALV Zalesovo Beam 56.79 350 P **P** **07 49 13.0 -1.3**
ZALV Zalesovo Beam 56.79 350 P **P** **07 49 13.0 -1.3**
ZALV Zalesovo Beam 56.79 350 P **P** **07 49 13.0 -1.3**
comp=Z,6.6nm,0.5s,baz=155,slow=4.9,SNR=37
KRAR Krasnoyarsk 57.78 356 *i*P **P** **07 49 21.8 +0.6**
KRAR pmax pmax
comp=Z,27nm,0.4s
KLR Kul'dur 57.89 24 *e*P P 07 49 15.1 -7.1
NVS Novosibirsk 57.93 349 *e*P **P** **07 49 20.1 -2.2**
NVS pmax pmax
comp=Z,19nm,1.8s
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
VOSK Vostochnaya 59.28 340 P **P** **07 49 29.4 -2.4**
VOSK pmax pmax
comp=Z,5.0nm,0.9s
ASAJ Asahikawa 59.68 35 LR LR 08 15 21.1
comp=Z,49nm,20.7s,baz=190,slow=36
BVA0 Borovoye Array 59.73 340 P **P** **07 49 32.3 -2.6**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s
BRVK Borovoye 59.79 340⇓ *e*P **P** **07 49 33.7 -1.6**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK Borovoye 59.79 340 *e*P **P** **07 49 33.3 -2.0**
comp=Z,4.9nm,1.0s
AB31 Akbulak array 61.13 332 P **P** **07 49 42.6 -1.9**
AB31 pmax pmax
comp=Z,15nm,1.3s
ABKAR Akbulak array 61.13 332 *e*P **P** **07 49 43.0 -1.5**
comp=Z,11nm,1.0s
YSS Yuzh-Sakhalins 61.52 32 *e*P P 07 49 55.0 +7.8
KMBO Kilima Mbogo 62.19 270 P **P** **07 49 54.0 +1.4**
KMBO Kilima Mbogo 62.19 270 P **P** **07 49 54.0 +1.4**
comp=Z,0.8nm,0.4s,baz=90,slow=12,SNR=3.7
KMBO LR LR 08 10 39.7
comp=Z,99nm,20.9s,baz=103,slow=30
SVE Sverdlovsk 66.21 338 *e*P **P** **07 50 17.0 -0.9**
SVE pmax pmax
comp=Z,19nm,1.3s
ARU Arti 66.73 337 *d i*P **P** **07 50 19.8 -1.4**
ARU 07 52 42.6
ARU S **S** **07 59 13.6 +2.5**
ARU pmax pmax
comp=Z,12nm,1.2s
YAK Yakutsk 67.60 15 *e*P **P** **07 50 23.7 -2.9**
YAK *e* 07 50 32.0
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.2s
KBZ Khabaz 67.74 319 P **P** **07 50 27.1 -0.8**
KBZ Khabaz 67.74 319 P **P** **07 50 27.1 -0.8**
KBZ Khabaz 67.74 319 P **P** **07 50 27.1 -0.8**
comp=E,4.2nm,1.0s,baz=90,slow=8.9,SNR=5.2
ASF Jabal al Asfar 67.98 306 P **P** **07 50 29.7 -0.1**
ASF Jabal al Asfar 67.98 306 P **P** **07 50 29.7 -0.1**
comp=E,1.2nm,0.5s,baz=118,slow=3.8,SNR=3.9
BRTR Keskin Array B 72.73 313 P **P** **07 50 58.6 -0.2**
BRTR Keskin Array B 72.73 313 P **P** **07 50 58.6 -0.2**
comp=E,0.7nm,0.6s,baz=125,slow=6.2,SNR=3.7
PETK Petropavlovsk- 72.93 32 P **P** **07 50 59.4 -0.1**
PETK Petropavlovsk- 72.93 32 P **P** **07 50 59.4 -0.1**
PETK Petropavlovsk- 72.93 32 P **P** **07 50 59.4 -0.1**
comp=E,1.0nm,0.5s,baz=197,slow=4.5,SNR=3.6
VSR Storozhevoye 73.23 325 *e*P **P** **07 50 59.1 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.6s
BOSA Boshof 75.33 241 LR LR 08 16 47.3
comp=E,146nm,21.6s,baz=265,slow=30
TIXI Tiksi 75.66 9⇓ *e*P **P** **07 51 14.4 -0.5**
TIXI pmax pmax
comp=Z,25nm,2.5s
OBN Obninsk 76.26 328⇑ *e*P **P** **07 51 18.6 -0.1**
OBN *e* 07 51 30.4
OBN *e*S **S** **08 01 02.6 +1.4**
OBN *e*SS **SS** **08 05 54.2 -1.3**
OBN pmax pmax
comp=Z,42nm,2.5s
OBN MLR MLR
comp=Z,100nm,20.0s
VSU Vasula 82.48 330 *i*P **P** **07 51 49.4 -3.1**
VSU pmax pmax
comp=Z,107nm,1.9s
VNDA Vanda 82.55 169 LR LR 08 25 38.3
comp=Z,80nm,19.4s,baz=154,slow=33
KOLS Kolonicke sedl 82.88 320 *e*P **P** **07 51 55.7 +0.8**
KOLS pmax pmax
comp=Z,14nm,1.4s
KOLS Kolonicke sedl 82.88 320 *e*P **P** **07 51 55.7 +0.8**
KOLS *e*pP **pP** **07 52 02.6 -1.9**
CRVS Cervenica-Dubn 83.40 319 *e*P **P** **07 51 57.1 -0.5**
CRVS pmax pmax
comp=Z,11nm,1.7s
CRVS Cervenica-Dubn 83.40 319 *e*P **P** **07 51 57.1 -0.5**
CRVS *e*pP **pP** **07 52 08.1 +0.9**
FINES FINESS Array B 83.61 332 P **P** **07 51 57.5 -0.8**
FINES FINESS Array B 83.61 332 P **P** **07 51 57.5 -0.8**
comp=Z,2.0nm,0.6s,baz=110,slow=7.3,SNR=10
STHS Stebnicka Huta 83.63 320 *e*P **P** **07 51 59.2 +0.4**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 83.63 320 *e*P **P** **07 51 59.2 +0.4**
STHS *e*pP **pP** **07 52 06.9 -1.5**
SBA Scott Base 83.65 169 *e*P **P** **07 52 00.3 +2.0**
SBA pmax pmax
comp=Z,3.0nm,1.0s
SBA Scott Base 83.65 169 *e*P **P** **07 52 00.3 +2.0**
comp=Z,3.4nm,1.0s
KAF Kangasniemi 83.68 333 *e*P **P** **07 51 58.5 -0.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 83.68 333 *e*p **P** **07 51 58.5 -0.2**
comp=Z,1.2nm,0.4s
KECS Kecovo 83.97 319 *e*P **P** **07 52 00.6 +0.1**
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 83.97 319 *e*P **P** **07 52 00.5 +0.1**
KECS *e*pP **pP** **07 52 08.2 -1.9**
ARCES ARCESS Array B 86.02 340 P **P** **07 52 10.6 +0.2**
ARCES ARCESS Array B 86.02 340 P **P** **07 52 10.6 +0.2**
comp=Z,2.2nm,0.7s,baz=93,slow=6.1,SNR=8.1
GEC2 GERESS Array S 88.48 319 *e*P **P** **07 52 22.7 -0.1**
GEC2 GERESS Array S 88.48 319 *e*P **P** **07 52 22.7 -0.1**
comp=Z,2μm,1.3s
GERES GERESS Array B 88.48 319 P **P** **07 52 22.2 -0.6**
GERES GERESS Array B 88.48 319 P **P** **07 52 22.2 -0.6**
comp=Z,1.3nm,0.9s,baz=103,slow=4.4,SNR=9.3
CLL Collm 89.10 321 *e*P **P** **07 52 26.0 +0.5**
CLL Collm 89.10 321 *e*P **P** **07 52 26.0 +0.5**
FUORN Ofenpass-Fuorn 90.68 316 *e*P **P** **07 52 33.7 +0.4**
comp=Z,7.2nm,1.1s
KEST Kesra 91.08 306 *e*P **P** **07 52 36.4 +1.2**
KEST Kesra 91.08 306 P **P** **07 52 35.7 +0.4**
comp=Z,3.4nm,1.2s,baz=355,slow=5.5,SNR=4.2
DLMT Dillon 128.19 28 *e*PKPdf **PKPdf** **07 58 36.9 0.0**
HLID Hailey 128.58 31 *e*PKPdf **PKPdf** **07 58 37.9 +0.1**
NVAR Mina Array Bea 129.71 39 PKP **PKPdf** **07 58 39.0 -1.1**
NVAR Mina Array Bea 129.71 39 PKP **PKPdf** **07 58 39.0 -1.1**
comp=Z,0.1nm,0.3s,baz=255,slow=4.0,SNR=3.7
R11A Troy Canyon, C 131.43 37 *e*PKPdf **PKPdf** **07 58 44.4 +1.1**
PDAR Pinedale Array 131.58 29 PKP **PKPdf** **07 58 41.6 -2.0**
PDAR Pinedale Array 131.58 29 PKP **PKPdf** **07 58 41.6 -2.0**
comp=Z,0.2nm,0.5s,baz=20,slow=2.9,SNR=3.2
TXAR Lajitas Array 144.79 37 PKP **PKPab** **07 59 06.5 -0.3**
TXAR Lajitas Array 144.79 37 PKP **PKPab** **07 59 06.5 -0.3**
comp=Z,0.8nm,0.3s,baz=273,slow=1.1,SNR=32
WVT Waverly 145.09 10 *e*PKIKP **PKPbc** **07 59 05.8 -1.7**
WVT Waverly 145.09 10 *e*PKPdf **PKPbc** **07 59 05.8 -1.7**
MIAR Mount Ida 145.14 19 *e*PKIKP **PKPbc** **07 59 06.3 -1.4**
MIAR Mount Ida 145.14 19 *e*PKPdf **PKPbc** **07 59 06.3 -1.4**
TZTN Tazewell 145.22 4 *e*PKPdf **PKPbc** **07 59 06.4 -1.6**
UALR University of 145.31 17 *e*PKPdf **PKPbc** **07 59 07.1 -1.2**
WHTX Lake Whitney 145.91 26 *e*PKPdf **PKPdf** **07 59 09.5 -0.2**
JCT Junction City 146.05 31 *e*PKP2 **PKPdf** **07 59 10.2 +0.2**
JCT Junction City 146.05 31 *e*PKPdf **PKPdf** **07 59 10.2 +0.2**
TKL Tuckaleechee C 146.09 5 *e*PKPdf **PKPdf** **07 59 09.5 -0.4**
PLAL Pickwick Lake 146.16 11 *e*PKPdf **PKPdf** **07 59 09.6 -0.4**
CPCT Cooper Cave 146.22 6 *e*PKPdf **PKPdf** **07 59 09.9 -0.2**
KMSC Kings Mountain 146.73 1 *e*PKPdf **PKPdf** **07 59 10.8 -0.1**
HKT Hockley 148.38 26 *e*PKP2 **PKPbc** **07 59 16.7 -0.5**
HKT Hockley 148.38 26 *e*PKPbc **PKPbc** **07 59 16.7 -0.5**

ISCJB ***18*** *07:46:59.7±0.7, 43°.80N±0°.09×145°.42E±0°.09, h153km±5km, mb3.4/4, Error ellipse: s-maj=14.5km s-min=10.4km az=5.5*
JMA ***18*** *07:47:01.2±0.2, 43°.79N×145°.40E, h148km±2km, M2.8*
IDC ***18*** *07:47:03.4±5.0, 44°.26N×145°.23E, h153km±24km, mb3.2/4, mb1 3.3/4, mb1mx3.0/24, mbtmp3.2/4, Error ellipse: s-maj=157.5km s-min=29.1km az=169.0*
ISC 18 07:47:00.6±1.0, 43.80N±0°.09×145.43E±0°.07, h151km±7km, n16, σ0.55/25, mb3.3/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.26**	**302**	P	**Pn**	**07 47 21.2**	**+0.2**
JRA				*e*S	**Sn**	**07 47 36.6**	**-0.1**
NEM2	**Nemuro 2**	**0.49**	**152**	P	**Pn**	**07 47 22.2**	**+0.3**
NEM2				*e*S	**Sn**	**07 47 37.5**	**-0.7**
JNK	**Nakash**	**0.56**	**248**	P	**Pn**	**07 47 22.6**	**+0.3**
JNK				*e*S	**Sn**	**07 47 38.7**	**-0.1**
JAK	**Akkeshi**	**0.96**	**214**	P	**Pn**	**07 47 25.5**	**+0.4**
JAK				*e*S	**Sn**	**07 47 43.6**	**-0.2**
JTKR	**Abashiri--Toko**	**1.11**	**279**	P	**Pn**	**07 47 26.5**	**+0.2**
JTKR				*e*S	**Sn**	**07 47 45.7**	**-0.3**
JAR	**Ashorobuto**	**1.31**	**248**	P	**Pn**	**07 47 29.1**	**+0.9**
JAR				*e*S	**Sn**	**07 47 49.8**	**+0.5**
JOB	**Onbets**	**1.47**	**233**	*e*S	**Sn**	**07 47 52.1**	**-0.1**
JMP	**Maruseppu**	**1.51**	**279**	P	**Pn**	**07 47 30.3**	**0.0**
JMP				*e*S	**Sn**	**07 47 52.1**	**-0.9**
JCH	**Churui**	**1.92**	**233**	P	**Pn**	**07 47 35.0**	**+0.2**
JCH				*e*S	**Sn**	**07 47 59.8**	**-1.2**
JKK2	**Kamakawa 2**	**1.94**	**273**	P	**Pn**	**07 47 35.3**	**+0.3**
ASAJ	**Asahikawa**	**2.07**	**280**	P	**Pn**	**07 47 37.0**	**+0.6**
ASAJ	**Asahikawa**	**2.07**	**280**	P	**Pn**	**07 47 37.1**	**+0.6**
	3.4nm,0.3s,baz=95,slow=8.3,SNR=14						
ASAJ				S	**Sn**	**07 48 04.1**	**0.0**
	0.7nm,0.3s,baz=12,slow=20,SNR=8.1						
SONM	**Songino Array**	**27.30**	**292**	P	**P**	**07 52 31.5**	**+0.5**
	0.3nm,0.3s,baz=73,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**42.19**	**36**	P	**P**	**07 54 38.5**	**+0.6**
	0.2nm,0.5s,baz=262,slow=5.8,SNR=3.8						
MKAR	**Makanchi Array**	**43.45**	**297**	P	**P**	**07 54 48.0**	**-0.3**
	0.5nm,0.7s,baz=82,slow=9.5,SNR=4.6						
FINES	**FINESS Array B**	**64.26**	**332**	P	**P**	**07 57 18.3**	**-0.7**
	0.9nm,0.4s,baz=48,slow=5.7,SNR=7.4						

AUST ***18*** *07:48:45.5, 7°.99N×127°.53E, h60km*
ISCJB ***18*** *07:49:00.8±0.7, 6°.57N±0°.05×127°.08E±0°.07, h83km±6km, mb4.2/17, Error ellipse: s-maj=12.9km s-min=6.6km az=148.4*
IDC ***18*** *07:49:02.0±2.9, 6°.53N×127°.13E, h78km±25km, mb3.9/13, mb1 4.0/13, mb1mx3.8/27, mbtmp3.9/13, Error ellipse: s-maj=33.2km s-min=10.6km az=70.0*
NEIC ***18*** *07:49:03.3±1.9, 6°.47N×126°.88E, h88km±17km, mb4.2/6, Error ellipse: s-maj=30.1km s-min=8.5km az=73.0*
MAN ***18*** *07:49:04, 6°.47N×126°.82E, h22km, mb4.3, ML3.2, MS3.0*
ISC 18 07:49:01.2±0.9, 6.49N±0°.07×127°.09E±0°.07, h71km±9km, n56, σ1.25/56, mb4.4/17, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.94**	**299**	*e*P	**Pn**	**07 49 18.8**	**-0.2**
MATI				*e*S	**Sn**	**07 49 30.9**	**-1.3**
DAV	**Davao City (W)**	**1.61**	**291**	*e*Pn	**Pn**	**07 49 28.8**	**+1.2**
DAV	**Davao City (W)**	**1.61**	**291**	P	**Pn**	**07 49 28.9**	**+1.3**
	468nm,0.3s,baz=135,slow=1.4,SNR=21						
DAV				S	**Sn**	**07 49 49.3**	**+1.8**
	452nm,0.3s,baz=90,slow=20,SNR=20						
DMPH	**Davao City--Mi**	**1.68**	**291**⇑	*e*P	**Pn**	**07 49 29.5**	**+1.0**
DMPH				*e*S	**Sn**	**07 49 49.8**	**+0.6**
KCP	**Kidapawan**	**2.05**	**285**⇑	*i*P	**Pn**	**07 49 31.8**	**-1.8**
KCP				*i*S	**Sn**	**07 49 56.0**	**-2.3**
GSPH	**General Santos**	**2.16**	**260**⇑	*e*P	Pn	07 49 32.0	-3.2

GSPH			*i* S		Sn	07 49 53.1	-8.0
BUKP	**Musuan**	**2.44 305**	*e*P		**Pn**	**07 49 40.1**	**+1.3**
BUTP	**Butuan**	**2.86 330**	*e*P		Pn	07 49 48.9	+4.3
PAGZ	**Pagadian**	**3.92 290**	*e*P		**Pn**	**07 49 59.4**	**+0.5**
PALU	**Palau**	**7.38 83**	S		**Sn**	**07 52 07.6**	**-1.1**
baz=6.9,SNR=5.1							
SWI	**Sorong**	**8.41 150**	P		Pn	07 51 04.1	+3.8
baz=9.6,SNR=4.8							
LUWI	**Luwuk**	**8.63 210**	P		Pn	07 51 07.0	+3.6
baz=10,SNR=4.7							
FAKI	**Fak Fak**	**10.67 151**	P		**Pn**	**07 51 33.9**	**+2.6**
baz=12,SNR=7.3							
FAKI			S		**Sn**	**07 53 25.0**	**-4.2**
baz=12,SNR=3.4							
BNDI	**Bandanaira**	**11.29 166**	S		Sn	07 54 00.6	+16
baz=13,SNR=4.2							
KAPI	**Kappang**	**13.57 213**	P		**Pn**	**07 52 08.4**	**-2.3**
KAPI	**Kappang**	**13.57 213**	P		**Pn**	**07 52 08.4**	**-2.3**
1.2nm,0.3s,baz=12,slow=8.8,SNR=9.3							
KDU	**Kakadu**	**19.79 164**	P		**P**	**07 53 27.2**	**+1.3**
baz=21,SNR=16							
KNRA	**Kununurra**	**22.09 176**	P		**P**	**07 53 51.1**	**+0.5**
baz=24,SNR=16							
FITZ	**Fitzroy Crossi**	**24.48 183**	*e*P		**P**	**07 54 14.9**	**+1.1**
4.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.48 183**	P		**P**	**07 54 14.1**	**+0.4**
3.8nm,0.5s,baz=1.5,slow=8.9,SNR=21							
FITZ	**Fitzroy Crossi**	**24.48 183**	P		**P**	**07 54 14.8**	**+1.0**
baz=26,SNR=15							
WRAB	**Tennant Creek**	**27.21 165**	*e*P		**P**	**07 54 42.1**	**+3.6**
5.1nm,0.8s							
WRA	**Warramunga Arr**	**27.22 165**	P		**P**	**07 54 38.6**	**0.0**
WRA	**Warramunga Arr**	**27.22 165**	P		**P**	**07 54 38.6**	**0.0**
2.0nm,0.7s,baz=343,slow=10,SNR=37							
ASAR	**Alice Springs**	**30.70 168**	P		**P**	**07 55 09.9**	**+0.4**
ASAR	**Alice Springs**	**30.70 168**	P		**P**	**07 55 09.9**	**+0.4**
1.1nm,0.3s,baz=339,slow=7.2,SNR=36							
MEEK	**Meekatharra**	**33.94 194**	P		**P**	**07 55 37.7**	**-0.2**
baz=36,SNR=8.1							
MEEK			S		S	08 01 27.2	+29
baz=36,SNR=3.4							
MORW	**Morawa**	**36.92 196**	P		**P**	**07 56 03.4**	**+0.1**
baz=39,SNR=4.6							
FORT	**Forrest**	**37.07 179**	*e*P		**P**	**07 56 05.0**	**+0.4**
18nm,0.6s							
BLDU	**Balldu**	**38.21 195**	P		**P**	**07 56 14.2**	**0.0**
baz=40,SNR=10							
BBOO	**Buckleboo**	**40.00 168**	P		**P**	**07 56 30.1**	**+0.9**
baz=42,SNR=11							
NWAO	**Narrogin (SRO)**	**40.30 193**	P		**P**	**07 56 32.1**	**+0.5**
6.2nm,0.4s,baz=22,slow=5.7,SNR=12							
STKA	**Stephens Creek**	**40.59 161**	*e*P		**P**	**07 56 34.8**	**+0.8**
0.8nm,0.6s							
STKA	**Stephens Creek**	**40.59 161**	P		**P**	**07 56 34.4**	**+0.4**
2.0nm,0.5s,baz=21,slow=4.6,SNR=8.8							
STKA	**Stephens Creek**	**40.59 161**	P		**P**	**07 56 35.0**	**+1.0**
baz=42,SNR=7.8							
SONM	**Songino Array**	**44.83 340**	P		**P**	**07 57 07.9**	**-0.5**
SONM	**Songino Array**	**44.83 340**	P		**P**	**07 57 07.9**	**-0.5**
0.3nm,0.4s,baz=166,slow=5.6,SNR=3.3							
PETK	**Petropavlovsk-**	**52.76 23**	P		**P**	**07 58 08.4**	**-0.5**
PETK	**Petropavlovsk-**	**52.76 23**	P		**P**	**07 58 08.4**	**-0.5**
1.3nm,0.7s,baz=187,slow=8.7,SNR=3.3							
MK31	**Makanchi Array**	**55.53 324**	*e*P		**P**	**07 58 29.4**	**+0.2**
MKAR	**Makanchi Array**	**55.53 324**	P		**P**	**07 58 29.3**	**+0.2**
MKAR	**Makanchi Array**	**55.53 324**	P		**P**	**07 58 29.3**	**+0.2**
2.1nm,0.6s,baz=114,slow=7.2,SNR=20							
ZALV	**Zalesovo Beam**	**58.32 332**	P		**P**	**07 58 48.2**	**-0.5**
ZALV	**Zalesovo Beam**	**58.32 332**	P		**P**	**07 58 48.2**	**-0.5**
1.6nm,0.5s,baz=102,slow=6.9,SNR=3.6							
KURK	**Kurchatov**	**59.64 327**	P		**P**	**07 58 58.0**	**+0.1**
KURBB	**Kurchatov Arra**	**59.64 326**	P		**P**	**07 58 58.0**	**+0.1**
3.3nm,0.6s,baz=125,slow=7.0,SNR=4.8							
KKAR	**Karatay Array**	**61.49 316**	*e*P		**P**	**07 59 10.2**	**-0.6**
2.4nm,0.8s							
BVAR	**Borovoye Array**	**65.23 326**	P		**P**	**07 59 35.5**	**+0.3**
BVAR	**Borovoye Array**	**65.23 326**	P		**P**	**07 59 35.5**	**+0.3**
2.1nm,0.7s,baz=140,slow=9.4,SNR=7.8							
BRVK	**Borovoye**	**65.30 326**	*e*P		**P**	**07 59 35.9**	**+0.2**
3.8nm,0.7s							
ARCES	**ARCESS Array B**	**88.00 340**	P		**P**	**08 01 42.3**	**-0.9**
ARCES	**ARCESS Array B**	**88.00 340**	P		**P**	**08 01 42.3**	**-0.9**
3.1nm,1.0s,baz=81,slow=6.5,SNR=3.0							
FINES	**FINESS Array B**	**89.58 332**	P		**P**	**08 01 50.2**	**-0.6**
FINES	**FINESS Array B**	**89.58 332**	P		**P**	**08 01 50.2**	**-0.6**
1.9nm,0.9s,baz=45,slow=5.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**122.36 290**	PKP		**PKPdf**	**08 07 48.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**122.36 290**	PKP		**PKPdf**	**08 07 48.6**	**-0.7**
0.6nm,0.7s,baz=48,slow=2.7,SNR=5.0							

*IDC **18** 07:53:44.8±0.9, 16°.43S×173°.32W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.2/26, mbtmp4.3/13, ML3.5/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/39, Error ellipse: s-maj=36.2km s-min=16.0km az=133.0*

*NEIC **18** 07:53:46.7±0.5, 16°.36S×173°.32W, h10km, mb4.4/5, Error ellipse: s-maj=21.4km s-min=9.5km az=131.0*

ISC 18 07:53:53.2±0.8, 16°.3S±0°.1×173°.3W±0°.2, h66km, n46, σ1°61/37, mb4.3/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.79**	**31**	*e*Pn	Pn	07 54 30.3	-5.4
AFI				*e*Sn	**Sn**	**07 55 02.9**	**-5.4**
AFI	**Afiamalu**	**2.79**	**31**	Pn	Pn	07 54 29.2	-6.5
20nm,0.3s,baz=198,slow=3.2,SNR=29							
AFI				Sn	Sn	07 54 58.1	-10
56nm,0.3s,baz=287,slow=6.1,SNR=17							
AFI				LR	LR	07 55 10.3	
comp=Z,317nm,18.1s,baz=176,slow=29							
MSVF	**Nonsavu**	**8.44**	**259**	*e*Pn	Pn	07 55 58.6	+5.7
DZM	**Mont Dzumac**	**20.00**	**250**	*e*LR	LR	08 03 03.5	
252nm,24.7s							
DZM	**Mont Dzumac**	**20.00**	**250**	P	**P**	**07 58 19.8**	**-0.9**
DZM	**Mont Dzumac**	**20.00**	**250**	P	**P**	**07 58 19.8**	**-0.9**
0.1nm,0.3s,baz=106,slow=20,SNR=4.0							
DZM				LR	LR	08 04 42.1	
comp=Z,220nm,19.1s,baz=168,slow=33							
PPT	**Papeete**	**22.68**	**97**	LR	LR	08 05 34.3	
comp=Z,98nm,18.9s,baz=302,slow=31							
PPT2	**Papeete2**	**22.68**	**97**	*e*LR	LR	08 04 15.0	
115nm,23.5s							
TBI	**Tubuai**	**23.43**	**111**	*e*LR	LR	08 04 41.0	
191nm,27.0s							
URZ	**Urewera**	**23.44**	**199**	*e*P	**P**	**07 58 54.7**	**-2.1**
13nm,1.0s							
URZ	**Urewera**	**23.44**	**199**	P	**P**	**07 58 54.5**	**-2.3**
4.3nm,0.4s,baz=353,slow=10,SNR=7.7							
HNR	**Honiara**	**26.99**	**281**	LR	LR	08 08 25.7	
comp=Z,267nm,21.9s,baz=106,slow=33							
STKA	**Stephens Creek**	**43.70**	**241**	*e*P	**P**	**08 01 50.8**	**-1.2**
1.2nm,0.8s							
STKA	**Stephens Creek**	**43.70**	**241**	P	**P**	**08 01 50.7**	**-1.2**
6.9nm,0.9s,baz=98,slow=7.5,SNR=9.4							
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**08 02 38.0**	**-1.6**
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**08 02 38.0**	**-1.6**
0.7nm,0.4s,baz=84,slow=5.9,SNR=21							
AS31	**Alice Springs**	**49.96**	**253**	*e*P	**P**	**08 02 39.3**	**-1.8**
ASAR	**Alice Springs**	**49.96**	**253**	P	**P**	**08 02 39.8**	**-1.3**
ASAR	**Alice Springs**	**49.96**	**253**	P	**P**	**08 02 39.8**	**-1.3**
8.6nm,0.5s,baz=89,slow=8.2,SNR=125							
ASAR				LR	LR	08 21 59.9	
comp=Z,76nm,20.9s,baz=343,slow=34							
FITZ	**Fitzroy Crossi**	**58.16**	**259**	P	**P**	**08 03 38.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**58.16**	**259**	P	**P**	**08 03 38.9**	**-1.8**
0.5nm,0.5s,baz=101,slow=5.2,SNR=3.1							
FX1	**Attu Island--F**	**69.91**	**351**	P	**P**	**08 04 57.8**	**+0.7**
FX1	**Attu Island--F**	**69.91**	**351**	P	**P**	**08 04 57.8**	**+0.7**
6.4nm,0.6s,baz=221,slow=9.3							
TGY	**Tagaytay City**	**71.69**	**291**	LR	LR	08 31 37.8	
comp=Z,4.4nm,19.2s,baz=261,slow=32							
ASAJ	**Asahikawa**	**72.39**	**328**	*e*P	**P**	**08 05 14.0**	**+1.8**
1.7nm,0.8s							
ASAJ	**Asahikawa**	**72.39**	**328**	P	**P**	**08 05 14.1**	**+1.8**
5.1nm,0.7s,baz=146,slow=5.7,SNR=6.0							
PETK	**Petropavlovsk-**	**73.55**	**342**	P	**P**	**08 05 19.4**	**+0.5**
PETK	**Petropavlovsk-**	**73.55**	**342**	P	**P**	**08 05 19.4**	**+0.5**
6.8nm,0.9s,baz=127,slow=9.4,SNR=8.4							
QSPA	**South Pole Qui**	**73.73**	**180**	*e*P	**P**	**08 05 21.3**	**+1.2**
6.2nm,1.2s							
NVAR	**Mina Array Bea**	**74.92**	**42**	P	**P**	**08 05 28.7**	**+1.2**
NVAR	**Mina Array Bea**	**74.92**	**42**	P	**P**	**08 05 28.7**	**+1.2**
1.0nm,0.8s,baz=224,slow=10,SNR=8.3							
TXAR	**Lajitas Array**	**81.01**	**56**	LR	LR	08 34 18.4	
comp=Z,103nm,18.8s,baz=150,slow=30							
PDAR	**Pinedale Array**	**82.86**	**42**	P	**P**	**08 06 11.8**	**+0.8**
PDAR	**Pinedale Array**	**82.86**	**42**	P	**P**	**08 06 11.8**	**+0.8**
1.1nm,0.7s,baz=209,slow=3.2,SNR=11							
ILAR	**Eielson Array**	**83.32**	**11**	P	**P**	**08 06 13.2**	**+0.7**
ILAR	**Eielson Array**	**83.32**	**11**	P	**P**	**08 06 13.2**	**+0.7**
0.6nm,0.5s,baz=233,slow=6.0,SNR=13							
HRY	**Holter Researc**	**83.49**	**37**	*e*P	**P**	**08 06 15.1**	**+1.2**
2.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**93.03**	**288**	P	**P**	**08 07 02.4**	**+2.1**
CMAR	**Chiang Mai Arr**	**93.03**	**288**	P	**P**	**08 07 02.4**	**+2.1**
0.9nm,0.4s,baz=101,slow=2.8,SNR=6.7							
KMBO	**Kilima Mbogo**	**145.25**	**243**	PKPbc	**PKPdf**	**08 13 25.8**	**+1.0**
KMBO	**Kilima Mbogo**	**145.25**	**243**	PKPbc	**PKPdf**	**08 13 25.8**	**+1.0**
0.9nm,0.3s,baz=72,slow=19,SNR=4.6							
BR131	**Keskin Array S**	**146.95**	**320**	*e*PKPbc	**PKPab**	**08 13 30.5**	**+0.1**
BRTR	**Keskin Array B**	**146.95**	**320**	PKPbc	**PKPab**	**08 13 30.4**	**+0.1**
BRTR	**Keskin Array B**	**146.95**	**320**	PKPbc	**PKPab**	**08 13 30.4**	**+0.1**
2.4nm,0.7s,baz=96,slow=1.8,SNR=12							
GERES	**GERESS Array B**	**147.07**	**352**	PKPbc	**PKPab**	**08 13 29.9**	**-0.6**
GERES	**GERESS Array B**	**147.07**	**352**	PKPbc	**PKPab**	**08 13 29.9**	**-0.6**
0.7nm,0.5s,baz=20,slow=4.3,SNR=5.7							

IDC 18 07:54:06.4±7.4, 5°.27S×152°.67E, h90km±54km, mb3.5/9, mb1 3.6/10, mb1mx3.5/21, mbtmp3.5/10, ML3.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/23, Error ellipse: s-maj=62.9km s-min=24.2km az=96.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.84**	**233**	P	Pn	07 55 44.8	+0.7
1.5nm,0.3s,baz=32,slow=9.5,SNR=4.2							
PMG				S	Sn	07 56 59.7	-0.7
0.4nm,0.3s,baz=113,slow=16,SNR=3.6							
HNR	**Honiara**	**8.32**	**120**	LR	LR	07 58 11.2	
comp=Z,32nm,19.6s,baz=66,slow=29							
WRA	**Warramunga Arr**	**23.04**	**229**	P	P	07 59 04.5	+0.3
0.5nm,0.5s,baz=52,slow=9.7,SNR=5.8							
ASAR	**Alice Springs**	**25.72**	**223**	P	P	07 59 30.0	+1.4
0.6nm,0.6s,baz=63,slow=8.8,SNR=7.2							
FITZ	**Fitzroy Crossi**	**29.32**	**242**	P	P	08 00 00.3	-0.5
1.2nm,0.7s,baz=72,slow=9.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**57.96**	**295**	P	P	08 03 50.1	+0.2
0.6nm,0.4s,baz=111,slow=4.9,SNR=4.1							
SONM	**Songino Array**	**66.65**	**328**	P	P	08 04 48.3	+0.6
0.4nm,0.6s,baz=155,slow=4.9,SNR=2.1							
MKAR	**Makanchi Array**	**80.59**	**319**	P	P	08 06 09.4	+0.2
0.4nm,0.8s,baz=103,slow=6.2,SNR=5.1							
ZALV	**Zalesovo Beam**	**81.47**	**326**	P	P	08 06 12.6	-1.0
0.9nm,0.7s,baz=90,slow=5.9,SNR=3.5							
MAW	**Mawson**	**85.09**	**203**	P	P	08 06 31.1	-0.9
0.9nm,0.6s,baz=120,slow=6.6,SNR=4.6							
BVAR	**Borovoye Array**	**89.53**	**323**	P	P	08 06 52.8	-0.9
0.8nm,0.5s,baz=104,slow=4.7,SNR=5.2							
TORD	**Torodi Ar. Bea**	**150.32**	**287**	PKPbc	PKPbc	08 13 48.5	+0.1
0.7nm,0.5s,baz=33,slow=1.9,SNR=9.8							

*ISCJB **18** 08:09:16.0±1.2, 55°.28N±0°.02×162°.71E±0°.05, h1km±8km, mb3.4/4, Error ellipse: s-maj=5.0km s-min=3.9km az=174.6*

*KRSC **18** 08:09:16.9±0.6, 55°.31N×162°.59E, h5km±5km, ML3.9*

*IDC **18** 08:09:21.7±4.5, 55°.26N×162°.63E, h33km±38km, mb3.2/4, mb1 3.5/6, mb1mx3.2/30, mbtmp3.3/6, ML3.0/2, Error ellipse: s-maj=30.9km s-min=16.0km az=2.0*

ISC 18 08:09:17.3±1.3, 55°.32N±0°.03×162°.66E±0°.04, h8km±9km, n40, σ0°98/55, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.90**	**6**	*e*P	**Pg**	**08 09 34.8**	**+0.2**
KBTR				*e*S	**Sb**	**08 09 47.8**	**+0.6**
MKZ	**Mys Kozlova**	**0.93**	**216**	*e*P	**Pg**	**08 09 34.8**	**-0.4**
MKZ				*e*S	**Sg**	**08 09 47.6**	**+0.3**
ZLN	**Zelenaya**	**1.27**	**304**	*e*P	**Pn**	**08 09 41.0**	**-0.4**
ZLN				S	**Sn**	**08 09 58.9**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**1.28**	**300**	*e*P	**Pn**	**08 09 41.2**	**-0.4**
BZGR				*e*S	**Sb**	**08 09 58.3**	**0.0**
CIRR	**Tsirk**	**1.35**	**307**	P	**Pn**	**08 09 42.0**	**-0.5**
LGNR	**Loginova**	**1.35**	**305**	*e*P	**Pn**	**08 09 42.6**	**-0.2**
BZMR	**Bezymyannaya**	**1.38**	**298**	*e*P	**Pn**	**08 09 42.8**	**-0.2**
BZWR	**Bezymyannyi-We**	**1.39**	**299**	*e*P	**Pn**	**08 09 43.1**	**0.0**
SMKR	**Semkarok**	**1.44**	**333**	*e*P	**Pn**	**08 09 42.8**	**-0.9**
TUMR	**Tumrok**	**1.44**	**270**	*i* P	**Pn**	**08 09 43.9**	**+0.1**
TUMR				S	**Sg**	**08 10 04.0**	**+0.4**
KMNR	**Kamenistaya**	**1.45**	**289**	*e*P	**Pn**	**08 09 44.1**	**+0.2**
KMNR				*e*S	**Sb**	**08 10 03.6**	**+0.5**
KIRR	**Kirishev**	**1.46**	**297**	*e*P	**Pn**	**08 09 44.4**	**+0.3**
KRSR	**Krestovskiy**	**1.49**	**308**	*e*P	**Pn**	**08 09 43.8**	**-0.7**
BDR	**Baidarnaya**	**1.50**	**327**	*e*P	**Pn**	**08 09 44.5**	**-0.1**
BDR				S	**Sb**	**08 10 04.8**	**+0.2**
KLY	**Klyuchi**	**1.51**	**312**	*e*P	**Pn**	**08 09 42.9**	**-1.7**
KLY				*e*S	**Sn**	**08 10 02.0**	**-2.5**
KPT	**Kopyto**	**1.53**	**296**	*e*P	**Pn**	**08 09 45.5**	**+0.5**
KPT				*e*S	**Sg**	**08 10 06.7**	**+0.3**
SRKR	**Sorokina**	**1.58**	**329**	*e*P	**Pn**	**08 09 45.6**	**-0.1**
KOZ	**Kozyrevsk**	**1.75**	**296**	*e*P	**Pb**	**08 09 49.0**	**-0.6**
KOZ				S	**Sg**	**08 10 12.9**	**-0.5**
BKI	**Bering**	**1.90**	**92**	S	**Sb**	**08 10 16.0**	**0.0**
SRDR	**Sredinnyy**	**1.94**	**302**	*e*P	**Pn**	**08 09 51.6**	**+1.0**
SRDR				*e*S	**Sb**	**08 10 16.8**	**-0.5**
KII	**Karymskiy**	**2.27**	**237**	*e*P	**Pn**	**08 09 55.0**	**-0.1**
ESO	**Esso**	**2.33**	**287**	*e*P	**Pn**	**08 09 56.3**	**+0.4**
SPN	**Mys Shipunski**	**2.71**	**216**	*e*P	**Pn**	**08 10 00.4**	**-0.7**
SPN				S	**Sn**	**08 10 32.9**	**-1.2**
NLC	**Nalytchevo**	**2.90**	**224**	S	**Sb**	**08 10 42.1**	**-2.7**
SDLR	**Sedlovina**	**3.01**	**229**	*e*P	**Pn**	**08 10 05.9**	**+0.5**
SDLR				S	**Sn**	**08 10 41.9**	**+0.2**
KRER	**Koryakskii**	**3.05**	**230**	*e*P	**Pn**	**08 10 06.9**	**+0.9**
SMAR	**Somma**	**3.06**	**229**	*e*P	**Pn**	**08 10 06.6**	**+0.5**
AVH	**Avacha**	**3.08**	**230**	*e*P	**Pn**	**08 10 07.3**	**+0.9**
UGLR	**Uglovaya**	**3.09**	**228**	*e*P	**Pn**	**08 10 07.0**	**+0.6**
KOK	**Koryaka**	**3.11**	**231**	P	**Pn**	**08 10 08.3**	**+1.6**
GNL	**Ganaly**	**3.20**	**241**	*e*P	**Pn**	**08 10 08.7**	**+0.8**
PETK	**Petropavlovsk-**	**3.66**	**235**	Pn	**Pn**	**08 10 14.8**	**+0.6**
1.6nm,0.3s,baz=74,slow=13,SNR=13							
RUS	**Russkaya**	**3.79**	**222**	*e*P	**Pn**	**08 10 16.1**	**+0.1**
MTVR	**Mutnovka**	**3.88**	**225**	P	**Pn**	**08 10 19.0**	**+1.6**
MTVR				S	**Sn**	**08 11 04.3**	**+1.1**
ASAK	**Asacha**	**4.07**	**226**	P	**Pn**	**08 10 20.9**	**+1.0**
FX1	**Attu Island--F**	**6.64**	**107**	Pn	**Pn**	**08 10 56.7**	**+1.6**
0.9nm,0.3s,baz=308,slow=21,SNR=6.3							
FX1				Sn	**Sn**	**08 12 08.2**	**-2.8**
0.6nm,0.3s,baz=213,slow=17,SNR=1.9							
ILAR	**Eielson Array**	**26.19**	**48**	P	**P**	**08 14 53.8**	**+1.8**
0.6nm,0.9s,baz=264,slow=8.9,SNR=6.1							
KURBB	**Kurchatov Arra**	**47.95**	**301**	P	**P**	**08 17 55.7**	**-0.3**
0.2nm,0.4s,baz=58,slow=8.4,SNR=2.5							
WRA	**Warramunga Arr**	**78.75**	**207**	P	**P**	**08 21 20.6**	**+0.5**
0.1nm,0.5s,baz=18,slow=5.6,SNR=3.0							
ASAR	**Alice Springs**	**82.42**	**206**	P	**P**	**08 21 40.4**	**+0.7**
0.2nm,0.5s,baz=19,slow=4.2,SNR=3.6							

IDC 18 08:19:27.6±1.8, 1°.49S×99°.43E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, ML2.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/41, Error ellipse: s-maj=84.0km s-min=17.1km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.29**	**353**	Pn	Pn	08 20 33.3	-1.2
0.6nm,0.3s,baz=141,slow=14,SNR=3.1							
PSI				LR	LR	08 22 35.9	
comp=Z,186nm,18.7s,baz=204,slow=45							
CMAR	**Chiang Mai Arr**	**19.83**	**359**	P	P	08 24 00.2	0.0
0.5nm,0.3s,baz=187,slow=9.3,SNR=6.8							
WRA	**Warramunga Arr**	**38.74**	**121**	P	P	08 26 53.9	-0.2
1.0nm,0.7s,baz=303,slow=9.0,SNR=19							
WRA				PcP	PcP	08 29 05.5	-0.4
0.3nm,0.6s,baz=308,slow=2.3,SNR=3.7							
ASAR	**Alice Springs**	**40.01**	**126**	P	P	08 27 04.6	0.0
0.5nm,0.8s,baz=306,slow=8.2,SNR=6.9							
ASAR				PcP	PcP	08 29 09.9	-0.1
0.6nm,0.9s,baz=296,slow=2.8,SNR=3.4							
SONM	**Songino Array**	**49.50**	**6**	P	P	08 28 19.8	-0.2
0.4nm,0.4s,baz=193,slow=8.8,SNR=2.8							
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	08 28 26.7	-0.1
0.7nm,0.4s,baz=157,slow=8.2,SNR=12							
KURBB	**Kurchatov Arra**	**54.91**	**344**	P	P	08 28 59.9	-0.1
0.6nm,0.5s,baz=164,slow=7.1,SNR=6.8							
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	P	08 29 11.8	-0.2
1.6nm,0.6s,baz=183,slow=7.7,SNR=6.5							
TXAR	**Lajitas Array**	**144.64**	**36**	PKP	PKPbc	08 39 06.5	+0.5
0.4nm,0.6s,baz=286,slow=1.8,SNR=7.0							

MEX 18 08:22:16.6±0.7, 16°.12N×96°.27W, h12km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.39**	**156**	*i* P	Pg	08 22 23.7	-0.7
HUIG				*i* S	Sg	08 22 30.1	+0.6
CMIG	**Matias Romero**	**1.64**	**54**	*i* P	Pn	08 22 41.9	-3.4
CMIG				*i* S	Sn	08 23 01.7	-4.7
PNIG	**Pinotepa**	**1.81**	**279**	*i* P	Pn	08 22 43.8	-3.8
PNIG				*i* S	Sn	08 23 05.4	-5.1
UTMO	**Huajuapan**	**2.24**	**319**	*i* P	Pn	08 22 50.8	-3.1
UTMO				*i* S	Sn	08 23 17.8	-4.0
PCIG		**2.96**	**98**	*e*P	Pn	08 23 00.6	-2.9
PCIG				*i* S	Sn	08 23 34.9	-4.2

*IGQ **18** 08:24:03.8, 1°.63S×78°.01W, h180km±33km, Mb4.2, Ms4.0, Error ellipse: s-maj=3.0km s-min=2.0km az=2.4*

*IDC **18** 08:24:03.5±2.9, 1°.47S×77°.79W, h134km±31km, mb3.7/11, mb1 3.9/14, mb1mx3.8/24, mbtmp3.7/14, Error ellipse: s-maj=31.7km s-min=12.4km az=46.0*

*ISCJB **18** 08:24:05.2±0.3, 1°.66S±0°.04×78°.07W±0°.06, h150km, mb4.1/43, Error ellipse: s-maj=8.2km s-min=5.3km az=166.6*

*NEIC **18** 08:24:07.9±0.6, 1°.22S×77°.51W, h168km±5km, mb4.2/34, MD4.1(IGQ), Error ellipse: s-maj=19.4km s-min=5.4km az=56.0*

ISC 18 08:24:05.0±0.5, 1°.63S±0°.05×78°.02W±0°.07, h150km, n397, σ1°33/406, mb4.2/43, 149C-167D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.43**	**295**	P	**Pn**	**08 24 28.8**	**+2.3**
BPAT	**Tungurahua Vol**	**0.43**	**287**	⇓S	**Sn**	**08 24 47.4**	**+4.3**
BPAT	**Tungurahua Vol**	**0.43**	**287**	⇓P	**Pn**	**08 24 29.1**	**+2.4**
BULB	**Ulba Tungurahu**	**0.44**	**297**	⇓S	**Sn**	**08 24 46.2**	**+3.3**
BULB	**Ulba Tungurahu**	**0.44**	**297**	⇓P	**Pn**	**08 24 28.8**	**+2.3**
PAT1	**Patacocha**	**0.44**	**287**	⇓P	**Pn**	**08 24 29.1**	**+2.4**
BRUN	**Tungurahua Vol**	**0.45**	**298**	⇓S	**Sn**	**08 24 47.0**	**+4.1**
BRUN	**Tungurahua Vol**	**0.45**	**298**	⇓P	**Pn**	**08 24 28.9**	**+2.3**
ARRY	**Arrayan**	**0.46**	**286**	⇓P	**Pn**	**08 24 28.8**	**+2.2**
RUN5	**Runtun**	**0.46**	**298**	⇑P	**Pn**	**08 24 29.1**	**+2.5**
RETU	**Refugio**	**0.47**	**293**	P	**Pn**	**08 24 29.5**	**+2.6**
BMAS	**Trigal station**	**0.48**	**286**	⇓S	**Sn**	**08 24 46.9**	**+3.7**
BMAS	**Trigal station**	**0.48**	**286**	⇓P	**Pn**	**08 24 28.9**	**+2.2**
JUI6	**Juive**	**0.50**	**295**	⇑P	**Pn**	**08 24 29.2**	**+2.4**
BIL2	**Estacion Bilba**	**0.52**	**290**	P	**Pn**	**08 24 28.5**	**+1.7**
IGUA	**Igualata**	**0.64**	**283**	⇓P	**Pn**	**08 24 30.8**	**+3.0**
PISA	**Pisayambo**	**0.68**	**327**	P	**Pn**	**08 24 30.3**	**+2.3**
TAMB	**Tambo**	**1.00**	**339**	⇓P	**Pn**	**08 24 32.6**	**+2.2**
**B

131A	Roby baz=40	40.15 330	⇑P	P	08 31 27.5 +1.0
526A	Mary Lane Ranc baz=40,SNR=9.2	40.16 324	⇓P	P	08 31 27.8 +1.1
Z32A	Haskell baz=40,SNR=8.2	40.22 332	⇑P	P	08 31 27.7 +0.7
427A	Hayter Ranch, baz=40	40.34 325	⇓P	P	08 31 29.6 +1.4
130A	Snyder baz=40,SNR=8.2	40.37 329	⇓P	P	08 31 29.2 +0.8
328A	Wristen Ranch, baz=40	40.41 326	⇓P	P	08 31 29.8 +1.1
SIUC	Southern Illin 14nm,0.6s	40.50 346	eP	P	08 31 28.0 -1.2
Z31A	Sharp Cattle R baz=41,SNR=6.2	40.55 331	⇑P	P	08 31 30.7 +0.9
426A	McDonald Obser baz=41	40.56 324	⇑P	P	08 31 31.2 +1.0
Y32A	R-V Farms, Ver baz=41,SNR=7.8	40.78 332	⇑P	P	08 31 32.6 +1.0
327A	Balmorhea Ranc baz=41	40.78 326	⇓P	P	08 31 33.0 +1.2
228A	UT Block 9, Go baz=41	40.85 327	⇑P	P	08 31 33.0 +0.6
129A	Stewart Farms, baz=41	40.87 329	⇑P	P	08 31 33.8 +1.3
TUL1	Tulsa baz=41	40.87 338	⇓P	P	08 31 32.8 +0.5
Z30A	Sanderson Ranc baz=41	41.01 330	⇓P	P	08 31 34.8 +1.3
326A	Caldwell Ranch baz=41,SNR=6.6	41.02 325	⇑P	P	08 31 34.7 +1.0
WMOK	Wichita Mounta 3.8nm,0.9s	41.09 334	eP	P	08 31 34.0 -0.2
Y31A	Rekieta Farm, baz=41	41.13 331	⇑P	P	08 31 36.0 +1.4
227A	Bennet, Jal baz=41	41.15 327	⇓P	P	08 31 36.0 +1.2
128A	Castleberry Fa baz=41	41.18 328	⇑P	P	08 31 36.1 +1.1
425A	Indio Mountain baz=41,SNR=8.5	41.21 324	⇑P	P	08 31 36.4 +1.0
Z29A	Hungry Hill Ra baz=41	41.28 329	⇓P	P	08 31 37.1 +1.3
Y30A	Stafford Cattl baz=41,SNR=7.7	41.37 331	⇑P	P	08 31 37.5 +1.0
X31A	McDonald Ranch baz=42	41.54 332	⇓P	P	08 31 38.9 +1.0
325A	Bean Ranch, Si baz=42	41.63 324	⇑P	P	08 31 39.5 +0.7
Z28A	Tucker Farm, M baz=42	41.65 329	⇓P	P	08 31 39.9 +1.0
226B	Tecolote Peak, baz=42,SNR=6.3	41.69 326	⇓P	P	08 31 40.7 +1.6
Y29A	Porterfield Fa baz=42,SNR=8.2	41.74 330	⇑P	P	08 31 40.6 +1.0
X30A	Coker Ranch, T baz=42	41.82 331	⇓P	P	08 31 41.3 +1.1
324A	Moseley Ranch, baz=42,SNR=9.7	41.98 324	⇓P	P	08 31 42.3 +0.6
W31A	Holland Ranch, baz=42	41.99 333	⇑P	P	08 31 42.3 +0.8
126A	Clayton Basin, baz=42	42.03 326	⇓P	P	08 31 43.2 +1.3
Y28A	McKinney Farm, baz=42	42.07 329	⇓P	P	08 31 43.1 +0.9
MNTX	Cornudas Mount 4.0nm,1.3s	42.11 324	eP	P	08 31 42.9 +0.5
Z27A	Tatum baz=42,SNR=5.0	42.11 328	⇑P	P	08 31 43.1 +0.5
X29A	Tulia baz=42,SNR=5.9	42.22 330	⇑P	P	08 31 44.0 +0.6
MSTX	Muleshoe	42.38 329	eP	P	08 31 45.3 +0.5
MSTX	Muleshoe baz=42,SNR=5.6	42.38 329	⇓P	P	08 31 45.5 +0.7
125A	Gardner Draw, baz=42,SNR=6.2	42.40 326	⇓P	P	08 31 46.0 +1.1
224A	Cornudas Mount baz=43	42.46 324	⇓P	P	08 31 46.8 +1.3
Z26A	Caprock baz=43,SNR=8.5	42.48 327	⇑P	P	08 31 46.9 +1.2
Y27A	Causey baz=43,SNR=6.5	42.52 328	⇓P	P	08 31 46.6 +0.6
X28A	Dimmitt baz=43	42.52 330	⇓P	P	08 31 47.1 +1.1
W29A	Amraillo baz=43	42.73 331	⇑P	P	08 31 48.6 +1.0
124A	Stringfield Ra baz=43	42.88 325	⇑P	P	08 31 50.8 +1.8
Z25A	Roswell baz=43,SNR=12	42.90 326	⇓P	P	08 31 50.3 +1.3
Z24A	Sheeppen Canyo baz=43,SNR=9.0	43.29 326	⇓P	P	08 31 53.5 +1.2
Y25A	Mesa, Roswell baz=43	43.37 327	⇑P	P	08 31 54.2 +1.5
X26A	CR and CF Fran baz=43	43.38 328	⇓P	P	08 31 54.0 +1.2
W27A	Bowe Ranch, En baz=43	43.39 330	⇑P	P	08 31 54.2 +1.3
U30A	WK&E Inc. Balk baz=43	43.42 333	⇓P	P	08 31 54.3 +1.2
T31A	Randall Ranch, baz=44	43.47 335	⇑P	P	08 31 54.2 +0.8
V28A	Channing baz=44	43.52 331	⇓P	P	08 31 54.9 +1.0
320A	Kipp Ranch, An baz=44	43.76 321	⇑P	P	08 31 57.8 +1.8
W26A	Owens Ranch, T baz=44	43.77 329	⇑P	P	08 31 57.0 +1.0
Y24A	Capitan baz=44,SNR=7.1	43.77 326	⇓P	P	08 31 57.9 +1.8
122A	Conniff Cattle baz=44	43.78 324	⇑P	P	08 31 58.1 +2.0
X25A	Clemmons Ranch baz=44	43.81 328	⇓P	P	08 31 57.6 +1.3
S31A	Mullinville baz=44	43.82 335	⇑P	P	08 31 57.6 +1.4
KSU1	Kansas State U 7.3nm,0.5s	43.99 339	eP	P	08 31 56.7 -0.8
Y23A	Lovelace Mesa, baz=44	44.12 326	⇓P	P	08 32 00.4 +1.6
121A	Cookes Peak, D baz=44	44.13 323	⇓P	P	08 32 00.6 +1.7
220A	Playas Peak, P baz=44	44.15 322	⇑P	P	08 32 00.5 +1.5
Z22A	Elephant Butte baz=44	44.15 324	⇑P	P	08 32 01.0 +2.0
T29A	Hugoton baz=44	44.23 333	⇓P	P	08 32 01.1 +1.6
W25A	X Bar L Ranch, baz=44	44.23 328	⇑P	P	08 32 00.7 +1.0
X24A	Lazy VL Ranch, baz=44	44.25 327	⇓P	P	08 32 00.9 +1.0
S30A	Montezuma baz=44	44.26 334	⇓P	P	08 32 01.2 +1.4
319A	Douglas baz=44	44.26 321	⇑P	P	08 32 01.4 +1.5
V26A	Tequesquite Ra baz=44,SNR=12	44.33 330	⇓P	P	08 32 01.6 +1.2
U27A	Thompson Grove baz=44	44.35 331	⇑P	P	08 32 01.6 +1.0
R31A	Burdett baz=44	44.41 336	⇑P	P	08 32 01.8 +0.9
S29A	Ulysses baz=45	44.53 334	⇑P	P	08 32 03.1 +1.2
T28A	Walsh baz=45	44.57 332	⇑P	P	08 32 03.3 +1.0
Z21A	St. Cloud Mine baz=45	44.60 324	⇑P	P	08 32 04.3 +1.5
BNM	Barren Site 1.7nm,0.7s	44.61 326	eP	P	08 32 04.2 +1.5
Y22A	Socorro baz=45	44.64 325	⇑P	P	08 32 04.4 +1.4
120A	U Bar Ranch, L baz=45	44.65 322	⇑P	P	08 32 04.5 +1.5
X23A	Hourglass Bar baz=45	44.68 326	⇓P	P	08 32 04.5 +1.2
R30A	Dighton baz=45,SNR=5.1	44.72 335	⇓P	P	08 32 04.4 +1.0
W24A	Lazy 6 Ranch, baz=45,SNR=5.3	44.72 328	⇓P	P	08 32 04.5 +0.9
U26A	Atchley Ranch, baz=45	44.78 330	⇓P	P	08 32 05.2 +1.2
V25A	Rancho No Teng baz=45,SNR=7.2	44.79 329	⇑P	P	08 32 05.2 +1.1
S28A	Manter baz=45	44.86 333	⇑P	P	08 32 05.5 +1.0
Q31A	Ellis	44.97 336	⇓P	P	08 32 06.4 +1.1
Z20A	Nine Sixteen R baz=45	45.02 323	⇓P	P	08 32 07.6 +1.7
V24A	Rampart Ranch, baz=45,SNR=9.9	45.04 328	⇑P	P	08 32 07.2 +1.0
W23A	Werner Place, baz=45	45.09 327	⇓P	P	08 32 07.9 +1.4
ANMO	Alburquerque 7.3nm,0.8s	45.10 326	eP	P	08 32 07.2 +0.6
Y21A	Point of Rocks baz=45	45.10 325	⇓P	P	08 32 08.4 +1.7
U25A	Circle Dot Ran baz=45	45.12 330	⇑P	P	08 32 07.9 +1.2
R29A	Marienthal baz=45	45.21 334	⇓P	P	08 32 08.7 +1.5
Q30A	Quinter baz=45,SNR=6.4	45.28 336	⇓P	P	08 32 08.6 +0.8
T26A	Comanche Natio baz=45	45.32 331	⇑P	P	08 32 09.2 +0.9
P31A	Stockton baz=45	45.40 337	⇑P	P	08 32 09.2 +0.5
Y20A	Horse Springs, baz=46	45.44 324	⇑P	P	08 32 10.4 +1.0
X21A	Alamocita Cree baz=46	45.48 325	⇓P	P	08 32 11.1 +1.4
Q29A	Oakley baz=46	45.53 335	⇑P	P	08 32 10.9 +1.2
V23A	Ortiz Mt. (NFS baz=46	45.54 327	⇓P	P	08 32 11.5 +1.4
U24A	Moreno Valley baz=46	45.57 329	⇓P	P	08 32 11.9 +1.5
S26A	Kim baz=46	45.62 331	⇓P	P	08 32 12.1 +1.5
T25A	Trinidad baz=46	45.69 330	⇑P	P	08 32 12.5 +1.2
R27A	Eads baz=46	45.84 333	⇑P	P	08 32 13.1 +0.9
TUC	Tucson 2.7nm,0.6s	45.84 320	eP	P	08 32 13.3 +1.0
W21A	San Fidel baz=46	45.89 326	⇓P	P	08 32 14.5 +1.7
U23A	El Rito baz=46,SNR=11	45.98 328	⇑P	P	08 32 14.8 +1.3
V22A	San Miguel Ran baz=46	46.06 327	⇓P	P	08 32 15.6 +1.4
S25A	Robets Cordova baz=46,SNR=9.7	46.11 331	⇑P	P	08 32 15.7 +1.2
R26A	Arlington baz=46,SNR=5.2	46.15 332	⇓P	P	08 32 15.6 +0.9
O30A	MW Ranch, Wils baz=46	46.24 337	⇓P	P	08 32 15.7 +0.5
KSCO	Kaye Shedlock' baz=46	46.35 333	⇓P	P	08 32 17.9 +1.6
U22A	Llaves baz=46	46.37 327	⇑P	P	08 32 18.0 +1.3
V21A	Milan baz=46	46.38 326	⇑P	P	08 32 18.0 +1.4
P28A	Saint Francis baz=46	46.43 335	⇓P	P	08 32 17.9 +1.1
T23A	Casias Ranch, baz=46	46.44 329	⇓P	P	08 32 18.4 +1.2
S24A	Houchin Ranch, baz=46	46.48 330	⇑P	P	08 32 19.0 +1.4
Q26A	Hugo baz=47	46.68 333	⇓P	P	08 32 19.9 +1.0
X18A	Snowflake baz=47	46.81 323	⇓P	P	08 32 21.4 +1.4
U21A	Nageezi baz=47	46.85 327	⇓P	P	08 32 21.7 +1.4
T22A	Edith baz=47	46.88 328	⇓P	P	08 32 21.8 +1.2
R24A	Sanders Place, baz=47	46.89 331	⇑P	P	08 32 21.4 +0.8
O28A	Krutsinger Ran baz=47	46.90 335	⇑P	P	08 32 21.8 +1.4
214A	Organ Pipe Nat baz=47	46.93 318	⇑P	P	08 32 22.3 +1.5
Q25A	Bedland, Calha baz=47	47.02 332	⇑P	P	08 32 22.6 +1.0
W18A	Petrified Fore baz=47	47.09 324	⇓P	P	08 32 23.5 +1.3
R23A	Moffat baz=47	47.22 330	⇑P	P	08 32 24.3 +1.1
O27A	Beecher Island baz=47	47.25 334	⇑P	P	08 32 24.3 +1.1
U20A	Newcomb baz=47	47.28 326	⇓P	P	08 32 25.0 +1.3
S22A	4UR Ranch, Cre baz=48	47.39 329	⇑P	P	08 32 25.9 +1.3
P25A	Willow Gulch B baz=48	47.45 332	⇑P	P	08 32 25.9 +1.0
M29A	Burnside Ranch baz=48	47.56 337	⇓P	P	08 32 26.5 +0.9
X16A	Lo Mia Camp, P baz=48,SNR=6.7	47.64 322	⇓P	P	08 32 27.9 +1.5
O26A	Horse Wrangler baz=48	47.66 334	⇓P	P	08 32 27.4 +1.0
OGNE	Ogallala baz=48	47.69 335	⇓P	P	08 32 27.4 +0.9
R22A	Saguache, Gunn baz=48	47.72 329	⇑P	P	08 32 28.3 +1.2
M28A	Bar X Bar Ranc baz=48	47.80 336	⇑P	P	08 32 28.4 +1.1
MVCO	Mesa Verde baz=48	47.88 327	⇑P	P	08 32 29.2 +0.9
113A	Mohawk Valley, baz=48	48.07 319	⇑P	P	08 32 30.7 +1.2
P23A	Jefferson baz=48	48.14 331	⇓P	P	08 32 32.0 +1.7
ECSD	EROS Data Cent 2.8nm,0.7s	48.15 342	eP	P	08 32 28.4 -1.5
S20A	Disappointment baz=48	48.26 328	⇑P	P	08 32 32.6 +1.4
Q22A	Crested Butte, baz=48,SNR=6.7	48.27 330	⇑P	P	08 32 32.3 +0.9
Y14A	Wickenburg baz=48	48.31 320	⇑P	P	08 32 32.8 +1.3
WUAZ	Wupatki baz=48	48.34 323	⇑P	P	08 32 33.2 +1.5
O24A	Longmont baz=48	48.36 332	⇓P	P	08 32 33.1 +1.2
ISCO	Idaho Springs baz=48	48.36 331	⇑P	P	08 32 32.9 +0.9
L28A	Connealy Angus baz=48	48.37 337	⇑P	P	08 32 32.9 +1.1
PV01	Paradox Valley	48.59 328	eP	P	08 32 34.9 +1.2
P22A	Eagle baz=49	48.76 330	⇑P	P	08 32 36.1 +1.1
O23A	Lake Granby, G baz=49,SNR=6.2	48.83 332	⇓P	P	08 32 36.4 +0.9
K28A	Ten Mile Ranch baz=49	48.91 337	⇓P	P	08 32 36.8 +0.9
PV10	Paradox Valley 28nm,0.7s	49.02 328	eP	P	08 32 37.2 +0.2
L26A	Underwood Farm baz=49	49.03 335	⇓P	P	08 32 37.8 +0.9
P21A	Newcastle baz=49	49.05 330	⇑P	P	08 32 38.7 +1.5
O22A	Kremmling baz=49,SNR=6.4	49.09 331	⇑P	P	08 32 37.9 +0.3
Y12C	Blythe baz=49	49.17 319	⇑P	P	08 32 39.2 +1.3
K27A	Flueckinger Fa baz=49	49.24 336	⇑P	P	08 32 39.5 +1.1
N23A	Red Feather La baz=49	49.38 332	⇑P	P	08 32 40.7 +1.0
J28A	Allard Ranch, baz=50,SNR=7.3	49.47 338	⇓P	P	08 32 39.9 -0.2
PHWY	Pilot Hill 2.8nm,0.6s	49.48 333	eP	P	08 32 41.3 +0.8
U15A	North Rim baz=50	49.50 323	⇓P	P	08 32 42.1 +1.4
BRSD	Miller	49.54 340	eP	P	08 32 39.3 -1.3
W13A	Hualapai Mount baz=50	49.61 321	⇑P	P	08 32 42.8 +1.3
J27A	Elkhorn Farm, baz=50	49.62 337	⇑P	P	08 32 42.5 +1.3
BC3	Big Chuckawall baz=50	49.73 318	⇑P	P	08 32 43.9 +1.6
IRM	Iron Mountain baz=50	49.84 319	⇑P	P	08 32 44.3 +1.2
P19A	Cripple Cowboy baz=50	49.91 329	⇑P	P	08 32 44.9 +1.2
MONP	Monument Peak baz=50	49.92 317	⇓P	P	08 32 45.2 +1.2
I28A	Midland baz=50,SNR=14	49.93 338	⇑P	P	08 32 43.2 -0.4
N21A	Black Mountain baz=50	50.03 331	⇑P	P	08 32 45.7 +1.1
J26A	Sides Ranch, S baz=50,SNR=5.2	50.09 336	⇓P	P	08 32 45.7 +0.9
L23A	Garrett baz=50	50.23 333	⇑P	P	08 32 46.8 +0.7
I27A	Quinn baz=50,SNR=8.1	50.32 338	⇓P	P	08 32 46.7 +0.2
SRU	San Rafael 2.7nm,1.0s	50.35 327	eP	P	08 32 47.9 +0.9
PFO	Pinyon Flat Ob baz=50	50.37 318	⇓P	P	08 32 48.3 +1.1
N20A	Spence Gulch, baz=50,SNR=6.6	50.45 330	⇑P	P	08 32 48.4 +0.6
J25A	Sunshine Ranch baz=50	50.45 336	⇓P	P	08 32 48.5 +1.0
L22A	Ellis Ranch, M baz=50	50.50 333	⇓P	P	08 32 49.4 +1.4
GMRC	Granite Mounta baz=51	50.55 319	⇑P	P	08 32 49.9 +1.5
Q16A	Castle Valley baz=51	50.57 326	⇓P	P	08 32 49.8 +1.1
M21A	Separation Pea baz=51	50.60 332	⇓P	P	08 32 49.6 +0.7
I26A	New Underwood baz=51	50.60 337	⇑P	P	08 32 49.8 +1.1
G28A	Parade baz=51	50.77 339	⇑P	P	08 32 49.7 -0.1
H27A	Howes baz=51,SNR=7.9	50.81 338	⇓P	P	08 32 49.9 -0.3
MURC	Murrieta baz=51	50.87 317	⇑P	P	08 32 51.8 +1.0
L21A	Rawlins baz=51	50.88 332	⇑P	P	08 32 51.9 +0.9
M20A	Sweetwater, Wa baz=51	50.91 331	⇓P	P	08 32 52.0 +0.9
I25A	Rochford baz=51,SNR=5.3	50.94 336	⇑P	P	08 32 52.1 +0.8
K22A	Casper baz=51	51.03 333	⇑P	P	08 32 52.5 +0.6
H26A	Fairpoint baz=51	51.06 337	⇑P	P	08 32 52.9 +0.8
BBRC	Big Bear Solar baz=51	51.07 318	⇓P	P	08 32 54.2 +1.7
TUQ	Turquoise Moun baz=51	51.12 320	⇑P	P	08 32 53.8 +1.1
RSSD	Black Hills 2.6nm,0.6s	51.15 336	eP	P	08 32 53.9 +1.0
H25A	Fruitdale baz=51	51.39 337	⇑P	P	08 32 55.2 +0.7
G27A	Dupree baz=51	51.40 339	⇑P	P	08 32 54.5 0.0
G26A	Maurine baz=52	51.57 338	⇑P	P	08 32 55.7 -0.1
GSC	Goldstone baz=52	51.61 319	⇓P	P	08 32 57.7 +1.3
J22A	Midwest baz=52,SNR=5.2	51.61 334	⇓P	P	08 32 56.6 +0.3
SHOC	Shoshone baz=52	51.63 320	⇓P	P	08 32 58.0 +1.6
DAU	Daniels Canyon 6.2nm,0.9s	51.68 328	eP	P	08 32 57.9 +0.8
G25A	Newell baz=52	51.80 337	⇓P	P	08 32 57.7 +0.1
F27A	Lemon baz=52,SNR=6.3	51.85 339	⇑P	P	08 32 57.6 -0.3
H24A	Dirks Ranch, A baz=52	51.87 336	⇑P	P	08 32 58.5 +0.4
K20A	Yellowstone Ra baz=52	51.88 332	⇓P	P	08 32 58.8 +0.5
JLU	Jordanelle 3.6nm,0.8s	51.92 328	eP	P	08 32 59.2 +0.5
L19A	Farson baz=52	51.94 331	⇓P	P	08 32 60.0 +1.2
J21A	Lysite baz=52	51.99 333	⇑P	P	08 32 59.9 +0.7
I22A	9 Mile Ranch, baz=52	51.99 334	⇑P	P	08 32 59.5 +0.4
F26A	Lodgepole baz=52	52.07 338	⇓P	P	08 32 59.9 +0.4
AGMN	Agassiz Nation 11nm,0.4s	52.10 345	eP	P	08 32 58.6 -1.0
M17A	Scullys Gap (B baz=52	52.14 329	⇓P	P	08 33 00.6 +0.3
EDW2	Edwards Air Fo baz=52	52.14 318	⇑P	P	08 33 01.5 +1.2
L18A	Fontenelle, Gr baz=52	52.15 330	⇓P	P	08 33 00.7 +0.4
K19A	Absolon Red Bu baz=52	52.24 332	⇑P	P	08 33 01.4 +0.4
I21A	Big Trails, Te baz=52	52.29 333	⇑P	P	08 33 01.4 +0.1
J20A	Shoshoni baz=52	52.29 332	⇓P	P	08 33 02.0 +0.7
LRMC	Laurel Mountai baz=52	52.29 319	⇓P	P	08 33 02.9 +1.5
G24A	Alzada baz=52,SNR=6.4	52.30 337	⇑P	P	08 33 01.3 0.0
FURC	Furnace Creek, baz=52	52.35 320	⇓P	P	08 33 03.1 +1.4
DUG	Dugway 3.4nm,0.8s	52.37 327	eP	P	08 33 02.9 +1.0
DUG	Dugway baz=52,SNR=5.6	52.37 327	⇑P	P	08 33 02.9 +1.0
F25A	Bowman baz=52	52.43 338	⇓P	P	08 33 02.8 +0.6
H22A	Clearmont baz=52	52.50 335	⇑P	P	08 33 03.2 +0.4
MPMC	Manual Prospec baz=53	52.51 320	⇓P	P	08 33 03.9 +0.8
E26A	Carlson Angus baz=52	52.52 339	⇑P	P	08 33 03.0 +0.1
PDAR	Pinedale Array 0.8nm,0.6s,baz=128,slow=8.9,SNR=11	52.54 331	P	P	08 33 03.0 -0.3
PDAR	0.6nm,0.9s,baz=157,slow=4.9,SNR=3.0		PcP	PcP	08 34 11.4 -0.3
G23A	Biddle baz=53	52.59 336	⇓P	P	08 33 03.6 +0.3
J19A	Crowheart baz=53	52.68 332	⇑P	P	08 33 04.7 +0.5
HWUT	Hardware Ranch 4.5nm,0.6s	52.70 329	eP	P	08 33 04.7 +0.3
R11A	Troy Canyon, C	52.74 323	eP	P	08 33 06.1 +1.4
R11A	Troy Canyon, C baz=53	52.74 323	⇑P	P	08 33 05.5 +0.8
F24A	Ekalaka baz=53	52.74 337	⇑P	P	08 33 04.5 0.0
MDND	Maddock	52.76 342	eP	P	08 33 04.0 -0.5
MDND	Maddock baz=53	52.76 342	⇓P	P	08 33 04.7 +0.2
I20A	Worland baz=53	52.77 333	⇓P	P	08 33 05.3 +0.5
H21A	Big Horn, Sher baz=53	52.82 334	⇑P	P	08 33 05.4 +0.2
C28A	Hausauer Farms baz=53	52.89 341	⇑P	P	08 33 05.8 +0.4
G22A	Birney baz=53	52.98 335	⇓P	P	08 33 06.5 +0.2
D26A	Manning baz=53	52.99 339	⇑P	P	08 33 06.7 +0.4
GRAC	Grapevine Rang baz=53	53.00 321	⇓P	P	08 33 07.3 +0.8
F23A	Volborg baz=53	53.02 336	⇓P	P	08 33 06.9 +0.4
H20A	Greybull baz=53,SNR=9.2	53.13 333	⇓P	P	08 33 07.1 -0.3
I18A	Diamond G Ranc baz=53	53.37 332	⇓P	P	08 33 10.0 +0.7
D25A	Fairfield baz=53	53.41 339	⇑P	P	08 33 10.2 +0.9
B28A	Dugan Ranch, T baz=54	53.53 342	⇓P	P	08 33 10.3 +0.2
REDW	Red Top Meadow 13nm,1.6s	53.62 331	eP	P	08 33 11.3 +0.2
SNOW	Snow King Moun 2.7nm,0.6s	53.64 331	eP	P	08 33 11.1 -0.2
LOHW	Long Hollow 1.9nm,0.8s	53.68 331	eP	P	08 33 12.1 +0.5
SMMC	Simmler baz=54	53.74 317	⇓P	P	08 33 13.5 +1.5
D24A	Glendive baz=54	53.75 338	⇑P	P	08 33 12.7 +0.9
TPAW	Teton Pass 2.3nm,0.6s	53.76 331	eP	P	08 33 12.7 +0.5
B27A	Peters Farms, baz=54	53.78 341	⇓P	P	08 33 12.8 +0.9
RRI2	Red Ridge 5.1nm,0.8s	53.84 330	eP	P	08 33 13.2 +0.4
MOOW	Moose Ponds	53.85 331	eP	P	08 33 12.9 +0.1

1.5nm,0.8s
C25A Freed Ranch, W 53.86 339 ⇓P **P 08 33 13.3 +0.7**
baz=54
I17A Pilgrim Ck. 53.90 331 ⇑P **P 08 33 14.0 +0.8**
baz=54
A28A Rude Farm, Bot 53.91 342 ⇑P **P 08 33 12.7 -0.2**
baz=54
ULM Lac du Bonnet 53.91 346 P **P 08 33 11.2 -1.5**
5.6nm,0.5s,baz=168,slow=7.6,SNR=5.6
H18A Shoshone NF, C 54.04 332 ⇑P **P 08 33 15.0 +0.9**
baz=54
IMW Indian Meadow 54.05 331 *e*P **P 08 33 14.7 +0.3**
3.0nm,0.6s
B26A Jensen Ranch, 54.08 340 ⇓P **P 08 33 14.6 +0.5**
baz=54
I16A Newdale 54.31 331 ⇑P **P 08 33 17.2 +1.1**
baz=54
NVAR Mina Array Bea 54.45 321 P **P 08 33 18.0 +0.7**
1.1nm,0.7s,baz=121,slow=6.4,SNR=8.7
NVAR PcP **PcP 08 34 19.5 +0.5**
0.4nm,0.6s,baz=134,slow=5.2,SNR=2.7
A26A Wade Farm, Ken 54.46 341 ⇓P **P 08 33 17.3 +0.4**
baz=54
G18A Lazy EL Ranch, 54.48 333 ⇑P **P 08 33 17.6 +0.3**
baz=54
D22A Cohagen 54.49 337 ⇓P **P 08 33 17.5 +0.3**
baz=54,SNR=5.9
F19A Roth Farm, Mol 54.62 334 ⇑P **P 08 33 18.1 -0.1**
baz=55,SNR=5.3
C23A Lambert 54.65 338 ⇑P **P 08 33 18.8 +0.6**
baz=55
D21A La Casta Ranch 54.75 336 ⇓P **P 08 33 20.1 +1.0**
baz=55
E20A Meyer Farm, Mu 54.77 335 ⇑P **P 08 33 20.2 +1.0**
baz=55
C22A Vida 54.87 337 ⇓P **P 08 33 20.4 +0.6**
baz=55
F18A Big Timber 55.00 333 ⇑P **P 08 33 21.4 +0.5**
baz=55,SNR=24
E19A Rath Farm, Rou 55.02 334 ⇑P **P 08 33 21.4 +0.3**
baz=55
G17A Pierce Place, 55.02 332 ⇑P **P 08 33 22.9 +1.7**
baz=55
B23A Brockton 55.12 338 ⇓P **P 08 33 22.5 +0.9**
baz=55
A24A Westby 55.15 339 ⇓P **P 08 33 22.6 +0.7**
baz=55
D20A Manuel Ranch, 55.24 335 ⇑P **P 08 33 23.1 +0.5**
baz=55
C21A Desert Coulee 55.41 337 ⇓P **P 08 33 24.6 +0.9**
baz=55
F17A Fitzpatrick Pl 55.43 333 ⇓P **P 08 33 24.6 +0.5**
baz=56
A23A Redstone 55.50 339 ⇓P **P 08 33 25.3 +1.0**
baz=56
HLID Hailey 55.57 328 *e*P **P 08 33 25.7 +0.6**
1.4nm,0.6s
HLID Hailey 55.57 328 ⇓P **P 08 33 26.1 +0.9**
baz=56
E18A Harlowton 55.59 334 ⇓P **P 08 33 26.0 +0.8**
baz=56
D19A Cripps Ranch, 55.61 335 ⇓P **P 08 33 26.1 +0.8**
baz=56
C20A Veseth Ranch, 55.68 336 ⇑P **P 08 33 26.8 +1.1**
baz=56
E17A Martinsdale 55.94 333 ⇓P **P 08 33 28.6 +0.9**
baz=56
D18A Linhart Farms, 56.03 334 ⇓P **P 08 33 28.9 +0.7**
baz=56
C19A Slack Wire Ran 56.13 335 ⇓P **P 08 33 29.6 +0.7**
baz=56
MFID Camas Ranch 56.22 327 ⇑P **P 08 33 30.5 +0.8**
baz=56,SNR=7.0
A21A Bergtoll Ranch 56.28 337 ⇓P **P 08 33 30.7 +0.8**
baz=56
D17A Six Diamond Ra 56.39 334 ⇓P **P 08 33 31.4 +0.5**
baz=56
A20A Cobblestone Ra 56.58 337 ⇑P **P 08 33 32.6 +0.5**
baz=57
B19A Brinkman Farms 56.65 336 ⇑P **P 08 33 33.4 +0.8**
baz=57
EGMT Eagleton 56.65 335 ⇓P **P 08 33 33.1 +0.5**
baz=57
C17A Wharram Farm, 56.78 334 ⇓P **P 08 33 34.1 +0.5**
baz=57
A19A Klindworth Far 56.95 336 ⇑P **P 08 33 35.1 +0.4**
baz=57
B18A Beardsley Farm 56.95 335 ⇓P **P 08 33 35.0 +0.3**
baz=57
WVOR Wild Horse Val 57.13 325 *e*P **P 08 33 35.9 -0.3**
4.3nm,1.1s
A18A Metzger Ranch, 57.39 336 ⇓P **P 08 33 38.2 +0.4**
baz=57
MSO Missoula 57.64 332 *e*P **P 08 33 40.4 +0.8**
6.0nm,1.1s
MSO Missoula 57.64 332 ⇓P **P 08 33 40.3 +0.6**
baz=58
NEW Newport 60.18 331 *e*P **P 08 33 57.2 +0.1**
2.0nm,0.6s
NEW Newport 60.18 331 ⇓P **P 08 33 57.5 +0.5**
baz=60
EDM Edmonton 62.11 337 *e*P **P 08 34 08.9 -1.0**
YKA Yellowknife Ar 69.66 343 P **P 08 34 57.1 -0.8**
1.1nm,0.6s,baz=137,slow=5.6,SNR=4.9
DBIC Dimbokro 73.48 83 P **P 08 35 20.6 -1.2**
3.7nm,0.9s,baz=271,slow=4.7,SNR=5.0
INK Inuvik 79.39 342 *e*P **P 08 35 53.8 -0.1**
13nm,1.5s
EGAK Eagle 80.33 337 *e*P **P 08 35 59.6 +0.4**
6.5nm,0.9s
TORD Torodi Ar. Bea 80.36 76 P **P 08 35 58.7 -1.6**
0.6nm,0.4s,baz=281,slow=5.5,SNR=20
ILAR Eielson Array 82.60 336 P **P 08 36 10.7 -0.3**
0.8nm,0.5s,baz=146,slow=4.3,SNR=13
HHC Hu-ho-hao-te 140.01 349 *e*PKP **PKPdf 08 43 13.8 -2.4**
HHC sPKP 08 44 13.0
HHC PP **PP 08 46 13.0 -0.1**
HHC PKS **PKSdf 08 46 48.3 -3.9**
HHC SKS **SKSdf 08 50 06.4 -6.4**
HHC SKKS **SKKSac 08 52 49.0 -4.6**
HHC LR LR
comp=N,130nm,22.0s
HHC LR LR
comp=E,160nm,20.9s
HHC LR LR
comp=Z,98nm,20.5s
WRA Warramunga Arr 141.70 234 PKP **PKPdf 08 43 19.7 +0.1**
comp=Z,0.5nm,0.7s,baz=114,slow=2.2,SNR=3.2
LZH Lanzhou 145.68 357 *e*PKPbc **PKPdf 08 43 24.8 -1.6**
LZH PKPbc **PKPab 08 43 27.5 +0.1**
LZH pPKP **pPKPdf 08 44 07.6 +1.4**
LZH sPKP 08 44 24.0

IDC 18 08:24:41.6±1.1, 13°.88N×92°.92E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.6/27, mbtmp3.8/7, Error ellipse: s-maj=56.5km s-min=19.2km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.00**	**347**	P	P	08 31 27.5	+0.3
	0.7nm,0.6s,baz=175,slow=8.8,SNR=6.6						
KURBB	**Kurchatov Arra**	**38.47**	**345**	P	P	08 32 04.8	-0.4
	0.9nm,0.7s,baz=154,slow=8.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**40.48**	**353**	P	P	08 32 21.8	-0.2
	1.2nm,0.6s,baz=163,slow=5.6,SNR=4.0						
WRA	**Warramunga Arr**	**52.82**	**129**	P	P	08 33 59.2	-0.1
	0.7nm,0.7s,baz=305,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**54.76**	**133**	P	P	08 34 13.4	-0.1
	0.4nm,0.4s,baz=308,slow=6.9,SNR=10						
BRTR	**Keskin Array B**	**57.70**	**308**	P	P	08 34 34.2	-0.2
	0.8nm,0.7s,baz=126,slow=8.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**88.07**	**283**	P	P	08 37 34.9	+0.1
	0.7nm,1.1s,baz=86,slow=4.7,SNR=2.7						

*SKHL **18** 08:29:54.5±2.5, 48°.79N×155°.73E, h64km±5km, mb5.1/6, Ms3.9/1, msh4.9/1*
*BJI **18** 08:29:55.0, 48°.74N×155°.40E, h64km, mB4.5/19, mb4.4/24, Ms4.0/11, Ms7 3.8/13*
*ISCJB **18** 08:29:57.0±0.4, 48°.83N±0°.03×154°.90E±0°.05, h51km±3km, mb4.5/94, MS3.7/19, Error ellipse: s-maj=6.9km s-min=2.4km az=137.5*
*KRSC **18** 08:29:56.6±0.3, 48°.53N×155°.94E, h89km±28km, ML4.8*
*MOS **18** 08:29:56.6±1.4, 48°.86N×155°.02E, h50km, mb4.6/17, Error ellipse: s-maj=9.9km s-min=5.4km az=68.3*
*IDC **18** 08:29:57.2±2.3, 48°.88N×154°.87E, h39km±21km, mb4.0/23, mb1 4.2/25, mb1mx4.1/32, mbtmp4.0/25, ML3.9/2, MS3.4/17, Ms1 3.4/17, ms1mx3.2/49, Error ellipse: s-maj=16.1km s-min=10.5km az=145.0*
*NEIC **18** 08:29:59.4±0.7, 48°.84N×154°.79E, h59km±6km, mb4.4/37, Error ellipse: s-maj=7.6km s-min=3.9km az=150.0*
ISC 18 08:29:58.4±0.5, 48.73N±0°.05×155°.05E±0°.04, h57km±2km, h56km: pP-P, n450, σ1$42/482, mb4.5/94, MS3.6/19, 99C-101D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.08**	**19**	*e*PN	Pn	08 30 24.0	-6.8
SKR				*e*S	Sn	08 30 48.0	-7.5
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,190nm,0.5s						
SKR				pmax	pmax		
	comp=Z,690nm,0.5s						
SKR				smax	smax		
	comp=N,1μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR				smax	smax		
	comp=N,2μm,2.0s						
SKR				smax	smax		
	comp=E,2μm,2.0s						
SKR	**Severo-Kuril's**	**2.08**	**19**	*e*P	**Pn**	**08 30 29.5**	**-1.3**
SKR				*e*S	**Sn**	**08 30 52.7**	**-2.8**
SKR	**Severo-Kuril's**	**2.08**	**19**	*e*P	Pn	08 30 24.0	-6.8
SKR				AMB	AMB	08 30 25.5	
	comp=E,190nm,0.5s						
SKR				AMB	AMB	08 30 25.5	
	comp=E,120nm,0.5s						
SKR				AMB	AMB	08 30 25.5	
	comp=E,690nm,0.5s						
SKR				*e*S	Sn	08 30 48.0	-7.5
SKR				A	A	08 30 51.0	
	comp=E,2μm,2.0s						
SKR				A	A	08 30 51.0	
	comp=E,2μm,2.0s						
SKR				A	A	08 30 51.0	
	comp=E,1μm,0.2s						
SKR				A	A	08 30 51.0	
	comp=E,2μm,0.2s						
SKR				A	A	08 30 51.0	
	comp=E,310nm,0.5s						
PAU	**Pauzhetka**	**2.97**	**22**	*e*S	**Sn**	**08 31 15.9**	**-1.4**
MIPR	**Malaya Ipel'ka**	**3.72**	**16**	*e*P	**Pn**	**08 30 53.1**	**-0.2**
MIPR				S	**Sn**	**08 31 33.7**	**-2.0**
ASAK	**Asacha**	**4.09**	**25**	*e*P	**Pn**	**08 30 59.0**	**+0.6**
ASAK				*e*S	**Sn**	**08 31 43.9**	**-1.0**
MTVR	**Mutnovka**	**4.26**	**27**	*e*P	**Pn**	**08 31 00.6**	**-0.2**
MTVR				*e*S	**Sn**	**08 31 46.8**	**-2.4**
GRL	**Gorelyy**	**4.29**	**26**	*e*P	**Pn**	**08 31 02.0**	**+0.8**
GRL				*e*S	**Sn**	**08 31 48.8**	**-1.1**
RUS	**Russkaya**	**4.32**	**29**	PN	**Pn**	**08 31 00.2**	**-1.2**
RUS				S	**Sn**	**08 31 46.8**	**-3.6**
RUS	**Russkaya**	**4.32**	**29**	*e*P	**Pn**	**08 31 00.2**	**-1.2**
RUS				*e*S	**Sn**	**08 31 46.8**	**-3.6**
APC	**Apacha**	**4.41**	**17**	*e*P	**Pn**	**08 31 04.7**	**+2.0**
APC				S	**Sn**	**08 31 53.8**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.70**	**20**	*e*Pn	**Pn**	**08 31 07.6**	**+1.0**
PETK	**Petropavlovsk-**	**4.70**	**20**	PN	**Pn**	**08 31 07.9**	**+1.3**
PETK						08 32 02.6	
PETK	**Petropavlovsk-**	**4.70**	**20**	Pn	**Pn**	**08 31 07.9**	**+1.3**
PETK				Sn	**Sn**	**08 32 02.6**	**+2.8**
PETK	**Petropavlovsk-**	**4.70**	**20**	Pn	**Pn**	**08 31 07.9**	**+1.3**
	comp=E,6.1nm,0.3s,baz=182,slow=14,SNR=62						
PETK				Sn	**Sn**	**08 32 02.6**	**+2.8**
	baz=176,slow=26,SNR=2.4						
PETK				LR	LR	08 33 19.6	
	comp=E,195nm,18.8s,baz=203,slow=44						
PET	**Petropavlovsk**	**4.87**	**27**	*e*PN	**Pn**	**08 31 08.7**	**-0.3**
PET				*e*S	**Sn**	**08 32 03.9**	**-0.1**
PET				pmax	pmax		
	comp=Z,53nm,0.4s						
PET				smax	smax		
	comp=N,325nm,0.9s						
PET				smax	smax		
	comp=E,462nm,0.6s						
PET	**Petropavlovsk**	**4.87**	**27**	P	**Pn**	**08 31 08.7**	**-0.3**
PET				*e*S	**Sn**	**08 32 01.3**	**-2.7**
UGLR	**Uglovaya**	**5.08**	**27**	*e*P	**Pn**	**08 31 12.6**	**+0.6**
UGLR				*e*S	**Sn**	**08 32 07.5**	**-1.9**
KOK	**Koryaka**	**5.10**	**25**	*e*P	**Pn**	**08 31 13.6**	**+1.3**
KOK				*e*S	**Sn**	**08 32 08.7**	**-1.1**
KRER	**Koryakskii**	**5.14**	**26**	*e*P	**Pn**	**08 31 13.8**	**+0.8**
KRER				*e*S	**Sn**	**08 32 08.9**	**-2.1**
SDLR	**Sedlovina**	**5.16**	**27**	*e*P	**Pn**	**08 31 12.8**	**-0.3**
SDLR				*e*S	**Sn**	**08 32 07.2**	**-4.1**
GNL	**Ganaly**	**5.30**	**19**	*e*P	**Pn**	**08 31 16.3**	**+1.3**
SPN	**Mys Shipunski**	**5.39**	**34**	PN	**Pn**	**08 31 15.0**	**-1.1**
SPN	**Mys Shipunski**	**5.39**	**34**	*e*P	**Pn**	**08 31 15.0**	**-1.1**
SPN				S	**Sn**	**08 32 11.8**	**-5.0**
KII	**Karymskiy**	**5.99**	**26**	*e*P	**Pn**	**08 31 25.9**	**+1.5**
KII				*e*S	**Sn**	**08 32 31.4**	**-0.1**
KUR	**Kuril'sk**	**6.03**	**237**	*d i*PN	Pn	08 31 28.3	+3.4
KUR				*e*S	**Sn**	**08 32 36.8**	**+4.3**
KUR				pmax	pmax		
	comp=Z,68nm,0.4s						
KUR				pmax	pmax		
	comp=N,30nm,0.4s						
KUR				pmax	pmax		
	comp=E,12nm,0.7s						
KUR				smax	smax		
	comp=N,87nm,0.1s						
KUR				smax	smax		
	comp=E,29nm,0.1s						
KUR	**Kuril'sk**	**6.03**	**237**	⇓*i*P	Pn	08 31 28.4	+3.5
KUR				AMB	AMB	08 31 30.0	
	comp=E,380nm,1.0s						
KUR				*e*S	**Sn**	**08 32 36.9**	**+4.4**
KUR				A	A	08 32 45.0	
	comp=E,330nm,0.9s						
KUR				A	A	08 32 45.0	
	comp=E,170nm,0.9s						
MKZ	**Mys Kozlova**	**7.16**	**33**	PN	**Pn**	**08 31 38.1**	**-2.3**
MKZ	**Mys Kozlova**	**7.16**	**33**	*e*P	**Pn**	**08 31 38.1**	**-2.3**
MKZ				*e*S	Sn	08 32 52.1	-8.2
TUMR	**Tumrok**	**7.28**	**24**	P	**Pn**	**08 31 42.2**	**+0.1**
ESO	**Esso**	**7.55**	**16**	PN	**Pn**	**08 31 48.4**	**+2.7**
ESO	**Esso**	**7.55**	**16**	P	**Pn**	**08 31 48.4**	**+2.7**
YUK	**Yuzh-Kuril'sk**	**7.89**	**237**	*d i*PN	**Pn**	**08 31 52.0**	**+1.6**
YUK				*i*		08 33 23.5	
YUK				pmax	pmax		
	comp=Z,127nm,0.4s						
YUK				pmax	pmax		
	comp=N,27nm,0.4s						
YUK				pmax	pmax		
	comp=E,24nm,0.4s						
YUK				pmax	pmax		
	comp=N,311nm,3.0s						
YUK				pmax	pmax		
	comp=E,142nm,3.0s						
YUK	**Yuzh-Kuril'sk**	**7.89**	**237**	⇓*i*P	**Pn**	**08 31 52.1**	**+1.6**
YUK				AMB	AMB	08 31 52.4	
	comp=E,27nm,0.4s						
YUK				AMB	AMB	08 31 52.4	
	comp=E,24nm,0.4s						
YUK				AMB	AMB	08 31 52.4	
	comp=E,127nm,0.4s						
YUK				*i* S	**Sn**	**08 33 23.3**	**+5.0**
YUK				A	A	08 33 24.5	
	comp=E,311nm,3.0s						
YUK				A	A	08 33 24.5	
	comp=E,142nm,3.0s						
YUK				AMS	AMS	08 35 09.7	
	comp=E,181nm,17.0s						
BZGR	**Bezymyannyi-Gr**	**8.01**	**23**	P	**Pn**	**08 31 52.7**	**+0.6**
SRDR	**Sredinnyy**	**8.12**	**19**	P	**Pn**	**08 31 54.6**	**+1.1**
TYV	**Tymovskoe**	**8.30**	**290**	*e*P	Pn	08 31 58.0	+2.1
TYV				AMB	AMB	08 31 59.0	
	comp=E,9.0nm,1.0s						
TYV				AMB	AMB	08 31 59.0	
	comp=E,7.0nm,0.8s						
TYV				AMB	AMB	08 31 59.0	
	comp=E,13nm,0.8s						
TYV				AMS	AMS	08 35 36.0	
	comp=E,500nm,18.0s						
NEM2	**Nemuro 2**	**8.40**	**234**	P	**Pn**	**08 31 56.3**	**-1.1**
NEM2				*e*S	**Sn**	**08 33 25.8**	**-4.9**
YSS	**Yuzh-Sakhalins**	**8.46**	**262**	⇑*i*PN	Pn	08 32 02.0	+3.9
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS				pmax	pmax		
	comp=N,30nm,0.6s						
YSS				pmax	pmax		
	comp=E,50nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.46**	**262**	⇑*i*P	Pn	08 32 02.0	+3.9
YSS				AMB	AMB	08 32 02.9	
	comp=E,70nm,0.5s						
YSS				AMB	AMB	08 32 02.9	
	comp=E,30nm,0.6s						
YSS				AMB	AMB	08 32 02.9	
	comp=E,50nm,0.6s						
YSS				*e*S	**Sn**	**08 33 32.0**	**-0.1**
UGL	**Uglegorsk**	**8.56**	**277**	*e*P	Pn	08 32 03.5	+4.0
UGL				AMB	AMB	08 32 04.5	
	comp=E,70nm,0.7s						
UGL				AMS	AMS	08 35 34.0	
	comp=E,200nm,18.0s						
UGL				AMS	AMS	08 35 34.0	
	comp=E,300nm,18.0s						
UGL				AMS	AMS	08 35 34.0	
	comp=E,300nm,18.0s						
SMKR	**Semkarok**	**8.78**	**24**	P	**Pn**	**08 32 01.6**	**-1.0**
JNK	**Nakash**	**8.82**	**238**	P	**Pn**	**08 32 04.3**	**+1.2**
KBTR	**Krutoberegovo**	**8.86**	**29**	PN	**Pn**	**08 32 01.9**	**-1.7**
KBTR	**Krutoberegovo**	**8.86**	**29**	P	**Pn**	**08 32 01.9**	**-1.7**
JTKR	**Abashiri--Toko**	**9.05**	**242**	P	**Pn**	**08 32 08.3**	**+2.0**
JAK	**Akkeshi**	**9.21**	**235**	P	**Pn**	**08 32 07.4**	**-1.1**
JAK				*e*S	**Sn**	**08 33 45.0**	**-5.6**
JSE	**Soyaes**	**9.33**	**251**	P	Pn	08 32 13.9	+3.8
BKI	**Bering**	**9.35**	**42**	*e*S	Sn	08 33 41.0	-13
JMP	**Maruseppu**	**9.35**	**244**	P	**Pn**	**08 32 12.6**	**+2.1**
JAR	**Ashorobuto**	**9.54**	**239**	P	**Pn**	**08 32 14.3**	**+1.3**
JAR				*e*S	**Sn**	**08 33 58.4**	**-0.2**
JWK2	**Keihoku**	**9.61**	**254**	P	Pn	08 32 19.4	+5.6
ASAJ	**Asahikawa**	**9.75**	**246**	*e*Pn	Pn	08 32 19.7	+3.9
ASAJ	**Asahikawa**	**9.75**	**246**	P	Pn	08 32 19.6	+3.7
ASAJ	**Asahikawa**	**9.75**	**246**	Pn	Pn	08 32 19.3	+3.4
	comp=E,9.0nm,0.3s,baz=73,slow=13,SNR=98						
ASAJ				LR	LR	08 35 40.1	
	comp=E,166nm,21.6s,baz=359,slow=35						
JKK2	**Kamakawa 2**	**9.79**	**245**	P	**Pn**	**08 32 19.3**	**+2.8**
JCH	**Churui**	**10.20**	**238**	P	**Pn**	**08 32 21.0**	**-1.0**
JCH				*e*S	**Sn**	**08 34 08.9**	**-6.0**
JFR	**Furan**	**10.30**	**242**	P	**Pn**	**08 32 25.3**	**+1.9**
JBT2	**Biratori 2**	**10.67**	**241**	P	**Pn**	**08 32 28.8**	**+0.4**
ERM	**Erimo**	**10.72**	**236**	*e*PN	**Pn**	**08 32 28.4**	**-0.6**
ERM	**Erimo**	**10.72**	**236**	*e*Pn	**Pn**	**08 32 28.4**	**-0.6**
ERM				*e*Sn	**Sn**	**08 34 24.9**	**-2.5**
JEM	**Erimo**	**10.72**	**236**	P	**Pn**	**08 32 28.1**	**-0.9**
JEM				*e*S	**Sn**	**08 34 22.3**	**-5.1**
JNBK	**Urakawa-nobuka**	**10.76**	**238**	P	**Pn**	**08 32 27.8**	**-1.9**
JNBK				*e*S	Sn	08 34 21.5	-7.0
JNB	**Noboribetsu**	**11.63**	**243**	P	**Pn**	**08 32 41.0**	**-0.5**
JKB	**Kayabe**	**11.99**	**240**	P	**Pn**	**08 32 44.4**	**-2.1**
JKB				*e*S	Sn	08 34 50.3	-8.3
JSH	**Shimam**	**12.12**	**245**	P	**Pn**	**08 32 48.7**	**+0.5**
JSH	**Shimam**	**12.12**	**245**	P	**Pn**	**08 32 49.2**	**+1.0**
FX1	**Attu Island--F**	**12.19**	**63**	Pn	Pn	08 32 46.8	-2.2
FX1				Sn	Sn	08 34 51.5	-12
FX1	**Attu Island--F**	**12.19**	**63**	Pn	Pn	08 32 46.8	-2.2
	comp=E,2.7nm,0.3s,baz=282,slow=9.3,SNR=33						
FX1				Sn	Sn	08 34 51.5	-12
	comp=E,7.7nm,0.3s,baz=52,slow=20,SNR=10						
FX1				LR	LR	08 37 47.1	
	comp=E,35nm,18.1s,baz=133,slow=38						
JYM2	**Yakumo 2**	**12.24**	**243**	P	**Pn**	**08 32 48.4**	**-1.4**
JOT	**Ohata**	**12.31**	**239**	P	Pn	08 32 47.4	-3.4
JSR	**Shiriuchi**	**12.58**	**241**	P	**Pn**	**08 32 51.8**	**-2.6**
JANG	**Nango**	**12.75**	**234**	P	Pn	08 32 51.7	-5.1
JOSM	**Okushiri--Mats**	**12.79**	**245**	P	**Pn**	**08 32 56.3**	**-1.0**
JOM	**Ohasama**	**13.52**	**232**	P	Pn	08 33 03.3	-4.0
JRG	**Rokugo**	**13.92**	**233**	P	Pn	08 33 08.1	-4.6
KLR	**Kul'dur**	**15.29**	**281**	*e*P	**Pn**	**08 33 31.2**	**+0.6**
USRK	**Ussuriysk Arra**	**16.50**	**263**	Pn	**P**	**08 33 48.0**	**+0.4**
	comp=E,1.2nm,0.3s,baz=68,slow=13,SNR=20						
MJAR	**Matsushiro Arr**	**17.32**	**232**	P	**Pn**	**08 33 54.5**	**-1.7**
MJAR	**Matsushiro Arr**	**17.32**	**232**	P	**Pn**	**08 33 54.5**	**-1.7**
	comp=E,0.4nm,0.3s,baz=24,slow=10,SNR=4.9						
MJAR				LR	LR	08 39 26.6	
	comp=E,51nm,19.9s,baz=235,slow=33						
MAT	**Matsushiro**	**17.32**	**232**	P	**P**	**08 33 58.6**	**+1.7**
MDJ	**Mudanjiang**	**17.91**	**266**	P	**Pn**	**08 34 01.8**	**-1.6**
MDJ				pP	**pP**	**08 34 15.0**	**-0.6**
MDJ				sP	**sP**	**08 34 22.8**	**0.0**
MDJ				S	**Sn**	**08 37 17.0**	**-5.2**
MDJ				sS	**sS**	**08 37 45.0**	**-0.8**
MDJ				ScP	**ScP**	**08 42 06.8**	**+0.2**
MDJ				PcS	**PcS**	**08 42 13.5**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.7s						
YAK	**Yakutsk**	**19.45**	**323**	*e*P	**Pn**	**08 34 21.3**	**-0.3**
YAK				*e*S	**Sn**	**08 37 58.4**	**-0.4**
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,26nm,1.1s						
YAK				pmax	pmax		
	comp=E,13nm,1.0s						
YAK				smax	smax		
	comp=N,16nm,1.3s						
ATKA	**Atka Island**	**19.81**	**68**	*e*Pn	**Pn**	**08 34 26.8**	**+0.9**
	comp=N,3μm,0.8s						
CLNS	**Chul'man**	**19.82**	**306**	*e*P	**Pn**	**08 34 28.2**	**+2.0**
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,39nm,17.0s						
CLNS				MLR	MLR		
	comp=E,174nm,13.0s						
CN2	**Changchun**	**20.97**	**268**	*e*P	Pn	08 34 38.5	-1.3
KSRS	**Korea Array**	**22.66**	**250**	P	**P**	**08 34 55.6**	**+0.8**
	comp=E,7.9nm,0.7s,baz=48,slow=10,SNR=22						
KSRS				LR	LR	08 43 08.1	
	comp=E,56nm,20.4s,baz=5.5,slow=35						
KSAR	**Wonju Array Be**	**22.70**	**250**	P	**P**	**08 34 55.6**	**+0.5**
JNU	**Nakatsue**	**23.86**	**238**	*e*P	**P**	**08 35 08.1**	**+1.5**
	comp=E,5.3nm,0.9s						
JNU	**Nakatsue**	**23.86**	**238**	P	**P**	**08 35 07.4**	**+0.9**
	comp=E,7.9nm,0.7s,baz=70,slow=10,SNR=4.5						
TIXI	**Tiksi**	**25.97**	**341**	*i* P	**P**	**08 35 23.7**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,196nm,29.0s						
IMA2	**Indian Mountai**	**31.44**	**38**	*e*P	**P**	**08 36 13.9**	**-0.2**
HHC	**Hu-ho-hao-te**	**31.49**	**272**	*e*P	**P**	**08 36 15.0**	**+0.2**
HHC				pP	**pP**	**08 36 29.3**	**+0.4**
HHC				sP	**sP**	**08 36 36.8**	**+1.2**
HHC				PP	**PnPn**	**08 37 20.3**	**+0.8**
HHC				S	**S**	**08 41 17.5**	**-1.4**
HHC				sS	**sS**	**08 41 41.9**	**-1.0**
HHC				SS	**SnSn**	**08 43 07.0**	**-0.9**
HHC				pmax	pmax		
	comp=Z,38nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.7s						
HHC				LR	LR		
	comp=N,240nm,12.4s						
HHC				LR	LR		
	comp=E,200nm,12.4s						
HHC				LR	LR		
	comp=Z,280nm,14.5s						
PPLA	**Purkeypile**	**31.83**	**44**	*e*P	**P**	**08 36 19.4**	**+1.8**
	comp=Z,20nm,1.5s						
NJ2	**Nanjing**	**31.84**	**252**	*e*P	**P**	**08 36 18.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
SONM	**Songino Array**	**31.95**	**287**	P	**P**	**08 36 17.9**	**-0.9**
SONM				PcP	**PcP**	**08 39 07.7**	**0.0**
SONM	**Songino Array**	**31.95**	**287**	P	**P**	**08 36 17.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=76,slow=7.7,SNR=3.1						
SONM				PcP	**PcP**	**08 39 07.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=130,slow=2.6,SNR=6.6						
COLD	**Coldfoot**	**32.96**	**36**	*e*P	**P**	**08 36 28.2**	**+1.0**
	comp=Z,5.1nm,1.0s						

MCK	**McKinley**	**33.30**	**42**	*e*P	**P**	**08 36 30.0**	**-0.3**
MCK				pmax	pmax		
comp=Z,10.0nm,1.1s							
MCK	**McKinley**	**33.30**	**42**	*e*P	**P**	**08 36 30.0**	**-0.3**
comp=Z,9.5nm,1.1s							
SML	**Sawmill**	**33.65**	**46**	*e*P	**P**	**08 36 33.2**	**-0.1**
SML				*e*		08 36 45.0	
SML				pmax	pmax		
comp=Z,7.0nm,1.2s							
SML	**Sawmill**	**33.65**	**46**	*e*P	**P**	**08 36 33.2**	**-0.1**
comp=Z,6.8nm,1.2s							
SML				*e*	**pP**	**08 36 45.0**	**-2.5**
COLA	**College**	**33.78**	**40**	*e*P	**P**	**08 36 35.4**	**+1.1**
COLA				pmax	pmax		
comp=Z,47nm,0.9s							
COLA	**College**	**33.78**	**40**	*e*P	**P**	**08 36 35.4**	**+1.1**
comp=Z,47nm,0.9s							
ILAR	**Eielson Array**	**34.19**	**40**	P	**P**	**08 36 38.1**	**+0.1**
ILAR	**Eielson Array**	**34.19**	**40**	P	**P**	**08 36 38.1**	**+0.1**
comp=Z,3.2nm,1.0s,baz=260,slow=9.0,SNR=21							
WHN	**Wuhan**	**35.70**	**255**	P	**P**	**08 36 51.1**	**-0.2**
EGAK	**Eagle**	**36.64**	**40**	*e*P	**P**	**08 36 59.1**	**+0.2**
comp=Z,6.7nm,0.8s							
EGAK				*e*	**pP**	**08 37 10.7**	**-2.6**
HVS	**Khovu-Aksy**	**38.55**	**297**	*i* P	**P**	**08 37 15.0**	**-0.4**
LZH	**Lanzhou**	**39.15**	**271**	*e*P	**P**	**08 37 20.4**	**-0.2**
LZH				pP	**pP**	**08 37 35.8**	**+0.7**
LZH				sP	**sP**	**08 37 43.1**	**+1.4**
LZH				PP	**PnPn**	**08 38 54.5**	**+0.4**
LZH				pmax	pmax		
comp=Z,20nm,1.3s							
LZH				pmax	pmax		
comp=Z,65nm,5.2s							
LZH				LR	LR		
comp=N,330nm,13.5s							
LZH				LR	LR		
comp=E,310nm,13.2s							
LZH				LR	LR		
comp=Z,410nm,17.5s							
INK	**Inuvik**	**39.28**	**34**	*e*P	**P**	**08 37 21.9**	**+0.8**
comp=Z,2.1nm,0.5s							
GTA	**Gaotai**	**39.97**	**278**	*e*P	**P**	**08 37 27.6**	**+0.2**
GTA				pP	**pP**	**08 37 42.9**	**+1.0**
GTA				sP	**sP**	**08 37 50.0**	**+1.6**
GTA				S	**S**	**08 43 26.3**	**-2.4**
GTA				sS	**sS**	**08 43 52.4**	**-0.7**
GTA				pmax	pmax		
comp=Z,3.0nm,1.4s							
GTA				pmax	pmax		
comp=Z,100nm,5.9s							
GTA				LR	LR		
comp=N,59nm,15.0s							
GTA				LR	LR		
comp=E,44nm,16.6s							
GTA				LR	LR		
comp=Z,82nm,16.6s							
CD2	**Chengdu**	**42.36**	**265**	*e*P	**P**	**08 37 47.3**	**+0.4**
CD2				pP	**pP**	**08 38 03.1**	**+1.6**
CD2				sP	**sP**	**08 38 10.3**	**+2.2**
CD2				PP	**PP**	**08 39 29.3**	**+3.5**
CD2				S	**S**	**08 44 02.5**	**-1.6**
CD2				sS	**sS**	**08 44 29.3**	**+0.6**
CD2				SS	SS	08 47 06.3	-8.0
CD2				pmax	pmax		
comp=Z,10.0nm,1.0s							
CD2				pmax	pmax		
comp=Z,120nm,5.2s							
CD2				LR	LR		
comp=N,120nm,15.6s							
CD2				LR	LR		
comp=Z,150nm,13.2s							
DLBC	**Dease Lake**	**43.29**	**48**	*e*P	**P**	**08 37 56.3**	**+2.1**
GYA	**Guiyang**	**43.42**	**257**	*e*P	**P**	**08 37 56.3**	**+0.6**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
WMQ	**Urumqi**	**45.44**	**290**	*e*P	**P**	**08 38 13.0**	**+1.4**
WMQ				LR	LR		
comp=Z,48nm,21.0s							
KMI	**Kunming**	**46.89**	**259**	P	**P**	**08 38 23.1**	**-0.2**
KMI				pP	**pP**	**08 38 36.3**	**-1.8**
KMI				sP	**sP**	**08 38 43.4**	**-1.2**
KMI				pmax	pmax		
comp=Z,18nm,1.2s							
MK31	**Makanchi Array**	**47.20**	**297**	*e*P	**P**	**08 38 23.7**	**-1.6**
MK31	**Makanchi Array**	**47.20**	**297**	*e*P	**P**	**08 38 23.7**	**-1.6**
MKAR	**Makanchi Array**	**47.20**	**297**	*e*P	**P**	**08 38 24.0**	**-1.3**
MKAR						08 39 56.3	
MKAR	**Makanchi Array**	**47.20**	**297**	*e*P	**P**	**08 38 24.0**	**-1.3**
MKAR				PcP	**PcP**	**08 39 56.3**	**+0.4**
MKAR	**Makanchi Array**	**47.20**	**297**	P	**P**	**08 38 23.6**	**-1.7**
comp=Z,0.6nm,0.6s,baz=75,slow=9.3,SNR=8.7							
MKAR				PcP	**PcP**	**08 39 56.3**	**+0.4**
comp=Z,0.7nm,0.8s,baz=66,slow=4.9,SNR=2.8							
MKAR				LR	LR	08 59 28.1	
comp=Z,63nm,20.7s,baz=353,slow=38							
KURK	**Kurchatov**	**47.37**	**303**	P	**P**	**08 38 25.7**	**-0.7**
KURK	**Kurchatov**	**47.37**	**303**	P	**P**	**08 38 25.7**	**-0.7**
KURBB	**Kurchatov Arra**	**47.46**	**303**	P	**P**	**08 38 25.7**	**-1.5**
comp=Z,1.4nm,0.6s,baz=66,slow=8.4,SNR=7.8							
YKA	**Yellowknife Ar**	**48.56**	**38**	P	**P**	**08 38 35.9**	**+0.4**
YKA	**Yellowknife Ar**	**48.56**	**38**	P	**P**	**08 38 35.9**	**+0.4**
comp=Z,4.0nm,0.9s,baz=298,slow=7.5,SNR=8.1							
BVAR	**Borovoye Array**	**50.62**	**309**	LR	LR	09 01 30.1	
comp=Z,52nm,20.1s,baz=272,slow=38							
CHTO	**Chiang Mai**	**53.84**	**257**	*e*P	**P**	**08 39 16.3**	**+0.7**
CHTO				pmax	pmax		
comp=Z,12nm,0.8s							
CHTO	**Chiang Mai**	**53.84**	**257**	*e*P	**P**	**08 39 16.3**	**+0.7**
comp=Z,12nm,0.8s							
EDM	**Edmonton**	**54.01**	**48**	*e*P	**P**	**08 39 17.0**	**+0.5**
EDM	**Edmonton**	**54.01**	**48**	*e*P	**P**	**08 39 17.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**54.10**	**257**	P	**P**	**08 39 18.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**54.10**	**257**	P	**P**	**08 39 18.4**	**+0.9**
comp=Z,7.1nm,0.7s,baz=32,slow=7.6,SNR=35							
ARU	**Arti**	**54.44**	**317**	*c i*P	**P**	**08 39 17.5**	**-2.0**
ARU				S	**S**	**08 46 51.2**	**-2.4**
ARU				pmax	pmax		
comp=Z,4.0nm,0.6s							
ARCES	**ARCESS Array B**	**56.41**	**341**	P	**P**	**08 39 34.4**	**+1.0**
ARCES	**ARCESS Array B**	**56.41**	**341**	P	**P**	**08 39 34.4**	**+1.0**
comp=Z,3.5nm,0.8s,baz=31,slow=7.3,SNR=3.7							
SLMT	**Seeley Lake**	**57.52**	**54**	*e*P	**P**	**08 39 42.2**	**+0.4**
MSO	**Missoula**	**57.54**	**54**	*e*P	**P**	**08 39 43.6**	**+1.8**
comp=Z,6.9nm,1.3s							
MSO	**Missoula**	**57.54**	**54**	⇓P	**P**	**08 39 42.9**	**+1.0**
baz=57							
HNR	**Honiara**	**58.07**	**174**	LR	LR	09 03 49.5	
comp=Z,39nm,18.5s,baz=320,slow=35							
ABKAR	**Akbulak array**	**58.16**	**310**	*e*P	**P**	**08 39 44.6**	**-1.5**
comp=Z,1.8nm,0.5s							
B17A	**L&G Farms, Che**	**58.28**	**52**	⇑P	**P**	**08 39 47.9**	**+0.8**
baz=58							
A18A	**Metzger Ranch,**	**58.38**	**50**	⇑P	**P**	**08 39 48.1**	**+0.4**
baz=58							
AKTO	**Aktyubinsk**	**58.38**	**312**	LR	LR	09 05 29.4	
comp=Z,29nm,18.8s,baz=307,slow=37							
SUMG	**Summit**	**58.63**	**5**	*e*P	**P**	**08 39 49.0**	**-0.5**
SUMG				pmax	pmax		
comp=Z,10.0nm,0.9s							
SUMG	**Summit**	**58.63**	**5**	*e*P	**P**	**08 39 49.0**	**-0.5**
comp=Z,10nm,0.9s							
MFID	**Camas Ranch**	**58.63**	**59**	⇑P	**P**	**08 39 50.5**	**+0.9**
baz=58							
C17A	**Wharram Farm,**	**58.72**	**52**	⇓P	**P**	**08 39 50.7**	**+0.6**
baz=58							
B18A	**Beardsley Farm**	**58.74**	**51**	⇓P	**P**	**08 39 51.4**	**+1.2**
baz=59							
A19A	**Klindworth Far**	**58.93**	**50**	⇑P	**P**	**08 39 52.7**	**+1.1**
baz=59							
LRM	**Limekiln Ridge**	**58.97**	**55**	*e*P	**P**	**08 39 53.6**	**+1.5**
EGMT	**Eagleton**	**58.99**	**51**	⇑P	**P**	**08 39 53.0**	**+1.0**
baz=59							
D17A	**Six Diamond Ra**	**59.06**	**53**	⇓P	**P**	**08 39 53.7**	**+1.1**
baz=59							
B19A	**Brinkman Farms**	**59.13**	**50**	⇑P	**P**	**08 39 53.9**	**+0.9**
baz=59							
HLID	**Hailey**	**59.33**	**58**	*e*P	**P**	**08 39 56.3**	**+1.8**
comp=Z,1.5nm,1.0s							
HLID	**Hailey**	**59.33**	**58**	⇓P	**P**	**08 39 55.2**	**+0.6**
baz=59							
A20A	**Cobblestone Ra**	**59.38**	**50**	⇑P	**P**	**08 39 55.7**	**+1.1**
baz=59							
BOZ	**Bozeman (W)**	**59.53**	**54**	*e*P	**P**	**08 39 57.0**	**+1.2**
BOZ				pmax	pmax		
comp=Z,4.0nm,1.1s							
BOZ	**Bozeman (W)**	**59.53**	**54**	*e*P	**P**	**08 39 57.0**	**+1.2**
comp=Z,4.2nm,1.1s							
C19A	**Slack Wire Ran**	**59.54**	**51**	⇑P	**P**	**08 39 57.0**	**+1.2**
baz=59							
F17A	**Fitzpatrick Pl**	**59.88**	**54**	⇓P	**P**	**08 39 59.5**	**+1.3**
baz=60							
D19A	**Cripps Ranch,**	**60.00**	**52**	⇓P	**P**	**08 39 60.0**	**+1.0**
baz=60							
C20A	**Veseth Ranch,**	**60.09**	**51**	⇑P	**P**	**08 40 00.4**	**+0.8**
baz=60							
G17A	**Pierce Place,**	**60.22**	**54**	⇑P	**P**	**08 40 02.3**	**+1.8**
baz=60							
A22A	**Carney Farms,**	**60.31**	**48**	⇑P	**P**	**08 40 02.3**	**+1.3**
baz=60							
NVAR	**Mina Array Bea**	**60.38**	**64**	P	**P**	**08 40 03.0**	**+1.2**
NVAR	**Mina Array Bea**	**60.38**	**64**	P	**P**	**08 40 03.0**	**+1.2**
comp=Z,1.5nm,0.8s,baz=291,slow=7.1,SNR=12							
F18A	**Big Timber**	**60.38**	**53**	⇑P	**P**	**08 40 02.8**	**+1.2**
baz=60,SNR=7.3							
D20A	**Manuel Ranch,**	**60.43**	**51**	⇑P	**P**	**08 40 03.3**	**+1.4**
baz=60							
GCMT	**Greycliff**	**60.48**	**53**	*e*P	**P**	**08 40 04.3**	**+2.0**
comp=Z,3.1nm,1.0s							
C21A	**Desert Coulee**	**60.48**	**50**	⇑P	**P**	**08 40 03.5**	**+1.3**
baz=60							
E19A	**Rath Farm, Rou**	**60.51**	**52**	⇑P	**P**	**08 40 03.7**	**+1.3**
baz=60							
B22A	**Rettig Ranch S**	**60.72**	**49**	⇑P	**P**	**08 40 05.2**	**+1.4**
baz=60							
I16A	**Newdale**	**60.75**	**56**	⇓P	**P**	**08 40 05.9**	**+1.7**
baz=61							
E20A	**Meyer Farm, Mu**	**60.82**	**52**	⇓P	**P**	**08 40 06.0**	**+1.4**
baz=61							
F19A	**Roth Farm, Mol**	**60.82**	**53**	⇑P	**P**	**08 40 06.0**	**+1.4**
baz=61							
A23A	**Redstone**	**60.84**	**48**	⇑P	**P**	**08 40 05.6**	**+1.0**
baz=61							
H17A	**Grant Village**	**60.91**	**55**	⇑P	**P**	**08 40 08.1**	**+2.7**
baz=61							
IMW	**Indian Meadow**	**61.04**	**56**	*e*P	**P**	**08 40 07.5**	**+1.2**
comp=Z,3.5nm,1.2s							
D21A	**La Casta Ranch**	**61.04**	**51**	⇑P	**P**	**08 40 07.3**	**+1.3**
baz=61							
B23A	**Brockton**	**61.12**	**48**	⇓P	**P**	**08 40 07.6**	**+1.1**
baz=61							
C22A	**Vida**	**61.15**	**50**	⇑P	**P**	**08 40 07.7**	**+1.0**
baz=61							
RRI2	**Red Ridge**	**61.19**	**56**	*e*P	**P**	**08 40 09.8**	**+2.4**
comp=Z,3.9nm,0.8s							
H18A	**Shoshone NF, C**	**61.21**	**54**	⇓P	**P**	**08 40 09.1**	**+1.7**
baz=61							
MOOW	**Moose Ponds**	**61.24**	**56**	*e*P	**P**	**08 40 09.3**	**+1.7**
comp=Z,1.4nm,1.1s							
F20A	**Billings**	**61.27**	**52**	⇑P	**P**	**08 40 09.2**	**+1.5**
baz=61							
A24A	**Westby**	**61.30**	**48**	⇓P	**P**	**08 40 08.9**	**+1.2**
baz=61							
TPAW	**Teton Pass**	**61.30**	**56**	*e*P	**P**	**08 40 10.9**	**+2.9**
comp=Z,4.2nm,1.0s							
D22A	**Cohagen**	**61.40**	**50**	⇑P	**P**	**08 40 09.3**	**+0.9**
baz=61							
LOHW	**Long Hollow**	**61.41**	**56**	*e*P	**P**	**08 40 10.5**	**+1.8**
comp=Z,2.9nm,1.2s							
REDW	**Red Top Meadow**	**61.44**	**56**	*e*P	**P**	**08 40 11.2**	**+2.2**
comp=Z,11nm,1.4s							
C23A	**Lambert**	**61.46**	**49**	⇓P	**P**	**08 40 10.1**	**+1.3**
baz=61							
DGMT	**Dagmar**	**61.51**	**48**	⇓P	**P**	**08 40 10.1**	**+1.0**
baz=61							
G20A	**Bridger**	**61.63**	**53**	⇓P	**P**	**08 40 11.5**	**+1.4**
baz=61							
A25A	**Svangstu Ranch**	**61.72**	**47**	⇓P	**P**	**08 40 11.7**	**+1.2**
baz=62							
GRAC	**Grapevine Rang**	**61.88**	**65**	⇓P	**P**	**08 40 13.3**	**+1.5**
baz=62							
I19A	**Meeteetse**	**62.00**	**54**	⇓P	**P**	**08 40 13.9**	**+1.2**
baz=62							
R11A	**Troy Canyon, C**	**62.05**	**63**	*e*P	**P**	**08 40 13.9**	**+0.8**
R11A	**Troy Canyon, C**	**62.05**	**63**	⇑P	**P**	**08 40 13.9**	**+0.8**
baz=62							
HWUT	**Hardware Ranch**	**62.20**	**58**	*e*P	**P**	**08 40 16.1**	**+2.0**
comp=Z,1.8nm,0.7s							
F22A	**Rosebud**	**62.27**	**51**	⇑P	**P**	**08 40 15.9**	**+1.6**
baz=62							
D24A	**Glendive**	**62.36**	**49**	⇑P	**P**	**08 40 16.4**	**+1.5**
baz=62							
MPMC	**Manual Prospec**	**62.42**	**66**	⇓P	**P**	**08 40 17.1**	**+1.5**
baz=62							
DUG	**Dugway**	**62.43**	**60**	*e*P	**P**	**08 40 17.0**	**+1.4**
DUG	**Dugway**	**62.43**	**60**	*e*P	**P**	**08 40 17.0**	**+1.4**
DUG	**Dugway**	**62.43**	**60**	⇓P	**P**	**08 40 17.5**	**+1.9**
baz=62							
C25A	**Freed Ranch, W**	**62.48**	**48**	⇓P	**P**	**08 40 17.0**	**+1.4**
baz=62							
I20A	**Worland**	**62.52**	**54**	⇓P	**P**	**08 40 17.3**	**+1.2**
baz=62							
FURC	**Furnace Creek,**	**62.53**	**65**	⇓P	**P**	**08 40 17.4**	**+1.4**
baz=62							
BW06	**Boulder Array**	**62.54**	**56**	*e*P	**P**	**08 40 17.4**	**+1.1**
comp=Z,4.3nm,1.0s							
PDAR	**Pinedale Array**	**62.54**	**56**	P	**P**	**08 40 17.5**	**+1.1**
PDAR	**Pinedale Array**	**62.54**	**56**	P	**P**	**08 40 17.5**	**+1.1**
comp=Z,3.2nm,0.9s,baz=315,slow=2.4,SNR=22							
H21A	**Big Horn, Sher**	**62.64**	**53**	⇓P	**P**	**08 40 17.6**	**+0.7**
baz=62							
LRMC	**Laurel Mountai**	**62.69**	**67**	⇓P	**P**	**08 40 18.4**	**+1.1**
baz=63							
F23A	**Volborg**	**62.75**	**51**	⇑P	**P**	**08 40 18.4**	**+0.8**
baz=63							
FINES	**FINESS Array B**	**62.80**	**335**	P	**P**	**08 40 16.0**	**-1.4**
FINES	**FINESS Array B**	**62.80**	**335**	P	**P**	**08 40 16.0**	**-1.4**
comp=Z,2.4nm,0.8s,baz=48,slow=8.0,SNR=11							
K19A	**Abdolon Red Bu**	**62.89**	**55**	⇓P	**P**	**08 40 19.2**	**+0.5**
baz=63							
SFJD	**Kangerlussuaq**	**62.97**	**11**	P	**P**	**08 40 18.0**	**-0.5**
SFJD	**Kangerlussuaq**	**62.97**	**11**	P	**P**	**08 40 18.0**	**-0.5**
comp=Z,7.2nm,0.5s,baz=18,slow=3.2,SNR=4.4							
I21A	**Big Trails, Te**	**63.06**	**54**	⇑P	**P**	**08 40 20.5**	**+0.8**
baz=63							
MPU	**Maple Canyon**	**63.23**	**59**	*e*P	**P**	**08 40 22.7**	**+1.8**
comp=Z,5.1nm,1.0s							
K20A	**Yellowstone Ra**	**63.27**	**55**	⇑P	**P**	**08 40 21.6**	**+0.4**
baz=63							
J21A	**Lysite**	**63.29**	**54**	⇑P	**P**	**08 40 22.4**	**+1.1**
baz=63							
B28A	**Dugan Ranch, T**	**63.38**	**46**	⇓P	**P**	**08 40 22.8**	**+1.2**
baz=63							
I22A	**9 Mile Ranch,**	**63.43**	**53**	⇓P	**P**	**08 40 23.5**	**+1.3**
baz=63							
J22A	**Midwest**	**63.76**	**53**	⇑P	**P**	**08 40 25.5**	**+1.2**
baz=64							
TUQ	**Turquoise Moun**	**63.79**	**66**	⇑P	**P**	**08 40 26.1**	**+1.5**
baz=64							
H24A	**Dirks Ranch, A**	**63.86**	**51**	⇓P	**P**	**08 40 25.8**	**+0.9**
baz=64							
K21A	**Alcova**	**63.88**	**55**	⇓P	**P**	**08 40 26.1**	**+0.9**
baz=64							
CCUT	**Cedar City**	**63.88**	**62**	*e*P	**P**	**08 40 26.7**	**+1.3**
comp=Z,2.0nm,0.8s							
F26A	**Lodgepole**	**64.06**	**49**	⇑P	**P**	**08 40 27.4**	**+1.3**
baz=64							
Q16A	**Castle Valley**	**64.23**	**60**	⇑P	**P**	**08 40 29.3**	**+1.7**
baz=64							
MURC	**Murrieta**	**64.25**	**68**	⇑P	**P**	**08 40 28.6**	**+1.0**
baz=64							
L21A	**Rawlins**	**64.28**	**55**	⇓P	**P**	**08 40 29.3**	**+1.5**
baz=64							
GMRC	**Granite Mounta**	**64.39**	**66**	⇓P	**P**	**08 40 30.0**	**+1.4**
baz=64							
OBN	**Obninsk**	**64.41**	**326**	*e*P	**P**	**08 40 27.9**	**-0.2**
OBN				*e*S	**S**	**08 49 01.0**	**-1.0**
OBN				*e*SS	**SS**	**08 53 13.8**	**+2.0**
OBN				pmax	pmax		
comp=Z,2.0nm,0.6s							
SRU	**San Rafael**	**64.47**	**59**	*e*P	**P**	**08 40 30.7**	**+1.6**
SRU				pmax	pmax		
comp=Z,5.0nm,0.8s							
SRU	**San Rafael**	**64.47**	**59**	*e*P	**P**	**08 40 30.7**	**+1.6**
comp=Z,5.5nm,0.8s							
G26A	**Maurine**	**64.48**	**50**	⇑P	**P**	**08 40 29.6**	**+0.7**
baz=64							
M21A	**Separation Pea**	**64.52**	**55**	⇑P	**P**	**08 40 30.6**	**+1.1**
baz=64							
N20A	**Spence Gulch,**	**64.56**	**57**	⇓P	**P**	**08 40 30.4**	**+0.7**
baz=64,SNR=5.2							
RSSD	**Black Hills**	**64.56**	**52**	*e*P	**P**	**08 40 30.2**	**+0.6**
RSSD				pmax	pmax		
comp=Z,3.0nm,0.8s							
RSSD	**Black Hills**	**64.56**	**52**	*e*P	**P**	**08 40 30.2**	**+0.6**
comp=Z,3.4nm,0.8s							
L22A	**Ellis Ranch, M**	**64.74**	**55**	⇑P	**P**	**08 40 32.3**	**+1.5**
baz=65							
I25A	**Rochford**	**64.79**	**51**	⇓P	**P**	**08 40 32.5**	**+1.4**
baz=65							
P19A	**Cripple Cowboy**	**64.98**	**58**	⇓P	**P**	**08 40 33.8**	**+1.4**
baz=65							
N21A	**Black Mountain**	**65.02**	**56**	⇑P	**P**	**08 40 34.1**	**+1.4**
baz=65							
O20A	**White River Ci**	**65.05**	**57**	⇓P	**P**	**08 40 33.6**	**+0.7**
baz=65							
M22A	**Cedar Creek Ra**	**65.08**	**55**	⇑P	**P**	**08 40 34.1**	**+1.0**
baz=65							
IRM	**Iron Mountain**	**65.12**	**66**	⇓P	**P**	**08 40 34.4**	**+1.2**
baz=65							
U15A	**North Rim**	**65.28**	**62**	⇑P	**P**	**08 40 35.4**	**+0.8**
baz=65							
BC3	**Big Chuckawall**	**65.28**	**67**	⇓P	**P**	**08 40 35.6**	**+1.2**
baz=65							
P20A	**De Beque**	**65.41**	**58**	⇑P	**P**	**08 40 36.3**	**+1.2**
baz=65							
N22A	**Wattenberg Ran**	**65.58**	**56**	⇑P	**P**	**08 40 37.7**	**+1.3**
baz=65							
N23A	**Red Feather La**	**65.79**	**55**	⇑P	**P**	**08 40 38.8**	**+1.1**
baz=66							
PV10	**Paradox Valley**	**65.81**	**59**	*e*P	**P**	**08 40 39.7**	**+1.8**
comp=Z,121nm,0.8s							
PV04	**Paradox Valley**	**65.88**	**59**	*e*P	**P**	**08 40 39.1**	**+0.9**
P21A	**Newcastle**	**65.91**	**57**	⇑P	**P**	**08 40 39.8**	**+1.3**
baz=66							
O23A	**Lake Granby, G**	**66.28**	**56**	⇑P	**P**	**08 40 42.1**	**+1.2**
baz=66							
WUAZ	**Wupatki**	**66.44**	**63**	⇓P	**P**	**08 40 43.6**	**+1.8**
baz=66							
J28A	**Allard Ranch,**	**66.49**	**51**	⇑P	**P**	**08 40 42.6**	**+0.7**
baz=66							
Y14A	**Wickenburg**	**66.56**	**65**	⇓P	**P**	**08 40 44.1**	**+1.6**
baz=66							
S20A	**Disappointment**	**66.58**	**59**	⇓P	**P**	**08 40 44.2**	**+1.4**
baz=66							
Q22A	**Crested Butte,**	**66.67**	**57**	⇓P	**P**	**08 40 45.0**	**+1.5**
baz=66							
ISCO	**Idaho Springs**	**66.73**	**56**	*e*P	**P**	**08 40 45.7**	**+1.9**
ISCO				pmax	pmax		
comp=Z,2.0nm,0.8s							
ISCO	**Idaho Springs**	**66.73**	**56**	*e*P	**P**	**08 40 45.7**	**+1.9**
comp=Z,2.4nm,0.8s							
ISCO	**Idaho Springs**	**66.73**	**56**	⇑P	**P**	**08 40 44.8**	**+0.9**
baz=67,SNR=5.2							
NB2	**NORSAR Subarra**	**66.77**	**342**	P	**P**	**08 40 42.6**	**-0.8**
comp=Z,0.1nm,0.6s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**66.77**	**342**	P	**P**	**08 40 42.5**	**-0.8**
NOA	**NORSAR Array B**	**66.77**	**342**	P	**P**	**08 40 42.5**	**-0.8**
comp=Z,1.1nm,0.6s,baz=26,slow=6.3,SNR=4.6							
NOA				LR	LR	09 13 56.8	
comp=Z,19nm,18.9s,baz=180,slow=40							
MVCO	**Mesa Verde**	**66.93**	**60**	⇑P	**P**	**08 40 46.2**	**+1.2**
baz=67							
S21A	**Coal Bank Pass**	**67.02**	**59**	⇓P	**P**	**08 40 47.1**	**+1.4**
baz=67							
HFS	**Hagfors**	**67.05**	**340**	P	**P**	**08 40 44.0**	**-1.1**
HFS	**Hagfors**	**67.05**	**340**	P	**P**	**08 40 44.0**	**-1.1**
comp=Z,1.4nm,0.5s,baz=21,slow=4.9,SNR=7.0							
HFS				LR	LR	09 15 34.3	
comp=Z,44nm,18.5s,baz=130,slow=41							
X16A	**Lo Mia Camp, P**	**67.17**	**64**	⇑P	**P**	**08 40 47.9**	**+1.4**
baz=67							
R22A	**Saguache, Gunn**	**67.20**	**58**	⇓P	**P**	**08 40 48.4**	**+1.5**
baz=67							
S22A	**4UR Ranch, Cre**	**67.50**	**58**	⇓P	**P**	**08 40 50.0**	**+1.3**
baz=67,SNR=6.0							
OGNE	**Ogallala**	**67.85**	**53**	⇓P	**P**	**08 40 51.5**	**+0.9**
baz=68							
U21A	**Nageezi**	**67.96**	**60**	⇓P	**P**	**08 40 52.9**	**+1.3**
baz=68							
X18A	**Snowflake**	**67.97**	**63**	⇓P	**P**	**08 40 52.7**	**+1.1**
baz=68							
T22A	**Edith**	**67.98**	**59**	⇓P	**P**	**08 40 52.9**	**+1.3**
baz=68							
214A	**Organ Pipe Nat**	**68.06**	**66**	⇓P	**P**	**08 40 53.3**	**+1.3**
baz=68							
R24A	**Sanders Place,**	**68.12**	**57**	⇑P	**P**	**08 40 53.6**	**+1.1**
baz=68							
P26A	**Davis Ranch, A**	**68.14**	**55**	⇑P	**P**	**08 40 53.1**	**+0.6**
baz=68							
W20A	**Ramah**	**68.39**	**61**	⇓P	**P**	**08 40 55.3**	**+1.0**
baz=68							
T23A	**Casias Ranch,**	**68.45**	**58**	⇓P	**P**	**08 40 55.4**	**+0.7**
baz=68							
U22A	**Llaves**	**68.45**	**59**	⇓P	**P**	**08 40 55.7**	**+1.0**
baz=68							
S24A	**Houchin Ranch,**	**68.48**	**57**	⇑P	**P**	**08 40 56.2**	**+1.3**
baz=68							
Q26A	**Hugo**	**68.50**	**55**	⇓P	**P**	**08 40 55.9**	**+1.1**
baz=68							
V22A	**San Miguel Ran**	**68.75**	**60**	⇓P	**P**	**08 40 57.7**	**+1.2**
baz=69							
U23A	**El Rito**	**68.87**	**59**	⇑P	**P**	**08 40 58.2**	**+1.0**
baz=69,SNR=9.0							
R26A	**Arlington**	**68.98**	**56**	⇑P	**P**	**08 40 58.6**	**+0.8**
baz=69							
SPMN	**St. Paul**	**69.28**	**44**	⇓P	**P**	**08 41 00.2**	**+0.8**
baz=69				

comp=Z,4.2nm,0.9s
WRA Warramunga Arr 70.82 201 P P 08 41 09.4 +0.6
WRA Warramunga Arr 70.82 201 P P 08 41 09.4 +0.6
comp=Z,2.6nm,0.7s,baz=17,slow=6.7,SNR=22
SCHQ Schefferville 70.97 24 *eP* **P 08 41 09.3 -0.2**
comp=Z,4.1nm,0.7s
SCHQ Schefferville 70.97 24 P **P 08 41 09.3 -0.2**
comp=Z,2.2nm,0.4s,baz=27,slow=7.2,SNR=14
Y24A Capitan 71.02 60 ⇑P **P 08 41 11.6 +1.1**
baz=71,SNR=7.0
W26A Owens Ranch, T 71.13 58 ⇑P **P 08 41 11.6 +0.7**
baz=71
222A Williams Famil 71.36 63 ⇓P **P 08 41 13.3 +0.8**
baz=71
Y25A Mesa, Roswell 71.45 60 ⇑P **P 08 41 14.1 +1.2**
baz=71
Z24A Sheeppen Canyo 71.49 61 ⇑P **P 08 41 14.2 +0.9**
baz=71
X26A CR and CF Fran 71.49 59 ⇑P **P 08 41 14.1 +0.9**
baz=71
FITZ Fitzroy Crossi 71.51 210 *eP* **P 08 41 14.0 +1.0**
comp=Z,3.1nm,0.7s
FITZ Fitzroy Crossi 71.51 210 P **P 08 41 13.9 +0.8**
comp=Z,3.4nm,0.7s,baz=50,slow=7.8,SNR=9.8
Z25A Roswell 71.90 60 ⇓P **P 08 41 16.3 +0.6**
baz=72
GNI Garni 72.23 311 LR LR 09 14 53.4
comp=Z,45nm,21.5s,baz=284,slow=37
224A Cornudas Mount 72.31 62 ⇑P **P 08 41 18.6 +0.5**
baz=72
Z26A Caprock 72.33 60 ⇓P **P 08 41 19.3 +1.1**
baz=72,SNR=5.4
Y27A Causey 72.34 59 ⇑P **P 08 41 19.5 +1.2**
baz=72,SNR=7.0
125A Gardner Draw, 72.39 61 ⇑P **P 08 41 19.3 +0.8**
baz=72
MSTX Muleshoe 72.50 58 ⇑P **P 08 41 20.5 +1.3**
baz=72
225A Deer Hill, Car 72.69 61 ⇑P **P 08 41 21.8 +1.3**
baz=73
Z27A Tatum 72.73 59 ⇓P **P 08 41 21.3 +0.7**
baz=73,SNR=6.9
X29A Tulia 72.75 57 ⇓P **P 08 41 22.1 +1.4**
baz=73
226B Tecolote Peak, 73.09 61 ⇓P **P 08 41 23.5 +0.8**
baz=73
325A Bean Ranch, Si 73.14 62 ⇑P **P 08 41 24.1 +1.0**
baz=73
425A Indio Mountain 73.56 62 ⇑P **P 08 41 26.6 +1.1**
baz=73,SNR=5.3
128A Castleberry Fa 73.66 59 ⇓P **P 08 41 27.2 +1.1**
baz=74
326A Caldwell Ranch 73.76 61 ⇑P **P 08 41 27.6 +1.0**
baz=74
Z30A Sanderson Ranc 73.93 58 ⇑P **P 08 41 28.5 +0.9**
baz=74
228A UT Block 9, Go 73.97 60 ⇑P **P 08 41 28.6 +0.8**
baz=74
426A McDonald Obser 74.20 62 ⇓P **P 08 41 30.5 +1.1**
baz=74
328A Wristen Ranch, 74.38 60 ⇑P **P 08 41 30.9 +0.6**
baz=74,SNR=5.5
427A Hayter Ranch, 74.44 61 ⇓P **P 08 41 31.1 +0.5**
baz=74
STHS Stebnicka Huta 74.44 331 *eP* P 08 41 33.5 +3.3
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 74.44 331 *eP* P 08 41 33.5 +3.3
Z31A Sharp Cattle R 74.46 57 ⇑P **P 08 41 30.9 +0.3**
baz=74
ASAR Alice Springs 74.51 200 P **P 08 41 32.1 +1.3**
ASAR Alice Springs 74.51 200 P **P 08 41 32.1 +1.3**
comp=Z,2.1nm,0.5s,baz=13,slow=5.3,SNR=43
229A Bryant Ranch, 74.52 59 ⇓P **P 08 41 31.6 +0.6**
baz=74
KOLS Kolonicke sedl 74.52 330 *eP* **P 08 41 33.0 +2.3**
KOLS pmax pmax
comp=Z,6.0nm,1.4s
KOLS Kolonicke sedl 74.52 330 *eP* **P 08 41 33.0 +2.3**
526A Mary Lane Ranc 74.62 62 ⇓P **P 08 41 32.5 +0.8**
baz=74
329A Wagon Wheel Ra 74.78 60 ⇑P **P 08 41 33.3 +0.7**
baz=75
131A Roby 74.80 58 ⇑P **P 08 41 33.3 +0.7**
baz=75
527A Woodward Ranch 74.83 62 ⇓P **P 08 41 33.4 +0.4**
baz=75
Z32A Haskell 74.83 57 ⇓P **P 08 41 33.3 +0.5**
baz=75
626A Big Bend Ranch 74.96 62 ⇑P **P 08 41 34.8 +1.2**
baz=75
DPC Dobruska-Polom 75.13 334 *eP* P 08 41 37.4 +3.2
DPC pmax pmax
comp=Z,72nm,1.2s
DPC Dobruska-Polom 75.13 334 *eP* P 08 41 37.4 +3.2
comp=Z,72nm,1.2s
MORC Moravsky Berou 75.28 333 *eP* **P 08 41 33.8 -1.3**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 75.28 333 *eP* **P 08 41 33.8 -1.3**
comp=Z,3.2nm,0.8s
330A Mertzon 75.30 59 ⇓P **P 08 41 35.7 +0.2**
baz=75
TXAR Lajitas Array 75.40 62 P **P 08 41 37.2 +1.0**
TXAR Lajitas Array 75.40 62 P **P 08 41 37.2 +1.0**
comp=Z,2.4nm,0.7s,baz=305,slow=4.4,SNR=24
429A Davenport Ranc 75.47 60 ⇓P **P 08 41 37.4 +0.9**
baz=75
627A Terlingua Ranc 75.47 62 ⇓P **P 08 41 37.6 +1.0**
baz=75
529A Stev Forest Ra 75.66 61 ⇑P **P 08 41 38.5 +0.9**
baz=76
430A Baggett Ranch, 75.73 60 ⇓P **P 08 41 38.7 +0.7**
baz=76
628A Black Gap, Mar 75.74 62 ⇓P **P 08 41 38.8 +0.7**
baz=76
331A San Angelo 75.80 59 ⇓P **P 08 41 39.3 +1.0**
baz=76
232A Coleman 75.80 58 ⇓P **P 08 41 38.8 +0.4**
baz=76
VRAC Vranov 75.98 333 LR LR 09 18 03.1
comp=Z,61nm,19.0s,baz=252,slow=38
VYHS Vyhne 76.02 332 *eP* **P 08 41 40.2 +0.9**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 76.02 332 *eP* **P 08 41 40.2 +0.9**
332A Millersview 76.13 58 ⇑P **P 08 41 40.8 +0.6**
baz=76
530A J-C Ranch, Com 76.14 60 ⇑P **P 08 41 41.2 +0.9**
baz=76
431A Sonora 76.16 59 ⇑P **P 08 41 41.2 +0.7**
baz=76
531A Rocksprings 76.59 60 ⇑P **P 08 41 43.4 +0.5**
baz=76
JCT Junction City 76.77 59 ⇓P **P 08 41 44.8 +0.9**
baz=77
WHTX Lake Whitney 76.94 56 ⇑P **P 08 41 45.2 +0.5**
baz=77
532A Rocksprings 76.98 59 ⇓P **P 08 41 45.7 +0.6**
baz=77
KHC Kasperske Hory 77.01 335 *eP* **P 08 41 45.2 +0.3**
631A Perdido Creek 77.13 60 ⇓P **P 08 41 46.8 +0.9**
baz=77
GERES GERESS Array B 77.23 335 P **P 08 41 45.9 -0.3**
GERES GERESS Array B 77.23 335 P **P 08 41 45.9 -0.3**
comp=Z,0.7nm,0.5s,baz=40,slow=5.2,SNR=4.3
GERES LR LR 09 18 31.8
comp=Z,47nm,19.4s,baz=120,slow=38
632A Uvalde 77.51 60 ⇓P **P 08 41 49.2 +1.2**
baz=77
BRTR Keskin Array B 77.82 318 P **P 08 41 49.8 0.0**
BRTR Keskin Array B 77.82 318 P **P 08 41 49.8 0.0**
comp=Z,1.0nm,0.8s,baz=37,slow=7.4,SNR=3.9
732A Laxson Ranch, 78.00 60 ⇑P **P 08 41 52.0 +1.4**
baz=78
SOKA Soboth 78.80 333 ⇑*i*P **P 08 41 53.5 -1.5**
comp=Z,5.7nm,1.2s
KBA Koelnbreinsper 78.94 334 ⇑*i*P **P 08 41 56.5 +0.7**
comp=Z,7.9nm,0.6s
WTTA Wattenberg 79.24 336 ⇑*i*P **P 08 41 58.0 +0.5**
comp=Z,6.2nm,0.7s
CDF Champ du Feu 79.30 339 *eP* **P 08 41 57.0 -0.6**
MOTA Moosalm 79.31 336 ⇑*i*P **P 08 41 58.6 +0.8**
comp=Z,5.4nm,1.0s
PAGF Fort de Pagny 79.53 340 *eP* **P 08 41 58.7 -0.1**
comp=Z,4.0nm,0.7s
FETA Feichten 79.71 336 ⇑*i*P **P 08 41 59.7 -0.3**
comp=Z,4.6nm,1.1s

SFTF Sexfontaines 80.01 340 *eP* **P 08 42 01.0 -0.4**
comp=Z,17nm,0.6s
DAVOX Davos/Dischmat 80.16 337 LR LR 09 24 27.3
comp=Z,34nm,18.5s,baz=252,slow=41
FUORN Ofenpass-Fuorn 80.21 336 *eP* **P 08 42 03.0 +0.2**
comp=Z,3.0nm,0.8s
TUE Stuetta 80.58 337 *eP* **P 08 42 05.5 +0.7**
comp=Z,5.6nm,0.8s
FLN La Foliniere 80.61 344 *eP* **P 08 42 03.9 -0.7**
FLN *eR*
comp=Z,47nm,17.5s
LDF La Druitiere 80.71 344 *eP* **P 08 42 04.4 -0.7**
comp=Z,13nm,1.0s
GRR Gorron 81.04 344 *eP* **P 08 42 06.6 -0.3**
comp=Z,19nm,0.8s
LOR Lormes 81.16 341 *eP* **P 08 42 07.0 -0.6**
comp=Z,12nm,0.9s
LOR *eR*
comp=Z,44nm,21.0s
CABF La Chapelle 81.27 339 *eP* **P 08 42 08.0 -0.3**
SSF Saint Saulge 81.43 341 *eP* **P 08 42 08.5 -0.5**
comp=Z,7.7nm,0.7s
SGMF Saint Gilles 81.47 345 *eP* **P 08 42 09.0 -0.2**
comp=Z,13nm,0.8s
ROSF Rostrenen 81.51 346 *eP* **P 08 42 09.3 -0.1**
comp=Z,19nm,0.9s
AVF Avril sur Loir 81.72 341 *eP* **P 08 42 10.1 -0.4**
comp=Z,20nm,1.0s
SMF Signal de Mont 81.75 340 *eP* **P 08 42 10.3 -0.4**
comp=Z,23nm,1.2s
LPL La Plagne 82.14 338 *eP* **P 08 42 13.4 +0.4**
LPG La Plagne 82.15 338 *eP* **P 08 42 13.5 +0.3**
comp=Z,14nm,0.7s
ASF Jabal al Asfar 82.40 311 LR LR 09 21 04.9
comp=Z,35nm,19.2s,baz=57,slow=37
TCF Toulx Ste Croi 82.45 341 *eP* **P 08 42 14.1 -0.3**
comp=Z,16nm,1.0s
BNI Bardonecchia 82.59 338 *eP* **P 08 42 16.3 +1.0**
BNI pmax pmax
comp=Z,3.0nm,0.7s
BNI Bardonecchia 82.59 338 *eP* **P 08 42 16.3 +1.0**
comp=Z,3.4nm,0.7s
MFF Saint Martin d 82.62 343 *eP* **P 08 42 15.1 -0.1**
comp=Z,8.1nm,0.7s
MBDF Montbardon 82.87 338 *eP* **P 08 42 16.5 -0.3**
ORIF Oris-en-Rattie 82.91 338 *eP* **P 08 42 17.1 +0.2**
comp=Z,6.1nm,0.6s
ORIF *eR*
comp=Z,75nm,19.8s
VIVF Saint-Julien-l 83.26 339 *eP* **P 08 42 18.7 +0.1**
comp=Z,9.9nm,0.8s
RJF Les Rejaudoux 83.53 342 *eP* **P 08 42 19.9 -0.1**
comp=Z,11nm,0.9s
RJF *eR*
comp=Z,45nm,17.2s
CAF Calviac 83.78 341 *eP* **P 08 42 21.5 +0.2**
comp=Z,14nm,0.9s
RAYN Ar Rayn 84.60 300 *eP* **P 08 42 26.3 +0.5**
comp=Z,38nm,2.0s
MTLF Montolieu 85.25 340 *eP* **P 08 42 28.2 -0.5**
TORD Torodi Ar. Bea 114.02 331 PKiKP **PKiKP 08 48 30.9 -0.4**
TORD Torodi Ar. Bea 114.02 331 PKiKP **PKiKP 08 48 30.9 -0.4**
comp=Z,0.2nm,0.4s,baz=188,slow=1.8,SNR=4.0
LPAZ La Paz 132.27 63 PKP **PKPdf 08 49 06.9 0.0**
LPAZ *e*PKPdf **PKiKP 08 49 08.4 +0.5**
LPAZ La Paz 132.27 63 PKP **PKPdf 08 49 06.9 0.0**
comp=Z,0.8nm,0.7s,baz=297,slow=2.3,SNR=3.8
SIV San Ignacio 136.02 55 PKP **PKPdf 08 49 13.3 +0.1**
SIV San Ignacio 136.02 55 PKP **PKPdf 08 49 13.3 +0.1**
comp=Z,1.1nm,0.6s,baz=288,slow=3.2,SNR=3.9
PLCA Paso Flores 147.06 93 PKPbc **PKPbc 08 49 35.1 +0.7**
PLCA Paso Flores 147.06 93 PKPbc **PKPbc 08 49 35.1 +0.7**
comp=Z,2.4nm,0.9s,baz=297,slow=4.5,SNR=4.9
VNA2 Neumayer--Watz 156.25 194 *eP* **PKPab 08 50 14.0 +0.6**

NEIC ***18*** *08:32:24.6, 19°.31N×64°.71W, h47km, MD3.7(RSPR), After RSPR.*

RSPR 18 08:32:24.6, 19°.31N×64°.71W, h47km±3km, MD3.7/12, 37C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.68**	**148**	⇓*e*P			Pn	08 32 37.2	-0.8
ABV	**Anegada**	**0.68**	**148**	*e*S			Sn	08 32 46.8	-0.7
ABV	**Anegada**	**0.68**	**148**	⇓*e*P			Pn	08 32 37.2	-0.8
ABV				*e*S			Sn	08 32 46.8	-0.7
ABVI	**Anegada Island**	**0.68**	**148**	⇓*e*P			Pn	08 32 37.2	-0.8
ABVI				*e*S			Sn	08 32 46.8	-0.7
TBVI	**Tortola**	**0.89**	**174**	⇑*i*P			Pn	08 32 39.7	-1.1
TBVI				*e*S			Sn	08 32 51.8	-0.8
TBVI	**Tortola**	**0.89**	**174**	*i* Pu			Pn	08 32 39.7	-1.1
TBVI				*e*S			Sn	08 32 51.8	-0.8
TBVI	**Tortola**	**0.89**	**174**	⇑*i*P			Pn	08 32 39.7	-1.1
TBVI				*e*S			Sn	08 32 51.8	-0.8
STVI	**Saint Thomas**	**0.98**	**194**	⇓*e*P			Pn	08 32 41.0	-1.0
STVI	**Saint Thomas**	**0.98**	**194**	*e*S			Sn	08 32 53.6	-1.1
STVI	**Saint Thomas**	**0.98**	**194**	⇓*e*P			Pn	08 32 41.0	-1.0
STVI				*e*S			Sn	08 32 53.6	-1.1
STVI	**Saint Thomas**	**0.98**	**194**	⇓*e*P			Pn	08 32 41.0	-1.0
STVI				*e*S			Sn	08 32 53.6	-1.1
MTP	**Monte Pirata**	**1.45**	**214**	⇑*e*P			Pn	08 32 47.5	-0.9
MTP	**Monte Pirata**	**1.45**	**214**	*e*S			Sn	08 33 05.0	-1.2
MTP	**Monte Pirata**	**1.45**	**214**	⇑*e*P			Pn	08 32 47.5	-0.9
MTP				*e*S			Sn	08 33 05.0	-1.2
MTP	**Monte Pirata**	**1.45**	**214**	⇑*e*P			Pn	08 32 47.5	-0.9
MTP				*e*S			Sn	08 33 05.0	-1.2
CDVI	**St. Croix**	**1.55**	**182**	*e*Pn			Pn	08 32 50.7	+1.0
CDVI				*e*Sn			Sn	08 33 12.6	+4.0
CPD	**Cerro la Pandu**	**1.70**	**222**	⇓*e*P			Pn	08 32 51.2	-0.8
CPD	**Cerro la Pandu**	**1.70**	**222**	*e*S			Sn	08 33 11.8	-0.8
CPD	**Cerro la Pandu**	**1.70**	**222**	⇓*e*P			Pn	08 32 51.2	-0.8
CPD				*e*S			Sn	08 33 11.8	-0.8
CPD	**Cerro la Pandu**	**1.70**	**222**	⇓*e*P			Pn	08 32 51.2	-0.8
CPD				*e*S			Sn	08 33 11.8	-0.8
SJG	**San Juan**	**1.81**	**229**	⇑*e*P			Pn	08 32 52.4	-0.9
SJG				*e*S			Sn	08 33 14.2	-1.0
SJG	**San Juan**	**1.81**	**229**	⇑*e*P			Pn	08 32 52.4	-0.9
SJG				*e*S			Sn	08 33 14.2	-1.0
SJG	**San Juan**	**1.81**	**229**	⇑*e*P			Pn	08 32 52.4	-0.9
SJG				*e*S			Sn	08 33 14.2	-1.0
CELP	**Cerrillos**	**2.15**	**236**	⇑*e*P			Pn	08 32 57.4	-0.7
CELP				*e*S			Sn	08 33 22.8	-0.8
CELP	**Cerrillos**	**2.15**	**236**	⇑*e*P			Pn	08 32 57.4	-0.7
CELP				*e*S			Sn	08 33 22.8	-0.8
CELP	**Cerrillos**	**2.15**	**236**	⇑*e*P			Pn	08 32 57.4	-0.7
CELP				*e*S			Sn	08 33 22.8	-0.8
AOPR	**Arecibo Observ**	**2.16**	**244**	⇑*e*P			Pn	08 32 57.4	-0.8
AOPR	**Arecibo Observ**	**2.16**	**244**	*e*S			Sn	08 33 22.8	-1.0
AOPR	**Arecibo Observ**	**2.16**	**244**	⇑*e*P			Pn	08 32 57.4	-0.8
AOPR				*e*S			Sn	08 33 22.8	-1.0
AOPR	**Arecibo Observ**	**2.16**	**244**	⇑*e*P			Pn	08 32 57.4	-0.8
AOPR				*e*S			Sn	08 33 22.8	-1.0
OBIP	**Obispado Ponce**	**2.19**	**235**	⇑*e*P			Pn	08 32 57.9	-0.8
OBIP	**Obispado Ponce**	**2.19**	**235**	*e*S			Sn	08 33 23.7	-0.8
OBIP	**Obispado Ponce**	**2.19**	**235**	⇑*e*P			Pn	08 32 57.9	-0.8
OBIP				*e*S			Sn	08 33 23.7	-0.8
OBIP	**Obispado Ponce**	**2.19**	**235**	⇑*e*P			Pn	08 32 57.9	-0.8
OBIP				*e*S			Sn	08 33 23.7	-0.8
LRS	**Lares**	**2.26**	**244**	⇑*e*P			Pn	08 32 58.6	-1.0
LRS	**Lares**	**2.26**	**244**	⇑*e*P			Pn	08 32 58.6	-1.0
LRS	**Lares**	**2.26**	**244**	⇑*e*P			Pn	08 32 58.6	-1.0
AGPR	**Aguadilla, PR**	**2.42**	**250**	⇑*e*P			Pn	08 33 01.1	-0.7
AGPR	**Aguadilla, PR**	**2.42**	**250**	*e*S			Sn	08 33 29.3	-1.0
AGPR	**Aguadilla, PR**	**2.42**	**250**	⇑*e*P			Pn	08 33 01.1	-0.7
AGPR				*e*S			Sn	08 33 29.3	-1.0
AGPR	**Aguadilla, PR**	**2.42**	**250**	⇑*e*P			Pn	08 33 01.9	+0.1
AGPR				*e*S			Sn	08 33 29.3	-1.0
GBPR	**Guanica, Bosqu**	**2.45**	**238**	⇑*e*P			Pn	08 33 01.4	-0.6
GBPR	**Guanica, Bosqu**	**2.45**	**238**	*e*S			Sn	08 33 30.0	-0.8
GBPR	**Guanica, Bosqu**	**2.45**	**238**	⇑*e*P			Pn	08 33 01.4	-0.6
GBPR				*e*S			Sn	08 33 30.0	-0.8
GBPR	**Guanica, Bosqu**	**2.45**	**238**	⇑*e*P			Pn	08 33 01.4	-0.6
GBPR				*e*S			Sn	08 33 30.0	-0.8
LSP	**Las Mesas**	**2.52**	**244**	⇑*e*P			Pn	08 33 02.3	-0.8
LSP	**Las Mesas**	**2.52**	**244**	⇑*e*P			Pn	08 33 02.3	-0.8
LSP	**Las Mesas**	**2.52**	**244**	⇑*e*P			Pn	08 33 02.3	-0.8
CRPR	**Cabo Rojo, PR**	**2.62**	**241**	⇑*e*P			Pn	08 33 03.7	-0.7
CRPR	**Cabo Rojo, PR**	**2.62**	**241**	*e*S			Sn	08 33 34.4	-0.6
CRPR	**Cabo Rojo, PR**	**2.62**	**241**	⇑*e*P			Pn	08 33 03.7	-0.7
CRPR				*e*S			Sn	08 33 34.4	-0.6
CRPR	**Cabo Rojo, PR**	**2.62**	**241**	⇑*e*P			Pn	08 33 03.7	-0.7
CRPR				*e*S			Sn	08 33 34.4	-0.6

IDE Isla Desecheo 2.77 251 ⇑*e*P Pn 08 33 05.9 -0.7
IDE Isla Desecheo 2.77 251 ⇑*e*P Pn 08 33 05.9 -0.7
IDE Isla Desecheo 2.77 251 ⇑*e*P Pn 08 33 05.9 -0.7
DR12 Loma Pena Alta 4.45 264 ⇑*e*P Pn 08 33 29.6 -0.1
DR12 *e*S Sn 08 34 20.2 -0.1
DR12 Loma Pena Alta 4.45 264 ⇑*e*P Pn 08 33 29.6 -0.1
DR12 *e*S Sn 08 34 20.2 -0.1
DR12 Loma Pena Alta 4.45 264 ⇑*e*P Pn 08 33 29.6 -0.1
DR12 *e*S Sn 08 34 20.2 -0.1
SDDR Presa de Saban 6.23 268 *e*Pn Pn 08 33 53.2 -0.8
17nm,0.8s
SDDR *e*Sn Sn 08 35 06.1 +2.1

IDC 18 08:32:36.9±4.7, 5°.95S×125°.73E, h527km±63km, mb2.8/1, mb1 2.9/5, mb1mx2.6/24, mbtmp2.7/5, Error ellipse: s-maj=130.2km s-min=20.0km az=56.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.03**	**279**	P			P	08 34 15.0	+0.3
2.8nm,0.3s,baz=129,slow=6.5,SNR=10									
FITZ	**Fitzroy Crossi**	**12.08**	**180**	P			P	08 35 15.2	-1.1
1.0nm,0.3s,baz=12,slow=12,SNR=26									
WRA	**Warramunga Arr**	**16.23**	**150**	P			P	08 35 58.2	-1.2
0.2nm,0.3s,baz=328,slow=11,SNR=20									
WRA				S			S	08 38 42.7	-2.6
0.1nm,0.3s,baz=326,slow=17,SNR=5.2									
ASAR	**Alice Springs**	**19.29**	**157**	P			P	08 36 28.4	+0.6
0.1nm,0.3s,baz=340,slow=14,SNR=5.8									
MKAR	**Makanchi Array**	**65.08**	**329**	P			P	08 42 25.2	-0.1
0.5nm,0.5s,baz=123,slow=8.2,SNR=4.3									

IDC 18 08:39:07.2±3.9, 1°.34S×99°.77E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=182.5km s-min=21.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.20**	**348**	Pn			Pn	08 40 11.4	-1.4
0.9nm,0.3s,baz=176,slow=15,SNR=3.7									
WRA	**Warramunga Arr**	**38.52**	**121**	P			P	08 46 31.8	0.0
0.5nm,0.6s,baz=300,slow=9.0,SNR=7.1									
ASAR	**Alice Springs**	**39.83**	**127**	P			P	08 46 42.3	-0.3
0.4nm,0.6s,baz=301,slow=8.0,SNR=6.6									
MKAR	**Makanchi Array**	**50.34**	**344**	P			P	08 48 05.8	-0.1
0.4nm,0.6s,baz=158,slow=7.8,SNR=4.9									
ZALV	**Zalesovo Beam**	**56.48**	**349**	P			P	08 48 50.7	-0.2
0.6nm,0.5s,baz=145,slow=5.3,SNR=2.8									
TXAR	**Lajitas Array**	**144.32**	**37**	PKP			PKPdf	08 58 45.9	-0.3
0.2nm,0.6s,baz=202,slow=1.0,SNR=3.5									

IDC 18 08:53:23.8±2.0, 3°.57N×125°.39E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.4/32, Error ellipse: s-maj=134.7km s-min=26.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.54**	**179**	P			P	08 58 15.3	+0.5
1.5nm,0.3s,baz=7.8,slow=10,SNR=11									
WRA	**Warramunga Arr**	**24.97**	**160**	P			P	08 58 49.6	+0.3
0.5nm,0.3s,baz=336,slow=9.9,SNR=12									
WRA				LR			LR	09 09 08.4	
comp=Z,50nm,18.2s,baz=315,slow=38									
ASAR	**Alice Springs**	**28.32**	**163**	P			P	08 59 18.6	-0.9
0.1nm,0.4s,baz=344,slow=7.3,SNR=4.9									
ASAR				LR			LR	09 10 06.2	
comp=Z,73nm,20.7s,baz=246,slow=35									
MKAR	**Makanchi Array**	**56.93**	**326**	P			P	09 03 10.9	0.0
0.2nm,0.4s,baz=116,slow=6.1,SNR=4.1									

GUC 18 08:57:55.9±0.7, 32°.79S×71°.35W, h39km±2km, MD3.5, ML2.6, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.26**	**344**	⇑*i*P			Pn	08 58 03.7	-0.3
PACH				*i* S			Sn	08 58 09.6	-0.6
JACH	**Jahuel**	**0.65**	**80**	⇑*i*P			Pn	08 58 09.2	+0.4
JACH				*i* S			Sn	08 58 18.9	+0.9
PEL	**Peldehue**	**0.66**	**122**	*e*P			Pn	08 58 09.2	+0.3
PEL				*i* S			Sn	08 58 19.1	+0.9
PEL				AML			AML	08 58 20.1	
comp=E,1μm,0.3s									
STL	**Santa Lucia**	**0.88**	**137**	⇑*i*P			Pn	08 58 12.3	+0.5
STL				*i* S			Sn	08 58 24.3	+0.9
CLCH	**Cerro Calan**	**0.91**	**132**	⇑*i*P			Pn	08 58 12.9	+0.6
CLCH				*i* S			Sn	08 58 25.4	+1.0
CLCH				AML			AML	08 58 28.5	
comp=E,185nm,0.3s									
TACH	**Talagante**	**0.93**	**158**	⇑*i*P			Pn	08 58 13.3	+0.8
TACH				*i* S			Sn	08 58 25.7	+1.0
ANTU	**Antumapu**	**0.98**	**142**	⇓*i*P			Pn	08 58 14.0	+0.7
ANTU				*i* S			Sn	08 58 27.4	+1.3
ANTU				AML			AML	08 58 28.4	
comp=N,170nm,0.2s									
PCH	**Pirque**	**1.08**	**140**	⇑*i*P			Pn	08 58 15.4	+0.7
PCH				*i* S			Sn	08 58 30.1	+1.4
LNV	**Longovilo**	**1.16**	**182**	*e*P			Pn	08 58 16.1	+0.4
LNV				*i* S			Sn	08 58 31.9	+1.6
SJCH	**San Jose de Ma**	**1.19**	**136**	*e*P			Pn	08 58 15.7	-0.5
SJCH				*i* S			Sn	08 58 31.6	+0.3
SJCH				AML			AML	08 58 32.7	
comp=N,103nm,0.2s									
CHCH	**Chadas Angostu**	**1.28**	**153**	⇑*i*P			Pn	08 58 18.6	+1.2
CHCH				*i* S			Sn	08 58 35.8	+2.4
CACH	**El Canelo**	**1.46**	**155**	⇑*i*P			Pn	08 58 21.9	+1.9
CACH				*i* S			Sn	08 58 41.5	+3.4
CMCH	**Combarbala**	**1.64**	**11**	*e*P			Pn	08 58 23.2	+0.8
CMCH				*i* S			Sn	08 58 44.5	+2.1
CMCH				AML			AML	08 58 47.7	
comp=E,360nm,0.7s									

IDC 18 09:07:15.4±6.9, 1°.95S×99°.44E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.2/3, Error ellipse: s-maj=336.4km s-min=27.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.51**	**120**	P			P	09 14 39.8	-0.1
0.3nm,0.8s,baz=302,slow=9.2,SNR=4.0									
ASAR	**Alice Springs**	**39.74**	**126**	P			P	09 14 49.8	-0.4
0.2nm,0.7s,baz=297,slow=8.1,SNR=3.4									
MKAR	**Makanchi Array**	**50.83**	**345**	P			P	09 16 17.6	-0.3
0.3nm,0.5s,baz=141,slow=7.9,SNR=5.4									
TXAR	**Lajitas Array**	**145.00**	**37**	PKPbc			PKPab	09 26 54.5	-0.4
0.4nm,0.9s,baz=308,slow=4.4,SNR=3.4									

IDC ***18*** *09:28:52.2±0.4, 1°.54S×99°.46E, h0km, mb4.7/35, mb1 4.7/37, mb1mx4.7/38, mbtmp4.7/37, ML4.3/2, MS4.1/20, Ms1 4.1/20, ms1mx3.9/38, Error ellipse: s-maj=12.7km s-min=7.7km az=59.0*

BJI ***18*** *09:28:52.2, 2°.11S×98°.75E, h35km, mB5.0/31, mb4.9/47, Ms4.8/41, Ms7 4.5/39*

ISCJB ***18*** *09:28:55.2±1.1, 1°.51S±0°.03×99°.31E±0°.03, h27km±7km, mb5.0/131, MS4.4/40, Error ellipse: s-maj=5.9km s-min=4.3km az=140.1*

MOS ***18*** *09:28:56.2±1.1, 1°.34S×99°.50E, h33km, mb5.3/54, MS4.5/8, Error ellipse: s-maj=10.0km s-min=4.7km az=115.3*

NEIC ***18*** *09:28:56.9±0.

mb4.9/27,MLv5.6/4,Mw(mB)4.7/12,Mwp5.7/1
DJA ***18*** *09:28:57.5±0.2,2°S±2°×10°0E±°,h10km,M5.0/24,*
mB5.5/10,mb5.0/24,Mw(mB)5.0/10
ISC 18 09:28:57.3±0.3,1.555±0.03×99°30E±0.04,h31km±1km,
h31km:pP-P,n437,σ1⁝44/526,mb5.0/131,MS4.3/40,
21C-9D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.30**	**316**	P	Pn	09 29 14.1	+8.6
PDSI	**Padang**	**1.32**	**62**	P	**Pn**	**09 29 17.3**	**-2.3**
PDSI				S	Sn	09 29 25.5	-11
MNSI	**Mandailing Nat**	**2.34**	**7**	P	**Pb**	**09 29 38.1**	**-0.7**
BKNI	**Bangkinang**	**2.55**	**43**	P	**Pn**	**09 29 36.7**	**+0.3**
BKNI				S	**Sn**	**09 30 01.5**	**-4.9**
RGRI	**Rengat**	**3.26**	**69**	P	**Pn**	**09 29 47.6**	**+1.4**
RGRI				S	**Sb**	**09 30 38.3**	**+4.6**
MASI	**Maura Aman, Be**	**3.34**	**118**	P	**Pn**	**09 29 48.1**	**+0.7**
PSI	**Prapat**	**4.33**	**355**	Pn	Pn	09 29 57.3	-3.8
PSI	**Prapat**	**4.33**	**355**	Pn	Pn	09 29 57.3	-3.8
	5.0nm,0.3s,baz=164,slow=9.9,SNR=17						
PSI				LR	LR	09 31 54.5	
	comp=Z,2μm,20.7s,baz=164,slow=43						
MNAI	**Manna**	**4.60**	**128**	P	**Pn**	**09 30 03.3**	**-1.4**
TSI	**Tuntungan**	**5.07**	**352**	P	Pn	09 30 15.0	+3.9
TSI				S	Sn	09 31 16.7	+8.1
FRIM	**Kepong**	**5.29**	**26**	P	**Pn**	**09 30 14.6**	**+0.4**
KGM	**Kluang**	**5.35**	**49**	P	**Pn**	**09 30 15.6**	**+0.5**
MYKOM	**Kota Tinggi**	**5.63**	**54**	P	**Pn**	**09 30 20.4**	**+1.5**
MYKOM	**Kota Tinggi**	**5.63**	**54**	P	**Pn**	**09 30 18.3**	**-0.5**
LWLI	**Liwa**	**5.87**	**126**	P	**Pn**	**09 30 22.1**	**-0.2**
IPM	**Ipoh**	**6.23**	**16**	*e*Pn	**Pn**	**09 30 28.2**	**+1.1**
IPM				*e*Sn	Sn	09 31 46.7	+9.4
IPM	**Ipoh**	**6.23**	**16**	P	**Pn**	**09 30 29.5**	**+2.4**
IPM	**Ipoh**	**6.23**	**16**	P	**Pn**	**09 30 28.4**	**+1.3**
KLSI		**6.26**	**120**	P	**Pn**	**09 30 27.8**	**+0.3**
KLI	**Kotabumi**	**6.45**	**121**	P	**Pn**	**09 30 30.4**	**+0.2**
KASI	**Kota Agung**	**6.52**	**127**	P	**Pn**	**09 30 30.5**	**-0.6**
PPBI	**Pangkal Pinang**	**6.86**	**95**	P	Pn	09 30 39.7	+3.9
KULM	**Kulim**	**6.92**	**11**	*e*Pn	**Pn**	**09 30 36.1**	**-0.5**
KULM				*e*Sn	**Sn**	**09 31 51.8**	**-2.5**
KULM	**Kulim**	**6.92**	**11**	P	**Pn**	**09 30 37.7**	**+1.1**
KULM	**Kulim**	**6.92**	**11**	P	**Pn**	**09 30 37.1**	**+0.5**
KTGM	**Kuala Trenggan**	**7.83**	**29**	P	**Pn**	**09 30 51.0**	**+1.9**
DBJI	**Dramaga**	**8.94**	**124**	P	**Pn**	**09 31 05.8**	**+1.4**
CISI	**Cisompet, Garu**	**10.38**	**125**	P	**Pn**	**09 31 21.9**	**-2.2**
KSM	**Kuching**	**11.41**	**75**	*e*Pn	**Pn**	**09 31 38.2**	**0.0**
KSM				*e*Sn	**Sn**	**09 33 42.5**	**-2.2**
KSM	**Kuching**	**11.41**	**75**	P	**Pn**	**09 31 38.6**	**+0.4**
KSM	**Kuching**	**11.41**	**75**	P	Pn	09 31 48.0	+10
SBUM	**Sibu**	**13.51**	**73**	P	**Pn**	**09 32 09.1**	**+2.1**
SBUM	**Sibu**	**13.51**	**73**	P	Pn	09 32 10.8	+3.8
PHET	**Kaeng Krachan**	**14.36**	**1**	P	**Pn**	**09 32 19.2**	**+0.6**
	42nm,0.9s,32μm						
BTM	**Bintulu**	**14.56**	**71**	P	**Pn**	**09 32 22.9**	**+1.6**
BBKI	**Banjar Baru**	**15.64**	**97**	P	P	09 32 46.1	+6.6
NAYO	**Nakonayok**	**15.88**	**7**	P	**P**	**09 32 44.7**	**+2.6**
KKM	**Kota Kinabalu**	**18.50**	**66**	*e*P	**P**	**09 33 10.7**	**-0.4**
	43nm,0.9s						
KKM	**Kota Kinabalu**	**18.50**	**66**	P	**Pn**	**09 33 12.4**	**+1.0**
KKM	**Kota Kinabalu**	**18.50**	**66**	P	Pn	09 33 21.3	+10
LOEI	**Loei**	**19.03**	**6**	P	**Pn**	**09 33 17.7**	**-0.1**
	22nm,0.9s						
SDKM	**Sandakan**	**19.25**	**68**	P	**Pn**	**09 33 20.9**	**+0.4**
PANO	**Nakornpanom**	**19.30**	**16**	P	**P**	**09 33 18.9**	**-0.9**
	27nm,0.9s,888nm						
KDM	**Kudat**	**19.41**	**64**	P	**Pn**	**09 33 22.9**	**+0.5**
TSM	**Tawau**	**19.45**	**73**	P	**Pn**	**09 33 23.8**	**+0.9**
MMSI	**Mamuju**	**19.63**	**94**	P	**Pn**	**09 33 25.5**	**+0.5**
	182nm,1.4s,2μm						
CM31	**Chiang Mai Arr**	**19.88**	**359**	*e*P	**P**	**09 33 25.9**	**-0.2**
	52nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.88**	**359**	P	**P**	**09 33 25.3**	**-0.8**
CMAR				S	**Sn**	**09 37 16.9**	**+6.3**
CMAR	**Chiang Mai Arr**	**19.88**	**359**	P	**P**	**09 33 25.3**	**-0.8**
	1.0nm,0.3s,baz=188,slow=10.0,SNR=48						
CMAR				S	**Sn**	**09 37 16.9**	**+6.3**
	0.6nm,0.3s,baz=172,slow=14,SNR=5.8						
CMAR				LR	LR	09 41 41.9	
	comp=Z,394nm,19.4s,baz=5.7,slow=39						
LAMP	**Lampang**	**19.94**	**1**	P	**Pn**	**09 33 29.4**	**+0.7**
	39nm,1.0s,274nm						
CHTO	**Chiang Mai**	**20.23**	**359**	*e*P	**P**	**09 33 29.0**	**-1.0**
CHTO				*e*S	S	09 37 00.7	-15
CHTO				pmax	pmax		
	comp=Z,33nm,0.9s						
CHTO	**Chiang Mai**	**20.23**	**359**	*e*P	**P**	**09 33 29.0**	**-1.0**
	comp=Z,32nm,0.9s						
CHTO				*e*S	S	09 37 00.7	-15
CHTO	**Chiang Mai**	**20.23**	**359**	P	Pn	09 33 33.2	+1.1
	comp=Z,44nm,1.0s,comp=Z,361nm						
CHTO	**Chiang Mai**	**20.23**	**359**	P	Pn	09 33 33.2	+1.1
	comp=Z,44nm,1.0s,comp=Z,361nm						
MYLDM	**Lahad Datu**	**20.31**	**71**	P	Pn	09 33 33.3	+0.2
MYLDM	**Lahad Datu**	**20.31**	**71**	P	Pn	09 33 35.5	+2.5
PALK	**Pallekele**	**20.52**	**295**	*e*P	Pn	09 33 35.0	-0.5
	comp=Z,106nm,1.5s						
PALK	**Pallekele**	**20.52**	**295**	P	Pn	09 33 38.7	+3.2
	comp=Z,50nm,1.6s						
TTSI	**Tana Toraja**	**20.56**	**95**	P	Pn	09 33 35.6	-0.3
	comp=Z,101nm,1.5s,comp=Z,3μm						
SPSI	**Sidrap Palu**	**20.59**	**97**	P	Pn	09 33 38.8	+2.5
KAPI	**Kappang**	**20.70**	**100**	*e*P	**P**	**09 33 34.7**	**-0.4**
KAPI				*e*S	**S**	**09 37 25.2**	**+0.2**
KAPI	**Kappang**	**20.70**	**100**	P	Pn	09 33 38.0	+0.3
	comp=Z,72nm,1.3s						
KAPI	**Kappang**	**20.70**	**100**	P	**P**	**09 33 34.1**	**-1.1**
	comp=Z,72nm,1.1s,baz=272,slow=10,SNR=9.4						
KAPI				LR	LR	09 41 58.8	
	comp=Z,830nm,19.9s,baz=29,slow=38						
PAYA	**Payao**	**20.78**	**2**	P	Pn	09 33 39.3	+0.8
	comp=Z,20nm,0.9s						
BKSI	**Bulukumba**	**21.12**	**101**	P	**P**	**09 33 42.8**	**+3.2**
	comp=Z,69nm,1.1s,comp=Z,714nm						
CMAI	**Chiengmai2**	**21.34**	**359**	P	**P**	**09 33 41.7**	**-0.5**
	comp=Z,61nm,1.4s,comp=Z,935nm						
SKSI	**Soroako, Sulaw**	**22.04**	**93**	P	P	09 33 57.4	+7.7
MRSI	**Marisa**	**22.73**	**85**	P	**P**	**09 33 57.7**	**+0.8**
	comp=Z,100nm,0.9s,comp=Z,2μm						
QIZ	**Qiongzhong**	**22.92**	**26**	P	**P**	**09 33 59.9**	**+1.0**
QIZ				sP	**sP**	**09 34 11.3**	**0.0**
QIZ				S	**S**	**09 38 07.1**	**+0.2**
QIZ				sS	**sS**	**09 38 22.3**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,13nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,100nm,4.6s						
QIZ				LR	LR		
	comp=N,810nm,11.9s						
QIZ				LR	LR		
	comp=Z,900nm,10.4s						
QIZ	**Qiongzhong**	**22.92**	**26**	*e*P	**P**	**09 33 58.1**	**-0.7**
	comp=Z,30nm,1.2s						
GTOI	**Gorontalo**	**23.81**	**85**	P	**P**	**09 34 07.0**	**-0.7**
	comp=Z,152nm,1.0s,comp=Z,2μm						
TGY	**Tagaytay City**	**26.48**	**53**	P	**P**	**09 34 29.6**	**-2.5**
TGY	**Tagaytay City**	**26.48**	**53**	P	**P**	**09 34 29.6**	**-2.5**
	comp=Z,158nm,0.3s,baz=231,slow=6.5,SNR=2.2						
KMI	**Kunming**	**26.72**	**7**	P	P	09 34 40.9	+6.6
KMI				pP	pP	09 34 47.1	+3.7
KMI				sP	sP	09 34 52.1	+4.9
KMI				PP	PnPn	09 35 24.0	+7.8
KMI				S	**S**	**09 39 09.4**	**+1.2**
KMI				sS	sS	09 39 26.9	+3.7
KMI				pmax	pmax		
	comp=Z,27nm,1.0s						
KMI				pmax	pmax		
	comp=Z,82nm,3.1s						
KMI				LR	LR		
	comp=N,390nm,18.0s						
KMI				LR	LR		
	comp=E,1μm,13.0s						
KMI				LR	LR		
	comp=Z,980nm,12.3s						
SHL	**Shillong**	**27.89**	**346**	*e*P	**P**	**09 34 43.0**	**-1.7**
	comp=Z,9.0nm,1.0s						
SHL				*e*S	S	09 39 40.0	+13
BOK	**Bokaro**	**28.36**	**333**	*e*P	**P**	**09 34 49.9**	**+1.2**
BOK				AMB	AMB	09 35 00.6	
	comp=Z,112nm,0.9s						
GYA	**Guiyang**	**28.73**	**14**	P	**P**	**09 34 55.3**	**+3.1**
GYA				pP	**pP**	**09 35 04.8**	**+3.5**
GYA				PP	**PnPn**	**09 35 48.0**	**+4.5**
GYA				PcP	**PcP**	**09 38 04.3**	**+2.1**
GYA				S	**S**	**09 39 41.6**	**+1.9**
GYA				sS	**sS**	**09 39 56.8**	**+2.0**
GYA				ScP	**ScP**	**09 41 41.8**	**+0.4**
GYA				ScS	**ScS**	**09 45 34.9**	**-0.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.6s						
GYA				LR	LR		
	comp=N,580nm,15.9s						
GYA				LR	LR		
	comp=E,530nm,16.0s						
GYA				LR	LR		
	comp=Z,570nm,15.8s						
ODAN	**Odare**	**30.49**	**339**	*e*P	**P**	**09 35 08.4**	**+0.6**
	comp=Z,152nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.65**	**124**	P	**P**	**09 35 07.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**30.65**	**124**	P	**P**	**09 35 07.6**	**-1.5**
	comp=Z,21nm,1.0s,baz=312,slow=5.1,SNR=12						
TAPN	**Taplejung**	**30.82**	**340**	*e*P	**P**	**09 35 11.8**	**+0.9**
	comp=Z,172nm,1.1s						
RAMN	**Ramite**	**30.86**	**338**	*e*P	**P**	**09 35 12.1**	**+0.9**
	comp=Z,169nm,1.4s						
JIRN	**Jiri**	**31.66**	**337**	*e*P	**P**	**09 35 19.2**	**+0.9**
	comp=Z,119nm,0.9s						
PKI	**Pulchoki**	**31.89**	**336**	*e*P	**P**	**09 35 20.5**	**+0.2**
	comp=Z,67nm,1.2s						
PKIN	**Phulchoki**	**31.89**	**336**	*e*P	**P**	**09 35 20.5**	**+0.2**
SWI	**Sorong**	**31.96**	**89**	P	**P**	**09 35 22.0**	**+1.2**
	comp=Z,62nm,1.1s,comp=Z,1μm						
GUN	**Gumba**	**32.00**	**337**	*e*P	**P**	**09 35 21.9**	**+0.6**
	comp=Z,131nm,0.9s						
LSA	**Lhasa**	**32.03**	**347**	P	**P**	**09 35 22.1**	**+0.4**
LSA	**Lhasa**	**32.03**	**347**	*e*P	**P**	**09 35 22.3**	**+0.6**
LSA	**Lhasa**	**32.03**	**347**	*e*P	**P**	**09 35 22.3**	**+0.6**
DMN	**Daman**	**32.04**	**336**	*e*P	**P**	**09 35 21.9**	**+0.3**
	comp=Z,57nm,0.9s						
KKN	**Kakani**	**32.13**	**336**	*e*P	**P**	**09 35 22.6**	**+0.3**
	comp=Z,88nm,1.0s						
CD2	**Chengdu**	**32.55**	**7**	*e*P	**P**	**09 35 28.4**	**+2.6**
CD2				pP	**pP**	**09 35 38.5**	**+3.6**
CD2				sP	**sP**	**09 35 42.6**	**+3.9**
CD2				PP	**PP**	**09 36 37.8**	**-2.0**
CD2				S	**S**	**09 40 39.1**	**-0.2**
CD2				sS	**sS**	**09 40 57.5**	**+3.1**
CD2				ScS	**ScS**	**09 45 52.3**	**-1.1**
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,870nm,12.0s						
CD2				LR	LR		
	comp=E,930nm,15.5s						
CD2				LR	LR		
	comp=Z,870nm,10.7s						
KOLN	**Koldanda**	**32.82**	**334**	*e*P	**P**	**09 35 29.0**	**+0.6**
	comp=Z,60nm,0.8s						
ENH	**Enshi**	**33.10**	**16**	*e*P	**P**	**09 35 28.5**	**-2.0**
	comp=Z,22nm,1.1s						
DANN	**Dangsing**	**33.26**	**334**	*e*P	**P**	**09 35 32.5**	**+0.2**
	comp=Z,174nm,1.2s						
RKPI	**Ransiki, Papua**	**34.87**	**90**	P	**P**	**09 35 48.1**	**+2.0**
	comp=Z,83nm,1.1s,comp=Z,6μm						
WHN	**Wuhan**	**34.98**	**23**	||P	P	09 35 52.9	+6.1
WHN				*e*S	S	09 41 26.4	+10
WHN				LR	LR		
	comp=N,1μm,9.6s						
WHN				LR	LR		
	comp=E,530nm,11.2s						
WHN				LR	LR		
	comp=Z,1μm,11.1s						
XAN	**Xi'an**	**36.53**	**13**	P	**P**	**09 35 57.3**	**-2.9**
XAN				pP	**pP**	**09 36 06.6**	**-2.8**
XAN				PP	**PnPn**	**09 37 20.9**	**-2.7**
XAN				S	S	09 41 31.3	-9.4
XAN				SS	**SnSn**	**09 44 03.8**	**-7.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,16nm,5.7s						
XAN				LR	LR		
	comp=N,490nm,10.7s						
XAN				LR	LR		
	comp=E,240nm,14.4s						
XAN				LR	LR		
	comp=Z,260nm,10.5s						
LZH	**Lanzhou**	**37.68**	**6**	*e*P	P	09 36 02.8	-7.2
LZH				pP	pP	09 36 13.3	-5.9
LZH				sP	sP	09 36 15.3	-7.7
LZH				PP	**PP**	**09 37 33.0**	**-3.4**
LZH				PcP	PcP	09 38 21.0	-6.0
LZH				S	S	09 41 51.0	-7.2
LZH				sS	**ScP**	**09 42 08.0**	**-4.4**
LZH				SS	SnSn	09 44 27.8	-11
LZH				pmax	pmax		
	comp=Z,47nm,1.5s						
LZH				pmax	pmax		
	comp=Z,140nm,4.2s						
LZH				LR	LR		
	comp=N,570nm,12.0s						
LZH				LR	LR		
	comp=E,1μm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,17.0s						
NJ2	**Nanjing**	**38.21**	**27**	*e*P	**P**	**09 36 16.8**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SMLA	**Simla**	**38.71**	**329**	*ex*	**P**	**09 36 17.9**	**-0.7**
SMLA				AMB	AMB	09 36 26.4	
	comp=Z,39nm,0.6s						
WRA	**Warramunga Arr**	**38.83**	**121**	P	**P**	**09 36 18.0**	**-1.7**
WRA				PcP	**PcP**	**09 38 30.8**	**0.0**
WRA	**Warramunga Arr**	**38.83**	**121**	P	**P**	**09 36 18.0**	**-1.7**
	comp=Z,13nm,0.8s,baz=301,slow=9.0,SNR=107						
WRA				PcP	**PcP**	**09 38 30.8**	**0.0**
	comp=Z,2.5nm,0.7s,baz=307,slow=2.4,SNR=6.2						
WRAB	**Tennant Creek**	**38.83**	**120**	P	**P**	**09 36 18.0**	**-1.8**
	comp=Z,158nm,0.6s,SNR=13						
WRAB	**Tennant Creek**	**38.83**	**120**	*e*P	**P**	**09 36 18.4**	**-1.4**
WRAB				*e*		09 38 31.3	
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**38.83**	**120**	*e*P	**P**	**09 36 18.4**	**-1.4**
	comp=Z,14nm,0.6s						
WRAB				*e*PcP	**PcP**	**09 38 31.3**	**+0.5**
FORT	**Forrest**	**39.84**	**140**	*e*P	**P**	**09 36 29.5**	**+1.5**
	comp=Z,32nm,0.7s						
DHRM	**DHARAMSHALA**	**40.05**	**329**	*ex*	**P**	**09 36 27.4**	**-2.6**
AS31	**Alice Springs**	**40.09**	**126**	*e*P	**P**	**09 36 29.2**	**-1.0**
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**09 36 29.4**	**-0.8**
ASAR				PcP	**PcP**	**09 38 35.1**	**+0.4**
ASAR				S	**S**	**09 42 33.4**	**-1.2**
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**09 36 29.4**	**-0.8**
	comp=Z,17nm,1.0s,baz=302,slow=7.8,SNR=62						
ASAR				PcP	**PcP**	**09 38 35.1**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=304,slow=2.5,SNR=5.5						
ASAR				S	**S**	**09 42 33.4**	**-1.2**
	comp=Z,5.1nm,1.1s,baz=301,slow=12,SNR=9.1						
GTA	**Gaotai**	**40.76**	**1**	P	**P**	**09 36 35.0**	**-0.7**
GTA				pP	**pP**	**09 36 45.0**	**0.0**
GTA				sP	**sP**	**09 36 49.0**	**+0.3**
GTA				PcP	**PcP**	**09 38 37.3**	**+0.7**
GTA				S	**S**	**09 42 43.4**	**-1.0**
GTA				pmax	pmax		
	comp=Z,15nm,1.8s						
GTA				pmax	pmax		
	comp=Z,120nm,5.7s						
GTA				LR	LR		
	comp=N,250nm,18.5s						
GTA				LR	LR		
	comp=E,650nm,16.1s						
GTA				LR	LR		
	comp=Z,280nm,20.0s						
HHC	**Hu-ho-hao-te**	**43.65**	**14**	*e*P	**P**	**09 37 00.8**	**+1.6**
HHC				pP	**pP**	**09 37 09.6**	**+1.1**
HHC				sP	**sP**	**09 37 13.8**	**+1.5**
HHC				PP	**PP**	**09 38 42.8**	**+1.6**
HHC				S	**S**	**09 43 28.6**	**+1.6**
HHC				sS	**sS**	**09 43 44.6**	**+2.2**
HHC				pmax	pmax		
	comp=Z,42nm,0.8s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
HHC				LR	LR		
	comp=N,1μm,12.6s						
HHC				LR	LR		
	comp=E,1μm,13.2s						
HHC				LR	LR		
	comp=Z,830nm,13.7s						
BJI	**Beijing**	**44.17**	**19**	P	**P**	**09 37 05.3**	**+2.1**
BJI				pmax	pmax		
	comp=Z,18nm,0.5s						
BJI				pmax	pmax		
	comp=Z,95nm,3.5s						
BJI				LR	LR		
	comp=N,260nm,18.4s						
BJI				LR	LR		
	comp=E,480nm,21.2s						
BJI				LR	LR		
	comp=Z,170nm,20.1s						
JNU	**Nakatsue**	**45.56**	**38**	*e*P	**P**	**09 37 13.3**	**-1.2**
JNU	**Nakatsue**	**45.56**	**38**	P	**P**	**09 37 12.8**	**-1.7**
	comp=Z,15nm,0.7s,baz=261,slow=6.4,SNR=16						
KSH	**Kashi**	**46.12**	**335**	P	**P**	**09 37 17.4**	**-1.5**
KSH				sP	**sP**	**09 37 31.4**	**-0.7**
KSH				PP	**PP**	**09 39 05.4**	**-2.2**
KSH				S	S	09 43 55.8	-7.2
KSH				SS	**ScS**	**09 47 12.8**	**+0.3**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,110nm,4.5s						
KSH				LR	LR		
	comp=N,590nm,11.7s						
KSH				LR	LR		
	comp=E,350nm,10.8s						
KSH				LR	LR		
	comp=Z,110nm,10.1s						
WMQ	**Urumqi**	**46.35**	**348**	P	**P**	**09 37 21.1**	**+0.6**
WMQ				sP	**sP**	**09 37 34.8**	**+1.1**
WMQ				PP	**PP**	**09 39 08.8**	**-1.0**
WMQ				S	**S**	**09 44 04.9**	**-1.0**
WMQ				sS	**sS**	**09 44 21.1**	**-0.3**
WMQ				ScS	**ScS**	**09 47 11.8**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,130nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,290nm,3.0s						
WMQ				LR	LR		
	comp=N,160nm,20.0s						
WMQ				LR	LR		
	comp=E,120nm,19.0s						
WMQ				LR	LR		
	comp=Z,130nm,21.0s						
KSAR	**Wonju Array Be**	**46.96**	**31**	P	**P**	**09 37 23.8**	**-1.6**
KSRS	**Korea Array**	**46.99**	**31**	P	**P**	**09 37 23.8**	**-1.8**
	comp=Z,5.8nm,0.7s,baz=225,slow=8.1,SNR=22						
KSRS				LR	LR	09 55 33.0	
	comp=Z,138nm,21.8s,baz=220,slow=34						
KZA	**Kyzart**	**48.57**	**336**	P	**P**	**09 37 38.8**	**+0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**49.14**	**337**	*e*P	**P**	**09 37 43.0**	**+0.6**
TKM2				*e**PP	**pP**	**09 37 50.4**	**-1.5**
TKM2				pmax	pmax		
	comp=Z,44nm,0.9s						
TKM2	**Tokmak 2**	**49.14**	**337**	P	**P**	**09 37 43.0**	**+0.6**
	SNR=19						
TKM2	**Tokmak 2**	**49.14**	**337**	*e*P	**P**	**09 37 43.0**	**+0.6**
	comp=Z,44nm,0.9s						
TKM2				*e*pP	**pP**	**09 37 50.4**	**-1.5**
KBK	**Karagaybulak**	**49.17**	**336**	P	**P**	**09 37 43.8**	**+1.2**
	SNR=7.6						
AML	**Almayashu**	**49.26**	**335**	P	**P**	**09 37 44.0**	**+0.5**
	SNR=8.0						
AAK	**Ala-Archa**	**49.34**	**336**	P	**P**	**09 37 44.1**	**+0.2**
	comp=Z,99nm,0.9s,SNR=5.5						
AAK	**Ala-Archa**	**49.34**	**336**	*c i*P	**P**	**09 37 44.6**	**+0.7**
AAK				pmax	pmax		
	comp=Z,82nm,2.5s						
AAK				MLR	MLR		
	comp=Z,1μm,24.0s						
AAK	**Ala-Archa**	**49.34**	**336**	*e*P	**P**	**09 37 44.7**	**+0.8**
AAK	**Ala-Archa**	**49.34**	**336**	P	**P**	**09 37 44.5**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=145,slow=9.4,SNR=17						
CTA	**Charters Tower**	**49.42**	**115**	P	**P**	**09 37 43.6**	**-1.1**
CTA	**Charters Tower**	**49.42**	**115**	P	**P**	**09 37 43.6**	**-1.1**
	comp=Z,9.4nm,0.9s,baz=321,slow=7.1,SNR=8.6						
CTAO	**Charters Tower**	**49.42**	**115**	*e*P	**P**	**09 37 43.8**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,42nm,1.5s						
CTAO	**Charters Tower**	**49.42**	**115**	*e*P	**P**	**09 37 43.8**	**-0.9**
	comp=Z,42nm,1.5s						
FRU	**Bishkek**	**49.46**	**336**	*e*P	**P**	**09 37 45.0**	**+0.4**
FRU				*e*		09 37 52.0	
FRU				pmax	pmax		
	comp=Z,60nm,1.8s						
CHMS	**Chumysh**	**49.54**	**336**	P	**P**	**09 37 45.6**	**+0.4**
	SNR=6.3						
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**09 37 45.1**	**-0.3**
SONM				PcP	**PcP**	**09 39 07.0**	**+0.1**
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**09 37 45.1**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=191,slow=9.2,SNR=13						
SONM				PcP	**PcP**	**09 39 07.0**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=190,slow=4.1,SNR=7.0						
SONM				LR	LR	10 01 21.4	
	comp=Z,270nm,19.3s,baz=28,slow=39						
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**09 37 47.1**	**+0.8**
EKS2				*e**PP	**pP**	**09 37 54.6**	**-1.1**
EKS2				*e*		09 39 03.8	
EKS2				pmax	pmax		
	comp=Z,35nm,0.9s						
EKS2	**Erkin-Say**	**49.66**	**335**	P	**P**	**09 37 47.1**	**+0.8**
	SNR=24						
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**09 37 47.1**	**+0.8**
	comp=Z,35nm,0.9s						
EKS2				*e*pP	**pP**	**09 37 54.6**	**-1.1**
EKS2				*e*PcP	**PcP**	**09 39 03.8**	**-3.5**
ULN	**Ulaanbaatar**	**49.67**	**7**	*e*P	**P**	**09 37 46.6**	**+0.3**
	comp=Z,21nm,1.1s						
ULN				*e*pP	**pP**	**09 37 53.0**	**-2.8**
ULN	**Ulaanbaatar**	**49.67**	**7**	P	**P**	**09 37 47.0**	**+0.7**
	comp=Z,18nm,1.3s						
USP	**Ospenovka**	**49.87**	**336**	P	**P**	**09 37 48.2**	**+0.5**
	SNR=15						
STKA	**Stephens Creek**	**49.97**	**132**	*e*P	**P**	**09 37 48.4**	**-0.3**
	comp=Z,17nm,1.8s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**09 37 48.5**	**-0.2**
	comp=Z,13nm,0.8s,baz=302,slow=8.0,SNR=35						
STKA				LR	LR	10 01 21.0	
	comp=

TLY MLR MLR
comp=Z,146nm,12.0s
TLY Talaya 53.16 3 P P 09 38 12.8 +0.6
comp=Z,65nm,0.9s,SNR=6.3
MDJ Mudanjiang 53.29 27 P P 09 38 14.0 +0.7
MDJ pP **pP** 09 38 23.1 +0.3
MDJ sP **sP** 09 38 27.0 +0.5
MDJ ScP **ScP** 09 43 16.9 +0.6
MDJ PcS **PcS** 09 43 20.5 +1.1
MDJ S **S** 09 45 43.3 +0.5
MDJ pmax pmax
comp=Z,7.0nm,1.4s
MDJ pmax pmax
comp=Z,12nm,2.9s
MDJ LR LR
comp=N,380nm,20.6s
MDJ LR LR
comp=E,480nm,21.3s
MDJ LR LR
comp=Z,250nm,25.1s
IRK Irkutsk 53.76 4 *e*P **P 09 38 16.4 -0.1**
IRK pmax pmax
comp=Z,33nm,2.0s
USRK Ussuriysk Arra 54.10 29 P **P 09 38 17.9 -1.2**
comp=Z,10nm,0.7s,baz=226,slow=7.1,SNR=18
USRK LR LR 10 03 53.6
comp=Z,219nm,18.6s,baz=116,slow=39
KURBB Kurchatov Arra 54.92 344 P **P 09 38 24.7 -0.3**
comp=Z,11nm,0.9s,baz=163,slow=7.0,SNR=39
KURBB S **S 09 46 07.5 +3.0**
comp=Z,0.3nm,0.3s,baz=132,slow=19,SNR=5.8
KURK Kurchatov 54.98 344 P **P 09 38 24.7 -0.7**
KURK S **S 09 46 07.5 +2.2**
KURK Kurchatov 54.98 344 P **P 09 38 24.7 -0.7**
KURK S **S 09 46 07.5 +2.2**
ZAA0 Zalesovo Array 56.60 350 *e*P **P 09 38 36.6 -0.4**
ZAA0 *e*pP **pP 09 38 43.8 -2.8**
ZALV Zalesovo Beam 56.60 350 P **P 09 38 36.6 -0.3**
ZALV S **S 09 46 27.5 +0.7**
ZALV Zalesovo Beam 56.60 350 P **P 09 38 36.6 -0.3**
ZALV S **S 09 46 27.5 +0.7**
ZALV Zalesovo Beam 56.60 350 P **P 09 38 36.6 -0.3**
comp=Z,19nm,0.6s,baz=157,slow=6.6,SNR=43
ZALV S **S 09 46 27.5 +0.7**
comp=Z,1.0nm,0.4s,baz=158,slow=13,SNR=7.1
CAN Canberra 57.03 132 *e*P **P 09 38 41.3 +0.7**
CAN pmax pmax
comp=Z,12nm,0.9s
CAN Canberra 57.03 132 *e*P **P 09 38 41.3 +0.7**
comp=Z,12nm,0.9s
KRAR Krasnoyarsk 57.61 356 *i* P **P 09 38 45.2 +1.1**
KRAR pmax pmax
comp=Z,189nm,2.0s
NVS Novosibirsk 57.74 349 *e*P **P 09 38 43.7 -1.3**
NVS *e*S S 09 46 35.7 -6.0
NVS pmax pmax
comp=Z,40nm,1.3s
NVS pmax pmax
comp=N,25nm,1.5s
NVS pmax pmax
comp=E,15nm,1.5s
NVS smax smax
comp=N,23nm,1.8s
NVS smax smax
comp=E,16nm,1.6s
KLR Kul'dur 57.81 25 *e*P P 09 38 40.9 -4.7
RAYN Ar Rayn 57.90 299 *e*P **P 09 38 47.5 +0.6**
comp=E,24nm,1.4s
RDF Al-Radifah 58.02 306 *e*P **P 09 38 47.4 -0.1**
RDF AMb AMB 09 38 57.1
comp=Z,117nm,1.2s
UMR Umm Al-Rimmam 58.12 306 *e*P **P 09 38 47.4 -0.8**
UMR AMb AMB 09 38 57.5
comp=Z,65nm,1.4s
NAY Al-Naaiem 58.39 306 *e*P **P 09 38 49.6 -0.5**
NAY AMb AMB 09 38 59.8
comp=Z,1.9nm,1.2s
MIB Mutribah 58.52 307 *e*P **P 09 38 50.5 -0.5**
MIB AMb AMB 09 39 00.4
comp=Z,105nm,1.0s
RST Umm Al-Ruwaisa 58.68 306 *e*P **P 09 38 51.1 -1.0**
RST AMb AMB 09 38 53.0
comp=Z,182nm,1.1s
VOSK Vostochnaya 59.07 340 P **P 09 38 53.1 -1.3**
VOSK pmax pmax
comp=Z,17nm,0.9s
BVA0 Borovoye Array 59.52 340 P **P 09 38 56.3 -1.2**
BVA0 pmax pmax
comp=Z,16nm,0.9s
BVAR Borovoye Array 59.52 340 P **P 09 38 56.5 -1.0**
BVAR Borovoye Array 59.52 340 P **P 09 38 56.5 -1.0**
BVAR Borovoye Array 59.52 340 P **P 09 38 56.5 -1.0**
comp=Z,5.2nm,0.6s,baz=147,slow=8.3,SNR=25
BVAR LR LR 10 07 28.0
comp=Z,184nm,20.1s,baz=279,slow=39
BRVK Borovoye 59.58 340*c i*P **P 09 38 56.9 -1.0**
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK MLR MLR
comp=Z,237nm,23.0s
BRVK Borovoye 59.58 340 *e*P **P 09 38 56.9 -1.0**
comp=Z,14nm,0.9s
BRVK *e*pP **pP 09 39 06.9 -0.7**
ASAJ Asahikawa 59.64 35 P **P 09 38 56.8 -1.7**
ASAJ Asahikawa 59.64 35 P **P 09 38 56.8 -1.7**
comp=Z,2.2nm,0.4s,baz=270,slow=6.1,SNR=3.4
AB31 Akbulak array 60.91 332 *i* P **P 09 39 06.2 -0.9**
AB31 pmax pmax
comp=Z,30nm,1.0s
ABKAR Akbulak array 60.91 332 *e*P **P 09 39 06.2 -0.9**
comp=Z,7.2nm,0.7s
YSS Yuzh-Sakhalins 61.47 32 *e*P **P 09 39 10.9 0.0**
YSS *e* 09 39 17.9
YSS *e* 09 51 30.0
YSS pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 62.03 270 *e*P **P 09 39 17.4 +1.9**
comp=Z,31nm,1.5s
KMBO *e*pP **pP 09 39 25.1 -0.3**
KMBO Kilima Mbogo 62.03 270 P **P 09 39 17.6 +1.9**
comp=Z,5.3nm,0.8s,baz=58,slow=12,SNR=14
KMBO LR LR 10 00 25.0
comp=Z,203nm,19.7s,baz=94,slow=30
AKTO Aktyubinsk 62.63 332 P **P 09 39 17.5 -1.1**
AKTO pmax pmax
comp=Z,30nm,1.5s
AKTO Aktyubinsk 62.63 332 P **P 09 39 17.5 -1.1**
AKTO Aktyubinsk 62.63 332 P **P 09 39 17.5 -1.1**
comp=Z,4.7nm,0.7s,baz=124,slow=6.5,SNR=16
GNI Garni 64.72 316 *e*P **P 09 39 33.1 +0.3**
GNI *e*pP **pP 09 39 41.4 -1.1**
GNI Garni 64.72 316 P **P 09 39 33.1 +0.3**
comp=Z,2.1nm,0.3s,baz=108,slow=6.4,SNR=5.9
DGRG David-gareji 64.86 318 P **P 09 39 34.5 +0.9**
TBLG Delisi 65.41 318 P **P 09 39 37.5 +0.4**
TBLG Delisi 65.41 318 P **P 09 39 37.5 +0.4**
DUS Dusheti 65.60 318 P **P 09 39 39.1 +0.7**
SVE Sverdlovsk 66.00 338⇓*e*P **P 09 39 39.9 -0.7**
SVE pmax pmax
comp=Z,40nm,1.1s
AKH Akhalkalaki 66.11 317 P **P 09 39 41.3 -0.5**
ZEI Tsey 66.43 319 *e*P **P 09 39 43.2 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,0.5s
ARU Arti 66.51 337*c i*P **P 09 39 42.8 -1.1**
ARU S **S 09 48 33.1 +0.7**
ARU pmax pmax
comp=Z,33nm,1.7s
ONI Oni 66.65 318 P **P 09 39 45.3 +0.2**
YAK Yakutsk 67.48 15 *e*P **P 09 39 47.4 -2.5**
YAK *e**PP **pP 09 39 54.7 -5.0**
YAK *e* 09 40 17.3
YAK *e*S S 09 48 35.2 -8.7
YAK *e* 09 49 41.7
YAK *e*SSS SSS 09 55 55.0
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,32nm,2.0s
YAK smax smax
comp=N,61nm,3.3s
YAK smax smax
comp=E,30nm,2.8s
YAK MLR MLR
comp=Z,287nm,18.0s
YAK MLR MLR
comp=E,114nm,18.0s
YAK MLR MLR
comp=N,101nm,16.0s
KBZ Khabaz 67.51 319 P **P 09 39 50.6 +0.2**
KBZ Khabaz 67.51 319 P **P 09 39 50.6 +0.2**
KBZ Khabaz 67.51 319 P **P 09 39 50.6 +0.2**
comp=N,12nm,1.0s,baz=122,slow=5.2,SNR=16
KIV Kislovodsk 67.74 319 *e*P **P 09 39 52.4 +0.3**
KIV *e*S **S 09 48 48.1 +0.2**
KIV *e*SS **SS 09 53 11.0 +1.3**
KIV pmax pmax
comp=Z,39nm,1.0s
ASF Jabal al Asfar 67.76 306 P **P 09 39 53.1 +0.7**
ASF Jabal al Asfar 67.76 306 P **P 09 39 53.1 +0.7**
comp=Z,4.3nm,0.8s,baz=68,slow=1.8,SNR=8.6
ASF LR LR 10 08 50.7
comp=Z,174nm,20.1s,baz=173,slow=35
DZM Mont Dzumac 68.28 113 P **P 09 39 55.3 -0.6**
DZM Mont Dzumac 68.28 113 P **P 09 39 55.3 -0.6**
comp=Z,6.2nm,1.0s,baz=232,slow=13,SNR=6.5
EIL Elat 68.69 303 P **P 09 39 59.0 +0.8**
EIL Elat 68.69 303 P **P 09 39 59.0 +0.8**
comp=Z,9.5nm,0.7s,baz=103,slow=6.2,SNR=11
EIL LR LR 10 08 21.7
comp=Z,253nm,20.1s,baz=95,slow=34
MMAI Mount Meron Ar 69.20 306 P **P 09 40 02.2 +0.8**
MMAI Mount Meron Ar 69.20 306 P **P 09 40 02.2 +0.8**
comp=Z,8.4nm,0.8s,baz=102,slow=7.8,SNR=6.8
SOKR Solikamsk 69.39 338*c i*P **P 09 40 01.6 -0.2**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOC Sochi 69.55 318 *e*P **P 09 40 01.5 -1.7**
SOC *e**PP **pP 09 40 08.1 -4.9**
SOC *e* 09 40 22.6
SOC *e* 09 42 45.0
SOC *e*S **S 09 49 05.9 -3.3**
SOC *e* 09 49 54.4
SOC pmax pmax
comp=Z,12nm,0.6s
MAW Mawson 70.55 194 *e*P **P 09 40 10.8 +2.0**
MAW Mawson 70.55 194 P **P 09 40 10.0 +1.1**
comp=Z,3.7nm,0.8s,baz=20,slow=6.4,SNR=9.0
MAW LR LR 10 04 45.5
comp=Z,162nm,18.9s,baz=213,slow=30
LSZ Lusaka 71.38 254 *e*P **P 09 40 15.7 +0.6**
comp=Z,35nm,1.7s
CSS Prodhromos 71.39 308 *e*P **P 09 40 15.4 +0.7**
comp=Z,42nm,1.2s
CSS *e*pP **pP 09 40 23.1 -1.4**
VRHR Novokhopersk 71.56 326 *e*P **P 09 40 14.1 -1.2**
VRHR *e*S **S 09 49 30.2 -2.1**
VRHR pmax pmax
comp=Z,40nm,1.5s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR smax smax
comp=N,110nm,3.7s
VRHR smax smax
comp=Z,120nm,3.7s
VRHR smax smax
comp=E,10.0nm,0.6s
VRHR MLR MLR
comp=N,310nm,25.0s
VRHR MLR MLR
comp=E,1μm,25.0s
VRHR MLR MLR
comp=Z,240nm,25.0s
BR131 Keskin Array S 72.50 313 *e*P **P 09 40 20.7 -0.8**
comp=Z,3.7nm,0.8s
VORD Divnogorie 72.83 325 *e*P **P 09 40 21.6 -1.3**
VORD pmax pmax
comp=N,10.0nm,1.5s
VORD pmax pmax
comp=Z,30nm,1.5s
VORD pmax pmax
comp=E,10.0nm,0.7s
PETK Petropavlovsk- 72.88 33 P **P 09 40 22.2 -1.0**
PETK Petropavlovsk- 72.88 33 P **P 09 40 22.2 -1.0**
PETK Petropavlovsk- 72.88 33 P **P 09 40 22.2 -1.0**
comp=E,1.7nm,0.6s,baz=195,slow=5.0,SNR=5.5
PETK LR LR 10 13 14.8
comp=E,68nm,19.0s,baz=250,slow=37
VSR Storozhevoye 73.01 325 *e*P **P 09 40 22.5 -1.5**
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,40nm,1.4s
VSR pmax pmax
comp=Z,30nm,1.4s
PET Petropavlovsk 73.35 33 *e*P **P 09 40 25.5 -0.5**
PET *e*S **S 09 49 51.5 -1.2**
PET MLR MLR
comp=Z,200nm,19.0s
BOSA Boshof 75.26 241 P **P 09 40 38.9 +1.0**
BOSA Boshof 75.26 241 P **P 09 40 38.9 +1.0**
comp=Z,4.9nm,0.8s,baz=116,slow=4.7,SNR=4.2
BOSA LR LR 10 05 33.9
comp=Z,328nm,21.4s,baz=166,slow=29
TIXI Tiksi 75.52 9*d i*P **P 09 40 37.2 -1.0**
TIXI MLR MLR
comp=Z,254nm,23.0s
MOS Moscow 75.75 329 *e*P **P 09 40 38.8 -1.0**
MOS *e* 09 40 46.3
MOS *e* 09 50 11.9
MOS pmax pmax
comp=Z,73nm,1.2s
OBN Obninsk 76.04 328⇓*e*P **P 09 40 41.6 +0.1**
OBN *e* 09 43 36.1
OBN pmax pmax
comp=Z,71nm,1.7s
TIRR Tirgusor 77.54 316 *e*P **P 09 40 49.5 -0.7**
TIRR pmax pmax
comp=Z,19nm,1.1s
TIRR Tirgusor 77.54 316 *e*P **P 09 40 49.5 -0.7**
comp=Z,19nm,1.1s
KIS Kishinev 77.93 319 *e*P **P 09 40 51.0 -1.3**
KIS Kishinev 77.93 319 *e*P **P 09 40 51.0 -1.3**
KIS *i* 09 40 58.5
SYO Syowa Base 78.07 199⇑*e*P **P 09 40 53.4 +0.8**
SYO Syowa Base 78.07 199⇑*e*X pP 09 41 01.0 -1.6
AKASG Malin Array Be 78.70 322 P **P 09 40 55.1 -1.4**
AKASG Malin Array Be 78.70 322 P **P 09 40 55.1 -1.4**
AKASG Malin Array Be 78.70 322 P **P 09 40 55.1 -1.4**
comp=Z,1.5nm,0.6s,baz=104,slow=4.0,SNR=8.3
KIEV Kiev 78.71 322 *e*P **P 09 40 55.4 -1.1**
KIEV pmax pmax
comp=Z,24nm,1.5s
KIEV Kiev 78.71 322 *e*P **P 09 40 55.4 -1.1**
comp=Z,24nm,1.5s
VRI Vrincioaia 79.04 317 ⇑P **P 09 40 59.1 +0.6**
VRI Vrincioaia 79.04 317 ⇑*i*P **P 09 40 59.1 +0.6**
PLOR Plostina 79.09 317 ⇑P **P 09 41 00.0 +1.2**
PLOR Plostina 79.09 317 ⇑*i*P **P 09 41 00.0 +1.2**
TESR Tescani 79.25 318 ⇓*i*P **P 09 41 00.2 +0.6**
TMCR Tamitsa 79.25 337 *e*P **P 09 40 59.7 +0.5**
TMCR *e* 09 41 05.8
TMCR pmax pmax
comp=Z,10.0nm,0.4s
MLR Muntele Rosu 79.49 317 ⇓*i*P **P 09 41 01.4 +0.3**
VOIR 80.09 317 ⇓P **P 09 41 03.6 -0.7**
VOIR 80.09 317 ⇓*i*P **P 09 41 03.6 -0.7**
BURAR Bucovina Array 80.46 319 ⇑P **P 09 41 07.2 +0.9**
BURAR Bucovina Array 80.46 319 ⇑*i*P **P 09 41 07.2 +0.9**
MICGM Minsk 80.56 326 *e* P 09 41 02.0 -4.5
MNK Minsk 80.58 326 *e*P P 09 41 02.0 -4.6
VTS Vitosha 80.83 313 ⇑P **P 09 41 08.1 -0.3**
VTS Vitosha 80.83 313 ⇑*i*P **P 09 41 08.1 -0.3**
DRGR 81.96 318 ⇑P **P 09 41 15.6 +1.4**
DRGR 81.96 318 ⇑*i*P **P 09 41 15.6 +1.4**
APA Apatity 82.42 339⇑*e*P **P 09 41 14.2 -1.9**
APA MLR MLR
comp=Z,700nm,22.0s
UZH Uzhgorod 82.58 319 *e*P **P 09 41 17.2 -0.1**
KOLS Kolonicke sedl 82.65 320 *e*P **P 09 41 18.7 +1.0**
KOLS *e* 09 41 24.2
KOLS pmax pmax
comp=Z,31nm,1.1s
KOLS Kolonicke sedl 82.65 320 *e*P **P 09 41 18.7 +1.0**
KOLS *e*pP **PcP 09 41 24.2 +1.5**
VNDA Vanda 82.74 169 *e*P **P 09 41 18.7 +1.1**
VNDA Vanda 82.74 169 P **P 09 41 18.5 +0.9**
comp=Z,2.1nm,0.8s,baz=295,slow=5.9,SNR=9.7
SUW Suwalki 83.11 325 *e*P **P 09 41 20.3 +0.3**
SUW pmax pmax
comp=Z,129nm,1.2s
SUW Suwalki 83.11 325 *e*P **P 09 41 20.3 +0.3**
comp=Z,129nm,1.2s
SUW Suwalki 83.11 325 *e*P **P 09 41 19.7 -0.3**
SUW *e* 09 41 27.3
CRVS Cervenica-Dubn 83.17 319 *e*P **P 09 41 22.6 +2.1**
CRVS *e* 09 41 30.6
CRVS pmax pmax
comp=Z,11nm,1.2s
CRVS Cervenica-Dubn 83.17 319 *e*P **P 09 41 22.6 +2.1**
CRVS *e*pP **pP 09 41 30.5 0.0**
FIA1 FINESS Array S 83.39 332 *e*P **P 09 41 21.6 +0.4**
FINES FINESS Array B 83.39 332 P **P 09 41 21.3 +0.1**
FINES FINESS Array B 83.39 332 P **P 09 41 21.3 +0.1**
comp=Z,6.4nm,0.7s,baz=106,slow=5.9,SNR=37
FINES LR LR 10 26 47.4
comp=Z,96nm,19.6s,baz=119,slow=42
STHS Stebnicka Huta 83.41 320 *e*P **P 09 41 23.1 +1.5**
STHS *e* 09 41 28.8
STHS pmax pmax
comp=Z,15nm,1.2s
STHS Stebnicka Huta 83.41 320 *e*P **P 09 41 23.1 +1.5**
STHS *e*pP **PcP 09 41 28.8 +2.8**
KAF Kangasniemi 83.46 333 *e*P **P 09 41 21.3 -0.3**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 83.46 333 *e*p **P 09 41 21.3 -0.3**
comp=Z,2.3nm,0.4s
KECS Kecovo 83.74 319 *e*P **P 09 41 23.6 +0.2**
KECS *e* 09 41 29.0
KECS pmax pmax
comp=Z,9.0nm,1.4s
KECS Kecovo 83.74 319 *e*P **P 09 41 23.6 +0.2**
KECS *e*pP **PcP 09 41 29.0 +1.6**
SBA Scott Base 83.84 169 *e*P **P 09 41 25.3 +2.0**
SBA pmax pmax
comp=Z,33nm,1.7s
SBA Scott Base 83.84 169 *e*P **P 09 41 25.3 +2.0**
comp=Z,33nm,1.7s
PSZ Piszkesteto 84.04 318 *e*P **P 09 41 25.1 +0.1**
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 84.04 318 *e*P **P 09 41 25.1 +0.1**
comp=Z,16nm,1.1s
VYHS Vyhne 84.83 319 *e*P **P 09 41 29.1 +0.2**
VYHS *e* 09 41 34.7
VYHS pmax pmax
comp=Z,15nm,1.6s
VYHS Vyhne 84.83 319 *e*P **P 09 41 29.1 +0.2**
VYHS *e*pP **PcP 09 41 34.7 +2.5**
CEL Celeste 85.76 308 *e*P **P 09 41 34.2 +0.3**
comp=Z,46nm,1.2s
CEL *e*pP **pP 09 41 43.2 -0.7**
ARCES ARCESS Array B 85.81 340 P **P 09 41 33.4 +0.1**
ARCES ARCESS Array B 85.81 340 P **P 09 41 33.4 +0.1**
comp=Z,6.9nm,0.9s,baz=55,slow=6.4,SNR=7.4
ARCES LR LR 10 23 12.5
comp=Z,145nm,18.4s,baz=96,slow=38
MORC Moravsky Berou 85.84 320 *e*P **P 09 41 34.4 +0.4**
MORC pmax pmax
comp=Z,25nm,1.5s
MORC Moravsky Berou 85.84 320 *e*P **P 09 41 34.4 +0.4**
comp=Z,25nm,1.5s
ZST Bratislava 85.93 318 *e*P P 09 41 41.8 +7.4
ZST Bratislava 85.93 318 *e*pP P 09 41 41.8 +7.4
DPC Dobruska-Polom 86.69 320 *e*P **P 09 41 39.2 +1.1**
DPC *e* 09 41 44.6
DPC Dobruska-Polom 86.69 320 *e*P **P 09 41 39.2 +1.1**
DPC *e*pP **pP 09 41 44.6 -3.6**
DPC Dobruska-Polom 86.69 320 *e*P **P 09 41 38.8 +0.7**
comp=Z,158nm,1.4s
CSNA Conrad Observa 86.73 318⇑*i*P **P 09 41 38.3 -0.1**
comp=Z,8.0nm,1.3s
KSP Ksiaz 86.76 321 *e*P **P 09 41 39.2 +0.8**
KSP *e* 09 41 45.4
KSP Ksiaz 86.76 321 *e*P **P 09 41 39.1 +0.7**
UPC Upice 86.90 321 *e*P **P 09 41 39.7 +0.6**
UPC Upice 86.90 321 *e*P **P 09 41 39.7 +0.6**
BOJS Bojanci 86.91 316 *i* P **P 09 41 39.6 +0.4**
PERS Pernice 87.11 317 *i* P **P 09 41 40.6 +0.3**
SOKA Soboth 87.17 317 *i* P **P 09 41 41.0 +0.4**
comp=Z,20nm,1.3s,SNR=8.5
VISS Visnje 87.23 316 *i* P **P 09 41 41.1 +0.3**
LJU Ljubljana 87.47 316 *e*P **P 09 41 42.0 +0.1**
JAVS Javornik 87.78 316 *i* P **P 09 41 43.3 -0.3**
PRU Pruhonice 87.79 320 *e*P **P 09 41 44.0 +0.6**
PRU *e* 09 41 49.1
PRU Pruhonice 87.79 320 *e*P **P 09 41 44.0 +0.6**
PRU *e*pP **PcP 09 41 49.1 +3.8**
AQU L'Aquila 87.99 312 *e*P **P 09 41 45.6 +1.0**
comp=Z,138nm,1.5s
AQU *e*pP **pP 09 41 53.6 -1.1**
MYKA Terra Mystica 88.12 317⇑*i*P **P 09 41 45.3 +0.2**
comp=Z,11nm,1.4s,SNR=6.3
GEC2 GERESS Array S 88.25 319 *e*P **P 09 41 46.6 +0.9**
GEC2 GERESS Array S 88.25 319 *e*P **P 09 41 46.6 +0.9**
GERES GERESS Array B 88.25 319 P **P 09 41 46.2 +0.4**
GERES GERESS Array B 88.25 319 P **P 09 41 46.2 +0.4**
comp=Z,2.3nm,0.7s,baz=97,slow=4.3,SNR=25
GERES LR LR 10 27 29.7
comp=Z,73nm,21.5s,baz=297,slow=40
BRG Berggiesshubel 88.25 321 *i* P **P 09 41 46.2 +0.6**
comp=Z,16nm,1.4s
BRG *e* 09 41 54.1
comp=Z,24nm,1.3s
BRG Berggiesshubel 88.25 321 *i* P **P 09 41 46.2 +0.6**
BRG *e* 09 41 54.2
BRG pmax pmax
comp=Z,16nm,1.4s
BRG pmax pmax
comp=Z,24nm,1.3s
KHC Kasperske Hory 88.35 319 *e*P **P 09 41 46.7 +0.6**
KHC *e* 09 41 54.0
KHC Kasperske Hory 88.35 319 *e*P **P 09 41 46.7 +0.6**
KHC *e*pP **pP 09 41 54.0 -2.2**
QSPA South Pole Qui 88.42 180 *e*P **P 09 41 47.5 +1.4**
comp=Z,22nm,1.4s
CLL Collm 88.87 321 *i* P **P 09 41 49.0 +0.5**
CLL *i* 09 41 56.2
CLL pmax pmax
comp=Z,15nm,1.3s
CLL Collm 88.87 321 *i* P **P 09 41 49.0 +0.5**
comp=Z,15nm,1.3s
CLL *i* pP **pP 09 41 56.2 -2.3**
comp=Z,29nm,1.5s
WTTA Wattenberg 89.53 317⇑*i*P **P 09 41 51.6 -0.4**
comp=Z,13nm,1.1s
MOTA Moosalm 89.90 317⇑*i*P **P 09 41 53.4 -0.2**
comp=Z,12nm,1.0s
FETA Feichten 90.14 317⇑*i*P **P 09 41 54.9 +0.2**
comp=Z,12nm,1.3s,SNR=5.6
NOA NORSAR Array B 90.41 331 P **P 09 41 55.5 0.0**
NOA NORSAR Array B 90.41 331 P **P 09 41 55.5 0.0**
comp=Z,1.9nm,1.0s,baz=95,slow=4.5,SNR=2.7
NOA LR LR 10 27 14.7
comp=Z,72nm,21.9s,baz=80,slow=39
FUORN Ofenpass-Fuorn 90.45 316 *e*P **P 09 41 57.5 +1.2**
comp=Z,47nm,1.4s
DAVA Damuels 90.73 317 *i* PcP **PcP 09 41 58.1 -0.4**
comp=Z,26nm,1.1s,SNR=6.5
KEST Kesra 90.85 306 P **P 09 41 59.1 +0.9**
KEST Kesra 90.85 306 P **P 09 41 59.1 +0.9**
comp=Z,3.7nm,0.9s,baz=65,slow=3.8,SNR=7.6
VSL Villasalto 90.91 309 *e*P **P 09 41 58.8 +0.5**
comp=Z,25nm,1.2s
VSL *e*pP **pP 09 42 07.0 -1.4**
BFO Black Forest 91.79 318 *e*P **P 09 42 02.7 +0.5**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 91.79 318 *e*P **P 09 42 02.7 +0.5**
comp=Z,8.9nm,1.0s
SENIN Lac Senin/Sane 92.49 316 *e*P **P 09 42 08.2 +2.5**
comp=Z,24nm,1.6s
ECH Echery 92.57 318 *e*P **P 09 42 05.9 +0.1**
ECH *e**PP **pP 09 42 13.7 -2.2**
ECH pmax pmax
comp=Z,3.0nm,0.9s
ECH Echery 92.57 318 *e*P **P 09 42 05.9 +0.1**
comp=Z,3.2nm,0.9s

ECH				*e*pP	**pP**	09 42 13.7	-2.2
BNI	**Bardonecchia**	**92.94**	**315**	*e*P	**P**	09 42 08.5	+0.7
BNI				*e**PP	**pP**	09 42 19.1	+1.3
BNI				pmax	pmax		
comp=Z,6.0nm,1.0s							
BNI	**Bardonecchia**	**92.94**	**315**	*e*P	**P**	09 42 08.5	+0.7
comp=Z,5.6nm,1.0s							
BNI				*e*pP	**pP**	09 42 19.1	+1.3
TORD	**Torodi Ar. Bea**	**97.75**	**283**	LR	LR	10 26 19.3	
comp=Z,102nm,18.7s,baz=140,slow=35							
ILAR	**Eielson Array**	**101.37**	**24**	PP	PP	09 46 52.7	-1.9
ILAR				PKKPbc	**PKKPbc**	09 58 54.4	-2.3
ILAR	**Eielson Array**	**101.37**	**24**	PP	PP	09 46 52.7	-1.9
comp=Z,0.5nm,0.9s,baz=279,slow=7.2,SNR=3.8							
ILAR				PKKPbc	**PKKPbc**	09 58 54.4	-2.3
comp=Z,0.5nm,0.7s,baz=109,slow=1.4,SNR=5.7							
EDM	**Edmonton**	**121.84**	**22**	*e*PKIKP	**PKPdf**	09 47 48.0	-0.4
EDM	**Edmonton**	**121.84**	**22**	*e*PKPdf	**PKPdf**	09 47 48.0	-0.4
BSMT	**Bassoo Peak**	**125.27**	**28**	*e*PKPdf	**PKPdf**	09 47 55.7	+0.4
SCHQ	**Schefferville**	**125.69**	**350**	PKP	**PKPdf**	09 47 55.2	-0.5
SCHQ	**Schefferville**	**125.69**	**350**	PKP	**PKPdf**	09 47 55.2	-0.5
comp=Z,1.7nm,0.6s,baz=77,slow=16,SNR=4.8							
SWMT	**Swartz Lake**	**125.88**	**27**	*e*PKPdf	**PKPdf**	09 47 56.1	-0.3
SLMT	**Seeley Lake**	**126.31**	**27**	*e*PKPdf	**PKPdf**	09 47 57.4	+0.1
MSO	**Missoula**	**126.41**	**28**	*e*PKPdf	**PKPdf**	09 47 57.1	-0.3
CHMT	**Chamberlain Mo**	**126.67**	**27**	*e*PKPdf	**PKPdf**	09 47 58.3	+0.2
WVOR	**Wild Horse Val**	**126.99**	**35**	*e*PKIKP	**PKPdf**	09 47 59.9	+1.2
WVOR	**Wild Horse Val**	**126.99**	**35**	*e*PKPdf	**PKPdf**	09 47 59.9	+1.2
EGMT	**Eagleton**	**127.33**	**24**	*e*PKPdf	**PKPdf**	09 47 59.5	+0.4
EGMT				*e*pPKPdf	**pPKPdf**	09 48 09.4	-0.1
HRY	**Holter Researc**	**127.46**	**27**	*e*PKPdf	**PKPdf**	09 47 59.9	+0.4
HRY				*e*pPKPdf	**pPKPdf**	09 48 08.7	-1.2
MCMT	**McKenzie Canyo**	**128.40**	**29**	*e*PKPdf	**PKPdf**	09 48 02.7	+1.2
MCMT				*e*pPKPdf	**pPKPdf**	09 48 10.9	-1.0
HLID	**Hailey**	**128.53**	**31**	*e*PKPdf	**PKPdf**	09 48 02.8	+1.1
QLMT	**Earthquake Lak**	**129.07**	**28**	*e*PKPdf	**PKPdf**	09 48 04.5	+1.7
QLMT				*e*pPKPdf	**pPKPdf**	09 48 12.6	-0.5
YMR	**Madison River**	**129.41**	**28**	*e*PKPdf	**PKPdf**	09 48 05.0	+1.6
YMR				*e*pPKPdf	**pPKPdf**	09 48 13.3	-0.4
NVAR	**Mina Array Bea**	**129.69**	**39**	PKP	**PKPdf**	09 48 03.4	-0.7
NVAR	**Mina Array Bea**	**129.69**	**39**	PKP	**PKPdf**	09 48 03.4	-0.7
comp=Z,0.8nm,0.6s,baz=268,slow=3.4,SNR=9.2							
LKWY	**Lake**	**129.75**	**27**	*e*PKIKP	**PKPdf**	09 48 07.0	+2.9
LKWY	**Lake**	**129.75**	**27**	*e*PKPdf	**PKPdf**	09 48 07.0	+2.9
MOOW	**Moose Ponds**	**130.21**	**28**	*e*PKPdf	**PKPdf**	09 48 06.2	+1.3
RRI2	**Red Ridge**	**130.23**	**29**	*e*PKPdf	**PKPdf**	09 48 06.4	+1.3
TPAW	**Teton Pass**	**130.30**	**29**	*e*PKPdf	**PKPdf**	09 48 06.3	+1.1
LOHW	**Long Hollow**	**130.38**	**28**	*e*PKPdf	**PKPdf**	09 48 06.5	+1.3
LOHW				*e*pPKPdf	**pPKPdf**	09 48 13.9	-1.8
SNOW	**Snow King Moun**	**130.42**	**29**	*e*PKPdf	**PKPdf**	09 48 06.8	+1.4
SNOW				*e*pPKPdf	**pPKPdf**	09 48 14.9	-0.8
REDW	**Red Top Meadow**	**130.45**	**29**	*e*PKPdf	**PKPdf**	09 48 06.0	+0.5
MDND	**Maddock**	**131.06**	**17**	*e*PKPdf	**PKPdf**	09 48 06.9	+0.8
R11A	**Troy Canyon, C**	**131.40**	**37**	*e*PKPdf	**PKPdf**	09 48 09.3	+2.0
PDAR	**Pinedale Array**	**131.52**	**28**	PKP	**PKPdf**	09 48 07.1	-0.4
PDAR	**Pinedale Array**	**131.52**	**28**	PKP	**PKPdf**	09 48 07.1	-0.4
comp=Z,0.8nm,0.6s,baz=155,slow=1.1,SNR=9.1							
DUG	**Dugway**	**131.74**	**33**	*e*PKIKP	**PKPdf**	09 48 09.7	+1.8
DUG				*e*		09 48 17.6	
DUG	**Dugway**	**131.74**	**33**	*e*PKPdf	**PKPdf**	09 48 09.7	+1.8
DUG				*e*pPKPdf	**pPKPdf**	09 48 17.6	-0.6
NLU	**North Lily Min**	**132.31**	**33**	*e*PKPdf	**PKPdf**	09 48 11.1	+2.0
DAU	**Daniels Canyon**	**132.42**	**32**	*e*PKIKP	**PKPdf**	09 48 10.0	+0.7
DAU				*e*		09 48 19.1	
DAU	**Daniels Canyon**	**132.42**	**32**	*e*PKPdf	**PKPdf**	09 48 10.0	+0.7
DAU				*e*pPKPdf	**pPKPdf**	09 48 19.1	-0.6
SRU	**San Rafael**	**133.75**	**32**	*e*PKIKP	**PKPdf**	09 48 12.0	+0.2
SRU	**San Rafael**	**133.75**	**32**	*e*PKPdf	**PKPdf**	09 48 12.0	+0.2
O20A	**White River Ci**	**134.16**	**30**	*e*PKPdf	**PKPdf**	09 48 13.8	+1.3
O20A				*e*pPKPdf	**pPKPdf**	09 48 23.9	+1.1
PV01	**Paradox Valley**	**135.51**	**32**	*e*PKPdf	**PKPdf**	09 48 16.0	+0.9
ECSD	**EROS Data Cent**	**135.67**	**17**	*e*PKPdf	**PKPdf**	09 48 15.7	+0.7
WUAZ	**Wupatki**	**135.80**	**37**	*e*PKPdf	**PKPdf**	09 48 13.6	-2.1
MVCO	**Mesa Verde**	**136.23**	**33**	*e*PKPdf	**PKPdf**	09 48 17.2	+0.7
MVCO				*e*pPKPdf	**pPKPdf**	09 48 27.0	+0.1
ANMO	**Albuquerque**	**139.01**	**33**	*e*PKPdf	PKPdf	09 48 14.9	-6.8
LAZ	**Ladron**	**139.04**	**34**	*e*PKPdf	**PKPdf**	09 48 22.9	+1.2
BNM	**Barren Site**	**139.51**	**34**	*e*PKPdf	**PKPdf**	09 48 23.9	+1.3
BNM				*e*pPKPdf	**pPKPdf**	09 48 33.5	+0.5
MSTX	**Muleshoe**	**141.70**	**30**	*e*PKPdf	**PKPdf**	09 48 29.2	+2.8
MSTX				*e*pPKPdf	**pPKPdf**	09 48 39.0	+2.3
MNTX	**Cornudas Mount**	**142.02**	**35**	*e*PKPdf	**PKPdf**	09 48 26.5	-0.4
TUL1	**Tulsa**	**143.05**	**21**	*e*PKPdf	**PKPdf**	09 48 27.2	-1.4
WCI	**Wyandotte Cave**	**143.13**	**7**	*e*PKIKP	PKPab	09 48 24.7	+0.5
WCI	**Wyandotte Cave**	**143.13**	**7**	*e*PKPdf	PKPab	09 48 24.7	+0.5
JSRW	**J. Sargeant Re**	**143.93**	**356**	*e*PKPdf	PKPbc	09 48 28.7	+0.9
CPUP	**Villa Florida**	**144.26**	**218**	PKP	**PKPdf**	09 48 30.2	-0.8
CPUP	**Villa Florida**	**144.26**	**218**	PKP	**PKPdf**	09 48 30.2	-0.8
comp=Z,8.6nm,0.7s,baz=112,slow=3.7							
ABTX	**Abilene, Hawle**	**144.32**	**28**	*e*PKPdf	**PKPab**	09 48 28.8	-0.1
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPbc	09 48 31.2	+0.4
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPbc	09 48 31.2	+0.4
comp=Z,13nm,0.6s,baz=270,slow=1.1,SNR=162							
WVT	**Waverly**	**144.96**	**10**	*e*PKIKP	**PKPab**	09 48 30.5	-0.6
WVT	**Waverly**	**144.96**	**10**	*e*PKPdf	**PKPab**	09 48 30.5	-0.6
MIAR	**Mount Ida**	**145.04**	**19**	*e*PKIKP	**PKPbc**	09 48 31.1	-0.3
MIAR	**Mount Ida**	**145.04**	**19**	*e*PKPbc	**PKPbc**	09 48 31.1	-0.3
TZTN	**Tazewell**	**145.07**	**4**	*e*PKPbc	**PKPbc**	09 48 30.8	-0.7
UALR	**University of**	**145.20**	**17**	*e*PKPbc	**PKPbc**	09 48 31.2	-0.7
WHTX	**Lake Whitney**	**145.84**	**26**	*e*PKPbc	**PKPdf**	09 48 33.6	0.0
TKL	**Tuckaleechee C**	**145.94**	**4**	*e*PKPdf	**PKPdf**	09 48 33.5	-0.1
JCT	**Junction City**	**145.99**	**30**	*e*PKP2	**PKPbc**	09 48 34.4	-0.3
JCT	**Junction City**	**145.99**	**30**	*e*PKPbc	**PKPbc**	09 48 34.4	-0.3
PLAL	**Pickwick Lake**	**146.03**	**11**	*e*PKPdf	**PKPdf**	09 48 33.5	-0.2
CPCT	**Cooper Cave**	**146.08**	**6**	*e*PKPbc	**PKPdf**	09 48 33.9	0.0
OXF	**Oxford**	**146.21**	**13**	*e*PKP2	**PKPdf**	09 48 34.3	+0.2
OXF	**Oxford**	**146.21**	**13**	*e*PKPbc	**PKPdf**	09 48 34.3	+0.2
CNNC	**Cliffs of the**	**146.37**	**356**	*e*PKPbc	**PKPab**	09 48 36.0	-0.4
KMSC	**Kings Mountain**	**146.57**	**1**	*e*PKPdf	**PKPbc**	09 48 35.5	-0.7
VBMS	**Vicksburg**	**148.12**	**16**	*e*PKPbc	**PKPbc**	09 48 40.4	-0.1
VBMS				*e*PKPab	**PKPab**	09 48 43.9	+0.6
LRAL	**Lakeview Retre**	**148.12**	**10**	*e*PKPbc	**PKPbc**	09 48 39.6	-0.9
GOGA	**Godfrey**	**148.19**	**4**	*e*PKP2	**PKPbc**	09 48 40.4	-0.3
GOGA	**Godfrey**	**148.19**	**4**	*e*PKPdf	**PKPbc**	09 48 40.4	-0.3
HKT	**Hockley**	**148.30**	**26**	*e*PKP2	**PKPdf**	09 48 39.1	+1.5
HKT	**Hockley**	**148.30**	**26**	*e*PKPdf	**PKPdf**	09 48 39.1	+1.5
HKT				*e*PKPbc	**PKiKP**	09 48 42.0	-0.7
HKT				*e*PKPab	**PKPab**	09 48 44.7	+0.7
BRAL	**Brewton**	**150.08**	**11**	*e*PKPdf	**PKPdf**	09 48 41.8	+1.2
BRAL				*e*PKPbc	**PKiKP**	09 48 46.1	-0.3
BRAL				*e*PKPab	**PKPab**	09 48 51.3	0.0
TIGA	**Tifton**	**150.14**	**5**	*e*PKPdf	**PKPdf**	09 48 42.1	+1.5
TIGA				*e*PKPbc	**PKPbc**	09 48 46.0	+0.4
TIGA				*e*PKPab	**PKPab**	09 48 51.6	+0.2
LPAZ	**La Paz**	**158.37**	**215**	PKP	**PKPdf**	09 48 53.3	0.0
LPAZ				*e*PKPdf	**PKPdf**	09 48 54.6	+1.3
LPAZ	**La Paz**	**158.37**	**215**	PKP	**PKPdf**	09 48 53.3	0.0
comp=Z,1.2nm,0.8s,baz=132,slow=1.5,SNR=4.8							

NIED ***18*** *09:31:00,23°.40N×123°.60E,h32km,Mw4.4 Best double couple: M0=4.37000×10^15 NP1:φs=259.00000°,δ78.00000°, λ-156.00000°. NP2:φs=164.00000°,δ66.00000°, λ-13.00000°.*

IDC ***18*** *09:31:02.5±0.9,23°.48N×123°.52E,h0km,mb4.2/13, mb1 4.3/16,mb1mx4.2/28,mbtmp4.2/16,ML3.7/3,MS3.5/1, Ms1 3.5/1,ms1mx2.6/45,Error ellipse: s-maj=27.3km s-min=19.5km az=97.0*

NEIC ***18*** *09:31:04.0±0.4,23°.44N×123°.52E,h10km,mb4.5/2, MW4.4(NIED),Error ellipse: s-maj=9.2km s-min=5.4km az=159.0*

JMA ***18*** *09:31:05.8±0.3,23°.42N×123°.57E,h47km±4km,M4.5*

ISC 18 09:31:02.5±2.4,23°.43N±0°.06×123°.52E±0°.04,h2km±14km, n59,σ0:95/71,mb4.3/15,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.68**	**23**	P	**Pn**	09 31 19.0	-0.3
HATJ				S	**Sb**	09 31 28.7	+1.6
IRIF	**Iriomote-Funau**	**0.93**	**12**	P	**Pn**	09 31 22.5	-0.1
IRIF				*e*S	**Sb**	09 31 34.7	+0.6
JKRS	**Kuro-shima**	**0.93**	**29**	P	**Pn**	09 31 22.8	+0.2
JKRS				*e*S	**Sb**	09 31 34.9	+0.8
JIJ	**Ishigaki jima**	**1.10**	**32**	P	**Pb**	09 31 24.5	+0.2
JIJ				*e*S	**Sg**	09 31 38.1	+0.3
YOJ	**Yonaguni jima**	**1.13**	**336**	P	**Pn**	09 31 26.1	+0.7
YOJ				*e*S	**Sb**	09 31 40.4	+0.4
JTJ	**Tarama**	**1.62**	**42**	P	**Pn**	09 31 32.2	0.0
JTJ				*e*S	**Sn**	09 31 52.2	-1.6
NACB	**Ninganchiao**	**1.91**	**293**	*e*Pn	**Pn**	09 31 36.3	+0.1
NACB				*e*Sn	**Sn**	09 32 00.6	-0.2
YULB	**Yu-li**	**2.04**	**269**	*e*Pn	**Pn**	09 31 37.6	-0.4
YULB				*e*Sn	**Sn**	09 32 00.5	-3.5
JMJ	**Miyako jima 2**	**2.13**	**49**	P	**Pn**	09 31 39.5	+0.3
JOGS	**Gusukube**	**2.18**	**52**	P	**Pn**	09 31 39.9	0.0
YHNB	**Yeheng**	**2.31**	**303**	*e*Pn	**Pn**	09 31 41.6	-0.2
YHNB				*e*Sn	**Sn**	09 32 09.8	-1.2
TWG	**Pinlang**	**2.33**	**255**	*e*Pn	**Pn**	09 31 42.0	+0.1
TWG				*e*Sn	**Sn**	09 32 09.8	-1.4
SSLB	**Suanglung**	**2.38**	**279**	*e*Pn	**Pn**	09 31 43.6	+0.9
SSLB				*e*Sn	**Sn**	09 32 12.5	+0.1
TATO	**Taipei**	**2.41**	**310**	*e*Pn	**Pb**	09 31 45.2	-1.4
TPUB	**Ta-pu**	**2.66**	**268**	*e*Pn	**Pn**	09 31 48.2	+1.8
TPUB				*e*Sn	**Sn**	09 32 20.1	+0.8
JKE	**Kume jima 2**	**4.14**	**45**	P	**Pn**	09 32 05.3	-1.6
JAGN	**Aguni-jima**	**4.62**	**46**	P	**Pn**	09 32 11.1	-2.3
JIH	**Iheya**	**5.40**	**47**	P	**Pn**	09 32 22.3	-1.9
JOW	**Kunigami**	**5.49**	**51**	P	**Pn**	09 32 23.4	-2.0
JMZ	**Minamidaito 2**	**7.41**	**70**	P	Pn	09 32 48.4	-3.3
JNU	**Nakatsue**	**11.63**	**32**	Pn	**Pn**	09 33 48.1	-1.6
JNU	**Nakatsue**	**11.63**	**32**	Pn	**Pn**	09 33 48.1	-1.6
0.4nm,0.3s,baz=240,slow=7.9,SNR=3.9							
QIZ	**Qiongzhong**	**13.48**	**254**	*e*Pn	**Pn**	09 34 14.3	-0.7
26nm,1.1s							
KSAR	**Wonju Array Be**	**14.47**	**14**	Pn	**Pn**	09 34 29.1	+0.7
KSRS	**Korea Array**	**14.49**	**14**	Pn	**Pn**	09 34 29.1	+0.5
0.2nm,0.3s,baz=196,slow=12,SNR=4.1							
KSRS				LR	LR	09 40 42.8	
comp=Z,175nm,18.4s,baz=8.5,slow=40							
MAT	**Matsushiro**	**18.21**	**41**	P	**P**	09 35 17.8	+0.9
MJAR	**Matsushiro Arr**	**18.21**	**41**	P	**P**	09 35 17.0	+0.1
MJAR	**Matsushiro Arr**	**18.21**	**41**	P	**P**	09 35 17.0	+0.1
0.5nm,0.3s,baz=228,slow=9.5,SNR=19							
ASAJ	**Asahikawa**	**25.91**	**33**	P	**P**	09 36 36.0	0.0
ASAJ				*e*Pn	**P**	09 36 36.2	+0.2
ASAJ	**Asahikawa**	**25.91**	**33**	P	**P**	09 36 36.0	0.0
6.0nm,0.6s,baz=226,slow=14,SNR=14							
SONM	**Songino Array**	**27.92**	**335**	P	**P**	09 36 54.0	-0.3
SONM	**Songino Array**	**27.92**	**335**	P	**P**	09 36 54.0	-0.3
0.9nm,0.7s,baz=141,slow=9.6,SNR=5.1							
PETK	**Petropavlovsk-**	**39.33**	**32**	P	**P**	09 38 32.9	-0.2
PETK	**Petropavlovsk-**	**39.33**	**32**	P	**P**	09 38 32.9	-0.2
3.5nm,0.6s,baz=195,slow=5.6,SNR=9.8							
WRA	**Warramunga Arr**	**44.38**	**165**	P	**P**	09 39 14.8	0.0
WRA	**Warramunga Arr**	**44.38**	**165**	P	**P**	09 39 14.7	0.0
2.4nm,0.8s,baz=346,slow=8.4,SNR=3.1							
ASAR	**Alice Springs**	**47.89**	**167**	P	**P**	09 39 43.3	+1.0
ASAR	**Alice Springs**	**47.89**	**167**	P	**P**	09 39 43.3	+1.0
0.8nm,0.5s,baz=351,slow=7.6,SNR=5.6							
KDAK	**Kodiak Island**	**67.29**	**35**	P	**P**	09 41 58.2	-0.4
KDAK	**Kodiak Island**	**67.29**	**35**	P	**P**	09 41 58.2	-0.4
14nm,1.1s,baz=249,slow=8.6,SNR=4.2							
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**	09 42 08.4	-0.3
ILAR	**Eielson Array**	**68.90**	**27**	P	**P**	09 42 08.4	-0.3
1.2nm,0.6s,baz=275,slow=5.3,SNR=14							
MENT	**Mentasta**	**70.65**	**29**	*e*P	**P**	09 42 20.6	+1.0
EGAK	**Eagle**	**71.30**	**27**	*e*P	**P**	09 42 23.9	+0.5
5.7nm,1.0s							
DAWY	**Dawson**	**72.23**	**27**	*e*P	**P**	09 42 30.2	+1.1
FINES	**FINESS Array B**	**73.17**	**330**	P	**P**	09 42 34.5	0.0
FINES	**FINESS Array B**	**73.17**	**330**	P	**P**	09 42 34.5	0.0
1.4nm,0.5s,baz=35,slow=5.1,SNR=2.4							
AKASG	**Malin Array Be**	**74.85**	**319**	P	**P**	09 42 44.4	-0.2
AKASG	**Malin Array Be**	**74.85**	**319**	P	**P**	09 42 44.4	-0.2
0.3nm,0.3s,baz=57,slow=7.0,SNR=4.1							
NB2	**NORSAR Subarra**	**79.88**	**333**	P	**P**	09 43 12.6	-0.1
comp=Z,7.1nm,1.2s,baz=57,slow=5.1							
NOA	**NORSAR Array B**	**79.88**	**333**	P	**P**	09 43 12.3	-0.4
NOA	**NORSAR Array B**	**79.88**	**333**	P	**P**	09 43 12.3	-0.4
comp=Z,1.2nm,0.7s,baz=64,slow=5.1,SNR=4.0							
YKA	**Yellowknife Ar**	**82.83**	**23**	P	**P**	09 43 28.1	-0.2
YKA	**Yellowknife Ar**	**82.83**	**23**	P	**P**	09 43 28.0	-0.2
comp=Z,1.5nm,0.7s,baz=308,slow=5.3,SNR=5.7							
GERES	**GERESS Array B**	**84.77**	**321**	P	**P**	09 43 39.2	+0.6
GERES	**GERESS Array B**	**84.77**	**321**	P	**P**	09 43 39.2	+0.6
comp=Z,2.9nm,0.7s,baz=57,slow=4.9,SNR=7.3							
NEW	**Newport**	**90.39**	**36**	*e*P	**P**	09 44 06.9	+1.2
comp=Z,2.7nm,1.2s							
NVAR	**Mina Array Bea**	**95.51**	**44**	P	**P**	09 44 29.4	-0.3
NVAR	**Mina Array Bea**	**95.51**	**44**	P	**P**	09 44 29.4	-0.3
comp=Z,0.4nm,0.6s,baz=304,slow=4.8,SNR=3.8							

NNC ***18*** *09:53:46.1±12.0,37°.29N×70°.79E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=100.3km s-min=75.5km az=173.0*

ISC 18 09:53:40.3±1.3,36°.46N±0°.06×71°.5E±0°.1,h114km,n13, σ1:83/13,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.65**	**173**	P	**Pn**	09 54 22.6	+0.6
CEP				S	**Sn**	09 54 54.0	0.0
CHCP	**Chirah Chowk**	**3.14**	**152**	P	**Pn**	09 54 30.6	+2.3
THW	**Thamme Wali**	**3.66**	**177**	P	**Pn**	09 54 35.0	-0.3
THN	**Thein Dam**	**5.30**	**138**	*e*4	**Pn**	09 54 54.4	-2.9
THN				*ex*	**Sn**	09 55 58.0	+0.8
AML	**Almayashu**	**5.91**	**16**	P	**Pn**	09 55 06.6	+0.9
SNR=43							
UCH	**Uchtor**	**6.21**	**21**	P	**Sn**	09 56 19.7	0.0
SNR=9.3							
EKS2	**Erkin-Say**	**6.43**	**15**	P	**Pn**	09 55 15.3	+2.7
SNR=16							
KK31	**Karatay Array**	**6.68**	**354**	⇓Pn	**Pn**	09 55 14.8	-1.1
4.5nm,0.4s,baz=183,slow=13,SNR=84							
KK31				⇑Sn	Sn	09 56 23.9	-6.6
2.4nm,0.3s,baz=184,slow=24,SNR=4.6							
CHMS	**Chumysh**	**6.99**	**20**	P	**Pn**	09 55 22.1	+2.1
SNR=7.3							
USP	**Ospenovka**	**7.17**	**18**	P	**Pn**	09 55 23.9	+1.4
SNR=6.1							
TKM2	**Tokmak 2**	**7.17**	**25**	⇑Pn	Pn	09 55 27.3	+4.6
7.9nm,0.5s							
TKM2				⇓Sn	**Sn**	09 56 40.9	-1.8
4.0nm,0.8s							
TKM2	**Tokmak 2**	**7.17**	**25**	P	Pn	09 55 27.5	+4.8
SNR=7.3							
AB31	**Akbulak array**	**15.32**	**330**	⇓P	Pn	09 57 07.1	-3.2
0.8nm,0.5s,baz=145,slow=11,SNR=18							

IDC ***18*** *09:57:37.5±1.4, 1°.49S×99°.47E, h0km, mb4.1/8, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML4.3/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/37, Error ellipse: s-maj=68.0km s-min=14.7km az=58.0*

NEIC ***18*** *09:57:38.8±0.7, 1°.50S×99°.43E, h10km, mb4.1/2, Error ellipse: s-maj=29.4km s-min=6.4km az=59.0*

ISCJB ***18*** *09:57:40.3±1.1, 1°.3S±0°.2×99°.6E±0°.3, h30km, mb4.1/10, MS3.6/1, Error ellipse: s-maj=47.5km s-min=9.7km az=148.8*

ISC 18 09:57:42.4±1.1,1°.4S±0°.2×99°.6E±0°.3,h30km,n27, σ0:49/34,mb4.1/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.18**	**351**	Pn	**Pn**	09 58 43.3	-1.0
PSI	**Prapat**	**4.18**	**351**	Pn	**Pn**	09 58 43.3	-1.0
0.3nm,0.3s,baz=139,slow=11,SNR=2.7							
PSI				LR	LR	10 00 27.9	
comp=Z,115nm,18.8s,baz=170,slow=41							
CMAR	**Chiang Mai Arr**	**19.70**	**358**	P	**P**	10 02 09.8	+0.5
CMAR	**Chiang Mai Arr**	**19.70**	**358**	P	**P**	10 02 09.9	+0.5
0.3nm,0.3s,baz=185,slow=9.1,SNR=6.4							
FITZ	**Fitzroy Crossi**	**30.51**	**125**	P	**P**	10 03 52.6	-0.5
FITZ	**Fitzroy Crossi**	**30.51**	**125**	P	**P**	10 03 52.6	-0.5
2.7nm,0.8s,baz=262,slow=7.1,SNR=4.4							
WRA	**Warramunga Arr**	**38.67**	**121**	P	**P**	10 05 03.5	-0.2
WRA				PcP	**PcP**	10 07 15.2	-0.3
WRA	**Warramunga Arr**	**38.67**	**121**	P	**P**	10 05 03.5	-0.2
1.9nm,0.6s,baz=301,slow=9.0,SNR=22							
WRA				PcP	**PcP**	10 07 15.2	-0.3
0.7nm,0.9s,baz=300,slow=2.3,SNR=3.5							
WRAB	**Tennant Creek**	**38.67**	**121**	*e*P	**P**	10 05 03.6	-0.1
3.7nm,0.8s							
ASAR	**Alice Springs**	**39.96**	**126**	P	**P**	10 05 14.0	-0.4
ASAR				PcP	**PcP**	10 07 19.8	+0.2
ASAR	**Alice Springs**	**39.96**	**126**	P	**P**	10 05 14.0	-0.4
0.7nm,0.5s,baz=298,slow=8.0,SNR=14							
ASAR				PcP	**PcP**	10 07 19.8	+0.2
0.2nm,0.6s,baz=318,slow=1.7,SNR=5.0							
SONM	**Songino Array**	**49.34**	**6**	P	**P**	10 06 29.9	+0.8
SONM				PcP	**PcP**	10 07 51.8	+0.4
SONM	**Songino Array**	**49.34**	**6**	P	**P**	10 06 29.9	+0.8
0.9nm,0.8s,baz=190,slow=7.3,SNR=5.1							
SONM				PcP	**PcP**	10 07 51.8	+0.4
0.6nm,0.5s,baz=196,slow=4.8,SNR=2.6							
STKA	**Stephens Creek**	**49.88**	**132**	*e*P	**P**	10 06 33.8	+0.5
STKA	**Stephens Creek**	**49.88**	**132**	P	**P**	10 06 33.2	-0.1
2.4nm,0.7s,baz=312,slow=7.9,SNR=5.7							
MK31	**Makanchi Array**	**50.30**	**345**	*e*P	**P**	10 06 36.7	+0.5
MKAR	**Makanchi Array**	**50.30**	**345**	P	**P**	10 06 36.7	+0.5
MKAR				PcP	**PcP**	10 07 55.0	+0.2
MKAR	**Makanchi Array**	**50.30**	**345**	P	**P**	10 06 36.7	+0.5
2.6nm,0.6s,baz=154,slow=8.2,SNR=31							
MKAR				PcP	**PcP**	10 07 54.9	+0.2
0.4nm,0.7s,baz=181,slow=5.8,SNR=1.7							
USRK	**Ussuriysk Arra**	**53.78**	**29**	LR	LR	10 34 23.0	
comp=Z,48nm,19.6s,baz=224,slow=41							
ZAA0	**Zalesovo Array**	**56.46**	**350**	*e*P	**P**	10 07 21.1	-0.2
ZALV	**Zalesovo Beam**	**56.46**	**350**	P	**P**	10 07 21.5	+0.2
ZALV	**Zalesovo Beam**	**56.46**	**350**	P	**P**	10 07 21.5	+0.2
2.1nm,0.5s,baz=182,slow=5.8,SNR=12							
ABKAR	**Akbulak array**	**60.88**	**331**	*e*P	**P**	10 07 51.6	-0.6
0.3nm,0.2s							
FINES	**FINESS Array B**	**83.36**	**332**	P	**P**	10 10 06.4	+0.1
FINES	**FINESS Array B**	**83.36**	**332**	P	**P**	10 10 06.4	+0.1
0.8nm,0.6s,baz=108,slow=4.5,SNR=3.5							
TXAR	**Lajitas Array**	**144.43**	**36**	PKP	**PKPdf**	10 17 16.2	-0

*IDC **18** 10:25:55.2±1.1, 53.°19N×108.°07E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.5/28, mbtmp3.5/7, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/45, Error ellipse: s-maj=27.1km s-min=19.8km az=106.0*

*BYKL **18** 10:25:57.0±0.2, 53.°24N×108.°08E, h14km±5km*

ISC 18 10:25:55.6±1.0, 53.°21N±0.°02×108.°18E±0.°02, h3km±8km, n49, σ1.95/88, mb3.6/4, 11C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.34**	**81**	⇑*i*Pg	**Pb**	**10 26 04.4**	**-0.1**
	79nm,0.5s						
MXMB				⇑*i*Pg	**Pb**	**10 26 04.4**	**-0.1**
	275nm,0.5s						
MXMB				⇑*i*Pg	**Pb**	**10 26 04.4**	**-0.1**
	952nm,0.5s						
MXMB				Pmax		10 26 04.9	
	704nm,0.1s						
MXMB				*i*		10 26 05.1	
MXMB				*i* Sg	**Sb**	**10 26 10.1**	**-0.3**
MXMB				Smax		10 26 10.5	
	16μm,0.7s						
OGRR	**Ongureny**	**0.56**	**321**	⇑*i*PG	**Pb**	**10 26 06.9**	**-1.2**
OGRR				*e*		10 26 14.4	
OGRR				pmax	pmax		
	comp=Z,1μm,0.3s						
OGRR				smax	smax		
	comp=E,5μm,0.3s						
OGRR	**Ongureny**	**0.56**	**321**	⇑*i*Pg	**Pb**	**10 26 06.9**	**-1.2**
	comp=E,2μm,0.5s						
OGRR				⇓*i*Pg	**Pb**	**10 26 06.9**	**-1.2**
	comp=E,888nm,0.5s						
OGRR				⇑*i*Pg	**Pb**	**10 26 06.9**	**-1.2**
	comp=E,2μm,0.5s						
OGRR				Pmax		10 26 07.5	
	comp=E,313nm,0.1s						
OGRR				*e*Sg	**Sg**	**10 26 13.9**	**+0.3**
OGRR				Smax		10 26 15.6	
	comp=E,5μm,0.3s						
ZRHB	**Zarechye**	**0.91**	**224**	⇓*i*Pg	**Pn**	**10 26 13.7**	**-1.6**
ZRHB				Pmax		10 26 15.5	
	comp=E,229nm,0.2s						
ZRHB				*e*Pb	Pb	10 26 16.3	+2.3
ZRHB				*i* Sg	**Sb**	**10 26 25.4**	**-1.1**
ZRHB				*e*Sb	**Sn**	**10 26 29.0**	**+0.1**
ZRHB				max		10 26 33.2	
	comp=E,6μm,1.0s						
SYVR	**Suvo**	**1.18**	**67**	*e*PG	**Pg**	**10 26 19.0**	**+0.7**
SYVR				*e*		10 26 35.8	
SYVR				pmax	pmax		
	comp=Z,387nm,0.2s						
SYVR				smax	smax		
	comp=E,1μm,0.3s						
SYVR	**Suvo**	**1.18**	**67**	⇓*i*Pg	**Pg**	**10 26 18.9**	**+0.7**
	comp=E,78nm,0.6s						
SYVR				⇓*i*Pg	**Pg**	**10 26 18.9**	**+0.7**
	comp=E,131nm,0.6s						
SYVR				⇓*i*Pg	**Pg**	**10 26 18.9**	**+0.7**
	comp=E,249nm,0.6s						
SYVR				*e*Pb	**Pn**	**10 26 20.3**	**+1.2**
SYVR				*e*		10 26 23.2	
SYVR				max		10 26 23.7	
	comp=E,380nm,0.3s						
SYVR				*i* Sg	**Sn**	**10 26 35.6**	**-0.1**
SYVR				*e*Sb	**Sg**	**10 26 38.0**	**+4.5**
SYVR				max		10 26 38.9	
	comp=E,1μm,0.3s						
TRG	**Tyrgan**	**1.20**	**249**	*e*PG	**Pb**	**10 26 17.6**	**-1.4**
TRG				*e*		10 26 34.2	
TRG				pmax	pmax		
	comp=Z,276nm,0.2s						
TRG				smax	smax		
	comp=N,2μm,0.2s						
TRG	**Tyrgan**	**1.20**	**249**	⇑*i*Pg	**Pb**	**10 26 17.6**	**-1.4**
TRG				*e*Pb	**Pg**	**10 26 19.3**	**+0.8**
TRG				max		10 26 26.2	
	comp=N,314nm,0.2s						
TRG				*e*Sg	**Sg**	**10 26 33.8**	**-0.2**
TRG				*e*Sb	**Sn**	**10 26 36.2**	**+0.1**
TRG				max		10 26 38.8	
	comp=N,2μm,0.2s						
UUDB	**Ulan-Yde**	**1.38**	**193**	⇑*i*Pg	**Pg**	**10 26 22.1**	**0.0**
UUDB				*e*		10 26 24.2	
UUDB				max		10 26 24.4	
	comp=N,166nm,0.2s						
UUDB				*e*		10 26 29.3	
UUDB				*i* Sg	**Sg**	**10 26 41.6**	**+1.6**
UUDB				Smax		10 26 44.2	
	comp=N,2μm,0.9s						
KAB	**Kabansk**	**1.49**	**219**	*e*Pg	**Pg**	**10 26 24.0**	**-0.1**
KAB				*e*		10 26 27.9	
KAB				max		10 26 35.4	
	comp=N,8μm,0.2s						
KAB				*e*Sg	**Sg**	**10 26 44.4**	**+1.0**
KAB				Smax		10 26 59.9	
	comp=N,3μm,0.7s						
YLYR	**Ulyunkhan**	**2.42**	**45**	*e*PN	**Pg**	**10 26 41.5**	**-0.6**
YLYR				*e*		10 27 12.1	
YLYR				pmax	pmax		
	comp=Z,141nm,0.4s						
YLYR				smax	smax		
	comp=N,1μm,0.5s						
YLYR	**Ulyunkhan**	**2.42**	**45**	*e*Pn	**Pb**	**10 26 36.9**	**-3.0**
YLYR				⇓*i*Pg	**Pg**	**10 26 40.1**	**-2.0**
YLYR				*e*		10 26 41.9	
YLYR				max		10 26 42.9	
	comp=N,141nm,0.4s						
YLYR				*i* Sg	**Sg**	**10 27 13.1**	**-0.4**
YLYR				Smax		10 27 14.9	
	comp=N,1μm,0.4s						
LSTR	**Listvyanka**	**2.45**	**238**	*e*PN	**Pb**	**10 26 38.7**	**-1.6**
LSTR				*e*		10 27 09.2	
LSTR				pmax	pmax		
	comp=Z,26nm,0.5s						
LSTR				smax	smax		
	comp=E,563nm,1.6s						
LSTR	**Listvyanka**	**2.45**	**238**	*e*Pg	**Pb**	**10 26 40.1**	**-0.2**
LSTR				Pmax		10 26 46.3	
	comp=E,55nm,0.4s						
LSTR				*e*		10 27 05.6	
LSTR				*i* Sg	**Sg**	**10 27 11.8**	**-2.3**
LSTR				Smax		10 27 13.5	
	comp=E,564nm,1.5s						
IRK	**Irkutsk**	**2.57**	**249**	*e*PN	**Pn**	**10 26 38.1**	**0.0**
IRK				*e*		10 26 42.6	
IRK				*e*S	**Sn**	**10 27 06.3**	**-3.6**
IRK				*e*		10 27 13.7	
IRK				pmax	pmax		
	comp=Z,121nm,0.2s						
IRK				smax	smax		
	comp=N,1μm,0.5s						
IRK	**Irkutsk**	**2.57**	**249**	Pg	**Pb**	**10 26 40.8**	**-1.5**
IRK				Pmax		10 26 41.0	
	comp=N,118nm,0.2s						
IRK				*e*		10 26 43.0	
IRK				*e*Sg	**Sb**	**10 27 14.3**	**+0.1**
IRK				Smax		10 27 20.0	
	comp=N,1μm,0.6s						
NIZ	**Nizh Angarsk**	**2.69**	**17**	*e*PN	Pb	10 26 41.2	-3.2
NIZ				*e*		10 26 44.2	
NIZ				*e*S	**Sn**	**10 27 10.9**	**-2.1**
NIZ	**Nizh Angarsk**	**2.69**	**17**	⇑*i*Pn	Pb	10 26 40.9	-3.5
NIZ				*e*Pg	Pg	10 26 44.0	-3.2
NIZ				*e*PgPg	**PbPb**	**10 26 50.5**	**+2.9**
NIZ				max		10 26 53.2	
	comp=N,85nm,0.3s						
NIZ				*e*Sg	**Sb**	**10 27 18.8**	**+0.9**
NIZ				Smax		10 27 24.4	
	comp=N,736nm,0.6s						
TLY	**Talaya**	**3.17**	**243**	*i* PN	**Pn**	**10 26 46.3**	**-0.1**
TLY				*e*		10 26 53.4	
TLY				*e*		10 27 35.6	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TLY	**Talaya**	**3.17**	**243**	*e*Pn	**Pn**	**10 26 46.3**	**-0.1**
TLY				*e*Pg	**Pb**	**10 26 52.3**	**-0.3**
TLY				Pmax		10 26 52.6	
	comp=Z,48nm,0.8s						
TLY				*e*PgPg	**Pg**	**10 26 56.4**	**+0.1**
TLY				*e*		10 27 32.8	
TLY				*e*Sg	**Sg**	**10 27 33.8**	**-3.6**
TLY				Smax		10 27 48.4	
	comp=Z,281nm,1.3s						
KMO	**Kumora**	**3.21**	**32**	*e*PN	**Pn**	**10 26 46.8**	**-0.2**
KMO				*e*		10 26 53.6	
KMO				*e*S	**Sn**	**10 27 25.0**	**-0.7**
KMO				*e*		10 27 35.0	
KMO				pmax	pmax		
	comp=Z,142nm,0.4s						
KMO				smax	smax		
	comp=E,822nm,1.5s						
KMO	**Kumora**	**3.21**	**32**	⇓*i*Pn	**Pn**	**10 26 47.8**	**+0.8**
KMO				⇑*i*Pg	**Pb**	**10 26 54.1**	**+0.8**
KMO				*e*PgPg	**Pg**	**10 26 56.4**	**-0.7**
KMO				max		10 26 57.4	
	comp=E,141nm,0.4s						
KMO				*e*		10 26 59.6	
KMO				*i* Sg	**Sg**	**10 27 35.6**	**-3.0**
KMO				Smax		10 27 40.0	
	comp=E,733nm,1.1s						
CIT	**Chita**	**3.48**	**108**	*e*Pn	**Pn**	**10 26 51.4**	**+0.6**
CIT				*e*Pg	**Pg**	**10 27 00.1**	**-2.3**
CIT				Pmax		10 27 02.5	
	comp=E,198nm,0.3s						
CIT				*e*Sn	**Sn**	**10 27 34.0**	**+1.4**
CIT				*i* Sg	**Sg**	**10 27 46.9**	**-0.6**
CIT				*e*SgSg	**SbSb**	**10 27 49.9**	**+4.0**
CIT				max		10 27 52.2	
	comp=E,2μm,1.0s						
YOA	**Uoyan**	**3.58**	**34**	*e*PN	**Pg**	**10 27 02.1**	**-2.1**
YOA	**Uoyan**	**3.58**	**34**	*e*Pg	**Pg**	**10 27 02.1**	**-2.1**
YOA				Pmax		10 27 12.4	
	comp=E,181nm,1.1s						
YOA				*e*		10 27 28.9	
YOA				*e*Sg	**Sg**	**10 27 49.9**	**-0.6**
YOA				Smax		10 28 15.4	
	comp=E,2μm,1.3s						
KPC	**Khapcheranga**	**4.38**	**142**	*e*PN	**Pn**	**10 27 03.0**	**-0.2**
KPC				*e*		10 27 15.4	
KPC				*e*S	**Sn**	**10 27 54.6**	**-0.2**
KPC				*e*		10 28 13.2	
KPC				pmax	pmax		
	comp=Z,67nm,0.7s						
KPC				smax	smax		
	comp=E,203nm,0.7s						
KPC	**Khapcheranga**	**4.38**	**142**	*e*Pn	**Pn**	**10 27 02.7**	**-0.5**
KPC				⇓*i*		10 27 04.0	
KPC				*e*Pg	Pg	10 27 15.8	-3.8
KPC				*e*		10 27 19.5	
KPC				max		10 27 25.3	
	comp=E,68nm,0.9s						
KPC				*e*Sn	**Sn**	**10 27 53.5**	**-1.3**
KPC				*i* Sg	**Sg**	**10 28 13.4**	**-3.0**
KPC				Smax		10 28 20.3	
	comp=E,203nm,1.1s						
MOY	**Mondy**	**4.66**	**254**	*e*Pn	**Pn**	**10 27 08.2**	**+1.2**
MOY				*e*Pg	**Pb**	**10 27 18.9**	**+0.8**
MOY				*e*		10 27 20.9	
MOY				max		10 27 31.5	
	comp=E,48nm,0.9s						
MOY				*e*		10 28 03.1	
MOY				*e*Sg	**Sb**	**10 28 18.1**	**+3.5**
MOY				Smax		10 28 44.3	
	comp=E,311nm,0.9s						
ORL	**Orlik**	**5.11**	**266**	⇑*i*Pn	Pn	10 27 15.2	+2.0
ORL				*e*		10 27 22.3	
ORL				max		10 27 23.4	
	comp=E,64nm,0.8s						
ORL				*e*Sn	**Sn**	**10 28 10.1**	**-2.7**
ORL				*i* Sg	Sb	10 28 32.8	+5.2
ORL				Smax		10 28 43.0	
	comp=E,244nm,1.5s						
ULN	**Ulaanbaatar**	**5.40**	**188**	*e*	**Pn**	**10 27 15.5**	**-1.7**
ULN				*e*Pg	Pg	10 27 34.6	-4.4
ULN				*e*Sg	**Sg**	**10 28 45.9**	**-3.1**
SONM	**Songino Array**	**5.50**	**193**	Pn	**Pn**	**10 27 19.4**	**+0.8**
	comp=E,0.7nm,0.3s,baz=11,slow=13,SNR=9.1						
SONM				Pg	Pb	10 27 34.9	+2.5
	comp=E,4.7nm,0.3s,baz=3.2,slow=15,SNR=26						
SONM				Lg	Lg	10 28 49.0	
	comp=E,6.2nm,0.3s,baz=11,slow=31,SNR=21						
BOD	**Bodaibo**	**5.68**	**33**	*e*Pn	**Pn**	**10 27 21.3**	**+0.4**
BOD				*e*Pg	Pb	10 27 37.9	+2.6
BOD				Pmax		10 27 48.2	
	comp=E,15nm,0.7s						
BOD				*e*		10 28 01.1	
BOD				*e*		10 28 30.6	
BOD				*i* Sg	**Sg**	**10 28 53.2**	**-4.7**
BOD				Smax		10 28 58.8	
	comp=E,161nm,1.5s						
TUP	**Tupik**	**7.08**	**75**	*e*PN	Pn	10 27 42.0	+1.9
TUP				*e*		10 28 04.9	
TUP				*e*S	**Sn**	**10 28 59.3**	**-1.8**
TUP				*e*		10 29 35.8	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TUP				smax	smax		
	comp=N,412nm,1.0s						
TUP	**Tupik**	**7.08**	**75**	*e*Pg	Pg	10 28 04.5	-6.6
TUP				*e*		10 28 12.1	
TUP				max		10 28 15.8	
	comp=N,15nm,2.8s						
TUP				*e*		10 29 14.2	
TUP				*e*Sg	**Sg**	**10 29 37.2**	**-5.6**
TUP				Smax		10 29 44.6	
	comp=N,414nm,1.7s						
KHNR	**Khani**	**7.73**	**57**	*e*Sg	**Sg**	**10 29 59.5**	**-4.0**
HIA	**Hailar**	**8.26**	**114**	*e*Pg	Pg	10 28 27.5	-6.2
HIA				*e*		10 28 44.9	
HIA				*e*		10 29 13.4	
HIA				*e*Sg	**Sg**	**10 30 15.7**	**-4.9**
YKLR	**Yuktali**	**8.47**	**61**	*e*Pg	Pg	10 28 30.7	-7.0
YKLR				*e*		10 29 57.6	
YKLR				*e*Sg	**Sg**	**10 30 22.7**	**-4.6**
IENR	**Iengra**	**10.11**	**66**	*e*	Pn	10 28 46.6	+25
IENR				*e*		10 29 01.7	
IENR				*e*Sg	Sn	10 31 10.3	+55
ZALV	**Zalesovo Beam**	**13.89**	**282**	P	P	10 29 17.0	-4.6
ZALV	**Zalesovo Beam**	**13.89**	**282**	Pn	P	10 29 17.0	-4.6
	comp=N,0.4nm,0.3s,baz=76,slow=12,SNR=3.1						
ZALV				Lg	Lg	10 33 03.4	
	comp=N,0.2nm,0.3s,baz=89,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**17.78**	**259**	P	**P**	**10 30 03.4**	**-1.5**
MKAR	**Makanchi Array**	**17.78**	**259**	P	**P**	**10 30 03.4**	**-1.5**
	comp=N,0.1nm,0.3s,baz=66,slow=10,SNR=9.4						
MKAR				Lg	Lg	10 35 15.1	
	comp=N,0.0nm,0.3s,baz=61,slow=27,SNR=3.0						
KURK	**Kurchatov**	**18.32**	**274**	P	**P**	**10 30 10.9**	**+0.1**
KURBB	**Kurchatov Arra**	**18.41**	**274**	P	**Pn**	**10 30 10.9**	**-0.8**
	comp=N,0.0nm,0.3s,baz=66,slow=13,SNR=3.6						
KURBB				Lg	Lg	10 35 29.5	
	comp=N,0.0nm,0.3s,baz=75,slow=32,SNR=5.1						
ASAJ	**Asahikawa**	**24.28**	**98**	LR	LR	10 40 39.8	
	comp=N,19nm,18.8s,baz=335,slow=36						
ILAR	**Eielson Array**	**49.05**	**33**	P	**P**	**10 34 43.8**	**+0.4**
	comp=N,1.2nm,1.0s,baz=304,slow=6.4,SNR=5.8						
WRA	**Warramunga Arr**	**76.29**	**155**	P	**P**	**10 37 45.6**	**0.0**
	comp=N,0.5nm,0.9s,baz=346,slow=6.2,SNR=4.0						
ASAR	**Alice Springs**	**79.75**	**156**	P	**P**	**10 38 04.3**	**-0.5**
	comp=N,0.4nm,0.9s,baz=353,slow=6.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**89.18**	**291**	P	**P**	**10 38 52.5**	**-0.3**
	comp=N,0.3nm,0.7s,baz=31,slow=4.9,SNR=3.0						

*ISCJB **18** 10:27:51.8±0.8, 22.°34S±0.°05×68.°5W±0.°1, h111km±9km, mb3.6/1, Error ellipse: s-maj=15.7km s-min=7.5km az=3.9*

*GUC **18** 10:27:53.5±0.6, 22.°39S×68.°75W, h113km±6km, ML4.0*

*NEIC **18** 10:27:53.5, 22.°39S×68.°75W, h113km, MG4.0(GUC), After GUC.*

*IDC **18** 10:27:56.4±8.7, 22.°31S×68.°01W, h119km±66km, mb3.6/1, mb1 3.4/3, mb1mx3.1/18, mbtmp3.4/3, Error ellipse: s-maj=100.3km s-min=40.0km az=172.0*

ISC 18 10:27:53.4±1.0, 22.°35S±0.°04×68.°58W±0.°09, h109km±8km, n24, σ1.38/37, 10C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.41**	**230**	*e*Pn	**Pn**	**10 28 09.4**	**-0.4**
LVC				*e*Sn	**Sn**	**10 28 21.1**	**-1.2**
PB09	**Plate Boundary**	**0.83**	**312**	⇓*i*P	**Pn**	**10 28 13.4**	**+0.4**
PB09				*i* S	**Sn**	**10 28 28.1**	**+0.4**
PB09	**Plate Boundary**	**0.83**	**312**	⇓*i*P	**Pn**	**10 28 13.4**	**+0.4**
PB09				*i* S	**Sn**	**10 28 28.1**	**+0.4**
PB09				AML	AML	10 28 29.9	
	comp=E,15μm,0.4s						
PB04	**Plate Boundary**	**0.85**	**276**	⇑*i*P	Pn	10 28 19.0	+6.0
PB04				*i* S	Sn	10 28 38.5	+11
PB04	**Plate Boundary**	**0.85**	**276**	⇑*i*P	Pn	10 28 19.0	+6.0
PB04				*i* S	Sn	10 28 38.5	+11
PB04				AML	AML	10 28 43.3	
	comp=N,2μm,0.4s						
PB07	**Plate Boundary**	**1.37**	**297**	⇑*i*P	**Pn**	**10 28 18.5**	**-0.2**
PB07				*i* S	**Sn**	**10 28 37.4**	**-0.5**
PB07	**Plate Boundary**	**1.37**	**297**	⇑*i*P	**Pn**	**10 28 18.5**	**-0.2**
PB07				*i* S	**Sn**	**10 28 37.4**	**-0.5**
PB07				AML	AML	10 28 38.9	
	comp=N,4μm,0.4s						
PB01	**Plate Boundary**	**1.56**	**327**	⇑*i*P	**Pn**	**10 28 21.1**	**+0.1**
PB01				*i* S	**Sn**	**10 28 42.3**	**+0.5**
PB01	**Plate Boundary**	**1.56**	**327**	⇑*i*P	**Pn**	**10 28 21.1**	**+0.1**
PB01				*i* S	**Sn**	**10 28 42.3**	**+0.5**
PB01				AML	AML	10 28 43.5	
	comp=E,3μm,0.3s						
CEN1	**Los Morros**	**1.82**	**235**	*e*P	**Pn**	**10 28 26.0**	**+1.8**
CEN1				*i* S	**Sn**	**10 28 50.6**	**+3.0**
CEN1	**Los Morros**	**1.82**	**235**	*e*P	**Pn**	**10 28 26.0**	**+1.8**
CEN1				*i* S	**Sn**	**10 28 50.6**	**+3.0**
CEN1				AML	AML	10 28 59.2	
	comp=E,304nm,0.4s						
ANCH	**Antofagasta**	**2.15**	**232**	*e*P	**Pn**	**10 28 27.6**	**-0.6**
ANCH				*i* S	**Sn**	**10 28 52.6**	**-2.2**
ANCH	**Antofagasta**	**2.15**	**232**	*e*P	**Pn**	**10 28 27.6**	**-0.6**
ANCH				*i* S	**Sn**	**10 28 52.6**	**-2.2**
PB10	**Plate Boundary**	**2.16**	**237**	*e*P	**Pn**	**10 28 27.8**	**-0.6**
PB10				AML	AML	10 29 03.8	
	comp=E,882nm,0.5s						
HMBC	**Humberstone**	**2.40**	**329**	⇑*i*P	**Pn**	**10 28 30.9**	**-0.7**
HMBC				*i* S	**Sn**	**10 29 00.4**	**-0.5**
HMBC	**Humberstone**	**2.40**	**329**	⇑*i*P	**Pn**	**10 28 30.9**	**-0.7**
HMBC				*i* S	**Sn**	**10 29 00.4**	**-0.5**
HMBC				AML	AML	10 29 02.1	
	comp=E,942nm,0.5s						
MNMC	**Minimini**	**3.34**	**343**	⇑*i*P	**Pn**	**10 28 43.9**	**-0.3**
MNMC				*i* S	**Sn**	**10 29 24.0**	**+0.6**
MNMC	**Minimini**	**3.34**	**343**	⇑*i*P	**Pn**	**10 28 43.9**	**-0.3**
MNMC				*i* S	**Sn**	**10 29 24.0**	**+0.6**
LPAZ	**La Paz**	**6.05**	**4**	*e*Pn	**Pn**	**10 29 23.6**	**+2.6**
LPAZ	**La Paz**	**6.05**	**4**	P	**Pn**	**10 29 23.7**	**+2.6**
	comp=E,0.3nm,0.3s,baz=179,slow=6.7,SNR=9.0						
SIV	**San Ignacio**	**9.50**	**50**	P	**Pn**	**10 30 04.7**	**-2.7**
	comp=E,1.5nm,0.3s,baz=244,slow=13,SNR=37						
SIV				S	Sn	10 31 44.2	-8.2
	comp=E,0.3nm,0.3s,baz=151,slow=19,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.35**	**70**	P	**P**	**10 39 36.0**	**-0.7**
	comp=E,0.6nm,0.4s,baz=259,slow=5.2,SNR=18						
WRA	**Warramunga Arr**	**132.38**	**210**	PKP	**PKPdf**	**10 46 56.5**	**+0.8**
	comp=E,0.3nm,0.8s,baz=150,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**146.13**	**37**	PKPbc	**PKPbc**	**10 47 20.7**	**-0.2**
	comp=E,0.8nm,0.7s,baz=313,slow=2.0,SNR=10						

MAN 18 10:55:02, 11.°23N×124.°67E, h11km, mb4.0, ML2.8, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.18**	**198**	*e*P	Pb	10 55 07.8	+0.3
OCLP				*e*S	Sg	10 55 16.8	+8.0
PLP	**Palo**	**0.31**	**101**	⇓*e*P	Pb	10 55 10.2	+0.6
PLP				*e*S	Sb	10 55 18.8	+4.1
MSLP	**Maasin**	**1.10**	**170**	*e*P	Pn	10 55 23.7	+0.3
MSLP				*e*S	Sn	10 55 44.7	+6.1

*MOS **18** 10:56:03.0±2.8, 48.°79N×155.°14E, h95km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=15.6km az=71.5*

KRSC 18 10:56:03.0±0.3, 48.°79N×155.°14E, h95km±104km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.00**	**18**	PN	Pn	10 56 35.0	-0.3
SKR				*e*S	Sn	10 56 58.3	-1.6
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax	smax		
	comp=E,140nm,0.3s						
SKR	**Severo-Kuril's**	**2.00**	**18**	*e*P	Pn	10 56 37.4	+2.1
SKR				*e*S	Sn	10 57 01.7	+1.8
PAU	**Pauzhetka**	**2.89**	**21**	PN	Pn	10 56 50.2	+3.2
PAU				S	Sn	10 57 23.8	+2.8
PAU	**Pauzhetka**	**2.89**	**21**	*e*P	Pn	10 56 50.2	+3.2
PAU				*e*S	Sn	10 57 23.8	+2.8
ASAK	**Asacha**	**4.00**	**25**	*e*P	Pn	10 57 04.4	+2.2
ASAK				*e*S	Sn	10 57 49.7	+1.6
MTVR	**Mutnovka**	**4.17**	**26**	*e*S	Sn	10 57 54.3	+2.0
RUS	**Russkaya**	**4.23**	**29**	PN	Pn	10 57 07.4	+2.3
RUS				S	Sn	10 57 56.0	+2.6
RUS	**Russkaya**	**4.23**	**29**	*e*P	Pn	10 57 07.4	+2.3
RUS				*e*S	Sn	10 57 56.0	+2.6
PET	**Petropavlovsk**	**4.79**	**26**	*e*PN	Pn	10 57 20.0	+7.4
UGLR	**Uglovaya**	**5.00**	**26**	P	Pn	10 57 17.9	+2.2
KOK	**Koryaka**	**5.02**	**25**	P	Pn	10 57 19.2	+3.3
AVH	**Avacha**	**5.02**	**26**	P	Pn	10 57 18.8	+2.8
SMAR	**Somma**	**5.04**	**26**	P	Pn	10 57 19.0	+2.6
SDLR	**Sedlovina**	**5.08**	**26**	P	Pn	10 57 19.8	+3.0
GNL	**Ganaly**	**5.22**	**19**	*e*P	Pn	10 57 22.2	+3.5
SPN	**Mys Shipunski**	**5.30**	**34**	PN	Pn	10 57 23.4	+3.7
SPN				S	Sn	10 58 21.8	+2.4
SPN	**Mys Shipunski**	**5.30**	**34**	*e*P	Pn	10 57 23.4	+3.7
SPN				*e*S	Sn	10 58 21.8	+2.4
MKZ	**Mys Kozlova**	**7.08**	**33**	PN	Pn	10 57 46.9	+3.2
MKZ				S	Sn	10 59 02.5	0.0
MKZ	**Mys Kozlova**	**7.08**	**33**	*e*P	Pn	10 57 46.9	+3.2
MKZ				*e*S	Sn	10 59 02.5	0.0

IDC 18 11:01:28.6±1.1, 1.°33N×126.°01E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, ML2.9/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/41, Error ellipse: s-maj=39.0km s-min=18.8km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.31**	**181**	P	P	11 05 54.4	-1.1
	0.0nm,0.3s,baz=302,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**22.66**	**159**	P	P	11 06 32.1	+0.3
	1.2nm,0.8s,baz=329,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.00**	**163**	P	P	11 07 03.7	+0.1
	0.9nm,0.6s,baz=352,slow=14,SNR=13						
PSI	**Prapat**	**27.10**	**274**	P	P	11 07 13.8	+0.1
	3.1nm,0.8s,baz=117,slow=4.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**31.54**	**304**	LR	LR	11 21 59.2	
	comp=Z,34nm,18.4s,baz=150,slow=39						
USRK	**Ussuriysk Arra**	**43.02**	**6**	P	P	11 09 28.5	-1.3
	1.4nm,0.6s,baz=169,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**59.12**	**326**	P	P	11 11 32.1	+1.0
	0.3nm,0.5s,baz=121,slow=8.1,SNR=6.7						
OPO	**Ambohidratompo**	**79.83**

PLIG			*e*S	Sn	11 13 25.2	-2.2
PNIG	**Pinotepa**	**2.92 124**	*i* P	Pn	11 13 35.0	-1.6
PNIG			*i* S	Sn	11 14 08.5	-2.0

IDC 18 11:17:59.3±2.6, 12°.00S×166°.55E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/32, Error ellipse: s-maj=80.2km s-min=44.9km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.97**	**291**	LR	LR	11 22 04.7	
	comp=Z,101nm,20.6s,baz=128,slow=35						
DZM	**Mont Dzumac**	**10.02**	**181**	LR	LR	11 23 49.9	
	comp=Z,99nm,18.4s,baz=201,slow=35						
AFI	**Afiamalu**	**21.21**	**98**	LR	LR	11 28 16.4	
	comp=Z,16nm,20.7s,baz=96,slow=29						
WRA	**Warramunga Arr**	**31.91**	**252**	P	P	11 24 26.2	-0.7
	0.7nm,0.6s,baz=84,slow=9.0,SNR=12						
WRA				PcP	PcP	11 27 17.6	0.0
	0.5nm,0.8s,baz=81,slow=3.2,SNR=3.1						
ASAR	**Alice Springs**	**33.08**	**245**	P	P	11 24 37.2	+0.1
	0.8nm,0.6s,baz=68,slow=9.8,SNR=16						
ASAR				PcP	PcP	11 27 20.6	-0.2
	0.5nm,0.8s,baz=82,slow=2.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**73.21**	**294**	P	P	11 29 33.9	+1.1
	0.6nm,0.3s,baz=123,slow=4.0,SNR=7.0						
MKAR	**Makanchi Array**	**94.75**	**317**	P	P	11 31 21.4	-1.5
	0.9nm,0.7s,baz=92,slow=6.4,SNR=9.2						

*IDC **18** 11:24:58.7±1.4, 24°.09S×66°.80W, h176km±14km, mb3.5/8, mb1 3.7/14, mb1mx3.6/22, mbtmp3.5/14, Error ellipse: s-maj=17.8km s-min=11.0km az=83.0*
*ISCJB **18** 11:24:59.1±0.6, 24°.04S±0°.05×66°.83W±0°.06, h193km±7km, mb3.5/8, Error ellipse: s-maj=9.6km s-min=7.5km az=175.1*
*GUC **18** 11:25:02.4±0.4, 23°.94S×67°.23W, h210km, ML4.9*
*NEIC **18** 11:25:02.4, 23°.94S×67°.23W, h210km, mb4.3/2, After GUC.*

ISC 18 11:24:59.7±0.8, 24°.07S±0°.05×66°.85W±0°.08, h188km±9km, n37, σ1°.49/53, mb3.6/8, 11C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**307**	*e*Pn	**Pn**	**11 25 44.0**	**+2.1**
LVC				*e*Sn	**Sn**	**11 26 17.7**	**+3.1**
PB04	**Plate Boundary**	**3.02**	**306**	*e*P	Pn	11 25 56.2	+7.2
PB04				*i* S	Sn	11 26 37.2	+10
PB04				AML	AML	11 26 42.3	
	comp=N,1μm,0.4s						
CEN1	**Los Morros**	**3.14**	**282**	⇓*i*P	**Pn**	**11 25 52.4**	**+1.8**
CEN1				*i* S	**Sn**	**11 26 31.0**	**+0.8**
CEN1	**Los Morros**	**3.14**	**282**	⇓*i*P	**Pn**	**11 25 52.4**	**+1.8**
CEN1				*i* S	**Sn**	**11 26 31.0**	**+0.8**
CEN1				AML	AML	11 26 36.2	
	comp=E,956nm,0.7s						
PB09	**Plate Boundary**	**3.16**	**315**	⇑*i*P	**Pn**	**11 25 52.7**	**+1.8**
PB09				*e*S	**Sn**	**11 26 30.9**	**+0.1**
PB09	**Plate Boundary**	**3.16**	**315**	⇑*i*P	**Pn**	**11 25 52.7**	**+1.8**
PB09				*e*S	**Sn**	**11 26 30.9**	**+0.1**
PB09				AML	AML	11 26 33.0	
	comp=N,2μm,0.5s						
ANCH	**Antofagasta**	**3.28**	**276**	⇑*i*P	**Pn**	**11 25 53.6**	**+1.5**
ANCH				*i* S	**Sn**	**11 26 32.1**	**-0.9**
ANCH	**Antofagasta**	**3.28**	**276**	⇑*i*P	**Pn**	**11 25 53.6**	**+1.5**
ANCH				*i* S	**Sn**	**11 26 32.1**	**-0.9**
ANCH				AML	AML	11 26 35.1	
	comp=E,2μm,0.5s						
PB10	**Plate Boundary**	**3.44**	**279**	⇑*i*P	**Pn**	**11 25 55.5**	**+1.4**
PB10				*i* S	**Sn**	**11 26 35.7**	**-0.8**
PB10				AML	AML	11 26 39.2	
	comp=E,3μm,0.3s						
PB07	**Plate Boundary**	**3.64**	**309**	⇑*i*P	**Pn**	**11 25 57.7**	**+0.9**
PB07				*i* S	**Sn**	**11 26 40.1**	**-1.4**
PB07	**Plate Boundary**	**3.64**	**309**	⇑*i*P	**Pn**	**11 25 57.7**	**+0.9**
PB07				*i* S	**Sn**	**11 26 40.1**	**-1.4**
PB07				AML	AML	11 26 41.5	
	comp=E,814nm,0.5s						
PB01	**Plate Boundary**	**3.88**	**321**	⇑*i*P	**Pn**	**11 26 00.1**	**+0.5**
PB01				*i* S	**Sn**	**11 26 45.1**	**-1.5**
PB01	**Plate Boundary**	**3.88**	**321**	⇑*i*P	**Pn**	**11 26 00.1**	**+0.5**
PB01				*i* S	**Sn**	**11 26 45.1**	**-1.5**
HMBC	**Humberstone**	**4.71**	**323**	⇑*i*P	**Pn**	**11 26 09.3**	**-0.9**
HMBC				*i* S	**Sn**	**11 27 03.0**	**-2.6**
HMBC	**Humberstone**	**4.71**	**323**	⇑*i*P	**Pn**	**11 26 09.3**	**-0.9**
HMBC				*i* S	**Sn**	**11 27 03.0**	**-2.6**
MNMC	**Minimini**	**5.54**	**332**	*e*P	**Pn**	**11 26 21.0**	**-0.2**
MNMC	**Minimini**	**5.54**	**332**	*e*P	**Pn**	**11 26 21.0**	**-0.2**
MNMC				*e*S	**Sn**	**11 27 22.8**	**-2.5**
CFAA	**Coronel Fontan**	**7.60**	**189**	P	**Pn**	**11 26 47.5**	**-0.4**
	comp=E,0.5nm,0.3s,baz=5.7,slow=13,SNR=41						
CFAA				S	**Sn**	**11 28 08.6**	**-4.9**
	comp=E,2.0nm,0.3s,baz=221,slow=16,SNR=16						
LPAZ	**La Paz**	**7.84**	**351**	*e*Pn	**Pn**	**11 26 52.1**	**+0.6**
	comp=E,8.4nm,0.6s						
LPAZ				*e*Sn	**Sn**	**11 28 21.2**	**+1.2**
LPAZ	**La Paz**	**7.84**	**351**	P	**Pn**	**11 26 52.2**	**+0.6**
	comp=E,1.7nm,0.3s,baz=126,slow=4.6,SNR=57						
LPAZ				S	**Sn**	**11 28 18.8**	**-1.3**
	comp=E,1.9nm,0.3s,baz=250,slow=23,SNR=8.4						
CPUP	**Villa Florida**	**8.91**	**107**	P	**Pn**	**11 27 04.6**	**-0.4**
SIV	**San Ignacio**	**9.70**	**35**	P	**Pn**	**11 27 13.9**	**-1.5**
	comp=E,6.7nm,0.3s,baz=226,slow=12,SNR=142						
SAML	**Samuel**	**15.44**	**14**	*e*Pn	**Pn**	**11 28 27.2**	**-0.8**
	comp=E,14nm,0.8s						
PLCA	**Paso Flores**	**16.90**	**190**	P	**Pn**	**11 28 45.3**	**-0.2**
	comp=E,0.5nm,0.3s,baz=360,slow=11,SNR=10.0						
BDFB	**Brasilia**	**19.59**	**68**	P	**P**	**11 29 13.0**	**-0.8**
	comp=E,0.7nm,0.3s,baz=237,slow=14,SNR=7.2						
SNAA	**Sanae**	**59.24**	**161**	P	**P**	**11 34 41.5**	**+0.5**
	comp=E,0.3nm,0.8s,baz=317,slow=7.4,SNR=5.4						
TXAR	**Lajitas Array**	**63.81**	**324**	P	**P**	**11 35 12.8**	**+0.7**
	comp=E,0.7nm,0.7s,baz=158,slow=7.8,SNR=8.6						
TORD	**Torodi Ar. Bea**	**76.47**	**69**	P	**P**	**11 36 28.6**	**-0.7**
	comp=E,0.5nm,0.5s,baz=259,slow=5.3,SNR=14						
PDAR	**Pinedale Array**	**77.28**	**329**	P	**P**	**11 36 34.0**	**+0.5**
	comp=E,0.5nm,0.5s,baz=130,slow=8.5,SNR=7.6						
ULM	**Lac du Bonnet**	**78.34**	**341**	P	**P**	**11 36 38.4**	**-0.4**
	comp=E,2.5nm,0.5s,baz=142,slow=6.2,SNR=3.6						
NVAR	**Mina Array Bea**	**78.68**	**321**	P	**P**	**11 36 42.5**	**+1.2**
	comp=E,0.3nm,0.5s,baz=141,slow=5.8,SNR=4.1						
MAW	**Mawson**	**81.33**	**163**	P	**P**	**11 36 55.7**	**+0.9**
	comp=E,1.3nm,0.8s,baz=315,slow=4.3,SNR=5.7						
YKA	**Yellowknife Ar**	**94.24**	**340**	P	**P**	**11 37 57.6**	**+0.7**
	comp=E,1.0nm,0.5s,baz=138,slow=4.2,SNR=5.5						
ASAR	**Alice Springs**	**128.45**	**205**	PKP	**PKPdf**	**11 43 43.2**	**-1.6**
	comp=E,0.7nm,0.9s,baz=124,slow=1.5,SNR=5.7						
WRA	**Warramunga Arr**	**131.62**	**207**	PKP	**PKPdf**	**11 43 50.8**	**-0.1**
	comp=E,0.3nm,0.8s,baz=155,slow=1.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**143.39**	**28**	PKP	PKPbc	11 44 09.2	+0.1
	comp=E,1.0nm,0.4s,baz=305,slow=3.1,SNR=4.7						
MKAR	**Makanchi Array**	**146.49**	**40**	PKPbc	**PKPbc**	**11 44 19.1**	**+0.3**
	comp=E,1.9nm,0.7s,baz=312,slow=3.0,SNR=14						

IDC 18 11:35:03.5±3.8, 1°.95S×98°.94E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/31, Error ellipse: s-maj=163.5km s-min=23.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.72**	**360**	LR	LR	11 37 37.0	
	comp=Z,120nm,18.6s,baz=72,slow=33						
CMAR	**Chiang Mai Arr**	**20.28**	**0**	P	P	11 39 41.1	+0.2
	0.4nm,0.3s,baz=191,slow=9.2,SNR=3.3						
WRA	**Warramunga Arr**	**38.93**	**120**	P	P	11 42 30.6	-0.8
	0.4nm,0.7s,baz=303,slow=9.0,SNR=4.1						
ASAR	**Alice Springs**	**40.14**	**125**	P	P	11 42 41.9	+0.3
	0.2nm,0.6s,baz=302,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**50.70**	**345**	P	P	11 44 04.7	-0.2
	0.8nm,0.6s,baz=149,slow=8.3,SNR=8.3						
ZALV	**Zalesovo Beam**	**56.93**	**350**	P	P	11 44 49.8	-0.5
	0.5nm,0.3s,baz=165,slow=7.4,SNR=2.8						
TXAR	**Lajitas Array**	**145.29**	**36**	PKPbc	PKPbc	11 54 43.7	-0.1
	0.3nm,0.5s,baz=248,slow=1.3,SNR=6.8						

*CSEM **18** 11:35:42.7, 60°.51N×28°.74E, h0km, ML1.6, Mining explosion. After HEL*

HEL 18 11:35:42.7±0.3, 60°.51N×28°.74E, h0km, ML1.6, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.58**	**274**	*e*P	Pg	11 35 53.3	-0.6
VJF				*e*RG	Rg	11 36 16.6	
VJF	**Virojoki**	**0.58**	**274**	P	Pg	11 35 53.3	-0.6
PVF	**Pernaja**	**1.42**	**273**	*e*P	Pn	11 36 07.9	-1.8
PVF				*e*S	Sg	11 36 26.1	-2.3
PVF	**Pernaja**	**1.42**	**273**	P	Pn	11 36 07.9	-1.8
PVF				S	Sg	11 36 26.0	-2.3
FIA0	**FINESS Array S**	**1.60**	**307**	*e*P	Pn	11 36 10.8	-1.4
FIA0				*e*S	Sn	11 36 31.9	-1.7
FIA0	**FINESS Array S**	**1.60**	**307**	P	Pn	11 36 10.8	-1.4
FIA0				S	Sn	11 36 31.9	-1.7
KAF	**Kangasniemi**	**1.99**	**325**	*e*P	Pn	11 36 17.5	-0.2
KAF				*e*S	Sn	11 36 43.3	0.0
KAF	**Kangasniemi**	**1.99**	**325**	P	Pn	11 36 17.4	-0.2
KAF				S	Sn	11 36 43.2	-0.1
MEF	**Metsahovi**	**2.18**	**264**	*e*P	Pn	11 36 20.4	+0.3
MEF	**Metsahovi**	**2.18**	**264**	P	Pn	11 36 20.3	+0.2
KEF	**Keuruu**	**2.50**	**314**	*e*PB	Pn	11 36 25.8	+1.2
KEF				*e*SG	Sb	11 36 59.8	+0.1
KEF	**Keuruu**	**2.50**	**314**	Pb	Pn	11 36 25.7	+1.1
KEF				Sg	Sb	11 36 59.8	+0.1
SUF	**Sumiainen**	**2.54**	**332**	*e*P	Pn	11 36 26.2	+1.1
SUF	**Sumiainen**	**2.54**	**332**	P	Pn	11 36 26.2	+1.0
RAF	**Rauma**	**3.46**	**282**	MSG		11 37 40.1	
	comp=Z,1.3nm,0.2s						
RAF				*e*		11 37 40.1	

*ISCJB **18** 11:43:31.4±0.3, 18°.07N±0°.05×68°.25W±0°.03, h95km, mb3.9/16, Error ellipse: s-maj=7.0km s-min=3.4km az=177.3*
*RSPR **18** 11:43:31.5, 18°.13N×68°.37W, h82km±3km, MD3.8/17*
*NEIC **18** 11:43:32.1±0.4, 18°.17N×68°.29W, h79km±4km, mb4.4/3, Error ellipse: s-maj=8.2km s-min=5.9km az=183.0*
*IDC **18** 11:43:40.2±4.8, 18°.18N×68°.42W, h156km±46km, mb3.5/14, mb1 3.7/16, mb1mx3.6/26, mbtmp3.6/16, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=16.0km s-min=14.1km az=74.0*

ISC 18 11:43:32.6±0.5, 18°.00N±0°.06×68°.28W±0°.05, h95km, n87, σ1°.27/94, mb3.8/16, 17C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.37**	**73**	⇓*i*P	**Pn**	**11 43 44.5**	**-2.5**
IMO	**Isla Mona**	**0.37**	**73**	⇓*i*P	**Pn**	**11 43 44.5**	**-2.5**
IDE	**Isla Desecheo**	**0.86**	**63**	⇓*e*P	**Pn**	**11 43 48.7**	**-2.4**
IDE	**Isla Desecheo**	**0.86**	**63**	⇓*e*P	**Pn**	**11 43 48.7**	**-2.4**
MPR	**Mayaguez**	**1.10**	**79**	⇑*e*P	**Pn**	**11 43 51.9**	**-1.9**
MPR	**Mayaguez**	**1.10**	**79**	⇑*e*P	**Pn**	**11 43 51.9**	**-1.9**
MPR				*e*S	**Sn**	**11 44 07.9**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.11**	**90**	⇑*i*P	**Pn**	**11 43 53.4**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.11**	**90**	*i* Pu	**Pn**	**11 43 53.4**	**-0.6**
CRPR				*e*S	**Sn**	**11 44 08.5**	**-1.5**
LSP	**Las Mesas**	**1.15**	**81**	⇓*e*P	**Pn**	**11 43 52.7**	**-1.6**
LSP	**Las Mesas**	**1.15**	**81**	⇓*e*P	**Pn**	**11 43 52.7**	**-1.6**
AGPR	**Aguadilla, PR**	**1.20**	**67**	⇑*e*P	**Pn**	**11 43 53.9**	**-1.1**
AGPR	**Aguadilla, PR**	**1.20**	**67**	*e*S	**Sn**	**11 44 10.6**	**-1.3**
AGPR				*e*S	**Sn**	**11 44 11.1**	**-0.8**
AGPR	**Aguadilla, PR**	**1.20**	**67**	*e*Pn	**Pn**	**11 43 53.6**	**-1.4**
AGPR				*e*Sn	**Sn**	**11 44 11.1**	**-0.8**
DR12	**Loma Pena Alta**	**1.30**	**307**	⇓*i*P	Pn	11 43 51.7	-4.5
DR12	**Loma Pena Alta**	**1.30**	**307**	⇓*i*P	Pn	11 43 51.7	-4.5
GBPR	**Guanica, Bosqu**	**1.33**	**91**	⇓*e*P	**Pn**	**11 43 55.4**	**-1.1**
GBPR	**Guanica, Bosqu**	**1.33**	**91**	⇓*e*P	**Pn**	**11 43 55.4**	**-1.1**
GBPR				*e*S	**Sn**	**11 44 13.8**	**-0.8**
LRS	**Lares**	**1.40**	**78**	⇑*i*P	**Pn**	**11 43 55.9**	**-1.4**
LRS	**Lares**	**1.40**	**78**	*i* Pu	**Pn**	**11 43 55.9**	**-1.4**
AOPR	**Arecibo Observ**	**1.49**	**76**	⇑*e*P	**Pn**	**11 43 56.9**	**-1.6**
AOPR	**Arecibo Observ**	**1.49**	**76**	⇓*e*P	**Pn**	**11 43 57.0**	**-1.5**
AOPR	**Arecibo Observ**	**1.49**	**76**	*e*S	**Sn**	**11 44 16.8**	**-1.3**
AOPR				*e*S	**Sn**	**11 44 17.7**	**-0.5**
AOPR	**Arecibo Observ**	**1.49**	**76**	⇓*e*P	**Pn**	**11 43 57.0**	**-1.5**
AOPR				*e*S	**Sn**	**11 44 16.8**	**-1.3**
OBIP	**Obispado Ponce**	**1.59**	**88**	⇑*e*P	**Pn**	**11 43 58.5**	**-1.2**
OBIP	**Obispado Ponce**	**1.59**	**88**	⇑*e*P	**Pn**	**11 43 58.5**	**-1.2**
OBIP				*e*S	**Sn**	**11 44 19.2**	**-1.2**
CELP	**Cerrillos**	**1.62**	**87**	⇓*e*P	**Pn**	**11 43 58.9**	**-1.2**
CELP	**Cerrillos**	**1.62**	**87**	⇓*e*P	**Pn**	**11 43 58.9**	**-1.2**
SJG	**San Juan**	**2.03**	**87**	⇑*e*P	**Pn**	**11 44 04.1**	**-1.2**
SJG				*e*S	**Sn**	**11 44 29.3**	**-1.1**
SJG	**San Juan**	**2.03**	**87**	⇑*e*P	**Pn**	**11 44 04.1**	**-1.2**
SJG				*e*S	**Sn**	**11 44 29.3**	**-1.1**
SDDR	**Presa de Saban**	**3.02**	**289**	⇑*e*P	**Pn**	**11 44 18.6**	**+0.1**
SDDR	**Presa de Saban**	**3.02**	**289**	⇑*e*P	**Pn**	**11 44 18.6**	**+0.1**
STVI	**Saint Thomas**	**3.18**	**83**	⇑*e*P	**Pn**	**11 44 20.2**	**-0.4**
STVI	**Saint Thomas**	**3.18**	**83**	⇑*e*P	**Pn**	**11 44 20.2**	**-0.4**
STVI				*e*S	**Sn**	**11 44 55.3**	**-2.5**
TBVI	**Tortola**	**3.51**	**83**	⇑*e*P	**Pn**	**11 44 23.9**	**-1.1**
TBVI				*e*S	**Sn**	**11 45 04.3**	**-1.3**
TBVI	**Tortola**	**3.51**	**83**	⇑*e*P	**Pn**	**11 44 23.9**	**-1.1**
TBVI				*e*S	**Sn**	**11 45 04.3**	**-1.3**
ABVI	**Anegada Island**	**3.82**	**78**	⇓*e*P	**Pn**	**11 44 28.9**	**-0.4**
ABVI				*e*S	**Sn**	**11 45 12.9**	**-0.2**
ABV	**Anegada**	**3.82**	**78**	⇓*e*P	**Pn**	**11 44 28.9**	**-0.4**
ABV	**Anegada**	**3.82**	**78**	*e*S	**Sn**	**11 45 12.9**	**-0.2**
GRTK	**Grand Turk**	**4.40**	**323**	⇑*e*P	Pn	11 44 32.7	-4.5
GRTK	**Grand Turk**	**4.40**	**323**	*e*S	Sn	11 45 19.6	-7.7
LZG	**Guadaloupe-1**	**6.49**	**106**	*e*P	**Pn**	**11 45 05.2**	**-0.4**
MLG	**Mont-d'or**	**6.58**	**106**	*e*P	**Pn**	**11 45 07.2**	**+0.4**
TBG	**Guadaloupe-3**	**6.70**	**108**	*e*P	**Pn**	**11 45 08.4**	**0.0**
SDV	**Santo Domingo**	**9.35**	**194**	*e*Pn	**Pn**	**11 45 45.5**	**+0.8**
	14nm,0.3s						
SDV				*e*Sn	**Sn**	**11 47 23.7**	**-4.4**
ROSC	**El Rosal**	**14.34**	**205**	P	P	11 46 59.6	+3.7
ROSC				S	**Sn**	**11 49 29.1**	**-0.8**
ROSC	**El Rosal**	**14.34**	**205**	P	P	11 46 59.6	+3.7
	2.8nm,0.3s,baz=286,slow=23,SNR=7.3						
ROSC				S	**Sn**	**11 49 29.1**	**-0.8**
	2.9nm,0.3s,baz=95,slow=20,SNR=2.1						
ROSC				LR	LR	11 52 18.2	
	comp=Z,43nm,21.3s,baz=355,slow=36						
JTS	**JuntasAbangare**	**17.88**	**247**	P	**Pn**	**11 47 36.3**	**+1.0**
JTS	**JuntasAbangare**	**17.88**	**247**	P	**Pn**	**11 47 36.3**	**+1.0**
	0.6nm,0.3s,baz=67,slow=7.7,SNR=7.6						
TIGA	**Tifton**	**19.27**	**317**	*e*P	**Pn**	**11 47 51.4**	**-0.2**
OTAV	**Otavalo**	**20.29**	**211**	*e*P	Pn	11 48 04.6	+0.3
	14nm,1.0s						
ATAH	**Atahualpa**	**26.90**	**203**	LR	LR	12 00 18.9	
	comp=Z,60nm,20.8s,baz=258,slow=37						
LPAZ	**La Paz**	**34.07**	**180**	P	P	11 50 13.8	+5.0
LPAZ	**La Paz**	**34.07**	**180**	P	P	11 50 13.8	+5.0
	0.6nm,0.5s,baz=332,slow=1.3,SNR=3.5						
TXAR	**Lajitas Array**	**34.19**	**296**	P	**P**	**11 50 09.9**	**+0.7**
TXAR	**Lajitas Array**	**34.19**	**296**	P	**P**	**11 50 09.9**	**+0.7**
	0.2nm,0.4s,baz=130,slow=11,SNR=9.7						
SIV	**San Ignacio**	**34.52**	**168**	P	**P**	**11 50 13.9**	**+2.0**
SIV	**San Ignacio**	**34.52**	**168**	P	**P**	**11 50 13.9**	**+2.0**
	0.8nm,0.6s,baz=349,slow=5.0,SNR=4.1						
SCHQ	**Schefferville**	**36.78**	**1**	P	**P**	**11 50 30.9**	**0.0**
SCHQ	**Schefferville**	**36.78**	**1**	P	**P**	**11 50 30.9**	**0.0**
	6.9nm,0.6s,baz=195,slow=7.2,SNR=16						
ULM	**Lac du Bonnet**	**39.02**	**332**	P	**P**	**11 50 48.4**	**-1.3**
ULM	**Lac du Bonnet**	**39.02**	**332**	P	**P**	**11 50 48.4**	**-1.3**
	2.7nm,0.5s,baz=74,slow=6.3,SNR=2.7						
PDAR	**Pinedale Array**	**42.74**	**314**	P	**P**	**11 51 21.0**	**+0.3**
PDAR	**Pinedale Array**	**42.74**	**314**	P	**P**	**11 51 21.0**	**+0.3**
	0.2nm,0.4s,baz=104,slow=7.6,SNR=3.0						
RLMT	**Red Lodge**	**43.49**	**318**	*e*P	**P**	**11 51 26.2**	**-0.5**
	2.2nm,0.6s						
SNOW	**Snow King Moun**	**43.81**	**315**	*e*P	**P**	**11 51 30.5**	**+1.1**
	13nm,0.5s						
NVAR	**Mina Array Bea**	**47.91**	**306**	P	**P**	**11 52 01.9**	**+0.2**
NVAR	**Mina Array Bea**	**47.91**	**306**	P	**P**	**11 52 01.9**	**+0.2**
	0.3nm,0.7s,baz=89,slow=8.7,SNR=3.9						
YKA	**Yellowknife Ar**	**54.75**	**336**	P	**P**	**11 52 51.0**	**-1.0**
YKA	**Yellowknife Ar**	**54.75**	**336**	P	**P**	**11 52 51.0**	**-1.0**
	1.9nm,0.8s,baz=119,slow=7.7,SNR=5.4						
ESDC	**Sonseca Array**	**59.09**	**54**	P	**P**	**11 53 24.4**	**+1.2**
ESDC	**Sonseca Array**	**59.09**	**54**	P	**P**	**11 53 24.4**	**+1.2**
	1.7nm,0.7s,baz=272,slow=7.2,SNR=11						
TORD	**Torodi Ar. Bea**	**67.24**	**83**	P	**P**	**11 54 17.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**67.24**	**83**	P	**P**	**11 54 17.9**	**+0.5**
	0.9nm,1.0s,baz=291,slow=7.7,SNR=4.0						
ILAR	**Eielson Array**	**69.02**	**333**	P	**P**	**11 54 27.1**	**-0.6**
ILAR	**Eielson Array**	**69.02**	**333**	P	**P**	**11 54 27.1**	**-0.6**
	0.8nm,0.9s,baz=102,slow=4.1,SNR=8.1						
NOA	**NORSAR Array B**	**69.34**	**31**	P	**P**	**11 54 31.1**	**+1.3**
NOA	**NORSAR Array B**	**69.34**	**31**	P	**P**	**11 54 31.1**	**+1.3**
	0.9nm,0.7s,baz=270,slow=6.3,SNR=3.2						
ARCES	**ARCESS Array B**	**74.61**	**21**	P	**P**	**11 55 01.9**	**+0.9**
ARCES	**ARCESS Array B**	**74.61**	**21**	P	**P**	**11 55 01.9**	**+0.9**
	6.2nm,1.0s,baz=282,slow=5.7,SNR=5.3						
FINES	**FINESS Array B**	**76.43**	**30**	P	**P**	**11 55 12.1**	**+0.6**
FINES	**FINESS Array B**	**76.43**	**30**	P	**P**	**11 55 12.1**	**+0.6**
	1.1nm,0.6s,baz=279,slow=9.1,SNR=3.2						
STKA	**Stephens Creek**	**149.71**	**237**	PKPab	**PKPab**	**12 03 17.4**	**0.0**
STKA	**Stephens Creek**	**149.71**	**237**	PKPab	**PKPab**	**12 03 17.4**	**0.0**
	0.6nm,0.6s,baz=117,slow=2.3,SNR=2.9						
WRA	**Warramunga Arr**	**158.52**	**261**	PKPab	**PKPab**	**12 03 53.8**	**-1.4**
WRA	**Warramunga Arr**	**158.52**	**261**	PKPab	**PKPab**	**12 03 53.8**	**-1.4**
	0.2nm,0.8s,baz=91,slow=5.7,SNR=3.0						
ASAR	**Alice Springs**	**158.52**	**251**	PKPab	**PKPab**	**12 03 54.9**	**-0.3**
ASAR	**Alice Springs**	**158.52**	**251**	PKPab	**PKPab**	**12 03 54.9**	**-0.3**
	0.3nm,0.9s,baz=107,slow=4.0,SNR=5.1						

IDC 18 11:50:47.1±4.6, 6°.65S×154°.63E, h68km±40km, mb3.6/9, mb1 3.9/12, mb1mx3.7/22, mbtmp3.7/12, ML3.5/3, MS3.6/6, Ms1 3.6/6, ms1mx3.1/29, Error ellipse: s-maj=28.3km s-min=22.3km az=82.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.89**	**249**	P	Pn	11 52 38.8	-0.4
	0.9nm,0.3s,baz=147,slow=21,SNR=2.8						
PMG				LR	LR	11 55 26.8	
	comp=Z,221nm,19.4s,baz=121,slow=35						
CTA	**Charters Tower**	**15.64**	**211**	P	Pn	11 54 23.9	+0.3
	0.3nm,0.3s,baz=38,slow=12,SNR=5.9						
DZM	**Mont Dzumac**	**19.11**	**145**	P	P	11 55 05.0	+0.3
	0.2nm,0.3s,baz=351,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**23.72**	**234**	P	P	11 55 51.4	-1.8
	4.7nm,0.9s,baz=55,slow=9.3,SNR=18						
ASAR	**Alice Springs**	**26.14**	**227**	P	P	11 56 15.4	+0.3
	1.8nm,1.0s,baz=62,slow=9.1,SNR=9.0						
STKA	**Stephens Creek**	**27.90**	**204**	P	P	11 56 32.0	+1.2
	1.1nm,0.5s,baz=41,slow=16,SNR=7.6						
STKA				LR	LR	12 06 28.0	
	comp=Z,113nm,19.4s,baz=205,slow=34						
FITZ	**Fitzroy Crossi**	**30.47**	**245**	P	P	11 56 53.8	0.0
	2.7nm,0.9s,baz=108,slow=8.4,SNR=5.1						
FITZ				LR	LR	12 10 12.3	
	comp=Z,85nm,18.8s,baz=76,slow=38						
KSRS	**Korea Array**	**50.47**	**332**	P	P	11 59 37.7	-0.5
	0.9nm,0.8s,baz=148,slow=10.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**60.31**	**296**	P	P	12 00 51.2	+1.8
	0.7nm,0.4s,baz=116,slow=5.7,SNR=6.0						
SONM	**Songino Array**	**68.86**	**327**	P	P	12 01 44.6	-0.1
	0.3nm,0.5s,baz=162,slow=6.5,SNR=

ISC 18 12:33:53.3±0.8, 7°61S±0°07×128°21E±0°07, h142km, n20, σ2§47/25, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.45**	**241**	P	Pn	12 35 01.6	+2.2
	baz=4.4,SNR=3.6						
SOEI				S	**Sn**	**12 35 52.2**	**+1.4**
	baz=4.4,SNR=8.3						
TLE	**Tual**	**4.90**	**67**	P	**Pn**	**12 35 07.8**	**+2.5**
	baz=4.9,SNR=8.0						
MTN	**Manton Dam**	**5.94**	**151**	P	**Pn**	**12 35 21.5**	**+2.2**
	baz=5.9,SNR=57						
MTN				S	**Sn**	**12 36 26.3**	**-0.1**
	baz=5.9,SNR=8.1						
FAKI	**Fak Fak**	**6.15**	**41**	P	**Pn**	**12 35 21.9**	**-0.2**
	baz=6.2,SNR=15						
KDU	**Kakadu**	**6.56**	**141**	P	**Pn**	**12 35 29.6**	**+2.1**
	baz=6.6,SNR=154						
KDU				S	**Sn**	**12 36 39.5**	**-1.7**
	baz=6.6,SNR=13						
KNRA	**Kununurra**	**8.04**	**176**	P	**Pn**	**12 35 48.4**	**+1.1**
	baz=8.1,SNR=79						
KNRA				S	**Sn**	**12 37 13.2**	**-3.6**
	baz=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**10.73**	**193**	P	**Pn**	**12 36 21.9**	**-1.3**
	0.7nm,0.3s,baz=12,slow=8.6,SNR=23						
FITZ				S	**Sn**	**12 38 17.7**	**-4.0**
	1.8nm,0.3s,baz=144,slow=19,SNR=6.8						
FITZ	**Fitzroy Crossi**	**10.73**	**193**	P	**Pn**	**12 36 23.5**	**+0.4**
	baz=11,SNR=19						
WRA	**Warramunga Arr**	**13.62**	**155**	P	**Pn**	**12 37 00.2**	**-0.7**
	0.8nm,0.3s,baz=220,slow=7.8,SNR=64						
WRA				S	Sn	12 39 23.2	-8.5
	3.9nm,0.3s,baz=328,slow=24,SNR=13						
COEN	**Coen**	**15.99**	**114**	P	**P**	**12 37 33.5**	**+2.3**
	baz=16,SNR=12						
COEN				S	**Sn**	**12 40 22.5**	**-6.1**
	baz=16,SNR=4.9						
ASAR	**Alice Springs**	**16.88**	**162**	P	**Pn**	**12 37 43.6**	**+2.4**
	1.9nm,0.3s,baz=340,slow=11,SNR=162						
ASAR				S	S	12 40 38.3	-11
	0.3nm,0.3s,baz=346,slow=25,SNR=4.6						
MTSU	**Mount Surprise**	**18.85**	**125**	P	**Pn**	**12 38 05.0**	**+0.3**
	baz=19,SNR=15						
CTA	**Charters Tower**	**21.43**	**127**	P	**P**	**12 38 32.5**	**+2.1**
	1.5nm,0.4s,baz=309,slow=13,SNR=4.3						
STKA	**Stephens Creek**	**27.18**	**154**	P	**P**	**12 39 24.9**	**+1.2**
	1.3nm,0.7s,baz=325,slow=10,SNR=4.8						
CMSA	**Cobar Meteorol**	**28.86**	**148**	P	**P**	**12 39 40.5**	**+1.9**
	baz=29,SNR=7.8						
YNG	**Young**	**32.43**	**148**	P	**P**	**12 40 12.3**	**+2.3**
	baz=32,SNR=5.9						
SONM	**Songino Array**	**58.48**	**343**	P	**P**	**12 43 33.9**	**-0.6**
	0.5nm,0.6s,baz=165,slow=6.0,SNR=2.3						
MKAR	**Makanchi Array**	**67.78**	**328**	P	**P**	**12 44 33.5**	**-2.3**
	0.2nm,0.4s,baz=113,slow=8.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**71.35**	**335**	P	**P**	**12 44 55.1**	**-2.5**
	0.3nm,0.3s,baz=85,slow=3.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**72.11**	**329**	P	**P**	**12 44 59.8**	**-2.4**
	0.3nm,0.5s,baz=134,slow=4.7,SNR=4.5						

IDC 18 12:39:47.9±1.3, 1°42S×99°60E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.8/25, mbtmp3.7/10, ML3.6/2, Error ellipse: s-maj=51.5km s-min=16.6km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.25**	**351**	Pn	Pn	12 40 53.6	-0.5
	0.5nm,0.3s,baz=138,slow=15,SNR=10						
CMAR	**Chiang Mai Arr**	**19.76**	**358**	P	P	12 44 20.4	+0.7
	0.2nm,0.3s,baz=188,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**38.63**	**121**	P	P	12 47 12.7	-0.7
	1.5nm,0.5s,baz=302,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**39.91**	**126**	P	P	12 47 23.8	-0.3
	0.7nm,0.5s,baz=299,slow=7.7,SNR=8.6						
KSRS	**Korea Array**	**46.73**	**31**	P	P	12 48 18.6	-0.2
	0.5nm,0.5s,baz=228,slow=8.4,SNR=3.6						
SONM	**Songino Array**	**49.41**	**6**	P	P	12 48 40.2	+0.5
	0.3nm,0.4s,baz=355,slow=9.8,SNR=2.5						
STKA	**Stephens Creek**	**49.83**	**132**	P	P	12 48 43.8	+0.8
	0.8nm,0.5s,baz=143,slow=22,SNR=4.0						
MKAR	**Makanchi Array**	**50.37**	**345**	P	P	12 48 46.9	+0.1
	1.2nm,0.5s,baz=132,slow=10.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**54.88**	**344**	P	P	12 49 19.2	-0.9
	0.3nm,0.5s,baz=236,slow=7.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	P	12 49 30.9	-0.9
	1.6nm,0.7s,baz=175,slow=5.5,SNR=6.6						
TXAR	**Lajitas Array**	**144.48**	**36**	PKP	PKPbc	12 59 26.1	+0.5
	0.4nm,0.5s,baz=322,slow=3.8,SNR=4.5						
CFAA	**Coronel Fontan**	**145.19**	**198**	PKPbc	PKPbc	12 59 27.5	-0.3
	0.4nm,0.8s,baz=173,slow=3.6,SNR=5.1						

*NIED **18** 12:45:00,23°40N×123°60E, h8km, Mw4.0 Best double couple: M0 1.11000×10^15 NP1:φs 114.00000°, δ79.00000°, λ-36.00000°. NP2:φs 212.00000°, δ55.00000°, λ-167.00000°.*
*IDC **18** 12:45:15.9±0.9,23°51N×123°50E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.8/28, mbtmp3.8/12, ML3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/41, Error ellipse: s-maj=25.8km s-min=18.6km az=90.0*
*JMA **18** 12:45:19.1±0.2,23°44N×123°56E, h49km±3km, M3.6*

ISC 18 12:45:16.5±3.7, 23°49N±0°07×123°60E±0°06, h5km±23km, n27, σ1§03/32, mb3.8/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.60**	**18**	P	**Pn**	**12 45 32.2**	**+0.5**
HATJ				S	**Sn**	**12 45 41.5**	**-0.2**
JKRS	**Kuro-shima**	**0.83**	**26**	P	**Pn**	**12 45 35.6**	**+0.7**
JKRS				S	**Sn**	**12 45 48.1**	**+0.5**
IRIF	**Iriomote-Funau**	**0.85**	**8**	P	**Pn**	**12 45 35.6**	**+0.4**
IRIF				S	**Sn**	**12 45 47.9**	**-0.1**
JIJ	**Ishigaki jima**	**1.00**	**29**	P	**Pn**	**12 45 37.8**	**+0.5**
JIJ				S	**Sn**	**12 45 50.9**	**-0.9**
YOJ	**Yonaguni jima**	**1.11**	**331**	P	**Pn**	**12 45 38.9**	**+0.2**
YOJ				S	**Sb**	**12 45 53.3**	**+0.3**
JTJ	**Tarama**	**1.53**	**41**	P	**Pb**	**12 45 45.3**	**0.0**
JTJ				S	**Sb**	**12 46 05.0**	**0.0**
JMJ	**Miyako jima 2**	**2.03**	**49**	P	**Pn**	**12 45 52.6**	**+1.2**
JOGS	**Gusukube**	**2.08**	**52**	P	**Pn**	**12 45 53.2**	**+1.1**
JKE	**Kume jima 2**	**4.04**	**45**	P	**Pn**	**12 46 18.4**	**-0.7**
JAGN	**Aguni-jima**	**4.52**	**46**	P	**Pn**	**12 46 25.0**	**-0.6**
JOW	**Kunigami**	**5.39**	**51**	P	**Pn**	**12 46 35.9**	**-1.7**
JAMN	**Amaminishikomi**	**6.90**	**45**	P	**Pn**	**12 46 56.3**	**-2.0**
JAM	**Amami Oshima**	**7.29**	**47**	P	**Pn**	**12 47 01.5**	**-2.3**
JMZ	**Minamidaito 2**	**7.31**	**70**	P	**Pn**	**12 47 01.6**	**-2.4**
JNU	**Nakatsue**	**11.54**	**32**	Pn	**Pn**	**12 48 01.7**	**-0.2**
	0.2nm,0.3s,baz=196,slow=12,SNR=3.3						
KSRS	**Korea Array**	**14.41**	**14**	Pn	**Pn**	**12 48 40.2**	**-0.9**
	0.2nm,0.3s,baz=122,slow=38,SNR=9.2						
MJAR	**Matsushiro Arr**	**18.12**	**41**	P	**P**	**12 49 30.8**	**+1.4**
	0.3nm,0.3s,baz=227,slow=9.3,SNR=7.7						
MJAR				LR	LR	12 56 42.2	
	comp=Z,60nm,19.9s,baz=210,slow=38						
ASAJ	**Asahikawa**	**25.82**	**33**	P	**P**	**12 50 50.0**	**+1.4**
	2.0nm,0.6s,baz=217,slow=16,SNR=6.7						
PETK	**Petropavlovsk-**	**39.24**	**32**	P	**P**	**12 52 45.9**	**+0.1**
	1.3nm,0.5s,baz=199,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**12 52 55.2**	**-0.2**
	0.4nm,0.4s,baz=101,slow=10,SNR=8.1						
ZALV	**Zalesovo Beam**	**42.04**	**326**	LR	LR	13 12 56.1	
	comp=Z,27nm,19.7s,baz=160,slow=40						
KURBB	**Kurchatov Arra**	**44.07**	**320**	P	**P**	**12 53 25.2**	**-0.1**
	0.4nm,0.3s,baz=114,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**44.42**	**165**	P	**P**	**12 53 28.7**	**+0.2**
	0.5nm,0.7s,baz=347,slow=8.8,SNR=6.3						
ASAR	**Alice Springs**	**47.93**	**167**	P	**P**	**12 53 56.9**	**+0.8**
	0.5nm,0.6s,baz=348,slow=14,SNR=8.1						
ILAR	**Eielson Array**	**68.81**	**27**	P	**P**	**12 56 21.4**	**-0.2**
	0.5nm,0.6s,baz=269,slow=4.4,SNR=12						
FINES	**FINESS Array B**	**73.16**	**330**	P	**P**	**12 56 47.6**	**-0.4**
	0.7nm,0.4s,baz=40,slow=3.2,SNR=7.9						
GERES	**GERESS Array B**	**84.77**	**321**	P	**P**	**12 57 51.6**	**-0.5**
	1.1nm,0.7s,baz=46,slow=5.8,SNR=6.5						

*AUST **18** 13:04:06.9, 16°78S×175°43W, h20km*
*IDC **18** 13:05:10.5±1.6, 18°29S×178°16W, h474km±18km, mb3.5/18, mb1 3.7/20, mb1mx3.7/25, mbtmp3.5/20, Error ellipse: s-maj=17.6km s-min=9.4km az=140.0*

ISC 18 13:05:08.5±0.6, 18°3S±0°1×178°2W±0°1, h450km, n39, σ1§23/38, mb3.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**56**	P	P	13 07 02.7	+4.0
	3.5nm,0.3s,baz=78,slow=21,SNR=7.4						
AFI				S	**S**	**13 08 29.6**	**+0.7**
	8.3nm,0.3s,baz=44,slow=21,SNR=7.7						
DZM	**Mont Dzumac**	**14.96**	**253**	P	**P**	**13 08 21.6**	**+2.2**
	0.3nm,0.3s,baz=1.3,slow=22,SNR=4.9						
URZ	**Urewera**	**20.36**	**191**	P	**P**	**13 09 11.6**	**-1.5**
	4.2nm,0.6s,baz=46,slow=4.6,SNR=7.1						
LHI	**Lord Howe Isla**	**24.47**	**233**	S	S	13 14 19.1	+41
	baz=27,SNR=3.2						
ARMA	**Armidale**	**29.99**	**240**	P	**P**	**13 10 40.8**	**+1.8**
	baz=33,SNR=6.6						
MGCD	**Mangrove Creek**	**31.30**	**236**	S	S	13 16 15.3	+51
	baz=34,SNR=5.1						
RMQ	**Roma**	**31.61**	**249**	P	**P**	**13 10 54.5**	**+1.4**
	baz=34,SNR=5.4						
CMSA	**Cobar Meteorol**	**35.20**	**241**	P	**P**	**13 11 24.2**	**+0.8**
	baz=38,SNR=8.8						
TOO	**Toolangi**	**37.15**	**231**	P	**P**	**13 11 40.9**	**+1.2**
	baz=40,SNR=6.5						
STKA	**Stephens Creek**	**38.69**	**242**	P	**P**	**13 11 53.4**	**+1.1**
	3.6nm,0.4s,baz=86,slow=10,SNR=25						
STKA	**Stephens Creek**	**38.69**	**242**	P	**P**	**13 11 53.4**	**+1.1**
	baz=42,SNR=16						
BBOO	**Buckleboo**	**43.46**	**241**	P	**P**	**13 12 30.8**	**+0.3**
	baz=46,SNR=14						
WRA	**Warramunga Arr**	**44.81**	**260**	P	**P**	**13 12 40.9**	**-0.4**
	2.0nm,0.3s,baz=97,slow=7.8,SNR=120						
WRA				PcP	**PcP**	**13 14 12.7**	**-1.4**
	1.4nm,0.4s,baz=95,slow=3.2,SNR=8.1						
ASAR	**Alice Springs**	**44.94**	**255**	P	**P**	**13 12 42.1**	**-0.1**
	16nm,0.7s,baz=90,slow=8.2,SNR=316						
ASAR				PcP	**PcP**	**13 14 12.9**	**-1.6**
	2.6nm,0.6s,baz=104,slow=3.9,SNR=13						
KDU	**Kakadu**	**47.80**	**269**	P	**P**	**13 13 04.0**	**-0.1**
	baz=50,SNR=6.2						
MTN	**Manton Dam**	**49.04**	**269**	P	**P**	**13 13 12.9**	**-0.5**
	baz=52,SNR=6.3						
KNRA	**Kununurra**	**50.70**	**264**	P	**P**	**13 13 25.2**	**-0.4**
	baz=53,SNR=14						
FITZ	**Fitzroy Crossi**	**53.22**	**261**	P	**P**	**13 13 44.3**	**+0.4**
	1.0nm,0.3s,baz=108,slow=5.7,SNR=30						
MEEK	**Meekatharra**	**58.55**	**250**	P	**P**	**13 14 19.9**	**-1.2**
	baz=61,SNR=4.8						
VNDA	**Vanda**	**60.13**	**185**	P	**P**	**13 14 31.4**	**+0.7**
	1.4nm,0.8s,baz=353,slow=6.5,SNR=4.2						
MJAR	**Matsushiro Arr**	**68.33**	**323**	P	**P**	**13 15 22.9**	**-0.8**
	0.8nm,0.5s,baz=358,slow=12,SNR=3.6						
UGM	**Wanagama**	**69.88**	**268**	P	**P**	**13 15 32.9**	**-0.8**
	baz=72,SNR=4.4						
PETK	**Petropavlovsk-**	**74.07**	**345**	P	**P**	**13 15 57.0**	**-0.2**
	1.9nm,0.7s,baz=134,slow=8.6,SNR=10						
KSRS	**Korea Array**	**75.12**	**318**	P	**P**	**13 16 04.3**	**+0.9**
	0.3nm,0.6s,baz=354,slow=34,SNR=2.5						
YBH	**Yreka Blue Hor**	**78.63**	**39**	P	**P**	**13 16 24.4**	**+1.5**
	2.0nm,0.7s,baz=260,slow=11,SNR=5.5						
KDAK	**Kodiak Island**	**78.67**	**14**	P	**P**	**13 16 22.8**	**+0.2**
	7.7nm,0.7s,baz=241,slow=3.7,SNR=6.8						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**13 16 28.5**	**+0.8**
	1.1nm,0.5s,baz=226,slow=7.9,SNR=9.9						
MAW	**Mawson**	**83.62**	**200**	P	**P**	**13 16 47.4**	**-0.7**
	1.1nm,0.5s,baz=108,slow=7.9,SNR=11						
MAW	**Mawson**	**83.62**	**200**	P	**P**	**13 16 47.8**	**-0.4**
	baz=86,SNR=8.5						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**13 17 02.2**	**+1.6**
	2.5nm,0.6s,baz=210,slow=7.2,SNR=24						
ILAR	**Eielson Array**	**86.16**	**13**	P	P	13 16 58.9	-1.6
	2.6nm,0.4s,baz=220,slow=5.2,SNR=126						
PDAR	**Pinedale Array**	**87.43**	**43**	P	**P**	**13 17 07.5**	**+0.1**
	1.5nm,0.8s,baz=200,slow=3.3,SNR=11						
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P	**P**	**13 17 16.4**	**+0.5**
	1.0nm,0.8s,baz=124,slow=2.1,SNR=7.3						
YKA	**Yellowknife Ar**	**94.54**	**25**	P	**P**	**13 17 38.3**	**-1.0**
	1.4nm,0.7s,baz=353,slow=39,SNR=3.2						
MKAR	**Makanchi Array**	**109.55**	**314**	PKiKP	**PKiKP**	**13 22 44.5**	**-2.6**
	0.3nm,0.5s,baz=107,slow=1.7,SNR=4.8						
ARCES	**ARCESS Array B**	**126.69**	**350**	PKP	**PKPdf**	**13 23 17.9**	**-1.4**
	2.4nm,0.8s,baz=358,slow=1.3,SNR=6.6						
FINES	**FINESS Array B**	**133.58**	**344**	PKP	**PKPdf**	**13 23 31.2**	**-1.3**
	2.4nm,1.0s,baz=116,slow=4.4,SNR=5.0						
GERES	**GERESS Array B**	**148.00**	**345**	PKPbc	**PKPdf**	**13 24 01.2**	**+2.5**
	2.4nm,0.6s,baz=14,slow=2.1,SNR=11						
ESDC	**Sonseca Array**	**158.06**	**12**	PKPab	**PKPab**	**13 24 48.0**	**-1.5**
	0.4nm,0.4s,baz=340,slow=3.7,SNR=4.8						

*NIED **18** 13:17:00,23°30N×123°50E, h8km, Mw5.4 Best double couple: M0 1.56000×10^17 NP1:φs 128.00000°, δ72.00000°, λ-27.00000°. NP2:φs 228.00000°, δ64.00000°, λ-159.00000°.*
*BJI **18** 13:17:32.2,23°50N×123°71E, h5km, mB5.3/51, mb5.1/42, Ms5.6/74, Ms7 5.5/65*
*IDC **18** 13:17:34.5±0.3,23°54N×123°60E, h0km, mb5.0/34, mb1 5.1/37, mb1mx5.1/39, mbtmp5.0/37, ML4.7/3, MS4.9/30, Ms1 5.0/30, ms1mx4.9/38, Error ellipse: s-maj=10.0km s-min=6.9km az=78.0*
*JMA **18** 13:17:35.9±0.2,23°37N×123°55E, h44km±3km, M5.9*
JMA Felt II J1.
*NEIC **18** 13:17:35.3±1.3,23°51N×123°52E, h6km±8km, mb5.6/127, MS5.2/123, MW5.4(NIED), Error ellipse: s-maj=3.3km s-min=3.0km az=111.0*
NEIC Recorded [2 JMA] on Hateruma-jima and [1 JMA] on Iriomote-jima and Ishigaki-jima. Recorded [1 TAP] in Hua-lien, I-lan, T'ai-chung and T'ai-tung, Taiwan.
*TAP **18** 13:17:36.5,23°45N×123°63E, h49km±3km, ML5.3, D*
*TEH **18** 13:17:36.0,23°52N×123°53E, h10km, ML5.6*
*ISCJB **18** 13:17:36.4±0.4,23°48N±0°01×123°53E±0°01, h23km±2km, mb5.4/318, MS5.2/191, Error ellipse: s-maj=2.3km s-min=1.8km az=153.8*
*DJA **18** 13:17:36.9±0.4,24°N±5°×12°4E±°, h10km, M5.7/40, mb5.5/40, mB6.0/34, Mw(mB)5.7/34*
*BKK **18** 13:17:37.5±0.3,24°N±4°×12°4E±°, h10km, M5.5/37, mb5.4/37, mB5.9/30, MLv5.4/1, Mw(mB)5.5/30, Mwp5.6/1*
*GCMT **18** 13:17:38.4±0.1,23°39N×123°44E, h15km, MW5.4, Moment Tensor Solution. s84,c148; s26,c28; Moment tensor: Scale 10^17 Nm; Mrr=0.72±.02; Mθθ=1.65±.02; Mφφ=-0.93±.02; Mrθ=-0.29±.04; Mθφ=0.26±.02; Mφr=0.61±.05; Best double couple: M0 1.60000×10^17 NP1:φs 121.00000°, δ67.00000°, λ-35.00000°. NP2:φs 226.00000°, δ58.00000°, λ-153.00000°. Principal axes: T 1.7000, Plg6.0000°, Azm176.0000°; N -0.2100, Plg49.0000°, Azm272.0000°; P -1.4900, Plg40.0000°, Azm81.0000°; Data Used: II IU IC G CN. Surface waves: sta= 94, comp=174, per= 50.*
*MOS **18** 13:17:38.1±1.1,23°58N×123°59E, h33km, mb5.7/92, MS5.2/58 Error ellipse: s-maj=6.3km s-min=3.9km az=113.6*
*SZGRF **18** 13:17:40.5,23°55N×123°61E, h42km, mb5.7, MS5.6, Southwestern Ryukyu Islands, Japan*

ISC 18 13:17:37.6±0.3, 23°49N±0°02×123°56E±0°02, h20km±1km, h19km:pP-P, n1146, σ1§46/1183, mb5.5/330, MS5.2/193, 170C-160D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.60**	**22**	P	**Pg**	**13 17 49.8**	**+0.1**
HATJ				S	**Sn**	**13 17 59.8**	**-0.5**
JKRS	**Kuro-shima**	**0.85**	**29**	P	**Pb**	**13 17 53.3**	**-0.4**
JKRS				S	**Sn**	**13 18 06.6**	**+0.3**
IRIF	**Iriomote-Funau**	**0.85**	**10**	P	**Pb**	**13 17 53.3**	**-0.5**
IRIF				S	**Sn**	**13 18 06.1**	**-0.3**
JIJ	**Ishigaki jima**	**1.02**	**31**	P	**Pb**	**13 17 55.4**	**-1.2**
JIJ				*eS*	**Sb**	**13 18 09.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.09**	**333**	⇑*i*P	**Pn**	**13 17 57.1**	**-0.6**
	baz=319						
YOJ				*eS*	**Sb**	**13 18 11.3**	**-0.2**
	baz=319						
YOJ	**Yonaguni jima**	**1.09**	**333**	P	**Pn**	**13 17 56.8**	**-1.0**
YOJ				*eS*	**Sb**	**13 18 11.7**	**+0.1**
JTJ	**Tarama**	**1.55**	**42**	P	**Pn**	**13 18 03.3**	**-0.8**
JTJ				*eS*	**Sn**	**13 18 22.6**	**-1.0**
HWA	**Hwalien**	**1.86**	**285**	*e*P	**Pn**	**13 18 06.5**	**-1.9**
	baz=276						
TEGC	**Jichi Village**	**1.87**	**277**	*e*P	**Pn**	**13 18 06.9**	**-1.6**
	baz=286						
TEGC				*eS*	**Sn**	**13 18 28.1**	**-3.4**
	baz=286						
TWD	**Chiawan**	**1.89**	**288**	⇑P	**Pn**	**13 18 06.9**	**-1.9**
	baz=279						
TWD				*eS*	**Sn**	**13 18 27.7**	**-4.5**
	baz=279						
ENA	**Nanau**	**1.91**	**300**	*e*P	**Pn**	**13 18 08.2**	**-0.8**
	baz=310						
TWC	**Suao**	**1.92**	**306**	*e*P	**Pn**	**13 18 08.4**	**-0.7**
	baz=305						
TWC				*eS*	**Sn**	**13 18 32.1**	**-0.7**
	baz=305						
NACB	**Ninganchiao**	**1.92**	**291**	*e*P	**Pn**	**13 18 06.7**	**-2.6**
ESL	**Shilin**	**1.98**	**280**	⇑*i*P	**Pn**	**13 18 07.7**	**-2.3**
	baz=280						
ESL				*eS*	**Sn**	**13 18 28.7**	**-5.5**
	baz=280						
EHY	**Hungye**	**2.06**	**271**	P	**Pn**	**13 18 08.9**	**-2.2**
	baz=271						
EHY				S	**Sn**	**13 18 32.9**	**-3.3**
	baz=271						
CHKT	**Chengkung**	**2.06**	**259**	*e*P	Pn	13 18 07.8	-3.2
	baz=269						
CHKT				*eS*	Sn	13 18 30.0	-6.2
	baz=269						
JMJ	**Miyako jima 2**	**2.06**	**50**	⇓*e*P	**Pn**	**13 18 10.5**	**-0.6**
	baz=48						
JMJ				*eS*	**Sn**	**13 18 35.0**	**-1.2**
	baz=48						
JMJ	**Miyako jima 2**	**2.06**	**50**	P	**Pn**	**13 18 10.4**	**-0.7**
YULB	**Yu-li**	**2.08**	**268**	*e*P	**Pn**	**13 18 08.9**	**-2.5**
TWB1	**Santiao Chiao**	**2.08**	**317**	⇓*i*P	**Pn**	**13 18 10.9**	**-0.5**
	baz=325						
TWF1	**Yuli**	**2.08**	**267**	*e*P	**Pn**	**13 18 08.9**	**-2.6**
	baz=267						
TWF1				S	**Sn**	**13 18 33.1**	**-3.9**
	baz=267						
ILA	**Ilan**	**2.09**	**308**	*e*P	**Pn**	**13 18 11.8**	**+0.3**
	baz=307						
JOGS	**Gusukube**	**2.10**	**53**	P	**Pn**	**13 18 11.0**	**-0.8**
JOGS				*eS*	**Sn**	**13 18 38.7**	**+1.3**
TWE	**Neicheng**	**2.12**	**306**	*e*P	**Pn**	**13 18 11.9**	**0.0**
	baz=305						
ENTT	**Nioudou**	**2.15**	**302**	*e*P	**Pn**	**13 18 12.0**	**-0.4**
	baz=302						
WHF	**Hehuan Shan**	**2.20**	**288**	P	**Pn**	**13 18 11.7**	**-1.8**
	baz=278						
WHF				*eS*	**Sn**	**13 18 36.0**	**-4.4**
	baz=278						
NNS	**Nan Shan**	**2.21**	**296**	⇑*i*P	**Pn**	**13 18 12.6**	**-0.8**
	baz=286						
NNS				*eS*	**Sn**	**13 18 35.9**	**-4.3**
	baz=286						
NWF	**Wu-fen Shan**	**2.26**	**314**	*e*P	**Pn**	**13 18 13.7**	**-0.3**
	baz=301						
TWT	**Tachien**	**2.31**	**290**	*e*P	**Pn**	**13 18 13.9**	**-0.9**
	baz=289						
TWT				*eS*	**Sn**	**13 18 40.2**	**-2.5**
	baz=289						
YHNB	**Yeheng**	**2.32**	**301**	*e*P	**Pn**	**13 18 14.0**	**-0.8**
NSK	**Sanguang**	**2.33**	**301**	⇓P	**Pn**	**13 18 14.4**	**-0.6**
	baz=289						
TWA	**Mucha**	**2.33**	**310**	*e*P	**Pn**	**13 18 14.8**	**-0.2**
	baz=309						
TTN	**Taitung**	**2.34**	**252**	P	**Pn**	**13 18 12.7**	**-2.3**
	baz=253						
TTN				*eS*	**Sn**	**13 18 37.7**	**-5.5**
	baz=253						
LAY	**Lan-yu**	**2.35**	**232**	⇓*i*P	Pn	13 18 11.9	-3.3
	baz=244						
TWG	**Pinlang**	**2.39**	**254**	⇓*i*P	**Pn**	**13 18 13.2**	**-2.4**
	baz=263						
TWG				S	**Sn**	**13 18 39.7**	**-4.7**
	baz=263						
TWG	**Pinlang**	**2.39**	**254**	*e*P	**Pn**	**13 18 13.1**	**-2.6**
YUS	**Yu-Shan**	**2.40**	**270**	⇑*i*P	**Pn**	**13 18 14.8**	**-1.4**
	baz=271						
YUS				*eS*	**Sn**	**13 18 40.9**	**-4.3**
	baz=271						
TATO	**Taipei**	**2.40**	**308**	P	**Pn**	**13 18 15.7**	**-0.1**
	SNR=76						
TATO	**Taipei**	**2.40**	**308**	*e*P	**Pn**	**13 18 15.7**	**-0.1**
SSLB	**Suanglung**	**2.41**	**278**	*e*P	**Pn**	**13 18 13.7**	**-2.3**
TAP1	**Taipei**	**2.41**	**310**	*e*P	**Pn**	**13 18 14.5**	**-1.5**
	baz=309						
TAP	**Taipei**	**2.43**	**310**	*e*P	**Pn**	**13 18 14.4**	**-1.8**
	baz=309						
SMLT	**Sun Moon Lake**	**2.47**	**280**	⇑P	**Pn**	**13 18 15.9**	**-1.0**
	baz=280						
SMLT				*eS*	**Sn**	**13 18 43.7**	**-2.9**
	baz=280						
TYC	**Yuchr**	**2.51**	**280**	⇑*i*P	**Pn**	**13 18 16.5**	**-0.9**
	baz=280						
TWY	**Chenhua**	**2.52**	**315**	*e*P	**Pn**	**13 18 16.9**	**-0.5**
	baz=302						
PCYT	**Pengchaiyu**	**2.52**	**328**	⇓*i*P	**Pn**	**13 18 17.7**	**+0.2**
	baz=320						
ALS	**Alishan**	**2.53**	**271**	⇑*i*P	**Pn**	**13 18 17.1**	**-0.7**
	baz=271						
ALS				*eS*	**Sn**	**13 18 45.7**	**-2.6**
	baz=271						
NCU	**National Centr**	**2.62**	**305**	*e*P	**Pn**	**13 18 20.0**	**+1.

baz=275
SCLT Jiali 3.11 265 *e*P **Pn 13 18 26.2 +0.6**
baz=275
SCLT S **Sn 13 19 02.0 -0.2**
baz=275
KAU Kaohsiung 3.13 254 *e*P **Pn 13 18 26.2 +0.3**
baz=254
TWP Hsiaoliuchiu 3.16 249 *e*P **Pn 13 18 27.8 +1.5**
baz=250
TWP *e*S **Sn 13 19 03.0 -0.5**
baz=250
WDGT Dungji 3.59 267 *e*P **Pn 13 18 31.7 -0.5**
baz=267
WDGT *e*S **Sn 13 19 10.0 -4.1**
baz=267
JKE Kume jima 2 4.07 45 P **Pn 13 18 36.2 -2.5**
JAGN Aguni-jima 4.54 47 P **Pn 13 18 43.6 -1.7**
JJT2 Tamagusuku 2 4.63 54 P **Pn 13 18 45.1 -1.3**
QZH Quanzhou 4.76 289⇑*i*Pn **Pn 13 18 45.8 -2.5**
QZH Sn Sn 13 19 36.4 -6.5
QZH LR LR
comp=N,105μm,15.6s
QZH LR LR
comp=E,99μm,15.7s
QZH LR LR
comp=Z,69μm,15.3s
KNM Kinmen 4.78 282 *e*P **Pn 13 18 49.1 +0.6**
baz=281
JIH Iheya 5.32 48 P **Pn 13 18 53.8 -2.2**
JOW Kunigami 5.41 51⇓*e*P **Pn 13 18 54.3 -2.9**
baz=51
JOW Kunigami 5.41 51 *e*P **Pn 13 18 54.5 -2.7**
comp=Z,315nm,1.2s
JOW Kunigami 5.41 51 P **Pn 13 18 54.5 -2.7**
PIP Pasuquin 5.83 209⇓*i*P **Pn 13 19 01.9 -1.1**
PIP *e*S **Sn 13 20 06.8 -2.6**
APYP Conner 6.01 202 *e*P **Pn 13 19 04.1 -1.3**
ABRA Dolores 6.40 205 *e*P **Pn 13 19 10.7 -0.1**
JTK Tokunoshima 6.47 48 P Pn 13 19 08.5 -3.3
JTK S **Sn 13 20 25.4 +0.2**
PALP Palanan 6.49 190⇑*i*P **Pn 13 19 10.2 -1.8**
PALP *e*S Sn 13 20 15.4 -10
CAUP Cauayan 6.72 194 *e*P **Pn 13 19 16.0 +0.8**
JAMN Amaminishikomi 6.92 46 P Pn 13 19 14.2 -3.8
JAM Amami Oshima 7.32 47 P Pn 13 19 19.7 -3.7
JAM *e*S **Sn 13 20 44.1 -1.8**
JMZ Minamidaito 2 7.34 70 P Pn 13 19 19.3 -4.5
BCPH Baguio City Da 7.61 202⇑*i*P **Pn 13 19 26.5 -1.1**
SSE Sheshan 7.86 345 Pn **Pn 13 19 30.6 -0.3**
SSE Sn **Sn 13 21 00.1 +0.8**
SSE LR LR
comp=N,20μm,16.6s
SSE LR LR
comp=E,9μm,16.6s
SSE LR LR
comp=Z,30μm,14.3s
BALP Baler 7.94 194 *e*P **Pn 13 19 31.5 -0.4**
SCZP Santa Cruz 8.41 205 *e*P **Pn 13 19 37.3 -1.2**
JNN Nakanoshima 8.47 40 P **Pn 13 19 37.5 -1.8**
HKC Hong Kong Obse 8.73 264 P **Pn 13 19 40.0 -2.9**
NJ2 Nanjing 9.49 335 *e*P **Pn 13 19 52.5 -0.7**
NJ2 pP 13 19 56.3
NJ2 sP 13 19 59.5
NJ2 S **Sn 13 21 39.4 +0.1**
NJ2 sS 13 21 47.4
NJ2 pmax pmax
comp=Z,530nm,4.5s
NJ2 LR LR
comp=N,2μm,10.1s
NJ2 LR LR
comp=E,3μm,13.2s
LQP Lukban 9.53 192 *e*P **Pn 13 19 53.3 -0.6**
GQP Guinayangan 9.60 187⇓*e*P **Pn 13 19 54.2 -0.5**
TGY Tagaytay City 9.66 195 Pn **Pn 13 19 58.0 +2.3**
TGY Sn **Sn 13 21 41.7 -2.2**
TGY Tagaytay City 9.66 195 Pn **Pn 13 19 58.0 +2.3**
comp=E,37nm,0.3s,baz=10,slow=1.6,SNR=23
TGY Sn **Sn 13 21 41.7 -2.2**
comp=E,34nm,0.3s,baz=226,slow=18,SNR=2.0
PVCP Virac 9.86 177⇓*e*P **Pn 13 19 56.6 -1.7**
PVCP *e*S Sn 13 21 36.0 -13
WHN Wuhan 10.80 313 ⇑P **Pn 13 20 10.3 -0.9**
WHN LR LR
comp=N,20μm,8.6s
WHN LR LR
comp=E,32μm,10.6s
WHN LR LR
comp=Z,43μm,14.0s
JNU Nakatsue 11.55 32 *e*P **Pn 13 20 19.9 -1.6**
comp=Z,111nm,1.2s
JNU Sn **Sn 13 22 31.7 +1.7**
JNU Nakatsue 11.55 32 Pn **Pn 13 20 19.6 -1.9**
comp=Z,2.3nm,0.3s,baz=180,slow=9.2,SNR=21
JNU Sn **Sn 13 22 31.7 +1.7**
comp=Z,0.2nm,0.3s,baz=2.3,slow=18,SNR=1.6
RCP Roxas 11.89 184⇑*e*P **Pn 13 20 26.9 +0.7**
PLP Palo 12.34 173⇓*e*P **Pn 13 20 29.8 -2.4**
GUIM Jordan 12.83 184 *e*P **Pn 13 20 41.2 +2.2**
MSLP Maasin 13.34 174 *e*P **Pn 13 20 48.0 +2.0**
QIZ Qiongzhong 13.54 253 P **Pn 13 20 48.1 -0.6**
QIZ S **Sn 13 23 19.1 +0.5**
QIZ LR LR
comp=N,12μm,18.8s
QIZ LR LR
comp=Z,16μm,16.3s
QIZ Qiongzhong 13.54 253 *e*P **Pn 13 20 47.5 -1.1**
comp=Z,109nm,1.4s
TIA Tai'an 13.85 338 ⇑P **Pn 13 20 55.3 +2.5**
TIA pmax pmax
comp=Z,70nm,1.2s
TIA pmax pmax
comp=Z,2μm,4.5s
TIA LR LR
comp=N,16μm,12.2s
TIA LR LR
comp=E,14μm,9.6s
TIA LR LR
comp=Z,20μm,13.5s
INCN Inchon 14.19 10 Pn **P 13 21 02.6 -2.3**
SNR=18
INCN Inchon 14.19 10 *e*P **Pn 13 20 59.5 +1.9**
comp=Z,117nm,1.0s
ENH Enshi 14.25 301 *e*P **Pn 13 20 59.5 +1.0**
comp=Z,75nm,0.9s
KSAR Wonju Array Be 14.39 14 Pn **Pn 13 21 01.1 +0.9**
KSAR Sn **Sn 13 23 41.3 +2.0**
KSRS Korea Array 14.41 14 Pn **Pn 13 21 01.1 +0.6**
comp=Z,0.5nm,0.3s,baz=193,slow=13,SNR=54
KSRS Sn **Sn 13 23 41.3 +1.6**
baz=183,slow=11,SNR=1.9
KSRS LR LR 13 26 21.0
comp=Z,3μm,21.4s,baz=190,slow=37
DL2 Dalian 15.45 354⇑*i*P **Pn 13 21 15.9 +1.4**
DL2 S **Sn 13 24 11.3 +6.2**
DL2 pmax pmax
comp=Z,210nm,1.4s
DL2 pmax pmax
comp=Z,1μm,5.7s
DL2 LR LR
comp=N,10μm,14.8s
DL2 LR LR
comp=E,4μm,11.3s
DL2 LR LR
comp=Z,11μm,15.6s
PAGZ Pagadian 15.56 181 *e*P **Pn 13 21 16.3 +0.4**
GYA Guiyang 15.61 284⇑*i*P **Pn 13 21 16.6 0.0**
GYA PP **pP 13 21 28.4 +2.1**
GYA S **Sn 13 24 09.8 +0.7**
GYA SS **S 13 24 27.6 +3.3**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,410nm,5.6s
GYA LR LR
comp=N,12μm,12.1s
GYA LR LR
comp=E,16μm,14.3s
GYA LR LR
comp=Z,17μm,14.9s
IPIL Ipil 15.64 184 *e*P **Pn 13 21 16.1 -1.0**
CTBH Cotabato--PC H 16.19 178 *e*P **Pn 13 21 23.9 -0.2**
DAV Davao City (W) 16.44 173 Pn **Pn 13 21 28.1 +0.8**
DAV Davao City (W) 16.44 173 Pn **Pn 13 21 28.1 +0.8**
comp=Z,12nm,0.3s,baz=238,slow=14,SNR=2.1
DAV LR LR 13 27 19.4
comp=Z,6μm,20.3s,baz=104,slow=36
XAN Xi'an 16.57 313 P **P 13 21 31.6 +0.3**
XAN PP PnPn 13 21 45.6 +7.4
XAN S **S 13 24 39.9 -3.9**
XAN pmax pmax
comp=Z,250nm,11.4s
XAN LR LR
comp=N,11μm,22.8s
XAN LR LR
comp=E,4μm,22.8s
XAN LR LR
comp=Z,4μm,14.6s
BJI Beijing 17.64 341 P **Pn 13 21 42.4 +0.2**
BJI S **Sn 13 25 00.8 +2.7**
BJI pmax pmax
comp=Z,1μm,4.4s
BJI LR LR
comp=N,10μm,15.1s
BJI LR LR
comp=E,6μm,19.7s
BJI LR LR
comp=Z,6μm,18.6s
MAT Matsushiro 18.14 41 P **Pn 13 21 47.2 -1.2**
MAT S **S 13 25 15.9 +0.3**
MJAR Matsushiro Arr 18.14 41 P **Pn 13 21 47.6 -0.8**
MJAR Matsushiro Arr 18.14 41 P **Pn 13 21 47.6 -0.8**
comp=Z,3.0nm,0.3s,baz=226,slow=9.3,SNR=9.2
MJAR LR LR 13 29 43.4
comp=Z,6μm,18.1s,baz=235,slow=40
SNY Shenyang 18.28 0⇑P **Pn 13 21 49.3 -0.8**
SNY pmax pmax
comp=Z,4μm,4.5s
SNY LR LR
comp=N,16μm,14.9s
SNY LR LR
comp=Z,20μm,14.7s
KKM Kota Kinabalu 18.73 203 *e*P **P 13 21 55.1 -0.3**
comp=Z,345nm,1.4s
KKM Kota Kinabalu 18.73 203 P **Pn 13 21 55.9 +0.1**
KKM Kota Kinabalu 18.73 203 P **Pn 13 21 56.2 +0.4**
KKM Kota Kinabalu 18.73 203 P **Pn 13 21 56.0 +0.1**
comp=Z,201nm,1.6s,comp=Z,5μm
SDKM Sandakan 18.78 200 P **Pn 13 21 56.2 -0.1**
MYLDM Lahad Datu 18.85 196 P **Pn 13 21 59.4 +2.2**
MYLDM Lahad Datu 18.85 196 P **Pn 13 22 00.6 +3.5**
MYLDM Lahad Datu 18.85 196 P **Pn 13 22 01.3 +4.2**
MYLDM Lahad Datu 18.85 196 P **Pn 13 21 59.2 +2.0**
comp=Z,298nm,1.5s,comp=Z,8μm
PANO Nakornpanom 18.85 254 P **Pn 13 21 59.7 +2.5**
comp=Z,245nm,1.5s,comp=Z,5μm
UBPT Khong Chiam 18.91 248 P **Pn 13 22 01.4 +3.5**
comp=Z,129nm,3.3s,comp=Z,5μm
UBPT Khong Chiam 18.91 248 P **Pn 13 22 01.4 +3.5**
comp=Z,129nm,3.3s,comp=Z,5μm
KMI Kunming 19.05 279 P **Pn 13 22 01.3 +1.5**
KMI pP **pP 13 22 07.6 +3.1**
KMI sP sP 13 22 12.3 +5.3
KMI PP **PnPn 13 22 16.8 +4.4**
KMI S **Sn 13 25 31.8 -1.0**
KMI sS **sS 13 25 40.5 -2.9**
KMI SS SnSn 13 25 57.3 +10
KMI pmax pmax
comp=Z,880nm,5.3s
KMI LR LR
comp=N,23μm,18.8s
KMI LR LR
comp=E,7μm,22.1s
KMI LR LR
comp=Z,16μm,14.4s
CD2 Chengdu 19.09 297 P **Pn 13 21 59.6 -0.4**
CD2 pP **pP 13 22 03.1 -1.6**
CD2 sP **sP 13 22 06.8 -0.4**
CD2 PP **PnPn 13 22 16.8 +4.1**
CD2 S **Sn 13 25 29.0 -4.4**
CD2 sS **S 13 25 34.1 -0.9**
CD2 SS **SnSn 13 25 54.5 +7.0**
CD2 pmax pmax
comp=Z,150nm,1.3s
CD2 pmax pmax
comp=Z,1μm,7.2s
CD2 LR LR
comp=N,22μm,15.5s
CD2 LR LR
comp=E,21μm,14.3s
CD2 LR LR
comp=Z,31μm,15.6s
TSM Tawau 19.86 197 P **P 13 22 08.2 +0.6**
HHC Hu-ho-hao-te 20.03 333 *e*P **P 13 22 09.8 +0.4**
HHC PP **PnPn 13 22 29.0 +3.3**
HHC S **S 13 25 49.3 -4.5**
HHC sS Sn 13 25 55.3 -0.8
HHC SS **SnSn 13 26 17.3 +6.6**
HHC PcP **PcP 13 26 25.0 0.0**
HHC ScP **ScP 13 29 59.9 -0.4**
HHC PcS **PcS 13 30 01.6 -0.9**
HHC pmax pmax
comp=Z,230nm,1.4s
HHC pmax pmax
comp=Z,2μm,4.6s
HHC LR LR
comp=N,30μm,12.6s
HHC LR LR
comp=E,9μm,12.2s
HHC LR LR
comp=Z,10μm,12.0s
CN2 Changchun 20.32 4⇑P **P 13 22 11.6 -0.8**
CN2 *e*S Sn 13 26 02.5 -0.2
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,310nm,4.0s
CN2 LR LR
comp=N,19μm,13.0s
CN2 LR LR
comp=E,8μm,13.0s
CN2 LR LR
comp=Z,15μm,14.0s
BTO Baotou 20.52 329 *e*P **P 13 22 14.6 -0.1**
VLA Vladivostok 20.75 17⇑*e*P **P 13 22 17.1 0.0**
VLA *e*S **S 13 26 08.8 +0.9**
VLA *e* 13 33 40.3
VLA pmax pmax
comp=Z,58nm,1.0s
VLA MLR MLR
comp=E,142μm,17.0s
LZH Lanzhou 21.17 311 ⇑P **P 13 22 22.9 +1.0**
LZH S **S 13 26 13.0 -3.7**
LZH sS Sn 13 26 19.3 -4.5
LZH SS **SnSn 13 26 46.3 +7.5**
LZH pmax pmax
comp=Z,380nm,1.3s
LZH pmax pmax
comp=Z,1μm,4.9s
LZH LR LR
comp=N,7μm,14.5s
LZH LR LR
comp=E,12μm,14.3s
LZH LR LR
comp=Z,19μm,15.7s
MDJ Mudanjiang 21.64 12 P **P 13 22 25.8 -0.9**
MDJ pP **pP 13 22 29.8 -2.5**
MDJ sP **sP 13 22 32.3 -2.5**
MDJ S **S 13 26 26.3 +0.8**
MDJ ScP **ScP 13 30 06.3 +2.3**
MDJ ScS **ScS 13 33 50.6 +2.5**
MDJ pmax pmax
comp=Z,15nm,1.4s
MDJ pmax pmax
comp=Z,120nm,6.1s
MDJ LR LR
comp=N,9μm,17.6s
MDJ LR LR
comp=E,17μm,15.2s
MDJ LR LR
comp=Z,15μm,15.2s
MDJ Mudanjiang 21.64 12 *e*P **P 13 22 25.2 -1.5**
comp=Z,69nm,1.1s
MDJ LR LR
comp=Z,8μm,19.0s
LOEI Loei 21.70 258 P **P 13 22 26.4 -1.2**
comp=Z,142nm,1.3s
USRK Ussuriysk Arra 21.78 17 P **P 13 22 26.8 -1.4**
comp=Z,9.1nm,0.8s,baz=216,slow=9.7,SNR=17
USRK S **S 13 26 33.0 +4.7**
comp=Z,1.9nm,0.6s,baz=140,slow=42,SNR=2.7
PBKT Sadao Pong 22.30 256 P **P 13 22 35.5 +1.6**
comp=Z,100nm,1.4s,comp=Z,2μm
PBKT Sadao Pong 22.30 256 P **P 13 22 35.5 +1.6**
comp=Z,100nm,1.4s,comp=Z,2μm
TOLI Toli-Toli 22.40 187 P P 13 22 46.9 +12
GUMO Guam 22.45 112 *e*P **P 13 22 35.8 +0.3**
comp=Z,1μm,1.1s
GUMO LR LR
comp=Z,3μm,21.0s
BTM Bintulu 22.58 208 P **P 13 22 35.8 -1.1**
GTOI Gorontalo 22.73 181 P **P 13 22 36.6 -1.9**
comp=Z,674nm,1.3s,comp=Z,11μm
KMSI Cibinong 22.79 179 P P 13 22 47.2 +8.1
CHBT CHBT 22.80 246 P **P 13 22 40.7 +1.4**
comp=Z,71nm,1.8s
CHBT CHBT 22.80 246 P **P 13 22 40.7 +1.4**
comp=Z,71nm,1.8s
LAMP Lampang 22.87 262 P **P 13 22 42.5 +2.5**
comp=Z,16nm,1.2s,comp=Z,239nm
TNTI Ternate 22.89 170 P **P 13 22 40.0 -0.2**
comp=Z,707nm,1.7s,comp=Z,14μm
NAYO Nakonayok 22.91 250 P **P 13 22 42.5 +2.0**
comp=Z,151nm,1.5s,comp=Z,8μm
MRSI Marisa 22.93 184 P **P 13 22 41.8 +1.1**
comp=Z,273nm,1.5s,comp=Z,5μm
CMAI Chiengmai2 23.04 266 P **P 13 22 43.5 +1.5**
comp=Z,128nm,2.2s,comp=Z,3μm
CHTO Chiang Mai 23.41 263 *e*P **P 13 22 46.2 +0.7**
CHTO pmax pmax
comp=Z,149nm,1.4s
CHTO MLR MLR
comp=Z,5μm,19.0s
CHTO Chiang Mai 23.41 263 P **P 13 22 46.8 +1.2**
SNR=72
CHTO Chiang Mai 23.41 263 *e*P **P 13 22 46.2 +0.7**
comp=Z,149nm,1.4s
CHTO LR LR
comp=Z,5μm,19.0s
CHTO Chiang Mai 23.41 263 P **P 13 22 46.3 +0.7**
comp=Z,123nm,1.6s,comp=Z,3μm
CHTO Chiang Mai 23.41 263 P **P 13 22 46.3 +0.7**
comp=Z,123nm,1.6s,comp=Z,3μm
CM31 Chiang Mai Arr 23.51 262 *e*P **P 13 22 47.3 +0.8**
comp=Z,81nm,1.3s
CMAR Chiang Mai Arr 23.51 262 P **P 13 22 47.5 +1.0**
CMAR PcP **PcP 13 26 32.9 +0.8**
CMAR S **S 13 27 06.3 +6.7**
CMAR Chiang Mai Arr 23.51 262 P **P 13 22 47.5 +1.0**
comp=Z,8.5nm,1.0s,baz=64,slow=8.0,SNR=52
CMAR PcP **PcP 13 26 32.9 +0.8**
comp=Z,3.8nm,0.9s,baz=24,slow=0.8,SNR=6.2
CMAR S **S 13 27 06.3 +6.7**
comp=Z,1.1nm,0.6s,baz=356,slow=0.7,SNR=2.3
CMAR LR LR 13 33 38.7
comp=Z,4μm,19.8s,baz=66,slow=41
SBUM Sibu 23.63 209 P **P 13 22 46.2 -1.4**
SBUM Sibu 23.63 209 P **P 13 22 46.0 -1.6**
comp=Z,169nm,1.0s,comp=Z,2μm
LBMI Labuha 24.29 170 P **P 13 22 54.6 +0.7**
comp=Z,1μm,1.9s,comp=Z,16μm
LUWI Luwuk 24.40 182 P **P 13 22 58.7 +3.8**
comp=Z,474nm,1.6s,comp=Z,9μm
SGKI Sangatta, Kali 24.57 194 P **P 13 22 55.9 -0.5**
comp=Z,268nm,1.2s,comp=Z,6μm
ERM Erimo 24.65 37 P **P 13 22 55.2 -1.7**
comp=Z,783nm,0.8s,SNR=24
ERM Erimo 24.65 37*c i*P **P 13 22 55.0 -1.9**
ERM pmax pmax
comp=Z,122nm,0.8s
ERM MLR MLR
comp=Z,6μm,20.0s
ERM Erimo 24.65 37 *e*P **P 13 22 55.0 -1.9**
comp=Z,190nm,1.0s
ERM LR LR
comp=Z,7μm,20.0s
SWI Sorong 25.34 162 P **P 13 23 05.0 +1.6**
comp=Z,188nm,1.4s,comp=Z,3μm
KSM Kuching 25.38 212 *e*P **P 13 23 02.6 -1.2**
comp=Z,287nm,1.5s
KSM LR LR
comp=Z,1μm,20.0s
KSM Kuching 25.38 212 P **P 13 23 03.8 0.0**
KSM Kuching 25.38 212 P **P 13 23 03.1 -0.7**
comp=Z,131nm,1.6s,comp=Z,2μm
GTA Gaotai 25.62 314⇑P **P 13 23 05.3 -0.7**
GTA pP **pP 13 23 09.4 -2.5**
GTA sP **sP 13 23 12.3 -2.0**
GTA PcP **PcP 13 26 36.9 +0.4**
GTA S **S 13 27 34.1 +0.8**
GTA sS **sS 13 27 40.4 -2.7**
GTA pmax pmax
comp=Z,310nm,4.5s
GTA LR LR
comp=N,7μm,19.7s
GTA LR LR
comp=E,8μm,14.7s
GTA LR LR
comp=Z,10μm,14.3s
MTKI Muara Teweh, K 25.71 200 P P 13 23 13.7 +7.0
comp=Z,204nm,1.4s
ASAJ Asahikawa 25.83 33 *e*P **P 13 23 06.0 -1.6**
comp=Z,32nm,0.9s
ASAJ Asahikawa 25.83 33 P **P 13 23 06.5 -1.2**
comp=Z,47nm,0.7s,baz=240,slow=19,SNR=59
HIA Hailar 25.90 354 *e*P **P 13 23 05.8 -2.4**
comp=Z,113nm,1.0s
HIA LR LR
comp=Z,4μm,19.0s
SKSI Soroako, Sulaw 25.95 185 P **P 13 23 10.8 +1.8**
comp=Z,188nm,1.9s,comp=Z,5μm
STKI Sintang 26.08 208 P **P 13 23 11.0 +0.9**
comp=Z,50nm,1.4s
MMSI Mamuju 26.42 190 P **P 13 23 15.6 +2.4**
comp=Z,390nm,1.6s,comp=Z,7μm
KLR Kul'dur 26.49 12 *e*P P 13 23 08.6 -4.9
KLR *e*S **S 13 27 47.5 +1.1**
HABR Khabarovsk 26.55 17 *e*P **P 13 23 11.2 -2.8**
HABR *e*PPP PPP 13 23 59.0
HABR *e* 13 26 35.9
HABR *e*S **S 13 27 45.6 -1.7**
HABR *e* 13 34 06.0
HABR pmax pmax
comp=E,19nm,2.5s
HABR pmax pmax
comp=N,10.0nm,2.2s
HABR pmax pmax
comp=Z,24nm,2.2s
HABR MLR MLR
comp=Z,10μm,16.0s
HABR MLR MLR
comp=N,6μm,18.0s
HABR MLR MLR
comp=E,10μm,16.0s
TTSI Tana Toraja 26.63 188 P P 13 23 21.3 +6.3
comp=E,104nm,1.2s,comp=E,3μm
RKPI Ransiki, Papua 26.91 156 P **P 13 23 20.3 +2.6**
comp=E,220nm,1.7s,comp=E,3μm
MSAI Masohi 27.18 168 P P 13 23 29.8 +10
AAI Ambon 27.39 170 P P 13 23 31.6 +10
BAKI Biak 27.40 152 P P 13 23 27.4 +5.3
comp=E,85nm,2.1s,comp=E,3μm
YUK Yuzh-Kuril'sk 27.48 36*d i*P **P 13 23 20.7 -1.7**
YUK *i* PPP PPP 13 24 13.5
YUK *i* S **S 13 28 00.4 -1.7**
YUK pmax pmax
comp=N,458nm,1.3s
YUK pmax pmax
comp=Z,878nm,1.3s
YUK pmax pmax
comp=E,536nm,1.4s
YUK pmax pmax
comp=Z,2μm,1.8s
YUK MLR MLR
comp=E,2μm,19.0s
YUK MLR MLR
comp=N,1μm,20.0s
YUK MLR MLR
comp=Z,4μm,20.0s
SPSI Sidrap Palu 27.54 188 P P 13 23 28.2 +5.0
comp=Z,92nm,1.6s,comp=Z,2μm
KKSI Kolaka, Sulawe 27.56 184 P P 13 23 30.9 +7.5
comp=Z,76nm,0.8s
FAKI Fak Fak 27.58 161 P P 13 23 29.5 +5.8
comp=Z,168nm,1.6s,comp=Z,3μm
ULN Ulaanbaatar 27.65 336 P **P 13 23 23.2 -1.0**
SNR=29
ULN Ulaanbaatar 27.65 336 *e*P **P 13 23 22.5 -1.7**

comp=Z,101nm,1.6s
ULN LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 27.65 336 P **P** **13 23 22.6 -1.7**
comp=Z,19nm,2.0s,comp=Z,675nm
SONM Songino Array 27.88 335 P **P** **13 23 25.0 -1.3**
SONM PcP **PcP** **13 26 40.1 -1.6**
SONM Songino Array 27.88 335 P **P** **13 23 25.0 -1.3**
comp=Z,14nm,0.9s,baz=143,slow=9.4,SNR=74
SONM PcP **PcP** **13 26 40.1 -1.6**
comp=Z,9.9nm,1.1s,baz=152,slow=6.5,SNR=6.5
SONM LR LR 13 35 13.9
comp=Z,3μm,21.3s,baz=145,slow=38
YSS Yuzh-Sakhalins 28.03 29 *αe*P **P** **13 23 27.3 0.0**
YSS *e* 13 23 31.9
YSS *e* 13 23 40.4
YSS *e* 13 24 20.9
YSS *e* 13 26 42.9
YSS *e*S **S** **13 28 07.0 -3.7**
YSS *e*SSS SSS 13 29 50.0
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,5μm,15.0s
YSS MLR MLR
comp=N,8μm,16.0s
YSS MLR MLR
comp=E,4μm,15.0s
BBKI Banjar Baru 28.11 199 P P 13 23 36.8 +8.4
KULM Kulim 28.55 234 PFAKE 13 23 40.0 +7.7
KULM LR LR
comp=Z,1μm,19.0s
KULM Kulim 28.55 234 P **P** **13 23 34.1 +1.8**
KULM Kulim 28.55 234 P P 13 23 41.1 +8.8
KAPI Kappang 28.58 188 *e*P **P** **13 23 29.7 -2.8**
comp=Z,323nm,1.6s
KAPI Kappang 28.58 188 P P 13 23 37.5 +5.0
comp=Z,121nm,1.7s,comp=Z,2μm
KAPI Kappang 28.58 188 P **P** **13 23 34.0 +1.5**
comp=Z,28nm,1.0s,baz=12,slow=7.5,SNR=5.9
KAPI LR LR 13 35 31.1
comp=Z,1μm,20.6s,baz=224,slow=38
IPM Ipoh 28.82 232 *e*P **P** **13 23 34.0 -0.7**
comp=Z,51nm,1.3s
IPM Ipoh 28.82 232 P **P** **13 23 35.1 +0.4**
IPM Ipoh 28.82 232 P P 13 23 41.3 +6.6
comp=Z,72nm,1.1s,comp=Z,1μm
MYKOM Kota Tinggi 28.82 224 P **P** **13 23 35.9 +1.3**
MYKOM Kota Tinggi 28.82 224 P **P** **13 23 35.2 +0.5**
comp=Z,105nm,1.3s,comp=Z,1μm
SHL Shillong 28.86 281 *e*P **P** **13 23 34.0 -1.2**
SHL *ex* **S** **13 28 30.0 +5.3**
KUR Kuril'sk 29.34 36 *d i*P **P** **13 23 38.0 -1.1**
KUR *i* S S 13 28 23.9 -7.6
KUR pmax pmax
comp=Z,365nm,1.3s
KUR pmax pmax
comp=N,52nm,1.3s
KUR pmax pmax
comp=E,81nm,1.3s
KUR pmax pmax
comp=Z,481nm,1.5s
KUR MLR MLR
comp=E,4μm,20.0s
KUR MLR MLR
comp=Z,3μm,20.0s
KUR MLR MLR
comp=N,2μm,16.0s
CIT Chita 29.50 347 *e*P **P** **13 23 39.4 -1.1**
CIT *e* 13 23 50.1
LSA Lhasa 29.57 289 P **P** **13 23 42.8 +0.9**
LSA LR LR
comp=N,6μm,17.5s
LSA LR LR
comp=E,7μm,18.0s
LSA LR LR
comp=Z,10μm,17.0s
LSA Lhasa 29.57 289 *e*P **P** **13 23 42.0 +0.2**
LSA pmax pmax
comp=Z,39nm,0.8s
LSA MLR MLR
comp=Z,9μm,19.0s
LSA Lhasa 29.57 289 *e*P **P** **13 23 42.0 +0.2**
comp=Z,39nm,0.8s
LSA LR LR
comp=Z,9μm,19.0s
PPBI Pangkal Pinang 30.63 216 P P 13 23 57.4 +6.7
comp=Z,61nm,0.8s,comp=Z,6μm
PSI Prapat 31.49 233 P **P** **13 23 58.9 +0.4**
PSI Prapat 31.49 233 P **P** **13 23 58.9 +0.4**
comp=Z,9.1nm,0.9s,baz=12,slow=7.1,SNR=6.5
PSI LR LR 13 37 19.8
comp=Z,922nm,18.9s,baz=41,slow=38
BKNI Bangkinang 31.76 227 P P 13 24 07.9 +7.2
comp=Z,144nm,1.4s,comp=Z,2μm
MMRI Maumere 31.96 182 P P 13 24 06.9 +4.5
comp=Z,367nm,1.8s,comp=Z,6μm
LBFI Labuhan Bajo, 31.98 187 P **P** **13 24 04.7 +2.1**
comp=Z,812nm,1.4s,comp=Z,9μm
TLY Talaya 32.05 336 *c i*P **P** **13 24 01.6 -1.3**
TLY *e* 13 25 09.9
TLY *e*S **S** **13 29 17.2 +3.4**
TLY *e*SSS SSS 13 31 32.3
TLY pmax pmax
comp=Z,79nm,1.5s
TLY MLR MLR
comp=Z,5μm,14.0s
TLY Talaya 32.05 336 P **P** **13 24 01.2 -1.7**
comp=Z,101nm,1.4s,SNR=7.0
IRK Irkutsk 32.28 338 *e*P **P** **13 24 02.9 -2.1**
IRK *e* 13 25 22.0
IRK *e* 13 34 34.5
IRK pmax pmax
comp=Z,64nm,1.7s
TAPN Taplejung 32.54 284 *e*P **P** **13 24 08.8 +0.9**
comp=Z,571nm,1.7s
BSI Banda Aceh 32.58 241 P P 13 24 18.4 +10
PPI Padang Panjang 32.77 227 P **P** **13 24 11.7 +2.2**
comp=Z,153nm,1.5s,comp=Z,2μm
PPI Padang Panjang 32.77 227 P P 13 24 15.7 +6.2
comp=Z,153nm,1.5s,comp=Z,2μm
ODAN Odare 32.84 284 *e*P **P** **13 24 11.1 +0.7**
comp=Z,223nm,1.3s
SOEI Soe 33.05 179 P P 13 24 16.5 +4.4
comp=Z,83nm,1.7s,comp=Z,2μm
MOY Mondy 33.06 334 *e*P **P** **13 24 10.7 -1.2**
MOY pmax pmax
comp=Z,56nm,2.0s
SJI Sawahan 33.11 202 P P 13 24 20.0 +7.4
comp=Z,141nm,1.4s
CLNS Chul'man 33.32 1 *e*P P 13 24 18.9 +4.9
CLNS pmax pmax
comp=N,5.0nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,1.3s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS MLR MLR
comp=E,6μm,13.0s
CLNS MLR MLR
comp=Z,14μm,14.0s
CLNS MLR MLR
comp=N,9μm,12.0s
KLSI 33.50 216 P P 13 24 20.2 +4.2
comp=N,112nm,1.2s,comp=N,2μm
RAMN Ramite 33.54 284 *e*P **P** **13 24 17.3 +0.7**
comp=N,432nm,1.7s
KSI Kapahiang 33.85 220 P P 13 24 25.7 +6.6
comp=N,160nm,1.9s,comp=N,3μm
JIRN Jiri 33.88 285 *e*P **P** **13 24 20.4 +0.7**
comp=N,317nm,1.7s
LEM Lembang 33.92 209 P P 13 24 27.1 +7.3
GUN Gumba 34.15 285 *e*P **P** **13 24 22.7 +0.7**
comp=N,428nm,1.6s
PKI Pulchoki 34.58 285 *e*P **P** **13 24 25.7 +0.1**
comp=N,190nm,1.6s
PKIN Phulchoki 34.59 285 *e*P **P** **13 24 25.6 -0.1**
comp=N,141nm,1.6s
KKN Kakani 34.68 285 *e*P **P** **13 24 26.6 +0.2**
comp=N,80nm,1.0s
DMN Daman 34.84 285 *e*P **P** **13 24 28.1 +0.2**
comp=N,108nm,1.1s
WMQ Urumqi 35.70 313 P **P** **13 24 34.8 -0.1**
WMQ PP **PnPn** **13 25 54.4 -0.3**
WMQ PcP **PcP** **13 27 01.9 -1.0**
WMQ S **S** **13 30 10.9 +0.2**
WMQ SS **SnSn** **13 32 30.3 -2.5**
WMQ pmax pmax
comp=Z,17nm,1.2s
WMQ pmax pmax
comp=Z,200nm,3.8s
WMQ LR LR
comp=N,5μm,14.0s
WMQ LR LR
comp=E,2μm,18.0s
WMQ LR LR
comp=Z,1μm,21.0s
DANN Dangsing 36.01 286 *e*P **P** **13 24 38.4 +0.5**
comp=Z,372nm,1.6s
KOLN Koldanda 36.17 285 *e*P **P** **13 24 39.5 +0.3**
comp=Z,55nm,0.9s
SKR Severo-Kuril's 37.05 35 *e*P P 13 24 40.5 -5.6
SKR *e* 13 26 18.0
SKR *e*PPP PPP 13 26 38.0
SKR *e*S S 13 30 22.0 -8.9
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=E,1μm,2.0s
SKR pmax pmax
comp=Z,1μm,2.0s
SKR smax smax
comp=N,800nm,10.0s
SKR smax smax
comp=E,1μm,10.0s
YAK Yakutsk 38.74 5 *d i*P **P** **13 24 57.7 -2.6**
YAK *e**PP **pP** **13 25 07.0 +0.7**
YAK *e* 13 27 10.3
YAK *e*S **S** **13 30 52.1 -4.2**
YAK *e**SS **sS** **13 31 08.6 +2.4**
YAK *e*SS **SnSn** **13 33 42.2 -3.4**
YAK *e* 13 35 04.7
YAK pmax pmax
comp=Z,61nm,1.0s
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,61nm,2.2s
YAK pmax pmax
comp=N,73nm,2.3s
YAK pmax pmax
comp=E,33nm,2.1s
YAK smax smax
comp=N,168nm,1.9s
YAK smax smax
comp=E,82nm,1.9s
YAK MLR MLR
comp=Z,7μm,14.0s
YAK MLR MLR
comp=N,5μm,14.0s
YAK MLR MLR
comp=E,2μm,16.0s
PEA0B Petropavlovsk- 39.25 32 *e*P **P** **13 25 03.9 -0.8**
PETK Petropavlovsk- 39.25 32 P **P** **13 25 04.0 -0.7**
PETK Petropavlovsk- 39.25 32 P **P** **13 25 04.0 -0.7**
PETK PKKKP 13 56 29.9
PETK Petropavlovsk- 39.25 32 P **P** **13 25 04.0 -0.7**
comp=E,20nm,0.6s,baz=193,slow=5.3,SNR=75
PETK LR LR 13 43 27.1
comp=E,2μm,18.1s,baz=54,slow=40
PETK P3KP 13 56 29.9
comp=E,1.3nm,0.8s,baz=357,slow=7.8,SNR=4.7
KRAR Krasnoyarsk 39.52 333 *i*P **P** **13 25 06.3 -0.6**
KRAR pmax pmax
comp=Z,16nm,0.3s
KRAR MLR MLR
comp=Z,7μm,17.0s
PET Petropavlovsk 39.68 33 *κ i*P **P** **13 25 07.0 -1.2**
PET *e*S S 13 31 03.4 -7.1
PET pmax pmax
comp=Z,1μm,1.7s
PET pmax pmax
comp=Z,294nm,1.1s
PET pmax pmax
comp=Z,300nm,16.7s
PET MLR MLR
comp=Z,3μm,18.0s
PET MLR MLR
comp=Z,3μm,17.0s
PMG Port Moresby 40.02 142 *e*P **P** **13 25 11.6 +0.1**
PMG Port Moresby 40.02 142 P **P** **13 25 11.0 -0.5**
comp=Z,45nm,1.0s,baz=352,slow=8.0,SNR=5.4
PMG LR LR 13 40 42.1
comp=Z,1μm,19.6s,baz=135,slow=35
WAKE Wake Island 40.23 88 PFAKE 13 25 30.0 +17
WAKE LR LR
comp=Z,2μm,22.0s
MK31 Makanchi Array 40.35 316 *i*P **P** **13 25 13.2 -0.8**
MK31 pmax pmax
comp=Z,47nm,1.2s
MK31 Makanchi Array 40.35 316 *e*P **P** **13 25 13.1 -0.8**
MKAR Makanchi Array 40.35 316 *i*P **P** **13 25 13.3 -0.7**
MKAR pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 40.35 316 P **P** **13 25 13.3 -0.7**
MKAR PcP **PcP** **13 27 17.1 -0.1**
MKAR S **S** **13 31 23.1 +2.2**
MKAR Makanchi Array 40.35 316 P **P** **13 25 13.3 -0.7**
comp=Z,12nm,0.8s,baz=105,slow=9.7,SNR=98
MKAR PcP **PcP** **13 27 17.1 -0.1**
comp=Z,12nm,0.9s,baz=102,slow=5.1,SNR=5.4
MKAR S **S** **13 31 23.2 +2.2**
comp=Z,1.8nm,1.0s,baz=129,slow=9.6,SNR=3.2
FITZ Fitzroy Crossi 41.39 177 *e*P **P** **13 25 21.0 -1.7**
comp=Z,44nm,0.8s
FITZ Fitzroy Crossi 41.39 177 P **P** **13 25 21.2 -1.5**
comp=Z,14nm,0.8s,baz=8.0,slow=8.3,SNR=27
FITZ LR LR 13 42 42.8
comp=Z,312nm,18.4s,baz=9.9,slow=36
NDI New Delhi 41.74 287 *ex* **P** **13 25 24.0 -1.7**
COEN Coen 41.88 151 *e*P **P** **13 25 26.9 +0.2**
comp=Z,2μm,1.4s
ZAA0 Zalesovo Array 42.01 326 *e*P **P** **13 25 25.4 -2.1**
ZALV Zalesovo Beam 42.01 326 P **P** **13 25 25.8 -1.7**
ZALV 13 27 21.5
ZALV Zalesovo Beam 42.01 326 P **P** **13 25 25.8 -1.7**
ZALV PcP **PcP** **13 27 21.5 -0.8**
ZALV Zalesovo Beam 42.01 326 P **P** **13 25 25.8 -1.7**
comp=Z,14nm,0.8s,baz=111,slow=8.1,SNR=51
ZALV PcP **PcP** **13 27 21.5 -0.8**
comp=Z,10nm,0.9s,baz=131,slow=4.0,SNR=2.8
ZALV LR LR 13 45 15.3
comp=Z,3μm,20.4s,baz=76,slow=40
MDRS Chennai 42.27 264 *ex* **P** **13 25 29.2 -0.9**
MDRS *ex* x 13 35 17.2
MDRS *ex* x 13 43 05.2
MDRS *ex* x 13 54 59.2
BHK Bhakra 42.31 291 *ex* **P** **13 25 29.8 -0.5**
HYB Hyderabad 42.47 270 *i*P **P** **13 25 31.5 -0.2**
HYB *e* 13 25 42.5
THN Thein Dam 42.89 293 *ex* **P** **13 25 32.4 -2.5**
KSH Kashi 43.10 303 P P 13 25 40.3 +3.6
KSH PP **PcP** **13 27 23.5 -2.9**
KSH PcP PP 13 27 30.3 +13
KSH PcS **PcS** **13 31 21.8 +2.9**
KSH S **S** **13 32 07.9 +5.9**
KSH SS **SS** **13 35 13.9 -0.7**
KSH pmax pmax
comp=Z,93nm,1.2s
KSH pmax pmax
comp=Z,510nm,2.8s
KSH LR LR
comp=N,7μm,17.0s
KSH LR LR
comp=E,5μm,15.2s
KSH LR LR
comp=E,8μm,16.4s
TKM2 Tokmak 2 43.90 308 *i*P **P** **13 25 44.3 +1.1**
TKM2 Tokmak 2 43.90 308 P **P** **13 25 44.4 +1.1**
SNR=35
TKM2 Tokmak 2 43.90 308 *e*P **P** **13 25 43.8 +0.5**
comp=Z,134nm,1.1s
TKM2 LR LR
comp=Z,2μm,19.0s
SEY Seymchan 43.91 19 *cε*P **P** **13 25 41.9 -0.8**
KZA Kyzart 44.01 307 *i*P **P** **13 25 46.0 +1.7**
KZA Kyzart 44.01 307 P **P** **13 25 46.0 +1.7**
SNR=48
COCO West Island 44.06 219 PFAKE 13 26 00.0 +16
COCO LR LR
comp=Z,654nm,22.0s
KBK Karagaybulak 44.33 308 *i*P **P** **13 25 48.0 +1.4**
KBK Karagaybulak 44.33 308 P **P** **13 25 48.0 +1.4**
SNR=13
WRAB Tennant Creek 44.43 165 P **P** **13 25 46.0 -1.3**
comp=Z,828nm,0.9s,SNR=14
WRAB Tennant Creek 44.43 165 *e*P **P** **13 25 46.3 -1.0**
WRAB pmax pmax
comp=Z,138nm,0.9s
WRAB MLR MLR
comp=Z,1μm,22.0s
WRAB Tennant Creek 44.43 165 *e*P **P** **13 25 46.3 -1.0**
comp=Z,138nm,0.9s
WRAB LR LR
comp=Z,1μm,22.0s
WRA Warramunga Arr 44.43 165 P **P** **13 25 46.6 -0.7**
WRA S **S** **13 32 17.5 -3.9**
WRA Warramunga Arr 44.43 165 P **P** **13 25 46.6 -0.7**
comp=Z,32nm,0.9s,baz=346,slow=9.1,SNR=115
WRA S **S** **13 32 17.5 -3.9**
comp=Z,1.9nm,1.2s,baz=185,slow=9.6,SNR=2.8
WRA LR LR 13 46 28.5
comp=Z,552nm,18.5s,baz=325,slow=39
CHMS Chumysh 44.53 308 *i*P **P** **13 25 48.9 +0.9**
CHMS Chumysh 44.53 308 P **P** **13 25 48.9 +0.9**
SNR=13
MBWA Marble Bar 44.54 185 *e*P **P** **13 25 46.2 -1.9**
comp=Z,57nm,0.9s
MBWA LR LR
comp=Z,1μm,20.0s
KWAJ Kwajalein Atol 44.57 102 *e*P **P** **13 25 49.1 +0.5**
KWAJ pmax pmax
comp=Z,162nm,1.4s
KWAJ Kwajalein Atol 44.57 102 *e*P **P** **13 25 49.1 +0.5**
comp=Z,162nm,1.4s
UCH Uchtor 44.57 307 *i*P **P** **13 25 50.7 +1.8**
UCH Uchtor 44.57 307 P **P** **13 25 50.7 +1.8**
SNR=13
FRU Bishkek 44.60 308 *e*P **P** **13 25 48.0 -0.6**
FRU *i* 13 25 59.0
FRU pmax pmax
comp=Z,100nm,2.0s
FRU MLR MLR
comp=Z,5μm,16.0s
AAK Ala-Archa 44.65 308 *c i*P **P** **13 25 50.1 +0.9**
AAK pmax pmax
comp=Z,66nm,1.6s
AAK MLR MLR
comp=Z,12μm,17.0s
AAK Ala-Archa 44.65 308 P **P** **13 25 50.2 +0.9**
SNR=5.4
AAK Ala-Archa 44.65 308 *e*P **P** **13 25 49.2 0.0**
comp=Z,24nm,0.9s
AAK Ala-Archa 44.65 308 LR LR 13 47 21.0
comp=Z,3μm,18.8s,baz=76,slow=40
USP Ospenovka 44.75 308 P **P** **13 25 50.1 +0.3**
USP Ospenovka 44.75 308 *i*P **P** **13 25 50.1 +0.3**
USP Ospenovka 44.75 308 P **P** **13 25 50.1 +0.3**
SNR=7.6
AML Almayashu 45.16 307 *i*P **P** **13 25 54.7 +1.2**
AML Almayashu 45.16 307 P **P** **13 25 54.7 +1.2**
SNR=40
EKS2 Erkin-Say 45.18 307 *e*P **P** **13 25 53.9 +0.5**
EKS2 pmax pmax
comp=Z,20nm,0.6s
EKS2 MLR MLR
comp=Z,3μm,21.0s
EKS2 Erkin-Say 45.18 307 *e*P **P** **13 25 53.9 +0.5**
comp=Z,20nm,0.6s
EKS2 LR LR
comp=Z,3μm,21.0s
FX1 Attu Island--F 47.48 39 *e*P **P** **13 26 11.5 +0.5**
KK31 Karatay Array 47.62 308 *i*P **P** **13 26 12.5 +0.1**
KK31 pmax pmax
comp=Z,43nm,0.9s
KKAR Karatay Array 47.62 308 *e*P **P** **13 26 12.2 -0.1**
KKAR pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 47.62 308 *e*P **P** **13 26 12.2 -0.1**
comp=Z,20nm,0.7s
AS31 Alice Springs 47.94 167 *e*P **P** **13 26 14.9 -0.1**
ASAR Alice Springs 47.94 167 P **P** **13 26 14.8 -0.1**
ASAR S **S** **13 33 13.9 +2.2**
ASAR Alice Springs 47.94 167 P **P** **13 26 14.8 -0.1**
comp=Z,8.9nm,0.5s,baz=352,slow=7.9,SNR=247
ASAR S **S** **13 33 13.9 +2.2**
comp=Z,0.8nm,1.1s,baz=325,slow=32,SNR=3.8
ASAR LR LR 13 44 40.1
comp=Z,519nm,19.4s,baz=335,slow=34
TIXI Tiksi 48.28 2 *c i*P **P** **13 26 15.2 -1.8**
TIXI pmax pmax
comp=Z,45nm,1.0s
TIXI MLR MLR
comp=Z,7μm,15.0s
HNR Honiara 48.34 128 P **P** **13 26 18.4 +0.2**
HNR LR LR
comp=Z,1μm,21.0s
HNR Honiara 48.34 128 P **P** **13 26 18.4 +0.2**
comp=Z,42nm,0.4s,baz=194,slow=11,SNR=2.1
KBL Kabul 48.42 296 *e*P **P** **13 26 19.2 +0.2**
KBL pmax pmax
comp=Z,169nm,1.2s
KBL Kabul 48.42 296 *e*P **P** **13 26 19.1 +0.2**
comp=Z,169nm,1.2s
CTA Charters Tower 48.64 151 P **P** **13 26 20.7 +0.3**
CTA S **S** **13 33 26.5 +4.8**
CTA Charters Tower 48.64 151 P **P** **13 26 20.7 +0.3**
comp=Z,22nm,1.0s,baz=329,slow=10.0,SNR=8.7
CTA S **S** **13 33 26.5 +4.8**
comp=Z,0.9nm,0.3s,baz=341,slow=17,SNR=2.2
CTAO Charters Tower 48.64 151 *e*P **P** **13 26 20.9 +0.5**
CTAO pmax pmax
comp=Z,101nm,1.4s
CTAO MLR MLR
comp=Z,1μm,20.0s
CTAO Charters Tower 48.64 151 *e*P **P** **13 26 20.9 +0.5**
comp=Z,101nm,1.4s
CTAO LR LR
comp=Z,1μm,20.0s
VOSK Vostochnaya 49.16 320 P **P** **13 26 22.8 -1.3**
VOSK pmax pmax
comp=Z,31nm,1.0s
BVA0 Borovoye Array 49.59 321 P **P** **13 26 26.5 -0.8**
BVA0 pmax pmax
comp=Z,24nm,0.9s
BVAR Borovoye Array 49.59 321 LR LR 13 47 29.4
comp=Z,3μm,21.2s,baz=104,slow=36
BRVK Borovoye 49.66 321 P **P** **13 26 27.4 -0.4**
comp=Z,207nm,1.0s,SNR=16
BRVK Borovoye 49.66 321⇑ *e*P **P** **13 26 27.4 -0.4**
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK MLR MLR
comp=Z,3μm,21.0s
BRVK Borovoye 49.66 321 P **P** **13 26 27.8 -0.1**
SNR=26
BRVK Borovoye 49.66 321 *e*P **P** **13 26 27.1 -0.7**
comp=Z,50nm,0.9s
BRVK LR LR
comp=Z,3μm,21.0s
AMKA Amchitka 50.74 42 *e*P **P** **13 26 36.2 +0.1**
comp=Z,115nm,0.8s
TARA Tarawa 52.62 107 *e*P **P** **13 26 50.5 -0.2**
MIDW Midway 52.92 72 PFAKE 13 27 10.0 +17
MIDW LR LR
comp=Z,952nm,20.0s
ADK Adak 53.30 42 *e*P **P** **13 26 54.1 -1.0**
ADK pmax pmax
comp=Z,200nm,1.0s
ADK MLR MLR
comp=Z,1μm,20.0s
ADK Adak 53.30 42 *e*P **P** **13 26 54.1 -1.0**
comp=Z,200nm,1.0s
ADK LR LR
comp=Z,1μm,20.0s
FORT Forrest 54.13 175 *e*P **P** **13 27 01.2 -0.1**
comp=Z,93nm,1.0s
EIDS Eidsvold 55.41 149 *e*P **P** **13 27 10.7 0.0**
comp=Z,73nm,1.5s
AB31 Akbulak array 55.48 315 *i*P **P** **13 27 11.3 +0.3**
AB31 pmax pmax
comp=Z,65nm,0.9s

ABKAR	**Akbulak array**	**55.48 315**	*e*P	**P**	**13 27 11.1 +0.1**
	comp=Z,49nm,0.9s				
IMYA	**Miami**	**55.59 299**	*e*P	**P**	**13 27 13.2 +0.9**
NWAO	**Narrogin (SRO)**	**56.43 186**	P	**P**	**13 27 18.0 +0.1**
NWAO			LR	LR	
	comp=Z,657nm,20.0s				
NWAO	**Narrogin (SRO)**	**56.43 186**	P	**P**	**13 27 18.0 +0.1**
	comp=Z,9.0nm,0.8s,baz=51,slow=11,SNR=2.7				
IAKL	**Akhelmad**	**56.65 299**	*e*P	**P**	**13 27 21.2 +1.2**
AKTO	**Aktyubinsk**	**56.78 316**	P	**P**	**13 27 20.5 +0.1**
AKTO	**Aktyubinsk**	**56.78 316**	P	**P**	**13 27 20.5 +0.1**
AKTO	**Aktyubinsk**	**56.78 316**	P	**P**	**13 27 20.5 +0.1**
	comp=Z,16nm,0.9s,baz=85,slow=7.1,SNR=38				
IKRD	**Kardeh**	**56.82 300**	*e*P	P	13 27 16.0 -5.2
ARU	**Arti**	**56.97 323***d*	*i*P	**P**	**13 27 20.4 -1.1**
ARU					13 28 11.6
ARU			S	**S**	**13 35 15.8 +1.2**
ARU			pmax	pmax	
	comp=Z,59nm,1.7s				
ARU			MLR	MLR	
	comp=Z,2μm,15.0s				
ARU	**Arti**	**56.97 323**	P	**P**	**13 27 20.7 -0.8**
	comp=Z,332nm,0.9s,SNR=8.0				
ISFR	**Sfrayin**	**57.20 300**	*e*P	**P**	**13 27 25.1 +1.2**
BBOO	**Buckleboo**	**57.24 167**	*e*P	**P**	**13 27 23.8 +0.1**
	comp=Z,993nm,1.1s				
STKA	**Stephens Creek**	**57.70 162**	*e*P	**P**	**13 27 26.8 -0.2**
	comp=Z,7.6nm,0.8s				
STKA	**Stephens Creek**	**57.70 162**	P	**P**	**13 27 26.9 0.0**
	comp=Z,18nm,0.8s,baz=342,slow=6.4,SNR=30				
STKA			LR	LR	13 53 38.3
	comp=Z,616nm,18.8s,baz=338,slow=38				
SOKR	**Solikamsk**	**58.30 327***c*	*i*P	**P**	**13 27 30.6 -0.2**
SOKR			S	**S**	**13 35 29.4 -2.5**
SOKR			pmax	pmax	
	comp=Z,40nm,1.5s				
SOKR			MLR	MLR	
	comp=Z,4μm,20.0s				
DGAR	**Diego Garcia**	**58.61 245**	PFAKE		13 27 50.0 +16
DGAR			LR	LR	
	comp=Z,2μm,19.0s				
TNA	**Tin City**	**59.98 27**	P	**P**	**13 27 41.7 -0.6**
	comp=Z,269nm,1.5s				
ARMA	**Armidale**	**59.99 152**	*e*P	**P**	**13 27 44.0 +0.9**
	comp=Z,19nm,0.8s				
HOQ	**Hoqain**	**60.20 285**	P	**P**	**13 27 45.9 +1.2**
	SNR=18				
IKIA	**Kiasar**	**60.75 300**	*e*P	**P**	**13 27 49.6 +1.1**
FALS	**False Pass**	**61.42 39**	*e*P	**P**	**13 27 51.7 -0.7**
DZM	**Mont Dzumac**	**61.58 134**	*e*S	S	13 36 08.3 -7.0
	comp=Z,1μm,28.4s				
DZM	**Mont Dzumac**	**61.58 134**	*e*LR	LR	13 46 15.0
	comp=Z,2μm,28.4s				
DZM	**Mont Dzumac**	**61.58 134**	*e*P	**P**	**13 27 52.9 -1.1**
DZM	**Mont Dzumac**	**61.58 134**	LR	LR	13 52 42.9
	comp=Z,448nm,19.6s,baz=182,slow=34				
IDMV	**Damavand**	**62.18 299**	*e*P	**P**	**13 27 58.8 +0.6**
ISFB	**Sefidab**	**62.23 298**	*e*P	**P**	**13 27 58.4 +0.1**
FUNA	**Funafuti**	**62.99 114**	PFAKE		13 28 20.0 +17
FUNA			LR	LR	
	comp=Z,12μm,20.0s				
SDPT	**Sand Point**	**63.09 38**	*e*P	**P**	**13 28 02.2 -1.3**
	comp=Z,64nm,0.8s				
CAN	**Canberra**	**63.27 157**	*e*P	**P**	**13 28 05.8 +0.8**
CAN			pmax	pmax	
	comp=Z,94nm,1.6s				
CAN			MLR	MLR	
	comp=Z,863nm,19.0s				
CAN	**Canberra**	**63.27 157**	*e*P	**P**	**13 28 05.8 +0.8**
	comp=Z,94nm,1.6s				
CAN			LR	LR	
	comp=Z,863nm,19.0s				
CHGN	**Chignik**	**64.20 37**	*e*P	**P**	**13 28 09.6 -1.2**
MAK	**Makhachkala**	**64.43 308**	*e*P	P	13 28 06.6 -6.0
MAK			*e*		13 28 39.9
MAK			*e*		13 30 30.2
MAK			*e*PPP	PPP	13 32 06.3
MAK			*e*S	**S**	**13 36 47.4 -3.0**
MAK			*e*		13 37 59.4
MAK			pmax	pmax	
	comp=Z,909nm,1.7s				
MAK			MLR	MLR	
	comp=Z,3μm,22.0s				
IM04	**Indian Mountai**	**65.81 26**	*e*P	**P**	**13 28 21.1 -0.1**
IMA2	**Indian Mountai**	**65.85 26**	*e*P	**P**	**13 28 21.6 0.0**
DGRG	**David-gareji**	**66.25 306**	P	**P**	**13 28 25.1 +0.5**
DGRG			S	S	13 37 28.5 +15
DUS	**Dusheti**	**66.62 307**	P	**P**	**13 28 28.3 +1.3**
TBLG	**Delisi**	**66.67 307**	P	**P**	**13 28 27.5 +0.3**
TBLG			S	S	13 37 32.7 +15
TBLG	**Delisi**	**66.67 307**	P	**P**	**13 28 27.5 +0.3**
TBLG			S	S	13 37 32.7 +15
PPLA	**Purkeypile**	**66.77 30**	*e*P	**P**	**13 28 28.4 +0.8**
	comp=Z,162nm,1.3s				
RSO	**Redoubt South**	**66.78 32**	*e*P	**P**	**13 28 27.8 0.0**
	comp=Z,298nm,1.1s				
OHAK	**Old Harbor**	**66.91 36**	*e*P	**P**	**13 28 28.1 -0.3**
	comp=Z,84nm,0.9s				
GNI	**Garni**	**66.98 305**	P	**P**	**13 28 31.2 +1.8**
	SNR=16				
GNI	**Garni**	**66.98 305**	*e*P	**P**	**13 28 30.5 +1.1**
	comp=Z,156nm,1.3s				
GNI			LR	LR	
	comp=Z,871nm,19.0s				
ZEI	**Tsey**	**67.07 308**	*e*P	**P**	**13 28 28.5 -1.5**
ZEI			pmax	pmax	
	comp=Z,89nm,1.4s				
VRHR	**Novokhopersk**	**67.12 317**	*e*P	**P**	**13 28 28.5 -1.3**
VRHR			*e**PP	**pP**	**13 28 39.2 +3.1**
VRHR			*e*S	**S**	**13 37 20.5 -2.4**
VRHR			pmax	pmax	
	comp=Z,260nm,1.6s				
VRHR			pmax	pmax	
	comp=N,30nm,0.8s				
VRHR			pmax	pmax	
	comp=E,160nm,1.6s				
VRHR			smax	smax	
	comp=N,210nm,2.8s				
VRHR			smax	smax	
	comp=E,370nm,2.8s				
VRHR			smax	smax	
	comp=Z,160nm,2.8s				
VRHR			MLR	MLR	
	comp=N,280nm,18.0s				
VRHR			MLR	MLR	
	comp=E,970nm,18.0s				
VRHR			MLR	MLR	
	comp=Z,2μm,18.0s				
COLD	**Coldfoot**	**67.13 25**	*e*P	**P**	**13 28 30.4 +0.7**
	comp=Z,96nm,1.3s				
KBD	**Kabd**	**67.15 293**	*e*P	**P**	**13 28 30.1 -0.3**
MSVF	**Nonsavu**	**67.15 123**	P	**P**	**13 28 32.9 +2.3**
	comp=Z,540nm,1.1s,SNR=12				
MSVF	**Nonsavu**	**67.15 123**	*e*P	**P**	**13 28 31.5 +0.9**
MSVF			pmax	pmax	
	comp=Z,144nm,1.2s				
MSVF			MLR	MLR	
	comp=Z,449nm,21.0s				
MSVF	**Nonsavu**	**67.15 123**	*e*P	**P**	**13 28 31.5 +0.9**
	comp=Z,144nm,1.2s				
MSVF			LR	LR	
	comp=Z,449nm,21.0s				
TMCR	**Tamitsa**	**67.19 332**	*e*P	**P**	**13 28 30.3 +0.3**
TMCR			*e*		13 28 58.1
TMCR			pmax	pmax	
	comp=Z,198nm,1.4s				
KDAK	**Kodiak Island**	**67.21 35**	P	**P**	**13 28 30.3 0.0**
	comp=Z,1μm,1.5s,SNR=18				
KDAK	**Kodiak Island**	**67.21 35**	*e*P	**P**	**13 28 30.2 0.0**
	comp=Z,386nm,1.4s				
KDAK			LR	LR	
	comp=Z,1μm,20.0s				
MIB	**Mutribah**	**67.29 294**	*e*P	**P**	**13 28 30.7 -0.6**
MIB			AMb	AMB	13 28 48.4
	comp=Z,84nm,1.6s				
RDF	**Al-Radifah**	**67.34 293**	*e*P	**P**	**13 28 31.4 -0.3**
RDF			AMb	AMB	13 28 44.2
	comp=Z,115nm,0.8s				
ONI	**Oni**	**67.44 308**	P	**P**	**13 28 33.2 +1.1**
ONI			S	**S**	**13 37 30.1 +2.8**
NAY	**Al-Naaiem**	**67.52 293**	*e*P	**P**	**13 28 32.0 -0.8**
NAY			AMb	AMB	13 28 44.4
	comp=Z,2.6nm,0.8s				
TRF	**Thorofare Moun**	**67.56 29**	*e*P	**P**	**13 28 30.6 -2.0**
	comp=Z,40nm,0.8s				
KBZ	**Khabaz**	**67.60 309**	P	**P**	**13 28 33.6 +0.6**
KBZ	**Khabaz**	**67.60 309**	P	**P**	**13 28 33.6 +0.6**
	comp=Z,19nm,0.9s,baz=85,slow=4.8,SNR=29				
KBZ			LR	LR	14 00 29.4
	comp=Z,2μm,20.2s,baz=64,slow=38				
IBDR	**Badra**	**67.63 298**	*e*P	P	13 28 26.0 -7.4
IBDR			*i* PcP	pP	13 28 41.0 +1.2
IBDR			*i* S	S	13 37 23.0 -6.7
IBDR			*i* PS	PnS	13 37 41.0 -12
RST	**Umm Al-Ruwaisa**	**67.66 294**	*e*P	**P**	**13 28 32.5 -1.1**
RST			AMb	AMB	13 28 48.0
	comp=Z,359nm,1.0s				
KIV	**Kislovodsk**	**67.71 310**	*e*P	**P**	**13 28 34.1 +0.3**
KIV			*e*		13 28 57.2
KIV			*e*S	**S**	**13 37 32.6 +2.1**
KIV			*e*SS	**SS**	**13 41 54.9 +3.5**
KIV			pmax	pmax	
	comp=Z,96nm,1.1s				
KIV			pmax	pmax	
	comp=Z,55nm,3.7s				
KIV	**Kislovodsk**	**67.71 310**	P	**P**	**13 28 34.5 +0.7**
	comp=Z,402nm,1.1s,SNR=12				
LVZ	**Lovozero**	**68.07 336**	*i* P	**P**	**13 28 35.0 -0.6**
LVZ			pmax	pmax	
	comp=Z,73nm,1.7s				
LVZ			MLR	MLR	
	comp=Z,2μm,18.0s				
MCK	**McKinley**	**68.11 29**	*e*P	**P**	**13 28 36.0 +0.1**
MCK			pmax	pmax	
	comp=Z,87nm,0.7s				
MCK	**McKinley**	**68.11 29**	*e*P	**P**	**13 28 36.0 +0.1**
	comp=Z,87nm,0.7s				
PMR	**Palmer**	**68.36 31**	*e*P	**P**	**13 28 36.8 -0.7**
PMR			pmax	pmax	
	comp=Z,93nm,1.1s				
PMR	**Palmer**	**68.36 31**	*e*P	**P**	**13 28 36.8 -0.7**
	comp=Z,92nm,1.1s				
COLA	**College**	**68.40 27**	*e*P	**P**	**13 28 37.6 0.0**
COLA			pmax	pmax	
	comp=Z,253nm,0.9s				
COLA			MLR	MLR	
	comp=Z,978nm,19.0s				
COLA	**College**	**68.40 27**	*e*P	**P**	**13 28 37.6 0.0**
	comp=Z,253nm,0.9s				
COLA			LR	LR	
	comp=Z,978nm,19.0s				
VOR	**Voronezh**	**68.50 318**	*e*P	**P**	**13 28 37.0 -1.5**
VOR			pmax	pmax	
	comp=Z,260nm,1.0s				
APA	**Apatity**	**68.59 336**⇓	*i*P	**P**	**13 28 37.0 -1.8**
APA			*i*		13 28 50.0
APA			*i*		13 31 07.0
APA			*i* PPP	PPP	13 32 55.0
APA			*i* S	**S**	**13 37 42.0 +2.0**
APA			*i*		13 38 30.0
APA			pmax	pmax	
	comp=Z,78nm,1.0s				
APA			MLR	MLR	
	comp=Z,4μm,17.0s				
VSR	**Storozhevoye**	**68.62 318**	*e*P	**P**	**13 28 38.3 -1.0**
VSR			*e**PP	**pP**	**13 28 50.2 +4.6**
VSR			*e*S	**S**	**13 37 36.2 -4.7**
VSR			pmax	pmax	
	comp=N,20nm,1.1s				
VSR			pmax	pmax	
	comp=E,90nm,1.1s				
VSR			pmax	pmax	
	comp=Z,120nm,1.1s				
VSR			smax	smax	
	comp=N,430nm,4.5s				
VSR			smax	smax	
	comp=E,180nm,2.3s				
VSR			smax	smax	
	comp=Z,120nm,2.3s				
VSR			MLR	MLR	
	comp=N,560nm,20.0s				
VSR			MLR	MLR	
	comp=E,1μm,20.0s				
VSR			MLR	MLR	
	comp=Z,2μm,20.0s				
MOS	**Moscow**	**68.67 323**	*i* P	**P**	**13 28 36.7 -2.8**
MOS			*i*		13 28 48.2
MOS			*e*		13 29 00.7
MOS			*e*S	**S**	**13 37 38.0 -3.4**
MOS			pmax	pmax	
	comp=Z,228nm,1.7s				
MOS			pmax	pmax	
	comp=Z,500nm,2.1s				
MOS			smax	smax	
	comp=N,600nm,4.1s				
MOS			smax	smax	
	comp=E,600nm,2.9s				
MOS			MLR	MLR	
	comp=Z,3μm,15.0s				
SML	**Sawmill**	**68.70 31**	*e*P	**P**	**13 28 39.2 -0.4**
SML			pmax	pmax	
	comp=Z,53nm,1.3s				
SML	**Sawmill**	**68.70 31**	*e*P	**P**	**13 28 39.2 -0.4**
	comp=Z,53nm,1.3s				
ILAR	**Eielson Array**	**68.83 27**	P	**P**	**13 28 39.5 -0.9**
ILAR			S	**S**	**13 37 44.3 +1.4**
ILAR			⇑*e*		13 56 51.4
ILAR	**Eielson Array**	**68.83 27**	P	**P**	**13 28 39.5 -0.9**
	comp=Z,9.3nm,0.7s,baz=283,slow=5.1,SNR=105				
ILAR			S	**S**	**13 37 44.3 +1.4**
	comp=Z,0.4nm,1.0s,baz=182,slow=4.4,SNR=3.3				
ILAR			PKP2bc		13 56 51.4
	comp=Z,1.2nm,1.1s,baz=143,slow=3.3,SNR=6.1				
ILAR			LR	LR	14 01 20.1
	comp=Z,909nm,19.9s,baz=111,slow=38				
BHD	**Baghdad**	**68.85 298**	*e*P	P	13 28 30.0 -11
BHD			*i* PcP	pP	13 28 49.0 +1.6
BHD			*i* S	**S**	**13 37 43.0 -1.2**
BHD			*i* PS	**PnS**	**13 38 04.0 -5.6**
OBN	**Obninsk**	**69.38 322***d*	*i*P	**P**	**13 28 43.2 -0.7**
OBN			*e*		13 28 54.8
OBN			*e*		13 29 04.0
OBN			*e*		13 31 19.0
OBN			*e*S	**S**	**13 37 48.8 -1.0**
OBN			*e*SS	**SS**	**13 42 18.5 +2.1**
OBN			pmax	pmax	
	comp=Z,191nm,1.7s				
OBN			MLR	MLR	
	comp=Z,2μm,16.0s				
PAX	**Paxson**	**69.79 29**	*e*P	**P**	**13 28 46.2 -0.2**
PAX			pmax	pmax	
	comp=Z,85nm,1.2s				
PAX	**Paxson**	**69.79 29**	*e*P	**P**	**13 28 46.2 -0.2**
	comp=Z,85nm,1.2s				
SOC	**Sochi**	**69.89 310***c*	*i*P	**P**	**13 28 46.7 -0.6**
SOC			*e*		13 28 58.0
SOC			*e*		13 31 22.9
SOC			*e*PPP	PPP	13 33 05.6
SOC			*e*S	**S**	**13 37 56.2 0.0**
SOC			*e*		13 38 39.8
SOC			*e*SS	**SS**	**13 42 24.3 -0.5**
SOC			pmax	pmax	
	comp=Z,49nm,1.1s				
SOC			MLR	MLR	
	comp=Z,1μm,16.0s				
DIV	**Divide**	**70.04 31**	*e*P	**P**	**13 28 48.6 +0.6**
	comp=Z,273nm,1.3s				
MENT	**Mentasta**	**70.58 29**	*e*P	**P**	**13 28 51.9 +0.7**
SPITS	**Spitsbergen Ar**	**70.61 348**	P	**P**	**13 28 51.2 0.0**
SPITS	**Spitsbergen Ar**	**70.61 348**	P	**P**	**13 28 51.2 0.0**
	comp=Z,45nm,1.1s,baz=49,slow=17,SNR=5.9				
BMRM	**Bremner River**	**70.63 31**	*e*P	**P**	**13 28 51.8 +0.2**
	comp=Z,97nm,0.9s				
RAYN	**Ar Rayn**	**70.63 288**	P	**P**	**13 28 52.0 -0.2**
	comp=Z,202nm,1.2s,SNR=7.0				
ARCES	**ARCESS Array B**	**70.98 338**	P	**P**	**13 28 53.3 -0.3**
ARCES	**ARCESS Array B**	**70.98 338**	P	**P**	**13 28 53.3 -0.3**
	comp=Z,29nm,1.0s,baz=69,slow=6.6,SNR=22				
ARCES			LR	LR	14 03 16.5
	comp=Z,2μm,21.3s,baz=68,slow=39				
ARE0	**ARCESS Array S**	**70.98 338**	*e*P	**P**	**13 28 53.0 -0.5**
KBS	**Kingsbay**	**71.12 349***ce*P		**P**	**13 28 54.7 +0.5**
KBS			pmax	pmax	
	comp=Z,116nm,2.5s				
KBS	**Kingsbay**	**71.12 349**	PFAKE		13 29 10.0 +16
KBS			LR	LR	
	comp=Z,2μm,19.0s				
ANN	**Anapa**	**71.19 311**	*e*P	P	13 28 50.8 -4.3
ANN			*e*		13 29 08.2
ANN			*e*S	**S**	**13 38 06.8 -4.4**
ANN			pmax	pmax	
	comp=Z,80nm,1.0s				
EGAK	**Eagle**	**71.22 27**	*e*P	**P**	**13 28 54.9 -0.1**
	comp=Z,99nm,1.0s				
EGAK			LR	LR	
	comp=Z,908nm,21.0s				
PUL	**Pulkovo**	**71.60 328**⇓	*e*P	**P**	**13 28 58.3 +0.9**
PUL			pmax	pmax	
	comp=Z,64nm,0.6s				
PUL			MLR	MLR	
	comp=Z,4μm,16.0s				
MSEY	**Mahe Island**	**71.97 257**	PFAKE		13 29 10.0 +10
MSEY			LR	LR	
	comp=Z,1μm,21.0s				
DAWY	**Dawson**	**72.15 27**	*e*P	**P**	**13 29 00.8 +0.1**
MALT	**Malatya**	**72.18 305**	⇑P	P	13 29 06.5 +5.0
KAF	**Kangasniemi**	**72.82 331**	*e*P	**P**	**13 29 03.5 -1.1**
KAF			pmax	pmax	
	comp=Z,2.0nm,0.4s				
KAF	**Kangasniemi**	**72.82 331**	*e*p	**P**	**13 29 03.5 -1.1**
	comp=Z,2.0nm,0.4s				
INK	**Inuvik**	**73.04 22**	*e*P	**P**	**13 29 05.5 -0.3**
	comp=Z,129nm,1.2s				
FIA1	**FINESS Array S**	**73.13 330**	*e*P	**P**	**13 29 06.0 -0.5**
FINES	**FINESS Array B**	**73.13 330**	P	**P**	**13 29 06.1 -0.4**
FINES	**FINESS Array B**	**73.13 330**	P	**P**	**13 29 06.1 -0.4**
	comp=Z,13nm,0.7s,baz=51,slow=5.7,SNR=45				
FINES			LR	LR	14 05 38.9
	comp=Z,4μm,18.0s,baz=76,slow=40				
SIM	**Simferopol'**	**73.42 312***c*	*i*P	**P**	**13 29 07.6 -0.9**
SIM			*e*S	**S**	**13 38 35.0 -1.8**
SIM			pmax	pmax	
	comp=Z,51nm,0.9s				
SIM			MLR	MLR	
	comp=N,960nm,18.7s				
VSU	**Vasula**	**73.75 327***c*	*i*P	**P**	**13 29 10.3 +0.1**
VSU			pmax	pmax	
	comp=Z,421nm,1.5s				
VSU			MLR	MLR	
	comp=Z,10μm,18.0s				
ALE	**Alert**	**74.16 1**	P	**P**	**13 29 12.3 +0.1**
	comp=Z,347nm,1.2s,SNR=5.7				
MICGM	**Minsk**	**74.40 323**⇑	*i*P	**P**	**13 29 13.0 -1.0**
MNK	**Minsk**	**74.42 323**⇑	*i*P	**P**	**13 29 13.0 -1.2**
MNK			*e*		13 29 25.0
MNK			*e*S	**S**	**13 38 46.0 -1.8**
MNK			*e*		13 39 28.0
MNK			pmax	pmax	
	comp=E,260nm,1.4s				
MNK			pmax	pmax	
	comp=Z,230nm,1.4s				
MNK			MLR	MLR	
	comp=Z,4μm,16.0s				
AKASG	**Malin Array Be**	**74.83 319**	*i* P	**P**	**13 29 15.5 -1.1**
AKASG			pmax	pmax	
	comp=Z,31nm,1.0s				
AKASG	**Malin Array Be**	**74.83 319**	P	**P**	**13 29 15.5 -1.1**
AKASG	**Malin Array Be**	**74.83 319**	P	**P**	**13 29 15.5 -1.1**
	comp=Z,31nm,1.0s,baz=60,slow=5.4,SNR=38				
KIEV	**Kiev**	**74.84 319**	*e*P	**P**	**13 29 14.4 -2.3**
KIEV			pmax	pmax	
	comp=Z,114nm,1.4s				
KIEV			MLR	MLR	
	comp=Z,1μm,20.0s				
KIEV	**Kiev**	**74.84 319**	*e*P	**P**	**13 29 14.4 -2.3**
	comp=Z,114nm,1.4s				
KIEV			LR	LR	
	comp=Z,1μm,20.0s				
NACGM	**Naroch**	**74.87 324**	*e*P	**P**	**13 29 15.0 -1.8**
ASF	**Jabal al Asfar**	**75.21 299**	P	**P**	**13 29 20.0 +0.7**
ASF	**Jabal al Asfar**	**75.21 299**	P	**P**	**13 29 20.0 +0.7**
	comp=Z,6.3nm,0.8s,baz=77,slow=2.2,SNR=9.6				
ASF			LR	LR	14 07 44.2
	comp=Z,1μm,19.7s,baz=24,slow=40				
BR131	**Keskin Array S**	**75.33 307**	*e*P	**P**	**13 29 19.4 -0.5**
	comp=Z,12nm,0.7s				
SKAG	**Skagway**	**75.50 31**	*e*P	**P**	**13 29 21.3 +1.0**
	comp=Z,96nm,1.2s				
ANTO	**Ankara**	**75.90 307**	⇓P	**P**	**13 29 23.1 0.0**
ANTO	**Ankara**	**75.90 307**	P	**P**	**13 29 23.1 0.0**
	SNR=17				
ANTO	**Ankara**	**75.90 307**⇓	*i*P	**P**	**13 29 23.1 0.0**
ANTO	**Ankara**	**75.90 307**	*e*P	**P**	**13 29 22.6 -0.6**
	comp=Z,28nm,0.7s				
ANTO			LR	LR	
	comp=Z,743nm,20.0s				
KIS	**Kishinev**	**76.29 315**	*e*P	**P**	**13 29 23.0 -2.1**
	comp=Z,100nm,2.0s				
KIS			*e*S	**S**	**13 39 08.0 -0.8**
KIS			*e*LQ	LQ	13 56 54.0
KIS			*e*LR	LR	14 00 32.0
	comp=Z,1μm,15.0s				
KIS	**Kishinev**	**76.29 315**	*e*P	**P**	**13 29 23.0 -2.1**
KIS			*e*		13 29 35.0
KIS			*e*S	**S**	**13 39 08.0 -0.8**
KIS			pmax	pmax	
	comp=Z,130nm,2.0s				
KIS			MLR	MLR	
	comp=N,1μm,15.0s				
KIS			MLR	MLR	
	comp=E,1μm,15.0s				
KIS			MLR	MLR	
	comp=Z,1μm,15.0s				
SIT	**Sitka**	**76.39 33**	*e*P	**P**	**13 29 26.0 +0.6**
SIT			pmax	pmax	
	comp=Z,95nm,1.2s				
SIT	**Sitka**	**76.39 33**	*e*P	**P**	**13 29 26.0 +0.6**
	comp=Z,95nm,1.2s				
CSS	**Prodhromos**	**77.11 303**	*e*P	**P**	**13 29 29.5 -0.5**
	comp=Z,50nm,0.9s				
CSS			LR	LR	
	comp=Z,758nm,19.0s				
SUW	**Suwalki**	**77.15 323**	*e*P	**P**	**13 29 29.3 -0.5**
SUW			pmax	pmax	
	comp=Z,297nm,1.1s				
SUW	**Suwalki**	**77.15 323**	*e*P	**P**	**13 29 29.3 -0.5**
	comp=Z,297nm,1.1s				
SUW	**Suwalki**	**77.15 323**	*e*P	**P**	**13 29 29.6 -0.2**
SUW			*e*		13 29 41.4
CFR	**Carcaliu**	**77.36 314**	⇓P	**P**	**13 29 31.1 0.0**
CFR	**Carcaliu**	**77.36 314**⇓	*i*P	**P**	**13 29 31.1 0.0**
DAG	**Danmarks Havn**	**77.37 352**⇓	*i*P	**P**	**13 29 29.7 -0.9**
	comp=Z,34nm,1.0s				
DAG			*i*		13 29 41.9
DAG					
	comp=Z,780nm,19.0s				
TIRR	**Tirgusor**	**77.43 313**	⇓P	**P**	**13 29 31.0 -0.5**
TIRR	**Tirgusor**	**77.43 313**⇓	*i*P	**P**	**13 29 31.0 -0.5**
TIRR	**Tirgusor**	**77.43 313**	*e*P	**P**	**13 29 31.0 -0.5**
	comp=Z,51nm,1.3s				
EIL	**Elat**	**77.61 297**	P	**P**	**13 29 32.8 -0.1**
EIL	**Elat**	**77.61 297**	P	**P**	**13 29 32.8 -0.1**
	comp=Z,6.1nm,0.9s,baz=346,slow=11,SNR=8.7				
EIL			LR	LR	14 06 46.3
	comp=Z,931nm,20.6s,baz=254,slow=38				
TESR	**Tescani**	**77.86 315**⇓	*i*P	**P**	**13 29 33.4 -0.5**
VRI	**Vrincioaia**	**78.04 315**	⇓P	**P**	**13 29 36.0 +1.0**
VRI	**Vrincioaia**	**78.04 315**⇓	*i*P	**P**	**13 29 36.0 +1.0**
PLOR	**Plostina**	**78.10 315**	⇓P	**P**	**13 29 35.7 +0.4**
PLOR	**Plostina**	**78.10 315**⇓	*i*P	**P**	**13 29 35.7 +0.4**
CRAG	**Craig**	**78.14 34**	*e*P	**P**	**13 29 35.4 +0.1**
WRAK	**Wrangell Islan**	**78.15 33**	*e*P	**P**	**13 29 36.2 +0.9**
	comp=Z,61nm,1.1s				
WRAK			LR	LR	
	comp=Z,846nm,19.0s				
LVV	**L'vov**	**78.26 319**	*e*P	**P**	**13 29 35.5 -0.6**
ISP	**Isparta**	**78.26 306**	⇑P	**P**	**13 29 36.1 -0.4**
ISP	**Isparta**	**78.26 306**⇑	*i*P	**P**	**13 29 36.1 -0.4**
ISP	**Isparta**	**78.26 306**	*e*P	**P**	**13 29 35.6 -0.8**
	comp=Z,95nm,1.4s				
ISP			LR	LR	
	comp=Z,743nm,19.0s				
BURAR	**Bucovina Array**	**78.36 317**	⇓P	**P**	**13 29 37.1 +0.3**
BURAR	**Bucovina Array**	**78.36 317**⇓	*i*P	**P**	**13 29 37.1 +0.3**
DLBC	**Dease Lake**	**78.42 31**	*e*P	**P**	**13 29 38.0 +1.1**
MLR	**Muntele Rosu**	**78.69 315**⇓	*i*P	**P**	**13 29 38.5 -0.2**
KWP	**Kalwaria Pacla**	**79.12 319**	⇑P	**P**	**13 29 41.2 +0.3**
KWP	**Kalwaria Pacla**	**79.12 319**⇑	*i*P	**P**	**13 29 41.2 +0.3**
KWP	**Kalwaria Pacla**	**79.12 319**	*e*P	**P**	**13 29 41.0 +0.1**
	comp=Z,558nm,1.8s				
KWP			LR	LR	
	comp=Z,1μm,21.0s				
KWP	**Kalwaria Pacla**	**79.12 319**	*e*P	**P**	**13 29 41.0 +0.1**
KWP			*e*		13 29 53.0
VOIR		**79.29 315**	⇓P	**P**	**13 29 43.3 +1.3**

VOIR		79.29 315	⇓*i*P	P	13 29 43.3	+1.3
BEL	Belsk	79.34 322	*e*P	P	13 29 42.0	0.0
BEL			*e*		13 29 54.1	
URZ	Urewera	79.34 140	LR	LR	14 04 02.1	
comp=Z,506nm,18.5s,baz=322,slow=35						
JMB	Yambol	79.39 312	P	P	13 29 50.1	+7.7
SZH	Strazhica	79.53 313	P	P	13 29 42.9	-0.3
ARR	Arges	79.59 315	⇓*i*P	P	13 29 43.7	+0.1
KOLS	Kolonicke sedl	79.66 319	*e*P	P	13 29 43.9	+0.1
KOLS			pmax	pmax		
comp=Z,14nm,1.3s						
KOLS	Kolonicke sedl	79.66 319	*e*P	P	13 29 43.8	0.0
UZH	Uzhgorod	79.77 319	*e*P	P	13 29 43.6	-0.8
UZH			*e*		13 29 51.8	
UZH			*i*		13 29 57.6	
UZH			*e*S	S	13 39 42.0	-4.2
UZH			*i* SP	SPn	13 40 23.6	-4.7
UZH			*e*SSS	SSS	13 48 17.4	
RPZ	Rata Peaks	79.81 147	P	P	13 29 44.7	+0.2
RPZ	Rata Peaks	79.81 147	P	P	13 29 44.7	+0.2
comp=Z,79nm,0.9s,baz=338,slow=2.1,SNR=17						
NB2	NORSAR Subarra	79.84 333	P	P	13 29 43.6	-1.0
comp=Z,70nm,1.0s,baz=62,slow=5.6						
NB2	NORSAR Subarra	79.84 333	P	P	13 29 43.6	-1.0
baz=62,slow=5.6						
NOA	NORSAR Array B	79.84 333	P	P	13 29 43.8	-0.8
NOA	NORSAR Array B	79.84 333	P	P	13 29 43.8	-0.8
comp=Z,15nm,1.0s,baz=58,slow=5.4,SNR=18						
NOA			LR	LR	14 08 26.4	
comp=Z,2μm,19.0s,baz=80,slow=38						
NAO01	NORSAR Array S	80.08 333	P	P	13 29 45.0	-0.9
comp=Z,10nm,0.9s						
STHS	Stebnicka Huta	80.08 320	*e*P	P	13 29 46.6	+0.5
STHS			*e*		13 29 59.2	
STHS			pmax	pmax		
comp=Z,20nm,1.2s						
STHS	Stebnicka Huta	80.08 320	*e*P	P	13 29 46.6	+0.5
STHS			*e*PCP	PcP	13 29 59.2	+5.8
LOT	Lotru	80.12 315	⇓*i*P	P	13 29 47.0	+0.5
CRVS	Cervenica-Dubn	80.16 319	*e*P	P	13 29 46.1	-0.4
CRVS			*e*		13 29 58.1	
CRVS			pmax	pmax		
comp=Z,65nm,1.5s						
CRVS	Cervenica-Dubn	80.16 319	*e*P	P	13 29 46.1	-0.4
CRVS			*e*PCP	PcP	13 29 58.1	+4.3
DRGR		80.25 317	⇓P	P	13 29 47.2	0.0
DRGR		80.25 317	⇓*i*P	P	13 29 47.2	0.0
DIM	Dimitrovgrad	80.27 312	P	P	13 29 47.6	+0.4
KDZ	Kurdzhali	80.50 311	P	P	13 29 48.1	-0.4
OJC	Ojcow	80.59 321	⇓*e*P	P	13 29 48.7	-0.1
OJC			*e*		13 29 55.0	
NIE	Niedzica	80.63 320	*e*P	P	13 29 51.2	+2.1
GKP	Gorka Klasztor	80.68 324	*e*P	P	13 29 49.4	+0.2
GKP			*e*		13 30 02.2	
GZR	Gura Zlata	80.78 315	⇑P	P	13 29 50.5	+0.5
GZR	Gura Zlata	80.78 315	⇑*i*P	P	13 29 50.5	+0.5
PLD	Plovdiv	80.82 312	P	P	13 29 51.7	+1.6
KECS	Kecovo	80.92 319	*e*P	P	13 29 50.3	-0.3
KECS			*e*		13 29 58.3	
KECS			pmax	pmax		
comp=Z,22nm,1.3s						
KECS	Kecovo	80.92 319	*e*P	P	13 29 50.3	-0.3
KECS			*e*PCP	PcP	13 29 58.3	+1.2
MPEP	Malo Peshtene	80.97 313	P	P	13 29 51.1	+0.1
RZN	Rozhen	80.97 311	P	P	13 29 51.7	+0.5
PGB	Panagyurishte	81.01 312	P	P	13 29 51.7	+0.5
BSD	Bornholm Skovb	81.04 327	*i* P	P	13 29 50.7	-0.3
comp=Z,37nm,0.9s						
BSD						
comp=Z,3μm,15.0s						
KONO	Kongsberg	81.25 332	PFAKE		13 30 00.0	+7.9
KONO			LR	LR		
comp=Z,4μm,19.0s						
BZS	Buzias	81.43 316	⇑P	P	13 29 52.4	-1.0
BZS	Buzias	81.43 316	⇑*i*P	P	13 29 52.4	-1.0
PSZ	Piszkesteto	81.52 319	⇓P	P	13 29 53.7	-0.2
PSZ	Piszkesteto	81.52 319	⇓*i*P	P	13 29 53.7	-0.2
PSZ	Piszkesteto	81.52 319	*e*P	P	13 29 53.8	-0.2
comp=Z,184nm,1.7s						
PSZ			LR	LR		
comp=Z,992nm,22.0s						
PSZ	Piszkesteto	81.52 319	⇑*e*P	P	13 29 53.9	0.0
VTS	Vitosha	81.64 313	⇓P	P	13 29 54.8	+0.1
VTS	Vitosha	81.64 313	P	P	13 29 54.8	+0.1
VTS	Vitosha	81.64 313	⇓*i*P	P	13 29 54.8	+0.1
MMB	Musomiste	81.69 312	P	P	13 29 53.7	-1.2
OKC	Ostrava-Krasne	81.72 321	*i* P	P	13 29 54.7	-0.1
OKC			*e*		13 30 02.4	
OKC			*e*		13 40 03.7	
OKC			MLR	MLR		
comp=Z,1μm,16.1s						
OKC	Ostrava-Krasne	81.72 321	*i* P	P	13 29 54.7	-0.1
OKC			*e*x	x	13 30 02.4	
OKC			*e*S	S	13 40 03.7	-2.8
OKC			AMS	AMS	14 13 10.0	
comp=Z,1μm,16.1s						
VYHS	Vyhne	81.91 319	*e*P	P	13 29 55.9	0.0
VYHS			*e*		13 30 07.8	
VYHS			pmax	pmax		
comp=Z,37nm,1.3s						
VYHS	Vyhne	81.91 319	*e*P	P	13 29 55.9	0.0
VYHS			*e*PCP	pP	13 30 07.8	+5.5
COP	Copenhagen	81.99 328	*i* P	P	13 30 09.8	+14
COP						
comp=Z,990nm,14.0s						
KKB	Krupnik	82.02 312	P	P	13 29 56.0	-0.6
MORC	Moravsky Berou	82.09 321	*e*P	P	13 29 56.4	-0.5
MORC			pmax	pmax		
comp=Z,71nm,1.5s						
MORC	Moravsky Berou	82.09 321	*e*P	P	13 29 56.4	-0.5
comp=Z,71nm,1.5s						
KSP	Ksiaz	82.31 322	*e*P	P	13 29 57.9	0.0
KSP			*e*		13 30 05.3	
KSP			*e*S	S	13 40 12.2	-0.5
KSP			MLR	MLR		
comp=Z,2μm,20.8s						
KSP	Ksiaz	82.31 322	*e*P	P	13 29 57.9	0.0
KSP			*e*		13 30 10.0	
DPC	Dobruska-Polom	82.53 322	*i* P	P	13 29 59.2	+0.1
DPC			*e*		13 30 10.7	
DPC	Dobruska-Polom	82.53 322	*i* P	P	13 29 59.2	+0.1
DPC			*e*PCP	pP	13 30 06.7	+1.1
DPC			*e*x	x	13 30 10.7	
DPC			*e*SKS	SKSac	13 40 23.2	+3.9
DPC			AMS	AMS	14 11 00.0	
SANT	Santorini	82.55 306	PFAKE		13 30 10.0	+10
SANT			LR	LR		
comp=Z,595nm,21.0s						
UPC	Upice	82.63 322	*i* P	P	13 30 00.0	+0.4
UPC			*e*		13 30 07.2	
UPC	Upice	82.63 322	*i* P	P	13 30 00.0	+0.4
UPC			*e*x	x	13 30 07.2	
YKW3	Yellowknife Ar	82.70 23	*e*P	P	13 29 59.5	-0.2
comp=Z,1.5nm,1.1s						
YKA	Yellowknife Ar	82.75 23	P	P	13 29 59.8	-0.2
YKA	Yellowknife Ar	82.75 23	P	P	13 29 59.7	-0.2
comp=Z,28nm,1.0s,baz=312,slow=5.1,SNR=56						
PKSM	Moragy	83.05 317	⇓P	P	13 30 01.4	-0.4
PKSM	Moragy	83.05 317	⇓*i*P	P	13 30 01.4	-0.4
PKSM	Moragy	83.05 317	⇑*e*P	P	13 30 01.8	0.0
ZST	Bratislava	83.08 320	*e*P	P	13 30 02.7	+0.8
ZST	Bratislava	83.08 320	*e*P	P	13 30 02.7	+0.8
MUD	Monsted U'grnd	83.15 329	*i* P	P	13 30 01.4	-0.7
MUD						
comp=Z,3μm,14.0s						
SCO	Scoresbysund	83.17 349	*i* P	P	13 30 02.3	+0.4
comp=Z,18nm,1.1s						
SCO			*i*		13 30 14.2	
SCO						
comp=Z,2μm,15.0s						
SUMG	Summit	83.40 355	*e*P	P	13 30 03.6	0.0
SUMG			*e*		13 30 17.3	
SUMG			pmax	pmax		
comp=Z,225nm,1.3s						
SUMG	Summit	83.40 355	⇓*i*P	P	13 30 03.9	+0.3
comp=Z,27nm,1.1s						
SUMG			*i*		13 30 15.9	
SUMG			*i*		13 40 25.7	
SUMG						
comp=Z,1μm,15.0s						
SUMG	Summit	83.40 355	*e*P	P	13 30 03.6	0.0
comp=Z,225nm,1.3s						
SUMG			*e*		13 30 17.3	
PVCC	Panska Ves	83.43 323	*i* P	P	13 30 03.8	+0.1
PVCC			*e*		13 30 11.7	
PVCC			MLR	MLR		
comp=Z,2μm,15.1s						
PVCC	Panska Ves	83.43 323	*i* P	P	13 30 03.8	+0.1
PVCC			*e*x	x	13 30 11.7	
PVCC			AMS	AMS	14 11 10.0	
comp=Z,2μm,15.1s						
TREC	Trest	83.50 321	*i* P	P	13 30 04.3	+0.2
TREC			MLR	MLR		
comp=Z,2μm,15.5s						
TREC	Trest	83.50 321	*i* P	P	13 30 04.3	+0.2
TREC			AMS	AMS	14 13 00.0	
comp=Z,2μm,15.5s						
BRG	Berggiesshubel	83.61 323	*i* P	P	13 30 04.2	-0.4
comp=Z,50nm,1.4s						
BRG			*i*		13 30 18.1	
comp=Z,43nm,1.1s						
BRG	Berggiesshubel	83.61 323	S	S	13 40 28.0	+2.2
BRG			SS	SS	13 46 34.0	+43
BRG						
comp=Z,4μm,17.2s						
BRG						
comp=N,2μm,16.2s						
BRG						
comp=E,2μm,16.2s						
BRG	Berggiesshubel	83.61 323	*e*P	P	13 30 04.1	-0.4
comp=Z,50nm,1.4s						
BRG	Berggiesshubel	83.61 323	*i* P	P	13 30 04.2	-0.4
BRG			*i*		13 30 18.1	
BRG			S	S	13 40 28.0	+2.2
BRG			pmax	pmax		
comp=Z,50nm,1.4s						
BRG			pmax	pmax		
comp=Z,43nm,1.1s						
BRG			MLR	MLR		
comp=Z,4μm,17.2s						
BRG			MLR	MLR		
comp=N,2μm,16.2s						
BRG			MLR	MLR		
comp=E,2μm,16.2s						
BRG			smax	smax		
comp=N,5.0nm,0.5s						
SOP	Sopron	83.64 319	⇓*e*P	P	13 30 04.1	-0.7
PRU	Pruhonice	83.71 322	*i* P	P	13 30 05.0	-0.1
PRU			*e*		13 30 13.2	
PRU			*e*		13 40 25.3	
PRU			MLR	MLR		
comp=Z,1μm,16.3s						
PRU	Pruhonice	83.71 322	*i* P	P	13 30 05.0	-0.1
PRU			*e*x	x	13 30 13.2	
PRU			*e*SKS	S	13 40 25.3	-1.5
PRU			AMS	AMS	14 11 50.0	
comp=Z,1μm,16.3s						
PRA	Prague	83.73 322	P	P	13 30 05.0	-0.2
CLL	Collm	83.90 324	*e*P	P	13 30 05.5	-0.6
comp=Z,55nm,1.1s						
CLL	Collm	83.90 324	⇓*i*P	P	13 30 05.5	-0.6
CLL			*i*		13 30 13.1	
CLL			*i*		13 30 18.2	
CLL			*e*S	SKKSac	13 40 33.0	-0.1
CLL			pmax	pmax		
comp=Z,54nm,1.1s						
CLL			MLR	MLR		
comp=Z,2μm,20.1s						
CLL	Collm	83.90 324	⇓*i*P	P	13 30 05.5	-0.6
comp=Z,54nm,1.1s						
CLL			*i* pP	pP	13 30 13.4	+0.8
CLL			*i*		13 30 16.6	
CLL			*i* sP	sP	13 30 18.2	+3.3
CLL			*e*PP	PP	13 33 26.0	+6.9
comp=Z,18nm,1.1s						
CLL			*e*S	SKKSac	13 40 33.0	-0.1
CLL			*e*PS	PnS	13 41 13.0	-9.2
CLL			*e*		13 46 42.0	
CLL			*e*		13 47 00.0	
CLL			*e*		13 50 24.0	
CLL			*e*SSSS		13 52 24.0	
CLL			LmH		14 08 00.0	
comp=Z,2μm,20.1s						
FBE	Freiberg	83.91 323	*e*P	P	13 30 05.7	-0.4
comp=Z,88nm,1.2s						
CONA	Conrad Observa	83.94 320	⇓*i*pP	P	13 30 06.6	+0.1
comp=Z,76nm,1.2s,SNR=34						
BSEG	Bad Segeberg	83.95 327	*e*P	P	13 30 06.2	0.0
comp=Z,201nm,1.8s						
BSEG	Bad Segeberg	83.95 327	*e*P	P	13 30 06.2	0.0
BSEG			pmax	pmax		
comp=Z,201nm,1.8s						
BEHE	Becsehely	84.08 318	⇑*e*P	P	13 30 07.6	+0.5
TIR	Tirane	84.42 313	PFAKE		13 30 20.0	+11
TIR			LR	LR		
comp=Z,1μm,22.0s						
ARSA	Arzberg	84.46 319	⇑*i*pP	P	13 30 09.0	-0.1
comp=Z,31nm,1.1s,SNR=14						
NEUB	Neuenburg	84.62 324	*e*P	P	13 30 09.5	-0.2
comp=Z,98nm,1.4s						
TANN	Tannenbergstha	84.65 323	*e*P	P	13 30 09.7	-0.3
comp=Z,344nm,1.3s						
KHC	Kasperske Hory	84.67 322	*i* P	P	13 30 09.3	-0.8
KHC			*e*		13 30 16.2	
KHC			*e*		13 30 21.5	
KHC			*e*		13 40 31.1	
KHC			MLR	MLR		
comp=Z,2μm,17.3s						
KHC	Kasperske Hory	84.67 322	*i* P	P	13 30 09.3	-0.8
KHC			*e*x	x	13 30 16.2	
KHC			*e*x	x	13 30 21.5	
KHC			*e*SKS	S	13 40 31.1	-5.6
KHC			AMS	AMS	14 12 00.0	
comp=Z,2μm,17.3s						
KHC	Kasperske Hory	84.67 322	*e*P	P	13 30 09.4	-0.7
comp=Z,23nm,0.8s						
KHC			*e*		13 30 21.2	
WERD	Werda	84.72 323	*e*P	P	13 30 10.0	-0.3
comp=Z,35nm,1.2s						
GEC2	GERESS Array S	84.75 321	*e*P	P	13 30 10.2	-0.3
comp=Z,59nm,1.1s						
GEC2	GERESS Array S	84.75 321	*e*P	P	13 30 10.2	-0.3
GEC2			pmax	pmax		
comp=Z,59nm,1.1s						
GERES	GERESS Array B	84.75 321	P	P	13 30 10.3	-0.3
GERES	GERESS Array B	84.75 321	P	P	13 30 10.3	-0.3
comp=Z,28nm,0.9s,baz=57,slow=4.9,SNR=119						
GERES			LR	LR	14 11 20.3	
comp=Z,2μm,18.5s,baz=58,slow=38						
GUNZ	Gunzen	84.75 323	*e*P	P	13 30 10.4	-0.1
comp=Z,52nm,1.1s						
WERN	Wernitzgruen	84.76 323	*e*P	P	13 30 10.4	-0.2
comp=Z,43nm,1.1s						
NRDL	Niedersach Rie	84.82 326	*e*P	P	13 30 10.9	+0.3
comp=Z,97nm,1.3s						
MOA	Molln	84.91 320	⇓*i*pP	P	13 30 11.3	0.0
comp=Z,28nm,0.9s,SNR=14						
MOX	Moxa	85.00 324	*e*P	P	13 30 11.3	-0.4
comp=Z,80nm,1.6s						
MOX			*e*L	L	14 16 00.8	
comp=Z,2μm,19.8s						
MOX	Moxa	85.00 324	*e*P	P	13 30 11.3	-0.4
MOX			pmax	pmax		
comp=Z,80nm,1.6s						
SOKA	Soboth	85.03 319	⇓*i*P	P	13 30 11.4	-0.7
comp=Z,32nm,1.0s,SNR=19						
WET	Wettzell	85.07 322	*e*P	P	13 30 11.8	-0.3
comp=Z,58nm,1.6s						
WET			*e*pP	pP	13 30 23.8	+5.2
WET	Wettzell	85.07 322	*e*P	P	13 30 11.8	-0.3
WET			*e**PP	pP	13 30 23.8	+5.2
WET			pmax	pmax		
comp=Z,58nm,1.6s						
MANZ	Manzenberg	85.07 323	*e*P	P	13 30 11.7	-0.4
comp=Z,32nm,1.1s						
ROTZ	Rotzenmuhle	85.12 323	*e*P	P	13 30 12.3	0.0
comp=Z,58nm,1.3s						
OBKA	Obir	85.41 319	⇓*i*P	P	13 30 13.3	-0.6
comp=Z,22nm,1.0s,SNR=8.2						
ABPO	Ambohimpanom	85.59 247	*e*P	P	13 30 14.2	-1.2
ABPO			pmax	pmax		
comp=Z,42nm,1.0s						
ABPO	Ambohimpanom	85.59 247	*e*P	P	13 30 14.2	-1.2
comp=Z,42nm,1.0s						
GRF	Grafenberg Arr	85.71 323	*e*P	P	13 30 15.2	-0.1
comp=Z,106nm,1.4s						
GRF			*e*L	L	14 14 26.9	
comp=Z,3μm,18.4s						
GRF	Grafenberg Arr	85.71 323	*e*P	P	13 30 15.2	-0.1
GRF			pmax	pmax		
comp=Z,106nm,1.4s						
GRF			MLR	MLR		
comp=Z,1μm,18.5s						
GRFO	Grafenberg	85.71 323	*e*P	P	13 30 14.2	-1.1
GRFO			pmax	pmax		
comp=Z,84nm,1.4s						
GRFO	Grafenberg	85.71 323	*e*P	P	13 30 14.2	-1.1
comp=Z,84nm,1.4s						
UBBA	Unterbreizbach	85.78 324	*e*P	P	13 30 15.0	-0.4
comp=Z,71nm,1.5s						
RJOB	Jochberg	85.83 321	*e*P	P	13 30 15.6	-0.4
comp=Z,23nm,1.3s						
RJOB			*e*pP	pP	13 30 28.1	+5.6
KBA	Koelnbreinsper	85.84 320	⇓*i*P	P	13 30 15.3	-0.9
comp=Z,13nm,1.1s						
MYKA	Terra Mystica	85.89 319	⇑*i*P	P	13 30 15.0	-1.3
comp=Z,8.7nm,0.9s						
VOY	Vojsko	86.04 319	*e*P	P	13 30 15.5	-1.6
VOY			*e*pP	pP	13 30 28.3	+4.7
VOY			*e*		13 30 34.0	
IBBN	Ibbenburen	86.13 326	*e*P	P	13 30 16.8	-0.4
comp=Z,117nm,1.0s						
ABTA	Abfaltersbach	86.50 320	⇑*i*P	P	13 30 18.1	-1.3
comp=Z,15nm,1.3s						
PGC	Sidney	86.62 38	*e*P	P	13 30 20.5	+0.8
comp=Z,2.5nm,1.1s						
WTTA	Wattenberg	86.75 321	⇓*i*P	P	13 30 19.9	-0.8
comp=Z,29nm,1.1s,SNR=7.8						
BUG	Bochum-Univer	86.87 326	*e*P	P	13 30 20.6	-0.3
comp=Z,77nm,1.1s						
TNS	Taunus Mts	86.93 324	*e*P	P	13 30 20.9	-0.4
comp=Z,45nm,1.2s						
TNS			*e*pP	pP	13 30 32.6	+4.7
TNS	Taunus Mts	86.93 324	*e*P	P	13 30 20.9	-0.4
TNS			*e**PP	pP	13 30 32.6	+4.7
TNS			pmax	pmax		
comp=Z,45nm,1.2s						
MOTA	Moosalm	87.01 321	⇑*i*P	P	13 30 21.1	-0.8
comp=Z,9.1nm,0.9s						
NLWA	Neilton Lookou	87.05 39	P	P	13 30 23.3	+1.4
comp=Z,50nm,1.2s						
NLWA			LR	LR		
comp=Z,572nm,19.0s						
KMBO	Kilima Mbogo	87.06 268	P	P	13 30 23.6	+0.8
SNR=10						
KMBO	Kilima Mbogo	87.06 268	*e*P	P	13 30 22.8	0.0
comp=Z,45nm,1.4s						
KMBO	Kilima Mbogo	87.06 268	P	P	13 30 23.0	+0.2
comp=Z,10nm,1.0s,baz=39,slow=5.8,SNR=15						
KMBO			LR	LR	14 09 53.7	
comp=Z,556nm,20.5s,baz=90,slow=36						
FETA	Feichten	87.40 321	⇑*i*pP	P	13 30 23.3	-0.5
comp=Z,20nm,1.2s,SNR=9.1						
DAVA	Damuels	87.75 321	⇑*i*P	P	13 30 24.7	-0.7
comp=Z,29nm,1.5s,SNR=8.1						
CUC	Castrocucco	87.78 313	PFAKE		13 30 40.0	+14
CUC			LR	LR		
comp=Z,836nm,19.0s						
BORG	Borgarnes	87.94 346	PFAKE		13 30 40.0	+14
BORG			LR	LR		
comp=Z,924nm,20.0s						
LANF	Langenberg	87.97 324	*e*P	P	13 30 25.8	-0.5
MEM	Membach	88.00 326	P	P	13 30 26.0	-0.3
comp=Z,13nm,1.3s						
BFO	Black Forest	88.05 323	P	P	13 30 25.7	-1.0
comp=Z,80nm,1.9s,SNR=5.6						
BFO	Black Forest	88.05 323	*e*P	P	13 30 25.8	-1.0
comp=Z,54nm,1.7s						
BFO	Black Forest	88.05 323	*e*P	P	13 30 25.9	-0.8
BFO			pmax	pmax		
comp=Z,11nm,0.8s						
BFO			MLR	MLR		
comp=Z,2μm,19.0s						
BFO	Black Forest	88.05 323	*e*P	P	13 30 25.9	-0.8
comp=Z,11nm,0.8s						
BFO			LR	LR		
comp=Z,2μm,19.0s						
BEBN	Eben Emael	88.06 326	P	P	13 30 26.9	+0.3
AQU	L'Aquila	88.19 316	*e*P	P	13 30 27.0	-0.6
comp=Z,42nm,0.8s						
AQU			LR	LR		
comp=Z,2μm,19.0s						
WLF	Walferdange	88.47 325	P	P	13 30 28.9	+0.2
comp=Z,38nm,1.3s						
WLF	Walferdange	88.47 325	*e*P	P	13 30 28.5	-0.1
comp=Z,63nm,1.1s						
WLF	Walferdange	88.47 325	*e*P	P	13 30 28.7	+0.1
WLF			pmax	pmax		
comp=Z,35nm,1.0s						
WLF			MLR	MLR		
comp=Z,1μm,20.0s						
WLF	Walferdange	88.47 325	*e*P	P	13 30 28.7	+0.1
comp=Z,35nm,1.0s						
WLF			LR	LR		
comp=Z,1μm,20.0s						
BCLA	Clavier	88.47 326	P	P	13 30 28.8	+0.2
comp=Z,16nm,1.8s						
TUE	Stuetta	88.50 321	*e*P	P	13 30 28.0	-1.1
comp=Z,17nm,0.9s						
TUE			LR	LR		
comp=Z,2μm,19.0s						
CEL	Celeste	88.56 311	*e*P	P	13 30 29.0	-0.4
comp=Z,84nm,1.3s						
CEL			LR	LR		
comp=Z,517nm,20.0s						
LON	Longmire	88.58 39	*e*P	P	13 30 29.5	+0.2
LON			pmax	pmax		
comp=Z,38nm,1.1s						
LON	Longmire	88.58 39	*e*P	P	13 30 29.5	+0.2
comp=Z,38nm,1.1s						
CDF	Champ du Feu	88.58 323	*e*P	P	13 30 28.5	-0.8
comp=Z,132nm,1.2s						
ECH	Echery	88.76 323	*e*P	P	13 30 29.1	-1.0
ECH			pmax	pmax		
comp=Z,36nm,1.3s						
ECH			MLR	MLR		
comp=Z,2μm,21.0s						
ECH	Echery	88.76 323	*e*P	P	13 30 29.1	-1.0
comp=Z,36nm,1.3s						
ECH			LR	LR		
comp=Z,2μm,21.0s						
ECH	Echery	88.76 323	*e*P	P	13 30 28.8	-1.3
WPW	White Pass	88.76 39	P	P	13 30 30.9	+0.7
TWW	Teanaway	88.90 38	P	P	13 30 32.4	+1.6
GIVF	Givet	88.91 326	*e*P	P	13 30 29.9	-0.8
MOF	Molkenrain	88.98 323	*e*P	P	13 30 30.2	-1.0
DOU	Dourbes	89.03 326	P	P	13 30 30.9	-0.4
comp=Z,11nm,1.3s						
WTV	Waterville	89.10 37	P	P	13 30 32.5	+0.8
EDM	Edmonton	89.12 30	*e*P	P	13 30 32.5	+0.8
EDM	Edmonton	89.12 30	*e*P	P	13 30 32.5	+0.8
VLC	Villacollemand	89.13 319	PFAKE		13 30 40.0	+8.1
VLC			LR	LR		
comp=Z,1μm,20.0s						
HINF	Hinteralfeld	89.16 323	*e*P	P	13 30 30.7	-1.3
comp=Z,29nm,0.8s						
BAIF	Baives	89.25 326	*e*P	P	13 30 31.6	-0.7
comp=Z,43nm,1.3s						
HAU	Haudompre	89.33 323	*e*P	P	13 30 31.5	-1.2
comp=Z,49nm,0.8s						
HAU			*e*R			
comp=Z,2μm,17.2s						
PAGF	Fort de Pagny	89.34 324	*e*P	P	13 30 32.1	-0.7
comp=Z,25nm,1.2s						
ESK	Eskdalemuir	89.36 333	*i* P	P	13 30 33.2	+0.5
ESK	Eskdalemuir	89.36 333	PFAKE		13 30 40.0	+7.3
ESK			LR	LR		
comp=Z,1μm,20.0s						
THEF	They Montfort	89.39 324	*e*P	P	13 30 31.9	-1.1
LOMF	Lomont	89.44 323	*e*P	P	13 30 32.9	-0.4
SFJD	Kangerlussuaq	89.68 358	⇓*i*P	P	13 30 33.1	-0.8
comp=Z,18nm,0.9s						
SFJD			*i*		13 41 06.0	
SFJD						
comp=Z,770nm,18.0s						
SFJD	Kangerlussuaq	89.68 358	*e*P	P	13 30 33.2	-0.7
comp=Z,11nm,0.8s						
SFJD			LR	LR		
comp=Z,1μm,20.0s						
MEZF	Maizieres J'vi	89.74 324	*e*P	P	13 30 34.1	-0.5
IRO	Indian Ridge	89.83 41	P	P	13 30 36.0	+0.6
SFTF	Sexfontaines	89.92 324	*e*P	P	13 30 34.6	-0.9
comp=Z,54nm,0.8s						
C09A	Chrisman Ranch	89.97 36	P	P	13 30 36.6	+0.9

CASY	Casey	90.04	185	eP		P	13 30 35.1	-0.2
	comp=Z,35nm,1.1s							
CASY				LR	LR			
	comp=Z,282nm,20.0s							
HUMO	Hull Mountain	90.16	43	eP		P	13 30 37.2	+0.5
	comp=Z,19nm,1.3s							
CABF	La Chapelle	90.28	322	eP		P	13 30 36.4	-0.9
	comp=Z,53nm,1.2s							
NEW	Newport	90.31	36	eP		P	13 30 37.9	+0.6
	comp=Z,85nm,1.1s							
NEW				LR	LR			
	comp=Z,547nm,21.0s							
NEW	Newport	90.31	36	⇑P		P	13 30 38.2	+0.8
	baz=90							
RSL	Roselend	90.50	321	eP		P	13 30 37.3	-1.2
LPG	La Plagne	90.54	321	eP		P	13 30 38.3	-0.5
	comp=Z,78nm,0.9s							
LPL	La Plagne	90.54	321	eP		P	13 30 38.2	-0.5
	comp=Z,142nm,1.2s							
WDD	Wield Dalam	90.69	310	PFAKE			13 30 50.0	+11
WDD				LR	LR			
	comp=Z,396nm,19.0s							
DRV	Dumont d'Urvil	90.73	174	SS	SS		13 47 07.0	-29
YBH	Yreka Blue Hor	90.78	43	eP		P	13 30 40.8	+1.1
	comp=Z,61nm,1.6s							
BNI	Bardonecchia	90.84	321	eP		P	13 30 39.2	-0.8
BNI				pmax	pmax			
	comp=Z,27nm,1.1s							
BNI				MLR	MLR			
	comp=Z,2µm,20.0s							
BNI	Bardonecchia	90.84	321	eP		P	13 30 39.2	-0.8
	comp=Z,27nm,1.1s							
BNI				LR	LR			
	comp=Z,2µm,20.0s							
PGF	Pioggiola	90.86	318	eP		P	13 30 39.4	-0.7
	comp=Z,96nm,1.3s							
SAOF	Saorge	90.93	320	eP		P	13 30 37.3	-3.0
MBDF	Montbardon	90.97	320	eP		P	13 30 39.2	-1.4
	comp=Z,50nm,1.4s							
AUTN	L'Aution	91.00	320	eP		P	13 30 39.8	-1.1
SBF	Sospel	91.07	319	eP		P	13 30 39.8	-1.2
	comp=Z,48nm,0.8s							
TOUF	Mont Tournerai	91.10	320	eP		P	13 30 40.2	-1.1
LUCF	Luceram	91.11	320	eP		P	13 30 39.8	-1.4
LOR	Lormes	91.12	324	eP		P	13 30 40.0	-1.1
	comp=Z,76nm,1.4s							
LOR				eR				
	comp=Z,2µm,18.5s							
MVIF	Mont Vial	91.22	320	eP		P	13 30 40.4	-1.4
ORIF	Oris-en-Rattie	91.38	321	eP		P	13 30 41.8	-0.7
	comp=Z,70nm,1.2s							
ORIF				eR				
	comp=Z,3µm,17.5s							
SSF	Saint Saulge	91.44	324	eP		P	13 30 41.5	-1.1
	comp=Z,43nm,1.3s							
WALA	Waterton Lakes	91.50	34	eP		P	13 30 44.0	+1.0
	comp=Z,3.7nm,1.3s							
SMF	Signal de Mont	91.50	323	eP		P	13 30 41.9	-1.0
	comp=Z,128nm,1.2s							
WDC	Whiskeytown Da	91.51	44	eP		P	13 30 43.4	+0.4
WDC				pmax	pmax			
	comp=Z,27nm,1.4s							
WDC	Whiskeytown Da	91.51	44	eP		P	13 30 43.4	+0.4
	comp=Z,28nm,1.4s							
AVF	Avril sur Loir	91.69	324	eP		P	13 30 42.7	-1.0
	comp=Z,98nm,1.3s							
FRF	La Foret Royal	91.71	320	eP		P	13 30 42.9	-1.0
	comp=Z,56nm,1.2s							
BSMT	Bassoo Peak	91.81	35	eP		P	13 30 45.6	+1.1
	comp=Z,41nm,1.2s							
OG26	St.-Nazaire-De	91.91	321	eP		P	13 30 44.5	-0.4
LMR	La Mourre	91.93	319	eP		P	13 30 44.0	-0.9
	comp=Z,63nm,1.2s							
BLMT	Blacktail Moun	91.93	35	eP		P	13 30 45.8	+0.7
	comp=Z,78nm,1.5s							
SSB	Saint Sauveur	91.93	322	eP		P	13 30 43.9	-1.0
SSB				pmax	pmax			
	comp=Z,38nm,1.1s							
SSB				MLR	MLR			
	comp=Z,964nm,19.0s							
SSB	Saint Sauveur	91.93	322	eP		P	13 30 43.9	-1.0
	comp=Z,38nm,1.1s							
SSB				LR	LR			
	comp=Z,964nm,19.0s							
SSB	Saint Sauveur	91.93	322	eP		P	13 30 43.9	-1.0
BGF	Bois d'Agland	92.10	324	eP		P	13 30 44.7	-1.0
	comp=Z,46nm,1.4s							
SMRF	Simiane la Rot	92.11	320	eP		P	13 30 45.2	-0.6
VIVF	Saint-Julien-l	92.11	321	eP		P	13 30 45.0	-0.8
	comp=Z,101nm,1.2s							
JTMT	Jette	92.14	35	eP		P	13 30 46.8	+0.8
	comp=Z,35nm,1.3s							
YBMT	Yellow Bay	92.20	35	eP		P	13 30 46.5	+0.2
	comp=Z,32nm,1.3s							
BMO	Blue Mountains	92.25	38	eP		P	13 30 46.9	+0.4
BMO				pmax	pmax			
	comp=Z,49nm,1.2s							
BMO				MLR	MLR			
	comp=Z,460nm,19.0s							
BMO	Blue Mountains	92.25	38	eP		P	13 30 46.9	+0.4
	comp=Z,49nm,1.2s							
BMO				LR	LR			
	comp=Z,460nm,19.0s							
AGO	Saint Agoulin	92.26	323	eP		P	13 30 46.3	-0.1
VSL	Villasalto	92.29	315	eP		P	13 30 46.2	-0.4
	comp=Z,30nm,1.0s							
VSL				LR	LR			
	comp=Z,819nm,21.0s							
FCC	Fort Churchill	92.32	19	eP		P	13 30 45.9	-0.5
FCC				pmax	pmax			
	comp=Z,1.0nm,1.0s							
FCC	Fort Churchill	92.32	19	eP		P	13 30 45.9	-0.5
	comp=Z,0.6nm,1.0s							
LDF	La Druitiere	92.39	326	eP		P	13 30 45.3	-1.6
	comp=Z,44nm,1.3s							
SWMT	Swartz Lake	92.43	35	eP		P	13 30 47.8	+0.5
	comp=Z,42nm,1.4s							
FLN	La Foliniere	92.46	327	eP		P	13 30 46.5	-0.7
FLN				eR				
	comp=Z,3µm,17.5s							
PYM	Petit Puy Mans	92.51	323	eP		P	13 30 46.8	-0.8
TCF	Toulx Ste Croi	92.62	324	eP		P	13 30 47.4	-0.7
	comp=Z,39nm,1.1s							
LBL	Lubilhac	92.69	322	eP		P	13 30 48.4	-0.1
SLMT	Seeley Lake	92.87	35	eP		P	13 30 49.6	+0.2
	comp=Z,71nm,1.3s							
FFC	Flin Flon	92.87	24	eP		P	13 30 48.7	-0.3
FFC				pmax	pmax			
	comp=Z,115nm,1.1s							
FFC				MLR	MLR			
	comp=Z,524nm,20.0s							
FFC	Flin Flon	92.87	24	eP		P	13 30 48.7	-0.3
	comp=Z,116nm,1.1s							
FFC				LR	LR			
	comp=Z,524nm,20.0s							
FFC	Flin Flon	92.87	24	P		P	13 30 49.9	+0.9
	comp=Z,248nm,1.1s,SNR=12							
GRR	Gorron	92.89	327	eP		P	13 30 48.8	-0.4
MSO	Missoula	92.89	35	⇑P		P	13 30 49.6	+0.1
	baz=93							
WVOR	Wild Horse Val	92.90	41	eP		P	13 30 50.2	+0.6
WVOR				pmax	pmax			
	comp=Z,63nm,1.5s							
WVOR				MLR	MLR			
	comp=Z,399nm,19.0s							
WVOR	Wild Horse Val	92.90	41	eP		P	13 30 50.2	+0.6
	comp=Z,62nm,1.5s							
WVOR				LR	LR			
	comp=Z,399nm,19.0s							
LASF	Ste Croix	93.05	321	eP		P	13 30 49.6	-0.5
	comp=Z,78nm,1.4s							
CHMT	Chamberlain Mo	93.20	35	eP		P	13 30 51.0	0.0
	comp=Z,20nm,1.4s							
BEKR	Beckworth	93.30	44	eP		P	13 30 51.8	+0.2
	comp=Z,12nm,1.1s							
CAF	Calviac	93.54	323	eP		P	13 30 52.1	-0.3
	comp=Z,80nm,1.2s							
B17A	L&G Farms, Che	93.57	33	⇓P		P	13 30 52.5	+0.1
	baz=93,SNR=31							
RJF	Les Rejaudoux	93.61	323	eP		P	13 30 52.4	-0.2
	comp=Z,116nm,1.4s							
RJF				eR				
	comp=Z,2µm,19.2s							
A18A	Metzger Ranch,	93.62	32	⇑P		P	13 30 52.5	-0.2
	baz=93,SNR=17							
MFF	Saint Martin d	93.68	325	eP		P	13 30 51.8	-1.1
	comp=Z,21nm,1.1s							
SGMF	Saint Gilles	93.83	327	eP		P	13 30 52.2	-1.4
	comp=Z,45nm,1.3s							
MFID	Camas Ranch	93.97	39	⇓P		P	13 30 55.2	+0.7
	baz=94,SNR=37							
B18A	Beardsley Farm	94.00	32	⇑P		P	13 30 54.3	-0.2
	baz=94,SNR=11							
PAHR	Pah Rah Range	94.01	44	eP		P	13 30 55.0	+0.2
	comp=Z,35nm,1.1s							
C17A	Wharram Farm,	94.02	33	⇓P		P	13 30 54.1	-0.5
	baz=94,SNR=10							
PPT	Papeete	94.07	107	LR	LR		14 05 00.4	
	comp=Z,710nm,19.8s,baz=357,slow=30							
PPT2	Papeete2	94.08	107	eS		S	13 41 58.1	-7.4
	comp=Z,253nm,27.5s							
PPT2	Papeete2	94.08	107	eLR		LR	14 01 00.1	
	comp=Z,1µm,22.5s,baz=297							
HRY	Holter Researc	94.08	35	eP		P	13 30 55.3	+0.3
	comp=Z,16nm,0.9s							
ROSF	Rostrenen	94.13	328	eP		P	13 30 53.5	-1.4
	comp=Z,31nm,1.1s							
A19A	Klindworth Far	94.14	32	⇓P		P	13 30 55.3	+0.1
	baz=94,SNR=6.8							
LFF	La Frestale	94.27	323	eP		P	13 30 55.3	-0.3
EGMT	Eagleton	94.27	33	eP		P	13 30 55.8	+0.1
	comp=Z,24nm,1.1s							
EGMT				LR	LR			
	comp=Z,729nm,20.0s							
EGMT	Eagleton	94.27	33	⇑P		P	13 30 55.8	+0.1
	baz=94,SNR=11							
CMB	Columbia Colle	94.31	45	eP		P	13 30 56.4	+0.3
CMB				pmax	pmax			
	comp=Z,39nm,1.2s							
CMB	Columbia Colle	94.31	45	eP		P	13 30 56.4	+0.3
	comp=Z,39nm,1.2s							
LRM	Limekiln Ridge	94.33	36	eP		P	13 30 56.8	+0.5
	comp=Z,128nm,1.2s							
KEST	Kesra	94.35	312	eP		P	13 30 56.0	-0.4
KEST	Kesra	94.35	312	P		P	13 30 56.6	+0.2
	comp=Z,6.7nm,1.1s,baz=339,slow=3.4,SNR=11							
KEST				LR	LR		14 23 18.7	
	comp=Z,315nm,19.4s,baz=326,slow=42							
QUIF	Quistinic	94.36	327	eP		P	13 30 54.4	-1.6
B19A	Brinkman Farms	94.37	32	⇑P		P	13 30 56.3	+0.2
	baz=94,SNR=9.1							
D17A	Six Diamond Ra	94.38	34	⇑P		P	13 30 56.5	+0.2
	baz=94,SNR=21							
MTLF	Montolieu	94.44	321	eP		P	13 30 55.8	-0.7
	comp=Z,51nm,1.3s							
DLMT	Dillon	94.55	36	eP		P	13 30 57.6	+0.4
	comp=Z,39nm,1.3s							
A20A	Cobblestone Ra	94.57	31	⇑P		P	13 30 57.1	0.0
	baz=94,SNR=8.6							
WAKR	Walker	94.66	45	eP		P	13 30 58.4	+0.5
	comp=Z,20nm,1.2s							
HLID	Hailey	94.69	38	eP		P	13 30 58.9	+1.0
	comp=Z,44nm,1.3s							
HLID				LR	LR			
	comp=Z,562nm,20.0s							
HLID	Hailey	94.69	38	⇑P		P	13 30 59.1	+1.2
	baz=94							
E17A	Martinsdale	94.75	34	⇓P		P	13 30 58.6	+0.5
	baz=94,SNR=19							
MCMT	McKenzie Canyo	94.76	36	eP		P	13 30 58.5	+0.3
	comp=Z,2.1nm,0.9s							
D18A	Linhart Farms,	94.80	33	⇓P		P	13 30 58.5	+0.3
	baz=95,SNR=5.3							
C19A	Slack Wire Ran	94.81	33	⇑P		P	13 30 58.6	+0.4
	baz=95,SNR=9.5							
B20A	Solberg Farm,	94.83	32	⇓P		P	13 30 57.8	-0.5
	baz=95							
BOZ	Bozeman (W)	94.88	35	eP		P	13 30 59.1	+0.4
BOZ				pmax	pmax			
	comp=Z,16nm,1.5s							
BOZ				MLR	MLR			
	comp=Z,503nm,21.0s							
BOZ	Bozeman (W)	94.88	35	eP		P	13 30 59.1	+0.4
	comp=Z,16nm,1.5s							
BOZ				LR	LR			
	comp=Z,503nm,21.0s							
BMN	Battle Mountai	94.93	42	eP		P	13 30 59.9	+0.9
BMN				pmax	pmax			
	comp=Z,36nm,1.4s							
BMN				MLR	MLR			
	comp=Z,355nm,20.0s							
BMN	Battle Mountai	94.93	42	eP		P	13 30 59.9	+0.9
	comp=Z,36nm,1.4s							
BMN				LR	LR			
	comp=Z,355nm,20.0s							
A21A	Bergtoll Ranch	94.96	31	⇓P		P	13 30 58.6	-0.2
	baz=95,SNR=12							
E18A	Harlowton	95.17	34	⇑P		P	13 31 00.3	+0.4
	baz=95,SNR=8.2							
F17A	Fitzpatrick Pl	95.22	35	⇓P		P	13 31 00.3	+0.1
	baz=95,SNR=8.5							
D19A	Cripps Ranch,	95.28	33	⇑P		P	13 31 00.6	+0.2
	baz=95,SNR=20							
B21A	Ellsworth Farm	95.32	31	⇓P		P	13 31 00.3	-0.1
	baz=95							
C20A	Veseth Ranch,	95.34	32	⇑P		P	13 31 00.7	+0.1
	baz=95,SNR=16							
A22A	Carney Farms,	95.43	30	⇓P		P	13 31 00.2	-0.8
	baz=95							
NVAR	Mina Array Bea	95.43	44	P		P	13 31 02.3	+0.9
NVAR	Mina Array Bea	95.43	44	P		P	13 31 02.3	+0.9
	comp=Z,14nm,1.0s,baz=277,slow=4.7,SNR=62							
QLMT	Earthquake Lak	95.52	36	eP		P	13 31 02.4	+0.7
	comp=Z,2.4nm,1.3s							
NV11	Mina Array Sit	95.53	44	eP		P	13 31 02.2	+0.4
MLAC	Mammoth Lakes	95.55	45	⇑P		P	13 31 02.7	+0.7
	baz=95							
C21A	Desert Coulee	95.70	32	⇓P		P	13 31 02.1	-0.1
	baz=96							
D20A	Manuel Ranch,	95.70	33	⇑P		P	13 31 02.4	+0.1
	baz=96,SNR=8.9							
F18A	Big Timber	95.71	34	⇑P		P	13 31 02.7	+0.3
	baz=96,SNR=8.4							
E19A	Rath Farm, Rou	95.81	33	⇓P		P	13 31 02.9	+0.1
	baz=96,SNR=11							
GCMT	Greycliff	95.82	34	eP		P	13 31 02.8	-0.2
	comp=Z,12nm,1.4s							
B22A	Reddig Ranch S	95.89	31	⇑P		P	13 31 02.5	-0.5
	baz=96							
A23A	Redstone	95.93	30	⇑P		P	13 31 03.0	-0.3
	baz=96							
RCTC	Rector, Farmer	96.04	46	⇑P		P	13 31 03.7	-0.3
	baz=96							
YFT	Old Faithful	96.09	36	P		P	13 31 05.6	+1.3
	comp=Z,30nm,1.4s							
E20A	Meyer Farm, Mu	96.11	33	⇓P		P	13 31 04.3	+0.2
	baz=96							
F19A	Roth Farm, Mol	96.15	34	⇓P		P	13 31 04.3	-0.1
	baz=96							
B23A	Brockton	96.24	30	⇑P		P	13 31 04.5	-0.2
	baz=96							
LKWY	Lake	96.25	36	PFAKE			13 31 20.0	+15
LKWY				LR	LR			
	comp=Z,1µm,19.0s							
H17A	Grant Village	96.27	36	eP		P	13 31 07.4	+2.2
H17A	Grant Village	96.27	36	⇓P		P	13 31 07.1	+1.9
	baz=96,SNR=5.2							
TIN	Tinemaha	96.28	45	⇑P		P	13 31 04.9	-0.2
	baz=96							
D21A	La Casta Ranch	96.28	32	⇓P		P	13 31 05.1	+0.2
	baz=96							
ETSF	Etsaut	96.29	322	eP		P	13 31 04.8	-0.2
	comp=Z,26nm,1.1s							
TPH	Tonopah	96.33	44	PFAKE			13 31 20.0	+15
TPH				LR	LR			
	comp=Z,439nm,21.0s							
C22A	Vida	96.34	31	⇑P		P	13 31 04.7	-0.4
	baz=96							
A24A	Westby	96.35	29	⇑P		P	13 31 04.7	-0.4
	baz=96							
IMW	Indian Meadow	96.40	36	eP		P	13 31 06.7	+0.9
	comp=Z,15nm,1.3s							
VES	Vestal, Richgr	96.41	47	⇓P		P	13 31 05.2	-0.4
	baz=96							
TBI	Tubuai	96.42	113	eLR		LR	14 02 09.5	
	comp=Z,500nm,24.8s,baz=301							
PKM	Peak Mountain	96.45	48	⇓P		P	13 31 06.7	+0.6
	baz=96,SNR=5.7							
RLMT	Red Lodge	96.47	35	eP		P	13 31 06.5	+0.5
	comp=Z,20nm,1.5s							
RLMT				LR	LR			
	comp=Z,818nm,19.0s							
SJPF	Ste Jean	96.52	323	eP		P	13 31 05.9	-0.1
	comp=Z,35nm,1.3s							
RRI2	Red Ridge	96.56	37	eP		P	13 31 05.5	-1.0
	comp=Z,5.5nm,1.0s							
H18A	Shoshone NF, C	96.57	35	⇓P		P	13 31 06.8	+0.3
	baz=96							
F20A	Billings	96.59	34	⇓P		P	13 31 06.4	0.0
	baz=96							
DGMT	Dagmar	96.60	30	eP		P	13 31 06.1	-0.2
	comp=Z,13nm,1.0s							
DGMT				LR	LR			
	comp=Z,620nm,19.0s							
DGMT	Dagmar	96.60	30	⇑P		P	13 31 06.3	+0.1
	baz=96							
MOOW	Moose Ponds	96.61	36	eP		P	13 31 07.4	+0.7
	comp=Z,7.3nm,1.3s							
E21A	Keefer Ranch,	96.61	32	⇑P		P	13 31 06.0	-0.4
	baz=96							
D22A	Cohagen	96.62	32	⇓P		P	13 31 06.3	-0.1
	baz=96							
C23A	Lambert	96.62	31	⇑P		P	13 31 06.6	+0.2
	baz=96							
TPAW	Teton Pass	96.66	37	eP		P	13 31 07.5	+0.5
	comp=Z,6.2nm,1.1s							
CWC	Cottonwood Cre	96.73	46	⇓P		P	13 31 06.9	-0.4
	baz=96							
A25A	Svangstu Ranch	96.74	29	⇓P		P	13 31 07.0	+0.1
	baz=96							
LOHW	Long Hollow	96.77	36	eP		P	13 31 06.9	-0.5
	comp=Z,5.3nm,1.3s							
REDW	Red Top Meadow	96.80	37	eP		P	13 31 08.2	+0.6
	comp=Z,5.8nm,1.4s							
GRAC	Grapevine Rang	96.87	45	⇓P		P	13 31 08.2	+0.5
	baz=97							
ISA	Isabella	96.92	46	eP		P	13 31 07.4	-0.7
ISA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
ISA	Isabella	96.92	46	eP		P	13 31 07.4	-0.7
	comp=Z,9.2nm,1.2s							
ISA	Isabella	96.92	46	⇑P		P	13 31 07.7	-0.3
	baz=97,SNR=7.1							
H19A	Powell	96.93	35	⇑P		P	13 31 08.7	+0.7
	baz=97							
R11A	Troy Canyon, C	97.20	43	eP		P	13 31 09.3	0.0
R11A	Troy Canyon, C	97.20	43	⇓P		Pdif	13 31 09.8	+0.3
	baz=97,SNR=12							
B25A	Knox Farm, Ray	97.21	29	⇑P		Pdif	13 31 09.3	+0.2
	baz=97							
E22A	Miles City	97.23	32	⇓P		P	13 31 09.0	-0.2
	baz=97							
A26A	Wade Farm, Ken	97.24	28	⇑P		Pdif	13 31 09.2	0.0
	baz=97							
MPMC	Manual Prospec	97.34	46	⇓P		P	13 31 09.9	-0.2
	baz=97,SNR=18							
I19A	Meeteetse	97.35	35	⇓P		Pdif	13 31 10.2	+0.1
	baz=97							
OSI	Osito Adit	97.36	47	⇓P		Pdif	13 31 10.3	+0.3
	baz=97							
BLG	Laguna Peak	97.41	48	⇓P		P	13 31 10.0	-0.2
	baz=97							
E23A	Ismay	97.50	32	⇑P		P	13 31 10.4	0.0
	baz=97							
FURC	Furnace Creek,	97.51	45	⇓P		Pdif	13 31 10.7	+0.1
	baz=97,SNR=6.6							
D24A	Glendive	97.52	31	⇑P		Pdif	13 31 11.0	+0.5
	baz=97							
LRMC	Laurel Mountai	97.55	46	⇑P		P	13 31 10.6	-0.4
	baz=97,SNR=6.7							
F22A	Rosebud	97.55	33	⇑P		P	13 31 10.7	0.0
	baz=97							
HWUT	Hardware Ranch	97.55	38	eP		Pdif	13 31 11.6	+0.6
	comp=Z,14nm,1.3s							
HWUT				LR	LR			
	comp=Z,534nm,20.0s							
H20A	Greybull	97.57	34	⇑P		P	13 31 10.8	-0.1
	baz=97							
EDW2	Edwards Air Fo	97.70	47	⇑P		Pdif	13 31 11.8	+0.2
	baz=98,SNR=7.3							
DUG	Dugway	97.74	40	eP		Pdif	13 31 11.8	0.0
DUG				pmax	pmax			
	comp=Z,14nm,1.4s							
DUG				MLR	MLR			
	comp=Z,548nm,19.0s							
DUG	Dugway	97.74	40	eP		P	13 31 11.8	0.0
	comp=Z,14nm,1.4s							
DUG				LR	LR			
	comp=Z,548nm,19.0s							
DUG	Dugway	97.74	40	⇑P		Pdif	13 31 12.4	+0.6
	baz=98,SNR=5.1							
J19A	Crowheart	97.84	36	⇓P		Pdif	13 31 13.9	+1.6
	baz=98,SNR=5.4							
I20A	Worland	97.87	35	⇑P		Pdif	13 31 12.9	+0.6
	baz=98							
BW06	Boulder Array	97.91	36	eP		P	13 31 11.6	-0.9
	comp=Z,3.7nm,1.0s							
BW06				LR	LR			
	comp=Z,727nm,19.0s							
PDAR	Pinedale Array	97.91	36	P		P	13 31 12.2	-0.3
PDAR				PP	PP		13 35 09.9	-0.5
PDAR				PKKP	PKKPdf		13 47 48.1	-0.6
PDAR	Pinedale Array	97.91	36	P		P	13 31 12.2	-0.3
	comp=Z,2.0nm,0.9s,baz=249,slow=1.3,SNR=7.9							
PDAR				PP	PP		13 35 09.9	-0.5
	comp=Z,3.6nm,1.1s,baz=311,slow=5.7,SNR=6.6							
PDAR				PKKP	PKKPdf		13 47 48.1	-0.6
	comp=Z,0.6nm,0.7s,baz=46,slow=6.4,SNR=3.9							
G22A	Birney	97.93	33	⇓P		P	13 31 11.7	-0.7
	baz=98							
E24A	Baker	97.94	31	⇓P		P	13 31 11.7	-0.6
	baz=98							
H21A	Big Horn, Sher	97.96	34	⇑P		P	13 31 12.4	-0.2
	baz=98							
A28A	Rude Farm, Bot	98.00	27	⇑P		P	13 31 12.3	-0.2
	baz=98							
F23A	Volborg	98.01	32	⇓P		P	13 31 12.6	-0.2
	baz=98							
C26A	Wahner Farm, P	98.02	29	⇓P		P	13 31 12.3	-0.4
	baz=98							
MWC	Mount Wilson	98.03	47	eP		P	13 31 13.2	0.0
MWC				pmax	pmax			
	comp=Z,34nm,1.4s							
MWC	Mount Wilson	98.03	47	eP		P	13 31 13.2	0.0
	comp=Z,34nm,1.4s							
M17A	Scullys Gap (B	98.15	38	⇓P		Pdif	13 31 13.9	+0.2
	baz=98							
FMP	Fort Macarthur	98.16	48	⇓P		P	13 31 13.3	-0.2
	baz=98							
L18A	Fontenelle, Gr	98.21	37	⇑P		P	13 31 13.3	-0.6
	baz=98							
SHOC	Shoshone	98.23	45	⇓P		Pdif	13 31 14.3	+0.4
	baz=98,SNR=6.2							
GSC	Goldstone	98.24	46	eP		Pdif	13 31 14.3	+0.3
GSC				pmax	pmax			
	comp=Z,25nm,1.3s							
GSC	Goldstone	98.24	46	eP		Pdif	13 31 14.3	+0.3
	comp=Z,25nm,1.3s							
GSC	Goldstone	98.24	46	⇓P		Pdif	13 31 14.1	+0.1
	baz=98,SNR=11							
K19A	Absolon Red Bu	98.25	36	⇑P		P	13 31 13.5	-0.6
	baz=98							
CIS	Catalina Islan	98.26	48	⇑P		P	13 31 14.0	-0.1
	baz=98							
BFSC	Mount Baldy Ra	98.29

	baz=98							
F25A	**Bowman**	**98.80**	**31**	⇑Pdiff	Pdif	13 31 16.8	+0.5	
	baz=98							
F25A	**Bowman**	**98.80**	**31**	⇑Pdiff	Pdif	13 31 16.8	+0.5	
	baz=98							
HEC	**Hector,Ludlow**	**98.83**	**46**	⇑Pdiff	Pdif	13 31 16.7	+0.1	
	baz=99							
HEC	**Hector,Ludlow**	**98.83**	**46**	⇑Pdiff	Pdif	13 31 16.7	+0.1	
	baz=99							
C28A	**Hausauer Farms**	**98.86**	**28**	⇑Pdiff	**P**	**13 31 16.4**	**0.0**	
	baz=99							
C28A	**Hausauer Farms**	**98.86**	**28**	⇑Pdiff	**P**	**13 31 16.4**	**0.0**	
	baz=99							
MURC	**Murrieta**	**98.97**	**48**	⇓Pdiff	Pdif	13 31 17.8	+0.5	
	baz=99							
MURC	**Murrieta**	**98.97**	**48**	⇓Pdiff	Pdif	13 31 17.8	+0.5	
	baz=99							
MDND	**Maddock**	**99.09**	**28**	⇓Pdiff	**Pdif**	**13 31 17.5**	**0.0**	
	baz=99							
MDND	**Maddock**	**99.09**	**28**	⇓Pdiff	**Pdif**	**13 31 17.5**	**0.0**	
	baz=99							
J22A	**Midwest**	**99.10**	**34**	⇑Pdiff	**Pdif**	**13 31 17.5**	**-0.3**	
	baz=99							
J22A	**Midwest**	**99.10**	**34**	⇑Pdiff	**Pdif**	**13 31 17.5**	**-0.3**	
	baz=99							
H24A	**Dirks Ranch, A**	**99.13**	**32**	⇑Pdiff	**Pdif**	**13 31 17.8**	**0.0**	
	baz=99							
H24A	**Dirks Ranch, A**	**99.13**	**32**	⇑Pdiff	**Pdif**	**13 31 17.8**	**0.0**	
	baz=99							
MSU	**Marysvale**	**99.19**	**41**	*e*P	**Pdif**	**13 31 18.9**	**+0.5**	
MSU				pmax	pmax			
	comp=Z,22nm,1.6s							
MSU	**Marysvale**	**99.19**	**41**	*e*P	**Pdif**	**13 31 18.9**	**+0.5**	
	comp=Z,22nm,1.6s							
K21A	**Alcova**	**99.24**	**35**	⇓Pdiff	**Pdif**	**13 31 18.2**	**-0.3**	
	baz=99							
K21A	**Alcova**	**99.24**	**35**	⇓Pdiff	**Pdif**	**13 31 18.2**	**-0.3**	
	baz=99							
GMRC	**Granite Mounta**	**99.30**	**46**	⇑Pdiff	**Pdif**	**13 31 18.7**	**-0.1**	
	baz=99							
GMRC	**Granite Mounta**	**99.30**	**46**	⇑Pdiff	**Pdif**	**13 31 18.7**	**-0.1**	
	baz=99							
G25A	**Newell**	**99.36**	**32**	⇑Pdiff	**Pdif**	**13 31 18.7**	**-0.1**	
	baz=99							
G25A	**Newell**	**99.36**	**32**	⇑Pdiff	**Pdif**	**13 31 18.7**	**-0.1**	
	baz=99							
PFO	**Pinyon Flat Ob**	**99.47**	**47**	*e*P	**Pdif**	**13 31 19.9**	**+0.2**	
	comp=Z,24nm,1.5s							
PFO				LR	LR			
	comp=Z,717nm,22.0s							
PFO	**Pinyon Flat Ob**	**99.47**	**47**	⇓Pdiff	**Pdif**	**13 31 19.8**	**+0.2**	
	baz=99							
PFO	**Pinyon Flat Ob**	**99.47**	**47**	⇓Pdiff	**Pdif**	**13 31 19.8**	**+0.2**	
	baz=99							
LDFC	**Landfair**	**99.48**	**45**	*e*P	**Pdif**	**13 31 19.8**	**+0.2**	
BELC	**Belle Mtn. Jos**	**99.54**	**47**	⇑Pdiff	**Pdif**	**13 31 19.9**	**0.0**	
	baz=99							
BELC	**Belle Mtn. Jos**	**99.54**	**47**	⇑Pdiff	**Pdif**	**13 31 19.9**	**0.0**	
	baz=99							
L21A	**Rawlins**	**99.64**	**36**	⇓Pdiff	**Pdif**	**13 31 19.8**	**-0.5**	
	baz=99							
L21A	**Rawlins**	**99.64**	**36**	⇓Pdiff	**Pdif**	**13 31 19.8**	**-0.5**	
	baz=99							
G26A	**Maurine**	**99.68**	**31**	⇑Pdiff	**Pdif**	**13 31 20.2**	**0.0**	
	baz=99							
G26A	**Maurine**	**99.68**	**31**	⇑Pdiff	**Pdif**	**13 31 20.2**	**0.0**	
	baz=99							
RSSD	**Black Hills**	**99.84**	**33**	*e*P	**Pdif**	**13 31 21.2**	**0.0**	
RSSD				pmax	pmax			
	comp=Z,1.0nm,0.4s							
RSSD	**Black Hills**	**99.84**	**33**	*e*Pdif	**Pdif**	**13 31 21.2**	**0.0**	
	comp=Z,0.7nm,0.4s							
M21A	**Separation Pea**	**99.89**	**36**	⇓Pdiff	**Pdif**	**13 31 21.3**	**-0.2**	
	baz=100							
M21A	**Separation Pea**	**99.89**	**36**	⇓Pdiff	**Pdif**	**13 31 21.3**	**-0.2**	
	baz=100							
MONP	**Monument Peak**	**99.92**	**48**	⇓Pdiff	**Pdif**	**13 31 21.6**	**-0.1**	
	baz=100							
MONP	**Monument Peak**	**99.92**	**48**	⇓Pdiff	**Pdif**	**13 31 21.6**	**-0.1**	
	baz=100							
N20A	**Spence Gulch,**	**99.93**	**37**	⇑Pdiff	**Pdif**	**13 31 21.4**	**-0.2**	
	baz=100							
N20A	**Spence Gulch,**	**99.93**	**37**	⇑Pdiff	**Pdif**	**13 31 21.4**	**-0.2**	
	baz=100							
G27A	**Dupree**	**99.93**	**31**	⇑Pdiff	**Pdif**	**13 31 21.3**	**0.0**	
	baz=100							
G27A	**Dupree**	**99.93**	**31**	⇑Pdiff	**Pdif**	**13 31 21.3**	**0.0**	
	baz=100							
IRM	**Iron Mountain**	**100.01**	**46**	⇑Pdiff	**Pdif**	**13 31 21.6**	**-0.2**	
	baz=100							
IRM	**Iron Mountain**	**100.01**	**46**	⇑Pdiff	**Pdif**	**13 31 21.6**	**-0.2**	
	baz=100							
I25A	**Rochford**	**100.06**	**33**	⇓Pdiff	**Pdif**	**13 31 21.8**	**-0.3**	
	baz=100							
I25A	**Rochford**	**100.06**	**33**	⇓Pdiff	**Pdif**	**13 31 21.8**	**-0.3**	
	baz=100							
BC3	**Big Chuckawall**	**100.11**	**47**	⇑Pdiff	**Pdif**	**13 31 22.8**	**+0.4**	
	baz=100							
BC3	**Big Chuckawall**	**100.11**	**47**	⇑Pdiff	**Pdif**	**13 31 22.8**	**+0.4**	
	baz=100							
W13A	**Hualapai Mount**	**100.26**	**45**	⇓Pdiff	**Pdif**	**13 31 23.2**	**0.0**	
	baz=100							
W13A	**Hualapai Mount**	**100.26**	**45**	⇓Pdiff	**Pdif**	**13 31 23.2**	**0.0**	
	baz=100							
AGMN	**Agassiz Nation**	**100.28**	**26**	PFAKE		13 31 30.0	+7.3	
AGMN				LR	LR			
	comp=Z,751nm,22.0s							
P19A	**Cripple Cowboy**	**100.33**	**39**	⇑Pdiff	**Pdif**	**13 31 23.5**	**+0.1**	
	baz=100							
P19A	**Cripple Cowboy**	**100.33**	**39**	⇑Pdiff	**Pdif**	**13 31 23.5**	**+0.1**	
	baz=100							
U15A	**North Rim**	**100.44**	**43**	⇑Pdiff	**Pdif**	**13 31 24.2**	**+0.1**	
	baz=100							
U15A	**North Rim**	**100.44**	**43**	⇑Pdiff	**Pdif**	**13 31 24.2**	**+0.1**	
	baz=100							
PAB	**San Pablo**	**100.65**	**322**	PFAKE		13 31 40.0	+15	
PAB				LR	LR			
	comp=Z,2μm,20.0s							
GLA	**Glamis**	**100.89**	**47**	⇑Pdiff	**Pdif**	**13 31 26.1**	**+0.2**	
	baz=101							
GLA	**Glamis**	**100.89**	**47**	⇑Pdiff	**Pdif**	**13 31 26.1**	**+0.2**	
	baz=101							
J26A	**Sides Ranch, S**	**100.91**	**33**	⇑Pdiff	**Pdif**	**13 31 25.9**	**+0.2**	
	baz=101							
J26A	**Sides Ranch, S**	**100.91**	**33**	⇑Pdiff	**Pdif**	**13 31 25.9**	**+0.2**	
	baz=101							
MAW	**Mawson**	**101.18**	**200**	P	**Pdif**	**13 31 24.5**	**-1.5**	
MAW	**Mawson**	**101.18**	**200**	P	**Pdif**	**13 31 24.5**	**-1.5**	
	comp=Z,1.8nm,1.0s,baz=54,slow=14,SNR=4.0							
Y14A	**Wickenburg**	**101.55**	**45**	⇑Pdiff	**Pdif**	**13 31 29.1**	**+0.3**	
	baz=101							
Y14A	**Wickenburg**	**101.55**	**45**	⇑Pdiff	**Pdif**	**13 31 29.1**	**+0.3**	
	baz=101							
WUAZ	**Wupatki**	**101.60**	**43**	PFAKE		13 31 40.0	+11	
WUAZ				LR	LR			
	comp=Z,437nm,19.0s							
WUAZ	**Wupatki**	**101.60**	**43**	⇓Pdiff	**Pdif**	**13 31 29.1**	**0.0**	
	baz=101							
WUAZ	**Wupatki**	**101.60**	**43**	⇓Pdiff	**Pdif**	**13 31 29.1**	**0.0**	
	baz=101							
MTE	**Manteigas**	**101.83**	**324**	PFAKE		13 31 40.0	+10	
MTE				LR	LR			
	comp=Z,1μm,22.0s							
ISCO	**Idaho Springs**	**102.10**	**37**	PFAKE		13 31 40.0	+8.6	
ISCO				LR	LR			
	comp=Z,860nm,20.0s							
EYMN	**Ely**	**102.23**	**23**	PFAKE		13 31 40.0	+8.6	
EYMN				LR	LR			
	comp=Z,1μm,22.0s							
MVCO	**Mesa Verde**	**102.24**	**40**	PFAKE		13 31 40.0	+8.0	
MVCO				LR	LR			
	comp=Z,495nm,19.0s							
S21A	**Coal Bank Pass**	**102.35**	**39**	⇓Pdiff	**Pdif**	**13 31 32.7**	**+0.1**	
	baz=102							
S21A	**Coal Bank Pass**	**102.35**	**39**	⇓Pdiff	**Pdif**	**13 31 32.7**	**+0.1**	
	baz=102							
OGNE	**Ogallala**	**103.17**	**34**	PFAKE		13 31 50.0	+14	
OGNE				LR	LR			
	comp=Z,711nm,19.0s							
VNDA	**Vanda**	**103.31**	**172**	PP	PP	13 35 51.2	+0.1	
VNDA	**Vanda**	**103.31**	**172**	PP	PP	13 35 51.2	+0.1	
	comp=Z,2.8nm,0.9s,baz=12,slow=4.7,SNR=7.9							
ECSD	**EROS Data Cent**	**103.62**	**29**	PFAKE		13 31 50.0	+12	
ECSD				LR	LR			
	comp=Z,870nm,22.0s							
TUC	**Tucson**	**104.02**	**45**	PFAKE		13 31 50.0	+10	
TUC				LR	LR			
	comp=Z,559nm,21.0s							
TAM	**Tamanrasset**	**104.22**	**303**	PFAKE		13 31 50.0	+9.1	
TAM				LR	LR			
	comp=Z,527nm,20.0s							
SBA	**Scott Base**	**104.22**	**171**	PFAKE		13 31 50.0	+11	
SBA				LR	LR			
	comp=Z,450nm,21.0s							
Y20A	**Horse Springs,**	**104.51**	**43**	⇑Pdiff	**Pdif**	**13 31 42.3**	**+0.1**	
	baz=104							
Y20A	**Horse Springs,**	**104.51**	**43**	⇑Pdiff	**Pdif**	**13 31 42.3**	**+0.1**	
	baz=104							
COWI	**Conover**	**104.65**	**23**	PFAKE		13 31 50.0	+7.8	
COWI				LR	LR			
	comp=Z,982nm,20.0s							
Z20A	**Nine Sixteen R**	**104.91**	**43**	⇑Pdiff	**Pdif**	**13 31 43.3**	**-0.6**	
	baz=105							
Z20A	**Nine Sixteen R**	**104.91**	**43**	⇑Pdiff	**Pdif**	**13 31 43.3**	**-0.6**	
	baz=105							
ANMO	**Albuquerque**	**104.98**	**41**	PP	PP	13 36 00.3	-3.6	
ANMO				LR	LR			
	comp=Z,648nm,19.0s							
ANMO	**Albuquerque**	**104.98**	**41**	PP	PP	13 36 00.3	-3.6	
	comp=Z,0.8nm,0.4s,baz=308,slow=9.2,SNR=4.5							
U25A	**Circle Dot Ran**	**105.17**	**38**	⇑PKiKP	**Pdif**	**13 31 44.0**	**-1.0**	
	baz=105							
U25A	**Circle Dot Ran**	**105.17**	**38**	⇑PKiKP	**Pdif**	**13 31 44.0**	**-1.0**	
	baz=105							
120A	**U Bar Ranch, L**	**105.25**	**44**	⇑PKiKP	**PKiKP**	**13 35 59.9**	**+0.3**	
	baz=105							
120A	**U Bar Ranch, L**	**105.25**	**44**	⇑PKiKP	**PKiKP**	**13 35 59.9**	**+0.3**	
	baz=105							
Z21A	**St. Cloud Mine**	**105.35**	**43**	⇓PKiKP	**PKiKP**	**13 36 00.4**	**+0.6**	
	baz=105							
Z21A	**St. Cloud Mine**	**105.35**	**43**	⇓PKiKP	**PKiKP**	**13 36 00.4**	**+0.6**	
	baz=105							
W24A	**Lazy 6 Ranch,**	**105.43**	**40**	⇓PKiKP	**PKiKP**	**13 35 59.8**	**-0.1**	
	baz=105							
W24A	**Lazy 6 Ranch,**	**105.43**	**40**	⇓PKiKP	**PKiKP**	**13 35 59.8**	**-0.1**	
	baz=105							
RTC	**Rabat Centre**	**105.90**	**319**	PFAKE		13 36 10.0		
RTC				LR	LR			
	comp=Z,637nm,21.0s							
JFWS	**Jewell Farm**	**106.95**	**25**	PFAKE		13 36 10.0		
JFWS				LR	LR			
	comp=Z,875nm,20.0s							
KSU1	**Kansas State U**	**107.27**	**32**	PFAKE		13 36 10.0		
KSU1				LR	LR			
	comp=Z,684nm,21.0s							
AMTX	**Amarillo**	**107.80**	**38**	PFAKE		13 36 20.0		
AMTX				LR	LR			
	comp=Z,691nm,20.0s							
MNTX	**Cornudas Mount**	**107.86**	**42**	*e*PKiKP	**PKiKP**	**13 36 04.2**	**0.0**	
MNTX				LR	LR			
	comp=Z,463nm,20.0s							
324A	**Moseley Ranch,**	**107.97**	**43**	⇑PKiKP	**PKiKP**	**13 36 04.8**	**+0.2**	
	baz=108							
324A	**Moseley Ranch,**	**107.97**	**43**	⇑PKiKP	**PKiKP**	**13 36 04.8**	**+0.2**	
	baz=108							
226B	**Tecolote Peak,**	**108.35**	**41**	⇓PKiKP	**PKiKP**	**13 36 05.5**	**+0.3**	
	baz=108							
226B	**Tecolote Peak,**	**108.35**	**41**	⇓PKiKP	**PKiKP**	**13 36 05.5**	**+0.3**	
	baz=108							
425A	**Indio Mountain**	**108.73**	**43**	⇑PKiKP	**PKiKP**	**13 36 05.7**	**-0.3**	
	baz=108							
425A	**Indio Mountain**	**108.73**	**43**	⇑PKiKP	**PKiKP**	**13 36 05.7**	**-0.3**	
	baz=108							
RKT	**Rikitea**	**108.83**	**108**	*e*LR	LR	14 07 55.2		
	comp=Z,701nm,22.8s,baz=295							
MSKU	**Masuku**	**108.94**	**277**	PFAKE		13 36 20.0		
MSKU				LR	LR			
	comp=Z,2.0nm,21.0s							
HDIL	**Hopedale**	**109.32**	**26**	PFAKE		13 36 20.0		
HDIL				LR	LR			
	comp=Z,878nm,20.0s							
426A	**McDonald Obser**	**109.41**	**42**	⇓PKiKP	**PKiKP**	**13 36 07.2**	**-0.2**	
	baz=109							
426A	**McDonald Obser**	**109.41**	**42**	⇓PKiKP	**PKiKP**	**13 36 07.2**	**-0.2**	
	baz=109							
WMOK	**Wichita Mounta**	**109.51**	**36**	PFAKE		13 36 20.0		
WMOK				LR	LR			
	comp=Z,639nm,19.0s							
SYO	**Syowa Base**	**109.57**	**202**	⇑*e*X		13 32 13.2		
AAM	**Ann Arbor**	**109.87**	**21**	PFAKE		13 36 20.0		
AAM				LR	LR			
	comp=Z,1μm,20.0s							
626A	**Big Bend Ranch**	**110.11**	**43**	⇓PKiKP	**PKiKP**	**13 36 08.4**	**-0.2**	
	baz=110							
626A	**Big Bend Ranch**	**110.11**	**43**	⇓PKiKP	**PKiKP**	**13 36 08.4**	**-0.2**	
	baz=110							
131A	**Roby**	**110.15**	**39**	⇓PKiKP	**PKiKP**	**13 36 08.6**	**+0.1**	
	baz=110							
131A	**Roby**	**110.15**	**39**	⇓PKiKP	**PKiKP**	**13 36 08.6**	**+0.1**	
	baz=110							
428A	**Kincaid Ranch,**	**110.19**	**42**	⇑PKiKP	**PKiKP**	**13 36 09.0**	**+0.2**	
	baz=110							
428A	**Kincaid Ranch,**	**110.19**	**42**	⇑PKiKP	**PKiKP**	**13 36 09.0**	**+0.2**	
	baz=110							
Z32A	**Haskell**	**110.20**	**38**	⇑PKiKP	**PKiKP**	**13 36 08.9**	**+0.3**	
	baz=110							
Z32A	**Haskell**	**110.20**	**38**	⇑PKiKP	**PKiKP**	**13 36 08.9**	**+0.3**	
	baz=110							
LONY	**Lake Ozonia**	**110.22**	**14**	PFAKE		13 36 20.0		
LONY				LR	LR			
	comp=Z,687nm,19.0s							
TXAR	**Lajitas Array**	**110.56**	**43**	PKiKP	**PKiKP**	**13 36 09.9**	**+0.4**	
TXAR				PKKP	**PKKPdf**	**13 47 23.7**	**-1.7**	
TXAR	**Lajitas Array**	**110.56**	**43**	PKiKP	**PKiKP**	**13 36 09.9**	**+0.4**	
	comp=Z,1.3nm,0.8s,baz=323,slow=0.6,SNR=7.6							
TXAR				PKKP	**PKKPdf**	**13 47 23.7**	**-1.7**	
	comp=Z,0.9nm,1.1s,baz=187,slow=1.0,SNR=3.7							
PKME	**Peaks-Kenny Pk**	**110.58**	**10**	PFAKE		13 36 20.0		
PKME				LR	LR			
	comp=Z,1μm,19.0s							
627A	**Terlingua Ranc**	**110.65**	**43**	⇓PKiKP	**PKiKP**	**13 36 09.5**	**-0.2**	
	baz=110							
627A	**Terlingua Ranc**	**110.65**	**43**	⇓PKiKP	**PKiKP**	**13 36 09.5**	**-0.2**	
	baz=110							
429A	**Davenport Ranc**	**110.75**	**41**	⇓PKiKP	**PKiKP**	**13 36 09.5**	**-0.3**	
	baz=110							
429A	**Davenport Ranc**	**110.75**	**41**	⇓PKiKP	**PKiKP**	**13 36 09.5**	**-0.3**	
	baz=110							
529A	**Stev Forest Ra**	**110.90**	**42**	⇑PKiKP	**PKiKP**	**13 36 10.0**	**0.0**	
	baz=111							
529A	**Stev Forest Ra**	**110.90**	**42**	⇑PKiKP	**PKiKP**	**13 36 10.0**	**0.0**	
	baz=111							
NCB	**Newcomb**	**110.91**	**14**	PFAKE		13 36 20.0		
NCB				LR	LR			
	comp=Z,1μm,22.0s							
628A	**Black Gap, Mar**	**110.94**	**43**	⇓PKiKP	**PKiKP**	**13 36 10.4**	**+0.3**	
	baz=111							
628A	**Black Gap, Mar**	**110.94**	**43**	⇓PKiKP	**PKiKP**	**13 36 10.4**	**+0.3**	
	baz=111							
LBNH	**Lisbon**	**111.12**	**12**	PFAKE		13 36 20.0		
LBNH				LR	LR			
	comp=Z,1μm,19.0s							
530A	**J-C Ranch, Com**	**111.42**	**41**	⇑PKiKP	**PKiKP**	**13 36 11.1**	**+0.1**	
	baz=111							
530A	**J-C Ranch, Com**	**111.42**	**41**	⇑PKiKP	**PKiKP**	**13 36 11.1**	**+0.1**	
	baz=111							
332A	**Millersview**	**111.47**	**39**	⇓PKiKP	**PKiKP**	**13 36 11.0**	**-0.1**	
	baz=111							
332A	**Millersview**	**111.47**	**39**	⇓PKiKP	**PKiKP**	**13 36 11.0**	**-0.1**	
	baz=111							
431A	**Sonora**	**111.47**	**40**	⇑PKiKP	**PKiKP**	**13 36 11.4**	**+0.3**	
	baz=111							
431A	**Sonora**	**111.47**	**40**	⇑PKiKP	**PKiKP**	**13 36 11.4**	**+0.3**	
	baz=111							
531A	**Rocksprings**	**111.88**	**41**	⇑PKiKP	**PKiKP**	**13 36 11.4**	**-0.5**	
	baz=112							
531A	**Rocksprings**	**111.88**	**41**	⇑PKiKP	**PKiKP**	**13 36 11.4**	**-0.5**	
	baz=112							
JCT	**Junction City**	**112.10**	**40**	*e*PKIKP		13 36 12.4		
JCT				MLR	MLR			
	comp=Z,516nm,20.0s							
JCT	**Junction City**	**112.10**	**40**	*e*PKiKP	**PKiKP**	**13 36 12.4**	**+0.1**	
JCT				LR	LR			
	comp=Z,516nm,20.0s							
JCT	**Junction City**	**112.10**	**40**	⇓PKiKP	**PKiKP**	**13 36 12.0**	**-0.2**	
	baz=112							
JCT	**Junction City**	**112.10**	**40**	⇓PKiKP	**PKiKP**	**13 36 12.0**	**-0.2**	
	baz=112							
BINY	**Binghamton**	**112.18**	**16**	PFAKE		13 36 20.0		
BINY				LR	LR			
	comp=Z,1μm,21.0s							
532A	**Rocksprings**	**112.29**	**40**	⇓PKiKP	**PKiKP**	**13 36 12.7**	**0.0**	
	baz=112							
532A	**Rocksprings**	**112.29**	**40**	⇓PKiKP	**PKiKP**	**13 36 12.7**	**0.0**	
	baz=112							
MIAR	**Mount Ida**	**112.36**	**33**	PFAKE		13 36 20.0		
MIAR				LR	LR			
	comp=Z,548nm,19.0s							
631A	**Perdido Creek**	**112.41**	**41**	⇑PKiKP	**PKiKP**	**13 36 12.7**	**-0.2**	
	baz=112							
631A	**Perdido Creek**	**112.41**	**41**	⇑PKiKP	**PKiKP**	**13 36 12.7**	**-0.2**	
	baz=112							
CMLA	**Cha da Macela**	**112.49**	**334**	PFAKE		13 36 20.0		
CMLA				LR	LR			
	comp=Z,1μm,19.0s							
TORD	**Torodi Ar. Bea**	**112.49**	**296**	PKiKP	**PKiKP**	**13 36 12.2**	**-1.1**	
TORD				PKKPab	**PKKPab**	**13 47 10.2**	**-1.8**	
TORD				PKKP	**PKKPdf**	**13 47 20.1**	**-1.6**	
TORD	**Torodi Ar. Bea**	**112.49**	**296**	PKiKP	**PKiKP**	**13 36 12.2**	**-1.1**	
	comp=Z,1.7nm,1.0s,baz=349,slow=1.4,SNR=4.3							
TORD				PKKPab	**PKKPab**	**13 47 10.2**	**-1.8**	
	comp=Z,3.0nm,0.9s,baz=261,slow=3.3,SNR=8.3							
TORD				PKKP	**PKKPdf**	**13 47 20.1**	**-1.6**	
	comp=Z,2.5nm,0.9s,baz=257,slow=6.0,SNR=3.8							
632A	**Uvalde**	**112.81**	**40**	⇑PKiKP	**PKiKP**	**13 36 13.7**	**0.0**	
	baz=113							
632A	**Uvalde**	**112.81**	**40**	⇑PKiKP	**PKiKP**	**13 36 13.7**	**0.0**	
	baz=113							
WVT	**Waverly**	**113.69**	**27**	*e*PKiKP	**PKiKP**	**13 36 13.8**	**-1.3**	
OXF	**Oxford**	**114.36**	**30**	PFAKE		13 36 30.0	+14	
OXF				LR	LR			
	comp=Z,642nm,19.0s							
KVTX	**Kingsville**	**115.38**	**41**	PFAKE		13 36 30.0	+11	
KVTX				LR	LR			
	comp=Z,562nm,20.0s							
BLA	**Blacksburg**	**115.53**	**21**	PFAKE		13 36 30.0	+11	
BLA				LR	LR			
	comp=Z,911nm,20.0s							
CBN	**Corbin**	**115.56**	**18**	PFAKE		13 36 30.0	+11	
CBN				LR	LR			
	comp=Z,882nm,20.0s							
VBMS	**Vicksburg**	**115.74**	**32**	PFAKE		13 36 30.0	+11	
VBMS				LR	LR			
	comp=Z,772nm,20.0s							
KMSC	**Kings Mountain**	**117.09**	**23**	⇓PKiKP	**PKPdf**	**13 36 21.3**	**-0.3**	
	baz=117							
KMSC	**Kings Mountain**	**117.09**	**23**	⇓PKiKP	**PKPdf**	**13 36 21.3**	**-0.3**	
	baz=117							
CNNC	**Cliffs of the**	**118.15**	**20**	PFAKE		13 36 40.0	+16	
CNNC				LR	LR			
	comp=Z,1μm,19.0s							
DBIC	**Dimbokro**	**121.39**	**294**	PKP	**PKPdf**	**13 36 30.0**	**-0.4**	
DBIC	**Dimbokro**	**121.39**	**294**	PKP	**PKPdf**	**13 36 30.0**	**-0.4**	
	comp=Z,5.3nm,0.9s,baz=100,slow=18,SNR=3.5							
SNAA	**Sanae**	**123.26**	**198**	*e*PKPdf	**PKPdf**	**13 36 31.3**	**-1.1**	
SNAA	**Sanae**	**123.26**	**198**	*e*PKPdf	**PKPdf**	**13 36 31.0**	**-1.4**	
BBSR	**BB Station**	**123.89**	**8**	PFAKE		13 36 50.0	+15	
BBSR				LR	LR			
	comp=Z,440nm,19.0s							
VNA2	**Neumayer--Watz**	**124.90**	**198**	*e*PKPdf	**PKPdf**	**13 36 35.2**	**-0.3**	
VNA1	**Neumayer--Stat**	**125.30**	**198**	*e*PKPdf	**PKPdf**	**13 36 36.3**	**+0.1**	
TEIG	**Tepich**	**126.60**	**38**	PFAKE		13 36 50.0	+10	
TEIG				LR	LR			
	comp=Z,459nm,19.0s							
SACV	**Santiago Islan**	**130.08**	**317**	PFAKE		13 37 00.0	+13	
SACV				LR	LR			
	comp=Z,606nm,20.0s							
GRTK	**Grand Turk**	**133.03**	**19**	PFAKE		13 37 00.0	+7.5	
GRTK				LR	LR			
	comp=Z,908nm,20.0s							
GTBY	**Guantanamo Bay**	**133.16**	**24**	PFAKE		13 37 00.0	+7.3	
GTBY				LR	LR			
	comp=Z,719nm,19.0s							
SDDR	**Presa de Saban**	**135.37**	**20**	PFAKE		13 37 10.0	+13	
SDDR				LR	LR			
	comp=Z,1μm,22.0s							
JTS	**JuntasAbangare**	**136.35**	**43**	PFAKE		13 37 10.0	+11	
JTS				LR	LR			
	comp=Z,810nm,20.0s							
ANWB	**Willy Bob**	**138.76**	**8**	PFAKE		13 37 10.0	+6.8	
ANWB				LR	LR			
	comp=Z,768nm,22.0s							
PAYG	**Puerto Ayora**	**140.09**	**60**	PFAKE		13 37 20.0	+14	
PAYG				LR	LR			
	comp=Z,453nm,19.0s							
BCIP	**Isla Barro Col**	**140.28**	**38**	PFAKE		13 37 20.0	+14	
BCIP				LR	LR			
	comp=Z,574nm,21.0s							
FDF	**Fort de France**	**141.73**	**7**	PFAKE		13 37 20.0	+11	
FDF				LR	LR			
	comp=Z,691nm,22.0s							
GRGR	**Grenville**	**144.23**	**9**	PFAKE		13 37 20.0	+6.9	
GRGR				LR	LR			
	comp=Z,594nm,20.0s							
SDV	**Santo Domingo**	**144.95**	**25**	*e*PKP	PKPbc	13 37 13.8	0.0	
SDV				LR	LR			
	comp=Z,48nm,19.0s							
TPR	**Prospect**	**145.27**

BRBR AML AML 13 27 47.9
comp=N,67nm,0.5s
BRBR Barbar 0.19 157 *eP* Pg 13 27 37.7 -0.6
SNR=101
BRBR *eS* Sg 13 27 42.2 +1.3
comp=N,67nm,0.5s,SNR=59
BHL Bhannes 0.36 331 *eP* Pg 13 27 41.9 +0.4
BHL Bhannes 0.36 331 *eP* Pg 13 27 41.9 +0.4
HWQ Hawqa 0.70 6 *eP* Pg 13 27 48.4 +0.5
HWQ *eS* Sg 13 27 55.2 -1.9
HWQ Hawqa 0.70 6 *eP* Pg 13 27 48.4 +0.5
HWQ *eS* Sg 13 27 55.2 -1.9
TCHB Talchebab 0.92 174 *eP* Pg 13 27 51.9 0.0
TCHB *eS* Sg 13 28 03.9 0.0
TCHB Talchebab 0.92 174 *eP* Pg 13 27 51.9 0.0
SNR=67
TCHB *eS* Sg 13 28 03.9 0.0
SNR=59
HAWK Haweek 1.04 26 *eP* Pg 13 27 54.1 -0.2
HAWK *eS* Sg 13 28 08.3 +0.3
HAWK AML AML 13 28 17.0
comp=Z,18nm,0.7s
HAWK AML AML 13 28 20.8
comp=E,21nm,0.5s
HAWK AML AML 13 28 23.6
comp=N,16nm,0.4s
HAWK Haweek 1.04 26 *eP* Pg 13 27 54.2 -0.2
SNR=57
HAWK *eS* Sg 13 28 08.3 +0.3
comp=N,16nm,0.4s,SNR=59
SALA Sala 1.14 140 *eP* Pg 13 27 56.5 +0.1
SALA *eS* Sb 13 28 12.1 +0.2
SALA AML AML 13 28 21.1
comp=E,3.1nm,0.4s
SALA Sala 1.14 140 *eP* Pg 13 27 56.5 +0.2
SNR=57
SALA *eS* Sb 13 28 12.1 +0.2
comp=E,3.1nm,0.4s,SNR=49
ZALF Zalf 1.40 118 *eP* Pn 13 27 59.9 -0.7
ZALF *eS* Sb 13 28 18.9 -0.2
ZALF AML AML 13 28 26.5
comp=N,14nm,0.4s
ZALF AML AML 13 28 33.7
comp=Z,7.2nm,0.6s
ZALF Zalf 1.40 118 *eP* Pn 13 27 59.9 -0.6
SNR=57
ZALF *eS* Sb 13 28 18.9 -0.2
comp=Z,7.2nm,0.6s,SNR=49

IDC ***18*** *13:27:48.5±0.8,23°.50N×123°.50E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.9/29, mbtmp3.8/18, ML3.7/3, Error ellipse: s-maj=22.1km s-min=17.6km az=73.0*
NEIC ***18*** *13:27:50.1±0.5,23°.53N×123°.47E, h10km, mb4.5/3, Error ellipse: s-maj=10.7km s-min=7.7km az=152.0*
JMA ***18*** *13:27:51.1±0.2,23°.45N×123°.53E, h50km,3km, M4.5*
ISC 18 13:27:49.5±1.9,23°.48N±0°.06×123°.51E±0°.05, h7km,11km, n63,σ1°.00/66, mb4.0/19, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.64**	**26**	P	**Pn**	**13 28 04.3**	**-0.6**
HATJ				*eS*	**Sn**	**13 28 13.8**	**-1.5**
IRIF	**Iriomote-Funau**	**0.87**	**14**	P	**Pn**	**13 28 07.8**	**-0.4**
IRIF				*eS*	**Sn**	**13 28 20.1**	**-1.1**
JKRS	**Kuro-shima**	**0.88**	**31**	P	**Pn**	**13 28 08.0**	**-0.3**
JKRS				*eS*	**Sn**	**13 28 20.1**	**-1.3**
JIJ	**Ishigaki jima**	**1.05**	**34**	P	**Pg**	**13 28 09.8**	**0.0**
JIJ				*eS*	**Sg**	**13 28 23.6**	**+0.1**
YOJ	**Yonaguni jima**	**1.07**	**335**	P	**Pb**	**13 28 10.7**	**+0.3**
YOJ				*eS*	**Sb**	**13 28 24.9**	**+0.2**
JTJ	**Tarama**	**1.59**	**43**	P	**Pn**	**13 28 17.6**	**-0.5**
NAB	**Ninganchiao**	**1.88**	**292**	*e*Pn	**Pn**	**13 28 21.4**	**-0.7**
YULB	**Yu-li**	**2.03**	**268**	*e*Pn	**Pn**	**13 28 22.6**	**-1.5**
JMJ	**Miyako jima 2**	**2.10**	**51**	P	**Pn**	**13 28 24.9**	**-0.2**
JMJ				*eS*	**Sn**	**13 28 50.3**	**-1.3**
JOGS	**Gusukube**	**2.15**	**53**	P	**Pn**	**13 28 25.5**	**-0.3**
JOGS				*eS*	**Sn**	**13 28 52.5**	**-0.3**
TWG	**Pinlang**	**2.33**	**254**	*e*Pn	**Pn**	**13 28 27.0**	**-1.3**
JKE	**Kume jima 2**	**4.11**	**46**	P	**Pn**	**13 28 50.6**	**-2.1**
JAGN	**Aguni-jima**	**4.59**	**47**	P	**Pn**	**13 28 57.2**	**-2.1**
JOW	**Kunigami**	**5.46**	**51**	*e*Pn	**Pn**	**13 29 08.4**	**-2.9**
JOW	**Kunigami**	**5.46**	**51**	P	**Pn**	**13 29 08.8**	**-2.5**
JAMN	**Amaminishikomi**	**6.97**	**46**	P	Pn	13 29 28.5	-3.5
JAM	**Amami Oshima**	**7.36**	**47**	P	Pn	13 29 33.7	-3.7
JMZ	**Minamidaito 2**	**7.39**	**70**	P	Pn	13 29 34.5	-3.4
JNU	**Nakatsue**	**11.59**	**32**	*e*Pn	**Pn**	**13 30 35.0**	**-0.4**
JNU	**Nakatsue**	**11.59**	**32**	Pn	**Pn**	**13 30 34.8**	**-0.6**
0.4nm,0.3s,baz=287,slow=7.5,SNR=4.1							
KSAR	**Wonju Array Be**	**14.41**	**14**	Pn	**Pn**	**13 31 14.4**	**+0.4**
KSRS	**Korea Array**	**14.44**	**14**	Pn	**Pn**	**13 31 14.4**	**+0.2**
0.3nm,0.3s,baz=190,slow=11,SNR=4.7							
MJAR	**Matsushiro Arr**	**18.18**	**41**	P	**P**	**13 32 03.0**	**+0.3**
MJAR	**Matsushiro Arr**	**18.18**	**41**	P	**P**	**13 32 03.0**	**+0.3**
0.4nm,0.3s,baz=226,slow=8.9,SNR=5.5							
ASAJ	**Asahikawa**	**25.87**	**33**	P	**P**	**13 33 23.0**	**+1.3**
ASAJ	**Asahikawa**	**25.87**	**33**	P	**P**	**13 33 23.0**	**+1.3**
3.4nm,0.6s,baz=232,slow=22,SNR=5.2							
SONM	**Songino Array**	**27.87**	**335**	P	**P**	**13 33 39.4**	**-0.5**
SONM	**Songino Array**	**27.87**	**335**	P	**P**	**13 33 39.4**	**-0.5**
1.1nm,0.7s,baz=154,slow=6.9,SNR=5.0							
PETK	**Petropavlovsk-**	**39.29**	**32**	P	**P**	**13 35 18.5**	**-0.3**
PETK	**Petropavlovsk-**	**39.29**	**32**	P	**P**	**13 35 18.5**	**-0.3**
0.8nm,0.5s,baz=210,slow=3.8,SNR=11							
MK31	**Makanchi Array**	**40.32**	**316**	P	**P**	**13 35 26.9**	**-0.6**
MKAR	**Makanchi Array**	**40.32**	**316**	P	**P**	**13 35 28.4**	**+0.8**
MKAR	**Makanchi Array**	**40.32**	**316**	P	**P**	**13 35 28.4**	**+0.8**
0.6nm,0.4s,baz=101,slow=10,SNR=5.1							
ZALV	**Zalesovo Beam**	**41.99**	**326**	P	**P**	**13 35 39.9**	**-1.2**
ZALV	**Zalesovo Beam**	**41.99**	**326**	P	**P**	**13 35 39.9**	**-1.2**
0.7nm,0.4s,baz=124,slow=7.2,SNR=3.2							
TKM2	**Tokmak 2**	**43.87**	**308**	P	**P**	**13 35 57.8**	**+1.0**
7.2nm,0.8s							
KURK	**Kurchatov**	**43.99**	**320**	P	**P**	**13 35 56.8**	**-0.6**
KURBB	**Kurchatov Arra**	**44.01**	**320**	P	**P**	**13 35 56.8**	**-0.8**
0.8nm,0.5s,baz=118,slow=7.8,SNR=4.4							
WRA	**Warramunga Arr**	**44.44**	**165**	P	**P**	**13 36 00.9**	**-0.3**
WRA	**Warramunga Arr**	**44.44**	**165**	P	**P**	**13 36 00.9**	**-0.3**
0.7nm,0.8s,baz=351,slow=8.4,SNR=5.0							
AS31	**Alice Springs**	**47.94**	**167**	*e*P	**P**	**13 36 31.6**	**+2.8**
ASAR	**Alice Springs**	**47.94**	**167**	P	**P**	**13 36 29.1**	**+0.3**
ASAR	**Alice Springs**	**47.94**	**167**	P	**P**	**13 36 29.1**	**+0.3**
0.3nm,0.5s,baz=349,slow=7.6,SNR=11							
BVAR	**Borovoye Array**	**49.56**	**321**	P	**P**	**13 36 40.4**	**-0.6**
BVAR	**Borovoye Array**	**49.56**	**321**	P	**P**	**13 36 40.4**	**-0.6**
0.6nm,0.6s,baz=100,slow=6.6,SNR=2.9							
ABKAR	**Akbulak array**	**55.45**	**315**	*e*P	**P**	**13 37 25.2**	**+0.5**
3.4nm,0.7s							
PMR	**Palmer**	**68.40**	**31**	*e*P	**P**	**13 38 51.0**	**-0.5**
4.0nm,0.8s							
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**13 38 53.6**	**-0.8**
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**13 38 53.6**	**-0.8**
0.5nm,0.6s,baz=264,slow=5.4,SNR=10							
DAWY	**Dawson**	**72.19**	**27**	*e*P	**P**	**13 39 15.1**	**+0.2**
KAF	**Kangasniemi**	**72.81**	**331**	*e*p	P	13 39 23.2	+4.7
0.7nm,0.3s							
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**13 39 21.0**	**+0.7**
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**13 39 21.0**	**+0.7**
2.6nm,0.8s,baz=57,slow=7.0,SNR=7.8							
NB2	**NORSAR Subarra**	**79.83**	**333**	P	**P**	**13 39 58.6**	**+0.1**
comp=Z,1.3nm,0.5s,baz=61,slow=5.3							
NOA	**NORSAR Array B**	**79.83**	**333**	P	**P**	**13 39 59.6**	**+1.2**
NOA	**NORSAR Array B**	**79.83**	**333**	P	**P**	**13 39 59.6**	**+1.2**
comp=Z,0.8nm,0.8s,baz=251,slow=16,SNR=2.6							
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**13 40 13.9**	**-0.2**
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**13 40 13.9**	**-0.2**
comp=Z,1.4nm,0.9s,baz=150,slow=32,SNR=3.2							
GERES	**GERESS Array B**	**84.72**	**321**	P	**P**	**13 40 24.9**	**+0.5**
GERES	**GERESS Array B**	**84.72**	**321**	P	**P**	**13 40 24.9**	**+0.5**
comp=Z,0.3nm,0.2s,baz=46,slow=3.9,SNR=3.1							
NVAR	**Mina Array Bea**	**95.48**	**44**	P	**P**	**13 41 15.8**	**+0.2**
NVAR	**Mina Array Bea**	**95.48**	**44**	P	**P**	**13 41 15.7**	**+0.2**
comp=Z,0.3nm,0.6s,baz=356,slow=4.5,SNR=2.2							
VNA2	**Neumayer--Watz**	**124.88**	**198**	*e*PKPdf	**PKPdf**	**13 46 49.3**	**-0.1**

IDC ***18*** *13:27:59.6±0.6,23°.35N×123°.40E, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.3/26, mbtmp4.3/18, ML3.6/1, Error ellipse: s-maj=23.9km s-min=13.8km az=75.0*
NEIC ***18*** *13:28:01.3±0.4,23°.36N×123°.37E, h10km, mb4.5/2, Error ellipse: s-maj=9.5km s-min=7.9km az=73.0*
ISCJB ***18*** *13:28:02.3±0.4,23°.39N±0°.06×123°.40E±0°.08, h30km, mb4.2/19, Error ellipse: s-maj=10.5km s-min=8.7km az=166.5*
ISC 18 13:28:04.2±0.6,23°.31N±0°.10×123°.32E±0°.10, h30km, n44, σ0°.92/42, mb4.3/19, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YULB	**Yu-li**	**1.86**	**273**	*e*Pn	**Pn**	**13 28 33.8**	**-0.3**
TWG	**Pinlang**	**2.13**	**257**	Pn	**Pn**	**13 28 37.5**	**-0.2**
ENH	**Enshi**	**14.16**	**302**	*e*Pn	**Pn**	**13 31 22.2**	**-0.5**
4.2nm,0.6s							
KSAR	**Wonju Array Be**	**14.62**	**15**	Pn	Pn	13 31 25.5	-3.4
KSRS	**Korea Array**	**14.64**	**15**	Pn	Pn	13 31 25.5	-3.7
0.2nm,0.3s,baz=193,slow=11,SNR=12							
CMAR	**Chiang Mai Arr**	**23.27**	**263**	P	**P**	**13 33 09.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**23.27**	**263**	P	**P**	**13 33 09.1**	**-0.4**
0.6nm,0.3s,baz=61,slow=8.3,SNR=3.7							
SONM	**Songino Array**	**27.95**	**335**	P	**P**	**13 33 50.7**	**-1.4**
SONM	**Songino Array**	**27.95**	**335**	P	**P**	**13 33 50.7**	**-1.4**
2.8nm,0.7s,baz=152,slow=9.5,SNR=9.5							
PETK	**Petropavlovsk-**	**39.52**	**32**	P	**P**	**13 35 30.7**	**-1.4**
PETK	**Petropavlovsk-**	**39.52**	**32**	P	**P**	**13 35 30.7**	**-1.4**
2.0nm,0.5s,baz=142,slow=3.6,SNR=6.3							
FITZ	**Fitzroy Crossi**	**41.23**	**177**	P	**P**	**13 35 46.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.23**	**177**	P	**P**	**13 35 46.2**	**-0.4**
4.1nm,0.9s,baz=290,slow=1.9,SNR=5.4							
ZALV	**Zalesovo Beam**	**42.04**	**327**	P	**P**	**13 35 52.1**	**-0.7**
ZALV	**Zalesovo Beam**	**42.04**	**327**	P	**P**	**13 35 52.1**	**-0.7**
2.7nm,0.5s,baz=115,slow=8.1,SNR=8.1							
KURK	**Kurchatov**	**44.01**	**320**	P	**P**	**13 36 08.1**	**-0.8**
KURBB	**Kurchatov Arra**	**44.03**	**320**	P	**P**	**13 36 08.1**	**-1.0**
1.7nm,0.8s,baz=111,slow=8.5,SNR=4.7							
WRAB	**Tennant Creek**	**44.31**	**165**	*e*P	**P**	**13 36 11.4**	**-0.2**
10nm,1.0s							
WRA	**Warramunga Arr**	**44.32**	**165**	P	**P**	**13 36 11.6**	**0.0**
WRA	**Warramunga Arr**	**44.32**	**165**	P	**P**	**13 36 11.6**	**0.0**
5.9nm,0.7s,baz=347,slow=8.9,SNR=25							
AS31	**Alice Springs**	**47.82**	**167**	P	**P**	**13 36 40.8**	**+1.6**
ASAR	**Alice Springs**	**47.82**	**167**	P	**P**	**13 36 39.5**	**+0.3**
ASAR	**Alice Springs**	**47.82**	**167**	P	**P**	**13 36 39.5**	**+0.3**
2.5nm,0.7s,baz=358,slow=6.3,SNR=19							
ABKAR	**Akbulak array**	**55.44**	**315**	*e*P	**P**	**13 37 36.4**	**+0.4**
STKA	**Stephens Creek**	**57.60**	**162**	P	**P**	**13 37 50.5**	**-0.8**
STKA	**Stephens Creek**	**57.60**	**162**	P	**P**	**13 37 50.5**	**-0.8**
2.6nm,0.7s,baz=298,slow=8.9,SNR=5.0							
KBZ	**Khabaz**	**67.55**	**309**	P	**P**	**13 38 59.8**	**+2.1**
KBZ	**Khabaz**	**67.55**	**309**	P	**P**	**13 38 59.8**	**+2.1**
3.4nm,0.8s,baz=97,slow=5.5,SNR=7.2							
SML	**Sawmill**	**68.97**	**31**	*e*P	**P**	**13 39 08.4**	**+2.0**
2.2nm,0.8s							
ILAR	**Eielson Array**	**69.09**	**27**	P	**P**	**13 39 07.2**	**+0.1**
ILAR	**Eielson Array**	**69.09**	**27**	P	**P**	**13 39 07.2**	**+0.1**
1.6nm,0.8s,baz=248,slow=4.3,SNR=14							
ARCES	**ARCESS Array B**	**71.07**	**338**	P	**P**	**13 39 19.1**	**0.0**
ARCES	**ARCESS Array B**	**71.07**	**338**	P	**P**	**13 39 19.1**	**0.0**
3.2nm,0.8s,baz=76,slow=5.1,SNR=3.7							
FINES	**FINESS Array B**	**73.18**	**330**	P	**P**	**13 39 32.6**	**+0.8**
FINES	**FINESS Array B**	**73.18**	**330**	P	**P**	**13 39 32.6**	**+0.8**
5.7nm,0.7s,baz=55,slow=5.8,SNR=14							
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**13 39 42.5**	**+0.9**
AKASG	**Malin Array Be**	**74.81**	**319**	P	**P**	**13 39 42.5**	**+0.9**
2.1nm,0.5s,baz=57,slow=6.8,SNR=4.0							
NOA	**NORSAR Array B**	**79.90**	**333**	P	**P**	**13 40 10.6**	**+0.6**
NOA	**NORSAR Array B**	**79.90**	**333**	P	**P**	**13 40 10.6**	**+0.6**
1.7nm,0.7s,baz=56,slow=5.5,SNR=6.6							
YKA	**Yellowknife Ar**	**83.00**	**23**	P	**P**	**13 40 26.6**	**+0.3**
YKA	**Yellowknife Ar**	**83.00**	**23**	P	**P**	**13 40 26.5**	**+0.3**
3.1nm,0.8s,baz=313,slow=5.4,SNR=7.7							
CLL	**Collm**	**83.92**	**324**	*e*P	**P**	**13 40 31.0**	**-0.2**
GERES	**GERESS Array B**	**84.75**	**321**	P	**P**	**13 40 36.0**	**+0.4**
GERES	**GERESS Array B**	**84.75**	**321**	P	**P**	**13 40 36.0**	**+0.4**
1.5nm,0.7s,baz=47,slow=5.9,SNR=7.6							

ISCJB ***18*** *13:33:17.1±1.5, 12°.22N±0°.04×89°.56W±0°.05, h31km±13km, mb3.7/6, MS3.3/1, Error ellipse: s-maj=9.3km s-min=4.0km az=143.1*
CASC ***18*** *13:33:17.7±2.3, 12°.26N×89°.61W, h37km±951km, MD3.9, ML3.7*
IDC ***18*** *13:33:18.7±1.7, 12°.14N×89°.58W, h29km±6km, mb3.7/6, mb1 4.1/8, mb1mx3.8/25, mbtmp3.8/8, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=49.6km s-min=21.0km az=36.0*
ISC 18 13:33:19.1±0.9,12°.24N±0°.06×89°.57W±0°.07, h32km±6km, n32,σ1°.57/47, mb3.9/6, 5C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.46**	**20⇑**	*e*P	**Pn**	**13 33 41.5**	**-1.8**
LFRS				*e*S	**Sn**	**13 33 59.4**	**-2.0**
SNET	**Serv Nac Est T**	**1.47**	**13**	*e*P	**Pn**	**13 33 41.5**	**-2.0**
SNET				AML	AML	13 34 06.5	
comp=Z,1μm,0.2s							
BOQS	**Boqueron**	**1.51**	**11**	*e*P	**Pn**	**13 33 42.9**	**-1.3**
BOQS				*e*S	**Sn**	**13 34 02.5**	**-0.3**
SNVI	**San Vicente**	**1.53**	**27**	*e*P	**Pn**	**13 33 42.5**	**-2.0**
LFU	**La Fuente**	**1.56**	**16⇑**	*e*P	**Pn**	**13 33 43.5**	**-1.2**
LBRS	**Las Brisas**	**1.57**	**19**	*e*P	**Pn**	**13 33 43.4**	**-1.5**
SBLS	**San Blas**	**1.59**	**358⇑**	*e*P	**Pn**	**13 33 43.6**	**-1.7**
SBLS				*e*S	**Sn**	**13 34 04.2**	**-0.6**
SNJE	**San Jose**	**1.61**	**359**	*e*P	**Pn**	**13 33 44.0**	**-1.7**
SNJE				*e*S	**Sn**	**13 34 05.2**	**-0.3**
RTR	**El Retiro**	**1.65**	**357⇑**	*e*P	**Pn**	**13 33 44.4**	**-1.6**
VSM	**San Miguel**	**1.73**	**47**	*e*P	**Pn**	**13 33 45.5**	**-1.6**
RBDL	**Robledal**	**1.86**	**356**	*e*P	**Pn**	**13 33 47.8**	**-1.2**
CNCH	**Conchagua**	**1.98**	**59**	*e*P	**Pn**	**13 33 49.1**	**-1.4**
CNCH				*e*S	**Sn**	**13 34 14.4**	**+0.2**
CAHU	**Cacacuatique**	**2.01**	**41⇑**	*e*P	**Pn**	**13 33 50.5**	**-0.6**
NBG	**Las Nubes**	**2.45**	**342**	*e*P	**Pn**	**13 33 57.4**	**+0.2**
NBG				*e*S	**Sn**	**13 34 24.0**	**-2.1**
FUG	**Fuego 3**	**2.52**	**331**	*e*P	**Pn**	**13 33 56.4**	**-1.6**
MRL	**Marmol**	**2.81**	**358**	*e*P	**Pn**	**13 34 02.3**	**+0.3**
MRL				*e*S	**Sn**	**13 34 34.0**	**-0.9**
JAT	**Jato**	**2.88**	**316**	*e*P	**Pn**	**13 34 00.4**	**-2.5**
JAT				*e*S	Sn	13 34 30.9	-5.6
JTS	**JuntasAbangare**	**4.92**	**113**	Pn	**Pn**	**13 34 31.0**	**+0.1**
comp=Z,7.9nm,0.3s,baz=333,slow=13,SNR=23							
JTS				Sn	**Sn**	**13 35 26.5**	**-0.4**
comp=Z,9.1nm,0.3s,baz=324,slow=20,SNR=6.8							
JCR	**Jicaral**	**4.98**	**118**	*e*P	**Pn**	**13 34 31.2**	**-0.5**
JCR				*e*S	**Sn**	**13 35 26.9**	**-1.4**
CGA2	**Cerro Gallo 2**	**5.47**	**113**	*e*P	**Pn**	**13 34 39.2**	**+0.6**
CGA2				*e*S	**Sn**	**13 35 41.2**	**+0.5**
URSC	**Urasca**	**6.17**	**112**	*e*P	**Pn**	**13 34 50.3**	**+2.1**
URSC				*e*S	**Sn**	**13 35 57.7**	**-0.1**
BUS	**Buena Vista**	**6.30**	**115**	*e*P	**Pn**	**13 34 51.2**	**+0.9**
BUS				*e*S	**Sn**	**13 35 55.8**	**-5.6**
ACR	**Cerro Adams**	**7.23**	**119**	*e*P	**Pn**	**13 35 03.3**	**+0.6**
ACR				*e*S	**Sn**	**13 36 21.8**	**-2.0**
TEIG	**Tepich**	**8.03**	**9**	Pn	**Pn**	**13 35 15.2**	**+1.5**
comp=Z,1.9nm,0.3s,baz=180,slow=23,SNR=12							
TXAR	**Lajitas Array**	**21.48**	**324**	P	**P**	**13 38 05.8**	**+0.6**
comp=Z,1.8nm,0.7s,baz=150,slow=10,SNR=6.4							
TXAR				pP	**pP**	**13 38 14.8**	**+0.9**
comp=Z,2.0nm,0.8s,baz=144,slow=11,SNR=4.9							
ATAH	**Atahualpa**	**22.23**	**149**	LR	LR	13 44 56.6	
comp=Z,108nm,20.3s,baz=352,slow=32							
TKL	**Tuckaleechee C**	**23.89**	**12**	P	**P**	**13 38 30.4**	**+0.4**
comp=Z,3.1nm,0.4s,baz=202,slow=11,SNR=6.8							
NVAR	**Mina Array Bea**	**36.52**	**321**	P	**P**	**13 40 22.5**	**+0.5**
comp=Z,0.9nm,0.8s,baz=143,slow=7.8,SNR=5.1							
NVAR				pP	**pP**	**13 40 32.5**	**+1.0**
comp=Z,1.5nm,0.9s,baz=142,slow=8.9,SNR=4.6							
YKA	**Yellowknife Ar**	**53.28**	**346**	P	**P**	**13 42 36.6**	**+1.9**
comp=Z,1.3nm,0.8s,baz=157,slow=6.7,SNR=3.4							
ILAR	**Eielson Array**	**65.38**	**337**	P	**P**	**13 43 58.1**	**-0.1**
comp=Z,0.3nm,0.8s,baz=132,slow=7.9,SNR=3.7							
ILAR				pP	**pP**	**13 44 06.7**	**-1.5**
comp=Z,1.1nm,1.1s,baz=137,slow=5.1,SNR=6.1							
TORD	**Torodi Ar. Bea**	**88.47**	**77**	P	**P**	**13 46 09.7**	**+0.6**
comp=Z,0.8nm,1.1s,baz=298,slow=3.1,SNR=2.1							
CMAR	**Chiang Mai Arr**	**148.36**	**344**	PKPbc	**PKPbc**	**13 53 02.3**	**-0.9**
comp=Z,0.4nm,0.3s,baz=356,slow=4.0,SNR=4.8							

NIED ***18*** *13:41:00,23°.40N×123°.50E, h14km, Mw4.4 Best double couple: M0=4.56000×10^15 NP1:φ0=239.00000°, δ54.00000°, λ-128.00000°. NP2:φ0=112.00000°, δ50.00000°, λ-50.00000°.*
BJI ***18*** *13:41:21.2,23°.75N×123°.68E, h4km, mB4.7/2, mb4.4/16, Ms4.3/1, Ms7 4.0/1*
IDC ***18*** *13:41:21.1±0.5,23°.51N×123°.51E, h0km, mb4.4/22, mb1 4.6/24, mb1mx4.5/29, mbtmp4.4/24, ML4.0/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/44, Error ellipse: s-maj=17.6km s-min=11.0km az=70.0*
ISCJB ***18*** *13:41:23.8±0.8,23°.46N±0°.04×123°.52E±0°.03, h30km±5km, mb4.6/72, MS4.6/3, Error ellipse: s-maj=6.2km s-min=4.9km az=152.5*
JMA ***18*** *13:41:23.1±0.3,23°.39N×123°.55E, h44km±4km, M4.7*
NEIC ***18*** *13:41:23.4±2.7,23°.48N×123°.45E, h15km±17km, mb4.8/13, MW4.4(NIED), Error ellipse: s-maj=6.7km s-min=5.6km az=97.0*
MOS ***18*** *13:41:24.3±0.9,23°.53N×123°.57E, h33km, mb4.8/25, Error ellipse: s-maj=10.8km s-min=6.3km az=106.2*
BKK ***18*** *13:41:32.4±0.8,24°.N±8°.×12°.3E±°, h10km, M4.3/9, mB5.8/1, mb4.8/9, MLv4.1/1, Mw(mB)5.3/1*
ISC 18 13:41:24.5±0.5,23°.51N±0°.05×123°.53E±0°.04, h21km±3km, n189,σ1°.12/196, mb4.7/72, MS4.8/3, 18C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.60**	**25**	P	**Pb**	**13 41 36.8**	**+0.5**
HATJ				S	**Sn**	**13 41 47.0**	**+0.2**
IRIF	**Iriomote-Funau**	**0.84**	**13**	P	**Pb**	**13 41 40.3**	**0.0**
IRIF				*eS*	**Sn**	**13 41 53.0**	**+0.2**
JKRS	**Kuro-shima**	**0.84**	**31**	P	**Pb**	**13 41 40.6**	**+0.2**
JKRS				*eS*	**Sn**	**13 41 52.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.02**	**33**	P	**Pb**	**13 41 42.4**	**-1.0**
JIJ				*eS*	**Sb**	**13 41 56.4**	**+0.1**
YOJ	**Yonaguni jima**	**1.06**	**333**	P	**Pn**	**13 41 43.8**	**-0.3**
YOJ				*eS*	**Sn**	**13 41 58.2**	**+0.1**
JTJ	**Tarama**	**1.55**	**43**	P	**Pn**	**13 41 50.5**	**-0.4**
NACB	**Ninganchiao**	**1.89**	**291**	*e*P	**Pn**	**13 41 53.7**	**-1.8**
YULB	**Yu-li**	**2.05**	**267**	*e*P	**Pn**	**13 41 55.7**	**-2.1**
JMJ	**Miyako jima 2**	**2.07**	**51**	P	**Pn**	**13 41 57.5**	**-0.5**
JOGS	**Gusukube**	**2.12**	**54**	P	**Pn**	**13 41 58.2**	**-0.5**
YHNB	**Yeheng**	**2.28**	**301**	*e*P	**Pn**	**13 42 00.7**	**-0.2**
TATO	**Taipei**	**2.36**	**308**	*e*P	**Pn**	**13 42 01.8**	**-0.2**
TWG	**Pinlang**	**2.36**	**254**	*e*P	**Pn**	**13 41 59.7**	**-2.4**
SSLB	**Suanglung**	**2.38**	**277**	*e*P	**Pn**	**13 42 00.9**	**-1.4**
TPUB	**Ta-pu**	**2.67**	**266**	*e*P	**Pn**	**13 42 06.1**	**-0.2**
JKE	**Kume jima 2**	**4.07**	**46**	P	**Pn**	**13 42 23.3**	**-2.3**
JAGN	**Aguni-jima**	**4.55**	**47**	P	**Pn**	**13 42 32.4**	**+0.3**
JOW	**Kunigami**	**5.42**	**51**	*e*P	Pn	13 42 40.9	-3.2
21nm,0.9s							
JOW	**Kunigami**	**5.42**	**51**	P	**Pn**	**13 42 41.2**	**-2.9**
JAMN	**Amaminishikomi**	**6.93**	**46**	P	Pn	13 43 01.2	-3.6
JAM	**Amami Oshima**	**7.33**	**47**	P	Pn	13 43 06.7	-3.6
WHN	**Wuhan**	**10.77**	**313**	P	Pn	13 43 50.3	-7.1
JNU	**Nakatsue**	**11.55**	**32**	*e*P	**Pn**	**13 44 06.2**	**-2.1**
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**13 44 06.3**	**-1.9**
0.7nm,0.3s,baz=214,slow=14,SNR=8.1							
KSAR	**Wonju Array Be**	**14.38**	**14**	Pn	**Pn**	**13 44 48.4**	**+1.6**
KSRS	**Korea Array**	**14.40**	**14**	Pn	**Pn**	**13 44 48.4**	**+1.3**
0.2nm,0.3s,baz=192,slow=14,SNR=13							
KSRS				LR	LR	13 50 58.2	
comp=Z,699nm,18.2s,baz=200,slow=40							
XAN	**Xi'an**	**16.53**	**313**	P	**P**	**13 45 18.3**	**+0.7**
XAN				pmax	pmax		
comp=Z,3.0nm,1.2s							
XAN				pmax	pmax		
comp=Z,120nm,12.3s							
MAT	**Matsushiro**	**18.14**	**41**	P	**P**	**13 45 35.7**	**+0.3**
MJAR	**Matsushiro Arr**	**18.14**	**41**	P	**P**	**13 45 36.0**	**+0.6**
MJAR	**Matsushiro Arr**	**18.14**	**41**	P	**P**	**13 45

WRAB pmax pmax
comp=Z,15nm,0.9s
WRAB Tennant Creek 44.45 165 *e*P **P 13 49 33.5 -0.8**
comp=Z,15nm,0.9s
WRA Warramunga Arr 44.46 165 P **P 13 49 33.6 -0.7**
WRA Warramunga Arr 44.46 165 P **P 13 49 33.6 -0.7**
comp=Z,3.4nm,0.6s,baz=349,slow=9.7,SNR=38
AAK Ala-Archa 44.62 307⇑ *e*P **P 13 49 37.1 +1.5**
AAK pmax pmax
comp=Z,12nm,1.2s
AS31 Alice Springs 47.97 167 *e*P **P 13 50 01.7 -0.2**
ASAR Alice Springs 47.97 167 P **P 13 50 01.9 0.0**
ASAR Alice Springs 47.97 167 P **P 13 50 01.9 0.0**
comp=Z,1.6nm,0.5s,baz=350,slow=7.7,SNR=49
TIXI Tiksi 48.26 2⇑ *e*P **P 13 50 02.9 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
HNR Honiara 48.38 128 P **P 13 50 04.1 -1.0**
HNR Honiara 48.38 128 P **P 13 50 04.1 -1.0**
comp=Z,49nm,0.4s,baz=283,slow=1.0,SNR=3.2
VOSK Vostochnaya 49.12 320 P **P 13 50 09.6 -0.9**
VOSK pmax pmax
comp=Z,2.0nm,0.7s
BVA0 Borovoye Array 49.55 321 P **P 13 50 13.1 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 49.62 321⇑ *e*P **P 13 50 14.0 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 49.62 321 *e*P **P 13 50 13.3 -1.0**
comp=Z,5.4nm,0.8s
AB31 Akbulak array 55.44 315 P **P 13 50 58.2 +0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 55.44 315 *e*P **P 13 50 57.8 +0.4**
comp=Z,6.5nm,0.7s
SVE Sverdlovsk 55.85 324 *e*P **P 13 51 00.4 +0.1**
ARU Arti 56.93 323*c i*P **P 13 51 07.5 -0.5**
ARU 13 53 09.5
ARU S **S 13 59 01.2 +0.5**
ARU SS **SS 14 02 49.0 +0.2**
ARU pmax pmax
comp=Z,5.0nm,0.6s
STKA Stephens Creek 57.73 162 P **P 13 51 13.9 +0.1**
STKA Stephens Creek 57.73 162 P **P 13 51 13.9 +0.1**
comp=Z,2.9nm,0.6s,baz=316,slow=7.3,SNR=9.7
DZM Mont Dzumac 61.62 134 P **P 13 51 42.1 +1.2**
DZM Mont Dzumac 61.62 134 P **P 13 51 42.1 +1.2**
comp=Z,3.2nm,0.7s,baz=322,slow=20,SNR=2.4
IMA2 Indian Mountai 65.84 26 *e*P **P 13 52 09.3 +1.1**
PPLA Purkeypile 66.76 30 *e*P **P 13 52 15.6 +1.3**
comp=Z,11nm,1.1s
VRHR Novokhopersk 67.08 317 *e*P **P 13 52 15.5 -0.8**
VRHR *e**SP **sP 13 52 26.3 +0.8**
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,7.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR MLR MLR
comp=Z,690nm,18.0s
VRHR MLR MLR
comp=N,40nm,9.0s
VRHR MLR MLR
comp=E,330nm,18.0s
TMCR Tamitsa 67.16 332 *e*P **P 13 52 16.6 +0.1**
TMCR pmax pmax
comp=Z,14nm,0.4s
KBZ Khabaz 67.57 309 P **P 13 52 20.2 +0.7**
KBZ Khabaz 67.57 309 P **P 13 52 20.2 +0.7**
KBZ Khabaz 67.57 309 P **P 13 52 20.2 +0.7**
comp=Z,4.0nm,0.9s,baz=76,slow=2.7,SNR=7.8
KIV Kislovodsk 67.67 310 *e*P **P 13 52 21.1 +0.8**
KIV pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 68.11 29 *e*P **P 13 52 22.9 +0.3**
MCK pmax pmax
comp=Z,13nm,0.9s
MCK McKinley 68.11 29 *e*P **P 13 52 22.9 +0.3**
comp=Z,13nm,0.9s
PMR Palmer 68.36 31 *e*P **P 13 52 23.5 -0.6**
PMR pmax pmax
comp=Z,9.0nm,0.7s
PMR Palmer 68.36 31 *e*P **P 13 52 23.5 -0.6**
comp=Z,8.7nm,0.7s
COLA College 68.40 27 *e*P **P 13 52 24.8 +0.5**
COLA pmax pmax
comp=Z,35nm,0.8s
COLA College 68.40 27 *e*P **P 13 52 24.8 +0.5**
comp=Z,35nm,0.8s
VORD Divnogorie 68.55 317 *e*P **P 13 52 25.0 -0.5**
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 68.58 318 *e*P **P 13 52 25.1 -0.6**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,30nm,1.2s
ILAR Eielson Array 68.82 27 P **P 13 52 26.4 -0.5**
ILAR Eielson Array 68.82 27 P **P 13 52 26.4 -0.5**
comp=E,2.4nm,0.6s,baz=258,slow=5.4,SNR=40
OBN Obninsk 69.35 322⇑ *e*P **P 13 52 30.1 -0.3**
OBN *e* 13 52 41.4
OBN *e*SS SS 14 06 07.4 +4.9
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,400nm,16.0s
ARCES ARCESS Array B 70.95 338 P **P 13 52 40.1 +0.1**
ARCES ARCESS Array B 70.95 338 P **P 13 52 40.1 +0.1**
comp=Z,6.5nm,0.9s,baz=82,slow=8.8,SNR=7.6
EGAK Eagle 71.21 27 *e*P **P 13 52 42.1 +0.5**
comp=Z,8.2nm,0.9s
DAWY Dawson 72.15 27 *e*P **P 13 52 48.1 +0.7**
KAF Kangasniemi 72.79 331 *e*P P 13 52 43.8 -7.3
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 72.79 331 *e*p P 13 52 43.8 -7.3
comp=Z,0.8nm,0.3s
INK Inuvik 73.03 22 *e*P **P 13 52 52.8 +0.4**
comp=Z,11nm,1.1s
FINES FINESS Array B 73.10 330 P **P 13 52 53.0 0.0**
FINES FINESS Array B 73.10 330 P **P 13 52 53.0 0.0**
comp=Z,1.6nm,0.4s,baz=52,slow=6.3,SNR=22
HYT Haines Junctio 74.00 30 *e*P **P 13 52 59.3 +0.9**
AKASG Malin Array Be 74.79 319 P **P 13 53 03.0 -0.1**
AKASG Malin Array Be 74.79 319 P **P 13 53 03.0 -0.1**
AKASG Malin Array Be 74.79 319 P **P 13 53 03.0 -0.1**
comp=Z,3.1nm,0.5s,baz=54,slow=9.6,SNR=9.2
KIEV Kiev 74.80 319 *e*P **P 13 53 01.7 -1.4**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 74.80 319 *e*P **P 13 53 01.7 -1.4**
comp=Z,3.5nm,0.6s
SUW Suwalki 77.12 323 *e*P **P 13 53 16.2 -0.1**
CFR Carcaliu 77.32 314⇑ *i*P **P 13 53 17.5 -0.1**
VRI Vrincioaia 78.00 315⇑ *i*P **P 13 53 22.9 +1.4**
BURAR Bucovina Array 78.33 317⇑ *i*P **P 13 53 23.7 +0.4**
DLBC Dease Lake 78.42 31 P **P 13 53 25.2 +1.6**
DLBC Dease Lake 78.42 31 P **P 13 53 25.2 +1.6**
comp=Z,2.9nm,1.0s,baz=327,slow=10,SNR=3.5
MLR Muntele Rosu 78.65 315⇓ *i*P **P 13 53 26.0 +0.8**
RES Resolute Bay 78.97 10 P **P 13 53 25.9 -0.3**
RES Resolute Bay 78.97 10 P **P 13 53 25.9 -0.3**
comp=Z,9.3nm,0.8s,baz=324,slow=8.6,SNR=3.9
KWP Kalwaria Pacla 79.08 319 *e*P **P 13 53 28.0 +0.7**
URZ Urewera 79.38 140 P **P 13 53 29.3 +0.4**
URZ Urewera 79.38 140 P **P 13 53 29.3 +0.4**
comp=Z,2.8nm,0.6s,baz=157,slow=19,SNR=6.3
KOLS Kolonicke sedl 79.62 319 *e*P **P 13 53 30.6 +0.3**
KOLS pmax pmax
comp=Z,2.0nm,0.6s
KOLS Kolonicke sedl 79.62 319 *e*P **P 13 53 30.6 +0.3**
KOLS *e* 13 59 01.8
NB2 NORSAR Subarra 79.81 333 P **P 13 53 30.6 -0.5**
comp=Z,1.0nm,0.6s,baz=56,slow=5.9
NOA NORSAR Array B 79.81 333 P **P 13 53 31.4 +0.3**
NOA NORSAR Array B 79.81 333 P **P 13 53 31.4 +0.3**
comp=Z,2.1nm,0.7s,baz=62,slow=5.4,SNR=6.3
STHS Stebnicka Huta 80.04 320 *e*P **P 13 53 32.9 +0.3**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 80.04 320 *e*P **P 13 53 32.9 +0.3**
CRVS Cervenica-Dubn 80.13 319 *e*P **P 13 53 33.7 +0.7**
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS Cervenica-Dubn 80.13 319 *e*P **P 13 53 33.7 +0.7**
KECS Kecovo 80.89 319 *e*P **P 13 53 37.7 +0.6**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS pmax pmax
comp=N,5.0nm,0.7s
KECS Kecovo 80.89 319 *e*P **P 13 53 37.7 +0.6**
KECS *e* 13 58 17.3
VYHS Vyhne 81.87 319 *e*P **P 13 53 43.1 +0.8**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 81.87 319 *e*P **P 13 53 43.1 +0.8**
KSP Ksiaz 82.28 322 *e*P **P 13 53 44.6 +0.2**
DPC Dobruska-Polom 82.49 322 *e*P **P 13 53 45.9 +0.3**
DPC *e* 13 53 57.2
DPC Dobruska-Polom 82.49 322 *e*P **P 13 53 45.9 +0.3**
DPC *ex* x 13 53 57.2
YKA Yellowknife Ar 82.74 23 P **P 13 53 46.9 +0.3**
YKA Yellowknife Ar 82.74 23 P **P 13 53 46.8 +0.3**
comp=Z,4.8nm,0.8s,baz=310,slow=5.2,SNR=10
TREC Trest 83.47 321 *e*P **P 13 53 50.7 +0.1**
TREC Trest 83.47 321 *e*P **P 13 53 50.7 +0.1**
CLL Collm 83.87 324 *i* P **P 13 53 52.6 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 83.87 324 *i* P **P 13 53 52.6 0.0**
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 84.64 322 *e*P **P 13 53 56.4 -0.2**
KHC Kasperske Hory 84.64 322 *e*P **P 13 53 56.4 -0.2**
GERES GERESS Array B 84.71 321 P **P 13 53 57.4 +0.3**
GERES GERESS Array B 84.71 321 P **P 13 53 57.4 +0.3**
comp=Z,5.9nm,0.7s,baz=57,slow=4.9,SNR=29
CDF Champ du Feu 88.55 323⇑ *i*P **P 13 54 15.7 -0.1**
comp=Z,14nm,0.9s
GIVF Givet 88.88 326 *e*P **P 13 54 17.1 -0.1**
HINF Hinteralfeld 89.12 323⇑ *i*P **P 13 54 17.9 -0.6**
comp=Z,8.3nm,0.8s
BAIF Baiwes 89.22 326 *e*P **P 13 54 19.0 +0.2**
PAGF Fort de Pagny 89.31 324 *e*P **P 13 54 19.4 +0.1**
CABF La Chapelle 90.24 322⇑ *i*P **P 13 54 23.4 -0.4**
LPG La Plagne 90.51 321⇑ *i*P **P 13 54 25.5 +0.2**
comp=Z,17nm,0.9s
LPL La Plagne 90.51 321⇑ *i*P **P 13 54 25.4 +0.2**
ORIF Oris-en-Rattie 91.34 321⇑ *i*P **P 13 54 28.9 -0.1**
comp=Z,11nm,1.1s
SSF Saint Saulge 91.40 324 *e*P **P 13 54 28.9 -0.2**
SMF Signal de Mont 91.47 323⇑ *i*P **P 13 54 29.2 -0.2**
comp=Z,14nm,1.0s
AVF Avril sur Loir 91.65 324 *e*P **P 13 54 30.1 -0.1**
comp=Z,4.8nm,0.8s
FRF La Foret Royal 91.68 320 *e*P **P 13 54 30.6 +0.2**
comp=Z,15nm,0.9s
VIVF Saint-Julien-l 92.08 321⇑ *i*P **P 13 54 32.2 -0.1**
comp=Z,8.3nm,0.8s
BMO Blue Mountains 92.25 38 *e*P **P 13 54 34.0 +0.8**
BMO pmax pmax
comp=Z,4.0nm,1.2s
BMO Blue Mountains 92.25 38 *e*P **P 13 54 34.0 +0.8**
comp=Z,3.9nm,1.2s
TCF Toulx Ste Croi 92.58 324 *e*P **P 13 54 34.8 +0.2**
CAF Calviac 93.51 323⇑ *i*P **P 13 54 39.2 +0.3**
comp=Z,5.0nm,0.7s
NVAR Mina Array Bea 95.44 44 P **P 13 54 49.1 +1.0**
NVAR Mina Array Bea 95.44 44 P **P 13 54 49.1 +1.0**
comp=Z,0.7nm,0.6s,baz=296,slow=4.8,SNR=7.8
SNAA Sanae 123.27 198 *e*PKP **PKPdf 14 00 18.4 -0.7**
VNA2 Neumayer--Watz 124.91 198 *e*PKP **PKPdf 14 00 22.3 +0.1**
VNA2 Neumayer--Watz 124.91 198 *e*I pPKPdf 14 00 33.3 +4.0

TAP 18 13:42:09.3,24°.80N×122°.04E,h6km±1km,ML3.5,1D,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.21**	**348**	⇓	*i*	P	Pg	13 42 13.4 -0.1
TWB1	baz=350				*i*	S	Sg	13 42 16.4 0.0
TWC	**Suao**	**0.25**	**222**	*i*		P	Pg	13 42 14.2 0.0
TWC	baz=220					S	Sg	13 42 17.2 -0.4
ILA	**Ilan**	**0.27**	**263**	*e*		P	Pg	13 42 14.0 -0.4
ILA	baz=262				*e*	S	Sg	13 42 17.7 -0.3
TWE	**Neicheng**	**0.34**	**257**			P	Pg	13 42 15.6 -0.3
TWE	baz=256				*e*	S	Sg	13 42 20.8 +0.2
NWF	**Wu-fen Shan**	**0.36**	**320**			P	Pg	13 42 16.3 -0.1
NWF	baz=319				*e*	S	Sg	13 42 21.6 +0.4
TWA	**Mucha**	**0.45**	**294**	*e*		P	Pg	13 42 18.5 +0.5
TWA	baz=293				*e*	S	Sg	13 42 23.2 -0.7
ENA	**Nanau**	**0.46**	**216**	*e*		P	Pg	13 42 18.2 +0.2
ENA	baz=215				*e*	S	Sg	13 42 23.5 -0.5
ENTT	**Nioudou**	**0.46**	**250**			P	Pg	13 42 17.9 -0.2
ENTT	baz=249				*e*	S	Sg	13 42 24.7 +0.6
EHP	**Heping Village**	**0.56**	**209**	*e*		P	Pb	13 42 20.7 -0.7
EHP	baz=208				*e*	S	Sb	13 42 28.8 -0.8
NSK	**Sanguang**	**0.63**	**259**			P	Pg	13 42 21.0 -0.5
NSK	baz=258				*e*	S	Sg	13 42 30.4 +0.6
NNS	**Nan Shan**	**0.70**	**240**	*e*		P	Pg	13 42 22.5 -0.5
NCU	**National Centr**	**0.79**	**283**	*e*		P	Pb	13 42 26.2 +0.7
TWD	**Chiawan**	**0.82**	**209**	*e*		P	Pg	13 42 24.9 -0.1
TWD	baz=208				*e*	S	Sg	13 42 35.0 -0.6
PCYT	**Pengchaiyu**	**0.83**	**2**	*e*		P	Pb	13 42 25.8 -0.3
PCYT	baz=2.0				*e*	S	Sg	13 42 36.1 +0.1
WHF	**Hehuan Shan**	**0.96**	**227**	*e*		P	Pg	13 42 27.5 -0.7
WHF	baz=226				*e*	S	Sg	13 42 41.0 -0.1
	baz=226							

MOS ***18*** *13:44:57.1±1.9, 44°.00N×146°.90E, h84km, mb4.2/1, Error ellipse: s-maj=45.8km s-min=30.8km az=67.2*
ISCJB ***18*** *13:44:58.2±1.0, 43°.92N±0°.08×146°.8E±0°.1, h65km±13km, Error ellipse: s-maj=17.0km s-min=6.3km az=137.4*
JMA ***18*** *13:44:58.5±0.2, 43°.87N×146°.84E, h69km±3km, M3.6*
ISC 18 13:44:59.3±1.6, 43°.92N±0°.08×146°.85E±0°.08, h49km±30km, n16, σ0°66/25, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.72**	**279***c*	*i*	P	N	**13 45 13.1**	**-0.2**
YUK				*i*	S		**13 45 24.0**	**+0.6**
YUK	comp=Z,444nm,0.2s				pmax	pmax		
YUK	comp=N,87nm,0.2s				pmax	pmax		
YUK	comp=E,83nm,0.2s				pmax	pmax		
YUK	comp=E,844nm,0.3s				smax	smax		
YUK	comp=N,1μm,0.3s				smax	smax		
NEM2	**Nemuro 2**	**0.98**	**236**			P	**Pn**	**13 45 16.4 -0.3**
NEM2					*e*S		**Sn**	**13 45 29.6 +0.1**
JRA	**Rausu**	**1.25**	**271**			P	**Pn**	**13 45 20.2 -0.2**
JRA					*e*S		**Sn**	**13 45 36.5 +0.5**
KUR	**Kuril'sk**	**1.50**	**29***c*	*i*	PN		**Pn**	**13 45 23.4 -0.3**
KUR				*i*	S		**Sn**	**13 45 42.7 +0.6**
KUR	comp=Z,146nm,0.5s				pmax	pmax		
KUR	comp=E,31nm,0.3s				pmax	pmax		
KUR	comp=N,34nm,0.3s				pmax	pmax		
KUR	comp=E,289nm,0.2s				smax	smax		
KUR	comp=N,509nm,0.2s				smax	smax		
JNK	**Nakash**	**1.58**	**258**			P	**Pn**	**13 45 24.4 -0.5**
JNK					*e*S		**Sn**	**13 45 44.3 +0.1**
JAK	**Akkeshi**	**1.82**	**240**			P	**Pn**	**13 45 27.3 -0.9**
JAK					*e*S		**Sn**	**13 45 49.0 -1.1**
JTKR	**Abashiri--Toko**	**2.13**	**272**			P	**Pn**	**13 45 31.8 -0.5**
JAR	**Ashorobuto**	**2.32**	**255**			P	**Pn**	**13 45 35.3 +0.2**
JAR					*e*S		**Sn**	**13 46 02.7 +0.3**
JOB	**Onbets**	**2.42**	**246**			P	**Pn**	**13 45 36.3 -0.1**
JOB					*e*S		**Sn**	**13 46 04.5 -0.3**
JMP	**Maruseppu**	**2.52**	**273**			P	**Pn**	**13 45 37.4 -0.4**
JCH	**Churui**	**2.86**	**244**			P	**Pn**	**13 45 41.7 -0.8**
JCH					*e*S		**Sn**	**13 46 15.6 -0.1**
JKK2	**Kamakawa 2**	**2.97**	**270**			P	**Pn**	**13 45 44.1 +0.2**
ASAJ	**Asahikawa**	**3.08**	**275**			P	**Pn**	**13 45 46.2 +0.8**
JFR	**Furan**	**3.19**	**258**			P	**Pn**	**13 45 47.5 +0.6**
ERM	**Erimo**	**3.31**	**236***c*	*i*	PN		**Pn**	**13 45 50.4 +1.8**
YSS	**Yuzh-Sakhalins**	**4.18**	**318**	*i*	PN		**Pn**	**13 45 59.9 -0.6**

IDC ***18*** *13:59:44.4±2.2, 32°.21N×141°.91E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, ML3.4/2, MS3.9/1, Ms1 4.0/1, ms1mx3.0/37, Error ellipse: s-maj=82.0km s-min=22.3km az=75.0*
ISCJB ***18*** *13:59:46.8±0.9, 32°.28N±0°.06×142°.00E±0°.10, h39km, mb3.8/3, MS4.0/1, Error ellipse: s-maj=12.4km s-min=7.2km az=157.2*
JMA ***18*** *13:59:46.2±0.3, 32°.23N×141°.98E, h71km, M3.3*
ISC 18 13:59:48.9±1.3, 32°.32N±0°.08×142°.0E±0°.1, h39km, n16, σ1°91/21, mb3.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.00**	**293**			P	**Pn**	**14 00 18.7 -1.5**
JHCJ					*e*S		**Sn**	**14 00 43.2 -0.8**
JHJ2	**Mitsune**	**2.00**	**294**			P	**Pn**	**14 00 18.9 -1.3**
BSO1	**Boso 1**	**2.48**	**340**			P	**Pn**	**14 00 26.1 -0.2**
BSO1					*e*S		**Sn**	**14 00 57.6 +2.5**
BSO2	**Boso 2**	**2.64**	**337**		*e*S		**Sn**	**14 01 01.7 +2.3**
BSO3	**Boso 3**	**2.77**	**334**			P	**Pn**	**14 00 29.7 -0.9**
BSO4	**Boso 4**	**3.00**	**333**			P	**Pn**	**14 00 34.5 +0.6**
JOD2	**Odawara 2**	**3.81**	**321**		*e*S		**Sn**	**14 01 29.5 +0.9**
JRY	**Ryogami san**	**4.50**	**326**			P	**Pn**	**14 00 54.6 +0.1**
JRY					*e*S		**Sn**	**14 01 46.7 +1.1**
MJAR	**Matsushiro Arr**	**5.25**	**324**			Pn	**Pn**	**14 01 05.3 +0.4**
MJAR	0.9nm,0.3s,baz=154,slow=10,SNR=10					Sn	**Sn**	**14 02 00.2 -3.9**
MAT	**Matsushiro**	**5.25**	**324**			P	**Pn**	**14 01 06.0 +1.1**
MAT						S	**Sn**	**14 02 04.3 +0.1**
JMK	**Ichinoseki**	**6.65**	**355**			P	**Pn**	**14 01 23.3 -0.8**
JMK					*e*S		**Sn**	**14 02 33.3 -5.3**
ASAJ	**Asahikawa**	**11.79**	**2**			Pn	**Pn**	**14 02 35.0 +0.6**
ASAJ	0.3nm,0.3s,baz=206,slow=8.2,SNR=5.0					Sn	Sn	14 04 34.9 -10
MKAR	**Makanchi Array**	**47.15**	**306**			P	**Pn**	**14 08 18.1 +0.7**
WRA	**Warramunga Arr**	**52.48**	**189**			P	**Pn**	**14 08 58.0 0.0**
ILAR	**Eielson Array**	**53.26**	**30**			LR	LR	14 29 11.8
ASAR	**Alice Springs**	**56.20**	**189**			P	**Pn**	**14 09 25.6 +0.5**

MAN 18 14:11:48,8°.56N×125°.91E,h12km,mb4.0,ML2.8,MS2.5, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.07**	**231**	*e*P			Pb	14 12 07.0 -1.7
CGP	**Cagayan de Oro**	**1.20**	**265⇑**	*i*P			Pn	14 12 09.4 -1.2
CGP				*i*S			Sn	14 12 27.3 +0.3
MATI	**Mati**	**1.64**	**168**	*e*P			Pn	14 12 17.0 +0.3
PAGZ	**Pagadian**	**2.60**	**254**	*e*P			Pb	14 12 33.0 -1.5
PAGZ				*e*S			Sn	14 12 53.0 -8.4

BKK ***18*** *14:12:12.2±0.6, 17°S±9°×17°0E±1°0, h10km, M5.1/17, mB5.7/3, mb5.1/17, Mw(mB)5.2/3*
NOU ***18*** *14:12:31.8±1.2, 16°.38S×169°.04E, h30km, MD4.0, ML2.5*
AUST ***18*** *14:12:38.5±1.2, 16°.96S×168°.53E, h207km, Error ellipse: s-maj=1.2km s-min=1.1km az=234.0*
BJI ***18*** *14:12:39.8, 16°.61S×168°.61E, h236km, mB4.8/21, mb4.6/39*
ISCJB ***18*** *14:12:39.3±0.8, 16°.99S±0°.05×168°.58E±0°.06, h242km±7km, mb4.6/54, Error ellipse: s-maj=9.3km s-min=7.5km az=179.4*
IDC ***18*** *14:12:39.7±0.7, 16°.99S×168°.60E, h234km±6km, mb4.1/19, mb1 4.2/21, mb1mx4.1/26, mbtmp4. 1/21, Error ellipse: s-maj=13.1km s-min=9.1km az=89.0*
MOS ***18*** *14:12:40.7±0.9, 16°.97S×168°.55E, h256km, mb4.8/10, Error ellipse: s-maj=14.2km s-min=10.6km az=18.2*
NEIC ***18*** *14:12:40.6±0.3, 16°.97S×168°.55E, mb4.8/22, Error ellipse: s-maj=7.3km s-min=5.8km az=62.0*
DJA ***18*** *14:12:47.1±3.5, 17°S±9°×16°8E±1°6, h288km±31km, M4.7/18, mB5.3/3, mb4.7/18, Mw(mB)4.8/3*
ISC 18 14:12:41.0±0.4, 17°.05S±0°.05×168°.59E±0°.06, h247km±2km, h247km:pP-P, n148, σ1°45/203, mb4.7/52, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**5.32**	**197**	*e*P			**Pn**	**14 13 59.3 -1.3**
BAYA				*e*S			**S**	**14 15 02.3 -1.9**
BAYA				AMP				14 15 09.0
DZM	comp=Z,11nm,0.0s **Mont Dzumac**	**5.38**	**202**	*e*P			**Pn**	**14 13 59.9 -1.6**
DZM				*e*S			**S**	**14 15 05.6 -0.2**
DZM				AMP				14 15 19.2
DZM	comp=Z,1μm,6.1s **Mont Dzumac**	**5.38**	**202**	P			**Pn**	**14 14 00.7 -0.8**
DZM				S			**S**	**14 15 04.2 -1.6**
DZM	**Mont Dzumac**	**5.38**	**202**	P			**Pn**	**14 14 00.7 -0.8**
DZM	comp=Z,16nm,0.3s,baz=32,slow=16,SNR=169			S			**S**	**14 15 04.2 -1.6**
NOUC	comp=Z,13nm,0.3s,baz=149,slow=19,SNR=5.0 **Port Laguerre**	**5.46**	**203**	*e*P			**Pn**	**14 14 00.1 -2.3**
NORM	**Noumea**	**5.52**	**201**	*e*P			**Pn**	**14 14 01.8 -1.2**
NORM				*e*S			**S**	**14 15 08.2 -0.3**
MSVF	**Nonsavu**	**9.06**	**96**	*e*P			**Pn**	**14 14 49.2 +1.4**
MSVF				pmax			pmax	
MSVF	comp=Z,39nm,0.9s **Nonsavu**	**9.06**	**96**	*e*P			**Pn**	**14 14 49.2 +1.4**
HNR	comp=Z,39nm,0.9s **Honiara**	**11.32**	**311**	P			**Pn**	**14 15 14.9 -1.4**
HNR	**Honiara**	**11.32**	**311**	P			**Pn**	**14 15 14.9 -1.4**
LHI	baz=148,slow=2.4,SNR=5.0 **Lord Howe Isla**	**16.80**	**209**	S			S	14 19 09.4 -14
EIDS	baz=17,SNR=3.6 **Eidsvold**	**18.29**	**240**	P			**Pn**	**14 16 39.3 -0.8**
OUZ	baz=18,SNR=5.1 **Omahuta**	**18.64**	**167**	*e*P			**Pn**	**14 16 42.5 -1.5**
ARMA	comp=Z,148nm,0.9s **Armidale**	**20.41**	**226**	P			**P**	**14 17 01.2 +1.5**
RMQ	baz=20,SNR=11 **Roma**	**20.65**	**240**	P			**P**	**14 17 03.5 +1.4**
CTA	baz=21,SNR=8.2 **Charters Tower**	**21.39**	**258**	P			**P**	**14 17 09.8 +0.1**
CTA				pP			**pP**	**14 17 48.4 -1.6**
CTA	**Charters Tower**	**21.39**	**258**	P			**P**	**14 17 09.8 +0.1**
CTA	comp=Z,24nm,0.7s,baz=68,slow=10,SNR=28			pP			**pP**	**14 17 48.4 -1.6**
CTAO	comp=Z,22nm,0.9s,baz=82,slow=14,SNR=3.5 **Charters Tower**	**21.39**	**258**	*e*P			**P**	**14 17 09.7 +0.1**
CTAO				pmax			pmax	
CTAO	comp=Z,44nm,0.9s **Charters Tower**	**21.39**	**258**	*e*P			**P**	**14 17 09.7 +0.1**

comp=Z,44nm,0.9s
PMG Port Moresby 22.19 287 *e*P **P 14 17 17.4 +0.3**
PMG Port Moresby 22.19 287 P **P 14 17 18.0 +0.9**
comp=Z,90nm,1.3s,comp=Z,1μm
PMG Port Moresby 22.19 287 P **P 14 17 17.2 +0.1**
comp=Z,65nm,1.1s,baz=90,slow=11,SNR=8.9
URZ Urewera 22.41 162 *e*P **P 14 17 19.5 +0.6**
comp=Z,183nm,1.2s
URZ Urewera 22.41 162 P **P 14 17 19.6 +0.8**
comp=Z,72nm,0.8s,baz=340,slow=12,SNR=44
MGCD Mangrove Creek 22.51 221 P **P 14 17 22.0 +2.1**
baz=23,SNR=13
MTSU Mount Surprise 23.16 264 P **P 14 17 26.9 +0.9**
baz=23,SNR=163
COEN Coen 24.68 274 *e*P **P 14 17 39.9 +0.2**
comp=Z,286nm,0.9s
COEN Coen 24.68 274 P **P 14 17 40.1 +0.4**
baz=25,SNR=13
YNG Young 24.94 223 P **P 14 17 43.4 +1.4**
baz=25,SNR=7.7
CNB Canberra Magne 24.99 220 P **P 14 17 43.8 +1.4**
baz=25,SNR=14
CMSA Cobar Meteorol 25.29 231 P **P 14 17 46.0 +0.9**
baz=25,SNR=17
PATS Pohnpei 25.82 336 P **P 14 17 53.0 +3.1**
baz=26,SNR=3.2
RPZ Rata Peaks 26.66 176 P **P 14 17 57.7 +0.6**
RPZ Rata Peaks 26.66 176 P **P 14 17 57.7 +0.6**
comp=Z,21nm,0.7s,baz=348,slow=6.9,SNR=10
STKA Stephens Creek 28.56 234 *e*P **P 14 18 15.2 +1.0**
comp=Z,1.4nm,0.9s
STKA Stephens Creek 28.56 234 P **P 14 18 15.2 +1.0**
comp=Z,5.9nm,0.5s,baz=61,slow=9.0,SNR=43
STKA Stephens Creek 28.56 234 P **P 14 18 15.4 +1.2**
baz=29,SNR=41
TOO Toolangi 28.82 220 P **P 14 18 17.7 +1.2**
baz=29,SNR=4.3
MOO Moorlands 31.21 211 P **P 14 18 38.9 +1.5**
baz=31,SNR=4.2
WRAB Tennant Creek 32.57 260 *e*P **P 14 18 48.5 -1.0**
WRAB pmax pmax
comp=Z,27nm,1.3s
WRAB Tennant Creek 32.57 260 *e*P **P 14 18 48.5 -1.0**
comp=Z,27nm,1.3s
WRA Warramunga Arr 32.58 260 P **P 14 18 48.4 -1.1**
WRA PcP **PcP 14 21 29.5 -0.4**
WRA ScP **ScP 14 24 52.0 +2.0**
WRA Warramunga Arr 32.58 260 P **P 14 18 48.4 -1.1**
comp=Z,9.5nm,0.9s,baz=85,slow=8.3,SNR=60
WRA PcP **PcP 14 21 29.5 -0.4**
comp=Z,0.7nm,0.6s,baz=76,slow=3.5,SNR=3.2
WRA ScP **ScP 14 24 52.0 +2.0**
comp=Z,2.6nm,1.0s,baz=91,slow=3.6,SNR=6.3
AS31 Alice Springs 33.12 253 *e*P **P 14 18 53.6 -0.6**
ASAR Alice Springs 33.12 253 P **P 14 18 53.8 -0.5**
ASAR PcP **PcP 14 21 30.6 -0.8**
ASAR S **S 14 23 53.8 -1.3**
ASAR ScP **ScP 14 24 54.0 +2.1**
ASAR Alice Springs 33.12 253 P **P 14 18 53.8 -0.5**
comp=Z,54nm,0.7s,baz=78,slow=9.1,SNR=617
ASAR PcP **PcP 14 21 30.6 -0.8**
comp=Z,0.6nm,0.7s,baz=72,slow=3.0,SNR=3.0
ASAR S **S 14 23 53.8 -1.3**
comp=Z,0.8nm,0.7s,baz=92,slow=13,SNR=4.8
ASAR ScP **ScP 14 24 54.0 +2.1**
comp=Z,1.9nm,0.7s,baz=96,slow=3.7,SNR=11
BBOO Buckleboo 33.24 236 P **P 14 18 55.9 +0.8**
baz=33,SNR=15
KDU Kakadu 35.14 272 P **P 14 19 11.1 -0.6**
baz=35,SNR=15
BAKI Biak 35.63 293 P **P 14 19 16.5 +0.7**
comp=Z,59nm,1.1s
MTN Manton Dam 36.39 271 P **P 14 19 22.1 -0.1**
baz=36,SNR=9.7
TLE Tual 36.86 284 P **P 14 19 26.6 +0.3**
baz=37,SNR=8.8
KNRA Kununurra 38.20 266 P **P 14 19 36.9 -0.4**
baz=38,SNR=35
FAKI Fak Fak 38.35 287 P **P 14 19 37.7 -1.0**
baz=38,SNR=4.4
FORT Forrest 39.27 242 P **P 14 19 46.6 +0.5**
baz=39,SNR=15
SWI Sorong 40.10 290 P **P 14 19 52.8 -0.3**
baz=40,SNR=5.0
FITZ Fitzroy Crossi 40.89 262 *e*P **P 14 19 59.8 +0.3**
comp=Z,71nm,0.8s
FITZ Fitzroy Crossi 40.89 262 P **P 14 19 59.7 +0.2**
baz=41,SNR=70
MBWA Marble Bar 46.21 257 *e*P **P 14 20 41.7 -0.1**
comp=Z,19nm,0.9s
MEEK Meekatharra 47.11 249 P **P 14 20 48.9 +0.2**
baz=47,SNR=18
MYLDM Lahad Datu 54.19 290 P P 14 21 47.2 +5.6
comp=Z,10nm,1.2s
UGM Wanagama 57.24 271 P **P 14 22 03.6 +0.3**
baz=57,SNR=3.2
LEM Lembang 60.31 272 P **P 14 22 25.3 +0.8**
baz=60,SNR=3.8
KSM Kuching 60.31 282 *e*P **P 14 22 24.3 0.0**
comp=Z,33nm,1.0s
KSM Kuching 60.31 282 P **P 14 22 24.5 +0.2**
comp=Z,37nm,0.8s
KSM Kuching 60.31 282 P **P 14 22 24.7 +0.4**
baz=60,SNR=4.4
MJAR Matsushiro Arr 60.54 332 P **P 14 22 24.3 -1.1**
MJAR Matsushiro Arr 60.54 332 P **P 14 22 24.3 -1.1**
comp=Z,3.5nm,0.9s,baz=162,slow=7.0,SNR=10
VNDA Vanda 60.58 182 *e*P **P 14 22 25.6 +0.5**
comp=Z,16nm,1.4s
VNDA Vanda 60.58 182 P **P 14 22 25.4 +0.3**
comp=Z,4.0nm,0.9s,baz=0.4,slow=7.1,SNR=20
SBA Scott Base 60.83 180 *e*P **P 14 22 28.2 +1.4**
SBA *e* 14 23 09.5
SBA *e**PP **pP 14 23 22.3 0.0**
SBA pmax pmax
comp=Z,24nm,0.9s
SBA Scott Base 60.83 180 *e*P **P 14 22 28.2 +1.4**
comp=Z,24nm,0.9s
SBA *e*PcP **PcP 14 23 09.5 +1.7**
SBA *e*pP **pP 14 23 22.3 0.0**
YULB Yu-li 61.25 310 *e*P **P 14 22 29.4 -1.0**
comp=Z,12nm,1.0s
NACB Ninganchiao 61.50 311 *e*P **P 14 22 31.6 -0.5**
comp=Z,36nm,1.0s
TPUB Ta-pu 61.69 309 *e*P **P 14 22 32.5 -0.9**
comp=Z,46nm,0.8s
SSLB Suanglung 61.74 310 *e*P **P 14 22 32.1 -1.5**
comp=Z,36nm,0.9s
CASY Casey 61.88 203 *e*P **P 14 22 34.6 +0.7**
comp=Z,4.3nm,0.5s
YHNB Yeheng 61.96 311 *e*P **P 14 22 35.1 -0.1**
comp=Z,72nm,1.1s
ASAJ Asahikawa 65.35 340 P **P 14 22 57.1 +0.3**
ASAJ Asahikawa 65.35 340 P **P 14 22 57.1 +0.3**
comp=Z,14nm,0.8s,baz=121,slow=8.4,SNR=15
KSRS Korea Array 66.37 326 P **P 14 23 03.1 -0.3**
comp=Z,1.1nm,0.8s,baz=122,slow=6.0,SNR=6.0
KSAR Wonju Array Be 66.38 325 P **P 14 23 03.1 -0.4**
YSS Yuzh-Sakhalins 67.83 341 *e*P **P 14 23 13.0 +0.7**
QIZ Qiongzhong 67.97 299 P **P 14 23 14.4 +0.5**
QIZ sP **sP 14 24 37.5 +0.2**
QIZ S **S 14 31 52.9 0.0**
QIZ pmax pmax
comp=Z,10.0nm,1.2s
QIZ pmax pmax
comp=Z,140nm,9.8s
NJ2 Nanjing 68.22 316 *e*P **P 14 23 16.3 +1.2**
NJ2 pmax pmax
comp=Z,70nm,0.5s
USRK Ussuriysk Arra 69.52 333 P **P 14 23 23.3 +0.5**
comp=Z,2.5nm,0.7s,baz=126,slow=7.3,SNR=5.5
UBPT Khong Chiam 70.06 294 P **P 14 23 27.8 +1.1**
comp=Z,18nm,1.3s
UBPT Khong Chiam 70.06 294 P **P 14 23 27.8 +1.1**
comp=Z,18nm,1.3s
WHN Wuhan 70.44 312⇑ *i*P **P 14 23 29.3 +0.6**
MDJ Mudanjiang 70.92 332 P **P 14 23 31.5 +0.2**
MDJ pP **pP 14 24 29.3 +0.7**
MDJ sP **sP 14 24 56.3 +1.2**
MDJ S **S 14 32 26.0 -0.3**
MDJ ScS **ScS 14 33 10.5 -0.7**
MDJ pmax pmax
comp=Z,15nm,1.1s
MDJ pmax pmax
comp=Z,51nm,3.4s
MDJ LR LR
comp=N,80nm,23.4s
MDJ LR LR
comp=E,150nm,23.0s
MDJ LR LR
comp=Z,70nm,21.1s
MDJ Mudanjiang 70.92 332 *e*P **P 14 23 31.7 +0.4**
comp=Z,5.8nm,0.8s
PSI Prapat 71.47 279 P **P 14 23 34.9 -0.6**
baz=71,SNR=8.2
CHBT CHBT 71.83 290 P **P 14 23 39.1 +1.7**
comp=Z,11nm,1.2s,comp=Z,1μm
CHBT CHBT 71.83 290 P **P 14 23 39.1 +1.7**
comp=Z,11nm,1.2s,comp=Z,1μm
CN2 Changchun 72.28 329 *e*P **P 14 23 39.4 -0.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
KLR Kul'dur 73.64 336 *e*P **P 14 23 44.3 -3.0**
ENH Enshi 73.82 309 P **P 14 23 48.4 -0.4**
comp=Z,4.5nm,0.5s
GYA Guiyang 74.08 305 *e*P **P 14 23 52.0 +1.5**
GYA pP **pP 14 24 51.3 +3.0**
GYA PP **PP 14 26 42.8 +3.1**
GYA S **S 14 33 02.0 -1.0**
GYA SKS **SKSac 14 33 30.4 -4.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.8s
PBKT Sadao Pong 74.53 293 P **P 14 23 54.2 +1.1**
comp=Z,18nm,1.0s
PBKT Sadao Pong 74.53 293 P **P 14 23 54.2 +1.1**
comp=Z,18nm,1.0s
LOEI Loei 74.65 294 P **P 14 23 52.6 -1.2**
comp=Z,60nm,0.8s
XAN Xi'an 76.19 312 P **P 14 24 02.8 +0.5**
XAN pP **pP 14 25 01.3 +0.9**
XAN sP **sP 14 25 28.3 +1.6**
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN pmax pmax
comp=Z,62nm,14.9s
KMI Kunming 76.60 302 P **P 14 24 06.9 +1.9**
KMI pP **pP 14 25 02.4 -0.8**
KMI sP **sP 14 25 30.4 +0.9**
KMI pmax pmax
comp=Z,26nm,1.0s
KMI LR LR
comp=N,410nm,15.9s
KMI LR LR
comp=E,110nm,21.5s
KMI LR LR
comp=Z,180nm,13.5s
CMAR Chiang Mai Arr 77.05 294 P **P 14 24 08.4 +1.0**
CMAR Chiang Mai Arr 77.05 294 P **P 14 24 08.4 +1.0**
comp=Z,12nm,0.9s,baz=129,slow=4.2,SNR=53
CHTO Chiang Mai 77.19 294 *e*P **P 14 24 09.2 +1.1**
CHTO pmax pmax
comp=Z,30nm,1.3s
CHTO Chiang Mai 77.19 294 *e*P **P 14 24 09.2 +1.1**
comp=Z,30nm,1.3s
CHTO Chiang Mai 77.19 294 P **P 14 24 09.2 +1.1**
comp=Z,24nm,1.1s
CHTO Chiang Mai 77.19 294 P **P 14 24 09.2 +1.1**
comp=Z,24nm,1.1s
HHC Hu-ho-hao-te 78.17 319 *e*P **P 14 24 13.4 +0.2**
HHC pP **pP 14 25 13.3 +1.7**
HHC PP **PP 14 27 15.8 +2.0**
HHC S **S 14 33 45.8 -1.1**
HHC SS **SS 14 38 56.8 +1.6**
HHC pmax pmax
comp=Z,32nm,1.1s
HHC pmax pmax
comp=Z,420nm,5.8s
CD2 Chengdu 78.43 307 *e*P **P 14 24 15.8 +1.1**
CD2 PP **PP 14 27 19.0 +3.0**
CD2 S **S 14 33 49.3 -0.6**
CD2 SS **SS 14 39 01.5 +2.2**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,120nm,6.8s
MAW Mawson 80.22 202 P **P 14 24 24.6 +1.0**
MAW Mawson 80.22 202 P **P 14 24 24.6 +1.0**
comp=Z,6.3nm,0.9s,baz=128,slow=5.9,SNR=14
MAW Mawson 80.22 202 P **P 14 24 24.7 +1.0**
baz=80,SNR=8.6
SEY Seymchan 80.73 353⇑ *e*P **P 14 24 25.4 -0.9**
LZH Lanzhou 80.81 312 *e*P **P 14 24 28.3 +0.7**
LZH pP **pP 14 25 29.0 +2.6**
LZH PP **PP 14 27 39.5 +3.7**
LZH *e*S **S 14 34 14.0 -1.0**
LZH SKS **SKSac 14 34 18.3 -4.2**
LZH SS **SS 14 39 38.5 +3.5**
LZH pmax pmax
comp=Z,27nm,1.5s
LZH pmax pmax
comp=Z,150nm,8.1s
YAK Yakutsk 84.61 343 *e*P **P 14 24 45.7 -0.5**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
ULN Ulaanbaatar 84.75 324 *e*P **P 14 24 47.6 +0.1**
comp=E,17nm,1.4s
ULN Ulaanbaatar 84.75 324 P **P 14 24 47.8 +0.3**
SONM Songino Array 85.11 323 P **P 14 24 49.2 -0.1**
SONM pP **pP 14 25 44.7 -4.0**
SONM Songino Array 85.11 323 P **P 14 24 49.2 -0.1**
comp=E,3.3nm,0.9s,baz=139,slow=4.7,SNR=19
SONM pP **pP 14 25 44.7 -4.0**
comp=E,0.2nm,0.3s,baz=16,slow=42,SNR=2.1
GTA Gaotai 85.18 314 P **P 14 24 50.8 +1.0**
GTA pP **pP 14 25 51.9 +2.6**
GTA SKS **SKSac 14 34 47.4 -3.5**
GTA S **S 14 34 56.3 -2.4**
GTA SS **SS 14 40 38.9 -0.4**
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,77nm,5.5s
GTA LR LR
comp=N,120nm,15.4s
GTA LR LR
comp=E,130nm,15.4s
GTA LR LR
comp=Z,160nm,15.9s
SYO Syowa Base 86.85 196⇓ *e*P **P 14 24 56.0 -1.2**
NVAR Mina Array Bea 87.83 49 P **P 14 25 01.6 -1.1**
NVAR pP **pP 14 26 01.0 -1.6**
NVAR Mina Array Bea 87.83 49 P **P 14 25 01.6 -1.1**
comp=Z,0.9nm,0.9s,baz=236,slow=6.1,SNR=5.3
NVAR pP **pP 14 26 01.0 -1.6**
comp=Z,0.2nm,0.7s,baz=234,slow=3.1,SNR=2.1
ILAR Eielson Array 88.34 17 P **P 14 25 02.1 -2.1**
ILAR pP **pP 14 26 01.6 -2.5**
ILAR Eielson Array 88.34 17 P **P 14 25 02.1 -2.1**
comp=Z,0.6nm,0.8s,baz=238,slow=5.2,SNR=6.5
ILAR pP **pP 14 26 01.6 -2.5**
comp=Z,1.9nm,0.9s,baz=233,slow=5.3,SNR=9.5
TLY Talaya 88.62 326 *i* P **P 14 25 06.1 +0.2**
TLY pmax pmax
comp=Z,2.0nm,0.6s
SNAA Sanae 91.30 183 *e*P **P 14 25 17.8 -0.4**
SNAA Sanae 91.30 183 *e*P **P 14 25 17.7 -0.5**
comp=Z,20nm,1.3s
VNA2 Neumayer--Watz 92.20 181 *e*P **P 14 25 22.2 -0.1**
WMQ Urumqi 95.25 314 *e*P **P 14 25 36.1 -0.7**
MKAR Makanchi Array 99.75 316 *c e*P **Pdif 14 25 57.7 +0.8**
MKAR Makanchi Array 99.75 316 P **Pdif 14 25 57.1 +0.3**
MKAR Makanchi Array 99.75 316 P **Pdif 14 25 57.1 +0.3**
comp=Z,0.3nm,0.4s,baz=90,slow=6.0,SNR=6.1
ZALV Zalesovo Beam 100.01 323 P **Pdif 14 25 57.4 -0.4**
ZALV Zalesovo Beam 100.01 323 P **Pdif 14 25 57.4 -0.4**
ZALV Zalesovo Beam 100.01 323 P **Pdif 14 25 57.4 -0.4**
comp=Z,0.8nm,0.8s,baz=89,slow=6.5,SNR=3.8
ARCES ARCESS Array B 122.81 345 PKP **PKPdf 14 31 06.2 -0.6**
ARCES ARCESS Array B 122.81 345 PKP **PKPdf 14 31 06.2 -0.6**
comp=Z,7.3nm,1.1s,baz=68,slow=2.0,SNR=11
OBN Obninsk 127.33 328 *e*PKIKP **PKPdf 14 31 14.3 -1.5**
OBN *e*PS **PS 14 43 22.7 -4.9**
OBN pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 138.08 327 *e*PKIKP **PKPdf 14 31 39.4 +3.1**
KOLS Kolonicke sedl 138.08 327 *e*PKP **PKPdf 14 31 39.4 +3.1**
BRG Berggiesshubel 140.64 335 *e*(P) **SKPbc 14 34 55.5 +1.8**
comp=Z,6.0nm,1.1s
BFO Black Forest 144.88 337 *e*PKIKP PKPbc 14 31 48.2 -0.1
BFO Black Forest 144.88 337 *e*PKP PKPbc 14 31 48.2 -0.1
TUE Stuetta 145.98 334 *e*PKPbc **PKPbc 14 31 52.1 +0.2**
TORD Torodi Ar. Bea 166.76 255 PKP **PKPdf 14 32 17.3 -0.5**
TORD PKPab **PKPab 14 33 22.2 -0.1**
TORD Torodi Ar. Bea 166.76 255 PKP **PKPdf 14 32 17.3 -0.5**
comp=Z,1.0nm,0.9s,baz=176,slow=1.9,SNR=3.8
TORD PKPab **PKPab 14 33 22.2 -0.1**
comp=Z,0.4nm,0.7s,baz=105,slow=4.1,SNR=4.3

---

*JMA **18** 14:14:35.5±0.3, 32°.27N×141°.97E, h50km, M3.2*
*IDC **18** 14:14:35.5±4.9, 31°.92N×141°.23E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/32, Error ellipse: s-maj=183.0km s-min=25.5km az=71.0*
*ISCJB **18** 14:14:36.1±1.1, 32°.29N±0°.06×141°.96E±0°.09, h39km, mb3.6/3, Error ellipse: s-maj=11.8km s-min=8.1km az=159.1*
ISC 18 14:14:37.5±1.5, 32°.29N±0°.08×142°.0E±0°.1, h39km, n13, σ1§81/19, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.02**	**293**	P	**Pn**	**14 15 07.5**	**-1.5**
JHCJ				*e*S	**Sn**	**14 15 30.8**	**-2.2**
JHJ2	**Mitsune**	**2.02**	**294**	P	**Pn**	**14 15 08.3**	**-0.7**
JHJ2				*e*S	**Sn**	**14 15 31.2**	**-1.8**
BSO1	**Boso 1**	**2.50**	**340**	P	**Pn**	**14 15 14.9**	**-0.3**
BSO1				*e*S	**Sn**	**14 15 45.3**	**+1.0**
BSO2	**Boso 2**	**2.66**	**337**	*e*S	**Sn**	**14 15 49.0**	**+0.5**
JOD2	**Odawara 2**	**3.83**	**321**	*e*S	**Sn**	**14 16 17.3**	**-0.4**
JRY	**Ryogami san**	**4.52**	**326**	P	**Pn**	**14 15 43.8**	**+0.4**
JRY				*e*S	**Sn**	**14 16 35.2**	**+0.5**
JAG	**Ashikaga**	**4.63**	**334**	P	**Pn**	**14 15 45.1**	**+0.2**
JAG				*e*S	**Sn**	**14 16 35.5**	**-1.9**
MJAR	**Matsushiro Arr**	**5.27**	**325**	Pn	**Pn**	**14 15 55.3**	**+1.5**
	0.6nm,0.3s,baz=153,slow=11,SNR=6.6						
MJAR				Sn	**Sn**	**14 16 55.4**	**+2.2**
	0.1nm,0.3s,baz=54,slow=26,SNR=3.3						
JMK	**Ichinoseki**	**6.67**	**355**	P	**Pn**	**14 16 12.0**	**-1.0**
JMK				*e*S	**Sn**	**14 17 22.9**	**-4.8**
JNU	**Nakatsue**	**9.41**	**278**	LR	LR	14 19 33.2	
	comp=Z,89nm,20.2s,baz=102,slow=34						
MKAR	**Makanchi Array**	**47.17**	**306**	P	**P**	**14 23 08.3**	**+2.1**
	0.3nm,0.6s,baz=98,slow=8.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**49.40**	**311**	P	**P**	**14 23 23.7**	**+0.5**
	0.2nm,0.3s,baz=86,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**52.46**	**189**	P	**P**	**14 23 46.4**	**0.0**
	0.6nm,0.5s,baz=6.2,slow=7.6,SNR=6.3						

---

*IDC **18** 14:24:55.4±7.7, 36°.32N×71°.06E, h163km±68km, mb3.1/3, mb1 3.3/6, mb1mx3.0/29, mbtmp3.1/6, Error ellipse: s-maj=62.6km s-min=39.9km az=46.0*
*ISCJB **18** 14:24:56.1±1.1, 36°.45N±0°.09×71°.0E±0°.2, h188km, mb3.4/2, Error ellipse: s-maj=17.3km s-min=12.7km az=0.3*
*NNC **18** 14:24:59.5±13.0, 37°.01N×69°.77E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=131.7km s-min=89.1km az=130.0*
ISC 18 14:24:57.7±1.5, 36°.6N±0°.1×70°.8E±0°.2, h188km, n10, σ1§91/11, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.05**	**53**	Pn	Pn	14 26 08.5	-4.0
KSH				Sn	Sn	14 26 59.9	-12
KSH				smax	smax		
	comp=N,17nm,0.4s						
KSH				smax	smax		
	comp=E,15nm,0.4s						
KK31	**Karatay Array**	**6.54**	**358**	⇑P	**Pn**	**14 26 32.5**	**+0.7**
	comp=E,2.0nm,0.3s,baz=179,slow=14,SNR=41						
KK31				⇑S	**Sn**	**14 27 42.7**	**-3.6**
	comp=E,3.0nm,0.3s,baz=186,slow=22,SNR=19						
AAK	**Ala-Archa**	**6.71**	**24**	P	**Pn**	**14 26 34.6**	**+0.5**
	comp=E,2.1nm,0.3s,baz=229,slow=9.1,SNR=5.7						
AAK				S	**Sn**	**14 27 49.6**	**-0.8**
	comp=E,0.5nm,0.3s,baz=204,slow=12,SNR=14						
AB31	**Akbulak array**	**14.95**	**331**	⇓P	**Pn**	**14 28 20.0**	**+0.3**
	comp=E,1.1nm,0.6s,baz=147,slow=12,SNR=15						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**14 28 40.6**	**+2.5**
	comp=E,0.2nm,0.3s,baz=152,slow=9.8,SNR=5.9						
AKTO	**Aktyubinsk**	**16.65**	**330**	⇑P	**Pn**	**14 28 41.8**	**+1.6**
	comp=E,1.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**Pn**	**14 28 41.2**	**+1.0**
	comp=E,0.3nm,0.3s,baz=148,slow=11,SNR=8.2						
ZALV	**Zalesovo Beam**	**19.93**	**25**	P	**P**	**14 29 16.3**	**+1.3**
	comp=E,0.3nm,0.2s,baz=225,slow=9.3,SNR=2.9						
WRA	**Warramunga Arr**	**82.17**	**122**	P	**P**	**14 36 56.4**	**-1.3**
	comp=E,0.5nm,0.6s,baz=324,slow=4.7,SNR=6.6						
ASAR	**Alice Springs**	**84.43**	**125**	P	**P**	**14 37 08.2**	**-1.0**
	comp=E,0.4nm,0.6s,baz=307,slow=5.0,SNR=7.5						

---

*NIED **18** 14:34:00.23°.40N×123°.60E, h8km, Mw4.2 Best double couple: M0=2.29000×10^15 NP1:φ0=217.00000°, δ77.00000°, λ-166.00000°. NP2:φ0=124.00000°, δ76.00000°, λ-13.00000°.*
*IDC **18** 14:34:31.4±0.8, 23°.45N×123°.49E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/29, mbtmp3.7/15, ML3.4/2, MS3.3/1, Ms1 3.5/1, ms1mx2.4/44, Error ellipse: s-maj=23.8km s-min=18.1km az=70.0*
*JMA **18** 14:34:33.8±0.2, 23°.39N×123°.61E, h48km±3km, M4.3*
*ISCJB **18** 14:34:34.5±1.3, 23°.42N±0°.07×123°.61E±0°.06, h36km±11km, mb3.7/13, MS3.1/1, Error ellipse: s-maj=11.7km s-min=8.5km az=1.6*
ISC 18 14:34:34.8±1.3, 23°.49N±0°.10×123°.61E±0°.06, h22km±8km, n25, σ0§88/33, mb3.7/13, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.59**	**17**	P	**Pb**	**14 34 47.4**	**+0.8**
HATJ				*e*S	**Sn**	**14 34 57.2**	**+0.3**
JKRS	**Kuro-shima**	**0.83**	**26**	P	**Pb**	**14 34 51.0**	**+0.4**
JKRS				*e*S	**Sn**	**14 35 03.4**	**+0.6**
IRIF	**Iriomote-Funau**	**0.85**	**7**	P	**Pb**	**14 34 51.0**	**+0.1**
IRIF				*e*S	**Sn**	**14 35 03.7**	**+0.4**
JIJ	**Ishigaki jima**	**1.00**	**29**	P	**Pn**	**14 34 52.8**	**-0.7**
JIJ				*e*S	**Sb**	**14 35 06.4**	**+0.3**
YOJ	**Yonaguni jima**	**1.11**	**331**	P	**Pn**	**14 34 54.8**	**-0.3**
YOJ				*e*S	**Sn**	**14 35 09.7**	**-0.1**
JTJ	**Tarama**	**1.52**	**41**	P	**Pn**	**14 35 00.3**	**-0.4**
JTJ				*e*S	**Sn**	**14 35 19.9**	**+0.1**
JMJ	**Miyako jima 2**	**2.03**	**49**	P	**Pn**	**14 35 07.5**	**-0.2**
JMJ				*e*S	**Sn**	**14 35 32.4**	**+0.1**
JOGS	**Gusukube**	**2.07**	**52**	P	**Pn**	**14 35 08.0**	**-0.3**
JOGS				*e*S	**Sn**	**14 35 33.9**	**+0.4**
JKE	**Kume jima 2**	**4.04**	**45**	P	**Pn**	**14 35 33.2**	**-2.1**
JKE				*e*S	**Sn**	**14 36 21.5**	**-0.4**
KSRS	**Korea Array**	**14.40**	**14**	Pn	**Pn**	**14 37 55.8**	**-1.6**
	0.1nm,0.3s,baz=195,slow=14,SNR=4.5						
MJAR	**Matsushiro Arr**	**18.11**	**41**	P	**P**	**14 38 45.9**	**+0.6**
	0.2nm,0.3s,baz=234,slow=9.0,SNR=8.7						
CMAR	**Chiang Mai Arr**	**23.56**	**262**	LR	LR	14 49 26.6	
	comp=Z,65nm,19.3s,baz=75,slow=38						
ASAJ	**Asahikawa**	**25.81**	**33**	P	**P**	**14 40 05.1**	**+0.7**
	4.0nm,0.6s,baz=215,slow=10,SNR=11						
SONM	**Songino Array**	**27.90**	**335**	P	**P**	**14 40 22.0**	**-1.4**
	0.9nm,0.6s,baz=131,slow=8.1,SNR=7.6						
PETK	**Petropavlovsk-**	**39.23**	**32**	P	**P**	**14 42 01.0**	**-0.4**
	1.9nm,0.7s,baz=198,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**14 42 10.8**	**-0.3**
	0.3nm,0.4s,baz=96,slow=8.8,SNR=9.1						
ZALV	**Zalesovo Beam**	**42.04**	**326**	P	**P**	**14 42 23.4**	**-1.2**
	0.6nm,0.3s,baz=111,slow=7.9,SNR=5.3						
KURBB	**Kurchatov Arra**	**44.07**	**320**	P	**P**	**14 42 40.7**	**-0.4**
	0.3nm,0.5s,baz=113,slow=7.8,SNR=5.9						
WRA	**Warramunga Arr**	**44.42**	**166**	P	**P**	**14 42 43.6**	**-0.6**
	0.7nm,0.9s,baz=346,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**47.93**	**167**	P	**P**	**14 43 11.2**	**-0.6**
	0.2nm,0.5s,baz=348,slow=7.3,SNR=4.9						
BVAR	**Borovoye Array**	**49.62**	**321**	P	**P**	**14 43 23.9**	**-0.6**
	0.4nm,0.4s,baz=113,slow=9.6,SNR=3.7						
AKTO	**Aktyubinsk**	**56.82**	**316**	P	**P**	**14 44 17.9**	**+0.4**
	0.7nm,0.6s,baz=76,slow=9.7,SNR=3.8						
ILAR	**Eielson Array**	**68.81**	**27**	P	**P**	**14 45 38.3**	**+1.2**
	0.3nm,0.7s,baz=278,slow=6.1,SNR=6.2						
YKA	**Yellowknife Ar**	**82.73**	**23**	P	**P**	**14 46 58.9**	**+2.2**
	1.7nm,0.9s,baz=309,slow=6.2,SNR=3.7						

GERES GERESS Array B 84.78 321 P P 14 47 08.3 +0.6
0.7nm,0.6s,baz=47,slow=5.9,SNR=4.3

NIED ***18*** *14:39:00,23.°40N×123.°50E,h14km,Mw4.0 Best double couple: M0 9.71000×10^14 NP1:φ0=240.00000°,δ67.00000°, λ64.00000°. NP2:φ0=112.00000°,δ34.00000°,λ136.00000°.*
IDC ***18*** *14:39:54.7±0.7,23.°45N×123.°47E,h0km,mb3.9/13, mb1 4.0/15,mb1mx3.8/29,mbtmp3.9/15,ML3.5/2,Error ellipse: s-maj=26.0km s-min=13.8km az=75.0*
ISCJB ***18*** *14:39:57.9±1.3,23.°43N±0.°07×123.°53E±0.°08, h34km±12km,mb3.8/13,Error ellipse: s-maj=12.9km s-min=9.6km az=143.1*
JMA ***18*** *14:39:58.0±0.2,23.°45N×123.°53E,h45km±3km,M4.1*
ISC 18 14:39:57.9±0.9,23.°48N±0.°08×123.°51E±0.°08,h20km±7km, n25,σ0.9=63/31,mb3.9/13,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.63**	**25**	P	**Pb**	**14 40 11.1**	**+0.7**
HATJ				eS	**Sn**	**14 40 20.3**	**-0.9**
IRIF	**Iriomote-Funau**	**0.87**	**13**	P	**Pb**	**14 40 14.5**	**+0.1**
IRIF				eS	**Sn**	**14 40 26.6**	**-0.6**
JKRS	**Kuro-shima**	**0.88**	**31**	P	**Pb**	**14 40 14.7**	**+0.2**
JKRS				eS	**Sn**	**14 40 27.0**	**-0.4**
JIJ	**Ishigaki jima**	**1.05**	**33**	P	**Pn**	**14 40 16.7**	**-0.8**
JIJ				eS	**Sb**	**14 40 30.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.08**	**335**	P	**Pn**	**14 40 17.6**	**-0.2**
YOJ				eS	**Sn**	**14 40 31.9**	**-0.3**
JTJ	**Tarama**	**1.59**	**43**	P	**Pn**	**14 40 24.7**	**-0.2**
JMJ	**Miyako jima 2**	**2.10**	**51**	P	**Pn**	**14 40 32.1**	**+0.1**
JOGS	**Gusukube**	**2.15**	**53**	P	**Pn**	**14 40 32.5**	**-0.1**
JKE	**Kume jima 2**	**4.11**	**46**	P	**Pn**	**14 40 58.5**	**-1.1**
JAGN	**Aguni-jima**	**4.59**	**47**	P	**Pn**	**14 41 06.9**	**+0.8**
KSRS	**Korea Array**	**14.43**	**14**	Pn	**Pn**	**14 43 21.7**	**+0.7**
	0.1nm,0.3s,baz=194,slow=12,SNR=5.4						
MJAR	**Matsushiro Arr**	**18.18**	**41**	P	**P**	**14 44 10.1**	**+0.8**
	0.2nm,0.3s,baz=228,slow=10,SNR=4.8						
ASAJ	**Asahikawa**	**25.87**	**33**	P	**P**	**14 45 28.0**	**-0.2**
	2.6nm,0.6s,baz=210,slow=9.9,SNR=6.4						
PETK	**Petropavlovsk-**	**39.29**	**32**	P	**P**	**14 47 25.1**	**-0.1**
	1.9nm,0.6s,baz=170,slow=4.0,SNR=8.9						
MKAR	**Makanchi Array**	**40.32**	**316**	P	**P**	**14 47 34.0**	**0.0**
	0.4nm,0.4s,baz=99,slow=9.5,SNR=13						
MKAR				PcP	**PcP**	**14 49 37.0**	**-0.2**
	0.6nm,0.8s,baz=101,slow=4.6,SNR=4.0						
FITZ	**Fitzroy Crossi**	**41.38**	**177**	P	**P**	**14 47 41.4**	**-1.5**
	1.7nm,0.7s,baz=40,slow=7.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**41.99**	**326**	P	**P**	**14 47 46.4**	**-1.2**
	0.6nm,0.4s,baz=108,slow=9.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**44.02**	**320**	P	**P**	**14 48 04.0**	**0.0**
	0.4nm,0.4s,baz=119,slow=7.6,SNR=7.6						
WRA	**Warramunga Arr**	**44.44**	**165**	P	**P**	**14 48 07.2**	**-0.4**
	2.1nm,0.7s,baz=346,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**47.94**	**167**	P	**P**	**14 48 35.5**	**+0.3**
	0.7nm,0.5s,baz=352,slow=6.9,SNR=28						
BVAR	**Borovoye Array**	**49.56**	**321**	P	**P**	**14 48 47.8**	**+0.4**
	0.5nm,0.5s,baz=106,slow=7.8,SNR=3.8						
STKA	**Stephens Creek**	**57.70**	**162**	P	**P**	**14 49 47.4**	**+0.2**
	1.7nm,0.8s,baz=346,slow=8.8,SNR=5.4						
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**14 51 26.9**	**+0.3**
	1.2nm,0.7s,baz=57,slow=5.1,SNR=8.2						
NOA	**NORSAR Array B**	**79.83**	**333**	P	**P**	**14 52 05.5**	**+0.7**
	0.7nm,0.7s,baz=58,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**84.72**	**321**	P	**P**	**14 52 31.0**	**+0.3**
	1.0nm,0.8s,baz=58,slow=7.3,SNR=6.4						

IDC 18 15:06:19.1±5.6,1.°01S×100.°48E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/22,mbtmp3.3/3,Error ellipse: s-maj=288.7km s-min=29.8km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.10**	**122**	P	P	15 13 39.7	-0.3
	0.7nm,1.1s,baz=298,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**39.46**	**127**	P	P	15 13 51.5	0.0
	0.1nm,0.4s,baz=302,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**50.21**	**344**	P	P	15 15 16.7	-0.1
	0.3nm,0.5s,baz=164,slow=8.5,SNR=5.4						

JMA ***18*** *15:13:59.9±0.4,33.°26N×138.°45E,h313km±4km,M3.4*
ISCJB ***18*** *15:14:00.3±0.5,33.°27N±0.°06×138.°44E±0.°07, h306km±3km,mb3.7/12,Error ellipse: s-maj=11.2km s-min=8.4km az=43.1*
IDC ***18*** *15:14:00.3±1.4,33.°20N×138.°46E,h294km±10km, mb3.5/11,mb1 3.5/16,mb1mx3.3/32,mbtmp3.4/16,Error ellipse: s-maj=23.3km s-min=16.5km az=84.0*
ISC 18 15:14:01.3±0.8,33.°27N±0.°08×138.°41E±0.°08,h304km±6km, n44,σ0.8=82/53,mb3.7/12,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.84**	**306**	S	**S**	**15 15 12.3**	**-0.3**
TK02	**Tokai 2**	**0.86**	**321**	P	**Pn**	**15 14 41.5**	**+0.3**
TK02				eS	**S**	**15 15 13.5**	**+0.6**
TK03	**Tokai 3**	**0.96**	**338**	eS	**S**	**15 15 13.7**	**-0.2**
TTO3	**TONANKAI O.B.S**	**1.02**	**305**	P	**Pn**	**15 14 42.2**	**+0.2**
TTO4	**TONANKAI O.B.S**	**1.03**	**316**	P	**Pn**	**15 14 42.0**	**+0.1**
JKO	**Kozu shima**	**1.10**	**34**	P	**Pn**	**15 14 42.7**	**+0.2**
TTO5	**TONANKAI O.B.S**	**1.13**	**330**	P	**Pn**	**15 14 42.8**	**+0.3**
JHCJ	**Hachijojimakas**	**1.19**	**99**	P	**Pn**	**15 14 42.7**	**-0.3**
TK04	**Tokai 4**	**1.19**	**338**	P	**Pn**	**15 14 43.5**	**+0.6**
JHJ2	**Mitsune**	**1.20**	**97**	P	**Pn**	**15 14 43.3**	**+0.2**
TTO2	**TONANKAI O.B.S**	**1.24**	**292**	P	**Pn**	**15 14 43.2**	**+0.3**
TTO1	**TONANKAI O.B.S**	**1.40**	**285**	P	**Pn**	**15 14 43.8**	**0.0**
JIE	**Ise**	**1.80**	**309**	P	**Pn**	**15 14 46.6**	**-0.3**
JOD2	**Odawara 2**	**2.06**	**16**	P	**Pn**	**15 14 48.9**	**0.0**
JOD2				eS	**S**	**15 15 28.1**	**+1.3**
JYN	**Shimob**	**2.22**	**3**	P	**Pn**	**15 14 50.7**	**+0.5**
JWZ	**Kozaga**	**2.26**	**277**	P	**Pn**	**15 14 49.3**	**-1.3**
JWY	**Kouya**	**2.52**	**293**	P	**Pn**	**15 14 52.7**	**-0.2**
BSO1	**Boso 1**	**2.54**	**57**	P	**Pn**	**15 14 50.9**	**-1.4**
BSO1				S	**S**	**15 15 31.7**	**-1.4**
JRY	**Ryogami san**	**2.77**	**8**	P	**Pn**	**15 14 55.6**	**+0.5**
JRY				eS	**S**	**15 15 37.0**	**-1.0**
JGM	**Miyama**	**2.79**	**331**	P	**Pn**	**15 14 55.5**	**+0.2**
JWT	**Wachi**	**3.19**	**310**	P	**Pn**	**15 14 59.0**	**-0.2**
JAG	**Ashikaga**	**3.26**	**15**	P	**Pn**	**15 14 58.8**	**-1.0**
JAG				eS	**S**	**15 15 43.8**	**-2.9**
MJAR	**Matsushiro Arr**	**3.26**	**357**	P	**Pn**	**15 15 00.1**	**+0.2**
	2.2nm,0.3s,baz=176,slow=12,SNR=26						
MJAR				S	**S**	**15 15 45.3**	**-1.5**
	0.4nm,0.3s,baz=167,slow=17,SNR=4.7						
MAT	**Matsushiro**	**3.27**	**357**	P	**Pn**	**15 15 00.4**	**+0.5**
MAT				S	**S**	**15 15 45.0**	**-1.8**
MAT	**Matsushiro**	**3.27**	**357**	P	**Pn**	**15 15 00.6**	**+0.7**
JAI	**Aioi**	**3.34**	**280**	P	**Pn**	**15 14 59.6**	**-1.1**
JNU	**Nakatsue**	**6.31**	**271**	P	**Pn**	**15 15 33.8**	**-0.7**
	0.3nm,0.3s,baz=84,slow=10,SNR=4.5						
KSRS	**Korea Array**	**9.52**	**299**	P	**Pn**	**15 16 14.1**	**+0.6**
	0.3nm,0.3s,baz=111,slow=12,SNR=6.0						
ASAJ	**Asahikawa**	**11.31**	**16**	P	**Pn**	**15 16 35.5**	**+0.3**
	0.6nm,0.3s,baz=176,slow=13,SNR=11						
USRK	**Ussuriysk Arra**	**11.99**	**337**	P	**P**	**15 16 44.6**	**-0.2**
	0.2nm,0.3s,baz=135,slow=14,SNR=4.5						
SONM	**Songino Array**	**28.10**	**311**	P	**P**	**15 19 26.7**	**+1.0**
	2.0nm,0.6s,baz=107,slow=8.0,SNR=13						
ZALV	**Zalesovo Beam**	**42.74**	**316**	P	**P**	**15 21 29.5**	**+0.4**
	1.9nm,0.4s,baz=92,slow=8.7,SNR=10						
ZALV				PcP	**PcP**	**15 23 14.5**	**0.0**
	1.2nm,0.3s,baz=131,slow=3.4,SNR=6.1						
MKAR	**Makanchi Array**	**44.14**	**305**	P	**P**	**15 21 40.7**	**+0.3**
	1.4nm,0.5s,baz=87,slow=9.8,SNR=16						
KURBB	**Kurchatov Arra**	**46.47**	**311**	P	**P**	**15 21 58.6**	**+0.3**
	2.0nm,0.6s,baz=91,slow=7.5,SNR=28						
BVAR	**Borovoye Array**	**51.34**	**314**	P	**P**	**15 22 35.5**	**+0.3**
	1.4nm,0.5s,baz=86,slow=8.8,SNR=9.5						
BVAR				PcP	**PcP**	**15 23 45.6**	**+0.4**
	0.7nm,0.5s,baz=93,slow=2.9,SNR=4.0						
WRA	**Warramunga Arr**	**53.06**	**185**	P	**P**	**15 22 47.3**	**-0.8**
	0.6nm,0.5s,baz=1.6,slow=7.8,SNR=7.1						
ARCES	**ARCESS Array B**	**66.64**	**339**	P	**P**	**15 24 20.1**	**+0.9**
	7.1nm,1.1s,baz=76,slow=8.4,SNR=5.6						
KAF	**Kangasniemi**	**70.50**	**332**	*ep*	**P**	**15 24 42.6**	**-0.5**
	1.7nm,0.3s						
FINES	**FINESS Array B**	**70.97**	**332**	P	**P**	**15 24 46.5**	**+0.6**
	2.4nm,0.5s,baz=57,slow=5.1,SNR=17						
KBZ	**Khabaz**	**71.47**	**310**	P	**P**	**15 24 49.1**	**0.0**
	2.0nm,0.7s,baz=13,slow=1.4,SNR=5.8						
NB2	**NORSAR Subarra**	**76.67**	**337**	P	**P**	**15 25 19.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=43,slow=5.3						
NOA	**NORSAR Array B**	**76.67**	**337**	P	**P**	**15 25 19.4**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=44,slow=5.5,SNR=7.2						
GERES	**GERESS Array B**	**84.56**	**327**	P	**P**	**15 26 01.0**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=41,slow=6.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**118.07**	**311**	PKP	**PKPdf**	**15 32 12.2**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=54,slow=0.8,SNR=4.4						

IDC ***18*** *15:17:59.0±17.0,1.°37S×127.°15E,h0km,mb3.8/2, mb1 4.0/4,mb1mx3.5/22,mbtmp3.9/4,ML3.6/1,Error ellipse: s-maj=258.5km s-min=106.7km az=145.0*
AUST ***18*** *15:18:52.5±2.4,4.°51S×126.°45E,h292km,Error ellipse: s-maj=3.5km s-min=1.2km az=295.0*
ISC 18 15:18:01.5±10.0,1.°6S±0.°9×127.°0E±0.°6,h10km,n9, σ0.9=90/6,Southern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**7.04**	**125**	P	Pg	15 20 24.9	+8.6
	baz=6.4,SNR=4.4						
MTN	**Manton Dam**	**11.94**	**160**	P	Pn	15 21 05.3	+13
	baz=9.5,SNR=3.8						
KDU	**Kakadu**	**12.32**	**154**	P	Pn	15 21 11.9	+15
	baz=10,SNR=7.7						
KNRA	**Kununurra**	**14.13**	**173**	P	**P**	**15 21 29.4**	**-0.1**
	baz=11,SNR=4.9						
FITZ	**Fitzroy Crossi**	**16.48**	**184**	Pn	**Pn**	**15 21 53.9**	**+0.9**
	0.2nm,0.3s,baz=3.6,slow=9.8,SNR=9.3						
FITZ	**Fitzroy Crossi**	**16.48**	**184**	P	**P**	**15 21 54.6**	**-1.1**
	baz=14,SNR=4.9						
WRA	**Warramunga Arr**	**19.63**	**159**	P	**Pn**	**15 22 31.8**	**0.0**
	0.6nm,0.3s,baz=339,slow=11,SNR=45						
ASAR	**Alice Springs**	**22.97**	**164**	P	**P**	**15 23 06.0**	**-0.5**
	1.4nm,0.5s,baz=342,slow=11,SNR=47						
STKA	**Stephens Creek**	**33.16**	**157**	P	**P**	**15 24 38.7**	**+0.5**
	1.0nm,0.7s,baz=329,slow=11,SNR=3.2						

IDC 18 15:30:19.6±1.1,23.°26S×175.°93W,h0km,mb3.9/8, mb1 4.1/9,mb1mx4.0/21,mbtmp4.0/9,ML2.3/1,MS3.8/5, Ms1 3.8/5,ms1mx3.3/32,Error ellipse: s-maj=31.6km s-min=23.3km az=138.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.10**	**24**	Pn	Pn	15 32 44.5	-1.6
	1.5nm,0.3s,baz=37,slow=20,SNR=3.8						
AFI				Sn	Sn	15 34 27.3	-13
	1.0nm,0.3s,baz=68,slow=19,SNR=2.1						
DZM	**Mont Dzumac**	**16.32**	**271**	eLR	LR	15 37 52.2	
	206nm,21.9s						
DZM	**Mont Dzumac**	**16.32**	**271**	LR	LR	15 38 04.7	
	comp=Z,61nm,20.2s,baz=279,slow=28						
TBI	**Tubuai**	**24.30**	**95**	eLR	LR	15 41 36.0	
	205nm,28.5s						
PPT2	**Papeete2**	**25.31**	**82**	eLR	LR	15 41 33.0	
	218nm,29.5s						
HNR	**Honiara**	**26.86**	**297**	LR	LR	15 44 16.0	
	comp=Z,61nm,20.3s,baz=120,slow=31						
CTA	**Charters Tower**	**35.22**	**268**	P	P	15 37 17.3	+1.4
	1.5nm,0.4s,baz=82,slow=7.1,SNR=3.7						
STKA	**Stephens Creek**	**38.42**	**248**	P	P	15 37 42.9	-0.1
	0.8nm,0.5s,baz=84,slow=10,SNR=4.0						
STKA				LR	LR	15 51 56.5	
	comp=Z,182nm,18.5s,baz=207,slow=34						
ASAR	**Alice Springs**	**45.82**	**259**	P	P	15 38 43.5	-0.1
	1.5nm,0.9s,baz=93,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**46.18**	**264**	P	P	15 38 45.2	-1.3
	1.2nm,0.8s,baz=95,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**54.61**	**264**	LR	LR	16 01 35.4	
	comp=Z,96nm,21.7s,baz=227,slow=34						
VNDA	**Vanda**	**55.35**	**186**	P	P	15 39 54.5	-0.3
	0.9nm,1.0s,baz=20,slow=7.7,SNR=2.9						
RPN	**Rapa Nui**	**59.76**	**109**	LR	LR	15 59 17.8	
	comp=Z,647nm,19.8s,slow=29						
PETK	**Petropavlovsk-**	**79.43**	**344**	P	P	15 42 27.3	-0.1
	2.7nm,0.9s,baz=146,slow=8.0,SNR=3.9						
MAW	**Mawson**	**79.62**	**199**	P	P	15 42 28.3	-0.1
	1.2nm,0.6s,baz=126,slow=7.6,SNR=3.6						
TXAR	**Lajitas Array**	**86.95**	**56**	P	P	15 43 07.8	+0.9
	0.7nm,0.8s,baz=218,slow=5.7,SNR=5.0						

IDC 18 15:32:49.8±3.3,5.°18S×152.°88E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/19,mbtmp3.6/3,Error ellipse: s-maj=127.0km s-min=45.8km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.06**	**233**	Sn	Sn	15 35 59.3	+3.7
	0.8nm,0.3s,baz=300,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**23.26**	**229**	P	P	15 37 58.8	-0.3
	0.8nm,0.7s,baz=54,slow=9.7,SNR=7.4						
ASAR	**Alice Springs**	**25.93**	**223**	P	P	15 38 24.1	+0.1
	0.7nm,0.9s,baz=57,slow=9.3,SNR=8.7						
FITZ	**Fitzroy Crossi**	**29.55**	**242**	P	P	15 38 56.4	-0.1
	1.5nm,0.9s,baz=63,slow=9.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.50**	**288**	PKPbc	PKPbc	15 52 44.5	-0.1
	0.3nm,0.7s,baz=72,slow=4.2,SNR=2.9						

NEIC ***18*** *15:53:40.1,51.°12N×176.°56W,h10km,ML3.7(AEIC),After AEIC.*
ISCJB ***18*** *15:53:41.9±0.9,51.°18N±0.°08×176.°58W±0.°05,h46km±9km, mb3.8/5,Error ellipse: s-maj=13.7km s-min=5.0km az=172.1*
IDC ***18*** *15:53:46.4±3.9,50.°93N×176.°91W,h73km±33km,mb3.3/6, mb1 3.6/9,mb1mx3.4/31,mbtmp3.5/9,ML3.6/3,Error ellipse: s-maj=39.5km s-min=16.8km az=175.0*
ISC 18 15:53:44.1±1.7,51.°3N±0.°1×176.°63W±0.°04,h44km±16km, n38,σ1.9=37/44,mb3.6/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.61**	**13**	P	**Pn**	**15 53 54.9**	**-1.6**
ADK	**Adak**	**0.62**	**357**	P	**Pn**	**15 53 54.7**	**-1.8**
ADK				S	**Sn**	**15 54 05.0**	**-0.4**
KIRH	**Kanaga Island**	**0.70**	**335**	P	**Pn**	**15 53 56.7**	**-0.9**
KIKV	**Kanaga Island**	**0.70**	**331**	P	**Pn**	**15 53 56.5**	**-1.2**
KIKV				S	**Sn**	**15 54 08.0**	**+0.6**
ADAG	**Mount Adagdak**	**0.71**	**1**	P	**Pn**	**15 53 57.1**	**-0.7**
KINC	**Kanaga Island**	**0.73**	**335**	P	**Pn**	**15 53 57.1**	**-1.0**
KICM	**Kanaga Island**	**0.74**	**332**	P	**Pn**	**15 53 57.2**	**-1.0**
GSCK	**Great Sitkin C**	**0.80**	**21**	P	**Pn**	**15 53 57.6**	**-1.4**
GSTD	**Great Sitkin T**	**0.84**	**21**	P	**Pn**	**15 53 58.3**	**-1.4**
GSTD				S	**Sn**	**15 54 11.2**	**+0.2**
GSMY	**Great Sitkin M**	**0.85**	**24**	P	**Pn**	**15 53 58.2**	**-1.6**
GSTR	**Great Sitkin T**	**0.90**	**23**	*eP*	**Pn**	**15 53 59.2**	**-1.2**
TAPA	**Tanaga Point A**	**0.92**	**307**	P	**Pn**	**15 53 59.2**	**-1.5**
TASE	**Tanaga Southea**	**1.05**	**303**	P	**Pn**	**15 54 01.3**	**-1.1**
TAFP	**Tanaga Falls P**	**1.06**	**307**	P	**Pn**	**15 54 01.2**	**-1.3**
TANO	**Tanaga North**	**1.14**	**305**	P	**Pn**	**15 54 03.7**	**+0.1**
GAEA	**Gareloi East**	**1.42**	**292**	P	**Pn**	**15 54 06.9**	**-0.6**
GALAA	**Gareloi Lava P**	**1.43**	**291**	P	**Pn**	**15 54 07.0**	**-0.6**
GANE	**Gareloi Northe**	**1.45**	**293**	P	**Pn**	**15 54 07.1**	**-0.8**
GANE				S	**Sn**	**15 54 27.2**	**+1.5**
KOKL	**Mount Kliuchef**	**1.84**	**54**	P	**Pn**	**15 54 12.1**	**-1.2**
KOKV	**Korovin Volcan**	**1.88**	**53**	P	**Pn**	**15 54 13.1**	**-0.7**
KOKV				S	**Sn**	**15 54 39.6**	**+3.2**
CERAA	**Semis' Rag'd T**	**2.39**	**287**	P	**Pn**	**15 54 20.8**	**0.0**
CERB	**Semis' Cerberu**	**2.43**	**287**	P	**Pn**	**15 54 21.4**	**+0.1**
CERB				S	**Sn**	**15 54 52.6**	**+2.9**
AMKA	**Amchitka**	**2.56**	**274**	P	**Pn**	**15 54 21.7**	**-1.4**
LSPA	**Little Sitkin**	**3.07**	**285**	P	**Pn**	**15 54 29.7**	**-0.4**
NIKH	**Nikolski High**	**5.08**	**67**	P	**Pn**	**15 54 57.5**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**5.67**	**65**	P	**Pn**	**15 55 05.5**	**-0.4**
MSOM	**Makushin Julie**	**6.43**	**63**	P	**Pn**	**15 55 16.7**	**+0.5**
FX1	**Attu Island--F**	**6.50**	**288**	P	**Pn**	**15 55 18.2**	**+1.1**
	1.9nm,0.3s,baz=169,slow=16,SNR=5.9						
FX1				S	**Sn**	**15 56 30.6**	**+0.7**
	0.6nm,0.3s,baz=37,slow=20,SNR=2.2						
MTBL	**Makushin Table**	**6.63**	**62**	P	**Pn**	**15 55 20.1**	**+1.1**
SPIA	**Saint Paul Isl**	**7.00**	**30**	P	**Pn**	**15 55 26.0**	**+2.0**
KDAK	**Kodiak Island**	**15.35**	**56**	P	**P**	**15 57 24.3**	**+2.8**
	2.0nm,0.3s,baz=255,slow=5.4,SNR=9.8						
PETK	**Petropavlovsk-**	**15.83**	**287**	P	**Pn**	**15 57 24.2**	**+0.5**
	0.2nm,0.3s,baz=106,slow=16,SNR=4.3						
ILAR	**Eielson Array**	**20.49**	**37**	P	Pn	15 58 22.4	+2.0
	1.0nm,0.6s,baz=236,slow=10.0,SNR=17						
PDAR	**Pinedale Array**	**45.04**	**73**	P	**P**	**16 01 56.1**	**+0.6**
	1.9nm,0.7s,baz=305,slow=3.4,SNR=16						
SONM	**Songino Array**	**47.91**	**298**	P	**P**	**16 02 17.7**	**-0.1**
	0.8nm,1.1s,baz=67,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**61.16**	**310**	P	**P**	**16 03 52.5**	**-1.3**
	0.2nm,0.4s,baz=64,slow=6.6,SNR=4.1						
BVAR	**Borovoye Array**	**61.84**	**321**	P	**P**	**16 03 58.6**	**+0.3**
	1.1nm,0.4s,baz=54,slow=6.8,SNR=8.2						
ASAR	**Alice Springs**	**86.34**	**224**	P	**P**	**16 06 18.7**	**-2.6**
	0.2nm,0.8s,baz=28,slow=6.3,SNR=3.5						

IDC 18 15:59:53.5±224.0,13.°12S×173.°62E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/18,mbtmp3.5/3,Error ellipse: s-maj=3892.0km s-min=145.4km az=67.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.79**	**232**	P	P	16 06 45.9	-0.1
	3.3nm,1.1s,baz=72,slow=9.6,SNR=2.6						
WRA	**Warramunga Arr**	**38.20**	**254**	P	P	16 07 15.5	+0.2
	0.4nm,0.9s,baz=81,slow=7.6,SNR=4.9						
ASAR	**Alice Springs**	**39.00**	**249**	P	P	16 07 21.7	-0.4
	0.1nm,0.4s,baz=75,slow=10,SNR=7.7						

IDC ***18*** *16:19:47.1±1.6,0.°82S×98.°19E,h0km,mb4.2/10, mb1 4.3/12,mb1mx4.1/26,mbtmp4.2/12,ML4.1/2,Error ellipse: s-maj=51.3km s-min=15.5km az=65.0*
ISCJB ***18*** *16:19:48.6±0.7,0.°93S±0.°06×97.°92E±0.°07,h32km, mb4.4/17,Error ellipse: s-maj=11.5km s-min=6.7km az=146.1*
NEIC ***18*** *16:19:51.0±4.8,0.°93S×97.°97E,h34km±31km,mb4.5/9, Error ellipse: s-maj=23.5km s-min=7.6km az=57.0*
DJA ***18*** *16:19:59.9±1.2,1.°S±7.×9.°8E±1.°2,h57km±12km,M4.4/8, mB4.8/2,mb4.4/8,MLv4.5/7,Mw(mB)4.0/2*
BKK ***18*** *16:20:10.9±2.4,0.°N±17.×9.°9E±1.°7,h103km±9km,M4.4/13, mB5.4/4,mb4.3/13,MLv4.2/4,Mw(mB)4.9/4*
ISC 18 16:19:51.3±0.9,0.°85S±0.°08×97.°96E±0.°10,h32km,n74, σ1.9=13/67,mb4.5/17,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.47**	**81**	P	**Pn**	**16 20 28.6**	**-0.7**
PDSI	**Padang**	**2.51**	**91**	P	Pb	16 20 46.6	+11
BKNI	**Bangkinang**	**3.30**	**69**	P	**Pb**	**16 20 48.3**	**-0.8**
PSI	**Prapat**	**3.75**	**15**	Pn	**Pn**	**16 20 45.7**	**-1.4**
PSI	**Prapat**	**3.75**	**15**	Pn	**Pn**	**16 20 45.7**	**-1.4**
	7.8nm,0.3s,baz=202,slow=6.9,SNR=28						
TSI	**Tuntungan**	**4.36**	**8**	P	Pn	16 21 01.6	+6.2
MASI	**Maura Aman, Be**	**4.85**	**118**	P	**Pn**	**16 21 04.8**	**+2.7**
KSI	**Kapahiang**	**5.41**	**121**	P	**Pn**	**16 21 09.7**	**-0.1**
KGM	**Kluang**	**6.07**	**62**	P	**Pn**	**16 21 19.7**	**+0.9**
IPM	**Ipoh**	**6.12**	**30**	*e*Pn	**Pn**	**16 21 21.2**	**+1.7**
	88nm,0.9s						
IPM	**Ipoh**	**6.12**	**30**	P	**Pn**	**16 21 21.8**	**+2.3**
IPM	**Ipoh**	**6.12**	**30**	P	**Pn**	**16 21 21.7**	**+2.2**
	104nm,0.9s,669nm0.3nm						
MYKOM	**Kota Tinggi**	**6.45**	**66**	P	**Pn**	**16 21 23.9**	**-0.2**
MYKOM	**Kota Tinggi**	**6.45**	**66**	P	**Pn**	**16 21 26.6**	**+2.5**
	21nm,1.1s,0.1nm						
KULM	**Kulim**	**6.66**	**24**	*e*Pn	**Pn**	**16 21 27.7**	**+0.6**
	44nm,0.9s						
KULM	**Kulim**	**6.66**	**24**	P	**Pn**	**16 21 28.4**	**+1.3**
KULM	**Kulim**	**6.66**	**24**	P	**Pn**	**16 21 28.5**	**+1.5**
	57nm,1.0s,0.2nm						
LWLI	**Liwa**	**7.37**	**124**	P	Pn	16 21 47.8	+11
KLSI		**7.77**	**120**	P	Pn	16 21 49.8	+7.6
	40nm,1.0s,716nm0.2nm						
KTGM	**Kuala Trenggan**	**8.02**	**40**	P	**Pn**	**16 21 47.1**	**+1.4**
SBUM	**Sibu**	**14.63**	**77**	P	**Pn**	**16 23 15.2**	**-1.0**
SBUM	**Sibu**	**14.63**	**77**	P	**Pn**	**16 23 17.3**	**+1.1**
	19nm,1.0s						
NAYO	**Nakonayok**	**15.43**	**12**	P	**Pn**	**16 23 27.7**	**+1.0**
	92nm,0.9s,11μm						
PBKT	**Sadao Pong**	**17.56**	**10**	P	**P**	**16 23 55.3**	**+0.7**
	22nm,0.9s						
PBKT	**Sadao Pong**	**17.56**	**10**	P	**P**	**16 23 55.3**	**+0.7**
	22nm,0.9s						
UBPT	**Khong Chiam**	**17.66**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.44**	**121**	P	P	16 31 37.0	0.0
	0.7nm,0.7s,baz=298,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**39.76**	**127**	P	P	16 31 48.0	-0.1
	0.1nm,0.5s,baz=300,slow=7.6,SNR=5.8						
MKAR	**Makanchi Array**	**50.28**	**344**	P	P	16 33 11.4	0.0
	1.0nm,0.6s,baz=158,slow=9.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**56.41**	**349**	P	P	16 33 56.3	0.0
	0.4nm,0.3s,baz=167,slow=6.7,SNR=3.9						
TXAR	**Lajitas Array**	**144.13**	**37**	PKP	PKPbc	16 43 50.4	+0.6
	0.5nm,0.6s,baz=300,slow=1.8,SNR=4.6						

MAN 18 16:24:23, 11°.51N×124°.42E, h20km, mb4.2, ML3.0, MS2.7, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.49**	**158**	*e*P	Pb	16 24 33.3	+0.3
OCLP				*e*S	Sn	16 24 43.2	+0.3
PLP	**Palo**	**0.65**	**122**	‖*e*P	Pb	16 24 36.0	+0.3
PLP				*e*S	Sn	16 24 46.5	-0.3
MSLP	**Maasin**	**1.43**	**162**	*e*P	Pb	16 24 49.4	+0.3
GUIM	**Jordan**	**2.00**	**244**	*e*P	Pn	16 24 56.3	+0.7

BJI ***18*** *16:26:42.6, 1°.52S×98°.04E, h21km, mB5.2/47, mb5.1/64, Ms5.2/70, Ms7 4.9/62*
IDC ***18*** *16:26:45.9±0.4, 0°.92S×98°.02E, h0km, mb4.7/29, mb1 4.7/31, mb1mx4.7/32, mbtmp4.7/31, ML4.9/2, MS4.3/11, Ms1 4.3/11, ms1mx4.0/32, Error ellipse: s-maj=13.6km s-min=11.6km az=60.0*
ISCJB ***18*** *16:26:45.7±0.8, 0°.94S±0°.03×97°.95E±0°.03, h10km±5km, mb5.0/112, MS4.7/48, Error ellipse: s-maj=5.1km s-min=3.7km az=38.1*
AUST ***18*** *16:26:47.4±1.9, 1°.03S×97°.96E, h6km, Error ellipse: s-maj=1.0km s-min=0.8km az=229.0*
NEIC ***18*** *16:26:48.9±2.8, 0°.97S×97°.96E, h20km±17km, mb5.1/33, Error ellipse: s-maj=7.4km s-min=5.5km az=65.0*
DJA ***18*** *16:26:48.6±0.7, 1°.S±4°.×9°.8E±°., h30km, M5.3/17, mb5.5/15, mB5.7/13, MLv5.6/17, Mw(mB)5.2/13*
MOS ***18*** *16:26:49.3±0.9, 0°.84S×98°.04E, h33km, mb5.3/40, MS4.6/11, Error ellipse: s-maj=10.2km s-min=5.3km az=107.4*
BKK ***18*** *16:26:50.7±0.3, 1°.S±3°.×9°.8E±°., h10km, M5.0/31, mB5.4/23, mb5.1/31, MLv5.3/7, Mw(mB)4.9/23*
ISC 18 16:26:49.8±0.4, 0°.92S±0°.04×97°.93E±0°.04, h26km±1km, **h25**km**:pP-P, n357,** σ1**9°.60/437, mb5.1/112, MS4.7/48, 24C-14D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.51**	**80**	P	**Pn**	**16 27 28.4**	**-0.5**
PPI	**Padang Panjang**	**2.51**	**80**	P	**Pn**	**16 27 28.4**	**-0.5**
	baz=2.5,SNR=18						
PDSI	**Padang**	**2.53**	**90**	P	**Pn**	**16 27 28.7**	**-0.6**
BKNI	**Bangkinang**	**3.35**	**68**	P	Pn	16 27 44.5	+4.0
BKNI	**Bangkinang**	**3.35**	**68**	P	**Pn**	**16 27 41.7**	**+1.2**
	baz=3.4,SNR=5.9						
PSI	**Prapat**	**3.83**	**15**	Pn	**Pn**	**16 27 44.9**	**-2.3**
PSI	**Prapat**	**3.83**	**15**	Pn	**Pn**	**16 27 44.9**	**-2.3**
	61nm,0.3s,baz=184,slow=14,SNR=81						
PSI	**Prapat**	**3.83**	**15**	P	**Pn**	**16 27 45.7**	**-1.5**
	baz=3.8,SNR=74						
TSI	**Tuntungan**	**4.43**	**8**	P	**Pn**	**16 27 55.8**	**+0.3**
RGRI	**Rengat**	**4.44**	**83**	P	**Pn**	**16 27 56.2**	**+0.7**
MASI	**Maura Aman, Be**	**4.84**	**117**	P	**Pn**	**16 28 02.0**	**+0.9**
KSI	**Kapahiang**	**5.39**	**120**	P	**Pn**	**16 28 08.2**	**-0.5**
	2μm,0.8s,23μm7.1nm						
MNAI	**Manna**	**6.07**	**124**	P	**Pn**	**16 28 17.6**	**-0.4**
	2μm,0.8s,20μm6.8nm						
MNAI	**Manna**	**6.07**	**124**	P	**Pn**	**16 28 16.4**	**-1.6**
	baz=6.0,SNR=67						
MNAI				S	**Sn**	**16 29 24.4**	**-2.4**
	baz=6.0,SNR=5.6						
KGM	**Kluang**	**6.13**	**62**	P	**Pn**	**16 28 18.9**	**+0.2**
LHMI	**Lhok Sumawe**	**6.18**	**351**	P	**Pn**	**16 28 21.1**	**+1.6**
	baz=6.3,SNR=4.6						
IPM	**Ipoh**	**6.19**	**30**	*e*Pn	**Pn**	**16 28 21.1**	**+1.5**
IPM	**Ipoh**	**6.19**	**30**	P	**Pn**	**16 28 21.9**	**+2.3**
IPM	**Ipoh**	**6.19**	**30**	P	**Pn**	**16 28 20.9**	**+1.3**
	519nm,0.9s,4μm1.4nm						
BTDF	**Bukit Timah Da**	**6.27**	**69**	P	**Pn**	**16 28 20.2**	**-0.4**
	baz=6.3,SNR=18						
BTDF				P	**Pn**	**16 28 20.2**	**-0.4**
	baz=6.3,SNR=18						
MYKOM	**Kota Tinggi**	**6.50**	**66**	P	**Pn**	**16 28 24.0**	**+0.1**
MYKOM	**Kota Tinggi**	**6.50**	**66**	P	**Pn**	**16 28 24.2**	**+0.3**
	155nm,0.7s,3μm0.9nm						
KULM	**Kulim**	**6.74**	**24**	*e*P	**Pn**	**16 28 26.8**	**-0.4**
	366nm,1.0s						
KULM	**Kulim**	**6.74**	**24**	P	**Pn**	**16 28 27.5**	**+0.4**
KULM	**Kulim**	**6.74**	**24**	P	**Pn**	**16 28 27.6**	**+0.4**
	360nm,1.1s,4μm1.2nm						
BSI	**Banda Aceh**	**6.89**	**338**	P	**Pn**	**16 28 27.4**	**-1.9**
	138nm,0.9s,2μm0.8nm						
LWLI	**Liwa**	**7.35**	**124**	P	**Pn**	**16 28 34.7**	**-1.0**
	1μm,0.7s,12μm4.3nm						
KLSI		**7.76**	**119**	P	**Pn**	**16 28 40.4**	**-0.7**
	293nm,1.6s,4μm1.1nm						
KLI	**Kotabumi**	**7.95**	**120**	P	**Pn**	**16 28 44.7**	**+0.9**
	364nm,0.9s,5μm1.6nm						
KASI	**Kota Agung**	**7.99**	**125**	P	**Pn**	**16 28 42.7**	**-1.7**
	279nm,1.1s,3μm0.9nm						
KTGM	**Kuala Trenggan**	**8.09**	**40**	P	**Pn**	**16 28 46.0**	**+0.2**
PPBI	**Pangkal Pinang**	**8.30**	**99**	P	**Pn**	**16 28 49.5**	**+1.0**
	74nm,1.2s,0.3nm						
BLSI	**Bandar Lampung**	**8.54**	**121**	P	Pn	16 29 02.3	+10
CMBY	**CAMPBELL BAY**	**8.83**	**333**	*e*P	**Pn**	**16 28 55.5**	**-0.4**
CMBY				AMB	AMB	16 29 27.8	
	comp=Z,93nm,2.4s						
TPI	**Tanjungpandan**	**9.89**	**101**	P	**Pn**	**16 29 11.5**	**+1.1**
	comp=Z,182nm,1.2s,comp=Z,2μm						
DBJI	**Dramaga**	**10.43**	**123**	P	**Pn**	**16 29 18.1**	**+0.3**
	comp=Z,149nm,0.6s,comp=Z,3μm						
COCO	**West Island**	**11.25**	**185**	*e*P	Pn	16 29 25.4	-3.7
COCO				pmax	pmax		
	comp=Z,112nm,0.6s						
COCO	**West Island**	**11.25**	**185**	*e*P	Pn	16 29 25.4	-3.7
	comp=Z,112nm,0.6s						
LEM	**Lembang**	**11.30**	**122**	P	**Pn**	**16 29 30.6**	**+0.6**
KSM	**Kuching**	**12.60**	**79**	*e*P	**Pn**	**16 29 48.4**	**+0.8**
	comp=Z,72nm,1.1s						
KSM	**Kuching**	**12.60**	**79**	P	**Pn**	**16 29 50.7**	**+3.1**
KSM	**Kuching**	**12.60**	**79**	P	**Pn**	**16 29 49.2**	**+1.6**
	baz=13,SNR=7.9						
PBA	**Port Blair**	**13.51**	**338**	*e*P	Pn	16 29 59.2	-0.8
PBA				AMB	AMB	16 32 20.2	
	comp=Z,59nm,0.7s						
STKI	**Sintang**	**13.58**	**86**	P	Pn	16 30 04.9	+3.9
PHET	**Kaeng Krachan**	**13.84**	**7**	P	**P**	**16 30 14.3**	**+1.7**
CHBT	**CHBT**	**14.27**	**18**	P	**Pn**	**16 30 10.8**	**+0.5**
	comp=Z,100nm,0.6s,comp=Z,1μm						
SBUM	**Sibu**	**14.67**	**77**	P	**Pn**	**16 30 16.8**	**+0.9**
DGPR	**DIGLIPUR**	**14.86**	**341**	*e*P	**Pn**	**16 30 21.0**	**+2.7**
DGPR				AMB	AMB	16 32 31.5	
	comp=Z,80nm,1.5s						
NAYO	**Nakonayok**	**15.50**	**12**	P	**Pn**	**16 30 26.1**	**-0.8**
	comp=Z,223nm,1.2s,comp=Z,13μm						
BTM	**Bintulu**	**15.69**	**75**	P	**Pn**	**16 30 30.7**	**+1.4**
PBKT	**Sadao Pong**	**17.63**	**10**	P	**Pn**	**16 30 53.8**	**0.0**
	comp=Z,114nm,1.7s,comp=Z,2μm						
UBPT	**Khong Chiam**	**17.74**	**25**	P	**Pn**	**16 30 53.2**	**-1.9**
	comp=Z,108nm,1.0s,comp=Z,958nm						
PALK	**Pallekele**	**19.02**	**296**	Pn	**Pn**	**16 31 12.0**	**+1.2**
	comp=Z,240nm,0.9s,SNR=5.0						
PALK	**Pallekele**	**19.02**	**296**	*e*P	**Pn**	**16 31 11.8**	**+1.0**
	comp=Z,61nm,1.2s						
PANO	**Nakornpanom**	**19.12**	**20**	P	**P**	**16 31 10.1**	**-0.9**
	comp=Z,142nm,1.1s,comp=Z,1μm						
CM31	**Chiang Mai Arr**	**19.28**	**3**	*e*P	**Pn**	**16 31 13.6**	**-0.3**
	comp=Z,50nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.28**	**3**	P	**P**	**16 31 13.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.28**	**3**	P	**P**	**16 31 13.1**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=190,slow=11,SNR=142						
CMAR				LR	LR	16 39 08.7	
	comp=Z,436nm,18.4s,baz=184,slow=38						
LAMP	**Lampang**	**19.39**	**5**	P	**P**	**16 31 14.7**	**+0.7**
	comp=Z,18nm,1.0s,comp=Z,162nm						
KKM	**Kota Kinabalu**	**19.52**	**69**	*e*P	**P**	**16 31 15.1**	**-0.5**
	comp=Z,273nm,1.2s						
KKM	**Kota Kinabalu**	**19.52**	**69**	P	**P**	**16 31 15.5**	**-0.1**
	baz=20,SNR=48						
CHTO	**Chiang Mai**	**19.63**	**3**	*e*P	**P**	**16 31 16.5**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,59nm,1.1s						
CHTO	**Chiang Mai**	**19.63**	**3**	*e*P	**P**	**16 31 16.5**	**-0.1**
	comp=Z,59nm,1.1s						
CHTO	**Chiang Mai**	**19.63**	**3**	P	**P**	**16 31 16.6**	**-0.1**
	comp=Z,52nm,1.6s,comp=Z,1μm						
SDKM	**Sandakan**	**20.31**	**71**	P	**P**	**16 31 23.8**	**-0.4**
KDM	**Kudat**	**20.41**	**67**	P	**P**	**16 31 24.4**	**-0.7**
TSM	**Tawau**	**20.59**	**75**	P	**P**	**16 31 26.4**	**-0.7**
CMAI	**Chiengmai2**	**20.75**	**3**	P	**P**	**16 31 29.7**	**+0.7**
	comp=Z,141nm,1.1s						
MYLDM	**Lahad Datu**	**21.42**	**73**	P	**P**	**16 31 36.9**	**+0.8**
KAPI	**Kappang**	**22.16**	**101**	*e*P	**P**	**16 31 45.5**	**+1.4**
	comp=Z,161nm,1.0s						
KAPI	**Kappang**	**22.16**	**101**	P	**P**	**16 31 43.2**	**-0.9**
	comp=Z,43nm,0.8s,baz=262,slow=14,SNR=7.6						
QIZ	**Qiongzhong**	**23.02**	**30**	P	**P**	**16 31 53.0**	**-0.1**
QIZ				sP	**sP**	**16 32 02.6**	**-0.8**
QIZ				S	**S**	**16 36 05.3**	**+3.0**
QIZ				sS	**sS**	**16 36 14.3**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,45nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,380nm,6.9s						
QIZ				LR	LR		
	comp=N,2μm,12.3s						
QIZ				LR	LR		
	comp=Z,3μm,11.4s						
QIZ	**Qiongzhong**	**23.02**	**30**	*e*P	**P**	**16 31 52.5**	**-0.5**
	comp=Z,182nm,1.8s						
VIS	**Vishakhapatnam**	**23.45**	**323**	*e*P	**P**	**16 31 57.8**	**+0.4**
VIS				AMB	AMB	16 32 10.0	
	comp=Z,87nm,1.1s						
KMI	**Kunming**	**26.30**	**10**	P	**P**	**16 32 25.3**	**+1.5**
KMI				pP	**pP**	**16 32 34.3**	**+3.0**
KMI				sP	**sP**	**16 32 38.8**	**+4.3**
KMI				PP	PnPn	16 33 10.9	+7.4
KMI				S	**S**	**16 36 57.8**	**+2.5**
KMI				sS	sS	16 37 13.8	+5.9
KMI				SS	SnSn	16 38 11.1	+15
KMI				pmax	pmax		
	comp=Z,59nm,1.5s						
KMI				pmax	pmax		
	comp=Z,490nm,5.0s						
KMI				LR	LR		
	comp=N,3μm,12.4s						
KMI				LR	LR		
	comp=E,1μm,11.9s						
HYB	**Hyderabad**	**26.39**	**315**	*i* P	P	16 32 35.0	+11
HYB				*e*S	**S**	**16 37 00.0**	**+3.5**
SHL	**Shillong**	**26.97**	**348**	*e*P	**P**	**16 32 29.2**	**-0.5**
SHL				AMB	AMB	16 32 52.0	
	comp=Z,76nm,1.6s						
SHL	**Shillong**	**26.97**	**348**	⇑*i*P	**P**	**16 32 29.0**	**-0.7**
	comp=Z,9.0nm,0.9s						
SHL				*e*S	**S**	**16 37 10.0**	**+4.2**
BOK	**Bokaro**	**27.21**	**335**	*e*P	**P**	**16 32 33.6**	**+1.9**
GZH	**Guangzhou**	**28.19**	**31**	P	P	16 32 45.4	+5.0
GZH				LR	LR		
	comp=N,4μm,12.3s						
GZH				LR	LR		
	comp=E,2μm,12.2s						
GZH				LR	LR		
	comp=Z,7μm,12.7s						
GYA	**Guiyang**	**28.49**	**17**	P	**P**	**16 32 45.8**	**+2.5**
GYA				pP	**pP**	**16 32 51.8**	**+0.9**
GYA				PP	**PnPn**	**16 33 39.5**	**+6.2**
GYA				PcP	**PcP**	**16 35 56.8**	**+1.9**
GYA				S	**S**	**16 37 32.9**	**+3.2**
GYA				SS	SnSn	16 39 01.3	+12
GYA				ScP	**ScP**	**16 39 34.5**	**-0.2**
GYA				ScS	**ScS**	**16 43 27.8**	**-0.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,3μm,12.6s						
GYA				LR	LR		
	comp=E,1μm,14.8s						
GYA				LR	LR		
	comp=Z,4μm,14.9s						
NGP	**Nagpur**	**28.67**	**321**	*ex*	**pP**	**16 32 52.4**	**+0.1**
NGP				*ex*	x	16 38 55.8	
ODAN	**Odare**	**29.43**	**341**	*e*P	**P**	**16 32 52.6**	**+0.9**
	comp=Z,40nm,0.8s						
TAPN	**Taplejung**	**29.77**	**341**	*e*P	**P**	**16 32 55.7**	**+0.8**
	comp=Z,76nm,0.9s						
RAMN	**Ramite**	**29.78**	**339**	*e*P	**P**	**16 32 56.2**	**+1.3**
	comp=Z,47nm,0.8s						
POO	**Poona**	**30.56**	**310**	*e*P	**P**	**16 33 01.0**	**-0.7**
POO				AMB	AMB	16 33 11.2	
	comp=Z,33nm,6.1s						
POO	**Poona**	**30.56**	**310**	*e*P	P	16 33 08.0	+6.4
JIRN	**Jiri**	**30.57**	**339**	*e*P	**P**	**16 33 03.3**	**+1.3**
	comp=Z,62nm,0.7s						
PKI	**Pulchoki**	**30.78**	**338**	*e*P	**P**	**16 33 04.3**	**+0.5**
PKIN	**Phulchoki**	**30.79**	**338**	*e*P	**P**	**16 33 04.4**	**+0.6**
GUN	**Gumba**	**30.91**	**339**	*e*P	**P**	**16 33 06.1**	**+1.1**
	comp=Z,82nm,0.6s						
DMN	**Daman**	**30.93**	**337**	*e*P	**P**	**16 33 05.8**	**+0.8**
	comp=Z,82nm,1.1s						
KKN	**Kakani**	**31.02**	**338**	*e*P	**P**	**16 33 06.6**	**+0.8**
	comp=Z,38nm,0.8s						
LSA	**Lhasa**	**31.13**	**349**	P	**P**	**16 33 08.0**	**+1.0**
LSA				pmax	pmax		
	comp=Z,70nm,0.9s						
LSA				LR	LR		
	comp=E,870nm,17.1s						
LSA				LR	LR		
	comp=Z,1μm,21.0s						
LSA	**Lhasa**	**31.13**	**349**	*e*P	**P**	**16 33 08.4**	**+1.4**
LSA				pmax	pmax		
	comp=Z,68nm,1.0s						
LSA	**Lhasa**	**31.13**	**349**	*e*P	**P**	**16 33 08.4**	**+1.4**
	comp=Z,68nm,1.0s						
KOLN	**Koldanda**	**31.67**	**335**	*e*P	**P**	**16 33 12.4**	**+0.9**
	comp=Z,64nm,0.7s						
DANN	**Dangsing**	**32.12**	**336**	*e*P	**P**	**16 33 16.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**32.13**	**124**	*e*P	**P**	**16 33 14.6**	**-0.8**
	comp=Z,27nm,1.0s						
FITZ	**Fitzroy Crossi**	**32.13**	**124**	P	**P**	**16 33 14.7**	**-0.8**
	comp=Z,20nm,0.9s,baz=276,slow=5.8,SNR=30						
FITZ	**Fitzroy Crossi**	**32.13**	**124**	P	**P**	**16 33 14.7**	**-0.8**
	baz=32,SNR=14						
CD2	**Chengdu**	**32.13**	**9**	*e*P	**P**	**16 33 15.8**	**+0.4**
CD2				pP	**pP**	**16 33 22.1**	**-0.9**
CD2				sP	**sP**	**16 33 25.3**	**-0.8**
CD2				PP	**PnPn**	**16 34 24.1**	**+2.5**
CD2				PcP	**PcP**	**16 36 02.9**	**-1.4**
CD2				S	**S**	**16 38 28.1**	**+1.6**
CD2				sS	**sS**	**16 38 40.0**	**+0.9**
CD2				SS	**SnSn**	**16 40 23.5**	**+5.4**
CD2				ScS	**ScS**	**16 43 42.1**	**-3.2**
CD2				pmax	pmax		
	comp=Z,40nm,1.1s						
CD2				pmax	pmax		
	comp=Z,440nm,11.2s						
CD2				LR	LR		
	comp=N,2μm,12.0s						
CD2				LR	LR		
	comp=E,4μm,12.0s						
CD2				LR	LR		
	comp=Z,3μm,12.2s						
QZH	**Quanzhou**	**32.58**	**37**	⇑*i*P	**P**	**16 33 17.8**	**-1.5**
QZH				pmax	pmax		
	comp=Z,110nm,0.9s						
QZH				pmax	pmax		
	comp=Z,320nm,2.9s						
ENH	**Enshi**	**32.91**	**19**	*e*P	**P**	**16 33 22.3**	**+0.1**
	comp=Z,96nm,0.9s						
KNRA	**Kununurra**	**33.77**	**117**	P	**P**	**16 33 27.8**	**-2.0**
	baz=34,SNR=4.6						
FAKI	**Fak Fak**	**34.36**	**94**	P	**P**	**16 33 33.5**	**-1.5**
	baz=34,SNR=3.1						
TATO	**Taipei**	**34.40**	**40**	*e*P	**P**	**16 33 35.1**	**0.0**
	comp=Z,65nm,0.9s						
TATO				*e*		16 33 42.5	
WHN	**Wuhan**	**34.98**	**25**	P	**P**	**16 33 40.4**	**+0.4**
WHN				pP	**pP**	**16 33 50.3**	**+2.6**
WHN				S	**S**	**16 39 14.0**	**+3.5**
WHN				LR	LR		
	comp=N,1μm,10.3s						
WHN				LR	LR		
	comp=E,4μm,10.8s						
WHN				LR	LR		
	comp=Z,4μm,11.1s						
XAN	**Xi'an**	**36.27**	**16**	P	**P**	**16 33 51.0**	**-0.2**
XAN				pP	**pP**	**16 33 56.3**	**-2.6**
XAN				sP	**sP**	**16 33 59.1**	**-2.9**
XAN				PP	**PnPn**	**16 35 12.5**	**-1.0**
XAN				PcP	**PcP**	**16 36 14.9**	**-1.1**
XAN				S	**S**	**16 39 29.3**	**-1.2**
XAN				ScS	**ScS**	**16 44 05.5**	**-1.6**
XAN				pmax	pmax		
	comp=Z,35nm,1.0s						
XAN				pmax	pmax		
	comp=Z,97nm,9.4s						
XAN				LR	LR		
	comp=N,490nm,14.8s						
XAN				LR	LR		
	comp=E,760nm,15.7s						
XAN				LR	LR		
	comp=Z,410nm,12.6s						
LZH	**Lanzhou**	**37.23**	**8**	⇑P	**P**	**16 33 59.5**	**+0.1**
LZH				pP	**pP**	**16 34 05.5**	**-1.6**
LZH				sP	**sP**	**16 34 08.6**	**-1.6**
LZH				PP	**PnPn**	**16 35 27.0**	**+1.8**
LZH				PcP	**PcP**	**16 36 19.3**	**+0.3**
LZH				S	**S**	**16 39 46.0**	**+0.8**
LZH				ScP	**ScP**	**16 40 04.3**	**-0.4**
LZH				ScS	**ScS**	**16 44 11.3**	**-1.2**
LZH				pmax	pmax		
	comp=Z,75nm,1.3s						
LZH				pmax	pmax		
	comp=Z,480nm,7.0s						
LZH				LR	LR		
	comp=N,1μm,12.5s						
LZH				LR	LR		
	comp=E,2μm,12.3s						
LZH				LR	LR		
	comp=Z,2μm,14.0s						
SMLA	**Simla**	**37.48**	**330**	*e*P	**P**	**16 34 01.5**	**+0.1**
SMLA				AMB	AMB	16 34 12.1	
	comp=Z,29nm,3.2s						
NJ2	**Nanjing**	**38.31**	**29**	*e*P	**P**	**16 34 08.3**	**-0.2**
NJ2				pP	**pP**	**16 34 16.3**	**+0.2**
NJ2				sP	**sP**	**16 34 19.4**	**+0.1**
NJ2				S	**ScP**	**16 40 05.3**	**-3.3**
NJ2				sS	**sS**	**16 40 16.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,840nm,4.8s						
NJ2				LR	LR		
	comp=N,210nm,12.1s						
NJ2				LR	LR		
	comp=E,830nm,13.2s						
NJ2				LR	LR		
	comp=Z,230nm,12.1s						
SSE	**Sheshan**	**38.75**	**33**	P	**P**	**16 34 12.3**	**+0.1**
SSE				sP	**sP**	**16 34 21.1**	**-1.9**
SSE				PP	**PP**	**16 35 41.9**	**+0.6**
SSE				S	**ScP**	**16 40 10.5**	**+0.2**
SSE				pmax	pmax		
	comp=Z,38nm,1.1s						
SSE				pmax	pmax		
	comp=Z,170nm,7.9s						
SSE				LR	LR		
	comp=N,2μm,15.1s						
SSE				LR	LR		
	comp=E,1μm,15.1s						
SSE				LR	LR		
	comp=Z,2μm,14.7s						
DHRM	**DHARAMSHALA**	**38.82**	**330**	*e*P	**P**	**16 34 12.7**	**-0.3**
DHRM				AMB	AMB	16 34 50.2	
	comp=Z,49nm,2.5s						
GTA	**Gaotai**	**40.17**	**2**	⇑P	**P**	**16 34 23.9**	**-0.2**
GTA				pP	**pP**	**16 34 29.6**	**-2.2**
GTA				sP	**sP**	**16 34 32.8**	**-2.1**
GTA				PP	**PnPn**	**16 36 01.3**	**+0.9**
GTA				PcP	**PcP**	**16 36 28.4**	**+0.3**
GTA				S	**S**	**16 40 31.3**	**+1.9**
GTA				sS	**sS**	**16 40 41.8**	**-0.4**
GTA				SS	**SS**	**16 43 24.8**	**-3.2**
GTA				pmax	pmax		
	comp=Z,24nm,1.6s						
GTA				pmax	pmax		
	comp=Z,200nm,5.7s						
GTA				LR	LR		
	comp=N,890nm,15.2s						
GTA				LR	LR		
	comp=E,1μm,17.1s						
GTA				LR	LR		
	comp=Z,920nm,14.7s						
WRA	**Warramunga Arr**	**40.32**	**120**	P	**P**	**16 34 24.7**	**-0.8**
WRA	**Warramunga Arr**	**40.32**	**120**	P	**P**	**16 34 24.7**	**-0.8**
	comp=Z,47nm,1.0s,baz=302,slow=8.9,SNR=113						
WRAB	**Tennant Creek**	**40.33**	**120**	P	**P**	**16 34 25.0**	**-0.5**
	comp=Z,322nm,1.0s,SNR=18						
WRAB	**Tennant Creek**	**40.33**	**120**	*e*P	**P**	**16 34 25.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,61nm,1.0s						
WRAB	**Tennant Creek**	**40.33**	**120**	*e*P	**P**	**16 34 25.0**	**-0.5**
	comp=Z,61nm,1.0s						
TIA	**Tai'an**	**41.03**	**24**	⇑P	**P**	**16 34 28.8**	**-2.3**
TIA				S	S	16 40 48.3	+6.1
TIA				pmax	pmax		
	comp=Z,20nm,1.3s						
TIA				pmax	pmax		
	comp=Z,390nm,6.5s						
TIA				LR	LR		
	comp=N,2μm,10.6s						
TIA				LR	LR		
	comp=E,1μm,12.9s						
TIA				LR	LR		
	comp=Z,3μm,10.4s						
ASAR	**Alice Springs**	**41.56**	**126**	P	**P**	**16 34 35.0**	**-0.7**
ASAR	**Alice Springs**	**41.56**	**126**	P	**P**	**16 34 35.0**	**-0.7**
	comp=Z,4.1nm,0.4s,baz=298,slow=7.6,SNR=154						
AS31	**Alice Springs**	**41.56**	**126**	*e*P	**P**	**16 34 35.3**	**-0.4**
HHC	**Hu-ho-hao-te**	**43.38**	**15**	*e*P	**P**	**16 34 51.3**	**+1.0**
HHC				sP	**sP**	**16 35 00.0**	**-1.2**
HHC				PP	**PP**	**16 36 34.9**	**+3.4**
HHC				S	**S**	**16 41 20.0**	**+3.1**
HHC				sS	**sS**	**16 41 28.5**	**-1.2**
HHC				SS	**SS**	**16 44 26.8**	**-4.6**
HHC				pmax	pmax		
	comp=Z,77nm,1.1s						
HHC				pmax	pmax		
	comp=Z,950nm,6.9s						
HHC				LR	LR		
	comp=N,3μm,15.7s						
HHC				LR	LR		
	comp=E,2μm,14.7s						
HHC				LR	LR		
	comp=Z,3μm,12.9s						
BJI	**Beijing**	**44.04**	**20**	P	**P**	**16 34 56.6**	**+1.1**
BJI				S	**S**	**16 41 29.1**	**+2.8**
BJI				pmax	pmax		
	comp=Z,74nm,1.0s						
BJI				pmax	pmax		
	comp=Z,400nm,4.1s						
BJI				LR	LR		
	comp=N,1μm,11.7s						
BJI				LR	LR		
	comp=E,1μm,13.0s						
BJI				LR	LR		
	comp=Z,270nm,18.2s						
**K

DL2					LR	LR		
	comp=N,520nm,12.0s							
DL2					LR	LR		
	comp=E,520nm,12.9s							
DL2					LR	LR		
	comp=Z,590nm,13.0s							
WMQ	**Urumqi**	**45.47**	**350**		P	**P**	**16 35 07.9**	**+1.0**
WMQ					pP	**pP**	**16 35 14.9**	**+0.2**
WMQ					PcP	**PcP**	**16 36 44.8**	**-0.9**
WMQ					PP	**PP**	**16 36 57.3**	**+3.6**
WMQ					S	**S**	**16 41 47.8**	**+0.7**
WMQ					sS	**sS**	**16 42 01.3**	**+1.3**
WMQ					pmax	pmax		
	comp=Z,82nm,1.0s							
WMQ					pmax	pmax		
	comp=Z,340nm,3.0s							
WMQ					LR	LR		
	comp=N,280nm,27.0s							
WMQ					LR	LR		
	comp=E,360nm,22.0s							
WMQ					LR	LR		
	comp=Z,280nm,23.0s							
JNU	**Nakatsue**	**45.94**	**39**	*e*P	**P**	**16 35 10.1**	**-0.6**	
	comp=Z,16nm,0.9s							
JNU	**Nakatsue**	**45.94**	**39**	P	**P**	**16 35 10.1**	**-0.6**	
	comp=Z,31nm,1.0s,baz=221,slow=2.8,SNR=9.4							
KSAR	**Wonju Array Be**	**47.16**	**33**	P	**P**	**16 35 19.5**	**-0.7**	
KSRS	**Korea Array**	**47.19**	**33**	P	**P**	**16 35 19.5**	**-1.0**	
	comp=Z,11nm,0.6s,baz=223,slow=8.7,SNR=56							
KSRS					LR	LR	16 55 48.2	
	comp=Z,404nm,18.6s,baz=315,slow=37							
BBOO	**Buckleboo**	**47.86**	**135**	P	**P**	**16 35 25.9**	**+0.1**	
	baz=48,SNR=5.2							
TKM2	**Tokmak 2**	**48.04**	**338**	*i* P	**P**	**16 35 28.1**	**+0.9**	
TKM2	**Tokmak 2**	**48.04**	**338**	P	**P**	**16 35 28.2**	**+0.9**	
	SNR=18							
TKM2	**Tokmak 2**	**48.04**	**338**	*e*P	**P**	**16 35 27.8**	**+0.6**	
	comp=Z,27nm,1.1s							
KBK	**Karagaybulak**	**48.06**	**337**	*i* P	**P**	**16 35 29.1**	**+1.7**	
KBK	**Karagaybulak**	**48.06**	**337**	P	**P**	**16 35 29.1**	**+1.7**	
	SNR=10							
AML	**Almayashu**	**48.12**	**336**	*i* P	**P**	**16 35 29.3**	**+1.2**	
AML	**Almayashu**	**48.12**	**336**	P	**P**	**16 35 29.3**	**+1.2**	
	SNR=7.3							
AAK	**Ala-Archa**	**48.22**	**337**	P	**P**	**16 35 30.0**	**+1.4**	
	comp=Z,79nm,1.1s,SNR=5.6							
AAK	**Ala-Archa**	**48.22**	**337***c*	*i*P	**P**	**16 35 29.2**	**+0.6**	
AAK					pmax	pmax		
	comp=Z,14nm,1.0s							
AAK					MLR	MLR		
	comp=Z,1μm,19.0s							
AAK	**Ala-Archa**	**48.22**	**337**	*e*P	**P**	**16 35 29.7**	**+1.1**	
	comp=Z,75nm,1.8s							
AAK	**Ala-Archa**	**48.22**	**337**	P	**P**	**16 35 29.9**	**+1.3**	
	comp=Z,1.9nm,0.4s,baz=158,slow=7.9,SNR=7.0							
FRU	**Bishkek**	**48.34**	**337**	*e*P	**P**	**16 35 30.0**	**+0.6**	
FRU				*e*		16 35 36.0		
FRU					pmax	pmax		
	comp=Z,100nm,2.0s							
CHMS	**Chumysh**	**48.43**	**337**	*i* P	**P**	**16 35 30.9**	**+0.9**	
CHMS	**Chumysh**	**48.43**	**337**	P	**P**	**16 35 30.9**	**+0.9**	
	SNR=6.9							
EKS2	**Erkin-Say**	**48.53**	**336**	*e*P	**P**	**16 35 32.0**	**+1.1**	
EKS2					pmax	pmax		
	comp=Z,18nm,1.0s							
EKS2	**Erkin-Say**	**48.53**	**336**	P	**P**	**16 35 32.5**	**+1.5**	
	SNR=12							
EKS2	**Erkin-Say**	**48.53**	**336**	*e*P	**P**	**16 35 32.0**	**+1.1**	
	comp=Z,18nm,1.0s							
MTSU	**Mount Surprise**	**48.64**	**113**	P	**P**	**16 35 32.1**	**+0.1**	
	baz=49,SNR=8.9							
USP	**Ospenovka**	**48.76**	**337**	*i* P	**P**	**16 35 33.6**	**+1.1**	
USP	**Ospenovka**	**48.76**	**337**	P	**P**	**16 35 33.6**	**+1.1**	
	SNR=18							
SONM	**Songino Array**	**49.11**	**8**	P	**P**	**16 35 36.1**	**+0.8**	
SONM	**Songino Array**	**49.11**	**8**	P	**P**	**16 35 36.1**	**+0.8**	
	comp=Z,27nm,1.0s,baz=191,slow=8.4,SNR=131							
SONM					LR	LR	16 59 59.2	
	comp=Z,508nm,18.2s,baz=188,slow=41							
ULN	**Ulaanbaatar**	**49.23**	**8**	*e*P	**P**	**16 35 37.0**	**+0.7**	
	comp=Z,61nm,0.8s							
MK31	**Makanchi Array**	**49.46**	**346**	*i* P	**P**	**16 35 38.2**	**+0.4**	
MK31					pmax	pmax		
	comp=Z,20nm,0.7s							
MK31	**Makanchi Array**	**49.46**	**346**	*e*P	**P**	**16 35 37.7**	**-0.1**	
MKAR	**Makanchi Array**	**49.46**	**346**	P	**P**	**16 35 38.0**	**+0.2**	
MKAR	**Makanchi Array**	**49.46**	**346**	P	**P**	**16 35 38.0**	**+0.2**	
MKAR	**Makanchi Array**	**49.46**	**346**	P	**P**	**16 35 38.0**	**+0.2**	
	comp=Z,23nm,0.7s,baz=154,slow=8.5,SNR=188							
MKAR					LR	LR	17 00 28.7	
	comp=Z,279nm,19.3s,baz=359,slow=41							
KK31	**Karatay Array**	**50.27**	**334**	*i* P	**P**	**16 35 43.9**	**-0.1**	
KK31					pmax	pmax		
	comp=Z,39nm,1.5s							
KKAR	**Karatay Array**	**50.27**	**334**	*e*P	**P**	**16 35 43.9**	**-0.1**	
KKAR					pmax	pmax		
	comp=Z,43nm,1.4s							
KKAR	**Karatay Array**	**50.27**	**334**	*e*P	**P**	**16 35 43.9**	**-0.1**	
	comp=Z,44nm,1.4s							
CN2	**Changchun**	**50.87**	**26**	⇑P	**P**	**16 35 48.1**	**-0.4**	
CN2				*e*S	**S**	**16 43 08.9**	**+5.6**	
CN2					pmax	pmax		
	comp=Z,30nm,1.1s							
CN2					LR	LR		
	comp=N,450nm,16.0s							
CN2					LR	LR		
	comp=E,660nm,16.0s							
CN2					LR	LR		
	comp=Z,350nm,14.0s							
CTAO	**Charters Tower**	**50.93**	**115**	*e*P	**P**	**16 35 49.0**	**-0.4**	
CTAO					pmax	pmax		
	comp=Z,87nm,1.4s							
CTAO	**Charters Tower**	**50.93**	**115**	*e*P	**P**	**16 35 49.0**	**-0.4**	
	comp=Z,87nm,1.4s							
STKA	**Stephens Creek**	**51.41**	**131**	*e*P	**P**	**16 35 52.9**	**0.0**	
	comp=Z,7.9nm,1.1s							
STKA	**Stephens Creek**	**51.41**	**131**	P	**P**	**16 35 52.8**	**0.0**	
	comp=Z,13nm,1.0s,baz=292,slow=6.1,SNR=11							
STKA	**Stephens Creek**	**51.41**	**131**	P	**P**	**16 35 53.2**	**+0.3**	
	baz=51,SNR=8.6							
TLY	**Talaya**	**52.63**	**4**	*e*P	**P**	**16 36 02.6**	**+1.0**	
TLY				*e*		16 37 15.8		
TLY				*e*		16 37 59.5		
TLY				*e*S	**S**	**16 43 22.3**	**-5.1**	
TLY					pmax	pmax		
	comp=Z,21nm,1.0s							
TLY					MLR	MLR		
	comp=Z,823nm,14.0s							
OPO	**Ambohidratompo**	**52.75**	**247**	P	**P**	**16 36 03.4**	**+0.1**	
OPO	**Ambohidratompo**	**52.75**	**247**	P	**P**	**16 36 03.4**	**+0.1**	
	comp=Z,12nm,0.9s,baz=34,slow=7.1,SNR=6.4							
MAT	**Matsushiro**	**52.78**	**41**	P	**P**	**16 36 01.4**	**-1.6**	
MAT				S	**S**	**16 43 34.2**	**+4.3**	
MJAR	**Matsushiro Arr**	**52.78**	**41**	P	**P**	**16 36 01.3**	**-1.6**	
MJAR	**Matsushiro Arr**	**52.78**	**41**	P	**P**	**16 36 01.3**	**-1.6**	
	comp=Z,10nm,1.1s,baz=226,slow=8.1,SNR=21							
MJAR					LR	LR	17 01 06.9	
	comp=Z,249nm,19.0s,baz=225,slow=39							
IRK	**Irkutsk**	**53.24**	**5**	*e*P	**P**	**16 36 06.3**	**+0.3**	
IRK					pmax	pmax		
	comp=Z,47nm,1.6s							
MDJ	**Mudanjiang**	**53.37**	**28**	P	**P**	**16 36 07.3**	**+0.2**	
MDJ				pP	**pP**	**16 36 13.6**	**-1.5**	
MDJ				sP	**sP**	**16 36 16.3**	**-1.8**	
MDJ				ScP	**ScP**	**16 41 10.5**	**-0.1**	
MDJ				PcS	**PcS**	**16 41 12.8**	**-0.3**	
MDJ				S	**S**	**16 43 39.3**	**+1.7**	
MDJ				sS	**sS**	**16 43 50.3**	**-0.4**	
MDJ				ScS	**ScS**	**16 45 55.6**	**+0.5**	
MDJ				pmax	pmax			
	comp=Z,8.0nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,180nm,5.3s							
MDJ				LR	LR			
	comp=N,930nm,17.2s							
MDJ				LR	LR			
	comp=E,760nm,14.6s							
MDJ				LR	LR			
	comp=Z,1μm,14.8s							
MDJ	**Mudanjiang**	**53.37**	**28**	*e*P	**P**	**16 36 07.1**	**0.0**	
	comp=Z,8.7nm,1.0s							
VLA	**Vladivostok**	**53.39**	**31**	*e*P	**P**	**16 36 05.3**	**-2.0**	
VLA					pmax	pmax		
	comp=Z,54nm,1.6s							
HIA	**Hailar**	**53.41**	**18**	*e*P	**P**	**16 36 07.9**	**+0.5**	
	comp=Z,7.7nm,0.9s							
HIA				*e*		16 36 17.7		
USRK	**Ussuriysk Arra**	**54.22**	**30**	P	**P**	**16 36 13.2**	**-0.1**	
	comp=Z,29nm,0.9s,baz=232,slow=6.0,SNR=44							
USRK					LR	LR	16 59 24.0	
	comp=Z,431nm,18.5s,baz=112,slow=36							
CIT	**Chita**	**54.37**	**12**	*e*P	**P**	**16 36 14.9**	**+0.5**	
CIT				*e*		16 36 22.4		
CIT				*e*		16 37 14.1		
CIT					pmax	pmax		
	comp=Z,138nm,2.3s							
CMSA	**Cobar Meteorol**	**54.40**	**129**	P	**P**	**16 36 15.5**	**+0.6**	
	baz=54,SNR=19							
RMQ	**Roma**	**55.03**	**122**	P	**P**	**16 36 20.9**	**+1.3**	
	baz=55,SNR=6.1							
ZAA0	**Zalesovo Array**	**55.75**	**351**	*e*P	**P**	**16 36 24.6**	**+0.4**	
ZALV	**Zalesovo Beam**	**55.75**	**351**	P	**P**	**16 36 24.6**	**+0.3**	
ZALV	**Zalesovo Beam**	**55.75**	**351**	P	**P**	**16 36 24.6**	**+0.3**	
ZALV	**Zalesovo Beam**	**55.75**	**351**	P	**P**	**16 36 24.6**	**+0.3**	
	comp=Z,24nm,0.6s,baz=179,slow=6.1,SNR=129							
RDF	**Al-Radifah**	**56.55**	**306**	*e*P	**P**	**16 36 30.2**	**-0.2**	
RDF					AMb	AMB	16 36 34.9	
	comp=Z,26nm,0.8s							
EIDS	**Eidsvold**	**56.69**	**120**	P	**P**	**16 36 32.3**	**+0.8**	
	baz=57,SNR=3.4							
KRAR	**Krasnoyarsk**	**56.89**	**357**	*i* P	**P**	**16 36 33.0**	**+0.7**	
KRAR					pmax	pmax		
	comp=Z,114nm,1.3s							
KRAR					MLR	MLR		
	comp=Z,262nm,17.0s							
NAY	**Al-Naaiem**	**56.92**	**306**	*e*P	**P**	**16 36 32.5**	**-0.5**	
MIB	**Mutribah**	**57.05**	**307**	*e*P	**P**	**16 36 33.9**	**-0.1**	
MIB					AMb	AMB	16 36 38.2	
	comp=Z,43nm,0.8s							
RST	**Umm Al-Ruwaisa**	**57.21**	**306**	*e*P	**P**	**16 36 34.2**	**-0.9**	
RST					AMb	AMB	16 36 46.8	
	comp=Z,272nm,0.8s							
KLR	**Kul'dur**	**57.82**	**26**	*e*P	P	16 36 35.2	-3.9	
KLR				*e*S	**S**	**16 44 35.0**	**-1.9**	
KLR				*e*SS	**SS**	**16 48 22.5**	**-5.5**	
KLR				pmax	pmax			
	comp=E,24nm,1.4s							
KLR				pmax	pmax			
	comp=Z,52nm,1.4s							
KLR				MLR	MLR			
	comp=N,1μm,13.5s							
KLR				MLR	MLR			
	comp=E,600nm,13.5s							
KLR				MLR	MLR			
	comp=Z,2μm,13.5s							
VOSK	**Vostochnaya**	**58.03**	**341**	P	**P**	**16 36 39.2**	**-1.3**	
VOSK					pmax	pmax		
	comp=Z,24nm,1.0s							
BVA0	**Borovoye Array**	**58.48**	**341**	*i* P	**P**	**16 36 42.7**	**-0.9**	
BVA0					pmax	pmax		
	comp=Z,21nm,1.0s							
BRVK	**Borovoye**	**58.54**	**341**	P	**P**	**16 36 43.1**	**-0.9**	
	comp=Z,99nm,1.0s,SNR=13							
BRVK	**Borovoye**	**58.54**	**341***c*	*i*P	**P**	**16 36 43.2**	**-0.8**	
BRVK					pmax	pmax		
	comp=Z,26nm,1.2s							
BRVK					MLR	MLR		
	comp=Z,342nm,18.0s							
BRVK	**Borovoye**	**58.54**	**341**	*e*P	**P**	**16 36 42.8**	**-1.2**	
	comp=Z,21nm,1.0s							
HABR	**Khabarovsk**	**58.76**	**28***c*	*e*P	**P**	**16 36 43.4**	**-2.2**	
HABR				*e**PP	**pP**	**16 36 53.5**	**-0.1**	
HABR				*e**SP	**sP**	**16 36 57.8**	**+1.2**	
HABR						16 37 32.9		
HABR				*e*		16 38 53.5		
HABR				*e*S	**S**	**16 44 46.5**	**-2.6**	
HABR				*e*		16 44 59.1		
HABR				*e**SS	**sS**	**16 45 04.0**	**+1.7**	
HABR				*e*		16 46 30.5		
HABR				*e*SS	**SS**	**16 48 41.4**	**-1.3**	
HABR				pmax	pmax			
	comp=E,40nm,2.1s							
HABR				pmax	pmax			
	comp=Z,23nm,1.5s							
HABR				pmax	pmax			
	comp=N,18nm,2.1s							
HABR				MLR	MLR			
	comp=Z,226nm,15.0s							
ERM	**Erimo**	**59.06**	**38**⇑	*e*P	**P**	**16 36 47.8**	**0.0**	
ERM				pmax	pmax			
	comp=Z,22nm,1.7s							
AB31	**Akbulak array**	**59.71**	**332**	*i* P	**P**	**16 36 51.5**	**-0.7**	
AB31					pmax	pmax		
	comp=Z,37nm,1.3s							
ABKAR	**Akbulak array**	**59.71**	**332**	*e*P	**P**	**16 36 51.5**	**-0.7**	
	comp=Z,9.4nm,0.8s							
ASAJ	**Asahikawa**	**59.92**	**36**	*e*P	**P**	**16 36 55.3**	**+1.6**	
	comp=Z,17nm,1.4s							
ASAJ	**Asahikawa**	**59.92**	**36**	P	**P**	**16 36 53.2**	**-0.5**	
	comp=Z,4.3nm,0.9s,baz=233,slow=6.6,SNR=7.9							
KMBO	**Kilima Mbogo**	**60.67**	**269**	*e*P	**P**	**16 37 00.4**	**+0.6**	
	comp=Z,17nm,1.5s							
KMBO	**Kilima Mbogo**	**60.67**	**269**	P	**P**	**16 37 00.6**	**+0.9**	
	comp=Z,4,4nm,0.8s,baz=59,slow=8.8,SNR=12							
YSS	**Yuzh-Sakhalins**	**61.69**	**33**	*e*P	**P**	**16 37 05.9**	**+0.2**	
YSS				*e*		16 37 17.0		
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS				MLR	MLR			
	comp=Z,400nm,13.0s							
YSS				MLR	MLR			
	comp=N,400nm,15.0s							
YSS				MLR	MLR			
	comp=E,400nm,13.0s							
YUK	**Yuzh-Kuril'sk**	**61.83**	**37***d*	*i*P	P	16 37 03.2	-3.5	
YUK				*e*		16 39 25.0		
YUK				*e*PPP	PPP	16 40 47.0		
YUK				*e*S	**S**	**16 45 25.9**	**-2.7**	
YUK				*e*SS	**SS**	**16 49 25.4**	**-5.6**	
MAK	**Makhachkala**	**62.82**	**320**	*e*P	P	16 37 08.5	-4.8	
MAK				*e*		16 37 48.5		
MAK				*e*		16 39 30.9		
MAK				*e*PPP	PPP	16 40 58.7		
MAK				*e*S	**S**	**16 45 38.1**	**-3.1**	
MAK				*e*		16 47 04.5		
MAK				*e*SS	**SS**	**16 49 42.3**	**-4.3**	
TBLG	**Delisi**	**64.03**	**318**	*e*P	**P**	**16 37 21.9**	**+0.4**	
TBLG	**Delisi**	**64.03**	**318**	P	**P**	**16 37 21.9**	**+0.4**	
AKH	**Akhalkalaki**	**64.73**	**317**	P	P	16 37 36.0	+10	
SVE	**Sverdlovsk**	**64.91**	**338**⇑	*i*P	**P**	**16 37 26.7**	**-0.2**	
SVE				*e*PPP	PPP	16 41 24.2		
SVE				*e*S	**S**	**16 46 09.6**	**+2.9**	
SVE				*e*		16 47 18.8		
SVE				pmax	pmax			
	comp=Z,41nm,1.2s							
SVE				MLR	MLR			
	comp=Z,480nm,19.0s							
ZEI	**Tsey**	**65.06**	**319**	*e*P	**P**	**16 37 28.2**	**-0.2**	
ZEI				pmax	pmax			
	comp=Z,19nm,0.8s							
ONI	**Oni**	**65.27**	**319**	P	P	16 37 33.0	+3.4	
ARU	**Arti**	**65.41**	**337***d*	*i*P	**P**	**16 37 29.5**	**-0.6**	
ARU						16 38 01.3		
ARU						16 40 00.8		
ARU				PPP	PPP	16 41 33.0		
ARU				S	**S**	**16 46 14.1**	**+1.3**	
ARU				SS	**SS**	**16 50 23.4**	**-3.0**	
ARU				pmax	pmax			
	comp=Z,26nm,1.2s							
ARU				MLR	MLR			
	comp=Z,364nm,20.0s							
ARU	**Arti**	**65.41**	**337**	P	**P**	**16 37 29.7**	**-0.4**	
	comp=Z,92nm,1.1s,SNR=7.2							
KBZ	**Khabaz**	**66.14**	**319**	P	**P**	**16 37 35.3**	**+0.2**	
KBZ	**Khabaz**	**66.14**	**319**	P	**P**	**16 37 35.3**	**+0.2**	
KBZ	**Khabaz**	**66.14**	**319**	P	**P**	**16 37 35.3**	**+0.2**	
	comp=Z,6.7nm,0.8s,baz=130,slow=6.7,SNR=17							
KIV	**Kislovodsk**	**66.38**	**320**	*e*P	**P**	**16 37 36.7**	**-0.1**	
KIV				*e*		16 38 07.4		
KIV				*e*S	**S**	**16 46 24.9**	**-0.5**	
KIV				*e*SS	**SS**	**16 50 42.9**	**+0.6**	
KIV				pmax	pmax			
	comp=Z,26nm,1.1s							
MALT	**Malatya**	**67.08**	**313**	⇑P	P	16 37 47.4	+6.0	
MALT	**Malatya**	**67.08**	**313**	⇑*i*P	P	16 37 47.4	+6.0	
EIL	**Elat**	**67.20**	**303**	P	**P**	**16 37 43.9**	**+1.7**	
EIL	**Elat**	**67.20**	**303**	P	**P**	**16 37 43.9**	**+1.7**	
	comp=Z,2.5nm,0.5s,baz=7.9,slow=5.7,SNR=3.6							
EIL					LR	LR	17 09 09.8	
	comp=Z,342nm,18.1s,baz=279,slow=38							
YAK	**Yakutsk**	**67.24**	**16***c*	*i*P	**P**	**16 37 40.9**	**-0.8**	
YAK				*e**PP	**pP**	**16 37 50.2**	**+0.4**	
YAK				*e*		16 38 07.0		
YAK				*e*		16 40 06.5		
YAK				*e*S	**S**	**16 46 32.5**	**-2.4**	
YAK				*e**SS	**sS**	**16 46 48.6**	**+0.4**	
YAK				*e*		16 47 37.1		
YAK				*e*SSS	SSS	16 53 58.1		
YAK				pmax	pmax			
	comp=Z,98nm,1.0s							
YAK				pmax	pmax			
	comp=N,31nm,1.1s							
YAK				pmax	pmax			
	comp=E,30nm,1.3s							
YAK				pmax	pmax			
	comp=Z,59nm,2.5s							
YAK				pmax	pmax			
	comp=N,32nm,2.4s							
YAK				pmax	pmax			
	comp=E,17nm,1.8s							
YAK				smax	smax			
	comp=N,106nm,3.2s							
YAK				smax	smax			
	comp=E,44nm,2.7s							
YAK				MLR	MLR			
	comp=Z,1μm,14.0s							
YAK				MLR	MLR			
	comp=E,777nm,15.0s							
YAK				MLR	MLR			
	comp=N,609nm,14.0s							
SOKR	**Solikamsk**	**68.31**	**339***d*	*i*P	**P**	**16 37 48.6**	**+0.2**	
SOKR				pmax	pmax			
	comp=Z,30nm,1.2s							
SOKR				MLR	MLR			
	comp=Z,330nm,16.0s							
VRHR	**Novokhopersk**	**70.28**	**326**	*e*P	**P**	**16 38 00.1**	**-0.8**	
VRHR				*e*S	**S**	**16 47 07.2**	**-4.1**	
VRHR				pmax	pmax			
	comp=Z,20nm,1.0s							
VRHR				pmax	pmax			
	comp=N,4.0nm,0.5s							
VRHR				pmax	pmax			
	comp=E,6.0nm,0.5s							
VRHR				smax	smax			
	comp=E,100nm,1.7s							
VRHR				smax	smax			
	comp=Z,7.0nm,0.4s							
VRHR				smax	smax			
	comp=N,10.0nm,0.6s							
VRHR				MLR	MLR			
	comp=N,100nm,20.0s							
VRHR				MLR	MLR			
	comp=E,560nm,20.0s							
VRHR				MLR	MLR			
	comp=Z,380nm,20.0s							
MAW	**Mawson**	**70.83**	**193**	P	**P**	**16 38 04.8**	**+0.9**	
MAW	**Mawson**	**70.83**	**193**	P	**P**	**16 38 04.8**	**+0.9**	
	comp=Z,7.0nm,0.9s,baz=7.8,slow=6.8,SNR=15							
MAW					LR	LR	17 05 53.5	
	comp=Z,289nm,19.4s,baz=33,slow=33							
MAW	**Mawson**	**70.83**	**193**	P	**P**	**16 38 05.1**	**+1.2**	
	baz=71,SNR=9.5							
BR131	**Keskin Array S**	**71.07**	**313**	*e*P	**P**	**16 38 05.6**	**-0.6**	
	comp=Z,6.1nm,0.9s							
SKR	**Severo-Kuril's**	**71.15**	**35**	*e*P	P	16 38 15.0	+8.8	
SKR				*e*S	**SKSac**	**16 48 04.0**	**-3.3**	
SKR				pmax	pmax			
	comp=Z,110nm,1.0s							
SKR				pmax	pmax			
	comp=Z,800nm,8.0s							
SKR				smax	smax			
	comp=N,1μm,12.0s							
SKR				smax	smax			
	comp=E,800nm,12.0s							
SKR				MLR	MLR			
	comp=N,800nm,16.0s							
SKR				MLR	MLR			
	comp=Z,1μm,16.0s							
VORD	**Divnogorie**	**71.53**	**325**	*e*P	**P**	**16 38 07.4**	**-1.1**	
VORD				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VORD				pmax	pmax			
	comp=N,5.0nm,0.5s							
VORD				pmax	pmax			
	comp=E,10.0nm,1.0s							
VSR	**Storozhevoye**	**71.72**	**326**	*e*P	**P**	**16 38 08.5**	**-1.1**	
VSR				*e**PP	**pP**	**16 38 15.8**	**-2.0**	
VSR				pmax	pmax			
	comp=N,9.0nm,1.0s							
VSR				pmax	pmax			
	comp=E,20nm,1.0s							
VSR				pmax	pmax			
	comp=Z,20nm,1.0s							
VSR				MLR	MLR			
	comp=N,220nm,23.0s							
VSR				MLR	MLR			
	comp=Z,370nm,23.0s							
VSR				MLR	MLR			
	comp=E,170nm,22.0s							
ANTO	**Ankara**	**71.73**	**313**	⇓P	P	16 38 13.5	+3.4	
ANTO	**Ankara**	**71.73**	**313**	⇓*i*P	P	16 38 13.5	+3.4	
ANTO	**Ankara**	**71.73**	**313**	P	**P**	**16 38 12.5**	**+2.4**	
	comp=E,17nm,1.1s							
PETK	**Petropavlovsk-**	**73.09**	**33**	P	**P**	**16 38 16.8**	**-1.0**	
PETK	**Petropavlovsk-**	**73.09**	**33**	P	**P**	**16 38 16.8**	**-1.0**	
PETK	**Petropavlovsk-**	**73.09**	**33**	P	**P**	**16 38 16.8**	**-1.0**	
	comp=E,2.0nm,0.9s,baz=191,slow=6.8,SNR=4.2							
PETK					LR	LR	17 12 12.2	
	comp=E,97nm,19.3s,baz=78,slow=37							
PET	**Petropavlovsk**	**73.58**	**33**	*e*P	**P**	**16 38 20.4**	**-0.2**	
PET				pmax	pmax			
	comp=Z,19nm,1.5s							
BOSA	**Boshof**	**74.37**	**241**	P	**P**	**16 38 25.4**	**-0.7**	
BOSA	**Boshof**	**74.37**	**241**	P	**P**	**16 38 25.4**	**-0.7**	
	comp=Z,10nm,1.2s,baz=90,slow=4.0,SNR=3.4							
BOSA					LR	LR	17 04 09.3	
	comp=Z,334nm,20.4s,baz=116,slow=30							
MOS	**Moscow**	**74.51**	**329**	*e*P	**P**	**16 38 25.1**	**-0.9**	
MOS				pmax	pmax			
	comp=Z,50nm,0.9s							
OBN	**Obninsk**	**74.79**	**328**⇓	*e*P	**P**	**16 38 27.5**	**-0.1**	
OBN				*e**PP	**pP**	**16 38 35.0**	**-0.8**	
OBN				*e*		16 38 38.8		
OBN				*e*		16 41 15.4		
OBN				pmax	pmax			
	comp=Z,23nm,1.2s							
TIXI	**Tiksi**	**75.13**	**10***c*	*i*P	**P**	**16 38 28.4**	**-0.9**	
TIXI				pmax	pmax			
	comp=Z,76nm,1.2s							
TIXI				MLR	MLR			
	comp=Z,559nm,24.0s							
SEY	**Seymchan**	**75.42**	**23***c*	*i*P	**P**	**16 38 31.0**	**-0.1**	
AKASG	**Malin Array Be**	**77.37**	**323**	P	**P**	**16 38 41.7**	**-0.8**	
AKASG	**Malin Array Be**	**77.37**	**323**	P	**P**	**16 38 41.7**	**-0.8**	
AKASG	**Malin Array Be**	**77.37**	**323**	P	**P**	**16 38 41.7**	**-0.8**	
	comp=Z,0.6nm,0.3s,baz=85,slow=5.2,SNR=5.1							
KIEV	**Kiev**	**77.38**	**323**	*e*P	**P**	**16 38 41.5**	**-1.0**	
KIEV				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KIEV	**Kiev**	**77.38**	**323**	*e*P	**P**	**16 38 41.5**	**-1.0**	
	comp=Z,6.4nm,0.8s							
VRI	**

STHS			pmax	pmax			
	comp=Z,9.0nm,1.0s						
STHS	**Stebnicka Huta**	**82.05 320**	*eP*	**P**		**16 39 08.8**	**+0.9**
STHS			*ep*P	**pP**		**16 39 16.9**	**+0.7**
FINES	**FINESS Array B**	**82.20 333**	P	**P**		**16 39 08.3**	**-0.1**
FINES	**FINESS Array B**	**82.20 333**	P	**P**		**16 39 08.3**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=119,slow=4.9,SNR=4.1						
KECS	**Kecovo**	**82.37 319**	*ep*P	pP		16 39 17.3	-0.6
PKSM	**Moragy**	**83.25 317**	⇓*i*P	**P**		**16 39 12.8**	**-1.4**
PKSM	**Moragy**	**83.25 317**	⇓*i*P	**P**		**16 39 12.8**	**-1.4**
VYHS	**Vyhne**	**83.46 319**	*eP*	**P**		**16 39 16.2**	**+0.9**
VYHS			pmax	pmax			
	comp=Z,12nm,1.8s						
VYHS	**Vyhne**	**83.46 319**	*eP*	**P**		**16 39 16.2**	**+0.9**
VYHS			*ep*P	**pP**		**16 39 23.9**	**+0.3**
VNDA	**Vanda**	**83.62 169**	*eP*	**P**		**16 39 15.8**	**+0.3**
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**83.62 169**	P	**P**		**16 39 14.9**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=294,slow=6.3,SNR=8.7						
OKC	**Ostrava-Krasne**	**84.10 320**	*eP*	P		16 39 22.9	+4.4
OKC			*e*			16 49 40.7	
OKC	**Ostrava-Krasne**	**84.10 320**	*eP*	P		16 39 22.9	+4.4
OKC			*e*SKS	**S**		**16 49 40.7**	**-1.0**
SBA	**Scott Base**	**84.72 169**	*eP*	**P**		**16 39 22.1**	**+1.0**
SBA			pmax	pmax			
	comp=Z,6.0nm,0.8s						
SBA	**Scott Base**	**84.72 169**	*eP*	**P**		**16 39 22.1**	**+1.0**
	comp=Z,6.0nm,0.8s						
ARCES	**ARCESS Array B**	**84.76 340**	P	**P**		**16 39 21.7**	**+0.2**
ARCES	**ARCESS Array B**	**84.76 340**	P	**P**		**16 39 21.7**	**+0.2**
	comp=Z,7.8nm,1.0s,baz=104,slow=3.8,SNR=5.0						
DPC	**Dobruska-Polom**	**85.34 321**	*eP*	**P**		**16 39 25.4**	**+0.6**
DPC			*e*			16 49 53.8	
DPC	**Dobruska-Polom**	**85.34 321**	*eP*	**P**		**16 39 25.4**	**+0.6**
DPC			*e*S	**S**		**16 49 53.8**	**-0.3**
KSP	**Ksiaz**	**85.42 321**	*eP*	**P**		**16 39 24.4**	**-0.7**
KSP			*e*S	**S**		**16 49 55.0**	**+0.3**
BOJS	**Bojanci**	**85.51 316**	*i* P	**P**		**16 39 26.2**	**+0.5**
PERS	**Pernice**	**85.72 317**	*i* P	**P**		**16 39 28.0**	**+1.2**
TREC	**Trest**	**85.75 319**	AMS	AMS		17 25 10.0	
	comp=Z,100nm,16.1s						
VISS	**Visnje**	**85.83 316**	*i* P	**P**		**16 39 27.2**	**-0.1**
JAVS	**Javornik**	**86.37 316**	*i* P	**P**		**16 39 33.1**	**+2.9**
PRU	**Pruhonice**	**86.44 320**	*e*S	**S**		**16 50 03.8**	**-0.9**
PRU			*e*PS	**PnS**		**16 50 57.2**	**-8.0**
PRU			AMS	AMS		17 26 40.0	
	comp=Z,200nm,20.1s						
GERES	**GERESS Array B**	**86.88 319**	P	**P**		**16 39 32.8**	**+0.3**
GERES	**GERESS Array B**	**86.88 319**	P	**P**		**16 39 32.8**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=90,slow=4.5,SNR=10						
BRG	**Berggiesshubel**	**86.90 321**	*eP*	**P**		**16 39 33.0**	**+0.6**
	comp=Z,12nm,1.5s						
BRG	**Berggiesshubel**	**86.90 321**	*eP*	**P**		**16 39 33.0**	**+0.6**
BRG			pmax	pmax			
	comp=Z,12nm,1.5s						
KHC	**Kasperske Hory**	**86.98 319**	*eP*	P		16 39 37.0	+4.1
KHC			*e*			16 39 46.2	
KHC			*e*			16 50 11.1	
KHC			*e*			16 51 05.0	
KHC			MLR	MLR			
	comp=Z,100nm,14.4s						
KHC	**Kasperske Hory**	**86.98 319**	*eP*	P		16 39 37.0	+4.1
KHC			*es*P	sP		16 39 43.5	-0.8
KHC			*ex*	x		16 39 46.2	
KHC			*e*S	**S**		**16 50 11.1**	**+0.9**
KHC			*e*PS	**PnS**		**16 51 05.0**	**-6.9**
KHC			AMS	AMS		17 28 00.0	
	comp=Z,100nm,14.4s						
CLL	**Collm**	**87.53 321**	*eP*	P		16 39 41.0	+5.5
CLL			*e*S	**S**		**16 50 16.0**	**+0.8**
CLL			pmax	pmax			
	comp=Z,20nm,1.8s						
CLL	**Collm**	**87.53 321**	*ep*P	P		16 39 41.0	+5.5
	comp=Z,20nm,1.8s						
CLL			*e*S	**S**		**16 50 16.0**	**+0.8**
CLL			*e*			16 55 36.0	
CLL			*e*SSS	SSS		16 59 42.0	
CLL			*e*SSSS			17 02 54.0	
CLL			*e*			17 05 36.0	
CLL			LmH			17 26 00.0	
	comp=N,100nm,19.3s						
CLL			LmH			17 26 00.0	
	comp=E,100nm,18.1s						
NOA	**NORSAR Array B**	**89.20 331**	P	**P**		**16 39 42.9**	**-0.4**
NOA	**NORSAR Array B**	**89.20 331**	P	**P**		**16 39 42.9**	**-0.4**
	comp=E,1.2nm,0.9s,baz=91,slow=5.2,SNR=2.5						
KEST	**Kesra**	**89.38 306**	P	**P**		**16 39 46.0**	**+1.4**
KEST	**Kesra**	**89.38 306**	P	**P**		**16 39 46.0**	**+1.4**
	comp=E,2.1nm,1.1s,baz=247,slow=16,SNR=3.8						
KEST			LR	LR		17 26 04.2	
	comp=E,69nm,18.9s,baz=274,slow=40						
TUE	**Stuetta**	**89.68 316**	*eP*	**P**		**16 39 47.6**	**+1.6**
	comp=E,13nm,1.3s						
ECH	**Echery**	**91.19 318**	*eP*	**P**		**16 39 52.8**	**0.0**
ECH			pmax	pmax			
	comp=Z,7.0nm,1.0s						
ECH	**Echery**	**91.19 318**	*eP*	**P**		**16 39 52.8**	**0.0**
	comp=Z,7.4nm,1.0s						
MBDF	**Montbardon**	**91.47 315**	*eP*	**P**		**16 39 53.5**	**-0.8**
	comp=Z,12nm,1.0s						
LPG	**La Plagne**	**91.48 315**	*eP*	**P**		**16 39 54.2**	**-0.3**
	comp=Z,19nm,1.0s						
LPL	**La Plagne**	**91.49 315**	*eP*	**P**		**16 39 54.3**	**-0.2**
	comp=Z,31nm,1.2s						
BNI	**Bardonecchia**	**91.53 315**	P	**P**		**16 39 54.3**	**-0.3**
BNI			pmax	pmax			
	comp=Z,5.0nm,0.8s						
BNI	**Bardonecchia**	**91.53 315**	P	**P**		**16 39 54.3**	**-0.3**
	comp=Z,4.5nm,0.8s						
HAU	**Haudompre**	**91.74 318**	*eP*	**P**		**16 39 54.9**	**-0.4**
	comp=Z,52nm,1.5s						
CABF	**La Chapelle**	**91.93 316**	*eP*	**P**		**16 39 56.4**	**+0.1**
	comp=Z,22nm,1.1s						
TAM	**Tamanrasset**	**92.57 293**	P	**P**		**16 40 00.3**	**+0.4**
TAM	**Tamanrasset**	**92.57 293**	P	**P**		**16 40 00.3**	**+0.4**
SFTF	**Sexfontaines**	**92.61 318**	*eP*	**P**		**16 39 59.2**	**-0.1**
VIVF	**Saint-Julien-l**	**92.96 315**	*eP*	**P**		**16 40 01.0**	**-0.1**
LOR	**Lormes**	**93.44 317**	*eP*	**P**		**16 40 02.9**	**-0.3**
SMF	**Signal de Mont**	**93.48 316**	*eP*	**P**		**16 40 03.0**	**-0.4**
	comp=Z,25nm,1.3s						
TORD	**Torodi Ar. Bea**	**96.28 283**	P	**P**		**16 40 19.1**	**+2.2**
TORD	**Torodi Ar. Bea**	**96.28 283**	P	**P**		**16 40 19.1**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=88,slow=4.5,SNR=3.2						
DLMT	**Dillon**	**128.21 27**	*e*PKPdf	**PKPdf**		**16 45 54.9**	**+0.5**
NVAR	**Mina Array Bea**	**130.04 37**	PKP	**PKPdf**		**16 45 59.5**	**+1.4**
NVAR	**Mina Array Bea**	**130.04 37**	PKP	**PKPdf**		**16 45 59.5**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=221,slow=1.7,SNR=6.9						
PDAR	**Pinedale Array**	**131.60 27**	PKP	**PKPdf**		**16 46 01.9**	**+0.9**
PDAR	**Pinedale Array**	**131.60 27**	PKP	**PKPdf**		**16 46 01.9**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=282,slow=1.4,SNR=5.9						
MNTX	**Cornudas Mount**	**142.28 33**	*e*PKPpre	PKPpre		16 46 14.0	
CPUP	**Villa Florida**	**143.89 220**	PKP	PKPbc		16 46 22.1	+0.7
CPUP	**Villa Florida**	**143.89 220**	PKP	PKPbc		16 46 22.1	+0.7
	comp=Z,7.4nm,0.8s,baz=90,slow=2.6,SNR=14						
TZTN	**Tazewell**	**144.53 2**	*e*PKP	**PKPab**		**16 46 22.5**	**-0.4**
WVT	**Waverly**	**144.56 8**	*e*PKIKP	**PKPab**		**16 46 22.6**	**-0.4**
WVT	**Waverly**	**144.56 8**	*e*PKPdf	**PKPab**		**16 46 22.6**	**-0.4**
MIAR	**Mount Ida**	**144.86 17**	*e*PKIKP	PKPbc		16 46 24.3	+0.1
MIAR	**Mount Ida**	**144.86 17**	*e*PKPdf	**PKPab**		**16 46 24.3**	**+0.1**
UALR	**University of**	**144.98 15**	*e*PKP	**PKPab**		**16 46 24.6**	**0.0**
TXAR	**Lajitas Array**	**145.04 34**	PKP	**PKPab**		**16 46 25.3**	**+0.2**
TXAR	**Lajitas Array**	**145.04 34**	PKP	**PKPab**		**16 46 25.3**	**+0.2**
	comp=Z,18nm,1.0s,baz=186,slow=0.9,SNR=85						
TKL	**Tuckaleechee C**	**145.40 2**	*e*PKP	**PKPbc**		**16 46 24.9**	**-1.1**
CPCT	**Cooper Cave**	**145.57 4**	*e*PKP	**PKPdf**		**16 46 26.1**	**-0.3**
OXF	**Oxford**	**145.88 11**	*e*PKP2	**PKPdf**		**16 46 26.8**	**-0.1**
OXF	**Oxford**	**145.88 11**	*e*PKP	**PKPdf**		**16 46 26.8**	**-0.1**
JCT	**Junction City**	**146.12 28**	*e*PKP2	**PKPbc**		**16 46 28.1**	**-0.3**
JCT	**Junction City**	**146.12 28**	*e*PKP	**PKPbc**		**16 46 28.1**	**-0.3**
HKT	**Hockley**	**148.30 23**	*e*PKP2	**PKPbc**		**16 46 34.6**	**+0.2**
HKT	**Hockley**	**148.30 23**	*e*PKPbc	**PKPbc**		**16 46 34.5**	**+0.2**
LPAZ	**La Paz**	**158.05 218**	PKP	**PKPdf**		**16 46 51.1**	**+4.8**
LPAZ	**La Paz**	**158.05 218**	PKP	**PKPdf**		**16 46 51.1**	**+4.8**
	comp=Z,2.7nm,1.0s,baz=347,slow=1.4,SNR=4.9						

JMA 18 16:35:08.5±0.4, 23°.42N×123°.64E, h47km, M2.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**13**	P	Pn	16 35 21.4	-0.1
HATJ				*e*S	Sn	16 35 31.1	+0.2
JKRS	**Kuro-shima**	**0.88**	**22**	P	Pn	16 35 25.2	+0.6
IRIF	**Iriomote-Funau**	**0.91**	**5**	P	Pn	16 35 25.2	+0.2
JIJ	**Ishigaki jima**	**1.05**	**26**	P	Pn	16 35 26.7	-0.1
JIJ				*e*S	Sn	16 35 39.9	-0.4
YOJ	**Yonaguni jima**	**1.19**	**331**	P	Pn	16 35 29.1	+0.4
YOJ				*e*S	Sn	16 35 43.8	+0.1
JTJ	**Tarama**	**1.56**	**38**	P	Pn	16 35 34.3	+0.6
JTJ				*e*S	Sn	16 35 53.7	+1.0
JOGS	**Gusukube**	**2.09**	**50**	P	Pn	16 35 42.0	+0.9

NIED ***18*** *16:35:00,23°.40N×123°.60E,h14km,Mw4.5 Best double couple: M0=5.52000×10^15 NP1:φ=217.00000°,δ=90.00000°, λ=-160.00000°. NP2:φ=127.00000°,δ=70.00000°,λ=0.00000°.*
IDC ***18*** *16:35:40.2±0.5,23°.57N×123°.50E,h0km,mb4.2/23, mb1 4.3/26,mb1mx4.3/31,mbtmp4.2/26,ML3.9/3,MS3.8/3, Ms1 3.8/3,ms1mx3.4/33,Error ellipse: s-maj=17.5km s-min=12.5km az=84.0*
ISCJB ***18*** *16:35:41.9±0.7,23°.42N±0°.03×123°.66E±0°.03,h32km±5km, mb4.3/42,MS3.7/3,Error ellipse: s-maj=5.8km s-min=3.5km az=43.1*
NEIC ***18*** *16:35:41.5±0.4,23°.54N×123°.56E,h10km,mb4.7/6, MW4.4(NIED),Error ellipse: s-maj=8.1km s-min=6.3km az=158.0*
JMA ***18*** *16:35:43.3±0.3,23°.45N×123°.61E,h44km±4km,M4.4*
MOS ***18*** *16:35:43.0±1.1,23°.54N×123°.61E,h33km,mb4.7/13,Error ellipse: s-maj=12.0km s-min=6.9km az=102.7*

ISC 18 16:35:41.5±0.9, 23°.47N±0°.04×123°.63E±0°.03, h14km±5km, n132, σ1§33/144, mb4.5/42, MS3.7/3, 4C-2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.61**	**15**	P	**Pn**	**16 35 55.9**	**+0.1**
HATJ				S	**Sn**	**16 36 05.1**	**-0.3**
JKRS	**Kuro-shima**	**0.84**	**24**	P	**Pn**	**16 35 59.8**	**+0.8**
JKRS				S	**Sn**	**16 36 11.1**	**-0.1**
IRIF	**Iriomote-Funau**	**0.87**	**6**	P	**Pn**	**16 35 59.7**	**+0.3**
IRIF				S	**Sn**	**16 36 11.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.01**	**28**	P	**Pn**	**16 36 01.4**	**+0.1**
JIJ				S	**Sn**	**16 36 14.4**	**-0.9**
YOJ	**Yonaguni jima**	**1.14**	**330**	P	**Pb**	**16 36 03.3**	**+0.2**
YOJ				S	**Sb**	**16 36 17.8**	**0.0**
JTJ	**Tarama**	**1.52**	**40**	P	**Pb**	**16 36 08.9**	**-0.7**
JTJ				S	**Sb**	**16 36 27.9**	**-0.9**
NACB	**Ninganchiao**	**1.99**	**291**	*e*P	**Pn**	**16 36 13.3**	**-1.5**
JMJ	**Miyako jima 2**	**2.03**	**48**	P	**Pn**	**16 36 16.0**	**+0.7**
JMJ				S	**Sn**	**16 36 40.6**	**+0.2**
JOGS	**Gusukube**	**2.07**	**51**	P	**Pn**	**16 36 16.5**	**+0.6**
JOGS				S	**Sb**	**16 36 42.3**	**-2.2**
YULB	**Yu-li**	**2.15**	**268**	*e*Pn	**Pn**	**16 36 15.0**	**-1.9**
YHNB	**Yeheng**	**2.38**	**301**	*e*P	**Pn**	**16 36 20.3**	**0.0**
TWG	**Pinlang**	**2.44**	**255**	*e*P	**Pn**	**16 36 18.9**	**-2.1**
TATO	**Taipei**	**2.47**	**308**	*e*P	**Pn**	**16 36 21.9**	**+0.6**
SSLB	**Suanglung**	**2.48**	**278**	*e*P	**Pn**	**16 36 20.6**	**-0.9**
TPUB	**Ta-pu**	**2.76**	**267**	*e*P	**Pn**	**16 36 24.4**	**-1.0**
JKE	**Kume jima 2**	**4.04**	**45**	P	**Pn**	**16 36 41.7**	**-1.3**
JKE				*e*S	**Sn**	**16 37 27.4**	**-2.7**
JAGN	**Aguni-jima**	**4.51**	**46**	P	**Pn**	**16 36 48.7**	**-0.8**
JAGN				*e*S	**Sn**	**16 37 38.9**	**-2.9**
JJT2	**Tamagusuku 2**	**4.59**	**54**	P	**Pn**	**16 36 50.5**	**-0.1**
JJT2				*e*S	**Sn**	**16 37 42.1**	**-1.6**
JIH	**Iheya**	**5.29**	**47**	P	**Pn**	**16 36 58.7**	**-1.5**
JIH				*e*S	**Sn**	**16 37 58.1**	**-2.9**
JOW	**Kunigami**	**5.38**	**50**	*e*P	**Pn**	**16 36 59.8**	**-1.5**
	15nm,0.3s						
JOW	**Kunigami**	**5.38**	**50**	P	**Pn**	**16 36 59.9**	**-1.5**
JOW				*e*S	**Sn**	**16 38 00.2**	**-3.0**
PIP	**Pasuquin**	**5.84**	**209**	⇓*i*P	**Pn**	**16 37 07.5**	**-0.3**
APYP	**Conner**	**6.01**	**202**	*e*P	**Pn**	**16 37 09.2**	**-0.8**
ABRA	**Dolores**	**6.40**	**206**	*e*P	**Pn**	**16 37 18.1**	**+2.6**
JTK	**Tokunoshima**	**6.44**	**47**	P	**Pn**	**16 37 13.8**	**-2.2**
JTK				*e*S	Sn	16 38 23.4	-6.0
PALP	**Palanan**	**6.47**	**190**	*e*P	**Pn**	**16 37 16.2**	**-0.2**
CAUP	**Cauayan**	**6.71**	**195**	*e*P	**Pn**	**16 37 21.4**	**+1.8**
JAMN	**Amaminishikomi**	**6.89**	**45**	P	**Pn**	**16 37 19.9**	**-2.3**
JAMN				*e*S	Sn	16 38 32.7	-7.8
JAM	**Amami Oshima**	**7.29**	**46**	P	**Pn**	**16 37 25.5**	**-2.1**
JAM				*e*S	Sn	16 38 43.4	-6.8
JMZ	**Minamidaito 2**	**7.29**	**70**	P	**Pn**	**16 37 24.7**	**-3.0**
JMZ				*e*S	Sn	16 38 38.6	-12
BALP	**Baler**	**7.93**	**195**	*e*P	**Pn**	**16 37 37.7**	**+1.2**
JNU	**Nakatsue**	**11.54**	**32**	*e*P	**Pn**	**16 38 25.0**	**-1.0**
JNU	**Nakatsue**	**11.54**	**32**	Pn	**Pn**	**16 38 24.7**	**-1.3**
	0.5nm,0.3s,baz=223,slow=11,SNR=6.8						
KSAR	**Wonju Array Be**	**14.40**	**14**	Pn	**Pn**	**16 39 06.0**	**+1.0**
KSRS	**Korea Array**	**14.42**	**14**	Pn	**Pn**	**16 39 06.0**	**+0.8**
	0.5nm,0.3s,baz=198,slow=12,SNR=15						
KSRS				LR	LR	16 45 41.9	
	comp=Z,282nm,18.4s,baz=196,slow=42						
JOD2	**Odawara 2**	**17.85**	**45**	P	**P**	**16 39 53.5**	**+3.3**
MAT	**Matsushiro**	**18.11**	**41**	P	**P**	**16 39 54.3**	**+1.2**
MAT	**Matsushiro**	**18.11**	**41**	P	**P**	**16 39 53.9**	**+0.8**
MJAR	**Matsushiro Arr**	**18.11**	**41**	P	**P**	**16 39 54.2**	**+1.1**
MJAR	**Matsushiro Arr**	**18.11**	**41**	P	**P**	**16 39 54.2**	**+1.1**
	0.8nm,0.3s,baz=227,slow=9.2,SNR=20						
JRY	**Ryogami san**	**18.20**	**43**	P	**P**	**16 39 55.4**	**+1.4**
JYT	**Yasato**	**19.15**	**45**	P	**Pn**	**16 40 05.2**	**-0.1**
JMM	**Marumori**	**20.54**	**42**	P	**P**	**16 40 17.9**	**-1.7**
USRK	**Ussuriysk Arra**	**21.79**	**16**	P	**P**	**16 40 31.8**	**-1.2**
	2.0nm,0.7s,baz=211,slow=8.2,SNR=4.0						
JOM	**Ohasama**	**21.88**	**39**	P	**P**	**16 40 31.8**	**-2.2**
JOT	**Ohata**	**23.06**	**35**	P	**P**	**16 40 42.3**	**-4.2**
CMAR	**Chiang Mai Arr**	**23.57**	**262**	P	**P**	**16 40 53.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**23.57**	**262**	P	**P**	**16 40 53.0**	**+1.1**
	0.7nm,0.6s,baz=62,slow=9.3,SNR=6.6						
CMAR				LR	LR	16 50 43.3	
	comp=Z,183nm,19.3s,baz=235,slow=38						
ERM	**Erimo**	**24.63**	**37**	⇓*eP*	**P**	**16 41 00.7**	**-0.9**
ERM				pmax	pmax		
	comp=Z,24nm,0.8s						
ERM	**Erimo**	**24.63**	**37**	*eP*	**P**	**16 41 00.5**	**-1.1**
	comp=Z,19nm,0.8s						
JEM	**Erimo**	**24.63**	**37**	P	**P**	**16 41 00.7**	**-0.9**
ASAJ	**Asahikawa**	**25.82**	**33**	*e*P	**P**	**16 41 11.6**	**-0.7**
	comp=Z,5.5nm,0.6s						
ASAJ	**Asahikawa**	**25.82**	**33**	P	**P**	**16 41 12.7**	**+0.3**
	comp=Z,13nm,0.5s,baz=220,slow=8.6,SNR=28						
HIA	**Hailar**	**25.93**	**354**	*e*P	**P**	**16 41 11.9**	**-1.4**
	comp=Z,26nm,0.8s						
JMP	**Maruseppu**	**26.12**	**34**	P	**P**	**16 41 15.5**	**+0.4**
KLR	**Kul'dur**	**26.50**	**12**	*e*P	P	16 41 12.3	-6.1
YUK	**Yuzh-Kuril'sk**	**27.46**	**36**	*d*iP	**P**	**16 41 24.9**	**-2.2**
YUK				*e*		16 42 09.9	
YUK				*e*S	**S**	**16 46 02.7**	**-4.5**
YUK				*e*SS	**SnSn**	**16 47 15.7**	**-1.5**
YUK				pmax	pmax		
	comp=Z,223nm,1.1s						
YUK				pmax	pmax		
	comp=N,55nm,1.1s						
YUK				pmax	pmax		
	comp=E,173nm,1.2s						
YUK				pmax	pmax		
	comp=Z,345nm,1.4s						
YUK				MLR	MLR		
	comp=Z,233nm,23.0s						
ULN	**Ulaanbaatar**	**27.70**	**336**	*e*P	**P**	**16 41 28.9**	**-0.6**
ULN						16 41 31.8	
SONM	**Songino Array**	**27.93**	**335**	P	**P**	**16 41 30.8**	**-0.7**
SONM	**Songino Array**	**27.93**	**335**	P	**P**	**16 41 30.8**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=150,slow=8.5,SNR=22						
YSS	**Yuzh-Sakhalins**	**28.02**	**29**	*e*P	**P**	**16 41 33.0**	**+0.9**
PSI	**Prapat**	**31.52**	**233**	LR	LR	16 56 16.9	
	comp=Z,176nm,18.7s,baz=107,slow=39						
TLY	**Talaya**	**32.10**	**336**	*e*P	**P**	**16 42 07.4**	**-0.8**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**38.77**	**5**	*i* P	**P**	**16 43 05.2**	**-0.1**
PETK	**Petropavlovsk-**	**39.24**	**32**	P	**P**	**16 43 10.0**	**+0.5**
PETK	**Petropavlovsk-**	**39.24**	**32**	P	**P**	**16 43 09.9**	**+0.5**
PETK	**Petropavlovsk-**	**39.24**	**32**	P	**P**	**16 43 09.9**	**+0.5**
	comp=Z,4.7nm,0.6s,baz=165,slow=4.5,SNR=26						
PET	**Petropavlovsk**	**39.66**	**33**	*e*P	**P**	**16 43 13.3**	**+0.4**
PET				pmax	pmax		
	comp=Z,37nm,0.7s						
MK31	**Makanchi Array**	**40.41**	**316**	*e*P	**P**	**16 43 19.1**	**-0.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**40.41**	**316**	*e*P	**P**	**16 43 19.3**	**0.0**
MKAR	**Makanchi Array**	**40.41**	**316**	*i* P	**P**	**16 43 19.2**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**40.41**	**316**	P	**P**	**16 43 19.3**	**-0.1**
MKAR	**Makanchi Array**	**40.41**	**316**	P	**P**	**16 43 19.3**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=97,slow=8.5,SNR=63						
FITZ	**Fitzroy Crossi**	**41.36**	**177**	P	P	16 43 30.7	+3.4
FITZ	**Fitzroy Crossi**	**41.36**	**177**	P	P	16 43 30.7	+3.4
	comp=Z,1.5nm,0.7s,baz=5.9,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.07**	**326**	P	**P**	**16 43 31.5**	**-1.3**
ZALV	**Zalesovo Beam**	**42.07**	**326**	P	**P**	**16 43 31.5**	**-1.3**
ZALV	**Zalesovo Beam**	**42.07**	**326**	P	**P**	**16 43 31.5**	**-1.3**
	comp=Z,4.2nm,0.5s,baz=125,slow=8.8,SNR=18						
TKM2	**Tokmak 2**	**43.97**	**308**	*e*P	**P**	**16 43 49.8**	**+1.2**
TKM2	**Tokmak 2**	**43.97**	**308**	*e*P	**P**	**16 43 49.8**	**+1.2**
WRA	**Warramunga Arr**	**44.39**	**166**	P	**P**	**16 43 51.7**	**-0.2**
WRA	**Warramunga Arr**	**44.39**	**166**	P	**P**	**16 43 51.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=345,slow=8.9,SNR=14						
KK31	**Karatay Array**	**47.68**	**308**	P	**P**	**16 44 18.9**	**+1.2**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**47.68**	**308**	*e*P	**P**	**16 44 18.6**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**47.68**	**308**	*e*P	**P**	**16 44 18.6**	**+0.9**
	comp=Z,1.1nm,0.4s						
AS31	**Alice Springs**	**47.90**	**167**	*e*P	**P**	**16 44 20.7**	**+1.2**
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**16 44 19.5**	**0.0**
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**16 44 19.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=348,slow=7.1,SNR=9.8						
TIXI	**Tiksi**	**48.30**	**2**	*i* P	**P**	**16 44 21.7**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VOSK	**Vostochnaya**	**49.22**	**320**	P	**P**	**16 44 28.9**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVA0	**Borovoye Array**	**49.65**	**321**	*i* P	**P**	**16 44 32.3**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR	**Borovoye Array**	**49.65**	**321**	P	**P**	**16 44 32.2**	**-0.5**
BVAR	**Borovoye Array**	**49.65**	**321**	P	**P**	**16 44 32.2**	**-0.5**
BVAR	**Borovoye Array**	**49.65**	**321**	P	**P**	**16 44 32.2**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=110,slow=8.6,SNR=19						
BRVK	**Borovoye**	**49.72**	**321**	⇑*eP*	**P**	**16 44 34.9**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,11nm,2.5s						
BRVK	**Borovoye**	**49.72**	**321**	*eP*	**P**	**16 44 32.8**	**-0.3**
	comp=Z,4.2nm,0.5s						
AB31	**Akbulak array**	**55.54**	**315**	*i* P	**P**	**16 45 17.1**	**+0.8**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ABKAR	**Akbulak array**	**55.54**	**315**	*eP*	**P**	**16 45 16.7**	**+0.4**
	comp=Z,8.7nm,0.6s						
SVE	**Sverdlovsk**	**55.95**	**324**	⇑*eP*	**P**	**16 45 19.5**	**+0.4**
SVE				pmax	pmax		
	comp=Z,12nm,1.1s						
ARU	**Arti**	**57.02**	**323**	*c iP*	**P**	**16 45 26.5**	**-0.3**
ARU						16 47 28.7	
ARU				S	**S**	**16 53 20.2**	**-0.6**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**57.65**	**162**	P	**P**	**16 45 34.4**	**+3.0**
STKA	**Stephens Creek**	**57.65**	**162**	P	**P**	**16 45 34.4**	**+3.0**
	comp=Z,1.1nm,0.7s,baz=337,slow=7.7,SNR=2.7						
KBZ	**Khabaz**	**67.67**	**309**	P	**P**	**16 46 38.5**	**+0.2**
KBZ	**Khabaz**	**67.67**	**309**	P	**P**	**16 46

SPN	Mys Shipunski	3.52 10	eP	Pn	17 03 36.5	+3.7
SPN			i S	Sn	17 04 16.4	+2.9
UGLR	Uglovaya	3.58 358	eP	Pn	17 03 37.0	+3.2
SMAR	Somma	3.63 358	eP	Pn	17 03 37.6	+2.9
AVH	Avacha	3.64 357	eP	Pn	17 03 37.9	+3.4
AVH			i S	Sn	17 04 20.2	+3.6
SDLR	Sedlovina	3.65 358	eP	Pn	17 03 37.3	+2.6
KOK	Koryaka	3.67 356	eP	Pn	17 03 38.6	+3.6
KRER	Koryakskii	3.67 357	eP	Pn	17 03 38.9	+3.7
GNL	Ganaly	4.12 351	eP	Pn	17 03 44.4	+3.3
MKZ	Mys Kozlova	5.19 18	eP	Pn	17 03 57.7	+2.3
MKZ			i S	Sn	17 04 54.2	+0.2

*ISCJB **18** 17:09:32.6±0.2, 1°.53N±0°.03×126°.40E±0°.04, h47km, mb4.6/49, MS3.5/1, Error ellipse: s-maj=5.5km s-min=3.4km az=154.2*
*DJA **18** 17:09:33.6±0.6, 1°.N±8°×12°.6E±°, h10km, M4.8/9, mb4.9/4, mB5.0/3, MLv4.8/9, Mw(mB)4.4/3*
*BKK **18** 17:09:35.2±0.6, 2°.N±7°×12°.7E±°, h59km±6km, M4.9/16, mB5.2/5, mb4.8/16, MLv5.1/3, Mw(mB)4.6/5*
*IDC **18** 17:09:36.2±2.3, 1°.44N×126°.36E, h67km±21km, mb4.2/19, mb1 4.3/21, mb1mx4.2/26, mbtmp4.2/21, MS3.6/1, Ms1 3.6/1, ms1mx2.7/41, Error ellipse: s-maj=18.7km s-min=8.2km az=82.0*
*AUST **18** 17:09:37.9±0.0, 1°.42N×126°.43E, h88km, Error ellipse: s-maj=1.0km s-min=0.8km az=12.0*
*NEIC **18** 17:09:37.0±1.3, 1°.48N×126°.43E, h80km±13km, mb4.5/21, Error ellipse: s-maj=10.9km s-min=6.4km az=74.0*

ISC 18 17:09:34.2±0.3, 1°.52N±0°.04×126°.45E±0°.06, h47km, n157, σ19°31/147, mb4.5/49, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.17	129	P	Pn	17 09 53.1	-1.2
LBMI	Labuha	2.38	154	P	Pn	17 10 11.2	+0.4
GTOI	Gorontalo	3.55	256	P	Pn	17 10 29.7	+2.8
LUWI	Luwuk	4.47	235	P	Pn	17 10 44.7	+5.2
LUWI	Luwuk	4.47	235	P	Pn	17 10 42.6	+3.1
	baz=4.4,SNR=11						
MRSI	Marisa	4.63	257	P	Pn	17 10 45.5	+3.8
GSPH	General Santos	4.78	342	eP	Pn	17 10 44.7	+0.8
SWI	Sorong	5.35	116	P	Pn	17 10 54.7	+3.1
	48nm,0.8s,0.1nm						
SWI	Sorong	5.35	116	P	Pn	17 10 52.7	+1.1
	baz=5.3,SNR=8.3						
AAI	Ambon	5.45	161	P	Pn	17 10 54.9	+1.9
	baz=5.4,SNR=12						
BUKP	Musuan	6.47	348	eP	Pn	17 11 09.8	+2.7
PAGZ	Pagadian	7.00	334	eP	Pn	17 11 15.2	+1.0
PAGZ				eS	Px	17 11 20.9	
FAKI	Fak Fak	7.28	127	P	Pn	17 11 19.5	+1.5
	baz=7.3,SNR=14						
IPIL	Ipil	7.33	328	eP	Pn	17 11 20.2	+1.3
KKSI	Kolaka, Sulawe	7.41	220	P	Pn	17 11 21.6	+1.7
	74nm,0.7s,726nm0.2nm						
TTSI	Tana Toraja	8.03	236	P	Pn	17 11 29.6	+1.2
	54nm,0.8s,566nm0.2nm						
RKPI	Ransiki, Papua	8.29	111	P	Pn	17 11 43.5	+12
MYLDM	Lahad Datu	8.73	295	P	Pn	17 11 42.3	+4.3
MYLDM	Lahad Datu	8.73	295	P	Pn	17 11 41.5	+3.5
TSM	Tawau	9.00	288	P	Pn	17 11 43.4	+1.7
KAPI	Kappang	9.32	226	P	Pn	17 11 47.6	+1.6
KAPI				S	Sn	17 13 29.4	-0.2
KAPI	Kappang	9.32	226	P	Pn	17 11 47.6	+1.6
	4.9nm,0.3s,baz=34,slow=9.3,SNR=9.7						
KAPI				S	Sn	17 13 29.4	-0.2
	1.0nm,0.3s,baz=174,slow=19,SNR=2.3						
TLE	Tual	9.48	139	P	Pn	17 11 51.6	+3.4
	baz=9.5,SNR=7.2						
PALU	Palau	9.87	54	P	Pn	17 12 02.4	+8.8
	baz=10.0,SNR=3.8						
BAKI	Biak	10.02	106	P	Pn	17 12 02.2	+6.5
SDKM	Sandakan	10.11	294	P	Pn	17 11 59.5	+2.6
KDM	Kudat	10.99	299	P	Pn	17 12 12.7	+3.8
KKM	Kota Kinabalu	11.16	294	ePn	Pn	17 12 14.8	+3.4
	25nm,0.6s						
KKM	Kota Kinabalu	11.16	294	P	Pn	17 12 15.2	+3.8
KKM	Kota Kinabalu	11.16	294	P	Pn	17 12 15.2	+3.8
KKM	Kota Kinabalu	11.16	294	P	Pn	17 12 15.4	+4.0
	baz=11,SNR=20						
SOEI	Soe	11.41	191	P	Pn	17 12 23.8	+9.0
	baz=11,SNR=4.1						
BTM	Bintulu	13.46	277	P	P	17 12 52.0	+1.2
SBUM	Sibu	14.26	274	P	P	17 12 58.4	-1.3
SBUM	Sibu	14.26	274	P	P	17 12 59.1	-0.6
MTN	Manton Dam	15.00	162	P	Pn	17 13 04.5	+1.2
	baz=15,SNR=4.4						
KDU	Kakadu	15.32	157	P	P	17 13 13.3	+1.8
	baz=15,SNR=8.2						
KSM	Kuching	16.14	270	ePn	P	17 13 21.9	+1.3
KSM	Kuching	16.14	270	P	P	17 13 22.5	+1.9
KSM	Kuching	16.14	270	P	P	17 13 22.7	+2.1
KNRA	Kununurra	17.23	172	P	Pn	17 13 31.2	-0.4
	baz=17,SNR=31						
FITZ	Fitzroy Crossi	19.51	182	P	P	17 13 56.9	-0.8
FITZ	Fitzroy Crossi	19.51	182	P	P	17 13 56.9	-0.8
	0.6nm,0.3s,baz=9.1,slow=10,SNR=28						
FITZ	Fitzroy Crossi	19.51	182	P	P	17 13 56.7	-1.0
	baz=20,SNR=20						
MANU	Manus Island	21.20	100	S	S	17 17 38.9	-31
	baz=21,SNR=6.1						
GUMO	Guam	21.82	56	P	P	17 14 23.8	+1.2
YULB	Yu-li	22.32	347	eP	P	17 14 24.1	-3.9
	8.2nm,0.6s						
TPUB	Ta-pu	22.38	346	eP	P	17 14 26.6	-2.1
	20nm,0.6s						
MYKOM	Kota Tinggi	22.60	271	P	P	17 14 32.3	+1.2
MYKOM	Kota Tinggi	22.60	271	P	P	17 14 33.2	+2.1
COEN	Coen	22.60	133	P	P	17 14 31.6	+0.4
	baz=23,SNR=4.4						
WRAB	Tennant Creek	22.68	160	eP	P	17 14 30.4	-1.5
	38nm,0.6s						
WRAB				eS	S	17 18 33.1	-4.0
WRA	Warramunga Arr	22.68	160	P	P	17 14 30.8	-1.2
WRA				PcP	PcP	17 18 22.2	-1.1
WRA				S	S	17 18 35.7	-1.4
WRA	Warramunga Arr	22.68	160	P	P	17 14 30.8	-1.2
	32nm,0.6s,baz=338,slow=11,SNR=297						
WRA				PcP	PcP	17 18 22.2	-1.1
	0.5nm,0.6s,baz=330,slow=2.3,SNR=2.8						
WRA				S	S	17 18 35.7	-1.4
	2.2nm,0.8s,baz=344,slow=18,SNR=5.1						
SSLB	Suanglung	22.77	347	eP	P	17 14 34.0	+1.1
	11nm,0.8s						
KGM	Kluang	23.13	272	P	P	17 14 38.1	+1.5
MBWA	Marble Bar	23.48	196	eP	P	17 14 38.0	-1.8
	9.0nm,0.5s						
YHNB	Yeheng	23.54	348	eP	P	17 14 38.7	-1.7
	7.0nm,0.5s						
KTGM	Kuala Trenggan	23.58	280	P	P	17 14 41.7	+0.8
QIZ	Qiongzhong	23.83	318	eP	P	17 14 41.0	-2.2
UBPT	Khong Chiam	24.82	305	P	P	17 14 53.3	+1.1
UBPT	Khong Chiam	24.82	305	P	P	17 14 53.3	+1.1
	12nm,1.0s						
IPM	Ipoh	25.56	277	P	P	17 14 59.9	+0.9
KULM	Kulim	26.03	279	P	P	17 15 01.8	-1.5
	8.7nm,1.0s						
AS31	Alice Springs	26.06	164	eP	P	17 15 02.8	-0.7
ASAR	Alice Springs	26.06	164	P	P	17 15 03.2	-0.2
ASAR				PcP	PcP	17 18 30.3	-0.3
ASAR				S	S	17 19 30.9	-0.6
ASAR	Alice Springs	26.06	164	P	P	17 15 03.2	-0.2
	7.1nm,0.6s,baz=346,slow=8.4,SNR=257						
ASAR				PcP	PcP	17 18 30.3	-0.3
	1.0nm,0.7s,baz=354,slow=2.1,SNR=4.7						
ASAR				S	S	17 19 30.9	-0.6
	1.1nm,0.9s,baz=350,slow=19,SNR=4.7						
PPI	Padang Panjang	26.13	266	P	P	17 15 03.7	-0.5
MTSU	Mount Surprise	26.28	139	P	P	17 15 06.0	+0.5
	baz=26,SNR=4.7						
PSI	Prapat	27.54	273	P	P	17 15 16.8	-0.3
PSI	Prapat	27.54	273	P	P	17 15 16.8	-0.3
	4.6nm,0.5s,baz=106,slow=7.4,SNR=4.7						
MEEK	Meekatharra	28.99	195	P	P	17 15 29.1	-0.6
	baz=29,SNR=7.2						
PBKT	Sadao Pong	29.21	302	P	P	17 15 35.0	+3.3
PBKT	Sadao Pong	29.21	302	P	P	17 15 35.0	+3.3
	6.4nm,0.7s						
LOEI	Loei	29.42	304	P	P	17 15 30.1	-3.5
	241nm,0.9s						
UTHA	Uthaitani	30.07	299	P	P	17 15 38.9	-0.5
	2.9nm,0.6s						
NANT	Nan	30.54	306	P	P	17 15 44.3	+0.9
	37nm,0.7s						
JNU	Nakatsue	31.71	7	P	P	17 15 54.1	+0.4
JNU	Nakatsue	31.71	7	P	P	17 15 54.1	+0.4
	5.8nm,0.8s,baz=174,slow=4.8,SNR=3.6						
CMAR	Chiang Mai Arr	31.81	304	P	P	17 15 54.1	-0.6
CMAR	Chiang Mai Arr	31.81	304	P	P	17 15 54.1	-0.6
	0.5nm,0.3s,baz=88,slow=6.4,SNR=5.1						
CHTO	Chiang Mai	31.98	304	eP	P	17 15 55.4	-0.8
	3.4nm,0.6s						
CHTO	Chiang Mai	31.98	304	P	P	17 15 55.6	-0.6
CHTO	Chiang Mai	31.98	304	P	P	17 15 55.6	-0.6
	6.6nm,0.7s,307nm						
MORW	Morawa	32.00	197	P	P	17 15 55.8	-0.4
	baz=32,SNR=4.8						
PATS	Pohnpei	32.20	80	S	S	17 21 28.6	+20
	baz=32,SNR=3.7						
CMAI	Chiengmai2	32.45	306	P	P	17 16 00.5	0.0
	88nm,1.0s,3μm						
ENH	Enshi	32.82	332	eP	P	17 16 01.4	-2.1
	5.1nm,0.5s						
BLDU	Ballidu	33.27	195	P	P	17 16 07.3	0.0
	baz=33,SNR=6.2						
BBOO	Buckleboo	35.33	166	P	P	17 16 25.1	0.0
	baz=35,SNR=16						
KSAR	Wonju Array Be	35.78	2	P	P	17 16 30.6	+1.7
KSRS	Korea Array	35.79	2	P	P	17 16 30.6	+1.7
	0.8nm,0.4s,baz=182,slow=10.0,SNR=9.4						
STKA	Stephens Creek	36.18	158	P	P	17 16 31.9	-0.5
STKA	Stephens Creek	36.18	158	P	P	17 16 31.9	-0.5
	4.3nm,0.4s,baz=340,slow=9.2,SNR=32						
STKA	Stephens Creek	36.18	158	P	P	17 16 32.2	-0.3
	baz=36,SNR=20						
MAT	Matsushiro	36.51	16	P	P	17 16 35.8	+0.6
MJAR	Matsushiro Arr	36.51	16	P	P	17 16 35.7	+0.5
MJAR	Matsushiro Arr	36.51	16	P	P	17 16 35.7	+0.5
	2.8nm,0.6s,baz=189,slow=9.7,SNR=10						
MJAR				LR	LR	17 30 04.5	
	comp=Z,91nm,20.9s,baz=260,slow=34						
RKGY	Rocky Gully	37.02	193	P	P	17 16 40.8	+1.2
	baz=37,SNR=5.7						
ARMA	Armidale	39.80	145	P	P	17 17 04.6	+1.5
	baz=40,SNR=4.3						
ARPS	Mount Arapiles	40.69	161	P	P	17 17 11.2	+1.0
	baz=41,SNR=14						
USRK	Ussuriysk Arra	42.79	6	P	P	17 17 28.0	+0.8
	2.6nm,0.6s,baz=187,slow=6.0,SNR=10.0						
LSA	Lhasa	43.72	313	eP	P	17 17 35.8	+0.2
	6.4nm,0.6s						
ASAJ	Asahikawa	44.78	17	P	P	17 17 44.3	+1.0
ASAJ	Asahikawa	44.78	17	P	P	17 17 44.3	+1.0
	3.7nm,0.7s,baz=224,slow=6.1,SNR=7.3						
ODAN	Odare	45.16	307	eP	P	17 17 46.4	-0.5
	12nm,0.5s						
RAMN	Ramite	45.83	307	eP	P	17 17 51.4	-0.8
	11nm,0.4s						
JIRN	Jiri	46.47	308	eP	P	17 17 56.3	-1.1
	17nm,0.4s						
GUN	Gumba	46.83	308	eP	P	17 17 58.8	-1.4
	25nm,0.4s						
PKI	Pulchoki	47.05	307	eP	P	17 18 00.5	-1.4
	6.9nm,0.4s						
PKIN	Phulchoki	47.06	307	eP	P	17 17 59.8	-2.1
	6.4nm,0.4s						
KKN	Kakani	47.25	307	eP	P	17 18 01.8	-1.5
	9.6nm,0.5s						
DMN	Daman	47.31	307	eP	P	17 18 02.2	-1.6
	8.2nm,0.5s						
KOLN	Koldanda	48.58	307	eP	P	17 18 12.4	-1.2
	34nm,0.5s						
DANN	Dangsing	48.70	307	eP	P	17 18 12.8	-1.8
	25nm,0.5s						
ULN	Ulaanbaatar	49.13	343	eP	P	17 18 16.9	-0.5
	3.7nm,0.6s						
ULN	Ulaanbaatar	49.13	343	P	P	17 18 18.6	+1.2
PYUN	Piuthan	49.21	307	eP	P	17 18 17.5	-0.9
	39nm,0.6s						
SONM	Songino Array	49.30	342	P	P	17 18 18.7	0.0
SONM	Songino Array	49.30	342	P	P	17 18 18.7	0.0
	1.4nm,0.5s,baz=158,slow=8.4,SNR=15						
PETK	Petropavlovsk-	57.57	22	P	P	17 19 20.4	+1.2
PETK	Petropavlovsk-	57.57	22	P	P	17 19 20.4	+1.2
	2.1nm,0.6s,baz=181,slow=6.6,SNR=20						
MK31	Makanchi Array	59.22	326	eP	P	17 19 29.9	-0.8
MKAR	Makanchi Array	59.22	326	P	P	17 19 30.4	-0.4
MKAR	Makanchi Array	59.22	326	P	P	17 19 30.4	-0.4
	5.6nm,0.5s,baz=120,slow=8.4,SNR=23						
TKM2	Tokmak 2	61.23	319	eP	P	17 19 43.5	-1.3
	5.8nm,0.6s						
EKS2	Erkin-Say	62.30	319	eP	P	17 19 51.4	-0.5
	5.2nm,0.6s						
ZAA0	Zalesovo Array	62.43	334	eP	P	17 19 50.4	-2.0
ZALV	Zalesovo Beam	62.43	334	P	P	17 19 51.4	-1.0
ZALV	Zalesovo Beam	62.43	334	P	P	17 19 51.4	-1.0
	2.2nm,0.4s,baz=125,slow=6.3,SNR=15						
KBL	Kabul	62.66	308	eP	P	17 19 53.5	-1.1
	8.8nm,0.6s						
KKAR	Karatay Array	64.67	318	eP	P	17 20 06.2	-1.2
	3.2nm,0.6s						
CASY	Casey	68.60	187	eP	P	17 20 32.2	+0.2
	3.5nm,0.9s						
BRVK	Borovoye	69.09	328	eP	P	17 20 34.5	-0.8
	4.2nm,0.6s						
ABKAR	Akbulak array	73.69	321	eP	P	17 21 02.4	-0.7
	2.1nm,0.4s						
RDF	Al-Radifah	79.56	299	eP	P	17 21 35.6	-1.1
RDF				AMb	AMB	17 21 38.5	
	comp=Z,20nm,0.9s						
MIB	Mutribah	79.80	300	eP	P	17 21 36.6	-1.4
MIB				AMb	AMB	17 21 38.0	
	comp=Z,21nm,0.7s						
NAY	Al-Naaiem	79.85	299	eP	P	17 21 36.7	-1.7
NAY				AMb	AMB	17 21 38.5	
	comp=Z,0.6nm,0.9s						
VNDA	Vanda	81.28	173	eP	P	17 21 44.9	-0.1
	comp=Z,3.1nm,0.6s						
VNDA	Vanda	81.28	173	P	P	17 21 45.1	+0.2
	comp=Z,3.0nm,0.6s,baz=317,slow=7.9,SNR=29						
SBA	Scott Base	82.19	172	eP	P	17 21 51.2	+1.4
	comp=Z,1.6nm,0.6s						
KBZ	Khabaz	84.30	314	P	P	17 22 01.2	-0.1
KBZ	Khabaz	84.30	314	P	P	17 22 01.2	-0.1
	comp=Z,2.7nm,0.8s,baz=96,slow=5.1,SNR=7.0						
COLD	Coldfoot	86.03	23	P	P	17 22 04.9	-4.6
ASF	Jabal al Asfar	88.83	302	P	P	17 22 24.7	+0.9
ASF	Jabal al Asfar	88.83	302	P	P	17 22 24.7	+0.9
	comp=Z,3.2nm,0.6s,baz=46,slow=4.9,SNR=7.2						
KMBO	Kilima Mbogo	89.23	269	P	P	17 22 27.6	+1.3
	comp=Z,4.4nm,0.9s						
QSPA	South Pole Qui	91.44	180	eP	P	17 22 35.4	+0.1
ARCES	ARCESS Array B	92.42	340	P	P	17 22 38.4	-1.2
ARCES	ARCESS Array B	92.42	340	P	P	17 22 38.4	-1.2
	comp=Z,3.2nm,0.9s,baz=79,slow=6.8,SNR=4.8						
KAF	Kangasniemi	93.42	332	ep	P	17 22 40.2	-4.2
	comp=Z,1.2nm,0.4s						
FINES	FINESS Array B	93.64	332	P	P	17 22 44.0	-1.4
FINES	FINESS Array B	93.64	332	P	P	17 22 44.0	-1.4
	comp=Z,2.5nm,0.5s,baz=76,slow=5.9,SNR=19						
NOA	NORSAR Array B	100.63	333	P	Pdif	17 23 15.6	-1.5
NOA	NORSAR Array B	100.63	333	P	Pdif	17 23 15.6	-1.5
	comp=Z,0.3nm,0.5s,baz=78,slow=4.2,SNR=2.5						
TORD	Torodi Ar. Bea	123.32	287	PKP	PKPdf	17 28 26.0	-1.1
TORD	Torodi Ar. Bea	123.32	287	PKP	PKPdf	17 28 26.0	-1.1
	comp=Z,0.9nm,0.8s,baz=60,slow=1.6,SNR=4.3						

IDC 18 17:21:24.2±30.0, 17°.47S×174°.84W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=581.4km s-min=146.8km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.82	242	P	P	17 29 16.8	+0.8
	2.2nm,0.9s,baz=82,slow=7.1,SNR=2.4						
WRA	Warramunga Arr	48.05	259	P	P	17 30 05.3	-0.5
	0.4nm,0.5s,baz=98,slow=7.4,SNR=12						
ASAR	Alice Springs	48.18	254	P	P	17 30 06.3	-0.5
	0.6nm,0.7s,baz=91,slow=7.4,SNR=17						
FITZ	Fitzroy Crossi	56.45	260	P	P	17 31 07.9	-0.3
	0.5nm,0.5s,baz=90,slow=6.1,SNR=4.3						

IDC 18 17:25:40.8±3.5, 1°.23S×99°.90E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/24, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=145.3km s-min=20.5km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.12	346	Pn	Pn	17 26 44.9	-0.3
	0.5nm,0.3s,baz=162,slow=20,SNR=3.3						
CMAR	Chiang Mai Arr	19.59	357	P	P	17 30 09.1	-1.5
	0.1nm,0.3s,baz=181,slow=9.5,SNR=3.0						
WRA	Warramunga Arr	38.47	121	P	P	17 33 04.7	-0.2
	0.4nm,0.8s,baz=302,slow=9.1,SNR=4.0						
ASAR	Alice Springs	39.79	127	P	P	17 33 15.8	-0.1
	0.2nm,0.6s,baz=302,slow=7.8,SNR=5.3						
SONM	Songino Array	49.19	6	P	P	17 34 31.3	+0.5
	0.2nm,0.5s,baz=182,slow=9.4,SNR=2.7						
MKAR	Makanchi Array	50.27	344	P	P	17 34 38.3	-0.6
	0.5nm,0.5s,baz=157,slow=8.3,SNR=11						
ZALV	Zalesovo Beam	56.40	349	P	P	17 35 24.1	+0.3
	0.4nm,0.4s,baz=164,slow=7.3,SNR=4.1						

*NOU **18** 17:42:40.4±1.3, 19°.17S×169°.18E, h10km±999km, MD3.1, ML2.2*
*IDC **18** 17:42:40.0±8.4, 18°.65S×168°.66E, h99km±64km, mb3.6/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=116.2km s-min=61.7km az=112.0*

ISC 18 17:42:43.0±4.4, 19°.2S±0°.3×169°.0E±0°.6, h147km, n8, σ0°80/11, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.76	219	eP	Pn	17 43 39.5	-0.6
DZM	Mont Dzumac	3.76	219	P	Pn	17 43 40.0	-0.1
	8.5nm,0.3s,baz=40,slow=20,SNR=285						
DZM				S	Sn	17 44 24.9	+0.4
	6.8nm,0.3s,baz=124,slow=22,SNR=7.9						
NORM	Noumea	3.86	217	eP	Pn	17 43 40.3	-1.1
NOUC	Port Laguerre	3.87	221	eP	Pn	17 43 41.8	+0.3
NOUC				eS	Sn	17 44 27.4	+0.5
NOUC				AMP		17 44 29.8	
	comp=Z,11nm,1.6s						
MVNO	Noumea	3.92	218	eP	Pn	17 43 42.7	+0.7
MVNO				eS	Sn	17 44 26.9	-1.0
STKA	Stephens Creek	27.70	237	P	P	17 48 18.5	+1.0
	comp=Z,1.0nm,0.6s,baz=63,slow=9.0,SNR=3.3						
WRA	Warramunga Arr	32.65	263	P	P	17 49 00.6	-0.8
	comp=Z,0.3nm,0.3s,baz=90,slow=8.5,SNR=18						
ASAR	Alice Springs	32.94	256	P	P	17 49 04.0	+0.1
	comp=Z,1.6nm,0.5s,baz=82,slow=8.6,SNR=61						

*ISCJB **18** 17:46:48.9±0.5, 27°.45S±0°.07×178°.2W±0°.1, h180km, mb3.9/10, Error ellipse: s-maj=15.3km s-min=9.7km az=6.8*
*IDC **18** 17:46:50.6±1.0, 27°.50S×178°.16W, h184km±10km, mb3.7/10, mb1 4.0/12, mb1mx3.8/20, mbtmp3.8/12, MS3.3/1, Ms1 3.3/1, ms1mx2.8/29, Error ellipse: s-maj=17.4km s-min=15.4km az=115.0*

ISC 18 17:46:50.2±0.6, 27°.45S±0°.08×178°.2W±0°.1, h180km, n23, σ0°88/23, mb3.8/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.81	172	P	Pn	17 47 27.0	+1.9
	1μm,0.3s,baz=69,slow=3.6,SNR=60						
RAO				LR	LR	17 47 45.7	
	comp=Z,438nm,20.1s,baz=26,slow=31						
RAO				S	Sn	17 47 52.0	-0.5
	301nm,0.3s,baz=233,slow=20,SNR=6.1						
AFI	Afiamalu	14.75	25	P	Pn	17 50 10.7	+0.4
	5.9nm,0.3s,baz=244,slow=19,SNR=6.6						
DZM	Mont Dzumac	14.94	288	LR	LR	17 54 07.9	
	comp=Z,111nm,20.2s,baz=249,slow=29						
RAR	Rarotonga	17.90	74	P	P	17 50 46.3	+0.1
	1.2nm,0.3s,baz=270,slow=3.9,SNR=4.0						
ASAR	Alice Springs	43.17	264	P	P	17 54 33.9	+0.5
	0.4nm,0.5s,baz=100,slow=7.3,SNR=20						
WRA	Warramunga Arr	43.89	269	P	P	17 54 38.7	-0.4
	1.4nm,0.7s,baz=107,slow=6.2,SNR=12						
VNDA	Vanda	51.00	185	P	P	17 55 33.4	+0.3
	0.7nm,0.6s,baz=16,slow=9.4,SNR=8.6						
QSPA	South Pole Qui	62.65	180	P	P	17 56 55.5	+0.2
	3.3nm,0.6s,baz=12,slow=6.3						
MJAR	Matsushiro Arr	75.73	325	P	P	17 58 16.0	+0.1
	4.3nm,0.6s,baz=166,slow=5.7,SNR=20						
SNAA	Sanae	81.09	179	eP	P	17 58 44.0	-0.9
VNA2	Neumayer--Watz	81.68	177	eP	P	17 58 47.6	-0.3
VNA1	Neumayer--Stat	81.91	177	eP	P	17 58 48.8	-0.2
PETK	Petropavlovsk-	82.93	346	P	P	17 58 54.6	+0.3
	3.3nm,0.7s,baz=134,slow=7.2,SNR=7.7						
USRK	Ussuriysk Arra	84.61	327	P	P	17 59 04.1	+1.0
	1.8nm,0.5s,baz=132,slow=2.1,SNR=7.1						
NVAR	Mina Array Bea	86.20	43	P	P	17 59 11.5	0.0
	1.3nm,0.8s,baz=220,slow=8.3,SNR=8.7						
TXAR	Lajitas Array	90.95	57	P	P	17 59 34.1	+0.2
	0.8nm,0.8s,baz=224,slow=5.0,SNR=4.8						
PDAR	Pinedale Array	94.12	43	P	P	17 59 47.5	-0.9
	0.5nm,0.7s,baz=224,slow=3.8,SNR=4.6						
FINES	FINESS Array B	142.32	341	PKhKP	PKPpre	18 05 56.1	
	2.6nm,1.0s,baz=40,slow=2.4,SNR=3.9						
NB2	NORSAR Subarra	145.82	352	PKP	PKPbc	18 06 08.0	+0.4
	comp=Z,1.7nm,0.6s,baz=20,slow=2.9						
NOA	NORSAR Array B	145.82	352	PKPbc	PKPbc	18 06 07.7	+0.1
	comp=Z,1.4nm,0.7s,baz=16,slow=2.7,SNR=6.4						
AKASG	Mal

PDSI	Padang	2.52	90	P	Pn	17 51 14.1	-2.3
BKNI	Bangkinang	3.33	69	P	Pn	17 51 27.2	-0.3
BKNI	Bangkinang	3.33	69	P	Pn	17 51 29.1	+1.6
baz=3.3,SNR=10.0							
SDSI	Sungai Dareh	3.49	91	P	Pn	17 51 29.9	+0.2
PSI	Prapat	3.80	15	Pn	Pn	17 51 32.2	-1.9
PSI	Prapat	3.80	15	Pn	Pn	17 51 32.2	-1.9
41nm,0.3s,baz=177,slow=14,SNR=79							
PSI	Prapat	3.80	15	P	Pn	17 51 32.0	-2.2
baz=3.7,SNR=78							
TSI	Tuntungan	4.41	8	P	Pn	17 51 41.6	-0.8
TSI				S	Sn	17 52 36.8	+4.2
RGRI	Rengat	4.43	83	P	Pn	17 51 44.0	+1.4
MASI	Maura Aman, Be	4.84	117	P	Pn	17 51 47.3	-1.0
KSI	Kapahiang	5.39	121	P	Pn	17 51 54.7	-1.3
KSI				S	Sn	17 52 59.7	+2.7
MNAI	Manna	6.08	125	P	Pn	17 52 03.3	-2.0
MNAI				S	Sn	17 53 15.8	+2.1
MNAI	Manna	6.08	125	P	Pn	17 52 03.8	-1.6
baz=6.0,SNR=38							
KGM	Kluang	6.11	62	P	Pn	17 52 06.0	+0.2
LHMI	Lhok Sumawe	6.17	351	P	Pn	17 52 04.5	-2.0
LHMI	Lhok Sumawe	6.17	351	P	Pn	17 52 05.7	-0.8
baz=6.2,SNR=12							
IPM	Ipoh	6.17	30⇑	*i*Pn	Pn	17 52 07.1	+0.5
876nm,0.9s							
IPM	Ipoh	6.17	30	P	Pn	17 52 08.4	+1.8
IPM	Ipoh	6.17	30	P	Pn	17 52 07.7	+1.1
BTDF	Bukit Timah Da	6.25	69	P	Pn	17 52 07.4	-0.2
baz=6.2,SNR=23							
BTDF				P	Pn	17 52 07.4	-0.2
baz=6.2,SNR=23							
MYKOM	Kota Tinggi	6.49	66	P	Pn	17 52 11.1	+0.2
MYKOM	Kota Tinggi	6.49	66	P	Pn	17 52 10.6	-0.3
KULM	Kulim	6.72	24⇑	*i*Pn	Pn	17 52 13.5	-0.6
471nm,0.9s							
KULM	Kulim	6.72	24	P	Pn	17 52 14.5	+0.4
KULM	Kulim	6.72	24	P	Pn	17 52 12.8	-1.3
BSI	Banda Aceh	6.88	337	P	Pn	17 52 12.4	-3.9
PMBI	Palembang	7.12	107	P	Pn	17 52 17.5	-2.1
LWLI	Liwa	7.36	124	P	Pn	17 52 21.7	-1.3
LWLI				S	Sn	17 53 43.0	-2.4
KLSI		7.76	119	P	Pn	17 52 27.1	-1.3
KLI	Kotabumi	7.95	120	P	Pn	17 52 30.9	-0.2
642nm,1.2s,13μm3.8nm							
KASI	Kota Agung	8.00	125	P	Pn	17 52 28.6	-3.1
KTGM	Kuala Trenggan	8.07	40	P	Pn	17 52 33.2	+0.5
PPBI	Pangkal Pinang	8.29	99	P	Pn	17 52 35.6	-0.1
BLSI	Bandar Lampung	8.54	121	P	Pn	17 52 43.8	+4.7
PKDT	Phuket	8.74	3	P	Pn	17 52 41.2	-0.7
125nm,0.9s,3μm0.6nm							
TPI	Tanjungpandan	9.88	101	P	Pn	17 52 57.1	-0.5
DBJI	Dramaga	10.43	123	P	Pn	17 53 01.6	-3.5
COCO	West Island	11.27	186	*e*P	Pn	17 53 12.3	-4.3
COCO	West Island	11.27	186	*e*Pn	Pn	17 53 12.3	-4.3
LEM	Lembang	11.31	122	P	Pn	17 53 13.3	-3.9
CISI	Cisompet, Garu	11.86	124	P	Pn	17 53 19.5	-5.2
CISI	Cisompet, Garu	11.86	124	P	Pn	17 53 20.5	-4.2
baz=12,SNR=14							
CISI				S	Sn	17 55 24.5	-12
baz=12,SNR=6.4							
KSM	Kuching	12.59	79	*e*Pn	Pn	17 53 35.4	+0.7
162nm,1.3s							
KSM	Kuching	12.59	79	P	Pn	17 53 36.7	+2.0
KSM	Kuching	12.59	79	P	Pn	17 53 35.9	+1.3
KSM	Kuching	12.59	79	P	Pn	17 53 36.2	+1.6
baz=12,SNR=9.2							
BJII	Banjamegara	13.36	119	P	Pn	17 53 49.8	+4.5
PBA	Port Blair	13.50	338	*e*P	Pn	17 53 47.9	+0.9
STKI	Sintang	13.57	86	P	Pn	17 53 49.8	+1.7
211nm,1.7s,4μm							
PHET	Kaeng Krachan	13.82	7	P	Pn	17 53 53.3	+1.9
186nm,0.9s,3μm							
PBKI	Pangkalan Bun	13.84	98	P	Pn	17 53 52.7	+1.0
380nm,1.7s,6μm							
CHBT	CHBT	14.24	18	P	P	17 54 03.3	-0.8
CHBT	CHBT	14.24	18	P	Pn	17 53 56.8	-0.4
214nm,0.9s,3μm							
UGM	Wanagama	14.35	119	P	Pn	17 53 55.9	-2.8
baz=14,SNR=6.9							
SBUM	Sibu	14.66	77	P	Pn	17 54 03.9	+1.0
SBUM	Sibu	14.66	77	P	Pn	17 54 02.9	0.0
DGPR	DIGLIPUR	14.84	341	*ex*	Pn	17 54 00.0	-5.2
PCJI	Pacitan	15.05	119	P	P	17 54 14.7	+1.7
SJI	Sawahan	15.36	117	P	Pn	17 54 11.5	-0.8
84nm,1.5s,2μm							
NAYO	Nakonayok	15.48	12	P	Pn	17 54 12.9	-0.8
545nm,1.1s							
PWJI	Pagerwojo	15.52	118	P	Pn	17 54 15.1	+0.8
86nm,1.8s,3μm							
BTM	Bintulu	15.68	75	P	Pn	17 54 17.5	+1.2
UTHA	Uthaitani	16.42	5	P	Pn	17 54 25.9	+0.1
144nm,1.0s,1μm							
MTKI	Muara Teweh, K	16.95	90	P	P	17 54 33.8	-0.4
496nm,1.4s,7μm							
BBKI	Banjar Baru	17.08	99	P	Pn	17 54 33.3	-0.8
PBKT	Sadao Pong	17.61	10	P	Pn	17 54 40.3	-0.4
252nm,1.5s,5μm							
PBKT	Sadao Pong	17.61	10	P	Pn	17 54 40.3	-0.4
252nm,1.5s,5μm							
UBPT	Khong Chiam	17.71	25	P	Pn	17 54 40.2	-1.8
141nm,1.0s,3μm							
UBPT	Khong Chiam	17.71	25	P	Pn	17 54 40.2	-1.8
141nm,1.0s,3μm							
LOEI	Loei	18.58	10	P	P	17 54 51.8	-0.3
326nm,1.4s,23μm							
SRBI	Singaraja	18.63	113	P	Pn	17 54 54.3	+1.1
126nm,1.8s,3μm							
BKB	Balikpapan	18.96	91	P	Pn	17 54 58.6	+1.4
433nm,2.5s,11μm							
PALK	Pallekele	19.01	296	Pn	Pn	17 54 58.9	+1.0
529nm,1.1s,SNR=15							
PALK	Pallekele	19.01	296	P	Pn	17 54 58.6	+0.7
SNR=7.0							
PALK	Pallekele	19.01	296⇓	*e*P	Pn	17 54 57.5	-0.4
135nm,1.1s							
PALK	Pallekele	19.01	296	P	Pn	17 54 58.2	+0.3
108nm,1.3s,3μm							
PANO	Nakornpanom	19.10	20	P	P	17 54 56.8	-1.0
277nm,1.1s,5μm							
CM31	Chiang Mai Arr	19.26	3⇑	*i*P	P	17 54 59.3	-0.3
51nm,0.8s							
CMAR	Chiang Mai Arr	19.26	3	P	P	17 54 59.8	+0.2
CMAR	Chiang Mai Arr	19.26	3	P	P	17 54 59.8	+0.2
2.9nm,0.3s,baz=191,slow=10,SNR=199							
CMAR				LR	LR	18 02 06.4	
comp=Z,4μm,19.6s,baz=185,slow=36							
KKM	Kota Kinabalu	19.51	69⇑	*i*P	P	17 55 01.5	-0.9
273nm,0.9s							
KKM	Kota Kinabalu	19.51	69	P	P	17 55 02.6	+0.1
KKM	Kota Kinabalu	19.51	69	P	P	17 55 01.9	-0.5
380nm,1.1s,6μm							
KKM	Kota Kinabalu	19.51	69	P	P	17 55 02.0	-0.5
baz=20,SNR=94							
CHTO	Chiang Mai	19.61	3⇑	*i*P	P	17 55 03.2	-0.3
CHTO				*e*S	Sn	17 58 43.9	-0.4
CHTO				pmax	pmax		
comp=Z,59nm,0.8s							
CHTO	Chiang Mai	19.61	3	P	P	17 55 03.6	+0.1
SNR=68							
CHTO	Chiang Mai	19.61	3⇑	*i*P	P	17 55 03.1	-0.3
comp=Z,59nm,0.8s							
CHTO				*e*S	Sn	17 58 43.9	-0.4
CHTO	Chiang Mai	19.61	3	P	P	17 55 02.9	-0.5
comp=Z,113nm,0.8s,comp=Z,4μm							
CHTO	Chiang Mai	19.61	3	P	P	17 55 02.9	-0.5
comp=Z,113nm,0.8s,comp=Z,4μm							
SGKI	Sangatta, Kali	19.67	89	P	Pn	17 55 08.5	+2.8
comp=Z,231nm,1.5s,comp=Z,5μm							
SDKM	Sandakan	20.30	71	P	P	17 55 10.9	-0.1
KDM	Kudat	20.39	67	P	P	17 55 11.9	0.0
TSM	Tawau	20.57	75	P	P	17 55 13.2	-0.8
CMAI	Chiengmai2	20.73	3	P	P	17 55 16.0	+0.3
comp=Z,263nm,0.9s,comp=Z,6μm							
MMSI	Mamuju	21.04	95	P	P	17 55 18.6	-0.4
comp=Z,368nm,1.2s,comp=Z,6μm							
MYLDM	Lahad Datu	21.41	73	P	P	17 55 23.3	+0.4
MYLDM	Lahad Datu	21.41	73	P	P	17 55 22.8	-0.1
comp=Z,322nm,1.8s,comp=Z,5μm							
TTSI	Tana Toraja	21.97	96	P	P	17 55 29.5	+0.5
comp=Z,150nm,1.8s,comp=Z,4μm							
KAPI	Kappang	22.16	101	*e*P	P	17 55 27.9	-3.1
comp=Z,286nm,1.3s							
KAPI				*e*S	S	17 59 32.6	-0.8
KAPI				LR	LR		
comp=Z,8μm,19.0s							
KAPI	Kappang	22.16	101	P	P	17 55 31.7	+0.7
comp=Z,153nm,1.1s,comp=Z,3μm							
KAPI	Kappang	22.16	101	P	P	17 55 28.7	-2.3
comp=Z,28nm,0.9s,baz=270,slow=10,SNR=7.3							
BKSI	Bulukumba	22.58	102	P	P	17 55 34.6	-0.9
comp=Z,196nm,2.1s,comp=Z,4μm							
TRD	Trivandrum	22.90	294	*e*P	P	17 55 40.1	+1.2
TOLI	Toli-Toli	22.94	85	P	P	17 55 38.5	-0.8
comp=Z,216nm,1.0s,comp=Z,3μm							
QIZ	Qiongzhong	23.00	30	P	P	17 55 39.5	-0.3
QIZ				sP	sP	17 55 51.6	-1.8
QIZ				S	S	17 59 49.6	+1.5
QIZ				sS	sS	18 00 01.9	-2.3
QIZ				pmax	pmax		
comp=Z,110nm,1.6s							
QIZ				pmax	pmax		
comp=Z,2μm,9.0s							
QIZ				LR	LR		
comp=N,11μm,12.0s							
QIZ				LR	LR		
comp=Z,15μm,11.6s							
QIZ	Qiongzhong	23.00	30	*e*P	P	17 55 39.2	-0.6
comp=Z,247nm,1.5s							
QIZ				LR	LR		
comp=Z,6μm,19.0s							
VIS	Vishakhapatnam	23.44	323	*e*P	P	17 55 46.2	+2.0
VIS				AMB	AMB	17 55 54.0	
comp=Z,167nm,1.5s							
KKSI	Kolaka, Sulawe	23.91	98	P	P	17 55 48.3	-0.5
comp=Z,188nm,2.1s,comp=Z,4μm							
MRSI	Marisa	24.04	87	P	P	17 55 48.5	-1.5
comp=Z,282nm,1.7s,comp=Z,4μm							
LUWI	Luwuk	24.83	91	P	P	17 55 57.5	+0.3
comp=Z,330nm,1.6s,comp=Z,6μm							
LUWI	Luwuk	24.83	91	P	P	17 55 56.7	-0.5
baz=25,SNR=4.6							
BBSI	Bau Bau	25.01	101	P	P	17 56 00.1	+1.3
comp=Z,216nm,1.1s,comp=Z,4μm							
GTOI	Gorontalo	25.12	87	P	P	17 55 58.1	-1.7
DGAR	Diego Garcia	26.22	255	PFAKE		17 56 20.0	+10
DGAR				LR	LR		
comp=Z,4μm,21.0s							
KMI	Kunming	26.28	10	P	P	17 56 12.1	+1.6
KMI				pP	pP	17 56 22.9	+2.6
KMI				sP	sP	17 56 27.0	+2.5
KMI				PP	PnPn	17 56 58.3	+7.8
KMI				S	S	18 00 44.6	+3.4
KMI				sS	sS	18 01 03.8	+6.3
KMI				SS	SnSn	18 01 59.8	+17
KMI				pmax	pmax		
comp=Z,150nm,1.3s							
KMI				pmax	pmax		
comp=Z,2μm,6.5s							
KMI				LR	LR		
comp=N,18μm,12.7s							
KMI				LR	LR		
comp=E,8μm,12.4s							
KMI				LR	LR		
comp=Z,20μm,12.7s							
HYB	Hyderabad	26.38	315	*i* P	P	17 56 13.0	+1.7
HYB				*e*		17 56 18.5	
HYB				*e*S	S	18 00 44.0	+1.5
HYB	Hyderabad	26.38	315	*e*P	P	17 56 11.9	+0.7
HYB				AMB	AMB	17 56 20.4	
comp=Z,68nm,1.2s							
SHL	Shillong	26.95	348	*e*P	P	17 56 16.3	-0.2
SHL				AMB	AMB	17 56 37.6	
comp=Z,227nm,1.5s							
BOK	Bokaro	27.20	335	*e*P	P	17 56 19.6	+1.1
BOK				AMB	AMB	17 56 22.8	
comp=Z,127nm,0.5s							
SCZP	Santa Cruz	27.31	52	*e*P	P	17 56 18.5	-1.0
SOEI	Soe	27.63	109	P	P	17 56 26.8	+4.2
baz=28,SNR=3.6							
SOEI				S	S	18 01 21.5	+19
baz=28,SNR=3.3							
HKC	Hong Kong Obse	27.97	34	P	P	17 56 26.0	+0.6
GZH	Guangzhou	28.16	31	P	P	17 56 32.9	+5.8
GZH				S	S	18 01 25.9	+15
GZH				LR	LR		
comp=N,29μm,12.9s							
GZH				LR	LR		
comp=E,6μm,13.4s							
GZH				LR	LR		
comp=Z,40μm,13.1s							
BCPH	Baguio City Da	28.18	51⇑	*i*P	P	17 56 25.8	-1.8
GYA	Guiyang	28.47	17⇑	*i*P	P	17 56 30.4	+0.4
GYA				pP	pP	17 56 42.3	+2.4
GYA				sP	sP	17 56 47.6	+3.6
GYA				PP	PnPn	17 57 25.1	+4.9
GYA				PcP	PcP	17 59 43.4	+1.8
GYA				S	S	18 01 18.8	+3.3
GYA				sS	sS	18 01 33.3	+1.5
GYA				SS	SnSn	18 02 40.9	+5.0
GYA				ScP	ScP	18 03 20.3	-0.1
GYA				ScS	ScS	18 07 11.0	-2.7
GYA				pmax	pmax		
comp=Z,120nm,0.8s							
GYA				pmax	pmax		
comp=Z,210nm,4.6s							
GYA				LR	LR		
comp=N,8μm,12.1s							
GYA				LR	LR		
comp=E,10μm,14.3s							
GYA				LR	LR		
comp=Z,8μm,12.7s							
BALP	Baler	28.61	54	*e*P	P	17 56 31.3	+0.1
NGP	Nagpur	28.66	321	*ex*	P	17 56 39.3	+7.7
NGP				*ex*	x	18 02 03.4	
DAV	Davao City (W)	28.69	74⇑	*i*P	P	17 56 31.3	-0.7
DAV	Davao City (W)	28.69	74	PFAKE		17 56 40.0	+8.0
DAV				LR	LR		
comp=Z,5μm,21.0s							
ABRA	Dolores	29.03	50	*e*P	P	17 56 35.3	+0.4
MBWA	Marble Bar	29.29	135	*e*P	P	17 56 37.0	-0.2
comp=Z,121nm,1.8s							
MBWA				LR	LR		
comp=Z,6μm,19.0s							
ODAN	Odare	29.41	341	*e*P	P	17 56 39.1	+0.6
comp=Z,172nm,1.0s							
PLP	Palo	29.43	65⇓	*e*P	P	17 56 33.7	-4.8
CAUP	Cauayan	29.48	52	*e*P	P	17 56 39.8	+0.9
JBP	Jabalpur	29.62	325⇓	*i*P	P	17 56 42.0	+1.9
JBP				*e*S	x	18 02 53.6	
JBP				*i* x	x	18 10 30.1	
comp=Z,4μm,22.4s							
TAPN	Taplejung	29.76	341	*e*P	P	17 56 42.6	+1.0
comp=Z,405nm,1.3s							
RAMN	Ramite	29.76	339	*e*P	P	17 56 42.9	+1.3
comp=Z,372nm,1.4s							
PALP	Palanan	30.02	52	*e*P	P	17 56 42.4	-1.3
POO	Poona	30.55	310	*e*P	P	17 56 48.1	-0.4
JIRN	Jiri	30.56	339	*e*P	P	17 56 49.7	+0.9
comp=Z,195nm,0.9s							
PKI	Pulchoki	30.76	338	*e*P	P	17 56 51.1	+0.6
PKIN	Phulchoki	30.77	338	*e*P	P	17 56 51.0	+0.4
comp=Z,289nm,1.5s							
GUN	Gumba	30.90	339	*e*P	P	17 56 52.6	+0.9
comp=Z,135nm,0.7s							
DMN	Daman	30.91	337	*e*P	P	17 56 52.4	+0.6
KKN	Kakani	31.01	338	*e*P	P	17 56 53.3	+0.7
comp=Z,164nm,0.9s							
LSA	Lhasa	31.11	349	P	P	17 56 55.0	+1.3
LSA				pP	pP	17 57 04.3	+0.7
LSA				sP	sP	17 57 13.4	+5.6
LSA				S	S	18 01 59.4	+1.9
LSA				LR	LR		
comp=N,3μm,22.0s							
LSA				LR	LR		
comp=E,5μm,15.9s							
LSA				LR	LR		
comp=Z,6μm,20.5s							
LSA	Lhasa	31.11	349⇑	*i*P	P	17 56 54.6	+0.9
LSA				pmax	pmax		
comp=Z,73nm,0.8s							
LSA				MLR	MLR		
comp=Z,6μm,20.0s							
LSA	Lhasa	31.11	349⇑	*i*P	P	17 56 54.6	+0.9
comp=Z,73nm,0.8s							
LSA				LR	LR		
comp=Z,6μm,20.0s							
BHPL	Bhopal	31.21	322	*e*P	P	17 56 54.4	+0.2
DANN	Dangsing	32.10	336	*e*P	P	17 57 03.0	+0.7
CD2	Chengdu	32.11	9	*e*P	P	17 57 02.3	+0.2
CD2				pP	pP	17 57 13.3	+1.3
CD2				sP	sP	17 57 17.8	+1.7
CD2				PP	PnPn	17 58 09.9	+1.4
CD2				PcP	PcP	17 59 50.5	-0.4
CD2				S	S	18 02 11.1	-1.2
CD2				sS	sS	18 02 29.3	+0.6
CD2				SS	SnSn	18 04 06.4	+2.0
CD2				ScS	ScS	18 07 27.0	-4.0
CD2				pmax	pmax		
comp=Z,70nm,1.4s							
CD2				pmax	pmax		
comp=Z,2μm,10.4s							
CD2				LR	LR		
comp=N,13μm,13.2s							
CD2				LR	LR		
comp=E,26μm,14.2s							
CD2				LR	LR		
comp=Z,18μm,14.2s							
FITZ	Fitzroy Crossi	32.13	124⇑	*e*P	P	17 57 01.2	-1.2
comp=Z,51nm,0.9s							
FITZ	Fitzroy Crossi	32.13	124	P	P	17 57 01.1	-1.2
comp=Z,36nm,0.8s,baz=307,slow=8.2							
FITZ	Fitzroy Crossi	32.13	124	P	P	17 57 01.9	-0.4
baz=32,SNR=18							
PYUN	Piuthan	32.20	335	*e*P	P	17 57 03.7	+0.6
comp=Z,327nm,1.1s							
MEEK	Meekatharra	32.41	144	P	P	17 57 07.0	+2.3
baz=32,SNR=3.7							
QZH	Quanzhou	32.56	37⇑	*i*P	P	17 57 04.6	-1.4
QZH				PP	PP	17 58 18.0	-2.0
QZH				S	S	18 02 20.3	+1.0
QZH				pmax	pmax		
comp=Z,220nm,0.9s							
QZH				pmax	pmax		
comp=Z,1μm,8.7s							
QZH				LR	LR		
comp=N,14μm,12.4s							
QZH				LR	LR		
comp=E,22μm,14.0s							
QZH				LR	LR		
comp=Z,25μm,13.5s							
ENH	Enshi	32.89	19⇑	*e*P	P	17 57 08.4	-0.5
comp=Z,160nm,1.0s							
SWI	Sorong	33.32	90	P	P	17 57 13.0	+0.2
baz=33,SNR=6.6							
KNRA	Kununurra	33.77	117	P	P	17 57 14.4	-2.2
baz=34,SNR=10							
KNRA				S	S	18 02 34.8	-3.5
baz=34,SNR=5.3							
YHNB	Yeheng	34.09	40	PFAKE		17 57 30.0	+11
YHNB				LR	LR		
comp=Z,2μm,21.0s							
FAKI	Fak Fak	34.35	94	P	P	17 57 20.3	-1.5
baz=34,SNR=5.3							
TATO	Taipei	34.38	40	P	P	17 57 22.3	+0.5
SNR=12							
TATO	Taipei	34.38	40⇑	*i*P	P	17 57 21.7	-0.1
comp=Z,124nm,0.8s							
TATO				LR	LR		
comp=Z,2μm,19.0s							
WHN	Wuhan	34.95	25⇑	*i*P	P	17 57 27.3	+0.6
WHN				pP	pP	17 57 35.9	-0.8
WHN				PP	PP	17 58 51.0	+4.5
WHN				S	S	18 02 55.3	-1.0
WHN				pmax	pmax		
comp=Z,2μm,8.6s							
WHN				LR	LR		
comp=N,14μm,11.1s							
WHN				LR	LR		
comp=E,22μm,10.9s							
WHN				LR	LR		
comp=Z,31μm,11.4s							
XAN	Xi'an	36.25	16	P	P	17 57 37.8	-0.1
XAN				pP	pP	17 57 47.0	-0.9
XAN				sP	sP	17 57 52.3	+0.2
XAN				PP	PP	17 59 02.4	+1.6
XAN				PcP	PcP	17 59 59.3	-3.4
XAN				S	S	18 03 17.4	+1.1
XAN				SS	SnSn	18 05 45.3	+0.6
XAN				pmax	pmax		
comp=Z,60nm,0.8s							
XAN				pmax	pmax		
comp=Z,430nm,9.6s							
XAN				LR	LR		
comp=N,5μm,12.1s							
XAN				LR	LR		
comp=E,2μm,14.6s							
XAN				LR	LR		
comp=Z,2μm,13.0s							
NWAO	Narrogin (SRO)	36.67	152	*e*P	P	17 57 40.7	-0.7
comp=Z,25nm,0.9s							
NWAO				LR	LR		
comp=Z,4μm,19.0s							
NWAO	Narrogin (SRO)	36.67	152	P	P	17 57 40.9	-0.6
comp=Z,15nm,0.9s,baz=324,slow=12,SNR=3.6							
LZH	Lanzhou	37.20	8	⇑P	P	17 57 46.6	+0.5
LZH				pP	pP	17 57 58.5	+2.4
LZH				sP	sP	17 58 04.0	+3.7
LZH				PP	PnPn	17 59 15.0	+3.0
LZH				PcP	PcP	18 00 07.4	+1.7
LZH				S	S	18 03 31.0	+0.1
LZH				ScP	ScP	18 03 47.0	-3.4
LZH				sS	sS	18 03 51.4	+3.9
LZH				SS	SnSn	18 06 03.0	-4.8
LZH				ScS	ScS	18 07 54.1	-4.1
LZH				pmax	pmax		
comp=Z,380nm,1.3s							
LZH				pmax	pmax		
comp=Z,2μm,8.0s							
LZH				LR	LR		
comp=N,6μm,11.9s							
LZH				LR	LR		
comp=E,13μm,12.6s							
LZH				LR	LR		
comp=Z,12μm,17.0s							
PALU	Palau	37.35	77	P	P	17 57 45.8	-1.7
baz=37,SNR=4.5							
SMLA	Simla	37.47	330	*e*P	P	17 57 48.1	-0.1
SMLA				AMB	AMB	17 57 57.1	
comp=Z,64nm,1.1s							
NJ2	Nanjing	38.29	29	*e*P	P	17 57 57.3	+2.2
NJ2				pP	pP	17 58 06.3	+1.1
NJ2				sP	sP	17 58 09.3	0.0
NJ2				S	S	18 03 49.5	+2.4
NJ2				sS	sS	18 04 05.3	+1.6
NJ2				pmax	pmax		
comp=Z,340nm,0.9s							
NJ2				pmax	pmax		
comp=Z,2μm,5.8s							
NJ2				LR	LR		
comp=N,910nm,14.1s							
NJ2				LR	LR		
comp=E,730nm,15.2s							
NJ2				LR	LR		
comp=Z,1μm,11.1s							
SSE	Sheshan	38.73	33	P	P	17 57 59.3	+0.4
SSE				S	S	18 03 55.0	+1.2
SSE				sS	sS	18 04 13.8	+3.4
SSE				pmax	pmax		
comp=Z,83nm,1.0s							
SSE				pmax	pmax		
comp=Z,1μm,12.0s							
SSE				LR	LR		
comp=N,8μm,15.1s							
SSE				LR	LR		
comp=E,6μm,15.1s							
SSE				LR	LR		
comp=Z,11μm,14.3s							
DHRM	DHARAMSHALA	38.81	330	*e*P	P	17 58 01.3	+1.5
DHRM				AMB	AMB	17 58 08.9	
comp=Z,66nm,1.6s							
GTA	Gaotai	40.15	2	⇑P	P	17 58 10.9	+0.1
GTA				pP	pP	17 58 18.5	-2.3
GTA				sP	sP	17 58 21.8	-3.2
GTA				PP	PnPn	17 59 47.9	+0.6
GTA				S	S	18 04 16.3	+1.1
GTA				SS	SS	18 07 08.9	-5.1
GTA				pmax	pmax		
comp=Z,37nm,2.0s							
GTA				pmax	pmax		
comp=Z,680nm,5.7s							
GTA				LR	LR		
comp=N,7μm,14.0s							
GTA				LR

comp=Z,6μm,14.3s
JOW Kunigami 40.17 44 *e*P **P 17 58 10.8 -0.2**
comp=Z,52nm,1.2s
WRA Warramunga Arr 40.32 120 P **P 17 58 11.4 -1.0**
WRA Warramunga Arr 40.32 120 P **P 17 58 11.4 -1.0**
comp=Z,51nm,0.8s,baz=297,slow=9.0,SNR=148
WRAB Tennant Creek 40.33 120 P **P 17 58 11.0 -1.4**
comp=Z,606nm,0.8s,SNR=41
WRAB Tennant Creek 40.33 120 *e*P **P 17 58 11.6 -0.8**
WRAB pmax pmax
comp=Z,230nm,1.3s
WRAB MLR MLR
comp=Z,10μm,21.0s
WRAB Tennant Creek 40.33 120 *e*P **P 17 58 11.6 -0.8**
comp=Z,230nm,1.3s
WRAB LR LR
comp=Z,10μm,21.0s
TIY Taiyuan 40.69 18 *e*P **P 17 58 15.8 +0.6**
TIY pP **pP 17 58 27.4 +2.1**
TIY sP **sP 17 58 34.5 +5.1**
TIY PP **PnPn 17 59 57.1 +3.5**
TIY S **S 18 04 25.9 +2.7**
TIY pmax pmax
comp=Z,1μm,7.7s
TIY LR LR
comp=N,9μm,11.5s
TIY LR LR
comp=E,6μm,12.9s
TIY LR LR
comp=Z,7μm,13.1s
TIA Tai'an 41.01 24 ⇑P **P 17 58 17.6 -0.2**
TIA S **S 18 04 33.8 +5.9**
TIA pmax pmax
comp=Z,50nm,0.8s
TIA pmax pmax
comp=Z,2μm,7.8s
TIA LR LR
comp=N,15μm,10.3s
TIA LR LR
comp=E,10μm,13.7s
TIA LR LR
comp=Z,21μm,11.8s
FORT Forrest 41.21 139 *e*P **P 17 58 20.9 +1.4**
comp=Z,53nm,0.8s
AS31 Alice Springs 41.56 126 *e*P **P 17 58 22.0 -0.6**
ASAR Alice Springs 41.56 126 P **P 17 58 21.9 -0.7**
ASAR Alice Springs 41.56 126 P **P 17 58 21.9 -0.7**
comp=Z,27nm,1.0s,baz=293,slow=8.0,SNR=101
MSEY Mahe Island 42.56 264 PFAKE 17 58 40.0 +9.1
MSEY LR LR
comp=Z,2μm,19.0s
BTO Baotou 42.75 14 *e*P **P 17 58 32.1 +0.1**
HHC Hu-ho-hao-te 43.36 15 *e*P **P 17 58 38.8 +1.8**
HHC PP **PcP 18 00 22.1 -3.2**
HHC ScP **ScP 18 04 15.3 +1.0**
HHC PcS **PcS 18 04 19.0 +1.1**
HHC S **S 18 05 04.0 +1.3**
HHC sS **sS 18 05 20.1 +0.7**
HHC SS **SS 18 08 11.3 -6.1**
HHC ScS **ScS 18 08 33.1 -1.5**
HHC pmax pmax
comp=Z,270nm,1.1s
HHC pmax pmax
comp=Z,6μm,5.5s
HHC LR LR
comp=N,20μm,15.0s
HHC LR LR
comp=E,25μm,15.4s
HHC LR LR
comp=Z,23μm,16.4s
BJI Beijing 44.02 20 P **P 17 58 43.3 +1.2**
BJI S **S 18 05 15.3 +3.3**
BJI pmax pmax
comp=Z,140nm,1.1s
BJI pmax pmax
comp=Z,1μm,4.8s
BJI LR LR
comp=N,6μm,15.3s
BJI LR LR
comp=E,5μm,14.9s
BJI LR LR
comp=Z,2μm,16.0s
KBL Kabul 44.45 325 P **P 17 58 45.3 -0.7**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 44.45 325 P **P 17 58 45.3 -0.7**
comp=Z,7.5nm,0.8s
KSH Kashi 44.97 336⇑*i*P **P 17 58 48.3 -1.7**
KSH sP **sP 17 59 02.4 -1.8**
KSH PP **PP 18 00 34.3 -1.2**
KSH S S 18 05 19.8 -6.5
KSH pmax pmax
comp=Z,12nm,1.0s
KSH pmax pmax
comp=Z,300nm,6.5s
KSH LR LR
comp=N,1μm,11.8s
KSH LR LR
comp=E,4μm,14.6s
KSH LR LR
comp=Z,2μm,15.0s
DL2 Dalian 45.20 26⇑*i*P **P 17 58 51.3 -0.3**
DL2 PP **PP 18 00 39.3 +1.6**
DL2 S **S 18 05 32.1 +2.9**
DL2 SS **ScS 18 08 47.8 +1.8**
DL2 pmax pmax
comp=Z,96nm,1.1s
DL2 pmax pmax
comp=Z,960nm,5.5s
DL2 LR LR
comp=N,2μm,10.0s
DL2 LR LR
comp=E,4μm,12.3s
DL2 LR LR
comp=Z,4μm,12.4s
WMQ Urumqi 45.45 350 P **P 17 58 54.9 +1.3**
WMQ pP **pP 17 59 07.9 +4.1**
WMQ PP **PP 18 00 43.1 +2.6**
WMQ ScP **ScP 18 04 22.4 -0.3**
WMQ S **S 18 05 32.3 -0.7**
WMQ sS **sS 18 05 52.8 +3.1**
WMQ ScS **ScS 18 08 44.9 -2.8**
WMQ SS SS 18 08 48.1 -9.0
WMQ pmax pmax
comp=Z,120nm,1.2s
WMQ pmax pmax
comp=Z,490nm,5.2s
WMQ LR LR
comp=N,2μm,18.0s
WMQ LR LR
comp=E,3μm,16.0s
WMQ LR LR
comp=Z,2μm,17.5s
SMDO Samad 45.53 304 P P 17 59 00.8 +6.2
SNR=5.7
JNU Nakatsue 45.91 39 *e*P **P 17 58 56.6 -0.7**
comp=Z,39nm,1.1s
JNU Nakatsue 45.91 39 P **P 17 58 56.7 -0.7**
comp=Z,40nm,0.8s,baz=237,slow=4.0,SNR=26
JNU LR LR 18 20 23.6
comp=Z,2μm,18.4s,baz=41,slow=39
INCN Inchon 46.51 32 PFAKE 17 59 10.0 +8.0
INCN LR LR
comp=Z,4μm,20.0s
KSAR Wonju Array Be 47.14 33 P **P 17 59 06.4 -0.5**
KSRS Korea Array 47.17 33 P **P 17 59 06.4 -0.7**
comp=Z,16nm,0.7s,baz=221,slow=8.5,SNR=66
KSRS LR LR 18 19 44.8
comp=Z,2μm,18.5s,baz=22,slow=37
KZA Kyzart 47.44 337 *i*P **P 17 59 09.5 -0.2**
KZA Kyzart 47.44 337 P **P 17 59 09.5 -0.2**
SNR=6.9
BBOO Buckleboo 47.87 135 *e*P **P 17 59 12.3 -0.4**
comp=Z,1μm,1.4s
BBOO Buckleboo 47.87 135 P **P 17 59 12.9 +0.2**
baz=48,SNR=7.0
TKM2 Tokmak 2 48.03 338 *i*P **P 17 59 14.5 +0.5**
TKM2 Tokmak 2 48.03 338 P **P 17 59 14.5 +0.5**
SNR=27
TKM2 Tokmak 2 48.03 338 *e*P **P 17 59 14.4 +0.4**
comp=Z,90nm,1.3s
TKM2 LR LR
comp=Z,2μm,21.0s
KBK Karagaybulak 48.05 337 *i*P **P 17 59 15.2 +1.1**
KBK Karagaybulak 48.05 337 P **P 17 59 15.2 +1.1**
SNR=22
AML Almayashu 48.10 336 *i*P **P 17 59 15.6 +0.8**
AML Almayashu 48.10 336 P **P 17 59 15.6 +0.8**
SNR=19
AAK Ala-Archa 48.20 337 P **P 17 59 16.8 +1.5**
comp=Z,117nm,1.2s,SNR=12
AAK Ala-Archa 48.20 337*c i*P **P 17 59 16.2 +0.9**
AAK pmax pmax
comp=Z,58nm,1.2s
AAK Ala-Archa 48.20 337 P **P 17 59 17.2 +1.9**
SNR=34
AAK Ala-Archa 48.20 337 *e*P **P 17 59 16.9 +1.6**
comp=Z,135nm,1.7s
AAK Ala-Archa 48.20 337 LR LR 18 22 23.4
comp=Z,3μm,18.9s,baz=137,slow=40
FRU Bishkek 48.33 337 *e*P **P 17 59 16.0 -0.1**
FRU *i* 17 59 22.0
FRU *e* 18 06 33.0
FRU pmax pmax
comp=Z,160nm,2.0s
FRU MLR MLR
comp=Z,3μm,18.0s
CHMS Chumysh 48.41 337 *i*P **P 17 59 17.7 +0.9**
CHMS Chumysh 48.41 337 P **P 17 59 17.7 +0.9**
SNR=12
SNY Shenyang 48.44 26 ⇑P **P 17 59 16.3 -0.6**
SNY PP **PP 18 01 11.3 +1.4**
SNY S **S 18 06 17.4 +1.9**
SNY pmax pmax
comp=Z,37nm,1.7s
SNY LR LR
comp=N,9μm,16.9s
SNY LR LR
comp=E,6μm,14.5s
SNY LR LR
comp=Z,9μm,13.5s
EKS2 Erkin-Say 48.52 336 *e*P **P 17 59 18.3 +0.6**
EKS2 pmax pmax
comp=Z,51nm,1.1s
EKS2 MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 48.52 336 P **P 17 59 18.4 +0.8**
SNR=12
EKS2 Erkin-Say 48.52 336 *e*P **P 17 59 18.3 +0.6**
comp=Z,51nm,1.1s
EKS2 LR LR
comp=Z,3μm,20.0s
MTSU Mount Surprise 48.64 113 P **P 17 59 18.7 -0.2**
baz=49,SNR=16
GUMO Guam 48.68 71 *e*P P 17 59 14.4 -4.8
comp=Z,254nm,1.8s
GUMO LR LR
comp=Z,2μm,20.0s
USP Ospenovka 48.74 337 *i*P **P 17 59 19.8 +0.5**
USP Ospenovka 48.74 337 P **P 17 59 19.8 +0.5**
SNR=38
SONM Songino Array 49.09 8 P **P 17 59 22.7 +0.8**
SONM Songino Array 49.09 8 P **P 17 59 22.7 +0.8**
comp=Z,42nm,1.0s,baz=191,slow=8.9,SNR=113
SONM LR LR 18 23 06.5
comp=Z,3μm,18.6s,baz=189,slow=40
ULN Ulaanbaatar 49.21 8 P **P 17 59 24.0 +1.0**
SNR=108
ULN Ulaanbaatar 49.21 8 *e*P **P 17 59 22.8 -0.1**
comp=Z,223nm,1.1s
ULN LR LR
comp=Z,3μm,19.0s
MK31 Makanchi Array 49.44 346 *e*P **P 17 59 24.7 +0.2**
MK31 Makanchi Array 49.44 346 *e*P **P 17 59 24.7 +0.2**
MKAR Makanchi Array 49.44 346 *i*P **P 17 59 24.8 +0.2**
MKAR pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 49.44 346 P **P 17 59 24.6 0.0**
MKAR Makanchi Array 49.44 346 P **P 17 59 24.6 0.0**
comp=Z,17nm,0.6s,baz=152,slow=8.2,SNR=194
MKAR LR LR 18 24 15.7
comp=Z,2μm,19.1s,baz=162,slow=41
PMG Port Moresby 49.69 102 P **P 17 59 25.8 -1.2**
PMG LR LR
comp=Z,3μm,19.0s
PMG Port Moresby 49.69 102 P **P 17 59 26.8 -0.2**
comp=Z,18nm,0.8s,baz=274,slow=8.3,SNR=3.8
KKAR Karatay Array 50.25 334 *e*P **P 17 59 30.6 -0.2**
KKAR pmax pmax
comp=Z,63nm,1.3s
KKAR Karatay Array 50.25 334 *e*P **P 17 59 30.6 -0.2**
comp=Z,63nm,1.3s
CN2 Changchun 50.85 26 ⇑P **P 17 59 34.8 -0.4**
CN2 *e*S **S 18 06 46.0 -3.1**
CN2 pmax pmax
comp=Z,60nm,1.2s
CN2 pmax pmax
comp=Z,650nm,4.0s
CN2 LR LR
comp=N,2μm,16.0s
CN2 LR LR
comp=E,3μm,16.0s
CN2 LR LR
comp=Z,2μm,19.0s
CTA Charters Tower 50.93 115 P **P 17 59 35.9 -0.3**
CTA Charters Tower 50.93 115 P **P 17 59 35.9 -0.3**
comp=Z,46nm,0.8s,baz=282,slow=9.8,SNR=30
CTA LR LR 18 25 44.2
comp=Z,3μm,19.3s,baz=294,slow=42
CTAO Charters Tower 50.93 115 *e*P **P 17 59 35.7 -0.6**
CTAO pmax pmax
comp=Z,200nm,1.4s
CTAO MLR MLR
comp=Z,4μm,19.0s
CTAO Charters Tower 50.93 115 *e*P **P 17 59 35.7 -0.6**
comp=Z,200nm,1.4s
CTAO LR LR
comp=Z,4μm,19.0s
STKA Stephens Creek 51.42 131 *e*P **P 17 59 40.0 +0.3**
comp=Z,28nm,1.4s
STKA Stephens Creek 51.42 131 P **P 17 59 40.0 +0.3**
comp=Z,25nm,0.9s,baz=306,slow=8.5,SNR=24
STKA Stephens Creek 51.42 131 P **P 17 59 40.3 +0.6**
baz=51,SNR=22
MOY Mondy 52.44 2 *e*P **P 17 59 48.2 +1.1**
MOY pmax pmax
comp=Z,135nm,2.4s
TLY Talaya 52.61 4*c i*P **P 17 59 49.0 +0.8**
TLY *e* 18 00 58.7
TLY *e* 18 01 50.1
TLY *e*S **S 18 07 13.6 +0.5**
TLY pmax pmax
comp=Z,59nm,0.8s
TLY MLR MLR
comp=Z,5μm,13.0s
TLY Talaya 52.61 4 P **P 17 59 49.1 +0.8**
comp=Z,411nm,0.9s,SNR=13
MAT Matsushiro 52.76 41 P **P 17 59 48.2 -1.4**
MAT S **S 18 07 18.0 +2.3**
MJAR Matsushiro Arr 52.76 41 P **P 17 59 48.4 -1.3**
MJAR Matsushiro Arr 52.76 41 P **P 17 59 48.4 -1.3**
comp=Z,11nm,1.1s,baz=224,slow=7.3,SNR=24
OPO Ambohidratompo 52.77 247 P **P 17 59 51.0 +0.8**
OPO Ambohidratompo 52.77 247 P **P 17 59 51.0 +0.8**
comp=Z,12nm,1.0s,baz=57,slow=6.0,SNR=5.9
OPO LR LR 18 16 57.6
comp=Z,2μm,20.4s,baz=157,slow=30
ABPO Ambohimpanom 52.84 247 PFAKE 18 00 00.0 +9.3
ABPO LR LR
comp=Z,2μm,21.0s
IRK Irkutsk 53.22 5⇑*i*P **P 17 59 53.3 +0.6**
IRK *e*S **S 18 07 19.3 -2.1**
IRK pmax pmax
comp=Z,152nm,1.7s
MDJ Mudanjiang 53.35 28 P **P 17 59 55.1 +1.3**
MDJ pP **pP 18 00 04.1 0.0**
MDJ sP **sP 18 00 08.0 -0.2**
MDJ ScP **ScP 18 04 57.5 +1.2**
MDJ PcS **PcS 18 05 01.3 +1.5**
MDJ S **S 18 07 25.3 +1.9**
MDJ sS **sS 18 07 40.9 +0.5**
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,850nm,6.5s
MDJ LR LR
comp=N,10μm,13.5s
MDJ LR LR
comp=E,4μm,14.6s
MDJ LR LR
comp=Z,9μm,15.3s
MDJ Mudanjiang 53.35 28 *e*P **P 17 59 53.6 -0.2**
comp=Z,78nm,1.6s
MDJ LR LR
comp=Z,4μm,19.0s
VLA Vladivostok 53.36 31*c i*P **P 17 59 53.2 -0.7**
VLA *e*S **S 18 07 23.2 -0.4**
VLA pmax pmax
comp=Z,66nm,1.8s
VLA MLR MLR
comp=E,63μm,14.0s
HIA Hailar 53.39 18 *e*P **P 17 59 54.3 +0.2**
comp=E,70nm,1.3s
HIA LR LR
comp=Z,3μm,20.0s
USRK Ussuriysk Arra 54.19 30 P **P 17 59 59.9 -0.1**
comp=Z,52nm,0.9s,baz=231,slow=5.0,SNR=64
USRK LR LR 18 25 53.5
comp=Z,3μm,18.6s,baz=110,slow=39
RABL Rabaul 54.26 94 P P 17 59 56.0 -5.1
baz=54,SNR=85
RABL Rabaul 54.26 94 P P 17 59 56.0 -5.1
baz=3.4,SNR=33
CIT Chita 54.35 12 *e*P **P 18 00 02.4 +1.3**
CIT *e* 18 00 09.4
CIT *e*S S 18 07 43.0 +6.2
CIT pmax pmax
comp=Z,259nm,1.8s
CMSA Cobar Meteorol 54.40 129 P **P 18 00 02.5 +0.7**
baz=54,SNR=25
RMQ Roma 55.04 122 P **P 18 00 07.8 +1.3**
baz=55,SNR=8.4
ZAA0 Zalesovo Array 55.73 351⇑*i*P **P 18 00 10.5 -0.4**
ZALV Zalesovo Beam 55.73 351 *i*P **P 18 00 11.1 +0.2**
ZALV pmax pmax
comp=Z,38nm,0.7s
ZALV Zalesovo Beam 55.73 351 P **P 18 00 10.8 -0.1**
ZALV Zalesovo Beam 55.73 351 P **P 18 00 10.8 -0.1**
comp=Z,38nm,0.7s,baz=181,slow=6.4,SNR=130
ZALV LR LR 18 24 42.2
comp=Z,1μm,19.7s,baz=216,slow=37
ATD Arta Tunnel 56.10 284 LR LR 18 17 43.9
comp=Z,624nm,20.3s,baz=100,slow=29
RAYN Ar Rayn 56.40 299 P P 18 00 20.5 +4.1
comp=Z,99nm,1.4s,SNR=7.6
KBD Kabd 56.52 306 *e*P **P 18 00 16.7 -0.3**
KBD AMb AMB 18 00 26.4
comp=Z,86nm,1.4s
RDF Al-Radifah 56.54 306 *e*P **P 18 00 16.2 -1.0**
EIDS Eidsvold 56.69 120 *e*P **P 18 00 18.4 +0.1**
comp=Z,247nm,1.8s
EIDS Eidsvold 56.69 120 P **P 18 00 18.6 +0.3**
baz=57,SNR=6.9
KRAR Krasnoyarsk 56.88 357*c i*P **P 18 00 20.5 +1.5**
KRAR pmax pmax
comp=Z,150nm,1.2s
NAY Al-Naaiem 56.91 306 *e*P **P 18 00 19.1 -0.7**
NAY AMb AMB 18 00 28.9
comp=Z,3.5nm,1.3s
TOO Toolangi 56.93 136 P P 18 00 27.7 +7.8
baz=57,SNR=3.8
MIB Mutribah 57.05 307 *e*P **P 18 00 20.1 -0.7**
MIB AMb AMB 18 00 30.2
comp=Z,155nm,1.3s
RST Umm Al-Ruwaisa 57.21 306 *e*P **P 18 00 20.9 -1.0**
RST AMb AMB 18 00 31.4
comp=Z,493nm,1.0s
YNG Young 57.61 131 P **P 18 00 25.6 +0.9**
baz=58,SNR=8.5
KLR Kul'dur 57.80 26⇓*i*P **P 18 00 22.6 -3.1**
KLR *e*S **S 18 08 18.5 -4.2**
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,190nm,1.8s
KLR pmax pmax
comp=Z,1μm,7.0s
KLR smax smax
comp=N,2μm,11.0s
KLR smax smax
comp=E,600nm,11.0s
VOSK Vostochnaya 58.01 341 P **P 18 00 26.0 -1.2**
VOSK pmax pmax
comp=Z,56nm,1.3s
BVA0 Borovoye Array 58.46 341 P **P 18 00 28.7 -1.6**
BVA0 pmax pmax
comp=Z,51nm,1.6s
CAN Canberra 58.48 132 *e*P **P 18 00 30.9 +0.1**
CAN pmax pmax
comp=Z,153nm,1.8s
CAN MLR MLR
comp=Z,5μm,19.0s
CAN Canberra 58.48 132 *e*P **P 18 00 30.9 +0.1**
comp=Z,153nm,1.8s
CAN LR LR
comp=Z,5μm,19.0s
BRVK Borovoye 58.52 341 P **P 18 00 29.6 -1.1**
comp=Z,156nm,0.7s,SNR=10
BRVK Borovoye 58.52 341*c i*P **P 18 00 29.8 -0.9**
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK Borovoye 58.52 341 P **P 18 00 30.3 -0.4**
SNR=26
BRVK Borovoye 58.52 341⇑*e*P **P 18 00 29.3 -1.4**
comp=Z,42nm,1.1s
BRVK LR LR
comp=Z,2μm,19.0s
ARMA Armidale 58.72 125⇑*e*P **P 18 00 34.0 +1.4**
comp=Z,94nm,1.4s
ARMA Armidale 58.72 125 P **P 18 00 34.6 +2.0**
baz=59,SNR=12
HABR Khabarovsk 58.73 28*c i*P **P 18 00 30.8 -1.4**
HABR *e**PP **pP 18 00 40.6 -2.1**
HABR *e**SP **sP 18 00 44.9 -1.8**
HABR 18 02 40.7
HABR *e*S **S 18 08 33.2 -1.6**
HABR *e* 18 08 45.6
HABR *e**SS **sS 18 08 50.4 -1.6**
HABR *e* 18 10 17.7
HABR *e*SS **SS 18 12 27.5 -1.0**
HABR pmax pmax
comp=N,40nm,2.6s
HABR pmax pmax
comp=Z,96nm,2.6s
HABR pmax pmax
comp=E,74nm,2.6s
HABR MLR MLR
comp=Z,3μm,13.0s
CNB Canberra Magne 58.75 132 P **P 18 00 34.6 +1.9**
baz=59,SNR=5.5
ERM Erimo 59.04 38 PFAKE 18 00 50.0 +16
ERM LR LR
comp=Z,2μm,19.0s
IBDR Badra 59.46 310 *i*P **P 18 00 35.0 -2.6**
IBDR *i*PP **PP 18 02 54.0 +4.8**
IBDR *i*S **S 18 08 44.0 -0.8**
IBDR *i*PS **PnS 18 09 05.0 +4.6**
IBDR *i*ScS **ScS 18 10 24.0 -1.5**
AB31 Akbulak array 59.70 332 *i*P **P 18 00 37.9 -1.0**
AB31 pmax pmax
comp=Z,86nm,1.1s
ABKAR Akbulak array 59.70 332 *e*P **P 18 00 37.6 -1.4**
comp=Z,45nm,0.9s
ASAJ Asahikawa 59.90 36 *e*P **P 18 00 40.6 +0.2**
comp=Z,155nm,2.1s
ASAJ Asahikawa 59.90 36 P **P 18 00 41.6 +1.2**
comp=Z,4.5nm,0.6s,baz=221,slow=11,SNR=7.0
KMBO Kilima Mbogo 60.68 269 P **P 18 00 47.3 +0.7**
SNR=7.5
KMBO Kilima Mbogo 60.68 269 *e*P **P 18 00 45.9 -0.7**
comp=Z,53nm,1.7s
KMBO LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 60.68 269 P **P 18 00 46.1 -0.5**
comp=Z,2.9nm,0.6s,baz=78,slow=11,SNR=11
PATS Pohnpei 60.73 82 P **P 18 00 47.7 +1.0**
baz=61,SNR=7.7
TAU Tasmania Unive 60.74 140 PFAKE 18 01 00.0 +14
TAU LR LR
comp=Z,3μm,20.0s
AKTO Aktyubinsk 61.42 332 P **P 18 00 49.1 -1.5**
AKTO pmax pmax
comp=Z,42nm,1.3s
YSS Yuzh-Sakhalins 61.67 33*oe*P **P 18 00 53.0 +0.6**
YSS *e**PP **pP 18 01 04.1 +1.2**
YSS *e* 18 03 10.0
YSS *e*S **S 18 09 12.0 -0.6**
YSS *e*PS PnS 18 09 20.0 -10

YSS				*e*SS	**SS**	**18 13 08.0 -6.6**
YSS				pmax	pmax	
	comp=Z,40nm,1.1s					
YUK	**Yuzh-Kuril'sk**	**61.80**	**37***c*	*i*P	**P**	**18 00 53.2 -0.1**
YUK				*i*		18 03 07.7
YUK				*i* PPP	PPP	18 04 33.6
YUK				*i* S	**S**	**18 09 18.4 +4.1**
YUK				*i* SS	**SS**	**18 13 13.7 -3.1**
YUK				pmax	pmax	
	comp=E,116nm,1.0s					
YUK				pmax	pmax	
	comp=Z,207nm,1.0s					
YUK				pmax	pmax	
	comp=N,184nm,1.0s					
YUK				pmax	pmax	
	comp=Z,733nm,2.1s					
HNR	**Honiara**	**62.25 100**		PFAKE		18 01 10.0 +13
HNR				LR	LR	
	comp=Z,2μm,19.0s					
MAK	**Makhachkala**	**62.81 320**		*e*P	**P**	**18 01 01.6 +1.5**
MAK				*e*		18 03 16.7
MAK				*e*S	**S**	**18 09 26.8 -0.2**
MAK				pmax	pmax	
	comp=Z,250nm,1.3s					
GNI	**Garni**	**63.31 317**		P	P	18 01 12.7 +9.0
	SNR=7.1					
GNI	**Garni**	**63.31 317**		P	**P**	**18 01 02.1 -1.7**
	comp=Z,99nm,1.8s					
GNI				LR	LR	
	comp=Z,1μm,19.0s					
DGRG	**David-gareji**	**63.47 318**		P	**P**	**18 01 06.0 +1.4**
DGRG				S	**S**	**18 09 40.7 +5.1**
KUR	**Kuril'sk**	**63.65**	**37***c*	*i*P	P	18 01 00.0 -5.6
KUR				*i* S	**S**	**18 09 36.9 -0.6**
KUR				pmax	pmax	
	comp=Z,184nm,2.0s					
KUR				pmax	pmax	
	comp=N,35nm,1.0s					
KUR				pmax	pmax	
	comp=E,24nm,1.0s					
KUR				pmax	pmax	
	comp=Z,454nm,2.1s					
TBLG	**Delisi**	**64.02 318**		P	**P**	**18 01 08.9 +0.7**
TBLG				S	**S**	**18 09 42.7 +0.3**
TBLG	**Delisi**	**64.02 318**		P	**P**	**18 01 08.9 +0.7**
TBLG				S	**S**	**18 09 42.7 +0.3**
AKH	**Akhalkalaki**	**64.72 317**		P	**P**	**18 01 15.3 +2.3**
AKH				S	**S**	**18 09 51.9 +0.6**
SVE	**Sverdlovsk**	**64.90 338**	*de*	P	**P**	**18 01 13.3 -0.3**
SVE				*e*		18 03 41.3
SVE				*e*PPP	PPP	18 05 18.1
SVE				*e*S	**S**	**18 09 50.8 -1.7**
SVE				*e*		18 11 00.9
SVE				*e*SS	**SS**	**18 13 57.8 -6.8**
SVE				pmax	pmax	
	comp=Z,87nm,1.4s					
SVE				MLR	MLR	
	comp=Z,2μm,18.0s					
ZEI	**Tsey**	**65.06 319**		*e*P	**P**	**18 01 14.8 -0.4**
ZEI				pmax	pmax	
	comp=Z,119nm,2.3s					
ONI	**Oni**	**65.26 319**		P	**P**	**18 01 19.3 +3.0**
ONI				S	**S**	**18 09 56.9 -0.8**
ARU	**Arti**	**65.39 337**	*c*	*i*P	**P**	**18 01 15.8 -1.0**
ARU						18 01 47.9
ARU						18 03 36.4
ARU				PPP	PPP	18 05 16.3
ARU				S	**S**	**18 09 57.8 -0.8**
ARU						18 11 07.6
ARU				pmax	pmax	
	comp=Z,50nm,1.2s					
ARU				MLR	MLR	
	comp=Z,2μm,20.0s					
ARU	**Arti**	**65.39 337**		P	**P**	**18 01 15.9 -0.9**
	comp=Z,167nm,1.3s,SNR=10					
MIR	**Mirnyy**	**65.61 182**		*e*P	P	18 01 24.0 +6.0
MIR				*i*		18 01 55.0
MIR				*e*S	S	18 10 10.0 +9.1
MIR				*e*PS	PnS	18 10 40.0 +16
MIR				pmax	pmax	
	comp=Z,2μm,6.0s					
MIR				pmax	pmax	
	comp=Z,91nm,2.0s					
MIR				MLR	MLR	
	comp=N,1μm,17.0s					
MIR				MLR	MLR	
	comp=E,700nm,17.0s					
MIR				MLR	MLR	
	comp=Z,2μm,17.0s					
CASY	**Casey**	**65.86 174**		*e*P	**P**	**18 01 20.3 +0.7**
	comp=Z,78nm,1.6s					
CASY				LR	LR	
	comp=Z,3μm,20.0s					
KBZ	**Khabaz**	**66.13 319**		P	**P**	**18 01 22.8 +1.0**
KBZ	**Khabaz**	**66.13 319**		P	**P**	**18 01 22.8 +1.0**
KBZ	**Khabaz**	**66.13 319**		P	**P**	**18 01 22.8 +1.0**
	comp=Z,13nm,0.9s,baz=118,slow=7.9,SNR=18					
ASF	**Jabal al Asfar**	**66.28 306**		P	**P**	**18 01 24.9 +1.8**
ASF	**Jabal al Asfar**	**66.28 306**		P	**P**	**18 01 24.9 +1.8**
	comp=Z,3.2nm,0.8s,baz=117,slow=2.9,SNR=6.1					
ASF				LR	LR	18 29 35.3
	comp=Z,1μm,18.5s,baz=63,slow=35					
KIV	**Kislovodsk**	**66.37 320**		*e*P	**P**	**18 01 23.4 -0.1**
KIV				*e*		18 01 52.5
KIV				*e*S	**S**	**18 10 11.6 +0.4**
KIV				*e*SS	**SS**	**18 14 23.1 -5.2**
KIV				pmax	pmax	
	comp=Z,68nm,1.1s					
KIV				pmax	pmax	
	comp=Z,203nm,6.7s					
KIV	**Kislovodsk**	**66.37 320**		P	**P**	**18 01 24.3 +0.8**
	comp=Z,327nm,1.3s,SNR=12					
MALT	**Malatya**	**67.08 313**		⇓P	P	18 01 33.1 +5.0
MALT	**Malatya**	**67.08 313**		⇓*i*P	P	18 01 33.1 +5.0
MBAR	**Mbarara**	**67.19 270**		PFAKE		18 01 40.0 +11
MBAR				LR	LR	
	comp=Z,717nm,20.0s					
EIL	**Elat**	**67.20 303**		P	**P**	**18 01 30.3 +1.4**
EIL	**Elat**	**67.20 303**		P	**P**	**18 01 30.3 +1.4**
	comp=Z,7.2nm,0.8s,baz=121,slow=5.9,SNR=7.6					
EIL				LR	LR	18 32 56.9
	comp=Z,2μm,18.0s,baz=297,slow=38					
EIL	**Elat**	**67.20 303**		P	**P**	**18 01 32.1 +3.2**
	baz=67,SNR=5.1					
YAK	**Yakutsk**	**67.22**	**16***c*	*i*P	**P**	**18 01 27.8 -0.6**
YAK				*e**PP	**pP**	**18 01 36.2 -2.8**
YAK				*e*		18 01 55.4
YAK				*e*		18 03 54.0
YAK				*e*S	**S**	**18 10 20.4 -0.2**
YAK				*e**SS	**sS**	**18 10 37.2 -0.9**
YAK				*e*		18 11 20.4
YAK				pmax	pmax	
	comp=Z,228nm,1.1s					
YAK				pmax	pmax	
	comp=E,76nm,1.2s					
YAK				pmax	pmax	
	comp=N,73nm,1.1s					
YAK				pmax	pmax	
	comp=Z,210nm,3.5s					
YAK				pmax	pmax	
	comp=N,73nm,3.5s					
YAK				pmax	pmax	
	comp=E,64nm,3.2s					
YAK				smax	smax	
	comp=N,1μm,5.7s					
YAK				smax	smax	
	comp=E,127nm,4.5s					
YAK				MLR	MLR	
	comp=Z,7μm,13.0s					
YAK				MLR	MLR	
	comp=E,4μm,13.0s					
YAK				MLR	MLR	
	comp=N,4μm,13.0s					
SOC	**Sochi**	**68.16 318**	*d*	*i*P	**P**	**18 01 33.7 -1.0**
SOC				*e**PP	**pP**	**18 01 41.5 -3.8**
SOC				*e*		18 04 12.7
SOC				*i* S	**S**	**18 10 29.6 -3.0**
SOC				pmax	pmax	
	comp=Z,39nm,0.9s					
SOC				MLR	MLR	
	comp=Z,706nm,16.0s					
SOKR	**Solikamsk**	**68.31 339**	*d*	*i*P	**P**	**18 01 35.6 +0.4**
SOKR				*i*		18 04 04.3
SOKR				*i* S	**S**	**18 10 32.7 -0.9**
SOKR				SS	**SS**	**18 14 59.6 +2.2**
SOKR				pmax	pmax	
	comp=Z,40nm,1.1s					
SOKR				MLR	MLR	
	comp=Z,2μm,23.0s					
DZM	**Mont Dzumac**	**69.78 113**		*e*P	**P**	**18 01 45.5 +0.2**
	comp=Z,44nm,1.2s					
CSS	**Prodhromos**	**69.92 308**		*e*P	**P**	**18 01 46.9 +1.0**
	comp=Z,109nm,1.4s					
CSS				LR	LR	
	comp=Z,1μm,19.0s					
ANN	**Anapa**	**70.15 319**		*e*P	P	18 01 41.7 -5.3
ANN				*e*		18 02 05.4
ANN				*e*S	S	18 10 47.4 -8.6
ANN				pmax	pmax	
	comp=Z,25nm,1.3s					
LSZ	**Lusaka**	**70.24 254**		*e*P	**P**	**18 01 48.2 0.0**
	comp=Z,45nm,2.1s					
LSZ				LR	LR	
	comp=Z,3μm,19.0s					
VRHR	**Novokhopersk**	**70.27 326**		*e*P	**P**	**18 01 47.1 -0.5**
VRHR				*e**SP	**sP**	**18 01 57.7 -4.5**
VRHR				*e*		18 04 19.5
VRHR				*e*S	**S**	**18 10 53.2 -3.9**
VRHR				pmax	pmax	
	comp=Z,30nm,0.9s					
VRHR				pmax	pmax	
	comp=N,4.0nm,0.5s					
VRHR				pmax	pmax	
	comp=E,20nm,0.9s					
VRHR				pmax	pmax	
	comp=N,20nm,1.8s					
VRHR				pmax	pmax	
	comp=E,40nm,1.8s					
VRHR				pmax	pmax	
	comp=Z,50nm,1.8s					
VRHR				smax	smax	
	comp=N,190nm,1.9s					
VRHR				smax	smax	
	comp=E,170nm,1.9s					
VRHR				smax	smax	
	comp=Z,70nm,1.9s					
MAW	**Mawson**	**70.85 193**		*e*P	**P**	**18 01 50.7 -0.1**
	comp=Z,12nm,1.6s					
MAW	**Mawson**	**70.85 193**		P	**P**	**18 01 50.8 -0.1**
	comp=Z,4.2nm,0.9s,baz=18,slow=7.9,SNR=9.7					
MAW				LR	LR	18 29 22.8
	comp=Z,2μm,18.6s,baz=61,slow=33					
MAW	**Mawson**	**70.85 193**		P	**P**	**18 01 51.7 +0.8**
	baz=71,SNR=7.7					
BR131	**Keskin Array S**	**71.06 313**		*e*P	**P**	**18 01 51.4 -1.5**
	comp=Z,26nm,1.3s					
SKR	**Severo-Kuril's**	**71.13**	**35**	*e*P	P	18 01 46.0 -6.8
SKR				*e*		18 02 14.0
SKR				*e*PPP	PPP	18 06 06.0
SKR				*e*S	**S**	**18 11 05.0 -2.2**
SKR				*e*PS	**PnS**	**18 11 38.0 -0.8**
SKR				pmax	pmax	
	comp=Z,80nm,1.0s					
SKR				pmax	pmax	
	comp=Z,1μm,8.0s					
SKR				smax	smax	
	comp=E,2μm,12.0s					
SKR				MLR	MLR	
	comp=N,1μm,16.0s					
SKR				MLR	MLR	
	comp=E,1μm,16.0s					
SKR				MLR	MLR	
	comp=Z,2μm,16.0s					
VORD	**Divnogorie**	**71.52 325**		*e*P	**P**	**18 01 54.2 -1.0**
VORD				*e**SP	**sP**	**18 02 05.2 -4.7**
VORD				*e*S	**S**	**18 11 07.1 -4.6**
VORD				pmax	pmax	
	comp=N,30nm,1.0s					
VORD				pmax	pmax	
	comp=E,30nm,1.0s					
VORD				pmax	pmax	
	comp=Z,20nm,1.0s					
VORD				smax	smax	
	comp=N,300nm,3.7s					
VORD				smax	smax	
	comp=Z,100nm,3.7s					
VORD				smax	smax	
	comp=E,50nm,0.9s					
VORD				MLR	MLR	
	comp=N,910nm,18.0s					
VORD				MLR	MLR	
	comp=E,870nm,18.0s					
VORD				MLR	MLR	
	comp=Z,590nm,18.0s					
VSR	**Storozhevoye**	**71.70 325**		*e*P	**P**	**18 01 54.4 -1.9**
VSR				*e**PP	**pP**	**18 02 03.1 -3.9**
VSR				*e**SP	**sP**	**18 02 06.6 -4.4**
VSR				*e*S	**S**	**18 11 09.2 -4.6**
VSR				pmax	pmax	
	comp=N,10.0nm,1.1s					
VSR				pmax	pmax	
	comp=E,20nm,1.1s					
VSR				pmax	pmax	
	comp=Z,40nm,1.1s					
VSR				smax	smax	
	comp=N,430nm,5.1s					
VSR				smax	smax	
	comp=E,250nm,5.1s					
VSR				smax	smax	
	comp=Z,140nm,5.1s					
ANTO	**Ankara**	**71.73 313**		*e*P	**P**	**18 01 57.3 +0.5**
ANTO				pmax	pmax	
	comp=Z,42nm,1.3s					
ANTO				MLR	MLR	
	comp=Z,679nm,20.0s					
ANTO	**Ankara**	**71.73 313**		P	P	18 02 04.9 +8.1
	SNR=6.4					
ANTO	**Ankara**	**71.73 313**		⇓*i*P	**P**	**18 01 58.8 +2.0**
ANTO	**Ankara**	**71.73 313**		*e*P	**P**	**18 01 57.3 +0.5**
	comp=Z,42nm,1.3s					
ANTO				LR	LR	
	comp=Z,679nm,20.0s					
VOR	**Voronezh**	**71.91 326**		P	**P**	**18 01 58.0 +0.5**
VOR				pmax	pmax	
	comp=Z,250nm,1.2s					
DRV	**Dumont d'Urvil**	**71.94 164**		S	S	18 11 09.0 -7.0
DRV				SS	**SS**	**18 15 56.0 +3.0**
DRV				L	L	18 20 00.0
DRV				R		18 24 00.0
SIM	**Simferopol'**	**72.41 318**		*e*P	**P**	**18 02 02.4 +1.7**
SIM				*e*		18 04 49.0
SIM				*e*S	**S**	**18 11 20.2 -2.0**
SIM				*e*PS	**PnS**	**18 11 54.0 -1.9**
SIM				pmax	pmax	
	comp=Z,38nm,1.0s					
SIM				pmax	pmax	
	comp=Z,380nm,9.7s					
ISP	**Isparta**	**72.87 310**		PFAKE		18 02 20.0 +16
ISP				LR	LR	
	comp=Z,942nm,20.0s					
PETK	**Petropavlovsk-**	**73.07**	**33**	P	**P**	**18 02 03.2 -1.3**
PETK	**Petropavlovsk-**	**73.07**	**33**	P	**P**	**18 02 03.1 -1.3**
PETK	**Petropavlovsk-**	**73.07**	**33**	P	**P**	**18 02 03.1 -1.3**
	comp=Z,1.7nm,0.7s,baz=225,slow=3.9,SNR=4.1					
PET	**Petropavlovsk**	**73.56**	**33**	*e*P	**P**	**18 02 06.5 -0.8**
PET				*e*		18 04 55.0
PET				*e*S	**S**	**18 11 34.8 -0.1**
PET				*e*PS	**PnS**	**18 12 09.5 -1.1**
PET				*e*SS	**SS**	**18 16 11.9 -6.4**
PET				pmax	pmax	
	comp=Z,600nm,6.6s					
PET				pmax	pmax	
	comp=Z,33nm,1.3s					
PET				pmax	pmax	
	comp=Z,500nm,9.6s					
LBTB	**Lobatse**	**73.64 244**		*e*P	**P**	**18 02 09.0 +0.5**
BOSA	**Boshof**	**74.39 241**		P	**P**	**18 02 11.0 -1.9**
BOSA	**Boshof**	**74.39 241**		P	**P**	**18 02 11.0 -1.9**
	comp=Z,3.3nm,0.9s,baz=68,slow=5.4,SNR=3.5					
MOS	**Moscow**	**74.50 329**		*e*P	**P**	**18 02 10.0 -2.7**
MOS				*e*		18 02 23.4
MOS				*e*		18 05 06.9
MOS				*i* S	**SKiKP**	**18 11 40.2 +3.6**
MOS				pmax	pmax	
	comp=Z,40nm,0.8s					
MOS				pmax	pmax	
	comp=Z,200nm,2.0s					
MOS				smax	smax	
	comp=E,1μm,5.0s					
OBN	**Obninsk**	**74.78 328**	*d*	*i*P	**P**	**18 02 14.2 -0.1**
OBN				*e*		18 02 23.0
OBN				*e*		18 02 30.1
OBN				*e*		18 05 00.0
OBN				*e*S	**S**	**18 11 47.4 -1.1**
OBN				*e*SS	**SS**	**18 16 37.0 +0.2**
OBN				pmax	pmax	
	comp=Z,63nm,1.7s					
OBN	**Obninsk**	**74.78 328**		P	**P**	**18 02 14.3 -0.1**
	comp=Z,301nm,1.7s,SNR=5.6					
TIXI	**Tiksi**	**75.11**	**10***c*	*i*P	**P**	**18 02 15.2 -0.8**
TIXI				pmax	pmax	
	comp=Z,219nm,1.7s					
SEY	**Seymchan**	**75.39**	**23***c*	*i*P	**P**	**18 02 17.9 +0.1**
PSN	**Preselentsi**	**76.09 315**		P	P	18 02 30.1 +7.9
TIRR	**Tirgusor**	**76.14 316**		*e*P	**P**	**18 02 22.6 +0.2**
TIRR				pmax	pmax	
	comp=Z,48nm,1.4s					
TIRR	**Tirgusor**	**76.14 316**		*e*P	**P**	**18 02 22.6 +0.2**
	comp=Z,48nm,1.4s					
SANT	**Santorini**	**76.48 308**		PFAKE		18 02 40.0 +15
SANT				LR	LR	
	comp=Z,824nm,19.0s					
CFR	**Carcaliu**	**76.52 317**		⇓P	**P**	**18 02 24.2 -0.3**
CFR	**Carcaliu**	**76.52 317**		⇓*i*P	**P**	**18 02 24.2 -0.3**
PRD	**Provadia**	**76.53 315**		P	P	18 02 30.1 +5.5
KIS	**Kishinev**	**76.55 319**		*e*P	P	18 02 30.0 +5.3
	comp=Z,500nm,9.0s					
KIS	**Kishinev**	**76.55 319**		*e*PP	PP	18 05 32.0 +15
KIS	**Kishinev**	**76.55 319**		*e*PPP	PPP	18 07 24.0
KIS				*e*S	**S**	**18 12 05.0 -3.4**
	comp=Z,1μm,13.0s					
KIS	**Kishinev**	**76.55 319**		*e*PS		18 12 30.0
KIS				*e*SS	SS	18 16 46.0 -18
KIS				LRM	MLR	18 45 26.0
	comp=Z,1μm,17.0s					
KIS	**Kishinev**	**76.55 319**		*e*P	P	18 02 30.0 +5.3
KIS				*e*		18 02 35.0
KIS				*e*S	**S**	**18 12 05.0 -3.4**
KIS				*e*PS	PnS	18 12 30.0 -20
KIS				pmax	pmax	
	comp=Z,500nm,9.0s					
RPZ	**Rata Peaks**	**77.22 135**		P	**P**	**18 02 28.9 +0.4**
RPZ	**Rata Peaks**	**77.22 135**		P	**P**	**18 02 28.9 +0.4**
	comp=Z,9.8nm,0.9s,baz=260,slow=6.1,SNR=4.9					
AKASG	**Malin Array Be**	**77.36 323**		P	**P**	**18 02 27.9 -1.3**
AKASG	**Malin Array Be**	**77.36 323**		P	**P**	**18 02 27.9 -1.3**
AKASG	**Malin Array Be**	**77.36 323**		P	**P**	**18 02 27.9 -1.3**
	comp=Z,9.7nm,0.9s,baz=86,slow=5.2,SNR=6.1					
KIEV	**Kiev**	**77.37 323**		*e*P	**P**	**18 02 26.2 -3.0**
KIEV				pmax	pmax	
	comp=Z,37nm,1.4s					
KIEV				MLR	MLR	
	comp=Z,974nm,19.0s					
KIEV	**Kiev**	**77.37 323**		*e*P	**P**	**18 02 26.2 -3.0**
	comp=Z,37nm,1.4s					
KIEV				LR	LR	
	comp=Z,974nm,19.0s					
SZH	**Strazhica**	**77.58 315**		P	P	18 02 37.5 +6.9
VRI	**Vrincioaia**	**77.65 317**		⇓P	**P**	**18 02 30.9 0.0**
VRI	**Vrincioaia**	**77.65 317**		⇓*i*P	**P**	**18 02 30.9 0.0**
PLOR	**Plostina**	**77.70 317**		⇓P	**P**	**18 02 32.1 +0.9**
PLOR	**Plostina**	**77.70 317**		⇓*i*P	**P**	**18 02 32.1 +0.9**
TESR	**Tescani**	**77.86 318**		⇑*i*P	**P**	**18 02 31.8 -0.3**
MLR	**Muntele Rosu**	**78.09 317**		⇑*i*P	**P**	**18 02 34.2 +0.6**
MLR	**Muntele Rosu**	**78.09 317**		LR	LR	18 44 41.8
	comp=Z,252nm,18.1s,baz=185,slow=42					
RZN	**Rozhen**	**78.12 313**		P	P	18 02 40.6 +6.7
TMCR	**Tamitsa**	**78.13 337**		*e*P	**P**	**18 02 33.7 +0.6**
TMCR				*e*		18 02 44.1
TMCR				pmax	pmax	
	comp=Z,75nm,1.5s					
SYO	**Syowa Base**	**78.25 198**		⇑*e*P	P	18 02 37.6 +3.8
VOIR		**78.69 317**		⇑P	**P**	**18 02 36.7 -0.1**
VOIR		**78.69 317**		⇑*i*P	**P**	**18 02 36.7 -0.1**
PGB	**Panagyurishte**	**78.70 314**		P	P	18 02 42.2 +5.3
MMB	**Musomiste**	**78.83 313**		P	P	18 02 41.4 +3.8
BURAR	**Bucovina Array**	**79.08 319**		⇑P	**P**	**18 02 39.4 +0.5**
BURAR	**Bucovina Array**	**79.08 319**		⇑*i*P	**P**	**18 02 39.4 +0.5**
MPEP	**Malo Peshtene**	**79.17 314**		P	**P**	**18 02 39.3 -0.1**
MICGM	**Minsk**	**79.27 326**		*e*	P	18 02 36.0 -3.6
MNK	**Minsk**	**79.29 326**		*e*P	P	18 02 36.0 -3.8
KKB	**Krupnik**	**79.35 313**		P	P	18 02 44.2 +3.8
VTS	**Vitosha**	**79.40 314**		⇓P	**P**	**18 02 40.7 -0.1**
VTS	**Vitosha**	**79.40 314**		P	**P**	**18 02 42.2 +1.4**
VTS	**Vitosha**	**79.40 314**		⇓*i*P	**P**	**18 02 40.7 -0.1**
SNZO	**South Karori**	**79.47 132**		PFAKE		18 02 50.0 +9.0
SNZO				LR	LR	
	comp=Z,3μm,21.0s					
MSVF	**Nonsavu**	**80.31 108**		PFAKE		18 03 00.0 +14
MSVF				LR	LR	
	comp=Z,1μm,20.0s					
LVV	**L'vov**	**80.35 321**		*e*P	**P**	**18 02 45.5 -0.1**
LVV				*e*		18 05 57.1
LVV				*e*S	**S**	**18 12 45.9 -3.2**
DRGR		**80.57 318**		⇓P	**P**	**18 02 47.7 +0.7**
DRGR		**80.57 318**		⇓*i*P	**P**	**18 02 47.7 +0.7**
TSUM	**Tsumeb**	**80.59 251**		P	**P**	**18 02 47.9 +0.2**
TSUM				LR	LR	
	comp=Z,1μm,21.0s					
URZ	**Urewera**	**80.94 128**		P	**P**	**18 02 48.2 -0.8**
URZ	**Urewera**	**80.94 128**		P	**P**	**18 02 48.2 -0.8**
	comp=Z,12nm,1.0s,baz=0.0,slow=2.0,SNR=5.6					
TRPA	**Tarpa**	**80.95 319**		⇑*i*P	**P**	**18 02 50.2 +1.4**
BZS	**Buzias**	**81.09 316**		⇑P	**P**	**18 02 50.1 +0.4**
BZS	**Buzias**	**81.09 316**		⇑*i*P	**P**	**18 02 50.1 +0.4**
KWP	**Kalwaria Pacla**	**81.15 320**		*e*P	**P**	**18 02 50.4 +0.5**
KWP				pmax	pmax	
	comp=Z,53nm,1.2s					
KWP				MLR	MLR	
	comp=Z,992nm,20.0s					
KWP	**Kalwaria Pacla**	**81.15 320**		*e*P	**P**	**18 02 50.4 +0.5**
	comp=Z,53nm,1.2s					
KWP				LR	LR	
	comp=Z,992nm,20.0s					
KWP	**Kalwaria Pacla**	**81.15 320**		*e*P	**P**	**18 02 51.7 +1.8**
KWP				*e*		18 02 58.0
UZH	**Uzhgorod**	**81.21 319**		*e*P	**P**	**18 02 53.0 +2.8**
UZH				*e*		18 02 58.0
UZH				*e*		18 06 00.7
UZH				*i* S	**S**	**18 13 01.0 +2.9**
UZH				*e*SP	**SPn**	**18 13 47.6 +4.0**
UZH				*e*SSS	SSS	18 21 35.7
KOLS	**Kolonicke sedl**	**81.28 320**		*e*P	**P**	**18 02 51.5 +0.8**
KOLS				pmax	pmax	
	comp=Z,53nm,1.2s					
KOLS	**Kolonicke sedl**	**81.28 320**		*e*P	**P**	**18 02 51.5 +0.8**
KOLS	**Kolonicke sedl**	**81.28 320**		*e*S	**S**	**18 12 58.0 -0.9**
APA	**Apatity**	**81.34 339**		⇓*i*P	**P**	**18 02 51.4 +0.9**
APA				*i*		18 03 00.0
APA				*i* S	**S**	**18 12 58.0 -0.7**
APA				*i* PS	PnS	18 13 10.0 -39
TIR	**Tirane**	**81.64 312**		PFAKE		18 03 00.0 +7.3
TIR				LR	LR	
	comp=Z,937nm,19.0s					
CRVS	**Cervenica-Dubn**	**81.80 320**		*e*P	**P**	**18 02 56.0 +2.6**
CRVS				pmax	pmax	
	comp=Z,35nm,1.7s					
CRVS	**Cervenica-Dubn**	**81.80 320**		*e*P	**P**	**18 02 56.0 +2.6**
CRVS	**Cervenica-Dubn**	**81.80 320**		*e*S	**S**	**18 13 03.5 -0.8**
SUW	**Suwalki**	**81.80 325**		*e*P	**P**	**18 02 53.4 +0.2**
SUW				pmax	pmax	
	comp=Z,46nm,1.0s					
SUW	**Suwalki**	**81.80 325**		*e*P	**P**	**18 02 53.4 +0.2**
	comp=Z,46nm,1.0s					
SUW	**Suwalki**	**81.80 325**		*e*P	**P**	**18 02 53.4 +0.2**
SUW				*e*		18 03 00.4
STHS	**Stebnicka Huta**	**82.04 320**		*e*P	**P**	**18 02 56.4 +1.7**
STHS				pmax	pmax	
	comp=Z,16nm,1.0s					
STHS	**Stebnicka Huta**	**82.04 320**		*e*P	**P**	**18 02 56.4 +1.7**
FIA1	**FINESS Array S**	**82.19 333**		*e*P	**P**	**18 02 53.1 -2.0**
FINES	**FINESS Array B**	**82.19 333**		P	**P**	**18 02 54.3 -0.8**
FINES	**FINESS Array B**	**82.19 333**		P	**P**	**18 02 54.3 -0.8**
	comp=Z,5.6nm,0.9s,baz=91,slow=5.8,SNR=8.0					
FINES				LR	LR	18 44 27.2
	comp=Z,1μm,21.1s,baz=5.1,slow=39					
KECS	**Kecovo**	**82.36 319**		*e*P	**P**	**18 02 57.0 +0.7**
KECS				pmax	pmax	
	comp=Z,10.0nm,1.3s					
KECS	**Kecovo**	**82.36 319**		*e*P	**P**	**18 02 57.0 +0.7**
NIE	**Niedzica**	**82.64 320**		*e*P	**P**	**18 03 00.6 +2.8**
NIE				*e*S	**S**	**18 13 16.0 +3.1**
PSZ	**Piszkesteto**	**82.66 318**		*e*P	**P**	**18 02 55.1 -2.9**
PSZ				pmax	pmax	

comp=Z,100nm,1.8s
PSZ MLR MLR
comp=Z,694nm,20.0s
PSZ Piszkesteto 82.66 318 ⇓*i*P **P 18 02 55.8 -2.2**
PSZ Piszkesteto 82.66 318 *e*P **P 18 02 55.1 -2.9**
comp=Z,100nm,1.8s
PSZ LR LR
comp=Z,694nm,20.0s
PSZ Piszkesteto 82.66 318 *e*P **P 18 02 57.7 -0.3**
OJC Ojcow 83.10 321 *e*P **P 18 03 00.6 +0.4**
OJC *e*S **S 18 13 16.5 -1.0**
PKSM Moragy 83.24 317 ⇓P **P 18 03 01.3 +0.4**
PKSM Moragy 83.24 317 ⇓*i*P **P 18 03 01.3 +0.4**
PKSM Moragy 83.24 317 *e*P **P 18 03 01.1 +0.2**
VYHS Vyhne 83.45 319 *e*P **P 18 03 02.2 +0.2**
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 83.45 319 *e*P **P 18 03 02.2 +0.2**
VYHS Vyhne 83.45 319 *e*S **S 18 13 20.0 -1.1**
VYHS *e*SS SS 18 19 03.0 +16
PKSG 83.58 318 *e*P **P 18 03 03.4 +0.8**
VNDA Vanda 83.64 169 *e*P **P 18 03 02.5 +0.2**
comp=Z,40nm,1.4s
VNDA Vanda 83.64 169 P **P 18 03 02.7 +0.3**
comp=Z,4.7nm,1.1s,baz=304,slow=2.9,SNR=6.9
PKST T"s 83.80 318 *e*P **P 18 03 02.1 -1.7**
OKC Ostrava-Krasne 84.09 320 *e*P **P 18 03 06.4 +1.2**
OKC *e* 18 03 13.7
OKC *e* 18 13 28.0
OKC MLR MLR
comp=Z,700nm,14.3s
OKC Ostrava-Krasne 84.09 320 *e*P **P 18 03 06.4 +1.2**
OKC *e*x x 18 03 13.7
OKC *e*SKS **S 18 13 28.0 +0.5**
OKC AMS AMS 18 49 40.0
comp=Z,700nm,14.3s
CEL Celeste 84.30 308 *e*P **P 18 03 07.0 +0.4**
comp=Z,121nm,1.4s
CEL LR LR
comp=Z,381nm,21.0s
MSKU Masuku 84.30 268 PFAKE 18 03 20.0 +13
MSKU LR LR
comp=Z,2.0nm,20.0s
RAO Raoul Island 84.45 119 LR LR 18 42 10.6
comp=Z,1μm,19.1s,baz=12,slow=37
MORC Moravsky Berou 84.47 320 *e*P **P 18 03 06.6 -0.6**
MORC pmax pmax
comp=Z,44nm,1.5s
MORC Moravsky Berou 84.47 320 *e*P **P 18 03 06.6 -0.6**
comp=Z,44nm,1.5s
CUC Castrocucco 84.53 310 *e*P **P 18 03 08.8 +1.0**
comp=Z,26nm,1.3s
CUC LR LR
comp=Z,575nm,20.0s
ZST Bratislava 84.55 318 *e*P **P 18 03 10.3 +2.7**
ZST *e*S S 18 13 40.1 +8.0
ZST Bratislava 84.55 318 *e*P **P 18 03 10.3 +2.7**
SBA Scott Base 84.74 169 *e*P **P 18 03 09.2 +1.2**
SBA pmax pmax
comp=Z,31nm,1.3s
SBA MLR MLR
comp=Z,1μm,21.0s
SBA Scott Base 84.74 169 *e*P **P 18 03 09.2 +1.2**
comp=Z,31nm,1.3s
SBA LR LR
comp=Z,1μm,21.0s
ARCES ARCESS Array B 84.75 340 P **P 18 03 08.6 +0.4**
ARCES ARCESS Array B 84.75 340 P **P 18 03 08.5 +0.4**
comp=Z,6.4nm,0.9s,baz=96,slow=5.5,SNR=6.0
ARCES LR LR 18 49 56.5
comp=Z,2μm,18.4s,baz=222,slow=42
WDD Wield Dalam 85.18 306 PFAKE 18 03 20.0 +9.0
WDD LR LR
comp=Z,468nm,19.0s
DPC Dobruska-Polom 85.33 321 *e*P **P 18 03 12.7 +1.2**
DPC *e* 18 03 20.3
DPC *e* 18 13 41.3
DPC Dobruska-Polom 85.33 321 *e*P **P 18 03 12.7 +1.2**
DPC *e*x x 18 03 20.3
DPC *e*S **S 18 13 41.3 +1.4**
DPC AMS AMS 18 48 40.0
KSP Ksiaz 85.41 321 *e*P **P 18 03 12.1 +0.2**
KSP *e* 18 03 20.4
KSP *e*S **S 18 13 42.7 +2.2**
KSP MLR MLR
comp=Z,2μm,20.9s
KSP Ksiaz 85.41 321 *e*P **P 18 03 12.0 +0.2**
KSP *e* 18 03 20.1
ARSA Arzberg 85.50 317 ⇑*i*P **P 18 03 12.8 +0.4**
comp=Z,37nm,1.3s,SNR=9.7
BOJS Bojanci 85.50 316 *i*P **P 18 03 12.2 -0.2**
UPC Upice 85.54 321 *e*P **P 18 03 13.7 +1.2**
UPC *e* 18 03 21.5
UPC Upice 85.54 321 *e*P **P 18 03 13.7 +1.2**
UPC *e*x x 18 03 21.5
PERS Pernice 85.71 317 *i*P **P 18 03 14.5 +0.9**
TREC Trest 85.74 319 *e*P **P 18 03 15.3 +1.7**
TREC *e* 18 03 22.1
TREC *e* 18 13 45.4
TREC MLR MLR
comp=Z,800nm,21.3s
TREC Trest 85.74 319 *e*P **P 18 03 15.3 +1.7**
TREC *e*x x 18 03 22.1
TREC *e*S **S 18 13 45.4 +1.4**
TREC AMS AMS 18 48 50.0
comp=Z,800nm,21.3s
VISS Visnje 85.82 316 *e*P **P 18 03 13.7 -0.3**
LJU Ljubljana 86.06 316 *e*P **P 18 03 14.0 -1.2**
SKDS Skadanscina 86.37 316 *i*P P 18 03 10.9 -5.9
PRU Pruhonice 86.43 320 *e*P **P 18 03 16.5 -0.4**
PRU *e* 18 03 25.0
PRU *e* 18 13 51.7
PRU MLR MLR
comp=Z,1μm,15.3s
PRU Pruhonice 86.43 320 *e*P **P 18 03 16.5 -0.4**
PRU *e*x x 18 03 25.0
PRU *e*S **S 18 13 51.7 +1.2**
PRU AMS AMS 18 53 00.0
comp=Z,1μm,15.3s
PVCC Panska Ves 86.46 321 *e*P **P 18 03 18.7 +1.6**
PVCC *e* 18 13 52.1
PVCC MLR MLR
comp=Z,1μm,15.8s
PVCC Panska Ves 86.46 321 *e*P **P 18 03 18.7 +1.6**
PVCC *e*S **S 18 13 52.1 +1.2**
PVCC AMS AMS 18 50 40.0
comp=Z,1μm,15.8s
VOY Vojsko 86.50 316 *e*P **P 18 03 17.0 -0.5**
VOY *e* 18 03 25.3
PRA Prague 86.50 320 P **P 18 03 17.0 -0.3**
AQU L'Aquila 86.55 312 *e*P **P 18 03 19.0 +1.2**
comp=Z,134nm,1.3s
AQU LR LR
comp=Z,1μm,20.0s
GEC2 GERESS Array S 86.87 319 *e*P **P 18 03 20.2 +1.0**
comp=Z,27nm,1.2s
GEC2 GERESS Array S 86.87 319 *e*P **P 18 03 20.2 +1.0**
GEC2 pmax pmax
comp=Z,27nm,1.2s
GERES GERESS Array B 86.87 319 P **P 18 03 19.2 0.0**
GERES GERESS Array B 86.87 319 P **P 18 03 19.2 0.0**
comp=Z,4.5nm,1.0s,baz=98,slow=4.1,SNR=26
BRG Berggiesshubel 86.89 321 *e*P **P 18 03 20.1 +0.9**
comp=Z,36nm,2.1s
BRG *e* 18 03 27.5
comp=Z,46nm,1.6s
BRG Berggiesshubel 86.89 321 S **S 18 13 53.0 -2.0**
BRG
comp=Z,1μm,19.5s
BRG
comp=N,448nm,18.9s
BRG
comp=E,917nm,18.9s
BRG Berggiesshubel 86.89 321 *e*P **P 18 03 20.3 +1.2**
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 86.89 321 *e*P **P 18 03 20.1 +0.9**
BRG *e* 18 03 27.5
BRG S **S 18 13 53.0 -2.0**
BRG pmax pmax
comp=Z,36nm,2.1s
BRG pmax pmax
comp=Z,46nm,1.6s
BRG MLR MLR
comp=Z,1μm,19.5s
BRG MLR MLR
comp=N,448nm,18.9s
BRG MLR MLR
comp=E,917nm,18.9s
KBA Koelnbreinsper 86.96 317 ⇑*i*P **P 18 03 19.4 -0.4**
comp=E,14nm,1.2s
KHC Kasperske Hory 86.97 319 *e*P **P 18 03 20.1 +0.4**
KHC *e* 18 03 27.4
KHC *e* 18 13 57.2
KHC MLR MLR
comp=Z,900nm,19.3s
KHC Kasperske Hory 86.97 319 *e*P **P 18 03 20.1 +0.4**
KHC *e*x x 18 03 27.4
KHC *e*S **S 18 13 57.2 +1.2**
KHC AMS AMS 18 52 50.0
comp=Z,900nm,19.3s
KHC Kasperske Hory 86.97 319 *e*P **P 18 03 18.6 -1.0**
comp=Z,16nm,1.6s
WET Wettzell 87.43 319 *e*P **P 18 03 22.8 +0.9**
comp=Z,15nm,1.2s
WET Wettzell 87.43 319 *e*P **P 18 03 22.8 +0.9**
WET pmax pmax
comp=Z,15nm,1.2s
CLL Collm 87.52 321 *e*P **P 18 03 23.3 +1.1**
comp=Z,22nm,1.4s
CLL Collm 87.52 321 *e*P **P 18 03 22.0 -0.2**
CLL *i* 18 03 29.8
CLL *e*S **S 18 14 01.0 0.0**
CLL MLR MLR
comp=Z,600nm,18.6s
CLL Collm 87.52 321 *e*P **P 18 03 22.0 -0.2**
CLL *i*pP **PcP 18 03 26.8 +2.7**
CLL *i*sP sP 18 03 29.8 -7.2
CLL *e*(PP) 18 06 59.0
CLL *e*S **S 18 14 01.0 0.0**
CLL *e*PS PS 18 15 18.0 +11
CLL *e*PPS PPS 18 15 36.0
CLL *e*SS SS 18 19 57.0 +10
CLL *e*SSS SSS 18 23 22.0
CLL *e*SSSS 18 26 24.0
CLL *e* 18 29 24.0
CLL Lm MLR 18 49 00.0
comp=Z,600nm,18.6s
ADK Adak 87.84 38 PFAKE 18 03 30.0 +6.3
ADK LR LR
comp=Z,3μm,20.0s
HFS Hagfors 87.90 330 LR LR 18 48 53.2
comp=Z,1μm,19.6s,baz=87,slow=40
ROTZ Rotzenmuhle 87.91 320 *e*P **P 18 03 24.4 +0.3**
comp=Z,12nm,1.1s
MANZ Manzenberg 87.99 320 *e*P **P 18 03 26.0 +1.5**
comp=Z,4.0nm,0.8s
NEUB Neuenburg 88.28 321 *e*P **P 18 03 26.1 +0.3**
comp=Z,6.0nm,0.9s
NEUB *e*pP **pP 18 03 34.9 -1.8**
MOX Moxa 88.35 321 *e*P **P 18 03 27.1 +0.9**
comp=Z,19nm,1.4s
MOX *e*L L 18 51 01.8
comp=Z,856nm,18.7s
MOX Moxa 88.35 321 *e*P **P 18 03 27.1 +0.9**
MOX pmax pmax
comp=Z,19nm,1.4s
MOX MLR MLR
comp=Z,900nm,18.7s
MOTA Moosalm 88.50 317 ⇓*i*P **P 18 03 26.3 -0.9**
comp=Z,22nm,1.2s
GRF Grafenberg Arr 88.55 320 *e*L L 18 51 18.1
comp=Z,1μm,18.5s
GRFO Grafenberg 88.55 320 P **P 18 03 28.7 +1.6**
GRFO pmax pmax
comp=Z,81nm,1.8s
GRFO Grafenberg 88.55 320 P **P 18 03 28.7 +1.6**
comp=Z,81nm,1.8s
RETA Reutte 88.74 317 ⇑*i*P **P 18 03 28.3 +0.1**
comp=Z,29nm,1.6s,SNR=5.2
VLC Villacollemand 88.86 314 PFAKE 18 03 40.0 +11
VLC LR LR
comp=Z,678nm,20.0s
QSPA South Pole Qui 89.06 180 P **P 18 03 31.3 +2.0**
QSPA LR LR
comp=Z,1μm,19.0s
QSPA South Pole Qui 89.06 180 P **P 18 03 31.3 +2.0**
comp=Z,1.7nm,0.8s,baz=299,slow=4.1,SNR=14
SPITS Spitsbergen Ar 89.14 348 LR LR 18 51 10.4
comp=Z,2μm,19.6s,baz=100,slow=41
NB2 NORSAR Subarra 89.19 331 P **P 18 03 29.9 0.0**
comp=Z,18nm,1.2s,baz=92,slow=5.1
NB2 NORSAR Subarra 89.19 331 P **P 18 03 29.9 0.0**
baz=92,slow=5.1
NOA NORSAR Array B 89.19 331 P **P 18 03 29.1 -0.8**
NOA NORSAR Array B 89.19 331 P **P 18 03 29.1 -0.8**
comp=Z,2.2nm,0.9s,baz=93,slow=4.6,SNR=4.6
NOA LR LR 18 47 53.3
comp=Z,1μm,21.3s,baz=90,slow=39
BSEG Bad Segeberg 89.31 324 *e*P **P 18 03 32.1 +1.5**
comp=Z,48nm,1.2s
BSEG *e*pP **pP 18 03 39.6 -1.9**
BSEG Bad Segeberg 89.31 324 *e*P **P 18 03 32.1 +1.5**
BSEG *e**PP **pP 18 03 39.6 -1.9**
BSEG pmax pmax
comp=Z,48nm,1.2s
DAVA Damuels 89.33 317 *i*P **P 18 03 30.0 -1.1**
comp=Z,48nm,1.3s,SNR=8.0
KEST Kesra 89.37 306 *e*P **P 18 03 33.4 +1.9**
KEST Kesra 89.37 306 P **P 18 03 33.3 +1.9**
comp=Z,3.5nm,0.9s,baz=90,slow=4.0,SNR=8.0
KEST LR LR 18 49 50.4
comp=Z,382nm,18.1s,baz=7.5,slow=40
NRDL Niedersach Rie 89.38 322 *e*P **P 18 03 32.4 +1.6**
comp=Z,24nm,1.1s
UBBA Unterbreizbach 89.38 321 *e*P **P 18 03 31.9 +1.0**
comp=Z,16nm,1.3s
VSL Villasalto 89.45 309 PFAKE 18 03 40.0 +8.4
VSL LR LR
comp=Z,360nm,21.0s
TUE Stuetta 89.67 316 *e*P **P 18 03 33.2 +0.5**
comp=Z,45nm,1.5s
TUE LR LR
comp=Z,833nm,20.0s
PGF Pioggiola 89.82 312 *e*P **P 18 03 32.6 -0.8**
comp=Z,134nm,1.5s
KONO Kongsberg 89.92 329 PFAKE 18 03 40.0 +6.7
KONO LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 90.10 349 *e*P **P 18 03 35.5 +1.7**
KBS pmax pmax
comp=Z,37nm,1.7s
KBS Kingsbay 90.10 349 PFAKE 18 03 50.0 +16
KBS LR LR
comp=Z,2μm,19.0s
TNS Taunus Mts 90.36 320 *e*P **P 18 03 37.1 +1.4**
comp=Z,26nm,1.1s
TNS *e*pP **pP 18 03 44.6 -2.0**
TNS Taunus Mts 90.36 320 *e*P **P 18 03 37.1 +1.4**
TNS *e**PP **pP 18 03 44.6 -2.0**
TNS pmax pmax
comp=Z,26nm,1.1s
BFO Black Forest 90.40 318 *e*P **P 18 03 36.4 +0.5**
comp=Z,28nm,1.4s
BFO Black Forest 90.40 318 *e*P **P 18 03 35.5 -0.4**
BFO pmax pmax
comp=Z,35nm,1.5s
BFO MLR MLR
comp=Z,655nm,19.0s
BFO Black Forest 90.40 318 *e*P **P 18 03 35.5 -0.4**
comp=Z,35nm,1.5s
BFO LR LR
comp=Z,655nm,19.0s
LANF Langenberg 90.76 319 *e*P **P 18 03 38.5 +1.0**
SAOF Saorge 90.89 314 *e*P **P 18 03 39.0 +0.7**
SBF Sospel 90.98 314 *e*P **P 18 03 37.8 -0.9**
comp=Z,149nm,1.3s
AUTN L'Aution 90.99 314 *e*P **P 18 03 38.7 -0.2**
REVF Revere 91.03 314 *e*P **P 18 03 38.6 -0.3**
CDF Champ du Feu 91.11 318 *e*P **P 18 03 38.2 -1.0**
comp=Z,66nm,1.5s
TOUF Mont Tournerai 91.11 314 *e*P **P 18 03 40.6 +1.1**
ECH Echery 91.19 318 *e*P **P 18 03 40.1 +0.6**
ECH pmax pmax
comp=Z,27nm,1.3s
ECH MLR MLR
comp=Z,654nm,20.0s
ECH Echery 91.19 318 *e*P **P 18 03 40.1 +0.6**
comp=Z,27nm,1.3s
ECH LR LR
comp=Z,654nm,20.0s
MOF Molkenrain 91.20 318 *e*P **P 18 03 40.7 +1.0**
CALN Calern 91.38 314 *e*P **P 18 03 41.0 +0.3**
HINF Hinteralfeld 91.39 318 *e*P **P 18 03 39.1 -1.4**
comp=Z,48nm,1.5s
LOMF Lomont 91.41 317 *e*P **P 18 03 40.2 -0.4**
MBDF Montbardon 91.46 315 *e*P **P 18 03 40.9 -0.1**
comp=Z,52nm,1.4s
LPG La Plagne 91.47 315 *e*P **P 18 03 40.4 -0.8**
comp=Z,38nm,1.1s
LPL La Plagne 91.48 315 *e*P **P 18 03 40.3 -0.9**
comp=Z,72nm,1.2s
OG01 Vacheresse 91.51 316 *e*P **P 18 03 41.9 +0.7**
BNI Bardonecchia 91.52 315 *e*P **P 18 03 43.2 +1.9**
BNI pmax pmax
comp=Z,12nm,0.9s
BNI MLR MLR
comp=Z,914nm,21.0s
BNI Bardonecchia 91.52 315 *e*P **P 18 03 43.2 +1.9**
comp=Z,12nm,0.9s
BNI LR LR
comp=Z,914nm,21.0s
FRF La Foret Royal 91.55 313 *e*P **P 18 03 40.7 -0.6**
comp=Z,154nm,1.4s
RSL Roselend 91.56 315 *e*P **P 18 03 41.1 -0.4**
LMR La Mourre 91.65 313 *e*P **P 18 03 41.0 -0.7**
comp=Z,73nm,1.5s
HAU Haudompre 91.73 318 *e*P **P 18 03 41.0 -1.0**
comp=Z,116nm,1.4s
HAU *e*R
comp=Z,973nm,19.5s
WLF Walferdange 91.84 319 P **P 18 03 42.9 +0.5**
comp=Z,32nm,1.8s
WLF AP **pP 18 03 51.3 -2.1**
WLF Walferdange 91.84 319 *e*P **P 18 03 44.2 +1.7**
comp=Z,24nm,1.2s
WLF Walferdange 91.84 319 *e*P **P 18 03 43.4 +0.9**
WLF pmax pmax
comp=Z,68nm,1.5s
WLF MLR MLR
comp=Z,785nm,20.0s
WLF Walferdange 91.84 319 *e*P **P 18 03 43.4 +0.9**
comp=Z,68nm,1.5s
WLF LR LR
comp=Z,785nm,20.0s
MEM Membach 91.92 320 P **P 18 03 42.4 -0.4**
comp=Z,12nm,1.5s
MEM AP **pP 18 03 51.5 -2.3**
CABF La Chapelle 91.92 316 *e*P **P 18 03 42.4 -0.7**
comp=Z,82nm,1.3s
ORIF Oris-en-Rattie 92.09 315 *e*P **P 18 03 43.2 -0.7**
comp=Z,125nm,1.6s
ORIF *e*R
comp=Z,1μm,18.8s
PAGF Fort de Pagny 92.14 318 *e*P **P 18 03 43.1 -0.8**
SMRF Simiane la Rot 92.32 314 *e*P **P 18 03 44.7 -0.2**
comp=Z,73nm,1.5s
BCLA Clavier 92.37 320 AP pP 18 03 53.6 -2.2
SNAA Sanae 92.54 198 *e*P P 18 03 51.3 +5.9
TAM Tamanrasset 92.57 293 *e*P P 18 03 49.9 +3.2
TAM pmax pmax
comp=Z,25nm,1.4s
TAM MLR MLR
comp=Z,602nm,20.0s
TAM Tamanrasset 92.57 293 *e*P P 18 03 49.9 +3.2
comp=Z,26nm,1.4s
TAM LR LR
comp=Z,602nm,20.0s
MEZF Maizieres J'vi 92.58 318 *e*P **P 18 03 45.3 -0.6**
comp=Z,105nm,1.4s
SFTF Sexfontaines 92.60 318 *e*P **P 18 03 45.2 -0.8**
comp=Z,128nm,1.2s
GIVF Givet 92.69 320 *e*P **P 18 03 45.7 -0.7**
DOU Dourbes 92.83 320 P **P 18 03 46.8 -0.2**
DOU AP **pP 18 03 55.4 -2.6**
VIVF Saint-Julien-l 92.95 315 *e*P **P 18 03 47.0 -0.8**
comp=Z,55nm,1.6s
SSB Saint Sauveur 93.03 315 *e*P **P 18 03 48.5 +0.3**
SSB pmax pmax
comp=Z,15nm,1.5s
SSB MLR MLR
comp=Z,333nm,20.0s
SSB Saint Sauveur 93.03 315 *e*P **P 18 03 48.5 +0.3**
comp=Z,15nm,1.5s
SSB LR LR
comp=Z,333nm,20.0s
BAIF Baives 93.09 320 *e*P **P 18 03 47.7 -0.5**
comp=Z,52nm,1.3s
LOR Lormes 93.43 317 *e*P **P 18 03 49.1 -0.8**
comp=Z,96nm,1.4s
LOR *e*R
comp=Z,726nm,20.0s
SMF Signal de Mont 93.47 316 *e*P **P 18 03 49.1 -1.0**
comp=Z,62nm,1.3s
LASF Ste Croix 93.56 314 *e*P **P 18 03 50.0 -0.6**
comp=Z,46nm,1.6s
SSF Saint Saulge 93.68 317 *e*P **P 18 03 50.3 -0.7**
comp=Z,72nm,1.5s
AVF Avril sur Loir 93.80 317 *e*P **P 18 03 50.6 -1.0**
comp=Z,69nm,1.5s
VNA2 Neumayer--Watz 94.14 199 *e*P **P 18 03 54.7 +2.0**
BGF Bois d'Agland 94.16 316 *e*P **P 18 03 52.7 -0.6**
comp=Z,88nm,1.4s
VNA1 Neumayer--Stat 94.49 199 *e*P P 18 03 58.0 +3.8
TCF Toulx Ste Croi 94.61 316 *e*P **P 18 03 54.8 -0.6**
comp=Z,69nm,1.8s
MTLF Montolieu 94.78 313 *e*P **P 18 03 55.6 -0.6**
comp=Z,32nm,1.4s
CAF Calviac 94.80 315 *e*P **P 18 03 55.8 -0.5**
RJF Les Rejaudoux 95.16 315 *e*P **P 18 03 57.4 -0.5**
comp=Z,51nm,1.6s
RJF *e*R
comp=Z,720nm,20.0s
LFF La Frestale 95.74 315 *e*P **P 18 04 00.2 -0.3**
LDF La Druitiere 96.01 319 *e*P **P 18 04 00.5 -1.2**
JMIC Jan Mayen 96.17 342 LR LR 18 57 02.0
comp=Z,578nm,18.6s,baz=68,slow=42
MFF Saint Martin d 96.21 317 *e*P **P 18 04 01.7 -0.9**
FLN La Foliniere 96.23 319 *e*P **P 18 04 01.6 -1.1**
FLN *e*R
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 96.28 283 P **P 18 04 03.3 -0.3**
TORD Torodi Ar. Bea 96.28 283 P **P 18 04 03.3 -0.3**
comp=Z,1.0nm,0.8s,baz=86,slow=4.3,SNR=3.0
GRR Gorron 96.52 318 *e*P **P 18 04 03.0 -1.0**
ETSF Etsaut 96.84 313 *e*P **P 18 04 05.2 -0.5**
ESK Eskdalemuir 97.08 326 PFAKE 18 04 20.0 +14
ESK LR LR
comp=Z,1μm,20.0s
SJPF Ste Jean 97.31 313 *e*P **P 18 04 07.2 -0.5**
comp=Z,26nm,1.2s
ROSF Rostrenen 98.12 319 *e*P **P 18 04 10.2 -1.0**
comp=Z,35nm,1.4s
IM04 Indian Mountai 98.20 23 *e*P **P 18 04 10.9 -0.3**
IMA2 Indian Mountai 98.21 23 *e*P **P 18 04 10.3 -1.1**
PAB San Pablo 100.04 310 PFAKE 18 04 30.0 +10
PAB LR LR
comp=Z,2μm,21.0s
COLA College 100.90 23 PFAKE 18 04 30.0 +6.8
COLA LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 101.05 31 PFAKE 18 04 40.0 +16
KDAK LR LR
comp=Z,2μm,19.0s
ILAR Eielson Array 101.32 23 PP PP 18 08 30.8 -3.6
ILAR Eielson Array 101.32 23 PP PP 18 08 30.8 -3.6
comp=Z,1.1nm,1.0s,baz=298,slow=8.1,SNR=5.0
MTE Manteigas 102.35 311 PFAKE 18 04 40.0 +10
MTE LR LR
comp=Z,497nm,19.0s
RTC Rabat Centre 102.76 305 PFAKE 18 04 40.0 +7.8
RTC LR LR
comp=Z,406nm,20.0s
SHEL Horse Pasture 102.90 254 PFAKE 18 04 40.0 +6.8
SHEL LR LR
comp=Z,1μm,19.0s
EGAK Eagle 103.54 22 PFAKE 18 04 50.0 +15
EGAK LR LR
comp=Z,3μm,22.0s
SFJD Kangerlussuaq 110.46 347 PFAKE 18 09 20.0
SFJD LR LR
comp=Z,862nm,20.0s
WRAK Wrangell Islan 111.59 27 PFAKE 18 09 20.0
WRAK LR LR
comp=Z,1μm,19.0s
PMSA Palmer Station 113.17 188 PFAKE 18 09 20.0
PMSA LR LR

comp=Z,933nm,20.0s
CMLA Cha da Macela 116.52 312 PFAKE 18 09 30.0 +11
CMLA LR LR
comp=Z,767nm,21.0s
SACV Santiago Islan 120.64 287 PFAKE 18 09 40.0 +13
SACV LR LR
comp=Z,491nm,20.0s
NLWA Neilton Lookou 121.19 32 PFAKE 18 09 40.0 +13
NLWA LR LR
comp=Z,2μm,21.0s
FFC Flin Flon 123.92 14 PFAKE 18 09 40.0 +7.6
FFC LR LR
comp=Z,1μm,20.0s
NEW Newport 123.95 28 PFAKE 18 09 40.0 +7.3
NEW LR LR
comp=Z,3μm,21.0s
BSMT Bassoo Peak 125.31 27 *e*PKPdf **PKPdf 18 09 32.7 -2.9**
SWMT Swartz Lake 125.92 26 *e*P **PKPdf 18 09 35.9 -0.7**
BMO Blue Mountains 126.28 31 PFAKE 18 09 50.0 +13
BMO LR LR
comp=Z,2μm,20.0s
SLMT Seeley Lake 126.35 26 *e*P **PKPdf 18 09 37.6 +0.1**
CHMT Chamberlain Mo 126.70 26 *e*P **PKPdf 18 09 37.8 -0.4**
WVOR Wild Horse Val 127.22 34 PFAKE 18 09 50.0 +11
WVOR LR LR
comp=Z,3μm,20.0s
EGMT Eagleton 127.29 23 *e*P **PKPdf 18 09 39.9 +0.8**
EGMT LR LR
comp=Z,2μm,22.0s
DLMT Dillon 128.18 27 *e*P **PKPdf 18 09 41.9 +0.8**
BOZ Bozeman (W) 128.40 26 *e*PKIKP **PKPdf 18 09 42.3 +0.9**
BOZ MLR MLR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 128.40 26 *e*P **PKPdf 18 09 42.3 +0.9**
BOZ LR LR
comp=Z,1μm,20.0s
MCMT McKenzie Canyo 128.47 28 *e*P **PKPdf 18 09 42.3 +0.6**
HLID Hailey 128.66 30 *e*P **PKPdf 18 09 43.3 +1.2**
HLID LR LR
comp=Z,4μm,19.0s
DGMT Dagmar 128.90 19 PFAKE 18 09 50.0 +7.8
DGMT LR LR
comp=Z,2μm,21.0s
QLMT Earthquake Lak 129.12 27 *e*P **PKPdf 18 09 44.2 +1.2**
BMN Battle Mountai 129.35 35 PFAKE 18 10 00.0 +17
BMN LR LR
comp=Z,1μm,19.0s
ULM Lac du Bonnet 129.44 11 PKP **PKPdf 18 09 44.0 +0.9**
ULM Lac du Bonnet 129.44 11 PKP **PKPdf 18 09 44.0 +0.9**
comp=Z,2.6nm,0.5s,baz=106,slow=0.8,SNR=3.5
LKWY Lake 129.79 26 PFAKE 18 10 00.0 +16
LKWY LR LR
comp=Z,3μm,19.0s
RLMT Red Lodge 129.83 25 PFAKE 18 10 00.0 +16
RLMT LR LR
comp=Z,1μm,19.0s
NVAR Mina Array Bea 130.02 37 PKP **PKPdf 18 09 45.1 +0.3**
NVAR Mina Array Bea 130.02 37 PKP **PKPdf 18 09 45.1 +0.3**
comp=Z,2.0nm,0.9s,baz=270,slow=0.9,SNR=8.6
IMW Indian Meadow 130.07 27 *e*P **PKPdf 18 09 45.9 +1.1**
RRI2 Red Ridge 130.32 28 *e*P **PKPdf 18 09 45.9 +0.6**
LOHW Long Hollow 130.44 27 *e*P **PKPdf 18 09 46.2 +0.8**
REDW Red Top Meadow 130.52 28 *e*P **PKPdf 18 09 46.7 +1.1**
TPH Tonopah 130.90 37 PFAKE 18 10 00.0 +14
TPH LR LR
comp=Z,710nm,20.0s
BGU Big Grassy Mou 131.28 31 *e*P **PKPdf 18 09 47.9 +0.8**
AGMN Agassiz Nation 131.30 12 PFAKE 18 10 00.0 +13
AGMN LR LR
comp=Z,2μm,21.0s
HWUT Hardware Ranch 131.52 30 PFAKE 18 10 00.0 +12
HWUT LR LR
comp=Z,2μm,20.0s
BW06 Boulder Array 131.58 27 PFAKE 18 10 00.0 +12
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 131.58 27 PKP **PKPdf 18 09 47.6 -0.1**
PDAR PP **PP 18 12 07.6 +1.3**
PDAR Pinedale Array 131.58 27 PKP **PKPdf 18 09 47.6 -0.1**
comp=Z,1.3nm,0.9s,baz=318,slow=1.2,SNR=9.1
PDAR PP **PP 18 12 07.6 +1.3**
comp=Z,1.4nm,1.1s,baz=12,slow=4.6,SNR=2.8
R11A Troy Canyon, C 131.68 36 *e*PKPdf **PKPdf 18 09 49.5 +1.6**
DUG Dugway 131.93 32 *e*PKIKP **PKPdf 18 09 49.1 +0.8**
DUG MLR MLR
comp=Z,807nm,19.0s
DUG Dugway 131.93 32 *e*P **PKPdf 18 09 49.1 +0.8**
DUG LR LR
comp=Z,807nm,19.0s
EYMN Ely 132.43 9 PFAKE 18 10 00.0 +11
EYMN LR LR
comp=Z,2μm,22.0s
RSSD Black Hills 132.73 22 *e*PKIKP **PKPdf 18 09 50.6 +0.8**
RSSD Black Hills 132.73 22 *e*P **PKPdf 18 09 50.6 +0.8**
GSC Goldstone 132.92 40 *e*PKIKP **PKPdf 18 09 47.9 -2.3**
GSC Goldstone 132.92 40 *e*P **PKPdf 18 09 47.9 -2.3**
RCBR Riachuelo 133.43 261 PFAKE 18 10 00.0 +8.3
RCBR LR LR
comp=Z,979nm,19.0s
MSU Marysvale 133.49 33 *e*PKIKP **PKPdf 18 09 52.2 +0.8**
MSU Marysvale 133.49 33 *e*PKPdf **PKPdf 18 09 52.2 +0.8**
PFO Pinyon Flat Ob 134.20 41 PFAKE 18 10 00.0 +7.3
PFO LR LR
comp=Z,1μm,19.0s
PKME Peaks-Kenny Pk 134.40 347 PFAKE 18 10 00.0 +7.4
PKME LR LR
comp=Z,3μm,19.0s
COWI Conover 134.56 7 PFAKE 18 10 00.0 +7.1
COWI LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 135.42 15 *e*PKPdf **PKPdf 18 09 53.3 -1.3**
ECSD LR LR
comp=Z,2μm,20.0s
ISCO Idaho Springs 135.73 26 PFAKE 18 10 10.0 +14
ISCO LR LR
comp=Z,1μm,19.0s
LBNH Lisbon 135.91 350 PFAKE 18 10 10.0 +15
LBNH LR LR
comp=Z,3μm,19.0s
LONY Lake Ozonia 135.96 352 PFAKE 18 10 10.0 +14
LONY LR LR
comp=Z,3μm,19.0s
WUAZ Wupatki 136.07 35 *e*PKPdf **PKPdf 18 09 59.0 +2.7**
WUAZ LR LR
comp=Z,2μm,19.0s
OGNE Ogallala 136.22 22 PFAKE 18 10 10.0 +14
OGNE LR LR
comp=Z,3μm,19.0s
MVCO Mesa Verde 136.40 31 PFAKE 18 10 10.0 +13
MVCO LR LR
comp=Z,2μm,19.0s
NCB Newcomb 136.55 352 PFAKE 18 10 10.0 +13
NCB LR LR
comp=Z,3μm,20.0s
TRQA Tornquist 137.03 203 PFAKE 18 10 10.0 +12
TRQA LR LR
comp=Z,1μm,19.0s
W18A Petrified Fore 137.29 34 *e*PKPdf **PKPdf 18 10 00.2 +1.6**
T22A Edith 137.36 30 ⇓P **PKPdf 18 09 58.4 -0.3**
baz=137
JFWS Jewell Farm 137.53 9 PFAKE 18 10 10.0 +12
JFWS LR LR
comp=Z,2μm,19.0s
S24A Houchin Ranch, 137.67 28 ⇑P **PKPdf 18 09 57.7 -1.6**
baz=138
S25A Robets Cordova 138.01 27 ⇑P **PKPdf 18 09 59.8 0.0**
baz=138
V22A San Miguel Ran 138.21 31 ⇑P **PKPdf 18 09 59.6 -0.7**
baz=138
U23A El Rito 138.25 30 ⇓P **PKPdf 18 09 59.8 -0.5**
baz=138
Q29A Oakley 138.41 22 ⇑P **PKPdf 18 10 00.3 0.0**
baz=138
T25A Trinidad 138.45 27 ⇑P **PKPdf 18 10 00.2 -0.5**
baz=138
BINY Binghamton 138.52 353 PFAKE 18 10 10.0 +10
BINY LR LR
comp=Z,3μm,20.0s
R28A Tribune 138.56 24 ⇑P **PKPdf 18 09 60.0 -0.7**
baz=138
TUC Tucson 138.66 38 PFAKE 18 10 10.0 +9.0
TUC LR LR
comp=Z,1μm,19.0s
AAM Ann Arbor 138.76 2 PFAKE 18 10 10.0 +9.3
AAM LR LR
comp=Z,2μm,20.0s
T26A Comanche Natio 138.79 26 ⇑P **PKPdf 18 10 00.2 -1.1**
baz=139
X21A Alamocita Cree 138.87 33 ⇑P **PKPdf 18 10 00.8 -0.8**
baz=139
U25A Circle Dot Ran 139.05 28 ⇑P **PKPdf 18 10 00.3 -1.5**
baz=139
ANMO Albuquerque 139.19 31 PKP **PKPdf 18 10 02.3 +0.2**
ANMO LR LR
comp=Z,910nm,19.0s
ANMO Albuquerque 139.19 31 PKP **PKPdf 18 10 02.3 +0.2**
comp=Z,1.2nm,0.6s,baz=90,slow=2.0,SNR=3.1
R30A Dighton 139.20 22 ⇑P **PKPdf 18 10 00.3 -1.5**
baz=139
Y21A Point of Rocks 139.26 33 ⇓P **PKPdf 18 10 01.5 -0.8**
baz=139
Z20A Nine Sixteen R 139.40 35 ⇓P **PKPdf 18 10 01.3 -1.1**
baz=139
V25A Rancho No Teng 139.41 29 ⇑P **PKPdf 18 10 01.1 -1.3**
baz=139
W24A Lazy 6 Ranch, 139.52 30 ⇓P **PKPdf 18 10 01.7 -0.9**
baz=139
Y22A Socorro 139.70 33 ⇓P **PKPdf 18 10 01.6 -1.3**
baz=140
KSU1 Kansas State U 139.72 18 PFAKE 18 10 10.0 +7.4
KSU1 LR LR
comp=Z,1μm,19.0s
BNM Barren Site 139.72 32 *e*PKPdf **PKPdf 18 10 03.3 +0.2**
HDIL Hopedale 139.98 9 PFAKE 18 10 10.0 +7.0
HDIL LR LR
comp=Z,2μm,20.0s
W25A X Bar L Ranch, 139.98 29 ⇑P **PKPdf 18 10 02.3 -1.1**
baz=140
Y23A Lovelace Mesa, 140.19 32 ⇑P **PKPdf 18 10 02.5 -1.4**
baz=140
121A Cookes Peak, D 140.29 35 ⇓P **PKPdf 18 10 01.7 -2.4**
baz=140
220A Playas Peak, P 140.31 36 ⇑P **PKPdf 18 10 02.1 -2.0**
baz=140
X25A Clemmons Ranch 140.44 30 ⇑P **PKPdf 18 10 02.6 -1.7**
baz=140
Y24A Capitan 140.52 31 ⇓P **PKPdf 18 10 02.9 -1.6**
baz=140
W27A Bowe Ranch, En 140.77 28 ⇓P **PKPdf 18 10 03.6 -1.3**
baz=141
Y25A Mesa, Roswell 140.90 30 ⇓P **PKPdf 18 10 03.8 -1.3**
baz=141
Z25A Roswell 141.39 31 ⇑P **PKPdf 18 10 03.0 -2.9**
baz=141
AMTX Amarillo 141.55 26 PFAKE 18 10 20.0 +14
AMTX LR LR
comp=Z,1μm,19.0s
V31A Spring Creek L 141.56 24 ⇑P **PKPdf 18 10 02.9 -3.2**
baz=141
X28A Dimmitt 141.62 27 ⇑P **PKPdf 18 10 02.2 -4.1**
baz=142
Z26A Caprock 141.78 30 ⇓P **PKPdf 18 10 02.9 -3.8**
baz=142
125A Gardner Draw, 141.91 32 ⇓P **PKPdf 18 10 03.4 -3.6**
baz=142
Z27A Tatum 142.12 29 ⇓P **PKPdf 18 10 03.5 -3.8**
baz=142
MNTX Cornudas Mount 142.26 33 *e*PKPdf **PKPdf 18 10 05.0 -2.5**
MNTX LR LR
comp=Z,2μm,19.0s
324A Moseley Ranch, 142.40 34 ⇑P **PKPdf 18 10 05.0 -2.8**
baz=142
X31A McDonald Ranch 142.50 25 ⇑P **PKPdf 18 10 05.8 -2.0**
baz=142
BDFB Brasilia 142.56 243 PKP **PKPdf 18 10 10.3 +1.8**
BDFB Brasilia 142.56 243 PKP **PKPdf 18 10 10.3 +1.8**
comp=Z,3.8nm,0.9s,baz=188,slow=7.8,SNR=3.3
226B Tecolote Peak, 142.62 32 ⇑P **PKPdf 18 10 05.4 -2.8**
baz=142
CBN Corbin 142.62 354 PFAKE 18 10 20.0 +12
CBN LR LR
comp=Z,2μm,20.0s
325A Bean Ranch, Si 142.74 33 ⇓P **PKPdf 18 10 04.2 -4.3**
baz=143
WMOK Wichita Mounta 142.89 23 *e*PKHKP PKPpre 18 10 03.4
WMOK MLR MLR
comp=Z,1μm,20.0s
WMOK Wichita Mounta 142.89 23 *e*PKPpre PKPpre 18 10 03.4
WMOK LR LR
comp=Z,1μm,20.0s
Z29A Hungry Hill Ra 142.89 28 ⇓P **PKPdf 18 10 04.1 -4.6**
baz=143
TUL1 Tulsa 142.90 19 ⇑P **PKPdf 18 10 03.8 -4.6**
baz=143
Y31A Rekieta Farm, 142.95 26 ⇑P **PKPdf 18 10 03.5 -5.1**
baz=143
227A Bennet, Jal 143.13 31 ⇑P PKPbc 18 10 05.5 -0.4
baz=143
Z30A Sanderson Ranc 143.14 27 ⇓P PKPab 18 10 04.9 +0.4
baz=143
425A Indio Mountain 143.17 34 ⇓P PKPbc 18 10 05.6 -0.5
baz=143,SNR=5.7
Y32A R-V Farms, Ver 143.26 25 ⇑P PKPab 18 10 04.7 -0.2
baz=143
326A Caldwell Ranch 143.32 32 ⇑P PKPbc 18 10 06.4 0.0
baz=143
129A Stewart Farms, 143.34 29 ⇑P PKPab 18 10 05.8 +0.5
baz=143
228A UT Block 9, Go 143.40 30 ⇓P PKPbc 18 10 06.4 -0.3
baz=143
327A Balmorhea Ranc 143.53 32 ⇓P PKPbc 18 10 07.0 0.0
baz=143
Z31A Sharp Cattle R 143.55 26 ⇓P PKPab 18 10 06.0 -0.1
baz=143
130A Snyder 143.79 28 ⇑P PKPab 18 10 07.0 0.0
baz=144
426A McDonald Obser 143.79 33 ⇑P PKPab 18 10 07.5 +0.1
baz=144,SNR=8.6
BLA Blacksburg 143.83 358 PFAKE 18 10 20.0 +10
BLA LR LR
comp=Z,3μm,19.0s
Z32A Haskell 143.85 25 ⇓P PKPab 18 10 06.4 -0.8
baz=144,SNR=8.7
328A Wristen Ranch, 143.88 31 ⇓P PKPab 18 10 06.8 -0.6
baz=144,SNR=9.3
229A Bryant Ranch, 143.91 29 ⇓P PKPab 18 10 07.7 +0.1
baz=144
CPUP Villa Florida 143.91 220 *e*PKPpre PKPpre 18 10 07.6
CPUP PKPpre PKPpre 18 10 07.8
CPUP Villa Florida 143.91 220 PKhKP PKPpre 18 10 07.8
comp=Z,5.6nm,0.6s,baz=135,slow=1.7,SNR=11
131A Roby 143.99 27 ⇑P PKPab 18 10 07.8 0.0
baz=144
427A Hayter Ranch, 143.99 32 ⇑P PKPab 18 10 08.0 +0.1
baz=144,SNR=13
329A Wagon Wheel Ra 144.21 30 ⇑P **PKPab 18 10 08.8 +0.1**
baz=144,SNR=13
526A Mary Lane Ranc 144.22 34 ⇑P PKPbc 18 10 09.6 +0.3
baz=144,SNR=16
230A Sterling City 144.31 28 ⇑P **PKPab 18 10 08.6 -0.4**
baz=144,SNR=6.6
ABTX Abilene, Hawle 144.36 26 ⇑P **PKPab 18 10 09.3 +0.1**
baz=144
527A Woodward Ranch 144.42 33 ⇑P **PKPab 18 10 09.7 +0.1**
baz=144,SNR=33
428A Kincaid Ranch, 144.46 31 ⇓P PKPbc 18 10 10.2 +0.3
baz=144,SNR=8.7
TZTN Tazewell 144.50 2 *e*PKPdf **PKPab 18 10 08.7 -0.9**
WVT Waverly 144.54 8 *e*PKIKP **PKPab 18 10 09.1 -0.6**
WVT Waverly 144.54 8 *e*PKPdf **PKPab 18 10 09.1 -0.6**
626A Big Bend Ranch 144.59 34 ⇑P PKPbc 18 10 10.4 0.0
baz=144,SNR=58
231A Bronte 144.64 27 ⇑P **PKPab 18 10 09.8 -0.4**
baz=144,SNR=7.0
BBSR BB Station 144.67 334 *e*PKPdf **PKPab 18 10 10.3 0.0**
BBSR LR LR
comp=Z,1μm,19.0s
330A Mertzon 144.67 29 ⇑P **PKPab 18 10 10.0 -0.4**
baz=144,SNR=23
MIAR Mount Ida 144.84 17 *e*PKIKP **PKPab 18 10 10.7 -0.1**
MIAR MLR MLR
comp=Z,2μm,20.0s
MIAR Mount Ida 144.84 17 *e*PKPdf **PKPab 18 10 10.7 -0.1**
MIAR LR LR
comp=Z,2μm,20.0s
429A Davenport Ranc 144.95 31 ⇑P **PKPab 18 10 10.7 -0.7**
baz=145,SNR=21
UALR University of 144.96 15 *e*PKPdf **PKPab 18 10 10.8 -0.5**
232A Coleman 144.98 27 ⇑P **PKPab 18 10 11.1 -0.4**
baz=145,SNR=22
TXAR Lajitas Array 145.02 34 PKP **PKPab 18 10 12.0 +0.3**
TXAR Lajitas Array 145.02 34 PKP **PKPab 18 10 12.0 +0.3**
comp=Z,12nm,0.6s,baz=228,slow=1.1,SNR=61
627A Terlingua Ranc 145.08 34 ⇑P **PKPdf 18 10 12.4 -0.2**
baz=145,SNR=104
331A San Angelo 145.11 28 ⇑P **PKPbc 18 10 11.1 -0.9**
baz=145,SNR=15
CFAA Coronel Fontan 145.12 201 PKPbc **PKPbc 18 10 11.6 -0.3**
CFAA Coronel Fontan 145.12 201 PKPbc **PKPbc 18 10 11.6 -0.3**
comp=Z,1.4nm,0.6s,baz=154,slow=2.7,SNR=15
430A Baggett Ranch, 145.15 30 ⇓P **PKPbc 18 10 11.6 -0.5**
baz=145,SNR=16
529A Stev Forest Ra 145.18 32 ⇓P **PKPab 18 10 12.5 +0.2**
baz=145,SNR=17
628A Black Gap, Mar 145.33 33 ⇑P **PKPdf 18 10 12.9 0.0**
baz=145,SNR=41
332A Millersview 145.37 27 ⇓P **PKPbc 18 10 12.2 -0.6**
baz=145,SNR=47
TKL Tuckaleechee C 145.38 2 *e*PKPdf **PKPbc 18 10 11.3 -1.3**
TKL PKPbc **PKPbc 18 10 11.6 -1.0**
TKL Tuckaleechee C 145.38 2 PKPbc **PKPbc 18 10 11.6 -1.0**
comp=Z,18nm,0.7s,baz=39,slow=2.9,SNR=22
431A Sonora 145.54 29 ⇓P **PKPdf 18 10 13.0 -0.3**
baz=145,SNR=27
CPCT Cooper Cave 145.55 4 *e*PKPdf **PKPdf 18 10 12.4 -0.6**
CNNC Cliffs of the 145.61 354 PFAKE 18 10 20.0 +6.4
CNNC LR LR
comp=Z,2μm,20.0s
530A J-C Ranch, Com 145.62 30 ⇓P **PKPab 18 10 13.8 -0.1**
baz=146,SNR=116
432A Menard 145.77 28 ⇑P **PKPdf 18 10 13.4 -0.3**
baz=146,SNR=11
WHTX Lake Whitney 145.83 24 *e*PKPdf **PKPdf 18 10 12.7 -0.9**
WHTX Lake Whitney 145.83 24 ⇑P **PKPdf 18 10 13.6 -0.1**
baz=146
OXF Oxford 145.86 11 *e*PKP2 **PKPdf 18 10 13.0 -0.6**
OXF MLR MLR
comp=Z,2μm,19.0s
OXF Oxford 145.86 11 *e*PKPdf **PKPdf 18 10 13.0 -0.6**
OXF LR LR
comp=Z,2μm,19.0s
KMSC Kings Mountain 145.92 359 *e*PKPdf **PKPdf 18 10 13.0 -0.7**
KMSC Kings Mountain 145.92 359 ⇑P **PKPdf 18 10 13.4 -0.3**
baz=146
531A Rocksprings 146.00 29 ⇓P **PKPdf 18 10 13.9 -0.1**
baz=146,SNR=44
JCT Junction City 146.10 28 *e*PKP2 **PKPbc 18 10 14.8 -0.3**
JCT MLR MLR
comp=Z,2μm,19.0s
JCT Junction City 146.10 28 *e*PKPdf **PKPbc 18 10 14.8 -0.3**
JCT LR LR
comp=Z,2μm,19.0s
532A Rocksprings 146.34 29 ⇑P **PKPdf 18 10 15.2 +0.6**
baz=146,SNR=28
631A Perdido Creek 146.60 30 ⇓P **PKPbc 18 10 16.5 0.0**
baz=146
632A Uvalde 146.91 29 ⇑P **PKPbc 18 10 17.9 +0.4**
baz=147
732A Laxson Ranch, 147.46 30 ⇓P **PKPbc 18 10 19.4 +0.4**
baz=147
LRAL Lakeview Retre 147.70 8 *e*PKPdf **PKPbc 18 10 18.6 -0.9**
LRAL LR LR
comp=Z,1μm,21.0s
VBMS Vicksburg 147.84 14 PFAKE 18 10 30.0 +7.7
VBMS LR LR
comp=Z,1μm,20.0s
HKT Hockley 148.28 23 *e*PKIKP **PKPdf 18 10 18.8 +1.1**
HKT Hockley 148.28 23 *e*PKPdf **PKPdf 18 10 18.8 +1.1**
KVTX Kingsville 149.46 28 PFAKE 18 10 30.0 +1.0
KVTX LR LR
comp=Z,3μm,19.0s
BRAL Brewton 149.68 9 PFAKE 18 10 30.0 +0.3
BRAL LR LR
comp=Z,1μm,19.0s
SIV San Ignacio 153.33 230 PKP **PKPdf 18 10 26.6 +0.7**
SIV San Ignacio 153.33 230 PKP **PKPdf 18 10 26.6 +0.7**
comp=Z,1.4nm,0.8s,baz=222,slow=3.7,SNR=5.4
LVC Limon Verde 153.35 208 *e*PKPbc **PKPbc 18 10 34.1 +0.4**
ANWB Willy Bob 154.02 311 PFAKE 18 10 40.0 +5.1
ANWB LR LR
comp=Z,860nm,20.0s
BBGH Gun Hill 154.61 300 PFAKE 18 10 40.0 +3.8
BBGH LR LR
comp=Z,2μm,20.0s
FDF Fort de France 155.18 305 PFAKE 18 10 40.0 +11
FDF LR LR
comp=Z,925nm,19.0s
GRGR Grenville 156.88 300 PFAKE 18 10 40.0 +9.2
GRGR LR LR
comp=Z,811nm,19.0s
GRTK Grand Turk 156.91 333 PFAKE 18 10 40.0 +9.4
GRTK LR LR
comp=Z,1μm,19.0s
LPAZ La Paz 158.07 218 *e*PKPdf **PKPdf 18 10 31.9 -1.2**
LPAZ PKP **PKPdf 18 10 34.1 +1.1**
LPAZ La Paz 158.07 218 PKP **PKPdf 18 10 34.1 +1.1**
comp=Z,3.3nm,1.1s,baz=58,slow=3.4,SNR=5.4
SAML Samuel 158.80 242 PKPdf **PKPdf 18 10 32.7 -0.5**
SAML *e*PKPab **PKPab 18 11 08.3 -0.7**
SAML LR LR
comp=Z,817nm,20.0s
SDDR Presa de Saban 159.15 330 PFAKE 18 10 40.0 +6.5
SDDR LR LR
comp=Z,1μm,20.0s
TEIG Tepich 159.85 17 PFAKE 18 10 50.0 +16
TEIG LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 159.90 341 PFAKE 18 10 50.0 +16
GTBY LR LR
comp=Z,822nm,19.0s
SDV Santo Domingo 166.13 305 PFAKE 18 10 50.0 +9.3
SDV LR LR
comp=Z,135nm,22.0s
JTS JuntasAbangare 170.24 17 PFAKE 18 10 50.0 +6.7
JTS LR LR
comp=Z,1μm,21.0s
BCIP Isla Barro Col 171.49 345 PFAKE 18 10 50.0 +6.1
BCIP LR LR
comp=Z,893nm,19.0s
PAYG Puerto Ayora 171.63 101 PFAKE 18 10 50.0 +5.9
PAYG LR LR
comp=Z,1μm,19.0s
OTAV Otavalo 176.33 260 PFAKE 18 11 00.0 +14
OTAV LR LR
comp=Z,739nm,20.0s

GUC 18 17:50:43.7±0.4, 22°31'S×68°87'W, h124km±4km, ML3.5, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**0.57**	**275**	⇑*i*	*i*	P	Pn	17 51 09.2	+6.7
PB04					*i*	S	Sn	17 51 28.2	+12
PB04						AML	AML	17 51 31.6	
comp=N,732nm,0.3s									
PB09	**Plate Boundary**	**0.62**	**326**	⇑*i*	*i*	P	Pn	17 51 03.6	+0.5
PB09					*i*	S	Sn	17 51 18.4	+0.8
PB09						AML	AML	17 51 20.6	
comp=E,2μm,0.3s									
MACH	**Maria Elena**	**0.83**	**278**	*i*	P		Pn	17 51 05.2	+0.5
MACH					*i*	S	Sn	17 51 21.7	+1.0
PB07	**Plate Boundary**	**1.11**	**302**	⇑*i*	*i*	P	Pn	17 51 08.6	+1.2
PB07					*i*	S	Sn	17 51 27.1	+1.8
PB07						AML	AML	17 51 27.9	
comp=N,1μm,0.3s									
PB01	**Plate Boundary**	**1.39**	**336**	*i*	P		Pn	17 51 10.9	+0.6
PB01					*i*	S	Sn	17 51 31.3	+0.9
PB01						AML	AML	17 51 32.0	
comp=E,642nm,0.1s									
CEN1	**Los Morros**	**1.63**	**229**	*e*P			Pn	17 51 16.2	+3.2
CEN1					*i*	S	Sn	17 51 41.0	+5.7
PB10	**Plate Boundary**	**1.96**	**232**	*e*P			Pn	17 51 17.6	+0.7
PB10					*e*S		Sn	17 51 43.2	+1.0
PB10						AML	AML	17 51 58.0	
comp=E,274nm,0.3s									
MNMC	**Minimini**	**3.24**	**348**	AML			AML	17 52 20.4	
comp=N,111nm,0.2s									

MAN 18 17:55:59,15°81'N×119°49'E, h123km, mb5.0, ML3.9, MS4.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALP	**Baler**	**2.01**	**92**	*e*S			Sn	17 56 56.6	-2.0

IDC ***18*** *17:58:49.6±1.0, 1˚.03S×97˚.93E, h0km, mb4.5/15, mb1 4.6/17, mb1mx4.4/28, mbtmp4.5/17, ML4.5/2, Error ellipse: s-maj=27.0km s-min=17.5km az=47.0*

ISCJB ***18*** *17:58:52.0±0.5, 0˚.98S±0˚.06×97˚.97E±0˚.04, h26km, mb4.7/26, Error ellipse: s-maj=8.6km s-min=5.7km az=26.7*

NEIC ***18*** *17:58:54.4±4.1, 0˚.99S×98˚.01E, h31km±27km, mb4.9/15, Error ellipse: s-maj=15.1km s-min=8.8km az=221.0*

DJA ***18*** *17:59:02.9±0.9, 1˚S±7˚×9˚9E±1˚3, h64km±36km, M5.1/7, mb5.4/2, MLv5.0/7*

BKK ***18*** *17:59:31.5±1.3, 1˚N±10˚×10˚0E±1˚4, h142km±6km, M4.7/9, mB6.0/2, mb5.2/9, MLv4.5/3, Mw(mB)5.6/2*

ISC 18 17:58:53.9±0.7, **0.99S**±0˚.08×**97.98E**±0˚.08, **h26**km, **n90,** σ1º**92**/84, **mb4.8**/26, **5C-2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.48**	**78**	P	**Pn**	**17 59 31.8**	**-0.8**
PPI				S	Sn	17 59 50.0	-12
PDSI	**Padang**	**2.48**	**88**	P	**Pn**	**17 59 33.0**	**+0.2**
BKNI	**Bangkinang**	**3.33**	**67**	P	Pn	17 59 48.0	+3.6
PSI	**Prapat**	**3.88**	**14**	Pn	**Pn**	**17 59 50.2**	**-1.9**
PSI	**Prapat**	**3.88**	**14**	Pn	**Pn**	**17 59 50.2**	**-1.9**
	24nm,0.3s,baz=191,slow=10,SNR=35						
TSI	**Tuntungan**	**4.50**	**7**	P	**Pn**	**18 00 02.7**	**+2.3**
KSI	**Kapahiang**	**5.32**	**120**	P	**Pn**	**18 00 11.3**	**-0.5**
MNAI	**Manna**	**6.00**	**124**	P	**Pn**	**18 00 21.5**	**+0.5**
	617nm,0.9s,2.9nm						
KGM	**Kluang**	**6.12**	**61**	P	**Pn**	**18 00 23.8**	**+1.1**
IPM	**Ipoh**	**6.23**	**29**	*e*Pn	**Pn**	**18 00 25.3**	**+1.0**
IPM	**Ipoh**	**6.23**	**29**	P	**Pn**	**18 00 26.3**	**+2.1**
IPM	**Ipoh**	**6.23**	**29**	P	**Pn**	**18 00 25.9**	**+1.7**
MYKOM	**Kota Tinggi**	**6.49**	**65**	P	**Pn**	**18 00 28.3**	**+0.5**
MYKOM	**Kota Tinggi**	**6.49**	**65**	P	**Pn**	**18 00 29.3**	**+1.5**
KULM	**Kulim**	**6.78**	**23**	*e*Pn	**Pn**	**18 00 31.9**	**0.0**
KULM	**Kulim**	**6.78**	**23**	P	**Pn**	**18 00 32.6**	**+0.8**
KTGM	**Kuala Trenggan**	**8.12**	**39**	P	**Pn**	**18 00 50.5**	**+0.3**
KSM	**Kuching**	**12.57**	**79**	P	**Pn**	**18 01 53.5**	**+2.3**
SBUM	**Sibu**	**14.64**	**76**	P	**Pn**	**18 02 20.1**	**+0.5**
NAYO	**Nakonayok**	**15.56**	**12**	P	**Pn**	**18 02 32.1**	**+0.4**
	1μm,2.5s						
BTM	**Bintulu**	**15.66**	**75**	P	**P**	**18 02 38.1**	**+1.2**
UTHA	**Uthaitani**	**16.50**	**5**	P	**P**	**18 02 46.6**	**+0.3**
	36nm,1.0s						
PBKT	**Sadao Pong**	**17.70**	**9**	P	**P**	**18 03 00.2**	**+0.8**
	509nm,0.9s						
PANO	**Nakornpanom**	**19.17**	**20**	P	**P**	**18 03 15.4**	**-0.3**
	438nm,1.0s						
CM31	**Chiang Mai Arr**	**19.35**	**3**	*e*P	**P**	**18 03 17.9**	**+0.2**
	7.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.35**	**3**	P	**Pn**	**18 03 18.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.35**	**3**	P	**Pn**	**18 03 18.3**	**-0.6**
	0.9nm,0.3s,baz=187,slow=11,SNR=31						
LAMP	**Lampang**	**19.46**	**5**	P	**Pn**	**18 03 20.1**	**0.0**
	9.8nm,1.0s						
KKM	**Kota Kinabalu**	**19.50**	**69**	*e*P	**P**	**18 03 18.9**	**-0.6**
	98nm,1.1s						
KKM	**Kota Kinabalu**	**19.50**	**69**	P	**Pn**	**18 03 20.0**	**-0.8**
KKM	**Kota Kinabalu**	**19.50**	**69**	P	**Pn**	**18 03 20.4**	**-0.4**
CHTO	**Chiang Mai**	**19.70**	**3**	*e*P	**P**	**18 03 20.6**	**-0.8**
	31nm,1.1s						
CHTO	**Chiang Mai**	**19.70**	**3**	P	**Pn**	**18 03 26.2**	**+3.2**
	785nm,2.5s,26μm						
SDKM	**Sandakan**	**20.29**	**71**	P	**P**	**18 03 28.4**	**+0.4**
KDM	**Kudat**	**20.39**	**67**	P	Pn	18 03 30.4	-0.8
TSM	**Tawau**	**20.56**	**75**	P	**P**	**18 03 30.8**	**-0.1**
MYLDM	**Lahad Datu**	**21.40**	**73**	P	**P**	**18 03 41.7**	**+1.8**
QIZ	**Qiongzhong**	**23.06**	**30**	*e*P	**P**	**18 03 55.8**	**-1.8**
	29nm,1.3s						
SHL	**Shillong**	**27.05**	**348**	*e*P	**P**	**18 04 35.0**	**+0.5**
LSA	**Lhasa**	**31.21**	**348**	*e*P	**P**	**18 05 12.7**	**+0.9**
	27nm,0.9s						
ENH	**Enshi**	**32.97**	**18⇑**	*e*P	**P**	**18 05 26.0**	**-0.7**
	38nm,1.0s						
TATO	**Taipei**	**34.42**	**40**	*e*P	**P**	**18 05 39.6**	**+0.2**
	13nm,0.7s						
WRA	**Warramunga Arr**	**40.24**	**120**	P	**P**	**18 06 27.5**	**-1.4**
WRA	**Warramunga Arr**	**40.24**	**120**	P	**P**	**18 06 27.5**	**-1.4**
	8.6nm,0.9s,baz=296,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**41.48**	**126**	P	**P**	**18 06 40.0**	**+0.8**
ASAR	**Alice Springs**	**41.48**	**126**	P	**P**	**18 06 40.0**	**+0.8**
	3.5nm,0.9s,baz=294,slow=7.5,SNR=2.9						
JNU	**Nakatsue**	**45.96**	**39**	*e*P	**P**	**18 07 14.5**	**-0.5**
	11nm,0.6s						
JNU	**Nakatsue**	**45.96**	**39**	P	**P**	**18 07 14.7**	**-0.4**
	14nm,1.0s,baz=240,slow=3.1,SNR=5.9						
KSAR	**Wonju Array Be**	**47.20**	**33**	P	**P**	**18 07 24.4**	**-0.2**
KSRS	**Korea Array**	**47.23**	**33**	P	**P**	**18 07 24.4**	**-0.4**
	7.4nm,0.8s,baz=223,slow=8.7,SNR=22						
TKM2	**Tokmak 2**	**48.12**	**338**	*e*P	**P**	**18 07 32.4**	**+0.4**
	24nm,1.4s						
AAK	**Ala-Archa**	**48.30**	**337**	P	P	18 07 37.1	+3.8
EKS2	**Erkin-Say**	**48.61**	**336**	*e*P	**P**	**18 07 35.8**	**+0.1**
	20nm,1.4s						
SONM	**Songino Array**	**49.18**	**7**	P	**P**	**18 07 40.6**	**+0.8**
SONM	**Songino Array**	**49.18**	**7**	P	**P**	**18 07 40.6**	**+0.8**
	11nm,0.9s,baz=192,slow=6.1,SNR=38						
ULN	**Ulaanbaatar**	**49.30**	**8**	*e*P	**P**	**18 07 41.2**	**+0.4**
	32nm,0.9s						
MK31	**Makanchi Array**	**49.54**	**346**	*e*P	**P**	**18 07 42.7**	**+0.1**
MKAR	**Makanchi Array**	**49.54**	**346**	P	**P**	**18 07 42.9**	**+0.3**
MKAR	**Makanchi Array**	**49.54**	**346**	P	**P**	**18 07 42.9**	**+0.3**
	9.4nm,0.7s,baz=151,slow=8.2,SNR=58						
KKAR	**Karatay Array**	**50.35**	**334**	*e*P	**P**	**18 07 48.0**	**-0.8**
	14nm,1.3s						
MJAR	**Matsushiro Arr**	**52.80**	**41**	P	**P**	**18 08 06.2**	**-1.0**
MJAR	**Matsushiro Arr**	**52.80**	**41**	P	**P**	**18 08 06.2**	**-1.0**
	5.8nm,1.0s,baz=226,slow=6.0,SNR=8.1						
KURBB	**Kurchatov Arra**	**54.03**	**345**	P	**P**	**18 08 15.6**	**-0.3**
	4.8nm,1.0s,baz=169,slow=7.1,SNR=22						
KURK	**Kurchatov**	**54.09**	**345**	P	**P**	**18 08 15.6**	**-0.8**
USRK	**Ussuriysk Arra**	**54.26**	**30**	P	**P**	**18 08 17.9**	**+0.2**
	12nm,0.9s,baz=224,slow=6.0,SNR=21						
ZAA0	**Zalesovo Array**	**55.83**	**351⇑**	*e*P	**P**	**18 08 28.8**	**-0.1**
ZALV	**Zalesovo Beam**	**55.83**	**351**	P	**P**	**18 08 28.7**	**-0.1**
ZALV	**Zalesovo Beam**	**55.83**	**351**	P	**P**	**18 08 28.7**	**-0.1**
	17nm,0.8s,baz=180,slow=6.4,SNR=33						
BVAR	**Borovoye Array**	**58.56**	**341**	P	**P**	**18 08 47.5**	**-0.8**
BVAR	**Borovoye Array**	**58.56**	**341**	P	**P**	**18 08 47.5**	**-0.8**
	3.8nm,0.7s,baz=134,slow=8.3,SNR=18						
BRVK	**Borovoye**	**58.62**	**341**	*e*P	**P**	**18 08 47.3**	**-1.3**
	7.8nm,1.0s						
ABKAR	**Akbulak array**	**59.80**	**332**	*e*P	**P**	**18 08 55.7**	**-1.2**
	10.0nm,0.9s						
KMBO	**Kilima Mbogo**	**60.71**	**269**	*e*P	**P**	**18 09 04.8**	**+0.7**
	4.6nm,0.9s						
KBZ	**Khabaz**	**66.23**	**319**	P	**P**	**18 09 38.7**	**-1.0**
KBZ	**Khabaz**	**66.23**	**319**	P	**P**	**18 09 38.7**	**-1.0**
	3.6nm,0.9s,baz=121,slow=5.9,SNR=6.5						
AKASG	**Malin Array Be**	**77.46**	**323**	P	**P**	**18 10 46.4**	**-0.7**
AKASG	**Malin Array Be**	**77.46**	**323**	P	**P**	**18 10 46.4**	**-0.7**
	0.4nm,0.3s,baz=89,slow=4.8,SNR=2.7						
VRI	**Vrincioaia**	**77.74**	**317⇑**	*i*P	**P**	**18 10 48.9**	**+0.1**
PLOR	**Plostina**	**77.79**	**317⇑**	*i*P	P	18 10 53.3	+4.2
MLR	**Muntele Rosu**	**78.18**	**317⇑**	*i*P	**P**	**18 10 52.0**	**+0.6**
BURAR	**Bucovina Array**	**79.17**	**319⇓**	*i*P	**P**	**18 10 57.6**	**+0.9**
BZS	**Buzias**	**81.18**	**316⇓**	*i*P	**P**	**18 11 09.8**	**+2.3**
FINES	**FINESS Array B**	**82.29**	**333**	P	**P**	**18 11 12.5**	**-0.4**
FINES	**FINESS Array B**	**82.29**	**333**	P	**P**	**18 11 12.5**	**-0.4**
	2.0nm,0.9s,baz=90,slow=4.2,SNR=5.9						
GERES	**GERESS Array B**	**86.96**	**319**	P	**P**	**18 11 38.3**	**+1.3**
GERES	**GERESS Array B**	**86.96**	**319**	P	**P**	**18 11 38.3**	**+1.3**
	2.5nm,1.1s,baz=103,slow=4.2,SNR=6.5						
CPUP	**Villa Florida**	**143.87**	**219**	PKP	PKPbc	18 18 26.1	+0.6
CPUP	**Villa Florida**	**143.87**	**219**	PKP	PKPbc	18 18 26.1	+0.6
	5.9nm,1.0s,baz=125,slow=3.3,SNR=6.1						
TXAR	**Lajitas Array**	**145.07**	**34**	PKPbc	**PKPdf**	**18 18 30.1**	**+0.1**
TXAR	**Lajitas Array**	**145.07**	**34**	PKPbc	**PKPdf**	**18 18 30.1**	**+0.1**
	4.1nm,0.8s,baz=222,slow=1.2,SNR=16						

IDC ***18*** *17:59:08.3±0.4, 6˚.64S×154˚.49E, h0km, mb5.0/31, mb1 5.0/33, mb1mx5.0/35, mbtmp4.9/33, ML4.2/2, MS5.2/14, Ms1 5.3/14, ms1mx5.1/24, Error ellipse: s-maj=15.0km s-min=10.5km az=92.0*

BKK ***18*** *17:59:12.4±0.4, 7˚S±6˚×15˚5E±˚, h10km, M5.5/31, mB5.8/8, mb5.7/31, MLv5.7/1, Mw(mB)5.3/8*

ISCJB ***18*** *17:59:12.9±0.8, 6˚.69S±0˚.03×154˚.70E±0˚.03, h41km±7km, mb5.3/100, MS5.3/168, Error ellipse: s-maj=5.3km s-min=5.1km az=154.5*

MOS ***18*** *17:59:12.7±1.4, 6˚.60S×154˚.52E, h33km, mb5.4/28, MS5.2/22, Error ellipse: s-maj=8.2km s-min=6.8km az=83.0*

NEIC ***18*** *17:59:13.6±0.2, 6˚.63S×154˚.57E, h35km, mb5.3/45, MS5.4/140, Error ellipse: s-maj=6.4km s-min=5.2km az=115.0*

BJI ***18*** *17:59:14.8, 6˚.32S×154˚.89E, h53km, mB5.7/26, mb5.2/46, Ms5.8/28, Ms7 5.4/28*

GCMT ***18*** *17:59:16.3±0.1, 6˚.85S×154˚.64E, h16km, MW5.6, Moment Tensor Solution. s88,c127; s22,c22; Moment tensor: Scale 10^17^Nm; Mrr1.30±.04; Mθθ-0.48±.03; Mφφ-0.83±.03; Mrθ1.88±.13; Mθφ0.69±.02; Mφr-1.97±.14; Best double couple: Mo3.00000×10^17^ NP1:φs137.00000°, δ77.00000°, λ88.00000°. NP2:φs328.00000°, δ13.00000°, λ100.00000°. Principal axes: T 3.0100, Plg58.0000°, Azm44.0000°; N 0.0500, Plg2.0000°, Azm137.0000°; P -3.0600, Plg32.0000°, Azm229.0000°; Data Used: II IU IC G CN. Surface waves: sta= 99, comp=169, per= 50.*

AUST ***18*** *17:59:19.3, 6˚.55S×154˚.67E, h100km*

DJA ***18*** *17:59:23.5±1.1, 7˚S±4˚×15˚5E±˚, h117km±11km, M5.3/26, mB5.8/16, mb5.5/26, Mw(mB)5.3/16*

ISC 18 17:59:16.1±0.3, **6.70S**±0˚.04×**154˚.65E**±0˚.04, **h52**km±2km, **h52**km:**pP-P, n529,** σ1º**74**/490, **mb5.3**/100, **MS5.4**/168, **22C-15D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.91**	**118**	Pn	**Pn**	**18 00 44.1**	**+3.0**
HNR				Sn	Sn	18 02 04.5	+17
HNR	**Honiara**	**5.91**	**118**	Pn	**Pn**	**18 00 44.1**	**+3.0**
	34nm,0.3s,baz=254,slow=5.1,SNR=7.4						
HNR				Sn	Sn	18 02 04.4	+17
	30nm,0.3s,baz=205,slow=17,SNR=8.2						
HNR				LR	LR	18 02 53.4	
	comp=Z,14μm,20.5s,baz=296,slow=37						
PMG	**Port Moresby**	**7.89**	**250**	Pn	**Pn**	**18 01 07.8**	**-0.4**
PMG				Sn	**Sn**	**18 02 38.8**	**+2.6**
PMG	**Port Moresby**	**7.89**	**250**	Pn	**Pn**	**18 01 07.8**	**-0.4**
	13nm,0.3s,baz=43,slow=5.0,SNR=31						
PMG				Sn	**Sn**	**18 02 38.8**	**+2.6**
	11nm,0.3s,baz=72,slow=20,SNR=6.1						
PMG				LR	LR	18 03 58.8	
	comp=Z,17μm,21.6s,baz=26,slow=37						
MANU	**Manus Island**	**8.61**	**302**	P	**Pn**	**18 01 19.7**	**+1.6**
	baz=8.6,SNR=6.7						
COEN	**Coen**	**13.39**	**237**	P	**Pn**	**18 02 22.8**	**-0.7**
	1μm,1.2s						
COEN	**Coen**	**13.39**	**237**	P	**Pn**	**18 02 24.8**	**+1.3**
	baz=14,SNR=4.2						
PATS	**Pohnpei**	**13.94**	**15**	P	**Pn**	**18 02 29.0**	**-2.0**
	baz=14,SNR=5.6						
JAY	**Jayapura**	**14.50**	**286**	P	**P**	**18 02 43.7**	**-0.3**
	44nm,0.8s,2μm						
MTSU	**Mount Surprise**	**15.19**	**221**	P	**Pn**	**18 02 47.4**	**0.0**
	baz=15,SNR=9.0						
CTA	**Charters Tower**	**15.60**	**211**	Pn	**Pn**	**18 02 51.1**	**-1.7**
CTA	**Charters Tower**	**15.60**	**211**	Pn	**Pn**	**18 02 51.1**	**-1.7**
	0.3nm,0.3s,baz=35,slow=15,SNR=3.7						
CTAO	**Charters Tower**	**15.60**	**211**	*e*P	**Pn**	**18 02 51.7**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,178nm,1.0s						
CTAO	**Charters Tower**	**15.60**	**211**	*e*Pn	**Pn**	**18 02 51.7**	**-1.1**
	comp=Z,178nm,1.0s						
EIDS	**Eidsvold**	**18.87**	**190⇓**	*e*P	**P**	**18 03 31.7**	**-0.5**
	comp=Z,140nm,1.2s						
EIDS	**Eidsvold**	**18.87**	**190**	P	**P**	**18 03 32.2**	**0.0**
	baz=19,SNR=15						
SRPI	**Serui, Papua**	**18.97**	**284**	P	**Pn**	**18 03 35.0**	**+0.5**
	comp=Z,165nm,0.8s,comp=Z,2μm						
NOUC	**Port Laguerre**	**19.00**	**145**	*e*P	**P**	**18 03 34.1**	**+0.6**
DZM	**Mont Dzumac**	**19.06**	**144**	*e*P	**Pn**	**18 03 35.6**	**+0.1**
	comp=Z,239nm,1.1s						
DZM				*e*LR	LR	18 07 59.6	
	comp=Z,5μm,23.1s						
DZM	**Mont Dzumac**	**19.06**	**144**	*e*P	**P**	**18 03 33.6**	**-0.7**
DZM	**Mont Dzumac**	**19.06**	**144**	*e*P	**Pn**	**18 03 35.2**	**-0.3**
	comp=Z,129nm,1.0s						
DZM	**Mont Dzumac**	**19.06**	**144**	P	**Pn**	**18 03 35.6**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=337,slow=9.1,SNR=13						
BAKI	**Biak**	**19.28**	**286**	P	**Pn**	**18 03 38.3**	**+0.1**
	comp=Z,167nm,1.5s,comp=Z,4μm						
TARA	**Tarawa**	**19.92**	**67**	*e*P	**P**	**18 03 43.7**	**0.0**
	comp=Z,903nm,1.6s						
KWAJ	**Kwajalein Atol**	**20.11**	**40**	*e*P	Pn	18 03 47.6	-0.3
KWAJ				*e**PP	pP	18 03 58.4	+0.9
KWAJ				pmax	pmax		
	comp=Z,200nm,0.7s						
KWAJ	**Kwajalein Atol**	**20.11**	**40**	*e*P	Pn	18 03 47.6	-0.3
	comp=Z,200nm,0.7s						
KWAJ				*e*pP	pP	18 03 58.4	+0.9
RMQ	**Roma**	**20.46**	**195**	P	**P**	**18 03 49.5**	**0.0**
	baz=21,SNR=87						
TLE	**Tual**	**21.81**	**272**	P	**P**	**18 04 06.0**	**+1.9**
	comp=Z,515nm,1.2s,comp=Z,13μm						
TLE	**Tual**	**21.81**	**272**	P	**P**	**18 04 05.7**	**+1.6**
	baz=22,SNR=22						
GUMO	**Guam**	**22.38**	**334**	*e*P	**P**	**18 04 08.7**	**-1.4**
	comp=Z,774nm,1.8s						
GUMO				LR	LR		
	comp=Z,2μm,19.0s						
FAKI	**Fak Fak**	**22.63**	**278**	P	P	18 04 24.0	+11
FAKI	**Fak Fak**	**22.63**	**278**	P	**P**	**18 04 12.7**	**-0.3**
	baz=23,SNR=11						
KDU	**Kakadu**	**22.64**	**253**	P	**P**	**18 04 11.7**	**-1.3**
	baz=23,SNR=12						
WRAB	**Tennant Creek**	**23.69**	**234**	P	**P**	**18 04 21.6**	**-1.8**
	comp=Z,970nm,1.3s,SNR=21						
WRAB	**Tennant Creek**	**23.69**	**234**	*e*P	**P**	**18 04 21.5**	**-1.8**
WRAB				MLR	MLR		
	comp=Z,10μm,21.0s						
WRAB	**Tennant Creek**	**23.69**	**234**	*e*P	**P**	**18 04 21.5**	**-1.8**
WRAB				LR	LR		
	comp=Z,10μm,21.0s						
WRA	**Warramunga Arr**	**23.70**	**234**	P	**P**	**18 04 21.6**	**-1.8**
WRA				PcP	**PcP**	**18 08 06.5**	**-0.2**
WRA				ScP	**ScP**	**18 11 46.4**	**+5.6**
WRA	**Warramunga Arr**	**23.70**	**234**	P	**P**	**18 04 21.6**	**-1.8**
	comp=Z,155nm,1.1s,baz=56,slow=9.3,SNR=34						
WRA				PcP	**PcP**	**18 08 06.5**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=60,slow=2.2,SNR=8.5						
WRA				ScP	**ScP**	**18 11 46.4**	**+5.6**
	comp=Z,12nm,1.0s,baz=55,slow=2.8,SNR=13						
ARMA	**Armidale**	**23.76**	**186⇓**	*i*P	**P**	**18 04 23.3**	**-0.7**
ARMA	**Armidale**	**23.76**	**186**	P	**P**	**18 04 23.8**	**-0.2**
	baz=24,SNR=10						
MTN	**Manton Dam**	**23.95**	**253**	P	**P**	**18 04 26.0**	**+0.2**
	baz=24,SNR=12						
SWI	**Sorong**	**24.04**	**283**	P	**P**	**18 04 27.0**	**+0.5**
	comp=Z,221nm,1.2s,comp=Z,3μm						
SWI	**Sorong**	**24.04**	**283**	P	**P**	**18 04 27.0**	**+0.5**
	baz=24,SNR=27						
PALU	**Palau**	**24.49**	**304**	P	**P**	**18 04 31.7**	**+1.0**
	baz=24,SNR=7.5						
MSVF	**Nonsavu**	**25.33**	**118**	P	**P**	**18 04 38.0**	**-0.4**
	comp=Z,491nm,1.2s,SNR=7.3						
MSVF	**Nonsavu**	**25.33**	**118**	*e*P	**P**	**18 04 37.2**	**-1.1**
MSVF				pmax	pmax		
	comp=Z,128nm,1.2s						
MSVF				MLR	MLR		
	comp=Z,4μm,19.0s						
MSVF	**Nonsavu**	**25.33**	**118**	*e*P	**P**	**18 04 37.2**	**-1.1**
	comp=Z,128nm,1.2s						
MSVF				LR	LR		
	comp=Z,4μm,19.0s						
CMSA	**Cobar Meteorol**	**26.09**	**198**	P	**P**	**18 04 44.3**	**-0.7**
	baz=26,SNR=44						
AS31	**Alice Springs**	**26.11**	**228**	*e*P	**P**	**18 04 42.9**	**-2.5**
ASAR	**Alice Springs**	**26.11**	**228**	P	**P**	**18 04 43.4**	**-2.0**
ASAR				PcP	**PcP**	**18 08 09.7**	**-2.3**
ASAR				ScP	**ScP**	**18 11 52.6**	**+5.1**
ASAR	**Alice Springs**	**26.11**	**228**	P	**P**	**18 04 43.4**	**-2.0**
	comp=Z,13nm,0.7s,baz=58,slow=9.1,SNR=64						
ASAR				PcP	**PcP**	**18 08 09.7**	**-2.3**
	comp=Z,2.4nm,0.6s,baz=44,slow=3.2,SNR=2.8						
ASAR				ScP	**ScP**	**18 11 52.6**	**+5.1**
	comp=Z,11nm,1.0s,baz=56,slow=2.7,SNR=18						
MGCD	**Mangrove Creek**	**26.58**	**187**	P	**P**	**18 04 51.0**	**+1.6**
	baz=27,SNR=10						
KNRA	**Kununurra**	**26.89**	**248**	P	**P**	**18 04 52.3**	**-0.1**
	baz=27,SNR=17						
LBMI	**Labuha**	**27.74**	**281**	P	**P**	**18 05 01.9**	**+1.8**
	comp=Z,351nm,1.8s,comp=Z,6μm						
STKA	**Stephens Creek**	**27.86**	**204**	P	**P**	**18 04 58.8**	**-2.1**
STKA				ScP	**ScP**	**18 11 57.1**	**+4.5**
STKA	**Stephens Creek**	**27.86**	**204**	P	**P**	**18 04 58.8**	**-2.1**
	comp=Z,21nm,0.5s,baz=13,slow=8.1,SNR=15						
STKA				ScP	**ScP**	**18 11 57.1**	**+4.5**
	comp=Z,10nm,1.0s,baz=45,slow=1.4,SNR=7.0						
STKA				LR	LR	18 16 20.9	
	comp=Z,6μm,19.1s,baz=3.0,slow=37						
STKA	**Stephens Creek**	**27.86**	**204**	P	**P**	**18 05 00.4**	**-0.5**
	baz=28,SNR=5.2						
TNTI	**Ternate**	**28.22**	**284**	P	**P**	**18 05 05.1**	**+0.8**
	comp=Z,92nm,1.2s						
WAKE	**Wake Island**	**28.40**	**24**	PFAKE		18 05 20.0	+14
WAKE				LR	LR		
	comp=Z,10μm,19.0s						
CNB	**Canberra Magne**	**28.89**	**189**	P	**P**	**18 05 11.3**	**+1.2**
	baz=29,SNR=4.7						
CAN	**Canberra**	**28.95**	**190**	*e*P	**P**	**18 05 10.6**	**-0.1**
CAN				MLR	MLR		
	comp=Z,6μm,22.0s						
CAN	**Canberra**	**28.95**	**190**	*e*P	**P**	**18 05 10.6**	**-0.1**
CAN				LR	LR		
	comp=Z,6μm,22.0s						
FITZ	**Fitzroy Crossi**	**30.46**	**245**	*e*P	P	18 05 18.7	-5.5
	comp=Z,46nm,0.8s						
FITZ				ScP	**ScP**	**18 12 05.4**	**+4.3**
FITZ	**Fitzroy Crossi**	**30.46**	**245**	P	P	18 05 20.6	-3.6
	comp=Z,42nm,0.8s,baz=67,slow=9.0,SNR=45						
FITZ				ScP	**ScP**	**18 12 05.4**	**+4.3**
	comp=Z,3.1nm,0.8s,baz=90,slow=4.0,SNR=5.8						
FITZ				LR	LR	18 18 05.1	
	comp=Z,8μm,18.8s,baz=22,slow=38						
FITZ	**Fitzroy Crossi**	**30.46**	**245**	P	**P**	**18 05 22.8**	**-1.4**
	baz=31,SNR=52						
DAV	**Davao City (W)**	**32.06**	**295**	LR	LR	18 16 26.0	
	comp=Z,4μm,19.1s,baz=233,slow=32						
ARPS	**Mount Arapiles**	**32.13**	**200**	P	**P**	**18 05 38.5**	**-0.1**
	baz=32,SNR=8.1						
MMRI	**Maumere**	**32.17**	**264**	P	**P**	**18 05 40.3**	**+1.0**
	comp=Z,114nm,0.7s,comp=Z,3μm						
AFI	**Afiamalu**	**33.77**	**105**	PFAKE		18 06 10.0	+17
AFI				LR	LR		
	comp=Z,3μm,19.0s						
FORT	**Forrest**	**34.57**	**223**	*e*P	**P**	**18 05 57.4**	**-2.5**
	comp=Z,132nm,0.8s						
FORT	**Forrest**	**34.57**	**223**	P	**P**	**18 05 58.6**	**-1.3**
	baz=35,SNR=26						
KAPI	**Kappang**	**34.75**	**271**	P	**P**	**18 06 00.2**	**-1.5**
KAPI				LR	LR		
	comp=Z,3μm,19.0s						
KAPI	**Kappang**	**34.75**	**271**	P	**P**	**18 06 00.2**	**-1.5**
	comp=Z,41nm,0.8s,baz=136,slow=7.3,SNR=7.8						
TAU	**Tasmania Unive**	**36.64**	**189**	*e*P	**P**	**18 06 15.9**	**-1.6**
TAU				MLR	MLR		
	comp=Z,2μm,21.0s						
TAU	**Tasmania Unive**	**36.64**	**189**	*e*P	**P**	**18 06 15.9**	**-1.6**
TAU				LR	LR		
	comp=Z,2μm,21.0s						
MBWA	**Marble Bar**	**36.70**	**243**	*e*P	**P**	**18 06 16.3**	**-2.1**
	comp=Z,36nm,1.1s						
MBWA				LR	LR		
	comp=Z,7μm,20.0s						
URZ	**Urewera**	**37.43**	**150**	*e*P	**P**	**18 06 24.8**	**+0.5**
	comp=Z,43nm,1.0s						
URZ	**Urewera**	**37.43**	**150**	P	**P**	**18 06 25.3**	**+0.9**
	comp=Z,45nm,1.2s,baz=32,slow=5.0,SNR=6.6						
MYLDM	**Lahad Datu**	**37.96**	**287**	P	**P**	**18 06 32.2**	**+3.0**
MYLDM	**Lahad Datu**	**37.96**	**287**	P	**P**	**18 06 31.7**	**+2.6**
	comp=Z,505nm,1.3s						
TSM	**Tawau**	**38.30**	**286**	P	**P**	**18 06 32.2**	**+0.2**
TSM	**Tawau**	**38.30**	**286**	P	**P**	**18 06 32.5**	**+0.5**
SNZO	**South Karori**	**38.82**	**156**	PFAKE		18 06 50.0	+14
SNZO				LR	LR		
	comp=Z,2μm,19.0s						
TGY	**Tagaytay City**	**39.32**	**302**	P	**P**	**18 06 40.7**	**+0.1**
TGY	**Tagaytay City**	**39.32**	**302**	P	**P**	**18 06 40.7**	**+0.1**
	comp=Z,80nm,0.2s,baz=202,slow=2.9,SNR=6.2						
TGY				LR	LR	18 21 16.9	
	comp=Z,16nm,19.8s,

NJ2 sP **sP** **18 08 38.4 +1.9**
NJ2 S **S** **18 15 36.3 +3.4**
NJ2 LR LR
comp=N,810nm,14.1s
NJ2 LR LR
comp=E,780nm,13.2s
NJ2 LR LR
comp=Z,1μm,14.6s
ASAJ Asahikawa 51.74 349 P **P** **18 08 18.2 0.0**
ASAJ Asahikawa 51.74 349 P **P** **18 08 18.2 0.0**
comp=Z,6.8nm,0.8s,baz=180,slow=4.0,SNR=7.9
KTGM Kuala Trenggan 52.78 282 P **P** **18 08 27.5 +1.0**
UBPT Khong Chiam 53.40 295 P **P** **18 08 33.3 +2.3**
comp=Z,86nm,1.9s
WHN Wuhan 53.49 316 ⇓P **P** **18 08 32.3 +0.9**
WHN pP **pP** **18 08 44.4 -1.2**
KIP Kipapa 54.19 58⇑*e*P **P** **18 08 37.6 +0.9**
KIP pmax pmax
comp=Z,119nm,2.5s
KIP Kipapa 54.19 58 PFAKE 18 08 50.0 +13
KIP LR LR
comp=Z,3μm,19.0s
YSS Yuzh-Sakhalins 54.45 350 *e*P **P** **18 08 39.9 +1.8**
PPI Padang Panjang 54.47 274 P **P** **18 08 38.8 -0.1**
baz=54,SNR=4.3
IPM Ipoh 54.67 280 *e*P **P** **18 08 40.6 +0.3**
DL2 Dalian 54.74 329 P **P** **18 08 40.6 +0.2**
DL2 pmax pmax
comp=Z,43nm,1.1s
PANO Nakornpanom 54.83 296 P pP 18 08 55.7 +0.1
KULM Kulim 55.20 281 *e*P **P** **18 08 43.6 -0.6**
KULM LR LR
comp=Z,3μm,19.0s
PPT Papeete 55.41 107 LR LR 18 28 31.7
comp=Z,923nm,20.4s,baz=326,slow=32
PPT2 Papeete2 55.41 107 *e*S **S** **18 16 31.9 +4.8**
comp=Z,1μm,24.8s
PPT2 *e*LQ LQ 18 22 36.6
comp=Z,2μm,25.5s
PPT2 *e*LR LR 18 25 01.1
comp=Z,1μm,22.0s,baz=281
CHBT CHBT 55.46 290 P **P** **18 08 47.0 +1.0**
comp=Z,243nm,1.4s
MDJ Mudanjiang 55.84 339 P **P** **18 08 50.1 +1.9**
MDJ pP **pP** **18 09 03.9 +1.5**
MDJ sP **sP** **18 09 09.9 +1.5**
MDJ ScP **ScP** **18 13 42.6 +1.1**
MDJ PcS **PcS** **18 13 48.5 +1.7**
MDJ S **S** **18 16 34.4 +2.7**
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,90nm,4.2s
MDJ LR LR
comp=N,10μm,14.5s
MDJ LR LR
comp=E,4μm,15.1s
MDJ LR LR
comp=Z,9μm,14.9s
MDJ Mudanjiang 55.84 339 *e*P **P** **18 08 47.5 -0.7**
comp=Z,21nm,1.1s
MDJ LR LR
comp=Z,4μm,19.0s
TBI Tubuai 56.11 114 *e*S **S** **18 16 38.3 +2.2**
comp=Z,452nm,34.2s
TBI *e*LQ LQ 18 22 56.3
comp=Z,4μm,28.8s
TBI *e*LR LR 18 25 19.0
comp=Z,2μm,29.8s
PSI Prapat 56.42 278 P **P** **18 08 51.6 -1.4**
PSI Prapat 56.42 278 P **P** **18 08 51.6 -1.4**
comp=Z,6.1nm,0.7s,baz=158,slow=9.1,SNR=4.8
PSI Prapat 56.42 278 P **P** **18 08 52.6 -0.5**
baz=56,SNR=4.7
CN2 Changchun 56.78 335 *e*P **P** **18 08 54.5 -0.4**
CN2 *e*S **S** **18 16 42.5 -1.7**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=N,6μm,13.0s
CN2 LR LR
comp=E,6μm,13.0s
CN2 LR LR
comp=Z,8μm,12.0s
ENH Enshi 56.79 313 *e*P **P** **18 08 53.9 -1.4**
comp=Z,56nm,0.9s
ENH LR LR
comp=Z,9.0nm,19.0s
NAYO Nakonayok 56.87 292 P **P** **18 08 57.8 +1.8**
comp=Z,218nm,1.1s
GYA Guiyang 57.00 307⇑*i*P **P** **18 08 57.5 +0.5**
GYA pP **pP** **18 09 15.8 +4.6**
GYA sP **sP** **18 09 22.4 +5.2**
GYA PP **PP** **18 11 08.3 +4.1**
GYA ScP **ScP** **18 13 47.6 +0.4**
GYA S **S** **18 16 48.3 +0.3**
GYA sS **sS** **18 17 08.0 -4.0**
GYA SS **SS** **18 20 38.6 +1.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=N,970nm,19.1s
GYA LR LR
comp=E,790nm,20.3s
GYA LR LR
comp=Z,800nm,18.7s
COCO West Island 57.20 260 PFAKE 18 09 10.0 +12
COCO LR LR
comp=Z,2μm,19.0s
HABR Khabarovsk 57.58 345*ce*P **P** **18 08 59.1 -1.3**
HABR *e**PP **pP** **18 09 16.5 +1.8**
HABR 18 09 53.6
HABR *e* 18 11 08.5
HABR *e*PPP PPP 18 12 26.4
HABR *e*S **S** **18 16 53.3 -1.2**
HABR *e* 18 17 13.0
HABR *e* 18 18 44.7
HABR *e*SS **SS** **18 20 46.6 +1.2**
HABR pmax pmax
comp=E,28nm,2.2s
HABR pmax pmax
comp=Z,25nm,1.4s
HABR pmax pmax
comp=N,7.0nm,1.4s
HABR smax smax
comp=N,60nm,6.3s
HABR smax smax
comp=E,194nm,6.3s
HABR smax smax
comp=Z,82nm,6.3s
PBKT Sadao Pong 57.90 294 P **P** **18 09 05.3 +2.0**
comp=Z,118nm,0.9s
PKDT Phuket 58.00 284 P **P** **18 09 04.5 +0.5**
comp=Z,318nm,0.7s
PHET Kaeng Krachan 58.03 290 P **P** **18 09 05.8 +1.6**
comp=Z,88nm,1.0s
NANT Nan 58.89 297 P **P** **18 09 11.4 +1.2**
comp=Z,98nm,0.9s
UTHA Uthaitani 58.97 293 P **P** **18 09 12.5 +1.7**
comp=Z,13nm,0.7s,comp=Z,126nm
XAN Xi'an 59.26 316 P **P** **18 09 11.8 -0.7**
XAN pmax pmax
comp=Z,340nm,9.2s
KMI Kunming 59.57 304 P **P** **18 09 16.6 +1.6**
KMI pP **pP** **18 09 27.1 -2.3**
KMI sP **sP** **18 09 32.1 -3.2**
KMI S **S** **18 17 23.8 +2.1**
KMI SS **SS** **18 21 14.4 -3.7**
KMI pmax pmax
comp=Z,34nm,0.9s
KMI LR LR
comp=N,920nm,17.0s
KMI LR LR
comp=E,1μm,15.1s
KMI LR LR
comp=Z,2μm,13.1s
PET Petropavlovsk 59.59 3*de*P **P** **18 09 13.5 -0.8**
PET *e*S **S** **18 17 19.7 -0.8**
PET pmax pmax
comp=Z,100nm,3.9s
PET pmax pmax
comp=Z,200nm,15.6s
PET pmax pmax
comp=Z,40nm,0.6s

PEA0B Petropavlovsk- 59.64 2 *e*P **P** **18 09 13.4 -1.3**
PETK Petropavlovsk- 59.64 2 P **P** **18 09 13.9 -0.8**
PETK Petropavlovsk- 59.64 2 P **P** **18 09 13.9 -0.8**
PETK Petropavlovsk- 59.64 2 P **P** **18 09 13.9 -0.8**
comp=Z,4.8nm,0.6s,baz=175,slow=8.2,SNR=12
LAMP Lampang 59.75 296 P **P** **18 09 18.4 +2.2**
comp=Z,15nm,0.8s,comp=Z,122nm
CM31 Chiang Mai Arr 60.35 296 *e*P **P** **18 09 21.3 +1.1**
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 60.35 296 P **P** **18 09 21.6 +1.4**
CMAR P'P'ab P'P'ab 18 38 58.7 -5.6
CMAR Chiang Mai Arr 60.35 296 P **P** **18 09 21.6 +1.4**
comp=Z,18nm,0.8s,baz=122,slow=4.9,SNR=62
CMAR LR LR 18 36 22.5
comp=Z,1μm,18.0s,baz=30,slow=37
CMAR PKP2ab 18 38 58.7
comp=Z,0.8nm,0.9s,baz=286,slow=4.8,SNR=4.9
CHTO Chiang Mai 60.46 296 *e*P **P** **18 09 22.0 +1.0**
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 60.46 296 *e*P **P** **18 09 22.0 +1.0**
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 60.46 296 P **P** **18 09 22.8 +1.8**
comp=Z,264nm,0.8s
DRV Dumont d'Urvil 60.72 187 PP PP 18 11 16.0 -20
DRV S S 18 17 18.0 -17
DRV SS SS 18 20 52.0 -42
DRV L L 18 23 00.0
DRV R 18 29 00.0
CMAI Chiengmai2 60.75 297 P **P** **18 09 25.9 +2.7**
comp=Z,394nm,1.6s
CD2 Chengdu 61.36 311 *e*P **P** **18 09 27.3 +0.3**
CD2 pP **pP** **18 09 43.3 +1.9**
CD2 sP **sP** **18 09 49.8 +2.5**
CD2 PcP **PcP** **18 10 09.3 +0.4**
CD2 PP **PP** **18 11 45.8 +3.1**
CD2 S **S** **18 17 43.3 -0.8**
CD2 sS **sS** **18 18 09.1 +0.8**
CD2 ScS **SKKSac** **18 19 10.4 -3.9**
CD2 SS **SS** **18 21 46.0 +0.3**
CD2 pmax pmax
comp=Z,200nm,1.1s
CD2 LR LR
comp=N,2μm,15.4s
CD2 LR LR
comp=E,3μm,12.0s
CD2 LR LR
comp=Z,3μm,13.1s
FX1 Attu Island--F 61.41 13 *e*P **P** **18 09 26.8 0.0**
FX1 Attu Island--F 61.41 13 P **P** **18 09 27.2 +0.5**
comp=Z,24nm,0.8s,baz=230,slow=7.9,SNR=7.5
HHC Hu-ho-hao-te 61.66 324 *e*P **P** **18 09 29.0 +0.2**
HHC S **S** **18 17 46.4 -1.2**
HHC pmax pmax
comp=Z,50nm,0.8s
HHC pmax pmax
comp=Z,2μm,6.4s
ADK Adak 63.31 19 PFAKE 18 09 50.0 +11
ADK LR LR
comp=Z,3μm,20.0s
HIA Hailar 63.51 335 *e*P **P** **18 09 38.7 -2.2**
comp=Z,18nm,0.7s
HIA LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 63.87 316⇑P **P** **18 09 44.5 +0.8**
LZH pP **pP** **18 10 00.4 +2.2**
LZH sP **sP** **18 10 07.5 +3.4**
LZH PP **PP** **18 12 07.6 +2.8**
LZH S **S** **18 18 15.0 -0.6**
LZH sS **sS** **18 18 42.3 +2.4**
LZH SS **SS** **18 22 25.6 +0.7**
LZH pmax pmax
comp=Z,110nm,1.5s
LZH pmax pmax
comp=Z,320nm,7.6s
LZH LR LR
comp=N,2μm,15.8s
LZH LR LR
comp=E,2μm,14.7s
LZH LR LR
comp=Z,2μm,18.0s
CASY Casey 66.76 198 *e*P **P** **18 10 01.1 -0.6**
comp=Z,29nm,1.1s
CASY LR LR
comp=Z,3μm,20.0s
GTA Gaotai 68.29 317 *e*P **P** **18 10 12.5 +0.5**
GTA pP **pP** **18 10 25.8 -0.8**
GTA sP **sP** **18 10 31.0 -1.5**
GTA S **S** **18 19 08.8 -0.5**
GTA sS **sS** **18 19 30.5 -3.3**
GTA SS **SS** **18 23 35.4 +1.9**
GTA pmax pmax
comp=Z,24nm,1.5s
GTA pmax pmax
comp=Z,750nm,5.9s
GTA LR LR
comp=N,580nm,19.5s
GTA LR LR
comp=E,1μm,17.6s
GTA LR LR
comp=Z,1μm,17.3s
ULN Ulaanbaatar 68.57 328 *e*P **P** **18 10 12.4 -1.3**
ULN LR LR
comp=Z,1μm,19.0s
SHL Shillong 68.85 301 *e*P **P** **18 10 16.0 +0.2**
SHL *e*S **S** **18 19 14.0 -2.5**
SONM Songino Array 68.90 327 P **P** **18 10 14.7 -1.0**
SONM P'P' 18 38 28.1
SONM Songino Array 68.90 327 P **P** **18 10 14.7 -1.0**
comp=Z,5.3nm,0.5s,baz=137,slow=5.7,SNR=24
SONM PKPPKP **P'P'df** **18 38 28.1 +0.8**
comp=Z,1.7nm,0.9s,baz=329,slow=2.5,SNR=9.0
RKT Rikitea 69.37 112 *e*SS SS 18 23 56.3 +6.0
comp=Z,314nm,33.2s
RKT *e*LQ LQ 18 28 31.6
comp=Z,1μm,30.0s
RKT *e*LR LR 18 31 23.8
comp=Z,2μm,25.8s,baz=280
SEY Seymchan 69.45 359 *i*P P 18 10 22.2 +3.6
LSA Lhasa 70.82 304 P **P** **18 10 28.5 +0.2**
LSA Lhasa 70.82 304 *e*P **P** **18 10 28.0 -0.3**
LSA MLR MLR
comp=Z,1μm,21.0s
LSA Lhasa 70.82 304 *e*P **P** **18 10 28.0 -0.3**
LSA LR LR
comp=Z,1μm,21.0s
VNDA Vanda 70.88 178 P **P** **18 10 27.3 +0.1**
VNDA Vanda 70.88 178 P **P** **18 10 27.3 +0.1**
comp=Z,3.6nm,0.7s,baz=343,slow=7.5,SNR=24
YAK Yakutsk 71.20 348 *e*P **P** **18 10 28.6 -0.6**
SBA Scott Base 71.40 177 *e*P **P** **18 10 31.6 +1.3**
SBA pmax pmax
comp=Z,118nm,1.8s
SBA MLR MLR
comp=Z,1μm,21.0s
SBA Scott Base 71.40 177 *e*P **P** **18 10 31.6 +1.3**
comp=Z,118nm,1.8s
SBA LR LR
comp=Z,1μm,21.0s
SDPT Sand Point 72.13 25 P **P** **18 10 34.2 -0.7**
MIR Mirnyy 72.84 202⇑*i*P **P** **18 10 41.0 +2.0**
MIR *i* 18 10 52.0
MIR pmax pmax
comp=Z,125nm,1.5s
TAPN Taplejung 72.96 301 *e*P **P** **18 10 42.0 +1.1**
comp=Z,172nm,0.9s
ODAN Odare 73.09 301 *e*P **P** **18 10 42.1 +0.5**
comp=Z,177nm,0.7s
RAMN Ramite 73.79 300 *e*P **P** **18 10 45.8 +0.1**
comp=Z,90nm,1.0s
JIRN Jiri 74.34 301 *e*P **P** **18 10 49.4 +0.3**
comp=Z,69nm,0.7s
GUN Gumba 74.67 301 *e*P **P** **18 10 51.2 +0.2**
comp=Z,197nm,0.7s
PKI Pulchoki 74.98 301 *e*P **P** **18 10 52.6 -0.2**
comp=Z,111nm,0.9s
PKIN Phulchoki 74.99 301 *e*P **P** **18 10 52.6 -0.1**
comp=Z,206nm,1.3s
PALK Pallekele 75.05 279 *e*P **P** **18 10 52.5 -0.6**
comp=Z,12nm,0.7s
KKN Kakani 75.15 301 *e*P **P** **18 10 53.6 0.0**
comp=Z,108nm,0.8s
DMN Daman 75.25 301 *e*P **P** **18 10 54.4 +0.2**
comp=Z,267nm,0.9s

KOLN Koldanda 76.58 301 *e*P **P** **18 11 00.9 -0.8**
comp=Z,150nm,0.7s
DANN Dangsing 76.59 301 *e*P **P** **18 11 01.4 -0.5**
comp=Z,110nm,0.7s
KDAK Kodiak Island 77.05 26 PFAKE 18 11 10.0 +6.6
KDAK LR LR
comp=Z,2μm,19.0s
PYUN Piuthan 77.18 301 *e*P **P** **18 11 04.5 -0.6**
comp=Z,276nm,0.9s
WMQ Urumqi 78.38 317 *e*P **P** **18 11 11.8 +0.5**
WMQ pmax pmax
comp=Z,23nm,1.8s
WMQ pmax pmax
comp=Z,640nm,6.6s
WMQ LR LR
comp=N,270nm,18.0s
WMQ LR LR
comp=E,320nm,18.0s
WMQ LR LR
comp=Z,480nm,18.0s
HYB Hyderabad 78.85 289 *i*P **P** **18 11 13.0 -1.3**
PPLA Purkeypile 80.23 22 *e*P **P** **18 11 19.9 -1.1**
comp=Z,69nm,1.6s
PMR Palmer 80.66 24 *e*P **P** **18 11 22.7 -0.5**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 80.66 24 *e*P **P** **18 11 22.7 -0.5**
comp=Z,17nm,0.8s
SML Sawmill 81.10 24 *e*P **P** **18 11 25.5 -0.1**
SML pmax pmax
comp=Z,18nm,1.2s
SML Sawmill 81.10 24 *e*P **P** **18 11 25.5 -0.1**
comp=Z,18nm,1.2s
TRF Thorofare Moun 81.25 22 *e*P **P** **18 11 24.6 -2.0**
comp=Z,16nm,0.9s
IM04 Indian Mountai 81.55 19 *e*P **P** **18 11 26.3 -1.5**
IMA2 Indian Mountai 81.64 19 *e*P **P** **18 11 27.4 -1.1**
MCK McKinley 81.92 22 *e*P **P** **18 11 28.0 -1.8**
MCK pmax pmax
comp=Z,46nm,1.1s
MCK McKinley 81.92 22 *e*P **P** **18 11 28.0 -1.8**
comp=Z,46nm,1.1s
NDI New Delhi 82.27 300 *e*P **P** **18 11 31.0 -1.4**
NDI *e*S **S** **18 21 44.0 -0.4**
COLA College 82.93 21 *e*P **P** **18 11 32.6 -2.4**
COLA pmax pmax
comp=Z,130nm,1.1s
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 82.93 21 *e*P **P** **18 11 32.6 -2.4**
comp=Z,130nm,1.1s
COLA LR LR
comp=Z,2μm,19.0s
MK31 Makanchi Array 82.96 319 *e*P **P** **18 11 35.0 -0.7**
MK31 Makanchi Array 82.96 319 *e*P **P** **18 11 35.0 -0.7**
MKAR Makanchi Array 82.96 319*ce*P **P** **18 11 35.0 -0.6**
MKAR pmax pmax
comp=Z,20nm,0.7s
MKAR Makanchi Array 82.96 319 P **P** **18 11 35.1 -0.6**
MKAR PKKPbc **PKKPbc** **18 29 58.4 -1.7**
MKAR Makanchi Array 82.96 319 P **P** **18 11 35.1 -0.6**
comp=Z,20nm,0.7s,baz=98,slow=6.2,SNR=64
MKAR PKKPbc **PKKPbc** **18 29 58.4 -1.7**
comp=Z,0.4nm,0.9s,baz=317,slow=1.2,SNR=3.3
ILAR Eielson Array 83.23 22 P **P** **18 11 34.5 -2.1**
ILAR Eielson Array 83.23 22 P **P** **18 11 34.5 -2.1**
comp=Z,2.2nm,0.6s,baz=237,slow=5.5,SNR=16
ILAR LR LR 18 50 03.6
comp=Z,3μm,18.7s,baz=267,slow=37
QSPA South Pole Qui 83.27 180 *e*P **P** **18 11 36.9 -0.2**
comp=Z,99nm,1.3s
QSPA LR LR
comp=Z,1μm,19.0s
QSPA South Pole Qui 83.27 180 P **P** **18 11 37.0 0.0**
comp=Z,35nm,1.0s,baz=348,slow=1.3,SNR=69
COLD Coldfoot 83.44 19 P **P** **18 11 34.8 -2.9**
comp=Z,15nm,1.4s
MENT Mentasta 83.53 24 *e*P **P** **18 11 38.8 +0.6**
ZAA0 Zalesovo Array 83.75 326 *e*P **P** **18 11 37.4 -2.1**
ZALV Zalesovo Beam 83.75 326 *i*P **P** **18 11 37.5 -2.0**
ZALV pmax pmax
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 83.75 326 P **P** **18 11 37.4 -2.1**
ZALV Zalesovo Beam 83.75 326 P **P** **18 11 37.4 -2.1**
comp=Z,11nm,0.7s,baz=114,slow=5.5,SNR=17
ZALV LR LR 18 49 23.5
comp=Z,950nm,19.0s,baz=249,slow=36
MAW Mawson 84.53 203 P **P** **18 11 43.1 -0.1**
MAW Mawson 84.53 203 P **P** **18 11 43.1 -0.1**
comp=Z,11nm,0.6s,baz=106,slow=7.1,SNR=56
MAW LR LR 18 44 16.1
comp=Z,2μm,18.4s,baz=78,slow=32
MAW Mawson 84.53 203 P **P** **18 11 43.6 +0.4**
baz=85,SNR=40
HYT Haines Junctio 85.27 27 *e*P **P** **18 11 48.1 +0.9**
EGAK Eagle 85.38 23 *e*P **P** **18 11 46.8 -0.7**
comp=Z,28nm,1.3s
EGAK LR LR
comp=Z,3μm,22.0s
KSH Kashi 85.56 310 P **P** **18 11 50.5 +1.3**
KSH sP **sP** **18 12 14.5 +4.5**
KSH PP **PP** **18 15 12.5 +4.0**
KSH S **S** **18 22 14.4 -2.9**
KSH sS **sS** **18 22 43.5 +0.8**
KSH SS **SS** **18 27 55.5 +1.3**
KSH pmax pmax
comp=Z,48nm,0.9s
KSH pmax pmax
comp=Z,540nm,5.4s
KSH LR LR
comp=N,650nm,12.7s
KSH LR LR
comp=E,1μm,11.9s
KSH LR LR
comp=Z,520nm,15.0s
DAWY Dawson 85.77 24 *e*P **P** **18 11 49.0 -0.5**
WRAK Wrangell Islan 86.28 32 PFAKE 18 12 00.0 +7.9
WRAK LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 86.39 322 P **P** **18 11 51.2 -1.6**
KURK Kurchatov 86.39 322 P **P** **18 11 51.2 -1.6**
KURBB Kurchatov Arra 86.42 322 P **P** **18 11 51.2 -1.7**
comp=Z,3.6nm,0.7s,baz=99,slow=5.4,SNR=19
TKM2 Tokmak 2 86.56 314 *e*P **P** **18 11 52.7 -1.5**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
TKM2 MLR MLR
comp=Z,561nm,20.0s
TKM2 Tokmak 2 86.56 314 *e*P **P** **18 11 52.6 -1.5**
comp=Z,8.8nm,0.7s
TKM2 LR LR
comp=Z,561nm,20.0s
AAK Ala-Archa 87.30 313 *e*P **P** **18 11 57.5 -0.2**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK MLR MLR
comp=Z,621nm,21.0s
AAK Ala-Archa 87.30 313 *e*P **P** **18 11 57.5 -0.2**
comp=Z,10nm,0.8s
AAK LR LR
comp=Z,621nm,21.0s
AAK Ala-Archa 87.30 313 P **P** **18 11 57.7 0.0**
comp=Z,6.2nm,0.6s,baz=131,slow=7.4,SNR=7.6
EKS2 Erkin-Say 87.82 313 *e*P **P** **18 12 00.2 +0.1**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 MLR MLR
comp=Z,542nm,21.0s
EKS2 Erkin-Say 87.82 313 *e*P **P** **18 12 00.2 +0.1**
comp=Z,7.7nm,0.8s
EKS2 LR LR
comp=Z,542nm,21.0s
DLBC Dease Lake 88.06 31 *e*P **P** **18 12 00.2 -0.7**
YBH Yreka Blue Hor 88.95 48 P **P** **18 12 07.0 +1.5**
YBH Yreka Blue Hor 88.95 48 P **P** **18 12 07.0 +1.5**
comp=Z,2.1nm,0.7s,baz=222,slow=5.1,SNR=3.6
NLWA Neilton Lookou 89.15 42 PFAKE 18 12 20.0 +14
NLWA LR LR
comp=Z,2μm,22.0s
INK Inuvik 89.57 21 *e*P P 18 12 03.1 -4.5
comp=Z,17nm,1.3s
INK Inuvik 89.57 21 P **P** **18 12 09.0 +1.5**
comp=Z,3.5nm,0.9s,baz=234,slow=5.8,SNR=5.4
INK LR LR 18 53 38.4
comp=Z,3μm,19.3s,baz=281,slow=36
KBL Kabul 90.15 305 *e*P **P** **18 12 09.8 -1.6**

KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 90.15 305 *e*P **P 18 12 09.8 -1.6**
comp=Z,14nm,0.9s
KKAR Karatay Array 90.26 313 *e*P **P 18 12 12.0 +0.5**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 90.26 313 *e*P **P 18 12 11.9 +0.5**
comp=Z,7.6nm,0.9s
ISA Isabella 91.33 54 *e*P **P 18 12 16.8 +0.1**
ISA pmax pmax
comp=Z,17nm,1.4s
ISA Isabella 91.33 54 *e*P **P 18 12 16.8 +0.1**
comp=Z,17nm,1.4s
NVAR Mina Array Bea 91.81 52 P **P 18 12 19.3 +0.3**
NVAR Mina Array Bea 91.81 52 P **P 18 12 19.3 +0.3**
comp=Z,18nm,1.0s,baz=250,slow=6.4,SNR=28
NVAR LR LR 18 51 33.0
comp=Z,1μm,18.7s,baz=262,slow=34
BVAR Borovoye Array 91.86 323 P **P 18 12 16.2 -2.4**
BVAR Borovoye Array 91.86 323 P **P 18 12 16.2 -2.4**
BVAR Borovoye Array 91.86 323 P **P 18 12 16.2 -2.4**
comp=Z,4.8nm,0.7s,baz=99,slow=5.4,SNR=19
BRVK Borovoye 91.92 323 *e*P **P 18 12 17.3 -1.6**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 91.92 323 *e*P **P 18 12 16.6 -2.3**
comp=Z,6.7nm,0.9s
BRVK LR LR
comp=Z,636nm,19.0s
NV11 Mina Array Sit 91.93 52 *e*P **P 18 12 19.8 +0.3**
WVOR Wild Horse Val 92.05 48 PFAKE 18 12 30.0 +10
WVOR LR LR
comp=Z,3μm,20.0s
SYO Syowa Base 92.49 199‖*e*P **P 18 12 20.0 -1.2**
TPH Tonopah 92.61 52 PFAKE 18 12 30.0 +7.3
TPH LR LR
comp=Z,1μm,21.0s
GSC Goldstone 92.64 55 *e*P **P 18 12 23.2 +0.5**
GSC Goldstone 92.64 55 *e*P **P 18 12 23.2 +0.5**
PFO Pinyon Flat Ob 92.75 57 *e*P **P 18 12 23.1 -0.2**
comp=Z,9.9nm,1.0s
PFO LR LR
comp=Z,3μm,19.0s
PFO Pinyon Flat Ob 92.75 57 P **P 18 12 23.5 +0.2**
comp=Z,6.7nm,0.9s,baz=258,slow=4.0,SNR=6.9
BMN Battle Mountai 92.88 50 *e*P **P 18 12 23.9 +0.1**
BMN pmax pmax
comp=Z,16nm,1.1s
BMN MLR MLR
comp=Z,2μm,21.0s
BMN Battle Mountai 92.88 50 *e*P **P 18 12 23.9 +0.1**
comp=Z,16nm,1.1s
BMN LR LR
comp=Z,2μm,21.0s
BMO Blue Mountains 93.29 45 *e*P **P 18 12 24.2 -1.4**
BMO pmax pmax
comp=Z,6.0nm,1.1s
BMO MLR MLR
comp=Z,2μm,20.0s
BMO Blue Mountains 93.29 45 *e*P **P 18 12 24.1 -1.4**
comp=Z,6.2nm,1.1s
BMO LR LR
comp=Z,2μm,20.0s
NEW Newport 93.77 42 P **P 18 12 26.8 -0.8**
NEW LR LR
comp=Z,3μm,21.0s
NEW Newport 93.77 42 P **P 18 12 26.8 -0.8**
comp=Z,7.8nm,1.1s,baz=256,slow=7.8,SNR=4.1
R11A Troy Canyon, C 93.92 52 *e*P **P 18 12 28.6 -0.1**
LDFC Landfair 94.00 55 *e*P **P 18 12 29.4 +0.4**
comp=Z,66nm,1.5s
SHPR Sheep Range 94.09 54 *e*P **P 18 12 30.2 +0.7**
comp=Z,15nm,1.0s
HLID Hailey 95.25 47 PFAKE 18 12 50.0 +15
HLID LR LR
comp=Z,4μm,19.0s
DUG Dugway 96.21 50 PFAKE 18 12 50.0 +11
DUG LR LR
comp=Z,815nm,20.0s
YKA Yellowknife Ar 96.24 28 P **P 18 12 37.4 -1.1**
YKA Yellowknife Ar 96.24 28 P **P 18 12 37.3 -1.1**
comp=Z,2.6nm,0.7s,baz=268,slow=4.4,SNR=5.5
WUAZ Wupatki 97.08 55 PFAKE 18 12 50.0 +6.7
WUAZ LR LR
comp=Z,2μm,19.0s
HWUT Hardware Ranch 97.23 49 PFAKE 18 12 50.0 +6.2
HWUT LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 97.35 45 PFAKE 18 12 50.0 +5.8
BOZ LR LR
comp=Z,1μm,20.0s
TUC Tucson 97.39 58 PFAKE 18 13 00.0 +15
TUC LR LR
comp=Z,1μm,19.0s
ABKAR Akbulak array 98.10 319 P **P 18 12 45.9 -1.3**
LKWY Lake 98.18 46 PFAKE 18 13 00.0 +12
LKWY LR LR
comp=Z,3μm,19.0s
MSEY Mahe Island 98.53 264 PFAKE 18 13 00.0 +10
MSEY LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 98.68 43 PFAKE 18 13 00.0 +10
EGMT LR LR
comp=Z,2μm,22.0s
BW06 Boulder Array 98.76 48 PFAKE 18 13 00.0 +9.3
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 98.76 48 P **P 18 12 48.6 -2.0**
PDAR Pinedale Array 98.76 48 P **P 18 12 48.6 -2.0**
comp=Z,1.9nm,1.0s,baz=242,slow=4.8,SNR=4.1
PDAR LR LR 18 56 55.8
comp=Z,2μm,18.5s,baz=326,slow=35
ARU Arti 98.91 326 *e*P Pdif 18 12 54.0 +3.4
ARU 18 16 56.2
ARU S **SKSac 18 23 26.6 +2.2**
ARU SP **SP 18 25 43.6 +1.4**
ARU SS **SS 18 31 00.8 -3.8**
ARU MLR MLR
comp=Z,1μm,19.0s
RLMT Red Lodge 99.00 45 PFAKE 18 13 00.0 +8.4
RLMT LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 99.47 53 PFAKE 18 13 00.0 +6.1
MVCO LR LR
comp=Z,2μm,19.0s
SNAA Sanae 100.39 187 *e*P Pdif 18 13 12.7 +16
SNAA Sanae 100.39 187 *e*Pdif **Pdif 18 12 56.4 -0.7**
SNAA Sanae 100.39 187 P **Pdif 18 12 57.5 +0.4**
comp=Z,0.6nm,0.9s,baz=217,slow=3.0,SNR=3.4
LAZ Ladron 100.52 56 *e*Pdif **Pdif 18 12 59.2 +0.6**
comp=Z,7.6nm,1.6s
ANMO Albuquerque 101.08 56 PFAKE 18 13 10.0 +8.9
ANMO LR LR
comp=Z,1μm,20.0s
VNA2 Neumayer--Watz 101.61 186 *e*P **Pdif 18 13 07.4 +5.0**
ISCO Idaho Springs 101.73 51 PFAKE 18 13 20.0 +16
ISCO LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 101.96 59 PFAKE 18 13 20.0 +15
MNTX LR LR
comp=Z,2μm,21.0s
DGMT Dagmar 102.38 42 PFAKE 18 13 20.0 +14
DGMT LR LR
comp=Z,2μm,21.0s
PMSA Palmer Station 103.15 164 PFAKE 18 13 20.0 +11
PMSA LR LR
comp=Z,933nm,20.0s
FFC Flin Flon 103.16 35 PFAKE 18 13 20.0 +10
FFC LR LR
comp=Z,1μm,20.0s
ABPO Ambohimpanom 104.11 249 PFAKE 18 13 30.0 +15
ABPO LR LR
comp=Z,1μm,21.0s
OGNE Ogallala 104.42 50 PFAKE 18 13 30.0 +14
OGNE LR LR
comp=Z,3μm,19.0s
AMTX Amarillo 105.01 56 PFAKE 18 17 40.0
AMTX LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 105.46 353 PFAKE 18 17 40.0
KBS LR LR
comp=Z,2μm,19.0s
JCT Junction City 106.76 60 PFAKE 18 17 50.0
JCT LR LR
comp=Z,2μm,20.0s
WMOK Wichita Mounta 107.40 56 PFAKE 18 17 50.0
WMOK LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 107.91 41 PFAKE 18 17 50.0
AGMN LR LR
comp=Z,2μm,21.0s
ECSD EROS Data Cent 108.13 46 PFAKE 18 17 50.0
ECSD LR LR
comp=Z,2μm,20.0s
KVTX Kingsville 108.54 63 PFAKE 18 17 50.0
KVTX LR LR
comp=Z,3μm,19.0s
KSU1 Kansas State U 108.73 51 PFAKE 18 17 50.0
KSU1 LR LR
comp=Z,1μm,19.0s
ARCES ARCESS Array B 109.21 343 PKiKP **PKiKP 18 17 39.6 -0.2**
ARCES ARCESS Array B 109.21 343 PKiKP **PKiKP 18 17 39.6 -0.2**
comp=Z,3.2nm,0.8s,baz=34,slow=0.3,SNR=7.8
GNI Garni 109.49 310 PFAKE 18 17 50.0
GNI LR LR
comp=Z,338nm,19.0s
KIV Kislovodsk 110.39 314 *i*PKIKP **PKiKP 18 17 40.1 -2.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,481nm,20.0s
EYMN Ely 110.85 41 PFAKE 18 17 50.0
EYMN LR LR
comp=Z,2μm,22.0s
MIAR Mount Ida 111.69 56 PFAKE 18 18 00.0
MIAR LR LR
comp=Z,2μm,20.0s
JFWS Jewell Farm 112.84 46 PFAKE 18 18 00.0
JFWS LR LR
comp=Z,2μm,19.0s
COWI Conover 112.86 43 PFAKE 18 18 00.0
COWI LR LR
comp=Z,2μm,19.0s
KAF Kangasniemi 113.08 336 *ep* 18 17 27.8
comp=Z,0.4nm,0.3s
FINES FINESS Array B 113.53 336 PKiKP **PKiKP 18 17 47.3 -0.8**
FINES FINESS Array B 113.53 336 PKiKP **PKiKP 18 17 47.3 -0.8**
comp=Z,0.6nm,0.3s,baz=79,slow=3.0,SNR=11
HDIL Hopedale 114.05 49 PFAKE 18 18 00.0 +10
HDIL LR LR
comp=Z,2μm,20.0s
VBMS Vicksburg 114.53 58 PFAKE 18 18 00.0 +9.0
VBMS LR LR
comp=Z,1μm,20.0s
MALT Malatya 114.63 309 ‖PKIKP PKPdf 18 17 57.0 +5.8
MALT Malatya 114.63 309 ‖*i*P PKPdf 18 17 57.0 +5.8
PAYG Puerto Ayora 114.80 94 PFAKE 18 18 00.0 +8.0
PAYG LR LR
comp=Z,1μm,19.0s
OXF Oxford 115.10 55 PFAKE 18 18 00.0 +8.0
OXF LR LR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 117.04 265 PFAKE 18 18 10.0 +13
KMBO LR LR
comp=Z,723nm,20.0s
AKASG Malin Array Be 117.10 324 *c i*PKIKP **PKPdf 18 17 54.7 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 117.10 324 PKP **PKPdf 18 17 55.3 -0.1**
AKASG PKKPbc **PKKPbc 18 28 20.4 -1.5**
AKASG Malin Array Be 117.10 324 PKP **PKPdf 18 17 55.3 -0.1**
comp=Z,1.1nm,0.4s,baz=52,slow=2.5,SNR=5.7
AKASG PKKPbc **PKKPbc 18 28 20.4 -1.5**
comp=Z,0.6nm,0.4s,baz=257,slow=4.5,SNR=4.2
KIEV Kiev 117.11 324 PFAKE 18 18 10.0 +15
KIEV LR LR
comp=Z,582nm,19.0s
LRAL Lakeview Retre 117.33 56 PFAKE 18 18 10.0 +14
LRAL LR LR
comp=Z,1μm,21.0s
SFJD Kangerlussuaq 117.36 11 PFAKE 18 18 10.0 +15
SFJD LR LR
comp=Z,862nm,20.0s
BRAL Brewton 117.62 59 PFAKE 18 18 10.0 +13
BRAL LR LR
comp=Z,1μm,19.0s
TEIG Tepich 117.67 71 PFAKE 18 18 10.0 +13
TEIG LR LR
comp=Z,1μm,22.0s
AAM Ann Arbor 117.70 45 PFAKE 18 18 10.0 +13
AAM LR LR
comp=Z,2μm,20.0s
BR131 Keskin Array S 117.93 312 *e*PKPdf **PKPdf 18 17 57.2 -0.4**
ANTO Ankara 118.52 312 PFAKE 18 18 10.0 +11
ANTO LR LR
comp=Z,306nm,21.0s
EIL Elat 119.03 300 PKP **PKPdf 18 18 00.3 +0.6**
EIL Elat 119.03 300 PKP **PKPdf 18 18 00.3 +0.6**
comp=Z,4.5nm,0.8s,baz=26,slow=3.2,SNR=4.9
NB2 NORSAR Subarra 119.31 341 PKPdf **PKPdf 18 17 58.1 -1.3**
comp=Z,1.9nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 119.31 341 PKP **PKPdf 18 17 58.3 -1.1**
NOA NORSAR Array B 119.31 341 PKP **PKPdf 18 17 58.3 -1.1**
comp=Z,1.4nm,0.5s,baz=46,slow=1.9,SNR=9.2
CSS Prodhromos 119.35 306 PFAKE 18 18 10.0 +10
CSS LR LR
comp=Z,406nm,19.0s
TKL Tuckaleechee C 119.40 53 *e*PKPdf **PKPdf 18 17 59.5 -0.8**
TKL PKP **PKPdf 18 18 00.0 -0.3**
TKL Tuckaleechee C 119.40 53 PKP **PKPdf 18 18 00.0 -0.3**
comp=Z,6.1nm,0.7s,baz=134,slow=3.9,SNR=8.5
BOSA Boshof 119.93 232 *e*PKPdf **PKPdf 18 18 01.6 -0.1**
BOSA Boshof 119.93 232 PKP **PKPdf 18 18 01.7 -0.1**
comp=Z,3.8nm,0.6s,baz=113,slow=2.2,SNR=11
CFR Carcaliu 120.00 319 ⇑PKIKP **PKPdf 18 18 00.4 -0.7**
CFR Carcaliu 120.00 319 ⇑*i*P **PKPdf 18 18 00.4 -0.7**
VRI Vrincioaia 120.63 320 ⇑PKIKP **PKPdf 18 18 06.0 +3.6**
VRI Vrincioaia 120.63 320 ⇑*i*P **PKPdf 18 18 05.9 +3.6**
ISP Isparta 120.80 310 PFAKE 18 18 10.0 +6.9
ISP LR LR
comp=Z,365nm,19.0s
BURAR Bucovina Array 120.81 323 ‖PKIKP **PKPdf 18 18 05.1 +2.3**
BURAR Bucovina Array 120.81 323 ‖*i*P **PKPdf 18 18 05.1 +2.3**
KONO Kongsberg 120.88 340 PFAKE 18 18 10.0 +7.6
KONO LR LR
comp=Z,687nm,19.0s
JTS JuntasAbangare 121.01 82 PFAKE 18 18 20.0 +16
JTS LR LR
comp=Z,2μm,20.0s
MLR Muntele Rosu 121.28 320 ⇑*i*P **PKPdf 18 18 04.0 +0.2**
KWP Kalwaria Pacla 121.31 326 PFAKE 18 18 10.0 +6.5
KWP LR LR
comp=Z,705nm,20.0s
BLA Blacksburg 121.59 50 PFAKE 18 18 20.0 +15
BLA LR LR
comp=Z,3μm,19.0s
VOIR 121.88 320 ‖PKIKP **PKPdf 18 18 06.2 +1.4**
VOIR 121.88 320 ‖*i*P **PKPdf 18 18 06.2 +1.4**
KOLS Kolonicke sedl 121.91 325 *e*PKIKP **PKPdf 18 18 05.8 +1.1**
KOLS Kolonicke sedl 121.91 325 *e*PKP **PKPdf 18 18 05.8 +1.1**
KOLS *ep*P 18 46 58.3
ARR Arges 122.17 320 ‖*i*P **PKPdf 18 18 07.3 +1.9**
STHS Stebnicka Huta 122.24 326 *e*PKIKP **PKPdf 18 18 06.3 +0.9**
STHS Stebnicka Huta 122.24 326 *e*PKP **PKPdf 18 18 06.2 +0.9**
SSPA Standing Stone 122.34 46 *e*PKPdf **PKPdf 18 18 04.7 -1.0**
CRVS Cervenica-Dubn 122.39 325 *e*PKIKP **PKPdf 18 18 06.6 +1.0**
CRVS Cervenica-Dubn 122.39 325 *e*PKP **PKPdf 18 18 06.6 +1.0**
LSZ Lusaka 122.64 247 PKPdf **PKPdf 18 18 07.7 +0.5**
LSZ LR LR
comp=Z,1μm,19.0s
LONY Lake Ozonia 122.98 40 PFAKE 18 18 20.0 +13
LONY LR LR
comp=Z,3μm,19.0s
BINY Binghamton 123.07 43 PFAKE 18 18 20.0 +13
BINY LR LR
comp=Z,3μm,20.0s
NCB Newcomb 123.50 41 PFAKE 18 18 20.0 +12
NCB LR LR
comp=Z,3μm,20.0s
MBAR Mbarara 123.56 265 PKP **PKPdf 18 18 09.5 +0.4**
MBAR Mbarara 123.56 265 PKP **PKPdf 18 18 09.5 +0.4**
comp=Z,2.8nm,0.6s,baz=82,slow=20,SNR=5.7
CBN Corbin 123.57 48 PFAKE 18 18 20.0 +12
CBN LR LR
comp=Z,2μm,20.0s
OKC Ostrava-Krasne 123.70 328 *e*PKIKP **PKPdf 18 18 10.0 +1.9**
OKC Ostrava-Krasne 123.70 328 *e*PKPdf **PKPdf 18 18 10.0 +1.9**
PSZ Piszkesteto 123.79 325 PFAKE 18 18 20.0 +12
PSZ LR LR
comp=Z,624nm,20.0s
TRQA Tornquist 123.92 145 PFAKE 18 18 20.0 +11
TRQA LR LR
comp=Z,1μm,19.0s
BZS Buzias 123.94 322 ⇑PKIKP **PKPdf 18 18 09.5 +0.8**
BZS Buzias 123.94 322 ⇑*i*P **PKPdf 18 18 09.5 +0.8**
VYHS Vyhne 124.08 326 *e*PKIKP **PKPdf 18 18 08.9 0.0**
VYHS Vyhne 124.08 326 *e*PKP **PKPdf 18 18 08.9 0.0**
CNNC Cliffs of the 124.13 52 PFAKE 18 18 20.0 +11
CNNC LR LR
comp=Z,2μm,20.0s
VTS Vitosha 124.31 318 ⇑PKIKP **PKPdf 18 18 10.1 +0.4**
VTS Vitosha 124.31 318 ⇑*i*P **PKPdf 18 18 10.1 +0.4**
DPC Dobruska-Polom 124.35 329 *e*PKIKP **PKPdf 18 18 09.9 +0.5**
DPC *e* 18 18 19.3
DPC Dobruska-Polom 124.35 329 *e*PKPdf **PKPdf 18 18 09.9 +0.5**
DPC *ep*PKP **pPKPdf 18 18 19.3 -5.8**
UPC Upice 124.42 329 *e*PKIKP PKPdf 18 18 18.3 +8.8
UPC Upice 124.42 329 *ep*PKP PKPdf 18 18 18.3 +8.8
LBNH Lisbon 124.84 39 PFAKE 18 18 20.0 +10
LBNH LR LR
comp=Z,3μm,19.0s
SANT Santorini 125.10 310 PFAKE 18 18 20.0 +8.7
SANT LR LR
comp=Z,344nm,19.0s
PVCC Panska Ves 125.13 330 *e*PKIKP **PKPdf 18 18 09.6 -1.2**
PVCC *e* 18 18 20.1
PVCC *e* 18 18 23.7
PVCC Panska Ves 125.13 330 *e*PKPdf **PKPdf 18 18 09.6 -1.2**
PVCC *ep*PKP **pPKPdf 18 18 20.1 -6.4**
PVCC *es*PKP 18 18 23.7
BRG Berggiesshubel 125.22 331 *e*PKP **PKPdf 18 18 11.5 +0.5**
comp=Z,10nm,1.3s
BRG *e* 18 18 23.3
comp=Z,14nm,1.4s
BRG SS PP 18 19 40.0 -21
BRG Berggiesshubel 125.22 331 *e*PKIKP **PKPdf 18 18 11.5 +0.5**
BRG *e* 18 18 23.3
BRG pmax pmax
comp=Z,11nm,1.3s
BRG pmax pmax
comp=Z,14nm,1.4s
CLL Collm 125.39 331 *e*PKIKP **PKPdf 18 18 11.0 -0.3**
CLL *e* 18 18 17.0
CLL pmax pmax
comp=Z,6.0nm,1.3s
CLL MLR MLR
comp=Z,600nm,18.0s
CLL Collm 125.39 331 *e*PKPdf **PKPdf 18 18 11.0 -0.3**
comp=Z,6.0nm,1.3s
CLL *ep*PKPdf **pPKPdf 18 18 23.0 -4.0**
CLL LmH 19 15 00.0
comp=N,600nm,19.0s
CLL LmH 19 15 00.0
comp=E,500nm,19.4s
CLL LmV 19 16 00.0
comp=Z,600nm,18.0s
TREC Trest 125.42 328 *e*PKIKP **PKPdf 18 18 11.8 +0.3**
TREC *e* 18 18 17.0
TREC Trest 125.42 328 *e*PKPdf **PKPdf 18 18 11.8 +0.3**
TREC *ex* x 18 18 17.0
PKSM Moragy 125.42 324 ⇑PKIKP **PKPdf 18 18 11.8 +0.3**
PKSM Moragy 125.42 324 ⇑*i*P **PKPdf 18 18 11.8 +0.3**
PRU Pruhonice 125.48 329 *e*PKIKP **PKPdf 18 18 11.6 +0.1**
PRU *e* 18 18 23.8
PRU Pruhonice 125.48 329 *e*PKPdf **PKPdf 18 18 11.6 +0.1**
PRU *ep*PKP **pPKPdf 18 18 23.8 -3.4**
PKME Peaks-Kenny Pk 125.96 37 PFAKE 18 18 20.0 +7.5
PKME LR LR
comp=Z,3μm,19.0s
BCIP Isla Barro Col 126.02 84 PFAKE 18 18 30.0 +16
BCIP LR LR
comp=Z,893nm,19.0s
KHC Kasperske Hory 126.51 329 *e*PKIKP **PKPdf 18 18 14.1 +0.5**
KHC *e* 18 18 26.2
KHC Kasperske Hory 126.51 329 *e*PKPdf **PKPdf 18 18 14.1 +0.5**
KHC *ep*PKP **pPKPdf 18 18 26.2 -3.1**
KHC Kasperske Hory 126.51 329 *e*PKPdf **PKPdf 18 18 12.6 -0.9**
GERES GERESS Array B 126.62 329 PKP **PKPdf 18 18 14.1 +0.2**
GERES GERESS Array B 126.62 329 PKP **PKPdf 18 18 14.1 +0.2**
comp=Z,2.1nm,0.6s,baz=64,slow=2.3,SNR=16
OTAV Otavalo 126.65 95 PFAKE 18 18 30.0 +15
OTAV LR LR
comp=Z,739nm,20.0s
TIR Tirane 127.09 318 PFAKE 18 18 30.0 +15
TIR LR LR
comp=Z,641nm,20.0s
SOKA Soboth 127.23 326 ⇑*i*PKiKP **PKPdf 18 18 14.8 -0.3**
comp=Z,6.8nm,1.2s
KBA Koelnbreinsper 127.91 327 ‖*i*PKiKP **PKPdf 18 18 16.1 -0.4**
comp=Z,5.7nm,1.2s
ESK Eskdalemuir 128.39 344 PFAKE 18 18 30.0 +13
ESK LR LR
comp=Z,501nm,19.0s
ABTA Abfaltersbach 128.56 327 ‖*i*PKiKP **PKPdf 18 18 17.0 -0.7**
comp=Z,6.0nm,1.1s
WTTA Wattenberg 128.70 328 ⇑*i*PKiKP **PKPdf 18 18 17.7 -0.3**
comp=Z,9.9nm,0.9s
MOTA Moosalm 128.92 329 ⇑*i*PKPdf **PKPdf 18 18 17.2 -1.2**
comp=Z,6.6nm,0.9s
BFO Black Forest 129.63 331 PFAKE 18 18 30.0 +10
BFO LR LR
comp=Z,531nm,21.0s
WLF Walferdange 129.67 334 PFAKE 18 18 30.0 +10
WLF LR LR
comp=Z,983nm,19.0s
GTBY Guantanamo Bay 130.01 70 PFAKE 18 18 30.0 +9.0
GTBY LR LR
comp=Z,822nm,19.0s
CDF Champ du Feu 130.07 332 *e*PKIKP **PKPdf 18 18 19.3 -1.2**
ECH Echery 130.27 332 PFAKE 18 18 30.0 +9.3
ECH LR LR
comp=Z,456nm,19.0s
TUE Stuetta 130.40 329 *e*PKPdf **PKPdf 18 18 20.6 -0.7**
TUE *e*SKP 18 21 42.9
TUE LR LR
comp=Z,753nm,20.0s
CUC Castrocucco 130.44 318 PFAKE 18 18 30.0 +8.7
CUC LR LR
comp=Z,413nm,19.0s
TSUM Tsumeb 130.49 238 *e*PKPdf **PKPdf 18 18 22.4 +0.3**
TSUM LR LR
comp=Z,1μm,20.0s
PAGF Fort de Pagny 130.68 333 *e*PKIKP **PKPdf 18 18 20.4 -1.1**
comp=Z,1.6nm,0.7s
AQU L'Aquila 130.69 322 PFAKE 18 18 30.0 +8.2
AQU LR LR
comp=Z,771nm,20.0s
HINF Hinteralfeld 130.70 332 *e*PKIKP **PKPdf 18 18 20.4 -1.2**
HAU Haudompre 130.80 332 *e*PKIKP **PKPdf 18 18 20.4 -1.4**
CEL Celeste 131.25 316 PFAKE 18 18 30.0 +7.0
CEL LR LR
comp=Z,350nm,21.0s
VLC Villacollemand 131.36 326 PFAKE 18 18 30.0 +7.1
VLC LR LR
comp=Z,540nm,19.0s
LPAZ La Paz 131.90 119 PKP **PKPdf 18 18 26.4 +0.9**
LPAZ SKPbc **SKPab 18 21 51.2 +3.1**
LPAZ La Paz 131.90 119 PKP **PKPdf 18 18 26.4 +0.9**
comp=Z,2.7nm,0.7s,baz=268,slow=3.3,SNR=8.3
LPAZ SKPbc **SKPab 18 21 51.2 +3.1**
comp=Z,1.4nm,0.5s,baz=228,slow=4.7,SNR=4.0
CABF La Chapelle 131.93 331 *e*PKIKP **PKPdf 18 18 21.9 -2.1**
LOR Lormes 132.48 333 *e*PKIKP **PKPdf 18 18 23.8 -1.1**
BNI Bardonecchia 132.74 329 *e*PKIKP **PKPdf 18 18 22.4 -3.3**
BNI MLR MLR
comp=Z,878nm,19.0s
BNI Bardonecchia 132.74 329 *e*PKPdf **PKPdf 18 18 22.4 -3.3**
BNI *e*SKP 18 21 51.5
BNI LR LR
comp=Z,878nm,19.0s
SSF Saint Saulge 132.79 333 *e*PKIKP **PKPdf 18 18 24.5 -1.0**
MBDF Montbardon 132.92 329 *e*PKIKP **PKPdf 18 18 24.8 -1.2**
SMF Signal de Mont 132.95 333 *e*PKIKP **PKPdf 18 18 24.7 -1.2**
comp=Z,11nm,0.9s
AVF Avril sur Loir 133.06 333 *e*PKIKP **PKPdf 18 18 24.8 -1.2**
SBF Sospel 133.16 328 *e*PKIKP **PKPdf 18 18 25.6 -0.8**
PGF Pioggiola 133.16 325 *e*PKIKP **PKPdf 18 18 25.3 -1.2**
ORIF Oris-en-Rattie 133.24 330 *e*PKIKP **PKPdf 18 18 25.3 -1.2**
comp=Z,12nm,1.0s
WDD Wield Dalam 133.37 314 PFAKE 18 18 40.0 +13
WDD LR LR
comp=Z,341nm,20.0s
GRTK Grand Turk 133.42 67 PFAKE 18 18 40.0 +13

GRTK				LR	LR		
	comp=Z,1μm,19.0s						
SSB	**Saint Sauveur**	**133.63**	**331**	PFAKE		18 18 40.0	+13
SSB				LR	LR		
	comp=Z,536nm,20.0s						
SDDR	**Presa de Saban**	**133.72**	**70**	PFAKE		18 18 40.0	+12
SDDR				LR	LR		
	comp=Z,1μm,20.0s						
VIVF	**Saint-Julien-l**	**133.88**	**330**	*e*PKIKP	**PKPdf**	**18 18 26.7**	**-1.0**
	comp=Z,5.3nm,0.8s						
TCF	**Toulx Ste Croi**	**133.96**	**334**	*e*PKIKP	**PKPdf**	**18 18 26.9**	**-0.9**
	comp=Z,17nm,1.1s						
SMRF	**Simiane la Rot**	**134.06**	**329**	*e*PKIKP	**PKPdf**	**18 18 26.4**	**-1.6**
	comp=Z,22nm,1.3s						
CPUP	**Villa Florida**	**134.83**	**138**	*e*PKPdf	**PKPdf**	**18 18 25.2**	**-4.7**
VSL	**Villasalto**	**134.83**	**322**	PFAKE		18 18 40.0	+10
VSL				LR	LR		
	comp=Z,470nm,19.0s						
SDV	**Santo Domingo**	**135.10**	**84**	PFAKE		18 18 40.0	+9.0
SDV				LR	LR		
	comp=Z,134nm,22.0s						
BBSR	**BB Station**	**135.38**	**50**	PFAKE		18 18 40.0	+9.2
BBSR				LR	LR		
	comp=Z,1μm,19.0s						
LRS	**Lares**	**137.99**	**70**	*e*PKPdf	**PKPdf**	**18 18 35.8**	**-0.3**
SAML	**Samuel**	**139.22**	**112**	PKPdf	**PKPdf**	**18 18 36.1**	**-2.3**
SAML				LR	LR		
	comp=Z,817nm,20.0s						
MSKU	**Masuku**	**140.23**	**259**	PFAKE		18 18 50.0	+10
MSKU				LR	LR		
	comp=Z,1.0nm,19.0s						
PGAV	**Gavieira, Arco**	**141.75**	**339**	*e*PKP	**PKPdf**	**18 18 39.2**	**-3.1**
PGAV				*i* P	**SKiKP**	**18 22 19.9**	**+2.7**
PGAV	**Gavieira, Arco**	**141.75**	**339**	A	A	19 28 58.9	
	comp=Z,818nm,18.0s						
ESDC	**Sonseca Array**	**141.95**	**333**	PKP	**PKPdf**	**18 18 40.1**	**-2.7**
ESDC	**Sonseca Array**	**141.95**	**333**	PKP	**PKPdf**	**18 18 40.1**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=22,slow=1.9,SNR=4.5						
MVO	**Moncorvo**	**141.99**	**337**	*e*PKP	**PKPdf**	**18 18 41.8**	**-1.0**
MVO				*i* P	**SKiKP**	**18 22 20.6**	**+2.9**
MVO	**Moncorvo**	**141.99**	**337**	A	A	19 39 39.0	
	comp=Z,428nm,18.0s						
ANWB	**Willy Bob**	**142.83**	**70**	PFAKE		18 19 00.0	+15
ANWB				LR	LR		
	comp=Z,860nm,20.0s						
MTE	**Manteigas**	**142.85**	**337**	*i* P	**SKiKP**	**18 22 22.8**	**+3.3**
MTE				A	A	19 01 50.4	
	comp=Z,491nm,16.0s						
MTE	**Manteigas**	**142.85**	**337**	PFAKE		18 19 00.0	+16
MTE				LR	LR		
	comp=Z,489nm,20.0s						
PCBR	**Castelo Branco**	**143.30**	**337**	*e*PKP	**PKPdf**	**18 18 44.3**	**-0.7**
PMRV	**Marv??o**	**143.62**	**336**	*e*PKP	PKPbc	18 18 43.4	+0.3
PMRV				*i* P	**SKiKP**	**18 22 24.6**	**+3.5**
PMRV	**Marv??o**	**143.62**	**336**	A	A	19 28 05.9	
	comp=Z,682nm,18.0s						
GRGR	**Grenville**	**143.81**	**79**	PFAKE		18 19 00.0	+13
GRGR				LR	LR		
	comp=Z,811nm,19.0s						
PTOM	**Tomar**	**143.86**	**338**	*e*PKP	**PKPdf**	**18 18 47.4**	**+1.4**
FDF	**Fort de France**	**143.97**	**74**	PFAKE		18 19 00.0	+13
FDF				LR	LR		
	comp=Z,925nm,19.0s						
PESTR	**Estremoz**	**144.18**	**336**	*e*PKP	**PKPdf**	**18 18 47.1**	**+0.5**
PMTG	**Montargil**	**144.26**	**337**	*e*PKP	PKPbc	18 18 45.0	0.0
PBAR	**Barrancos**	**144.54**	**335**	*e*PKP	**PKPdf**	**18 18 47.6**	**+0.4**
EVO	**Evora**	**144.64**	**336**	*e*PKIKP	**PKPab**	**18 18 45.6**	**-0.4**
	comp=Z,24nm,1.1s						
EVO	**Evora**	**144.64**	**336**	*e*PKP	**PKPdf**	**18 18 48.2**	**+0.8**
PBEJ	**Beja**	**145.01**	**336**	*e*PKP	**PKPbc**	**18 18 46.5**	**-0.9**
PNCL	**Nicolau / Gran**	**145.21**	**336**	*e*PKP	**PKPbc**	**18 18 46.7**	**-1.3**
PNCL				*i* P	**SKiKP**	**18 22 27.9**	**+3.6**
PVAQ	**Vaqueiros**	**145.48**	**335**	*e*PKP	**PKPdf**	**18 18 47.8**	**-1.1**
PVAQ	**Vaqueiros**	**145.48**	**335**	A	A	19 36 35.7	
	comp=Z,655nm,18.0s						
BBGH	**Gun Hill**	**145.73**	**77**	PFAKE		18 19 00.0	+9.2
BBGH				LR	LR		
	comp=Z,2μm,20.0s						
TAM	**Tamanrasset**	**146.24**	**302**	*e*PKP2	**PKPbc**	**18 18 51.9**	**0.0**
TAM				MLR	MLR		
	comp=Z,507nm,20.0s						
TAM	**Tamanrasset**	**146.24**	**302**	*e*PKPbc	**PKPbc**	**18 18 51.9**	**0.0**
TAM				LR	LR		
	comp=Z,507nm,20.0s						
RTC	**Rabat Centre**	**147.90**	**330**	PFAKE		18 19 00.0	+1.4
RTC				LR	LR		
	comp=Z,397nm,20.0s						
BDFB	**Brasilia**	**148.43**	**135**	PKPbc	**PKPdf**	**18 18 56.1**	**+1.6**
BDFB	**Brasilia**	**148.43**	**135**	PKPbc	**PKPdf**	**18 18 56.1**	**+1.6**
	comp=Z,33nm,0.9s,baz=225,slow=2.9,SNR=8.0						
CMLA	**Cha da Macela**	**149.08**	**0**	PFAKE		18 19 10.0	+6.8
CMLA				LR	LR		
	comp=Z,621nm,19.0s						
TOA0	**Torodi Ar. Sit**	**152.62**	**286**	*e*PKPdf	**PKPdf**	**18 19 00.6**	**-0.3**
TOA0				*e*PKPbc	**PKPbc**	**18 19 06.8**	**-1.2**
TORD	**Torodi Ar. Bea**	**152.62**	**286**	PKP	**PKPdf**	**18 19 00.3**	**-0.7**
TORD				PKPbc	**PKPbc**	**18 19 06.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.62**	**286**	PKP	**PKPdf**	**18 19 00.3**	**-0.7**
	comp=Z,6.2nm,0.9s,baz=52,slow=1.7,SNR=22						
TORD				PKPbc	**PKPbc**	**18 19 06.9**	**-1.0**
	comp=Z,38nm,0.8s,baz=53,slow=2.1,SNR=59						
KIC	**Kosan Boka**	**159.52**	**270**	*e*P	**PKPab**	**18 19 48.6**	**+0.2**
	comp=Z,65nm,1.2s						
DBIC	**Dimbokro**	**159.64**	**271**	PKPdf	**PKPdf**	**18 19 08.4**	**-1.8**
DBIC				PKPab	**PKPab**	**18 19 48.5**	**-0.3**
DBIC				*e*PKPab	PKPab	18 19 48.9	0.0
DBIC	**Dimbokro**	**159.64**	**271**	PKPab	**PKPab**	**18 19 48.5**	**-0.3**
	comp=Z,8.3nm,0.8s,baz=91,slow=4.2,SNR=5.7						
LIC	**Lamto**	**159.80**	**270**	*e*PKIKP	**PKPdf**	**18 19 06.9**	**-3.5**
	comp=Z,26nm,1.1s						
LIC	**Lamto**	**159.80**	**270**	*e*P	**PKPab**	**18 19 50.9**	**+1.3**
	comp=Z,48nm,1.3s						
TIC	**Toumodi**	**159.81**	**271**	*e*P	**PKPab**	**18 19 49.9**	**+0.3**
	comp=Z,70nm,1.1s						
RCBR	**Riachuelo**	**163.70**	**140**	PFAKE		18 19 30.0	+16
RCBR				LR	LR		
	comp=Z,979nm,19.0s						
SACV	**Santiago Islan**	**171.61**	**348**	PFAKE		18 19 30.0	+10
SACV				LR	LR		
	comp=Z,753nm,20.0s						

MEX 18 18:03:52.8±1.0, 17°.17N×94°.91W, h132km±8km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.08**	**165**	*i* P	Pn	18 04 09.6	-1.2
CMIG				*i* S	Sn	18 04 22.4	-2.0
TUIG	**Tuzandepetl**	**0.98**	**28**	*i* P	Pn	18 04 14.2	-1.6
TUIG				*i* S	Sn	18 04 31.2	-1.9
TGIG		**1.75**	**103**	*i* P	Pn	18 04 22.9	-1.1
TGIG				*i* S	Sn	18 04 45.3	-2.5
HUIG	**Huatulco**	**1.81**	**220**	*i* P	Pn	18 04 22.3	-2.3
HUIG				*i* S	Sn	18 04 47.9	-1.0
PCIG		**2.17**	**132**	*i* P	Pn	18 04 28.4	-0.6
PCIG				*e*S	Sn	18 04 54.8	-2.0
TPIG	**Tehuac#an**	**2.65**	**298**	*e*P	Pn	18 04 34.6	-0.7
TPIG				*i* S	Sn	18 05 05.7	-2.2
CCIG	**Comitan**	**2.79**	**108**	*i* P	Pn	18 04 36.4	-0.7
CCIG				*e*S	Sn	18 05 09.5	-1.7
UTMO	**Huajuapan**	**2.84**	**284**	*i* P	Pn	18 04 37.1	-0.6
UTMO				*e*S	Sn	18 05 09.7	-2.7
PNIG	**Pinotepa**	**3.18**	**256**	*i* P	Pn	18 04 39.4	-2.5
PNIG				*i* S	Sn	18 05 18.1	-1.7

IDC 18 18:10:57.6±4.9, 4°.56S×147°.84E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.2/17, mbtmp3.3/2, Error ellipse: s-maj=180.9km s-min=51.7km az=108.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.16**	**220**	P	P	18 15 33.2	-0.6
	1.7nm,1.0s,baz=46,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**23.27**	**214**	P	P	18 16 07.9	+0.9
	0.7nm,0.8s,baz=41,slow=9.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**145.51**	**287**	PKPbc	PKPdf	18 30 37.6	-1.3
	0.5nm,0.6s,baz=66,slow=3.5,SNR=3.2						

IDC 18 18:15:37.2±1.0, 13°.93N×92°.99E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=35.5km s-min=19.6km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**51**	Pn	Pn	18 17 25.6	+0.7
	0.3nm,0.3s,baz=239,slow=15,SNR=7.8						
CMAR				Sn	Sn	18 18 42.9	-5.5
	0.7nm,0.3s,baz=237,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**33.97**	**347**	P	P	18 22 22.4	0.0
	1.1nm,0.8s,baz=160,slow=9.1,SNR=9.0						
SONM	**Songino Array**	**35.60**	**16**	P	P	18 22 36.8	+0.2
	0.7nm,0.8s,baz=204,slow=8.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.44**	**353**	P	P	18 23 16.8	-0.5
	0.9nm,0.5s,baz=171,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**52.80**	**129**	P	P	18 24 54.3	-0.4
	0.4nm,0.7s,baz=312,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	**54.74**	**133**	P	P	18 25 08.8	-0.1
	0.5nm,0.4s,baz=310,slow=7.0,SNR=23						
FINES	**FINESS Array B**	**66.87**	**331**	P	P	18 26 30.4	-0.5
	2.9nm,1.0s,baz=130,slow=6.0,SNR=5.5						
GERES	**GERESS Array B**	**72.61**	**317**	P	P	18 27 06.8	+0.1
	0.6nm,0.7s,baz=91,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P	P	18 28 31.4	+0.8
	0.6nm,0.6s,baz=79,slow=5.5,SNR=3.4						

CASC 18 18:19:45.8±1.5, 6°.02N×82°.45W, h34km±234km, MD4.1, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.71**	**345**	*e*P	Pn	18 20 26.5	-0.6
TBS2		**2.76**	**356**	*e*P	Pn	18 20 28.8	+0.8
BRU2	**Volcan**	**2.77**	**355**	*e*P	Pn	18 20 28.8	+0.8
BRU2				*e*S	Sn	18 21 01.8	+1.5
CTCR	**Cotoan**	**2.88**	**354**	*e*P	Pn	18 20 30.0	+0.5
CTCR				*e*S	Sn	18 21 03.0	-0.1
CNI	**Changuinola**	**3.38**	**359**	*e*P	Pn	18 20 36.5	+0.4
CNI				*e*S	Sn	18 21 16.3	+1.3
BUS	**Buena Vista**	**3.74**	**340**	↑*i* P	Pn	18 20 42.2	+0.4
BUS				*e*S	Sn	18 21 27.6	+2.5
QCR	**Quepos**	**3.79**	**333**	*e*P	Pn	18 20 41.7	-0.1
URSC	**Urasca**	**4.01**	**341**	*e*P	Pn	18 20 46.6	+1.5
CGA2	**Cerro Gallo 2**	**4.44**	**333**	*e*P	Pn	18 20 51.9	+0.9
CAO	**Cobano**	**4.50**	**325**	*e*P	Pn	18 20 51.5	-0.2
VCR	**Vista de Mar**	**5.15**	**323**	*e*P	Pn	18 21 01.7	+1.0

IDC 18 18:31:28.5±2.7, 6°.25S×154°.05E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=75.3km s-min=45.4km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**233**	P	P	18 36 39.3	-0.9
	0.9nm,0.5s,baz=55,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**25.98**	**226**	P	P	18 37 02.4	-0.9
	0.4nm,0.7s,baz=57,slow=9.2,SNR=6.8						
STKA	**Stephens Creek**	**28.03**	**203**	P	P	18 37 21.2	-0.3
	0.7nm,0.5s,baz=48,slow=14,SNR=4.6						
FITZ	**Fitzroy Crossi**	**30.11**	**244**	P	P	18 37 41.9	+1.7
	2.1nm,0.8s,baz=70,slow=12,SNR=5.6						
TORD	**Torodi Ar. Bea**	**151.92**	**286**	PKPbc	PKPbc	18 51 26.8	+0.1
	1.0nm,0.7s,baz=65,slow=2.5,SNR=5.9						

*ISCJB **18** 18:34:01.5±0.6, 5°.50S±0°.07×148°.80E±0°.10, h163km, mb3.8/14, Error ellipse: s-maj=14.0km s-min=8.9km az=16.5*
*AUST **18** 18:34:04.3, 5°.73S×149°.10E, h200km*
*IDC **18** 18:34:05.6±1.8, 5°.64S×148°.75E, h191km±17km, mb3.6/14, mb1 3.7/17, mb1mx3.6/23, mbtmp3.6/17, Error ellipse: s-maj=17.7km s-min=8.8km az=110.0*
ISC 18 18:34:02.7±0.7, 5°.65S±0°.08×148°.8E±0°.1, h163km, n27, σ1°31/27, mb3.9/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.84**	**339**	P	Pn	18 35 05.7	+4.4
	baz=4.1,SNR=3.7						
PMG	**Port Moresby**	**4.06**	**203**	P	Pn	18 35 08.2	+4.0
	4.6nm,0.3s,baz=358,slow=7.0,SNR=17						
PMG				S	**Sn**	**18 35 49.7**	**-2.3**
	8.6nm,0.3s,baz=96,slow=5.6,SNR=5.2						
COEN	**Coen**	**9.92**	**213**	P	Pn	18 36 26.8	+5.2
	baz=10,SNR=9.9						
CTA	**Charters Tower**	**14.56**	**189**	P	**P**	**18 37 24.4**	**+1.1**
	0.2nm,0.3s,baz=354,slow=14,SNR=3.8						
KDU	**Kakadu**	**17.53**	**245**	P	**Pn**	**18 37 57.9**	**+0.6**
	baz=18,SNR=4.5						
MTN	**Manton Dam**	**18.80**	**246**	P	**Pn**	**18 38 12.4**	**+0.1**
	baz=19,SNR=3.8						
WRA	**Warramunga Arr**	**19.97**	**223**	P	**P**	**18 38 23.3**	**+0.8**
	1.3nm,0.3s,baz=50,slow=10,SNR=62						
WRA				S	**S**	**18 41 56.5**	**-1.8**
	0.1nm,0.3s,baz=53,slow=21,SNR=5.1						
KNRA	**Kununurra**	**22.01**	**242**	P	**P**	**18 38 45.5**	**+1.3**
	baz=22,SNR=4.4						
KNRA				S	S	18 42 07.4	-28
	baz=22,SNR=6.0						
ASAR	**Alice Springs**	**22.93**	**217**	P	**P**	**18 38 54.5**	**+1.6**
	2.6nm,0.4s,baz=50,slow=8.4,SNR=43						
ASAR				S	**S**	**18 42 52.2**	**+1.6**
	3.1nm,1.0s,baz=28,slow=18,SNR=11						
DZM	**Mont Dzumac**	**23.64**	**135**	P	**P**	**18 39 01.1**	**+1.7**
	6.9nm,0.9s,baz=353,slow=7.5,SNR=3.6						
FITZ	**Fitzroy Crossi**	**25.75**	**239**	P	**P**	**18 39 18.7**	**+0.2**
	2.1nm,0.6s,baz=90,slow=6.0,SNR=9.4						
FITZ	**Fitzroy Crossi**	**25.75**	**239**	P	**P**	**18 39 19.2**	**+0.7**
	baz=26,SNR=7.2						
STKA	**Stephens Creek**	**26.94**	**194**	P	**P**	**18 39 28.3**	**-0.7**
	0.8nm,0.7s,baz=353,slow=8.1,SNR=2.2						
MEEK	**Meekatharra**	**35.52**	**231**	P	**P**	**18 40 45.4**	**+1.1**
	baz=36,SNR=3.6						
URZ	**Urewera**	**41.43**	**146**	P	**P**	**18 41 32.5**	**-0.8**
	1.5nm,0.4s,baz=358,slow=12,SNR=3.4						
XMIS	**Christmas Isla**	**42.92**	**261**	S	S	18 47 52.1	-6.7
	baz=43,SNR=3.6						
KSRS	**Korea Array**	**47.08**	**337**	P	**P**	**18 42 19.1**	**+0.9**
	1.7nm,0.7s,baz=156,slow=8.7,SNR=6.8						
USRK	**Ussuriysk Arra**	**51.87**	**345**	P	**P**	**18 42 55.6**	**+1.4**
	2.1nm,0.6s,baz=159,slow=7.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**54.64**	**297**	P	**P**	**18 43 14.6**	**-0.5**
	0.4nm,0.5s,baz=121,slow=5.7,SNR=3.8						
PETK	**Petropavlovsk-**	**59.02**	**6**	P	**P**	**18 43 46.2**	**+0.9**
	4.4nm,0.5s,baz=171,slow=7.6,SNR=11						
SONM	**Songino Array**	**64.96**	**330**	P	**P**	**18 44 25.7**	**+0.5**
	0.4nm,0.5s,baz=151,slow=3.3,SNR=3.9						
MKAR	**Makanchi Array**	**78.35**	**320**	P	**P**	**18 45 44.2**	**-0.9**
	0.4nm,0.4s,baz=96,slow=8.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**79.66**	**327**	P	**P**	**18 45 50.2**	**-1.8**
	1.1nm,0.4s,baz=115,slow=6.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**82.01**	**323**	P	**P**	**18 46 03.1**	**-1.4**
	0.3nm,0.4s,baz=140,slow=4.8,SNR=7.0						
ILAR	**Eielson Array**	**84.47**	**23**	P	**P**	**18 46 15.8**	**-1.1**
	3.4nm,0.6s,baz=249,slow=5.0,SNR=13						
GERES	**GERESS Array B**	**122.60**	**326**	PKP	**PKPdf**	**18 52 37.1**	**-2.1**
	0.2nm,0.4s,baz=44,slow=5.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**146.70**	**285**	PKP	**PKPdf**	**18 53 23.8**	**-0.8**
	2.0nm,0.4s,baz=67,slow=2.5,SNR=52						
TORD				PKPbc	**PKPbc**	**18 53 25.3**	**-1.1**
	2.1nm,0.4s,baz=53,slow=3.3,SNR=56						

*NIED **18** 18:34:00, 23°.50N×123°.50E, h8km, Mw4.5 Best double couple: M0=6.41000×10^15 NP1:φ=225.00000°, δ=60.00000°, λ=-143.00000°. NP2:φ=115.00000°, δ=59.00000°, λ=-36.00000°.*
*IDC **18** 18:34:37.4±0.5, 23°.51N×123°.54E, h0km, mb4.2/27, mb1 4.4/30, mb1mx4.3/35, mbtmp4.2/30, ML3.6/3, Error ellipse: s-maj=16.9km s-min=11.8km az=78.0*
*JMA **18** 18:34:40.9±0.2, 23°.45N×123°.53E, h49km±3km, M4.6*
*MOS **18** 18:34:40.9±1.0, 23°.48N×123°.59E, h33km, mb4.8/24, Error ellipse: s-maj=9.6km s-min=6.1km az=103.2*
*NEIC **18** 18:34:40.5±2.4, 23°.51N×123°.60E, h19km±15km, mb4.6/23, MW4.5(NIED), Error ellipse: s-maj=6.1km s-min=5.2km az=86.0*
*BJI **18** 18:34:40.1, 23°.50N×123°.65E, h10km, mB4.6/4, mb4.3/16*
*ISCJB **18** 18:34:40.5±0.8, 23°.43N±0°.03×123°.57E±0°.03, h31km±5km, mb4.5/77, MS4.2/2, Error ellipse: s-maj=5.5km s-min=4.0km az=24.8*
ISC 18 18:34:42.1±0.5, 23°.48N±0°.04×123°.59E±0°.04, h29km±3km, h28km:pP-P, n203, σ1°17/221, mb4.5/76, 2C-1D,

Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.60**	**19**	P	**Pb**	**18 34 54.0**	**-0.2**
HATJ				S	**Sn**	**18 35 03.6**	**+0.1**
JKRS	**Kuro-shima**	**0.84**	**27**	P	**Pn**	**18 34 57.7**	**-0.3**
JKRS				S	**Sn**	**18 35 09.9**	**+0.4**
IRIF	**Iriomote-Funau**	**0.86**	**9**	P	**Pn**	**18 34 57.6**	**-0.6**
IRIF				S	**Sb**	**18 35 09.6**	**0.0**
JIJ	**Ishigaki jima**	**1.01**	**30**	P	**Pn**	**18 34 59.6**	**-0.7**
JIJ				S	**Sn**	**18 35 13.1**	**-0.5**
YOJ	**Yonaguni jima**	**1.11**	**332**	P	**Pn**	**18 35 00.5**	**-1.1**
YOJ				S	**Sn**	**18 35 14.5**	**-1.4**
JTJ	**Tarama**	**1.54**	**41**	P	**Pn**	**18 35 07.7**	**+0.1**
JTJ				S	**Sn**	**18 35 26.1**	**-0.5**
JMJ	**Miyako jima 2**	**2.05**	**49**	P	**Pn**	**18 35 14.6**	**0.0**
JMJ				S	**Sn**	**18 35 40.0**	**+0.9**
JOGS	**Gusukube**	**2.09**	**52**	P	**Pn**	**18 35 15.1**	**-0.1**
TATO	**Taipei**	**2.42**	**308**	*e*Pn	**Pn**	**18 35 18.6**	**-1.2**
JKE	**Kume jima 2**	**4.06**	**45**	P	**Pn**	**18 35 40.6**	**-1.6**
JAGN	**Aguni-jima**	**4.53**	**46**	P	**Pn**	**18 35 46.6**	**-2.2**
JIH	**Iheya**	**5.31**	**47**	P	**Pn**	**18 35 57.1**	**-2.4**
JOW	**Kunigami**	**5.40**	**51**	P	**Pn**	**18 35 58.7**	**-2.0**
APYP	**Conner**	**6.01**	**202**	*e*P	**Pn**	**18 36 07.5**	**-1.5**
ABRA	**Dolores**	**6.40**	**205**	*e*P	**Pn**	**18 36 14.5**	**+0.1**
JTK	**Tokunoshima**	**6.46**	**47**	P	**Pn**	**18 36 12.8**	**-2.5**
PALP	**Palanan**	**6.48**	**190**	⇓*i*P	**Pn**	**18 36 14.4**	**-1.1**
CAUP	**Cauayan**	**6.71**	**195**	*e*P	**Pn**	**18 36 19.6**	**+0.9**
JAMN	**Amaminishikomi**	**6.91**	**46**	P	**Pn**	**18 36 18.3**	**-3.2**
JAM	**Amami Oshima**	**7.31**	**47**	P	Pn	18 36 23.6	-3.3
JMZ	**Minamidaito 2**	**7.33**	**70**	P	Pn	18 36 23.6	-3.5
TGY	**Tagaytay City**	**9.66**	**195**	Pn	**Pn**	**18 36 59.9**	**+0.6**
TGY	**Tagaytay City**	**9.66**	**195**	Pn	**Pn**	**18 36 59.9**	**+0.6**
	13nm,0.3s,baz=290,slow=18,SNR=2.6						
WHN	**Wuhan**	**10.82**	**312**	P	**Pn**	**18 37 16.3**	**+1.2**
WHN				S	**Sn**	**18 39 15.9**	**+0.7**
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**18 37 23.2**	**-1.9**
JNU	**Nakatsue**	**11.55**	**32**	Pn	**Pn**	**18 37 23.2**	**-1.9**
	0.3nm,0.3s,baz=213,slow=7.6,SNR=4.6						
INCN	**Inchon**	**14.20**	**10**	P	**Pn**	**18 37 58.1**	**-3.1**
ENH	**Enshi**	**14.28**	**301**	Pn	**Pn**	**18 38 03.3**	**+1.0**
	17nm,0.9s						
KSAR	**Wonju Array Be**	**14.39**	**14**	Pn	**Pn**	**18 38 04.2**	**+0.3**
KSRS	**Korea Array**	**14.41**	**14**	Pn	**Pn**	**18 38 04.2**	**+0.1**
	0.2nm,0.3s,baz=190,slow=12,SNR=14						
GYA	**Guiyang**	**15.63**	**284**	↑*i*P	**P**	**18 38 26.0**	**+1.6**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
XAN	**Xi'an**	**16.59**	**313**	P	**P**	**18 38 34.8**	**-0.1**
XAN				pP	**pP**	**18 38 43.8**	**+1.2**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.4s						
XAN				pmax	pmax		
	comp=Z,190nm,11.5s						
MAT	**Matsushiro**	**18.13**	**41**	P	**P**	**18 38 52.8**	**+0.9**
MJAR	**Matsushiro Arr**	**18.13**	**41**	P	**P**	**18 38 52.4**	**+0.5**
MJAR	**Matsushiro Arr**	**18.13**	**41**	P	**P**	**18 38 52.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=228,slow=10,SNR=42						
MJA0	**Matsu Arr-Jizo**	**18.15**	**41**	*e*P	**P**	**18 38 53.1**	**+0.9**
KKM	**Kota Kinabalu**	**18.73**	**203**	*e*P	**P**	**18 38 57.1**	**-1.7**
	comp=Z,5.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.05**	**333**	*e*P	Pn	18 39 15.4	+0.5
HHC				S	**S**	**18 42 52.0**	**-4.9**
HHC				pmax	pmax		
	comp=Z,44nm,0.8s						
CN2	**Changchun**	**20.32**	**4**	*e*P	Pn	18 39 21.8	+3.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**21.19**	**311**	*e*P	P	18 39 36.8	+11
LZH				pP	pP	18 39 40.1	+6.8
LZH				sP	sP	18 39 41.5	+4.5
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				pmax	pmax		
	comp=Z,73nm,6.7s						
LZH				LR	LR		
	comp=N,210nm,15.0s						
LZH				LR	LR		
	comp=E,230nm,15.3s						
LZH				LR	LR		
	comp=Z,310nm,18.4s						
USRK	**Ussuriysk Arra**	**21.79**	**16**	P	**P**	**18 39 34.0**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=208,slow=12,SNR=4.1						
GUMO	**Guam**	**22.42**	**112**	*e*P	**P**	**18 39 39.4**	**+0.8**
	comp=Z,132nm,1.1s						
GUMO				*e*		18 39 51.8	
CMAR	**Chiang Mai Arr**	**23.53**	**262**	P	**P**	**18 39 51.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**23.53**	**262**	P	**P**	**18 39

KURK 18 44 31.6
KURK Kurchatov 44.04 320 P **P** **18 42 46.8 -0.3**
KURK PcP **PcP** **18 44 31.6 -0.7**
KURBB Kurchatov Arra 44.06 320 P **P** **18 42 46.8 -0.5**
comp=Z,0.8nm,0.4s,baz=112,slow=8.2,SNR=21
KURBB PcP **PcP** **18 44 31.6 -0.8**
comp=Z,1.2nm,0.7s,baz=112,slow=3.6,SNR=6.2
WRAB Tennant Creek 44.41 165 *eP* **P** **18 42 49.7 -0.7**
WRAB *e* 18 43 01.1
WRAB pmax pmax
comp=Z,14nm,0.9s
WRAB Tennant Creek 44.41 165 *eP* **P** **18 42 49.7 -0.7**
comp=Z,14nm,0.9s
WRAB *e* 18 43 01.1
WRA Warramunga Arr 44.42 165 P **P** **18 42 50.2 -0.3**
WRA Warramunga Arr 44.42 165 P **P** **18 42 50.2 -0.3**
comp=Z,3.2nm,0.8s,baz=347,slow=9.1,SNR=10.0
EKS2 Erkin-Say 45.20 307 *eP* **P** **18 42 58.1 +1.4**
EKS2 pmax pmax
comp=Z,6.0nm,1.0s
EKS2 Erkin-Say 45.20 307 *eP* **P** **18 42 58.1 +1.4**
comp=Z,6.5nm,1.0s
KKAR Karatay Array 47.64 308 *eP* **P** **18 43 16.6 +0.9**
KKAR *e* 18 43 27.3
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 47.64 308 *eP* **P** **18 43 16.6 +0.9**
comp=Z,3.4nm,0.7s
KKAR *e* 18 43 27.3
AS31 Alice Springs 47.93 167 *eP* **P** **18 43 18.0 -0.1**
AS31 *e* 18 43 29.9
ASAR Alice Springs 47.93 167 P **P** **18 43 17.9 -0.1**
ASAR Alice Springs 47.93 167 P **P** **18 43 17.9 -0.1**
comp=Z,0.9nm,0.4s,baz=351,slow=7.2,SNR=16
TIXI Tiksi 48.28 2 *iP* **P** **18 43 21.0 +0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.5s
KBL Kabul 48.45 296 *eP* **P** **18 43 22.8 +0.5**
KBL *e* 18 43 34.3
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 48.45 296 *eP* **P** **18 43 22.8 +0.5**
comp=Z,9.4nm,0.8s
KBL *e* 18 43 34.3
BVAR Borovoye Array 49.61 321 P **P** **18 43 30.5 -0.2**
BVAR 18 44 50.4
BVAR Borovoye Array 49.61 321 P **P** **18 43 30.5 -0.2**
BVAR PcP **PcP** **18 44 50.4 -1.5**
BVAR Borovoye Array 49.61 321 P **P** **18 43 30.5 -0.2**
comp=Z,1.1nm,0.5s,baz=105,slow=8.6,SNR=8.6
BVAR PcP **PcP** **18 44 50.4 -1.5**
comp=Z,2.4nm,0.8s,baz=104,slow=6.3,SNR=5.1
BRVK Borovoye 49.68 321 *eP* **P** **18 43 31.3 +0.1**
BRVK *e* 18 43 42.8
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 49.68 321 *eP* **P** **18 43 31.3 +0.1**
comp=Z,12nm,0.9s
BRVK *e* 18 43 42.8
ABKAR Akbulak array 55.50 315 *eP* **P** **18 44 14.5 +0.2**
comp=Z,8.4nm,0.8s
ABKAR *e* 18 44 26.2
SVE Sverdlovsk 55.91 324 *eP* P 18 44 25.0 +7.9
SVE pmax pmax
comp=Z,11nm,0.8s
ARU Arti 56.99 323*c iP* **P** **18 44 24.7 -0.1**
ARU 18 46 27.8
ARU S **S** **18 52 19.4 +2.2**
ARU SS **SS** **18 56 03.7 -1.9**
ARU pmax pmax
comp=Z,7.0nm,1.2s
STKA Stephens Creek 57.68 162 *eP* **P** **18 44 29.9 0.0**
comp=Z,1.2nm,0.8s
STKA *e* 18 44 39.0
STKA Stephens Creek 57.68 162 P **P** **18 44 30.2 +0.3**
comp=Z,1.7nm,0.7s,baz=345,slow=10,SNR=4.0
IMA2 Indian Mountai 65.85 26 *eP* **P** **18 45 25.6 +0.9**
VRHR Novokhopersk 67.14 317 *eP* **P** **18 45 31.9 -1.2**
VRHR *e*SP* **sP** **18 45 43.5 -2.0**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,4.0nm,0.4s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR MLR MLR
comp=N,60nm,16.0s
VRHR MLR MLR
comp=E,250nm,16.0s
VRHR MLR MLR
comp=Z,440nm,16.0s
TMCR Tamitsa 67.21 332 *eP* P 18 45 37.3 +4.1
TMCR *e* 18 46 01.8
TMCR pmax pmax
comp=Z,21nm,0.8s
TRF Thorofare Moun 67.55 29 *eP* **P** **18 45 35.6 -0.1**
comp=Z,6.8nm,1.0s
KBZ Khabaz 67.63 309 P **P** **18 45 36.5 +0.2**
KBZ Khabaz 67.63 309 P **P** **18 45 36.5 +0.2**
KBZ Khabaz 67.63 309 P **P** **18 45 36.5 +0.2**
comp=Z,1.4nm,0.7s,baz=80,slow=8.1,SNR=4.2
KIV Kislovodsk 67.73 310 *eP* **P** **18 45 37.3 +0.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
MCK McKinley 68.11 29 *eP* **P** **18 45 37.5 -1.5**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 68.11 29 *eP* **P** **18 45 37.5 -1.5**
comp=Z,10nm,0.8s
PMR Palmer 68.36 31 P **P** **18 45 40.5 0.0**
PMR Palmer 68.36 31 P **P** **18 45 40.5 0.0**
COLA College 68.40 27 *eP* **P** **18 45 41.2 +0.5**
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 68.40 27 *eP* **P** **18 45 41.2 +0.5**
comp=Z,29nm,0.8s
VSR Storozhevoye 68.64 318 *eP* **P** **18 45 41.7 -0.8**
VSR *e*SP* **sP** **18 45 53.1 -1.9**
SML Sawmill 68.70 31 *eP* **P** **18 45 42.4 -0.3**
SML Sawmill 68.70 31 *eP* **P** **18 45 42.4 -0.3**
ILAR Eielson Array 68.82 27 P **P** **18 45 42.8 -0.6**
ILAR Eielson Array 68.82 27 P **P** **18 45 42.8 -0.6**
comp=Z,1.4nm,0.6s,baz=281,slow=5.1,SNR=15
OBN Obninsk 69.40 322 *eP* P 18 45 58.2 +11
OBN pmax pmax
comp=Z,12nm,0.9s
MENT Mentasta 70.57 29 *eP* **P** **18 45 55.1 +0.9**
BMRM Bremner River 70.62 31 *eP* **P** **18 45 54.7 0.0**
comp=Z,10.0nm,0.9s
SPITS Spitsbergen Ar 70.63 348 P **P** **18 45 53.6 -0.8**
SPITS Spitsbergen Ar 70.63 348 P **P** **18 45 53.6 -0.8**
comp=Z,7.4nm,0.9s,baz=64,slow=16,SNR=2.7
ARCES ARCESS Array B 71.00 338 P **P** **18 45 56.0 -0.8**
ARCES ARCESS Array B 71.00 338 P **P** **18 45 56.0 -0.8**
comp=Z,2.5nm,0.7s,baz=57,slow=8.9,SNR=3.2
KAF Kangasniemi 72.84 331 *eP* **P** **18 46 07.7 -0.2**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 72.84 331 *ep* **P** **18 46 07.7 -0.2**
comp=Z,0.6nm,0.3s
KAF Kangasniemi 72.84 331 *ep* pP 18 46 20.0 +3.0
comp=Z,0.8nm,0.4s
INK Inuvik 73.04 22 P **P** **18 46 09.0 +0.1**
INK *e* 18 46 17.3
INK Inuvik 73.04 22 P **P** **18 46 09.0 +0.1**
comp=Z,4.1nm,0.9s,baz=293,slow=4.3,SNR=6.3
FINES FINESS Array B 73.15 330 P **P** **18 46 09.2 -0.5**
FINES FINESS Array B 73.15 330 P **P** **18 46 09.2 -0.5**
comp=Z,1.1nm,0.4s,baz=68,slow=5.1,SNR=17
HYT Haines Junctio 73.99 30 *eP* **P** **18 46 16.0 +1.1**
HYT *e* 18 46 28.8
AKASG Malin Array Be 74.85 319 P **P** **18 46 18.6 -1.2**
AKASG Malin Array Be 74.85 319 P **P** **18 46 18.6 -1.2**
AKASG Malin Array Be 74.85 319 P **P** **18 46 18.6 -1.2**
comp=Z,0.9nm,0.4s,baz=148,slow=11,SNR=3.5
KIEV Kiev 74.86 319 *eP* **P** **18 46 18.6 -1.3**
KIEV pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 74.86 319 *eP* **P** **18 46 18.6 -1.3**
comp=Z,1.4nm,0.4s
BR131 Keskin Array S 75.35 307 *eP* **P** **18 46 23.1 -0.1**
comp=Z,4.3nm,0.9s
BR131 *e* 18 46 34.8
HFS Hagfors 79.24 331 P **P** **18 46 43.0 -1.3**
HFS Hagfors 79.24 331 P **P** **18 46 43.0 -1.3**
comp=Z,2.2nm,0.6s,baz=55,slow=7.8,SNR=4.4
RPZ Rata Peaks 79.80 147 P **P** **18 46 48.3 +0.8**
RPZ Rata Peaks 79.80 147 P **P** **18 46 48.3 +0.8**
comp=Z,7.5nm,0.6s,baz=134,slow=3.7,SNR=3.0
NB2 NORSAR Subarra 79.86 333 P **P** **18 46 47.8 0.0**
comp=Z,6.8nm,0.8s,baz=58,slow=5.6
NOA NORSAR Array B 79.86 333 P **P** **18 46 47.5 -0.3**
NOA NORSAR Array B 79.86 333 P **P** **18 46 47.5 -0.3**
comp=Z,1.8nm,0.8s,baz=59,slow=5.3,SNR=5.7
STHS Stebnicka Huta 80.10 320 *eP* **P** **18 46 49.8 +0.5**
STHS pmax pmax
comp=Z,2.0nm,1.2s
STHS Stebnicka Huta 80.10 320 *eP* **P** **18 46 49.8 +0.5**
STHS *epP* **pP** **18 46 59.5 +1.0**
CRVS Cervenica-Dubn 80.18 319 *eP* **P** **18 46 51.1 +1.4**
CRVS pmax pmax
comp=Z,8.0nm,1.5s
CRVS Cervenica-Dubn 80.18 319 *eP* **P** **18 46 51.1 +1.4**
CRVS *epP* **pP** **18 47 02.7 +3.7**
KECS Kecovo 80.95 319 *eP* **P** **18 46 54.2 +0.4**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 80.95 319 *eP* **P** **18 46 54.2 +0.4**
KECS *epP* **pP** **18 47 05.9 +2.9**
VYHS Vyhne 81.93 319 *eP* **P** **18 46 59.4 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 81.93 319 *eP* **P** **18 46 59.3 +0.2**
VYHS *epP* **pP** **18 47 11.1 +2.8**
DPC Dobruska-Polom 82.55 322 *eP* **P** **18 47 03.1 +0.8**
DPC *e* 18 47 14.0
DPC *e* 18 47 21.8
DPC Dobruska-Polom 82.55 322 *eP* **P** **18 47 03.1 +0.8**
DPC *ex* x 18 47 14.0
DPC *ex* x 18 47 21.8
UPC Upice 82.65 322 *ex* x 18 47 23.4
YKA Yellowknife Ar 82.75 23 P **P** **18 47 03.5 +0.5**
YKA Yellowknife Ar 82.75 23 P **P** **18 47 03.5 +0.5**
comp=Z,2.1nm,0.8s,baz=312,slow=5.2,SNR=4.6
VRAC Vranov 82.88 321 P **P** **18 47 03.4 -0.6**
VRAC Vranov 82.88 321 P **P** **18 47 03.4 -0.6**
comp=Z,1.0nm,0.3s,baz=74,slow=7.4,SNR=3.5
PVCC Panska Ves 83.45 323 *eP* **P** **18 47 05.3 -1.6**
PVCC *e* 18 47 18.1
PVCC Panska Ves 83.45 323 *eP* **P** **18 47 05.3 -1.6**
PVCC *ex* x 18 47 18.1
TREC Trest 83.52 321 *eP* **P** **18 47 07.6 +0.3**
TREC *e* 18 47 19.4
TREC Trest 83.52 321 *eP* **P** **18 47 07.6 +0.3**
TREC *ex* x 18 47 19.4
BRG Berggiesshubel 83.63 323 *eP* pP 18 47 20.9 +3.9
comp=Z,5.0nm,0.9s
PRU Pruhonice 83.73 322 *eP* **P** **18 47 08.8 +0.5**
PRU *e* 18 47 19.3
PRU Pruhonice 83.73 322 *eP* **P** **18 47 08.8 +0.5**
PRU *ex* x 18 47 19.3
CLL Collm 83.92 324 *iP* **P** **18 47 09.2 -0.1**
CLL *i* 18 47 20.8
CLL Collm 83.92 324 *iP* **P** **18 47 09.2 -0.1**
CLL *i* 18 47 20.8
CLL *ePP* **PP** **18 50 27.0 +4.5**
KHC Kasperske Hory 84.70 322 *iP* **P** **18 47 13.4 0.0**
KHC *e* 18 47 25.2
KHC Kasperske Hory 84.70 322 *iP* **P** **18 47 13.4 0.0**
KHC *epP* **pP** **18 47 20.2 -2.4**
KHC *ex* x 18 47 25.2
KHC *ex* x 18 47 37.0
KHC Kasperske Hory 84.70 322 *eP* **P** **18 47 13.3 0.0**
comp=Z,1.1nm,0.8s
KHC *e* 18 47 24.8
GERES GERESS Array B 84.77 321 P **P** **18 47 14.0 +0.2**
GERES GERESS Array B 84.77 321 P **P** **18 47 14.0 +0.2**
comp=Z,3.6nm,0.8s,baz=57,slow=4.9,SNR=30
DAVOX Davos/Dischmat 88.04 321 P **P** **18 47 29.4 -0.6**
DAVOX Davos/Dischmat 88.04 321 P **P** **18 47 29.4 -0.6**
comp=Z,1.2nm,0.5s,baz=68,slow=9.4,SNR=6.1
CDF Champ du Feu 88.60 323 *eP* **P** **18 47 32.1 -0.4**
comp=Z,10nm,0.9s
HINF Hinteralfeld 89.18 323 *eP* **P** **18 47 34.2 -0.9**
comp=Z,7.4nm,0.9s
BAIF Baives 89.27 326 *eP* **P** **18 47 35.2 -0.3**
HAU Haudompre 89.35 323 *eP* **P** **18 47 35.1 -0.8**
comp=Z,8.4nm,0.9s
NEW Newport 90.31 36 *eP* **P** **18 47 41.1 +0.7**
comp=Z,2.5nm,1.0s
LPG La Plagne 90.56 321 *eP* **P** **18 47 41.9 -0.1**
comp=Z,15nm,0.8s
LPL La Plagne 90.56 321 *eP* **P** **18 47 41.8 -0.1**
comp=Z,16nm,0.9s
MBDF Montbardon 90.99 320 *eP* **P** **18 47 42.9 -0.9**
SBF Sospel 91.09 320 *eP* **P** **18 47 43.3 -0.9**
comp=Z,21nm,1.0s
LOR Lormes 91.14 324 *eP* **P** **18 47 43.6 -0.7**
comp=Z,18nm,1.3s
ORIF Oris-en-Rattie 91.40 321 *eP* **P** **18 47 45.3 -0.3**
comp=Z,8.6nm,0.9s
SMF Signal de Mont 91.53 323 *eP* **P** **18 47 45.6 -0.5**
comp=Z,12nm,0.9s
AVF Avril sur Loir 91.70 324 *eP* **P** **18 47 46.4 -0.5**
comp=Z,15nm,1.2s
VIVF Saint-Julien-l 92.13 321 *eP* **P** **18 47 48.6 -0.3**
comp=Z,5.8nm,0.9s
LDF La Druitiere 92.40 326 *eP* **P** **18 47 48.9 -1.2**
FLN La Foliniere 92.48 327 *eP* **P** **18 47 50.3 -0.1**
CAF Calviac 93.56 323 *eP* **P** **18 47 55.7 +0.2**
comp=Z,5.9nm,0.8s
RJF Les Rejaudoux 93.63 323 *eP* **P** **18 47 56.1 +0.3**
ROSF Rostrenen 94.15 328 *eP* **P** **18 47 57.3 -0.8**
comp=Z,67nm,1.6s
NVAR Mina Array Bea 95.42 44 P **P** **18 48 05.6 +1.1**
NVAR Mina Array Bea 95.42 44 P **P** **18 48 05.6 +1.1**
comp=Z,0.8nm,0.7s,baz=286,slow=5.7,SNR=6.0
VNA2 Neumayer--Watz 124.90 198 *e*PKPdf **PKPdf** **18 53 38.8 +0.3**
VNA2 Neumayer--Watz 124.90 198 *el* pPKPdf 18 53 50.6 +2.5

---

*IDC **18** 18:40:47.5±3.4, 41°.91N×145°.06E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/25, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=81.0km s-min=53.6km az=55.0*
*JMA **18** 18:40:54.4±0.1, 41°.94N×144°.44E, h41km±2km, M3.3*
ISC 18 18:40:53.8±3.8, 41°.9N±0°.1×144°.5E±0°.1, h25km±21km, n11, σ0°86/17, mb3.3/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.00**	**275**	P	**Pn**	**18 41 11.9**	**-0.4**
JEM				*eS*	**Sb**	**18 41 25.5**	**+0.3**
JAK	**Akkeshi**	**1.07**	**8**	P	**Pn**	**18 41 13.1**	**-0.1**
JAK				*eS*	**Sn**	**18 41 28.0**	**+0.7**
JCH	**Churui**	**1.08**	**309**	P	**Pn**	**18 41 12.9**	**-0.5**
JCH				*eS*	**Sn**	**18 41 27.6**	**0.0**
JOB	**Onbets**	**1.08**	**333**	P	**Pn**	**18 41 13.3**	**-0.1**
JOB				*eS*	**Sb**	**18 41 28.5**	**+0.9**
JNBK	**Urakawa-nobuka**	**1.34**	**285**	P	**Pn**	**18 41 17.0**	**0.0**
JAR	**Ashorobuto**	**1.46**	**339**	P	**Pn**	**18 41 17.9**	**-0.8**
JAR				*eS*	**Sn**	**18 41 37.2**	**+0.2**
ASAJ	**Asahikawa**	**2.59**	**328**	Pn	**Pn**	**18 41 35.3**	**+1.2**
ASAJ	1.2nm,0.3s,baz=164,slow=12,SNR=14			Sn	**Sb**	**18 42 09.2**	**-1.6**
SONM	**Songino Array**	**27.43**	**296**	P	**P**	**18 46 38.1**	**+0.5**
	2.9nm,0.3s,baz=98,slow=31,SNR=4.1						
	0.3nm,0.5s,baz=91,slow=9.0,SNR=4.8						
MKAR	**Makanchi Array**	**43.71**	**298**	P	**P**	**18 48 58.1**	**+1.3**
	0.2nm,0.5s,baz=86,slow=6.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.02**	**305**	P	**P**	**18 49 06.6**	**-0.5**
	0.2nm,0.5s,baz=71,slow=9.1,SNR=5.7						
FINES	**FINESS Array B**	**65.59**	**332**	P	**P**	**18 51 34.0**	**-1.0**
	1.2nm,0.8s,baz=54,slow=7.1,SNR=5.4						

---

*IDC **18** 18:42:40.0±1.1, 23°.40N×123°.43E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.3/25, mbtmp3.3/7, ML3.2/1, Error ellipse: s-maj=36.7km s-min=20.7km az=75.0*
*ISCJB **18** 18:42:42.6±0.7, 23°.34N±0°.05×123°.50E±0°.08, h30km, mb3.1/6, Error ellipse: s-maj=10.1km s-min=7.1km az=13.9*
*JMA **18** 18:42:44.5±0.3, 23°.42N×123°.54E, h49km±4km, M2.7*
ISC 18 18:42:44.4±1.0, 23°.43N±0°.07×123°.52E±0°.08, h30km, n16, σ0°55/20, mb3.1/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.68**	**23**	P	**Pn**	**18 42 58.0**	**+0.1**
HATJ				*eS*	**Sn**	**18 43 07.7**	**+0.3**
JKRS	**Kuro-shima**	**0.92**	**29**	P	**Pb**	**18 43 01.7**	**-0.1**
IRIF	**Iriomote-Funau**	**0.92**	**12**	P	**Pb**	**18 43 01.5**	**-0.3**
IRIF				*eS*	**Sb**	**18 43 14.1**	**+0.4**
JIJ	**Ishigaki jima**	**1.09**	**31**	P	**Pn**	**18 43 03.6**	**0.0**
JIJ				S	**Sn**	**18 43 17.0**	**-0.7**
YOJ	**Yonaguni jima**	**1.13**	**336**	P	**Pn**	**18 43 04.4**	**+0.3**
YOJ				S	**Sb**	**18 43 19.4**	**-0.2**
JTJ	**Tarama**	**1.62**	**42**	P	**Pn**	**18 43 11.2**	**+0.3**
JMJ	**Miyako jima 2**	**2.13**	**49**	P	**Pn**	**18 43 18.4**	**+0.6**
JOGS	**Gusukube**	**2.17**	**52**	P	**Pn**	**18 43 18.8**	**+0.3**
JKE	**Kume jima 2**	**4.14**	**45**	P	**Pn**	**18 43 44.0**	**-1.5**
MJAR	**Matsushiro Arr**	**18.21**	**41**	P	**P**	**18 46 56.0**	**+1.1**
	0.1nm,0.3s,baz=230,slow=9.5,SNR=4.0						
SONM	**Songino Array**	**27.92**	**335**	P	**P**	**18 48 31.9**	**-0.1**
	0.1nm,0.4s,baz=148,slow=8.7,SNR=4.1						
PETK	**Petropavlovsk-**	**39.32**	**32**	P	**P**	**18 50 10.8**	**+0.1**
	0.6nm,0.6s,baz=268,slow=4.3,SNR=4.3						
MKAR	**Makanchi Array**	**40.37**	**316**	P	**P**	**18 50 19.3**	**-0.2**
	0.1nm,0.4s,baz=99,slow=8.9,SNR=2.3						
KURBB	**Kurchatov Arra**	**44.06**	**320**	P	**P**	**18 50 49.2**	**-0.3**
	0.1nm,0.4s,baz=114,slow=9.8,SNR=4.4						
WRA	**Warramunga Arr**	**44.38**	**165**	P	**P**	**18 50 52.5**	**+0.2**
	0.4nm,0.8s,baz=345,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**47.89**	**167**	P	**P**	**18 51 19.6**	**-0.3**
	0.2nm,0.5s,baz=351,slow=8.5,SNR=9.6						

MEX 18 18:59:38.7±0.7, 16°.56N×94°.79W, h96km±9km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.54**	**350**	*iP*	Pn	18 59 53.3	-1.1
CMIG				*eS*	Sn	19 00 03.9	-2.1
HUIG	**Huatulco**	**1.49**	**238**	*iP*	Pn	19 00 02.9	-1.8
HUIG				*iS*	Sn	19 00 22.9	-1.4
TUIG	**Tuzandepetl**	**1.51**	**13**	*eP*	Pn	19 00 03.9	-1.0
TUIG				*iS*	Sn	19 00 22.5	-2.1
TGIG		**1.61**	**82**	*eP*	Pn	19 00 04.7	-1.5
TGIG				*iS*	Sn	19 00 25.0	-2.2
PCIG		**1.73**	**119**	*eP*	Pn	19 00 06.7	-1.0
PCIG				*iS*	Sn	19 00 28.8	-0.9
CCIG	**Comitan**	**2.56**	**96**	*eP*	Pn	19 00 17.8	-0.9
CCIG				*iS*	Sn	19 00 47.3	-2.2
THIG		**2.94**	**124**	*iP*	Pn	19 00 22.9	-0.5
THIG				*iS*	Sn	19 00 57.0	-1.0
UTMO	**Huajuapan**	**3.15**	**294**	*eP*	Pn	19 00 26.2	-0.4
UTMO				*iS*	Sn	19 01 01.9	-1.6
PNIG	**Pinotepa**	**3.21**	**267**	*iP*	Pn	19 00 26.7	-0.5
PNIG				*eS*	Sn	19 01 03.9	-0.7

---

*IDC **18** 19:01:57.0±1.1, 23°.46N×123°.48E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/26, mbtmp3.7/10, ML3.5/3, Error ellipse: s-maj=28.5km s-min=23.4km az=87.0*
*JMA **18** 19:02:00.4±0.2, 23°.45N×123°.54E, h51km±3km, M3.4*
ISC 18 19:01:57.5±3.8, 23°.46N±0°.08×123°.57E±0°.07, h5km±24km, n22, σ0°99/28, mb3.7/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.64**	**20**	P	**Pn**	**19 02 13.6**	**+0.4**
HATJ				*eS*	**Sn**	**19 02 23.3**	**-0.4**
JKRS	**Kuro-shima**	**0.88**	**28**	P	**Pn**	**19 02 17.2**	**+0.7**
JKRS				*eS*	**Sn**	**19 02 29.1**	**-0.6**
IRIF	**Iriomote-Funau**	**0.89**	**10**	P	**Pn**	**19 02 17.0**	**+0.3**
IRIF				*eS*	**Sn**	**19 02 29.1**	**-0.8**
JIJ	**Ishigaki jima**	**1.05**	**30**	P	**Pn**	**19 02 19.2**	**+0.3**
JIJ				*eS*	**Sb**	**19 02 32.7**	**+0.5**
YOJ	**Yonaguni jima**	**1.12**	**333**	P	**Pn**	**19 02 20.1**	**+0.2**
YOJ				*eS*	**Sb**	**19 02 34.0**	**-0.3**
JTJ	**Tarama**	**1.57**	**41**	P	**Pb**	**19 02 26.8**	**-0.3**
JMJ	**Miyako jima 2**	**2.08**	**49**	P	**Pn**	**19 02 34.1**	**+1.1**
JOGS	**Gusukube**	**2.12**	**52**	P	**Pn**	**19 02 34.0**	**+0.3**
JKE	**Kume jima 2**	**4.09**	**45**	P	**Pn**	**19 02 59.8**	**-0.9**
JAMN	**Amaminishikomi**	**6.95**	**45**	P	**Pn**	**19 03 37.7**	**-2.3**
JMZ	**Minamidaito 2**	**7.35**	**70**	P	**Pn**	**19 03 43.2**	**-2.3**
JNU	**Nakatsue**	**11.58**	**32**	Pn	**Pn**	**19 04 42.5**	**-1.1**
	0.3nm,0.3s,baz=206,slow=12,SNR=3.7						
KSRS	**Korea Array**	**14.45**	**14**	Pn	**Pn**	**19 05 22.6**	**-0.1**
	0.2nm,0.3s,baz=188,slow=14,SNR=2.9						
MJAR	**Matsushiro Arr**	**18.16**	**41**	P	**P**	**19 06 12.6**	**+1.7**
	0.2nm,0.3s,baz=228,slow=9.5,SNR=12						
ASAJ	**Asahikawa**	**25.86**	**33**	P	**P**	**19 07 30.1**	**+0.1**
	1.4nm,0.5s,baz=238,slow=19,SNR=4.4						
SONM	**Songino Array**	**27.92**	**335**	P	**P**	**19 07 47.8**	**-0.8**
	0.2nm,0.6s,baz=142,slow=9.0,SNR=2.6						
MKAR	**Makanchi Array**	**40.38**	**316**	P	**P**	**19 09 36.2**	**-0.1**
	0.3nm,0.4s,baz=102,slow=9.5,SNR=7.8						
MKAR				PcP	**PcP**	**19 11 39.2**	**-0.3**
	0.3nm,0.8s,baz=94,slow=4.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.05**	**326**	P	**P**	**19 09 51.1**	**+1.2**
	0.2nm,0.3s,baz=108,slow=3.3,SNR=2.2						
WRA	**Warramunga Arr**	**44.40**	**165**	P	**P**	**19 10 09.6**	**+0.4**
	0.8nm,0.9s,baz=347,slow=9.1,SNR=3.1						
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**19 13 03.8**	**+1.0**
	0.4nm,0.5s,baz=264,slow=5.0,SNR=6.3						
FINES	**FINESS Array B**	**73.17**	**330**	P	**P**	**19 13 29.1**	**+0.1**
	1.9nm,0.9s,baz=42,slow=4.5,SNR=4.4						
GERES	**GERESS Array B**	**84.78**	**321**	P	**P**	**19 14 32.1**	**-1.0**
	0.6nm,0.8s,baz=30,slow=6.2,SNR=4.1						

---

*IDC **18** 19:05:53.5±2.1, 7°.65S×127°.90E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.2/18, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=131.2km s-min=33.3km az=64.0*
*ISCJB **18** 19:06:03.6±0.7, 7°.38S±0°.04×129°.63E±0°.06, h79km, mb3.4/1, Error ellipse: s-maj=9.1km s-min=5.4km az=4.5*
*AUST **18** 19:06:06.7, 7°.48S×129°.54E, h35km*
ISC 18 19:06:05.6±1.0, 7°.41S±0°.06×129°.65E±0°.08, h79km, n12, σ2°20/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.54**	**60**	P	Pn	19 07 03.0	+4.8
	baz=3.7,SNR=7.1						
FAKI	**Fak Fak**	**5.16**	**30**	P	**Pn**	**19 07 19.5**	**-0.8**
	baz=5.3,SNR=11						
MTN	**Manton Dam**	**5.59**	**165**	P	Pn	19 07 30.7	+4.4
	baz=5.6,SNR=14						
MTN				S	**Sn**	**19 08 32.6**	**+3.3**
	baz=5.6,SNR=7.0						
SOEI	**Soe**	**5.81**	**246**	P	**Pn**	**19 07 31.3**	**+1.9**
	baz=5.7,SNR=4.5						
SOEI				S	**Sn**	**19 08 34.5**	**-0.3**
	baz=5.7,SNR=4.6						
KDU	**Kakadu**	**5.94**	**152**	P	Pn	19 07 35.2	+4.2
	baz=6.0,SNR=19						
KDU				S	**Sn**	**19 08 39.8**	**+2.2**
	baz=6.0,SNR=8.7						
SWI	**Sorong**	**6.70**	**14**	P	**Pn**	**19 07 43.1**	**+1.7**
	baz=6.8,SNR=4.3						
SWI				S	**Sn**	**19 08 54.9**	**-1.4**
	baz=6.8,SNR=4.2						
KNRA	**Kununurra**	**8.26**	**186**	P	**Pn**	**19 08 04.3**	**+1.6**
	baz=8.2,SNR=36						
KNRA				S	**Sn**	**19 09 34.3**	**-0.3**
	baz=8.2,SNR=6.4						
FITZ	**Fitzroy Crossi**	**11.32**	**200**	P	**Pn**	**19 08 43.4**	**-1.1**
	baz=11,SNR=15						
WRA	**Warramunga Arr**	**13.26**	**160**	Pn	**Pn**	**19 09 08.4**	**-2.4**
	0.3nm,0.3s,baz=331,slow=10,SNR=22						
WRA				Sn	Sn	19 11 31.1	-5.4
	0.7nm,0.3s,baz=329,slow=23,SNR=9.7						
ASAR	**Alice Springs**	**16.67**	**166**	Pn	**Pn**	**19 09 53.2**	**-1.2**
	0.0nm,0.3s,baz=346,slow=14,SNR=3.0						
ASAR				Sn	**Sn**	**19 12 55.2**	**-4.0**
	0.2nm,0.3s,baz=346,slow=25,SNR=6.2						
MTSU	**Mount Surprise**	**17.82**	**128**	S	**Sn**	**19 13 28.1**	**+1.1**
	baz=18,SNR=5.8						
MKAR	**Makanchi Array**	**68.38**	**327**	P	P	19 16 52.3	-6.5
	0.3nm,0.5s,baz=141,slow=7.1,SNR=4.1						

IDC 18 19:07:14.9±4.1, 1°.85S×99°.29E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=163.4km s-min=31.0km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.18**	**359**	P	Pn	19 11 52.6	-0.5
	0.2nm,0.3s,baz=185,slow=8.8,SNR=3.1						

WRA	**Warramunga Arr**	**38.68 120**	P	P	19 14 40.7	-0.1
	0.6nm,1.0s,baz=303,slow=9.0,SNR=2.7					
MKAR	**Makanchi Array**	**50.70 345**	P	P	19 16 14.5	-1.9
	0.3nm,0.6s,baz=142,slow=7.6,SNR=4.9					
ZALV	**Zalesovo Beam**	**56.90 350**	P	P	19 17 02.6	+1.1
	0.2nm,0.3s,baz=164,slow=5.7,SNR=3.6					

GUC 18 19:30:28.2±0.6, 20°.84S×69°.25W, h110km±4km, ML3.8, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.30**	**228**	⇓*e*P		Pn 19 30 44.4	+0.3
PB01				*e*S		Sn 19 30 56.5	+0.5
PB01				AML	AML	19 30 57.2	
	comp=E,25μm,0.2s						
HMBC	**Humberstone**	**0.82**	**313**	⇓*i*P		Pn 19 30 48.4	+0.5
HMBC				*i*S		Sn 19 31 03.4	+0.8
HMBC				AML	AML	19 31 04.8	
	comp=E,3μm,0.4s						
PB09	**Plate Boundary**	**0.95**	**179**	*e*P		Pn 19 30 49.6	+0.5
PB09				*e*S		Sn 19 31 05.7	+0.8
PB09				AML	AML	19 31 07.9	
	comp=E,5μm,0.2s						
PB07	**Plate Boundary**	**1.06**	**214**	⇑*i*P		Pn 19 30 51.1	+0.8
PB07				*e*S		Sn 19 31 07.7	+0.7
PB07				AML	AML	19 31 09.3	
	comp=E,2μm,0.5s						
PB04	**Plate Boundary**	**1.43**	**189**	*e*P		Pn 19 30 58.2	+4.0
PB04				AML	AML	19 31 25.6	
	comp=N,389nm,0.3s						
MNMC	**Minimini**	**1.73**	**349**	*e*P		Pn 19 30 58.8	+0.5
MNMC				*i*S		Sn 19 31 22.1	+1.0
MNMC				AML	AML	19 31 24.1	
	comp=N,1μm,0.2s						
PB10	**Plate Boundary**	**2.92**	**204**	AML	AML	19 31 45.4	
	comp=E,236nm,0.2s						

IDC 18 19:44:39.8±4.0, 1°.41S×99°.87E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=184.0km s-min=27.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.77**	**357**	P	P	19 49 11.6	0.0
	0.1nm,0.3s,baz=190,slow=9.9,SNR=3.4						
ASAR	**Alice Springs**	**39.71**	**127**	P	P	19 52 14.2	-0.1
	0.4nm,0.8s,baz=298,slow=7.8,SNR=6.2						
MKAR	**Makanchi Array**	**50.43**	**344**	P	P	19 53 39.1	-0.1
	0.6nm,0.7s,baz=148,slow=7.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**56.57**	**349**	P	P	19 54 24.0	-0.1
	0.9nm,0.6s,baz=160,slow=5.5,SNR=5.5						

*IDC **18** 19:46:49.3±0.8, 6°.75S×154°.60E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, Error ellipse: s-maj=29.7km s-min=16.2km az=107.0*
*ISCJB **18** 19:46:54.9±0.5, 6°.66S±0°.07×154°.60E±0°.07, h48km, mb4.0/14, Error ellipse: s-maj=11.2km s-min=8.8km az=36.5*
*AUST **18** 19:46:57.1±1.5, 6°.68S×154°.57E, h49km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=243.0*
ISC 18 19:46:56.7±0.7, 6°.64S±0°.08×154°.6E±0°.1, h48km, n28, σ1§51/32, mb4.0/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.45**	**315**	P	**Pn**	**19 47 48.4**	**+0.4**
	baz=3.5,SNR=3.9						
PMG	**Port Moresby**	**7.88**	**249**	Pn	**Pn**	**19 48 48.7**	**-0.1**
	2.5nm,0.3s,baz=13,slow=9.7,SNR=8.1						
PMG				Sn	**Sn**	**19 50 18.5**	**+1.8**
	baz=332,slow=15,SNR=2.9						
CTA	**Charters Tower**	**15.64**	**210**	Pn	**P**	**19 50 37.1**	**-0.3**
	0.5nm,0.3s,baz=34,slow=13,SNR=11						
RMQ	**Roma**	**20.51**	**195**	P	**P**	**19 51 31.1**	**+0.1**
	baz=21,SNR=7.9						
KDU	**Kakadu**	**22.63**	**253**	P	**P**	**19 51 52.3**	**-1.6**
	baz=23,SNR=5.0						
WRA	**Warramunga Arr**	**23.71**	**234**	P	**P**	**19 52 02.4**	**-2.1**
	5.9nm,0.5s,baz=56,slow=9.6,SNR=53						
WRA				PcP	**PcP**	**19 55 47.6**	**-0.2**
	0.7nm,0.8s,baz=56,slow=2.5,SNR=4.7						
WRA				ScP	**ScP**	**19 59 25.9**	**+3.6**
	0.6nm,0.8s,baz=256,slow=34,SNR=4.7						
SWI	**Sorong**	**24.00**	**283**	P	**P**	**19 52 06.9**	**-0.3**
	baz=24,SNR=3.3						
LHI	**Lord Howe Isla**	**25.10**	**171**	P	**P**	**19 52 18.8**	**+1.8**
	baz=25,SNR=4.8						
ASAR	**Alice Springs**	**26.13**	**227**	P	**P**	**19 52 24.6**	**-1.9**
	3.3nm,0.9s,baz=59,slow=8.4,SNR=29						
ASAR				ScP	**ScP**	**19 59 33.5**	**+4.4**
	1.8nm,1.1s,baz=57,slow=3.4,SNR=6.5						
CMSA	**Cobar Meteorol**	**26.14**	**198**	P	**P**	**19 52 26.5**	**0.0**
	baz=26,SNR=6.3						
KNRA	**Kununurra**	**26.88**	**248**	P	**P**	**19 52 32.9**	**-0.4**
	baz=27,SNR=10						
STKA	**Stephens Creek**	**27.90**	**204**	P	**P**	**19 52 39.9**	**-2.3**
	2.5nm,0.5s,baz=33,slow=14,SNR=14						
STKA	**Stephens Creek**	**27.90**	**204**	P	**P**	**19 52 43.3**	**+1.0**
	baz=28,SNR=8.1						
FITZ	**Fitzroy Crossi**	**30.46**	**245**	P	**P**	**19 53 03.6**	**-1.6**
	5.4nm,0.7s,baz=95,slow=6.3,SNR=15						
FITZ	**Fitzroy Crossi**	**30.46**	**245**	P	**P**	**19 53 04.1**	**-1.1**
	baz=30,SNR=8.3						
MEEK	**Meekatharra**	**39.60**	**236**	P	**P**	**19 54 24.9**	**+1.1**
	baz=40,SNR=4.1						
KSRS	**Korea Array**	**50.45**	**332**	P	**P**	**19 55 49.2**	**-0.5**
	0.7nm,0.6s,baz=152,slow=7.1,SNR=4.2						
PETK	**Petropavlovsk-**	**59.58**	**2**	P	**P**	**19 56 56.4**	**+1.0**
	5.2nm,0.9s,baz=167,slow=7.4,SNR=8.5						
CMAR	**Chiang Mai Arr**	**60.30**	**296**	P	**P**	**19 57 00.8**	**-0.1**
	1.6nm,0.8s,baz=117,slow=5.4,SNR=13						
SONM	**Songino Array**	**68.84**	**327**	P	**P**	**19 57 56.3**	**0.0**
	0.3nm,0.7s,baz=131,slow=5.3,SNR=3.7						
VNDA	**Vanda**	**70.94**	**178**	P	**P**	**19 58 08.3**	**-0.3**
	0.5nm,0.7s,baz=347,slow=2.8,SNR=3.8						
MKAR	**Makanchi Array**	**82.89**	**319**	P	**P**	**19 59 16.8**	**+0.3**
	1.2nm,0.8s,baz=105,slow=5.4,SNR=14						
ILAR	**Eielson Array**	**83.19**	**22**	P	**P**	**19 59 17.2**	**-0.3**
	0.3nm,0.6s,baz=252,slow=5.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**83.38**	**326**	P	**P**	**19 59 18.9**	**-1.3**
	0.8nm,0.5s,baz=97,slow=6.1,SNR=4.9						
MAW	**Mawson**	**84.58**	**203**	P	**P**	**19 59 23.4**	**-1.2**
	1.4nm,0.6s,baz=98,slow=6.8,SNR=11						
MAW	**Mawson**	**84.58**	**203**	P	**P**	**19 59 24.8**	**+0.2**
	baz=84,SNR=12						
NVAR	**Mina Array Bea**	**91.80**	**52**	P	**P**	**19 59 59.7**	**-0.4**
	0.2nm,0.3s,baz=258,slow=7.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**152.57**	**286**	PKPbc	**PKPbc**	**20 06 48.5**	**-0.5**
	3.0nm,0.8s,baz=94,slow=2.3,SNR=17						

IDC 18 19:51:01.9±2.9, 1°.01S×97°.97E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=85.4km s-min=21.3km az=67.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.90**	**14**	Pn	Pn	19 52 00.5	-2.8
	1.5nm,0.3s,baz=167,slow=14,SNR=4.1						
CMAR	**Chiang Mai Arr**	**19.37**	**3**	P	Pn	19 55 29.9	-0.5
	0.1nm,0.3s,baz=191,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**40.24**	**120**	P	P	19 58 40.5	-0.3
	0.8nm,0.8s,baz=302,slow=9.0,SNR=6.0						
ASAR	**Alice Springs**	**41.47**	**126**	P	P	19 58 50.9	-0.1
	0.2nm,0.6s,baz=293,slow=7.9,SNR=9.0						
KSRS	**Korea Array**	**47.25**	**33**	P	P	19 59 36.9	+0.1
	0.7nm,0.6s,baz=224,slow=8.5,SNR=3.2						
SONM	**Songino Array**	**49.20**	**7**	P	P	19 59 52.1	+0.1
	0.4nm,0.5s,baz=193,slow=8.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.85**	**351**	P	P	20 00 40.5	-0.5
	0.9nm,0.6s,baz=164,slow=6.4,SNR=4.0						

IDC 18 19:54:04.4±2.5, 0°.91S×97°.89E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, ML3.6/2, Error ellipse: s-maj=83.2km s-min=20.8km az=63.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.83**	**16**	Pn	Pn	19 55 03.2	-1.5
	2.7nm,0.3s,baz=196,slow=5.9,SNR=5.4						
CMAR	**Chiang Mai Arr**	**19.27**	**3**	P	P	19 58 30.1	-0.7
	0.1nm,0.3s,baz=192,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**40.36**	**120**	P	P	20 01 43.5	-0.8
	0.9nm,0.8s,baz=302,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**41.60**	**126**	P	P	20 01 55.0	+0.4
	0.3nm,0.6s,baz=296,slow=7.9,SNR=7.0						
SONM	**Songino Array**	**49.11**	**8**	P	P	20 02 54.8	+0.9
	0.1nm,0.4s,baz=203,slow=9.4,SNR=3.0						
MKAR	**Makanchi Array**	**49.44**	**346**	P	P	20 02 55.6	-0.6
	0.4nm,0.6s,baz=159,slow=7.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**55.73**	**351**	P	P	20 03 42.8	+0.1
	0.3nm,0.4s,baz=156,slow=7.3,SNR=3.4						

IDC 18 19:59:39.9±1.3, 1°.97N×126°.99E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=101.7km s-min=18.1km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.99**	**184**	P	P	20 04 14.3	+0.1
	0.1nm,0.3s,baz=7.0,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**22.94**	**162**	P	P	20 04 45.5	-0.5
	1.1nm,0.4s,baz=340,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.36**	**166**	P	P	20 05 18.2	+0.2
	0.8nm,0.7s,baz=347,slow=9.4,SNR=11						
SONM	**Songino Array**	**49.04**	**342**	P	P	20 08 28.2	-0.6
	0.1nm,0.4s,baz=142,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**59.14**	**326**	P	P	20 09 42.5	0.0
	0.5nm,0.4s,baz=121,slow=7.9,SNR=22						
MKAR				PcP	PcP	20 10 31.5	+0.3
	0.2nm,0.4s,baz=108,slow=5.3,SNR=2.4						

IDC 18 20:05:09.5±2.9, 6°.79S×154°.84E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=85.5km s-min=34.8km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.80**	**235**	P	P	20 10 23.8	-0.4
	0.6nm,0.4s,baz=55,slow=9.3,SNR=8.1						
ASAR	**Alice Springs**	**26.19**	**228**	P	P	20 10 45.8	-0.2
	0.4nm,0.7s,baz=56,slow=9.7,SNR=6.5						
CMAR	**Chiang Mai Arr**	**60.56**	**296**	P	P	20 15 23.5	+1.2
	0.5nm,0.3s,baz=118,slow=4.8,SNR=4.9						
MKAR	**Makanchi Array**	**83.15**	**319**	P	P	20 17 37.6	+0.1
	0.5nm,0.7s,baz=103,slow=4.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**152.82**	**286**	PKPbc	PKPbc	20 25 08.8	-0.8
	1.2nm,0.7s,baz=85,slow=2.1,SNR=9.6						

*ISCJB **18** 20:06:57.7±0.3, 18°.02N±0°.03×101°.68W±0°.02, h55km±3km, mb4.5/33, MS4.3/2, Error ellipse: s-maj=4.8km s-min=3.1km az=9.0*
*IDC **18** 20:06:58.8±0.8, 18°.17N×101°.45W, h49km±6km, mb4.0/16, mb1 4.2/16, mb1mx4.1/25, mbtmp4.0/16, MS4.1/3, Ms1 4.1/3, ms1mx3.4/28, Error ellipse: s-maj=27.1km s-min=14.0km az=59.0*
*MEX **18** 20:06:59.2±0.6, 18°.06N×101°.67W, h9km±5km, MD4.4*
ISC 18 20:06:58.8±0.5, 18°.03N±0°.04×101°.68W±0°.03, h53km±4km, h53km:pP-P, n75, σ1§23/110, mb4.5/33, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.47**	**154**	*i*P	**Pn**	**20 07 07.9**	**-2.0**
ZIIG				*i*S	**Sn**	**20 07 15.7**	**-2.1**
URUA	**Uruapan**	**1.44**	**345**	*e*P	**Pn**	**20 07 22.1**	**-0.5**
URUA				*i*S	**Sn**	**20 07 38.4**	**-2.2**
MMIG	**Aquila**	**1.61**	**280**	*i*P	**Pn**	**20 07 24.1**	**-0.7**
MMIG				*e*S	**Sn**	**20 07 43.6**	**-0.8**
CAIG	**El Cayaco**	**1.66**	**126**	*i*P	**Pn**	**20 07 25.7**	**+0.1**
CAIG				*e*S	**Sn**	**20 07 45.3**	**-0.5**
MOIG	**Morelia**	**1.70**	**16**	*i*P	**Pn**	**20 07 25.9**	**-0.5**
MOIG				*e*S	**Sn**	**20 07 46.0**	**-1.1**
MEIG	**Mezcala**	**1.96**	**93**	*i*P	**Pn**	**20 07 28.8**	**-0.9**
MEIG				*i*S	**Sn**	**20 07 52.7**	**-0.5**
ACP2	**Acapulco**	**2.06**	**124**	*i*P	**Pn**	**20 07 32.0**	**+1.0**
ACX	**Acapulco**	**2.08**	**123**	*i*P	**Pn**	**20 07 31.8**	**+0.4**
PLIG	**Platanillo**	**2.10**	**80**	*i*P	**Pn**	**20 07 30.8**	**-0.8**
PLIG				*i*S	**Sn**	**20 07 56.3**	**-0.3**
TOVM	**TOLUCA**	**2.27**	**56**	*e*P	**Pn**	**20 07 34.1**	**-0.1**
TOVM				*i*S	**Sn**	**20 08 01.2**	**+0.1**
EZ5V		**2.32**	**309**	*i*P	**Pn**	**20 07 35.2**	**+0.4**
EZ5V				*e*S	**Sn**	**20 08 02.2**	**-0.2**
ATVM	**ATLACOMULCO**	**2.45**	**45**	*e*P	**Pn**	**20 07 37.0**	**+0.4**
ATVM				*i*S	**Sn**	**20 08 04.0**	**-1.5**
R15V		**2.46**	**298**	*i*P	**Pn**	**20 07 36.9**	**+0.4**
R15V				*e*S	**Sn**	**20 08 05.8**	**+0.3**
SZVM	**Salazar**	**2.53**	**59**	*e*P	**Pn**	**20 07 37.9**	**+0.1**
SZVM				*i*S	**Sn**	**20 08 06.2**	**-1.4**
MZVM		**2.59**	**63**	*e*P	**Pn**	**20 07 38.6**	**+0.4**
MZVM				*i*S	**Sn**	**20 08 10.2**	**+1.6**
UNM	**Universidad Na**	**2.70**	**61**	*i*P	**Pn**	**20 07 40.7**	**+0.7**
UNM				*e*S	**Sn**	**20 08 12.8**	**+1.2**
PBVM	**Pinon**	**2.83**	**60**	*i*P	**Pn**	**20 07 40.8**	**-0.7**
PBVM				*i*S	**Sn**	**20 08 13.7**	**-0.8**
VCVM	**Valle de Chalc**	**2.87**	**64**	*i*P	**Pn**	**20 07 40.4**	**-1.9**
PTVM	**Pico Tres Padr**	**2.88**	**57**	*e*P	**Pn**	**20 07 42.1**	**-0.4**
PTVM				*i*S	**Sn**	**20 08 15.8**	**-0.4**
AMVM	**AMECAMECA**	**2.96**	**68**	*e*P	**Pn**	**20 07 43.1**	**-0.4**
AMVM				*i*S	**Sn**	**20 08 17.2**	**-0.7**
ZUVM	**ZUMPANGO**	**3.04**	**54**	*i*P	**Pn**	**20 07 45.3**	**+0.6**
ZUVM				*i*S	**Sn**	**20 08 21.1**	**+1.0**
PPM	**Popocatepetl**	**3.07**	**70**	*i*S	**Sn**	**20 08 22.9**	**+1.8**
IIO	**Organos**	**3.20**	**61**	*e*P	**Pn**	**20 07 46.6**	**-0.3**
IIO				*i*S	**Sn**	**20 08 24.7**	**+0.6**
VTVM	**Tizayuca**	**3.25**	**57**	*e*P	**Pn**	**20 07 47.2**	**-0.4**
VTVM				*i*S	**Sn**	**20 08 25.9**	**+0.7**
CJM	**Chamela**	**3.51**	**295**	*i*P	**Pn**	**20 07 52.2**	**+1.4**
CJM				*i*S	**Sn**	**20 08 31.9**	**+0.8**
UTMO	**Huajuapan**	**3.69**	**92**	*i*P	**Pn**	**20 07 53.7**	**+0.1**
UTMO				*i*S	**Sn**	**20 08 35.0**	**-1.0**
UTMO				*i*S	**Sn**	**20 08 35.6**	**-0.4**
PNIG	**Pinotepa**	**3.76**	**115**	*i*P	**Pn**	**20 07 55.7**	**+1.4**
PNIG				*e*S	**Sn**	**20 08 39.0**	**+1.5**
TPIG	**Tehuac#an**	**4.12**	**84**	*i*P	**Pn**	**20 07 59.0**	**-0.4**
TPIG				*i*S	**Sn**	**20 08 46.9**	**+0.4**
ZAIG	**Zacatecas**	**4.79**	**350**	*i*P	Pn	20 08 22.5	+14
CMIG	**Matias Romero**	**6.55**	**97**	*i*P	**Pn**	**20 08 32.7**	**+0.1**
CMIG				*e*S	**Sn**	**20 09 43.5**	**-2.4**
TXAR	**Lajitas Array**	**11.40**	**351**	P	**Pn**	**20 09 41.1**	**+2.1**
	baz=167,slow=12,SNR=11						
TXAR				Lg	Lg	20 12 58.7	
	0.1nm,0.3s,baz=158,slow=22,SNR=3.1						
TXAR				LR	LR	20 13 58.6	
	comp=Z,528nm,19.0s,baz=195,slow=37						
ANMO	**Albuquerque**	**17.38**	**347**	P	**P**	**20 10 59.6**	**+1.2**
	0.1nm,0.3s,baz=163,slow=14,SNR=2.7						
JTS	**JuntasAbangare**	**17.94**	**113**	P	**Pn**	**20 11 07.4**	**+2.8**
	0.3nm,0.3s,baz=337,slow=13,SNR=2.9						
TKL	**Tuckaleechee C**	**23.67**	**39**	P	**P**	**20 12 02.3**	**-3.2**
	13nm,0.8s,baz=205,slow=10,SNR=5.9						
NVAR	**Mina Array Bea**	**24.98**	**328**	P	**P**	**20 12 16.9**	**-0.8**
	6.1nm,0.8s,baz=150,slow=9.3,SNR=8.5						
PDAR	**Pinedale Array**	**25.55**	**346**	P	**P**	**20 12 22.7**	**-0.2**
	2.1nm,0.8s,baz=156,slow=8.8,SNR=16						
PDAR				pP	**pP**	**20 12 37.1**	**+0.9**
	1.4nm,0.6s,baz=156,slow=9.5,SNR=7.0						
PDAR				PcP	**PcP**	**20 15 53.2**	**+0.2**
	0.3nm,0.7s,baz=160,slow=5.5,SNR=2.7						
ULM	**Lac du Bonnet**	**32.48**	**7**	P	**P**	**20 13 21.8**	**-2.3**
	5.8nm,0.8s,baz=187,slow=7.8,SNR=5.4						
SCHQ	**Schefferville**	**45.35**	**28**	P	**P**	**20 15 09.2**	**-2.5**
	2.8nm,0.7s,baz=219,slow=14,SNR=3.8						
LPAZ	**La Paz**	**47.48**	**134**	P	**P**	**20 15 29.5**	**0.0**
	1.0nm,0.7s,baz=329,slow=7.3,SNR=6.0						
SIV	**San Ignacio**	**52.37**	**128**	P	**P**	**20 16 05.1**	**-0.8**
	4.1nm,0.8s,baz=319,slow=11,SNR=3.1						
INK	**Inuvik**	**54.12**	**346**	P	**P**	**20 16 18.1**	**+0.2**
	2.0nm,0.8s,baz=134,slow=11,SNR=4.7						
INK				pP	**pP**	**20 16 30.3**	**-2.1**
	2.4nm,0.8s,baz=151,slow=7.1,SNR=3.2						
ILAR	**Eielson Array**	**55.58**	**338**	P	**P**	**20 16 29.2**	**+0.5**
	2.8nm,0.9s,baz=147,slow=6.1,SNR=26						
ILAR				pP	**pP**	**20 16 42.0**	**-1.0**
	0.8nm,0.8s,baz=151,slow=4.1,SNR=4.7						
CPUP	**Villa Florida**	**61.65**	**135**	P	**P**	**20 17 10.8**	**-0.5**
	2.0nm,0.6s,baz=299,slow=10,SNR=5.7						
BDFB	**Brasilia**	**62.56**	**119**	P	**P**	**20 17 17.9**	**+0.1**
	3.3nm,0.6s,baz=306,slow=6.2,SNR=5.4						
EVO	**Evora**	**81.77**	**52**	*e*P	**P**	**20 19 11.4**	**-0.8**
	12nm,1.1s						
EVO				*e*R			
	78nm,22.0s						
PETK	**Petropavlovsk-**	**81.97**	**323**	P	**P**	**20 19 13.9**	**+1.0**
	1.0nm,0.4s,baz=106,slow=8.3,SNR=4.0						
PETK				pP	**pP**	**20 19 27.7**	**-0.4**
	3.0nm,0.8s,baz=92,slow=11,SNR=3.4						
GRR	**Gorron**	**83.67**	**41**	*e*P	**P**	**20 19 22.0**	**+0.2**
	11nm,1.0s						
FLN	**La Foliniere**	**83.78**	**41**	*e*P	**P**	**20 19 22.7**	**+0.3**
	42nm,1.0s						
FLN				*e*R			
	112nm,22.0s						
LDF	**La Druitiere**	**84.06**	**41**	*e*P	**P**	**20 19 23.9**	**+0.1**
	25nm,1.1s						
ESDC	**Sonseca Array**	**84.43**	**50**	P	**P**	**20 19 26.0**	**0.0**
	0.1nm,0.3s,baz=305,slow=4.1,SNR=4.9						
ESDC				sP	**sP**	**20 19 45.3**	**-1.9**
	0.2nm,0.4s,baz=301,slow=4.4,SNR=2.4						
MFF	**Saint Martin d**	**84.74**	**43**	*e*P	**P**	**20 19 27.4**	**+0.1**
	27nm,1.3s						
NB2	**NORSAR Subarra**	**84.92**	**27**	P	**P**	**20 19 28.0**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=304,slow=5.3						
NOA	**NORSAR Array B**	**84.92**	**27**	P	**P**	**20 19 28.0**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=302,slow=4.9,SNR=7.7						
ARCES	**ARCESS Array B**	**85.08**	**16**	P	**P**	**20 19 28.7**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=312,slow=9.5,SNR=4.1						
ETSF	**Etsaut**	**85.77**	**46**	*e*P	**P**	**20 19 32.7**	**+0.1**
	comp=Z,18nm,1.1s						
LFF	**La Frestale**	**85.92**	**44**	*e*P	**P**	**20 19 33.2**	**0.0**
	comp=Z,37nm,1.4s						
BAIF	**Baives**	**86.14**	**38**	*e*P	**P**	**20 19 34.4**	**+0.2**
	comp=Z,17nm,1.1s						
BAIF				*e*pP	**pP**	**20 19 52.6**	**+3.1**
RJF	**Les Rejaudoux**	**86.29**	**44**	*e*P	**P**	**20 19 34.9**	**-0.2**
	comp=Z,7.0nm,0.9s						
RJF				*e*pP	**pP**	**20 19 53.2**	**+2.8**
RJF				*e*R			
	comp=Z,125nm,21.0s						
EPF	**Esparros**	**86.34**	**46**	*e*P	**P**	**20 19 35.1**	**-0.3**
	comp=Z,16nm,1.2s						
EPF				*e*pP	**pP**	**20 19 53.7**	**+3.0**
TCF	**Toulx Ste Croi**	**86.37**	**42**	*e*P	**P**	**20 19 35.2**	**-0.3**
	comp=Z,7.8nm,0.7s						
TCF				*e*pP	**pP**	**20 19 53.5**	**+2.7**
BGF	**Bois d'Agland**	**86.68**	**42**	*e*P	**P**	**20 19 36.5**	**-0.4**
	comp=Z,14nm,0.9s						
CAF	**Calviac**	**86.79**	**44**	*e*P	**P**	**20 19 37.2**	**-0.4**
	comp=Z,3.9nm,0.9s						
SSF	**Saint Saulge**	**86.90**	**41**	*e*P	**P**	**20 19 37.6**	**-0.4**
	comp=Z,6.5nm,0.8s						
SSF				*e*pP	**pP**	**20 19 56.0**	**+2.7**
AVF	**Avril sur Loir**	**86.91**	**42**	*e*P	**P**	**20 19 37.4**	**-0.6**
	comp=Z,5.6nm,0.9s						
LOR	**Lormes**	**87.04**	**41**	*e*P	**P**	**20 19 38.6**	**-0.1**
	comp=Z,11nm,1.0s						
LOR				*e*R			
	comp=Z,105nm,20.5s						
SMF	**Signal de Mont**	**87.27**	**42**	*e*P	**P**	**20 19 39.7**	**-0.1**
MTLF	**Montolieu**	**87.50**	**45**	*e*P	**P**	**20 19 40.8**	**-0.2**
	comp=Z,6.0nm,1.1s						
VIVF	**Saint-Julien-l**	**88.53**	**43**	*e*P	**P**	**20 19 46.7**	**+0.8**
VIVF				*e*pP	**pP**	**20 20 05.0**	**+3.8**
FINES	**FINESS Array B**	**90.58**	**22**	LR	LR	21 02 00.8	
	comp=Z,107nm,19.6s,baz=167,slow=36						
GERES	**GERESS Array B**	**92.20**	**37**	P	**P**	**20 20 02.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=316,slow=3.7,SNR=4.7						
AKASG	**Malin Array Be**	**99.14**	**29**	LR	LR	21 03 49.4	
	comp=Z,123nm,20.0s,baz=310,slow=34						
WRA	**Warramunga Arr**	**127.20**	**258**	PKP	**PKPdf**	**20 25 58.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=79,slow=2.0,SNR=9.9						
ASAR	**Alice Springs**	**128.02**	**254**	PKP	**PKPdf**	**20 25 59.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=138,slow=2.1,SNR=6.4						
MAW	**Mawson**	**129.46**	**172**	PKP	**PKPdf**	**20 26 01.2**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=288,slow=7.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**138.46**	**330**	PKP	**PKPdf**	**20 26 19.9**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=263,slow=1.1,SNR=4.7						

**IDC 18 20:07:39.2±2.6, 19°.03N×109°.36W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4

UTMO				*i* S		**Sn**	**20 13 52.4 +2.2**
PNIG	**Pinotepa**	**3.79**	**114**	*i* P		**Pn**	**20 13 07.6 -0.2**
PNIG				*i* S		**Sn**	**20 13 51.5 +0.4**
TKL	**Tuckaleechee C**	**23.73**	**39**	P		P	20 17 13.9 -6.0
	2.1nm,0.4s,baz=199,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**24.99**	**328**	P		**P**	**20 17 32.5 +0.9**
	1.8nm,0.7s,baz=142,slow=9.1,SNR=13						
NVAR				pP		pP	**20 17 44.8 +1.4**
	0.7nm,0.6s,baz=142,slow=8.9,SNR=3.9						
PDAR	**Pinedale Array**	**25.58**	**347**	P		**P**	**20 17 36.4 -0.6**
	0.4nm,0.8s,baz=152,slow=9.6,SNR=4.5						
PDAR				pP		**pP**	**20 17 49.9 +1.1**
	0.6nm,0.6s,baz=139,slow=9.2,SNR=2.6						
ROSC	**El Rosal**	**29.79**	**113**	LR		LR	20 28 33.3
	comp=Z,131nm,21.9s,baz=189,slow=34						
ILAR	**Eielson Array**	**55.60**	**338**	P		**P**	**20 21 42.0 -0.8**
	0.7nm,0.9s,baz=141,slow=5.8,SNR=6.7						
ILAR				pP		**pP**	**20 21 55.6 +0.1**
	0.3nm,0.7s,baz=132,slow=7.4,SNR=3.0						
ILAR				sP		**sP**	**20 22 00.5 -0.1**
	0.5nm,0.8s,baz=146,slow=5.4,SNR=4.5						
BDFB	**Brasilia**	**62.58**	**119**	LR		LR	20 47 37.6
	comp=Z,102nm,21.5s,baz=53,slow=34						

*IDC **18** 20:14:05.1±2.2, 14.°14N×93.°01E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.3/4, ML4.0/1, Error ellipse: s-maj=63.9km s-min=29.4km az=68.0*
*ISCJB **18** 20:14:06.9±1.0, 14.°4N±0.°1×93.°06E±0.°09, h33km, mb3.4/3, Error ellipse: s-maj=16.0km s-min=9.7km az=32.3*

ISC 18 20:14:09.0±1.5, 14.°4N±0.°1×93.°0E±0.°1, h35km, n14, σ1938/14, mb3.5/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.99**	**54**	Pn	**Pn**	**20 15 50.7**	**+1.7**
	0.6nm,0.3s,baz=242,slow=16,SNR=5.2						
CMAR				Sn	**Sn**	**20 17 04.7**	**-2.6**
	0.7nm,0.3s,baz=242,slow=26,SNR=6.6						
ODAN	**Odare**	**13.46**	**338**	*e*P	**Pn**	**20 17 18.9**	**+1.2**
	39nm,0.2s						
TAPN	**Taplejung**	**13.79**	**340**	*e*P	**Pn**	**20 17 23.9**	**+1.5**
	29nm,0.3s						
RAMN	**Ramite**	**13.84**	**335**	*e*P	**Pn**	**20 17 23.3**	**+0.3**
	28nm,0.3s						
JIRN	**Jiri**	**14.63**	**335**	*e*P	**Pn**	**20 17 33.7**	**-0.2**
	23nm,0.3s						
PKI	**Pulchoki**	**14.89**	**333**	*e*P	**Pn**	**20 17 36.1**	**-1.2**
	44nm,0.5s						
PKIN	**Phulchoki**	**14.90**	**333**	*e*P	**Pn**	**20 17 36.0**	**-1.3**
	42nm,0.4s						
DMN	**Daman**	**15.05**	**332**	*e*P	**Pn**	**20 17 38.5**	**-0.9**
	14nm,0.2s						
KKN	**Kakani**	**15.13**	**333**	*e*P	**Pn**	**20 17 40.0**	**-0.4**
	14nm,0.4s						
KOLN	**Koldanda**	**15.92**	**328**	*e*P	**Pn**	**20 17 49.5**	**-1.1**
	22nm,0.3s						
PYUN	**Piuthan**	**16.50**	**327**	*e*P	**Pn**	**20 17 56.7**	**-1.3**
	22nm,0.3s						
MKAR	**Makanchi Array**	**33.52**	**347**	P	P	20 20 48.8	+3.6
	0.1nm,0.5s,baz=174,slow=8.9,SNR=2.7						
WRA	**Warramunga Arr**	**53.09**	**129**	P	**P**	**20 23 23.1**	**-0.3**
	0.4nm,0.5s,baz=313,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**55.06**	**133**	P	**P**	**20 23 37.7**	**0.0**
	0.3nm,0.5s,baz=309,slow=6.8,SNR=8.9						

*NEIC **18** 20:19:14.1, 19.°28N×65.°68W, h92km, MD3.5(RSPR), After RSPR.*

RSPR 18 20:19:14.1, 19.°28N×65.°68W, h92km±10km, MD3.5/11, 21C-27D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.01**	**190**	⇓*e*P	Pn	20 19 32.1	-2.1
CBYP	**Canovanas**	**1.01**	**190**	*e*S	Sn	20 19 48.4	-0.9
CBYP	**Canovanas**	**1.01**	**190**	⇓*e*P	Pn	20 19 32.1	-2.1
CBYP				*e*S	Sn	20 19 48.4	-0.9
CBYP	**Canovanas**	**1.01**	**190**	⇓*e*P	Pn	20 19 32.1	-2.1
CBYP				*e*S	Sn	20 19 48.4	-0.9
HUMP	**Col San Antoni**	**1.14**	**188**	⇓*e*P	Pn	20 19 34.5	-1.1
HUMP	**Col San Antoni**	**1.14**	**188**	*e*S	Sn	20 19 50.9	-0.9
HUMP	**Col San Antoni**	**1.14**	**188**	⇓*e*P	Pn	20 19 34.5	-1.1
HUMP				*e*S	Sn	20 19 50.9	-0.9
HUMP	**Col San Antoni**	**1.14**	**188**	⇓*e*P	Pn	20 19 34.5	-1.1
HUMP				*e*S	Sn	20 19 50.9	-0.9
STVI	**Saint Thomas**	**1.15**	**143**	⇑*e*P	Pn	20 19 35.6	-0.1
STVI	**Saint Thomas**	**1.15**	**143**	*e*S	Sn	20 19 52.5	+0.6
STVI	**Saint Thomas**	**1.15**	**143**	⇑*e*P	Pn	20 19 35.6	-0.1
STVI				*e*S	Sn	20 19 52.5	+0.6
STVI	**Saint Thomas**	**1.15**	**143**	⇑*e*P	Pn	20 19 35.6	-0.1
STVI				*e*S	Sn	20 19 52.5	+0.6
MTP	**Monte Pirata**	**1.18**	**174**	⇓*e*P	Pn	20 19 35.1	-1.0
MTP	**Monte Pirata**	**1.18**	**174**	*e*S	Sn	20 19 51.8	-0.8
MTP	**Monte Pirata**	**1.18**	**174**	⇓*e*P	Pn	20 19 35.1	-1.0
MTP				*e*S	Sn	20 19 51.8	-0.8
MTP	**Monte Pirata**	**1.18**	**174**	⇓*e*P	Pn	20 19 35.8	-0.3
MTP				*e*S	Sn	20 19 51.8	-0.8
SJG	**San Juan**	**1.24**	**201**	⇑*e*P	Pn	20 19 36.1	-0.7
SJG				*e*S	Sn	20 19 54.2	+0.3
SJG	**San Juan**	**1.24**	**201**	⇑*e*P	Pn	20 19 36.1	-0.7
SJG				*e*S	Sn	20 19 54.2	+0.3
SJG	**San Juan**	**1.24**	**201**	⇑*e*P	Pn	20 19 36.1	-0.7
SJG				*e*S	Sn	20 19 54.2	+0.3
CPD	**Cerro la Pandu**	**1.25**	**190**	⇑*e*P	Pn	20 19 35.9	-1.2
CPD	**Cerro la Pandu**	**1.25**	**190**	⇑*e*P	Pn	20 19 35.9	-1.2
CPD	**Cerro la Pandu**	**1.25**	**190**	⇑*e*P	Pn	20 19 35.9	-1.2
TBVI	**Tortola**	**1.32**	**130**	⇓*e*P	Pn	20 19 37.5	-0.2
TBVI	**Tortola**	**1.32**	**130**	⇓*e*P	Pn	20 19 37.5	-0.2
TBVI	**Tortola**	**1.32**	**130**	⇓*e*P	Pn	20 19 37.5	-0.2
AOPR	**Arecibo Observ**	**1.38**	**228**	⇑*e*P	Pn	20 19 37.2	-1.4
AOPR	**Arecibo Observ**	**1.38**	**228**	*e*S	Sn	20 19 56.7	-0.3
AOPR	**Arecibo Observ**	**1.38**	**228**	⇑*e*P	Pn	20 19 37.2	-1.4
AOPR				*e*S	Sn	20 19 56.7	-0.3
AOPR	**Arecibo Observ**	**1.38**	**228**	⇑*e*P	Pn	20 19 37.2	-1.4
AOPR				*e*S	Sn	20 19 56.7	-0.3
ABV	**Anegada**	**1.38**	**113**	⇑*e*P	Pn	20 19 38.1	-0.4
ABV	**Anegada**	**1.38**	**113**	⇑*e*P	Pn	20 19 38.1	-0.4
ABVI	**Anegada Island**	**1.38**	**113**	⇑*e*P	Pn	20 19 38.1	-0.4
CELP	**Cerrillos**	**1.47**	**216**	⇓*e*P	Pn	20 19 38.9	-0.8
CELP				*e*S	Sn	20 19 59.6	+0.6
CELP	**Cerrillos**	**1.47**	**216**	⇓*e*P	Pn	20 19 38.9	-0.8
CELP				*e*S	Sn	20 19 59.6	+0.6
CELP	**Cerrillos**	**1.47**	**216**	⇓*e*P	Pn	20 19 38.9	-0.8
CELP				*e*S	Sn	20 19 59.6	+0.6
LRS	**Lares**	**1.48**	**229**	⇓*e*P	Pn	20 19 39.2	-0.6
LRS	**Lares**	**1.48**	**229**	⇓*e*P	Pn	20 19 39.2	-0.6
LRS	**Lares**	**1.48**	**229**	⇓*e*P	Pn	20 19 39.2	-0.6
OBIP	**Obispado Ponce**	**1.51**	**216**	⇓*e*P	Pn	20 19 39.7	-0.4
OBIP	**Obispado Ponce**	**1.51**	**216**	⇓*e*P	Pn	20 19 39.7	-0.4
OBIP	**Obispado Ponce**	**1.51**	**216**	⇓*e*P	Pn	20 19 39.7	-0.4
GBPR	**Guanica, Bosqu**	**1.73**	**222**	⇓*e*P	Pn	20 19 42.9	+0.1
GBPR	**Guanica, Bosqu**	**1.73**	**222**	⇓*e*P	Pn	20 19 42.9	+0.1
GBPR	**Guanica, Bosqu**	**1.73**	**222**	⇓*e*P	Pn	20 19 42.9	+0.1
LSP	**Las Mesas**	**1.73**	**231**	⇑*e*P	Pn	20 19 42.7	-0.3
LSP	**Las Mesas**	**1.73**	**231**	⇑*e*P	Pn	20 19 42.7	-0.3
LSP	**Las Mesas**	**1.73**	**231**	⇑*e*P	Pn	20 19 42.7	-0.3
CRPR	**Cabo Rojo, PR**	**1.86**	**227**	⇑*e*P	Pn	20 19 45.1	+0.5
CRPR	**Cabo Rojo, PR**	**1.86**	**227**	⇑*e*P	Pn	20 19 45.1	+0.5
CRPR	**Cabo Rojo, PR**	**1.86**	**227**	⇑*e*P	Pn	20 19 45.9	-1.4
DR12	**Loma Pena Alta**	**3.54**	**263**	⇓*e*P	Pn	20 20 06.8	-0.3
DR12	**Loma Pena Alta**	**3.54**	**263**	⇓*e*P	Pn	20 20 06.8	-0.3
DR12	**Loma Pena Alta**	**3.54**	**263**	⇓*e*P	Pn	20 20 06.8	-0.3

NNC 18 20:24:28.9±7.5, 37.°78N×71.°67E, h0km, mb3.5, mpv3.2, 1C-3D, Error ellipse: s-maj=59.7km s-min=46.9km az=178.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.39**	**351**	⇓Pn	Pn	20 25 51.6	+1.0
	0.5nm,0.2s,baz=180,slow=13,SNR=45						
KK31				⇓Sn	Sn	20 26 55.1	+1.6
	1.3nm,0.4s,baz=175,slow=21,SNR=7.1						
TKM2	**Tokmak 2**	**5.95**	**29**	⇑Pn	Pn	20 25 59.3	+0.8
	2.2nm,0.6s						
TKM2				⇓Sn	Sn	20 27 07.5	-0.1
	0.1nm,0.2s						
AB31	**Akbulak array**	**14.26**	**327**	P	Pn	20 27 47.7	-4.4
	0.2nm,0.4s,baz=143,slow=13,SNR=7.5						

*NIED **18** 20:32:00, 23.°40N×123.°50E, h14km, Mw4.2 Best double couple: M0=2.29000×10^15 NP1:φ0=299.00000°, δ59.00000°, λ97.00000°, NP2:φ0=105.00000°, δ32.00000°, λ78.00000°.*
*IDC **18** 20:32:10.8±0.8, 23.°46N×123.°61E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/26, mbtmp4.0/13, ML3.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/41, Error ellipse: s-maj=23.5km s-min=16.0km az=92.0*
*JMA **18** 20:32:13.8±0.2, 23.°39N×123.°55E, h51km±3km, M4.2*

ISC 18 20:32:14.0±2.8, 23.°45N±0.°10×123.°57E±0.°07, h20km±29km, n25, σ0.96/30, mb4.0/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.64**	**19**	P	**Pn**	**20 32 27.6**	**-0.3**
HATJ				S	**Sn**	**20 32 37.8**	**+0.3**
JKRS	**Kuro-shima**	**0.88**	**27**	P	**Pn**	**20 32 31.1**	**-0.1**
JKRS				*e*S	**Sn**	**20 32 44.1**	**+0.7**
IRIF	**Iriomote-Funau**	**0.89**	**9**	P	**Pn**	**20 32 31.1**	**-0.3**
IRIF				S	**Sn**	**20 32 43.1**	**-0.6**
JIJ	**Ishigaki jima**	**1.05**	**30**	P	**Pn**	**20 32 33.2**	**-0.3**
JIJ				S	**Sn**	**20 32 47.3**	**-0.3**
YOJ	**Yonaguni jima**	**1.13**	**333**	P	**Pn**	**20 32 34.3**	**-0.4**
YOJ				S	**Sn**	**20 32 49.2**	**-0.4**
JTJ	**Tarama**	**1.57**	**41**	P	**Pn**	**20 32 40.9**	**+0.2**
JMJ	**Miyako jima 2**	**2.08**	**49**	P	**Pn**	**20 32 48.0**	**+0.3**
JOGS	**Gusukube**	**2.12**	**52**	P	**Pn**	**20 32 48.6**	**+0.3**
JKE	**Kume jima 2**	**4.09**	**45**	P	**Pn**	**20 33 13.5**	**-1.9**
JOW	**Kunigami**	**5.43**	**51**	P	**Pn**	**20 33 32.1**	**-1.7**
JNU	**Nakatsue**	**11.58**	**32**	Pn	**Pn**	**20 34 56.7**	**-1.6**
	0.5nm,0.3s,baz=143,slow=6.5,SNR=4.6						
KSRS	**Korea Array**	**14.45**	**14**	Pn	**Pn**	**20 35 38.5**	**+1.1**
	0.1nm,0.3s,baz=188,slow=13,SNR=7.6						
MJAR	**Matsushiro Arr**	**18.16**	**41**	P	**P**	**20 36 26.3**	**+1.1**
	0.6nm,0.3s,baz=229,slow=9.6,SNR=10.0						
CN2	**Changchun**	**20.36**	**4**	*e*P	**P**	**20 36 49.8**	**+0.6**
CN2				LR	LR		
	comp=N,450nm,14.0s						
CN2				LR	LR		
	comp=E,210nm,14.0s						
CN2				LR	LR		
	comp=Z,380nm,13.0s						
CMAR	**Chiang Mai Arr**	**23.52**	**262**	P	**P**	**20 37 24.4**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=65,slow=7.7,SNR=8.3						
ASAJ	**Asahikawa**	**25.86**	**33**	P	**P**	**20 37 44.5**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=225,slow=14,SNR=9.3						
ASAJ				LR	LR	20 49 33.2	
	comp=Z,119nm,18.4s,baz=151,slow=40						
SONM	**Songino Array**	**27.92**	**335**	P	**P**	**20 38 02.1**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=148,slow=9.6,SNR=22						
PETK	**Petropavlovsk-**	**39.28**	**32**	P	**P**	**20 39 39.9**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=208,slow=6.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.05**	**326**	P	**P**	**20 40 03.2**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=97,slow=6.5,SNR=7.3						
WRA	**Warramunga Arr**	**44.39**	**165**	P	**P**	**20 40 22.5**	**-0.9**
	comp=Z,2.2nm,1.0s,baz=346,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**20 40 51.0**	**0.0**
	comp=Z,0.8nm,0.5s,baz=351,slow=7.7,SNR=22						
STKA	**Stephens Creek**	**57.66**	**162**	P	**P**	**20 42 03.0**	**+0.1**
	comp=Z,3.8nm,1.2s,baz=321,slow=14,SNR=2.9						
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**20 43 18.5**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=275,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**82.78**	**23**	P	**P**	**20 44 35.5**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=301,slow=4.8,SNR=3.3						
GERES	**GERESS Array B**	**84.79**	**321**	P	**P**	**20 44 47.8**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=42,slow=4.2,SNR=6.9						

*NNC **18** 20:36:31.3±7.2, 36.°32N×70.°64E, h0km, mb4.9, mpv5.0, Error ellipse: s-maj=70.3km s-min=45.1km az=28.0*
*NDI **18** 20:36:32.6±2.7, 34.°98N×70.°25E, h33km, ML4.6*
*ISCJB **18** 20:36:33.3±0.5, 35.°99N±0.°02×71.°45E±0.°05, h101km±5km, mb4.2/30, Error ellipse: s-maj=6.4km s-min=3.9km az=162.8*
*BJI **18** 20:36:34.3, 36.°14N×71.°49E, h78km, mB4.5/6, mb4.7/13, Ms3.9/1, Ms7 3.7/1*
*MOS **18** 20:36:34.4±0.7, 36.°07N×71.°31E, h103km, mb4.3/22, Error ellipse: s-maj=11.6km s-min=5.3km az=79.9*
*IDC **18** 20:36:35.6±0.8, 36.°02N×71.°24E, h103km±6km, mb4.0/16, mb1 4.1/19, mb1mx3.9/31, mbtmp4.0/19, MS2.9/2, Ms1 2.9/2, ms1mx2.5/44, Error ellipse: s-maj=14.9km s-min=11.1km az=9.0*

ISC 18 20:36:35.0±0.5, 35.°97N±0.°05×71.°40E±0.°05, h104km±5km, h103km:pP-P, n115, σ1984/124, mb4.2/30, 14C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.18**	**169**	⇑P	**Pn**	**20 37 11.6**	**+1.4**
CEP				S	**Sn**	**20 37 40.0**	**+2.9**
CHCP	**Chirah Chowk**	**2.77**	**146**	P	**Pn**	**20 37 20.3**	**+2.5**
THW	**Thamme Wali**	**3.18**	**175**	P	**Pn**	**20 37 24.1**	**+0.8**
THW				S	**Sn**	**20 38 02.0**	**+1.5**
SARP	**Sargodha**	**4.18**	**165**	P	**Pn**	**20 37 37.0**	**+0.4**
JMU	**Jammu**	**4.35**	**137**	*e*P	**Pn**	**20 37 38.0**	**-0.9**
JMU				*ex*	**Sn**	**20 38 28.5**	**0.0**
THN	**Thein Dam**	**5.02**	**133**	*ex*	**Pn**	**20 37 45.0**	**-3.0**
THN				*e*4		20 38 11.0	
KSH	**Kashi**	**5.06**	**44**	P	Pn	20 37 44.1	-4.5
KSH				S	Sn	20 38 35.3	-11
KSH				smax	smax		
	comp=N,550nm,0.4s						
KSH				smax	smax		
	comp=E,410nm,0.2s						
DLH	**Dalhousie**	**5.10**	**131**	*e*P	**Pn**	**20 37 49.0**	**-0.2**
DLH				*ex*	**Sn**	**20 38 45.0**	**-2.0**
DHRM	**DHARAMSHALA**	**5.50**	**131**	*e*P	**Pn**	**20 37 55.3**	**+0.5**
DHRM				*e*S	**Sn**	**20 38 56.7**	**-0.1**
DHRM				AML	AML	20 38 59.5	
	comp=N,2μm,0.2s						
DHRM				AML	AML	20 39 01.2	
	comp=E,2μm,0.2s						
BHK	**Bhakra**	**6.17**	**136**	*e*P	**Pn**	**20 38 03.9**	**+0.3**
BHK				*e*4	**Sn**	**20 39 13.7**	**+0.9**
AML	**Almayashu**	**6.40**	**15**	*i* PN	**Pn**	**20 38 06.9**	**-0.1**
AML	**Almayashu**	**6.40**	**15**	P	**Pn**	**20 38 06.9**	**-0.1**
	SNR=195						
SDNR	**Sundarnagar**	**6.43**	**132**	*e*P	**Pn**	**20 38 07.0**	**-0.2**
SDNR				*ex*	**Sn**	**20 39 15.0**	**-4.2**
UCH	**Uchtor**	**6.70**	**20**	*i* PN	**Pn**	**20 38 11.4**	**+0.3**
UCH	**Uchtor**	**6.70**	**20**	P	**Pn**	**20 38 11.4**	**+0.3**
	SNR=26						
KZA	**Kyzart**	**6.79**	**25**	*i* PN	**Pn**	**20 38 12.2**	**-0.1**
KZA	**Kyzart**	**6.79**	**25**	P	**Pn**	**20 38 12.2**	**-0.1**
	SNR=33						
SMLA	**Simla**	**6.82**	**133**	*i* P	**Pn**	**20 38 12.0**	**-0.3**
SMLA				*e*S	**Sn**	**20 39 23.5**	**-4.9**
SMLA				AML	AML	20 39 31.0	
	comp=N,353nm,0.2s						
SMLA				AML	AML	20 39 32.8	
	comp=E,490nm,0.7s						
EKS2	**Erkin-Say**	**6.93**	**15**	*i* PN	**Pn**	**20 38 14.0**	**+0.1**
EKS2	**Erkin-Say**	**6.93**	**15**	P	**Pn**	**20 38 14.0**	**+0.1**
	SNR=50						
AAK	**Ala-Archa**	**7.07**	**19**	*c i* PN	**Pn**	**20 38 16.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,132nm,0.4s						
AAK	**Ala-Archa**	**7.07**	**19**	P	**Pn**	**20 38 16.4**	**+0.5**
	SNR=74						
AAK	**Ala-Archa**	**7.07**	**19**	P	**Pn**	**20 38 16.2**	**+0.3**
	comp=Z,33nm,0.3s,baz=184,slow=6.4,SNR=107						
AAK				S	**Sn**	**20 39 33.1**	**-1.7**
	baz=132,slow=22,SNR=0.9						
AAK				LR	LR	20 40 40.6	
	comp=Z,64nm,18.5s,baz=106,slow=35						
KK31	**Karatay Array**	**7.16**	**355**	⇑P	**Pn**	**20 38 15.9**	**-1.0**
	comp=Z,13nm,0.2s,baz=180,slow=13,SNR=1398						
KK31				⇑S	**Sn**	**20 39 31.0**	**-5.6**
	comp=Z,30nm,0.3s,baz=186,slow=24,SNR=11						
KBK	**Karagaybulak**	**7.22**	**21**	*i* PN	**Pn**	**20 38 18.6**	**+0.7**
KBK	**Karagaybulak**	**7.22**	**21**	P	**Pn**	**20 38 18.6**	**+0.7**
	SNR=43						
FRU	**Bishkek**	**7.29**	**19**	⇑*e*PN	**Pn**	**20 38 19.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,150nm,1.4s						
ULHL	**Ulahol**	**7.30**	**30**	*i* PN	**Pn**	**20 38 19.4**	**+0.3**
ULHL	**Ulahol**	**7.30**	**30**	P	**Pn**	**20 38 19.4**	**+0.3**
	SNR=96						
CHMS	**Chumysh**	**7.48**	**19**	*i* PN	**Pn**	**20 38 21.5**	**+0.2**
CHMS	**Chumysh**	**7.48**	**19**	P	**Pn**	**20 38 21.5**	**+0.2**
	SNR=132						
TKM2	**Tokmak 2**	**7.66**	**24**	⇑P	**Pn**	**20 38 24.0**	**+0.1**
	comp=Z,80nm,0.7s						
TKM2	**Tokmak 2**	**7.66**	**24**	*i* PN	**Pn**	**20 38 23.9**	**0.0**
TKM2	**Tokmak 2**	**7.66**	**24**	P	**Pn**	**20 38 23.9**	**0.0**
	SNR=72						
USP	**Ospenovka**	**7.67**	**17**	*i* PN	**Pn**	**20 38 23.3**	**-0.5**
USP	**Ospenovka**	**7.67**	**17**	P	**Pn**	**20 38 23.3**	**-0.5**
	SNR=40						
DDI	**Dehra Dun**	**7.93**	**133**	*ex*	x	20 39 25.0	
DDI				*ex*	x	20 40 47.0	
KNDC	**Almaty**	**8.41**	**29**	⇑P	**Pn**	**20 38 35.5**	**+1.5**
	comp=Z,72nm,0.6s						
NDI	**New Delhi**	**8.77**	**144**	*e*P	Pn	20 38 35.0	-4.0
NDI				*ex*	Sn	20 40 10.0	-6.1
DANN	**Dangsing**	**12.93**	**123**	*e*P	**Pn**	**20 39 32.6**	**-2.4**
	comp=Z,58nm,0.4s						
KOLN	**Koldanda**	**13.19**	**125**	*e*P	**Pn**	**20 39 35.8**	**-2.6**
	comp=Z,31nm,0.4s						
MK31	**Makanchi Array**	**13.54**	**34**	⇑P	**Pn**	**20 39 40.6**	**-2.0**
	comp=Z,5.5nm,0.5s,baz=216,slow=14,SNR=142						
MKAR	**Makanchi Array**	**13.54**	**34**	*i* P	**Pn**	**20 39 41.0**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**13.54**	**34**	P	**Pn**	**20 39 40.8**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=216,slow=14,SNR=71						
BHPL	**Bhopal**	**13.72**	**156**	*e*P	Pn	20 39 38.1	-7.1
BHPL				*e*4		20 42 05.1	
DMN	**Daman**	**14.32**	**122**	*e*P	**Pn**	**20 39 50.6**	**-2.5**
	comp=Z,18nm,0.3s						
KKN	**Kakani**	**14.32**	**121**	*e*P	**Pn**	**20 39 50.2**	**-2.9**
	comp=Z,46nm,0.5s						
PKIN	**Phulchoki**	**14.54**	**121**	*e*P	**Pn**	**20 39 53.1**	**-2.8**
	comp=Z,35nm,0.4s						
PKI	**Pulchoki**	**14.55**	**121**	*e*P	**Pn**	**20 39 53.6**	**-2.5**
	comp=Z,20nm,0.2s						
GUN	**Gumba**	**14.67**	**119**	*e*P	**Pn**	**20 39 54.9**	**-2.8**
	comp=Z,40nm,0.4s						
WMQ	**Urumqi**	**14.74**	**53**	P	**Pn**	**20 39 56.5**	**-1.7**
WMQ				pmax	pmax		
	comp=Z,21nm,1.1s						
JIRN	**Jiri**	**15.04**	**119**	*e*P	**Pn**	**20 39 59.7**	**-2.7**
	comp=Z,57nm,0.3s						
KURBB	**Kurchatov Arra**	**15.52**	**17**	⇑P	**Pn**	**20 40 04.0**	**-3.9**
	comp=Z,13nm,0.5s						
KURBB	**Kurchatov Arra**	**15.52**	**17**	P	**Pn**	**20 40 04.2**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=48						
KURK	**Kurchatov**	**15.63**	**17**	P	Pn	20 40 04.2	-5.0
AB31	**Akbulak array**	**15.70**	**331**	⇓P	**Pn**	**20 40 07.2**	**-2.9**
	comp=Z,8.1nm,0.3s,baz=140,slow=11,SNR=1075						
RAMN	**Ramite**	**15.77**	**121**	*e*P	**Pn**	**20 40 08.3**	**-3.0**
	comp=Z,46nm,0.4s						
NGP	**Nagpur**	**16.21**	**154**	*e*P	Pn	20 40 11.3	-5.4
NGP				*ex*	x	20 42 58.1	
TAPN	**Taplejung**	**16.31**	**117**	*e*P	**Pn**	**20 40 15.8**	**-2.4**
	comp=Z,53nm,0.5s						
ODAN	**Odare**	**16.38**	**119**	*e*P	**Pn**	**20 40 16.1**	**-2.8**
	comp=Z,43nm,0.5s						
VOSK	**Vostochnaya**	**16.75**	**359**	⇑P	**Pn**	**20 40 20.1**	**-3.0**
	comp=Z,3.8nm,0.5s						
BVA0	**Borovoye Array**	**17.07**	**358**	⇑P	**Pn**	**20 40 25.2**	**-1.7**
	comp=Z,4.3nm,0.7s						
BVAR	**Borovoye Array**	**17.07**	**358**	P	**Pn**	**20 40 25.2**	**-1.7**
BVAR				S	Sn	20 43 25.1	-11
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**17.07**	**358**	P	**Pn**	**20 40 25.2**	**-1.7**
	comp=N,1.6nm,0.3s,baz=159,slow=13,SNR=29						
BVAR				S	Sn	20 43 25.1	-11
	comp=N,0.8nm,0.3s,baz=162,slow=23,SNR=4.5						
BRVK	**Borovoye**	**17.10**	**358**	*e*P	**Pn**	**20 40 26.3**	**-1.0**
BRVK				pmax	pmax		
	comp=N,1.

KAF	Kangasniemi	38.24 327	*ep*	P	20 43 44.6	+0.1
	comp=Z,0.4nm,0.3s					
ARCES	ARCESS Array B	41.76 338	P	P	20 44 14.2	+0.8
	comp=Z,5.1nm,0.8s,baz=118,slow=8.8,SNR=20					
CLL	Collm	43.78 309	*e*PP	PP	20 46 16.0	+2.3
CLL			*e*pPP		20 46 32.0	
CLL			*e*		20 46 38.0	
YAK	Yakutsk	44.21 35	*i* P	P	20 44 34.2	+0.9
KSRS	Korea Array	44.74 71	P	P	20 44 39.9	+1.9
	comp=Z,1.5nm,0.4s,baz=282,slow=7.2,SNR=10					
NB2	NORSAR Subarra	45.00 323	P	P	20 44 39.4	-0.3
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9					
NOA	NORSAR Array B	45.00 323	P	P	20 44 39.7	0.0
	comp=Z,1.1nm,0.6s,baz=98,slow=7.7,SNR=6.3					
NOA			pP	pP	20 45 05.2	+1.3
	comp=Z,1.7nm,0.7s,baz=97,slow=7.9,SNR=3.4					
KONO	Kongsberg	45.70 321	*i* P	P	20 44 46.2	+1.1
TIXI	Tiksi	46.14 22⇑	*e*P	P	20 44 48.9	+0.5
TIXI			pmax	pmax		
	comp=Z,5.0nm,1.0s					
JNU	Nakatsue	48.41 75	P	P	20 45 09.3	+2.7
	comp=Z,9.6nm,0.9s,baz=346,slow=4.3,SNR=6.0					
LPG	La Plagne	48.70 302	*e*P	P	20 45 09.5	+0.5
	comp=Z,9.2nm,1.2s					
LPL	La Plagne	48.71 302	*e*P	P	20 45 08.4	-0.6
KEST	Kesra	49.51 289	P	P	20 45 16.1	+0.9
	comp=Z,1.1nm,0.8s,baz=128,slow=12,SNR=4.4					
MJAR	Matsushiro Arr	52.84 68	P	P	20 45 41.4	+1.5
	comp=Z,1.7nm,0.7s,baz=287,slow=9.6,SNR=9.6					
MJAR			pP	pP	20 46 07.0	+2.2
	comp=Z,1.5nm,0.7s,baz=280,slow=10,SNR=3.7					
YSS	Yuzh-Sakhalins	52.86 55	*i* P	P	20 45 41.9	+2.1
TORD	Torodi Ar. Bea	66.03 269	P	P	20 47 09.4	-1.4
	comp=Z,0.8nm,0.4s,baz=48,slow=5.7,SNR=22					
TORD			pP	pP	20 47 35.0	-1.7
	comp=Z,1.9nm,0.7s,baz=47,slow=6.0,SNR=4.8					
COLA	College	74.89 16	*i* P	P	20 48 04.9	+1.0
ILAR	Eielson Array	75.20 16	P	P	20 48 04.9	-0.8
	comp=Z,2.1nm,1.0s,baz=314,slow=4.6,SNR=11					
WRA	Warramunga Arr	81.44 122	P	P	20 48 41.8	+1.1
	comp=Z,1.9nm,0.5s,baz=323,slow=4.9,SNR=57					
WRAB	Tennant Creek	81.44 122	*e*P	P	20 48 41.9	+1.2
YKA	Yellowknife Ar	81.75 3	P	P	20 48 42.3	+0.5
	comp=Z,2.6nm,0.5s,baz=350,slow=5.3,SNR=8.2					
ASAR	Alice Springs	83.69 125	P	P	20 48 53.3	+1.0
	comp=Z,1.6nm,0.7s,baz=308,slow=5.3,SNR=24					
ASAR			pP	pP	20 49 20.5	+1.2
	comp=Z,0.6nm,0.6s,baz=309,slow=5.3,SNR=3.1					

WEL 18 20:52:00.0±0.4, 38°.48S×175°.88E, h145km±3km, ML3.5/8, 8C-4D, Error ellipse: s-maj=3.0km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	Tukino	0.81	193	PN	Pn	20 52 23.1	+0.1
TOZ	Tahuroa Road	0.81	338	⇑PN	Pn	20 52 22.9	+0.2
FWVZ	Far West T-bar	0.81	198	PN	Pn	20 52 23.0	-0.1
BKZ	Black Stump Fm	0.83	145	⇑PN	Pn	20 52 23.2	+0.2
BKZ				SN	Sn	20 52 40.5	-0.1
BKZ				AML	AML	20 52 42.8	
WNVZ	Wahianoa	0.87	195	PN	Pn	20 52 23.5	0.0
MOVZ	Moawhango	0.93	186	⇑PN	Pn	20 52 23.6	-0.2
URZ	Urewera	0.99	77	⇓PN	Pn	20 52 24.0	-0.2
URZ				SN	Sn	20 52 42.3	-0.3
URZ				AML	AML	20 52 43.2	
BHHZ	Black Hill Sta	1.01	172	⇑PN	Pn	20 52 24.4	-0.2
MCHZ	McNeill Hill	1.15	147	PN	Pn	20 52 26.7	+1.0
MWZ	Matawai	1.30	84	⇓PN	Pn	20 52 27.1	-0.1
MWZ				AML	AML	20 52 48.6	
MWZ				AML	AML	20 52 48.6	
PNHZ	Pukenui	1.45	170	PN	Pn	20 52 28.3	-0.4
KAHZ	Kahuranaki	1.52	150	PN	Pn	20 52 29.9	+0.4
TSZ	Takapari Road	1.58	178	⇑PN	Pn	20 52 29.6	-0.5
WPHZ	Waipukurau	1.64	165	PN	Pn	20 52 30.4	-0.3
CNGZ	Carnagh Statio	1.82	91	PN	Pn	20 52 33.4	+0.6
DVHZ	Dannevirke	1.83	173	⇑PN	Pn	20 52 32.0	-0.9
PRHZ	Porangahau	1.88	162	PN	Pn	20 52 32.9	-0.5
POWZ	Post Office Ro	1.91	183	PN	Pn	20 52 32.7	-1.1
MXZ	Matakaoa Point	2.12	65	⇓PN	Pn	20 52 36.2	-0.1
MRZ	Mangatainoka R	2.19	186	⇑PN	Pn	20 52 35.5	-1.6
MRZ				AML	AML	20 52 36.4	
MRZ				AML	AML	20 53 04.9	
BFZ	Birch Farm	2.21	173	PN	Pn	20 52 36.1	-1.3
OGWZ	Otaki Gorge	2.40	193	PN	Pn	20 52 37.7	-1.9
HOWZ	Holdsworth Sta	2.43	187	⇑PN	Pn	20 52 38.0	-2.0
KIW	Kapiti Island	2.49	197	PN	Pn	20 52 38.6	-2.2
MTW	Mount Morrison	2.69	186	⇓PN	Pn	20 52 40.8	-2.4
MTW				AML	AML	20 53 14.7	
MTW				AML	AML	20 53 14.7	
CAW	Cannon Point	2.70	193	PN	Pn	20 52 40.9	-2.4
CAW				AML	AML	20 53 14.9	
TRWZ	Traveller	2.92	183	PN	Pn	20 52 43.6	-2.5
TRWZ				AML	AML	20 53 20.2	
MSWZ	Moikau Station	2.97	189	PN	Pn	20 52 44.0	-2.8
TCW	Tory Channel	2.99	204	AML	AML	20 53 20.3	
TCW				AML	AML	20 53 20.9	
PLWZ	Palliser	3.12	189	PN	Pn	20 52 45.7	-3.1
KHZ	Kahutara	4.32	204	PN	Pn	20 53 00.7	-3.5

NNC 18 20:58:49.7±8.7, 36°.90N×70°.71E, h123km±140km, mb3.3, mpv4.0, 4C-1D, Error ellipse: s-maj=69.6km s-min=48.9km az=13.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.20	359	⇑P	Pn	21 00 18.0	-0.8
	2.7nm,0.2s,baz=179,slow=13,SNR=398						
KK31				⇓S	Sn	21 01 30.4	+2.1
	1.8nm,0.4s,baz=186,slow=21,SNR=4.4						
TKM2	Tokmak 2	7.09	30	⇑P	Pn	21 00 32.3	+1.3
	6.1nm,0.6s						
TKM2				⇑S	Sn	21 01 48.1	-2.2
	6.7nm,0.9s						
AB31	Akbulak array	14.62	331	P	Pn	21 02 09.6	-0.8
	0.7nm,0.3s,baz=147,slow=13,SNR=48						
AB31				S	Sn	21 04 52.8	+0.9
	1.0nm,0.6s,baz=148,slow=24,SNR=3.0						
AKTO	Aktyubinsk	16.32	330	⇑P	P	21 02 32.4	+0.3
	3.9nm,0.9s						

IDC ***18*** *21:04:35.1±0.8, 14°.03N×92°.81E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.0/30, mbtmp4.1/18, ML4.5/1, MS3.2/1, Ms1 3.4/1, ms1mx2.6/54, Error ellipse: s-maj=26.6km s-min=13.0km az=57.0*

ISCJB ***18*** *21:04:38.0±0.3, 14°.22N±0°.04×92°.74E±0°.04, h32km, mb4.1/25, Error ellipse: s-maj=6.1km s-min=4.2km az=35.5*

BKK ***18*** *21:04:40.5±0.5, 14°.N±5°.×9°.3E±°, h10km, M4.6/14, mB4.8/4, mb4.6/14, MLv4.7/4, Mw(mB)4.1/4*

NEIC ***18*** *21:04:40.3±0.4, 14°.11N×92°.83E, h35km, mb4.2/9, Error ellipse: s-maj=9.5km s-min=7.2km az=66.0*

DJA ***18*** *21:04:44.6±0.6, 14°N±5°.×9°.3E±°, h249km±9km, M4.8/12, mB5.0/5, mb4.9/12, MLv5.0/3, Mw(mB)4.4/5*

ISC 18 21:04:40.3±0.5, 14°.23N±0°.06×92°.79E±0°.05, h32km, n87, σ1§58/84, mb4.2/25, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTHA	Uthaitani	6.57	78	P	Pn	21 06 15.6	+0.9
	16nm,0.7s,283nm						
PHET	Kaeng Krachan	6.78	100	P	Pn	21 06 19.4	+1.9
	230nm,0.5s,7μm1.8nm						
PHET	Kaeng Krachan	6.78	100	P	Pn	21 06 19.1	+1.6
	230nm,0.5s						
CM31	Chiang Mai Arr	7.25	54	*e*Pn	Pn	21 06 25.8	+1.7
	11nm,0.3s						
CM31				*e*Sn	Sn	21 07 42.8	-2.5
CMAR	Chiang Mai Arr	7.25	54	Pn	Pn	21 06 22.0	-2.1
CMAR				Sn	Sn	21 07 42.3	-3.1
CMAR	Chiang Mai Arr	7.25	54	Pn	Pn	21 06 22.0	-2.1
	2.2nm,0.3s,baz=237,slow=13,SNR=57						
CMAR				Sn	Sn	21 07 42.3	-3.1
	2.5nm,0.3s,baz=23,slow=28,SNR=2.9						
CMAR				LR	LR	21 09 39.3	
	comp=Z,162nm,19.2s,baz=314,slow=41						
CHTO	Chiang Mai	7.46	51	*e*Pn	Pn	21 06 26.4	-0.5
	18nm,0.4s						
CHTO				*e*Sn	Sn	21 07 48.2	-2.2
CHTO	Chiang Mai	7.46	51	P	Pn	21 06 28.2	+1.3
	27nm,0.8s,481nm0.2nm						
CHTO	Chiang Mai	7.46	51	P	Pn	21 06 27.8	+0.9
	27nm,0.8s,481nm0.2nm						
CMMT	Chiang Mai	7.46	51	P	Pn	21 06 27.3	+0.3
	26nm,0.5s,880nm0.2nm						
CMMT	Chiang Mai	7.46	51	P	Pn	21 06 27.4	+0.4
	26nm,0.5s,880nm0.2nm						
LAMP	Lampang	7.83	56	P	Pn	21 06 34.0	+2.0
	8.5nm,0.7s						
PBKT	Sadao Pong	8.22	72	P	Pn	21 06 38.7	+1.3
	32nm,0.8s,1μm						
PBKT	Sadao Pong	8.22	72	P	Pn	21 06 38.6	+1.2
	32nm,0.8s,1μm0.1nm						
CMAI	Chiengmai2	8.24	46	P	Pn	21 06 39.4	+1.6
	29nm,0.6s						
PKDT	Phuket	8.32	139	P	Pn	21 06 40.7	+2.0
	70nm,0.8s,0.2nm						
LOEI	Loei	8.78	67	P	Pn	21 06 51.0	+5.9
	218nm,1.2s						
BSI	Banda Aceh	9.02	164	P	Pn	21 06 46.1	-2.2
	56nm,0.8s						
CHAI	Chaiyaphum	9.04	78	P	Pn	21 06 51.3	+2.7
	4.4nm,0.9s						
VIS	Vishakhapatnam	9.74	292	*i* P	Pn	21 06 59.2	+1.0
VIS				*i* S	Sn	21 08 38.5	-8.1
VIS				*i* S	Sn	21 08 38.5	-8.1
VIS				*ex*	x	21 08 41.1	
	comp=E,218nm,0.4s						
VIS				*ex*	x	21 08 41.1	
	comp=N,432nm,0.6s						
LHMI	Lhok Sumawe	9.83	155	P	Pn	21 07 01.7	+2.2
	comp=N,139nm,0.9s						
SHL	Shillong	11.32	356	*ex*	Pn	21 07 18.0	-1.9
SHL				*ex*	Sn	21 09 18.0	-7.4
KULM	Kulim	11.78	138	P	Pn	21 07 27.8	+1.7
	comp=N,45nm,1.0s						
IPM	Ipoh	12.63	139	*e*Pn	Pn	21 07 33.5	-4.4
	comp=N,20nm,1.1s						
PSI	Prapat	12.87	151	Pn	Pn	21 07 43.3	+2.1
PSI	Prapat	12.87	151	Pn	Pn	21 07 43.3	+2.1
	comp=N,0.6nm,0.3s,baz=323,slow=12,SNR=14						
ODAN	Odare	13.55	339	*e*P	Pn	21 07 47.9	-2.6
	comp=N,97nm,0.3s						
PALK	Pallekele	13.74	241	*e*Pn	Pn	21 07 51.0	-1.9
	comp=N,14nm,0.5s						
PALK				*e*Sn	Sn	21 10 14.6	-10
PALK	Pallekele	13.74	241	P	Pn	21 07 52.1	-0.9
	comp=N,27nm,0.9s						
TAPN	Taplejung	13.89	341	*e*P	Pn	21 07 52.4	-2.9
	comp=N,99nm,0.4s						
RAMN	Ramite	13.92	336	*e*P	Pn	21 07 53.1	-2.5
	comp=N,136nm,0.3s						
HYB	Hyderabad	14.06	285	*i* P	Pn	21 07 56.0	-1.4
HYB				*e*S	Sn	21 10 34.0	+1.5
JIRN	Jiri	14.71	336	*e*P	Pn	21 08 03.6	-3.0
	comp=N,68nm,0.3s						
NGP	Nagpur	14.79	300	*ex*	Pn	21 08 03.7	-3.5
NGP				*ex*	x	21 10 30.3	
PKI	Pulchoki	14.96	334	*e*P	Pn	21 08 06.7	-3.1
	comp=N,69nm,0.4s						
PKIN	Phulchoki	14.97	334	*e*P	Pn	21 08 06.7	-3.1
	comp=N,99nm,0.4s						
GUN	Gumba	15.06	336	*e*P	Pn	21 08 08.8	-2.4
	comp=N,57nm,0.3s						
DMN	Daman	15.12	333	*e*P	Pn	21 08 08.9	-3.0
	comp=N,108nm,0.6s						
KKN	Kakani	15.20	334	*e*P	Pn	21 08 10.5	-2.4
	comp=N,23nm,0.3s						
LSA	Lhasa	15.47	355	*e*Pn	Pn	21 08 15.2	-1.5
	comp=N,7.9nm,0.5s						
LSA				*e*Sn	Sn	21 10 57.4	-10
KOLN	Koldanda	15.97	329	*e*P	Pn	21 08 22.3	-0.5
	comp=N,142nm,0.6s						
DANN	Dangsing	16.37	331	*e*P	Pn	21 08 26.4	-1.6
	comp=N,46nm,0.4s						
MYKOM	Kota Tinggi	16.50	138	P	Pn	21 08 22.5	-6.9
	comp=N,24nm,0.7s						
PYUN	Piuthan	16.54	328	*e*P	Pn	21 08 30.6	+0.4
	comp=N,122nm,0.3s						
ENH	Enshi	22.17	41	*e*P	P	21 09 34.1	+0.3
	comp=N,12nm,0.8s						
MK31	Makanchi Array	33.64	347	*e*P	P	21 11 19.5	+1.5
MKAR	Makanchi Array	33.64	347	P	P	21 11 19.6	+1.6
MKAR	Makanchi Array	33.64	347	P	P	21 11 19.6	+1.6
	comp=N,1.7nm,0.5s,baz=163,slow=8.7,SNR=24						
KKAR	Karatay Array	34.57	331	*e*P	P	21 11 25.3	-0.7
	comp=N,1.0nm,0.7s						
SONM	Songino Array	35.37	16	P	P	21 11 34.5	+1.5
SONM	Songino Array	35.37	16	P	P	21 11 34.5	+1.5
	comp=N,0.8nm,0.4s,baz=200,slow=7.8,SNR=13						
KURBB	Kurchatov Arra	38.10	345	P	P	21 11 57.4	+1.3
	comp=N,2.3nm,0.7s,baz=165,slow=8.0,SNR=18						
KSAR	Wonju Array Be	38.80	47	P	P	21 12 02.3	+0.2
KSRS	Korea Array	38.83	47	P	P	21 12 02.3	-0.1
	comp=N,2.4nm,0.7s,baz=240,slow=9.1,SNR=11						
ZALV	Zalesovo Beam	40.13	353	P	P	21 12 14.2	+1.2
ZALV	Zalesovo Beam	40.13	353	P	P	21 12 14.2	+1.2
	comp=N,1.2nm,0.6s,baz=167,slow=9.0,SNR=7.1						
BVAR	Borovoye Array	42.59	340	P	P	21 12 34.4	+1.2
BVAR	Borovoye Array	42.59	340	P	P	21 12 34.4	+1.2
	comp=N,0.4nm,0.5s,baz=134,slow=10,SNR=3.3						
ABKAR	Akbulak array	44.09	329	*e*P	P	21 12 46.5	+1.2
	comp=N,1.7nm,0.6s						
USRK	Ussuriysk Arra	44.76	40	P	P	21 12 51.1	+0.3
	comp=N,0.9nm,0.6s,baz=256,slow=9.8,SNR=4.2						
FITZ	Fitzroy Crossi	45.62	134	*e*P	P	21 12 55.8	-2.1
	comp=N,3.2nm,0.4s						
FITZ	Fitzroy Crossi	45.62	134	P	P	21 12 56.1	-1.8
	comp=N,3.9nm,0.5s,baz=329,slow=6.9,SNR=38						
AKTO	Aktyubinsk	45.80	329	P	P	21 13 00.1	+1.1
AKTO	Aktyubinsk	45.80	329	P	P	21 13 00.1	+1.1
	comp=N,1.6nm,0.7s,baz=130,slow=19,SNR=5.5						
MJAR	Matsushiro Arr	46.14	53	P	P	21 13 03.3	+1.5
MJAR	Matsushiro Arr	46.14	53	P	P	21 13 03.3	+1.5
	comp=N,0.5nm,0.6s,baz=264,slow=9.6,SNR=5.8						
ASAJ	Asahikawa	51.67	45	P	P	21 13 44.9	+0.8
NWAO	Narrogin (SRO)	52.38	154	*e*P	P	21 13 48.3	-1.2
	comp=N,16nm,1.0s						
WRA	Warramunga Arr	53.13	129	P	P	21 13 53.9	-1.5
WRA	Warramunga Arr	53.13	129	P	P	21 13 53.9	-1.5
	comp=N,3.6nm,0.8s,baz=301,slow=10.0,SNR=18						
WRAB	Tennant Creek	53.13	129	*e*P	P	21 13 54.0	-1.4
	comp=N,3.5nm,0.6s						
ASAR	Alice Springs	55.08	133	P	P	21 14 08.2	-1.3
ASAR	Alice Springs	55.08	133	P	P	21 14 08.2	-1.3
	comp=N,4.2nm,0.6s,baz=310,slow=6.8,SNR=82						
AS31	Alice Springs	55.08	133	*e*P	P	21 14 08.0	-1.5
BR131	Keskin Array S	57.39	308	*e*P	P	21 14 25.9	-0.1
	comp=N,1.7nm,0.7s						
STKA	Stephens Creek	65.48	135	*e*P	P	21 15 19.7	-0.8
	comp=N,0.5nm,0.5s						
STKA	Stephens Creek	65.48	135	P	P	21 15 19.7	-0.8
	comp=N,3.1nm,0.6s,baz=318,slow=8.8,SNR=13						
FINES	FINESS Array B	66.53	331	P	P	21 15 27.2	+0.4
FINES	FINESS Array B	66.53	331	P	P	21 15 27.2	+0.4
	comp=N,0.9nm,0.6s,baz=104,slow=6.1,SNR=5.2						
ARCES	ARCESS Array B	68.88	340	P	P	21 15 42.7	+1.1
ARCES	ARCESS Array B	68.88	340	P	P	21 15 42.7	+1.1
	comp=N,2.4nm,0.9s,baz=117,slow=13,SNR=3.0						
GERES	GERESS Array B	72.27	317	P	P	21 16 03.1	+0.4
GERES	GERESS Array B	72.27	317	P	P	21 16 03.1	+0.4
	comp=N,0.6nm,0.6s,baz=97,slow=5.5,SNR=8.9						
LPG	La Plagne	77.25	314	*e*P	P	21 16 32.3	+0.5
	comp=N,4.2nm,0.8s						
LPL	La Plagne	77.26	314	*e*P	P	21 16 32.4	+0.6
	comp=N,4.2nm,0.7s						
ILAR	Eielson Array	89.38	22	P	P	21 17 33.5	0.0
ILAR	Eielson Array	89.38	22	P	P	21 17 33.5	0.0
	comp=N,0.3nm,0.6s,baz=272,slow=5.2,SNR=4.1						

JMA 18 21:04:45.4±0.3, 43°.91N×147°.90E, h1km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.66	252	P	Pn	21 05 16.0	+0.4
NEM2				*e*S	Sb	21 05 38.2	+0.1
JRA	Rausu	2.01	272	P	Pn	21 05 21.2	+0.8
JRA				*e*S	Sn	21 05 46.6	+0.5
JNK	Nakash	2.33	263	P	Pn	21 05 25.3	+0.5
JNK				*e*S	Sn	21 05 54.4	+0.3
JAK	Akkeshi	2.50	250	P	Pn	21 05 28.0	+0.8
JAK				*e*S	Sn	21 05 59.7	+1.3
JTKR	Abashiri--Toko	2.88	273	P	Pn	21 05 34.5	+2.1
JAR	Ashorobuto	3.06	260	P	Pn	21 05 36.4	+1.5
JAR				*e*S	Sn	21 06 14.2	+2.0
JOB	Onbets	3.13	253	P	Pn	21 05 37.3	+1.5
JOB				*e*S	Sn	21 06 15.9	+2.1
JMP	Maruseppu	3.28	273	P	Pn	21 05 38.5	+0.5
JCH	Churui	3.56	250	P	Pn	21 05 43.0	+1.3
JCH				*e*S	Sn	21 06 25.3	+0.9

GUC 18 21:19:46.6±0.6, 23°.95S×67°.50W, h200km, ML4.1, 1C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	Plate Boundary	2.48	312	⇓*i*P	Pn	21 20 37.2	+6.8
PB04				*i* S	Sn	21 21 15.6	+11
CEN1	Los Morros	2.54	282	*e*P	Pn	21 20 32.4	+1.2
CEN1				*e*S	Sn	21 21 08.1	+2.4
CEN1				AML	AML	21 21 11.5	
	comp=N,292nm,0.3s						
PB09	Plate Boundary	2.68	323	⇓*i*P	Pn	21 20 34.8	+2.0
PB09				*e*S	Sn	21 21 11.0	+2.2
PB09				AML	AML	21 21 14.0	
	comp=N,419nm,0.6s						
ANCH	Antofagasta	2.68	275	⇓*i*P	Pn	21 20 34.1	+1.6
ANCH				*i* S	Sn	21 21 10.0	+1.7
MACH	Maria Elena	2.72	310	*e*P	Pn	21 20 34.8	+1.5
MACH				*i* S	Sn	21 21 11.7	+2.0
PB07	Plate Boundary	3.12	315	⇑*i*P	Pn	21 20 39.5	+1.5
PB07				AML	AML	21 21 21.9	
	comp=N,238nm,0.8s						

NOU ***18*** *21:19:52.3±0.4, 30°.12S×175°.16W, h30km±999km*

BKK ***18*** *21:20:19.5±0.3, 26°.S±6°.×17°.8W±°, h10km, M6.1/38, mb5.7/38, mB6.3/35, Mw(mB)6.1/35, Mwp6.2/5*

MOS ***18*** *21:20:45.3±0.9, 25°.83S×178°.40W, h250km, mb5.8/33, MS5.2/7, Error ellipse: s-maj=8.6km s-min=7.0km az=78.8*

IDC ***18*** *21:20:46.4±0.6, 25°.96S×178°.47W, h254km±5km, mb5.1/33, mb1 5.2/34, mb1mx5.2/34, mbtmp5.1/34, Error ellipse: s-maj=8.3km s-min=6.1km az=168.0*

ISCJB ***18*** *21:20:46.1±0.6, 26°.00S±0°.03×178°.35W±0°.03, h263km±5km, mb5.5/188, Error ellipse: s-maj=5.9km s-min=3.3km az=158.4*

BJI ***18*** *21:20:46.4, 25°.69S×177°.84W, h274km, mB5.7/46, mb5.5/57*

NEIC ***18*** *21:20:47.5±0.1, 26°.06S×178°.39W, mb5.5/107, MW6.2, MW6.3, MW6.2(USGS), Error ellipse: s-maj=4.5km s-min=3.1km az=154.0, Moment Tensor Solution. s50 Moment tensor: Scale 10^18Nm; Mrr=0.81; Mθθ=1.22; Mφφ2.04; Mrθ=1.43; Mθφ0.26; Mφr=0.41; Best double couple: M=2.30000×10^18 NP1:φs=43.00000°, δ72.00000°, λ=40.00000°. NP2:φs=148.00000°, δ52.00000°, λ=156.00000°. Principal axes: T 2.1700, Plg12.0000°, Azm99.0000°; N 0.3000, Plg46.0000°, Azm202.0000°; P -2.4600, Plg41.0000°, Azm358.0000°;*

DJA ***18*** *21:20:48.2±0.9, 26°.S±5°.×17°.8W±°, h277km±10km, M5.6/38, mb5.3/38, mB6.0/35, Mw(mB)5.6/35, Mwp6.0/5*

NEIC ***18*** *21:20:49.0±0.2, 25°.94S×178°.42W, h280km*

AUST ***18*** *21:20:51.3, 26°.02S×178°.30W, h300km*

SZGRF ***18*** *21:20:51.4, 25°.24S×178°.37W, h296km, South of Fiji Islands*

GCMT ***18*** *21:20:51.2±0.1, 25°.99S×178°.08W, h277km, MW6.3, Moment Tensor Solution. s120, c282; s96, c171; Moment tensor: Scale 10^18Nm; Mrr=0.48±.02; Mθθ=3.06±.02; Mφφ3.54±.02; Mrθ=1.29±.02; Mφθ0.39±.02; Mφr=0.40±.02; Best double couple: M=3.60000×10^18 NP1:φs=46.00000°, δ80.00000°, λ=21.00000°. NP2: φs=140.00000°, δ69.00000°, λ=169.00000°. Principal axes: T 3.6200, Plg7.0000°, Azm95.0000°; N -0.0200, Plg67.0000°, Azm201.0000°; P -3.6000, Plg22.0000°, Azm2.0000°; Data Used: II IU CN IC G. Surface waves: sta=121, comp=280, per= 50.*

NEIC ***18*** *21:21:06.2±0.2, 26°.15S×177°.76W, h297km, Moment Tensor Solution. s127 Moment tensor: Scale 10^18Nm; Mrr=0.58; Mθθ=2.51; Mφφ3.09; Mrθ=1.21; Mφθ0.34; Mφr=0.22; Best double couple: M=3.10000×10^18 NP1:φs=141.00000°, δ69.00000°, λ=164.00000°. NP2:φs=46.00000°, δ76.00000°, λ=21.00000°. Principal axes: T 3.1400, Plg4.0000°, Azm94.0000°; N -0.0400, Plg63.0000°, Azm194.0000°; P -3.1000, Plg25.0000°, Azm2.0000°;*

ISC 18 21:20:48.5±0.2, 25°.97S±0°.03×178°.26W±0°.03, h277km±1km, h276km; pP-P, n1683, σ1§36/2071, mb5.5/187, 300C-309D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.28	175	⇓*i*Pn	Pn	21 21 43.7	-1.9
RAO				*e*S	S	21 22 18.9	-12
RAO	Raoul Island	3.28	175	P	Pn	21 21 43.4	-2.2
	9μm,0.3s,baz=72,slow=3.4,SNR=194						
RAO				S	S	21 22 28.0	-3.0
	8μm,0.3s,baz=191,slow=20,SNR=4.8						
MSVF	Nonsavu	8.88	337	Pn	Pn	21 22 54.4	+1.3
	92μm,0.8s						
MSVF	Nonsavu	8.88	337	⇓*i*P	Pn	21 22 54.0	+0.9
MSVF	Nonsavu	8.88	337	⇓*i*Pn	Pn	21 22 54.0	+0.9
MSVF				*e*S	S	21 24 36.3	+2.1
NIUE	Niue	10.31	50	P	Pn	21 23 08.5	-2.3
	baz=10,SNR=103						
NIUE				S	S	21 24 57.0	-10
	baz=10,SNR=12						
OUZ	Omahuta	11.58	215	⇑*i*Pn	P	21 23 28.6	-0.3
OUZ				*e*S	S	21 25 36.8	+1.5
NFK	Norfolk Island	12.62	253	P	P	21 23 42.8	+2.3
	baz=13,SNR=6.4						
URZ

	102nm,0.9s						
TBI	**Tubuai**	26.28	91	*e*P		**P**	21 25 59.5 +0.4
	498nm,1.0s						
HNR	**Honiara**	26.41	305	P		**P**	21 25 59.8 -0.6
HNR				S		**S**	21 30 12.2 -0.9
HNR	**Honiara**	26.41	305	P		**P**	21 25 59.8 -0.6
	489nm,0.6s,baz=120,slow=1.1,SNR=14						
HNR				S		**S**	21 30 12.2 -0.9
	105nm,0.5s,baz=192,slow=1.8,SNR=2.2						
ARMA	**Armidale**	26.86	254	*e*P		**P**	21 26 03.6 -0.8
	310nm,1.6s						
ARMA				*e*PP		**PP**	21 27 08.3 -2.9
ARMA	**Armidale**	26.86	254	P		**P**	21 26 05.7 +1.4
	baz=27,SNR=12						
MGCD	**Mangrove Creek**	27.52	248	P		**P**	21 26 11.6 +1.5
	baz=27,SNR=25						
EIDS	**Eidsvold**	27.61	264	*e*P		**P**	21 26 10.4 -0.5
	354nm,1.5s						
EIDS				*e*pP		**pP**	21 27 01.0 -3.3
EIDS	**Eidsvold**	27.61	264	P		**P**	21 26 11.2 +0.3
	baz=28,SNR=39						
EIDS				S		**S**	21 30 32.8 +1.0
	baz=28,SNR=6.2						
PAE	**Paea**	27.84	79	*e*P		**P**	21 26 12.9 -0.1
	50nm,1.4s						
PPT2	**Papeete2**	27.87	78	*e*P		**P**	21 26 13.3 0.0
	191nm,1.4s						
PPT	**Papeete**	27.88	78	P		**P**	21 26 14.0 +0.6
PPT	**Papeete**	27.88	78	P		**P**	21 26 14.0 +0.6
	55nm,0.8s,baz=134,slow=6.1,SNR=5.2						
TVO	**Taravao**	28.08	79	*e*P		**P**	21 26 15.2 0.0
	148nm,1.1s						
TIAR	**Tiarei**	28.08	79	*e*P		**P**	21 26 15.3 +0.1
	406nm,1.2s						
TARA	**Tarawa**	28.47	341	*e*P		**P**	21 26 17.0 -1.6
	1μm,0.8s						
MEH	**Mehetia**	29.10	80	*e*P		**P**	21 26 24.3 +0.2
	294nm,1.2s						
CNB	**Canberra Magne**	29.26	244	P		**P**	21 26 27.9 +2.4
	baz=29,SNR=21						
RMQ	**Roma**	29.55	262	P		**P**	21 26 28.9 +0.9
	baz=30,SNR=32						
CAN	**Canberra**	29.56	244	*e*P		**P**	21 26 28.0 -0.1
CAN				pmax		pmax	
	comp=Z,47nm,0.9s						
CAN	**Canberra**	29.56	244	*e*P		**P**	21 26 28.0 -0.1
	comp=Z,47nm,0.9s						
MILA	**Mila**	29.76	240	P		**P**	21 26 30.6 +0.8
	baz=30,SNR=39						
MILA				S		**S**	21 31 09.2 +3.8
	baz=30,SNR=4.7						
YNG	**Young**	29.90	246	P		**P**	21 26 32.0 +0.9
	baz=30,SNR=48						
PMOR	**Pomariorio Ree**	30.40	75	*e*P		**P**	21 26 35.6 +0.1
	comp=Z,390nm,1.4s						
CMSA	**Cobar Meteorol**	31.99	252	P		**P**	21 26 49.2 -0.1
	baz=32,SNR=46						
CMSA				S		**S**	21 31 41.8 +1.8
	baz=32,SNR=5.4						
MOO	**Moorlands**	32.68	231	P		**P**	21 26 55.2 0.0
	baz=33,SNR=6.6						
TOO	**Toolangi**	32.72	240	P		**P**	21 26 55.5 -0.1
	baz=33,SNR=30						
TOO				S		**S**	21 31 55.1 +3.7
	baz=33,SNR=4.5						
CTA	**Charters Tower**	33.11	273	sP		**sP**	21 28 24.2 -1.3
CTA				S		**S**	21 31 55.9 -1.6
CTA				ScP		**ScP**	21 32 55.7 +2.7
CTA	**Charters Tower**	33.11	273	sP		**sP**	21 28 24.2 -1.3
	comp=Z,41nm,0.7s,baz=99,slow=11,SNR=1.8						
CTA				S		**S**	21 31 55.9 -1.6
	comp=Z,18nm,1.0s,baz=215,slow=20,SNR=2.2						
CTA				ScP		**ScP**	21 32 55.7 +2.7
	comp=Z,29nm,0.8s,baz=113,slow=4.8,SNR=5.3						
CTAO	**Charters Tower**	33.11	273	*e*P		**P**	21 26 59.1 0.0
CTAO				*e**PP		pP	21 27 48.1 -5.5
CTAO				pmax		pmax	
	comp=Z,517nm,1.5s						
CTAO	**Charters Tower**	33.11	273	*e*P		**P**	21 26 59.1 0.0
	comp=Z,517nm,1.5s						
CTAO				*e*pP		pP	21 27 48.1 -5.5
XMAS	**Kiritimati**	34.37	39	*e*P		**P**	21 27 10.2 +0.3
	comp=Z,245nm,1.1s						
XMAS				*e*pP		**pP**	21 28 03.5 -1.2
MTSU	**Mount Surprise**	35.45	275	P		**P**	21 27 19.6 +0.4
	baz=35,SNR=144						
MTSU				S		**S**	21 32 37.8 +4.2
	baz=35,SNR=4.7						
STKA	**Stephens Creek**	35.48	251	*e*P		**P**	21 27 18.4 -0.9
	comp=Z,162nm,2.5s						
STKA				*e*pP		**pP**	21 28 16.8 +2.5
STKA				*e*PcP		**PcP**	21 29 41.9 -0.2
STKA				S		**S**	21 32 30.7 -2.9
STKA	**Stephens Creek**	35.48	251	P		**P**	21 27 18.9 -0.4
	comp=Z,38nm,0.7s,baz=91,slow=9.3,SNR=74						
STKA				pP		**pP**	21 28 16.3 +2.1
	comp=Z,26nm,0.9s,baz=83,slow=6.9,SNR=1.8						
STKA				S		**S**	21 32 30.7 -2.9
	comp=Z,6.5nm,0.9s,baz=63,slow=22,SNR=1.1						
STKA	**Stephens Creek**	35.48	251	P		**P**	21 27 18.9 -0.4
	baz=35,SNR=83						
ARPS	**Mount Arapiles**	35.50	242	P		**P**	21 27 19.3 0.0
	baz=35,SNR=24						
RABL	**Rabaul**	35.66	302	P		**P**	21 27 22.3 +1.2
	baz=36,SNR=5.6						
PMG	**Port Moresby**	36.67	290	*e*P		**P**	21 27 29.0 -0.6
	comp=Z,254nm,0.7s						
PMG				*e*pP		**pP**	21 28 23.3 -1.5
PMG				sP		sP	21 29 03.7 +7.1
PMG				S		**S**	21 32 53.8 +1.7
PMG	**Port Moresby**	36.67	290	P		**P**	21 27 30.3 +0.8
	comp=Z,357nm,1.4s,comp=Z,4μm						
PMG	**Port Moresby**	36.67	290	P		**P**	21 27 29.8 +0.2
	comp=Z,182nm,0.6s,baz=105,slow=7.0,SNR=55						
PMG				pP		**pP**	21 28 24.1 -0.8
	comp=Z,57nm,0.8s,baz=16,slow=2.6,SNR=1.6						
PMG				sP		sP	21 29 03.7 +7.1
	comp=Z,70nm,0.9s,baz=97,slow=13,SNR=2.2						
PMG				S		**S**	21 32 53.8 +1.7
	comp=Z,12nm,0.8s,baz=150,slow=22,SNR=1.5						
KWAJ	**Kwajalein Atol**	37.19	336	*e*P		**P**	21 27 32.7 -1.1
KWAJ				pmax		pmax	
	comp=Z,514nm,0.8s						
KWAJ	**Kwajalein Atol**	37.19	336	*e*P		**P**	21 27 32.7 -1.1
	comp=Z,514nm,0.8s						
COEN	**Coen**	38.02	281	*e*P		**P**	21 27 40.7 -0.1
	comp=Z,2μm,1.4s						
COEN				*e*pP		**pP**	21 28 38.6 +2.1
COEN	**Coen**	38.02	281	P		**P**	21 27 40.7 -0.1
	baz=38,SNR=54						
COEN				S		**S**	21 33 13.7 +1.4
	baz=38,SNR=6.7						
RKT	**Rikitea**	39.35	95	*e*P		**P**	21 27 52.1 +0.4
	comp=Z,192nm,1.1s						
PATS	**Pohnpei**	39.77	322	P		**P**	21 27 53.2 -2.0
	baz=40,SNR=14						
BBOO	**Buckleboo**	40.13	249	*e*P		**P**	21 27 56.6 -1.5
	comp=Z,2μm,0.9s						
BBOO				*e*pP		**pP**	21 28 55.3 +1.1
BBOO				*e*S		**S**	21 33 42.2 -1.2
BBOO	**Buckleboo**	40.13	249	P		**P**	21 27 56.6 -1.5
	baz=40,SNR=66						
MANU	**Manus Island**	40.72	300	P		**P**	21 28 04.0 +1.0
	baz=41,SNR=3.3						
AS31	**Alice Springs**	43.29	262	*e*P		**P**	21 28 22.5 -1.1
AS31				*e*S		**S**	21 34 27.3 -2.5
ASAR	**Alice Springs**	43.29	262	P		**P**	21 28 22.8 -0.9
ASAR				pP		**pP**	21 29 22.8 +2.1
ASAR				sP		**sP**	21 29 51.7 -0.2
ASAR				PP		**PP**	21 30 10.0 -0.6
ASAR				S		**S**	21 34 26.6 -3.3
ASAR				P'P'			21 59 47.5
ASAR	**Alice Springs**	43.29	262	P		**P**	21 28 22.8 -0.9
	comp=Z,50nm,0.5s,baz=93,slow=7.1,SNR=356						
ASAR				pP		**pP**	21 29 22.8 +2.1
	comp=Z,28nm,0.8s,baz=111,slow=8.7,SNR=1.3						
ASAR				sP		**sP**	21 29 51.7 -0.2
	comp=Z,40nm,0.9s,baz=97,slow=8.2,SNR=2.1						
ASAR				PP		**PP**	21 30 10.0 -0.6
	comp=Z,28nm,0.8s,baz=95,slow=5.9,SNR=3.3						
ASAR				S		**S**	21 34 26.6 -3.3
	comp=Z,21nm,1.0s,baz=99,slow=14,SNR=6.1						
ASAR				PKPPKP		P'P'df	21 59 47.5 -25
	comp=Z,0.4nm,0.8s,baz=347,slow=2.9,SNR=4.1						
WRAB	**Tennant Creek**	43.86	268	P		**P**	21 28 27.0 -1.2
	comp=Z,597nm,0.5s,SNR=90						
WRAB	**Tennant Creek**	43.86	268	*e*P		**P**	21 28 26.6 -1.6
WRAB				*e*S		**S**	21 34 37.8 -0.4
WRAB				pmax		pmax	
	comp=Z,306nm,1.6s						
WRAB	**Tennant Creek**	43.86	268	*e*P		**P**	21 28 26.6 -1.6
	comp=Z,306nm,1.6s						
WRAB				*e*pP		**pP**	21 29 27.5 +2.1
WRAB				*e*S		**S**	21 34 37.8 -0.4
WRA	**Warramunga Arr**	43.87	268	P		**P**	21 28 26.5 -1.8
WRA				pP		**pP**	21 29 25.5 0.0
WRA				PP		**PP**	21 30 19.4 +2.6
WRA				S		**S**	21 34 34.1 -4.2
WRA	**Warramunga Arr**	43.87	268	P		**P**	21 28 26.5 -1.8
	comp=Z,54nm,0.5s,baz=104,slow=7.9,SNR=226						
WRA				pP		**pP**	21 29 25.5 0.0
	comp=Z,33nm,0.7s,baz=104,slow=7.6,SNR=1.4						
WRA				PP		**PP**	21 30 19.4 +2.6
	comp=Z,57nm,0.9s,baz=106,slow=7.8,SNR=4.0						
WRA				S		**S**	21 34 34.1 -4.2
	comp=Z,42nm,1.0s,baz=100,slow=14,SNR=11						
JAY	**Jayapura**	45.78	294	P		**P**	21 28 43.3 -0.1
	comp=Z,227nm,0.6s						
FORT	**Forrest**	47.10	251	*e*P		**P**	21 28 51.3 -2.0
	comp=Z,253nm,0.7s						
FORT				*e*S		**S**	21 35 22.6 -1.5
FORT	**Forrest**	47.10	251	P		**P**	21 28 51.3 -2.0
	baz=47,SNR=9.0						
FORT				S		**S**	21 35 22.6 -1.5
	baz=47,SNR=14						
WAKE	**Wake Island**	47.31	340	*e*P		**P**	21 28 54.2 -0.7
	comp=Z,562nm,1.2s						
KDU	**Kakadu**	48.06	276	P		**P**	21 28 59.0 -1.9
	baz=48,SNR=81						
KDU				S		**S**	21 35 34.0 -3.9
	baz=48,SNR=3.4						
DRV	**Dumont d'Urvil**	48.15	201	S		**S**	21 35 42.0 +4.2
DRV				L		L	21 40 00.0
DRV				R			21 44 00.0
MTN	**Manton Dam**	49.20	275	P		**P**	21 29 08.0 -1.5
	baz=49,SNR=12						
KNRA	**Kununurra**	50.27	271	P		**P**	21 29 16.6 -0.9
	baz=50,SNR=126						
KNRA				S		**S**	21 36 07.0 -1.6
	baz=50,SNR=12						
PUH	**Pauahi**	50.33	29	*e*P		**P**	21 29 17.8 -0.1
STCH	**Steam Cracks**	50.38	29	*e*P		**P**	21 29 18.6 +0.3
POHA	**Pohakuloa**	50.54	28	*e*P		**P**	21 29 20.1 +0.6
	comp=Z,1μm,1.7s						
TLE	**Tual**	50.93	285	P		**P**	21 29 23.7 +1.3
	baz=51,SNR=5.4						
HON	**Honolulu**	50.96	25	*e*P		**P**	21 29 23.0 +0.6
HON	**Honolulu**	50.96	25	*e*P		**P**	21 29 23.0 +0.6
KIP	**Kipapa**	51.05	24‖	*e*P		**P**	21 29 24.2 +1.2
KIP				pmax		pmax	
	comp=Z,1μm,1.8s						
KIP	**Kipapa**	51.05	24	*e*P		**P**	21 29 24.3 +1.3
	comp=Z,805nm,1.2s						
HKL	**Haleakala**	51.09	27	*e*P		**P**	21 29 24.6 +0.8
HKL	**Haleakala**	51.09	27	*e*P		**P**	21 29 24.6 +0.8
FITZ	**Fitzroy Crossi**	52.26	267	P		**P**	21 29 31.0 -1.2
FITZ				pP		**pP**	21 30 34.1 +2.6
FITZ				S		**S**	21 36 34.5 -1.1
FITZ	**Fitzroy Crossi**	52.26	267	P		**P**	21 29 31.0 -1.2
	comp=Z,62nm,0.8s,baz=141,slow=6.3,SNR=96						
FITZ				pP		**pP**	21 30 34.1 +2.6
	comp=Z,169nm,1.2s,baz=112,slow=9.9,SNR=4.2						
FITZ				S		**S**	21 36 34.5 -1.1
	comp=Z,15nm,0.9s,baz=245,slow=23,SNR=8.9						
FITZ	**Fitzroy Crossi**	52.26	267	P		**P**	21 29 31.4 -0.8
	baz=52,SNR=182						
FITZ				S		**S**	21 36 36.1 +0.5
	baz=52,SNR=8.3						
SBA	**Scott Base**	52.42	184	*e*P		**P**	21 29 34.6 +2.2
SBA				pmax		pmax	
	comp=Z,2μm,3.0s						
SBA	**Scott Base**	52.42	184	*e*P		**P**	21 29 34.6 +2.2
	comp=Z,2μm,3.0s						
VNDA	**Vanda**	52.46	185	*e*P		**P**	21 29 33.9 +1.1
	comp=Z,260nm,2.1s						
VNDA				pP		**pP**	21 30 33.9 +1.8
VNDA	**Vanda**	52.46	185	P		**P**	21 29 33.8 +1.1
	comp=Z,13nm,0.7s,baz=347,slow=8.1,SNR=39						
VNDA				pP		**pP**	21 30 33.9 +1.8
	comp=Z,67nm,1.3s,baz=6.4,slow=7.6,SNR=4.7						
GUMO	**Guam**	53.23	313	*e*P		**P**	21 29 37.5 -1.7
	comp=Z,2μm,1.8s						
MIDW	**Midway**	53.88	1	*e*P		**P**	21 29 43.5 -0.2
	comp=Z,2μm,1.4s						
SWI	**Sorong**	54.60	289	P		**P**	21 29 48.1 -1.0
	baz=55,SNR=27						
KLBR	**Kellerberrin**	55.67	248	P		**P**	21 29 54.6 -1.9
	baz=56,SNR=68						
RKGY	**Rocky Gully**	55.74	245	P		**P**	21 29 56.2 -0.9
	baz=56,SNR=5.4						
MEEK	**Meekatharra**	56.05	254	P		**P**	21 29 57.2 -2.2
	baz=56,SNR=29						
MBWA	**Marble Bar**	56.59	261	P		**P**	21 30 01.0 -2.2
	SNR=5.1						
MBWA	**Marble Bar**	56.59	261	*e*P		**P**	21 30 01.5 -1.7
	comp=Z,41nm,0.8s						
PALU	**Palau**	56.59	299	P		**P**	21 30 03.5 +0.3
	baz=57,SNR=5.9						
PALU				S		S	21 37 43.1 +10
	baz=57,SNR=3.7						
BLDU	**Ballidu**	56.75	249	P		**P**	21 30 02.0 -2.1
	baz=57,SNR=36						
MORW	**Morawa**	57.67	251	P		**P**	21 30 08.7 -1.9
	baz=58,SNR=86						
CASY	**Casey**	58.96	207	*e*P		**P**	21 30 17.3 -1.5
	comp=Z,84nm,0.9s						
RPN	**Rapa Nui**	60.92	108	*e*P		**P**	21 30 35.0 +2.2
	comp=Z,438nm,1.1s						
KAPI	**Kappang**	62.68	278	*e*P		**P**	21 30 45.2 +0.6
KAPI				pP		**pP**	21 31 46.2 -0.1
KAPI				S		**S**	21 38 50.4 -0.5
KAPI	**Kappang**	62.68	278	P		**P**	21 30 44.6 0.0
	comp=Z,66nm,1.7s,comp=Z,3μm						
KAPI	**Kappang**	62.68	278	P		**P**	21 30 44.3 -0.3
	comp=Z,21nm,0.6s,baz=211,slow=6.8,SNR=12						
KAPI				pP		**pP**	21 31 46.2 -0.1
	comp=Z,11nm,0.8s,baz=129,slow=6.5,SNR=1.2						
KAPI				S		**S**	21 38 50.4 -0.5
	comp=Z,6.7nm,0.7s,baz=243,slow=23,SNR=1.9						
DAV	**Davao City (W)**	63.62	293	S		**S**	21 39 00.9 -1.6
DAV	**Davao City (W)**	63.62	293	S		**S**	21 39 00.9 -1.6
	comp=Z,273nm,0.4s,baz=51,slow=10,SNR=2.0						
QSPA	**South Pole Qui**	64.12	180	*e*P		**P**	21 30 53.5 +0.1
	comp=Z,85nm,1.1s						
PAGZ	**Pagadian**	65.87	292	*e*P		**P**	21 31 04.4 -0.8
MSLP	**Maasin**	65.91	295	*e*P		**P**	21 31 04.0 -1.4
MIR	**Mirnyy**	65.97	206⇑	*i*P		**P**	21 31 07.0 +2.0
MIR				pmax		pmax	
	comp=Z,182nm,2.0s						
PLP	**Palo**	66.39	296‖	*e*P		P	21 31 05.0 -3.5
IPIL	**Ipil**	66.51	292	*e*P		**P**	21 31 09.4 +0.2
GUIM	**Jordan**	68.04	294	*e*P		**P**	21 31 16.8 -2.0
PVCP	**Virac**	68.44	298‖	*e*P		**P**	21 31 19.9 -1.3
MYLDM	**Lahad Datu**	68.61	287	P		**P**	21 31 25.3 +2.9
MYLDM	**Lahad Datu**	68.61	287	P		**P**	21 31 23.6 +1.2
	comp=Z,49nm,2.8s,comp=Z,2μm						
TSM	**Tawau**	68.71	286	P		**P**	21 31 24.5 +1.5
CUYO	**Cuyo Island**	69.45	294	*e*P		**P**	21 31 26.8 -0.6
SDKM	**Sandakan**	69.97	287	P		**P**	21 31 30.9 +0.1
KDM	**Kudat**	70.92	288	P		**P**	21 31 38.1 +1.7
KKM	**Kota Kinabalu**	71.01	287	*e*P		**P**	21 31 35.5 -1.6
	comp=Z,710nm,2.5s						
KKM	**Kota Kinabalu**	71.01	287	P		**P**	21 31 38.1 +1.0
KKM	**Kota Kinabalu**	71.01	287	P		**P**	21 31 35.7 -1.4
	comp=Z,72nm,1.9s,comp=Z,2μm						
KKM	**Kota Kinabalu**	71.01	287	P		**P**	21 31 36.0 -1.1
	baz=71,SNR=20						
TGY	**Tagaytay City**	71.30	297	P		**P**	21 31 38.9 +0.2
TGY				S		**S**	21 40 34.7 +1.1
TGY	**Tagaytay City**	71.30	297	P		**P**	21 31 38.9 +0.2
	comp=Z,92nm,0.4s,baz=239,slow=9.0,SNR=7.6						
TGY				S		**S**	21 40 34.7 +1.1
SBUM	**Sibu**	72.77	282	P		**P**	21 31 49.3 +1.9
SBUM	**Sibu**	72.77	282	P		**P**	21 31 48.0 +0.6
	comp=Z,41nm,1.7s,comp=Z,1μm						
LEM	**Lembang**	72.78	271	P		**P**	21 31 47.7 0.0
	baz=73,SNR=6.9						
BCPH	**Baguio City Da**	72.86	298⇑	*i*P		**P**	21 31 46.7 -1.2
JOW	**Kunigami**	73.54	312	*e*P		**P**	21 31 51.7 +0.2
	comp=Z,319nm,1.9s						
KSM	**Kuching**	74.01	280	*e*P		**P**	21 31 53.8 -0.8
	comp=Z,172nm,1.7s						
KSM	**Kuching**	74.01	280	P		**P**	21 31 56.5 +1.9
KSM	**Kuching**	74.01	280	P		**P**	21 31 53.6 -1.0
	comp=Z,53nm,1.6s,comp=Z,1μm						
KSM	**Kuching**	74.01	280	P		**P**	21 31 53.9 -0.7
	baz=74,SNR=5.6						
MJAR	**Matsushiro Arr**	74.49	325	P		**P**	21 31 55.7 -1.1
MJAR				S		**S**	21 41 12.8 +4.1
MJAR	**Matsushiro Arr**	74.49	325	P		**P**	21 31 55.7 -1.1
	comp=Z,88nm,1.0s,baz=164,slow=5.8,SNR=195						
MJAR				S		**S**	21 41 12.8 +4.1
	comp=Z,1.5nm,1.0s,baz=164,slow=11,SNR=5.3						
MAT	**Matsushiro**	74.49	325	P		**P**	21 31 55.9 -1.0
MAT				S		**S**	21 41 11.0 +2.3
JNU	**Nakatsue**	76.12	318	*e*P		**P**	21 32 05.8 -0.4
	comp=Z,178nm,1.4s						
JNU				S		**S**	21 41 27.3 +0.6
JNU	**Nakatsue**	76.12	318	P		**P**	21 32 05.8 -0.4
	comp=Z,126nm,0.9s,baz=96,slow=4.3,SNR=32						
JNU				S		**S**	21 41 27.3 +0.6
	comp=Z,8.4nm,1.2s,baz=197,slow=23,SNR=1.7						
MAW	**Mawson**	76.36	200	*e*P		**P**	21 32 06.6 -0.4
	comp=Z,6.5nm,0.7s						
MAW				*e*PcP		**PcP**	21 32 17.7 +0.2
MAW				pP		**pP**	21 33 10.2 -1.0
MAW				*e*pP		**pwP**	21 33 12.3 +1.1
MAW				S		**S**	21 41 29.3 +1.0
MAW	**Mawson**	76.36	200	P		**P**	21 32 06.8 -0.2
	comp=Z,20nm,0.5s,baz=133,slow=6.9,SNR=191						
MAW				pP		**pP**	21 33 10.2 -1.0
	comp=Z,30nm,0.9s,baz=180,slow=2.5,SNR=1.7						
MAW				S		**S**	21 41 29.3 +1.0
	comp=Z,2.0nm,0.9s,baz=324,slow=12,SNR=2.3						
MAW	**Mawson**	76.36	200	P		**P**	21 32 06.8 -0.2
	baz=76,SNR=193						
PMSA	**Palmer Station**	76.39	156	*e*P		**P**	21 32 08.0 +0.8
	comp=Z,58nm,0.9s						
PMSA				*e*pP		**pP**	21 33 11.8 +0.3
ERM	**Erimo**	76.47	331	P		**P**	21 32 09.2 +1.3
	comp=Z,1μm,0.7s,SNR=10						
ERM	**Erimo**	76.47	331*c*	*i*P		**P**	21 32 09.6 +1.7
ERM				pmax		pmax	
	comp=Z,727nm,2.0s						
ERM	**Erimo**	76.47	331	*e*P		**P**	21 32 08.7 +0.9
YUK	**Yuzh-Kuril'sk**	77.03	334*d*	*i*P		**P**	21 32 11.4 +0.5
YUK				*i*			21 32 22.1
YUK				*i*			21 35 06.2
YUK				*i* PPP		PPP	21 37 00.0
YUK				*i* S		**S**	21 41 36.0 0.0
YUK				*i* SS		**SS**	21 46 38.4 -2.0
YUK				*i* SSS		SSS	21 50 00.3
YUK				pmax		pmax	
	comp=N,90nm,1.3s						
YUK				pmax		pmax	
	comp=Z,1μm,1.3s						
YUK				pmax		pmax	
	comp=E,268nm,1.3s						
YUK				pmax		pmax	
	comp=Z,4μm,2.7s						
AMKA	**Amchitka**	77.04	358	*e*P		**P**	21 32 10.7 -0.1
	comp=Z,182nm,0.7s						
TATO	**Taipei**	77.14	306	P		**P**	21 32 13.3 +1.3
	SNR=12						
TATO	**Taipei**	77.14	306	*e*P		**P**	21 32 10.8 -1.2
	comp=Z,667nm,1.8s						
KUR	**Kuril'sk**	77.30	336*d*	*i*P		P	21 32 06.7 -5.7
KUR				*i* S		**S**	21 41 37.2 -1.5
KUR				pmax		pmax	
	comp=Z,1μm,1.7s						
KUR				pmax		pmax	
	comp=N,212nm,1.7s						
KUR				pmax		pmax	
	comp=E,159nm,1.2s						
KUR				pmax		pmax	
	comp=Z,4μm,2.3s						
ADK	**Adak**	77.53	1	*e*P		**P**	21 32 13.1 -0.4
ADK				pmax		pmax	
	comp=Z,2μm,0.8s						
ADK	**Adak**	77.53	1	*e*P		**P**	21 32 13.1 -0.4
	comp=Z,2μm,0.8s						
GSTR	**Great Sitkin T**	77.75	1	*e*P		**P**	21 32 16.0 +1.2
ASAJ	**Asahikawa**	78.42	332	*e*P		**P**	21 32 19.9 +1.3
	comp=Z,1μm,2.1s						
ASAJ				S		S	21 41 58.0 +7.2
ASAJ	**Asahikawa**	78.42	332	S		S	21 41 58.0 +7.2
	comp=Z,3.3nm,0.9s,baz=310,slow=31,SNR=1.6						
SMY	**Shemya**	78.65	355	*e*P		**P**	21 32 19.9 +0.3
SMY				pmax		pmax	
	comp=Z,2μm,1.7s						
SMY	**Shemya**	78.65	355	*e*P		**P**	21 32 19.9 +0.3
	comp=Z,2μm,1.7s						
FX1	**Attu Island--F**	78.87	355	*e*P		**P**	21 32 20.5 -0.3
FX1				S		**S**	21 41 54.2 -1.0
FX1	**Attu Island--F**	78.87	355	P		**P**	21 32 20.3 -0.6
	comp=Z,99nm,0.7s,baz=142,slow=9.2,SNR=17						
FX1				S		**S**	21 41 54.2 -1.0
	comp=Z,10nm,1.0s,baz=303,slow=20,SNR=1.5						
QZH	**Quanzhou**	79.25	304‖	*i*P		**P**	21 32 23.0 -0.5
QZH				pP		**pP**	21 33 26.4 -1.9
QZH				sP		**sP**	21 33 54.3 -3.2
QZH				S		**S**	21 41 57.4 -3.0
QZH				pmax		pmax	
	comp=Z,2

comp=N,3µm,21.8s
SSE LR LR
comp=E,3µm,21.8s
SSE LR LR
comp=Z,2µm,17.8s
PET Petropavlovsk 81.19 346 *de*P **P 21 32 32.1 -1.1**
PET *e**SP **sP 21 34 02.4 -5.0**
PET *e* 21 35 43.1
PET *e*S **S 21 42 17.7 -1.6**
PET *e*PS **PnS 21 43 43.2 -3.9**
PET *e*SS **SS 21 47 42.8 +0.6**
PET pmax pmax
comp=Z,2µm,3.0s
PET pmax pmax
comp=Z,303nm,1.6s
PET pmax pmax
comp=Z,2µm,12.8s
PET MLR MLR
comp=Z,900nm,19.0s
SYO Syowa Base 81.36 193 ⇓*e*P **P 21 32 31.8 -2.2**
SYO Syowa Base 81.36 193 ⇓/PcP **P 21 32 36.0 +2.0**
PEA0B Petropavlovsk- 81.48 346 *e*P **P 21 32 34.6 -0.2**
PEA0B *e*PP **PP 21 35 43.4 -2.2**
PETK Petropavlovsk- 81.48 346 P **P 21 32 34.5 -0.2**
PETK Petropavlovsk- 81.48 346 P **P 21 32 34.5 -0.2**
PETK SKKPbc SKKPbc 21 54 22.5 -0.8
PETK Petropavlovsk- 81.48 346 P **P 21 32 34.5 -0.2**
comp=Z,157nm,0.9s,baz=129,slow=8.0,SNR=118
PETK SKKPbc SKKPbc 21 54 22.5 -0.8
comp=Z,1.8nm,0.8s,baz=11,slow=8.3,SNR=3.6
FALS False Pass 81.50 9 *e*P P 21 32 30.8 -4.0
comp=Z,522nm,1.5s
INCN Inchon 81.62 319 P **P 21 32 38.2 +2.3**
SNR=18
INCN Inchon 81.62 319 *e*P **P 21 32 36.1 +0.2**
comp=Z,292nm,1.4s
SCI San Clemente I 81.63 47 ⇓P **P 21 32 36.2 +0.2**
baz=82,SNR=9.3
SBC Santa Barbara 81.78 45 ⇑P **P 21 32 36.5 -0.2**
baz=82
CIS Catalina Islan 81.99 47 ⇑P **P 21 32 37.5 -0.4**
baz=82,SNR=9.4
BLG Laguna Peak 81.99 46 ⇓P **P 21 32 38.0 +0.1**
baz=82,SNR=5.5
PKM Peak Mountain 82.00 45 ⇓P **P 21 32 38.4 +0.3**
baz=82,SNR=26
KTGM Kuala Trenggan 82.13 280 P **P 21 32 41.5 +2.5**
SMMC Simmler 82.15 45 ⇑P **P 21 32 39.4 +0.8**
baz=82,SNR=11
SAO San Andreas Ge 82.18 43 *e*P **P 21 32 40.0 +1.2**
SAO San Andreas Ge 82.18 43 *e*P **P 21 32 40.0 +1.2**
GZH Guangzhou 82.22 300 P **P 21 32 39.8 +0.6**
GZH S **S 21 42 31.0 0.0**
GZH LR LR
comp=N,1µm,15.5s
GZH LR LR
comp=E,2µm,15.2s
GZH LR LR
comp=Z,3µm,21.0s
PTRM Twissleman Ran 82.23 44 *e*P **P 21 32 40.8 +1.7**
FMP Fort Macarthur 82.25 47 ⇑P **P 21 32 40.1 +1.0**
baz=83
SDPT Sand Point 82.41 10 *e*P **P 21 32 39.2 -0.3**
comp=Z,1µm,1.8s
LPIG La Paz 82.42 59 P **P 21 32 41.8 +1.6**
LPIG La Paz 82.42 59 P **P 21 32 41.8 +1.6**
comp=Z,19nm,0.3s,baz=214,slow=3.6,SNR=3.8
OSI Osito Adit 82.53 46 ⇓P **P 21 32 41.3 +0.7**
baz=83
109C Camp Elliot, M 82.53 48 ⇓P **P 21 32 41.4 +0.8**
baz=83
DECC Green Verdugo 82.56 46 ⇑P **P 21 32 41.0 +0.2**
baz=83,SNR=6.2
SNAA Sanae 82.57 179 *e*P **P 21 32 39.8 -0.6**
SNAA Sanae 82.57 179 *ep*P pP 21 33 43.2 -2.4
SNAA Sanae 82.57 179 *e*P **P 21 32 39.1 -1.3**
comp=Z,77nm,1.1s
PASC Pasadena Art C 82.60 46 *e*P **P 21 32 41.3 +0.3**
comp=Z,72nm,1.0s
VLA Vladivostok 82.63 326 ⇓*e*P **P 21 32 41.9 +1.0**
VLA pmax pmax
comp=Z,288nm,1.5s
HOPS Hopland 82.68 40 *e*P **P 21 32 42.1 +0.9**
comp=Z,108nm,1.0s
BAR Barrett 82.70 48 *e*P **P 21 32 42.5 +0.9**
comp=Z,26nm,1.1s
MWC Mount Wilson 82.72 46 *e*P **P 21 32 42.2 +0.4**
MWC Mount Wilson 82.72 46 *e*P **P 21 32 42.2 +0.4**
ARVC Arvin 82.78 45 ⇓P **P 21 32 42.3 +0.5**
baz=83,SNR=9.5
KCPM Cahto Peak 82.85 39 *e*P **P 21 32 43.4 +1.1**
comp=Z,65nm,1.0s
QIZ Qiongzhong 82.91 295 P **P 21 32 42.5 -0.4**
QIZ pP **pP 21 33 46.8 -1.4**
QIZ sP **sP 21 34 17.0 -0.3**
QIZ S **SKSac 21 42 35.3 -2.7**
QIZ pmax pmax
comp=Z,22nm,1.0s
QIZ pmax pmax
comp=Z,630nm,10.7s
QIZ Qiongzhong 82.91 295 *e*P **P 21 32 42.2 -0.6**
comp=Z,20nm,0.9s
KIPM Iron Peak 82.99 39 *e*P **P 21 32 43.5 +0.5**
comp=Z,156nm,1.1s
BFSC Mount Baldy Ra 82.99 47 ⇑P **P 21 32 42.8 -0.4**
baz=83,SNR=20
MONP Monument Peak 82.99 48 ⇓P **P 21 32 43.6 +0.3**
baz=83,SNR=52
VES Vestal, Richgr 83.06 45 ⇓P **P 21 32 43.2 -0.1**
baz=83,SNR=12
DVTC Desert V Tower 83.07 49 ⇑P **P 21 32 43.5 0.0**
baz=83,SNR=26
EDW2 Edwards Air Fo 83.17 46 ⇑P **P 21 32 44.3 +0.3**
baz=84,SNR=79
NJ2 Nanjing 83.20 310 *e*P **P 21 32 45.4 +1.3**
NJ2 pP **pP 21 33 51.3 +1.8**
NJ2 sP **sP 21 34 20.1 +1.6**
NJ2 S **S 21 42 41.4 +0.8**
NJ2 sS **sS 21 44 39.3 +3.5**
NJ2 pmax pmax
comp=Z,940nm,0.9s
NJ2 pmax pmax
comp=Z,2µm,5.4s
NJ2 LR LR
comp=N,3µm,23.8s
NJ2 LR LR
comp=E,3µm,16.2s
NJ2 LR LR
comp=Z,1µm,19.6s
RCTC Rector, Farmer 83.26 44 ⇑P **P 21 32 44.5 +0.3**
baz=84
MAIT Maitri 83.26 183 *e*P **P 21 32 41.3 -2.5**
ISA Isabella 83.34 45 *e*P **P 21 32 45.6 +0.8**
ISA Isabella 83.34 45 *e*P **P 21 32 45.6 +0.8**
ISA Isabella 83.34 45 ⇓P **P 21 32 45.5 +0.8**
baz=84,SNR=35
USRK Ussuriysk Arra 83.35 326 P **P 21 32 44.9 +0.3**
comp=Z,66nm,0.6s,baz=128,slow=3.8,SNR=251
USRK S **S 21 42 38.4 -3.2**
comp=Z,0.7nm,0.5s,baz=171,slow=28,SNR=2.0
VNA1 Neumayer--Stat 83.39 177 *e*P **P 21 32 44.4 0.0**
VNA1 Neumayer--Stat 83.39 177 *ep*P pP 21 33 47.4 -2.4
PFO Pinyon Flat Ob 83.40 48 *e*P **P 21 32 46.1 +0.9**
PFO S **S 21 42 46.8 +4.0**
PFO Pinyon Flat Ob 83.40 48 P **P 21 32 46.0 +0.7**
comp=Z,31nm,0.9s,baz=268,slow=3.1,SNR=34
PFO S **S 21 42 46.8 +4.0**
comp=Z,0.7nm,0.3s,baz=277,slow=11,SNR=6.8
PFO Pinyon Flat Ob 83.40 48 ⇑P **P 21 32 45.7 +0.4**
baz=84,SNR=23
PFO ⇓S **S 21 42 45.1 +2.2**
baz=84
PFO ⇓S **S 21 42 45.1 +2.2**
baz=84
SWSC Sam W. Stewart 83.44 49 ⇓P **P 21 32 45.9 +0.6**
baz=84,SNR=17
BBRC Big Bear Solar 83.49 47 ⇑P **P 21 32 45.9 +0.1**
baz=84
KHMM Horse Mountain 83.56 38 *e*P **P 21 32 47.8 +1.8**
comp=Z,70nm,0.8s
IPM Ipoh 83.62 278 *e*P **P 21 32 45.6 -1.1**
IPM Ipoh 83.62 278 P **P 21 32 48.0 +1.3**
IPM Ipoh 83.62 278 P **P 21 32 45.3 -1.4**
comp=Z,40nm,1.4s,comp=Z,973nm
CMB Columbia Colle 83.64 42 *e*P **P 21 32 46.7 +0.4**
CMB pmax pmax
comp=Z,77nm,0.9s
CMB Columbia Colle 83.64 42 *e*P **P 21 32 46.7 +0.4**
comp=Z,77nm,0.9s
CHGN Chignik 83.67 11 *e*P **P 21 32 45.5 -0.3**
LRMC Laurel Mountai 83.73 46 ⇓P **P 21 32 47.1 +0.3**
baz=84,SNR=26
RRX Edison Barstow 83.81 46 ⇓P **P 21 32 47.4 +0.3**
baz=84
OHCM Honcut 83.83 41 *e*P **P 21 32 47.6 +0.5**
KRMB Red Mountain 83.90 38 *e*P **P 21 32 49.5 +1.9**
comp=Z,244nm,2.3s
BELC Belle Mtn. Jos 83.94 48 ⇓P **P 21 32 48.9 +0.9**
baz=84,SNR=104
WDC Whiskeytown Da 84.04 39 *e*P **P 21 32 49.1 +1.0**
WDC *e**PP **pP 21 33 53.1 -0.6**
WDC pmax pmax
comp=Z,97nm,1.0s
WDC Whiskeytown Da 84.04 39 *e*P **P 21 32 49.0 +1.0**
comp=Z,97nm,1.0s
WDC *ep*P **pP 21 33 53.1 -0.6**
CWC Cottonwood Cre 84.07 45 ⇓P **P 21 32 49.1 +0.5**
baz=84,SNR=17
BC3 Big Chuckawall 84.10 48 ⇓P **P 21 32 49.5 +0.8**
baz=84,SNR=30
GLA Glamis 84.17 49 *e*P **P 21 32 50.8 +1.8**
GLA pmax pmax
comp=Z,70nm,0.9s
GLA Glamis 84.17 49 *e*P **P 21 32 50.8 +1.8**
comp=Z,70nm,0.9s
GLA Glamis 84.17 49 ⇑P **P 21 32 50.1 +1.1**
baz=84,SNR=25
GSC Goldstone 84.19 46 *e*P **P 21 32 49.8 +0.6**
GSC Goldstone 84.19 46 *e*P **P 21 32 49.8 +0.6**
GSC Goldstone 84.19 46 ⇑P **P 21 32 49.5 +0.4**
baz=85,SNR=65
KBO Bosley Butte 84.19 37 *e*P P 21 32 45.5 -3.5
comp=Z,90nm,1.0s
MPMC Manual Prospec 84.21 45 ⇑P **P 21 32 49.7 +0.4**
baz=85,SNR=48
HEC Hector,Ludlow 84.22 47 ⇓P **P 21 32 49.7 +0.5**
baz=85,SNR=56
KULM Kulim 84.32 279 *e*P **P 21 32 50.3 +0.1**
comp=Z,113nm,1.4s
KULM *ep*P **pP 21 33 55.1 -0.6**
KULM Kulim 84.32 279 P **P 21 32 51.9 +1.8**
KULM Kulim 84.32 279 P **P 21 32 50.3 +0.1**
comp=Z,48nm,1.8s,comp=Z,996nm
MTUM Tungsten Hills 84.33 44 *e*P **P 21 32 50.7 +0.7**
MLAC Mammoth Lakes 84.34 43 ⇑P **P 21 32 50.9 +0.9**
baz=85
TIN Tinemaha 84.36 44 ⇓P **P 21 32 50.7 +0.8**
baz=85,SNR=10
KEBM Edson Butte 84.59 37 *e*P **P 21 32 53.5 +2.6**
comp=Z,1µm,2.4s
IRM Iron Mountain 84.60 48 ⇑P **P 21 32 51.9 +0.7**
baz=85,SNR=118
GMRC Granite Mounta 84.63 47 ⇑P **P 21 32 52.0 +0.6**
baz=85,SNR=38
YBH Yreka Blue Hor 84.71 38 *e*P **P 21 32 52.4 +0.8**
comp=Z,67nm,0.9s
YBH *ep*P **pP 21 33 57.3 +0.1**
YBH S **S 21 42 52.9 -2.4**
YBH Yreka Blue Hor 84.71 38 P **P 21 32 52.9 +1.3**
comp=Z,62nm,0.9s,baz=106,slow=0.4,SNR=74
YBH S **S 21 42 52.9 -2.4**
comp=Z,1.3nm,0.8s,baz=218,slow=23,SNR=6.3
UBPT Khong Chiam 84.71 290 P **P 21 32 52.1 +0.1**
comp=Z,48nm,1.6s,comp=Z,1µm
UBPT Khong Chiam 84.71 290 P **P 21 32 52.9 +0.9**
comp=Z,62nm,1.3s,comp=Z,1µm
113A Mohawk Valley, 84.73 50 ⇓P **P 21 32 52.6 +0.8**
baz=85,SNR=30
PSI Prapat 84.76 276 P **P 21 32 51.5 -1.1**
PSI pP **pP 21 33 57.6 -0.5**
PSI S S 21 42 50.5 -6.6
PSI Prapat 84.76 276 P **P 21 32 51.5 -1.1**
comp=Z,9.5nm,0.4s,baz=117,slow=1.1,SNR=14
PSI pP **pP 21 33 57.6 -0.5**
comp=Z,13nm,0.9s,baz=185,slow=7.4,SNR=2.1
PSI S S 21 42 50.5 -6.6
comp=Z,3.4nm,0.9s,baz=254,slow=20,SNR=7.9
PSI Prapat 84.76 276 P **P 21 32 52.2 -0.3**
baz=85,SNR=14
Y12C Blythe 84.78 49 ⇓P **P 21 32 52.7 +0.7**
baz=85,SNR=12
BEKR Beckworth 84.84 41 *e*P **P 21 32 52.5 +0.1**
comp=Z,44nm,1.4s
BEKR *ep*P **pP 21 33 57.5 -0.5**
TUQ Turquoise Moun 84.85 47 ⇑P **P 21 32 52.9 +0.4**
baz=85,SNR=83
MDJ Mudanjiang 84.86 326 P **P 21 32 52.6 +0.5**
MDJ pP **pP 21 33 54.8 -3.0**
MDJ sP **sP 21 34 22.1 -4.7**
MDJ S **S 21 42 57.8 +1.3**
MDJ ScS **ScS 21 43 06.5 +0.7**
MDJ sS **sS 21 44 47.5 -4.7**
MDJ SS **SS 21 48 36.6 0.0**
MDJ pmax pmax
comp=Z,230nm,1.2s
MDJ pmax pmax
comp=Z,2µm,5.1s
MDJ Mudanjiang 84.86 326 *e*P **P 21 32 52.4 +0.3**
comp=Z,483nm,1.4s
MDJ *ep*P **pP 21 33 56.4 -1.4**
GRAC Grapevine Rang 84.86 45 ⇓P **P 21 32 53.0 +0.6**
baz=85,SNR=63
FURC Furnace Creek, 84.86 45 ⇓P **P 21 32 53.1 +0.8**
baz=85
SHOC Shoshone 84.89 46 ⇓P **P 21 32 53.0 +0.4**
baz=85,SNR=13
214A Organ Pipe Nat 84.92 51 ⇓P **P 21 32 53.6 +0.8**
baz=85
HABR Khabarovsk 85.08 331 *ce*P **P 21 32 54.9 +1.8**
HABR *e**PP **pP 21 33 59.0 +0.2**
HABR 21 36 13.8
HABR *e*PPP PPP 21 38 08.4
HABR *e*S S 21 42 48.8 -10
HABR *e* 21 44 20.8
HABR *e*SS **SS 21 48 39.1 -0.5**
HABR pmax pmax
comp=Z,2µm,1.8s
HABR MLR MLR
comp=Z,321nm,20.0s
HUMO Hull Mountain 85.15 38 *e*P **P 21 32 54.9 +1.2**
NVAR Mina Array Bea 85.16 43 P **P 21 32 54.4 +0.3**
NVAR S **S 21 42 56.7 -3.5**
NVAR P'P' 21 59 08.2
NVAR Mina Array Bea 85.16 43 P **P 21 32 54.4 +0.3**
comp=Z,48nm,0.8s,baz=221,slow=8.1,SNR=212
NVAR S **S 21 42 56.7 -3.5**
comp=Z,0.1nm,0.4s,baz=161,slow=15,SNR=1.6
NVAR PKPPKP **P'P'df 21 59 08.2 +4.5**
comp=Z,1.1nm,0.8s,baz=90,slow=3.8,SNR=4.8
LDFC Landfair 85.17 47 *e*P **P 21 32 55.6 +1.6**
comp=Z,132nm,0.8s
NV11 Mina Array Sit 85.26 43 ⇓*e*P **P 21 32 54.6 +0.2**
NV11 *ep*P **pP 21 34 00.2 0.0**
NV11 *es*P **sP 21 34 26.8 -2.3**
PAHR Pah Rah Range 85.31 42 *e*P **P 21 32 55.5 +0.8**
PDMCI Parker Dam,Lak 85.36 48 ⇑P **P 21 32 55.4 +0.6**
baz=86,SNR=28
OHAK Old Harbor 85.51 13 *e*P **P 21 32 55.5 +0.6**
WHN Wuhan 85.51 307 ⇓*i*P **P 21 32 56.0 +0.4**
WHN sP **sP 21 34 29.8 -0.6**
WHN S **S 21 43 03.5 +0.1**
WHN pmax pmax
comp=Z,820nm,1.4s
WHN pmax pmax
comp=Z,3µm,4.7s
WHN LR LR
comp=Z,3µm,17.5s
DL2 Dalian 85.55 317 ⇓*i*P **P 21 32 56.1 +0.5**
DL2 pP **pP 21 34 01.6 +0.2**
DL2 sP **sP 21 34 34.3 +3.9**
DL2 SKS **SKSac 21 42 51.4 -2.6**
DL2 S **S 21 43 05.8 +2.3**
DL2 pmax pmax
comp=Z,240nm,1.3s
DL2 pmax pmax
comp=Z,1µm,5.3s
Z14A Wintersburg 85.63 50 ⇓P **P 21 32 57.1 +0.9**
baz=86,SNR=16
PLCA Paso Flores 85.70 133 P **P 21 32 58.5 +1.8**
PLCA *ep*P **pP 21 34 02.0 -0.4**
PLCA P'P' 21 59 05.8
PLCA Paso Flores 85.70 133 P **P 21 32 58.5 +1.8**
comp=Z,49nm,0.8s,baz=238,slow=6.4,SNR=3.8
PLCA pP **pP 21 34 02.0 -0.4**
comp=Z,15nm,1.1s,baz=236,slow=3.6,SNR=1.3
PLCA PKPPKP **P'P'df 21 59 05.8 -2.1**
comp=Z,1.7nm,0.8s,baz=305,slow=4.9,SNR=3.2
Y14A Wickenburg 85.92 49 ⇓P **P 21 32 58.4 +0.7**
baz=86,SNR=48
SHPR Sheep Range 85.98 46 *e*P **P 21 32 58.9 +0.8**
W13A Hualapai Mount 85.99 48 ⇑P **P 21 32 58.9 +0.6**
baz=86,SNR=50
KDAK Kodiak Island 86.17 13 P **P 21 32 59.4 +1.2**
comp=Z,704nm,1.5s,SNR=5.3
KDAK Kodiak Island 86.17 13 *e*P **P 21 32 58.8 +0.6**
KDAK S **SKSac 21 42 58.2 +1.3**
KDAK Kodiak Island 86.17 13 P **P 21 32 59.2 +1.0**
comp=Z,44nm,0.9s,baz=131,slow=3.1,SNR=18
KDAK S **SKSac 21 42 58.2 +1.3**
comp=Z,4.4nm,0.8s,baz=335,slow=11,SNR=1.6
PANO Nakornpanom 86.32 291 P **P 21 33 00.5 +0.6**
comp=Z,195nm,0.7s,comp=Z,6µm
CN2 Changchun 86.48 323 *e*P **P 21 33 01.3 +1.2**
CN2 *ep*P **pP 21 34 09.6 +3.6**
CN2 *es*P **sP 21 34 39.3 +4.4**
CN2 *e*S **S 21 43 11.5 -0.8**
CN2 SS **SS 21 49 02.8 +2.4**
CN2 pmax pmax
comp=Z,50nm,0.9s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,510nm,20.0s
CN2 LR LR
comp=Z,750nm,20.0s
TUC Tucson 86.55 52 *e*P **P 21 33 02.2 +1.4**
TUC Tucson 86.55 52 *e*P **P 21 33 02.2 +1.4**
TIA Tai'an 86.79 313 ⇓P **P 21 33 02.3 +0.5**
TIA S S 21 43 06.0 -10
TIA pmax pmax
comp=Z,350nm,1.0s
TIA pmax pmax
comp=Z,2µm,6.9s
TIA LR LR
comp=N,3µm,23.5s
TIA LR LR
comp=E,2µm,23.5s
TIA LR LR
comp=Z,2µm,26.5s
R11A Troy Canyon, C 86.81 44 *e*P **P 21 33 01.9 -0.1**
R11A Troy Canyon, C 86.81 44 ⇓P **P 21 33 03.2 +1.1**
baz=87
BMN Battle Mountai 87.06 42 *e*P **P 21 33 03.7 +0.5**
BMN Battle Mountai 87.06 42 *e*P **P 21 33 03.7 +0.5**
KLR Kul'dur 87.11 330 *e*P **P 21 33 00.0 -2.9**
KLR *e*S **SKSac 21 43 00.0 -3.1**
KLR *e* 21 44 57.0
KLR pmax pmax
comp=Z,2µm,8.0s
KLR pmax pmax
comp=N,110nm,1.8s
KLR pmax pmax
comp=E,220nm,1.8s
KLR pmax pmax
comp=Z,900nm,1.8s
KLR smax smax
comp=N,3µm,15.5s
KLR smax smax
comp=E,4µm,15.5s
319A Douglas 87.11 53 ⇓P **P 21 33 04.6 +1.1**
baz=87
X16A Lo Mia Camp, P 87.26 50 ⇑P **P 21 33 05.2 +0.9**
baz=88,SNR=53
WVOR Wild Horse Val 87.47 40 *e*P **P 21 33 05.1 +0.1**
WVOR pmax pmax
comp=Z,49nm,1.0s
WVOR Wild Horse Val 87.47 40 *e*P **P 21 33 05.1 +0.1**
comp=Z,49nm,1.0s
WVOR *ep*P **pP 21 34 13.1 +2.0**
WVOR *es*P **sP 21 34 37.7 -2.3**
320A Kipp Ranch, An 87.63 53 ⇓P **P 21 33 07.7 +1.6**
baz=88
VLL Laurance Lake 87.74 36 P **P 21 33 07.2 +1.0**
CCUT Cedar City 87.76 46 *e*P **P 21 33 07.7 +1.1**
NAYO Nakonayok 87.81 287 P **P 21 33 09.2 +2.2**
comp=Z,65nm,1.4s,comp=Z,7µm
U15A North Rim 87.82 47 ⇓P **P 21 33 08.1 +1.1**
baz=88,SNR=64
ARUT Antelope Range 87.84 46 *e*P **P 21 33 07.7 +0.7**
ARUT pmax pmax
comp=Z,23nm,0.8s
ARUT Antelope Range 87.84 46 *e*P **P 21 33 07.7 +0.7**
comp=Z,22nm,0.8s
FL2 Flat Top 2 87.88 35 P **P 21 33 07.8 +1.0**
NLWA Neilton Lookou 87.91 34 *e*P **P 21 33 08.4 +1.6**
WUAZ Wupatki 87.92 49 *e*P **P 21 33 08.2 +0.9**
comp=Z,38nm,0.9s
WUAZ *ep*P **pP 21 34 13.1 -0.4**
220A Playas Peak, P 87.93 53 ⇓P **P 21 33 08.8 +1.3**
baz=88,SNR=38
CHAI Chaiyaphum 87.96 289 P **P 21 33 08.2 +0.4**
comp=Z,23nm,0.7s,comp=Z,228nm
TDL Tradedollar La 88.05 35 P **P 21 33 08.7 +1.1**
120A U Bar Ranch, L 88.20 52 ⇓P **P 21 33 10.0 +1.3**
baz=88,SNR=64
X18A Snowflake 88.35 50 ⇓P **P 21 33 10.1 +0.7**
baz=89,SNR=15
LON Longmire 88.52 35 *e*P **P 21 33 10.1 +0.3**
LON Longmire 88.52 35 *e*P **P 21 33 10.1 +0.3**
221A Mesquite Ranch 88.53 53 ⇑P **P 21 33 11.7 +1.4**
baz=89,SNR=8.8
Z20A Nine Sixteen R 88.53 52 ⇓P **P 21 33 11.7 +1.4**
baz=89,SNR=96
RSO Redoubt South 88.61 12 *e*P **P 21 33 09.6 -0.4**
WPW White Pass 88.62 35 P **P 21 33 10.9 +0.6**
PHET Kaeng Krachan 88.63 285 P **P 21 33 12.7 +1.8**
comp=Z,279nm,1.2s,comp=Z,3µm
SVW2 Sparrevohn 88.69 11 *e*P **P 21 33 09.5 -0.6**
comp=Z,299nm,1.8s
BLN Blyn Mountain 88.77 34 P **P 21 33 12.0 +1.1**
121A Cookes Peak, D 88.80 53 ⇑P **P 21 33 12.7 +1.1**
baz=89,SNR=41
W18A Petrified Fore 88.81 50 *e*P **P 21 33 12.2 +0.7**
W18A *ep*P **pP 21 34 16.6 -1.3**
W18A Petrified Fore 88.81 50 ⇑P **P 21 33 12.5 +0.9**
baz=89
ENH Enshi 88.91 305 *e*P **P 21 33 12.0 +0.1**
comp=Z,95nm,0.6s
ENH *e*S S 21 43 26.6 -9.4
PGC Sidney 88.97 33 *e*P **P 21 33 12.2 +0.6**
comp=Z,7.6nm,1.0s
222A Williams Famil 89.07 53 ⇑P **P 21 33 14.0 +1.3**
baz=89
MSU Marysvale 89.07 46 *e*P **P 21 33 13.9 +1.1**
MSU Marysvale 89.07 46 *e*P **P 21 33 13.9 +1.1**
G08A Pilot Rock 89.09 37 P **P 21 33 13.2 +0.7**
Y20A Horse Springs, 89.11 51 ⇑P **P 21 33 14.5 +1.5**
baz=89,SNR=37
PBKT Sadao Pong 89.14 289 P **P 21 33 14.1 +0.9**
comp=Z,80nm,1.5s,comp=Z,2µm
PBKT Sadao Pong 89.14 289 P **P 21 33 14.1 +0.9**
comp=Z,80nm,1.5s,comp=Z,2µm
GYA Guiyang 89.15 300 ⇑*i*P **P 21 33 13.4 +0.1**
GYA pP **pP 21 34 21.3 +1.7**
GYA sP **sP 21 34 49.8 +1.4**
GYA PP **PP 21 36 50.0 +1.8**
GYA SKS **SKSac 21 43 14.3 -2.3**
GYA S **S 21 43 36.5 -1.9**
GYA sS **sS 21 45 34.5 -0.8**
GYA SS **SS 21 49 41.9 +1.9**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,240nm,6.5s
GYA LR LR
comp=N,4µm,21.1s
GYA LR LR
comp=E,2µm,22.3s
GYA LR LR
comp=Z,5µm,20.7s
TWW Teanaway 89.26 35 P **P 21 33 14.7 +1.4**
Z21A St. Cloud Mine 89.29 52 ⇑P **P 21 33 15.1 +1.2**
baz=90,SNR=20
LOEI Loei 89.32 290 P **P 21 33 13.0 -1.1**
comp=Z,207nm,1.3s,comp=Z,9µm
BBB Bella Bella 89.32 28 P **P 21 33 14.4 +1.2**
BBB S **SKSac 21 43 19.4 +3.4**

BBB	**Bella Bella**	89.32	28	P	P	21 33 14.4	+1.2
	comp=Z,56nm,0.8s,baz=262,slow=4.6,SNR=29						
BBB				S	SKSac	21 43 19.4	+3.4
	comp=Z,6.3nm,1.0s,baz=332,slow=4.2,SNR=1.4						
SPU	**Mount Spurr**	89.41	12	*e*P	P	21 33 12.6	-0.9
E07A	**Sunnyside**	89.42	36	P	P	21 33 14.7	+0.7
122A	**Conniff Cattle**	89.45	53	⇓P	P	21 33 15.8	+1.3
	baz=90,SNR=15						
223A	**Chaparral, Ant**	89.50	54	⇑P	P	21 33 15.8	+1.0
	baz=90						
BJI	**Beijing**	89.61	316	P	P	21 33 15.3	+0.4
BJI				pP	pP	21 34 19.4	-1.9
BJI				PP	PP	21 36 52.3	+0.9
BJI				SKS	SKSac	21 43 17.8	-0.5
BJI				SS	SS	21 49 50.4	+4.6
BJI				pmax	pmax		
	comp=Z,180nm,1.3s						
BJI				pmax	pmax		
	comp=Z,2μm,3.5s						
BJI				LR	LR		
	comp=N,2μm,30.0s						
BJI				LR	LR		
	comp=E,1μm,33.9s						
BJI				LR	LR		
	comp=Z,980nm,54.2s						
DUG	**Dugway**	89.63	44	*e*P	P	21 33 15.8	+0.6
DUG				pmax	pmax		
	comp=Z,98nm,2.3s						
DUG	**Dugway**	89.63	44	*e*P	P	21 33 15.8	+0.6
	comp=Z,98nm,2.3s						
Y21A	**Point of Rocks**	89.66	52	⇑P	P	21 33 16.9	+1.3
	baz=90,SNR=102						
W20A	**Ramah**	89.67	50	⇑P	P	21 33 16.8	+1.1
	baz=90,SNR=23						
MFID	**Camas Ranch**	89.70	40	⇑P	P	21 33 16.2	+0.8
	baz=90						
BMO	**Blue Mountains**	89.73	38	*e*P	P	21 33 15.4	-0.1
BMO				pmax	pmax		
	comp=Z,28nm,0.8s						
BMO	**Blue Mountains**	89.73	38	*e*P	P	21 33 15.4	-0.1
	comp=Z,28nm,0.8s						
Z22A	**Elephant Butte**	89.77	53	⇓P	P	21 33 16.8	+0.8
	baz=90,SNR=127						
CRAG	**Craig**	89.80	24	*e*P	P	21 33 16.6	+1.2
	comp=Z,322nm,1.6s						
X21A	**Alamocita Cree**	89.81	51	⇑P	P	21 33 17.0	+0.7
	baz=90,SNR=63						
324A	**Moseley Ranch,**	89.91	55	⇓P	P	21 33 17.0	+0.3
	baz=90,SNR=68						
BGU	**Big Grassy Mou**	89.91	43	*e*P	P	21 33 19.3	+2.8
425A	**Indio Mountain**	89.94	56	⇑P	P	21 33 17.0	+0.2
	baz=90,SNR=72						
123A	**Bell Site, Whi**	89.95	53	⇓P	P	21 33 18.0	+1.2
	baz=90						
Q16A	**Castle Valley**	89.95	46	*e*P	P	21 33 17.7	+0.8
Q16A				*ep*P	pP	21 34 23.0	-0.2
Q16A	**Castle Valley**	89.95	46	⇓P	P	21 33 17.6	+0.8
	baz=90						
NLU	**North Lily Min**	89.96	45	*e*P	P	21 33 18.4	+1.6
626A	**Big Bend Ranch**	89.96	57	⇑P	P	21 33 17.5	+0.5
	baz=90,SNR=66						
UTHA	**Uthaitani**	89.98	287	P	P	21 33 18.4	+1.2
	comp=Z,22nm,1.4s,comp=Z,243nm						
V20A	**Brimhall**	90.05	50	⇑P	P	21 33 17.8	+0.4
	baz=90,SNR=25						
MNTX	**Cornudas Mount**	90.11	55	*e*P	P	21 33 17.9	+0.4
	comp=Z,34nm,0.8s						
MNTX				*ep*P	pP	21 34 23.9	0.0
Y22A	**Socorro**	90.12	52	⇑P	P	21 33 18.3	+0.6
	baz=90,SNR=38						
TMUT	**Trail Mountain**	90.14	46	*e*P	P	21 33 18.9	+1.0
TXAR	**Lajitas Array**	90.20	57	P	P	21 33 18.6	+0.5
TXAR				pP	pP	21 34 27.5	+3.0
TXAR				S	SKSac	21 43 26.2	+3.7
TXAR				PKKPbc	PKKPbc	21 50 47.7	+0.9
TXAR	**Lajitas Array**	90.20	57	P	P	21 33 18.6	+0.5
	comp=Z,27nm,0.9s,baz=210,slow=7.2,SNR=105						
TXAR				pP	pP	21 34 27.5	+3.0
	comp=Z,4.7nm,0.9s,baz=248,slow=4.8,SNR=1.4						
TXAR				S	SKSac	21 43 26.2	+3.7
	comp=Z,0.2nm,0.5s,baz=172,slow=39,SNR=2.0						
TXAR				PKKPbc	PKKPbc	21 50 47.7	+0.9
	comp=Z,0.3nm,0.4s,baz=347,slow=5.1,SNR=3.9						
Y22D	**IRIS PASSCAL I**	90.22	52	⇑P	P	21 33 19.1	+0.9
	baz=91						
LENM	**Lemitar**	90.23	52	*e*P	P	21 33 19.5	+1.2
LAZ	**Ladron**	90.24	51	*e*P	P	21 33 18.8	+0.6
	comp=Z,18nm,0.9s						
526A	**Mary Lane Ranc**	90.24	57	⇑P	P	21 33 18.6	+0.2
	baz=91,SNR=65						
325A	**Bean Ranch, Si**	90.25	55	⇑P	P	21 33 18.5	+0.1
	baz=91,SNR=56						
W21A	**San Fidel**	90.26	51	⇓P	P	21 33 19.1	+0.7
	baz=91						
SIT	**Sitka**	90.27	22	*e*P	P	21 33 18.6	+1.1
SIT	**Sitka**	90.27	22	*e*P	P	21 33 18.6	+1.1
MPU	**Maple Canyon**	90.27	45	*e*P	P	21 33 19.9	+1.6
Z23A	**Rita Site, Whi**	90.29	53	⇓P	P	21 33 19.0	+0.5
	baz=91,SNR=9.5						
U20A	**Newcomb**	90.33	49	⇑P	P	21 33 19.1	+0.5
	baz=91,SNR=8.6						
PMR	**Palmer**	90.37	13	*e*P	P	21 33 18.2	+0.3
PMR	**Palmer**	90.37	13	*e*P	P	21 33 18.2	+0.3
NANT	**Nan**	90.38	291	P	P	21 33 20.5	+1.5
	comp=Z,160nm,1.7s,comp=Z,2μm						
X22A	**Bernardo**	90.38	51	⇓P	P	21 33 20.1	+1.2
	baz=91,SNR=13						
BNM	**Barren Site**	90.47	52	*e*P	P	21 33 19.7	+0.3
	comp=Z,12nm,0.7s						
BNM				*ep*P	pP	21 34 27.8	+2.0
627A	**Terlingua Ranc**	90.47	57	⇓P	P	21 33 19.5	+0.1
	baz=91,SNR=46						
SRU	**San Rafael**	90.48	46	*e*P	P	21 33 19.8	+0.5
SRU	**San Rafael**	90.48	46	*e*P	P	21 33 19.8	+0.5
SPUT	**South Promonto**	90.49	43	*e*P	P	21 33 19.4	+0.1
	comp=Z,67nm,1.0s						
SPUT				*ep*P	pP	21 34 26.2	+0.6
SPUT				*es*P	sP	21 34 51.5	-2.9
LPM	**Los Pinos Moun**	90.55	52	*e*P	P	21 33 20.4	+0.7
HVU	**Hansel Valley**	90.56	43	*e*P	P	21 33 20.4	+0.9
HVU	**Hansel Valley**	90.56	43	*e*P	P	21 33 20.4	+0.9
124A	**Stringfield Ra**	90.57	54	⇑P	P	21 33 20.2	+0.4
	baz=91,SNR=23						
CTU	**Camp Tracy**	90.58	44	*e*P	P	21 33 20.9	+1.2
426A	**McDonald Obser**	90.59	56	⇑P	P	21 33 20.2	+0.2
	baz=91,SNR=48						
HLID	**Hailey**	90.61	41	*e*P	P	21 33 20.4	+0.7
	comp=Z,51nm,0.9s						
V21A	**Milan**	90.63	50	⇑P	P	21 33 20.8	+0.7
	baz=91						
527A	**Woodward Ranch**	90.64	57	⇓P	P	21 33 20.2	0.0
	baz=91,SNR=32						
DIV	**Divide**	90.71	15	*e*P	P	21 33 19.4	-0.2
	comp=Z,231nm,1.2s						
DIV				*ep*P	pP	21 34 19.9	-6.1
DIV				*e*PP	PP	21 37 01.2	+1.5
JLU	**Jordanelle**	90.72	44	*e*P	P	21 33 21.3	+0.9
225A	**Deer Hill, Car**	90.73	54	⇓P	P	21 33 21.0	+0.4
	baz=91,SNR=33						
DAU	**Daniels Canyon**	90.73	45	*e*P	P	21 33 21.6	+1.0
DAU	**Daniels Canyon**	90.73	45	*e*P	P	21 33 21.6	+1.0
SML	**Sawmill**	90.74	14	*e*P	P	21 33 19.7	0.0
SML				*e*		21 36 56.4	
SML				pmax	pmax		
	comp=Z,86nm,1.7s						
SML	**Sawmill**	90.74	14	*e*P	P	21 33 19.7	0.0
	comp=Z,86nm,1.7s						
SML				*e*PP	PP	21 36 56.4	-3.5
TIY	**Taiyuan**	90.75	312	*e*P	P	21 33 21.3	+0.9
TIY				pP	pP	21 34 29.1	+2.3
TIY				sP	sP	21 34 59.8	+4.2
TIY				PP	PP	21 37 03.1	+2.6
TIY				SKS	SKSac	21 43 23.8	-1.4
TIY				S	S	21 43 51.3	-1.1
TIY				sS	sS	21 45 45.4	-4.4
TIY				pmax	pmax		
	comp=Z,200nm,0.7s						
TIY				LR	LR		
	comp=N,2μm,19.5s						
TIY				LR	LR		
	comp=E,1μm,22.3s						
TIY				LR	LR		
	comp=Z,1μm,26.5s						
Y23A	**Lovelace Mesa,**	90.76	52	⇑P	P	21 33 20.9	+0.2
	baz=91,SNR=15						
W22A	**Albuquerque**	90.78	51	⇓P	P	21 33 21.6	+0.9
	baz=91						
MVCO	**Mesa Verde**	90.79	49	*e*P	P	21 33 21.4	+0.6
	comp=Z,17nm,0.9s						
WRAK	**Wrangell Islan**	90.81	24	*e*P	P	21 33 20.7	+0.6
	comp=Z,251nm,1.5s						
WRAK				*ep*P	pP	21 34 24.4	-2.1
WRAK				*e*PP	PP	21 36 59.0	-1.4
BMRM	**Bremner River**	90.85	16	*e*P	P	21 33 20.6	+0.4
	comp=Z,432nm,1.5s						
628A	**Black Gap, Mar**	90.87	58	⇓P	P	21 33 21.0	-0.1
	baz=91,SNR=42						
U21A	**Nageezi**	90.94	50	⇑P	P	21 33 21.8	+0.3
	baz=91,SNR=100						
Z24A	**Sheeppen Canyo**	90.95	53	⇓P	P	21 33 21.9	+0.3
	baz=91,SNR=16						
326A	**Caldwell Ranch**	90.95	55	⇓P	P	21 33 21.6	+0.1
	baz=91,SNR=14						
PPLA	**Purkeypile**	90.97	12	*e*P	P	21 33 19.5	-1.4
	comp=Z,112nm,1.5s						
PPLA				*e*PP	PP	21 36 57.1	-4.7
ANMO	**Albuquerque**	91.00	51	*e*P	P	21 33 22.4	+0.7
	comp=Z,36nm,0.9s						
X23A	**Hourglass Bar**	91.00	52	⇑P	P	21 33 22.3	+0.4
	baz=91,SNR=18						
GDL2	**Guadalupe Moun**	91.11	55	*e*P	P	21 33 23.3	+1.1
125A	**Gardner Draw,**	91.12	54	⇓P	P	21 33 22.9	+0.6
	baz=91,SNR=21						
PV04	**Paradox Valley**	91.15	47	*e*P	P	21 33 23.4	+1.1
427A	**Hayter Ranch,**	91.15	56	⇓P	P	21 33 23.0	+0.5
	baz=92,SNR=81						
LAMP	**Lampang**	91.16	290	P	P	21 33 23.9	+1.3
	comp=Z,32nm,0.9s,comp=Z,284nm						
V22A	**San Miguel Ran**	91.19	50	⇓P	P	21 33 23.0	+0.3
	baz=92,SNR=7.3						
226B	**Tecolote Peak,**	91.19	55	⇓P	P	21 33 22.8	+0.2
	baz=92,SNR=21						
Y24A	**Capitan**	91.20	53	⇓P	P	21 33 23.1	+0.3
	baz=92,SNR=48						
HWUT	**Hardware Ranch**	91.21	44	*e*P	P	21 33 22.3	-0.3
	comp=Z,22nm,0.7s						
HWUT				*e*PP	PP	21 37 03.2	-1.0
S20A	**Disappointment**	91.21	48	⇓P	P	21 33 23.1	+0.4
	baz=92						
PV01	**Paradox Valley**	91.23	48	*e*P	P	21 33 23.3	+0.5
	comp=Z,2μm,0.9s						
XAN	**Xi'an**	91.25	307	P	P	21 33 23.3	+0.5
XAN				pP	pP	21 34 32.3	+3.1
XAN				sP	sP	21 35 01.9	+3.9
XAN				PP	PP	21 37 08.3	+3.8
XAN				SKS	SKSac	21 43 28.5	+0.3
XAN				S	S	21 43 57.5	+0.4
XAN				pmax	pmax		
	comp=Z,34nm,0.8s						
XAN				pmax	pmax		
	comp=Z,220nm,14.6s						
XAN				LR	LR		
	comp=N,2μm,30.4s						
XAN				LR	LR		
	comp=E,400nm,23.7s						
XAN				LR	LR		
	comp=Z,420nm,27.2s						
T21A	**Navajo Lake**	91.32	49	⇓P	P	21 33 23.2	-0.1
	baz=92						
W23A	**Werner Place,**	91.33	51	⇑P	P	21 33 23.7	+0.3
	baz=92,SNR=9.1						
327A	**Balmorhea Ranc**	91.34	56	⇓P	P	21 33 23.0	-0.2
	baz=92						
Z25A	**Roswell**	91.39	53	⇓P	P	21 33 24.0	+0.5
	baz=92,SNR=12						
U22A	**Llaves**	91.47	50	⇓P	P	21 33 24.2	+0.2
	baz=92						
CLNB	**Carlsbad**	91.50	55	*e*P	P	21 33 23.4	-0.7
	comp=Z,2.3nm,0.5s						
S21A	**Coal Bank Pass**	91.50	48	⇓P	P	21 33 24.4	+0.2
	baz=92,SNR=21						
X24A	**Lazy VL Ranch,**	91.53	52	⇑P	P	21 33 24.2	-0.1
	baz=92						
126A	**Clayton Basin,**	91.58	54	⇓P	P	21 33 24.2	-0.2
	baz=92						
TNA	**Tin City**	91.58	4	*e*P	P	21 33 23.8	+0.3
	comp=Z,74nm,0.8s						
TNA				*e*PP	PP	21 37 05.5	-0.9
V23A	**Ortiz Mt. (NFS**	91.61	51	⇑P	P	21 33 25.1	+0.5
	baz=92,SNR=13						
KMI	**Kunming**	91.61	297	P	P	21 33 25.8	+0.9
KMI				pP	pP	21 34 33.5	+2.2
KMI				sP	sP	21 35 02.1	+2.0
KMI				PP	PP	21 37 06.8	-0.9
KMI				SKS	SKSac	21 43 32.0	+1.0
KMI				S	S	21 44 00.0	-1.1
KMI				sS	sS	21 45 59.8	+1.1
KMI				SS	SS	21 50 15.0	-0.6
KMI				pmax	pmax		
	comp=Z,99nm,1.5s						
KMI				pmax	pmax		
	comp=Z,540nm,3.1s						
KMI				LR	LR		
	comp=N,880nm,28.3s						
KMI				LR	LR		
	comp=E,790nm,20.2s						
KMI				LR	LR		
	comp=Z,1μm,22.6s						
428A	**Kincaid Ranch,**	91.63	57	⇓P	P	21 33 25.0	+0.4
	baz=92,SNR=5.5						
SEY	**Seymchan**	91.63	347	*c i*P	P	21 33 24.0	+0.3
529A	**Stev Forest Ra**	91.69	57	⇓P	P	21 33 24.4	-0.5
	baz=92,SNR=47						
M17A	**Scullys Gap (B**	91.69	44	⇑P	P	21 33 25.0	+0.2
	baz=92						
CM31	**Chiang Mai Arr**	91.71	290	*e*P	P	21 33 25.1	-0.1
	comp=Z,116nm,1.4s						
CMAR	**Chiang Mai Arr**	91.71	290	P	P	21 33 25.9	+0.7
CMAR				pP	pP	21 34 31.6	0.0
CMAR				PP	PP	21 37 09.7	+1.4
CMAR				S	SKSac	21 43 36.1	+4.8
CMAR				PKKPbc	PKKPbc	21 50 42.6	+0.2
CMAR	**Chiang Mai Arr**	91.71	290	P	P	21 33 25.9	+0.7
	comp=Z,21nm,1.1s,baz=138,slow=3.1,SNR=60						
CMAR				pP	pP	21 34 31.6	0.0
	comp=Z,6.6nm,1.1s,baz=124,slow=3.5,SNR=1.2						
CMAR				PP	PP	21 37 09.7	+1.4
	comp=Z,3.6nm,0.9s,baz=120,slow=3.8,SNR=2.7						
CMAR				S	SKSac	21 43 36.1	+4.8
	comp=Z,0.4nm,0.3s,baz=263,slow=5.6,SNR=4.4						
CMAR				PKKPbc	PKKPbc	21 50 42.6	+0.2
	comp=Z,1.2nm,0.8s,baz=290,slow=4.4,SNR=4.5						
Y25A	**Mesa, Roswell**	91.73	53	⇑P	P	21 33 25.4	+0.2
	baz=92,SNR=24						
T22A	**Edith**	91.77	49	⇓P	P	21 33 25.6	+0.2
	baz=92,SNR=7.7						
P19A	**Cripple Cowboy**	91.77	46	⇑P	P	21 33 25.8	+0.6
	baz=92						
227A	**Bennet, Jal**	91.80	55	⇑P	P	21 33 25.4	0.0
	baz=92						
TRF	**Thorofare Moun**	91.83	12	*e*P	P	21 33 23.5	-1.4
	comp=Z,150nm,0.8s						
TRF				*ep*P	pP	21 34 28.2	-3.2
TRF				*es*P	sP	21 35 00.3	+0.2
Q20A	**Ridgley Place,**	91.85	47	⇓P	P	21 33 25.4	-0.2
	baz=92						
328A	**Wristen Ranch,**	91.85	56	⇓P	P	21 33 25.2	-0.4
	baz=92,SNR=20						
CMMT	**Chiang Mai**	91.87	290	P	P	21 33 26.2	+0.3
	comp=Z,74nm,1.6s,comp=Z,1μm						
CMMT	**Chiang Mai**	91.87	290	P	P	21 33 26.2	+0.3
	comp=Z,74nm,1.6s,comp=Z,1μm						
CHTO	**Chiang Mai**	91.87	290	*e*P	P	21 33 26.6	+0.6
CHTO	**Chiang Mai**	91.87	290	P	P	21 33 26.8	+0.9
	SNR=60						
CHTO	**Chiang Mai**	91.87	290	*e*P	P	21 33 26.6	+0.6
CHTO	**Chiang Mai**	91.87	290	P	P	21 33 26.5	+0.6
	comp=Z,82nm,1.6s,comp=Z,1μm						
CHTO	**Chiang Mai**	91.87	290	P	P	21 33 26.6	+0.6
	comp=Z,82nm,1.6s,comp=Z,1μm						
W24A	**Lazy 6 Ranch,**	91.88	52	⇑P	P	21 33 25.7	-0.2
	baz=92,SNR=37						
U23A	**El Rito**	91.90	50	⇑P	P	21 33 26.4	+0.5
	baz=92,SNR=7.1						
Z26A	**Caprock**	91.92	54	⇑P	P	21 33 25.7	-0.3
	baz=92,SNR=40						
NEW	**Newport**	91.93	36	*e*P	P	21 33 25.8	+0.2
NEW				PP	PP	21 37 09.3	-0.3
NEW				S	SKSac	21 43 35.5	+4.2
NEW	**Newport**	91.93	36	P	P	21 33 25.6	0.0
	comp=Z,11nm,0.9s,baz=241,slow=6.0,SNR=12						
NEW				PP	PP	21 37 09.3	-0.3
	comp=Z,2.8nm,0.9s,baz=273,slow=21,SNR=3.5						
NEW				S	SKSac	21 43 35.5	+4.2
	comp=Z,1.0nm,0.5s,baz=75,slow=21,SNR=6.2						
O19A	**Miners Draw (B**	92.03	46	⇑P	P	21 33 26.7	+0.3
	baz=92						
X25A	**Clemmons Ranch**	92.06	52	⇑P	P	21 33 26.3	-0.4
	baz=92						
P20A	**De Beque**	92.08	47	⇑P	P	21 33 26.6	-0.1
	baz=92,SNR=22						
429A	**Davenport Ranc**	92.17	57	⇓P	P	21 33 26.9	-0.2
	baz=92,SNR=210						
SKAG	**Skagway**	92.17	20	*e*P	P	21 33 29.7	+3.4
S22A	**4UR Ranch, Cre**	92.20	49	⇓P	P	21 33 27.4	+0.1
	baz=92,SNR=48						
V24A	**Rampart Ranch,**	92.23	51	⇑P	P	21 33 27.3	-0.2
	baz=93,SNR=16						
MCMT	**McKenzie Canyo**	92.27	40	*e*P	P	21 33 28.8	+1.4
	comp=Z,28nm,1.0s						
Q21A	**Lamborn Mesa,**	92.27	48	⇑P	P	21 33 28.1	+0.6
	baz=93						
CMAI	**Chiengmai2**	92.28	291	P	P	21 33 28.6	+0.6
	comp=Z,126nm,1.6s						
RRI2	**Red Ridge**	92.33	42	*e*P	P	21 33 28.2	+0.4
	comp=Z,36nm,0.8s						
RRI2				*ep*P	pP	21 34 32.8	-1.5
L18A	**Fontenelle, Gr**	92.34	44	⇓P	P	21 33 27.8	0.0
	baz=93						
MCK	**McKinley**	92.34	13	*e*P	P	21 33 26.4	-0.6
MCK				pmax	pmax		
	comp=Z,90nm,1.0s						
MCK	**McKinley**	92.34	13	*e*P	P	21 33 26.4	-0.6
	comp=Z,90nm,1.0s						
MCK				*ep*P	pP	21 34 33.3	-0.2
MCK				*e*PP	PP	21 37 02.0	-10
Y26A	**Elida**	92.36	53	⇑P	P	21 33 28.0	0.0
	baz=93						
530A	**J-C Ranch, Com**	92.37	58	⇑P	P	21 33 27.7	-0.4
	baz=93,SNR=26						
T23A	**Casias Ranch,**	92.37	50	⇓P	P	21 33 28.1	-0.1
	baz=93						
228A	**UT Block 9, Go**	92.37	55	⇑P	P	21 33 27.6	-0.4
	baz=93,SNR=12						
PAX	**Paxson**	92.39	14	*e*P	P	21 33 26.9	-0.5
PAX				pmax	pmax		
	comp=Z,71nm,1.1s						
PAX	**Paxson**	92.39	14	*e*P	P	21 33 26.9	-0.5
	comp=Z,70nm,1.1s						
R22A	**Saguache, Gunn**	92.50	48	⇓P	P	21 33 29.1	+0.3
	baz=93,SNR=21						
Z27A	**Tatum**	92.50	54	⇓P	P	21 33 27.6	-1.0
	baz=93,SNR=11						
O20A	**White River Ci**	92.51	46	*e*P	P	21 33 28.6	-0.1
O20A	**White River Ci**	92.51	46	⇑P	P	21 33 28.8	+0.1
	baz=93,SNR=6.3						
329A	**Wagon Wheel Ra**	92.52	56	⇑P	P	21 33 28.3	-0.5
	baz=93,SNR=36						
I16A	**Newdale**	92.53	42	⇑P	P	21 33 29.3	+0.7
	baz=93,SNR=36						
W25A	**X Bar L Ranch,**	92.55	52	⇓P	P	21 33 28.7	-0.1
	baz=93,SNR=32						
U24A	**Moreno Valley**	92.57	51	⇓P	P	21 33 29.5	+0.4
	baz=93						
631A	**Perdido Creek**	92.60	59	⇑P	P	21 33 28.5	-0.6
	baz=93,SNR=31						
HYT	**Haines Junctio**	92.61	19	*e*P	P	21 33 29.2	+0.7
REDW	**Red Top Meadow**	92.63	42	*e*P	P	21 33 29.9	+0.8
TPAW	**Teton Pass**	92.64	42	*e*P	P	21 33 29.8	+0.5
M19A	**Rock Springs**	92.66	45	⇑P	P	21 33 28.9	-0.5
	baz=93,SNR=8.3						
X26A	**CR and CF Fran**	92.68	53	⇓P	P	21 33 29.5	0.0
	baz=93						
128A	**Castleberry Fa**	92.70	55	⇓P	P	21 33 29.1	-0.4
	baz=93,SNR=14						
P21A	**Newcastle**	92.71	47	⇑P	P	21 33 29.3	-0.3
	baz=93						
TRQA	**Tornquist**	92.71	135	*e*P	P	21 33 31.1	+1.5
DLMT	**Dillon**	92.72	40	*e*P	P	21 33 29.1	-0.3
	comp=Z,35nm,1.1s						
DLMT				*ep*P	pP	21 34 34.7	-1.2
Q22A	**Crested Butte,**	92.72	48	⇑P	P	21 33 29.7	-0.1
	baz=93,SNR=26						
S23A	**Nye Farm, Mont**	92.74	49	⇓P	P	21 33 29.0	-0.8
	baz=93						
SNOW	**Snow King Moun**	92.74	42	*e*P	P	21 33 29.8	+0.1
	comp=Z,52nm,0.8s						
732A	**Laxson Ranch,**	92.74	59	⇓P	P	21 33 29.2	-0.5
	baz=93,SNR=12						
430A	**Baggett Ranch,**	92.75	57	⇑P	P	21 33 29.7	-0.1
	baz=93,SNR=12						
V25A	**Rancho No Teng**	92.75	51	⇓P	P	21 33 30.0	+0.2
	baz=93,SNR=9.6						
MSO	**Missoula**	92.80	38	*e*P	P	21 33 30.4	+0.7
	comp=Z,6.6nm,0.8s						
MSO	**Missoula**	92.80	38	⇑P	P	21 33 29.4	-0.3
	baz=93						
Y27A	**Causey**	92.82	54	⇓P	P	21 33 29.8	-0.3
	baz=93,SNR=13						
SMCO	**Snowmass**	92.84	47	*e*P	P	21 33 24.9	-5.5
	comp=Z,44nm,0.9s						
L19A	**Farson**	92.86	44	⇓P	P	21 33 30.0	-0.2
	baz=93,SNR=42						
IMW	**Indian Meadow**	92.87	42	*e*P	P	21 33 30.8	+0.4
	comp=Z,43nm,1.0s						
IMW				*ep*P	pP	21 34 36.5	-0.3
N20A	**Spence Gulch,**	92.87	46	⇓P	P	21 33 30.4	+0.1
	baz=93,SNR=28						
229A	**Bryant Ranch,**	92.88	56	⇓P	P	21 33 30.4	+0.1
	baz=93,SNR=7.4						
MOOW	**Moose Ponds**	92.91	42	*e*P	P	21 33 31.1	+0.6
LOHW	**Long Hollow**	92.92	42	*e*P	P	21 33 30.8	+0.4
BSMT	**Bassoo Peak**	92.94	37	*e*P	P	21 33 30.6	+0.2
531A	**Rocksprings**	92.98	58	⇓P	P	21 33 30.6	-0.3
	baz=93,SNR=40						
W26A	**Owens Ranch, T**	92.98	52	⇓P	P	21 33 31.0	+0.1
	baz=93						
HHC	**Hu-ho-hao-te**	92.99	314	*e*P	P	21 33 31.0	+0.3
HHC				pP	pP	21 34 41.0	+3.8
HHC				sP	sP	21 35 10.3	+4.3
HHC				PP	PP	21 37 22.8

DLBC				PP	PP	21 37 19.5	+0.6
DLBC				S	SKSac	21 43 44.1	+6.4
DLBC	Dease Lake	93.16	23	P	P	21 33 31.6	+0.7
	comp=Z,13nm,0.8s,baz=214,slow=5.0,SNR=29						
DLBC				PP	PP	21 37 19.5	+0.6
	comp=Z,11nm,1.0s,baz=229,slow=8.4,SNR=6.5						
DLBC				S	SKSac	21 43 44.1	+6.4
	comp=Z,1.6nm,0.2s,baz=46,slow=27,SNR=9.9						
129A	Stewart Farms,	93.16	55	⇓P	P	21 33 31.5	-0.2
	baz=94,SNR=17						
SWMT	Swartz Lake	93.17	38	eP	P	21 33 31.5	+0.2
431A	Sonora	93.17	57	⇑P	P	21 33 31.6	-0.1
	baz=94,SNR=6.0						
U25A	Circle Dot Ran	93.18	51	⇑P	P	21 33 32.0	+0.2
	baz=94,SNR=6.6						
P22A	Eagle	93.20	47	⇑P	P	21 33 31.9	0.0
	baz=94						
CHMT	Chamberlain Mo	93.23	38	eP	P	21 33 31.9	+0.1
X27A	F and S Farms,	93.24	53	⇑P	P	21 33 32.4	+0.4
	baz=94						
YFT	Old Faithful	93.24	41	eP	P	21 33 33.1	+1.1
	comp=Z,43nm,1.0s						
S24A	Houchin Ranch,	93.24	50	⇑P	P	21 33 32.4	+0.2
	baz=94,SNR=19						
632A	Uvalde	93.25	59	⇑P	P	21 33 31.8	-0.3
	baz=94,SNR=8.9						
M20A	Sweetwater, Wa	93.27	45	⇑P	P	21 33 31.9	-0.3
	baz=94,SNR=20						
YMR	Madison River	93.28	41	eP	P	21 33 32.9	+0.8
	comp=Z,32nm,0.8s						
SLMT	Seeley Lake	93.29	38	eP	P	21 33 32.0	0.0
SLMT				ePP	PP	21 37 20.3	0.0
N21A	Black Mountain	93.31	46	⇓P	P	21 33 32.1	-0.3
	baz=94,SNR=34						
V26A	Tequesquite Ra	93.31	52	⇓P	P	21 33 32.0	-0.4
	baz=94,SNR=9.8						
H17A	Grant Village	93.36	42	eP	P	21 33 32.8	+0.2
H17A				epP	pP	21 34 37.7	-1.3
H17A	Grant Village	93.36	42	⇓P	P	21 33 34.0	+1.5
	baz=94						
230A	Sterling City	93.36	56	⇓P	P	21 33 32.0	-0.6
	baz=94,SNR=12						
BOZ	Bozeman (W)	93.44	40	eP	P	21 33 32.7	0.0
BOZ				e*PP	pP	21 34 38.1	-1.1
BOZ				pmax	pmax		
	comp=Z,11nm,0.7s						
BOZ	Bozeman (W)	93.44	40	eP	P	21 33 32.7	0.0
	comp=Z,11nm,0.7s						
BOZ				epP	pP	21 34 38.1	-1.1
I18A	Diamond G Ranc	93.44	43	⇑P	P	21 33 32.9	0.0
	baz=94,SNR=23						
L20A	Wamsutter	93.45	45	⇑P	P	21 33 32.8	-0.1
	baz=94,SNR=24						
532A	Rocksprings	93.45	58	⇓P	P	21 33 33.0	-0.1
	baz=94,SNR=39						
Q23A	Hartsel	93.46	48	⇓P	P	21 33 33.5	+0.3
	baz=94						
W27A	Bowe Ranch, En	93.47	53	⇓P	P	21 33 33.4	+0.4
	baz=94						
YNR	Norris Junctio	93.48	41	eP	P	21 33 33.8	+0.7
	comp=Z,16nm,1.0s						
Y28A	McKinney Farm,	93.49	54	⇑P	P	21 33 33.4	+0.2
	baz=94						
CD2	Chengdu	93.53	303	P	P	21 33 34.4	+1.1
CD2				pP	pP	21 34 41.9	+2.1
CD2				sP	sP	21 35 10.8	+2.2
CD2				PP	PP	21 37 25.8	+3.4
CD2				SKS	SKSac	21 43 40.1	-0.8
CD2				S	S	21 44 15.3	-2.0
CD2				sS	sS	21 46 15.3	-0.1
CD2				SS	SS	21 50 43.6	+1.2
CD2				pmax	pmax		
	comp=Z,200nm,1.4s						
CD2				pmax	pmax		
	comp=Z,1μm,4.8s						
T25A	Trinidad	93.54	50	⇑P	P	21 33 33.4	-0.1
	baz=94						
IM04	Indian Mountai	93.55	10	eP	P	21 33 32.2	-0.3
K19A	Absolon Red Bu	93.56	44	⇓P	P	21 33 32.9	-0.6
	baz=94,SNR=20						
COLA	College	93.58	13	eP	P	21 33 32.3	-0.4
COLA	College	93.58	13	eP	P	21 33 32.3	-0.4
Z29A	Hungry Hill Ra	93.58	55	⇑P	P	21 33 32.9	-0.7
	baz=94,SNR=12						
331A	San Angelo	93.61	57	⇑P	P	21 33 33.8	+0.1
	baz=94						
R24A	Sanders Place,	93.61	49	⇑P	P	21 33 34.0	+0.2
	baz=94,SNR=8.5						
O22A	Kremmling	93.64	47	⇑P	P	21 33 34.0	+0.1
	baz=94,SNR=43						
U26A	Atchley Ranch,	93.64	51	⇓P	P	21 33 33.8	-0.1
	baz=94,SNR=14						
IMA2	Indian Mountai	93.66	10	eP	P	21 33 32.4	-0.7
J19A	Crowheart	93.67	43	⇓P	P	21 33 34.0	+0.1
	baz=94,SNR=34						
ILAR	Eielson Array	93.68	13	P	P	21 33 32.2	-0.9
ILAR				PP	PP	21 37 04.7	-18
ILAR				PKiKP	PKiKP	21 38 16.7	-0.1
ILAR				S	SKSac	21 43 41.1	+1.0
ILAR	Eielson Array	93.68	13	P	P	21 33 32.2	-0.9
	comp=Z,14nm,0.6s,baz=223,slow=5.2,SNR=107						
ILAR				PP	PP	21 37 04.7	-18
	comp=Z,8.7nm,1.0s,baz=220,slow=7.6,SNR=4.2						
ILAR				PKiKP	PKiKP	21 38 16.7	-0.1
	comp=Z,1.4nm,0.8s,baz=324,slow=4.0,SNR=4.2						
ILAR				S	SKSac	21 43 41.1	+1.0
	comp=Z,1.4nm,0.9s,baz=221,slow=8.8,SNR=5.9						
JCT	Junction City	93.69	58	eP	P	21 33 33.9	-0.2
JCT	Junction City	93.69	58	eP	P	21 33 33.9	-0.2
P23A	Jefferson	93.70	48	⇓P	P	21 33 34.7	+0.3
	baz=94,SNR=7.3						
G17A	Pierce Place,	93.78	41	⇑P	P	21 33 34.9	+0.7
	baz=94						
S25A	Robets Cordova	93.79	50	⇑P	P	21 33 34.5	0.0
	baz=94,SNR=16						
K20A	Yellowstone Ra	93.79	44	⇓P	P	21 33 33.8	-0.7
	baz=94,SNR=8.7						
130A	Snyder	93.81	56	⇓P	P	21 33 33.8	-0.8
	baz=94,SNR=7.3						
X28A	Dimmitt	93.83	53	⇑P	P	21 33 34.6	-0.1
	baz=94						
M21A	Separation Pea	93.86	45	⇓P	P	21 33 34.7	-0.2
	baz=94,SNR=24						
BTO	Baotou	93.86	314	eP	P	21 33 35.4	+0.7
432A	Menard	93.88	58	⇑P	P	21 33 34.2	-0.8
	baz=94,SNR=19						
Y29A	Porterfield Fa	93.89	54	⇓P	P	21 33 34.8	-0.2
	baz=94,SNR=5.7						
HRY	Holter Researc	93.92	39	eP	P	21 33 36.2	+1.3
Q24A	Divide	93.95	48	⇑P	P	21 33 35.4	0.0
	baz=94,SNR=12						
V27A	Dan Oppiter Fa	93.97	52	⇓P	P	21 33 35.5	+0.1
	baz=94						
231A	Bronte	93.98	56	⇓P	P	21 33 34.8	-0.6
	baz=94,SNR=40						
RWWY	Rawlins	94.00	45	eP	P	21 33 35.6	+0.1
	comp=Z,16nm,0.8s						
RWWY				epP	pP	21 34 40.8	-1.3
Z30A	Sanderson Ranc	94.02	55	⇓P	P	21 33 34.7	-0.8
	baz=94,SNR=23						
N22A	Wattenberg Ran	94.03	46	⇑P	P	21 33 35.3	-0.4
	baz=94						
L21A	Rawlins	94.04	45	⇓P	P	21 33 35.4	-0.3
	baz=94,SNR=8.3						
H18A	Shoshone NF, C	94.06	42	⇓P	P	21 33 36.3	+0.6
	baz=94,SNR=12						
ISCO	Idaho Springs	94.07	47	eP	P	21 33 36.4	+0.5
ISCO	Idaho Springs	94.07	47	eP	P	21 33 36.4	+0.5
O23A	Lake Granby, G	94.07	47	⇓P	P	21 33 36.1	+0.2
	baz=94,SNR=23						
WALA	Waterton Lakes	94.11	36	eP	P	21 33 35.3	-0.4
	comp=Z,0.6nm,1.1s						
I19A	Meeteetse	94.12	43	⇓P	P	21 33 36.6	+0.7
	baz=94						
T26A	Comanche Natio	94.13	51	⇑P	P	21 33 36.0	-0.2
	baz=94						
R25A	Fountain Ranch	94.13	49	⇑P	P	21 33 35.9	-0.2
	baz=94,SNR=16						
F17A	Fitzpatrick Pl	94.15	40	⇓P	P	21 33 36.3	+0.3
	baz=94,SNR=8.8						
X29A	Tulia	94.15	54	⇑P	P	21 33 36.3	+0.1
	baz=94						
332A	Millersview	94.16	57	⇑P	P	21 33 35.7	-0.5
	baz=94,SNR=29						
W28A	Vega	94.17	53	⇑P	P	21 33 36.2	-0.1
	baz=94						
M22A	Cedar Creek Ra	94.24	46	⇑P	P	21 33 36.0	-0.6
	baz=95,SNR=8.3						
131A	Roby	94.28	56	⇓P	P	21 33 36.1	-0.6
	baz=95,SNR=26						
U27A	Thompson Grove	94.30	52	⇑P	P	21 33 36.3	-0.5
	baz=95,SNR=5.1						
J20A	Shoshoni	94.32	43	⇓P	P	21 33 36.7	-0.1
	baz=95,SNR=44						
E17A	Martinsdale	94.34	40	⇑P	P	21 33 38.5	+1.6
	baz=95						
AMTX	Amarillo	94.37	53	eP	P	21 33 36.9	-0.3
	comp=Z,19nm,0.9s						
P24A	Kohler Place,	94.39	48	⇑P	P	21 33 36.6	-0.7
	baz=95						
V28A	Channing	94.40	52	⇓P	P	21 33 36.9	-0.4
	baz=95						
N23A	Red Feather La	94.41	46	⇑P	P	21 33 37.3	-0.2
	baz=95,SNR=20						
S26A	Kim	94.43	50	⇑P	P	21 33 36.8	-0.6
	baz=95,SNR=8.8						
K21A	Alcova	94.46	44	⇑P	P	21 33 37.2	-0.4
	baz=95,SNR=18						
232A	Coleman	94.46	57	⇓P	P	21 33 37.0	-0.6
	baz=95,SNR=28						
Y30A	Stafford Cattl	94.47	55	⇓P	P	21 33 37.0	-0.6
	baz=95,SNR=6.2						
H19A	Powell	94.47	42	⇑P	P	21 33 38.1	+0.6
	baz=95						
G18A	Lazy EL Ranch,	94.47	41	⇓P	P	21 33 37.9	+0.5
	baz=95						
W29A	Amraillo	94.51	53	⇓P	P	21 33 37.1	-0.7
	baz=95,SNR=7.2						
Q25A	Bedland, Calha	94.54	49	⇓P	P	21 33 37.5	-0.5
	baz=95						
RLMT	Red Lodge	94.54	42	eP	P	21 33 37.5	-0.4
	comp=Z,11nm,1.1s						
O24A	Longmont	94.59	47	⇑P	P	21 33 38.2	+0.1
	baz=95						
I20A	Worland	94.61	43	⇓P	P	21 33 37.8	-0.2
	baz=95,SNR=16						
L22A	Ellis Ranch, M	94.67	45	⇑P	P	21 33 38.7	+0.2
	baz=95,SNR=14						
T27A	Campo	94.68	51	⇑P	P	21 33 38.3	-0.3
	baz=95						
F18A	Big Timber	94.70	41	⇓P	P	21 33 38.8	+0.3
	baz=95,SNR=9.9						
U28A	Mallet	94.70	52	⇑P	P	21 33 38.3	-0.4
	baz=95						
J21A	Lysite	94.71	44	⇑P	P	21 33 38.5	-0.1
	baz=95,SNR=15						
X30A	Coker Ranch, T	94.75	54	⇑P	P	21 33 38.9	0.0
	baz=95						
Z31A	Sharp Cattle R	94.76	55	⇓P	P	21 33 38.3	-0.6
	baz=95,SNR=15						
R26A	Arlington	94.78	50	⇓P	P	21 33 38.9	-0.1
	baz=95,SNR=7.7						
ABTX	Abilene, Hawle	94.81	56	eP	P	21 33 38.4	-0.8
ABTX	Abilene, Hawle	94.81	56	⇑P	P	21 33 38.7	-0.5
	baz=95,SNR=7.9						
D17A	Six Diamond Ra	94.82	39	⇓P	P	21 33 38.7	-0.3
	baz=95,SNR=20						
M23A	Laramie	94.84	46	⇓P	P	21 33 39.1	-0.2
	baz=95,SNR=8.3						
S27A	Las Animas	94.86	50	⇑P	P	21 33 39.0	-0.4
	baz=95						
P25A	Willow Gulch B	94.89	48	⇑P	P	21 33 39.5	0.0
	baz=95,SNR=16						
PHWY	Pilot Hill	94.93	46	eP	P	21 33 39.8	0.0
EGAK	Eagle	94.93	15	eP	P	21 33 38.9	0.0
EGAK				epP	pP	21 34 43.5	-1.9
EGAK				ePP	PP	21 37 27.0	-5.4
K22A	Casper	94.93	45	⇑P	P	21 33 39.5	-0.1
	baz=95,SNR=5.7						
E18A	Harlowton	94.94	40	⇑P	P	21 33 40.1	+0.6
	baz=95,SNR=8.4						
V29A	Stinnett	94.96	53	⇓P	P	21 33 39.8	0.0
	baz=95						
H20A	Greybull	94.97	43	⇑P	P	21 33 39.6	-0.1
	baz=95,SNR=5.5						
Y31A	Rekieta Farm,	94.97	55	⇓P	P	21 33 39.4	-0.4
	baz=95,SNR=13						
Q26A	Hugo	95.04	49	⇑P	P	21 33 39.8	-0.4
	baz=95,SNR=6.8						
C17A	Wharram Farm,	95.04	39	⇑P	P	21 33 39.6	-0.3
	baz=95,SNR=18						
I21A	Big Trails, Te	95.05	43	⇑P	P	21 33 39.9	-0.2
	baz=95,SNR=31						
N24A	Carr	95.07	47	⇓P	P	21 33 40.1	-0.2
	baz=95						
F19A	Roth Farm, Mol	95.13	41	⇓P	P	21 33 40.8	+0.4
	baz=96						
T28A	Walsh	95.14	51	⇑P	P	21 33 40.5	-0.1
	baz=96						
L23A	Garrett	95.18	45	⇓P	P	21 33 40.5	-0.4
	baz=96,SNR=15						
O25A	Wiggins	95.22	48	⇑P	P	21 33 41.4	+0.4
	baz=96						
R27A	Eads	95.22	50	⇑P	P	21 33 40.7	-0.3
	baz=96						
G20A	Bridger	95.22	42	⇑P	P	21 33 41.0	+0.1
	baz=96						
Z32A	Haskell	95.25	56	⇑P	P	21 33 40.9	-0.2
	baz=96,SNR=7.7						
COLD	Coldfoot	95.28	11	eP	P	21 33 40.4	0.0
	comp=Z,38nm,1.1s						
W30A	Crocket Farms	95.31	53	⇑P	P	21 33 40.8	-0.6
	baz=96						
J22A	Midwest	95.35	44	⇑P	P	21 33 41.2	-0.4
	baz=96,SNR=31						
CLNS	Chul'man	95.35	332	eP	P	21 33 41.4	+0.4
CLNS				e		21 37 32.2	
CLNS				e		21 43 46.0	
CLNS				eS	S	21 44 36.4	+4.4
CLNS				pmax	pmax		
	comp=Z,83nm,1.5s						
CLNS				pmax	pmax		
	comp=N,47nm,1.5s						
CLNS				pmax	pmax		
	comp=E,15nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,25nm,1.2s						
CLNS				pmax	pmax		
	comp=N,27nm,1.6s						
CLNS				pmax	pmax		
	comp=E,17nm,1.2s						
CLNS				smax	smax		
	comp=N,869nm,14.6s						
CLNS				smax	smax		
	comp=E,2μm,12.3s						
B17A	L&G Farms, Che	95.38	38	⇑P	P	21 33 41.6	+0.1
	baz=96						
U29A	Oasis Ranch, S	95.41	52	⇓P	P	21 33 41.3	-0.6
	baz=96						
M24A	Cheyenne	95.42	46	⇑P	P	21 33 42.1	+0.1
	baz=96,SNR=8.4						
P26A	Davis Ranch, A	95.46	49	⇑P	P	21 33 42.3	+0.1
	baz=96						
X31A	McDonald Ranch	95.49	54	⇑P	P	21 33 42.0	-0.2
	baz=96						
V30A	Spur Ranch, Mi	95.50	53	⇓P	P	21 33 43.0	+0.7
	baz=96						
S28A	Maxter	95.51	51	⇓P	P	21 33 42.6	+0.3
	baz=96						
E19A	Rath Farm, Rou	95.54	41	⇓P	P	21 33 42.4	+0.2
	baz=96,SNR=12						
K23A	Bowen Ranch, D	95.55	45	⇓P	P	21 33 42.4	0.0
	baz=96,SNR=11						
F20A	Billings	95.57	41	⇑P	P	21 33 42.8	+0.4
	baz=96						
N25A	Grover	95.58	47	⇓P	P	21 33 43.0	+0.4
	baz=96						
Y32A	R-V Farms, Ver	95.59	55	⇓P	P	21 33 42.2	-0.5
	baz=96,SNR=6.8						
H21A	Big Horn, Sher	95.63	43	⇑P	P	21 33 42.7	-0.1
	baz=96,SNR=5.8						
L24A	Wheatland	95.64	46	⇓P	P	21 33 43.3	+0.5
	baz=96						
KSCO	Kaye Shedlock'	95.69	49	eP	P	21 33 43.4	+0.3
KSCO	Kaye Shedlock'	95.69	49	⇑P	P	21 33 42.6	-0.5
	baz=96						
T29A	Hugoton	95.73	51	⇓P	P	21 33 43.0	-0.2
	baz=96						
W31A	Holland Ranch,	95.77	54	⇑P	P	21 33 43.4	-0.1
	baz=96,SNR=6.6						
O26A	Horse Wrangler	95.82	48	⇓P	P	21 33 43.7	0.0
	baz=96						
EGMT	Eagleton	95.82	39	eP	P	21 33 44.5	+1.1
G21A	Lodge Grass	95.83	42	⇑P	P	21 33 44.3	+0.7
	baz=96						
D19A	Cripps Ranch,	95.86	40	⇓P	P	21 33 44.2	+0.6
	baz=96,SNR=13						
LZH	Lanzhou	95.88	307	⇓P	P	21 33 45.3	+1.2
LZH				pP	pP	21 34 53.1	+2.4
LZH				sP	sP	21 35 23.3	+3.8
LZH				PP	PP	21 37 44.0	+3.4
LZH				SKS	SKSac	21 43 52.0	-1.5
LZH				S	ScS	21 44 40.3	+2.1
LZH				sS	sS	21 46 38.5	+2.4
LZH				SS	SS	21 51 17.4	+1.5
LZH				pmax	pmax		
	comp=Z,140nm,1.5s						
LZH				pmax	pmax		
	comp=Z,360nm,7.1s						
U30A	WK&E Inc. Balk	95.89	52	⇑P	P	21 33 43.4	-0.6
	baz=96						
M25A	Palm-Egli Farm	95.91	47	⇑P	P	21 33 44.9	+0.8
	baz=96						
J23A	Dilts Ranch, B	95.93	44	⇑P	P	21 33 44.8	+0.7
	baz=96						
R28A	Tribune	95.93	50	⇑P	P	21 33 44.1	-0.1
	baz=96						
E20A	Meyer Farm, Mu	95.95	41	⇑P	P	21 33 44.4	+0.3
	baz=96,SNR=9.9						
P27A	Ficken Ranch,	95.98	49	⇓P	P	21 33 44.1	-0.4
	baz=96						
B18A	Beardsley Farm	96.01	39	⇑P	P	21 33 45.1	+0.8
	baz=96						
K24A	Anderson Ranch	96.05	45	⇓P	P	21 33 44.9	+0.2
	baz=96						
C19A	Slack Wire Ran	96.07	39	⇓P	P	21 33 45.3	+0.7
	baz=96						
S29A	Ulysses	96.07	51	⇑P	P	21 33 45.5	+0.6
	baz=96						
V31A	Spring Creek L	96.12	53	⇓P	P	21 33 45.1	0.0
	baz=96,SNR=6.8						
N26A	Koester Ranch,	96.16	48	⇓P	P	21 33 44.9	-0.3
	baz=96						
WHTX	Lake Whitney	96.17	58	⇑P	P	21 33 45.1	-0.2
	baz=96						
F21A	Absaloka Mine,	96.19	42	⇑P	P	21 33 45.8	+0.6
	baz=96						
A18A	Metzger Ranch,	96.25	38	⇓P	P	21 33 45.3	0.0
	baz=97						
D20A	Manuel Ranch,	96.25	40	⇑P	P	21 33 46.3	+0.9
	baz=97						
Q28A	Sharon Springs	96.26	50	⇓P	P	21 33 46.0	+0.4
	baz=97						
I23A	Meade Ranch, G	96.26	44	⇑P	P	21 33 46.1	+0.5
	baz=97						
L25A	Engebretsen Ra	96.32	46	⇓P	P	21 33 46.1	+0.2
	baz=97,SNR=6.7						
O27A	Beecher Island	96.35	48	⇑P	P	21 33 46.7	+0.6
	baz=97,SNR=7.0						
G22A	Birney	96.39	43	⇑P	P	21 33 45.9	-0.2
	baz=97						
U31A	Nine Bar Ranch	96.39	53	⇓P	P	21 33 46.9	+0.6
	baz=97						
R29A	Marienthal	96.43	50	⇓P	P	21 33 46.5	0.0
	baz=97						
J24A	Dixon Ranch, L	96.45	45	⇑P	P	21 33 47.1	+0.6
	baz=97						
B19A	Brinkman Farms	96.51	39	⇑P	P	21 33 46.9	+0.3
	baz=97						
M26A	McRoberts Ranc	96.52	47	⇑P	P	21 33 47.5	+0.7
	baz=97						
S30A	Montezuma	96.54	51	⇓P	P	21 33 47.4	+0.5
	baz=97						
P28A	Saint Francis	96.55	49	⇓P	P	21 33 47.6	+0.6
	baz=97						
E21A	Keefer Ranch,	96.59	41	⇓P	P	21 33 47.5	+0.5
	baz=97						
H23A	Clabaugh Cattl	96.60	43	⇑P	P	21 33 47.0	-0.1
	baz=97						
K25A	Mack Ranch, Ha	96.61	46	⇑P	P	21 33 47.6	+0.4
	baz=97						
N27A	Anderson Farm,	96.61	48	⇑P	P	21 33 47.0	-0.2
	baz=97						
C20A	Veseth Ranch,	96.66	40	⇓P	P	21 33 47.3	+0.1
	baz=97						
F22A	Rosebud	96.69	42	⇓P	P	21 33 48.3	+0.9
	baz=97						
I24A	Kuemmerle Ranc	96.74	44	⇓P	P	21 33 48.1	+0.3
	baz=97						
Q29A	Oakley	96.76	50	⇓P	P	21 33 48.7	+0.8
	baz=97						
O28A	Krutsinger Ran	96.80	49	⇓P	P	21 33 48.6	+0.5
	baz=97						
EDM	Edmonton	96.81	33	eP	P	21 33 48.4	+0.7
EDM	Edmonton	96.81	33	eP	P	21 33 48.4	+0.7
L26A	Underwood Farm	96.84	46	⇓P	P	21 33 49.7	+1.4
	baz=97						
T31A	Randall Ranch,	96.84	52	⇑P	P	21 33 48.3	0.0
	baz=97						
A19A	Klindworth Far	96.88	38	⇓P	P	21 33 49.1	+0.9
	baz=97						
D21A	La Casta Ranch	96.91	41	⇑P	P	21 33 49.1	+0.8
	baz=97						
G23A	Biddle	96.93	43	⇓P	P	21 33 49.1	+0.5
	baz=97						
R30A	Dighton	96.97	51	⇑P	P	21 33 48.8	0.0
	baz=97						
OGNE	Ogallala	97.01	48	⇓P	Pdif	21 33 49.5	+0.5
	baz=97						
B20A	Solberg Farm,	97.03	39	⇑P	Pdif	21 33 49.5	+0.6
	baz=97						
J25A	Sunshine Ranch	97.03	45	⇑P	Pdif	21 33 49.5	+0.4
	baz=97						
M27A	Reverse DX Ran	97.05	47	⇑P	Pdif	21 33 49.5	+0.2
	baz=97						
YAK	Yakutsk	97.08	338	eP	P	21 33 48.5	-0.1
YAK				e		21 37 47.1	
YAK				ePPP	PPP	21 39 57.6	
YAK				eS	SKSac	21 43 55.9	-2.1
YAK				eSSS	SSS	21 55 13.8	
YAK				pmax	pmax		
	comp=Z,49nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,1.3s						
YAK				pmax	pmax		
	comp=Z,466nm,3.5s						
YAK				pmax	pmax		
	comp=N,239nm,2.8s						
YAK				pmax	pmax		
	comp=E,181nm,3.3s						
YAK				smax	smax		
	comp=N,511nm,2.2s						
YAK				smax	smax		
	comp=E,211nm,2.4s						
K26A	Motz Farm, Whi	97.10	46	⇓P	Pdif	21 33 50.1	+0.6
	baz=97						
P29A	Atwood	97.12	49	⇑P	Pdif	21 33 50.0	+0.5
	baz=98						
F23A	Volborg	97.18	42	⇓P	Pdif	21 33 50.3	+0.6
	baz=98						
E22A	Miles City	97.21	42	⇓P	Pdif	21 33 50.4	+0.7
	baz=98						
S31A	Mullinville	97.22	52	⇓P	Pdif	21 33 50.3	+0.3
	baz=98						
H24A	Dirks Ranch, A	97.22	44	⇓P	Pdif	21 33 50.2	+0.3
	baz=98						
RSSD	Black Hills	97.24	44	eP	P	21 33 49.6	-0.5
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RSSD	Black Hills	97.24	44	eP	P	21 33 49.6	-0.5
	comp=Z,8.4nm,0.8s						
C21A	Desert Coulee	97.24	40	⇓Pdiff	Pdif	21 33 50.8	+1.0
	baz=98						
C21A	Desert

baz=98
J26A **Sides Ranch, S** 97.45 45 ⇑Pdiff P 21 33 50.7 -0.3
baz=98
J26A **Sides Ranch, S** 97.45 45 ⇑Pdiff P 21 33 50.7 -0.3
baz=98
O29A **4D Ranch, Culb** 97.46 49 ⇑Pdiff P 21 33 50.8 -0.2
baz=98
O29A **4D Ranch, Culb** 97.46 49 ⇑Pdiff P 21 33 50.8 -0.2
baz=98
R31A **Burdett** 97.49 51 ⇑Pdiff P 21 33 50.9 -0.3
baz=98
R31A **Burdett** 97.49 51 ⇑Pdiff P 21 33 50.9 -0.3
baz=98
P30A **Selden** 97.57 50 ⇑Pdiff P 21 33 51.2 -0.3
baz=98
P30A **Selden** 97.57 50 ⇑Pdiff P 21 33 51.2 -0.3
baz=98
G24A **Alzada** 97.59 43 ⇑Pdiff Pdif 21 33 51.6 +0.1
baz=98
G24A **Alzada** 97.59 43 ⇑Pdiff Pdif 21 33 51.6 +0.1
baz=98
B21A **Ellsworth Farm** 97.59 40 ⇑Pdiff Pdif 21 33 52.3 +0.9
baz=98
B21A **Ellsworth Farm** 97.59 40 ⇑Pdiff Pdif 21 33 52.3 +0.9
baz=98
E23A **Ismay** 97.62 42 ⇓Pdiff Pdif 21 33 52.2 +0.6
baz=98
E23A **Ismay** 97.62 42 ⇓Pdiff Pdif 21 33 52.2 +0.6
baz=98
M28A **Bar X Bar Ranc** 97.66 48 ⇓Pdiff Pdif 21 33 52.1 +0.1
baz=98
M28A **Bar X Bar Ranc** 97.66 48 ⇓Pdiff Pdif 21 33 52.1 +0.1
baz=98
K27A **Flueckinger Fa** 97.71 46 ⇑Pdiff Pdif 21 33 52.5 +0.4
baz=98
K27A **Flueckinger Fa** 97.71 46 ⇑Pdiff Pdif 21 33 52.5 +0.4
baz=98
CIT **Chita** 97.80 325 *e*P Pdif 21 33 52.4 +0.2
CIT *e* 21 37 53.1
CIT *e* 21 44 03.8
CIT pmax pmax
comp=Z,117nm,2.0s
F24A **Ekalaka** 97.82 43 ⇓Pdiff Pdif 21 33 53.9 +1.4
baz=98
F24A **Ekalaka** 97.82 43 ⇓Pdiff Pdif 21 33 53.9 +1.4
baz=98
N29A **Votaw Ranch, W** 97.89 48 ⇓Pdiff Pdif 21 33 53.5 +0.5
baz=98
N29A **Votaw Ranch, W** 97.89 48 ⇓Pdiff Pdif 21 33 53.5 +0.5
baz=98
C22A **Vida** 97.90 40 ⇓Pdiff Pdif 21 33 53.6 +0.9
baz=98
C22A **Vida** 97.90 40 ⇓Pdiff Pdif 21 33 53.6 +0.9
baz=98
Q31A **Ellis** 97.91 51 ⇑Pdiff Pdif 21 33 53.1 +0.1
baz=98
Q31A **Ellis** 97.91 51 ⇑Pdiff Pdif 21 33 53.1 +0.1
baz=98
A21A **Bergtoll Ranch** 97.93 39 ⇓Pdiff Pdif 21 33 53.3 +0.4
baz=98
A21A **Bergtoll Ranch** 97.93 39 ⇓Pdiff Pdif 21 33 53.3 +0.4
baz=98
I26A **New Underwood** 97.94 45 ⇑Pdiff Pdif 21 33 53.3 +0.2
baz=98
I26A **New Underwood** 97.94 45 ⇑Pdiff Pdif 21 33 53.3 +0.2
baz=98
O30A **MW Ranch, Wils** 97.99 49 ⇓Pdiff Pdif 21 33 54.1 +0.7
baz=98
O30A **MW Ranch, Wils** 97.99 49 ⇓Pdiff Pdif 21 33 54.1 +0.7
baz=98
J27A **Elkhorn Farm,** 98.11 46 ⇑Pdiff Pdif 21 33 54.7 +0.8
baz=98
J27A **Elkhorn Farm,** 98.11 46 ⇑Pdiff Pdif 21 33 54.7 +0.8
baz=98
B22A **Reddig Ranch S** 98.12 40 ⇑Pdiff Pdif 21 33 54.3 +0.6
baz=98
B22A **Reddig Ranch S** 98.12 40 ⇑Pdiff Pdif 21 33 54.3 +0.6
baz=98
M29A **Burnside Ranch** 98.14 48 ⇑Pdiff P 21 33 54.0 0.0
baz=98
M29A **Burnside Ranch** 98.14 48 ⇑Pdiff P 21 33 54.0 0.0
baz=98
G25A **Newell** 98.14 44 ⇑Pdiff Pdif 21 33 54.2 +0.2
baz=98
G25A **Newell** 98.14 44 ⇑Pdiff Pdif 21 33 54.2 +0.2
baz=98
P31A **Stockton** 98.16 50 ⇑Pdiff Pdif 21 33 54.3 +0.2
baz=98
P31A **Stockton** 98.16 50 ⇑Pdiff Pdif 21 33 54.3 +0.2
baz=98
N30A **Hueftle Ranch,** 98.24 49 ⇑Pdiff Pdif 21 33 55.1 +0.6
baz=99
N30A **Hueftle Ranch,** 98.24 49 ⇑Pdiff Pdif 21 33 55.1 +0.6
baz=99
E24A **Baker** 98.26 42 ⇑Pdiff P 21 33 54.8 +0.4
baz=99
E24A **Baker** 98.26 42 ⇑Pdiff P 21 33 54.8 +0.4
baz=99
H26A **Fairpoint** 98.27 44 ⇓Pdiff P 21 33 55.1 +0.6
baz=99
H26A **Fairpoint** 98.27 44 ⇓Pdiff P 21 33 55.1 +0.6
baz=99
K28A **Ten Mile Ranch** 98.28 47 ⇑Pdiff P 21 33 55.3 +0.6
baz=99
K28A **Ten Mile Ranch** 98.28 47 ⇑Pdiff P 21 33 55.3 +0.6
baz=99
C23A **Lambert** 98.34 41 ⇓Pdiff P 21 33 55.8 +1.1
baz=99
C23A **Lambert** 98.34 41 ⇓Pdiff P 21 33 55.8 +1.1
baz=99
F25A **Bowman** 98.47 43 ⇓Pdiff P 21 33 56.1 +0.7
baz=99
F25A **Bowman** 98.47 43 ⇓Pdiff P 21 33 56.1 +0.7
baz=99
I27A **Quinn** 98.47 45 ⇓Pdiff P 21 33 55.8 +0.3
baz=99
I27A **Quinn** 98.47 45 ⇓Pdiff P 21 33 55.8 +0.3
baz=99
A22A **Carney Farms,** 98.51 39 ⇑Pdiff P 21 33 56.1 +0.6
baz=99
A22A **Carney Farms,** 98.51 39 ⇑Pdiff P 21 33 56.1 +0.6
baz=99
D24A **Glendive** 98.51 42 ⇑Pdiff P 21 33 55.8 +0.3
baz=99
D24A **Glendive** 98.51 42 ⇑Pdiff P 21 33 55.8 +0.3
baz=99
L29A **Maesberg Ranch** 98.56 47 ⇓Pdiff P 21 33 56.2 +0.3
baz=99
L29A **Maesberg Ranch** 98.56 47 ⇓Pdiff P 21 33 56.2 +0.3
baz=99
C24A **Savage** 98.66 41 ⇓Pdiff Pdif 21 33 56.1 0.0
baz=99
C24A **Savage** 98.66 41 ⇓Pdiff Pdif 21 33 56.1 0.0
baz=99
J28A **Allard Ranch,** 98.69 46 ⇓Pdiff P 21 33 56.7 +0.3
baz=99
J28A **Allard Ranch,** 98.69 46 ⇓Pdiff P 21 33 56.7 +0.3
baz=99
G26A **Maurine** 98.70 44 ⇑Pdiff P 21 33 56.8 +0.4
baz=99
G26A **Maurine** 98.70 44 ⇑Pdiff P 21 33 56.8 +0.4
baz=99
H27A **Howes** 98.71 45 ⇑Pdiff Pdif 21 33 56.4 -0.1
baz=99
H27A **Howes** 98.71 45 ⇑Pdiff Pdif 21 33 56.4 -0.1
baz=99
M30A **Dale-Ortello V** 98.73 48 ⇓Pdiff P 21 33 57.0 +0.4
baz=99
M30A **Dale-Ortello V** 98.73 48 ⇓Pdiff P 21 33 57.0 +0.4
baz=99
E25A **Miller Ranch,** 98.78 42 ⇑Pdiff P 21 33 56.9 +0.1
baz=99
E25A **Miller Ranch,** 98.78 42 ⇑Pdiff P 21 33 56.9 +0.1
baz=99
B23A **Brockton** 98.78 40 ⇑Pdiff P 21 33 57.8 +1.1
baz=99
B23A **Brockton** 98.78 40 ⇑Pdiff P 21 33 57.8 +1.1
baz=99
F26A **Lodgepole** 98.92 43 ⇓Pdiff P 21 33 58.1 +0.7
baz=99
F26A **Lodgepole** 98.92 43 ⇓Pdiff P 21 33 58.1 +0.7
baz=99
I28A **Midland** 99.00 45 ⇓Pdiff P 21 33 58.6 +0.8
baz=99
I28A **Midland** 99.00 45 ⇓Pdiff P 21 33 58.6 +0.8
baz=99
A23A **Redstone** 99.09 40 ⇑Pdiff Pdif 21 33 59.0 +1.0
baz=99
A23A **Redstone** 99.09 40 ⇑Pdiff Pdif 21 33 59.0 +1.0
baz=99
TUL1 **Tulsa** 99.12 55 ⇓Pdiff Pdif 21 33 58.9 +0.4
baz=99
TUL1 **Tulsa** 99.12 55 ⇓Pdiff Pdif 21 33 58.9 +0.4
baz=99
D25A **Fairfield** 99.13 42 ⇓Pdiff Pdif 21 33 60.0 +1.7
baz=100
D25A **Fairfield** 99.13 42 ⇓Pdiff Pdif 21 33 60.0 +1.7
baz=100
G27A **Dupree** 99.15 44 ⇓Pdiff Pdif 21 33 59.0 +0.6
baz=100
G27A **Dupree** 99.15 44 ⇓Pdiff Pdif 21 33 59.0 +0.6
baz=100
ULN **Ulaanbaatar** 99.32 319 Pdiff Pdif 21 34 00.6 +1.4
SNR=18
ULN **Ulaanbaatar** 99.32 319 *e*Pdif Pdif 21 33 59.2 0.0
comp=Z,13nm,0.7s
ULN **Ulaanbaatar** 99.32 319 P Pdif 21 33 59.7 +0.5
F27A **Lemmon** 99.33 43 ⇓Pdiff Pdif 21 33 59.1 -0.1
baz=100
F27A **Lemmon** 99.33 43 ⇓Pdiff Pdif 21 33 59.1 -0.1
baz=100
E26A **Carlson Angus** 99.33 43 ⇑Pdiff Pdif 21 33 60.0 +0.8
baz=100
E26A **Carlson Angus** 99.33 43 ⇑Pdiff Pdif 21 33 60.0 +0.8
baz=100
H28A **Mission Ridge** 99.40 45 ⇓Pdiff Pdif 21 34 00.5 +1.0
baz=100
H28A **Mission Ridge** 99.40 45 ⇓Pdiff Pdif 21 34 00.5 +1.0
baz=100
C25A **Freed Ranch, W** 99.44 41 ⇓Pdiff Pdif 21 34 01.2 +1.6
baz=100
C25A **Freed Ranch, W** 99.44 41 ⇓Pdiff Pdif 21 34 01.2 +1.6
baz=100
A24A **Westby** 99.58 40 ⇓Pdiff Pdif 21 34 01.2 +1.0
baz=100
A24A **Westby** 99.58 40 ⇓Pdiff Pdif 21 34 01.2 +1.0
baz=100
INK **Inuvik** 99.59 15 *e*Pdif Pdif 21 33 59.3 -0.4
comp=Z,52nm,1.6s
INK PP PP 21 37 58.1 -10
INK S SKSac 21 44 11.7 +1.3
INK **Inuvik** 99.59 15 P Pdif 21 33 59.3 -0.4
comp=Z,6.0nm,0.8s,baz=215,slow=2.9,SNR=14
INK PP PP 21 37 58.1 -10
comp=Z,13nm,1.0s,baz=207,slow=8.4,SNR=4.9
INK S SKSac 21 44 11.7 +1.3
comp=Z,1.8nm,1.0s,baz=24,slow=31,SNR=16
D26A **Manning** 99.61 42 ⇑Pdiff Pdif 21 34 00.9 +0.6
baz=100
D26A **Manning** 99.61 42 ⇑Pdiff Pdif 21 34 00.9 +0.6
baz=100
G28A **Parade** 99.65 45 ⇓Pdiff Pdif 21 34 00.6 0.0
baz=100
G28A **Parade** 99.65 45 ⇓Pdiff Pdif 21 34 00.6 0.0
baz=100
SONM **Songino Array** 99.69 319 P Pdif 21 33 59.8 -1.0
SONM PP PP 21 38 02.5 -6.9
SONM S SKSac 21 44 12.1 0.0
SONM PKKPbc PKKPbc 21 50 21.6 -0.9
SONM PKKPab PKKPdf 21 50 49.6 +23
SONM **Songino Array** 99.69 319 P Pdif 21 33 59.8 -1.0
comp=Z,8.1nm,0.9s,baz=127,slow=3.6,SNR=35
SONM PP PP 21 38 02.5 -6.9
comp=Z,4.5nm,1.0s,baz=108,slow=4.7,SNR=3.5
SONM S SKSac 21 44 12.1 0.0
comp=Z,1.1nm,1.1s,baz=178,slow=4.5,SNR=4.6
SONM PKKPbc PKKPbc 21 50 21.6 -0.9
comp=Z,1.1nm,0.6s,baz=268,slow=2.5,SNR=6.5
SONM PKKPab PKKPdf 21 50 49.6 +23
comp=Z,1.3nm,0.9s,baz=290,slow=6.1,SNR=4.5
B25A **Knox Farm, Ray** 99.76 41 ⇓Pdiff Pdif 21 34 02.2 +1.2
baz=100
B25A **Knox Farm, Ray** 99.76 41 ⇓Pdiff Pdif 21 34 02.2 +1.2
baz=100
BGNE **Belgrade** 99.83 49 ⇑Pdiff Pdif 21 34 02.3 +0.8
baz=100
BGNE **Belgrade** 99.83 49 ⇑Pdiff Pdif 21 34 02.3 +0.8
baz=100
E27A **Carson** 99.86 43 ⇓Pdiff Pdif 21 34 02.6 +1.0
baz=100
E27A **Carson** 99.86 43 ⇓Pdiff Pdif 21 34 02.6 +1.0
baz=100
A25A **Svangstu Ranch** 100.10 40 ⇓Pdiff Pdif 21 34 03.5 +1.0
baz=100
A25A **Svangstu Ranch** 100.10 40 ⇓Pdiff Pdif 21 34 03.5 +1.0
baz=100
LPAZ **La Paz** 100.14 114 P Pdif 21 34 06.9 +2.7
LPAZ PKKPbc PKKPbc 21 50 20.3 +0.1
LPAZ **La Paz** 100.14 114 P Pdif 21 34 06.9 +2.7
comp=Z,3.9nm,0.8s,baz=233,slow=3.5,SNR=19
LPAZ PKKPbc PKKPbc 21 50 20.3 +0.1
comp=Z,1.1nm,0.7s,baz=7.6,slow=4.2,SNR=5.3
C26A **Wahner Farm, P** 100.18 42 ⇓Pdiff Pdif 21 34 03.6 +0.7
baz=100
C26A **Wahner Farm, P** 100.18 42 ⇓Pdiff Pdif 21 34 03.6 +0.7
baz=100
D27A **Center** 100.20 42 ⇓Pdiff Pdif 21 34 03.9 +0.9
baz=100
D27A **Center** 100.20 42 ⇓Pdiff Pdif 21 34 03.9 +0.9
baz=100
GTA **Gaotai** 100.22 309 P Pdif 21 34 03.6 +0.2
GTA pP pP 21 35 09.1 -1.1
GTA sP sP 21 35 37.8 -1.1
GTA PP PP 21 38 13.8 +0.3
GTA SKS SKSac 21 44 14.3 -0.9
GTA S Sdif 21 45 10.6 -3.6
GTA sS sS 21 47 06.1 -7.0
GTA SS SS 21 52 11.8 -4.5
GTA pmax pmax
comp=Z,28nm,1.8s
GTA pmax pmax
comp=Z,260nm,7.1s
GTA LR LR
comp=N,2μm,20.4s
GTA LR LR
comp=E,1μm,22.8s
GTA LR LR
comp=Z,1μm,22.8s
B26A **Jensen Ranch,** 100.35 41 ⇓Pdiff Pdif 21 34 05.1 +1.4
baz=101
B26A **Jensen Ranch,** 100.35 41 ⇓Pdiff Pdif 21 34 05.1 +1.4
baz=101
C27A **Sayler Ranch,** 100.49 42 ⇓Pdiff Pdif 21 34 05.1 +0.8
baz=101
C27A **Sayler Ranch,** 100.49 42 ⇓Pdiff Pdif 21 34 05.1 +0.8
baz=101
BRSD **Miller** 100.62 46 ⇑Pdiff Pdif 21 34 05.9 +1.0
baz=101
BRSD **Miller** 100.62 46 ⇑Pdiff Pdif 21 34 05.9 +1.0
baz=101
A26A **Wade Farm, Ken** 100.71 41 ⇓Pdiff Pdif 21 34 06.4 +1.2
baz=101
A26A **Wade Farm, Ken** 100.71 41 ⇓Pdiff Pdif 21 34 06.4 +1.2
baz=101
B27A **Peters Farms,** 100.94 41 ⇓Pdiff Pdif 21 34 08.0 +1.7
baz=101
B27A **Peters Farms,** 100.94 41 ⇓Pdiff Pdif 21 34 08.0 +1.7
baz=101
B28A **Dugan Ranch, T** 101.50 42 ⇓Pdiff Pdif 21 34 09.9 +1.2
baz=102
B28A **Dugan Ranch, T** 101.50 42 ⇓Pdiff Pdif 21 34 09.9 +1.2
baz=102
YKA **Yellowknife Ar** 101.56 25 P Pdif 21 34 08.4 -0.1
YKA PP PP 21 38 17.4 -5.4
YKA **Yellowknife Ar** 101.56 25 P Pdif 21 34 08.4 -0.1
comp=Z,2.9nm,0.8s,baz=234,slow=4.3,SNR=8.0
YKA PP PP 21 38 17.4 -5.4
comp=Z,2.5nm,0.8s,baz=239,slow=7.5,SNR=4.3
MDND **Maddock** 101.70 42 ⇑Pdiff Pdif 21 34 10.6 +0.9
baz=102
MDND **Maddock** 101.70 42 ⇑Pdiff Pdif 21 34 10.6 +0.9
baz=102
A28A **Rude Farm, Bot** 101.76 41 ⇓Pdiff Pdif 21 34 10.8 +0.9
baz=102
A28A **Rude Farm, Bot** 101.76 41 ⇓Pdiff Pdif 21 34 10.8 +0.9
baz=102
ECSD **EROS Data Cent** 101.85 47 *e*Pdif Pdif 21 34 10.3 -0.1
comp=Z,4.9nm,0.8s
LSA **Lhasa** 102.87 297 P Pdif 21 34 16.9 +1.0
TLY **Talaya** 103.02 321 *e*P Pdif 21 34 15.7 +0.3
TLY *e* 21 44 24.0
TLY *e* 21 45 35.2
TLY *e* 21 47 43.1
TLY pmax pmax
comp=Z,13nm,0.9s
ROSC **El Rosal** 104.63 92 PP PP 21 38 35.4 -12
ROSC **El Rosal** 104.63 92 PP PP 21 38 35.4 -12
comp=Z,3.5nm,0.3s,baz=259,slow=16,SNR=1.9
ULM **Lac du Bonnet** 104.92 41 PP PP 21 38 36.8 -11
ULM PKKPab PKKPab 21 50 23.2 +0.8
ULM **Lac du Bonnet** 104.92 41 PP PP 21 38 36.8 -11
comp=Z,1.2nm,0.4s,baz=232,slow=5.8,SNR=2.2
ULM PKKPab PKKPab 21 50 23.2 +0.8
comp=Z,3.5nm,0.7s,baz=37,slow=3.3,SNR=4.3
WMQ **Urumqi** 110.27 310 *e*Pdif Pdif 21 34 48.9 +1.0
WMQ PP PP 21 39 30.3 +3.0
WMQ **Urumqi** 110.27 310 SKS SKSdf 21 45 30.6 -2.3
ZAA0 **Zalesovo Array** 114.55 320 *e*PKiKP PKPdf 21 38 53.4 -1.9
ZAA0 *e*PP PP 21 39 53.1 -4.1
ZALV **Zalesovo Beam** 114.55 320 P Pdif 21 35 07.6 +1.1
ZALV 21 38 53.5
ZALV 21 39 51.2
ZALV **Zalesovo Beam** 114.55 320 Pdif Pdif 21 35 07.6 +1.1
ZALV PKP PKPdf 21 38 53.5 -1.8
ZALV pPKP PP 21 39 51.2 -5.9
ZALV **Zalesovo Beam** 114.55 320 Pdiff Pdif 21 35 07.6 +1.1
comp=Z,0.7nm,0.6s,baz=103,slow=5.3,SNR=6.3
ZALV PKP PKPdf 21 38 53.5 -1.8
comp=Z,9.5nm,0.6s,baz=142,slow=1.3,SNR=22
ZALV pPKP PP 21 39 51.2 -5.9
comp=Z,2.2nm,0.6s,baz=113,slow=3.4,SNR=1.9
MK31 **Makanchi Array** 114.71 312 *e*P Pdif 21 35 07.9 +0.4
MK31 *i* 21 38 54.4
MK31 **Makanchi Array** 114.71 312 *e*Pdif Pdif 21 35 07.9 +0.4
MK31 *e*PKiKP PKPdf 21 38 54.4 -1.5
MKAR **Makanchi Array** 114.71 312 P Pdif 21 35 10.3 +2.8
MKAR 21 38 54.3
MKAR 21 39 54.6
MKAR **Makanchi Array** 114.71 312 Pdif Pdif 21 35 10.3 +2.8
MKAR PKP PKPdf 21 38 54.2 -1.7
MKAR pPKP PP 21 39 54.6 -4.0
MKAR **Makanchi Array** 114.71 312 Pdiff Pdif 21 35 10.3 +2.8
comp=Z,2.1nm,0.6s,baz=92,slow=7.0,SNR=15
MKAR PKP PKPdf 21 38 54.2 -1.7
comp=Z,18nm,0.9s,baz=67,slow=2.3,SNR=27
MKAR pPKP PP 21 39 54.6 -4.0
comp=Z,4.0nm,0.9s,baz=90,slow=7.3,SNR=1.9
BDFB **Brasilia** 116.34 125 PKP PKPdf 21 38 59.1 -1.0
BDFB PKKPbc PKKPbc 21 49 29.9 +0.8
BDFB PKKPab PKKPab 21 49 35.6 -0.8
BDFB **Brasilia** 116.34 125 PKP PKPdf 21 38 59.1 -1.0
comp=Z,1.8nm,0.4s,baz=176,slow=5.6,SNR=3.9
BDFB PKKPbc PKKPbc 21 49 29.9 +0.8
comp=Z,2.6nm,0.5s,baz=136,slow=2.2,SNR=5.0
BDFB PKKPab PKKPab 21 49 35.6 -0.8
comp=Z,6.2nm,0.8s,baz=67,slow=7.6,SNR=7.2
NCB **Newcomb** 117.32 52 *e*PKPdf PKPdf 21 38 59.6 -1.4
KSH **Kashi** 117.72 303 PKP PKPdf 21 39 02.3 +0.2
KSH PP PP 21 40 25.3 +5.4
KSH SKS SKSdf 21 45 44.6 -2.9
KSH SKKS SKKSac 21 46 46.3 -5.0
KSH SS SS 21 56 13.3 +2.7
KSH AMB AMB
comp=Z,240nm,5.7s
KSH LR LR
comp=N,580nm,16.6s
KSH LR LR
comp=E,570nm,16.4s
KSH LR LR
comp=Z,720nm,23.2s
KURK **Kurchatov** 117.78 316 PP PP 21 40 16.1 -3.6
KURBB **Kurchatov Arra** 117.82 315 PP PP 21 40 16.1 -3.9
comp=Z,9.4nm,0.9s,baz=100,slow=6.3,SNR=8.9
TKM2 **Tokmak 2** 118.64 306 *e*PKIKP PKPdf 21 39 02.4 -1.4
TKM2 **Tokmak 2** 118.64 306 P PKPdf 21 39 03.2 -0.6
SNR=9.9
TKM2 **Tokmak 2** 118.64 306 *e*PKPdf PKPdf 21 39 02.4 -1.4
KZA **Kyzart** 118.75 305 P PKPdf 21 39 03.9 -0.5
SNR=8.0
LBNH **Lisbon** 119.00 52 *e*PKIKP PKPdf 21 39 03.8 -0.4
LBNH **Lisbon** 119.00 52 *e*PKPdf PKPdf 21 39 03.8 -0.4
KBK **Karagaybulak** 119.07 306 P PKPdf 21 39 04.3 -0.3
SNR=9.7
CHMS **Chumysh** 119.27 306 P PKPdf 21 39 04.1 -0.7
SNR=16
AAK **Ala-Archa** 119.40 306*c* *i*PKIKP PKPdf 21 39 04.6 -0.7
AAK **Ala-Archa** 119.40 306 P PKPdf 21 39 04.8 -0.5
SNR=6.9
AAK **Ala-Archa** 119.40 306 *e*PKPdf PKPdf 21 39 04.5 -0.8
AAK PKKPbc PKKPab 21 49 20.0 +0.7
AAK **Ala-Archa** 119.40 306 PKKPbc PKKPbc 21 49 20.0 +1.2
comp=Z,7.2nm,0.7s,baz=76,slow=11,SNR=3.6
USP **Ospenovka** 119.49 307 P PKPdf 21 39 04.5 -0.7
SNR=17
AML **Almayashu** 119.90 305 P PKPdf 21 39 05.7 -0.8
SNR=19
EKS2 **Erkin-Say** 119.92 306 *e*PKIKP PKPdf 21 39 05.2 -1.0
EKS2 **Erkin-Say** 119.92 306 P PKPdf 21 39 06.1 -0.1
SNR=8.0
EKS2 **Erkin-Say** 119.92 306 *e*PKPdf PKPdf 21 39 05.2 -1.0
WVL **Waterville** 120.66 52 *e*PKPdf PKPdf 21 39 04.7 -2.6
PKME **Peaks-Kenny Pk** 121.00 51 *e*PKPdf PKPdf 21 39 07.1 -0.8
BOSA **Boshof** 121.21 204 PKP PKPdf 21 39 08.7 -0.6
BOSA PKKPbc PKKPbc 21 49 11.3 -0.8
BOSA **Boshof** 121.21 204 PKP PKPdf 21 39 08.7 -0.6
comp=Z,5.1nm,0.6s,baz=165,slow=6.1,SNR=12
BOSA PKKPbc PKKPbc 21 49 11.3 -0.8
comp=Z,7.2nm,0.6s,baz=74,slow=4.1,SNR=15
PQI **Presque Isle** 122.03 50 *e*PKPdf PKPdf 21 39 08.7 -1.2
KBL **Kabul** 122.17 296 *e*PKIKP PKPdf 21 39 10.0 -0.9
KBL **Kabul** 122.17 296 *e*PKPdf PKPdf 21 39 10.0 -0.9
KKAR **Karatay Array** 122.36 306 *e*PKIKP PKPdf 21 39 09.6 -1.1
KKAR **Karatay Array** 122.36 306 *e*PKPdf PKPdf 21 39 09.6 -1.1
BVAR **Borovoye Array** 123.03 318 PKIKP PKPdf 21 39 10.5 -1.1
BVAR **Borovoye Array** 123.03 318 PKP PKPdf 21 39 10.5 -1.1
BVAR PP PP 21 40 45.2 -10
BVAR **Borovoye Array** 123.03 318 PKP PKPdf 21 39 10.5 -1.1
comp=Z,27nm,0.6s,baz=106,slow=1.9,SNR=14
BVAR PP PP 21 40 45.2 -10
comp=Z,2.9nm,0.6s,baz=76,slow=6.1,SNR=2.6
SCHQ **Schefferville** 123.06 40 *e*PKPdf PKPdf 21 39 10.2 -1.5
SCHQ PKP PKPdf 21 39 10.5 -1.2
SCHQ **Schefferville** 123.06 40 PKP PKPdf 21 39 10.5 -1.2
comp=Z,11nm,0.9s,baz=273,slow=3.6,SNR=11
BRVK **Borovoye** 123.09 318 *i* PKIKP PKPdf 21 39 11.0 -0.8
BRVK **Borovoye** 123.09 318 PKPdf PKPdf 21 39 11.3 -0.5
SNR=22
BRVK **Borovoye** 123.09 318 *e*PKPdf PKPdf 21 39 10.4 -1.4
KBS **Kingsbay** 126.77 358 *e*PKPdf PKPdf 21 39 19.7 +1.6
KBS *i* 21 40 55.5
KBS **Kingsbay** 126.77 358 *e*PKIKP PKPdf 21 39 18.1 -0.1
KBS **Kingsbay** 126.77 358 *e*PKPdf PKPdf 21 39 18.1 -0.1
SPA0 **Spitsbergen Ar** 127.29 356 *e* 21 41 01.5
SPA0 *e*PP PP 21 41 22.5 -0.2
SPITS **Spitsbergen Ar** 127.29 356 PP PP 21 41 23.6 +0.9
SPITS **Spitsbergen Ar** 127.29 356 PP PP 21 41 23.6 +0.9
comp=Z,42nm,1.0s,baz=48,slow=12,SNR=4.6
DAG **Danmarks Havn** 128.18 6 *i* P PKPdf 21 39 19.6 -1.3
DAG *i* 21 41 26.0
DAG
comp=Z,570nm,21.0s
SVE **Sverdlovsk** 128.28 323 *i* PKIKP PKPdf 21 39 20.9 -0.7
SVE *e* 21 52 40.6
SVE pmax pmax
comp=Z,85nm,1.6s
SUMG **Summit** 128.50 14 *e*PKIKP PKPdf 21 39 23.0 +0.9
SUMG **Summit** 128.50 14 *i* P PKPdf 21 39 22.4 +0.3
SUMG *i* 21 41 27.2
SUMG *i* 21 58 17.4
SUMG **Summit** 128.50 14 *e*PKPdf PKPdf 21 39 23.0 +0.9
SUMG *e*pPKPdf pPKPdf 21 40 33.1 +1.2
ARU **Arti** 129.48 323 *i* PKIKP PKPdf 21 39 23.8 -0.1
ARU 21 41 34.4
SOKR **Solikamsk** 129.59 327*d* *i*PKIKP PKPdf 21 39 24.9 +1.0
SOKR 21 41 34.8
SOKR 21 46 08.4
SOKR SS SS 21 58 34.4 -3.6
SOKR pmax pmax
comp=Z,80nm,1.0s
SOKR MLR MLR
comp=Z,530nm,18.0s
ABKAR **Akbulak array** 129.78 314 *e*PKPdf PKPdf 21 39 25.0 +0.3
AKTO **Aktyubinsk** 130.88 315 PKHKP PKPpre 21 39 10.5
AKTO 21 39 26.6
AKTO **Aktyubinsk** 130.88 315 PKPpre PKPpre 21 39 10.5
AKTO PKP PKPdf 21 39 26.6 -0.2
AKTO SKPbc SKPab 21 42 25.8 +0.8
AKTO SKP 21 42 38.8

AKTO	**Aktyubinsk**	**130.88**	**315**	PKhKP	PKPpre	21 39 10.5	
	comp=Z,1.1nm,0.7s,baz=63,slow=2.3,SNR=3.6						
AKTO				PKP	**PKPdf**	**21 39 26.6**	**-0.2**
	comp=Z,18nm,0.6s,baz=65,slow=2.1,SNR=28						
AKTO				SKPbc	**SKPab**	**21 42 25.8**	**+0.8**
	comp=Z,9.8nm,0.9s,baz=95,slow=2.3,SNR=5.5						
AKTO				SKP		21 42 38.8	
	comp=Z,9.1nm,1.1s,baz=57,slow=9.3,SNR=3.5						
SCO	**Scoresbysund**	**133.41**	**11**	*i* P	**PKPdf**	**21 39 31.0**	**+0.1**
APA	**Apatity**	**134.12**	**344**	⇑*i* PKIKP	**PKPdf**	**21 39 32.0**	**-0.3**
APA				*i* SS	SS	21 59 38.0	+5.8
APA				pmax	pmax		
	comp=Z,28nm,0.8s						
APA				MLR	MLR		
	comp=Z,1μm,22.0s						
ARCES	**ARCESS Array B**	**134.22**	**349**	PKPpre	PKPpre	21 39 16.8	
ARCES				PKP	**PKPdf**	**21 39 32.3**	**-0.2**
ARCES				PP	**PP**	**21 42 06.3**	**-1.1**
ARCES				SKPbc	**SKPbc**	**21 42 35.9**	**+0.4**
ARCES	**ARCESS Array B**	**134.22**	**349**	PKhKP	PKPpre	21 39 16.8	
	comp=Z,2.2nm,0.6s,baz=48,slow=2.2,SNR=11						
ARCES				PKP	**PKPdf**	**21 39 32.3**	**-0.2**
	comp=Z,42nm,0.7s,baz=54,slow=1.6,SNR=27						
ARCES				PP	**PP**	**21 42 06.3**	**-1.1**
	comp=Z,6.2nm,0.7s,baz=48,slow=1.3,SNR=3.4						
ARCES				SKPbc	**SKPbc**	**21 42 35.9**	**+0.4**
	comp=Z,41nm,1.0s,baz=12,slow=4.8,SNR=8.9						
ARE0	**ARCESS Array S**	**134.22**	**349**	*e*PKPpre	PKPpre	21 39 28.1	
ARE0				*e*PKPdf	**PKiKP**	**21 39 33.8**	**-0.1**
ARE0				*e*PP	**PP**	**21 42 06.3**	**-1.0**
JMIC	**Jan Mayen**	**134.57**	**5**	*e*PP	PP	21 42 09.0	-0.4
JMIC	**Jan Mayen**	**134.57**	**5**	PKP	**PKPdf**	**21 39 33.9**	**+0.8**
JMIC				PP	**PP**	**21 42 06.0**	**-3.4**
JMIC				SKPbc	**SKPab**	**21 42 39.8**	**-0.6**
JMIC	**Jan Mayen**	**134.57**	**5**	PKP	**PKPdf**	**21 39 33.9**	**+0.8**
	comp=Z,32nm,0.7s,baz=265,slow=3.6,SNR=3.3						
JMIC				PP	**PP**	**21 42 06.0**	**-3.4**
	comp=Z,34nm,1.0s,baz=162,slow=6.3,SNR=4.8						
JMIC				SKPbc	**SKPab**	**21 42 39.8**	**-0.6**
	comp=Z,29nm,0.9s,baz=182,slow=8.4,SNR=3.9						
TRO	**Tromso**	**135.16**	**352**	*e*P	**PKPdf**	**21 39 33.4**	**-0.8**
TRO				*e*PP	**PP**	**21 42 13.1**	**0.0**
TRO				*e*SS	SS	21 59 46.9	+2.6
TMCR	**Tamitsa**	**135.19**	**338**	*e*PKIKP	**PKPdf**	**21 39 33.3**	**-1.1**
TMCR				*e*		21 42 10.0	
TMCR				pmax	pmax		
	comp=Z,16nm,0.8s						
KMBO	**Kilima Mbogo**	**136.39**	**237**	PKPpre	PKPpre	21 39 27.9	
KMBO				*e*PKPdf	**PKPdf**	**21 39 38.6**	**0.0**
KMBO				PKP	**PKPdf**	**21 39 38.9**	**+0.3**
KMBO				pPKP	pPKPdf	21 40 48.1	-0.3
KMBO				SKPbc	**SKPbc**	**21 42 46.0**	**+1.6**
KMBO	**Kilima Mbogo**	**136.39**	**237**	PKhKP	PKPpre	21 39 27.9	
	comp=Z,0.4nm,0.3s,baz=14,slow=3.0,SNR=3.1						
KMBO				PKP	**PKPdf**	**21 39 38.9**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=55,slow=7.0,SNR=8.9						
KMBO				pPKP	pPKPdf	21 40 48.1	-0.3
	comp=Z,3.1nm,0.7s,baz=18,slow=3.6,SNR=1.9						
KMBO				SKPbc	**SKPbc**	**21 42 46.0**	**+1.6**
	comp=Z,17nm,1.0s,baz=131,slow=1.2,SNR=8.5						
LOF	**Lofoten**	**137.22**	**354**	*e*PP	PP	21 42 24.5	-1.4
BORG	**Borgarnes**	**138.48**	**15**	PKP	**PKPdf**	**21 39 40.4**	**0.0**
BORG	**Borgarnes**	**138.48**	**15**	PKP	**PKPdf**	**21 39 40.4**	**0.0**
	comp=Z,29nm,0.9s,baz=72,slow=1.7						
MOR8	**Moi Rana**	**139.00**	**352**	*e*P	PKPpre	21 39 32.4	
RDF	**Al-Radifah**	**139.43**	**285**	*e*P	PKPpre	21 39 35.7	
RDF				AMb	AMB	21 39 46.4	
	comp=Z,79nm,0.9s						
MIB	**Mutribah**	**139.71**	**286**	*e*P	PKPpre	21 39 35.4	
MIB				AMb	AMB	21 39 37.5	
	comp=Z,33nm,0.7s						
RST	**Umm Al-Ruwaisa**	**139.97**	**286**	*e*P	PKPpre	21 39 36.2	
RST				AMb	AMB	21 39 47.1	
	comp=Z,366nm,0.8s						
KAF	**Kangasniemi**	**140.29**	**342**	*e*PKIKP	**PKPdf**	**21 39 47.0**	**+3.2**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KAF	**Kangasniemi**	**140.29**	**342**	*e*p	PKPpre	21 39 35.6	
	comp=Z,5.8nm,0.4s						
KAF	**Kangasniemi**	**140.29**	**342**	*e*p	**PKPdf**	**21 39 47.0**	**+3.2**
	comp=Z,5.7nm,0.3s						
MOS	**Moscow**	**140.50**	**329**	*e*PKHKP	PKPpre	21 39 38.0	
MOS				*e*		21 42 52.4	
MOS				pmax	pmax		
	comp=Z,120nm,1.6s						
MOS				pmax	pmax		
	comp=Z,200nm,1.7s						
VRHR	**Novokhopersk**	**140.68**	**320**	*e*PKHKP	PKPpre	21 39 37.4	
VRHR				pmax	pmax		
	comp=Z,60nm,0.9s						
VRHR				pmax	pmax		
	comp=N,8.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,30nm,0.9s						
PUL	**Pulkovo**	**140.87**	**337**	*i* PKIKP	**PKPdf**	**21 39 47.6**	**+2.7**
FIA1	**FINESS Array S**	**140.90**	**342**	*e*PKPpre	PKPpre	21 39 37.5	
FIA1				*e*PKPdf	**PKPdf**	**21 39 44.6**	**-0.3**
FINES	**FINESS Array B**	**140.90**	**342**	PKPpre	PKPpre	21 39 37.2	
FINES				SKPbc	**SKPbc**	**21 42 55.3**	**+0.3**
FINES	**FINESS Array B**	**140.90**	**342**	PKhKP	PKPpre	21 39 37.2	
	comp=E,27nm,0.7s,baz=44,slow=4.6,SNR=56						
FINES				SKPbc	**SKPbc**	**21 42 55.3**	**+0.3**
	comp=E,31nm,0.8s,baz=70,slow=2.2,SNR=5.9						
DGRG	**David-gareji**	**140.98**	**305**	P	PKPpre	21 39 40.3	
IBDR	**Badra**	**141.12**	**291**	*i* PKP	PKPpre	21 39 39.0	
IBDR				*i* PKS	**PKSdf**	**21 43 20.0**	**-2.2**
IBDR				*i* SKKS		21 49 18.0	
OBN	**Obninsk**	**141.35**	**328**	*e*PKHKP	PKPpre	21 39 40.3	
OBN				*i*		21 39 45.1	
OBN				pmax	pmax		
	comp=Z,26nm,1.0s						
OBN				pmax	pmax		
	comp=Z,39nm,1.1s						
DUS	**Dusheti**	**141.37**	**306**	P	**PKPdf**	**21 39 42.8**	**-3.7**
TBLG	**Delisi**	**141.41**	**305**	PKHKP	PKPpre	21 39 41.6	
TBLG	**Delisi**	**141.41**	**305**	P	PKPpre	21 39 41.6	
GNI	**Garni**	**141.66**	**303**	PKPpre	PKPpre	21 39 43.1	
GNI				*e*PKPdf	**PKPdf**	**21 39 44.4**	**-2.8**
GNI	**Garni**	**141.66**	**303**	PKhKP	PKPpre	21 39 43.1	
	comp=Z,19nm,0.8s,baz=314,slow=11,SNR=5.8						
VSR	**Storozhevoye**	**142.02**	**322**	*e*PKHKP	PKPpre	21 39 41.3	
VSR				*e*		21 43 00.6	
VSR				pmax	pmax		
	comp=Z,90nm,1.1s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD	**Divnogorie**	**142.06**	**321**	*e*PKHKP	PKPpre	21 39 41.4	
VORD				*e*		21 42 52.1	
VORD				pmax	pmax		
	comp=Z,30nm,1.1s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
ONI	**Oni**	**142.18**	**307**	P	**PKPdf**	**21 39 44.1**	**-3.8**
TBLU	**Trondheim**	**142.30**	**354**	*e*PP	PP	21 42 55.0	-2.0
KBZ	**Khabaz**	**142.31**	**309**	PKHKP	PKPpre	21 39 44.3	
KBZ	**Khabaz**	**142.31**	**309**	PKPpre	PKPpre	21 39 44.3	
KBZ	**Khabaz**	**142.31**	**309**	PKhKP	PKPpre	21 39 44.3	
	comp=E,14nm,0.9s,baz=139,slow=1.9,SNR=17						
AKH	**Akhalkalaki**	**142.38**	**305**	P	**PKPdf**	**21 39 45.6**	**-2.9**
KIV	**Kislovodsk**	**142.40**	**309**	*i* PKIKP	**PKPdf**	**21 39 49.0**	**+0.7**
KIV				*e**PP		21 40 56.4	
KIV				*e**SP		21 41 21.7	
KIV				*e*		21 42 56.0	
KIV				*e*		21 46 27.7	
KIV				*e*SS	**SS**	**22 01 08.7**	**-2.8**
KIV				pmax	pmax		
	comp=Z,27nm,0.9s						
BHD	**Baghdad**	**142.42**	**291**	*i* PKP	**PKPdf**	**21 39 45.0**	**-3.6**
BHD				*i* SKKS		21 49 25.0	
VSU	**Vasula**	**143.07**	**338**	*d i* PKHKP	PKPpre	21 39 45.3	
MOL	**Molde**	**143.20**	**356**	*e*P	PKPab	21 39 45.7	+0.2
DOMB	**Dombas**	**143.60**	**354**	*e*P	PKPab	21 39 46.8	-0.3
DOMB				AMB	AMB	21 39 50.7	
	comp=Z,161nm,1.7s						
NB2	**NORSAR Subarra**	**144.35**	**352**	PKP	**PKPab**	**21 39 49.7**	**-0.4**
	comp=Z,651nm,1.1s,baz=9.8,slow=3.5						
NB2	**NORSAR Subarra**	**144.35**	**352**	PKP	**PKPab**	**21 39 49.7**	**-0.4**
	baz=9.8,slow=3.5						
NOA	**NORSAR Array B**	**144.35**	**352**	PKP	**PKPab**	**21 39 49.3**	**-0.8**
NOA	**NORSAR Array B**	**144.35**	**352**	PKP	**PKPab**	**21 39 49.3**	**-0.8**
	comp=Z,140nm,0.9s,baz=18,slow=2.5,SNR=618						
SOC	**Sochi**	**144.57**	**310**	*d i* PKIKP	**PKPab**	**21 39 50.2**	**-1.2**
SOC				*e*		21 40 58.1	
SOC				*e*		21 46 34.6	
SOC				pmax	pmax		
	comp=Z,126nm,0.6s						
NAO01	**NORSAR Array S**	**144.58**	**352**	*e*PKP	**PKPab**	**21 39 50.2**	**-0.8**
HYA	**Hoyanger**	**144.69**	**356**	*e*P	PKPbc	21 39 50.6	-0.6
HYA				*e*PP	**PP**	**21 43 10.6**	**-0.6**
SUE	**Sulen**	**144.87**	**357**	*e*P	PKPbc	21 39 50.5	-1.3
SUE				*e*PP	**PP**	**21 43 11.7**	**-0.5**
HFS	**Hagfors**	**144.87**	**350**	PKP	PKPbc	21 39 50.4	-1.5
HFS	**Hagfors**	**144.87**	**350**	PKP	PKPbc	21 39 50.4	-1.5
	comp=Z,108nm,0.3s,baz=62,slow=3.5,SNR=763						
ASK	**Askoy**	**145.42**	**357**	*e*P	**PKPdf**	**21 39 51.1**	**-1.8**
ASK				AMB	AMB	21 39 56.6	
	comp=Z,778nm,1.7s						
RUND	**Rundenannen**	**145.48**	**357**	*e*P	**PKPdf**	**21 39 52.0**	**-1.0**
RUND				AMB	AMB	21 39 56.9	
	comp=Z,918nm,1.5s						
OSL	**Oslo**	**145.49**	**352**	*e*P	**PKPdf**	**21 39 52.8**	**-0.2**
BER	**Bergen**	**145.51**	**357**	*e*P	**PKPdf**	**21 39 51.9**	**-1.2**
BER				AMB	AMB	21 39 57.6	
	comp=Z,450nm,2.8s						
BER				*e*PP	**PP**	**21 43 15.2**	**-0.8**
BER				*e*		21 52 59.8	
BER				*i*		21 55 28.2	
MICGM	**Minsk**	**145.60**	**333**	⇓*e*PKP	**PKPdf**	**21 39 51.0**	**-2.4**
MNK	**Minsk**	**145.62**	**333**	⇓*e*PKHKP	**PKPdf**	**21 39 51.0**	**-2.4**
MNK				*e*SS	SS	22 01 44.0	-2.6
MNK				pmax	pmax		
	comp=Z,9μm,4.0s						
MNK				pmax	pmax		
	comp=N,690nm,1.6s						
MNK				pmax	pmax		
	comp=E,650nm,1.5s						
MNK				pmax	pmax		
	comp=Z,930nm,1.2s						
EGD	**Espegrend**	**145.63**	**357**	*e*P	**PKPdf**	**21 39 52.0**	**-1.2**
EGD				AMB	AMB	21 39 57.4	
	comp=Z,595nm,1.5s						
ANN	**Anapa**	**145.72**	**312**	*i* PKIKP	**PKPdf**	**21 39 53.0**	**-0.9**
ANN				*e*SSS	SSS	22 07 18.0	
ANN				pmax	pmax		
	comp=Z,306nm,0.9s						
NACGM	**Naroch**	**145.75**	**334**	*e*PKP	PKPdf	21 39 48.0	-5.7
KONO	**Kongsberg**	**145.90**	**353**	*e*P	**PKPdf**	**21 39 53.5**	**-0.3**
KONO				*e*		21 41 34.8	
KONO				*e*PP	**PP**	**21 43 18.4**	**0.0**
KONO				*e*SS	SS	22 01 53.1	+4.1
ODD1	**Odda**	**145.91**	**356**	*e*P	**PKPdf**	**21 39 53.8**	**-0.1**
ODD1				AMB	AMB	21 39 59.8	
	comp=Z,265nm,1.9s						
BLS5	**Blasjo**	**146.41**	**356**	*e*P	**PKPbc**	**21 39 55.6**	**-0.9**
BLS5				AMB	AMB	21 40 00.2	
	comp=Z,270nm,1.6s						
MALT	**Malatya**	**146.80**	**301**	⇑PKP2	**PKPab**	**21 40 01.2**	**+0.8**
MALT	**Malatya**	**146.80**	**301**	⇑*i* P	**PKPab**	**21 40 01.1**	**+0.7**
HOMB	**Homborsund**	**147.37**	**353**	*e*P	**PKPdf**	**21 39 57.4**	**+1.2**
SNART	**Snartemo**	**147.42**	**355**	*e*P	**PKPbc**	**21 39 58.0**	**-1.2**
SNART				AMB	AMB	21 40 02.9	
	comp=Z,219nm,1.4s						
AKASG	**Malin Array Be**	**147.56**	**327**	PKIKP	**PKPdf**	**21 39 57.6**	**+0.8**
AKASG	**Malin Array Be**	**147.56**	**327**	PKPbc	**PKPdf**	**21 39 57.6**	**+0.8**
AKASG	**Malin Array Be**	**147.56**	**327**	PKPbc	**PKPdf**	**21 39 57.6**	**+0.8**
	comp=Z,44nm,0.7s,baz=42,slow=4.2,SNR=76						
KIEV	**Kiev**	**147.57**	**327**	*e*PKIKP	**PKPdf**	**21 39 56.9**	**+0.1**
KIEV				*e*		21 40 00.7	
KIEV	**Kiev**	**147.57**	**327**	*e*PKPdf	**PKPdf**	**21 39 56.9**	**+0.1**
KIEV				*e*PKPbc	**PKPbc**	**21 40 00.7**	**+0.8**
KIEV				*e*PKPab	**PKPab**	**21 40 02.9**	**0.0**
SUW	**Suwalki**	**147.79**	**336**	*e*PKHKP	**PKPdf**	**21 39 56.1**	**-1.0**
SUW				*e*		21 40 03.6	
SUW	**Suwalki**	**147.79**	**336**	*e*PKPdf	**PKPdf**	**21 39 56.1**	**-1.0**
SUW				*e*PKPbc	**PKPbc**	**21 40 00.4**	**0.0**
SUW				*e*PKPab	**PKPab**	**21 40 03.6**	**0.0**
SUW	**Suwalki**	**147.79**	**336**	*e*PKPdf	**PKPdf**	**21 39 57.9**	**+0.8**
SUW				*e*PKPbc	**PKiKP**	**21 40 01.6**	**-0.5**
SUW				*e*PKPab	**PKPab**	**21 40 03.3**	**-0.3**
SUW				*ep*PKPab	**pPKPab**	**21 41 12.3**	**+1.1**
MVH1	**Achvaich**	**147.79**	**6**	*e*P	**PKPdf**	**21 39 55.8**	**-1.2**
SIM	**Simferopol'**	**147.83**	**314**	*i* PKIKP	**PKPdf**	**21 39 58.7**	**+1.2**
SIM				*e*		21 40 05.0	
SIM				pmax	pmax		
	comp=Z,141nm,0.7s						
KAC	**Achnashellach**	**148.10**	**7**	*e*P	**PKPdf**	**21 39 57.4**	**-0.2**
MCD	**Coleburn Disti**	**148.21**	**5**	*e*P	**PKPdf**	**21 39 58.2**	**+0.5**
KPL	**Plockton**	**148.21**	**8**	*e*P	**PKPdf**	**21 39 57.2**	**-0.5**
MDO	**Dochfour**	**148.25**	**6**	*e*P	**PKPdf**	**21 39 57.4**	**-0.4**
MME1	**Meikle Cairn**	**148.50**	**5**	*e*P	**PKPdf**	**21 39 59.8**	**+1.6**
ASF	**Jabal al Asfar**	**148.75**	**290**	PKP	**PKPdf**	**21 40 00.8**	**+1.3**
ASF				PKPbc	**PKiKP**	**21 40 04.3**	**-0.6**
ASF	**Jabal al Asfar**	**148.75**	**290**	PKP	**PKPdf**	**21 40 00.8**	**+1.3**
	comp=Z,37nm,0.8s,baz=118,slow=1.3,SNR=50						
ASF				PKPbc	**PKiKP**	**21 40 04.3**	**-0.6**
	comp=Z,37nm,0.8s,baz=76,slow=1.7,SNR=61						
DRUM	**Mains of Drumt**	**148.94**	**4**	*e*P	**PKPdf**	**21 40 00.6**	**+1.7**
FKH	**Fakeheh**	**149.01**	**294**	*e*P	**PKPdf**	**21 40 01.6**	**+1.7**
MUD	**Monsted U'grnd**	**149.07**	**352**	*i* P	**PKPbc**	**21 40 03.2**	**-0.3**
MUD				*i*		21 41 18.0	
MUD				*i*		21 50 04.1	
ELO	**Logie Almond**	**149.27**	**6**	*e*P	**PKPdf**	**21 39 59.2**	**-0.3**
COP	**Copenhagen**	**149.31**	**348**	*i* P	**PKPdf**	**21 40 00.9**	**+1.4**
COP				*i*		21 41 43.0	
BSD	**Bornholm Skovb**	**149.32**	**345**	*i* P	**PKPdf**	**21 40 00.9**	**+1.4**
BSD				*i*		21 41 39.0	
HWQ	**Hawqa**	**149.39**	**294**	*e*P	**PKPdf**	**21 40 00.6**	**+0.1**
EAB	**Aberfoyle**	**149.49**	**7**	*e*P	**PKPdf**	**21 39 59.5**	**-0.3**
RCY	**Rachaya**	**149.56**	**292**	*e*P	**PKPdf**	**21 40 02.9**	**+2.0**
BHL	**Bhannes**	**149.67**	**293**	*e*P	**PKPdf**	**21 39 59.7**	**-1.3**
LLD	**Lille Linde**	**149.68**	**348**	*i* P	**PKPbc**	**21 40 04.6**	**-0.4**
PGBU	**Glenifferbraes**	**149.85**	**7**	*e*P	**PKPdf**	**21 40 00.6**	**+0.2**
EDI	**Edinburgh**	**149.86**	**6**	*e*P	**PKPdf**	**21 39 59.9**	**-0.5**
ESY	**Stoneypath**	**149.91**	**5**	*e*P	**PKPdf**	**21 40 00.3**	**-0.2**
MMAI	**Mount Meron Ar**	**149.96**	**292**	PKPbc	**PKPbc**	**21 40 06.6**	**+0.1**
MMAI	**Mount Meron Ar**	**149.96**	**292**	PKPbc	**PKPbc**	**21 40 06.6**	**+0.1**
	comp=Z,148nm,0.8s,baz=64,slow=3.8,SNR=77						
KIS	**Kishinev**	**150.01**	**321**	*e*PKP1	**PKPdf**	**21 40 00.0**	**-0.9**
KIS	**Kishinev**	**150.01**	**321**	PKPM	**PKPbc**	**21 40 07.0**	**+0.9**
	comp=Z,600nm,1.6s						
KIS	**Kishinev**	**150.01**	**321**	*i* PKP2	**PKPab**	**21 40 13.5**	**+0.6**
KIS				*ep*PKP	pPKPdf	21 41 20.0	+9.0
KIS	**Kishinev**	**150.01**	**321**	*e*PKS	PKSdf	21 43 21.0	-15
KIS	**Kishinev**	**150.01**	**321**	*e*PP	PP	21 43 42.0	-1.0
KIS				*e*SKKS		21 50 06.0	
KIS				*e*L	L	22 28 10.0	
KIS				LRM	MLR	22 47 34.0	
	comp=Z,900nm,21.0s						
KIS	**Kishinev**	**150.01**	**321**	⇓PKHKP	**PKPbc**	**21 40 06.1**	**0.0**
KIS	**Kishinev**	**150.01**	**321**	⇓*i* P	**PKPbc**	**21 40 06.1**	**0.0**
EBL	**Broad Law**	**150.02**	**5**	*e*P	**PKPdf**	**21 40 01.5**	**+0.8**
BR131	**Keskin Array S**	**150.07**	**305**	*e*PKPdf	**PKPdf**	**21 40 01.4**	**0.0**
BR131				*e*PKPbc	**PKPbc**	**21 40 06.6**	**-0.1**
BR131				*e*PKPab	**PKPab**	**21 40 13.1**	**-0.6**
RGN	**Rugen**	**150.20**	**346**	*ep*PKPbc	pPKPbc	21 41 18.5	+2.7
GKP	**Gorka Klasztor**	**150.37**	**341**	*e*PKPdf	**PKPdf**	**21 40 02.2**	**+1.0**
GKP				*e*PKPbc	**PKPbc**	**21 40 06.7**	**-0.1**
GKP				*e*PKPab	**PKPab**	**21 40 15.4**	**+1.2**
GKP				*ep*PKPab	**pPKPab**	**21 41 21.4**	**-0.1**
BEL	**Belsk**	**150.40**	**336**	*e*PKPdf	**PKPdf**	**21 40 02.2**	**+0.9**
BEL				*e*PKPbc	**PKiKP**	**21 40 07.3**	**-0.2**
BEL				*e*PKPab	**PKPab**	**21 40 15.5**	**+1.1**
BEL				*ep*PKPab	**pPKPab**	**21 41 22.1**	**+0.4**
EKA	**Eskdalemuir Ar**	**150.45**	**6**	PKP	**PKPdf**	**21 40 00.8**	**-0.5**
EKA				PKPbc	**PKPbc**	**21 40 06.2**	**-0.7**
EKA				PKPab	**PKPab**	**21 40 14.3**	**-0.1**
EKA				PP	**PP**	**21 43 43.5**	**-1.2**
EKA	**Eskdalemuir Ar**	**150.45**	**6**	PKP	**PKPdf**	**21 40 00.8**	**-0.5**
	comp=Z,5.9nm,0.5s,baz=3.9,slow=1.0,SNR=11						
EKA				PKPbc	**PKPbc**	**21 40 06.2**	**-0.7**
	comp=Z,30nm,0.6s,baz=330,slow=0.4,SNR=48						
EKA				PKPab	**PKPab**	**21 40 14.3**	**-0.1**
	comp=Z,24nm,0.5s,baz=340,slow=2.5,SNR=14						
EKA				PP	**PP**	**21 43 43.5**	**-1.2**
	comp=Z,15nm,1.1s,baz=7.8,slow=5.7,SNR=4.6						
EIL	**Elat**	**150.45**	**285**	PKP	**PKPdf**	**21 40 02.9**	**+0.7**
EIL				PKPbc	**PKPbc**	**21 40 07.8**	**0.0**
EIL				pPKPbc	**pPKPbc**	**21 41 15.7**	**-1.6**
EIL	**Elat**	**150.45**	**285**	PKP	**PKPdf**	**21 40 02.9**	**+0.7**
	comp=Z,14nm,1.1s,baz=25,slow=3.1,SNR=6.6						
EIL				PKPbc	**PKPbc**	**21 40 07.8**	**0.0**
	comp=Z,116nm,1.0s,baz=4.6,slow=1.0,SNR=68						
EIL				pPKPbc	**pPKPbc**	**21 41 15.7**	**-1.6**
	comp=Z,21nm,0.9s,baz=54,slow=6.3,SNR=1.3						
ESK	**Eskdalemuir**	**150.46**	**6**	*e*P	**PKPdf**	**21 40 00.7**	**-0.7**
ESK	**Eskdalemuir**	**150.46**	**6**	*e*PKIKP	**PKPdf**	**21 40 02.4**	**+1.1**
ESK				*e*		21 40 14.9	
ESK	**Eskdalemuir**	**150.46**	**6**	*e*PKPdf	**PKPdf**	**21 40 02.4**	**+1.1**
ESK				*e*PKPbc	**PKPbc**	**21 40 06.6**	**-0.3**
ESK				*e*PKPab	**PKPab**	**21 40 14.9**	**+0.4**
IAS	**Iasi**	**150.59**	**323**	⇑PKIKP	**PKPbc**	**21 40 07.4**	**-0.1**
IAS	**Iasi**	**150.59**	**323**	⇑*i* P	**PKPbc**	**21 40 07.4**	**-0.1**
LVV	**L'vov**	**150.61**	**330**	*e*PKIKP	**PKPdf**	**21 40 02.8**	**+1.0**
LVV				*e*		21 41 27.2	
LVV				*e*		21 43 45.2	
LVV				MLR	MLR		
	comp=N,630nm,23.0s						
LVV				MLR	MLR		
	comp=E,420nm,23.0s						
LVV				MLR	MLR		
	comp=Z,710nm,23.0s						
LEOM	**Leova**	**150.63**	**321**	⇓PKIKP	**PKPbc**	**21 40 07.8**	**+0.2**
LEOM	**Leova**	**150.63**	**321**	⇓*i* P	**PKPbc**	**21 40 07.8**	**+0.2**
ANTO	**Ankara**	**150.64**	**306**	⇓PKIKP	**PKPdf**	**21 40 03.0**	**+0.8**
ANTO	**Ankara**	**150.64**	**306**	PKPdf	**PKPdf**	**21 40 03.3**	**+1.1**
	SNR=57						
ANTO	**Ankara**	**150.64**	**306**	⇓*i* P	**PKPdf**	**21 40 03.0**	**+0.8**
ANTO	**Ankara**	**150.64**	**306**	*e*PKPdf	**PKPdf**	**21 40 01.3**	**-1.0**
ANTO				*e*PKPbc	**PKPbc**	**21 40 08.1**	**+0.1**
ANTO				*e*PKPab	**PKPab**	**21 40 15.9**	**-0.1**
PHNC	**Paralimni**	**150.85**	**296**	P	**PKPbc**	**21 40 09.3**	**+0.8**
	comp=Z,3.7nm,0.9s						
TLCR		**151.02**	**318**	⇑PKIKP	**PKPbc**	**21 40 06.3**	**-2.2**
TLCR		**151.02**	**318**	⇑*i* P	**PKPbc**	**21 40 06.3**	**-2.2**
KESW	**Keswick, Cumbr**	**151.19**	**6**	*e*P	**PKPdf**	**21 40 03.0**	**+0.5**
PRAR	**RASCA**	**151.20**	**324**	⇑*i* P	**PKPbc**	**21 40 09.2**	**+0.2**
KWP	**Kalwaria Pacla**	**151.34**	**331**	⇓PKIKP	**PKPdf**	**21 40 04.0**	**+1.1**
KWP	**Kalwaria Pacla**	**151.34**	**331**	⇓*i* P	**PKPdf**	**21 40 04.0**	**+1.1**
KWP	**Kalwaria Pacla**	**151.34**	**331**	*e*PKPdf	**PKPdf**	**21 40 03.5**	**+0.6**
KWP				*e*PKPbc	**PKPbc**	**21 40 09.2**	**0.0**
KWP				*e*PKPab	**PKPab**	**21 40 17.9**	**-0.5**
KWP	**Kalwaria Pacla**	**151.34**	**331**	*e*PKPdf	**PKPdf**	**21 40 03.7**	**+0.8**
KWP				*e*PKPbc	**PKiKP**	**21 40 09.4**	**-0.2**
KWP				*e*PKPab	**PKPab**	**21 40 18.4**	**0.0**
GHRR		**151.35**	**321**	⇓*i* P	**PKPdf**	**21 40 05.7**	**+2.7**
BSEG	**Bad Segeberg**	**151.35**	**349**	*e*PKPdf	**PKPdf**	**21 40 02.1**	**-0.6**
BSEG				*e*PKPbc	**PKPbc**	**21 40 08.8**	**-0.2**
BSEG	**Bad Segeberg**	**151.35**	**349**	*e*PKIKP	**PKPbc**	**21 40 08.8**	**-0.2**
CFR	**Carcaliu**	**151.42**	**319**	⇓PKIKP	**PKPdf**	**21 40 02.7**	**-0.4**
CFR	**Carcaliu**	**151.42**	**319**	⇓*i* P	**PKPdf**	**21 40 02.7**	**-0.4**
CSS	**Prodhromos**	**151.43**	**296**	P	**PKPbc**	**21 40 09.6**	**-0.3**
	comp=Z,1.4nm,0.7s						
CSS	**Prodhromos**	**151.43**	**296**	P	**PKPbc**	**21 40 09.3**	**-0.6**
CSS	**Prodhromos**	**151.43**	**296**	*e*PKPdf	**PKPbc**	**21 40 09.5**

DPC			*e*PP	PP	21 43 55.2	-5.4
DPC			*e*SKKS		21 50 22.8	
DPC			*ex*	x	21 53 51.8	
DPC			*e*SS	**SS**	**22 03 08.4**	**-2.0**
HLM1	**Long Mynd**	**153.26 6**	*e*P	**PKpf**	**21 40 05.0**	**-0.6**
MORC	**Moravsky Berou**	**153.27 337**	*e*PKIKP	**PKpf**	**21 40 05.9**	**+0.1**
MORC			*e*		21 44 01.4	
MORC	**Moravsky Berou**	**153.27 337**	*e*PKPdf	**PKpf**	**21 40 05.9**	**+0.1**
MORC			*ep*PKPbc	**PKiKP**	**21 40 13.7**	**+0.1**
MORC			*e*PP	**PP**	**21 44 01.4**	**+0.3**
CLL	**Collm**	**153.28 344**	*e*PKPdf	**PKPdf**	**21 40 05.2**	**-0.5**
CLL			*e*PKPbc	**PKPbc**	**21 40 13.0**	**-0.4**
CLL			*e*PKPab	**PKPab**	**21 40 26.1**	**-0.4**
CLL			*ep*PKPbc	**pPKPbc**	**21 41 26.7**	**+3.6**
CLL	**Collm**	**153.28 344**	*e*PKIKP	**PKPdf**	**21 40 06.0**	**+0.3**
CLL			*i*		21 40 26.2	
CLL			*i*		21 44 00.3	
CLL			pmax	pmax		
	comp=Z,26nm,1.0s					
CLL			pmax	pmax		
	comp=Z,154nm,1.1s					
CLL			pmax	pmax		
	comp=Z,200nm,1.3s					
CLL			pmax	pmax		
	comp=Z,168nm,1.8s					
CLL	**Collm**	**153.28 344**	*e*PKPdf	**PKPdf**	**21 40 06.0**	**+0.3**
	comp=Z,26nm,1.0s					
CLL			*i* PKPbc	**PKPbc**	**21 40 13.4**	**0.0**
	comp=Z,154nm,1.1s					
CLL			*e*		21 40 18.0	
CLL			*i* PKPab	**PKPab**	**21 40 26.2**	**-0.3**
	comp=Z,200nm,1.3s					
CLL			*i*		21 40 32.3	
CLL			*e*(pPKPab)		21 41 28.0	
CLL			*e*		21 42 06.0	
CLL			*i* PP	**PP**	**21 44 00.3**	**-0.6**
	comp=Z,168nm,1.8s					
CLL			*e*		21 44 07.0	
CLL			*es*PP		21 45 35.0	
CLL			*e*PPP	PPP	21 47 28.0	
CLL			*e*SKKSac	SKKSac	21 50 23.0	-0.3
CLL			*e*		21 50 58.0	
CLL			*e*SKSP		21 53 53.0	
CLL			*es*PPPrev		21 55 10.0	
CLL			*ep*SKKSacr		21 56 05.0	
CLL			*e*		21 56 54.0	
CLL			*e*PPS	PPS	21 57 07.0	
CLL			*es*PPS		21 58 36.0	
CLL			*e*		22 00 43.0	
CLL			*e*SS	**SS**	**22 03 11.0**	**0.0**
CLL			*e*SKSSKSac	SKSac	22 03 48.0	-10
CLL			*es*SS		22 05 06.0	
CLL			*e*SSS	SSS	22 09 06.0	
CLL			*e*		22 09 42.0	
CLL			*e*(sSSS)		22 10 36.0	
CLL			*e*SSSS		22 13 06.0	
CLL			*e*PSSrev		22 14 06.0	
IBBN	**Ibbenburen**	**153.31 352**	*e*PKPdf	**PKPdf**	**21 40 07.2**	**+1.5**
IBBN			*e*PKPbc	**PKiKP**	**21 40 14.5**	**+1.0**
IBBN			*e*PKPab	**PKPab**	**21 40 26.0**	**-0.5**
ARR	**Arges**	**153.31 322**	⇓*i*P	**PKPdf**	**21 40 06.2**	**+0.2**
DRGR		**153.38 327**	⇑PKIKP	**PKPbc**	**21 40 11.6**	**-2.3**
DRGR		**153.38 327**	⇑*i*P	**PKPbc**	**21 40 11.6**	**-2.3**
BRG	**Berggiesshubel**	**153.43 343**	*e*PKP	**PKPdf**	**21 40 05.2**	**-0.7**
	comp=Z,51nm,1.3s					
BRG			*i*		21 40 14.0	
	comp=Z,95nm,1.0s					
BRG			*i*		21 40 29.1	
	comp=Z,473nm,1.9s					
BRG			*e*		21 41 28.7	
	comp=Z,132nm,1.9s					
BRG			PP	**PP**	**21 44 01.8**	**0.0**
	comp=Z,110nm,1.8s					
BRG			*e*		21 45 34.0	
BRG			SKKS		21 50 19.0	
BRG			*e*		21 53 56.0	
BRG			*e*		21 57 10.0	
BRG			*e*		21 58 35.0	
BRG			SS	**SS**	**22 03 15.0**	**+2.2**
	comp=Z,925nm,22.2s					
BRG						
	comp=N,1μm,36.9s					
BRG						
	comp=E,2μm,36.9s					
BRG	**Berggiesshubel**	**153.43 343**	*e*PKPdf	**PKPdf**	**21 40 04.7**	**-1.2**
BRG			*e*PKPbc	**PKPbc**	**21 40 13.7**	**-0.1**
BRG			*e*PKPab	**PKPab**	**21 40 27.1**	**-0.1**
BRG			*ep*PKPbc	**pPKPbc**	**21 41 27.3**	**+3.9**
BRG	**Berggiesshubel**	**153.43 343**	*e*PKIKP	**PKPdf**	**21 40 05.2**	**-0.7**
BRG					21 44 01.8	
BRG			*e*		21 57 10.0	
BRG			SS	SS	22 03 15.0	+2.2
BRG			pmax	pmax		
	comp=Z,51nm,1.3s					
BRG			pmax	pmax		
	comp=Z,95nm,1.0s					
BRG			pmax	pmax		
	comp=Z,473nm,1.9s					
BRG			pmax	pmax		
	comp=Z,132nm,1.9s					
BRG			pmax	pmax		
	comp=Z,110nm,1.8s					
BRG			MLR	MLR		
	comp=Z,925nm,22.2s					
BRG			MLR	MLR		
	comp=N,1μm,36.9s					
BRG			MLR	MLR		
	comp=E,2μm,36.9s					
FBE	**Freiberg**	**153.54 343**	*e*PKPdf	**PKPdf**	**21 40 05.9**	**-0.2**
FBE			*e*PKPbc	**PKiKP**	**21 40 14.2**	**+0.1**
FBE			*e*PKPab	**PKPab**	**21 40 27.5**	**-0.1**
PVCC	**Panska Ves**	**153.57 341**	*e*PKIKP	**PKPdf**	**21 40 05.7**	**-0.4**
PVCC			*e*		21 40 28.0	
PVCC			*e*		21 43 58.2	
PVCC			*e*SS	SS	22 03 10.8	-3.5
PVCC	**Panska Ves**	**153.57 341**	*e*PKPDF	**PKPdf**	**21 40 05.7**	**-0.4**
PVCC			⇑*e*PKP	**PKPbc**	**21 40 13.9**	**-0.2**
PVCC			*e*PKPAB	**PKPab**	**21 40 28.0**	**+0.2**
PVCC			*es*PKP		21 41 41.7	
PVCC			*e*PP	**PP**	**21 43 58.2**	**-4.4**
PVCC			*ex*	x	21 45 32.1	
PVCC			*e*SKKS		21 50 23.8	
PVCC			*e*SS	**SS**	**22 03 10.8**	**-3.5**
NEUB	**Neuenburg**	**153.66 346**	*e*PKPdf	**PKPdf**	**21 40 05.8**	**-0.4**
NEUB			*e*PKPab	**PKPab**	**21 40 27.7**	**-0.4**
NEUB			*ep*PKPbc	**pPKPbc**	**21 41 27.0**	**+3.1**
WTSB	**Winterswijk**	**153.76 353**	*e*PKPdf	**PKPdf**	**21 40 06.9**	**+0.6**
	comp=E,259nm,2.4s					
WTSB			*e*PKPbc	**PKPbc**	**21 40 14.3**	**-0.1**
WTSB			*e*PKPab	**PKPab**	**21 40 29.8**	**+1.3**
MCH1	**Michaelchurch**	**153.76 7**	*e*P	**PKPdf**	**21 40 05.1**	**-1.3**
SZH	**Strazhica**	**153.80 317**	P	**PKPbc**	**21 40 16.3**	**+1.5**
JMB	**Yambol**	**153.82 315**	P	**PKPab**	**21 40 30.5**	**+1.4**
JMB	**Yambol**	**153.82 315**	PKP2	**PKPab**	**21 40 30.5**	**+1.4**
JMB	**Yambol**	**153.82 315**	PKPab	**PKPab**	**21 40 30.5**	**+1.4**
VYHS	**Vyhne**	**153.84 334**	*e*PKIKP	**PKPdf**	**21 40 05.9**	**-0.7**
VYHS	**Vyhne**	**153.84 334**	*e*PKP	**PKPdf**	**21 40 05.9**	**-0.7**
VYHS			*e*		21 40 14.7	
VYHS			*e*		21 40 29.7	
PSZ	**Piszkesteto**	**153.85 332**	⇑PKIKP	**PKPdf**	**21 40 07.6**	**+0.9**
PSZ	**Piszkesteto**	**153.85 332**	⇑*i*P	**PKPdf**	**21 40 07.6**	**+0.9**
PSZ	**Piszkesteto**	**153.85 332**	*e*PKPdf	**PKPdf**	**21 40 06.1**	**-0.6**
PSZ			*e*PKPbc	**PKiKP**	**21 40 15.5**	**+0.5**
PSZ	**Piszkesteto**	**153.85 332**	⇓*e*	**PKPdf**	**21 40 05.2**	**-1.5**
PSZ			*e*		21 40 29.6	
VRAC	**Vranov**	**154.00 337**	PKP	**PKPdf**	**21 40 07.1**	**+0.3**
VRAC			PKPab	**PKPab**	**21 40 30.2**	**+0.5**
VRAC			PP	**PP**	**21 44 02.4**	**-2.7**
VRAC	**Vranov**	**154.00 337**	PKP	**PKPdf**	**21 40 07.1**	**+0.3**
	comp=E,2.8nm,0.6s,baz=18,slow=0.5,SNR=16					
VRAC			PKPab	**PKPab**	**21 40 30.2**	**+0.5**
	comp=E,54nm,0.7s,baz=40,slow=4.0,SNR=32					
VRAC			PP	**PP**	**21 44 02.4**	**-2.7**
	comp=E,13nm,1.1s,baz=78,slow=2.4,SNR=5.4					
PRA	**Prague**	**154.02 341**	PKPDF	**PKPdf**	**21 40 05.0**	**-1.8**
PRA			⇑PKP	**PKPbc**	**21 40 15.0**	**0.0**
PRA			PKPAB		21 41 30.0	
PRA			PP	**PP**	**21 44 01.0**	**-4.1**
PRU	**Pruhonice**	**154.06 341**	*e*PKIKP	**PKPdf**	**21 40 04.8**	**-2.0**
PRU			*e*		21 40 29.9	
PRU			*e*SS	SS	22 03 14.9	-4.8
PRU	**Pruhonice**	**154.06 341**	*e*PKPDF	**PKPdf**	**21 40 04.8**	**-2.0**
PRU			⇑*e*PKP	**PKPbc**	**21 40 14.9**	**-0.2**
PRU			*e*PKPAB	**PKPab**	**21 40 29.9**	**0.0**
PRU			*ep*PKP	pPKPdf	21 41 28.7	+12
PRU			*e*PP	PP	21 43 59.8	-5.5
PRU			*e*SKKS		21 50 29.3	
PRU			*ex*	x	21 53 50.7	
PRU			*e*SS	**SS**	**22 03 14.9**	**-4.8**
PVL	**Pavlikeni**	**154.19 318**	P	**PKPbc**	**21 40 15.6**	**0.0**
BUG	**Bochum--Univer**	**154.22 352**	*e*PKPdf	**PKPdf**	**21 40 06.4**	**-0.6**
BUG			*ep*PKPbc	**pPKPbc**	**21 41 28.7**	**+3.6**
MOX	**Moxa**	**154.22 345**	*e*PKPdf	**PKPdf**	**21 40 06.4**	**-0.7**
MOX			*e*PKPab	**PKPab**	**21 40 30.1**	**-0.4**
MOX			*ep*PKPbc	**pPKPbc**	**21 41 28.8**	**+3.6**
MOX			*e*PP	**PP**	**21 44 03.7**	**-2.5**
MOX	**Moxa**	**154.22 345**	*e*PKIKP	**PKPdf**	**21 40 06.4**	**-0.7**
TANN	**Tannenbergstha**	**154.24 344**	*e*PKPdf	**PKPdf**	**21 40 06.5**	**-0.7**
TANN			*e*PKPab	**PKPab**	**21 40 30.7**	**0.0**
WERD	**Werda**	**154.24 344**	*e*PKPdf	**PKPdf**	**21 40 06.5**	**-0.6**
WERD			*e*PKPab	**PKPab**	**21 40 30.8**	**+0.1**
WERD			*e*PP	**PP**	**21 44 04.0**	**-2.3**
GZR	**Gura Zlata**	**154.30 324**	⇓PKIKP	**PKPdf**	**21 40 06.1**	**-1.3**
GZR	**Gura Zlata**	**154.30 324**	⇓*i*P	**PKPdf**	**21 40 06.1**	**-1.3**
GUNZ	**Gunzen**	**154.31 344**	*e*PKPdf	**PKPdf**	**21 40 06.4**	**-0.8**
GUNZ			*e*PKPab	**PKPab**	**21 40 30.9**	**-0.1**
GUNZ			*ep*PKPbc	**pPKPbc**	**21 41 29.1**	**+3.7**
GUNZ			*e*PP	**PP**	**21 44 03.0**	**-3.7**
SMOL	**Smolenice**	**154.36 335**	*e*PKIKP	**PKPdf**	**21 40 08.6**	**+1.3**
SMOL	**Smolenice**	**154.36 335**	*e*PKP	**PKPdf**	**21 40 08.6**	**+1.3**
SMOL			*e*		21 40 16.9	
SMOL			*e*		21 40 32.6	
WERN	**Wernitzgruen**	**154.38 344**	*e*PKPdf	**PKPdf**	**21 40 07.0**	**-0.3**
WERN			*e*PKPab	**PKPab**	**21 40 31.5**	**+0.3**
WERN			*e*PP	**PP**	**21 44 03.8**	**-3.3**
TREC	**Trest**	**154.38 339**	*e*PKIKP	**PKPdf**	**21 40 06.2**	**-1.1**
TREC			*e*		21 40 31.3	
TREC			*e*		21 44 03.8	
TREC			*e*SS	SS	22 03 22.8	-0.5
TREC	**Trest**	**154.38 339**	*e*PKPDF	**PKPdf**	**21 40 06.2**	**-1.1**
TREC			⇑*e*PKP	**PKPbc**	**21 40 15.7**	**-0.2**
TREC			*e*PKPAB	**PKPab**	**21 40 31.3**	**0.0**
TREC			*e*PP	**PP**	**21 44 03.8**	**-3.4**
TREC			*ex*	x	21 45 42.7	
TREC			*e*SKKS		21 50 29.2	
TREC			*ex*	x	21 53 59.4	
TREC			*e*SS	**SS**	**22 03 22.8**	**-0.5**
UBBA	**Unterbreizbach**	**154.39 348**	*e*PKPdf	**PKPdf**	**21 40 07.9**	**+0.8**
UBBA			*e*PKPab	**PKPab**	**21 40 31.8**	**+0.7**
UBBA			*e*PP	**PP**	**21 44 05.0**	**-1.9**
BUD	**Budapest**	**154.56 332**	*e*	**PKPdf**	**21 40 07.9**	**+0.3**
BUD			*e*PKPdf	**PKPab**	**21 40 32.2**	**+0.1**
PKSN	**Nyarlorinc**	**154.64 330**	⇓*e*	**PKPdf**	**21 40 10.5**	**+2.8**
PKSN			*e*PKPdf	**PKPab**	**21 40 33.4**	**+1.0**
DIM	**Dimitrovgrad**	**154.70 315**	P	**PKPbc**	**21 40 16.8**	**+0.1**
MANZ	**Manzenberg**	**154.72 344**	*e*PKPdf	**PKPdf**	**21 40 07.2**	**-0.6**
MANZ			*e*PKPbc	**PKPbc**	**21 40 16.3**	**-0.3**
MANZ			*e*PKPab	**PKPab**	**21 40 32.5**	**-0.2**
MANZ			*e*PP	**PP**	**21 44 06.9**	**-2.1**
BZS	**Buzias**	**154.74 326**	⇑PKIKP	**PKPdf**	**21 40 07.2**	**-0.7**
BZS	**Buzias**	**154.74 326**	⇑*i*P	**PKPdf**	**21 40 07.2**	**-0.7**
ZST	**Bratislava**	**154.75 335**	*e*PKIKP	**PKPdf**	**21 40 09.6**	**+1.8**
ZST	**Bratislava**	**154.75 335**	*e*PKP	**PKPdf**	**21 40 09.6**	**+1.8**
ZST			*e*		21 40 34.5	
PKSG		**154.90 333**	*e*PKPdf	**PKPab**	**21 40 33.3**	**-0.2**
ROTZ	**Rotzenmuhle**	**154.90 344**	*e*PKPdf	**PKPdf**	**21 40 07.6**	**-0.4**
ROTZ			*e*PKPab	**PKPab**	**21 40 33.7**	**+0.2**
CSKK	**Cs̆‡kako**	**154.97 333**	*e*	**PKPdf**	**21 40 06.6**	**-1.6**
CSKK			*e*		21 40 33.8	
KDZ	**Kurdzhali**	**154.98 315**	P	**PKPdf**	**21 40 07.0**	**-1.4**
BEBN	**Eben Emael**	**155.03 354**	PKPbc	PKPdf	21 40 19.4	+11
BEBN			PKPab	**PKPab**	**21 40 33.5**	**-0.4**
HGN	**Heimansgroeve**	**155.04 354**	*e*PKPdf	**PKPdf**	**21 40 07.7**	**-0.4**
HGN			*e*PKPbc	PKPbc	21 40 17.8	
HGN			*e*PKPab	**PKPab**	**21 40 33.6**	**-0.4**
	comp=E,611nm,2.1s					
HGN			*ep*PKPab	pPKPab	21 44 07.0	
MPEP	**Malo Peshtene**	**155.06 320**	P	PKPdf	21 40 13.7	+5.3
KHC	**Kasperske Hory**	**155.11 341**	*e*PKIKP	**PKPdf**	**21 40 07.4**	**-1.0**
KHC			*e*		21 40 34.7	
KHC			*e*		21 44 07.6	
KHC			*e*SS	SS	22 03 34.5	+3.4
KHC	**Kasperske Hory**	**155.11 341**	*e*PKPDF	**PKPdf**	**21 40 07.4**	**-1.0**
KHC			*ex*	x	21 40 17.5	
KHC			*e*PKPAB	**PKPab**	**21 40 34.7**	**+0.3**
KHC			*ep*PKP	**pPKPdf**	**21 41 21.0**	**+2.4**
KHC			*es*PKP		21 41 43.6	
KHC			*e*PP	**PP**	**21 44 07.6**	**-3.6**
KHC			*ex*	x	21 45 44.3	
KHC			*e*SKKS		21 50 31.9	
KHC			*ex*	x	21 54 10.4	
KHC			*e*SS	**SS**	**22 03 34.5**	**+3.4**
KHC	**Kasperske Hory**	**155.11 341**	*e*PKPdf	**PKPdf**	**21 40 07.4**	**-1.0**
KHC			*e*PKPbc	PKPab	21 40 17.6	-17
RDO	**Rodhopi**	**155.16 313**	P	**PKPab**	**21 40 35.2**	**+0.3**
RDO	**Rodhopi**	**155.16 313**	PKPab	**PKPab**	**21 40 35.2**	**+0.3**
MEM	**Membach**	**155.18 354**	PKP	**PKPdf**	**21 40 07.8**	**-0.6**
MEM			PKPab	**PKPab**	**21 40 34.9**	**+0.2**
PLD	**Plovdiv**	**155.19 316**	P	**PKPab**	**21 40 35.7**	**+0.7**
PLD	**Plovdiv**	**155.19 316**	PKP2	**PKPab**	**21 40 35.7**	**+0.7**
PLD	**Plovdiv**	**155.19 316**	PKPab	**PKPab**	**21 40 35.7**	**+0.7**
GRF	**Grafenberg Arr**	**155.20 345**	*e*PKPdf	**PKPdf**	**21 40 07.1**	**-1.3**
GRF			*e*PKPab	**PKPab**	**21 40 34.8**	**0.0**
GRF	**Grafenberg Arr**	**155.20 345**	*e*PKIKP	**PKPdf**	**21 40 07.1**	**-1.3**
GRFO	**Grafenberg**	**155.21 345**	*e*PKIKP	**PKPdf**	**21 40 07.3**	**-1.1**
GRFO			*e*		21 40 35.4	
GRFO			*e*		21 44 10.4	
GRFO	**Grafenberg**	**155.21 345**	*e*PKPdf	**PKPdf**	**21 40 07.3**	**-1.1**
GRFO			*e*PKPab	**PKPab**	**21 40 35.4**	**+0.6**
GRFO			*e*PP	**PP**	**21 44 10.4**	**-1.3**
TNS	**Taunus Mts**	**155.24 350**	*e*PKPdf	**PKPdf**	**21 40 08.2**	**-0.3**
TNS			*e*PKPab	**PKPab**	**21 40 34.5**	**-0.5**
TNS			*e*PP	**PP**	**21 44 09.6**	**-2.2**
TNS	**Taunus Mts**	**155.24 350**	*e*PKIKP	**PKPdf**	**21 40 08.2**	**-0.3**
PKS2	**Kecel**	**155.24 330**	*e*PKPdf	**PKPab**	**21 40 35.8**	**+0.8**
ARG	**Arkhangelos**	**155.27 301**	P	**PKPab**	**21 40 35.8**	**+0.2**
ARG	**Arkhangelos**	**155.27 301**	PKP2	**PKPab**	**21 40 35.8**	**+0.2**
ARG	**Arkhangelos**	**155.27 301**	PKPab	**PKPab**	**21 40 35.8**	**+0.2**
PGB	**Panagyurishte**	**155.27 318**	*e*P	**PKPdf**	**21 40 11.3**	**+2.5**
WET	**Wettzell**	**155.29 342**	*e*PKPdf	**PKPdf**	**21 40 07.4**	**-1.2**
WET			*e*PKPab	**PKPab**	**21 40 35.4**	**+0.2**
WET	**Wettzell**	**155.29 342**	*e*PKIKP	**PKPdf**	**21 40 07.4**	**-1.2**
GEC2	**GERESS Array S**	**155.33 341**	*e*PKPdf	**PKPdf**	**21 40 07.6**	**-1.2**
GEC2			*e*PKPab	**PKPab**	**21 40 35.2**	**-0.3**
GEC2	**GERESS Array S**	**155.33 341**	*e*PKIKP	**PKPdf**	**21 40 07.6**	**-1.2**
GERES	**GERESS Array B**	**155.33 341**	PKP	PKP	21 40 07.2	
GERES			PKPbc	PKPbc	21 40 17.7	
GERES			PKPab	**PKPab**	**21 40 35.4**	**-0.1**
GERES			PP	**PP**	**21 44 14.0**	**+1.5**
GERES	**GERESS Array B**	**155.33 341**	PKP	**PKPdf**	**21 40 07.2**	**-1.6**
	comp=E,8.1nm,1.0s,baz=90,slow=1.3,SNR=44					
GERES			PKPbc	PKPab	21 40 17.7	-18
	comp=E,5.0nm,0.6s,baz=50,slow=2.1,SNR=16					
GERES			PKPab	PKPab	21 40 35.4	-0.1
	comp=E,26nm,0.9s,baz=30,slow=3.7,SNR=18					
GERES			PP	**PP**	**21 44 14.0**	**+1.5**
	comp=E,1.7nm,0.8s,baz=53,slow=3.8,SNR=2.8					
SOP	**Sopron**	**155.38 335**	⇓*e*	**PKPdf**	**21 40 07.2**	**-1.5**
SOP			*e*PKPdf	**PKPab**	**21 40 37.4**	**+1.8**
RZN	**Rozhen**	**155.41 315**	P	PKPdf	21 40 20.3	+11
SNF	**Seneffe**	**155.42 356**	PKP	**PKPdf**	**21 40 09.2**	**+0.5**
SNF			PKPab	**PKPab**	**21 40 35.2**	**-0.4**
CONA	**Conrad Observa**	**155.43 337**	*i* PKPdf	**PKPdf**	**21 40 08.1**	**-0.8**
	comp=E,33nm,1.5s,SNR=18					
CONA			⇑*i*PKPab	**PKPab**	**21 40 36.2**	**+0.3**
	comp=E,214nm,1.8s					
BCLA	**Clavier**	**155.44 355**	PKP	**PKPdf**	**21 40 08.0**	**-0.7**
BCLA			PKPab	**PKPab**	**21 40 34.3**	**-1.4**
SMTH	**Samothraki Isl**	**155.50 312**	P	**PKPab**	**21 40 35.6**	**-0.8**
SMTH	**Samothraki Isl**	**155.50 312**	PKPab	**PKPab**	**21 40 35.6**	**-0.8**
PRK	**Paraskevi**	**155.55 309**	P	**PKPab**	**21 40 36.3**	**-0.3**
PRK	**Paraskevi**	**155.55 309**	PKP2	**PKPab**	**21 40 36.3**	**-0.3**
PRK	**Paraskevi**	**155.55 309**	PKPab	**PKPab**	**21 40 36.3**	**-0.3**
PKSM	**Moragy**	**155.71 331**	⇑PKIKP	**PKPdf**	**21 40 08.1**	**-1.1**
PKSM	**Moragy**	**155.71 331**	⇑*i*P	**PKPdf**	**21 40 08.1**	**-1.1**
PKSM	**Moragy**	**155.71 331**	⇓*e*	**PKPdf**	**21 40 07.6**	**-1.6**
PKSM			*e*		21 40 37.4	
SMG	**Samos**	**155.75 305**	P	**PKPab**	**21 40 37.2**	**-0.4**
SMG	**Samos**	**155.75 305**	PKPab	**PKPab**	**21 40 37.2**	**-0.4**
GIVF	**Givet**	**155.79 355**	*e*PKIKP	**PKPdf**	**21 40 07.7**	**-1.5**
DOU	**Dourbes**	**155.81 356**	PKP	**PKPdf**	**21 40 08.8**	**-0.5**
DOU			PKPab	**PKPab**	**21 40 36.6**	**-0.7**
VTS	**Vitosha**	**155.82 319**	P	**PKPab**	**21 40 38.8**	**+0.9**
VTS	**Vitosha**	**155.82 319**	⇓PKIKP	PKPdf	21 40 19.5	+10
VTS	**Vitosha**	**155.82 319**	P	PKPdf	21 40 18.8	+9.1
VTS	**Vitosha**	**155.82 319**	⇓*i*P	PKPdf	21 40 19.5	+10
VTS	**Vitosha**	**155.82 319**	PKPab	**PKPab**	**21 40 38.8**	**+0.9**
SIGR	**SIGRI**	**155.86 309**	P	**PKPab**	**21 40 37.9**	**-0.1**
SIGR	**SIGRI**	**155.86 309**	PKPab	**PKPab**	**21 40 37.9**	**-0.1**
BAIF	**Baives**	**155.88 356**	*e*PKIKP	**PKPdf**	**21 40 08.0**	**-1.3**
KAVA	**Kavala**	**155.90 314**	P	**PKPab**	**21 40 38.2**	**+0.1**
KAVA	**Kavala**	**155.90 314**	PKPab	**PKPab**	**21 40 38.2**	**+0.1**
LIA	**Limnos Island**	**156.01 311**	P	**PKPab**	**21 40 37.9**	**-0.7**
LIA	**Limnos Island**	**156.01 311**	PKPab	**PKPab**	**21 40 37.9**	**-0.7**
MOA	**Molln**	**156.04 339**	⇑*i*PKPdf	**PKPdf**	**21 40 08.1**	**-1.6**
	comp=E,18nm,1.1s,SNR=10					
MOA			⇑*i*PKPab	**PKPab**	**21 40 39.0**	**+0.5**
	comp=E,133nm,1.3s,SNR=14					
CHOS	**Chios island**	**156.06 307**	P	**PKPab**	**21 40 39.8**	**+0.8**
MMB	**Musomiste**	**156.08 316**	P	**PKPdf**	**21 40 09.0**	**-0.9**
WLF	**Walferdange**	**156.10 353**	PKP	**PKPdf**	**21 40 09.0**	**-0.6**
WLF			PKPab	**PKPab**	**21 40 38.4**	**-0.2**
WLF	**Walferdange**	**156.10 353**	*e*PKPdf	**PKPdf**	**21 40 09.7**	**+0.1**
WLF	**Walferdange**	**156.10 353**	*e*PKIKP	**PKPdf**	**21 40 09.4**	**-0.2**
WLF	**Walferdange**	**156.10 353**	*e*PKPdf	**PKPdf**	**21 40 09.4**	**-0.2**
ARSA	**Arzberg**	**156.12 336**	⇓*i*PKPdf	**PKPdf**	**21 40 08.8**	**-1.0**
	comp=E,16nm,1.2s,SNR=13					
ARSA			⇑*i*PKPab	**PKPab**	**21 40 39.4**	**+0.6**
	comp=E,84nm,1.4s					
NVR	**Nevrokopi**	**156.13 316**	P	**PKPab**	**21 40 39.5**	**+0.4**
NVR	**Nevrokopi**	**156.13 316**	PKPab	**PKPab**	**21 40 39.5**	**+0.4**
KARP	**Karpathos**	**156.22 300**	P	**PKPab**	**21 40 39.6**	**-0.1**
KARP	**Karpathos**	**156.22 300**	PKPab	**PKPab**	**21 40 39.6**	**-0.1**
BEHE	**Becsehely**	**156.29 334**	*e*	**PKPdf**	**21 40 08.5**	**-1.5**
BEHE			*e*PKPdf	**PKPab**	**21 40 39.8**	**+0.2**
KKB	**Krupnik**	**156.32 317**	P	PKPdf	21 40 21.7	+12
SRS	**Serrai**	**156.43 315**	P	**PKPab**	**21 40 40.3**	**-0.1**
SRS	**Serrai**	**156.43 315**	PKP2	**PKPab**	**21 40 40.3**	**-0.1**
SRS	**Serrai**	**156.43 315**	PKPab	**PKPab**	**21 40 40.3**	**-0.1**
STU	**Stuttgart**	**156.50 348**	*e*PKPdf	**PKPdf**	**21 40 09.2**	**-1.0**
STU			*e*PKPab	**PKPab**	**21 40 40.2**	**-0.2**
STU	**Stuttgart**	**156.50 348**	*e*PKIKP	**PKPdf**	**21 40 10.0**	**-0.2**
STU	**Stuttgart**	**156.50 348**	*e*PKPdf	**PKPdf**	**21 40 10.0**	**-0.2**
STU			*e*PKPab	**PKPab**	**21 40 40.0**	**-0.4**
LANF	**Langenberg**	**156.55 350**	PKP	**PKPdf**	**21 40 11.4**	**+1.2**
RJOB	**Jochberg**	**156.59 341**	*e*PKPdf	**PKPdf**	**21 40 09.6**	**-0.8**
RJOB			*e*PKPab	**PKPab**	**21 40 41.3**	**+0.4**
OUR	**Ouranopolis**	**156.59 313**	P	**PKPab**	**21 40 40.1**	**-1.0**
OUR	**Ouranopolis**	**156.59 313**	PKP2	**PKPab**	**21 40 40.1**	**-1.0**
OUR	**Ouranopolis**	**156.59 313**	PKPab	**PKPab**	**21 40 40.1**	**-1.0**
FUR	**Furstenfeldbru**	**156.61 344**	*e*PKPdf	**PKPdf**	**21 40 09.5**	**-0.9**
FUR			*e*PKPab	**PKPab**	**21 40 40.9**	**0.0**
FUR			*e*PP	**PP**	**21 44 18.5**	**-1.0**
FUR	**Furstenfeldbru**	**156.61 344**	*e*PKIKP	**PKPdf**	**21 40 09.5**	**-0.9**
DIVS	**Divibare**	**156.63 325**	P	**PKPab**	**21 40 41.3**	**+0.1**
SOH	**Sokhos**	**156.74 315**	P	**PKPab**	**21 40 41.6**	**-0.2**
SOH	**Sokhos**	**156.74 315**	PKP2	**PKPab**	**21 40 41.6**	**-0.2**
SOH	**Sokhos**	**156.74 315**	PKPab	**PKPab**	**21 40 41.6**	**-0.2**
SOKA	**Soboth**	**156.79 336**	*i* PKPdf	**PKPdf**	**21 40 09.5**	**-1.2**
	comp=E,31nm,1.9s,SNR=17					
SOKA			*i* PKPab	**PKPab**	**21 40 41.9**	**+0.1**
	comp=E,152nm,1.4s,SNR=12					
KNT	**Kendrikon**	**156.84 316**	P	**PKPab**	**21 40 42.3**	**+0.1**
KNT	**Kendrikon**	**156.84 316**	PKP2	**PKPab**	**21 40 42.3**	**+0.1**
KNT	**Kendrikon**	**156.84 316**	PKPab	**PKPab**	**21 40 42.3**	**+0.1**
PLG	**Polygyros**	**156.92 314**	P	**PKP

ABTA Abfaltersbach 157.57 340 *i* PKPdf **PKPdf 21 40 10.4 -1.3**
comp=E,36nm,2.0s,SNR=16
ABTA ⇑*i*PKPab **PKPab 21 40 44.2 -0.9**
comp=E,78nm,1.2s
XOR Xorichti 157.61 312 P **PKPab 21 40 44.9 -0.7**
XOR Xorichti 157.61 312 PKPab **PKPab 21 40 44.9 -0.7**
NEO Neokhori 157.62 312 P **PKPab 21 40 45.5 -0.1**
ERET Eretria 157.63 309 P **PKPab 21 40 45.5 -0.3**
LAST Lasithi 157.64 300 P **PKPab 21 40 46.2 +0.2**
LAST Lasithi 157.64 300 PKPab **PKPab 21 40 46.2 +0.2**
SFTF Sexfontaines 157.66 354 *e*PKIKP **PKPdf 21 40 10.5 -1.1**
comp=E,159nm,1.5s
MRKA Markates 157.66 310 P **PKPab 21 40 45.7 -0.1**
PVY Plav 157.68 323 *e*PKP **PKPdf 21 40 11.6 -0.4**
LIT Litokhoron 157.69 314 P **PKPab 21 40 45.6 -0.3**
LIT Litokhoron 157.69 314 PKP2 **PKPab 21 40 45.6 -0.3**
LIT Litokhoron 157.69 314 PKPab **PKPab 21 40 45.6 -0.3**
BOJS Bojanci 157.69 334 *i* PKPdf **PKPdf 21 40 10.8 -1.0**
BOJS *e*PKPab **PKPab 21 40 45.6 0.0**
BOJS *i* pPKPdf **pPKPdf 21 41 20.4 -1.6**
BOJS *e*pPKPab pPKPab 21 42 33.5 +41
BOJS *e*PP **PP 21 44 25.4 -0.2**
BOJS *e* 21 48 00.2
HAU Haudompre 157.71 352 *e*PKIKP **PKPdf 21 40 10.3 -1.5**
comp=E,114nm,1.7s
HAU *e*R
comp=E,698nm,20.0s
VOY Vojsko 157.75 337 *e*PKPdf **PKPdf 21 40 10.4 -1.6**
VOY *e*PKPab **PKPab 21 40 44.3 -1.7**
MOF Molkenrain 157.75 350 PKP **PKPdf 21 40 12.1 +0.2**
QUIF Quistinic 157.76 9 *e*PKIKP **PKPdf 21 40 10.1 -1.6**
comp=E,47nm,1.4s
PTL Penteli 157.77 308 P **PKPab 21 40 45.4 -0.9**
PTL Penteli 157.77 308 PKPab **PKPab 21 40 45.4 -0.9**
DAVA Damuels 157.77 345 ⇑*i*PKPdf **PKPdf 21 40 11.1 -0.9**
comp=E,14nm,1.2s,SNR=11
DAVA ⇑*i*PKPab **PKPab 21 40 46.1 0.0**
comp=E,69nm,0.8s,SNR=9.9
BCI Bajram Curri 157.77 322 *e*P **PKPdf 21 40 12.0 0.0**
JAVS Javornik 157.81 337 *e*PKPdf **PKPdf 21 40 11.9 -0.1**
JAVS *i* PKPab **PKPab 21 40 45.2 -1.1**
JAVS *e*PP **PP 21 44 25.4 -0.9**
FETA Feichten 157.81 344 *i* PKPdf **PKPdf 21 40 11.3 -0.8**
comp=E,22nm,0.9s,SNR=19
FETA ⇑*i*PKPab **PKPab 21 40 46.2 -0.1**
comp=E,105nm,1.5s,SNR=7.1
UPM Unac-Piva 157.82 325 ⇑*i*PKP **PKPdf 21 40 11.8 -0.5**
HINF Hinteralfeld 157.83 351 *e*PKIKP **PKPdf 21 40 10.4 -1.5**
comp=E,85nm,1.6s
SMIA Simia 157.84 311 P **PKPab 21 40 46.5 -0.1**
ATHU Athens Univers 157.86 308 P **PKPab 21 40 45.6 -1.1**
ATHU Athens Univers 157.86 308 PKPab **PKPab 21 40 45.6 -1.1**
BIA Bitola 157.89 318 *i* PKP **PKPab 21 40 47.0 +0.3**
ATH Athens Observa 157.91 308 P **PKPab 21 40 46.0 -0.9**
ATH Athens Observa 157.91 308 PKP2 **PKPab 21 40 46.0 -0.9**
ATH Athens Observa 157.91 308 PKPab **PKPab 21 40 46.0 -0.9**
PHP Peshkopia 158.00 320 *e*P **PKPdf 21 40 12.2 -0.2**
PHP Peshkopia 158.00 320 P **PKPab 21 40 47.3 +0.1**
PHP Peshkopia 158.00 320 PKP2 **PKPab 21 40 47.3 +0.1**
PHP Peshkopia 158.00 320 PKPab **PKPab 21 40 47.3 +0.1**
KZN Kozani 158.03 316 P **PKPab 21 40 46.7 -0.7**
KZN Kozani 158.03 316 PKP2 **PKPab 21 40 46.7 -0.7**
KZN Kozani 158.03 316 PKPab **PKPab 21 40 46.7 -0.7**
NKY Niksic 158.05 324 ⇓*i*PKP **PKPdf 21 40 11.6 -0.8**
ATAL Atalanti 158.06 311 P **PKPab 21 40 45.5 -2.0**
PUK Puka 158.08 322 *e*P **PKPdf 21 40 11.4 -1.1**
NKME Niksic 158.10 324 *e*PKP **PKPdf 21 40 12.5 +0.1**
SKDS Skadanscina 158.12 336 *e*PKPdf **PKPdf 21 40 11.9 -0.4**
SKDS *e*PKPab **PKPab 21 40 46.5 -1.0**
SKDS *e*PP **PP 21 44 24.0 -3.9**
PDG Podgorica 158.17 323 P **PKPab 21 40 47.9 +0.1**
TTG Podgorica 158.17 323 ⇑*i*PKP **PKPdf 21 40 12.5 +0.1**
BRY Bratogost 158.22 325 ⇑*i*PKP **PKPdf 21 40 12.2 -0.5**
DAVOX Davos/Dischmat 158.25 345 PKP PKP 21 40 12.6
DAVOX PKPbc PKPbc 21 40 24.8
DAVOX PKPab **PKPab 21 40 47.9 -0.3**
DAVOX Davos/Dischmat 158.25 345 PKP PKP 21 40 12.6
comp=E,12nm,1.0s,baz=44,slow=2.2,SNR=24
DAVOX PKPbc PKPbc 21 40 24.8
comp=E,7.8nm,0.8s,baz=30,slow=2.8,SNR=7.0
DAVOX PKPab **PKPab 21 40 47.9 -0.3**
comp=E,75nm,0.8s,baz=1.5,slow=2.7,SNR=26
LOMF Lomont 158.28 351 PKP **PKPdf 21 40 12.8 +0.3**
UDBI Udbina 158.29 332 P **PKPdf 21 40 12.8 +0.1**
UDBI Udbina 158.29 332 P **PKPdf 21 40 12.8 +0.1**
UDBI Udbina 158.29 332 P **PKPdf 21 40 12.8 +0.1**
AGG Agios Georgios 158.36 312 P **PKPab 21 40 47.6 -1.3**
AGG Agios Georgios 158.36 312 PKP2 **PKPab 21 40 47.6 -1.3**
AGG Agios Georgios 158.36 312 PKPab **PKPab 21 40 47.6 -1.3**
DRME Dracevica, Mon 158.38 323 ⇓*i*PKP **PKPdf 21 40 12.8 +0.1**
LTK Loutraki 158.41 309 P **PKPab 21 40 47.4 -1.7**
LTK Loutraki 158.41 309 PKPab **PKPab 21 40 47.4 -1.7**
NEST Nestorio 158.42 317 P **PKPab 21 40 49.2 +0.1**
DID Didima 158.45 307 P **PKPab 21 40 47.7 -1.6**
KBN Korca 158.46 317 *e*P **PKPdf 21 40 13.5 +0.5**
KBN Korca 158.46 317 P **PKPab 21 40 49.4 +0.1**
KBN Korca 158.46 317 PKP2 **PKPab 21 40 49.4 +0.1**
KBN Korca 158.46 317 PKPab **PKPab 21 40 49.4 +0.1**
DIDY Didyma 158.48 307 P **PKPab 21 40 48.0 -1.5**
MAKR Makrakomi, Fth 158.50 312 P **PKPab 21 40 48.8 -0.6**
MAKR Makrakomi, Fth 158.50 312 PKPab **PKPab 21 40 48.8 -0.6**
ULC Ulcinj 158.50 322 *e*PKP **PKPdf 21 40 12.6 -0.3**
DSF Desfina 158.53 310 P **PKPab 21 40 47.9 -1.8**
DSF Desfina 158.53 310 PKPab **PKPab 21 40 47.9 -1.8**
ACOR Acrocorinthos 158.54 309 P **PKPab 21 40 47.4 -2.3**
TIR Tirane 158.55 320 *e*P **PKPdf 21 40 13.4 +0.5**
TIR Tirane 158.55 320 P **PKPab 21 40 50.5 +1.0**
TIR Tirane 158.55 320 PKP2 **PKPab 21 40 50.5 +1.0**
TIR Tirane 158.55 320 PKPab **PKPab 21 40 50.5 +1.0**
VAM Vamos 158.56 301 P **PKPab 21 40 49.6 -0.2**
HCY Herceg Novi 158.57 324 ⇓*i*PKP **PKPdf 21 40 12.6 -0.3**
NVLJ Novalja 158.62 334 P **PKPdf 21 40 12.4 -0.4**
NVLJ Novalja 158.62 334 P **PKPdf 21 40 12.4 -0.4**
NVLJ Novalja 158.62 334 P **PKPdf 21 40 12.4 -0.4**
TUE Stuetta 158.66 345 *e*PKPdf **PKPdf 21 40 11.6 -1.6**
TUE *e*PKPab **PKPab 21 40 50.3 +0.3**
TUE *e*PP **PP 21 44 30.8 -0.1**
STON Ston 158.67 326 P **PKPdf 21 40 12.8 -0.2**
STON Ston 158.67 326 P **PKPdf 21 40 12.8 -0.2**
STON Ston 158.67 326 P **PKPdf 21 40 12.8 -0.2**
LOR Lormes 158.68 356 *e*PKIKP **PKPdf 21 40 11.7 -1.2**
LOR *e*R
comp=E,740nm,22.5s
HYF Humbligny 158.73 358 *e*PKIKP **PKPdf 21 40 12.2 -0.8**
GUR Goura 158.89 309 P **PKPab 21 40 49.9 -1.4**
SSF Saint Saulge 158.91 357 *e*PKIKP **PKPdf 21 40 11.9 -1.3**
comp=E,58nm,1.1s
KLV Kalavryta, Ach 158.97 310 P **PKPab 21 40 51.1 -0.5**
KLV Kalavryta, Ach 158.97 310 PKPab **PKPab 21 40 51.1 -0.5**
JAN Janina 158.98 315 P **PKPab 21 40 51.8 +0.3**
JAN Janina 158.98 315 PKP2 **PKPab 21 40 51.8 +0.3**
JAN Janina 158.98 315 PKPab **PKPab 21 40 51.8 +0.3**
LAKA Lakka 158.99 311 P **PKPab 21 40 51.1 -0.5**
VLI Veliai 159.01 306 P **PKPab 21 40 50.0 -1.7**
ANKY Antikythira Is 159.07 303 P **PKPab 21 40 53.0 +1.0**
ANKY Antikythira Is 159.07 303 PKPab **PKPab 21 40 53.0 +1.0**
KYTH Kithira 159.11 305 P **PKPab 21 40 51.9 -0.3**
KYTH Kithira 159.11 305 PKPab **PKPab 21 40 51.9 -0.3**
CABF La Chapelle 159.11 352 *e*PKIKP **PKPdf 21 40 12.7 -0.9**
comp=E,82nm,1.2s
VLX Vlachokerasia 159.12 308 P **PKPab 21 40 51.5 -0.8**
AVF Avril sur Loir 159.18 357 *e*PKIKP **PKPdf 21 40 12.0 -1.5**
comp=E,63nm,1.5s
SMF Signal de Mont 159.30 356 *e*PKIKP **PKPdf 21 40 12.2 -1.5**
comp=E,34nm,1.1s
LIC Lamto 159.33 161 *e*PKIKP **PKPdf 21 40 13.1 -1.6**
comp=E,43nm,1.0s
LIC *e*R
comp=E,1μm,20.5s
LIC Lamto 159.33 161 *e*PKIKP **PKPdf 21 40 13.9 -0.8**
comp=E,56nm,1.0s
MFF Saint Martin d 159.36 4 *e*PKIKP **PKPdf 21 40 12.4 -1.3**
comp=E,91nm,1.3s
IGT Igoumenitsa 159.38 316 P **PKPab 21 40 53.0 -0.2**
IGT Igoumenitsa 159.38 316 PKP2 **PKPab 21 40 53.0 -0.2**
IGT Igoumenitsa 159.38 316 PKPab **PKPab 21 40 53.0 -0.2**
SRN Sarande 159.38 317 *e*P **PKPdf 21 40 14.0 +0.1**
SRN Sarande 159.38 317 P **PKPab 21 40 54.0 +0.8**
SRN Sarande 159.38 317 PKPab **PKPab 21 40 54.0 +0.8**
AXS Araxos 159.42 311 P **PKPab 21 40 53.4 0.0**
DYR Agios Nikonas 159.43 306 P **PKPab 21 40 53.0 -0.6**
RLS Riolos of Patr 159.43 311 P **PKPab 21 40 54.0 +0.5**

BGF Bois d'Agland 159.44 358 *e*PKIKP **PKPdf 21 40 12.7 -1.1**
comp=E,87nm,1.3s
AMT Artemida-Makis 159.52 309 P **PKPab 21 40 54.8 +0.8**
ITM Ithomi 159.53 308 P **PKPab 21 40 53.5 -0.5**
KIC Kosan Boka 159.54 161 *e*PKIKP **PKPdf 21 40 14.4 -0.5**
comp=E,43nm,0.9s
LKD2 Lefkada island 159.59 313 P **PKPab 21 40 53.5 -0.7**
KEK Kerkira 159.61 317 P **PKPab 21 40 54.9 +0.7**
KEK Kerkira 159.61 317 PKPab **PKPab 21 40 54.9 +0.7**
TCF Toulx Ste Croi 159.72 359 *e*PKIKP **PKPdf 21 40 12.9 -1.3**
comp=E,58nm,1.2s
TIC Toumodi 159.73 160 *e*PKIKP **PKPdf 21 40 14.6 -0.6**
comp=E,71nm,1.1s
PYL PYLOS 159.79 307 P **PKPab 21 40 54.2 -0.9**
DBIC Dimbokro 159.80 161 PKP **PKPdf 21 40 14.5 -0.7**
DBIC *e*PKPdf **PKPdf 21 40 14.7 -0.5**
DBIC *e*PKPab **PKPab 21 40 56.0 +0.5**
DBIC PKPab PKPab 21 40 57.0 +1.5
DBIC Dimbokro 159.80 161 PKP **PKPdf 21 40 14.5 -0.7**
comp=E,12nm,0.6s,baz=150,slow=3.6,SNR=3.0
DBIC PKPab **PKPab 21 40 57.0 +1.5**
comp=E,21nm,0.9s,baz=188,slow=4.3,SNR=6.3
KFL Anninata 159.87 312 P **PKPab 21 40 55.6 +0.2**
AGO Saint Agoulin 159.93 357 PKP **PKPdf 21 40 15.1 +0.7**
VLS Valsamata 159.96 312 P **PKPab 21 40 55.6 -0.2**
LPL La Plagne 160.09 350 *e*PKIKP **PKPdf 21 40 13.8 -1.1**
LPG La Plagne 160.10 350 *e*PKIKP **PKPdf 21 40 13.9 -1.1**
comp=E,21nm,1.1s
PYM Petit Puy Mans 160.24 357 PKP **PKPdf 21 40 14.2 -0.6**
VLC Villacollemand 160.54 341 *e*PKPdf **PKPdf 21 40 15.4 +0.3**
VLC *e*PKPab **PKPab 21 40 56.6 -1.4**
VLC *e*PP **PP 21 44 40.2 -0.6**
BNI Bardonecchia 160.55 349 *e*PKIKP **PKPdf 21 40 15.2 -0.1**
BNI *e* 21 40 58.6
BNI Bardonecchia 160.55 349 *e*PKPdf **PKPdf 21 40 15.2 -0.1**
BNI *e*PKPab **PKPab 21 40 58.6 +0.4**
SSB Saint Sauveur 160.60 354 *e*PKIKP **PKPdf 21 40 14.3 -0.9**
SSB *e* 21 40 58.5
SSB *e* 21 44 40.7
SSB Saint Sauveur 160.60 354 *e*PKPdf **PKPdf 21 40 14.3 -0.9**
SSB *e*PKPab **PKPab 21 40 58.5 +0.1**
SSB *e*PP **PP 21 44 40.7 -0.3**
SSB Saint Sauveur 160.60 354 PKP **PKPdf 21 40 14.0 -1.2**
RJF Les Rejaudoux 160.71 0 *e*PKIKP **PKPdf 21 40 14.1 -1.2**
comp=E,39nm,1.0s
RJF *e*R
comp=E,2μm,22.8s
LBL Lubilhac 160.74 357 PKP **PKPdf 21 40 15.3 -0.1**
ORIF Oris-en-Rattie 160.80 351 *e*PKIKP **PKPdf 21 40 14.2 -1.3**
comp=E,64nm,1.4s
ORIF *e*R
comp=E,1μm,21.5s
MBDF Montbardon 160.85 349 *e*PKIKP **PKPdf 21 40 14.3 -1.3**
comp=E,79nm,1.6s
VIVF Saint-Julien-l 161.01 354 *e*PKIKP **PKPdf 21 40 14.6 -1.0**
comp=E,43nm,1.1s
LFF La Frestale 161.06 2 *e*PKIKP **PKPdf 21 40 14.4 -1.2**
comp=E,33nm,1.1s
CAF Calviac 161.09 359 *e*PKIKP **PKPdf 21 40 14.7 -1.0**
comp=E,48nm,1.2s
OG26 St.-Nazaire-De 161.21 352 PKP **PKPdf 21 40 15.9 0.0**
SBF Sospel 161.56 347 *e*PKIKP **PKPdf 21 40 14.5 -1.8**
comp=E,94nm,1.4s
CUC Castrocucco 161.73 323 *e*PKPdf **PKPdf 21 40 15.2 -1.4**
SMRF Simiane la Rot 161.77 351 *e*PKIKP **PKPdf 21 40 15.6 -0.9**
comp=E,136nm,1.7s
LASF Ste Croix 161.85 355 *e*PKIKP **PKPdf 21 40 15.7 -0.8**
comp=E,92nm,1.5s
FRF La Foret Royal 162.00 348 *e*PKIKP **PKPdf 21 40 15.0 -1.7**
comp=E,101nm,1.6s
PGAV Gavieira, Arco 162.04 25 *e*PKPdf **PKPdf 21 40 18.1 +1.2**
PGAV Gavieira, Arco 162.04 25 *e*PKPab **PKPab 21 41 06.0 +1.2**
PGAV Gavieira, Arco 162.04 25 *e*PP PP 21 44 47.3 -1.7
LMR La Mourre 162.25 349 *e*PKIKP **PKPdf 21 40 15.3 -1.6**
comp=E,79nm,1.5s
PGF Pioggiola 162.42 342 *e*PKIKP **PKPdf 21 40 15.3 -2.0**
comp=E,77nm,1.2s
MTLF Montolieu 162.67 359 *e*PKIKP **PKPdf 21 40 16.1 -1.2**
comp=E,78nm,1.8s
PBRG Braganca 162.73 22 *e*PKPdf **PKPdf 21 40 17.9 +0.4**
PBRG Braganca 162.73 22 *e*PKPab **PKPab 21 41 08.2 +0.5**
PBRG Braganca 162.73 22 *e*PP PP 21 44 52.7 +0.2
SJPF Ste Jean 162.73 7 *e*PKIKP **PKPdf 21 40 15.8 -1.6**
comp=E,111nm,1.6s
POLO Lamas de Olo 162.73 25 *e*PKPdf **PKPdf 21 40 18.1 +0.5**
POLO Lamas de Olo 162.73 25 *e*PP PP 21 44 52.8 +0.1
EPF Esparros 162.94 3 *e*PKIKP **PKPdf 21 40 16.9 -0.8**
comp=E,62nm,1.2s
ETSF Etsaut 163.01 6 *e*PKIKP **PKPdf 21 40 17.2 -0.6**
comp=E,35nm,1.1s
LRDF Laroque-de-Fa 163.06 358 PKP **PKPdf 21 40 18.5 +0.8**
RESF Ens 163.17 4 PKP **PKPdf 21 40 18.2 +0.2**
MVO Moncorvo 163.19 23 *e*PKPdf **PKPdf 21 40 18.0 0.0**
MVO Moncorvo 163.19 23 *e*PKPab **PKPab 21 41 11.4 +1.5**
MVO Moncorvo 163.19 23 *e*PP PP 21 44 55.3 +0.3
PCAS Casmilo, Conde 163.56 29 *e*PKPdf **PKPdf 21 40 19.7 +1.4**
PCAS Casmilo, Conde 163.56 29 *e*PKPab **PKPab 21 41 12.9 +1.5**
PCAS Casmilo, Conde 163.56 29 *e*PP PP 21 44 56.1 -0.9
MTE Manteigas 163.66 26 *e*PKPdf **PKPdf 21 40 17.9 -0.6**
MTE Manteigas 163.66 26 *e*PKPab **PKPab 21 41 13.4 +1.4**
MTE Manteigas 163.66 26 *e*PP PP 21 44 54.5 -3.1
MTE Manteigas 163.66 26 *e*PKPdf **PKPdf 21 40 18.8 +0.4**
MTE *e*PKPab **PKPab 21 41 11.6 -0.4**
PMAFR Mafra 164.08 33 *e*PKPab **PKPab 21 41 15.5 +1.7**
PMAFR Mafra 164.08 33 *e*PP PP 21 45 00.5 +0.6
PMST Lisbon--Monsan 164.30 33 *e*PP PP 21 45 01.9 +0.9
LIS Lisbon 164.33 33 *e*P **PKPdf 21 40 18.7 -0.3**
LIS *e*PP **PP 21 45 02.0 +0.9**
LIS *e*SS SS 22 05 12.1 +3.8
LIS AMS AMS 22 14 22.0
comp=E,2μm,17.0s
LIS Lisbon 164.33 33 *e*PKIKP **PKPdf 21 40 18.7 -0.3**
LIS *e* 21 45 02.0
LIS *e*SS SS 22 05 12.0 +3.7
PMTG Montargil 164.49 30 *e*PKPdf **PKPdf 21 40 20.3 +1.2**
PMTG Montargil 164.49 30 *e*PKPab **PKPab 21 41 16.9 +1.4**
PMTG Montargil 164.49 30 *e*PP PP 21 44 59.2 -2.7
PMRV Marv??o 164.55 27 *e*PKPdf **PKPdf 21 40 19.5 +0.3**
PMRV Marv??o 164.55 27 *e*PKPab **PKPab 21 41 17.3 +1.5**
PMRV Marv??o 164.55 27 *e*PP PP 21 45 01.1 -1.1
PESTR Estremoz 164.94 29 *e*PKPdf **PKPdf 21 40 19.8 +0.2**
PESTR Estremoz 164.94 29 *e*PKPab **PKPab 21 41 18.9 +1.4**
PESTR Estremoz 164.94 29 *e*PP PP 21 45 02.6 -1.6
EVO Evora 165.02 31 *e*PKIKP **PKPdf 21 40 18.0 -1.6**
comp=E,140nm,1.5s
EVO *e*R
comp=E,954nm,20.5s
EVO Evora 165.02 31 *e*PKPdf **PKPdf 21 40 20.9 +1.3**
EVO Evora 165.02 31 *e*PKPab **PKPab 21 41 19.1 +1.2**
EVO Evora 165.02 31 *e*PP PP 21 45 01.8 -2.9
VSL Villasalto 165.07 336 *e*PKPdf **PKPdf 21 40 19.4 -0.2**
VSL *e*PKPab **PKPab 21 41 18.0 -0.1**
VSL *e*PP **PP 21 45 04.7 -0.1**
PNCL Nicolau / Gran 165.11 33 *e*PKPdf **PKPdf 21 40 20.4 +0.7**
PNCL Nicolau / Gran 165.11 33 *e*PKPab **PKPab 21 41 18.4 +0.1**
PNCL Nicolau / Gran 165.11 33 *e*PP PP 21 45 06.1 +0.9
ESDC Sonseca Array 165.53 18 PKP **PKPdf 21 40 20.5 +0.4**
ESDC PKPab **PKPab 21 41 20.3 +0.2**
ESDC PP **PP 21 45 02.6 -4.4**
ESDC Sonseca Array 165.53 18 PKP **PKPdf 21 40 20.5 +0.4**
comp=E,3.6nm,1.0s,baz=354,slow=2.9,SNR=21
ESDC PKPab **PKPab 21 41 20.3 +0.2**
comp=E,23nm,1.0s,baz=328,slow=3.5,SNR=36
ESDC PP **PP 21 45 02.6 -4.4**
comp=E,1.6nm,0.8s,baz=352,slow=4.8,SNR=3.5
ESLA Sonseca Array 165.53 18 *e*PKPdf **PKPdf 21 40 20.7 +0.6**
ESLA *e*PKPab **PKPab 21 41 18.6 -1.5**
MORF Marmelete 165.66 35 *e*PKIKP **PKPdf 21 40 20.1 -0.2**
MORF *e* 21 45 08.8
MORF *e*SS SS 22 05 25.9 +3.7
MORF Marmelete 165.66 35 *e*PKPdf **PKPdf 21 40 21.6 +1.3**
PBAR Barrancos 165.75 29 *e*PKPdf **PKPdf 21 40 21.1 +0.9**
PBAR Barrancos 165.75 29 *e*PKPab **PKPab 21 41 22.8 +1.7**
PBAR Barrancos 165.75 29 *e*PP PP 21 45 06.9 -1.5
PVAQ Vaqueiros 166.06 33 *e*PKPab **PKPab 21 41 24.5 +2.0**
PVAQ Vaqueiros 166.06 33 *e*PP PP 21 45 09.4 -0.7
PBDV Barranco-do-Ve 166.08 34 *e*PKPdf **PKPdf 21 40 22.4 +1.8**
PBDV Barranco-do-Ve 166.08 34 *e*PKPab **PKPab 21 41 24.6 +1.9**
PBDV Barranco-do-Ve 166.08 34 *e*PP PP 21 45 08.6 -1.7
TOA0 Torodi Ar. Sit 167.24 180 *e*PKPdf **PKPdf 21 40 20.6 -1.4**
TOA0 *e*PKPab **PKPab 21 41 28.1 0.0**
TORD Torodi Ar. Bea 167.24 180 PKP **PKPdf 21 40 20.6 -1.5**
TORD PKPab **PKPab 21 41 27.3 -0.8**

TORD pPKPab pPKPab 21 42 26.3 -8.5
TORD SKP 21 43 14.2
TORD PKKP 21 48 07.6
TORD SKKPbc 21 49 52.9
TORD SKKP 21 51 49.5
TORD Torodi Ar. Bea 167.24 180 PKP **PKPdf 21 40 20.6 -1.5**
comp=E,21nm,0.9s,baz=308,slow=0.8,SNR=72
TORD PKPab **PKPab 21 41 27.3 -0.8**
comp=E,15nm,0.8s,baz=178,slow=3.9,SNR=16
TORD pPKPab pPKPab 21 42 26.3 -8.5
comp=E,10nm,0.9s,baz=182,slow=2.7,SNR=2.7
TORD SKP 21 43 14.2
comp=E,22nm,1.1s,baz=164,slow=2.6,SNR=3.6
TORD PKKP 21 48 07.6
comp=E,2.2nm,1.0s,baz=7.0,slow=3.5,SNR=4.5
TORD SKKPbc 21 49 52.9
comp=E,2.6nm,0.9s,baz=316,slow=3.3,SNR=4.3
TORD SKKP 21 51 49.5
comp=E,5.0nm,1.3s,baz=47,slow=3.2,SNR=4.6
KEST Kesra 168.28 328 PKP **PKPdf 21 40 21.8 -0.5**
KEST PKPab **PKPab 21 41 33.1 +0.6**
KEST PP **PP 21 45 23.2 +1.7**
KEST Kesra 168.28 328 PKP **PKPdf 21 40 21.8 -0.5**
comp=E,1.6nm,0.9s,baz=238,slow=7.7,SNR=6.1
KEST PKPab **PKPab 21 41 33.1 +0.6**
comp=E,13nm,1.0s,baz=334,slow=3.6,SNR=17
KEST PP **PP 21 45 23.2 +1.7**
comp=E,7.6nm,1.2s,baz=162,slow=1.5,SNR=8.0
CMAH Djebel Manchou 168.32 337 P **PKPab 21 41 31.8 -0.8**
ABSA Djebel Ababsia 168.62 336 P **PKPab 21 41 32.8 -1.1**
CKFL Kef-Lekhel 168.77 339 P **PKPab 21 41 34.6 0.0**
DFRA Djebel Bou Aff 168.88 342 P **PKPab 21 41 35.4 +0.3**
CASM Ain Smara 168.97 340 P **PKPab 21 41 35.4 0.0**
CTEI Djebel Teioual 169.18 339 P **PKPab 21 41 38.0 +1.6**
SET Setif 169.33 344 P **PKPab 21 41 39.0 +1.9**
CKHR Kef el Ahmar 169.48 343 P **PKPab 21 41 37.9 +0.1**
TAM Tamanrasset 175.31 228 *e*PKIKP **PKPdf 21 40 25.4 -0.7**
TAM Tamanrasset 175.31 228 *e*PKPdf **PKPdf 21 40 25.4 -0.7**

IDC 18 21:21:31.8±1.9, 4°94N×123°50E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=157.2km s-min=25.0km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.00**	**175**	P	P	21 26 38.5	+0.2
	2.2nm,1.1s,baz=358,slow=16,SNR=2.5						
WRA	**Warramunga Arr**	**26.93**	**157**	P	P	21 27 15.1	+0.1
	0.3nm,0.3s,baz=336,slow=9.5,SNR=9.3						
ASAR	**Alice Springs**	**30.19**	**161**	P	P	21 27 43.8	-0.3
	0.2nm,0.3s,baz=335,slow=7.7,SNR=5.8						
MKAR	**Makanchi Array**	**54.75**	**326**	P	P	21 31 03.1	-0.1
	0.2nm,0.3s,baz=122,slow=7.1,SNR=5.8						

IDC 18 21:42:34.0±2.7, 26°42S×178°27W, h302km±30km, mb2.8/2, mb1 3.2/3, mb1mx3.0/18, mbtmp3.1/3, Error ellipse: s-maj=51.6km s-min=43.5km az=122.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.84**	**174**	P	Pn	21 43 28.2	0.0
	180nm,0.3s,baz=77,slow=24,SNR=11						
RAO				S	S	21 44 12.1	+0.5
	53nm,0.3s,baz=250,slow=22,SNR=1.5						
URZ	**Urewera**	**12.44**	**197**	P	Pn	21 45 21.6	0.0
	1.6nm,0.3s,baz=20,slow=12,SNR=6.9						
URZ				S	S	21 47 36.8	-2.9
	1.1nm,0.3s,baz=302,slow=20,SNR=1.7						
ASAR	**Alice Springs**	**43.23**	**263**	P	P	21 50 06.6	+0.1
	0.4nm,0.5s,baz=93,slow=7.2,SNR=8.0						
WRA	**Warramunga Arr**	**43.85**	**268**	P	P	21 50 11.1	-0.3
	0.3nm,0.4s,baz=103,slow=7.8,SNR=7.3						
NB2	**NORSAR Subarra**	**144.79**	**352**	PKP	PKPbc	22 01 33.5	-0.9
	comp=Z,0.1nm,0.5s,baz=26,slow=3.6						
NOA	**NORSAR Array B**	**144.79**	**352**	PKP	PKPbc	22 01 33.9	-0.5
	comp=Z,0.7nm,0.6s,baz=10,slow=2.6,SNR=4.1						

---

*NNC **18** 21:46:02.4±4.0, 41°12N×84°79E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=41.6km s-min=29.3km az=131.0*
*ISCJB **18** 21:46:05.6±0.6, 41°34N±0°05×84°17E±0°07, h10km, mb3.8/8, Error ellipse: s-maj=7.7km s-min=7.4km az=151.3*
*IDC **18** 21:46:05.9±0.8, 41°41N×84°31E, h0km, mb3.9/9, mb1 3.9/15, mb1mx3.7/34, mbtmp3.8/15, ML3.5/5, Error ellipse: s-maj=22.4km s-min=12.2km az=60.0*
*BJI **18** 21:46:06.3, 41°34N×84°42E, h6km, mb4.3/2, ML3.8/11*
*NEIC **18** 21:46:07.3±0.5, 41°39N×84°26E, h10km, mb4.1/1, Error ellipse: s-maj=9.5km s-min=7.9km az=62.0*
ISC 18 21:46:07.5±0.7, 41°40N±0°06×84°29E±0°06, h10km, n47, σ1877/51, mb4.0/8, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.49**	**45**	Pn	**Pn**	**21 47 03.8**	**+1.9**
WMQ				Sn	**Sn**	**21 47 46.4**	**+3.1**
WMQ				smax	smax		
	comp=N,250nm,0.6s						
WMQ				smax	smax		
	comp=E,330nm,1.1s						
MK31	**Makanchi Array**	**5.58**	**346**	⇓Pn	**Pn**	**21 47 32.9**	**+2.3**
	comp=E,0.8nm,0.4s,baz=151,slow=14,SNR=32						
MK31				Pg	Pg	21 47 50.2	-4.2
	comp=E,3.8nm,0.3s,baz=162,slow=17,SNR=14						
MK31				⇓Lg	Lg	21 49 07.3	
	comp=E,26nm,0.5s,baz=161,slow=29,SNR=5.1						
MK31	**Makanchi Array**	**5.58**	**346**	*e*Pn	**Pn**	**21 47 31.3**	**+0.7**
MK31				*e*Sg	**Sg**	**21 49 04.8**	**-1.8**
MKAR	**Makanchi Array**	**5.58**	**346**	Pn	**Pn**	**21 47 32.4**	**+1.8**
MKAR				Pg	**Pb**	**21 47 47.2**	**+2.2**
MKAR				Sn	**Sn**	**21 48 37.8**	**+2.9**
MKAR				Lg	Lg	21 49 01.5	
MKAR	**Makanchi Array**	**5.58**	**346**	Pn	**Pn**	**21 47 32.4**	**+1.8**
	comp=E,1.0nm,0.3s,baz=164,slow=14,SNR=21						
MKAR				Pg	**Pb**	**21 47 47.2**	**+2.2**
	comp=E,1.4nm,0.3s,baz=170,slow=14,SNR=10						
MKAR				Sn	**Sn**	**21 48 37.8**	**+2.9**
	comp=E,4.9nm,0.3s,baz=174,slow=14,SNR=5.2						
MKAR				Lg	Lg	21 49 01.5	
	comp=E,10nm,0.3s,baz=153,slow=24,SNR=7.7						
KNDC	**Almaty**	**5.72**	**291**	⇑Pn	Pn	21 47 39.0	+6.3
	comp=E,25nm,0.6s						
KNDC				⇑Lg	Lg	21 49 16.6	
	comp=E,114nm,0.8s						
KSH	**Kashi**	**6.62**	**256**	*e*Pn	Pb	21 47 53.1	-10
KSH				Sn	Sb	21 49 11.8	-10
KSH				smax	smax		
	comp=N,43nm,0.7s						
KSH				smax	smax		
	comp=E,54nm,0.8s						
TKM2	**Tokmak 2**	**6.64**	**286**	⇑Pn	**Pn**	**21 47 46

ZALV	Zalesovo Beam	12.56	1	Pn	Pn	21 49 04.1	-2.0
	comp=E,0.4nm,0.3s,baz=175,slow=14,SNR=6.0						
ZALV				Sn	Sn	21 51 20.2	-5.8
	comp=E,1.3nm,0.3s,baz=175,slow=25,SNR=10						
KBL	Kabul	13.83 245		ePn	Pn	21 49 22.2	-1.6
VOSK	Vostochnaya	14.48 326		⇑P	P	21 49 40.2	+1.0
	comp=E,3.2nm,0.7s						
BVAR	Borovoye Array	14.95 326		Pn	Pn	21 49 37.3	-1.5
BVAR				Lg	Lg	21 53 56.7	
BVAR	Borovoye Array	14.95 326		Pn	Pn	21 49 37.3	-1.5
	comp=E,0.3nm,0.3s,baz=135,slow=13,SNR=7.1						
BVAR				Lg	Lg	21 53 56.7	
	comp=E,0.1nm,0.3s,baz=129,slow=25,SNR=2.7						
BRVK	Borovoye	15.02 326		ePn	Pn	21 49 39.0	-0.7
SONM	Songino Array	16.97	60	Pn	Pn	21 50 05.1	0.0
SONM	Songino Array	16.97	60	Pn	Pn	21 50 05.1	0.0
	baz=256,slow=13,SNR=2.0						
AB31	Akbulak array	18.78 303		P	Pn	21 50 26.8	-0.4
	comp=E,0.6nm,0.5s,baz=101,slow=13,SNR=13						
ABKAR	Akbulak array	18.78 303		eP	Pn	21 50 26.3	-0.8
	comp=E,7.6nm,0.6s						
AKTO	Aktyubinsk	20.30 305		⇑P	P	21 50 43.6	+0.3
	comp=E,2.6nm,0.7s						
AKTO	Aktyubinsk	20.30 305		P	P	21 50 42.6	-0.8
AKTO	Aktyubinsk	20.30 305		P	P	21 50 42.6	-0.8
	comp=E,0.9nm,0.4s,baz=94,slow=15,SNR=4.6						
CMAR	Chiang Mai Arr	26.08 147		P	P	21 51 41.1	-0.3
CMAR	Chiang Mai Arr	26.08 147		P	P	21 51 41.1	-0.3
	comp=E,2.3nm,0.7s,baz=325,slow=8.4,SNR=4.7						
ARCES	ARCESS Array B	41.08 333		P	P	21 53 52.0	+1.1
ARCES	ARCESS Array B	41.08 333		P	P	21 53 52.0	+1.1
	comp=E,5.6nm,0.9s,baz=76,slow=5.5,SNR=6.3						
HFS	Hagfors	45.94 319		P	P	21 54 30.6	+0.5
HFS	Hagfors	45.94 319		P	P	21 54 30.6	+0.5
	comp=E,0.8nm,0.4s,baz=92,slow=10,SNR=8.2						
NB2	NORSAR Subarra	46.99 320		P	P	21 54 38.9	+0.4
	comp=Z,1.1nm,0.5s,baz=79,slow=7.9						
NOA	NORSAR Array B	46.99 320		P	P	21 54 38.4	-0.1
NOA	NORSAR Array B	46.99 320		P	P	21 54 38.4	-0.1
	comp=Z,1.1nm,0.6s,baz=80,slow=7.8,SNR=5.7						
YKA	Yellowknife Ar	75.34	9	P	P	21 57 50.5	-0.1
YKA	Yellowknife Ar	75.34	9	P	P	21 57 50.5	-0.1
	comp=Z,1.2nm,0.7s,baz=337,slow=6.2,SNR=3.3						
TORD	Torodi Ar. Bea	75.92 275		P	P	21 57 54.2	-0.4
TORD	Torodi Ar. Bea	75.92 275		P	P	21 57 54.2	-0.4
	comp=Z,0.5nm,0.5s,baz=42,slow=4.9,SNR=14						
WRA	Warramunga Arr	76.64 132		P	P	21 57 58.1	-0.4
WRA	Warramunga Arr	76.64 132		P	P	21 57 58.1	-0.4
	comp=Z,0.6nm,0.8s,baz=323,slow=5.5,SNR=3.8						
ASAR	Alice Springs	79.40 135		P	P	21 58 14.3	+0.4
ASAR	Alice Springs	79.40 135		P	P	21 58 14.3	+0.4
	comp=Z,0.5nm,0.8s,baz=326,slow=4.8,SNR=3.7						

IDC 18 22:02:23.8±1.9, 4°26N×127°32E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=188.1km s-min=25.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.28	328	LR	LR	22 04 04.7	
	comp=Z,656nm,19.2s,baz=189,slow=31						
WRA	Warramunga Arr	25.02	164	P	P	22 07 49.8	0.0
	0.6nm,0.5s,baz=344,slow=9.6,SNR=9.2						
MKAR	Makanchi Array	57.46	325	P	P	22 12 14.0	-0.7
	0.3nm,0.5s,baz=113,slow=7.4,SNR=5.8						
ZALV	Zalesovo Beam	60.39	333	P	P	22 12 34.2	-0.6
	0.4nm,0.4s,baz=131,slow=4.4,SNR=2.8						
BVAR	Borovoye Array	67.20	327	P	P	22 13 20.7	+0.9
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.8						

WEL 18 22:06:35.4±0.3, 37°24S×176°34E, h219km±3km, ML3.9/12, 5C-1D, Error ellipse: s-maj=8.5km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.19	149	⇑PN	Pn	22 07 08.5	+0.2
URZ				SN	S	22 07 33.9	-0.2
MWZ	Matawai	1.45	140	PN	Pn	22 07 10.2	-0.1
MWZ				SN	S	22 07 37.6	0.0
MXZ	Matakaoa Point	1.60	102	PN	Pn	22 07 11.9	+0.3
MXZ				SN	S	22 07 39.8	+0.1
RAHZ	Arahi	1.78	161	⇑PN	Pn	22 07 13.5	+0.3
RAHZ				SN	S	22 07 42.0	-0.7
NMHZ	Naumai	1.89	169	⇑PN	Pn	22 07 14.9	+0.6
BKZ	Black Stump Fm	1.93	176	PN	Pn	22 07 14.3	-0.4
BKZ				SN	S	22 07 43.3	-2.0
CNGZ	Carnagh Statio	1.93	131	⇑PN	Pn	22 07 14.9	+0.2
OTVZ	Oturere	1.99	195	PN	Pn	22 07 15.9	+0.5
KNZ	Kokohu	2.07	150	PN	Pn	22 07 15.3	-0.6
PRGZ	Paritu Road	2.08	145	PN	Pn	22 07 15.7	-0.3
TUVZ	Tukino	2.10	195	PN	Pn	22 07 16.7	+0.2
FWVZ	Far West T-bar	2.11	197	PN	Pn	22 07 17.0	+0.4
WNVZ	Wahianoa	2.17	195	PN	Pn	22 07 17.2	+0.1
MOVZ	Moawhango	2.21	192	PN	Pn	22 07 17.0	-0.5
MCHZ	McNeill Hill	2.22	173	PN	Pn	22 07 17.3	-0.2
BHHZ	Black Hill Sta	2.26	185	PN	Pn	22 07 17.4	-0.5
MHGZ	Mahia Peninsul	2.28	148	PN	Pn	22 07 17.3	-0.8
CKHZ	Cape Kidnapper	2.49	167	PN	Pn	22 07 19.2	-1.0
KAHZ	Kahuranaki	2.59	171	⇓PN	Pn	22 07 20.4	-1.1
PNHZ	Pukenui	2.67	182	PN	Pn	22 07 21.0	-1.4
WPHZ	Waipukurau	2.82	178	PN	Pn	22 07 22.5	-1.5
TSZ	Takapari Road	2.83	186	PN	Pn	22 07 22.5	-1.6
POWZ	Post Office Ro	3.18	188	PN	Pn	22 07 26.1	-1.9
MRZ	Mangatainoka R	3.47	190	⇑PN	Pn	22 07 28.7	-2.8
OGWZ	Otaki Gorge	3.69	194	PN	Pn	22 07 31.4	-2.6
HOWZ	Holdsworth Sta	3.71	190	PN	Pn	22 07 31.2	-3.1
KIW	Kapiti Island	3.79	197	PN	Pn	22 07 32.4	-2.8
MTW	Mount Morrison	3.97	189	PN	Pn	22 07 34.0	-3.4
CAW	Cannon Point	3.99	194	PN	Pn	22 07 34.7	-3.0
DUWZ	D'Urville Isla	4.03	207	PN	Pn	22 07 35.6	-2.6
TRWZ	Traveller	4.18	187	PN	Pn	22 07 36.5	-3.6
MSWZ	Moikau Station	4.25	191	PN	Pn	22 07 37.4	-3.5
TCW	Tory Channel	4.28	201	PN	Pn	22 07 38.2	-2.9
PLWZ	Palliser	4.41	191	PN	Pn	22 07 39.1	-3.7
TUWZ	Tuamarina	4.58	203	PN	Pn	22 07 41.8	-3.1
NNZ	Nelson	4.59	209	PN	Pn	22 07 41.5	-3.5
QRZ	Quartz Range	4.65	218	PN	Pn	22 07 42.7	-3.1
THZ	Tophouse	5.24	209	PN	Pn	22 07 49.8	-3.5
KHZ	Kahutara	5.60	202	PN	Pn	22 07 54.2	-3.6

IDC 18 22:28:42.0±1.3, 37°50N×20°97E, h0km, mb3.7/8, mb1 3.7/10, mb1mx3.5/32, mbtmp3.6/10, ML3.2/2, Error ellipse: s-maj=26.6km s-min=21.3km az=142.0
CSEM 18 22:28:44.9±0.3, 37°35N×20°82E, h15km, ML3.4/8, Error ellipse: s-maj=6.2km s-min=3.1km az=56.0
ATH 18 22:28:44.0, 37°37N×20°89E, h20km, MD3.5/20, ML3.2
THE 18 22:28:47.4, 37°46N×21°08E, h0km±2km, ML3.4/8, Error ellipse: s-maj=2.7km s-min=0.7km az=92.0

ISC 18 22:28:47.2±0.8, 37°42N±0°02×21°02E±0°03, h17km±6km, n171, σ1§38/243, mb3.6/8, 5C-4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	Strofades	0.17	181	P	Pg	22 28 51.0	-0.6
SFD				S	Sg	22 28 56.0	+1.5
SFD	Strofades	0.17	181	P	Pg	22 28 51.0	-0.6
SFD				S	Sg	22 28 56.0	+1.5
AMT	Artemida-Makis	0.56	79	P	Pb	22 28 57.8	-0.8
AMT				S	Sb	22 29 07.8	+1.5
AMT	Artemida-Makis	0.56	79	P	Pb	22 28 57.8	-0.8
AMT				S	Sb	22 29 07.8	+1.5
KFL	Anninata	0.71	345	P	Pg	22 28 59.9	-1.2
KFL				S	Sb	22 29 11.0	+0.3
KFL	Anninata	0.71	345	P	Pg	22 28 59.9	-1.2
KFL				S	Sb	22 29 11.0	+0.3
RLS	Riolos of Patr	0.73	29	P	Pg	22 29 00.3	-1.1
RLS	Riolos of Patr	0.73	29	ePN	Pg	22 29 00.3	-1.1
RLS				eSN	Sb	22 29 11.5	+0.4
RLS	Riolos of Patr	0.73	29	P	Pg	22 29 00.3	-1.1
RLS				eSn	Sb	22 29 11.5	+0.4
ITM	Ithomi	0.76	108	P	Pg	22 29 01.6	-0.5
ITM				S	Sb	22 29 14.1	+1.9
ITM	Ithomi	0.76	108	ePN	Pg	22 29 00.7	-1.4
ITM				eSN	Sb	22 29 12.4	+0.2
ITM	Ithomi	0.76	108	ePn	Pg	22 29 00.7	-1.4
ITM	Ithomi	0.76	108	P	Pg	22 29 01.6	-0.5
ITM				eSn	Sb	22 29 12.4	+0.2
ITM				S	Sb	22 29 14.1	+1.9
PYL	PYLOS	0.78	132	P	Pg	22 29 01.1	-1.3
PYL				S	Sb	22 29 13.7	+1.0
PYL	PYLOS	0.78	132	ePN	Pg	22 28 59.8	-2.6
PYL				eSN	Sg	22 29 11.5	-1.3
PYL	PYLOS	0.78	132	ePn	Pg	22 28 59.8	-2.6
PYL	PYLOS	0.78	132	P	Pg	22 29 01.1	-1.3
PYL				eSn	Sg	22 29 11.5	-1.3
PYL				S	Sb	22 29 13.7	+1.0
AXS	Araxos	0.82	20	P	Pg	22 29 01.8	-1.4
AXS	Araxos	0.82	20	P	Pg	22 29 01.8	-1.4
VLS	Valsamata	0.83	336	P	Pg	22 29 02.3	-1.0
VLS				S	Sg	22 29 14.4	+0.2
VLS	Valsamata	0.83	336	ePN	Pg	22 29 00.5	-2.8
VLS				eSN	Sg	22 29 13.2	-1.0
VLS	Valsamata	0.83	336	ePn	Pg	22 29 00.5	-2.8
VLS	Valsamata	0.83	336	P	Pg	22 29 02.3	-1.0
VLS				eSn	Sg	22 29 13.2	-1.0
VLS				S	Sg	22 29 14.4	+0.2
VLX	Vlachokerasia	1.08	92	P	Pg	22 29 07.4	-0.8
VLX	Vlachokerasia	1.08	92	ePN	Pg	22 29 06.6	-1.6
VLX				eSN	Sb	22 29 23.0	+1.5
VLX	Vlachokerasia	1.08	92	ePn	Pg	22 29 06.6	-1.6
VLX	Vlachokerasia	1.08	92	P	Pg	22 29 07.4	-0.8
VLX				eSn	Sb	22 29 23.0	+1.5
KLV	Kalavryta, Ach	1.09	55	P	Pg	22 29 06.8	-1.5
KLV	Kalavryta, Ach	1.09	55	ePN	Pg	22 29 06.5	-1.8
KLV				eSN	Sn	22 29 23.9	+1.3
KLV	Kalavryta, Ach	1.09	55	ePn	Pg	22 29 06.5	-1.8
KLV	Kalavryta, Ach	1.09	55	P	Pg	22 29 06.8	-1.5
KLV				eSn	Sn	22 29 23.9	+1.3
LAKA	Lakka	1.11	43	P	Pg	22 29 07.4	-1.4
LAKA	Lakka	1.11	43	ePN	Pg	22 29 07.1	-1.8
LAKA				eSN	Sn	22 29 24.1	+1.0
LAKA	Lakka	1.11	43	ePn	Pg	22 29 07.0	-1.8
LAKA	Lakka	1.11	43	P	Pg	22 29 07.4	-1.4
LAKA				eSn	Sn	22 29 24.1	+1.0
PSA1	Psathopyrgos	1.13	37	ePN	Pg	22 29 07.6	-1.5
PSA1				eSN	Sn	22 29 24.3	+0.9
GUR	Goura	1.17	64	P	Pg	22 29 08.1	-1.7
GUR	Goura	1.17	64	P	Pg	22 29 08.1	-1.7
EFP	Efpalio	1.22	35	P	Pg	22 29 09.2	-1.6
EFP				S	Sn	22 29 30.4	+4.7
EFP	Efpalio	1.22	35	ePN	Pg	22 29 08.7	-2.1
EFP				eSN	Sn	22 29 27.7	+2.0
EFP	Efpalio	1.22	35	ePn	Pg	22 29 08.7	-2.1
EFP	Efpalio	1.22	35	P	Pg	22 29 09.2	-1.6
EFP				eSn	Sn	22 29 27.7	+2.0
EFP				S	Sn	22 29 30.4	+4.7
DYR	Agios Nikonas	1.24	122	P	Pg	22 29 09.3	-1.8
DYR				S	Sb	22 29 27.4	+1.5
DYR	Agios Nikonas	1.24	122	ePN	Pg	22 29 08.8	-2.3
DYR				eSN	Sg	22 29 26.5	-0.9
DYR	Agios Nikonas	1.24	122	ePn	Pg	22 29 08.8	-2.3
DYR	Agios Nikonas	1.24	122	P	Pg	22 29 09.3	-1.8
DYR				eSn	Sg	22 29 26.5	-0.9
DYR				S	Sb	22 29 27.4	+1.5
TRIZ	Trizonia	1.26	41	P	Pg	22 29 09.9	-1.6
TRIZ	Trizonia	1.26	41	P	Pg	22 29 09.9	-1.6
KALE	Kalithea	1.31	42	P	Pg	22 29 10.7	-1.8
KALE	Kalithea	1.31	42	ePN	Pg	22 29 10.6	-1.9
KALE				eSN	Sn	22 29 30.7	+2.7
KALE	Kalithea	1.31	42	P	Pg	22 29 10.7	-1.8
KALE				eSn	Sn	22 29 30.7	+2.7
LKD2	Lefkada island	1.39	348	P	Pg	22 29 12.8	-1.3
LKD2				S	Sn	22 29 33.2	+3.2
LKD2	Lefkada island	1.39	348	ePN	Pg	22 29 10.7	-3.4
LKD2				eSN	Sg	22 29 30.5	-1.7
LKD2	Lefkada island	1.39	348	ePn	Pg	22 29 10.7	-3.4
LKD2	Lefkada island	1.39	348	P	Pg	22 29 12.8	-1.3
LKD2				eSn	Sg	22 29 30.5	-1.7
LKD2				S	Sn	22 29 33.2	+3.2
ACOR	Acrocorinthos	1.54	72	P	Pn	22 29 14.3	+0.3
ACOR	Acrocorinthos	1.54	72	P	Pn	22 29 14.3	+0.3
DSF	Desfina	1.55	50	P	Pn	22 29 14.9	+0.8
DSF				S	Sn	22 29 37.0	+3.2
DSF	Desfina	1.55	50	P	Pn	22 29 14.9	+0.8
DSF				S	Sn	22 29 37.0	+3.2
EVR	Evrytania	1.62	22	P	Pn	22 29 15.8	+0.7
EVR				S	Sg	22 29 41.4	+2.1
EVR	Evrytania	1.62	22	ePN	Pn	22 29 15.0	-0.1
EVR				eSN	Sn	22 29 37.2	+1.6
EVR	Evrytania	1.62	22	ePn	Pn	22 29 15.0	-0.1
EVR	Evrytania	1.62	22	P	Pn	22 29 15.8	+0.7
EVR				eSn	Sn	22 29 37.2	+1.6
EVR				S	Sg	22 29 41.4	+2.1
LTK	Loutraki	1.66	68	P	Pn	22 29 15.9	+0.4
LTK	Loutraki	1.66	68	ePN	Pn	22 29 15.9	+0.4
LTK				eSN	Sg	22 29 38.7	-1.9
LTK	Loutraki	1.66	68	P	Pn	22 29 15.9	+0.4
LTK				eSn	Sg	22 29 38.7	-1.9
VLI	Veliai	1.69	114	P	Pn	22 29 16.8	+0.9
VLI	Veliai	1.69	114	ePN	Pn	22 29 16.0	+0.1
VLI				eSN	Sn	22 29 39.3	+2.1
VLI	Veliai	1.69	114	ePn	Pn	22 29 16.0	+0.1
VLI	Veliai	1.69	114	P	Pn	22 29 16.8	+0.9
VLI				eSn	Sn	22 29 39.3	+2.1
DID	Didima	1.77	87	P	Pn	22 29 17.0	-0.1
DID	Didima	1.77	87	ePN	Pn	22 29 16.8	-0.3
DID				eSN	Sg	22 29 41.9	-2.2
DID	Didima	1.77	87	P	Pn	22 29 17.0	-0.1
DID				eSn	Sg	22 29 41.9	-2.2
AXAR	Agios Charalam	1.86	43	P	Pn	22 29 19.6	+1.2
AXAR				S	Sg	22 29 47.6	+0.4
AXAR	Agios Charalam	1.86	43	P	Pn	22 29 19.6	+1.2
AXAR				S	Sg	22 29 47.6	+0.4
AGG	Agios Georgios	1.90	32	P	Pn	22 29 20.1	+1.2
AGG				S	Sg	22 29 47.6	-0.8
AGG	Agios Georgios	1.90	32	ePN	Pn	22 29 19.5	+0.6
AGG				eSN	Sn	22 29 44.1	+1.6
AGG	Agios Georgios	1.90	32	ePn	Pn	22 29 19.5	+0.6
AGG	Agios Georgios	1.90	32	P	Pn	22 29 20.1	+1.2
AGG				eSn	Sn	22 29 44.1	+1.6
AGG				S	Sg	22 29 47.6	-0.8
KYTH	Kithira	1.98	125	P	Pn	22 29 20.9	+0.9
KYTH	Kithira	1.98	125	ePN	Pn	22 29 19.8	-0.2
KYTH	Kithira	1.98	125	ePn	Pn	22 29 19.8	-0.2
KYTH	Kithira	1.98	125	P	Pn	22 29 20.9	+0.9
LKR	Lokris	1.99	51	ePN	Pn	22 29 20.5	+0.4
LKR				eSN	Sb	22 29 46.9	-0.5
LKR	Lokris	1.99	51	ePn	Pn	22 29 20.5	+0.4
LKR				eSn	Sb	22 29 46.9	-0.5
IGT	Igoumenitsa	2.17	346	P	Pn	22 29 23.8	+1.1
IGT	Igoumenitsa	2.17	346	P	Pn	22 29 23.8	+1.1
ATH	Athens Observa	2.21	75	ePN	Pn	22 29 23.4	+0.3
ATH				eSN	Sn	22 29 52.6	+2.6
ATH	Athens Observa	2.21	75	ePn	Pn	22 29 23.4	+0.3
ATH				eSn	Sn	22 29 52.6	+2.6
JAN	Janina	2.23	357	ePB	Pn	22 29 23.1	-0.4
JAN				eSN	Sn	22 29 50.9	+0.2
JAN	Janina	2.23	357	ePb	Pn	22 29 23.1	-0.4
JAN				eSn	Sn	22 29 50.9	+0.2
SMIA	Simia	2.26	49	P	Pn	22 29 24.6	+0.8
SMIA	Simia	2.26	49	P	Pn	22 29 24.6	+0.8
THL	Klokotos Trika	2.28	20	P	Pn	22 29 25.2	+1.2
THL	Klokotos Trika	2.28	20	ePN	Pn	22 29 23.9	-0.1
THL				eSN	Sn	22 29 53.2	+1.5
THL	Klokotos Trika	2.28	20	ePn	Pn	22 29 23.9	-0.1
THL	Klokotos Trika	2.28	20	P	Pn	22 29 25.2	+1.2
THL				eSn	Sn	22 29 53.2	+1.5
PTL	Penteli	2.34	74	ePN	Pn	22 29 25.3	+0.3
PTL				eSN	Sn	22 29 55.1	+1.7
PTL	Penteli	2.34	74	ePn	Pn	22 29 25.3	+0.3
PTL				eSn	Sn	22 29 55.1	+1.7
MRKA	Markates	2.40	57	P	Pn	22 29 26.0	+0.3
MRKA	Markates	2.40	57	P	Pn	22 29 26.0	+0.3
ANKY	Antikythira Is	2.40	130	ePN	Pn	22 29 25.2	-0.6
ANKY				eSN	Sn	22 29 55.2	+0.3
ANKY	Antikythira Is	2.40	130	ePn	Pn	22 29 25.2	-0.6
ANKY				eSn	Sn	22 29 55.2	+0.3
KEK	Kerkira	2.48	338	ePB	Pn	22 29 26.4	-0.4
KEK	Kerkira	2.48	338	ePb	Pn	22 29 26.4	-0.4
NEO	Neokhori	2.56	42	P	Pn	22 29 28.8	+0.9
NEO	Neokhori	2.56	42	ePN	Pn	22 29 28.1	+0.2
NEO				eSN	Sn	22 30 00.2	+1.5
NEO	Neokhori	2.56	42	ePn	Pn	22 29 28.1	+0.2
NEO	Neokhori	2.56	42	P	Pn	22 29 28.8	+0.9
NEO				eSn	Sn	22 30 00.2	+1.5
XOR	Xorichti	2.58	41	P	Pn	22 29 29.4	+1.1
XOR	Xorichti	2.58	41	P	Pn	22 29 29.4	+1.1
AOS	Alonnisos	2.85	51	ePN	Pn	22 29 32.1	+0.2
AOS				eSN	Sn	22 30 07.5	+1.7
AOS	Alonnisos	2.85	51	ePn	Pn	22 29 32.1	+0.2
AOS				eSn	Sn	22 30 07.5	+1.7
KZN	Kozani	2.94	11	ePN	Pn	22 29 33.5	+0.3
KZN				eSN	Sn	22 30 09.8	+1.6
KZN	Kozani	2.94	11	ePn	Pn	22 29 33.5	+0.3
KZN				eSn	Sn	22 30 09.8	+1.6
PAIG	Paliouri	3.25	39	ePN	Pn	22 29 37.0	-0.5
PAIG				eSN	Sn	22 30 18.0	+2.2
PAIG	Paliouri	3.25	39	ePn	Pn	22 29 37.0	-0.5
PAIG				eSn	Sn	22 30 18.0	+2.2
VAM	Vamos	3.26	127	ePN	Pn	22 29 37.6	0.0
VAM				eSN	Sn	22 30 16.2	+0.2
VAM	Vamos	3.26	127	ePn	Pn	22 29 37.6	0.0
VAM				eSn	Sn	22 30 16.2	+0.2
FNA	Florina	3.37	5	ePN	Pn	22 29 38.9	-0.2
FNA				eSN	Sn	22 30 19.2	+0.5
FNA	Florina	3.37	5	ePn	Pn	22 29 38.9	-0.2
FNA				eSn	Sn	22 30 19.2	+0.5
PLG	Polygyros	3.50	32	ePN	Pn	22 29 40.9	0.0
PLG				eSN	Sn	22 30 22.2	+0.2
PLG	Polygyros	3.50	32	ePn	Pn	22 29 40.9	0.0
PLG				eSn	Sn	22 30 22.2	+0.2
BIA	Bitola	3.60	4	ePn	Pn	22 29 41.4	-1.0
BIA	Bitola	3.60	4	ePn	Pn	22 29 41.3	-1.0
APE	Apeiranthos	3.62	94	⇑iP	Sb	22 30 35.9	+1.5
IDI	Anoyia	3.78	123	ePN	Pn	22 29 44.9	+0.1
IDI				eSN	Sn	22 30 29.0	0.0
IDI	Anoyia	3.78	123	ePn	Pn	22 29 44.9	+0.1
IDI				eSn	Sn	22 30 29.0	0.0
SOH	Sokhos	3.85	27	ePN	Pn	22 29 45.9	+0.2
SOH				eSN	Sn	22 30 32.1	+1.5
SOH	Sokhos	3.85	27	ePn	Pn	22 29 45.9	+0.2
SOH				eSn	Sn	22 30 32.1	+1.5
LIA	Limnos Island	4.09	52	ePN	Pn	22 29 49.4	+0.4
LIA				eSN	Sn	22 30 37.6	+1.2
LIA	Limnos Island	4.09	52	ePn	Pn	22 29 49.4	+0.4
LIA				eSn	Sn	22 30 37.6	+1.2
LAST	Lasithi	4.25	121	ePN	Pn	22 29 51.2	-0.1
LAST	Lasithi	4.25	121	ePn	Pn	22 29 51.2	-0.1
NVR	Nevrokopi	4.50	28	ePN	Pn	22 29 54.6	0.0
NVR	Nevrokopi	4.50	28	ePn	Pn	22 29 54.6	0.0
MMB	Musomiste	4.66	26	P	Pn	22 29 56.4	-0.4
MMB	Musomiste	4.66	26	P	Pn	22 29 56.4	-0.4
RDO	Rodhopi	5.11	42	ePN	Pn	22 30 02.6	-0.4
RDO	Rodhopi	5.11	42	ePn	Pn	22 30 02.6	-0.4
RZN	Rozhen	5.13	33	P	Pn	22 30 03.8	+0.4
RZN	Rozhen	5.13	33	P	Pn	22 30 03.8	+0.4
VTS	Vitosha	5.43	17	P	Pn	22 30 07.0	-0.5
VTS	Vitosha	5.43	17	⇑iP	Pn	22 30 07.9	+0.4
VTS	Vitosha	5.43	17	P	Pn	22 30 07.0	-0.5
VTS	Vitosha	5.43	17	ePn	Pn	22 30 07.9	+0.4
STON	Ston	6.01	336	ePn	Pn	22 30 12.2	-3.1
STON				Sn	Sn	22 31 16.9	-6.8
STON	Ston	6.01	336	ePn	Pn	22 30 12.1	-3.1
MPEP	Malo Peshtene	6.28	18	P	Pn	22 30 19.2	+0.1
GRUS	Gruza	6.46	358	ePn	Pn	22 30 19.3	-2.3
DIVS	Divibare	6.71	354	ePn	Pn	22 30 22.7	-2.4
GZR	Gura Zlata	8.07	9	⇑iP	Pn	22 30 43.1	-0.6
NVLJ	Novalja	8.51	329	ePn	Pn	22 30 46.3	-3.3
NVLJ				Sn	Sn	22 32 18.0	-7.3
NVLJ	Novalja	8.51	329	ePn	Pn	22 30 46.3	-3.3
VOIR		8.56	19	⇓iP	Pn	22 30 51.0	+0.6
MLR	Muntele Rosu	8.87	23	⇓iP	Pn	22 30 57.5	+2.8
MLR	Muntele Rosu	8.87	23	Pn	Pn	22 30 57.2	+2.5
	0.0nm,0.3s,baz=287,slow=11,SNR=5.5						
PKSM	Moragy	8.96	349	⇓iP	Pn	22 30 54.1	-1.7
PLOR	Plostina	9.41	25	⇑iP	Pn	22 31 04.0	+1.9
VRI	Vrincioaia	9.45	25	⇓iP	Pn	22 31 04.6	+2.0
PETR	Petresti	9.51	27

0.9nm,0.5s,baz=47,slow=2.6,SNR=5.9
WRA ScP **ScP** 22 55 33.1 +4.7
2.9nm,1.0s,baz=70,slow=3.2,SNR=6.5
WRA LR LR 22 57 07.0
comp=Z,399nm,20.9s,baz=50,slow=36
ARMA Armidale 23.78 186 *eP* **P 22 48 12.2 +0.9**
44nm,1.4s
MTN Manton Dam 23.95 253 P **P 22 48 12.9 +0.1**
baz=24,SNR=5.9
SWI Sorong 24.02 283 P **P 22 48 14.5 +1.0**
CMSA Cobar Meteorol 26.11 198 P **P 22 48 33.2 +0.9**
baz=26,SNR=14
AS31 Alice Springs 26.12 228 *eP* **P 22 48 30.6 -1.9**
ASAR Alice Springs 26.12 228 P **P 22 48 31.2 -1.3**
ASAR ScP **ScP** 22 55 40.5 +5.4
ASAR Alice Springs 26.12 228 P **P 22 48 31.2 -1.3**
7.0nm,0.9s,baz=60,slow=9.0,SNR=28
ASAR ScP **ScP** 22 55 40.5 +5.4
2.9nm,1.0s,baz=45,slow=3.7,SNR=11
ASAR LR LR 22 58 48.4
comp=Z,417nm,21.7s,baz=1.4,slow=36
KNRA Kununurra 26.88 248 P **P 22 48 38.8 -0.6**
baz=27,SNR=9.1
LBMI Labuha 27.72 281 P **P 22 48 50.6 +3.6**
76nm,1.4s
STKA Stephens Creek 27.87 204 *eP* **P 22 48 46.8 -1.4**
6.4nm,1.5s
STKA Stephens Creek 27.87 204 P **P 22 48 46.6 -1.5**
8.8nm,0.6s,baz=26,slow=13,SNR=18
STKA LR LR 22 59 47.2
comp=Z,472nm,19.1s,baz=212,slow=36
STKA Stephens Creek 27.87 204 P **P 22 48 46.8 -1.4**
baz=28,SNR=15
FITZ Fitzroy Crossi 30.46 245 P **P 22 49 10.0 -1.2**
FITZ Fitzroy Crossi 30.46 245 P **P 22 49 10.0 -1.2**
18nm,0.8s,baz=90,slow=7.4,SNR=27
FITZ LR LR 23 01 42.2
comp=Z,370nm,21.3s,baz=43,slow=37
FITZ Fitzroy Crossi 30.46 245 P **P 22 49 09.9 -1.4**
baz=31,SNR=16
WSI Waingapu 34.11 263 S **S 22 55 01.9 -4.3**
baz=34,SNR=6.3
FORT Forrest 34.57 223 *eP* **P 22 49 45.9 -1.2**
32nm,0.8s
FORT Forrest 34.57 223 P **P 22 49 45.8 -1.3**
baz=35,SNR=6.7
MYLDM Lahad Datu 37.94 287 P **P 22 50 17.9 +1.8**
MEEK Meekatharra 39.59 236 P **P 22 50 29.0 -0.9**
baz=40,SNR=4.8
RPZ Rata Peaks 39.61 161 P **P 22 50 29.6 -0.1**
RPZ Rata Peaks 39.61 161 P **P 22 50 29.6 -0.1**
7.2nm,0.8s,baz=258,slow=14,SNR=2.7
YULB Yu-li 44.21 314 *eP* **P 22 51 06.9 -0.6**
12nm,0.8s
NACB Ninganchiao 44.48 315 *eP* **P 22 51 08.9 -0.8**
42nm,1.0s
TPUB Ta-pu 44.63 313 *eP* **P 22 51 10.9 0.0**
14nm,0.9s
SSLB Suanglung 44.70 314 *eP* **P 22 51 11.8 +0.3**
YHNB Yeheng 44.95 315 *eP* **P 22 51 13.4 -0.1**
21nm,0.8s
JNU Nakatsue 45.56 332 *eP* **P 22 51 17.3 -0.9**
JNU Nakatsue 45.56 332 P **P 22 51 15.6 -2.6**
6.1nm,0.7s,baz=43,slow=5.2,SNR=6.4
MJAR Matsushiro Arr 45.67 341 P P 22 51 14.1 -4.8
MJAR Matsushiro Arr 45.67 341 P P 22 51 14.1 -4.8
0.3nm,0.3s,baz=174,slow=6.9,SNR=3.5
KSRS Korea Array 50.49 332 P **P 22 51 55.0 -1.1**
2.1nm,0.7s,baz=150,slow=9.1,SNR=9.2
KSAR Wonju Array Be 50.50 332 P **P 22 51 55.0 -1.2**
USRK Ussuriysk Arra 54.61 340 P **P 22 52 24.8 -1.6**
0.9nm,0.7s,baz=151,slow=7.6,SNR=2.8
CHBT CHBT 55.44 290 P **P 22 52 33.4 +0.4**
8.9nm,1.1s,3μm
ENH Enshi 56.76 313 *eP* **P 22 52 42.2 -0.1**
11nm,0.8s
NAYO Nakonayok 56.85 292 P **P 22 52 44.8 +1.7**
75nm,0.9s
PBKT Sadao Pong 57.88 294 P **P 22 52 53.2 +2.9**
12nm,1.0s,997nm
LOEI Loei 57.93 295 P **P 22 52 50.1 -0.6**
UTHA Uthaitani 58.95 293 P **P 22 52 59.3 +1.5**
3.2nm,0.9s
XAN Xi'an 59.23 316 P **P 22 52 59.1 -0.4**
XAN pP **pP** 22 53 08.3 -4.7
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN pmax pmax
comp=Z,31nm,13.5s
PEA0B Petropavlovsk- 59.62 2 *eP* **P 22 53 03.4 +1.7**
PETK Petropavlovsk- 59.62 2 P P 22 53 05.9 +4.2
PETK Petropavlovsk- 59.62 2 P P 22 53 05.9 +4.2
comp=Z,13nm,0.8s,baz=155,slow=7.4,SNR=22
CRAI Chiangrai 59.66 298 P P 22 53 09.7 +7.0
comp=Z,45μm,1.4s
LAMP Lampang 59.73 296 P P 22 53 11.8 +8.6
comp=Z,3.8nm,0.9s
CM31 Chiang Mai Arr 60.33 296 *eP* **P 22 53 06.6 -0.7**
comp=Z,3.6nm,0.7s
CMAR Chiang Mai Arr 60.33 296 P **P 22 53 07.3 +0.1**
CMAR Chiang Mai Arr 60.33 296 P **P 22 53 07.3 +0.1**
comp=Z,3.3nm,0.9s,baz=115,slow=5.0,SNR=17
CMMT Chiang Mai 60.44 296 P P 22 53 12.5 +4.5
comp=Z,6.3nm,1.5s,comp=Z,278nm
CHTO Chiang Mai 60.44 296 *eP* **P 22 53 08.9 +0.9**
comp=Z,7.6nm,1.1s
CHTO Chiang Mai 60.44 296 P P 22 53 13.8 +5.7
comp=Z,7.1nm,1.5s
CMAI Chiengmai2 60.73 297 P P 22 53 19.4 +9.2
comp=Z,12nm,1.3s
HIA Hailar 63.49 335 *eP* **P 22 53 27.8 -0.2**
GTA Gaotai 68.27 317 *eP* **P 22 54 00.4 +1.3**
GTA pmax pmax
comp=Z,6.0nm,1.6s
ULN Ulaanbaatar 68.55 328 *eP* **P 22 54 00.2 -0.5**
comp=Z,3.8nm,0.8s
SONM Songino Array 68.88 327 P **P 22 54 02.6 -0.1**
SONM Songino Array 68.88 327 P **P 22 54 02.6 -0.1**
comp=Z,0.8nm,0.6s,baz=142,slow=5.0,SNR=8.2
LSA Lhasa 70.80 304 *eP* **P 22 54 15.8 +0.5**
comp=Z,12nm,0.8s
VNDA Vanda 70.91 178 P **P 22 54 14.9 +0.5**
VNDA Vanda 70.91 178 P **P 22 54 14.9 +0.5**
comp=Z,1.6nm,0.7s,baz=334,slow=5.6,SNR=10
TAPN Taplejung 72.93 301 *eP* **P 22 54 28.0 +0.1**
comp=Z,45nm,0.9s
ODAN Odare 73.06 301 *eP* **P 22 54 28.9 +0.2**
comp=Z,63nm,0.7s
RAMN Ramite 73.77 300 *eP* **P 22 54 32.6 -0.2**
JIRN Jiri 74.32 301 *eP* **P 22 54 36.5 +0.4**
comp=Z,20nm,0.7s
GUN Gumba 74.65 301 *eP* **P 22 54 38.3 +0.2**
comp=Z,54nm,0.7s
PKI Pulchoki 74.96 301 *eP* **P 22 54 39.7 -0.1**
comp=Z,36nm,0.9s
PKIN Phulchoki 74.97 301 *eP* **P 22 54 39.5 -0.3**
comp=Z,23nm,0.9s
KKN Kakani 75.13 301 *eP* **P 22 54 40.6 -0.1**
comp=Z,31nm,0.7s
DMN Daman 75.23 301 *eP* **P 22 54 41.5 +0.2**
comp=Z,100nm,1.0s
KOLN Koldanda 76.56 301 *eP* **P 22 54 48.6 -0.2**
comp=Z,49nm,0.7s
PYUN Piuthan 77.16 301 *eP* **P 22 54 51.7 -0.5**
comp=Z,72nm,0.9s
SML Sawmill 81.08 24 *eP* **P 22 55 13.1 +0.4**
comp=Z,3.1nm,1.3s
MK31 Makanchi Array 82.93 319 *eP* **P 22 55 21.9 -0.8**
MKAR Makanchi Array 82.93 319 P **P 22 55 23.2 +0.5**
MKAR Makanchi Array 82.93 319 P **P 22 55 23.2 +0.5**
comp=Z,3.6nm,0.8s,baz=96,slow=7.1,SNR=14
ILAR Eielson Array 83.21 22 P **P 22 55 21.8 -1.9**
ILAR Eielson Array 83.21 22 P **P 22 55 21.8 -1.9**
comp=Z,0.6nm,0.9s,baz=241,slow=5.1,SNR=3.4
ILAR LR LR 23 27 39.8
comp=Z,223nm,20.0s,baz=218,slow=32
QSPA South Pole Qui 83.29 180 *eP* **P 22 55 24.4 0.0**
comp=Z,19nm,1.2s
ZAA0 Zalesovo Array 83.72 326 *eP* **P 22 55 24.2 -2.3**
ZALV Zalesovo Beam 83.72 326 P **P 22 55 25.1 -1.4**
ZALV Zalesovo Beam 83.72 326 P **P 22 55 25.1 -1.4**
comp=Z,1.2nm,0.5s,baz=113,slow=6.2,SNR=7.6
MAW Mawson 84.55 203 P **P 22 55 30.1 -0.4**
MAW Mawson 84.55 203 P **P 22 55 30.1 -0.4**
comp=Z,8.4nm,1.1s,baz=69,slow=5.7,SNR=11
MAW Mawson 84.55 203 P **P 22 55 30.7 +0.2**
baz=85,SNR=8.0

HYT Haines Junctio 85.26 27 *eP* **P 22 55 34.5 +0.1**
KSH Kashi 85.54 310 P **P 22 55 38.6 +2.4**
KSH sP **sP** 22 55 52.5 -3.2
KSH pmax pmax
comp=Z,12nm,1.1s
KSH pmax pmax
comp=Z,48nm,4.0s
KSH LR LR
comp=N,110nm,6.8s
KSH LR LR
comp=E,62nm,6.3s
KSH LR LR
comp=Z,200nm,15.4s
AAK Ala-Archa 87.28 313 P **P 22 55 42.9 -1.8**
AAK Ala-Archa 87.28 313 P **P 22 55 42.9 -1.8**
comp=Z,1.4nm,0.4s,baz=180,slow=6.1,SNR=2.7
KKAR Karatay Array 90.24 313 *eP* **P 22 55 57.0 -1.5**
comp=Z,2.3nm,1.0s
NVAR Mina Array Bea 91.81 52 P **P 22 56 06.9 +0.7**
NVAR Mina Array Bea 91.81 52 P **P 22 56 06.9 +0.7**
comp=Z,1.8nm,0.9s,baz=249,slow=6.1,SNR=9.4
YKA Yellowknife Ar 96.23 28 P P 22 56 30.5 +4.9
YKA Yellowknife Ar 96.23 28 P P 22 56 30.5 +4.9
comp=Z,1.9nm,0.9s,baz=251,slow=5.2,SNR=4.4
KOLS Kolonicke sedl 121.89 325 *ePKP* **PKPdf 23 01 55.5 +3.6**
CRVS Cervenica-Dubn 122.36 325 *ePKP* **PKPdf 23 01 56.0 +3.2**
GERES GERESS Array B 126.60 329 PKP **PKPdf 23 02 01.0 -0.1**
GERES GERESS Array B 126.60 329 PKP **PKPdf 23 02 01.0 -0.1**
comp=Z,0.2nm,0.4s,baz=80,slow=1.5,SNR=4.5
TAM Tamanrasset 146.22 302 *ePKPdf* **PKPdf 23 02 37.1 -0.9**
BDFB Brasilia 148.45 135 PKPbc **PKPbc 23 02 44.1 -1.3**
BDFB Brasilia 148.45 135 PKPbc **PKPbc 23 02 44.1 -1.3**
comp=Z,1.0nm,0.3s,baz=188,slow=7.1,SNR=2.5
TOA0 Torodi Ar. Sit 152.60 286 *ePKPdf* **PKPdf 23 02 46.7 -1.4**
TOA0 *ePKPbc* **PKPbc 23 02 55.0 -0.1**
TOA0 *ePKPab* **PKPab 23 03 05.0 -0.8**
TORD Torodi Ar. Bea 152.60 286 PKPbc **PKPbc 23 02 54.9 -0.3**
TORD PKPab **PKPab 23 03 05.2 -0.6**
TORD Torodi Ar. Bea 152.60 286 PKPbc **PKPbc 23 02 54.9 -0.3**
comp=Z,5.9nm,0.9s,baz=201,slow=0.9,SNR=24
TORD PKPab **PKPab 23 03 05.2 -0.6**
comp=Z,12nm,0.8s,baz=68,slow=2.3,SNR=19

IDC 18 22:48:19.5±2.9, 1°.61S×99°.37E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/24, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=116.9km s-min=20.6km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.40**	**354**	Pn	Pn	22 49 26.6	-1.2
0.7nm,0.3s,baz=270,slow=10,SNR=3.0							
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	P	22 52 53.1	-0.1
0.1nm,0.3s,baz=189,slow=8.4,SNR=4.4							
WRA	**Warramunga Arr**	**38.73**	**120**	P	P	22 55 45.5	-0.3
0.3nm,0.4s,baz=303,slow=9.2,SNR=6.1							
ASAR	**Alice Springs**	**39.99**	**126**	P	P	22 55 56.5	+0.2
0.4nm,0.6s,baz=299,slow=7.7,SNR=4.8							
SONM	**Songino Array**	**49.62**	**6**	P	P	22 57 12.7	-0.2
0.4nm,0.7s,baz=187,slow=11,SNR=2.3							
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	22 57 19.2	-0.1
0.9nm,0.7s,baz=154,slow=8.9,SNR=5.4							
ZALV	**Zalesovo Beam**	**56.67**	**350**	P	P	22 58 04.6	+0.1
0.8nm,0.5s,baz=169,slow=7.2,SNR=4.4							
TXAR	**Lajitas Array**	**144.77**	**36**	PKP	PKPbc	23 07 58.4	+0.2
0.3nm,0.5s,baz=228,slow=1.5,SNR=4.7							

WEL 18 22:56:30.1±0.2, 44°.42S×168°.33E, h5km, ML4.0/12, 4C, Error ellipse: s-maj=1.3km s-min=1.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.38**	**229**	⇑PG	Pg	22 56 37.8	+0.3
MSZ				SG	Sg	22 56 43.3	+0.9
MSZ				SG	Sb	22 56 43.5	-2.0
MSZ				AML	AML	22 56 43.9	
MSZ				AML	AML	22 56 44.1	
JCZ	**Jackson Bay**	**0.47**	**42**	⇑PG	Pg	22 56 38.8	-0.4
JCZ				SG	Sg	22 56 44.7	-0.7
JCZ				SG	Sb	22 56 45.0	-3.3
WKZ	**Wanaka**	**0.64**	**130**	P*	Pg	22 56 42.8	+0.4
WKZ				SG	Sg	22 56 50.7	-0.1
WKZ				AML	AML	22 56 54.0	
WKZ				AML	AML	22 56 55.2	
WKZ				AML	AML	22 56 55.2	
MLZ	**Mavora Lakes**	**0.93**	**187**	⇑P*	Pg	22 56 48.1	0.0
MLZ				S*	Sb	22 57 01.7	+0.2
MLZ				AML	AML	22 57 07.8	
EAZ	**Earnscleugh**	**1.07**	**140**	P*	Pg	22 56 50.4	-0.2
EAZ				S*	Sg	22 57 04.8	+0.3
EAZ				AML	AML	22 57 08.3	
EAZ				AML	AML	22 57 08.4	
FOZ	**Fox Glacier**	**1.30**	**49**	PN	Pn	22 56 54.8	-0.1
FOZ				SN	Sn	22 57 15.0	+2.3
FOZ				AML	AML	22 57 19.2	
FOZ				AML	AML	22 57 19.3	
FOZ				AML	AML	22 57 20.4	
LBZ	**Lake Benmore**	**1.33**	**89**	⇑P*	Pb	22 56 55.5	-0.1
LBZ				S*	Sg	22 57 12.5	-0.5
LBZ				AML	AML	22 57 16.8	
LBZ				AML	AML	22 57 17.1	
DCZ	**Deep Cove**	**1.34**	**218**	P*	Pn	22 56 53.8	-1.7
DCZ				S*	Sb	22 57 11.8	-1.4
DCZ				AML	AML	22 57 14.7	
DCZ				AML	AML	22 57 16.4	
DCZ				AML	AML	22 57 16.4	
WHZ	**Wether Hill Ro**	**1.50**	**190**	PN	Pn	22 56 57.1	-0.5
WHZ				AML	AML	22 57 20.5	
WHZ				AML	AML	22 57 20.6	
ODZ	**Otahua Downs**	**1.76**	**111**	PN	Pn	22 57 02.0	+0.7
TUZ	**Tuapeka**	**1.79**	**149**	PN	Pb	22 57 02.9	-0.5
TUZ				AML	AML	22 57 27.6	
TUZ				AML	AML	22 57 28.1	
SYZ	**Scrubby Hill**	**2.19**	**165**	PN	Pn	22 57 07.2	+0.1
WVZ	**Waitaha Valley**	**2.20**	**53**	AML	AML	22 57 48.3	
WVZ				AML	AML	22 57 51.9	
APZ	**The Paps**	**2.42**	**186**	PN	Pn	22 57 11.2	+0.8
DSZ	**Denniston Nort**	**3.69**	**45**	PN	Pn	22 57 26.9	-1.0
DSZ				SN	Sn	22 58 09.2	-2.6
THZ	**Tophouse**	**4.28**	**53**	AML	AML	22 58 32.9	
QRZ	**Quartz Range**	**4.75**	**42**	PN	Pn	22 57 41.6	-0.6
QRZ				SN	Sn	22 58 33.5	-4.2

IDC 18 23:08:06.3±2.6, 1°.63S×99°.50E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.7/24, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=111.0km s-min=18.1km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.44**	**353**	Pn	Pn	23 09 12.1	-3.1
0.8nm,0.3s,baz=147,slow=16,SNR=2.2							
CMAR	**Chiang Mai Arr**	**19.97**	**358**	P	P	23 12 40.7	+0.4
0.4nm,0.3s,baz=187,slow=10,SNR=4.6							
WRA	**Warramunga Arr**	**38.61**	**121**	P	P	23 15 30.9	-0.7
0.9nm,0.6s,baz=302,slow=9.2,SNR=6.0							
ASAR	**Alice Springs**	**39.87**	**126**	P	P	23 15 42.3	+0.2
0.6nm,0.6s,baz=304,slow=8.2,SNR=5.6							
SONM	**Songino Array**	**49.63**	**6**	P	P	23 17 00.4	+0.7
0.3nm,0.4s,baz=180,slow=9.6,SNR=3.7							
STKA	**Stephens Creek**	**49.77**	**132**	P	P	23 17 01.0	+0.1
2.8nm,0.9s,baz=323,slow=12,SNR=3.1							
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	23 17 06.4	-0.1
0.9nm,0.6s,baz=154,slow=8.7,SNR=12							
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	23 17 51.4	-0.2
0.9nm,0.5s,baz=163,slow=5.4,SNR=5.4							
TXAR	**Lajitas Array**	**144.71**	**36**	PKP	PKPbc	23 27 45.1	+0.3
0.7nm,0.6s,baz=232,slow=1.4,SNR=11							

*IDC **18** 23:08:17.2±0.4, 1°.60S×99°.57E, h0km, mb4.4/25, mb1 4.5/27, mb1mx4.5/29, mbtmp4.4/27, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/47, Error ellipse: s-maj=15.8km s-min=11.3km az=56.0*
*AUST **18** 23:08:18.4±2.8, 1°.40S×99°.94E, h6km, Error ellipse: s-maj=2.4km s-min=1.0km az=41.0*
*NEIC **18** 23:08:19.1±0.2, 1°.58S×99°.53E, h10km, mb4.5/11, Error ellipse: s-maj=5.7km s-min=4.3km az=62.0*
*MOS **18** 23:08:20.5±0.8, 1°.56S×99°.56E, h33km, mb4.9/19, Error ellipse: s-maj=12.4km s-min=6.2km az=110.3*
*ISCJB **18** 23:08:20.1±0.2, 1°.55S±0°.03×99°.53E±0°.04, h30km, mb4.6/57, MS3.6/2, Error ellipse: s-maj=6.3km s-min=4.1km az=148.6*
*DJA **18** 23:08:20.8±1.9, 2°.5S±9°×9°9E±2°2, h10km, M4.8/6, mb4.9/5, mB5.0/3, MLv4.9/6, Mw(mB)4.3/3*
*BJI **18** 23:08:22.3, 1°.50S×99°.50E, h35km, mB4.9/5, mb4.6/10*
*BKK **18** 23:08:39.1±1.8, 1°.5S±17°×10°0E±1°2, h10km, M4.6/11, mB5.6/3, mb4.5/11, MLv4.6/2, Mw(mB)5.1/3*
ISC 18 23:08:21.9±0.3, 1°.56S±0°.05×99°.52E±0°.06, h30km, n201, σ1§14/197, mb4.7/57, 8C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.41**	**39**	P	Pn	23 08 35.0	-10
baz=1.0,SNR=28							
RGRI	**Rengat**	**3.06**	**67**	P	Pb	23 09 21.1	+5.4
KSI	**Kapahiang**	**3.71**	**124**	P	**Pn**	**23 09 19.2**	**+2.0**
PSI	**Prapat**	**4.38**	**352**	Pn	**Pn**	**23 09 24.3**	**-2.2**
PSI	**Prapat**	**4.38**	**352**	Pn	**Pn**	**23 09 24.3**	**-2.2**
1.4nm,0.3s,baz=171,slow=11,SNR=6.4							
PSI				LR	LR	23 11 16.5	
comp=Z,332nm,19.1s,baz=170,slow=42							
PSI	**Prapat**	**4.38**	**352**	P	**Pn**	**23 09 24.9**	**-1.6**
baz=4.2,SNR=5.0							
TSI	**Tuntungan**	**5.12**	**349**	P	Pb	23 09 45.9	-4.9
MYKOM	**Kota Tinggi**	**5.46**	**52**	P	Pn	23 09 48.5	+7.2
51nm,0.9s,1μm0.9nm							
LWLI	**Liwa**	**5.68**	**127**	P	**Pn**	**23 09 45.8**	**+1.3**
322nm,0.6s,1.4nm							
IPM	**Ipoh**	**6.19**	**14**	*e*Pn	**Pn**	**23 09 53.1**	**+1.8**
IPM	**Ipoh**	**6.19**	**14**	P	Pn	23 09 56.9	+5.6
52nm,0.8s,844nm0.3nm							
KLI	**Kotabumi**	**6.26**	**122**	P	Pb	23 10 03.8	-6.3
KASI	**Kota Agung**	**6.34**	**128**	P	**Pn**	**23 09 55.9**	**+2.6**
106nm,0.6s,0.4nm							
KULM	**Kulim**	**6.90**	**9**	*e*Pn	**Pn**	**23 10 01.0**	**-0.1**
KULM				*e*Sn	**Sn**	**23 11 20.8**	**+2.1**
KULM	**Kulim**	**6.90**	**9**	P	Pn	23 10 08.5	+7.4
LEM	**Lembang**	**9.62**	**123**	P	Pn	23 10 46.5	+8.0
COCO	**West Island**	**10.89**	**194**	*e*P	**Pn**	**23 10 55.4**	**-0.4**
COCO	**West Island**	**10.89**	**194**	*e*Pn	**Pn**	**23 10 55.4**	**-0.4**
KSM	**Kuching**	**11.20**	**74**	*e*Pn	**Pn**	**23 11 00.2**	**+0.1**
UBPT	**Khong Chiam**	**17.74**	**19**	P	P	23 12 32.8	+5.4
17nm,1.3s,3μm							
KKM	**Kota Kinabalu**	**18.30**	**65**	*e*P	**P**	**23 12 33.8**	**0.0**
8.3nm,0.7s							
LOEI	**Loei**	**19.03**	**5**	P	Pn	23 12 49.3	+6.8
50nm,0.9s							
PANO	**Nakornpanom**	**19.26**	**15**	P	Pn	23 12 54.6	+9.3
224nm,1.0s							
CM31	**Chiang Mai Arr**	**19.90**	**358**	*e*P	**P**	**23 12 51.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	**P**	**23 12 51.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	**P**	**23 12 51.5**	**+0.3**
0.4nm,0.3s,baz=188,slow=10,SNR=13							
CMAR				LR	LR	23 22 03.4	
comp=Z,24nm,19.6s,baz=155,slow=41							
LAMP	**Lampang**	**19.96**	**0**	P	Pn	23 13 01.7	+8.1
4.8nm,1.0s							
CMMT	**Chiang Mai**	**20.26**	**358**	P	Pn	23 13 02.3	+5.2
7.9nm,0.9s							
CHTO	**Chiang Mai**	**20.26**	**358**	*e*P	Pn	23 12 56.2	-0.9
CHTO				pmax	pmax		
comp=Z,5.0nm,0.9s							
CHTO	**Chiang Mai**	**20.26**	**358**	*e*P	Pn	23 12 56.2	-0.9
comp=Z,5.4nm,0.9s							
CHTO	**Chiang Mai**	**20.26**	**358**	P	Pn	23 13 02.7	+5.6
comp=Z,8.7nm,0.9s							
KAPI	**Kappang**	**20.48**	**100**	*e*P	**P**	**23 12 57.3**	**-0.2**
KAPI	**Kappang**	**20.48**	**100**	P	Pn	23 13 00.6	+0.7
comp=Z,14nm,0.8s,baz=269,slow=11,SNR=3.8							
KAPI				LR	LR	23 21 07.8	
comp=Z,241nm,21.0s,baz=145,slow=38							
PALK	**Pallekele**	**20.73**	**295**	*e*P	**P**	**23 13 01.2**	**+1.0**
CMAI	**Chiengmai2**	**21.37**	**359**	P	**P**	**23 13 09.5**	**+2.3**
DAV	**Davao City (W)**	**27.38**	**71**	P	**P**	**23 14 04.0**	**-0.9**
DAV	**Davao City (W)**	**27.38**	**71**	P	**P**	**23 14 04.0**	**-0.9**
comp=Z,154nm,0.4s,baz=27,slow=6.8,SNR=2.1							
DAV				LR	LR	23 27 38.9	
comp=Z,164nm,18.5s,baz=232,slow=42							
MBWA	**Marble Bar**	**27.71**	**136**	*e*P	**P**	**23 14 08.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**30.45**	**124**	P	**P**	**23 14 30.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**30.45**	**124**	P	**P**	**23 14 30.9**	**-1.2**
comp=Z,5.3nm,0.8s,baz=292,slow=4.9,SNR=9.4							
ODAN	**Odare**	**30.58**	**338**	*e*P	**P**	**23 14 34.4**	**+0.9**
comp=Z,14nm,0.5s							
TAPN	**Taplejung**	**30.91**	**339**	*e*P	**P**	**23 14 37.8**	**+1.3**
comp=Z,31nm,0.8s							
RAMN	**Ramite**	**30.96**	**337**	*e*P	**P**	**23 14 38.0**	**+1.1**
comp=Z,21nm,1.0s							
JIRN	**Jiri**	**31.76**	**337**	*e*P	**P**	**23 14 45.0**	**+1.0**
comp=Z,32nm,0.7s							
PKI	**Pulchoki**	**31.99**	**336**	*e*P	**P**	**23 14 46.5**	**+0.5**
LSA	**Lhasa**	**32.10**	**346**	P	**P**	**23 14 47.5**	**+0.4**
GUN	**Gumba**	**32.10**	**337**	*e*P	**P**	**23 14 48.0**	**+1.0**
comp=Z,26nm,0.5s							
DMN	**Daman**	**32.15**	**335**	*e*P	**P**	**23 14 47.9**	**+0.6**
comp=Z,24nm,1.1s							
KKN	**Kakani**	**32.24**	**336**	*e*P	**P**	**23 14 48.5**	**+0.5**
comp=Z,23nm,0.9s							
KOLN	**Koldanda**	**32.94**	**333**	*e*P	**P**	**23 14 55.2**	**+1.0**
comp=Z,22nm,0.6s							
DANN	**Dangsing**	**33.37**	**334**	*e*P	**P**	**23 14 58.6**	**+0.6**
comp=Z,16nm,0.5s							
PYUN	**Piuthan**	**33.50**	**333**	*e*P	**P**	**23 14 59.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.36**	**154**	P	**P**	**23 15 13.2**	**-1.6**
NWAO	**Narrogin (SRO)**	**35.36**	**154**	P	**P**	**23 15 13.2**	**-1.6**
comp=Z,14nm,1.1s,baz=339,slow=10,SNR=5.0							
XAN	**Xi'an**	**36.50**	**13**	P	**P**	**23 15 22.9**	**-1.8**
XAN				pP	**pP**	**23 15 30.8**	**-2.7**
XAN				pmax	pmax		
comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**38.63**	**121**	P	**P**	**23 15 41.7**	**-1.2**
WRA				PcP	**PcP**	**23 17 55.0**	**0.0**
WRA	**Warramunga Arr**	**38.63**	**121**	P	**P**	**23 15 41.7**	**-1.2**
comp=Z,9.2nm,0.6s,baz=302,slow=9.1,SNR=14							
WRA				PcP	**PcP**	**23 17 55.0**	**0.0**
comp=Z,1.6nm,0.8s,baz=320,slow=2.4,SNR=5.1							
WRAB	**Tennant Creek**	**38.63**	**121**	*e*P	**P**	**23 15 41.8**	**-1.1**
WRAB				pmax	pmax		
comp=Z,9.0nm,0.6s							
WRAB	**Tennant Creek**	**38.63**	**121**	*e*P	**P**	**23 15 41.8**	**-1.1**
comp=Z,9.5nm,0.6s							
FORT	**Forrest**	**39.68**	**140**	*e*P	**P**	**23 15 52.7**	**+1.2**
comp=Z,458nm,2.9s							
AS31	**Alice Springs**	**39.90**	**126**	*e*P	**P**	**23 15 52.6**	**-0.9**
ASAR	**Alice Springs**	**39.90**	**126**	P	**P**	**23 15 52.8**	**-0.7**
ASAR				PcP	**PcP**	**23 17 59.5**	**+0.5**
ASAR				S	**S**	**23 21 54.7**	**-2.1**
ASAR	**Alice Springs**	**39.90**	**126**	P	**P**	**23 15 52.8**	**-0.7**
comp=Z,2.8nm,0.5s,baz=301,slow=8.0,SNR=31							
ASAR				PcP	**PcP**	**23 17 59.5**	**+0.5**
comp=Z,1.9nm,0.7s,baz=296,slow=3.1,SNR=6.7							
ASAR				S	**S**	**23 21 54.7**	**-2.1**
comp=Z,1.2nm,0.8s,baz=293,slow=16,SNR=8.8							
GTA	**Gaotai**	**40.78**	**0**	*e*P	**P**	23 16 07.9	+7.3
GTA				pP	pP	23 16 16.8	+7.3
GTA				sP	sP	23 16 20.9	+7.8
GTA				pmax	pmax		
comp=Z,3.0nm,1.2s							
KBL	**

EKS2	Erkin-Say	49.77	335	eP	P	23 17 13.0	+1.1
EKS2				pmax	pmax		
comp=Z,7.0nm,0.8s							
EKS2	Erkin-Say	49.77	335	eP	P	23 17 13.0	+1.1
comp=Z,6.7nm,0.8s							
STKA	Stephens Creek	49.80	132	eP	P	23 17 12.5	+0.3
STKA	Stephens Creek	49.80	132	P	P	23 17 11.3	-0.8
comp=Z,6.3nm,0.6s,baz=314,slow=7.6,SNR=16							
STKA	Stephens Creek	49.80	132	P	P	23 17 12.5	+0.3
baz=50,SNR=7.2							
MK31	Makanchi Array	50.48	345	eP	P	23 17 17.5	+0.4
MK31	Makanchi Array	50.48	345	eP	P	23 17 17.5	+0.4
MKAR	Makanchi Array	50.48	345	P	P	23 17 17.5	+0.4
MKAR	Makanchi Array	50.48	345	P	P	23 17 17.5	+0.4
MKAR	Makanchi Array	50.48	345	P	P	23 17 17.5	+0.4
comp=Z,5.7nm,0.7s,baz=152,slow=6.6,SNR=30							
KKAR	Karatay Array	51.55	333	eP	P	23 17 25.4	+0.2
KKAR	Karatay Array	51.55	333	eP	P	23 17 25.4	+0.2
CMSA	Cobar Meteorol	52.76	129	P	P	23 17 34.9	+0.6
baz=53,SNR=6.5							
OPO	Ambohidratompo	53.98	248	P	P	23 17 44.4	+0.6
OPO	Ambohidratompo	53.98	248	P	P	23 17 44.4	+0.6
comp=Z,2.8nm,0.8s,baz=86,slow=16,SNR=2.4							
USRK	Ussuriysk Arra	54.01	29	P	P	23 17 43.8	+0.5
comp=Z,2.4nm,0.6s,baz=220,slow=6.4,SNR=5.7							
YNG	Young	55.98	131	P	P	23 17 58.8	+1.0
baz=56,SNR=5.7							
ZAA0	Zalesovo Array	56.66	350	eP	P	23 18 02.4	+0.2
ZALV	Zalesovo Beam	56.66	350	P	P	23 18 02.4	+0.2
ZALV				S	S	23 25 54.4	+1.9
ZALV	Zalesovo Beam	56.66	350	P	P	23 18 02.4	+0.2
ZALV				S	S	23 25 54.4	+1.9
ZALV	Zalesovo Beam	56.66	350	P	P	23 18 02.4	+0.2
comp=Z,6.6nm,0.5s,baz=165,slow=6.2,SNR=23							
ZALV				S	S	23 25 54.4	+1.9
comp=Z,2.3nm,0.8s,baz=156,slow=11,SNR=8.9							
CAN	Canberra	56.86	132	eP	P	23 18 05.0	+0.9
CAN	Canberra	56.86	132	eP	P	23 18 05.0	+0.9
KLR	Kul'dur	57.73	24	eP	P	23 18 06.2	-3.7
RAYN	Ar Rayn	58.11	299	eP	P	23 18 12.6	-0.4
comp=Z,5.8nm,0.8s							
RDF	Al-Radifah	58.21	306	eP	P	23 18 13.4	-0.3
RDF				AMb	AMB	23 18 14.4	
comp=Z,41nm,0.8s							
NAY	Al-Naaiem	58.58	306	eP	P	23 18 15.5	-0.7
NAY				AMb	AMB	23 18 16.4	
comp=Z,1.0nm,0.9s							
MIB	Mutribah	58.71	307	eP	P	23 18 16.6	-0.5
MIB				AMb	AMB	23 18 17.7	
comp=Z,39nm,1.0s							
RST	Umm Al-Ruwaisa	58.87	306	eP	P	23 18 17.4	-0.9
RST				AMb	AMB	23 18 18.4	
comp=Z,183nm,0.8s							
BRVK	Borovoye	59.68	340	eP	P	23 18 21.2	-2.2
BRVK				pmax	pmax		
comp=Z,4.0nm,0.7s							
BRVK	Borovoye	59.68	340	eP	P	23 18 21.2	-2.2
comp=Z,3.7nm,0.7s							
ABKAR	Akbulak array	61.03	332	eP	P	23 18 31.9	-0.8
YSS	Yuzh-Sakhalins	61.37	32	eP	P	23 18 35.0	0.0
KMBO	Kilima Mbogo	62.25	270	eP	P	23 18 42.5	+0.5
KMBO	Kilima Mbogo	62.25	270	P	P	23 18 42.4	+0.5
comp=Z,4.5nm,0.7s,baz=61,slow=13,SNR=15							
SVE	Sverdlovsk	66.10	338	eP	P	23 19 05.4	-0.6
SVE				pmax	pmax		
comp=Z,13nm,0.9s							
ARU	Arti	66.62	337	c iP	P	23 19 08.5	-0.8
ARU				S	S	23 28 02.7	+4.1
ARU				SS	SS	23 32 10.5	-6.0
ARU				pmax	pmax		
comp=Z,9.0nm,1.2s							
YAK	Yakutsk	67.45	15	i P	P	23 19 14.5	0.0
KBZ	Khabaz	67.67	319	P	P	23 19 16.3	+0.1
KBZ	Khabaz	67.67	319	P	P	23 19 16.3	+0.1
KBZ	Khabaz	67.67	319	P	P	23 19 16.3	+0.1
comp=Z,6.9nm,0.7s,baz=122,slow=6.8,SNR=17							
KIV	Kislovodsk	67.90	319	eP	P	23 19 17.5	-0.4
KIV				pmax	pmax		
comp=Z,10.0nm,1.0s							
ASF	Jabal al Asfar	67.95	306	P	P	23 19 18.5	+0.1
ASF	Jabal al Asfar	67.95	306	P	P	23 19 18.5	+0.1
comp=Z,3.3nm,0.9s,baz=106,slow=1.8,SNR=6.7							
EIL	Elat	68.88	303	P	P	23 19 24.6	+0.3
EIL	Elat	68.88	303	P	P	23 19 24.6	+0.3
comp=Z,6.4nm,0.9s,baz=70,slow=4.5,SNR=6.1							
EIL	Elat	68.88	303	P	P	23 19 24.9	+0.6
baz=69,SNR=4.6							
MAW	Mawson	70.59	194	eP	P	23 19 35.0	+1.2
MAW	Mawson	70.59	194	P	P	23 19 34.9	+1.0
comp=Z,4.2nm,0.8s,baz=25,slow=7.4,SNR=9.6							
MAW	Mawson	70.59	194	P	P	23 19 35.1	+1.2
baz=71,SNR=7.0							
ANN	Anapa	71.69	318	eP	P	23 19 30.8	-10
ANN				e		23 22 21.6	
ANN				pmax	pmax		
comp=Z,10.0nm,1.2s							
VRHR	Novokhopersk	71.70	326	eP	P	23 19 39.7	-1.3
VRHR				pmax	pmax		
comp=N,10.0nm,0.9s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.9s							
VRHR				pmax	pmax		
comp=Z,20nm,0.9s							
BR131	Keskin Array S	72.67	312	eP	P	23 19 44.6	-2.6
comp=Z,1.5nm,0.5s							
PETK	Petropavlovsk-	72.78	32	P	P	23 19 47.4	0.0
PETK	Petropavlovsk-	72.78	32	P	P	23 19 47.4	0.0
PETK	Petropavlovsk-	72.78	32	P	P	23 19 47.3	0.0
comp=Z,1.1nm,0.6s,baz=242,slow=3.1,SNR=2.7							
VORD	Divnogorie	72.97	325	eP	P	23 19 47.2	-1.3
VORD				pmax	pmax		
comp=N,2.0nm,0.9s							
VORD				pmax	pmax		
comp=E,10.0nm,0.9s							
VORD				pmax	pmax		
comp=Z,10.0nm,0.9s							
VSR	Storozhevoye	73.15	325	eP	P	23 19 48.3	-1.3
VSR				pmax	pmax		
comp=N,10.0nm,1.1s							
VSR				pmax	pmax		
comp=Z,20nm,1.1s							
VSR				pmax	pmax		
comp=E,8.0nm,0.6s							
LBTB	Lobatse	74.78	245	eP	P	23 19 59.7	-0.1
comp=E,1.1nm,0.5s							
BOSA	Boshof	75.45	241	eP	P	23 20 03.7	-0.1
comp=E,8.8nm,1.1s							
BOSA	Boshof	75.45	241	P	P	23 20 03.6	-0.1
comp=E,2.8nm,0.6s,baz=57,slow=7.8,SNR=6.9							
TIXI	Tiksi	75.51	9	i P	P	23 20 02.5	-0.4
TIXI				pmax	pmax		
comp=Z,2.0nm,0.5s							
OBN	Obninsk	76.17	328	eP	P	23 20 06.8	-0.2
OBN				pmax	pmax		
comp=Z,13nm,0.7s							
CFR	Carcaliu	78.08	317	⇑P	P	23 20 17.7	-0.3
CFR	Carcaliu	78.08	317	⇑iP	P	23 20 17.6	-0.4
SYO	Syowa Base	78.12	199	⇑eX		23 20 13.4	
PETR	Petresti	78.83	317	⇓iP	P	23 20 30.9	+8.8
VRI	Vrincioaia	79.21	317	⇓P	P	23 20 24.7	+0.5
VRI	Vrincioaia	79.21	317	⇓iP	P	23 20 24.7	+0.5
TESR	Tescani	79.41	318	⇓iP	P	23 20 25.5	+0.2
SUR	Sutherland	79.62	238	eP	P	23 20 28.1	+1.0
MLR	Muntele Rosu	79.66	317	⇑iP	P	23 20 27.2	+0.4
PRAR	RASCA	79.89	319	⇑iP	P	23 20 28.1	+0.2
BURAR	Bucovina Array	80.62	319	⇓P	P	23 20 32.9	+1.0
BURAR	Bucovina Array	80.62	319	⇓iP	P	23 20 32.9	+1.0
VTS	Vitosha	81.00	313	⇓P	P	23 20 33.7	-0.5
VTS	Vitosha	81.00	313	⇓iP	P	23 20 33.7	-0.5
BZS	Buzias	82.66	316	⇑P	P	23 20 42.7	+0.1
BZS	Buzias	82.66	316	⇑iP	P	23 20 42.7	+0.1
VNDA	Vanda	82.68	169	eP	P	23 20 42.7	+0.6
VNDA	Vanda	82.68	169	P	P	23 20 41.5	-0.6
comp=Z,1.0nm,0.7s,baz=307,slow=3.4,SNR=5.2							
KOLS	Kolonicke sedl	82.81	320	eP	P	23 20 43.9	+0.5
KOLS				pmax	pmax		
comp=Z,9.0nm,1.0s							
KOLS	Kolonicke sedl	82.81	320	eP	P	23 20 43.9	+0.5
CRVS	Cervenica-Dubn	83.33	319	eP	P	23 20 46.0	-0.1
CRVS				pmax	pmax		
comp=Z,19nm,2.3s							
CRVS	Cervenica-Dubn	83.33	319	eP	P	23 20 46.0	-0.1
FINES	FINESS Array B	83.50	332	P	P	23 20 46.5	-0.1
FINES	FINESS Array B	83.50	332	P	P	23 20 46.5	-0.1
comp=Z,3.1nm,0.4s,baz=111,slow=6.1,SNR=36							
STHS	Stebnicka Huta	83.56	320	eP	P	23 20 48.0	+0.7
STHS				pmax	pmax		
comp=Z,5.0nm,1.0s							
STHS	Stebnicka Huta	83.56	320	eP	P	23 20 48.0	+0.7
STHS				e		23 49 54.7	
KAF	Kangasniemi	83.58	333	eP	P	23 20 44.5	-2.5
KAF				pmax	pmax		
comp=Z,2.0nm,0.4s							
KAF	Kangasniemi	83.58	333	ep	P	23 20 44.5	-2.5
comp=Z,1.6nm,0.4s							
SBA	Scott Base	83.78	169	eP	P	23 20 48.5	+0.8
SBA	Scott Base	83.78	169	eP	P	23 20 48.5	+0.8
PKSM	Moragy	84.81	316	⇓P	P	23 20 53.6	0.0
PKSM	Moragy	84.81	316	⇓iP	P	23 20 53.6	0.0
VYHS	Vyhne	84.98	319	eP	P	23 20 54.3	-0.2
VYHS				pmax	pmax		
comp=Z,4.0nm,1.7s							
VYHS	Vyhne	84.98	319	eP	P	23 20 54.3	-0.2
ARCES	ARCESS Array B	85.90	340	P	P	23 20 59.0	+0.4
ARCES	ARCESS Array B	85.90	340	P	P	23 20 59.0	+0.4
comp=Z,7.2nm,1.0s,baz=99,slow=7.5,SNR=8.5							
QSPA	South Pole Qui	88.39	180	eP	P	23 21 11.3	+0.4
comp=Z,4.5nm,1.0s							
GERES	GERESS Array B	88.41	319	P	P	23 21 11.5	+0.2
GERES	GERESS Array B	88.41	319	P	P	23 21 11.5	+0.2
comp=Z,1.2nm,0.8s,baz=92,slow=4.3,SNR=12							
CLL	Collm	89.03	321	eP	P	23 21 14.0	0.0
NOA	NORSAR Array B	90.53	331	P	P	23 21 20.3	-0.6
NOA	NORSAR Array B	90.53	331	P	P	23 21 20.3	-0.6
comp=Z,0.9nm,0.8s,baz=91,slow=4.5,SNR=2.8							
KEST	Kesra	91.04	306	P	P	23 21 25.4	+1.4
KEST	Kesra	91.04	306	P	P	23 21 25.4	+1.4
comp=Z,2.2nm,0.9s,baz=296,slow=3.6,SNR=8.1							
SNAA	Sanae	92.41	198	eP	P	23 21 30.1	+0.6
comp=Z,1.1nm,0.8s							
TORD	Torodi Ar. Bea	97.97	283	P	P	23 21 55.6	-0.4
TORD	Torodi Ar. Bea	97.97	283	P	P	23 21 55.6	-0.4
comp=Z,0.3nm,0.8s,baz=104,slow=4.7,SNR=4.1							
ILAR	Eielson Array	101.30	24	P	Pdif	23 22 09.9	+0.2
ILAR				PKKPbc	PKKPbc	23 38 18.2	-3.6
ILAR	Eielson Array	101.30	24	P	Pdif	23 22 09.9	+0.2
comp=Z,0.2nm,0.4s,baz=289,slow=4.3,SNR=4.5							
ILAR				PKKPbc	PKKPbc	23 38 18.2	-3.6
comp=Z,0.6nm,0.7s,baz=149,slow=2.9,SNR=4.3							
SCHQ	Schefferville	125.74	350	PKP	PKPdf	23 27 20.8	+0.2
SCHQ	Schefferville	125.74	350	PKP	PKPdf	23 27 20.8	+0.2
comp=Z,3.2nm,0.8s,baz=280,slow=6.2,SNR=3.0							
NVAR	Mina Array Bea	129.56	39	PKP	PKPdf	23 27 29.6	+0.9
NVAR	Mina Array Bea	129.56	39	PKP	PKPdf	23 27 29.6	+0.9
comp=Z,0.5nm,0.6s,baz=263,slow=3.5,SNR=4.5							
TXAR	Lajitas Array	144.64	36	PKP	PKPdf	23 27 56.4	-0.2
TXAR	Lajitas Array	144.64	36	PKP	PKPdf	23 27 56.4	-0.2
comp=Z,5.3nm,0.6s,baz=272,slow=2.6,SNR=44							
WVT	Waverly	144.94	10	ePKIKP	PKPab	23 27 54.9	-0.9
WVT	Waverly	144.94	10	ePKPab	PKPab	23 27 54.9	-0.9
MIAR	Mount Ida	144.99	19	ePKIKP	PKPab	23 27 55.9	-0.2
MIAR	Mount Ida	144.99	19	ePKPab	PKPab	23 27 55.9	-0.2
TZTN	Tazewell	145.08	4	ePKPdf	PKPbc	23 27 55.9	-0.5
CPCT	Cooper Cave	146.08	6	ePKPdf	PKPdf	23 27 59.0	+0.3
KMSC	Kings Mountain	146.58	1	ePKPdf	PKPbc	23 28 00.4	-0.6

IDC ***18*** *23:35:56.6±0.7, 23°.42N×123°.55E, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/29, mbtmp4.0/17, ML3.9/2, Error ellipse: s-maj=21.2km s-min=14.2km az=81.0*
BJI ***18*** *23:35:58.3, 23°.75N×123°.73E, h10km, mB4.6/3, mb4.1/4, Ms4.2/2, Ms7 4.1/2*
JMA ***18*** *23:35:59.4±0.3, 23°.36N×123°.54E, h41km±4km, M4.2*
NEIC ***18*** *23:35:59.7±2.5, 23°.41N×123°.45E, h25km±19km, mb4.3/3, Error ellipse: s-maj=8.3km s-min=7.8km az=94.0*
ISC 18 23:35:59.4±1.7, 23°.40N±0°.05×123°.45E±0°.03, h23km±12km, n63, σ1§64/76, mb4.1/18, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.73	27	P	Pb	23 36 13.3	-0.1
HATJ				eS	Sn	23 36 23.3	-1.4
IRIF	Iriomote-Funau	0.96	16	P	Pb	23 36 17.1	-0.3
IRIF				eS	Sn	23 36 30.5	0.0
JKRS	Kuro-shima	0.98	32	P	Pn	23 36 17.2	-0.5
JKRS				S	Sn	23 36 29.9	-1.0
YOJ	Yonaguni jima	1.13	339	P	Pb	23 36 20.2	0.0
YOJ				S	Sb	23 36 35.1	+0.7
JIJ	Ishigaki jima	1.15	34	P	Pn	23 36 19.1	-1.0
JIJ				S	Sn	23 36 32.8	-2.3
JTJ	Tarama	1.68	43	P	Pn	23 36 26.8	-0.6
JTJ				S	Sn	23 36 47.5	-0.8
NACB	Ninganchiao	1.86	295	eP	Pn	23 36 29.9	0.0
NACB				eS	Sn	23 36 50.4	-2.4
YULB	Yu-li	1.98	270	ePn	Pn	23 36 30.9	-0.6
YULB				eSn	Sn	23 36 52.1	-3.4
JMJ	Miyako jima 2	2.19	50	P	Pn	23 36 33.9	-0.6
JMJ				eS	Sn	23 36 57.8	-3.2
JOGS	Gusukube	2.24	53	P	Pn	23 36 34.6	-0.5
JOGS				eS	Sn	23 36 59.7	-2.4
TWG	Pinlang	2.26	256	ePn	Pn	23 36 35.0	-0.4
TWG				eSn	Sn	23 36 59.5	-3.2
YHNB	Yeheng	2.27	304	ePn	Pn	23 36 36.2	+0.6
YHNB				eSn	Sn	23 37 00.8	-2.3
SSLB	Suanglung	2.32	280	ePn	Pn	23 36 36.5	+0.3
SSLB				eSn	Sn	23 37 02.3	-1.8
TATO	Taipei	2.38	312	ePn	Pn	23 36 35.9	-1.0
TATO				Sn	Sn	23 37 01.1	-4.3
TPUB	Ta-pu	2.59	268	ePn	Pn	23 36 41.4	+1.4
TPUB				eSn	Sn	23 37 07.7	-3.1
JKE	Kume jima 2	4.20	46	P	Pn	23 37 00.1	-2.0
TGY	Tagaytay City	9.55	195	Pn	Pn	23 38 22.6	+6.9
TGY	Tagaytay City	9.55	195	Pn	Pn	23 38 22.6	+6.9
87nm,0.3s,baz=180,slow=5.1,SNR=2.6							
KSAR	Wonju Array Be	14.50	14	Pn	Pn	23 39 24.6	+1.3
KSRS	Korea Array	14.52	14	Pn	Pn	23 39 24.6	+1.0
0.4nm,0.3s,baz=191,slow=13,SNR=8.8							
MAT	Matsushiro	18.27	41	P	P	23 40 12.2	+0.7
MJAR	Matsushiro Arr	18.27	41	P	P	23 40 12.2	+0.7
MJAR	Matsushiro Arr	18.27	41	P	P	23 40 12.2	+0.7
0.6nm,0.3s,baz=229,slow=9.9,SNR=14							
KKM	Kota Kinabalu	18.61	203	eP	P	23 40 13.6	-1.8
GUMO	Guam	22.51	112	P	P	23 40 57.8	+0.1
CHTO	Chiang Mai	23.30	263	eP	P	23 41 03.0	-2.8
CMAR	Chiang Mai Arr	23.40	262	P	P	23 41 10.1	+3.2
CMAR	Chiang Mai Arr	23.40	262	P	P	23 41 10.1	+3.2
1.3nm,0.3s,baz=66,slow=9.4,SNR=7.0							
ERM	Erimo	24.79	37	eP	P	23 41 18.4	-1.2
15nm,0.8s							
ASAJ	Asahikawa	25.96	33	eP	P	23 41 29.6	-0.6
ASAJ	Asahikawa	25.96	33	P	P	23 41 30.2	0.0
8.3nm,0.6s,baz=216,slow=9.5,SNR=7.4							
ULN	Ulaanbaatar	27.69	336	eP	P	23 41 42.7	-3.2
SONM	Songino Array	27.92	335	P	P	23 41 47.0	-1.0
SONM	Songino Array	27.92	335	P	P	23 41 47.0	-1.0
1.6nm,0.8s,baz=149,slow=9.7,SNR=9.8							
PETK	Petropavlovsk-	39.38	32	P	P	23 43 26.7	-0.5
PETK	Petropavlovsk-	39.38	32	P	P	23 43 26.7	-0.5
2.5nm,0.7s,baz=210,slow=4.5,SNR=5.9							
PMG	Port Moresby	40.02	142	eP	P	23 43 32.2	-0.6
MKAR	Makanchi Array	40.34	316	P	P	23 43 36.6	+1.3
MKAR	Makanchi Array	40.34	316	P	P	23 43 36.6	+1.3
0.5nm,0.7s,baz=106,slow=8.7,SNR=5.3							
FITZ	Fitzroy Crossi	41.31	177	P	P	23 43 42.8	-0.6
FITZ	Fitzroy Crossi	41.31	177	P	P	23 43 42.8	-0.6
3.4nm,0.9s,baz=47,slow=10,SNR=3.6							
ZALV	Zalesovo Beam	42.03	327	P	P	23 43 48.9	-0.1
ZALV	Zalesovo Beam	42.03	327	P	P	23 43 48.9	-0.1
1.1nm,0.6s,baz=119,slow=8.6,SNR=5.5							
KURK	Kurchatov	44.02	320	P	P	23 44 06.2	+1.0
KURBB	Kurchatov Arra	44.04	320	P	P	23 44 06.2	+0.9
0.5nm,0.5s,baz=112,slow=8.4,SNR=5.9							
WRAB	Tennant Creek	44.37	165	eP	P	23 44 07.5	-0.7
3.7nm,0.8s							
WRA	Warramunga Arr	44.37	165	P	P	23 44 08.3	+0.1
WRA	Warramunga Arr	44.37	165	P	P	23 44 08.3	+0.1
3.1nm,0.8s,baz=348,slow=9.1,SNR=12							
ASAR	Alice Springs	47.88	167	P	P	23 44 36.9	+1.0
ASAR	Alice Springs	47.88	167	P	P	23 44 36.9	+1.0
1.0nm,0.5s,baz=348,slow=6.1,SNR=12							
BVAR	Borovoye Array	49.59	321	P	P	23 44 50.7	+2.0
BVAR	Borovoye Array	49.59	321	P	P	23 44 50.7	+2.0
0.5nm,0.6s,baz=97,slow=8.1,SNR=3.6							
BRVK	Borovoye	49.66	321	eP	P	23 44 46.8	-2.4
ABKAR	Akbulak array	55.46	315	eP	P	23 45 33.3	+1.1
2.2nm,0.8s							
STKA	Stephens Creek	57.65	162	P	P	23 45 49.0	+1.1
STKA	Stephens Creek	57.65	162	P	P	23 45 49.0	+1.1
2.0nm,0.8s,baz=330,slow=10.0,SNR=2.9							
MCK	McKinley	68.24	29	P	P	23 46 55.6	-2.4
ILAR	Eielson Array	68.95	27	P	P	23 47 04.5	+2.1
ILAR	Eielson Array	68.95	27	P	P	23 47 04.5	+2.1
0.4nm,0.6s,baz=212,slow=4.1,SNR=4.9							
YKA	Yellowknife Ar	82.87	23	P	P	23 48 22.1	+0.2
YKA	Yellowknife Ar	82.87	23	P	P	23 48 22.0	+0.2
2.4nm,1.0s,baz=319,slow=5.2,SNR=5.1							
GERES	GERESS Array B	84.75	321	P	P	23 48 33.1	+1.2
GERES	GERESS Array B	84.75	321	P	P	23 48 33.1	+1.2
0.6nm,0.8s,baz=62,slow=5.3,SNR=4.7							

NIED ***18*** *23:37:00, 23°.30N×123°.50E, h8km, Mw4.5 Best double couple: M0:6.51000×10^15 NP1:φ0=312.00000°, δ74.00000°, λ-63.00000°. NP2:φ0=71.00000°, δ31.00000°, λ-147.00000°.*
NEIC ***18*** *23:37:41.0±0.3, 23°.40N×123°.57E, h10km, mb4.6/15, MW4.5(NIED), Error ellipse: s-maj=6.3km s-min=5.4km az=168.0*
IDC ***18*** *23:37:40.2±0.6, 23°.44N×123°.58E, h0km, mb4.2/22, mb1 4.3/25, mb1mx4.3/30, mbtmp4.2/25, ML3.7/3, MS3.9/5, Ms1 3.9/5, ms1mx3.4/44, Error ellipse: s-maj=17.6km s-min=13.0km az=85.0*
BJI ***18*** *23:37:42.4, 23°.80N×123°.65E, h7km, mB4.5/11, mb4.2/19, ML4.2/1, Ms4.4/8, Ms7 4.2/8*
ISCJB ***18*** *23:37:43.0±0.8, 23°.40N±0°.03×123°.53E±0°.03, h31km±5km, mb4.4/61, MS4.0/7, Error ellipse: s-maj=5.5km s-min=3.5km az=148.8*
JMA ***18*** *23:37:42.7±0.2, 23°.34N×123°.53E, h44km±4km, M4.7*
MOS ***18*** *23:37:43.1±1.3, 23°.45N×123°.68E, h33km, mb4.6/18, MS4.0/4, Error ellipse: s-maj=10.4km s-min=6.7km az=110.5*
DJA ***18*** *23:37:45.0±2.5, 24°N±24°×12°4E±2°7, h103km±11km, M4.4/8, mB5.1/4, mb4.3/8, MLv4.4/1, Mw(mB)4.5/4*
BKK ***18*** *23:37:55.9±2.1, 24°N±20°×12°4E±2°8, h166km±14km, M4.3/15, mB5.3/4, mb4.2/15, MLv4.2/1, Mw(mB)4.7/4*
ISC 18 23:37:43.9±1.2, 23°.41N±0°.04×123°.52E±0°.03, h26km±8km, n160, σ1§54/169, mb4.4/61, MS4.0/8, 4C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.69	22	P	Pb	23 37 57.1	-0.3
HATJ				S	Sn	23 38 07.5	-0.4
JKRS	Kuro-shima	0.94	28	P	Pn	23 38 00.8	-0.5
JKRS				eS	Sb	23 38 13.8	+0.2
IRIF	Iriomote-Funau	0.94	12	P	Pn	23 38 00.7	-0.7
IRIF				eS	Sb	23 38 14.1	+0.5
JIJ	Ishigaki jima	1.11	31	P	Pn	23 38 02.7	-1.0
JIJ				eS	Sn	23 38 14.8	-3.3
YOJ	Yonaguni jima	1.15	336	P	Pn	23 38 03.8	-0.4
YOJ				S	Sn	23 38 18.6	-0.4
JTJ	Tarama	1.63	41	P	Pn	23 38 10.4	-0.5
JTJ				eS	Sn	23 38 31.2	+0.1
NACB	Ninganchiao	1.92	294	ePn	Pn	23 38 13.8	-1.1
NACB				eSn	Sn	23 38 31.9	-6.3
YULB	Yu-li	2.04	270	ePn	Pn	23 38 14.8	-1.8
YULB				eSn	Sn	23 38 32.3	-8.9
YULB				eSn	Sb	23 38 35.3	-10
JMJ	Miyako jima 2	2.14	49	P	Pn	23 38 17.7	-0.2
JMJ				eS	Sn	23 38 43.7	+0.1
JOGS	Gusukube	2.19	52	P	Pn	23 38 18.4	-0.1
JOGS				eS	Sn	23 38 46.0	+1.3
YHNB	Yeheng	2.33	303	ePn	Pn	23 38 20.9	+0.4
YHNB				eSn	Sn	23 38 46.4	-2.0
TWG	Pinlang	2.33	256	ePn	Pn	23 38 18.7	-1.8
TWG				eSn	Sn	23 38 43.7	-4.6
SSLB	Suanglung	2.38	280	ePn	Pn	23 38 20.3	-1.0
SSLB				eSn	Sn	23 38 40.9	-8.8
TATO	Taipei	2.42	310	ePn	Pn	23 38 21.4	-0.4
TATO				eSn	Sn	23 38 49.1	-1.4
TPUB	Ta-pu	2.66	268	ePn	Pn	23 38 24.8	-0.3
TPUB				eSn	Sn	23 38 55.7	-0.8
JKE	Kume jima 2	4.15	45	P	Pn	23 38 43.9	-1.6
QZH	Quanzhou	4.75	290	Pn	Pn	23 38 52.6	-1.2
QZH				Sn	Sn	23 39 42.4	-5.7
QZH				smax	smax		
comp=N,280nm,0.4s							
QZH				smax	smax		
comp=E,330nm,1.2s							
QZH				LR	LR		
comp=N,5μm,16.4s							
QZH				LR	LR		
comp=E,2μm,9.4s							
QZH				LR	LR		
comp=Z,4μm,12.2s							
WHN

CMAR Chiang Mai Arr 23.46 263 P P 23 42 53.2 +1.7
CMAR Chiang Mai Arr 23.46 263 P P 23 42 53.2 +1.7
comp=Z,1.4nm,0.6s,baz=63,slow=8.5,SNR=14
CMAR LR LR 23 53 32.5
comp=Z,166nm,19.7s,baz=80,slow=40
SBUM Sibu 23.54 209 P P 23 42 51.7 -0.5
UTHA Uthaitani 23.98 255 P P 23 42 59.7 +3.3
comp=Z,2.9nm,1.1s
ERM Erimo 24.74 37 *c iP* **P 23 43 02.4 -0.7**
ERM pmax pmax
comp=Z,17nm,0.7s
ERM Erimo 24.74 37 *eP* **P 23 43 02.5 -0.6**
comp=Z,23nm,0.9s
KSM Kuching 25.29 212 *eP* **P 23 43 07.4 -1.0**
comp=Z,27nm,1.1s
GTA Gaotai 25.65 314 *eP* **P 23 43 13.8 +2.2**
GTA pmax pmax
comp=Z,3.0nm,1.2s
ASAJ Asahikawa 25.92 33 *eP* **P 23 43 13.2 -0.7**
comp=Z,4.7nm,0.8s
ASAJ Asahikawa 25.92 33 P **P 23 43 14.2 +0.4**
comp=Z,9.3nm,0.7s,baz=228,slow=9.3,SNR=6.7
HIA Hailar 25.98 354 *eP* **P 23 43 13.1 -1.3**
comp=Z,52nm,1.3s
KLR Kul'dur 26.57 12 *eP* **P 23 43 15.6 -4.1**
YUK Yuzh-Kuril'sk 27.56 36 P **P 23 43 26.8 -1.8**
YUK *i* PPP PPP 23 44 18.3
YUK *eS* **S 23 48 05.3 -3.0**
YUK *e*SSS SSS 23 49 36.4
YUK MLR MLR
comp=Z,285nm,18.0s
ULN Ulaanbaatar 27.71 336 *eP* **P 23 43 29.8 -0.4**
comp=Z,3.3nm,1.0s
SONM Songino Array 27.94 335 P **P 23 43 31.3 -0.8**
SONM Songino Array 27.94 335 P **P 23 43 31.3 -0.8**
comp=Z,4.7nm,0.8s,baz=145,slow=9.0,SNR=20
YSS Yuzh-Sakhalins 28.12 29 *eP* P 23 43 39.8 +6.3
YSS MLR MLR
comp=Z,500nm,16.0s
TLY Talaya 32.11 337 *eP* **P 23 44 08.5 -0.3**
TLY pmax pmax
comp=Z,4.0nm,0.6s
TLY MLR MLR
comp=Z,287nm,15.0s
PETK Petropavlovsk- 39.34 32 P **P 23 45 10.7 -0.1**
PETK Petropavlovsk- 39.34 32 P **P 23 45 10.7 -0.1**
PETK Petropavlovsk- 39.34 32 P **P 23 45 10.7 -0.1**
comp=Z,5.9nm,0.8s,baz=212,slow=5.3,SNR=9.3
PET Petropavlovsk 39.77 33 *eP* **P 23 45 14.1 -0.2**
PET *eS* **S 23 51 17.6 +1.0**
PET pmax pmax
comp=Z,50nm,1.0s
PET MLR MLR
comp=N,100nm,17.0s
PMG Port Moresby 39.98 142 *eP* **P 23 45 14.8 -1.7**
comp=N,20nm,1.0s
MKAR Makanchi Array 40.38 316 P **P 23 45 20.1 +0.5**
MKAR Makanchi Array 40.38 316 P **P 23 45 20.1 +0.5**
MKAR Makanchi Array 40.38 316 P **P 23 45 20.1 +0.5**
comp=N,1.0nm,0.7s,baz=105,slow=9.2,SNR=7.1
FITZ Fitzroy Crossi 41.31 177 *eP* **P 23 45 26.7 -0.6**
comp=N,14nm,1.7s
FITZ Fitzroy Crossi 41.31 177 P **P 23 45 26.9 -0.5**
comp=N,8.8nm,1.2s,baz=20,slow=7.9,SNR=4.9
ZAA0 Zalesovo Array 42.06 327 *eP* **P 23 45 32.6 -0.6**
ZALV Zalesovo Beam 42.06 327 P **P 23 45 32.6 -0.6**
ZALV Zalesovo Beam 42.06 327 P **P 23 45 32.5 -0.6**
ZALV Zalesovo Beam 42.06 327 P **P 23 45 32.5 -0.6**
comp=N,3.1nm,0.8s,baz=114,slow=8.1,SNR=12
KSH Kashi 43.11 303 P P 23 45 46.8 +4.6
KSH pmax pmax
comp=Z,5.0nm,0.9s
KSH pmax pmax
comp=Z,45nm,5.5s
TKM2 Tokmak 2 43.92 308 *eP* **P 23 45 48.9 +0.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 43.92 308 *eP* **P 23 45 48.9 +0.2**
comp=Z,5.0nm,0.6s
KURK Kurchatov 44.06 320 P **P 23 45 49.7 +0.3**
KURK Kurchatov 44.06 320 P **P 23 45 49.7 +0.3**
KURBB Kurchatov Arra 44.08 320 P **P 23 45 49.7 +0.1**
comp=Z,2.0nm,0.8s,baz=110,slow=8.2,SNR=13
WRA Warramunga Arr 44.36 165 P **P 23 45 52.1 0.0**
WRA Warramunga Arr 44.36 165 P **P 23 45 52.1 0.0**
comp=Z,6.1nm,0.9s,baz=348,slow=8.5,SNR=13
AAK Ala-Archa 44.67 308 *eP* **P 23 45 54.8 +0.1**
AAK Ala-Archa 44.67 308 *eP* **P 23 45 54.8 +0.1**
EKS2 Erkin-Say 45.20 308 *eP* **P 23 45 58.5 -0.3**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 45.20 308 *eP* **P 23 45 58.5 -0.3**
comp=Z,1.6nm,0.8s
KKAR Karatay Array 47.64 308 *eP* **P 23 46 17.9 0.0**
KKAR Karatay Array 47.64 308 *eP* **P 23 46 17.9 0.0**
ASAR Alice Springs 47.87 167 P **P 23 46 20.3 +0.5**
ASAR Alice Springs 47.87 167 P **P 23 46 20.3 +0.5**
comp=Z,2.3nm,0.8s,baz=348,slow=6.4,SNR=11
TIXI Tiksi 48.36 2 *eP* **P 23 46 22.0 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
KBL Kabul 48.42 296 *eP* **P 23 46 24.7 +0.4**
KBL pmax pmax
comp=Z,8.0nm,1.3s
KBL Kabul 48.42 296 *eP* **P 23 46 24.7 +0.4**
comp=Z,8.0nm,1.3s
BVAR Borovoye Array 49.62 321 P **P 23 46 32.5 -0.4**
BVAR Borovoye Array 49.62 321 P **P 23 46 32.5 -0.4**
BVAR Borovoye Array 49.62 321 P **P 23 46 32.5 -0.4**
comp=Z,1.2nm,0.8s,baz=111,slow=8.4,SNR=5.1
BRVK Borovoye 49.70 321 *eP* P 23 46 37.0 +3.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 49.70 321 *eP* **P 23 46 33.0 -0.5**
comp=Z,2.6nm,0.7s
ATKA Atka Island 54.95 42 *eP* **P 23 47 11.9 -0.5**
comp=Z,2μm,1.0s
ABKAR Akbulak array 55.51 315 *eP* **P 23 47 16.9 +0.3**
comp=Z,4.6nm,0.8s
SVE Sverdlovsk 55.93 324 *eP* **P 23 47 20.4 +0.9**
ARU Arti 57.01 323 *c iP* **P 23 47 27.6 +0.5**
ARU 23 49 33.5
ARU S **S 23 55 21.5 +1.7**
ARU pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 57.63 162 P **P 23 47 32.5 +0.8**
STKA Stephens Creek 57.63 162 P **P 23 47 32.5 +0.8**
comp=Z,1.2nm,0.5s,baz=323,slow=8.9,SNR=3.0
KBZ Khabaz 67.63 309 P **P 23 48 40.6 +2.2**
KBZ Khabaz 67.63 309 P **P 23 48 40.6 +2.2**
KBZ Khabaz 67.63 309 P **P 23 48 40.6 +2.2**
comp=Z,3.3nm,0.9s,baz=120,slow=1.9,SNR=6.6
KIV Kislovodsk 67.73 310 *eP* **P 23 48 42.0 +2.7**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,94nm,17.0s
MCK McKinley 68.20 29 *eP* **P 23 48 39.8 -2.0**
MCK McKinley 68.20 29 *eP* **P 23 48 39.8 -2.0**
COLA College 68.49 27 *eP* **P 23 48 40.9 -2.6**
COLA pmax pmax
comp=Z,35nm,1.3s
COLA College 68.49 27 *eP* **P 23 48 40.9 -2.6**
comp=Z,34nm,1.3s
ILAR Eielson Array 68.92 27 P **P 23 48 46.8 +0.6**
ILAR Eielson Array 68.92 27 P **P 23 48 46.8 +0.6**
comp=Z,0.7nm,0.7s,baz=251,slow=3.8,SNR=6.1
OBN Obninsk 69.42 322 *eP* **P 23 48 50.1 +0.7**
OBN *e**PP pP 23 49 05.6 +7.8
OBN *e* 23 51 22.5
OBN *e*SS SS 00 02 26.0 +4.2
OBN pmax pmax
comp=Z,5.0nm,1.3s
TAU Tasmania Unive 69.54 162 *eP* **P 23 48 47.5 -2.7**
TAU Tasmania Unive 69.54 162 *eP* **P 23 48 47.5 -2.7**
ARCES ARCESS Array B 71.05 338 P **P 23 48 58.7 -0.5**
ARCES ARCESS Array B 71.05 338 P **P 23 48 58.7 -0.5**
comp=Z,4.2nm,0.9s,baz=98,slow=5.7,SNR=3.0
ANN Anapa 71.21 311 *eP* P 23 48 50.4 -10
ANN pmax pmax
comp=Z,9.0nm,0.9s
KIP Kipapa 71.66 74 *ceP* **P 23 49 02.6 -1.1**
KIP pmax pmax
comp=Z,46nm,1.2s
DAWY Dawson 72.24 27 *eP* **P 23 49 06.3 -0.2**

INK Inuvik 73.13 22 *eP* **P 23 49 10.0 -1.7**
comp=Z,7.9nm,1.1s
FINES FINESS Array B 73.18 330 P **P 23 49 12.8 +0.8**
FINES FINESS Array B 73.18 330 P **P 23 49 12.8 +0.8**
comp=Z,3.1nm,0.8s,baz=64,slow=4.4,SNR=4.2
KOLS Kolonicke sedl 79.70 319 *eP* **P 23 49 51.0 +1.7**
KOLS pmax pmax
comp=Z,15nm,2.3s
KOLS Kolonicke sedl 79.70 319 *eP* **P 23 49 51.0 +1.7**
NOA NORSAR Array B 79.90 333 P **P 23 49 51.0 +0.8**
NOA NORSAR Array B 79.90 333 P **P 23 49 51.0 +0.8**
comp=Z,1.2nm,0.8s,baz=58,slow=5.5,SNR=3.0
CRVS Cervenica-Dubn 80.20 319 *eP* **P 23 49 51.9 -0.1**
CRVS Cervenica-Dubn 80.20 319 *eP* **P 23 49 51.9 -0.1**
KECS Kecovo 80.96 319 *eP* **P 23 49 56.3 +0.2**
KECS pmax pmax
comp=Z,3.0nm,1.3s
KECS Kecovo 80.96 319 *eP* **P 23 49 56.3 +0.2**
VYHS Vyhne 81.95 319 *eP* **P 23 50 03.3 +2.0**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 81.95 319 *eP* **P 23 50 03.3 +2.0**
YKA Yellowknife Ar 82.84 23 P **P 23 50 06.7 +1.1**
YKA Yellowknife Ar 82.84 23 P **P 23 50 06.7 +1.1**
comp=Z,5.6nm,1.0s,baz=314,slow=5.4,SNR=9.3
PRU Pruhonice 83.75 322 *eP* **P 23 50 12.6 +2.0**
PRU *e* 23 50 22.5
PRU Pruhonice 83.75 322 *eP* **P 23 50 12.6 +2.0**
PRU *ex* x 23 50 22.5
CLL Collm 83.95 324 *eP* **P 23 50 12.0 +0.4**
CLL *e* 23 50 23.0
CLL pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 83.95 324 *eP* **P 23 50 12.0 +0.4**
comp=Z,2.0nm,0.9s
CLL *e* 23 50 23.0
KHC Kasperske Hory 84.72 322 *eP* **P 23 50 17.5 +1.9**
KHC *e* 23 50 26.9
KHC Kasperske Hory 84.72 322 *eP* **P 23 50 17.5 +1.9**
KHC *ex* x 23 50 26.9
GERES GERESS Array B 84.79 321 P **P 23 50 17.0 +0.9**
GERES GERESS Array B 84.79 321 P **P 23 50 17.0 +0.9**
comp=Z,1.6nm,0.8s,baz=55,slow=5.1,SNR=11
KMBO Kilima Mbogo 87.02 267 P **P 23 50 28.9 +1.0**
KMBO Kilima Mbogo 87.02 267 P **P 23 50 28.9 +1.0**
comp=Z,0.5nm,0.2s,baz=31,slow=15,SNR=3.4
CDF Champ du Feu 88.63 323 *eP* **P 23 50 35.1 +0.3**
comp=Z,6.6nm,0.9s
LPG La Plagne 90.58 321 *eP* **P 23 50 44.9 +0.7**
LPL La Plagne 90.58 321 *eP* **P 23 50 44.8 +0.6**
comp=Z,12nm,1.2s
NVAR Mina Array Bea 95.52 44 P **P 23 51 05.7 -1.4**
NVAR Mina Array Bea 95.52 44 P **P 23 51 05.7 -1.4**
comp=Z,0.1nm,0.2s,baz=297,slow=6.0,SNR=2.4
NVAR LR LR 00 31 13.3
comp=Z,75nm,19.8s,baz=301,slow=34

IDC ***18*** *23:43:58.8±0.6, 6°.60S×154°.57E, h0km, mb4.5/17, mb1 4.6/19, mb1mx4.6/22, mbtmp4.4/19, ML4.0/2, MS3.5/3, Ms1 3.4/3, ms1mx3.2/33, Error ellipse: s-maj=21.6km s-min=14.5km az=105.0*
ISCJB ***18*** *23:44:03.6±0.4, 6°.68S±0°.05×154°.70E±0°.06, h48km, mb4.4/19, MS3.6/2, Error ellipse: s-maj=9.3km s-min=6.4km az=31.5*
NEIC ***18*** *23:44:03.9±0.3, 6°.63S×154°.62E, h35km, mb4.7/6, Error ellipse: s-maj=11.6km s-min=6.9km az=116.0*
AUST ***18*** *23:44:14.7±0.7, 6°.96S×154°.31E, h112km, Error ellipse: s-maj=1.5km s-min=1.3km az=249.0*
ISC 18 23:44:05.3±0.4, 6°.65S±0°.07×154°.71E±0°.07, h48km, n94, σ1§14/91, mb4.4/19, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.52**	**314**	P	Pn	23 45 05.8	+8.2
baz=3.5,SNR=5.8							
HNR	**Honiara**	**5.88**	**118**	Pn	Pn	23 45 38.1	+8.1
HNR				Sn	Sn	23 46 51.9	+16
HNR	**Honiara**	**5.88**	**118**	Pn	Pn	23 45 38.1	+8.1
18nm,0.3s,baz=249,slow=5.3,SNR=4.3							
HNR				Sn	Sn	23 46 51.9	+16
12nm,0.3s,baz=252,slow=20,SNR=2.7							
PMG	**Port Moresby**	**7.96**	**249**	Pn	**Pn**	**23 45 59.1**	**+0.6**
PMG				Sn	**Sn**	**23 47 29.2**	**+2.0**
PMG	**Port Moresby**	**7.96**	**249**	Pn	**Pn**	**23 45 59.1**	**+0.6**
3.3nm,0.3s,baz=64,slow=9.1,SNR=16							
PMG				Sn	**Sn**	**23 47 29.2**	**+2.0**
1.8nm,0.3s,baz=70,slow=8.2,SNR=3.7							
PMG				LR	LR	23 48 09.3	
comp=Z,109nm,21.7s,baz=287,slow=32							
MTSU	**Mount Surprise**	**15.26**	**221**	P	**Pn**	**23 47 37.1**	**-0.7**
baz=15,SNR=5.9							
CTA	**Charters Tower**	**15.68**	**211**	Pn	**Pn**	**23 47 40.0**	**-3.1**
CTA	**Charters Tower**	**15.68**	**211**	Pn	**Pn**	**23 47 40.0**	**-3.1**
0.4nm,0.3s,baz=45,slow=8.6,SNR=3.3							
CTAO	**Charters Tower**	**15.68**	**211**	*e*Pn	**Pn**	**23 47 41.6**	**-1.6**
34nm,0.8s							
EIDS	**Eidsvold**	**18.94**	**190**	*e*P	**P**	**23 48 22.3**	**-0.1**
13nm,0.8s							
EIDS	**Eidsvold**	**18.94**	**190**	P	**Pn**	**23 48 23.4**	**-0.1**
baz=19,SNR=4.2							
DZM	**Mont Dzumac**	**19.07**	**145**	P	**Pn**	**23 48 25.4**	**+0.3**
DZM	**Mont Dzumac**	**19.07**	**145**	P	**Pn**	**23 48 25.4**	**+0.3**
0.6nm,0.3s,baz=308,slow=17,SNR=4.5							
KWAJ	**Kwajalein Atol**	**20.03**	**40**	*e*P	**P**	**23 48 33.6**	**-0.8**
78nm,0.7s							
RMQ	**Roma**	**20.53**	**195**	P	**P**	**23 48 40.9**	**+1.1**
baz=20,SNR=22							
KDU	**Kakadu**	**22.71**	**253**	P	**P**	**23 49 01.3**	**-2.1**
baz=22,SNR=6.6							
WRAB	**Tennant Creek**	**23.77**	**234**	*e*P	**P**	**23 49 12.2**	**-1.5**
64nm,1.4s							
WRA	**Warramunga Arr**	**23.78**	**234**	P	**P**	**23 49 12.4**	**-1.4**
WRA				PcP	**PcP**	**23 52 57.6**	**+1.0**
WRA	**Warramunga Arr**	**23.78**	**234**	P	**P**	**23 49 12.4**	**-1.4**
20nm,1.0s,baz=54,slow=9.3,SNR=62							
WRA				PcP	**PcP**	**23 52 57.6**	**+1.0**
1.0nm,0.4s,baz=58,slow=2.3,SNR=7.2							
MTN	**Manton Dam**	**24.02**	**253**	S	S	23 52 58.5	-32
baz=24,SNR=3.1							
PALU	**Palau**	**24.50**	**304**	S	S	23 53 55.3	+17
baz=24,SNR=8.6							
LHI	**Lord Howe Isla**	**25.08**	**171**	S	S	23 54 13.2	+27
baz=25,SNR=3.3							
CMSA	**Cobar Meteorol**	**26.16**	**198**	P	**P**	**23 49 36.4**	**+1.2**
baz=26,SNR=14							
AS31	**Alice Springs**	**26.19**	**228**	*e*P	**P**	**23 49 34.4**	**-1.3**
ASAR	**Alice Springs**	**26.19**	**228**	P	**P**	**23 49 34.6**	**-1.1**
ASAR	**Alice Springs**	**26.19**	**228**	P	**P**	**23 49 34.6**	**-1.1**
4.2nm,0.7s,baz=58,slow=9.0,SNR=35							
ASAR				LR	LR	23 59 20.7	
comp=Z,223nm,20.9s,baz=238,slow=35							
KNRA	**Kununurra**	**26.96**	**248**	P	**P**	**23 49 42.6**	**0.0**
baz=26,SNR=6.1							
STKA	**Stephens Creek**	**27.93**	**204**	*e*P	**P**	**23 49 49.5**	**-1.7**
STKA	**Stephens Creek**	**27.93**	**204**	P	**P**	**23 49 49.4**	**-1.7**
7.6nm,0.5s,baz=34,slow=15,SNR=18							
STKA				LR	LR	00 00 42.9	
comp=Z,119nm,20.2s,baz=32,slow=36							
STKA	**Stephens Creek**	**27.93**	**204**	P	**P**	**23 49 49.6**	**-1.6**
baz=28,SNR=15							
FITZ	**Fitzroy Crossi**	**30.53**	**245**	P	**P**	**23 50 13.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.53**	**245**	P	**P**	**23 50 13.1**	**-1.3**
10nm,0.8s,baz=88,slow=5.9,SNR=18							
FITZ	**Fitzroy Crossi**	**30.53**	**245**	P	**P**	**23 50 13.2**	**-1.3**
baz=30,SNR=11							
MEEK	**Meekatharra**	**39.67**	**236**	P	**P**	**23 51 32.3**	**-0.7**
baz=39,SNR=4.5							
KKM	**Kota Kinabalu**	**40.43**	**287**	P	**P**	**23 51 40.4**	**+0.9**
baz=40,SNR=3.5							
KLBR	**Kellerberrin**	**42.49**	**229**	P	**P**	**23 51 54.9**	**-1.2**
baz=42,SNR=7.4							
JNU	**Nakatsue**	**45.57**	**332**	P	**P**	**23 52 19.7**	**-1.1**
JNU	**Nakatsue**	**45.57**	**332**	P	**P**	**23 52 19.7**	**-1.1**
7.3nm,0.7s,baz=352,slow=7.1,SNR=3.7							
KSRS	**Korea Array**	**50.50**	**332**	P	**P**	**23 52 57.8**	**-0.9**
2.2nm,0.7s,baz=145,slow=5.8,SNR=3.6							
KSAR	**Wonju Array Be**	**50.51**	**332**	P	**P**	**23 52 57.8**	**-1.0**
PEA0B	**Petropavlovsk-**	**59.58**	**2**	*e*P	**P**	**23 54 03.5**	**-0.5**
PETK	**Petropavlovsk-**	**59.58**	**2**	P	**P**	**23 54 04.3**	**+0.3**
PETK	**Petropavlovsk-**	**59.58**	**2**	P	**P**	**23 54 04.3**	**+0.3**
2.4nm,0.8s,baz=190,slow=5.9,SNR=4.0							
CMAR	**Chiang Mai Arr**	**60.38**	**295**	P	**P**	**23 54 10.1**	**0.0**

CMAR Chiang Mai Arr 60.38 295 P P 23 54 10.1 0.0
2.7nm,0.6s,baz=105,slow=5.3,SNR=6.2
SONM Songino Array 68.89 327 P **P 23 55 05.8 +0.6**
SONM Songino Array 68.89 327 P **P 23 55 05.8 +0.6**
1.5nm,0.5s,baz=148,slow=4.9,SNR=5.1
VNDA Vanda 70.93 178 P **P 23 55 18.2 +1.1**
VNDA Vanda 70.93 178 P **P 23 55 18.2 +1.1**
1.2nm,0.7s,baz=315,slow=5.4,SNR=8.0
TAPN Taplejung 72.98 301 *eP* **P 23 55 32.9 +2.2**
ODAN Odare 73.11 301 *eP* **P 23 55 32.6 +1.2**
38nm,0.7s
RAMN Ramite 73.81 300 *eP* **P 23 55 36.5 +0.9**
15nm,0.6s
JIRN Jiri 74.36 301 *eP* **P 23 55 39.9 +1.0**
18nm,0.6s
GUN Gumba 74.69 301 *eP* **P 23 55 41.9 +1.1**
37nm,0.7s
PKI Pulchoki 75.00 301 *eP* **P 23 55 43.3 +0.7**
17nm,0.6s
PKIN Phulchoki 75.01 301 *eP* **P 23 55 43.2 +0.6**
12nm,0.5s
KKN Kakani 75.17 301 *eP* **P 23 55 44.3 +0.9**
20nm,0.6s
DMN Daman 75.27 301 *eP* **P 23 55 44.9 +0.8**
36nm,0.7s
KOLN Koldanda 76.60 300 *eP* **P 23 55 51.9 +0.3**
32nm,0.7s
DANN Dangsing 76.61 301 *eP* **P 23 55 52.2 +0.4**
MKAR Makanchi Array 82.95 319 P **P 23 56 25.4 0.0**
MKAR Makanchi Array 82.95 319 P **P 23 56 25.4 0.0**
4.3nm,0.6s,baz=102,slow=6.0,SNR=6.1
ILAR Eielson Array 83.16 22 P **P 23 56 24.8 -1.2**
ILAR Eielson Array 83.16 22 P **P 23 56 24.8 -1.2**
1.3nm,0.8s,baz=239,slow=5.0,SNR=8.2
QSPA South Pole Qui 83.33 180 *eP* **P 23 56 27.8 +0.7**
18nm,1.2s
ZALV Zalesovo Beam 83.73 326 P **P 23 56 27.9 -1.2**
ZALV Zalesovo Beam 83.73 326 P **P 23 56 27.9 -1.2**
3.2nm,0.8s,baz=116,slow=6.6,SNR=1.7
MAW Mawson 84.60 203 *eP* **P 23 56 33.0 -0.4**
1.0nm,0.6s
MAW Mawson 84.60 203 P **P 23 56 34.4 +1.1**
5.7nm,1.0s,baz=102,slow=4.4,SNR=10
MAW Mawson 84.60 203 P P 23 56 37.1 +3.8
baz=84,SNR=5.1
NVAR Mina Array Bea 91.73 52 P **P 23 57 09.9 +1.6**
NVAR Mina Array Bea 91.73 52 P **P 23 57 09.9 +1.6**
2.4nm,0.8s,baz=257,slow=6.2,SNR=16
YKA Yellowknife Ar 96.17 28 P **P 23 57 27.5 -0.3**
YKA Yellowknife Ar 96.17 28 P **P 23 57 27.5 -0.3**
0.6nm,0.6s,baz=264,slow=4.6,SNR=2.7
PDAR Pinedale Array 98.68 48 P **P 23 57 38.8 -1.2**
PDAR Pinedale Array 98.68 48 P **P 23 57 38.8 -1.2**
0.4nm,0.6s,baz=268,slow=5.1,SNR=3.2
TXAR Lajitas Array 103.35 62 Pdif **Pdif 23 58 01.5 +0.6**
TXAR Lajitas Array 103.35 62 Pdiff **Pdif 23 58 01.5 +0.6**
0.1nm,0.7s,baz=29,slow=19,SNR=2.2
GERES GERESS Array B 126.61 329 PKP **PKPdf 00 03 04.2 +0.6**
GERES GERESS Array B 126.61 329 PKP **PKPdf 00 03 04.2 +0.6**
0.5nm,0.3s,baz=48,slow=1.5,SNR=7.1
EKA Eskdalemuir Ar 128.33 344 PKP **PKPdf 00 03 07.1 +0.6**
EKA Eskdalemuir Ar 128.33 344 PKP **PKPdf 00 03 07.1 +0.6**
0.3nm,0.4s,baz=356,slow=2.1,SNR=3.3
DAVOX Davos/Dischmat 129.91 329 PKP **PKPdf 00 03 11.4 +1.4**
DAVOX Davos/Dischmat 129.91 329 PKP **PKPdf 00 03 11.4 +1.4**
1.1nm,0.5s,baz=192,slow=9.3,SNR=5.1
LPAZ La Paz 131.88 119 PKP **PKPdf 00 03 16.7 +1.5**
LPAZ La Paz 131.88 119 PKP **PKPdf 00 03 16.7 +1.5**
0.9nm,0.7s,baz=350,slow=7.7,SNR=4.8
ESDC Sonseca Array 141.93 333 PKPpre PKPpre 00 03 29.4
ESDC Sonseca Array 141.93 333 PKhKP PKPpre 00 03 29.4
0.1nm,0.2s,baz=344,slow=4.1,SNR=2.6
MDT Midelt 147.63 326 PKPbc **PKPbc 00 03 44.4 -0.9**
MDT Midelt 147.63 326 PKPbc **PKPbc 00 03 44.4 -0.9**
0.9nm,0.6s,baz=341,slow=2.8,SNR=3.1
BDFB Brasilia 148.43 135 PKPbc **PKPbc 00 03 48.5 +0.7**
BDFB Brasilia 148.43 135 PKPbc **PKPbc 00 03 48.5 +0.7**
6.7nm,0.6s,baz=280,slow=2.0,SNR=5.3
TORD Torodi Ar. Bea 152.66 286 PKP **PKPdf 00 03 51.0 +0.2**
TORD PKPbc **PKPbc 00 03 57.8 0.0**
TORD Torodi Ar. Bea 152.66 286 PKP **PKPdf 00 03 51.0 +0.2**
0.9nm,0.7s,baz=34,slow=0.3,SNR=6.1
TORD PKPbc **PKPbc 00 03 57.8 0.0**
8.4nm,0.7s,baz=91,slow=2.2,SNR=78

NIED ***18*** *23:47:00, 23°.40N×123°.60E, h8km, Mw4.8 Best double couple: M0=2.00000×10^16 NP1:φ0=301.00000°, δ68.00000°, λ-70.00000°. NP2:φ0=77.00000°, δ29.00000°, λ-130.00000°.*
BJI ***18*** *23:47:53.4, 23°.37N×123°.58E, h17km, mB4.8/35, mb4.6/46, ML4.2/3, Ms4.9/52, Ms7 4.6/48*
IDC ***18*** *23:47:53.0±0.5, 23°.39N×123°.54E, h0km, mb4.5/36, mb1 4.6/39, mb1mx4.6/41, mbtmp4.5/39, ML4.0/3, MS4.3/23, Ms1 4.3/23, ms1mx4.1/44, Error ellipse: s-maj=14.3km s-min=11.2km az=82.0*
NEIC ***18*** *23:47:54.5±2.0, 23°.42N×123°.43E, h5km±12km, mb5.1/41, MW4.8(NIED), Error ellipse: s-maj=5.0km s-min=4.5km az=105.0*
NEIC Recorded [1 TAP] in Chang-hua, Hua-lien and T'ai-tung, Taiwan.
TAP ***18*** *23:47:55.9, 23°.43N×123°.56E, h60km±2km, ML5.2, D*
ISCJB ***18*** *23:47:55.7±0.4, 23°.43N±0°.02×123°.47E±0°.01, h22km±3km, mb4.8/154, MS4.5/49, Error ellipse: s-maj=2.8km s-min=2.0km az=162.4*
JMA ***18*** *23:47:56.6±0.3, 23°.43N×123°.57E, h48km±4km, M5.2*
BKK ***18*** *23:47:57.0±0.5, 24°N±4°×12°4E±°, h10km, M4.8/30, mB5.3/17, mb4.9/30, MLv4.8/1, Mw(mB)4.7/17*
MOS ***18*** *23:47:57.3±1.4, 23°.48N×123°.51E, h33km, mb5.1/41, MS4.6/16, Error ellipse: s-maj=8.1km s-min=5.1km az=114.7*
DJA ***18*** *23:48:03.0±1.1, 23°N±6°×12°3E±°, h50km±13km, M4.8/16, mB5.3/13, mb4.9/16, MLv4.7/1, Mw(mB)4.8/13*
SZGRF ***18*** *23:48:06.1, 23°.25N×121°.12E, h37km, mb4.9, Taiwan*
ISC 18 23:47:57.7±0.3, 23°.43N±0°.03×123°.49E±0°.02, h28km±1km, h28km:pP-P, n453, σ1§80/566, mb5.0/156, MS4.6/49, 28C-10D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.69**	**25**	P	**Pb**	**23 48 09.8**	**-1.4**
HATJ				S	**Sb**	**23 48 18.8**	**-1.5**
IRIF	**Iriomote-Funau**	**0.93**	**13**	P	**Pn**	**23 48 13.4**	**-1.5**
IRIF				*e*S	**Sb**	**23 48 25.6**	**-1.6**
JKRS	**Kuro-shima**	**0.93**	**30**	P	**Pn**	**23 48 13.2**	**-1.8**
JKRS				*e*S	**Sb**	**23 48 26.0**	**-1.3**
JIJ	**Ishigaki jima**	**1.10**	**32**	P	**Pn**	**23 48 15.3**	**-2.0**
JIJ				S	**Sn**	**23 48 29.1**	**-2.5**
YOJ	**Yonaguni jima**	**1.12**	**337**	⇑*iP*	**Pn**	**23 48 16.6**	**-1.0**
baz=324							
YOJ				S	**Sn**	**23 48 31.0**	**-1.0**
baz=324							
YOJ	**Yonaguni jima**	**1.12**	**337**	P	**Pn**	**23 48 16.5**	**-1.0**
YOJ				S	**Sn**	**23 48 31.4**	**-0.6**
JTJ	**Tarama**	**1.64**	**42**	P	**Pn**	**23 48 22.8**	**-1.9**
JTJ				*e*S	**Sn**	**23 48 43.3**	**-1.5**
HWA	**Hwalien**	**1.81**	**288**	*e*P	**Pn**	**23 48 25.4**	**-1.7**
baz=278							
HWA				*e*S	**Sn**	**23 48 46.1**	**-3.1**
baz=278							
TWD	**Chiawan**	**1.85**	**291**	P	**Pn**	**23 48 25.6**	**-2.1**
baz=290							
TWD				*e*S	**Sn**	**23 48 46.5**	**-3.7**
baz=290							
ENA	**Nanau**	**1.89**	**302**	⇑*iP*	**Pn**	**23 48 27.4**	**-0.7**
baz=311							
ENA				*e*S	**Sn**	**23 48 49.5**	**-1.5**
baz=311							
NACB	**Ninganchiao**	**1.89**	**293**	*e*Pn	**Pn**	**23 48 26.1**	**-2.1**
NACB				*e*Sn	**Sn**	**23 48 46.6**	**-4.5**
TWC	**Suao**	**1.91**	**308**	*e*P	**Pn**	**23 48 27.4**	**-1.1**
baz=307							
TWC				*e*S	**Sn**	**23 48 49.4**	**-2.1**
baz=307							
ESL	**Shilin**	**1.93**	**282**	⇑P	**Pn**	**23 48 26.2**	**-2.5**
baz=281							
ESL				*e*S	**Sn**	**23 48 47.2**	**-4.9**
baz=281							
CHKT	**Chengkung**	**1.98**	**261**	⇑*eP*	**Pn**	**23 48 26.5**	**-3.0**
baz=253							
EHY	**Hungye**	**2.00**	**273**	⇑*iP*	**Pn**	**23 48 27.5**	**-2.2**
baz=272							

EHY			eS		Sn	23 48 51.3 -2.4
	baz=272					
YULB	**Yu-li**	**2.02 269**	eP	n	**Pn**	**23 48 27.5 -2.4**
YULB			eSn		**Sn**	**23 48 50.3 -4.0**
TWF1	**Yuli**	**2.02 268**	⇑iP		**Pn**	**23 48 27.7 -2.2**
	baz=268					
TWF1			eS		**Sn**	**23 48 50.6 -3.7**
	baz=268					
TWB1	**Santiao Chiao**	**2.09 319**	eP		**Pn**	**23 48 30.1 -0.8**
	baz=310					
TWE	**Neicheng**	**2.11 308**	eP		**Pn**	**23 48 31.1 0.0**
	baz=307					
ENTT	**Nioudou**	**2.13 305**	eP		**Pn**	**23 48 31.5 -0.1**
	baz=303					
ENTT			eS		**Sn**	**23 48 56.6 -0.5**
	baz=303					
JMJ	**Miyako jima 2**	**2.15 50**	eP		**Pn**	**23 48 30.0 -1.7**
	baz=48					
JMJ	**Miyako jima 2**	**2.15 50**	P		**Pn**	**23 48 29.9 -1.8**
WHF	**Hehuan Shan**	**2.16 290**	⇑iP		**Pn**	**23 48 30.5 -1.8**
	baz=297					
WHF			eS		**Sn**	**23 48 55.3 -3.1**
	baz=297					
NNS	**Nan Shan**	**2.19 298**	eP		**Pn**	**23 48 31.4 -1.0**
	baz=297					
NNS			eS		**Sn**	**23 48 56.9 -1.6**
	baz=297					
JOGS	**Gusukube**	**2.19 52**	P		**Pn**	**23 48 30.5 -1.8**
NWF	**Wu-fen Shan**	**2.26 317**	eP		**Pn**	**23 48 32.9 -0.5**
	baz=303					
NWF			eS		**Sn**	**23 48 59.1 -1.3**
	baz=303					
TTN	**Taitung**	**2.26 253**	eP		**Pn**	**23 48 31.0 -2.3**
	baz=247					
TTN			eS		**Sn**	**23 48 57.2 -3.1**
	baz=247					
LAY	**Lan-yu**	**2.27 233**	⇑eP		Pn	23 48 30.0 -3.3
	baz=243					
TWT	**Tachien**	**2.27 292**	eP		**Pn**	**23 48 32.6 -1.0**
	baz=290					
TWT			eS		**Sn**	**23 48 59.2 -1.6**
	baz=290					
ELDTW	**Lidau**	**2.29 264**	⇑eP		**Pn**	**23 48 31.1 -2.6**
	baz=272					
YHNB	**Yeheng**	**2.30 303**	ePn		**Pn**	**23 48 33.2 -0.6**
YHNB			eSn		**Sn**	**23 48 58.5 -2.7**
TWG	**Pinlang**	**2.31 255**	⇑iP		**Pn**	**23 48 31.7 -2.3**
	baz=262					
TWG			eS		**Sn**	**23 48 57.8 -3.7**
	baz=262					
TWG	**Pinlang**	**2.31 255**	ePn		**Pn**	**23 48 31.5 -2.4**
TWG			eSn		**Sn**	**23 48 56.2 -5.2**
NSK	**Sanguang**	**2.31 303**	⇑iP		**Pn**	**23 48 33.6 -0.5**
	baz=301					
NSK			eS		**Sn**	**23 48 60.0 -1.7**
	baz=301					
TWA	**Mucha**	**2.33 312**	eP		**Pn**	**23 48 34.5 +0.3**
	baz=310					
YUS	**Yu-Shan**	**2.33 272**	⇑iP		**Pn**	**23 48 33.3 -1.4**
	baz=271					
YUS			eS		**Sn**	**23 49 00.3 -2.4**
	baz=271					
SSLB	**Suanglung**	**2.36 279**	ePn		**Pn**	**23 48 33.0 -1.7**
SSLB			eSn		**Sn**	**23 48 59.7 -3.0**
TATO	**Taipei**	**2.39 310**	ePn		**Pn**	**23 48 35.0 -0.1**
TATO			eSn		**Sn**	**23 48 59.7 -3.7**
TAP1	**Taipei**	**2.41 312**	eP		**Pn**	**23 48 35.4 +0.1**
	baz=310					
SMLT	**Sun Moon Lake**	**2.42 281**	⇑iP		**Pn**	**23 48 34.5 -1.0**
	baz=280					
SMLT			eS		**Sn**	**23 49 02.3 -2.0**
	baz=280					
TYC	**Yuchr**	**2.46 282**	⇑iP		**Pn**	**23 48 35.1 -0.9**
	baz=281					
ALS	**Alishan**	**2.47 272**	eP		**Pn**	**23 48 35.8 -0.6**
	baz=272					
ALS			eS		**Sn**	**23 49 05.7 -0.2**
	baz=272					
TWY	**Chenhua**	**2.52 317**	eP		**Pn**	**23 48 35.3 -1.5**
	baz=305					
PCYT	**Pengchaiyu**	**2.54 330**	eP		**Pn**	**23 48 37.0 -0.2**
	baz=317					
PCYT			eS		**Sn**	**23 49 08.2 +1.0**
	baz=317					
CHN5	**Tsauling**	**2.59 274**	eP		**Pn**	**23 48 37.5 -0.4**
	baz=274					
CHN5			eS		**Sn**	**23 49 08.3 -0.2**
	baz=274					
NCU	**National Centr**	**2.60 307**	eP		**Pn**	**23 48 39.1 +1.1**
	baz=294					
NCU			eS		**Sn**	**23 49 09.5 +0.8**
	baz=294					
WNT	**Mingjian**	**2.61 280**	eP		**Pn**	**23 48 38.3 +0.1**
	baz=280					
WNT			eS		**Sn**	**23 49 10.4 +1.5**
	baz=280					
TAW	**Tawu**	**2.62 246**	eP		**Pn**	**23 48 35.7 -2.5**
	baz=246					
TAW			eS		**Sn**	**23 49 05.7 -3.4**
	baz=246					
TPUB	**Ta-pu**	**2.63 268**	ePn		**Pn**	**23 48 37.9 -0.6**
TPUB			eSn		**Sn**	**23 49 08.1 -1.4**
TWQ1	**Liyutan**	**2.65 291**	eP		**Pn**	**23 48 39.2 +0.5**
	baz=297					
TWQ1			eS		**Sn**	**23 49 11.0 +1.1**
	baz=297					
TCU	**Taichung**	**2.68 286**	⇑P		**Pn**	**23 48 39.6 +0.6**
	baz=283					
TCU			S		**Sn**	**23 49 11.1 +0.6**
	baz=283					
NSY	**Sanyi**	**2.69 292**	eP		**Pn**	**23 48 40.0 +0.9**
	baz=300					
NSY			eS		**Sn**	**23 49 12.3 +1.6**
	baz=300					
SGST	**Jiashian**	**2.70 263**	eP		**Pn**	**23 48 39.0 -0.4**
	baz=259					
SGST			eS		**Sn**	**23 49 11.6 +0.5**
	baz=259					
WGK	**Gukeng**	**2.70 276**	eP		**Pn**	**23 48 39.3 0.0**
	baz=275					
WGK			eS		**Sn**	**23 49 11.9 +0.8**
	baz=275					
CHN1	**Nanshi**	**2.74 265**	⇑iP		**Pn**	**23 48 40.0 +0.1**
	baz=261					
CHN1			eS		**Sn**	**23 49 13.2 +1.1**
	baz=261					
CHY	**Chiayi**	**2.82 272**	⇑iP		**Pn**	**23 48 41.3 +0.3**
	baz=271					
CHY			eS		**Sn**	**23 49 14.7 +0.7**
	baz=271					
TSEB	**Hengchuen, Pin**	**2.84 238**	⇑iP		**Pn**	**23 48 40.0 -1.2**
	baz=239					
TSEB			eS		**Sn**	**23 49 12.9 -1.5**
	baz=239					
SCZT	**Fangliau**	**2.85 249**	eP		**Pn**	**23 48 39.7 -1.7**
	baz=249					
SGLT	**Jiouru**	**2.85 256**	eP		**Pn**	**23 48 43.0 +1.6**
	baz=256					
TWK1	**Hengchun**	**2.89 240**	⇑iP		**Pn**	**23 48 40.2 -1.7**
	baz=240					
TWK1			eS		**Sn**	**23 49 12.3 -3.5**
	baz=240					
TWM1	**Shoushan**	**2.89 259**	⇑eP		**Pn**	**23 48 43.1 +1.1**
	baz=255					
CHN3	**Shinhua**	**2.90 264**	eP		**Pn**	**23 48 43.2 +1.1**
	baz=274					
CHN3			eS		**Sn**	**23 49 19.2 +3.2**
	baz=274					
HEN	**Hengchun**	**2.91 241**	⇑P		**Pn**	**23 48 40.9 -1.3**
	baz=234					
HEN			eS		**Sn**	**23 49 12.5 -3.8**
	baz=234					
WTCT	**Ta-ch'eng**	**2.98 279**	eP		**Pn**	**23 48 43.4 +0.3**
	baz=271					
WTCT			eS		**Sn**	**23 49 19.5 +1.6**
	baz=271					
WSF	**Szhu**	**3.01 275**	eP		**Pn**	**23 48 43.5 -0.1**
	baz=274					
WSF			eS		**Sn**	**23 49 19.1 +0.4**
	baz=274					
TAI1	**Yung-k'ang**	**3.03 263**	eP		**Pn**	**23 48 44.0 +0.2**
	baz=263					
SCLT	**Jiali**	**3.04 266**	eP		**Pn**	**23 48 45.2 +1.1**
	baz=276					
SCLT			eS		**Sn**	**23 49 22.4 +2.8**
	baz=276					
KAU	**Kaohsiung**	**3.06 254**	eP		**Pn**	**23 48 45.3 +1.1**
	baz=254					
TWP	**Hsiaoliuchiu**	**3.08 250**	eP		**Pn**	**23 48 45.7 +1.2**
	baz=250					
WDGT	**Dungji**	**3.53 268**	eP		**Pn**	**23 48 50.0 -0.7**
	baz=267					
WDGT			eS		**Sn**	**23 49 29.8 -1.7**
	baz=267					
JKE	**Kume jima 2**	**4.15 45**	P		**Pn**	**23 48 56.5 -2.8**
JAGN	**Aguni-jima**	**4.63 46**	P		**Pn**	**23 49 03.2 -2.7**
QZH	**Quanzhou**	**4.72 290**	Pn		**Pn**	**23 49 04.0 -3.1**
QZH			Sn		**Sn**	**23 49 55.1 -5.9**
QZH			smax		smax	
	comp=N,1μm,1.0s					
QZH			smax		smax	
	comp=E,1μm,0.8s					
QZH			LR		LR	
	comp=N,16μm,15.0s					
QZH			LR		LR	
	comp=E,8μm,7.6s					
QZH			LR		LR	
	comp=Z,14μm,12.4s					
KNM	**Kinmen**	**4.73 283**	eP		**Pn**	**23 49 07.4 +0.2**
	baz=281					
KNM			eS		**Sn**	**23 49 59.8 -1.4**
	baz=281					
JIH	**Iheya**	**5.41 48**	P		Pn	23 49 12.6 -4.0
JOW	**Kunigami**	**5.50 51**	eP		Pn	23 49 13.9 -3.9
	baz=51					
JOW	**Kunigami**	**5.50 51**	ePn		Pn	23 49 14.0 -3.9
JOW			eSn		**Sn**	**23 50 21.9 +1.7**
JOW	**Kunigami**	**5.50 51**	P		Pn	23 49 13.8 -3.9
JAMN	**Amaminishikomi**	**7.01 46**	P		Pn	23 49 33.5 -5.1
JAM	**Amami Oshima**	**7.41 47**	P		Pn	23 49 38.7 -5.3
JMZ	**Minamidaito 2**	**7.42 70**	P		Pn	23 49 38.7 -5.5
SSE	**Sheshan**	**7.91 345**	P		**Pn**	**23 49 51.6 +0.8**
SSE			S		**Sn**	**23 51 21.4 +2.0**
SSE			pmax		pmax	
	comp=Z,45nm,0.8s					
SSE			pmax		pmax	
	comp=Z,170nm,10.3s					
SSE			LR		LR	
	comp=N,3μm,14.2s					
SSE			LR		LR	
	comp=E,3μm,14.2s					
SSE			LR		LR	
	comp=Z,5μm,14.6s					
GZH	**Guangzhou**	**9.34 270**	P		Pn	23 50 05.8 -4.7
GZH			S		Sn	23 51 41.8 -13
GZH			smax		smax	
	comp=N,340nm,1.0s					
GZH			smax		smax	
	comp=E,190nm,0.9s					
NJ2	**Nanjing**	**9.52 335**	eP		**Pn**	**23 50 14.3 +1.3**
NJ2			pP			23 50 19.3
NJ2			sP			23 50 24.1
NJ2			S		**Sn**	**23 52 01.3 +2.3**
NJ2			sS			23 52 10.8
NJ2			pmax		pmax	
	comp=Z,1μm,5.2s					
NJ2			LR		LR	
	comp=N,510nm,12.8s					
NJ2			LR		LR	
	comp=E,730nm,15.7s					
TGY	**Tagaytay City**	**9.59 195**	Pn		**Pn**	**23 50 15.0 +1.0**
TGY	**Tagaytay City**	**9.59 195**	Pn		**Pn**	**23 50 15.0 +1.0**
	comp=E,54nm,0.3s,baz=259,slow=11,SNR=4.7					
WHN	**Wuhan**	**10.80 313**	P		**Pn**	**23 50 32.1 +1.6**
WHN			S		**Sn**	**23 52 35.8 +5.4**
WHN			LR		LR	
	comp=N,7μm,11.0s					
WHN			LR		LR	
	comp=E,4μm,10.0s					
WHN			LR		LR	
	comp=Z,9μm,11.5s					
JNU	**Nakatsue**	**11.64 32**	ePn		Pn	23 50 38.8 -3.2
JNU	**Nakatsue**	**11.64 32**	Pn		Pn	23 50 38.8 -3.2
	comp=Z,0.9nm,0.3s,baz=100,slow=5.3,SNR=5.5					
QIZ	**Qiongzhong**	**13.46 254**	P		**Pn**	**23 51 05.3 -1.6**
QIZ			S		**Sn**	**23 53 32.6 -3.1**
QIZ			pmax		pmax	
	comp=Z,13nm,1.1s					
QIZ			pmax		pmax	
	comp=Z,160nm,7.2s					
QIZ			LR		LR	
	comp=N,1μm,13.0s					
QIZ			LR		LR	
	comp=Z,3μm,15.6s					
QIZ	**Qiongzhong**	**13.46 254**	eP		**Pn**	**23 51 05.4 -1.6**
	comp=Z,28nm,1.1s					
TIA	**Tai'an**	**13.88 338**	eP		P	23 51 25.6 +5.1
TIA			eS		**Sn**	**23 53 40.3 -5.5**
TIA			LR		LR	
	comp=N,3μm,11.6s					
TIA			LR		LR	
	comp=E,2μm,13.4s					
TIA			LR		LR	
	comp=Z,3μm,12.5s					
ENH	**Enshi**	**14.23 302**	ePn		**Pn**	**23 51 16.1 -1.4**
	comp=Z,15nm,0.8s					
ENH			eSn		**Sn**	**23 53 50.1 -4.4**
INCN	**Inchon**	**14.27 10**	ePn		**P**	**23 51 23.7 -1.2**
KSAR	**Wonju Array Be**	**14.47 14**	Pn		**Pn**	**23 51 20.9 +0.3**
KSRS	**Korea Array**	**14.49 14**	Pn		**Pn**	**23 51 20.9 0.0**
	comp=Z,0.4nm,0.3s,baz=193,slow=12,SNR=22					
KSRS			LR		LR	23 58 05.6
	comp=Z,2μm,18.3s,baz=190,slow=42					
GYA	**Guiyang**	**15.56 285**	⇑iP		**Pn**	**23 51 34.0 -1.4**
GYA			pP		**P**	**23 51 39.8 +0.4**
GYA			S		**Sn**	**23 54 24.0 -3.0**
GYA			SS		**S**	**23 54 42.9 +0.9**
GYA			pmax		pmax	
	comp=Z,70nm,1.0s					
GYA			pmax		pmax	
	comp=Z,120nm,4.8s					
GYA			LR		LR	
	comp=N,3μm,16.4s					
GYA			LR		LR	
	comp=E,1μm,17.0s					
GYA			LR		LR	
	comp=Z,2μm,13.3s					
DAV	**Davao City (W)**	**16.39 173**	LR		LR	23 57 10.4
	comp=Z,632nm,21.7s,baz=332,slow=34					
XAN	**Xi'an**	**16.57 313**	P		**P**	**23 51 51.5 +1.1**
XAN			pP		**pP**	**23 51 57.0 -1.0**
XAN			sP		**sP**	**23 52 00.6 -1.0**
XAN			PP		PP	23 52 04.4
XAN			S		**Sn**	**23 54 53.5 +2.3**
XAN			SS		SnSn	23 55 15.0 +10
XAN			pmax		pmax	
	comp=Z,51nm,7.5s					
XAN			LR		LR	
	comp=N,2μm,19.3s					
XAN			LR		LR	
	comp=E,710nm,18.8s					
XAN			LR		LR	
	comp=Z,760nm,14.0s					
KDM	**Kudat**	**17.62 202**	P		**P**	**23 52 02.2 +0.1**
BJI	**Beijing**	**17.68 341**	P		**P**	**23 52 02.8 +0.2**
BJI			S		**Sn**	**23 55 19.4 +1.4**
BJI			pmax		pmax	
	comp=Z,21nm,1.2s					
BJI			pmax		pmax	
	comp=Z,240nm,8.1s					
BJI			LR		LR	
	comp=N,2μm,16.8s					
BJI			LR		LR	
	comp=E,3μm,18.8s					
BJI			LR		LR	
	comp=Z,930nm,18.7s					
MAT	**Matsushiro**	**18.22 41**	P		**Pn**	**23 52 08.4 -0.3**
MJAR	**Matsushiro Arr**	**18.22 41**	P		**Pn**	**23 52 08.2 -0.5**
MJAR	**Matsushiro Arr**	**18.22 41**	P		**Pn**	**23 52 08.2 -0.5**
	comp=Z,1.0nm,0.3s,baz=227,slow=9.3,SNR=35					
SNY	**Shenyang**	**18.35 0**	⇓P		**Pn**	**23 52 11.8 +1.7**
SNY			S		**S**	**23 55 40.8 +2.6**
SNY			pmax		pmax	
	comp=Z,25nm,0.7s					
SNY			LR		LR	
	comp=N,1μm,23.5s					
SNY			LR		LR	
	comp=E,3μm,16.5s					
SNY			LR		LR	
	comp=Z,1μm,23.5s					
KKM	**Kota Kinabalu**	**18.65 203**	ePn		**P**	**23 52 13.2 -0.4**
	comp=Z,33nm,0.9s					
KKM	**Kota Kinabalu**	**18.65 203**	P		**Pn**	**23 52 14.3 +0.2**
KKM	**Kota Kinabalu**	**18.65 203**	P		**Pn**	**23 52 14.0 -0.1**
	comp=Z,44nm,1.0s,comp=Z,721nm					
SDKM	**Sandakan**	**18.70 200**	P		**Pn**	**23 52 15.1 +0.5**
MYLDM	**Lahad Datu**	**18.77 196**	P		**Pn**	**23 52 18.9 +3.5**
PANO	**Nakornpanom**	**18.77 254**	P		**Pn**	**23 52 17.6 +2.1**
	comp=Z,68nm,1.3s					
UBPT	**Khong Chiam**	**18.82 248**	P		**Pn**	**23 52 17.4 +1.3**
	comp=Z,32nm,2.5s,comp=Z,3μm					
UBPT	**Khong Chiam**	**18.82 248**	P		**Pn**	**23 52 19.2 +3.1**
	comp=Z,32nm,2.5s,comp=Z,3μm					
KMI	**Kunming**	**19.00 279**	P		**Pn**	**23 52 20.6 +2.2**
KMI			pP		**pP**	**23 52 25.3 +0.2**
KMI			sP		**sP**	**23 52 28.8 +0.1**
KMI			PP		**PnPn**	**23 52 35.8 +4.8**
KMI			S		**Sn**	**23 55 43.8 -6.7**
KMI			sS		**S**	**23 55 53.3 +1.6**
KMI			SS		**SnSn**	**23 56 08.1 +3.6**
KMI			pmax		pmax	
	comp=Z,35nm,1.2s					
KMI			pmax		pmax	
	comp=Z,330nm,6.7s					
KMI			LR		LR	
	comp=N,4μm,16.5s					
KMI			LR		LR	
	comp=E,860nm,20.1s					
KMI			LR		LR	
	comp=Z,1μm,11.0s					
CD2	**Chengdu**	**19.06 297**	eP		**Pn**	**23 52 18.9 0.0**
CD2			pP		**pP**	**23 52 24.8 -0.7**
CD2			sP		**sP**	**23 52 29.0 -0.1**
CD2			PP		**PnPn**	**23 52 35.3 +3.6**
CD2			S		**Sn**	**23 55 45.1 -6.5**
CD2			sS		**S**	**23 55 54.6 +1.9**
CD2			SS		**SnSn**	**23 56 10.3 +4.5**
CD2			pmax		pmax	
	comp=Z,60nm,1.2s					
CD2			pmax		pmax	
	comp=Z,500nm,9.6s					
CD2			LR		LR	
	comp=N,3μm,17.8s					
CD2			LR		LR	
	comp=E,3μm,13.2s					
CD2			LR		LR	
	comp=Z,4μm,13.2s					
TSM	**Tawau**	**19.78 197**	P		**Pn**	**23 52 26.8 -0.7**
HHC	**Hu-ho-hao-te**	**20.06 333**	eP		**P**	**23 52 29.1 +0.2**
HHC			pP		**pP**	**23 52 36.3 -0.1**
HHC			sP		**sP**	**23 52 40.3 +0.3**
HHC			PP		**PnPn**	**23 52 49.9 +4.5**
HHC			S		**S**	**23 56 09.3 -3.6**
HHC			sS		Sn	23 56 20.1 +4.4
HHC			SS		**SnSn**	**23 56 39.1 +8.7**
HHC			pmax		pmax	
	comp=Z,39nm,0.9s					
HHC			pmax		pmax	
	comp=Z,370nm,5.5s					
HHC			LR		LR	
	comp=N,3μm,13.5s					
HHC			LR		LR	
	comp=E,2μm,13.1s					
HHC			LR		LR	
	comp=Z,4μm,13.7s					
CN2	**Changchun**	**20.38 4**	eP		**P**	**23 52 30.9 -1.3**
CN2			epP		**pP**	**23 52 42.5 +2.7**
CN2			esP		**sP**	**23 52 46.3 +2.9**
CN2			eS		**S**	**23 56 13.3 -5.9**
CN2			pmax		pmax	
	comp=Z,20nm,1.3s					
CN2			pmax		pmax	
	comp=Z,200nm,5.0s					
CN2			LR		LR	
	comp=N,3μm,16.0s					
CN2			LR		LR	
	comp=E,5μm,16.0s					
CN2			LR		LR	
	comp=Z,5μm,14.0s					
LZH	**Lanzhou**	**21.17 311**	⇑P		**P**	**23 52 42.4 +1.4**
LZH			pP		**pP**	**23 52 49.3 +0.7**
LZH			sP		**sP**	**23 52 53.0 +0.8**
LZH			PP		**PnPn**	**23 53 05.5 +4.8**
LZH			S		**S**	**23 56 30.4 -4.7**
LZH			sS		Sn	23 56 41.5 -1.0
LZH			SS		**SnSn**	**23 57 03.0 +5.4**
LZH			pmax		pmax	
	comp=Z,52nm,1.0s					
LZH			pmax		pmax	
	comp=Z,240nm,4.2s					
LZH			LR		LR	
	comp=N,2μm,10.5s					
LZH			LR		LR	
	comp=E,2μm,13.0s					
LZH			LR		LR	
	comp=Z,4μm,14.5s					
LOEI	**Loei**	**21.63 258**	P		**P**	**23 52 43.7 -2.2**
CRAI	**Chiangrai**	**21.69 266**	P		**P**	**23 52 51.1 +4.5**
	comp=Z,86μm,1.0s					
MDJ	**Mudanjiang**	**21.72 12**	P		**P**	**23 52 46.3 -0.3**
MDJ			pP		**pP**	**23 52 51.8 -2.4**
MDJ			sP		**sP**	**23 52 54.6 -3.2**
MDJ			S		**S**	**23 56 44.5 -1.0**
MDJ			ScP		**ScP**	**00 00 23.4 +1.3**
MDJ			PcS		**PcS**	**00 00 26.6 +1.6**
MDJ			pmax		pmax	
	comp=Z,15nm,1.2s					
MDJ			pmax		pmax	
	comp=Z,930nm,17.3s					
MDJ			LR		LR	
	comp=N,2μm,17.8s					
MDJ			LR		LR	
	comp=E,3μm,15.2s					
MDJ			LR		LR	
	comp=Z,3μm,16.3s					
MDJ	**Mudanjiang**	**21.72 12**	eP		**P**	**23 52 45.8 -0.8**
	comp=Z,15nm,1.1s					
USRK	**Ussuriysk Arra**	**21.86 17**	P		**P**	**23 52 46.6 -1.5**
	comp=Z,1.7nm,0.5s,baz=200,slow=13,SNR=6.0					
USRK			LR		LR	00 02 25.4
	comp=Z,2μm,18.2s,baz=184,slow=40					
GUMO	**Guam**	**22.48 112**	eP		**P**	**23 52 57.5 +2.4**
	comp=Z,68nm,1.0s					
BTM	**Bintulu**	**22.49 208**	P		**P**	**23 52 54.6 -0.6**
CHBT	**CHBT**	**22.72 246**	P		**P**	**23 52 58.2 +0.7**
	comp=Z,26nm,1.6s,comp=Z,5μm					
CHBT	**CHBT**	**22.72 246**	P		**P**	**23 52 58.3 +0.7**
	comp=Z,34nm,1.6s,comp=Z,5μm					
LAMP	**Lampang**	**22.80 262**	P		**P**	**23 53 00.8 +2.4**
	comp=Z,6.0nm,1.0s,comp=Z,76nm					
NAYO	**Nakonayok**	**22.83 251**	P		**P**	**23 53 00.6 +1.9**
	comp=Z,92nm,1.2s					
MRSI	**Marisa**	**22.87 184**	P		**P**	**23 52 59.8 +0.7**
	comp=Z,45nm,1.8s,comp=Z,1μm					
CMAI	**Chiengmai2**	**22.98 266**	P		**P**	**23 53 01.7 +1.3**
	comp=Z,38nm,1.6s,comp=Z,2μm					
CMMT	**Chiang Mai**	**23.34 263**	P		**P**	**23 53 04.0 0.0**
	comp=Z,31nm,1.5s,comp=Z,495nm					
CMMT	**Chiang Mai**	**23.34 263**	P		**P**	**23 53 04.2 +0.2**
	comp=Z,31nm,1.5s,comp=Z,495nm					
CHTO	**Chiang Mai**	**23.34 263**	eP		**P**	**23 53 05.0 +1.0**
CHTO			pmax		pmax	
	comp=Z,38nm,1.2s					
CHTO	**Chiang Mai**	**23.34 263**	eP		**P**	**23 53 05.0 +1.0**
	comp=Z,38nm,1.2s					
CHTO	**Chiang Mai**	**23.34 263**	P		**P**	**23 53 05.0 +1.0**
	comp=Z,34nm,1.6s,comp=Z,533nm					
CHTO	**Chiang Mai**	**23.34 263**	P		**P**	**23 53 04.6 +0.6**
	comp=Z,34nm,1.6s,comp=Z,529nm					
CM31	**Chiang Mai Arr**	**23.44 262**	eP		**P**	**23 53 05.8 +0.8**
CMAR	**Chiang Mai Arr**	**23.44 262**	P		**P**	**23 53 06.0 +1.1**
CMAR	**Chiang Mai Arr**	**23.44 262**	P		**P**	**23 53 06.0 +1.1**
	comp=Z,2.4nm,0.4s,baz=62,slow=6.8,SNR=6.3					
CMAR			LR		LR	00 02 44.2
	comp=Z,614nm,19.6s,baz=288,slow=38					
SBUM	**Sibu**	**23.54 209**	P		**P**	**23 53 04.4 -1.5**
SBUM	**Sibu**	**23.54 209**	P		**P**	**23 53 04.7 -1.2**
	comp=Z,61nm,1.0s,comp=Z,685nm					
UTHA	**Uthaitani**	**23.96 255**	P		**P**	**23 53 11.2 +1.3**
	comp=Z,8.1nm,1.2s,comp=Z,111nm					
LBMI	**Labuha**	**24.24 170**	P		**P**	**23 53 12.8 +0.4**
	comp=Z,136nm,1.2s,comp=Z,3μm					
ERM	**Erimo**	**24.74 37**	⇑eP		**P**	**23 53 15.5 -1.3**
ERM			pmax		pmax	
	comp=Z,52nm,1.2s					
ERM	**Erimo**	**24.74 37**	eP		**P**	**23 53 15.0 -1.7**
	comp=Z,44nm,0.9s					
PHET	**Kaeng Krachan**	**24.93 249**	P		**P**	**23 53 22.7 +3.9**
	comp=Z,75nm,1.2s					
KSM	**Kuching**	**25.30 212**	eP		**P**	**23 53 20.3 -1.7**

comp=Z,73nm,1.4s
KSM Kuching 25.30 212 P P 23 53 22.2 +0.1
KSM Kuching 25.30 212 P P 23 53 21.2 -0.8
comp=Z,41nm,1.1s,comp=Z,586nm
GTA Gaotai 25.62 314 *eP* **P 23 53 25.5 +0.5**
GTA pP **pP 23 53 32.5 -0.6**
GTA sP **sP 23 53 36.0 -0.6**
GTA S **S 23 57 51.4 -0.2**
GTA sS **sS 23 58 03.0 -2.1**
GTA SS **SnSn 23 58 56.3 +10**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,180nm,5.5s
GTA LR LR
comp=N,1μm,19.7s
GTA LR LR
comp=E,1μm,18.3s
GTA LR LR
comp=Z,2μm,16.4s
ASAJ Asahikawa 25.92 33 *eP* **P 23 53 27.1 -0.4**
comp=Z,12nm,0.8s
ASAJ Asahikawa 25.92 33 P **P 23 53 27.1 -0.4**
comp=Z,28nm,0.8s,baz=222,slow=9.5,SNR=17
ASAJ LR LR 00 05 00.1
comp=Z,584nm,18.3s,baz=243,slow=40
HIA Hailar 25.96 354 *eP* **P 23 53 26.2 -1.5**
comp=Z,55nm,1.0s
MMSI Mamuju 26.34 190 P **P 23 53 31.7 +0.2**
comp=Z,81nm,1.4s
KLR Kul'dur 26.56 12 *eP* P 23 53 28.2 -5.0
KLR MLR MLR
comp=E,2μm,16.0s
KLR MLR MLR
comp=N,1μm,11.0s
KLR MLR MLR
comp=Z,2μm,11.0s
HABR Khabarovsk 26.62 17 P **P 23 53 31.2 -2.5**
HABR *e**PP **pP 23 53 40.7 -1.2**
HABR *e**SP **sP 23 53 45.0 -0.4**
HABR *e* 23 56 55.1
HABR *e*S **S 23 58 03.9 -3.0**
HABR *e**SS **sS 23 58 20.3 -0.1**
HABR *e*SSS SSS 23 59 23.3
HABR *e* 00 04 22.4
HABR pmax pmax
comp=N,8.0nm,0.7s
HABR pmax pmax
comp=E,10.0nm,0.7s
HABR pmax pmax
comp=Z,15nm,0.7s
HABR MLR MLR
comp=Z,2μm,16.0s
KTGM Kuala Trenggan 26.63 231 P **P 23 53 36.7 +2.5**
NLAI Namlea 26.74 172 P **P 23 53 38.8 +3.7**
comp=Z,134nm,0.9s,comp=Z,1μm
BAKI Biak 27.38 152 P P 23 53 48.1 +7.2
comp=Z,49nm,0.8s,comp=Z,1μm
YUK Yuzh-Kuril'sk 27.56 36*d i*P P 23 53 36.9 -5.3
YUK *i* PPP PPP 23 54 36.6
YUK S **S 23 58 14.8 -7.0**
YUK *i* SS **SnSn 23 59 35.6 +1.9**
YUK *i* SSS SSS 23 59 50.8
YUK pmax pmax
comp=N,147nm,1.3s
YUK pmax pmax
comp=Z,373nm,1.6s
YUK pmax pmax
comp=E,229nm,1.6s
YUK MLR MLR
comp=N,288nm,16.0s
YUK MLR MLR
comp=E,267nm,16.0s
YUK MLR MLR
comp=Z,750nm,16.0s
ULN Ulaanbaatar 27.68 336 *eP* **P 23 53 42.7 -0.8**
comp=Z,11nm,1.2s
ULN Ulaanbaatar 27.68 336 P **P 23 53 42.7 -0.8**
comp=Z,7.1nm,1.1s,comp=Z,244nm
SONM Songino Array 27.91 335 P **P 23 53 44.6 -0.9**
SONM Songino Array 27.91 335 P **P 23 53 44.6 -0.9**
comp=Z,5.0nm,0.7s,baz=146,slow=9.4,SNR=34
SONM LR LR 00 06 21.2
comp=Z,952nm,18.9s,baz=146,slow=40
YSS Yuzh-Sakhalins 28.11 29 *eP* **P 23 53 50.0 +2.9**
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,900nm,14.0s
YSS MLR MLR
comp=E,1μm,14.0s
KULM Kulim 28.46 234 P **P 23 53 52.4 +1.8**
IPM Ipoh 28.73 232 *eP* **P 23 53 52.3 -0.7**
comp=E,24nm,1.2s
IPM Ipoh 28.73 232 P **P 23 53 52.3 -0.7**
IPM Ipoh 28.73 232 P **P 23 53 52.2 -0.7**
comp=E,17nm,1.4s
MYKOM Kota Tinggi 28.73 224 P **P 23 53 53.1 +0.2**
MYKOM Kota Tinggi 28.73 224 P **P 23 53 53.0 +0.1**
KGM Kluang 28.90 225 P **P 23 53 55.4 +1.0**
LSA Lhasa 29.53 289 P **P 23 54 01.4 +0.9**
LSA Lhasa 29.53 289 *eP* **P 23 54 00.2 -0.3**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 29.53 289 *eP* **P 23 54 00.2 -0.3**
comp=Z,6.9nm,0.6s
PSI Prapat 31.40 233 P **P 23 54 16.4 -0.3**
PSI Prapat 31.40 233 P **P 23 54 16.4 -0.3**
comp=Z,5.4nm,0.8s,baz=39,slow=8.6,SNR=7.8
PSI LR LR 00 05 59.0
comp=Z,231nm,19.1s,baz=160,slow=34
TLY Talaya 32.08 337 *eP* **P 23 54 21.0 -1.2**
TLY pmax pmax
comp=Z,11nm,1.2s
TLY MLR MLR
comp=Z,948nm,13.0s
MOY Mondy 33.09 334 *eP* **P 23 54 29.4 -1.8**
BATI Baumata 33.43 180 LR LR 00 09 56.5
comp=Z,254nm,18.1s,baz=123,slow=40
WMQ Urumqi 35.70 313 *eP* **P 23 54 55.5 +1.6**
WMQ sP **sP 23 55 05.8 +0.2**
WMQ PP **PP 23 56 16.3 +1.1**
WMQ S **S 00 00 28.5 -0.5**
WMQ sS **sS 00 00 39.8 -2.9**
WMQ SS **SnSn 00 02 48.6 -3.1**
WMQ ScS **ScS 00 05 10.5 -0.4**
WMQ pmax pmax
comp=Z,8.0nm,1.0s
WMQ pmax pmax
comp=Z,130nm,6.0s
WMQ LR LR
comp=N,830nm,22.5s
WMQ LR LR
comp=E,140nm,21.0s
WMQ LR LR
comp=Z,380nm,14.0s
SKR Severo-Kuril's 37.14 35 *eP* P 23 55 01.5 -4.4
SKR *e* 23 55 11.0
SKR pmax pmax
comp=Z,110nm,1.0s
SKR pmax pmax
comp=N,40nm,0.4s
SKR pmax pmax
comp=Z,1μm,8.0s
YAK Yakutsk 38.81 5 *eP* **P 23 55 17.5 -2.4**
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.2s
PEA0B Petropavlovsk- 39.34 32 *eP* **P 23 55 22.8 -1.6**
PETK Petropavlovsk- 39.34 32 P **P 23 55 23.9 -0.5**
PETK Petropavlovsk- 39.34 32 P **P 23 55 23.9 -0.5**
PETK Petropavlovsk- 39.34 32 P **P 23 55 23.9 -0.5**
comp=E,12nm,0.7s,baz=192,slow=4.9,SNR=14
PETK LR LR 00 11 33.9
comp=E,190nm,18.1s,baz=105,slow=36
PET Petropavlovsk 39.76 33 *eP* **P 23 55 27.5 -0.4**
PET *eS* **S 00 01 32.9 +2.8**
PET pmax pmax
comp=Z,117nm,1.3s
PET MLR MLR
comp=Z,400nm,20.0s
PMG Port Moresby 40.01 142 LR LR 00 11 29.8
comp=Z,184nm,18.8s,baz=91,slow=36

MK31 Makanchi Array 40.35 316*ceP* **P 23 55 32.5 -0.5**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 40.35 316 *eP* **P 23 55 32.6 -0.3**
MKAR Makanchi Array 40.35 316 *i P* **P 23 55 32.5 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 40.35 316 *eP* **P 23 55 33.0 0.0**
MKAR Makanchi Array 40.35 316 P **P 23 55 32.6 -0.4**
comp=Z,2.1nm,0.5s,baz=100,slow=9.0,SNR=21
FITZ Fitzroy Crossi 41.33 177 *eP* **P 23 55 40.2 -1.0**
FITZ Fitzroy Crossi 41.33 177 P **P 23 55 38.8 -2.4**
comp=Z,12nm,1.0s,baz=33,slow=8.7,SNR=7.8
ZAA0 Zalesovo Array 42.03 327 *eP* **P 23 55 45.5 -1.1**
ZALV Zalesovo Beam 42.03 327 *i P* **P 23 55 45.5 -1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 42.03 327 P **P 23 55 45.5 -1.1**
ZALV Zalesovo Beam 42.03 327 P **P 23 55 45.5 -1.1**
comp=Z,4.9nm,0.5s,baz=108,slow=7.6,SNR=20
ZALV LR LR 00 13 22.6
comp=Z,296nm,19.0s,baz=69,slow=36
KSH Kashi 43.08 303 P P 23 55 59.6 +4.1
KSH sP sP 23 56 10.6 +3.2
KSH PP **PcP 23 57 42.5 -2.7**
KSH S **S 00 02 24.6 +4.6**
KSH sS sS 00 02 36.6 +2.8
KSH SS **SS 00 05 30.5 -2.2**
KSH pmax pmax
comp=Z,34nm,1.1s
KSH pmax pmax
comp=Z,87nm,4.4s
KSH LR LR
comp=N,490nm,15.7s
KSH LR LR
comp=E,1μm,17.9s
KSH LR LR
comp=Z,850nm,17.2s
TKM2 Tokmak 2 43.89 308 *i* P **P 23 56 03.8 +1.6**
TKM2 Tokmak 2 43.89 308 P **P 23 56 03.8 +1.6**
SNR=19
TKM2 Tokmak 2 43.89 308 *eP* **P 23 56 03.8 +1.6**
comp=Z,34nm,1.1s
KZA Kyzart 44.00 307 *i* P **P 23 56 05.5 +2.3**
KZA Kyzart 44.00 307 P **P 23 56 05.5 +2.3**
SNR=12
KURK Kurchatov 44.03 320 P **P 23 56 02.2 -0.6**
KURK Kurchatov 44.03 320 P **P 23 56 02.2 -0.6**
KURBB Kurchatov Arra 44.05 320 P **P 23 56 02.2 -0.8**
comp=Z,5.6nm,0.9s,baz=117,slow=8.5,SNR=27
KBK Karagaybulak 44.31 308 *i* P **P 23 56 07.3 +1.8**
KBK Karagaybulak 44.31 308 P **P 23 56 07.3 +1.8**
SNR=10
WRAB Tennant Creek 44.38 165 *eP* **P 23 56 05.5 -0.5**
WRAB pmax pmax
comp=Z,36nm,1.3s
WRAB Tennant Creek 44.38 165 *eP* **P 23 56 05.5 -0.5**
comp=Z,36nm,1.3s
WRA Warramunga Arr 44.39 165 P **P 23 56 04.6 -1.4**
WRA Warramunga Arr 44.39 165 P **P 23 56 04.6 -1.4**
comp=Z,9.9nm,0.9s,baz=346,slow=8.5,SNR=26
WRA LR LR 00 15 24.8
comp=Z,152nm,19.3s,baz=320,slow=37
CHMS Chumysh 44.52 308 *i* P **P 23 56 08.2 +1.3**
CHMS Chumysh 44.52 308 P **P 23 56 08.2 +1.3**
SNR=14
UCH Uchtor 44.56 307 *i* P **P 23 56 10.2 +2.4**
UCH Uchtor 44.56 307 P **P 23 56 10.2 +2.4**
SNR=6.9
AAK Ala-Archa 44.64 308‖ *eP* **P 23 56 08.8 +0.7**
AAK pmax pmax
comp=Z,19nm,1.0s
AAK MLR MLR
comp=Z,1μm,17.0s
AAK Ala-Archa 44.64 308 *eP* **P 23 56 08.3 +0.3**
comp=Z,8.6nm,0.9s
AAK Ala-Archa 44.64 308 P **P 23 56 08.8 +0.7**
comp=Z,2.0nm,0.3s,baz=88,slow=2.1,SNR=8.3
AAK LR LR 00 15 42.0
comp=Z,679nm,19.0s,baz=75,slow=37
AML Almayashu 45.15 307 *i* P **P 23 56 14.5 +2.1**
AML Almayashu 45.15 307 P **P 23 56 14.5 +2.1**
SNR=17
EKS2 Erkin-Say 45.17 307 *eP* **P 23 56 12.9 +0.7**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 45.17 307 P **P 23 56 13.7 +1.4**
SNR=6.6
EKS2 Erkin-Say 45.17 307 *eP* **P 23 56 12.9 +0.7**
comp=Z,6.9nm,0.9s
POO Poona 46.43 274 *ex* **P 23 56 22.0 -0.4**
FX1 Attu Island--F 47.56 39 *eP* **P 23 56 32.0 +1.2**
KK31 Karatay Array 47.61 308*ceP* **P 23 56 31.8 +0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 47.61 308 *eP* **P 23 56 31.1 -0.2**
KKAR *e* 23 58 00.7
KKAR Karatay Array 47.61 308 *eP* **P 23 56 31.1 -0.2**
KKAR *eP*cP **PcP 23 58 00.7 0.0**
AS31 Alice Springs 47.89 167 *eP* **P 23 56 33.3 -0.3**
AS31 *eP*cP **PcP 23 58 01.3 -0.6**
ASAR Alice Springs 47.90 167 P **P 23 56 33.0 -0.5**
ASAR Alice Springs 47.90 167 P **P 23 56 33.0 -0.5**
comp=Z,4.6nm,0.7s,baz=353,slow=7.0,SNR=31
ASAR LR LR 00 14 46.7
comp=Z,134nm,21.1s,baz=338,slow=34
TIXI Tiksi 48.34 2‖ *eP* **P 23 56 34.9 -1.5**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,2μm,19.0s
KBL Kabul 48.39 296 *eP* **P 23 56 37.9 +0.2**
KBL pmax pmax
comp=Z,34nm,1.2s
KBL Kabul 48.39 296 *eP* **P 23 56 37.9 +0.2**
comp=Z,34nm,1.2s
BVAR Borovoye Array 49.59 321 P **P 23 56 46.2 -0.1**
BVAR Borovoye Array 49.59 321 P **P 23 56 46.2 -0.1**
BVAR Borovoye Array 49.59 321 P **P 23 56 46.2 -0.1**
comp=Z,2.2nm,0.6s,baz=100,slow=8.4,SNR=15
BRVK Borovoye 49.66 321‖ *eP* **P 23 56 47.4 +0.5**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK MLR MLR
comp=Z,456nm,20.0s
BRVK Borovoye 49.66 321 *eP* **P 23 56 46.4 -0.5**
comp=Z,7.0nm,0.7s
AB31 Akbulak array 55.48 315*ceP* **P 23 57 30.6 +0.6**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 55.48 315 *eP* **P 23 57 30.4 +0.4**
SVE Sverdlovsk 55.90 324‖ *iP* **P 23 57 35.1 +2.2**
SVE *e* 23 58 29.6
SVE *e* 23 59 46.0
SVE pmax pmax
comp=Z,17nm,1.2s
SVE MLR MLR
comp=Z,346nm,12.0s
AKTO Aktyubinsk 56.79 316 *i* P **P 23 57 39.5 +0.2**
AKTO pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 56.98 323*d iP* **P 23 57 40.1 -0.5**
ARU S **S 00 05 32.3 -0.6**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU MLR MLR
comp=Z,350nm,17.0s
STKA Stephens Creek 57.66 162 P **P 23 57 43.8 -1.8**
STKA Stephens Creek 57.66 162 P **P 23 57 43.8 -1.8**
comp=Z,3.8nm,0.7s,baz=330,slow=6.8,SNR=7.6
MAK Makhachkala 64.42 308 *eP* P 23 58 25.0 -6.5
MAK *eS* S 00 07 01.1 -7.3
MAK *e* 00 08 17.0
MAK *e*SS **SS 00 11 13.3 -5.1**
MAK MLR MLR
comp=Z,325nm,14.0s
SVW2 Sparrevohn 65.42 32 *eP* **P 23 58 39.8 +2.1**
comp=Z,8.4nm,0.7s
IM04 Indian Mountai 65.90 26 *eP* **P 23 58 42.2 +1.5**
IMA2 Indian Mountai 65.93 26 *eP* **P 23 58 42.3 +1.2**
PPLA Purkeypile 66.85 30 *eP* **P 23 58 48.6 +1.6**
comp=Z,66nm,1.8s
GNI Garni 66.97 305 *eP* **P 23 58 46.8 -1.5**
comp=Z,21nm,1.4s
ZEI Tsey 67.06 308 *eP* **P 23 58 47.8 -1.0**

ZEI pmax pmax
comp=Z,19nm,1.0s
SPU Mount Spurr 67.11 32 *eP* **P 23 58 49.8 +1.1**
VRHR Novokhopersk 67.12 317 *eP* **P 23 58 48.1 -0.6**
VRHR *e**PP **pP 23 58 58.3 +0.8**
VRHR *eS* **S 00 07 38.0 -3.1**
VRHR pmax pmax
comp=Z,40nm,1.3s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,1.3s
VRHR smax smax
comp=N,100nm,2.3s
VRHR smax smax
comp=Z,4.0nm,0.5s
VRHR smax smax
comp=E,70nm,2.3s
VRHR MLR MLR
comp=N,80nm,16.0s
VRHR MLR MLR
comp=E,180nm,16.0s
VRHR MLR MLR
comp=Z,280nm,16.0s
MSVF Nonsavu 67.17 123 *eP* **P 23 58 49.9 +0.3**
MSVF Nonsavu 67.17 123 *eP* **P 23 58 49.9 +0.3**
TMCR Tamitsa 67.22 332 *eP* **P 23 58 47.4 -1.7**
TMCR *e* 23 59 13.4
TMCR *e* 00 01 16.7
TMCR pmax pmax
comp=Z,60nm,1.0s
COLD Coldfoot 67.22 25 *eP* **P 23 58 51.4 +2.3**
comp=Z,22nm,1.5s
MIB Mutribah 67.26 294 *eP* **P 23 58 49.4 -0.6**
MIB AMb AMB 23 58 50.8
comp=Z,25nm,0.9s
KDAK Kodiak Island 67.30 35 *eP* **P 23 58 51.0 +1.3**
KDAK Kodiak Island 67.30 35 P **P 23 58 49.6 -0.1**
comp=Z,8.8nm,0.8s,baz=329,slow=3.0,SNR=5.5
RDF Al-Radifah 67.31 293 *eP* **P 23 58 50.5 +0.1**
RDF AMb AMB 23 58 51.5
comp=Z,33nm,0.8s
ONI Oni 67.42 308 P **P 23 58 52.8 +1.8**
NAY Al-Naaiem 67.48 293 *eP* **P 23 58 50.9 -0.6**
NAY AMb AMB 23 58 54.6
comp=Z,1.1nm,1.3s
KBZ Khabaz 67.59 309 P **P 23 58 52.5 +0.6**
KBZ Khabaz 67.59 309 P **P 23 58 52.5 +0.6**
KBZ Khabaz 67.59 309 P **P 23 58 52.5 +0.6**
comp=Z,5.2nm,1.0s,baz=74,slow=5.4,SNR=9.7
KBZ LR LR 00 30 29.8
comp=Z,446nm,19.0s,baz=65,slow=38
RST Umm Al-Ruwaisa 67.62 294 *eP* **P 23 58 51.6 -0.7**
RST AMb AMB 23 58 54.5
comp=Z,101nm,1.1s
KIV Kislovodsk 67.70 310 *eP* **P 23 58 53.2 +0.5**
KIV *e* 23 59 20.0
KIV *eS* **S 00 07 48.9 +0.3**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,298nm,17.0s
MCK McKinley 68.20 29 *eP* **P 23 58 56.7 +1.3**
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 68.20 29 *eP* **P 23 58 56.7 +1.3**
comp=Z,22nm,1.1s
COLA College 68.49 27 P **P 23 58 57.6 +0.5**
COLA College 68.49 27 P **P 23 58 57.6 +0.5**
VSR Storozhevoye 68.62 318 *eP* **P 23 58 57.9 -0.3**
VSR *e**PP **pP 23 59 09.4 +2.4**
VSR *eS* **S 00 07 55.2 -3.9**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.3s
VSR pmax pmax
comp=Z,30nm,1.3s
VSR smax smax
comp=N,120nm,3.0s
VSR smax smax
comp=E,50nm,3.0s
VSR smax smax
comp=Z,70nm,3.0s
VSR MLR MLR
comp=N,130nm,19.0s
VSR MLR MLR
comp=Z,440nm,19.0s
VSR MLR MLR
comp=E,100nm,16.0s
MOS Moscow 68.69 323 *eP* **P 23 58 58.3 -0.2**
MOS *e* 23 59 12.6
MOS *e* 23 59 23.4
MOS *e* 00 01 34.8
MOS *eS* **S 00 07 58.0 -1.6**
MOS pmax pmax
comp=Z,33nm,1.1s
MOS MLR MLR
comp=Z,500nm,19.0s
SML Sawmill 68.79 31 *eP* **P 23 59 00.2 +1.1**
SML pmax pmax
comp=Z,24nm,2.0s
SML Sawmill 68.79 31 *eP* **P 23 59 00.1 +1.1**
comp=Z,24nm,2.0s
ILAR Eielson Array 68.91 27 P **P 23 59 00.1 +0.3**
ILAR Eielson Array 68.91 27 P **P 23 59 00.1 +0.3**
comp=Z,1.9nm,0.8s,baz=248,slow=4.5,SNR=12
OBN Obninsk 69.39 322‖ *eP* **P 23 59 03.4 +0.5**
OBN *e**PP **pP 23 59 13.6 +1.9**
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,200nm,16.0s
TAU Tasmania Unive 69.57 162 *eP* **P 23 59 04.7 +0.7**
TAU pmax pmax
comp=Z,25nm,0.9s
TAU Tasmania Unive 69.57 162 *eP* **P 23 59 04.7 +0.7**
comp=Z,25nm,0.9s
DIV Divide 70.12 31 *eP* **P 23 59 08.9 +1.5**
RAYN Ar Rayn 70.59 288 P **P 23 59 11.0 +1.1**
comp=Z,85nm,1.4s,SNR=14
RAYN Ar Rayn 70.59 288 *eP* **P 23 59 10.7 -0.2**
comp=Z,28nm,1.3s
SPITS Spitsbergen Ar 70.66 348 P **P 23 59 10.3 -0.1**
SPITS Spitsbergen Ar 70.66 348 P **P 23 59 10.3 -0.1**
comp=Z,6.3nm,0.8s,baz=95,slow=7.6,SNR=7.6
ARCES ARCESS Array B 71.02 338 P **P 23 59 13.6 +0.9**
ARCES ARCESS Array B 71.02 338 P **P 23 59 13.6 +0.9**
comp=Z,4.0nm,0.8s,baz=38,slow=6.1,SNR=7.1
ARCES LR LR 00 38 18.2
comp=Z,378nm,18.3s,baz=194,slow=43
ANN Anapa 71.18 311 *e**PP **P 23 59 11.7 -2.3**
ANN pmax pmax
comp=Z,13nm,1.5s
EGAK Eagle 71.30 27 *eP* **P 23 59 15.5 +1.1**
comp=Z,14nm,0.8s
KAF Kangasniemi 72.85 331 *eP* **P 23 59 24.8 +1.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 72.85 331 *ep* **P 23 59 24.8 +1.1**
comp=Z,0.7nm,0.4s
INK Inuvik 73.12 22 LR LR 00 30 19.5
comp=Z,122nm,21.5s,baz=133,slow=35
FINES FINESS Array B 73.16 330 P **P 23 59 25.4 -0.1**
FINES FINESS Array B 73.16 330 P **P 23 59 25.4 -0.1**
comp=Z,3.4nm,0.5s,baz=55,slow=7.2,SNR=20
FINES LR LR 00 35 41.7
comp=Z,579nm,18.1s,baz=75,slow=39
HYT Haines Junctio 74.08 30 *eP* **P 23 59 34.1 +2.9**
AKASG Malin Array Be 74.83 319*ceP* **P 23 59 35.0 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 74.83 319 P **P 23 59 35.0 -0.6**
AKASG Malin Array Be 74.83 319 P **P 23 59 35.0 -0.6**
comp=Z,0.9nm,0.3s,baz=57,slow=6.0,SNR=12
AKASG LR LR 00 31 49.7
comp=Z,225nm,21.2s,baz=75,slow=35
ASF Jabal al Asfar 75.18 299 P **P 23 59 38.9 +0.8**
ASF Jabal al Asfar 75.18 299 P **P 23 59 38.9 +0.8**
comp=Z,2.7nm,0.8s,baz=92,slow=0.9,SNR=7.1
SUW Suwalki 77.17 323 *eP* **P 23 59 48.1 -0.7**
SUW Suwalki 77.17 323 *eP* **P 23 59 48.1 -0.7**
DAG Danmarks Havn 77.42 352 *i* P **P 23 59 51.0 +1.2**
comp=Z,4.6nm,0.9s
EIL Elat 77.58 297 P **P 23 59 52.3 +0.7**
EIL Elat 77.58 297 P **P 23 59 52.3 +0.7**

comp=Z,6.6nm,1.1s,baz=37,slow=5.2,SNR=5.1
EIL LR LR 00 36 01.4
comp=Z,151nm,18.4s,baz=98,slow=37
MLR Muntele Rosu 78.69 315 P **P 23 59 58.0 +0.4**
MLR Muntele Rosu 78.69 315 P **P 23 59 58.0 +0.4**
comp=Z,1.6nm,1.0s,baz=25,slow=6.2,SNR=9.3
KWP Kalwaria Pacla 79.13 319 *e*P **P 00 00 00.0 +0.2**
HFS Hagfors 79.25 331 P **P 23 59 59.9 -0.3**
HFS Hagfors 79.25 331 P **P 23 59 59.9 -0.3**
comp=Z,4.0nm,0.7s,baz=77,slow=3.2,SNR=7.8
RPZ Rata Peaks 79.80 147 P **P 00 00 03.8 +0.5**
RPZ Rata Peaks 79.80 147 P **P 00 00 03.8 +0.5**
comp=Z,5.9nm,0.7s,baz=270,slow=6.1,SNR=3.4
NB2 NORSAR Subarra 79.87 333 P **P 00 00 03.2 -0.4**
comp=Z,15nm,1.1s,baz=58,slow=5.3
NOA NORSAR Array B 79.87 333 P **P 00 00 03.4 -0.3**
NOA NORSAR Array B 79.87 333 P **P 00 00 03.4 -0.3**
comp=Z,5.4nm,1.0s,baz=58,slow=5.5,SNR=9.9
OJC Ojcow 80.60 321 *e*P **P 00 00 07.9 +0.2**
OJC pmax pmax
comp=Z,36nm,1.3s
OJC Ojcow 80.60 321 *e*P **P 00 00 07.9 +0.2**
comp=Z,36nm,1.3s
NIE Niedzica 80.64 320 *e*P **P 00 00 10.7 +2.7**
OKC Ostrava-Krasne 81.72 321 *i* P **P 00 00 14.3 +0.6**
OKC *e* 00 00 25.0
OKC MLR MLR
comp=Z,300nm,22.7s
OKC Ostrava-Krasne 81.72 321 *i* P **P 00 00 14.3 +0.6**
OKC *ex* x 00 00 25.0
OKC AMS AMS 00 35 40.0
comp=Z,300nm,22.7s
KSP Ksiaz 82.33 322 *e*P **P 00 00 17.0 +0.1**
KSP *e**SP **sP 00 00 28.2 -0.9**
KSP Ksiaz 82.33 322 *e*P **P 00 00 17.7 +0.8**
DPC Dobruska-Polom 82.54 322 *i* P **P 00 00 18.8 +0.7**
DPC *e* 00 00 26.4
DPC Dobruska-Polom 82.54 322 *i* P **P 00 00 18.8 +0.7**
DPC *ex* x 00 00 26.4
DPC AMS AMS 00 41 30.0
DPC Dobruska-Polom 82.54 322 *e*P **P 00 00 18.5 +0.4**
comp=Z,30nm,0.7s
YKA Yellowknife Ar 82.83 23 P **P 00 00 19.8 +0.5**
YKA Yellowknife Ar 82.83 23 P **P 00 00 19.7 +0.5**
comp=Z,13nm,1.1s,baz=316,slow=5.4,SNR=17
VRAC Vranov 82.87 321 P **P 00 00 19.9 +0.2**
VRAC Vranov 82.87 321 P **P 00 00 19.9 +0.2**
comp=Z,4.8nm,1.0s,baz=82,slow=5.8,SNR=9.3
PVCC Panska Ves 83.44 323 *i* P **P 00 00 23.6 +1.0**
PVCC *e* 00 00 35.3
PVCC Panska Ves 83.44 323 *i* P **P 00 00 23.6 +1.0**
PVCC *ex* x 00 00 35.3
SUMG Summit 83.46 355 *e*P **P 00 00 23.9 +1.1**
SUMG pmax pmax
comp=Z,43nm,1.5s
SUMG Summit 83.46 355 *i* P **P 00 00 24.2 +1.4**
comp=Z,7.8nm,1.0s
SUMG *i* 00 00 37.5
SUMG Summit 83.46 355 *e*P **P 00 00 23.9 +1.1**
comp=Z,43nm,1.5s
TREC Trest 83.51 321 *i* P **P 00 00 23.6 +0.5**
TREC *e* 00 00 34.3
TREC MLR MLR
comp=Z,300nm,18.3s
TREC Trest 83.51 321 *i* P **P 00 00 23.6 +0.5**
TREC *ex* x 00 00 34.3
TREC AMS AMS 00 36 30.0
comp=Z,300nm,18.3s
BRG Berggiesshubel 83.62 323 *e*P **P 00 00 23.6 0.0**
comp=Z,9.0nm,1.5s
PRU Pruhonice 83.72 322 *i* P **P 00 00 24.6 +0.5**
PRU *e* 00 00 35.4
PRU MLR MLR
comp=Z,200nm,14.8s
PRU Pruhonice 83.72 322 *i* P **P 00 00 24.6 +0.5**
PRU *ex* x 00 00 35.4
PRU AMS AMS 00 44 30.0
comp=Z,200nm,14.8s
CLL Collm 83.92 324 *e*P **P 00 00 25.6 +0.5**
comp=Z,6.0nm,1.0s
CLL Collm 83.92 324 ⇓*i*P **P 00 00 24.9 -0.2**
CLL *e* 00 00 32.0
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL MLR MLR
comp=Z,400nm,18.1s
CLL Collm 83.92 324 ⇓*i*P **P 00 00 24.9 -0.2**
comp=Z,6.0nm,1.0s
CLL *i* 00 00 35.6
CLL *i* 00 00 38.5
CLL LV 00 42 00.0
comp=Z,400nm,18.1s
FBE Freiberg 83.92 323 *e*P **P 00 00 25.5 +0.4**
comp=Z,14nm,1.0s
CONA Conrad Observa 83.94 320 *i* pP **P 00 00 25.4 0.0**
comp=Z,12nm,1.3s
BSEG Bad Segeberg 83.97 327 *e*P **P 00 00 27.3 +2.1**
comp=Z,30nm,1.5s
BSEG *e*pP **pP 00 00 37.3 +3.1**
BSEG Bad Segeberg 83.97 327 *e*P **P 00 00 27.3 +2.1**
BSEG *e**PP **pP 00 00 37.3 +3.1**
BSEG pmax pmax
comp=Z,30nm,1.5s
KOGS Kog 84.41 318 *e*P **P 00 00 27.9 +0.2**
ARSA Arzberg 84.47 319 *i* pP **P 00 00 28.1 +0.1**
comp=Z,5.6nm,1.2s
TANN Tannenbergstha 84.67 323 *e*P **P 00 00 29.7 +0.7**
comp=Z,5.0nm,1.1s
KHC Kasperske Hory 84.69 322 *i* P **P 00 00 29.5 +0.4**
KHC *e* 00 00 39.5
KHC MLR MLR
comp=Z,300nm,16.1s
KHC Kasperske Hory 84.69 322 *i* P **P 00 00 29.5 +0.4**
KHC *ex* x 00 00 35.2
KHC *ex* x 00 00 39.5
KHC AMS AMS 00 41 00.0
comp=Z,300nm,16.1s
KHC Kasperske Hory 84.69 322 *e*P **P 00 00 29.7 +0.6**
comp=Z,17nm,1.6s
GEC2 GERESS Array S 84.76 321 *e*P **P 00 00 29.8 +0.3**
comp=Z,8.0nm,0.9s
GEC2 *e*pP **pP 00 00 40.2 +1.7**
GEC2 GERESS Array S 84.76 321 *e*P **P 00 00 29.8 +0.3**
GEC2 *e**PP **pP 00 00 40.2 +1.7**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 84.76 321 *e*P **P 00 00 30.3 +0.8**
GERES GERESS Array B 84.76 321 P **P 00 00 29.5 -0.1**
GERES GERESS Array B 84.76 321 P **P 00 00 29.5 -0.1**
comp=Z,4.2nm,0.8s,baz=56,slow=5.0,SNR=36
GERES LR LR 00 46 20.9
comp=Z,215nm,18.1s,baz=60,slow=41
GUNZ Gunzen 84.76 323 *e*P **P 00 00 29.9 +0.5**
comp=Z,6.0nm,0.9s
WERN Wernitzgruen 84.78 323 *e*P **P 00 00 30.0 +0.5**
comp=Z,6.0nm,1.0s
WERN *e*pP **pP 00 00 41.1 +2.6**
NRDL Niedersach Rie 84.84 326 *e*P **P 00 00 30.2 +0.6**
comp=Z,14nm,1.3s
MOA Molln 84.92 320 *i* pP **P 00 00 31.0 +0.7**
comp=Z,9.4nm,1.9s
SOKA Soboth 85.04 319 *i* P **P 00 00 30.7 -0.2**
comp=Z,6.5nm,1.6s
ROTZ Rotzenmuhle 85.14 323 *e*P **P 00 00 32.1 +0.8**
comp=Z,8.0nm,1.1s
ROTZ *e*pP **pP 00 00 42.6 +2.3**
CRES Cresnjev 85.19 318 *e*P **P 00 00 31.9 +0.3**
PDKS Podkum 85.36 319 *e*P **P 00 00 32.6 0.0**
GRF Grafenberg Arr 85.72 323 *e*P **P 00 00 34.7 +0.5**
comp=Z,25nm,1.4s
GRF *e*pP **pP 00 00 45.1 +1.8**
GRF Grafenberg Arr 85.72 323 *e*P **P 00 00 34.7 +0.5**
GRF *e**PP **pP 00 00 45.1 +1.8**
GRF pmax pmax
comp=Z,25nm,1.4s
GRFO Grafenberg 85.72 323 *e*P **P 00 00 35.5 +1.3**
GRFO pmax pmax
comp=Z,16nm,1.2s
GRFO Grafenberg 85.72 323 *e*P **P 00 00 35.5 +1.3**
comp=Z,16nm,1.2s
UBBA Unterbreizbach 85.79 324 *e*P **P 00 00 35.1 +0.7**
comp=Z,24nm,1.7s
BUG Bochum--Univer 86.89 326 *e*P **P 00 00 40.6 +0.8**
comp=Z,17nm,1.3s
KMBO Kilima Mbogo 86.99 267 *e*P **P 00 00 42.4 +1.1**
comp=Z,7.1nm,1.1s
KMBO Kilima Mbogo 86.99 267 P **P 00 00 42.5 +1.1**
comp=Z,3.0nm,0.7s,baz=26,slow=9.0,SNR=8.6
STU Stuttgart 87.34 323 *e*P **P 00 00 42.9 +0.8**
comp=Z,25nm,2.2s
FUORN Ofenpass-Fuorn 87.89 321 *e*P **P 00 00 45.6 +0.5**
comp=Z,45nm,1.9s
DAVOX Davos/Dischmat 88.03 321 P **P 00 00 44.3 -1.5**
DAVOX Davos/Dischmat 88.03 321 P **P 00 00 44.3 -1.5**
comp=Z,1.3nm,0.5s,baz=41,slow=6.2,SNR=6.4
WLF Walferdange 88.49 325 P **P 00 00 48.5 +1.0**
comp=Z,16nm,1.7s
WLF Walferdange 88.49 325 *e*P **P 00 00 49.0 +1.4**
comp=Z,8.0nm,1.0s
TUE Stuetta 88.51 321 *e*P **P 00 00 49.0 +1.0**
comp=Z,27nm,1.7s
CDF Champ du Feu 88.60 323 *e*P **P 00 00 48.2 -0.1**
comp=Z,21nm,1.1s
GIVF Givet 88.93 326 *e*P **P 00 00 49.4 -0.3**
HINF Hinteralfeld 89.17 323 *e*P **P 00 00 50.4 -0.5**
comp=Z,5.6nm,0.7s
EDM Edmonton 89.21 30 *e*P **P 00 00 51.6 +0.6**
EDM Edmonton 89.21 30 *e*P **P 00 00 51.6 +0.6**
BAIF Baives 89.27 326 *e*P **P 00 00 51.5 +0.2**
HAU Haudompre 89.34 323 *e*P **P 00 00 51.4 -0.3**
comp=Z,12nm,0.9s
HAU *e*R
comp=Z,331nm,17.5s
PAGF Fort de Pagny 89.36 324 *e*P **P 00 00 51.9 +0.2**
EKA Eskdalemuir Ar 89.36 333 P **P 00 00 51.8 +0.2**
EKA Eskdalemuir Ar 89.36 333 P **P 00 00 51.8 +0.2**
comp=Z,0.7nm,0.4s,baz=54,slow=11,SNR=4.2
SENIN Lac Senin/Sane 89.75 322 *e*P **P 00 00 54.1 +0.3**
comp=Z,71nm,2.4s
MEZF Maizieres J'vi 89.75 324 *e*P **P 00 00 53.7 +0.1**
SFTF Sexfontaines 89.94 324 *e*P **P 00 00 54.5 +0.1**
comp=Z,33nm,1.0s
CASY Casey 89.97 185 *e*P **P 00 00 54.3 +0.5**
comp=Z,72nm,2.5s
CABF La Chapelle 90.29 322 *e*P **P 00 00 56.0 -0.2**
NEW Newport 90.40 36 *e*P **P 00 00 58.2 +1.6**
comp=Z,8.6nm,0.8s
LPG La Plagne 90.55 321 *e*P **P 00 00 58.1 +0.4**
comp=Z,21nm,0.8s
LPL La Plagne 90.55 321 *e*P **P 00 00 57.9 +0.2**
comp=Z,13nm,0.8s
BNI Bardonecchia 90.85 321 *e*P **P 00 00 59.3 +0.4**
BNI pmax pmax
comp=Z,9.0nm,1.1s
BNI Bardonecchia 90.85 321 *e*P **P 00 00 59.3 +0.4**
comp=Z,8.5nm,1.1s
PGF Pioggiola 90.86 318 *e*P **P 00 00 59.4 +0.4**
comp=Z,13nm,0.9s
MBDF Montbardon 90.98 320 *e*P **P 00 00 58.9 -0.7**
comp=Z,5.7nm,0.7s
SBF Sospel 91.08 319 *e*P **P 00 00 59.4 -0.5**
comp=Z,14nm,0.8s
LOR Lormes 91.13 324 *e*P **P 00 00 59.8 -0.3**
comp=Z,19nm,1.2s
LOR *e*R
comp=Z,337nm,18.5s
ORIF Oris-en-Rattie 91.39 321 *e*P **P 00 01 01.6 +0.2**
comp=Z,14nm,1.0s
ORIF *e*R
comp=Z,334nm,18.5s
SSF Saint Saulge 91.45 324 *e*P **P 00 01 01.3 -0.2**
comp=Z,11nm,1.2s
SMF Signal de Mont 91.52 323 *e*P **P 00 01 01.7 -0.1**
comp=Z,33nm,1.2s
AVF Avril sur Loir 91.70 324 *e*P **P 00 01 02.6 0.0**
comp=Z,26nm,1.4s
FRF La Foret Royal 91.72 320 *e*P **P 00 01 02.7 -0.1**
BSMT Bassoo Peak 91.89 35 *e*P **P 00 01 05.6 +1.8**
LMR La Mourre 91.93 319 *e*P **P 00 01 03.7 -0.1**
comp=Z,26nm,1.4s
SMRF Simiane la Rot 92.11 320 *e*P **P 00 01 04.9 +0.2**
comp=Z,8.4nm,1.1s
VIVF Saint-Julien-l 92.12 321 *e*P **P 00 01 04.6 -0.1**
comp=Z,22nm,1.3s
LDF La Druitiere 92.40 326 *e*P **P 00 01 05.2 -0.7**
comp=Z,21nm,1.3s
FLN La Foliniere 92.48 327 *e*P **P 00 01 06.2 0.0**
comp=Z,14nm,1.1s
FLN *e*R
comp=Z,440nm,21.8s
TCF Toulx Ste Croi 92.63 324 *e*P **P 00 01 07.3 +0.3**
SLMT Seeley Lake 92.96 35 *e*P **P 00 01 09.1 +0.4**
MSO Missoula 92.98 35 *e*P P 00 01 15.1 +6.4
comp=Z,7.6nm,1.1s
LASF Ste Croix 93.06 321 *e*P **P 00 01 09.3 +0.3**
CAF Calviac 93.55 323 *e*P **P 00 01 11.8 +0.5**
comp=Z,19nm,1.3s
RJF Les Rejaudoux 93.62 323 *e*P **P 00 01 12.2 +0.6**
RJF *e*R
comp=Z,298nm,21.2s
MFF Saint Martin d 93.70 325 *e*P **P 00 01 12.1 +0.2**
KEST Kesra 94.35 312 P **P 00 01 15.4 +0.2**
KEST Kesra 94.35 312 P **P 00 01 15.4 +0.2**
comp=Z,1.0nm,0.9s,baz=359,slow=7.8,SNR=4.2
KEST LR LR 00 48 47.4
comp=Z,69nm,19.4s,baz=313,slow=39
LRM Limekiln Ridge 94.42 36 *e*P P 00 01 22.5 +7.0
MTLF Montolieu 94.44 321 *e*P **P 00 01 15.6 +0.2**
DLMT Dillon 94.64 36 *e*P **P 00 01 18.1 +1.7**
comp=Z,6.6nm,1.1s
HLID Hailey 94.77 38 *e*P **P 00 01 18.5 +1.4**
comp=Z,54nm,2.9s
NVAR Mina Array Bea 95.52 44 P **P 00 01 21.4 +0.6**
NVAR Mina Array Bea 95.52 44 P **P 00 01 21.4 +0.6**
comp=Z,0.3nm,0.6s,baz=312,slow=12,SNR=2.7
EPF Esparros 95.71 322 *e*P **P 00 01 22.2 +0.9**
ETSF Etsaut 96.30 322 *e*P **P 00 01 24.6 +0.6**
PDAR Pinedale Array 98.00 36 P Pdif 00 01 33.8 +1.9
PDAR PP **PP 00 05 30.9 +0.8**
PDAR Pinedale Array 98.00 36 P Pdif 00 01 33.8 +1.9
comp=Z,0.2nm,0.5s,baz=318,slow=1.2,SNR=2.5
PDAR PP **PP 00 05 30.9 +0.8**
comp=Z,1.1nm,1.1s,baz=316,slow=3.8,SNR=4.8
ULM Lac du Bonnet 98.78 24 LR LR 00 54 31.4
comp=Z,217nm,18.1s,baz=351,slow=40
ESDC Sonseca Array 100.35 321 PP PP 00 05 45.6 -2.3
ESDC Sonseca Array 100.35 321 PP PP 00 05 45.6 -2.3
comp=Z,0.1nm,0.3s,baz=31,slow=8.4,SNR=4.9
SCHQ Schefferville 101.56 6 P **Pdif 00 01 47.2 0.0**
SCHQ Schefferville 101.56 6 P **Pdif 00 01 47.2 0.0**
comp=Z,3.5nm,1.0s,baz=146,slow=9.5,SNR=2.5
TXAR Lajitas Array 110.65 43 PKiKP **PKiKP 00 06 28.9 +0.4**
TXAR Lajitas Array 110.65 43 PKiKP **PKiKP 00 06 28.9 +0.4**
comp=Z,0.2nm,0.7s,baz=289,slow=5.6,SNR=2.2
LIC Lamto 121.75 294 *e*PKIKP **PKPdf 00 06 50.0 0.0**
LIC *e*R
comp=Z,143nm,20.8s
LPAZ La Paz 166.96 59 PKP **PKPdf 00 08 03.1 +0.8**
LPAZ La Paz 166.96 59 PKP **PKPdf 00 08 03.1 +0.8**
comp=Z,0.4nm,0.4s,baz=12,slow=5.5,SNR=3.6

IDC 18 23:54:00.3±1.3,5.60N×127.43E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.7/25,mbtmp3.8/7,ML4.4/1,Error ellipse: s-maj=67.7km s-min=22.7km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.35**	**308**	Pn	Pb	23 54 41.9	-1.6
	92nm,0.3s,baz=248,slow=1.9,SNR=3.9						
DAV				Sn	Sb	23 55 12.1	-1.0
	45nm,0.3s,baz=240,slow=21,SNR=11						
WRA	**Warramunga Arr**	**26.28**	**165**	P	P	23 59 38.1	+0.5
	1.0nm,0.6s,baz=344,slow=10,SNR=5.2						
SONM	**Songino Array**	**45.77**	**340**	P	P	00 02 24.6	+0.8
	0.3nm,0.6s,baz=152,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**56.44**	**324**	P	P	00 03 42.0	-2.0
	0.3nm,0.4s,baz=116,slow=7.0,SNR=8.4						
ZALV	**Zalesovo Beam**	**59.26**	**332**	P	P	00 04 03.6	+0.1
	0.6nm,0.4s,baz=142,slow=7.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**60.56**	**327**	P	P	00 04 12.2	-0.3
	1.1nm,0.7s,baz=124,slow=6.6,SNR=10						
BVAR	**Borovoye Array**	**66.15**	**326**	P	P	00 04 49.7	+0.2
	0.5nm,0.5s,baz=133,slow=8.3,SNR=4.4						

---

*IDC **19** 00:03:46.9±0.8,23.36N×123.50E,h0km,mb3.8/12, mb1 3.9/14,mb1mx3.8/28,mbtmp3.8/14,ML3.9/2,Error ellipse: s-maj=25.9km s-min=17.5km az=72.0*
*ISCJB **19** 00:03:49.6±1.2,23.39N±0.05×123.54E±0.06,h31km±8km, mb3.6/12,Error ellipse: s-maj=9.8km s-min=7.1km az=136.0*
*JMA **19** 00:03:49.7±0.2,23.40N×123.53E,h47km±3km,M3.3*
ISC 19 00:03:50.6±2.3,**23.44N**±0.09×**123.53E**±0.07,**h24**km±14km, **n23,σ1=07/31,mb3.7/12,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.67**	**22**	P	**Pb**	**00 04 03.4**	**-0.2**
HATJ				S	**Sb**	**00 04 13.1**	**+0.7**
JKRS	**Kuro-shima**	**0.91**	**29**	P	**Pn**	**00 04 07.0**	**-0.9**
JKRS				S	**Sn**	**00 04 19.6**	**-0.7**
IRIF	**Iriomote-Funau**	**0.91**	**12**	P	**Pn**	**00 04 06.9**	**-1.0**
IRIF				S	**Sb**	**00 04 19.8**	**+0.4**
JIJ	**Ishigaki jima**	**1.08**	**31**	P	**Pn**	**00 04 09.0**	**-1.2**
JIJ				S	**Sn**	**00 04 22.5**	**-2.0**
YOJ	**Yonaguni jima**	**1.12**	**335**	P	**Pn**	**00 04 09.9**	**-0.9**
YOJ				*e*S	**Sn**	**00 04 24.4**	**-1.1**
JTJ	**Tarama**	**1.61**	**42**	P	**Pn**	**00 04 16.6**	**-0.9**
JTJ				*e*S	**Sn**	**00 04 37.1**	**-0.4**
JMJ	**Miyako jima 2**	**2.12**	**49**	P	**Pn**	**00 04 23.8**	**-0.7**
JMJ				*e*S	**Sn**	**00 04 49.8**	**-0.3**
JOGS	**Gusukube**	**2.16**	**52**	P	**Pn**	**00 04 24.4**	**-0.7**
JOGS				*e*S	**Sn**	**00 04 50.8**	**-0.4**
KSRS	**Korea Array**	**14.47**	**14**	Pn	**Pn**	**00 07 15.1**	**+1.2**
	0.3nm,0.3s,baz=192,slow=12,SNR=6.3						
MAT	**Matsushiro**	**18.20**	**41**	P	**P**	**00 08 01.7**	**-0.1**
MJAR	**Matsushiro Arr**	**18.20**	**41**	P	**P**	**00 08 02.4**	**+0.6**
	0.7nm,0.3s,baz=231,slow=8.9,SNR=8.3						
ASAJ	**Asahikawa**	**25.89**	**33**	P	**P**	**00 09 20.5**	**-0.2**
	3.8nm,0.5s,baz=230,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**27.92**	**335**	P	**P**	**00 09 37.6**	**-1.4**
	0.4nm,0.5s,baz=148,slow=8.7,SNR=4.5						
PETK	**Petropavlovsk-**	**39.31**	**32**	P	**P**	**00 11 16.5**	**-1.1**
	1.4nm,0.6s,baz=189,slow=5.9,SNR=4.0						
MKAR	**Makanchi Array**	**40.37**	**316**	P	**P**	**00 11 26.2**	**-0.3**
	0.3nm,0.4s,baz=103,slow=9.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**42.04**	**326**	P	**P**	**00 11 42.2**	**+2.1**
	0.7nm,0.4s,baz=108,slow=8.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**44.06**	**320**	P	**P**	**00 11 56.4**	**-0.2**
	0.2nm,0.4s,baz=110,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**44.39**	**165**	P	**P**	**00 11 58.2**	**-1.2**
	1.1nm,0.8s,baz=344,slow=8.8,SNR=9.6						
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**00 12 26.6**	**-0.5**
	0.6nm,0.5s,baz=351,slow=7.3,SNR=7.8						
BVAR	**Borovoye Array**	**49.61**	**321**	P	**P**	**00 12 40.3**	**+0.4**
	0.3nm,0.4s,baz=128,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**68.89**	**27**	P	**P**	**00 14 55.6**	**+2.5**
	0.2nm,0.6s,baz=292,slow=9.5,SNR=5.0						
FINES	**FINESS Array B**	**73.16**	**330**	P	**P**	**00 15 19.8**	**+0.7**
	3.6nm,1.1s,baz=51,slow=7.3,SNR=4.0						
GERES	**GERESS Array B**	**84.77**	**321**	P	**P**	**00 16 23.1**	**0.0**
	0.4nm,0.8s,baz=31,slow=5.9,SNR=4.0						

---

*IDC **19** 00:07:57.6±0.8,23.42N×123.64E,h0km,mb3.8/14, mb1 4.0/16,mb1mx3.9/28,mbtmp3.8/16,ML3.6/2,MS3.6/5, Ms1 3.6/5,ms1mx3.2/37,Error ellipse: s-maj=22.3km s-min=17.5km az=77.0*
*ISCJB **19** 00:07:59.2±1.0,23.35N±0.05×123.51E±0.03,h25km±6km, mb3.8/19,MS3.5/4,Error ellipse: s-maj=8.3km s-min=4.4km az=161.0*
*NEIC **19** 00:07:59.1±0.4,23.35N×123.47E,h10km,mb4.2/5,Error ellipse: s-maj=7.9km s-min=7.2km az=177.0*
*NIED **19** 00:08:00.2±0.2,23.35N×123.56E,h49km±4km,M4.3 Best double couple: M0=2.21000×10^15 NP1:φs=58.00000°,δ=76.00000°, λ=-48.00000°. NP2:φs=163.00000°,δ=44.00000°, λ=-160.00000°.*
*JMA **19** 00:08:00.0±0.2,23.35N×123.56E,h49km±4km,M4.3*
ISC 19 00:07:58.9±1.8,**23.36N**±0.06×**123.53E**±0.04,**h12**km±10km, **n58,σ1=19/70,mb3.9/19,MS3.4/4,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.74**	**20**	P	**Pb**	**00 08 14.3**	**+0.6**
HATJ				S	**Sb**	**00 08 24.4**	**+0.6**
JKRS	**Kuro-shima**	**0.98**	**27**	P	**Pg**	**00 08 17.8**	**0.0**
JKRS				*e*S	**Sg**	**00 08 30.8**	**+0.2**
IRIF	**Iriomote-Funau**	**0.99**	**11**	P	**Pg**	**00 08 17.8**	**-0.2**
IRIF				S	**Sb**	**00 08 31.5**	**+0.5**
JIJ	**Ishigaki jima**	**1.15**	**29**	P	**Pb**	**00 08 19.7**	**-1.0**
JIJ				*e*S	**Sb**	**00 08 33.9**	**-1.7**
YOJ	**Yonaguni jima**	**1.19**	**337**	P	**Pb**	**00 08 20.9**	**-0.6**
YOJ				*e*S	**Sb**	**00 08 36.4**	**-0.5**
JTJ	**Tarama**	**1.67**	**40**	P	**Pn**	**00 08 27.2**	**-0.8**
JTJ				*e*S	**Sn**	**00 08 46.0**	**-3.3**
NACB	**Ninganchiao**	**1.95**	**295**	*e*Pn	**Pn**	**00 08 30.8**	**-1.0**
NACB				Sn	**Sn**	**00 08 55.5**	**-0.7**
YULB	**Yu-li**	**2.05**	**271**	*e*Pn	**Pn**	**00 08 31.7**	**-1.5**
YULB				Sn	**Sn**	**00 08 56.2**	**-2.5**
JMJ	**Miyako jima 2**	**2.17**	**48**	P	**Pn**	**00 08 34.5**	**-0.4**
JMJ				*e*S	**Sn**	**00 09 00.9**	**-0.8**
JOGS	**Gusukube**	**2.21**	**51**	P	**Pn**	**00 08 35.1**	**-0.4**
TWG	**Pinlang**	**2.32**	**257**	*e*Pn	**Pn**	**00 08 35.5**	**-1.5**
TWG				*e*Sn	**Sn**	**00 09 02.5**	**-3.0**
YHNB	**Yeheng**	**2.36**	**304**	*e*Pn	**Pn**	**00 08 37.4**	**-0.2**
YHNB				*e*Sn	**Sb**	**00 09 09.5**	**-1.1**
SSLB	**Suanglung**	**2.40**	**281**	*e*Pn	**Pn**	**00 08 37.2**	**-0.9**
SSLB				*e*Sn	**Sn**	**00 09 05.3**	**-2.1**
TATO	**Taipei**	**2.46**	**311**	*e*Pn	**Pn**	**00 08 39.3**	**+0.4**
TPUB	**Ta-pu**	**2.66**	**269**	*e*Pn	**Pn**	**00 08 42.5**	**+0.8**
TPUB				*e*Sn	**Sn**	**00 09 13.4**	**-0.6**
KSAR	**Wonju Array Be**	**14.53**	**14**	Pn	**Pn**	**00 11 25.1**	**+0.7**
KSRS	**Korea Array**	**14.55**	**14**	Pn	**Pn**	**00 11 25.1**	**+0.4**
	0.2nm,0.3s,baz=186,slow=12,SNR=4.0						
KSRS				LR	LR	00 18 07.7	
	comp=Z,221nm,19.6s,baz=171,slow=42						
MAT	**Matsushiro**	**18.26**	**41**	P	**P**	**00 12 13.1**	**+0.7**
MJAR	**Matsushiro Arr**	**18.26**	**41**	P	**Pn**	**00 12 09.2**	**-3.0**
MJAR	**Matsushiro Arr**	**18.26**	**41**	P	**Pn**	**00 12 09.2**	**-3.0**
	0.2nm,0.3s,baz=228,slow=8.9,SNR=2.4						
CMAR	**Chiang Mai Arr**	**23.46**	**263**	P	**P**	**00 13 10.6**	**+2.1**
CMAR	**Chiang Mai Arr**	**23.46**	**263**	P	**P**	**00 13 10.6**	**+2.1**
	0.8nm,0.4s,baz=60,slow=7.8,SNR=7.0						
CMAR				LR	LR	00 23 47.5	
	comp=Z,112nm,18.2s,baz=70,slow=40						
ASAJ	**Asahikawa**	**25.96**	**33**	LR	LR	00 25 22.4	
	comp=Z,102nm,18.1s,baz=155,slow=40						
SONM	**Songino Array**	**27.99**	**335**	P	**P**	**00 13 49.0**	**-0.6**
SONM	**Songino Array**	**27.99**	**335**	P	**P**	**00 13 49.0**	**-0.6**
	0.5nm,0.6s,baz=148,slow=9.0,SNR=6.2						
SONM				LR	LR	00 26 25.9	
	comp=Z,158nm,20.6s,baz=242,slow=40						
PETK	**Petropavlovsk-**	**39.38**	**32**	P	**P**	**00 15 27.7**	**-0.6**
PETK	**Petropavlovsk-**	**39.38**	**32**	P	**P**	**00 15 27.7**	**-0.6**
	0.5nm,0.5s,baz=284,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**40.42**	**316**	P	**P**	**00 15 37.5**	**+0.4**
MKAR				PcP	**PcP**	**00 17 39.8**	**-0.2**
MKAR	**Makanchi Array**	**40.42**	**316**	P	**P**	**00 15 37.5**	**+0.4**
	0.5nm,0.6s,baz=97,slow=11,SNR=5.3						
MKAR				PcP	**PcP**	**00 17 39.8**	**-0.2**
	0.1nm,0.4s,baz=113,slow=4.9,SNR=2.5						
FITZ	**Fitzroy Crossi**	**41.26**	**177**	*e*P	**P**	**00 15 44.2**	**+0.1**
	2.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.26**	**177**	LR	LR	00 33 03.8	
	comp=Z,60nm,19.6s,baz=301,slow=36						
ZALV	**Zalesovo Beam**	**42.10**	**327**	P	**P**	**00 15 52.4**	**+1.6**
ZALV	**Zalesovo Beam**	**42.10**	**327**	P	**P**	**00 15 52.4**	**+1.6**
	0.8nm,0.4s,baz=112,slow=8.8,SNR=5.2						
TKM2	**Tokmak 2**	**43.96**	**308**	*e*P	**P**	**00 16 07.2**	**+1.0**
	5.2nm,0.7s						
KURK	**Kurchatov**	**44.10**	**320**	P	**P**	**00 16 08.3**	**+1.3**
KURBB	**Kurchatov Arra**	**44.12**	**320**	P	**P**	**00 16 08.3**	**+1.2**
	0.5nm,0.3s,baz=116,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**44.31**	**165**	P	**P**	**00 16 09.2**	**+0.3**
WRA	**Warramunga Arr**	**44.31**	**165**	P	**P**	**00 16 09.2**	**+0.3**
	2.3nm,1.0s,baz=347,slow=9.2,SNR=7.1						
AAK	**Ala-Archa**	**44.71**	**308**	P	**P**	**00 16 12.3**	**+0.1**
EKS2	**Erkin-Say**	**45.23**	**308**	*e*P	**P**	**00 16 16.7**	**+0.4**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**47.82**	**167**	P	**P**	**00 16 37.5**	**+0.9**
ASAR	**Alice Springs**	**47.82**	**167**	P	**P**	**00 16 37.5**	**+0.9**
	0.6nm,0.5s,baz=352,slow=7.2,SNR=9.4						
KBL	**Kabul**	**48.

ILAR	**Eielson Array**	**68.96**	**27**	P		**P**	**00 19 04.5**	**+0.8**
ILAR	**Eielson Array**	**68.96**	**27**	P		**P**	**00 19 04.5**	**+0.8**
	0.2nm,0.5s,baz=260,slow=5.4,SNR=3.6							
INK	**Inuvik**	**73.18**	**22**	P		**P**	**00 19 29.8**	**+0.6**
INK	**Inuvik**	**73.18**	**22**	P		**P**	**00 19 29.8**	**+0.6**
	3.2nm,1.1s,baz=339,slow=8.5,SNR=3.5							
FINES	**FINESS Array B**	**73.23**	**330**	P		**P**	**00 19 30.6**	**+0.9**
FINES	**FINESS Array B**	**73.23**	**330**	P		**P**	**00 19 30.6**	**+0.9**
	2.3nm,0.9s,baz=60,slow=4.6,SNR=4.4							
NB2	**NORSAR Subarra**	**79.94**	**333**	P		P	00 20 13.4	+5.7
	comp=Z,0.8nm,0.6s,baz=56,slow=5.6							
NOA	**NORSAR Array B**	**79.94**	**333**	P		**P**	**00 20 07.8**	**+0.1**
NOA	**NORSAR Array B**	**79.94**	**333**	P		**P**	**00 20 07.8**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=57,slow=4.9,SNR=2.8							
GERES	**GERESS Array B**	**84.83**	**321**	P		**P**	**00 20 34.1**	**+0.5**
GERES	**GERESS Array B**	**84.83**	**321**	P		**P**	**00 20 34.1**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=39,slow=5.0,SNR=5.9							

*NIED **19** 00:13:00, 23°.40N×123°.50E, h11km, Mw4.0 Best double couple: M0:1.28000×10^15 NP1:φ=317.00000°, δ72.00000°, λ107.00000°. NP2:φ=91.00000°, δ25.00000°, λ47.00000°.*
*IDC **19** 00:13:01.2±0.8, 23°.38N×123°.45E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/27, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=28.5km s-min=17.3km az=71.0*
*NEIC **19** 00:13:02.8±0.4, 23°.37N×123°.41E, h10km, mb4.1/1, Error ellipse: s-maj=8.2km s-min=6.2km az=164.0*
*ISCJB **19** 00:13:03.5±0.5, 23°.38N±0°.04×123°.46E±0°.03, h30km, mb3.7/12, Error ellipse: s-maj=7.0km s-min=3.2km az=154.0*
*JMA **19** 00:13:04.1±0.1, 23°.38N×123°.53E, h46km±2km, M3.5*

ISC 19 00:13:05.4±0.7, 23°.42N±0°.06×123°.46E±0°.04, h30km, n41, σ1°.04/55, mb3.8/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.71**	**27**	P	**Pb**	**00 13 18.0**	**-1.2**
HATJ				S	**Sb**	**00 13 27.8**	**-0.9**
IRIF	**Iriomote-Funau**	**0.94**	**15**	P	**Pn**	**00 13 21.5**	**-1.1**
IRIF				S	**Sn**	**00 13 34.5**	**-0.5**
JKRS	**Kuro-shima**	**0.96**	**32**	P	**Pn**	**00 13 21.5**	**-1.2**
JKRS				S	**Sn**	**00 13 34.4**	**-1.0**
YOJ	**Yonaguni jima**	**1.11**	**339**	P	**Pn**	**00 13 24.5**	**-0.4**
YOJ				S	**Sb**	**00 13 39.4**	**-0.7**
JTJ	**Tarama**	**1.66**	**43**	P	**Pn**	**00 13 31.2**	**-1.3**
JTJ				*e*S	**Sn**	**00 13 51.5**	**-1.3**
NACB	**Ninganchiao**	**1.86**	**294**	*e*Pn	**Pn**	**00 13 33.7**	**-1.5**
NACB				Sn	**Sn**	**00 13 56.1**	**-1.6**
YULB	**Yu-li**	**1.98**	**270**	*e*Pn	**Pn**	**00 13 35.3**	**-1.6**
YULB				Sn	**Sn**	**00 13 58.5**	**-2.3**
JMJ	**Miyako jima 2**	**2.18**	**50**	P	**Pn**	**00 13 38.5**	**-1.0**
JMJ				*e*S	**Sn**	**00 14 03.7**	**-1.8**
JOGS	**Gusukube**	**2.22**	**53**	P	**Pn**	**00 13 38.9**	**-1.3**
JOGS				*e*S	**Sn**	**00 14 05.4**	**-1.3**
YHNB	**Yeheng**	**2.27**	**304**	*e*Pn	**Pn**	**00 13 40.2**	**-0.7**
TWG	**Pinlang**	**2.28**	**255**	*e*Pn	**Pn**	**00 13 39.3**	**-1.6**
TWG				*e*Sn	**Sn**	**00 14 05.9**	**-2.1**
SSLB	**Suanglung**	**2.32**	**279**	*e*Pn	**Pn**	**00 13 40.7**	**-0.9**
SSLB				*e*Sn	**Sn**	**00 14 08.1**	**-1.1**
TATO	**Taipei**	**2.37**	**311**	*e*Pn	**Pn**	**00 13 41.2**	**-1.0**
TPUB	**Ta-pu**	**2.60**	**268**	*e*Pn	**Pn**	**00 13 45.6**	**+0.2**
TPUB				*e*Sn	**Sn**	**00 14 15.4**	**-0.6**
KSAR	**Wonju Array Be**	**14.48**	**14**	Pn	**Pn**	**00 16 29.4**	**+1.2**
KSRS	**Korea Array**	**14.50**	**14**	Pn	**Pn**	**00 16 29.4**	**+0.9**
	0.3nm,0.3s,baz=192,slow=13,SNR=6.1						
MJAR	**Matsushiro Arr**	**18.25**	**41**	P	**Pn**	**00 17 17.0**	**+0.5**
MJAR	**Matsushiro Arr**	**18.25**	**41**	P	**Pn**	**00 17 17.0**	**+0.5**
	0.4nm,0.3s,baz=228,slow=9.9,SNR=7.8						
SONM	**Songino Array**	**27.90**	**335**	P	**P**	**00 18 52.5**	**-0.3**
SONM	**Songino Array**	**27.90**	**335**	P	**P**	**00 18 52.5**	**-0.3**
	0.8nm,0.8s,baz=150,slow=9.3,SNR=4.7						
PETK	**Petropavlovsk-**	**39.36**	**32**	P	**P**	**00 20 31.9**	**0.0**
PETK	**Petropavlovsk-**	**39.36**	**32**	P	**P**	**00 20 31.9**	**0.0**
	1.6nm,0.6s,baz=197,slow=4.5,SNR=6.0						
MKAR	**Makanchi Array**	**40.33**	**316**	P	**P**	**00 20 40.4**	**+0.2**
MKAR	**Makanchi Array**	**40.33**	**316**	P	**P**	**00 20 40.4**	**+0.2**
	0.3nm,0.4s,baz=99,slow=9.2,SNR=8.0						
ZALV	**Zalesovo Beam**	**42.02**	**327**	P	**P**	**00 20 54.2**	**+0.3**
ZALV	**Zalesovo Beam**	**42.02**	**327**	P	**P**	**00 20 54.2**	**+0.3**
	0.8nm,0.3s,baz=104,slow=6.1,SNR=2.7						
TKM2	**Tokmak 2**	**43.87**	**308**	*e*P	**P**	**00 21 09.4**	**+0.1**
	2.8nm,0.9s						
KURK	**Kurchatov**	**44.01**	**320**	P	**P**	**00 21 10.8**	**+0.8**
KURBB	**Kurchatov Arra**	**44.03**	**320**	P	**P**	**00 21 10.8**	**+0.6**
	0.6nm,0.9s,baz=115,slow=8.3,SNR=3.3						
WRA	**Warramunga Arr**	**44.39**	**165**	P	**P**	**00 21 13.1**	**-0.3**
WRA	**Warramunga Arr**	**44.39**	**165**	P	**P**	**00 21 13.1**	**-0.3**
	1.7nm,0.8s,baz=346,slow=9.2,SNR=8.0						
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**00 21 41.1**	**+0.1**
ASAR	**Alice Springs**	**47.90**	**167**	P	**P**	**00 21 41.1**	**+0.1**
	0.8nm,0.5s,baz=352,slow=8.0,SNR=13						
BVAR	**Borovoye Array**	**49.58**	**321**	P	**P**	**00 21 55.0**	**+1.4**
BVAR				PcP	**PcP**	**00 23 15.1**	**+0.2**
BVAR	**Borovoye Array**	**49.58**	**321**	P	**P**	**00 21 55.0**	**+1.4**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=3.6						
BVAR				PcP	**PcP**	**00 23 15.1**	**+0.2**
	0.4nm,0.5s,baz=104,slow=4.6,SNR=2.6						
ILAR	**Eielson Array**	**68.93**	**27**	P	**P**	**00 24 08.2**	**+0.9**
ILAR	**Eielson Array**	**68.93**	**27**	P	**P**	**00 24 08.2**	**+0.9**
	0.3nm,0.7s,baz=293,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**73.14**	**330**	P	**P**	**00 24 34.2**	**+1.4**
FINES	**FINESS Array B**	**73.14**	**330**	P	**P**	**00 24 34.2**	**+1.4**
	1.8nm,0.8s,baz=44,slow=5.8,SNR=5.4						
GERES	**GERESS Array B**	**84.74**	**321**	P	**P**	**00 25 37.4**	**+0.6**
GERES	**GERESS Array B**	**84.74**	**321**	P	**P**	**00 25 37.4**	**+0.6**
	0.4nm,0.8s,baz=52,slow=5.2,SNR=5.2						

WEL 19 00:13:10.5±0.4, 38°.60S×175°.84E, h174km±2km, ML3.5/12, 4C-1D, Error ellipse: s-maj=3.2km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.69**	**192**	⇑PN	Pn	00 13 35.7	0.0
TUVZ				SN	Sn	00 13 54.8	-0.4
FWVZ	**Far West T-bar**	**0.69**	**199**	⇑PN	Pn	00 13 35.6	-0.2
WNVZ	**Wahianoa**	**0.75**	**195**	PN	Pn	00 13 36.0	-0.1
WNVZ				SN	Sn	00 13 56.4	+0.5
BKZ	**Black Stump Fm**	**0.76**	**138**	⇑PN	Pn	00 13 36.0	0.0
BKZ				SN	Sn	00 13 54.7	-1.1
MOVZ	**Moawhango**	**0.81**	**185**	PN	Pn	00 13 36.1	-0.3
BHHZ	**Black Hill Sta**	**0.91**	**169**	PN	Pn	00 13 36.9	-0.1
BHHZ				SN	Sn	00 13 56.2	-1.3
WAZ	**Wanganui**	**1.33**	**210**	PN	Pn	00 13 40.0	-0.3
PNHZ	**Pukenui**	**1.34**	**168**	PN	Pn	00 13 40.7	+0.2
MWZ	**Matawai**	**1.35**	**79**	PN	Pn	00 13 40.2	-0.3
TSZ	**Takapari Road**	**1.46**	**176**	⇑PN	Pn	00 13 41.6	0.0
WPHZ	**Waipukurau**	**1.54**	**163**	PN	Pn	00 13 42.6	+0.3
MHGZ	**Mahia Peninsul**	**1.71**	**110**	PN	Pn	00 13 44.4	+0.5
DVHZ	**Dannevirke**	**1.72**	**172**	PN	Pn	00 13 43.8	-0.3
POWZ	**Post Office Ro**	**1.79**	**182**	PN	Pn	00 13 44.4	-0.5
MRZ	**Mangatainoka R**	**2.07**	**186**	PN	Pn	00 13 47.0	-0.9
MRZ				AML	AML	00 14 17.3	
MRZ				AML	AML	00 14 17.4	
BFZ	**Birch Farm**	**2.10**	**172**	PN	Pn	00 13 47.7	-0.5
TIWZ	**Tintock**	**2.18**	**179**	PN	Pn	00 13 47.3	-1.8
MXZ	**Matakaoa Point**	**2.20**	**63**	*e*PN	Pn	00 13 48.0	-1.3
OGWZ	**Otaki Gorge**	**2.28**	**193**	PN	Pn	00 13 49.3	-0.9
HOWZ	**Holdsworth Sta**	**2.31**	**186**	PN	Pn	00 13 49.3	-1.3
KIW	**Kapiti Island**	**2.37**	**197**	PN	Pn	00 13 49.8	-1.5
MTW	**Mount Morrison**	**2.57**	**186**	PN	Pn	00 13 51.7	-1.9
DUWZ	**D'Urville Isla**	**2.65**	**213**	PN	Pn	00 13 52.5	-2.1
TRWZ	**Traveller**	**2.80**	**182**	PN	Pn	00 13 54.8	-1.5
MSWZ	**Moikau Station**	**2.85**	**189**	PN	Pn	00 13 55.1	-1.9
TCW	**Tory Channel**	**2.88**	**204**	⇓PN	Pn	00 13 55.4	-1.9
PLWZ	**Palliser**	**3.00**	**188**	PN	Pn	00 13 56.7	-2.2
TUWZ	**Tuamarina**	**3.18**	**207**	PN	Pn	00 13 58.6	-2.5
NNZ	**Nelson**	**3.23**	**215**	PN	Pn	00 13 58.9	-2.7
QRZ	**Quartz Range**	**3.39**	**228**	PN	Pn	00 13 59.8	-3.8
BSWZ	**Blackbirch Sta**	**3.46**	**205**	PN	Pn	00 14 02.1	-2.3
THZ	**Tophouse**	**3.88**	**215**	PN	Pn	00 14 06.5	-3.4
KHZ	**Kahutara**	**4.20**	**204**	PN	Pn	00 14 11.3	-2.6
MQZ	**McQueen's Vall**	**5.64**	**204**	PN	Pn	00 14 28.2	-4.4

WEL 19 00:13:53.2±0.4, 46°.20S×165°.85E, h33km, ML3.7/13, 2D, Error ellipse: s-maj=5.2km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.17**	**52**	PN	Pn	00 14 12.7	-0.5
DCZ				SN	Sn	00 14 26.5	-1.4
DCZ				SN	Sb	00 14 27.2	-2.4
DCZ				AML	AML	00 14 27.4	
DCZ				AML	AML	00 14 30.2	
WHZ	**Wether Hill Ro**	**1.50**	**79**	⇓PN	Pn	00 14 17.9	+0.1
WHZ				SN	Sn	00 14 35.1	-1.1
WHZ				AML	AML	00 14 36.6	
APZ	**The Paps**	**1.61**	**114**	⇓PN	Pn	00 14 18.5	-0.9
APZ				SN	Sn	00 14 36.2	-2.9
MLZ	**Mavora Lakes**	**1.84**	**63**	PN	Pn	00 14 23.5	+0.9
MLZ				AML	AML	00 14 49.5	
MLZ				AML	AML	00 14 50.0	
SYZ	**Scrubby Hill**	**2.31**	**100**	PN	Pn	00 14 28.4	-0.5
SYZ				SN	Sn	00 14 54.2	-1.9
EAZ	**Earnscleugh**	**2.61**	**69**	PN	Pn	00 14 34.7	+1.6
EAZ				AML	AML	00 15 10.4	
EAZ				AML	AML	00 15 11.9	
WKZ	**Wanaka**	**2.62**	**60**	PN	Pn	00 14 35.9	+2.7
WKZ				AML	AML	00 15 12.6	
WKZ				AML	AML	00 15 12.7	
TUZ	**Tuapeka**	**2.65**	**86**	PN	Pn	00 14 33.9	+0.3
TUZ				AML	AML	00 15 08.1	
TUZ				AML	AML	00 15 08.7	
JCZ	**Jackson Bay**	**2.96**	**45**	PN	Pn	00 14 40.8	+2.7
JCZ				AML	AML	00 15 23.5	
JCZ				AML	AML	00 15 30.3	
LBZ	**Lake Benmore**	**3.56**	**61**	PN	Pn	00 14 47.7	+1.6
LBZ				AML	AML	00 15 31.8	
ODZ	**Otahua Downs**	**3.56**	**73**	PN	Pn	00 14 45.7	-0.4
FOZ	**Fox Glacier**	**3.79**	**47**	PN	Pb	00 14 54.5	-4.9

IDC 19 00:27:30.1±3.0, 1°.53S×99°.54E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/34, Error ellipse: s-maj=127.3km s-min=19.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.35**	**352**	Pn	Pn	00 28 38.1	+0.5
	0.3nm,0.3s,baz=96,slow=18,SNR=2.0						
PSI				LR	LR	00 30 11.6	
	comp=Z,98nm,18.1s,baz=351,slow=38						
CMAR	**Chiang Mai Arr**	**19.87**	**358**	P	P	00 32 01.9	-1.2
	0.3nm,0.3s,baz=196,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**38.63**	**121**	P	P	00 34 55.2	-0.3
	0.6nm,0.7s,baz=302,slow=9.0,SNR=8.1						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	00 35 06.3	+0.2
	0.3nm,0.4s,baz=298,slow=8.0,SNR=3.0						
SONM	**Songino Array**	**49.53**	**6**	P	P	00 36 25.1	+2.4
	0.5nm,0.8s,baz=202,slow=7.2,SNR=2.9						
MKAR	**Makanchi Array**	**50.46**	**345**	P	P	00 36 29.6	-0.1
	0.6nm,0.5s,baz=146,slow=7.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**56.63**	**350**	P	P	00 37 14.6	-0.1
	0.4nm,0.3s,baz=157,slow=4.7,SNR=3.5						
TXAR	**Lajitas Array**	**144.61**	**36**	PKP	PKPbc	00 47 08.8	+0.6
	0.5nm,0.6s,baz=248,slow=1.3,SNR=7.4						

*IDC **19** 00:34:18.1±3.1, 4°.55S×133°.80E, h0km, mb3.3/1, mb1 4.1/4, mb1mx3.7/18, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=130.4km s-min=28.4km az=82.0*
*ISCJB **19** 00:34:25.0±1.6, 4°.48S±0°.07×132°.8E±0°.2, h33km, mb3.3/1, Error ellipse: s-maj=33.3km s-min=10.4km az=0.0*
*AUST **19** 00:34:36.0, 4°.97S×132°.53E, h60km*

ISC 19 00:34:26.3±1.8, 4°.5S±0°.1×132°.9E±0°.3, h35km, n9, σ2°.05/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.18**	**189**	S	**Sn**	**00 34 59.8**	**-1.3**
	baz=0.7,SNR=9.7						
KDU	**Kakadu**	**8.18**	**183**	P	**Pn**	**00 36 23.8**	**+1.2**
	baz=7.7,SNR=4.7						
KDU				S	**Sn**	**00 37 55.3**	**+1.5**
	baz=7.7,SNR=3.1						
MTN	**Manton Dam**	**8.51**	**192**	P	**Pn**	**00 36 28.5**	**+1.5**
	baz=8.0,SNR=5.1						
MTN				S	**Sn**	**00 38 04.8**	**+2.9**
	baz=8.0,SNR=4.4						
KNRA	**Kununurra**	**11.87**	**200**	P	**Pn**	**00 37 14.0**	**+0.9**
	baz=11,SNR=4.7						
FITZ	**Fitzroy Crossi**	**15.31**	**207**	Pn	**Pn**	**00 37 59.7**	**-0.1**
	0.4nm,0.3s,baz=25,slow=16,SNR=9.6						
FITZ				Sn	**Sn**	**00 40 47.6**	**-0.8**
	0.2nm,0.3s,baz=213,slow=14,SNR=6.8						
FITZ	**Fitzroy Crossi**	**15.31**	**207**	P	**Pn**	**00 37 59.9**	**0.0**
	baz=15,SNR=8.0						
WRA	**Warramunga Arr**	**15.44**	**175**	Pn	Pn	00 37 54.3	-7.3
	0.2nm,0.3s,baz=359,slow=13,SNR=9.8						
WRA				Sn	Sn	00 40 39.0	-13
	0.2nm,0.3s,baz=359,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**19.11**	**177**	P	**P**	**00 38 42.4**	**-4.0**
	0.3nm,0.3s,baz=4.8,slow=11,SNR=27						
MKAR	**Makanchi Array**	**67.77**	**325**	P	**P**	**00 45 21.4**	**+0.9**
	0.2nm,0.6s,baz=120,slow=8.5,SNR=3.1						

IDC 19 00:40:45.9±1.4, 35°.09S×179°.32W, h0km, mb4.4/3, mb1 4.5/5, mb1mx4.0/18, mbtmp4.3/5, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/26, Error ellipse: s-maj=36.9km s-min=29.1km az=125.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.27**	**221**	Pn	Pn	00 41 53.1	+0.9
	8.3nm,0.3s,baz=56,slow=5.3,SNR=23						
URZ				Sn	Sn	00 42 42.3	-0.5
	8.7nm,0.3s,baz=163,slow=21,SNR=6.6						
RAO	**Raoul Island**	**5.94**	**12**	LR	LR	00 43 18.2	
	comp=Z,201nm,21.5s,baz=175,slow=26						
RPZ	**Rata Peaks**	**11.38**	**218**	Pn	Pn	00 43 28.3	-1.4
	0.8nm,0.3s,baz=75,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**32.62**	**264**	LR	LR	00 59 53.1	
	comp=Z,162nm,20.9s,baz=29,slow=35						
CTA	**Charters Tower**	**33.78**	**287**	P	P	00 47 30.8	+1.2
	5.3nm,0.8s,baz=115,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**41.98**	**273**	P	P	00 48 38.8	-0.1
	4.8nm,0.7s,baz=114,slow=7.4,SNR=37						
ASAR				LR	LR	01 06 59.9	
	comp=Z,207nm,19.1s,baz=187,slow=38						
WRA	**Warramunga Arr**	**43.39**	**278**	P	P	00 48 49.5	-0.9
	2.3nm,0.5s,baz=124,slow=7.2,SNR=5.5						
WRA				LR	LR	01 08 00.3	
	comp=Z,158nm,18.0s,baz=255,slow=38						
KURBB	**Kurchatov Arra**	**123.44**	**312**	PKP	PKPdf	00 59 43.7	-0.8
	0.4nm,0.7s,baz=113,slow=1.9,SNR=4.1						
KBZ	**Khabaz**	**146.56**	**298**	PKPbc	PKPdf	01 00 27.4	-0.1
	1.3nm,0.8s,baz=203,slow=4.0,SNR=4.4						
FINES	**FINESS Array B**	**149.07**	**336**	PKPbc	PKPbc	01 00 34.7	-0.5
	5.8nm,0.8s,baz=46,slow=5.5,SNR=9.7						
TORD	**Torodi Ar. Bea**	**158.14**	**183**	PKPab	PKPab	01 01 19.4	+0.5
	0.6nm,0.7s,baz=202,slow=3.4,SNR=3.7						

IDC 19 00:42:16.9±2.0, 6°.67S×129°.68E, h0km, mb4.0/1, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/38, Error ellipse: s-maj=79.5km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.03**	**199**	Pn	Pn	00 45 10.0	+0.3
	0.3nm,0.3s,baz=27,slow=14,SNR=15						
FITZ				Sn	Sn	00 47 09.5	-15
	0.9nm,0.3s,baz=63,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**13.95**	**162**	Pn	Pn	00 45 35.0	-1.0
	0.6nm,0.3s,baz=340,slow=14,SNR=33						
WRA				Sn	Sn	00 47 55.3	-17
	1.2nm,0.3s,baz=336,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.39**	**167**	Pn	Pn	00 46 21.6	+0.5
	0.3nm,0.3s,baz=341,slow=8.9,SNR=11						
RAO	**Raoul Island**	**54.15**	**121**	LR	LR	01 12 12.7	
	comp=Z,48nm,19.0s,baz=357,slow=33						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	00 53 16.6	0.0
	0.7nm,0.4s,baz=116,slow=8.0,SNR=10						

IDC 19 00:43:31.7±7.6, 0°.95S×100°.19E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/22, mbtmp3.9/3, Error ellipse: s-maj=377.6km s-min=27.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.37**	**122**	P	P	00 50 54.9	0.0
	0.6nm,0.4s,baz=303,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**50.08**	**344**	P	P	00 52 28.3	-0.1
	1.1nm,0.6s,baz=171,slow=6.3,SNR=13						
ZALV	**Zalesovo Beam**	**56.18**	**349**	P	P	00 53 13.3	+0.1
	0.7nm,0.3s,baz=187,slow=5.8,SNR=3.1						
TXAR	**Lajitas Array**	**143.75**	**37**	PKP	PKPbc	01 03 07.8	+0.7
	0.5nm,0.6s,baz=298,slow=2.7,SNR=7.3						

*IDC **19** 01:07:04.8±0.8, 23°.60N×123°.54E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.7/24, mbtmp3.7/10, Error ellipse: s-maj=33.3km s-min=18.1km az=68.0*
*JMA **19** 01:07:07.6±0.2, 23°.44N×123°.54E, h48km±3km, M3.3*
*ISCJB **19** 01:07:08.7±1.3, 23°.50N±0°.08×123°.52E±0°.06, h43km±11km, mb3.5/10, Error ellipse: s-maj=13.5km s-min=9.1km az=4.7*

ISC 19 01:07:10.3±0.9, 23°.6N±0°.1×123°.54E±0°.07, h38km±4km, n18, σ0°.87/27, mb3.6/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.55**	**26**	P	**Pn**	**01 07 20.8**	**-0.9**
HATJ				*e*S	**Sn**	**01 07 30.7**	**+1.1**
IRIF	**Iriomote-Funau**	**0.79**	**13**	P	**Pn**	**01 07 24.2**	**-0.6**
IRIF				*e*S	**Sn**	**01 07 36.3**	**+0.9**
JKRS	**Kuro-shima**	**0.80**	**33**	P	**Pn**	**01 07 24.5**	**-0.5**
JKRS				*e*S	**Sn**	**01 07 36.7**	**+1.0**
JIJ	**Ishigaki jima**	**0.97**	**35**	P	**Pn**	**01 07 26.4**	**-0.9**
JIJ				*e*S	**Sn**	**01 07 40.1**	**+0.2**
YOJ	**Yonaguni jima**	**1.01**	**332**	P	**Pn**	**01 07 27.6**	**-0.4**
YOJ				*e*S	**Sn**	**01 07 41.5**	**+0.5**
JTJ	**Tarama**	**1.51**	**45**	P	**Pn**	**01 07 34.3**	**-0.5**
JTJ				*e*S	**Sn**	**01 07 53.6**	**+0.4**
JMJ	**Miyako jima 2**	**2.03**	**52**	P	**Pn**	**01 07 41.4**	**-0.5**
JMJ				*e*S	**Sn**	**01 08 06.8**	**+0.8**
JOGS	**Gusukube**	**2.08**	**55**	P	**Pn**	**01 07 42.0**	**-0.6**
JOGS				*e*S	**Sn**	**01 08 08.3**	**+1.0**
SONM	**Songino Array**	**27.81**	**335**	P	**P**	**01 12 55.8**	**0.0**
	0.2nm,0.4s,baz=151,slow=9.2,SNR=3.0						
PETK	**Petropavlovsk-**	**39.20**	**32**	P	**P**	**01 14 34.9**	**+0.4**
	0.7nm,0.3s,baz=191,slow=7.0,SNR=3.4						
MKAR	**Makanchi Array**	**40.28**	**316**	P	**P**	**01 14 43.7**	**0.0**
	0.3nm,0.4s,baz=102,slow=9.6,SNR=9.4						
MKAR				PcP	**PcP**	**01 16 47.5**	**+0.7**
	0.3nm,0.6s,baz=101,slow=4.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**41.94**	**326**	P	**P**	**01 14 57.4**	**+0.3**
	0.4nm,0.4s,baz=122,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**43.97**	**320**	P	**P**	**01 15 11.6**	**-2.0**
	0.4nm,0.7s,baz=115,slow=7.6,SNR=3.5						
WRA	**Warramunga Arr**	**44.51**	**165**	P	**P**	**01 15 17.2**	**-0.9**
	0.2nm,0.6s,baz=345,slow=8.8,SNR=3.5						
ASAR	**Alice Springs**	**48.02**	**167**	P	**P**	**01 15 47.0**	**+1.3**
	0.2nm,0.3s,baz=353,slow=14,SNR=3.5						
ILAR	**Eielson Array**	**68.77**	**27**	P	**P**	**01 18 09.2**	**-0.8**
	0.4nm,0.5s,baz=257,slow=5.3,SNR=7.8						
FINES	**FINESS Array B**	**73.06**	**330**	P	**P**	**01 18 36.6**	**+0.5**
	2.7nm,0.9s,baz=151,slow=4.4,SNR=5.9						
GERES	**GERESS Array B**	**84.68**	**321**	P	**P**	**01 19 41.0**	**+0.8**
	0.7nm,0.7s,baz=41,slow=6.5,SNR=7.8						

WEL 19 01:08:56.6±0.3, 44°.64S×168°.16E, h81km±2km, ML3.5/12, 3C-5D, Error ellipse: s-maj=2.3km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.17**	**259**	⇑PN	Pn	01 09 07.7	-0.7
MSZ				SN	Sn	01 09 16.5	-0.6
MSZ				AML	AML	01 09 17.2	
MSZ				AML	AML	01 09 17.3	
MSZ				AML	AML	01 09 17.4	
WKZ	**Wanaka**	**0.64**	**107**	⇓PN	Pn	01 09 12.1	+0.3
WKZ				SN	Sn	01 09 23.0	-0.1
WKZ				AML	AML	01 09 24.9	
WKZ				AML	AML

MTBL	**Makushin Table**	**2.14 285**	P	**Pn**	**01 13 12.5**	**0.0**
MREP	**Makushin Rep't**	**2.15 280**	P	**Pn**	**01 13 12.9**	**+0.3**
MSW	**Makushin Switc**	**2.19 283**	P	**Pn**	**01 13 12.8**	**-0.3**
SDPT	**Sand Point**	**2.45 39**	P	**Pn**	**01 13 16.1**	**-0.4**
SDPT			S	**Sn**	**01 13 46.4**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**2.92 270**	P	**Pn**	**01 13 22.6**	**-0.5**
OKCE	**Okmok Cone E**	**2.99 271**	P	**Pn**	**01 13 24.9**	**+0.9**
OKSP	**Okmok Steeple**	**3.08 268**	P	**Pn**	**01 13 25.1**	**-0.2**
NIKH	**Nikolski High**	**3.45 264**	P	**Pn**	**01 13 29.9**	**-0.5**
VNHG	**Veniaminof 1**	**3.59 39**	P	**Pn**	**01 13 33.6**	**+1.2**
CHGN	**Chignik**	**3.94 42**	*e*Pn	**Pn**	**01 13 36.1**	**-1.0**
CHGN			*e*Sn	**Sn**	**01 14 22.2**	**+0.1**
ILAR	**Eielson Array**	**14.01 30**	LR	LR	01 21 49.7	
comp=Z,83nm,18.9s,baz=319,slow=39						
SONM	**Songino Array**	**53.88 303**	P	**P**	**01 21 58.8**	**0.0**
0.7nm,0.7s,baz=58,slow=7.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**64.05 321**	P	**P**	**01 23 08.5**	**-0.6**
1.0nm,1.0s,baz=40,slow=7.1,SNR=3.7						
BVAR	**Borovoye Array**	**64.88 328**	P	**P**	**01 23 15.2**	**+0.7**
1.2nm,0.8s,baz=54,slow=7.3,SNR=5.5						
MKAR	**Makanchi Array**	**65.67 317**	P	**P**	**01 23 19.8**	**0.0**
0.2nm,0.5s,baz=29,slow=6.6,SNR=2.5						
AKTO	**Aktyubinsk**	**70.81 334**	P	**P**	**01 23 52.3**	**+0.4**
1.9nm,0.7s,baz=9.4,slow=5.5,SNR=7.2						
GERES	**GERESS Array B**	**78.01 2**	P	**P**	**01 24 33.0**	**-0.8**
0.3nm,0.6s,baz=358,slow=5.9,SNR=3.8						

BJI ***19*** *01:15:13.0, 2.25S×99.54E, h55km, mB4.9/29, mb4.7/41, Ms4.5/33, Ms7 4.3/32*
IDC ***19*** *01:15:13.8±0.4, 1.40S×99.52E, h0km, mb4.7/27, mb1 4.7/29, mb1mx4.7/31, mbtmp4.6/29, ML4.2/2, MS3.8/15, Ms1 3.8/15, ms1mx3.5/44, Error ellipse: s-maj=15.5km s-min=11.1km az=58.0*
ISCJB ***19*** *01:15:15.8±0.9, 1.43S±0.03×99.36E±0.03, h23km±6km, mb4.9/154, MS4.0/27, Error ellipse: s-maj=5.4km s-min=4.5km az=138.7*
NEIC ***19*** *01:15:15.2±0.2, 1.44S×99.43E, h10km, mb4.9/53, Error ellipse: s-maj=6.8km s-min=4.9km az=56.0*
SZGRF ***19*** *01:15:16.1, 2.49S×99.19E, h33km, mb4.8, Southern Sumatera, Indonesia*
MOS ***19*** *01:15:17.4±0.9, 1.32S×99.52E, h33km, mb5.1/55, Error ellipse: s-maj=10.8km s-min=4.7km az=119.9*
DJA ***19*** *01:15:18.3±2.1, 1.5±3.3×10.0E±.4, h10km, M5.0/12, mB5.3/8, mb4.8/12, MLv5.5/2, Mw(mB)4.7/8*
AUST ***19*** *01:15:19.4, 1.40S×99.49E, h30km*
ISC 19 01:15:21.2±0.4, 1.46S±0.04×99.44E±0.04, h54km±2km, n457, σ1§18/493, mb4.9/155, MS4.0/27, 48C-17D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.16**	**62**	P	Pn	01 15 37.0	-4.2
PDSI				S	**Sn**	**01 15 53.7**	**-2.4**
PPI	**Padang Panjang**	**1.38**	**44**	P	**Pn**	**01 15 41.1**	**-3.1**
PPI	**Padang Panjang**	**1.38**	**44**	P	Pn	01 15 40.8	-3.5
baz=1.3,SNR=123							
RGRI	**Rengat**	**3.10**	**69**	P	**Pn**	**01 16 09.2**	**+1.5**
RGRI				S	Sn	01 16 55.2	+12
MASI	**Maura Aman, Be**	**3.26**	**121**	P	**Pn**	**01 16 08.0**	**-1.9**
KSI	**Kapahiang**	**3.83**	**125**	P	**Pn**	**01 16 18.1**	**+0.3**
PSI	**Prapat**	**4.26**	**353**	Pn	Pn	01 16 19.7	-4.1
PSI	**Prapat**	**4.26**	**353**	Pn	Pn	01 16 19.7	-4.1
2.8nm,0.3s,baz=170,slow=12,SNR=16							
PSI				LR	LR	01 18 14.3	
comp=Z,1μm,18.4s,baz=167,slow=44							
PSI	**Prapat**	**4.26**	**353**	P	**Pn**	**01 16 20.9**	**-2.9**
baz=4.1,SNR=8.1							
EGSI	**Enggano, Bengk**	**4.79**	**144**	P	Pn	01 16 34.0	+3.1
TSI	**Tuntungan**	**5.00**	**350**	P	Pn	01 16 43.5	+10
KGM	**Kluang**	**5.20**	**48**	P	**Pn**	**01 16 36.9**	**+0.4**
MYKOM	**Kota Tinggi**	**5.47**	**54**	P	Pn	01 16 44.0	+3.8
MYKOM	**Kota Tinggi**	**5.47**	**54**	P	**Pn**	**01 16 37.7**	**-2.5**
142nm,0.9s,3μm							
LWLI	**Liwa**	**5.81**	**128**	P	**Pn**	**01 16 45.0**	**0.0**
500nm,0.7s,8μm2.3nm							
IPM	**Ipoh**	**6.11**	**15**	*e*Pn	**Pn**	**01 16 47.6**	**-1.4**
IPM	**Ipoh**	**6.11**	**15**	P	**Pn**	**01 16 49.6**	**+0.6**
IPM	**Ipoh**	**6.11**	**15**	P	**Pn**	**01 16 49.0**	**0.0**
KLSI		**6.18**	**121**	P	**Pn**	**01 16 48.7**	**-1.3**
129nm,0.9s,1μm							
KLI	**Kotabumi**	**6.38**	**122**	P	Pn	01 16 57.5	+4.8
KASI	**Kota Agung**	**6.46**	**129**	P	Pn	01 16 50.4	-3.4
KULM	**Kulim**	**6.81**	**10**	*e*Pn	**Pn**	**01 16 57.5**	**-1.2**
KULM				*e*Sn	**Sn**	**01 18 19.0**	**+4.1**
KULM	**Kulim**	**6.81**	**10**	P	**Pn**	**01 16 57.6**	**-1.0**
KULM	**Kulim**	**6.81**	**10**	P	**Pn**	**01 16 57.8**	**-0.8**
KTGM	**Kuala Trenggan**	**7.69**	**29**	P	**Pn**	**01 17 11.2**	**+0.6**
BSI	**Banda Aceh**	**8.05**	**329**	P	Pn	01 17 26.5	+11
LEM	**Lembang**	**9.74**	**123**	P	Pn	01 17 44.7	+5.8
CMBY	**CAMPBELL BAY**	**10.05**	**327**	*e*P	**Pn**	**01 17 40.9**	**-2.1**
CMBY				AMB	AMB	01 18 59.2	
comp=Z,94nm,1.4s							
SBUM	**Sibu**	**13.36**	**73**	P	**Pn**	**01 18 30.3**	**+2.1**
SBUM	**Sibu**	**13.36**	**73**	P	**Pn**	**01 18 29.1**	**+0.9**
SJI	**Sawahan**	**13.78**	**117**	P	P	01 18 37.5	-3.4
DGPR	**DIGLIPUR**	**15.91**	**336**	*e*P	Pn	01 18 56.4	-5.4
UBPT	**Khong Chiam**	**17.67**	**20**	P	**P**	**01 19 25.1**	**+1.1**
comp=Z,18nm,1.0s,comp=Z,1μm							
PBKT	**Sadao Pong**	**17.98**	**5**	P	**Pn**	**01 19 28.5**	**+1.1**
comp=Z,8.6nm,0.7s,comp=Z,1μm							
KKM	**Kota Kinabalu**	**18.34**	**66**	*e*P	**P**	**01 19 30.4**	**-1.1**
comp=Z,33nm,0.9s							
KKM	**Kota Kinabalu**	**18.34**	**66**	P	**Pn**	**01 19 34.5**	**+2.6**
KKM	**Kota Kinabalu**	**18.34**	**66**	P	**Pn**	**01 19 34.0**	**+2.0**
comp=Z,50nm,0.9s,comp=Z,624nm							
KKM	**Kota Kinabalu**	**18.34**	**66**	P	**Pn**	**01 19 32.6**	**+0.7**
baz=18,SNR=3.1							
SDKM	**Sandakan**	**19.09**	**68**	P	**P**	**01 19 39.9**	**+0.2**
KDM	**Kudat**	**19.25**	**64**	P	**Pn**	**01 19 44.8**	**+1.9**
TSM	**Tawau**	**19.29**	**73**	P	**Pn**	**01 19 42.6**	**-0.7**
MMSI	**Mamuju**	**19.50**	**94**	P	**P**	**01 19 43.2**	**-1.0**
CM31	**Chiang Mai Arr**	**19.80**	**359**	*e*P	**P**	**01 19 46.9**	**-0.4**
comp=Z,16nm,0.8s							
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**01 19 46.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**01 19 46.6**	**-0.7**
comp=Z,1.1nm,0.3s,baz=186,slow=10.0,SNR=35							
CMMT	**Chiang Mai**	**20.15**	**359**	P	Pn	01 19 55.6	+2.1
comp=Z,12nm,1.0s							
CHTO	**Chiang Mai**	**20.15**	**359**	*e*P	**P**	**01 19 50.3**	**-0.9**
CHTO				pmax	pmax		
comp=Z,8.0nm,0.7s							
CHTO	**Chiang Mai**	**20.15**	**359**	*e*P	**P**	**01 19 50.3**	**-0.9**
comp=Z,8.1nm,0.7s							
CHTO	**Chiang Mai**	**20.15**	**359**	P	Pn	01 19 56.0	+2.5
comp=Z,13nm,1.0s							
MYLDM	**Lahad Datu**	**20.15**	**71**	P	Pn	01 19 59.3	+5.8
MYLDM	**Lahad Datu**	**20.15**	**71**	P	Pn	01 19 54.7	+1.2
comp=Z,57nm,0.9s							
TTSI	**Tana Toraja**	**20.43**	**95**	P	**P**	**01 19 53.4**	**-0.8**
KAPI	**Kappang**	**20.59**	**100**	*e*P	**P**	**01 19 56.0**	**+0.1**
comp=Z,77nm,1.2s							
KAPI	**Kappang**	**20.59**	**100**	P	**P**	**01 19 55.9**	**0.0**
KAPI	**Kappang**	**20.59**	**100**	P	**P**	**01 19 53.3**	**-2.6**
comp=Z,38nm,1.0s,baz=289,slow=12,SNR=7.3							
PALK	**Pallekele**	**20.61**	**295**	*e*P	**P**	**01 19 57.5**	**+1.2**
comp=Z,29nm,0.9s							
PALK	**Pallekele**	**20.61**	**295**	P	**P**	**01 19 57.4**	**+1.2**
comp=Z,40nm,1.1s							
BKSI	**Bulukumba**	**21.00**	**101**	P	**P**	**01 19 56.6**	**-3.8**
MRSI	**Marisa**	**22.58**	**85**	P	**P**	**01 20 17.8**	**+0.4**
QIZ	**Qiongzhong**	**22.79**	**26**	P	**P**	**01 20 17.8**	**-1.7**
QIZ				pP	**pP**	**01 20 31.3**	**-0.4**
QIZ				S	**S**	**01 24 24.9**	**+0.2**
QIZ				pmax	pmax		
comp=Z,3.0nm,0.6s							
QIZ				pmax	pmax		
comp=Z,39nm,7.3s							
QIZ				LR	LR		
comp=N,340nm,11.2s							
QIZ				LR	LR		
comp=E,120nm,12.1s							
QIZ				LR	LR		
comp=Z,400nm,13.1s							
TRD	**Trivandrum**	**24.50**	**294**	*e*x	x	01 21 10.2	
VIS	**Vishakhapatnam**	**24.80**	**321**	*e*P	**P**	**01 20 37.6**	**-0.8**
VIS				AMB	AMB	01 20 39.4	
comp=Z,41nm,0.6s							
KMI	**Kunming**	**26.62**	**7**	P	**P**	**01 20 58.8**	**+3.7**
KMI				pP	**pP**	**01 21 10.4**	**+1.8**
KMI				sP	**sP**	**01 21 17.3**	**+2.3**
KMI				PP	PnPn	01 21 45.5	+7.4
KMI				S	**S**	**01 25 28.0**	**+1.5**
KMI				sS	**sS**	**01 25 50.8**	**+1.3**
KMI				pmax	pmax		
comp=Z,8.0nm,0.9s							
KMI				pmax	pmax		
comp=Z,68nm,6.4s							
KMI				LR	LR		
comp=N,180nm,13.6s							
KMI				LR	LR		
comp=E,500nm,11.7s							
KMI				LR	LR		
comp=Z,430nm,12.7s							
MBWA	**Marble Bar**	**27.84**	**136**	*e*P	**P**	**01 21 06.4**	**+0.5**
comp=Z,14nm,1.1s							
SHL	**Shillong**	**27.84**	**345**	*e*P	**P**	**01 21 03.6**	**-2.4**
SHL				*e*P	**P**	**01 21 05.0**	**-1.0**
SHL				AMB	AMB	01 21 13.4	
comp=Z,13nm,1.2s							
HYB	**Hyderabad**	**27.85**	**313**	*e*P	**P**	**01 21 05.5**	**-0.5**
HYB				AMB	AMB	01 21 27.0	
comp=Z,12nm,0.0s							
BOK	**Bokaro**	**28.35**	**333**	*e*P	**P**	**01 21 10.3**	**0.0**
BOK				AMB	AMB	01 21 12.1	
comp=Z,46nm,0.7s							
GYA	**Guiyang**	**28.62**	**14⇑**	*i*P	**P**	**01 21 15.0**	**+2.2**
GYA				pP	**pP**	**01 21 25.8**	**-0.6**
GYA				sP	**sP**	**01 21 32.0**	**-0.8**
GYA				PP	**PnPn**	**01 22 08.6**	**+3.3**
GYA				S	**S**	**01 25 58.9**	**+1.1**
GYA				sS	**sS**	**01 26 19.8**	**-1.1**
GYA				pmax	pmax		
comp=Z,20nm,0.8s							
GYA				pmax	pmax		
comp=Z,120nm,4.8s							
GYA				LR	LR		
comp=N,950nm,17.4s							
GYA				LR	LR		
comp=E,820nm,18.0s							
GYA				LR	LR		
comp=Z,880nm,17.3s							
ODAN	**Odare**	**30.46**	**338**	*e*P	**P**	**01 21 29.3**	**0.0**
comp=Z,24nm,0.6s							
TAPN	**Taplejung**	**30.79**	**339**	*e*P	**P**	**01 21 31.0**	**-1.3**
comp=Z,72nm,1.0s							
RAMN	**Ramite**	**30.84**	**337**	*e*P	**P**	**01 21 33.0**	**+0.4**
comp=Z,19nm,0.6s							
JIRN	**Jiri**	**31.63**	**337**	*e*P	**P**	**01 21 39.8**	**0.0**
comp=Z,38nm,0.6s							
SWI	**Sorong**	**31.82**	**89**	P	P	01 21 47.9	+6.7
PKI	**Pulchoki**	**31.86**	**336**	*e*P	**P**	**01 21 41.4**	**-0.4**
comp=Z,16nm,0.8s							
GUN	**Gumba**	**31.98**	**337**	*e*P	**P**	**01 21 42.8**	**0.0**
comp=Z,64nm,0.6s							
LSA	**Lhasa**	**31.98**	**346**	P	**P**	**01 21 42.8**	**-0.1**
LSA	**Lhasa**	**31.98**	**346**	*e*P	**P**	**01 21 43.4**	**+0.5**
LSA				pmax	pmax		
comp=Z,13nm,0.6s							
LSA	**Lhasa**	**31.98**	**346**	*e*P	**P**	**01 21 43.4**	**+0.5**
comp=Z,12nm,0.6s							
DMN	**Daman**	**32.02**	**336**	*e*P	**P**	**01 21 42.9**	**-0.2**
comp=Z,44nm,1.1s							
TWG	**Pinlang**	**32.05**	**40**	*e*P	**P**	**01 21 45.0**	**+1.9**
comp=Z,306nm,0.3s							
KKN	**Kakani**	**32.11**	**336**	*e*P	**P**	**01 21 43.5**	**-0.3**
comp=Z,44nm,1.0s							
CD2	**Chengdu**	**32.45**	**7**	*e*P	**P**	**01 21 48.9**	**+2.4**
CD2				pP	**pP**	**01 22 00.5**	**+0.3**
CD2				sP	**sP**	**01 22 06.0**	**-0.5**
CD2				PP	**PP**	**01 22 58.5**	**-2.3**
CD2				S	**S**	**01 27 00.3**	**+2.6**
CD2				pmax	pmax		
comp=Z,10.0nm,1.0s							
CD2				pmax	pmax		
comp=Z,80nm,4.8s							
CD2				LR	LR		
comp=N,430nm,13.2s							
CD2				LR	LR		
comp=E,550nm,16.6s							
CD2				LR	LR		
comp=Z,440nm,10.2s							
BHPL	**Bhopal**	**32.59**	**320**	*e*P	**P**	**01 21 47.5**	**-0.3**
BHPL				AMB	AMB	01 22 25.6	
comp=Z,9.0nm,5.1s							
KOLN	**Koldanda**	**32.81**	**333**	*e*P	**P**	**01 21 50.0**	**+0.1**
comp=Z,48nm,0.8s							
ENH	**Enshi**	**32.98**	**16**	*e*P	**P**	**01 21 48.8**	**-2.3**
comp=Z,6.3nm,0.4s							
DANN	**Dangsing**	**33.24**	**334**	*e*P	**P**	**01 21 53.5**	**-0.3**
comp=Z,91nm,1.0s							
PYUN	**Piuthan**	**33.37**	**333**	*e*P	**P**	**01 21 54.6**	**-0.2**
comp=Z,95nm,1.0s							
XAN	**Xi'an**	**36.42**	**13**	P	**P**	**01 22 18.1**	**-2.7**
XAN				S	**S**	**01 28 02.4**	**+3.6**
XAN				pmax	pmax		
comp=Z,3.0nm,0.7s							
XAN				LR	LR		
comp=N,240nm,15.2s							
XAN				LR	LR		
comp=E,87nm,16.6s							
XAN				LR	LR		
comp=Z,180nm,15.9s							
LZH	**Lanzhou**	**37.58**	**6**	*e*P	**P**	**01 22 33.8**	**+3.0**
LZH				pP	**pP**	**01 22 45.8**	**+1.2**
LZH				sP	**sP**	**01 22 55.0**	**+4.1**
LZH				PP	**PnPn**	**01 24 04.0**	**+5.2**
LZH				*e*S	**S**	**01 28 18.3**	**+1.7**
LZH				sS	sS	01 28 45.1	+5.1
LZH				pmax	pmax		
comp=Z,23nm,1.0s							
LZH				pmax	pmax		
comp=Z,140nm,5.1s							
LZH				LR	LR		
comp=N,340nm,12.0s							
LZH				LR	LR		
comp=E,270nm,12.5s							
LZH				LR	LR		
comp=Z,490nm,16.0s							
NJ2	**Nanjing**	**38.07**	**27**	*e*P	**P**	**01 22 35.3**	**+0.5**
NJ2				pmax	pmax		
comp=Z,40nm,1.1s							
SMLA	**Simla**	**38.71**	**329**	*e*P	**P**	**01 22 39.3**	**-0.8**
SMLA				AMB	AMB	01 22 41.2	
comp=Z,18nm,2.1s							
WRA	**Warramunga Arr**	**38.75**	**121**	P	**P**	**01 22 39.0**	**-1.7**
WRA				PcP	**PcP**	**01 24 52.0**	**+0.4**
WRA				S	**S**	**01 28 31.9**	**-2.6**
WRA	**Warramunga Arr**	**38.75**	**121**	P	**P**	**01 22 39.0**	**-1.7**
comp=Z,9.9nm,0.6s,baz=302,slow=9.1,SNR=58							
WRA				PcP	**PcP**	**01 24 52.0**	**+0.4**
comp=Z,2.3nm,0.7s,baz=309,slow=2.5,SNR=4.5							
WRA				S	**S**	**01 28 31.9**	**-2.6**
comp=Z,3.1nm,1.2s,baz=299,slow=17,SNR=4.5							
WRA				LR	LR	01 38 13.5	
comp=Z,185nm,21.8s,baz=265,slow=36							
WRAB	**Tennant Creek**	**38.76**	**121**	*e*P	**P**	**01 22 38.8**	**-2.0**
WRAB				pmax	pmax		
comp=Z,12nm,0.6s							
WRAB	**Tennant Creek**	**38.76**	**121**	*e*P	**P**	**01 22 38.8**	**-2.0**
comp=Z,12nm,0.6s							
FORT	**Forrest**	**39.81**	**140**	*e*P	**P**	**01 22 50.3**	**+0.9**
comp=Z,35nm,0.9s							
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**01 22 50.5**	**-0.8**
ASAR				PcP	**PcP**	**01 24 56.2**	**+0.6**
ASAR				ScP	**ScP**	**01 28 44.5**	**+4.1**
ASAR				S	**S**	**01 28 52.0**	**-1.6**
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**01 22 50.5**	**-0.8**
comp=Z,6.9nm,0.7s,baz=300,slow=7.9,SNR=63							
ASAR				PcP	**PcP**	**01 24 56.2**	**+0.6**
comp=Z,3.0nm,0.7s,baz=313,slow=2.1,SNR=9.1							
ASAR				ScP	**ScP**	**01 28 44.5**	**+4.1**
comp=Z,1.0nm,0.9s,baz=309,slow=4.7,SNR=4.5							
ASAR				S	**S**	**01 28 52.0**	**-1.6**
comp=Z,3.5nm,1.0s,baz=296,slow=14,SNR=15							
AS31	**Alice Springs**	**40.02**	**126**	*e*P	**P**	**01 22 50.6**	**-0.7**
DHRM	**DHARAMSHALA**	**40.05**	**329**	*e*P	**P**	**01 22 50.4**	**-1.2**
DHRM				AMB	AMB	01 22 51.8	
comp=Z,17nm,1.1s							
GTA	**Gaotai**	**40.67**	**0**	*e*P	P	01 23 01.3	+4.8
GTA				pP	pP	01 23 11.3	+0.8
GTA				sP	sP	01 23 15.0	-1.8
GTA				S	S	01 29 10.0	+7.0
GTA				SS	**SS**	**01 32 06.9**	**+1.7**
GTA				pmax	pmax		
comp=Z,6.0nm,1.1s							
GTA				pmax	pmax		
comp=Z,96nm,4.3s							
GTA				LR	LR		
comp=N,180nm,15.4s							
GTA				LR	LR		
comp=E,230nm,17.8s							
GTA				LR	LR		
comp=Z,200nm,18.8s							
HHC	**Hu-ho-hao-te**	**43.54**	**13**	*e*P	**P**	**01 23 21.3**	**+1.5**
HHC				pP	**pP**	**01 23 33.6**	**-0.3**
HHC				sP	**sP**	**01 23 39.0**	**-1.1**
HHC				PP	**PcP**	**01 25 05.0**	**-1.9**
HHC				S	**S**	**01 29 47.0**	**+1.9**
HHC				sS	**sS**	**01 30 07.9**	**-0.9**
HHC				SS	**SS**	**01 32 55.4**	**-6.1**
HHC				ScS	**ScS**	**01 33 14.4**	**-0.5**
HHC				pmax	pmax		
comp=Z,32nm,0.6s							
HHC				pmax	pmax		
comp=Z,120nm,4.8s							
HHC				LR	LR		
comp=N,310nm,15.0s							
HHC				LR	LR		
comp=E,870nm,15.2s							
HHC				LR	LR		
comp=Z,800nm,15.2s							
BJI	**Beijing**	**44.05**	**19**	P	**P**	**01 23 22.8**	**-1.0**
BJI				pmax	pmax		
comp=Z,9.0nm,0.8s							
BJI				LR	LR		
comp=N,160nm,19.6s							
BJI				LR	LR		
comp=E,220nm,19.6s							
BJI				LR	LR		
comp=Z,79nm,16.7s							
COEN	**Coen**	**44.98**	**108**	*e*P	**P**	**01 23 33.3**	**+1.6**
JNU	**Nakatsue**	**45.41**	**38**	*e*P	**P**	**01 23 33.7**	**-1.2**
comp=Z,15nm,0.9s							
JNU	**Nakatsue**	**45.41**	**38**	LR	LR	01 44 05.3	
comp=Z,89nm,20.1s,baz=52,slow=38							
KBL	**Kabul**	**45.77**	**324**	*e*P	**P**	**01 23 36.6**	**-1.3**
KBL				pmax	pmax		
comp=Z,5.0nm,0.8s							
KBL	**Kabul**	**45.77**	**324**	*e*P	**P**	**01 23 36.5**	**-1.3**
comp=Z,5.0nm,0.8s							
KSH	**Kashi**	**46.11**	**335**	*e*P	**P**	**01 23 38.3**	**-2.0**
KSH				sP	**sP**	**01 24 01.3**	**+0.6**
KSH				PP	**PP**	**01 25 27.3**	**-2.1**
KSH				S	S	01 30 15.6	-6.9
KSH				pmax	pmax		
comp=Z,7.0nm,0.8s							
KSH				pmax	pmax		
comp=Z,60nm,3.9s							
KSH				LR	LR		
comp=N,100nm,5.4s							
KSH				LR	LR		
comp=E,32nm,3.5s							
KSH				LR	LR		
comp=Z,100nm,5.3s							
WMQ	**Urumqi**	**46.29**	**348**	P	**P**	**01 23 42.5**	**+0.9**
WMQ				sP	**sP**	**01 24 01.1**	**-0.9**
WMQ				PP	**PP**	**01 25 30.4**	**-0.8**
WMQ				S	**S**	**01 30 22.3**	**-2.5**
WMQ				sS	**sS**	**01 30 48.5**	**-0.2**
WMQ				ScS	**ScS**	**01 33 29.4**	**-2.9**
WMQ				pmax	pmax		
comp=Z,42nm,1.0s							
WMQ				pmax	pmax		
comp=Z,75nm,3.5s							
WMQ				LR	LR		
comp=N,77nm,20.0s							
WMQ				LR	LR		
comp=E,75nm,25.0s							
WMQ				LR	LR		
comp=Z,63nm,22.0s							
KSAR	**Wonju Array Be**	**46.82**	**31**	P	**P**	**01 23 44.7**	**-1.1**
KSRS	**Korea Array**	**46.85**	**31**	P	**P**	**01 23 44.7**	**-1.3**
comp=Z,4.5nm,0.6s,baz=225,slow=8.3,SNR=19							
PMG	**Port Moresby**	**48.11**	**101**	*e*P	**P**	**01 23 55.8**	**-0.4**
comp=Z,27nm,1.0s							
TKM2	**Tokmak 2**	**49.12**	**337**	*e*P	**P**	**01 24 04.1**	**+0.4**
TKM2				pmax	pmax		
comp=Z,14nm,0.8s							
TKM2	**Tokmak 2**	**49.12**	**337**	P	**P**	**01 24 04.2**	**+0.5**
SNR=15							
TKM2	**Tokmak 2**	**49.12**	**337**	*e*P	**P**	**01 24 04.1**	**+0.4**
comp=Z,14nm,0.8s							
KBK	**Karagaybulak**	**49.15**	**336**	*i*P	**P**	**01 24 05.1**	**+1.1**
KBK	**Karagaybulak**	**49.15**	**336**	P	**P**	**01 24 05.0**	**+1.1**
SNR=6.5							
AML	**Almayashu**	**49.24**	**335**	*i*P	**P**	**01 24 05.1**	**+0.2**
AML	**Almayashu**	**49.24**	**335**	P	**P**	**01 24 05.1**	**+0.2**
SNR=12							
AAK	**Ala-Archa**	**49.32**	**336⇓**	*e*P	**P**	**01 24 05.9**	**+0.7**
AAK				pmax	pmax		
comp=Z,21nm,1.7s							
AAK	**Ala-Archa**	**49.32**	**336**	*e*P	**P**	**01 24 05.3**	**+0.1**
comp=Z,6.9nm,0.8s							
AAK	**Ala-Archa**	**49.32**	**336**	P	**P**	**01 24 05.6**	**+0.4**
comp=Z,3.5nm,0.5s,baz=186,slow=7.6,SNR=5.0							
CTAO	**Charters Tower**	**49.34**	**115**	*e*P	**P**	**01 24 06.1**	**+0.5**
CTAO				pmax	pmax		
comp=Z,11nm,0.9s							
CTAO	**Charters Tower**	**49.34**	**115**	*e*P	**P**	**01 24 06.1**	**+0.5**
comp=Z,11nm,0.9s							
SONM	**Songino Array**	**49.47**	**6**	P	**P**	**01 24 06.0**	**-0.3**
SONM				PcP	**PcP**	**01 25 27.9**	**+0.3**
SONM	**Songino Array**	**49.47**	**6**	P	**P**	**01 24 06.0**	**-0.3**
comp=Z,3.7nm,0.7s,baz=188,slow=10.0,SNR=22							
SONM				PcP	**PcP**	**01 25 27.9**	**+0.3**
comp=Z,3.4nm,0.9s,baz=191,slow=4.9,SNR=5.0							
ULN	**Ulaanbaatar**	**49.57**	**7**	*e*P	**P**	**01 24 06.9**	**-0.2**
comp=Z,4.2nm,0.8s							
EKS2	**Erkin-Say**	**49.64**	**335**	*e*P	**P**	**01 24 07.7**	**+0.1**
EKS2				pmax	pmax		
comp=Z,15nm,0.8s							
EKS2	**Erkin-Say**	**49.64**	**335**	P	**P**	**01 24 08.0**	**+0.4**
SNR=15							
EKS2	**Erkin-Say**	**49.64**	**335**	*e*P	**P**	**01 24 07.7**	**+0.1**
comp=Z,15nm,0.8s							
USP	**Ospenovka**	**49.84**	**336**	*i*P	**P**	**01 24 09.0**	**-0.1**
USP	**Ospenovka**	**49.84**	**336**	P	**P**	**01 24 09.0**	**-0.1**
SNR=12							
STKA	**Stephens Creek**	**49.93**	**132**	*e*P	**P**	**01 24 10.0**	**+0.2**
comp=Z,1.9nm,0.9s							
STKA	**

MDJ SS **SS** **01 35 37.6 -3.2**
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,54nm,6.8s
MDJ LR LR
comp=N,120nm,23.8s
MDJ LR LR
comp=E,120nm,22.9s
MDJ LR LR
comp=Z,100nm,21.0s
OPO Ambohidratompo 53.94 248 LR LR 01 43 28.6
comp=Z,147nm,18.9s,baz=146,slow=31
USRK Ussuriysk Arra 53.96 29 P **P** **01 24 38.7 -0.8**
comp=Z,8.0nm,0.7s,baz=234,slow=5.6,SNR=21
KURBB Kurchatov Arra 54.88 344 P **P** **01 24 45.5 -0.6**
comp=Z,6.3nm,0.9s,baz=162,slow=7.2,SNR=43
KURK Kurchatov 54.94 344 P **P** **01 24 45.5 -1.0**
KURK Kurchatov 54.94 344 P **P** **01 24 45.5 -1.0**
ZAA0 Zalesovo Array 56.54 350 *e*P **P** **01 24 57.2 -0.8**
ZALV Zalesovo Beam 56.54 350 P **P** **01 24 57.4 -0.6**
ZALV S **S** **01 32 46.9 +1.3**
ZALV Zalesovo Beam 56.54 350 P **P** **01 24 57.4 -0.6**
ZALV S **S** **01 32 46.9 +1.3**
ZALV Zalesovo Beam 56.54 350 P **P** **01 24 57.4 -0.6**
comp=Z,14nm,0.7s,baz=164,slow=6.0,SNR=60
ZALV S **S** **01 32 46.9 +1.3**
comp=Z,1.5nm,0.7s,baz=152,slow=13,SNR=8.9
ARMA Armidale 57.17 126 P **P** **01 25 05.9 +2.8**
baz=57,SNR=5.3
KLR Kul'dur 57.67 24 *e*P P 01 25 01.4 -4.7
NVS Novosibirsk 57.68 349 *i*P **P** **01 25 03.6 -2.4**
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,13nm,1.2s
ATD Arta Tunnel 57.69 285 LR LR 01 46 40.5
comp=Z,54nm,18.5s,baz=132,slow=33
RAYN Ar Rayn 57.98 299 *e*P **P** **01 25 07.8 -1.0**
comp=Z,11nm,0.8s
RDF Al-Radifah 58.08 306 *e*P **P** **01 25 08.8 -0.6**
RDF AMb AMB 01 25 10.2
comp=Z,86nm,0.9s
UMR Umm Al-Rimmam 58.18 306 *e*P **P** **01 25 08.7 -1.4**
UMR AMb AMB 01 25 10.6
comp=Z,77nm,0.8s
NAY Al-Naaiem 58.45 306 *e*P **P** **01 25 11.0 -0.9**
NAY AMb AMB 01 25 11.8
comp=Z,2.2nm,0.7s
MIB Mutribah 58.58 307 *e*P **P** **01 25 12.2 -0.6**
MIB AMb AMB 01 25 13.5
comp=Z,107nm,0.9s
RST Umm Al-Ruwaisa 58.74 306 *e*P **P** **01 25 12.8 -1.2**
RST AMb AMB 01 25 14.1
comp=Z,461nm,0.8s
VOSK Vostochnaya 59.04 340 P **P** **01 25 13.8 -1.8**
VOSK pmax pmax
comp=Z,7.0nm,0.8s
BVA0 Borovoye Array 59.49 340 P **P** **01 25 16.3 -2.4**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 59.49 340 P **P** **01 25 17.6 -1.1**
BVAR Borovoye Array 59.49 340 P **P** **01 25 17.6 -1.1**
BVAR Borovoye Array 59.49 340 P **P** **01 25 17.6 -1.1**
comp=Z,5.3nm,0.7s,baz=140,slow=9.8,SNR=26
BRVK Borovoye 59.55 340*c i*P **P** **01 25 17.7 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BRVK Borovoye 59.55 340 *e*P **P** **01 25 17.4 -1.7**
comp=Z,6.1nm,0.9s
AB31 Akbulak array 60.90 332 *i*P **P** **01 25 26.9 -1.5**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 60.90 332 *e*P **P** **01 25 27.1 -1.3**
comp=Z,7.4nm,0.7s
YSS Yuzh-Sakhalins 61.33 32 *e*P **P** **01 25 32.0 +0.7**
YSS *e* 01 25 39.0
YSS pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 62.17 270 *e*P **P** **01 25 39.0 +1.1**
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 62.17 270 P **P** **01 25 39.0 +1.1**
comp=Z,9.5nm,0.9s,baz=63,slow=9.8,SNR=29
KMBO LR LR 01 48 16.7
comp=Z,89nm,21.2s,baz=90,slow=32
KMBO Kilima Mbogo 62.17 270 P **P** **01 25 39.3 +1.4**
baz=62,SNR=5.9
AKTO Aktyubinsk 62.62 332 P **P** **01 25 38.0 -1.9**
AKTO Aktyubinsk 62.62 332 P **P** **01 25 38.0 -1.9**
AKTO Aktyubinsk 62.62 332 P **P** **01 25 38.0 -1.9**
comp=Z,2.7nm,0.5s,baz=147,slow=5.0,SNR=9.8
GNI Garni 64.75 316 *e*P **P** **01 25 54.2 -0.2**
comp=Z,11nm,1.0s
DGRG David-gareji 64.89 318 P **P** **01 25 55.7 +0.5**
CASY Casey 65.17 175 *e*P **P** **01 25 57.1 +0.8**
comp=Z,14nm,1.2s
TBLG Delisi 65.44 318 *e*P **P** **01 25 58.6 -0.1**
TBLG Delisi 65.44 318 P **P** **01 25 58.6 -0.1**
DUS Dusheti 65.62 318 P **P** **01 26 02.4 +2.4**
GUDG Gudauri 65.94 318 P **P** **01 26 01.8 -0.3**
SVE Sverdlovsk 65.97 338⇑*i*P **P** **01 26 01.4 -0.4**
SVE pmax pmax
comp=Z,27nm,1.1s
AKH Akhalkalaki 66.14 317 P **P** **01 26 02.8 -0.6**
ZEI Tsey 66.46 319 *e*P **P** **01 26 04.4 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.5s
ARU Arti 66.49 337*c i*P **P** **01 26 03.8 -1.3**
ARU 01 28 29.0
ARU S **S** **01 34 50.9 -0.7**
ARU pmax pmax
comp=Z,12nm,1.0s
ONI Oni 66.68 318 P **P** **01 26 06.8 +0.1**
KBZ Khabaz 67.53 319 P **P** **01 26 11.6 -0.3**
KBZ Khabaz 67.53 319 P **P** **01 26 11.6 -0.3**
KBZ Khabaz 67.53 319 P **P** **01 26 11.6 -0.3**
comp=Z,15nm,0.8s,baz=120,slow=5.7,SNR=32
KIV Kislovodsk 67.77 319 *e*P **P** **01 26 13.0 -0.6**
KIV pmax pmax
comp=Z,24nm,1.0s
ASF Jabal al Asfar 67.82 306 P **P** **01 26 14.8 +0.7**
ASF Jabal al Asfar 67.82 306 P **P** **01 26 14.8 +0.7**
comp=Z,9.5nm,1.0s,baz=70,slow=2.9,SNR=16
ASF LR LR 01 55 11.4
comp=Z,52nm,18.4s,baz=71,slow=35
MALT Malatya 68.56 312⇑*i*P P 01 26 23.1 +4.4
EIL Elat 68.76 303 P **P** **01 26 20.2 +0.2**
EIL Elat 68.76 303 P **P** **01 26 20.2 +0.2**
comp=Z,24nm,0.8s,baz=69,slow=1.4,SNR=26
EIL LR LR 01 58 52.3
comp=Z,77nm,18.4s,baz=102,slow=38
EIL Elat 68.76 303 P **P** **01 26 20.1 +0.2**
baz=69,SNR=15
SOKR Solikamsk 69.36 338⇓*i*P **P** **01 26 22.6 -0.4**
SOKR pmax pmax
comp=Z,10.0nm,1.2s
SOC Sochi 69.58 318*c i*P **P** **01 26 23.4 -1.3**
SOC *e* 01 28 55.5
SOC *e*PPP PPP 01 30 34.2
SOC *e*S **S** **01 35 28.7 -0.2**
SOC *e*SS **SS** **01 39 58.1 +0.4**
SOC *e*SSS SSS 01 43 08.4
SOC pmax pmax
comp=Z,33nm,0.8s
MAW Mawson 70.67 194 P **P** **01 26 32.2 +1.3**
MAW Mawson 70.67 194 P **P** **01 26 32.2 +1.3**
comp=Z,6.6nm,0.9s,baz=16,slow=5.6,SNR=14
MAW LR LR 01 52 54.0
comp=Z,120nm,18.8s,baz=170,slow=32
MAW Mawson 70.67 194 P **P** **01 26 32.3 +1.4**
baz=71,SNR=11
CSS Prodhromos 71.45 308 *e*P **P** **01 26 35.8 -0.6**
comp=Z,20nm,0.9s
LSZ Lusaka 71.53 254 *e*P **P** **01 26 37.4 0.0**
comp=Z,11nm,1.2s
VRHR Novokhopersk 71.57 326 *e*P **P** **01 26 35.2 -1.5**
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=E,5.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
BR131 Keskin Array S 72.55 312 *e*P **P** **01 26 41.5 -1.5**
comp=Z,4.2nm,0.7s
PETK Petropavlovsk- 72.73 32 P **P** **01 26 44.2 +0.6**
PETK Petropavlovsk- 72.73 32 P **P** **01 26 44.2 +0.6**
PETK Petropavlovsk- 72.73 32 P **P** **01 26 44.2 +0.6**
comp=Z,2.4nm,0.5s,baz=180,slow=5.8,SNR=5.7
PETK LR LR 01 58 41.7
comp=Z,32nm,19.9s,baz=235,slow=36
VORD Divnogorie 72.84 325 *e*P **P** **01 26 42.2 -2.1**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,60nm,0.4s
VSR Storozhevoye 73.02 325 *e*P **P** **01 26 43.8 -1.5**
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
ANTO Ankara 73.21 312 *e*P **P** **01 26 46.2 -0.7**
ANTO pmax pmax
comp=Z,9.0nm,0.9s
ANTO Ankara 73.21 312 *e*P **P** **01 26 46.2 -0.7**
comp=Z,8.5nm,0.9s
SIM Simferopol' 73.83 318 *e*P **P** **01 26 49.0 -1.2**
SIM pmax pmax
comp=Z,9.0nm,0.7s
SEY Seymchan 75.34 22*c i*P **P** **01 26 58.4 -0.2**
TIXI Tiksi 75.42 9 *e*P **P** **01 26 58.1 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,112nm,24.0s
BOSA Boshof 75.42 241 *e*P **P** **01 26 59.8 -0.2**
BOSA Boshof 75.42 241 P **P** **01 26 59.8 -0.2**
comp=Z,2.7nm,0.7s,baz=98,slow=7.1,SNR=5.4
OBN Obninsk 76.04 328⇑*e*P **P** **01 27 01.9 -0.9**
OBN *e* 01 29 49.3
OBN *i*S **S** **01 36 44.0 +2.0**
OBN pmax pmax
comp=Z,42nm,1.7s
CFR Carcaliu 77.95 317 ⇓P **P** **01 27 13.1 -0.6**
CFR Carcaliu 77.95 317 ⇓*i*P **P** **01 27 13.1 -0.6**
HARR Harsova 77.97 316 ⇑P **P** **01 27 13.7 -0.2**
HARR Harsova 77.97 316 ⇑*i*P **P** **01 27 13.7 -0.2**
SYO Syowa Base 78.20 199⇓*e*P **P** **01 27 14.2 -0.4**
SYO Syowa Base 78.20 199⇓*e*pP pP 01 27 32.0 +2.2
LEOM Leova 78.20 318 ⇑P **P** **01 27 15.2 +0.1**
LEOM Leova 78.20 318 ⇑*i*P **P** **01 27 15.2 +0.1**
AKASG Malin Array Be 78.72 322*ce*P **P** **01 27 18.0 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 78.72 322 *e*P **P** **01 27 16.8 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 78.72 322 *e*P **P** **01 27 16.8 -1.1**
comp=Z,4.5nm,0.7s
VRI Vrincioaia 79.08 317 ⇑P **P** **01 27 20.1 +0.1**
VRI Vrincioaia 79.08 317 ⇑*i*P **P** **01 27 20.1 +0.1**
PLOR Plostina 79.12 317 ⇓P **P** **01 27 20.3 0.0**
PLOR Plostina 79.12 317 ⇓*i*P **P** **01 27 20.3 0.0**
TESR Tescani 79.28 318 ⇑*i*P **P** **01 27 20.8 -0.3**
MLR Muntele Rosu 79.52 317 ⇓*i*P **P** **01 27 22.4 -0.2**
PRAR RASCA 79.76 319 ⇑*i*P **P** **01 27 23.4 -0.3**
VOIR 80.13 317 ⇑P **P** **01 27 25.1 -0.7**
VOIR 80.13 317 ⇑*i*P **P** **01 27 25.1 -0.7**
BURAR Bucovina Array 80.49 319 ⇑P **P** **01 27 28.3 +0.6**
BURAR Bucovina Array 80.49 319 ⇑*i*P **P** **01 27 28.3 +0.6**
VTS Vitosha 80.87 313 ⇓P **P** **01 27 29.1 -0.8**
VTS Vitosha 80.87 313 ⇓*i*P **P** **01 27 29.1 -0.8**
VSU Vasula 82.26 330 *i*P **P** **01 27 36.3 -0.3**
TRPA Tarpa 82.36 319 ⇑*i*P **P** **01 27 37.3 -0.1**
BZS Buzias 82.53 316 ⇓P **P** **01 27 38.0 -0.4**
BZS Buzias 82.53 316 ⇓*i*P **P** **01 27 38.0 -0.4**
KWP Kalwaria Pacla 82.53 320 ⇓P **P** **01 27 38.5 +0.2**
KWP Kalwaria Pacla 82.53 320 ⇓*i*P **P** **01 27 38.5 +0.2**
KWP Kalwaria Pacla 82.53 320 *e*P **P** **01 27 38.2 -0.1**
comp=Z,26nm,1.3s
KWP Kalwaria Pacla 82.53 320 *e*P **P** **01 27 38.2 -0.1**
UZH Uzhgorod 82.61 319 *e*P **P** **01 27 38.5 -0.2**
UZH *e* 01 27 50.7
KOLS Kolonicke sedl 82.68 320 *e*P **P** **01 27 39.5 +0.4**
KOLS pmax pmax
comp=Z,22nm,0.9s
KOLS Kolonicke sedl 82.68 320 *e*P **P** **01 27 39.5 +0.4**
VNDA Vanda 82.80 169 *e*P **P** **01 27 39.2 +0.1**
comp=Z,9.8nm,1.1s
VNDA Vanda 82.80 169 P **P** **01 27 39.7 +0.6**
comp=Z,5.9nm,1.1s,baz=300,slow=5.2,SNR=16
SUW Suwalki 83.12 325 *e*P **P** **01 27 40.6 -0.6**
SUW pmax pmax
comp=Z,61nm,1.1s
SUW Suwalki 83.12 325 *e*P **P** **01 27 40.6 -0.6**
comp=Z,61nm,1.1s
SUW Suwalki 83.12 325 *e*P **P** **01 27 40.8 -0.5**
CRVS Cervenica-Dubn 83.20 319 *e*P **P** **01 27 42.1 +0.2**
CRVS pmax pmax
comp=Z,6.0nm,1.0s
CRVS Cervenica-Dubn 83.20 319 *e*P **P** **01 27 42.0 +0.2**
FINES FINESS Array B 83.38 332 P **P** **01 27 42.4 0.0**
FINES FINESS Array B 83.38 332 P **P** **01 27 42.4 0.0**
comp=Z,4.2nm,0.6s,baz=107,slow=7.2,SNR=33
STHS Stebnicka Huta 83.43 320 *e*P **P** **01 27 43.8 +0.8**
STHS pmax pmax
comp=Z,10.0nm,0.8s
STHS Stebnicka Huta 83.43 320 *e*P **P** **01 27 43.8 +0.8**
KECS Kecovo 83.77 319 *e*P **P** **01 27 44.6 -0.1**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 83.77 319 *e*P **P** **01 27 44.6 -0.1**
SBA Scott Base 83.89 169 *e*P **P** **01 27 46.4 +1.6**
SBA pmax pmax
comp=Z,9.0nm,0.9s
SBA Scott Base 83.89 169 *e*P **P** **01 27 46.4 +1.6**
comp=Z,8.9nm,0.9s
PSZ Piszkesteto 84.07 318 ⇓P **P** **01 27 46.1 -0.3**
PSZ Piszkesteto 84.07 318 ⇓*i*P **P** **01 27 46.1 -0.3**
PSZ Piszkesteto 84.07 318 *e*P **P** **01 27 46.5 +0.1**
comp=Z,8.3nm,0.8s
PKSM Moragy 84.67 316 ⇑P **P** **01 27 49.1 -0.3**
PKSM Moragy 84.67 316 ⇑*i*P **P** **01 27 49.1 -0.3**
VYHS Vyhne 84.85 319 *e*P **P** **01 27 50.1 -0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 84.85 319 *e*P **P** **01 27 50.1 -0.2**
OKC Ostrava-Krasne 85.48 320 *i*P **P** **01 27 53.7 +0.4**
OKC Ostrava-Krasne 85.48 320 *i*P **P** **01 27 53.7 +0.4**
ARCES ARCESS Array B 85.78 340 P **P** **01 27 54.6 +0.2**
ARCES ARCESS Array B 85.78 340 P **P** **01 27 54.6 +0.2**
comp=Z,5.5nm,0.9s,baz=35,slow=4.4,SNR=6.2
ARCES LR LR 02 09 36.1
comp=Z,58nm,20.8s,baz=133,slow=38
CEL Celeste 85.82 308 *e*P **P** **01 27 56.2 +0.9**
comp=Z,19nm,0.9s
MORC Moravsky Berou 85.86 320 *e*P **P** **01 27 54.4 -0.9**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 85.86 320 *e*P **P** **01 27 54.4 -0.9**
comp=Z,7.7nm,1.0s
CUC Castrocucco 86.04 310 *e*P **P** **01 27 56.0 -0.4**
comp=Z,5.7nm,0.8s
KOGS Kog 86.35 317 *i*P **P** **01 27 57.7 0.0**
DPC Dobruska-Polom 86.71 320 *e*P **P** **01 28 00.0 +0.6**
DPC pmax pmax
comp=Z,42nm,0.8s
DPC Dobruska-Polom 86.71 320 *i*P **P** **01 28 00.1 +0.6**
DPC Dobruska-Polom 86.71 320 *e*P **P** **01 28 00.0 +0.6**
comp=Z,42nm,0.8s
KSP Ksiaz 86.78 321 *e*P **P** **01 27 59.8 +0.1**
KSP Ksiaz 86.78 321 *e*P **P** **01 27 59.4 -0.3**
ARSA Arzberg 86.92 317⇑*i*P **P** **01 28 00.6 +0.1**
comp=Z,10nm,1.2s,SNR=5.1
BOJS Bojanci 86.95 316 *i*P **P** **01 28 00.6 0.0**
TREC Trest 87.14 319 *i*P **P** **01 28 01.5 -0.1**
TREC Trest 87.14 319 *i*P **P** **01 28 01.5 -0.1**
SOKA Soboth 87.20 317⇑*i*P **P** **01 28 02.1 +0.1**
comp=Z,11nm,0.9s,SNR=8.7
LJU Ljubljana 87.50 316 *i*P **P** **01 28 03.6 +0.3**
PRU Pruhonice 87.82 320 *i*P **P** **01 28 05.0 +0.3**
PRU Pruhonice 87.82 320 *i*P **P** **01 28 05.0 +0.3**
PVCC Panska Ves 87.85 320 *i*P **P** **01 28 05.4 +0.5**
PVCC Panska Ves 87.85 320 *i*P **P** **01 28 05.4 +0.5**
AQU L'Aquila 88.04 312 *e*P **P** **01 28 06.2 +0.2**
comp=Z,29nm,0.8s
BRG Berggiesshubel 88.27 321⇑*i*P **P** **01 28 07.2 +0.3**
comp=Z,16nm,1.4s
BRG Berggiesshubel 88.27 321 *e*P **P** **01 28 07.5 +0.6**
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 88.27 321⇑*i*P **P** **01 28 07.2 +0.3**
BRG pmax pmax
comp=Z,16nm,1.4s
GEC2 GERESS Array S 88.28 319 *e*P **P** **01 28 07.5 +0.4**
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 88.28 319 *e*P **P** **01 28 07.2 +0.1**
GEC2 GERESS Array S 88.28 319 *e*P **P** **01 28 07.2 +0.1**
GERES GERESS Array B 88.28 319 P **P** **01 28 07.1 0.0**
GERES GERESS Array B 88.28 319 P **P** **01 28 07.1 0.0**
comp=Z,3.5nm,0.7s,baz=85,slow=4.1,SNR=34
KHC Kasperske Hory 88.38 319 *i*P **P** **01 28 07.5 +0.1**
KHC Kasperske Hory 88.38 319 *i*P **P** **01 28 07.5 +0.1**
KHC Kasperske Hory 88.38 319 *e*P **P** **01 28 07.6 +0.1**
comp=Z,3.1nm,0.7s
RUE Ruedersdorf 88.49 322 *e*P **P** **01 28 08.7 +0.9**
comp=Z,23nm,0.9s
QSPA South Pole Qui 88.50 180 *e*P **P** **01 28 08.6 +0.8**
comp=Z,26nm,1.4s
RJOB Jochberg 88.81 318 *e*P **P** **01 28 09.1 -0.5**
comp=Z,4.0nm,0.8s
WET Wettzell 88.84 319 *e*P **P** **01 28 10.2 +0.6**
comp=Z,5.0nm,0.8s
WET Wettzell 88.84 319 *e*P **P** **01 28 10.2 +0.6**
WET pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 88.89 321 *e*P **P** **01 28 10.1 +0.3**
comp=Z,6.0nm,0.9s
CLL Collm 88.89 321 *i*P **P** **01 28 09.8 0.0**
CLL *e* 01 28 20.0
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 88.89 321 *i*P **P** **01 28 09.8 0.0**
comp=Z,11nm,1.0s
CLL *e* 01 28 20.0
ABTA Abfaltersbach 88.94 317⇑*i*P **P** **01 28 09.7 -0.6**
comp=Z,6.4nm,1.0s,SNR=5.6
TANN Tannenbergstha 89.18 320 *e*P **P** **01 28 11.8 +0.5**
comp=Z,3.0nm,0.9s
ROTZ Rotzenmuhle 89.31 320 *e*P **P** **01 28 12.7 +0.9**
comp=Z,5.0nm,0.9s
MANZ Manzenberg 89.38 320 *e*P **P** **01 28 13.3 +1.1**
comp=Z,8.0nm,0.9s
WTTA Wattenberg 89.56 317⇑*i*P **P** **01 28 12.7 -0.6**
comp=Z,9.7nm,0.8s,SNR=6.5
WATA Walderalm 89.61 317⇑*i*P **P** **01 28 12.7 -0.8**
comp=Z,3.6nm,0.6s
NEUB Neuenburg 89.66 321 *e*P **P** **01 28 14.1 +0.7**
comp=Z,14nm,0.8s
MOX Moxa 89.73 320 *e*P **P** **01 28 14.4 +0.6**
comp=Z,3.0nm,0.8s
MOX Moxa 89.73 320 *e*P **P** **01 28 14.4 +0.6**
MOX pmax pmax
comp=Z,3.0nm,0.8s
MOTA Moosalm 89.93 317⇑*i*P **P** **01 28 13.7 -1.3**
comp=Z,8.2nm,0.8s,SNR=5.8
GRF Grafenberg Arr 89.94 320 *e*P **P** **01 28 15.7 +0.9**
comp=Z,8.0nm,0.9s
GRF Grafenberg Arr 89.94 320 *e*P **P** **01 28 15.7 +0.9**
GRF pmax pmax
comp=Z,8.0nm,0.9s
GRFO Grafenberg 89.94 320 *e*P **P** **01 28 15.1 +0.3**
GRFO pmax pmax
comp=Z,9.0nm,0.9s
GRFO Grafenberg 89.94 320 *e*P **P** **01 28 15.1 +0.3**
comp=Z,9.1nm,0.9s
RETA Reutte 90.17 317 *i*P **P** **01 28 15.8 -0.1**
comp=Z,10nm,0.7s,SNR=9.1
FETA Feichten 90.17 317⇑*i*P **P** **01 28 15.8 -0.4**
comp=Z,6.7nm,1.0s
NOA NORSAR Array B 90.40 331 LR LR 02 12 40.1
comp=Z,31nm,19.1s,baz=90,slow=38
FUORN Ofenpass-Fuorn 90.48 316 *e*P **P** **01 28 18.0 +0.3**
comp=Z,13nm,0.8s
NRDL Niedersach Rie 90.74 322 *e*P **P** **01 28 19.1 +0.8**
comp=Z,6.0nm,1.0s
DAVA Damuels 90.76 317*i*PcP **P** **01 28 18.9 +0.1**
comp=Z,20nm,1.0s,SNR=7.5
UBBA Unterbreizbach 90.76 321 *e*P **P** **01 28 18.9 +0.5**
comp=Z,1.0nm,0.7s
KEST Kesra 90.92 306 *e*P **P** **01 28 21.1 +1.4**
KEST Kesra 90.92 306 P **P** **01 28 21.1 +1.4**
comp=Z,7.0nm,0.9s,baz=42,slow=0.4,SNR=24
VSL Villasalto 90.96 309 *e*P **P** **01 28 19.3 -0.4**
comp=Z,20nm,1.0s
TUE Stuetta 91.11 316 *e*P **P** **01 28 19.9 -0.6**
comp=Z,4.5nm,1.0s
STU Stuttgart 91.25 319 *e*P **P** **01 28 21.1 +0.2**
comp=Z,3.0nm,0.8s
STU Stuttgart 91.25 319 *e*P **P** **01 28 20.8 -0.1**
STU pmax pmax
comp=Z,7.0nm,0.9s
STU Stuttgart 91.25 319 *e*P **P** **01 28 20.8 -0.1**
comp=Z,7.0nm,0.9s
PGF Pioggiola 91.30 312⇑*i*P **P** **01 28 21.4 0.0**
comp=Z,18nm,1.1s
TNS Taunus Mts 91.75 320 *e*P **P** **01 28 24.1 +0.9**
comp=Z,9.0nm,1.0s
TNS Taunus Mts 91.75 320 *e*P **P** **01 28 24.1 +0.9**
TNS pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 91.82 318 *e*P **P** **01 28 23.5 -0.1**
comp=Z,4.0nm,0.8s
BFO Black Forest 91.82 318 *e*P **P** **01 28 23.2 -0.3**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 91.82 318 *e*P **P** **01 28 23.2 -0.3**
comp=Z,5.3nm,0.9s
SBF Sospel 92.45 314⇑*i*P **P** **01 28 26.5 -0.1**
SNAA Sanae 92.48 198 *e*P **P** **01 28 27.2 +1.0**
SNAA Sanae 92.48 198 *e*P **P** **01 28 26.9 +0.7**
comp=Z,2.3nm,0.8s
CDF Champ du Feu 92.52 318⇑*i*P **P** **01 28 26.5 -0.4**
comp=Z,3.9nm,0.7s
SENIN Lac Senin/Sane 92.53 316 *e*P **P** **01 28 27.4 +0.3**
comp=Z,65nm,2.4s
ECH Echery 92.60 318 *e*P **P** **01 28 27.1 -0.1**
ECH pmax pmax
comp=Z,3.0nm,0.9s
ECH Echery 92.60 318 *e*P **P** **01 28 27.1 -0.1**
comp=Z,3.4nm,0.9s
HINF Hinteralfeld 92.81 318 *e*P **P** **01 28 27.4 -0.8**
MBDF Montbardon 92.92 315⇑*i*P **P** **01 28 28.1 -0.8**
LPG La Plagne 92.92 315⇑*i*P **P** **01 28 28.9 -0.1**
comp=Z,6.9nm,0.7s
LPL La Plagne 92.93 315⇑*i*P **P** **01 28 28.9 -0.1**
comp=Z,13nm,0.9s
BNI Bardonecchia 92.98 315 *e*P **P** **01 28 29.1 0.0**
BNI pmax pmax
comp=Z,3.0nm,1.0s
BNI Bardonecchia 92.98 315 *e*P **P** **01 28 29.1 0.0**
comp=Z,2.6nm,1.0s
FRF La Foret Royal 93.02 313⇑*i*P **P** **01 28 29.2 0.0**
comp=Z,4.5nm,0.6s
LMR La Mourre 93.13 313 *e*P **P** **01 28 29.4 -0.3**
HAU Haudompre 93.15 318⇑*i*P **P** **01 28 29.3 -0.4**
comp=Z,7.4nm,0.8s
CABF La Chapelle 93.36 316 *e*P **P** **01 28 30.8 0.0**
ORIF Oris-en-Rattie 93.55 315⇑*i*P **P** **01 28 31.7 0.0**
comp=Z,3.3nm,0.6s
PAGF Fort de Pagny 93.55 318 *e*P **P** **01 28 31.2 -0.3**
SMRF Simiane la Rot 93.79 314 *e*P **P** **01 28 33.2 +0.4**
comp=Z,5.9nm,0.9s
MEZF Maizieres J'vi 94.00 318 *e*P **P** **01 28 33.3 -0.2**
SFTF Sexfontaines 94.02 318⇑*i*P **P** **01 28 33.5 -0.2**
comp=Z,11nm,0.7s
VNA2 Neumayer--Watz 94.09 198 *e*P **P** **01 28 34.1 +0.6**
VNA2 Neumayer--Watz 94.09 198 *e*pP pP 01 28 44.1 -4.9
TAM Tamanrasset 94.17 293 *e*P **P** **01 28 35.8 +0.7**
TAM pmax pmax
comp=Z,2.0nm,1.0s
TAM Tamanrasset 94.17 293 *e*P **P** **01 28 35.8 +0.7**
comp=Z,2.5nm,1.0s
VIVF Saint-Julien-l 94.41 315⇑*i*P **P** **01 28 35.4 -0.2**
BAIF Baives 94.48 320 *e*P **P** **01 28 35.7 0.0**
comp=Z,13nm,1.1s
LOR Lormes 94.86 317⇑*i*P **P** **01 28 37.2 -0.4**
SMF Signal de Mont 94.91 317 *e*P **P** **01 28 37.4 -0.4**
comp=Z,5.7nm,0.9s
SSF Saint Saulge 95.11 317 *e*P **P** **01 28 38.3 -0.4**
AVF Avril sur Loir 95.23 317 *e*P **P** **01 28 39.0 -0.2**
comp=Z,5.2nm,1.0s

BGF	Bois d'Agland	95.59	316	*e*P	P	01 28 40.9	0.0
HYF	Humbligny	95.69	317	*e*P	P	01 28 41.2	-0.1
MTLF	Montolieu	96.26	313⇑	*i*P	P	01 28 44.0	0.0
	comp=Z,2.7nm,0.9s						
LDF	La Druitiere	97.42	319	*e*P	P	01 28 48.7	-0.4
FLN	La Foliniere	97.64	319	*e*P	P	01 28 49.7	-0.4
MFF	Saint Martin d	97.65	317⇑	*i*P	P	01 28 49.8	-0.4
TORD	Torodi Ar. Bea	97.87	283	P	P	01 28 51.7	-0.2
TORD	Torodi Ar. Bea	97.87	283	P	P	01 28 51.7	-0.2
	comp=Z,1.0nm,0.9s,baz=100,slow=5.9,SNR=5.3						
TORD				LR	LR	02 11 23.5	
	comp=Z,59nm,19.5s,baz=185,slow=34						
IMA2	Indian Mountai	98.13	23	*e*P	P	01 28 49.9	-2.2
SGMF	Saint Gilles	99.07	319	*e*P	Pdif	01 28 56.2	-0.3
ROSF	Rostrenen	99.53	319	*e*P	Pdif	01 28 58.2	-0.4
ILAR	Eielson Array	101.24	24	PKKPbc	PKKPbc	01 45 15.1	-3.2
ILAR	Eielson Array	101.24	24	PKKPbc	PKKPbc	01 45 15.1	-3.2
	comp=Z,0.9nm,0.8s,baz=132,slow=1.8,SNR=9.5						
EVO	Evora	104.53	309	*e*P	Pdif	01 29 20.4	-0.6
	comp=Z,11nm,1.0s						
LIC	Lamto	104.53	276	*e*P	Pdif	01 29 21.0	-0.6
FFC	Flin Flon	124.09	15	*e*PKIKP	PKPdf	01 34 12.8	-0.9
FFC	Flin Flon	124.09	15	*e*PKPdf	PKPdf	01 34 12.8	-0.9
MSO	Missoula	126.27	28	*e*PKPdf	PKPdf	01 34 18.6	+0.3
NVAR	Mina Array Bea	129.54	39	PKP	PKPdf	01 34 26.1	+1.2
NVAR	Mina Array Bea	129.54	39	PKP	PKPdf	01 34 26.1	+1.2
	comp=Z,1.6nm,0.9s,baz=265,slow=2.4,SNR=6.3						
ULM	Lac du Bonnet	129.67	13	*e*PKPdf	PKPdf	01 34 24.5	0.0
ULM				PKP	PKPdf	01 34 25.2	+0.7
ULM	Lac du Bonnet	129.67	13	PKP	PKPdf	01 34 25.2	+0.7
	comp=Z,2.2nm,0.6s,baz=11,slow=5.2,SNR=3.4						
TPAW	Teton Pass	130.16	29	*e*PKPdf	PKPdf	01 34 26.1	+0.1
LOHW	Long Hollow	130.24	28	*e*PKPdf	PKPdf	01 34 26.4	+0.4
REDW	Red Top Meadow	130.31	29	*e*PKPdf	PKPdf	01 34 26.7	+0.4
R11A	Troy Canyon, C	131.25	37	*e*PKPdf	PKPdf	01 34 29.6	+1.5
PDAR	Pinedale Array	131.38	28	PKP	PKPdf	01 34 28.8	+0.5
PDAR				SKPbc	SKPab	01 37 50.8	+1.3
PDAR	Pinedale Array	131.38	28	PKP	PKPdf	01 34 28.8	+0.5
	comp=Z,0.5nm,0.9s,baz=58,slow=3.7,SNR=3.6						
PDAR				SKPbc	SKPab	01 37 50.8	+1.3
	comp=Z,0.8nm,0.9s,baz=51,slow=0.6,SNR=5.4						
MWC	Mount Wilson	132.17	43	*e*PKIKP	PKPdf	01 34 28.7	-1.3
MWC	Mount Wilson	132.17	43	*e*PKPdf	PKPdf	01 34 28.7	-1.3
O20A	White River Ci	134.03	30	*e*PKPdf	PKPdf	01 34 33.6	+0.3
ECSD	EROS Data Cent	135.55	17	*e*PKPdf	PKPdf	01 34 36.0	+0.2
MNTX	Cornudas Mount	141.87	35	*e*PKPdf	PKPdf	01 34 46.8	-0.9
WMOK	Wichita Mounta	142.79	25	*e*PKIKP	PKPdf	01 34 47.1	-2.2
WMOK	Wichita Mounta	142.79	25	*e*PKPdf	PKPdf	01 34 47.1	-2.2
BDFB	Brasilia	143.62	241	PKP	PKPdf	01 34 51.2	-0.1
BDFB	Brasilia	143.62	241	PKP	PKPdf	01 34 51.2	-0.1
	comp=Z,6.2nm,1.2s,baz=156,slow=7.3,SNR=4.0						
TXAR	Lajitas Array	144.61	36	PKP	PKPdf	01 34 52.1	-0.6
TXAR	Lajitas Array	144.61	36	PKP	PKPdf	01 34 52.1	-0.6
	comp=Z,3.8nm,0.6s,baz=264,slow=1.3,SNR=52						
WVT	Waverly	144.85	10	*e*PKIKP	PKPab	01 34 51.0	-0.8
WVT	Waverly	144.85	10	*e*PKPdf	PKPab	01 34 51.0	-0.8
MIAR	Mount Ida	144.91	19	*e*PKIKP	PKPab	01 34 52.1	0.0
MIAR	Mount Ida	144.91	19	*e*PKPdf	PKPbc	01 34 52.1	-0.1
TZTN	Tazewell	144.98	4	*e*PKPdf	PKPab	01 34 51.6	-0.7
UALR	University of	145.08	17	*e*PKPbc	PKPbc	01 34 52.5	-0.2
WHTX	Lake Whitney	145.70	26	*e*PKPbc	PKPdf	01 34 54.2	-0.2
TKL	Tuckaleechee C	145.84	5	*e*PKPbc	PKPdf	01 34 54.1	-0.4
JCT	Junction City	145.85	30	*e*PKP2	PKPbc	01 34 55.2	-0.1
JCT	Junction City	145.85	30	*e*PKPbc	PKPbc	01 34 55.2	-0.1
CPCT	Cooper Cave	145.98	6	*e*PKPbc	PKPdf	01 34 54.7	-0.1
OXF	Oxford	146.10	13	*e*PKP2	PKPdf	01 34 54.9	-0.1
OXF	Oxford	146.10	13	*e*PKPbc	PKPdf	01 34 54.9	-0.1
KMSC	Kings Mountain	146.48	1	*e*PKPbc	PKPdf	01 34 55.8	+0.2
LRAL	Lakeview Retre	148.01	10	*e*PKPbc	PKPbc	01 35 00.3	-1.1
GOGA	Godfrey	148.10	5	*e*PKP2	PKPbc	01 35 00.4	-1.2
GOGA	Godfrey	148.10	5	*e*PKPdf	PKPbc	01 35 00.4	-1.2
HKT	Hockley	148.16	26	*e*PKP2	PKPbc	01 35 02.1	+0.4
HKT	Hockley	148.16	26	*e*PKPbc	PKPbc	01 35 02.1	+0.4
LCO	Las Campanas	148.26	197	*e*PKPbc	PKPbc	01 35 03.2	+0.7
LVC	Limon Verde	153.51	205	*e*PKPbc	PKPbc	01 35 15.9	+0.8
LPAZ	La Paz	158.51	214	*e*PKPdf	PKPdf	01 35 15.2	+0.7
LPAZ				*e*PKPab	PKPab	01 35 49.6	+0.3
LPAZ	La Paz	158.51	214	PKP	PKPdf	01 35 15.5	+1.0
	comp=Z,1.9nm,0.9s,baz=45,slow=7.1,SNR=6.2						

IDC 19 01:29:56.3±1.5, 26°.09S×70°.82E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=51.2km s-min=25.8km az=76.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	52.03	35	P	P	01 39 08.9	+1.0
	0.7nm,0.4s,baz=225,slow=7.2,SNR=5.9						
ASAR	Alice Springs	56.78	102	P	P	01 39 41.7	-1.0
	0.3nm,0.5s,baz=254,slow=5.7,SNR=4.1						
WRA	Warramunga Arr	58.29	98	P	P	01 39 53.6	+0.2
	0.6nm,1.0s,baz=250,slow=9.9,SNR=4.3						
VNDA	Vanda	64.95	166	P	P	01 40 37.8	+0.4
	1.4nm,1.0s,baz=281,slow=9.0,SNR=6.5						
MKAR	Makanchi Array	73.28	8	P	P	01 41 28.9	-0.4
	0.9nm,0.8s,baz=203,slow=6.8,SNR=9.4						
SONM	Songino Array	80.23	23	P	P	01 42 08.9	+0.1
	0.8nm,1.0s,baz=195,slow=4.0,SNR=3.7						
ZALV	Zalesovo Beam	86.52	8	P	P	01 42 10.1	-0.4
	0.3nm,0.4s,baz=188,slow=4.2,SNR=4.1						

IDC 19 01:40:31.9±0.9, 23°.40N×123°.41E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/50, Error ellipse: s-maj=30.5km s-min=18.8km az=75.0
JMA 19 01:40:34.6±0.2, 23°.37N×123°.52E, h42km±3km, M3.4
ISC 19 01:40:35.1±1.4, 23°.44N±0°.06×123°.52E±0°.06, h19km±4km, n19, σ0°66/27, mb3.8/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.66	23	P	Pg	01 40 48.4	+0.2
HATJ				*e*S	Sn	01 40 58.8	-0.5
JKRS	Kuro-shima	0.91	29	P	Pb	01 40 52.3	+0.1
JKRS				*e*S	Sg	01 41 04.5	-0.3
IRIF	Iriomote-Funau	0.91	12	P	Pb	01 40 52.2	0.0
IRIF				*e*S	Sg	01 41 04.5	-0.4
JIJ	Ishigaki jima	1.08	32	P	Pb	01 40 54.2	-0.9
JIJ				*e*S	Sb	01 41 08.7	-0.1
YOJ	Yonaguni jima	1.12	335	P	Pn	01 40 55.1	-0.5
YOJ				*e*S	Sb	01 41 10.1	+0.2
JTJ	Tarama	1.61	42	P	Pn	01 41 01.9	-0.5
JTJ				*e*S	Sn	01 41 22.1	-0.5
JMJ	Miyako jima 2	2.12	49	P	Pn	01 41 09.0	-0.4
JMJ				*e*S	Sn	01 41 35.0	-0.2
JOGS	Gusukube	2.16	52	P	Pn	01 41 09.7	-0.3
JOGS				*e*S	Sn	01 41 36.6	+0.3
KSRS	Korea Array	14.47	14	Pn	Pn	01 43 59.9	+1.1
	0.5nm,0.3s,baz=192,slow=12,SNR=4.8						
KSRS				LR	LR	01 50 43.5	
	comp=Z,134nm,18.1s,baz=210,slow=42						
MJAR	Matsushiro Art	18.20	41	P	P	01 44 47.5	+0.7
	0.4nm,0.3s,baz=223,slow=9.2,SNR=6.0						
ASAJ	Asahikawa	25.89	33	P	P	01 46 05.0	-0.7
	4.6nm,0.6s,baz=225,slow=14,SNR=4.0						
SONM	Songino Array	27.91	335	P	P	01 46 23.1	-0.9
	0.9nm,0.8s,baz=142,slow=10,SNR=8.2						
MKAR	Makanchi Array	40.36	316	P	P	01 48 11.5	0.0
	0.3nm,0.4s,baz=96,slow=9.5,SNR=7.5						
ZALV	Zalesovo Beam	42.03	326	P	P	01 48 24.0	-1.1
	0.8nm,0.5s,baz=101,slow=7.5,SNR=3.4						
WRA	Warramunga Arr	44.39	165	P	P	01 48 44.1	-0.5
	1.3nm,0.9s,baz=347,slow=8.4,SNR=4.3						
ASAR	Alice Springs	47.90	167	P	P	01 49 11.7	-0.5
	0.4nm,0.5s,baz=356,slow=12,SNR=4.7						
ILAR	Eielson Array	68.89	27	P	P	01 51 39.8	+1.6
	0.2nm,0.6s,baz=237,slow=3.1,SNR=3.8						
FINES	FINESS Array B	73.16	330	P	P	01 52 04.3	+0.2
	2.6nm,1.0s,baz=90,slow=6.7,SNR=4.5						
GERES	GERESS Array B	84.77	321	P	P	01 53 08.5	+0.3
	0.4nm,0.7s,baz=64,slow=3.1,SNR=3.7						

IDC 19 01:50:51.2±1.8, 21°.62N×143°.06E, h306km±16km, mb3.4/16, mb1 3.6/18, mb1mx3.4/32, mbtmp3.5/18, Error ellipse: s-maj=17.4km s-min=11.9km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.51	352	P	Pn	01 52 15.7	+0.8
	20nm,0.3s,baz=271,slow=21,SNR=9.9						
CBIJ				S	S	01 53 21.8	-0.5
	19nm,0.3s,baz=266,slow=23,SNR=7.0						
MJAR	Matsushiro Arr	15.46	345	P	P	01 54 13.7	+0.8
	0.9nm,0.3s,baz=159,slow=8.2,SNR=5.6						
KSRS	Korea Array	20.51	324	P	P	01 55 07.6	+0.8
	0.7nm,0.4s,baz=148,slow=9.4,SNR=4.3						
WRA	Warramunga Arr	42.17	192	P	P	01 58 14.3	-0.5
	1.2nm,0.7s,baz=5.7,slow=7.5,SNR=16						
ASAR	Alice Springs	45.88	192	P	P	01 58 43.4	-0.6
	0.2nm,0.3s,baz=16,slow=9.9,SNR=4.5						
ZALV	Zalesovo Beam	54.20	322	P	P	01 59 46.1	+0.5
	0.9nm,0.5s,baz=119,slow=8.6,SNR=3.7						
ZALV				PcP	PcP	02 00 45.1	-0.6
	1.3nm,0.4s,baz=112,slow=1.9,SNR=4.8						
MKAR	Makanchi Array	54.67	313	P	P	01 59 49.5	+0.4
	0.5nm,0.6s,baz=92,slow=8.5,SNR=6.3						
MKAR				PcP	PcP	02 00 47.3	-0.5
	0.4nm,0.5s,baz=86,slow=1.7,SNR=5.5						
KURBB	Kurchatov Arra	57.50	317	P	P	02 00 09.1	+0.2
	1.6nm,0.4s,baz=94,slow=7.6,SNR=18						
ILAR	Eielson Array	62.17	27	P	P	02 00 39.6	-0.7
	1.4nm,0.6s,baz=259,slow=5.5,SNR=19						
BVAR	Borovoye Array	62.66	320	P	P	02 00 44.1	+0.4
	2.8nm,0.4s,baz=96,slow=7.9,SNR=24						
INK	Inuvik	67.69	24	P	P	02 01 15.1	-0.4
	0.7nm,0.5s,baz=299,slow=3.3,SNR=3.7						
AKTO	Aktyubinsk	70.55	317	P	P	02 01 32.4	-1.0
	0.4nm,0.4s,baz=72,slow=3.2,SNR=3.1						
YKA	Yellowknife Ar	76.58	28	P	P	02 02 07.9	-0.1
	2.4nm,0.5s,baz=291,slow=6.0,SNR=7.4						
ARCES	ARCESS Array B	78.96	341	P	P	02 02 21.0	0.0
	1.8nm,0.4s,baz=72,slow=8.9,SNR=14						
KBZ	Khabaz	82.34	314	P	P	02 02 39.8	+0.6
	1.8nm,0.8s,baz=84,slow=3.8,SNR=4.1						
FINES	FINESS Array B	83.20	334	P	P	02 02 42.4	-0.9
	1.9nm,0.5s,baz=64,slow=4.2,SNR=22						
NVAR	Mina Array Bea	83.29	51	P	P	02 02 45.3	+0.8
	1.5nm,0.7s,baz=277,slow=5.6,SNR=12						
HFS	Hagfors	88.76	337	P	P	02 03 08.6	-1.7
	1.3nm,0.5s,baz=132,slow=2.2,SNR=5.7						
PLCA	Paso Flores	145.79	132	PKPbc	PKPbc	02 09 55.0	+0.1
	2.0nm,0.6s,baz=221,slow=11,SNR=4.9						
LPAZ	La Paz	150.06	85	PKPbc	PKPbc	02 10 08.2	+0.8
	2.2nm,0.6s,baz=268,slow=2.7,SNR=9.8						

IDC 19 02:04:44.9±1.3, 7°.63S×110°.43E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=63.3km s-min=23.6km az=52.0
ISCJB 19 02:04:47.9±0.6, 8°.13S±0°.07×110°.41E±0°.05, h12km, mb3.6/5, Error ellipse: s-maj=11.1km s-min=5.0km az=26.8
DJA 19 02:04:48.7±0.6, 8°.S±7°.×11°.0E±°, h10km, M4.2/10, MLv4.2/10
ISC 19 02:04:47.7±0.7, 7°.98S±0°.08×110°.44E±0°.04, h12km, n18, σ1°45/20, mb3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	Yogyakarta	0.22	318	P	Pb	02 04 53.9	+0.3
PCJI	Pacitan	0.76	106	P	Pg	02 05 02.2	-0.2
PCJI				S	Sg	02 05 12.5	+0.1
BJII	Banjamegara	0.97	311	P	Pn	02 05 08.0	+0.8
BJII				S	Sn	02 05 21.2	+0.3
NGJI	Ngawi	1.18	59	P	Pg	02 05 11.5	+1.1
SJI	Sawahan	1.34	80	P	Pn	02 05 10.9	-1.3
PWJI	Pagerwojo	1.35	92	P	Pb	02 05 13.0	+0.1
CLJI	Cilicap	1.44	280	P	Pn	02 05 13.4	-0.2
KRKI	Karangkates	2.00	95	P	Pb	02 05 22.6	-1.4
GRJI	Gresik	2.28	63	P	Pb	02 05 28.2	-0.6
GMJI	Gumukmas	2.99	96	P	Pn	02 05 37.4	+2.5
LEM	Lembang	3.02	292	P	Pb	02 05 40.1	-1.5
BLJI	Banyuglugur	3.13	86	P	Pb	02 05 40.8	-2.6
FITZ	Fitzroy Crossi	17.89	126	P	P	02 08 57.5	+0.3
	0.1nm,0.3s,baz=295,slow=9.1,SNR=2.2						
WRA	Warramunga Arr	26.02	120	P	P	02 10 22.4	+1.4
	0.5nm,0.7s,baz=296,slow=11,SNR=5.0						
ASAR	Alice Springs	27.37	127	P	P	02 10 33.6	+0.5
	0.9nm,0.9s,baz=305,slow=8.9,SNR=4.2						
STKA	Stephens Creek	37.48	134	P	P	02 12 02.6	+1.2
	3.0nm,0.5s,baz=316,slow=12,SNR=2.9						
MKAR	Makanchi Array	60.01	338	P	P	02 14 51.2	-3.1
	0.4nm,1.0s,baz=158,slow=8.9,SNR=3.3						
VNDA	Vanda	74.40	170	P	P	02 16 26.1	+1.0
	0.5nm,0.7s,baz=307,slow=7.4,SNR=2.4						

MAN 19 02:08:18, 8°.37N×125°.99E, h3km, mb4.7, ML3.6, MS3.6
IDC 19 02:08:18.2±0.7, 8°.43N×126°.14E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/27, mbtmp3.8/11, MS3.3/2, Ms1 3.3/2, ms1mx2.6/38, Error ellipse: s-maj=28.6km s-min=10.9km az=97.0
ISCJB 19 02:08:21.1±0.6, 8°.38N±0°.05×126°.01E±0°.09, h34km, mb3.8/11, MS3.1/1, Error ellipse: s-maj=13.4km s-min=6.8km az=162.2
ISC 19 02:08:23.1±0.7, 8°.38N±0°.06×126°.0E±0°.1, h34km, n19, σ1°45/18, mb3.8/11, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.68	329	*e*P	Pn	02 08 32.3	-4.0
BUTP				*e*S	Sn	02 08 45.2	-0.5
BUKP	Musuan	1.03	241	*e*P	Pn	02 08 38.5	-2.7
DAV	Davao City (W)	1.36	197	Pg	Pn	02 08 45.6	0.0
	107nm,0.3s,baz=244,slow=0.4,SNR=25						
DAV				Lg	Lg	02 09 05.3	
	87nm,0.3s,baz=334,slow=20,SNR=10						
MATI	Mati	1.45	169	*e*P	Pn	02 08 44.6	-2.3
MSLP	Maasin	2.06	328	*e*P	Pn	02 08 53.5	-1.9
DCPH	Dipolog City	2.60	275⇑	*e*P	Pn	02 09 02.7	-0.1
BATI	Baumata	18.61	187	LR	LR	02 18 51.6	
	comp=Z,147nm,21.6s,baz=120,slow=34						
FITZ	Fitzroy Crossi	26.31	181	P	P	02 13 54.5	-1.3
	2.3nm,0.9s,baz=5.2,slow=11,SNR=3.0						
KSRS	Korea Array	29.00	3	LR	LR	02 26 11.1	
	comp=Z,42nm,18.5s,baz=195,slow=37						
WRA	Warramunga Arr	29.32	164	P	P	02 14 22.7	-0.1
	0.5nm,0.7s,baz=342,slow=9.4,SNR=5.0						
ASAR	Alice Springs	32.78	166	P	P	02 14 54.8	+1.6
	0.4nm,0.6s,baz=339,slow=7.2,SNR=6.3						
USRK	Ussuriysk Arra	36.07	7	P	P	02 15 21.2	-0.2
	2.2nm,0.7s,baz=178,slow=7.2,SNR=6.2						
PETK	Petropavlovsk-	51.47	24	P	P	02 17 25.8	+0.7
	0.6nm,0.3s,baz=216,slow=4.6,SNR=3.9						
MKAR	Makanchi Array	53.36	324	P	P	02 17 40.0	+0.7
	0.4nm,0.6s,baz=120,slow=6.8,SNR=7.2						
MKAR				PcP	PcP	02 18 47.5	+1.1
	1.3nm,0.9s,baz=108,slow=4.7,SNR=5.6						
KURBB	Kurchatov Arra	57.46	326	P	P	02 18 08.2	-0.5
	0.9nm,0.8s,baz=128,slow=6.0,SNR=6.3						
BVAR	Borovoye Array	63.05	326	P	P	02 18 49.3	+2.5
	0.8nm,0.6s,baz=107,slow=9.2,SNR=4.7						
AKTO	Aktyubinsk	69.59	321	P	P	02 19 28.9	+0.2
	0.5nm,0.6s,baz=126,slow=3.9,SNR=5.1						
ILAR	Eielson Array	81.26	26	P	P	02 20 34.1	-1.4
	0.3nm,0.8s,baz=233,slow=5.4,SNR=3.8						
FINES	FINESS Array B	87.41	332	P	P	02 21 06.5	-0.2
	0.8nm,0.7s,baz=72,slow=4.5,SNR=4.3						

NEIC 19 02:14:52.7, 32°.69S×71°.87W, h15km, ML3.7(GUC), After GUC.
NEIC Felt [III] at Concon and Quintero and [II] at Puchuncavi and Zapallar.
GUC 19 02:14:52.7±0.4, 32°.69S×71°.87W, h15km±21km, MD3.7, ML3.7, 10C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	Peldehue	1.10	115⇑	*i*P	Pb	02 15 10.7	-2.7
PEL				*i*S	Sb	02 15 24.2	-3.4
PEL				AML	AML	02 15 25.7	
	comp=E,6μm,0.4s						
TACH	Talagante	1.24	141⇑	*i*P	Pn	02 15 13.0	-2.6
TACH	Talagante	1.24	141⇑	*i*P	Pn	02 15 13.0	-2.6
SAN	Santiago	1.27	127⇑	*i*P	Pn	02 15 13.4	-2.5
SAN				*i*S	Sb	02 15 29.0	-3.6
SAN	Santiago	1.27	127	*i*P	Pn	02 15 13.3	-2.7
SAN			⇑	*i*P	Pb	02 15 13.4	-3.0
SAN				*i*S	Sb	02 15 29.0	-3.6
SAN				AML	AML	02 15 34.0	
	comp=N,1μm,0.5s						
STL	Santa Lucia	1.27	126⇑	*i*P	Pn	02 15 13.3	-2.7
STL				*i*S	Sb	02 15 29.1	-3.6
LNV	Longovilo	1.32	163⇑	*i*P	Pn	02 15 14.0	-2.6
LNV				*i*S	Sn	02 15 30.2	-3.8
LNV	Longovilo	1.32	163⇑	*i*P	Pn	02 15 14.0	-2.6
LNV				*i*S	Sn	02 15 30.2	-3.8
CLCH	Cerro Calan	1.32	123⇓	*i*P	Pn	02 15 14.2	-2.6
CLCH				*i*S	Sn	02 15 30.5	-3.7
CLCH				AML	AML	02 15 32.6	
	comp=N,2μm,0.5s						
PCH	Pirque	1.47	130⇓	*i*P	Pn	02 15 16.8	-2.0
PCH				*i*S	Sn	02 15 35.1	-2.8
PCH	Pirque	1.47	130⇓	*i*P	Pn	02 15 16.8	-2.0
PCH				*i*S	Sn	02 15 35.1	-2.8
SJCH	San Jose de Ma	1.59	127⇑	*i*P	Pn	02 15 17.7	-2.7
SJCH				*i*S	Sn	02 15 37.5	-3.3
SJCH	San Jose de Ma	1.59	127⇑	*i*P	Pn	02 15 17.7	-2.7
SJCH				*i*S	Sn	02 15 37.5	-3.3
CMCH	Combarbala	1.68	26	AML	AML	02 15 46.8	
	comp=E,3μm,0.5s						

BJI 19 02:25:26.2, 22°.05N×102°.56E, h31km, ML3.9/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.06	3	Pg	Pb	02 26 19.3	-1.1
KMI				Sg	Sb	02 26 55.8	-1.8
KMI				smax	smax		
	comp=N,89nm,0.9s						
KMI				smax	smax		
	comp=E,160nm,0.6s						
GYA	Guiyang	5.77	40	Pn	Pn	02 26 54.3	+4.4
GYA				Sn	Sn	02 27 54.3	-0.9
GYA				Sg	Sb	02 28 21.3	+6.2
GYA				smax	smax		
	comp=N,90nm,0.9s						
GYA				smax	smax		
	comp=E,70nm,0.9s						

ASRS 19 02:26:29.5±1.3, 50°.02N×88°.94E, h15km, Ms3.1/4
MOS 19 02:26:29.5±2.9, 51°.02N×88°.94E, h15km, mb4.4/1, Error ellipse: s-maj=28.6km s-min=21.3km az=85.6
ISCJB 19 02:26:30.1±1.2, 51°.09N±0°.04×88°.7E±0°.1, h10km, Error ellipse: s-maj=10.9km s-min=4.8km az=12.7
NNC 19 02:26:31.2±5.2, 51°.05N×88°.47E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=44.2km s-min=27.9km az=92.0
ISC 19 02:26:31.1±1.7, 51°.07N±0°.04×88°.7E±0°.1, h10km, n18, σ2°35/27, 13C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	Aktash	1.02	223	*e*PG	Pb	02 26 49.1	-1.8
AKAR				*e*		02 27 03.0	
AKAR	Aktash	1.02	223	*e*Pg	Pb	02 26 49.1	-1.8
AKAR				*e*Sg	Sg	02 27 03.0	-1.0
TASR	Tashtagol	1.77	343	*e*PN	Pb	02 27 03.5	-0.2
TASR				*e*		02 27 29.8	
TASR	Tashtagol	1.77	343	*e*Pg	Pb	02 27 03.5	-0.2
TASR				*e*Sg	Sg	02 27 29.8	+1.8
UKR	Ust'-Kan	2.49	268	*e*PN	Pg	02 27 18.4	-0.4
UKR				*i*		02 27 52.2	
UKR	Ust'-Kan	2.49	268	*e*Pg	Pg	02 27 18.4	-0.4
UKR				*i* Sg	Sg	02 27 52.2	+1.2
NVS	Novosibirsk	5.02	321	*e*PN	Pn	02 27 45.8	-0.6
NVS				*i*		02 29 09.1	
NVS	Novosibirsk	5.02	321	*e*Pn	Pn	02 27 45.8	-0.6
NVS				*e*Sn	Sn	02 28 45.7	+1.3
NVS				*i* Sg	Sg	02 29 09.1	-3.1
MK31	Makanchi Array	6.01	227	⇑Pn	Pn	02 28 02.3	+2.2
	4.5nm,0.5s,baz=50,slow=14,SNR=134						
MK31				⇑Sn	Sn	02 29 12.8	+3.8
	9.0nm,0.7s						
MK31				⇓Lg	Lg	02 29 39.7	
	8.0nm,0.5s,baz=53,slow=27,SNR=4.1						
MK31	Makanchi Array	6.01	227	*e*Pn	Pn	02 28 02.3	+2.2
MK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
MK31				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KURBB	Kurchatov Arra	6.46	270	⇑Pn	Pn	02 28 08.5	+2.3
	comp=Z,7.0nm,0.6s,baz=83,slow=14						
KURB

SIVA	Sivas	1.07 279	*e*PB		Pg	02 29 33.7	-1.1
SIVA			*e*SB		Sg	02 29 47.9	-0.7
SIVA	Sivas	1.07 279	*e*Pb		Pg	02 29 33.7	-1.1
SIVA			*e*Sb		Sg	02 29 47.9	-0.7
SIVA			S		Sn	02 29 50.8	-0.3
IDI	Anoyia	1.08 294	P		Pg	02 29 33.5	-1.5
IDI			S		Sb	02 29 50.0	+0.1
IDI	Anoyia	1.08 294	*e*PG		Pg	02 29 33.5	-1.5
IDI	Anoyia	1.08 294	*e*Pg		Pg	02 29 33.5	-1.5
IDI			S		Sb	02 29 50.0	+0.1
KARP	Karpathos	1.12 51	P		Pg	02 29 34.5	-1.3
KARP			S		Sb	02 29 51.5	+0.5
KARP	Karpathos	1.12 51	*e*PN		Pg	02 29 35.3	-0.5
KARP	Karpathos	1.12 51	P		Pg	02 29 34.5	-1.3
KARP	Karpathos	1.12 51	*e*Pn		Pg	02 29 35.3	-0.5
KARP			S		Sb	02 29 51.5	+0.5
VAM	Vamos	1.65 290	*e*PB		Pg	02 29 45.6	-0.3
VAM	Vamos	1.65 290	*e*Pb		Pg	02 29 45.6	-0.3
NIS1	Nisyros Isl.	1.96 26	*e*PG		Pb	02 29 50.5	0.0
NIS1	Nisyros Isl.	1.96 26	*e*Pg		Pb	02 29 50.5	0.0
ARG	Arkhangelos	2.15 50	*e*PN		Pb	02 29 52.9	-0.8
DAT	Datca	2.23 32	*e*PN		Pn	02 29 52.4	+0.4
APE	Apeiranthos	2.26 349	*e*PN		Pn	02 29 51.1	-1.3
APE	Apeiranthos	2.26 349	P		Pn	02 29 51.3	-1.1
APE	Apeiranthos	2.26 349	*e*P		Pn	02 29 51.3	-1.1
APE	Apeiranthos	2.26 349	P		Pn	02 29 51.3	-1.1
BODT	Bodrum	2.42 24	*e*PN		Pn	02 29 54.8	+0.3
ANKY	Antikythira Is	2.50 295	*e*PN		Pn	02 29 57.2	+1.6
ANKY	Antikythira Is	2.50 295	*e*Pn		Pn	02 29 57.2	+1.6
MLSB	Milas	2.80 29	*e*PN		Pn	02 30 00.4	+0.7
DALY	Dalyan (Mu¨la	2.86 46	*e*PN		Pn	02 30 01.2	+0.7
KYTH	Kithira	2.87 301	*e*PN		Pn	02 30 03.0	+2.2
YER	Yerkesik	2.89 37	*e*PN		Pn	02 30 01.2	+0.2
SMG	Samos	2.92 12	*e*PN		Pn	02 30 03.8	+2.4
FETY	Fethiye	3.02 53	*e*PN		Pn	02 30 02.3	-0.4
VLI	Veliai	3.17 307	*e*PN		Pn	02 30 05.7	+0.9
VLI	Veliai	3.17 307	*e*Pn		Pn	02 30 05.7	+0.9
LTBQ	Tobruq	3.33 214	*e*S		Sb	02 30 51.0	-3.5
	42nm,0.5s,SNR=100						
SLUM		3.43 193	S		Sn	02 30 50.0	+0.6
DID	Didima	3.52 320	*e*PN		Pn	02 30 10.8	+1.2
DID	Didima	3.52 320	*e*Pn		Pn	02 30 10.8	+1.2
DYR	Agios Nikonas	3.60 303	*e*PN		Pn	02 30 12.9	+2.1
ATH	Athens Observa	3.66 329	*e*PN		Pn	02 30 13.0	+1.5
ATH	Athens Observa	3.66 329	*e*Pn		Pn	02 30 13.0	+1.5
PTL	Penteli	3.66 331	*e*PN		Pn	02 30 12.2	+0.6
PTL	Penteli	3.66 331	*e*Pn		Pn	02 30 12.2	+0.6
HMAT	Matruh	3.84 167	S		Sn	02 31 00.8	+1.3
LTK	Loutraki	4.05 322	*e*PN		Pn	02 30 18.4	+1.5
LTK	Loutraki	4.05 322	*e*Pn		Pn	02 30 18.4	+1.5
KULA	Kula-Manisa	4.20 29	*e*PN		Pn	02 30 19.2	+0.1
GUR	Goura	4.32 317	*e*PN		Pn	02 30 21.6	+0.9
GUR	Goura	4.32 317	*e*Pn		Pn	02 30 21.6	+0.9
KHL	Karahalli	4.43 38	*e*PN		Pn	02 30 22.9	+0.7
BCK	Bucak	4.47 53	*e*PN		Pn	02 30 21.9	-1.0
KLV	Kalavryta, Ach	4.50 316	*e*PN		Pn	02 30 24.7	+1.5
KLV	Kalavryta, Ach	4.50 316	*e*Pn		Pn	02 30 24.7	+1.5
AOS	Alonnisos	4.66 338	*e*PN		Pn	02 30 27.6	+2.3
LAKA	Lakka	4.73 317	*e*PN		Pn	02 30 28.0	+1.6
LAKA	Lakka	4.73 317	*e*Pn		Pn	02 30 28.0	+1.6
KALE	Kalithea	4.75 319	*e*PN		Pn	02 30 28.0	+1.3
KALE	Kalithea	4.75 319	*e*Pn		Pn	02 30 28.0	+1.3
TRIZ	Trizonia	4.77 319	*e*PN		Pn	02 30 28.7	+1.9
EFP	Efpalio	4.91 318	*e*PN		Pn	02 30 31.0	+2.3
EZN	Ezine	4.97 2	*e*PN		Pn	02 30 28.3	-1.3
AGG	Agios Georgios	5.14 325	*e*PN		Pn	02 30 33.9	+2.0
SHUT	Suhut-Afyon	5.15 43	*e*PN		Pn	02 30 31.2	-0.9
DST	Dursunbey	5.16 22	*e*PN		Pn	02 30 32.0	-0.1
GONE	Gonen-Balikesi	5.34 13	*e*PN		Pn	02 30 33.6	-1.0
LPK	Lapseki	5.54 5	*e*PN		Pn	02 30 35.5	-1.9
GELI	Tayfur-Gelibol	5.55 3	*e*PN		Pn	02 30 35.8	-1.7
HDMB	Hadim	5.60 66	*e*PN		Pn	02 30 35.3	-3.2
KRBG	Karabiga-Canak	5.62 9	*e*PN		Pn	02 30 37.6	-0.8
SWA2		5.62 186	P		Pn	02 30 38.8	+0.4
KONT	Konya--Tatoy	5.92 57	*e*P		Pn	02 30 40.9	-1.9
CSS	Prodhromos	5.95 87	*e*PN		Pn	02 30 36.1	-6.9
CSS	Prodhromos	5.95 87	Pn		Pn	02 30 42.7	-0.4
LFK	Lefkose	6.12 84	*e*PN		Pn	02 30 38.7	-6.7
KIZT	Kizilcal	6.14 47	*e*P		Pn	02 30 44.6	-1.1
ADVT	Abdulvahap	6.28 26	*e*P		Pn	02 30 47.0	-0.5
LJBD	Adjabya	6.32 233	*i* P		Pn	02 30 50.1	+1.9
	SNR=94						
LJBD			*e*S		Sn	02 32 00.9	+0.2
	SNR=94						
IKL	Isikli	6.34 75	*e*P		Pn	02 30 43.3	-5.2
HNAT	Natroun	6.46 142	S		Sn	02 32 03.5	-0.7
GULT	Gulveren	6.58 31	*e*P		Pn	02 30 51.6	-0.3
MMB	Musomiste	6.98 345	P		Pn	02 31 01.9	+4.7
LUJL	Ujela	7.01 217	*i* P		Pn	02 30 58.6	+1.0
	SNR=94						
GLL	Jalalah	7.09 136	P		Pn	02 30 59.1	+0.4
ANTO	Ankara	7.32 45	⇑*i*P		Pn	02 31 02.6	+0.7
KKB	Krupnik	7.39 342	P		Pn	02 31 06.8	+3.9
RSH		7.50 119	P		Pn	02 31 04.6	+0.3
KARA	Karaisali	7.65 69	*e*P		Pn	02 31 02.0	-4.4
MMAI	Mount Meron Ar	7.95 101	Pn		Pn	02 31 11.0	+0.4
	3.3nm,0.3s,baz=266,slow=12,SNR=14						
MMAI			Sn		Sn	02 32 41.5	+0.5
	2.0nm,0.3s,baz=303,slow=22,SNR=4.0						
KZIT	Kziot	8.02 117	Pn		Pn	02 31 11.4	0.0
VTS	Vitosha	8.05 345	*e*P		Pn	02 31 16.5	+4.5
VTS	Vitosha	8.05 345	⇓*i*P		Pn	02 31 15.5	+3.5
KSDI	Kefar Szold	8.11 99	Pn		Pn	02 31 13.3	+0.6
RTMI	Retamim	8.16 115	Pn		Pn	02 31 12.9	-0.5
HMDT	Nahal Hemdat	8.29 106	Pn		Pn	02 31 15.0	-0.2
DSI	Dead Sea	8.44 110	Pn		Pn	02 31 17.3	+0.1
DSI			Sn		Sn	02 32 49.4	-3.5
MZDA	Masada	8.54 112	Pn		Pn	02 31 19.2	+0.6
MZDA			Sn		Sn	02 32 52.9	-2.4
KRMI	Paran Flat	8.68 121	Pn		Pn	02 31 21.3	+0.7
MPEP	Malo Peshtene	8.69 349	P		Pn	02 31 27.3	+6.7
PRNI	Paran	8.75 118	Pn		Pn	02 31 22.0	+0.4
PRNI			Sn		Sn	02 32 57.0	-3.6
HRFI	Mount Harif	8.95 120	Pn		Pn	02 31 24.3	0.0
HRFI			Sn		Sn	02 33 03.5	-2.0
MBRI	Mt Berech	9.01 122	Pn		Pn	02 31 25.7	+0.6
EIL	Elat	9.11 122	Pn		Pn	02 31 27.0	+0.6
	1.0nm,0.3s,baz=348,slow=6.2,SNR=14						
EIL			Sn		Sn	02 33 07.3	-1.9
	1.2nm,0.3s,baz=90,slow=18,SNR=4.7						
EIL	Elat	9.11 122	Pn		Pn	02 31 26.6	+0.2
ASF	Jabal al Asfar	9.41 103	Pn		Pn	02 31 31.1	+0.5
	0.2nm,0.3s,baz=234,slow=5.9,SNR=2.5						
ASF			Sn		Sn	02 33 15.2	-1.6
	0.2nm,0.3s,baz=329,slow=22,SNR=2.3						
LZLA	Zalla	9.60 232	*i* P		Pn	02 31 34.8	+1.7
	SNR=93						
TIRR	Tirgusor	9.76 10	⇑*i*P		Pn	02 31 39.7	+4.4
DIVS	Divibare	10.37 335	*e*P		Pn	02 31 45.2	+1.5
VOIR		10.61 356	⇑*i*P		Pn	02 31 49.8	+2.9
MLR	Muntele Rosu	10.63 359	⇓*i*P		Pn	02 31 51.0	+3.7
MLR	Muntele Rosu	10.63 359	Pn		Pn	02 31 50.6	+3.3
	0.0nm,0.3s,baz=197,slow=10,SNR=4.9						
PLOR	Plostina	11.00 2	⇓*i*P		Pn	02 31 56.5	+4.2
KEST	Kesra	13.71 278	Pn		P	02 32 34.1	-4.1
	0.0nm,0.3s,baz=91,slow=18,SNR=2.2						
KOLS	Kolonicke sedl	14.35 350	*e*P		P	02 32 41.8	-3.5
KOLS	Kolonicke sedl	14.35 350	*e*PN		P	02 32 41.8	-3.5
KOLS	Kolonicke sedl	14.35 350	*e*P		P	02 32 41.8	-3.5
CRVS	Cervenica-Dubn	14.45 348	*e*P		Pn	02 32 41.0	+1.5
CRVS	Cervenica-Dubn	14.45 348	*e*PN		Pn	02 32 41.0	+1.5
CRVS	Cervenica-Dubn	14.45 348	*e*Pn		Pn	02 32 41.0	+1.5
VYHS	Vyhne	14.66 341	*e*P		Pn	02 32 43.7	+1.4
VYHS	Vyhne	14.66 341	*e*PN		Pn	02 32 43.7	+1.4
VYHS	Vyhne	14.66 341	*e*Pn		Pn	02 32 43.7	+1.4
STHS	Stebnicka Huta	14.99 348	*e*P		P	02 32 51.3	-1.0
STHS	Stebnicka Huta	14.99 348	*e*PN		P	02 32 51.3	-1.0
STHS	Stebnicka Huta	14.99 348	*e*P		P	02 32 51.3	-1.0
PGF	Pioggiola	15.38 305	*e*P		P	02 32 56.4	-0.5
	10nm,0.9s						
PGF	Pioggiola	15.38 305	*e*P		P	02 32 56.4	-0.5
	5.1nm,0.9s						
ABTA	Abfaltersbach	15.69 323	⇑*i*P		P	02 33 03.9	+3.7
	1.7nm,0.5s						
KIV	Kislovodsk	15.70 50	*e*P		Pn	02 32 56.9	+0.7
KIV			pmax		pmax		
	comp=Z,4.0nm,1.1s						
GNI	Garni	15.71 65	LR		LR	02 40 23.6	
	comp=Z,118nm,19.5s,baz=284,slow=42						
KBZ	Khabaz	15.72 51	P		P	02 33 01.9	+1.4
KBZ	Khabaz	15.72 51	Pn		P	02 33 01.9	+1.4
	comp=Z,0.1nm,0.3s,baz=247,slow=9.7,SNR=5.5						
KBZ			LR		LR	02 40 59.4	
	comp=Z,26nm,18.1s,baz=258,slow=45						
KBZ	Khabaz	15.72 51	P		P	02 33 01.9	+1.4
KIEV	Kiev	16.00 7	*i* P		P	02 33 03.9	+0.4
KIEV	Kiev	16.00 7	*i* P		P	02 33 03.9	+0.4
AKASG	Malin Array Be	16.01 7	*e*P		P	02 33 03.2	-0.4
AKASG			pmax		pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	16.01 7	Pn		P	02 33 03.2	-0.4
	comp=Z,1.6nm,0.3s,baz=196,slow=10.0,SNR=7.8						
AKASG	Malin Array Be	16.01 7	*e*P		P	02 33 03.2	-0.4
	comp=Z,2.0nm,0.3s						
VRAC	Vranov	16.06 337	Pn		P	02 33 03.9	-0.3
	comp=Z,0.5nm,0.3s,baz=154,slow=13,SNR=4.7						
VRAC	Vranov	16.06 337	P		P	02 33 03.9	-0.3
	comp=Z,1.0nm,0.3s						
OKC	Ostrava-Krasne	16.07 341	*e*P		P	02 33 03.5	-0.8
OKC	Ostrava-Krasne	16.07 341	*e*P		P	02 33 03.5	-0.8
OKC	Ostrava-Krasne	16.07 341	*e*P		P	02 33 03.5	-0.8
TREC	Trest	16.42 335	*e*P		P	02 33 06.8	-1.4
TREC	Trest	16.42 335	*e*P		P	02 33 06.8	-1.4
TREC	Trest	16.42 335	*e*P		P	02 33 06.8	-1.4
GERES	GERESS Array B	16.72 330	Pn		Pn	02 33 09.1	-0.2
	comp=Z,0.1nm,0.3s,baz=143,slow=11,SNR=7.1						
GERES	GERESS Array B	16.72 330	P		Pn	02 33 09.1	-0.2
FETA	Feichten	16.77 321	⇑*i*P		P	02 33 12.7	+0.4
	comp=Z,3.3nm,0.9s						
FETA	Feichten	16.77 321	P		P	02 33 12.7	+0.4
	comp=Z,3.3nm,0.9s						
SBF	Sospel	16.98 308	*e*P		P	02 33 14.6	+0.1
SBF	Sospel	16.98 308	*e*P		P	02 33 14.6	+0.1
KHC	Kasperske Hory	17.00 331	*e*P		Pn	02 33 12.8	+0.1
KHC			MLR		MLR		
	comp=Z,100nm,14.9s						
KHC	Kasperske Hory	17.00 331	*e*P		Pn	02 33 12.8	+0.1
KHC			AMS		AMS	02 41 30.0	
	comp=Z,100nm,14.9s						
KHC	Kasperske Hory	17.00 331	*e*P		Pn	02 33 12.8	+0.1
	comp=Z,100nm,14.9s						
DPC	Dobruska-Polom	17.05 338	*e*P		Pn	02 33 14.0	+0.6
DPC	Dobruska-Polom	17.05 338	*e*P		Pn	02 33 14.0	+0.6
DPC	Dobruska-Polom	17.05 338	*e*P		Pn	02 33 14.0	+0.6
DAVOX	Davos/Dischmat	17.07 319	Pn		P	02 33 18.7	+3.1
	comp=Z,0.2nm,0.3s,baz=135,slow=16,SNR=5.2						
PRU	Pruhonice	17.33 334	AMS		AMS	02 41 50.0	
	comp=Z,100nm,13.2s						
FRF	La Foret Royal	17.37 306	*e*P		P	02 33 18.6	-0.2
FRF	La Foret Royal	17.37 306	*e*P		P	02 33 18.6	-0.2
MBDF	Montbardon	17.79 309	*e*P		Pn	02 33 22.6	-0.1
	comp=Z,11nm,0.9s						
MBDF	Montbardon	17.79 309	*e*P		Pn	02 33 22.6	-0.1
	comp=Z,5.7nm,0.9s						
LPG	La Plagne	18.16 312	*e*P		Pn	02 33 26.8	-0.7
	comp=Z,9.1nm,0.8s						
LPG	La Plagne	18.16 312	*e*P		Pn	02 33 26.8	-0.7
	comp=Z,4.6nm,0.8s						
LPL	La Plagne	18.18 312	*e*P		Pn	02 33 26.5	-1.2
	comp=Z,4.6nm,0.6s						
LPL	La Plagne	18.18 312	*e*P		Pn	02 33 26.5	-1.2
	comp=Z,2.3nm,0.6s						
ORIF	Oris-en-Rattie	18.44 309	*e*P		Pn	02 33 29.7	-1.0
ORIF			*e*R				
	comp=Z,97nm,22.2s						
ORIF	Oris-en-Rattie	18.44 309	*e*P		Pn	02 33 29.7	-1.0
CLL	Collm	18.98 334	*i* P		P	02 33 35.6	-0.8
CLL			pmax		pmax		
	comp=Z,4.0nm,1.1s						
CLL	Collm	18.98 334	*i* P		P	02 33 35.6	-0.8
	comp=Z,4.0nm,1.1s						
CLL	Collm	18.98 334	*i* P		P	02 33 35.6	-0.8
	comp=Z,4.0nm,1.1s						
CABF	La Chapelle	19.12 314	*e*P		P	02 33 35.7	-2.4
	comp=Z,15nm,0.9s						
CABF	La Chapelle	19.12 314	*e*P		P	02 33 35.7	-2.4
	comp=Z,7.7nm,0.9s						
VIVF	Saint-Julien-l	19.19 308	*e*P		P	02 33 39.0	+0.1
VIVF	Saint-Julien-l	19.19 308	*e*P		P	02 33 39.0	+0.1
HINF	Hinteralfeld	19.34 318	*e*P		P	02 33 39.8	-0.6
	comp=Z,4.1nm,0.6s						
HINF	Hinteralfeld	19.34 318	*e*P		P	02 33 39.8	-0.6
	comp=Z,2.0nm,0.6s						
CDF	Champ du Feu	19.46 320	*e*P		P	02 33 41.1	-0.7
	comp=Z,4.2nm,0.6s						
CDF	Champ du Feu	19.46 320	*e*P		P	02 33 41.1	-0.7
	comp=Z,2.1nm,0.6s						
HAU	Haudompre	19.72 318	*e*P		P	02 33 43.5	-1.1
	comp=Z,7.3nm,0.7s						
HAU			*e*R				
	comp=Z,75nm,21.0s						
HAU	Haudompre	19.72 318	*e*P		P	02 33 43.5	-1.1
	comp=Z,3.7nm,0.7s						
SMF	Signal de Mont	20.49 312	*e*P		P	02 33 51.7	-1.3
	comp=Z,4.9nm,0.6s						
SMF	Signal de Mont	20.49 312	*e*P		P	02 33 51.7	-1.3
	comp=Z,2.5nm,0.6s						
SFTF	Sexfontaines	20.57 317	*e*P		Pn	02 33 55.0	-1.0
	comp=Z,11nm,0.7s						
SFTF	Sexfontaines	20.57 317	*e*P		Pn	02 33 55.0	-1.0
	comp=Z,5.6nm,0.7s						
MEZF	Maizieres J'vi	20.72 318	*e*P		P	02 33 54.6	-0.8
	comp=Z,9.5nm,0.6s						
MEZF	Maizieres J'vi	20.72 318	*e*P		P	02 33 54.6	-0.8
	comp=Z,4.8nm,0.6s						
LOR	Lormes	20.77 313	*e*P		P	02 33 54.3	-1.7
	comp=Z,6.7nm,0.6s						
LOR			*e*R				
	comp=Z,59nm,17.0s						
LOR	Lormes	20.77 313	*e*P		P	02 33 54.3	-1.7
	comp=Z,3.3nm,0.6s						
AVF	Avril sur Loir	20.86 312	*e*P		P	02 33 55.7	-1.2
	comp=Z,7.2nm,0.8s						
AVF	Avril sur Loir	20.86 312	*e*P		P	02 33 55.7	-1.2
	comp=Z,3.6nm,0.8s						
SSF	Saint Saulge	20.89 313	*e*P		P	02 33 55.6	-1.7
	comp=Z,32nm,0.9s						
SSF	Saint Saulge	20.89 313	*e*P		P	02 33 55.6	-1.7
	comp=Z,16nm,0.9s						
BGF	Bois d'Agland	21.07 311	*e*P		P	02 33 58.7	-0.5
	comp=Z,8.0nm,0.7s						
BGF	Bois d'Agland	21.07 311	*e*P		P	02 33 58.7	-0.5
	comp=Z,4.0nm,0.7s						
RJF	Les Rejaudoux	21.43 307	*e*P		P	02 34 03.7	+0.6
	comp=Z,13nm,1.2s						
RJF			*e*R				
	comp=Z,51nm,17.5s						
RJF	Les Rejaudoux	21.43 307	*e*P		P	02 34 03.7	+0.6
	comp=Z,6.6nm,1.2s						
OBN	Obninsk	21.53 17	⇓*e*P		P	02 34 05.5	+1.5
OBN			*e*			02 34 24.4	
OBN			*e*S		S	02 37 56.9	-6.0
OBN			pmax		pmax		
	comp=Z,2.0nm,0.8s						
OBN	Obninsk	21.53 17	*e*P		P	02 34 05.5	+1.5
	comp=Z,2.0nm,0.8s						
GIVF	Givet	21.76 321	*e*P		P	02 34 04.9	-1.7
GIVF	Givet	21.76 321	*e*P		P	02 34 04.9	-1.7
BAIF	Baives	22.06 320	*e*P		P	02 34 08.3	-1.5
	comp=Z,17nm,0.6s						
BAIF	Baives	22.06 320	*e*P		P	02 34 08.3	-1.5
	comp=Z,8.4nm,0.6s						
ETSF	Etsaut	22.19 299	*e*P		P	02 34 12.1	+0.8
	comp=Z,4.8nm,0.7s						
ETSF	Etsaut	22.19 299	*e*P		P	02 34 12.1	+0.8
	comp=Z,2.4nm,0.7s						
SJPF	Ste Jean	22.71 299	*e*P		P	02 34 15.0	-1.9
	comp=Z,11nm,0.9s						
SJPF	Ste Jean	22.71 299	*e*P		P	02 34 15.0	-1.9
	comp=Z,5.6nm,0.9s						
MFF	Saint Martin d	22.98 309	*e*P		P	02 34 18.9	-0.7
MFF	Saint Martin d	22.98 309	*e*P		P	02 34 18.9	-0.7
LDF	La Druitiere	23.76 313	*e*P		P	02 34 27.6	+0.2
	comp=Z,9.7nm,0.9s						
LDF	La Druitiere	23.76 313	*e*P		P	02 34 27.6	+0.2
	comp=Z,4.8nm,0.9s						
FLN	La Foliniere	24.05 313	*e*P		P	02 34 30.2	0.0
	comp=Z,5.6nm,0.5s						
FLN			*e*R				
	comp=Z,44nm,22.9s						
FLN	La Foliniere	24.05 313	*e*P		P	02 34 30.2	0.0
	comp=Z,2.8nm,0.5s						
GRR	Gorron	24.12 312	*e*P		P	02 34 30.2	-0.6
GRR	Gorron	24.12 312	*e*P		P	02 34 30.2	-0.6
ESDC	Sonseca Array	24.34 290	P		P	02 34 32.8	-0.3
	comp=Z,0.7nm,0.5s,baz=74,slow=11,SNR=14						
QUIF	Quistinic	25.37 310	*e*P		P	02 34 42.5	+0.3
QUIF	Quistinic	25.37 310	*e*P		P	02 34 42.5	+0.3
FINES	FINESS Array B	26.61 360	P		P	02 34 53.1	-0.2
	comp=Z,2.6nm,1.0s,baz=141,slow=14,SNR=3.3						
FINES	FINESS Array B	26.61 360	P		P	02 34 53.1	-0.2
	comp=Z,3.0nm,1.0s						
NOA	NORSAR Array B	27.90 345	LR		LR	02 46 52.5	
	comp=Z,20nm,20.0s,baz=150,slow=38						
AKTK	Aktyubinsk	27.91 46	P		P	02 35 06.1	+1.0
	comp=Z,1.0nm,0.4s						
AKTO	Aktyubinsk	27.91 46	P		P	02 35 06.1	+1.0
AKTO			pmax		pmax		
	comp=Z,1.0nm,0.4s						
AKTO	Aktyubinsk	27.91 46	P		P	02 35 06.0	+1.0
	comp=Z,0.9nm,0.4s,baz=281,slow=5.2,SNR=5.0						
EKA	Eskdalemuir Ar	28.73 324	P		P	02 35 12.7	+0.3
	comp=Z,0.4nm,0.3s,baz=118,slow=10,SNR=4.0						
EKA	Eskdalemuir Ar	28.73 324	P		P	02 35 12.7	+0.3
	comp=Z,1.0nm,0.4s						
TORD	Torodi Ar. Bea	30.89 232	P		P	02 35 32.4	+0.5
	comp=Z,1.7nm,0.5s,baz=34,slow=8.4,SNR=44						
ARCES	ARCESS Array B	34.74 360	P		P	02 36 04.0	-1.0
	comp=Z,1.9nm,0.7s,baz=180,slow=8.8,SNR=9.4						
ARCES	ARCESS Array B	34.74 360	P		P	02 36 04.0	-1.0
	comp=Z,2.0nm,0.7s						
BVAR	Borovoye Array	36.01 46	P		P	02 36 18.2	+2.1
BVAR			pmax		pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	36.01 46	P		P	02 36 18.2	+2.1
	comp=Z,0.8nm,0.7s,baz=277,slow=3.7,SNR=4.4						
BVAR	Borovoye Array	36.01 46	P		P	02 36 18.2	+2.1
	comp=Z,1.0nm,0.9s						
DBIC	Dimbokro	39.98 233	P		P	02 36 49.8	-0.2
	comp=Z,2.2nm,0.6s,baz=20,slow=8.6,SNR=4.1						
DBIC			LR		LR	02 56 17.3	
	comp=Z,43nm,20.2s,baz=182,slow=41						
DBIC	Dimbokro	39.98 233	P		P	02 36 49.8	-0.2
	comp=Z,43nm,20.2s						
LIC	Lamto	40.42 232	*e*P		P	02 36 54.4	+0.7
LIC	Lamto	40.42 232	*e*P		P	02 36 54.4	+0.7
KURBB	Kurchatov Arra	40.72 51	P		P	02 36 56.1	+0.3
	comp=Z,3.3nm,0.9s,baz=277,slow=8.8,SNR=15						
KURK	Kurchatov	40.78 51	P		P	02 36 56.1	-0.2
KURK			pmax		pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	40.78 51	P		P	02 36 56.1	-0.2
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	43.31 56	*e*P		P	02 37 17.3	+0.3
MKAR			pmax		pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	43.31 56	P		P	02 37 17.4	+0.3
	comp=Z,2.3nm,0.7s,baz=283,slow=5.8,SNR=14						
MKAR	Makanchi Array	43.31 56	*e*P		P	02 37 17.3	+0.3
	comp=Z,2.0nm,0.7s						
SPITS	Spitsbergen Ar	43.63 357	P		P	02 37 19.2	0.0
	comp=Z,1.1nm,0.5s,baz=99,slow=8.9,SNR=4.6						
SPITS	Spitsbergen Ar	43.63 357	P		P	02 37 19.2	0.0
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	44.67 46	P		P	02 37 27.6	-0.2
ZALV			pmax		pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	44.67 46	P		P	02 37 27.6	-0.2
	comp=Z,1.3nm,0.5s,baz=276,slow=10,SNR=6.4						
ZALV	Zalesovo Beam	44.67 46	P		P	02 37 27.6	-0.2
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	59.09 51	P		P	02 39 16.8	+1.2
	comp=Z,0.2nm,0.4s,baz=291,slow=12,SNR=2.9						
SONM	Songino Array	59.09 51	P		P	02 39 16.8	+1.2
SCHQ	Schefferville	63.92 320	P		P	02 39 47.2	-0.8
	comp=Z,2.9nm,0.6s,baz=55,slow=8.0,SNR=11						
CMAR	Chiang Mai Arr	65.85 84	P		P	02 40 03.2	+2.2
	comp=Z,0.9nm,0.3s,baz=297,slow=7.9,SNR=4.6						
ILAR	Eielson Array	80.55 357	P		P	02 41 27.0	-0.2
	comp=Z,0.4nm,0.9s,baz=350,slow=2.6,SN

Azm294.0000°; N -0.1800, Plg14.0000°, Azm137.0000°; P -1.9300, Plg5.0000°, Azm46.0000°;
ISC 19 02:55:10.1±0.3,**1**̇**36S**±0̇.03×**99**̇**46E**±0̇.03,**h24**km±1km,
h24km:**pP-P,n1603,**σ1̇̇̇

HHC			PcP	**PcP**	**03 05 00.1**	**+0.7**
HHC			ScP	**ScP**	**03 08 49.0**	**-0.5**
HHC			PcS	**PcS**	**03 08 50.8**	**-1.2**
HHC			S	**S**	**03 09 40.1**	**+1.8**
HHC			sS	**sS**	**03 09 46.4**	**-4.1**
HHC			SS	**SS**	**03 12 47.6**	**-5.4**
HHC			ScS	**ScS**	**03 13 07.8**	**-2.1**
HHC			pmax	pmax		
comp=Z,54nm,0.9s						
HHC			pmax	pmax		
comp=Z,400nm,5.0s						
HHC			LR	LR		
comp=N,2μm,14.7s						
HHC			LR	LR		
comp=E,4μm,16.3s						
HHC			LR	LR		
comp=Z,7μm,15.9s						
BJI	**Beijing**	**43.95 19**	P	**P**	**03 03 14.5**	**-0.7**
BJI			PP	**PP**	**03 04 58.5**	**+0.6**
BJI			S	**S**	**03 09 47.8**	**+2.2**
BJI			pmax	pmax		
comp=Z,34nm,0.7s						
BJI			LR	LR		
comp=N,6μm,13.7s						
BJI			LR	LR		
comp=E,5μm,14.9s						
BJI			LR	LR		
comp=Z,2μm,14.0s						
MSEY	**Mahe Island**	**44.04 265**	PFAKE		03 03 30.0	+13
MSEY			LR	LR		
comp=Z,3μm,19.0s						
DL2	**Dalian**	**44.96 25**	P	**P**	**03 03 23.8**	**+0.5**
DL2			S	**S**	**03 10 01.8**	**+1.5**
DL2			pmax	pmax		
comp=Z,65nm,1.5s						
DL2			pmax	pmax		
comp=Z,190nm,3.7s						
DL2			LR	LR		
comp=N,2μm,17.5s						
DL2			LR	LR		
comp=E,1μm,11.8s						
DL2			LR	LR		
comp=Z,3μm,16.9s						
COEN	**Coen**	**44.99 108**	*e*P	**P**	**03 03 24.5**	**+0.4**
MRIV	**Mauritius Mete**	**45.10 242**	*e*P	**P**	**03 03 26.6**	**+1.8**
JNU	**Nakatsue**	**45.32 38**	*e*P	**P**	**03 03 26.0**	**-0.4**
comp=Z,50nm,0.9s						
KBL	**Kabul**	**45.70 324**	*e*P	**P**	**03 03 28.8**	**-0.9**
KBL			pmax	pmax		
comp=Z,16nm,0.7s						
KBL	**Kabul**	**45.70 324**	*e*P	**P**	**03 03 28.8**	**-0.9**
comp=Z,16nm,0.7s						
KSH	**Kashi**	**46.03 335**	P	**P**	**03 03 31.6**	**-0.4**
KSH			sP	**sP**	**03 03 38.6**	**-3.8**
KSH			PP	**PP**	**03 05 19.6**	**-0.7**
KSH			S	**S**	**03 10 14.0**	**-2.1**
KSH			SS	**ScS**	**03 13 30.1**	**+3.5**
KSH			pmax	pmax		
comp=Z,17nm,0.9s						
KSH			pmax	pmax		
comp=Z,320nm,4.5s						
KSH			LR	LR		
comp=N,1μm,14.8s						
KSH			LR	LR		
comp=E,1μm,15.8s						
KSH			LR	LR		
comp=Z,2μm,20.9s						
INCN	**Inchon**	**46.11 30**	PFAKE		03 03 40.0	+7.4
INCN			LR	LR		
comp=Z,2μm,22.0s						
WMQ	**Urumqi**	**46.20 348**	P	**P**	**03 03 34.8**	**+1.6**
WMQ			pP	**pP**	**03 03 44.6**	**+3.9**
WMQ			PcP	**PcP**	**03 05 10.5**	**+1.7**
WMQ			PP	**PP**	**03 05 23.0**	**+1.0**
WMQ			S	**S**	**03 10 19.4**	**+1.1**
WMQ			sS	**sS**	**03 10 34.5**	**+4.0**
WMQ			SS	**SS**	**03 13 38.0**	**-6.0**
WMQ			pmax	pmax		
comp=Z,520nm,3.3s						
WMQ			LR	LR		
comp=N,2μm,18.0s						
WMQ			LR	LR		
comp=E,2μm,19.0s						
WMQ			LR	LR		
comp=Z,2μm,19.0s						
BBOO	**Buckleboo**	**46.48 136**	*e*P	**P**	**03 03 36.0**	**+0.5**
BBOO	**Buckleboo**	**46.48 136**	P	**P**	**03 03 35.8**	**+0.3**
baz=46,SNR=15						
KSAR	**Wonju Array Be**	**46.72 31**	P	**P**	**03 03 36.9**	**-0.4**
KSRS	**Korea Array**	**46.75 31**	P	**P**	**03 03 36.9**	**-0.6**
comp=Z,16nm,0.6s,baz=223,slow=8.2,SNR=44						
KSRS			LR	LR	03 21 26.7	
comp=Z,805nm,21.9s,baz=321,slow=34						
SMDO	**Samad**	**47.05 304**	P	**P**	**03 03 41.5**	**+1.2**
SNR=11						
MTSU	**Mount Surprise**	**47.06 114**	P	**P**	**03 03 39.9**	**-0.5**
baz=47,SNR=5.8						
GUMO	**Guam**	**47.39 70**	PFAKE		03 04 00.0	+17
GUMO			LR	LR		
comp=Z,758nm,22.0s						
BSY	**Bisya**	**47.63 303**	P	**P**	**03 03 45.8**	**+1.1**
SNR=11						
PMG	**Port Moresby**	**48.10 101**	PFAKE		03 04 00.0	+12
PMG			LR	LR		
comp=Z,2μm,20.0s						
SNY	**Shenyang**	**48.22 24**	⇑P	**P**	**03 03 48.8**	**-0.1**
SNY			S	S	03 10 38.9	-8.0
SNY			pmax	pmax		
comp=Z,13nm,0.8s						
SNY			LR	LR		
comp=N,2μm,18.6s						
SNY			LR	LR		
comp=E,5μm,17.1s						
SNY			LR	LR		
comp=Z,5μm,16.2s						
TKM2	**Tokmak 2**	**49.04 337**	*e*P	**P**	**03 03 56.4**	**+0.9**
TKM2			pmax	pmax		
comp=Z,112nm,0.8s						
TKM2			MLR	MLR		
comp=Z,2μm,22.0s						
TKM2	**Tokmak 2**	**49.04 337**	P	**P**	**03 03 58.1**	**+2.6**
SNR=8.3						
TKM2	**Tokmak 2**	**49.04 337**	*e*P	**P**	**03 03 56.4**	**+0.9**
comp=Z,112nm,0.8s						
TKM2			LR	LR		
comp=Z,2μm,22.0s						
KBK	**Karagaybulak**	**49.07 336**	*i* P	**P**	**03 03 58.6**	**+2.9**
KBK	**Karagaybulak**	**49.07 336**	P	**P**	**03 03 58.6**	**+2.9**
SNR=15						
AML	**Almayashu**	**49.16 335**	*i* P	**P**	**03 03 58.8**	**+2.1**
AML	**Almayashu**	**49.16 335**	P	**P**	**03 03 58.8**	**+2.1**
SNR=15						
AAK	**Ala-Archa**	**49.24 336**	P	**P**	**03 03 59.0**	**+2.0**
comp=Z,236nm,0.9s,SNR=16						
AAK	**Ala-Archa**	**49.24 336***c*	*i* P	**P**	**03 03 58.2**	**+1.2**
AAK			pmax	pmax		
comp=Z,114nm,2.5s						
AAK			MLR	MLR		
comp=Z,5μm,18.0s						
AAK	**Ala-Archa**	**49.24 336**	P	**P**	**03 03 58.5**	**+1.5**
SNR=52						
AAK	**Ala-Archa**	**49.24 336**	P	**P**	**03 03 59.5**	**+2.5**
SNR=7.2						
AAK	**Ala-Archa**	**49.24 336**	*e*P	**P**	**03 03 58.7**	**+1.8**
comp=Z,42nm,0.9s						
AAK			LR	LR		
comp=Z,2μm,19.0s						
CTA	**Charters Tower**	**49.35 115**	PcP	**PcP**	**03 05 21.2**	**+0.7**
CTA	**Charters Tower**	**49.35 115**	PcP	**PcP**	**03 05 21.2**	**+0.7**
comp=Z,6.4nm,0.5s,baz=282,slow=8.9,SNR=3.2						
CTAO	**Charters Tower**	**49.35 115**	*e*P	**P**	**03 03 57.5**	**-0.5**
CTAO			pmax	pmax		
comp=Z,55nm,1.0s						
CTAO			MLR	MLR		
comp=Z,2μm,19.0s						
CTAO	**Charters Tower**	**49.35 115**	*e*P	**P**	**03 03 57.5**	**-0.5**
comp=Z,55nm,1.0s						
CTAO			LR	LR		
comp=Z,2μm,19.0s						
FRU	**Bishkek**	**49.35 336**	*e*P	**P**	**03 03 58.0**	**+0.3**
FRU			*e*S	**S**	**03 11 03.0**	**0.0**
FRU			pmax	pmax		
comp=Z,310nm,2.2s						
FRU			MLR	MLR		
comp=Z,2μm,19.0s						
SONM	**Songino Array**	**49.37 6**	P	**P**	**03 03 58.0**	**+0.2**
SONM			PcP	**PcP**	**03 05 20.9**	**+0.8**
SONM	**Songino Array**	**49.37 6**	P	**P**	**03 03 58.0**	**+0.2**
comp=Z,9.5nm,0.4s,baz=190,slow=8.6,SNR=77						
SONM			PcP	**PcP**	**03 05 20.9**	**+0.8**
comp=Z,13nm,0.7s,baz=193,slow=4.1,SNR=4.5						
CHMS	**Chumysh**	**49.44 336**	*i* P	**P**	**03 04 00.4**	**+2.1**
CHMS	**Chumysh**	**49.44 336**	P	**P**	**03 04 00.4**	**+2.1**
SNR=5.5						
ULN	**Ulaanbaatar**	**49.47 7**	P	**P**	**03 03 59.1**	**+0.5**
SNR=23						
ULN	**Ulaanbaatar**	**49.47 7**	*e*P	**P**	**03 03 58.5**	**-0.1**
comp=Z,40nm,0.8s						
ULN			LR	LR		
comp=Z,4μm,19.0s						
EKS2	**Erkin-Say**	**49.56 335**	*e*P	**P**	**03 04 00.4**	**+1.1**
EKS2			pmax	pmax		
comp=Z,105nm,0.8s						
EKS2			MLR	MLR		
comp=Z,2μm,22.0s						
EKS2	**Erkin-Say**	**49.56 335**	P	**P**	**03 04 00.8**	**+1.4**
SNR=53						
EKS2	**Erkin-Say**	**49.56 335**	*e*P	**P**	**03 04 00.4**	**+1.1**
comp=Z,105nm,0.8s						
EKS2			LR	LR		
comp=Z,2μm,22.0s						
USP	**Ospenovka**	**49.76 336**	*i* P	**P**	**03 04 01.6**	**+0.8**
USP	**Ospenovka**	**49.76 336**	P	**P**	**03 04 01.6**	**+0.8**
SNR=51						
STKA	**Stephens Creek**	**49.97 132**	*e*P	**P**	**03 04 02.8**	**+0.2**
comp=Z,27nm,1.1s						
STKA			S	**S**	**03 11 08.0**	**-4.0**
STKA	**Stephens Creek**	**49.97 132**	P	**P**	**03 04 02.7**	**+0.2**
comp=Z,66nm,0.8s,baz=307,slow=7.4,SNR=78						
STKA			S	**S**	**03 11 08.0**	**-4.0**
comp=Z,2.3nm,0.9s,baz=246,slow=20,SNR=2.4						
STKA			LR	LR	03 26 39.0	
comp=Z,2μm,21.4s,baz=298,slow=38						
STKA	**Stephens Creek**	**49.97 132**	P	**P**	**03 04 03.2**	**+0.7**
baz=50,SNR=60						
MK31	**Makanchi Array**	**50.27 345**	*e*P	**P**	**03 04 05.1**	**+0.5**
MK31			*e*S	**S**	**03 11 14.6**	**-1.1**
MK31	**Makanchi Array**	**50.27 345**	*e*P	**P**	**03 04 05.1**	**+0.5**
MK31			*e*S	**S**	**03 11 14.6**	**-1.1**
MKAR	**Makanchi Array**	**50.27 345**	P	**P**	**03 04 05.1**	**+0.5**
MKAR			S	**S**	**03 11 16.4**	**+0.7**
MKAR	**Makanchi Array**	**50.27 345**	P	**P**	**03 04 05.1**	**+0.5**
MKAR			S	**S**	**03 11 16.4**	**+0.7**
MKAR			P'P'		03 34 55.2	
MKAR	**Makanchi Array**	**50.27 345**	P	**P**	**03 04 05.1**	**+0.5**
comp=Z,43nm,0.6s,baz=158,slow=8.5,SNR=398						
MKAR			S	**S**	**03 11 16.4**	**+0.7**
comp=Z,3.1nm,1.2s,baz=169,slow=15,SNR=3.5						
MKAR			PKPPKP	**P'P'df**	**03 34 55.2**	**+1.6**
comp=Z,1.0nm,1.0s,baz=38,slow=2.2,SNR=3.8						
IDAH	**Dahanechah**	**50.46 316**	*e*P	**P**	**03 04 06.0**	**-0.6**
CN2	**Changchun**	**50.62 24**	⇓P	**P**	**03 04 06.1**	**-1.1**
CN2			*e*sP	**sP**	**03 04 13.0**	**-4.7**
CN2			*e*S	**S**	**03 11 20.1**	**-0.5**
CN2			pmax	pmax		
comp=Z,20nm,0.7s						
CN2			pmax	pmax		
comp=Z,300nm,4.0s						
CN2			LR	LR		
comp=N,7μm,13.0s						
CN2			LR	LR		
comp=E,2μm,13.0s						
CN2			LR	LR		
comp=Z,4μm,16.0s						
IKOO	**Kooshah**	**50.90 315**	*e*P	**P**	**03 04 09.3**	**-0.5**
ITEG	**Tejag**	**51.33 315**	*e*P	**P**	**03 04 12.2**	**-0.8**
KK31	**Karatay Array**	**51.34 333**	*i* P	**P**	**03 04 13.2**	**+0.5**
KK31			pmax	pmax		
comp=Z,7.0nm,0.4s						
KKAR	**Karatay Array**	**51.34 333**	*e*P	**P**	**03 04 13.5**	**+0.8**
KKAR			pmax	pmax		
comp=Z,10.0nm,0.4s						
KKAR	**Karatay Array**	**51.34 333**	*e*P	**P**	**03 04 13.5**	**+0.8**
comp=Z,10nm,0.4s						
MAT	**Matsushiro**	**52.12 40**	P	**P**	**03 04 17.1**	**-1.6**
MAT			S	**S**	**03 11 41.4**	**-0.2**
MJAR	**Matsushiro Arr**	**52.12 40**	P	**P**	**03 04 17.2**	**-1.4**
MJAR	**Matsushiro Arr**	**52.12 40**	P	**P**	**03 04 17.2**	**-1.4**
comp=Z,4.4nm,0.7s,baz=232,slow=7.3,SNR=18						
MJAR			LR	LR	03 27 00.5	
comp=Z,572nm,19.9s,baz=255,slow=37						
IMYA	**Miami**	**52.40 320**	*e*P	**P**	**03 04 19.4**	**-1.5**
ARPS	**Mount Arapiles**	**52.62 137**	P	**P**	**03 04 25.3**	**+3.0**
baz=52,SNR=10						
IMOG	**Moghan**	**52.76 319**	*e*P	**P**	**03 04 22.7**	**-1.0**
ISRO	**Mashad**	**52.79 319**	*e*P	**P**	**03 04 22.3**	**-1.4**
MOY	**Mondy**	**52.85 1**	*e*P	**P**	**03 04 26.4**	**+2.6**
MOY			pmax	pmax		
comp=Z,99nm,3.2s						
CMSA	**Cobar Meteorol**	**52.93 129**	P	**P**	**03 04 25.2**	**+0.5**
baz=53,SNR=93						
IBAF	**Bafgh**	**52.95 312**	*e*P	**P**	**03 04 24.3**	**-0.8**
TLY	**Talaya**	**52.96 3***d*	*i* P	**P**	**03 04 24.8**	**+0.2**
TLY			*e*		03 05 31.6	
TLY			*e*S	**S**	**03 11 56.1**	**+3.5**
TLY			*e*		03 14 09.7	
TLY			pmax	pmax		
comp=Z,35nm,0.9s						
TLY			MLR	MLR		
comp=Z,2μm,12.0s						
TLY	**Talaya**	**52.96 3**	P	**P**	**03 04 27.1**	**+2.5**
comp=Z,189nm,0.8s,SNR=11						
VLA	**Vladivostok**	**53.00 29**	⇑*e*P	**P**	**03 04 23.7**	**-1.2**
VLA			*e*S	**S**	**03 11 52.2**	**-1.0**
VLA			pmax	pmax		
comp=Z,24nm,0.8s						
MDJ	**Mudanjiang**	**53.06 27**	P	**P**	**03 04 26.4**	**+1.0**
MDJ			pP	**pP**	**03 04 29.6**	**-3.3**
MDJ			PcP	**PcP**	**03 05 34.1**	**+0.4**
MDJ			ScP	**ScP**	**03 09 31.6**	**+1.7**
MDJ			S	**S**	**03 11 51.6**	**-2.4**
MDJ			SS	**SS**	**03 15 30.9**	**-2.8**
MDJ			pmax	pmax		
comp=Z,10.0nm,1.2s						
MDJ			pmax	pmax		
comp=Z,230nm,10.2s						
MDJ			LR	LR		
comp=N,2μm,23.0s						
MDJ			LR	LR		
comp=E,3μm,21.9s						
MDJ			LR	LR		
comp=Z,4μm,15.3s						
MDJ	**Mudanjiang**	**53.06 27**	*e*P	**P**	**03 04 26.3**	**+0.9**
comp=Z,26nm,1.0s						
MDJ			LR	LR		
comp=Z,2μm,20.0s						
IPAY	**Payeh**	**53.18 319**	*e*P	**P**	**03 04 25.3**	**-1.5**
HIA	**Hailar**	**53.38 16**	PFAKE		03 04 40.0	+12
HIA			LR	LR		
comp=Z,4μm,19.0s						
IAKL	**Akhelmad**	**53.43 319**	*e*P	**P**	**03 04 27.2**	**-1.4**
RMQ	**Roma**	**53.50 122**	P	**P**	**03 04 30.2**	**+1.2**
baz=53,SNR=13						
IRK	**Irkutsk**	**53.56 4**	*e*P	**P**	**03 04 28.2**	**-0.8**
IRK			pmax	pmax		
comp=Z,105nm,3.1s						
IMEH	**Mehriz**	**53.56 311**	*e*P	**P**	**03 04 28.3**	**-1.4**
IKRD	**Kardeh**	**53.69 319**	*e*P	P	03 04 25.1	-5.4
USRK	**Ussuriysk Arra**	**53.85 29**	P	**P**	**03 04 30.8**	**-0.4**
comp=Z,31nm,0.6s,baz=228,slow=6.8,SNR=63						
USRK			LR	LR	03 30 23.8	
comp=Z,2μm,19.6s,baz=214,slow=39						
IEMG	**Emamgholi**	**53.97 320**	*e*P	**P**	**03 04 32.0**	**-0.6**
IPAR	**Pars**	**54.04 309**	*e*P	**P**	**03 04 33.7**	**+0.4**
ABPO	**Ambohimpanom**	**54.06 247**	*e*P	**P**	**03 04 33.3**	**-0.1**
ABPO			*e*		03 05 39.3	
ABPO			pmax	pmax		
comp=Z,28nm,1.0s						
ABPO			MLR	MLR		
comp=Z,3μm,19.0s						
ABPO	**Ambohimpanom**	**54.06 247**	*e*P	**P**	**03 04 33.3**	**-0.1**
comp=Z,28nm,1.0s						
ABPO			*e*PcP	**PcP**	**03 05 39.3**	**+1.0**
ABPO			LR	LR		
comp=Z,3μm,19.0s						
ICHK	**Chekchek**	**54.13 312**	*e*P	**P**	**03 04 33.0**	**-0.8**
ISFR	**Sfrayin**	**54.18 319**	*e*P	**P**	**03 04 33.5**	**-0.6**
ISAD	**Sadrabad**	**54.51 312**	*e*P	**P**	**03 04 36.1**	**-0.5**
EIDS	**Eidsvold**	**55.14 120**	*e*P	**P**	**03 04 40.6**	**-0.4**
comp=Z,50nm,1.1s						
EIDS	**Eidsvold**	**55.14 120**	P	**P**	**03 04 41.2**	**+0.2**
baz=55,SNR=5.2						
TOO	**Toolangi**	**55.54 136**	P	P	03 04 46.8	+3.2
baz=55,SNR=4.8						
YNG	**Young**	**56.16 131**	P	**P**	**03 04 49.3**	**+1.1**
baz=56,SNR=37						
ZAA0	**Zalesovo Array**	**56.45 350**	*e*P	**P**	**03 04 49.7**	**0.0**
ZAA0			*e*S	**S**	**03 12 38.2**	**-1.1**
ZALV	**Zalesovo Beam**	**56.45 350**	*i* P	**P**	**03 04 50.0**	**+0.2**
ZALV			pmax	pmax		
comp=Z,89nm,0.7s						
ZALV	**Zalesovo Beam**	**56.45 350**	P	**P**	**03 04 50.0**	**+0.2**
ZALV			S	**S**	**03 12 39.4**	**+0.1**
ZALV			⇑*e*		03 34 56.7	
ZALV	**Zalesovo Beam**	**56.45 350**	P	**P**	**03 04 50.0**	**+0.2**
comp=Z,89nm,0.7s,baz=166,slow=6.8,SNR=117						
ZALV			S	**S**	**03 12 39.4**	**+0.1**
comp=Z,8.8nm,1.0s,baz=147,slow=8.5,SNR=14						
ZALV			LR	LR	03 33 39.5	
comp=Z,1μm,19.2s,baz=248,slow=41						
ZALV			PKP2bc		03 34 56.7	
comp=Z,2.4nm,0.9s,baz=318,slow=2.0,SNR=3.9						
IKIA	**Kiasar**	**56.63 316**	*e*P	**P**	**03 04 51.1**	**-0.7**
ISHM	**Shahmirzad**	**56.70 315**	*e*P	**P**	**03 04 52.0**	**-0.3**
ILAS	**Lasjerd**	**56.72 315**	*e*P	**P**	**03 04 51.8**	**-0.6**
ISFB	**Sefídab**	**56.74 313**	*e*P	**P**	**03 04 51.8**	**-0.5**
DAMY	**Dhamar**	**56.75 288**	P	P	03 04 56.2	+3.2
baz=57,SNR=11						
IFIR	**Firoozkooh**	**57.00 315**	*e*P	**P**	**03 04 53.4**	**-1.0**
CAN	**Canberra**	**57.04 132**	*e*P	**P**	**03 04 55.4**	**+1.0**
CAN			pmax	pmax		
comp=Z,55nm,1.0s						
CAN			MLR	MLR		
comp=Z,3μm,20.0s						
CAN	**Canberra**	**57.04 132**	*e*P	**P**	**03 04 55.4**	**+1.0**
comp=Z,54nm,1.0s						
CAN			LR	LR		
comp=Z,3μm,20.0s						
IALA	**Alasht**	**57.18 315**	*e*P	**P**	**03 04 55.7**	**0.0**
ARMA	**Armidale**	**57.21 126**	*e*P	**P**	**03 04 57.0**	**+1.2**
comp=Z,22nm,0.6s						
ARMA	**Armidale**	**57.21 126**	P	**P**	**03 04 57.5**	**+1.7**
baz=57,SNR=19						
CNB	**Canberra Magne**	**57.30 132**	P	**P**	**03 04 57.6**	**+1.2**
baz=57,SNR=5.2						
IVRN	**Varamin**	**57.41 314**	*e*P	**P**	**03 04 56.8**	**-0.3**
KRAR	**Krasnoyarsk**	**57.44 356**	*i* P	P	03 05 00.4	+3.7
KRAR			pmax	pmax		
comp=Z,56nm,0.6s						
KRAR			MLR	MLR		
comp=Z,2μm,19.0s						
IDMV	**Damavand**	**57.48 315**	*e*P	**P**	**03 04 56.9**	**-0.9**
KLR	**Kul'dur**	**57.57 25**	*e*P	**P**	**03 04 54.8**	**-3.0**
KLR			*e*S	S	03 12 48.0	-6.3
KLR			*e*		03 14 43.0	
KLR			MLR	MLR		
comp=N,3μm,13.0s						
KLR			MLR	MLR		
comp=E,2μm,13.0s						
KLR			MLR	MLR		
comp=Z,5μm,13.0s						
IPRN	**Peran**	**57.59 315**	*e*P	**P**	**03 04 57.4**	**-1.0**
MGCD	**Mangrove Creek**	**57.80 129**	P	**P**	**03 05 01.4**	**+1.7**
baz=58,SNR=5.4						
RAYN	**Ar Rayn**	**57.96 299**	P	**P**	**03 05 00.0**	**-1.1**
comp=Z,236nm,0.8s,SNR=16						
KBD	**Kabd**	**58.02 306**	*e*P	**P**	**03 05 01.4**	**0.0**
KBD			AMb	AMB	03 05 03.5	
comp=Z,130nm,0.9s						
RDF	**Al-Radifah**	**58.05 306**	*e*P	**P**	**03 05 01.5**	**-0.1**
RDF			AMb	AMB	03 05 03.9	
comp=Z,297nm,0.9s						
IR3	**Iran Long-Peri**	**58.15 314**	*e*P	**P**	**03 05 01.9**	**-0.4**
IR5	**Iran Long-Peri**	**58.34 314**	*e*P	**P**	**03 05 03.3**	**-0.4**
NAY	**Al-Naaiem**	**58.41 306**	*e*P	**P**	**03 05 03.7**	**-0.4**
NAY			AMb	AMB	03 05 06.0	
comp=Z,6.7nm,0.9s						
HABR	**Khabarovsk**	**58.44 27**	P	**P**	**03 05 01.7**	**-2.2**
HABR			*e**PP	**pP**	**03 05 13.1**	**+1.6**
HABR			*e**SP	**sP**	**03 05 18.1**	**+3.7**
HABR			*e*		03 05 51.7	
HABR			*e*		03 07 10.9	
HABR			*e*S	**S**	**03 13 02.3**	**-3.3**
HABR			*e*		03 13 16.4	
HABR			*e**SS	**sS**	**03 13 22.4**	**+4.3**
HABR			*e*		03 14 48.0	
HABR			*e*SS	**SS**	**03 16 56.5**	**-1.8**
HABR			pmax	pmax		
comp=Z,36nm,1.1s						
HABR			pmax	pmax		
comp=Z,32nm,1.1s						
HABR			pmax	pmax		
comp=E,18nm,0.9s						
HABR			pmax	pmax		
comp=N,5.0nm,1.1s						
HABR			MLR	MLR		
comp=N,3μm,18.0s						
HABR			MLR	MLR		
comp=Z,6μm,16.0s						
HABR			MLR	MLR		
comp=E,4μm,16.0s						
ERM	**Erimo**	**58.47 37**	*e*P	**P**	**03 05 06.3**	**+2.0**
ERM			pmax	pmax		
comp=Z,30nm,1.0s						
ERM			MLR	MLR		
comp=Z,830nm,19.0s						
ERM	**Erimo**	**58.47 37**	*e*P	**P**	**03 05 06.3**	**+2.0**
comp=Z,30nm,1.0s						
ERM			LR	LR		
comp=Z,830nm,19.0s						
IMHD	**Mahdasht**	**58.50 314**	*e*P	**P**	**03 05 04.7**	**-0.1**
MIB	**Mutribah**	**58.55 306**	*e*P	**P**	**03 05 04.8**	**-0.2**
MIB			AMb	AMB	03 05 07.2	
comp=Z,371nm,0.8s						
RST	**Umm Al-Ruwaisa**	**58.71 306**	*e*P	**P**	**03 05 05.5**	**-0.7**
RST			AMb	AMB	03 05 07.8	
comp=Z,2μm,0.8s						
IRAZ	**Razeghan**	**58.91 313**	*e*P	**P**	**03 05 07.7**	**0.0**
VOSK	**Vostochnaya**	**58.95 340**	P	**P**	**03 05 06.4**	**-1.0**
VOSK			pmax	pmax		
comp=Z,52nm,1.0s						
MOO	**Moorlands**	**59.09 140**	P	**P**	**03 05 11.2**	**+2.6**
baz=59,SNR=3.4						
IGZV	**Ghazvin**	**59.15 315**	*e*P	**P**	**03 05 08.7**	**-0.8**
PATS	**Pohnpei**	**59.29 81**	P	P	03 05 18.4	+7.9
baz=59,SNR=4.1						
ASAJ	**Asahikawa**	**59.40 35**	*e*P	**P**	**03 05 12.5**	**+1.8**
comp=Z,25nm,1.0s						
BVA0	**Borovoye Array**	**59.40 340**	P	**P**	**03 05 10.3**	**-0.3**
BVA0			pmax	pmax		
comp=Z,37nm,1.1s						
BVAR	**Borovoye Array**	**59.40 340**	LR	LR	03 34 44.4	
comp=Z,1μm,19.9s,baz=158,slow=40						
TAU	**Tasmania Unive**	**59.41 141**	PFAKE		03 05 20.0	+9.2
TAU			LR	LR		
comp=Z,2μm,19.0s						
BRVK	**Borovoye**	**59.47 340**	P	**P**	**03 05 10.4**	**-0.5**
comp=Z,240nm,0.8s,SNR=11						
BRVK	**Borovoye**	**59.47 340**	⇑*e*P	**P**	**03 05 10.5**	**-0.5**
BRVK			pmax	pmax		
comp=Z,16nm,0.7s						
BRVK			MLR	MLR		
comp=Z,2μm,23.0s						
BRVK	**Borovoye**	**59.47 340**	P	**P**	**03 05 10.2**	**-0.8**
SNR=28						
BRVK	**Borovoye**	**59.47 340**	*e*P	**P**	**03 05 10.3**	**-0.8**
comp=Z,33nm,0.8s						
BRVK			LR	LR		
comp=Z,2μm,20.0s						
AB31	**Akbulak array**	**60.83 331**	P	**P**	**03 05 19.4**	**-1.0**
AB31			pmax	pmax		
comp=Z,36nm,0.6s						
ABKAR	**Akbulak array**	**60.83 331**	*e*P	**P**	**03 05 19.5**	**-0.9**
comp=Z,29nm,0.6s						
IBDR	**Badra**	**60.93 309**	*i* P	**P**	**03 05 19.0**	**-2.4**
IBDR			*i* S	S	03 13 32.0	-6.3
YSS	**Yuzh-Sakhalins**	**61.23 32**	*e*P	**P**	**03 05 23.0**	**-0.1**
YSS			*e*		03 06 08.0	
YSS			*e*S	**S**	**03 13 42.0**	**+0.4**
YSS			*e*PS	**PnS**	**03 13 54.0**	**-3.4**
YSS			*e*SSS	SSS	03 20 18.0	
YSS			pmax	pmax		
comp=Z,50nm,1.0s						
YSS			pmax	pmax		
comp=Z,500nm,4.0s						
YSS			smax	smax		

comp=N,900nm,8.0s
YSS MLR MLR
comp=E,2μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YUK Yuzh-Kuril'sk 61.25 37 *d iP* **P 03 05 20.8 -2.5**
YUK *i* S **S 03 13 44.2 +2.2**
YUK *i* SS **SS 03 17 47.2 +4.5**
YUK pmax pmax
comp=Z,276nm,0.3s
YUK pmax pmax
comp=N,158nm,0.3s
YUK pmax pmax
comp=E,140nm,0.3s
CLNS Chul'man 61.54 16 *e*P **P 03 05 24.4 -0.7**
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS MLR MLR
comp=N,2μm,13.0s
CLNS MLR MLR
comp=Z,2μm,14.0s
CLNS MLR MLR
comp=E,1μm,13.0s
BHD Baghdad 62.19 309 *i* P **P 03 05 27.0 -2.9**
BHD *i* PP **PP 03 07 45.0 -2.0**
BHD *i* S **S 03 13 51.0 -3.3**
KMBO Kilima Mbogo 62.20 269 P **P 03 05 32.1 +1.5**
SNR=19
KMBO Kilima Mbogo 62.20 269 *e*P **P 03 05 31.3 +0.7**
comp=E,68nm,0.9s
KMBO Kilima Mbogo 62.20 269 P **P 03 05 31.8 +1.1**
comp=E,60nm,0.9s,baz=62,slow=8.7,SNR=98
KMBO LR LR 03 29 34.4
comp=E,1μm,18.1s,baz=93,slow=33
KMBO Kilima Mbogo 62.20 269 P **P 03 05 31.7 +1.1**
baz=62,SNR=33
KUR Kuril'sk 63.11 36 *e*P **P 03 05 33.1 -2.7**
KUR *i* S **S 03 14 00.5 -4.9**
KUR pmax pmax
comp=E,47nm,1.3s
KUR pmax pmax
comp=Z,88nm,1.3s
MAK Makhachkala 64.14 320 *e*P P 03 05 38.9 -3.7
MAK *e* 03 06 13.9
MAK *e*PPP PPP 03 09 32.4
MAK *e*S S 03 14 12.3 -6.0
MAK *e* 03 15 35.6
MAK *e*SS **SS 03 18 24.8 -3.0**
MAK pmax pmax
comp=Z,347nm,1.8s
MAK MLR MLR
comp=Z,845nm,20.0s
GNI Garni 64.70 316 P **P 03 05 46.8 +0.2**
SNR=17
GNI Garni 64.70 316 *e*P **P 03 05 47.6 +1.0**
comp=Z,55nm,0.9s
GNI LR LR
comp=Z,808nm,20.0s
DGRG David-gareji 64.83 318 P **P 03 05 48.5 +1.2**
DGRG S **S 03 14 27.3 +0.1**
MIR Mirnyy 65.22 183 *e*P **P 03 05 52.0 +2.8**
MIR pmax pmax
comp=Z,84nm,1.0s
CASY Casey 65.26 175 *e*P **P 03 05 49.9 +0.4**
comp=Z,92nm,1.3s
CASY LR LR
comp=Z,1μm,19.0s
TBLG Delisi 65.39 318 P **P 03 05 51.1 +0.3**
TBLG S **S 03 14 32.3 -1.5**
TBLG Delisi 65.39 318 P **P 03 05 51.1 +0.3**
TBLG S **S 03 14 32.3 -1.5**
KZR Kazreti 65.45 317 P **P 03 05 51.7 +0.4**
GUDG Gudauri 65.88 318 P **P 03 05 54.9 +0.6**
SVE Sverdlovsk 65.89 338⇑ *e*P **P 03 05 54.0 +0.2**
SVE *e*S **S 03 14 40.9 +1.5**
SVE *e* 03 15 45.5
SVE *e*SS **SS 03 19 00.2 +5.5**
SVE pmax pmax
comp=Z,88nm,0.9s
SVE MLR MLR
comp=Z,2μm,18.0s
AKH Akhalkalaki 66.09 317 P **P 03 05 55.8 +0.2**
AKH S **S 03 14 43.5 +0.7**
ZEI Tsey 66.41 319 *e*P **P 03 05 57.0 -0.6**
ZEI pmax pmax
comp=Z,49nm,0.8s
ARU Arti 66.41 337 *c i*P **P 03 05 56.8 -0.3**
ARU 03 06 24.7
ARU 03 08 25.4
ARU PPP PPP 03 09 57.0
ARU S **S 03 14 44.2 -1.5**
ARU 03 15 46.7
ARU SS **SS 03 19 04.3 +1.6**
ARU pmax pmax
comp=Z,20nm,0.7s
ARU Arti 66.41 337 P **P 03 05 56.5 -0.6**
comp=Z,206nm,1.1s,SNR=6.4
ONI Oni 66.62 318 P **P 03 05 59.5 +0.7**
ONI S **S 03 14 48.5 -0.4**
YAK Yakutsk 67.26 15 *e*P **P 03 06 01.4 -1.0**
YAK *e**PP **pP 03 06 10.1 0.0**
YAK *e*S **S 03 14 50.2 -5.6**
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,22nm,1.5s
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=E,94nm,1.9s
YAK smax smax
comp=N,188nm,3.0s
YAK MLR MLR
comp=E,1μm,13.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=Z,3μm,15.0s
KBZ Khabaz 67.47 319 P **P 03 06 04.2 +0.1**
KBZ Khabaz 67.47 319 P **P 03 06 04.2 +0.1**
KBZ Khabaz 67.47 319 P **P 03 06 04.2 +0.1**
comp=Z,61nm,0.8s,baz=117,slow=6.4,SNR=108
ZALF Zalf 67.65 306 *e*P **P 03 06 05.2 -0.3**
KIV Kislovodsk 67.71 319 *e*P **P 03 06 05.6 -0.2**
KIV *e* 03 06 30.6
KIV *e*S **S 03 15 01.2 -0.9**
KIV *e*SS **SS 03 19 24.1 +0.5**
KIV pmax pmax
comp=Z,84nm,1.0s
KIV pmax pmax
comp=Z,201nm,4.7s
KIV MLR MLR
comp=Z,469nm,18.0s
KIV Kislovodsk 67.71 319 P **P 03 06 05.0 -0.8**
comp=Z,378nm,0.9s,SNR=9.1
ASF Jabal al Asfar 67.78 306 P **P 03 06 07.3 +0.8**
ASF Jabal al Asfar 67.78 306 P **P 03 06 07.3 +0.8**
comp=Z,25nm,0.9s,baz=74,slow=2.6,SNR=36
ASF LR LR 03 35 16.5
comp=Z,692nm,19.3s,baz=249,slow=36
ROOS tl_alroos 68.05 308 *e*P **P 03 06 09.3 +1.2**
SALA Sala 68.07 306 *e*P **P 03 06 10.3 +1.9**
DZM Mont Dzumac 68.20 113 *e*LR LR 03 26 38.7
comp=Z,2μm,24.0s
MBAR Mbarara 68.72 270 PFAKE 03 06 20.0 +7.2
MBAR LR LR
comp=Z,620nm,21.0s
EIL Elat 68.73 303 P **P 03 06 12.8 +0.4**
EIL Elat 68.73 303 P **P 03 06 12.8 +0.4**
comp=Z,94nm,0.8s,baz=88,slow=0.9,SNR=61
EIL LR LR 03 37 01.3
comp=Z,2μm,18.1s,baz=102,slow=36
EIL Elat 68.73 303 P **P 03 06 13.1 +0.8**
baz=69,SNR=7.2
BTCH Batrach 69.27 309 *e*P **P 03 06 14.6 -1.0**
SOKR Solikamsk 69.29 338 *d i*P **P 03 06 16.2 +1.1**
SOKR S **S 03 15 19.5 -0.5**
SOKR SS **SS 03 19 47.1 0.0**
SOKR pmax pmax
comp=Z,30nm,0.8s
SOC Sochi 69.52 318 *c i*P **P 03 06 15.9 -1.1**
SOC *e**PP **pP 03 06 26.7 +2.0**
SOC *e**SP **sP 03 06 31.6 +4.0**
SOC *e* 03 06 37.7
SOC *e* 03 08 48.2
SOC *i* S **S 03 15 21.4 -2.0**
SOC *e**SS sS 03 15 44.3 +8.1
SOC *e*SS **SS 03 19 49.9 -1.5**
SOC pmax pmax
comp=Z,72nm,0.8s
SKR Severo-Kuril's 70.64 34 *e*P P 03 06 17.0 -6.7
SKR *e* 03 06 29.0
SKR *e* 03 06 30.0
SKR *e*PS **S 03 15 34.0 -2.2**
SKR pmax pmax
comp=Z,130nm,1.5s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
MAW Mawson 70.77 194 P **P 03 06 25.2 +1.1**
MAW Mawson 70.77 194 P **P 03 06 25.2 +1.1**
comp=Z,55nm,1.1s,baz=35,slow=9.7,SNR=43
MAW LR LR 03 32 40.0
comp=Z,2μm,19.1s,baz=34,slow=32
DRV Dumont d'Urvil 71.08 164 PP PP 03 08 57.0 -6.7
DRV S **S 03 15 40.0 -0.8**
DRV L L 03 24 00.0
DRV R 03 28 00.0
CSS Prodhromos 71.41 308 *e*P **P 03 06 28.8 +0.1**
comp=Z,54nm,0.9s
CSS LR LR
comp=Z,767nm,20.0s
VRHR Novokhopersk 71.50 326 *e*P **P 03 06 27.6 -1.3**
VRHR *e**PP **pP 03 06 37.7 +1.1**
VRHR *e* 03 09 12.5
VRHR *e*S **S 03 15 42.1 -4.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,80nm,0.9s
VRHR pmax pmax
comp=N,60nm,2.4s
VRHR pmax pmax
comp=E,110nm,2.4s
VRHR pmax pmax
comp=Z,120nm,2.4s
VRHR smax smax
comp=N,130nm,3.3s
VRHR smax smax
comp=Z,90nm,3.3s
VRHR smax smax
comp=E,90nm,1.6s
ANN Anapa 71.50 318 *e*P P 03 06 23.2 -5.8
ANN *e**PP pP 03 06 37.9 +1.1
ANN *e*S S 03 15 37.8 -8.6
ANN pmax pmax
comp=Z,21nm,0.9s
LSZ Lusaka 71.58 254 P **P 03 06 31.3 +1.1**
SNR=7.0
LSZ Lusaka 71.58 254 *e*P **P 03 06 30.5 +0.3**
comp=Z,41nm,1.1s
LSZ LR LR
comp=Z,2μm,22.0s
BR131 Keskin Array S 72.50 312 *e*P **P 03 06 34.0 -1.3**
comp=Z,9.3nm,0.6s
PEA0B Petropavlovsk- 72.63 32 *e*P **P 03 06 36.1 +0.5**
PETK Petropavlovsk- 72.63 32 P **P 03 06 35.3 -0.4**
PETK Petropavlovsk- 72.63 32 P **P 03 06 35.2 -0.4**
PETK Petropavlovsk- 72.63 32 P **P 03 06 35.2 -0.4**
comp=Z,5.1nm,0.7s,baz=215,slow=1.8,SNR=6.2
PETK LR LR 03 42 54.7
comp=Z,728nm,18.4s,baz=154,slow=40
VORD Divnogorie 72.77 325 *e*P **P 03 06 35.4 -1.1**
VORD *e*S **S 03 15 55.1 -5.7**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD pmax pmax
comp=N,5.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD smax smax
comp=E,410nm,4.8s
VORD smax smax
comp=Z,50nm,4.8s
VORD smax smax
comp=N,90nm,2.4s
VSR Storozhevoye 72.95 325 *e*P **P 03 06 36.9 -0.6**
VSR *e**PP **pP 03 06 46.3 +1.0**
VSR *e* 03 09 17.3
VSR *e*S **S 03 15 58.6 -4.2**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,60nm,0.9s
VSR pmax pmax
comp=Z,180nm,3.8s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,130nm,3.8s
VSR smax smax
comp=N,160nm,4.0s
VSR smax smax
comp=E,160nm,4.0s
VSR smax smax
comp=Z,160nm,4.0s
PET Petropavlovsk 73.11 33 *e*P **P 03 06 38.7 +0.3**
PET *e* 03 09 26.1
PET *e*S **S 03 16 04.0 -0.5**
PET pmax pmax
comp=Z,300nm,4.4s
PET pmax pmax
comp=Z,200nm,6.5s
PET pmax pmax
comp=Z,200nm,7.0s
PET pmax pmax
comp=Z,200nm,16.1s
PET MLR MLR
comp=Z,700nm,21.0s
ANTO Ankara 73.16 312 *e*P **P 03 06 38.1 -1.0**
ANTO pmax pmax
comp=Z,37nm,1.1s
ANTO MLR MLR
comp=Z,522nm,21.0s
ANTO Ankara 73.16 312 P **P 03 06 38.7 -0.5**
SNR=9.3
ANTO Ankara 73.16 312⇑ *i*P **P 03 06 38.3 -0.9**
ANTO Ankara 73.16 312 *e*P **P 03 06 38.1 -1.0**
comp=Z,36nm,1.1s
ANTO LR LR
comp=Z,522nm,21.0s
SIM Simferopol' 73.77 318 *e*P **P 03 06 41.0 -1.5**
SIM *e*S **SKiKP 03 16 10.0 -0.8**
SIM pmax pmax
comp=Z,46nm,0.8s
LBTB Lobatse 74.81 245 *e*P **P 03 06 49.0 -0.2**
comp=Z,34nm,1.1s
SEY Seymchan 75.24 22⇑ *e*P **P 03 06 50.2 -0.4**
TIXI Tiksi 75.31 9 *d i*P **P 03 06 49.8 -1.1**
TIXI pmax pmax
comp=Z,73nm,1.2s
TIXI MLR MLR
comp=Z,2μm,19.0s
BOSA Boshof 75.50 241 *e*P **P 03 06 52.6 -0.5**
comp=Z,25nm,1.0s
BOSA Boshof 75.50 241 P **P 03 06 52.6 -0.5**
comp=Z,23nm,1.0s,baz=84,slow=8.1,SNR=16
BOSA LR LR 03 38 16.5
comp=Z,2μm,18.2s,baz=81,slow=34
MOS Moscow 75.68 329 *e*P **P 03 06 51.4 -1.9**
MOS *e* 03 07 02.6
MOS *e* 03 09 45.6
MOS *e*S **S 03 16 29.0 -4.2**
MOS pmax pmax
comp=Z,101nm,0.8s
MOS MLR MLR
comp=Z,2μm,21.0s
RPZ Rata Peaks 75.81 135 *e*P **P 03 06 54.8 +0.4**
comp=Z,173nm,1.1s
OBN Obninsk 75.97 328⇑ *e*P **P 03 06 54.7 -0.3**
OBN *e* 03 09 44.2
OBN *i* S **S 03 16 33.8 -2.6**
OBN *i* SS **SS 03 21 25.9 -3.5**
OBN pmax pmax
comp=Z,82nm,1.2s
ZKR Zakros 77.13 306 P **P 03 07 03.0 +1.0**
ZKR Zakros 77.13 306 P **P 03 07 03.0 +1.0**
PSN Preselentsi 77.49 315 *e*P **P 03 07 03.5 -0.4**
TIRR Tirgusor 77.52 316⇑ P **P 03 07 03.4 -0.6**
TIRR Tirgusor 77.52 316⇑ *i*P **P 03 07 03.4 -0.6**
TIRR Tirgusor 77.52 316 *e*P **P 03 07 03.1 -0.9**
comp=Z,37nm,0.8s
NPS Neapolis 77.64 306 P **P 03 07 05.0 +0.1**
NPS Neapolis 77.64 306 P **P 03 07 05.0 +0.1**
NPS Neapolis 77.64 306 *e*P **P 03 07 05.5 +0.6**
NPS Neapolis 77.64 306 P **P 03 07 05.0 +0.1**
LAST Lasithi 77.73 306 P **P 03 07 05.4 -0.1**
LAST Lasithi 77.73 306 P **P 03 07 05.4 -0.1**
CFR Carcaliu 77.89 317⇑ P **P 03 07 05.6 -0.4**
CFR Carcaliu 77.89 317⇑ *i*P **P 03 07 05.6 -0.4**
KIS Kishinev 77.90 319 *e*P **P 03 07 04.0 -2.1**
KIS *e*pP PcP 03 07 28.0 +12
KIS Kishinev 77.90 319 *e*PP PP 03 10 09.0 +6.9
KIS *e*S **S 03 16 54.0 -3.9**
HARR Harsova 77.92 316⇓ P **P 03 07 06.9 +0.7**
HARR Harsova 77.92 316⇓ *i*P **P 03 07 06.9 +0.7**
SANT Santorini 77.97 308 PFAKE 03 07 20.0 +13
SANT LR LR
comp=Z,500nm,20.0s
SNZO South Karori 78.03 132 PFAKE 03 07 20.0 +13
SNZO LR LR
comp=Z,3μm,22.0s
APE Apeiranthos 78.04 308⇑ P **P 03 07 07.2 0.0**
APE Apeiranthos 78.04 308⇑ *i*P **P 03 07 07.2 0.0**
IDI Anoyia 78.23 306 P **P 03 07 08.1 -0.1**
IDI Anoyia 78.23 306 *e*P **P 03 07 07.8 -0.4**
SIVA Sivas 78.25 306 P **P 03 07 07.8 -0.4**
SIVA Sivas 78.25 306 P **P 03 07 07.8 -0.4**
SYO Syowa Base 78.30 199⇓ *e*P **P 03 07 07.0 -0.8**
JMB Yambol 78.35 314 P **P 03 07 09.2 +0.5**
JMB Yambol 78.35 314 P **P 03 07 09.2 +0.5**
JMB Yambol 78.35 314 P **P 03 07 09.2 +0.5**
AKASG Malin Array Be 78.65 322 *c e*P **P 03 07 08.8 -1.3**
AKASG pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 78.65 322 P **P 03 07 08.9 -1.2**
AKASG Malin Array Be 78.65 322 P **P 03 07 08.9 -1.2**
comp=Z,13nm,0.8s,baz=93,slow=4.7,SNR=20
AKASG LR LR 03 50 11.6
comp=Z,497nm,18.0s,baz=100,slow=42
KIEV Kiev 78.66 322 *e*P **P 03 07 08.5 -1.7**
KIEV pmax pmax
comp=Z,18nm,0.9s
KIEV MLR MLR
comp=Z,886nm,20.0s
KIEV Kiev 78.66 322 *e*P **P 03 07 08.5 -1.7**
comp=Z,18nm,0.9s
KIEV LR LR
comp=Z,886nm,20.0s
SMTH Samothraki Isl 78.71 312 P **P 03 07 08.7 -2.0**
SMTH Samothraki Isl 78.71 312 *e*P **P 03 07 09.4 -1.3**
SMTH Samothraki Isl 78.71 312 P **P 03 07 08.7 -2.0**
MSVF Nonsavu 78.72 108 *e*P **P 03 07 11.5 +0.2**
MSVF pmax pmax
comp=Z,55nm,1.4s
MSVF MLR MLR
comp=Z,781nm,19.0s
MSVF Nonsavu 78.72 108 *e*P **P 03 07 11.5 +0.2**
comp=Z,55nm,1.4s
MSVF LR LR
comp=Z,781nm,19.0s
VAM Vamos 78.81 306 P **P 03 07 11.7 +0.4**
VAM Vamos 78.81 306 P **P 03 07 11.7 +0.4**
VAM Vamos 78.81 306 *e*P **P 03 07 11.8 +0.4**
VAM Vamos 78.81 306 P **P 03 07 11.7 +0.4**
LIA Limnos Island 78.85 311 P **P 03 07 11.1 -0.4**
LIA Limnos Island 78.85 311 P **P 03 07 11.1 -0.4**
VRI Vrincioaia 79.02 317⇓ P **P 03 07 12.7 +0.4**
VRI Vrincioaia 79.02 317⇓ *i*P **P 03 07 12.6 +0.3**
PLOR Plostina 79.07 317⇓ P **P 03 07 13.0 +0.4**
PLOR Plostina 79.07 317⇓ *i*P **P 03 07 13.0 +0.4**
TMCR Tamitsa 79.14 337 *e*P **P 03 07 14.2 +1.7**
TMCR *e* 03 07 23.6
TMCR *e* 03 10 13.8
TMCR pmax pmax
comp=Z,28nm,0.7s
TESR Tescani 79.22 318⇓ *i*P **P 03 07 13.4 0.0**
PVL Pavlikeni 79.41 314 *e*P **P 03 07 14.4 -0.1**
URZ Urewera 79.46 129 *e*P **P 03 07 15.4 +0.6**
comp=Z,77nm,1.3s
MLR Muntele Rosu 79.47 317⇑ *i*P **P 03 07 15.0 +0.1**
ZIMR 79.48 315⇑ *i*P **P 03 07 15.3 +0.5**
PTL Penteli 79.52 309 P **P 03 07 14.1 -1.2**
PTL Penteli 79.52 309 P **P 03 07 14.1 -1.2**
RZN Rozhen 79.55 313 *e*P **P 03 07 14.9 -0.6**
KAVA Kavala 79.57 312 P **P 03 07 15.0 -0.4**
KAVA Kavala 79.57 312 P **P 03 07 15.0 -0.4**
ATHU Athens Univers 79.57 309 P **P 03 07 14.4 -1.1**
ATHU Athens Univers 79.57 309 P **P 03 07 14.4 -1.1**
ANKY Antikythira Is 79.60 307 P **P 03 07 16.2 +0.5**
ANKY Antikythira Is 79.60 307 P **P 03 07 16.2 +0.5**
ERET Eretria 79.64 309 P **P 03 07 15.7 -0.2**
PLD Plovdiv 79.64 313 *e*P **P 03 07 14.8 -0.9**
SUR Sutherland 79.69 237 P **P 03 07 17.2 +0.7**
comp=Z,372nm,1.1s,SNR=7.6
SUR Sutherland 79.69 237 *e*P **P 03 07 17.5 +1.0**
comp=Z,77nm,1.0s
SUR Sutherland 79.69 237 LR LR 03 35 19.7
comp=Z,2μm,19.3s,baz=64,slow=30
PRAR RASCA 79.70 319⇑ *i*P **P 03 07 16.2 +0.2**
OUR Ouranopolis 79.84 311 P **P 03 07 16.4 -0.5**
OUR Ouranopolis 79.84 311 P **P 03 07 16.4 -0.5**
OUR Ouranopolis 79.84 311 P **P 03 07 16.4 -0.5**
DID Didima 79.92 308 P **P 03 07 15.9 -1.5**
DID Didima 79.92 308 P **P 03 07 15.9 -1.5**
DIDY Didyma 79.94 308 P **P 03 07 16.1 -1.5**
PAIG Paliouri 80.00 311 P **P 03 07 17.1 -0.6**
PAIG Paliouri 80.00 311 P **P 03 07 17.1 -0.6**
PAIG Paliouri 80.00 311 P **P 03 07 17.1 -0.6**
VLI Veliai 80.03 307 P **P 03 07 17.4 -0.6**
VLI Veliai 80.03 307 *e*P **P 03 07 16.5 -1.5**
VLI Veliai 80.03 307 P **P 03 07 17.4 -0.6**
VOIR 80.07 316⇑ P **P 03 07 17.2 -0.9**
VOIR 80.07 316⇑ *i*P **P 03 07 17.2 -0.9**
NVR Nevrokopi 80.12 312 P **P 03 07 17.5 -0.9**
NVR Nevrokopi 80.12 312 P **P 03 07 17.5 -0.9**
PGB Panagyurishte 80.12 313 *e*P **P 03 07 17.4 -1.0**
LTK Loutraki 80.22 309 P **P 03 07 17.0 -2.0**
LTK Loutraki 80.22 309 P **P 03 07 17.0 -2.0**
PLG Polygyros 80.25 311 P **P 03 07 18.3 -0.9**
PLG Polygyros 80.25 311 P **P 03 07 18.3 -0.9**
PLG Polygyros 80.25 311 P **P 03 07 18.3 -0.9**
MMB Musomiste 80.26 312 *e*P **P 03 07 17.8 -1.4**
XOR Xorichti 80.27 310 P **P 03 07 18.4 -0.9**
XOR Xorichti 80.27 310 P **P 03 07 18.4 -0.9**
ACOR Acrocorinthos 80.27 309 P **P 03 07 17.9 -1.4**
SRS Serrai 80.27 312 P **P 03 07 17.9 -1.3**
SRS Serrai 80.27 312 P **P 03 07 17.9 -1.3**
SRS Serrai 80.27 312 P **P 03 07 17.9 -1.3**
SOH Sokhos 80.40 312 P **P 03 07 18.9 -1.1**
SOH Sokhos 80.40 312 P **P 03 07 18.9 -1.1**
SOH Sokhos 80.40 312 P **P 03 07 18.9 -1.1**
BURAR Bucovina Array 80.43 319⇓ P **P 03 07 21.2 +1.2**
BURAR Bucovina Array 80.43 319⇓ *i*P **P 03 07 21.2 +1.2**
MICGM Minsk 80.50 326 *e*P **P 03 07 18.0 -2.1**
DYR Agios Nikonas 80.52 307 P **P 03 07 20.2 -0.4**
MNK Minsk 80.52 326 *e*P **P 03 07 18.0 -2.2**
HORT Hortiatis 80.55 311 P **P 03 07 19.7 -1.1**
HORT Hortiatis 80.55 311 P **P 03 07 19.7 -1.1**
AXAR Agios Charalam 80.58 310 P **P 03 07 20.2 -0.7**
AXAR Agios Charalam 80.58 310 P **P 03 07 20.2 -0.7**
MPEP Malo Peshtene 80.58 314 *e*P **P 03 07 20.5 -0.3**
DSF Desfina 80.62 309 P **P 03 07 19.2 -2.0**
DSF Desfina 80.62 309 P **P 03 07 19.2 -2.0**
THE Thessaloniki 80.66 311 P **P 03 07 21.3 +0.1**
THE Thessaloniki 80.66 311 P **P 03 07 21.3 +0.1**

THE	Thessaloniki	80.66 311	P	P	03 07 21.3	+0.1
GUR	Goura	80.69 309	P	P	03 07 20.5	-1.2
GUR	Goura	80.69 309	P	P	03 07 20.5	-1.2
KKB	Krupnik	80.78 313	eP	P	03 07 20.7	-1.3
KNT	Kendrikon	80.80 312	P	P	03 07 21.2	-0.8
KNT	Kendrikon	80.80 312	P	P	03 07 21.2	-0.8
KNT	Kendrikon	80.80 312	P	P	03 07 21.2	-0.8
VTS	Vitosha	80.82 313	P	P	03 07 21.6	-0.7
VTS	Vitosha	80.82 313 ⇑	P	P	03 07 21.8	-0.5
VTS	Vitosha	80.82 313	eP	P	03 07 21.8	-0.5
VTS	Vitosha	80.82 313 ⇑	iP	P	03 07 21.8	-0.5
VTS	Vitosha	80.82 313	P	P	03 07 21.6	-0.7
KLV	Kalavryta, Ach	80.86 309	P	P	03 07 21.6	-0.9
KLV	Kalavryta, Ach	80.86 309	eP	P	03 07 21.5	-0.9
KLV	Kalavryta, Ach	80.86 309	P	P	03 07 21.6	-0.9
AGG	Agios Georgios	80.87 310	P	P	03 07 20.3	-2.2
AGG	Agios Georgios	80.87 310	P	P	03 07 20.3	-2.2
AGG	Agios Georgios	80.87 310	P	P	03 07 20.3	-2.2
ITM	Ithomi	80.90 308	P	P	03 07 21.5	-1.2
ITM	Ithomi	80.90 308	eP	P	03 07 21.8	-0.9
ITM	Ithomi	80.90 308	P	P	03 07 21.5	-1.2
KALE	Kalithea	80.92 309	P	P	03 07 21.6	-1.2
KALE	Kalithea	80.92 309	P	P	03 07 21.6	-1.2
LIT	Litokhoron	80.92 311	P	P	03 07 21.5	-1.3
LIT	Litokhoron	80.92 311	P	P	03 07 21.5	-1.3
LIT	Litokhoron	80.92 311	P	P	03 07 21.5	-1.3
TRIZ	Trizonia	80.97 309	P	P	03 07 21.4	-1.6
PYL	PYLOS	81.00 308	P	P	03 07 21.9	-1.3
PYL	PYLOS	81.00 308	P	P	03 07 21.9	-1.3
LAKA	Lakka	81.02 309	P	P	03 07 22.6	-0.7
LAKA	Lakka	81.02 309	P	P	03 07 22.6	-0.7
MAKR	Makrakomi, Fth	81.02 310	P	P	03 07 21.9	-1.4
MAKR	Makrakomi, Fth	81.02 310	P	P	03 07 21.9	-1.4
EFP	Efpalio	81.11 309	P	P	03 07 22.4	-1.3
AMT	Artemida-Makis	81.12 308	P	P	03 07 23.3	-0.6
GRG	Griva	81.13 312	P	P	03 07 22.4	-1.5
GRG	Griva	81.13 312	P	P	03 07 22.4	-1.5
GRG	Griva	81.13 312	P	P	03 07 22.4	-1.5
THL	Klokotos Trika	81.20 310	P	P	03 07 22.6	-1.6
THL	Klokotos Trika	81.20 310	eP	P	03 07 22.8	-1.4
EVR	Evrytania	81.26 310	P	P	03 07 23.8	-0.9
EVR	Evrytania	81.26 310	eP	P	03 07 24.2	-0.5
EVR	Evrytania	81.26 310	P	P	03 07 23.8	-0.9
RLS	Riolos of Patr	81.39 309	P	P	03 07 25.4	+0.2
RLS	Riolos of Patr	81.39 309	eP	P	03 07 25.7	+0.5
RLS	Riolos of Patr	81.39 309	P	P	03 07 25.4	+0.2
AXS	Araxos	81.48 309	P	P	03 07 25.8	+0.1
GZR	Gura Zlata	81.63 316 ⇓	P	P	03 07 26.4	-0.1
GZR	Gura Zlata	81.63 316 ⇓	iP	P	03 07 26.4	-0.1
LVV	L'vov	81.67 321	eP	P	03 07 27.3	+0.9
LVV			eS	S	03 17 30.5	-7.1
FNA	Florina	81.87 311	P	P	03 07 26.3	-1.5
FNA	Florina	81.87 311	P	P	03 07 26.3	-1.5
FNA	Florina	81.87 311	P	P	03 07 26.3	-1.5
TSUM	Tsumeb	81.89 251	eP	P	03 07 29.1	+0.7
	comp=Z,40nm,0.9s					
TSUM	Tsumeb	81.89 251	LR	LR	03 41 28.3	
	comp=Z,2μm,18.1s,baz=247,slow=34					
KFL	Anninata	81.93 309	P	P	03 07 27.8	-0.3
DRGR		81.94 318 ⇓	P	P	03 07 28.4	+0.4
DRGR		81.94 318 ⇓	iP	P	03 07 28.4	+0.4
LVZ	Lovozero	82.00 340	i P	P	03 07 28.7	+0.8
LVZ			pmax	pmax		
	comp=Z,12nm,0.6s					
LVZ	Lovozero	82.00 340	P	P	03 07 28.2	+0.3
	comp=Z,174nm,0.8s,SNR=5.9					
NEST	Nestorio	82.06 311	P	P	03 07 27.8	-1.1
VLS	Valsamata	82.09 309	P	P	03 07 28.6	-0.4
VLS	Valsamata	82.09 309	P	P	03 07 28.6	-0.4
VLS	Valsamata	82.09 309	eP	P	03 07 28.4	-0.6
VLS	Valsamata	82.09 309	P	P	03 07 28.6	-0.4
JAN	Janina	82.10 310	P	P	03 07 29.4	+0.4
JAN	Janina	82.10 310	P	P	03 07 29.4	+0.4
JAN	Janina	82.10 310	P	P	03 07 29.4	+0.4
LKD2	Lefkada island	82.13 309	P	P	03 07 28.9	-0.3
LKD2	Lefkada island	82.13 309	P	P	03 07 28.9	-0.3
VSU	Vasula	82.19 330 ⇓	iP	P	03 07 29.4	+0.5
VSU			pmax	pmax		
	comp=Z,93nm,0.9s					
KBN	Korca	82.29 311	eP	P	03 07 29.8	-0.3
KBN	Korca	82.29 311	P	P	03 07 28.8	-1.2
KBN	Korca	82.29 311	P	P	03 07 28.8	-1.2
KBN	Korca	82.29 311	P	P	03 07 28.8	-1.2
TRPA	Tarpa	82.30 319 ⇓	iP	P	03 07 30.0	+0.2
APA	Apatity	82.30 339 ⇓	iP	P	03 07 29.0	-0.4
APA			i S	S	03 17 46.0	+2.6
APA			i SS	SS	03 23 08.0	+4.1
APA			MLR	MLR		
	comp=Z,1μm,22.0s					
KWP	Kalwaria Pacla	82.47 320 ⇑	P	P	03 07 30.8	+0.1
KWP	Kalwaria Pacla	82.47 320 ⇑	iP	P	03 07 30.8	+0.1
KWP	Kalwaria Pacla	82.47 320	eP	P	03 07 30.7	0.0
	comp=Z,96nm,1.2s					
KWP			LR	LR		
	comp=Z,825nm,20.0s					
KWP	Kalwaria Pacla	82.47 320	eP	P	03 07 30.9	+0.2
KWP			e		03 07 43.7	
IGT	Igoumenitsa	82.48 310	P	P	03 07 30.3	-0.7
IGT	Igoumenitsa	82.48 310	P	P	03 07 30.3	-0.7
IGT	Igoumenitsa	82.48 310	P	P	03 07 30.3	-0.7
UZH	Uzhgorod	82.55 319	eP	P	03 07 31.1	0.0
UZH			e		03 07 41.1	
UZH			e		03 07 43.7	
UZH			eS	S	03 17 45.0	-1.7
UZH			eSS	SS	03 23 06.7	-1.8
KOLS	Kolonicke sedl	82.62 320	eP	P	03 07 32.2	+0.7
KOLS			pmax	pmax		
	comp=Z,66nm,0.9s					
KOLS	Kolonicke sedl	82.62 320	eP	P	03 07 32.2	+0.7
KOLS	Kolonicke sedl	82.62 320	eS	S	03 17 44.7	-2.8
PHP	Peshkopia	82.70 312	eP	P	03 07 30.7	-1.4
PHP	Peshkopia	82.70 312	P	P	03 07 30.8	-1.4
PHP	Peshkopia	82.70 312	P	P	03 07 30.8	-1.4
PHP	Peshkopia	82.70 312	P	P	03 07 30.8	-1.4
SRN	Sarande	82.78 310	eP	P	03 07 32.8	+0.3
SRN	Sarande	82.78 310	P	P	03 07 31.5	-1.0
SRN	Sarande	82.78 310	P	P	03 07 31.5	-1.0
VNDA	Vanda	82.89 169	eP	P	03 07 32.5	+0.2
	comp=Z,43nm,1.1s					
VNDA			PKKPbc	PKKPdf	03 25 53.2	+4.0
VNDA	Vanda	82.89 169	P	P	03 07 32.8	+0.5
	comp=Z,30nm,1.0s,baz=300,slow=5.7,SNR=62					
VNDA			PKKPbc	PKKPdf	03 25 53.2	+4.0
	comp=Z,1.6nm,0.9s,baz=174,slow=2.9,SNR=7.4					
VNDA			LR	LR	03 39 27.6	
	comp=Z,1μm,20.9s,baz=309,slow=32					
KEK	Kerkira	82.91 310	P	P	03 07 32.5	-0.7
KEK	Kerkira	82.91 310	eP	P	03 07 32.6	-0.7
KEK	Kerkira	82.91 310	P	P	03 07 32.5	-0.7
SUW	Suwalki	83.06 325	eP	P	03 07 33.2	-0.4
SUW			pmax	pmax		
	comp=Z,194nm,1.0s					
SUW	Suwalki	83.06 325	eP	P	03 07 33.1	-0.4
	comp=Z,194nm,1.0s					
SUW	Suwalki	83.06 325	eP	P	03 07 33.2	-0.4
SUW			e		03 07 43.6	
BCI	Bajram Curri	83.08 313	eP	P	03 07 33.8	-0.2
TIR	Tirane	83.08 312	eP	P	03 07 35.9	+1.9
TIR	Tirane	83.08 312	eP	P	03 07 34.5	+0.5
TIR			pmax	pmax		
	comp=Z,45nm,0.9s					
TIR			MLR	MLR		
	comp=Z,531nm,22.0s					
TIR	Tirane	83.08 312	eP	P	03 07 34.5	+0.5
	comp=Z,45nm,0.9s					
TIR			LR	LR		
	comp=Z,531nm,22.0s					
CRVS	Cervenica-Dubn	83.14 319	eP	P	03 07 34.7	+0.5
CRVS			pmax	pmax		
	comp=Z,36nm,1.3s					
CRVS	Cervenica-Dubn	83.14 319	eP	P	03 07 34.7	+0.5
PUK	Puka	83.16 312	eP	P	03 07 33.6	-1.0
PVY	Plav	83.19 313 ⇓	iP	P	03 07 33.7	-1.0
IVA	Berane	83.28 313 ⇓	iP	P	03 07 34.5	-0.6
FIA1	FINESS Array S	83.30 332	eP	P	03 07 34.7	0.0
FINES	FINESS Array B	83.30 332	P	P	03 07 35.1	+0.5
FINES			PKKPbc	PKKPbc	03 25 54.8	-2.7
FINES	FINESS Array B	83.30 332	P	P	03 07 35.1	+0.5
	comp=Z,11nm,0.5s,baz=108,slow=5.5,SNR=86					
FINES			PKKPbc	PKKPbc	03 25 54.8	-2.7
	comp=Z,1.8nm,1.0s,baz=248,slow=2.1,SNR=4.7					
FINES			LR	LR	03 52 41.5	
	comp=Z,1μm,18.8s,baz=214,slow=42					
STHS	Stebnicka Huta	83.37 320	eP	P	03 07 36.0	+0.6
STHS			pmax	pmax		
	comp=Z,35nm,0.8s					
STHS	Stebnicka Huta	83.37 320	eP	P	03 07 36.0	+0.6
DIVS	Divibare	83.38 315	P	P	03 07 35.8	+0.2
ULC	Ulcinj	83.63 312 ⇑	iP	P	03 07 36.0	-0.9
PDG	Podgorica	83.68 313	P	P	03 07 36.5	-0.6
TTG	Podgorica	83.68 313 ⇑	iP	P	03 07 36.5	-0.6
TTG	Podgorica	83.68 313	P	P	03 07 36.5	-0.6
TTG	Podgorica	83.68 313	P	P	03 07 36.5	-0.6
DRME	Dracevica, Mon	83.70 313 ⇑	iP	P	03 07 36.7	-0.5
PLE	Pljevlja	83.71 314 ⇓	iP	P	03 07 37.2	-0.2
KECS	Kecovo	83.71 319	eP	P	03 07 37.1	0.0
KECS			e		03 07 46.6	
KECS			pmax	pmax		
	comp=Z,16nm,0.8s					
KECS	Kecovo	83.71 319	eP	P	03 07 37.1	0.0
KECS			epP	pP	03 07 46.6	+1.6
NKY	Niksic	83.92 313 ⇓	iP	P	03 07 37.5	-1.0
BUM	Brajici-Budva	83.93 313 ⇑	iP	P	03 07 37.8	-0.7
NKME	Niksic	83.95 313 ⇑	iP	P	03 07 37.6	-0.9
NIE	Niedzica	83.97 320	eP	P	03 07 42.0	+3.5
NIE			e*PP	pP	03 07 49.7	+3.3
SBA	Scott Base	83.99 169	eP	P	03 07 39.2	+1.3
SBA			pmax	pmax		
	comp=Z,58nm,1.0s					
SBA			MLR	MLR		
	comp=Z,805nm,21.0s					
SBA	Scott Base	83.99 169	eP	P	03 07 39.2	+1.3
	comp=Z,58nm,1.0s					
SBA			LR	LR		
	comp=Z,805nm,21.0s					
PSZ	Piszkesteto	84.01 318 ⇑	P	P	03 07 38.6	-0.2
PSZ	Piszkesteto	84.01 318 ⇑	iP	P	03 07 38.6	-0.2
PSZ	Piszkesteto	84.01 318	eP	P	03 07 38.1	-0.7
	comp=Z,34nm,0.8s					
PSZ			LR	LR		
	comp=Z,532nm,19.0s					
PSZ	Piszkesteto	84.01 318 ⇑	eP	P	03 07 38.6	-0.2
UPM	Unac-Piva	84.04 314 ⇑	iP	P	03 07 38.4	-0.8
BEL	Belsk	84.07 322	eP	P	03 07 40.0	+1.2
BEL			e		03 07 47.8	
HCY	Herceg Novi	84.24 313 ⇑	iP	P	03 07 39.2	-0.8
BRY	Bratogost	84.27 313 ⇓	iP	P	03 07 39.3	-1.0
OJC	Ojcow	84.42 321	eP	P	03 07 41.7	+1.0
OJC			e*PP	pP	03 07 49.4	+0.8
OJC			e		03 18 01.1	
MIDW	Midway	84.61 62	PFAKE		03 07 50.0	+7.9
MIDW			LR	LR		
	comp=Z,667nm,19.0s					
PKSM	Moragy	84.62 316 ⇑	P	P	03 07 41.6	-0.2
PKSM	Moragy	84.62 316 ⇑	iP	P	03 07 41.6	-0.2
VYHS	Vyhne	84.80 319	eP	P	03 07 42.5	-0.2
VYHS			pmax	pmax		
	comp=Z,15nm,1.2s					
VYHS	Vyhne	84.80 319	eP	P	03 07 42.5	-0.2
VYHS	Vyhne	84.80 319	eS	S	03 18 06.2	-3.2
CSKK	Cs˘t̨kako	85.03 318 ⇑	e	P	03 07 44.9	+1.1
OKC	Ostrava-Krasne	85.42 320 ⇑	iP	P	03 07 46.1	+0.4
OKC			e		03 07 56.2	
OKC			e		03 18 09.2	
OKC			MLR	MLR		
	comp=Z,500nm,17.0s					
OKC	Ostrava-Krasne	85.42 320 ⇑	iP	P	03 07 46.1	+0.4
OKC			epP	PcP	03 07 50.3	+1.6
OKC			ex	x	03 07 56.2	
OKC			eSKS	S	03 18 09.2	-6.3
OKC			AMS	AMS	03 56 10.0	
	comp=Z,500nm,17.0s					
ARCES	ARCESS Array B	85.69 340	P	P	03 07 47.6	+0.9
ARCES	ARCESS Array B	85.69 340	P	P	03 07 47.6	+0.9
	comp=Z,15nm,0.9s,baz=96,slow=3.5,SNR=32					
ARCES			LR	LR	03 51 22.6	
	comp=Z,853nm,18.6s,baz=218,slow=39					
SMOL	Smolenice	85.73 319	eP	P	03 07 48.7	+1.4
SMOL	Smolenice	85.73 319	eP	P	03 07 48.7	+1.4
CEL	Celeste	85.78 308	eP	P	03 07 48.2	+0.4
	comp=Z,100nm,0.9s					
CEL			LR	LR		
	comp=Z,279nm,19.0s					
MORC	Moravsky Berou	85.81 320	eP	P	03 07 47.8	+0.1
MORC			pmax	pmax		
	comp=Z,24nm,0.8s					
MORC	Moravsky Berou	85.81 320	eP	P	03 07 47.8	+0.1
	comp=Z,24nm,0.8s					
ZST	Bratislava	85.91 318	eP	P	03 07 48.9	+0.7
ZST			eS	S	03 18 20.3	0.0
ZST	Bratislava	85.91 318	eP	P	03 07 48.9	+0.7
CUC	Castrocucco	85.99 310	eP	P	03 07 48.1	-0.8
	comp=Z,35nm,0.8s					
CUC			LR	LR		
	comp=Z,487nm,19.0s					
KOGS	Kog	86.29 317	i P	P	03 07 50.4	+0.3
KOGS			i		03 07 51.3	
KOGS			eSKSac	SKSac	03 18 14.5	-0.5
KOGS			eS	SKKSac	03 18 21.8	-1.0
GKP	Gorka Klasztor	86.42 323	eP	P	03 07 50.8	+0.2
DPC	Dobruska-Polom	86.65 320 ⇑	iP	P	03 07 52.8	+0.9
DPC			e		03 08 02.3	
DPC			e		03 18 16.9	
DPC	Dobruska-Polom	86.65 320 ⇑	iP	P	03 07 52.8	+0.9
DPC			epP	PcP	03 07 57.0	+2.8
DPC			ex	x	03 08 02.3	
DPC			eSKS	SKSac	03 18 16.9	-0.3
DPC			AMS	AMS	03 55 10.0	
WDD	Wield Dalam	86.68 306	eP	P	03 07 52.6	+0.4
	comp=Z,66nm,0.8s					
WDD			LR	LR		
	comp=Z,464nm,19.0s					
CONA	Conrad Observa	86.70 318 ⇑	iP	P	03 07 52.0	-0.2
	comp=Z,211nm,3.3s,SNR=7.3					
KSP	Ksiaz	86.72 321	eP	P	03 07 52.8	+0.7
KSP			e		03 18 10.2	
KSP	Ksiaz	86.72 321	eP	P	03 07 52.8	+0.7
UPC	Upice	86.87 321	eP	P	03 07 53.4	+0.5
UPC			e		03 08 02.6	
UPC	Upice	86.87 321 ⇑	eP	P	03 07 53.4	+0.5
UPC			ex	x	03 08 02.6	
UPC			ex	x	03 08 14.7	
ARSA	Arzberg	86.87 317 ⇑	iP	P	03 07 53.2	+0.2
	comp=Z,466nm,3.9s,SNR=17					
BOJS	Bojanci	86.89 316	i P	P	03 07 53.3	+0.2
BOJS			i		03 07 54.2	
TREC	Trest	87.08 319 ⇑	iP	P	03 07 54.1	+0.1
TREC			e		03 08 03.6	
TREC			e		03 18 19.0	
TREC			MLR	MLR		
	comp=Z,600nm,16.4s					
TREC	Trest	87.08 319 ⇑	iP	P	03 07 54.1	+0.1
TREC			ex	x	03 08 03.6	
TREC			ex	x	03 08 15.8	
TREC			eSKS	SKSac	03 18 19.0	-0.9
TREC			AMS	AMS	03 57 00.0	
	comp=Z,600nm,16.4s					
PERS	Pernice	87.09 317	i P	P	03 07 54.3	+0.2
PERS			i		03 07 55.2	
PERS			eSKSac	SKSac	03 18 18.2	-1.9
PERS			eS	S	03 18 31.2	-0.9
SOKA	Soboth	87.15 317	i P	P	03 07 54.8	+0.4
	comp=Z,309nm,2.9s,SNR=36					
ADK	Adak	87.26 38	PFAKE		03 08 10.0	+15
ADK			LR	LR		
	comp=Z,514nm,20.0s					
LJU	Ljubljana	87.45 316	i P	P	03 07 56.1	+0.4
LJU			i		03 07 57.1	
LJU			e		03 17 11.9	
LJU			eSKSac	SKSac	03 18 20.6	-1.6
LJU			eS	S	03 18 34.3	-1.1
OBKA	Obir	87.47 316 ⇑	iP	P	03 07 56.2	+0.2
	comp=Z,471nm,3.2s,SNR=8.5					
PRU	Pruhonice	87.76 320	i P	P	03 07 57.6	+0.4
PRU			e		03 08 07.1	
PRU			e		03 18 23.7	
PRU			MLR	MLR		
	comp=Z,600nm,19.1s					
PRU	Pruhonice	87.76 320 ⇑	iP	P	03 07 57.6	+0.4
PRU			ex	x	03 08 07.1	
PRU			eSKS	SKSac	03 18 23.7	-0.2
PRU			AMS	AMS	03 56 40.0	
	comp=Z,600nm,19.1s					
MOA	Molln	87.77 318 ⇑	iP	P	03 07 57.2	-0.2
	comp=Z,280nm,3.5s,SNR=7.1					
PVCC	Panska Ves	87.78 320	eP	P	03 07 58.4	+1.1
PVCC			e		03 08 07.4	
PVCC			e		03 18 21.1	
PVCC	Panska Ves	87.78 320 ⇑	eP	P	03 07 58.4	+1.1
PVCC			ex	x	03 08 07.4	
PVCC			eSKS	SKSac	03 18 21.1	-2.9
PRA	Prague	87.83 320 ⇑	P	P	03 07 58.0	+0.5
PRA			AMS	AMS	03 57 30.0	
VOY	Vojsko	87.89 316	eP	P	03 07 57.7	-0.3
VOY			e		03 07 58.8	
VOY			e		03 08 06.5	
MAIT	Maitri	87.97 199	eP	P	03 07 56.9	-0.8
BSD	Bornholm Skovb	87.98 325	i P	P	03 07 57.7	-0.4
	comp=Z,32nm,0.8s					
AQU	L'Aquila	87.99 312	eP	P	03 07 58.8	+0.3
	comp=Z,204nm,1.1s					
AQU			LR	LR		
	comp=Z,666nm,22.0s					
CADS	Cadrg	88.01 316	i P	P	03 07 58.1	-0.4
MYKA	Terra Mystica	88.10 317	i P	P	03 07 59.1	+0.2
	comp=Z,234nm,2.5s,SNR=11					
BRG	Berggiesshubel	88.21 321 ⇑	iP	P	03 07 59.9	+0.6
	comp=Z,34nm,0.9s					
BRG			e		03 08 10.2	
	comp=Z,55nm,1.3s					
BRG			SKS	SKSac	03 18 27.0	+0.4
BRG			S	ScS	03 18 48.0	-0.5
BRG			SP	SPn	03 19 43.0	-0.3
BRG						
	comp=Z,816nm,18.0s					
BRG						
	comp=N,356nm,16.5s					
BRG						
	comp=E,618nm,16.5s					
BRG	Berggiesshubel	88.21 321	eP	P	03 07 59.8	+0.6
	comp=Z,34nm,0.9s					
BRG	Berggiesshubel	88.21 321 ⇑	iP	P	03 07 59.9	+0.6
BRG			e		03 08 10.2	
BRG					03 18 27.0	
BRG			S	ScS	03 18 48.0	-0.5
BRG			SP	SPn	03 19 43.0	-0.3
BRG			pmax	pmax		
	comp=Z,34nm,1.0s					
BRG			pmax	pmax		
	comp=Z,55nm,1.3s					
BRG			MLR	MLR		
	comp=Z,816nm,18.0s					
BRG			MLR	MLR		
	comp=N,356nm,16.5s					
BRG			MLR	MLR		
	comp=E,618nm,16.5s					
GEC2	GERESS Array S	88.22 319	eP	P	03 07 59.8	+0.3
	comp=Z,32nm,1.0s					
GEC2	GERESS Array S	88.22 319	eP	P	03 07 59.8	+0.3
GEC2			pmax	pmax		
	comp=Z,32nm,1.0s					
GERES	GERESS Array B	88.22 319	P	P	03 07 59.6	+0.1
GERES	GERESS Array B	88.22 319	P	P	03 07 59.6	+0.1
	comp=Z,13nm,0.7s,baz=90,slow=3.7,SNR=95					
KHC	Kasperske Hory	88.32 319 ⇑	iP	P	03 07 59.9	0.0
KHC			e		03 08 08.9	
KHC			e		03 18 26.6	
KHC			MLR	MLR		
	comp=Z,700nm,17.6s					
KHC	Kasperske Hory	88.32 319 ⇑	iP	P	03 07 59.9	0.0
KHC			ex	x	03 08 08.9	
KHC			ex	x	03 08 19.5	
KHC			eSKS	SKSac	03 18 26.6	-0.8
KHC			AMS	AMS	03 56 20.0	
	comp=Z,700nm,17.6s					
KHC	Kasperske Hory	88.32 319	eP	P	03 07 59.6	-0.3
	comp=Z,13nm,0.8s					
KBA	Koelnbreinsper	88.33 317	i P	P	03 07 59.8	-0.4
	comp=Z,214nm,3.5s,SNR=9.3					
RUE	Ruedersdorf	88.43 322	eP	P	03 08 01.1	+0.8
	comp=Z,131nm,0.9s					
RUE	Ruedersdorf	88.43 322	eP	P	03 08 01.4	+1.1
	comp=Z,132nm,0.9s					
AFI	Afiamalu	88.47 104	eP	P	03 08 00.8	-0.6
	comp=Z,132nm,1.4s					
FBE	Freiberg	88.58 321	eP	P	03 08 01.8	+0.7
	comp=Z,45nm,1.0s					
QSPA	South Pole Qui	88.60 180	eP	P	03 08 01.3	+0.4
	comp=Z,86nm,1.1s					
QSPA	South Pole Qui	88.60 180	LR	LR	03 43 45.2	
	comp=Z,1μm,19.2s,baz=316,slow=33					
RJOB	Jochberg	88.75 318	eP	P	03 08 01.6	-0.4
	comp=Z,20nm,0.8s					
WET	Wettzell	88.78 319	eP	P	03 08 02.5	+0.4
	comp=Z,33nm,0.9s					
WET	Wettzell	88.78 319	eP	P	03 08 02.5	+0.4
WET			pmax	pmax		
	comp=Z,33nm,0.9s					
CLL	Collm	88.83 321	eP	P	03 08 02.3	+0.1
	comp=Z,29nm,0.9s					
CLL	Collm	88.83 321	eP	P	03 08 03.0	+0.8
CLL			i *PP	sP	03 08 12.5	-0.5
CLL			e		03 18 26.0	
CLL			eS	S	03 18 47.0	-1.3
CLL			pmax	pmax		
	comp=Z,29nm,1.0s					
CLL			MLR	MLR		
	comp=Z,700nm,19.0s					
CLL	Collm	88.83 321	eP	P	03 08 03.0	+0.8
	comp=Z,29nm,1.0s					
CLL			i (sP)	sP	03 08 12.5	-0.5
CLL			ePP	PP	03 11 34.0	+2.5
CLL			eSKSac	SKSac	03 18 26.0	-4.2
CLL			eS	S	03 18 47.0	-1.3
CLL			ePS	PnS	03 19 50.0	-4.2
CLL			e		03 21 59.0	
CLL			eSS	SS	03 24 36.0	-4.6
CLL			e		03 29 54.0	
CLL			eSSSS		03 31 48.0	
CLL			LmV		03 57 00.0	
	comp=Z,700nm,19.0s					
ABTA	Abfaltersbach	88.89 317 ⇑	iP	P	03 08 02.2	-0.5
	comp=Z,106nm,2.1s,SNR=12					
TANN	Tannenbergstha	89.12 320	eP	P	03 08 03.9	+0.2
	comp=Z,17nm,1.0s					
WERN	Wernitzgruen	89.17 320	eP	P	03 08 04.5	+0.6
	comp=Z,19nm,0.9s					
GUNZ	Gunzen	89.20 320	eP	P	03 08 04.6	+0.6
	comp=Z,28nm,0.9s					
GUNZ			epP	pP	03 08 14.1	+2.1
WERD	Werda	89.22 320	eP	P	03 08 04.6	+0.5
	comp=Z,27nm,0.9s					
ROTZ	Rotzenmuhle	89.25 320	eP	P	03 08 05.1	+0.9
	comp=Z,30nm,0.9s					
ROTZ			epP	pP	03 08 13.8	+1.6
MANZ	Manzenberg	89.33 320	eP	P	03 08 05.6	+1.0
	comp=Z,51nm,1.0s					
WTTA	Wattenberg	89.51 317	i P	P	03 08 05.4	-0.3
	comp=Z,194nm,2.2s,SNR=24					
LLD	Lille Linde	89.54 325	i P	P	03 08 04.6	-0.8
	comp=Z,47nm,0.8s					
WATA	Walderalm	89.55 317 ⇑	iP	P	03 08 06.1	+0.2
	comp=Z,11nm,0.8s,SNR=11					
NEUB	Neuenburg	89.60 321	eP	P	03 08 06.3	+0.5
	comp=Z,76nm,0.8s					
NEUB			epP	pP	03 08 15.7	+2.0
MOX	Moxa	89.67 320	eP	P	03 08 06.7	+0.5
	comp=Z,24nm,1.1s					
MOX			epP	pP	03 08 15.3	+1.2
MOX			eL	L	03 57 54.6	
	comp=Z,725nm,18.3s					
MOX	Moxa	89.67 320	eP	P	03 08 06.7	+0.5
MOX			e*PP	pP	03 08 15.3	+1.2
MOX			pmax	pmax		
	comp=Z,24nm,1.1s					
MOTA	Moosalm	89.88 317 ⇑	iP	P	03 08 07.1	-0.4
	comp=

comp=Z,281nm,2.5s,SNR=27
FETA Feichten 90.12 317 ⇑*i*PcP **P 03 08 08.7 +0.1**
comp=Z,298nm,3.0s,SNR=20
VLC Villacollemand 90.27 314 *e*P **P 03 08 09.0 -0.2**
comp=Z,25nm,0.9s
VLC LR LR
comp=Z,487nm,21.0s
NB2 NORSAR Subarra 90.33 331 P **P 03 08 08.4 -0.7**
comp=Z,0.3nm,0.7s,baz=92,slow=5.3
NOA NORSAR Array B 90.33 331 P **P 03 08 08.8 -0.3**
NOA NORSAR Array B 90.33 331 P **P 03 08 08.8 -0.3**
comp=Z,4.5nm,0.8s,baz=94,slow=4.6,SNR=12
NOA LR LR 03 56 22.3
comp=Z,910nm,19.1s,baz=90,slow=41
NAO01 NORSAR Array S 90.48 331 *e*P **P 03 08 10.0 +0.2**
comp=Z,10.0nm,1.0s
BSEG Bad Segeberg 90.58 324 *e*P **P 03 08 09.9 -0.4**
comp=Z,28nm,1.1s
BSEG Bad Segeberg 90.58 324 *e*P **P 03 08 09.9 -0.4**
BSEG pmax pmax
comp=Z,28nm,1.1s
NRDL Niedersach Rie 90.67 322 *e*P **P 03 08 11.4 +0.7**
comp=Z,34nm,1.2s
UBBA Unterbreizbach 90.70 321 *e*P **P 03 08 11.1 +0.3**
comp=Z,27nm,1.6s
DAVA Damuels 90.70 317 *i* PcP **P 03 08 11.7 +0.4**
comp=Z,154nm,1.4s,SNR=51
KBS Kingsbay 90.85 349 PFAKE 03 08 20.0 +8.9
KBS LR LR
comp=Z,1μm,20.0s
KEST Kesra 90.88 306 *e*P **P 03 08 13.5 +1.2**
KEST Kesra 90.88 306 P **P 03 08 13.6 +1.4**
comp=Z,32nm,0.8s,baz=318,slow=0.8,SNR=90
KEST LR LR 03 55 11.6
comp=Z,195nm,18.1s,baz=272,slow=40
VSL Villasalto 90.92 309 *e*P **P 03 08 12.4 +0.1**
comp=Z,66nm,0.9s
VSL LR LR
comp=Z,307nm,19.0s
TUE Stuetta 91.06 316 *e*P **P 03 08 12.7 -0.3**
comp=Z,19nm,0.9s
TUE LR LR
comp=Z,628nm,20.0s
KONO Kongsberg 91.09 329 PFAKE 03 08 20.0 +7.4
KONO LR LR
comp=Z,1μm,20.0s
OSPF L'Ospedale 91.10 311 *e*P **P 03 08 13.9 +0.7**
STU Stuttgart 91.19 319 *e*P **P 03 08 13.6 +0.3**
comp=Z,32nm,0.9s
STU Stuttgart 91.19 319 *e*P **P 03 08 13.6 +0.3**
STU pmax pmax
comp=Z,22nm,0.8s
STU Stuttgart 91.19 319 *e*P **P 03 08 13.6 +0.3**
comp=Z,22nm,0.8s
PGF Pioggiola 91.25 312 ⇑*i*P **P 03 08 14.2 +0.3**
comp=Z,60nm,0.9s
MUD Monsted U'grnd 91.28 326 *i* P **P 03 08 13.9 +0.4**
comp=Z,8.5nm,0.8s
TNS Taunus Mts 91.69 320 *e*P **P 03 08 16.4 +0.7**
comp=Z,43nm,0.9s
TNS Taunus Mts 91.69 320 *e*P **P 03 08 16.4 +0.7**
TNS pmax pmax
comp=Z,43nm,0.9s
BFO Black Forest 91.76 318 P **P 03 08 15.1 -0.9**
comp=Z,149nm,0.8s,SNR=6.9
BFO Black Forest 91.76 318 *e*P **P 03 08 15.9 -0.1**
comp=Z,22nm,0.9s
BFO Black Forest 91.76 318 *e*P **P 03 08 15.4 -0.6**
BFO pmax pmax
comp=Z,21nm,0.8s
BFO MLR MLR
comp=Z,363nm,20.0s
BFO Black Forest 91.76 318 *e*P **P 03 08 15.4 -0.6**
comp=Z,21nm,0.8s
BFO LR LR
comp=Z,363nm,20.0s
LANF Langenberg 92.11 319 *e*P **P 03 08 17.7 +0.1**
SAOF Saorge 92.31 314 *e*P **P 03 08 19.5 +0.8**
SBF Sospel 92.40 314 ⇑*i*P **P 03 08 19.2 +0.1**
comp=Z,46nm,0.7s
AUTN L'Aution 92.40 314 *e*P **P 03 08 19.0 -0.3**
BUG Bochum--Univer 92.43 321 *e*P **P 03 08 19.6 +0.7**
comp=Z,13nm,1.0s
BUG *e*pP **pP 03 08 27.8 +0.9**
REVF Revere 92.45 314 *e*P **P 03 08 19.4 +0.1**
LUCF Luceram 92.46 314 *e*P **P 03 08 19.8 +0.4**
CDF Champ du Feu 92.46 318 ⇑*i*P **P 03 08 19.1 -0.2**
comp=Z,28nm,0.9s
TOUF Mont Tournerai 92.53 314 *e*P **P 03 08 20.5 +0.6**
ECH Echery 92.55 318 *e*P **P 03 08 19.8 +0.2**
ECH pmax pmax
comp=Z,16nm,0.9s
ECH MLR MLR
comp=Z,327nm,19.0s
ECH Echery 92.55 318 *e*P **P 03 08 19.8 +0.2**
comp=Z,16nm,0.9s
ECH LR LR
comp=Z,327nm,19.0s
ECH Echery 92.55 318 *e*P **P 03 08 18.7 -0.9**
MOF Molkenrain 92.57 318 *e*P **P 03 08 19.4 -0.4**
SNAA Sanae 92.58 198 *e*P **P 03 08 20.4 +1.0**
SNAA Sanae 92.58 198 *e*pP pP 03 08 29.5 +2.2
SNAA Sanae 92.58 198 *e*sP sP 03 08 34.7 +4.6
SNAA Sanae 92.58 198 *e*P **P 03 08 20.1 +0.8**
comp=Z,16nm,1.0s
SNAA Sanae 92.58 198 LR LR 03 44 41.5
comp=Z,536nm,18.8s,baz=96,slow=32
MVIF Mont Vial 92.60 314 *e*P **P 03 08 20.4 +0.2**
HINF Hinteralfeld 92.76 318 *e*P **P 03 08 20.0 -0.6**
LOMF Lomont 92.78 317 *e*P **P 03 08 20.5 -0.3**
CALN Calern 92.80 314 *e*P **P 03 08 21.2 +0.2**
MBDF Montbardon 92.87 315 *e*P **P 03 08 20.8 -0.6**
comp=Z,21nm,0.9s
LPG La Plagne 92.87 315 ⇑*i*P **P 03 08 21.6 +0.1**
comp=Z,21nm,0.7s
LPL La Plagne 92.88 315 ⇑*i*P **P 03 08 21.6 +0.1**
comp=Z,26nm,0.6s
BNI Bardonecchia 92.93 315 *e*P **P 03 08 21.7 +0.1**
BNI pmax pmax
comp=Z,15nm,0.9s
BNI MLR MLR
comp=Z,561nm,20.0s
BNI Bardonecchia 92.93 315 *e*P **P 03 08 21.7 +0.1**
comp=Z,16nm,0.9s
BNI LR LR
comp=Z,561nm,20.0s
RSL Roselend 92.95 315 *e*P **P 03 08 22.2 +0.5**
FRF La Foret Royal 92.97 313 ⇑*i*P **P 03 08 21.9 +0.2**
comp=Z,44nm,0.9s
LMR La Mourre 93.08 313 *e*P **P 03 08 22.2 0.0**
HAU Haudompre 93.09 318 ⇑*i*P **P 03 08 22.0 -0.2**
comp=Z,40nm,0.9s
HAU *e*R
comp=Z,577nm,20.5s
WLF Walferdange 93.18 319 *e*P **P 03 08 24.0 +1.5**
comp=Z,12nm,0.8s
WLF Walferdange 93.18 319 *e*P **P 03 08 24.2 +1.8**
WLF pmax pmax
comp=Z,15nm,0.9s
WLF MLR MLR
comp=Z,609nm,20.0s
WLF Walferdange 93.18 319 *e*P **P 03 08 24.2 +1.8**
comp=Z,15nm,0.9s
WLF LR LR
comp=Z,609nm,20.0s
CABF La Chapelle 93.31 316 ⇑*i*P **P 03 08 23.5 +0.2**
comp=Z,24nm,0.6s
THEF They Montfort 93.33 318 *e*P **P 03 08 22.5 -0.7**
OG25 Le Caire 93.37 314 *e*P **P 03 08 23.5 -0.1**
PAGF Fort de Pagny 93.49 318 *e*P **P 03 08 24.0 0.0**
ORIF Oris-en-Rattie 93.50 315 ⇑*i*P **P 03 08 24.4 +0.2**
comp=Z,17nm,0.7s
ORIF *e*R
comp=Z,858nm,23.0s
OG35 Corcelles 93.68 316 *e*P **P 03 08 24.9 0.0**
OG35 Corcelles 93.68 316 *e*P **P 03 08 25.0 0.0**
SMRF Simiane la Rot 93.74 314 *e*P **P 03 08 25.9 +0.6**
comp=Z,29nm,1.2s
MEZF Maizieres J'vi 93.94 318 *e*P **P 03 08 26.0 0.0**
comp=Z,28nm,0.9s
SFTF Sexfontaines 93.96 318 ⇑*i*P **P 03 08 26.2 +0.1**
comp=Z,55nm,0.8s
GIVF Givet 94.02 320 *e*P **P 03 08 26.4 +0.1**
TAM Tamanrasset 94.16 293 *e*P **P 03 08 28.7 +0.9**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM MLR MLR
comp=Z,586nm,19.0s
TAM Tamanrasset 94.16 293 *e*P **P 03 08 28.7 +0.9**
comp=Z,7.4nm,0.9s
TAM LR LR
comp=Z,586nm,19.0s
DOU Dourbes 94.17 320 P **P 03 08 28.0 +1.0**
comp=Z,2.6nm,1.1s
VNA2 Neumayer--Watz 94.19 198 *e*P **P 03 08 27.7 +1.0**
VNA2 Neumayer--Watz 94.19 198 *e*pP pP 03 08 35.3 +0.7
VNA2 Neumayer--Watz 94.19 198 *e*sP sP 03 08 38.9 +1.4
VIVF Saint-Julien-l 94.36 315 ⇑*i*P **P 03 08 28.1 0.0**
comp=Z,12nm,0.9s
BAIF Baives 94.42 320 *e*P **P 03 08 28.5 +0.3**
comp=Z,21nm,0.9s
SSB Saint Sauveur 94.43 315 *e*P **P 03 08 28.1 -0.3**
SSB pmax pmax
comp=Z,12nm,0.8s
SSB MLR MLR
comp=Z,365nm,21.0s
SSB Saint Sauveur 94.43 315 *e*P **P 03 08 28.1 -0.3**
comp=Z,12nm,0.8s
SSB LR LR
comp=Z,365nm,21.0s
SSB Saint Sauveur 94.43 315 *e*P **P 03 08 29.1 +0.7**
VNA1 Neumayer--Stat 94.55 199 *e*P **P 03 08 29.8 +1.5**
LOR Lormes 94.80 317 ⇑*i*P **P 03 08 29.9 -0.1**
comp=Z,22nm,0.9s
LOR *e*R
comp=Z,570nm,20.2s
SMF Signal de Mont 94.85 317 *e*P **P 03 08 30.2 -0.1**
comp=Z,25nm,0.9s
LASF Ste Croix 94.97 314 ⇑*i*P **P 03 08 30.9 0.0**
comp=Z,16nm,1.0s
SSF Saint Saulge 95.06 317 *e*P **P 03 08 31.0 -0.2**
AVF Avril sur Loir 95.18 317 *e*P **P 03 08 31.7 0.0**
comp=Z,46nm,1.3s
LBL Lubilhac 95.35 315 *e*P **P 03 08 32.7 +0.1**
AGO Saint Agoulin 95.38 316 *e*P **P 03 08 32.3 -0.4**
PYM Petit Puy Mans 95.48 316 *e*P **P 03 08 31.9 -1.4**
BGF Bois d'Agland 95.54 316 *e*P **P 03 08 33.6 +0.2**
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 96.00 316 *e*P **P 03 08 35.5 0.0**
comp=Z,25nm,1.3s
CAF Calviac 96.20 315 *e*P **P 03 08 36.6 +0.1**
comp=Z,23nm,1.3s
MTLF Montolieu 96.21 313 *e*P **P 03 08 36.6 +0.1**
comp=Z,18nm,1.0s
RJF Les Rejaudoux 96.56 315 *e*P **P 03 08 38.3 +0.2**
RJF *e*R
comp=Z,458nm,22.0s
LFF La Frestale 97.14 315 *e*P Pdif 03 08 41.0 +0.2
LDF La Druitiere 97.36 319 *e*P Pdif 03 08 42.1 +0.4
comp=Z,14nm,0.8s
FLN La Foliniere 97.58 319 *e*P **P 03 08 42.3 -0.3**
comp=Z,22nm,0.9s
FLN *e*R
comp=Z,674nm,19.2s
MFF Saint Martin d 97.59 317 *e*P **P 03 08 42.6 -0.1**
EPF Esparros 97.60 313 *e*P **P 03 08 42.1 -0.8**
GRR Gorron 97.87 319 *e*P **P 03 08 43.8 -0.1**
comp=Z,14nm,1.0s
TOA0 Torodi Ar. Sit 97.87 283 *e*P Pdif 03 08 44.8 +0.1
TORD Torodi Ar. Bea 97.87 283 P **P 03 08 44.2 -0.4**
TORD PKiKP **PKiKP 03 13 18.0 -0.5**
TORD PKKPbc **PKKPbc 03 25 18.2 -0.8**
TORD Torodi Ar. Bea 97.87 283 P **P 03 08 44.2 -0.4**
comp=Z,6.7nm,0.9s,baz=98,slow=4.5,SNR=28
TORD PKiKP **PKiKP 03 13 18.0 -0.5**
comp=Z,0.9nm,0.9s,baz=34,slow=2.1,SNR=6.4
TORD PKKPbc **PKKPbc 03 25 18.2 -0.8**
comp=Z,1.1nm,1.0s,baz=263,slow=2.8,SNR=4.0
TORD LR LR 03 52 34.2
comp=Z,504nm,18.0s,baz=125,slow=35
IM04 Indian Mountai 98.02 23 *e*P **P 03 08 44.2 0.0**
IMA2 Indian Mountai 98.03 23 *e*P Pdif 03 08 45.3 +0.9
ETSF Etsaut 98.27 313 *e*P **P 03 08 45.5 -0.4**
comp=Z,9.1nm,1.0s
ESK Eskdalemuir 98.32 326 PFAKE 03 09 00.0 +14
ESK LR LR
comp=Z,542nm,21.0s
SJPF Ste Jean 98.73 313 *e*P Pdif 03 08 48.3 +0.4
SGMF Saint Gilles 99.01 319 *e*P **Pdif 03 08 48.6 -0.4**
COLD Coldfoot 99.03 22 *e*P **Pdif 03 08 50.4 +1.7**
comp=Z,6.2nm,1.2s
QUIF Quistinic 99.47 318 *e*P **Pdif 03 08 52.0 +1.0**
comp=Z,43nm,1.4s
ROSF Rostrenen 99.47 319 *e*P **Pdif 03 08 50.8 -0.3**
MCK McKinley 100.65 25 *e*P **Pdif 03 08 57.4 +1.4**
MCK pmax pmax
comp=Z,18nm,1.2s
MCK McKinley 100.65 25 *e*Pdif **Pdif 03 08 57.4 +1.4**
comp=Z,18nm,1.2s
KDAK Kodiak Island 100.66 31 PFAKE 03 09 10.0 +14
KDAK LR LR
comp=Z,1μm,21.0s
COLA College 100.72 24 PFAKE 03 09 10.0 +14
COLA LR LR
comp=Z,826nm,19.0s
ILAR Eielson Array 101.14 24 P **Pdif 03 08 58.1 0.0**
ILAR PP **PP 03 13 10.4 +3.7**
ILAR PKKPbc **PKKPbc 03 25 08.2 -3.2**
ILAR Eielson Array 101.14 24 P **Pdif 03 08 58.1 0.0**
comp=Z,0.4nm,0.5s,baz=285,slow=4.0,SNR=11
ILAR PP **PP 03 13 10.4 +3.7**
comp=Z,2.7nm,1.1s,baz=312,slow=8.1,SNR=6.0
ILAR PKKPbc **PKKPbc 03 25 08.2 -3.2**
comp=Z,5.3nm,0.9s,baz=136,slow=2.0,SNR=34
ESDC Sonseca Array 101.19 310 P **Pdif 03 08 59.5 +0.5**
ESDC PKKP **PKKPbc 03 25 11.9 +1.5**
ESDC Sonseca Array 101.19 310 P **Pdif 03 08 59.5 +0.5**
comp=Z,0.2nm,0.4s,baz=50,slow=4.1,SNR=6.7
ESDC PKKP **PKKPbc 03 25 11.9 +1.5**
comp=Z,0.1nm,0.3s,baz=270,slow=1.5,SNR=5.5
SCO Scoresbysund 101.38 343 *i* P Pdif 03 09 13.4 +14
comp=Z,12nm,1.1s
PAB San Pablo 101.51 310 PFAKE 03 09 10.0 +10
PAB LR LR
comp=Z,472nm,20.0s
EGAK Eagle 103.38 23 PFAKE 03 09 20.0 +12
EGAK LR LR
comp=Z,1μm,20.0s
MTE Manteigas 103.80 311 PFAKE 03 09 20.0 +9.4
MTE LR LR
comp=Z,359nm,20.0s
SHEL Horse Pasture 104.23 253 PFAKE 03 09 20.0 +7.0
SHEL LR LR
comp=Z,2μm,20.0s
SUMG Summit 104.24 348 *i* P Pdif 03 09 28.3 +16
comp=Z,6.0nm,0.9s
RTC Rabat Centre 104.27 305 PFAKE 03 09 20.0 +7.3
RTC LR LR
comp=Z,391nm,20.0s
POHA Pohakuloa 104.58 70 PFAKE 03 09 30.0 +15
POHA LR LR
comp=Z,2μm,19.0s
TBI Tubuai 108.73 115 *e*SS SS 03 29 12.5 -8.4
comp=Z,407nm,29.0s
TBI Tubuai 108.73 115 *e*LR LR 03 45 33.4
comp=Z,1μm,23.8s
PPT2 Papeete2 109.51 109 *e*PP PP 03 14 09.1 -1.2
comp=Z,66nm,25.0s
PPT2 Papeete2 109.51 109 *e*LR LR 03 45 51.3
comp=Z,1μm,23.5s
SFJD Kangerlussuaq 111.24 348 PFAKE 03 13 50.0
SFJD LR LR
comp=Z,771nm,21.0s
WRAK Wrangell Islan 111.29 28 PFAKE 03 13 50.0
WRAK LR LR
comp=Z,729nm,20.0s
PMSA Palmer Station 112.92 188 PFAKE 03 14 00.0
PMSA LR LR
comp=Z,1μm,20.0s
ASCN Ascension 113.38 261 PFAKE 03 14 00.0
ASCN LR LR
comp=Z,502nm,19.0s
YKW3 Yellowknife Ar 113.86 16 *e*PKP **PKiKP 03 13 47.7 +1.1**
YKA Yellowknife Ar 113.92 17 PKiKP **PKiKP 03 13 46.4 -0.3**
YKA PKKPbc **PKKPbc 03 24 28.1 -3.0**
YKA Yellowknife Ar 113.92 17 PKiKP **PKiKP 03 13 46.4 -0.3**
comp=Z,2.0nm,0.8s,baz=315,slow=0.9,SNR=4.3
YKA PKKPbc **PKKPbc 03 24 28.1 -3.0**
comp=Z,3.1nm,0.9s,baz=144,slow=3.0,SNR=4.7
NLWA Neilton Lookou 120.75 33 PFAKE 03 14 10.0 +10
NLWA LR LR
comp=Z,779nm,19.0s
JCW Jim Creek 121.29 31 P **PKPdf 03 14 03.1 +1.6**
EDM Edmonton 121.60 22 *e*PKIKP **PKPdf 03 14 01.8 -0.1**
EDM Edmonton 121.60 22 *e*PKPdf **PKPdf 03 14 01.8 -0.1**
RKT Rikitea 121.74 118 *e*LR LR 03 51 16.6
comp=Z,1μm,25.2s
FCC Fort Churchill 121.78 8 *e*PKIKP **PKPdf 03 14 02.3 +0.3**
FCC Fort Churchill 121.78 8 *e*PKPdf **PKPdf 03 14 02.2 +0.3**
SACV Santiago Islan 122.23 287 PFAKE 03 14 20.0 +16
SACV LR LR
comp=Z,493nm,22.0s
WPW White Pass 122.43 32 P **PKPdf 03 14 04.3 +0.5**
TBM Table Mountain 122.63 31 P **PKPdf 03 14 05.7 +1.5**
VFP Flag Point 123.34 34 P **PKPdf 03 14 06.9 +1.2**
NEW Newport 123.64 29 *e*PKPdf **PKPdf 03 14 06.7 +0.7**
NEW LR LR
comp=Z,433nm,19.0s
NEW Newport 123.64 29 ⇓PKPdf **PKPdf 03 14 05.9 -0.1**
baz=124
NEW Newport 123.64 29 ⇓PKPdf **PKPdf 03 14 05.9 -0.1**
baz=124
EFI East Falkland 123.83 197 PFAKE 03 14 20.0 +14
EFI LR LR
comp=Z,413nm,20.0s
FFC Flin Flon 123.99 15 *e*PKIKP **PKPdf 03 14 06.3 -0.1**
FFC Flin Flon 123.99 15 *e*PKPdf **PKPdf 03 14 06.3 -0.1**
HUMO Hull Mountain 124.11 37 *e*PKPdf **PKPdf 03 14 07.4 +0.4**
KTRM Thompson Ridge 124.25 38 P **PKPdf 03 14 09.5 +2.1**
WALA Waterton Lakes 124.53 26 *e*PKPdf **PKPdf 03 14 08.7 +0.9**
KHMM Horse Mountain 124.61 39 *e*PKPdf **PKPdf 03 14 09.3 +1.1**
BSMT Bassoo Peak 125.03 28 *e*PKPdf **PKPdf 03 14 09.3 +0.4**
WDC Whiskeytown Da 125.53 39 *e*PKIKP **PKPdf 03 14 10.1 +0.4**
WDC Whiskeytown Da 125.53 39 *e*PKPdf **PKPdf 03 14 10.1 +0.4**
SCHQ Schefferville 125.53 350 *e*PKPdf **PKPdf 03 14 09.8 +0.5**
SCHQ Schefferville 125.53 350 PKP **PKPdf 03 14 09.8 +0.5**
comp=Z,16nm,0.8s,baz=58,slow=3.8,SNR=18
SWMT Swartz Lake 125.64 27 *e*PKPdf **PKPdf 03 14 10.0 +0.1**
BMO Blue Mountains 125.89 32 *e*PKIKP **PKPdf 03 14 10.8 +0.3**
BMO MLR MLR
comp=Z,533nm,19.0s
BMO Blue Mountains 125.89 32 *e*PKPdf **PKPdf 03 14 10.8 +0.3**
BMO LR LR
comp=Z,533nm,19.0s
SLMT Seeley Lake 126.07 27 *e*PKPdf **PKPdf 03 14 10.2 -0.7**
LBCM Butte Creek Ri 126.12 38 P **PKPdf 03 14 12.1 +1.0**
MSO Missoula 126.17 28 ⇓PKPdf **PKPdf 03 14 10.3 -0.7**
baz=126
MSO Missoula 126.17 28 ⇓PKPdf **PKPdf 03 14 10.3 -0.7**
baz=126
A18A Metzger Ranch, 126.35 24 ⇑PKPdf **PKPdf 03 14 10.7 -0.4**
baz=126
A18A Metzger Ranch, 126.35 24 ⇑PKPdf **PKPdf 03 14 10.7 -0.4**
baz=126
CHMT Chamberlain Mo 126.43 27 *e*PKPdf **PKPdf 03 14 12.3 +0.7**
B17A L&G Farms, Che 126.45 25 ⇓PKPdf **PKPdf 03 14 10.8 -0.6**
baz=126
B17A L&G Farms, Che 126.45 25 ⇓PKPdf **PKPdf 03 14 10.8 -0.6**
baz=126
WVOR Wild Horse Val 126.75 35 *e*PKIKP **PKPdf 03 14 13.1 +0.9**
WVOR MLR MLR
comp=Z,435nm,20.0s
WVOR Wild Horse Val 126.75 35 *e*PKPdf **PKPdf 03 14 13.1 +0.9**
WVOR LR LR
comp=Z,435nm,20.0s
B18A Beardsley Farm 126.80 24 ⇑PKPdf **PKPdf 03 14 11.7 -0.4**
baz=127
B18A Beardsley Farm 126.80 24 ⇑PKPdf **PKPdf 03 14 11.7 -0.4**
baz=127
C17A Wharram Farm, 126.98 25 ⇑PKPdf **PKPdf 03 14 11.9 -0.6**
baz=127
C17A Wharram Farm, 126.98 25 ⇑PKPdf **PKPdf 03 14 11.9 -0.6**
baz=127
B19A Brinkman Farms 127.08 23 ⇑PKPdf **PKPdf 03 14 12.0 -0.6**
baz=127
B19A Brinkman Farms 127.08 23 ⇑PKPdf **PKPdf 03 14 12.0 -0.6**
baz=127
EGMT Eagleton 127.10 24 *e*PKPdf **PKPdf 03 14 13.3 +0.7**
EGMT LR LR
comp=Z,693nm,20.0s
EGMT Eagleton 127.10 24 ⇑PKPdf **PKPdf 03 14 12.4 -0.3**
baz=127
EGMT Eagleton 127.10 24 ⇑PKPdf **PKPdf 03 14 12.4 -0.3**
baz=127
A20A Cobblestone Ra 127.13 22 ⇓PKPdf **PKPdf 03 14 12.3 -0.3**
baz=127
A20A Cobblestone Ra 127.13 22 ⇓PKPdf **PKPdf 03 14 12.3 -0.3**
baz=127
D17A Six Diamond Ra 127.39 26 ⇑PKPdf **PKPdf 03 14 12.9 -0.4**
baz=127
D17A Six Diamond Ra 127.39 26 ⇑PKPdf **PKPdf 03 14 12.9 -0.4**
baz=127
A21A Bergtoll Ranch 127.42 22 ⇑PKPdf **PKPdf 03 14 12.6 -0.6**
baz=127
A21A Bergtoll Ranch 127.42 22 ⇑PKPdf **PKPdf 03 14 12.6 -0.6**
baz=127
B20A Solberg Farm, 127.46 23 ⇑PKPdf **PKPdf 03 14 12.6 -0.7**
baz=127
B20A Solberg Farm, 127.46 23 ⇑PKPdf **PKPdf 03 14 12.6 -0.7**
baz=127
LRM Limekiln Ridge 127.61 28 *e*PKPdf **PKPdf 03 14 15.2 +1.2**
C19A Slack Wire Ran 127.62 24 ⇓PKPdf **PKPdf 03 14 13.4 -0.3**
baz=128
C19A Slack Wire Ran 127.62 24 ⇓PKPdf **PKPdf 03 14 13.4 -0.3**
baz=128
MFID Camas Ranch 127.64 32 ⇓PKPdf **PKPdf 03 14 13.5 -0.4**
baz=128
MFID Camas Ranch 127.64 32 ⇓PKPdf **PKPdf 03 14 13.5 -0.4**
baz=128
A22A Carney Farms, 127.78 21 ⇑PKPdf **PKPdf 03 14 13.4 -0.5**
baz=128
A22A Carney Farms, 127.78 21 ⇑PKPdf **PKPdf 03 14 13.4 -0.5**
baz=128
E17A Martinsdale 127.85 26 ⇓PKPdf **PKPdf 03 14 13.6 -0.6**
baz=128
E17A Martinsdale 127.85 26 ⇓PKPdf **PKPdf 03 14 13.6 -0.6**
baz=128
B21A Ellsworth Farm 127.85 22 ⇓PKPdf **PKPdf 03 14 13.6 -0.5**
baz=128
B21A Ellsworth Farm 127.85 22 ⇓PKPdf **PKPdf 03 14 13.6 -0.5**
baz=128
DLMT Dillon 127.88 28 *e*PKPdf **PKPdf 03 14 15.2 +0.9**
C20A Veseth Ranch, 128.05 23 ⇑PKPdf **PKPdf 03 14 14.2 -0.2**
baz=128
C20A Veseth Ranch, 128.05 23 ⇑PKPdf **PKPdf 03 14 14.2 -0.2**
baz=128
BOZ Bozeman (W) 128.12 27 *e*PKIKP **PKPdf 03 14 15.8 +1.0**
BOZ MLR MLR
comp=Z,489nm,19.0s
BOZ Bozeman (W) 128.12 27 *e*PKPdf **PKPdf 03 14 15.8 +1.0**
BOZ LR LR
comp=Z,489nm,19.0s
D19A Cripps Ranch, 128.14 24 ⇑PKPdf **PKPdf 03 14 14.4 -0.3**
baz=128
D19A Cripps Ranch, 128.14 24 ⇑PKPdf **PKPdf 03 14 14.4 -0.3**
baz=128
MCMT McKenzie Canyo 128.16 29 *e*PKPdf **PKPdf 03 14 16.4 +1.4**
A23A Redstone 128.18 20 ⇑PKPdf **PKPdf 03 14 14.2 -0.4**
baz=128
A23A Redstone 128.18 20 ⇑PKPdf **PKPdf 03 14 14.2 -0.4**
baz=128
E18A Harlowton 128.18 26 ⇓PKPdf **PKPdf 03 14 14.3 -0.5**
baz=128
E18A Harlowton 128.18 26 ⇓PKPdf **PKPdf 03 14 14.3 -0.5**
baz=128
HLID Hailey 128.28 31 *e*PKPdf **PKPdf 03 14 17.2 +2.0**
HLID LR LR
comp=Z,830nm,20.0s
HLID Hailey 128.28 31 ⇑PKPdf **PKPdf 03 14 14.8 -0.4**
baz=128
HLID Hailey 128.28 31 ⇑PKPdf **PKPdf 03 14 14.8 -0.4**
baz=128
C21A Desert Coulee 128.31 23 ⇑PKPdf **PKPdf 03 14 14.6 -0.3**
baz=128
C21A Desert Coulee 128.31 23 ⇑PKPdf **PKPdf 03 14 14.6 -0.3**
baz=128
B22A Reddig Ranch S 128.33 21 ⇑PKPdf **PKPdf 03 14 14.8 -0.2**
baz=128
B22A Reddig Ranch S 128.33 21 ⇑PKPdf **PKPdf 03 14 14.8 -0.2**
baz=128
CMB Columbia Colle 128.35 40 *e*PKIKP **PKPdf 03 14 16.9 +1.6**
CMB Columbia Colle 128.35 40 *e*PKPdf **PKPdf 03 14 16.9 +1.6**
F17A Fitzpatrick Pl 128.36 27 ⇑PKPdf **PKPdf 03 14 14.7 -0.5**
baz=128
F17A Fitzpatrick Pl 128.36 27 ⇑PKPdf **PKPdf 03 14 14.7 -0.5**
baz=128
A24A Westby 128.50 20 ⇓PKPdf **PKPdf 03 14 14.8 -0.5**
baz=128

A24A	Westby	128.50	20	⇓PKPdf	PKPdf	03 14 14.8	-0.5
	baz=128						
D20A	Manuel Ranch,	128.50	24	⇑PKPdf	PKPdf	03 14 14.8	-0.5
	baz=128						
D20A	Manuel Ranch,	128.50	24	⇑PKPdf	PKPdf	03 14 14.8	-0.5
	baz=128						
B23A	Brockton	128.56	21	⇓PKPdf	PKPdf	03 14 15.1	-0.2
	baz=128						
B23A	Brockton	128.56	21	⇓PKPdf	PKPdf	03 14 15.1	-0.2
	baz=128						
E19A	Rath Farm, Rou	128.74	25	⇑PKPdf	PKPdf	03 14 15.6	-0.3
	baz=129						
E19A	Rath Farm, Rou	128.74	25	⇑PKPdf	PKPdf	03 14 15.6	-0.3
	baz=129						
G17A	Pierce Place,	128.78	27	PKPdf	PKPdf	03 14 15.9	-0.1
	baz=129						
G17A	Pierce Place,	128.78	27	PKPdf	PKPdf	03 14 15.9	-0.1
	baz=129						
F18A	Big Timber	128.78	26	⇑PKPdf	PKPdf	03 14 15.7	-0.3
	baz=129						
F18A	Big Timber	128.78	26	⇑PKPdf	PKPdf	03 14 15.7	-0.3
	baz=129						
A25A	Svangstu Ranch	128.78	19	⇓PKPdf	PKPdf	03 14 15.7	0.0
	baz=129						
A25A	Svangstu Ranch	128.78	19	⇓PKPdf	PKPdf	03 14 15.7	0.0
	baz=129						
DGMT	Dagmar	128.83	20	*e*PKPdf	PKPdf	03 14 17.6	+1.7
DGMT				LR	LR		
	comp=Z,1μm,19.0s						
DGMT	Dagmar	128.83	20	⇓PKPdf	PKPdf	03 14 15.5	-0.4
	baz=129						
DGMT	Dagmar	128.83	20	⇓PKPdf	PKPdf	03 14 15.5	-0.4
	baz=129						
QLMT	Earthquake Lak	128.83	28	*e*PKPdf	PKPdf	03 14 17.5	+1.3
C22A	Vida	128.84	22	⇑PKPdf	PKPdf	03 14 15.9	-0.1
	baz=129						
C22A	Vida	128.84	22	⇑PKPdf	PKPdf	03 14 15.9	-0.1
	baz=129						
BMN	Battle Mountai	128.84	36	PFAKE		03 14 30.0	+14
BMN				LR	LR		
	comp=Z,411nm,21.0s						
GCMT	Greycliff	128.89	26	*e*PKPdf	PKPdf	03 14 16.8	+0.5
D21A	La Casta Ranch	128.98	23	⇑PKPdf	PKPdf	03 14 16.1	-0.2
	baz=129						
D21A	La Casta Ranch	128.98	23	⇑PKPdf	PKPdf	03 14 16.1	-0.2
	baz=129						
E20A	Meyer Farm, Mu	128.98	24	⇓PKPdf	PKPdf	03 14 15.4	-0.9
	baz=129						
E20A	Meyer Farm, Mu	128.98	24	⇓PKPdf	PKPdf	03 14 15.4	-0.9
	baz=129						
C23A	Lambert	129.05	21	⇓PKPdf	PKPdf	03 14 16.2	-0.1
	baz=129						
C23A	Lambert	129.05	21	⇓PKPdf	PKPdf	03 14 16.2	-0.1
	baz=129						
A26A	Wade Farm, Ken	129.16	18	⇓PKPdf	PKPdf	03 14 16.1	-0.4
	baz=129						
A26A	Wade Farm, Ken	129.16	18	⇓PKPdf	PKPdf	03 14 16.1	-0.4
	baz=129						
YMR	Madison River	129.17	28	*e*PKPdf	PKPdf	03 14 18.9	+2.0
D22A	Cohagen	129.22	22	⇓PKPdf	PKPdf	03 14 17.0	+0.3
	baz=129						
D22A	Cohagen	129.22	22	⇓PKPdf	PKPdf	03 14 17.0	+0.3
	baz=129						
YFT	Old Faithful	129.39	28	*e*PKPdf	PKPdf	03 14 20.6	+3.2
NVAR	Mina Array Bea	129.44	39	PKP	PKPdf	03 14 19.3	+1.7
NVAR				SKPbc	SKPab	03 17 37.1	-0.1
NVAR	Mina Array Bea	129.44	39	PKP	PKPdf	03 14 19.3	+1.7
	comp=Z,5.4nm,0.8s,baz=262,slow=2.4,SNR=38						
NVAR				SKPbc	SKPab	03 17 37.1	-0.1
	comp=Z,3.5nm,0.9s,baz=268,slow=4.5,SNR=6.1						
LKWY	Lake	129.51	27	PFAKE		03 14 30.0	+12
LKWY				LR	LR		
	comp=Z,1μm,21.0s						
I16A	Newdale	129.52	29	⇓PKPdf	PKPdf	03 14 17.1	-0.5
	baz=129						
I16A	Newdale	129.52	29	⇓PKPdf	PKPdf	03 14 17.1	-0.5
	baz=129						
NV11	Mina Array Sit	129.53	38	*e*PKPdf	PKPdf	03 14 19.5	+1.8
F20A	Billings	129.53	25	⇑PKPdf	PKPdf	03 14 16.9	-0.5
	baz=129						
F20A	Billings	129.53	25	⇑PKPdf	PKPdf	03 14 16.9	-0.5
	baz=129						
C24A	Savage	129.55	21	⇑PKPdf	PKPdf	03 14 16.8	-0.5
	baz=129						
C24A	Savage	129.55	21	⇑PKPdf	PKPdf	03 14 16.8	-0.5
	baz=129						
H17A	Grant Village	129.56	28	*e*PKPdf	PKPdf	03 14 18.1	+0.4
ULM	Lac du Bonnet	129.57	13	*e*PKPdf	PKPdf	03 14 18.1	+0.9
ULM				PKP	PKPdf	03 14 18.2	+1.0
ULM	Lac du Bonnet	129.57	13	PKP	PKPdf	03 14 18.2	+1.0
	comp=Z,15nm,0.7s,baz=347,slow=3.4,SNR=16						
D23A	Lindsay	129.57	22	⇑PKPdf	PKPdf	03 14 17.1	-0.3
	baz=130						
D23A	Lindsay	129.57	22	⇑PKPdf	PKPdf	03 14 17.1	-0.3
	baz=130						
RLMT	Red Lodge	129.59	26	*e*PKPdf	PKPdf	03 14 19.4	+1.8
RLMT				LR	LR		
	comp=Z,667nm,22.0s						
A28A	Rude Farm, Bot	129.68	17	⇓PKPdf	PKPdf	03 14 17.3	-0.2
	baz=130						
A28A	Rude Farm, Bot	129.68	17	⇓PKPdf	PKPdf	03 14 17.3	-0.2
	baz=130						
H18A	Shoshone NF, C	129.76	27	⇓PKPdf	PKPdf	03 14 17.2	-0.8
	baz=130						
H18A	Shoshone NF, C	129.76	27	⇓PKPdf	PKPdf	03 14 17.2	-0.8
	baz=130						
IMW	Indian Meadow	129.76	28	*e*PKPdf	PKPdf	03 14 20.1	+2.0
B27A	Peters Farms,	129.84	18	⇑PKPdf	PKPdf	03 14 17.5	-0.3
	baz=130						
B27A	Peters Farms,	129.84	18	⇑PKPdf	PKPdf	03 14 17.5	-0.3
	baz=130						
E22A	Miles City	129.90	23	⇑PKPdf	PKPdf	03 14 17.8	-0.2
	baz=130						
E22A	Miles City	129.90	23	⇑PKPdf	PKPdf	03 14 17.8	-0.2
	baz=130						
F21A	Absaloka Mine,	129.94	24	⇑PKPdf	PKPdf	03 14 17.7	-0.4
	baz=130						
F21A	Absaloka Mine,	129.94	24	⇑PKPdf	PKPdf	03 14 17.7	-0.4
	baz=130						
MOOW	Moose Ponds	129.97	28	*e*PKPdf	PKPdf	03 14 19.6	+1.2
G20A	Bridger	129.97	25	⇓PKPdf	PKPdf	03 14 17.9	-0.3
	baz=130						
G20A	Bridger	129.97	25	⇓PKPdf	PKPdf	03 14 17.9	-0.3
	baz=130						
RRI2	Red Ridge	129.99	29	*e*PKPdf	PKPdf	03 14 19.6	+1.0
TPAW	Teton Pass	130.06	29	*e*PKPdf	PKPdf	03 14 21.0	+2.3
H19A	Powell	130.07	26	⇑PKPdf	PKPdf	03 14 18.3	-0.2
	baz=130						
H19A	Powell	130.07	26	⇑PKPdf	PKPdf	03 14 18.3	-0.2
	baz=130						
LOHW	Long Hollow	130.14	28	*e*PKPdf	PKPdf	03 14 20.0	+1.2
SNOW	Snow King Moun	130.18	29	*e*PKPdf	PKPdf	03 14 20.8	+1.9
REDW	Red Top Meadow	130.21	29	*e*PKPdf	PKPdf	03 14 20.3	+1.4
TPH	Tonopah	130.33	38	PFAKE		03 14 30.0	+11
TPH				LR	LR		
	comp=Z,343nm,20.0s						
HVU	Hansel Valley	130.40	32	*e*PKIKP	PKPdf	03 14 20.9	+1.7
HVU	Hansel Valley	130.40	32	*e*PKPdf	PKPdf	03 14 20.9	+1.7
E24A	Baker	130.42	21	⇑PKPdf	PKPdf	03 14 18.4	-0.6
	baz=130						
E24A	Baker	130.42	21	⇑PKPdf	PKPdf	03 14 18.4	-0.6
	baz=130						
VES	Vestal, Richgr	130.47	42	⇓PKPdf	PKPdf	03 14 18.7	-0.6
	baz=130						
VES	Vestal, Richgr	130.47	42	⇓PKPdf	PKPdf	03 14 18.7	-0.6
	baz=130						
PKM	Peak Mountain	130.50	43	⇑PKPdf	PKPdf	03 14 18.9	-0.8
	baz=130						
PKM	Peak Mountain	130.50	43	⇑PKPdf	PKPdf	03 14 18.9	-0.8
	baz=130						
I19A	Meeteetse	130.56	27	⇓PKPdf	PKPdf	03 14 19.1	-0.5
	baz=130						
I19A	Meeteetse	130.56	27	⇓PKPdf	PKPdf	03 14 19.1	-0.5
	baz=130						
H20A	Greybull	130.65	26	⇓PKPdf	PKPdf	03 14 19.3	-0.3
	baz=130						
H20A	Greybull	130.65	26	⇓PKPdf	PKPdf	03 14 19.3	-0.3
	baz=130						
D26A	Manning	130.67	20	⇓PKPdf	PKPdf	03 14 19.1	-0.4
	baz=130						
D26A	Manning	130.67	20	⇓PKPdf	PKPdf	03 14 19.1	-0.4
	baz=130						
F23A	Volborg	130.71	23	⇑PKPdf	PKPdf	03 14 19.1	-0.5
	baz=131						
F23A	Volborg	130.71	23	⇑PKPdf	PKPdf	03 14 19.1	-0.5
	baz=131						
C28A	Hausauer Farms	130.72	18	⇑PKPdf	PKPdf	03 14 19.2	-0.3
	baz=131						
C28A	Hausauer Farms	130.72	18	⇑PKPdf	PKPdf	03 14 19.2	-0.3
	baz=131						
G22A	Birney	130.77	24	⇓PKPdf	PKPdf	03 14 19.6	-0.1
	baz=131						
G22A	Birney	130.77	24	⇓PKPdf	PKPdf	03 14 19.6	-0.1
	baz=131						
E25A	Miller Ranch,	130.79	21	⇓PKPdf	PKPdf	03 14 19.5	-0.2
	baz=131						
E25A	Miller Ranch,	130.79	21	⇓PKPdf	PKPdf	03 14 19.5	-0.2
	baz=131						
MDND	Maddock	130.83	17	*e*PKPdf	PKPdf	03 14 21.0	+1.3
BGU	Big Grassy Mou	130.87	33	*e*PKPdf	PKPdf	03 14 21.6	+1.4
BGU				*e*SKP		03 17 43.4	
SPUT	South Promonto	130.91	32	*e*PKPdf	PKPdf	03 14 21.3	+1.1
H21A	Big Horn, Sher	130.94	25	⇑PKPdf	PKPdf	03 14 19.7	-0.5
	baz=131						
H21A	Big Horn, Sher	130.94	25	⇑PKPdf	PKPdf	03 14 19.7	-0.5
	baz=131						
F24A	Ekalaka	130.97	22	⇓PKPdf	PKPdf	03 14 19.6	-0.5
	baz=131						
F24A	Ekalaka	130.97	22	⇓PKPdf	PKPdf	03 14 19.6	-0.5
	baz=131						
I20A	Worland	131.01	26	⇑PKPdf	PKPdf	03 14 19.9	-0.4
	baz=131						
I20A	Worland	131.01	26	⇑PKPdf	PKPdf	03 14 19.9	-0.4
	baz=131						
ARVC	Arvin	131.04	42	⇓PKPdf	PKPdf	03 14 19.9	-0.6
	baz=131						
ARVC	Arvin	131.04	42	⇓PKPdf	PKPdf	03 14 19.9	-0.6
	baz=131						
J19A	Crowheart	131.13	28	⇑PKPdf	PKPdf	03 14 20.1	-0.5
	baz=131						
J19A	Crowheart	131.13	28	⇑PKPdf	PKPdf	03 14 20.1	-0.5
	baz=131						
E26A	Carlson Angus	131.15	20	⇓PKPdf	PKPdf	03 14 20.0	-0.4
	baz=131						
E26A	Carlson Angus	131.15	20	⇓PKPdf	PKPdf	03 14 20.0	-0.4
	baz=131						
G23A	Biddle	131.15	23	⇓PKPdf	PKPdf	03 14 20.1	-0.4
	baz=131						
G23A	Biddle	131.15	23	⇓PKPdf	PKPdf	03 14 20.1	-0.4
	baz=131						
HWUT	Hardware Ranch	131.15	31	PFAKE		03 14 30.0	+9.3
HWUT				LR	LR		
	comp=Z,545nm,20.0s						
R11A	Troy Canyon, C	131.15	37	*e*PKPdf	PKPdf	03 14 22.4	+1.6
R11A	Troy Canyon, C	131.15	37	⇓PKPdf	PKPdf	03 14 20.5	-0.3
	baz=131						
R11A	Troy Canyon, C	131.15	37	⇓PKPdf	PKPdf	03 14 20.5	-0.3
	baz=131						
H22A	Clearmont	131.26	24	⇓PKPdf	PKPdf	03 14 20.2	-0.5
	baz=131						
H22A	Clearmont	131.26	24	⇓PKPdf	PKPdf	03 14 20.2	-0.5
	baz=131						
F25A	Bowman	131.27	21	⇑PKPdf	PKPdf	03 14 20.1	-0.5
	baz=131						
F25A	Bowman	131.27	21	⇑PKPdf	PKPdf	03 14 20.1	-0.5
	baz=131						
BW06	Boulder Array	131.28	28	*e*PKPdf	PKPdf	03 14 21.2	+0.2
BW06				LR	LR		
	comp=Z,446nm,20.0s						
PDAR	Pinedale Array	131.28	28	PKPpre	PKPpre	03 14 13.3	
PDAR				PKP	PKiKP	03 14 21.9	0.0
PDAR				SKPab	SKPbc	03 17 43.1	-1.4
PDAR	Pinedale Array	131.28	28	PKhKP	PKPpre	03 14 13.3	
	comp=Z,0.5nm,0.8s,baz=27,slow=0.7,SNR=4.0						
PDAR				PKP	PKiKP	03 14 21.9	0.0
	comp=Z,2.5nm,0.6s,baz=211,slow=1.4,SNR=21						
PDAR				SKPab	SKPbc	03 17 43.1	-1.4
	comp=Z,2.8nm,0.9s,baz=1.7,slow=1.2,SNR=6.7						
MPMC	Manual Prospec	131.39	40	⇑PKPdf	PKPdf	03 14 21.1	-0.2
	baz=131						
MPMC	Manual Prospec	131.39	40	⇑PKPdf	PKPdf	03 14 21.1	-0.2
	baz=131						
AGMN	Agassiz Nation	131.40	14	*e*PKPdf	PKPdf	03 14 20.4	-0.3
AGMN				*e*SKP		03 17 44.3	
AGMN				LR	LR		
	comp=Z,551nm,20.0s						
G24A	Alzada	131.42	22	⇓PKPdf	PKPdf	03 14 20.3	-0.6
	baz=131						
G24A	Alzada	131.42	22	⇓PKPdf	PKPdf	03 14 20.3	-0.6
	baz=131						
E27A	Carson	131.49	19	⇑PKPdf	PKPdf	03 14 20.5	-0.5
	baz=131						
E27A	Carson	131.49	19	⇑PKPdf	PKPdf	03 14 20.5	-0.5
	baz=131						
I21A	Big Trails, Te	131.49	26	⇑PKPdf	PKPdf	03 14 21.0	-0.3
	baz=131						
I21A	Big Trails, Te	131.49	26	⇑PKPdf	PKPdf	03 14 21.0	-0.3
	baz=131						
DUG	Dugway	131.50	33	*e*PKIKP	PKPdf	03 14 22.8	+1.5
DUG				MLR	MLR		
	comp=Z,410nm,20.0s						
DUG	Dugway	131.50	33	*e*PKPdf	PKPdf	03 14 22.8	+1.5
DUG				*e*SKP		03 17 45.5	
DUG				LR	LR		
	comp=Z,410nm,20.0s						
DUG	Dugway	131.50	33	⇑PKPdf	PKPdf	03 14 21.2	-0.2
	baz=131						
DUG	Dugway	131.50	33	⇑PKPdf	PKPdf	03 14 21.2	-0.2
	baz=131						
J20A	Shoshoni	131.50	27	⇑PKPdf	PKPdf	03 14 21.2	-0.1
	baz=131						
J20A	Shoshoni	131.50	27	⇑PKPdf	PKPdf	03 14 21.2	-0.1
	baz=131						
FURC	Furnace Creek,	131.54	40	⇓PKPdf	PKPdf	03 14 21.1	-0.2
	baz=132						
FURC	Furnace Creek,	131.54	40	⇓PKPdf	PKPdf	03 14 21.1	-0.2
	baz=132						
K19A	Absolon Red Bu	131.57	28	⇑PKPdf	PKPdf	03 14 21.0	-0.4
	baz=132						
K19A	Absolon Red Bu	131.57	28	⇑PKPdf	PKPdf	03 14 21.0	-0.4
	baz=132						
LRMC	Laurel Mountai	131.60	41	⇑PKPdf	PKPdf	03 14 21.1	-0.5
	baz=132						
LRMC	Laurel Mountai	131.60	41	⇑PKPdf	PKPdf	03 14 21.1	-0.5
	baz=132						
F26A	Lodgepole	131.61	21	⇓PKPdf	PKPdf	03 14 21.1	-0.2
	baz=132						
F26A	Lodgepole	131.61	21	⇓PKPdf	PKPdf	03 14 21.1	-0.2
	baz=132						
L18A	Fontenelle, Gr	131.68	29	⇑PKPdf	PKPdf	03 14 21.4	-0.3
	baz=132						
L18A	Fontenelle, Gr	131.68	29	⇑PKPdf	PKPdf	03 14 21.4	-0.3
	baz=132						
M17A	Scullys Gap (B	131.71	30	⇑PKPdf	PKPdf	03 14 21.1	-0.8
	baz=132						
M17A	Scullys Gap (B	131.71	30	⇑PKPdf	PKPdf	03 14 21.1	-0.8
	baz=132						
EDW2	Edwards Air Fo	131.75	42	⇓PKPdf	PKPdf	03 14 21.0	-0.9
	baz=132						
EDW2	Edwards Air Fo	131.75	42	⇓PKPdf	PKPdf	03 14 21.0	-0.9
	baz=132						
I22A	9 Mile Ranch,	131.77	25	⇑PKPdf	PKPdf	03 14 21.1	-0.7
	baz=132						
I22A	9 Mile Ranch,	131.77	25	⇑PKPdf	PKPdf	03 14 21.1	-0.7
	baz=132						
J21A	Lysite	131.79	26	⇑PKPdf	PKPdf	03 14 20.9	-0.9
	baz=132						
J21A	Lysite	131.79	26	⇑PKPdf	PKPdf	03 14 20.9	-0.9
	baz=132						
F27A	Lemmon	131.82	20	⇓PKPdf	PKPdf	03 14 21.3	-0.4
	baz=132						
F27A	Lemmon	131.82	20	⇓PKPdf	PKPdf	03 14 21.3	-0.4
	baz=132						
H24A	Dirks Ranch, A	131.85	23	⇓PKPdf	PKPdf	03 14 21.2	-0.7
	baz=132						
H24A	Dirks Ranch, A	131.85	23	⇓PKPdf	PKPdf	03 14 21.2	-0.7
	baz=132						
L19A	Farson	131.88	29	⇑PKPdf	PKPdf	03 14 21.4	-0.7
	baz=132						
L19A	Farson	131.88	29	⇑PKPdf	PKPdf	03 14 21.4	-0.7
	baz=132						
K20A	Yellowstone Ra	131.93	28	⇓PKPdf	PKPdf	03 14 21.3	-0.8
	baz=132						
K20A	Yellowstone Ra	131.93	28	⇓PKPdf	PKPdf	03 14 21.3	-0.8
	baz=132						
JLU	Jordanelle	131.94	32	*e*PKPdf	PKPdf	03 14 23.3	+1.0
NLU	North Lily Min	132.07	33	*e*PKPdf	PKPdf	03 14 24.3	+1.7
NLU				*e*SKP		03 17 47.2	
G26A	Maurine	132.12	21	⇑PKPdf	PKPdf	03 14 21.7	-0.6
	baz=132						
G26A	Maurine	132.12	21	⇑PKPdf	PKPdf	03 14 21.7	-0.6
	baz=132						
J22A	Midwest	132.16	25	⇓PKPdf	PKPdf	03 14 21.8	-0.7
	baz=132						
J22A	Midwest	132.16	25	⇓PKPdf	PKPdf	03 14 21.8	-0.7
	baz=132						
DAU	Daniels Canyon	132.18	32	*e*PKIKP	PKPdf	03 14 24.3	+1.4
DAU	Daniels Canyon	132.18	32	*e*PKPdf	PKPdf	03 14 24.3	+1.4
MPU	Maple Canyon	132.26	32	*e*PKPdf	PKPdf	03 14 23.4	+0.6
SHOC	Shoshone	132.26	40	⇓PKPdf	PKPdf	03 14 22.3	-0.5
	baz=132						
SHOC	Shoshone	132.26	40	⇓PKPdf	PKPdf	03 14 22.3	-0.5
	baz=132						
G27A	Dupree	132.28	20	⇑PKPdf	PKPdf	03 14 22.2	-0.4
	baz=132						
G27A	Dupree	132.28	20	⇑PKPdf	PKPdf	03 14 22.2	-0.4
	baz=132						
GSC	Goldstone	132.29	41	*e*PKIKP	PKPdf	03 14 24.2	+1.3
GSC	Goldstone	132.29	41	*e*PKPdf	PKPdf	03 14 24.2	+1.3
GSC	Goldstone	132.29	41	⇓PKPdf	PKPdf	03 14 22.3	-0.6
	baz=132						
GSC	Goldstone	132.29	41	⇓PKPdf	PKPdf	03 14 22.3	-0.6
	baz=132						
M19A	Rock Springs	132.43	29	⇑PKPdf	PKPdf	03 14 22.5	-0.7
	baz=132						
M19A	Rock Springs	132.43	29	⇑PKPdf	PKPdf	03 14 22.5	-0.7
	baz=132						
L20A	Wamsutter	132.44	28	⇓PKPdf	PKPdf	03 14 22.5	-0.7
	baz=132						
L20A	Wamsutter	132.44	28	⇓PKPdf	PKPdf	03 14 22.5	-0.7
	baz=132						
K21A	Alcova	132.45	27	⇑PKPdf	PKPdf	03 14 22.5	-0.6
	baz=132						
K21A	Alcova	132.45	27	⇑PKPdf	PKPdf	03 14 22.5	-0.6
	baz=132						
RSSD	Black Hills	132.58	23	*e*PKIKP	PKPdf	03 14 23.9	+0.5
RSSD	Black Hills	132.58	23	*e*PKPdf	PKPdf	03 14 23.9	+0.5
RSSD				*e*SKP		03 17 48.0	
SHPR	Sheep Range	132.59	38	*e*PKPdf	PKPdf	03 14 24.3	+0.8
EYMN	Ely	132.63	10	*e*PKPdf	PKPdf	03 14 23.8	+0.7
EYMN				LR	LR		
	comp=Z,591nm,19.0s						
H26A	Fairpoint	132.64	22	⇑PKPdf	PKPdf	03 14 22.7	-0.5
	baz=132						
H26A	Fairpoint	132.64	22	⇑PKPdf	PKPdf	03 14 22.7	-0.5
	baz=132						
K22A	Casper	132.76	26	⇓PKPdf	PKPdf	03 14 22.9	-0.8
	baz=133						
K22A	Casper	132.76	26	⇓PKPdf	PKPdf	03 14 22.9	-0.8
	baz=133						
I25A	Rochford	132.78	23	⇓PKPdf	PKPdf	03 14 23.5	-0.3
	baz=133						
I25A	Rochford	132.78	23	⇓PKPdf	PKPdf	03 14 23.5	-0.3
	baz=133						
M20A	Sweetwater, Wa	132.91	28	⇓PKPdf	PKPdf	03 14 23.6	-0.5
	baz=133						
M20A	Sweetwater, Wa	132.91	28	⇓PKPdf	PKPdf	03 14 23.6	-0.5
	baz=133						
L21A	Rawlins	132.92	27	⇑PKPdf	PKPdf	03 14 23.4	-0.7
	baz=133						
L21A	Rawlins	132.92	27	⇑PKPdf	PKPdf	03 14 23.4	-0.7
	baz=133						
J24A	Dixon Ranch, L	132.99	24	⇓PKPdf	PKPdf	03 14 23.3	-0.8
	baz=133						
J24A	Dixon Ranch, L	132.99	24	⇓PKPdf	PKPdf	03 14 23.3	-0.8
	baz=133						
CCUT	Cedar City	133.00	36	*e*PKPdf	PKPdf	03 14 26.2	+1.8
TMUT	Trail Mountain	133.01	33	*e*PKPdf	PKPdf	03 14 26.4	+2.0
MSU	Marysvale	133.03	34	*e*PKIKP	PKPdf	03 14 26.6	+2.2
MSU	Marysvale	133.03	34	*e*PKPdf	PKPdf	03 14 26.6	+2.2
MSU				*e*SKPbc	SKPbc	03 17 51.4	+0.5
K23A	Bowen Ranch, D	133.06	25	⇓PKPdf	PKPdf	03 14 23.5	-0.8
	baz=133						
K23A	Bowen Ranch, D	133.06	25	⇓PKPdf	PKPdf	03 14 23.5	-0.8
	baz=133						
M21A	Separation Pea	133.21	28	⇑PKPdf	PKPdf	03 14 24.0	-0.7
	baz=133						
M21A	Separation Pea	133.21	28	⇑PKPdf	PKPdf	03 14 24.0	-0.7
	baz=133						
RWWY	Rawlins	133.21	27	*e*PKPdf	PKPdf	03 14 25.5	+0.8
J25A	Sunshine Ranch	133.29	23	⇑PKPdf	PKPdf	03 14 23.8	-0.7
	baz=133						
J25A	Sunshine Ranch	133.29	23	⇑PKPdf	PKPdf	03 14 23.8	-0.7
	baz=133						
Q16A	Castle Valley	133.30	33	*e*PKPdf	PKPdf	03 14 26.0	+1.1
Q16A	Castle Valley	133.30	33	⇑PKPdf	PKPdf	03 14 24.2	-0.6
	baz=133						
Q16A	Castle Valley	133.30	33	⇑PKPdf	PKPdf	03 14 24.2	-0.6
	baz=133						
GMRC	Granite Mounta	133.35	41	⇑PKPdf	PKPdf	03 14 24.1	-0.9
	baz=133						
GMRC	Granite Mounta	133.35	41	⇑PKPdf	PKPdf	03 14 24.1	-0.9
	baz=133						
I27A	Quinn	133.37	21	⇓PKPdf	PKPdf	03 14 24.3	-0.4
	baz=133						
I27A	Quinn	133.37	21	⇓PKPdf	PKPdf	03 14 24.3	-0.4
	baz=133						
N20A	Spence Gulch,	133.38	29	⇓PKPdf	PKPdf	03 14 24.4	-0.6
	baz=133						
N20A	Spence Gulch,	133.38	29	⇓PKPdf	PKPdf	03 14 24.4	-0.6
	baz=133						
SRU	San Rafael	133.51	32	*e*PKIKP	PKPdf	03 14 26.5	+1.2
SRU	San Rafael	133.51	32	*e*PKPdf	PKPdf	03 14 26.5	+

baz=134
SWSC Sam W. Stewart 134.36 43 ⇓PKPdf PKPdf 03 14 26.0 -0.7
baz=134
U15A North Rim 134.39 36 ⇑PKPdf PKPdf 03 14 26.3 -0.8
baz=134
U15A North Rim 134.39 36 ⇑PKPdf PKPdf 03 14 26.3 -0.8
baz=134
N23A Red Feather La 134.42 27 ⇓PKPdf PKPdf 03 14 26.4 -0.6
baz=134
N23A Red Feather La 134.42 27 ⇓PKPdf PKPdf 03 14 26.4 -0.6
baz=134
M24A Cheyenne 134.46 26 ⇑PKPdf PKPdf 03 14 26.2 -0.8
baz=134
M24A Cheyenne 134.46 26 ⇑PKPdf PKPdf 03 14 26.2 -0.8
baz=134
O22A Kremmling 134.72 28 ⇑PKPdf PKPdf 03 14 26.7 -1.0
baz=135
O22A Kremmling 134.72 28 ⇑PKPdf PKPdf 03 14 26.7 -1.0
baz=135
Y12C Blythe 134.72 41 ⇑PKPdf PKPdf 03 14 26.8 -0.6
baz=135
Y12C Blythe 134.72 41 ⇑PKPdf PKPdf 03 14 26.8 -0.6
baz=135
Q20A Ridgley Place, 134.79 31 ⇓PKPdf PKPdf 03 14 27.2 -0.5
baz=135
Q20A Ridgley Place, 134.79 31 ⇓PKPdf PKPdf 03 14 27.2 -0.5
baz=135
K28A Ten Mile Ranch 134.80 22 ⇑PKPdf PKPdf 03 14 26.8 -0.6
baz=135
K28A Ten Mile Ranch 134.80 22 ⇑PKPdf PKPdf 03 14 26.8 -0.6
baz=135
COWI Conover 134.81 8 ePKPdf PKPdf 03 14 27.6 +0.4
COWI LR LR
comp=Z,799nm,20.0s
RCBR Riachuelo 134.86 260 ePKPdf PKPdf 03 14 29.2 +1.0
RCBR LR LR
comp=Z,1µm,19.0s
PV04 Paradox Valley 134.90 32 ePKPdf PKPdf 03 14 29.5 +1.6
GLA Glamis 134.95 42 ePKIKP PKPdf 03 14 30.9 +3.0
GLA Glamis 134.95 42 ePKPdf PKPdf 03 14 30.9 +3.0
N24A Carr 134.95 26 ⇓PKPdf PKPdf 03 14 27.3 -0.6
baz=135
N24A Carr 134.95 26 ⇓PKPdf PKPdf 03 14 27.3 -0.6
baz=135
O23A Lake Granby, G 134.98 28 ⇑PKPdf PKPdf 03 14 27.4 -0.7
baz=135
O23A Lake Granby, G 134.98 28 ⇑PKPdf PKPdf 03 14 27.4 -0.7
baz=135
SPMN St. Paul 135.00 12 ePKPdf PKPdf 03 14 28.7 +1.1
PKME Peaks-Kenny Pk 135.17 349 PFAKE 03 14 40.0 +12
PKME LR LR
comp=Z,668nm,19.0s
PV01 Paradox Valley 135.26 32 ePKPdf PKPdf 03 14 31.1 +2.5
R20A Redvale 135.32 32 ⇓PKPdf PKPdf 03 14 28.0 -0.7
baz=135
R20A Redvale 135.32 32 ⇓PKPdf PKPdf 03 14 28.0 -0.7
baz=135
ECSD EROS Data Cent 135.44 17 ePKPpre PKPpre 03 14 24.3
ECSD ePKPdf PKiKP 03 14 29.4 -0.6
ECSD eSKPbc SKPbc 03 17 57.8 -0.5
ECSD LR LR
comp=Z,674nm,21.0s
ISCO Idaho Springs 135.45 28 ePKIKP PKPdf 03 14 29.4 +0.4
ISCO MLR MLR
comp=Z,882nm,21.0s
ISCO Idaho Springs 135.45 28 ePKPdf PKPdf 03 14 29.4 +0.4
ISCO LR LR
comp=Z,882nm,21.0s
WUAZ Wupatki 135.55 37 ePKPdf PKPdf 03 14 31.4 +2.2
WUAZ LR LR
comp=Z,398nm,21.0s
WUAZ Wupatki 135.55 37 ⇑PKPdf PKPdf 03 14 28.3 -0.8
baz=136
WUAZ Wupatki 135.55 37 ⇑PKPdf PKPdf 03 14 28.3 -0.8
baz=136
Q22A Crested Butte, 135.56 30 ⇓PKPdf PKPdf 03 14 28.2 -1.0
baz=136
Q22A Crested Butte, 135.56 30 ⇓PKPdf PKPdf 03 14 28.2 -1.0
baz=136
S20A Disappointment 135.60 32 ⇓PKPdf PKPdf 03 14 28.6 -0.7
baz=136
S20A Disappointment 135.60 32 ⇓PKPdf PKPdf 03 14 28.6 -0.7
baz=136
N27A Anderson Farm, 135.97 24 ⇑PKPdf PKPdf 03 14 28.9 -0.8
baz=136
N27A Anderson Farm, 135.97 24 ⇑PKPdf PKPdf 03 14 28.9 -0.8
baz=136
MVCO Mesa Verde 135.99 33 ePKPdf PKPdf 03 14 31.2 +1.2
MVCO LR LR
comp=Z,649nm,19.0s
MVCO Mesa Verde 135.99 33 ⇑PKPdf PKPdf 03 14 29.0 -1.0
baz=136
MVCO Mesa Verde 135.99 33 ⇑PKPdf PKPdf 03 14 29.0 -1.0
baz=136
S21A Coal Bank Pass 136.03 32 ⇑PKPdf PKPdf 03 14 29.1 -1.1
baz=136
S21A Coal Bank Pass 136.03 32 ⇑PKPdf PKPdf 03 14 29.1 -1.1
baz=136
Q23A Hartsel 136.05 29 ⇓PKPdf PKPdf 03 14 29.3 -0.9
baz=136
Q23A Hartsel 136.05 29 ⇓PKPdf PKPdf 03 14 29.3 -0.9
baz=136
OGNE Ogallala 136.06 24 PFAKE 03 14 40.0 +10
OGNE LR LR
comp=Z,557nm,20.0s
O26A Horse Wrangler 136.12 25 ⇑PKPdf PKPdf 03 14 29.1 -1.0
baz=136
O26A Horse Wrangler 136.12 25 ⇑PKPdf PKPdf 03 14 29.1 -1.0
baz=136
P25A Willow Gulch B 136.34 27 ⇑PKPdf PKPdf 03 14 29.9 -0.6
baz=136
P25A Willow Gulch B 136.34 27 ⇑PKPdf PKPdf 03 14 29.9 -0.6
baz=136
S22A 4UR Ranch, Cre 136.46 31 ⇑PKPdf PKPdf 03 14 30.2 -0.7
baz=136
S22A 4UR Ranch, Cre 136.46 31 ⇑PKPdf PKPdf 03 14 30.2 -0.7
baz=136
N28A Pribbeno Ranch 136.47 23 ⇓PKPdf PKPdf 03 14 30.3 -0.3
baz=136
N28A Pribbeno Ranch 136.47 23 ⇓PKPdf PKPdf 03 14 30.3 -0.3
baz=136
O27A Beecher Island 136.51 25 ⇑PKPdf PKPdf 03 14 30.7 0.0
baz=136
O27A Beecher Island 136.51 25 ⇑PKPdf PKPdf 03 14 30.7 0.0
baz=136
LONY Lake Ozonia 136.60 354 ePKPdf PKPdf 03 14 32.3 +1.7
LONY LR LR
comp=Z,687nm,19.0s
LBNH Lisbon 136.62 351 ePKIKP PKPdf 03 14 30.6 0.0
LBNH MLR MLR
comp=Z,809nm,19.0s
LBNH Lisbon 136.62 351 ePKPdf PKPdf 03 14 30.6 0.0
LBNH LR LR
comp=Z,809nm,19.0s
P26A Davis Ranch, A 136.66 26 ⇓PKPdf PKPdf 03 14 30.4 -0.7
baz=137
P26A Davis Ranch, A 136.66 26 ⇓PKPdf PKPdf 03 14 30.4 -0.7
baz=137
SADO Sadowa 136.76 359 PKP PKPdf 03 14 31.0 +0.1
SADO Sadowa 136.76 359 PKP PKPdf 03 14 31.0 +0.1
comp=Z,13nm,0.8s,baz=327,slow=1.9,SNR=7.7
Q25A Bedland, Calha 136.79 27 ⇓PKPdf PKPdf 03 14 31.5 +0.1
baz=137
Q25A Bedland, Calha 136.79 27 ⇓PKPdf PKPdf 03 14 31.5 +0.1
baz=137
W18A Petrified Fore 136.79 36 ePKPdf PKPdf 03 14 32.9 +1.4
W18A Petrified Fore 136.79 36 ⇑PKPdf PKPdf 03 14 31.6 +0.1
baz=137
W18A Petrified Fore 136.79 36 ⇑PKPdf PKPdf 03 14 31.6 +0.1
baz=137
R24A Sanders Place, 136.93 29 ⇑PKPdf PKPdf 03 14 30.9 -0.8
baz=137
R24A Sanders Place, 136.93 29 ⇑PKPdf PKPdf 03 14 30.9 -0.8
baz=137
U21A Nageezi 137.02 33 ⇓PKPdf PKPdf 03 14 31.0 -0.9
baz=137
U21A Nageezi 137.02 33 ⇓PKPdf PKPdf 03 14 31.0 -0.9
baz=137
PLCA Paso Flores 137.13 191 PKP PKPdf 03 14 30.0 -1.8
PLCA Paso Flores 137.13 191 PKP PKPdf 03 14 30.0 -1.8
comp=Z,4.9nm,0.9s,baz=131,slow=10,SNR=3.3
TRQA Tornquist 137.20 202 ePKPpre PKPpre 03 14 28.6
TRQA ePKPdf PKiKP 03 14 33.9 +0.1
TRQA LR LR
comp=Z,1µm,20.0s
NCB Newcomb 137.20 353 ePKPdf PKPdf 03 14 32.6 +0.9
NCB LR LR
comp=Z,786nm,20.0s
R25A Fountain Ranch 137.39 28 ⇑PKPdf PKPdf 03 14 32.3 -0.1
baz=137
R25A Fountain Ranch 137.39 28 ⇑PKPdf PKPdf 03 14 32.3 -0.1
baz=137
T23A Casias Ranch, 137.41 31 ⇑PKPdf PKPdf 03 14 32.4 -0.3
baz=137
T23A Casias Ranch, 137.41 31 ⇑PKPdf PKPdf 03 14 32.4 -0.3
baz=137
V21A Milan 137.49 33 ⇑PKPdf PKPdf 03 14 32.1 -0.7
baz=137
V21A Milan 137.49 33 ⇑PKPdf PKPdf 03 14 32.1 -0.7
baz=137
W20A Ramah 137.50 35 ⇓PKPdf PKPdf 03 14 32.2 -0.7
baz=137
W20A Ramah 137.50 35 ⇓PKPdf PKPdf 03 14 32.2 -0.7
baz=137
R26A Arlington 137.65 27 ⇑PKPdf PKPdf 03 14 33.1 +0.2
baz=138
R26A Arlington 137.65 27 ⇑PKPdf PKPdf 03 14 33.1 +0.2
baz=138
S25A Robets Cordova 137.71 29 ⇑PKPdf PKPdf 03 14 33.8 +0.7
baz=138
S25A Robets Cordova 137.71 29 ⇑PKPdf PKPdf 03 14 33.8 +0.7
baz=138
JFWS Jewell Farm 137.72 11 ePKIKP PKPdf 03 14 33.5 +0.8
JFWS MLR MLR
comp=Z,789nm,20.0s
JFWS Jewell Farm 137.72 11 ePKPdf PKPdf 03 14 33.5 +0.8
JFWS LR LR
comp=Z,789nm,20.0s
U23A El Rito 137.87 31 ⇓PKPdf PKPdf 03 14 33.0 -0.5
baz=138
U23A El Rito 137.87 31 ⇓PKPdf PKPdf 03 14 33.0 -0.5
baz=138
R27A Eads 137.96 26 ⇑PKPdf PKPdf 03 14 33.9 +0.5
baz=138
R27A Eads 137.96 26 ⇑PKPdf PKPdf 03 14 33.9 +0.5
baz=138
TUC Tucson 138.06 40 ePKIKP PKPdf 03 14 35.1 +1.3
TUC MLR MLR
comp=Z,392nm,20.0s
TUC Tucson 138.06 40 ePKPdf PKPdf 03 14 35.1 +1.3
TUC LR LR
comp=Z,392nm,20.0s
T25A Trinidad 138.13 29 ⇓PKPdf PKPdf 03 14 33.0 -0.9
baz=138
T25A Trinidad 138.13 29 ⇓PKPdf PKPdf 03 14 33.0 -0.9
baz=138
S26A Kim 138.19 28 ⇓PKPdf PKPdf 03 14 33.4 -0.5
baz=138
S26A Kim 138.19 28 ⇓PKPdf PKPdf 03 14 33.4 -0.5
baz=138
V23A Ortiz Mt. (NFS 138.32 32 ⇑PKPdf PKPdf 03 14 34.0 -0.3
baz=138
V23A Ortiz Mt. (NFS 138.32 32 ⇑PKPdf PKPdf 03 14 34.0 -0.3
baz=138
R28A Tribune 138.34 25 ⇑PKPdf PKPdf 03 14 33.4 -0.7
baz=138
R28A Tribune 138.34 25 ⇑PKPdf PKPdf 03 14 33.4 -0.7
baz=138
Y20A Horse Springs, 138.44 36 ⇑PKPdf PKPdf 03 14 33.8 -0.9
baz=138
Y20A Horse Springs, 138.44 36 ⇑PKPdf PKPdf 03 14 33.8 -0.9
baz=138
T26A Comanche Natio 138.50 28 ⇓PKPdf PKPdf 03 14 34.1 -0.5
baz=138
T26A Comanche Natio 138.50 28 ⇓PKPdf PKPdf 03 14 34.1 -0.5
baz=138
QUA2 Belchertown 138.60 351 ePKPdf PKPdf 03 14 34.5 +0.1
U25A Circle Dot Ran 138.72 30 ⇑PKPdf PKPdf 03 14 35.1 0.0
baz=139
U25A Circle Dot Ran 138.72 30 ⇑PKPdf PKPdf 03 14 35.1 0.0
baz=139
ANMO Albuquerque 138.77 33 PKPpre PKPpre 03 14 27.8
ANMO ePKPpre PKPpre 03 14 28.2
ANMO ePKPdf PKPdf 03 14 35.9 +0.8
ANMO SKPbc SKPbc 03 18 04.0 -4.7
ANMO LR LR
comp=Z,621nm,19.0s
ANMO Albuquerque 138.77 33 PKhKP PKPpre 03 14 27.8
comp=Z,3.0nm,1.0s,baz=343,slow=4.5,SNR=7.5
ANMO SKPbc SKPbc 03 18 04.0 -4.7
comp=Z,2.3nm,1.0s,baz=319,slow=6.1,SNR=3.0
LAZ Ladron 138.80 34 ePKPdf PKPdf 03 14 36.6 +1.4
V24A Rampart Ranch, 138.81 31 ⇓PKPdf PKPdf 03 14 34.9 -0.4
baz=139
V24A Rampart Ranch, 138.81 31 ⇓PKPdf PKPdf 03 14 34.9 -0.4
baz=139
Z20A Nine Sixteen R 138.87 37 ⇓PKPdf PKPdf 03 14 35.1 -0.3
baz=139
Z20A Nine Sixteen R 138.87 37 ⇓PKPdf PKPdf 03 14 35.1 -0.3
baz=139
T27A Campo 139.00 27 ⇑PKPdf PKPdf 03 14 34.9 -0.5
baz=139
T27A Campo 139.00 27 ⇑PKPdf PKPdf 03 14 34.9 -0.5
baz=139
R30A Dighton 139.03 24 ⇓PKPdf PKPdf 03 14 34.4 -1.0
baz=139
R30A Dighton 139.03 24 ⇓PKPdf PKPdf 03 14 34.4 -1.0
baz=139
U26A Atchley Ranch, 139.05 29 ⇓PKPdf PKPdf 03 14 34.7 -0.9
baz=139
U26A Atchley Ranch, 139.05 29 ⇓PKPdf PKPdf 03 14 34.7 -0.9
baz=139
V25A Rancho No Teng 139.06 30 ⇑PKPdf PKPdf 03 14 35.1 -0.6
baz=139
V25A Rancho No Teng 139.06 30 ⇑PKPdf PKPdf 03 14 35.1 -0.6
baz=139
LENM Lemitar 139.06 34 eP PKPdf 03 14 37.2 +1.5
W24A Lazy 6 Ranch, 139.13 32 ⇑PKPdf PKPdf 03 14 35.4 -0.4
baz=139
W24A Lazy 6 Ranch, 139.13 32 ⇑PKPdf PKPdf 03 14 35.4 -0.4
baz=139
BINY Binghamton 139.14 355 ePKPdf PKPdf 03 14 36.6 +1.2
BINY LR LR
comp=Z,707nm,20.0s
AAM Ann Arbor 139.14 4 PFAKE 03 14 50.0 +15
AAM LR LR
comp=Z,648nm,21.0s
LPM Los Pinos Moun 139.15 34 ePKPdf PKPdf 03 14 36.9 +1.1
X23A Hourglass Bar 139.19 33 ⇓PKPdf PKPdf 03 14 34.8 -1.2
baz=139
X23A Hourglass Bar 139.19 33 ⇓PKPdf PKPdf 03 14 34.8 -1.2
baz=139
T28A Walsh 139.22 27 ⇓PKPdf PKPdf 03 14 35.3 -0.5
baz=139
T28A Walsh 139.22 27 ⇓PKPdf PKPdf 03 14 35.3 -0.5
baz=139
120A U Bar Ranch, L 139.24 38 ⇑PKPdf PKPdf 03 14 35.7 -0.3
baz=139
120A U Bar Ranch, L 139.24 38 ⇑PKPdf PKPdf 03 14 35.7 -0.3
baz=139
BNM Barren Site 139.27 34 ePKPpre PKPpre 03 14 29.8
BNM ePKPdf PKPdf 03 14 37.2 +1.1
R31A Burdett 139.32 23 ⇓PKPdf PKPdf 03 14 35.8 -0.1
baz=139
R31A Burdett 139.32 23 ⇓PKPdf PKPdf 03 14 35.8 -0.1
baz=139
V26A Tequesquite Ra 139.50 30 ⇑PKPdf PKPdf 03 14 36.2 -0.2
baz=139
V26A Tequesquite Ra 139.50 30 ⇑PKPdf PKPdf 03 14 36.2 -0.2
baz=139
KSU1 Kansas State U 139.67 19 ePKPpre PKPpre 03 14 31.4
KSU1 ePKPdf PKPdf 03 14 37.3 +0.9
KSU1 LR LR
comp=Z,893nm,20.0s
Z22A Elephant Butte 139.73 35 ⇑PKPdf PKPdf 03 14 36.5 -0.4
baz=140
Z22A Elephant Butte 139.73 35 ⇑PKPdf PKPdf 03 14 36.5 -0.4
baz=140
220A Playas Peak, P 139.75 38 ⇓PKPdf PKPdf 03 14 36.6 -0.4
baz=140
220A Playas Peak, P 139.75 38 ⇓PKPdf PKPdf 03 14 36.6 -0.4
baz=140
320A Kipp Ranch, An 140.13 39 ⇓PKPdf PKPdf 03 14 36.2 -1.5
baz=140
320A Kipp Ranch, An 140.13 39 ⇓PKPdf PKPdf 03 14 36.2 -1.5
baz=140
HDIL Hopedale 140.18 10 ePKPdf PKPdf 03 14 38.2 +0.9
HDIL LR LR
comp=Z,759nm,21.0s
W27A Bowe Ranch, En 140.44 30 ⇑PKPdf PKPdf 03 14 37.6 -0.5
baz=140
W27A Bowe Ranch, En 140.44 30 ⇑PKPdf PKPdf 03 14 37.6 -0.5
baz=140
X26A CR and CF Fran 140.47 31 ⇑PKPdf PKPdf 03 14 37.5 -0.6
baz=140
X26A CR and CF Fran 140.47 31 ⇑PKPdf PKPdf 03 14 37.5 -0.6
baz=140
222A Williams Famil 140.47 37 ⇓PKPdf PKPdf 03 14 38.3 0.0
baz=140
222A Williams Famil 140.47 37 ⇓PKPdf PKPdf 03 14 38.3 0.0
baz=140
Y25A Mesa, Roswell 140.50 32 ⇓PKPdf PKPdf 03 14 37.6 -0.7
baz=140
Y25A Mesa, Roswell 140.50 32 ⇓PKPdf PKPdf 03 14 37.6 -0.7
baz=140
SFIN Scholer Farm 140.71 8 eP PKPdf 03 14 39.2 +1.0
SSPA Standing Stone 140.83 357 ePKPpre PKPpre 03 14 32.0
SSPA ePKPdf PKPdf 03 14 39.3 +0.9
Z25A Roswell 140.97 33 ⇓PKPdf PKPdf 03 14 37.3 -1.8
baz=141
Z25A Roswell 140.97 33 ⇓PKPdf PKPdf 03 14 37.3 -1.8
baz=141
124A Stringfield Ra 141.00 34 ⇓PKPdf PKPdf 03 14 37.7 -1.6
baz=141
124A Stringfield Ra 141.00 34 ⇓PKPdf PKPdf 03 14 37.7 -1.6
baz=141
X28A Dimmitt 141.31 29 ⇑PKPdf PKPdf 03 14 38.1 -1.5
baz=141
X28A Dimmitt 141.31 29 ⇑PKPdf PKPdf 03 14 38.1 -1.5
baz=141
V31A Spring Creek L 141.35 25 ⇓PKPdf PKPdf 03 14 37.9 -1.7
baz=141
V31A Spring Creek L 141.35 25 ⇓PKPdf PKPdf 03 14 37.9 -1.7
baz=141
Z26A Caprock 141.38 32 ⇑PKPdf PKPdf 03 14 38.2 -1.6
baz=141
Z26A Caprock 141.38 32 ⇑PKPdf PKPdf 03 14 38.2 -1.6
baz=141
MSTX Muleshoe 141.46 30 ePKPdf PKPdf 03 14 41.4 +1.5
MSTX Muleshoe 141.46 30 ⇑PKPdf PKPdf 03 14 38.8 -1.1
baz=141
MSTX Muleshoe 141.46 30 ⇑PKPdf PKPdf 03 14 38.8 -1.1
baz=141
125A Gardner Draw, 141.47 34 ⇑PKPdf PKPdf 03 14 37.6 -2.4
baz=141
125A Gardner Draw, 141.47 34 ⇑PKPdf PKPdf 03 14 37.6 -2.4
baz=141
X29A Tulia 141.60 29 ⇑PKPdf PKPdf 03 14 38.4 -1.8
baz=142
X29A Tulia 141.60 29 ⇑PKPdf PKPdf 03 14 38.4 -1.8
baz=142
Z27A Tatum 141.75 31 ⇓PKPdf PKPdf 03 14 38.1 -2.4
baz=142
Z27A Tatum 141.75 31 ⇓PKPdf PKPdf 03 14 38.1 -2.4
baz=142
Y28A McKinney Farm, 141.77 30 ⇑PKPdf PKPdf 03 14 39.0 -1.5
baz=142
Y28A McKinney Farm, 141.77 30 ⇑PKPdf PKPdf 03 14 39.0 -1.5
baz=142
MNTX Cornudas Mount 141.78 35 ePKPpre PKPpre 03 14 37.2
MNTX ePKPdf PKPdf 03 14 41.6 +1.1
MNTX LR LR
comp=Z,477nm,21.0s
225A Deer Hill, Car 141.79 34 ⇓PKPdf PKPdf 03 14 39.4 -1.3
baz=142
225A Deer Hill, Car 141.79 34 ⇓PKPdf PKPdf 03 14 39.4 -1.3
baz=142
W31A Holland Ranch, 141.80 26 ⇑PKPdf PKPdf 03 14 37.9 -2.6
baz=142
W31A Holland Ranch, 141.80 26 ⇑PKPdf PKPdf 03 14 37.9 -2.6
baz=142
126A Clayton Basin, 141.83 33 ⇓PKPdf PKPdf 03 14 38.9 -1.8
baz=142
126A Clayton Basin, 141.83 33 ⇓PKPdf PKPdf 03 14 38.9 -1.8
baz=142
324A Moseley Ranch, 141.91 36 ⇓PKPdf PKPdf 03 14 39.3 -1.6
baz=142
324A Moseley Ranch, 141.91 36 ⇓PKPdf PKPdf 03 14 39.3 -1.6
baz=142
X30A Coker Ranch, T 142.00 28 ⇓PKPdf PKPdf 03 14 39.7 -1.1
baz=142
X30A Coker Ranch, T 142.00 28 ⇓PKPdf PKPdf 03 14 39.7 -1.1
baz=142
Y29A Porterfield Fa 142.09 29 ⇓PKPdf PKPdf 03 14 39.4 -1.7
baz=142
Y29A Porterfield Fa 142.09 29 ⇓PKPdf PKPdf 03 14 39.4 -1.7
baz=142
127A Arkansas Junct 142.17 32 ⇑PKPdf PKPdf 03 14 40.0 -1.2
baz=142
127A Arkansas Junct 142.17 32 ⇑PKPdf PKPdf 03 14 40.0 -1.2
baz=142
226B Tecolote Peak, 142.19 34 ⇓PKPdf PKPdf 03 14 39.6 -1.7
baz=142
226B Tecolote Peak, 142.19 34 ⇓PKPdf PKPdf 03 14 39.6 -1.7
baz=142
Z28A Tucker Farm, M 142.19 31 ⇓PKPdf PKPdf 03 14 39.8 -1.5
baz=142
Z28A Tucker Farm, M 142.19 31 ⇓PKPdf PKPdf 03 14 39.8 -1.5
baz=142
X31A McDonald Ranch 142.25 27 ⇑PKPdf PKPdf 03 14 39.0 -2.3
baz=142
X31A McDonald Ranch 142.25 27 ⇑PKPdf PKPdf 03 14 39.0 -2.3
baz=142
325A Bean Ranch, Si 142.25 35 ⇓PKPdf PKPdf 03 14 39.9 -1.6
baz=142
325A Bean Ranch, Si 142.25 35 ⇓PKPdf PKPdf 03 14 39.9 -1.6
baz=142
Y30A Stafford Cattl 142.45 28 ⇑PKPdf PKPdf 03 14 40.2 -1.4
baz=142
Y30A Stafford Cattl 142.45 28 ⇑PKPdf PKPdf 03 14 40.2 -1.4
baz=142
Z29A Hungry Hill Ra 142.56 30 ⇑PKPdf PKPdf 03 14 40.5 -1.4
baz=142
Z29A Hungry Hill Ra 142.56 30 ⇑PKPdf PKPdf 03 14 40.5 -1.4
baz=142
128A Castleberry Fa 142.67 31 ⇓PKPdf PKPdf 03 14 40.4 -1.7
baz=143
128A Castleberry Fa 142.67 31 ⇓PKPdf PKPdf 03 14 40.4 -1.7
baz=143
425A Indio Mountain 142.68 36 ⇓PKPdf PKPdf 03 14 40.6 -1.7
baz=143
425A Indio Mountain 142.68 36 ⇓PKPdf PKPdf 03 14 40.6 -1.7
baz=143
Y31A Rekieta Farm, 142.68 28 ⇑PKPdf PKPdf 03 14 39.8 -2.2
baz=143
Y31A Rekieta Farm, 142.68 28 ⇑PKPdf PKPdf 03 14 39.8 -2.2
baz=143
WMOK Wichita Mounta 142.68 25 ePKHKP PKPpre 03 14 36.8
WMOK e 03 14 42.6
WMOK e 03 17 51.0
WMOK MLR MLR
comp=Z,788nm,19.0s
WMOK Wichita Mounta 142.68 25 ePKPpre PKPpre 03 14 36.8
WMOK ePKPdf PKPdf 03 14 42.5 +0.6
WMOK ePP PP 03 17 51.0 +2.0
WMOK LR LR
comp=Z,788nm,19.0s
TUL1 Tulsa 142.82 21 ePKPpre PKPpre 03 14 37.6
TUL1 ePKPdf PKPdf 03 14 42.9 +0.8
TUL1 Tulsa 142.82 21 ⇑PKPdf PKPdf 03 14 41.2 -1.0
baz=143
TUL1 Tulsa 142.82 21 ⇑PKPdf PKPdf 03 14 41.2 -1.0
baz=143
Z30A Sanderson Ranc 142.82 29 ⇓PKPdf PKPdf 03 14 40.2 -2.2
baz=143
Z30A Sanderson Ranc 142.82 29 ⇓PKPdf PKPdf 03 14 40.2 -2.2
baz=143
326A Caldwell Ranch 142.86 34 ⇑PKPdf PKPdf 03 14 40.8 -1.7
baz=143
326A Caldwell Ranch 142.86 34 ⇑PKPdf PKPdf 03 14 40.8 -1.7
baz=143
WCI Wyandotte Cave 142.93 8 ePKIKP PKPdf 03 14 39.8 -2.5
WCI Wyandotte Cave 142.93 8 ePKPdf PKPdf 03 14 39.8 -2.5
SIUC Southern Illin 142.95 11 ePKPdf PKPdf 03 14 44.3 +2.0
129A Stewart Farms, 142.98 31 ⇑PKPdf PKPdf 03 14 41.2 -1.4
baz=143
129A Stewart Farms, 142.98 31 ⇑PKPdf PKPdf 03 14 41.2 -1.4
baz=143
228A UT Block 9, Go 143.01 32 ⇑PKPdf PKPbc 03 14 40.9 +1.4
baz=143
228A UT Block 9, Go 143.01 32 ⇑PKPdf PKPbc 03 14 40.9 +1.4
baz=143
Y32A R-V Farms, Ver 143.02 27 ⇑PKPdf PKPdf 03 14 41.3 -1.3
baz=143
Y32A R-V Farms, Ver 143.02 27 ⇑PKPdf PKPdf 03 14 41.3 -1.3
baz=143
CBN Corbin 143.22 356 PFAKE 03 14 50.0 +7.2
CBN LR LR
comp=Z,818nm,19.0s
Z31A Sharp Cattle R 143.27 28 ⇓PKPdf PKPbc 03 14 41.2 +1.2
baz=143

Z31A	Sharp Cattle R	143.27	28	⇓PKPdf	PKPbc	03 14 41.2	+1.2
	baz=143						
426A	McDonald Obser	143.32	35	⇑PKPdf	PKPbc	03 14 41.5	+1.0
	baz=143						
426A	McDonald Obser	143.32	35	⇑PKPdf	PKPbc	03 14 41.5	+1.0
	baz=143						
328A	Wristen Ranch,	143.46	33	⇓PKPdf	PKPbc	03 14 41.6	+0.9
	baz=143						
328A	Wristen Ranch,	143.46	33	⇓PKPdf	PKPbc	03 14 41.6	+0.9
	baz=143						
130A	Snyder	143.46	30	⇑PKPdf	PKPbc	03 14 41.9	+1.3
	baz=143						
130A	Snyder	143.46	30	⇑PKPdf	PKPbc	03 14 41.9	+1.3
	baz=143						
229A	Bryant Ranch,	143.53	31	⇓PKPdf	PKPbc	03 14 42.1	+1.2
	baz=144						
229A	Bryant Ranch,	143.53	31	⇓PKPdf	PKPbc	03 14 42.1	+1.2
	baz=144						
427A	Hayter Ranch,	143.54	34	⇓PKPdf	PKPbc	03 14 42.1	+1.1
	baz=144						
427A	Hayter Ranch,	143.54	34	⇓PKPdf	PKPbc	03 14 42.1	+1.1
	baz=144						
Z32A	Haskell	143.59	27	⇓PKPdf	PKPbc	03 14 41.8	+0.9
	baz=144						
Z32A	Haskell	143.59	27	⇓PKPdf	PKPbc	03 14 41.8	+0.9
	baz=144						
131A	Roby	143.68	29	⇓PKPdf	PKPbc	03 14 41.8	+0.5
	baz=144						
131A	Roby	143.68	29	⇓PKPdf	PKPbc	03 14 41.8	+0.5
	baz=144						
BDFB	Brasilia	143.69	241	PKP	PKPbc	03 14 42.0	+0.2
BDFB	Brasilia	143.69	241	PKP	PKPbc	03 14 42.0	+0.2
	comp=Z,17nm,0.9s,baz=115,slow=3.3,SNR=14						
526A	Mary Lane Ranc	143.73	36	⇑PKPdf	PKPbc	03 14 42.1	+0.5
	baz=144						
526A	Mary Lane Ranc	143.73	36	⇑PKPdf	PKPbc	03 14 42.1	+0.5
	baz=144						
JSRW	J. Sargeant Re	143.76	356	*e*PKPdf	PKPbc	03 14 42.0	+0.7
329A	Wagon Wheel Ra	143.82	32	⇑PKPdf	PKPbc	03 14 42.0	+0.2
	baz=144						
329A	Wagon Wheel Ra	143.82	32	⇑PKPdf	PKPbc	03 14 42.0	+0.2
	baz=144						
PARMO	Parma	143.85	13	*e*PKPdf	PKPdf	03 14 44.3	+0.3
527A	Woodward Ranch	143.95	35	⇓PKPdf	PKPbc	03 14 42.8	+0.6
	baz=144						
527A	Woodward Ranch	143.95	35	⇓PKPdf	PKPbc	03 14 42.8	+0.6
	baz=144						
230A	Sterling City	143.96	31	⇓PKPdf	PKPbc	03 14 42.3	+0.1
	baz=144						
230A	Sterling City	143.96	31	⇓PKPdf	PKPbc	03 14 42.3	+0.1
	baz=144						
428A	Kincaid Ranch,	144.03	34	⇑PKPdf	PKPbc	03 14 43.2	+0.8
	baz=144						
428A	Kincaid Ranch,	144.03	34	⇑PKPdf	PKPbc	03 14 43.2	+0.8
	baz=144						
626A	Big Bend Ranch	144.08	36	⇑PKPdf	PKPbc	03 14 42.9	+0.3
	baz=144						
626A	Big Bend Ranch	144.08	36	⇑PKPdf	PKPbc	03 14 42.9	+0.3
	baz=144						
ABTX	Abilene, Hawle	144.08	28	*e*PKPdf	PKPbc	03 14 43.3	+0.9
ABTX	Abilene, Hawle	144.08	28	⇓PKPdf	PKPbc	03 14 43.0	+0.6
	baz=144						
ABTX	Abilene, Hawle	144.08	28	⇓PKPdf	PKPbc	03 14 43.0	+0.6
	baz=144						
330A	Mertzon	144.31	31	⇑PKPdf	PKPab	03 14 43.0	+0.1
	baz=144						
330A	Mertzon	144.31	31	⇑PKPdf	PKPab	03 14 43.0	+0.1
	baz=144						
231A	Bronte	144.32	30	⇓PKPdf	PKPab	03 14 42.8	-0.1
	baz=144						
231A	Bronte	144.32	30	⇓PKPdf	PKPab	03 14 42.8	-0.1
	baz=144						
BLA	Blacksburg	144.32	360	*e*PKIKP	PKPbc	03 14 43.8	+0.7
BLA				MLR	MLR		
	comp=Z,1μm,20.0s						
BLA	Blacksburg	144.32	360	*e*PKPdf	PKPbc	03 14 43.8	+0.7
BLA				LR	LR		
	comp=Z,1μm,20.0s						
GLAT	Glass	144.33	12	*e*PKPdf	PKPab	03 14 41.5	-1.2
528A	Cox Ranch, San	144.40	34	⇑PKPdf	PKPbc	03 14 44.0	+0.3
	baz=144						
528A	Cox Ranch, San	144.40	34	⇑PKPdf	PKPbc	03 14 44.0	+0.3
	baz=144						
GNAR	Gosnell	144.46	13	*e*PKPdf	PKPdf	03 14 44.3	-0.7
CPUP	Villa Florida	144.51	218	PKP	PKPbc	03 14 44.1	+0.2
CPUP	Villa Florida	144.51	218	PKP	PKPbc	03 14 44.1	+0.2
	comp=Z,148nm,0.9s,baz=107,slow=2.7,SNR=120						
TXAR	Lajitas Array	144.51	36	PKP	PKPbc	03 14 44.7	+0.7
TXAR	Lajitas Array	144.51	36	PKP	PKPbc	03 14 44.7	+0.7
	comp=Z,36nm,0.7s,baz=282,slow=2.0,SNR=234						
429A	Davenport Ranc	144.54	33	⇑PKPdf	PKPbc	03 14 44.0	0.0
	baz=144						
429A	Davenport Ranc	144.54	33	⇑PKPdf	PKPbc	03 14 44.0	0.0
	baz=144						
627A	Terlingua Ranc	144.59	36	⇑PKPdf	PKPbc	03 14 44.9	+0.6
	baz=144						
627A	Terlingua Ranc	144.59	36	⇑PKPdf	PKPbc	03 14 44.9	+0.6
	baz=144						
232A	Coleman	144.68	29	⇑PKPdf	PKPbc	03 14 44.4	0.0
	baz=145						
232A	Coleman	144.68	29	⇑PKPdf	PKPbc	03 14 44.4	0.0
	baz=145						
HBAR	Harrisburg	144.70	14	*e*PKPdf	PKPdf	03 14 45.2	-0.3
WVT	Waverly	144.75	10	*e*PKIKP	PKPab	03 14 43.8	-0.5
WVT	Waverly	144.75	10	*e*PKPdf	PKPab	03 14 43.8	-0.5
529A	Stev Forest Ra	144.75	34	⇑PKPdf	PKPbc	03 14 44.8	+0.1
	baz=145						
529A	Stev Forest Ra	144.75	34	⇑PKPdf	PKPbc	03 14 44.8	+0.1
	baz=145						
430A	Baggett Ranch,	144.77	32	⇑PKPdf	PKPbc	03 14 44.7	0.0
	baz=145						
430A	Baggett Ranch,	144.77	32	⇑PKPdf	PKPbc	03 14 44.7	0.0
	baz=145						
331A	San Angelo	144.77	30	⇑PKPdf	PKPab	03 14 44.5	-0.1
	baz=145						
331A	San Angelo	144.77	30	⇑PKPdf	PKPab	03 14 44.5	-0.1
	baz=145						
MIAR	Mount Ida	144.81	19	*e*PKIKP	PKPab	03 14 44.5	-0.1
MIAR				MLR	MLR		
	comp=Z,822nm,19.0s						
MIAR	Mount Ida	144.81	19	*e*PKPdf	PKPab	03 14 44.5	-0.1
MIAR				LR	LR		
	comp=Z,822nm,19.0s						
628A	Black Gap, Mar	144.85	35	⇑PKPdf	PKPbc	03 14 45.4	+0.4
	baz=145						
628A	Black Gap, Mar	144.85	35	⇑PKPdf	PKPbc	03 14 45.4	+0.4
	baz=145						
TZTN	Tazewell	144.88	4	*e*PKPdf	PKPab	03 14 44.6	-0.1
UALR	University of	144.98	17	*e*PKPdf	PKPab	03 14 45.0	-0.1
332A	Millersview	145.05	29	⇓PKPdf	PKPab	03 14 45.8	+0.2
	baz=145						
332A	Millersview	145.05	29	⇓PKPdf	PKPab	03 14 45.8	+0.2
	baz=145						
431A	Sonora	145.18	31	⇑PKPdf	PKPab	03 14 46.1	0.0
	baz=145						
431A	Sonora	145.18	31	⇑PKPdf	PKPab	03 14 46.1	0.0
	baz=145						
530A	J-C Ranch, Com	145.21	33	⇓PKPdf	PKPdf	03 14 46.9	+0.4
	baz=145						
530A	J-C Ranch, Com	145.21	33	⇓PKPdf	PKPdf	03 14 46.9	+0.4
	baz=145						
432A	Menard	145.44	30	⇑PKPdf	PKPbc	03 14 46.8	0.0
	baz=145						
432A	Menard	145.44	30	⇑PKPdf	PKPbc	03 14 46.8	0.0
	baz=145						
WHTX	Lake Whitney	145.60	26	*e*PKPbc	PKPdf	03 14 47.1	0.0
WHTX	Lake Whitney	145.60	26	⇑PKPdf	PKPdf	03 14 47.1	0.0
	baz=146						
WHTX	Lake Whitney	145.60	26	⇑PKPdf	PKPdf	03 14 47.1	0.0
	baz=146						
531A	Rocksprings	145.62	32	⇓PKPdf	PKPab	03 14 47.8	+0.1
	baz=146						
531A	Rocksprings	145.62	32	⇓PKPdf	PKPab	03 14 47.8	+0.1
	baz=146						
BBSR	BB Station	145.73	336	*e*PKPbc	PKPab	03 14 48.0	0.0
BBSR				LR	LR		
	comp=Z,623nm,19.0s						
TKL	Tuckaleechee C	145.74	5	*e*PKPbc	PKPdf	03 14 46.9	-0.4
TKL	Tuckaleechee C	145.74	5	PKPbc	PKPdf	03 14 47.1	-0.1
	comp=Z,72nm,0.7s,baz=116,slow=3.0,SNR=117						
JCT	Junction City	145.75	30	*e*PKP2	PKPab	03 14 48.1	-0.1
JCT				MLR	MLR		
	comp=Z,551nm,20.0s						
JCT	Junction City	145.75	30	*e*PKPdf	PKPab	03 14 48.1	-0.1
JCT				LR	LR		
	comp=Z,551nm,20.0s						
JCT	Junction City	145.75	30	⇓PKPdf	PKPbc	03 14 47.8	-0.1
	baz=146						
JCT	Junction City	145.75	30	⇓PKPdf	PKPbc	03 14 47.8	-0.1
	baz=146						
CPCT	Cooper Cave	145.88	6	*e*PKPbc	PKPdf	03 14 47.5	0.0
532A	Rocksprings	145.98	31	⇑PKPdf	PKPbc	03 14 48.4	-0.2
	baz=146						
532A	Rocksprings	145.98	31	⇑PKPdf	PKPbc	03 14 48.4	-0.2
	baz=146						
OXF	Oxford	145.99	13	*e*PKP2	PKPbc	03 14 48.1	-0.3
OXF				MLR	MLR		
	comp=Z,555nm,20.0s						
OXF	Oxford	145.99	13	*e*PKPbc	PKPbc	03 14 48.1	-0.3
OXF				LR	LR		
	comp=Z,555nm,20.0s						
631A	Perdido Creek	146.20	33	⇓PKPdf	PKPbc	03 14 49.1	-0.2
	baz=146						
631A	Perdido Creek	146.20	33	⇓PKPdf	PKPbc	03 14 49.1	-0.2
	baz=146						
CNNC	Cliffs of the	146.20	356	*e*PKPdf	PKPbc	03 14 49.2	+0.2
CNNC				LR	LR		
	comp=Z,486nm,20.0s						
KMSC	Kings Mountain	146.38	1	*e*PKPdf	PKPdf	03 14 49.0	+0.6
KMSC	Kings Mountain	146.38	1	⇑PKPdf	PKPbc	03 14 49.1	-0.5
	baz=146						
KMSC	Kings Mountain	146.38	1	⇑PKPdf	PKPbc	03 14 49.1	-0.5
	baz=146						
CMCH	Combarbala	146.40	195	*e*P	PKPbc	03 14 49.6	-0.3
632A	Uvalde	146.54	31	⇑PKPdf	PKPbc	03 14 49.8	-0.4
	baz=146						
632A	Uvalde	146.54	31	⇑PKPdf	PKPbc	03 14 49.8	-0.4
	baz=146						
732A	Laxson Ranch,	147.06	33	⇑PKiKP	PKPbc	03 14 51.8	+0.1
	baz=147						
732A	Laxson Ranch,	147.06	33	⇑PKiKP	PKPbc	03 14 51.8	+0.1
	baz=147						
TLL	Tololo Astrono	147.30	196	⇑*i*P	PKPab	03 14 55.0	+0.5
VBMS	Vicksburg	147.90	16	*e*PKPbc	PKPab	03 14 55.2	-1.1
VBMS				LR	LR		
	comp=Z,973nm,21.0s						
LRAL	Lakeview Retre	147.91	10	*e*PKPdf	PKPdf	03 14 52.1	+1.2
LRAL				*e*PKPbc	PKPbc	03 14 54.1	+0.2
LRAL				LR	LR		
	comp=Z,806nm,20.0s						
HKT	Hockley	148.06	26	*e*PKP2	PKPbc	03 14 55.2	+0.9
HKT	Hockley	148.06	26	*e*PKPbc	PKPbc	03 14 55.2	+0.9
LCO	Las Campanas	148.37	197	*e*PKPdf	PKPdf	03 14 53.6	+1.4
LCO				*e*PKPbc	PKiKP	03 14 56.5	-0.7
LCO				LR	LR		
	comp=Z,674nm,19.0s						
LCO	Las Campanas	148.37	197	*e*P	PKPdf	03 14 50.2	-2.0
KVTX	Kingsville	149.10	31	*e*PKPbc	PKPbc	03 14 57.9	+0.8
KVTX				LR	LR		
	comp=Z,887nm,21.0s						
BRAL	Brewton	149.87	11	PFAKE		03 15 10.0	+5.7
BRAL				LR	LR		
	comp=Z,831nm,19.0s						
TIGA	Tifton	149.94	5	*e*PKPbc	PKPbc	03 14 59.7	+0.6
TIGA	Tifton	149.94	5	⇑PKiKP	PKPbc	03 14 58.2	-0.9
	baz=150						
TIGA	Tifton	149.94	5	⇑PKiKP	PKPbc	03 14 58.2	-0.9
	baz=150						
LVC	Limon Verde	153.61	205	*e*PKPdf	PKPdf	03 15 02.3	+1.9
LVC				LR	LR		
	comp=Z,908nm,20.0s						
ANWB	Willy Bob	155.46	312	PFAKE		03 15 10.0	+7.3
ANWB				LR	LR		
	comp=Z,488nm,20.0s						
FDF	Fort de France	156.69	306	PFAKE		03 15 20.0	-14
FDF				LR	LR		
	comp=Z,622nm,21.0s						
GRTK	Grand Turk	157.97	336	PFAKE		03 15 20.0	+14
GRTK				LR	LR		
	comp=Z,811nm,20.0s						
GRGR	Grenville	158.43	301	PFAKE		03 15 20.0	+13
GRGR				LR	LR		
	comp=Z,477nm,22.0s						
LPAZ	La Paz	158.61	214	*e*PKPdf	PKPdf	03 15 07.6	+0.1
LPAZ				PKP	PKPdf	03 15 07.8	+0.3
LPAZ				PKPab	PKPab	03 15 42.6	+0.1
LPAZ				*e*PKPab	PKPab	03 15 42.8	+0.3
LPAZ	La Paz	158.61	214	PKP	PKPdf	03 15 07.8	+0.3
	comp=Z,10nm,0.9s,baz=56,slow=4.5,SNR=33						
LPAZ				PKPab	PKPab	03 15 42.6	+0.1
	comp=Z,8.8nm,0.9s,baz=79,slow=7.7,SNR=6.3						
TEIG	Tepich	159.78	21	PFAKE		03 15 20.0	+12
TEIG				LR	LR		
	comp=Z,577nm,20.0s						
SAML	Samuel	159.90	239	*e*PKPdf	PKPdf	03 15 08.9	+0.6
SAML				*e*PKPab	PKPab	03 15 47.0	-0.6
SAML				LR	LR		
	comp=Z,1μm,19.0s						
SDDR	Presa de Saban	160.28	333	PFAKE		03 15 20.0	+11
SDDR				LR	LR		
	comp=Z,720nm,21.0s						
GTBY	Guantanamo Bay	160.80	344	PFAKE		03 15 20.0	+11
GTBY				LR	LR		
	comp=Z,780nm,20.0s						
PAYG	Puerto Ayora	170.04	102	PFAKE		03 15 30.0	+13
PAYG				LR	LR		
	comp=Z,733nm,19.0s						
JTS	JuntasAbangare	170.10	26	PFAKE		03 15 30.0	+13
JTS				LR	LR		
	comp=Z,1μm,22.0s						
BCIP	Isla Barro Col	172.21	355	*e*PKPdf	PKPdf	03 15 18.4	+0.3
BCIP				LR	LR		
	comp=Z,616nm,21.0s						
ROSC	El Rosal	172.90	299	*e*PKPdf	PKPdf	03 15 18.8	-0.1
ROSC				*e*PKPab	PKPab	03 16 45.8	+0.4
ROSC				PKPab	PKPab	03 16 46.0	+0.6
ROSC	El Rosal	172.90	299	PKP	PKPdf	03 15 18.9	-0.1
	comp=Z,16nm,0.9s,baz=108,slow=4.9,SNR=12						
ROSC				PKPab	PKPab	03 16 46.0	+0.6
	comp=Z,6.5nm,0.7s,baz=286,slow=7.4,SNR=2.9						

CSEM ***19*** *02:57:19.6±0.2, 34°.07N×5°.74W, h5km, MD3.5, Error ellipse: s-maj=6.4km s-min=4.5km az=96.0*
INMG ***19*** *02:57:21.1±1.2, 34°.25N×5°.44W, h0km, ML2.2, Error ellipse: s-maj=10.5km s-min=7.2km az=76.0*
CNRM ***19*** *02:57:21.4, 34°.13N×5°.38W, h30km, MD3.5*
MDD ***19*** *02:57:22.6±0.2, 34°.08N×5°.72W, h0km, mb3.7/7, Error ellipse: s-maj=2.7km s-min=1.7km az=89.0, PRXIMO*

ISC 19 02:57:17.8±1.3, 34°.07N±0°.03×5°.62W±0°.04, h7km±10km, n88, σ1°.79/142, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	Taghat	0.47	90	P	Pg	02 57 26.0	-0.8
TGT				S	Sg	02 57 32.0	-0.9
TGT	Taghat	0.47	90	*i* P	Pg	02 57 26.0	-0.8
TGT				*i* S	Sg	02 57 32.0	-0.9
RSA	Sarsar	0.83	348	P	Pb	02 57 35.0	+0.5
RSA				S	Sn	02 57 47.0	-1.4
RSA	Sarsar	0.83	348	*i* P	Pb	02 57 35.0	+0.5
RSA				*i* S	Sn	02 57 47.0	-1.4
TZK	Tazeka	1.19	89	P	Pn	02 57 39.0	-2.1
TZK				S	Sb	02 57 53.0	-3.5
TZK	Tazeka	1.19	89	*i* P	Pn	02 57 39.0	-2.1
TZK				*i* S	Sb	02 57 53.0	-3.5
KIB	El Ksiba	1.53	193	P	Pn	02 57 47.0	+1.4
KIB				S	Sn	02 58 08.0	+2.2
KIB	El Ksiba	1.53	193	*i* P	Pn	02 57 47.0	+1.4
KIB				*i* S	Sn	02 58 08.0	+2.2
ECEU	Ceuta	1.84	6	P	Pg	02 57 55.1	+2.1
	7.6nm,0.4s,SNR=11						
ECEU	Ceuta	1.84	6	P	Pg	02 57 55.1	+2.1
	7.6nm,0.4s,SNR=11						
TZC	Tazercounte	2.05	201	P	Pn	02 57 54.0	+1.1
TZC				S	Sn	02 58 19.0	+0.2
TZC	Tazercounte	2.05	201	*i* P	Pn	02 57 54.0	+1.1
TZC				*i* S	Sn	02 58 19.0	+0.2
EJIF	Jimena Fronter	2.38	3	P	Pb	02 58 01.2	+0.2
	0.7nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	2.38	3	P	Pb	02 58 01.2	+0.2
	0.7nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.58	15	P	Pn	02 58 02.5	+2.4
	1.0nm,0.2s,SNR=7.2						
EMIJ				S	Sb	02 58 34.9	-1.6
	3.8nm,0.4s						
EMIJ	Mijas	2.58	15	P	Pn	02 58 02.5	+2.4
	1.0nm,0.2s,SNR=7.2						
EMIJ				S	Sb	02 58 34.9	-1.6
	3.8nm,0.4s						
EGUA	Guajares	3.23	31	P	Pn	02 58 11.8	+2.9
	3.6nm,0.2s,SNR=7.9						
EGUA				S	Sn	02 58 50.2	+2.6
	2.4nm,0.2s,SNR=7.9						
EGUA	Guajares	3.23	31	P	Pn	02 58 11.8	+2.9
	3.6nm,0.2s,SNR=7.9						
EGUA				S	Sn	02 58 50.2	+2.6
	2.4nm,0.2s,SNR=7.9						
EBER	Berja	3.59	37	P	Pn	02 58 16.6	+2.5
	0.7nm,0.2s,SNR=6.3						
EBER				S	Sn	02 58 58.1	+1.2
	24nm,1.2s						
EBER	Berja	3.59	37	P	Pn	02 58 16.6	+2.5
	0.7nm,0.2s,SNR=6.3						
EBER				S	Sn	02 58 58.1	+1.2
	24nm,1.2s						
ECOG	Cogollos-Vega	3.61	27	P	Pn	02 58 18.5	+4.2
	1.2nm,0.3s,SNR=7.9						
ECOG	Cogollos-Vega	3.61	27	P	Pn	02 58 18.5	+4.2
	1.2nm,0.3s,SNR=7.9						
PBDV	Barranco-do-Ve	3.69	330	*e*Pn	Pn	02 58 15.9	+0.7
PBDV				*e*Sn	Sn	02 58 59.3	+0.3
PBDV				A	A	02 59 01.8	
	2.9nm,0.9s						
PBDV	Barranco-do-Ve	3.69	330	P	Pn	02 58 15.9	+0.7
PBDV				S	Sn	02 58 59.3	+0.3
	2.9nm,0.9s						
PBDV	Barranco-do-Ve	3.69	330	P	Pn	02 58 15.9	+0.7
PBDV				S	Sn	02 58 59.3	+0.3
	2.9nm,0.9s						
PVAQ	Vaqueiros	3.74	333	*e*Pn	Pn	02 58 17.1	+1.1
PVAQ				*e*Sn	Sn	02 58 57.3	-3.0
PVAQ				A	A	02 59 04.3	
	4.1nm,0.5s						
PVAQ	Vaqueiros	3.74	333	P	Pn	02 58 17.1	+1.1
PVAQ				S	Sn	02 58 57.3	-3.0
	4.1nm,0.5s						
PVAQ	Vaqueiros	3.74	333	P	Pn	02 58 17.1	+1.1
PVAQ				S	Sn	02 58 57.3	-3.0
	4.1nm,0.5s						
EGRO	El Granado	3.78	337	P	Pn	02 58 17.0	+0.6
	2.7nm,0.4s,SNR=11						
EGRO				S	Sn	02 58 59.8	-1.3
	3.3nm,0.3s						
EGRO	El Granado	3.78	337	P	Pn	02 58 17.0	+0.6
	2.7nm,0.4s,SNR=11						
EGRO				S	Sn	02 58 59.8	-1.3
	3.3nm,0.3s						
EMIN	Mina Concepcio	3.79	347	P	Pn	02 58 18.3	+1.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 58 60.0	-1.5
	0.7nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.79	347	P	Pn	02 58 18.3	+1.7
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	02 59 00.0	-1.5
	0.7nm,0.3s,SNR=7.9						
ECAB	El Cabril	4.00	2	P	Pn	02 58 21.1	+1.5
	1.0nm,0.2s,SNR=10						
ECAB				S	Sn	02 59 06.0	-0.8
	3.1nm,0.3s,SNR=5.8						
ECAB	El Cabril	4.00	2	P	Pn	02 58 21.0	+1.5
	1.0nm,0.2s,SNR=10						
ECAB				S	Sn	02 59 06.0	-0.8
	3.1nm,0.3s,SNR=5.8						
PFVI	Vila Bisbo	4.02	320	*e*Pn	Pn	02 58 22.7	+2.9
PFVI				*e*Sn	Sn	02 59 08.0	+0.8
PFVI				A	A	02 59 20.3	
	6.2nm,0.7s						
PFVI	Vila Bisbo	4.02	320	P	Pn	02 58 21.0	+1.2
	0.8nm,0.2s,SNR=7.9						
PFVI				S	Sn	02 59 05.4	-1.8
	1.0nm,0.2s,SNR=7.9						
PFVI	Vila Bisbo	4.02	320	P	Pn	02 58 21.0	+1.2
	0.8nm,0.2s,SNR=7.9						
PFVI	Vila Bisbo	4.02	320	*e*Pn	Pn	02 58 22.7	+2.9
PFVI				S	Sn	02 59 05.4	-1.8
	1.0nm,0.2s,SNR=7.9						
PFVI				*e*Sn	Sn	02 59 08.0	+0.8
	6.2nm,0.7s						
PCVE	Castro Verde	4.07	332	*e*Pn	Pn	02 58 22.4	+2.0
PCVE				*e*Sn	Sn	02 59 08.3	+0.1
PCVE				A	A	02 59 15.1	
	2.9nm,0.7s						
PCVE	Castro Verde	4.07	332	P	Pn	02 58 22.4	+2.0
PCVE				S	Sn	02 59 08.3	+0.1
	2.9nm,0.7s						
PCVE	Castro Verde	4.07	332	P	Pn	02 58 22.4	+2.0
PCVE				S	Sn	02 59 08.3	+0.1
	2.9nm,0.7s						
MORF	Marmelete	4.07	323	*e*Pn	Pn	02 58 23.1	+2.6
MORF	Marmelete	4.07	323	P	Pn	02 58 23.1	+2.6
MORF	Marmelete	4.07	323	P	Pn	02 58 23.1	+2.6
EADA	Adamuz	4.18	11	P	Pn	02 58 23.6	+1.6
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	02 59 09.5	-1.6
	1.0nm,0.1s,SNR=7.9						
EADA	Adamuz	4.18	11	P	Pn	02 58 23.6	+1.6
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	02 59 09.5	-1.6
	1.0nm,0.1s,SNR=7.9						
PBAR	Barrancos	4.26	345	*e*Pn	Pn	02 58 24.9	+1.9
PBAR				*e*Sn	Sn	02 59 11.2	-1.8
PBAR				A	A	02 59 19.2	
	2.2nm,0.3s						
PBAR	Barrancos	4.26	345	P	Pn	02 58 24.9	+1.9
PBAR				S	Sn	02 59 11.2	-1.8
	2.2nm,0.3s						
PBAR	Barrancos	4.26	345	P	Pn	02 58 24.9	+1.9
PBAR				S	Sn	02 59 11.2	-1.8
	2.2nm,0.3s						
EQES	Quesada	4.26	28	P	Pn	02 58 26.3	+3.1
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	02 59 14.8	+1.6
	0.3nm,0.2s,SNR=7.9						
EQES	Quesada	4.26	28	P	Pn	02 58 26.3	+3.1
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	02 59 14.8	+1.

1.7nm,0.5s
PESTR Estremoz 5.05 342 P **Pn 02 58 36.4 +2.5**
PESTR S **Sn 02 59 31.2 -1.3**
1.7nm,0.5s
PESTR Estremoz 5.05 342 P **Pn 02 58 36.4 +2.5**
PESTR S **Sn 02 59 31.2 -1.3**
1.7nm,0.5s
PMTG Montargil 5.42 338 *e*Pn **Pn 02 58 40.5 +1.6**
PMTG *e*Sn **Sn 02 59 41.2 -0.3**
PMTG Montargil 5.42 338 *e*Pn **Pn 02 58 40.5 +1.6**
PMTG *e*Sn **Sn 02 59 41.2 -0.3**
PMRV Marv??o 5.54 346 *e*Pn **Pn 02 58 43.0 +2.4**
PMRV *e*Sn **Sn 02 59 43.9 -0.7**
PMRV A A 02 59 49.5
1.8nm,0.7s
PMRV Marv??o 5.54 346 P **Pn 02 58 43.0 +2.4**
PMRV S **Sn 02 59 43.9 -0.7**
1.8nm,0.7s
PMRV Marv??o 5.54 346 P **Pn 02 58 43.0 +2.4**
PMRV S **Sn 02 59 43.9 -0.7**
1.8nm,0.7s
ETOB Tobarra 5.62 35 P **Pn 02 58 44.7 +2.8**
0.3nm,0.2s,SNR=7.9
ETOB Tobarra 5.62 35 P **Pn 02 58 44.7 +2.8**
0.3nm,0.2s,SNR=7.9
PCBR Castelo Branco 5.95 346 *e*Pn **Pn 02 58 48.1 +1.8**
PCBR *e*Sn **Sn 02 59 52.4 -2.3**
PCBR A A 03 00 02.9
1.5nm,0.6s
PCBR Castelo Branco 5.95 346 P **Pn 02 58 48.1 +1.8**
PCBR S **Sn 02 59 52.4 -2.3**
0.8nm,0.6s
PCBR Castelo Branco 5.95 346 P **Pn 02 58 48.1 +1.8**
PCBR S **Sn 02 59 52.4 -2.3**
0.8nm,0.6s
MVO Moncorvo 7.17 351 *e*Pn **Pn 02 59 04.3 +1.2**
MVO Moncorvo 7.17 351 P **Pn 02 59 04.0 +0.8**
0.4nm,0.2s,SNR=7.9
MVO S **Sn 03 00 20.6 -4.3**
0.3nm,0.2s,SNR=7.9
MVO Moncorvo 7.17 351 P **Pn 02 59 04.0 +0.8**
0.4nm,0.2s,SNR=7.9
MVO Moncorvo 7.17 351 *e*Pn **Pn 02 59 04.3 +1.2**
ECAL Calabor 7.91 354 P **Pn 02 59 14.3 +1.0**
0.2nm,0.1s,SNR=7.9
ECAL Calabor 7.91 354 P **Pn 02 59 14.3 +1.0**
0.2nm,0.1s,SNR=7.9
EARI Arriondas 9.23 2 P Pn 02 59 26.3 -4.9
4.8nm,1.1s,SNR=6.5

GUC 19 03:03:27.0±0.7, 21°22'S×68°38'W, h120km±4km, ML3.5, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.59**	**287**	↑*i*P	Pn	03 03 45.9	+0.3
PB01				*i* S	Sn	03 04 00.3	+0.7
PB01				AML	AML	03 04 01.3	
	comp=E,2μm,0.5s						
PB09	**Plate Boundary**	**0.66**	**210**	*e*P	Pn	03 03 47.0	+0.7
PB09				*i* S	Sn	03 04 01.3	+0.5
PB09				AML	AML	03 04 03.8	
	comp=E,4μm,0.6s						
PB07	**Plate Boundary**	**1.06**	**242**	↑*i*P	Pn	03 03 50.7	+0.9
PB07				*i* S	Sn	03 04 08.0	+0.9
PB07				AML	AML	03 04 09.4	
	comp=E,1μm,0.3s						
PB04	**Plate Boundary**	**1.18**	**208**	↑*i*P	Pn	03 03 56.6	+5.8
PB04				*i* S	Sn	03 04 19.2	+10
PB04				AML	AML	03 04 23.1	
	comp=E,483nm,0.3s						
HMBC	**Humberstone**	**1.33**	**315**	↑*i*P	Pn	03 03 53.2	+0.5
HMBC				*i* S	Sn	03 04 13.0	+0.9
HMBC				AML	AML	03 04 13.9	
	comp=E,572nm,0.3s						
MNMC	**Minimini**	**2.19**	**342**	*e*P	Pn	03 04 03.7	+0.5
MNMC				*e*S	Sn	03 04 32.3	+1.5
MNMC				AML	AML	03 04 34.6	
	comp=N,419nm,0.2s						
CEN1	**Los Morros**	**2.48**	**209**	AML	AML	03 04 46.0	
	comp=N,84nm,1.0s						
ANCH	**Antofagasta**	**2.83**	**210**	↑*i*P	Pn	03 04 11.8	+0.8
ANCH				AML	AML	03 04 44.9	
	comp=E,235nm,0.1s						

*CSEM **19** 03:04:28.0, 37°79'N×29°11'E, h2km, MD2.7, After DDA*
DDA 19 03:04:28.0, 37°79'N×29°11'E, h2km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.11**	**209**	*i* P	Pg	03 04 30.9	+0.5
DNZL				*i* S	Sg	03 04 32.6	+0.6
DNZL	**Cakiroluk**	**0.11**	**209**	*i* P	Pg	03 04 30.9	+0.5
DNZL				*i* S	Sg	03 04 32.6	+0.6
GOLH	**Golhisar**	**0.65**	**147**	*i* P	Pg	03 04 40.6	-0.1
GOLH				*i* S	Sb	03 04 51.3	-0.7
GOLH	**Golhisar**	**0.65**	**147**	*i* P	Pg	03 04 40.6	-0.1
GOLH				*i* S	Sb	03 04 51.3	-0.7
KHAL	**Karahalli**	**0.66**	**27**	*i* P	Pg	03 04 41.0	+0.1
KHAL				*i* S	Sb	03 04 52.7	+0.5
KHAL	**Karahalli**	**0.66**	**27**	*i* P	Pg	03 04 41.0	+0.2
KHAL				*i* S	Sb	03 04 52.7	+0.5
AYDN	**Tasoluk**	**0.99**	**263**	*i* P	Pg	03 04 47.3	+0.2
AYDN				*i* S	Sg	03 04 59.7	-0.3
AYDN	**Tasoluk**	**0.99**	**263**	*i* P	Pg	03 04 47.3	+0.3
AYDN				*i* S	Sg	03 04 59.7	-0.2

IDC 19 03:12:21.7±9.0, 0°85'S×100°25'E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.6/3, Error ellipse: s-maj=429.2km s-min=28.4km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.37**	**122**	P	P	03 19 44.8	-0.1
	0.7nm,1.1s,baz=298,slow=9.1,SNR=3.0						
MKAR	**Makanchi Array**	**50.00**	**344**	P	P	03 21 17.6	-0.2
	0.2nm,0.4s,baz=151,slow=7.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**56.09**	**349**	P	P	03 22 02.6	0.0
	0.4nm,0.3s,baz=158,slow=4.7,SNR=2.4						

*JMA **19** 03:25:10.5±0.4, 23°44'N×123°55'E, h47km±5km, M3.2*
*IDC **19** 03:25:13.5±1.0, 23°82'N×122°44'E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=38.6km s-min=19.9km az=68.0*
*ISCJB **19** 03:25:16.5±0.8, 24°06'N±0°10'×123°39'E±0°07, h47km±7km, mb3.6/7, Error ellipse: s-maj=16.1km s-min=9.8km az=171.8*
ISC 19 03:25:18.2±1.2, 24°0'N±0°1'×123°58'E±0°05, h56km±7km, n17, σ2°42/19, mb3.6/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.21**	**75**	P	Pn	03 25 23.5	-3.7
HATJ				S	**Sn**	**03 25 33.4**	**-0.3**
IRIF	**Iriomote-Funau**	**0.36**	**22**	P	**Pn**	**03 25 27.2**	**-1.2**
IRIF				*e*S	**Sn**	**03 25 39.6**	**+3.9**
JKRS	**Kuro-shima**	**0.46**	**59**	P	**Pn**	**03 25 27.4**	**-1.9**
JKRS				*e*S	**Sn**	**03 25 37.6**	**+0.2**
JIJ	**Ishigaki jima**	**0.63**	**55**	P	**Pn**	**03 25 29.2**	**-2.1**
JIJ				S	**Sn**	**03 25 42.6**	**+1.8**
YOJ	**Yonaguni jima**	**0.69**	**311**	P	**Pn**	**03 25 30.2**	**-1.9**
YOJ				S	**Sn**	**03 25 45.1**	**+2.8**
JTJ	**Tarama**	**1.20**	**58**	P	**Pn**	**03 25 36.7**	**-2.1**
JTJ				*e*S	**Sn**	**03 25 57.8**	**+3.6**
JMJ	**Miyako jima 2**	**1.76**	**62**	*e*S	**Sn**	**03 26 10.1**	**+2.5**
JOGS	**Gusukube**	**1.83**	**65**	*e*S	**Sn**	**03 26 11.5**	**+2.2**
JKE	**Kume jima 2**	**3.71**	**51**	P	**Pn**	**03 26 10.1**	**-3.0**
MJAR	**Matsushiro Arr**	**17.74**	**42**	P	P	03 29 32.9	+11
	0.2nm,0.3s,baz=232,slow=6.9,SNR=5.3						
SONM	**Songino Array**	**27.43**	**334**	P	**P**	**03 30 58.3**	**-0.6**
	0.8nm,0.8s,baz=147,slow=8.8,SNR=6.4						
MKAR	**Makanchi Array**	**40.00**	**315**	P	**P**	**03 32 46.3**	**-1.2**
	0.3nm,0.4s,baz=98,slow=10,SNR=6.8						
ZALV	**Zalesovo Beam**	**41.60**	**326**	P	**P**	**03 32 59.0**	**-1.6**
	0.5nm,0.4s,baz=121,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**44.92**	**166**	P	**P**	**03 33 30.1**	**+2.4**
	1.0nm,0.8s,baz=348,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**48.43**	**167**	P	P	03 33 59.0	+3.8
	0.4nm,0.6s,baz=351,slow=12,SNR=4.7						
ILAR	**Eielson Array**	**68.37**	**27**	P	P	03 36 20.8	+7.2
	0.4nm,0.8s,baz=258,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**72.70**	**330**	P	**P**	**03 36 40.4**	**+0.4**
	5.8nm,1.1s,baz=82,slow=10,SNR=2.7						

IDC 19 03:26:26.3±0.8, 31°08'S×58°98'E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/26, mbtmp4.0/9, Error ellipse: s-maj=29.8km s-min=22.3km az=18.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**39.09**	**278**	P	P	03 33 55.7	+0.2
	3.6nm,0.9s,baz=106,slow=9.4,SNR=4.3						
QSPA	**South Pole Qui**	**59.09**	**180**	P	P	03 36 28.4	+0.2
	3.0nm,0.9s,baz=258,slow=3.5,SNR=8.6						
CMAR	**Chiang Mai Arr**	**62.44**	**43**	P	P	03 36 52.3	+0.9
	2.4nm,0.9s,baz=231,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**65.81**	**104**	P	P	03 37 13.6	-0.2
	0.4nm,0.5s,baz=239,slow=6.4,SNR=6.1						
WRA	**Warramunga Arr**	**67.78**	**101**	P	P	03 37 25.9	-0.4
	1.2nm,0.9s,baz=241,slow=5.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**70.39**	**300**	P	P	03 37 41.9	-0.6
	1.0nm,0.8s,baz=138,slow=4.7,SNR=5.4						
GERES	**GERESS Array B**	**89.24**	**332**	P	P	03 39 22.3	-1.6
	0.3nm,0.6s,baz=157,slow=4.4,SNR=4.1						
SONM	**Songino Array**	**89.33**	**30**	P	P	03 39 23.8	-0.6
	0.2nm,0.4s,baz=193,slow=5.9,SNR=2.6						
ESDC	**Sonseca Array**	**91.46**	**317**	P	P	03 39 35.9	+1.5
	0.3nm,0.6s,baz=116,slow=2.9,SNR=5.8						
YKA	**Yellowknife Ar**	**148.30**	**354**	PKPbc	PKPbc	03 46 13.2	-0.5
	1.1nm,0.7s,baz=358,slow=2.8,SNR=5.0						

IDC 19 03:26:28.4±1.0, 1°43'S×99°44'E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, ML4.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/48, Error ellipse: s-maj=49.0km s-min=17.0km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.24**	**353**	Pn	Pn	03 27 34.7	+0.3
	0.7nm,0.3s,baz=164,slow=15,SNR=3.7						
PSI				LR	LR	03 29 06.2	
	comp=Z,649nm,18.8s,baz=315,slow=38						
CMAR	**Chiang Mai Arr**	**19.77**	**359**	P	Pn	03 31 01.1	-0.6
	1.1nm,0.3s,baz=185,slow=9.5,SNR=6.4						
WRA	**Warramunga Arr**	**38.76**	**121**	P	P	03 33 54.7	-0.3
	0.6nm,0.6s,baz=303,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**40.04**	**126**	P	P	03 34 05.9	+0.3
	0.3nm,0.3s,baz=307,slow=8.0,SNR=3.9						
SONM	**Songino Array**	**49.44**	**6**	P	P	03 35 19.5	-0.8
	0.3nm,0.4s,baz=184,slow=5.8,SNR=3.2						
MKAR	**Makanchi Array**	**50.34**	**345**	P	P	03 35 27.0	-0.1
	1.5nm,0.6s,baz=159,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**56.51**	**350**	P	P	03 36 11.6	-0.7
	1.9nm,0.6s,baz=188,slow=5.9,SNR=5.7						
BVAR	**Borovoye Array**	**59.46**	**340**	P	P	03 36 33.1	+0.1
	0.4nm,0.5s,baz=134,slow=8.3,SNR=2.4						
FINES	**FINESS Array B**	**83.35**	**332**	P	P	03 38 57.4	+0.2
	2.0nm,0.9s,baz=81,slow=8.6,SNR=2.2						
QSPA	**South Pole Qui**	**88.53**	**180**	P	P	03 39 23.6	+0.7
	0.3nm,0.5s,baz=263,slow=1.2,SNR=6.2						
CPUP	**Villa Florida**	**144.43**	**217**	PKP	PKPab	03 46 05.0	-0.7
	0.9nm,0.6s,baz=117,slow=9.0,SNR=4.1						
TXAR	**Lajitas Array**	**144.59**	**36**	PKP	PKPdf	03 46 07.3	-0.6
	0.4nm,0.7s,baz=305,slow=4.4,SNR=6.0						

IDC 19 03:35:14.9±0.9, 10°66'N×147°81'E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/24, mbtmp3.8/8, Error ellipse: s-maj=35.7km s-min=21.2km az=95.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.18**	**204**	P	P	03 41 53.6	+0.1
	0.9nm,0.7s,baz=26,slow=9.5,SNR=6.8						
ASAR	**Alice Springs**	**36.73**	**202**	P	P	03 42 23.5	-0.6
	0.3nm,0.5s,baz=30,slow=6.8,SNR=4.6						
ASAR				PcP	PcP	03 44 46.6	-0.2
	0.6nm,0.5s,baz=37,slow=2.4,SNR=10						
SONM	**Songino Array**	**50.76**	**325**	P	P	03 44 17.6	+0.6
	0.5nm,0.6s,baz=140,slow=7.2,SNR=4.0						
MKAR	**Makanchi Array**	**65.58**	**317**	P	P	03 46 00.6	0.0
	0.9nm,0.6s,baz=96,slow=8.4,SNR=10						
ZALV	**Zalesovo Beam**	**65.66**	**325**	P	P	03 46 00.8	-0.1
	0.8nm,0.5s,baz=132,slow=6.2,SNR=3.7						
ILAR	**Eielson Array**	**70.00**	**24**	P	P	03 46 27.9	-0.3
	0.1nm,0.5s,baz=254,slow=5.7,SNR=2.9						
BVAR	**Borovoye Array**	**73.99**	**322**	P	P	03 46 51.8	-0.5
	1.5nm,0.5s,baz=93,slow=10,SNR=8.2						
NVAR	**Mina Array Bea**	**86.48**	**52**	P	P	03 48 00.4	+0.1
	0.5nm,0.6s,baz=273,slow=6.7,SNR=6.1						
LPAZ	**La Paz**	**144.64**	**103**	PKP	PKPdf	03 54 55.1	-0.3
	1.5nm,0.5s,baz=285,slow=3.8,SNR=11						
DBIC	**Dimbokro**	**147.79**	**301**	PKPbc	PKPbc	03 55 02.6	-0.2
	2.3nm,0.4s,baz=25,slow=3.5,SNR=8.8						

IDC 19 03:42:10.6±10.0, 11°87'S×166°81'E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=330.3km s-min=55.1km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.19**	**251**	P	P	03 48 40.0	-0.7
	0.8nm,0.9s,baz=84,slow=9.0,SNR=3.6						
ASAR	**Alice Springs**	**33.37**	**245**	P	P	03 48 51.6	+0.6
	0.7nm,0.7s,baz=72,slow=9.9,SNR=8.0						
MKAR	**Makanchi Array**	**94.83**	**317**	P	P	03 55 34.4	-0.2
	0.4nm,0.5s,baz=102,slow=5.4,SNR=5.4						

*IDC **19** 03:48:18.9±1.2, 1°42'S×99°57'E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.8/24, mbtmp3.9/10, ML3.0/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/44, Error ellipse: s-maj=47.5km s-min=16.9km az=60.0*
*ISCJB **19** 03:48:21.8±0.9, 1°32'S±0°10×99°5'E±0°1, h30km, mb4.0/8, MS3.9/3, Error ellipse: s-maj=19.0km s-min=10.2km az=142.8*
*DJA **19** 03:48:33.0±0.9, 1°S±8°×10°1'E±1°4, h11km±12km, M4.1/3, MLv4.1/3*
ISC 19 03:48:24.1±0.9, 1°28'S±0°09×99°6'E±0°1, h30km, n18, σ0°92/16, mb4.1/8, MS3.9/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.93**	**67**	P	**Pb**	**03 48 42.1**	**+0.4**
PDSI				S	Sn	03 48 43.1	-10
PPI	**Padang Panjang**	**1.14**	**44**	P	**Pb**	**03 48 46.0**	**+0.9**
RGRI	**Rengat**	**2.88**	**71**	P	**Pn**	**03 49 07.0**	**-0.9**
MASI	**Maura Aman, Be**	**3.22**	**125**	P	**Pn**	**03 49 13.9**	**+1.2**
PSI	**Prapat**	**4.11**	**350**	**Pn**	**Pn**	**03 49 24.6**	**-0.3**
	0.9nm,0.3s,baz=169,slow=19,SNR=2.5						
CMAR	**Chiang Mai Arr**	**19.62**	**358**	P	**P**	**03 52 51.4**	**+1.1**
	0.3nm,0.3s,baz=185,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**38.70**	**121**	P	**P**	**03 55 44.0**	**-1.7**
	0.9nm,0.6s,baz=304,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**40.00**	**126**	P	**P**	**03 55 55.4**	**-1.1**
	0.7nm,0.6s,baz=301,slow=7.9,SNR=8.9						
ASAR				LR	LR	04 11 57.0	
	comp=Z,195nm,21.9s,baz=346,slow=36						
JNU	**Nakatsue**	**45.17**	**38**	LR	LR	04 14 59.7	
	comp=Z,132nm,19.0s,baz=232,slow=35						
SONM	**Songino Array**	**49.27**	**6**	P	**P**	**03 57 11.1**	**+0.9**
	0.6nm,0.5s,baz=189,slow=8.2,SNR=6.8						
STKA	**Stephens Creek**	**49.92**	**132**	P	**P**	**03 57 15.3**	**0.0**
	1.5nm,0.7s,baz=293,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**50.23**	**345**	P	**P**	**03 57 17.7**	**+0.3**
	1.3nm,0.4s,baz=160,slow=8.3,SNR=19						
USRK	**Ussuriysk Array**	**53.72**	**29**	P	**P**	**03 57 43.1**	**-0.2**
	1.2nm,0.6s,baz=248,slow=5.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**56.39**	**350**	P	**P**	**03 58 02.1**	**-0.4**
	1.1nm,0.3s,baz=179,slow=6.8,SNR=5.6						
ASAJ	**Asahikawa**	**59.24**	**35**	LR	LR	04 27 04.3	
	comp=Z,104nm,18.2s,baz=352,slow=39						
KEST	**Kesra**	**90.95**	**306**	P	**P**	**04 01 25.9**	**+0.2**
	1.3nm,0.9s,baz=343,slow=6.0,SNR=4.8						
TXAR	**Lajitas Array**	**144.36**	**36**	PKP	**PKPdf**	**04 07 58.2**	**0.0**
	0.7nm,0.7s,baz=262,slow=2.5,SNR=8.8						
CPUP	**Villa Florida**	**144.66**	**217**	PKP	**PKPab**	**04 07 56.2**	**-1.0**
	3.5nm,0.7s,baz=113,slow=4.1,SNR=12						

*IDC **19** 03:56:22.1±0.9, 0°41'S×132°52'E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/22, mbtmp4.0/10, ML4.2/2, MS3.9/5, Ms1 3.9/5, ms1mx3.2/36, Error ellipse: s-maj=53.9km s-min=12.3km az=79.0*
*ISCJB **19** 03:56:25.6±0.5, 0°43S±0°04×132°56E±0°07, h33km, mb4.0/12, MS4.1/3, Error ellipse: s-maj=10.0km s-min=5.4km az=169.0*
*NEIC **19** 03:56:27.8±0.5, 0°37S×132°57E, h35km, mb4.1/4, Error ellipse: s-maj=20.9km s-min=7.7km az=74.0*
*AUST **19** 03:56:39.6, 1°49S×131°00E, h10km*
ISC 19 03:56:27.8±0.8, 0°53S±0°06×132°47E±0°09, h33km, n43, σ1°93/44, mb4.0/12, MS4.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.26**	**255**	P	**Pn**	**03 56 47.7**	**-1.4**
	baz=0.7,SNR=106						
SWI				S	**Sb**	**03 57 06.2**	**-0.7**
	baz=0.7,SNR=8.9						
TLE	**Tual**	**5.08**	**177**	P	Pn	03 57 47.2	+5.6
	baz=4.5,SNR=9.8						
TLE				S	**Sb**	**03 58 51.7**	**-4.9**
	baz=4.5,SNR=6.0						
PALU	**Palau**	**8.07**	**14**	P	Pb	03 59 00.2	+13
	baz=9.5,SNR=5.8						
KDU	**Kakadu**	**12.08**	**180**	P	**Pn**	**03 59 19.3**	**+1.6**
	baz=11,SNR=20						
KDU				S	**Sn**	**04 01 32.1**	**+0.8**
	baz=11,SNR=5.8						
MTN	**Manton Dam**	**12.30**	**186**	P	**Pn**	**03 59 22.4**	**+1.6**
	baz=11,SNR=69						
MTN				S	**Sn**	**04 01 40.4**	**+3.5**
	baz=11,SNR=6.0						
BATI	**Baumata**	**13.00**	**222**	LR	LR	04 04 59.5	
	comp=Z,292nm,19.0s,baz=140,slow=39						
KNRA	**Kununurra**	**15.49**	**193**	P	**Pn**	**04 00 03.1**	**-0.8**
	baz=14,SNR=19						
KNRA				S	**Sn**	**04 02 50.8**	**-3.7**
	baz=14,SNR=3.4						
KKM	**Kota Kinabalu**	**17.50**	**292**	*e*Pn	**P**	**04 00 30.3**	**-0.1**
KKM	**Kota Kinabalu**	**17.50**	**292**	P	**P**	**04 00 31.3**	**+0.8**
	baz=17,SNR=3.6						
FITZ	**Fitzroy Crossi**	**18.71**	**201**	P	**P**	**04 00 42.9**	**-0.7**
FITZ				S	Sn	04 04 03.4	-9.2
FITZ	**Fitzroy Crossi**	**18.71**	**201**	P	**P**	**04 00 42.9**	**-0.7**
	0.3nm,0.3s,baz=40,slow=13,SNR=7.5						
FITZ				S	Sn	04 04 03.4	-9.2
	0.2nm,0.3s,baz=172,slow=14,SNR=2.5						
FITZ				LR	LR	04 07 23.7	
	comp=Z,158nm,21.8s,baz=53,slow=35						
FITZ	**Fitzroy Crossi**	**18.71**	**201**	P	**P**	**04 00 43.1**	**-0.6**
	baz=17,SNR=11						
WRAB	**Tennant Creek**	**19.37**	**175**	*e*P	**Pn**	**04 00 53.1**	**+0.9**
	12nm,0.9s						
WRAB				*e*S	**S**	**04 04 25.0**	**-3.3**
WRA	**Warramunga Arr**	**19.38**	**175**	P	**Pn**	**04 00 52.6**	**+0.3**
WRA				S	**S**	**04 04 26.2**	**-2.3**
WRA	**Warramunga Arr**	**19.38**	**175**	P	**Pn**	**04 00 52.6**	**+0.3**
	1.1nm,0.3s,baz=354,slow=11,SNR=30						
WRA				S	**S**	**04 04 26.2**	**-2.3**
	0.4nm,0.3s,baz=358,slow=22,SNR=5.3						
AS31	**Alice Springs**	**23.04**	**177**	*e*P	**P**	**04 01 33.0**	**+2.6**
ASAR	**Alice Springs**	**23.04**	**177**	P	**P**	**04 01 32.2**	**+1.8**
ASAR				S	**S**	**04 05 42.8**	**+3.7**
ASAR	**Alice Springs**	**23.04**	**177**	P	**P**	**04 01 32.2**	**+1.8**
	9.5nm,0.8s,baz=351,slow=9.5,SNR=42						
ASAR				S	**S**	**04 05 42.8**	**+3.7**
	0.6nm,0.8s,baz=337,slow=11,SNR=2.6						
MBWA	**Marble Bar**	**23.98**	**210**	*e*P	**P**	**04 01 40.9**	**+1.4**
	4.8nm,0.7s						
XMIS	**Christmas Isla**	**28.43**	**249**	S	S	04 07 18.5	+13
	baz=27,SNR=3.6						
STKA	**Stephens Creek**	**32.35**	**165**	P	**P**	**04 02 54.2**	**0.0**
STKA	**Stephens Creek**	**32.35**	**165**	P	**P**	**04 02 54.2**	**0.0**
	3.0nm,0.8s,baz=330,slow=8.1,SNR=3.4						
BLDU	**Ballidu**	**33.45**	**205**	P	**P**	**04 03 06.1**	**+2.1**
	baz=32,SNR=5.7						
MJAR	**Matsushiro Arr**	**37.27**	**8**	LR	LR	04 17 29.9	
	comp=Z,147nm,18.1s,baz=180,slow=34						
SONM	**Songino Array**	**53.25**	**338**	P	P	04 05 46.5	+3.1
SONM	**Songino Array**	**53.25**	**338**	P	P	04 05 46.5	+3.1
	0.4nm,0.6s,baz=148,slow=11,SNR=3.8						
RPZ	**Rata Peaks**	**55.03**	**147**	LR	LR	04 29 26.2	
	comp=Z,236nm,18.5s,baz=26,slow=36						
MK31	**Makanchi Array**	**64.33**	**324**	*e*P	**P**	**04 06 59.2**	**-1.1**
MKAR	**Makanchi Array**	**64.33**	**324**	P	**P**	**04 06 59.4**	**-0.9**
MKAR	**Makanchi Array**	**64.33**	**324**	P	**P**	**04 06 59.4**	**-0.9**
	1.4nm,0.7s,baz=113,slow=8.6,SNR=12						
TKM2	**Tokmak 2**	**66.72**	**318**	*e*P	**P**	**04 07 16.0**	**-0.2**
	7.2nm,1.5s						
ZALV	**Zalesovo Beam**	**67.00**	**332**	P	**P**	**04 07 15.8**	**-1.6**
ZALV	**Zalesovo Beam**	**67.00**	**332**	P	**P**	**04 07 15.8**	**-1.6**
	0.6nm,0.5s,baz=133,slow=8.1,SNR=2.6						
KURK	**Kurchatov**	**68.42**	**326**	P	**P**	**04 07 25.4**	**-1.0**
KURBB	**Kurchatov Arra**	**68.42**	**326**	P	**P**	**04 07 25.4**	**-1.0**
	1.6nm,0.8s,baz=123,slow=5.8,SNR=8.2						
BVAR	**Borovoye Array**	**74.01**	**326**	P	**P**	**04 07 59.3**	**-0.8**
BVAR	**Borovoye Array**	**74.01**	**326**	P	**P**	**04 07 59.3**	**-0.8**
	0.6nm,0.5s,baz=140,slow=9.2,SNR=2.7						
VNDA	**Vanda**	**78.55**	**174**	P	**P**	**04 08 26.6**	**+1.1**
VNDA	**Vanda**	**78.55**	**174**	P	**P**	**04 08 26.6**	**+1.1**
	0.8nm,0.7s,baz=333,slow=7.6,SNR=6.0						
ABKAR	**Akbulak array**	**79.06**	**320**	*e*P	**P**	**04 08 28.7**	**-0.1**
	0.9nm,0.6s						
MAW	**Mawson**	**81.83**	**201**	LR	LR	04 41 37.9	
	comp=Z,91nm,19.1s,baz=134,slow=33						
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**04 09 05.1**	**-1.9**
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**04 09 05.1**	**-1.9**
	0.5nm,0.7s

0.1nm,0.4s,baz=112,slow=6.4,SNR=2.7

KRSC 19 04:19:51.3±0.5,55°42N×161°00E,h158km±28km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.51**	**255**	P	Pn	04 20 15.3	+1.6
BZGR	**Bezymyannyi-Gr**	**0.55**	**342**	P	Pn	04 20 14.8	+0.9
KMNR	**Kamenistaya**	**0.55**	**308**	P	Pn	04 20 15.3	+1.4
BZMR	**Bezymyannaya**	**0.59**	**331**	P	Pn	04 20 15.3	+1.1
BZWR	**Bezymyannyi-We**	**0.61**	**333**	P	Pn	04 20 15.3	+1.0
KIRR	**Kirishev**	**0.65**	**325**	P	Pn	04 20 14.9	+0.4
KPT	**Kopyto**	**0.70**	**321**	P	Pn	04 20 14.7	0.0
KRSR	**Krestovskiy**	**0.84**	**343**	P	Pn	04 20 16.6	+0.9
KRSR				S	Sn	04 20 35.2	+0.8
KOZ	**Kozyrevsk**	**0.90**	**316**	P	Pn	04 20 16.8	+0.8
KLY	**Klyuchi**	**0.92**	**348**	P	Pn	04 20 16.9	+0.8
KLY				S	Sn	04 20 36.1	+0.9
MKZ	**Mys Kozlova**	**0.96**	**154**	P	Pn	04 20 18.1	+1.6
MKZ				S	Sn	04 20 37.4	+1.7
SRDR	**Sredinnyy**	**1.15**	**322**	P	Pn	04 20 18.5	+0.3
BDR	**Baidarnaya**	**1.16**	**6**	P	Pn	04 20 19.6	+1.4
BDR				S	Sn	04 20 40.3	+1.3
SMKR	**Semkarok**	**1.19**	**13**	P	Pn	04 20 19.9	+1.4
SMKR				S	Sn	04 20 40.8	+1.2
SRKR	**Sorokina**	**1.24**	**4**	P	Pn	04 20 19.9	+0.9
SRKR				S	Sn	04 20 41.0	+0.7
KBTR	**Krutoberegovo**	**1.29**	**52**	P	Pn	04 20 20.6	+1.2
KBTR				S	Sn	04 20 41.5	+0.5
ESO	**Esso**	**1.40**	**292**	P	Pn	04 20 21.0	+0.6
SPN	**Mys Shipunski**	**2.40**	**194**	P	Pn	04 20 31.6	+0.1
SPN				S	Sn	04 21 01.3	-1.3
SDLR	**Sedlovina**	**2.48**	**211**	P	Pn	04 20 35.1	+2.4
SDLR				S	Sn	04 21 06.2	+1.6
GNL	**Ganaly**	**2.48**	**227**	P	Pn	04 20 34.3	+1.6
AVH	**Avacha**	**2.53**	**212**	P	Pn	04 20 35.3	+2.0
AVH				S	Sn	04 21 07.8	+2.1
BKI	**Bering**	**2.85**	**92**	P	Pn	04 20 39.1	+2.1
BKI				S	Sn	04 21 13.8	+1.4
RUS	**Russkaya**	**3.33**	**207**	P	Pn	04 20 45.9	+2.8
RUS				S	Sn	04 21 24.7	+1.4
MTVR	**Mutnovka**	**3.38**	**211**	S	Sn	04 21 25.3	+0.5

IDC 19 04:39:48.9±4.1,18°03S×166°70E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/19,mbtmp3.8/4,ML3.3/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/32,Error ellipse: s-maj=85.3km s-min=32.3km az=77.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.03**	**183**	Pn	Pn	04 40 51.5	-0.5
	1.9nm,0.3s,baz=287,slow=21,SNR=13						
DZM				Sn	Sn	04 41 41.9	+1.8
	3.3nm,0.3s,baz=286,slow=20,SNR=8.5						
HNR	**Honiara**	**10.77**	**322**	LR	LR	04 45 49.8	
	comp=Z,72nm,19.7s,baz=135,slow=34						
WRA	**Warramunga Arr**	**30.64**	**261**	P	P	04 46 04.7	-0.6
	0.6nm,0.9s,baz=91,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**31.12**	**254**	P	P	04 46 09.8	+0.3
	1.0nm,0.7s,baz=78,slow=9.2,SNR=11						
CMAR	**Chiang Mai Arr**	**75.82**	**295**	P	P	04 51 37.6	+0.1
	0.6nm,0.3s,baz=116,slow=4.1,SNR=2.8						

*IDC **19** 05:11:06.0±0.7,0°65S×133°15E,h0km,mb4.4/10, mb1 4.6/13,mb1mx4.3/24,mbtmp4.5/13,ML4.3/3,MS3.4/2, Ms1 3.4/2,ms1mx2.6/32,Error ellipse: s-maj=38.4km s-min=15.8km az=78.0*
*DJA **19** 05:11:10.5±2.0,0°S±9°×13°3E±°,h26km±24km,M4.6/5, mb4.8/2,mB4.9/1,MLv4.5/5,Mw(mB)4.2/1*
*NEIC **19** 05:11:11.3±0.4,0°70S×133°20E,h35km,mb4.1/5,Error ellipse: s-maj=13.6km s-min=8.2km az=75.0*
*AUST **19** 05:11:14.7,0°99S×131°50E,h100km*

ISC 19 05:11:10.9±0.5,0°68S±0°06×133°15E±0°05,h32km,n58, σ1§40/62,mb4.3/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.32**	**129**	P	**Pb**	**05 11 34.7**	**-0.3**
RKPI				S	**Sb**	**05 11 53.5**	**+1.9**
SWI	**Sorong**	**1.90**	**265**	P	**Pn**	**05 11 41.3**	**+0.3**
SWI				S	**Sb**	**05 12 08.8**	**+0.6**
SWI	**Sorong**	**1.90**	**265**	S	**Pn**	**05 11 40.8**	**-0.3**
	baz=0.3,SNR=146						
BAKI	**Biak**	**3.00**	**100**	P	**Pn**	**05 11 56.7**	**+0.5**
TLE	**Tual**	**4.94**	**185**	P	**Pn**	**05 12 25.2**	**+2.3**
TLE	**Tual**	**4.94**	**185**	P	**Pn**	**05 12 24.6**	**+1.7**
	baz=4.8,SNR=6.0						
TLE				S	**Sn**	**05 13 19.2**	**+0.3**
	baz=4.8,SNR=6.2						
MSAI	**Masohi**	**4.98**	**238**	P	Pn	05 12 27.2	+3.8
	33nm,0.7s,1μm0.2nm						
KDU	**Kakadu**	**11.94**	**183**	P	**Pn**	**05 13 57.9**	**-1.1**
	baz=12,SNR=9.0						
KDU				S	Sn	05 16 04.0	-7.2
	baz=12,SNR=7.8						
MTN	**Manton Dam**	**12.24**	**189**	P	**Pn**	**05 14 01.4**	**-1.7**
	baz=12,SNR=16						
MTN				S	**Sn**	**05 16 13.4**	**-5.2**
	baz=12,SNR=12						
BATI	**Baumata**	**13.36**	**225**	Pn	**Pn**	**05 14 17.4**	**-1.0**
BATI	**Baumata**	**13.36**	**225**	Pn	**Pn**	**05 14 17.4**	**-1.0**
	5.2nm,0.3s,baz=111,slow=2.1,SNR=7.2						
BATI				LR	LR	05 19 54.8	
	comp=Z,185nm,19.6s,baz=135,slow=40						
KAPI	**Kappang**	**14.05**	**252**	Pn	**Pn**	**05 14 30.9**	**+3.0**
KAPI	**Kappang**	**14.05**	**252**	Pn	**Pn**	**05 14 30.9**	**+3.0**
	1.1nm,0.3s,baz=212,slow=22,SNR=4.5						
MANU	**Manus Island**	**14.28**	**96**	S	S	05 17 48.7	+21
	baz=16,SNR=5.3						
KNRA	**Kununurra**	**15.51**	**196**	P	**Pn**	**05 14 44.1**	**-3.3**
	baz=15,SNR=30						
KNRA				S	Sn	05 17 29.9	-8.4
	baz=15,SNR=5.0						
WSI	**Waingapu**	**15.59**	**235**	S	Sn	05 17 02.5	-38
	baz=14,SNR=4.6						
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	**P**	**05 15 25.9**	**-2.1**
FITZ				S	Sn	05 18 47.1	-11
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	**P**	**05 15 25.9**	**-2.1**
	0.6nm,0.3s,baz=41,slow=9.6,SNR=17						
FITZ				S	Sn	05 18 47.1	-11
	0.4nm,0.3s,baz=215,slow=12,SNR=6.5						
FITZ				LR	LR	05 23 03.5	
	comp=Z,125nm,21.1s,baz=19,slow=38						
WRAB	**Tennant Creek**	**19.17**	**177**	*e*P	**P**	**05 15 31.5**	**-0.4**
	11nm,0.9s						
WRA	**Warramunga Arr**	**19.18**	**177**	P	**P**	**05 15 31.3**	**-0.7**
WRA				S	Sn	05 18 55.3	-12
WRA	**Warramunga Arr**	**19.18**	**177**	P	**P**	**05 15 31.3**	**-0.7**
	0.8nm,0.3s,baz=354,slow=12,SNR=48						
WRA				S	Sn	05 18 55.3	-12
	0.3nm,0.3s,baz=357,slow=23,SNR=7.1						
AS31	**Alice Springs**	**22.86**	**178**	*e*P	**P**	**05 16 11.9**	**+0.3**
ASAR	**Alice Springs**	**22.86**	**178**	P	**P**	**05 16 12.1**	**+0.4**
ASAR				S	**S**	**05 20 20.3**	**+1.0**
ASAR	**Alice Springs**	**22.86**	**178**	P	**P**	**05 16 12.1**	**+0.4**
	4.6nm,0.3s,baz=355,slow=11,SNR=50						
ASAR				S	**S**	**05 20 20.3**	**+1.0**
	2.3nm,0.8s,baz=4.4,slow=25,SNR=6.6						
CTA	**Charters Tower**	**23.16**	**147**	P	**P**	**05 16 15.6**	**+0.8**
CTA	**Charters Tower**	**23.16**	**147**	P	**P**	**05 16 15.6**	**+0.8**
	14nm,1.0s,baz=347,slow=15,SNR=4.8						
CTAO	**Charters Tower**	**23.16**	**147**	*e*P	**P**	**05 16 14.3**	**-0.4**
	7.1nm,0.7s						
PATS	**Pohnpei**	**26.20**	**73**	S	**S**	**05 21 10.3**	**-2.9**
	baz=28,SNR=3.1						
STKA	**Stephens Creek**	**32.04**	**166**	*e*P	**P**	**05 17 33.5**	**-1.1**
STKA	**Stephens Creek**	**32.04**	**166**	P	**P**	**05 17 33.3**	**-1.3**
	3.3nm,0.4s,baz=333,slow=8.4,SNR=18						
STKA	**Stephens Creek**	**32.04**	**166**	P	**P**	**05 17 33.8**	**-0.9**
	baz=32,SNR=9.8						
BBOO	**Buckleboo**	**32.07**	**175**	P	**P**	**05 17 34.8**	**-0.2**
	baz=32,SNR=4.5						
ARPS	**Mount Arapiles**	**36.80**	**168**	P	**P**	**05 18 16.2**	**+0.4**
	baz=37,SNR=13						
LHI	**Lord Howe Isla**	**39.26**	**144**	S	S	05 24 26.2	-9.2
	baz=40,SNR=4.3						
MK31	**Makanchi Array**	**64.85**	**324**	*e*P	**P**	**05 21 47.7**	**+0.8**
MKAR	**Makanchi Array**	**64.85**	**324**	P	**P**	**05 21 47.7**	**+0.8**
MKAR	**Makanchi Array**	**64.85**	**324**	P	**P**	**05 21 47.7**	**+0.8**
	1.6nm,0.5s,baz=116,slow=8.1,SNR=23						
ZALV	**Zalesovo Beam**	**67.46**	**331**	P	**P**	**05 22 02.2**	**-1.2**
ZALV	**Zalesovo Beam**	**67.46**	**331**	P	**P**	**05 22 02.2**	**-1.2**
	0.8nm,0.4s,baz=108,slow=4.7,SNR=3.5						
EKS2	**Erkin-Say**	**68.42**	**317**	*e*P	**P**	**05 22 09.9**	**0.0**
	1.1nm,0.7s						
KKAR	**Karatay Array**	**70.82**	**316**	*e*P	**P**	**05 22 25.2**	**+0.6**
	1.1nm,0.6s						
VNDA	**Vanda**	**78.32**	**174**	P	**P**	**05 23 08.6**	**+1.2**
VNDA	**Vanda**	**78.32**	**174**	P	**P**	**05 23 08.6**	**+1.2**
	3.0nm,0.5s,baz=301,slow=8.8,SNR=15						
ABKAR	**Akbulak array**	**79.61**	**320**	*e*P	**P**	**05 23 14.7**	**-0.3**
	2.2nm,0.8s						
MAW	**Mawson**	**81.94**	**201**	P	**P**	**05 23 28.0**	**+1.0**
MAW	**Mawson**	**81.94**	**201**	P	**P**	**05 23 28.0**	**+1.0**
	2.3nm,0.9s,baz=354,slow=5.7,SNR=4.9						
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**05 23 48.6**	**-0.9**
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**05 23 48.6**	**-0.9**
	0.3nm,0.6s,baz=264,slow=4.4,SNR=4.2						
QSPA	**South Pole Qui**	**89.25**	**180**	P	**P**	**05 24 03.3**	**-0.3**
QSPA	**South Pole Qui**	**89.25**	**180**	P	**P**	**05 24 03.3**	**-0.3**
	2.6nm,0.9s,baz=311,slow=1.3,SNR=8.7						
ARCES	**ARCESS Array B**	**96.76**	**340**	P	**P**	**05 24 37.9**	**-0.1**
ARCES	**ARCESS Array B**	**96.76**	**340**	P	**P**	**05 24 37.9**	**-0.1**
	3.7nm,0.8s,baz=79,slow=6.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**130.36**	**287**	PKP	**PKPdf**	**05 30 18.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**130.36**	**287**	PKP	**PKPdf**	**05 30 18.7**	**-0.5**
	0.6nm,0.8s,baz=90,slow=2.9,SNR=2.6						
CPUP	**Villa Florida**	**151.30**	**160**	*e*PKPdf	**PKPdf**	**05 30 57.0**	**+1.0**
CPUP				*e*PKPbc	**PKPbc**	**05 31 02.0**	**-0.1**
CPUP				PKPbc	**PKPbc**	**05 31 02.7**	**+0.7**
CPUP	**Villa Florida**	**151.30**	**160**	PKPbc	**PKPbc**	**05 31 02.7**	**+0.7**
	1.9nm,0.7s,baz=67,slow=3.6,SNR=9.2						
LPAZ	**La Paz**	**153.06**	**130**	PKPbc	**PKPbc**	**05 31 07.6**	**+0.5**
LPAZ	**La Paz**	**153.06**	**130**	PKPbc	**PKPbc**	**05 31 07.6**	**+0.5**
	1.1nm,0.9s,baz=0.0,slow=2.0,SNR=3.8						

*BJI **19** 05:43:07.4,4°29N×127°71E,h137km,mB4.8/19,mb4.9/43*
*MAN **19** 05:43:10,4°63N×127°51E,h140km,mb5.4,ML4.4,MS4.7*
*AUST **19** 05:43:10.7,4°50N×127°51E,h100km*
*ISCJB **19** 05:43:11.5±0.5,4°71N±0°02×127°52E±0°04,h142km±4km, mb4.7/72,Error ellipse: s-maj=6.6km s-min=3.4km az=163.1*
*MOS **19** 05:43:13.0±1.0,4°76N×127°61E,h159km,mb4.9/22,Error ellipse: s-maj=15.1km s-min=6.3km az=115.6*
*NEIC **19** 05:43:13.2±0.8,4°76N×127°62E,h144km±8km,mb4.7/14, Error ellipse: s-maj=9.2km s-min=3.9km az=76.0*
*IDC **19** 05:43:13.6±1.2,4°72N×127°62E,h149km±10km,mb4.2/23, mb1 4.3/25,mb1mx4.3/30,mbtmp4.3/25,Error ellipse: s-maj=16.7km s-min=7.2km az=78.0*
*TEH **19** 05:43:13.0,4°73N×127°53E,h138km,ML4.7*
*DJA **19** 05:43:15.4±0.6,5°N±4°×12°7E±°,h125km±20km,M5.0/8, mB5.3/8,mb4.9/8,MLv5.2/7,Mw(mB)4.8/8*

ISC 19 05:43:12.8±0.4,4°65N±0°03×127°51E±0°05,h141km±2km, h141km:pP-P,n235,σ1§33/299,mb4.8/72,2C-10D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.92**	**299**	⇑*i*P	**Pn**	**05 43 56.0**	**-2.9**
GSPH				*i* S	**Sn**	**05 44 30.8**	**-3.6**
DAV	**Davao City (W)**	**3.07**	**321**	*e*Pn	**Pn**	**05 44 00.6**	**-0.2**
DAV				*e*Sn	**Sn**	**05 44 39.3**	**+1.5**
DAV				S	**Sn**	**05 44 40.5**	**+2.7**
DAV	**Davao City (W)**	**3.07**	**321**	P	**Pn**	**05 44 00.8**	**0.0**
DAV				S	**Sn**	**05 44 40.9**	**+3.1**
DAV	**Davao City (W)**	**3.07**	**321**	P	**Pn**	**05 44 01.3**	**+0.5**
	99nm,0.3s,baz=208,slow=2.1,SNR=16						
DAV				S	**Sn**	**05 44 40.5**	**+2.7**
	318nm,0.3s,baz=239,slow=20,SNR=20						
KCP	**Kidapawan**	**3.35**	**314**	⇑*i*P	**Pn**	**05 44 03.9**	**-0.6**
KCP				*i* S	**Sn**	**05 44 44.1**	**-0.4**
BUKP	**Musuan**	**4.02**	**323**	*e*P	**Pn**	**05 44 12.5**	**-0.7**
BUTP	**Butuan**	**4.68**	**337**	*e*P	**Pn**	**05 44 22.1**	**+0.3**
PAGZ	**Pagadian**	**5.18**	**308**	*e*P	**Pn**	**05 44 27.2**	**-1.3**
LBMI	**Labuha**	**5.26**	**180**	P	**Pn**	**05 44 30.9**	**+1.4**
	303nm,0.9s,6μm1.9nm						
LBMI				S	**Sn**	**05 45 31.7**	**+2.3**
	303nm,0.9s,6μm1.9nm						
KMSI	**Cibinong**	**5.37**	**221**	P	**Pn**	**05 44 31.7**	**+0.7**
	628nm,0.7s,15μm5.7nm						
KMSI				S	**Sn**	**05 45 32.3**	**+0.3**
	628nm,0.7s,15μm5.7nm						
GTOI	**Gorontalo**	**6.01**	**228**	P	**Pn**	**05 44 40.4**	**+0.8**
	106nm,0.7s,2μm0.8nm						
GTOI				S	**Sn**	**05 45 47.2**	**-0.1**
	106nm,0.7s,2μm0.8nm						
SWI	**Sorong**	**6.64**	**146**	P	**Pn**	**05 44 49.6**	**+1.5**
	70nm,0.6s,4μm1.2nm						
SWI				S	**Sn**	**05 46 00.2**	**-2.4**
	70nm,0.6s,4μm1.2nm						
SWI	**Sorong**	**6.64**	**146**	P	**Pn**	**05 44 50.6**	**+2.5**
	baz=6.5,SNR=5.0						
SWI				S	**Sn**	**05 45 58.4**	**-4.2**
	baz=6.5,SNR=13						
MRSI	**Marisa**	**6.94**	**233**	P	**Pn**	**05 44 52.9**	**+0.9**
	129nm,0.5s,2μm0.5nm						
MRSI				S	**Sn**	**05 46 09.6**	**-0.1**
	129nm,0.5s,2μm0.5nm						
NLAI	**Namlea**	**7.85**	**183**	P	**Pn**	**05 45 04.0**	**-0.3**
	106nm,1.1s,3μm0.9nm						
NLAI				S	**Sn**	**05 46 27.8**	**-4.0**
	106nm,1.1s,3μm0.9nm						
MSAI	**Masohi**	**8.07**	**170**	P	Pn	05 45 12.7	+5.4
FAKI	**Fak Fak**	**8.89**	**148**	S	Sn	05 46 37.1	-20
	baz=8.8,SNR=3.8						
RKPI	**Ransiki, Papua**	**9.05**	**132**	P	Pn	05 45 23.8	+3.4
	110nm,1.5s,4μm						
SKSI	**Soroako, Sulaw**	**9.43**	**221**	P	**Pn**	**05 45 24.9**	**-0.6**
KAPI	**Kappang**	**12.34**	**219**	P	**P**	**05 46 08.3**	**-1.9**
KAPI	**Kappang**	**12.34**	**219**	P	**P**	**05 46 08.3**	**-1.9**
	baz=58,slow=16,SNR=1.7						
BATI	**Baumata**	**15.25**	**195**	P	**Pn**	**05 46 41.8**	**+0.8**
BATI	**Baumata**	**15.25**	**195**	P	**Pn**	**05 46 41.8**	**+0.8**
	8.2nm,0.3s,baz=307,slow=2.5,SNR=3.7						
WSI	**Waingapu**	**15.94**	**207**	S	S	05 50 06.0	+18
	baz=16,SNR=4.0						
MTN	**Manton Dam**	**17.75**	**168**	P	**P**	**05 47 10.5**	**+0.3**
	baz=18,SNR=17						
KDU	**Kakadu**	**17.92**	**164**	P	**Pn**	**05 47 13.1**	**-0.2**
	baz=18,SNR=31						
TPUB	**Ta-pu**	**19.69**	**341**	*e*P	**P**	**05 47 29.9**	**-1.4**
	21nm,0.6s						
SSLB	**Suanglung**	**20.05**	**342**	*e*P	**P**	**05 47 33.6**	**-1.4**
	13nm,1.0s						
KNRA	**Kununurra**	**20.24**	**176**	P	**P**	**05 47 38.5**	**+1.4**
	baz=20,SNR=54						
YHNB	**Yeheng**	**20.76**	**344**	*e*P	**P**	**05 47 43.2**	**+0.5**
	12nm,0.6s						
MANU	**Manus Island**	**20.93**	**108**	S	**S**	**05 51 27.2**	**-3.0**
	baz=21,SNR=3.1						
QIZ	**Qiongzhong**	**22.39**	**311**	P	**P**	**05 48 00.4**	**+0.6**
QIZ				pP	**pP**	**05 48 24.8**	**-0.9**
QIZ				sP	**sP**	**05 48 41.5**	**-1.8**
QIZ				S	**S**	**05 51 58.0**	**+2.3**
QIZ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.69**	**185**	P	**P**	**05 48 02.6**	**0.0**
FITZ	**Fitzroy Crossi**	**22.69**	**185**	P	**P**	**05 48 02.6**	**0.0**
	comp=Z,17nm,0.6s,baz=20,slow=9.4,SNR=69						
FITZ	**Fitzroy Crossi**	**22.69**	**185**	P	P	05 48 10.0	+7.4
	baz=23,SNR=13						
COEN	**Coen**	**24.16**	**140**	*e*P	**P**	**05 48 15.9**	**-0.2**
COEN	**Coen**	**24.16**	**140**	P	**P**	**05 48 15.9**	**-0.2**
	baz=24,SNR=4.7						
WRAB	**Tennant Creek**	**25.34**	**165**	*e*P	**P**	**05 48 27.8**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,53nm,0.6s						
WRAB	**Tennant Creek**	**25.34**	**165**	*e*P	**P**	**05 48 27.8**	**+0.9**
	comp=Z,53nm,0.6s						
WRA	**Warramunga Arr**	**25.35**	**165**	P	**P**	**05 48 26.7**	**-0.2**
WRA				S	**S**	**05 52 42.1**	**-0.9**
WRA	**Warramunga Arr**	**25.35**	**165**	P	**P**	**05 48 26.7**	**-0.2**
	comp=Z,27nm,0.8s,baz=338,slow=10,SNR=238						
WRA				S	**S**	**05 52 42.1**	**-0.9**
	comp=Z,3.4nm,1.1s,baz=344,slow=16,SNR=4.5						
MBWA	**Marble Bar**	**26.76**	**196**	*e*P	**P**	**05 48 41.7**	**+2.1**
	comp=Z,14nm,1.0s						
MTSU	**Mount Surprise**	**28.07**	**144**	P	**P**	**05 48 52.0**	**+0.8**
	baz=28,SNR=7.3						
NJ2	**Nanjing**	**28.44**	**344**	*e*P	**P**	**05 48 56.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,30nm,0.6s						
JNU	**Nakatsue**	**28.50**	**6**	P	**P**	**05 48 53.0**	**-2.0**
JNU	**Nakatsue**	**28.50**	**6**	P	**P**	**05 48 53.0**	**-2.0**
	comp=Z,10nm,0.9s,baz=181,slow=6.3,SNR=5.9						
AS31	**Alice Springs**	**28.83**	**168**	*e*P	**P**	**05 48 58.4**	**+0.3**
ASAR	**Alice Springs**	**28.83**	**168**	P	**P**	**05 48 58.3**	**+0.3**
ASAR				S	**S**	**05 53 37.6**	**-0.3**
ASAR	**Alice Springs**	**28.83**	**168**	P	**P**	**05 48 58.3**	**+0.3**
	comp=Z,3.8nm,0.4s,baz=352,slow=7.7,SNR=66						
ASAR				S	**S**	**05 53 37.6**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=360,slow=19,SNR=2.8						
GYA	**Guiyang**	**29.45**	**320**	*e*P	**P**	**05 49 05.4**	**+1.8**
GYA				pP	**pP**	**05 49 35.4**	**+1.7**
GYA				sP	**sP**	**05 49 51.9**	**+2.0**
GYA				PP	**PnPn**	**05 50 07.6**	**+2.7**
GYA				PcP	**PcP**	**05 52 06.3**	**+0.3**
GYA				S	**S**	**05 53 49.0**	**+1.3**
GYA				ScP	**ScP**	**05 55 35.3**	**+0.3**
GYA				PcS	**PcS**	**05 55 50.8**	**+1.3**
GYA				ScS	**ScS**	**05 59 28.8**	**-1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**30.64**	**328**	*e*P	**P**	**05 49 14.0**	**+0.1**
	comp=Z,10nm,0.7s						
CTA	**Charters Tower**	**30.73**	**144**	P	**P**	**05 49 14.9**	**+0.1**
CTA	**Charters Tower**	**30.73**	**144**	P	**P**	**05 49 14.9**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=327,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**31.09**	**299**	P	**P**	**05 49 18.5**	**+0.4**
CMAR				PcP	**PcP**	**05 52 11.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**31.09**	**299**	P	**P**	**05 49 18.5**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=98,slow=7.1,SNR=15						
CMAR				PcP	**PcP**	**05 52 11.5**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=161,slow=0.8,SNR=4.6						
CHTO	**Chiang Mai**	**31.23**	**299**	*e*P	**P**	**05 49 19.6**	**+0.3**
CHTO	**Chiang Mai**	**31.23**	**299**	*e*P	**P**	**05 49 19.6**	**+0.3**
KMI	**Kunming**	**31.30**	**313**	P	**P**	**05 49 21.0**	**+0.9**
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
MEEK	**Meekatharra**	**32.28**	**195**	P	**P**	**05 49 28.9**	**+0.5**
	baz=32,SNR=13						
KSAR	**Wonju Array Be**	**32.64**	**1**	P	**P**	**05 49 30.6**	**-0.7**
KSRS	**Korea Array**	**32.65**	**1**	P	**P**	**05 49 30.5**	**-0.8**
	comp=Z,5.0nm,0.7s,baz=177,slow=9.8,SNR=20						
MJAR	**Matsushiro Arr**	**33.23**	**16**	P	**P**	**05 49 35.1**	**-1.4**
MJAR	**Matsushiro Arr**	**33.23**	**16**	P	**P**	**05 49 35.1**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=196,slow=9.3,SNR=6.6						
XAN	**Xi'an**	**33.96**	**332**	P	**P**	**05 49 42.5**	**-0.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CD2	**Chengdu**	**34.38**	**322**	*e*P	**P**	**05 49 47.0**	**+0.4**
CD2				pP	**pP**	**05 50 17.3**	**+0.3**
CD2				sP	**sP**	**05 50 33.8**	**+0.6**
CD2				PP	**PP**	**05 51 07.3**	**-0.1**
CD2				S	**S**	**05 55 04.1**	**0.0**
CD2				SS	**SnSn**	**05 57 24.8**	**-6.1**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,160nm,5.2s						
FORT	**Forrest**	**35.24**	**179**	*e*P	**P**	**05 49 54.7**	**+0.9**
	comp=Z,70nm,1.3s						
FORT	**Forrest**	**35.24**	**179**	P	**P**	**05 49 54.8**	**+0.9**
	baz=35,SNR=29						
MORW	**Morawa**	**35.29**	**198**	P	**P**	**05 49 55.1**	**+0.8**
	baz=35,SNR=6.2						
BLDU	**Ballidu**	**36.56**	**196**	P	**P**	**05 50 06.0**	**+0.9**
	baz=37,SNR=16						
BJI	**Beijing**	**36.68**	**345**	P	**P**	**05 50 06.3**	**+0.3**
BJI				pmax	pmax		
	comp=Z,47nm,0.8s						
KLBR	**Kellerberrin**	**37.22**	**194**	P	**P**	**05 50 11.7**	**+1.0**
	baz=37,SNR=8.8						
LZH	**Lanzhou**	**38.12**	**328**	⇓P	**P**	**05 50 19.3**	**+0.9**
LZH				pP	**pP**	**05 50 50.5**	**+1.2**
LZH				sP	**sP**	**05 51 06.3**	**+1.0**
LZH				PP	**PnPn**	**05 51 54.4**	**+2.7**
LZH				*e*S	**S**	**05 56 02.5**	**+1.4**
LZH				sS	**sS**	**05 56 55.8**	**+0.8**
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH				pmax	pmax		
	comp=Z,100nm,5.3s						
BBOO	**Buckleboo**	**38.13**	**168**	*e*P	**P**	**05 50 19.4**	**+1.0**
	comp=Z,604nm,1.0s						
BBOO	**Buckleboo**	**38.13**	**168**	P	**P**	**05 50 19.3**	**+1.0**
	baz=38,SNR=74						
NWAO	**Narrogin (SRO)**	**38.62**	**194**	P	**P**	**05 50 23.9**	**+1.4**
NWAO	**Narrogin (SRO)**

HABR e 06 00 48.6
HABR pmax pmax
comp=Z,53nm,1.9s
HABR pmax pmax
comp=E,70nm,2.5s
HABR pmax pmax
comp=N,46nm,2.5s
YSS Yuzh-Sakhalins 44.15 15 *i* P **P 05 51 07.6 +0.3**
ODAN Odare 44.18 304 *eP* **P 05 51 08.3 +0.1**
comp=N,76nm,0.6s
KLR Kul'dur 44.56 4 *eP* P 05 51 05.6 -5.0
RAMN Ramite 44.87 304 *eP* **P 05 51 13.9 +0.2**
comp=N,67nm,0.8s
JIRN Jiri 45.47 305 *eP* **P 05 51 18.7 +0.1**
comp=N,68nm,0.7s
GUN Gumba 45.82 305 *eP* **P 05 51 21.5 +0.2**
comp=N,85nm,0.7s
PKI Pulchoki 46.08 304 *eP* **P 05 51 22.8 -0.5**
comp=N,23nm,0.7s
KKN Kakani 46.27 305 *eP* **P 05 51 24.4 -0.3**
comp=N,37nm,0.9s
DMN Daman 46.34 304 *eP* **P 05 51 25.1 -0.2**
comp=N,36nm,0.9s
ULN Ulaanbaatar 46.49 341 *eP* **P 05 51 26.0 -0.1**
SONM Songino Array 46.68 341 P **P 05 51 27.1 -0.4**
SONM PcP **PcP 05 52 58.7 -0.1**
SONM Songino Array 46.68 341 P **P 05 51 27.1 -0.4**
comp=N,5.9nm,0.6s,baz=160,slow=8.7,SNR=33
SONM PcP **PcP 05 52 58.7 -0.1**
comp=N,1.2nm,0.7s,baz=137,slow=3.6,SNR=3.5
KOLN Koldanda 47.65 304 *eP* **P 05 51 35.5 +0.1**
comp=N,106nm,0.6s
DANN Dangsing 47.72 305 *eP* **P 05 51 35.9 -0.1**
comp=N,117nm,0.6s
PYUN Piuthan 48.27 304 *eP* **P 05 51 40.3 +0.2**
comp=N,72nm,0.6s
TLY Talaya 50.91 341 *i* P **P 05 52 00.2 +0.7**
WMQ Urumqi 52.42 324 P **P 05 52 12.1 +1.1**
WMQ pP **pP 05 52 44.6 +1.0**
WMQ PcP **PcP 05 53 19.3 -0.6**
WMQ S **S 05 59 24.8 -1.5**
WMQ ScS **ScS 06 01 44.3 -2.5**
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ pmax pmax
comp=Z,99nm,4.8s
PEA0B Petropavlovsk- 54.29 22 *eP* **P 05 52 24.6 +0.3**
PETK Petropavlovsk- 54.29 22 P **P 05 52 24.3 0.0**
PETK Petropavlovsk- 54.29 22 P **P 05 52 24.3 0.0**
PETK Petropavlovsk- 54.29 22 P **P 05 52 24.3 0.0**
comp=Z,31nm,0.6s,baz=186,slow=6.3,SNR=57
MK31 Makanchi Array 57.25 325 *eP* **P 05 52 45.9 +0.3**
MK31 Makanchi Array 57.25 325 *eP* **P 05 52 45.9 +0.3**
MKAR Makanchi Array 57.25 325 P **P 05 52 45.9 +0.3**
MKAR 05 53 38.0
MKAR Makanchi Array 57.25 325 P **P 05 52 45.9 +0.3**
MKAR PcP **PcP 05 53 38.0 -0.3**
MKAR Makanchi Array 57.25 325 P **P 05 52 45.9 +0.3**
comp=Z,18nm,0.5s,baz=120,slow=8.3,SNR=309
MKAR PcP **PcP 05 53 38.0 -0.3**
comp=Z,3.1nm,0.7s,baz=102,slow=3.6,SNR=5.2
YAK Yakutsk 57.27 1 *eP* **P 05 52 43.3 -2.1**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.3s
KSH Kashi 57.95 314 P **P 05 52 52.0 +1.3**
KSH sP **sP 05 53 40.3 +0.9**
KSH PP **PP 05 55 04.1 +3.4**
KSH S **S 06 00 36.5 -3.6**
KSH pmax pmax
comp=Z,8.0nm,0.5s
KSH pmax pmax
comp=Z,56nm,5.4s
KSH LR LR
comp=N,130nm,6.5s
KSH LR LR
comp=E,100nm,6.1s
KSH LR LR
comp=Z,110nm,4.9s
ULHL Ulahol 58.86 317 *i* P **P 05 52 57.9 +0.8**
ULHL Ulahol 58.86 317 P **P 05 52 58.0 +0.8**
SNR=8.1
KZA Kyzart 59.47 317 *i* P **P 05 53 02.8 +1.3**
KZA Kyzart 59.47 317 P **P 05 53 02.9 +1.3**
SNR=11
TKM2 Tokmak 2 59.58 318 P **P 05 53 01.8 -0.3**
TKM2 pmax pmax
comp=Z,17nm,0.6s
TKM2 Tokmak 2 59.58 318 P **P 05 53 02.6 +0.6**
SNR=39
TKM2 Tokmak 2 59.58 318 *eP* **P 05 53 02.6 +0.6**
ZAA0 Zalesovo Array 60.13 332 *eP* **P 05 53 04.2 -1.1**
ZALV Zalesovo Beam 60.13 332 P **P 05 53 04.1 -1.2**
ZALV Zalesovo Beam 60.13 332 P **P 05 53 04.1 -1.2**
ZALV Zalesovo Beam 60.13 332 P **P 05 53 04.1 -1.2**
comp=Z,2.5nm,0.5s,baz=112,slow=6.6,SNR=17
AAK Ala-Archa 60.20 317 *d i* P **P 05 53 07.0 +0.7**
AAK pmax pmax
comp=Z,16nm,0.5s
AAK Ala-Archa 60.20 317 P **P 05 53 07.2 +0.9**
SNR=8.0
AAK Ala-Archa 60.20 317 *eP* **P 05 53 06.7 +0.4**
comp=Z,8.8nm,0.5s
USP Ospenovka 60.45 318 *i* P **P 05 53 08.4 +0.6**
USP Ospenovka 60.45 318 P **P 05 53 08.4 +0.6**
SNR=34
AML Almayashu 60.55 316 *i* P **P 05 53 10.0 +1.1**
AML Almayashu 60.55 316 P **P 05 53 10.0 +1.1**
SNR=7.3
EKS2 Erkin-Say 60.70 317 *eP* **P 05 53 10.5 +0.9**
EKS2 Erkin-Say 60.70 317 P **P 05 53 10.6 +0.9**
SNR=33
EKS2 Erkin-Say 60.70 317 *eP* **P 05 53 10.5 +0.9**
SEY Seymchan 60.97 13 *eP* **P 05 53 12.0 +1.2**
NVS Novosibirsk 61.41 335 *i* P **P 05 53 11.6 -2.3**
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS pmax pmax
comp=Z,13nm,1.2s
KBL Kabul 61.59 307 *eP* **P 05 53 15.8 0.0**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 61.59 307 *eP* **P 05 53 15.8 0.0**
comp=Z,9.2nm,0.8s
KK31 Karatay Array 63.09 316 *i* P **P 05 53 25.3 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR Karatay Array 63.09 316 *eP* **P 05 53 25.6 +0.1**
KKAR Karatay Array 63.09 316 *eP* **P 05 53 25.6 +0.1**
VOSK Vostochnaya 66.52 326 P **P 05 53 46.0 -1.5**
VOSK pmax pmax
comp=Z,10.0nm,0.6s
TIXI Tiksi 66.92 0 *i* P **P 05 53 48.8 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
BVA0 Borovoye Array 66.98 327 *i* P **P 05 53 49.8 -0.5**
BVA0 pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 67.05 327 *d i* P **P 05 53 50.6 -0.2**
BRVK pmax pmax
comp=Z,17nm,0.7s
BRVK Borovoye 67.05 327 *eP* **P 05 53 49.9 -0.8**
comp=Z,20nm,0.9s
IDAH Dahanechah 68.72 303 *eP* **P 05 54 02.8 +0.8**
IMYA Miami 69.10 307 *eP* **P 05 54 03.5 -0.6**
IKOO Kooshah 69.39 303 *eP* **P 05 54 06.4 +0.3**
IMOG Moghan 69.67 307 *eP* **P 05 54 06.8 -1.0**
ITEG Tejag 69.67 303 *eP* **P 05 54 08.5 +0.7**
IPAY Payeh 70.00 307 *eP* **P 05 54 09.5 -0.2**
IAKL Akhelmad 70.21 307 *eP* **P 05 54 10.8 -0.3**
IEMG Emamgholi 70.42 308 *eP* **P 05 54 13.1 +0.7**
IKRD Kardeh 70.43 307 *eP* P 05 54 08.3 -4.1
ISFR Sfrayin 70.88 308 *eP* **P 05 54 16.2 +1.1**
CASY Casey 71.82 187 *eP* **P 05 54 20.7 +0.9**
AB31 Akbulak array 71.93 320 *i* P **P 05 54 20.1 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 71.93 320 *eP* **P 05 54 20.5 -0.3**
SVE Sverdlovsk 73.59 328 *i* P **P 05 54 30.4 0.0**
SVE pmax pmax
comp=Z,18nm,0.8s
ISAD Sadrabad 73.82 302 *eP* **P 05 54 33.3 +0.6**
IANJ Anjilo 73.95 305 *eP* **P 05 54 32.8 -0.6**
ISRV Sarvestan 74.13 299 *eP* **P 05 54 35.1 +0.5**
IPAR Pars 74.22 300 *eP* **P 05 54 35.3 +0.2**
ISHM Shahmirzad 74.49 306 *eP* **P 05 54 35.3 -1.2**
ARU Arti 74.58 327 *d i* P **P 05 54 35.0 -1.2**
ARU *PP **pP 05 55 10.2 -0.7**
ARU S **S 06 03 59.6 -0.5**
ARU SS SS 06 08 41.7 -8.2
ARU pmax pmax
comp=Z,12nm,0.6s
ILAS Lasjerd 74.72 305 *eP* **P 05 54 37.7 -0.1**
IFIR Firoozkooh 74.91 306 *eP* **P 05 54 38.1 -0.8**
IDMV Damavand 75.49 305 *eP* **P 05 54 41.9 -0.4**
IKLH Kolahrood 75.70 303 *eP* **P 05 54 43.2 -0.3**
IMHD Mahdasht 76.61 305 *eP* **P 05 54 48.8 +0.4**
KBD Kabd 78.86 299 *eP* **P 05 55 00.3 -0.5**
KBD AMb AMB 05 55 02.5
comp=Z,14nm,0.7s
RDF Al-Radifah 78.98 298 *eP* **P 05 55 01.2 -0.3**
RDF AMb AMB 05 55 03.9
comp=Z,19nm,1.1s
IKOM Komasi 79.13 304 *eP* **P 05 55 01.1 -1.3**
ISRB Sarab 79.14 307 *eP* **P 05 55 02.8 +0.3**
NAY Al-Naaiem 79.25 299 *eP* **P 05 55 02.1 -0.8**
NAY AMb AMB 05 55 03.0
comp=Z,0.9nm,0.6s
RST Umm Al-Ruwaisa 79.47 299 *eP* **P 05 55 03.2 -1.0**
RST AMb AMB 05 55 04.3
comp=Z,300nm,0.8s
ILIN Lien 79.60 304 *eP* **P 05 55 03.8 -1.3**
IVIS Veis 79.68 304 *eP* **P 05 55 04.3 -1.1**
IDHR Dehrash 80.07 304 *eP* **P 05 55 06.2 -1.3**
IAZR Azarshahr 80.47 307 *eP* **P 05 55 09.1 -0.6**
IMRD Marand 80.71 308 *eP* **P 05 55 10.2 -0.7**
ISHB Shabestar 80.77 308 *eP* **P 05 55 11.5 +0.2**
RAYN Ar Rayn 80.83 293 *eP* **P 05 55 11.7 0.0**
comp=Z,9.5nm,0.8s
DGRG David-gareji 81.04 311 P **P 05 55 13.3 +0.9**
TBLG Delisi 81.53 311 *eP* **P 05 55 15.5 +0.6**
TBLG Delisi 81.53 311 P **P 05 55 15.5 +0.6**
DUS Dusheti 81.56 312 P **P 05 55 16.4 +1.2**
GUDG Gudauri 81.74 312 P **P 05 55 16.3 0.0**
ZEI Tsey 82.17 312 *eP* **P 05 55 17.4 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.6s
ONI Oni 82.50 312 P **P 05 55 19.9 -0.1**
COLD Coldfoot 82.75 23 *eP* **P 05 55 21.4 +0.7**
comp=Z,4.0nm,0.5s
KBZ Khabaz 82.91 313 P **P 05 55 21.9 -0.1**
KBZ Khabaz 82.91 313 P **P 05 55 21.9 -0.1**
KBZ Khabaz 82.91 313 P **P 05 55 21.9 -0.1**
comp=Z,1.3nm,0.5s,baz=10.0,slow=1.1,SNR=3.7
KIV Kislovodsk 83.06 314 *eP* **P 05 55 24.3 +1.4**
KIV pmax pmax
comp=Z,6.0nm,0.7s
VRHR Novokhopersk 83.82 321 *eP* **P 05 55 25.4 -1.1**
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
ILAR Eielson Array 83.94 25 P **P 05 55 25.6 -1.3**
ILAR Eielson Array 83.94 25 P **P 05 55 25.6 -1.3**
comp=Z,1.6nm,0.5s,baz=246,slow=5.5,SNR=40
VNDA Vanda 84.24 173 P **P 05 55 28.8 +0.7**
VNDA Vanda 84.24 173 P **P 05 55 28.8 +0.7**
comp=Z,1.7nm,1.0s,baz=314,slow=5.4,SNR=8.0
VORD Divnogorie 85.29 321 *eP* **P 05 55 33.1 -0.8**
VORD pmax pmax
comp=N,30nm,0.5s
VORD pmax pmax
comp=E,140nm,0.5s
VORD pmax pmax
comp=Z,30nm,0.5s
VSR Storozhevoye 85.36 321 *eP* **P 05 55 33.6 -0.6**
VSR pmax pmax
comp=N,2.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 86.76 325 *i* P **P 05 55 38.8 -2.2**
OBN *eS* SKSac 06 05 45.2 -9.4
OBN *eSS* **SS 06 11 56.1 +4.9**
OBN pmax pmax
comp=Z,9.0nm,0.3s
OBN MLR MLR
comp=Z,100nm,17.0s
ANN Anapa 86.81 315 *eP* P 05 55 45.1 +3.6
ANN pmax pmax
comp=Z,15nm,0.7s
ASF Jabal al Asfar 88.07 302 P **P 05 55 48.6 +0.7**
ASF Jabal al Asfar 88.07 302 P **P 05 55 48.6 +0.7**
comp=Z,3.5nm,0.9s,baz=120,slow=7.4,SNR=5.1
ARCES ARCESS Array B 89.85 340 P **P 05 55 53.9 -1.5**
ARCES ARCESS Array B 89.85 340 P **P 05 55 53.9 -1.5**
comp=Z,5.1nm,0.6s,baz=77,slow=6.4,SNR=14
FINES FINESS Array B 91.39 332 P **P 05 56 00.7 -1.9**
FINES FINESS Array B 91.39 332 P **P 05 56 00.7 -1.9**
comp=Z,2.5nm,0.8s,baz=126,slow=7.1,SNR=8.7
AKASG Malin Array Be 91.67 321 P **P 05 56 02.4 -1.8**
AKASG Malin Array Be 91.67 321 P **P 05 56 02.4 -1.8**
AKASG Malin Array Be 91.67 321 P **P 05 56 02.4 -1.8**
comp=Z,2.1nm,0.4s,baz=63,slow=5.8,SNR=7.2
KIEV Kiev 91.68 321 *eP* **P 05 56 02.8 -1.4**
CRVS Cervenica-Dubn 96.96 320 *eP* **P 05 56 28.5 0.0**
CRVS pmax pmax
comp=Z,4.0nm,1.0s
CRVS Cervenica-Dubn 96.96 320 *eP* **P 05 56 28.5 0.0**
SCHQ Schefferville 119.54 9 PKP **PKPdf 06 01 45.6 -0.2**
SCHQ Schefferville 119.54 9 PKP **PKPdf 06 01 45.6 -0.2**
comp=Z,1.3nm,0.5s,baz=242,slow=13,SNR=5.2
TORD Torodi Ar. Bea 123.36 289 PKP **PKPdf 06 01 53.8 -0.5**
TORD Torodi Ar. Bea 123.36 289 PKP **PKPdf 06 01 53.8 -0.5**
comp=Z,2.2nm,0.7s,baz=58,slow=1.8,SNR=14
DBIC Dimbokro 131.13 283 PKP **PKPdf 06 02 09.6 +0.4**
DBIC SKPbc **SKPbc 06 05 20.9 -0.2**
DBIC Dimbokro 131.13 283 PKP **PKPdf 06 02 09.6 +0.4**
comp=Z,5.0nm,1.0s,baz=200,slow=5.2,SNR=3.6
DBIC SKPbc **SKPbc 06 05 20.8 -0.2**
comp=Z,4.6nm,0.9s,baz=110,slow=11,SNR=4.5
LPAZ La Paz 160.78 128 PKP **PKPdf 06 02 58.3 +0.4**
LPAZ La Paz 160.78 128 PKP **PKPdf 06 02 58.3 +0.4**
comp=Z,1.1nm,0.8s,baz=166,slow=1.4,SNR=4.8

IDC 19 05:49:45.2±3.2, 1°.62S×99°.61E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.6/24, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=137.2km s-min=21.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**351**	Pn	Pn	05 50 53.1	-1.0
	0.8nm,0.3s,baz=146,slow=7.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	P	05 54 18.6	-0.7
	0.3nm,0.3s,baz=196,slow=9.4,SNR=2.8						
WRA	**Warramunga Arr**	**38.52**	**121**	P	P	05 57 09.3	-0.5
	0.4nm,0.7s,baz=303,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**39.79**	**126**	P	P	05 57 20.9	+0.5
	0.2nm,0.3s,baz=305,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**50.56**	**345**	P	P	05 58 44.7	-0.9
	0.3nm,0.4s,baz=164,slow=7.7,SNR=6.0						
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	05 59 31.9	+1.3
	0.5nm,0.4s,baz=173,slow=6.7,SNR=2.8						
TXAR	**Lajitas Array**	**144.64**	**37**	PKP	PKPbc	06 09 23.6	+0.1
	0.3nm,0.4s,baz=270,slow=1.9,SNR=5.8						

*IDC **19** 06:03:56.3±3.0, 8°.92S×110°.91E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.3/1, MS3.3/2, Ms1 3.4/2, ms1mx2.7/23, Error ellipse: s-maj=148.9km s-min=28.2km az=48.0*
*ISCJB **19** 06:03:57.9±1.3, 9°.35S±0°.09×110°.39E±0°.05, h35km±17km, mb3.5/3, MS3.2/2, Error ellipse: s-maj=14.7km s-min=8.2km az=6.5*
*DJA **19** 06:04:00.7±1.1, 9°S±6°×11°0E±°, h11km±7km, M3.8/7, MLv3.8/7*
ISC 19 06:03:58.2±3.0, 9°.22S±0°.09×110°.37E±0°.06, h26km±24km, n15, σ2°.05/20, mb3.6/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.29**	**38**	P	**Pn**	**06 04 20.3**	**-0.3**
PCJI				S	**Sn**	**06 04 36.1**	**-0.9**
UGM	**Wanagama**	**1.30**	**7**	P	**Pn**	**06 04 21.3**	**+0.5**
UGM				S	**Sn**	**06 04 36.3**	**-1.1**
YOGI	**Yogyakarta**	**1.39**	**357**	P	**Pn**	**06 04 22.6**	**+0.6**
YOGI				S	**Sn**	**06 04 37.2**	**-2.4**
PWJI	**Pagerwojo**	**1.85**	**50**	P	**Pn**	**06 04 29.3**	**+1.1**
PWJI				S	**Sn**	**06 04 46.5**	**-4.3**
BJII	**Banjamegara**	**1.98**	**341**	P	**Pn**	**06 04 32.5**	**+2.3**
CLJI	**Cilicap**	**2.00**	**318**	P	**Pn**	**06 04 30.8**	**+0.4**
CLJI				S	**Sb**	**06 04 58.3**	**-0.2**
SJI	**Sawahan**	**2.02**	**43**	P	**Pn**	**06 04 33.0**	**+2.3**
SJI				S	**Sn**	**06 04 56.9**	**+1.8**
KRKI	**Karangkates**	**2.31**	**63**	P	**Pn**	**06 04 36.2**	**+1.6**
KRKI				S	**Sn**	**06 05 05.2**	**+3.0**
CISI	**Cisompet, Garu**	**3.02**	**303**	P	**Pn**	**06 04 45.8**	**+1.4**
FITZ	**Fitzroy Crossi**	**17.25**	**122**	Pn	**Pn**	**06 07 54.7**	**-2.9**
	0.1nm,0.3s,baz=278,slow=7.1,SNR=2.8						
NWAO	**Narrogin (SRO)**	**24.43**	**166**	LR	LR	06 18 30.6	
	comp=Z,134nm,20.1s,baz=153,slow=36						
WRA	**Warramunga Arr**	**25.49**	**117**	P	**P**	**06 09 24.1**	**-0.6**
	1.1nm,0.6s,baz=292,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.69**	**125**	P	**P**	**06 09 34.9**	**-0.7**
	0.7nm,0.6s,baz=299,slow=8.8,SNR=8.7						
CMAR	**Chiang Mai Arr**	**29.72**	**338**	LR	LR	06 22 55.5	
	comp=Z,27nm,19.3s,baz=135,slow=38						
MKAR	**Makanchi Array**	**61.13**	**338**	P	**P**	**06 14 11.9**	**+1.6**
	0.2nm,0.4s,baz=155,slow=7.8,SNR=3.2						

CASC 19 06:04:43.6±2.3, 15°.18N×87°.32W, h20km±96km, MD3.9, ML3.8, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	**Cacacuatique**	**1.65**	**212**	*eP*	Pn	06 05 11.1	-0.6
BLLM	**Bellamira**	**1.94**	**207**	*eP*	Pn	06 05 15.1	-0.6
BLLM				*eS*	Sn	06 05 40.2	+0.7
VSM	**San Miguel**	**1.97**	**208**	*eP*	Pn	06 05 15.9	-0.3
SNVI	**San Vicente**	**2.15**	**224**	*eP*	Pn	06 05 18.3	-0.2
LBRS	**Las Brisas**	**2.20**	**230**	*eP*	Pn	06 05 19.0	-0.2
LFU	**La Fuente**	**2.25**	**231**	*eS*	Sn	06 05 47.0	0.0
LFRS	**El Faro**	**2.29**	**228**	*eP*	Pn	06 05 20.4	0.0
MRL	**Marmol**	**2.29**	**267**	*eP*	Pn	06 05 18.0	-2.6
MRL				*eS*	Sn	06 05 48.7	+0.3
SNET	**Serv Nac Est T**	**2.38**	**232**	AML	AML	06 05 56.3	
	comp=Z,734nm,0.3s						
BOQS	**Boqueron**	**2.38**	**233**	*eP*	Pn	06 05 22.6	+0.8
RBDL	**Robledal**	**2.53**	**245**	*eP*	Pn	06 05 23.7	-0.1
RBDL				*eS*	Sn	06 05 55.6	+1.5
NBG	**Las Nubes**	**2.99**	**259**	*eP*	Pn	06 05 30.8	+0.6
NBG				*eS*	Sn	06 06 06.4	+0.7
FUG	**Fuego 3**	**3.48**	**258**	*eP*	Pn	06 05 38.6	+1.7

*ATH **19** 06:13:41.4, 36°.73N×26°.71E, h4km, MD2.9/4*
*CSEM **19** 06:13:41.9±0.4, 36°.70N×26°.60E, h5km, MD2.9, Error ellipse: s-maj=10.8km s-min=7.0km az=158.0*
*ISCJB **19** 06:13:42.5±0.6, 36°.76N±0°.04×26°.55E±0°.03, h8km±6km, Error ellipse: s-maj=7.3km s-min=4.3km az=162.6*
*DDA **19** 06:13:42.1, 36°.84N×26°.49E, h7km, MD3.1*
*ISK **19** 06:13:43.0, 36°.81N×26°.55E, h5km, MD2.7*
ISC 19 06:13:40.5±1.2, 36°.69N±0°.03×26°.61E±0°.02, h2km±10km, n25, σ1°.03/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.46**	**100**	*eP*G	**Pg**	**06 13 48.9**	**-0.5**
NIS1				*eS*G	**Sg**	**06 13 54.5**	**-0.9**
NIS1	**Nisyros Isl.**	**0.46**	**100**	*eP*g	**Pg**	**06 13 48.9**	**-0.5**
NIS1				*eS*g	**Sg**	**06 13 54.5**	**-0.9**
BODT	**Bodrum**	**0.67**	**56**	*eP*G	**Pb**	**06 13 56.2**	**+1.2**
BODT				*eS*G	**Sb**	**06 14 06.1**	**+1.3**
BODT	**Bodrum**	**0.67**	**56**	*eP*g	**Pb**	**06 13 56.2**	**+1.2**
BODT				*eS*g	**Sb**	**06 14 06.1**	**+1.3**
BDRM	**Kayabasi**	**0.77**	**60**	*i* P	**Pb**	**06 13 57.7**	**+1.1**
BDRM				*i* S	**Sb**	**06 14 09.0**	**+1.5**
BDRM	**Kayabasi**	**0.77**	**60**	*i* P	**Pb**	**06 13 57.7**	**+1.1**
BDRM				*i* S	**Sb**	**06 14 09.0**	**+1.5**
DAT	**Datca**	**0.78**	**87**	*eP*G	**Pn**	**06 13 59.9**	**+1.3**
DAT				*eS*G	**Sn**	**06 14 11.2**	**+0.3**
DAT	**Datca**	**0.78**	**87**	*eP*g	**Pn**	**06 13 59.9**	**+1.3**
DAT				*eS*g	**Sn**	**06 14 11.2**	**+0.3**
APE	**Apeiranthos**	**0.95**	**294**	*eP*G	**Pb**	**06 13 59.7**	**0.0**
APE				*eS*G	**Sb**	**06 14 12.5**	**-0.2**
APE	**Apeiranthos**	**0.95**	**294**	*eP*G	**Pn**	**06 14 00.4**	**-0.5**
APE	**Apeiranthos**	**0.95**	**294**	*eP*g	**Pn**	**06 14 00.4**	**-0.5**
APE				*eS*g	**Sb**	**06 14 12.5**	**-0.2**
SANT	**Santorini**	**0.98**	**252**	*eP*B	**Pn**	**06 14 01.1**	**-0.2**
SANT				*eS*G	**Sn**	**06 14 16.3**	**+0.5**
SANT	**Santorini**	**0.98**	**252**	*eP*b	**Pn**	**06 14 01.1**	**-0.2**
SANT				*eS*g	**Sn**	**06 14 16.3**	**+0.5**
SMG	**Samos**	**1.03**	**10**	*eP*G	**Pg**	**06 14 00.3**	**0.0**
SMG				*eS*G	**Sg**	**06 14 13.6**	**-0.2**
SMG	**Samos**	**1.03**	**10**	*eP*g	**Pg**	**06 14 00.3**	**0.0**
SMG				*eS*g	**Sg**	**06 14 13.6**	**-0.2**
GCAM	**G?zelcaml?**	**1.13**	**26**	*i* P	**Pg**	**06 14 02.1**	**0.0**
GCAM				*i* S	**Sg**	**06 14 17.2**	**+0.5**
GCAM	**G?zelcaml?**	**1.13**	**26**	*i* P	**Pg**	**06 14 02.1**	**0.0**
GCAM				*i* S	**Sg**	**06 14 17.2**	**+0.5**
AYDN	**Tasoluk**	**1.40**	**46**	*i* P	**Pb**	**06 14 07.7**	**+0.2**
AYDN				*i* S	**Sn**	**06 14 27.9**	**+1.6**
AYDN	**Tasoluk**	**1.40**	**46**	*i* P	**Pb**	**06 14 07.7**	**+0.2**
AYDN				*i* S	**Sn**	**06 14 27.9**	**+1.6**
YER	**Yerkesik**	**1.41**	**71**	*e*PN	Pg	06 14 11.2	+3.7
YER	**Yerkesik**	**1.41**	**71**	*e*Pn	Pg	06 14 11.2	+3.7
TURN	**Turunc**	**1.61**	**83**	*i* P	**Pn**	**06 14 09.3**	**-0.6**
TURN				*i* S	**Sn**	**06 14 29.0**	**-2.3**
TURN	**Turunc**	**1.61**	**83**	*i* P	**Pn**	**06 14 09.3**	**-0.6**
TURN				*i* S	**Sn**	**06 14 29.0**	**-2.3**
NPS	**Neapolis**	**1.64**	**210**	*e*PG	**Pg**	**06 14 13.4**	**+1.5**
NPS	**Neapolis**	**1.64**	**210**	*e*Pg	**Pg**	**06 14 13.4**	**+1.5**

IDC 19 06:41:14.3±1.9, 3°.94N×126°.68E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, Error ellipse: s-maj=151.9km s-min=24.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.90**	**163**	P	P	06 46 38.9	-0.3
	3.5nm,0.8s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.33**	**166**	P	P	06 47 10.8	+0.7
	0.1nm,0.3s,baz=347,slow=7.8,SNR=3.0						
STKA	**Stephens Creek**	**38.35**	**159**	P	P	06 48 36.7	-0.5
	2.2nm,0.8s,baz=354,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	06 51 04.3	-0.1
	0.3nm,0.4s,baz=120,slow=7.8,SNR=8.2						

GUC 19 06:57:20.5±0.7, 31°.99S×71°.46W, h44km±4km, MD3.9, ML3.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.91**	**26**	*i* P	Pn	06 57 37.8	+0.8
CMCH				*i* S	Sn	06 57 50.5	+1.5
CMCH				AML	AML	06 57 53.8	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.32**	**150**	*i* P	Pn	06 57 43.3	+0.7
PEL				*i* S	Sn	06 58 00.6	+1.4
PEL				AML	AML	06 58 02.2	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**1.60**	**154**	*e*P	Pn	06 57 47.2	+0.8
STL				*i* S	Sn	06 58 07.3	+1.5
CLCH	**Cerro Calan**	**1.60**	**151**	*i* P	Pn	06 57 47.6	+1.1
CLCH				*i* S	Sn	06 58 07.9	+1.8
CLCH				AML	AML	06 58 09.4	
	comp=E,788nm,0.4s						
TACH	**Talagante**	**1.71**	**165**	*e*P	Pn	06 57 48.9	+0.9
TACH				*i* S	Sn	06 58 09.6	+0.9
ANTU	**Antumapu**	**1.72**	**156**	*e*P	Pn	06 57 48.6	+0.5
ANTU				*i* S	Sn	06 58 10.4	+1.5
ANTU				AML	AML	06 58 20.9	
	comp=E,362nm,0.5s						
PCH	**Pirque**	**1.81**	**154**	*e*P	Pn	06 57 50.3	+1.0
PCH				*i* S	Sn	06 58 12.7	+1.5
SJCH	**San Jose de Ma**	**1.89**	**151**	*e*P	Pn	06 57 50.9	+0.5
SJCH				*i* S	Sn	06 58 14.8	+1.6
CHCH	**Chadas Angostu**	**2.05**	**161**	*e*P	Pn	06 57 53.8	+1.1

CHCH				*i* S	Sn	06 58 18.5	+1.5
LMEL	**Las Melosas**	**2.13**	**151**	*e*P	Pn	06 57 55.2	+1.4
LMEL				*i* S	Sn	06 58 20.7	+1.4
CACH	**El Canelo**	**2.24**	**161**	*e*P	Pn	06 57 56.9	+1.6
CACH				*e*S	Sn	06 58 24.1	+2.2
LCO	**Las Campanas**	**3.04**	**13**	*e*P	Pn	06 58 07.2	+0.7
LCO				*e*S	Sn	06 58 43.8	+1.7
LCO				AML	AML	06 58 57.3	
	comp=E,163nm,0.4s						

*THE **19** 07:16:16.8, 34°.87N×26°.10E, h6km±2km, ML3.5/1, Error ellipse: s-maj=3.0km s-min=0.7km az=353.0*
*CSEM **19** 07:16:16.4±0.5, 34°.81N×26°.11E, h2km, MD3.2, Error ellipse: s-maj=10.1km s-min=3.6km az=166.0*
*ATH **19** 07:16:17.7, 34°.88N×26°.07E, h5km±2km, MD3.2/6*
ISC 19 07:16:17.2±1.6, 34°.84N±0°.08×26°.10E±0°.03, h7km±11km, n27, σ0°63/40, 3C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.29**	**19**	P	**Pg**	**07 16 22.3**	**-0.6**
ZKR				S	**Sg**	**07 16 27.0**	**+0.2**
ZKR	**Zakros**	**0.29**	**19**	⇓*i*PG	**Pg**	**07 16 22.9**	**0.0**
ZKR				*e*SG	**Sg**	**07 16 27.2**	**+0.4**
ZKR	**Zakros**	**0.29**	**19**	P	**Pg**	**07 16 22.3**	**-0.6**
ZKR	**Zakros**	**0.29**	**19**	⇓*i*Pg	**Pg**	**07 16 22.9**	**0.0**
ZKR				*e*Sg	**Sg**	**07 16 27.2**	**+0.4**
XRY	**Khrisi**	**0.34**	**276**	*e*PB	**Pg**	**07 16 23.9**	**+0.1**
XRY	**Khrisi**	**0.34**	**276**	*e*Pb	**Pg**	**07 16 23.9**	**+0.1**
NPS	**Neapolis**	**0.58**	**317**	P	**Pg**	**07 16 27.6**	**-0.8**
NPS				S	**Sg**	**07 16 36.1**	**+0.1**
NPS	**Neapolis**	**0.58**	**317**	*e*PB	**Pg**	**07 16 27.8**	**-0.6**
NPS	**Neapolis**	**0.58**	**317**	*e*Pb	**Pg**	**07 16 27.8**	**-0.6**
NPS				S	**Sg**	**07 16 36.1**	**+0.1**
LAST	**Lasithi**	**0.60**	**302**	P	**Pg**	**07 16 28.0**	**-0.8**
LAST				S	**Sg**	**07 16 37.1**	**+0.4**
LAST	**Lasithi**	**0.60**	**302**	⇑*i*PB	**Pg**	**07 16 28.1**	**-0.8**
LAST				*e*SB	**Sg**	**07 16 37.3**	**+0.6**
LAST	**Lasithi**	**0.60**	**302**	⇑*i*Pb	**Pg**	**07 16 28.1**	**-0.8**
LAST				S	**Sg**	**07 16 37.1**	**+0.4**
SIVA	**Sivas**	**1.08**	**280**	*e*PN	**Pb**	**07 16 38.4**	**+0.3**
SIVA	**Sivas**	**1.08**	**280**	*e*Pn	**Pb**	**07 16 38.4**	**+0.3**
IDI	**Anoyia**	**1.09**	**295**	P	**Pg**	**07 16 36.7**	**-1.4**
IDI				S	**Sb**	**07 16 52.6**	**-0.2**
IDI	**Anoyia**	**1.09**	**295**	P	**Pg**	**07 16 36.7**	**-1.4**
IDI				S	**Sb**	**07 16 52.6**	**-0.2**
KARP	**Karpathos**	**1.12**	**51**	P	**Pg**	**07 16 37.5**	**-1.2**
KARP				S	**Sg**	**07 16 52.4**	**-0.8**
KARP	**Karpathos**	**1.12**	**51**	*e*PG	**Pg**	**07 16 38.6**	**-0.1**
KARP				*e*SB	**Sn**	**07 16 55.3**	**+0.3**
KARP	**Karpathos**	**1.12**	**51**	P	**Pg**	**07 16 37.5**	**-1.2**
KARP	**Karpathos**	**1.12**	**51**	*e*Pg	**Pg**	**07 16 38.6**	**-0.1**
KARP				S	**Sg**	**07 16 52.4**	**-0.8**
KARP				*e*Sb	**Sn**	**07 16 55.3**	**+0.3**
SANT	**Santorini**	**1.62**	**341**	*e*PB	**Pg**	**07 16 47.8**	**-0.4**
SANT	**Santorini**	**1.62**	**341**	*e*Pb	**Pg**	**07 16 47.8**	**-0.4**
VAM	**Vamos**	**1.66**	**291**	*e*PB	**Pg**	**07 16 48.8**	**-0.2**
VAM	**Vamos**	**1.66**	**291**	*e*Pb	**Pg**	**07 16 48.8**	**-0.2**
NIS1	**Nisyros Isl.**	**1.97**	**26**	*e*PN	**Pg**	**07 16 55.3**	**+0.4**
ARG	**Arkhangelos**	**2.15**	**50**	⇑*i*PN	**Pb**	**07 16 56.9**	**+0.5**
DYR	**Agios Nikonas**	**3.61**	**303**	*e*PN	Pn	07 17 17.0	+3.4

IDC 19 07:35:07.1±2.0, 1°.61S×99°.23E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/24, mbtmp3.6/7, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/38, Error ellipse: s-maj=80.5km s-min=19.5km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.39**	**356**	Pn	Pn	07 36 14.1	-1.1
	0.8nm,0.3s,baz=162,slow=6.4,SNR=1.9						
CMAR	**Chiang Mai Arr**	**19.94**	**359**	P	P	07 39 40.7	0.0
	0.2nm,0.3s,baz=189,slow=9.6,SNR=5.5						
WRA	**Warramunga Arr**	**38.86**	**120**	P	P	07 42 34.3	-0.1
	0.6nm,0.5s,baz=303,slow=8.9,SNR=15						
ASAR	**Alice Springs**	**40.11**	**126**	P	P	07 42 44.9	0.0
	0.3nm,0.5s,baz=297,slow=8.1,SNR=4.3						
KSRS	**Korea Array**	**47.08**	**31**	LR	LR	08 06 30.8	
	comp=Z,19nm,18.9s,baz=260,slow=40						
SONM	**Songino Array**	**49.63**	**6**	P	P	07 44 00.3	-0.2
	0.6nm,0.8s,baz=187,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**50.45**	**345**	P	P	07 44 06.5	0.0
	0.4nm,0.4s,baz=150,slow=7.5,SNR=9.1						
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	P	07 44 51.7	-0.2
	0.7nm,0.4s,baz=157,slow=4.8,SNR=4.4						
CPUP	**Villa Florida**	**144.17**	**218**	PKP	PKPdf	07 54 45.5	-0.3
	0.2nm,0.3s,baz=119,slow=10,SNR=3.6						
TXAR	**Lajitas Array**	**144.85**	**36**	PKP	PKPbc	07 54 46.1	0.0
	0.3nm,0.5s,baz=132,slow=1.9,SNR=4.8						

*ATH **19** 07:43:41.7, 37°.33N×20°.18E, h14km±1km, MD3.7/8*
*THE **19** 07:43:42.2, 37°.33N×19°.95E, h31km±40km, ML3.7/2, Error ellipse: s-maj=40.2km s-min=1.6km az=0.0*
*CSEM **19** 07:43:42.6±0.7, 37°.36N×20°.23E, h2km, ML3.7/2, Error ellipse: s-maj=13.1km s-min=5.3km az=64.0*
ISC 19 07:43:41.9±2.0, 37°.32N±0°.05×20°.19E±0°.08, h10km±11km, n58, σ0°78/72, 6C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.66**	**96**	P	**Pn**	**07 43 57.0**	**-0.4**
SFD				S	**Sn**	**07 44 09.6**	**+1.7**
SFD	**Strofades**	**0.66**	**96**	P	**Pn**	**07 43 57.0**	**-0.4**
VLS	**Valsamata**	**0.91**	**20**	P	**Pg**	**07 43 58.8**	**-0.6**
VLS				S	**Sn**	**07 44 13.0**	**-1.1**
VLS	**Valsamata**	**0.91**	**20**	*e*PB	**Pg**	**07 43 58.9**	**-0.5**
VLS				*e*SB	**Sb**	**07 44 12.0**	**0.0**
VLS	**Valsamata**	**0.91**	**20**	*e*Pb	**Pg**	**07 43 58.9**	**-0.5**
VLS				*e*Sb	**Sb**	**07 44 12.0**	**0.0**
VLS				S	**Sn**	**07 44 13.0**	**-1.1**
KFL	**Anninata**	**0.92**	**31**	P	**Pg**	**07 43 59.5**	**-0.1**
KFL				S	**Sb**	**07 44 12.4**	**+0.1**
KFL	**Anninata**	**0.92**	**31**	P	**Pg**	**07 43 59.5**	**-0.1**
KFL				S	**Sb**	**07 44 12.4**	**+0.1**
AMT	**Artemida-Makis**	**1.23**	**80**	*e*PB	**Pb**	**07 44 05.5**	**+0.2**
AMT	**Artemida-Makis**	**1.23**	**80**	*e*Pb	**Pb**	**07 44 05.5**	**+0.2**
RLS	**Riolos of Patr**	**1.25**	**54**	P	**Pn**	**07 44 05.1**	**-0.4**
RLS	**Riolos of Patr**	**1.25**	**54**	⇑*i*PB	**Pb**	**07 44 05.6**	**0.0**
RLS	**Riolos of Patr**	**1.25**	**54**	P	**Pn**	**07 44 05.1**	**-0.4**
RLS	**Riolos of Patr**	**1.25**	**54**	⇑*i*Pb	**Pb**	**07 44 05.6**	**0.0**
AXS	**Araxos**	**1.28**	**47**	P	**Pn**	**07 44 05.8**	**-0.1**
AXS	**Araxos**	**1.28**	**47**	P	**Pn**	**07 44 05.8**	**-0.1**
PYL	**PYLOS**	**1.31**	**109**	P	**Pn**	**07 44 06.2**	**-0.2**
PYL				S	**Sg**	**07 44 25.1**	**+0.9**
PYL	**PYLOS**	**1.31**	**109**	*e*PB	**Pb**	**07 44 06.6**	**-0.1**
PYL				*e*SB	**Sg**	**07 44 24.4**	**+0.2**
PYL	**PYLOS**	**1.31**	**109**	P	**Pn**	**07 44 06.2**	**-0.2**
PYL	**PYLOS**	**1.31**	**109**	*e*Pb	**Pb**	**07 44 06.6**	**-0.1**
PYL				*e*Sb	**Sg**	**07 44 24.4**	**+0.2**
PYL				S	**Sg**	**07 44 25.1**	**+0.9**
ITM	**Ithomi**	**1.39**	**95**	P	**Pn**	**07 44 07.4**	**-0.1**
ITM				S	**Sg**	**07 44 27.5**	**+0.8**
ITM	**Ithomi**	**1.39**	**95**	*e*PG	**Pb**	**07 44 07.9**	**-0.2**
ITM				*e*SB	**Sg**	**07 44 27.6**	**+0.8**
ITM	**Ithomi**	**1.39**	**95**	P	**Pn**	**07 44 07.4**	**-0.1**
ITM	**Ithomi**	**1.39**	**95**	*e*Pg	**Pb**	**07 44 07.9**	**-0.2**
ITM				*e*Sb	**Sg**	**07 44 27.6**	**+0.8**
PSA1	**Psathopyrgos**	**1.67**	**53**	⇓*i*PG	**Pb**	**07 44 12.8**	**0.0**
LAKA	**Lakka**	**1.69**	**57**	P	**Pb**	**07 44 12.9**	**-0.2**
LAKA	**Lakka**	**1.69**	**57**	⇑*i*PG	**Pb**	**07 44 13.0**	**-0.2**
LAKA	**Lakka**	**1.69**	**57**	P	**Pb**	**07 44 12.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.71**	**65**	P	**Pn**	**07 44 12.6**	**+0.6**
KLV	**Kalavryta, Ach**	**1.71**	**65**	⇑*i*PN	**Pb**	**07 44 12.8**	**-0.8**
KLV	**Kalavryta, Ach**	**1.71**	**65**	⇑*i*Pn	**Pb**	**07 44 12.8**	**-0.8**
EFP	**Efpalio**	**1.75**	**50**	*e*PN	**Pb**	**07 44 13.5**	**-0.6**
EFP	**Efpalio**	**1.75**	**50**	*e*Pn	**Pb**	**07 44 13.5**	**-0.6**
DYR	**Agios Nikonas**	**1.81**	**107**	*e*PN	**Pn**	**07 44 14.1**	**+0.9**
DYR	**Agios Nikonas**	**1.81**	**107**	*e*Pn	**Pn**	**07 44 14.1**	**+0.9**
GUR	**Goura**	**1.82**	**70**	P	**Pn**	**07 44 14.0**	**+0.6**
GUR	**Goura**	**1.82**	**70**	*e*PN	**Pn**	**07 44 14.0**	**+0.6**
GUR	**Goura**	**1.82**	**70**	P	**Pn**	**07 44 14.0**	**+0.6**
TRIZ	**Trizonia**	**1.82**	**55**	P	**Pb**	**07 44 14.3**	**-1.0**
TRIZ	**Trizonia**	**1.82**	**55**	⇑*i*PN	**Pb**	**07 44 14.5**	**-0.8**
TRIZ	**Trizonia**	**1.82**	**55**	P	**Pb**	**07 44 14.3**	**-1.0**
KALE	**Kalithea**	**1.88**	**55**	P	**Pb**	**07 44 15.2**	**-1.2**
KALE	**Kalithea**	**1.88**	**55**	*e*PN	**Pb**	**07 44 15.4**	**-1.0**
KALE	**Kalithea**	**1.88**	**55**	P	**Pb**	**07 44 15.2**	**-1.2**
EVR	**Evrytania**	**2.04**	**38**	P	**Pb**	**07 44 18.0**	**-1.2**
EVR	**Evrytania**	**2.04**	**38**	⇓*i*PN	**Pb**	**07 44 18.3**	**-0.9**
EVR	**Evrytania**	**2.04**	**38**	P	**Pb**	**07 44 18.0**	**-1.2**
EVR	**Evrytania**	**2.04**	**38**	⇓*i*Pn	**Pb**	**07 44 18.3**	**-0.9**
VLI	**Veliai**	**2.28**	**105**	*e*PN	**Pb**	**07 44 22.4**	**-0.8**
VLI	**Veliai**	**2.28**	**105**	*e*Pn	**Pb**	**07 44 22.4**	**-0.8**
KEK	**Kerkira**	**2.41**	**353**	*e*PN	**Pn**	**07 44 22.8**	**+1.4**
KEK	**Kerkira**	**2.41**	**353**	*e*Pn	**Pn**	**07 44 22.8**	**+1.4**
KYTH	**Kithira**	**2.51**	**114**	*e*PN	**Pb**	**07 44 25.6**	**-1.6**
KYTH	**Kithira**	**2.51**	**114**	*e*Pn	**Pb**	**07 44 25.6**	**-1.6**
LKR	**Lokris**	**2.58**	**58**	*e*PB	**Pn**	**07 44 24.2**	**+0.3**
LKR	**Lokris**	**2.58**	**58**	*e*Pb	**Pn**	**07 44 24.2**	**+0.3**
THL	**Klokotos Trika**	**2.66**	**32**	P	**Pn**	**07 44 26.1**	**+1.3**
THL	**Klokotos Trika**	**2.66**	**32**	*e*PN	**Pn**	**07 44 26.1**	**+1.3**
THL	**Klokotos Trika**	**2.66**	**32**	P	**Pn**	**07 44 26.1**	**+1.3**

IDC 19 08:00:05.5±3.6, 52°.92N×35°.92E, h0km, mb1 3.6/3, mb1mx3.2/26, mbtmp3.5/3, ML2.9/3, Error ellipse: s-maj=41.7km s-min=12.5km az=110.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.71**	**245**	Pn	Pn	08 01 15.7	-2.1
	1.6nm,0.3s,baz=56,slow=16,SNR=3.1						
AKASG				Pg	Pb	08 01 28.0	-1.0
	1.6nm,0.3s,baz=56,slow=16,SNR=3.9						
AKASG				Sn	Sn	08 02 09.6	-3.6
	1.5nm,0.3s,baz=64,slow=28,SNR=2.9						
FINES	**FINESS Array B**	**10.06**	**332**	Pn	Pn	08 02 27.3	-3.8
	0.1nm,0.3s,baz=142,slow=14,SNR=3.4						
FINES				Sn	Sn	08 04 14.9	-10
	0.1nm,0.3s,baz=140,slow=29,SNR=2.8						
ARCES	**ARCESS Array B**	**17.36**	**348**	P	Pn	08 04 08.2	-0.7
	0.1nm,0.3s,baz=159,slow=11,SNR=3.4						

IDC 19 08:00:51.0±1.4, 1°.55S×99°.27E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/22, mbtmp3.3/4, Error ellipse: s-maj=72.7km s-min=26.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.85**	**120**	P	P	08 08 18.4	+0.1
	0.2nm,0.7s,baz=297,slow=7.7,SNR=3.8						
ASAR	**Alice Springs**	**40.11**	**126**	P	P	08 08 28.4	-0.4
	0.2nm,0.9s,baz=291,slow=6.7,SNR=2.6						
MKAR	**Makanchi Array**	**50.41**	**345**	P	P	08 09 50.1	-0.1
	0.1nm,0.4s,baz=164,slow=8.2,SNR=2.6						
VNDA	**Vanda**	**82.74**	**169**	P	P	08 13 16.4	+0.1
	0.7nm,0.7s,baz=292,slow=5.4,SNR=3.9						
TXAR	**Lajitas Array**	**144.78**	**36**	PKP	PKPdf	08 20 30.3	-0.5
	0.3nm,0.9s,baz=301,slow=2.1,SNR=2.7						

IDC 19 08:05:50.0±3.5, 30°.46S×177°.56W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/18, mbtmp3.5/2, Error ellipse: s-maj=75.5km s-min=32.8km az=113.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.25**	**345**	Pn	Pn	08 06 14.7	+0.1
	40nm,0.3s,baz=150,slow=20,SNR=3.3						
RAO				Sn	Sg	08 06 27.7	-2.3
	191nm,0.3s,baz=304,slow=23,SNR=10						
ASAR	**Alice Springs**	**43.48**	**267**	P	P	08 13 55.5	+0.2
	0.2nm,0.4s,baz=103,slow=7.4,SNR=3.8						
WRA	**Warramunga Arr**	**44.48**	**272**	P	P	08 14 02.8	-0.5
	0.4nm,0.4s,baz=110,slow=8.1,SNR=29						
FINES	**FINESS Array B**	**145.33**	**340**	PKPbc	PKPbc	08 25 27.9	-0.9
	1.9nm,0.9s,baz=46,slow=4.0,SNR=6.3						

IDC 19 08:18:51.3±3.4, 1°.59S×99°.42E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/23, mbtmp3.5/3, ML4.6/1, Error ellipse: s-maj=140.3km s-min=28.2km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.92**	**359**	P	P	08 23 25.4	+0.6
	0.7nm,0.3s,baz=174,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**38.70**	**121**	P	P	08 26 17.4	0.0
	0.4nm,0.8s,baz=297,slow=8.8,SNR=3.8						
MKAR	**Makanchi Array**	**50.48**	**345**	P	P	08 27 50.7	-0.3
	0.3nm,0.6s,baz=151,slow=7.2,SNR=2.4						
TXAR	**Lajitas Array**	**144.72**	**36**	PKP	PKPbc	08 38 30.1	+0.2
	0.3nm,0.5s,baz=225,slow=0.5,SNR=4.9						

IDC 19 08:22:57.0±0.7, 1°.51S×99°.40E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.9/27, mbtmp3.9/14, ML4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/45, Error ellipse: s-maj=26.0km s-min=15.2km az=69.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.30**	**354**	Pn	Pn	08 24 04.4	+0.4
	1.1nm,0.3s,baz=221,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**19.84**	**359**	P	Pn	08 27 30.7	-0.4
	1.1nm,0.3s,baz=184,slow=11,SNR=7.1						
WRA	**Warramunga Arr**	**38.76**	**121**	P	P	08 30 22.9	-0.7
	0.5nm,0.5s,baz=305,slow=8.5,SNR=27						
ASAR	**Alice Springs**	**40.03**	**126**	P	P	08 30 33.9	-0.3
	0.7nm,0.4s,baz=302,slow=7.7,SNR=12						
JNU	**Nakatsue**	**45.47**	**38**	P	P	08 31 18.4	+0.2
	3.2nm,0.8s,baz=210,slow=11,SNR=3.1						
AAK	**Ala-Archa**	**49.34**	**336**	LR	LR	08 53 24.7	
	comp=Z,23nm,18.5s,baz=148,slow=37						
SONM	**Songino Array**	**49.52**	**6**	P	P	08 31 48.1	-1.4
	0.4nm,0.4s,baz=182,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**50.40**	**345**	P	P	08 31 55.6	-0.6
	1.5nm,0.7s,baz=149,slow=8.3,SNR=20						
USRK	**Ussuriysk Arra**	**54.02**	**29**	P	P	08 32 24.9	+1.9
	0.5nm,0.4s,baz=233,slow=3.3,SNR=2.0						
KURBB	**Kurchatov Arra**	**54.91**	**344**	P	P	08 32 28.4	-1.0
	0.3nm,0.4s,baz=169,slow=6.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	P	08 32 40.8	-0.5
	0.9nm,0.4s,baz=180,slow=4.3,SNR=2.4						
KMBO	**Kilima Mbogo**	**62.13**	**270**	P	P	08 33 22.2	+1.3
	0.6nm,0.3s,baz=59,slow=19,SNR=3.6						
KBZ	**Khabaz**	**67.54**	**319**	P	P	08 33 54.6	-0.6
	1.7nm,0.9s,baz=156,slow=6.5,SNR=3.7						
VNDA	**Vanda**	**82.76**	**169**	P	P	08 35 22.5	0.0
	0.7nm,1.0s,baz=311,slow=3.3,SNR=3.9						
QSPA	**South Pole Qui**	**88.45**	**180**	P	P	08 35 52.1	+0.9
	0.5nm,0.5s,baz=274,slow=0.8,SNR=6.6						
CPUP	**Villa Florida**	**144.35**	**217**	PKP	PKPbc	08 42 34.2	-0.1
	1.9nm,0.6s,baz=136,slow=1.8,SNR=6.8						
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	PKPab	08 42 35.1	-0.2
	0.5nm,0.5s,baz=277,slow=2.1,SNR=11						

IDC 19 08:30:09.6±1.0, 1°.38S×99°.52E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, ML4.5/1, Error ellipse: s-maj=48.0km s-min=19.2km az=68.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.73**	**358**	P	P	08 34 40.5	-0.4
	0.6nm,0.3s,baz=185,slow=9.1,SNR=2.6						
WRA	**Warramunga Arr**	**38.72**	**121**	P	P	08 37 35.5	-0.3
	0.5nm,0.6s,baz=297,slow=8.6,SNR=8.6						
ASAR	**Alice Springs**	**40.00**	**126**	P	P	08 37 46.5	0.0
	0.1nm,0.5s,baz=302,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**49.38**	**6**	P	P	08 39 02.1	+1.0
	0.1nm,0.3s,baz=181,slow=8.6,SNR=1.9						
MKAR	**Makanchi Array**	**50.31**	**345**	P	P	08 39 08.1	0.0
	0.3nm,0.4s,baz=153,slow=9.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.48**	**350**	P	P	08 39 52.4	-0.8
	0.4nm,0.4s,baz=142,slow=7.3,SNR=2.6						
QSPA	**South Pole Qui**	**88.57**	**180**	P	P	08 43 04.2	-0.1
	0.4nm,0.7s,baz=300,slow=20,SNR=4.6						
TXAR	**Lajitas Array**	**144.50**	**36**	PKP	PKPbc	08 49 47.4	0.0
	0.2nm,0.5s,baz=232,slow=1.4,SNR=5.1						
CFAA	**Coronel Fontan**	**145.19**	**198**	PKPbc	PKPbc	08 49 49.1	-0.4
	0.4nm,0.6s,baz=136,slow=2.5,SNR=9.2						

*IDC **19** 08:44:30.8±0.4, 1°.29S×99°.52E, h0km, mb4.5/33, mb1 4.6/34, mb1mx4.6/36, mbtmp4.5/34, ML4.2/2, MS3.7/12, Ms1 3.7/12, ms1mx3.3/52, Error ellipse: s-maj=13.6km s-min=9.7km az=65.0*

*NEIC **19** 08:44:32.3±0.2, 1°.39S×99°.43E, h10km, mb4.7/18, Error ellipse: s-maj=7.9km s-min=5.8km az=69.0*
*MOS **19** 08:44:34.3±1.1, 1°.19S×99°.56E, h33km, mb5.0/27, Error ellipse: s-maj=12.3km s-min=5.6km az=115.7*
*DJA **19** 08:44:35.9±1.3, 2°.5±3°.×9°.9E±°., h12km±9km, M4.8/24, mB5.2/10, mb4.9/24, MLv5.1/11, Mw(mB)4.5/10*
*ISCJB **19** 08:44:37.8±0.7, 1°.31±0°.03×99°.44E±0°.04, h66km±5km, mb4.6/83, Error ellipse: s-maj=7.1km s-min=4.9km az=147.0*
*TEH **19** 08:44:39.0, 1°.28S×99°.44E, h56km, ML4.7*
ISC 19 08:44:39.2±0.3, 1°.38S±0°.04×99°.40E±0°.05, h60km±2km, h60km:pP-P, n281, σ1°48/316, mb4.7/83, 18C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**2.36**	**44**	P	**Pn**	**08 45 16.2**	**+0.6**
BKNI				S	Sn	08 45 49.8	+6.4
RGRI	**Rengat**	**3.10**	**71**	P	**Pn**	**08 45 27.9**	**+2.1**
MASI	**Maura Aman, Be**	**3.33**	**122**	P	**Pn**	**08 45 29.1**	**+0.1**
KSI	**Kapahiang**	**3.91**	**125**	P	**Pn**	**08 45 36.6**	**-0.2**
PSI	**Prapat**	**4.18**	**353**	Pn	Pn	08 45 35.5	-5.2
PSI	**Prapat**	**4.18**	**353**	Pn	Pn	08 45 35.5	-5.2
	2.9nm,0.3s,baz=164,slow=9.5,SNR=7.0						
PSI				Pg		08 45 44.1	
	6.1nm,0.3s,baz=168,slow=9.4,SNR=14						
SNSI	**Sinabang, Aceh**	**4.86**	**321**	P	Pn	08 45 57.8	+7.9
EGSI	**Enggano, Bengk**	**4.88**	**144**	P	Pn	08 45 46.1	-4.0
TSI	**Tuntungan**	**4.92**	**350**	P	Pn	08 45 57.7	+7.0
FRIM	**Kepong**	**5.10**	**26**	P	**Pn**	**08 45 51.6**	**-1.5**
KCSI	**Kotacane, Aceh**	**5.13**	**342**	P	**Pn**	**08 45 53.8**	**+0.1**
	101nm,0.7s,2μm0.9nm						
KGM	**Kluang**	**5.17**	**49**	P	**Pn**	**08 45 53.3**	**-0.8**
MYKOM	**Kota Tinggi**	**5.45**	**55**	P	**Pn**	**08 45 57.4**	**-0.6**
MYKOM	**Kota Tinggi**	**5.45**	**55**	P	**Pn**	**08 45 58.9**	**+1.0**
	113nm,0.9s,2μm1.1nm						
LWLI	**Liwa**	**5.89**	**128**	P	**Pn**	**08 46 03.7**	**-0.4**
	540nm,0.7s,6μm1.8nm						
IPM	**Ipoh**	**6.04**	**16**	*e*Pn	**Pn**	**08 46 05.2**	**-0.9**
IPM	**Ipoh**	**6.04**	**16**	P	**Pn**	**08 46 05.5**	**-0.6**
IPM	**Ipoh**	**6.04**	**16**	P	**Pn**	**08 46 06.7**	**+0.6**
	91nm,1.1s,1μm0.6nm						
KLSI		**6.25**	**122**	P	**Pn**	**08 46 08.9**	**-0.1**
	83nm,0.8s,1μm0.3nm						
KLI	**Kotabumi**	**6.45**	**123**	P	Pn	08 46 20.1	+8.4
KASI	**Kota Agung**	**6.54**	**129**	P	**Pn**	**08 46 12.1**	**-0.8**
	177nm,0.8s,3μm0.7nm						
KULM	**Kulim**	**6.74**	**11**	*e*Pn	**Pn**	**08 46 13.0**	**-2.7**
KULM	**Kulim**	**6.74**	**11**	P	**Pn**	**08 46 13.9**	**-1.8**
KULM	**Kulim**	**6.74**	**11**	P	**Pn**	**08 46 17.9**	**+2.2**
	81nm,1.0s,642nm0.4nm						
KTGM	**Kuala Trenggan**	**7.63**	**29**	P	**Pn**	**08 46 27.0**	**-0.9**
SKLT	**Songkhla**	**8.58**	**8**	P	**Pn**	**08 46 42.0**	**+1.2**
	35nm,1.3s,805nm						
DBJI	**Dramaga**	**8.95**	**125**	P	Pn	08 46 49.8	+3.9
LEM	**Lembang**	**9.82**	**124**	P	Pn	08 47 02.9	+5.0
KSM	**Kuching**	**11.27**	**75**	*e*Pn	**Pn**	**08 47 18.4**	**+0.8**
SBUM	**Sibu**	**13.37**	**73**	P	**P**	**08 47 55.6**	**+1.8**
UBPT	**Khong Chiam**	**17.61**	**20**	P	P	08 48 50.4	+10
PBKT	**Sadao Pong**	**17.90**	**5**	P	Pn	08 48 52.5	+8.3
KKM	**Kota Kinabalu**	**18.34**	**66**	*e*Pn	**P**	**08 48 49.2**	**+0.2**
	20nm,0.9s						
KKM	**Kota Kinabalu**	**18.34**	**66**	P	**P**	**08 48 47.0**	**-2.0**
KKM	**Kota Kinabalu**	**18.34**	**66**	P	**Pn**	**08 48 52.4**	**+2.8**
	25nm,0.8s,755nm

comp=E,31nm,11.1s
XAN LR LR
comp=Z,130nm,13.8s
LZH Lanzhou 37.50 6 *e*P **P 08 51 45.9 -1.6**
LZH pP **pP 08 52 00.3 -2.4**
LZH sP **sP 08 52 07.3 -2.4**
LZH PP **PnPn 08 53 16.0 +0.5**
LZH *e*S **S 08 57 31.3 -1.0**
LZH sS **sS 08 57 56.0 -2.1**
LZH *e*SS **SnSn 09 00 06.0 -9.3**
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,93nm,4.2s
LZH LR LR
comp=N,320nm,12.5s
LZH LR LR
comp=E,310nm,13.0s
LZH LR LR
comp=Z,380nm,14.0s
NJ2 Nanjing 38.02 27 *e*P **P 08 51 53.1 +1.4**
NJ2 pmax pmax
comp=Z,30nm,1.0s
WRA Warramunga Arr 38.82 121 P **P 08 51 56.4 -2.3**
WRA PcP **PcP 08 54 09.0 0.0**
WRA S **S 08 57 49.0 -3.4**
WRA Warramunga Arr 38.82 121 P **P 08 51 56.4 -2.3**
comp=Z,8.2nm,0.6s,baz=304,slow=8.8,SNR=49
WRA PcP **PcP 08 54 09.0 0.0**
comp=Z,1.1nm,0.6s,baz=312,slow=2.5,SNR=5.0
WRA S **S 08 57 49.0 -3.4**
comp=Z,1.5nm,1.0s,baz=295,slow=17,SNR=4.7
WRA LR LR 09 06 46.8
comp=Z,76nm,21.9s,baz=290,slow=34
WRAB Tennant Creek 38.83 121 *e*P **P 08 51 56.8 -1.9**
WRAB pmax pmax
comp=Z,14nm,0.6s
WRAB Tennant Creek 38.83 121 *e*P **P 08 51 56.8 -1.9**
comp=Z,14nm,0.6s
ASAR Alice Springs 40.10 126 P **P 08 52 08.3 -1.0**
ASAR PcP **PcP 08 54 13.4 +0.3**
ASAR S **S 08 58 10.8 -0.7**
ASAR Alice Springs 40.10 126 P **P 08 52 08.3 -1.0**
comp=Z,4.9nm,0.7s,baz=298,slow=8.2,SNR=33
ASAR PcP **PcP 08 54 13.4 +0.3**
comp=Z,2.4nm,0.8s,baz=312,slow=2.8,SNR=6.5
ASAR S **S 08 58 10.8 -0.7**
comp=Z,4.1nm,1.1s,baz=296,slow=15,SNR=15
AS31 Alice Springs 40.10 126 *e*P **P 08 52 08.3 -1.1**
GTA Gaotai 40.59 0 P **P 08 52 13.4 +0.2**
GTA PcP **PcP 08 54 15.3 +0.9**
GTA S **S 08 58 23.9 +5.3**
GTA SS **SS 09 01 19.8 -1.0**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,88nm,5.5s
GTA LR LR
comp=N,120nm,16.9s
GTA LR LR
comp=E,210nm,18.8s
GTA LR LR
comp=Z,160nm,15.9s
HHC Hu-ho-hao-te 43.47 13 *e*P **P 08 52 36.1 -0.5**
HHC pP **pP 08 52 53.0 +0.9**
HHC sP **sP 08 53 00.3 +1.2**
HHC PcP **PcP 08 54 25.8 +1.9**
HHC ScP **ScP 08 58 10.5 +0.2**
HHC PcS **PcS 08 58 17.1 +0.5**
HHC S **S 08 58 59.8 -1.1**
HHC sS **sS 08 59 27.3 +0.2**
HHC SS SS 09 02 08.9 -8.3
HHC ScS **ScS 09 02 29.3 -1.7**
HHC pmax pmax
comp=Z,33nm,0.8s
HHC pmax pmax
comp=Z,82nm,4.9s
HHC LR LR
comp=N,270nm,14.8s
HHC LR LR
comp=E,540nm,14.8s
HHC LR LR
comp=Z,310nm,14.7s
BJI Beijing 43.99 19 P **P 08 52 41.8 +1.2**
BJI LR LR
comp=N,110nm,19.0s
BJI LR LR
comp=E,170nm,19.8s
BJI LR LR
comp=Z,59nm,14.3s
JNU Nakatsue 45.37 38 *e*P **P 08 52 51.0 -0.9**
comp=Z,8.4nm,1.0s
JNU Nakatsue 45.37 38 P **P 08 52 50.4 -1.5**
comp=Z,7.6nm,0.7s,baz=146,slow=2.8,SNR=6.4
JNU LR LR 09 13 38.8
comp=Z,40nm,19.1s,baz=72,slow=39
KSH Kashi 46.02 335 P **P 08 52 55.0 -2.0**
KSH sP **sP 08 53 18.0 -1.5**
KSH PP **PP 08 54 44.0 -1.9**
KSH S S 08 59 31.6 -6.4
KSH sS sS 08 59 58.6 -5.8
KSH SS **ScS 09 02 49.8 +2.4**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,160nm,4.8s
KSH LR LR
comp=N,190nm,6.4s
KSH LR LR
comp=E,130nm,7.9s
KSH LR LR
comp=Z,140nm,6.3s
WMQ Urumqi 46.21 348 P **P 08 52 58.5 +0.2**
WMQ pP **pP 08 53 12.1 -1.8**
WMQ PP **PP 08 54 46.0 -1.7**
WMQ S **S 08 59 39.4 -1.0**
WMQ sS **sS 09 00 05.6 -1.2**
WMQ SS SS 09 02 58.8 -7.8
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ pmax pmax
comp=Z,71nm,3.4s
WMQ LR LR
comp=N,81nm,27.0s
WMQ LR LR
comp=E,140nm,26.0s
WMQ LR LR
comp=Z,65nm,20.0s
KSAR Wonju Array Be 46.77 31 P **P 08 53 00.9 -1.8**
KSRS Korea Array 46.80 31 P **P 08 53 00.9 -2.0**
comp=Z,2.0nm,0.6s,baz=222,slow=7.8,SNR=7.8
KSRS LR LR 09 16 02.5
comp=Z,44nm,18.4s,baz=216,slow=41
TKM2 Tokmak 2 49.03 337 *e*P **P 08 53 20.4 0.0**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 49.03 337 *e*P **P 08 53 20.4 0.0**
comp=Z,13nm,0.8s
AAK Ala-Archa 49.23 336 P **P 08 53 21.9 0.0**
AAK pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 49.23 336 P **P 08 53 21.9 0.0**
comp=Z,9.1nm,1.1s
AAK Ala-Archa 49.23 336 P **P 08 53 21.7 -0.2**
comp=Z,1.4nm,0.4s,baz=46,slow=2.5,SNR=5.6
SONM Songino Array 49.39 6 P **P 08 53 22.3 -0.7**
SONM PcP **PcP 08 54 44.9 +0.2**
SONM Songino Array 49.39 6 P **P 08 53 22.3 -0.7**
comp=Z,1.9nm,0.6s,baz=192,slow=9.1,SNR=12
SONM PcP **PcP 08 54 44.9 +0.2**
comp=Z,2.7nm,0.7s,baz=190,slow=4.6,SNR=3.4
ULN Ulaanbaatar 49.50 7 *e*P **P 08 53 25.3 +1.5**
comp=Z,5.9nm,0.7s
ULN Ulaanbaatar 49.50 7 P P 08 53 31.3 +7.5
comp=Z,13nm,1.5s
EKS2 Erkin-Say 49.55 335 *e*P **P 08 53 24.9 +0.6**
EKS2 pmax pmax
comp=Z,13nm,0.8s
EKS2 Erkin-Say 49.55 335 *e*P **P 08 53 24.9 +0.6**
comp=Z,13nm,0.8s
STKA Stephens Creek 50.01 132 *e*P **P 08 53 27.5 -0.3**
comp=Z,2.3nm,0.8s
STKA Stephens Creek 50.01 132 P **P 08 53 26.9 -0.8**
comp=Z,5.4nm,0.6s,baz=276,slow=5.5,SNR=12
STKA LR LR 09 15 10.7
comp=Z,124nm,19.3s,baz=204,slow=37

MK31 Makanchi Array 50.28 345 *e*P **P 08 53 28.6 -1.0**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MK31 Makanchi Array 50.28 345 *e*P **P 08 53 28.9 -0.6**
MKAR Makanchi Array 50.28 345 *e*P **P 08 53 29.0 -0.6**
MKAR Makanchi Array 50.28 345 *e*P **P 08 53 29.0 -0.6**
MKAR Makanchi Array 50.28 345 P **P 08 53 29.0 -0.6**
comp=Z,9.8nm,0.6s,baz=149,slow=8.0,SNR=139
CN2 Changchun 50.67 24 *e*P **P 08 53 34.3 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KK31 Karatay Array 51.33 333 *i* P **P 08 53 36.5 -1.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 51.33 333 *e*P **P 08 53 37.3 -0.3**
KKAR Karatay Array 51.33 333 *e*P **P 08 53 37.3 -0.3**
MJAR Matsushiro Arr 52.18 40 P **P 08 53 41.4 -2.6**
MJAR Matsushiro Arr 52.18 40 P **P 08 53 41.4 -2.6**
comp=Z,0.3nm,0.3s,baz=217,slow=5.8,SNR=3.0
MDJ Mudanjiang 53.10 27 P **P 08 53 50.9 +0.3**
MDJ pP **pP 08 54 07.3 +0.8**
MDJ sP **sP 08 54 15.3 +1.9**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,39nm,7.6s
MDJ LR LR
comp=N,120nm,19.5s
MDJ LR LR
comp=E,130nm,22.4s
MDJ LR LR
comp=Z,140nm,17.5s
USRK Ussuriysk Arra 53.90 29 P **P 08 53 54.9 -1.6**
comp=Z,5.3nm,0.8s,baz=226,slow=4.3,SNR=14
OPO Ambohidratompo 53.94 248 P **P 08 53 58.0 +0.6**
OPO Ambohidratompo 53.94 248 P **P 08 53 58.0 +0.6**
comp=Z,7.0nm,0.9s,baz=66,slow=7.2,SNR=6.1
KURBB Kurchatov Arra 54.79 344 P **P 08 54 02.0 -0.8**
comp=Z,6.1nm,0.9s,baz=163,slow=7.1,SNR=30
KURK Kurchatov 54.85 344 P **P 08 54 02.0 -1.3**
KURK Kurchatov 54.85 344 P **P 08 54 02.0 -1.3**
ZAA0 Zalesovo Array 56.45 350 *e*P **P 08 54 13.8 -0.9**
ZALV Zalesovo Beam 56.45 350 P **P 08 54 14.0 -0.7**
ZALV S **S 09 02 02.9 +1.7**
ZALV Zalesovo Beam 56.45 350 P **P 08 54 14.0 -0.7**
ZALV S **S 09 02 02.9 +1.7**
ZALV Zalesovo Beam 56.45 350 P **P 08 54 14.0 -0.7**
comp=Z,10nm,0.6s,baz=182,slow=6.3,SNR=45
ZALV S **S 09 02 02.9 +1.7**
comp=Z,0.6nm,0.3s,baz=161,slow=9.2,SNR=3.7
ZALV LR LR 09 23 42.9
comp=Z,45nm,19.8s,baz=70,slow=42
IPIR Pirpir 56.93 311 *e*P **P 08 54 17.9 -1.0**
NVS Novosibirsk 57.59 349 ⇑*i*P **P 08 54 20.2 -2.5**
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=E,1.0nm,1.3s
RAYN Ar Rayn 57.91 299 *e*P **P 08 54 25.2 -0.4**
comp=E,6.8nm,0.8s
RDF Al-Radifah 58.01 306 *e*P **P 08 54 25.6 -0.5**
RDF AMb AMB 08 54 26.8
comp=Z,65nm,1.0s
UMR Umm Al-Rimmam 58.11 306 *e*P **P 08 54 25.9 -1.0**
UMR AMb AMB 08 54 27.3
comp=Z,53nm,0.8s
NAY Al-Naaiem 58.38 306 *e*P **P 08 54 27.8 -1.0**
NAY AMb AMB 08 54 28.6
comp=Z,1.5nm,0.6s
MIB Mutribah 58.51 306 *e*P **P 08 54 28.9 -0.8**
MIB AMb AMB 08 54 30.1
comp=Z,68nm,0.9s
RST Umm Al-Ruwaisa 58.67 306 *e*P **P 08 54 29.6 -1.1**
RST AMb AMB 08 54 30.8
comp=Z,303nm,0.8s
VOSK Vostochnaya 58.95 340 P **P 08 54 30.0 -2.3**
VOSK pmax pmax
comp=Z,6.0nm,0.8s
BVA0 Borovoye Array 59.40 340 P **P 08 54 33.2 -2.2**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 59.40 340 P **P 08 54 33.8 -1.6**
BVAR Borovoye Array 59.40 340 P **P 08 54 33.8 -1.6**
BVAR Borovoye Array 59.40 340 P **P 08 54 33.8 -1.6**
comp=Z,4.6nm,0.7s,baz=140,slow=9.4,SNR=22
BRVK Borovoye 59.46 340⇓*e*P **P 08 54 34.6 -1.2**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 59.46 340 *e*P **P 08 54 34.7 -1.1**
comp=Z,4.8nm,0.8s
AB31 Akbulak array 60.81 332 P **P 08 54 43.0 -2.1**
AB31 pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 60.81 332 *e*P **P 08 54 43.7 -1.5**
YSS Yuzh-Sakhalins 61.28 32 *e*P **P 08 54 47.0 -1.3**
YSS *e* 08 54 56.0
KMBO Kilima Mbogo 62.13 269 P **P 08 54 56.1 +1.1**
KMBO Kilima Mbogo 62.13 269 P **P 08 54 56.1 +1.1**
comp=Z,8.2nm,0.8s,baz=55,slow=11,SNR=21
AKTO Aktyubinsk 62.53 332 P **P 08 54 54.6 -2.1**
AKTO Aktyubinsk 62.53 332 P **P 08 54 54.6 -2.1**
AKTO Aktyubinsk 62.53 332 P **P 08 54 54.6 -2.1**
comp=Z,3.5nm,0.9s,baz=119,slow=7.3,SNR=9.2
CASY Casey 65.25 175 *e*P **P 08 55 15.3 +1.1**
comp=Z,9.3nm,1.1s
SVE Sverdlovsk 65.89 338⇑*i*P **P 08 55 18.0 -0.5**
SVE pmax pmax
comp=Z,14nm,1.0s
ZEI Tsey 66.38 319 *e*P **P 08 55 21.0 -1.2**
ZEI pmax pmax
comp=Z,13nm,0.8s
ARU Arti 66.41 337 *d i*P **P 08 55 20.8 -1.0**
ARU 08 57 44.8
ARU S **S 09 04 07.7 +0.5**
ARU SS SS 09 08 17.8 -7.2
ARU pmax pmax
comp=Z,15nm,1.7s
YAK Yakutsk 67.30 15 *e*P **P 08 55 29.2 +1.8**
KBZ Khabaz 67.45 319 P **P 08 55 28.1 -0.6**
KBZ Khabaz 67.45 319 P **P 08 55 28.1 -0.6**
KBZ Khabaz 67.45 319 P **P 08 55 28.1 -0.6**
comp=Z,11nm,0.8s,baz=123,slow=5.6,SNR=27
KIV Kislovodsk 67.69 319 *e*P **P 08 55 30.2 -0.2**
KIV pmax pmax
comp=Z,19nm,1.1s
ASF Jabal al Asfar 67.74 306 P **P 08 55 30.7 -0.3**
ASF Jabal al Asfar 67.74 306 P **P 08 55 30.7 -0.3**
comp=Z,5.3nm,0.9s,baz=59,slow=4.0,SNR=5.7
MALT Malatya 68.48 312⇑*i*P P 08 55 40.6 +5.1
EIL Elat 68.69 303 P **P 08 55 36.7 -0.1**
EIL Elat 68.69 303 P **P 08 55 36.7 -0.1**
comp=Z,15nm,0.7s,baz=122,slow=3.7,SNR=10.0
MAW Mawson 70.74 194 P **P 08 55 49.9 +1.3**
MAW Mawson 70.74 194 P **P 08 55 49.9 +1.3**
comp=Z,5.3nm,0.8s,baz=18,slow=6.0,SNR=7.1
MAW LR LR 09 21 45.2
comp=Z,82nm,18.2s,baz=32,slow=32
VRHR Novokhopersk 71.48 326 *e*P **P 08 55 52.2 -1.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
LSZ Lusaka 71.52 254 *e*P **P 08 55 55.4 +0.8**
comp=Z,156nm,2.8s
BR131 Keskin Array S 72.47 312 *e*P **P 08 55 58.2 -1.6**
comp=Z,1.7nm,0.6s
PETK Petropavlovsk- 72.68 32 P **P 08 55 59.0 -1.6**
PETK Petropavlovsk- 72.68 32 P **P 08 55 59.0 -1.6**
PETK Petropavlovsk- 72.68 32 P **P 08 55 59.0 -1.6**
comp=Z,2.0nm,0.9s,baz=194,slow=10,SNR=3.9
PETK LR LR 09 29 32.6
comp=Z,32nm,19.1s,baz=192,slow=37
VORD Divnogorie 72.75 325 *e*P **P 08 55 59.5 -1.5**
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,30nm,0.6s
VORD pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 72.93 325 *e*P **P 08 56 00.5 -1.6**
VSR pmax pmax

comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.9s
SEY Seymchan 75.28 22 *e*P **P 08 56 13.7 -1.9**
TIXI Tiksi 75.34 9 *e*P **P 08 56 14.2 -1.5**
BOSA Boshof 75.43 241 P **P 08 56 17.4 +0.1**
BOSA Boshof 75.43 241 P **P 08 56 17.4 +0.1**
comp=E,5.4nm,0.9s,baz=283,slow=20,SNR=4.5
BOSA LR LR 09 27 36.9
comp=E,168nm,18.0s,baz=172,slow=34
MOS Moscow 75.66 329 *e*P **P 08 56 16.4 -1.5**
RPZ Rata Peaks 75.84 135 P **P 08 56 19.4 +0.1**
RPZ Rata Peaks 75.84 135 P **P 08 56 19.4 +0.1**
comp=E,6.2nm,0.6s,baz=71,slow=17,SNR=8.2
OBN Obninsk 75.96 328⇓*i*P **P 08 56 18.9 -0.6**
OBN *e*S **S 09 05 57.9 +0.2**
OBN pmax pmax
comp=Z,43nm,1.7s
ZKR Zakros 77.09 306 *e*P P 08 56 19.5 -7.0
TIRR Tirgusor 77.50 316⇑P **P 08 56 28.2 -0.3**
TIRR Tirgusor 77.50 316⇑*i*P **P 08 56 28.2 -0.3**
LAST Lasithi 77.69 306 *e*P **P 08 56 29.2 -0.7**
IDI Anoyia 78.19 306 *e*P **P 08 56 30.3 -2.4**
SYO Syowa Base 78.26 199⇑*e*P **P 08 56 32.2 0.0**
KIEV Kiev 78.64 322 *e*P **P 08 56 33.7 -1.0**
VAM Vamos 78.77 306 *e*P **P 08 56 35.5 -0.3**
VRI Vrincioaia 78.99 317⇑P **P 08 56 37.6 +0.8**
VRI Vrincioaia 78.99 317⇑*i*P **P 08 56 37.5 +0.8**
PLOR Plostina 79.04 317⇑P **P 08 56 37.6 +0.5**
PLOR Plostina 79.04 317⇑*i*P **P 08 56 37.6 +0.5**
TMCR Tamitsa 79.14 337 *e*P **P 08 56 34.1 -3.0**
TMCR *e* 08 56 42.3
TMCR *e* 08 59 30.4
TMCR pmax pmax
comp=Z,11nm,0.8s
TESR Tescani 79.20 318⇑*i*P **P 08 56 36.0 -1.9**
MLR Muntele Rosu 79.44 317⇑*i*P **P 08 56 40.0 +0.6**
DID Didima 79.89 308 *e*P **P 08 56 40.2 -1.7**
VOIR 80.05 316⇑P **P 08 56 40.5 -2.1**
VOIR 80.05 316⇑*i*P **P 08 56 40.5 -2.1**
LTK Loutraki 80.18 309 *e*P P 08 56 34.2 -9.2
BURAR Bucovina Array 80.40 319⇑P **P 08 56 45.1 +0.6**
BURAR Bucovina Array 80.40 319⇑*i*P **P 08 56 45.1 +0.6**
DYR Agios Nikonas 80.48 307 *e*P **P 08 56 44.2 -0.9**
GUR Goura 80.66 309 *e*P **P 08 56 45.0 -1.1**
VTS Vitosha 80.79 313⇑P **P 08 56 46.0 -0.7**
VTS Vitosha 80.79 313 *e*P **P 08 56 46.1 -0.7**
VTS Vitosha 80.79 313⇑*i*P **P 08 56 46.0 -0.7**
KLV Kalavryta, Ach 80.82 309 *e*P **P 08 56 45.8 -1.1**
ITM Ithomi 80.86 308 *e*P **P 08 56 46.3 -0.8**
TRIZ Trizonia 80.93 309 *e*P **P 08 56 46.3 -1.1**
LAKA Lakka 80.99 309 *e*P **P 08 56 47.0 -0.7**
GRG Griva 81.10 312 *e*P **P 08 56 47.0 -1.3**
RLS Riolos of Patr 81.36 309 *e*P **P 08 56 49.5 -0.2**
BZS Buzias 82.45 316⇓P **P 08 56 55.1 -0.1**
BZS Buzias 82.45 316⇓*i*P **P 08 56 55.1 -0.1**
KOLS Kolonicke sedl 82.59 320 *e*P **P 08 56 56.6 +0.7**
KOLS *e* 08 57 05.0
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 82.59 320 *e*P **P 08 56 56.6 +0.7**
KOLS *e*pP **PcP 08 57 05.0 +4.2**
KEK Kerkira 82.88 310 *e*P **P 08 56 57.0 -0.6**
VNDA Vanda 82.88 169 P **P 08 56 57.2 +0.3**
VNDA Vanda 82.88 169 P **P 08 56 57.2 +0.3**
comp=Z,2.4nm,0.8s,baz=306,slow=5.4,SNR=17
CRVS Cervenica-Dubn 83.12 319 *e*P **P 08 56 58.2 -0.5**
CRVS pmax pmax
comp=Z,5.0nm,1.2s
CRVS Cervenica-Dubn 83.12 319 *e*P **P 08 56 58.2 -0.5**
FINES FINESS Array B 83.29 332 P **P 08 56 58.9 -0.3**
FINES FINESS Array B 83.29 332 P **P 08 56 58.9 -0.3**
comp=Z,2.4nm,0.5s,baz=99,slow=4.6,SNR=18
STHS Stebnicka Huta 83.35 320 *e*P **P 08 57 00.7 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 83.35 320 *e*P **P 08 57 00.7 +0.9**
KECS Kecovo 83.68 319 *e*P **P 08 57 01.8 +0.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 83.68 319 *e*P **P 08 57 01.8 +0.2**
SBA Scott Base 83.98 169 *e*P **P 08 57 04.2 +1.7**
SBA Scott Base 83.98 169 *e*P **P 08 57 04.2 +1.7**
VYHS Vyhne 84.77 319 *e*P **P 08 57 07.7 +0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 84.77 319 *e*P **P 08 57 07.7 +0.6**
VYHS *e*pP **pP 08 57 20.2 -3.9**
ARCES ARCESS Array B 85.69 340 P **P 08 57 11.2 0.0**
ARCES ARCESS Array B 85.69 340 P **P 08 57 11.2 0.0**
comp=Z,3.7nm,0.8s,baz=67,slow=3.2,SNR=6.3
ARCES LR LR 09 36 11.4
comp=Z,29nm,21.2s,baz=181,slow=36
CEL Celeste 85.74 308 *e*P **P 08 57 13.1 +0.9**
DPC Dobruska-Polom 86.63 320 *e*P **P 08 57 16.4 +0.1**
DPC *e* 08 57 25.6
DPC Dobruska-Polom 86.63 320 *e*P **P 08 57 16.4 +0.1**
DPC *e*x x 08 57 25.6
TREC Trest 87.06 319 *e*P **P 08 57 18.7 +0.3**
TREC Trest 87.06 319 *e*P **P 08 57 18.7 +0.3**
PRU Pruhonice 87.73 320 *e*P **P 08 57 19.2 -2.4**
PRU Pruhonice 87.73 320 *e*P **P 08 57 19.2 -2.4**
BRG Berggiesshubel 88.19 321 *i* P **P 08 57 24.5 +0.8**
comp=Z,12nm,1.3s
BRG Berggiesshubel 88.19 321 *i* P **P 08 57 24.5 +0.8**
BRG pmax pmax
comp=Z,12nm,1.3s
GERES GERESS Array B 88.19 319 P **P 08 57 23.8 -0.1**
GERES GERESS Array B 88.19 319 P **P 08 57 23.8 -0.1**
comp=Z,1.6nm,0.7s,baz=98,slow=5.5,SNR=16
KHC Kasperske Hory 88.29 319 *e*P **P 08 57 23.8 -0.5**
KHC *e* 08 57 32.1
KHC Kasperske Hory 88.29 319 *e*P **P 08 57 23.8 -0.5**
KHC *e*x x 08 57 32.1
QSPA South Pole Qui 88.58 180 *e*P **P 08 57 25.5 +0.1**
comp=Z,8.1nm,1.0s
QSPA South Pole Qui 88.58 180 P **P 08 57 26.2 +0.8**
comp=Z,4.5nm,0.7s,baz=318,slow=2.7,SNR=57
CLL Collm 88.81 321⇓*i*P **P 08 57 26.9 +0.3**
CLL *i* 08 57 35.4
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 88.81 321⇓*i*P **P 08 57 26.9 +0.3**
comp=Z,7.0nm,1.0s
CLL *i* (sP) sP 08 57 35.4 -15
SPITS Spitsbergen Ar 89.91 348 LR LR 09 44 54.1
comp=Z,65nm,20.2s,baz=25,slow=40
KEST Kesra 90.84 306 *e*P **P 08 57 37.4 +0.7**
KEST Kesra 90.84 306 P **P 08 57 37.7 +1.1**
comp=Z,4.7nm,0.8s,baz=335,slow=0.7,SNR=16
BFO Black Forest 91.74 318 *e*P **P 08 57 41.3 +0.9**
SNAA Sanae 92.54 198 *e*P **P 08 57 44.9 +1.2**
SNAA Sanae 92.54 198 P **P 08 57 44.4 +0.7**
SNAA Sanae 92.54 198 P **P 08 57 44.4 +0.7**
comp=Z,0.3nm,0.6s,baz=209,slow=18,SNR=4.1
TORD Torodi Ar. Bea 97.82 283 P **P 08 58 08.4 -0.5**
TORD Torodi Ar. Bea 97.82 283 P **P 08 58 08.4 -0.5**
comp=Z,0.8nm,0.8s,baz=53,slow=4.0,SNR=4.5
ILAR Eielson Array 101.18 24 PKKPbc PKKPbc 09 14 33.2 -2.5
ILAR Eielson Array 101.18 24 PKKPbc PKKPbc 09 14 33.2 -2.5
comp=Z,0.5nm,0.6s,baz=130,slow=1.8,SNR=7.3
SCHQ Schefferville 125.54 350 PKP **PKPdf 09 03 33.8 +0.1**
SCHQ Schefferville 125.54 350 PKP **PKPdf 09 03 33.8 +0.1**
comp=Z,2.6nm,0.8s,baz=349,slow=10,SNR=2.7
NVAR Mina Array Bea 129.50 38 PKP **PKPdf 09 03 42.2 +0.2**
NVAR Mina Array Bea 129.50 38 PKP **PKPdf 09 03 42.2 +0.2**
comp=Z,0.5nm,0.7s,baz=264,slow=3.2,SNR=5.9
R11A Troy Canyon, C 131.21 37 *e*PKPdf **PKPdf 09 03 46.8 +1.5**
PDAR Pinedale Array 131.32 28 PKP **PKPdf 09 03 45.0 -0.4**
PDAR Pinedale Array 131.32 28 PKP **PKPdf 09 03 45.0 -0.4**
comp=Z,0.5nm,0.8s,baz=309,slow=0.9,SNR=4.3
ECSD EROS Data Cent 135.48 17 *e*PKPdf **PKPdf 09 03 52.2 -0.7**
BDFB Brasilia 143.62 241 PKP PKPbc 09 04 06.6 +0.5
BDFB Brasilia 143.62 241 PKP PKPbc 09 04 06.6 +0.5
comp=Z,2.2nm,0.7s,baz=87,slow=6.3,SNR=3.2
CPUP Villa Florida 144.45 218 PKP PKPbc 09 04 08.5 +0.4
CPUP Villa Florida 144.45 218 PKP PKPbc 09 04 08.5 +0.4
comp=Z,19nm,0.7s,baz=112,slow=4.1,SNR=56
TXAR Lajitas Array 144.57 36 PKP PKPbc 09 04 08.9 +0.4
TXAR Lajitas Array 144.57 36 PKP PKPbc 09 04 08.9 +0.4
comp=Z,4.0nm,0.7s,baz=278,slow=1.6,SNR=50

WVT	Waverly	144.78	10	ePKIKP	PKPab	09 04 08.0	-0.8
WVT	Waverly	144.78	10	ePKPdf	PKPab	09 04 08.0	-0.8
MIAR	Mount Ida	144.85	19	ePKIKP	PKPab	09 04 08.8	-0.3
MIAR	Mount Ida	144.85	19	ePKPdf	PKPab	09 04 08.8	-0.3
TZTN	Tazewell	144.90	4	ePKPdf	PKPab	09 04 08.7	-0.5
CFAA	Coronel Fontan	145.16	199	PKPbc	PKPdf	09 04 11.1	+0.4
CFAA	Coronel Fontan	145.16	199	PKPbc	PKPdf	09 04 11.1	+0.4
comp=Z,7.5nm,0.7s,baz=173,slow=2.8,SNR=112							
TKL	Tuckaleechee C	145.77	5	ePKPdf	PKPdf	09 04 11.1	-0.6
JCT	Junction City	145.80	30	ePKP2	PKPbc	09 04 12.5	+0.1
JCT	Junction City	145.80	30	ePKPdf	PKPbc	09 04 12.5	+0.1
CPCT	Cooper Cave	145.91	6	ePKPdf	PKPdf	09 04 11.6	-0.3
OXF	Oxford	146.03	13	ePKP2	PKPdf	09 04 11.6	-0.5
OXF	Oxford	146.03	13	ePKPdf	PKPdf	09 04 11.6	-0.5
KMSC	Kings Mountain	146.40	1	ePKPdf	PKPdf	09 04 12.7	0.0
LPAZ	La Paz	158.56	215	PKP	PKPdf	09 04 31.4	-0.4
LPAZ				PKPab	PKPab	09 05 07.7	+0.9
LPAZ	La Paz	158.56	215	PKP	PKPdf	09 04 31.4	-0.4
comp=Z,0.6nm,0.6s,baz=42,slow=4.4,SNR=3.8							
LPAZ				PKPab	PKPab	09 05 07.7	+0.9
comp=Z,1.4nm,0.8s,baz=108,slow=5.4,SNR=3.8							

GUC 19 08:50:45.2±0.4, 21°.66S×67°.74W, h225km±6km, ML3.6, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	Plate Boundary	1.40	264	⇑iP			Pn	08 51 21.8	+1.2
PB09				i S			S	08 51 49.4	+1.3
PB09					AML		AML	08 51 53.6	
comp=E,380nm,0.4s									
PB01	Plate Boundary	1.74	290	⇑iP			Pn	08 51 24.6	+1.3
PB01				i S			S	08 51 54.3	+1.4
PB01					AML		AML	08 51 56.0	
comp=N,482nm,0.2s									
PB07	Plate Boundary	2.00	268	eP			Pn	08 51 27.4	+1.6
PB07				i S			S	08 51 59.3	+1.9
PB07					AML		AML	08 52 00.4	
comp=N,254nm,0.2s									
HMBC	Humberstone	2.43	304	⇑iP			Pn	08 51 31.6	+1.5
HMBC				i S			S	08 52 07.1	+1.9
HMBC					AML		AML	08 52 07.8	
comp=N,337nm,0.2s									
CEN1	Los Morros	2.85	232	eP			Pn	08 51 38.7	+4.1
CEN1					AML		AML	08 52 18.8	
comp=N,31nm,0.5s									
PSGC	Pisagua	3.03	312	⇑iP			Pn	08 51 37.7	+1.0
PSGC				i S			S	08 52 18.3	+1.4
PSGC					AML		AML	08 52 20.6	
comp=N,30nm,0.3s									
MNMC	Minimini	3.06	325	⇑iP			Pn	08 51 39.1	+1.9
MNMC				i S			S	08 52 20.4	+2.5
MNMC					AML		AML	08 52 23.5	
comp=E,103nm,0.2s									

MEX 19 08:53:15.4±0.8, 18°.74N×101°.57W, h22km±117km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOIG	Morelia	1.00	21	i P			Pb	08 53 30.7	-3.7
MOIG				i S			Sb	08 53 43.8	-3.7
ARIG	Puente Sto Nin	1.24	111	i P			Pn	08 53 34.3	-3.2
ARIG				i S			Sn	08 53 50.3	-3.4
MMIG	Aquila	1.74	256	i P			Pn	08 53 41.2	-3.1
MMIG				i S			Sn	08 54 01.9	-4.0
PLIG	Platanillo	1.99	100	i P			Pn	08 53 45.0	-2.8
PLIG				i S			Sn	08 54 08.2	-4.0
MEIG	Mezcala	2.02	113	i P			Pn	08 53 45.0	-3.3
MEIG				eS			Sn	08 54 08.8	-4.1
EZ5V		2.06	291	eP			Pn	08 53 46.9	-2.2
EZ5V				i S			Sn	08 54 10.7	-3.6
CAIG	El Cayaco	2.09	143	i P			Pn	08 53 45.8	-3.3
CAIG				eS			Sn	08 54 10.7	-3.7
SFJM	Santa Fe	2.23	322	i P			Pn	08 53 46.3	-4.9
R15V		2.33	281	eP			Pn	08 53 50.4	-2.0
R15V				i S			Sn	08 54 17.3	-3.1
ACX	Acapulco	2.47	138	i P			Pn	08 53 51.2	-3.1
ACX				eS			Sn	08 54 19.8	-4.1

NNC 19 08:55:24.2±2.0, 39°.48N×73°.60E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.9km s-min=10.3km az=13.0
IDC 19 08:55:24.9±2.1, 39°.56N×73°.36E, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.6/30, mbtmp3.8/8, ML3.2/3, Error ellipse: s-maj=40.7km s-min=19.4km az=142.0
ISCJB 19 08:55:28.2±0.5, 39°.61N±0°.04×73°.38E±0°.10, h29km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=5.8km az=5.9
ISC 19 08:55:29.5±0.8, 39°.64N±0°.06×73°.55E±0°.07, h29km, n24, σ1§60/27, mb3.9/4, 7C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	Almayashu	2.49	2	P			Pn	08 56 06.9	-1.6
SNR=13									
UCH	Uchtor	2.69	15	P			Pb	08 56 15.6	-1.6
SNR=17									
KZA	Kyzart	2.76	27	P			Pn	08 56 09.7	-2.5
SNR=35									
EKS2	Erkin-Say	3.03	3	P			Pn	08 56 17.9	+2.3
SNR=7.1									
AAK	Ala-Archa	3.08	13	P			Pn	08 56 18.5	+2.2
SNR=16									
AAK	Ala-Archa	3.08	13	Pn			Pn	08 56 18.4	+2.2
5.0nm,0.3s,baz=158,slow=8.2,SNR=18									
AAK				Sn			Sb	08 57 02.2	+1.4
7.5nm,0.3s,baz=291,slow=21,SNR=9.9									
KBK	Karagaybulak	3.20	19	P			Pn	08 56 21.3	+3.4
SNR=21									
ULHL	Ulahol	3.31	37	P			Pb	08 56 26.8	-0.8
SNR=9.1									
CHMS	Chumysh	3.48	15	P			Pn	08 56 23.4	+1.8
SNR=12									
TKM2	Tokmak 2	3.63	25	⇑Pn			Pn	08 56 23.1	-0.8
6.8nm,0.5s									
TKM2				⇑Pg			Pb	08 56 34.0	+1.0
16nm,0.6s									
TKM2				⇑Lg			Lg	08 57 22.1	
19nm,0.6s									
KK31	Karatay Array	4.15	328	⇑Pn			Pn	08 56 33.7	+2.9
1.2nm,0.2s,baz=134,slow=12,SNR=43									
KK31				Pg			Pb	08 56 42.5	+0.8
13nm,0.7s,baz=148,slow=15,SNR=14									
KK31				⇓Sn			Sb	08 57 28.5	-2.9
3.9nm,0.3s,baz=138,slow=26,SNR=4.5									
KK31				⇑Lg			Lg	08 57 41.2	
8.7nm,0.5s,baz=146,slow=22,SNR=3.9									
CEP	Cherat	5.95	193	P			Pn	08 56 55.7	0.0
CEP				S			Sn	08 58 05.0	+2.0
CHCP	Chirah Chowk	5.97	182	P			Pn	08 56 56.2	+0.3
MKAR	Makanchi Array	9.58	39	Pn			Pn	08 57 48.2	+2.8
0.1nm,0.3s,baz=233,slow=12,SNR=3.3									
MKAR				Lg			Lg	09 00 26.2	
0.1nm,0.3s,baz=220,slow=26,SNR=3.8									
KURBB	Kurchatov Arra	11.53	16	Lg			Lg	09 01 28.2	
0.0nm,0.3s,baz=208,slow=29,SNR=4.8									
BVAR	Borovoye Array	13.57	352	Pn			Pn	08 58 38.6	-1.2
0.3nm,0.3s,baz=173,slow=13,SNR=7.6									
AB31	Akbulak array	13.65	319	Pn			Pn	08 58 40.2	-0.8
1.5nm,0.7s,baz=130,slow=13,SNR=20									
AB31				⇑Sn			Sn	09 01 12.6	+1.0
0.8nm,0.7s									
AKTO	Aktyubinsk	15.37	320	⇑Pn			Pn	08 59 04.6	+0.5
5.9nm,1.2s									
AKTO	Aktyubinsk	15.37	320	Pn			Pn	08 59 04.7	+0.6
0.3nm,0.3s,baz=113,slow=8.4,SNR=9.5									
ZALV	Zalesovo Beam	16.23	24	Pn			Pn	08 59 15.5	+0.3
baz=220,slow=11,SNR=2.5									
FINES	FINESS Array B	36.10	323	P			P	09 02 28.5	+0.1
2.1nm,0.7s,baz=120,slow=11,SNR=5.7									
ARCES	ARCESS Array B	39.07	335	P			P	09 02 53.1	-0.3
2.8nm,0.8s,baz=98,slow=8.7,SNR=5.9									
TORD	Torodi Ar. Bea	67.80	269	P			P	09 06 23.4	-1.5
0.5nm,0.6s,baz=47,slow=5.6,SNR=5.1									
ILAR	Eielson Array	71.21	17	P			P	09 06 46.0	+0.8
0.4nm,0.8s,baz=308,slow=4.5,SNR=4.2									

IDC 19 08:58:42.5±1.3, 5°.03S×141°.79E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=52.8km s-min=24.6km az=100.0

AUST 19 08:58:58.7±0.1, 5°.93S×141°.16E, h101km±1km, Error ellipse: s-maj=4.3km s-min=1.5km az=225.0
ISC 19 08:58:49.4±1.3, 5°.6S±0°.1×141°.5E±0°.1, h35km, n13, σ2§42/13, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.80	125	Sn			Sn	09 01 41.6	-1.4
0.9nm,0.3s,baz=142,slow=19,SNR=2.5									
COEN	Coen	8.52	169	P			Pn	09 00 55.3	+4.9
baz=8.3,SNR=4.4									
FAKI	Fak Fak	9.58	285	P			Pn	09 01 10.6	+5.6
baz=9.4,SNR=3.7									
KDU	Kakadu	11.38	231	P			Pn	09 01 32.6	+3.0
baz=11,SNR=10									
MTN	Manton Dam	12.53	234	P			Pn	09 01 46.1	+0.7
baz=12,SNR=3.9									
WRA	Warramunga Arr	15.91	205	Pn			Pn	09 02 30.6	-0.3
0.3nm,0.3s,baz=23,slow=13,SNR=14									
WRA				Sn			Sn	09 05 24.3	-2.0
0.2nm,0.3s,baz=18,slow=23,SNR=3.4									
WRA				Lg			Lg	09 07 18.9	
0.2nm,0.3s,baz=20,slow=30,SNR=3.9									
KNRA	Kununurra	16.05	230	P			Pn	09 02 32.9	+0.3
baz=16,SNR=9.1									
ASAR	Alice Springs	19.44	201	P			Pn	09 03 17.2	+2.8
7.0nm,0.5s,baz=30,slow=11,SNR=155									
ASAR				S			S	09 06 49.8	-1.4
0.9nm,0.7s,baz=20,slow=28,SNR=4.5									
ASAR				Lg			Lg	09 09 09.3	
1.0nm,0.8s,baz=20,slow=28,SNR=2.8									
FITZ	Fitzroy Crossi	19.89	230	P			Pn	09 03 20.7	+0.9
2.8nm,0.8s,baz=61,slow=11,SNR=3.8									
FITZ				S			S	09 06 56.0	-4.2
2.6nm,0.7s,baz=59,slow=14,SNR=3.3									
FITZ				Lg			Lg	09 09 29.9	
4.8nm,1.0s,baz=348,slow=19,SNR=2.8									
STKA	Stephens Creek	26.20	180	P			P	09 04 23.8	+2.9
1.0nm,0.7s,baz=21,slow=14,SNR=2.2									
MKAR	Makanchi Array	73.72	322	P			P	09 10 17.5	-2.4
0.5nm,0.7s,baz=104,slow=7.0,SNR=5.5									
ILAR	Eielson Array	87.26	24	P			P	09 11 27.2	-4.9
0.6nm,0.7s,baz=256,slow=4.9,SNR=8.5									
TORD	Torodi Ar. Bea	139.67	284	PKP			PKPdf	09 18 15.6	+1.0
0.2nm,0.6s,baz=64,slow=2.3,SNR=3.4									

CSEM 19 09:03:26.7±0.1, 40°.13N×23°.99E, h12km, ML2.3/4, Error ellipse: s-maj=2.6km s-min=2.2km az=25.0
ISCJB 19 09:03:27.0±0.6, 40°.13N±0°.03×23°.97E±0°.04, h11km±4km, Error ellipse: s-maj=5.3km s-min=4.7km az=140.1
THE 19 09:03:27.4, 40°.14N×23°.96E, h15km, ML2.3/4, Error ellipse: s-maj=0.9km s-min=0.5km az=142.0
ATH 19 09:03:27.0, 40°.14N×24°.01E, h9km, MD2.7/6
ISC 19 09:03:27.1±0.9, 40°.13N±0°.03×23°.99E±0°.03, h16km±7km, n22, σ0§36/39, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.20	358	P			Pg	09 03 31.8	0.0
OUR				S			Sg	09 03 35.0	-0.1
OUR	Ouranopolis	0.20	358	P			Pg	09 03 31.8	0.0
OUR				S			Sg	09 03 35.0	-0.1
PAIG	Paliouri	0.31	230	P			Pg	09 03 33.6	0.0
PAIG				S			Sg	09 03 38.0	-0.1
PAIG	Paliouri	0.31	230	ePB			Pg	09 03 33.6	0.0
PAIG				eSB			Sg	09 03 38.2	+0.1
PAIG	Paliouri	0.31	230	P			Pg	09 03 33.6	0.0
PAIG				S			Sg	09 03 38.0	-0.1
PLG	Polygyros	0.48	300	P			Pg	09 03 36.5	-0.2
PLG				S			Sg	09 03 43.3	0.0
PLG	Polygyros	0.48	300	ePG			Pg	09 03 36.5	-0.2
PLG				eSB			Sg	09 03 42.9	-0.4
PLG	Polygyros	0.48	300	P			Pg	09 03 36.5	-0.2
PLG				eSb			Sg	09 03 42.9	-0.4
PLG				S			Sg	09 03 43.3	0.0
HORT	Hortiatis	0.83	305	P			Pg	09 03 42.5	-0.7
HORT				S			Sg	09 03 53.9	-0.2
HORT	Hortiatis	0.83	305	P			Pg	09 03 42.5	-0.7
HORT				S			Sg	09 03 53.9	-0.2
SOH	Sokhos	0.85	325	ePB			Pb	09 03 43.5	+0.1
SOH				eSB			Sg	09 03 54.6	-0.1
SOH	Sokhos	0.85	325	ePb			Pb	09 03 43.5	+0.1
SOH				eSb			Sg	09 03 54.6	-0.1
LIA	Limnos Island	0.94	104	ePB			Pg	09 03 44.9	-0.4
LIA	Limnos Island	0.94	104	ePb			Pg	09 03 44.9	-0.4
KAVA	Kavala	0.95	24	P			Pg	09 03 45.2	-0.3
KAVA				S			Sb	09 03 58.6	+1.0
KAVA	Kavala	0.95	24	P			Pg	09 03 45.2	-0.3
KAVA				S			Sb	09 03 58.6	+1.0
AOS	Alonnisos	0.96	185	ePB			Pg	09 03 45.6	-0.1
AOS	Alonnisos	0.96	185	ePb			Pg	09 03 45.6	-0.1
NVR	Nevrokopi	1.22	355	ePG			Pn	09 03 49.7	+0.1
NVR	Nevrokopi	1.22	355	ePg			Pn	09 03 49.7	+0.1
SMTH	Samothraki Isl	1.22	73	ePN			Pn	09 03 49.1	-0.5
SMTH				eSB			Sg	09 04 06.6	0.0
SMTH	Samothraki Isl	1.22	73	ePn			Pn	09 03 49.1	-0.5
SMTH				eSb			Sg	09 04 06.6	0.0

IDC 19 09:13:07.2±1.3, 1°.49S×99°.37E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/41, Error ellipse: s-maj=62.0km s-min=20.7km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.83	359	P			Pn	09 17 41.4	+0.2
0.4nm,0.3s,baz=190,slow=10,SNR=4.3									
WRA	Warramunga Arr	38.79	121	P			P	09 20 33.4	-0.6
0.7nm,0.6s,baz=303,slow=9.1,SNR=4.8									
ASAR	Alice Springs	40.06	126	P			P	09 20 44.9	+0.3
0.5nm,0.7s,baz=312,slow=7.4,SNR=3.2									
SONM	Songino Array	49.51	6	LR			LR	09 45 17.0	
comp=Z,40nm,19.0s,baz=36,slow=39									
MKAR	Makanchi Array	50.38	345	P			P	09 22 06.2	0.0
0.6nm,0.4s,baz=139,slow=9.0,SNR=4.6									
ZALV	Zalesovo Beam	56.56	350	P			P	09 22 50.5	-0.8
0.4nm,0.4s,baz=160,slow=9.1,SNR=3.1									
QSPA	South Pole Qui	88.47	180	P			P	09 26 01.7	+0.4
0.3nm,0.5s,baz=309,slow=1.0,SNR=5.1									
TXAR	Lajitas Array	144.68	36	PKP			PKPab	09 32 45.5	0.0
0.2nm,0.4s,baz=277,slow=1.8,SNR=6.6									

IDC 19 09:13:17.9±0.8, 1°.46S×99°.60E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.1/28, mbtmp4.2/16, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/41, Error ellipse: s-maj=28.9km s-min=13.3km az=75.0
DJA 19 09:13:35.5±0.6, 1°.S±4°×10°.0E±°, h32km±5km, M4.3/9, mb4.3/7, mB5.1/2, MLv4.3/9, Mw(mB)4.5/2
ISC 19 09:13:22.9±0.7, 1°.56S±0°.06×99°.7E±0°.1, h33km, n31, σ1§14/24, mb4.3/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDSI	Padang	1.00	50	P			Pb	09 13 42.9	+1.0
BKNI	Bangkinang	2.31	36	P			Pn	09 13 58.1	-0.6
BKNI				S			Sb	09 14 47.6	+16
RGRI	Rengat	2.90	66	P			Pn	09 14 07.9	+1.1
RGRI				S			Sb	09 14 57.5	+8.4
MASI	Maura Aman, Be	2.99	122	P			Pb	09 14 14.9	-0.7
KSI	Kapahiang	3.57	126	P			Pb	09 14 23.9	-1.5
KSI				S			Sb	09 15 07.0	-1.3
PSI	Prapat	4.40	350	Pn			Pn	09 14 23.4	-4.2
1.5nm,0.3s,baz=210,slow=12,SNR=4.1									
EGSI	Enggano, Bengk	4.57	146	P			Pb	09 14 41.6	-0.8
KCSI	Kotacane, Aceh	5.40	339	P			Pb	09 14 56.5	-0.1
29nm,0.6s,0.2nm									
LWLI	Liwa	5.55	128	P			Pb	09 14 54.7	-4.5
176nm,0.7s,9μm1.0nm									
KLSI		5.91	122	P			Pn	09 14 54.1	+5.8
34nm,1.0s,0.1nm									
IPM	Ipoh	6.14	13	P			Pn	09 14 55.6	+4.1
28nm,0.9s,434nm0.2nm									
KULM	Kulim	6.87	8	P			Pb	09 15 11.8	-10
21nm,0.8s,0.1nm									
CMAR	Chiang Mai Arr	19.90	358	P			P	09 17 49.9	-2.0
0.5nm,0.3s,baz=189,slow=10,SNR=6.1									
CMMT	Chiang Mai	20.26	358	P			Pn	09 18 01.0	+3.1
7.9nm,1.0s									
CHTO	Chiang Mai	20.26	358	P			Pn	09 18 01.4	+3.5
FITZ	Fitzroy Crossi	30.31	124	P			P	09 19 33.0	+1.4
5.6nm,1.0s,baz=340,slow=3.6,SNR=6.2									

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.48	121	P			P	09 20 42.2	-0.1
6.1nm,0.9s,baz=303,slow=8.9,SNR=24									
ASAR	Alice Springs	39.76	126	P			P	09 20 53.5	+0.6
1.4nm,0.7s,baz=298,slow=7.6,SNR=13									
JNU	Nakatsue	45.34	38	P			P	09 21 38.1	0.0
6.2nm,0.9s,baz=225,slow=12,SNR=2.9									
KSRS	Korea Array	46.80	31	P			P	09 21 49.8	+0.3
1.0nm,0.7s,baz=227,slow=7.9,SNR=4.6									
SONM	Songino Array	49.54	6	P			P	09 22 08.4	-2.3
1.2nm,0.7s,baz=192,slow=12,SNR=7.1									
STKA	Stephens Creek	49.67	132	P			P	09 22 13.3	+1.5
4.9nm,0.7s,baz=325,slow=8.1,SNR=13									
MKAR	Makanchi Array	50.52	345	P			P	09 22 18.3	+0.2
2.6nm,0.6s,baz=147,slow=8.2,SNR=8.2									
USRK	Ussuriysk Arra	53.92	28	P			P	09 22 43.0	-0.2
1.5nm,0.8s,baz=233,slow=6.0,SNR=6.7									
ZALV	Zalesovo Beam	56.68	350	P			P	09 23 01.5	-1.5
3.9nm,0.6s,baz=176,slow=8.3,SNR=12									
BVAR	Borovoye Array	59.67	340	LR			LR	09 54 21.7	
comp=Z,22nm,18.1s,baz=112,slow=41									
MAW	Mawson	70.63	194	P			P	09 24 35.6	+0.8
1.6nm,1.1s,baz=39,slow=6.5,SNR=4.1									
RPZ	Rata Peaks	75.51	135	P			P	09 25 05.2	+1.0
5.4nm,0.7s,baz=256,slow=8.3,SNR=3.8									
VNDA	Vanda	82.65	169	P			P	09 25 43.5	+0.9
0.9nm,0.9s,baz=302,slow=3.3,SNR=4.3									
QSPA	South Pole Qui	88.40	180	P			P	09 26 12.2	+0.7
1.4nm,0.8s,baz=289,slow=3.8,SNR=7.3									
TXAR	Lajitas Array	144.54	37	PKP			PKPab	09 32 54.6	-0.7
1.1nm,0.6s,baz=264,slow=1.1,SNR=15									

IDC 19 09:14:51.5±2.8, 35°.20S×179°.06E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=69.1km s-min=29.5km az=50.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	Urewera	3.43	207	Pn			Pn	09 15 45.5	-0.7
4.8nm,0.3s,baz=28,slow=7.6,SNR=20									
URZ				Sn			Sb	09 16 33.0	-2.4
3.7nm,0.3s,baz=143,slow=23,SNR=9.3									
ASAR	Alice Springs	40.66	274	P			P	09 22 34.0	+0.3
2.6nm,0.5s,baz=115,slow=7.8,SNR=29									
WRA	Warramunga Arr	42.10	279	P			P	09 22 44.9	-0.6
0.7nm,0.5s,baz=119,slow=7.6,SNR=10									
QSPA	South Pole Qui	54.92	180	P			P	09 24 24.0	+0.1
1.4nm,1.0s,baz=48,slow=1.0,SNR=2.8									
TORD	Torodi Ar. Bea	157.91	187	PKPab			PKPab	09 35 23.0	-0.5
0.3nm,0.6s,baz=179,slow=3.7,SNR=2.4									

NNC 19 09:15:15.2±4.7, 39°.33N×78°.01E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=47.7km s-min=21.4km az=150.0
ISCJB 19 09:15:16.0±1.0, 39°.18N±0°.06×78°.16E±0°.08, h10km, Error ellipse: s-maj=11.1km s-min=6.9km az=43.9
BJI 19 09:15:21.9, 39°.22N×77°.88E, h7km, ML3.5/7
ISC 19 09:15:18.8±1.4, 39°.23N±0°.08×78°.08E±0°.09, h10km, n6, σ1§73/9, 3C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSH	Kashi	1.65	281	Pg			Pg	09 15 50.9	+0.3
KSH				Sg			Sg	09 16 14.4	+2.4
KSH				smax			smax		
comp=N,330nm,0.4s									
KSH				smax			smax		
comp=E,400nm,0.3s									
TKM2	Tokmak 2	4.13	334	⇑Pg			Pb	09 16 30.5	-1.3
comp=E,9.7nm,0.9s									
TKM2				⇑Lg			Lg	09 17 24.4	
comp=E,22nm,0.5s									
CHCP	Chirah Chowk	6.78	216	P			Pn	09 16 59.4	+1.0
KK31	Karatay Array	6.89	307	⇑Pn			Pn	09 16 57.8	-2.1
comp=E,0.3nm,0.3s,baz=128,slow=14,SNR=4.1									
KK31				⇓Lg			Lg	09 18 46.7	
comp=E,1.9nm,0.5s,baz=122,slow=28,SNR=4.8									
CEP	Cherat	7.33	224	P			Pn	09 17 06.8	+0.7
CEP				S			Sn	09 18 28.0	-1.4
MK31	Makanchi Array	8.16	21	⇓Pn			Pn	09 17 17.9	+0.6
comp=E,0.3nm,0.6s,baz=201,slow=13,SNR=2.6									
MK31				⇓Sn			Sn	09 18 51.1	+1.5
comp=E,1.0nm,0.5s,baz=200,slow=25									
MK31				⇓Lg			Lg	09 19 28.2	
comp=E,2.8nm,0.6s,baz=122,slow=28									

IDC 19 09:19:43.5±1.3, 1°.36S×99°.62E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=60.1km s-min=20.8km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.65	121	P			P	09 27 09.0	-0.1
0.4nm,0.9s,baz=303,slow=9.0,SNR=4.5									
ASAR	Alice Springs

EZM	Erzurum	1.68	91	*e*PN	Pn	09 20 15.5	-0.7
ERZM	Erzurum	1.69	91	*i* P	Pg	09 20 18.7	+0.6
ERZM				*i* S	Sg	09 20 41.5	+1.5
MYA	Malataya	1.73	200	*e*PN	Pn	09 20 16.3	-0.4
MYA	Malataya	1.73	200	*e*Pn	Pn	09 20 16.3	-0.4
DARE	Darende-Malaty	1.91	224	*e*PN	Pn	09 20 19.2	0.0
DDEM	Demirkent	2.18	64	*i* P	Pb	09 20 24.9	-0.9
DDEM				*i* S	Sb	09 20 52.6	-0.6
DDEM	Demirkent	2.18	64	*i* P	Pb	09 20 24.9	-0.9
DDEM				*i* S	Sb	09 20 52.6	-0.6
DBOC	Borcka	2.35	53	*i* P	Pb	09 20 26.7	-2.0
DBOC				*i* S	Sb	09 20 57.8	-0.2
DBOC	Borcka	2.35	53	*i* P	Pb	09 20 26.7	-2.0
DAGI	Agillar	2.37	61	*i* P	Pb	09 20 28.6	-0.5
DAGI				*i* S	Sb	09 20 59.4	+0.6
BCA	Borcka	2.38	51	*e*PN	Pn	09 20 25.4	-0.2
BCA	Borcka	2.38	51	*e*Pn	Pn	09 20 25.4	-0.2
ARTV	Artvin	2.43	59	*i* P	Pb	09 20 29.3	-0.9
ARTV				*i* S	Sb	09 21 01.2	+0.6

NIED ***19*** *09:29:00.31°.40N×129°.50E, h5km, Mw3.5 Best double couple: M01.92000×1014 NP1:φ0=333.00000°, δ77.00000°, λ103.00000°. NP2:φ0=107.00000°, δ18.00000°, λ46.00000°.*

JMA 19 09:29:52.4±0.1, 31°.36N×129°.49E, h6km±2km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.37	31	P	Pg	09 29 59.8	+0.1
JSU	Suzuyama	0.84	80	P	Pg	09 30 08.2	-0.4
JSU				S	Sg	09 30 19.7	+0.2
JKC	Kuchinoerabu	1.08	146	P	Pg	09 30 12.8	-0.3
JKC				*e*S	Sg	09 30 27.1	-0.1
JZO	Okuchi	1.22	50	P	Pg	09 30 15.3	-0.7
JZO				S	Sn	09 30 32.6	-0.4
JHD	Hondo	1.23	26	P	Pg	09 30 15.3	-0.7
JHD				*e*S	Sb	09 30 32.6	+0.4
JTSR	Tashiro 2	1.24	99	P	Pg	09 30 15.6	-0.7

ISCJB ***19*** *09:41:26.1±0.4, 44°.40N±0°.05×141°.07E±0°.07, h243km±4km, mb3.2/6, Error ellipse: s-maj=8.3km s-min=7.7km az=170.2*
JMA ***19*** *09:41:26.1±0.3, 44°.41N×141°.08E, h249km±3km, M3.0*
IDC ***19*** *09:41:26.8±1.1, 44°.35N×141°.07E, h239km±16km, mb3.0/6, mb1 3.1/8, mb1mx3.0/26, mbtmp3.0/8, Error ellipse: s-maj=37.1km s-min=15.0km az=169.0*

ISC 19 09:41:26.9±0.8, 44°.38N±0°.06×141°.05E±0°.06, h239km±7km, n25, σ0°70/35, mb3.1/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	Yagishiri	0.27	80	P	Pn	09 41 58.2	+0.3
JSS	Shosan	0.57	88	P	Pn	09 41 59.3	+0.6
JHR	Hokuryu	0.80	142	P	Pn	09 42 00.5	+0.8
JSK	Shakotan	1.11	202	P	Pn	09 42 01.7	+0.3
JWK2	Keihoku	1.11	32	P	Pn	09 42 01.3	0.0
JWK2				*e*S	S	09 42 28.2	-0.2
ASAJ	Asahikawa	1.14	103	P	Pn	09 42 01.4	-0.1
ASAJ	9.9nm,0.3s,baz=288,slow=23,SNR=84			S	S	09 42 27.9	-0.8
JSE	1.3nm,0.3s,baz=126,slow=29,SNR=3.7 Soyaes	1.24	61	P	Pn	09 42 01.8	-0.3
JSE				*e*S	S	09 42 28.8	-1.0
JKK2	Kamakawa 2	1.32	112	P	Pn	09 42 03.0	+0.2
JKK2				*e*S	S	09 42 31.3	+0.4
JFR	Furan	1.65	137	P	Pn	09 42 05.3	-0.1
JTKR	Abashiri--Toko	2.09	100	P	Pn	09 42 09.8	+0.6
JTKR				*e*S	S	09 42 43.3	+0.8
JAR	Ashorobuto	2.24	118	P	Pn	09 42 11.3	+0.6
JCH	Churui	2.44	136	P	Pn	09 42 12.1	-0.6
JCH				*e*S	S	09 42 46.5	-2.1
JNBK	Urakawa-nobuka	2.44	149	P	Pn	09 42 13.7	+1.0
JNBK				*e*S	S	09 42 50.2	+1.5
JKB	Kayabe	2.49	180	P	Pn	09 42 13.2	0.0
JOSM	Okushiri--Mats	2.57	207	P	Pn	09 42 14.2	+0.1
JAK	Akkeshi	2.98	116	P	Pn	09 42 18.0	-0.4
JAK				*e*S	S	09 42 58.0	-1.0
JOT	Ohata	3.00	180	P	Pn	09 42 18.5	-0.1
JOT				*e*S	S	09 42 59.6	+0.2
USRK	Ussuriysk Arra	6.50	272	P	Pn	09 43 01.1	+0.1
USRK	0.4nm,0.3s,baz=78,slow=14,SNR=16			S	S	09 44 15.4	-0.9
MJAR	0.1nm,0.3s,baz=86,slow=23,SNR=2.0 Matsushiro Arr	8.12	196	P	Pn	09 43 21.4	-0.3
SONM	0.5nm,0.3s,baz=8.3,slow=12,SNR=5.6 Songino Array	24.15	291	P	P	09 46 21.7	+0.3
MKAR	1.3nm,0.5s,baz=88,slow=8.5,SNR=8.4 Makanchi Array	40.37	295	P	P	09 48 41.3	0.0
KURBB	0.3nm,0.6s,baz=76,slow=7.5,SNR=3.4 Kurchatov Arra	41.58	302	P	P	09 48 51.1	0.0
ILAR	0.9nm,0.4s,baz=73,slow=9.3,SNR=4.9 Eielson Array	43.58	36	P	P	09 49 06.9	-0.1
YKA	0.2nm,0.6s,baz=282,slow=9.1,SNR=6.4 Yellowknife Ar	57.67	32	P	P	09 50 51.9	0.0
PDAR	0.3nm,0.6s,baz=309,slow=7.1,SNR=2.7 Pinedale Array	72.77	47	P	P	09 52 29.4	+0.1
	0.3nm,0.8s,baz=321,slow=1.3,SNR=3.8						

ISCJB ***19*** *09:49:07.0±0.5, 36°.41N±0°.04×70°.66E±0°.07, h188km, mb3.7/8, Error ellipse: s-maj=8.7km s-min=4.3km az=154.2*
IDC ***19*** *09:49:07.3±3.6, 36°.27N×70°.83E, h196km±32km, mb3.5/9, mb1 3.6/14, mb1mx3.3/32, mbtmp3.5/14, Error ellipse: s-maj=24.6km s-min=17.8km az=24.0*
NNC ***19*** *09:49:14.7±4.4, 36°.93N×70°.70E, h192km±38km, mb3.1, mpv4.2, Error ellipse: s-maj=38.1km s-min=23.0km az=27.0*

ISC 19 09:49:08.5±0.6, 36°.55N±0°.05×70°.77E±0°.08, h188km, n47, σ1°81/52, mb3.6/8, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.88	161	⇓P	Pn	09 50 00.6	+4.4
CEP				S	Sn	09 50 38.0	+4.6
CHCP	Chirah Chowk	3.54	144	P	Pn	09 50 08.2	+4.1
SARP	Sargodha	4.88	161	P	Pn	09 50 23.8	+2.7
AML	Almayashu	6.02	21	P	Pn	09 50 38.4	+2.3
UCH	SNR=22 Uchtor	6.37	26	P	Sn	09 51 53.4	-0.1
KZA	SNR=13 Kyzart	6.52	31	P	Pn	09 50 44.5	+1.9
EKS2	SNR=8.3 Erkin-Say	6.53	20	P	Pn	09 50 44.9	+2.4
KK31	SNR=8.5 Karatay Array	6.55	358	P	Pn	09 50 44.7	+2.0
KK31	9.8nm,0.5s,baz=191,slow=15,SNR=75			⇑S	Sn	09 51 54.3	-2.9
AAK	9.9nm,0.4s,baz=200,slow=25,SNR=11 Ala-Archa	6.72	24	P	Pn	09 50 47.7	+2.6
AAK	SNR=12 Ala-Archa	6.72	24	P	Pn	09 50 47.4	+2.3
AAK	6.7nm,0.3s,baz=173,slow=4.2,SNR=27			S	Sn	09 52 02.2	+0.8
ULHL	1.3nm,0.3s,baz=200,slow=11,SNR=3.7 Ulahol	7.09	35	P	Pn	09 50 52.1	+2.1
CHMS	SNR=11 Chumysh	7.13	24	P	Pn	09 50 52.8	+2.5
SDNR	SNR=6.2 Sundarnagar	7.20	133	*e*S	Sn	09 52 08.0	-4.7
USP	Ospenovka	7.29	22	P	Pn	09 50 54.0	+1.6
TKM2	SNR=5.9 Tokmak 2	7.37	29	⇓P	Pn	09 50 55.5	+1.9
TKM2	11nm,0.8s			⇓S	Sn	09 52 17.1	+0.2
PYUN	6.9nm,0.8s Piuthan	13.32	126	*e*P	Pn	09 52 09.3	-1.4
MK31	15nm,0.2s Makanchi Array	13.36	36	⇑P	Pn	09 52 11.8	+1.0
MKAR	0.5nm,0.3s,baz=220,slow=12,SNR=26 Makanchi Array	13.36	36	P	Pn	09 52 11.9	+1.2
DANN	0.6nm,0.3s,baz=212,slow=11,SNR=17 Dangsing	13.67	123	*e*P	Pn	09 52 15.0	-0.1
KOLN	19nm,0.3s Koldanda	13.94	125	*e*P	Pn	09 52 16.3	-2.1
AB31	9.1nm,0.3s Akbulak array	14.95	332	⇑P	P	09 52 31.3	-0.1
AB31	2.2nm,0.5s,baz=149,slow=15,SNR=71			⇑S	S	09 55 17.5	-0.1
	1.9nm,0.7s						

DMN	Daman	15.06	122	*e*P	Pn	09 52 31.8	-0.4
KKN	16nm,0.3s Kakani	15.06	121	*e*P	Pn	09 52 31.9	-0.3
KURBB	35nm,0.5s Kurchatov Arra	15.14	19	P	P	09 52 33.9	+0.5
PKIN	0.2nm,0.3s,baz=208,slow=10,SNR=7.4 Phulchoki	15.28	122	*e*P	Pn	09 52 35.3	+0.4
PKI	18nm,0.3s Pulchoki	15.29	122	*e*P	Pn	09 52 34.7	-0.4
GUN	42nm,0.7s Gumba	15.40	120	*e*P	P	09 52 37.6	+0.6
JIRN	32nm,0.6s Jiri	15.77	120	*e*P	Pn	09 52 41.2	+0.2
VOSK	39nm,0.4s Vostochnaya	16.17	0	⇑P	Pn	09 52 46.1	+0.9
BVA0	2.1nm,0.6s Borovoye Array	16.48	359	⇑P	Pn	09 52 51.6	+2.7
BVAR	1.8nm,0.7s,baz=0,0,slow=0.1,SNR=7.1 Borovoye Array	16.48	359	P	Pn	09 52 50.1	+1.2
BVAR	0.8nm,0.3s,baz=157,slow=9.7,SNR=7.9			S	S	09 55 51.2	+0.7
RAMN	0.3nm,0.3s,baz=172,slow=23,SNR=3.6 Ramite	16.50	121	*e*P	P	09 52 49.3	+0.3
BRVK	20nm,0.4s Borovoye	16.51	359	⇓P	Pn	09 52 51.0	+1.7
AKTO	6.1nm,1.2s Aktyubinsk	16.64	330	⇑P	Pn	09 52 51.9	+1.0
AKTO	5.8nm,0.8s			⇑S	S	09 55 51.3	-2.7
AKTO	2.0nm,0.8s Aktyubinsk	16.64	330	P	Pn	09 52 51.6	+0.7
TAPN	0.9nm,0.3s,baz=138,slow=10,SNR=17 Taplejung	17.03	118	*e*P	Pn	09 52 56.4	+0.3
ODAN	16nm,0.5s Odare	17.11	120	*e*P	Pn	09 52 56.7	-0.2
ZALV	12nm,0.5s Zalesovo Beam	19.95	25	P	P	09 53 25.9	+0.1
ARCES	4.5nm,0.3s,baz=218,slow=12,SNR=15 ARCESS Array B	41.03	338	P	P	09 56 33.5	+0.7
HFS	3.3nm,0.6s,baz=115,slow=8.1,SNR=20 Hagfors	42.91	322	P	P	09 56 48.7	+0.5
NB2	2.5nm,0.6s,baz=92,slow=12,SNR=4.1 NORSAR Subarra	44.23	323	P	P	09 56 58.7	0.0
NOA	comp=Z,1.0nm,0.6s,baz=97,slow=7.9 NORSAR Array B	44.23	323	P	P	09 56 58.8	0.0
TORD	comp=Z,1.6nm,0.7s,baz=97,slow=7.8,SNR=6.5 Torodi Ar. Bea	65.53	268	P	P	09 59 29.9	-2.2
ILAR	comp=Z,1.1nm,0.5s,baz=50,slow=6.1,SNR=25 Eielson Array	74.78	16	P	P	10 00 26.4	-1.1
YKA	comp=Z,0.6nm,0.9s,baz=301,slow=1.6,SNR=4.8 Yellowknife Ar	81.20	3	P	P	10 01 02.3	-0.5
WRA	comp=Z,0.6nm,0.4s,baz=350,slow=5.4,SNR=13 Warramunga Arr	82.17	122	P	P	10 01 05.8	-2.7
ASAR	comp=Z,0.5nm,0.5s,baz=321,slow=4.7,SNR=5.4 Alice Springs	84.44	125	P	P	10 01 17.4	-2.6
	comp=Z,0.4nm,0.5s,baz=313,slow=5.0,SNR=4.7						

AUST ***19*** *09:49:18.6±0.0, 3°.22S×99°.14E, h71km±2km, Error ellipse: s-maj=3.3km s-min=1.6km az=256.0*
IDC ***19*** *09:49:32.8±0.7, 1°.54S×99°.21E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.9/29, mbtmp4.0/17, ML3.7/2, Error ellipse: s-maj=31.1km s-min=13.4km az=62.0*
ISCJB ***19*** *09:49:35.8±0.6, 1°.42S±0°.09×99°.3E±0°.1, h30km, mb4.0/15, Error ellipse: s-maj=18.3km s-min=11.1km az=155.7*

ISC 19 09:49:37.7±0.7, 1°.52S±0°.09×99°.4E±0°.1, h30km, n23, σ1°26/22, mb4.2/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.48	45	P	Pn	09 50 00.2	-2.1
BKNI	baz=3.0,SNR=30 Bangkinang	2.48	43	P	Pb	09 50 23.3	+1.6
PSI	baz=4.0,SNR=4.6 Prapat	4.31	354	Pn	Pn	09 50 39.7	-1.7
PSI	1.3nm,0.3s,baz=302,slow=12,SNR=13 Prapat	4.31	354	P	Pn	09 50 43.8	+2.4
KSM	baz=5.9,SNR=3.5 Kuching	11.34	75	P	Pn	09 52 06.4	-11
CMAR	baz=12,SNR=62 Chiang Mai Arr	19.85	359	P	P	09 54 06.3	-0.2
WRA	0.2nm,0.3s,baz=187,slow=10,SNR=5.7 Warramunga Arr	38.79	121	P	P	09 56 59.1	-0.9
ASAR	1.0nm,0.7s,baz=302,slow=9.0,SNR=11 Alice Springs	40.05	126	P	P	09 57 10.3	-0.3
ASAR	0.5nm,0.7s,baz=299,slow=8.0,SNR=10			PcP	PcP	09 59 15.7	+0.4
KSRS	0.7nm,0.8s,baz=310,slow=3.5,SNR=6.3 Korea Array	46.94	31	P	P	09 58 05.6	-0.2
SONM	0.5nm,0.4s,baz=220,slow=8.2,SNR=2.9 Songino Array	49.53	6	P	P	09 58 27.1	+1.3
STKA	0.4nm,0.5s,baz=179,slow=7.2,SNR=3.3 Stephens Creek	49.95	132	P	P	09 58 29.9	+0.8
MKAR	1.5nm,0.4s,baz=301,slow=7.1,SNR=4.1 Makanchi Array	50.40	345	P	P	09 58 31.7	-0.6
USRK	1.8nm,0.6s,baz=147,slow=8.0,SNR=19 Ussuriysk Arra	54.04	29	P	P	09 59 00.2	+0.9
KURBB	1.2nm,0.6s,baz=215,slow=6.5,SNR=3.6 Kurchatov Arra	54.91	344	P	P	09 59 04.5	-1.1
ZALV	0.9nm,0.8s,baz=165,slow=6.6,SNR=4.2 Zalesovo Beam	56.58	350	P	P	09 59 16.7	-0.8
BVAR	1.6nm,0.6s,baz=163,slow=5.6,SNR=5.6 Borovoye Array	59.52	340	P	P	09 59 36.9	-1.2
KBZ	0.6nm,0.6s,baz=123,slow=5.3,SNR=3.3 Khabaz	67.53	319	P	P	10 00 29.4	-1.7
RPZ	1.8nm,0.9s,baz=159,slow=8.6,SNR=3.2 Rata Peaks	75.77	135	P	P	10 01 21.7	+0.8
FINES	8.3nm,0.9s,baz=349,slow=5.2,SNR=3.9 FINESS Array B	83.39	332	P	P	10 02 01.2	-0.6
QSPA	1.3nm,0.6s,baz=102,slow=6.2,SNR=3.2 South Pole Qui	88.44	180	P	P	10 02 28.2	+1.2
DAVOX	0.7nm,0.5s,baz=161,slow=3.3,SNR=14 Davos/Dischmat	90.74	317	P	P	10 02 38.4	+0.1
PDAR	1.4nm,0.5s,baz=128,slow=17,SNR=3.0 Pinedale Array	131.46	28	PKP	PKPdf	10 08 46.8	-1.3
TXAR	0.4nm,0.8s,baz=72,slow=2.9,SNR=3.3 Lajitas Array	144.70	36	PKP	PKPbc	10 09 11.2	0.0
	1.0nm,0.7s,baz=277,slow=2.1,SNR=16						

IDC 19 09:51:42.5±0.6, 1°.38S×99°.49E, h0km, mb4.2/22, mb1 4.2/24, mb1mx4.1/33, mbtmp4.1/24, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/39, Error ellipse: s-maj=20.8km s-min=12.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.19	352	Pn	Pn	09 52 47.7	-0.3
PSI	0.5nm,0.3s,baz=187,slow=16,SNR=2.9			LR	LR	09 54 32.1	
CMAR	comp=Z,108nm,19.1s,baz=168,slow=42 Chiang Mai Arr	19.72	358	P	P	09 56 14.6	+0.7
FITZ	0.4nm,0.3s,baz=185,slow=9.7,SNR=14 Fitzroy Crossi	30.58	125	P	P	09 57 59.6	+1.2
WRA	3.3nm,0.8s,baz=60,slow=5.6,SNR=5.2 Warramunga Arr	38.75	121	P	P	09 59 08.3	-0.7
WRA	1.8nm,0.7s,baz=303,slow=9.0,SNR=14			PcP	PcP	10 01 20.4	-0.5
ASAR	0.8nm,1.1s,baz=329,slow=4.5,SNR=3.3 Alice Springs	40.03	126	P	P	09 59 19.1	-0.6
JNU	0.8nm,0.8s,baz=303,slow=7.9,SNR=9.6 Nakatsue	45.32	38	P	P	10 00 02.5	-0.1
KSRS	6.8nm,0.9s,baz=183,slow=5.6,SNR=4.0 Korea Array	46.76	31	P	P	10 00 13.2	-0.5
AAK	1.2nm,0.7s,baz=222,slow=8.3,SNR=6.1 Ala-Archa	49.27	336	P	P	10 00 33.0	-0.3
SONM	2.1nm,0.5s,baz=198,slow=6.4,SNR=2.9 Songino Array	49.39	6	P	P	10 00 34.6	+0.5
SONM	1.4nm,0.7s,baz=189,slow=8.7,SNR=6.7			PcP	PcP	10 01 56.8	+0.2
STKA	0.9nm,0.5s,baz=183,slow=3.6,SNR=4.0 Stephens Creek	49.94	132	P	P	10 00 38.5	+0.1
MKAR	2.5nm,0.8s,baz=297,slow=9.4,SNR=4.1 Makanchi Array	50.30	345	P	P	10 00 41.4	+0.4
MJAR	6.4nm,0.7s,baz=149,slow=8.1,SNR=36 Matsushiro Arr	52.13	40	P	P	10 00 54.4	-0.5
USRK	0.7nm,0.7s,baz=258,slow=6.1,SNR=3.3 Ussuriysk Arra	53.87	29	P	P	10 01 07.3	-0.2
KURBB	2.0nm,0.7s,baz=231,slow=6.1,SNR=6.9 Kurchatov Arra	54.82	344	P	P	10 01 14.4	+0.1
ZALV	2.1nm,0.8s,baz=163,slow=7.0,SNR=14 Zalesovo Beam	56.47	350	P	P	10 01 26.3	+0.1
BVAR	9.4nm,0.8s,baz=180,slow=5.6,SNR=23 Borovoye Array	59.43	340	P	P	10 01 46.3	-0.7
KMBO	1.3nm,0.6s,baz=133,slow=8.5,SNR=7.0 Kilima Mbogo	62.22	269	P	P	10 02 07.6	+0.6
	0.8nm,0.3s,baz=63,slow=14,SNR=2.9						
AKTO	Aktyubinsk	62.57	332	P	P	10 02 07.6	-0.8
KBZ	0.5nm,0.4s,baz=136,slow=11,SNR=3.2 Khabaz	67.51	319	P	P	10 02 39.1	-1.5
RPZ	1.8nm,0.6s,baz=112,slow=7.8,SNR=4.7 Rata Peaks	75.78	135	P	P	10 03 31.0	+0.5
GERES	5.3nm,0.9s,baz=314,slow=2.8,SNR=4.5 GERESS Array B	88.25	319	P	P	10 04 35.9	-0.1
QSPA	0.2nm,0.3s,baz=120,slow=7.9,SNR=4.0 South Pole Qui	88.58	180	P	P	10 04 36.9	-0.4
DAVOX	1.6nm,1.1s,baz=288,slow=3.2,SNR=5.9 Davos/Dischmat	90.73	317	P	P	10 04 47.8	-0.1
KEST	1.0nm,0.3s,baz=17,slow=20,SNR=3.9 Kesra	90.91	306	P	P	10 04 49.8	+0.9
TXAR	0.8nm,0.6s,baz=135,slow=17,SNR=2.6 Lajitas Array	144.52	36	PKP	PKPbc	10 11 20.8	+0.3
	2.6nm,0.7s,baz=253,slow=1.3,SNR=25						

LJU ***19*** *09:52:45.9, 46°.79N×14°.07E, h0km, ML1.2*
CSEM ***19*** *09:52:46.1±0.1, 46°.79N×14°.06E, h10km, ML1.9/5, Error ellipse: s-maj=1.8km s-min=1.0km az=14.0*

VIE 19 09:52:46.1±0.2, 46°.78N×14°.06E, h5km, mb0.9/3, ML1.6/4, 5C-3D, Error ellipse: s-maj=1.7km s-min=0.9km az=8.0 7 km NNW of Feldkirchen, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.32	242	⇑*i*Pg	Pg	09 52 52.9	+0.3
MYKA	4.7nm,0.1s			⇑*i*Sg	Sg	09 52 57.0	+0.1
MYKA	8.9nm,0.1s Terra Mystica	0.32	242	Pg	Pg	09 52 52.9	+0.4
MYKA	4.7nm,0.1s			Sg	Sg	09 52 57.0	+0.1
OBKA	8.9nm,0.1s Obir	0.44	129	⇑*i*Pg	Pg	09 52 54.9	+0.2
OBKA	0.9nm,0.1s			⇓*i*Sg	Sg	09 53 00.4	-0.1
OBKA	5.6nm,0.1s Obir	0.44	129	Pg	Pg	09 52 54.9	+0.2
OBKA	0.9nm,0.1s			Sg	Sg	09 53 00.4	-0.2
GORS	5.6nm,0.1s Gorjuse	0.47	185	*i* Pg	Pg	09 52 55.5	+0.2
GORS	Gorjuse	0.47	185	*i* Pg	Pg	09 52 55.5	+0.2
MOZS	Mozjanca	0.56	151	*i* Pg	Pg	09 52 57.3	+0.3
MOZS				*i* Sg	Sg	09 53 04.8	+0.6
MOZS	comp=Z,7.0nm,0.1s						
MOZS	Mozjanca	0.56	151	*i* Pg	Pg	09 52 57.3	+0.3
MOZS				*i* Sg	Sg	09 53 04.8	+0.5
KBA	comp=Z,6.0nm,0.1s Koelnbreinsper	0.57	301	⇑*i*Pg	Pg	09 52 57.4	0.0
KBA	comp=Z,0.8nm,0.1s			⇓*i*Sg	Sg	09 53 05.0	0.0
KBA	comp=Z,2.8nm,0.1s Koelnbreinsper	0.57	301	Pg	Pg	09 52 57.4	0.0
KBA	comp=Z,0.8nm,0.1s			Sg	Sg	09 53 05.0	0.0
CADS	comp=Z,2.8nm,0.1s Cadrg	0.60	202	*i* Pg	Pg	09 52 58.0	+0.2
CADS	Cadrg	0.60	202	*i* Pg	Pg	09 52 58.0	+0.3
SOKA	Soboth	0.68	99	⇓*i*Pg	Pg	09 52 59.3	0.0
SOKA	comp=Z,0.8nm,0.1s			⇑*i*Sg	Sg	09 53 08.9	+0.6
SOKA	comp=Z,1.0nm,0.1s Soboth	0.68	99	Pg	Pg	09 52 59.3	-0.1
SOKA	comp=Z,0.8nm,0.1s			Sg	Sg	09 53 08.9	+0.6
PERS	comp=Z,1.0nm,0.1s Pernice	0.75	101	*i* Pg	Pg	09 53 00.3	-0.3
PERS	Pernice	0.75	101	*i* Pg	Pg	09 53 00.3	-0.3

BUC 19 09:55:53.5±3.6, 45°.14N×24°.72E, h5km, MD2.0/2, 4C-2D, Error ellipse: s-maj=29.5km s-min=10.5km az=348.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARR	Arges	0.24	345	⇑*i*P	Pg	09 55 58.4	+0.1
ARR	Arges	0.24	345	S	Sg	09 56 02.6	+1.0
ARR	Arges	0.24	345	⇑*i*P	Pg	09 55 58.4	+0.1
ARR				*i* S	Sg	09 56 02.6	+1.0
ARR	Arges	0.24	345	S	Sg	09 56 02.6	+1.0
VOIR		0.38	38	⇓*i*P	Pg	09 56 01.5	+0.5
VOIR		0.38	38	S	Sb	09 56 08.3	-0.9
VOIR		0.38	38	⇓*i*P	Pg	09 56 01.5	+0.5
VOIR				*i* S	Sb	09 56 08.3	-0.9
VOIR		0.38	38	S	Sb	09 56 08.3	-0.9
LOT	Lotru	0.74	295	⇑*i*P	Pb	09 56 09.7	+0.6
LOT				S	Sb	09 56 18.9	-0.7
LOT	Lotru	0.74	295	⇑*i*P	Pb	09 56 09.7	+0.6
LOT				*i* S	Sb	09 56 18.9	-0.7

IDC 19 09:59:12.6±4.7, 1°.53S×99°.01E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=237.8km s-min=23.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.08	120	P	P	10 06 41.0	-0.8
ASAR	0.4nm,0.8s,baz=295,slow=8.7,SNR=5.6 Alice Springs	40.32	126	P	P	10 06 52.9	+0.7
MKAR	0.7nm,0.6s,baz=305,slow=8.4,SNR=4.5 Makanchi Array	50.32	345	P	P	10 08 11.0	-0.1
ZALV	0.2nm,0.6s,baz=149,slow=5.9,SNR=3.4 Zalesovo Beam	56.53	350	P	P	10 08 56.7	+0.1
TXAR	0.3nm,0.4s,baz=147,slow=2.9,SNR=2.2 Lajitas Array	144.92	36	PKP	PKPab	10 18 51.6	-0.1
	0.1nm,0.6s,baz=305,slow=3.2,SNR=2.2						

IDC ***19*** *10:05:59.5±2.1, 23°.51N×123°.53E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=166.9km s-min=21.9km az=66.0*
ISCJB ***19*** *10:06:02.4±0.9, 23°.41N±0°.05×123°.52E±0°.06, h30km, mb3.1/4, Error ellipse: s-maj=9.3km s-min=6.5km az=35.9*
JMA ***19*** *10:06:03.7±0.2, 23°.45N×123°.53E, h39km±3km, M3.0*

ISC 19 10:06:03.8±1.2, 23°.49N±0°.08×123°.59E±0°.07, h30km, n12, σ1°04/16, mb3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.60	19	P	Pn	10 06 16.4	+0.1
HATJ				S	Sn	10 06 25.8	+0.8
JKRS	Kuro-shima	0.84	27	P	Pb	10 06 20.2	+0.3
JKRS				S	Sn	10 06 31.8	+0.9
IRIF	Iriomote-Funau	0.85	9	P	Pb	10 06 20.1	0.0
IRIF				*e*S	Sn	10 06 32.3	+1.1
JIJ	Ishigaki jima	1.00	30	*e*S	Sb	10 06 35.5	-0.1
YOJ	Yonaguni jima	1.10	331	P	Pn	10 06 23.3	+0.1
YOJ				*e*S	Sb	10 06 37.4	-0.9
JTJ	Tarama	1.53	41	*e*S	Sb	10 06 49.8	-0.8
JMJ

SONM	**Songino Array**	**49.16**	**6**	P	P	10 19 47.4	+0.4
	0.2nm,0.4s,baz=198,slow=9.1,SNR=1.8						
MKAR	**Makanchi Array**	**50.24**	**344**	P	P	10 19 55.1	0.0
	0.6nm,0.6s,baz=150,slow=7.9,SNR=7.9						
ZALV	**Zalesovo Beam**	**56.37**	**349**	P	P	10 20 39.9	-0.1
	0.6nm,0.3s,baz=189,slow=6.1,SNR=5.3						
TXAR	**Lajitas Array**	**144.11**	**37**	PKP	PKPbc	10 30 34.5	+0.8
	0.5nm,0.6s,baz=174,slow=0.9,SNR=7.0						

*IDC **19** 10:14:36.8±2.1, 1°.60S×99°.18E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=93.8km s-min=21.0km az=57.0*
*ISCJB **19** 10:14:39.7±1.1, 1°.5S±0°.1×99°.29E±0°.09, h30km, mb3.6/4, Error ellipse: s-maj=17.3km s-min=12.8km az=171.0*
*DJA **19** 10:14:43.4±2.6, 1°.S±29°.×10°.0E±°, h10km, M4.2/3, MLv4.2/3*

ISC 19 10:14:42.0±1.3, 1°.4S±0°.1×99°.4E±0°.1, h30km, n10, σ0°.40/10, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.16**	**65**	P	**Pn**	**10 15 02.3**	**+0.1**
PDSI				S	**Sb**	**10 15 18.5**	**+0.4**
PPI	**Padang Panjang**	**1.36**	**47**	P	**Pn**	**10 15 04.7**	**-0.3**
BKNI	**Bangkinang**	**2.36**	**44**	P	**Pb**	**10 15 23.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.74**	**359**	P	**Pn**	**10 19 11.3**	**+0.2**
	0.6nm,0.3s,baz=185,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**10 22 03.8**	**-0.7**
	1.0nm,0.8s,baz=302,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**40.08**	**126**	P	**P**	**10 22 15.6**	**+0.5**
	0.2nm,0.6s,baz=298,slow=7.2,SNR=6.3						
MKAR	**Makanchi Array**	**50.30**	**345**	P	**P**	**10 23 36.1**	**+0.3**
	0.5nm,0.4s,baz=147,slow=7.5,SNR=7.9						
ZALV	**Zalesovo Beam**	**56.48**	**350**	P	**P**	**10 24 21.1**	**+0.1**
	0.6nm,0.5s,baz=131,slow=4.4,SNR=3.2						
CPUP	**Villa Florida**	**144.44**	**218**	PKP	PKPbc	10 34 15.2	+0.6
	2.1nm,0.9s,baz=142,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**144.58**	**36**	PKP	**PKPdf**	**10 34 16.4**	**-0.2**
	0.2nm,0.5s,baz=156,slow=1.2,SNR=4.2						

WEL 19 10:21:24.8±0.3, 38°.47S×175°.86E, h174km±2km, ML3.7/11, 3C-4D, Error ellipse: s-maj=2.9km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.81**	**191**	PN	Pn	10 21 51.1	+0.3
TUVZ				SN	Sn	10 22 11.0	+0.1
BKZ	**Black Stump Fm**	**0.85**	**145**	PN	Pn	10 21 51.2	+0.3
BKZ				SN	Sn	10 22 11.0	-0.2
BKZ				AML	AML	10 22 15.3	
WNVZ	**Wahianoa**	**0.88**	**193**	PN	Pn	10 21 51.4	+0.2
MOVZ	**Moawhango**	**0.94**	**185**	PN	Pn	10 21 51.4	-0.1
MOVZ				SN	Sn	10 22 11.2	-1.1
URZ	**Urewera**	**1.01**	**78**	PN	Pn	10 21 51.7	-0.2
BHHZ	**Black Hill Sta**	**1.03**	**171**	PN	Pn	10 21 52.2	0.0
BHHZ				SN	Sn	10 22 12.6	-0.9
VRZ	**Vera Road**	**1.08**	**232**	⇑PN	Pn	10 21 52.3	-0.2
MCHZ	**McNeill Hill**	**1.17**	**146**	PN	Pn	10 21 54.3	+1.1
MWZ	**Matawai**	**1.32**	**85**	PN	Pn	10 21 54.5	0.0
MWZ				SN	Sn	10 22 17.0	-0.6
WAZ	**Wanganui**	**1.45**	**208**	PN	Pn	10 21 55.4	-0.3
PNHZ	**Pukenui**	**1.47**	**170**	PN	Pn	10 21 55.8	-0.1
CKHZ	**Cape Kidnapper**	**1.52**	**142**	PN	Pn	10 21 57.1	+0.7
KAHZ	**Kahuranaki**	**1.54**	**149**	⇓PN	Pn	10 21 57.3	+0.6
TSZ	**Takapari Road**	**1.59**	**177**	⇓PN	Pn	10 21 56.8	-0.4
TSZ				AML	AML	10 22 23.0	
WPHZ	**Waipukurau**	**1.66**	**164**	PN	Pn	10 21 57.1	-0.6
MHGZ	**Mahia Peninsul**	**1.74**	**114**	*e*PN	Pn	10 21 59.2	+0.5
PXZ	**Pawanui**	**1.74**	**154**	⇓PN	Pn	10 21 58.5	-0.1
PXZ				SN	Sn	10 22 24.0	-1.0
DVHZ	**Dannevirke**	**1.84**	**173**	⇓PN	Pn	10 21 58.9	-0.8
CNGZ	**Carnagh Statio**	**1.84**	**91**	PN	Pn	10 22 00.5	+0.8
PRHZ	**Porangahau**	**1.89**	**162**	PN	Pn	10 21 59.9	-0.3
POWZ	**Post Office Ro**	**1.92**	**182**	PN	Pn	10 21 59.6	-0.9
PUZ	**Puketiti**	**1.93**	**79**	PN	Pn	10 22 00.3	-0.4
MRZ	**Mangatainoka R**	**2.20**	**186**	⇑PN	Pn	10 22 02.3	-1.4
MRZ				AML	AML	10 22 33.0	
MRZ				AML	AML	10 22 33.3	
BFZ	**Birch Farm**	**2.23**	**172**	PN	Pn	10 22 02.7	-1.2
TIWZ	**Tintock**	**2.30**	**180**	PN	Pn	10 22 03.3	-1.5
OGWZ	**Otaki Gorge**	**2.40**	**193**	PN	Pn	10 22 04.5	-1.4
HOWZ	**Holdsworth Sta**	**2.44**	**186**	PN	Pn	10 22 04.5	-1.9
KIW	**Kapiti Island**	**2.50**	**197**	PN	Pn	10 22 05.1	-2.0
KIW				AML	AML	10 22 38.4	
TMWZ	**Te Maipa**	**2.63**	**179**	PN	Pn	10 22 07.0	-1.6
MTW	**Mount Morrison**	**2.70**	**186**	PN	Pn	10 22 07.1	-2.3
MTW				AML	AML	10 22 43.0	
CAW	**Cannon Point**	**2.70**	**193**	PN	Pn	10 22 07.4	-2.1
CAW				AML	AML	10 22 43.6	
CAW				AML	AML	10 22 43.7	
DUWZ	**D'Urville Isla**	**2.77**	**212**	PN	Pn	10 22 07.9	-2.4
PAWZ	**Paruwai Farm**	**2.93**	**186**	PN	Pn	10 22 09.7	-2.5
PAWZ				AML	AML	10 22 46.9	
TRWZ	**Traveller**	**2.93**	**183**	PN	Pn	10 22 09.8	-2.4
SNZO	**South Karori**	**2.97**	**197**	PN	Pn	10 22 10.2	-2.5
MSWZ	**Moikau Station**	**2.98**	**189**	PN	Pn	10 22 10.2	-2.7
MSWZ				AML	AML	10 22 46.4	
MSWZ				AML	AML	10 22 47.7	
TCW	**Tory Channel**	**3.00**	**203**	PN	Pn	10 22 10.6	-2.4
TCW				AML	AML	10 22 48.6	
TCW				AML	AML	10 22 48.9	
BHW	**Baring Head**	**3.03**	**194**	PN	Pn	10 22 10.8	-2.6
PLWZ	**Palliser**	**3.13**	**188**	PN	Pn	10 22 11.8	-2.9
TUWZ	**Tuamarina**	**3.30**	**206**	⇑PN	Pn	10 22 14.1	-2.7
TUWZ				AML	AML	10 22 54.4	
TUWZ				AML	AML	10 22 54.7	
NNZ	**Nelson**	**3.34**	**214**	PN	Pn	10 22 14.3	-3.0
QRZ	**Quartz Range**	**3.48**	**226**	PN	Pn	10 22 15.4	-3.7
THZ	**Tophouse**	**3.99**	**214**	PN	Pn	10 22 22.1	-3.5
KHZ	**Kahutara**	**4.32**	**203**	PN	Pn	10 22 26.4	-3.3
DSZ	**Denniston Nort**	**4.51**	**222**	PN	Pn	10 22 29.1	-3.2
LTZ	**Lake Taylor**	**5.10**	**211**	PN	Pn	10 22 35.5	-4.4
MQZ	**McQueen's Vall**	**5.76**	**204**	PN	Pn	10 22 43.3	-5.2

*ISK **19** 10:22:33.6, 39°.88N×39°.59E, h8km, MD2.9*
*ISCJB **19** 10:22:34.2±0.5, 39°.87N±0°.02×39°.64E±0°.04, h13km±5km, Error ellipse: s-maj=5.1km s-min=4.0km az=13.3*
*CSEM **19** 10:22:34.1±0.2, 39°.86N×39°.65E, h10km, MD2.9, Error ellipse: s-maj=4.7km s-min=3.2km az=132.0*
*DDA **19** 10:22:34.1, 39°.88N×39°.64E, h7km, MD2.8*

ISC 19 10:22:34.3±0.9, 39°.87N±0°.02×39°.63E±0°.03, h14km±8km, n19, σ0°.50/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.17**	**161**	*i* Pg	**Pg**	**10 22 38.4**	**-0.1**
EUZM				*i* Sg	**Sg**	**10 22 41.0**	**-0.3**
EZC	**Erzincan**	**0.24**	**242**	*e*Pg	**Pb**	**10 22 40.4**	**-0.2**
EZC				*e*Sg	**Sb**	**10 22 44.6**	**-0.1**
ERZN	**Erzincan**	**0.29**	**165**	*e*PG	**Pg**	**10 22 40.4**	**0.0**
ERZN				*e*SG	**Sg**	**10 22 44.6**	**+0.1**
KELT	**Kelkit**	**0.40**	**315**	*i* P	**Pg**	**10 22 48.2**	**+0.3**
KELT				*i* S	**Sg**	**10 22 48.3**	**+0.3**
KELT	**Kelkit**	**0.40**	**315**	*i* P	**Pg**	**10 22 48.2**	**+0.3**
KELT				*i* S	**Sg**	**10 22 48.3**	**+0.3**
GUMT	**Gumushane**	**0.60**	**349**	*e*PG	**Pg**	**10 22 46.1**	**-0.2**
GUMT				*e*SG	**Sg**	**10 22 53.8**	**-0.5**
GUMT	**Gumushane**	**0.60**	**349**	*e*Pg	**Pg**	**10 22 46.1**	**-0.2**
GUMT				*e*Sg	**Sg**	**10 22 53.8**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.66**	**37**	*e*PG	**Pg**	**10 22 46.8**	**-0.4**
BAYT				*e*SG	**Sb**	**10 22 56.8**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**0.66**	**37**	*e*Pg	**Pg**	**10 22 46.8**	**-0.4**
BAYT				*e*Sg	**Sb**	**10 22 56.8**	**0.0**
KOPT	**Kop Dagi**	**0.69**	**77**	*e*P	**Pg**	**10 22 47.4**	**-0.4**
KOPT				*e*S	**Sg**	**10 22 56.7**	**-0.2**
KOPT	**Kop Dagi**	**0.69**	**77**	*e*P	**Pg**	**10 22 47.4**	**-0.4**
KOPT				*e*S	**Sg**	**10 22 56.7**	**-0.2**
ILIC	**ilic-Erzincan**	**0.92**	**244**	*e*PG	**Pg**	**10 22 51.4**	**-0.7**
ILIC	**ilic-Erzincan**	**0.92**	**244**	*e*Pg	**Pg**	**10 22 51.4**	**-0.7**
PTK	**Pertek**	**0.99**	**191**	*e*PG	**Pg**	**10 22 53.5**	**0.0**
PTK				*e*SG	**Sg**	**10 23 06.9**	**+0.4**
PTK	**Pertek**	**0.99**	**191**	*e*Pg	**Pg**	**10 22 53.5**	**0.0**
PTK				*e*Sg	**Sg**	**10 23 06.9**	**+0.4**
KEMA	**Kemaliye**	**1.06**	**236**	*e*P	**Pg**	**10 22 53.5**	**-1.3**
KEMA				*e*S	**Sg**	**10 23 08.7**	**0.0**
KEMA	**Kemaliye**	**1.06**	**236**	*e*P	**Pg**	**10 22 53.5**	**-1.3**
KEMA				*e*S	**Sg**	**10 23 08.7**	**0.0**
SVSK	**Karacayir**	**2.02**	**272**	*e*PN	**Pn**	**10 23 08.7**	**+0.7**
SVSK	**Karacayir**	**2.02**	**272**	*e*Pn	**Pn**	**10 23 08.7**	**+0.7**

*CSEM **19** 10:37:54.2, 39°.84N×39°.59E, h7km, MD2.5, After DDA*
*DDA **19** 10:37:54.2, 39°.84N×39°.59E, h7km, MD2.5, Turkey*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.15**	**148**	*e*P	Pg	10 37 58.1	+0.6
EUZM				*e*S	Sg	10 38 00.8	+0.9
EUZM	**Uzumlu**	**0.15**	**148**	*e*P	Pg	10 37 58.1	+0.5
EUZM				*e*S	Sg	10 38 00.8	+0.9
KELT	**Kelkit**	**0.40**	**320**	*i* P	Pg	10 38 02.7	+0.4
KELT				*i* S	Sg	10 38 08.5	+0.6
KELT	**Kelkit**	**0.40**	**320**	*i* P	Pg	10 38 02.7	+0.3
KELT				*i* S	Sg	10 38 08.5	+0.6
KOPT	**Kop Dagi**	**0.72**	**75**	*e*P	Pg	10 38 07.9	-0.6
KOPT				*e*S	Sg	10 38 18.4	+0.3
KOPT	**Kop Dagi**	**0.72**	**75**	*e*P	Pg	10 38 07.9	-0.6
KOPT				*e*S	Sg	10 38 18.4	+0.3
KEMA	**Kemaliye**	**1.02**	**237**	*e*P	Pg	10 38 13.7	-0.3
KEMA				*e*S	Sb	10 38 28.0	-0.1
KEMA	**Kemaliye**	**1.02**	**237**	*e*P	Pg	10 38 13.7	-0.3
KEMA				*e*S	Sb	10 38 28.0	-0.1

*ISK **19** 10:38:42.6, 39°.88N×39°.64E, h14km, MD2.9*
*ISCJB **19** 10:38:43.3±0.5, 39°.88N±0°.03×39°.63E±0°.04, h11km±4km, Error ellipse: s-maj=5.0km s-min=4.4km az=40.7*
*CSEM **19** 10:38:43.2±0.2, 39°.88N×39°.63E, h17km±2km, MD2.9, Error ellipse: s-maj=6.0km s-min=3.4km az=127.0*
*DDA **19** 10:38:43.1, 39°.84N×39°.59E, h7km, MD2.8*

ISC 19 10:38:43.2±0.9, 39°.87N±0°.03×39°.62E±0°.03, h12km±8km, n19, σ0°.68/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.17**	**160**	*i* Pg	**Pg**	**10 38 47.2**	**-0.1**
EUZM				*i* Sg	**Sg**	**10 38 49.6**	**-0.5**
EZC	**Erzincan**	**0.24**	**240**	*e*Pg	**Pb**	**10 38 49.4**	**-0.2**
EZC				*e*Sg	**Sb**	**10 38 53.8**	**+2.0**
ERZN	**Erzincan**	**0.29**	**165**	*e*PG	**Pg**	**10 38 49.4**	**0.0**
ERZN				*e*SG	**Sg**	**10 38 53.8**	**+0.3**
KELT	**Kelkit**	**0.39**	**315**	*i* P	**Pg**	**10 38 51.6**	**+0.4**
KELT				*i* S	**Sg**	**10 38 57.3**	**+0.8**
KELT	**Kelkit**	**0.39**	**315**	*i* S	**Sg**	**10 38 57.3**	**+0.8**
GUMT	**Gumushane**	**0.60**	**350**	*e*PG	**Pg**	**10 38 54.9**	**-0.1**
GUMT	**Gumushane**	**0.60**	**350**	*e*Pg	**Pg**	**10 38 54.9**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**0.66**	**37**	*e*PG	**Pg**	**10 38 55.5**	**-0.6**
BAYT				*e*SG	**Sg**	**10 39 05.1**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**0.66**	**37**	*e*Pg	**Pg**	**10 38 55.5**	**-0.6**
BAYT				*e*Sg	**Sg**	**10 39 05.1**	**+0.4**
KOPT	**Kop Dagi**	**0.69**	**78**	*e*P	**Pg**	**10 38 56.6**	**-0.1**
KOPT				*e*S	**Sb**	**10 39 07.8**	**+0.9**
KOPT	**Kop Dagi**	**0.69**	**78**	*e*S	**Sb**	**10 39 07.8**	**+0.9**
ILIC	**ilic-Erzincan**	**0.92**	**243**	*e*PG	**Pg**	**10 39 01.0**	**+0.1**
ILIC				*e*SG	**Sb**	**10 39 14.4**	**+1.1**
ILIC	**ilic-Erzincan**	**0.92**	**243**	*e*Pg	**Pg**	**10 39 01.0**	**+0.1**
ILIC				*e*Sg	**Sb**	**10 39 14.4**	**+1.1**
PTK	**Pertek**	**0.99**	**190**	*e*PG	**Pb**	**10 39 02.8**	**+0.3**
PTK	**Pertek**	**0.99**	**190**	*e*Pg	**Pb**	**10 39 02.8**	**+0.3**
KEMA	**Kemaliye**	**1.06**	**236**	*e*P	**Pb**	**10 39 02.6**	**-1.0**
KEMA				*e*S	**Sb**	**10 39 17.1**	**-0.3**
KEMA	**Kemaliye**	**1.06**	**236**	*e*P	**Pb**	**10 39 02.6**	**-1.0**
KEMA				*e*S	**Sb**	**10 39 17.1**	**-0.3**
ESPY	**Espiye-Giresun**	**1.25**	**327**	*e*PN	**Pn**	**10 39 06.2**	**-0.3**
ESPY				*e*SN	**Sg**	**10 39 23.4**	**-0.1**
ESPY	**Espiye-Giresun**	**1.25**	**327**	*e*Pn	**Pn**	**10 39 06.2**	**-0.3**
ESPY				*e*Sn	**Sg**	**10 39 23.4**	**-0.1**

IDC 19 10:42:31.9±2.3, 18°.24S×177°.93W, h517km±28km, mb3.0/7, mb1 3.3/8, mb1mx3.1/21, mbtmp3.1/8, Error ellipse: s-maj=79.9km s-min=13.9km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.32**	**55**	P	P	10 44 21.9	-0.2
	2.8nm,0.3s,baz=190,slow=19,SNR=6.0						
AFI				S	S	10 45 50.0	-2.2
	1.3nm,0.3s,baz=318,slow=19,SNR=2.8						
CTA	**Charters Tower**	**33.84**	**261**	P	P	10 48 31.7	+0.5
	1.6nm,0.3s,baz=84,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**38.87**	**242**	P	P	10 49 12.2	-0.4
	1.0nm,0.4s,baz=68,slow=9.1,SNR=8.2						
WRA	**Warramunga Arr**	**45.02**	**260**	P	P	10 50 01.1	-0.2
	1.7nm,0.4s,baz=97,slow=6.8,SNR=26						
ASAR	**Alice Springs**	**45.14**	**255**	P	P	10 50 01.9	-0.4
	2.0nm,0.5s,baz=88,slow=8.0,SNR=34						
NVAR	**Mina Array Bea**	**79.35**	**44**	P	P	10 53 44.3	+0.1
	0.2nm,0.6s,baz=226,slow=7.3,SNR=3.7						
TXAR	**Lajitas Array**	**85.79**	**57**	P	P	10 54 17.1	+0.4
	0.4nm,0.7s,baz=247,slow=6.7,SNR=5.6						
ILAR	**Eielson Array**	**86.11**	**13**	P	P	10 54 16.8	-0.5
	0.1nm,0.4s,baz=215,slow=5.0,SNR=3.4						

IDC 19 10:43:18.1±6.9, 4°.79S×144°.34E, h133km±75km, mb3.3/5, mb1 3.3/7, mb1mx3.2/20, mbtmp3.2/7, Error ellipse: s-maj=57.3km s-min=24.1km az=143.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**149**	P	Pn	10 44 36.7	+0.5
	2.4nm,0.3s,baz=268,slow=7.5,SNR=6.6						
PMG				S	Sn	10 45 37.3	+0.1
	1.0nm,0.3s,baz=300,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**17.93**	**212**	P	P	10 47 17.8	-0.2
	0.1nm,0.3s,baz=29,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.29**	**207**	P	P	10 47 54.5	+0.2
	0.2nm,0.6s,baz=29,slow=11,SNR=4.1						
FITZ	**Fitzroy Crossi**	**22.56**	**233**	P	P	10 48 07.2	-0.1
	1.3nm,0.4s,baz=44,slow=15,SNR=17						
MKAR	**Makanchi Array**	**74.89**	**321**	P	P	10 54 44.4	+0.1
	0.9nm,0.8s,baz=108,slow=4.7,SNR=5.4						
BVAR	**Borovoye Array**	**84.24**	**324**	P	P	10 55 34.9	+0.2
	1.4nm,0.6s,baz=107,slow=8.0,SNR=3.8						
ILAR	**Eielson Array**	**85.43**	**24**	P	P	10 55 40.2	-0.2
	0.3nm,0.5s,baz=255,slow=4.7,SNR=6.8						

*BJI **19** 10:45:13.6, 26°.65N×92°.52E, h16km, mB4.7/30, mb4.8/47, ML4.6/3, Ms4.2/44, Ms7 4.0/42*
*NEIC **19** 10:45:13.9±0.2, 26°.56N×92°.47E, h10km, mb5.0/27, Error ellipse: s-maj=6.6km s-min=4.1km az=46.0*
NEIC Felt [IV] at Guwahati. Also felt at Dispur and Tezpur. Felt at Thimphu, Bhutan.
*DJA **19** 10:45:15.5±0.4, 27°.N±6°.×9°.2E±°, h10km, M4.6/12, mB5.1/7, mb4.8/12, Mw(mB)4.5/7*
*ISCJB **19** 10:45:15.8±0.4, 26°.54N±0°.02×92°.43E±0°.02, h36km±4km, mb4.8/155, MS3.9/29, Error ellipse: s-maj=4.2km s-min=2.6km az=13.9*
*MOS **19** 10:45:15.2±0.9, 26°.47N×92°.46E, h33km, mb5.0/36, MS4.0/6, Error ellipse: s-maj=10.1km s-min=4.2km az=120.3*
*LDG **19** 10:45:16.3±0.3, 26°.56N×92°.39E, h41km, Mb4.8/38, Ms3.6/8, Error ellipse: s-maj=12.3km s-min=8.2km az=152.0*
*DMN **19** 10:45:17.5±0.5, 27°.23N×92°.60E, h10km, Ml5.4/8, Error ellipse: s-maj=37.2km s-min=10.0km az=5.0*
*IDC **19** 10:45:18.4±0.5, 26°.54N×92°.50E, h46km±4km, mb4.4/35, mb1 4.5/36, mb1mx4.4/41, mbtmp4.4/36, MS3.8/19, Ms1 3.8/19, ms1mx3.6/35, Error ellipse: s-maj=12.0km s-min=8.1km az=46.0*
*BKK **19** 10:45:28.7±3.6, 26°.N±29°.×9°.3E±2°.0, h10km, M4.7/16, mB5.0/7, mb4.7/16, MLv5.2/1, Mw(mB)4.3/7*

ISC 19 10:45:18.4±0.3, 26°.51N±0°.03×92°.45E±0°.03, h46km±3km, h46km: pP-P, n418, σ1°.44/500, mb4.8/155, MS3.8/30, 43C-21D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.07**	**208**	*e*P	**Pn**	**10 45 37.1**	**-0.1**
SHL				*e*S	**Sn**	**10 45 51.1**	**+0.1**
LSA	**Lhasa**	**3.37**	**340**	Pg	**Pn**	**10 46 10.1**	**+1.1**
LSA	**Lhasa**	**3.37**	**340**	*e*P	**Pn**	**10 46 11.3**	**+2.2**
LSA	**Lhasa**	**3.37**	**340**	*e*Pn	**Pn**	**10 46 11.2**	**+2.2**
TAPN	**Taplejung**	**4.31**	**282**	*e*Pn	**Pn**	**10 46 22.5**	**+0.8**
TAPN				*e*Sn	**Sn**	**10 47 10.0**	**-0.9**
	2μm,0.6s						
ODAN	**Odare**	**4.54**	**275**	*e*Pn	**Pn**	**10 46 25.6**	**+0.8**
ODAN				*e*Sn	**Sn**	**10 47 17.5**	**+1.1**
	2μm,0.4s						
RAMN	**Ramite**	**5.25**	**276**	*e*Pn	**Pn**	**10 46 35.8**	**+1.3**
JIRN	**Jiri**	**5.69**	**283**	*e*Pn	**Pn**	**10 46 41.3**	**+0.5**
GUN	**Gumba**	**6.01**	**285**	*e*Pn	**Pn**	**10 46 45.3**	**+0.2**
PKI	**Pulchoki**	**6.36**	**281**	*e*Sn	**Sn**	**10 47 58.6**	**-2.9**
	738nm,0.6s						
PKIN	**Phulchoki**	**6.38**	**281**	*e*Pn	**Pn**	**10 46 50.2**	**+0.1**
PKIN				*e*Sn	**Sn**	**10 47 59.1**	**-2.6**
	521nm,0.3s						
KKN	**Kakani**	**6.51**	**283**	*e*Pn	**Pn**	**10 46 52.3**	**+0.4**
KKN				*e*Sn	**Sn**	**10 48 02.2**	**-2.7**
BOK	**Bokaro**	**6.53**	**247**	*e*P	**Pn**	**10 46 50.7**	**-1.3**
BOK				AMB	AMB	10 46 53.4	
	comp=Z,109nm,0.4s						
BOK				*e*S	**Sn**	**10 48 02.7**	**-2.5**
DMN	**Daman**	**6.63**	**281**	*e*Pn	**Pn**	**10 46 53.5**	**-0.1**
DMN				*e*Sn	**Sn**	**10 48 05.3**	**-2.8**
	comp=Z,398nm,0.4s						
DANN	**Dangsing**	**7.93**	**285**	*e*Pn	**Pn**	**10 47 10.0**	**-1.4**
DANN				*e*Sn	**Sn**	**10 48 35.4**	**-4.6**
	comp=Z,376nm,0.3s						
KOLN	**Koldanda**	**7.98**	**281**	*e*Pn	**Pn**	**10 47 11.2**	**-0.8**
KOLN				*e*Sn	**Sn**	**10 48 35.8**	**-5.3**
	comp=Z,477nm,0.4s						
PYUN	**Piuthan**	**8.56**	**283**	*e*Pn	**Pn**	**10 47 18.4**	**-1.6**
PYUN				*e*Sn	**Sn**	**10 48 50.3**	**-5.0**
	comp=Z,252nm,0.3s						
CMAI	**Chiengmai2**	**8.93**	**136**	P	**Pn**	**10 47 27.6**	**+2.6**
	comp=Z,52nm,0.9s,comp=Z,1μm						
KMI	**Kunming**	**9.38**	**96**	P	**Pn**	**10 47 33.4**	**+2.2**
KMI				pP		10 47 40.0	
KMI				S	**Sn**	**10 49 14.9**	**-0.5**
KMI				sS		10 49 28.5	
KMI				SS	**SnSn**	**10 49 30.6**	**+3.4**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI				pmax	pmax		
	comp=Z,36nm,3.1s						
KMI				LR	LR		
	comp=N,400nm,14.5s						
KMI				LR	LR		
	comp=E,490nm,15.0s						
KMI				LR	LR		
	comp=Z,480nm,18.2s						
CHTO	**Chiang Mai**	**9.73**	**141**	*e*P	**Pn**	**10 47 35.3**	**-0.6**
CHTO	**Chiang Mai**	**9.73**	**141**	*e*Pn	**Pn**	**10 47 35.3**	**-0.6**
CHTO	**Chiang Mai**	**9.73**	**141**	P	**Pn**	**10 47 38.7**	**+2.9**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**9.73**	**141**	P	**Pn**	**10 47 36.7**	**+0.9**
	comp=Z,13nm,0.9s						
CMMT	**Chiang Mai**	**9.73**	**141**	P	**Pn**	**10 47 35.1**	**-0.8**
	comp=Z,14nm,0.8s,comp=Z,423nm						
CMMT	**Chiang Mai**	**9.73**	**141**	P	**Pn**	**10 47 36.3**	**+0.4**
	comp=Z,14nm,0.8s,comp=Z,421nm						
PAYA	**Payao**	**9.87**	**135**	P	**Pn**	**10 47 38.5**	**+0.7**
	comp=Z,8.8nm,0.9s,comp=Z,330nm						
CM31	**Chiang Mai Arr**	**10.02**	**142**	*e*Pn	**Pn**	**10 47 38.8**	**-1.0**
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**10.02**	**142**	P	**Pn**	**10 47 39.3**	**-0.5**
CMAR				S	Sn	10 49 44.6	+14
CMAR	**Chiang Mai Arr**	**10.02**	**142**	P	**Pn**	**10 47 39.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=318,slow=12,SNR=10.0						
CMAR				S	Sn	10 49 44.6	+14
	baz=322,slow=32,SNR=2.0						
CMAR				LR	LR	10 52 16.7	
	comp=Z,409nm,19.2s,baz=322,slow=42						
LAMP	**Lampang**	**10.36**	**139**	P	**Pn**	**10 47 45.9**	**+1.5**
	comp=Z,8.8nm,0.9s,comp=Z,86nm						
CD2	**Chengdu**	**10.85**	**64**	P	**Pn**	**10 47 51.5**	**+0.3**
CD2				pP		10 47 54.8	
CD2				sP		10 47 57.8	
CD2				PP	**PnPn**	**10 48 00.1**	**+1.1**
CD2				S	**Sn**	**10 49 53.6**	**+2.4**
CD2				sS		10 49 58.3	
CD2				SS	**SnSn**	**10 50 07.0**	**+3.7**
CD2				pmax	pmax		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,1μm,10.2s		

AKL	**Akola**	**15.28 251**	⇓*i*P	**Pn**	**10 48 49.8**	**-1.3**
AKL			*i* x	x	10 51 28.0	
ENH	**Enshi**	**15.46 72**	*e*Pn	**Pn**	**10 48 49.9**	**-3.5**
	comp=Z,92nm,0.8s					
ENH			*e*S	**S**	**10 51 53.7**	**-3.9**
HYB	**Hyderabad**	**15.74 238**	*i* P	**Pn**	**10 48 53.0**	**-4.1**
HYB			*es*P	sP	10 49 01.5	-15
HYB			*e*		10 49 08.0	
HYB			*e*S	**Sn**	**10 51 50.0**	**-0.5**
HYB	**Hyderabad**	**15.74 238**	*e*P	**Pn**	**10 48 54.3**	**-2.8**
HYB			AMB	AMB	10 49 02.7	
	comp=Z,50nm,0.1s					
XAN	**Xi'an**	**16.08 58**	P	**Pn**	**10 48 57.3**	**-4.0**
XAN			pmax	pmax		
	comp=Z,9.0nm,1.3s					
XAN			LR	LR		
	comp=N,210nm,14.2s					
UBPT	**Khong Chiam**	**16.51 130**	P	**Pn**	**10 49 06.8**	**0.0**
	comp=N,54nm,0.8s,comp=N,536nm					
UBPT	**Khong Chiam**	**16.51 130**	P	**Pn**	**10 49 06.8**	**0.0**
	comp=N,54nm,0.8s					
CHBT	**CHBT**	**16.54 144**	P	**Pn**	**10 49 06.4**	**-0.8**
	comp=N,44nm,1.0s					
CHBT	**CHBT**	**16.54 144**	P	**P**	**10 49 10.9**	**+1.7**
	comp=N,44nm,1.0s					
QIZ	**Qiongzhong**	**17.68 111**	P	**Pn**	**10 49 20.0**	**-1.3**
QIZ			pP	**P**	**10 49 23.3**	**+1.5**
QIZ			S	**Sn**	**10 52 37.1**	**-0.4**
QIZ			pmax	pmax		
	comp=Z,7.0nm,1.0s					
QIZ			LR	LR		
	comp=N,140nm,20.2s					
QIZ			LR	LR		
	comp=Z,220nm,17.4s					
QIZ	**Qiongzhong**	**17.68 111**	*e*P	**P**	**10 49 21.8**	**0.0**
	comp=Z,28nm,0.9s					
WMQ	**Urumqi**	**17.69 349**	P	**Pn**	**10 49 21.3**	**-0.1**
WMQ			pP	**P**	**10 49 24.3**	**+2.4**
WMQ			PP	**PnPn**	**10 49 34.8**	**+1.9**
WMQ			S	**Sn**	**10 52 34.8**	**-2.8**
WMQ			sS	**S**	**10 52 40.1**	**-3.0**
WMQ			SS	**SnSn**	**10 52 57.4**	**+5.6**
WMQ			pmax	pmax		
	comp=Z,140nm,1.0s					
WMQ			LR	LR		
	comp=N,310nm,24.0s					
WMQ			LR	LR		
	comp=E,130nm,24.0s					
WMQ			LR	LR		
	comp=Z,460nm,24.0s					
KSH	**Kashi**	**18.91 317**	P	**Pn**	**10 49 37.8**	**+1.5**
KSH			sP	sP	10 49 45.0	-7.1
KSH			PP	**PnPn**	**10 49 53.8**	**+4.2**
KSH			S	**Sn**	**10 53 05.6**	**-1.5**
KSH			sS	**S**	**10 53 11.5**	**+3.7**
KSH			SS	**SnSn**	**10 53 30.5**	**+9.0**
KSH			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KSH			pmax	pmax		
	comp=Z,130nm,4.5s					
KSH			LR	LR		
	comp=N,270nm,11.0s					
KSH			LR	LR		
	comp=E,170nm,6.5s					
KSH			LR	LR		
	comp=Z,150nm,9.2s					
POO	**Poona**	**18.91 249**	*e*P	**P**	**10 49 35.1**	**-0.3**
POO			*i* PP	**PnPn**	**10 49 50.0**	**+0.3**
POO			AMB	AMB	10 49 51.7	
	comp=Z,45nm,1.6s					
CEP	**Cherat**	**19.18 297**	P	**P**	**10 49 38.3**	**0.0**
BTO	**Baotou**	**20.25 42**	*e*P	**P**	**10 49 49.0**	**-0.9**
ULHL	**Ulahol**	**20.56 324**	*i* P	Pn	10 49 55.5	-0.6
ULHL	**Ulahol**	**20.56 324**	P	Pn	10 49 55.5	-0.6
	SNR=21					
SKLT	**Songkhla**	**20.75 157**	P	Pn	10 49 57.3	-0.9
	comp=Z,41nm,0.9s					
SKLT	**Songkhla**	**20.75 157**	P	Pn	10 50 00.5	+2.3
HHC	**Hu-ho-hao-te**	**21.32 43**	*e*P	**P**	**10 50 00.8**	**-0.7**
HHC			pP	pP	10 50 05.3	-7.2
HHC			sP	sP	10 50 08.3	-10
HHC			PP	**PnPn**	**10 50 24.5**	**+1.9**
HHC			S	**S**	**10 53 52.3**	**-3.6**
HHC			sS	Sn	10 53 58.1	-7.1
HHC			PcP	**PcP**	**10 54 06.6**	**+2.1**
HHC			SS	**SnSn**	**10 54 25.0**	**+4.2**
HHC			ScP	**ScP**	**10 57 41.5**	**+3.8**
HHC			PcS	**PcS**	**10 57 43.3**	**+0.6**
HHC			pmax	pmax		
	comp=Z,36nm,0.8s					
HHC			pmax	pmax		
	comp=Z,360nm,5.0s					
HHC			LR	LR		
	comp=N,780nm,12.7s					
HHC			LR	LR		
	comp=E,830nm,12.4s					
HHC			LR	LR		
	comp=Z,610nm,12.5s					
TKM2	**Tokmak 2**	**21.38 324**	*i* P	**P**	**10 50 03.7**	**+1.6**
TKM2	**Tokmak 2**	**21.38 324**	P	**P**	**10 50 03.8**	**+1.6**
	SNR=42					
TKM2	**Tokmak 2**	**21.38 324**	*e*P	**P**	**10 50 03.8**	**+1.6**
	comp=Z,65nm,0.8s					
TKM2			*e*S	**S**	**10 53 59.4**	**+2.3**
KBK	**Karagaybulak**	**21.54 323**	*i* P	**P**	**10 50 05.9**	**+2.0**
KBK	**Karagaybulak**	**21.54 323**	P	**P**	**10 50 05.9**	**+2.0**
	SNR=15					
KBL	**Kabul**	**21.66 297**	*e*P	**P**	**10 50 06.0**	**+0.8**
KBL			pmax	pmax		
	comp=Z,109nm,0.8s					
KBL	**Kabul**	**21.66 297**	*e*P	**P**	**10 50 06.0**	**+0.8**
	comp=Z,109nm,0.8s					
AAK	**Ala-Archa**	**21.77 322**	P	**P**	**10 50 08.4**	**+2.1**
	comp=Z,310nm,0.8s,SNR=6.7					
AAK	**Ala-Archa**	**21.77 322**	*e*P	**P**	**10 50 07.0**	**+0.7**
AAK			pmax	pmax		
	comp=Z,159nm,1.2s					
AAK	**Ala-Archa**	**21.77 322**	P	**P**	**10 50 10.4**	**+4.1**
	SNR=17					
AAK	**Ala-Archa**	**21.77 322**	P	**P**	**10 50 08.1**	**+1.8**
	comp=Z,6.4nm,0.8s					
AAK	**Ala-Archa**	**21.77 322**	P	**P**	**10 50 08.1**	**+1.8**
	comp=Z,32nm,0.7s,baz=143,slow=6.4,SNR=36					
AAK			LR	LR	11 00 37.7	
	comp=Z,85nm,21.7s,baz=40,slow=42					
MK31	**Makanchi Array**	**21.78 341**	*e*P	**P**	**10 50 05.8**	**-0.5**
MK31			pmax	pmax		
	comp=Z,20nm,0.4s					
MK31	**Makanchi Array**	**21.78 341**	*e*P	**P**	**10 50 05.9**	**-0.3**
MKAR	**Makanchi Array**	**21.78 341**	P	**P**	**10 50 06.0**	**-0.3**
MKAR					10 54 05.1	
MKAR	**Makanchi Array**	**21.78 341**	P	**P**	**10 50 06.0**	**-0.3**
MKAR			PcP	**PcP**	**10 54 05.1**	**0.0**
MKAR			ScP	**ScP**	**10 57 36.3**	**-2.3**
MKAR	**Makanchi Array**	**21.78 341**	P	**P**	**10 50 06.0**	**-0.3**
	comp=Z,22nm,0.5s,baz=146,slow=13,SNR=310					
MKAR			PcP	**PcP**	**10 54 05.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=212,slow=1.7,SNR=5.2					
MKAR			ScP	**ScP**	**10 57 36.3**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=81,slow=4.5,SNR=4.4					
MKAR			LR	LR	10 59 23.5	
	comp=Z,64nm,20.9s,baz=164,slow=39					
FRU	**Bishkek**	**21.84 323**	*i* P	**P**	**10 50 08.0**	**+1.1**
FRU			*e*S	**S**	**10 54 05.0**	**-0.7**
FRU			pmax	pmax		
	comp=Z,60nm,1.6s					
FRU			smax	smax		
	comp=E,50nm,2.2s					
CHMS	**Chumysh**	**21.88 323**	*i* P	**P**	**10 50 08.4**	**+1.1**
CHMS	**Chumysh**	**21.88 323**	P	**P**	**10 50 08.4**	**+1.1**
	SNR=7.1					
PALK	**Pallekele**	**22.16 212**	*e*P	**P**	**10 50 12.9**	**+2.3**
	comp=E,62nm,1.2s					
PALK	**Pallekele**	**22.16 212**	P	**P**	**10 50 14.1**	**+3.5**
	comp=E,49nm,1.8s					
EKS2	**Erkin-Say**	**22.19 321**	*e*P	**P**	**10 50 12.1**	**+1.3**
EKS2			pmax	pmax		
	comp=Z,49nm,0.8s					
EKS2	**Erkin-Say**	**22.19 321**	P	**P**	**10 50 12.1**	**+1.3**
	SNR=49					
EKS2	**Erkin-Say**	**22.19 321**	*e*P	**P**	**10 50 12.1**	**+1.3**
	comp=Z,49nm,0.8s					
KULM	**Kulim**	**22.51 158**	*e*P	**P**	**10 50 14.8**	**+0.5**
KULM	**Kulim**	**22.51 158**	P	**P**	**10 50 15.7**	**+1.4**
KULM	**Kulim**	**22.51 158**	P	**P**	**10 50 17.4**	**+3.1**
	comp=Z,24nm,1.2s					
IPM	**Ipoh**	**23.40 158**	*e*P	**P**	**10 50 22.7**	**-0.7**
IPM	**Ipoh**	**23.40 158**	P	**P**	**10 50 24.1**	**+0.8**
KTGM	**Kuala Trenggan**	**23.41 152**	P	pP	10 50 35.7	+0.7
BJI	**Beijing**	**23.90 50**	P	**P**	**10 50 26.9**	**-0.9**
BJI			S	**S**	**10 54 41.5**	**+0.6**
BJI			pmax	pmax		
	comp=Z,12nm,1.8s					
BJI			LR	LR		
	comp=N,370nm,8.6s					
BJI			LR	LR		
	comp=E,310nm,11.1s					
BJI			LR	LR		
	comp=Z,280nm,24.7s					
SONM	**Songino Array**	**23.94 24**	P	**P**	**10 50 28.1**	**-0.1**
SONM			ScP	**ScP**	**10 57 42.4**	**-2.0**
SONM	**Songino Array**	**23.94 24**	P	**P**	**10 50 28.1**	**-0.1**
	comp=Z,14nm,0.9s,baz=207,slow=10,SNR=37					
SONM			ScP	**ScP**	**10 57 42.4**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=204,slow=3.2,SNR=3.3					
SONM			LR	LR	11 00 56.8	
	comp=Z,634nm,21.9s,baz=122,slow=39					
ULN	**Ulaanbaatar**	**24.20 24**	*e*P	**P**	**10 50 30.2**	**-0.5**
ULN	**Ulaanbaatar**	**24.20 24**	P	**P**	**10 50 32.0**	**+1.3**
KK31	**Karatay Array**	**24.35 318**	*i* P	**P**	**10 50 32.0**	**+0.1**
KK31			pmax	pmax		
	comp=Z,7.0nm,0.6s					
KKAR	**Karatay Array**	**24.35 318**	*e*P	**P**	**10 50 32.3**	**+0.4**
KKAR	**Karatay Array**	**24.35 318**	*e*P	**P**	**10 50 32.3**	**+0.4**
PSI	**Prapat**	**24.38 164**	P	**P**	**10 50 32.5**	**-0.1**
PSI	**Prapat**	**24.38 164**	P	**P**	**10 50 32.5**	**-0.1**
	comp=Z,8.9nm,0.7s,baz=269,slow=11,SNR=4.7					
PSI			LR	LR	11 01 33.1	
	comp=Z,188nm,19.3s,baz=338,slow=40					
HVS	**Khovu-Aksy**	**24.61 2***d*	*i* P	**P**	**10 50 35.1**	**+0.8**
HVS			pmax	pmax		
	comp=Z,188nm,1.0s					
FRIM	**Kepong**	**24.76 158**	P	**P**	**10 50 36.9**	**+1.0**
SSLB	**Suanglung**	**25.93 90**	P	**P**	**10 50 48.6**	**+2.1**
	comp=Z,7.3nm,0.8s					
TWG	**Pinlang**	**26.25 92**	*e*P	**P**	**10 50 49.5**	**+0.2**
YULB	**Yu-li**	**26.32 90**	*e*P	**P**	**10 50 48.3**	**-1.7**
	comp=Z,14nm,0.8s					
KURBB	**Kurchatov Arra**	**26.33 340**	P	**P**	**10 50 49.9**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=161,slow=9.7,SNR=13					
KURK	**Kurchatov**	**26.38 340**	P	**P**	**10 50 49.9**	**-0.3**
KURK	**Kurchatov**	**26.38 340**	P	**P**	**10 50 49.9**	**-0.3**
NACB	**Ninganchiao**	**26.42 89**	P	**P**	**10 50 51.3**	**+0.4**
	comp=Z,20nm,0.8s					
TLY	**Talaya**	**26.53 16**	*e*P	**P**	**10 50 54.2**	**+2.6**
TLY			*e*PPP	PPP	10 51 31.8	
TLY			pmax	pmax		
	comp=Z,5.0nm,0.6s					
TLY			MLR	MLR		
	comp=Z,337nm,16.0s					
IRK	**Irkutsk**	**27.20 16**	*e*P	**P**	**10 50 59.4**	**+1.8**
IRK			*e*		10 51 13.5	
IRK			pmax	pmax		
	comp=Z,35nm,1.7s					
ZAA0	**Zalesovo Array**	**27.98 350**	*e*P	**P**	**10 51 04.6**	**+0.1**
ZALV	**Zalesovo Beam**	**27.98 350**	*i* P	**P**	**10 51 05.4**	**+0.8**
ZALV			pmax	pmax		
	comp=Z,5.0nm,0.4s					
ZALV	**Zalesovo Beam**	**27.98 350**	P	**P**	**10 51 05.4**	**+0.8**
ZALV	**Zalesovo Beam**	**27.98 350**	P	**P**	**10 51 05.4**	**+0.8**
	comp=Z,4.9nm,0.4s,baz=178,slow=7.7,SNR=17					
ZALV			LR	LR	11 03 11.5	
	comp=Z,131nm,18.5s,baz=160,slow=38					
NVS	**Novosibirsk**	**29.10 349**	*e*P	**P**	**10 51 13.1**	**-1.3**
SNY	**Shenyang**	**29.75 51**	⇑P	P	10 51 32.0	+12
SNY			S	S	10 56 26.6	+13
SNY			pmax	pmax		
	comp=Z,14nm,0.8s					
SNY			pmax	pmax		
	comp=Z,89nm,4.1s					
SNY			LR	LR		
	comp=N,340nm,16.7s					
SNY			LR	LR		
	comp=E,800nm,20.9s					
SNY			LR	LR		
	comp=Z,200nm,18.6s					
KKM	**Kota Kinabalu**	**30.46 128**	*e*P	**P**	**10 51 28.8**	**+1.7**
	comp=Z,39nm,1.4s					
KKM	**Kota Kinabalu**	**30.46 128**	P	pP	10 51 41.0	+1.7
VOSK	**Vostochnaya**	**30.73 334**	P	**P**	**10 51 28.8**	**-0.1**
VOSK			pmax	pmax		
	comp=Z,15nm,0.6s					
HIA	**Hailar**	**31.01 36**	*e*P	**P**	**10 51 32.4**	**+0.9**
	comp=Z,27nm,0.8s					
BVA0	**Borovoye Array**	**31.19 334**	P	**P**	**10 51 32.7**	**-0.3**
BVA0			pmax	pmax		
	comp=Z,4.0nm,0.8s					
BVAR	**Borovoye Array**	**31.19 334**	P	**P**	**10 51 32.8**	**-0.2**
BVAR			*PP	**pP**	**10 51 44.9**	**-0.3**
BVAR	**Borovoye Array**	**31.19 334**	P	**P**	**10 51 32.8**	**-0.2**
BVAR			pP	**pP**	**10 51 44.9**	**-0.3**
BVAR	**Borovoye Array**	**31.19 334**	P	**P**	**10 51 32.8**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=132,slow=14,SNR=14					
BVAR			pP	**pP**	**10 51 44.9**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=128,slow=11,SNR=5.5					
BVAR			LR	LR	11 05 44.9	
	comp=Z,346nm,19.2s,baz=308,slow=39					
BRVK	**Borovoye**	**31.25 334**	*e*P	**P**	**10 51 33.5**	**0.0**
BRVK			pmax	pmax		
	comp=Z,5.0nm,0.7s					
BRVK	**Borovoye**	**31.25 334**	*e*P	**P**	**10 51 33.5**	**0.0**
	comp=Z,5.1nm,0.7s					
CN2	**Changchun**	**31.75 49**	*e*P	P	10 51 41.3	+3.3
CN2			*es*P	sP	10 51 46.0	-10
CN2			*e*S	S	10 56 50.8	+6.1
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,100nm,3.0s					
CN2			LR	LR		
	comp=N,1μm,14.0s					
CN2			LR	LR		
	comp=E,2μm,14.0s					
CN2			LR	LR		
	comp=Z,2μm,15.0s					
KSRS	**Korea Array**	**31.84 61**	LR	LR	11 05 08.8	
	comp=Z,194nm,20.0s,baz=74,slow=38					
TSM	**Tawau**	**32.86 128**	P	pP	10 52 00.3	0.0
AB31	**Akbulak array**	**33.84 321**	*i* P	**P**	**10 51 56.9**	**+0.6**
AB31			pmax	pmax		
	comp=Z,8.0nm,0.5s					
ABKAR	**Akbulak array**	**33.84 321**	*e*P	**P**	**10 51 57.0**	**+0.8**
	comp=Z,16nm,0.6s					
JNU	**Nakatsue**	**33.85 69**	P	**P**	**10 51 58.1**	**+1.5**
JNU	**Nakatsue**	**33.85 69**	P	**P**	**10 51 58.1**	**+1.5**
	comp=Z,7.2nm,0.9s,baz=225,slow=4.3,SNR=3.7					
JNU			LR	LR	11 07 57.5	
	comp=Z,170nm,18.2s,baz=136,slow=40					
MDJ	**Mudanjiang**	**34.83 49**	P	**P**	**10 52 04.1**	**-0.8**
MDJ			pP	pP	10 52 07.3	-10
MDJ			S	**S**	**10 57 32.6**	**+0.2**
MDJ			pmax	pmax		
	comp=Z,12nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,48nm,5.1s					
MDJ			LR	LR		
	comp=N,65nm,31.0s					
MDJ			LR	LR		
	comp=E,37nm,34.9s					
MDJ			LR	LR		
	comp=Z,60nm,31.0s					
AKTO	**Aktyubinsk**	**35.51 322**	P	**P**	**10 52 11.2**	**+0.5**
AKTO	**Aktyubinsk**	**35.51 322**	P	**P**	**10 52 11.2**	**+0.5**
AKTO	**Aktyubinsk**	**35.51 322**	P	**P**	**10 52 11.2**	**+0.5**
	comp=Z,13nm,0.7s,baz=120,slow=8.9,SNR=56					
AKTO			LR	LR	11 08 12.3	
	comp=Z,66nm,21.4s,baz=126,slow=39					
VLA	**Vladivostok**	**35.99 52***de*P		**P**	**10 52 12.0**	**-2.8**
VLA			*e*S	**S**	**10 57 47.4**	**-2.9**
VLA			pmax	pmax		
	comp=Z,11nm,1.0s					
USRK	**Ussuriysk Arra**	**36.34 51**	P	**P**	**10 52 17.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=260,slow=13,SNR=3.5					
KLR	**Kul'dur**	**37.83 43**	*e*P	**P**	**10 52 33.4**	**+3.0**
SVE	**Sverdlovsk**	**37.86 332**	⇑*i*P	**P**	**10 52 31.5**	**+0.9**
SVE			pmax	pmax		
	comp=Z,29nm,0.6s					
CLNS	**Chul'man**	**38.14 29**	*e*P	P	10 52 44.2	+11
CLNS			pmax	pmax		
	comp=Z,17nm,0.9s					
CLNS			pmax	pmax		
	comp=N,11nm,0.9s					
CLNS			pmax	pmax		
	comp=E,16nm,1.1s					
ARU	**Arti**	**38.52 330***c*	*i*P	**P**	**10 52 36.0**	**-0.1**
ARU			S	**S**	**10 58 31.1**	**+2.7**
ARU			pmax	pmax		
	comp=Z,6.0nm,0.7s					
ARU			MLR	MLR		
	comp=Z,204nm,17.0s					
KBD	**Kabd**	**39.48 284**	*e*P	**P**	**10 52 44.7**	**+0.2**
KBD			AMb	AMB	10 52 45.3	
	comp=Z,35nm,0.6s					
HABR	**Khabarovsk**	**39.62 45**	*e*P	P	10 52 41.9	-3.5
HABR			*e**SP	sP	10 52 56.1	-7.2
HABR			*e*		10 54 49.3	
HABR			*e*S	**S**	**10 58 42.5**	**-2.6**
HABR			*e**SS	sS	10 58 59.2	-6.8
HABR			*e*SS	**SS**	**11 01 38.7**	**-2.7**
HABR					11 02 47.4	
HABR			pmax	pmax		
	comp=N,22nm,2.2s					
HABR			pmax	pmax		
	comp=E,32nm,2.2s					
HABR			pmax	pmax		
	comp=Z,47nm,2.0s					
HABR			MLR	MLR		
	comp=Z,325nm,21.0s					
RDF	**Al-Radifah**	**39.64 284**	*e*P	**P**	**10 52 46.1**	**+0.2**
RDF			AMb	AMB	10 52 46.9	
	comp=Z,110nm,0.6s					
MIB	**Mutribah**	**39.72 285**	*e*P	**P**	**10 52 46.5**	**0.0**
MIB			AMb	AMB	10 52 47.4	
	comp=Z,85nm,0.7s					
NAY	**Al-Naaiem**	**39.87 285**	*e*P	**P**	**10 52 47.4**	**-0.3**
NAY			AMb	AMB	10 52 49.1	
	comp=Z,2.7nm,0.7s					
MAT	**Matsushiro**	**39.95 64**	P	**P**	**10 52 46.9**	**-1.4**
MJAR	**Matsushiro Arr**	**39.95 64**	P	**P**	**10 52 47.7**	**-0.7**
MJAR			ScP	**ScP**	**10 58 35.7**	**-2.6**
MJAR	**Matsushiro Arr**	**39.95 64**	P	**P**	**10 52 47.7**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=273,slow=12,SNR=8.1					
MJAR			ScP	**ScP**	**10 58 35.7**	**-2.6**
	comp=Z,4.2nm,1.3s,baz=254,slow=4.7,SNR=4.4					
MJAR			LR	LR	11 10 47.5	
	comp=Z,103nm,21.2s,baz=285,slow=38					
RST	**Umm Al-Ruwaisa**	**40.05 285**	*e*P	**P**	**10 52 48.9**	**-0.4**
RST			AMb	AMB	10 52 50.1	
	comp=Z,862nm,0.7s					
DGRG	**David-gareji**	**41.27 303**	P	**P**	**10 53 00.4**	**+1.1**
GNI	**Garni**	**41.64 301**	P	**P**	**10 53 04.0**	**+1.6**
GNI	**Garni**	**41.64 301**	P	**P**	**10 53 04.0**	**+1.6**
	comp=Z,2.5nm,0.3s,baz=162,slow=23,SNR=5.2					
TBLG	**Delisi**	**41.78 304**	P	**P**	**10 53 03.9**	**+0.6**
TBLG	**Delisi**	**41.78 304**	P	**P**	**10 53 03.9**	**+0.6**
GUDG	**Gudauri**	**42.05 305**	P	**P**	**10 53 07.5**	**+1.7**
RAYN	**Ar Rayn**	**42.46 277**	P	**P**	**10 53 09.0**	**-0.2**
	comp=Z,198nm,0.7s,SNR=8.1					
ZEI	**Tsey**	**42.51 305**	*e*P	**P**	**10 53 09.9**	**+0.4**
ZEI			pmax	pmax		
	comp=Z,41nm,1.4s					
AKH	**Akhalkalaki**	**42.68 303**	P	**P**	**10 53 12.9**	**+2.0**
ONI	**Oni**	**42.81 305**	P	**P**	**10 53 13.9**	**+2.1**
YAK	**Yakutsk**	**43.29 25**	*e*P	**P**	**10 53 14.4**	**-0.8**
YAK			pmax	pmax		
	comp=Z,19nm,0.9s					
YAK			pmax	pmax		
	comp=E,12nm,1.4s					
YAK			pmax	pmax		
	comp=N,7.0nm,1.0s					
YAK			MLR	MLR		
	comp=N,222nm,19.0s					
YAK			MLR	MLR		
	comp=E,317nm,20.0s					
YAK			MLR	MLR		
	comp=Z,472nm,18.0s					
KBZ	**Khabaz**	**43.34 307**	P	**P**	**10 53 16.0**	**0.0**
KBZ	**Khabaz**	**43.34 307**	P	**P**	**10 53 15.9**	**0.0**
KBZ	**Khabaz**	**43.34 307**	P	**P**	**10 53 15.9**	**0.0**
	comp=Z,3.5nm,0.7s,baz=125,slow=5.0,SNR=6.8					
KBZ			LR	LR	11 14 39.2	
	comp=Z,83nm,18.8s,baz=187,slow=41					
KIV	**Kislovodsk**	**43.52 307**	*e*P	**P**	**10 53 18.3**	**+0.8**
KIV			*e*S	**S**	**10 59 47.7**	**+4.5**
KIV			pmax	pmax		
	comp=Z,20nm,1.0s					
KIV			MLR	MLR		
	comp=Z,68nm,15.0s					
ASAJ	**Asahikawa**	**43.82 53**	*e*P	**P**	**10 53 19.1**	**-0.7**
	comp=Z,4.2nm,0.8s					
ASAJ			pP	**pP**	**10 53 32.5**	**+0.1**
ASAJ	**Asahikawa**	**43.82 53**	pP	**pP**	**10 53 32.5**	**+0.1**
	comp=Z,11nm,0.7s,baz=316,slow=8.0,SNR=6.3					
ASAJ			LR	LR	11 11 11.7	
	comp=Z,73nm,21.8s,baz=216,slow=36					
YSS	**Yuzh-Sakhalins**	**44.32 49**	*e*P	P	10 53 29.0	+5.3
YSS			*e*		10 53 35.0	
VRHR	**Novokhopersk**	**45.45 317**	*e*P	**P**	**10 53 32.0**	**-0.7**
VRHR			pmax	pmax		
	comp=N,10.0nm,1.1s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,1.1s					
VRHR			pmax	pmax		
	comp=E,6.0nm,0.6s					
VRHR			pmax	pmax		
	comp=N,30nm,1.0s					
VRHR			pmax	pmax		
	comp=E,10.0nm,1.0s					
VRHR			pmax	pmax		
	comp=Z,20nm,1.0s					
MALT	**Malatya**	**46.51 299**	⇑P	P	10 53 47.3	+5.9
MALT	**Malatya**	**46.51 299**	⇑*i*P	P	10 53 47.3	+5.9
VSR	**Storozhevoye**	**46.99 316**	*e*P	**P**	**10 53 44.1**	**-0.7**
VSR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
VSR			pmax	pmax		
	comp=N,3.0nm,0.3s					
VSR			pmax	pmax		
	comp=E,10.0nm,0.7s					
ROOS	**tl_alroos**	**47.73 293**	*e*P	P	10 53 45.3	-5.6
ROOS			*e*P	**P**	**10 53 49.9**	**-1.0**
ROOS	**tl_alroos**	**47.73 293**	*e*P	P	10 53 45.3	-5.6
	SNR=46					
ZALF	**Zalf**	**47.84 291**	*e*P	**P**	**10 53 52.9**	**+1.2**
ZALF	**Zalf**	**47.84 291**	*e*P	**P**	**10 53 52.9**	**+1.2**
	SNR=46					
BTCH	**Batrach**	**48.22 296**	*e*P	**P**	**10 53 55.1**	**+0.4**
BTCH	**Batrach**	**48.22 296**	*e*P	**P**	**10 53 55.1**	**+0.4**
	SNR=46					
WRDH	**Warideh**	**48.30 295**	*e*P	**P**	**10 53 55.4**	**+0.1**
WRDH	**Warideh**	**48.30 295**	*e*P	**P**	**10 53 55.4**	**+0.1**
	SNR=46					
ASF	**Jabal al Asfar**	**48.31 291**	P	**P**	**10 53 56.5**	**+1.1**
ASF	**Jabal al Asfar**	**48.31 291**	P	**P**	**10 53 56.5**	**+1.1**
	comp=E,7.5nm,0.8s,baz=42,slow=4.5,SNR=10					
ASF			LR	LR	11 18 35.2	
	comp=E,104nm,19.1s,baz=40,slow=41					
MARH	**Ras Al Marh**	**48.41 293**	*e*P	**P**	**10 53 55.4**	**-1.0**
MARH	**Ras Al Marh**	**48.41 293**	*e*P	**P**	**10 53 55.4**	**-1.0**
	SNR=46					
ATD	**Arta Tunnel**	**48.90 262**	P	**P**	**10 54 01.4**	**+1.3**
ATD	**Arta Tunnel**	**48.90 262**	P	**P**	**10 54 01.4**	**+1.3**
	comp=E,7.9nm,0.5s,baz=178,slow=22,SNR=5.9					
OBN	**Obninsk**	**49.29 321**	⇓*e*P	**P**	**10 54 02.2**	**-0.3**
OBN			*e*S	**S**	**11 01 03.2**	**-2.1**
OBN			pmax	pmax		
	comp=Z,24nm,1.7s					
OBN			MLR	MLR		
	comp=Z,100nm,23.0s					
TIXI	**Tiksi**	**49.49 14**	*e*P	**P**	**10 54 04.1**	**+0.3**
TIXI			pmax	pmax		
	comp=Z,

comp=Z,3.0nm,0.5s,baz=78,slow=7.0,SNR=14
KIEV Kiev 53.18 315 *e*P **P 10 54 31.1 -0.6**
KIEV *e**PP **pP 10 54 42.3 -2.3**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 53.18 315 *e*P **P 10 54 31.1 -0.6**
comp=Z,5.6nm,0.7s
KIEV *e*pP **pP 10 54 42.3 -2.3**
TLCR 53.46 308 ⇓P **P 10 54 34.0 +0.1**
TLCR 53.46 308 ⇓*i*P **P 10 54 34.0 +0.1**
TIRR Tirgusor 53.78 307 ⇑P **P 10 54 36.5 +0.3**
TIRR Tirgusor 53.78 307 ⇑*i*P **P 10 54 36.5 +0.3**
APA Apatity 54.06 336 ⇑*i*P **P 10 54 38.0 +0.1**
APA MLR MLR
comp=Z,400nm,11.0s
MBWA Marble Bar 54.27 148 *e*P **P 10 54 40.1 +0.2**
comp=Z,17nm,1.0s
MBWA *e*pP **pP 10 54 52.8 -0.1**
FITZ Fitzroy Crossi 54.83 140 P **P 10 54 43.8 -0.2**
FITZ Fitzroy Crossi 54.83 140 P **P 10 54 43.8 -0.2**
comp=Z,8.5nm,0.9s,baz=332,slow=6.6,SNR=8.7
VRI Vrincioaia 54.89 309 ⇓P **P 10 54 45.3 +1.0**
VRI Vrincioaia 54.89 309 ⇓*i*P **P 10 54 45.3 +1.0**
TESR Tescani 54.91 310 ⇓*i*P **P 10 54 44.7 +0.2**
PLOR Plostina 54.95 309 ⇓P **P 10 54 46.3 +1.5**
PLOR Plostina 54.95 309 ⇓*i*P **P 10 54 46.3 +1.5**
MLR Muntele Rosu 55.47 308 ⇓*i*P **P 10 54 49.9 +1.3**
FINES FINESS Array B 55.81 328 P **P 10 54 50.2 -0.3**
FINES FINESS Array B 55.81 328 P **P 10 54 50.2 -0.3**
comp=Z,4.5nm,0.7s,baz=99,slow=7.5,SNR=11
BURAR Bucovina Array 55.83 311 ⇓P **P 10 54 51.9 +0.7**
BURAR Bucovina Array 55.83 311 ⇓*i*P **P 10 54 51.9 +0.7**
VOIR 56.10 308 ⇑P **P 10 54 53.2 +0.1**
VOIR 56.10 308 ⇑*i*P **P 10 54 53.2 +0.1**
ARR Arges 56.40 308 ⇑*i*P **P 10 54 55.6 +0.4**
KWP Kalwaria Pacla 57.38 314 *e*P **P 10 55 01.4 -0.6**
KWP *e**PP **pP 10 55 14.1 -0.9**
KWP pmax pmax
comp=Z,11nm,0.6s
KWP Kalwaria Pacla 57.38 314 ⇑P **P 10 55 02.5 +0.5**
KWP Kalwaria Pacla 57.38 314 ⇑*i*P **P 10 55 02.5 +0.5**
KWP Kalwaria Pacla 57.38 314 *e*P **P 10 55 01.4 -0.6**
comp=Z,11nm,0.6s
KWP *e*pP **pP 10 55 14.1 -0.9**
KWP Kalwaria Pacla 57.38 314 *e*P **P 10 55 02.3 +0.3**
KWP *e* 10 55 14.0
ARCES ARCESS Array B 57.38 337 P **P 10 55 01.5 -0.2**
ARCES ARCESS Array B 57.38 337 P **P 10 55 01.5 -0.2**
comp=Z,4.0nm,0.7s,baz=104,slow=8.0,SNR=11
DRGR 57.60 310 ⇑P **P 10 55 04.0 +0.3**
DRGR 57.60 310 ⇑*i*P **P 10 55 04.0 +0.3**
KOLS Kolonicke sedl 57.71 313 *e*P **P 10 55 05.2 +0.9**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 57.71 313 *e*P **P 10 55 05.1 +0.8**
KOLS *e*pP **pP 10 55 16.2 -1.2**
VTS Vitosha 57.73 305 ⇓P **P 10 55 05.0 +0.3**
VTS Vitosha 57.73 305 ⇓*i*P **P 10 55 05.0 +0.3**
CRVS Cervenica-Dubn 58.25 313 *e*P **P 10 55 09.4 +1.3**
CRVS pmax pmax
comp=Z,4.0nm,0.8s
CRVS Cervenica-Dubn 58.25 313 *e*P **P 10 55 09.4 +1.3**
CRVS *e*pP **pP 10 55 20.7 -0.5**
STHS Stebnicka Huta 58.34 313 *e*P **P 10 55 08.9 +0.1**
STHS *e* 10 55 20.5
STHS Stebnicka Huta 58.34 313 *e*P **P 10 55 08.9 +0.1**
STHS *e*pP **pP 10 55 20.5 -1.3**
KECS Kecovo 58.93 312 *e*P **P 10 55 13.4 +0.6**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 58.93 312 *e*P **P 10 55 13.4 +0.6**
KECS *e*pP **pP 10 55 24.7 -1.2**
OJC Ojcow 59.21 314 *e*P **P 10 55 15.1 +0.4**
KMBO Kilima Mbogo 59.82 252 *e*P **P 10 55 20.5 +0.7**
comp=Z,17nm,1.0s
KMBO *e*pP **pP 10 55 32.9 0.0**
KMBO pP **pP 10 55 33.0 +0.1**
KMBO Kilima Mbogo 59.82 252 P **P 10 55 20.5 +0.7**
comp=Z,15nm,0.9s,baz=46,slow=11,SNR=20
KMBO pP **pP 10 55 33.0 +0.1**
comp=Z,3.6nm,0.7s,baz=59,slow=9.3,SNR=2.9
VYHS Vyhne 60.02 313 *e*P **P 10 55 20.1 -0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 60.02 313 *e*P **P 10 55 20.1 -0.3**
VYHS *e*pP **pP 10 55 32.1 -1.4**
OKC Ostrava-Krasne 60.30 314 *e*P **P 10 55 22.5 +0.2**
OKC *e* 10 55 34.6
OKC Ostrava-Krasne 60.30 314 *e*P **P 10 55 22.5 +0.2**
OKC *e*x x 10 55 34.6
MORC Moravsky Berou 60.70 314 *e*P **P 10 55 24.9 -0.2**
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 60.70 314 *e*P **P 10 55 24.9 -0.2**
comp=Z,11nm,0.9s
KSP Ksiaz 61.36 315 *e*P **P 10 55 29.7 +0.3**
KSP *e* 10 55 41.0
KSP Ksiaz 61.36 315 *e*P **P 10 55 30.4 +1.0**
KSP *e* 10 55 41.1
DPC Dobruska-Polom 61.41 315 *e*P **P 10 55 30.4 +0.6**
DPC *e* 10 55 41.9
DPC Dobruska-Polom 61.41 315 *e*P **P 10 55 30.4 +0.6**
DPC *e*x x 10 55 41.9
WRA Warramunga Arr 61.52 134 P **P 10 55 31.2 +0.3**
WRA pP **pP 10 55 43.5 -0.4**
WRA Warramunga Arr 61.52 134 P **P 10 55 31.2 +0.3**
comp=Z,25nm,0.7s,baz=325,slow=7.0,SNR=201
WRA pP **pP 10 55 43.5 -0.4**
comp=Z,30nm,0.6s,baz=323,slow=7.2,SNR=28
WRAB Tennant Creek 61.52 134 P **P 10 55 31.9 +1.1**
comp=Z,288nm,0.9s,SNR=13
WRAB Tennant Creek 61.52 134 *e*P **P 10 55 31.4 +0.5**
WRAB *e**PP **pP 10 55 43.7 -0.3**
WRAB pmax pmax
comp=Z,42nm,0.7s
WRAB Tennant Creek 61.52 134 *e*P **P 10 55 31.4 +0.5**
comp=Z,42nm,0.7s
WRAB *e*pP **pP 10 55 43.7 -0.3**
UPC Upice 61.58 315 *e*P **P 10 55 31.2 +0.2**
UPC *e* 10 55 44.4
UPC Upice 61.58 315 *e*P **P 10 55 31.2 +0.2**
UPC *e*x x 10 55 44.4
CONA Conrad Observa 62.07 312 ⇑*i*P **P 10 55 34.1 -0.3**
comp=Z,7.3nm,0.9s
GROS Grobnik 62.56 311 *i*P **P 10 55 37.5 -0.2**
PRU Pruhonice 62.59 315 *e*P **P 10 55 38.1 +0.4**
PRU *e* 10 55 50.0
PRU Pruhonice 62.59 315 *e*P **P 10 55 38.1 +0.4**
PRU *e*x x 10 55 50.0
CRES Cresnjev 62.71 310 *i*P **P 10 55 38.6 -0.1**
BRG Berggiesshubel 62.83 316 *i*P pP 10 55 51.2 -1.3
comp=Z,7.4nm,0.6s
BRG Berggiesshubel 62.83 316 *i*P **pP 10 55 51.2 -1.3**
BRG pmax pmax
comp=Z,7.0nm,0.6s
SOKA Soboth 62.84 311 ⇑*i*P **P 10 55 39.4 -0.1**
comp=Z,2.7nm,0.7s
NB2 NORSAR Subarra 62.98 327 P **P 10 55 39.4 -0.7**
comp=Z,12nm,0.9s,baz=84,slow=6.9
NOA NORSAR Array B 62.98 327 P **P 10 55 39.2 -0.9**
NOA NORSAR Array B 62.98 327 P **P 10 55 39.2 -0.9**
comp=Z,7.7nm,0.8s,baz=84,slow=6.8,SNR=17
NOA LR LR 11 25 25.0
comp=Z,141nm,19.1s,baz=80,slow=38
PDKS Podkum 62.98 310 *i*P **P 10 55 40.4 -0.1**
MOA Molln 63.14 312 ⇑*i*P **P 10 55 41.1 -0.4**
comp=Z,5.4nm,0.8s
LJU Ljubljana 63.31 310 *i*P **P 10 55 42.8 +0.2**
GERES GERESS Array B 63.33 314 P **P 10 55 42.8 0.0**
GERES pP **pP 10 55 54.9 -1.1**
GERES GERESS Array B 63.33 314 P **P 10 55 42.8 0.0**
comp=Z,4.9nm,0.7s,baz=79,slow=6.9,SNR=26
GERES pP **pP 10 55 54.9 -1.1**
comp=Z,11nm,0.7s,baz=77,slow=6.0,SNR=15
GERES LR LR 11 27 07.8
comp=Z,71nm,20.5s,baz=262,slow=40
CLL Collm 63.34 316 *e*P **P 10 55 42.0 -0.7**
CLL *e* 10 55 54.0
CLL Collm 63.34 316 *e*P **P 10 55 42.0 -0.7**
CLL *e* 10 55 54.0
KHC Kasperske Hory 63.36 314 *e*P **P 10 55 43.0 +0.1**
KHC *e* 10 55 54.6
KHC Kasperske Hory 63.36 314 *e*P **P 10 55 43.0 +0.1**
KHC *e*x x 10 55 54.6
AS31 Alice Springs 63.99 138 *e*P **P 10 55 47.7 +0.4**
ASAR Alice Springs 63.99 138 P **P 10 55 47.7 +0.4**
ASAR pP **pP 10 56 00.3 -0.2**
ASAR Alice Springs 63.99 138 P **P 10 55 47.7 +0.4**
comp=Z,12nm,0.7s,baz=320,slow=6.8,SNR=152
ASAR pP **pP 10 56 00.3 -0.2**
comp=Z,26nm,0.7s,baz=321,slow=6.6,SNR=42
ASAR LR LR 11 24 15.8
comp=Z,75nm,19.9s,baz=321,slow=36
CEL Celeste 64.03 302 *e*P **P 10 55 47.2 -0.4**
comp=Z,13nm,0.8s
ABTA Abfaltersbach 64.53 311 ⇓*i*P **P 10 55 49.4 -1.3**
comp=Z,4.5nm,0.9s
WTTA Wattenberg 65.00 312 ⇓*i*P **P 10 55 52.9 -1.0**
comp=Z,10nm,1.1s
MOTA Moosalm 65.34 312 ⇑*i*P **P 10 55 54.9 -1.1**
comp=Z,11nm,1.1s
RETA Reutte 65.53 312 ⇓*i*P **P 10 55 56.5 -0.7**
comp=Z,6.7nm,0.9s
FETA Feichten 65.66 312 ⇑*i*P **P 10 55 57.2 -0.9**
comp=Z,7.3nm,1.2s
DAVA Damuels 66.16 312 ⇑*i*P **P 10 56 00.6 -0.8**
comp=Z,10.0nm,0.9s
TUE Stuetta 66.71 312 *e*P **P 10 56 04.0 -0.9**
comp=Z,7.5nm,0.8s
CDF Champ du Feu 67.58 314 ⇑*i*P **P 10 56 09.9 -0.3**
comp=Z,21nm,1.0s
CDF *e*pP **pP 10 56 21.7 -1.8**
MEM Membach 67.81 317 P **P 10 56 14.2 +2.7**
WLF Walferdange 67.97 316 P **P 10 56 13.7 +1.1**
comp=Z,18nm,1.3s
PGF Pioggiola 67.99 308 ⇑*i*P **P 10 56 12.5 -0.5**
comp=Z,15nm,1.0s
HINF Hinteralfeld 68.01 314 *e*P **P 10 56 12.4 -0.5**
PAGF Fort de Pagny 68.54 315 ⇑*i*P **P 10 56 16.2 +0.1**
comp=Z,3.9nm,0.8s
GIVF Givet 68.68 316 *e*P **P 10 56 16.9 -0.1**
SBF Sospel 68.72 309 *e*P **P 10 56 16.9 -0.5**
LPG La Plagne 68.72 311 ⇑*i*P **P 10 56 17.7 0.0**
comp=Z,19nm,0.9s
LPL La Plagne 68.73 311 ⇑*i*P **P 10 56 17.6 -0.1**
comp=Z,22nm,0.9s
LPL *e*pP **pP 10 56 29.5 -1.5**
CABF La Chapelle 68.85 312 ⇑*i*P **P 10 56 17.8 -0.4**
comp=Z,24nm,1.2s
BNI Bardonecchia 68.89 311 *e*P **P 10 56 19.8 +1.2**
BNI pmax pmax
comp=Z,8.0nm,0.9s
BNI Bardonecchia 68.89 311 *e*P **P 10 56 19.8 +1.2**
comp=Z,7.9nm,0.9s
MBDF Montbardon 68.93 310 *e*P **P 10 56 17.7 -1.1**
comp=Z,11nm,0.8s
MEZF Maizieres J'vi 68.98 315 ⇑*i*P **P 10 56 18.9 0.0**
comp=Z,37nm,1.0s
MEZF *e*pP **pP 10 56 30.7 -1.5**
BAIF Baives 69.07 316 *e*P **P 10 56 19.4 0.0**
comp=Z,18nm,1.1s
SFTF Sexfontaines 69.08 314 *e*P **P 10 56 19.2 -0.3**
comp=Z,35nm,1.0s
SFTF *e*pP **pP 10 56 31.0 -1.8**
FRF La Foret Royal 69.35 309 *e*P **P 10 56 20.8 -0.5**
comp=Z,30nm,1.2s
FRF *e*pP **pP 10 56 32.6 -2.0**
ORIF Oris-en-Rattie 69.48 311 *e*P **P 10 56 21.4 -0.8**
comp=Z,11nm,0.9s
ORIF *e*R
comp=Z,60nm,18.8s
LMR La Mourre 69.52 309 *e*P **P 10 56 21.9 -0.4**
KEST Kesra 69.77 301 *e*P **P 10 56 24.4 +0.3**
KEST Kesra 69.77 301 P **P 10 56 24.4 +0.3**
comp=Z,4.7nm,1.0s,baz=294,slow=2.4,SNR=13
CTA Charters Tower 69.78 126 P **P 10 56 25.3 +1.1**
CTA Charters Tower 69.78 126 P **P 10 56 25.3 +1.1**
comp=Z,21nm,1.1s,baz=320,slow=11,SNR=6.3
SMRF Simiane la Rot 69.97 310 *e*P **P 10 56 25.0 -0.1**
LOR Lormes 70.11 314 ⇑*i*P **P 10 56 25.2 -0.7**
comp=Z,18nm,1.0s
LOR *e*R
comp=Z,71nm,19.0s
VIVF Saint-Julien-l 70.31 311 ⇑*i*P **P 10 56 26.8 -0.4**
comp=Z,10.0nm,0.8s
SMF Signal de Mont 70.31 313 ⇑*i*P **P 10 56 26.7 -0.5**
comp=Z,30nm,0.9s
SMF *e*pP **pP 10 56 38.5 -2.0**
SSF Saint Saulge 70.41 313 ⇑*i*P **P 10 56 27.3 -0.4**
comp=Z,28nm,0.9s
SSF *e*pP **pP 10 56 39.2 -1.9**
AVF Avril sur Loir 70.59 313 ⇑*i*P **P 10 56 28.3 -0.5**
comp=Z,28nm,0.9s
AVF *e*pP **pP 10 56 40.2 -2.0**
HYF Humbligny 70.90 314 *e*P **P 10 56 30.9 +0.2**
BGF Bois d'Agland 70.99 313 *e*P **P 10 56 30.8 -0.5**
LASF Ste Croix 71.11 310 *e*P **P 10 56 32.1 0.0**
comp=Z,32nm,1.1s
TCF Toulx Ste Croi 71.50 313 ⇑*i*P **P 10 56 34.4 0.0**
comp=Z,39nm,1.0s
TCF *e*pP **pP 10 56 46.3 -1.5**
ESK Eskdalemuir 71.71 323 *i*P **P 10 56 34.6 -0.8**
CAF Calviac 72.05 312 ⇑*i*P **P 10 56 37.8 +0.1**
comp=Z,22nm,0.9s
CAF *e*pP **pP 10 56 49.7 -1.4**
LDF La Druitiere 72.22 316 ⇑*i*P **P 10 56 38.1 -0.5**
comp=Z,31nm,0.9s
LDF *e*pP **pP 10 56 50.0 -2.0**
RJF Les Rejaudoux 72.28 312 ⇑*i*P **P 10 56 39.4 +0.3**
comp=Z,29nm,0.8s
RJF *e*pP **pP 10 56 51.3 -1.2**
RJF *e*R
comp=Z,52nm,23.0s
FLN La Foliniere 72.38 316 *e*P **P 10 56 39.4 -0.2**
comp=Z,19nm,1.0s
FLN *e*R
comp=Z,59nm,22.2s
MTLF Montolieu 72.48 310 *e*P **P 10 56 40.1 -0.2**
comp=Z,20nm,1.0s
GRR Gorron 72.75 316 ⇑*i*P **P 10 56 41.3 -0.5**
comp=Z,22nm,0.9s
MFF Saint Martin d 72.92 314 *e*P **P 10 56 42.4 -0.4**
comp=Z,17nm,0.9s
LFF La Frestale 72.92 312 *e*P **P 10 56 43.1 +0.2**
comp=Z,20nm,0.8s
SGMF Saint Gilles 73.86 316 ⇑*i*P **P 10 56 48.2 -0.1**
comp=Z,27nm,0.9s
SGMF *e*pP **pP 10 57 00.1 -1.6**
EPF Esparros 73.87 310 *e*P **P 10 56 47.6 -1.0**
ROSF Rostrenen 74.27 316 ⇑*i*P **P 10 56 50.6 -0.1**
comp=Z,45nm,1.1s
QUIF Quistinic 74.36 316 *e*P **P 10 56 50.7 -0.5**
comp=Z,16nm,1.0s
QUIF *e*pP **pP 10 57 02.6 -2.1**
ETSF Etsaut 74.54 310 ⇑*i*P **P 10 56 52.7 +0.2**
comp=Z,21nm,0.7s
STKA Stephens Creek 74.62 138 P **P 10 56 52.7 -0.1**
STKA Stephens Creek 74.62 138 P **P 10 56 52.7 -0.1**
comp=Z,11nm,1.0s,baz=337,slow=7.1,SNR=13
SJPF Ste Jean 74.91 311 ⇑*i*P **P 10 56 55.0 +0.5**
comp=Z,8.2nm,0.7s
LSZ Lusaka 74.97 244 *e*P **P 10 56 55.1 -0.3**
comp=Z,12nm,0.9s
SUMG Summit 75.72 346 *e*P **P 10 56 59.1 0.0**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 75.72 346 *e*P **P 10 56 59.1 0.0**
comp=Z,13nm,1.0s
COLA College 77.76 22 *e*P **P 10 57 10.8 +0.5**
COLA pmax pmax
comp=Z,34nm,0.8s
COLA College 77.76 22 *e*P **P 10 57 10.8 +0.5**
comp=Z,34nm,0.8s
ILAR Eielson Array 78.15 22 P **P 10 57 11.9 -0.5**
ILAR PP PP 11 00 18.1 +9.3
ILAR Eielson Array 78.15 22 P **P 10 57 11.9 -0.5**
comp=Z,1.3nm,0.7s,baz=301,slow=5.0,SNR=17
ILAR PP PP 11 00 18.1 +9.3
comp=Z,1.0nm,0.8s,baz=289,slow=8.3,SNR=5.4
ESDC Sonseca Array 78.16 308 P **P 10 57 12.9 -0.1**
ESDC Sonseca Array 78.16 308 P **P 10 57 12.9 -0.1**
comp=Z,4.5nm,0.9s,baz=56,slow=5.9,SNR=17
PMR Palmer 79.28 25 *e*P **P 10 57 18.6 0.0**
PMR pmax pmax
comp=Z,5.0nm,0.6s
PMR Palmer 79.28 25 *e*P **P 10 57 18.6 0.0**
comp=Z,4.6nm,0.6s
SML Sawmill 79.45 25 P **P 10 57 20.2 +0.5**
SML pmax pmax
comp=Z,3.0nm,0.7s
SML Sawmill 79.45 25 P **P 10 57 20.2 +0.5**
comp=Z,3.5nm,0.7s
INK Inuvik 79.59 16 P **P 10 57 20.2 0.0**
INK Inuvik 79.59 16 P **P 10 57 20.2 0.0**
comp=Z,3.4nm,1.0s,baz=1.9,slow=5.8,SNR=5.2
MVO Moncorvo 79.64 311 *e*P **P 10 57 21.6 +0.4**
comp=Z,18nm,0.8s
EGAK Eagle 80.02 20 *e*P **P 10 57 21.5 -1.1**
comp=Z,159nm,1.1s
KDAK Kodiak Island 80.08 30 P **P 10 57 22.5 -0.5**
KDAK Kodiak Island 80.08 30 P **P 10 57 22.5 -0.5**
comp=Z,8.4nm,0.8s,baz=337,slow=13,SNR=2.7
PVIS Viseu 80.43 311 *e*P **P 10 57 26.1 +0.7**
comp=Z,13nm,1.0s
PCBR Castelo Branco 80.53 310 *e*P **P 10 57 26.8 +0.9**
comp=Z,14nm,1.0s
PMRV Marv??o 80.66 309 *e*P **P 10 57 25.1 -1.5**
comp=Z,13nm,0.9s
PBAR Barrancos 80.97 308 *e*P **P 10 57 28.5 +0.2**
comp=Z,22nm,0.9s
PTOM Tomar 81.28 310 *e*P **P 10 57 30.5 +0.6**
comp=Z,24nm,0.9s
BMRM Bremner River 81.38 24 *e*P **P 10 57 30.6 +0.5**
comp=Z,24nm,0.9s
PMTG Montargil 81.40 309 *e*P **P 10 57 30.5 0.0**
comp=Z,12nm,1.8s
EVO Evora 81.50 309 ⇑*i*P **P 10 57 31.7 +0.7**
comp=Z,9.2nm,0.7s
EVO *e*R
comp=Z,44nm,17.0s
EVO Evora 81.50 309 *e*P **P 10 57 31.4 +0.4**
comp=Z,12nm,1.0s
PBEJ Beja 81.62 308 *e*P **P 10 57 32.4 +0.7**
PVAQ Vaqueiros 81.80 308 *e*P **P 10 57 32.8 +0.1**
comp=Z,27nm,1.7s
PBDV Barranco-do-Ve 82.02 308 *e*P **P 10 57 34.4 +0.5**
comp=Z,32nm,2.3s
PNCL Nicolau / Gran 82.05 309 *e*P **P 10 57 34.9 +1.0**
PFVI Vila Bisbo 82.71 308 *e*P **P 10 57 38.0 +0.6**
comp=Z,47nm,1.3s
SFJD Kangerlussuaq 82.72 346 P **P 10 57 36.7 -0.2**
SFJD Kangerlussuaq 82.72 346 P **P 10 57 36.7 -0.2**
comp=Z,6.3nm,0.5s,baz=124,slow=3.6,SNR=2.7
HYT Haines Junctio 84.00 22 *e*P **P 10 57 44.8 +1.0**
BOSA Boshof 84.61 234 *e*P **P 10 57 47.7 +0.4**
comp=Z,71nm,1.5s
BOSA Boshof 84.61 234 P **P 10 57 47.6 +0.4**
comp=Z,31nm,0.8s,baz=46,slow=3.9,SNR=24
TORD Torodi Ar. Bea 84.90 282 P **P 10 57 49.1 +0.1**
TORD Torodi Ar. Bea 84.90 282 P **P 10 57 49.1 +0.1**
comp=Z,11nm,0.8s,baz=62,slow=4.8,SNR=55
YKA Yellowknife Ar 88.70 12 P **P 10 58 06.1 -0.4**
YKA Yellowknife Ar 88.70 12 P **P 10 58 06.1 -0.4**
comp=Z,0.7nm,0.7s,baz=333,slow=5.0,SNR=3.0
DBIC Dimbokro 93.55 279 LR LR 11 47 19.5
comp=Z,57nm,18.6s,baz=268,slow=40
SCHQ Schefferville 97.05 348 LR LR 11 44 58.3
comp=Z,85nm,19.3s,baz=69,slow=37
PDAR Pinedale Array 108.14 17 PKKP **PKKPab 11 15 05.8 -4.4**
comp=Z,0.2nm,0.6s,baz=124,slow=4.8,SNR=5.3
NVAR Mina Array Bea 109.27 25 PKiKP **PKiKP 11 03 43.9 0.0**
NVAR Mina Array Bea 109.27 25 PKiKP **PKiKP 11 03 43.9 0.0**
comp=Z,0.3nm,0.7s,baz=156,slow=0.9,SNR=4.0
QSPA South Pole Qui 116.32 180 PKP **PKPdf 11 03 55.1 -1.0**
QSPA South Pole Qui 116.32 180 PKP **PKPdf 11 03 55.1 -1.0**
comp=Z,2.4nm,0.9s,baz=332,slow=4.3,SNR=6.5
SNAA Sanae 116.57 201 *e*PKPdf **PKPdf 11 03 55.7 -0.8**
VNA2 Neumayer--Watz 118.01 202 *e*PKPdf **PKPdf 11 03 59.6 +0.4**
TXAR Lajitas Array 122.36 17 PKP **PKPdf 11 04 08.1 -1.0**
TXAR PKKPbc **PKKPbc 11 14 04.1 -0.3**
TXAR Lajitas Array 122.36 17 PKP **PKPdf 11 04 08.1 -1.0**
comp=Z,0.5nm,0.9s,baz=267,slow=2.1,SNR=4.1
TXAR PKKPbc **PKKPbc 11 14 04.1 -0.3**
comp=Z,0.1nm,0.4s,baz=188,slow=6.2,SNR=3.6
ROSC El Rosal 146.29 336 *e*PKPdf **PKPbc 11 04 55.6 +0.4**
ROSC *e*PKPbc **PKPab 11 04 56.5 +0.4**
ROSC pPKPbc pPKPbc 11 05 09.0 -0.4
ROSC El Rosal 146.29 336 PKPbc **PKPbc 11 04 55.6 +0.4**
comp=Z,26nm,0.7s,baz=283,slow=24,SNR=14
ROSC pPKPbc pPKPbc 11 05 09.0 -0.4
comp=Z,25nm,0.8s,baz=98,slow=13,SNR=3.5
SAML Samuel 151.04 303 *e*PKPdf **PKPdf 11 05 01.4 +0.1**
SAML *e*PKPbc **PKPbc 11 05 07.1 0.0**
CPUP Villa Florida 152.96 264 *e*PKPdf **PKPdf 11 05 03.6 -0.2**
CPUP PKP **PKPdf 11 05 03.8 0.0**
CPUP PKPbc **PKPbc 11 05 10.2 -0.9**
CPUP *e*PKPbc **PKPbc 11 05 10.3 -0.8**
CPUP *e*PKPab **PKPab 11 05 23.1 +0.5**
CPUP Villa Florida 152.96 264 PKP **PKPdf 11 05 03.8 0.0**
comp=Z,2.8nm,0.8s,baz=213,slow=2.4,SNR=4.9
CPUP PKPbc **PKPbc 11 05 10.2 -0.9**
comp=Z,12nm,0.6s,baz=61,slow=2.8,SNR=28
CPUP PKPab **PKPab 11 05 23.0 +0.5**
comp=Z,5.6nm,0.6s,baz=60,slow=3.3,SNR=12
LPAZ La Paz 159.28 296 PKP **PKPdf 11 05 12.3 -0.8**
LPAZ La Paz 159.28 296 PKP **PKPdf 11 05 12.3 -0.8**
comp=Z,1.6nm,1.0s,baz=344,slow=7.9,SNR=4.6
PLCA Paso Flores 160.01 221 PKPab **PKPab 11 05 52.3 -0.1**
PLCA Paso Flores 160.01 221 PKPab **PKPab 11 05 52.3 -0.1**
comp=Z,4.1nm,0.8s,baz=140,slow=5.8,SNR=4.4

---

*ISCJB **19** 10:49:11.9±0.3, 41°.85N±0°.01×22°.86E±0°.02, h4km±3km,*
Error ellipse: s-maj=3.2km s-min=2.0km az=159.8
*CSEM **19** 10:49:12.9±0.1, 41°.80N×22°.90E, h5km, ML3.1/9, Error*
ellipse: s-maj=3.2km s-min=2.4km az=64.0
*THE **19** 10:49:12.8, 41°.81N×22°.86E, h2km±2km, ML3.1/9, Error*
ellipse: s-maj=2.1km s-min=0.7km az=298.0
*SKO **19** 10:49:12.9, 41°.80N×22°.88E, h15km, M2.6, ML3.0*
*ATH **19** 10:49:12.1, 41°.85N×22°.92E, h23km±1km, MD3.5/9*
*SOF **19** 10:49:12.3, 41°.82N×22°.85E, h12km, MD2.7*
*BEO **19** 10:49:14.1±0.3, 41°.83N×22°.85E, h0km, ML3.2/1*
ISC 19 10:49:13.4±0.9,**41°.81N**±0°.01×**22°.88E**±0°.02,**h11**km±7km,
n104,σ0°**97**/152**,16C-1D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.16**	**69**	*i*P	**Pg**	**10 49 17.2**	**+0.2**
KKB	**Krupnik**	**0.16**	**69**	Pg	**Pg**	**10 49 17.3**	**+0.2**
KKB	**Krupnik**	**0.16**	**69**	Pg	**Pg**	**10 49 17.3**	**+0.2**
VAY	**Valandovo**	**0.54**	**206**	P	**Pg**	**10 49 23.0**	**-0.9**
VAY				S	**Sg**	**10 49 30.4**	**-0.6**
VAY	**Valandovo**	**0.54**	**206**	*i*Pg	**Pg**	**10 49 23.6**	**-0.2**
VAY				*i*Sg	**Sg**	**10 49 31.3**	**+0.3**
VAY				*e*Lg	Lg	10 49 31.5	
	comp=E,4μm,0.4s						
VAY				*e*Lg	Lg	10 49 31.7	
	comp=N,2μm,0.5s						
VAY	**Valandovo**	**0.54**	**206**	*e*Pg	**Pg**	**10 49 23.3**	**-0.6**
VAY				*i*Sg	**Sg**	**10 49 30.6**	**-0.4**
VAY	**Valandovo**	**0.54**	**206**	P	**Pg**	**10 49 23.0**	**-0.9**
VAY	**Valandovo**	**0.54**	**206**	*e*Pg	**Pg**	**10 49 23.3**	**-0.6**
VAY				*i*Sg	**Sg**	**10 49 30.6**	**-0.4**
VAY				*e*Lg	Lg	10 49 31.7	
	comp=N,2μm,0.5s						
KNT	**Kendrikon**	**0.65**	**179**	P	**Pg**	**10 49 24.8**	**-1.1**
KNT				S	**Sg**	**10 49 34.3**	**-0.1**
KNT	**Kendrikon**	**0.65**	**179**	P	**Pg**	**10 49 24.8**	**-1.1**
KNT				S	**Sg**	**10 49 34.3**	**-0.1**
MMB	**Musomiste**	**0.67**	**109**	*i*P	**Pg**	**10 49 26.5**	**+0.1**
MMB	**Musomiste**	**0.67**	**109**	Pg	**Pg**	**10 49 26.7**	**+0.3**
MMB	**Musomiste**	**0.67**	**109**	Pg	**Pg**	**10 49 26.7**	**+0.3**
VTS	**Vitosha**	**0.82**	**17**	P	**Pg**	**10 49 28.4**	**-0.8**
VTS				S	**Sg**	**10 49 39.4**	**-0.6**
VTS	**Vitosha**	**0.82**	**17**	*i*P	**Pg**	**10 49 28.3**	**-1.0**
VTS	**Vitosha**	**0.82**	**17**	Pg	**Pg**	**10 49 28.4**	**-0.8**
VTS	**Vitosha**	**0.82**	**17**	⇑*i*P	**Pg**	**10 49 28.5**	**-0.8**
VTS				S	**Sg**	**10 49 39.5**	**-0.6**
VTS	**Vitosha**	**0.82**	**17**	*e*Pg	**Pg**	**10 49 28.5**	**-0.8**
VTS				*i*Sg	**Sg**	**10 49 39.4**	**-0.6**
VTS	**Vitosha**	**0.82**	**17**	P	**Pg**	**10 49 28.4**	**-0.8**
VTS				S	**Sg**	**10 49 39.4**	**-0.6**
VTS				*e*Sn	**Sb**	**10 49 40.2**	**-0.7**
NVR	**Nevrokopi**	**0.87**	**122**	P	**Pg**	**10 49 29.6**	**-0.5**
NVR				S	**Sb**	**10 49 42.0**	**-0.1**
NVR	**Nevrokopi**	**0.87**	**122**	*e*PN	**Pg**	**10 49 29.3**	**-0.8**
NVR				*e*SN	**Sg**	**10 49 41.5**	**+0.1**
NVR	**Nevrokopi**	**0.87**	**122**	*e*Pn	**Pg**	**10 49 29.3**	**-0.8**
NVR	**Nevrokopi**	**0.87**	**122**	P	**Pg**	**10 49 29.6**	**-0.5**
NVR				*e*Sn	**Sg**	**10 49 41.5**	**+0.1**
NVR				S	**Sb**	**10 49 42.0**	**-0.1**

SRS	**Serrai**	**0.87**	**142**	P	**Pg**	**10 49 29.7 -0.5**
SRS				S	**Sb**	**10 49 43.0 +0.8**
SRS	**Serrai**	**0.87**	**142**	P	**Pg**	**10 49 29.7 -0.5**
SRS				S	**Sb**	**10 49 43.0 +0.8**
GRG	**Griva**	**0.92**	**203**	P	**Pg**	**10 49 30.6 -0.6**
GRG				S	**Sg**	**10 49 43.2 0.0**
GRG	**Griva**	**0.92**	**203**	*e*PN	**Pg**	**10 49 30.7 -0.5**
GRG	**Griva**	**0.92**	**203**	*e*Pb	**Pg**	**10 49 30.7 -0.5**
GRG				S	**Sg**	**10 49 43.2 0.0**
SOH	**Sokhos**	**1.05**	**160**	P	**Pg**	**10 49 32.4 -1.1**
SOH				S	**Sb**	**10 49 47.7 +0.4**
SOH	**Sokhos**	**1.05**	**160**	*e*PN	**Pg**	**10 49 33.2 -0.3**
SOH				*e*SN	**Sb**	**10 49 47.8 +0.4**
SOH	**Sokhos**	**1.05**	**160**	P	**Pg**	**10 49 32.4 -1.1**
SOH	**Sokhos**	**1.05**	**160**	*e*Pn	**Pg**	**10 49 33.2 -0.3**
SOH				S	**Sb**	**10 49 47.7 +0.4**
SKO	**Skopje**	**1.09**	**279**	*e*Pn	**Pn**	**10 49 35.5 +0.8**
SKO				*e*Sn	**Sb**	**10 49 48.8 +0.3**
SKO				*e*Lg	Lg	10 49 52.2
	comp=E,70nm,0.4s					
SKO				*e*Lg	Lg	10 49 53.1
	comp=N,99nm,0.5s					
SKO	**Skopje**	**1.09**	**279**	*e*Pg	**Pg**	**10 49 34.1 -0.2**
SKO				*e*Sg	**Sg**	**10 49 48.2 -0.3**
SKO	**Skopje**	**1.09**	**279**	*e*Pg	**Pg**	**10 49 34.1 -0.2**
SKO	**Skopje**	**1.09**	**279**	*e*Pn	**Pn**	**10 49 35.4 +0.8**
SKO				*e*Sg	**Sg**	**10 49 48.2 -0.3**
SKO				*e*Lg	Lg	10 49 53.1
	comp=N,99nm,0.5s					
THE	**Thessaloniki**	**1.18**	**177**	P	**Pb**	**10 49 35.4 -0.3**
THE				S	**Sb**	**10 49 50.7 -0.2**
THE	**Thessaloniki**	**1.18**	**177**	P	**Pb**	**10 49 35.4 -0.3**
THE				S	**Sb**	**10 49 50.7 -0.2**
PGB	**Panagyurishte**	**1.21**	**52**	*i* P	**Pn**	**10 49 35.2 -1.1**
HORT	**Hortiatis**	**1.22**	**172**	P	**Pn**	**10 49 36.1 -0.4**
HORT				S	**Sb**	**10 49 52.4 +0.1**
HORT	**Hortiatis**	**1.22**	**172**	P	**Pn**	**10 49 36.1 -0.4**
HORT				S	**Sb**	**10 49 52.4 +0.1**
BARS	**Barje**	**1.28**	**322**	⇑*i*Pg	**Pn**	**10 49 37.1 -0.2**
BARS				*i* Sg	**Sb**	**10 49 53.6 -0.4**
BARS	**Barje**	**1.28**	**322**	⇑*i*Pg	**Pn**	**10 49 37.1 -0.2**
BARS				*i* Sg	**Sb**	**10 49 53.6 -0.4**
RZN	**Rozhen**	**1.38**	**94**	*i* P	**Pn**	**10 49 38.7 -0.1**
RZN	**Rozhen**	**1.38**	**94**	Pg	**Pn**	**10 49 39.2 +0.4**
RZN	**Rozhen**	**1.38**	**94**	Pg	**Pn**	**10 49 39.2 +0.4**
PLD	**Plovdiv**	**1.39**	**77**	⇑*i*Pg	**Pg**	**10 49 40.2 +0.1**
PLD	**Plovdiv**	**1.39**	**77**	⇑*i*Pg	**Pg**	**10 49 40.2 +0.1**
BIA	**Bitola**	**1.41**	**237**	*e*Pn	**Pg**	**10 49 41.2 +0.7**
BIA	**Bitola**	**1.41**	**237**	*e*Pn	**Pg**	**10 49 41.2 +0.7**
KAVA	**Kavala**	**1.47**	**123**	P	**Pn**	**10 49 39.8 0.0**
KAVA				S	**Sg**	**10 50 01.0 +0.3**
KAVA	**Kavala**	**1.47**	**123**	P	**Pn**	**10 49 39.8 0.0**
KAVA				S	**Sg**	**10 50 01.0 +0.3**
ZAPS	**Zavoj**	**1.48**	**353**	*e*Pg	**Pg**	**10 49 40.6 -0.3**
ZAPS				*i* Sg	**Sg**	**10 50 00.6 -0.3**
PLG	**Polygyros**	**1.50**	**163**	P	**Pn**	**10 49 39.9 -0.3**
PLG				S	**Sb**	**10 50 00.8 +0.6**
PLG	**Polygyros**	**1.50**	**163**	*e*PN	**Pn**	**10 49 39.8 -0.4**
PLG				*e*SN	**Sn**	**10 50 00.0 +0.3**
PLG	**Polygyros**	**1.50**	**163**	P	**Pn**	**10 49 39.9 -0.3**
PLG				*e*Sn	**Sn**	**10 50 00.0 +0.3**
FNA	**Florina**	**1.53**	**228**	*e*PN	**Pn**	**10 49 41.0 +0.3**
FNA				*e*SN	**Sg**	**10 50 02.1 -0.4**
FNA	**Florina**	**1.53**	**228**	*e*Pn	**Pn**	**10 49 41.0 +0.3**
FNA				*e*Sn	**Sg**	**10 50 02.1 -0.4**
OUR	**Ouranopolis**	**1.69**	**150**	P	**Pn**	**10 49 42.5 -0.3**
OUR				S	**Sb**	**10 50 05.8 0.0**
OUR	**Ouranopolis**	**1.69**	**150**	P	**Pn**	**10 49 42.5 -0.3**
OUR				S	**Sb**	**10 50 05.8 0.0**
KDZ	**Kurdzhali**	**1.91**	**94**	Pg	**Pb**	**10 49 47.3 -0.9**
KDZ	**Kurdzhali**	**1.91**	**94**	Pg	**Pb**	**10 49 47.3 -0.9**
SELS	**Selova**	**1.92**	**318**	⇑*i*Pn	**Pb**	**10 49 48.6 +0.2**
SELS				*i* Sg	**Sb**	**10 50 13.6 +1.2**
PAIG	**Paliouri**	**1.97**	**162**	P	**Pn**	**10 49 46.7 0.0**
PAIG	**Paliouri**	**1.97**	**162**	*e*PB	**Pn**	**10 49 46.6 -0.1**
PAIG				*e*SN	**Sn**	**10 50 12.1 +0.6**
PAIG	**Paliouri**	**1.97**	**162**	P	**Pn**	**10 49 46.7 0.0**
PAIG				*e*Sn	**Sn**	**10 50 12.1 +0.6**
BOLS	**Boljevac**	**2.13**	**342**	*e*Pn	**Pn**	**10 49 49.8 +0.9**
BOLS				*i* Sg	**Sg**	**10 50 24.4 -1.5**
BOLS	**Boljevac**	**2.13**	**342**	*e*Pn	**Pn**	**10 49 49.8 +0.9**
SMTH	**Samothraki Isl**	**2.41**	**123**	*e*PN	**Pn**	**10 49 52.2 -0.5**
SMTH	**Samothraki Isl**	**2.41**	**123**	*e*Pn	**Pn**	**10 49 52.2 -0.5**
NEO	**Neokhori**	**2.51**	**174**	*e*PN	**Pn**	**10 49 54.3 +0.1**
NEO	**Neokhori**	**2.51**	**174**	*e*Pn	**Pn**	**10 49 54.3 +0.1**
LIA	**Limnos Island**	**2.59**	**137**	*e*PN	**Pn**	**10 49 54.9 -0.3**
LIA	**Limnos Island**	**2.59**	**137**	*e*Pn	**Pn**	**10 49 54.9 -0.3**
SJES	**Sjenica**	**2.59**	**305**	*e*Pn	**Pn**	**10 49 56.5 +1.1**
GRUS	**Gruza**	**2.62**	**323**	*e*Pn	**Pn**	**10 49 57.6 +2.0**
GRUS				*i* Sg	**Sg**	**10 50 36.9 -0.6**
GRUS	**Gruza**	**2.62**	**323**	*e*Pn	**Pn**	**10 49 57.6 +2.0**
AOS	**Alonnisos**	**2.74**	**164**	*e*PN	**Pn**	**10 49 57.6 +0.3**
AOS	**Alonnisos**	**2.74**	**164**	*e*Pn	**Pn**	**10 49 57.6 +0.3**
SVIS	**Svilajnac**	**2.74**	**334**	*e*Pn	**Pn**	**10 49 59.4 +2.1**
SVIS				*i* Sg	**Sg**	**10 50 39.7 -1.8**
AGG	**Agios Georgios**	**2.81**	**189**	*e*PN	**Pn**	**10 49 58.5 +0.2**
AGG	**Agios Georgios**	**2.81**	**189**	*e*Pn	**Pn**	**10 49 58.5 +0.2**
DJS	**Djerdap**	**2.87**	**355**	*e*Sg	**Sg**	**10 50 43.8 -1.7**
TRUS	**Trudelj**	**3.02**	**324**	*e*Pn	**Pn**	**10 50 03.5 +2.3**
TRUS				*i* Sg	**Sg**	**10 50 48.9 -1.5**
TRUS	**Trudelj**	**3.02**	**324**	*e*Pn	**Pn**	**10 50 03.5 +2.3**
DIVS	**Divibare**	**3.12**	**318**	⇑*i*Pn	**Pn**	**10 50 02.4 -0.2**
DIVS				*i* Sg	**Sg**	**10 50 52.2 -1.4**
DIVS	**Divibare**	**3.12**	**318**	⇑*i*Pn	**Pn**	**10 50 02.4 -0.2**
BBLS	**Lazići**	**3.28**	**310**	*e*Pn	**Pn**	**10 50 07.5 +2.7**
BBLS				*e*Sg	**Sg**	**10 50 57.3 -1.4**
BBLS	**Lazići**	**3.28**	**310**	*e*Pn	**Pn**	**10 50 07.5 +2.7**
GZR	**Gura Zlata**	**3.58**	**359**	⇑*i*P	**Pn**	**10 50 08.8 -0.2**
GZR	**Gura Zlata**	**3.58**	**359**	S	**Sn**	**10 50 49.3 -2.1**
LOT	**Lotru**	**3.70**	**10**	⇑*i*P	**Pn**	**10 50 11.6 +1.1**
LOT	**Lotru**	**3.70**	**10**	S	**Sn**	**10 50 53.2 -1.0**
BZS	**Buzias**	**3.92**	**347**	⇑*i*P	**Pn**	**10 50 12.8 -0.7**
VOIR		**3.96**	**23**	⇑*i*P	**Pn**	**10 50 15.9 +1.8**
VOIR		**3.96**	**23**	S	**Sn**	**10 50 59.9 -0.6**
MLR	**Muntele Rosu**	**4.30**	**30**	⇑*i*P	**Pn**	**10 50 20.7 +1.8**
TIRR	**Tirgusor**	**4.84**	**55**	⇑*i*P	Pb	10 50 33.5 -4.6
TIRR	**Tirgusor**	**4.84**	**55**	S	**Sg**	**10 51 47.2 -1.5**
PLOR	**Plostina**	**4.88**	**33**	⇑*i*P	**Pn**	**10 50 28.5 +1.8**
VRI	**Vrincioaia**	**4.92**	**33**	⇑*i*P	**Pn**	**10 50 29.5 +2.2**
CFR	**Carcaliu**	**5.09**	**47**	⇓*i*P	Pg	10 50 47.0 -3.9
CFR	**Carcaliu**	**5.09**	**47**	S	**Sb**	**10 51 48.9 +5.2**
DUS	**Dusheti**	**16.24**	**82**	P	**P**	**10 53 05.1 +0.5**

*IDC **19** 10:54:47.9±0.8,23°.45N×123°.61E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.8/27, mbtmp3.8/13, ML3.5/3, MS3.6/2, Ms1 3.6/2, ms1mx2.7/33, Error ellipse: s-maj=22.5km s-min=17.4km az=99.0*

*JMA **19** 10:54:51.2±0.2,23°.40N×123°.57E, h53km±3km, M3.2*

ISC 19 10:54:49.0±3.6,**23°.44N**±0°.07×**123°.59E**±0°.06,**h8**km±23km, **n25**,σ0^{s}**78**/32,**mb3.8**/10,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**18**	P	**Pn**	**10 55 04.9**	**+0.3**
HATJ				*e*S	**Sn**	**10 55 15.2**	**+0.2**
JKRS	**Kuro-shima**	**0.89**	**26**	P	**Pn**	**10 55 08.4**	**+0.6**
JKRS				*e*S	**Sn**	**10 55 20.2**	**-0.7**
IRIF	**Iriomote-Funau**	**0.90**	**8**	P	**Pn**	**10 55 08.5**	**+0.4**
IRIF				*e*S	**Sn**	**10 55 21.3**	**0.0**
JIJ	**Ishigaki jima**	**1.05**	**29**	P	**Pn**	**10 55 10.4**	**+0.3**
JIJ				*e*S	**Sb**	**10 55 23.9**	**+0.4**
YOJ	**Yonaguni jima**	**1.15**	**333**	P	**Pn**	**10 55 11.7**	**+0.3**
YOJ				*e*S	**Sn**	**10 55 26.7**	**-0.7**
JTJ	**Tarama**	**1.57**	**40**	P	**Pb**	**10 55 18.0**	**-0.4**
JTJ				*e*S	**Sn**	**10 55 36.7**	**-1.2**
JMJ	**Miyako jima 2**	**2.08**	**48**	P	**Pn**	**10 55 25.1**	**+0.9**
JMJ				*e*S	**Sn**	**10 55 51.1**	**+0.8**
JOGS	**Gusukube**	**2.12**	**51**	P	**Pn**	**10 55 25.7**	**+0.9**
JOGS				*e*S	**Sn**	**10 55 51.8**	**+0.4**
JKE	**Kume jima 2**	**4.09**	**45**	P	**Pn**	**10 55 50.7**	**-1.2**
JAGN	**Aguni-jima**	**4.56**	**46**	P	**Pn**	**10 55 57.6**	**-0.8**
JOW	**Kunigami**	**5.43**	**51**	P	**Pn**	**10 56 09.0**	**-1.3**
JNU	**Nakatsue**	**11.59**	**32**	Pn	**Pn**	**10 57 33.6**	**-1.2**
	0.2nm,0.3s,baz=240,slow=5.7,SNR=2.9					
KSRS	**Korea Array**	**14.46**	**14**	Pn	**Pn**	**10 58 15.1**	**+1.0**
	0.2nm,0.3s,baz=192,slow=11,SNR=5.2					
MJAR	**Matsushiro Arr**	**18.16**	**41**	P	**Pn**	**10 59 01.5**	**-0.2**
	0.3nm,0.3s,baz=226,slow=8.4,SNR=7.6					
CMAR	**Chiang Mai Arr**	**23.53**	**262**	P	**P**	**11 00 00.7**	**+0.7**
	0.3nm,0.3s,baz=58,slow=8.6,SNR=3.6					
ASAJ	**Asahikawa**	**25.86**	**33**	P	**P**	**11 00 21.4**	**+0.2**
	3.6nm,0.6s,baz=220,slow=18,SNR=8.4					
SONM	**Songino Array**	**27.94**	**335**	P	**P**	**11 00 39.0**	**-1.0**
	0.9nm,0.6s,baz=146,slow=8.7,SNR=5.0					
SONM				LR	LR	11 13 33.9
	comp=Z,60nm,18.2s,baz=214,slow=40					
BATI	**Baumata**	**33.44**	**180**	LR	LR	11 17 44.9
	comp=Z,212nm,18.5s,baz=129,slow=41					
PETK	**Petropavlovsk-**	**39.28**	**32**	P	**P**	**11 02 17.9**	**-0.4**
	1.6nm,0.7s,baz=186,slow=5.8,SNR=5.8					
MKAR	**Makanchi Array**	**40.41**	**316**	P	**P**	**11 02 28.4**	**+0.7**
	0.7nm,0.7s,baz=100,slow=10.0,SNR=2.1					
ZALV	**Zalesovo Beam**	**42.07**	**326**	P	**P**	**11 02 40.3**	**-0.9**
	1.0nm,0.4s,baz=118,slow=8.3,SNR=2.1					
WRA	**Warramunga Arr**	**44.38**	**165**	P	**P**	**11 02 59.5**	**-0.7**
	1.1nm,0.8s,baz=347,slow=8.9,SNR=5.9					
ASAR	**Alice Springs**	**47.88**	**167**	P	**P**	**11 03 28.0**	**+0.1**
	0.6nm,0.5s,baz=351,slow=7.9,SNR=12					
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**11 05 53.9**	**-0.1**
	0.2nm,0.6s,baz=275,slow=4.7,SNR=5.4					
YKA	**Yellowknife Ar**	**82.79**	**23**	P	**P**	**11 07 14.5**	**+0.9**
	0.3nm,0.6s,baz=322,slow=5.9,SNR=3.4					

NNC 19 10:57:29.1±4.8,**54°.25N**×**85°.87E, h0**km, **mb3.9, mpv3.5, 2C-4D, Error ellipse: s-maj=47.1km s-min=24.0km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**5.77**	**234**	⇓Pn	Pn	10 58 57.9	+1.9
	2.9nm,0.3s						
MK31	**Makanchi Array**	**7.80**	**198**	⇑Pn	Pn	10 59 25.9	+2.0
	0.9nm,0.7s,baz=24,slow=12,SNR=16						
MK31				⇑Sn	Sn	11 00 59.5	+6.6
	2.6nm,0.9s,baz=30,slow=29,SNR=9.7						
MK31				⇓Lg	Lg	11 01 35.6	
	4.8nm,0.8s,baz=24,slow=30,SNR=3.9						
VOSK	**Vostochnaya**	**9.01**	**266**	⇓Pn	Pn	10 59 42.1	+1.7
	1.0nm,0.3s						
VOSK				⇓Sn	Sn	11 01 21.0	-1.5
	8.1nm,1.1s						

*IDC **19** 11:03:58.0±1.8, 1°.43S×99°.46E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML4.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/36, Error ellipse: s-maj=79.6km s-min=17.6km az=59.0*

*ISCJB **19** 11:04:00.5±0.7, 1°.42S±0°.10×99°.35E±0°.07, h33km, mb4.2/9, MS3.6/1, Error ellipse: s-maj=14.0km s-min=9.5km az=177.7*

*DJA **19** 11:04:07.1±1.1, 1°S±7°×10°0E±°, h10km, M4.4/4, MLv4.4/4*

ISC 19 11:04:02.9±0.9,**1°.4S**±0°.1×**99°.5E**±0°.1,**h35**km,**n18**, σ1^{s}**02**/16,**mb4.1**/9,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.12**	**65**	P	**Pn**	**11 04 21.3**	**-0.8**
PDSI				S	**Sn**	**11 04 37.3**	**+1.0**
PPI	**Padang Panjang**	**1.32**	**46**	P	**Pn**	**11 04 23.2**	**-1.7**
BKNI	**Bangkinang**	**2.33**	**43**	P	Pn	11 04 42.8	+4.1
BKNI				S	Sn	11 05 21.1	+15
KSI	**Kapahiang**	**3.87**	**126**	P	Pn	11 05 10.6	+11
PSI	**Prapat**	**4.19**	**353**	Pn	Pn	11 05 09.2	+4.7
	1.1nm,0.3s,baz=305,slow=16,SNR=2.6						
CMAR	**Chiang Mai Arr**	**19.72**	**359**	P	**P**	**11 08 30.7**	**+1.1**
	0.4nm,0.3s,baz=186,slow=8.1,SNR=3.4						
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**11 11 23.9**	**-0.6**
	0.7nm,0.7s,baz=302,slow=9.1,SNR=9.7						
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**11 11 35.0**	**-0.1**
	0.7nm,0.6s,baz=303,slow=7.6,SNR=6.8						
SONM	**Songino Array**	**49.39**	**6**	P	**P**	**11 12 49.1**	**-0.1**
	0.5nm,0.6s,baz=185,slow=8.1,SNR=2.8						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**11 12 54.6**	**+0.9**
	2.2nm,0.9s,baz=319,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**50.29**	**345**	P	**P**	**11 12 57.0**	**+1.1**
	1.1nm,0.6s,baz=149,slow=8.2,SNR=8.1						
KURBB	**Kurchatov Arra**	**54.81**	**344**	P	**P**	**11 13 29.9**	**+0.7**
	0.7nm,0.2s,baz=169,slow=7.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**56.47**	**350**	P	**P**	**11 13 41.7**	**+0.6**
	0.9nm,0.5s,baz=176,slow=7.3,SNR=5.1						
ZALV				LR	LR	11 42 15.8	
	comp=Z,47nm,19.9s,baz=340,slow=41						
NAY	**Al-Naaiem**	**58.42**	**300**	*e*P	**P**	**11 13 55.6**	**+0.2**
MIB	**Mutribah**	**58.55**	**306**	*e*P	**P**	**11 13 56.6**	**+0.4**
MIB				AMb	AMB	11 13 57.5	
	comp=Z,12nm,0.8s						
RST	**Umm Al-Ruwaisa**	**58.71**	**306**	*e*P	**P**	**11 13 55.3**	**-2.1**
RST				AMb	AMB	11 13 58.5	
	comp=Z,73nm,0.8s						
CPUP	**Villa Florida**	**144.48**	**218**	PKP	**PKPdf**	**11 23 35.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=71,slow=2.7,SNR=5.7						
TXAR	**Lajitas Array**	**144.54**	**36**	PKP	**PKPdf**	**11 23 36.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=292,slow=1.9,SNR=9.6						

IDC 19 11:17:45.8±1.4,**1°.73S**×**99°.00E, h0**km, **mb3.7**/7,**mb1 3.9**/8, **mb1mx3.7**/24,**mbtmp3.7**/8,**ML2.9**/1,**Error ellipse: s-maj=54.3km s-min=19.4km az=57.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.50**	**359**	Pn	Pn	11 18 55.5	+0.1
	0.6nm,0.3s,baz=122,slow=5.8,SNR=1.9						
CMAR	**Chiang Mai Arr**	**20.06**	**360**	P	P	11 22 20.0	-0.8
	0.4nm,0.4s,baz=200,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**39.00**	**120**	P	P	11 25 13.3	-1.0
	0.5nm,0.5s,baz=302,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**40.23**	**126**	P	P	11 25 24.8	+0.2
	0.4nm,0.7s,baz=299,slow=8.0,SNR=6.2						
SONM	**Songino Array**	**49.78**	**7**	P	P	11 26 39.5	-0.8
	0.4nm,0.4s,baz=186,slow=8.3,SNR=2.4						
MKAR	**Makanchi Array**	**50.50**	**345**	P	P	11 26 46.2	+0.5
	0.7nm,0.3s,baz=159,slow=8.8,SNR=11						
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	11 27 30.8	-0.3
	0.8nm,0.4s,baz=168,slow=7.6,SNR=4.3						
KBZ	**Khabaz**	**67.45**	**319**	P	P	11 28 42.9	-0.5
	0.8nm,0.3s,baz=100,slow=18,SNR=2.3						
CPUP	**Villa Florida**	**143.93**	**218**	PKP	PKPdf	11 37 25.1	+1.1
	0.3nm,0.3s,baz=152,slow=16,SNR=2.9						
TXAR	**Lajitas Array**	**145.08**	**36**	PKPbc	PKPdf	11 37 25.9	-0.3
	0.3nm,0.4s,baz=290,slow=2.1,SNR=7.1						

*NIED **19** 11:17:00, 29°.20N×130°.40E, h23km, Mw3.7 Best double couple: M0=4.73000×10^{14} NP1:φ=64.00000°, δ=68.00000°, λ=103.00000°. NP2:φ=212.00000°, δ=26.00000°, λ=61.00000°.*

JMA 19 11:17:54.5, 29°.24N×130°.44E, h61km±3km,**M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.78**	**321**	P	Pn	11 18 09.7	-0.1
JNN				S	Sn	11 18 21.0	0.0
JZK	**Kikaishima**	**1.01**	**204**	P	Pn	11 18 12.8	+0.1
JAM	**Amami Oshima**	**1.10**	**222**	P	Pn	11 18 14.1	+0.2
JAM				*e*S	Sn	11 18 29.1	+0.7
JKC	**Kuchinoerabu**	**1.24**	**350**	P	Pn	11 18 16.3	+0.6
JKC				*e*S	Sn	11 18 32.7	+1.2
JTN	**Tanegashima 3**	**1.48**	**18**	P	Pn	11 18 19.3	+0.3
JTN				*e*S	Sn	11 18 38.3	+0.8
JAMN	**Amaminishikomi**	**1.49**	**228**	P	Pn	11 18 19.5	+0.4
JTK	**Tokunoshima**	**1.95**	**222**	P	Pn	11 18 26.0	+0.6
JTSR	**Tashiro 2**	**1.96**	**12**	P	Pn	11 18 26.0	+0.4
JTSR				*e*S	Sn	11 18 50.2	+1.0
JSU	**Suzuyama**	**2.26**	**0**	P	Pn	11 18 30.2	+0.7
JNAR	**Kushima--Naru**	**2.39**	**17**	P	Pn	11 18 32.5	+1.2
JSJ	**Shimokoshiki**	**2.51**	**346**	P	Pn	11 18 33.9	+1.0
JSJ				*e*S	Sn	11 19 02.8	+0.4

NEIC 19 11:27:38.9, 51°.69N×177°.13E, h44km,**ML3.5**(AEIC),**After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.90**	**73**	P	Pn	11 27 54.4	-0.7
LSNW	**Little Sitkin**	**0.90**	**72**	P	Pn	11 27 54.5	-0.7
LSNW				S	Sn	11 28 06.4	-0.7
LSSE	**Little Sitkin**	**0.92**	**74**	P	Pn	11 27 54.8	-0.6
LSPA	**Little Sitkin**	**0.93**	**73**	P	Pn	11 27 54.4	-1.2
LSPA				S	Sn	11 28 08.0	+0.2
AMKA	**Amchitka**	**1.39**	**102**	P	Pn	11 28 01.2	-0.7
AMKA				S	Sn	11 28 19.1	+0.1
CETU	**Semis' Tuman**	**1.49**	**79**	P	Pn	11 28 02.5	-0.7
CESW	**Semis' Southwe**	**1.52**	**81**	P	Pn	11 28 02.5	-1.1
CEAP	**Semis' Anvil P**	**1.55**	**78**	P	Pn	11 28 03.2	-0.7
CERAA	**Semis' Rag'd T**	**1.60**	**81**	P	Pn	11 28 04.3	-0.4
SMY	**Shemya**	**2.13**	**300**	P	Pn	11 28 11.6	-0.4
SMY				S	Sn	11 28 36.2	-1.0
GANE	**Gareloi Northe**	**2.55**	**86**	P	Pn	11 28 16.9	-0.8
GALAA	**Gareloi Lava P**	**2.55**	**87**	P	Pn	11 28 17.5	-0.2
FX1	**Attu Island--F**	**2.71**	**298**	P	Pn	11 28 18.4	-1.6
FX1				S	Sn	11 28 50.5	-1.0
TASE	**Tanaga Southea**	**3.01**	**85**	P	Pn	11 28 23.6	-0.4
TAFP	**Tanaga Falls P**	**3.04**	**84**	P	Pn	11 28 23.5	-1.0
TAFP				S	Sn	11 28 57.1	-2.5
TAPA	**Tanaga Point A**	**3.15**	**86**	P	Pn	11 28 25.3	-0.7
KIKV	**Kanaga Island**	**3.54**	**85**	P	Pn	11 28 30.6	-0.7
KINC	**Kanaga Island**	**3.57**	**84**	P	Pn	11 28 31.4	-0.3
ADK	**Adak**	**3.84**	**85**	P	Pn	11 28 34.6	-0.9
ADAG	**Mount Adagdak**	**3.90**	**83**	P	Pn	11 28 35.5	-0.7
GSCK	**Great Sitkin C**	**4.17**	**83**	P	Pn	11 28 39.6	-0.4
GSMY	**Great Sitkin M**	**4.24**	**83**	P	Pn	11 28 40.5	-0.4

CASC 19 11:29:59.6±1.9,**9°.84N**×**84°.26W, h60**km±6km,**MD3.7, 5C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.23**	**64**	⇓*i*P	Pn	11 30 09.3	-0.1
SJS				*e*S	Sn	11 30 17.1	+0.7
QCR	**Quepos**	**0.42**	**167**	⇑*i*P	Pn	11 30 10.2	-0.6
QCR				*e*S	Sn	11 30 21.0	+2.1
URSC	**Urasca**	**0.48**	**90**	⇓*i*P	Pn	11 30 11.5	-0.1
BUS	**Buena Vista**	**0.57**	**120**	⇑*i*P	Pn	11 30 12.3	-0.6
BUS				*e*S	Sn	11 30 22.7	+0.1
CASO	**Castillo**	**0.75**	**322**	*i* P	Pn	11 30 15.4	+0.8
CASO				*i* S	Sn	11 30 27.4	+1.9
CEDE	**Laguna Cede^–o**	**0.78**	**326**	*i* P	Pn	11 30 15.5	+0.6
CEDE				*i* S	Sn	11 30 28.0	+1.9
JCR	**Jicaral**	**0.84**	**271**	⇓*i*P	Pn	11 30 15.4	-0.2
JCR				*e*S	Sn	11 30 28.0	+0.5
CHPA	**Chiripa**	**0.87**	**313**	*i* P	Pn	11 30 16.7	+0.5
CHPA				*i* S	Sn	11 30 30.2	+1.8
AMAS	**Alto Masis**	**1.05**	**317**	⇑*i*P	Pn	11 30 18.6	+0.1
CUI	**Cuipilapa**	**1.20**	**313**	*i* P	Pn	11 30 20.5	+0.1
COLC	**Colonia**	**1.24**	**312**	*i* P	Pn	11 30 21.4	+0.5
COLC				*i* S	Sn	11 30 37.9	+1.2
HORNC	**Hornillas**	**1.25**	**314**	⇑*i*P	Pn	11 30 21.4	+0.2
HORNC				*i* S	Sn	11 30 37.9	+0.8
MESS	**Mesas**	**1.28**	**314**	*i* P	Pn	11 30 21.9	+0.4
GUAB	**Guayabo de Bag**	**1.28**	**312**	*i* P	Pn	11 30 21.7	+0.2
LIM1	**Limonal**	**1.30**	**311**	*i* P	Pn	11 30 21.8	+0.1
VCR	**Vista de Mar**	**1.38**	**282**	*e*P	Pn	11 30 22.1	-0.7
VCR				*e*S	Sn	11 30 39.4	-0.8
GPS3	**Bodega del ICE**	**1.42**	**310**	*i* P	Pn	11 30

KULM	Kulim	6.86	10	P		Pn	11 37 01.1 -0.9
	100nm,1.2s,3µm1.0nm						
KTGM	Kuala Trenggan	7.74	29	P		Pn	11 37 15.2 +1.1
SKLT	Songkhla	8.70	8	P		Pn	11 37 31.6 +4.3
	79nm,1.4s,1µm						
SKLT	Songkhla	8.70	8	P		Pn	11 37 34.7 +7.4
	79nm,1.4s,1µm0.3nm						
DBJI	Dramaga	8.86	125	P		Pn	11 37 29.9 +0.4
	202nm,1.8s						
PKDT	Phuket	9.40	353	P		Px	11 37 57.2
LEM	Lembang	9.73	123	P		Pn	11 37 46.9 +5.3
	172nm,1.3s,3µm						
CISI	Cisompet, Garu	10.30	126	P		Pn	11 37 47.8 -1.5
	207nm,0.8s,3µm						
KSM	Kuching	11.28	75	P		Pn	11 38 04.8 +2.1
KSM	Kuching	11.28	75	P		Px	11 38 21.5
	baz=11,SNR=3.2						
STKI	Sintang	12.16	83	P		P	11 38 29.7 +2.5
UGM	Wanagama	12.76	120	P		Pn	11 38 25.1 +2.2
	baz=13,SNR=8.0						
SBUM	Sibu	13.39	73	P		Pn	11 38 35.4 +4.0
SBUM	Sibu	13.39	73	P		Pn	11 38 34.7 +3.2
	62nm,1.8s,1µm						
SJI	Sawahan	13.77	117	P		Pn	11 38 35.9 -0.9
	88nm,1.1s,6µm						
PWJI	Pagerwojo	13.93	118	P		P	11 38 48.8 +1.9
BTM	Bintulu	14.44	71	P		Pn	11 38 45.3 -0.6
CHBT	CHBT	14.46	11	P		P	11 38 55.1 +2.3
CHBT	CHBT	14.46	11	P		P	11 38 55.1 +2.3
KMMI	Kalianget	15.51	111	P		P	11 39 12.1 +7.6
BBKI	Banjar Baru	15.53	97	P		Pn	11 39 01.1 +0.6
	118nm,1.4s,3µm						
UTHA	Uthaitani	16.96	0	P		P	11 39 29.8 +9.3
UBPT	Khong Chiam	17.72	20	P		P	11 39 31.1 +2.1
	23nm,2.0s,687nm						
UBPT	Khong Chiam	17.72	20	P		P	11 39 31.1 +2.1
	23nm,2.0s,687nm						
PBKT	Sadao Pong	18.03	5	P		P	11 39 38.3 +5.9
	20nm,1.5s,976nm						
PBKT	Sadao Pong	18.03	5	P		P	11 39 38.3 +5.9
	20nm,1.5s,976nm						
KKM	Kota Kinabalu	18.37	66	eP		Pn	11 39 36.3 0.0
KKM	Kota Kinabalu	18.37	66	P		Pn	11 39 38.0 +1.6
KKM	Kota Kinabalu	18.37	66	P		Pn	11 39 37.3 +0.9
	57nm,1.2s,905nm						
KKM	Kota Kinabalu	18.37	66	P		Pn	11 39 36.9 +0.5
	baz=18,SNR=7.0						
SDKM	Sandakan	19.12	68	P		Pn	11 39 45.3 -0.1
PANO	Nakornpanom	19.23	15	P		Pn	11 39 47.8 +1.2
	24nm,1.0s,938nm						
KDM	Kudat	19.29	64	P		Pn	11 39 46.8 -0.5
TSM	Tawau	19.32	73	P		Pn	11 39 48.3 +0.6
MMSI	Mamuju	19.51	94	P		Pn	11 39 49.7 -0.4
	211nm,1.6s,2µm						
CM31	Chiang Mai Arr	19.84	359	eP		P	11 39 49.6 -2.7
	7.2nm,0.6s						
CMAR	Chiang Mai Arr	19.84	359	P		P	11 39 51.9 -0.5
CMAR	Chiang Mai Arr	19.84	359	P		P	11 39 51.9 -0.5
	0.6nm,0.3s,baz=187,slow=9.8,SNR=31						
CMAR				LR		LR	11 48 14.2
	comp=Z,1µm,20.5s,baz=359,slow=39						
LAMP	Lampang	19.91	1	P		Pn	11 39 58.6 +3.9
	14nm,1.1s,132nm						
MYLDM	Lahad Datu	20.18	71	P		Pn	11 39 59.1 +1.1
MYLDM	Lahad Datu	20.18	71	P		Pn	11 39 58.6 +0.6
	97nm,1.3s,1µm						
CMMT	Chiang Mai	20.20	359	P		Pn	11 40 01.7 +3.5
	17nm,1.1s,610nm						
CMMT	Chiang Mai	20.20	359	P		Pn	11 39 58.4 +0.2
	17nm,1.1s,626nm						
CHTO	Chiang Mai	20.20	359	eP		P	11 39 53.6 -2.6
CHTO				eS		S	11 43 42.1 -0.2
CHTO	Chiang Mai	20.20	359	eP		P	11 39 53.6 -2.6
CHTO				eS		S	11 43 42.1 -0.2
CHTO	Chiang Mai	20.20	359	P		Pn	11 40 01.1 +2.9
	18nm,1.1s,337nm						
CHTO	Chiang Mai	20.20	359	P		Pn	11 39 58.8 +0.6
	16nm,1.0s,346nm						
SPSI	Sidrap Palu	20.47	97	P		Pn	11 40 06.2 +4.8
	51nm,1.2s,839nm						
KAPI	Kappang	20.59	100	eP		P	11 40 00.9 +0.3
KAPI	Kappang	20.59	100	P		Pn	11 40 02.5 -0.3
	115nm,1.1s,929nm						
KAPI	Kappang	20.59	100	P		P	11 40 00.1 -0.4
	49nm,1.1s,baz=275,slow=10,SNR=6.3						
KAPI				LR		LR	11 48 11.6
	comp=Z,929nm,20.2s,baz=275,slow=38						
PALK	Pallekele	20.61	295	Pn		Pn	11 40 03.0 -0.1
	397nm,1.4s,SNR=12						
PALK	Pallekele	20.61	295	P		Pn	11 40 03.4 +0.3
	83nm,1.4s,1µm						
BKSI	Bulukumba	21.01	101	P		P	11 40 04.9 -0.1
	95nm,1.4s,1µm						
CMAI	Chiengmai2	21.31	359	P		P	11 40 11.9 +3.5
	40nm,1.8s,2µm						
SKSI	Soroako, Sulaw	21.93	93	P		P	11 40 24.4 +9.4
KKSI	Kolaka, Sulawe	22.36	97	P		P	11 40 21.0 +1.4
	129nm,1.3s,3µm						
MRSI	Marisa	22.61	85	P		P	11 40 22.0 -0.2
	114nm,1.1s,1µm						
QIZ	Qiongzhong	22.83	26	P		P	11 40 24.6 +0.1
QIZ				pP		pP	11 40 27.5 -2.3
QIZ				S		S	11 44 34.9 +1.7
QIZ				pmax		pmax	
	comp=Z,8.0nm,1.2s						
QIZ				LR		LR	
	comp=N,1µm,15.4s						
QIZ				LR		LR	
	comp=E,1µm,15.4s						
QIZ				LR		LR	
	comp=Z,1µm,13.2s						
QIZ	Qiongzhong	22.83	26	eP		P	11 40 22.5 -2.0
	comp=Z,10nm,1.1s						
LUWI	Luwuk	23.35	89	P		P	11 40 31.0 +1.1
	comp=Z,103nm,0.9s,comp=Z,2µm						
GTOI	Gorontalo	23.68	85	P		P	11 40 32.2 -1.0
	comp=Z,138nm,1.0s,comp=Z,2µm						
SOEI	Soe	26.03	109	P		P	11 40 59.1 +4.3
	baz=26,SNR=3.3						
KMI	Kunming	26.67	7	P		P	11 41 03.3 +2.8
KMI				pP		pP	11 41 07.9 +1.8
KMI				sP		sP	11 41 10.3 +1.9
KMI				PP		PnPn	11 41 51.6 +10
KMI				S		S	11 45 39.6 +4.4
KMI				sS		sS	11 45 48.4 +3.9
KMI				SS		SnSn	11 46 55.4 +16
KMI				pmax		pmax	
	comp=Z,7.0nm,0.8s						
KMI				pmax		pmax	
	comp=Z,75nm,5.1s						
KMI				LR		LR	
	comp=N,650nm,10.6s						
KMI				LR		LR	
	comp=E,2µm,10.6s						
KMI				LR		LR	
	comp=Z,1µm,12.4s						
DAV	Davao City (W)	27.46	72	LR		LR	11 53 49.8
	comp=Z,619nm,19.9s,baz=276,slow=41						
SHL	Shillong	27.89	345	eP		P	11 41 10.0 -1.4
SHL				eS		S	11 45 45.0 -9.3
LBMI	Labuha	28.09	89	P		P	11 41 25.7 +12
GYA	Guiyang	28.67	14	eP		P	11 41 20.4 +2.1
GYA				PP		PnPn	11 42 13.8 +4.9
GYA				PcP		PcP	11 44 32.0 +3.0
GYA				S		S	11 46 09.5 +3.0
GYA				SS		SnSn	11 47 35.4 +7.9
GYA				ScP		ScP	11 48 11.9 +2.3
GYA				ScS		ScS	11 52 03.8 +0.6
GYA				pmax		pmax	
	comp=Z,20nm,0.8s						
GYA				pmax		pmax	
	comp=Z,120nm,4.7s						
GYA				LR		LR	
	comp=N,730nm,15.7s						
GYA				LR		LR	
	comp=E,670nm,17.8s						
GYA				LR		LR	
	comp=Z,830nm,16.4s						
FITZ	Fitzroy Crossi	30.57	124	P		P	11 41 34.6 -0.6
	baz=31,SNR=10						
MEEK	Meekatharra	31.06	145	P		P	11 41 40.3 +0.9
	baz=31,SNR=5.3						
SWI	Sorong	31.84	89	P		P	11 41 47.0 +0.6
	comp=Z,74nm,1.3s						
LSA	Lhasa	32.02	346	eP		P	11 41 48.7 +0.3
LSA				pmax		pmax	
	comp=Z,45nm,1.1s						
LSA	Lhasa	32.02	346	eP		P	11 41 48.7 +0.3
	comp=Z,45nm,1.1s						
KNRA	Kununurra	32.18	118	P		P	11 41 49.4 0.0
	baz=32,SNR=5.8						
CD2	Chengdu	32.50	7	eP		P	11 41 55.4 +3.4
CD2				pP		pP	11 42 00.1 +2.4
CD2				sP		sP	11 42 02.6 +2.6
CD2				PP		PP	11 43 03.8 -1.9
CD2				PcP		PcP	11 44 42.0 +3.1
CD2				S		S	11 47 09.6 +3.2
CD2				sS		sS	11 47 16.3 +0.6
CD2				SS		SnSn	11 49 05.8 +5.2
CD2				ScS		ScS	11 52 22.6 +1.1
CD2				pmax		pmax	
	comp=Z,10.0nm,0.8s						
CD2				pmax		pmax	
	comp=Z,80nm,5.8s						
CD2				LR		LR	
	comp=N,1µm,11.8s						
CD2				LR		LR	
	comp=E,2µm,15.6s						
CD2				LR		LR	
	comp=Z,1µm,13.2s						
YULB	Yu-li	32.65	39	eP		P	11 41 53.2 -0.2
	comp=Z,9.0nm,0.8s						
SSLB	Suanglung	32.72	38	eP		P	11 41 53.8 -0.2
	comp=Z,23nm,1.1s						
FAKI	Fak Fak	32.83	93	P		P	11 41 53.4 -1.8
	baz=33,SNR=4.5						
ENH	Enshi	33.03	16	eP		P	11 41 56.6 0.0
	comp=Z,5.4nm,0.4s						
YHNB	Yeheng	33.63	38	eP		P	11 41 59.9 -2.1
	comp=Z,39nm,1.3s						
XAN	Xi'an	36.47	13	P		P	11 42 23.6 -2.8
XAN				S		S	11 48 02.5 -5.1
XAN				pmax		pmax	
	comp=Z,2.0nm,0.5s						
XAN				LR		LR	
	comp=N,740nm,11.4s						
XAN				LR		LR	
	comp=E,310nm,12.9s						
XAN				LR		LR	
	comp=Z,410nm,11.1s						
BAKI	Biak	36.68	90	P		P	11 42 38.9 +10
LZH	Lanzhou	37.63	6	eP		P	11 42 37.6 +1.3
LZH				pP		pP	11 42 40.8 -1.2
LZH				sP		sP	11 42 42.3 -2.0
LZH				PP		PnPn	11 44 08.0 +4.6
LZH				PcP		PcP	11 44 56.1 +2.2
LZH				S		S	11 48 28.3 +2.9
LZH				sS		sS	11 48 34.5 -0.3
LZH				ScP		ScP	11 48 40.5 -0.1
LZH				SS		SnSn	11 51 01.6 -3.2
LZH				ScS		ScS	11 52 48.0 -1.2
LZH				pmax		pmax	
	comp=Z,23nm,1.0s						
LZH				pmax		pmax	
	comp=Z,140nm,5.0s						
LZH				LR		LR	
	comp=N,730nm,11.8s						
LZH				LR		LR	
	comp=E,890nm,12.1s						
LZH				LR		LR	
	comp=Z,1µm,14.2s						
NJ2	Nanjing	38.12	27	eP		P	11 42 42.1 +1.8
NJ2				pmax		pmax	
	comp=Z,20nm,1.0s						
SSE	Sheshan	38.47	31	P		P	11 42 41.0 -2.3
SSE				pmax		pmax	
	comp=Z,19nm,0.6s						
SSE				pmax		pmax	
	comp=Z,47nm,3.7s						
SSE				LR		LR	
	comp=N,940nm,19.0s						
SSE				LR		LR	
	comp=E,1µm,18.9s						
SSE				LR		LR	
	comp=Z,960nm,13.6s						
WRA	Warramunga Arr	38.74	121	P		P	11 42 44.2 -1.6
WRA				PcP		PcP	11 44 57.0 -0.5
WRA				S		S	11 48 36.3 -6.2
WRA	Warramunga Arr	38.74	121	P		P	11 42 44.2 -1.6
	comp=Z,17nm,1.0s,baz=303,slow=9.0,SNR=37						
WRA				PcP		PcP	11 44 57.0 -0.5
	comp=Z,1.6nm,0.7s,baz=314,slow=2.6,SNR=4.1						
WRA				S		S	11 48 36.3 -6.2
	comp=Z,4.2nm,1.2s,baz=293,slow=16,SNR=4.9						
WRA				LR		LR	12 01 50.9
	comp=Z,444nm,20.0s,baz=295,slow=41						
WRAB	Tennant Creek	38.75	121	P		P	11 42 44.9 -1.0
	comp=Z,206nm,1.4s,SNR=11						
WRAB	Tennant Creek	38.75	121	eP		P	11 42 44.9 -1.0
WRAB				pmax		pmax	
	comp=Z,52nm,1.1s						
WRAB	Tennant Creek	38.75	121	eP		P	11 42 44.9 -1.0
	comp=Z,52nm,1.1s						
FORT	Forrest	39.79	140	eP		P	11 42 55.4 +1.0
	comp=Z,42nm,1.0s						
ASAR	Alice Springs	40.01	126	P		P	11 42 55.5 -0.8
ASAR				PcP		PcP	11 45 01.9 +0.4
ASAR				ScP		ScP	11 48 49.8 0.0
ASAR				S		S	11 48 58.2 -3.3
ASAR	Alice Springs	40.01	126	P		P	11 42 55.5 -0.8
	comp=Z,11nm,1.0s,baz=300,slow=7.7,SNR=60						
ASAR				PcP		PcP	11 45 01.9 +0.4
	comp=Z,2.8nm,1.0s,baz=308,slow=3.0,SNR=4.5						
ASAR				ScP		ScP	11 48 49.8 0.0
	comp=Z,2.4nm,1.0s,baz=313,slow=4.2,SNR=8.5						
ASAR				S		S	11 48 58.2 -3.3
	comp=Z,7.0nm,1.2s,baz=299,slow=13,SNR=17						
AS31	Alice Springs	40.01	126	eP		P	11 42 55.9 -0.5
GTA	Gaotai	40.72	0	eP		P	11 43 03.1 +1.0
GTA				pP		pP	11 43 07.8 0.0
GTA				sP		sP	11 43 10.1 0.0
GTA				PcP		PcP	11 45 04.5 +1.0
GTA				S		S	11 49 13.6 +1.8
GTA				sS		sS	11 49 21.0 -0.2
GTA				SS		SS	11 52 09.6 -3.2
GTA				pmax		pmax	
	comp=Z,7.0nm,1.4s						
GTA				pmax		pmax	
	comp=Z,79nm,5.7s						
GTA				LR		LR	
	comp=N,540nm,17.6s						
GTA				LR		LR	
	comp=E,1µm,17.6s						
GTA				LR		LR	
	comp=Z,560nm,17.1s						
HHC	Hu-ho-hao-te	43.59	13	eP		P	11 43 25.5 +0.1
HHC				pP		pP	11 43 31.4 +0.2
HHC				sP		sP	11 43 33.9 +0.4
HHC				PP		PcP	11 45 10.4 -2.5
HHC				PcP		PP	11 45 15.0 +7.9
HHC				ScP		ScP	11 49 04.8 +1.0
HHC				PcS		PcS	11 49 06.6 +0.9
HHC				S		S	11 49 54.1 +0.1
HHC				sS		sS	11 50 02.8 -0.7
HHC				ScS		ScS	11 53 23.8 -0.7
HHC				pmax		pmax	
	comp=Z,37nm,0.7s						
HHC				pmax		pmax	
	comp=Z,160nm,4.8s						
HHC				LR		LR	
	comp=N,660nm,15.3s						
HHC				LR		LR	
	comp=E,2µm,15.7s						
HHC				LR		LR	
	comp=Z,430nm,15.9s						
BJI	Beijing	44.10	19	P		P	11 43 30.3 +0.9
BJI				S		S	11 49 58.8 -2.5
BJI				pmax		pmax	
	comp=Z,13nm,1.2s						
BJI				pmax		pmax	
	comp=Z,98nm,5.6s						
BJI				LR		LR	
	comp=N,220nm,20.4s						
BJI				LR		LR	
	comp=E,460nm,22.3s						
JNU	Nakatsue	45.46	38	eP		P	11 43 39.5 -0.9
	comp=E,13nm,0.9s						
JNU	Nakatsue	45.46	38	LR		LR	12 03 38.0
	comp=E,252nm,20.2s,baz=138,slow=37						
KSH	Kashi	46.14	335	P		P	11 43 44.8 -1.1
KSH				sP		sP	11 43 51.8 -2.1
KSH				PP		PP	11 45 32.8 -1.6
KSH				S		S	11 50 26.8 -4.4
KSH				SS		ScS	11 53 42.5 +1.5
KSH				pmax		pmax	
	comp=Z,13nm,1.2s						
KSH				pmax		pmax	
	comp=Z,73nm,3.9s						
KSH				LR		LR	
	comp=N,170nm,12.1s						
KSH				LR		LR	
	comp=E,370nm,16.7s						
KSH				LR		LR	
	comp=Z,390nm,15.5s						
WMQ	Urumqi	46.33	348	P		P	11 43 48.4 +1.2
WMQ				sP		sP	11 43 56.9 +1.6
WMQ				PcP		PcP	11 45 24.0 +1.7
WMQ				PP		PP	11 45 37.0 +0.7
WMQ				S		S	11 50 33.5 -0.2
WMQ				ScS		ScS	11 53 40.1 -1.8
WMQ				SS		SS	11 53 51.4 -8.2
WMQ				pmax		pmax	
	comp=Z,31nm,1.4s						
WMQ				pmax		pmax	
	comp=Z,74nm,3.0s						
WMQ				LR		LR	
	comp=N,130nm,24.0s						
WMQ				LR		LR	
	comp=E,290nm,22.0s						
WMQ				LR		LR	
	comp=Z,190nm,20.0s						
BBOO	Buckleboo	46.40	136	eP		P	11 43 47.9 -0.1
	comp=Z,1µm,1.6s						
KSAR	Wonju Array Be	46.87	31	P		P	11 43 50.0 -1.4
KSRS	Korea Array	46.90	31	P		P	11 43 50.0 -1.6
	comp=Z,3.1nm,0.7s,baz=224,slow=8.5,SNR=13						
KSRS				LR		LR	12 04 27.5
	comp=Z,104nm,18.4s,baz=48,slow=37						
TKM2	Tokmak 2	49.15	337	eP		P	11 44 09.5 +0.2
TKM2				pmax		pmax	
	comp=Z,32nm,1.1s						
TKM2	Tokmak 2	49.15	337	eP		P	11 44 09.5 +0.2
	comp=Z,32nm,1.1s						
CTAO	Charters Tower	49.33	115	eP		P	11 44 10.3 -0.5
CTAO				pmax		pmax	
	comp=Z,34nm,1.3s						
CTAO	Charters Tower	49.33	115	eP		P	11 44 10.3 -0.5
	comp=Z,34nm,1.3s						
AAK	Ala-Archa	49.35	336	P		P	11 44 11.6 +0.8
	comp=Z,66nm,1.3s,SNR=5.7						
AAK	Ala-Archa	49.35	336	eP		P	11 44 11.3 +0.5
AAK				e			11 45 33.2
AAK				pmax		pmax	
	comp=Z,23nm,1.3s						
AAK	Ala-Archa	49.35	336	eP		P	11 44 11.3 +0.5
	comp=Z,23nm,1.3s						
AAK				ePcP		PcP	11 45 33.2 0.0
AAK	Ala-Archa	49.35	336	LR		LR	12 07 28.1
	comp=Z,430nm,21.5s,baz=141,slow=39						
SONM	Songino Array	49.52	6	P		P	11 44 11.5 -0.4
SONM	Songino Array	49.52	6	P		P	11 44 11.5 -0.4
	comp=Z,2.6nm,0.5s,baz=188,slow=9.5,SNR=19						
SONM				LR		LR	12 07 56.6
	comp=Z,832nm,19.1s,baz=191,slow=40						
ULN	Ulaanbaatar	49.62	7	eP		P	11 44 12.5 -0.2
	comp=Z,15nm,1.3s						
EKS2	Erkin-Say	49.67	335	eP		P	11 44 13.7 +0.5
EKS2				pmax		pmax	
	comp=Z,17nm,0.8s						
EKS2	Erkin-Say	49.67	335	eP		P	11 44 13.7 +0.5
	comp=Z,17nm,0.8s						
STKA	Stephens Creek	49.91	132	eP		P	11 44 15.0 -0.1
	comp=Z,5.2nm,1.1s						
STKA	Stephens Creek	49.91	132	P		P	11 44 14.9 -0.1
	comp=Z,9.4nm,0.8s,baz=305,slow=6.3,SNR=16						
STKA				LR		LR	12 06 40.4
	comp=Z,607nm,18.6s,baz=109,slow=38						
STKA	Stephens Creek	49.91	132	P		P	11 44 15.2 +0.2
	baz=50,SNR=13						
MK31	Makanchi Array	50.40	345	eP		P	11 44 17.7 -0.8
MK31				pmax		pmax	
	comp=Z,13nm,0.6s						
MK31	Makanchi Array	50.40	345	eP		P	11 44 17.8 -0.7
MKAR	Makanchi Array	50.40	345	P		P	11 44 17.9 -0.6
MKAR	Makanchi Array	50.40	345	P		P	11 44 17.9 -0.6
MKAR	Makanchi Array	50.40	345	P		P	11 44 17.9 -0.6
	comp=Z,12nm,0.6s,baz=151,slow=8.1,SNR=80						
MKAR				LR		LR	12 09 31.2
	comp=Z,145nm,20.2s,baz=161,slow=41						
CN2	Changchun	50.77	24	eP		P	11 44 25.4 +4.1
CN2				esP		sP	11 44 32.0 +2.6
CN2				eS		S	11 51 41.0 +4.8
CN2				pmax		pmax	
	comp=Z,10.0nm,0.6s						
CN2				pmax		pmax	
	comp=Z,200nm,3.0s						
CN2				LR		LR	
	comp=N,300nm,15.0s						
CN2				LR		LR	
	comp=E,500nm,15.0s						
CN2				LR		LR	
	comp=Z,700nm,16.0s						
KK31	Karatay Array	51.45	333	i P		P	11 44 25.4 -1.1
KK31				pmax		pmax	
	comp=Z,1.0nm,0.4s						
KKAR	Karatay Array	51.45	333	eP		P	11 44 25.6 -0.9
KKAR				pmax		pmax	
	comp=Z,6.0nm,0.9s						
KKAR	Karatay Array	51.45	333	eP		P	11 44 25.6 -0.9
	comp=Z,5.5nm,0.9s						
MAT	Matsushiro	52.26	40	P		P	11 44 31.4 -1.3
MAT				S		S	11 51 58.6 +1.5
MJAR	Matsushiro Arr	52.26	40	P		P	11 44 32.2 -0.5
MJAR	Matsushiro Arr	52.26	40	P		P	11 44 32.2 -0.5
	comp=Z,0.7nm,0.6s,baz=237,slow=8.4,SNR=3.3						
MJAR				LR		LR	12 07 18.3
	comp=Z,164nm,18.4s,baz=230,slow=37						
HVS	Khovu-Aksy	52.67	355	eP		P	11 44 35.5 0.0
HVS				pmax		pmax	
	comp=Z,31nm,1.7s						
CMSA	Cobar Meteorol	52.87	129	P		P	11 44 37.5 +0.2
	baz=53,SNR=20						
TLY	Talaya	53.11	3	eP		P	11 44 38.9 +0.2
TLY				pmax		pmax	
	comp=Z,7.0nm,1.0s						
TLY				MLR		MLR	
	comp=Z,527nm,14.0s						
VLA	Vladivostok	53.15	29	eP		P	11 44 36.4 -2.6
VLA				eS		S	11 52 05.2 -3.6
VLA				pmax		pmax	
	comp=Z,8.0nm,0.6s						
MDJ	Mudanjiang	53.21	27	P		P	11 44 39.0 -0.5
MDJ				pP		pP	11 44 42.5 -2.8
MDJ				PcP		PcP	11 45 47.1 -0.2
MDJ				PP		PP	11 46 39.3 -0.4
MDJ				S		S	11 52 06.8 -2.8
MDJ				pmax		pmax	
	comp=Z,7.0nm,0.6s						
MDJ				pmax		pmax	
	comp=Z,32nm,7.3s						
MDJ				LR		LR	
	comp=N,430nm,23.0s						
MDJ				LR		LR	
	comp=E,730nm,20.8s						
MDJ				LR		LR	
	comp=Z,550nm,16.4s						
RMQ	Roma	53.46	122	P		P	11 44 43.0 +1.3
	baz=54,SNR=5.7						
IRK	Irkutsk	53.71	4	eP		P	11 44 43.3 +0.3
IRK				pmax		pmax	
	comp=Z,31nm,1.8s						
OPO	Ambohidratompo	53.91	248	LR		LR	12 02 49.1
	comp=Z,435nm,19.0s,baz=92,slow=30						
USRK	Ussuriysk Arra	54.00	29	P		P	11 44 44.3 -1.0
	comp=Z,7.0nm,0.7s,baz=223,slow=5.8,SNR=17						
USRK				LR		LR	12 10 28.5
	comp=Z,302nm,18.6s,baz=207,slow=39						
YNG	Young	56.09	131	P		P	11 45 05.8 +5.1
	baz=56,SNR=5.6						
ZAA0	Zalesovo Array	56.58	350	eP		P	11 45 02.6 -1.1
ZAA0				eS		S	11 52 53.7 -0.9
ZALV	Zalesovo Beam	56.58	350	i P		P	11 45 02.7 -1.0
ZALV				pmax		pmax	
	comp=Z,21nm,0.8s						
ZALV	Zalesovo Beam	56.58	350	P		P	11 45 02.7 -1.0
ZALV	Zalesovo Beam	56.58	350	P		P	11 45 02.7 -1.0
	comp=Z,21nm,0.8s,baz=172,slow=4.5,SNR=45						

ZALV LR LR 12 15 05.6
comp=Z,214nm,19.2s,baz=250,slow=42
CAN Canberra 56.97 132 *e*P **P 11 45 08.3 +1.4**
CAN pmax pmax
comp=Z,17nm,0.9s
CAN Canberra 56.97 132 *e*P **P 11 45 08.3 +1.4**
comp=Z,17nm,0.9s
ARMA Armidale 57.16 126 P **P 11 45 11.3 +2.9**
baz=57,SNR=3.9
ATD Arta Tunnel 57.69 285 LR LR 12 05 04.0
comp=Z,244nm,20.7s,baz=190,slow=31
NVS Novosibirsk 57.72 349 *e*P **P 11 45 09.2 -2.5**
NVS *e*S **S 11 53 07.4 -2.2**
NVS pmax pmax
comp=N,21nm,1.9s
NVS pmax pmax
comp=E,29nm,2.8s
NVS smax smax
comp=N,4.0nm,1.4s
NVS smax smax
comp=E,47nm,2.6s
KLR Kul'dur 57.72 24 *e*P P 11 45 07.8 -4.1
KLR MLR MLR
comp=N,600nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
KBD Kabd 58.07 306 *e*P **P 11 45 14.2 -0.6**
KBD AMb AMB 11 45 15.9
comp=Z,66nm,1.1s
RDF Al-Radifah 58.09 306 *e*P **P 11 45 14.5 -0.4**
RDF AMb AMB 11 45 16.2
comp=Z,136nm,0.9s
NAY Al-Naaiem 58.47 306 *e*P **P 11 45 16.7 -0.8**
NAY AMb AMB 11 45 18.4
comp=Z,3.0nm,0.8s
HABR Khabarovsk 58.59 27 *e*P P 11 45 24.8 +6.9
HABR *e* 11 46 04.9
HABR *e*S **S 11 53 16.5 -4.6**
HABR *e* 11 53 29.0
HABR *e**SS sS 11 53 33.6 +2.8
HABR *e*SS **SS 11 57 10.6 -3.5**
HABR MLR MLR
comp=Z,342nm,16.0s
MIB Mutribah 58.60 307 *e*P **P 11 45 17.8 -0.6**
MIB AMb AMB 11 45 19.6
comp=Z,137nm,0.9s
RST Umm Al-Ruwaisa 58.76 306 *e*P **P 11 45 18.7 -0.9**
RST AMb AMB 11 45 20.6
comp=Z,558nm,0.8s
VOSK Vostochnaya 59.08 340 P **P 11 45 18.8 -2.5**
VOSK pmax pmax
comp=Z,10.0nm,1.0s
PATS Pohnpei 59.35 81 P **P 11 45 26.5 +2.6**
baz=59,SNR=4.9
BRVK Borovoye 59.59 340 *e*P **P 11 45 23.1 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
AB31 Akbulak array 60.93 332 *i* P **P 11 45 32.3 -1.8**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 60.93 332 *e*P **P 11 45 32.8 -1.3**
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 61.38 32 *e*P **P 11 45 36.0 -1.1**
YSS *e* 11 45 49.0
YUK Yuzh-Kuril'sk 61.40 37 *d*P P 11 45 33.9 -3.4
YUK S **S 11 53 56.0 -1.4**
YUK SS **SS 11 57 55.0 -3.4**
YUK MLR MLR
comp=Z,286nm,22.0s
YUK MLR MLR
comp=E,381nm,22.0s
KMBO Kilima Mbogo 62.15 270 *e*P **P 11 45 44.7 +1.4**
comp=E,74nm,1.6s
KMBO Kilima Mbogo 62.15 270 P **P 11 45 44.7 +1.4**
comp=E,14nm,0.9s,baz=63,slow=7.3,SNR=26
LHI Lord Howe Isla 63.57 125 P **P 11 45 51.4 -0.8**
baz=64,SNR=3.5
MAK Makhachkala 64.22 320 *e*P **P 11 45 58.2 +2.1**
MAK MLR MLR
comp=Z,227nm,15.0s
GNI Garni 64.77 316 *e*P **P 11 45 59.4 -0.7**
comp=Z,63nm,1.5s
DGRG David-gareji 64.91 318 P **P 11 46 02.0 +1.2**
CASY Casey 65.12 175 *e*P **P 11 46 02.6 +1.0**
comp=Z,36nm,1.5s
TBLG Delisi 65.47 318 P **P 11 46 04.0 -0.4**
TBLG Delisi 65.47 318 P **P 11 46 04.0 -0.4**
KZR Kazreti 65.53 317 P **P 11 46 05.4 +0.5**
DUS Dusheti 65.65 318 P **P 11 46 06.7 +1.1**
GUDG Gudauri 65.96 318 P **P 11 46 08.2 +0.4**
SVE Sverdlovsk 66.01 338⇑ *e*P **P 11 46 07.0 -0.5**
SVE pmax pmax
comp=Z,50nm,1.6s
AKH Akhalkalaki 66.17 317 P **P 11 46 08.4 -0.7**
ZEI Tsey 66.49 319 *e*P **P 11 46 11.2 0.0**
ZEI pmax pmax
comp=Z,48nm,1.6s
ARU Arti 66.53 337 *c i*P **P 11 46 09.9 -0.9**
ARU S **S 11 54 59.5 -1.2**
ARU pmax pmax
comp=Z,34nm,1.7s
ONI Oni 66.70 318 P P 11 46 05.2 -7.1
YAK Yakutsk 67.42 15 *e*P P 11 46 13.0 -3.4
YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK MLR MLR
comp=Z,530nm,19.0s
YAK MLR MLR
comp=N,390nm,17.0s
YAK MLR MLR
comp=E,350nm,16.0s
KBZ Khabaz 67.56 319 P **P 11 46 17.7 +0.1**
KBZ Khabaz 67.56 319 P **P 11 46 17.7 +0.1**
KBZ Khabaz 67.56 319 P **P 11 46 17.7 +0.1**
comp=E,13nm,0.8s,baz=120,slow=4.5,SNR=27
KIV Kislovodsk 67.79 319 *e*P **P 11 46 18.8 -0.5**
KIV *e* 11 46 44.3
KIV *e*S **S 11 55 15.3 -1.3**
KIV pmax pmax
comp=Z,34nm,1.0s
ASF Jabal al Asfar 67.83 306 P **P 11 46 20.3 +0.6**
ASF Jabal al Asfar 67.83 306 P **P 11 46 20.3 +0.6**
comp=Z,14nm,1.1s,baz=71,slow=3.5,SNR=21
ASF LR LR 12 17 33.7
comp=Z,227nm,18.0s,baz=226,slow=37
DZM Mont Dzumac 68.18 113 *e*LR LR 12 06 52.9
comp=Z,389nm,24.3s
EIL Elat 68.77 303 P **P 11 46 26.2 +0.6**
EIL Elat 68.77 303 P **P 11 46 26.2 +0.6**
comp=Z,20nm,0.8s,baz=125,slow=5.4,SNR=13
EIL LR LR 12 16 49.4
comp=Z,326nm,18.9s,baz=95,slow=36
EIL Elat 68.77 303 P **P 11 46 26.9 +1.3**
baz=69,SNR=7.1
SOC Sochi 69.60 318 *e*P **P 11 46 29.0 -1.4**
SOC *e*S **S 11 55 32.5 -5.4**
SOC *e*SS **SS 12 00 03.6 -2.5**
SOC pmax pmax
comp=Z,42nm,1.0s
MAW Mawson 70.62 194 P **P 11 46 37.4 +1.3**
MAW Mawson 70.62 194 P **P 11 46 37.4 +1.3**
comp=Z,15nm,1.0s,baz=30,slow=7.7,SNR=25
MAW LR LR 12 12 11.2
comp=Z,232nm,19.6s,baz=193,slow=31
MAW Mawson 70.62 194 P **P 11 46 37.9 +1.7**
baz=71,SNR=17
CSS Prodhromos 71.47 308 *e*P **P 11 46 41.7 -0.4**
comp=Z,19nm,1.0s
VRHR Novokhopersk 71.60 326 *e*P **P 11 46 41.3 -1.1**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,50nm,1.5s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.8s
VRHR MLR MLR
comp=Z,20nm,1.0s
VRHR MLR MLR
comp=N,100nm,19.0s
VRHR MLR MLR
comp=E,440nm,19.0s
VRHR MLR MLR
comp=Z,170nm,19.0s
BR131 Keskin Array S 72.56 313 *e*P **P 11 46 48.1 -0.6**
comp=Z,3.3nm,0.8s
PETK Petropavlovsk- 72.78 32 P **P 11 46 48.3 -1.2**
PETK Petropavlovsk- 72.78 32 P **P 11 46 48.2 -1.2**
PETK Petropavlovsk- 72.78 32 P **P 11 46 48.2 -1.2**
comp=Z,0.8nm,0.8s,baz=76,slow=21,SNR=4.5
PETK LR LR 12 22 52.5
comp=Z,95nm,18.6s,baz=125,slow=39
VORD Divnogorie 72.87 325 *e*P **P 11 46 48.9 -1.1**
VORD pmax pmax
comp=Z,20nm,0.7s
VORD pmax pmax
comp=N,7.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.7s
PET Petropavlovsk 73.26 33 *e*P **P 11 46 51.6 -0.7**
PET *e*S **S 11 56 16.4 -3.4**
PET pmax pmax
comp=Z,18nm,1.1s
PET MLR MLR
comp=Z,200nm,21.0s
PET MLR MLR
comp=Z,200nm,17.0s
SIM Simferopol' 73.85 318 *d i*P **P 11 46 55.0 -1.0**
SIM S **SKiKP 11 56 21.0 -3.6**
SIM pmax pmax
comp=Z,17nm,0.7s
BOSA Boshof 75.39 241 P **P 11 47 06.5 +1.1**
BOSA Boshof 75.39 241 P **P 11 47 06.5 +1.1**
comp=Z,6.8nm,0.8s,baz=29,slow=3.6,SNR=4.3
BOSA LR LR 12 13 34.6
comp=Z,412nm,20.0s,baz=166,slow=30
SEY Seymchan 75.39 22⇑ *i*P **P 11 47 04.4 -0.1**
RPZ Rata Peaks 75.74 135 P **P 11 47 07.7 +0.7**
RPZ Rata Peaks 75.74 135 P **P 11 47 07.7 +0.7**
comp=Z,7.9nm,0.7s,baz=261,slow=15,SNR=6.4
MOS Moscow 75.78 329 *e*P **P 11 47 05.7 -1.2**
MOS *e* 11 47 15.3
MOS pmax pmax
comp=Z,82nm,1.1s
OBN Obninsk 76.07 328⇓ *i*P **P 11 47 08.2 -0.4**
OBN *e* 11 49 57.1
OBN *i* S **S 11 56 53.3 +2.2**
OBN pmax pmax
comp=Z,63nm,1.2s
OBN MLR MLR
comp=Z,100nm,20.0s
KARP Karpathos 76.51 307 *e*P **P 11 47 10.8 -0.8**
TIRR Tirgusor 77.60 316 ⇓P **P 11 47 17.6 +0.2**
TIRR Tirgusor 77.60 316 ⇓*i*P **P 11 47 17.6 +0.2**
NPS Neapolis 77.69 306 *e*P **P 11 47 18.7 +0.5**
LAST Lasithi 77.78 306 *e*P **P 11 47 18.5 -0.3**
SYO Syowa Base 78.15 199⇑ *i*P **P 11 47 20.0 0.0**
SYO Syowa Base 78.15 199⇑ *e*pP pP 11 47 25.6 -0.5
AKASG Malin Array Be 78.74 322 P **P 11 47 22.4 -1.2**
AKASG Malin Array Be 78.74 322 P **P 11 47 22.4 -1.2**
AKASG Malin Array Be 78.74 322 P **P 11 47 22.4 -1.2**
comp=Z,2.5nm,0.6s,baz=83,slow=5.3,SNR=12
VAM Vamos 78.86 306 *e*P **P 11 47 22.9 -1.7**
RDO Rodhopi 78.90 312 *e*P **P 11 47 24.3 -0.4**
VRI Vrincioaia 79.10 317 ⇑P **P 11 47 26.6 +0.8**
VRI Vrincioaia 79.10 317 ⇑*i*P **P 11 47 26.6 +0.8**
PLOR Plostina 79.15 317 ⇓P **P 11 47 27.4 +1.3**
PLOR Plostina 79.15 317 ⇓*i*P **P 11 47 27.4 +1.3**
TESR Tescani 79.30 318 ⇓*i*P **P 11 47 27.9 +1.0**
URZ Urewera 79.40 129 LR LR 12 24 48.7
comp=Z,176nm,18.7s,baz=261,slow=37
MLR Muntele Rosu 79.55 317 ⇑*i*P **P 11 47 28.7 +0.3**
MLR Muntele Rosu 79.55 317 LR LR 12 29 59.9
comp=Z,23nm,18.1s,baz=292,slow=41
DID Didima 79.98 308 *e*P **P 11 47 28.4 -2.4**
PAIG Paliouri 80.06 311 *e*P **P 11 47 29.6 -1.5**
VOIR 80.15 317 ⇓P **P 11 47 31.3 -0.3**
VOIR 80.15 317 ⇓*i*P **P 11 47 31.3 -0.3**
PLG Polygyros 80.31 311 *e*P **P 11 47 32.2 -0.3**
ARR Arges 80.42 316 ⇑*i*P **P 11 47 33.2 +0.2**
SOH Sokhos 80.46 312 *e*P **P 11 47 32.4 -0.9**
BURAR Bucovina Array 80.51 319 ⇓P **P 11 47 33.8 +0.3**
BURAR Bucovina Array 80.51 319 ⇓*i*P **P 11 47 33.8 +0.3**
DYR Agios Nikonas 80.57 307 *e*P **P 11 47 33.1 -0.8**
MICGM Minsk 80.59 326 ⇓*e*P P 11 47 30.0 -3.6
GUR Goura 80.75 309 *e*P **P 11 47 32.9 -2.1**
VTS Vitosha 80.89 313 ⇑P **P 11 47 34.8 -0.9**
VTS Vitosha 80.89 313 *e*P **P 11 47 34.7 -0.9**
VTS Vitosha 80.89 313 ⇑*i*P **P 11 47 34.8 -0.9**
KLV Kalavryta, Ach 80.92 309 *e*P **P 11 47 34.4 -1.4**
AGG Agios Georgios 80.93 310 *e*P **P 11 47 34.7 -1.2**
ITM Ithomi 80.96 308 *e*P **P 11 47 35.2 -0.8**
LIT Litokhoron 80.99 311 *e*P **P 11 47 35.2 -0.9**
PYL PYLOS 81.06 308 *e*P **P 11 47 36.0 -0.5**
LAKA Lakka 81.08 309 *e*P **P 11 47 36.4 -0.3**
GRG Griva 81.20 312 *e*P **P 11 47 35.7 -1.5**
THL Klokotos Trika 81.26 310 *e*P **P 11 47 36.7 -0.8**
EVR Evrytania 81.32 310 *e*P **P 11 47 38.2 +0.2**
RLS Riolos of Patr 81.45 309 *e*P **P 11 47 38.9 +0.3**
LVV L'vov 81.75 321 *e*P **P 11 47 38.6 -1.3**
VLS Valsamata 82.15 309 *e*P **P 11 47 41.2 -1.1**
LKD2 Lefkada island 82.19 309 *e*P **P 11 47 42.2 -0.3**
TRPA Tarpa 82.38 319 ⇓*i*P **P 11 47 44.6 +1.4**
BZS Buzias 82.55 316 ⇓P **P 11 47 44.8 +0.6**
BZS Buzias 82.55 316 ⇓*i*P **P 11 47 44.8 +0.6**
UZH Uzhgorod 82.63 319 *e*P **P 11 47 43.3 -1.2**
UZH *e* 11 47 54.7
UZH *e* 11 48 02.3
KOLS Kolonicke sedl 82.70 320 *e*P **P 11 47 45.4 +0.5**
KOLS pmax pmax
comp=Z,36nm,1.2s
KOLS Kolonicke sedl 82.70 320 *e*P **P 11 47 45.4 +0.5**
VNDA Vanda 82.75 169 *e*P **P 11 47 45.1 +0.5**
comp=Z,21nm,1.4s
VNDA Vanda 82.75 169 P **P 11 47 45.0 +0.5**
comp=Z,6.1nm,1.0s,baz=299,slow=5.4,SNR=19
KEK Kerkira 82.97 310 *e*P P 11 47 41.2 -5.3
SUW Suwalki 83.15 325 *e*P **P 11 47 47.3 +0.2**
SUW pmax pmax
comp=Z,32nm,0.3s
SUW Suwalki 83.15 325 *e*P **P 11 47 47.3 +0.2**
comp=Z,32nm,0.3s
SUW Suwalki 83.15 325 *e*P **P 11 47 47.3 +0.2**
CRVS Cervenica-Dubn 83.22 319 *e*P **P 11 47 48.5 +0.9**
CRVS pmax pmax
comp=Z,44nm,2.2s
CRVS Cervenica-Dubn 83.22 319 *e*P **P 11 47 48.5 +0.9**
FINES FINESS Array B 83.41 332 P **P 11 47 48.1 -0.1**
FINES FINESS Array B 83.41 332 P **P 11 47 48.1 -0.1**
comp=Z,4.6nm,0.6s,baz=90,slow=5.0,SNR=10
FINES LR LR 12 30 03.6
comp=Z,123nm,18.9s,baz=153,slow=39
STHS Stebnicka Huta 83.45 320 *e*P **P 11 47 49.6 +0.8**
STHS pmax pmax
comp=Z,12nm,1.1s
STHS Stebnicka Huta 83.45 320 *e*P **P 11 47 49.6 +0.8**
KECS Kecovo 83.79 319 *e*P **P 11 47 51.1 +0.6**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 83.79 319 *e*P **P 11 47 51.1 +0.6**
SBA Scott Base 83.85 169 *e*P **P 11 47 51.3 +1.0**
SBA pmax pmax
comp=Z,10.0nm,0.9s
SBA Scott Base 83.85 169 *e*P **P 11 47 51.3 +1.0**
comp=Z,10nm,0.9s
NIE Niedzica 84.05 320 *e*P **P 11 47 53.9 +2.0**
PSZ Piszkesteto 84.09 318 ⇑P **P 11 47 52.6 +0.4**
PSZ Piszkesteto 84.09 318 ⇑*i*P **P 11 47 52.6 +0.4**
PSZ Piszkesteto 84.09 318 *e*P **P 11 47 52.2 -0.1**
comp=Z,6.4nm,0.8s
PSZ Piszkesteto 84.09 318 ⇓*e*P **P 11 47 52.1 -0.1**
OJC Ojcow 84.51 321 *e*P **P 11 47 55.7 +1.5**
PKSM Moragy 84.70 316 ⇑P **P 11 47 55.5 +0.3**
PKSM Moragy 84.70 316 ⇑*i*P **P 11 47 55.5 +0.3**
PKSM Moragy 84.70 316 ⇓*e*P **P 11 47 55.3 +0.1**
VYHS Vyhne 84.88 319 *e*P **P 11 47 56.2 +0.1**
VYHS pmax pmax
comp=Z,13nm,1.6s
VYHS Vyhne 84.88 319 *e*P **P 11 47 56.2 +0.1**
OKC Ostrava-Krasne 85.51 320 *e*P **P 11 47 59.9 +0.7**
OKC Ostrava-Krasne 85.51 320 *e*P **P 11 47 59.9 +0.7**
ARCES ARCESS Array B 85.82 340 P **P 11 48 00.7 +0.4**
ARCES ARCESS Array B 85.82 340 P **P 11 48 00.7 +0.4**
comp=Z,5.2nm,0.8s,baz=72,slow=4.0,SNR=7.8
ARCES LR LR 12 30 07.4
comp=Z,191nm,19.4s,baz=94,slow=38
CEL Celeste 85.83 308 *e*P **P 11 48 01.6 +0.5**
comp=Z,17nm,1.0s
MORC Moravsky Berou 85.89 320 *e*P **P 11 48 01.3 +0.2**
MORC pmax pmax
comp=Z,75nm,2.1s
MORC Moravsky Berou 85.89 320 *e*P **P 11 48 01.3 +0.2**
comp=Z,76nm,2.1s
ZST Bratislava 85.99 318 *e*P **P 11 48 04.1 +2.5**
ZST Bratislava 85.99 318 *e*P **P 11 48 04.1 +2.5**
KOGS Kog 86.37 317 *i*P **P 11 48 03.5 0.0**
VRAC Vranov 86.45 319 LR LR 12 32 43.6
comp=Z,57nm,18.4s,baz=304,slow=40
DPC Dobruska-Polom 86.74 320 *e*P **P 11 48 06.0 +0.7**
DPC Dobruska-Polom 86.74 320 *e*P **P 11 48 06.0 +0.7**
GOLS Golise 86.76 316 *e*P **P 11 48 05.4 -0.1**
CONA Conrad Observa 86.78 318 ⇑*i*P **P 11 48 05.4 -0.3**
comp=Z,6.9nm,1.3s
KSP Ksiaz 86.81 321 *e*P **P 11 48 06.2 +0.6**
KSP Ksiaz 86.81 321 *e*P **P 11 48 06.5 +0.9**
ARSA Arzberg 86.95 317 ⇓*i*P **P 11 48 06.4 0.0**
comp=Z,17nm,1.3s,SNR=6.6
UPC Upice 86.95 321 *e*P **P 11 48 07.0 +0.7**
UPC Upice 86.95 321 *e*P **P 11 48 07.0 +0.7**
BOJS Bojanci 86.97 316 *i*P **P 11 48 06.2 -0.3**
PERS Pernice 87.17 317 *e*P **P 11 48 07.3 -0.2**
SOKA Soboth 87.23 317 ⇑*i*P **P 11 48 07.8 -0.1**
comp=Z,16nm,1.0s,SNR=11
LJU Ljubljana 87.52 316 *i*P **P 11 48 09.4 +0.3**
PRU Pruhonice 87.84 320 *e*P **P 11 48 11.1 +0.5**
PRU MLR MLR
comp=Z,100nm,15.9s
PRU Pruhonice 87.84 320 *e*P **P 11 48 11.1 +0.5**
PRU AMS AMS 12 40 00.0
comp=Z,100nm,15.9s
AQU L'Aquila 88.06 312 *e*P **P 11 48 12.1 +0.2**
comp=Z,19nm,0.8s
MYKA Terra Mystica 88.18 317 ⇑*i*P **P 11 48 11.8 -0.6**
comp=Z,27nm,2.0s,SNR=6.4
BRG Berggiesshubel 88.30 321 *i*P **P 11 48 13.6 +0.9**
comp=Z,59nm,1.8s
BRG Berggiesshubel 88.30 321 *i*P **P 11 48 13.6 +0.9**
BRG pmax pmax
comp=Z,59nm,1.8s
GERES GERESS Array B 88.30 319 P **P 11 48 13.3 +0.4**
GERES GERESS Array B 88.30 319 P **P 11 48 13.3 +0.4**
comp=Z,3.1nm,0.7s,baz=90,slow=4.0,SNR=27
KHC Kasperske Hory 88.40 319 *e*P **P 11 48 12.5 -0.9**
KHC pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 88.40 319 *e*P **P 11 48 12.7 -0.6**
KHC Kasperske Hory 88.40 319 *e*P **P 11 48 12.4 -0.9**
comp=Z,3.2nm,0.8s
CLL Collm 88.92 321 *e*P **P 11 48 16.0 +0.4**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 88.92 321 *e*P **P 11 48 16.0 +0.4**
comp=Z,17nm,1.2s
HFS Hagfors 89.16 330 LR LR 12 35 00.5
comp=Z,132nm,18.7s,baz=93,slow=40
WTTA Wattenberg 89.59 317 ⇑*i*P **P 11 48 18.5 -0.7**
comp=Z,16nm,1.0s
MOTA Moosalm 89.95 317 ⇓*i*P **P 11 48 20.1 -0.8**
comp=Z,9.7nm,0.9s
RETA Reutte 90.19 317 ⇑*i*P **P 11 48 21.4 -0.4**
comp=Z,11nm,0.8s,SNR=5.7
FETA Feichten 90.20 317 ⇓*i*P **P 11 48 21.8 -0.2**
comp=Z,12nm,1.2s,SNR=6.2
NOA NORSAR Array B 90.43 331 LR LR 12 32 49.1
comp=Z,123nm,20.3s,baz=60,slow=38
DAVOX Davos/Dischmat 90.77 317 LR LR 12 30 14.1
comp=Z,49nm,19.2s,baz=82,slow=36
DAVA Damuels 90.78 317 ⇑*i*P **P 11 48 24.6 -0.1**
comp=Z,22nm,0.9s,SNR=7.2
KEST Kesra 90.93 306 *e*P **P 11 48 26.2 +0.6**
KEST Kesra 90.93 306 P **P 11 48 27.1 +1.6**
comp=Z,8.6nm,1.0s,baz=103,slow=1.1,SNR=20
KEST LR LR 12 30 26.0
comp=Z,42nm,18.8s,baz=291,slow=36
TUE Stuetta 91.13 316 *e*P **P 11 48 26.0 -0.4**
comp=Z,18nm,1.4s
STU Stuttgart 91.27 319 *e*P **P 11 48 27.0 +0.3**
STU Stuttgart 91.27 319 *e*P **P 11 48 27.0 +0.3**
SNAA Sanae 92.43 198 *e*P **P 11 48 33.0 +1.3**
SNAA Sanae 92.43 198 *e*P **P 11 48 33.0 +1.3**
comp=Z,4.4nm,1.1s
VNA2 Neumayer--Watz 94.04 198 *e*P **P 11 48 41.5 +2.5**
VNA1 Neumayer--Stat 94.39 199 *e*P **P 11 48 39.7 -0.9**
JMIC Jan Mayen 97.21 342 LR LR 12 38 56.8
comp=Z,94nm,18.6s,baz=72,slow=39
TORD Torodi Ar. Bea 97.86 283 P **P 11 48 57.5 -0.1**
TORD Torodi Ar. Bea 97.86 283 P **P 11 48 57.5 -0.1**
comp=Z,1.1nm,0.9s,baz=87,slow=4.9,SNR=4.8
TORD LR LR 12 26 57.8
comp=Z,120nm,20.2s,baz=50,slow=32
ILAR Eielson Array 101.29 24 PKKPbc PKKPbc 12 05 21.0 -2.9
ILAR Eielson Array 101.29 24 PKKPbc PKKPbc 12 05 21.0 -2.9
comp=Z,1.3nm,1.0s,baz=161,slow=2.2,SNR=11
TBI Tubuai 108.71 115 *e*LR LR 12 25 39.7
comp=Z,141nm,30.8s
PPT2 Papeete2 109.51 109 *e*LR LR 12 25 59.8
comp=Z,163nm,24.2s
RKT Rikitea 121.71 118 *e*LR LR 12 31 40.6
comp=Z,169nm,30.5s
EDM Edmonton 121.76 23 *e*PKIKP **PKPdf 11 54 14.4 -0.8**
EDM Edmonton 121.76 23 *e*PKPdf **PKPdf 11 54 14.4 -0.8**
NEW Newport 123.78 29 ⇓PKiKP **PKiKP 11 54 19.6 0.0**
baz=124
NEW Newport 123.78 29 ⇓PKiKP **PKiKP 11 54 19.6 0.0**
baz=124
BSMT Bassoo Peak 125.18 28 *e*PKPdf **PKPdf 11 54 21.4 -0.8**
MSO Missoula 126.32 28 ⇓PKiKP **PKiKP 11 54 24.5 -0.2**
baz=126
MSO Missoula 126.32 28 ⇓PKiKP **PKiKP 11 54 24.5 -0.2**
baz=126
A18A Metzger Ranch, 126.50 24 ⇑PKiKP **PKiKP 11 54 24.8 -0.1**
baz=126
A18A Metzger Ranch, 126.50 24 ⇑PKiKP **PKiKP 11 54 24.8 -0.1**
baz=126
B17A L&G Farms, Che 126.61 25 ⇓PKiKP **PKiKP 11 54 25.0 -0.2**
baz=126
B17A L&G Farms, Che 126.61 25 ⇓PKiKP **PKiKP 11 54 25.0 -0.2**
baz=126
WVOR Wild Horse Val 126.89 35 *e*PKIKP **PKPdf 11 54 25.6 0.0**
WVOR Wild Horse Val 126.89 35 *e*PKPdf **PKPdf 11 54 25.6 0.0**
A19A Klindworth Far 126.93 23 ⇑PKiKP **PKiKP 11 54 25.6 -0.3**
baz=127
A19A Klindworth Far 126.93 23 ⇑PKiKP **PKiKP 11 54 25.6 -0.3**
baz=127
B18A Beardsley Farm 126.95 24 ⇓PKiKP **PKiKP 11 54 25.9 0.0**
baz=127
B18A Beardsley Farm 126.95 24 ⇓PKiKP **PKiKP 11 54 25.9 0.0**
baz=127
C17A Wharram Farm, 127.14 25 ⇑PKiKP **PKiKP 11 54 26.3 -0.1**
baz=127
C17A Wharram Farm, 127.14 25 ⇑PKiKP **PKiKP 11 54 26.3 -0.1**
baz=127
EGMT Eagleton 127.25 24 *e*PKPdf **PKPdf 11 54 26.2 +0.2**
EGMT Eagleton 127.25 24 ⇓PKiKP **PKiKP 11 54 26.4 -0.2**
baz=127
EGMT Eagleton 127.25 24 ⇓PKiKP **PKiKP 11 54 26.4 -0.2**
baz=127
D17A Six Diamond Ra 127.54 26 ⇑PKiKP **PKPdf 11 54 26.9 +0.2**
baz=127
D17A Six Diamond Ra 127.54 26 ⇑PKiKP **PKPdf 11 54 26.9 +0.2**
baz=127
A21A Bergtoll Ranch 127.57 22 ⇓PKiKP **PKiKP 11 54 27.2 +0.1**
baz=127
A21A Bergtoll Ranch 127.57 22 ⇓PKiKP **PKiKP 11 54 27.2 +0.1**
baz=127
B20A Solberg Farm, 127.61 23 ⇑PKiKP **PKiKP 11 54 27.3 +0.1**
baz=127
B20A Solberg Farm, 127.61 23 ⇑PKiKP **PKiKP 11 54 27.3 +0.1**
baz=127
C19A Slack Wire Ran 127.77 24 ⇓PKiKP **PKiKP 11 54 27.4 -0.1**
baz=128
C19A Slack Wire Ran 127.77 24 ⇓PKiKP **PKiKP 11 54 27.4 -0.1**
baz=128
MFID Camas Ranch 127.79 32 ⇓PKiKP **PKiKP 11 54 27.7 -0.1**
baz=128
MFID Camas Ranch 127.79 32 ⇓PKiKP **PKiKP 11 54 27.7 -0.1**

baz=128
D18A Linhart Farms, 127.88 25 ⇓PKiKP PKiKP 11 54 27.9 +0.1
baz=128
D18A Linhart Farms, 127.88 25 ⇓PKiKP PKiKP 11 54 27.9 +0.1
baz=128
A22A Carney Farms, 127.94 21 ⇓PKiKP PKiKP 11 54 27.8 0.0
baz=128
A22A Carney Farms, 127.94 21 ⇓PKiKP PKiKP 11 54 27.8 0.0
baz=128
E17A Martinsdale 128.00 26 ⇓PKiKP PKiKP 11 54 28.3 +0.1
baz=128
E17A Martinsdale 128.00 26 ⇓PKiKP PKiKP 11 54 28.3 +0.1
baz=128
B21A Ellsworth Farm 128.00 22 ⇓PKiKP PKiKP 11 54 28.0 0.0
baz=128
B21A Ellsworth Farm 128.00 22 ⇓PKiKP PKiKP 11 54 28.0 0.0
baz=128
DLMT Dillon 128.03 28 ePKPdf PKPdf 11 54 28.3 +0.6
C20A Veseth Ranch, 128.21 23 ⇓PKiKP PKiKP 11 54 28.6 +0.2
baz=128
C20A Veseth Ranch, 128.21 23 ⇓PKiKP PKiKP 11 54 28.6 +0.2
baz=128
BOZ Bozeman (W) 128.27 27 ePKIKP PKPdf 11 54 28.7 +0.6
BOZ Bozeman (W) 128.27 27 ePKPdf PKPdf 11 54 28.7 +0.6
D19A Cripps Ranch, 128.29 24 ⇓PKiKP PKiKP 11 54 28.7 +0.1
baz=128
D19A Cripps Ranch, 128.29 24 ⇓PKiKP PKiKP 11 54 28.7 +0.1
baz=128
HLID Hailey 128.43 31 ⇑PKiKP PKiKP 11 54 29.2 0.0
baz=128
HLID Hailey 128.43 31 ⇑PKiKP PKiKP 11 54 29.2 0.0
baz=128
F17A Fitzpatrick Pl 128.51 27 ⇓PKiKP PKiKP 11 54 29.6 +0.4
baz=128
F17A Fitzpatrick Pl 128.51 27 ⇓PKiKP PKiKP 11 54 29.6 +0.4
baz=128
D20A Manuel Ranch, 128.66 24 ⇑PKiKP PKiKP 11 54 29.6 +0.2
baz=128
D20A Manuel Ranch, 128.66 24 ⇑PKiKP PKiKP 11 54 29.6 +0.2
baz=128
A24A Westby 128.66 20 ⇑PKiKP PKiKP 11 54 29.4 +0.2
baz=128
A24A Westby 128.66 20 ⇑PKiKP PKiKP 11 54 29.4 +0.2
baz=128
E19A Rath Farm, Rou 128.89 25 ⇑PKiKP PKiKP 11 54 29.9 +0.1
baz=129
E19A Rath Farm, Rou 128.89 25 ⇑PKiKP PKiKP 11 54 29.9 +0.1
baz=129
G17A Pierce Place, 128.93 27 ⇓PKiKP PKiKP 11 54 30.3 +0.3
baz=129
G17A Pierce Place, 128.93 27 ⇓PKiKP PKiKP 11 54 30.3 +0.3
baz=129
F18A Big Timber 128.93 26 ⇓PKiKP PKiKP 11 54 30.1 +0.1
baz=129
F18A Big Timber 128.93 26 ⇓PKiKP PKiKP 11 54 30.1 +0.1
baz=129
A25A Svangstu Ranch 128.94 19 ⇑PKiKP PKiKP 11 54 30.1 +0.3
baz=129
A25A Svangstu Ranch 128.94 19 ⇑PKiKP PKiKP 11 54 30.1 +0.3
baz=129
E20A Meyer Farm, Mu 129.13 24 ⇑PKiKP PKiKP 11 54 30.4 0.0
baz=129
E20A Meyer Farm, Mu 129.13 24 ⇑PKiKP PKiKP 11 54 30.4 0.0
baz=129
H16A Russell Place, 129.16 28 ⇑PKiKP PKiKP 11 54 30.7 +0.1
baz=129
H16A Russell Place, 129.16 28 ⇑PKiKP PKiKP 11 54 30.7 +0.1
baz=129
C23A Lambert 129.20 21 ⇓PKiKP PKiKP 11 54 30.6 +0.3
baz=129
C23A Lambert 129.20 21 ⇓PKiKP PKiKP 11 54 30.6 +0.3
baz=129
D22A Cohagen 129.38 22 ⇑PKiKP PKiKP 11 54 31.0 +0.3
baz=129
D22A Cohagen 129.38 22 ⇑PKiKP PKiKP 11 54 31.0 +0.3
baz=129
E21A Keefer Ranch, 129.53 24 ⇑PKiKP PKiKP 11 54 31.4 +0.3
baz=129
E21A Keefer Ranch, 129.53 24 ⇑PKiKP PKiKP 11 54 31.4 +0.3
baz=129
NVAR Mina Array Bea 129.58 39 PKP PKPdf 11 54 31.4 +0.5
NVAR SKPbc SKPbc 11 57 51.7 -0.4
NVAR Mina Array Bea 129.58 39 PKP PKPdf 11 54 31.4 +0.5
comp=Z,1.0nm,0.8s,baz=256,slow=2.0,SNR=7.8
NVAR SKPbc SKPbc 11 57 51.7 -0.4
comp=Z,0.8nm,0.9s,baz=285,slow=4.4,SNR=5.7
I16A Newdale 129.67 29 ⇓PKiKP PKiKP 11 54 31.8 +0.2
baz=129
I16A Newdale 129.67 29 ⇓PKiKP PKiKP 11 54 31.8 +0.2
baz=129
NV11 Mina Array Sit 129.67 38 ePKPdf PKPdf 11 54 30.8 -0.2
D23A Lindsay 129.72 22 ⇑PKiKP PKiKP 11 54 31.9 +0.4
baz=130
D23A Lindsay 129.72 22 ⇑PKiKP PKiKP 11 54 31.9 +0.4
baz=130
H18A Shoshone NF, C 129.91 27 ⇓PKiKP PKiKP 11 54 32.1 0.0
baz=130
H18A Shoshone NF, C 129.91 27 ⇓PKiKP PKiKP 11 54 32.1 0.0
baz=130
B27A Peters Farms, 129.99 18 ⇑PKiKP PKiKP 11 54 32.1 +0.2
baz=130
B27A Peters Farms, 129.99 18 ⇑PKiKP PKiKP 11 54 32.1 +0.2
baz=130
G20A Bridger 130.12 25 ⇑PKiKP PKiKP 11 54 32.8 +0.4
baz=130
G20A Bridger 130.12 25 ⇑PKiKP PKiKP 11 54 32.8 +0.4
baz=130
H19A Powell 130.22 26 ⇓PKiKP PKiKP 11 54 33.2 +0.5
baz=130
H19A Powell 130.22 26 ⇓PKiKP PKiKP 11 54 33.2 +0.5
baz=130
REDW Red Top Meadow 130.36 29 ePKPdf PKPdf 11 54 32.9 +0.6
I19A Meeteetse 130.71 27 ⇑PKiKP PKiKP 11 54 34.4 +0.6
baz=130
I19A Meeteetse 130.71 27 ⇑PKiKP PKiKP 11 54 34.4 +0.6
baz=130
H20A Greybull 130.80 26 ⇑PKiKP PKiKP 11 54 34.0 +0.2
baz=130
H20A Greybull 130.80 26 ⇑PKiKP PKiKP 11 54 34.0 +0.2
baz=130
MDND Maddock 130.99 17 ⇓PKiKP PKiKP 11 54 34.1 +0.1
baz=131
MDND Maddock 130.99 17 ⇓PKiKP PKiKP 11 54 34.1 +0.1
baz=131
GRAC Grapevine Rang 131.04 39 ⇑PKiKP PKiKP 11 54 34.3 -0.1
baz=131
GRAC Grapevine Rang 131.04 39 ⇑PKiKP PKiKP 11 54 34.3 -0.1
baz=131
I20A Worland 131.16 26 ⇑PKiKP PKiKP 11 54 34.7 +0.2
baz=131
I20A Worland 131.16 26 ⇑PKiKP PKiKP 11 54 34.7 +0.2
baz=131
R11A Troy Canyon, C 131.30 37 ePKPdf PKPdf 11 54 35.2 +1.1
R11A Troy Canyon, C 131.30 37 ⇓PKiKP PKiKP 11 54 35.8 +0.8
baz=131
R11A Troy Canyon, C 131.30 37 ⇓PKiKP PKiKP 11 54 35.8 +0.8
baz=131
PDAR Pinedale Array 131.43 28 PKP PKPdf 11 54 34.3 0.0
PDAR SKPbc SKPbc 11 57 57.1 -1.6
PDAR Pinedale Array 131.43 28 PKP PKPdf 11 54 34.3 0.0
comp=Z,0.6nm,0.7s,baz=270,slow=1.5,SNR=5.8
PDAR SKPbc SKPbc 11 57 57.1 -1.6
comp=Z,2.5nm,1.0s,baz=329,slow=1.7,SNR=13
MPMC Manual Prospec 131.53 41 ⇓PKiKP PKiKP 11 54 35.8 +0.2
baz=131
MPMC Manual Prospec 131.53 41 ⇓PKiKP PKiKP 11 54 35.8 +0.2
baz=131
I21A Big Trails, Te 131.64 26 ⇓PKiKP PKiKP 11 54 35.4 -0.2
baz=131
I21A Big Trails, Te 131.64 26 ⇓PKiKP PKiKP 11 54 35.4 -0.2
baz=131
DUG Dugway 131.64 33 ePKIKP PKPdf 11 54 35.1 +0.4
DUG Dugway 131.64 33 ePKPdf PKPdf 11 54 35.1 +0.4
DUG Dugway 131.64 33 ⇑PKiKP PKiKP 11 54 36.2 +0.5
baz=131
DUG Dugway 131.64 33 ⇑PKiKP PKiKP 11 54 36.2 +0.5
baz=131
FURC Furnace Creek, 131.69 40 ⇓PKiKP PKiKP 11 54 36.1 +0.5
baz=132
FURC Furnace Creek, 131.69 40 ⇓PKiKP PKiKP 11 54 36.1 +0.5
baz=132
K19A Absolon Red Bu 131.72 28 ⇑PKiKP PKPdf 11 54 35.2 +0.4
baz=132
K19A Absolon Red Bu 131.72 28 ⇑PKiKP PKPdf 11 54 35.2 +0.4
baz=132
LRMC Laurel Mountai 131.74 41 ⇓PKiKP PKiKP 11 54 36.2 +0.2
baz=132
LRMC Laurel Mountai 131.74 41 ⇓PKiKP PKiKP 11 54 36.2 +0.2
baz=132
M17A Scullys Gap (B 131.85 30 ⇓PKiKP PKiKP 11 54 36.3 +0.1
baz=132
M17A Scullys Gap (B 131.85 30 ⇓PKiKP PKiKP 11 54 36.3 +0.1
baz=132
EDW2 Edwards Air Fo 131.89 42 ⇓PKiKP PKiKP 11 54 36.5 +0.3
baz=132
EDW2 Edwards Air Fo 131.89 42 ⇓PKiKP PKiKP 11 54 36.5 +0.3
baz=132
I22A 9 Mile Ranch, 131.92 25 ⇓PKiKP PKiKP 11 54 36.1 0.0
baz=132
I22A 9 Mile Ranch, 131.92 25 ⇓PKiKP PKiKP 11 54 36.1 0.0
baz=132
H24A Dirks Ranch, A 132.01 23 ⇑PKiKP PKPdf 11 54 35.2 +0.1
baz=132
H24A Dirks Ranch, A 132.01 23 ⇑PKiKP PKPdf 11 54 35.2 +0.1
baz=132
G26A Maurine 132.27 21 ⇑PKiKP PKiKP 11 54 36.8 +0.1
baz=132
G26A Maurine 132.27 21 ⇑PKiKP PKiKP 11 54 36.8 +0.1
baz=132
I23A Meade Ranch, G 132.29 24 ⇑PKiKP PKiKP 11 54 36.6 -0.3
baz=132
I23A Meade Ranch, G 132.29 24 ⇑PKiKP PKiKP 11 54 36.6 -0.3
baz=132
J22A Midwest 132.31 25 ⇑PKiKP PKPdf 11 54 36.4 +0.5
baz=132
J22A Midwest 132.31 25 ⇑PKiKP PKPdf 11 54 36.4 +0.5
baz=132
G27A Dupree 132.43 20 ⇑PKiKP PKPdf 11 54 36.3 +0.4
baz=132
G27A Dupree 132.43 20 ⇑PKiKP PKPdf 11 54 36.3 +0.4
baz=132
K21A Alcova 132.60 27 ⇑PKiKP PKiKP 11 54 37.9 +0.3
baz=132
K21A Alcova 132.60 27 ⇑PKiKP PKiKP 11 54 37.9 +0.3
baz=132
J23A Dilts Ranch, B 132.72 25 ⇑PKiKP PKiKP 11 54 37.9 +0.1
baz=132
J23A Dilts Ranch, B 132.72 25 ⇑PKiKP PKiKP 11 54 37.9 +0.1
baz=132
K22A Casper 132.91 26 ⇓PKiKP PKPdf 11 54 37.5 +0.4
baz=133
K22A Casper 132.91 26 ⇓PKiKP PKPdf 11 54 37.5 +0.4
baz=133
M20A Sweetwater, Wa 133.06 28 ⇑PKiKP PKiKP 11 54 38.3 -0.3
baz=133
M20A Sweetwater, Wa 133.06 28 ⇑PKiKP PKiKP 11 54 38.3 -0.3
baz=133
L21A Rawlins 133.07 27 ⇑PKiKP PKiKP 11 54 38.8 +0.2
baz=133
L21A Rawlins 133.07 27 ⇑PKiKP PKiKP 11 54 38.8 +0.2
baz=133
MSU Marysvale 133.17 34 ePKIKP PKPdf 11 54 37.1 -0.6
MSU Marysvale 133.17 34 ePKPdf PKPdf 11 54 37.1 -0.6
M21A Separation Pea 133.36 28 ⇑PKiKP PKiKP 11 54 39.4 +0.1
baz=133
M21A Separation Pea 133.36 28 ⇑PKiKP PKiKP 11 54 39.4 +0.1
baz=133
GMRC Granite Mounta 133.49 41 ⇑PKiKP PKiKP 11 54 40.2 +0.7
baz=133
GMRC Granite Mounta 133.49 41 ⇑PKiKP PKiKP 11 54 40.2 +0.7
baz=133
N20A Spence Gulch, 133.53 29 ⇓PKiKP PKiKP 11 54 39.9 +0.4
baz=133
N20A Spence Gulch, 133.53 29 ⇓PKiKP PKiKP 11 54 39.9 +0.4
baz=133
SRU San Rafael 133.66 32 ePKIKP PKPdf 11 54 39.4 +0.8
SRU San Rafael 133.66 32 ePKPdf PKPdf 11 54 39.4 +0.8
L23A Garrett 133.70 26 ⇓PKiKP PKiKP 11 54 39.5 -0.4
baz=133
L23A Garrett 133.70 26 ⇓PKiKP PKiKP 11 54 39.5 -0.4
baz=133
BELC Belle Mtn. Jos 133.74 42 ⇓PKiKP PKiKP 11 54 41.2 +1.1
baz=134
BELC Belle Mtn. Jos 133.74 42 ⇓PKiKP PKiKP 11 54 41.2 +1.1
baz=134
N21A Black Mountain 133.94 29 ⇓PKiKP PKiKP 11 54 40.2 -0.2
baz=134
N21A Black Mountain 133.94 29 ⇓PKiKP PKiKP 11 54 40.2 -0.2
baz=134
O20A White River Ci 134.07 30 ⇓PKiKP PKiKP 11 54 40.4 -0.2
baz=134
O20A White River Ci 134.07 30 ⇓PKiKP PKiKP 11 54 40.4 -0.2
baz=134
P19A Cripple Cowboy 134.08 31 ⇑PKiKP PKiKP 11 54 40.2 -0.5
baz=134
P19A Cripple Cowboy 134.08 31 ⇑PKiKP PKiKP 11 54 40.2 -0.5
baz=134
MONP Monument Peak 134.10 43 ⇓PKiKP PKiKP 11 54 40.9 -0.1
baz=134
MONP Monument Peak 134.10 43 ⇓PKiKP PKiKP 11 54 40.9 -0.1
baz=134
IRM Iron Mountain 134.20 41 ⇓PKiKP PKiKP 11 54 41.3 +0.4
baz=134
IRM Iron Mountain 134.20 41 ⇓PKiKP PKiKP 11 54 41.3 +0.4
baz=134
BC3 Big Chuckawall 134.31 42 ⇑PKiKP PKiKP 11 54 42.0 +0.8
baz=134
BC3 Big Chuckawall 134.31 42 ⇑PKiKP PKiKP 11 54 42.0 +0.8
baz=134
J28A Allard Ranch, 134.38 21 ⇑PKiKP PKiKP 11 54 41.7 +0.7
baz=134
J28A Allard Ranch, 134.38 21 ⇑PKiKP PKiKP 11 54 41.7 +0.7
baz=134
N22A Wattenberg Ran 134.41 28 ⇑PKiKP PKiKP 11 54 41.6 +0.2
baz=134
N22A Wattenberg Ran 134.41 28 ⇑PKiKP PKiKP 11 54 41.6 +0.2
baz=134
U15A North Rim 134.53 36 ⇓PKiKP PKiKP 11 54 41.9 +0.1
baz=134
U15A North Rim 134.53 36 ⇓PKiKP PKiKP 11 54 41.9 +0.1
baz=134
N23A Red Feather La 134.57 27 ⇑PKiKP PKiKP 11 54 41.9 +0.1
baz=134
N23A Red Feather La 134.57 27 ⇑PKiKP PKiKP 11 54 41.9 +0.1
baz=134
ECSD EROS Data Cent 135.60 17 ePKPdf PKPdf 11 54 43.0 +1.2
MVCO Mesa Verde 136.13 33 ⇓PKiKP PKiKP 11 54 44.5 -0.4
baz=136
MVCO Mesa Verde 136.13 33 ⇓PKiKP PKiKP 11 54 44.5 -0.4
baz=136
S21A Coal Bank Pass 136.17 32 ⇓PKiKP PKiKP 11 54 45.1 0.0
baz=136
S21A Coal Bank Pass 136.17 32 ⇓PKiKP PKiKP 11 54 45.1 0.0
baz=136
S22A 4UR Ranch, Cre 136.61 31 ⇓PKiKP PKiKP 11 54 45.7 -0.4
baz=136
S22A 4UR Ranch, Cre 136.61 31 ⇓PKiKP PKiKP 11 54 45.7 -0.4
baz=136
P26A Davis Ranch, A 136.81 26 ⇑PKiKP PKiKP 11 54 46.0 -0.2
baz=137
P26A Davis Ranch, A 136.81 26 ⇑PKiKP PKiKP 11 54 46.0 -0.2
baz=137
W18A Petrified Fore 136.94 36 ⇓PKiKP PKiKP 11 54 46.6 -0.1
baz=137
W18A Petrified Fore 136.94 36 ⇓PKiKP PKiKP 11 54 46.6 -0.1
baz=137
U21A Nageezi 137.16 33 ⇓PKiKP PKiKP 11 54 47.2 +0.1
baz=137
U21A Nageezi 137.16 33 ⇓PKiKP PKiKP 11 54 47.2 +0.1
baz=137
W20A Ramah 137.65 35 ⇓PKiKP PKiKP 11 54 48.4 +0.3
baz=137
W20A Ramah 137.65 35 ⇓PKiKP PKiKP 11 54 48.4 +0.3
baz=137
S25A Robets Cordova 137.86 29 ⇑PKiKP PKiKP 11 54 48.2 -0.2
baz=138
S25A Robets Cordova 137.86 29 ⇑PKiKP PKiKP 11 54 48.2 -0.2
baz=138
U23A El Rito 138.02 31 ⇓PKiKP PKiKP 11 54 49.3 +0.4
baz=138
U23A El Rito 138.02 31 ⇓PKiKP PKiKP 11 54 49.3 +0.4
baz=138
V23A Ortiz Mt. (NFS 138.46 32 ⇑PKiKP PKiKP 11 54 49.8 +0.1
baz=138
V23A Ortiz Mt. (NFS 138.46 32 ⇑PKiKP PKiKP 11 54 49.8 +0.1
baz=138
R28A Tribune 138.49 25 ⇓PKiKP PKiKP 11 54 49.6 0.0
baz=138
R28A Tribune 138.49 25 ⇓PKiKP PKiKP 11 54 49.6 0.0
baz=138
X21A Alamocita Cree 138.54 35 ⇑PKiKP PKiKP 11 54 50.0 0.0
baz=138
X21A Alamocita Cree 138.54 35 ⇑PKiKP PKiKP 11 54 50.0 0.0
baz=138
Y20A Horse Springs, 138.59 36 ⇑PKiKP PKiKP 11 54 50.1 0.0
baz=138
Y20A Horse Springs, 138.59 36 ⇑PKiKP PKiKP 11 54 50.1 0.0
baz=138
T26A Comanche Natio 138.65 28 ⇓PKiKP PKiKP 11 54 49.4 -0.7
baz=138
T26A Comanche Natio 138.65 28 ⇓PKiKP PKiKP 11 54 49.4 -0.7
baz=138
U25A Circle Dot Ran 138.87 30 ⇑PKiKP PKiKP 11 54 50.6 0.0
baz=139
U25A Circle Dot Ran 138.87 30 ⇑PKiKP PKiKP 11 54 50.6 0.0
baz=139
V24A Rampart Ranch, 138.96 31 ⇑PKiKP PKiKP 11 54 50.7 -0.1
baz=139
V24A Rampart Ranch, 138.96 31 ⇑PKiKP PKiKP 11 54 50.7 -0.1
baz=139
V25A Rancho No Teng 139.21 30 ⇑PKiKP PKiKP 11 54 51.7 +0.5
baz=139
V25A Rancho No Teng 139.21 30 ⇑PKiKP PKiKP 11 54 51.7 +0.5
baz=139
W24A Lazy 6 Ranch, 139.28 32 ⇑PKiKP PKiKP 11 54 51.6 +0.2
baz=139
W24A Lazy 6 Ranch, 139.28 32 ⇑PKiKP PKiKP 11 54 51.6 +0.2
baz=139
Y22A Socorro 139.38 35 ⇑PKiKP PKiKP 11 54 51.8 +0.2
baz=139
Y22A Socorro 139.38 35 ⇑PKiKP PKiKP 11 54 51.8 +0.2
baz=139
120A U Bar Ranch, L 139.38 38 ⇑PKiKP PKiKP 11 54 52.1 +0.4
baz=139
120A U Bar Ranch, L 139.38 38 ⇑PKiKP PKiKP 11 54 52.1 +0.4
baz=139
BNM Barren Site 139.41 34 ePKPdf PKPdf 11 54 50.2 +0.7
Z21A St. Cloud Mine 139.43 36 ⇓PKiKP PKiKP 11 54 52.1 +0.4
baz=139
Z21A St. Cloud Mine 139.43 36 ⇓PKiKP PKiKP 11 54 52.1 +0.4
baz=139
W25A X Bar L Ranch, 139.77 31 ⇑PKiKP PKiKP 11 54 51.9 -0.4
baz=140
W25A X Bar L Ranch, 139.77 31 ⇑PKiKP PKiKP 11 54 51.9 -0.4
baz=140
Z22A Elephant Butte 139.88 35 ⇓PKiKP PKiKP 11 54 53.2 +0.6
baz=140
Z22A Elephant Butte 139.88 35 ⇓PKiKP PKiKP 11 54 53.2 +0.6
baz=140
121A Cookes Peak, D 139.91 37 ⇓PKiKP PKiKP 11 54 53.3 +0.5
baz=140
121A Cookes Peak, D 139.91 37 ⇓PKiKP PKiKP 11 54 53.3 +0.5
baz=140
W27A Bowe Ranch, En 140.59 30 ⇑PKiKP PKiKP 11 54 53.4 -0.6
baz=140
W27A Bowe Ranch, En 140.59 30 ⇑PKiKP PKiKP 11 54 53.4 -0.6
baz=140
X26A CR and CF Fran 140.62 31 ⇓PKiKP PKiKP 11 54 53.7 -0.4
baz=140
X26A CR and CF Fran 140.62 31 ⇓PKiKP PKiKP 11 54 53.7 -0.4
baz=140
Y25A Mesa, Roswell 140.64 32 ⇓PKiKP PKiKP 11 54 53.8 -0.4
baz=140
Y25A Mesa, Roswell 140.64 32 ⇓PKiKP PKiKP 11 54 53.8 -0.4
baz=140
124A Stringfield Ra 141.14 34 ⇑PKiKP PKiKP 11 54 54.7 -0.6
baz=141
124A Stringfield Ra 141.14 34 ⇑PKiKP PKiKP 11 54 54.7 -0.6
baz=141
MSTX Muleshoe 141.61 30 ePKPdf PKPdf 11 54 53.8 +0.6
Z27A Tatum 141.89 31 ⇓PKPdf PKPdf 11 54 51.7 -2.1
baz=142
Z27A Tatum 141.89 31 ⇓PKPdf PKPdf 11 54 51.7 -2.1
baz=142
MNTX Cornudas Mount 141.92 35 ePKPdf PKPdf 11 54 53.5 -0.3
325A Bean Ranch, Si 142.40 35 ⇑PKPdf PKPdf 11 54 52.4 -2.5
baz=142
325A Bean Ranch, Si 142.40 35 ⇑PKPdf PKPdf 11 54 52.4 -2.5
baz=142
X31A McDonald Ranch 142.40 27 ⇓PKPdf PKPdf 11 54 52.6 -2.0
baz=142
X31A McDonald Ranch 142.40 27 ⇓PKPdf PKPdf 11 54 52.6 -2.0
baz=142
425A Indio Mountain 142.82 36 ⇓PKPdf PKPdf 11 54 53.2 -2.3
baz=143
425A Indio Mountain 142.82 36 ⇓PKPdf PKPdf 11 54 53.2 -2.3
baz=143
326A Caldwell Ranch 143.01 34 ⇑PKPdf PKPdf 11 54 53.5 -2.3
baz=143
326A Caldwell Ranch 143.01 34 ⇑PKPdf PKPdf 11 54 53.5 -2.3
baz=143
Z31A Sharp Cattle R 143.42 28 ⇑PKPdf PKPbc 11 54 53.8 +0.3
baz=143
Z31A Sharp Cattle R 143.42 28 ⇑PKPdf PKPbc 11 54 53.8 +0.3
baz=143
426A McDonald Obser 143.46 35 ⇓PKPdf PKPbc 11 54 54.4 +0.5
baz=143
426A McDonald Obser 143.46 35 ⇓PKPdf PKPbc 11 54 54.4 +0.5
baz=143
BDFB Brasilia 143.58 241 PKP PKPdf 11 54 56.6 -0.6
BDFB Brasilia 143.58 241 PKP PKPdf 11 54 56.6 -0.6
comp=Z,2.9nm,0.7s,baz=6.4,slow=2.7,SNR=4.3
229A Bryant Ranch, 143.68 31 ⇑PKPdf PKPbc 11 54 55.2 +0.9
baz=143
229A Bryant Ranch, 143.68 31 ⇑PKPdf PKPbc 11 54 55.2 +0.9
baz=143
427A Hayter Ranch, 143.68 34 ⇓PKPdf PKPbc 11 54 55.0 +0.6
baz=144
427A Hayter Ranch, 143.68 34 ⇓PKPdf PKPbc 11 54 55.0 +0.6
baz=144
Z32A Haskell 143.74 27 ⇓PKPdf PKPbc 11 54 54.8 +0.4
baz=144
Z32A Haskell 143.74 27 ⇓PKPdf PKPbc 11 54 54.8 +0.4
baz=144
131A Roby 143.83 29 ⇑PKPdf PKPbc 11 54 55.0 +0.3
baz=144
131A Roby 143.83 29 ⇑PKPdf PKPbc 11 54 55.0 +0.3
baz=144
526A Mary Lane Ranc 143.88 36 ⇓PKPdf PKPbc 11 54 54.9 -0.2
baz=144
526A Mary Lane Ranc 143.88 36 ⇓PKPdf PKPbc 11 54 54.9 -0.2
baz=144
329A Wagon Wheel Ra 143.97 32 ⇓PKPdf PKPab 11 54 54.8 +0.1
baz=144
329A Wagon Wheel Ra 143.97 32 ⇓PKPdf PKPab 11 54 54.8 +0.1
baz=144
527A Woodward Ranch 144.09 35 ⇑PKPdf PKPbc 11 54 55.7 0.0
baz=144
527A Woodward Ranch 144.09 35 ⇑PKPdf PKPbc 11 54 55.7 0.0
baz=144
230A Sterling City 144.10 31 ⇑PKPdf PKPbc 11 54 55.7 +0.1
baz=144
230A Sterling City 144.10 31 ⇑PKPdf PKPbc 11 54 55.7 +0.1
baz=144
428A Kincaid Ranch, 144.18 34 ⇑PKPdf PKPab 11 54 55.6 +0.1
baz=144
428A Kincaid Ranch, 144.18 34 ⇑PKPdf PKPab 11 54 55.6 +0.1
baz=144
626A Big Bend Ranch 144.22 37 ⇑PKPdf PKPbc 11 54 56.0 -0.1
baz=144
626A Big Bend Ranch 144.22 37 ⇑PKPdf PKPbc 11 54 56.0 -0.1
baz=144
CPUP Villa Florida 144.37 217 PKP PKPbc 11 54 56.9 +0.4
CPUP Villa Florida 144.37 217 PKP PKPbc 11 54 56.9 +0.4
comp=Z,45nm,0.9s,baz=119,slow=3.4
330A Mertzon 144.46 31 ⇓PKPdf PKPbc 11 54 56.6 -0.2
baz=144
330A Mertzon 144.46 31 ⇓PKPdf PKPbc 11 54 56.6 -0.2
baz=144
231A Bronte 144.47 30 ⇓PKPdf PKPbc 11 54 56.6 -0.2
baz=144
231A Bronte 144.47 30 ⇓PKPdf PKPbc 11 54 56.6 -0.2
baz=144
528A Cox Ranch, San 144.55 34 ⇓PKPdf PKPbc 11 54 57.0 -0.2
baz=144
528A Cox Ranch, San 144.55 34 ⇓PKPdf PKPbc 11 54 57.0 -0.2
baz=144
TXAR Lajitas Array 144.66 36 PKP PKPab 11 54 57.3 0.0
TXAR Lajitas Array 144.66 36 PKP PKPab 11 54 57.3 0.0
comp=Z,2.9nm,0.5s,baz=259,slow=1.3,SNR=48
429A Davenport Ranc 144.69 33 ⇑PKPdf PKPbc 11 54 57.5 -0.1
baz=144
429A Davenport Ranc 144.69 33 ⇑PKPdf PKPbc 11 54 57.5 -0.1
baz=144
627A Terlingua Ranc 144.73 36 ⇓PKPdf PKPbc 11 54 57.8 0.0
baz=144
627A Terlingua Ranc 144.73 36 ⇓PKPdf PKPbc 11 54 57.8 0.0
baz=144
232A Coleman 144.83 29 ⇓PKPdf PKPab 11 54 56.6 -1.3
baz=145
232A Coleman 144.83 29 ⇓PKPdf PKPab 11 54 56.6 -1.3
baz=145
529A Stev Forest Ra 144.90 34 ⇑PKPdf PKPab 11 54 57.3 -0.8
baz=145

529A	Stev Forest Ra	144.90	34	⇑PKPdf	PKPab	11 54 57.3	-0.8
	baz=145						
WVT	Waverly	144.90	10	ePKIKP	PKPab	11 54 56.7	-1.2
WVT	Waverly	144.90	10	ePKPdf	PKPab	11 54 56.7	-1.2
430A	Baggett Ranch,	144.91	32	⇓PKPdf	PKPab	11 54 58.1	-0.1
	baz=145						
430A	Baggett Ranch,	144.91	32	⇓PKPdf	PKPab	11 54 58.1	-0.1
	baz=145						
331A	San Angelo	144.92	30	⇓PKPdf	PKPab	11 54 57.3	-0.8
	baz=145						
331A	San Angelo	144.92	30	⇓PKPdf	PKPab	11 54 57.3	-0.8
	baz=145						
MIAR	Mount Ida	144.96	19	ePKIKP	PKPab	11 54 57.2	-0.9
MIAR	Mount Ida	144.96	19	ePKPdf	PKPab	11 54 57.2	-0.9
628A	Black Gap, Mar	145.00	35	⇓PKPdf	PKPab	11 54 57.9	-0.6
	baz=145						
628A	Black Gap, Mar	145.00	35	⇓PKPdf	PKPab	11 54 57.9	-0.6
	baz=145						
TZTN	Tazewell	145.03	4	ePKPdf	PKPab	11 54 57.2	-1.1
332A	Millersview	145.20	29	⇓PKPdf	PKPbc	11 54 58.5	-0.6
	baz=145						
332A	Millersview	145.20	29	⇓PKPdf	PKPbc	11 54 58.5	-0.6
	baz=145						
431A	Sonora	145.32	31	⇓PKPdf	PKPbc	11 54 58.7	-0.8
	baz=145						
431A	Sonora	145.32	31	⇓PKPdf	PKPbc	11 54 58.7	-0.8
	baz=145						
530A	J-C Ranch, Com	145.36	33	⇑PKPdf	PKPbc	11 54 59.6	-0.1
	baz=145						
530A	J-C Ranch, Com	145.36	33	⇑PKPdf	PKPbc	11 54 59.6	-0.1
	baz=145						
432A	Menard	145.59	30	⇓PKPdf	PKPdf	11 55 00.0	-0.2
	baz=145						
432A	Menard	145.59	30	⇓PKPdf	PKPdf	11 55 00.0	-0.2
	baz=145						
WHTX	Lake Whitney	145.75	26	⇓PKPdf	PKPdf	11 55 00.3	-0.2
	baz=146						
WHTX	Lake Whitney	145.75	26	⇓PKPdf	PKPdf	11 55 00.3	-0.2
	baz=146						
531A	Rocksprings	145.77	32	⇑PKPdf	PKPdf	11 55 00.6	0.0
	baz=146						
531A	Rocksprings	145.77	32	⇑PKPdf	PKPdf	11 55 00.6	0.0
	baz=146						
TKL	Tuckaleechee C	145.89	5	ePKPbc	PKPdf	11 54 59.5	-1.1
JCT	Junction City	145.90	30	ePKP2	PKPbc	11 55 01.2	-0.2
JCT	Junction City	145.90	30	ePKPbc	PKPbc	11 55 01.2	-0.2
JCT	Junction City	145.90	30	⇑PKPdf	PKPdf	11 55 00.9	+0.1
	baz=146						
JCT	Junction City	145.90	30	⇑PKPdf	PKPdf	11 55 00.9	+0.1
	baz=146						
CPCT	Cooper Cave	146.03	6	ePKPdf	PKPdf	11 55 00.0	-0.8
532A	Rocksprings	146.13	31	⇑PKPdf	PKPdf	11 55 01.6	+0.4
	baz=146						
532A	Rocksprings	146.13	31	⇑PKPdf	PKPdf	11 55 01.6	+0.4
	baz=146						
OXF	Oxford	146.15	13	ePKP2	PKPdf	11 55 00.7	-0.3
OXF	Oxford	146.15	13	ePKPdf	PKPdf	11 55 00.7	-0.3
631A	Perdido Creek	146.35	33	⇑PKPdf	PKPdf	11 55 01.9	+0.4
	baz=146						
631A	Perdido Creek	146.35	33	⇑PKPdf	PKPdf	11 55 01.9	+0.4
	baz=146						
KMSC	Kings Mountain	146.53	1	ePKPbc	PKPbc	11 55 03.0	-0.1
KMSC	Kings Mountain	146.53	1	⇓PKPdf	PKPbc	11 55 02.4	-0.7
	baz=146						
KMSC	Kings Mountain	146.53	1	⇓PKPdf	PKPbc	11 55 02.4	-0.7
	baz=146						
632A	Uvalde	146.69	31	⇓PKPdf	PKPbc	11 55 03.2	-0.5
	baz=146						
632A	Uvalde	146.69	31	⇓PKPdf	PKPbc	11 55 03.2	-0.5
	baz=146						
732A	Laxson Ranch,	147.21	33	⇑PKPdf	PKPbc	11 55 05.0	-0.1
	baz=147						
732A	Laxson Ranch,	147.21	33	⇑PKPdf	PKPbc	11 55 05.0	-0.1
	baz=147						
LRAL	Lakeview Retre	148.06	10	ePKPbc	PKPbc	11 55 07.2	-0.2
HKT	Hockley	148.21	26	ePKP2	PKPbc	11 55 08.2	+0.4
HKT	Hockley	148.21	26	ePKPbc	PKPbc	11 55 08.2	+0.4
LPAZ	La Paz	158.46 214		PKP	PKPdf	11 55 20.5	0.0
LPAZ				PKPab	PKPab	11 55 55.6	+0.7
LPAZ	La Paz	158.46 214		PKP	PKPdf	11 55 20.5	0.0
	comp=Z,1.7nm,0.8s,baz=56,slow=1.7,SNR=6.2						
LPAZ				PKPab	PKPab	11 55 55.6	+0.7
	comp=Z,4.3nm,1.1s,baz=133,slow=1.8,SNR=5.7						
SAML	Samuel	159.79 239		ePKPdf	PKPdf	11 55 21.3	0.0
SAML				ePKPab	PKPab	11 56 00.6	+0.4

*CSEM **19** 11:43:56.0±0.2, 35°.73N×27°.58E, h40km, MD3.1, Error ellipse: s-maj=5.5km s-min=3.7km az=89.0*
*ATH **19** 11:43:56.7, 35°.90N×27°.34E, h37km±1km, MD3.1/7*
*ISK **19** 11:43:56.3, 35°.89N×27°.29E, h21km, MD3.1*
*DDA **19** 11:43:59.5, 36°.16N×27°.85E, h8km, ML3.1*
*HLW **19** 11:44:01.4, 35°.47N×27°.59E, h33km±3km, Md3.8, Ml0.0*

ISC 19 11:43:55.9±1.0, 35°.83N±0°.03×27°.44E±0°.03, h49km±12km, n60, σ1§93/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.36	219	ePB	Pn	11 44 06.3	+0.7
KARP				eSB	Sn	11 44 13.0	+0.6
KARP	Karpathos	0.36	219	ePb	Pn	11 44 06.3	+0.7
KARP				eSb	Sn	11 44 13.0	+0.6
ARG	Arkhangelos	0.68	55	ePN	Pn	11 44 11.1	+1.8
ARG	Arkhangelos	0.68	55	ePn	Pn	11 44 11.1	+1.8
DAT	Datca	0.90	7	ePG	Pn	11 44 13.7	+1.3
DAT				eSG	Sn	11 44 26.3	+1.8
DAT	Datca	0.90	7	ePg	Pn	11 44 13.7	+1.3
DAT				eSg	Sn	11 44 26.3	+1.8
ZKR	Zakros	1.23	235	ePN	Pn	11 44 18.7	+2.0
ZKR				eSN	Sn	11 44 35.3	+3.1
ZKR	Zakros	1.23	235	ePn	Pn	11 44 18.7	+2.0
ZKR				eSn	Sn	11 44 35.3	+3.1
BDRM	Kayabasi	1.23	0	i P	Pn	11 44 18.0	+1.2
BDRM				i S	Sn	11 44 33.0	+0.7
BDRM	Kayabasi	1.23	0	i P	Pn	11 44 18.0	+1.2
BDRM				i S	Sn	11 44 33.0	+0.7
BODT	Bodrum	1.23	355	ePN	Pn	11 44 18.1	+1.3
BODT				eSN	Sn	11 44 33.9	+1.6
BODT	Bodrum	1.23	355	ePn	Pn	11 44 18.1	+1.3
BODT				eSn	Sn	11 44 33.9	+1.6
DALY	Dalyan (Mu¨la	1.39	45	ePN	Pn	11 44 22.2	+3.4
DALY				eSN	Sn	11 44 40.5	+4.5
DALY	Dalyan (Mu¨la	1.39	45	ePn	Pn	11 44 22.3	+3.4
DALY				eSn	Sn	11 44 40.5	+4.5
TURN	Turunc	1.40	42	eP	Pn	11 44 17.0	-2.0
TURN				eS	Sn	11 44 32.7	-3.6
TURN	Turunc	1.40	42	eP	Pn	11 44 17.0	-2.0
TURN				eS	Sn	11 44 32.7	-3.6
YER	Yerkesik	1.47	27	ePN	Pn	11 44 22.2	+2.3
YER				eSN	Sn	11 44 41.2	+3.1
YER	Yerkesik	1.47	27	ePn	Pn	11 44 22.3	+2.3
YER				eSn	Sn	11 44 41.2	+3.1
MLSB	Milas	1.49	10	ePN	Pn	11 44 21.1	+0.9
MLSB	Milas	1.49	10	ePn	Pn	11 44 21.1	+0.9
FETY	Fethiye	1.55	58	ePN	Pn	11 44 24.9	+3.7
FETY	Fethiye	1.55	58	ePn	Pn	11 44 24.9	+3.7
NPS	Neapolis	1.59	250	ePN	Pn	11 44 22.9	+1.2
NPS	Neapolis	1.59	250	ePn	Pn	11 44 22.9	+1.2
SANT	Santorini	1.69	289	ePN	Pn	11 44 23.8	+0.8
SANT	Santorini	1.69	289	ePn	Pn	11 44 23.8	+0.8
LAST	Lasithi	1.73	248	ePN	Pn	11 44 25.3	+1.6
LAST	Lasithi	1.73	248	ePn	Pn	11 44 25.3	+1.6
AKAS	Kas	1.80	76	eP	Pn	11 44 26.5	+1.9
AKAS	Kas	1.80	76	eP	Pn	11 44 26.5	+1.9
AYDN	Tasoluk	1.86	11	eP	Pn	11 44 27.3	+1.9
AYDN				eS	Sn	11 44 48.4	+0.7
AYDN	Tasoluk	1.86	11	eP	Pn	11 44 27.3	+1.9
AYDN				eS	Sn	11 44 48.4	+0.7
GCAM	G?zelcaml?	1.87	355	eP	Pn	11 44 27.5	+2.0
GCAM				eS	Sn	11 44 48.6	+0.7
GCAM	G?zelcaml?	1.87	355	eP	Pn	11 44 27.5	+2.0
GCAM				eS	Sn	11 44 48.6	+0.7
SMG	Samos	1.94	346	ePN	Pn	11 44 28.0	+1.6
SMG	Samos	1.94	346	ePn	Pn	11 44 28.0	+1.6
APE	Apeiranthos	1.97	309	ePN	Pn	11 44 27.7	+0.8
APE				eSN	Sn	11 44 50.4	-0.1
APE	Apeiranthos	1.97	309	ePN	Pn	11 44 27.9	+1.0
APE	Apeiranthos	1.97	309	ePn	Pn	11 44 27.9	+1.0
APE				eSn	Sn	11 44 50.4	-0.1
GOLH	Golhisar	2.21	50	eP	Pn	11 44 33.0	+2.8
GOLH	Golhisar	2.21	50	eP	Pn	11 44 33.0	+2.8
DNZL	Cakiroluk	2.26	34	eP	Pn	11 44 34.3	+3.3
DNZL	Cakiroluk	2.26	34	eP	Pn	11 44 34.3	+3.3
KULA	Kula-Manisa	2.85	20	ePN	Pn	11 44 40.8	+1.8
KULA	Kula-Manisa	2.85	20	ePn	Pn	11 44 40.8	+1.8
ANKY	Antikythira Is	3.36	272	ePN	Pn	11 44 47.6	+1.7
ANKY	Antikythira Is	3.36	272	ePn	Pn	11 44 47.6	+1.7
VLI	Veliai	3.74	285	ePN	Pn	11 44 52.5	+1.4
VLI	Veliai	3.74	285	ePn	Pn	11 44 52.5	+1.4
SLUM		4.71	204	P	Pn	11 45 04.1	-0.3
HMAT	Matruh	4.73	184	P	Pn	11 45 03.8	-1.0
HNAT	Natroun	6.74	156	P	Pn	11 45 30.1	-2.1
SWA2		6.78	195	P	Pn	11 45 31.7	-1.1
KOT	Kottamia	6.95	147	P	Pn	11 45 33.1	-2.1
HHAG	Hagoal	7.05	145	P	Pn	11 45 34.8	-1.8
HSAF	As Saff	7.10	150	P	Pn	11 45 34.9	-2.3
GLL	Jalalah	7.20	149	P	Pn	11 45 36.7	-1.9
SUZ		7.50	141	P	Pn	11 45 40.8	-1.9
HNKL	Nakhl	8.05	135	P	Pn	11 45 48.5	-1.8
HFRF	Wahat Farafira	8.69	175	P	Pn	11 45 56.6	-2.4

IDC 19 11:50:07.7±1.9, 1°.02N×126°.42E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=171.1km s-min=23.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.23	160	P	P	11 55 05.3	-0.9
	1.7nm,0.5s,baz=338,slow=11,SNR=32						
ASAR	Alice Springs	25.60	164	P	P	11 55 39.5	+0.7
	0.9nm,0.3s,baz=346,slow=12,SNR=44						
STKA	Stephens Creek	35.74	158	P	P	11 57 08.2	-0.2
	1.7nm,0.8s,baz=328,slow=9.6,SNR=4.5						
MKAR	Makanchi Array	59.61	326	P	P	12 00 13.4	-0.1
	0.3nm,0.3s,baz=121,slow=7.7,SNR=6.1						

*BJI **19** 11:58:47.9, 21°.45N×102°.36E, h33km, ML3.9/5, Ms3.6/1, Ms7 3.5/1*

PLV 19 11:58:51.2±2.5, 22°.06N×102°.54E, h17km±18km, MD3.1, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	Dienbien	0.80	146	ePg	Pb	11 59 06.4	-0.4
DBV				eSg	Sg	11 59 17.8	+0.1
TGV	Tuan Giao	0.94	119	ePn	Pb	11 59 08.6	-0.4
TGV				ePg	Pn	11 59 09.8	+0.2
TGV				eSg	Sn	11 59 22.2	-0.4
SLVN	Son La	1.46	119	ePg	Pg	11 59 21.2	+1.8
SLVN				eSg	Sg	11 59 38.5	0.0
MCVV	Moc Chau	2.33	122	ePn	Pn	11 59 29.2	+0.3
MCVV				ePg	Pb	11 59 33.6	+0.7
MCVV				eSg	Sg	12 00 04.8	-1.6
GYA	Guiyang	5.78	40	ePn	Pn	12 00 23.5	+7.2
GYA				Sn	Sn	12 01 29.8	+7.4
GYA				smax	smax		
	comp=N,80nm,0.8s						
GYA				smax	smax		
	comp=E,60nm,1.0s						

*ISCJB **19** 12:09:16.4±0.4, 1°.48S±0°.05×99°.40E±0°.05, h10km, mb4.4/28, MS4.0/1, Error ellipse: s-maj=7.6km s-min=6.9km az=19.0*
*IDC **19** 12:09:17.1±0.6, 1°.43S×99°.56E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.2/26, mbtmp4.2/18, ML3.7/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/41, Error ellipse: s-maj=22.0km s-min=13.4km az=59.0*
*NEIC **19** 12:09:18.3±0.3, 1°.45S×99°.56E, h10km, mb4.5/7, Error ellipse: s-maj=9.9km s-min=5.2km az=68.0*
*DJA **19** 12:09:28.7±0.7, 1°.S±4°.×10°.0E±°., h10km, M4.7/5, mb4.7/3, mB4.8/1, MLv4.7/5, Mw(mB)4.1/1*

ISC 19 12:09:18.5±0.4, 1°.41S±0°.05×99°.49E±0°.06, h10km, n70, σ0§72/72, mb4.3/28, 1C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.09	63	P	Pn	12 09 40.7	+0.8
PDSI				S	Sn	12 09 55.7	+0.6
BKNI	Bangkinang	2.32	42	P	Pg	12 10 04.1	+1.1
MASI	Maura Aman, Be	3.24	122	P	Pb	12 10 14.6	-1.6
KSI	Kapahiang	3.82	126	P	Pb	12 10 26.8	+0.8
PSI	Prapat	4.22	352	Pn	Pn	12 10 23.1	+0.1
PSI	Prapat	4.22	352	Pn	Pn	12 10 23.1	+0.1
	0.8nm,0.3s,baz=166,slow=12,SNR=3.2						
TSI	Tuntungan	4.96	349	P	Pb	12 10 44.6	-0.9
	123nm,0.6s,0.7nm						
MYKOM	Kota Tinggi	5.40	54	P	Pb	12 10 48.0	-4.9
IPM	Ipoh	6.05	15	ePn	Pn	12 10 51.7	+3.7
	37nm,0.7s						
KLSI		6.17	122	P	Pn	12 10 55.0	+5.3
	33nm,0.8s,0.1nm						
KULM	Kulim	6.76	10	ePn	Pn	12 10 57.6	-0.1
	24nm,0.6s						
KULM	Kulim	6.76	10	P	Pb	12 11 09.1	-7.0
CMAR	Chiang Mai Arr	19.75	358	P	Pn	12 13 49.9	-0.3
CMAR	Chiang Mai Arr	19.75	358	P	Pn	12 13 49.9	-0.3
	0.3nm,0.3s,baz=186,slow=9.8,SNR=12						
CHTO	Chiang Mai	20.10	359	eP	P	12 13 52.2	-0.3
	4.1nm,0.8s						
FITZ	Fitzroy Crossi	30.57	124	P	P	12 15 31.6	-1.0
	4.2nm,1.1s						
LSA	Lhasa	31.95	346	P	P	12 15 46.3	+1.1
	5.8nm,0.5s						
NACB	Ninganchiao	33.28	39	eP	P	12 15 55.5	-0.9
	4.9nm,0.3s						
WRA	Warramunga Arr	38.73	121	P	P	12 16 41.8	-1.4
WRA				PcP	PcP	12 18 54.8	-0.2
WRA	Warramunga Arr	38.73	121	P	P	12 16 41.8	-1.4
	2.6nm,0.7s,baz=304,slow=9.0,SNR=19						
WRA				PcP	PcP	12 18 54.8	-0.2
	0.5nm,0.6s,baz=299,slow=2.6,SNR=4.7						
WRAB	Tennant Creek	38.74	121	eP	P	12 16 42.0	-1.3
	2.6nm,0.7s						
FORT	Forrest	39.82	140	P	P	12 16 52.1	-0.1
	5.2nm,0.8s						
AS31	Alice Springs	40.01	126	eP	P	12 16 53.7	-0.2
ASAR	Alice Springs	40.01	126	P	P	12 16 53.5	-0.4
ASAR				PcP	PcP	12 18 59.5	+0.5
ASAR	Alice Springs	40.01	126	P	P	12 16 53.5	-0.4
	2.2nm,0.8s,baz=300,slow=7.8,SNR=26						
ASAR				PcP	PcP	12 18 59.5	+0.5
	0.9nm,0.8s,baz=312,slow=2.5,SNR=5.4						
KSAR	Wonju Array Be	46.75	31	P	P	12 17 47.7	-0.4
KSRS	Korea Array	46.78	31	P	P	12 17 47.7	-0.6
	1.2nm,0.7s,baz=225,slow=8.6,SNR=7.0						
TKM2	Tokmak 2	49.09	337	eP	P	12 18 06.5	+0.2
	6.4nm,0.9s						
SONM	Songino Array	49.41	6	P	P	12 18 08.9	+0.3
SONM	Songino Array	49.41	6	P	P	12 18 08.9	+0.3
	1.0nm,0.5s,baz=189,slow=10.0,SNR=6.6						
ULN	Ulaanbaatar	49.52	7	eP	P	12 18 08.5	-1.0
	1.0nm,0.4s						
EKS2	Erkin-Say	49.62	335	eP	P	12 18 10.5	+0.2
	3.5nm,0.4s						
STKA	Stephens Creek	49.92	132	P	P	12 18 12.9	+0.2
STKA	Stephens Creek	49.92	132	P	P	12 18 12.9	+0.2
	2.0nm,0.7s,baz=284,slow=15,SNR=6.4						
MK31	Makanchi Array	50.33	345	eP	P	12 18 16.1	+0.6
MKAR	Makanchi Array	50.33	345	P	P	12 18 16.0	+0.5
MKAR	Makanchi Array	50.33	345	P	P	12 18 16.0	+0.5
	3.0nm,0.5s,baz=150,slow=8.0,SNR=25						
MKAR				LR	LR	12 39 27.5	
	comp=Z,176nm,21.6s,baz=304,slow=36						
USRK	Ussuriysk Arra	53.89	29	P	P	12 18 42.6	+0.7
	2.2nm,0.7s,baz=241,slow=5.0,SNR=4.1						
ZAA0	Zalesovo Array	56.50	350	eP	P	12 19 00.9	+0.3
ZALV	Zalesovo Beam	56.50	350	P	P	12 19 00.8	+0.2
ZALV	Zalesovo Beam	56.50	350	P	P	12 19 00.8	+0.2
	3.1nm,0.5s,baz=180,slow=5.4,SNR=14						
NAY	Al-Naaiem	58.46	306	eP	P	12 19 14.7	-0.4
NAY				AMb	AMB	12 19 15.4	
	comp=Z,0.8nm,0.6s						
MIB	Mutribah	58.59	306	eP	P	12 19 15.9	0.0
MIB				AMb	AMB	12 19 17.0	
	comp=Z,35nm,0.9s						
RST	Umm Al-Ruwaisa	58.76	306	eP	P	12 19 16.2	-0.8
RST				AMb	AMB	12 19 17.6	
	comp=Z,151nm,0.8s						
ABKAR	Abkulak array	60.88	331	eP	P	12 19 30.6	-0.7
	comp=Z,1.3nm,0.6s						
KMBO	Kilima Mbogo	62.22	269	P	P	12 19 42.8	+1.5
KMBO	Kilima Mbogo	62.22	269	P	P	12 19 42.8	+1.5
	comp=Z,2.2nm,0.6s,baz=45,slow=14,SNR=7.0						
KBZ	Khabaz	67.53	319	P	P	12 20 15.2	+0.1
KBZ	Khabaz	67.53	319	P	P	12 20 15.2	+0.1
	comp=Z,3.7nm,0.8s,baz=109,slow=5.9,SNR=7.3						
ASF	Jabal al Asfar	67.83	306	P	P	12 20 17.9	+0.6
ASF	Jabal al Asfar	67.83	306	P	P	12 20 17.9	+0.6
	comp=Z,2.0nm,0.5s,baz=28,slow=1.2,SNR=3.9						
EIL	Elat	68.78	303	P	P	12 20 23.2	0.0
EIL	Elat	68.78	303	P	P	12 20 23.2	0.0
	comp=Z,3.0nm,0.7s,baz=128,slow=5.1,SNR=4.0						
MAW	Mawson	70.73	194	P	P	12 20 35.2	+0.8
MAW	Mawson	70.73	194	P	P	12 20 35.2	+0.8
	comp=Z,1.4nm,0.8s,baz=15,slow=11,SNR=4.4						
VRI	Vrincioaia	79.07	317	⇑iP	P	12 21 23.4	+0.2
BURAR	Bucovina Array	80.48	319	⇓iP	P	12 21 32.1	+1.2
VNDA	Vanda	82.83	169	P	P	12 21 42.5	-0.2
VNDA	Vanda	82.83	169	P	P	12 21 42.5	-0.2
	comp=Z,0.7nm,0.7s,baz=316,slow=4.9,SNR=4.5						
FINES	FINESS Array B	83.36	332	P	P	12 21 45.7	+0.2
FINES	FINESS Array B	83.36	332	P	P	12 21 45.7	+0.2
	comp=Z,1.9nm,0.6s,baz=101,slow=6.0,SNR=5.3						
GERES	GERESS Array B	88.27	319	P	P	12 22 11.0	+0.6
GERES	GERESS Array B	88.27	319	P	P	12 22 11.0	+0.6
	comp=Z,0.5nm,0.5s,baz=98,slow=2.7,SNR=6.0						
Q16A	Castle Valley	133.33	33	ePKPdf	PKPdf	12 28 34.4	-1.2
CPUP	Villa Florida	144.48	217	PKP	PKPdf	12 28 54.8	-1.2
CPUP	Villa Florida	144.48	217	PKP	PKPdf	12 28 54.8	-1.2
	comp=Z,8.5nm,0.8s,baz=92,slow=3.7						
TXAR	Lajitas Array	144.54	36	PKP	PKPdf	12 28 55.4	-0.8
TXAR	Lajitas Array	144.54	36	PKP	PKPdf	12 28 55.4	-0.8
	comp=Z,1.1nm,0.6s,baz=264,slow=1.3,SNR=10						
TKL	Tuckaleechee C	145.79	5	ePKPbc	PKPdf	12 28 57.3	-0.7
CPCT	Cooper Cave	145.93	6	ePKPdf	PKPdf	12 28 57.9	-0.4
CPCT				ePKPbc	PKPbc	12 28 58.6	-0.3

*IDC **19** 12:13:50.6±0.8, 23°.67S×175°.62W, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.4/22, mbtmp4.3/14, ML4.6/2, MS3.8/3, Ms1 3.8/3, ms1mx3.2/30, Error ellipse: s-maj=29.8km s-min=16.9km az=128.0*
*ISCJB **19** 12:13:53.2±0.4, 23°.93S±0°.06×175°.5W±0°.1, h28km, mb4.3/20, MS3.7/3, Error ellipse: s-maj=14.1km s-min=7.5km az=23.8*
*NEIC **19** 12:13:55.5±0.5, 23°.90S×175°.51W, h35km, mb4.5/8, Error ellipse: s-maj=15.8km s-min=10.9km az=129.0*

ISC 19 12:13:54.7±0.7, 23°.82S±0°.09×175°.6W±0°.2, h28km, n45, σ1§15/41, mb4.4/20, MS3.8/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.80	201	Pn	Pn	12 15 19.2	+0.3
RAO				Sn	Sn	12 16 22.9	-1.6
RAO	Raoul Island	5.80	201	Pn	Pn	12 15 19.2	+0.3
	54nm,0.3s,baz=232,slow=22,SNR=2.8						
RAO				Sn	Sn	12 16 22.9	-1.6
	47nm,0.3s,baz=97,slow=24,SNR=3.8						
MSVF	Nonsavu	8.49	314	ePn	Pn	12 15 59.6	+3.6
	45nm,1.0s						
AFI	Afiamalu	10.49	21	Pn	Pn	12 16 16.7	-6.8
AFI				Sn	Sn	12 18 02.1	-18
AFI	Afiamalu	10.49	21	Pn	Pn	12 16 16.7	-6.8
	1.7nm,0.3s,baz=14,slow=21,SNR=4.3						
AFI				Sn	Sn	12 18 02.1	-18
	1.9nm,0.3s,baz=78,slow=20,SNR=2.8						
URZ	Urewera	15.69	202	Pn	Pn	12 17 32.8	-1.0
URZ	Urewera	15.69	202	Pn	Pn	12 17 32.8	-1.0
	0.5nm,0.3s,baz=131,slow=15,SNR=3.2						
RPZ	Rata Peaks	22.69	206	P	P	12 18 56.2	+2.2
RPZ	Rata Peaks	22.69	206	P	P	12 18 56.2	+2.2
	2.8nm,0.4s,baz=97,slow=1.2,SNR=4.2						
TBI	Tubuai	23.94	94	eLR	LR	12 24 55.0	
	161nm,22.0s						
PPT2	Papeete2	25.08	81	eLR	LR	12 25 27.3	
	164nm,22.0s						
HNR	Honiara	27.40	297	LR	LR	12 28 23.3	
	comp=Z,92nm,18.8s,baz=160,slow=32						
STKA	Stephens Creek	38.50	248	P	P	12 21 15.1	+0.3
STKA	Stephens Creek	38.50	248	P	P	12 21 15.1	+0.3
	2.7nm,0.9s,baz=93,slow=12,SNR=4.5						
ASAR	Alice Springs	46.03	259	P	P	12 22 15.8	-0.3
ASAR	Alice Springs	46.03	259	P	P	12 22 15.8	-0.3
	3.0nm,0.9s,baz=90,slow=8.8,SNR=21						
ASAR				LR	LR	12 39 19.1	
	comp=Z,140nm,18.4s,baz=30,slow=33						
WRAB	Tennant Creek	46.43	265	eP	P	12 22 17.2	-2.1
	6.5nm,0.9s						
WRA	Warramunga Arr	46.44	265	P	P	12 22 17.6	-1.9
WRA	Warramunga Arr	46.44	265	P	P	12 22 17.6	-1.9
	6.9nm,0.9s,baz=97,slow=8.4,SNR=40						
WRA				LR	LR	12 39 39.0	
	comp=Z,121nm,20.9s,baz=195,slow=33						
MAW	Mawson	79.20	199	P	P	12 25 58.1	+1.3
MAW	Mawson	79.20

BKK ***19*** *12:31:03.7±1.4,38°N±18°×9°6E±1°7,h10km,M4.5/13, mB5.4/3,mb4.5/13,Mw(mB)4.8/3*
ISCJB ***19*** *12:31:04.9±0.2,37°61N±0°03×94°40E±0°03,h10km, mb4.6/77,MS3.8/16,Error ellipse: s-maj=3.8km s-min=3.3km az=26.3*
BJI ***19*** *12:31:05.8,37°45N×94°42E,h6km,mB4.7/26,mb4.5/29, ML4.7/8,Ms4.4/36,Ms7 4.3/33*
NEIC ***19*** *12:31:06.3±0.3,37°61N×94°51E,h10km,mb4.9/22,Error ellipse: s-maj=7.4km s-min=5.9km az=45.0*
MOS ***19*** *12:31:07.2±1.2,37°56N×94°54E,h33km,mb4.9/22, MS4.1/7,Error ellipse: s-maj=8.9km s-min=5.0km az=118.6*
DMN ***19*** *12:32:43.1±19.0,31°01N×90°14E,h10km,Mb5.0/6,Error ellipse: s-maj=497.4km s-min=37.3km az=54.0*
ISC 19 12:31:06.1±0.3,**37°58N**±0°04×**94°41E**±0°03,**h10km**,**n220**, σ**1**§**41**/224,**mb4.7**/77,**MS3.7**/16,**6C-4D**,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**4.62**	**65**	Pn	**Pn**	**12 32 17.3**	**+1.2**
GTA				Pg	Pg	12 32 30.5	-4.1
GTA				Sn	Sn	12 33 13.8	+4.0
GTA				Sg	**Sg**	**12 33 33.8**	**-0.6**
GTA				smax	smax		
	comp=N,130nm,1.6s						
GTA				smax	smax		
	comp=E,170nm,1.3s						
GTA				LR	LR		
	comp=N,3μm,10.7s						
GTA				LR	LR		
	comp=E,3μm,8.8s						
GTA				LR	LR		
	comp=Z,3μm,10.0s						
LZH	**Lanzhou**	**7.71**	**98**	Pn	**Pn**	**12 32 56.0**	**-2.6**
LZH				smax	smax		
	comp=N,270nm,1.2s						
LZH				smax	smax		
	comp=E,370nm,1.2s						
LZH				LR	LR		
	comp=N,2μm,9.2s						
LZH				LR	LR		
	comp=E,3μm,9.4s						
LZH				LR	LR		
	comp=Z,3μm,11.0s						
LSA	**Lhasa**	**8.31**	**200**	*e*P	**Pn**	**12 33 08.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,33nm,1.1s						
LSA	**Lhasa**	**8.31**	**200**	*e*Pn	**Pn**	**12 33 08.4**	**+1.2**
	comp=Z,33nm,1.1s						
CD2	**Chengdu**	**10.20**	**128**	*e*P	Pn	12 33 38.3	+5.7
CD2				pP		12 33 42.1	
CD2				sP		12 33 45.0	
CD2				PP	PnPn	12 33 47.3	+7.1
CD2				S	Sn	12 35 35.9	+8.8
CD2				sS		12 35 40.8	
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,80nm,4.2s						
CD2				LR	LR		
	comp=N,2μm,7.8s						
CD2				LR	LR		
	comp=E,2μm,6.2s						
CD2				LR	LR		
	comp=Z,2μm,7.2s						
JIRN	**Jiri**	**12.07**	**217**	*e*P	**Pn**	**12 33 57.5**	**-1.0**
	comp=Z,36nm,0.6s						
XAN	**Xi'an**	**12.30**	**102**	P	Pn	12 33 55.3	-6.0
XAN				LR	LR		
	comp=N,660nm,10.8s						
XAN				LR	LR		
	comp=E,150nm,8.5s						
XAN				LR	LR		
	comp=Z,290nm,10.6s						
KKN	**Kakani**	**12.42**	**221**	*e*P	**Pn**	**12 34 04.4**	**+1.2**
	comp=Z,20nm,0.6s						
RAMN	**Ramite**	**12.48**	**214**	*e*P	**Pn**	**12 34 02.0**	**-2.1**
	comp=Z,116nm,0.8s						
PKI	**Pulchoki**	**12.53**	**220**	*e*P	**Pn**	**12 34 06.0**	**+1.2**
	comp=Z,58nm,1.2s						
DANN	**Dangsing**	**12.82**	**227**	*e*P	Pn	12 34 16.1	+7.3
	comp=Z,26nm,0.7s						
MK31	**Makanchi Array**	**12.85**	**320**	*e*P	**Pn**	**12 34 08.5**	**-0.4**
MK31				*e*		12 36 29.1	
MK31	**Makanchi Array**	**12.85**	**320**	*e*Pn	**Pn**	**12 34 08.5**	**-0.4**
MK31				*e*Sn	**Sn**	**12 36 29.1**	**-2.9**
MKAR	**Makanchi Array**	**12.85**	**320**	P	**Pn**	**12 34 08.3**	**-0.6**
MKAR						12 36 30.5	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				smax	smax		
	comp=N,1.0nm,0.3s						
MKAR	**Makanchi Array**	**12.85**	**320**	*e*Pn	**Pn**	**12 34 08.8**	**-0.1**
MKAR				Sn	**Sn**	**12 36 30.5**	**-1.5**
MKAR				Lg	Lg	12 37 57.8	
MKAR	**Makanchi Array**	**12.85**	**320**	Pn	**Pn**	**12 34 08.3**	**-0.6**
	comp=N,3.2nm,0.3s,baz=133,slow=14,SNR=86						
MKAR				Sn	**Sn**	**12 36 30.5**	**-1.5**
	comp=N,1.2nm,0.3s,baz=128,slow=25,SNR=5.1						
MKAR				Lg	Lg	12 37 57.8	
	baz=129,slow=30,SNR=2.5						
KOLN	**Koldanda**	**13.35**	**226**	*e*P	**P**	**12 34 23.3**	**-2.3**
	comp=N,15nm,0.8s						
PYUN	**Piuthan**	**13.46**	**229**	*e*P	**P**	**12 34 26.9**	**0.0**
	comp=N,62nm,0.8s						
SONM	**Songino Array**	**13.50**	**37**	Pn	**Pn**	**12 34 19.1**	**+1.3**
SONM				Lg	Lg	12 38 12.8	
SONM	**Songino Array**	**13.50**	**37**	Pn	**Pn**	**12 34 19.1**	**+1.3**
	comp=N,0.6nm,0.3s,baz=219,slow=16,SNR=18						
SONM				Lg	Lg	12 38 12.8	
	comp=N,0.1nm,0.3s,baz=212,slow=30,SNR=5.2						
HVS	**Khovu-Aksy**	**13.56**	**358**	*e*P	**Pn**	**12 34 19.4**	**+0.8**
HHC	**Hu-ho-hao-te**	**13.70**	**71**	*e*P	Pn	12 34 22.8	+2.4
HHC				pP	**P**	**12 34 26.3**	**-3.0**
HHC				sP		12 34 29.5	
HHC				PP	**PnPn**	**12 34 33.8**	**+5.6**
HHC				S	**Sn**	**12 36 54.8**	**+2.1**
HHC				sS	S	12 37 00.1	-16
HHC				SS	**SnSn**	**12 37 10.5**	**+5.7**
HHC				PcS	**PcS**	**12 43 21.9**	**+2.1**
HHC				ScS	**ScS**	**12 46 55.8**	**+0.3**
HHC				pmax	pmax		
	comp=Z,45nm,0.6s						
HHC				pmax	pmax		
	comp=Z,370nm,5.0s						
HHC				LR	LR		
	comp=N,2μm,11.8s						
HHC				LR	LR		
	comp=E,1μm,11.7s						
HHC				LR	LR		
	comp=Z,550nm,11.7s						
ULN	**Ulaanbaatar**	**13.84**	**38**	*e*Pn	**Pn**	**12 34 21.5**	**-0.9**
KMI	**Kunming**	**14.30**	**148**	P	**P**	**12 34 34.3**	**-1.9**
KMI				pP	Pn	12 34 37.3	+8.4
KMI				sP		12 34 38.9	
KMI				PP	PnPn	12 34 45.8	+8.9
KMI				S	Sn	12 37 16.8	+9.1
KMI				sS	S	12 37 20.1	-8.2
KMI				SS	SnSn	12 37 33.4	+13
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KMI				pmax	pmax		
	comp=Z,54nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,9.3s						
KMI				LR	LR		
	comp=E,110nm,8.3s						
KMI				LR	LR		
	comp=Z,1μm,10.6s						
KSH	**Kashi**	**14.56**	**283**	P	**P**	**12 34 38.1**	**-0.8**
KSH				sP		12 34 45.1	
KSH				PP	PnPn	12 34 50.1	+10
KSH				S	Sn	12 37 22.0	+8.2
KSH				sS	S	12 37 28.1	-5.3
KSH				SS	SnSn	12 37 40.0	+14
KSH				pmax	pmax		
	comp=Z,15nm,0.9s						
KSH				pmax	pmax		
	comp=Z,84nm,6.7s						
KSH				LR	LR		
	comp=N,720nm,7.9s						
KSH				LR	LR		
	comp=E,370nm,4.0s						
KSH				LR	LR		
	comp=Z,440nm,5.0s						
MOY	**Mondy**	**14.84**	**16**	*e*P	P	12 34 44.7	+2.8
MOY				pmax	pmax		
	comp=Z,42nm,2.1s						
GYA	**Guiyang**	**15.18**	**133⇑**	*i*P	**P**	**12 34 44.1**	**-1.7**
GYA				PP	PnPn	12 34 57.5	+8.7
GYA				S	Sn	12 37 35.6	+6.6
GYA				PcP	**PcP**	**12 39 50.8**	**+3.5**
GYA				pmax	pmax		
	comp=Z,60nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,710nm,16.0s						
GYA				LR	LR		
	comp=E,640nm,16.8s						
GYA				LR	LR		
	comp=Z,820nm,15.4s						
TKM2	**Tokmak 2**	**15.32**	**296**	*e*P	**Pn**	**12 34 41.5**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,52nm,0.8s						
TKM2	**Tokmak 2**	**15.32**	**296**	*e*Pn	**Pn**	**12 34 41.5**	**-1.1**
	comp=Z,52nm,0.8s						
TLY	**Talaya**	**15.54**	**22**	*e*P	**P**	**12 34 50.0**	**+0.4**
TLY				pmax	pmax		
	comp=Z,12nm,0.9s						
TLY				MLR	MLR		
	comp=Z,442nm,12.0s						
BOK	**Bokaro**	**15.56**	**210**	*e*P	**Pn**	**12 34 43.4**	**-2.2**
BOK				AMB	AMB	12 34 52.0	
	comp=Z,14nm,1.3s						
SMLA	**Simla**	**15.62**	**251**	*e*P	**Pn**	**12 34 48.4**	**+2.1**
SMLA				AMB	AMB	12 34 53.6	
	comp=Z,23nm,1.3s						
FRU	**Bishkek**	**16.00**	**295**	*e*P	**Pn**	**12 34 50.0**	**-1.2**
FRU				*e*S	**Sn**	**12 37 49.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,20nm,1.9s						
FRU				MLR	MLR		
	comp=Z,1μm,10.0s						
AAK	**Ala-Archa**	**16.04**	**295⇑**	*i*P	**Pn**	**12 34 51.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,23nm,1.0s						
AAK	**Ala-Archa**	**16.04**	**295**	*e*Pn	**Pn**	**12 34 51.7**	**-0.3**
AAK	**Ala-Archa**	**16.04**	**295**	Pn	**Pn**	**12 34 51.3**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=218,slow=5.4,SNR=4.0						
AAK				LR	LR	12 42 47.0	
	comp=Z,314nm,18.2s,baz=74,slow=43						
IRK	**Irkutsk**	**16.22**	**22**	*e*P	**P**	**12 34 55.9**	**-1.2**
IRK				*e*		12 37 50.9	
IRK				pmax	pmax		
	comp=Z,74nm,1.9s						
EKS2	**Erkin-Say**	**16.57**	**294**	*e*P	**Pn**	**12 34 59.3**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,12nm,0.9s						
EKS2	**Erkin-Say**	**16.57**	**294**	*e*Pn	**Pn**	**12 34 59.3**	**+0.7**
	comp=Z,12nm,0.9s						
BJI	**Beijing**	**17.14**	**75**	P	**P**	**12 35 07.5**	**+0.2**
BJI				S	**Sn**	**12 38 17.8**	**+1.6**
BJI				pmax	pmax		
	comp=Z,33nm,1.5s						
BJI				pmax	pmax		
	comp=Z,130nm,3.7s						
BJI				LR	LR		
	comp=N,500nm,12.0s						
BJI				LR	LR		
	comp=E,600nm,9.3s						
BJI				LR	LR		
	comp=Z,170nm,15.6s						
KURBB	**Kurchatov Arra**	**17.27**	**324**	P	**Pn**	**12 35 07.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=137,slow=12,SNR=37						
KURK	**Kurchatov**	**17.30**	**324**	P	**Pn**	**12 35 07.3**	**-0.3**
KURK	**Kurchatov**	**17.30**	**324**	P	**Pn**	**12 35 07.2**	**-0.3**
ZAA0	**Zalesovo Array**	**17.66**	**341**	*e*Pn	**Pn**	**12 35 11.4**	**-0.6**
ZALV	**Zalesovo Beam**	**17.66**	**341**	*i*P	**Pn**	**12 35 11.1**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**17.66**	**341**	P	**Pn**	**12 35 11.2**	**-0.9**
ZALV				Lg	Lg	12 40 23.9	
ZALV	**Zalesovo Beam**	**17.66**	**341**	P	**Pn**	**12 35 11.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=152,slow=9.8,SNR=12						
ZALV				Lg	Lg	12 40 23.8	
	baz=181,slow=27,SNR=2.1						
CMAI	**Chiengmai2**	**18.04**	**166**	P	**P**	**12 35 18.2**	**+0.6**
	comp=Z,20nm,1.3s						
PAYA	**Payao**	**18.77**	**164**	P	**Pn**	**12 35 29.3**	**+3.4**
	comp=Z,19μm,0.6s						
NVS	**Novosibirsk**	**18.88**	**340⇓**	*i*P	**P**	**12 35 24.7**	**-1.7**
NVS				pmax	pmax		
	comp=N,11nm,0.9s						
NVS				pmax	pmax		
	comp=E,12nm,0.9s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KK31	**Karatay Array**	**19.01**	**294**	*i*P	**Pn**	**12 35 30.8**	**+2.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**19.01**	**294**	*e*P	**Pn**	**12 35 29.6**	**+0.9**
KKAR	**Karatay Array**	**19.01**	**294**	*e*Pn	**Pn**	**12 35 29.6**	**+0.9**
CHTO	**Chiang Mai**	**19.11**	**167**	*e*P	**Pn**	**12 35 31.7**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**19.11**	**167**	*e*P	**Pn**	**12 35 31.7**	**+1.6**
	comp=Z,6.1nm,0.9s						
CMMT	**Chiang Mai**	**19.11**	**167**	P	**Pn**	**12 35 31.6**	**+1.5**
	comp=Z,7.6nm,1.1s						
CM31	**Chiang Mai Arr**	**19.46**	**167**	*e*P	**Pn**	**12 35 35.9**	**+1.7**
	comp=Z,3.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.46**	**167**	P	**P**	**12 35 31.4**	**-1.7**
CMAR				PcP	**PcP**	**12 39 53.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**19.46**	**167**	P	**P**	**12 35 31.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=343,slow=10.0,SNR=13						
CMAR				PcP	**PcP**	**12 39 53.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=302,slow=2.9,SNR=4.2						
CMAR				LR	LR	12 43 46.4	
	comp=Z,179nm,18.5s,baz=150,slow=39						
LAMP	**Lampang**	**19.53**	**165**	P	**Pn**	**12 35 37.8**	**+2.8**
	comp=Z,4.3nm,0.9s						
BHPL	**Bhopal**	**20.42**	**230**	*e*P	**P**	**12 35 44.0**	**+0.5**
BHPL				AMB	AMB	12 35 46.0	
	comp=Z,42nm,0.4s						
KBL	**Kabul**	**20.71**	**269**	*e*P	Pn	12 35 51.5	+2.2
KBL				pmax	pmax		
	comp=Z,94nm,1.3s						
KBL	**Kabul**	**20.71**	**269**	*e*Pn	Pn	12 35 51.5	+2.2
	comp=Z,94nm,1.3s						
LOEI	**Loei**	**20.88**	**161**	P	**P**	**12 35 49.0**	**+0.5**
	comp=Z,56nm,1.2s						
NGP	**Nagpur**	**21.10**	**223**	*e*x	x	12 35 46.5	
NGP				AMB	AMB	12 35 47.5	
	comp=Z,22nm,0.8s						
HIA	**Hailar**	**21.68**	**49**	*e*P	**P**	**12 35 56.3**	**-0.7**
	comp=Z,15nm,0.9s						
VIS	**Vishakhapatnam**	**22.05**	**209**	*e*P	**P**	**12 36 02.0**	**+1.0**
VIS				AMB	AMB	12 36 03.8	
	comp=Z,26nm,1.8s						
PANO	**Nakornpanom**	**22.25**	**153**	P	**P**	**12 36 02.2**	**-1.0**
	comp=Z,30nm,1.1s						
VOSK	**Vostochnaya**	**22.27**	**320**	P	**P**	**12 36 02.6**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,28nm,0.8s						
UTHA	**Uthaitani**	**22.38**	**167**	P	**P**	**12 36 03.8**	**-0.8**
	comp=Z,7.5nm,1.4s						
AKL	**Akola**	**22.60**	**227**	*e*P	**P**	**12 36 08.2**	**+1.3**
AKL				AMB	AMB	12 36 10.9	
	comp=Z,49nm,0.8s						
BVA0	**Borovoye Array**	**22.73**	**320**	*i*P	**P**	**12 36 07.9**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,12nm,0.9s						
BVAR	**Borovoye Array**	**22.73**	**320**	P	**P**	**12 36 08.6**	**+0.4**
BVAR	**Borovoye Array**	**22.73**	**320**	P	**P**	**12 36 08.6**	**+0.4**
BVAR	**Borovoye Array**	**22.73**	**320**	P	**P**	**12 36 08.6**	**+0.4**
	comp=Z,7.5nm,0.9s,baz=121,slow=11,SNR=24						
BVAR				LR	LR	12 44 48.1	
	comp=Z,51nm,20.4s,baz=298,slow=36						
SNY	**Shenyang**	**22.78**	**70**	⇓P	**P**	**12 36 07.0**	**-1.7**
SNY				S	**S**	**12 40 19.1**	**+1.4**
SNY				pmax	pmax		
	comp=Z,110nm,2.5s						
SNY				pmax	pmax		
	comp=Z,110nm,5.8s						
SNY				LR	LR		
	comp=N,300nm,9.9s						
SNY				LR	LR		
	comp=E,320nm,13.7s						
SNY				LR	LR		
	comp=Z,410nm,13.7s						
BRVK	**Borovoye**	**22.81**	**320**	*c i*P	**P**	**12 36 08.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,18nm,1.0s						
BRVK	**Borovoye**	**22.81**	**320**	*e*P	**P**	**12 36 09.7**	**+0.8**
	comp=Z,14nm,0.8s						
QIZ	**Qiongzhong**	**22.88**	**140**	P	**P**	**12 36 12.3**	**+2.4**
QIZ				S	**S**	**12 40 22.8**	**+3.2**
QIZ				pmax	pmax		
	comp=Z,22nm,0.8s						
QIZ				LR	LR		
	comp=N,400nm,9.5s						
QIZ				LR	LR		
	comp=E,190nm,8.7s						
QIZ				LR	LR		
	comp=Z,670nm,10.2s						
QIZ	**Qiongzhong**	**22.88**	**140**	P	**P**	**12 36 07.9**	**-2.0**
	comp=Z,21nm,0.8s						
CN2	**Changchun**	**24.25**	**65**	*e*P	**P**	**12 36 22.3**	**-0.9**
CN2				*es*P	**sP**	**12 36 29.0**	**+1.5**
CN2				*e*S	**S**	**12 40 37.8**	**-3.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,10.0s						
CN2				LR	LR		
	comp=E,600nm,10.0s						
CN2				LR	LR		
	comp=Z,800nm,11.0s						
UBPT	**Khong Chiam**	**24.28**	**153**	P	**P**	**12 36 21.4**	**-2.2**
	comp=Z,43nm,0.9s						
HYB	**Hyderabad**	**24.45**	**219**	*ex*	x	12 36 16.6	
HYB				AMB	AMB	12 36 40.1	
	comp=Z,16nm,2.7s						
LATR	**Latur**	**24.68**	**224**	*e*P	**P**	**12 36 26.0**	**-1.2**
LATR				AMB	AMB	12 36 27.1	
	comp=Z,49nm,0.7s						
CHBT	**CHBT**	**25.72**	**162**	P	**P**	**12 36 37.5**	**+0.9**
POO	**Poona**	**26.15**	**229**	*e*P	**P**	**12 36 42.9**	**+2.1**
POO				AMB	AMB	12 36 43.7	
	comp=Z,24nm,0.2s						
KSAR	**Wonju Array Be**	**26.48**	**80**	P	**P**	**12 36 41.4**	**-2.1**
KSRS	**Korea Array**	**26.50**	**80**	P	**P**	**12 36 41.4**	**-2.3**
	comp=Z,7.3nm,1.0s,baz=275,slow=8.6,SNR=19						
MDJ	**Mudanjiang**	**27.27**	**64**	P	**P**	**12 36 50.1**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,42nm,6.8s						
MDJ				LR	LR		
	comp=N,110nm,18.5s						
MDJ				LR	LR		
	comp=Z,110nm,15.4s						
AB31	**Akbulak array**	**27.39**	**306**	*i* P	**P**	**12 36 54.3**	**+2.8**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**27.39**	**306**	*e*P	**P**	**12 36 52.5**	**+1.0**
	comp=Z,1.6nm,0.5s						
AKTO	**Aktyubinsk**	**28.86**	**308**	P	**P**	**12 37 05.9**	**+1.3**
AKTO	**Aktyubinsk**	**28.86**	**308**	P	**P**	**12 37 05.9**	**+1.3**
AKTO	**Aktyubinsk**	**28.86**	**308**	P	**P**	**12 37 05.9**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=103,slow=8.9,SNR=7.9						
AKTO				LR	LR	12 49 24.1	
	comp=Z,162nm,18.1s,baz=288,slow=38						
USRK	**Ussuriysk Arra**	**28.99**	**65**	LR	LR	12 48 17.1	
	comp=Z,57nm,19.8s,baz=23,slow=36						
SVE	**Sverdlovsk**	**29.50**	**322⇑**	*i*P	**P**	**12 37 11.5**	**+1.2**
SVE				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	**Arti**	**30.38**	**320**	*c i*P	**P**	**12 37 18.4**	**+0.4**
ARU				S	**S**	**12 42 17.6**	**-0.7**
ARU				SS	**SnSn**	**12 43 52.9**	**-0.2**
ARU				pmax	pmax		
	comp=Z,22nm,1.2s						
SOKR	**Solikamsk**	**32.54**	**325⇓**	*i*P	**P**	**12 37 38.2**	**+1.3**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PSI	**Prapat**	**34.86**	**172**	LR	LR	12 53 49.9	
	comp=Z,122nm,18.1s,baz=185,slow=39						
MAK	**Makhachkala**	**35.82**	**294**	*e*P	P	12 38 14.8	+9.1
MAK				MLR	MLR		
	comp=Z,314nm,13.0s						
TIXI	**Tiksi**	**38.42**	**17**	*e*P	**P**	**12 38 27.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s						
KBZ	**Khabaz**	**39.04**	**296**	P	**P**	**12 38 33.4**	**+0.5**
KBZ	**Khabaz**	**39.04**	**296**	P	**P**	**12 38 33.4**	**+0.5**
KBZ	**Khabaz**	**39.04**	**296**	P	**P**	**12 38 33.4**	**+0.5**
	comp=Z,6.6nm,0.7s,baz=123,slow=3.8,SNR=4.3						
KIV	**Kislovodsk**	**39.15**	**296**	*e*P	**P**	**12 38 35.8**	**+1.8**
KIV				pmax	pmax		
	comp=Z,15nm,0.9s						
MIB	**Mutribah**	**39.59**	**273**	*e*P	**P**	**12 38 38.2**	**+0.5**
MIB				AMb	AMB	12 38 43.6	
	comp=Z,48nm,1.0s						
NAY	**Al-Naaiem**	**39.90**	**272**	*e*P	**P**	**12 38 40.1**	**-0.2**
NAY				AMb	AMB	12 38 46.0	
	comp=Z,2.3nm,1.0s						
RST	**Umm Al-Ruwaisa**	**39.99**	**273**	*e*P	**P**	**12 38 40.8**	**-0.2**
RST				AMb	AMB	12 38 46.8	
	comp=Z,397nm,0.9s						
VSR	**Storozhevoye**	**40.80**	**308**	*e*P	**P**	**12 38 46.6**	**-0.9**
VSR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.5s						
VSR				pmax	pmax		
	comp=Z,20nm,0.5s						
MOS	**Moscow**	**41.67**	**315**	*e*P	**P**	**12 38 54.3**	**-0.3**
MOS				pmax	pmax		
	comp=Z,57nm,1.1s						
OBN	**Obninsk**	**42.27**	**314⇑**	*e*P	**P**	**12 39 00.1**	**+0.7**
OBN				*i* S	**S**	**12 45 20.9**	**+1.1**
OBN				pmax	pmax		
	comp=Z,40nm,1.7s						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s						
ANN	**Anapa**	**42.72**	**298**	*e*P	P	12 38 57.3	-5.9
ANN				pmax	pmax		
	comp=Z,33nm,0.9s						
APA	**Apatity**	**44.88**	**332⇓**	*e*P	**P**	**12 39 20.4**	**+0.1**
APA				MLR	MLR		
	comp=Z,400nm,22.0s						
PETK	**Petropavlovsk-**	**45.59**	**49**	LR	LR	13 00 26.9	
	comp=Z,72nm,18.1s,baz=91,slow=39						
PET	**Petropavlovsk**	**46.17**	**49**	*e*P	P	12 39 27.0	-3.7
PET				*e*		12 41 17.1	
PET				*e*S	S	12 46 04.9	-12
PET				pmax	pmax		
	comp=Z,26nm,1.0s						
PET				MLR	MLR		
	comp=Z,300nm,15.0s						
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
BR131	**Keskin Array S**	**46.71**	**292**	*e*P	**P**	**12 39 35.9**	**+0.6**
	comp=Z,6.5nm,0.8s						
AKASG	**Malin Array Be**	**47.10**	**308**	P	**P**	**12 39 38.1**	**0.0**
AKASG	**Malin Array Be**	**47.10**	**308**	P	**P**	**12 39 38.1**	**0.0**
AKASG	**Malin Array Be**	**47.10**	**308**	P	**P**	**12 39 38.1**	**0.0**
	comp=Z,1.9nm,0.5s,baz=69,slow=7.4,SNR=4.3						
KIEV	**Kiev**	**47.11**	**308**	*e*P	**P**	**12 39 38.8**	**+0.6**
FINES	**FINESS Array B**	**47.66**	**323**	P	**P**	**12 39 42.2**	**0.0**
FINES	**FINESS Array B**	**47.66**	**323**	P	**P**	**12 39 42.2**	**0.0**
	comp=Z,7.4nm,0.8s,baz=123,slow=14,SNR=6.6						
ARCES	**ARCESS Array B**	**48.01**	**334**	P	**P**	**12 39 45.2**	**+0.4**
ARCES	**ARCESS Array B**	**48.01**	**334**	P	**P**	**12 39 45.2**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=14,slow=10,SNR=3.5						
ARCES				LR	LR	13 01 43.1	
	comp=Z,61nm,21.7s,baz=78,slow=38						
EIL	**Elat**	**49.43**	**279**	P	**P**	**12 39 58.8**	**+2.4**
EIL	**Elat**	**49.43**	**279**	P	**P**	**12 39 58.8**	**+2.4**
	comp=Z,7.4nm,0.9s,baz=31,slow=5.1,SNR=4.1						
MLR	**Muntele Rosu**	**50.45**	**302**	P	**P**	**12 40 05.7**	**+1.6**
MLR	**Muntele Rosu**	**50.45**	**302**	P	**P**	**12 40 05.7**	**+1.6**
	comp=Z,1.2n

CRVS	Cervenica-Dubn	52.41 307	eP	P	12 40 21.5	+3.0
ATD	Arta Tunnel	52.80 255	LR	LR	13 03 54.6	
	comp=Z,31nm,19.4s,baz=78,slow=37					
NIE	Niedzica	52.98 308	eP	P	12 40 26.2	+3.4
OJC	Ojcow	53.07 309	eP	P	12 40 24.0	+0.6
OJC			pmax	pmax		
	comp=Z,8.0nm,0.7s					
OJC	Ojcow	53.07 309	eP	P	12 40 24.0	+0.6
	comp=Z,8.1nm,0.7s					
KECS	Kecovo	53.15 307	eP	P	12 40 25.8	+1.8
KECS			pmax	pmax		
	comp=Z,2.0nm,0.9s					
KECS	Kecovo	53.15 307	eP	P	12 40 25.8	+1.8
HFS	Hagfors	53.85 322	P	P	12 40 29.8	+0.9
HFS	Hagfors	53.85 322	P	P	12 40 29.8	+0.9
	comp=Z,7.3nm,1.0s,baz=96,slow=14,SNR=5.0					
VYHS	Vyhne	54.19 307	eP	P	12 40 32.8	+1.1
VYHS			pmax	pmax		
	comp=Z,3.0nm,1.0s					
VYHS	Vyhne	54.19 307	eP	P	12 40 32.8	+1.1
MORC	Moravsky Berou	54.59 309	eP	P	12 40 35.9	+1.3
MORC	Moravsky Berou	54.59 309	eP	P	12 40 35.9	+1.3
NB2	NORSAR Subarra	54.81 324	P	P	12 40 35.6	-0.4
	comp=Z,2.0nm,0.6s,baz=74,slow=7.4					
NOA	NORSAR Array B	54.81 324	P	P	12 40 35.5	-0.4
NOA	NORSAR Array B	54.81 324	P	P	12 40 35.5	-0.4
	comp=Z,3.4nm,0.7s,baz=74,slow=7.4,SNR=6.9					
DPC	Dobruska-Polom	55.16 310	eP	P	12 40 39.9	+1.2
DPC	Dobruska-Polom	55.16 310	eP	P	12 40 39.9	+1.2
BRG	Berggiesshubel	56.41 311	eP	P	12 40 48.2	+0.6
	comp=Z,9.0nm,1.4s					
BRG			e		12 40 52.9	
	comp=Z,4.1nm,0.8s					
BRG	Berggiesshubel	56.41 311	eP	P	12 40 48.2	+0.6
BRG			pmax	pmax		
	comp=Z,9.0nm,1.4s					
BRG			pmax	pmax		
	comp=Z,4.0nm,0.8s					
CLL	Collm	56.82 312	i P	P	12 40 50.9	+0.4
CLL			i		12 41 02.6	
CLL			pmax	pmax		
	comp=Z,6.0nm,0.9s					
CLL	Collm	56.82 312	i P	P	12 40 50.9	+0.4
	comp=Z,6.0nm,0.9s					
CLL			i sP	sP	12 40 55.0	+0.1
GERES	GERESS Array B	57.27 309	P	P	12 40 54.9	+1.0
GERES	GERESS Array B	57.27 309	P	P	12 40 54.9	+1.0
	comp=Z,1.8nm,0.8s,baz=63,slow=6.3,SNR=7.2					
GERES			LR	LR	13 05 15.8	
	comp=Z,52nm,19.6s,baz=66,slow=36					
GRFO	Grafenberg	58.47 311	eP	P	12 41 02.6	+0.4
GRFO			pmax	pmax		
	comp=Z,23nm,0.6s					
GRFO	Grafenberg	58.47 311	eP	P	12 41 02.6	+0.4
	comp=Z,23nm,0.6s					
CUC	Castrocucco	59.37 299	eP	P	12 41 09.5	+0.8
	comp=Z,8.0nm,0.8s					
CDF	Champ du Feu	61.36 311	eP	P	12 41 22.0	-0.1
LPG	La Plagne	62.97 308	eP	P	12 41 33.9	+0.7
	comp=Z,11nm,0.8s					
MBWA	Marble Bar	63.10 153	eP	P	12 41 36.9	+3.1
	comp=Z,17nm,1.0s					
SBF	Sospel	63.28 306	eP	P	12 41 35.0	0.0
SMF	Signal de Mont	64.23 310	eP	P	12 41 41.0	-0.2
	comp=Z,13nm,0.9s					
IMA2	Indian Mountai	64.31 25	eP	P	12 41 42.0	+0.5
AVF	Avril sur Loir	64.46 310	eP	P	12 41 42.5	-0.2
COLD	Coldfoot	64.74 23	eP	P	12 41 45.1	+1.0
	comp=Z,12nm,1.0s					
BGF	Bois d'Agland	64.88 310	eP	P	12 41 45.2	-0.2
KMBO	Kilima Mbogo	65.23 248	eP	P	12 41 52.0	+3.6
	comp=Z,31nm,2.2s					
TCF	Toulx Ste Croi	65.39 310	eP	P	12 41 49.0	+0.2
	comp=Z,12nm,0.9s					
KEST	Kesra	65.88 297	P	P	12 41 52.5	+0.3
KEST	Kesra	65.88 297	P	P	12 41 52.5	+0.3
	comp=Z,1.1nm,0.9s,baz=238,slow=7.9,SNR=3.5					
CAF	Calviac	66.15 309	eP	P	12 41 54.2	+0.5
GRR	Gorron	66.17 313	eP	P	12 41 53.5	-0.2
RJF	Les Rejaudoux	66.30 310	eP	P	12 41 55.2	+0.5
SVW2	Sparrevohn	66.50 30	eP	P	12 41 56.4	+0.8
	comp=Z,12nm,1.0s					
MFF	Saint Martin d	66.65 312	eP	P	12 41 56.7	-0.2
PPLA	Purkeypile	66.72 27	eP	P	12 41 57.7	+0.6
LFF	La Frestale	66.96 310	eP	P	12 41 59.4	+0.6
COLA	College	66.97 24	eP	P	12 41 59.1	+0.6
COLA	College	66.97 24	eP	P	12 41 59.1	+0.6
ILAR	Eielson Array	67.35 24	P	P	12 41 59.6	-1.3
ILAR	Eielson Array	67.35 24	P	P	12 41 59.6	-1.3
	comp=Z,3.2nm,0.9s,baz=294,slow=5.2,SNR=38					
RSO	Redoubt South	67.99 30	eP	P	12 42 07.1	+1.7
WRA	Warramunga Arr	68.45 140	P	P	12 42 06.2	-2.3
WRA	Warramunga Arr	68.45 140	P	P	12 42 06.2	-2.3
	comp=Z,5.1nm,0.9s,baz=328,slow=5.6,SNR=16					
PMR	Palmer	68.65 27	eP	P	12 42 08.5	-0.7
PMR			pmax	pmax		
	comp=Z,13nm,1.0s					
PMR	Palmer	68.65 27	eP	P	12 42 08.5	-0.7
	comp=Z,13nm,1.0s					
SML	Sawmill	68.80 27	eP	P	12 42 10.3	+0.1
SML	Sawmill	68.80 27	eP	P	12 42 10.3	+0.1
KDAK	Kodiak Island	69.73 32	P	P	12 42 13.7	-2.2
KDAK	Kodiak Island	69.73 32	P	P	12 42 13.7	-2.2
	comp=Z,14nm,0.8s,baz=327,slow=5.4,SNR=7.5					
DAWY	Dawson	70.18 22	eP	P	12 42 18.3	-0.4
BMRM	Bremner River	70.69 26	eP	P	12 42 23.0	+1.1
AS31	Alice Springs	71.35 142	P	P	12 42 24.8	-1.4
ASAR	Alice Springs	71.35 142	P	P	12 42 24.9	-1.4
ASAR	Alice Springs	71.35 142	P	P	12 42 24.9	-1.4
	comp=Z,8.1nm,0.7s,baz=331,slow=6.4,SNR=46					
NWAO	Narrogin (SRO)	73.30 160	P	P	12 42 36.8	-0.9
NWAO	Narrogin (SRO)	73.30 160	P	P	12 42 36.8	-0.9
	comp=Z,15nm,1.0s,baz=321,slow=4.6,SNR=3.7					
SKAG	Skagway	74.94 24	eP	P	12 42 47.3	+0.3
	comp=Z,12nm,0.9s					
YKA	Yellowknife Ar	77.57 13	P	P	12 43 01.3	-0.6
YKA	Yellowknife Ar	77.57 13	P	P	12 43 01.3	-0.6
	comp=Z,2.8nm,0.9s,baz=340,slow=4.5,SNR=7.6					
STKA	Stephens Creek	81.94 141	P	P	12 43 24.2	-1.7
STKA	Stephens Creek	81.94 141	P	P	12 43 24.2	-1.7
	comp=Z,7.9nm,0.8s,baz=322,slow=6.3,SNR=8.8					
TORD	Torodi Ar. Bea	84.23 282	P	P	12 43 37.5	-0.8
TORD	Torodi Ar. Bea	84.23 282	P	P	12 43 37.5	-0.8
	comp=Z,2.3nm,0.9s,baz=50,slow=3.7,SNR=6.9					
EDM	Edmonton	86.42 16	eP	P	12 43 48.6	-0.1
EDM	Edmonton	86.42 16	eP	P	12 43 48.6	-0.1
SCHQ	Schefferville	86.56 349	P	P	12 43 47.0	-2.3
SCHQ	Schefferville	86.56 349	P	P	12 43 47.0	-2.3
	comp=Z,4.8nm,1.0s,baz=21,slow=4.6,SNR=3.6					
BLMT	Blacktail Moun	91.01 19	eP	P	12 44 11.6	+0.8
	comp=Z,5.7nm,0.7s					
BSMT	Bassoo Peak	91.05 19	eP	P	12 44 11.3	+0.4
	comp=Z,3.4nm,1.1s					
JTMT	Jette	91.27 19	eP	P	12 44 12.4	+0.5
	comp=Z,7.4nm,1.1s					
SWMT	Swartz Lake	91.57 19	eP	P	12 44 13.2	0.0
	comp=Z,3.5nm,0.9s					
IMW	Indian Meadow	95.71 18	eP	P	12 44 33.3	+0.8
	comp=Z,2.7nm,1.0s					
VNDA	Vanda	121.76 166	PKP	PKPdf	12 49 57.0	-2.0
VNDA	Vanda	121.76 166	PKP	PKPdf	12 49 57.0	-2.0
	comp=Z,1.0nm,0.9s,baz=302,slow=5.8,SNR=3.7					
SAML	Samuel	145.04 319	ePKPdf	PKPbc	12 50 43.2	-0.4

IDC 19 12:50:16.9±1.5, 1°.67S×99°.36E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/24, mbtmp3.8/10, ML3.0/1, Error ellipse: s-maj=68.1km s-min=16.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat		4.47 354	Pn	Pn	12 51 25.4	-0.7
	0.8nm,0.3s,baz=217,slow=10,SNR=2.6						
CMAR	Chiang Mai Arr		20.01 359	P	P	12 54 51.3	-0.1
	0.8nm,0.4s,baz=185,slow=9.6,SNR=5.9						
WRA	Warramunga Arr		38.71 120	P	P	12 57 43.0	0.0
	1.4nm,0.5s,baz=302,slow=9.0,SNR=16						
ASAR	Alice Springs		39.96 126	P	P	12 57 53.4	-0.1
	0.9nm,0.6s,baz=301,slow=8.0,SNR=15						
SONM	Songino Array		49.69 6	P	P	12 59 10.0	-0.8
	0.6nm,0.7s,baz=189,slow=11,SNR=4.7						
STKA	Stephens Creek		49.84 132	P	P	12 59 12.0	-0.1
	2.0nm,0.8s,baz=294,slow=14,SNR=3.3						
MKAR	Makanchi Array		50.55 345	P	P	12 59 17.3	+0.1
	0.9nm,0.6s,baz=148,slow=7.0,SNR=8.9						
KURBB	Kurchatov Arra		55.06 344	P	P	12 59 50.4	0.0
	0.2nm,0.4s,baz=166,slow=6.8,SNR=3.6						
ZALV	Zalesovo Beam		56.73 350	P	P	13 00 02.2	-0.2
	0.9nm,0.5s,baz=176,slow=6.8,SNR=4.5						
FINES	FINESS Array B		83.53 332	P	P	13 02 46.7	+0.1
	0.9nm,0.5s,baz=88,slow=4.6,SNR=4.0						
CPUP	Villa Florida		144.20 217	PKP	PKPbc	13 09 54.6	+0.9
	0.3nm,0.3s,baz=133,slow=1.1,SNR=4.0						
TXAR	Lajitas Array		144.82 36	PKP	PKPbc	13 09 56.2	+0.5
	1.2nm,0.6s,baz=259,slow=1.3,SNR=18						

IDC 19 12:52:02.3±3.3, 15°.65S×173°.30W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.5/5, ML1.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=171.1km s-min=22.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu		2.27 40	Pn	Pn	12 52 39.2	-2.0
	8.2nm,0.3s,baz=7.4,slow=2.9,SNR=20						
AFI				Sn	Sn	12 53 05.7	-4.3
	14nm,0.3s,baz=39,slow=23,SNR=15						
AFI				LR	LR	12 53 11.2	
	comp=Z,277nm,18.6s,baz=290,slow=30						
WRA	Warramunga Arr		49.88 257	P	P	13 00 58.0	0.0
	0.2nm,0.5s,baz=95,slow=7.2,SNR=7.0						
ASAR	Alice Springs		50.13 252	P	P	13 00 59.1	-0.7
	0.7nm,0.5s,baz=89,slow=8.3,SNR=14						
NVAR	Mina Array Bea		74.45 42	P	P	13 03 43.7	+0.9
	0.4nm,0.9s,baz=237,slow=9.1,SNR=3.6						
ILAR	Eielson Array		82.67 11	P	P	13 04 27.8	+0.5
	0.3nm,0.6s,baz=228,slow=6.3,SNR=6.8						

IDC 19 13:00:14.8±51.0, 15°.96S×172°.28W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=984.0km s-min=196.7km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek		44.70 241	P	P	13 08 29.6	-0.1
	0.8nm,0.5s,baz=94,slow=13,SNR=3.4						
WRA	Warramunga Arr		50.77 257	P	P	13 09 16.7	-0.5
	0.3nm,0.5s,baz=94,slow=7.0,SNR=9.5						
ASAR	Alice Springs		50.96 252	P	P	13 09 18.8	+0.2
	2.4nm,0.5s,baz=88,slow=8.1,SNR=50						

*ISCJB **19** 13:04:35.3±0.3, 23°.47N±0°.02×121°.72E±0°.02, h38km±10km, Error ellipse: s-maj=3.4km s-min=2.5km az=39.6*
*JMA **19** 13:04:35.8±0.5, 23°.57N×121°.75E, h91km, M2.6*
*TAP **19** 13:04:35.4, 23°.49N×121°.64E, h46km, ML3.2, C*
ISC 19 13:04:35.6±1.1, 23°.47N±0°.02×121°.69E±0°.02, h33km±4km, n46, σ0°68/89, 7C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village		0.27 330	eP	Pn	13 04 43.4	+0.2
	baz=346						
EHY	Hungye		0.34 276	⇑iP	Pb	13 04 44.0	+0.2
	baz=272						
EHY				S	Sn	13 04 50.0	+0.3
	baz=272						
TWF1	Yuli		0.38 252	⇑iP	Pb	13 04 44.6	+0.2
	baz=255						
TWF1				S	Sn	13 04 51.2	+0.3
	baz=255						
ESL	Shilin		0.41 326	⇑iP	Pb	13 04 44.6	-0.3
	baz=325						
ESL				eS	Sb	13 04 51.8	+0.4
	baz=325						
CHKT	Chengkung		0.47 219	P	Pb	13 04 46.3	+0.5
	baz=204						
CHKT				S	Sn	13 04 54.0	+0.7
	baz=204						
HWA	Hwalien		0.51 351	eP	Pn	13 04 46.4	-0.2
	baz=4.0						
HWA				eS	Sn	13 04 54.4	+0.2
	baz=4.0						
TWD	Chiawan		0.61 352	P	Pn	13 04 47.4	-0.6
	baz=350						
TWD				eS	Sn	13 04 56.4	-0.4
	baz=350						
YUS	Yu-Shan		0.68 272	⇑iP	Pn	13 04 49.1	-0.2
	baz=276						
YUS				S	Sn	13 04 57.7	-1.2
	baz=276						
WHF	Hehuan Shan		0.78 330	P	Pn	13 04 49.5	-1.1
	baz=334						
WHF				S	Sn	13 05 00.0	-1.3
	baz=334						
ALS	Alishan		0.81 273	⇑iP	Pn	13 04 51.0	0.0
	baz=278						
ALS				S	Sn	13 05 01.9	-0.2
	baz=278						
SMLT	Sun Moon Lake		0.83 300	iP	Pn	13 04 50.9	-0.3
	baz=300						
SMLT				S	Sn	13 05 02.2	0.0
	baz=300						
TWG	Pinlang		0.86 221	eP	Pn	13 04 50.1	-1.3
	baz=222						
TWG				eS	Sn	13 05 01.5	-1.3
	baz=222						
TTN	Taitung		0.87 215	eP	Pn	13 04 51.5	0.0
	baz=218						
TTN				eS	Sb	13 05 04.3	+0.7
	baz=218						
TYC	Yuchr		0.88 300	iP	Pn	13 04 51.4	-0.2
	baz=301						
TYC				iS	Sn	13 05 03.2	0.0
	baz=301						
TWT	Tachien		0.91 329	iP	Pn	13 04 52.0	-0.3
	baz=335						
TWT				eS	Sn	13 05 03.3	-1.0
	baz=335						
CHN5	Tsauling		0.94 278	⇑iP	Pn	13 04 52.7	+0.2
	baz=276						
CHN5				eS	Sn	13 05 05.4	+0.6
	baz=276						
ENA	Nanau		0.95 3	eP	Pn	13 04 52.5	-0.3
	baz=17						
ENA				eS	Sn	13 05 05.2	+0.1
	baz=17						
WNT	Mingjian		1.01 294	eP	Pn	13 04 53.7	+0.3
	baz=283						
WNT				eS	Sb	13 05 07.5	0.0
	baz=283						
NNS	Nan Shan		1.01 343	eP	Pn	13 04 53.2	-0.4
	baz=348						
NNS				eS	Sn	13 05 05.9	-0.8
	baz=348						
WGK	Gukeng		1.05 282	eP	Pn	13 04 54.0	-0.1
	baz=281						
WGK				eS	Sb	13 05 08.8	-0.1
	baz=281						
SGST	Jiashian		1.09 249	P	Pn	13 04 55.4	+0.9
	baz=246						
SGST				eS	Sb	13 05 09.9	+0.1
	baz=246						
CHN1	Nanshi		1.10 255	⇑iP	Pn	13 04 55.2	+0.4
	baz=252						
CHN1				eS	Sn	13 05 09.6	+0.7
	baz=252						
TWC	Suao		1.14 7	eP	Pn	13 04 55.5	+0.2
	baz=13						
TWC				eS	Sn	13 05 09.8	-0.1
	baz=13						
TCU	Taichung		1.15 306	eP	Pn	13 04 55.7	+0.3
	baz=307						
TCU				eS	Sb	13 05 11.6	+0.1
	baz=307						
CHY	Chiayi		1.16 272	eP	Pn	13 04 54.8	-0.7
	baz=269						
CHY				eS	Sn	13 05 10.6	+0.4
	baz=269						
ENTT	Nioudou		1.17 355	eP	Pn	13 04 55.3	-0.4
	baz=360						
ENTT				eS	Sn	13 05 10.1	-0.4
	baz=360						
TWQ1	Liyutan		1.21 316	eP	Pn	13 04 56.4	+0.1
	baz=318						
TWQ1				eS	Sn	13 05 12.4	+0.9
	baz=318						
NSK	Sanguang		1.24 346	eP	Pn	13 04 56.5	-0.1
	baz=359						
NSK				eS	Sn	13 05 11.1	-1.2
	baz=359						
TWE	Neicheng		1.25 359	eP	Pn	13 04 56.4	-0.3
	baz=357						
TWE				S	Sn	13 05 12.3	-0.1
	baz=357						
NSY	Sanyi		1.27 318	eP	Pn	13 04 57.3	+0.3
	baz=320						
NSY				eS	Sn	13 05 14.0	+1.0
	baz=320						
CHN3	Shinhua		1.28 252	eP	Pn	13 04 57.1	0.0
	baz=259						
CHN3				eS	Sb	13 05 16.2	+0.9
	baz=259						
WTCT	Ta-ch'eng		1.35 287	eP	Pn	13 04 57.4	-0.7
	baz=276						
WTCT				eS	Sn	13 05 15.2	+0.3
	baz=276						
WSF	Szhu		1.36 277	eP	Pn	13 04 58.4	+0.2
	baz=276						
WSF				eS	Sn	13 05 15.3	+0.3
	baz=276						
LAY	Lan-yu		1.43 185	eP	Pn	13 04 58.2	-1.1
	baz=174						
LAY				eS	Sn	13 05 15.4	-1.6
	baz=174						
SCZT	Fangliau		1.47 222	eP	Pn	13 05 01.0	+1.2
	baz=217						
SCZT				eS	Sb	13 05 20.1	-0.7
	baz=217						
TWB1	Santiao Chiao		1.56 10	eP	Pn	13 05 00.7	-0.3
	baz=29						
TWB1				eS	Sn	13 05 20.3	+0.3
	baz=29						
YOJ	Yonaguni jima		1.56 51	eS	Sn	13 05 20.5	+0.3
NWF	Wu-fen Shan		1.60 3	eP	Pn	13 05 01.5	-0.1
	baz=358						
NWF				eS	Sn	13 05 21.3	+0.2
	baz=358						
TSEB	Hengchuen, Pin		1.72 205	eP	Pn	13 05 02.1	-1.1
	baz=194						
TWK1	Hengchun		1.72 208	eP	Pn	13 05 02.5	-0.8
	baz=203						
TWK1				eS	Sn	13 05 26.0	+1.9
	baz=203						
WDGT	Dungji		1.88 264	eP	Pn	13 05 04.0	-1.3
	baz=262						
WDGT				eS	Sn	13 05 26.1	-1.8
	baz=262						
HATJ	Hateruma jima		2.03 73	P	Pn	13 05 07.6	+0.2
HATJ				S	Sn	13 05 31.7	+0.1
IRIF	Iriomote-Funau		2.06 65	P	Pn	13 05 08.3	+0.4
IRIF				eS	Sn	13 05 33.0	+0.6
JKRS	Kuro-shima		2.26 70	P	Pn	13 05 11.2	+0.6
JKRS				eS	Sn	13 05 38.2	+0.9
JIJ	Ishigaki jima		2.42 68	P	Pn	13 05 12.5	-0.3
JIJ				eS	Sn	13 05 40.3	-1.0
JTJ	Tarama		2.99 66	P	Pn	13 05 20.7	0.0
JTJ				eS	Sn	13 05 54.8	-0.6

*BKK **19** 13:07:19.4±0.8, 15°S±12°×17°1W±2°0, h10km, M5.1/15, mB7.1/2, mb5.1/15, Mw(mB)7.1/2*
*IDC **19** 13:07:19.9±0.5, 15°.96S×173°.13W, h0km, mb4.5/15, mb1 4.8/15, mb1mx4.6/22, mbtmp4.5/15, MS4.4/25, Ms1 4.4/25, ms1mx4.3/32, Error ellipse: s-maj=21.5km s-min=14.5km az=135.0*
*ISCJB **19** 13:07:20.1±0.2, 15°.94S±0°.07×173°.17W±0°.06, h10km, mb4.9/108, MS4.5/36, Error ellipse: s-maj=11.1km s-min=5.1km az=143.6*
*NEIC **19** 13:07:21.7±0.2, 15°.86S×173°.19W, h10km, mb5.1/74, Error ellipse: s-maj=9.5km s-min=4.4km az=137.0*
*BJI **19** 13:07:21.2, 16°.14S×173°.66W, h10km, mB5.2/21, mb5.0/27, Ms5.0/26, Ms7 4.6/26*
*MOS **19** 13:07:27.5±1.2, 15°.03S×173°.17W, h33km, mb5.3/26, Error ellipse: s-maj=17.6km s-min=8.6km az=50.7*
*SZGRF **19** 13:07:27.5, 15°.75S×171°.28W, h33km, Samoa Islands region*
*GCMT **19** 13:07:28.3±0.2, 15°.97S×172°.77W, h31km, MW5.1, Moment Tensor Solution. s37,c46; s66,c102; Moment tensor: Scale 10^{16}Nm; M_{rr}3.64±.19; $M_{\theta\theta}$0.32±.15; $M_{\phi\phi}$-3.96±.13; $M_{r\theta}$1.14±.20; $M_{\theta\phi}$-2.15±.10; $M_{\phi r}$-2.19±.16; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s178.00000°, δ61.00000°, λ60.00000°. NP2:ϕ_p48.00000°, δ41.00000°, λ132.00000°. Principal axes: T 4.8800, Plg62.0000°, Azm40.0000°; N 0.2800, Plg26.0000°, Azm194.0000°; P -5.1600, Plg11.0000°, Azm289.0000°; Data Used: IU IC II G CN.*
*AUST **19** 13:07:30.0, 15°.03S×173°.01W, h100km*
ISC 19 13:07:21.9±0.5, 15°.79S±0°.06×173°.06W±0°.06, h12km±2km, h12km:pP-P, n667, σ1s29/666, mb5.0/108, MS4.5/36, 191C-188D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu		2.25 34	eP	Pn	13 07 57.0	-1.9
AFI				Sn	Sn	13 08 22.3	-4.4
AFI	Afiamalu		2.25 34	Pn	Pn	13 07 57.2	-1.8
	122nm,0.3s,baz=161,slow=0.9,SNR=234						
AFI				Sn	Sn	13 08 22.3	-4.4
	239nm,0.3s,baz=222,slow=23,SNR=8.6						
AFI				LR	LR	13 08 56.5	
	comp=Z,5μm,19.9s,baz=261,slow=40						
NIUE	Niue		4.43 138	P	Pn	13 08 22.6	-6.3
	baz=5.0,SNR=159						
MSVF	Nonsavu		8.73 256	Pn	Pn	13 09 36.0	+7.8
	657nm,1.1s,SNR=25						
MSVF	Nonsavu		8.73 256	eP	Pn	13 09 34.9	+6.7
MSVF				pmax	pmax		
	comp=Z,134nm,1.0s						
MSVF	Nonsavu		8.73 256	eP	Pn	13 09 34.9	+6.7
	comp=Z,134nm,1.0s						
RAR	Rarotonga		13.70 115	Pn	Pn	13 10 31.2	-4.9
RAR	Rarotonga		13.70 115	Pn	Pn	13 10 31.2	-4.9
	comp=Z,3.5nm,0.3s,baz=46,slow=0.0,SNR=5.4						
RAR				LR	LR	13 14 16.1	
	comp=Z,2μm,21.6s,baz=135,slow=30						
RAO	Raoul Island		14.12 198	LR	LR	13 14 41.5	
	comp=Z,201nm,19.7s,baz=17,slow=32						
DZM	Mont Dzumac		20.36 249	eP	Pn	13 12 03.3	+2.7
	comp=Z,170nm,1.5s						
DZM				eLR	LR	13 16 39.4	
	comp=Z,4μm,24.1s						
DZM	Mont Dzumac		20.36 249	P	Pn	13 12 02.9	+2.3
DZM	Mont Dzumac		20.36 249	P	Pn	13 12 02.9	+2.3
	comp=Z,32nm,0.9s,baz=95,slow=18,SNR=8.2						
PPT	Papeete		22.56 98	P	P	13 12 21.9	-0.3
PPT	Papeete		22.56 98	P	P	13 12 21.9	-0.3
	comp=Z,31nm,0.9s,baz=54,slow=24,SNR=4.6						
PPT				LR	LR	13 18 19.7	
	comp=Z,990nm,19.1s,baz=227,slow=29						
PPT2	Papeete2		22.56 98	eLQ	LQ	13 16 39.8	
	comp=Z,1μm,28.8s						
PPT2				eLR	LR	13 17 40.8	
	comp=Z,2μm,23.0s						
TBI	Tubuai		23.45 112	eLQ	LQ	13 16 56.2	
	comp=Z,461nm,30.0s						
TBI				eLR	LR	13 17 58.1	
	comp=Z,2μm,24.2s,baz=284						
URZ	Urewera		24.00 199	eP	P	13 12 35.2	-1.3
	comp=Z,45nm,1.0s						
URZ	Urewera		24.00 199	P	P	13 12 34.9	-1.5
	comp=Z,11nm,0.5s,baz=74,slow=4.5,SNR=12						
URZ				LR	LR	13 20 28.1	
	comp=Z,826nm,20.9s,baz=19,slow=33						
HNR	Honiara		27.07 280	LR	LR	13 22 28.0	
	comp=Z,2μm,19.9s,baz=123,slow=34						
KHZ	Kahutara		28.92 201	eP	P	13 13 22.0	+1.2
	comp=Z,21nm,0.7s						
RPZ	Rata Peaks		30.94 203	eP	P	13 13 39.0	+0.3
	comp=Z,32nm,0.8s						
RPZ	Rata Peaks		30.94 203	P	P	13 13 40.3	+1.5
	comp=Z,6.2nm,0.5s,baz=36,slow=15,SNR=5.2						

CMSA	Cobar Meteorol	40.64	240	P	P	13 14 59.9	-2.2
	baz=41,SNR=10						
TOO	Toolangi	42.47	231	P	P	13 15 16.4	-0.6
	baz=43,SNR=6.1						
STKA	Stephens Creek	44.13	240	eP	P	13 15 28.7	-1.8
	comp=Z,3.0nm,0.8s						
STKA	Stephens Creek	44.13	240	P	P	13 15 28.5	-1.9
	comp=Z,5.3nm,0.6s,baz=92,slow=12,SNR=17						
STKA				LR	LR	13 33 00.8	
	comp=Z,534nm,19.3s,baz=47,slow=35						
STKA	Stephens Creek	44.13	240	P	P	13 15 28.9	-1.6
	baz=44,SNR=17						
BBOO	Buckleboo	48.90	240	P	P	13 16 05.9	-2.0
	baz=49,SNR=6.3						
WRAB	Tennant Creek	50.07	257	eP	P	13 16 14.7	-2.3
WRAB				pmax	pmax		
	comp=Z,18nm,1.3s						
WRAB	Tennant Creek	50.07	257	eP	P	13 16 14.7	-2.3
	comp=Z,18nm,1.3s						
WRA	Warramunga Arr	50.08	257	P	P	13 16 14.7	-2.4
WRA	Warramunga Arr	50.08	257	P	P	13 16 14.7	-2.4
	comp=Z,4.2nm,0.6s,baz=92,slow=7.4,SNR=22						
WRA				LR	LR	13 36 05.9	
	comp=Z,1μm,20.1s,baz=90,slow=34						
AS31	Alice Springs	50.30	252	eP	P	13 16 16.4	-2.4
ASAR	Alice Springs	50.30	252	P	P	13 16 16.9	-1.9
ASAR	Alice Springs	50.30	252	P	P	13 16 16.9	-1.9
	comp=Z,14nm,0.6s,baz=88,slow=8.1,SNR=71						
ASAR				LR	LR	13 36 37.6	
	comp=Z,1μm,18.6s,baz=93,slow=35						
KDU	Kakadu	52.77	266	P	P	13 16 39.1	+1.8
	baz=53,SNR=5.9						
MTN	Manton Dam	54.03	265	P	P	13 16 47.2	+0.7
	baz=54,SNR=4.4						
FORT	Forrest	55.53	243	eP	P	13 16 54.9	-2.3
	comp=Z,28nm,0.7s						
KNRA	Kununurra	55.83	262	P	P	13 16 58.9	-0.7
	baz=56,SNR=7.1						
FITZ	Fitzroy Crossi	58.45	258	P	P	13 17 17.4	-0.7
	baz=59,SNR=6.0						
SBA	Scott Base	62.89	185	eP	P	13 17 47.7	+0.3
SBA				pmax	pmax		
	comp=Z,53nm,1.8s						
SBA	Scott Base	62.89	185	eP	P	13 17 47.7	+0.3
	comp=Z,53nm,1.8s						
VNDA	Vanda	63.02	186	P	P	13 17 48.1	-0.2
VNDA	Vanda	63.02	186	P	P	13 17 48.1	-0.2
	comp=Z,3.8nm,1.0s,baz=355,slow=5.8,SNR=11						
VNDA				LR	LR	13 39 19.8	
	comp=Z,115nm,19.3s,baz=27,slow=30						
MEEK	Meekatharra	63.97	248	P	P	13 17 53.9	-1.6
	baz=64,SNR=4.3						
KLBR	Kellerberrin	64.35	242	P	P	13 18 06.5	+8.6
	baz=65,SNR=5.5						
FX1	Attu Island--F	69.42	351	LR	LR	13 42 24.5	
	comp=Z,327nm,21.2s,baz=191,slow=30						
MJAR	Matsushiro Arr	69.45	320	P	P	13 18 30.1	-0.1
MJAR	Matsushiro Arr	69.45	320	P	P	13 18 30.1	-0.1
	comp=Z,0.3nm,0.3s,baz=168,slow=7.3,SNR=4.1						
MJAR				LR	LR	13 43 15.5	
	comp=Z,184nm,21.0s,baz=115,slow=31						
SCI	San Clemente I	71.14	46	⇓P	P	13 18 42.6	+2.0
	baz=71						
SBC	Santa Barbara	71.17	44	⇓P	P	13 18 42.7	+2.0
	baz=72						
PKM	Peak Mountain	71.36	44	⇓P	P	13 18 44.1	+2.0
	baz=72,SNR=5.6						
SAO	San Andreas Ge	71.40	42	eP	P	13 18 43.8	+1.7
SAO				pmax	pmax		
	comp=Z,41nm,1.5s						
SAO	San Andreas Ge	71.40	42	eP	P	13 18 43.8	+1.7
	comp=Z,41nm,1.5s						
BLG	Laguna Peak	71.42	45	⇓P	P	13 18 43.9	+1.6
	baz=72						
CIS	Catalina Islan	71.48	46	⇓P	P	13 18 44.0	+1.3
	baz=72						
SMMC	Simmler	71.48	44	⇑P	P	13 18 44.7	+2.1
	baz=72						
FMP	Fort Macarthur	71.73	46	⇓P	P	13 18 46.0	+1.9
	baz=72						
DECC	Green Verdugo	72.00	45	⇓P	P	13 18 47.4	+1.6
	baz=72						
109C	Camp Elliot, M	72.10	47	⇓P	P	13 18 48.1	+1.8
	baz=72						
ARVC	Arvin	72.16	44	⇑P	P	13 18 48.4	+1.7
	baz=72						
MWC	Mount Wilson	72.17	45	eP	P	13 18 47.8	+0.8
MWC				pmax	pmax		
	comp=Z,22nm,1.4s						
MWC	Mount Wilson	72.17	45	eP	P	13 18 47.8	+0.8
	comp=Z,22nm,1.4s						
VES	Vestal, Richgr	72.40	44	⇓P	P	13 18 49.7	+1.6
	baz=73						
BFSC	Mount Baldy Ra	72.46	46	⇓P	P	13 18 49.8	+1.1
	baz=73						
RCTC	Rector, Farmer	72.57	43	⇓P	P	13 18 50.6	+1.6
	baz=73						
MONP	Monument Peak	72.59	47	⇑P	P	13 18 50.8	+1.2
	baz=73,SNR=6.0						
EDW2	Edwards Air Fo	72.59	45	⇑P	P	13 18 50.6	+1.3
	baz=73,SNR=16						
DVTC	Desert V Tower	72.69	48	⇑P	P	13 18 51.6	+1.6
	baz=73						
ISA	Isabella	72.70	44	eP	P	13 18 51.5	+1.5
ISA				pmax	pmax		
	comp=Z,49nm,1.6s						
ISA	Isabella	72.70	44	eP	P	13 18 51.5	+1.5
	comp=Z,49nm,1.6s						
ISA	Isabella	72.70	44	⇓P	P	13 18 51.5	+1.5
	baz=73,SNR=19						
PET	Petropavlovsk	72.75	343	eP	P	13 18 56.8	+7.1
PET				eS	S	13 28 15.9	+0.9
PET				pmax	pmax		
	comp=Z,13nm,1.0s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
CMB	Columbia Colle	72.84	41	P	P	13 18 51.6	+0.8
CMB				pmax	pmax		
	comp=Z,25nm,1.5s						
CMB	Columbia Colle	72.84	41	P	P	13 18 51.6	+0.8
	comp=Z,25nm,1.5s						
PFO	Pinyon Flat Ob	72.95	47	eP	P	13 18 52.1	+0.5
	comp=Z,6.6nm,1.5s						
PFO	Pinyon Flat Ob	72.95	47	⇓P	P	13 18 52.6	+1.0
	baz=73						
BBRC	Big Bear Solar	72.98	46	⇑P	P	13 18 53.1	+1.2
	baz=73						
SWSC	Sam W. Stewart	73.06	48	⇑P	P	13 18 53.3	+1.2
	baz=73						
WDC	Whiskeytown Da	73.08	38	eP	P	13 18 52.4	+0.3
WDC				pmax	pmax		
	comp=Z,45nm,1.6s						
WDC	Whiskeytown Da	73.08	38	eP	P	13 18 52.4	+0.3
	comp=Z,45nm,1.6s						
PETK	Petropavlovsk-	73.10	342	P	P	13 18 53.4	+1.5
PETK	Petropavlovsk-	73.10	342	P	P	13 18 53.4	+1.5
PETK	Petropavlovsk-	73.10	342	P	P	13 18 53.4	+1.5
	comp=Z,6.0nm,0.8s,baz=145,slow=10,SNR=11						
LRMC	Laurel Mountai	73.13	45	⇓P	P	13 18 53.9	+1.3
	baz=73,SNR=14						
RRX	Edison Barstow	73.27	45	⇓P	P	13 18 54.6	+1.3
	baz=74						
CWC	Cottonwood Cre	73.41	44	⇑P	P	13 18 55.7	+1.5
	baz=74						
BELC	Belle Mtn. Jos	73.48	47	⇑P	P	13 18 55.9	+1.2
	baz=74,SNR=9.0						
MPMC	Manual Prospec	73.59	44	⇑P	P	13 18 56.7	+1.3
	baz=74,SNR=29						
MLAC	Mammoth Lakes	73.60	42	⇑P	P	13 18 57.0	+1.5
	baz=74						
GSC	Goldstone	73.63	45	eP	P	13 18 55.9	+0.4
GSC				pmax	pmax		
	comp=Z,29nm,1.5s						
GSC	Goldstone	73.63	45	eP	P	13 18 55.9	+0.4
	comp=Z,29nm,1.5s						
GSC	Goldstone	73.63	45	⇓P	P	13 18 56.3	+0.8
	baz=74,SNR=10						
TIN	Tinemaha	73.66	43	⇑P	P	13 18 57.5	+1.8
	baz=74						
BC3	Big Chuckawall	73.68	47	⇓P	P	13 18 57.2	+1.3
	baz=74,SNR=5.9						
HEC	Hector,Ludlow	73.70	46	⇑P	P	13 18 56.7	+0.7
	baz=74,SNR=9.4						
GLA	Glamis	73.81	48	⇓P	P	13 18 58.0	+1.5
	baz=74						
BEKR	Beckworth	73.96	40	eP	P	13 18 58.0	+0.5
	comp=Z,14nm,1.4s						
YSS	Yuzh-Sakhalins	73.99	330	eP	P	13 19 08.5	+11
GMRC	Granite Mounta	74.14	46	⇑P	P	13 18 59.2	+0.7
	baz=74,SNR=14						
IRM	Iron Mountain	74.16	47	⇓P	P	13 18 59.9	+1.3
	baz=74,SNR=11						
GRAC	Grapevine Rang	74.19	43	⇑P	P	13 19 00.2	+1.5
	baz=74,SNR=14						
FURC	Furnace Creek,	74.24	44	⇓P	P	13 19 00.3	+1.4
	baz=74						
TUQ	Turquoise Moun	74.31	45	⇑P	P	13 19 00.5	+0.9
	baz=75,SNR=12						
SHOC	Shoshone	74.32	45	⇑P	P	13 19 00.5	+1.1
	baz=75,SNR=10						
Y12C	Blythe	74.39	48	⇑P	P	13 19 01.3	+1.4
	baz=75						
NVAR	Mina Array Bea	74.40	42	P	P	13 19 01.4	+1.3
NVAR	Mina Array Bea	74.40	42	P	P	13 19 01.4	+1.3
	comp=Z,4.7nm,0.8s,baz=228,slow=9.5,SNR=42						
NVAR				LR	LR	13 45 51.8	
	comp=Z,428nm,18.7s,baz=254,slow=31						
113A	Mohawk Valley,	74.42	49	⇑P	P	13 19 01.6	+1.5
	baz=75						
PAHR	Pah Rah Range	74.47	40	eP	P	13 19 01.7	+1.3
	comp=Z,39nm,1.5s						
NV11	Mina Array Sit	74.50	42	eP	P	13 19 01.8	+1.2
LDFC	Landfair	74.68	46	eP	P	13 19 03.0	+1.3
	comp=Z,75nm,1.4s						
214A	Organ Pipe Nat	74.71	50	⇑P	P	13 19 03.5	+1.7
	baz=75						
PDMCI	Parker Dam,Lak	74.95	47	⇓P	P	13 19 04.8	+1.7
	baz=75						
Z14A	Wintersburg	75.32	49	⇑P	P	13 19 07.0	+1.7
	baz=76						
SHPR	Sheep Range	75.41	45	eP	P	13 19 07.1	+1.2
	comp=Z,52nm,1.6s						
W13A	Hualapai Mount	75.54	47	⇑P	P	13 19 07.3	+0.5
	baz=76,SNR=6.4						
Y14A	Wickenburg	75.57	48	⇓P	P	13 19 07.7	+0.9
	baz=76,SNR=5.3						
BKCOR	Black Crater	75.92	35	P	P	13 19 10.6	+2.0
R11A	Troy Canyon, C	76.12	43	eP	P	13 19 10.4	+0.4
R11A	Troy Canyon, C	76.12	43	⇓P	P	13 19 11.7	+1.7
	baz=76						
BMN	Battle Mountai	76.24	41	eP	P	13 19 11.7	+1.1
BMN				pmax	pmax		
	comp=Z,43nm,1.7s						
BMN	Battle Mountai	76.24	41	eP	P	13 19 11.7	+1.1
	comp=Z,43nm,1.7s						
TUC	Tucson	76.39	50	eP	P	13 19 12.7	+1.2
TUC				pmax	pmax		
	comp=Z,37nm,1.6s						
TUC	Tucson	76.39	50	eP	P	13 19 12.7	+1.2
	comp=Z,37nm,1.6s						
WVOR	Wild Horse Val	76.54	38	eP	P	13 19 12.9	+0.7
WVOR				pmax	pmax		
	comp=Z,48nm,1.7s						
WVOR	Wild Horse Val	76.54	38	eP	P	13 19 12.9	+0.7
	comp=Z,48nm,1.7s						
KSRS	Kona Array	76.67	315	LR	LR	13 47 55.0	
	comp=Z,108nm,20.0s,baz=132,slow=32						
VFP	Flag Point	76.69	35	P	P	13 19 14.4	+1.4
X16A	Lo Mia Camp, P	76.93	48	⇓P	P	13 19 16.4	+1.7
	baz=77						
319A	Douglas	77.07	52	⇓P	P	13 19 16.9	+1.4
	baz=77						
CCUT	Cedar City	77.18	45	eP	P	13 19 17.6	+1.5
	comp=Z,35nm,1.6s						
ARUT	Antelope Range	77.25	44	eP	P	13 19 17.8	+1.4
ARUT				pmax	pmax		
	comp=Z,37nm,1.5s						
ARUT	Antelope Range	77.25	44	eP	P	13 19 17.8	+1.4
	comp=Z,37nm,1.5s						
U15A	North Rim	77.33	46	⇑P	P	13 19 18.1	+1.1
	baz=78,SNR=22						
LON	Longmire	77.41	33	eP	P	13 19 17.9	+1.0
LON				pmax	pmax		
	comp=Z,21nm,1.5s						
LON	Longmire	77.41	33	eP	P	13 19 17.9	+1.0
	comp=Z,21nm,1.5s						
WPW	White Pass	77.52	33	P	P	13 19 19.0	+1.4
WUAZ	Wupatki	77.52	47	eP	P	13 19 19.3	+1.4
	comp=Z,30nm,1.6s						
WUAZ	Wupatki	77.52	47	⇑P	P	13 19 19.3	+1.4
	baz=78,SNR=6.4						
320A	Kipp Ranch, An	77.63	52	⇑P	P	13 19 20.3	+1.7
	baz=78						
220A	Playas Peak, P	77.89	52	⇑P	P	13 19 21.5	+1.5
	baz=78,SNR=14						
USRK	Ussuriysk Arra	77.89	323	LR	LR	13 50 57.0	
	comp=Z,198nm,18.2s,baz=194,slow=34						
X18A	Snowflake	78.06	49	⇑P	P	13 19 22.4	+1.4
	baz=78						
120A	U Bar Ranch, L	78.10	51	⇓P	P	13 19 22.6	+1.4
	baz=78,SNR=7.4						
Z20A	Nine Sixteen R	78.39	51	⇓P	P	13 19 24.0	+1.1
	baz=79,SNR=8.7						
MSU	Marysvale	78.48	44	eP	P	13 19 25.0	+1.7
MSU				pmax	pmax		
	comp=Z,44nm,1.6s						
MSU	Marysvale	78.48	44	eP	P	13 19 25.0	+1.7
	comp=Z,44nm,1.6s						
W18A	Petrified Fore	78.50	48	⇓P	P	13 19 25.2	+1.8
	baz=79						
221A	Mesquite Ranch	78.50	52	⇓P	P	13 19 25.0	+1.6
	baz=79						
121A	Cookes Peak, D	78.73	51	⇓P	P	13 19 26.2	+1.4
	baz=79,SNR=6.4						
ETW	Entiat	78.73	33	P	P	13 19 25.9	+1.6
BMO	Blue Mountains	78.74	37	eP	P	13 19 25.0	+0.6
	comp=Z,37nm,1.8s						
MFID	Camas Ranch	78.79	39	⇓P	P	13 19 25.8	+1.1
	baz=79,SNR=7.5						
Y20A	Horse Springs,	78.92	50	⇓P	P	13 19 27.0	+1.1
	baz=79,SNR=12						
DUG	Dugway	78.93	43	eP	P	13 19 26.4	+0.8
DUG				pmax	pmax		
	comp=Z,23nm,1.5s						
DUG	Dugway	78.93	43	eP	P	13 19 26.4	+0.8
	comp=Z,23nm,1.5s						
DUG	Dugway	78.93	43	⇓P	P	13 19 26.8	+1.2
	baz=79						
222A	Williams Famil	79.06	52	⇓P	P	13 19 28.1	+1.6
	baz=79						
BGU	Big Grassy Mou	79.17	42	eP	P	13 19 27.2	+0.3
	comp=Z,30nm,1.7s						
Z21A	St. Cloud Mine	79.17	51	⇓P	P	13 19 28.9	+1.8
	baz=80						
Q16A	Castle Valley	79.36	44	⇓P	P	13 19 30.0	+1.9
	baz=80						
W20A	Ramah	79.39	49	⇓P	P	13 19 29.7	+1.3
	baz=80,SNR=9.5						
122A	Conniff Cattle	79.40	52	⇓P	P	13 19 30.3	+2.0
	baz=80						
PMR	Palmer	79.44	11	eP	P	13 19 28.3	+0.6
PMR				pmax	pmax		
	comp=Z,16nm,1.3s						
PMR	Palmer	79.44	11	eP	P	13 19 28.3	+0.6
	comp=Z,16nm,1.3s						
F10A	Beach Ranch, E	79.44	36	P	P	13 19 28.9	+0.7
Y21A	Point of Rocks	79.48	50	⇑P	P	13 19 30.5	+1.6
	baz=80,SNR=9.1						
TMUT	Trail Mountain	79.53	44	eP	P	13 19 30.9	+1.8
	comp=Z,59nm,1.6s						
223A	Chaparral, Ant	79.53	52	⇓P	P	13 19 30.2	+1.2
	baz=80						
MDJ	Mudanjiang	79.54	322	P	P	13 19 29.4	+0.8
MDJ				pP	pP	13 19 32.8	+0.2
MDJ				PP	PP	13 22 29.0	-0.4
MDJ				S	S	13 29 34.0	+3.9
MDJ				SS	SS	13 34 39.4	+0.9
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,51nm,5.0s						
MDJ				LR	LR		
	comp=N,110nm,31.2s						
MDJ				LR	LR		
	comp=E,90nm,32.4s						
MDJ				LR	LR		
	comp=Z,170nm,22.4s						
X21A	Alamocita Cree	79.60	50	⇑P	P	13 19 30.8	+1.2
	baz=80,SNR=10						
Z22A	Elephant Butte	79.67	51	⇑P	P	13 19 31.2	+1.3
	baz=80,SNR=12						
HLID	Hailey	79.72	39	eP	P	13 19 31.1	+1.2
	comp=Z,43nm,1.7s						
HLID	Hailey	79.72	39	⇑P	P	13 19 31.4	+1.4
	baz=80,SNR=16						
V20A	Brimhall	79.73	48	⇓P	P	13 19 31.7	+1.6
	baz=80						
HVU	Hansel Valley	79.78	41	eP	P	13 19 31.1	+0.9
HVU				pmax	pmax		
	comp=Z,48nm,1.8s						
HVU	Hansel Valley	79.78	41	eP	P	13 19 31.1	+0.9
	comp=Z,48nm,1.8s						
BMRM	Bremner River	79.82	14	eP	P	13 19 30.7	+0.8
	comp=Z,31nm,1.4s						
SRU	San Rafael	79.89	45	eP	P	13 19 32.0	+1.1
SRU				pmax	pmax		
	comp=Z,33nm,1.6s						
SRU	San Rafael	79.89	45	eP	P	13 19 32.0	+1.1
	comp=Z,33nm,1.6s						
123A	Bell Site, Whi	79.93	52	⇑P	P	13 19 32.9	+1.7
	baz=80						
U20A	Newcomb	79.96	48	⇑P	P	13 19 32.9	+1.5
	baz=80						
Y22A	Socorro	79.98	51	⇑P	P	13 19 33.2	+1.7
	baz=80						
W21A	San Fidel	80.01	49	⇓P	P	13 19 33.5	+1.8
	baz=80						
324A	Moseley Ranch,	80.01	53	⇑P	P	13 19 32.5	+0.7
	baz=80,SNR=9.9						
LAZ	Ladron	80.06	50	eP	P	13 19 32.5	+0.6
	comp=Z,14nm,1.8s						
DAU	Daniels Canyon	80.06	43	eP	P	13 19 33.7	+1.7
DAU				pmax	pmax		
	comp=Z,17nm,1.4s						
DAU	Daniels Canyon	80.06	43	eP	P	13 19 33.6	+1.7
	comp=Z,17nm,1.4s						
Y22D	IRIS PASSCAL I	80.07	50	⇑P	P	13 19 34.0	+2.1
	baz=80						
425A	Indio Mountain	80.12	54	⇑P	P	13 19 33.3	+1.0
	baz=80,SNR=12						
MNTX	Cornudas Mount	80.20	53	eP	P	13 19 33.2	+0.7
	comp=Z,25nm,1.6s						
X22A	Bernardo	80.20	50	⇑P	P	13 19 34.7	+2.0
	baz=80						
Z23A	Rita Site, Whi	80.23	51	⇑P	P	13 19 34.4	+1.6
	baz=80						
626A	Big Bend Ranch	80.28	56	⇓P	P	13 19 34.1	+1.0
	baz=80,SNR=8.5						
BNM	Barren Site	80.32	50	eP	P	13 19 34.2	+0.8
	comp=Z,9.8nm,1.4s						
V21A	Milan	80.33	49	⇓P	P	13 19 34.5	+1.0
	baz=81,SNR=7.8						
MVCO	Mesa Verde	80.37	47	⇑P	P	13 19 34.9	+1.3
	baz=81						
325A	Bean Ranch, Si	80.38	54	⇑P	P	13 19 34.4	+0.7
	baz=81,SNR=12						
LPM	Los Pinos Moun	80.39	50	eP	P	13 19 35.2	+1.5
	comp=Z,12nm,1.4s						
HWUT	Hardware Ranch	80.47	42	eP	P	13 19 33.9	-0.1
	comp=Z,8.1nm,1.3s						
526A	Mary Lane Ranc	80.52	55	⇑P	P	13 19 35.4	+0.9
	baz=81						
TXAR	Lajitas Array	80.56	56	P	P	13 19 35.6	+1.0
TXAR	Lajitas Array	80.56	56	P	P	13 19 35.6	+1.0
	comp=Z,1.9nm,0.8s,baz=216,slow=6.2,SNR=22						
TXAR				LR	LR	13 48 50.7	
	comp=Z,280nm,18.9s,baz=130,slow=31						
W22A	Albuquerque	80.56	50	⇓P	P	13 19 36.7	+2.0
	baz=81						
124A	Stringfield Ra	80.57	52	⇑P	P	13 19 35.8	+1.0
	baz=81,SNR=6.3						
U21A	Nageezi	80.60	48	⇑P	P	13 19 36.3	+1.4
	baz=81,SNR=19						
Y23A	Lovelace Mesa,	80.65	51	⇓P	P	13 19 36.4	+1.2
	baz=81						
PV01	Paradox Valley	80.76	46	eP	P	13 19 36.7	+1.0
	comp=Z,4μm,1.7s						
S20A	Disappointment	80.76	46	⇓P	P	13 19 37.1	+1.4
	baz=81,SNR=11						
225A	Deer Hill, Car	80.80	53	⇑P	P	13 19 36.9	+0.9
	baz=81,SNR=6.7						
ANMO	Albuquerque	80.80	50	eP	P	13 19 36.5	+0.5
	comp=Z,26nm,1.7s						
426A	McDonald Obser	80.82	55	⇑P	P	13 19 37.1	+1.0
	baz=81,SNR=13						
627A	Terlingua Ranc	80.83	56	⇑P	P	13 19 36.9	+0.8
	baz=81,SNR=15						
X23A	Hourglass Bar	80.84	50	⇑P	P	13 19 37.5	+1.3
	baz=81						
NEW	Newport	80.85	34	⇑P	P	13 19 37.0	+1.3
	baz=81						
V22A	San Miguel Ran	80.91	49	⇑P	P	13 19 38.3	+1.7
	baz=81						
Z24A	Sheeppen Canyo	80.91	52	⇓P	P	13 19 38.1	+1.6
	baz=81						
R20A	Redvale	80.92	46	⇓P	P	13 19 38.2	+1.7
	baz=81						
527A	Woodward Ranch	80.93	55	⇓P	P	13 19 37.6	+0.9
	baz=81,SNR=7.9						
T21A	Navajo Lake	80.95	48	⇓P	P	13 19 38.4	+1.6
	baz=81						
M17A	Scullys Gap (B	80.98	42	⇓P	P	13 19 38.2	+1.4
	baz=81						
SKAG	Skagway	81.01	18	P	P	13 19 37.4	+1.2
S21A	Coal Bank Pass	81.08	47	⇓P	P	13 19 38.8	+1.3
	baz=81,SNR=19						
Y24A	Capitan	81.11	51	⇓P	P	13 19 38.7	+1.1
	baz=81,SNR=7.0						
W23A	Werner Place,	81.12	50	⇑P	P	13 19 39.1	+1.4
	baz=81						
326A	Caldwell Ranch	81.12	54	⇑P	P	13 19 38.8	+1.1
	baz=81						
U22A	Llaves	81.16	48	⇑P	P	13 19 39.5	+1.6
	baz=81						
125A	Gardner Draw,	81.16	53	⇓P	P	13 19 39.3	+1.5
	baz=81						
P19A	Cripple Cowboy	81.19	45	⇓P	P	13 19 38.8	+0.8
	baz=82,SNR=6.6						
628A	Black Gap, Mar	81.24	56	⇑P	P	13 19 39.0	+0.7
	baz=82,SNR=9.8						
226B	Tecolote Peak,	81.30	53	⇓P	P	13 19 39.5	+1.0
	baz=82,SNR=12						
Q20A	Ridgley Place,	81.33	46	⇓P	P	13 19 39.9	+1.2
	baz=82,SNR=8.2						
MCMT	McKenzie Canyo	81.36	39	eP	P	13 19 39.8	+1.0
	comp=Z,13nm,1.6s						
V23A	Ortiz Mt. (NFS	81.36	49	⇑P	P	13 19 40.5	+1.6
	baz=82,SNR=6.1						
Z25A	Roswell	81.38	52	⇑P	P	13 19 40.2	+1.3
	baz=82						
427A	Hayter Ranch,	81.38	55	⇓P	P	13 19 39.9	+0.8
	baz=82,SNR=7.4						
X24A	Lazy VL Ranch,	81.39	51	⇑P	P	13 19 39.9	+0.8
	baz=82						
T22A	Edith	81.41	48	⇑P	P	13 19 40.2	+1.0
	baz=82,SNR=7.4						
O19A	Miners Draw (B	81.42	44	⇑P	P	13 19 40.5	+1.4
	baz=82						
MCK	McKinley	81.45	11	eP	P	13 19 39.0	+0.5
MCK				pmax	pmax		
	comp=Z,22nm,0.9s						
MCK	McKinley	81.45	11	eP	P	13 19 39.0	+0.5
	comp=Z,22nm,0.9s						
HYT	Haines Junctio	81.49	17	eP	P	13 19 40.2	+1.3
RRI2	Red Ridge	81.52	41	eP	P	13 19 40.5	+0.8

I16A	Newdale	81.69	40	⇓P	P	13 19 42.0 +1.6
	baz=82,SNR=13					
W24A	Lazy 6 Ranch,	81.69	50	⇑P	P	13 19 41.3 +0.6
	baz=82,SNR=7.0					
Q21A	Lamborn Mesa,	81.78	46	⇓P	P	13 19 42.3 +1.3
	baz=82,SNR=7.9					
DLMT	Dillon	81.79	38	eP	P	13 19 42.0 +1.0
	comp=Z,45nm,1.7s					
S22A	4UR Ranch, Cre	81.80	47	⇓P	P	13 19 42.6 +1.3
	baz=82,SNR=22					
MSO	Missoula	81.80	37	⇑P	P	13 19 41.5 +0.6
	baz=82					
REDW	Red Top Meadow	81.82	41	eP	P	13 19 42.0 +0.8
	comp=Z,44nm,1.6s					
TPAW	Teton Pass	81.82	41	eP	P	13 19 42.2 +0.9
	comp=Z,34nm,1.6s					
BSMT	Bassoo Peak	81.89	35	eP	P	13 19 41.9 +0.4
	comp=Z,34nm,1.5s					
428A	Kincaid Ranch,	81.90	55	⇑P	P	13 19 42.3 +0.6
	baz=82					
O20A	White River Ci	81.93	44	eP	P	13 19 43.0 +1.2
O20A	White River Ci	81.93	44	⇑P	P	13 19 43.1 +1.3
	baz=82					
Z26A	Caprock	81.94	52	⇓P	P	13 19 42.4 +0.5
	baz=82,SNR=6.0					
227A	Bennet, Jal	81.94	54	⇓P	P	13 19 42.7 +0.7
	baz=82					
X25A	Clemmons Ranch	81.95	51	⇓P	P	13 19 42.7 +0.7
	baz=82					
V24A	Rampart Ranch,	82.02	50	⇑P	P	13 19 44.1 +1.6
	baz=82					
529A	Stev Forest Ra	82.03	56	⇓P	P	13 19 43.3 +1.0
	baz=82					
IMW	Indian Meadow	82.04	40	eP	P	13 19 43.5 +1.0
	comp=Z,48nm,1.6s					
T23A	Casias Ranch,	82.04	48	⇓P	P	13 19 44.2 +1.6
	baz=82					
328A	Wristen Ranch,	82.06	54	⇑P	P	13 19 43.2 +0.6
	baz=82					
R22A	Saguache, Gunn	82.07	47	⇓P	P	13 19 44.1 +1.4
	baz=82,SNR=11					
MOOW	Moose Ponds	82.08	40	eP	P	13 19 43.6 +1.0
	comp=Z,32nm,1.8s					
LOHW	Long Hollow	82.10	41	eP	P	13 19 43.1 +0.5
	comp=Z,33nm,1.7s					
JTMT	Jette	82.11	36	eP	P	13 19 42.4 -0.2
	comp=Z,8.6nm,1.4s					
LRM	Limekiln Ridge	82.12	38	eP	P	13 19 43.4 +0.7
	comp=Z,250nm,1.8s					
L19A	Farson	82.14	42	⇓P	P	13 19 44.1 +1.2
	baz=82					
SWMT	Swartz Lake	82.14	36	eP	P	13 19 43.1 +0.4
	comp=Z,13nm,1.6s					
127A	Arkansas Junct	82.16	53	⇓P	P	13 19 44.3 +1.2
	baz=82					
P21A	Newcastle	82.18	45	⇓P	P	13 19 44.6 +1.4
	baz=82					
QLMT	Earthquake Lak	82.22	39	eP	P	13 19 44.8 +1.6
	comp=Z,4.9nm,1.5s					
CHMT	Chamberlain Mo	82.24	37	eP	P	13 19 43.3 0.0
	comp=Z,18nm,1.6s					
N20A	Spence Gulch,	82.25	44	⇑P	P	13 19 44.6 +1.0
	baz=82,SNR=12					
Q22A	Crested Butte,	82.25	46	⇑P	P	13 19 45.0 +1.4
	baz=82,SNR=22					
H16A	Russell Place,	82.26	39	⇑P	P	13 19 44.9 +1.4
	baz=83,SNR=16					
I17A	Pilgrim Ck.	82.27	40	⇓P	P	13 19 45.4 +1.9
	baz=83					
SLMT	Seeley Lake	82.28	36	P	P	13 19 42.2 -1.3
	comp=Z,21nm,1.7s					
Y26A	Elida	82.32	52	⇑P	P	13 19 45.2 +1.2
	baz=83					
BW06	Boulder Array	82.34	42	eP	P	13 19 43.7 -0.2
	comp=Z,33nm,1.8s					
PDAR	Pinedale Array	82.34	42	P	P	13 19 44.5 +0.5
PDAR	Pinedale Array	82.34	42	P	P	13 19 44.5 +0.5
	comp=Z,3.6nm,0.9s,baz=214,slow=3.1,SNR=30					
PDAR				LR	LR	13 50 44.3
	comp=Z,360nm,19.2s,baz=248,slow=32					
SMCO	Snowmass	82.35	46	eP	P	13 19 45.3 +1.0
	comp=Z,64nm,1.7s					
S23A	Nye Farm, Mont	82.36	47	⇑P	P	13 19 45.9 +1.7
	baz=83					
W25A	X Bar L Ranch,	82.39	50	⇓P	P	13 19 44.7 +0.4
	baz=83,SNR=13					
429A	Davenport Ranc	82.48	55	⇑P	P	13 19 45.0 +0.2
	baz=83,SNR=9.9					
O21A	Pagoda	82.49	45	⇑P	P	13 19 45.4 +0.6
	baz=83					
H17A	Grant Village	82.51	40	eP	P	13 19 47.2 +2.3
BOZ	Bozeman (W)	82.52	38	eP	P	13 19 45.5 +0.8
BOZ				pmax	pmax	
	comp=Z,37nm,1.7s					
BOZ	Bozeman (W)	82.52	38	eP	P	13 19 45.5 +0.8
	comp=Z,37nm,1.7s					
228A	UT Block 9, Go	82.53	54	⇑P	P	13 19 45.7 +0.7
	baz=83					
Z27A	Tatum	82.54	52	⇓P	P	13 19 45.8 +0.7
	baz=83					
V25A	Rancho No Teng	82.55	50	⇑P	P	13 19 45.8 +0.7
	baz=83,SNR=16					
X26A	CR and CF Fran	82.60	51	⇑P	P	13 19 46.5 +1.1
	baz=83					
M20A	Sweetwater, Wa	82.61	43	⇓P	P	13 19 46.2 +0.8
	baz=83,SNR=5.9					
I18A	Diamond G Ranc	82.64	41	⇑P	P	13 19 46.8 +1.3
	baz=83					
COLA	College	82.69	11	eP	P	13 19 45.1 +0.2
COLA				pmax	pmax	
	comp=Z,107nm,1.1s					
COLA	College	82.69	11	eP	P	13 19 45.1 +0.2
	comp=Z,107nm,1.1s					
P22A	Eagle	82.69	46	⇑P	P	13 19 46.9 +1.1
	baz=83,SNR=6.3					
LKWY	Lake	82.71	40	eP	P	13 19 48.0 +2.1
LKWY				pmax	pmax	
	comp=Z,18nm,1.2s					
LKWY	Lake	82.71	40	eP	P	13 19 48.0 +2.1
	comp=Z,18nm,1.2s					
N21A	Black Mountain	82.71	44	⇓P	P	13 19 46.8 +0.9
	baz=83,SNR=13					
530A	J-C Ranch, Com	82.74	56	⇓P	P	13 19 46.9 +0.8
	baz=83					
329A	Wagon Wheel Ra	82.75	55	⇓P	P	13 19 47.0 +0.8
	baz=83					
L20A	Wamsutter	82.76	43	⇓P	P	13 19 47.1 +0.9
	baz=83,SNR=9.7					
ILAR	Eielson Array	82.77	11	P	P	13 19 45.9 +0.5
ILAR	Eielson Array	82.77	11	P	P	13 19 45.9 +0.5
	comp=Z,3.5nm,0.7s,baz=229,slow=6.2,SNR=80					
ILAR				LR	LR	13 49 31.3
	comp=Z,127nm,21.0s,baz=198,slow=30					
IM04	Indian Mountai	82.80	8	eP	P	13 19 46.8 +1.2
Y27A	Causey	82.81	52	⇑P	P	13 19 47.0 +0.6
	baz=83					
128A	Castleberry Fa	82.81	53	⇓P	P	13 19 47.2 +0.7
	baz=83					
K19A	Absolon Red Bu	82.82	42	⇑P	P	13 19 46.5 +0.1
	baz=83,SNR=6.9					
W26A	Owens Ranch, T	82.86	51	⇓P	P	13 19 47.7 +1.0
	baz=83					
G17A	Pierce Place,	82.89	39	⇑P	P	13 19 48.3 +1.7
	baz=83					
S24A	Houchin Ranch,	82.89	48	⇑P	P	13 19 48.1 +1.1
	baz=83,SNR=14					
IMA2	Indian Mountai	82.91	8	eP	P	13 19 47.1 +0.9
J19A	Crowheart	82.91	41	⇓P	P	13 19 47.5 +0.6
	baz=83,SNR=9.6					
U25A	Circle Dot Ran	82.94	49	⇑P	P	13 19 47.7 +0.5
	baz=83,SNR=9.4					
HRY	Holter Researc	82.96	37	P	P	13 19 47.4 +0.4
	comp=Z,12nm,1.0s					
SEY	Seymchan	82.98	345	eP	P	13 19 45.4 -1.1
Q23A	Hartsel	83.02	46	⇓P	P	13 19 48.8 +1.1
	baz=83					
WALA	Waterton Lakes	83.05	35	eP	P	13 19 47.4 0.0
	comp=Z,0.9nm,1.5s					
430A	Baggett Ranch,	83.07	55	⇓P	P	13 19 48.5 +0.7
	baz=83					
K20A	Yellowstone Ra	83.07	42	⇓P	P	13 19 47.8 +0.1
	baz=83,SNR=8.1					
631A	Perdido Creek	83.07	57	⇓P	P	13 19 48.6 +0.8
	baz=83					
229A	Bryant Ranch,	83.08	54	⇓P	P	13 19 48.5 +0.7
	baz=83					
O22A	Kremmling	83.09	45	⇑P	P	13 19 48.9 +0.9
	baz=83,SNR=21					
V26A	Tequesquite Ra	83.14	50	⇑P	P	13 19 48.6 +0.5
	baz=83					
MSTX	Muleshoe	83.14	52	eP	P	13 19 48.7 +0.6
MSTX	Muleshoe	83.14	52	⇓P	P	13 19 49.1 +0.9
	baz=83					
Z28A	Tucker Farm, M	83.16	53	⇓P	P	13 19 48.8 +0.6
	baz=83					
X27A	F and S Farms,	83.17	51	⇑P	P	13 19 49.2 +0.8
	baz=84					
M21A	Separation Pea	83.21	43	⇓P	P	13 19 48.9 +0.3
	baz=84,SNR=6.9					
H18A	Shoshone NF, C	83.22	40	⇓P	P	13 19 49.9 +1.4
	baz=84					
P23A	Jefferson	83.22	46	⇑P	P	13 19 50.4 +1.7
	baz=84					
R24A	Sanders Place,	83.23	47	⇓P	P	13 19 49.8 +1.2
	baz=84,SNR=9.4					
F17A	Fitzpatrick Pl	83.23	39	⇓P	P	13 19 49.6 +1.2
	baz=84,SNR=7.3					
T25A	Trinidad	83.25	49	⇑P	P	13 19 49.7 +0.9
	baz=84,SNR=6.5					
129A	Stewart Farms,	83.30	54	⇓P	P	13 19 50.0 +1.1
	baz=84					
732A	Laxson Ranch,	83.30	58	⇑P	P	13 19 49.5 +0.6
	baz=84					
I19A	Meeteetse	83.32	41	⇓P	P	13 19 49.7 +0.7
	baz=84,SNR=7.9					
RWWY	Rawlins	83.35	43	eP	P	13 19 49.7 +0.5
	comp=Z,72nm,1.7s					
330A	Mertzon	83.36	55	⇑P	P	13 19 49.7 +0.4
	baz=84					
QIZ	Qiongzhong	83.36	292	P	P	13 19 44.3 -5.2
QIZ				S	S	13 30 09.8 -1.0
QIZ				pmax	pmax	
	comp=Z,4.0nm,1.2s					
QIZ				pmax	pmax	
	comp=Z,62nm,4.8s					
QIZ				LR	LR	
	comp=Z,190nm,24.3s					
W27A	Bowe Ranch, En	83.37	51	⇓P	P	13 19 49.6 +0.2
	baz=84,SNR=6.2					
L21A	Rawlins	83.37	43	⇑P	P	13 19 50.1 +0.8
	baz=84,SNR=6.6					
531A	Rocksprings	83.38	56	⇑P	P	13 19 49.8 +0.4
	baz=84,SNR=7.3					
E17A	Martinsdale	83.40	38	⇓P	P	13 19 50.7 +1.4
	baz=84					
U26A	Atchley Ranch,	83.42	49	⇓P	P	13 19 50.4 +0.8
	baz=84,SNR=5.9					
N22A	Wattenberg Ran	83.45	45	⇓P	P	13 19 51.1 +1.3
	baz=84,SNR=6.3					
S25A	Robets Cordova	83.46	48	⇑P	P	13 19 50.5 +0.7
	baz=84,SNR=12					
Y28A	McKinney Farm,	83.51	52	⇓P	P	13 19 50.7 +0.6
	baz=84					
Q24A	Divide	83.52	47	⇑P	P	13 19 51.3 +1.0
	baz=84					
431A	Sonora	83.53	56	⇑P	P	13 19 50.9 +0.8
	baz=84					
O23A	Lake Granby, G	83.54	45	⇓P	P	13 19 51.6 +1.2
	baz=84					
J20A	Shoshoni	83.57	42	⇑P	P	13 19 51.2 +1.0
	baz=84,SNR=8.7					
ISCO	Idaho Springs	83.57	46	eP	P	13 19 51.1 +0.6
ISCO				pmax	pmax	
	comp=Z,25nm,1.7s					
ISCO	Idaho Springs	83.57	46	eP	P	13 19 51.1 +0.6
	comp=Z,25nm,1.7s					
ISCO	Idaho Springs	83.57	46	⇓P	P	13 19 51.5 +0.9
	baz=84,SNR=5.5					
230A	Sterling City	83.59	54	⇓P	P	13 19 51.2 +0.7
	baz=84					
G18A	Lazy EL Ranch,	83.60	39	⇑P	P	13 19 51.4 +1.0
	baz=84,SNR=7.8					
M22A	Cedar Creek Ra	83.63	44	⇑P	P	13 19 51.5 +0.8
	baz=84					
H19A	Powell	83.64	40	⇑P	P	13 19 51.9 +1.4
	baz=84					
Z29A	Hungry Hill Ra	83.67	53	⇓P	P	13 19 51.4 +0.6
	baz=84					
RLMT	Red Lodge	83.69	40	eP	P	13 19 51.9 +1.1
	comp=Z,5.0nm,0.8s					
DAWY	Dawson	83.72	14	eP	P	13 19 51.7 +1.3
632A	Uvalde	83.74	57	⇑P	P	13 19 52.3 +1.0
	baz=84					
K21A	Alcova	83.77	43	⇑P	P	13 19 52.1 +0.8
	baz=84					
GCMT	Greycliff	83.78	39	eP	P	13 19 52.2 +1.0
	comp=Z,28nm,1.7s					
R25A	Fountain Ranch	83.78	48	⇓P	P	13 19 52.4 +1.0
	baz=84					
X28A	Dimmitt	83.80	52	⇑P	P	13 19 52.3 +0.8
	baz=84					
F18A	Big Timber	83.80	39	⇓P	P	13 19 52.6 +1.3
	baz=84,SNR=8.0					
V27A	Dan Oppiter Fa	83.82	50	⇓P	P	13 19 52.7 +1.1
	baz=84					
I20A	Worland	83.83	41	⇓P	P	13 19 52.1 +0.7
	baz=84,SNR=13					
N23A	Red Feather La	83.83	45	⇓P	P	13 19 52.7 +0.9
	baz=84,SNR=7.8					
D17A	Six Diamond Ra	83.86	37	⇑P	P	13 19 52.5 +0.9
	baz=84,SNR=13					
T26A	Comanche Natio	83.86	49	⇓P	P	13 19 52.5 +0.6
	baz=84					
532A	Rocksprings	83.88	57	⇓P	P	13 19 52.7 +0.7
	baz=84					
331A	San Angelo	83.91	55	⇑P	P	13 19 52.8 +0.7
	baz=84					
EGAK	Eagle	83.93	13	eP	P	13 19 52.3 +1.0
	comp=Z,9.2nm,1.1s					
P24A	Kohler Place,	83.93	46	⇑P	P	13 19 53.3 +1.1
	baz=84					
Y29A	Porterfield Fa	83.93	52	⇓P	P	13 19 53.3 +1.0
	baz=84					
J21A	Lysite	83.97	42	⇓P	P	13 19 53.1 +0.8
	baz=84,SNR=15					
130A	Snyder	83.98	54	⇑P	P	13 19 53.5 +1.1
	baz=84					
E18A	Harlowton	84.02	38	⇑P	P	13 19 53.8 +1.4
	baz=84,SNR=8.0					
L22A	Ellis Ranch, M	84.02	43	⇑P	P	13 19 53.4 +0.7
	baz=84,SNR=7.9					
C17A	Wharram Farm,	84.06	37	⇑P	P	13 19 53.2 +0.6
	baz=84,SNR=14					
O24A	Longmont	84.08	46	⇑P	P	13 19 54.1 +1.1
	baz=84					
JCT	Junction City	84.09	56	⇑P	P	13 19 53.6 +0.5
	baz=84					
U27A	Thompson Grove	84.11	50	⇓P	P	13 19 53.3 +0.2
	baz=84					
Z30A	Sanderson Ranc	84.12	53	⇑P	P	13 19 53.1 -0.1
	baz=84,SNR=7.0					
Q25A	Bedland, Calha	84.13	47	⇑P	P	13 19 53.7 +0.4
	baz=84					
S26A	Kim	84.14	48	⇑P	P	13 19 53.3 +0.1
	baz=84,SNR=6.5					
X29A	Tulia	84.14	52	⇑P	P	13 19 53.7 +0.4
	baz=84					
H20A	Greybull	84.17	41	⇑P	P	13 19 53.5 +0.3
	baz=84					
231A	Bronte	84.23	55	⇑P	P	13 19 53.8 0.0
	baz=84					
M23A	Laramie	84.24	44	⇑P	P	13 19 54.4 +0.5
	baz=84,SNR=6.6					
F19A	Roth Farm, Mol	84.25	39	⇓P	P	13 19 54.4 +0.8
	baz=84,SNR=11					
432A	Menard	84.25	56	⇓P	P	13 19 54.1 +0.2
	baz=84					
K22A	Casper	84.25	43	⇓P	P	13 19 54.3 +0.5
	baz=84					
V28A	Channing	84.28	51	⇑P	P	13 19 54.5 +0.6
	baz=85					
I21A	Big Trails, Te	84.29	42	⇓P	P	13 19 54.1 +0.2
	baz=85,SNR=11					
AMTX	Amarillo	84.33	52	eP	P	13 19 54.3 +0.1
	comp=Z,55nm,1.6s					
PHWY	Pilot Hill	84.34	44	eP	P	13 19 54.3 -0.1
	comp=Z,34nm,1.9s					
B17A	L&G Farms, Che	84.38	36	⇓P	P	13 19 54.3 +0.2
	baz=85,SNR=6.3					
G20A	Bridger	84.38	40	⇑P	P	13 19 55.2 +0.9
	baz=85					
D18A	Linhart Farms,	84.40	38	⇑P	P	13 19 55.6 +1.3
	baz=85					
R26A	Arlington	84.44	48	⇓P	P	13 19 54.7 0.0
	baz=85,SNR=13					
P25A	Willow Gulch B	84.44	46	⇑P	P	13 19 55.9 +1.0
	baz=85					
W29A	Amraillo	84.45	51	⇓P	P	13 19 55.5 +0.7
	baz=85					
131A	Roby	84.46	54	⇓P	P	13 19 55.5 +0.7
	baz=85					
332A	Millersview	84.48	55	⇑P	P	13 19 55.5 +0.5
	baz=85					
COLD	Coldfoot	84.48	9	eP	P	13 19 55.7 +1.6
	comp=Z,15nm,1.3s					
N24A	Carr	84.52	45	⇑P	P	13 19 56.3 +1.1
	baz=85					
U28A	Mallet	84.53	50	⇓P	P	13 19 55.5 +0.3
	baz=85					
Y30A	Stafford Cattl	84.53	53	⇓P	P	13 19 55.7 +0.4
	baz=85					
L23A	Garrett	84.55	44	⇓P	P	13 19 55.5 +0.2
	baz=85,SNR=9.7					
S27A	Las Animas	84.57	49	⇓P	P	13 19 56.1 +0.7
	baz=85					
J22A	Midwest	84.63	42	⇓P	P	13 19 55.9 +0.3
	baz=85,SNR=9.4					
E19A	Rath Farm, Rou	84.64	39	⇑P	P	13 19 56.5 +1.0
	baz=85,SNR=7.4					
Q26A	Hugo	84.65	47	⇓P	P	13 19 56.9 +1.1
	baz=85					
F20A	Billings	84.70	40	⇑P	P	13 19 57.2 +1.3
	baz=85					
O25A	Wiggins	84.74	46	⇑P	P	13 19 57.1 +0.9
	baz=85					
232A	Coleman	84.74	55	⇑P	P	13 19 57.2 +0.9
	baz=85					
X30A	Coker Ranch, T	84.77	52	⇓P	P	13 19 57.2 +0.8
	baz=85					
H21A	Big Horn, Sher	84.83	41	⇑P	P	13 19 57.9 +1.3
	baz=85					
EGMT	Eagleton	84.84	37	⇓P	P	13 19 57.5 +1.0
	baz=85					
M24A	Cheyenne	84.84	44	⇓P	P	13 19 58.4 +1.6
	baz=85					
I22A	9 Mile Ranch,	84.85	42	⇓P	P	13 19 57.3 +0.6
	baz=85,SNR=5.3					
V29A	Stinnett	84.85	51	⇑P	P	13 19 57.2 +0.4
	baz=85					
K23A	Bowen Ranch, D	84.89	43	⇓P	P	13 19 58.1 +1.1
	baz=85					
R27A	Eads	84.89	48	⇑P	P	13 19 57.7 +0.7
	baz=85					
T28A	Walsh	84.91	49	⇓P	P	13 19 57.6 +0.4
	baz=85					
D19A	Cripps Ranch,	84.93	38	⇓P	P	13 19 57.7 +0.7
	baz=85,SNR=7.2					
G21A	Lodge Grass	85.01	40	⇑P	P	13 19 58.9 +1.5
	baz=85					
B18A	Beardsley Farm	85.02	37	⇓P	P	13 19 57.7 +0.4
	baz=85,SNR=6.8					
ABTX	Abilene, Hawle	85.02	54	eP	P	13 19 57.7 0.0
ABTX	Abilene, Hawle	85.02	54	⇓P	P	13 19 58.2 +0.5
	baz=85					
L24A	Wheatland	85.03	44	⇓P	P	13 19 58.9 +1.3
	baz=85					
P26A	Davis Ranch, A	85.04	47	⇑P	P	13 19 59.0 +1.2
	baz=85					
Y31A	Rekieta Farm,	85.05	53	⇑P	P	13 19 58.4 +0.6
	baz=85					
E20A	Meyer Farm, Mu	85.06	39	⇑P	P	13 19 59.3 +1.7
	baz=85					
N25A	Grover	85.06	45	⇓P	P	13 19 59.8 +1.9
	baz=85					
C19A	Slack Wire Ran	85.11	38	⇑P	P	13 19 58.8 +1.0
	baz=85,SNR=5.8					
J23A	Dilts Ranch, B	85.22	43	⇓P	P	13 19 59.5 +0.9
	baz=86					
A18A	Metzger Ranch,	85.25	36	⇑P	P	13 19 59.0 +0.5
	baz=86,SNR=8.5					
H22A	Clearmont	85.25	41	⇑P	P	13 19 59.7 +1.0
	baz=86					
S28A	Manter	85.26	49	⇓P	P	13 19 59.8 +0.9
	baz=86					
U29A	Oasis Ranch, S	85.26	50	⇓P	P	13 19 59.6 +0.7
	baz=86					
W30A	Crocket Farms	85.28	52	⇑P	P	13 19 59.9 +0.9
	baz=86					
KSCO	Kaye Shedlock'	85.32	47	⇓P	P	13 20 00.1 +0.9
	baz=86					
D20A	Manuel Ranch,	85.34	38	⇓P	P	13 20 00.1 +1.1
	baz=86,SNR=5.5					
F21A	Absaloka Mine,	85.34	40	⇓P	P	13 20 00.6 +1.5
	baz=86					
M25A	Palm-Egli Farm	85.35	45	⇓P	P	13 20 00.4 +1.1
	baz=86					
O26A	Horse Wrangler	85.35	46	⇑P	P	13 20 00.3 +0.9
	baz=86					
K24A	Anderson Ranch	85.41	43	⇓P	P	13 20 00.5 +1.0
	baz=86					
Z32A	Haskell	85.41	54	⇓P	P	13 20 00.4 +0.8
	baz=86,SNR=13					
V30A	Spur Ranch, Mi	85.42	51	⇑P	P	13 20 00.9 +1.1
	baz=86					
X31A	McDonald Ranch	85.52	52	⇓P	P	13 20 00.6 +0.4
	baz=86					
T29A	Hugoton	85.53	50	⇓P	P	13 20 01.2 +1.1
	baz=86					
B19A	Brinkman Farms	85.53	37	⇑P	P	13 20 01.2 +1.4
	baz=86					
I23A	Meade Ranch, G	85.53	42	⇓P	P	13 20 01.0 +0.9
	baz=86					
P27A	Ficken Ranch,	85.58	47	⇓P	P	13 20 01.2 +0.8
	baz=86					
G22A	Birney	85.58	41	⇓P	P	13 20 01.5 +1.2
	baz=86					
R28A	Tribune	85.63	48	⇑P	P	13 20 01.5 +0.8
	baz=86					
EDM	Edmonton	85.65	31	eP	P	13 20 00.5 +0.2
EDM	Edmonton	85.65	31	eP	P	13 20 00.5 +0.2
N26A	Koester Ranch,	85.66	46	⇑P	P	13 20 01.5 +0.7
	baz=86					
Y32A	R-V Farms, Ver	85.70	53	⇓P	P	13 20 01.7 +0.7
	baz=86					
E21A	Keefer Ranch,	85.71	39	⇓P	P	13 20 02.3 +1.4
	baz=86					
C20A	Veseth Ranch,	85.72	38	⇓P	P	13 20 01.8 +1.0
	baz=86,SNR=5.8					
U30A	WK&E Inc. Balk	85.75	50	⇑P	P	13 20 01.9 +0.5
	baz=86					
W31A	Holland Ranch,	85.76	52	⇓P	P	13 20 02.0 +0.7
	baz=86					
J24A	Dixon Ranch, L	85.77	43	⇓P	P	13 20 02.7 +1.4
	baz=86					
S29A	Ulysses	85.84	49	⇑P	P	13 20 02.8 +1.1
	baz=86					
H23A	Clabaugh Cattl	85.84	42	⇓P	P	13 20 02.4 +0.8
	baz=86					
A19A	Klindworth Far	85.88	37	⇑P	P	13 20 03.0 +1.3
	baz=86					
Q28A	Sharon Springs	85.90	48	⇑P	P	13 20 03.2 +1.2
	baz=86					
BJI	Beijing	85.98	313	P	P	13 20 02.9 +0.7
BJI				S	S	13 30 38.8 +2.8
BJI				pmax	pmax	
	comp=Z,13nm,0.6s					
BJI				LR	LR	
	comp=N,78nm,17.0s					
BJI				LR	LR	
	comp=E,110nm,20.9s					
BJI				LR	LR	
	comp=Z,98nm,24.4s					
D21A	La Casta Ranch	86.01	39	⇑P	P	13 20 03.7 +1.4
	baz=86					
B20A	Solberg Farm,	86.06	37	⇓P	P	13 20 03.6 +1.1
	baz=86					
V31A	Spring Creek L	86.06	51	⇓P	P	13 20 04.9 +2.0
	baz=86					
UBPT	Khong Chiam	86.16	287	P	P	13 20 12.4 +8.8
	comp=Z,9.1nm,1.1s					
F23A	Volborg	86.36	40	⇓P	P	13 20 05.5 +1.4
	baz=87					
H24A	Dirks Ranch, A	86.47	42	⇑P	P	13 20 05.4 +0.7
	baz=87					
WHTX	Lake Whitney	86.52	56	⇑P	P	13 20 05.8 +0.7
	baz=87					
D22A	Cohagen	86.54	39	⇑P	P	13 20 05.8 +0.9
	baz=87					
B21A	Ellsworth Farm	86.64	38	⇓P

C23A	Lambert	87.44	39	⇑P	P	13 20 10.6	+1.4
	baz=88						
PANO	Nakornpanom	87.50	288	P	P	13 20 12.6	+2.4
	comp=Z,10nm,1.2s						
MAW	Mawson	87.53	199	P	P	13 20 08.8	-0.5
MAW	Mawson	87.53	199	P	P	13 20 08.8	-0.5
	comp=Z,2.5nm,0.6s,baz=130,slow=3.8,SNR=11						
MAW				LR	LR	13 55 21.5	
	comp=Z,267nm,21.6s,baz=126,slow=33						
MAW	Mawson	87.53	199	P	P	13 20 09.2	-0.1
	baz=88,SNR=5.7						
H26A	Fairpoint	87.56	42	⇓P	P	13 20 11.2	+1.2
	baz=88						
K28A	Ten Mile Ranch	87.70	44	⇑P	P	13 20 12.0	+1.3
	baz=88						
DGMT	Dagmar	88.33	38	⇑P	P	13 20 14.9	+1.4
	baz=89						
GYA	Guiyang	88.52	298	P	P	13 20 14.8	-0.2
GYA				PP	PP	13 23 44.3	+0.9
GYA				SKS	SKSac	13 30 41.9	-2.6
GYA				S	SKKSac	13 30 58.0	+2.6
GYA				SS	SS	13 36 51.3	-1.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.8s						
GYA				LR	LR		
	comp=N,560nm,20.0s						
GYA				LR	LR		
	comp=E,490nm,21.8s						
GYA				LR	LR		
	comp=Z,520nm,20.4s						
INK	Inuvik	88.57	14	*e*P	P	13 20 13.8	-0.3
	comp=Z,12nm,1.4s						
PLCA	Paso Flores	89.00	132	LR	LR	13 51 09.9	
	comp=Z,292nm,19.4s,baz=136,slow=30						
XAN	Xi'an	89.13	306	P	P	13 20 19.9	+2.3
XAN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
XAN				LR	LR		
	comp=N,48nm,10.6s						
XAN				LR	LR		
	comp=E,32nm,17.5s						
XAN				LR	LR		
	comp=Z,38nm,15.0s						
HHC	Hu-ho-hao-te	89.53	313	*e*P	P	13 20 16.8	-2.6
HHC				sP	sP	13 20 23.9	-0.9
HHC				PP	PP	13 23 51.0	-0.2
HHC				S	SKKSac	13 31 04.8	+2.4
HHC				sS	ScS	13 31 15.0	+0.1
HHC				SS	SS	13 37 05.4	-1.1
HHC				pmax	pmax		
	comp=Z,59nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=N,140nm,17.3s						
HHC				LR	LR		
	comp=E,310nm,17.7s						
HHC				LR	LR		
	comp=Z,300nm,17.8s						
YKA	Yellowknife Ar	90.33	23	P	P	13 20 22.9	+0.5
YKA	Yellowknife Ar	90.33	23	P	P	13 20 22.9	+0.5
	comp=Z,2.1nm,0.9s,baz=237,slow=4.2,SNR=7.6						
PBKT	Sadao Pong	90.68	287	P	P	13 20 27.8	+2.7
	comp=Z,7.1nm,1.2s						
KMI	Kunming	91.49	296	P	P	13 20 27.6	-1.5
KMI				pP	pP	13 20 31.8	-1.2
KMI				PP	PP	13 24 06.3	-1.0
KMI				S	S	13 31 27.3	-1.9
KMI				sS	sS	13 31 35.1	-0.7
KMI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KMI				pmax	pmax		
	comp=Z,35nm,3.5s						
KMI				LR	LR		
	comp=N,87nm,18.2s						
KMI				LR	LR		
	comp=E,120nm,17.6s						
KMI				LR	LR		
	comp=Z,160nm,18.9s						
NANT	Nan	91.54	289	P	P	13 20 38.5	+9.4
	comp=Z,22nm,0.7s						
UTHA	Uthaitani	91.81	286	P	P	13 20 32.5	+2.1
	comp=Z,3.6nm,0.9s						
SYO	Syowa Base	92.28	191	⇓*e*P	P	13 20 28.2	-3.4
SYO	Syowa Base	92.28	191	⇓*es*P	sP	13 20 35.0	-1.9
CD2	Chengdu	92.30	301	*e*P	P	13 20 32.9	+0.5
CD2				pP	pP	13 20 37.8	+1.4
CD2				sP	sP	13 20 40.0	+2.2
CD2				PP	PP	13 24 16.3	+3.0
CD2				SKS	SKSac	13 31 04.5	-1.5
CD2				S	S	13 31 33.3	-2.6
CD2				sS	sS	13 31 40.8	-1.7
CD2				SS	SS	13 37 46.8	+0.1
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,6.8s						
CD2				LR	LR		
	comp=N,150nm,21.4s						
CD2				LR	LR		
	comp=E,240nm,16.6s						
CD2				LR	LR		
	comp=Z,150nm,16.6s						
LAMP	Lampang	92.44	288	P	P	13 20 43.0	+10
CMAR	Chiang Mai Arr	93.05	288	P	P	13 20 37.8	+1.7
CMAR	Chiang Mai Arr	93.05	288	P	P	13 20 37.8	+1.7
	comp=Z,1.6nm,0.6s,baz=87,slow=3.0,SNR=12						
CMAR				LR	LR	13 57 14.4	
	comp=Z,138nm,21.0s,baz=148,slow=32						
CMMT	Chiang Mai	93.14	289	P	P	13 20 38.4	+1.8
	comp=Z,6.2nm,1.2s						
CMAI	Chiengmai2	93.35	290	P	P	13 20 40.5	+2.8
	comp=Z,7.5nm,1.2s,comp=Z,732nm						
LZH	Lanzhou	93.72	306	*e*P	P	13 20 37.8	-1.3
LZH				pP	PcP	13 20 41.0	+1.4
LZH				PP	PP	13 24 25.6	+1.1
LZH				SKS	SKSac	13 31 11.4	-2.6
LZH				sS	ScS	13 31 51.0	+1.0
LZH				*e*SS	SS	13 38 05.6	-1.6
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
LZH				pmax	pmax		
	comp=Z,100nm,9.0s						
LZH				LR	LR		
	comp=N,230nm,17.5s						
LZH				LR	LR		
	comp=E,240nm,18.0s						
LZH				LR	LR		
	comp=Z,300nm,19.8s						
ULM	Lac du Bonnet	94.03	39	LR	LR	13 57 06.0	
	comp=Z,293nm,19.1s,baz=256,slow=32						
SONM	Songino Array	95.36	318	LR	LR	13 58 09.6	
	comp=Z,127nm,21.9s,baz=100,slow=32						
GTA	Gaotai	97.68	309	*e*P	P	13 20 55.8	-1.2
GTA				pP	pP	13 21 00.6	-0.4
GTA				sP	sP	13 21 02.8	+0.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.6s						
LPAZ	La Paz	99.37	110	LR	LR	13 56 16.6	
	comp=Z,199nm,19.4s,baz=302,slow=30						
ROSC	El Rosal	99.69	88	LR	LR	13 54 36.2	
	comp=Z,170nm,19.4s,baz=206,slow=28						
WMQ	Urumqi	107.37	312	*e*Pdif	Pdif	13 21 39.8	-0.2
WMQ				PP	PP	13 26 09.8	+2.2
WMQ				S	Sdif	13 33 36.3	-7.1
WMQ				SS	SS	13 41 12.1	-4.7
WMQ				AMB	AMB		
	comp=Z,7.0nm,13.0s						
WMQ				LR	LR		
	comp=N,48nm,22.0s						
WMQ				LR	LR		
	comp=E,49nm,18.0s						
WMQ				LR	LR		
	comp=Z,59nm,19.0s						
ARU	Arti	123.85	328	*i* PKIKP	PKPdf	13 26 19.8	+0.2
ARU						13 28 02.5	
MIGM	Minsk	138.09	342	*e*LQ	LQ	13 31 08.0	
OJC	Ojcow	144.12	346	*e*PKIKP	PKPdf	13 26 57.3	-0.3
KSP	Ksiaz	144.24	350	*e*PKIKP	PKPbc	13 26 56.2	+0.3
KSP	Ksiaz	144.24	350	*e*PKP	PKPdf	13 26 57.2	-0.5
CLL	Collm	144.24	353	*e*PKPbc	PKPdf	13 26 57.1	-0.7
CLL	Collm	144.24	353	*e*PKIKP	PKPdf	13 26 57.0	-0.7
CLL				*e*		13 27 04.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	Collm	144.24	353	*e*PKPdf	PKPdf	13 26 57.0	-0.7
	comp=Z,4.0nm,0.8s						
CLL				*i* pPKPdf	PKiKP	13 26 59.1	-2.2
CLL				*ep*PKiKP	pPKiKP	13 27 04.0	-1.4
CLL				LV		14 35 00.0	
	comp=Z,100nm,18.6s						
MALT	Malatya	144.37	315	⇑PKIKP	PKPdf	13 27 03.6	+5.1
MALT	Malatya	144.37	315	⇑*i*P	PKPdf	13 27 03.6	+5.1
STHS	Stebnicka Huta	144.50	344	*e*PKIKP	PKPdf	13 26 58.6	+0.3
STHS	Stebnicka Huta	144.50	344	*e*PKP	PKPdf	13 26 58.6	+0.3
BRG	Berggiesshubel	144.56	352	*e*PKP	PKPdf	13 27 02.1	+3.8
	comp=Z,5.2nm,1.2s						
BRG	Berggiesshubel	144.56	352	*e*PKIKP	PKPdf	13 27 02.1	+3.8
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
UPC	Upice	144.61	350	*e*PKIKP	PKPdf	13 26 57.9	-0.5
UPC	Upice	144.61	350	⇑*e*PKP	PKPdf	13 26 57.9	-0.5
KOLS	Kolonicke sedl	144.65	342	*e*PKIKP	PKPdf	13 26 58.3	-0.2
KOLS	Kolonicke sedl	144.65	342	*e*PKP	PKPdf	13 26 58.3	-0.2
DPC	Dobruska-Polom	144.71	350	⇑*i*PKIKP	PKPdf	13 26 58.4	-0.2
DPC	Dobruska-Polom	144.71	350	⇑*i*PKP	PKPdf	13 26 58.4	-0.2
NIE	Niedzica	144.74	345	*e*PKIKP	PKPdf	13 27 00.6	+1.9
OKC	Ostrava-Krasne	144.85	347	*e*PKIKP	PKPdf	13 26 59.1	+0.3
OKC	Ostrava-Krasne	144.85	347	⇑*e*PKP	PKPdf	13 26 59.1	+0.3
BURAR	Bucovina Array	144.85	338	⇑PKIKP	PKPdf	13 26 59.3	+0.2
BURAR	Bucovina Array	144.85	338	⇑*i*P	PKPdf	13 26 59.3	+0.2
CRVS	Cervenica-Dubn	144.91	343	*e*PKIKP	PKPdf	13 26 59.3	+0.3
CRVS	Cervenica-Dubn	144.91	343	*e*PKP	PKPdf	13 26 59.3	+0.3
UZH	Uzhgorod	144.91	342	*d i*PKIKP	PKPbc	13 26 58.3	+0.2
UZH				*e*		13 27 04.9	
UZH				*e*		13 27 13.3	
MORC	Moravsky Berou	145.03	348	*e*PKIKP	PKPdf	13 26 58.8	-0.4
MORC	Moravsky Berou	145.03	348	*e*PKP	PKPdf	13 26 58.8	-0.4
MOX	Moxa	145.03	355	*e*PKPbc	PKPdf	13 26 59.3	+0.1
MOX	Moxa	145.03	355	*e*PKIKP	PKPdf	13 26 59.3	+0.1
TANN	Tannenbergstha	145.18	354	*e*PKPbc	PKPdf	13 27 00.0	+0.5
TESR	Tescani	145.24	336	⇑*i*P	PKPdf	13 26 59.9	+0.3
MEM	Membach	145.26	1	PKP	PKPdf	13 27 00.0	+0.5
SNF	Seneffe	145.31	3	PKP	PKPdf	13 27 00.4	+0.8
PRU	Pruhonice	145.34	351	*e*PKIKP	PKPdf	13 27 00.0	+0.3
PRU				*e*		13 27 07.8	
PRU				MLR	MLR		
	comp=Z,100nm,21.3s						
PRU	Pruhonice	145.34	351	⇑*e*PKP	PKPdf	13 27 00.0	+0.3
PRU				*ex*	x	13 27 07.8	
PRU				AMS	AMS	14 30 30.0	
	comp=Z,100nm,21.3s						
BCLA	Clavier	145.44	2	PKP	PKPab	13 27 00.4	+0.5
KECS	Kecovo	145.55	344	*e*PKIKP	PKPab	13 27 00.8	+0.4
KECS	Kecovo	145.55	344	*e*PKP	PKPab	13 27 00.8	+0.4
TNS	Taunus Mts	145.64	358	*e*PKPbc	PKPab	13 27 00.6	-0.2
TNS	Taunus Mts	145.64	358	*e*PKIKP	PKPab	13 27 00.6	-0.2
MANZ	Manzenberg	145.64	354	*e*PKPbc	PKPab	13 27 01.3	+0.5
KMBO	Kilima Mbogo	145.66	243	PKPbc	PKPbc	13 27 01.8	-0.1
KMBO				*e*PKP	PKPab	13 27 02.0	-0.2
KMBO	Kilima Mbogo	145.66	243	PKPbc	PKPbc	13 27 01.8	-0.1
	comp=Z,7.5nm,1.0s,baz=78,slow=3.5,SNR=10						
CFR	Carcaliu	145.70	333	⇑PKIKP	PKPab	13 27 00.8	-0.3
CFR	Carcaliu	145.70	333	⇑*i*P	PKPab	13 27 00.8	-0.3
DOU	Dourbes	145.73	3	PKP	PKPab	13 27 01.4	+0.3
VRI	Vrincioaia	145.74	335	⇓PKIKP	PKPab	13 27 02.0	+0.8
VRI	Vrincioaia	145.74	335	⇓*i*P	PKPab	13 27 02.0	+0.8
PLOR	Plostina	145.78	335	⇓PKIKP	PKPab	13 27 02.0	+0.6
PLOR	Plostina	145.78	335	⇓*i*P	PKPab	13 27 02.0	+0.6
ROTZ	Rotzenmuhle	145.85	354	*e*PKPbc	PKPab	13 27 02.5	+1.0
TREC	Trest	145.87	350	*e*PKIKP	PKPab	13 27 02.1	+0.5
TREC	Trest	145.87	350	⇑*e*PKP	PKPab	13 27 02.1	+0.5
VYHS	Vyhne	145.96	346	*e*PKIKP	PKPab	13 27 01.8	-0.2
VYHS	Vyhne	145.96	346	*e*PKP	PKPab	13 27 01.8	-0.2
GRF	Grafenberg Arr	146.01	355	*e*PKPbc	PKPab	13 27 03.4	+1.3
GRF	Grafenberg Arr	146.01	355	*e*PKIKP	PKPab	13 27 03.4	+1.3
GRFO	Grafenberg	146.01	355	*e*PKIKP	PKPab	13 27 03.3	+1.2
GRFO	Grafenberg	146.01	355	*e*PKPbc	PKPab	13 27 03.3	+1.2
TIRR	Tirgusor	146.14	332	⇑PKIKP	PKPab	13 27 04.8	+2.1
TIRR	Tirgusor	146.14	332	⇑*i*P	PKPab	13 27 04.8	+2.1
WLF	Walferdange	146.21	1	PKP	PKPdf	13 27 00.4	-0.8
PSZ	Piszkesteto	146.23	344	⇓PKIKP	PKPab	13 27 04.6	+1.5
PSZ	Piszkesteto	146.23	344	⇓*i*P	PKPab	13 27 04.6	+1.5
PSZ	Piszkesteto	146.23	344	⇓*e*PKPdf	PKPab	13 27 03.3	+0.2
KHC	Kasperske Hory	146.31	352	⇑*i*PKP2	PKPab	13 27 03.5	+0.2
KHC				MLR	MLR		
	comp=Z,100nm,21.2s						
KHC	Kasperske Hory	146.31	352	⇑*i*PKP	PKPab	13 27 03.5	+0.2
KHC				*ex*	x	13 27 09.9	
KHC				*ex*	x	13 27 28.5	
KHC				AMS	AMS	14 32 30.0	
	comp=Z,100nm,21.2s						
KHC	Kasperske Hory	146.31	352	*e*PKPbc	PKPab	13 27 03.2	-0.1
MLR	Muntele Rosu	146.36	336	⇓*i*P	PKPab	13 27 04.3	+0.5
DRGR		146.42	340	⇓PKP2	PKPab	13 27 03.9	0.0
DRGR		146.42	340	⇓*i*P	PKPab	13 27 03.9	0.0
GEC2	GERESS Array S	146.58	352	*e*PKPbc	PKPab	13 27 04.3	-0.1
GEC2	GERESS Array S	146.58	352	*e*PKP2	PKPab	13 27 04.3	-0.1
GERES	GERESS Array B	146.58	352	PKPbc	PKPab	13 27 04.2	-0.3
GERES	GERESS Array B	146.58	352	PKPbc	PKPab	13 27 04.2	-0.3
	comp=Z,2.2nm,0.7s,baz=29,slow=3.0,SNR=18						
BR131	Keskin Array S	146.67	321	*e*PKPbc	PKPab	13 27 04.6	-0.6
VOIR		146.76	336	⇑PKP2	PKPab	13 27 05.5	+0.3
VOIR		146.76	336	⇑*i*P	PKPab	13 27 05.5	+0.3
ARR	Arges	146.97	337	⇓*i*P	PKPab	13 27 06.6	+0.5
CONA	Conrad Observa	147.12	349	⇑*i*PKPab	PKPab	13 27 06.0	-0.5
	comp=Z,22nm,1.4s,SNR=11						
MOA	Molln	147.47	351	⇑*i*PKPab	PKPbc	13 27 06.6	+0.7
	comp=Z,14nm,1.1s,SNR=6.3						
BFO	Black Forest	147.53	358	*e*PKPbc	PKPab	13 27 07.0	-1.1
BFO	Black Forest	147.53	358	*e*PKP2	PKPbc	13 27 06.5	+0.4
BFO	Black Forest	147.53	358	*e*PKPbc	PKPbc	13 27 06.5	+0.4
GZR	Gura Zlata	147.62	339	⇓PKIKP	PKPbc	13 27 06.6	+0.1
GZR	Gura Zlata	147.62	339	⇓*i*P	PKPbc	13 27 06.6	+0.1
RJOB	Jochberg	147.78	353	*e*PKPbc	PKPbc	13 27 07.8	+1.0
BZS	Buzias	147.81	340	⇑PKP2	PKPbc	13 27 07.8	+0.9
BZS	Buzias	147.81	340	⇑*i*P	PKPbc	13 27 07.8	+0.9
ARSA	Arzberg	147.84	349	⇓*is*PKPdf	sPKPdf	13 27 07.8	-1.7
	comp=Z,8.7nm,0.9s						
PKSM	Moragy	148.13	345	⇑PKP2	PKPbc	13 27 08.2	+0.5
PKSM	Moragy	148.13	345	⇑*i*P	PKPbc	13 27 08.2	+0.5
PKSM	Moragy	148.13	345	⇑*e*PKPdf	PKPbc	13 27 07.9	+0.2
RETA	Reutte	148.24	355	⇑*is*PKPdf	sPKPdf	13 27 08.7	-1.6
	comp=Z,12nm,1.1s						
ASF	Jabal al Asfar	148.29	306	PKPbc	PKPbc	13 27 09.1	+0.4
ASF	Jabal al Asfar	148.29	306	PKPbc	PKPbc	13 27 09.1	+0.4
	comp=Z,1.8nm,0.5s,baz=285,slow=7.6,SNR=4.5						
MOTA	Moosalm	148.35	355	⇑*is*PKPdf	sPKPdf	13 27 08.7	-1.8
	comp=Z,6.7nm,0.8s						
KBA	Koelnbreinsper	148.36	352	⇓*is*PKPdf	sPKPdf	13 27 08.1	-2.4
	comp=Z,10nm,1.1s						
WTTA	Wattenberg	148.38	354	*i* sPKPdf	sPKPdf	13 27 09.1	-1.5
	comp=Z,21nm,1.2s,SNR=5.6						
SOKA	Soboth	148.48	349	⇑*is*PKPdf	sPKPdf	13 27 08.7	-2.0
	comp=Z,12nm,1.2s,SNR=8.6						
PERS	Pernice	148.50	349	*e*PKPbc	PKPbc	13 27 08.6	-0.1
DAVA	Damuels	148.50	356	⇑*is*PKPdf	sPKPdf	13 27 09.5	-1.3
	comp=Z,18nm,1.1s,SNR=5.7						
FETA	Feichten	148.71	355	⇓*i*PKiKP	PKiKP	13 27 10.0	-0.8
	comp=Z,14nm,1.3s,SNR=6.8						
MYKA	Terra Mystica	148.75	351	⇑*is*PKPdf	sPKPdf	13 27 09.2	-1.9
	comp=Z,13nm,1.3s						
ABTA	Abfaltersbach	148.79	353	⇑*is*PKPdf	sPKPdf	13 27 09.5	-1.7
	SNR=7.5						
LJU	Ljubljana	149.18	350	*e*PKPbc	PKPbc	13 27 10.8	+0.4
TUE	Stuetta	149.35	357	*e*PKPbc	PKPbc	13 27 11.3	+0.2
BOJS	Bojanci	149.57	348	*i* PKPbc	PKPbc	13 27 12.1	+0.7
CSS	Prodhromos	149.61	314	*e*PKPbc	PKPbc	13 27 11.5	-0.4
VTS	Vitosha	149.87	336	⇓PKP2	PKPbc	13 27 13.6	+1.2
VTS	Vitosha	149.87	336	⇓*i*P	PKPbc	13 27 13.6	+1.2
SSB	Saint Sauveur	150.54	3	*e*PKP2	PKPbc	13 27 14.6	+0.8
SSB	Saint Sauveur	150.54	3	*e*PKPbc	PKPbc	13 27 14.6	+0.8
EIL	Elat	150.80	303	PKPbc	PKPbc	13 27 14.9	0.0
EIL	Elat	150.80	303	PKPbc	PKPbc	13 27 14.9	0.0
	comp=Z,5.5nm,0.5s,baz=329,slow=4.3,SNR=4.1						
PGAV	Gavieira, Arco	150.81	24	*e*LR	LR	14 26 09.0	
	comp=Z,155nm,22.0s						
BNI	Bardonecchia	150.83	0	*e*PKIKP	PKPbc	13 27 15.8	+1.2
BNI	Bardonecchia	150.83	0	*e*PKPbc	PKPbc	13 27 15.8	+1.2
POLO	Lamas de Olo	151.50	24	*e*PKPab	PKPab	13 27 24.6	0.0
MVO	Moncorvo	151.97	23	*e*PKPbc	PKPbc	13 27 18.0	+0.7
MVO	Moncorvo	151.97	23	*e*LR	LR	14 26 55.3	
	comp=Z,151nm,22.0s						
MTE	Manteigas	152.43	24	*e*LR	LR	14 25 34.0	
	comp=Z,98nm,20.0s						
PMRV	Marv??o	153.32	25	*e*LR	LR	14 26 40.1	
	comp=Z,146nm,18.0s						
ESDC	Sonseca Array	154.37	20	PKPab	PKPab	13 27 36.6	0.0
ESDC	Sonseca Array	154.37	20	PKPab	PKPab	13 27 36.6	0.0
	comp=Z,0.1nm,0.3s,baz=339,slow=3.8,SNR=5.4						
PVAQ	Vaqueiros	154.87	28	*e*LR	LR	14 26 32.7	
	comp=Z,119nm,24.0s						
TORD	Torodi Ar. Bea	174.28	117	PKP	PKPdf	13 27 30.9	-1.7
TORD				PKPab	PKPab	13 29 02.7	-1.9
TORD				PP	PP	13 32 53.8	-3.0
TORD	Torodi Ar. Bea	174.28	117	PKP	PKPdf	13 27 30.9	-1.7
	comp=Z,2.7nm,1.0s,baz=311,slow=0.9,SNR=9.2						
TORD				PKPab	PKPab	13 29 02.7	-1.9
	comp=Z,1.6nm,1.1s,baz=256,slow=1.2,SNR=4.1						
TORD				PP	PP	13 32 53.8	-3.0
	comp=Z,1.1nm,1.1s,baz=191,slow=6.8,SNR=3.7						

NNC 19 13:10:13.8±1.7, 49°.74N×78°.60E, h0km, mb3.5, mpv3.2, 12C-4D, Error ellipse: s-maj=20.5km s-min=10.6km az=38.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	3.84	139	⇑Pn		Pn	Pb	13 11 20.2	-2.2
	0.7nm,0.3s,baz=141,slow=54,SNR=107								
MK31				Pg		Pg	Pg	13 11 26.9	-0.6
	2.9nm,0.5s,baz=175,slow=25,SNR=39								
MK31				⇑Sn		Sn	Sn	13 12 01.7	+1.7
	2.2nm,0.4s								
MK31				Lg		Lg	Lg	13 12 18.2	
	20nm,0.6s,baz=328,slow=24,SNR=17								
VOSK	Vostochnaya	5.64	305	⇑Pn		Pn	Pn	13 11 40.5	+1.6
	0.9nm,0.5s								
VOSK				⇑Pg		Pg	Pb	13 11 55.0	+1.9
	3.1nm,1.1s								
VOSK				⇑Sn		Sn	Sn	13 12 42.1	-2.3
	3.2nm,0.6s								
VOSK				⇓Lg		Lg	Lg	13 13 11.8	
	7.3nm,0.8s								
BVA0	Borovoye Array	6.10	306	⇓Pn		Pn	Pn	13 11 45.8	+0.6
	1.5nm,0.5s,baz=115,slow=15,SNR=5.1								
BVA0				Sn		Sn	Sn	13 12 56.3	+0.6
	3.6nm,0.5s,baz=112,slow=22,SNR=9.6								
BVA0				⇓Lg		Lg	Lg	13 13 23.8	
	6.4nm,0.6s								
BRVK	Borovoye	6.18	306	⇑Pn		Pn	Pn	13 11 47.6	+1.4
	2.9nm,0.5s								
BRVK				⇑Sn		Sn	Sn	13 12 55.9	-1.5
	9.4nm,0.6s								
BRVK				⇑Lg		Lg	Lg	13 13 30.0	
	7.2nm,0.5s								
TKM2	Tokmak 2	7.12	198	⇑Lg		Lg	Lg	13 14 02.0	
	4.3nm,0.6s								
KK31	Karatay Array	8.67	223	Pn		Pn	Pn	13 12 24.9	+4.5
	0.4nm,0.4s,baz=34,slow=14,SNR=5.1								
KK31				⇑Sn		Sn	Sn	13 14 04.6	+5.7
	0.7nm,0.5s								
KK31				⇑Lg		Lg	Lg	13 14 46.2	
	2.5nm,0.6s,baz=34,slow=27,SNR=3.5								
AB31	Akbulak array	12.14	275	Pn		Pn	Pn	13 13 08.9	+1.0
	0.2nm,0.3s,baz=86,slow=8.2,SNR=9.4								
AB31				⇓Sn		Sn	Sn	13 15 26.8	+2.9
	0.3nm,0.5s								
AB31				⇑Lg		Lg	Lg	13 16 39.1	

CSEM 19 13:24:47.5, 37°.93N×27°.19E, h8km, MD2.8, After DDA

DDA 19 13:24:47.5, 37°.93N×27°.19E, h8km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.23	172	*i* P		Pg	Pg	13 24 52.2	0.0
GCAM				*i* S		Sg	Sg	13 24 56.2	+0.8
GCAM	G?zelcaml?	0.23	172	*i* P		Pg	Pg	13 24 52.2	0.0
GCAM				*i* S		Sg	Sg	13 24 56.2	+0.8
BDRM	Kayabasi	0.89	167	*i* P		Pg	Pg	13 25 02.3	-2.4
BDRM				*i* S		Sb	Sb	13 25 17.5	+0.2
BDRM	Kayabasi	0.89	167	*i* P		Pg	Pg	13 25 02.3	-2.4
BDRM				*i* S		Sb	Sb	13 25 17.5	+0.2
AKHS	Akhisar	1.06	27	*i* P		Pg	Pg	13 25 07.2	-0.9
AKHS				*i* S		Sn	Sn	13 25 23.6	-0.3
AKHS	Akhisar	1.06	27	*i* P		Pg	Pg	13 25 07.2	-0.8
AKHS				*i* S		Sn	Sn	13 25 23.6	-0.3
MANT	Manisa	1.21	62	*i* P		Pg	Pg	13 25 11.1	0.0
MANT				*i* S		Sg	Sg	13 25 26.1	-1.0
MANT	Manisa	1.21	62	*i* P		Pb	Pb	13 25 11.1	0.0
MANT				*i* S		Sg	Sg	13 25 26.1	-1.0

**

VRZ	**Vera Road**	**1.66**	**33**	⇑Pn	Pn	14 03 02.0	0.0
TIWZ	**Tintock**	**1.75**	**99**	⇓Pn	Pn	14 03 02.6	-0.5
TRWZ	**Traveller**	**1.80**	**120**	PN	Pn	14 03 03.4	-0.3
TRWZ				AML	AML	14 03 28.0	
TRWZ				AML	AML	14 03 30.1	
TMWZ	**Te Maipa**	**1.82**	**109**	PN	Pn	14 03 03.7	-0.3
DSZ	**Denniston Nort**	**1.83**	**228**	⇑Pn	Pn	14 03 03.7	-0.3
DSZ				SN	Sn	14 03 25.8	-2.2
MTVZ	**Mangateitei**	**1.83**	**52**	PN	Pn	14 03 04.2	+0.1
TSZ	**Takapari Road**	**1.86**	**76**	PN	Pn	14 03 03.7	-0.8
TSZ				AML	AML	14 03 27.8	
TSZ				AML	AML	14 03 29.4	
KHZ	**Kahutara**	**1.89**	**182**	PN	Pn	14 03 04.7	0.0
KHZ				AML	AML	14 03 29.5	
KHZ				AML	AML	14 03 29.6	
WNVZ	**Wahianoa**	**1.94**	**53**	PN	Pn	14 03 05.2	-0.5
FWVZ	**Far West T-bar**	**1.96**	**50**	PN	Pn	14 03 05.6	-0.4
DVHZ	**Dannevirke**	**1.96**	**84**	PN	Pn	14 03 04.7	-1.0
MOVZ	**Moawhango**	**1.99**	**56**	PN	Pn	14 03 05.7	-0.4
BFZ	**Birch Farm**	**2.01**	**95**	PN	Pn	14 03 05.5	-0.8
TUVZ	**Tukino**	**2.02**	**52**	PN	Pn	14 03 06.0	-0.5
TWVZ	**Taurewa**	**2.02**	**45**	PN	Pn	14 03 06.6	0.0
PNHZ	**Pukenui**	**2.08**	**74**	PN	Pn	14 03 06.2	-1.0
WTVZ	**West Tongariro**	**2.08**	**48**	PN	Pn	14 03 07.5	+0.2
OTVZ	**Oturere**	**2.09**	**50**	PN	Pn	14 03 07.1	-0.4
WPHZ	**Waipukurau**	**2.21**	**79**	⇑PN	Pn	14 03 08.1	-0.8
HIZ	**Hauiti**	**2.23**	**26**	⇑PN	Pn	14 03 08.4	-0.7
HIZ				SN	Sn	14 03 34.6	-2.3
PRHZ	**Porangahau**	**2.33**	**85**	PN	Pn	14 03 09.6	-0.6
LTZ	**Lake Taylor**	**2.46**	**204**	PN	Pn	14 03 11.4	-0.7
PXZ	**Pawanui**	**2.54**	**80**	PN	Pn	14 03 11.9	-1.1
PXZ				AML	AML	14 03 45.1	
BKZ	**Black Stump Fm**	**2.60**	**59**	⇓PN	Pn	14 03 12.4	-1.5
BKZ				AML	AML	14 03 43.8	
BKZ				AML	AML	14 03 44.9	
KAHZ	**Kahuranaki**	**2.61**	**75**	PN	Pn	14 03 13.0	-0.9
MCHZ	**McNeill Hill**	**2.61**	**66**	PN	Pn	14 03 12.7	-1.2
CRLZ	**Canterbury Las**	**3.13**	**193**	⇓PN	Pn	14 03 18.6	-2.1
TOZ	**Tahuroa Road**	**3.16**	**28**	PN	Pn	14 03 16.9	-4.2
MQZ	**McQueen's Vall**	**3.25**	**192**	PN	Pn	14 03 19.8	-2.5
WVZ	**Waitaha Valley**	**3.33**	**219**	PN	Pn	14 03 22.3	-1.0
WVZ				SN	Sn	14 03 58.3	-4.1
MHGZ	**Mahia Peninsul**	**3.58**	**69**	PN	Pn	14 03 27.4	+0.7
RPZ	**Rata Peaks**	**3.71**	**210**	*e*PN	Pn	14 03 26.1	-2.3
FOZ	**Fox Glacier**	**4.21**	**223**	PN	Pn	14 03 32.4	-2.6
LBZ	**Lake Benmore**	**4.61**	**212**	PN	Pn	14 03 39.7	-0.7
ODZ	**Otahua Downs**	**5.01**	**205**	PN	Pn	14 03 44.0	-1.8
JCZ	**Jackson Bay**	**5.05**	**224**	PN	Pn	14 03 44.3	-2.1
JCZ				SN	Sn	14 04 37.1	-6.6

*NNC **19** 14:11:08.0±1.2, 50°.69N×73°.77E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=26.4km s-min=6.8km az=36.0*
*ISCJB **19** 14:11:09.1±0.6, 50°.86N±0°.06×73°.96E±0°.06, h10km, mb3.8/1, Error ellipse: s-maj=9.7km s-min=4.0km az=28.2*
*IDC **19** 14:11:09.2±1.3, 50°.86N×73°.62E, h0km, mb3.6/1, mb1 3.2/5, mb1mx3.1/29, mbtmp3.0/5, ML2.6/4, Error ellipse: s-maj=27.2km s-min=8.7km az=33.0*
ISC 19 14:11:12.3±1.0, 50°.96N±0°.09×73°.94E±0°.06, h10km, n12, σ1§67/19, 9C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.55**	**315**	⇓Pn	**Pn**	**14 11 51.4**	**-2.3**
	5.3nm,0.6s						
VOSK				⇓Sn	**Sn**	**14 12 24.7**	**-0.2**
	126nm,1.9s						
KURBB	**Kurchatov Arra**	**2.93**	**95**	⇓Pn	**Pn**	**14 11 58.3**	**-0.6**
	3.0nm,0.6s						
KURBB				⇑Pg	**Pb**	**14 12 06.1**	**+1.4**
	16nm,0.8s						
KURBB				⇑Lg	Lg	14 12 45.8	
	120nm,0.8s						
KURBB	**Kurchatov Arra**	**2.93**	**95**	Pn	**Pn**	**14 12 00.2**	**+1.3**
	0.1nm,0.3s,baz=277,slow=14,SNR=17						
KURBB				Lg	Lg	14 12 46.0	
	0.6nm,0.3s,baz=101,slow=19,SNR=18						
BVA0	**Borovoye Array**	**3.02**	**315**	Pn	**Pn**	**14 11 59.9**	**-0.3**
	5.1nm,0.7s,baz=128,slow=15,SNR=24						
BVA0				⇑Sn	**Sn**	**14 12 39.5**	**+3.1**
	31nm,0.8s,baz=126,slow=26,SNR=14						
BVA0				⇓Rg	Rg	14 13 05.5	
	89nm,1.4s,baz=125,slow=29,SNR=4.6						
BVAR	**Borovoye Array**	**3.02**	**315**	Pn	**Pn**	**14 11 57.7**	**-2.5**
	1.4nm,0.3s,baz=144,slow=16,SNR=20						
BVAR				Lg	Lg	14 12 40.5	
	2.5nm,0.3s,baz=129,slow=33,SNR=11						
BVAR				Rg	Rg	14 13 11.4	
	27nm,1.1s,baz=135,slow=41,SNR=4.2						
BRVK	**Borovoye**	**3.09**	**314**	⇓Pn	**Pn**	**14 12 01.7**	**+0.6**
	15nm,1.2s						
BRVK				⇑Sn	**Sn**	**14 12 38.4**	**+0.3**
	125nm,1.2s						
BRVK				⇓Rg	Rg	14 13 03.3	
	222nm,1.5s						
MK31	**Makanchi Array**	**6.90**	**124**	⇑Pn	**Pn**	**14 12 53.5**	**-0.1**
	0.7nm,0.9s,baz=268,slow=13,SNR=3.7						
MK31				⇓Pg	**Pb**	**14 13 14.8**	**+2.5**
	1.0nm,0.7s,baz=301,slow=14,SNR=3.7						
MK31				⇑Sn	**Sn**	**14 14 10.7**	**-1.4**
	2.1nm,0.8s,baz=323,slow=12,SNR=4.1						
MK31				⇓Lg	Lg	14 14 45.8	
	18nm,0.9s,baz=309,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**6.90**	**124**	Pn	**Pn**	**14 12 52.0**	**-1.5**
	0.0nm,0.3s,baz=300,slow=12,SNR=3.0						
MKAR				Sn	**Sn**	**14 14 10.6**	**-1.5**
	0.1nm,0.3s,baz=318,slow=19,SNR=4.0						
MKAR				Lg	Lg	14 14 46.8	
	0.4nm,0.3s,baz=331,slow=7.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**7.29**	**62**	Pn	**Pn**	**14 13 00.4**	**+1.6**
	0.3nm,0.3s,baz=255,slow=15,SNR=3.1						
ZALV				Sn	**Sn**	**14 14 21.3**	**-0.2**
	0.2nm,0.3s,baz=243,slow=16,SNR=4.1						
ZALV				Lg	Lg	14 15 08.2	
	0.2nm,0.3s,baz=249,slow=24,SNR=3.3						
TKM2	**Tokmak 2**	**8.12**	**171**	⇑Lg	Lg	14 15 20.8	
	37nm,1.2s						
AB31	**Akbulak array**	**9.16**	**265**	⇓Pn	Pn	14 13 17.0	-7.5
	0.1nm,0.3s,baz=78,slow=11,SNR=4.1						
AB31				⇑Sn	**Sn**	**14 15 07.3**	**-0.2**
	2.0nm,1.1s						
AB31				⇑Lg	Lg	14 15 58.1	
	5.8nm,1.1s,baz=79,slow=24,SNR=4.1						
ILAR	**Eielson Array**	**60.35**	**19**	P	**P**	**14 21 19.1**	**-1.8**
	1.1nm,1.2s,baz=321,slow=5.4,SNR=4.3						

*IDC **19** 14:13:16.5±2.0, 6°.52S×130°.26E, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=52.8km s-min=27.4km az=83.0*
*AUST **19** 14:13:27.0, 6°.98S×129°.54E, h200km*
*ISCJB **19** 14:13:30.8±0.8, 7°.20S±0°.06×129°.65E±0°.06, h146km, mb3.3/1, Error ellipse: s-maj=8.9km s-min=7.6km az=26.8*
ISC 19 14:13:31.1±1.1, 7°.30S±0°.08×129°.63E±0°.08, h146km, n12, σ3§14/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.08**	**31**	P	**Pn**	**14 14 43.8**	**-1.7**
	baz=4.9,SNR=3.8						
FAKI				S	Sn	14 15 33.3	-10
	baz=4.9,SNR=6.1						
MTN	**Manton Dam**	**5.70**	**165**	P	Pn	14 14 57.7	+3.9
	baz=6.1,SNR=5.5						
MTN				S	**Sn**	**14 16 01.2**	**+2.8**
	baz=6.1,SNR=7.2						
SOEI	**Soe**	**5.84**	**245**	S	**Sn**	**14 16 04.3**	**+2.3**
	baz=5.9,SNR=4.1						
KDU	**Kakadu**	**6.04**	**153**	P	Pn	14 15 01.4	+3.1
	baz=6.4,SNR=28						
KDU				S	**Sn**	**14 16 07.6**	**+1.2**
	baz=6.4,SNR=8.9						
BATI	**Baumata**	**6.57**	**244**	Pn	Pn	14 15 08.5	+3.1
	1.1nm,0.3s,baz=90,slow=2.0,SNR=5.4						
BATI				Sn	**Sn**	**14 16 19.4**	**+0.1**
	2.3nm,0.3s,baz=164,slow=21,SNR=7.1						
KNRA	**Kununurra**	**8.37**	**186**	P	Pn	14 15 31.9	+2.5
	baz=8.7,SNR=22						
WSI	**Waingapu**	**9.53**	**255**	P	Pn	14 15 34.1	-11
	baz=9.5,SNR=7.4						
FITZ	**Fitzroy Crossi**	**11.42**	**200**	Pn	Pn	14 16 12.3	+2.4
	0.2nm,0.3s,baz=52,slow=20,SNR=12						
FITZ				Sn	**Sn**	**14 18 11.4**	**-4.7**
	0.7nm,0.3s,baz=209,slow=17,SNR=7.5						
FITZ	**Fitzroy Crossi**	**11.42**	**200**	P	Pn	14 16 12.4	+2.5
	baz=12,SNR=6.8						
WRA	**Warramunga Arr**	**13.37**	**160**	Pn	**Pn**	**14 16 35.6**	**+0.3**
	0.5nm,0.3s,baz=345,slow=13,SNR=34						
WRA				Sn	**Sn**	**14 18 59.1**	**-4.0**
	0.6nm,0.3s,baz=334,slow=22,SNR=10.0						
ASAR	**Alice Springs**	**16.78**	**166**	P	**Pn**	**14 17 21.1**	**+3.5**
	0.2nm,0.3s,baz=345,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**68.28**	**327**	P	**P**	**14 24 17.3**	**+1.0**
	0.8nm,1.1s,baz=130,slow=6.3,SNR=2.9						

*IDC **19** 14:31:43.3±0.8, 23°.35N×123°.39E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/38, Error ellipse: s-maj=29.5km s-min=15.8km az=77.0*
*JMA **19** 14:31:46.5±0.3, 23°.37N×123°.55E, h47km, M3.2*
ISC 19 14:31:44.3±2.6, 23°.40N±0°.07×123°.54E±0°.07, h7km±15km, n21, σ0§85/28, mb3.8/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.70**	**20**	P	**Pn**	**14 32 00.4**	**-0.2**
HATJ				S	**Sn**	**14 32 10.8**	**-0.9**
JKRS	**Kuro-shima**	**0.94**	**27**	P	**Pn**	**14 32 04.3**	**+0.4**
JKRS				*e*S	**Sb**	**14 32 16.4**	**+0.9**
IRIF	**Iriomote-Funau**	**0.95**	**10**	P	**Pn**	**14 32 04.0**	**0.0**
IRIF				*e*S	**Sn**	**14 32 17.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.10**	**30**	P	**Pb**	**14 32 06.0**	**+0.2**
JIJ				S	**Sg**	**14 32 19.2**	**-0.7**
YOJ	**Yonaguni jima**	**1.16**	**335**	P	**Pb**	**14 32 07.2**	**+0.5**
YOJ				S	**Sg**	**14 32 22.2**	**+0.5**
JTJ	**Tarama**	**1.63**	**40**	P	**Pn**	**14 32 13.7**	**+0.3**
JTJ				*e*S	**Sn**	**14 32 34.7**	**0.0**
JMJ	**Miyako jima 2**	**2.13**	**48**	P	**Pn**	**14 32 20.7**	**+0.4**
JMJ				*e*S	**Sn**	**14 32 46.7**	**-0.4**
JOGS	**Gusukube**	**2.18**	**51**	P	**Pn**	**14 32 21.3**	**+0.3**
JKE	**Kume jima 2**	**4.14**	**45**	P	**Pn**	**14 32 46.8**	**-1.2**
KSRS	**Korea Array**	**14.51**	**14**	Pn	**P**	**14 35 15.2**	**-1.5**
	0.2nm,0.3s,baz=203,slow=11,SNR=4.5						
KSRS				LR	LR	14 41 46.5	
	comp=Z,47nm,19.3s,baz=200,slow=41						
MJAR	**Matsushiro Arr**	**18.22**	**41**	P	**P**	**14 35 58.5**	**+0.5**
	0.2nm,0.3s,baz=225,slow=8.7,SNR=4.6						
ASAJ	**Asahikawa**	**25.92**	**33**	P	**P**	**14 37 17.3**	**+0.2**
	4.1nm,0.7s,baz=255,slow=3.0,SNR=5.1						
SONM	**Songino Array**	**27.96**	**335**	P	**P**	**14 37 34.7**	**-0.9**
	0.6nm,0.7s,baz=148,slow=8.8,SNR=5.6						
PETK	**Petropavlovsk-**	**39.34**	**32**	P	**P**	**14 39 14.4**	**+0.3**
	0.9nm,0.6s,baz=158,slow=3.5,SNR=4.8						
MKAR	**Makanchi Array**	**40.40**	**316**	P	**P**	**14 39 21.8**	**-1.3**
	0.2nm,0.6s,baz=104,slow=6.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**42.08**	**327**	P	**P**	**14 39 36.7**	**0.0**
	0.5nm,0.4s,baz=116,slow=9.9,SNR=2.2						
WRA	**Warramunga Arr**	**44.35**	**165**	P	**P**	**14 39 54.7**	**-0.7**
	0.9nm,0.8s,baz=347,slow=8.9,SNR=7.0						
ASAR	**Alice Springs**	**47.86**	**167**	P	**P**	**14 40 22.8**	**-0.2**
	0.4nm,0.5s,baz=352,slow=7.7,SNR=21						
STKA	**Stephens Creek**	**57.62**	**162**	P	**P**	**14 41 35.1**	**0.0**
	0.6nm,0.6s,baz=34,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**73.20**	**330**	P	**P**	**14 43 15.9**	**+0.2**
	1.2nm,0.8s,baz=64,slow=6.3,SNR=2.6						
YKA	**Yellowknife Ar**	**82.84**	**23**	P	**P**	**14 44 11.8**	**+2.6**
	0.6nm,0.7s,baz=305,slow=5.3,SNR=3.5						

*AUST **19** 14:41:51.9, 8°.50S×119°.98E, h100km*
*BJI **19** 14:41:53.1, 8°.20S×119°.70E, h181km, mB4.4/1, mb4.4/4*
*ISCJB **19** 14:41:54.1±0.3, 8°.15S±0°.04×119°.74E±0°.04, h201km, mb3.9/11, Error ellipse: s-maj=6.0km s-min=4.4km az=136.0*
*DJA **19** 14:41:54.7±1.0, 8°.5S±5°×12°.0E±1°.1, h172km±7km, M4.3/10, MLv4.3/10*
*IDC **19** 14:41:57.2±1.7, 7°.97S×120°.05E, h213km±15km, mb3.7/11, mb1 3.8/13, mb1mx3.7/22, mbtmp3.7/13, MS3.0/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=25.7km s-min=8.1km az=61.0*
ISC 19 14:41:55.1±0.4, 8°.22S±0°.04×119°.79E±0°.05, h201km, n59, σ1§80/68, mb4.0/11, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.28**	**159**	P	**Pn**	**14 42 19.2**	**-2.5**
LBFI				S	**S**	**14 42 38.5**	**-4.1**
WSI	**Waingapu**	**1.53**	**161**	P	**Pn**	**14 42 27.4**	**-1.7**
WSI				S	**S**	**14 42 52.1**	**-3.2**
BSSI	**Bau Bau, Buton**	**2.18**	**19**	P	**Pn**	**14 42 33.9**	**-1.7**
MMRI	**Maumere**	**2.46**	**100**	P	**Pn**	**14 42 38.6**	**0.0**
BKSI	**Bulukumba**	**2.90**	**7**	P	**Pn**	**14 42 42.5**	**-1.1**
KAPI	**Kappang**	**3.18**	**359**	P	**Pn**	**14 42 45.6**	**-1.4**
KAPI	**Kappang**	**3.18**	**359**	P	**Pn**	**14 42 45.6**	**-1.4**
	54nm,0.3s,baz=192,slow=7.7,SNR=117						
BBSI	**Bau Bau**	**3.87**	**46**	P	**Pn**	**14 42 56.7**	**+1.3**
SPSI	**Sidrap Palu**	**4.23**	**360**	P	**Pn**	**14 42 59.4**	**-0.4**
KKSI	**Kolaka, Sulawe**	**4.43**	**25**	P	**Pn**	**14 43 02.1**	**-0.2**
SOEI	**Soe**	**4.68**	**109**	P	**Pn**	**14 43 06.9**	**+1.3**
UGM	**Wanagama**	**9.18**	**271**	P	**Pn**	**14 44 01.9**	**-1.9**
	baz=9.4,SNR=3.3						
UGM				S	**S**	**14 45 44.8**	**-2.1**
	baz=9.4,SNR=20						
FITZ	**Fitzroy Crossi**	**11.35**	**150**	P	**Pn**	**14 44 32.0**	**+0.3**
	1.0nm,0.3s,baz=338,slow=6.5,SNR=50						
FITZ				S	**S**	**14 46 33.4**	**-5.0**
	2.7nm,0.3s,baz=172,slow=14,SNR=10						
FITZ	**Fitzroy Crossi**	**11.35**	**150**	P	**Pn**	**14 44 32.3**	**+0.6**
	baz=11,SNR=26						
FITZ				S	**S**	**14 46 35.2**	**-3.2**
	baz=11,SNR=4.9						
KNRA	**Kununurra**	**11.49**	**131**	P	**Pn**	**14 44 32.5**	**-0.9**
	baz=11,SNR=78						
KNRA				S	S	14 46 28.0	-14
	baz=11,SNR=5.9						
CISI	**Cisompet, Garu**	**11.88**	**272**	P	**P**	**14 44 45.2**	**+1.8**
	baz=12,SNR=3.2						
MTN	**Manton Dam**	**12.06**	**113**	P	**Pn**	**14 44 40.4**	**-0.4**
	baz=12,SNR=80						
MTN				S	S	14 46 46.0	-9.3
	baz=12,SNR=8.1						
TLE	**Tual**	**13.11**	**80**	P	**P**	**14 44 55.8**	**-1.2**
	baz=13,SNR=5.9						
KDU	**Kakadu**	**13.24**	**111**	P	**Pn**	**14 44 55.8**	**+0.2**
	baz=13,SNR=60						
KDU				S	S	14 47 14.8	-8.4
	baz=13,SNR=4.0						
FAKI	**Fak Fak**	**13.47**	**68**	P	**Pn**	**14 44 57.7**	**-0.9**
	baz=13,SNR=35						
FAKI				S	**S**	**14 47 26.5**	**-2.2**
	baz=13,SNR=3.9						
SWI	**Sorong**	**13.56**	**58**	P	**P**	**14 45 03.2**	**+1.1**
	baz=14,SNR=6.1						
WRA	**Warramunga Arr**	**18.28**	**131**	P	**Pn**	**14 45 55.1**	**-1.4**
	2.5nm,0.3s,baz=295,slow=12,SNR=323						
WRA				S	**S**	**14 49 06.7**	**-5.9**
	baz=307,slow=23,SNR=3.2						
MEEK	**Meekatharra**	**18.35**	**183**	P	**Pn**	**14 45 57.4**	**+0.1**
	baz=18,SNR=34						
MEEK				S	**S**	**14 49 16.8**	**+2.8**
	baz=18,SNR=12						
ASAR	**Alice Springs**	**20.47**	**140**	P	**P**	**14 46 19.1**	**+1.6**
	3.8nm,0.3s,baz=310,slow=9.1,SNR=92						
ASAR				S	**S**	**14 49 54.6**	**-0.9**
	5.3nm,0.8s,baz=319,slow=21,SNR=17						
MORW	**Morawa**	**21.04**	**189**	P	**P**	**14 46 25.3**	**+1.9**
	baz=21,SNR=8.3						
MORW				S	S	14 50 18.6	+13
	baz=21,SNR=10						
BLDU	**Ballidu**	**22.47**	**187**	P	**P**	**14 46 39.4**	**+1.8**
	baz=22,SNR=20						
KLBR	**Kellerberrin**	**23.33**	**184**	P	**P**	**14 46 47.5**	**+2.1**
	baz=23,SNR=9.9						
COEN	**Coen**	**23.64**	**106**	P	**P**	**14 46 49.3**	**+1.0**
	baz=23,SNR=31						
FORT	**Forrest**	**23.74**	**162**	P	**P**	**14 46 51.0**	**+1.9**
	baz=24,SNR=28						
MTSU	**Mount Surprise**	**25.80**	**115**	P	**P**	**14 47 10.1**	**+2.1**
	baz=26,SNR=6.9						
BBOO	**Buckleboo**	**28.74**	**151**	P	**P**	**14 47 36.0**	**+2.1**
	baz=28,SNR=7.7						
STKA	**Stephens Creek**	**31.07**	**142**	P	**P**	**14 47 57.0**	**+2.5**
	4.3nm,0.5s,baz=320,slow=8.7,SNR=27						
STKA	**Stephens Creek**	**31.07**	**142**	P	**P**	**14 47 57.0**	**+2.5**
	baz=31,SNR=21						
CMAR	**Chiang Mai Arr**	**33.55**	**322**	P	**P**	**14 48 16.6**	**+0.4**
	0.8nm,0.5s,baz=145,slow=6.7,SNR=8.1						
CMAR				PcP	**PcP**	**14 50 53.1**	**+1.0**
	0.8nm,0.8s,baz=158,slow=4.1,SNR=5.2						
KSRS	**Korea Array**	**46.07**	**9**	LR	LR	15 12 42.5	
	comp=Z,17nm,18.6s,baz=285,slow=40						
ODAN	**Odare**	**46.94**	**319**	*e*P	**P**	**14 50 06.1**	**-0.1**
	6.0nm,0.4s						
TAPN	**Taplejung**	**47.07**	**320**	*e*P	**P**	**14 50 07.2**	**0.0**
	15nm,0.7s						
MJAR	**Matsushiro Arr**	**47.77**	**20**	P	**P**	**14 50 10.4**	**-1.7**
	0.5nm,0.4s,baz=191,slow=7.6,SNR=4.0						
JIRN	**Jiri**	**48.26**	**319**	*e*P	**P**	**14 50 16.5**	**0.0**
GUN	**Gumba**	**48.63**	**319**	*e*P	**P**	**14 50 19.2**	**-0.1**
PKI	**Pulchoki**	**48.71**	**318**	*e*P	**P**	**14 50 19.5**	**-0.4**
	8.2nm,0.4s						
PKIN	**Phulchoki**	**48.73**	**318**	*e*P	**P**	**14 50 19.8**	**-0.1**
DMN	**Daman**	**48.94**	**318**	*e*P	**P**	**14 50 21.4**	**-0.1**
KKN	**Kakani**	**48.95**	**318**	*e*P	**P**	**14 50 20.9**	**-0.6**
KOLN	**Koldanda**	**50.05**	**317**	*e*P	**P**	**14 50 29.4**	**-0.5**
	11nm,0.5s						
DANN	**Dangsing**	**50.32**	**318**	*e*P	**P**	**14 50 31.0**	**-1.0**
	35nm,0.6s						
PYUN	**Piuthan**	**50.68**	**317**	*e*P	**P**	**14 50 34.2**	**-0.4**
	12nm,0.5s						
GTA	**Gaotai**	**50.88**	**340**	*e*P	**P**	**14 50 37.4**	**+1.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ASAJ	**Asahikawa**	**56.03**	**20**	P	**P**	**14 51 12.0**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=214,slow=7.3,SNR=2.5						
SONM	**Songino Array**	**57.05**	**349**	P	**P**	**14 51 20.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=170,slow=9.0,SNR=9.2						
MKAR	**Makanchi Array**	**64.13**	**332**	P	**P**	**14 52 07.9**	**-0.1**
	comp=Z,9.3nm,0.7s,baz=143,slow=7.7,SNR=103						
ZALV	**Zalesovo Beam**	**68.60**	**339**	P	**P**	**14 52 35.1**	**-1.0**
	comp=Z,8.1nm,0.3s,baz=142,slow=5.2,SNR=35						
PETK	**Petropavlovsk-**	**69.05**	**23**	P	**P**	**14 52 38.7**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=208,slow=7.8,SNR=3.9						
VNDA	**Vanda**	**72.63**	**171**	P	**P**	**14 53 03.1**	**+3.0**
	comp=Z,0.5nm,0.4s,baz=313,slow=6.9,SNR=9.6						
KBZ	**Khabaz**	**86.28**	**315**	P	**P**	**14 54 14.1**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=141,slow=1.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**119.09**	**280**	PKP	**PKPdf**	**15 00 20.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=47,slow=2.8,SNR=12						
NVAR	**Mina Array Bea**	**119.92**	**50**	PKP	**PKPdf**	**15 00 22.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=274,slow=1.6,SNR=6.4						
TXAR	**Lajitas Array**	**134.16**	**57**	PKP	**PKPdf**	**15 00 49.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=298,slow=1.9,SNR=3.1						
CPUP	**Villa Florida**	**145.54**	**185**	PKPbc	**PKPab**	**15 01 11.7**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=146,slow=3.0,SNR=5.5						

IDC 19 14:52:34.8±3.4, 3°.52N×94°.15E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=126.0km s-min=27.0km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.57**	**17**	Pn	Pn	14 56 16.3	+0.6
	0.2nm,0.3s,baz=204,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**45.84**	**122**	P	P	15 00 58.9	-0.2
	0.3nm,0.7s,baz=300,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**47.22**	**127**	P	P	15 01 09.8	-0.1
	0.3nm,0.4s,baz=298,slow=7.5,SNR=20						
ZALV	**Zalesovo Beam**	**50.85**	**353**	P	P	15 01 36.9	-0.2
	0.4nm,0.4s,baz=134,slow=8.3,SNR=2.4						

NNC 19 14:54:23.8±6.0, 37°.44N×69°.35E, h0km, mb3.7, mpv3.3, 4C-4D, Error ellipse: s-maj=58.8km s-min=21.0km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.72**	**9**	⇑Pn	Pn	14 55 52.7	+2.6
	0.8nm,0.4s,baz=178,slow=12,SNR=6.3						
KK31				⇑Lg	Lg	14 57 19.4	
	5.9nm,0.5s,baz=188,slow=29,SNR=7.0						
TKM2	**Tokmak 2**	**7.26**	**39**	⇓Pn	Pn	14 56 10.8	-0.7
	1.8nm,0.5s						
TKM2				⇑Sn	Sn	14 57 35.9	+1.0
	7.7nm,1.6s						
TKM2				⇓Lg	Lg	14 58 14.1	
	5.3nm,0.8s						
**MK

QSPA	**South Pole Qui**	**37.55**	**180**	P	P	15 02 46.8	-0.6
	2.3nm,0.5s,baz=248,slow=6.5,SNR=19						
TORD	**Torodi Ar. Bea**	**69.15**	**333**	P	P	15 06 39.6	-0.1
	0.2nm,0.5s,baz=180,slow=8.0,SNR=2.8						
STKA	**Stephens Creek**	**78.28**	**128**	P	P	15 07 33.9	+0.6
	1.7nm,0.8s,baz=243,slow=9.2,SNR=3.4						
ASAR	**Alice Springs**	**80.99**	**117**	P	P	15 07 48.2	0.0
	0.5nm,0.6s,baz=206,slow=4.7,SNR=15						
WRA	**Warramunga Arr**	**84.23**	**115**	P	P	15 08 05.0	-0.1
	0.9nm,1.0s,baz=214,slow=4.0,SNR=4.8						
NVAR	**Mina Array Bea**	**152.30**	**253**	PKPbc	PKPbc	15 15 29.2	+0.1
	0.3nm,0.5s,baz=169,slow=2.8,SNR=4.5						

*ISCJB **19** 14:57:22.3±0.6,23°.4N±0°.1×93°.68E±0°.10,h51km,mb3.7/4, Error ellipse: s-maj=20.2km s-min=4.7km az=37.8*
*IDC **19** 14:57:26.7±4.2,23°.46N×93°.98E,h78km±35km,mb3.4/4, mb1 3.6/5,mb1mx3.3/25,mbtmp3.4/5,Error ellipse: s-maj=60.1km s-min=17.4km az=65.0*

ISC 19 14:57:24.1±0.8,23°.3N±0°.1×93°.6E±0°.1,h51km,n18, σ2§11/27,mb3.8/4,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.77**	**325**	*e*Pn	**Pn**	**14 58 09.0**	**+2.8**
SHL				*e*SN	**Sn**	**14 58 37.0**	**-1.5**
ODAN	**Odare**	**6.68**	**303**	*e*Pn	**Pn**	**14 59 02.8**	**+2.9**
ODAN				*e*Sn	**Sn**	**15 00 14.1**	**-0.7**
	89nm,0.3s						
TAPN	**Taplejung**	**6.71**	**308**	*e*Pn	Pn	14 59 03.7	+3.3
TAPN				*e*Sn	**Sn**	**15 00 16.9**	**+1.3**
	82nm,0.3s						
CMAR	**Chiang Mai Arr**	**6.91**	**133**	P	**Pn**	**14 59 04.6**	**+1.6**
	0.8nm,0.3s,baz=312,slow=13,SNR=16						
CMAR				S	**Sn**	**15 00 19.7**	**-0.6**
	baz=305,slow=19,SNR=3.3						
RAMN	**Ramite**	**7.34**	**301**	*e*Pn	Pn	14 59 12.3	+3.3
RAMN				*e*Sn	**Sn**	**15 00 29.6**	**-1.4**
	52nm,0.3s						
JIRN	**Jiri**	**8.01**	**304**	*e*Pn	**Pn**	**14 59 20.6**	**+2.4**
JIRN				*e*Sn	**Sn**	**15 00 45.9**	**-1.7**
	83nm,0.3s						
GUN	**Gumba**	**8.37**	**305**	*e*Pn	**Pn**	**14 59 25.9**	**+2.7**
GUN				*e*Sn	**Sn**	**15 00 55.3**	**-1.2**
	84nm,0.4s						
PKI	**Pulchoki**	**8.56**	**302**	*e*Pn	**Pn**	**14 59 28.1**	**+2.3**
PKIN	**Phulchoki**	**8.58**	**302**	*e*Pn	**Pn**	**14 59 28.5**	**+2.5**
PKIN				*e*Sn	**Sn**	**15 01 00.3**	**-1.2**
	42nm,0.3s						
KKN	**Kakani**	**8.77**	**302**	*e*Pn	**Pn**	**14 59 30.6**	**+2.1**
KKN				*e*Sn	**Sn**	**15 01 04.6**	**-1.5**
	23nm,0.2s						
DMN	**Daman**	**8.82**	**301**	*e*Pn	**Pn**	**14 59 31.0**	**+1.7**
KOLN	**Koldanda**	**10.09**	**298**	*e*Pn	**Pn**	**14 59 48.3**	**+1.6**
KOLN				*e*Sn	**Sn**	**15 01 35.4**	**-3.2**
	31nm,0.4s						
DANN	**Dangsing**	**10.22**	**302**	*e*Pn	**Pn**	**14 59 50.5**	**+2.1**
PYUN	**Piuthan**	**10.72**	**299**	*e*Pn	**Pn**	**14 59 56.1**	**+0.9**
PYUN				*e*Sn	**Sn**	**15 01 50.3**	**-3.6**
	31nm,0.4s						
MKAR	**Makanchi Array**	**25.17**	**341**	P	**P**	**15 02 44.3**	**-0.3**
	1.8nm,0.6s,baz=151,slow=10,SNR=8.7						
SONM	**Songino Array**	**26.53**	**19**	P	**P**	**15 02 54.3**	**-2.8**
	0.8nm,0.6s,baz=195,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**58.51**	**134**	P	**P**	**15 07 14.2**	**-1.3**
	0.3nm,0.3s,baz=316,slow=7.9,SNR=17						
ASAR	**Alice Springs**	**60.90**	**137**	P	**P**	**15 07 31.1**	**-0.9**
	0.4nm,0.5s,baz=318,slow=6.7,SNR=12						

*IDC **19** 15:03:20.0±1.6,53°.87N×103°.87E,h0km,mb3.2/1, mb1 3.3/4,mb1mx3.1/27,mbtmp3.2/4,ML3.0/2,Error ellipse: s-maj=32.1km s-min=23.6km az=69.0*

BYKL 19 15:02:42.5±0.2,54°.95N×110°.16E,h29km,1C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.58**	**97**	⇓*i*Pg	Pb	15 02 52.6	-1.7
YLYR				*e*Sg	Sb	15 03 00.1	-2.2
YLYR				Pmax			
	33nm,0.2s						
YLYR				Smax			
	165nm,0.3s						
NIZ	**Nizh Angarsk**	**0.90**	**337**	⇑*i*Pg	Pn	15 02 59.0	-0.2
NIZ				*e*Sg	Sb	15 03 10.3	-1.0
NIZ				Pmax			
	59nm,0.2s						
NIZ				Smax			
	142nm,0.2s						
KMO	**Kumora**	**1.11**	**32**	*e*Pg	Pn	15 03 02.4	+0.3
KMO				*e*Sg	Sb	15 03 17.8	+0.5
KMO				Pmax			
	56nm,0.2s						
KMO				Smax			
	130nm,0.8s						
SYVR	**Suvo**	**1.30**	**184**	⇓*i*Pg	Pb	15 03 05.6	-0.7
SYVR				*e*Sg	Sb	15 03 23.6	+1.0
SYVR				Pmax			
	55nm,0.5s						
SYVR				Smax			
	278nm,0.5s						
MXMB	**Maximikha**	**1.89**	**207**	*e*Pg	Pb	15 03 16.7	+0.5
MXMB				*e*Sg	Sb	15 03 41.8	+2.4
MXMB				Pmax			
	42nm,0.5s						
MXMB				Smax			
	245nm,0.7s						
OGRR	**Ongureny**	**1.99**	**230**	⇓*i*Pg	Pb	15 03 18.0	-0.1
OGRR				*e*Sg	Sb	15 03 44.5	+2.0
OGRR				Pmax			
	38nm,0.3s						
OGRR				Smax			
	107nm,0.3s						
BOD	**Bodaibo**	**3.58**	**35**	*e*Pg	Pb	15 03 46.6	+1.5
BOD				*e*Sg	Sb	15 04 33.0	+4.9
BOD				Pmax			
	5.0nm,0.6s						
BOD				Smax			
	18nm,0.6s						
KPC	**Khapcheranga**	**5.43**	**165**	*e*Pn	Pn	15 04 02.6	+1.1
KPC				*e*Pg	Pb	15 04 20.1	+3.5
KPC				*e*Sg	Sb	15 05 31.0	+10
KPC				Pmax			
	4.0nm,0.6s						
KPC				Smax			
	20nm,0.8s						
TUP	**Tupik**	**5.71**	**91**	*e*Pg	Pb	15 04 25.2	+3.9
TUP				*e*Sg	Sb	15 05 40.1	+11
TUP				Pmax			
	2.0nm,0.5s						
TUP				Smax			
	18nm,0.6s						
SONM	**Songino Array**	**7.50**	**200**	Pn	Pb	15 04 52.4	+0.5
	0.1nm,0.3s,baz=6.2,slow=17,SNR=2.3						
SONM				Lg	Lg	15 06 39.8	
	0.5nm,0.3s,baz=16,slow=27,SNR=10						
ZALV	**Zalesovo Beam**	**14.75**	**277**	Pn	Pn	15 06 00.1	-8.8
	baz=81,slow=7.9,SNR=2.4						
BVAR	**Borovoye Array**	**23.25**	**282**	P	P	15 07 53.4	+6.3
	0.2nm,0.3s,baz=89,slow=12,SNR=4.4						
ILAR	**Eielson Array**	**46.95**	**35**	P	P	15 12 14.4	+64
	0.2nm,0.6s,baz=304,slow=6.4,SNR=3.8						

IDC 19 15:31:07.1±1.8,10°.33S×152°.24E,h0km,mb3.5/5, mb1 3.9/7,mb1mx3.7/17,mbtmp3.7/7,ML3.2/2,MS3.5/5, Ms1 3.5/5,ms1mx3.1/18,Error ellipse: s-maj=63.4km s-min=22.0km az=112.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**11.29**	**210**	Pn	Pn	15 33 49.7	-0.1
	0.3nm,0.3s,baz=51,slow=14,SNR=3.5						
DZM	**Mont Dzumac**	**17.94**	**132**	LR	LR	15 40 57.0	
	comp=Z,97nm,18.5s,baz=34,slow=33						
WRA	**Warramunga Arr**	**19.73**	**239**	P	P	15 35 38.0	-0.5
	0.1nm,0.3s,baz=65,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**21.95**	**231**	P	P	15 36 02.8	+0.3
	0.9nm,0.6s,baz=64,slow=8.8,SNR=23						
ASAR				LR	LR	15 43 11.4	
	comp=Z,88nm,19.2s,baz=31,slow=33						
STKA	**Stephens Creek**	**23.59**	**203**	P	P	15 36 19.8	+0.1
	4.4nm,1.0s,baz=41,slow=11,SNR=3.4						
STKA				LR	LR	15 45 50.1	
	comp=Z,197nm,18.6s,baz=26,slow=37						
KSRS	**Korea Array**	**52.72**	**336**	LR	LR	16 01 32.6	
	comp=Z,23nm,18.7s,baz=133,slow=35						
ASAJ	**Asahikawa**	**54.89**	**352**	LR	LR	15 59 18.3	
	comp=Z,75nm,20.7s,baz=171,slow=31						
SONM	**Songino Array**	**70.72**	**329**	P	P	15 42 25.4	+0.3
	0.2nm,0.6s,baz=112,slow=42,SNR=2.6						
MKAR	**Makanchi Array**	**84.12**	**320**	P	P	15 43 39.9	-0.2
	0.2nm,0.6s,baz=90,slow=7.4,SNR=2.9						
ILAR	**Eielson Array**	**87.46**	**22**	P	P	15 43 56.0	-0.2
	0.4nm,0.7s,baz=260,slow=5.0,SNR=4.1						

IDC 19 15:33:00.7±2.3,16°.50S×175°.85W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/20,mbtmp3.9/4,ML2.3/1,Error ellipse: s-maj=167.6km s-min=30.5km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.70**	**57**	Pn	Pn	15 34 13.0	0.0
	7.7nm,0.3s,baz=48,slow=22,SNR=12						
AFI				Sn	Sn	15 34 56.5	-12
	17nm,0.3s,baz=36,slow=22,SNR=8.0						
STKA	**Stephens Creek**	**41.45**	**240**	P	P	15 40 49.4	-0.1
	1.9nm,0.9s,baz=105,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**47.30**	**258**	P	P	15 41 35.8	-0.8
	0.2nm,0.4s,baz=94,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**47.53**	**253**	P	P	15 41 38.6	+0.4
	2.4nm,0.5s,baz=88,slow=8.6,SNR=90						

JMA 19 15:51:50.7±0.2,23°.50N×123°.50E,h46km±3km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.62**	**27**	P	Pn	15 52 03.3	0.0
HATJ				S	Sn	15 52 12.1	-0.2
IRIF	**Iriomote-Funau**	**0.86**	**14**	P	Pn	15 52 06.5	+0.1
IRIF				*e*S	Sn	15 52 18.6	+0.7
JKRS	**Kuro-shima**	**0.87**	**32**	P	Pn	15 52 06.9	+0.3
JKRS				*e*S	Sn	15 52 18.5	+0.3
JIJ	**Ishigaki jima**	**1.04**	**34**	P	Pn	15 52 09.1	+0.2
JIJ				*e*S	Sn	15 52 22.1	-0.2
YOJ	**Yonaguni jima**	**1.06**	**335**	P	Pn	15 52 09.4	+0.3
YOJ				*e*S	Sn	15 52 23.4	+0.7
JTJ	**Tarama**	**1.58**	**44**	*e*S	Sn	15 52 36.8	+1.3

TAP 19 15:52:27.8,24°.89N×122°.67E,h5km,ML3.1,2C,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**144**	⇑*i*P	Pb	15 52 39.2	-0.4
	baz=145						
YOJ				*e*S	Sb	15 52 47.1	-0.4
	baz=145						
TWB1	**Santiao Chiao**	**0.63**	**281**	*e*P	Pb	15 52 41.4	+0.1
	baz=280						
TWB1				*e*S	Sb	15 52 49.9	-0.5
	baz=280						
TWC	**Suao**	**0.80**	**249**	*e*P	Pb	15 52 44.0	-0.3
	baz=249						
TWC				*e*S	Sb	15 52 54.6	-0.8
	baz=249						
NWF	**Wu-fen Shan**	**0.83**	**282**	*e*P	Pb	15 52 44.7	-0.2
	baz=282						
PCYT	**Pengchaiyu**	**0.91**	**324**	⇑*i*P	Pb	15 52 46.6	+0.5
	baz=323						
TWE	**Neicheng**	**0.93**	**260**	P	Pb	15 52 46.6	+0.1
	baz=259						
ENA	**Nanau**	**0.97**	**241**	*e*P	Pg	15 52 46.7	+0.3
	baz=241						
ENA				S	Sb	15 53 00.5	+0.4
	baz=241						
TWA	**Mucha**	**0.99**	**275**	*e*P	Pb	15 52 47.5	-0.1
	baz=275						
TWA				*e*S	Sb	15 53 00.7	-0.2
	baz=275						
ENTT	**Nioudou**	**1.04**	**256**	P	Pb	15 52 48.5	+0.2
	baz=256						
TWY	**Chenhua**	**1.04**	**292**	*e*P	Pn	15 52 49.3	+0.2
	baz=291						
TWY				*e*S	Sb	15 53 03.1	+0.7
	baz=291						
NSK	**Sanguang**	**1.21**	**260**	P	Pn	15 52 51.6	0.0
	baz=260						
NNS	**Nan Shan**	**1.27**	**249**	*e*P	Pn	15 52 52.7	+0.4
	baz=249						
TWD	**Chiawan**	**1.27**	**231**	*e*P	Pb	15 52 52.5	+0.3
	baz=231						
WHF	**Hehuan Shan**	**1.48**	**240**	P	Pb	15 52 56.2	-0.3
	baz=256						
WHF				*e*S	Sn	15 53 15.3	-0.6
	baz=256						
ESL	**Shilin**	**1.56**	**227**	*e*P	Pn	15 52 56.1	-0.1
	baz=227						
NSY	**Sanyi**	**1.80**	**255**	*e*P	Pb	15 53 01.7	+0.3
	baz=272						
TWQ1	**Liyutan**	**1.81**	**253**	*e*P	Pb	15 53 00.8	-0.7
	baz=271						
EHY	**Hungye**	**1.85**	**222**	*e*P	Pn	15 52 59.3	-1.0
	baz=223						
SMLT	**Sun Moon Lake**	**1.90**	**238**	*e*P	Pb	15 53 02.3	-0.9
	baz=221						
TYC	**Yuchr**	**1.93**	**240**	*e*P	Pb	15 53 03.4	-0.1
	baz=223						
TCU	**Taichung**	**1.96**	**248**	*e*P	Pn	15 53 02.7	+0.9
	baz=248						
TWF1	**Yuli**	**1.98**	**220**	*e*P	Pn	15 53 01.6	-0.5
	baz=205						
YUS	**Yu-Shan**	**2.10**	**229**	*e*P	Pn	15 53 05.3	+1.0
	baz=229						
CHKT	**Chengkung**	**2.15**	**214**	*e*P	Pn	15 53 04.0	-0.3
	baz=215						
ALS	**Alishan**	**2.19**	**231**	*e*P	Pn	15 53 04.7	-0.7
	baz=217						
CHN5	**Tsauling**	**2.23**	**235**	*e*P	Pb	15 53 07.5	-1.3
	baz=219						
CHN1	**Nanshi**	**2.59**	**229**	*e*P	Pn	15 53 11.8	+1.3
	baz=230						
EAST	**Anshuo**	**3.01**	**214**	*e*P	Pn	15 53 16.0	-0.2
	baz=215						
TWK1	**Hengchun**	**3.40**	**211**	*e*P	Pn	15 53 21.9	+0.3
	baz=212						

WEL 19 16:03:53.1±0.4,46°.03S×166°.27E,h33km,ML3.6/12,1D, Error ellipse: s-maj=4.9km s-min=1.9km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.83**	**48**	PN	Pn	16 04 08.2	-0.2
DCZ				SN	Sn	16 04 19.6	+0.2
DCZ				AML	AML	16 04 21.0	
DCZ				AML	AML	16 04 21.2	
DCZ				AML	AML	16 04 21.6	
WHZ	**Wether Hill Ro**	**1.18**	**84**	⇓PN	Pb	16 04 14.2	-0.7
WHZ				SN	Sb	16 04 30.2	+0.4
APZ	**The Paps**	**1.43**	**125**	PN	Pn	16 04 16.7	-0.1
APZ				*e*SN	Sb	16 04 36.6	-0.6
MLZ	**Mavora Lakes**	**1.50**	**64**	PN	Pb	16 04 19.3	-1.1
MLZ				SN	Sb	16 04 40.3	+1.2
MLZ				AML	AML	16 04 40.9	
MSZ	**Milford Sound**	**1.79**	**41**	PN	Pn	16 04 23.0	+1.3
MSZ				AML	AML	16 04 46.3	
MSZ				AML	AML	16 04 49.5	
SYZ	**Scrubby Hill**	**2.05**	**105**	PN	Pn	16 04 26.5	+1.3
EAZ	**Earnscleugh**	**2.27**	**71**	PN	Pb	16 04 31.3	-2.2
EAZ				AML	AML	16 05 03.3	
EAZ				AML	AML	16 05 03.8	
WKZ	**Wanaka**	**2.28**	**59**	PN	Pb	16 04 32.2	-1.3
WKZ				AML	AML	16 05 04.4	
WKZ				AML	AML	16 05 05.5	
WKZ				AML	AML	16 05 05.5	
TUZ	**Tuapeka**	**2.34**	**89**	PN	Pn	16 04 31.4	+2.1
TUZ				AML	AML	16 05 04.4	
TUZ				AML	AML	16 05 05.5	
JCZ	**Jackson Bay**	**2.63**	**43**	*e*PN	Pn	16 04 34.9	+1.5
JCZ				AML	AML	16 05 16.3	
LBZ	**Lake Benmore**	**3.22**	**61**	*e*PN	Pn	16 04 42.9	+1.6
ODZ	**Otahua Downs**	**3.23**	**74**	PN	Pn	16 04 42.8	+1.4

*ISK **19** 16:04:15.2,39°.41N×39°.14E,h5km,MD3.1*
*ISCJB **19** 16:04:16.1±0.6,39°.40N±0°.03×39°.12E±0°.02,h0km±5km, Error ellipse: s-maj=4.5km s-min=3.1km az=174.2*
*CSEM **19** 16:04:16.4±0.2,39°.37N×39°.12E,h2km,MD3.1,Error ellipse: s-maj=4.1km s-min=3.3km az=156.0*
*DDA **19** 16:04:16.1,39°.39N×39°.08E,h6km,ML3.6*

ISC 19 16:04:15.7±1.2,39°.39N±0°.02×39°.14E±0°.02,h1km±11km, n46,σ1§09/71,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.39**	**25**	*e*Pg	**Pb**	**16 04 25.5**	**0.0**
ILIC	**ilic-Erzincan**	**0.45**	**278**	PG	**Pg**	**16 04 24.4**	**+0.2**
ILIC				SG	**Sg**	**16 04 31.0**	**+1.0**
ILIC	**ilic-Erzincan**	**0.45**	**278**	*i* Pg	**Pg**	**16 04 24.4**	**+0.2**
ILIC				*i* Sg	**Sg**	**16 04 31.0**	**+1.0**
ERZN	**Erzincan**	**0.49**	**67**	*e*PG	**Pb**	**16 04 25.4**	**-1.7**
ERZN				*e*SG	**Sb**	**16 04 32.9**	**-2.0**
KEMA	**Kemaliye**	**0.52**	**256**	*i* P	**Pg**	**16 04 25.5**	**-0.1**
KEMA				*i* S	**Sg**	**16 04 33.1**	**+0.8**
KEMA	**Kemaliye**	**0.52**	**256**	*i* P	**Pg**	**16 04 25.5**	**-0.1**
KEMA				*i* S	**Sg**	**16 04 33.1**	**+0.8**
EUZM	**Uzumlu**	**0.53**	**54**	*i* P	**Pb**	**16 04 27.4**	**-0.5**
EUZM				*i* S	**Sb**	**16 04 34.9**	**-1.2**
EUZM	**Uzumlu**	**0.53**	**54**	*i* P	**Pb**	**16 04 27.4**	**-0.5**
EUZM				*i* S	**Sb**	**16 04 34.9**	**-1.2**
KELT	**Kelkit**	**0.76**	**7**	*i* P	**Pb**	**16 04 30.9**	**-0.9**
KELT				*i* S	**Sb**	**16 04 42.0**	**-0.7**
KELT	**Kelkit**	**0.76**	**7**	*i* P	**Pb**	**16 04 30.9**	**-0.9**
KELT				*i* S	**Sb**	**16 04 42.0**	**-0.7**
SUSE	**Susehri**	**1.09**	**319**	*i* P	**Pn**	**16 04 37.3**	**-0.9**
SUSE				*i* S	**Sb**	**16 04 50.6**	**-1.5**
SUSE	**Susehri**	**1.09**	**319**	*i* P	**Pn**	**16 04 37.3**	**-0.9**
SUSE				*i* S	**Sb**	**16 04 50.6**	**-1.5**
GUMT	**Gumushane**	**1.10**	**14**	*e*PN	**Pb**	**16 04 36.7**	**-0.8**
GUMT				*e*SN	**Sb**	**16 04 51.4**	**-0.9**
BINT	**Bingol**	**1.17**	**116**	*e*Pn	**Pn**	**16 04 39.9**	**+0.6**
BINT				*e*Sn	**Sn**	**16 04 57.3**	**+1.3**
MYA	**Malataya**	**1.20**	**208**	*e*PN	**Pg**	**16 04 38.0**	**-0.7**
MYA	**Malataya**	**1.20**	**208**	*e*Pn	**Pg**	**16 04 38.0**	**-0.7**
KOPT	**Kop Dagi**	**1.22**	**59**	*i* P	**Pn**	**16 04 41.2**	**+1.1**
KOPT				*i* S	**Sn**	**16 04 59.3**	**+1.9**
KOPT	**Kop Dagi**	**1.22**	**59**	*i* P	**Pn**	**16 04 41.2**	**+1.1**
KOPT				*i* S	**Sn**	**16 04 59.3**	**+1.9**
BAYT	**Ayd¨–ntepe-Bay**	**1.26**	**37**	*e*PN	**Pg**	**16 04 39.0**	**-0.8**
BNGB	**Bing¨¶l**	**1.26**	**108**	*e*PN	**Pn**	**16 04 39.9**	**-0.6**
BNGB				*e*SN	**Sn**	**16 04 57.3**	**-0.9**
DARE	**Darende-Malaty**	**1.53**	**238**	*e*PN	**Pb**	**16 04 43.7**	**-1.2**
ESPY	**Espiye-Giresun**	**1.55**	**348**	*e*PN	**Pb**	**16 04 44.3**	**-0.9**
ESPY	**Espiye-Giresun**	**1.55**	**348**	*e*Pn	**Pb**	**16 04 44.3**	**-0.9**
SCER	**sogukcermik**	**1.62**	**287**	*i* P	**Pg**	**16 04 46.4**	**-0.3**
SCER				*i* S	**Sg**	**16 05 10.1**	**+2.3**
SCER	**sogukcermik**	**1.62**	**287**	*i* P	**Pg**	**16 04 46.4**	**-0.3**
SCER				*i* S	**Sg**	**16 05 10.1**	**+2.3**
BNGL	**BINGOL**	**1.62**	**105**	*i* P	**Pg**	**16 04 47.7**	**+0.9**
BNGL				*i* S	**Sg**	**16 05 10.0**	**+2.2**
GRSN	**GIRESUNGRSN**	**1.67**	**337**	*i* P	**Pg**	**16 04 47.1**	**-0.5**
GRSN				*i* S	**Sg**	**16 05 09.4**	**+0.2**
GRSN	**GIRESUNGRSN**	**1.67**	**337**	*i* P	**Pg**	**16 04 47.1**	**-0.5**
GRSN				*i* S	**Sg**	**16 05 09.4**	**+0.2**
SVSK	**Karacayir**	**1.73**	**288**	*e*PN	**Pb**	**16 04 47.5**	**-0.8**
SVSK	**Karacayir**	**1.73**	**288**	*e*Pn	**Pb**	**16 04 47.5**	**-0.8**
EZM	**Erzurum**	**1.79**	**73**	*e*PN	**Pb**	**16 04 47.8**	**-1.6**
URFA	**Urfa**	**1.97**	**187**	*e*PN	**Pb**	**16 04 50.6**	**-1.7**
URFA	**Urfa**	**1.97**	**187**	*e*Pn	**Pb**	**16 04 50.6**	**-1.7**
MAZI	**Mazidag**	**2.19**	**152**	*e*PN	**Pn**	**16 04 53.6**	**+0.3**
MAZI	**Mazidag**	**2.19**	**152**	*e*Pn	**Pn**	**16 04 53.6**	**+0.3**
BEST	**Besiri**	**2.24**	**131**	*e*P	**Pb**	**16 04 55.7**	**-1.3**
BEST				*i* S	**Sg**	**16 05 28.2**	**+0.5**
PINB	**Pinarbasi**	**2.25**	**252**	*e*P	**Pb**	**16 04 56.0**	**-1.3**
PINB				*i* S	**Sb**	**16 05 26.2**	**+0.5**
PINB	**Pinarbasi**	**2.25**	**252**	*e*P	**Pb**	**16 04 56.0**	**-1.3**
PINB				*i* S	**Sb**	**16 05 26.2**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.34**	**246**	*e*PN	**Pn**	**16 04 55.8**	**+0.4**
MARD	**Mardin**	**2.44**	**148**	*e*P	**Pg**	**16 05 02.3**	**-0.2**
MARD				*e*S	**Sb**	**16 05 30.8**	**-0.3**
KMRS	**Kahramanmaras**	**2.58**	**224**	*e*PN	**Pn**	**16 04 59.3**	**+0.7**
KMRS	**Kahramanmaras**	**2.58**	**224**	*e*Pn	**Pn**	**16 04 59.3**	**+0.7**
BNN	**Bunyan**	**2.62**	**259**	*e*PN	**Pn**	**16 04 59.8**	**+0.6**
BNN	**Bunyan**	**2.62**	**259**	*e*Pn	**Pn**	**16 04 59.8**	**+0.6**
BCA	**Borcka**	**2.79**	**42**	*e*PN	**Pn**	**16 05 02.5**	**+1.0**
BCA	**Borcka**	**2.79**	**42**	*e*Pn	**Pn**	**16 05 02.5**	**+1.0**

*IDC **19** 16:30:32.1±2.9,25°.37S×70°.97W,h0km,mb3.5/1, mb1 3.6/2,mb1mx3.4/17,mbtmp3.4/2,ML3.5/1,Error ellipse: s-maj=108.6km s-min=64.3km az=93.0*
*GUC **19** 16:30:36.7±0.7,23°.85S×71°.15W,h44km±6km,ML3.2*

ISC 19 16:30:39.3±1.5,23°.34S±0°.07×71°.0W±0°.1,h24km,n8, σ1§25/12,2C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**Plate Boundary**	**0.42**	**115**	⇓*i*P	**Pn**	**16 30 49.4**	**-0.4**
PB10				*i* S	**Sn**	**16 30 59.2**	**+2.3**
PB10				AML	AML	16 31 02.2	
	comp=N,4μm,0.2s						
ANCH	**Antofagasta**	**0.62**	**124**	⇓*i*P	**Pb**	**16 30 49.9**	**-1.6**
ANCH				*i* S	**Sb**	**16 31 00.6**	**+0.9**
CEN1	**Los Morros**	**0.71**	**95**	⇑*i*P	**Pb**	**16 30 52.2**	**-0.8**
CEN1				*i* S	**Sb**	**16 31 03.3**	**+0.9**
CEN1				AML	AML	16 31 06.5	
	comp=N,700nm,0.7s						
PB04	**Plate Boundary**	**1.73**	**52**	⇑*i*P	**Pn**	**16 31 06.3**	**-1.6**
PB04				*i* S	**Sn**	**16 31 28.8**	**-0.5**
PB04				AML	AML	16 31 42.9	
	comp=E,518nm,0.5s						
LPAZ	**La Paz**	**7.50**	**21**	Pn	**Pb**	**16 32 49.8**	**+0.6**
	comp=E,0.2nm,0.3s,baz=173,slow=5.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**79.76**	**71**	P	**P**	**16 42 46.2**	**+0.3**
	comp=E,0.2nm,0.4s,baz=244,slow=5.0,SNR=2.9						
ZALV	**Z

IDC 19 16:39:54.2±31.0, 13°22N×93°74E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=676.0km s-min=43.5km az=104.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.23**	**43**	Pn	Pn	16 41 41.3	+0.1
	baz=241, slow=15, SNR=3.0						
FITZ	**Fitzroy Crossi**	**44.26**	**134**	P	P	16 48 05.9	+0.1
	0.7nm, 0.4s, baz=346, slow=9.1, SNR=7.4						
WRA	**Warramunga Arr**	**51.79**	**129**	P	P	16 49 03.5	-0.7
	0.6nm, 1.1s, baz=315, slow=8.2, SNR=4.9						
ASAR	**Alice Springs**	**53.72**	**133**	P	P	16 49 18.6	+0.1
	0.4nm, 0.5s, baz=308, slow=6.9, SNR=13						

IDC 19 16:46:35.7±5.5, 0°54S×100°93E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=284.8km s-min=23.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.96**	**123**	P	P	16 53 55.9	+0.4
	0.2nm, 0.5s, baz=302, slow=9.1, SNR=5.1						
ASAR	**Alice Springs**	**39.38**	**128**	P	P	16 54 06.8	-0.7
	0.2nm, 0.5s, baz=298, slow=7.7, SNR=5.4						
MKAR	**Makanchi Array**	**49.89**	**343**	P	P	16 55 30.5	-0.5
	0.4nm, 0.6s, baz=145, slow=7.7, SNR=5.5						
ZALV	**Zalesovo Beam**	**55.92**	**349**	P	P	16 56 15.7	+0.3
	0.3nm, 0.3s, baz=184, slow=8.7, SNR=2.4						

NIED ***19*** *17:30:00.2±30N×123°00E, h47km, Mw3.9 Best double couple: M0=7.93000×10^14 NP1:φs=80.00000°, δ=78.00000°, λ=38.00000°. NP2:φs=341.00000°, δ=53.00000°, λ=165.00000°.*
ISCJB ***19*** *17:30:36.9±0.2, 24°32N±0°02×123°03E±0°01, h59km±3km, mb3.6/10, MS2.9/1, Error ellipse: s-maj=3.9km s-min=2.0km az=166.9*
JMA ***19*** *17:30:37.7±0.1, 24°33N×123°02E, h47km±1km, M4.0*
TAP ***19*** *17:30:37.7, 24°31N×122°98E, h54km±1km, ML4.5, D*
IDC ***19*** *17:30:40.7±5.3, 24°36N×123°06E, h88km±52km, mb3.4/10, mb1 3.6/11, mb1mx3.5/25, mbtmp3.4/11, ML3.3/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/26, Error ellipse: s-maj=24.4km s-min=15.4km az=77.0*

ISC 19 17:30:37.3±0.8, 24°27N±0°03×123°02E±0°02, h49km±7km, n81, σ1°53/141, mb3.6/10, 12C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.19**	**358**	P	**Pn**	**17 30 45.3**	**-0.1**
YOJ				eS	**Sn**	**17 30 50.7**	**-0.5**
IRIF	**Iriomote-Funau**	**0.65**	**84**	P	**Pn**	**17 30 50.6**	**+0.3**
IRIF				eS	**Sn**	**17 31 00.2**	**+0.4**
HATJ	**Hateruma jima**	**0.75**	**106**	P	**Pn**	**17 30 52.2**	**+0.6**
HATJ				eS	**Sn**	**17 31 02.7**	**+0.7**
JKRS	**Kuro-shima**	**0.91**	**92**	P	**Pn**	**17 30 54.5**	**+0.8**
JKRS				eS	**Sn**	**17 31 06.5**	**+0.8**
JIJ	**Ishigaki jima**	**1.03**	**85**	P	**Pn**	**17 30 55.7**	**+0.3**
JIJ				eS	**Sn**	**17 31 08.6**	**-0.1**
TWC	**Suao**	**1.12**	**288**	P	**Pn**	**17 30 56.3**	**-0.3**
	baz=294						
TWC				eS	**Sn**	**17 31 09.6**	**-1.2**
	baz=294						
ENA	**Nanau**	**1.17**	**278**	P	**Pn**	**17 30 57.8**	**+0.5**
	baz=283						
ENA				eS	**Sn**	**17 31 11.6**	**-0.6**
	baz=283						
TWB1	**Santiao Chiao**	**1.19**	**308**	P	**Pn**	**17 30 57.5**	**0.0**
	baz=315						
TWB1				i S	**Sn**	**17 31 11.3**	**-1.3**
	baz=315						
ILA	**Ilan**	**1.26**	**293**	eP	**Pn**	**17 30 59.1**	**+0.7**
	baz=301						
ILA				eS	**Sn**	**17 31 13.9**	**-0.3**
	baz=301						
TWE	**Neicheng**	**1.31**	**290**	P	**Pn**	**17 30 59.4**	**+0.3**
	baz=297						
TWE				S	**Sn**	**17 31 15.0**	**-0.5**
	baz=297						
TWD	**Chiawan**	**1.31**	**262**	eP	**Pn**	**17 30 59.4**	**+0.3**
	baz=248						
TWD				eS	**Sn**	**17 31 14.8**	**-0.8**
	baz=248						
HWA	**Hwalien**	**1.32**	**258**	eP	**Pn**	**17 30 60.0**	**+0.6**
	baz=255						
HWA				eS	**Sn**	**17 31 17.0**	**+1.1**
	baz=255						
ENTT	**Nioudou**	**1.37**	**286**	⇑P	**Pn**	**17 31 01.0**	**+1.0**
	baz=290						
ENTT				S	**Sn**	**17 31 17.5**	**+0.4**
	baz=290						
NWF	**Wu-fen Shan**	**1.38**	**306**	⇑P	**Pn**	**17 31 00.6**	**+0.4**
	baz=305						
NWF				S	**Sn**	**17 31 16.5**	**-0.8**
	baz=305						
TEGC	**Jichi Village**	**1.46**	**248**	eP	**Pn**	**17 31 01.5**	**+0.3**
	baz=245						
TEGC				eS	**Sn**	**17 31 19.3**	**+0.1**
	baz=245						
TWA	**Mucha**	**1.48**	**299**	eP	**Pn**	**17 31 01.6**	**+0.1**
	baz=307						
TWA				eS	**Sn**	**17 31 19.0**	**-0.8**
	baz=307						
NNS	**Nan Shan**	**1.51**	**277**	eP	**Pn**	**17 31 03.0**	**+1.0**
	baz=265						
NNS				eS	**Sn**	**17 31 21.2**	**+0.6**
	baz=265						
ESL	**Shilin**	**1.52**	**253**	⇑iP	**Pn**	**17 31 01.6**	**-0.4**
	baz=250						
ESL				eS	**Sn**	**17 31 19.6**	**-1.0**
	baz=250						
TAP1	**Taipei**	**1.56**	**300**	eP	**Pn**	**17 31 02.7**	**+0.1**
	baz=306						
TAP1				eS	**Sn**	**17 31 21.0**	**-0.6**
	baz=306						
NSK	**Sanguang**	**1.56**	**285**	eP	**Pn**	**17 31 03.4**	**+0.7**
	baz=292						
NSK				eS	**Sn**	**17 31 22.2**	**+0.3**
	baz=292						
TAP	**Taipei**	**1.57**	**299**	eP	**Pn**	**17 31 03.5**	**+0.8**
	baz=306						
TAP				eS	**Sn**	**17 31 21.1**	**-0.9**
	baz=306						
JTJ	**Tarama**	**1.58**	**76**	P	**Pn**	**17 31 03.7**	**+0.9**
JTJ				eS	**Sn**	**17 31 22.6**	**+0.5**
PCYT	**Pengchaiyu**	**1.60**	**328**	⇑iP	**Pn**	**17 31 04.2**	**+1.0**
	baz=318						
WHF	**Hehuan Shan**	**1.60**	**266**	P	**Pn**	**17 31 04.2**	**+0.7**
	baz=253						
WHF				S	**Sn**	**17 31 23.6**	**+0.2**
	baz=253						
TWY	**Chenhua**	**1.63**	**308**	eP	**Pn**	**17 31 03.7**	**+0.2**
	baz=308						
TWY				eS	**Sn**	**17 31 23.4**	**0.0**
	baz=308						
TWT	**Tachien**	**1.68**	**270**	eP	**Pn**	**17 31 05.9**	**+1.5**
	baz=268						
TWT				S	**Sn**	**17 31 25.9**	**+1.1**
	baz=268						
EHY	**Hungye**	**1.73**	**244**	⇑P	**Pn**	**17 31 04.8**	**-0.1**
	baz=253						
EHY				eS	**Sn**	**17 31 25.1**	**-0.7**
	baz=253						
NCU	**National Centr**	**1.81**	**293**	eP	**Pn**	**17 31 06.7**	**+0.8**
	baz=302						
NCU				eS	**Sn**	**17 31 28.4**	**+0.7**
	baz=302						
TWF1	**Yuli**	**1.82**	**240**	⇑P	**Pn**	**17 31 06.1**	**-0.1**
	baz=238						
TWF1				eS	**Sn**	**17 31 27.0**	**-1.1**
	baz=238						
CHKT	**Chengkung**	**1.91**	**233**	P	**Pn**	**17 31 06.4**	**-0.9**
	baz=221						
CHKT				eS	**Sn**	**17 31 27.7**	**-2.5**
	baz=221						
SMLT	**Sun Moon Lake**	**1.97**	**259**	⇑iP	**Pn**	**17 31 09.6**	**+1.3**
	baz=250						
SMLT				eS	**Sn**	**17 31 32.7**	**+0.8**
	baz=250						
TYC	**Yuchr**	**2.01**	**260**	⇑P	**Pn**	**17 31 09.9**	**+1.2**
	baz=250						
TYC				eS	**Sn**	**17 31 33.4**	**+0.7**
	baz=250						
YUS	**Yu-Shan**	**2.04**	**248**	⇑iP	**Pn**	**17 31 10.5**	**+0.9**
	baz=246						
YUS				eS	**Sn**	**17 31 33.8**	**-0.5**
	baz=246						
TWQ1	**Liyutan**	**2.05**	**273**	eP	**Pn**	**17 31 10.9**	**+1.6**
	baz=271						
TWQ1				eS	**Sn**	**17 31 35.4**	**+1.7**
	baz=271						
NSY	**Sanyi**	**2.06**	**274**	eP	**Pn**	**17 31 11.1**	**+1.6**
	baz=273						
NSY				eS	**Sn**	**17 31 35.6**	**+1.6**
	baz=273						
TCU	**Taichung**	**2.14**	**267**	eP	**Pn**	**17 31 12.4**	**+1.8**
	baz=277						
TCU				eS	**Sn**	**17 31 37.9**	**+2.0**
	baz=277						
JMJ	**Miyako jima 2**	**2.14**	**75**	P	**Pn**	**17 31 11.4**	**+0.9**
JMJ				eS	**Sn**	**17 31 36.4**	**+0.5**
ALS	**Alishan**	**2.16**	**250**	⇑iP	**Pn**	**17 31 12.5**	**+1.4**
	baz=248						
ALS				eS	**Sn**	**17 31 37.5**	**+0.7**
	baz=248						
WNT	**Mingjian**	**2.17**	**260**	eP	**Pn**	**17 31 13.3**	**+2.4**
	baz=248						
WNT				eS	**Sn**	**17 31 38.6**	**+2.0**
	baz=248						
JOGS	**Gusukube**	**2.23**	**77**	P	**Pn**	**17 31 13.3**	**+1.6**
JOGS				eS	**Sn**	**17 31 39.9**	**+1.8**
CHN5	**Tsauling**	**2.24**	**253**	eP	**Pn**	**17 31 13.8**	**+1.8**
	baz=251						
CHN5				S	**Sn**	**17 31 40.6**	**+2.1**
	baz=251						
TTN	**Taitung**	**2.29**	**229**	eP	**Pn**	**17 31 12.6**	**+0.1**
	baz=220						
TTN				eS	**Sn**	**17 31 39.4**	**0.0**
	baz=220						
TWG	**Pinlang**	**2.29**	**231**	eP	**Pn**	**17 31 12.0**	**-0.6**
	baz=239						
WGK	**Gukeng**	**2.32**	**256**	eP	**Pn**	**17 31 15.1**	**+2.2**
	baz=254						
WGK				eS	**Sn**	**17 31 42.5**	**+2.2**
	baz=254						
CHY	**Chiayi**	**2.50**	**253**	eP	**Pn**	**17 31 17.4**	**+2.0**
	baz=250						
CHY				eS	**Sn**	**17 31 47.2**	**+2.6**
	baz=250						
CHN1	**Nanshi**	**2.52**	**245**	⇑iP	**Pn**	**17 31 18.1**	**+2.3**
	baz=243						
CHN1				i S	**Sn**	**17 31 48.0**	**+2.6**
	baz=243						
SGST	**Jiashian**	**2.53**	**243**	eP	**Pn**	**17 31 17.9**	**+2.1**
	baz=240						
SGST				S	**Sn**	**17 31 47.8**	**+2.4**
	baz=240						
WTCT	**Ta-ch'eng**	**2.53**	**261**	eP	**Pn**	**17 31 17.8**	**+1.9**
	baz=259						
WTCT				eS	**Sn**	**17 31 47.5**	**+2.0**
	baz=259						
LAY	**Lan-yu**	**2.60**	**212**	⇑eP	**Pn**	**17 31 15.2**	**-1.6**
	baz=210						
LAY				eS	**Sn**	**17 31 43.8**	**-3.4**
	baz=210						
WSF	**Szhu**	**2.63**	**257**	eP	**Pn**	**17 31 19.7**	**+2.5**
	baz=268						
WSF				eS	**Sn**	**17 31 50.8**	**+2.8**
	baz=268						
CHN3	**Shinhua**	**2.71**	**244**	eP	**Pn**	**17 31 20.9**	**+2.6**
	baz=252						
CHN3				eS	**Sn**	**17 31 53.5**	**+3.7**
	baz=252						
TAW	**Tawu**	**2.73**	**226**	eP	**Pn**	**17 31 18.4**	**-0.2**
	baz=231						
TAW				eS	**Sn**	**17 31 48.6**	**-1.7**
	baz=231						
SGLT	**Jiouru**	**2.78**	**237**	eP	**Pn**	**17 31 22.1**	**+2.8**
	baz=235						
SGLT				eS	**Sn**	**17 31 57.0**	**+5.3**
	baz=235						
SCLT	**Jiali**	**2.81**	**248**	eP	**Pn**	**17 31 21.8**	**+2.1**
	baz=245						
SCLT				eS	**Sn**	**17 31 54.3**	**+2.0**
	baz=245						
TAI1	**Yung-k'ang**	**2.83**	**245**	eP	**Pn**	**17 31 22.3**	**+2.3**
	baz=254						
TAI1				eS	**Sn**	**17 31 55.1**	**+2.2**
	baz=254						
SCZT	**Fangliau**	**2.90**	**230**	eP	**Pn**	**17 31 22.9**	**+1.9**
	baz=224						
TSEB	**Hengchuen, Pin**	**3.06**	**220**	eP	**Pn**	**17 31 23.6**	**+0.5**
	baz=219						
TSEB				eS	**Sn**	**17 31 59.4**	**+0.8**
	baz=219						
HEN	**Hengchun**	**3.08**	**223**	eP	**Pn**	**17 31 23.7**	**+0.3**
	baz=222						
HEN				eS	**Sn**	**17 32 01.7**	**+2.7**
	baz=222						
TWK1	**Hengchun**	**3.08**	**222**	eP	**Pn**	**17 31 23.6**	**+0.1**
	baz=220						
TWK1				eS	**Sn**	**17 32 00.3**	**+1.1**
	baz=220						
TWP	**Hsiaoliuchiu**	**3.10**	**232**	eP	**Pn**	**17 31 26.9**	**+3.1**
	baz=244						
TWP				eS	**Sn**	**17 32 03.6**	**+4.1**
	baz=244						
WDGT	**Dungji**	**3.24**	**253**	eP	**Pn**	**17 31 26.3**	**+0.8**
	baz=250						
WDGT				eS	**Sn**	**17 32 02.9**	**0.0**
	baz=250						
JKE	**Kume jima 2**	**3.98**	**58**	P	**Pn**	**17 31 37.4**	**+1.7**
KNM	**Kinmen**	**4.18**	**273**	eP	**Pn**	**17 31 41.2**	**+2.6**
	baz=281						
KNM				eS	**Sn**	**17 32 27.7**	**+1.5**
	baz=281						
JAGN	**Aguni-jima**	**4.46**	**58**	P	**Pn**	**17 31 44.2**	**+1.8**
JAGN				eS	**Sn**	**17 32 33.8**	**+0.7**
JIH	**Iheya**	**5.25**	**57**	P	**Pn**	**17 31 54.7**	**+1.6**
JOW	**Kunigami**	**5.39**	**61**	P	**Pn**	**17 31 56.2**	**+1.1**
JTK	**Tokunoshima**	**6.38**	**55**	P	**Pn**	**17 32 08.6**	**-0.1**
JAMN	**Amaminishikomi**	**6.80**	**53**	P	**Pn**	**17 32 13.5**	**-0.9**
JAM	**Amami Oshima**	**7.21**	**54**	P	**Pn**	**17 32 19.4**	**-0.6**
JNU	**Nakatsue**	**11.19**	**36**	LR	LR	17 37 47.4	
	comp=Z,27nm,20.9s,baz=56,slow=38						
KSRS	**Korea Array**	**13.80**	**17**	P	**Pn**	**17 33 52.6**	**+2.5**
	0.1nm,0.3s,baz=196,slow=11,SNR=5.4						
USRK	**Ussuriysk Arra**	**21.20**	**18**	P	**P**	**17 35 18.3**	**-0.2**
	0.8nm,0.5s,baz=206,slow=9.6,SNR=2.9						
CMAR	**Chiang Mai Arr**	**23.14**	**260**	P	**P**	**17 35 40.2**	**+0.7**
	0.5nm,0.5s,baz=58,slow=7.9,SNR=6.4						
ASAJ	**Asahikawa**	**25.46**	**34**	P	**P**	**17 35 58.6**	**-2.0**
	6.3nm,1.1s,baz=266,slow=14,SNR=4.6						
SONM	**Songino Array**	**26.97**	**335**	P	**P**	**17 36 12.7**	**-1.7**
	1.3nm,0.9s,baz=150,slow=9.0,SNR=9.7						
SONM				LR	LR	17 46 16.6	
	comp=Z,35nm,19.7s,baz=164,slow=35						
MKAR	**Makanchi Array**	**39.45**	**315**	P	**P**	**17 38 02.2**	**-0.5**
	0.3nm,0.5s,baz=102,slow=9.5,SNR=7.6						
MKAR				PcP	**PcP**	**17 40 08.7**	**-1.2**
	0.3nm,0.7s,baz=123,slow=5.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.09**	**326**	P	**P**	**17 38 15.1**	**-1.0**
	0.6nm,0.4s,baz=120,slow=9.1,SNR=4.1						
WRA	**Warramunga Arr**	**45.31**	**165**	P	**P**	**17 38 50.3**	**-0.2**
	1.5nm,0.7s,baz=347,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**48.81**	**167**	P	**P**	**17 39 17.9**	**+0.1**
	0.4nm,0.4s,baz=349,slow=6.9,SNR=29						
FINES	**FINESS Array B**	**72.21**	**330**	P	**P**	**17 41 55.6**	**-1.3**
	0.4nm,0.5s,baz=85,slow=4.0,SNR=4.5						
YKA	**Yellowknife Ar**	**82.23**	**23**	P	**P**	**17 42 52.2**	**-0.9**
	0.8nm,0.8s,baz=309,slow=4.8,SNR=5.8						

BJI ***19*** *17:32:39.3, 2°25S×99°46E, h41km, mB4.8/18, mb4.6/28, Ms4.3/16, Ms7 3.8/17*
IDC ***19*** *17:32:41.7±0.5, 1°41S×99°49E, h0km, mb4.3/23, mb1 4.3/25, mb1mx4.3/29, mbtmp4.2/25, ML4.0/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/34, Error ellipse: s-maj=16.6km s-min=12.1km az=57.0*
NEIC ***19*** *17:32:43.3±0.2, 1°41S×99°48E, h10km, mb4.6/10, Error ellipse: s-maj=8.0km s-min=5.4km az=63.0*
ISCJB ***19*** *17:32:46.4±0.7, 1°44S±0°03×99°44E±0°04, h44km±6km, mb4.4/44, MS3.8/9, Error ellipse: s-maj=8.0km s-min=4.9km az=152.4*
DJA ***19*** *17:32:47.5±1.4, 1°S±3°×10°0E±°, h9km±11km, M4.7/9, mb4.7/5, mB4.6/2, MLv4.7/9, Mw(mB)3.9/2*

AUST ***19*** *17:32:48.7, 1°40S×99°49E, h60km*

ISC 19 17:32:48.4±0.5, 1°43S±0°04×99°49E±0°05, h45km±2km, n138, σ1°33/171, mb4.4/44, MS3.8/10, 1C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.10**	**62**	P	**Pn**	**17 33 05.5**	**-1.9**
PDSI				S	**Sn**	**17 33 22.3**	**+0.9**
PPI	**Padang Panjang**	**1.32**	**43**	P	**Pn**	**17 33 09.1**	**-1.3**
PPI				S	**Sn**	**17 33 27.7**	**+0.8**
PPI	**Padang Panjang**	**1.32**	**43**	S	**Sn**	**17 33 26.9**	**+0.1**
	baz=1.3, SNR=6.0						
BKNI	**Bangkinang**	**2.33**	**42**	P	**Pn**	**17 33 24.2**	**0.0**
BKNI	**Bangkinang**	**2.33**	**42**	P	**Pn**	**17 33 23.7**	**-0.6**
	baz=2.3, SNR=28						
RGRI	**Rengat**	**3.04**	**69**	P	**Pn**	**17 33 34.2**	**+0.2**
KSI	**Kapahiang**	**3.81**	**126**	P	**Pn**	**17 33 45.6**	**+1.0**
KSI				S	**Sn**	**17 34 31.2**	**+3.0**
PSI	**Prapat**	**4.24**	**352**	Pn	Pn	17 33 47.5	-3.1
PSI	**Prapat**	**4.24**	**352**	Pn	Pn	17 33 47.5	-3.1
	1.9nm,0.3s,baz=190,slow=14,SNR=9.3						
PSI				LR	LR	17 34 48.8	
	comp=Z,141nm,19.4s,baz=175,slow=31						
PSI	**Prapat**	**4.24**	**352**	P	**Pn**	**17 33 48.3**	**-2.3**
	baz=4.1, SNR=4.3						
MNAI	**Manna**	**4.52**	**130**	P	**Pn**	**17 33 54.2**	**-0.2**
	baz=4.5, SNR=4.1						
MNAI				S	**Sn**	**17 34 47.5**	**+1.7**
	baz=4.5, SNR=5.8						
TSI	**Tuntungan**	**4.98**	**349**	P	**Pn**	**17 34 03.2**	**+2.5**
	102nm,0.8s,0.6nm						
BTDF	**Bukit Timah Da**	**5.10**	**57**	P	Pn	17 34 06.0	+3.7
	baz=5.1, SNR=5.0						
BTDF				P	Pn	17 34 06.0	+3.7
	baz=5.1, SNR=5.0						
FRIM	**Kepong**	**5.10**	**25**	P	**Pn**	**17 34 02.7**	**+0.4**
KGM	**Kluang**	**5.13**	**48**	P	**Pn**	**17 34 02.7**	**0.0**
MYKOM	**Kota Tinggi**	**5.41**	**54**	P	**Pn**	**17 34 06.2**	**-0.2**
MYKOM	**Kota Tinggi**	**5.41**	**54**	P	**Pn**	**17 34 09.1**	**+2.6**
	51nm,0.9s,589nm0.4nm						
IPM	**Ipoh**	**6.07**	**15**	eP	**Pn**	**17 34 15.4**	**-0.2**
IPM	**Ipoh**	**6.07**	**15**	P	**Pn**	**17 34 16.6**	**+1.1**
IPM	**Ipoh**	**6.07**	**15**	P	**Pn**	**17 34 15.9**	**+0.3**
	52nm,1.0s,509nm0.3nm						
KLSI		**6.15**	**122**	P	**Pn**	**17 34 18.5**	**+1.7**
	57nm,0.8s,0.2nm						
KASI	**Kota Agung**	**6.44**	**129**	P	Pn	17 34 28.0	+7.3
KASI				S	**Sn**	**17 35 32.6**	**-0.4**
KULM	**Kulim**	**6.77**	**10**	eP	**Pn**	**17 34 23.1**	**-2.2**
KULM	**Kulim**	**6.77**	**10**	P	**Pn**	**17 34 26.4**	**+1.1**
KULM	**Kulim**	**6.77**	**10**	P	Pn	17 34 28.6	+3.3
KTGM	**Kuala Trenggan**	**7.63**	**28**	P	**Pn**	**17 34 37.2**	**+0.1**
CISI	**Cisompet, Garu**	**10.29**	**127**	P	Pn	17 35 05.1	-8.5
	baz=10, SNR=4.2						
CISI				S	**Sn**	**17 37 03.4**	**-4.3**
	baz=10, SNR=4.2						
SDKM	**Sandakan**	**19.02**	**68**	P	**Pn**	**17 37 07.7**	**-0.2**
TSM	**Tawau**	**19.23**	**73**	P	**Pn**	**17 37 10.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	**P**	**17 37 14.3**	**-0.5**
CMAR				PcP	**PcP**	**17 41 31.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	**P**	**17 37 14.3**	**-0.5**
	0.6nm,0.3s,baz=185,slow=9.8,SNR=22						
CMAR				PcP	**PcP**	**17 41 31.6**	**-0.4**
	0.0nm,0.3s,baz=197,slow=4.3,SNR=5.9						
MYLDM	**Lahad Datu**	**20.09**	**71**	P	Pn	17 37 21.2	+0.7
PALK	**Pallekele**	**20.64**	**295**	eP	**P**	**17 37 24.6**	**+0.2**
	27nm,1.2s						
QIZ	**Qiongzhong**	**22.73**	**26**	P	**P**	**17 37 45.4**	**-1.3**
QIZ				sP	**sP**	**17 38 00.9**	**-2.4**
QIZ				S	**S**	**17 41 53.1**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
QIZ				LR	LR		
	comp=N,130nm,9.9s						
QIZ				LR	LR		
	comp=Z,140nm,14.7s						
KMI	**Kunming**	**26.58**	**7**	P	**P**	**17 38 24.8**	**+2.1**
KMI				pP	**pP**	**17 38 34.3**	**-0.3**
KMI				S	**S**	**17 42 55.1**	**+0.6**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,85nm,6.5s						
KMI				LR	LR		
	comp=N,86nm,16.6s						
KMI				LR	LR		
	comp=E,160nm,12.2s						
KMI				LR	LR		
	comp=Z,170nm,12.2s						
GYA	**Guiyang**	**28.57**	**14**	eP	**P**	**17 38 41.3**	**+0.9**
GYA				pP	**pP**	**17 38 52.8**	**+0.4**
GYA				sP	**sP**	**17 38 59.3**	**+1.5**
GYA				PP	**PnPn**	**17 39 34.5**	**+2.5**
GYA				S	**S**	**17 43 26.0**	**+0.2**
GYA				sS	**sS**	**17 43 45.4**	**-0.5**
GYA				ScS	**ScS**	**17 49 21.0**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.55**	**124**	P	**P**	**17 38 58.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.55**	**124**	P	**P**	**17 38 58.1**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=286,slow=7.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**30.55**	**124**	P	P	17 39 06.3	+8.4
	baz=31, SNR=3.9						
KNRA	**Kununurra**	**32.15**	**118**	P	P	17 39 07.6	-4.4
	baz=32, SNR=7.8						
CD2	**Chengdu**	**32.41**	**7**	eP	**P**	**17 39 16.5**	**+2.3**
CD2				pP	**pP**	**17 39 27.8**	**+1.6**
CD2				sP	**sP**	**17 39 32.6**	**+1.0**
CD2				PP	**PP**	**17 40 25.6**	**-2.5**
CD2				S	**S**	**17 44 27.4**	**+1.7**
CD2				sS	**sS**	**17 44 46.4**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,14.2s						
CD2				LR	LR		
	comp=Z,140nm,16.0s						
NWAO	**Narrogin (SRO)**	**35.50**	**154**	LR	LR	17 54 01.2	
	comp=Z,122nm,19.8s,baz=203,slow=36						
XAN	**Xi'an**	**36.38**	**13**	P	**P**	**17 39 45.4**	**-3.0**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
XAN				LR	LR		
	comp=N,100nm,13.7s						
XAN				LR	LR		
	comp=Z,43nm,9.8s						
LZH	**Lanzhou**	**37.54**	**6**	eP	**P**	**17 40 00.5**	**+2.0**
LZH				pP	**pP**	**17 40 12.3**	**+1.7**
LZH				sP	**sP**	**17 40 17.6**	**+1.6**
LZH				PP	**PnPn**	**17 41 30.3**	**+4.3**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,67nm,4.8s						
LZH				LR	LR		
	comp=N,370nm,13.3s						
LZH				LR	LR		
	comp=E,340nm,12.9s						
LZH				LR	LR		
	comp=Z,410nm,17.2s						
NJ2	**Nanjing**	**38.02**	**27**	eP	**P**	**17 40 03.4**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,60nm,0.9s						
WRA	**Warramunga Arr**	**38.72**	**121**	P	**P**	**17 40 07.4**	**-1.1**
WRA				PcP	**PcP**	**17 42 20.0**	**+0.3**
WRA	**Warramunga Arr**	**38.72**	**121**	P	**P**	**17 40 07.4

GTA			pP	pP	17 40 37.3	+0.8
GTA			sP	sP	17 40 41.3	-0.6
GTA			S	**S**	**17 46 36.3**	**+5.1**
GTA			sS	sS	17 46 52.4	+0.7
GTA			SS	**SS**	**17 49 32.9**	**+0.1**
GTA			pmax	pmax		
comp=Z,46nm,4.5s						
GTA			LR	LR		
comp=N,59nm,15.9s						
GTA			LR	LR		
comp=E,88nm,16.6s						
GTA			LR	LR		
comp=Z,72nm,17.6s						
HHC	**Hu-ho-hao-te**	**43.49 13**	*eP*	**P**	**17 40 47.6**	**+0.1**
HHC			pP	**pP**	**17 41 00.0**	**+0.2**
HHC			sP	**sP**	**17 41 05.4**	**+0.3**
HHC			PP	**PP**	**17 42 31.4**	**+2.1**
HHC			PcP	**PcP**	**17 42 35.1**	**+0.2**
HHC			ScP	**ScP**	**17 46 21.5**	**-1.4**
HHC			PcS	**PcS**	**17 46 26.5**	**-1.2**
HHC			S	**S**	**17 47 13.4**	**+0.2**
HHC			sS	**sS**	**17 47 34.1**	**+0.3**
HHC			ScS	**ScS**	**17 50 40.8**	**-2.8**
HHC			pmax	pmax		
comp=Z,14nm,0.7s						
HHC			pmax	pmax		
comp=Z,150nm,5.1s						
HHC			LR	LR		
comp=N,160nm,14.3s						
HHC			LR	LR		
comp=E,250nm,15.5s						
HHC			LR	LR		
comp=Z,71nm,15.5s						
JNU	**Nakatsue**	**45.36 38**	P	**P**	**17 41 02.0**	**-0.4**
comp=Z,5.4nm,1.0s						
JNU	**Nakatsue**	**45.36 38**	P	**P**	**17 41 01.8**	**-0.7**
comp=Z,4.5nm,0.9s,baz=322,slow=4.8,SNR=4.9						
KSH	**Kashi**	**46.10 335**	*eP*	**P**	**17 41 06.3**	**-2.0**
KSH			sP	sP	17 41 20.3	-5.7
KSH			PP	**PP**	**17 42 54.3**	**-2.8**
KSH			S	S	17 47 44.3	-6.8
KSH			pmax	pmax		
comp=Z,3.0nm,0.7s						
KSH			pmax	pmax		
comp=Z,93nm,5.1s						
KSH			LR	LR		
comp=N,100nm,4.4s						
KSH			LR	LR		
comp=E,88nm,6.0s						
KSH			LR	LR		
comp=Z,97nm,5.5s						
WMQ	**Urumqi**	**46.27 348**	P	**P**	**17 41 10.1**	**+0.6**
WMQ			pmax	pmax		
comp=Z,15nm,1.1s						
WMQ			pmax	pmax		
comp=Z,130nm,3.8s						
KSAR	**Wonju Array Be**	**46.77 31**	P	**P**	**17 41 12.5**	**-0.9**
KSRS	**Korea Array**	**46.79 31**	P	**P**	**17 41 12.5**	**-1.1**
comp=Z,1.2nm,0.7s,baz=222,slow=8.2,SNR=6.2						
TKM2	**Tokmak 2**	**49.11 337**	*eP*	**P**	**17 41 31.2**	**-0.5**
comp=Z,7.9nm,0.6s						
AAK	**Ala-Archa**	**49.31 336**	P	**P**	**17 41 32.7**	**-0.5**
AAK	**Ala-Archa**	**49.31 336**	P	**P**	**17 41 32.7**	**-0.5**
comp=Z,1.3nm,0.3s,baz=195,slow=16,SNR=3.5						
SONM	**Songino Array**	**49.43 6**	P	**P**	**17 41 34.2**	**+0.2**
SONM			PcP	**PcP**	**17 42 55.8**	**0.0**
SONM	**Songino Array**	**49.43 6**	P	**P**	**17 41 34.2**	**+0.2**
comp=Z,0.9nm,0.5s,baz=190,slow=9.3,SNR=10.0						
SONM			PcP	**PcP**	**17 42 55.8**	**0.0**
comp=Z,1.6nm,0.6s,baz=185,slow=2.9,SNR=7.3						
EKS2	**Erkin-Say**	**49.63 335**	*eP*	**P**	**17 41 35.2**	**-0.4**
comp=Z,8.0nm,0.7s						
STKA	**Stephens Creek**	**49.91 132**	*eP*	**P**	**17 41 39.0**	**+1.2**
comp=Z,1.2nm,0.7s						
STKA	**Stephens Creek**	**49.91 132**	P	**P**	**17 41 36.5**	**-1.3**
comp=Z,2.8nm,0.7s,baz=308,slow=8.8,SNR=7.9						
STKA			LR	LR	18 01 27.2	
comp=Z,98nm,19.6s,baz=69,slow=35						
STKA	**Stephens Creek**	**49.91 132**	P	**P**	**17 41 38.8**	**+1.1**
baz=50,SNR=7.3						
MK31	**Makanchi Array**	**50.34 345**	*eP*	**P**	**17 41 40.0**	**-0.8**
MKAR	**Makanchi Array**	**50.34 345**	*eP*	**P**	**17 41 40.5**	**-0.4**
MKAR	**Makanchi Array**	**50.34 345**	P	**P**	**17 41 40.1**	**-0.7**
comp=Z,8.2nm,0.6s,baz=149,slow=8.1,SNR=99						
MKAR			LR	LR	18 06 51.4	
comp=Z,27nm,19.4s,baz=359,slow=41						
CN2	**Changchun**	**50.67 24**	*eP*	**P**	**17 41 44.8**	**+1.5**
CN2			pmax	pmax		
comp=Z,10.0nm,0.6s						
KKAR	**Karatay Array**	**51.42 333**	*eP*	**P**	**17 41 48.4**	**-0.6**
CMSA	**Cobar Meteorol**	**52.87 129**	P	**P**	**17 42 00.8**	**+0.9**
baz=53,SNR=14						
MDJ	**Mudanjiang**	**53.10 27**	P	**P**	**17 42 01.8**	**+0.4**
MDJ			pmax	pmax		
comp=Z,4.0nm,2.0s						
MDJ			pmax	pmax		
comp=Z,41nm,6.0s						
USRK	**Ussuriysk Arra**	**53.90 29**	P	**P**	**17 42 06.1**	**-1.1**
comp=Z,2.4nm,0.6s,baz=225,slow=6.5,SNR=7.4						
OPO	**Ambohidratompo**	**54.01 248**	P	**P**	**17 42 08.3**	**-0.4**
OPO	**Ambohidratompo**	**54.01 248**	P	**P**	**17 42 08.3**	**-0.4**
comp=Z,2.6nm,0.8s,baz=94,slow=16,SNR=3.0						
ZAA0	**Zalesovo Array**	**56.52 350**	*eP*	**P**	**17 42 24.3**	**-1.6**
ZALV	**Zalesovo Beam**	**56.52 350**	P	**P**	**17 42 25.1**	**-0.8**
ZALV	**Zalesovo Beam**	**56.52 350**	P	**P**	**17 42 25.1**	**-0.8**
comp=Z,7.6nm,0.7s,baz=176,slow=5.8,SNR=49						
PATS	**Pohnpei**	**59.27 81**	P	**P**	**17 42 45.7**	**-0.3**
baz=59,SNR=3.3						
ASAJ	**Asahikawa**	**59.43 35**	P	**P**	**17 42 45.6**	**-0.9**
ASAJ	**Asahikawa**	**59.43 35**	P	**P**	**17 42 45.6**	**-0.9**
comp=Z,1.7nm,0.5s,baz=239,slow=18,SNR=3.6						
HNR	**Honiara**	**60.63 100**	*eP*	**P**	**17 42 54.3**	**-1.1**
comp=Z,14nm,0.9s						
ABKAR	**Akbulak array**	**60.90 331**	*eP*	**P**	**17 42 54.8**	**-1.7**
KMBO	**Kilima Mbogo**	**62.22 269**	P	**P**	**17 43 06.5**	**+0.1**
KMBO	**Kilima Mbogo**	**62.22 269**	P	**P**	**17 43 06.5**	**+0.1**
comp=Z,1.8nm,0.6s,baz=60,slow=22,SNR=8.5						
KBZ	**Khabaz**	**67.54 319**	P	**P**	**17 43 39.3**	**-0.8**
KBZ	**Khabaz**	**67.54 319**	P	**P**	**17 43 39.3**	**-0.8**
comp=Z,5.3nm,0.8s,baz=116,slow=6.6,SNR=12						
ASF	**Jabal al Asfar**	**67.84 306**	P	**P**	**17 43 42.3**	**-0.1**
ASF	**Jabal al Asfar**	**67.84 306**	P	**P**	**17 43 42.3**	**-0.1**
comp=Z,1.3nm,0.4s,baz=88,slow=5.5,SNR=4.2						
EIL	**Elat**	**68.79 303**	P	**P**	**17 43 47.7**	**-0.6**
EIL	**Elat**	**68.79 303**	P	**P**	**17 43 47.7**	**-0.6**
baz=17,slow=2.7,SNR=9.5						
MAW	**Mawson**	**70.71 194**	P	**P**	**17 44 00.4**	**+1.1**
MAW	**Mawson**	**70.71 194**	P	**P**	**17 44 00.4**	**+1.1**
comp=Z,1.7nm,0.8s,baz=59,slow=5.9,SNR=4.4						
PETK	**Petropavlovsk-**	**72.68 32**	P	**P**	**17 44 11.4**	**0.0**
PETK	**Petropavlovsk-**	**72.68 32**	P	**P**	**17 44 11.4**	**0.0**
comp=Z,1.4nm,0.8s,baz=186,slow=2.6,SNR=5.6						
KOLS	**Kolonicke sedl**	**82.69 320**	*eP*	**P**	**17 45 07.2**	**-0.1**
VNDA	**Vanda**	**82.82 169**	*eP*	**P**	**17 45 07.6**	**+0.2**
comp=Z,1.6nm,0.9s						
VNDA	**Vanda**	**82.82 169**	P	**P**	**17 45 07.2**	**-0.3**
comp=Z,1.1nm,0.8s,baz=307,slow=4.2,SNR=8.2						
CRVS	**Cervenica-Dubn**	**83.21 319**	*eP*	**P**	**17 45 10.0**	**0.0**
FINES	**FINESS Array B**	**83.37 332**	P	**P**	**17 45 10.0**	**-0.5**
FINES	**FINESS Array B**	**83.37 332**	P	**P**	**17 45 10.0**	**-0.5**
comp=Z,1.8nm,0.5s,baz=107,slow=5.3,SNR=19						
STHS	**Stebnicka Huta**	**83.44 320**	*eP*	**P**	**17 45 11.6**	**+0.4**
KECS	**Kecovo**	**83.78 319**	*eP*	**P**	**17 45 12.3**	**-0.6**
SBA	**Scott Base**	**83.91 169**	*eP*	**P**	**17 45 14.4**	**+1.4**
comp=Z,2.9nm,0.9s						
VYHS	**Vyhne**	**84.86 319**	*eP*	**P**	**17 45 17.7**	**-0.8**
SOKA	**Soboth**	**87.22 317**	⇓*iP*	**P**	**17 45 29.9**	**-0.4**
comp=Z,4.4nm,0.9s						
GEC2	**GERESS Array S**	**88.28 319**	*eP*	**P**	**17 45 35.2**	**-0.1**
GERES	**GERESS Array B**	**88.28 319**	P	**P**	**17 45 34.9**	**-0.4**
GERES	**GERESS Array B**	**88.28 319**	P	**P**	**17 45 34.9**	**-0.4**
comp=Z,1.1nm,0.6s,baz=101,slow=4.3,SNR=11						
CLL	**Collm**	**88.90 321**	*eP*	**P**	**17 45 38.0**	**0.0**
FUORN	**Ofenpass-Fuorn**	**90.49 316**	*eP*	**P**	**17 45 46.0**	**+0.1**
comp=Z,6.1nm,1.0s						
DAVA	**Damuels**	**90.77 317**	⇑*iP*	**P**	**17 45 46.8**	**-0.3**
comp=Z,6.8nm,0.9s						
KEST	**Kesra**	**90.94 306**	P	**P**	**17 45 49.0**	**+0.9**
KEST	**Kesra**	**90.94 306**	P	**P**	**17 45 49.0**	**+0.9**
comp=Z,2.9nm,1.0s,baz=20,slow=3.4,SNR=4.8						
LPG	**La Plagne**	**92.93 315**	*eP*	**P**	**17 45 56.8**	**-0.5**
LPL	**La Plagne**	**92.95 315**	*eP*	**P**	**17 45 56.7**	**-0.5**
comp=Z,2.6nm,0.5s						
CABF	**La Chapelle**	**93.37 316**	*eP*	**P**	**17 45 58.6**	**-0.4**
BAIF	**Baives**	**94.49 320**	*eP*	**P**	**17 46 03.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**97.91 283**	P	**P**	**17 46 19.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**97.91 283**	P	**P**	**17 46 19.2**	**-1.1**
comp=Z,0.5nm,0.9s,baz=56,slow=3.6,SNR=2.7						
NVAR	**Mina Array Bea**	**129.48 39**	PKP	**PKPdf**	**17 51 53.5**	**+0.5**
NVAR	**Mina Array Bea**	**129.48 39**	PKP	**PKPdf**	**17 51 53.5**	**+0.5**
comp=Z,0.4nm,0.6s,baz=312,slow=4.4,SNR=4.1						
R11A	**Troy Canyon, C**	**131.19 37**	*e*PKPdf	**PKPdf**	**17 51 58.1**	**+1.9**
PDAR	**Pinedale Array**	**131.32 28**	PKP	**PKPdf**	**17 51 56.6**	**+0.2**
PDAR	**Pinedale Array**	**131.32 28**	PKP	**PKPdf**	**17 51 56.6**	**+0.2**
comp=Z,0.3nm,0.7s,baz=242,slow=1.9,SNR=3.4						
CPUP	**Villa Florida**	**144.47 217**	*e*PKPdf	PKPbc	17 52 19.3	+0.1
CPUP			PKP	**PKPab**	**17 52 19.6**	**+0.6**
CPUP	**Villa Florida**	**144.47 217**	PKP	PKPbc	17 52 19.6	+0.4
comp=Z,3.3nm,0.5s,baz=120,slow=2.9,SNR=12						
TXAR	**Lajitas Array**	**144.55 36**	PKP	PKPbc	17 52 20.1	+0.6
TXAR	**Lajitas Array**	**144.55 36**	PKP	PKPbc	17 52 20.1	+0.6
comp=Z,3.4nm,0.7s,baz=256,slow=2.1,SNR=22						
MIAR	**Mount Ida**	**144.87 19**	*e*PKPdf	PKPbc	17 52 20.2	0.0
MIAR			*e*SKPbc	**SKiKP**	**17 56 00.9**	**+3.3**
JCT	**Junction City**	**145.80 30**	*e*PKPdf	**PKPab**	**17 52 23.7**	**-0.1**
JCT			*e*SKPbc	**SKiKP**	**17 56 04.8**	**+5.1**
TKL	**Tuckaleechee C**	**145.81 5**	*e*PKPdf	**PKPdf**	**17 52 22.5**	**-0.2**
CPCT	**Cooper Cave**	**145.94 6**	*e*PKPdf	**PKPdf**	**17 52 23.1**	**+0.1**
KMSC	**Kings Mountain**	**146.45 1**	*e*PKPdf	**PKPbc**	**17 52 24.5**	**-0.6**
KMSC			*e*SKPbc	SKiKP	17 56 17.7	+17
GOGA	**Godfrey**	**148.06 5**	*e*PKPdf	**PKPdf**	**17 52 24.9**	**-1.6**

*ISCJB **19** 17:34:20.5±1.2, 6°.56N±0°.07×126°.5E±0°.2, h147km±10km, mb3.7/5, Error ellipse: s-maj=25.5km s-min=11.2km az=178.4*
*MAN **19** 17:34:20, 6°.66N×126°.67E, h125km, mb4.6, ML3.5, MS3.5*
*IDC **19** 17:34:22.4±2.4, 6°.52N×126°.29E, h149km±12km, mb3.5/5, mb1 3.7/5, mb1mx3.3/24, mbtmp3.5/5, Error ellipse: s-maj=99.8km s-min=16.9km az=71.0*

ISC 19 17:34:20.2±1.6, 6°.56N±0°.08×126°.6E±0°.2, h134km±11km, n18, σ1°11/23, mb3.7/5, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.16**	**296**	P	**Pn**	**17 34 46.1**	**+1.1**
59nm,0.3s,baz=78,slow=8.7,SNR=9.3							
DAV				S	**Sn**	**17 35 05.0**	**+1.1**
106nm,0.3s,baz=72,slow=16,SNR=3.8							
DMPH	**Davao City--Mi**	**1.23**	**295**	⇑*eP*	**Pn**	**17 34 46.3**	**+0.6**
DMPH				*e*S	**Sn**	**17 35 04.2**	**-0.9**
KCP	**Kidapawan**	**1.59**	**286**	⇑*eP*	**Pn**	**17 34 49.7**	**0.0**
KCP				*i* S	**Sn**	**17 35 11.8**	**-0.4**
GSPH	**General Santos**	**1.74**	**254**	⇑*iP*	**Pn**	**17 34 50.9**	**-0.5**
GSPH				*i* S	**Sn**	**17 35 14.0**	**-1.2**
BUKP	**Musuan**	**2.03**	**310**	*eP*	**Pn**	**17 34 54.7**	**-0.2**
BUTP	**Butuan**	**2.59**	**337**	*eP*	**Pn**	**17 35 03.0**	**+1.2**
CGP	**Cagayan de Oro**	**2.69**	**315**	⇓*iP*	**Pn**	**17 35 04.3**	**+1.3**
CGP				*i* S	**Sn**	**17 35 35.1**	**-0.9**
PAGZ	**Pagadian**	**3.47**	**292**	*eP*	**Pn**	**17 35 13.3**	**+0.3**
MSLP	**Maasin**	**3.96**	**334**	*eP*	**Pn**	**17 35 18.9**	**-0.6**
IPIL	**Ipil**	**4.21**	**287**	*eP*	**Pn**	**17 35 25.6**	**+2.7**
OCLP	**Ormoc**	**4.89**	**336**	*eP*	**Pn**	**17 35 32.2**	**+0.2**
GUIM	**Jordan**	**5.68**	**316**	*eP*	**Pn**	**17 35 43.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.53**	**182**	P	**P**	**17 39 28.2**	**+0.8**
4.4nm,0.7s,baz=2.7,slow=9.4,SNR=14							
WRA	**Warramunga Arr**	**27.41**	**164**	P	**P**	**17 39 54.2**	**+0.7**
0.5nm,0.6s,baz=343,slow=11,SNR=6.8							
MKAR	**Makanchi Array**	**55.20**	**324**	P	**P**	**17 43 37.4**	**-1.9**
0.4nm,0.4s,baz=120,slow=6.4,SNR=6.4							
BVAR	**Borovoye Array**	**64.92**	**326**	P	**P**	**17 44 45.6**	**+0.2**
0.5nm,0.5s,baz=94,slow=4.7,SNR=3.8							
FINES	**FINESS Array B**	**89.31**	**332**	P	**P**	**17 47 01.8**	**+0.6**
2.0nm,0.9s,baz=85,slow=3.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**121.91**	**290**	PKP	**PKPdf**	**17 52 59.4**	**-0.4**
0.2nm,0.4s,baz=84,slow=0.9,SNR=4.2							

WEL 19 17:34:59.4±0.5, 36°.14S×178°.32E, h189km±8km, ML3.6/6, Error ellipse: s-maj=9.8km s-min=8.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.93**	**181**	PN	Pn	17 35 36.1	-0.2
PUZ				SN	Sn	17 36 04.2	-1.1
PUZ				AML	AML	17 36 05.6	
MWZ	**Matawai**	**2.28**	**196**	PN	Pn	17 35 40.3	+0.2
MWZ				SN	Sn	17 36 12.1	0.0
URZ	**Urewera**	**2.33**	**204**	PN	Pn	17 35 40.5	-0.1
URZ				SN	Sn	17 36 13.5	+0.7
CNGZ	**Carnagh Statio**	**2.34**	**182**	PN	Pn	17 35 41.5	+0.7
KNZ	**Kokohu**	**2.92**	**190**	PN	Pn	17 35 47.4	-0.1
RAHZ	**Arahi**	**2.94**	**199**	PN	Pn	17 35 48.0	+0.2
MHGZ	**Mahia Peninsul**	**3.03**	**186**	PN	Pn	17 35 48.9	+0.2
NMHZ	**Naumai**	**3.19**	**202**	PN	Pn	17 35 51.3	+0.5
BKZ	**Black Stump Fm**	**3.35**	**205**	PN	Pn	17 35 52.8	0.0
MCHZ	**McNeill Hill**	**3.54**	**201**	PN	Pn	17 35 55.3	+0.3
KAHZ	**Kahuranaki**	**3.82**	**197**	PN	Pn	17 35 58.3	-0.2
PXZ	**Pawanui**	**4.05**	**196**	PN	Pn	17 36 00.2	-1.1
PRHZ	**Porangahau**	**4.33**	**197**	PN	Pn	17 36 04.0	-0.9
BFZ	**Birch Farm**	**4.82**	**199**	PN	Pn	17 36 09.8	-1.3
MRZ	**Mangatainoka R**	**5.00**	**205**	PN	Pn	17 36 11.8	-1.7
TIWZ	**Tintock**	**5.01**	**202**	PN	Pn	17 36 12.2	-1.5
HOWZ	**Holdsworth Sta**	**5.24**	**204**	PN	Pn	17 36 14.4	-2.1

IDC 19 17:36:22.2±1.1, 1°.63S×99°.61E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.6/1, Error ellipse: s-maj=43.4km s-min=17.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.97**	**358**	P	P	17 40 54.3	-1.9
0.1nm,0.3s,baz=186,slow=10,SNR=5.2							
WRA	**Warramunga Arr**	**38.52**	**121**	P	P	17 43 46.3	-0.4
1.2nm,0.5s,baz=302,slow=9.1,SNR=7.0							
WRA				PcP	PcP	17 45 59.8	0.0
0.5nm,0.9s,baz=326,slow=2.2,SNR=3.1							
ASAR	**Alice Springs**	**39.79**	**126**	P	P	17 43 57.7	+0.3
0.5nm,0.5s,baz=301,slow=7.1,SNR=8.2							
KSRS	**Korea Array**	**46.90**	**31**	P	P	17 44 56.1	+1.6
0.4nm,0.4s,baz=224,slow=7.7,SNR=2.9							
SONM	**Songino Array**	**49.61**	**6**	P	P	17 45 15.4	-0.1
0.4nm,0.5s,baz=188,slow=9.1,SNR=4.6							
SONM				PcP	PcP	17 46 36.4	-0.7
0.3nm,0.6s,baz=197,slow=4.5,SNR=2.4							
STKA	**Stephens Creek**	**49.69**	**132**	P	P	17 45 15.7	-0.6
1.5nm,0.8s,baz=327,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**50.57**	**345**	P	P	17 45 22.5	-0.2
0.8nm,0.6s,baz=157,slow=8.9,SNR=7.0							
USRK	**Ussuriysk Arra**	**54.02**	**28**	P	P	17 45 47.4	-0.8
0.9nm,0.5s,baz=188,slow=8.7,SNR=3.8							
KURBB	**Kurchatov Arra**	**55.08**	**344**	P	P	17 45 56.8	+0.9
0.3nm,0.5s,baz=157,slow=7.7,SNR=4.1							
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	17 46 07.4	-0.2
1.3nm,0.5s,baz=156,slow=6.3,SNR=4.7							
FINES	**FINESS Array B**	**83.60**	**332**	P	P	17 48 51.4	-0.9
0.7nm,0.6s,baz=124,slow=2.7,SNR=3.8							
KEST	**Kesra**	**91.15**	**306**	P	P	17 49 31.1	+1.5
0.8nm,0.7s,baz=158,slow=5.4,SNR=2.9							
CPUP	**Villa Florida**	**144.38**	**217**	PKP	PKPab	17 55 59.3	0.0
4.1nm,0.9s,baz=187,slow=1.4,SNR=4.7							
TXAR	**Lajitas Array**	**144.64**	**37**	PKP	PKPbc	17 56 00.8	+0.2
0.4nm,0.4s,baz=298,slow=2.7,SNR=7.0							

*CSEM **19** 17:37:25.0, 33°.79N×35°.77E, h0km, ML2.8, After GRAL*

GRAL 19 17:37:25.0±0.3, 33°.79N×35°.77E, h0km±28km, MD2.8, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**320**	*eP*	Pg	17 37 27.8	-0.3
BHL				*e*S	Sg	17 37 29.8	-0.4
BHL	**Bhannes**	**0.15**	**320**	*eP*	Pg	17 37 27.8	-0.3
BHL				*e*S	Sg	17 37 29.8	-0.4
RCY	**Rachaya**	**0.29**	**170**	*eP*	Pg	17 37 30.3	-0.6
RCY				*e*S	Sg	17 37 34.3	-0.6
RCY	**Rachaya**	**0.29**	**170**	*eP*	Pg	17 37 30.3	-0.6
RCY				*e*S	Sg	17 37 34.3	-0.6
HWQ	**Hawqa**	**0.51**	**16**	*eP*	Pg	17 37 34.2	-0.8
HWQ	**Hawqa**	**0.51**	**16**	*eP*	Pg	17 37 34.2	-0.8

IDC 19 17:39:19.4±2.5, 1°.74S×99°.41E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=116.8km s-min=22.2km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.07**	**359**	P	P	17 43 54.8	+0.2
0.4nm,0.4s,baz=189,slow=11,SNR=3.7							
WRA	**Warramunga Arr**	**38.63**	**120**	P	P	17 46 43.9	-1.0
1.1nm,1.2s,baz=303,slow=9.4,SNR=4.8							
ASAR	**Alice Springs**	**39.88**	**126**	P	P	17 46 56.1	+0.8
0.4nm,0.9s,baz=300,slow=7.3,SNR=5.5							
MKAR	**Makanchi Array**	**50.62**	**345**	P	P	17 48 20.1	-0.2
0.3nm,0.4s,baz=157,slow=8.4,SNR=5.3							
ZALV	**Zalesovo Beam**	**56.81**	**350**	P	P	17 49 05.5	+0.1
0.8nm,0.5s,baz=163,slow=10,SNR=3.6							
FINES	**FINESS Array B**	**83.61**	**332**	P	P	17 51 49.3	-0.2
1.6nm,0.9s,baz=176,slow=2.2,SNR=2.4							

*NIED **19** 17:41:00, 24°.30N×123°.00E, h41km, Mw4.2 Best double couple: M0 2.12000×10^15 NP1:φs 66.00000°, δ67.00000°, λ74.00000°. NP2:φs 283.00000°, δ28.00000°, λ123.00000°.*
*ISCJB **19** 17:41:47.2±0.2, 24°.33N±0°.02×123°.02E±0°.01, h59km±3km, mb3.8/14, MS3.0/3, Error ellipse: s-maj=4.0km s-min=2.0km az=166.8*
*JMA **19** 17:41:47.9±0.1, 24°.36N×123°.02E, h49km±2km, M4.1*
JMA Felt I J1.
*TAP **19** 17:41:48.0, 24°.30N×122°.96E, h42km, ML4.8, B*
*IDC **19** 17:41:52.6±4.8, 24°.34N×122°.76E, h95km±46km, mb3.6/14, mb1 3.8/15, mb1mx3.7/26, mbtmp3.6/15, MS3.2/5, Ms1 3.2/5, ms1mx2.8/32, Error ellipse: s-maj=23.9km s-min=13.3km az=70.0*

ISC 19 17:41:48.9±0.6, 24°.33N±0°.03×123°.02E±0°.02, h55km±5km, n89, σ1°57/137, mb3.9/14, MS2.9/3, 13C-12D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.13**	**356**	⇓*iP*	**Pn**	**17 41 55.6**	**-1.9**
baz=12							
YOJ				*i* S	**Sn**	**17 42 01.1**	**-2.6**
baz=12							
YOJ	**Yonaguni jima**	**0.13**	**356**	P	**Pn**	**17 41 55.5**	**-2.0**
YOJ				*e*S	**Sn**	**17 42 00.8**	**-2.9**
IRIF	**Iriomote-Funau**	**0.65**	**89**	P	**Pn**	**17 42 00.8**	**-1.4**
IRIF				S	**Sn**	**17 42 10.4**	**-1.5**
HATJ	**Hateruma jima**	**0.76**	**110**	P	**Pn**	**17 42 02.3**	**-1.4**
HATJ				*e*S	**Sn**	**17 42 14.8**	**+0.3**
JKRS	**Kuro-shima**	**0.91**	**95**	P	**Pn**	**17 42 04.7**	**-0.8**
JKRS				*e*S	**Sn**	**17 42 17.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.02**	**88**	P	**Pn**	**17 42 05.9**	**-1.2**
JIJ				*e*S	**Sn**	**17 42 18.8**	**-1.7**
TWC	**Suao**	**1.10**	**285**	⇑*iP*	**Pn**	**17 42 06.3**	**-1.8**
baz=296							
TWC				*e*S	**Sn**	**17 42 19.5**	**-3.0**
baz=296							
TWB1	**Santiao Chiao**	**1.16**	**306**	⇑*iP*	**Pn**	**17 42 07.6**	**-1.3**
baz=319							
TWB1				*e*S	**Sn**	**17 42 20.7**	**-3.1**
baz=319							
ENA	**Nanau**	**1.17**	**275**	P	**Pn**	**17 42 07.7**	**-1.4**
baz=286							
ENA				*e*S	**Sn**	**17 42 22.4**	**-1.7**
baz=286							
ILA	**Ilan**	**1.24**	**291**	*eP*	**Pn**	**17 42 09.1**	**-0.8**
baz=292							
ILA				*e*S	**Sn**	**17 42 24.4**	**-1.3**
baz=292							
TWE	**Neicheng**	**1.29**	**288**	⇑*iP*	**Pn**	**17 42 09.3**	**-1.4**
baz=289							
TWE				*e*S	**Sn**	**17 42 25.0**	**-2.0**
baz=289							
TWD	**Chiawan**	**1.32**	**260**	⇓P	**Pn**	**17 42 09.6**	**-1.5**
baz=246							
TWD				*e*S	**Sn**	**17 42 25.1**	**-2.7**
baz=246							
HWA	**Hwalien**	**1.34**	**255**	*eP*	**Pn**	**17 42 10.2**	**-1.1**
baz=255							
HWA				*e*S	**Sn**	**17 42 26.4**	**-1.7**
baz=255							
NWF	**Wu-fen Shan**	**1.35**	**304**	⇑*iP*	**Pn**	**17 42 10.7**	**-0.9**
baz=306							
NWF				*e*S	**Sn**	**17 42 26.9**	**-1.6**
baz=306							
ENTT	**Nioudou**	**1.36**	**284**	*eP*	**Pn**	**17 42 10.7**	**-1.0**
baz=292							
ENTT				*e*S	**Sn**	**17 42 26.9**	**-1.8**
baz=292							
TWA	**Mucha**	**1.46**

ALS Alishan 2.19 249 ⇑P Pn 17 42 22.9 -0.3
baz=247
ALS eS Sn 17 42 46.9 -2.3
baz=247
JOGS Gusukube 2.21 78 P Pn 17 42 23.5 +0.3
JOGS eS Sn 17 42 49.9 +0.5
CHN5 Tsauling 2.26 252 ⇓P Pn 17 42 24.1 +0.1
baz=242
CHN5 eS Sn 17 42 50.8 0.0
baz=242
TTN Taitung 2.33 228 eP **Pn 17 42 21.8 -3.0**
baz=217
TTN eS Sn 17 42 49.9 -2.3
baz=217
TWG Pinlang 2.33 230 eP **Pn 17 42 22.3 -2.6**
baz=241
TWG eS Sn 17 42 47.6 -4.8
baz=241
WGK Gukeng 2.34 255 eP **Pn 17 42 25.3 +0.3**
baz=253
WGK eS Sn 17 42 53.8 +1.4
baz=253
CHY Chiayi 2.52 251 eP **Pn 17 42 28.0 +0.6**
baz=250
CHY eS Sn 17 42 57.4 +0.6
baz=250
WTCT Ta-ch'eng 2.55 260 eP **Pn 17 42 27.7 -0.1**
baz=259
WTCT eS Sn 17 42 57.6 +0.1
baz=259
CHN1 Nanshi 2.55 244 eP **Pn 17 42 28.2 +0.3**
baz=242
CHN1 eS Sn 17 42 58.3 +0.5
baz=242
SGST Jiashian 2.56 241 eP **Pn 17 42 28.7 +0.7**
baz=240
SGST eS Sn 17 42 58.0 +0.2
baz=240
LAY Lan-yu 2.65 211⇑eP Pn 17 42 25.6 -3.7
baz=209
LAY eS Sn 17 42 53.8 -6.4
baz=209
WSF Szhu 2.65 256 ⇑P Pn 17 42 29.5 +0.3
baz=254
WSF eS Sn 17 43 00.8 +0.6
baz=254
CHN3 Shinhua 2.73 243 eP Pn 17 42 31.9 +1.6
baz=242
CHN3 eS Sn 17 43 03.8 +1.6
baz=242
TAW Tawu 2.77 225 eP **Pn 17 42 28.1 -2.8**
baz=233
SGLT Jiouru 2.82 236 eP Pn 17 42 33.0 +1.5
baz=234
SGLT eS Sn 17 43 08.4 +4.2
baz=234
SCLT Jiali 2.83 247 eP **Pn 17 42 31.9 +0.2**
baz=245
SCLT eS Sn 17 43 04.5 -0.1
baz=245
TAI1 Yung-k'ang 2.86 244 eP **Pn 17 42 31.3 -0.8**
baz=242
TAI1 eS Sn 17 43 05.9 +0.5
baz=242
SCZT Fangliau 2.94 229 eP **Pn 17 42 31.7 -1.5**
baz=221
KAU Kaohsiung 3.05 235 eP Pn 17 42 37.4 +2.8
baz=234
TSEB Hengchuen, Pin 3.11 219 eP **Pn 17 42 34.1 -1.4**
baz=218
TSEB eS Sn 17 43 09.2 -2.2
baz=218
HEN Hengchun 3.12 223 eP **Pn 17 42 33.7 -2.0**
baz=221
HEN eS Sn 17 43 09.7 -2.1
baz=221
TWK1 Hengchun 3.13 221 P Pn 17 42 33.9 -1.8
baz=219
TWK1 eS Sn 17 43 09.0 -2.9
baz=219
TWP Hsiaoliuchiu 3.14 232 eP Pn 17 42 37.3 +1.4
baz=245
TWP eS Sn 17 43 14.8 +2.6
baz=245
WDGT Dungji 3.26 252 eP **Pn 17 42 37.0 -0.5**
baz=250
WDGT eS Sn 17 43 13.3 -1.8
baz=250
JKE Kume jima 2 3.94 59 P Pn 17 42 47.7 +0.8
JKE eS Sn 17 43 31.8 -0.1
KNM Kinmen 4.18 272 eP **Pn 17 42 50.8 +0.6**
baz=261
KNM eS Sn 17 43 37.5 -0.4
baz=261
JAGN Aguni-jima 4.43 59 P Pn 17 42 54.7 +1.1
JAGN eS Sn 17 43 44.2 +0.3
JIH Iheya 5.21 58 P Pn 17 43 04.2 -0.1
JOW Kunigami 5.36 61 P Pn 17 43 06.8 +0.5
JTK Tokunoshima 6.35 56 P Pn 17 43 18.6 -1.3
JAMN Amaminishikomi 6.76 53 P Pn 17 43 24.1 -1.4
JAM Amami Oshima 7.17 54 P Pn 17 43 28.8 -2.3
JMZ Minamidaito 2 7.58 77 P Pn 17 43 34.4 -2.4
KSRS Korea Array 13.74 17 P P 17 45 05.7 -2.1
0.6nm,0.3s,baz=198,slow=12,SNR=14
KSRS LR LR 17 50 53.6
comp=Z,61nm,18.9s,baz=169,slow=39
MJAR Matsushiro Arr 17.85 43 LR LR 17 52 39.3
comp=Z,71nm,18.3s,baz=60,slow=36
USRK Ussuriysk Arra 21.14 18 P P 17 46 29.7 +0.6
1.6nm,0.7s,baz=193,slow=12,SNR=2.8
CMAR Chiang Mai Arr 23.15 260 P P 17 46 49.5 -1.3
1.1nm,0.7s,baz=60,slow=8.0,SNR=11
CMAR LR LR 17 57 02.8
comp=Z,44nm,19.9s,baz=65,slow=40
ASAJ Asahikawa 25.41 34 LR LR 17 57 15.3
comp=Z,36nm,19.2s,baz=344,slow=36
SONM Songino Array 26.92 335 P P 17 47 23.7 -1.2
2.7nm,1.0s,baz=152,slow=8.6,SNR=10
SONM LR LR 17 59 16.7
comp=Z,87nm,18.7s,baz=185,slow=39
MKAR Makanchi Array 39.41 315 P P 17 49 11.0 -2.3
0.5nm,0.5s,baz=100,slow=9.9,SNR=6.7
MKAR PcP PcP 17 51 18.9 -1.6
0.4nm,0.7s,baz=96,slow=3.7,SNR=3.6
ZALV Zalesovo Beam 41.05 326 P P 17 49 25.0 -1.7
1.0nm,0.4s,baz=98,slow=10,SNR=4.7
KURBB Kurchatov Arra 43.09 319 P P 17 49 41.7 -1.7
0.2nm,0.3s,baz=121,slow=7.2,SNR=8.0
WRA Warramunga Arr 45.36 165 P P 17 50 01.4 -0.5
4.5nm,0.7s,baz=348,slow=8.8,SNR=27
BVAR Borovoye Array 48.63 320 P P 17 50 24.9 -2.2
0.4nm,0.5s,baz=106,slow=8.3,SNR=3.1
ASAR Alice Springs 48.86 167 P P 17 50 29.6 +0.5
0.9nm,0.6s,baz=350,slow=7.2,SNR=37
STKA Stephens Creek 58.64 161 P P 17 51 40.3 -0.1
1.4nm,0.9s,baz=314,slow=8.6,SNR=2.9
FINES FINESS Array B 72.17 330 P P 17 53 05.7 -1.8
2.1nm,0.9s,baz=33,slow=4.5,SNR=7.6
YKA Yellowknife Ar 82.18 23 P P 17 54 03.6 0.0
1.6nm,0.8s,baz=313,slow=5.2,SNR=12
GERES GERESS Array B 83.79 321 P P 17 54 11.0 -1.4
0.5nm,0.5s,baz=52,slow=6.9,SNR=5.1
NVAR Mina Array Bea 95.18 44 P P 17 55 06.7 -0.1
0.4nm,0.7s,baz=296,slow=5.0,SNR=3.6

*IDC **19** 17:49:08.3±0.7, 14°.09N×93°.01E, h0km, mb3.9/15, mb1 4.1/16, mb1mx3.9/29, mbtmp3.9/16, ML3.6/1, Error ellipse: s-maj=33.0km s-min=13.7km az=56.0*
*ISCJB **19** 17:49:11.7±0.6, 14°.22N±0°.08×93°.25E±0°.08, h32km, mb3.9/17, Error ellipse: s-maj=11.9km s-min=10.3km az=160.5*
ISC 19 17:49:13.5±0.7, 14°.2N±0°.1×93°.2E±0°.1, h32km, n19, σ0°61/22, mb3.9/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.98**	**52**	**Pn**	**Pn**	**17 50 54.5**	**+0.9**
	0.3nm,0.3s,baz=240,slow=14,SNR=3.8						
CMAR				Sn	**Sn**	**17 52 10.7**	**-1.2**
	0.9nm,0.3s,baz=242,slow=26,SNR=5.6						
MKAR	**Makanchi Array**	**33.75**	**347**	P	**P**	**17 55 52.7**	**+0.5**
	1.3nm,0.7s,baz=157,slow=8.4,SNR=14						
SONM	**Songino Array**	**35.30**	**15**	P	**P**	**17 56 06.2**	**+0.6**
	0.8nm,0.8s,baz=201,slow=8.1,SNR=6.2						
SONM				PcP	**PcP**	**17 58 36.0**	**+0.3**
	0.3nm,0.4s,baz=199,slow=3.1,SNR=5.2						
KURBB	**Kurchatov Arra**	**38.23**	**345**	P	**P**	**17 56 30.6**	**+0.2**
	1.4nm,0.7s,baz=164,slow=8.0,SNR=19						
ZALV	**Zalesovo Beam**	**40.20**	**352**	P	**P**	**17 56 46.8**	**0.0**
	0.8nm,0.6s,baz=173,slow=11,SNR=6.5						
FITZ	**Fitzroy Crossi**	**45.33**	**134**	P	**P**	**17 57 28.4**	**-0.5**
	1.0nm,0.5s,baz=313,slow=8.5,SNR=8.6						
AKTO	**Aktyubinsk**	**46.02**	**329**	P	**P**	**17 57 34.1**	**+0.2**
	1.1nm,0.5s,baz=116,slow=5.8,SNR=5.9						
WRA	**Warramunga Arr**	**52.83**	**129**	P	**P**	**17 58 26.3**	**-0.1**
	0.6nm,0.7s,baz=312,slow=8.1,SNR=8.8						
WRA				PcP	**PcP**	**17 59 34.8**	**-0.6**
	0.9nm,0.9s,baz=311,slow=3.4,SNR=5.1						
ASAR	**Alice Springs**	**54.79**	**133**	P	**P**	**17 58 40.7**	**0.0**
	0.5nm,0.6s,baz=311,slow=6.8,SNR=9.1						
STKA	**Stephens Creek**	**65.20**	**135**	P	**P**	**17 59 52.4**	**+0.4**
	1.1nm,0.7s,baz=328,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**66.73**	**331**	P	**P**	**18 00 00.9**	**-0.4**
	2.5nm,0.9s,baz=90,slow=7.6,SNR=10.0						
ARCES	**ARCESS Array B**	**69.04**	**340**	P	**P**	**18 00 15.7**	**-0.1**
	7.0nm,1.0s,baz=75,slow=6.4,SNR=7.0						
GERES	**GERESS Array B**	**72.54**	**317**	P	**P**	**18 00 36.1**	**-1.4**
	0.6nm,0.5s,baz=93,slow=5.9,SNR=6.7						
NOA	**NORSAR Array B**	**73.80**	**330**	P	**P**	**18 00 44.0**	**-0.8**
	0.8nm,0.6s,baz=92,slow=5.4,SNR=2.7						
LPG	**La Plagne**	**77.53**	**314**	eP	**P**	**18 01 06.9**	**+0.2**
	4.2nm,0.7s						
LPL	**La Plagne**	**77.55**	**314**	eP	**P**	**18 01 06.9**	**+0.2**
	3.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**88.24**	**283**	P	**P**	**18 02 02.5**	**+0.1**
	0.9nm,0.7s,baz=76,slow=3.9,SNR=4.4						
ILAR	**Eielson Array**	**89.27**	**22**	P	**P**	**18 02 05.9**	**-0.3**
	0.3nm,0.7s,baz=270,slow=3.6,SNR=3.1						
NVAR	**Mina Array Bea**	**119.92**	**28**	PKP	**PKPdf**	**18 08 01.9**	**+0.4**
	0.2nm,0.5s,baz=286,slow=1.3,SNR=2.5						

*NOU **19** 17:51:07.5±1.7, 20°.07S×169°.81E, h10km, MD3.0, ML3.2*
*IDC **19** 17:51:07.5±3.0, 19°.96S×169°.42E, h125km±29km, mb3.5/9, mb1 3.7/10, mb1mx3.5/20, mbtmp3.5/10, Error ellipse: s-maj=60.0km s-min=23.1km az=146.0*
ISC 19 17:51:05.4±1.3, 19°.7S±0°.2×169°.4E±0°.3, h100km, n15, σ1°37/18, mb3.7/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.42**	**223**	eP	**Pn**	**17 51 58.7**	**+1.9**
BAYA				eS	**Sn**	**17 52 35.3**	**-1.3**
BAYA				AMP		17 52 39.1	
	comp=Z,22nm,2.8s						
DZM	**Mont Dzumac**	**3.66**	**228**	eP	**Pn**	**17 52 01.1**	**+0.9**
DZM				eS	**Sn**	**17 52 41.0**	**-1.5**
DZM				AMP		17 52 44.3	
	comp=Z,2μm,2.1s						
DZM	**Mont Dzumac**	**3.66**	**228**	P	**Pn**	**17 52 01.0**	**+0.9**
	comp=Z,7.3nm,0.3s,baz=64,slow=20,SNR=61						
DZM				S	**Sn**	**17 52 41.6**	**-0.9**
	comp=Z,50nm,0.3s,baz=124,slow=23,SNR=23						
NORM	**Noumea**	**3.74**	**226**	eP	**Pn**	**17 52 02.0**	**+0.9**
NORM				eS	**Sn**	**17 52 43.3**	**-0.9**
NOUC	**Port Laguerre**	**3.78**	**229**	eP	Pn	17 52 05.2	+3.5
NOUC				eS	**Sn**	**17 52 47.9**	**+2.7**
NOUC				AMP		17 52 51.5	
	comp=Z,67nm,1.6s						
STKA	**Stephens Creek**	**27.75**	**238**	P	**P**	**17 56 43.6**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=112,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**32.95**	**263**	P	**P**	**17 57 29.0**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=88,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**33.18**	**257**	P	**P**	**17 57 32.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=80,slow=8.8,SNR=51						
FITZ	**Fitzroy Crossi**	**41.35**	**265**	P	**P**	**17 58 41.4**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=60,slow=13,SNR=4.1						
ASAJ	**Asahikawa**	**68.04**	**340**	P	P	18 01 55.4	+1.4
	comp=Z,3.9nm,0.8s,baz=288,slow=9.6,SNR=3.1						
PETK	**Petropavlovsk-**	**73.16**	**353**	P	**P**	**18 02 26.2**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=138,slow=6.4,SNR=9.1						
CMAR	**Chiang Mai Arr**	**78.81**	**294**	P	**P**	**18 02 58.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=116,slow=4.2,SNR=3.6						
NVAR	**Mina Array Bea**	**88.96**	**48**	P	**P**	**18 03 49.4**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=230,slow=8.4,SNR=4.2						
ILAR	**Eielson Array**	**90.58**	**17**	P	**P**	**18 03 54.8**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=241,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**144.93**	**332**	PKPbc	**PKPdf**	**18 10 29.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=46,slow=4.2,SNR=5.6						

IDC 19 17:53:47.4±2.2, 4°.94S×152°.58E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=126.4km s-min=29.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**228**	P	P	17 58 56.1	0.0
	0.4nm,0.3s,baz=54,slow=10.0,SNR=8.0						
ASAR	**Alice Springs**	**25.90**	**222**	P	P	17 59 21.6	+0.2
	0.4nm,0.4s,baz=56,slow=9.2,SNR=10						
FITZ	**Fitzroy Crossi**	**29.40**	**241**	P	P	17 59 52.3	-0.4
	1.2nm,0.5s,baz=49,slow=11,SNR=5.1						
ILAR	**Eielson Array**	**82.37**	**22**	P	P	18 06 11.2	+0.1
	0.4nm,0.6s,baz=239,slow=5.1,SNR=3.7						

IDC 19 18:17:38.4±2.4, 15°.08S×71°.93W, h132km±21km, mb3.6/5, mb1 3.8/9, mb1mx3.7/23, mbtmp3.6/9, Error ellipse: s-maj=30.7km s-min=18.1km az=40.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.85**	**109**	P	Pn	18 18 38.6	+1.6
	17nm,0.3s,baz=284,slow=9.1,SNR=359						
ATAH	**Atahualpa**	**10.13**	**321**	P	Pn	18 20 00.7	-0.4
	0.6nm,0.3s,baz=131,slow=20,SNR=3.2						
SIV	**San Ignacio**	**10.50**	**96**	P	Pn	18 20 03.8	-1.7
	1.4nm,0.3s,baz=292,slow=9.8,SNR=29						
CFAA	**Coronel Fontan**	**16.79**	**169**	P	P	18 21 24.9	-0.8
	0.1nm,0.3s,baz=344,slow=10,SNR=5.3						
CPUP	**Villa Florida**	**17.64**	**132**	P	P	18 21 33.9	-1.1
	1.2nm,0.3s,baz=299,slow=11,SNR=8.4						
BDFB	**Brasilia**	**23.06**	**95**	P	P	18 22 32.8	+0.1
	4.5nm,0.6s,baz=273,slow=14,SNR=6.5						
TXAR	**Lajitas Array**	**53.75**	**325**	P	P	18 26 46.8	-0.6
	0.5nm,0.5s,baz=129,slow=9.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**78.06**	**73**	P	P	18 29 22.9	-0.2
	1.8nm,0.6s,baz=253,slow=4.5,SNR=7.6						
VNDA	**Vanda**	**82.63**	**190**	P	P	18 29 47.0	+0.5
	0.4nm,0.6s,baz=173,slow=7.4,SNR=3.5						
YKA	**Yellowknife Ar**	**84.22**	**342**	P	P	18 29 54.7	+0.1
	1.4nm,0.7s,baz=134,slow=5.3,SNR=4.9						
ASAR	**Alice Springs**	**133.95**	**214**	PKP	PKPdf	18 36 39.3	-1.6
	0.3nm,0.7s,baz=123,slow=1.8,SNR=4.9						
WRA	**Warramunga Arr**	**136.66**	**217**	PKP	PKPdf	18 36 46.1	+0.2
	0.5nm,0.6s,baz=137,slow=1.6,SNR=7.2						
ZALV	**Zalesovo Beam**	**137.15**	**20**	PKP	PKPdf	18 36 46.8	+1.0
	1.0nm,0.7s,baz=294,slow=3.0,SNR=3.5						
MJAR	**Matsushiro Arr**	**145.70**	**314**	PKPbc	PKPdf	18 37 01.1	-0.6
	1.4nm,0.8s,baz=90,slow=0.8,SNR=8.5						
SONM	**Songino Array**	**147.31**	**2**	PKPbc	PKPbc	18 37 07.1	+0.3
	0.7nm,0.7s,baz=1.6,slow=2.0,SNR=5.9						

*BKK **19** 18:19:22.6±1.6, 61°.N±27°×15°.2W±2°.8, h10km, M5.2/12, mB5.7/5, mb5.1/12, Mw(mB)5.2/5*
*BJI **19** 18:19:23.6, 61°.46N×151°.18W, h63km, mB5.0/30, mb5.2/53, Ms4.6/32, Ms7 4.4/36*
*MOS **19** 18:19:25.0±0.9, 61°.31N×151°.13W, h70km, mb5.1/65, Error ellipse: s-maj=8.2km s-min=4.2km az=93.4*
*ISCJB **19** 18:19:25.7±0.1, 61°.31N±0°.01×150°.96W±0°.02, h75km±1km, mb4.8/256, Error ellipse: s-maj=2.4km s-min=1.9km az=173.3*
*IDC **19** 18:19:26.9±0.5, 61°.33N×151°.12W, h72km±4km, mb4.6/32, mb1 4.7/37, mb1mx4.7/39, mbtmp4.6/37, MS3.9/28, Ms1 3.9/28, ms1mx3.8/41, Error ellipse: s-maj=9.7km s-min=7.7km az=7.0*
*NEIC **19** 18:19:27.6, 61°.23N×150°.86W, h66km, mb4.9/119, ML5.0(AEIC), MW4.9(USGS), After AEIC.*
NEIC Felt [IV] at Anchorage, Fort Richardson, Palmer, Talkeetna and Willow; [III] at Chugiak, Eagle River, Elmendorf AFB, Kenai and Wasilla; [II] at Girdwood, Seward and Soldotna. Also felt at Anchor Point, Cordova, Denali National Park, Glennallen, Indian, Rampart, Sterling, Trapper Creek, Tyonek and Valdez.
*GCMT **19** 18:19:29.3±0.2, 61°.41N×151°.01W, h80km±3km, MW5.1, Moment Tensor Solution. s49,c66; s91,c139; Moment tensor: Scale 10^16Nm; Mrr0.10±.15; Mθθ-0.56±.19; Mφφ0.46±.17; Mrθ-0.32±.09; Mrφ1.96±.13; Mθφ4.41±.07; Best double couple: M0=4.90000×10^16 NP1:φs354.00000°, δ90.00000°, λ115.00000°. NP2:φs85.00000°, δ25.00000°, λ1.00000°. Principal axes: T 4.9700, Plg40.0000°, Azm287.0000°; N -0.2100, Plg25.0000°, Azm174.0000°; P -4.7600, Plg40.0000°, Azm62.0000°; Data Used: II IU IC G CN.*
*SZGRF **19** 18:19:34.1, 62°.54N×151°.74W, h72km, mb4.8, Central Alaska, United States*
*DJA **19** 18:20:31.3±6.7, 63°N±32°×15°4W±3°5, h619km±65km, M4.7/11, mB5.3/5, mb4.6/11, Mw(mB)4.7/5*
ISC 19 18:19:25.7±0.2, 61°.27N±0°.03×150°.97W±0°.02, h65km±1km, h64km:pP-P, n1039, σ1°46/1219, mb4.9/266, 199C-191D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.22**	**29**	P	**Pn**	**18 19 37.6**	**+1.6**
STLK	**Strandline Lak**	**0.48**	**299**	P	**Pn**	**18 19 40.0**	**+2.1**
SPCG	**Spurr Capps GI**	**0.51**	**273**	P	**Pn**	**18 19 40.2**	**+1.9**
SPCG				S	**Sn**	**18 19 50.3**	**+2.8**
SPU	**Mount Spurr**	**0.53**	**261**	P	**Pn**	**18 19 40.2**	**+1.7**
NKA	**Nikishka**	**0.54**	**194**	P	**Pn**	**18 19 41.5**	**+3.0**
NCG	**North Capps GI**	**0.59**	**284**	P	**Pn**	**18 19 41.1**	**+1.9**
CKL	**Chakachamna La**	**0.67**	**264**	P	**Pn**	**18 19 41.8**	**+1.8**
BGL	**Barrier Glacie**	**0.69**	**270**	P	**Pn**	**18 19 42.1**	**+1.9**
SKT	**Skwentna**	**0.76**	**340**	P	**Pn**	**18 19 43.2**	**+2.2**
SLKM	**Skilak Lake**	**0.84**	**154**	P	**Pn**	**18 19 42.7**	**+0.7**
SLKM	**Skilak Lake**	**0.84**	**154**	P	**Pn**	**18 19 42.7**	**+0.7**
PMR	**Palmer**	**0.94**	**69**	P	**Pn**	**18 19 44.1**	**+1.0**
PMR				S	**Sn**	**18 19 57.4**	**+1.4**
PMR	**Palmer**	**0.94**	**69**	P	**Pn**	**18 19 44.1**	**+1.0**
PMR				S	**Sn**	**18 19 57.4**	**+1.4**
RDT	**Redoubt**	**0.99**	**226**	P	**Pn**	**18 19 45.3**	**+1.4**
DFR	**Drift River**	**1.08**	**232**	P	**Pn**	**18 19 46.6**	**+1.6**
RDJH	**Redoubt Jeurge**	**1.13**	**234**	P	**Pn**	**18 19 47.4**	**+1.7**
RDJH				S	**Sn**	**18 20 03.1**	**+2.6**
NCT	**North Crescent**	**1.19**	**234**	P	**Pn**	**18 19 48.3**	**+1.8**
RDWB	**Redoubt West**	**1.21**	**230**	P	**Pn**	**18 19 48.4**	**+1.6**
RDWB				S	**Sn**	**18 20 04.5**	**+2.0**
NNL	**Ninilchik**	**1.24**	**188**	P	**Pn**	**18 19 49.5**	**+2.4**
SML	**Sawmill**	**1.37**	**66**	P	**Pn**	**18 19 49.8**	**+1.0**
SML				S	**Sn**	**18 20 07.0**	**+0.8**
SML	**Sawmill**	**1.37**	**66**	P	**Pn**	**18 19 49.8**	**+1.0**
SML				S	**Sn**	**18 20 07.0**	**+0.8**
ILIM	**Iliamna**	**1.54**	**220**	P	**Pn**	**18 19 52.9**	**+1.8**
IVE	**Iliamna Volcan**	**1.61**	**220**	P	**Pn**	**18 19 53.8**	**+1.7**
IVS	**Iliamna South**	**1.64**	**220**	P	**Pn**	**18 19 54.4**	**+1.8**
IVS	**Iliamna South**	**1.64**	**220**	P	**Pn**	**18 19 54.4**	**+1.8**
HOM	**Homer**	**1.65**	**192**	P	**Pn**	**18 19 54.1**	**+1.7**
PPLA	**Purkeypile**	**1.73**	**341**	P	**Pn**	**18 19 55.5**	**+1.7**
SCM	**Sheep Creek Mo**	**1.83**	**70**	P	**Pn**	**18 19 55.8**	**+0.8**
SCM				S	**Sn**	**18 20 18.3**	**+1.1**
SCM	**Sheep Creek Mo**	**1.83**	**70**	P	**Pn**	**18 19 55.8**	**+0.8**
SCM				S	**Sn**	**18 20 18.3**	**+1.1**
GLI	**Glacier Island**	**1.92**	**100**	P	**Pn**	**18 19 55.6**	**-0.6**
OPT	**Oil Point**	**1.97**	**216**	P	**Pn**	**18 19 59.1**	**+2.3**
JPK	**Jack Peak**	**2.13**	**94**	P	**Pn**	**18 19 59.0**	**0.0**
PDB	**Pedro Bay**	**2.18**	**228**	P	**Pn**	**18 20 01.0**	**+1.3**
PDB	**Pedro Bay**	**2.18**	**228**	P	**Pn**	**18 20 01.0**	**+1.3**
TRF	**Thorofare Moun**	**2.21**	**8**	P	**Pn**	**18 20 02.4**	**+2.1**
CAST	**Castle Rocks**	**2.22**	**347**	P	**Pn**	**18 20 02.4**	**+2.1**
SVW2	**Sparrevohn**	**2.24**	**268**	P	**Pn**	**18 20 02.0**	**+1.5**
SVW2				S	**Sn**	**18 20 29.2**	**+2.1**
FID	**Port Fidalgo**	**2.25**	**101**	P	**Pn**	**18 19 59.4**	**-1.2**
VLZ	**Valdez**	**2.25**	**91**	P	**Pn**	**18 20 00.6**	**+0.1**
AUL	**Augustine Lava**	**2.26**	**214**	P	**Pn**	**18 20 02.6**	**+1.9**
AUE	**Augustine Isla**	**2.26**	**213**	P	**Pn**	**18 20 02.7**	**+2.0**
AUW	**Augustine West**	**2.28**	**214**	P	**Pn**	**18 20 03.3**	**+2.3**
AUI	**Augustine Isla**	**2.29**	**213**	P	**Pn**	**18 20 03.5**	**+2.3**
KTH	**Kantishna Hill**	**2.29**	**0**	P	**Pn**	**18 20 03.2**	**+1.9**
RND	**Reindeer**	**2.36**	**24**	P	**Pn**	**18 20 04.1**	**+1.9**
RND	**Reindeer**	**2.36**	**24**	P	**Pn**	**18 20 04.1**	**+1.9**
KLU	**Klutina**	**2.44**	**82**	P	**Pn**	**18 20 03.3**	**+0.1**
DHY	**Denali Highway**	**2.48**	**41**	P	**Pn**	**18 20 05.2**	**+1.4**
DIV	**Divide**	**2.52**	**91**	P	**Pn**	**18 20 04.2**	**-0.1**
MCK	**McKinley**	**2.65**	**20**	P	**Pn**	**18 20 07.8**	**+1.8**
MCK	**McKinley**	**2.65**	**20**	P	**Pn**	**18 20 07.8**	**+1.8**
EYAK	**Cordova Ski Ar**	**2.65**	**104**	P	**Pn**	**18 20 05.4**	**-0.6**
MCNL	**McNeil River**	**2.68**	**220**	P	**Pn**	**18 20 08.3**	**+1.9**
CHUM	**Lake Minchumin**	**2.70**	**347**	P	**Pn**	**18 20 08.8**	**+2.2**
TT01	**Tatalina**	**2.89**	**307**	P	**Pn**	**18 20 10.9**	**+1.7**
MID	**Middleton Isla**	**2.95**	**127**	P	**Pn**	**18 20 09.2**	**-0.9**
MID	**Middleton Isla**	**2.95**	**127**	P	**Pn**	**18 20 09.2**	**-0.9**
HARP	**HAARP**	**2.98**	**65**	P	**Pn**	**18 20 12.0**	**+1.4**
BWN	**Browne**	**3.00**	**13**	P	**Pn**	**18 20 12.8**	**+2.1**
PAX	**Paxson**	**3.10**	**54**	P	**Pn**	**18 20 13.7**	**+1.5**
PAX	**Paxson**	**3.10**	**54**	P	**Pn**	**18 20 13.7**	**+1.5**
BMRM	**Bremner River**	**3.10**	**93**	P	**Pn**	**18 20 11.7**	**-0.6**
GOAT	**Goat Mountain**	**3.12**	**100**	P	**Pn**	**18 20 11.7**	**-0.8**
KAPH	**Katmai Pasha**	**3.17**	**214**	P	**Pn**	**18 20 14.7**	**+1.5**
RAGM	**Ragged Mountai**	**3.21**	**103**	P	**Pn**	**18 20 12.5**	**-1.1**
WASW	**Wrangell South**	**3.31**	**75**	P	**Pn**	**18 20 16.2**	**+0.9**
KARR	**Katmai Rainbow**	**3.36**	**216**	P	**Pn**	**18 20 17.6**	**+1.9**
NEA	**Nenana**	**3.43**	**14**	P	**Pn**	**18 20 18.0**	**+1.4**
GLB	**Gilahina Butte**	**3.45**	**84**	P	**Pn**	**18 20 17.7**	**0.0**
WRH	**Wood River Hil**	**3.48**	**21**	P	**Pn**	**18 20 18.5**	**+1.2**
NICHA	**Nichawak Mount**	**3.59**	**104**	P	**Pn**	**18 20 17.3**	**-1.5**
KDAK	**Kodiak Island**	**3.59**	**194**	Pn	**Pn**	**18 20 18.0**	**-0.8**
	7μm,0.6s						
KDAK	**Kodiak Island**	**3.59**	**194**	eP	**Pn**	**18 20 18.0**	**-0.8**
KDAK				S	**Sn**	**18 20 58.5**	**-1.4**
KDAK	**Kodiak Island**	**3.59**	**194**	P	**Pn**	**18 20 17.7**	**-1.1**
	12nm,0.3s,baz=36,slow=10.0,SNR=105						
KDAK				S	**Sn**	**18 20 58.5**	**-1.4**
	147nm,0.3s,baz=355,slow=11,SNR=8.4						
KDAK				LR	LR	18 22 12.3	
	comp=Z,2μm,21.5s,baz=264,slow=46						
KAKN	**Katmai Knife C**	**3.63**	**217**	P	**Pn**	**18 20 20.7**	**+1.2**
VRDI	**Verde Repeater**	**3.63**	**87**	P	**Pn**	**18 20 19.1**	**-0.5**
HDA	**Harding Lake**	**3.65**	**29**	P	**Pn**	**18 20 21.6**	**+2.0**
CCB	**Clear Creek Bu**	**3.69**	**22**	P	**Pn**	**18 20 21.1**	**+1.0**
KELA	**Mount Kelaz**	**3.72**	**222**	P	**Pn**	**18 20 22.3**	**+1.6**
KABR	**Katmai Barrier**	**3.74**	**215**	P	**Pn**	**18 20 22.2**	**+1.2**
ACHA	**Angle Creek He**	**3.78**	**218**	P	**Pn**	**18 20 23.1**	**+1.6**
MLY	**Manley**	**3.78**	**1**	P	**Pn**	**18 20 23.8**	**+2.3**
MENT	**Mentasta**	**3.79**	**61**	eP	**Pn**	**18 20 22.4**	**+0.7**
MCARA	**McCarthy V

BCPM **Bancas Point** 5.73 98 P Pn 18 20 47.7 -0.5
FYU **Fort Yukon** 5.89 23 P Pn 18 20 52.6 +2.5
PNL **Peninsula** 5.94 101 P Pn 18 20 50.1 -0.9
COLD **Coldfoot** 5.99 3 P Pn 18 20 53.6 +2.0
DAWY **Dawson** 6.02 57 P Pn 18 20 53.4 +1.3
CHGN **Chignik** 6.31 221 eP Pn 18 20 56.1 +0.2
HYT **Haines Junctio** 6.55 88 P Pn 18 20 60.0 +0.5
VNHG **Veniaminof 1** 6.62 224 P Pn 18 21 01.4 +1.1
VNFG **Veniaminof 2** 6.70 226 P Pn 18 21 03.5 +2.1
BM3 **Burnt Mountain** 6.76 21 P Pn 18 21 03.9 +1.7
SDPT **Sand Point** 7.76 224 P Pn 18 21 15.8 0.0
WHY **Whitehorse** 7.85 87 P Pn 18 21 16.8 -0.4
SKAG **Skagway** 7.96 96 eP Pn 18 21 18.2 -0.3
121nm,0.6s
BESE **Bessie Mountai** 8.53 101 P Pn 18 21 25.5 -0.8
DTNA **Dutton South F** 8.54 229 P Pn 18 21 28.1 +1.6
TNA **Tin City** 8.72 307 P Pn 18 21 31.3 +2.4
SIT **Sitka** 9.07 111 P Pn 18 21 31.8 -1.8
SIT **Sitka** 9.07 111 P Pn 18 21 31.8 -1.8
FALS **False Pass** 9.20 231 eP Pn 18 21 36.6 +1.1
118nm,0.5s
INK **Inuvik** 10.22 39 eP Pn 18 21 49.2 0.0
222nm,1.0s
INK S Sn 18 23 37.2 -4.8
INK ScP ScP 18 31 17.4 -0.7
INK **Inuvik** 10.22 39 P Pn 18 21 49.6 +0.3
12nm,0.3s,baz=232,slow=16,SNR=126
INK S Sn 18 23 37.2 -4.8
baz=221,slow=15,SNR=1.4
INK LR LR 18 25 59.8
comp=Z,1µm,18.5s,baz=234,slow=38
INK ScP ScP 18 31 17.4 -0.7
0.2nm,0.3s,baz=254,slow=2.0,SNR=4.3
WRAK **Wrangell Islan** 10.78 108 eP Pn 18 21 55.9 -1.1
38nm,0.5s
DLBC **Dease Lake** 10.89 96 eP Pn 18 21 58.4 -0.3
DLBC S Sn 18 23 52.6 -6.1
DLBC **Dease Lake** 10.89 96 P Pn 18 21 59.2 +0.6
4.0nm,0.3s,baz=275,slow=9.7,SNR=27
DLBC S Sn 18 23 52.6 -6.1
1.5nm,0.3s,baz=30,slow=16,SNR=2.7
DLBC LR LR 18 26 47.0
comp=Z,1µm,19.7s,baz=287,slow=40
CRAG **Craig** 11.00 114 eP Pn 18 21 58.8 -1.2
27nm,0.6s
UNV **Unalaska Valle** 11.15 235 eP Pn 18 22 05.0 +2.9
54nm,0.7s
BBB **Bella Bella** 15.41 116 P Pn 18 22 59.6 +0.7
BBB S Sn 18 25 44.9 -3.5
BBB **Bella Bella** 15.41 116 P Pn 18 22 59.6 +0.7
0.6nm,0.3s,baz=306,slow=14,SNR=4.3
BBB S Sn 18 25 44.9 -3.5
1.2nm,0.3s,baz=26,slow=19,SNR=6.8
BBB LR LR 18 28 24.8
comp=Z,336nm,21.4s,baz=318,slow=35
ADK **Adak** 16.89 248 eP Pn 18 23 18.0 +0.5
ADK pmax pmax
comp=Z,367nm,1.1s
ADK **Adak** 16.89 248 eP Pn 18 23 18.0 +0.5
comp=Z,367nm,1.1s
YKW3 **Yellowknife Ar** 17.02 70 eP Pn 18 23 17.6 -1.4
comp=Z,1.4nm,0.5s
YKA **Yellowknife Ar** 17.04 70 P Pn 18 23 19.1 -0.3
YKA ScP ScP 18 31 28.4 -1.1
YKA **Yellowknife Ar** 17.04 70 P Pn 18 23 19.0 -0.3
comp=Z,14nm,0.3s,baz=278,slow=9.9,SNR=146
YKA ScP ScP 18 31 28.4 -1.1
comp=Z,0.3nm,0.3s,baz=286,slow=2.3,SNR=13
AMKA **Amchitka** 19.06 252 eP P 18 23 42.3 -0.1
comp=Z,67nm,0.6s
PGC **Sidney** 20.03 117 eP Pn 18 23 55.3 0.0
comp=Z,1.6nm,0.7s
A05A **Maple Falls** 20.37 114 P Pn 18 23 58.9 -0.3
MBW **Mount Baker** 20.61 114 P Pn 18 24 01.8 -0.5
NLWA **Neilton Lookou** 20.83 119 eP P 18 24 03.0 +1.3
comp=Z,70nm,1.3s
FX1 **Attu Island--F** 20.98 263 eP P 18 24 02.1 -1.2
FX1 PcP PcP 18 28 07.4 -0.4
FX1 **Attu Island--F** 20.98 263 P P 18 24 02.0 -1.2
comp=Z,28nm,0.5s,baz=352,slow=9.8,SNR=13
FX1 PcP PcP 18 28 07.4 -0.4
comp=Z,2.8nm,0.4s,baz=5.7,slow=10,SNR=4.6
FX1 LR LR 18 32 10.4
comp=Z,238nm,19.7s,baz=249,slow=36
JCW **Jim Creek** 21.04 115 P P 18 24 06.3 +2.4
EDM **Edmonton** 21.61 95 eP P 18 24 10.9 +0.9
EDM **Edmonton** 21.61 95 eP P 18 24 10.9 +0.9
BMW **Boistfort Moun** 21.82 120 P P 18 24 14.8 +2.5
BMW **Boistfort Moun** 21.82 120 P P 18 24 14.8 +2.5
LON **Longmire** 22.20 118 eP P 18 24 18.5 +2.0
LON pmax pmax
comp=Z,22nm,1.0s
LON **Longmire** 22.20 118 eP P 18 24 18.5 +2.0
comp=Z,22nm,1.0s
TDL **Tradedollar La** 22.35 119 P P 18 24 21.0 +2.9
ASR **Mount Adams--S** 22.77 118 P P 18 24 25.0 +2.4
OD2 **Odessa Site #2** 23.07 112 P P 18 24 26.7 +1.2
NEW **Newport** 23.14 109 P P 18 24 27.4 +1.1
NEW **Newport** 23.14 109 P P 18 24 27.4 +1.1
comp=Z,35nm,0.7s,baz=318,slow=9.1,SNR=46
NEW LR LR 18 33 15.5
comp=Z,339nm,20.4s,baz=304,slow=36
NEW **Newport** 23.14 109 ⇑P P 18 24 27.3 +1.1
baz=23
VLL **Laurance Lake** 23.28 119 P P 18 24 29.6 +2.1
RES **Resolute Bay** 23.69 33 P P 18 24 31.1 +0.1
RES **Resolute Bay** 23.69 33 P P 18 24 31.1 +0.1
comp=Z,15nm,0.6s,baz=263,slow=12,SNR=15
RES LR LR 18 34 37.4
comp=Z,201nm,21.3s,baz=248,slow=38
WALA **Waterton Lakes** 24.06 104 eP P 18 24 35.5 +0.8
comp=Z,0.6nm,0.7s
KEBM **Edson Butte** 24.35 127 eP P 18 24 40.4 +3.1
comp=Z,58nm,0.9s
BSMT **Bassoo Peak** 24.52 107 eP P 18 24 40.1 +1.1
comp=Z,23nm,1.2s
BLMT **Blacktail Moun** 24.60 106 eP P 18 24 40.6 +0.9
comp=Z,16nm,0.6s
JTMT **Jette** 24.83 106 eP P 18 24 42.5 +0.8
comp=Z,26nm,0.9s
YBMT **Yellow Bay** 24.87 106 eP P 18 24 43.3 +1.2
comp=Z,24nm,0.6s
HUMO **Hull Mountain** 25.11 125 eP P 18 24 47.0 +2.8
comp=Z,37nm,0.9s
SWMT **Swartz Lake** 25.13 106 eP P 18 24 45.2 +0.8
comp=Z,22nm,1.1s
SLMT **Seeley Lake** 25.56 106 eP P 18 24 49.6 +1.2
comp=Z,11nm,0.7s
BMO **Blue Mountains** 25.65 114 eP P 18 24 50.4 +1.3
comp=Z,16nm,0.6s
MSO **Missoula** 25.66 107 ⇑P P 18 24 49.7 +0.5
baz=26
SEY **Seymchan** 25.84 299 eP P 18 24 52.1 +1.6
CHMT **Chamberlain Mo** 25.91 106 eP P 18 24 51.7 0.0
comp=Z,5.0nm,0.6s
YBH **Yreka Blue Hor** 25.95 126 eP P 18 24 54.4 +2.5
comp=Z,24nm,1.0s
YBH **Yreka Blue Hor** 25.95 126 P P 18 24 53.0 +1.1
comp=Z,16nm,0.8s,baz=7.3,slow=3.4,SNR=33
YBH LR LR 18 33 21.4
comp=Z,314nm,19.7s,baz=332,slow=32
B17A **L&G Farms, Che** 26.07 101 ⇓P P 18 24 53.7 +0.8
baz=26,SNR=18
A18A **Metzger Ranch,** 26.09 99 ⇑P P 18 24 53.3 +0.3
baz=26
FFC **Flin Flon** 26.22 82 eP P 18 24 54.8 +0.7
FFC pmax pmax
comp=Z,92nm,0.9s
FFC **Flin Flon** 26.22 82 eP P 18 24 54.8 +0.7
comp=Z,92nm,0.9s
B18A **Beardsley Farm** 26.48 100 ⇓P P 18 24 57.3 +0.6
baz=26,SNR=5.6
C17A **Wharram Farm,** 26.56 102 ⇓P P 18 24 57.6 +0.3
baz=26,SNR=14
A19A **Klindworth Far** 26.61 98 ⇓P P 18 24 58.5 +0.8
baz=26,SNR=6.9
HRY **Holter Researc** 26.73 105 eP P 18 24 59.7 +0.8
comp=Z,12nm,0.6s
EGMT **Eagleton** 26.75 101 eP P 18 24 59.8 +0.7
comp=Z,38nm,0.6s
EGMT **Eagleton** 26.75 101 ⇑P P 18 24 59.6 +0.5
baz=27,SNR=16
B19A **Brinkman Farms** 26.84 99 ⇑P P 18 25 00.6 +0.8
baz=27,SNR=9.0
D17A **Six Diamond Ra** 26.94 103 ⇓P P 18 25 01.0 +0.2
baz=27,SNR=6.2

WDC **Whiskeytown Da** 27.00 127 eP P 18 25 03.8 +2.5
WDC pmax pmax
comp=Z,11nm,0.6s
WDC **Whiskeytown Da** 27.00 127 eP P 18 25 03.8 +2.5
comp=Z,11nm,0.6s
WVOR **Wild Horse Val** 27.02 119 eP P 18 25 03.6 +2.0
WVOR pmax pmax
comp=Z,27nm,1.0s
WVOR **Wild Horse Val** 27.02 119 eP P 18 25 03.6 +2.0
comp=Z,27nm,1.0s
A20A **Cobblestone Ra** 27.03 98 ⇑P P 18 25 01.2 -0.3
baz=27
LRM **Limekiln Ridge** 27.10 107 eP P 18 25 03.4 +1.1
comp=Z,298nm,1.4s
LBCM **Butte Creek Ri** 27.25 125 P P 18 25 06.0 +2.3
B20A **Solberg Farm,** 27.29 98 ⇓P P 18 25 03.6 -0.2
baz=27
C19A **Slack Wire Ran** 27.30 100 ⇑P P 18 25 04.9 +1.0
baz=27,SNR=20
D18A **Linhart Farms,** 27.32 102 ⇓P P 18 25 04.3 +0.1
baz=27
E17A **Martinsdale** 27.36 104 ⇓P P 18 25 04.8 +0.1
baz=27
DLMT **Dillon** 27.38 108 eP P 18 25 05.8 +1.0
comp=Z,17nm,1.1s
A21A **Bergtoll Ranch** 27.43 96 ⇓P P 18 25 06.1 +1.0
baz=27
MFID **Camas Ranch** 27.44 114 ⇑P P 18 25 06.2 +0.9
baz=27,SNR=8.9
BOZ **Bozeman (W)** 27.61 106 eP P 18 25 08.1 +1.3
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ **Bozeman (W)** 27.61 106 eP P 18 25 08.1 +1.3
comp=Z,7.3nm,0.8s
MCMT **McKenzie Canyo** 27.67 109 eP P 18 25 08.2 +0.7
comp=Z,3.7nm,0.6s
E18A **Harlowton** 27.73 103 ⇓P P 18 25 08.7 +0.8
baz=27
FCC **Fort Churchill** 27.77 70 eP P 18 25 08.8 +0.9
FCC pmax pmax
comp=Z,1.0nm,0.4s
FCC **Fort Churchill** 27.77 70 eP P 18 25 08.8 +0.9
comp=Z,0.9nm,0.4s
B21A **Ellsworth Farm** 27.78 97 ⇓P P 18 25 08.7 +0.6
baz=28
D19A **Cripps Ranch,** 27.78 101 ⇓P P 18 25 09.0 +0.8
baz=28
C20A **Veseth Ranch,** 27.81 99 ⇓P P 18 25 09.0 +0.5
baz=28,SNR=10
F17A **Fitzpatrick Pl** 27.87 105 ⇑P P 18 25 10.4 +1.3
baz=28,SNR=6.0
PET **Petropavlovsk** 27.89 276 eP P 18 25 06.9 -2.1
PET eS S 18 29 44.0 -3.6
PET pmax pmax
comp=Z,200nm,4.7s
PET pmax pmax
comp=Z,100nm,12.8s
PET pmax pmax
comp=Z,19nm,0.4s
A22A **Carney Farms,** 27.92 95 ⇓P P 18 25 10.3 +0.9
baz=28
HLID **Hailey** 27.95 113 eP P 18 25 10.8 +1.0
comp=Z,9.9nm,0.8s
HLID **Hailey** 27.95 113 ⇑P P 18 25 11.1 +1.2
baz=28,SNR=7.6
C21A **Desert Coulee** 28.16 98 ⇑P P 18 25 11.9 +0.3
baz=28
D20A **Manuel Ranch,** 28.19 100 ⇓P P 18 25 13.1 +1.3
baz=28,SNR=9.5
G17A **Pierce Place,** 28.27 106 ⇓P P 18 25 13.5 +0.8
baz=28
PEA0B **Petropavlovsk-** 28.30 277 eP P 18 25 11.8 -0.9
PETK **Petropavlovsk-** 28.30 277 P P 18 25 11.6 -1.1
PETK 18 28 24.6
PETK **Petropavlovsk-** 28.30 277 P P 18 25 11.6 -1.1
PETK PcP PcP 18 28 24.6 +0.7
PETK ScP ScP 18 31 57.5 -1.4
PETK **Petropavlovsk-** 28.30 277 P P 18 25 11.6 -1.1
comp=Z,6.1nm,0.4s,baz=70,slow=11,SNR=44
PETK PcP PcP 18 28 24.6 +0.7
comp=Z,1.9nm,0.7s,baz=69,slow=7.9,SNR=4.0
PETK ScP ScP 18 31 57.5 -1.4
comp=Z,4.0nm,0.7s,baz=62,slow=4.7,SNR=9.0
PETK LR LR 18 37 09.8
comp=Z,131nm,20.2s,baz=242,slow=38
F18A **Big Timber** 28.31 104 ⇓P P 18 25 13.4 +0.4
baz=28
E19A **Rath Farm, Rou** 28.34 102 ⇑P P 18 25 13.8 +0.6
baz=28
B22A **Reddig Ranch S** 28.36 97 ⇓P P 18 25 14.2 +0.9
baz=28,SNR=6.0
GCMT **Greycliff** 28.42 104 eP P 18 25 16.0 +2.0
A23A **Redstone** 28.44 94 ⇓P P 18 25 15.2 +1.2
baz=28
BEKR **Beckworth** 28.47 125 eP P 18 25 16.1 +1.6
comp=Z,11nm,0.8s
H16A **Russell Place,** 28.50 107 ⇓P P 18 25 15.8 +1.0
baz=28,SNR=9.9
E20A **Meyer Farm, Mu** 28.62 101 ⇓P P 18 25 16.1 +0.4
baz=28
YMR **Madison River** 28.66 107 eP P 18 25 18.1 +1.8
comp=Z,29nm,0.9s
F19A **Roth Farm, Mol** 28.71 103 ⇑P P 18 25 17.8 +1.2
baz=28,SNR=8.3
B23A **Brockton** 28.73 95 ⇑P P 18 25 17.1 +0.5
baz=29
D21A **La Casta Ranch** 28.75 99 ⇑P P 18 25 18.1 +1.3
baz=29,SNR=7.3
C22A **Vida** 28.80 97 ⇓P P 18 25 17.5 +0.3
baz=29
G18A **Lazy EL Ranch,** 28.82 105 ⇑P P 18 25 18.5 +0.9
baz=29
A24A **Westby** 28.89 94 ⇑P P 18 25 18.8 +0.8
baz=29,SNR=5.8
I16A **Newdale** 29.02 109 ⇑P P 18 25 20.9 +1.4
baz=29
H17A **Grant Village** 29.05 107 ⇓P P 18 25 21.7 +1.9
baz=29
E21A **Keefer Ranch,** 29.09 100 ⇓P P 18 25 21.9 +2.0
baz=29
C23A **Lambert** 29.09 96 ⇑P P 18 25 21.0 +1.1
baz=29,SNR=15
RLMT **Red Lodge** 29.10 104 eP P 18 25 22.3 +2.1
DGMT **Dagmar** 29.11 95 ⇓P P 18 25 21.2 +1.3
baz=29
F20A **Billings** 29.12 102 ⇓P P 18 25 21.7 +1.5
baz=29
H18A **Shoshone NF, C** 29.25 106 ⇑P P 18 25 22.7 +1.2
baz=29,SNR=5.3
IMW **Indian Meadow** 29.26 108 eP P 18 25 23.6 +1.9
comp=Z,33nm,0.9s
BMN **Battle Mountai** 29.27 120 eP P 18 25 23.8 +2.2
BMN pmax pmax
comp=Z,12nm,1.0s
BMN **Battle Mountai** 29.27 120 eP P 18 25 23.8 +2.2
comp=Z,12nm,1.0s
A25A **Svangstu Ranch** 29.31 93 ⇓P P 18 25 23.0 +1.3
baz=29,SNR=12
MOOW **Moose Ponds** 29.46 108 eP P 18 25 24.4 +1.0
comp=Z,22nm,1.5s
RRI2 **Red Ridge** 29.51 109 eP P 18 25 25.8 +1.9
comp=Z,28nm,0.8s
G20A **Bridger** 29.52 103 ⇑P P 18 25 24.9 +1.1
baz=29,SNR=6.6
D23A **Lindsay** 29.53 97 ⇓P P 18 25 25.2 +1.5
baz=29,SNR=7.4
TPAW **Teton Pass** 29.57 109 eP P 18 25 26.4 +2.0
comp=Z,29nm,0.6s
H19A **Powell** 29.57 105 ⇓P P 18 25 26.1 +1.8
baz=29
LOHW **Long Hollow** 29.63 108 eP P 18 25 26.8 +1.9
comp=Z,9.9nm,0.6s
C24A **Savage** 29.65 96 ⇑P P 18 25 26.4 +1.6
baz=30
SNOW **Snow King Moun** 29.68 108 eP P 18 25 27.8 +2.4
comp=Z,28nm,0.6s
E22A **Miles City** 29.70 99 ⇓P P 18 25 26.5 +1.3
baz=30,SNR=9.5
REDW **Red Top Meadow** 29.71 109 eP P 18 25 27.5 +1.9
comp=Z,18nm,0.7s
B25A **Knox Farm, Ray** 29.74 94 ⇑P P 18 25 26.6 +1.0
baz=30
A26A **Wade Farm, Ken** 29.85 92 ⇑P P 18 25 27.4 +0.9
baz=30,SNR=9.4
I18A **Diamond G Ranc** 29.93 107 ⇑P P 18 25 29.6 +2.1
baz=30,SNR=6.5
D24A **Glendive** 29.99 97 ⇓P P 18 25 29.2 +1.4
baz=30,SNR=11

G21A **Lodge Grass** 30.00 102 ⇓P P 18 25 29.1 +1.2
baz=30
F22A **Rosebud** 30.04 100 ⇑P P 18 25 29.7 +1.5
baz=30
CMB **Columbia Colle** 30.04 127 eP P 18 25 29.9 +1.6
CMB pmax pmax
comp=Z,4.0nm,0.6s
CMB **Columbia Colle** 30.04 127 eP P 18 25 29.9 +1.6
comp=Z,4.2nm,0.6s
I19A **Meeteetse** 30.05 106 ⇑P P 18 25 29.9 +1.4
baz=30
C25A **Freed Ranch, W** 30.09 95 ⇓P P 18 25 30.0 +1.4
baz=30
HVU **Hansel Valley** 30.10 113 eP P 18 25 31.0 +2.1
HVU pmax pmax
comp=Z,16nm,0.7s
HVU **Hansel Valley** 30.10 113 eP P 18 25 31.0 +2.1
comp=Z,16nm,0.7s
B26A **Jensen Ranch,** 30.12 93 ⇑P P 18 25 30.1 +1.3
baz=30
H20A **Greybull** 30.18 104 ⇓P P 18 25 31.1 +1.6
baz=30
E24A **Baker** 30.40 97 ⇑P P 18 25 32.9 +1.5
baz=30,SNR=12
D25A **Fairfield** 30.45 96 ⇑P P 18 25 33.5 +1.6
baz=30
F23A **Volborg** 30.48 100 ⇑P P 18 25 33.4 +1.2
baz=30
H21A **Big Horn, Sher** 30.52 103 ⇓P P 18 25 34.1 +1.6
baz=30
I20A **Worland** 30.52 105 ⇓P P 18 25 34.6 +1.9
baz=30
NVAR **Mina Array Bea** 30.52 123 P P 18 25 34.9 +2.1
NVAR PcP PcP 18 28 31.1 +0.9
NVAR ScP ScP 18 32 06.2 -0.4
NVAR **Mina Array Bea** 30.52 123 P P 18 25 34.9 +2.1
comp=Z,18nm,0.7s,baz=313,slow=9.0,SNR=111
NVAR PcP PcP 18 28 31.1 +0.9
comp=Z,2.6nm,0.6s,baz=316,slow=2.5,SNR=4.3
NVAR ScP ScP 18 32 06.2 -0.4
comp=Z,0.8nm,0.7s,baz=296,slow=3.3,SNR=6.7
NVAR LR LR 18 36 04.8
comp=Z,245nm,21.7s,baz=112,slow=32
B27A **Peters Farms,** 30.57 92 ⇓P P 18 25 33.9 +1.0
baz=30,SNR=7.4
J19A **Crowheart** 30.62 107 ⇑P P 18 25 35.6 +2.0
baz=30,SNR=7.9
SPUT **South Promonto** 30.62 113 eP P 18 25 35.1 +1.6
comp=Z,17nm,0.7s
BGU **Big Grassy Mou** 30.67 114 eP P 18 25 35.9 +1.9
comp=Z,3.9nm,0.6s
A28A **Rude Farm, Bot** 30.70 90 ⇑P P 18 25 35.0 +1.0
baz=30,SNR=6.0
PDAR **Pinedale Array** 30.77 108 P P 18 25 36.5 +1.5
PDAR pP pP 18 25 54.5 +3.9
PDAR ScP ScP 18 32 05.2 -2.2
PDAR **Pinedale Array** 30.77 108 P P 18 25 36.4 +1.5
comp=Z,8.6nm,0.5s,baz=327,slow=4.3,SNR=71
PDAR pP pP 18 25 54.5 +3.9
comp=Z,7.6nm,0.6s,baz=312,slow=4.5,SNR=7.1
PDAR ScP ScP 18 32 05.2 -2.2
comp=Z,0.4nm,0.5s,baz=352,slow=3.0,SNR=4.8
PDAR LR LR 18 37 58.9
comp=Z,203nm,18.2s,baz=345,slow=36
HWUT **Hardware Ranch** 30.78 112 eP P 18 25 36.8 +1.9
comp=Z,8.5nm,0.6s
F24A **Ekalaka** 30.85 98 ⇑P P 18 25 37.2 +1.7
baz=31,SNR=13
G23A **Biddle** 30.87 100 ⇓P P 18 25 36.9 +1.2
baz=31
E25A **Miller Ranch,** 30.88 97 ⇓P P 18 25 37.5 +1.8
baz=31,SNR=11
C27A **Sayler Ranch,** 30.93 93 ⇓P P 18 25 37.6 +1.5
baz=31
D26A **Manning** 30.96 95 ⇑P P 18 25 38.2 +1.9
baz=31
B28A **Dugan Ranch, T** 30.97 91 ⇑P P 18 25 37.9 +1.5
baz=31
J20A **Shoshoni** 31.00 105 ⇑P P 18 25 39.0 +2.2
baz=31,SNR=7.5
I21A **Big Trails, Te** 31.02 104 ⇓P P 18 25 38.7 +1.6
baz=31
K19A **Absolon Red Bu** 31.05 107 ⇑P P 18 25 38.5 +1.1
baz=31,SNR=17
TIXI **Tiksi** 31.07 323 ⇑iP P 18 25 37.7 +0.8
TIXI pmax pmax
comp=Z,11nm,1.2s
L18A **Fontenelle, Gr** 31.21 109 ⇓P P 18 25 40.1 +1.2
baz=31
G24A **Alzada** 31.24 99 ⇑P P 18 25 40.2 +1.3
baz=31
F25A **Bowman** 31.27 97 ⇑P P 18 25 41.0 +2.0
baz=31,SNR=6.7
M17A **Scullys Gap (B** 31.29 111 ⇓P P 18 25 41.0 +1.5
baz=31
J21A **Lysite** 31.30 105 ⇓P P 18 25 40.9 +1.4
baz=31,SNR=17
I22A **9 Mile Ranch,** 31.34 103 ⇓P P 18 25 41.5 +1.7
baz=31
H23A **Clabaugh Cattl** 31.34 101 ⇓P P 18 25 41.1 +1.3
baz=31
E26A **Carlson Angus** 31.35 96 ⇓P P 18 25 41.0 +1.2
baz=31,SNR=11
DUG **Dugway** 31.36 115 eP P 18 25 41.6 +1.5
DUG pmax pmax
comp=Z,12nm,0.8s
DUG **Dugway** 31.36 115 eP P 18 25 41.6 +1.5
comp=Z,12nm,0.8s
DUG **Dugway** 31.36 115 ⇑P P 18 25 41.6 +1.5
baz=31,SNR=8.1
L19A **Farson** 31.39 108 ⇑P P 18 25 41.1 +0.7
baz=31,SNR=8.0
K20A **Yellowstone Ra** 31.42 107 ⇑P P 18 25 41.6 +1.0
baz=31,SNR=6.9
C28A **Hausauer Farms** 31.47 92 ⇓P P 18 25 42.1 +1.4
baz=31,SNR=7.0
H24A **Dirks Ranch, A** 31.61 100 ⇑P P 18 25 43.5 +1.3
baz=31,SNR=8.9
F26A **Lodgepole** 31.70 97 ⇓P P 18 25 44.1 +1.2
baz=32
J22A **Midwest** 31.71 104 ⇑P P 18 25 44.6 +1.5
baz=32,SNR=8.7
R11A **Troy Canyon, C** 31.71 120 eP P 18 25 44.8 +1.6
R11A **Troy Canyon, C** 31.71 120 ⇑P P 18 25 45.0 +1.8
baz=32,SNR=38
MDND **Maddock** 31.75 91 eP P 18 25 44.8 +1.6
MDND **Maddock** 31.75 91 ⇑P P 18 25 44.9 +1.6
baz=32,SNR=12
E27A **Carson** 31.81 95 ⇑P P 18 25 45.0 +1.2
baz=32,SNR=10
G25A **Newell** 31.82 98 ⇑P P 18 25 45.3 +1.3
baz=32,SNR=5.6
DAU **Daniels Canyon** 31.88 113 eP P 18 25 46.7 +1.9
DAU pmax pmax
comp=Z,18nm,1.2s
DAU **Daniels Canyon** 31.88 113 eP P 18 25 46.7 +1.9
comp=Z,18nm,1.2s
NLU **North Lily Min** 31.89 114 eP P 18 25 46.1 +1.4
comp=Z,24nm,1.3s
ULM **Lac du Bonnet** 31.92 85 eP P 18 25 45.3 +0.7
comp=Z,22nm,0.6s
ULM **Lac du Bonnet** 31.92 85 P P 18 25 45.8 +1.1
comp=Z,22nm,0.6s,baz=311,slow=9.3,SNR=26
ULM LR LR 18 39 15.6
comp=Z,642nm,20.0s,baz=264,slow=37
L20A **Wamsutter** 31.93 107 ⇑P P 18 25 45.8 +0.7
baz=32,SNR=12
K21A **Alcova** 31.94 105 ⇑P P 18 25 45.8 +0.6
baz=32,SNR=9.0
M19A **Rock Springs** 31.95 109 ⇓P P 18 25 46.0 +0.7
baz=32
F27A **Lemmon** 31.99 96 ⇓P P 18 25 46.5 +1.1
baz=32,SNR=6.8
GRAC **Grapevine Rang** 32.13 124 ⇑P P 18 25 49.2 +2.5
baz=32,SNR=6.8
G26A **Maurine** 32.14 97 ⇓P P 18 25 48.6 +1.8
baz=32
H25A **Fruitdale** 32.16 99 ⇓P P 18 25 48.4 +1.4
baz=32,SNR=12
I24A **Kuemmerle Ranc** 32.24 101 ⇓P P 18 25 49.0 +1.3
baz=32
K22A **Casper** 32.27 105 ⇓P P 18 25 49.5 +1.5
baz=32
RSSD **Black Hills** 32.32 100 eP P 18 25 50.1 +1.5
RSSD **Black Hills** 32.32 100 eP P 18 25 50.1 +1.5
G27A **Dupree** 32.40 97 ⇓P P 18 25 49.9 +1.0
baz=32
M20A **Sweetwater, Wa** 32.41 108 ⇓P P 18 25 50.5 +1.2

baz=32,SNR=17
L21A Rawlins 32.41 106 ⇑P P 18 25 50.5 +1.2
baz=32,SNR=8.7
VES Vestal, Richgr 32.46 127 ⇑P P 18 25 51.8 +2.2
baz=32
I25A Rochford 32.54 100 ⇑P P 18 25 52.2 +1.8
baz=32
H26A Fairpoint 32.55 98 ⇓P P 18 25 51.8 +1.4
baz=32,SNR=18
SMMC Simmler 32.58 129 ⇑P P 18 25 53.0 +2.3
baz=32,SNR=5.5
K23A Bowen Ranch, D 32.61 104 ⇓P P 18 25 52.0 +1.0
baz=32
J24A Dixon Ranch, L 32.62 102 ⇓P P 18 25 52.7 +1.6
baz=32
M21A Separation Pea 32.69 107 ⇑P P 18 25 53.0 +1.2
baz=32,SNR=13
RWWY Rawlins 32.70 107 *e*P P 18 25 52.6 +0.7
comp=Z,11nm,0.5s
FURC Furnace Creek, 32.79 123 ⇓P P 18 25 54.7 +2.3
baz=33,SNR=8.2
L22A Ellis Ranch, M 32.79 105 ⇑P P 18 25 54.9 +2.2
baz=33,SNR=10
ISA Isabella 32.85 126 *e*P P 18 25 54.7 +1.6
ISA pmax pmax
comp=Z,6.0nm,0.5s
ISA Isabella 32.85 126 *e*P P 18 25 54.7 +1.6
comp=Z,6.3nm,0.5s
ISA Isabella 32.85 126 ⇓P P 18 25 55.0 +1.9
baz=33,SNR=14
H27A Howes 32.88 98 ⇑P P 18 25 54.5 +1.3
baz=33,SNR=12
N20A Spence Gulch, 32.89 109 ⇑P P 18 25 55.6 +2.1
baz=33,SNR=41
MPMC Manual Prospec 32.90 125 ⇑P P 18 25 55.9 +2.3
baz=33,SNR=25
O19A Miners Draw (B 32.93 110 ⇑P P 18 25 56.1 +2.3
baz=33,SNR=8.9
J25A Sunshine Ranch 32.99 101 ⇓P P 18 25 55.5 +1.3
baz=33
PKM Peak Mountain 33.01 129 ⇑P P 18 25 57.1 +2.5
baz=33,SNR=24
K24A Anderson Ranch 33.02 103 ⇓P P 18 25 55.4 +0.9
baz=33
MSU Marysvale 33.03 116 *e*P P 18 25 57.1 +2.3
MSU pmax pmax
comp=Z,19nm,0.6s
MSU Marysvale 33.03 116 *e*P P 18 25 57.1 +2.3
comp=Z,19nm,0.6s
L23A Garrett 33.07 104 ⇓P P 18 25 57.0 +1.9
baz=33,SNR=11
ARUT Antelope Range 33.09 118 *e*P P 18 25 57.0 +1.8
ARUT pmax pmax
comp=Z,19nm,0.8s
ARUT Antelope Range 33.09 118 *e*P P 18 25 57.0 +1.8
comp=Z,19nm,0.8s
G28A Parade 33.11 96 ⇑P P 18 25 56.4 +1.2
baz=33
Q16A Castle Valley 33.13 114 *e*P P 18 25 57.7 +2.0
Q16A Castle Valley 33.13 114 ⇓P P 18 25 57.5 +1.8
baz=33,SNR=12
AGMN Agassiz Nation 33.25 87 *e*P P 18 25 57.0 +0.7
comp=Z,38nm,0.6s
SRU San Rafael 33.26 113 *e*P P 18 25 58.9 +2.1
SRU pmax pmax
comp=Z,34nm,0.8s
SRU San Rafael 33.26 113 *e*P P 18 25 58.9 +2.1
comp=Z,34nm,0.8s
N21A Black Mountain 33.29 108 ⇑P P 18 25 58.5 +1.4
baz=33,SNR=11
I27A Quinn 33.31 98 ⇓P P 18 25 57.9 +0.9
baz=33
CCUT Cedar City 33.32 118 *e*P P 18 25 59.2 +1.9
comp=Z,11nm,0.5s
LRMC Laurel Mountai 33.32 125 ⇓P P 18 25 59.2 +1.9
baz=33,SNR=21
H28A Mission Ridge 33.35 97 ⇑P P 18 25 58.4 +1.1
baz=33
J26A Sides Ranch, S 33.39 100 ⇓P P 18 25 59.2 +1.5
baz=33
SHPR Sheep Range 33.45 121 *e*P P 18 26 00.0 +1.6
comp=Z,16nm,1.2s
O20A White River Ci 33.46 109 *e*P P 18 25 59.8 +1.3
O20A White River Ci 33.46 109 ⇓P P 18 26 00.1 +1.6
baz=33,SNR=12
SHOC Shoshone 33.52 123 ⇑P P 18 26 01.0 +2.2
baz=33
P19A Cripple Cowboy 33.53 111 ⇑P P 18 26 00.5 +1.3
baz=33,SNR=26
EDW2 Edwards Air Fo 33.73 126 ⇓P P 18 26 02.3 +1.6
baz=34,SNR=5.1
N22A Wattenberg Ran 33.75 107 ⇓P P 18 26 02.3 +1.2
baz=34
O21A Pagoda 33.75 108 ⇓P P 18 26 02.6 +1.5
baz=34
I28A Midland 33.78 98 ⇑P P 18 26 02.3 +1.2
baz=34,SNR=12
K26A Motz Farm, Whi 33.81 101 ⇓P P 18 26 02.4 +1.0
baz=34
GSC Goldstone 33.83 124 *e*P P 18 26 04.0 +2.4
GSC pmax pmax
comp=Z,29nm,1.1s
GSC Goldstone 33.83 124 *e*P P 18 26 04.0 +2.4
comp=Z,30nm,1.1s
GSC Goldstone 33.83 124 ⇓P P 18 26 03.4 +1.8
baz=34,SNR=8.6
P20A De Beque 33.90 110 ⇑P P 18 26 04.0 +1.6
baz=34,SNR=12
M24A Cheyenne 33.98 104 ⇑P P 18 26 04.5 +1.4
baz=34,SNR=5.6
BLG Laguna Peak 34.00 128 ⇓P P 18 26 05.3 +2.3
baz=34
TUQ Turquoise Moun 34.06 123 ⇑P P 18 26 05.9 +2.2
baz=34,SNR=15
J28A Allard Ranch, 34.18 98 ⇑P P 18 26 06.1 +1.5
baz=34,SNR=8.1
O22A Kremmling 34.22 107 ⇓P P 18 26 07.4 +2.2
baz=34,SNR=7.5
K27A Flueckinger Fa 34.25 100 ⇑P P 18 26 06.8 +1.6
baz=34
MWC Mount Wilson 34.28 127 *e*P P 18 26 07.8 +2.2
MWC pmax pmax
comp=Z,20nm,1.0s
MWC Mount Wilson 34.28 127 *e*P P 18 26 07.8 +2.2
comp=Z,20nm,1.0s
P21A Newcastle 34.31 109 ⇓P P 18 26 07.4 +1.4
baz=34,SNR=11
L26A Underwood Farm 34.37 102 ⇓P P 18 26 08.2 +2.0
baz=34
Q20A Ridgley Place, 34.39 111 ⇑P P 18 26 07.7 +1.1
baz=34,SNR=8.2
BFSC Mount Baldy Ra 34.42 126 ⇓P P 18 26 08.8 +2.1
baz=34,SNR=7.1
HEC Hector,Ludlow 34.43 124 ⇑P P 18 26 08.6 +1.8
baz=34,SNR=8.0
O23A Lake Granby, G 34.47 107 ⇑P P 18 26 09.3 +2.0
baz=34,SNR=5.8
BRSD Miller 34.52 95 ⇓P P 18 26 09.1 +1.7
baz=34
P22A Eagle 34.57 108 ⇓P P 18 26 09.6 +1.4
baz=34
PV04 Paradox Valley 34.57 112 *e*P P 18 26 09.5 +1.3
K28A Ten Mile Ranch 34.66 99 ⇑P P 18 26 10.3 +1.6
baz=34,SNR=8.9
L27A T5 Ranch, Ells 34.69 101 ⇓P P 18 26 10.5 +1.5
baz=34
U15A North Rim 34.73 118 ⇑P P 18 26 11.3 +1.7
baz=35,SNR=14
GMRC Granite Mounta 34.74 123 ⇓P P 18 26 11.5 +2.0
baz=35,SNR=13
Q21A Lamborn Mesa, 34.81 110 ⇑P P 18 26 11.9 +1.7
baz=35
PV01 Paradox Valley 34.94 112 *e*P P 18 26 12.5 +1.2
comp=Z,2μm,0.6s
R20A Redvale 34.98 112 ⇑P P 18 26 13.1 +1.5
baz=35,SNR=17
Q22A Crested Butte, 35.09 109 ⇓P P 18 26 14.2 +1.5
baz=35
K29A Lazy Trails An 35.12 98 ⇑P P 18 26 14.3 +1.7
baz=35
P23A Jefferson 35.17 108 ⇑P P 18 26 15.2 +1.8
baz=35,SNR=6.1
W13A Hualapai Mount 35.19 121 ⇓P P 18 26 15.4 +1.9
baz=35,SNR=8.1
SCI San Clemente I 35.20 129 ⇑P P 18 26 15.3 +2.0
baz=35
S20A Disappointment 35.28 112 ⇑P P 18 26 15.7 +1.4
baz=35,SNR=7.1

BELC Belle Mtn. Jos 35.28 124 ⇓P P 18 26 16.0 +1.8
baz=35,SNR=12
PFO Pinyon Flat Ob 35.45 125 *e*P P 18 26 16.9 +1.3
comp=Z,6.5nm,0.8s
PFO Pinyon Flat Ob 35.45 125 ⇓P P 18 26 17.5 +1.9
baz=35,SNR=7.3
IRM Iron Mountain 35.49 123 ⇓P P 18 26 17.9 +2.0
baz=35,SNR=13
YAK Yakutsk 35.49 307 *c i*P P 18 26 14.9 -0.6
YAK *e* 18 26 33.9
YAK *e*PPP PPP 18 26 41.4
YAK *e* 18 28 43.1
YAK *e*S S 18 31 44.4 -1.3
YAK *e* 18 36 20.7
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK smax smax
comp=N,52nm,2.4s
YAK MLR MLR
comp=Z,299nm,17.0s
YAK MLR MLR
comp=N,180nm,15.0s
YAK MLR MLR
comp=E,187nm,17.0s
Q23A Hartsel 35.55 108 ⇓P P 18 26 18.0 +1.3
baz=35
N27A Anderson Farm, 35.58 103 ⇓P P 18 26 18.4 +1.8
baz=35
L29A Maesberg Ranch 35.58 99 ⇓P P 18 26 18.0 +1.4
baz=35,SNR=5.1
EYMN Ely 35.60 84 *e*P P 18 26 17.3 +0.7
comp=E,27nm,0.6s
O26A Horse Wrangler 35.66 104 ⇑P P 18 26 19.0 +1.6
baz=36
M28A Bar X Bar Ranc 35.67 101 ⇑P P 18 26 19.0 +1.6
baz=36
S21A Coal Bank Pass 35.67 111 ⇓P P 18 26 19.5 +1.7
baz=36,SNR=22
R22A Saguache, Gunn 35.68 110 ⇓P P 18 26 19.7 +2.0
baz=36
MVCO Mesa Verde 35.73 113 *e*P P 18 26 19.2 +1.1
comp=E,14nm,0.6s
MVCO Mesa Verde 35.73 113 ⇑P P 18 26 19.5 +1.3
baz=36,SNR=13
PDMCI Parker Dam,Lak 35.78 122 ⇓P P 18 26 20.4 +2.1
baz=36,SNR=6.7
BC3 Big Chuckawall 35.80 124 ⇓P P 18 26 20.5 +1.8
baz=36,SNR=5.9
Q24A Divide 35.82 107 ⇓P P 18 26 20.5 +1.6
baz=36
P25A Willow Gulch B 35.84 106 ⇑P P 18 26 20.6 +1.7
baz=36
WUAZ Wupatki 35.89 118 *e*P P 18 26 21.6 +2.1
comp=E,23nm,0.6s
WUAZ Wupatki 35.89 118 ⇓P P 18 26 21.6 +2.1
baz=36,SNR=25
S22A 4UR Ranch, Cre 36.04 110 ⇓P P 18 26 22.6 +1.7
baz=36,SNR=29
O27A Beecher Island 36.09 103 ⇓P P 18 26 22.5 +1.5
baz=36
MONP Monument Peak 36.09 126 ⇑P P 18 26 23.2 +1.9
baz=36,SNR=14
Y12C Blythe 36.10 123 ⇓P P 18 26 23.1 +2.1
baz=36,SNR=7.5
R23A Moffat 36.13 109 ⇑P P 18 26 23.2 +1.6
baz=36,SNR=6.3
N28A Pribbeno Ranch 36.14 102 ⇑P P 18 26 23.0 +1.5
baz=36
ECSD EROS Data Cent 36.17 94 *e*P P 18 26 21.5 -0.1
comp=E,18nm,0.4s
P26A Davis Ranch, A 36.18 105 ⇑P P 18 26 23.2 +1.3
baz=36
M30A Dale-Ortello V 36.27 99 ⇓P P 18 26 24.3 +1.8
baz=36
Q25A Bedland, Calha 36.28 106 ⇑P P 18 26 24.7 +1.9
baz=36
SWSC Sam W. Stewart 36.30 125 ⇑P P 18 26 24.2 +1.5
baz=36
T21A Navajo Lake 36.34 112 ⇓P P 18 26 25.2 +1.9
baz=36,SNR=9.1
U20A Newcomb 36.41 113 ⇑P P 18 26 25.6 +1.7
baz=36
DVTC Desert V Tower 36.42 126 ⇓P P 18 26 25.8 +1.9
baz=36,SNR=6.5
O28A Krutsinger Ran 36.47 102 ⇓P P 18 26 26.0 +1.8
baz=36
N29A Votaw Ranch, W 36.47 101 ⇓P P 18 26 25.8 +1.5
baz=36
Y14A Wickenburg 36.56 121 ⇑P P 18 26 26.9 +1.9
baz=36,SNR=7.3
GLA Glamis 36.58 124 *e*P P 18 26 26.6 +1.4
GLA pmax pmax
comp=Z,17nm,0.9s
GLA Glamis 36.58 124 *e*P P 18 26 26.6 +1.4
comp=Z,17nm,0.9s
GLA Glamis 36.58 124 ⇓P P 18 26 27.1 +1.9
baz=36
Q26A Hugo 36.61 106 ⇑P P 18 26 27.0 +1.5
baz=36
T22A Edith 36.61 111 ⇑P P 18 26 27.6 +1.9
baz=36,SNR=15
SDCO Great Sand Dun 36.65 109 *e*P P 18 26 27.6 +1.6
comp=Z,14nm,0.9s
N30A Hueftle Ranch, 36.74 100 ⇓P P 18 26 28.2 +1.7
baz=37
U21A Nageezi 36.76 112 ⇑P P 18 26 28.7 +1.9
baz=37,SNR=11
X16A Lo Mia Camp, P 36.80 119 ⇑P P 18 26 29.2 +2.0
baz=37
S24A Houchin Ranch, 36.86 109 ⇑P P 18 26 29.6 +1.7
baz=37,SNR=11
R25A Fountain Ranch 36.88 107 ⇑P P 18 26 29.3 +1.5
baz=37,SNR=8.4
SPMN St. Paul 36.91 89 *e*P P 18 26 28.9 +1.1
SPMN St. Paul 36.91 89 ⇓P P 18 26 29.1 +1.3
baz=37,SNR=11
P28A Saint Francis 36.92 103 ⇓P P 18 26 29.3 +1.3
baz=37,SNR=5.2
V20A Brimhall 36.92 114 ⇑P P 18 26 30.0 +1.8
baz=37,SNR=12
W18A Petrified Fore 36.94 116 *e*P P 18 26 30.8 +2.4
W18A Petrified Fore 36.94 116 ⇑P P 18 26 30.0 +1.6
baz=37
KSCO Kaye Shedlock' 36.95 104 *e*P P 18 26 30.2 +1.8
KSCO Kaye Shedlock' 36.95 104 ⇓P P 18 26 30.2 +1.8
baz=37,SNR=5.8
R26A Arlington 37.14 106 ⇓P P 18 26 31.3 +1.3
baz=37
U22A Llaves 37.16 112 ⇓P P 18 26 32.4 +2.1
baz=37,SNR=6.0
BGNE Belgrade 37.20 98 ⇓P P 18 26 31.6 +1.3
baz=37
S25A Robets Cordova 37.20 108 ⇑P P 18 26 32.5 +1.8
baz=37,SNR=8.4
O30A MW Ranch, Wils 37.24 101 ⇓P P 18 26 32.6 +1.8
baz=37
113A Mohawk Valley, 37.26 123 ⇑P P 18 26 32.6 +1.7
baz=37
V21A Milan 37.28 113 ⇑P P 18 26 33.2 +1.9
baz=37,SNR=9.4
X18A Snowflake 37.34 117 ⇑P P 18 26 34.1 +2.2
baz=37,SNR=11
R27A Eads 37.46 105 ⇑P P 18 26 34.2 +1.5
baz=37
W20A Ramah 37.47 115 ⇑P P 18 26 34.8 +1.9
baz=37,SNR=36
U23A El Rito 37.49 111 ⇓P P 18 26 35.1 +2.0
baz=37
V22A San Miguel Ran 37.52 112 ⇑P P 18 26 35.2 +1.8
baz=37,SNR=22
T25A Trinidad 37.64 108 ⇓P P 18 26 35.8 +1.4
baz=38
P30A Seiden 37.65 102 ⇓P P 18 26 35.3 +1.1
baz=38
S26A Kim 37.68 107 ⇑P P 18 26 36.0 +1.4
baz=38,SNR=13
Q29A Oakley 37.83 103 ⇓P P 18 26 37.0 +1.3
baz=38,SNR=6.0
R28A Tribune 37.87 104 ⇓P P 18 26 37.8 +1.7
baz=38
V23A Ortiz Mt. (NFS 37.98 111 ⇓P P 18 26 39.9 +2.6
baz=38,SNR=7.9

T26A Comanche Natio 37.99 107 ⇓P P 18 26 38.8 +1.6
baz=38,SNR=8.7
COWI Conover 38.04 84 *e*P P 18 26 37.6 +0.2
comp=Z,8.6nm,0.5s
Q30A Quinter 38.11 102 ⇓P P 18 26 39.4 +1.3
baz=38
R29A Marienthal 38.12 104 ⇓P P 18 26 39.8 +1.6
baz=38,SNR=5.7
W22A Albuquerque 38.24 113 ⇓P P 18 26 41.2 +1.8
baz=38
U25A Circle Dot Ran 38.25 109 ⇓P P 18 26 41.4 +2.0
baz=38,SNR=41
X21A Alamocita Cree 38.36 114 ⇓P P 18 26 42.6 +2.1
baz=38,SNR=20
214A Organ Pipe Nat 38.36 122 ⇓P P 18 26 42.4 +2.1
baz=38
V24A Rampart Ranch, 38.41 110 ⇓P P 18 26 42.6 +1.7
baz=38,SNR=16
S28A Manter 38.44 105 ⇓P P 18 26 42.2 +1.3
baz=38
Q31A Ellis 38.48 101 ⇑P P 18 26 42.5 +1.3
baz=38
T27A Campo 38.48 106 ⇑P P 18 26 43.1 +1.8
baz=38
W23A Werner Place, 38.48 112 ⇓P P 18 26 43.6 +2.1
baz=38,SNR=8.8
ANMO Albuquerque 38.53 112 *e*P P 18 26 43.0 +1.2
comp=Z,10nm,1.0s
Y20A Horse Springs, 38.55 115 ⇑P P 18 26 44.1 +2.0
baz=38,SNR=5.6
U26A Atchley Ranch, 38.56 108 ⇑P P 18 26 44.0 +2.0
baz=38,SNR=16
V25A Rancho No Teng 38.62 110 ⇓P P 18 26 44.5 +2.0
baz=38,SNR=16
R30A Dighton 38.64 103 ⇓P P 18 26 44.0 +1.5
baz=38,SNR=10
X22A Berndo 38.65 113 ⇓P P 18 26 45.1 +2.3
baz=38,SNR=5.5
LAZ Ladron 38.68 114 *e*P P 18 26 45.1 +2.0
comp=Z,2.9nm,0.4s
T28A Walsh 38.72 106 ⇑P P 18 26 44.6 +1.3
baz=38
S29A Ulysses 38.78 104 ⇓P P 18 26 45.3 +1.6
baz=39
Y21A Point of Rocks 38.78 115 ⇓P P 18 26 46.0 +2.0
baz=39,SNR=13
W24A Lazy 6 Ranch, 38.78 111 ⇑P P 18 26 45.9 +2.0
baz=39,SNR=16
SUMG Summit 38.82 26 *e*P P 18 26 45.2 +1.1
SUMG pmax pmax
comp=Z,27nm,0.6s
SUMG Summit 38.82 26 *i*P P 18 26 45.5 +1.4
comp=Z,22nm,0.7s
SUMG Summit 38.82 26 *e*P P 18 26 45.2 +1.1
comp=Z,27nm,0.6s
TUC Tucson 38.89 120 *e*P P 18 26 46.8 +2.1
TUC pmax pmax
comp=Z,5.0nm,0.7s
TUC Tucson 38.89 120 *e*P P 18 26 46.8 +2.1
comp=Z,4.5nm,0.7s
LENM Lemitar 38.95 114 *e*P P 18 26 47.4 +2.0
comp=Z,5.4nm,0.5s
X23A Hourglass Bar 38.95 112 ⇑P P 18 26 47.0 +1.7
baz=39,SNR=5.6
U27A Thompson Grove 38.96 107 ⇓P P 18 26 46.7 +1.4
baz=39
R31A Burdett 38.99 102 ⇑P P 18 26 46.8 +1.3
baz=39,SNR=8.3
DAG Danmarks Havn 39.01 16 ⇓*i*P P 18 26 45.2 +0.1
comp=Z,20nm,0.7s
V26A Tequesquite Ra 39.03 109 ⇑P P 18 26 47.7 +1.8
baz=39,SNR=36
S30A Montezuma 39.07 104 ⇓P P 18 26 48.2 +2.1
baz=39
BNM Barren Site 39.12 113 *e*P P 18 26 48.6 +1.8
comp=Z,6.9nm,0.8s
Z20A Nine Sixteen R 39.14 116 ⇓P P 18 26 49.0 +2.2
baz=39,SNR=13
Y22A Socorro 39.15 114 ⇓P P 18 26 49.1 +2.1
baz=39,SNR=15
W25A X Bar L Ranch, 39.20 110 ⇓P P 18 26 49.1 +1.7
baz=39,SNR=12
X24A Lazy VL Ranch, 39.30 112 ⇓P P 18 26 50.2 +1.9
baz=39,SNR=7.7
YSS Yuzh-Sakhalins 39.56 280 *e*P P 18 26 51.0 +1.0
YSS pmax pmax
comp=Z,30nm,1.0s
Y23A Lovelace Mesa, 39.56 113 ⇑P P 18 26 52.5 +2.1
baz=39,SNR=15
SFJD Kangerlussuaq 39.56 37 *i*P P 18 26 51.1 +1.3
comp=Z,23nm,0.7s
W26A Owens Ranch, T 39.62 109 ⇓P P 18 26 52.9 +2.1
baz=40,SNR=7.8
X25A Clemmons Ranch 39.68 111 ⇓P P 18 26 53.2 +1.8
baz=40,SNR=7.8
Z22A Elephant Butte 39.73 114 ⇑P P 18 26 53.8 +2.0
baz=40,SNR=42
KSU1 Kansas State U 39.73 98 *e*P P 18 26 52.1 +0.6
comp=Z,60nm,0.6s
V28A Channing 39.78 107 ⇑P P 18 26 53.8 +1.6
baz=40,SNR=5.1
Y24A Capitan 39.84 112 ⇑P P 18 26 54.7 +1.9
baz=40,SNR=18
JFWS Jewell Farm 39.86 89 *e*P P 18 26 52.7 +0.1
JFWS pmax pmax
comp=Z,43nm,0.6s
JFWS Jewell Farm 39.86 89 *e*P P 18 26 52.7 +0.1
comp=Z,43nm,0.6s
T31A Randall Ranch, 39.88 103 ⇓P P 18 26 54.1 +1.3
baz=40,SNR=10
U30A WK&E Inc. Balk 39.88 105 ⇓P P 18 26 54.2 +1.3
baz=40
W27A Bowe Ranch, En 39.97 109 ⇑P P 18 26 55.2 +1.5
baz=40
121A Cookes Peak, D 39.98 116 ⇑P P 18 26 56.1 +2.1
baz=40,SNR=16
V29A Stinnett 40.01 106 ⇓P P 18 26 55.4 +1.4
baz=40
Z23A Rita Site, Whi 40.05 114 ⇑P P 18 26 56.4 +2.0
baz=40,SNR=10
X26A CR and CF Fran 40.05 110 ⇑P P 18 26 56.1 +1.7
baz=40,SNR=22
Y25A Mesa, Roswell 40.18 111 ⇓P P 18 26 57.2 +1.7
baz=40,SNR=33
220A Playas Peak, P 40.20 117 ⇑P P 18 26 57.7 +2.0
baz=40,SNR=16
X27A F and S Farms, 40.30 109 ⇑P P 18 26 58.1 +1.7
baz=40,SNR=10.0
319A Douglas 40.34 119 ⇑P P 18 26 58.8 +2.0
baz=40,SNR=5.7
Z24A Sheeppen Canyo 40.37 113 ⇑P P 18 26 59.4 +2.2
baz=40,SNR=25
221A Mesquite Ranch 40.44 116 ⇓P P 18 26 59.6 +2.0
baz=40
Y26A Elida 40.57 110 ⇑P P 18 27 00.4 +1.7
baz=40,SNR=5.8
SPITS Spitsbergen Ar 40.58 4 P P 18 26 58.3 +0.2
SPITS pP **pP** 18 27 15.4 +1.1
SPITS PcP **PcP** 18 28 59.2 +0.3
SPITS Spitsbergen Ar 40.58 4 P P 18 26 58.3 +0.2
comp=Z,5.1nm,0.4s,baz=17,slow=6.1,SNR=52
SPITS pP **pP** 18 27 15.4 +1.1
comp=Z,6.9nm,0.5s,baz=30,slow=5.1,SNR=4.3
SPITS PcP **PcP** 18 28 59.2 +0.3
comp=Z,1.8nm,0.4s,baz=52,slow=5.7,SNR=5.2
222A Williams Famil 40.65 115 ⇑P P 18 27 01.6 +2.2
baz=40
320A Kipp Ranch, An 40.69 118 ⇑P P 18 27 02.3 +2.6
baz=41,SNR=5.6
Z25A Roswell 40.71 112 ⇓P P 18 27 01.7 +1.9
baz=41,SNR=7.5
AMTX Amarillo 40.75 107 *e*P P 18 27 01.5 +1.4
comp=Z,22nm,0.8s
X28A Dimmitt 40.81 108 ⇓P P 18 27 02.5 +1.9
baz=41
124A Stringfield Ra 40.87 113 ⇓P P 18 27 02.8 +1.6
baz=41,SNR=13
V31A Spring Creek L 40.87 105 ⇓P P 18 27 02.8 +1.8
baz=41
Y27A Causey 40.90 110 ⇑P P 18 27 02.9 +1.5
baz=41,SNR=31
MSTX Muleshoe 41.01 109 *e*P P 18 27 03.5 +1.2
MSTX Muleshoe 41.01 109 ⇑P P 18 27 03.8 +1.5
baz=41,SNR=18
Z26A Caprock 41.04 111 ⇓P P 18 27 03.9 +1.3
baz=41,SNR=20
X29A Tulia 41.10 108 ⇑P P 18 27 04.4 +1.4
baz=41

125A Gardner Draw, 41.26 112 ⇓P **P 18 27 06.3 +1.9**
baz=41,SNR=34
Y28A McKinney Farm, 41.30 109 ⇑P **P 18 27 05.8 +1.1**
baz=41
W31A Holland Ranch, 41.31 105 ⇑P **P 18 27 05.8 +1.2**
baz=41
Z27A Tatum 41.35 110 ⇑P **P 18 27 06.5 +1.4**
baz=41,SNR=18
224A Cornudas Mount 41.37 114 ⇓P **P 18 27 06.7 +1.4**
baz=41,SNR=12
X30A Coker Ranch, T 41.48 107 ⇑P **P 18 27 07.2 +1.1**
baz=41,SNR=7.9
126A Clayton Basin, 41.55 112 ⇑P **P 18 27 08.3 +1.6**
baz=41
Y29A Porterfield Fa 41.60 108 ⇑P **P 18 27 08.7 +1.5**
baz=41,SNR=8.9
225A Deer Hill, Car 41.65 113 ⇓P **P 18 27 09.5 +1.9**
baz=42,SNR=35
ASAJ Asahikawa 41.71 277 P **P 18 27 07.4 -0.4**
ASAJ PcP **PcP 18 29 02.8 -0.3**
ASAJ Asahikawa 41.71 277 P **P 18 27 07.4 -0.4**
comp=Z,4.2nm,0.4s,baz=279,slow=5.8,SNR=17
ASAJ PcP **PcP 18 29 02.8 -0.3**
comp=Z,5.1nm,0.6s,baz=154,slow=9.0,SNR=4.1
X31A McDonald Ranch 41.75 106 ⇑P **P 18 27 09.8 +1.6**
baz=42,SNR=8.5
MNTX Cornudas Mount 41.75 114 *e*P **P 18 27 10.1 +1.8**
comp=Z,9.2nm,0.7s
127A Arkansas Junct 41.83 111 ⇓P **P 18 27 10.5 +1.5**
baz=42
324A Moseley Ranch, 41.92 114 ⇓P **P 18 27 11.2 +1.3**
baz=42,SNR=19
Y30A Stafford Cattl 41.94 107 ⇑P **P 18 27 10.9 +1.1**
baz=42,SNR=5.6
226B Tecolote Peak, 41.97 112 ⇑P **P 18 27 11.6 +1.5**
baz=42,SNR=12
SCHQ Schefferville 42.04 59 *e*P **P 18 27 10.6 +0.2**
comp=Z,127nm,1.5s
SCHQ Schefferville 42.04 59 P **P 18 27 10.9 +0.5**
comp=Z,16nm,0.6s,baz=321,slow=8.5,SNR=28
SCHQ LR LR 18 44 45.2
comp=Z,211nm,18.3s,baz=97,slow=36
HABR Khabarovsk 42.08 287 *ce*P **P 18 27 09.0 -1.7**
HABR *e**PP **pP 18 27 24.2 -2.7**
HABR *e**SP **sP 18 27 31.6 -2.8**
HABR *e* 18 28 47.2
HABR 18 29 03.2
HABR *e*PPP PPP 18 29 18.6
HABR *e*S **S 18 33 24.0 -1.0**
HABR *e**SS **sS 18 33 50.8 -1.7**
HABR *e*SS **SS 18 36 33.8 -0.2**
HABR pmax pmax
comp=N,8.0nm,1.3s
HABR pmax pmax
comp=E,12nm,1.5s
HABR pmax pmax
comp=Z,20nm,2.0s
Z29A Hungry Hill Ra 42.09 109 ⇑P **P 18 27 12.4 +1.3**
baz=42,SNR=22
HDIL Hopedale 42.12 90 *e*P **P 18 27 11.5 +0.3**
comp=Z,35nm,0.5s
Y31A Rekieta Farm, 42.17 107 ⇑P **P 18 27 12.7 +1.1**
baz=42
325A Bean Ranch, Si 42.21 114 ⇓P **P 18 27 13.9 +1.6**
baz=42,SNR=11
WMOK Wichita Mounta 42.22 104 *e*P **P 18 27 12.8 +0.7**
WMOK pmax pmax
comp=Z,11nm,0.5s
WMOK Wichita Mounta 42.22 104 *e*P **P 18 27 12.8 +0.7**
comp=Z,11nm,0.5s
128A Castleberry Fa 42.27 110 ⇑P **P 18 27 14.0 +1.4**
baz=42,SNR=21
Z30A Sanderson Ranc 42.33 108 ⇑P **P 18 27 14.0 +1.0**
baz=42
Y32A R-V Farms, Ver 42.51 106 ⇑P **P 18 27 15.6 +1.1**
baz=42
129A Stewart Farms, 42.54 109 ⇓P **P 18 27 16.0 +1.2**
baz=42
228A UT Block 9, Go 42.64 111 ⇓P **P 18 27 16.7 +1.1**
baz=42,SNR=5.7
TUL1 Tulsa 42.67 101 *e*P **P 18 27 16.3 +0.6**
TUL1 Tulsa 42.67 101 ⇑P **P 18 27 16.4 +0.6**
baz=42
326A Caldwell Ranch 42.70 113 ⇑P **P 18 27 17.3 +1.3**
baz=43,SNR=10
425A Indio Mountain 42.70 114 ⇓P **P 18 27 18.5 +2.3**
baz=43,SNR=40
Z31A Sharp Cattle R 42.76 107 ⇑P **P 18 27 17.3 +0.9**
baz=43
ERM Erimo 43.03 275 P **P 18 27 20.3 +1.8**
comp=Z,188nm,0.5s,SNR=12
KLR Kul'dur 43.04 290 *e*P P 18 27 13.8 -4.7
Z32A Haskell 43.07 106 ⇑P **P 18 27 19.6 +0.6**
baz=43,SNR=9.6
229A Bryant Ranch, 43.12 110 ⇑P **P 18 27 20.2 +0.7**
baz=43
328A Wristen Ranch, 43.17 111 ⇓P **P 18 27 21.6 +1.8**
baz=43
131A Roby 43.18 108 ⇑P **P 18 27 20.8 +0.9**
baz=43
426A McDonald Obser 43.23 113 ⇑P **P 18 27 22.0 +1.5**
baz=43,SNR=27
SFIN Scholer Farm 43.32 89 *e*P **P 18 27 21.1 +0.2**
SFIN Scholer Farm 43.32 89 ⇓P **P 18 27 21.3 +0.5**
baz=43,SNR=7.7
427A Hayter Ranch, 43.35 112 ⇓P **P 18 27 22.9 +1.5**
baz=43,SNR=31
329A Wagon Wheel Ra 43.45 110 ⇑P **P 18 27 23.5 +1.4**
baz=43,SNR=12
AAM Ann Arbor 43.50 84 *e*P **P 18 27 23.6 +1.3**
AAM pmax pmax
comp=Z,71nm,0.5s
AAM Ann Arbor 43.50 84 *e*P **P 18 27 23.6 +1.3**
comp=Z,71nm,0.5s
230A Sterling City 43.51 109 ⇑P **P 18 27 23.6 +1.0**
baz=43,SNR=11
ABTX Abilene, Hawle 43.57 107 *e*P **P 18 27 23.9 +1.0**
ABTX Abilene, Hawle 43.57 107 ⇑P **P 18 27 24.1 +1.1**
baz=43
526A Mary Lane Ranc 43.72 114 ⇑P **P 18 27 26.4 +2.0**
baz=44,SNR=40
428A Kincaid Ranch, 43.78 112 ⇓P **P 18 27 26.5 +1.8**
baz=44,SNR=35
231A Bronte 43.83 108 ⇑P **P 18 27 25.9 +0.8**
baz=44,SNR=6.9
527A Woodward Ranch 43.86 113 ⇑P **P 18 27 27.1 +1.6**
baz=44,SNR=32
330A Mertzon 43.88 110 ⇓P **P 18 27 26.4 +0.8**
baz=44,SNR=29
626A Big Bend Ranch 44.14 114 ⇑P **P 18 27 29.1 +1.4**
baz=44,SNR=14
232A Coleman 44.18 108 ⇓P **P 18 27 28.9 +1.0**
baz=44,SNR=31
528A Cox Ranch, San 44.21 112 ⇓P **P 18 27 30.2 +1.9**
baz=44,SNR=72
429A Davenport Ranc 44.22 111 ⇑P **P 18 27 29.5 +1.2**
baz=44,SNR=41
430A Baggett Ranch, 44.38 110 ⇓P **P 18 27 30.7 +1.2**
baz=44,SNR=26
529A Stev Forest Ra 44.50 112 ⇓P **P 18 27 31.8 +1.3**
baz=44,SNR=6.3
TXAR Lajitas Array 44.53 114 P **P 18 27 32.5 +1.6**
TXAR PcP **PcP 18 29 13.1 +0.2**
TXAR ScP **ScP 18 32 57.7 -1.3**
TXAR Lajitas Array 44.53 114 P **P 18 27 32.5 +1.6**
comp=Z,9.3nm,0.6s,baz=324,slow=6.2,SNR=84
TXAR PcP **PcP 18 29 13.1 +0.2**
comp=Z,2.4nm,0.7s,baz=347,slow=3.7,SNR=2.5
TXAR ScP **ScP 18 32 57.7 -1.3**
comp=Z,0.9nm,0.6s,baz=197,slow=1.3,SNR=6.3
TXAR LR LR 18 45 57.0
comp=Z,120nm,21.6s,baz=245,slow=36
627A Terlingua Ranc 44.55 113 ⇑P **P 18 27 32.7 +1.7**
baz=44,SNR=35
332A Millersview 44.56 108 ⇑P **P 18 27 32.0 +1.0**
baz=44,SNR=7.5
628A Black Gap, Mar 44.75 113 ⇓P **P 18 27 34.1 +1.6**
baz=45,SNR=37
431A Sonora 44.76 110 ⇓P **P 18 27 33.8 +1.3**
baz=45,SNR=27
MIAR Mount Ida 44.84 100 *e*P **P 18 27 33.0 0.0**
MIAR pmax pmax
comp=Z,18nm,0.9s
MIAR Mount Ida 44.84 100 *e*P **P 18 27 33.0 0.0**
comp=Z,18nm,0.9s
530A J-C Ranch, Com 44.88 111 ⇑P **P 18 27 34.7 +1.2**
baz=45,SNR=23

USIN University of 44.93 91 *e*P **P 18 27 33.7 -0.1**
comp=Z,64nm,0.8s
432A Menard 44.96 109 ⇓P **P 18 27 35.8 +1.7**
baz=45,SNR=7.0
WHTX Lake Whitney 45.11 105 *e*P **P 18 27 36.3 +1.0**
WHTX Lake Whitney 45.11 105 ⇓P **P 18 27 36.3 +1.0**
baz=45
531A Rocksprings 45.22 110 ⇑P **P 18 27 37.7 +1.4**
baz=45,SNR=35
JCT Junction City 45.30 109 *e*P **P 18 27 37.9 +1.1**
JCT pmax pmax
comp=Z,64nm,0.6s
JCT Junction City 45.30 109 *e*P **P 18 27 37.9 +1.1**
comp=Z,64nm,0.6s
JCT Junction City 45.30 109 ⇓P **P 18 27 38.2 +1.4**
baz=45,SNR=32
WCI Wyandotte Cave 45.39 90 *e*P **P 18 27 37.6 +0.2**
WCI pmax pmax
comp=Z,20nm,0.8s
WCI Wyandotte Cave 45.39 90 *e*P **P 18 27 37.6 +0.2**
comp=Z,20nm,0.8s
532A Rocksprings 45.55 109 ⇑P **P 18 27 40.0 +1.2**
baz=45,SNR=47
MSNY Massena 45.63 74 *e*P **P 18 27 39.2 0.0**
comp=Z,441nm,0.5s
ALLY Alegheny Colle 45.68 82 *e*P **P 18 27 40.7 +1.0**
comp=Z,60nm,0.5s
631A Perdido Creek 45.85 110 ⇑P **P 18 27 42.0 +0.9**
baz=46,SNR=28
LONY Lake Ozonia 46.04 75 *e*P **P 18 27 42.1 -0.4**
comp=Z,24nm,0.7s
632A Uvalde 46.13 110 ⇑P **P 18 27 44.3 +1.0**
baz=46,SNR=12
WVT Waverly 46.31 93 *e*P **P 18 27 44.9 +0.2**
WVT pmax pmax
comp=Z,14nm,0.9s
WVT Waverly 46.31 93 *e*P **P 18 27 44.9 +0.2**
comp=Z,14nm,0.9s
FRNY Flat Rock 46.34 74 *e*P **P 18 27 44.2 -0.6**
comp=Z,24nm,0.5s
USRK Ussuriysk Arra 46.67 286 P **P 18 27 46.1 -1.2**
comp=Z,4.8nm,0.5s,baz=44,slow=9.1,SNR=23
USRK PcP **PcP 18 29 20.1 +0.1**
comp=Z,1.0nm,0.4s,baz=28,slow=3.2,SNR=4.1
USRK LR LR 18 49 40.7
comp=Z,252nm,19.5s,baz=30,slow=39
732A Laxson Ranch, 46.70 110 ⇓P **P 18 27 48.9 +1.1**
baz=47,SNR=6.0
NCB Newcomb 46.70 75 *e*P **P 18 27 47.6 -0.1**
comp=Z,33nm,1.2s
OXF Oxford 46.86 96 *e*P **P 18 27 49.4 +0.5**
OXF pmax pmax
comp=Z,46nm,0.5s
OXF Oxford 46.86 96 *e*P **P 18 27 49.4 +0.5**
comp=Z,46nm,0.5s
BINY Binghamton 47.24 78 *e*P **P 18 27 52.3 +0.4**
comp=Z,69nm,0.6s
ACCN Adirondack Com 47.41 75 *e*P **P 18 27 53.6 +0.4**
comp=Z,12nm,0.5s
MDJ Mudanjiang 47.46 288 P **P 18 27 53.3 -0.3**
MDJ pP **pP 18 28 10.3 +0.3**
MDJ S **S 18 34 42.5 -0.5**
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MDJ pmax pmax
comp=Z,110nm,6.7s
MDJ LR LR
comp=N,120nm,41.6s
MDJ LR LR
comp=E,120nm,39.5s
MDJ LR LR
comp=Z,190nm,39.5s
SSPA Standing Stone 47.55 81 *e*P **P 18 27 54.6 +0.4**
comp=Z,34nm,0.6s
HKT Hockley 47.57 105 *e*P **P 18 27 55.4 +0.9**
HKT pmax pmax
comp=Z,61nm,1.5s
HKT Hockley 47.57 105 *e*P **P 18 27 55.4 +0.9**
comp=Z,61nm,1.5s
HNH Hanover 47.81 74 *e*P **P 18 27 56.9 +0.6**
comp=Z,42nm,1.1s
TZTN Tazewell 48.05 89 *e*P **P 18 27 58.5 +0.3**
comp=Z,43nm,1.0s
HIA Hailar 48.28 299 *e*P **P 18 27 59.3 -0.6**
comp=Z,11nm,0.5s
CPCT Cooper Cave 48.46 91 *e*P **P 18 28 01.2 -0.1**
SDMD Soldier's Deli 49.01 81 *e*P **P 18 28 05.5 0.0**
comp=Z,22nm,0.8s
BLA Blacksburg 49.03 86 *e*P **P 18 28 05.9 +0.1**
BLA pmax pmax
comp=Z,35nm,0.6s
BLA Blacksburg 49.03 86 *e*P **P 18 28 05.8 +0.1**
comp=Z,36nm,0.6s
VWCC Virginia Weste 49.21 85 *e*P **P 18 28 07.5 +0.4**
LRAL Lakeview Retre 49.22 95 *e*P **P 18 28 06.8 -0.4**
comp=Z,10nm,0.7s
WES Weston 49.28 74 *e*P **P 18 28 07.6 +0.1**
WES pmax pmax
comp=Z,13nm,0.4s
WES Weston 49.28 74 *e*P **P 18 28 07.5 +0.1**
comp=Z,13nm,0.4s
ARCES ARCESS Array B 49.46 2 P **P 18 28 08.4 -0.2**
ARCES PcP **PcP 18 29 30.2 +0.6**
ARCES ARCESS Array B 49.46 2 P **P 18 28 08.4 -0.2**
comp=Z,5.8nm,0.6s,baz=357,slow=7.2,SNR=28
ARCES PcP **PcP 18 29 30.2 +0.6**
comp=Z,5.0nm,0.6s,baz=20,slow=4.0,SNR=4.3
ARCES LR LR 18 49 59.4
comp=Z,20nm,19.7s,baz=343,slow=37
MJAR Matsushiro Arr 49.70 274 P **P 18 28 10.6 -0.2**
MJAR PcP **PcP 18 29 30.8 -0.3**
MJAR Matsushiro Arr 49.70 274 P **P 18 28 10.6 -0.2**
comp=Z,7.0nm,0.6s,baz=37,slow=6.3,SNR=23
MJAR PcP **PcP 18 29 30.8 -0.3**
comp=Z,2.7nm,0.6s,baz=47,slow=3.1,SNR=5.2
MJAR LR LR 18 48 03.1
comp=Z,82nm,21.4s,baz=100,slow=35
MAT Matsushiro 49.70 274 P **P 18 28 09.8 -1.0**
MAT S **S 18 35 17.0 +2.4**
JSRW J. Sargeant Re 49.87 83 *e*P **P 18 28 12.9 +0.8**
CN2 Changchun 49.99 290 ⇓P **P 18 28 13.4 +0.5**
CN2 *es*P **sP 18 28 36.6 -0.3**
CN2 *e*S **S 18 35 17.8 -0.7**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,80nm,6.0s
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,400nm,18.0s
KMSC Kings Mountain 50.24 88 *e*P **P 18 28 15.3 +0.3**
KMSC Kings Mountain 50.24 88 ⇓P **P 18 28 15.5 +0.5**
baz=50
LVZ Lovozero 51.07 357 *e*P **P 18 28 20.7 -0.1**
LVZ pmax pmax
comp=Z,20nm,1.2s
APA Apatity 51.42 358 ⇑*i*P **P 18 28 24.2 +0.8**
APA pmax pmax
comp=Z,16nm,0.6s
APA MLR MLR
comp=Z,300nm,12.0s
IRK Irkutsk 52.07 311 *e*P **P 18 28 27.2 -1.2**
IRK *e* 18 28 47.2
IRK pmax pmax
comp=Z,59nm,1.7s
TLY Talaya 52.75 311 *e*P **P 18 28 34.3 +0.8**
TLY pmax pmax
comp=Z,32nm,1.0s
MOY Mondy 53.72 313 *e*P **P 18 28 42.1 +1.4**
MOY pmax pmax
comp=Z,58nm,1.8s
KSRS Korea Array 53.87 283 P **P 18 28 42.3 +0.4**
comp=Z,19nm,0.5s,baz=36,slow=6.6,SNR=115
KSRS ScP **ScP 18 33 38.2 -0.3**
comp=Z,1.4nm,0.6s,baz=36,slow=4.7,SNR=5.2
KSRS LR LR 18 52 54.7
comp=Z,107nm,18.6s,baz=34,slow=37
KSAR Wonju Array Be 53.90 283 P **P 18 28 42.3 +0.2**
KSAR ScP **ScP 18 33 38.2 -0.4**
ULN Ulaanbaatar 54.57 306 P **P 18 28 46.7 -0.3**
comp=Z,54nm,0.7s,comp=Z,495nm
TMCR Tamitsa 54.70 355 *e*P **P 18 28 47.8 +0.4**
TMCR *e* 18 29 47.3
TMCR pmax pmax
comp=Z,11nm,0.5s
SONM Songino Array 54.85 306 P **P 18 28 50.1 +1.1**
SONM ScP **ScP 18 33 40.9 -1.9**
SONM Songino Array 54.85 306 P **P 18 28 50.1 +1.1**
comp=Z,37nm,0.7s,baz=46,slow=6.5,SNR=368
SONM ScP **ScP 18 33 40.9 -1.9**
comp=Z,1.2nm,1.0s,baz=40,slow=2.5,SNR=3.9
SONM LR LR 18 53 51.0
comp=Z,299nm,19.7s,baz=33,slow=38
TJN Taejon 55.01 283 *i*P **P 18 28 50.9 +0.8**
JNU Nakatsue 55.99 278 *e*P **P 18 28 57.3 +0.1**
comp=Z,3.3nm,0.6s
JNU Nakatsue 55.99 278 P **P 18 28 57.1 -0.1**
comp=Z,9.0nm,0.5s,baz=260,slow=2.7,SNR=23
HVS Khovu-Aksy 56.66 317 *c i*P **P 18 29 02.2 +0.4**
HVS pmax pmax
comp=Z,91nm,1.2s
ZAA0 Zalesovo Array 56.94 324 *e*P **P 18 29 02.8 -0.8**
ZALV Zalesovo Beam 56.94 324 P **P 18 29 03.1 -0.5**
ZALV *PP **pP 18 29 21.9 +1.4**
ZALV Zalesovo Beam 56.94 324 P **P 18 29 03.0 -0.5**
ZALV pP **pP 18 29 21.9 +1.4**
ZALV ScP **ScP 18 33 50.8 -0.9**
ZALV Zalesovo Beam 56.94 324 P **P 18 29 03.0 -0.5**
comp=Z,21nm,0.5s,baz=29,slow=7.0,SNR=99
ZALV pP **pP 18 29 21.9 +1.4**
comp=Z,7.6nm,0.6s,baz=20,slow=8.2,SNR=4.8
ZALV ScP **ScP 18 33 50.8 -0.9**
comp=Z,1.7nm,0.6s,baz=17,slow=3.6,SNR=5.1
ZALV LR LR 18 56 56.8
comp=Z,87nm,19.8s,baz=69,slow=40
BJI Beijing 57.15 294 P **P 18 29 05.3 0.0**
BJI S **S 18 36 56.3 +0.9**
BJI sS **sS 18 37 22.6 -1.4**
BJI pmax pmax
comp=Z,40nm,0.9s
BJI pmax pmax
comp=Z,170nm,5.6s
BJI LR LR
comp=N,110nm,18.2s
BJI LR LR
comp=E,73nm,18.5s
BJI LR LR
comp=Z,140nm,41.0s
BJT Baijiatuau 57.17 294 *e*P **P 18 29 05.2 -0.3**
comp=Z,43nm,0.8s
NB2 NORSAR Subarra 57.25 10 P **P 18 29 05.3 -0.5**
comp=Z,5.5nm,0.8s,baz=350,slow=7.4
NOA NORSAR Array B 57.25 10 P **P 18 29 05.6 -0.2**
NOA pP **pP 18 29 24.1 +1.3**
NOA NORSAR Array B 57.25 10 P **P 18 29 05.6 -0.2**
comp=Z,6.8nm,0.7s,baz=351,slow=6.9,SNR=22
NOA pP **pP 18 29 24.1 +1.3**
comp=Z,4.1nm,0.6s,baz=350,slow=7.1,SNR=5.0
FINES FINESS Array B 57.59 2 P **P 18 29 08.1 0.0**
FINES ScP **ScP 18 33 53.9 -0.6**
FINES FINESS Array B 57.59 2 P **P 18 29 08.1 0.0**
comp=Z,9.7nm,0.6s,baz=5.4,slow=7.8,SNR=62
FINES ScP **ScP 18 33 53.9 -0.6**
comp=Z,3.6nm,0.8s,baz=52,slow=3.1,SNR=4.2
FINES LR LR 18 54 17.5
comp=Z,62nm,18.3s,baz=237,slow=36
HHC Hu-ho-hao-te 58.48 298 *e*P **P 18 29 14.9 +0.1**
HHC pP **pP 18 29 30.9 -0.9**
HHC sP **sP 18 29 37.9 -1.2**
HHC PcP **PcP 18 30 05.5 +0.8**
HHC PP **PP 18 31 25.0 +0.7**
HHC ScP **ScP 18 33 59.0 +0.1**
HHC PcS **PcS 18 34 05.5 -0.9**
HHC S **S 18 37 10.3 -2.8**
HHC sS **sS 18 37 37.6 -4.2**
HHC ScS **ScS 18 38 55.3 -3.1**
HHC SS **SS 18 41 04.3 -1.2**
HHC pmax pmax
comp=Z,71nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.1s
HHC LR LR
comp=N,230nm,16.7s
HHC LR LR
comp=E,280nm,16.7s
HHC LR LR
comp=Z,270nm,16.9s
TEIG Tepich 59.40 104 P **P 18 29 21.5 +0.3**
TEIG Tepich 59.40 104 P **P 18 29 21.5 +0.3**
comp=Z,18nm,0.5s,baz=306,slow=8.6,SNR=23
SVE Sverdlovsk 59.66 341 ⇓*e*P **P 18 29 22.6 0.0**
SVE pmax pmax
comp=Z,50nm,1.4s
ARU Arti 60.37 342 *c i*P **P 18 29 27.0 -0.4**
ARU *PP **pP 18 29 41.7 -2.8**
ARU 18 30 10.5
ARU S **S 18 37 37.9 +1.2**
ARU SS **SS 18 41 29.2 -5.0**
ARU pmax pmax
comp=Z,39nm,0.6s
ESK Eskdalemuir 61.00 20 *i*P **P 18 29 32.8 +1.1**
BRVK Borovoye 61.40 333 P **P 18 29 33.5 -0.9**
comp=Z,86nm,0.6s,SNR=11
BRVK Borovoye 61.40 333 *c i*P **P 18 29 33.8 -0.6**
BRVK pmax pmax
comp=Z,31nm,1.7s
BRVK Borovoye 61.40 333 *e*P **P 18 29 33.7 -0.8**
comp=Z,21nm,1.0s
BVA0 Borovoye Array 61.40 333 *i*P **P 18 29 33.6 -0.9**
BVA0 pmax pmax
comp=Z,19nm,0.8s
VOSK Vostochnaya 61.55 332 P **P 18 29 34.0 -1.5**
VOSK pmax pmax
comp=Z,7.0nm,0.7s
SSE Sheshan 62.26 284 P **P 18 29 37.8 -2.7**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,64nm,4.9s
SSE LR LR
comp=N,110nm,39.2s
SSE LR LR
comp=E,130nm,39.2s
SSE LR LR
comp=Z,200nm,40.7s
NJ2 Nanjing 62.54 287 *e*P **P 18 29 43.3 +0.9**
NJ2 pmax pmax
comp=Z,40nm,0.8s
MOS Moscow 63.14 355 *e*P **P 18 29 44.4 -1.6**
MOS *e*S **S 18 38 12.1 +0.4**
MOS pmax pmax
comp=Z,58nm,0.9s
OBN Obninsk 63.81 355 ⇓*e*P **P 18 29 50.7 +0.3**
OBN *i*S **S 18 38 20.8 +0.8**
OBN *e*SS SS 18 42 35.7 +7.9
OBN pmax pmax
comp=Z,31nm,0.7s
MK31 Makanchi Array 64.05 322 *e*P **P 18 29 51.1 -1.2**
MK31 Makanchi Array 64.05 322 *e*P **P 18 29 51.1 -1.2**
MKAR Makanchi Array 64.05 322 P **P 18 29 51.2 -1.1**
MKAR Makanchi Array 64.05 322 P **P 18 29 51.1 -1.1**
MKAR Makanchi Array 64.05 322 P **P 18 29 51.1 -1.1**
comp=Z,7.2nm,0.5s,baz=35,slow=6.5,SNR=183
MKAR LR LR 19 00 16.2
comp=Z,95nm,21.1s,baz=12,slow=38
BSEG Bad Segeberg 64.19 12 *e*P **P 18 29 53.7 +0.8**
comp=Z,8.0nm,0.8s
BSEG Bad Segeberg 64.19 12 *e*P **P 18 29 53.7 +0.8**
BSEG pmax pmax
comp=Z,8.0nm,0.8s
GTA Gaotai 64.51 306 ⇑P **P 18 29 55.6 +0.1**
GTA pP **pP 18 30 11.9 -0.8**
GTA sP **sP 18 30 18.8 -1.1**
GTA S **S 18 38 27.0 -2.5**
GTA sS **sS 18 38 54.1 -4.5**
GTA SS **SS 18 42 37.8 -2.0**
GTA pmax pmax
comp=Z,37nm,1.4s
GTA pmax pmax
comp=Z,170nm,6.2s
GTA LR LR
comp=N,180nm,19.9s
GTA LR LR
comp=E,140nm,19.2s
GTA LR LR
comp=Z,260nm,19.2s
SUW Suwalki 64.97 4 *e*P **P 18 29 57.9 -0.1**
WMQ Urumqi 65.03 317 *e*P **P 18 29 59.3 +0.6**

WMQ				sP	**sP**	18 30 20.0	-3.2
WMQ				PcP	**PcP**	18 30 31.1	0.0
WMQ				PP	**PP**	18 32 24.8	+3.0
WMQ				S	**S**	18 38 34.8	-0.8
WMQ				sS	**sS**	18 39 01.9	-2.9
WMQ				ScS	**SKSac**	18 39 43.9	-3.5
WMQ				SS	**SS**	18 42 49.5	+2.0
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,74nm,3.6s						
WMQ				LR	LR		
	comp=N,88nm,25.0s						
WMQ				LR	LR		
	comp=E,98nm,27.0s						
WMQ				LR	LR		
	comp=Z,86nm,27.0s						
XAN	**Xi'an**	65.33	296	P	**P**	18 29 59.8	-1.0
XAN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
XAN				LR	LR		
	comp=N,110nm,31.0s						
XAN				LR	LR		
	comp=E,48nm,34.3s						
XAN				LR	LR		
	comp=Z,43nm,37.2s						
IBBN	**Ibbenburen**	65.51	14	*e*P	**P**	18 30 02.6	+1.1
	comp=Z,6.0nm,0.6s						
NRDL	**Niedersach Rie**	65.58	13	*e*P	**P**	18 30 02.5	+0.6
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	65.74	301	⇑P	**P**	18 30 03.3	-0.2
LZH				pP	**pP**	18 30 19.5	-1.3
LZH				sP	**sP**	18 30 26.8	-1.2
LZH				PP	**PP**	18 32 30.5	+2.2
LZH				*e*S	**S**	18 38 42.1	-2.6
LZH				sS	**sS**	18 39 10.3	-3.6
LZH				SS	**SS**	18 42 58.5	-0.7
LZH				pmax	pmax		
	comp=Z,31nm,1.5s						
LZH				pmax	pmax		
	comp=Z,120nm,7.4s						
LZH				LR	LR		
	comp=N,130nm,15.6s						
LZH				LR	LR		
	comp=E,370nm,15.0s						
LZH				LR	LR		
	comp=Z,480nm,18.1s						
WHN	**Wuhan**	65.88	290	⇑P	**P**	18 30 03.9	-0.3
WHN				S	**S**	18 38 41.8	-4.3
WHN				pmax	pmax		
	comp=Z,110nm,0.6s						
WHN				LR	LR		
	comp=Z,270nm,21.2s						
AKTO	**Aktyubinsk**	66.25	340	P	**P**	18 30 05.8	-0.6
AKTO				pmax	pmax		
	comp=Z,21nm,0.6s						
BUG	**Bochum--Univer**	66.30	15	*e*P	**P**	18 30 06.8	+0.2
	comp=Z,8.0nm,0.6s						
CLL	**Collm**	67.04	11	*e*P	**P**	18 30 11.6	+0.2
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	67.04	11	*e*P	**P**	18 30 11.0	-0.4
CLL				*i* *SP	**sP**	18 30 33.3	-2.6
CLL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	67.04	11	*e*P	**P**	18 30 11.0	-0.4
	comp=Z,4.0nm,0.6s						
CLL				*i* pP	**sP**	18 30 33.3	-2.6
AB31	**Akbulak array**	67.06	339	*i* P	**P**	18 30 10.9	-0.6
AB31				pmax	pmax		
	comp=Z,39nm,0.7s						
ABKAR	**Akbulak array**	67.06	339	*e*P	**P**	18 30 10.8	-0.7
	comp=Z,22nm,0.5s						
UBBA	**Unterbreizbach**	67.23	13	*e*P	**P**	18 30 12.9	+0.5
	comp=Z,2.0nm,0.6s						
UBBA				*e*pP	**pP**	18 30 31.6	+1.9
BAIF	**Baives**	67.25	17	*e*P	**P**	18 30 12.9	+0.2
	comp=Z,8.0nm,0.7s						
BAIF				*e*pP	**pP**	18 30 34.9	+4.9
GIVF	**Givet**	67.29	17	*e*P	**P**	18 30 13.3	+0.3
VRHR	**Novokhopersk**	67.53	351	*e*P	**P**	18 30 13.4	-1.1
VRHR				pmax	pmax		
	comp=Z,70nm,1.0s						
VRHR				pmax	pmax		
	comp=N,3.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,40nm,1.0s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,3.0nm,0.3s						
BRG	**Berggiesshubel**	67.56	10	*e*P	**P**	18 30 15.2	+0.6
	comp=E,3.8nm,0.8s						
BRG				*e*		18 30 23.1	
	comp=E,8.2nm,1.1s						
BRG				*e*		18 30 36.9	
	comp=E,8.3nm,0.7s						
BRG	**Berggiesshubel**	67.56	10	*e*P	**P**	18 30 15.0	+0.4
	comp=Z,4.0nm,0.7s						
BRG	**Berggiesshubel**	67.56	10	*e*P	**P**	18 30 15.2	+0.6
BRG				*e*		18 30 36.9	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MOX	**Moxa**	67.57	12	*e*P	**P**	18 30 15.4	+0.7
	comp=Z,6.0nm,0.7s						
MOX				*e*pP	**pP**	18 30 34.7	+2.6
MOX	**Moxa**	67.57	12	*e*P	**P**	18 30 15.4	+0.7
MOX				*e*PP	**pP**	18 30 34.7	+2.6
MOX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR	**Storozhevoye**	67.57	353	*e*P	**P**	18 30 14.4	-0.3
VSR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,1.0nm,1.1s						
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
ROSF	**Rostrenen**	67.69	23	*e*P	**P**	18 30 15.7	+0.2
	comp=Z,17nm,0.8s						
KSP	**Ksiaz**	67.77	9	*e*P	**P**	18 30 16.5	+0.5
KSP				*e*SP	**sP**	18 30 38.8	-1.8
KSP				*e*S	**S**	18 39 09.2	+0.8
KSP	**Ksiaz**	67.77	9	*e*P	**P**	18 30 16.7	+0.7
FLN	**La Foliniere**	67.78	21	*e*P	**P**	18 30 16.0	-0.1
	comp=Z,12nm,0.4s						
FLN				*e*R			
	comp=Z,100nm,18.0s						
VORD	**Divnogorie**	67.81	353	*e*P	**P**	18 30 16.4	+0.2
VORD				pmax	pmax		
	comp=N,30nm,0.5s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.5s						
VORD				pmax	pmax		
	comp=Z,20nm,0.5s						
TANN	**Tannenbergstha**	67.88	11	*e*P	**P**	18 30 17.7	+1.0
	comp=Z,3.0nm,0.9s						
WLF	**Walferdange**	67.90	16	*e*P	**P**	18 30 17.9	+1.1
	comp=Z,4.0nm,0.8s						
WLF				*e*pP	**pP**	18 30 36.1	+1.9
SGMF	**Saint Gilles**	67.90	22	*e*P	**P**	18 30 17.0	+0.2
PVCC	**Panska Ves**	67.95	10	*e*P	**P**	18 30 17.7	+0.6
PVCC				*e*PP	**pP**	18 30 37.6	+3.1
PVCC	**Panska Ves**	67.95	10	*e*P	**P**	18 30 17.7	+0.6
PVCC				*e*pP	**pP**	18 30 37.6	+3.1
LDF	**La Druitiere**	68.00	20	*e*P	**P**	18 30 17.3	-0.2
	comp=Z,6.5nm,0.5s						
GRR	**Gorron**	68.07	21	*e*P	**P**	18 30 18.0	+0.1
	comp=Z,18nm,0.6s						
UPC	**Upice**	68.09	9	*e*P	**P**	18 30 19.3	+1.3
UPC				*e*PP	**pP**	18 30 39.8	+4.4
UPC	**Upice**	68.09	9	*e*P	**P**	18 30 19.3	+1.3
UPC				*e*pP	**pP**	18 30 39.8	+4.4
QUIF	**Quistinic**	68.11	23	*e*P	**P**	18 30 18.9	+0.7
DPC	**Dobruska-Polom**	68.27	9	*e*P	**P**	18 30 19.9	+0.7
DPC				*e*PP	**PcP**	18 30 42.2	-2.3
DPC	**Dobruska-Polom**	68.27	9	*e*P	**P**	18 30 19.9	+0.7
DPC				*e*pP	**PcP**	18 30 42.2	-2.3
MANZ	**Manzenberg**	68.27	12	*e*pP	pP	18 30 39.0	+2.5
ENH	**Enshi**	68.30	293	*e*P	**P**	18 30 19.0	-0.7
	comp=Z,21nm,0.6s						
AKASG	**Malin Array Be**	68.38	360	*c*eP	**P**	18 30 19.3	-0.5
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	**Malin Array Be**	68.38	360	P	**P**	18 30 19.4	-0.4
AKASG				pP	**pP**	18 30 38.9	+1.7
AKASG	**Malin Array Be**	68.38	360	P	**P**	18 30 19.4	-0.4
	comp=Z,5.0nm,0.4s,baz=1.6,slow=6.2,SNR=26						
AKASG				pP	**pP**	18 30 38.9	+1.7
	comp=Z,8.9nm,0.5s,baz=1.4,slow=6.2,SNR=6.8						
KIEV	**Kiev**	68.39	360	*e*P	**P**	18 30 18.7	-1.1
KIEV				pmax	pmax		
	comp=Z,12nm,0.6s						
KIEV	**Kiev**	68.39	360	*e*P	**P**	18 30 18.7	-1.1
	comp=Z,12nm,0.6s						
GRF	**Grafenberg Arr**	68.47	12	*e*P	**P**	18 30 21.8	+1.4
	comp=Z,5.0nm,0.9s						
GRF	**Grafenberg Arr**	68.47	12	*e*P	**P**	18 30 21.8	+1.4
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PRU	**Pruhonice**	68.49	10	*e*P	**P**	18 30 21.1	+0.6
PRU				*e**PP	**pP**	18 30 40.3	+2.5
PRU				*e*S	**S**	18 39 18.2	+1.3
PRU	**Pruhonice**	68.49	10	*e*P	**P**	18 30 21.1	+0.6
PRU				*e*pP	**pP**	18 30 40.3	+2.5
PRU				*e*S	**S**	18 39 18.2	+1.3
ROTZ	**Rotzenmuhle**	68.49	12	*e*P	**P**	18 30 21.6	+1.1
	comp=Z,3.0nm,0.9s						
ROTZ				*e*pP	**pP**	18 30 40.9	+3.0
MEZF	**Maizieres J'vi**	68.89	17	*e*P	**P**	18 30 23.3	+0.3
OKC	**Ostrava-Krasne**	68.90	8	*e*P	**P**	18 30 23.6	+0.5
OKC				*e**PP	**PcP**	18 30 45.5	-1.5
OKC	**Ostrava-Krasne**	68.90	8	*e*P	**P**	18 30 23.6	+0.5
OKC				*e*pP	**PcP**	18 30 45.5	-1.5
MORC	**Moravsky Berou**	68.92	8	*e*P	**P**	18 30 23.4	+0.2
MORC				pmax	pmax		
	comp=Z,11nm,0.8s						
MORC	**Moravsky Berou**	68.92	8	*e*P	**P**	18 30 23.4	+0.2
	comp=Z,11nm,0.8s						
PAGF	**Fort de Pagny**	68.93	16	*e*P	**P**	18 30 23.8	+0.5
	comp=Z,4.5nm,0.6s						
PAGF				*e*pP	**PcP**	18 30 45.9	-1.3
WET	**Wettzell**	69.17	11	*e*P	**P**	18 30 26.0	+1.2
	comp=Z,3.0nm,0.9s						
WET	**Wettzell**	69.17	11	*e*P	**P**	18 30 26.0	+1.2
WET				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SFTF	**Sexfontaines**	69.18	17	*e*P	**P**	18 30 24.8	0.0
	comp=Z,11nm,0.5s						
SFTF				*e*pP	**PcP**	18 30 46.9	-1.4
KHC	**Kasperske Hory**	69.25	11	*e*P	**P**	18 30 25.7	+0.4
KHC				*e**PP	**PcP**	18 30 47.0	-1.6
KHC				*e*S	**S**	18 39 27.1	+1.0
KHC	**Kasperske Hory**	69.25	11	*e*P	**P**	18 30 25.7	+0.4
KHC				*e*pP	**PcP**	18 30 47.0	-1.6
KHC				*e*S	**S**	18 39 27.1	+1.0
KHC	**Kasperske Hory**	69.25	11	*e*P	**P**	18 30 26.2	+0.9
	comp=Z,7.1nm,0.6s						
TREC	**Trest**	69.25	9	*e*P	**P**	18 30 25.8	+0.5
TREC				*e**PP	**pP**	18 30 44.2	+1.5
TREC	**Trest**	69.25	9	*e*P	**P**	18 30 25.8	+0.5
TREC				*e*pP	**pP**	18 30 44.2	+1.5
CDF	**Champ du Feu**	69.28	15	*e*P	**P**	18 30 25.6	+0.1
ECH	**Echery**	69.45	15	*e*P	**P**	18 30 26.8	+0.3
ECH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ECH	**Echery**	69.45	15	*e*P	**P**	18 30 26.8	+0.3
	comp=Z,5.3nm,0.6s						
USP	**Ospenovka**	69.49	326	*i* P	**P**	18 30 26.9	0.0
USP	**Ospenovka**	69.49	326	P	**P**	18 30 26.9	0.0
	SNR=10.0						
STHS	**Stebnicka Huta**	69.49	5	*e*P	**P**	18 30 27.9	+1.2
STHS				*e*		18 30 49.9	
STHS				pmax	pmax		
	comp=Z,12nm,0.6s						
STHS	**Stebnicka Huta**	69.49	5	*e*P	**P**	18 30 27.9	+1.2
STHS				*e*pP	**PcP**	18 30 49.9	+0.3
STHS				*e*		19 04 26.8	
TKM2	**Tokmak 2**	69.51	325	*e*P	**P**	18 30 26.8	-0.4
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	69.51	325	P	**P**	18 30 26.9	-0.4
	SNR=23						
TKM2	**Tokmak 2**	69.51	325	*e*P	**P**	18 30 26.8	-0.4
	comp=Z,8.2nm,0.6s						
GEC2	**GERESS Array S**	69.55	11	*e*P	**P**	18 30 26.8	-0.4
	comp=Z,2.0nm,0.7s						
GEC2	**GERESS Array S**	69.55	11	*e*P	**P**	18 30 26.8	-0.4
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	69.55	11	P	**P**	18 30 27.7	+0.5
GERES				pP	**pP**	18 30 46.5	+1.9
GERES	**GERESS Array B**	69.55	11	P	**P**	18 30 27.7	+0.5
	comp=Z,2.1nm,0.6s,baz=352,slow=4.7,SNR=22						
GERES				pP	**pP**	18 30 46.5	+1.9
	comp=Z,3.0nm,0.5s,baz=0.4,slow=6.9,SNR=8.1						
GERES				LR	LR	19 00 26.3	
	comp=Z,53nm,18.6s,baz=198,slow=35						
HAU	**Haudompre**	69.55	16	*e*P	**P**	18 30 27.2	0.0
	comp=Z,9.0nm,0.5s						
HAU				*e*pP	**PcP**	18 30 49.3	-0.6
HAU				*e*R			
	comp=Z,52nm,18.0s						
CHMS	**Chumysh**	69.67	326	*i* P	**P**	18 30 28.2	+0.2
CHMS	**Chumysh**	69.67	326	P	**P**	18 30 28.2	+0.2
	SNR=30						
HINF	**Hinteralfeld**	69.81	16	*e*P	**P**	18 30 28.6	-0.1
	comp=Z,11nm,0.8s						
HINF				*e*pP	**PcP**	18 30 50.8	-0.2
FRU	**Bishkek**	69.86	326	*i* P	**P**	18 30 29.0	-0.2
FRU				pmax	pmax		
	comp=Z,50nm,2.0s						
LOR	**Lormes**	69.92	18	*e*P	**P**	18 30 29.4	0.0
	comp=Z,12nm,0.6s						
LOR				*e*R			
	comp=Z,64nm,20.5s						
MFF	**Saint Martin d**	69.92	21	*e*P	**P**	18 30 29.5	+0.1
KBK	**Karagaybulak**	69.94	326	*i* P	**P**	18 30 30.1	+0.3
KBK	**Karagaybulak**	69.94	326	P	**P**	18 30 30.1	+0.3
	SNR=26						
CRVS	**Cervenica-Dubn**	70.01	5	*e*P	**P**	18 30 31.5	+1.5
CRVS				pmax	pmax		
	comp=Z,10.0nm,1.6s						
CRVS	**Cervenica-Dubn**	70.01	5	*e*P	**P**	18 30 31.5	+1.5
CRVS				*e*pP	**pP**	18 30 49.1	+1.7
CRVS				*e*sP	**sP**	18 30 54.0	-0.6
KOLS	**Kolonicke sedl**	70.02	5	*e*P	**P**	18 30 30.8	+0.8
KOLS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KOLS	**Kolonicke sedl**	70.02	5	*e*P	**P**	18 30 30.8	+0.8
KOLS				*e*pP	**PcP**	18 30 55.0	+3.2
SSF	**Saint Saulge**	70.07	18	*e*P	**P**	18 30 30.4	+0.1
	comp=Z,14nm,0.8s						
SSF				*e*pP	**PcP**	18 30 52.6	+0.6
AAK	**Ala-Archa**	70.08	326	P	**P**	18 30 30.0	-0.7
	comp=Z,172nm,0.6s,SNR=8.3						
AAK	**Ala-Archa**	70.08	326	*c i*P	**P**	18 30 30.6	-0.1
AAK				pmax	pmax		
	comp=Z,25nm,0.5s						
AAK	**Ala-Archa**	70.08	326	P	**P**	18 30 30.8	+0.1
	SNR=16						
AAK	**Ala-Archa**	70.08	326	*e*P	**P**	18 30 30.5	-0.1
	comp=Z,14nm,0.5s						
CD2	**Chengdu**	70.24	298	*e*P	**P**	18 30 31.9	+0.2
CD2				pP	**pP**	18 30 48.4	-0.7
CD2				PcP	**PcP**	18 30 52.8	-0.3
CD2				sP	**sP**	18 30 56.8	+0.5
CD2				PP	**PP**	18 33 09.6	+2.3
CD2				S	**S**	18 39 36.6	-1.6
CD2				sS	**sS**	18 40 05.3	-2.4
CD2				ScS	**SKSac**	18 40 25.0	-2.2
CD2				SS	**SS**	18 44 08.8	+0.2
CD2				pmax	pmax		
	comp=Z,50nm,1.1s						
CD2				pmax	pmax		
	comp=Z,210nm,6.2s						
CD2				LR	LR		
	comp=N,160nm,16.8s						
CD2				LR	LR		
	comp=Z,230nm,15.4s						
EKS2	**Erkin-Say**	70.25	327	*e*P	**P**	18 30 31.7	+0.1
EKS2				pmax	pmax		
	comp=Z,27nm,0.6s						
EKS2	**Erkin-Say**	70.25	327	P	**P**	18 30 31.9	+0.3
	SNR=55						
EKS2	**Erkin-Say**	70.25	327	*e*P	**P**	18 30 31.7	+0.1
	comp=Z,27nm,0.6s						
VYHS	**Vyhne**	70.28	7	*e*P	**P**	18 30 32.2	+0.6
VYHS				*e*		18 30 54.2	
VYHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VYHS	**Vyhne**	70.28	7	*e*P	**P**	18 30 32.2	+0.6
VYHS				*e*pP	**PcP**	18 30 54.1	+1.2
AVF	**Avril sur Loir**	70.31	18	*e*P	**P**	18 30 31.6	-0.2
	comp=Z,13nm,0.6s						
AVF				*e*pP	**PcP**	18 30 53.7	+0.6
KECS	**Kecovo**	70.39	6	*e*P	**P**	18 30 32.8	+0.6
KECS				*e*		18 30 55.0	
KECS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KECS	**Kecovo**	70.39	6	*e*P	**P**	18 30 32.8	+0.6
KECS				*e*pP	**PcP**	18 30 55.0	+1.6
KZA	**Kyzart**	70.39	325	*i* P	**P**	18 30 33.1	+0.2
KZA	**Kyzart**	70.39	325	P	**P**	18 30 33.1	+0.2
	SNR=7.6						
BGF	**Bois d'Agland**	70.46	19	*e*P	**P**	18 30 32.6	-0.1
	comp=Z,12nm,0.6s						
BGF				*e*pP	**PcP**	18 30 54.7	+1.0
SMF	**Signal de Mont**	70.53	18	*e*P	**P**	18 30 32.9	-0.2
	comp=Z,7.4nm,0.5s						
RJOB	**Jochberg**	70.56	12	*e*P	**P**	18 30 34.3	+0.9
	comp=Z,6.0nm,0.7s						
TCF	**Toulx Ste Croi**	70.62	19	*e*P	**P**	18 30 33.4	-0.3
	comp=Z,2.5nm,0.4s						
CONA	**Conrad Observa**	70.64	9⇑	*i*P	**P**	18 30 34.2	+0.4
	comp=Z,5.6nm,0.8s						
KK31	**Karatay Array**	70.67	329	*i* P	**P**	18 30 33.3	-0.8
KK31				pmax	pmax		
	comp=Z,13nm,0.5s						
KKAR	**Karatay Array**	70.67	329	*e*P	**P**	18 30 33.3	-0.8
KKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
KKAR	**Karatay Array**	70.67	329	*e*P	**P**	18 30 33.3	-0.8
	comp=Z,14nm,0.6s						
AML	**Almayashu**	70.76	326	*i* P	**P**	18 30 35.5	+0.4
AML	**Almayashu**	70.76	326	P	**P**	18 30 35.5	+0.4
	SNR=7.7						
MOTA	**Moosalm**	70.78	13⇓	*i*P	**P**	18 30 35.0	+0.2
	comp=Z,5.7nm,0.9s						
TRPA	**Tarpa**	70.83	5⇑	*i*P	**P**	18 30 36.1	+1.2
CABF	**La Chapelle**	70.89	17	*e*P	**P**	18 30 35.7	+0.3
	comp=Z,16nm,0.8s						
CABF				*e*pP	**PcP**	18 30 57.8	+2.2
WTTA	**Wattenberg**	70.91	12⇓	*i*P	**P**	18 30 36.4	+0.7
	comp=Z,16nm,1.1s						
PSZ	**Piszkesteto**	70.92	6	*e*P	**P**	18 30 36.5	+0.9
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PSZ	**Piszkesteto**	70.92	6⇓	*i*P	**P**	18 30 36.7	+1.1
PSZ	**Piszkesteto**	70.92	6	*e*P	**P**	18 30 36.5	+0.9
	comp=Z,8.1nm,0.9s						
PSZ	**Piszkesteto**	70.92	6⇑	*e*P	**P**	18 30 36.0	+0.4
FETA	**Feichten**	71.06	13⇑	*i*P	**P**	18 30 37.5	+0.9
	comp=Z,4.5nm,0.8s,SNR=5.8						
KBA	**Koelnbreinsper**	71.27	11⇑	*i*P	**P**	18 30 38.7	+0.9
	comp=Z,14nm,0.7s,SNR=5.3						
BURAR	**Bucovina Array**	71.43	3⇓	*i*P	**P**	18 30 39.0	+0.3
TUE	**Stuetta**	71.44	14	*e*P	**P**	18 30 39.9	+1.0
	comp=Z,11nm,0.6s						
RJF	**Les Rejaudoux**	71.47	20	*e*P	**P**	18 30 38.9	+0.1
RJF				*e*R			
	comp=Z,70nm,19.0s						
LFF	**La Frestale**	71.69	21	*e*P	**P**	18 30 40.3	+0.2
	comp=Z,13nm,0.7s						
PERS	**Pernice**	71.86	10	*e*P	**P**	18 30 42.1	+0.8
PERS				*e*pP	**PcP**	18 31 04.2	+4.4
CAF	**Calviac**	71.92	20	*e*P	**P**	18 30 41.5	-0.1
	comp=Z,5.7nm,0.7s						
OBKA	**Obir**	71.94	10⇑	*i*P	**P**	18 30 41.8	0.0
	comp=Z,14nm,0.6s						
LPL	**La Plagne**	72.05	16	*e*P	**P**	18 30 43.4	+0.8
	comp=Z,9.2nm,0.9s						
LPG	**La Plagne**	72.07	16	*e*P	**P**	18 30 43.7	+0.9
GROS	**Grobnik**	72.07	10	*i* P	**P**	18 30 42.7	+0.2
CADS	**Cadrg**	72.14	11	*i* P	**P**	18 30 42.6	-0.4
DRGR		72.17	5⇓	*i*P	pP	18 31 05.6	+5.0
VIVF	**Saint-Julien-l**	72.40	18	*e*P	**P**	18 30 44.6	+0.1
	comp=Z,5.8nm,0.5s						
BNI	**Bardonecchia**	72.49	16	*e*P	**P**	18 30 45.8	+0.7
BNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BNI	**Bardonecchia**	72.49	16	*e*P	**P**	18 30 45.8	+0.7
	comp=Z,6.4nm,0.8s						
ORIF	**Oris-en-Rattie**	72.52	17	*e*P	**P**	18 30 45.5	+0.3
	comp=Z,6.6nm,0.7s						
ORIF				*e*R			
	comp=Z,65nm,20.5s						
TESR	**Tescani**	72.56	2⇓	*i*P	**P**	18 30 45.8	+0.5
KSH	**Kashi**	72.56	324	P	**P**	18 30 48.4	+2.8
KSH				sP	**sP**	18 31 11.3	+1.0
KSH				PP	**PP**	18 33 33.3	+6.3
KSH				S	**S**	18 40 03.8	-1.2
KSH				sS	**sS**	18 40 31.8	-2.8
KSH				SS	**SS**	18 44 46.6	+2.8
KSH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,60nm,4.8s						
KSH				LR	LR		
	comp=N,84nm,5.4s						
KSH				LR	LR		
	comp=E,94nm,5.2s						
KSH				LR	LR		
	comp=Z,95nm,6.3s						
MBDF	**Montbardon**	72.83	16	*e*P	**P**	18 30 48.1	+1.0
	comp=Z,8.2nm,0.7s						
GYA	**Guiyang**	72.83	294	P	**P**	18 30 50.1	+2.7
GYA				pP	**pP**	18 31 06.9	+2.0
GYA				sP	**sP**	18 31 14.3	+2.2
GYA				PP	**PP**	18 33 32.8	+3.1
GYA				S	**S**	18 40 09.8	+1.5
GYA				sS	**sS**	18 40 37.4	-0.6
GYA				SKS	**SKSac**	18 40 44.5	-2.5
GYA				SS	**SS**	18 44 51.9	+3.3
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.3s						
GYA				LR	LR		
	comp=N,520nm,20.4s						
GYA				LR	LR		
	comp=E,450nm,21.2s						
GYA				LR	LR		
	comp=Z,490nm,20.8s						
**S

PGF *ep*P **pP** **18 31 23.2 +4.3**
PMTG Montargil 75.51 29 *e*P **P** **18 31 02.5 -0.1**
comp=Z,16nm,1.3s
PACT Alcochete 75.65 30 *e*P **P** **18 31 04.9 +1.5**
comp=Z,100nm,1.7s
KMI Kunming 75.71 296 P **P** **18 31 03.8 -0.5**
KMI pP **pP** **18 31 22.6 +0.7**
KMI sP **sP** **18 31 28.4 -0.7**
KMI PP **PP** **18 33 58.4 +4.1**
KMI S **S** **18 40 42.0 +1.2**
KMI sS **sS** **18 41 11.3 +0.6**
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,100nm,5.4s
KMI LR LR
comp=N,71nm,26.6s
KMI LR LR
comp=E,100nm,20.0s
KMI LR LR
comp=Z,170nm,38.2s
ESDC Sonseca Array 75.88 26 P **P** **18 31 05.0 +0.2**
ESDC pP **pP** **18 31 24.6 +2.1**
ESDC Sonseca Array 75.88 26 P **P** **18 31 05.0 +0.2**
comp=Z,1.8nm,0.8s,baz=348,slow=5.1,SNR=9.4
ESDC pP **pP** **18 31 24.6 +2.1**
comp=Z,4.5nm,0.6s,baz=343,slow=5.8,SNR=11
PNCL Nicolau / Gran 76.35 30 *e*P **P** **18 31 07.9 +0.5**
comp=Z,37nm,1.9s
VTS Vitosha 76.39 4⇑ *i*P **P** **18 31 07.1 -0.7**
LSA Lhasa 76.41 308 *e*P **P** **18 31 09.6 +1.1**
LSA pmax pmax
comp=Z,27nm,0.6s
LSA Lhasa 76.41 308 *e*P **P** **18 31 09.6 +1.1**
comp=Z,27nm,0.6s
NVR Nevrokopi 77.65 4 *e*P **P** **18 31 14.8 +0.1**
QIZ Qiongzhong 77.83 287 P **P** **18 31 16.3 +0.3**
QIZ sP **sP** **18 31 41.1 +0.3**
QIZ S **S** **18 41 06.1 +2.5**
QIZ pmax pmax
comp=Z,8.0nm,1.2s
QIZ LR LR
comp=Z,140nm,26.6s
RDO Rodhopi 77.90 3 *e*P **P** **18 31 14.0 -2.0**
FNA Florina 78.11 6 *e*P **P** **18 31 16.6 -0.7**
GNI Garni 78.13 348 *e*P **P** **18 31 19.1 +1.6**
comp=Z,7.6nm,0.6s
SOH Sokhos 78.16 4 *e*P **P** **18 31 18.2 +0.6**
KZN Kozani 78.60 6 *e*P P 18 31 25.5 +5.4
PLG Polygyros 78.61 4 *e*P **P** **18 31 19.5 -0.6**
KBL Kabul 79.13 327 *e*P **P** **18 31 21.2 -2.0**
KBL pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 79.13 327 *e*P **P** **18 31 21.2 -2.0**
comp=Z,8.4nm,0.7s
LIA Limnos Island 79.14 3 *e*P pP 18 31 42.8 +2.2
JAN Janina 79.20 6 *e*P **P** **18 31 24.0 +0.7**
BR131 Keskin Array S 79.29 356 *e*P **P** **18 31 24.1 +0.1**
comp=Z,1.6nm,0.5s
ROSC El Rosal 79.34 99 LR LR 19 07 42.7
comp=Z,114nm,21.7s,baz=17,slow=36
THL Klokotos Trika 79.36 6 *e*P **P** **18 31 24.1 0.0**
NEO Neokhori 79.66 5 *e*P **P** **18 31 25.6 -0.2**
TAPN Taplejung 79.83 309 *e*P **P** **18 31 27.5 +0.3**
comp=Z,150nm,0.5s
TAPN Taplejung 79.83 309 *e*P **P** **18 31 28.1 +0.9**
comp=Z,158nm,0.5s
AGG Agios Georgios 79.91 5 *e*P **P** **18 31 26.8 -0.4**
GUN Gumba 79.99 311 *e*P **P** **18 31 28.4 +0.2**
EVR Evrytania 79.99 6 *e*P **P** **18 31 28.0 +0.3**
JIRN Jiri 80.11 311 *e*P **P** **18 31 29.3 +0.5**
comp=Z,96nm,0.6s
HNR Honiara 80.23 229 LR LR 19 00 09.7
comp=Z,85nm,21.9s,baz=210,slow=30
LKR Lokris 80.31 5 *e*P P 18 31 26.3 -3.0
KKN Kakani 80.32 312 *e*P **P** **18 31 30.4 +0.6**
comp=Z,41nm,0.5s
DANN Dangsing 80.35 313 *e*P **P** **18 31 30.4 +0.4**
comp=Z,135nm,0.6s
ODAN Odare 80.39 310 *e*P **P** **18 31 30.5 +0.3**
comp=Z,30nm,0.6s
PKIN Phulchoki 80.47 311 *e*P **P** **18 31 31.5 +0.9**
comp=Z,15nm,0.5s
PKI Pulchoki 80.47 311 *e*P **P** **18 31 30.5 -0.2**
comp=Z,28nm,0.6s
MALT Malatya 80.47 353⇑ *i*P P 18 31 36.0 +5.7
EFP Efpalio 80.48 6 *e*P **P** **18 31 31.2 +1.0**
KALE Kalithea 80.53 5 *e*P **P** **18 31 29.8 -0.8**
TRIZ Trizonia 80.55 6 *e*P **P** **18 31 31.7 +1.1**
RAMN Ramite 80.60 310 *e*P **P** **18 31 31.1 -0.2**
comp=Z,41nm,0.5s
LAKA Lakka 80.67 6 *e*P **P** **18 31 32.1 +0.8**
DAV Davao City (W) 80.69 268⇑ *i*P **P** **18 31 32.5 +0.8**
RLS Riolos of Patr 80.83 6 *e*P P 18 31 23.6 -8.5
PYUN Piuthan 80.85 314 *e*P **P** **18 31 32.5 -0.1**
comp=Z,46nm,0.6s
KLV Kalavryta, Ach 80.88 6 *e*P **P** **18 31 32.2 -0.2**
KOLN Koldanda 80.94 313 *e*P **P** **18 31 33.2 +0.1**
comp=Z,26nm,0.5s
PTL Penteli 80.94 4 *e*P **P** **18 31 32.2 -0.5**
GUR Goura 80.99 5 *e*P **P** **18 31 33.2 +0.1**
DID Didima 81.46 5 *e*P **P** **18 31 33.0 -2.5**
ITM Ithomi 81.73 6 *e*P **P** **18 31 36.1 -0.8**
PYL PYLOS 82.00 6 *e*P **P** **18 31 36.8 -1.5**
KEST Kesra 82.02 16 *e*P **P** **18 31 36.8 -1.7**
KEST Kesra 82.02 16 P **P** **18 31 37.8 -0.7**
comp=Z,2.5nm,0.7s,baz=329,slow=4.4,SNR=9.7
KEST LR LR 19 06 00.4
comp=Z,29nm,20.5s,baz=220,slow=34
DYR Agios Nikonas 82.16 5 *e*P **P** **18 31 38.9 -0.3**
VLI Veliai 82.23 5 *e*P **P** **18 31 37.7 -1.8**
CMMT Chiang Mai 82.91 296 P **P** **18 31 41.0 -2.3**
comp=Z,7.7nm,1.4s,comp=Z,509nm
CMMT Chiang Mai 82.91 296 P **P** **18 31 42.4 -0.9**
comp=Z,10nm,1.3s,comp=Z,515nm
CHTO Chiang Mai 82.91 296 *e*P **P** **18 31 42.3 -1.0**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 82.91 296 *e*P **P** **18 31 42.2 -1.0**
comp=Z,5.2nm,0.8s
UBPT Khong Chiam 83.11 289 P **P** **18 31 43.9 -0.4**
comp=Z,15nm,1.5s
UBPT Khong Chiam 83.11 289 P **P** **18 31 44.2 -0.1**
comp=Z,15nm,1.5s
CM31 Chiang Mai Arr 83.23 296 *e*P **P** **18 31 45.2 +0.3**
CMAR Chiang Mai Arr 83.23 296 P **P** **18 31 44.0 -0.8**
CMAR Chiang Mai Arr 83.23 296 P **P** **18 31 44.0 -0.8**
comp=Z,5.0nm,0.7s,baz=6.6,slow=6.2,SNR=39
CMAR LR LR 19 12 28.6
comp=Z,100nm,18.4s,baz=238,slow=38
VAM Vamos 83.59 4 *e*P **P** **18 31 46.1 -0.4**
IDI Anoyia 83.73 3 *e*P **P** **18 31 45.2 -2.1**
LAST Lasithi 83.87 3 *e*P **P** **18 31 47.6 -0.5**
SIVA Sivas 84.00 3 *e*P **P** **18 31 48.2 -0.4**
PBKT Sadao Pong 84.00 294 P **P** **18 31 47.0 -1.9**
comp=Z,13nm,0.9s,comp=Z,1μm
PBKT Sadao Pong 84.00 294 P **P** **18 31 48.6 -0.2**
comp=Z,13nm,0.9s,comp=Z,1μm
PMG Port Moresby 85.26 241 P **P** **18 31 55.4 +0.3**
PMG Port Moresby 85.26 241 P **P** **18 31 55.4 +0.3**
comp=Z,20nm,1.0s,baz=67,slow=13,SNR=2.4
MYLDM Lahad Datu 85.75 273 P **P** **18 31 58.7 +1.0**
comp=Z,15nm,1.5s
ASF Jabal al Asfar 86.67 353 P **P** **18 32 03.3 +1.2**
ASF Jabal al Asfar 86.67 353 P **P** **18 32 03.3 +1.2**
comp=Z,3.3nm,0.7s,baz=320,slow=2.4,SNR=7.9
CHBT CHBT 86.76 291 P **P** **18 32 01.8 -0.8**
comp=Z,11nm,1.5s
CHBT CHBT 86.76 291 P **P** **18 32 03.1 +0.5**
comp=Z,11nm,1.5s
EIL Elat 89.26 355 P **P** **18 32 15.1 +0.7**
EIL Elat 89.26 355 P **P** **18 32 15.1 +0.7**
baz=20,slow=4.9,SNR=4.8
CTA Charters Tower 95.23 237 P **P** **18 32 41.5 -0.4**
CTA Charters Tower 95.23 237 P **P** **18 32 41.5 -0.4**
comp=Z,6.2nm,0.7s,baz=359,slow=13,SNR=9.2
SAML Samuel 96.71 96 *e*P **P** **18 32 47.3 -1.4**
comp=Z,2.4nm,0.7s
WRA Warramunga Arr 100.19 247 P **Pdif** **18 33 02.4 -1.8**
WRA PKiKP **PKiKP** **18 37 29.4 -1.9**
WRA Warramunga Arr 100.19 247 P **Pdif** **18 33 02.4 -1.8**
comp=Z,0.8nm,0.6s,baz=34,slow=5.3,SNR=15
WRA PKiKP **PKiKP** **18 37 29.4 -1.9**
comp=Z,0.2nm,0.6s,baz=6.7,slow=1.7,SNR=5.9
TORD Torodi Ar. Bea 102.72 27 PKKPbc PKKPbc 18 49 11.4 +0.3
comp=Z,1.0nm,0.6s,baz=152,slow=2.1,SNR=14
ASAR Alice Springs 103.64 246 Pdif **Pdif** **18 33 18.1 -1.4**
ASAR PKiKP **PP** **18 37 36.5 -0.4**
ASAR Alice Springs 103.64 246 Pdiff **Pdif** **18 33 18.1 -1.4**
comp=Z,0.2nm,0.5s,baz=15,slow=4.2,SNR=7.1
ASAR PKiKP **PP** **18 37 36.5 -0.4**
comp=Z,0.2nm,0.3s,baz=46,slow=2.6,SNR=8.7
STKA Stephens Creek 107.60 236 PKiKP **PKiKP** **18 37 44.7 +0.2**
STKA PKKPbc **PKKPbc** **18 48 57.9 +0.8**
STKA Stephens Creek 107.60 236 PKiKP **PKiKP** **18 37 44.7 +0.2**
comp=Z,0.4nm,0.4s,baz=343,slow=14,SNR=2.9
STKA PKKPbc **PKKPbc** **18 48 57.9 +0.8**
comp=Z,0.8nm,0.5s,baz=158,slow=20,SNR=3.4
KMBO Kilima Mbogo 119.69 351 PKP **PKPdf** **18 38 09.4 +1.0**
KMBO Kilima Mbogo 119.69 351 PKP **PKPdf** **18 38 09.4 +1.0**
comp=Z,1.2nm,0.5s,baz=67,slow=23,SNR=5.1
VNDA Vanda 141.54 195 PKPpre PKPpre 18 38 41.2
VNDA Vanda 141.54 195 PKhKP PKPpre 18 38 41.2
comp=Z,0.3nm,0.4s,baz=29,slow=3.8,SNR=3.7
CASY Casey 146.05 226 *e*PKPdf **PKPdf** **18 38 55.8 +0.3**
BOSA Boshof 147.25 6 *e*PKPdf **PKPbc** **18 39 01.0 -0.3**
BOSA PKPbc **PKPbc** **18 39 01.3 0.0**
BOSA Boshof 147.25 6 PKPbc **PKPbc** **18 39 01.3 0.0**
comp=Z,9.5nm,0.6s,baz=349,slow=2.9,SNR=26
SUR Sutherland 150.61 14 PKPbc **PKPbc** **18 39 10.1 +0.3**
SUR Sutherland 150.61 14 PKPbc **PKPbc** **18 39 10.1 +0.3**
comp=Z,6.6nm,0.6s,baz=66,slow=5.9,SNR=8.0
MAW Mawson 164.25 232 PKPab **PKPab** **18 40 13.1 -1.2**
MAW Mawson 164.25 232 PKPab **PKPab** **18 40 13.1 -1.2**
comp=Z,4.7nm,0.8s,baz=96,slow=8.0,SNR=12

IDC 19 18:44:14.8±64.0, 23°.58S×178°.74W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/17, Error ellipse: s-maj=1158.0km s-min=173.8km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.91**	**248**	P	P	18 51 17.1	+0.1
	0.6nm,0.4s,baz=107,slow=17,SNR=3.5						
ASAR	**Alice Springs**	**43.23**	**260**	P	P	18 52 17.9	-0.3
	0.2nm,0.3s,baz=93,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**43.58**	**265**	P	P	18 52 20.9	-0.2
	0.3nm,0.3s,baz=105,slow=7.9,SNR=12						
FITZ	**Fitzroy Crossi**	**52.01**	**265**	LR	LR	19 15 13.0	
	comp=Z,126nm,22.0s,baz=70,slow=36						
TGY	**Tagaytay City**	**69.86**	**296**	LR	LR	19 21 43.6	
	comp=Z,1.8nm,18.3s,baz=145,slow=32						

IDC 19 18:47:50.2±1.8, 0°.89N×123°.50E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=208.7km s-min=25.8km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.28**	**153**	P	P	18 52 59.3	-0.5
	0.3nm,0.4s,baz=331,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**26.43**	**158**	P	P	18 53 29.2	+0.2
	0.1nm,0.6s,baz=346,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**58.12**	**328**	P	P	18 57 45.8	0.0
	0.2nm,0.4s,baz=129,slow=8.1,SNR=5.2						

IDC 19 18:57:32.6±5.8, 13°.93N×144°.41E, h0km, mb3.4/7, mb1 3.5/7, mb1mx3.4/26, mbtmp3.4/7, Error ellipse: s-maj=238.1km s-min=20.7km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.09**	**197**	P	P	19 04 27.5	-0.3
	0.2nm,0.5s,baz=22,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**38.75**	**195**	P	P	19 04 59.0	+0.1
	0.2nm,0.6s,baz=17,slow=12,SNR=6.7						
SONM	**Songino Array**	**46.20**	**325**	P	P	19 05 58.1	-1.4
	0.2nm,0.4s,baz=138,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**60.94**	**316**	P	P	19 07 46.3	-1.2
	0.1nm,0.4s,baz=103,slow=7.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**61.09**	**324**	P	P	19 07 50.2	+1.8
	0.3nm,0.3s,baz=114,slow=6.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**64.08**	**320**	P	P	19 08 08.8	+0.4
	0.5nm,0.5s,baz=100,slow=7.2,SNR=6.3						
BVAR	**Borovoye Array**	**69.38**	**322**	P	P	19 08 42.2	-0.1
	0.3nm,0.4s,baz=98,slow=11,SNR=3.8						

*MOS **19** 19:10:57.0±1.1, 49°.60N×155°.90E, h83km, mb4.0/7, Error ellipse: s-maj=17.7km s-min=7.0km az=72.3*
*KRSC **19** 19:10:58.6±0.3, 49°.69N×156°.94E, h3km±2km, ML4.6*
*ISCJB **19** 19:11:00.1±0.8, 49°.71N±0°.08×156°.2E±0°.1, h118km±7km, mb3.6/15, Error ellipse: s-maj=15.8km s-min=7.5km az=138.3*
*IDC **19** 19:11:01.0±3.0, 49°.65N×155°.79E, h99km±28km, mb3.3/14, mb1 3.5/16, mb1mx3.4/30, mbtmp3.3/16, Error ellipse: s-maj=23.9km s-min=17.1km az=112.0*

ISC 19 19:11:00.2±1.2, 49°.6N±0°.1×156°.19E±0°.09, h101km±9km, n58, σ1°19/71, mb3.7/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.05**	**358**⇓	*i*PN	Pn	19 11 14.4	-6.8
SKR				*i* S	Sn	19 11 30.0	-7.0
SKR				pmax	pmax		
	comp=N,120nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,240nm,0.4s						
SKR				smax	smax		
	comp=N,4μm,0.2s						
SKR				smax	smax		
	comp=E,4μm,0.2s						
SKR	**Severo-Kuril's**	**1.05**	**358**	*i* P	**Pn**	**19 11 20.0**	**-1.2**
SKR				*i* S	**Sn**	**19 11 35.7**	**-1.3**
PAU	**Pauzhetka**	**1.88**	**12**	PN	**Pn**	**19 11 31.7**	**+0.5**
PAU				S	**Sn**	**19 11 55.9**	**+1.1**
PAU	**Pauzhetka**	**1.88**	**12**	*i* P	**Pn**	**19 11 31.7**	**+0.5**
PAU				*i* S	**Sn**	**19 11 55.9**	**+1.1**
MIPR	**Malaya Ipel'ka**	**2.67**	**8**	*e*P	**Pn**	**19 11 42.4**	**+0.9**
ASAK	**Asacha**	**2.96**	**21**	*e*P	**Pn**	**19 11 46.4**	**+1.0**
ASAK				*i* S	**Sn**	**19 12 22.0**	**+1.8**
MTVR	**Mutnovka**	**3.12**	**23**	*e*P	**Pn**	**19 11 48.2**	**+0.6**
MTVR				*i* S	**Sn**	**19 12 24.4**	**+0.2**
GRL	**Gorelyy**	**3.16**	**21**	*e*P	**Pn**	**19 11 47.6**	**-0.5**
RUS	**Russkaya**	**3.17**	**27**	PN	**Pn**	**19 11 47.6**	**-0.4**
RUS				S	**Sn**	**19 12 23.4**	**-1.6**
RUS	**Russkaya**	**3.17**	**27**	*i* P	**Pn**	**19 11 47.6**	**-0.4**
RUS				*i* S	**Sn**	**19 12 23.4**	**-1.6**
APC	**Apacha**	**3.35**	**10**	*e*P	**Pn**	**19 11 50.9**	**+0.3**
PETK	**Petropavlovsk-**	**3.61**	**15**	PN	**Pn**	**19 11 55.8**	**+1.8**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.61**	**15**	P	**Pn**	**19 11 55.8**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=197,slow=15,SNR=20						
PET	**Petropavlovsk**	**3.73**	**24**	PN	**Pn**	**19 11 56.2**	**+0.6**
PET				S	**Sn**	**19 12 38.7**	**+0.1**
PET	**Petropavlovsk**	**3.73**	**24**	*e*P	**Pn**	**19 11 56.2**	**+0.6**
PET				*i* S	**Sn**	**19 12 38.7**	**+0.1**
UGLR	**Uglovaya**	**3.94**	**24**	*e*P	**Pn**	**19 11 59.8**	**+1.2**
KOK	**Koryaka**	**3.97**	**22**	*e*P	**Pn**	**19 11 59.1**	**+0.1**
AVH	**Avacha**	**3.97**	**23**	*e*P	**Pn**	**19 11 57.9**	**-1.1**
SMAR	**Somma**	**3.99**	**23**	*e*P	**Pn**	**19 12 00.2**	**+0.9**
KRER	**Koryakskii**	**4.01**	**23**	*e*P	**Pn**	**19 12 00.2**	**+0.6**
KRER				*i* S	**Sn**	**19 12 45.5**	**-0.1**
SDLR	**Sedlovina**	**4.02**	**24**	*e*P	**Pn**	**19 12 00.8**	**+1.1**
NLC	**Nalytchevo**	**4.06**	**28**	PN	**Pn**	**19 12 00.1**	**+0.1**
NLC				S	**Sn**	**19 12 44.7**	**-1.7**
NLC	**Nalytchevo**	**4.06**	**28**	*e*P	**Pn**	**19 12 00.1**	**+0.1**
NLC				*i* S	**Sn**	**19 12 44.7**	**-1.7**
GNL	**Ganaly**	**4.21**	**14**	*e*P	**Pn**	**19 12 04.0**	**+1.7**
SPN	**Mys Shipunski**	**4.22**	**33**	PN	**Pn**	**19 12 02.1**	**-0.1**
SPN				S	**Sn**	**19 12 48.6**	**-1.8**
SPN	**Mys Shipunski**	**4.22**	**33**	*e*P	**Pn**	**19 12 02.1**	**-0.1**
SPN				*i* S	**Sn**	**19 12 48.6**	**-1.8**
KII	**Karymskiy**	**4.85**	**23**	*e*P	**Pn**	**19 12 11.5**	**+0.7**
MKZ	**Mys Kozlova**	**6.00**	**33**	PN	**Pn**	**19 12 25.1**	**-1.2**
MKZ	**Mys Kozlova**	**6.00**	**33**	*e*P	**Pn**	**19 12 25.1**	**-1.2**
MKZ				*i* S	**Sn**	**19 13 30.7**	**-2.7**
TUMR	**Tumrok**	**6.15**	**22**	*e*P	Pn	19 12 31.5	+3.0
KBTR	**Krutoberegovo**	**7.71**	**29**	PN	**Pn**	**19 12 50.9**	**+1.4**
KBTR	**Krutoberegovo**	**7.71**	**29**	*e*P	**Pn**	**19 12 50.9**	**+1.4**
BKI	**Bering**	**8.18**	**43**	PN	**Pn**	**19 12 56.3**	**+0.5**
BKI	**Bering**	**8.18**	**43**	*e*P	**Pn**	**19 12 56.3**	**+0.5**
BKI				*i* S	Sn	19 14 18.9	-7.5
YSS	**Yuzh-Sakhalins**	**9.35**	**258**	*e*PN	**Pn**	**19 13 12.1**	**+0.3**
ASAJ	**Asahikawa**	**10.81**	**244**	P	**Pn**	**19 13 34.6**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=34,slow=11,SNR=4.0						
FX1	**Attu Island--F**	**11.12**	**67**	P	**Pn**	**19 13 35.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=266,slow=19,SNR=8.8						
FX1				S	Sn	19 15 31.0	-7.1
	comp=Z,4.8nm,0.3s,baz=216,slow=19,SNR=8.2						
ERM	**Erimo**	**11.85**	**235**	*e*PN	Pn	19 13 51.1	+5.4
MJAR	**Matsushiro Arr**	**18.47**	**232**	P	**P**	**19 15 06.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=27,slow=9.0,SNR=7.7						
KSRS	**Korea Array**	**23.68**	**250**	P	**P**	**19 16 01.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=55,slow=9.4,SNR=3.0						
SONM	**Songino Array**	**32.41**	**286**	P	**P**	**19 17 18.3**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=64,slow=9.8,SNR=2.3						
ILAR	**Eielson Array**	**33.02**	**41**	P	**P**	**19 17 27.9**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=243,slow=8.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**42.64**	**304**	P	**P**	**19 18 44.7**	**-1.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**42.64**	**304**	P	**P**	**19 18 44.7**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=37,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**47.47**	**296**	*e*P	**P**	**19 19 23.6**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.47**	**296**	P	**P**	**19 19 23.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=57,slow=8.8,SNR=7.9						
KURK	**Kurchatov**	**47.51**	**303**	P	**P**	**19 19 24.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**47.61**	**303**	P	**P**	**19 19 24.6**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=65,slow=8.3,SNR=9.4						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**19 19 48.1**	**-0.5**
BVAR						19 21 05.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**19 19 48.1**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=63,slow=9.5,SNR=11						
BVAR				PcP	**PcP**	**19 21 05.0**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=48,slow=2.1,SNR=2.4						
CMAR	**Chiang Mai Arr**	**55.04**	**257**	P	**P**	**19 20 22.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=31,slow=7.3,SNR=8.5						
AKTO	**Aktyubinsk**	**58.33**	**312**	P	**P**	**19 20 43.9**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**58.33**	**312**	P	**P**	**19 20 43.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=86,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**62.29**	**335**	P	**P**	**19 21 10.8**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=42,slow=5.9,SNR=8.6						
WRA	**Warramunga Arr**	**71.93**	**202**	P	**P**	**19 22 12.4**	**0.0**
	comp=Z,0.4nm,1.0s,baz=15,slow=6.8,SNR=3.0						
EKA	**Eskdalemuir Ar**	**73.99**	**348**	P	**P**	**19 22 25.2**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=23,slow=4.5,SNR=3.9						
ASAR	**Alice Springs**	**75.62**	**201**	P	**P**	**19 22 34.7**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=12,slow=4.7,SNR=3.9						
GERES	**GERESS Array B**	**76.72**	**336**	P	**P**	**19 22 39.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=44,slow=4.1,SNR=4.4						

*ISK **19** 19:18:59.6, 36°.03N×29°.66E, h11km, MD3.3*
*ISCJB **19** 19:19:01.5±0.9, 36°.02N±0°.05×29°.70E±0°.04, h25km±5km, Error ellipse: s-maj=8.7km s-min=4.9km az=10.4*
*CSEM **19** 19:19:01.8±0.3, 36°.05N×29°.68E, h20km, ML3.8, Error ellipse: s-maj=8.1km s-min=4.4km az=6.0*
*DDA **19** 19:19:02.0, 36°.13N×29°.60E, h33km, ML3.8*

ISC 19 19:19:02.2±1.2, 36°.05N±0°.06×29°.69E±0°.03, h27km±7km, n55, σ1°.02/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.20**	**339**	*i* P	**Pb**	**19 19 08.0**	**-0.2**
AKAS				*i* S	**Sb**	**19 19 12.5**	**+0.2**
AKAS	**Kas**	**0.20**	**339**	*i* P	**Pb**	**19 19 08.0**	**-0.2**
AKAS				*i* S	**Sb**	**19 19 12.5**	**+0.2**
ELL	**Elmali**	**0.72**	**14**	*e*PG	**Pb**	**19 19 14.1**	**-2.2**
ELL				*e*SG	**Sb**	**19 19 25.9**	**0.0**
ELL	**Elmali**	**0.72**	**14**	*e*Pg	**Pb**	**19 19 14.1**	**-2.2**
ELL				*e*Sg	**Sb**	**19 19 25.9**	**0.0**
FETY	**Fethiye**	**0.77**	**320**	*e*PG	**Pb**	**19 19 15.4**	**-1.5**
FETY				*e*SG	**Sb**	**19 19 25.7**	**-1.3**
FETY	**Fethiye**	**0.77**	**320**	*e*Pg	**Pb**	**19 19 15.5**	**-1.5**
FETY				*e*Sg	**Sb**	**19 19 25.7**	**-1.3**
KORT	**Korkueli**	**1.09**	**29**	*i* P	**Pn**	**19 19 21.8**	**-0.1**
KORT				*i* S	**Sb**	**19 19 37.3**	**+0.9**
KORT	**Korkueli**	**1.09**	**29**	*i* P	**Pn**	**19 19 21.8**	**-0.1**
KORT				*i* S	**Sb**	**19 19 37.3**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.14**	**313**	*e*PN	**Pn**	**19 19 21.3**	**-1.0**
DALY				*e*SN	**Sn**	**19 19 36.0**	**-1.0**
DALY	**Dalyan (Mu¨la**	**1.14**	**313**	*e*Pn	**Pn**	**19 19 21.3**	**-1.0**
DALY				*e*Sn	**Sn**	**19 19 36.0**	**-1.0**
GOLH	**Golhisar**	**1.19**	**355**	*i* P	**Pn**	**19 19 23.1**	**-0.1**
GOLH				*i* S	**Sb**	**19 19 38.9**	**-0.4**
GOLH	**Golhisar**	**1.19**	**355**	*i* P	**Pn**	**19 19 23.1**	**-0.1**
GOLH				*i* S	**Sb**	**19 19 38.9**	**-0.4**
TURN	**Turunc**	**1.20**	**314**	*i* P	**Pb**	**19 19 25.3**	**+1.0**
TURN				*i* S	**Sb**	**19 19 43.4**	**+3.9**
TURN	**Turunc**	**1.20**	**314**	*i* P	**Pb**	**19 19 25.3**	**+1.0**
YER	**Yerkesik**	**1.57**	**314**	*e*PN	**Pn**	**19 19 28.8**	**+0.4**
YER	**Yerkesik**	**1.57**	**314**	*e*Pn	**Pn**	**19 19 28.8**	**+0.4**
BCK	**Bucak**	**1.58**	**27**	*e*PN	**Pn**	**19 19 28.4**	**-0.2**
BCK	**Bucak**	**1.58**	**27**	*e*Pn	**Pn**	**19 19 28.4**	**-0.2**
DNZL	**Cakiroluk**	**1.72**	**343**	*i* P	**Pn**	**19 19 31.5**	**+1.0**
DNZL				*i* S	**Sn**	**19 19 52.5**	**+0.8**
DNZL	**Cakiroluk**	**1.72**	**343**	*i* P	**Pn**	**19 19 31.5**	**+1.0**
DNZL				*i* S	**Sn**	**19 19 52.5**	**+0.8**
SUTC	**Sutluce-Ispart**	**1.77**	**36**	*e*PN	**Pn**	**19 19 32.4**	**+1.2**
SUTC	**Sutluce-Ispart**	**1.77**	**36**	*e*Pn	**Pn**	**19 19 32.4**	**+1.2**
DAT	**Datca**	**1.84**	**292**	*e*PN	**Pn**	**19 19 32.0**	**-0.1**
DAT	**Datca**	**1.84**	**292**	*e*Pn	**Pn**	**19 19 32.0**	**-0.1**
ISP	**Isparta**	**1.89**	**20**	*e*PN	**Pn**	**19 19 32.5**	**-0.

*DDA **19** 19:34:13.9, 39°.15N×27°.15E, h7km, MD2.5*
*ISCJB **19** 19:34:14.5±0.7, 39°.16N±0°.03×27°.12E±0°.03, h6km±5km, Error ellipse: s-maj=5.5km s-min=3.7km az=22.6*
*CSEM **19** 19:34:14.4±0.3, 39°.17N×27°.15E, h0km±4km, MD2.5, Error ellipse: s-maj=6.9km s-min=3.7km az=17.0*
*ATH **19** 19:34:15.6, 39°.16N×27°.07E, h16km±5km, MD2.9/3*
ISC 19 19:34:14.5±1.0, 39°.16N±0°.02×27°.15E±0°.02, h8km±12km, n23, σ0§69/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.38**	**292**	*i* P	**Pg**	**19 34 21.6**	**-0.3**
AYVA				*i* S	**Sg**	**19 34 27.4**	**+0.4**
AYVA	**Ayvalik**	**0.38**	**292**	*i* P	**Pg**	**19 34 21.6**	**-0.3**
AYVA				*i* S	**Sg**	**19 34 27.4**	**+0.4**
AKHS	**Akhisar**	**0.59**	**118**	*i* P	**Pg**	**19 34 26.0**	**+0.1**
AKHS				*i* S	**Sb**	**19 34 34.9**	**-0.8**
AKHS	**Akhisar**	**0.59**	**118**	*i* P	**Pg**	**19 34 26.0**	**+0.1**
AKHS				*i* S	**Sb**	**19 34 34.9**	**-0.8**
BALY	**Balya**	**0.68**	**32**	*i* P	**Pg**	**19 34 28.1**	**+0.5**
BALY				*i* S	**Sb**	**19 34 39.9**	**+1.7**
BALY	**Balya**	**0.68**	**32**	*i* P	**Pg**	**19 34 28.1**	**+0.5**
PRK	**Paraskevi**	**0.68**	**277**	*e*PN	**Pb**	**19 34 28.5**	**-0.1**
PRK				*e*SN	**Sg**	**19 34 36.5**	**-0.1**
PRK	**Paraskevi**	**0.68**	**277**	*e*Pn	**Pb**	**19 34 28.5**	**-0.1**
PRK				*e*Sn	**Sg**	**19 34 36.5**	**-0.1**
BOZC	**Bozcaada**	**1.08**	**309**	*i* P	**Pg**	**19 34 34.6**	**-0.7**
BOZC				*i* S	**Sg**	**19 34 48.7**	**-0.7**
DURS	**Dursunbey**	**1.12**	**67**	*i* P	**Pg**	**19 34 35.5**	**-0.4**
DURS				*i* S	**Sg**	**19 34 50.6**	**+0.1**
DURS	**Dursunbey**	**1.12**	**67**	*i* P	**Pg**	**19 34 35.5**	**-0.4**
DURS				*i* S	**Sg**	**19 34 50.6**	**+0.1**
CHOS	**Chios island**	**1.15**	**228**	*e*PB	**Pg**	**19 34 35.7**	**-0.9**
CHOS				*e*SN	**Sg**	**19 34 51.7**	**+0.2**
CHOS	**Chios island**	**1.15**	**228**	*e*Pb	**Pg**	**19 34 35.7**	**-0.9**
CHOS				*e*Sn	**Sg**	**19 34 51.7**	**+0.2**
DEMI	**Demirci**	**1.23**	**95**	*i* P	**Pb**	**19 34 37.8**	**-0.2**
DEMI				*i* S	**Sg**	**19 34 53.5**	**-0.5**
DEMI	**Demirci**	**1.23**	**95**	*i* P	**Pb**	**19 34 37.8**	**-0.2**
DEMI				*i* S	**Sg**	**19 34 53.5**	**-0.5**
MANT	**Manisa**	**1.29**	**121**	*i* P	**Pn**	**19 34 38.7**	**-0.3**
MANT				*i* S	**Sb**	**19 34 55.5**	**-0.4**
MANT	**Manisa**	**1.29**	**121**	*i* P	**Pn**	**19 34 38.7**	**-0.3**
MANT				*i* S	**Sb**	**19 34 55.5**	**-0.4**
SMG	**Samos**	**1.47**	**190**	*e*PN	**Pg**	**19 34 43.0**	**+0.3**
SMG				*e*SN	**Sg**	**19 35 03.7**	**+1.9**
SMG	**Samos**	**1.47**	**190**	*e*Pn	**Pg**	**19 34 43.0**	**+0.3**
SMG				*e*Sn	**Sg**	**19 35 03.7**	**+1.9**
AYDN	**Tasoluk**	**1.61**	**159**	*i* P	**Pg**	**19 34 45.0**	**-0.3**
AYDN				*i* S	**Sb**	**19 35 04.7**	**-0.2**
AYDN	**Tasoluk**	**1.61**	**159**	*i* P	**Pg**	**19 34 45.0**	**-0.3**
AYDN				*i* S	**Sb**	**19 35 04.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.80**	**317**	*e*PB	**Pn**	**19 34 46.9**	**+1.0**
SMTH				*e*SN	**Sg**	**19 35 11.7**	**-0.7**
SMTH	**Samothraki Isl**	**1.80**	**317**	*e*Pb	**Pn**	**19 34 46.9**	**+1.0**
SMTH				*e*Sn	**Sg**	**19 35 11.7**	**-0.7**

*NEIC **19** 19:37:14.3, 45°.70S×166°.45E, h5km, ML4.8(WEL), After WEL.*
*IDC **19** 19:37:14.3±0.9, 45°.53S×166°.46E, h0km, mb3.9/5, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML4.0/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/19, Error ellipse: s-maj=26.6km s-min=21.5km az=7.0*
*ISCJB **19** 19:37:15.2±0.6, 45°.66S±0°.04×166°.49E±0°.05, h15km, mb3.9/5, MS3.6/3, Error ellipse: s-maj=6.4km s-min=5.0km az=179.0*
*WEL **19** 19:37:15.6±0.2, 45°.68S×166°.46E, h21km±1km, ML4.7/21, Error ellipse: s-maj=2.5km s-min=1.0km az=90.0*
WEL Felt in the Fiordland region, maximum reported intensity MM 4.
ISC 19 19:37:16.0±0.7, 45°.73S±0°.04×166°.61E±0°.05, h15km, n65, σ1§41/72, mb4.0/5, MS3.7/3, 1C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.46**	**57**	P*	**Pb**	**19 37 25.6**	**-0.1**
DCZ				S*	**Sg**	**19 37 31.9**	**+0.6**
DCZ				AML	AML	19 37 32.7	
DCZ				AML	AML	19 37 32.7	
DCZ				AML	AML	19 37 33.3	
DCZ	**Deep Cove**	**0.46**	**57**	Pg	**Pb**	**19 37 25.6**	**-0.1**
DCZ				Sg	**Sg**	**19 37 31.9**	**+0.6**
WHZ	**Wether Hill Ro**	**0.95**	**101**	⇓PN	**Pg**	**19 37 34.7**	**+0.3**
WHZ				SN	**Sn**	**19 37 49.0**	**+0.9**
WHZ				AML	AML	19 37 55.5	
WHZ	**Wether Hill Ro**	**0.95**	**101**	⇓P*	**Pg**	**19 37 34.7**	**+0.3**
WHZ				S*	**Sn**	**19 37 49.0**	**+0.9**
MLZ	**Mavora Lakes**	**1.16**	**72**	⇑PN	**Pn**	**19 37 37.1**	**-0.7**
MLZ				SN	**Sb**	**19 37 53.0**	**+0.3**
MLZ				AML	AML	19 38 03.0	
MLZ	**Mavora Lakes**	**1.16**	**72**	P*	**Pn**	**19 37 37.1**	**-0.7**
MSZ	**Milford Sound**	**1.41**	**42**	PN	**Pn**	**19 37 39.8**	**-1.3**
MSZ				AML	AML	19 38 06.7	
MSZ				AML	AML	19 38 07.9	
MSZ				AML	AML	19 38 10.3	
MSZ				AML	AML	19 38 10.4	
MSZ	**Milford Sound**	**1.41**	**42**	Pn	**Pn**	**19 37 39.8**	**-1.3**
APZ	**The Paps**	**1.47**	**140**	PN	**Pn**	**19 37 41.6**	**-0.3**
APZ				SN	**Sb**	**19 38 01.9**	**+0.5**
APZ	**The Paps**	**1.47**	**140**	Pn	**Pn**	**19 37 41.6**	**-0.3**
WKZ	**Wanaka**	**1.93**	**63**	PN	**Pb**	**19 37 49.8**	**-0.9**
WKZ				AML	AML	19 38 23.5	
WKZ				AML	AML	19 38 23.5	
WKZ				AML	AML	19 38 26.3	
WKZ				AML	AML	19 38 26.3	
WKZ	**Wanaka**	**1.93**	**63**	Pn	**Pb**	**19 37 49.8**	**-0.9**
SYZ	**Scrubby Hill**	**1.94**	**116**	PN	**Pn**	**19 37 49.5**	**+1.1**
SYZ	**Scrubby Hill**	**1.94**	**116**	Pn	**Pn**	**19 37 49.5**	**+1.1**
EAZ	**Earnscleugh**	**1.96**	**76**	*e*PN	**Pb**	**19 37 50.4**	**-1.0**
EAZ				AML	AML	19 38 20.7	
EAZ				AML	AML	19 38 20.7	
EAZ				AML	AML	19 38 21.3	
EAZ				AML	AML	19 38 21.3	
EAZ	**Earnscleugh**	**1.96**	**76**	*e*Pn	**Pb**	**19 37 50.4**	**-1.0**
TUZ	**Tuapeka**	**2.13**	**97**	PN	**Pb**	**19 37 53.7**	**-0.5**
TUZ				AML	AML	19 38 23.8	
TUZ				AML	AML	19 38 24.0	
TUZ	**Tuapeka**	**2.13**	**97**	Pn	**Pb**	**19 37 53.7**	**-0.5**
JCZ	**Jackson Bay**	**2.25**	**44**	PN	**Pn**	**19 37 53.9**	**+1.2**
JCZ				AML	AML	19 38 33.7	
JCZ				AML	AML	19 38 33.9	
JCZ	**Jackson Bay**	**2.25**	**44**	Pn	**Pn**	**19 37 53.9**	**+1.2**
LBZ	**Lake Benmore**	**2.87**	**63**	PN	**Pn**	**19 38 02.7**	**+1.6**
LBZ				AML	AML	19 38 47.9	
LBZ				AML	AML	19 38 48.0	
LBZ				AML	AML	19 39 08.8	
LBZ				AML	AML	19 39 09.9	
LBZ	**Lake Benmore**	**2.87**	**63**	Pn	**Pn**	**19 38 02.7**	**+1.6**
ODZ	**Otahua Downs**	**2.93**	**78**	PN	**Pn**	**19 38 02.5**	**+0.6**
ODZ	**Otahua Downs**	**2.93**	**78**	Pn	**Pn**	**19 38 02.5**	**+0.6**
FOZ	**Fox Glacier**	**3.08**	**47**	*e*PN	**Pn**	**19 38 06.6**	**+2.5**
FOZ				AML	AML	19 39 01.5	
FOZ				AML	AML	19 39 01.5	
FOZ				AML	AML	19 39 03.2	
FOZ				AML	AML	19 39 03.3	
FOZ	**Fox Glacier**	**3.08**	**47**	*e*Pn	**Pn**	**19 38 06.6**	**+2.5**
RPZ	**Rata Peaks**	**3.75**	**59**	PN	**Pn**	**19 38 14.2**	**+0.9**
RPZ				AML	AML	19 39 16.9	
RPZ				AML	AML	19 39 26.3	
RPZ	**Rata Peaks**	**3.75**	**59**	Pn	**Pn**	**19 38 14.2**	**+0.9**
RPZ				Sn	**Sn**	**19 39 01.0**	**+3.7**
RPZ	**Rata Peaks**	**3.75**	**59**	Pn	**Pn**	**19 38 14.2**	**+0.9**
	24nm,0.3s,baz=236,slow=3.3,SNR=94						
RPZ				LR	LR	19 38 57.1	
	comp=Z,443nm,19.7s,baz=223,slow=27						
RPZ				Sn	**Sn**	**19 39 01.0**	**+3.7**
	38nm,0.3s,baz=336,slow=20,SNR=8.9						
WVZ	**Waitaha Valley**	**3.97**	**50**	*e*PN	**Pn**	**19 38 17.3**	**+1.0**
WVZ				AML	AML	19 39 17.0	
WVZ				AML	AML	19 39 17.2	
WVZ	**Waitaha Valley**	**3.97**	**50**	*e*Pn	**Pn**	**19 38 17.3**	**+1.0**
MQZ	**McQueen's Vall**	**4.76**	**67**	PN	**Pn**	**19 38 27.5**	**+0.4**
MQZ	**McQueen's Vall**	**4.76**	**67**	Pn	**Pn**	**19 38 27.5**	**+0.4**
LTZ	**Lake Taylor**	**5.02**	**56**	*e*PN	**Pn**	**19 38 31.6**	**+0.9**
LTZ				AML	AML	19 39 46.8	
LTZ				AML	AML	19 39 50.0	
LTZ	**Lake Taylor**	**5.02**	**56**	*e*Pn	**Pn**	**19 38 31.6**	**+0.9**
DSZ	**Denniston Nort**	**5.48**	**45**	PN	**Pn**	**19 38 38.9**	**+1.9**
DSZ				AML	AML	19 39 50.0	
DSZ				AML	AML	19 39 53.8	
KHZ	**Kahutara**	**5.99**	**59**	PN	**Pn**	**19 38 45.4**	**+1.4**
KHZ	**Kahutara**	**5.99**	**59**	Pn	**Pn**	**19 38 45.4**	**+1.4**
THZ	**Tophouse**	**6.04**	**51**	PN	**Pn**	**19 38 46.0**	**+1.2**
THZ				AML	AML	19 40 06.4	
THZ				AML	AML	19 40 08.2	
THZ	**Tophouse**	**6.04**	**51**	Pn	**Pn**	**19 38 46.0**	**+1.2**
QRZ	**Quartz Range**	**6.53**	**44**	*e*PN	**Pn**	**19 38 52.3**	**+0.9**
QRZ	**Quartz Range**	**6.53**	**44**	*e*Pn	**Pn**	**19 38 52.4**	**+0.9**
CAW	**Cannon Point**	**7.70**	**56**	AML	AML	19 40 43.4	
NEZ	**North Egmont**	**8.49**	**43**	PN	Pn	19 39 25.8	+7.3
URZ	**Urewera**	**10.80**	**50**	Pn	**Pn**	**19 39 49.3**	**-0.6**
URZ				Sn	**Sn**	**19 41 46.9**	**-3.5**
URZ	**Urewera**	**10.80**	**50**	Pn	**Pn**	**19 39 49.3**	**-0.6**
	0.6nm,0.3s,baz=217,slow=5.1,SNR=2.5						
URZ				Sn	**Sn**	**19 41 46.9**	**-3.5**
	0.5nm,0.3s,baz=128,slow=19,SNR=2.6						
STKA	**Stephens Creek**	**23.78**	**297**	P	**P**	**19 42 28.1**	**+0.3**
STKA	**Stephens Creek**	**23.78**	**297**	P	**P**	**19 42 28.1**	**+0.3**
	3.6nm,0.9s,baz=160,slow=7.5,SNR=6.3						
STKA				LR	LR	19 50 12.9	
	comp=Z,158nm,19.8s,baz=80,slow=33						
ASAR	**Alice Springs**	**34.38**	**299**	P	**P**	**19 44 01.2**	**-1.2**
ASAR	**Alice Springs**	**34.38**	**299**	P	**P**	**19 44 01.2**	**-1.2**
	1.8nm,0.8s,baz=134,slow=8.2,SNR=21						
ASAR				LR	LR	19 57 48.5	
	comp=Z,124nm,19.4s,baz=197,slow=36						
WRA	**Warramunga Arr**	**36.95**	**303**	P	**P**	**19 44 23.1**	**-1.4**
WRA	**Warramunga Arr**	**36.95**	**303**	P	**P**	**19 44 23.1**	**-1.4**
	3.5nm,0.9s,baz=138,slow=7.7,SNR=14						
QSPA	**South Pole Qui**	**44.40**	**180**	P	**P**	**19 45 28.8**	**+3.1**
QSPA	**South Pole Qui**	**44.40**	**180**	P	**P**	**19 45 28.7**	**+3.1**
	0.4nm,0.8s,baz=1.0,slow=17,SNR=3.3						
KAPI	**Kappang**	**57.37**	**300**	LR	LR	20 11 59.2	
	comp=Z,64nm,19.9s,baz=294,slow=36						
CMAR	**Chiang Mai Arr**	**88.39**	**299**	P	**P**	**19 50 08.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**88.39**	**299**	P	**P**	**19 50 08.5**	**+1.2**
	0.7nm,0.7s,baz=175,slow=2.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**145.10**	**206**	PKPbc	**PKPbc**	**19 56 51.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**145.10**	**206**	PKPbc	**PKPbc**	**19 56 51.9**	**-0.6**
	1.5nm,0.6s,baz=144,slow=2.7,SNR=20						
ARCES	**ARCESS Array B**	**149.29**	**334**	PKPbc	**PKPbc**	**19 57 01.9**	**-0.8**
ARCES	**ARCESS Array B**	**149.29**	**334**	PKPbc	**PKPbc**	**19 57 01.9**	**-0.8**
	2.4nm,0.8s,baz=72,slow=3.9,SNR=5.0						
AKASG	**Malin Array Be**	**151.47**	**296**	PKPbc	**PKPbc**	**19 57 08.2**	**-0.3**
AKASG	**Malin Array Be**	**151.47**	**296**	PKPbc	**PKPbc**	**19 57 08.2**	**-0.3**
	0.9nm,0.4s,baz=71,slow=4.0,SNR=3.0						
FINES	**FINESS Array B**	**152.34**	**319**	PKPbc	**PKPbc**	**19 57 09.7**	**-0.3**
FINES	**FINESS Array B**	**152.34**	**319**	PKPbc	**PKPbc**	**19 57 09.7**	**-0.3**
	0.6nm,0.5s,baz=72,slow=4.5,SNR=4.1						

WEL 19 19:47:54.0±0.3, 45°.69S×166°.49E, h20km±1km, ML3.6/13, Error ellipse: s-maj=3.4km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.51**	**66**	P*	Pb	19 48 03.7	-0.5
DCZ				S*	Sb	19 48 10.0	-1.2
DCZ				AML	AML	19 48 10.5	
DCZ				AML	AML	19 48 10.6	
DCZ				AML	AML	19 48 10.7	
WHZ	**Wether Hill Ro**	**1.04**	**102**	PN	Pb	19 48 12.7	-0.7
WHZ				AML	AML	19 48 34.3	
WHZ				AML	AML	19 48 38.2	
MLZ	**Mavora Lakes**	**1.23**	**75**	PN	Pn	19 48 15.1	-1.0
MLZ				AML	AML	19 48 32.2	
MLZ				AML	AML	19 48 32.5	
MSZ	**Milford Sound**	**1.44**	**46**	*e*PN	Pn	19 48 19.0	+0.1
MSZ				AML	AML	19 48 45.8	
MSZ				AML	AML	19 48 45.8	
MSZ				AML	AML	19 48 48.1	
MSZ				AML	AML	19 48 48.1	
APZ	**The Paps**	**1.55**	**138**	PN	Pn	19 48 20.3	-0.2
APZ				SN	Sn	19 48 40.2	+0.1
WKZ	**Wanaka**	**1.98**	**65**	PN	Pb	19 48 28.7	-0.7
WKZ				AML	AML	19 49 01.3	
WKZ				AML	AML	19 49 03.8	
SYZ	**Scrubby Hill**	**2.03**	**116**	PN	Pn	19 48 28.5	+1.4
EAZ	**Earnscleugh**	**2.04**	**78**	PN	Pb	19 48 29.6	-0.7
EAZ				AML	AML	19 49 00.2	
EAZ				AML	AML	19 49 00.2	
EAZ				AML	AML	19 49 02.4	
TUZ	**Tuapeka**	**2.22**	**98**	PN	Pb	19 48 32.1	-1.2
TUZ				AML	AML	19 49 01.9	
TUZ				AML	AML	19 49 03.6	
JCZ	**Jackson Bay**	**2.28**	**46**	PN	Pb	19 48 33.2	-1.4
JCZ				AML	AML	19 49 11.8	
JCZ				AML	AML	19 49 17.5	
LBZ	**Lake Benmore**	**2.92**	**65**	PN	Pn	19 48 40.9	+1.5
ODZ	**Otahua Downs**	**3.00**	**79**	*e*PN	Pn	19 48 40.9	+0.5

IDC 19 19:53:06.9±3.8, 1°.34S×99°.66E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.3/23, mbtmp3.3/5, ML3.9/1, Error ellipse: s-maj=144.6km s-min=23.4km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.69**	**358**	P	Pn	19 57 38.8	-0.4
	0.1nm,0.3s,baz=188,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**38.62**	**121**	P	P	20 00 31.4	-0.9
	0.2nm,0.5s,baz=297,slow=9.5,SNR=5.0						
ASAR	**Alice Springs**	**39.91**	**126**	P	P	20 00 43.7	+0.7
	0.2nm,0.6s,baz=298,slow=8.0,SNR=5.3						
SONM	**Songino Array**	**49.33**	**6**	P	P	20 01 57.6	-0.4
	0.3nm,0.9s,baz=176,slow=6.6,SNR=2.1						
MKAR	**Makanchi Array**	**50.31**	**345**	P	P	20 02 05.0	-0.4
	0.4nm,0.6s,baz=143,slow=8.1,SNR=5.1						

IDC 19 19:58:03.4±6.6, 4°.96N×95°.30E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/24, Error ellipse: s-maj=336.9km s-min=28.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.16**	**347**	P	P	20 06 05.7	-0.2
	0.3nm,0.4s,baz=155,slow=9.3,SNR=5.9						
JNU	**Nakatsue**	**43.39**	**45**	LR	LR	20 28 36.4	
	comp=Z,32nm,18.3s,baz=318,slow=42						
WRA	**Warramunga Arr**	**45.67**	**124**	P	P	20 06 26.3	0.0
	0.7nm,1.1s,baz=302,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**47.19**	**129**	P	P	20 06 38.1	-0.1
	0.4nm,0.7s,baz=298,slow=8.0,SNR=5.7						

IDC 19 20:19:48.6±0.8, 1°.72N×126°.29E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=58.2km s-min=15.0km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.71**	**182**	P	P	20 24 19.3	-0.4
	0.1nm,0.3s,baz=5.4,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**22.93**	**160**	P	P	20 24 54.6	0.0
	4.4nm,0.5s,baz=339,slow=11,SNR=48						
ASAR	**Alice Springs**	**26.30**	**164**	P	P	20 25 26.6	+0.4
	0.5nm,0.4s,baz=343,slow=7.8,SNR=23						
ASAR				PcP	PcP	20 28 52.6	-0.1
	0.4nm,0.6s,baz=355,slow=2.5,SNR=4.6						
MJAR	**Matsushiro Arr**	**36.36**	**16**	P	P	20 26 54.5	0.0
	0.3nm,0.3s,baz=196,slow=9.3,SNR=4.8						
STKA	**Stephens Creek**	**36.43**	**158**	P	P	20 26 54.5	-0.6
	0.9nm,0.7s,baz=354,slow=9.2,SNR=5.2						
SONM	**Songino Array**	**49.06**	**342**	P	P	20 28 37.0	-0.6
	0.1nm,0.4s,baz=166,slow=7.4,SNR=2.5						
MKAR	**Makanchi Array**	**58.95**	**326**	P	P	20 29 49.9	0.0
	1.2nm,0.6s,baz=120,slow=8.6,SNR=14						
ZALV	**Zalesovo Beam**	**62.17**	**334**	P	P	20 30 11.8	+0.1
	0.6nm,0.5s,baz=96,slow=4.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.09**	**287**	PKP	PKPdf	20 38 48.3	0.0
	0.5nm,0.7s,baz=77,slow=2.0,SNR=3.9						

KRSC 19 20:44:38.2±0.6, 55°.60N×164°.57E, h10km±10km, ML3.8,

Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.89**	**116**	*i* P	Pn	20 44 57.4	+0.6
BKI				*i* S	Sn	20 45 11.0	+1.3
KBTR	**Krutoberegovo**	**1.16**	**302**	*e*P	Pb	20 44 59.2	-1.1
MKZ	**Mys Kozlova**	**1.94**	**239**	*i* P	Pn	20 45 11.7	+0.6
MKZ				*e*S	Sn	20 45 35.5	0.0
SMKR	**Semkarok**	**2.00**	**301**	*e*P	Pn	20 45 11.8	-0.3
SMKR				*e*S	Sn	20 45 36.2	-1.0
BDR	**Baidarnaya**	**2.12**	**299**	*e*P	Pn	20 45 14.1	+0.3
BDR				*e*S	Sn	20 45 40.3	+0.1
SRKR	**Sorokina**	**2.18**	**300**	*e*P	Pn	20 45 15.0	+0.4
SRKR				*e*S	Sn	20 45 42.5	+0.8
BZGR	**Bezymyannyi-Gr**	**2.21**	**280**	*e*S	Sb	20 45 46.0	0.0
KLY	**Klyuchi**	**2.32**	**290**	*e*S	Sn	20 45 44.1	-0.7
BZMR	**Bezymyannaya**	**2.33**	**280**	*e*S	Sb	20 45 49.2	-0.2
BZWR	**Bezymyannyi-We**	**2.33**	**281**	*e*P	Pb	20 45 18.7	-1.8
BZWR				*e*S	Sb	20 45 48.3	-1.2
KRSR	**Krestovskiy**	**2.34**	**287**	*e*P	Pn	20 45 17.5	+0.7
KIRR	**Kirishev**	**2.42**	**280**	*e*P	Pb	20 45 20.5	-1.4
KIRR				*e*S	Sb	20 45 51.4	-0.5
KMNR	**Kamenistaya**	**2.46**	**275**	*e*P	Pn	20 45 20.4	+1.9
KMNR				*e*S	Sb	20 45 51.1	-1.9
KPT	**Kopyto**	**2.48**	**280**	*e*P	Pb	20 45 21.1	-1.9
KPT				*e*S	Sb	20 45 52.1	-1.6
TUMR	**Tumrok**	**2.54**	**265**	*i* P	Pn	20 45 21.4	+1.8
TUMR				*e*S	Sb	20 45 53.2	-2.2
KOZ	**Kozyrevsk**	**2.69**	**282**	*e*P	Pb	20 45 24.3	-2.1
KOZ				*e*S	Sb	20 45 57.8	-1.7
SRDR	**Sredinnyy**	**2.82**	**287**	*e*P	Pn	20 45 25.5	+2.1
SRDR				*e*S	Sn	20 45 59.2	+1.7
KII	**Karymskiy**	**3.35**	**244**	*e*P	Pn	20 45 32.4	+1.7
KII				*e*S	Sn	20 46 11.1	+0.5
SPN	**Mys Shipunski**	**3.66**	**229**	*e*P	Pn	20 45 35.4	+0.6
SPN				*e*S	Sn	20 46 17.0	-0.9
NLC	**Nalytchevo**	**3.91**	**234**	*e*P	Pn	20 45 39.7	+1.5
NLC				*e*S	Sn	20 46 24.1	+0.1
SDLR	**Sedlovina**	**4.05**	**237**	*e*P	Pn	20 45 42.7	+2.3
SMAR	**Somma**	**4.10**	**238**	*e*P	Pn	20 45 43.5	+2.3
SMAR				*e*S	Sn	20 46 29.6	+0.2
KRER	**Koryakskii**	**4.10**	**238**	*e*P	Pn	20 45 43.5	+2.3
UGLR	**Uglovaya**	**4.12**	**237**	*i* P	Pn	20 45 43.4	+2.0
UGLR				*i* S	Sn	20 46 29.9	+0.2
AVH	**Avacha**	**4.13**	**238**	*e*P	Pn	20 45 44.0	+2.6
AVH				*e*S	Sn	20 46 30.7	+0.9
KOK	**Koryaka**	**4.17**	**239**	*e*P	Pn	20 45 43.7	+1.8
GNL	**Ganaly**	**4.30**	**246**	*e*P	Pn	20 45 46.4	+2.7
RUS	**Russkaya**	**4.78**	**231**	*e*P	Pn	20 45 52.0	+1.9
MTVR	**Mutnovka**	**4.89**	**233**	*e*P	Pn	20 45 54.3	+2.4
ASAK	**Asacha**	**5.09**	**233**	*e*P	Pn	20 45 57.7	+3.2

IDC 19 20:57:10.3±3.5, 6°.09S×149°.21E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=106.0km s-min=36.6km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.87**	**211**	Pn	Pn	20 58 12.1	+1.0
	3.2nm,0.3s,baz=27,slow=4.5,SNR=6.3						
PMG				Sn	Sn	20 58 56.8	-0.5
	5.1nm,0.3s,baz=39,slow=24,SNR=7.5						
WRA	**Warramunga Arr**	**19.96**	**225**	P	P	21 01 44.1	-0.1
	0.2nm,0.3s,baz=51,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.85**	**219**	P	P	21 02 15.1	-0.3
	0.3nm,0.5s,baz=51,slow=9.2,SNR=7.2						
FITZ	**Fitzroy Crossi**	**25.91**	**240**	P	P	21 02 44.6	+0.3
	1.3nm,1.0s,baz=62,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.24**	**285**	PKPbc	PKPbc	21 16 55.9	-0.9
	0.4nm,1.0s,baz=67,slow=2.7,SNR=5.7						

IDC 19 21:33:39.4±3.2, 1°.61S×99°.64E, h0km, mb3.4/5, mb1 3.4/6, mb1mx3.4/23, mbtmp3.3/6, ML3.5/1, Error ellipse: s-maj=133.7km s-min=21.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.95**	**358**	P	P	21 38 13.2	-0.1
	0.1nm,0.3s,baz=174,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**38.50**	**121**	P	P	21 41 05.1	+1.3
	0.6nm,0.9s,baz=302,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**39.77**	**126**	P	P	21 41 12.9	-1.5
	0.2nm,0.4s,ba

ANMO	Albuquerque	20.52	338	LR	LR	22 49 04.7	
	comp=Z,79nm,18.3s,baz=65,slow=39						
TKL	Tuckaleechee C	22.83	29	P	P	22 40 49.6	-0.1
	1.3nm,0.6s,baz=219,slow=6.5,SNR=3.2						
TKL				LR	LR	22 50 23.3	
	comp=Z,31nm,20.9s,baz=100,slow=38						
NVAR	Mina Array Bea	28.97	324	P	P	22 41 47.5	+1.1
	0.4nm,0.6s,baz=126,slow=9.0,SNR=3.8						
YKA	Yellowknife Ar	47.92	349	P	P	22 44 22.7	-2.0
	0.3nm,0.6s,baz=157,slow=7.8,SNR=3.7						
ILAR	Eielson Array	58.96	338	P	P	22 45 44.3	-1.5
	0.2nm,0.4s,baz=119,slow=6.6,SNR=4.7						

*ISK **19** 22:36:21.5, 39.10N×29.01E, h9km, MD3.4*
*DDA **19** 22:36:21.8, 39.12N×29.02E, h10km, ML3.9*
*CSEM **19** 22:36:21.8±0.1, 39.12N×29.04E, h2km, ML3.9, Error ellipse: s-maj=2.1km s-min=1.6km az=80.0*

ISC 19 22:36:22.3±1.1, 39.13N±0.02×29.03E±0.02, h4km±12km, n130, σ0.62/157, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.26	251	*i* P	Pg	22 36 27.3	+0.1
DEMI				*i* S	Sg	22 36 30.8	+0.2
DEMI	Demirci	0.26	251	*i* P	Pg	22 36 27.3	+0.1
DEMI				*i* S	Sg	22 36 30.8	+0.2
DURS	Dursunbey	0.64	318	*i* P	Pg	22 36 34.5	0.0
DURS	Dursunbey	0.64	318	*i* P	Pg	22 36 34.5	0.0
KULA	Kula-Manisa	0.67	205	PG	Pg	22 36 34.8	-0.4
KULA				SG	Sg	22 36 43.2	-0.8
KULA	Kula-Manisa	0.67	205	*i* Pg	Pg	22 36 34.8	-0.4
KULA				*i* Sg	Sg	22 36 43.2	-0.8
MANT	Manisa	0.73	210	*i* P	Pg	22 36 35.9	-0.4
MANT				*i* S	Sg	22 36 45.0	-0.8
MANT	Manisa	0.73	210	*i* P	Pg	22 36 35.9	-0.4
MANT				*i* S	Sg	22 36 45.0	-0.8
KHAL	Karahalli	0.84	154	*i* P	Pg	22 36 38.8	-0.4
KHAL				*i* S	Sg	22 36 49.0	-0.2
KHAL	Karahalli	0.84	154	*i* P	Pg	22 36 38.8	-0.4
KHAL				*i* S	Sg	22 36 49.0	-0.2
KHL	Karahalli	0.89	154	PG	Pg	22 36 39.2	-0.2
KHL				SG	Sg	22 36 50.8	-0.1
KHL	Karahalli	0.89	154	*i* Pg	Pg	22 36 39.2	-0.2
KHL				*i* Sg	Sg	22 36 50.8	-0.1
ORLT	Orhaneli	0.92	354	*e*PG	Pg	22 36 39.7	-0.3
ORLT	Orhaneli	0.92	354	*e*Pg	Pg	22 36 39.7	-0.3
AKHS	Akhisar	0.98	256	*i* P	Pg	22 36 41.0	0.0
AKHS				*i* S	Sg	22 36 54.2	+0.5
AKHS	Akhisar	0.98	256	*i* P	Pg	22 36 41.0	0.0
AKHS				*i* S	Sg	22 36 54.2	+0.5
ULDT	Uludag	1.02	5	*i* P	Pg	22 36 41.2	-0.6
ULDT				*i* S	Sg	22 36 55.1	+0.1
ULDT	Uludag	1.02	5	*i* P	Pg	22 36 41.2	-0.6
ULDT				*i* S	Sg	22 36 55.1	+0.1
BALB	Balikesir	1.02	300	*e*PG	Pb	22 36 42.4	-0.2
BALB	Balikesir	1.02	300	*e*Pg	Pb	22 36 42.4	-0.2
CAVI	Cavuskoy	1.25	30	*e*PN	Pg	22 36 46.2	+0.1
CAVI	Cavuskoy	1.25	30	*e*Pn	Pg	22 36 46.3	+0.1
MDNY	Mudanya-Bursa	1.25	355	*e*PN	Pg	22 36 45.3	-0.8
MDNY	Mudanya-Bursa	1.25	355	*e*Pn	Pg	22 36 45.3	-0.8
BALY	Balya	1.25	300	*i* P	Pb	22 36 46.4	0.0
BALY				*i* S	Sg	22 37 02.3	-0.1
BALY	Balya	1.25	300	*i* P	Pb	22 36 46.4	0.0
BALY				*i* S	Sg	22 37 02.3	-0.1
KCTX	Karacabey (Bur	1.25	336	*e*PN	Pg	22 36 45.5	-0.8
KCTX	Karacabey (Bur	1.25	336	*e*Pn	Pg	22 36 45.5	-0.8
SHUT	Suhut-Afyon	1.32	115	*e*PN	Pn	22 36 47.0	-0.6
SHUT	Suhut-Afyon	1.32	115	*e*Pn	Pn	22 36 47.0	-0.6
GONE	Gonen-Balikesi	1.38	312	*e*PN	Pn	22 36 47.7	-0.6
GONE	Gonen-Balikesi	1.38	312	*e*Pn	Pn	22 36 47.7	-0.6
ADVT	Abdulvahap	1.42	23	*e*PN	Pn	22 36 48.2	-0.6
ADVT	Abdulvahap	1.42	23	*e*Pn	Pn	22 36 48.2	-0.6
DNZL	Cakiroluk	1.44	179	*i* P	Pb	22 36 49.9	+0.2
DNZL				*i* S	Sg	22 37 09.6	+1.2
DNZL	Cakiroluk	1.44	179	*i* P	Pb	22 36 49.9	+0.2
DNZL				*i* S	Sg	22 37 09.6	+1.2
ARMT	Armutlu	1.44	355	*e*PN	Pn	22 36 48.5	-0.7
ARMT	Armutlu	1.44	355	*e*Pn	Pn	22 36 48.5	-0.7
YLV	Yalova	1.46	10	*e*PN	Pn	22 36 49.5	0.0
YLV	Yalova	1.46	10	*e*Pn	Pn	22 36 49.5	0.0
ESKT	Eskisehir	1.47	74	*e*PN	Pn	22 36 49.0	-0.6
ESKT	Eskisehir	1.47	74	*e*Pn	Pn	22 36 49.0	-0.6
SEYT	Eskypehyr	1.47	74	*i* P	Pn	22 36 48.9	-0.7
SEYT				*i* S	Sb	22 37 09.4	+0.1
SEYT	Eskypehyr	1.47	74	*i* P	Pn	22 36 48.9	-0.7
SEYT				*i* S	Sb	22 37 09.4	+0.1
BNT	Bandirma	1.50	326	*e*PN	Pn	22 36 49.8	-0.1
BNT	Bandirma	1.50	326	*e*Pn	Pn	22 36 49.8	-0.1
GPA	Golpazari	1.53	40	*e*PN	Pn	22 36 49.8	-0.6
GPA	Golpazari	1.53	40	*e*Pn	Pn	22 36 49.8	-0.6
BOLV	Bolvadin	1.56	105	*i* P	Pn	22 36 50.7	-0.1
BOLV				*i* S	Sb	22 37 11.8	0.0
BOLV	Bolvadin	1.56	105	*i* P	Pn	22 36 50.7	-0.1
BOLV				*i* S	Sb	22 37 11.8	0.0
AYDN	Tasoluk	1.72	212	*i* P	Pb	22 36 54.7	+0.3
AYDN				*i* S	Sg	22 37 17.7	+0.2
AYDN	Tasoluk	1.72	212	*i* P	Pb	22 36 54.7	+0.3
AYDN				*i* S	Sg	22 37 17.7	+0.2
GULT	Gulveren	1.74	41	*e*PN	Pn	22 36 52.8	-0.5
GULT	Gulveren	1.74	41	*e*Pn	Pn	22 36 52.8	-0.5
ISP	Isparta	1.75	137	*e*PN	Pn	22 36 52.9	-0.6
ISP	Isparta	1.75	137	*e*Pn	Pn	22 36 52.9	-0.6
HRT	Hereke	1.76	16	*e*PN	Pn	22 36 53.2	-0.4
HRT	Hereke	1.76	16	*e*Pn	Pn	22 36 53.2	-0.4
AYVA	Ayvalik	1.82	276	*e*P	Pg	22 36 58.3	+1.1
AYVA				*i* S	Sg	22 37 21.0	+0.1
KRBG	Karabiga-Canak	1.84	314	*e*PN	Pn	22 36 53.7	-0.9
KRBG	Karabiga-Canak	1.84	314	*e*Pn	Pn	22 36 53.7	-0.9
SPNC	Sapanca-Adapaz	1.84	32	*e*PN	Pn	22 36 54.6	-0.1
SPNC	Sapanca-Adapaz	1.84	32	*e*Pn	Pn	22 36 54.6	-0.1
GOLH	Golhisar	1.93	167	*i* P	Pn	22 36 55.9	-0.1
GOLH				*i* S	Sg	22 37 28.2	+3.8
GOLH	Golhisar	1.93	167	*i* P	Pn	22 36 55.9	-0.1
ISK	Istanbul-Kandi	1.94	1	*e*PN	Pn	22 36 55.0	-1.0
ISK	Istanbul-Kandi	1.94	1	*e*Pn	Pn	22 36 55.0	-1.0
SVRH	Sivrihisar-ESK	1.96	80	*e*PN	Pn	22 36 55.7	-0.7
SVRH	Sivrihisar-ESK	1.96	80	*e*Pn	Pn	22 36 55.7	-0.7
GCAM	G?zelcaml?	2.00	225	*i* P	Pb	22 36 59.3	0.0
GCAM				*e*S	Sb	22 37 24.6	+0.1
BGKT	Bogazkoy	2.06	355	*e*PN	Pn	22 36 58.1	+0.4
BGKT	Bogazkoy	2.06	355	*e*Pn	Pn	22 36 58.1	+0.4
BCK	Bucak	2.07	143	*e*PN	Pn	22 36 57.1	-0.7
BCK	Bucak	2.07	143	*e*Pn	Pn	22 36 57.1	-0.7
YER	Yerkesik	2.07	197	*e*PN	Pn	22 36 57.1	-0.7
YER	Yerkesik	2.07	197	*e*Pn	Pn	22 36 57.2	-0.7
MLSB	Milas	2.08	209	*e*PN	Pn	22 36 57.2	-0.7
MLSB	Milas	2.08	209	*e*Pn	Pn	22 36 57.2	-0.7
SILT	Sile	2.08	13	*e*PN	Pn	22 36 58.1	+0.3
SILT	Sile	2.08	13	*e*Pn	Pn	22 36 58.2	+0.3
RKY	Sarkoy-Tekirda	2.11	318	*e*PN	Pn	22 36 58.2	-0.2
RKY	Sarkoy-Tekirda	2.11	318	*e*Pn	Pn	22 36 58.2	-0.2
KLYT	Kilyos	2.12	0	*e*PN	Pn	22 36 59.1	+0.6
KLYT	Kilyos	2.12	0	*e*Pn	Pn	22 36 59.1	+0.6
MFT	Murefte	2.13	322	*e*PN	Pn	22 36 59.2	+0.5
MFT	Murefte	2.13	322	*e*Pn	Pn	22 36 59.2	+0.5
LPK	Lapseki	2.14	306	*e*PN	Pn	22 36 58.9	+0.1
LPK	Lapseki	2.14	306	*e*Pn	Pn	22 36 58.9	+0.1
CTKS	Kestanelik-??a	2.15	349	*e*PN	Pn	22 36 59.4	+0.6
CTKS	Kestanelik-??a	2.15	349	*e*Pn	Pn	22 36 59.4	+0.6
MDUB	Mudurnu	2.15	51	*e*PN	Pn	22 36 59.1	+0.1
MDUB	Mudurnu	2.15	51	*e*Pn	Pn	22 36 59.1	+0.1
TKR	Tekirdag	2.19	329	*e*PN	Pn	22 36 59.4	0.0
TKR	Tekirdag	2.19	329	*e*Pn	Pn	22 36 59.4	0.0
SLVT	Silivri	2.19	344	*e*PN	Pn	22 37 00.1	+0.6
SLVT	Silivri	2.19	344	*e*Pn	Pn	22 37 00.1	+0.6
KIZT	Kizilcal	2.24	95	*e*PN	Pn	22 37 00.1	-0.1
KIZT	Kizilcal	2.24	95	*e*Pn	Pn	22 37 00.1	-0.1
SUTC	Sutluce-Ispart	2.26	136	*e*PN	Pn	22 36 60.0	-0.6
SUTC	Sutluce-Ispart	2.26	136	*e*Pn	Pn	22 37 00.0	-0.6
DALY	Dalyan (Mu¨la	2.32	187	*e*PN	Pn	22 37 00.5	-0.8
DALY	Dalyan (Mu¨la	2.32	187	*e*Pn	Pn	22 37 00.5	-0.8
GELI	Tayfur-Gelibol	2.34	304	*e*PN	Pn	22 37 01.4	-0.1
GELI	Tayfur-Gelibol	2.34	304	*e*Pn	Pn	22 37 01.4	-0.1
KORT	Korkueli	2.37	153	*i* P	Pn	22 37 02.4	+0.4
KORT	Korkueli	2.37	153	*i* P	Pn	22 37 02.4	+0.4
BDRM	Kayabasi	2.41	212	*i* P	Pn	22 37 01.3	-1.1
BDRM	Kayabasi	2.41	212	*i* P	Pn	22 37 01.3	-1.1
CTYL	Yal??k??y-??at	2.41	347	*e*PN	Pn	22 37 03.4	+0.9
CTYL	Yal??k??y-??at	2.41	347	*e*Pn	Pn	22 37 03.4	+0.9
BODT	Bodrum	2.46	214	*e*PN	Pn	22 37 02.5	-0.7
BODT	Bodrum	2.46	214	*e*Pn	Pn	22 37 02.5	-0.7
ELL	Elmali	2.48	163	*e*PN	Pn	22 37 02.7	-0.8
ELL	Elmali	2.48	163	*e*Pn	Pn	22 37 02.7	-0.8
FETY	Fethiye	2.49	179	*e*PN	Pn	22 37 02.7	-0.8
FETY	Fethiye	2.49	179	*e*Pn	Pn	22 37 02.7	-0.8
DAT	Datca	2.65	206	*e*PN	Pn	22 37 05.1	-0.8
DAT	Datca	2.65	206	*e*Pn	Pn	22 37 05.1	-0.8
ENEZ	Enez	2.73	307	*e*PN	Pn	22 37 07.2	+0.3
ENEZ	Enez	2.73	307	*e*Pn	Pn	22 37 07.2	+0.3
KONT	Konya--Tatoy	2.87	113	*e*PN	Pn	22 37 09.0	+0.2
KONT	Konya--Tatoy	2.87	113	*e*Pn	Pn	22 37 09.0	+0.2
LOD	Lodumlu	2.99	74	*e*PN	Pn	22 37 11.2	+0.7
LOD	Lodumlu	2.99	74	*e*Pn	Pn	22 37 11.2	+0.7
ANTO	Ankara	3.01	75	*e*PN	Pn	22 37 10.8	0.0
ANTO	Ankara	3.01	75	*e*Pn	Pn	22 37 10.8	0.0
EDRB	Edirne	3.23	328	*e*PN	Pn	22 37 13.9	+0.2
EDRB	Edirne	3.23	328	*e*Pn	Pn	22 37 13.9	+0.2
HDMB	Hadim	3.48	127	*e*PN	Pn	22 37 17.1	-0.2
HDMB	Hadim	3.48	127	*e*Pn	Pn	22 37 17.2	-0.2

IDC 19 22:42:34.7±1.1, 34.97S×179.36W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/19, mbtmp4.2/6, ML3.9/1, MS3.7/3, Ms1 3.6/3, ms1mx3.0/27, Error ellipse: s-maj=31.4km s-min=27.3km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	4.34	220	Pn	Pn	22 43 42.4	+0.5
	6.6nm,0.3s,baz=34,slow=8.3,SNR=23						
URZ				Sn	Sn	22 44 33.5	+0.3
	17nm,0.3s,baz=184,slow=22,SNR=17						
URZ				LR	LR	22 45 39.1	
	comp=Z,145nm,19.5s,baz=180,slow=42						
STKA	Stephens Creek	32.59	264	LR	LR	23 00 37.6	
	comp=Z,114nm,21.4s,baz=204,slow=33						
PMG	Port Moresby	39.78	307	LR	LR	23 04 38.9	
	comp=Z,104nm,19.1s,baz=128,slow=33						
ASAR	Alice Springs	41.94	273	P	P	22 50 27.3	-0.1
	2.3nm,0.8s,baz=115,slow=7.5,SNR=24						
ASAR				LR	LR	23 06 41.0	
	comp=Z,97nm,21.2s,baz=185,slow=34						
WRA	Warramunga Arr	43.34	278	P	P	22 50 38.7	-0.1
	1.1nm,0.4s,baz=116,slow=7.7,SNR=41						
FITZ	Fitzroy Crossi	51.37	274	P	P	22 51 41.0	-0.3
	2.2nm,1.0s,baz=108,slow=6.4,SNR=2.4						
QSPA	South Pole Qui	55.15	180	P	P	22 52 08.7	0.0
	1.3nm,0.7s,baz=165,slow=1.0,SNR=3.6						
PETK	Petropavlovsk-	89.96	346	P	P	22 55 35.9	+0.6
	2.6nm,0.7s,baz=148,slow=8.5,SNR=5.5						
KDAK	Kodiak Island	95.11	14	LR	LR	23 32 23.1	
	comp=Z,1μm,18.7s,baz=12,slow=31						
ZALV	Zalesovo Beam	120.63	317	PKP	PKPdf	23 01 27.2	-0.6
	0.3nm,0.6s,baz=222,slow=1.9,SNR=2.7						
KURBB	Kurchatov Arra	123.34	312	PKP	PKPdf	23 01 32.5	-0.6
	0.7nm,0.7s,baz=104,slow=1.8,SNR=10.0						
FINES	FINESS Array B	148.96	336	PKPbc	PKPbc	23 02 23.1	-0.5
	3.7nm,0.8s,baz=46,slow=4.0,SNR=9.3						
TORD	Torodi Ar. Bea	158.25	183	PKPab	PKPab	23 03 07.8	-0.3
	0.2nm,0.6s,baz=184,slow=2.2,SNR=3.0						

MAN 19 22:48:27, 5.75N×125.44E, h34km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	0.59	305	*i* P	Pn	22 48 38.5	-0.7
GSPH				*e*S	Sn	22 48 46.5	-1.3
KCP	Kidapawan	1.30	345	*e*P	Pn	22 48 49.7	+0.8
KCP				*i* S	Sn	22 49 05.8	+0.7
MATI	Mati	1.44	34	*e*P	Pn	22 48 51.5	+0.7
MATI				*e*S	Sn	22 49 09.2	+0.7
BUKP	Musuan	2.15	350	*e*P	Pn	22 49 02.7	+2.1
PAGZ	Pagadian	2.92	316	*e*P	Pn	22 49 10.9	-0.1

*ISCJB **19** 22:57:44.6±0.4, 27.42N±0.05×140.12E±0.08, h350km, mb3.7/18, Error ellipse: s-maj=10.0km s-min=6.3km az=169.0*
*IDC **19** 22:57:45.5±0.5, 27.38N×140.39E, h358km±5km, mb3.4/17, mb1 3.5/21, mb1mx3.5/28, mbtmp3.3/21, Error ellipse: s-maj=14.2km s-min=9.5km az=66.0*
*JMA **19** 22:57:47.6±0.1, 27.67N×141.09E, h374km, M3.6*

ISC 19 22:57:45.2±0.6, 27.47N±0.07×140.4E±0.1, h350km, n36, σ1.55/47, mb3.8/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	1.68	102	P	Pn	22 58 36.4	+2.0
CBIJ	Chichi jima	1.68	102	P	Pn	22 58 36.5	+2.1
	66nm,0.3s,baz=59,slow=5.9,SNR=45						
CBIJ				S	S	22 59 14.9	+1.1
	43nm,0.3s,baz=284,slow=23,SNR=14						
JHHJ	Haha-jima-NKT	1.83	117	P	Pn	22 58 38.1	+2.7
JHHJ				S	S	22 59 17.7	+2.0
BSO1	Boso 1	7.18	4	P	Pn	22 59 31.5	+2.5
BSO1				*e*S	S	23 00 53.1	-0.5
BSO3	Boso 3	7.31	1	P	Pn	22 59 33.2	+2.4
BSO3				*e*S	S	23 00 54.8	-2.0
JIE	Ise	7.57	337	P	Pn	22 59 39.0	+4.8
JRY	Ryogami san	8.61	352	P	P	22 59 48.9	-0.2
JAG	Ashikaga	8.96	355	P	Pn	22 59 51.8	+1.2
JHO	Hitachi	9.12	1	P	P	22 59 54.3	-0.4
JHO				*e*S	S	23 01 33.4	-3.2
MJAR	Matsushiro Arr	9.22	349	P	Pn	22 59 55.7	+1.9
	0.5nm,0.3s,baz=156,slow=11,SNR=4.8						
MJAR				S	S	23 01 40.6	+1.5
	0.1nm,0.3s,baz=202,slow=22,SNR=3.8						
MAT	Matsushiro	9.23	349	P	P	22 59 56.3	+0.4
JNU	Nakatsue	9.93	307	P	Pn	23 00 05.1	+2.8
	0.5nm,0.3s,baz=98,slow=7.4,SNR=9.5						
KSRS	Korea Array	14.45	317	P	P	23 00 55.1	+1.5
	0.2nm,0.3s,baz=129,slow=10,SNR=5.4						
USRK	Ussuriysk Arra	18.00	340	P	P	23 01 33.7	+1.8
	0.7nm,0.3s,baz=159,slow=11,SNR=20						
SONM	Songino Array	33.32	317	P	P	23 03 52.1	+0.7
	2.2nm,0.8s,baz=128,slow=8.9,SNR=11						
SONM				PcP	PcP	23 06 23.7	-0.4
	0.5nm,0.4s,baz=124,slow=1.8,SNR=4.2						
CMAR	Chiang Mai Arr	39.02	266	P	P	23 04 38.5	-1.0
	0.9nm,0.4s,baz=56,slow=6.7,SNR=4.9						
WRA	Warramunga Arr	47.49	188	P	P	23 05 45.7	-0.7
	3.6nm,0.6s,baz=5.5,slow=7.7,SNR=54						
WRA				ScP	ScP	23 10 27.0	-3.3
	0.9nm,0.8s,baz=7.0,slow=4.4,SNR=11						
ZALV	Zalesovo Beam	48.14	319	P	P	23 05 50.8	-0.1
	0.4nm,0.4s,baz=101,slow=6.0,SNR=2.8						
ZALV				PcP	PcP	23 07 11.6	-0.6
	1.2nm,0.3s,baz=113,slow=3.6,SNR=7.2						
MKAR	Makanchi Array	48.98	309	P	P	23 05 57.5	0.0
	0.7nm,0.6s,baz=86,slow=9.0,SNR=8.0						
MKAR				PcP	PcP	23 07 15.1	-0.4
	1.0nm,0.8s,baz=90,slow=4.9,SNR=6.6						
MKAR				ScP	ScP	23 10 34.2	-2.2
	0.9nm,0.8s,baz=76,slow=5.1,SNR=7.7						
ASAR	Alice Springs	51.22	188	P	P	23 06 13.4	-0.8
	0.7nm,0.5s,baz=357,slow=5.1,SNR=14						
ASAR				ScP	ScP	23 10 43.2	-3.1
	0.5nm,0.8s,baz=3.4,slow=4.6,SNR=4.4						
KURBB	Kurchatov Arra	51.61	314	P	P	23 06 16.7	-0.1
	2.4nm,0.5s,baz=91,slow=8.3,SNR=32						
KURBB				PcP	PcP	23 07 24.3	-0.8
	0.2nm,0.6s,baz=99,slow=3.8,SNR=6.7						
BVAR	Borovoye Array	56.66	317	P	P	23 06 53.2	+0.3
	2.4nm,0.4s,baz=94,slow=7.2,SNR=26						
ILAR	Eielson Array	58.17	29	P	P	23 07 03.0	-0.1
	0.5nm,0.8s,baz=294,slow=6.8,SNR=4.1						
INK	Inuvik	63.37	25	P	P	23 07 36.6	-1.1
	1.2nm,0.5s,baz=289,slow=17,SNR=3.7						
YKA	Yellowknife Ar	72.58	28	P	P	23 08 34.9	+0.2
	0.9nm,0.7s,baz=295,slow=6.8,SNR=5.1						
ARCES	ARCESS Array B	72.65	340	P	P	23 08 35.6	+0.7
	3.8nm,0.6s,baz=65,slow=8.6,SNR=22						
KBZ	Khabaz	76.55	312	P	P	23 08 57.8	+0.2
	1.6nm,0.8s,baz=40,slow=4.3,SNR=3.8						
FINES	FINESS Array B	76.89	333	P	P	23 08 59.1	-0.1
	8.0nm,0.4s,baz=69,slow=5.0,SNR=142						
AKASG	Malin Array Be	81.34	323	P	P	23 09 22.9	-0.4
	0.8nm,0.4s,baz=44,slow=5.8,SNR=5.3						
NVAR	Mina Array Bea	81.56	51	P	P	23 09 26.1	+1.1
	0.3nm,0.6s,baz=297,slow=6.0,SNR=2.9						
NB2	NORSAR Subarra	82.65	338	P	P	23 09 29.1	-0.8
	comp=Z,3.7nm,0.7s,baz=47,slow=4.8						
NOA	NORSAR Array B	82.65	338	P	P	23 09 29.4	-0.6
	comp=Z,4.7nm,0.6s,baz=46,slow=5.0,SNR=17						
GERES	GERESS Array B	90.34	328	P	P	23 10 06.5	-0.9
	comp=Z,0.5nm,0.5s,baz=42,slow=6.1,SNR=6.5						
TORD	Torodi Ar. Bea	123.10	310	PKP	PKPdf	23 16 00.5	-0.8
	comp=Z,0.8nm,0.7s,baz=40,slow=1.1,SNR=18						
PLCA	Paso Flores	151.36	125	PKPbc	PKPbc	23 16 56.4	-1.6
	comp=Z,0.7nm,0.4s,baz=173,slow=8.9,SNR=3.1						
LPAZ	La Paz	151.40	73	PKPbc	PKPbc	23 16 59.0	-0.4
	comp=Z,0.9nm,0.7s,baz=172,slow=2.5,SNR=4.8						

*CSEM **19** 23:02:38.5, 37.87N×21.36E, h5km, MD2.5, After ATH*

ATH 19 23:02:38.5, 37.87N×21.36E, h5km±2km, MD2.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.21	24	*e*PG	Pg	23 02 43.1	+0.5
RLS				*e*SG	Sg	23 02 45.6	+0.3
RLS	Riolos of Patr	0.21	24	*e*Pg	Pg	23 02 43.1	+0.5
RLS				*e*Sg	Sg	23 02 45.6	+0.3
LAKA	Lakka	0.61	53	*e*PB	Pg	23 02 50.5	+0.1
LAKA	Lakka	0.61	53	*e*Pb	Pg	23 02 50.5	+0.1
KLV	Kalavryta, Ach	0.65	74	*e*PB	Pg	23 02 51.5	+0.4
KLV	Kalavryta, Ach	0.65	74	*e*Pb	Pg	23 02 51.5	+0.4
VLS	Valsamata	0.68	297	*e*PB	Pg	23 02 51.6	-0.1
VLS				*e*SB	Sb	23 03 02.1	-0.6
VLS	Valsamata	0.68	297	*e*Pb	Pg	23 02 51.6	-0.1
VLS				*e*Sb	Sb	23 03 02.1	-0.6
EFP	Efpalio	0.70	38	*e*PG	Pg	23 02 51.9	-0.1
EFP				*e*SB	Sb	23 03 02.3	-1.0
EFP	Efpalio	0.70	38	*e*Pg	Pg	23 02 51.9	-0.1
EFP				*e*Sb	Sb	23 03 02.3	-1.0

*IDC **19** 23:06:35.6±1.0, 23.37N×123.50E, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/28, Error ellipse: s-maj=42.7km s-min=17.9km az=69.0*
*JMA **19** 23:06:39.1±0.4, 23.41N×123.67E, h45km, M3.2*

ISC 19 23:06:37.1±3.9, 23.41N±0.07×123.75E±0.07, h13km±25km, n23, σ0.98/28, mb3.5/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.65	5	P	Pn	23 06 52.0	0.0
HATJ				S	Sn	23 07 01.5	-0.7
JKRS	Kuro-shima	0.86	16	P	Pn	23 06 55.7	+0.7
JKRS				S	Sn	23 07 07.6	+0.2
IRIF	Iriomote-Funau	0.92	359	P	Pn	23 06 55.9	+0.1
IRIF				S	Sn	23 07 08.1	-0.8
JIJ	Ishigaki jima	1.02	21	P	Pn	23 06 57.3	+0.2
JIJ				S	Sb	23 07 09.1	-0.8
YOJ	Yonaguni jima	1.25	327	P	Pn	23 06 59.9	-0.4
YOJ				S	Sb	23 07 15.5	-1.0
JTJ	Tarama	1.51	35	P	Pb	23 07 04.7	-0.3
JTJ				S	Sb	23 07 23.9	-0.1
JMJ	Miyako jima 2	1.99	45	P	Pn	23 07 11.4	+0.9
JKE	Kume jima 2	4.01	43	P

CERAA **Semis' Rag'd T** 4.21 277 P Pn 23 22 31.5 -0.1
CEAP **Semis' Anvil P** 4.28 278 P Pn 23 22 32.7 +0.2
CESW **Semis' Southwe** 4.28 277 P Pn 23 22 32.1 -0.5
CETU **Semis' Tuman** 4.33 278 P Pn 23 22 33.3 +0.1
AMKA **Amchitka** 4.46 270 P Pn 23 22 34.1 -1.0
UNV **Unalaska Valle** 4.85 59 P Pn 23 22 38.9 -1.5
UNV S Sn 23 23 35.1 -0.2
LSSE **Little Sitkin** 4.90 277 P Pn 23 22 41.2 +0.1
LSNW **Little Sitkin** 4.93 278 P Pn 23 22 41.2 -0.3
LSSA **Little Sitkin** 4.93 277 P Pn 23 22 41.3 -0.2
ZRO **Akutan Zero** 5.24 58 P Pn 23 22 46.5 +0.7
LVA **Lava Point** 5.24 58 P Pn 23 22 46.1 +0.3
AKGG **Akutan Green G** 5.28 57 P Pn 23 22 45.8 -0.4
AKUT **Akutan** 5.37 59 *e*Pn Pn 23 22 47.6 +0.1
SPIA **Saint Paul Isl** 5.93 18 P Pn 23 22 56.5 +1.4
FALS **False Pass** 6.92 58 *e*Pn Pn 23 23 09.9 +1.2
FALS Sn Sn 23 24 26.5 +0.6
FX1 **Attu Island--F** 8.25 284 *e*Pn Pn 23 23 29.2 +2.3
FX1 Sn Sn 23 24 58.1 -0.7
FX1 **Attu Island--F** 8.25 284 P Pn 23 23 28.6 +1.7
5.2nm,0.3s,baz=129,slow=13,SNR=48
SDPT **Sand Point** 8.67 59 *e*Pn Pn 23 23 32.2 -0.4
CHGN **Chignik** 10.10 56 *e*Pn Pn 23 23 52.0 -0.2
CHGN *e*Sn Sn 23 25 42.3 -1.6
OHAK **Old Harbor** 13.06 57 *e*Pn Pn 23 24 30.2 -2.5
KDAK **Kodiak Island** 13.60 55 *e*Pn Pn 23 24 37.5 -2.5
KDAK **Kodiak Island** 13.60 55 P Pn 23 24 36.5 -3.5
1.4nm,0.3s,baz=265,slow=9.9,SNR=11
RSO **Redoubt South** 14.58 44 *e*Pn Pn 23 24 53.2 -0.2
SPU **Mount Spurr** 15.23 43 *e*P P 23 25 05.6 -0.5
PPLA **Purkeypile** 16.09 37 *e*Pn Pn 23 25 12.6 -0.3
87nm,1.5s
PET **Petropavlovsk** 17.01 286 *e*P P 23 25 26.6 +0.9
PET *e*S Sn 23 28 35.6 +3.3
PET pmax pmax
comp=Z,35nm,0.6s
PET pmax pmax
comp=Z,100nm,5.3s
PET smax smax
comp=N,100nm,19.4s
SML **Sawmill** 17.10 44 *e*P Pn 23 25 24.6 -0.9
SML pmax pmax
comp=Z,5.0nm,0.8s
SML **Sawmill** 17.10 44 *e*Pn Pn 23 25 24.6 -0.9
comp=Z,5.1nm,0.8s
TRF **Thorofare Moun** 17.12 37 *e*Pn Pn 23 25 26.1 +0.3
comp=Z,34nm,1.0s
TRF *e*S S 23 28 43.8 +0.9
IM04 **Indian Mountai** 17.57 27 *e*Pn Pn 23 25 31.5 +0.3
PEA0B **Petropavlovsk-** 17.57 286 *e*Pn Pn 23 25 31.6 +0.2
PETK **Petropavlovsk-** 17.57 286 P Pn 23 25 31.2 -0.2
PETK **Petropavlovsk-** 17.57 286 P Pn 23 25 31.1 -0.2
PETK **Petropavlovsk-** 17.57 286 P Pn 23 25 31.2 -0.2
comp=Z,2.1nm,0.3s,baz=94,slow=14,SNR=16
PETK LR LR 23 31 57.9
comp=Z,162nm,20.6s,baz=291,slow=36
IMA2 **Indian Mountai** 17.66 27 *e*Pn Pn 23 25 32.3 -0.2
MCK **McKinley** 17.78 37 *e*P Pn 23 25 33.1 -0.8
MCK pmax pmax
comp=Z,38nm,1.0s
MCK **McKinley** 17.78 37 *e*Pn Pn 23 25 33.1 -0.8
comp=Z,38nm,1.0s
DIV **Divide** 17.98 47 *e*Pn Pn 23 25 35.3 -1.1
comp=Z,21nm,0.5s
RAGM **Ragged Mountai** 18.27 50 *e*Pn Pn 23 25 40.1 +0.2
comp=Z,41nm,0.6s
BMRM **Bremner River** 18.47 48 *e*P P 23 25 40.7 -1.1
comp=Z,21nm,0.6s
COLA **College** 18.79 35 *e*P P 23 25 45.5 +0.2
COLA pmax pmax
comp=Z,48nm,0.5s
COLA **College** 18.79 35 *e*P P 23 25 45.5 +0.2
comp=Z,48nm,0.5s
PAX **Paxson** 18.80 42 *e*P P 23 25 44.6 -0.9
PAX pmax pmax
comp=Z,12nm,0.9s
PAX **Paxson** 18.80 42 *e*P P 23 25 44.6 -0.9
comp=Z,12nm,0.9s
SKR **Severo-Kuril's** 18.99 279 *e*P P 23 25 41.5 -6.0
SKR pmax pmax
comp=Z,60nm,0.8s
SKR MLR MLR
comp=E,1µm,22.0s
SKR MLR MLR
comp=Z,1µm,22.0s
ILAR **Eielson Array** 19.09 36 P P 23 25 46.7 -1.8
ILAR **Eielson Array** 19.09 36 P P 23 25 46.7 -1.8
comp=Z,7.0nm,0.3s,baz=235,slow=8.9,SNR=136
ILAR LR LR 23 33 52.9
comp=Z,478nm,18.2s,baz=67,slow=39
COLD **Coldfoot** 19.47 28 *e*P P 23 25 52.7 0.0
comp=Z,20nm,0.9s
MENT **Mentasta** 19.53 43 *e*P P 23 25 53.6 +0.3
EGAK **Eagle** 21.28 39 *e*P P 23 26 11.4 -0.8
comp=Z,151nm,0.6s
SEY **Seymchan** 21.34 315 ⇓*i*P P 23 26 14.1 +1.2
DAWY **Dawson** 21.74 42 *e*P P 23 26 16.0 -1.3
HYT **Haines Junctio** 21.82 51 *e*P P 23 26 18.0 -0.2
SIT **Sitka** 22.74 61 *e*P P 23 26 27.7 -0.2
SIT *e* 23 30 18.7
SIT pmax pmax
comp=Z,47nm,1.1s
SIT **Sitka** 22.74 61 *e*P P 23 26 27.7 -0.2
comp=Z,47nm,1.1s
SIT *e*PcP PcP 23 30 18.7 +0.6
SKAG **Skagway** 22.75 55 *e*P P 23 26 28.5 +0.5
comp=Z,26nm,0.7s
CRAG **Craig** 24.10 65 *e*P P 23 26 41.5 +0.4
comp=Z,40nm,1.0s
WRAK **Wrangell Islan** 24.42 62 *e*P P 23 26 46.1 +2.2
comp=Z,46nm,1.1s
WRAK *e*S S 23 30 59.0 -1.5
INK **Inuvik** 25.44 34 *e*P P 23 26 52.3 -0.7
comp=Z,39nm,1.0s
INK *e*PcP PcP 23 30 23.6 -0.1
INK **Inuvik** 25.44 34 P P 23 26 52.6 -0.4
comp=Z,30nm,0.9s,baz=238,slow=9.4,SNR=57
INK LR LR 23 38 02.2
comp=Z,348nm,18.7s,baz=355,slow=39
DLBC **Dease Lake** 25.50 57 *e*P P 23 26 55.6 +1.7
DLBC *e*S S 23 31 07.0 -11
DLBC **Dease Lake** 25.50 57 P P 23 26 55.0 +1.2
comp=Z,38nm,0.8s,baz=276,slow=9.9,SNR=66
DLBC LR LR 23 36 34.5
comp=Z,273nm,20.3s,baz=295,slow=36
BBB **Bella Bella** 27.71 71 P P 23 27 14.4 +0.7
BBB **Bella Bella** 27.71 71 P P 23 27 14.4 +0.7
comp=Z,18nm,0.9s,baz=253,slow=8.2,SNR=4.4
BBB LR LR 23 37 11.5
comp=Z,140nm,18.7s,baz=279,slow=34
YUK **Yuzh-Kuril'sk** 27.98 270 *d*iP P 23 27 05.6 -11
YUK pmax pmax
comp=N,38nm,0.3s
YUK pmax pmax
comp=E,45nm,0.5s
YUK MLR MLR
comp=N,251nm,19.0s
YSS **Yuzh-Sakhalins** 28.55 278 ⇑*e*P P 23 27 23.0 +1.8
YSS *e* 23 27 36.0
YSS pmax pmax
comp=Z,30nm,0.9s
ASAJ **Asahikawa** 29.97 273 *e*P P 23 27 32.9 -0.9
comp=Z,17nm,1.0s
ASAJ **Asahikawa** 29.97 273 P P 23 27 34.6 +0.7
comp=Z,31nm,0.9s,baz=36,slow=4.7,SNR=13
ASAJ LR LR 23 40 06.3
comp=Z,157nm,19.6s,baz=4.3,slow=37
ERM **Erimo** 30.73 269 *e*P P 23 27 41.7 +1.2
ERM pmax pmax
comp=Z,6.0nm,0.5s
TIXI **Tiksi** 32.09 330 *e*P P 23 27 51.8 -0.4
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI MLR MLR
comp=Z,317nm,21.0s
HABR **Khabarovsk** 32.60 285 *e*P P 23 27 56.0 -0.9
HABR *e**PP pP 23 28 08.8 -0.1
HABR S S 23 33 09.1 -0.2
HABR SS SnSn 23 35 07.8 +1.4
HABR pmax pmax
comp=E,33nm,1.5s
HABR pmax pmax
comp=Z,35nm,0.9s
HABR pmax pmax
comp=N,26nm,2.2s

YKW3 **Yellowknife Ar** 32.68 47 *e*P P 23 27 56.9 -0.6
comp=N,0.3nm,1.0s
YKA **Yellowknife Ar** 32.70 47 P P 23 27 57.5 -0.1
YKA PcP PcP 23 30 41.8 -0.4
YKA pPcP 23 30 56.4
YKA **Yellowknife Ar** 32.70 47 P P 23 27 57.5 -0.1
comp=N,5.0nm,0.5s,baz=274,slow=7.9,SNR=49
YKA PcP PcP 23 30 41.8 -0.4
comp=N,2.7nm,0.8s,baz=286,slow=2.9,SNR=9.1
YKA pPcP 23 30 56.4
comp=N,2.3nm,0.7s,baz=290,slow=2.7,SNR=7.2
KLR **Kul'dur** 34.25 288 *e*P P 23 28 05.8 -5.5
KHMM **Horse Mountain** 35.45 88 *e*P P 23 28 23.0 +1.0
KHMM *e*pP pP 23 28 38.6 +4.6
YBH **Yreka Blue Hor** 35.60 86 *e*P P 23 28 24.0 +0.8
comp=N,13nm,1.0s
NEW **Newport** 35.72 73 *e*P P 23 28 25.1 +1.0
comp=N,19nm,0.9s
NEW **Newport** 35.72 73 ⇓P P 23 28 24.3 +0.2
baz=36,SNR=9.3
EDM **Edmonton** 35.83 63 *e*P P 23 28 25.9 +1.0
EDM **Edmonton** 35.83 63 *e*P P 23 28 25.9 +1.0
KCPM **Cahto Peak** 36.23 89 *e*P P 23 28 29.4 +0.8
comp=N,13nm,0.8s
WDC **Whiskeytown Da** 36.36 87 *e*P P 23 28 30.1 +0.5
WDC pmax pmax
comp=Z,12nm,0.8s
WDC **Whiskeytown Da** 36.36 87 *e*P P 23 28 30.1 +0.5
comp=Z,12nm,0.8s
USRK **Ussuriysk Arra** 36.50 280 P P 23 28 30.2 -0.4
comp=Z,22nm,0.6s,baz=51,slow=9.3,SNR=51
MAT **Matsushiro** 37.06 265 P P 23 28 35.1 -0.5
MAT S S 23 34 22.6 +4.4
MJAR **Matsushiro Arr** 37.06 265 P P 23 28 35.5 0.0
MJAR PcP PcP 23 30 54.7 -0.7
MJAR **Matsushiro Arr** 37.06 265 P P 23 28 35.5 0.0
comp=Z,1.7nm,0.4s,baz=50,slow=7.7,SNR=14
MJAR PcP PcP 23 30 54.7 -0.7
comp=Z,1.3nm,0.6s,baz=39,slow=1.7,SNR=4.4
MJAR LR LR 23 42 07.0
comp=Z,157nm,21.7s,baz=75,slow=33
WALA **Waterton Lakes** 37.25 70 *e*P P 23 28 37.3 +0.1
BMO **Blue Mountains** 37.27 78 *e*P P 23 28 37.7 +0.4
BSMT **Bassoo Peak** 37.30 72 *e*P P 23 28 38.8 +1.1
BLMT **Blacktail Moun** 37.48 71 *e*P P 23 28 40.3 +1.1
JTMT **Jette** 37.65 72 *e*P P 23 28 40.6 0.0
WVOR **Wild Horse Val** 37.74 82 *e*P P 23 28 42.0 +0.6
WVOR pmax pmax
comp=Z,10.0nm,0.7s
WVOR **Wild Horse Val** 37.74 82 *e*P P 23 28 42.0 +0.6
comp=Z,9.8nm,0.7s
MDJ **Mudanjiang** 37.75 282 P P 23 28 40.6 -0.7
MDJ pP pP 23 28 51.6 -1.8
MDJ sP sP 23 28 56.8 -1.9
MDJ PP PP 23 30 07.0 -0.8
MDJ S S 23 34 27.1 -1.3
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,41nm,3.9s
MDJ LR LR
comp=N,140nm,35.0s
MDJ LR LR
comp=E,74nm,35.0s
MDJ LR LR
comp=Z,250nm,21.0s
OHCM **Honcut** 37.75 88 *e*P P 23 28 41.9 +0.6
SWMT **Swartz Lake** 37.93 72 *e*P P 23 28 42.8 -0.1
BEKR **Beckworth** 38.13 86 *e*P P 23 28 45.1 +0.3
comp=Z,4.7nm,0.9s
BEKR *e*pP pP 23 28 57.7 +0.8
MSO **Missoula** 38.30 73 *e*P P 23 28 47.2 +1.2
comp=Z,12nm,1.0s
MSO **Missoula** 38.30 73 ⇑P P 23 28 46.7 +0.7
baz=38
CHMT **Chamberlain Mo** 38.67 72 *e*P P 23 28 49.7 +0.4
CHMT *e*pP pP 23 28 58.4 -3.0
PAHR **Pah Rah Range** 38.84 86 *e*P P 23 28 51.8 +1.1
CMB **Columbia Colle** 39.22 89 *e*P P 23 28 54.7 +0.9
CMB pmax pmax
comp=Z,7.0nm,0.7s
CMB **Columbia Colle** 39.22 89 *e*P P 23 28 54.7 +0.9
comp=Z,6.8nm,0.7s
B17A **L&G Farms, Che** 39.43 69 ⇓P P 23 28 55.6 +0.1
baz=39,SNR=12
WAKR **Walker** 39.52 88 *e*P P 23 28 57.5 +1.0
HRY **Holter Researc** 39.61 72 *e*P P 23 28 57.9 +0.9
A18A **Metzger Ranch,** 39.68 68 ⇓P P 23 28 57.5 0.0
baz=40
LRM **Limekiln Ridge** 39.70 73 *e*P P 23 28 57.7 -0.3
C17A **Wharram Farm,** 39.78 70 ⇓P P 23 28 58.2 -0.2
baz=40,SNR=5.7
B18A **Beardsley Farm** 39.98 69 ⇑P P 23 29 00.3 +0.3
baz=40,SNR=8.5
MCMT **McKenzie Canyo** 39.98 75 *e*P P 23 29 01.0 +0.7
D17A **Six Diamond Ra** 40.06 71 ⇑P P 23 29 01.2 +0.3
baz=40
EGMT **Eagleton** 40.17 69 *e*P P 23 29 02.3 +0.7
comp=Z,42nm,0.8s
EGMT **Eagleton** 40.17 69 ⇑P P 23 29 01.8 +0.2
baz=40,SNR=13
NVAR **Mina Array Bea** 40.27 87 P P 23 29 03.1 +0.4
NVAR ScP ScP 23 34 51.5 +0.6
NVAR **Mina Array Bea** 40.27 87 P P 23 29 03.1 +0.4
comp=Z,4.7nm,0.9s,baz=293,slow=8.5,SNR=28
NVAR ScP ScP 23 34 51.5 +0.6
comp=Z,0.8nm,0.8s,baz=272,slow=3.2,SNR=4.1
NVAR LR LR 23 44 21.8
comp=Z,112nm,18.5s,baz=297,slow=34
BOZ **Bozeman (W)** 40.28 73 *e*P P 23 29 03.1 +0.5
BOZ **Bozeman (W)** 40.28 73 *e*P P 23 29 03.1 +0.5
A19A **Klindworth Far** 40.31 67 ⇑P P 23 29 03.1 +0.4
baz=40
E17A **Martinsdale** 40.32 72 ⇑P P 23 29 03.3 +0.4
baz=40,SNR=6.0
NV11 **Mina Array Sit** 40.36 87 *e*P P 23 29 03.9 +0.5
NV11 *e*pP pP 23 29 16.8 +1.2
B19A **Brinkman Farms** 40.43 68 ⇓P P 23 29 04.1 +0.4
baz=40,SNR=8.6
D18A **Linhart Farms,** 40.56 70 ⇓P P 23 29 05.6 +0.8
baz=40,SNR=8.7
F17A **Fitzpatrick Pl** 40.72 72 ⇓P P 23 29 06.8 +0.5
baz=41,SNR=7.0
C19A **Slack Wire Ran** 40.73 69 ⇑P P 23 29 06.7 +0.5
baz=41,SNR=19
MTUM **Tungsten Hills** 40.77 88 *e*P P 23 29 08.1 +1.3
A20A **Cobblestone Ra** 40.81 67 ⇑P P 23 29 06.8 0.0
baz=41
E18A **Harlowton** 40.82 71 ⇑P P 23 29 07.2 +0.1
baz=41
B20A **Solberg Farm,** 40.97 68 ⇑P P 23 29 08.3 +0.2
baz=41
G17A **Pierce Place,** 40.98 73 ⇑P P 23 29 09.0 +0.6
baz=41
H16A **Russell Place,** 41.01 74 ⇓P P 23 29 08.7 -0.1
baz=41
D19A **Cripps Ranch,** 41.12 70 ⇓P P 23 29 10.1 +0.7
baz=41,SNR=9.7
CBIJ **Chichi jima** 41.20 251 P P 23 29 10.2 0.0
CBIJ **Chichi jima** 41.20 251 P P 23 29 10.2 0.0
comp=Z,57nm,0.6s,baz=30,slow=20,SNR=5.2
HIA **Hailar** 41.22 294 *e*P P 23 29 08.9 -1.2
comp=Z,28nm,0.8s
F18A **Big Timber** 41.28 72 ⇑P P 23 29 11.2 +0.4
baz=41
A21A **Bergtoll Ranch** 41.33 66 ⇑P P 23 29 11.0 0.0
baz=41
FFC **Flin Flon** 41.33 56 *e*P P 23 29 10.8 -0.2
FFC pmax pmax
comp=Z,54nm,0.7s
FFC **Flin Flon** 41.33 56 *e*P P 23 29 10.8 -0.2
comp=Z,54nm,0.7s
C20A **Veseth Ranch,** 41.35 69 ⇓P P 23 29 11.9 +0.6
baz=41,SNR=10
GCMT **Greycliff** 41.37 72 *e*P P 23 29 11.5 -0.1
E19A **Rath Farm, Rou** 41.54 71 ⇑P P 23 29 13.4 +0.5
baz=41,SNR=6.1
PKM **Peak Mountain** 41.55 92 ⇑P P 23 29 14.3 +1.1
baz=42
H17A **Grant Village** 41.58 74 ⇓P P 23 29 14.1 +0.7
baz=41
D20A **Manuel Ranch,** 41.59 69 ⇑P P 23 29 13.6 +0.3
baz=41,SNR=5.8
IMW **Indian Meadow** 41.64 75 *e*P P 23 29 15.6 +1.7
comp=Z,11nm,0.8s
FLWY **Flagg Ranch** 41.68 75 *e*P P 23 29 14.0 -0.2

RRI2 **Red Ridge** 41.71 76 *e*P P 23 29 17.5 +2.9
comp=Z,14nm,0.8s
HVU **Hansel Valley** 41.71 79 *e*P P 23 29 15.3 +0.8
HVU pmax pmax
comp=Z,6.0nm,0.6s
HVU **Hansel Valley** 41.71 79 *e*P P 23 29 15.3 +0.8
comp=Z,6.2nm,0.6s
F19A **Roth Farm, Mol** 41.77 71 ⇓P P 23 29 15.6 +0.8
baz=42
C21A **Desert Coulee** 41.82 68 ⇑P P 23 29 15.9 +0.8
baz=42
ISA **Isabella** 41.90 90 *e*P P 23 29 16.0 +0.1
ISA pmax pmax
comp=Z,12nm,0.8s
ISA **Isabella** 41.90 90 *e*P P 23 29 16.0 +0.1
comp=Z,12nm,0.8s
ISA **Isabella** 41.90 90 ⇓P P 23 29 16.0 +0.1
baz=42
A22A **Carney Farms,** 41.90 66 ⇓P P 23 29 16.1 +0.3
baz=42,SNR=6.1
E20A **Meyer Farm, Mu** 41.90 70 ⇑P P 23 29 16.2 +0.4
baz=42
H18A **Shoshone NF, C** 41.98 73 ⇑P P 23 29 17.1 +0.5
baz=42
LOHW **Long Hollow** 42.00 75 *e*P P 23 29 18.3 +1.5
LOHW *e*pP pP 23 29 27.1 -2.0
R11A **Troy Canyon, C** 42.01 85 *e*P P 23 29 17.4 +0.5
R11A **Troy Canyon, C** 42.01 85 ⇓P P 23 29 17.1 +0.2
baz=42,SNR=9.3
BGU **Big Grassy Mou** 42.05 80 *e*P P 23 29 18.3 +1.0
comp=Z,5.9nm,0.9s
SPUT **South Promonto** 42.19 79 *e*P P 23 29 18.3 0.0
comp=Z,12nm,0.9s
B22A **Reddig Ranch S** 42.21 67 ⇓P P 23 29 18.5 +0.2
baz=42,SNR=6.6
MPMC **Manual Prospec** 42.26 89 ⇓P P 23 29 19.0 0.0
baz=42,SNR=5.2
F20A **Billings** 42.27 71 ⇑P P 23 29 19.0 +0.2
baz=42
D21A **La Casta Ranch** 42.27 69 ⇓P P 23 29 19.2 +0.4
baz=42
FURC **Furnace Creek,** 42.39 88 ⇓P P 23 29 20.5 +0.7
baz=42,SNR=5.9
LRMC **Laurel Mountai** 42.51 90 ⇑P P 23 29 21.4 +0.4
baz=42
A23A **Redstone** 42.51 65 ⇑P P 23 29 21.2 +0.5
baz=42,SNR=7.6
G20A **Bridger** 42.54 72 ⇓P P 23 29 21.3 +0.2
baz=42,SNR=11
HWUT **Hardware Ranch** 42.55 78 *e*P P 23 29 21.9 +0.5
comp=Z,4.0nm,0.8s
C22A **Vida** 42.56 67 ⇓P P 23 29 20.7 -0.4
baz=42
DUG **Dugway** 42.62 81 *e*P P 23 29 22.3 +0.5
DUG pmax pmax
comp=Z,13nm,0.9s
DUG **Dugway** 42.62 81 *e*P P 23 29 22.3 +0.5
comp=Z,13nm,0.9s
DUG **Dugway** 42.62 81 ⇓P P 23 29 22.6 +0.7
baz=42
B23A **Brockton** 42.70 66 ⇑P P 23 29 22.5 +0.3
baz=42,SNR=9.1
D22A **Cohagen** 42.70 68 ⇓P P 23 29 22.9 +0.6
baz=42,SNR=6.0
EDW2 **Edwards Air Fo** 42.70 91 ⇓P P 23 29 23.4 +0.9
baz=43
I19A **Meeteetse** 42.73 74 ⇑P P 23 29 23.5 +0.7
baz=43
F21A **Absaloka Mine,** 42.86 70 ⇑P P 23 29 23.8 +0.2
baz=43,SNR=6.7
KSRS **Korea Array** 42.90 274 P P 23 29 24.4 +0.6
comp=Z,23nm,1.0s,baz=56,slow=7.2,SNR=29
KSRS LR LR 23 47 01.0
comp=Z,86nm,19.3s,baz=237,slow=36
KSAR **Wonju Array Be** 42.93 274 P P 23 29 24.4 +0.3
C23A **Lambert** 42.93 67 ⇓P P 23 29 24.6 +0.5
baz=43,SNR=11
SNY **Shenyang** 42.95 283 ⇓P P 23 29 25.4 +1.1
SNY S S 23 35 45.1 -0.9
SNY pmax pmax
comp=Z,42nm,1.2s
SNY pmax pmax
comp=Z,190nm,3.5s
SNY LR LR
comp=N,240nm,16.1s
SNY LR LR
comp=E,310nm,24.1s
SNY LR LR
comp=Z,210nm,20.0s
A24A **Westby** 43.02 65 ⇓P P 23 29 25.1 +0.2
baz=43,SNR=12
MWC **Mount Wilson** 43.09 91 *e*P P 23 29 26.9 +1.2
MWC **Mount Wilson** 43.09 91 *e*P P 23 29 26.9 +1.2
BW06 **Boulder Array** 43.11 76 *e*P P 23 29 25.8 0.0
comp=Z,22nm,0.8s
PDAR **Pinedale Array** 43.11 76 P P 23 29 25.8 -0.1
PDAR PcP PcP 23 31 14.3 -0.6
PDAR **Pinedale Array** 43.11 76 P P 23 29 25.8 -0.1
comp=Z,7.1nm,0.5s,baz=305,slow=3.9,SNR=45
PDAR PcP PcP 23 31 14.3 -0.6
comp=Z,1.8nm,0.8s,baz=305,slow=3.2,SNR=2.3
PDAR LR LR 23 44 22.9
comp=Z,83nm,18.8s,baz=78,slow=32
J19A **Crowheart** 43.13 75 ⇑P P 23 29 25.9 -0.1
baz=43
G21A **Lodge Grass** 43.13 71 ⇑P P 23 29 26.1 +0.2
baz=43
DGMT **Dagmar** 43.15 66 ⇓P P 23 29 26.2 +0.3
baz=43
GSC **Goldstone** 43.17 89 *e*P P 23 29 26.9 +0.7
GSC pmax pmax
comp=Z,39nm,0.9s
GSC **Goldstone** 43.17 89 *e*P P 23 29 26.9 +0.7
comp=Z,39nm,0.9s
GSC **Goldstone** 43.17 89 ⇓P P 23 29 26.6 +0.3
baz=43,SNR=8.9
M17A **Scullys Gap (B** 43.18 78 ⇓P P 23 29 26.6 +0.2
baz=43
JLU **Jordanelle** 43.21 79 *e*P P 23 29 27.1 +0.4
E22A **Miles City** 43.21 69 ⇑P P 23 29 27.4 +1.0
baz=43
NLU **North Lily Min** 43.22 81 *e*P P 23 29 27.3 +0.6
comp=Z,14nm,1.0s
D23A **Lindsay** 43.25 68 ⇑P P 23 29 27.7 +0.9
baz=43
I20A **Worland** 43.30 73 ⇓P P 23 29 27.4 +0.2
baz=43
BFSC **Mount Baldy Ra** 43.33 91 ⇑P P 23 29 28.1 +0.5
baz=43
F22A **Rosebud** 43.39 70 ⇓P P 23 29 28.3 +0.4
baz=43
FCC **Fort Churchill** 43.42 48 *e*P P 23 29 28.4 +0.6
FCC pmax pmax
comp=Z,1.0nm,0.6s
FCC **Fort Churchill** 43.42 48 *e*P P 23 29 28.4 +0.6
comp=Z,0.7nm,0.6s
SHPR **Sheep Range** 43.43 87 *e*P P 23 29 27.5 -0.9
DAU **Daniels Canyon** 43.45 79 *e*P P 23 29 30.3 +1.6
DAU **Daniels Canyon** 43.45 79 *e*P P 23 29 30.3 +1.6
MPU **Maple Canyon** 43.45 80 *e*P P 23 29 28.2 -0.4
K19A **Absolon Red Bu** 43.50 75 ⇑P P 23 29 28.6 -0.4
baz=43,SNR=8.9
C24A **Savage** 43.51 67 ⇑P P 23 29 29.5 +0.7
baz=43,SNR=6.7
A25A **Svangstu Ranch** 43.52 64 ⇓P P 23 29 29.0 +0.2
baz=43,SNR=12
E23A **Ismay** 43.56 69 ⇓P P 23 29 29.8 +0.6
baz=43
H21A **Big Horn, Sher** 43.56 72 ⇓P P 23 29 29.9 +0.5
baz=43
SCI **San Clemente I** 43.61 93 ⇓P P 23 29 30.8 +1.1
baz=44
L19A **Farson** 43.61 76 ⇓P P 23 29 30.8 +0.9
baz=44
G22A **Birney** 43.68 71 ⇓P P 23 29 30.6 +0.3
baz=44
ARUT **Antelope Range** 43.69 84 *e*P P 23 29 31.0 +0.4
ARUT *e**PP pP 23 29 44.0 +1.1
ARUT pmax pmax
comp=Z,9.0nm,0.8s
ARUT **Antelope Range** 43.69 84 *e*P P 23 29 31.0 +0.4
comp=Z,9.1nm,0.8s
ARUT *e*pP pP 23 29 44.0 +1.1
HEC **Hector,Ludlow** 43.77 89 ⇓P P 23 29 31.3 +0.2
baz=44,SNR=6.4
D24A **Glendive** 43.79 67 ⇓P P 23 29 31.8 +0.7
baz=44,SNR=11

B25A	Knox Farm, Ray	43.84	65	⇓P	P	23 29 32.1	+0.7
	baz=44						
JNU	Nakatsue	43.85	267	eP	P	23 29 32.2	+0.5
	comp=Z,14nm,1.1s						
I21A	Big Trails, Te	43.87	73	⇑P	P	23 29 32.6	+0.7
	baz=44						
CCUT	Cedar City	43.89	84	eP	P	23 29 32.9	+0.7
	comp=Z,6.0nm,0.7s						
F23A	Volborg	43.92	70	⇑P	P	23 29 32.1	0.0
	baz=44,SNR=8.7						
TJN	Taejon	43.92	274	eP	P	23 29 33.5	+1.3
H22A	Clearmont	43.99	72	⇓P	P	23 29 33.1	+0.3
	baz=44						
MSU	Marysvale	44.03	82	eP	P	23 29 33.9	+0.6
MSU	Marysvale	44.03	82	eP	P	23 29 33.9	+0.6
J21A	Lysite	44.05	74	⇑P	P	23 29 33.6	+0.3
	baz=44						
C25A	Freed Ranch, W	44.08	66	⇓P	P	23 29 33.9	+0.5
	baz=44						
E24A	Baker	44.10	68	⇓P	P	23 29 34.1	+0.5
	baz=44,SNR=7.3						
A26A	Wade Farm, Ken	44.14	64	⇑P	P	23 29 34.1	+0.3
	baz=44						
TMUT	Trail Mountain	44.15	81	eP	P	23 29 34.9	+0.6
	comp=Z,16nm,0.8s						
G23A	Biddle	44.22	70	⇑P	P	23 29 35.1	+0.5
	baz=44						
GMRC	Granite Mounta	44.22	89	⇓P	P	23 29 34.6	-0.2
	baz=44,SNR=5.4						
B26A	Jensen Ranch,	44.31	65	⇓P	P	23 29 34.9	-0.3
	baz=44						
I22A	9 Mile Ranch,	44.31	72	⇑P	P	23 29 35.9	+0.5
	baz=44						
D25A	Fairfield	44.35	67	⇑P	P	23 29 36.3	+0.7
	baz=44						
Q16A	Castle Valley	44.40	81	eP	P	23 29 36.5	+0.2
Q16A	Castle Valley	44.40	81	⇓P	P	23 29 37.1	+0.9
	baz=44						
F24A	Ekalaka	44.41	69	⇓P	P	23 29 37.1	+0.9
	baz=44						
PFO	Pinyon Flat Ob	44.49	91	eP	P	23 29 41.6	+4.7
	comp=Z,8.7nm,1.0s						
PFO	Pinyon Flat Ob	44.49	91	⇑P	P	23 29 37.0	0.0
	baz=44						
BELC	Belle Mtn. Jos	44.52	90	⇓P	P	23 29 37.2	0.0
	baz=44						
K21A	Alcova	44.57	74	⇑P	P	23 29 38.1	+0.5
	baz=44						
J22A	Midwest	44.59	73	⇑P	P	23 29 37.6	-0.1
	baz=44,SNR=7.1						
E25A	Miller Ranch,	44.66	68	⇓P	P	23 29 38.5	+0.5
	baz=44						
SRU	San Rafael	44.68	80	eP	P	23 29 38.8	+0.4
SRU				pmax	pmax		
	comp=Z,12nm,0.6s						
SRU	San Rafael	44.68	80	eP	P	23 29 38.8	+0.4
	comp=Z,12nm,0.6s						
G24A	Alzada	44.72	70	⇓P	P	23 29 38.7	+0.1
	baz=44						
O19A	Miners Draw (B	44.82	78	⇑P	P	23 29 39.4	-0.1
	baz=45,SNR=8.4						
B27A	Peters Farms,	44.84	64	⇓P	P	23 29 39.3	-0.1
	baz=45						
L21A	Rawlins	44.89	75	⇓P	P	23 29 39.9	-0.2
	baz=45,SNR=5.8						
F25A	Bowman	44.94	68	⇑P	P	23 29 41.2	+0.9
	baz=45						
IRM	Iron Mountain	44.95	89	⇓P	P	23 29 41.0	+0.5
	baz=45						
BAR	Barrett	44.98	92	eP	P	23 29 40.9	+0.2
K22A	Casper	45.00	74	⇓P	P	23 29 41.1	+0.1
	baz=45						
N20A	Spence Gulch,	45.02	77	⇑P	P	23 29 41.5	+0.3
	baz=45						
C27A	Sayler Ranch,	45.08	65	⇑P	P	23 29 41.6	+0.3
	baz=45						
BC3	Big Chuckawall	45.09	90	⇓P	P	23 29 41.9	+0.2
	baz=45						
M21A	Separation Pea	45.11	76	⇑P	P	23 29 42.0	+0.1
	baz=45						
W13A	Hualapai Mount	45.12	87	⇑P	P	23 29 42.1	0.0
	baz=45						
A28A	Rude Farm, Bot	45.12	63	⇑P	P	23 29 41.7	0.0
	baz=45,SNR=9.0						
J23A	Dilts Ranch, B	45.14	72	⇓P	P	23 29 42.8	+0.7
	baz=45						
E26A	Carlson Angus	45.21	67	⇓P	P	23 29 42.2	-0.2
	baz=45,SNR=5.9						
U15A	North Rim	45.26	85	⇓P	P	23 29 43.1	-0.1
	baz=45,SNR=8.9						
B28A	Dugan Ranch, T	45.32	64	⇑P	P	23 29 43.5	+0.3
	baz=45						
SWSC	Sam W. Stewart	45.35	91	⇓P	P	23 29 45.5	+1.8
	baz=45						
G25A	Newell	45.38	69	⇓P	P	23 29 43.9	+0.1
	baz=45						
D27A	Center	45.40	66	⇑P	P	23 29 44.4	+0.5
	baz=45						
L22A	Ellis Ranch, M	45.42	75	⇓P	P	23 29 44.6	+0.3
	baz=45						
I24A	Kuemmerle Ranc	45.43	71	⇓P	P	23 29 44.0	-0.3
	baz=45						
F26A	Lodgepole	45.44	68	⇑P	P	23 29 44.2	-0.1
	baz=45						
O20A	White River Ci	45.45	78	eP	P	23 29 44.7	+0.1
O20A				epP	pP	23 29 57.5	+0.5
O20A	White River Ci	45.45	78	⇓P	P	23 29 45.2	+0.6
	baz=45						
K23A	Bowen Ranch, D	45.48	73	⇓P	P	23 29 45.2	+0.5
	baz=45						
PDMCI	Parker Dam,Lak	45.48	88	⇓P	P	23 29 45.2	+0.5
	baz=45						
N21A	Black Mountain	45.52	77	⇓P	P	23 29 45.0	-0.1
	baz=45						
H25A	Fruitdale	45.60	70	⇑P	P	23 29 45.3	-0.2
	baz=45,SNR=7.9						
Y12C	Blythe	45.61	89	⇑P	P	23 29 46.4	+0.8
	baz=46						
RSSD	Black Hills	45.63	71	eP	P	23 29 45.9	0.0
RSSD				pmax	pmax		
	comp=Z,11nm,0.8s						
RSSD	Black Hills	45.63	71	eP	P	23 29 45.9	0.0
	comp=Z,11nm,0.8s						
C28A	Hausauer Farms	45.71	65	⇓P	P	23 29 46.4	+0.1
	baz=46						
J24A	Dixon Ranch, L	45.72	72	⇓P	P	23 29 46.0	-0.5
	baz=46,SNR=5.1						
P20A	De Beque	45.75	79	⇓P	P	23 29 47.4	+0.4
	baz=46						
E27A	Carson	45.75	67	⇑P	P	23 29 46.8	+0.1
	baz=46						
G26A	Maurine	45.80	69	⇑P	P	23 29 47.2	+0.1
	baz=46,SNR=6.2						
F27A	Lemmon	45.80	68	⇓P	P	23 29 47.0	-0.1
	baz=46,SNR=8.4						
L23A	Garrett	45.81	74	⇓P	P	23 29 47.0	-0.4
	baz=46,SNR=5.0						
I25A	Rochford	45.86	71	⇓P	P	23 29 47.6	-0.2
	baz=46						
O21A	Pagoda	45.88	77	⇑P	P	23 29 48.1	+0.1
	baz=46						
GLA	Glamis	45.88	90	eP	P	23 29 47.7	-0.2
GLA				e*PP	pP	23 30 01.0	+0.8
GLA	Glamis	45.88	90	eP	P	23 29 47.7	-0.2
GLA				epP	pP	23 30 01.0	+0.8
GLA	Glamis	45.88	90	⇓P	P	23 29 48.4	+0.5
	baz=46						
MDND	Maddock	46.07	64	eP	P	23 29 50.1	+0.9
MDND	Maddock	46.07	64	⇓P	P	23 29 48.9	-0.2
	baz=46,SNR=6.2						
H26A	Fairpoint	46.08	69	⇑P	P	23 29 49.3	-0.1
	baz=46						
PV04	Paradox Valley	46.12	80	eP	P	23 29 50.0	+0.1
G27A	Dupree	46.13	68	⇑P	P	23 29 49.4	-0.4
	baz=46,SNR=10						
N22A	Wattenberg Ran	46.14	76	⇓P	P	23 29 50.3	+0.2
	baz=46						
Q20A	Ridgley Place,	46.14	79	⇑P	P	23 29 49.7	-0.4
	baz=46						
M23A	Laramie	46.18	75	⇓P	P	23 29 50.6	+0.3
	baz=46						
J25A	Sunshine Ranch	46.19	71	⇑P	P	23 29 49.8	-0.5
	baz=46						
P21A	Newcastle	46.31	78	⇓P	P	23 29 51.9	+0.6
	baz=46						
N23A	Red Feather La	46.39	75	⇓P	P	23 29 52.7	+0.6
	baz=46						
WUAZ	Wupatki	46.41	85	eP	P	23 29 52.4	+0.2
	comp=Z,14nm,0.7s						
WUAZ				epP	pP	23 30 04.7	+0.1
WUAZ	Wupatki	46.41	85	⇓P	P	23 29 52.4	+0.2
	baz=46						
Y14A	Wickenburg	46.43	88	⇑P	P	23 29 52.4	+0.2
	baz=46						
O22A	Kremmling	46.47	77	⇑P	P	23 29 51.9	-0.8
	baz=46						
H27A	Howes	46.48	69	⇑P	P	23 29 52.8	+0.3
	baz=46						
PV01	Paradox Valley	46.48	80	eP	P	23 29 52.7	-0.1
	comp=Z,1µm,0.7s						
PV01				epP	pP	23 30 05.5	+0.3
R20A	Redvale	46.57	80	⇓P	P	23 29 53.4	0.0
	baz=46						
ULM	Lac du Bonnet	46.80	59	eP	P	23 29 54.7	-0.1
ULM	Lac du Bonnet	46.80	59	P	P	23 29 54.5	-0.3
	comp=Z,8.9nm,0.4s,baz=305,slow=7.8,SNR=14						
ULM				LR	LR	23 49 34.4	
	comp=Z,145nm,18.7s,baz=331,slow=36						
S20A	Disappointment	46.80	80	⇓P	P	23 29 55.0	-0.3
	baz=47,SNR=18						
SMCO	Snowmass	46.81	78	eP	P	23 29 55.8	+0.2
	comp=Z,12nm,1.4s						
I27A	Quinn	46.82	70	⇑P	P	23 29 54.7	-0.4
	baz=47,SNR=5.6						
L25A	Engebretsen Ra	46.82	73	⇑P	P	23 29 55.4	+0.1
	baz=47						
O23A	Lake Granby, G	46.82	76	⇑P	P	23 29 56.1	+0.6
	baz=47						
G28A	Parade	46.90	68	⇑P	P	23 29 55.8	+0.1
	baz=47						
Q22A	Crested Butte,	47.05	78	⇓P	P	23 29 57.5	+0.3
	baz=47						
M25A	Palm-Egli Farm	47.20	74	⇓P	P	23 29 58.6	+0.3
	baz=47						
S21A	Coal Bank Pass	47.26	80	⇓P	P	23 29 59.0	+0.1
	baz=47,SNR=7.8						
J27A	Elkhorn Farm,	47.33	71	⇓P	P	23 29 59.1	-0.1
	baz=47						
I28A	Midland	47.38	69	⇑P	P	23 29 59.3	-0.2
	baz=47,SNR=14						
R22A	Saguache, Gunn	47.54	79	⇑P	P	23 30 01.6	+0.5
	baz=47						
J28A	Allard Ranch,	47.68	70	⇑P	P	23 30 01.9	+0.1
	baz=48,SNR=7.6						
Q23A	Hartsel	47.68	78	⇑P	P	23 30 02.4	+0.2
	baz=48						
S22A	4UR Ranch, Cre	47.80	79	⇓P	P	23 30 03.4	+0.3
	baz=48						
AGMN	Agassiz Nation	47.90	62	eP	P	23 30 03.1	-0.2
	comp=Z,32nm,0.8s						
V20A	Brimhall	48.03	83	⇓P	P	23 30 03.5	-1.3
	baz=48						
U21A	Nageezi	48.13	81	⇑P	P	23 30 05.7	+0.1
	baz=48,SNR=11						
R23A	Moffat	48.13	78	⇓P	P	23 30 05.7	+0.1
	baz=48						
T22A	Edith	48.22	80	⇓P	P	23 30 06.9	+0.6
	baz=48						
P25A	Willow Gulch B	48.31	76	⇓P	P	23 30 07.7	+0.7
	baz=48						
BRSD	Miller	48.40	67	eP	P	23 30 07.5	+0.2
BRSD	Miller	48.40	67	⇑P	P	23 30 07.0	-0.3
	baz=48						
W20A	Ramah	48.45	83	⇓P	P	23 30 08.4	+0.3
	baz=48						
N27A	Anderson Farm,	48.49	73	⇓P	P	23 30 09.0	+0.8
	baz=48						
BJI	Beijing	48.51	285	P	P	23 30 08.5	+0.4
BJI				PP	PP	23 31 59.3	-1.6
BJI				S	S	23 37 05.5	-0.4
BJI				pmax	pmax		
	comp=Z,18nm,0.9s						
BJI				LR	LR		
	comp=N,290nm,22.0s						
BJI				LR	LR		
	comp=E,230nm,20.5s						
BJI				LR	LR		
	comp=Z,200nm,22.1s						
R24A	Sanders Place,	48.54	78	⇓P	P	23 30 09.3	+0.6
	baz=48						
SDCO	Great Sand Dun	48.61	79	eP	P	23 30 09.5	+0.1
	comp=Z,5.3nm,0.8s						
SDCO				epP	pP	23 30 22.6	+0.8
K29A	Lazy Trails An	48.61	70	⇑P	P	23 30 09.6	+0.5
	baz=48						
TLY	Talaya	48.68	305	eP	P	23 30 10.0	+0.6
TLY				eS	S	23 37 19.7	+11
TLY				pmax	pmax		
	comp=Z,11nm,0.6s						
TLY				MLR	MLR		
	comp=Z,121nm,14.0s						
OGNE	Ogallala	48.71	73	⇓P	P	23 30 09.6	-0.2
	baz=48						
M28A	Bar X Bar Ranc	48.83	72	⇑P	P	23 30 11.1	+0.4
	baz=49						
S24A	Houchin Ranch,	48.85	78	⇓P	P	23 30 11.3	+0.1
	baz=49						
TUC	Tucson	48.90	88	eP	P	23 30 17.0	+5.6
TUC				pmax	pmax		
	comp=Z,11nm,0.9s						
TUC	Tucson	48.90	88	eP	P	23 30 17.0	+5.6
	comp=Z,11nm,0.9s						
O27A	Beecher Island	48.91	74	⇑P	P	23 30 12.0	+0.6
	baz=49						
V22A	San Miguel Ran	48.92	81	⇑P	P	23 30 11.5	-0.2
	baz=49						
L29A	Maesberg Ranch	48.94	71	⇑P	P	23 30 11.3	-0.3
	baz=49						
ULN	Ulaanbaatar	49.07	299	eP	P	23 30 12.6	+0.1
	comp=Z,13nm,1.0s						
ULN	Ulaanbaatar	49.07	299	P	P	23 30 12.5	-0.1
	comp=Z,14nm,1.4s						
U23A	El Rito	49.10	80	⇑P	P	23 30 13.8	+0.8
	baz=49						
R25A	Fountain Ranch	49.10	77	⇓P	P	23 30 12.9	0.0
	baz=49						
S25A	Robets Cordova	49.32	78	⇓P	P	23 30 14.8	+0.2
	baz=49						
Y20A	Horse Springs,	49.33	84	⇓P	P	23 30 14.8	-0.1
	baz=49						
X21A	Alamocita Cree	49.34	83	⇓P	P	23 30 15.4	+0.5
	baz=49						
SONM	Songino Array	49.44	299	P	P	23 30 15.6	+0.2
SONM				PcP	PcP	23 31 36.1	-0.9
SONM				ScP	ScP	23 35 27.8	-0.6
SONM	Songino Array	49.44	299	P	P	23 30 15.6	+0.2
	comp=Z,11nm,0.6s,baz=47,slow=7.7,SNR=88						
SONM				PcP	PcP	23 31 36.1	-0.9
	comp=Z,2.1nm,0.9s,baz=37,slow=4.9,SNR=2.2						
SONM				ScP	ScP	23 35 27.8	-0.6
	comp=Z,0.8nm,0.8s,baz=26,slow=3.3,SNR=3.9						
SONM				LR	LR	23 52 16.9	
	comp=Z,281nm,19.2s,baz=50,slow=37						
V23A	Ortiz Mt. (NFS	49.48	81	⇑P	P	23 30 17.0	+1.1
	baz=49						
T25A	Trinidad	49.67	78	⇓P	P	23 30 17.4	+0.1
	baz=50,SNR=6.1						
Z20A	Nine Sixteen R	49.73	85	⇓P	P	23 30 18.2	+0.4
	baz=50						
P28A	Saint Francis	49.73	74	⇑P	P	23 30 17.4	-0.2
	baz=50						
LAZ	Ladron	49.77	83	eP	P	23 30 18.9	+0.8
	comp=Z,6.6nm,1.1s						
LAZ				epP	pP	23 30 31.7	+1.0
X22A	Bernardo	49.78	83	⇓P	P	23 30 19.4	+1.2
	baz=50						
ANMO	Albuquerque	49.83	82	eP	P	23 30 23.2	+4.6
	comp=Z,4.7nm,1.1s						
W23A	Werner Place,	49.88	82	⇓P	P	23 30 19.1	+0.1
	baz=50						
R27A	Eads	49.91	76	⇑P	P	23 30 19.1	0.0
	baz=50						
S26A	Kim	49.93	77	⇑P	P	23 30 18.8	-0.4
	baz=50,SNR=7.8						
Q28A	Sharon Springs	50.01	75	⇑P	P	23 30 20.4	+0.6
	baz=50						
V24A	Rampart Ranch,	50.05	80	⇓P	P	23 30 20.7	+0.4
	baz=50						
T26A	Comanche Natio	50.14	78	⇓P	P	23 30 20.5	-0.4
	baz=50						
LPM	Los Pinos Moun	50.14	83	eP	P	23 30 20.0	-1.0
U25A	Circle Dot Ran	50.15	79	⇓P	P	23 30 20.8	-0.2
	baz=50,SNR=9.0						
Z21A	St. Cloud Mine	50.17	84	⇓P	P	23 30 21.3	+0.2
	baz=50						
ECSD	EROS Data Cent	50.17	67	eP	P	23 30 20.1	-0.7
	comp=Z,15nm,0.6s						
Y22A	Socorro	50.19	83	⇑P	P	23 30 21.7	+0.4
	baz=50						
BNM	Barren Site	50.25	83	eP	P	23 30 22.1	+0.2
	comp=Z,6.5nm,0.8s						
BNM				epP	pP	23 30 34.5	+0.1
W24A	Lazy 6 Ranch,	50.31	81	⇑P	P	23 30 21.9	-0.3
	baz=50						
O30A	MW Ranch, Wils	50.36	73	⇓P	P	23 30 22.8	+0.4
	baz=50						
V25A	Rancho No Teng	50.38	80	⇓P	P	23 30 22.8	0.0
	baz=50,SNR=7.2						
R28A	Tribune	50.48	76	⇑P	P	23 30 23.3	0.0
	baz=50						
EYMN	Ely	50.48	60	eP	P	23 30 23.1	0.0
	comp=Z,20nm,0.8s						
U26A	Atchley Ranch,	50.55	79	⇑P	P	23 30 24.0	-0.1
	baz=50,SNR=6.5						
220A	Playas Peak, P	50.58	86	⇑P	P	23 30 24.2	0.0
	baz=50,SNR=7.3						
121A	Cookes Peak, D	50.62	85	⇓P	P	23 30 24.4	-0.2
	baz=50						
Q29A	Oakley	50.63	74	⇓P	P	23 30 24.0	-0.4
	baz=50						
Z22A	Elephant Butte	50.64	84	⇓P	P	23 30 24.5	-0.2
	baz=50						
P30A	Selden	50.65	73	⇓P	P	23 30 25.0	+0.4
	baz=50						
BGNE	Belgrade	50.72	70	⇑P	P	23 30 24.6	-0.4
	baz=50						
HHC	Hu-ho-hao-te	50.75	289	eP	P	23 30 25.3	-0.1
HHC				pP	pP	23 30 37.8	-0.1
HHC				sP	sP	23 30 43.0	-0.1
HHC				PcP	PcP	23 31 43.3	+1.4
HHC				PP	PP	23 32 22.0	+0.5
HHC				ScP	ScP	23 35 34.0	-0.1
HHC				S	S	23 37 34.3	-3.3
HHC				sS	sS	23 37 55.1	-3.3
HHC				ScS	ScS	23 40 09.1	-3.0
HHC				SS	SS	23 41 05.0	-6.9
HHC				pmax	pmax		
	comp=Z,46nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,5.1s						
HHC				LR	LR		
	comp=N,320nm,16.7s						
HHC				LR	LR		
	comp=E,240nm,16.9s						
HHC				LR	LR		
	comp=Z,300nm,16.7s						
Y23A	Lovelace Mesa,	50.75	83	⇓P	P	23 30 25.4	-0.2
	baz=51,SNR=5.7						
W25A	X Bar L Ranch,	50.89	80	⇑P	P	23 30 26.4	-0.1
	baz=51,SNR=9.0						
S28A	Manter	50.91	76	⇓P	P	23 30 26.3	-0.2
	baz=51,SNR=6.5						
V26A	Tequesquite Ra	50.92	79	⇓P	P	23 30 26.7	0.0
	baz=51,SNR=7.2						
DAG	Danmarks Havn	50.92	7	i P	P	23 30 25.2	-0.8
	comp=Z,4.0nm,1.0s						
T28A	Walsh	51.08	77	⇑P	P	23 30 28.3	+0.5
	baz=51						
U27A	Thompson Grove	51.10	78	⇓P	P	23 30 28.3	+0.3
	baz=51						
Y24A	Capitan	51.14	82	⇓P	P	23 30 28.6	+0.1
	baz=51,SNR=11						
P31A	Stockton	51.18	73	⇓P	P	23 30 28.6	0.0
	baz=51						
XMAS	Kiritimati	51.19	159	eS	P	23 30 28.9	+0.2
222A	Williams Famil	51.33	85	⇑P	P	23 30 30.6	+0.7
	baz=51						
S29A	Ulysses	51.36	76	⇓P	P	23 30 30.0	+0.1
	baz=51						
W26A	Owens Ranch, T	51.40	80	⇑P	P	23 30 30.7	+0.3
	baz=51						
SPMN	St. Paul	51.41	63	eP	P	23 30 29.8	-0.3
SPMN	St. Paul	51.41	63	⇑P	P	23 30 29.9	-0.3
	baz=51,SNR=6.3						
R30A	Dighton	51.44	75	⇓P	P	23 30 31.4	+0.9
	baz=51						
U28A	Mallet	51.49	78	⇑P	P	23 30 31.0	0.0
	baz=51,SNR=6.0						
Q31A	Ellis	51.50	73	⇑P	P	23 30 31.2	+0.2
	baz=51						
Z24A	Sheeppen Canyo	51.58	83	⇑P	P	23 30 31.9	+0.1
	baz=52						
Y25A	Mesa, Roswell	51.60	82	⇑P	P	23 30 31.8	0.0
	baz=52						
X26A	CR and CF Fran	51.73	81	⇑P	P	23 30 32.7	-0.1
	baz=52						
S30A	Montezuma	51.74	75	⇑P	P	23 30 31.8	-0.9
	baz=52						
W27A	Bowe Ranch, En	51.85	80	⇑P	P	23 30 33.0	-0.7
	baz=52						
R31A	Burdett	51.88	74	⇓P	P	23 30 33.1	-0.7
	baz=52						
V28A	Channing	51.91	78	⇓P	P	23 30 34.0	-0.1
	baz=52						
124A	Stringfield Ra	51.95	83	⇑P	P	23 30 34.3	-0.3
	baz=52						
Z25A	Roswell	52.02	82	⇑P	P	23 30 35.2	+0.2
	baz=52						
U29A	Oasis Ranch, S	52.03	77	⇑P	P	23 30 35.2	+0.3
	baz=52						
NJ2	Nanjing	52.06	276	eP	P	23 30 35.3	+0.2
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
X27A	F and S Farms,	52.10	80	⇑P	P	23 30 35.5	-0.1
	baz=52						
SUMG	Summit	52.26	16	eP	P	23 30 36.3	-0.3
SUMG	Summit	52.26	16	i P	P	23 30 36.2	-0.3
	comp=Z,11nm,0.9s						
SUMG	Summit	52.26	16	eP	P	23 30 36.3	-0.3
224A	Cornudas Mount	52.33	84	⇑P	P	23 30 37.2	-0.2
	baz=52						
U30A	WK&E Inc. Balk	52.35	77	⇓P	P	23 30 37.4	+0.1
	baz=52						
125A	Gardner Draw,	52.47	83	⇓P	P	23 30 38.8	+0.4
	baz=52						
Z26A	Caprock	52.48	82	⇑P	P	23 30 38.4	0.0
	baz=52						
T31A	Randall Ranch,	52.57	75	⇓P	P	23 30 39.0	+0.1
	baz=52						
Y27A	Causey	52.57	81	⇓P	P	23 30 39.2	+0.2
	baz=52						
MNTX	Cornudas Mount	52.68	84	eP	P	23 30 39.1	-0.6
	comp=Z,7.3nm,0.9s						
MNTX				epP	pP	23 30 52.5	+0.2
X28A	Dimmitt	52.74	79	⇑P	P	23 30 40.0	-0.3
	baz=53						
225A	Deer Hill, Car	52.74	84	⇑P	P	23 30 41.0	+0.6
	baz=53						
MSTX	Muleshoe	52.75	80	eP	P	23 30 39.6	-0.7
MSTX				epP	pP	23 30 52.9	-0.1
MSTX	Muleshoe	52.75	80	⇑P	P	23 30 40.4	0.0
	baz=53						
324A	Moseley Ranch,	52.79	85	⇓P	P	23 30 41.2	+0.5
	baz=53						
AMTX	Amarillo	52.81	79	eP	P	23 30 40.3	-0.5
	comp=Z,9.5nm,0.8s						
126A	Clayton Basin,	52.88	82	⇑P	P	23 30 41.8	+0.5
	baz=53						
COWI	Conover	52.88	60	eP	P	23 30 40.1	-0.9
	comp=Z,15nm,0.6s						
COWI				epP	pP	23 30 53.2	-0.5
Z27A	Tatum	52.92	81	⇑P	P	23 30 41.8	+0.2
	baz=53						
X29A	Tulia	53.09	79	⇑P	P	23 30 43.0	+0.2
	baz=53						
Y28A	McKinney Farm,	53.12	80	⇑P	P	23 30 43.0	0.0
	baz=53						
325A	Bean Ranch, Si	53.16	84	⇑P	P	23 30 43.3	-0.2
	baz=53						
226B	Tecolote Peak,	53.17	83	⇑P	P	23 30 43.3

Y30A	Stafford Cattl	53.97	79	⇓P	P	23 30 49.4	+0.2
	baz=54						
X31A	McDonald Ranch	54.02	78	⇓P	P	23 30 49.4	-0.2
	baz=54						
129A	Stewart Farms,	54.22	81	⇓P	P	23 30 51.1	0.0
	baz=54						
426A	McDonald Obser	54.23	84	⇓P	P	23 30 51.1	-0.2
	baz=54						
Z30A	Sanderson Ranc	54.23	80	⇓P	P	23 30 50.8	-0.4
	baz=54						
JFWS	Jewell Farm	54.30	64	eP	P	23 30 50.7	-0.7
JFWS				pmax	pmax		
	comp=Z,17nm,0.8s						
JFWS	Jewell Farm	54.30	64	eP	P	23 30 50.7	-0.7
	comp=Z,17nm,0.8s						
328A	Wristen Ranch,	54.49	83	⇓P	P	23 30 52.6	-0.5
	baz=54						
427A	Hayter Ranch,	54.49	84	⇑P	P	23 30 52.8	-0.3
	baz=54						
526A	Mary Lane Ranc	54.61	85	⇑P	P	23 30 54.1	+0.1
	baz=54						
WMOK	Wichita Mounta	54.68	77	eP	P	23 30 53.4	-1.0
WMOK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMOK	Wichita Mounta	54.68	77	eP	P	23 30 53.4	-1.0
	comp=Z,8.1nm,0.8s						
229A	Bryant Ranch,	54.70	81	⇓P	P	23 30 54.3	-0.3
	baz=55						
Y32A	R-V Farms, Ver	54.77	78	⇑P	P	23 30 54.9	-0.2
	baz=55						
130A	Snyder	54.80	80	⇓P	P	23 30 54.9	-0.3
	baz=55						
Z31A	Sharp Cattle R	54.81	79	⇓P	P	23 30 55.2	-0.2
	baz=55						
527A	Woodward Ranch	54.85	84	⇑P	P	23 30 55.2	-0.5
	baz=55						
329A	Wagon Wheel Ra	54.93	82	⇑P	P	23 30 56.4	+0.1
	baz=55						
626A	Big Bend Ranch	54.94	85	⇓P	P	23 30 56.1	-0.2
	baz=55						
428A	Kincaid Ranch,	55.02	83	⇓P	P	23 30 57.1	+0.1
	baz=55						
131A	Roby	55.10	80	⇓P	P	23 30 57.5	+0.1
	baz=55						
230A	Sterling City	55.19	81	⇓P	P	23 30 58.2	+0.1
	baz=55						
Z32A	Haskell	55.22	79	⇑P	P	23 30 58.4	+0.1
	baz=55,SNR=8.4						
TXAR	Lajitas Array	55.38	85	P	P	23 30 59.2	-0.4
TXAR	Lajitas Array	55.38	85	P	P	23 30 59.2	-0.4
	comp=Z,2.0nm,0.6s,baz=305,slow=6.2,SNR=18						
330A	Mertzon	55.48	82	⇓P	P	23 30 59.9	-0.3
	baz=55						
429A	Davenport Ranc	55.58	83	⇓P	P	23 31 01.1	+0.1
	baz=55						
ABTX	Abilene, Hawle	55.59	79	⇓P	P	23 31 00.6	-0.3
	baz=55						
231A	Bronte	55.65	80	⇓P	P	23 31 01.5	+0.1
	baz=56						
TUL1	Tulsa	55.69	74	eP	P	23 31 01.0	-0.6
TUL1	Tulsa	55.69	74	⇑P	P	23 31 01.4	-0.3
	baz=56						
529A	Stev Forest Ra	55.73	83	⇑P	P	23 31 01.7	-0.2
	baz=56						
628A	Black Gap, Mar	55.76	84	⇓P	P	23 31 01.8	-0.4
	baz=56						
430A	Baggett Ranch,	55.87	82	P	P	23 31 02.6	-0.5
	baz=56						
WHN	Wuhan	55.89	278	P	P	23 31 05.0	+1.9
331A	San Angelo	56.01	81	⇑P	P	23 31 03.5	-0.5
	baz=56						
232A	Coleman	56.09	80	⇑P	P	23 31 04.0	-0.5
	baz=56						
ZAA0	Zalesovo Array	56.21	316	eP	P	23 31 03.1	-2.0
ZALV	Zalesovo Beam	56.21	316	P	P	23 31 04.6	-0.4
ZALV						23 32 01.7	
ZALV	Zalesovo Beam	56.21	316	P	P	23 31 04.6	-0.4
ZALV				PcP	PcP	23 32 01.6	-0.6
ZALV				pPcP		23 32 16.6	
ZALV	Zalesovo Beam	56.21	316	P	P	23 31 04.6	-0.4
	comp=Z,0.9nm,0.4s,baz=49,slow=6.8,SNR=6.7						
ZALV				PcP	PcP	23 32 01.7	-0.6
	comp=Z,2.5nm,0.7s,baz=30,slow=4.5,SNR=6.2						
ZALV				pPcP		23 32 16.6	
	comp=Z,3.9nm,0.7s,baz=44,slow=3.4,SNR=6.7						
ZALV				LR	LR	23 56 50.7	
	comp=Z,143nm,18.2s,baz=69,slow=38						
530A	J-C Ranch, Com	56.26	83	⇓P	P	23 31 05.4	-0.4
	baz=56,SNR=16						
NVS	Novosibirsk	56.28	317	eP	P	23 31 03.1	-2.4
431A	Sonora	56.34	82	⇓P	P	23 31 06.0	-0.3
	baz=56						
332A	Millersview	56.38	81	⇑P	P	23 31 06.5	-0.1
	baz=56						
HDIL	Hopedale	56.38	66	eP	P	23 31 06.3	-0.2
	comp=Z,47nm,1.0s						
SSLB	Suanglung	56.59	267	eP	P	23 31 07.8	-0.3
	comp=Z,20nm,0.7s						
YULB	Yu-li	56.66	266	eP	P	23 31 07.8	-0.9
	comp=Z,9.8nm,0.8s						
432A	Menard	56.70	81	⇑P	P	23 31 09.0	+0.1
	baz=57						
531A	Rocksprings	56.73	82	⇑P	P	23 31 09.5	+0.3
	baz=57						
XAN	Xi'an	56.81	284	P	P	23 31 09.8	+0.2
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XAN				LR	LR		
	comp=N,68nm,18.7s						
XAN				LR	LR		
	comp=E,35nm,15.7s						
XAN				LR	LR		
	comp=Z,57nm,20.7s						
JCT	Junction City	56.97	81	eP	P	23 31 10.8	-0.1
JCT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
JCT	Junction City	56.97	81	eP	P	23 31 10.8	-0.1
	comp=Z,7.6nm,0.7s						
JCT	Junction City	56.97	81	⇑P	P	23 31 11.0	+0.1
	baz=57						
532A	Rocksprings	57.16	82	⇓P	P	23 31 12.3	+0.1
	baz=57						
631A	Perdido Creek	57.24	83	⇓P	P	23 31 12.9	+0.2
	baz=57						
WHTX	Lake Whitney	57.36	78	⇑P	P	23 31 13.8	+0.3
	baz=57						
632A	Uvalde	57.66	82	⇓P	P	23 31 14.7	-1.0
	baz=58						
SFIN	Scholer Farm	57.74	64	eP	P	23 31 16.2	+0.1
SFIN	Scholer Farm	57.74	64	⇑P	P	23 31 15.8	-0.3
	baz=58						
SCHQ	Schefferville	57.76	41	P	P	23 31 15.8	-0.2
SCHQ	Schefferville	57.76	41	P	P	23 31 15.8	-0.2
	comp=Z,7.1nm,0.5s,baz=321,slow=7.0,SNR=15						
SCHQ				LR	LR	23 58 35.0	
	comp=Z,216nm,20.5s,baz=7.3,slow=38						
MIAR	Mount Ida	57.95	74	eP	P	23 31 17.4	-0.2
MIAR				pmax	pmax		
	comp=Z,27nm,0.9s						
MIAR	Mount Ida	57.95	74	eP	P	23 31 17.4	-0.2
	comp=Z,27nm,0.9s						
732A	Laxson Ranch,	58.10	83	⇓P	P	23 31 19.4	+0.7
	baz=58						
SIUC	Southern Illin	58.34	68	eP	P	23 31 20.2	-0.1
	comp=Z,22nm,0.8s						
ARCES	ARCESS Array B	58.38	352	P	P	23 31 19.8	-0.4
ARCES				PcP	PcP	23 32 10.5	0.0
ARCES	ARCESS Array B	58.38	352	P	P	23 31 19.8	-0.4
	comp=Z,7.7nm,0.6s,baz=20,slow=7.3,SNR=31						
ARCES				PcP	PcP	23 32 10.5	0.0
	comp=Z,16nm,0.8s,baz=21,slow=5.3,SNR=12						
ARCES				LR	LR	23 56 51.1	
	comp=Z,106nm,18.8s,baz=348,slow=36						
LZH	Lanzhou	58.44	289	⇑P	P	23 31 22.3	+1.1
LZH				pP	pP	23 31 35.1	+1.2
LZH				PP	PP	23 33 33.0	+2.5
LZH				eS	S	23 39 18.0	-3.1
LZH				sS	sS	23 39 40.5	-1.8
LZH				SS	SS	23 43 12.0	-1.3
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,7.4s						
LZH				LR	LR		
	comp=N,340nm,15.0s						
LZH				LR	LR		
	comp=E,270nm,16.0s						
LZH				LR	LR		
	comp=Z,500nm,18.5s						
GTA	Gaotai	58.49	295	P	P	23 31 21.6	+0.1
GTA				pP	pP	23 31 34.3	+0.1
GTA				sP	sP	23 31 39.8	+0.4
GTA				S	S	23 39 20.3	-1.3
GTA				sS	sS	23 39 41.8	-1.0
GTA				pmax	pmax		
	comp=Z,24nm,1.3s						
GTA				pmax	pmax		
	comp=Z,60nm,5.0s						
GTA				LR	LR		
	comp=N,170nm,17.3s						
GTA				LR	LR		
	comp=E,120nm,17.6s						
GTA				LR	LR		
	comp=Z,210nm,16.9s						
PARMO	Parma	58.76	69	eP	P	23 31 23.3	+0.2
BLO	Bloomington	58.89	65	eP	P	23 31 23.9	-0.2
BLO				pmax	pmax		
	comp=Z,37nm,0.9s						
BLO	Bloomington	58.89	65	eP	P	23 31 23.9	-0.2
	comp=Z,37nm,0.9s						
USIN	University of	59.07	67	eP	P	23 31 25.6	+0.2
ENH	Enshi	59.08	281	eP	P	23 31 25.0	-0.6
APA	Apatity	59.45	348	⇓eP	P	23 31 33.4	+5.9
APA				MLR	MLR		
	comp=Z,400nm,11.0s						
WCI	Wyandotte Cave	59.67	66	eP	P	23 31 28.7	-0.8
WCI				pmax	pmax		
	comp=Z,27nm,0.8s						
WCI	Wyandotte Cave	59.67	66	eP	P	23 31 28.7	-0.8
	comp=Z,27nm,0.8s						
WVT	Waverly	60.24	68	eP	P	23 31 33.0	-0.5
WVT				pmax	pmax		
	comp=Z,20nm,1.0s						
WVT	Waverly	60.24	68	eP	P	23 31 33.0	-0.5
	comp=Z,20nm,1.0s						
OXF	Oxford	60.45	71	eP	P	23 31 33.8	-1.1
OXF				pmax	pmax		
	comp=Z,72nm,1.0s						
OXF	Oxford	60.45	71	eP	P	23 31 33.8	-1.1
	comp=Z,72nm,1.0s						
ALLY	Alegheny Colle	60.69	59	eP	P	23 31 36.8	+0.4
	comp=Z,33nm,0.6s						
PLAL	Pickwick Lake	60.90	70	eP	P	23 31 36.5	-1.5
MSNY	Massena	61.07	53	eP	P	23 31 38.5	-0.4
	comp=Z,612nm,0.9s						
KURK	Kurchatov	61.19	316	P	P	23 31 40.4	+0.7
KURK	Kurchatov	61.19	316	P	P	23 31 40.4	+0.7
KURBB	Kurchatov Arra	61.30	316	P	P	23 31 40.4	0.0
	comp=Z,11nm,0.6s,baz=46,slow=6.6,SNR=106						
LONY	Lake Ozonia	61.48	53	eP	P	23 31 41.5	-0.2
	comp=Z,24nm,0.8s						
FRNY	Flat Rock	61.82	53	eP	P	23 31 43.6	-0.5
	comp=Z,15nm,1.0s						
WMQ	Urumqi	61.93	306	P	P	23 31 45.5	+0.6
WMQ				pP	pP	23 31 57.8	+0.1
WMQ				PcP	PcP	23 32 26.1	+0.9
WMQ				S	S	23 40 03.5	-1.9
WMQ				sS	sS	23 40 23.3	-3.5
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.4s						
WMQ				LR	LR		
	comp=N,220nm,21.0s						
WMQ				LR	LR		
	comp=E,100nm,21.0s						
WMQ				LR	LR		
	comp=Z,100nm,21.0s						
CD2	Chengdu	62.11	285	eP	P	23 31 47.3	+1.1
CD2				pP	pP	23 32 00.8	+1.7
CD2				sP	sP	23 32 06.3	+2.1
CD2				PP	PP	23 34 06.3	+3.4
CD2				S	S	23 40 05.9	-2.1
CD2				sS	sS	23 40 28.5	-0.9
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=N,110nm,16.8s						
CD2				LR	LR		
	comp=E,230nm,19.0s						
CD2				LR	LR		
	comp=Z,140nm,20.2s						
NCB	Newcomb	62.12	54	eP	P	23 31 46.1	0.0
TZTN	Tazewell	62.41	65	eP	P	23 31 48.2	+0.1
	comp=Z,36nm,1.1s						
MK31	Makanchi Array	62.41	311	eP	P	23 31 47.4	-0.6
MK31	Makanchi Array	62.41	311	eP	P	23 31 47.4	-0.6
MKAR	Makanchi Array	62.41	311	ceP	P	23 31 47.5	-0.5
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR	Makanchi Array	62.41	311	P	P	23 31 47.7	-0.4
MKAR	Makanchi Array	62.41	311	P	P	23 31 47.7	-0.4
	comp=Z,6.7nm,0.6s,baz=48,slow=5.7,SNR=110						
MKAR				LR	LR	23 59 20.6	
	comp=Z,126nm,19.7s,baz=9.2,slow=36						
BINY	Binghamton	62.49	56	eP	P	23 31 48.3	-0.3
	comp=Z,36nm,0.9s						
BINY				epP	pP	23 32 02.7	+1.2
SSPA	Standing Stone	62.61	59	eP	P	23 31 49.7	+0.3
	comp=Z,18nm,0.7s						
MDV	Middlebury	62.62	53	eP	P	23 31 49.3	-0.1
CPCT	Cooper Cave	62.63	67	eP	P	23 31 49.8	+0.2
BVAR	Borovoye Array	62.78	322	P	P	23 31 50.4	+0.1
BVAR				*PP	pP	23 32 03.5	+0.3
BVAR						23 32 28.5	
BVAR	Borovoye Array	62.78	322	P	P	23 31 50.4	+0.1
BVAR				pP	pP	23 32 03.5	+0.3
BVAR				PcP	PcP	23 32 28.5	+0.1
BVAR	Borovoye Array	62.78	322	P	P	23 31 50.4	+0.1
	comp=Z,14nm,0.5s,baz=54,slow=6.6,SNR=198						
BVAR				pP	pP	23 32 03.5	+0.3
	comp=Z,3.5nm,0.4s,baz=64,slow=6.7,SNR=6.2						
BVAR				PcP	PcP	23 32 28.5	+0.1
	comp=Z,6.4nm,0.6s,baz=58,slow=4.4,SNR=8.6						
BVAR				LR	LR	23 58 03.1	
	comp=Z,60nm,20.7s,baz=249,slow=35						
BRVK	Borovoye	62.80	322	eP	P	23 31 50.7	+0.3
BRVK				pmax	pmax		
	comp=Z,21nm,1.2s						
BRVK	Borovoye	62.80	322	eP	P	23 31 50.6	+0.2
ACCN	Adirondack Com	62.82	54	eP	P	23 31 51.1	+0.3
TKL	Tuckaleechee C	62.91	66	eP	P	23 31 51.3	-0.2
LRAL	Lakeview Retre	62.91	70	eP	P	23 31 50.7	-0.8
	comp=Z,7.2nm,0.8s						
LBNH	Lisbon	63.07	52	eP	P	23 31 52.5	+0.1
LBNH				e*PP	pP	23 32 05.5	+0.2
LBNH				pmax	pmax		
	comp=Z,24nm,1.0s						
LBNH	Lisbon	63.07	52	eP	P	23 31 52.5	+0.1
	comp=Z,24nm,1.0s						
LBNH				epP	pP	23 32 05.5	+0.2
SVE	Sverdlovsk	63.12	330	⇑iP	P	23 31 53.4	+0.9
SVE				pmax	pmax		
	comp=Z,13nm,0.6s						
HNH	Hanover	63.28	53	eP	P	23 31 54.5	+0.7
GYA	Guiyang	63.53	280	⇑iP	P	23 31 55.9	0.0
GYA				pP	pP	23 32 11.0	+2.3
GYA				sP	sP	23 32 16.8	+2.9
GYA				PP	PP	23 34 18.8	+3.1
GYA				ScP		23 36 30.6	
GYA				S	S	23 40 24.8	-1.3
GYA				sS	sS	23 40 47.0	-0.6
GYA				SKS	SKKSac	23 41 41.9	-3.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
PKME	Peaks-Kenny Pk	63.60	50	eP	P	23 31 55.4	-0.4
	comp=Z,18nm,0.9s						
PKME				epP	pP	23 32 09.0	+0.3
BLA	Blacksburg	63.69	63	eP	P	23 31 57.0	+0.4
BLA				e*PP	pP	23 32 09.5	0.0
BLA				pmax	pmax		
	comp=Z,45nm,0.9s						
BLA	Blacksburg	63.69	63	eP	P	23 31 57.0	+0.4
	comp=Z,45nm,0.9s						
BLA				epP	pP	23 32 09.5	0.0
FFD	Franklin Falls	63.77	53	eP	P	23 31 56.9	-0.1
	comp=Z,11nm,0.3s						
MVL	Millersville	63.88	58	eP	P	23 31 58.5	+0.6
	comp=Z,12nm,0.7s						
SDMD	Soldier's Deli	64.05	59	eP	P	23 31 59.3	+0.4
ARU	Arti	64.08	331	ciP	P	23 31 58.8	-0.1
ARU				*PP	pP	23 32 12.0	+0.3
ARU						23 32 33.3	
ARU						23 34 17.5	
ARU				S	S	23 40 32.7	+0.9
ARU				pmax	pmax		
	comp=Z,17nm,0.6s						
PAL	Palisades	64.43	56	eP	P	23 32 02.4	+1.0
PAL				e*PP	pP	23 32 16.5	+2.2
PAL	Palisades	64.43	56	eP	P	23 32 02.4	+1.0
	comp=Z,118nm,0.8s						
PAL				epP	pP	23 32 16.5	+2.2
KMSC	Kings Mountain	64.67	65	eP	P	23 32 03.3	+0.3
KMSC	Kings Mountain	64.67	65	⇑P	P	23 32 03.4	+0.4
	baz=64						
GOGA	Godfrey	64.70	68	eP	P	23 32 02.2	-1.0
GOGA				pmax	pmax		
	comp=Z,22nm,0.8s						
GOGA	Godfrey	64.70	68	eP	P	23 32 02.2	-1.0
	comp=Z,22nm,0.8s						
JSRW	J. Sargeant Re	64.73	61	eP	P	23 32 03.3	-0.1
JSRW				epP	pP	23 32 16.9	+0.6
FINES	FINESS Array B	66.23	350	P	P	23 32 12.2	-0.5
FINES				PcP	PcP	23 32 42.6	+0.1
FINES	FINESS Array B	66.23	350	P	P	23 32 12.2	-0.5
	comp=Z,3.1nm,0.6s,baz=15,slow=8.1,SNR=20						
FINES				PcP	PcP	23 32 42.6	+0.1
	comp=Z,5.7nm,0.6s,baz=19,slow=3.6,SNR=8.8						
FINES				LR	LR	00 06 47.9	
	comp=Z,74nm,18.1s,baz=33,slow=41						
KMI	Kunming	66.92	282	P	P	23 32 19.5	+1.6
KMI				pP	pP	23 32 31.8	+0.9
KMI				sP	sP	23 32 37.3	+1.3
KMI				S	S	23 41 06.0	-1.8
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				pmax	pmax		
	comp=Z,76nm,3.4s						
KMI				LR	LR		
	comp=N,75nm,20.3s						
KMI				LR	LR		
	comp=E,96nm,14.8s						
KMI				LR	LR		
	comp=Z,82nm,14.4s						
NB2	NORSAR Subarra	67.66	357	P	P	23 32 21.4	-0.4
	comp=Z,2.3nm,0.8s,baz=7.2,slow=6.5						
NOA	NORSAR Array B	67.66	357	P	P	23 32 21.8	-0.1
NOA	NORSAR Array B	67.66	357	P	P	23 32 21.8	-0.1
	comp=Z,1.9nm,0.6s,baz=3.0,slow=6.4,SNR=9.0						
NOA				LR	LR	00 02 58.1	
	comp=Z,47nm,18.5s,baz=10.0,slow=37						
TKM2	Tokmak 2	68.45	312	iP	P	23 32 28.3	+1.0
TKM2	Tokmak 2	68.45	312	P	P	23 32 28.4	+1.0
	SNR=16						
TKM2	Tokmak 2	68.45	312	eP	P	23 32 27.2	-0.2
	comp=Z,17nm,1.0s						
HFS	Hagfors	68.48	356	LR	LR	00 00 40.9	
	comp=Z,63nm,19.2s,baz=22,slow=34						
USP	Ospenovka	68.69	313	iP	P	23 32 29.4	+0.8
USP	Ospenovka	68.69	313	P	P	23 32 29.4	+0.8
	SNR=38						
CHMS	Chumysh	68.78	313	iP	P	23 32 29.9	+0.7
CHMS	Chumysh	68.78	313	P	P	23 32 29.9	+0.7
	SNR=11						
KBK	Karagaybulak	68.96	313	iP	P	23 32 31.3	+0.8
KBK	Karagaybulak	68.96	313	P	P	23 32 31.3	+0.8
	SNR=19						
AAK	Ala-Archa	69.18	313	ceP	P	23 32 32.8	+1.0
AAK				pmax	pmax		
	comp=Z,116nm,1.2s						
AAK	Ala-Archa	69.18	313	P	P	23 32 32.6	+0.7
	SNR=18						
AAK	Ala-Archa	69.18	313	eP	P	23 32 31.9	+0.1
	comp=Z,36nm,0.8s						
KZA	Kyzart	69.27	312	iP	P	23 32 34.4	+1.7
KZA	Kyzart	69.27	312	P	P	23 32 34.4	+1.7
	SNR=5.9						
AKTO	Aktyubinsk	69.33	328	LR	LR	00 06 30.5	
	comp=Z,128nm,18.7s,baz=22,slow=39						
EKS2	Erkin-Say	69.49	313	eP	P	23 32 34.4	+0.7
EKS2				pmax	pmax		
	comp=Z,32nm,0.7s						
EKS2	Erkin-Say	69.49	313	P	P	23 32 34.6	+0.9
	SNR=44						
EKS2	Erkin-Say	69.49	313	eP	P	23 32 34.4	+0.7
	comp=Z,32nm,0.7s						
ABKAR	Akbulak array	69.68	326	eP	P	23 32 34.8	+0.2
	comp=Z,14nm,0.7s						
ABKAR				epP	pP	23 32 48.2	+0.7
LSA	Lhasa	70.41	293	eP	P	23 32 41.3	+1.4
LSA				e*PP	pP	23 32 53.8	+0.8
LSA				pmax	pmax		
	comp=Z,60nm,0.7s						
LSA	Lhasa	70.41	293	eP	P	23 32 41.3	+1.4
	comp=Z,60nm,0.7s						
LSA				epP	pP	23 32 53.8	+0.8
KKAR	Karatay Array	70.59	316	eP	P	23 32 40.3	0.0
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KKAR	Karatay Array	70.59	316	eP	P	23 32 40.3	0.0
	comp=Z,9.7nm,0.6s						
OBN	Obninsk	70.75	342	⇑iP	P	23 32 41.0	0.0
OBN				pmax	pmax		
	comp=Z,26nm,2.5s						
KSH	Kashi	70.94	310	P	P	23 32 46.8	+4.2
KSH				PP	PP	23 35 26.8	+7.2
KSH				S	S	23 41 57.0	+2.2
KSH				SS	SS	23 46 33.8	+6.6
KSH				pmax	pmax		
	comp=Z,34nm,0.7s						
KSH				LR	LR		
	comp=N,91nm,4.9s						
KSH				LR	LR		
	comp=E,94nm,6.1s						
KSH				LR	LR		
	comp=Z,100nm,5.3s						
PANO	Nakornpanom	71.71	275	P	P	23 32 49.9	+2.6
	comp=Z,13nm,0.8s,comp=Z,1μm						
PPT	Papeete	71.98	156	LR	LR	23 58 48.1	
	comp=Z,124nm,21.6s,baz=202,slow=31						
CRAI	Chiangrai	72.01	280	P	P	23 32 52.9	+3.8
	comp=Z,49μm,1.3s						
MYLDM	Lahad Datu	72.33	256	P	P	23 32 52.9	+1.8
	comp=Z,22nm,1.1s						
UBPT	Khong Chiam	72.59	273	P	P	23 32 54.4	+1.8
	comp=Z,10nm,1.4s,comp=Z,592nm						
UBPT	Khong Chiam	72.59	273	P	P	23 32 55.7	+3.1
	comp=Z,11nm,1.4s,comp=Z,584nm						
SHL	Shillong	73.10	290	eP	P	23 32 56.0	+0.2
VRHR	Novokhopersk	73.44	338	eP	P	23 32 55.9	-1.2
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,40nm,0.7s						
LOEI	Loei	73.51	277	P	P	23 32 58.5	+0.4
	comp=Z,121nm,0.9s,comp=Z,6μm						
SUW	Suwalki	73.84	350	eP	P	23 32 58.4	-1.0
SUW				pmax	pmax		
	comp=Z,13nm,0.4s						
SUW	Suwalki	73.84	350	eP	P	23 32 58.4	-1.0
	comp=Z,13nm,0.4s						
SUW	Suwalki	73.84	350	eP	P	23 32 58.5	-1.0
VSR	Storozhevoye	73.89	339	eP	P	23 32 59.4	-0.4
VSR				pmax	pmax		
	comp=N,30nm,1.0s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=Z,60nm,1.0s						
CMMT	Chiang Mai	73.95	280	P	P	23 33 00.6	-0.1
CMMT	Chiang Mai	73.95	280	P	P	23 33 00.7	0.0
	comp=Z,5.9nm,1.1s						
CHTO	Chiang Mai	73.95	280	eP	P	23 33 00.7	0.0
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	Chiang Mai	73.95	280	eP	P	23 33 00.7	0.0
	comp=Z,5.6nm,0.9s						
VORD	Divnogorie	74.09	339	eP	P	23 33 01.0	+0.1
VORD				pmax	p

VORD pmax pmax
comp=Z,30nm,0.7s
TAPN Taplejung 74.16 294 *eP* **P 23 33 03.1 +1.0**
comp=Z,139nm,0.8s
CMAR Chiang Mai Arr 74.23 280 P **P 23 33 02.3 +0.1**
CMAR pP **pP 23 33 15.8 +0.4**
CMAR Chiang Mai Arr 74.23 280 P **P 23 33 02.3 +0.1**
comp=Z,3.9nm,0.6s,baz=30,slow=6.7,SNR=23
CMAR pP **pP 23 33 15.8 +0.4**
comp=Z,5.6nm,0.8s,baz=25,slow=6.6,SNR=6.7
PBKT Sadao Pong 74.41 277 P **P 23 33 03.6 +0.3**
comp=Z,7.8nm,0.6s
PBKT Sadao Pong 74.41 277 P **P 23 33 05.6 +2.3**
comp=Z,8.6nm,1.2s
ODAN Odare 74.72 294 *eP* **P 23 33 06.1 +0.8**
comp=Z,38nm,0.8s
GUN Gumba 74.77 296 *eP* **P 23 33 06.8 +1.1**
comp=Z,258nm,0.9s
JIRN Jiri 74.78 295 *eP* **P 23 33 06.9 +1.1**
comp=Z,214nm,0.7s
BSEG Bad Segeberg 74.80 358 *eP* **P 23 33 06.1 +1.1**
comp=Z,9.0nm,0.8s
BSEG Bad Segeberg 74.80 358 *eP* **P 23 33 06.1 +1.1**
BSEG pmax pmax
comp=Z,9.0nm,0.8s
RAMN Ramite 75.10 294 *eP* **P 23 33 08.3 +0.8**
comp=Z,231nm,0.8s
GKP Gorka Klasztor 75.12 353 *eP* **P 23 33 06.9 0.0**
KKN Kakani 75.20 296 *eP* **P 23 33 08.9 +0.9**
comp=Z,68nm,0.8s
PKI Pulchoki 75.29 296 *eP* **P 23 33 09.3 +0.6**
comp=Z,131nm,1.0s
PKIN Phulchoki 75.30 296 *eP* **P 23 33 09.9 +1.2**
comp=Z,43nm,0.7s
DMN Daman 75.43 296 *eP* **P 23 33 10.3 +0.9**
comp=Z,101nm,0.9s
DANN Dangsing 75.61 297 *eP* **P 23 33 11.5 +1.0**
comp=Z,246nm,0.8s
BBSR BB Station 75.78 56 *eP* **P 23 33 10.8 -0.2**
comp=Z,17nm,0.8s
NAYO Nakonayok 75.91 275 P P 23 33 15.5 +3.6
comp=Z,58nm,0.9s,comp=Z,14μm
UTHA Uthaitani 76.12 278 P **P 23 33 16.1 +3.0**
comp=Z,3.8nm,0.8s,comp=Z,61nm
KOLN Koldanda 76.15 297 *eP* **P 23 33 14.0 +0.5**
comp=Z,68nm,0.8s
NRDL Niedersach Rie 76.25 358 *eP* **P 23 33 13.9 +0.7**
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 76.27 345 P **P 23 33 12.8 -0.6**
AKASG Malin Array Be 76.27 345 P **P 23 33 12.8 -0.6**
AKASG Malin Array Be 76.27 345 P **P 23 33 12.8 -0.6**
comp=Z,7.7nm,0.4s,baz=16,slow=5.8,SNR=15
AKASG LR LR 00 11 14.3
comp=Z,120nm,21.9s,baz=15,slow=39
KIEV Kiev 76.28 345 *eP* **P 23 33 12.4 -1.1**
KIEV pmax pmax
comp=Z,7.0nm,0.4s
KIEV Kiev 76.28 345 *eP* **P 23 33 12.4 -1.1**
comp=Z,7.1nm,0.4s
IBBN Ibbenburen 76.47 359 *eP* **P 23 33 15.6 +1.0**
comp=Z,9.0nm,0.6s
CLL Collm 77.33 356 *eP* **P 23 33 19.9 +0.5**
comp=Z,6.0nm,0.7s
CLL *ep*P **pP 23 33 33.0 +0.4**
CLL Collm 77.33 356⇑*iP* **P 23 33 19.4 0.0**
CLL *i* *PP **pP 23 33 32.3 -0.3**
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL Collm 77.33 356⇑*iP* **P 23 33 19.4 0.0**
comp=Z,10.0nm,0.7s
CLL *i* pP **pP 23 33 32.3 -0.3**
CLL Lm MLR 00 08 00.0
comp=Z,100nm,18.0s
NEUB Neuenburg 77.48 357 *eP* **P 23 33 21.2 +0.9**
comp=Z,9.0nm,0.9s
KSP Ksiaz 77.60 354 *eP* **P 23 33 21.1 +0.1**
KSP *e* 23 33 27.9
KSP Ksiaz 77.60 354 *eP* **P 23 33 21.1 +0.1**
BRG Berggiesshubel 77.72 355 *i* P **P 23 33 21.8 +0.2**
comp=Z,24nm,1.3s
BRG *e* 23 33 29.2
comp=Z,5.0nm,0.8s
BRG *e* 23 33 34.6
comp=Z,9.5nm,0.8s
BRG Berggiesshubel 77.72 355 *eP* **P 23 33 22.2 +0.6**
comp=Z,8.0nm,0.7s
BRG Berggiesshubel 77.72 355 *i* P **P 23 33 21.8 +0.2**
BRG *e* 23 33 29.2
BRG *e* 23 33 34.6
BRG pmax pmax
comp=Z,24nm,1.3s
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,0.9s
LVV L'vov 77.87 348 *eP* **P 23 33 22.2 -0.3**
UBBA Unterbreizbach 77.93 358 *eP* **P 23 33 23.3 +0.7**
comp=Z,2.0nm,0.8s
OJC Ojcow 77.94 351 *eP* **P 23 33 22.6 -0.3**
UPC Upice 77.96 354 *eP* **P 23 33 23.4 +0.4**
UPC *e*PP **pP 23 33 36.5 +0.3**
UPC Upice 77.96 354⇑*eP* **P 23 33 23.4 +0.4**
UPC *ep*P **pP 23 33 36.5 +0.3**
PVCC Panska Ves 78.03 355 *eP* **P 23 33 24.0 +0.6**
PVCC Panska Ves 78.03 355⇑*eP* **P 23 33 24.0 +0.6**
MOX Moxa 78.05 357 *eP* **P 23 33 24.3 +0.8**
comp=Z,6.0nm,0.7s
MOX *ep*P **pP 23 33 37.1 +0.4**
MOX Moxa 78.05 357 *eP* **P 23 33 24.3 +0.8**
MOX *e*PP **pP 23 33 37.1 +0.4**
MOX pmax pmax
comp=Z,6.0nm,0.7s
DPC Dobruska-Polom 78.09 354⇑*iP* **P 23 33 24.5 +0.7**
DPC *e*PP **pP 23 33 37.4 +0.4**
DPC Dobruska-Polom 78.09 354⇑*iP* **P 23 33 24.5 +0.7**
DPC *ep*P **pP 23 33 37.4 +0.4**
KWP Kalwaria Pacla 78.21 349 ⇓P **P 23 33 24.9 +0.5**
KWP Kalwaria Pacla 78.21 349 ⇓*iP* **P 23 33 24.9 +0.5**
KWP Kalwaria Pacla 78.21 349 *eP* **P 23 33 24.3 -0.1**
comp=Z,28nm,1.1s
KWP *e*PP **PP 23 36 19.7 -0.9**
KWP Kalwaria Pacla 78.21 349 *eP* **P 23 33 24.6 +0.2**
KBL Kabul 78.22 312 *eP* **P 23 33 24.6 -0.4**
KBL pmax pmax
comp=Z,34nm,0.8s
KBL Kabul 78.22 312 *eP* **P 23 33 24.6 -0.4**
comp=Z,34nm,0.8s
TANN Tannenbergstha 78.25 356 *eP* **P 23 33 25.4 +0.7**
comp=Z,2.0nm,0.9s
OKC Ostrava-Krasne 78.46 352 *eP* **P 23 33 26.1 +0.3**
OKC *e*PP **pP 23 33 38.3 -0.7**
OKC Ostrava-Krasne 78.46 352⇑*eP* **P 23 33 26.1 +0.3**
OKC *ep*P **pP 23 33 38.3 -0.7**
TNS Taunus Mts 78.55 359 *eP* **P 23 33 27.1 +0.8**
comp=Z,5.0nm,0.7s
TNS Taunus Mts 78.55 359 *eP* **P 23 33 27.1 +0.8**
TNS pmax pmax
comp=Z,5.0nm,0.7s
PRU Pruhonice 78.57 355⇑*iP* **P 23 33 26.6 +0.3**
PRU *e*PP **pP 23 33 39.8 +0.2**
PRU Pruhonice 78.57 355⇑*iP* **P 23 33 26.6 +0.3**
PRU *ep*P **pP 23 33 39.8 +0.2**
MORC Moravsky Berou 78.57 353 *eP* **P 23 33 26.3 -0.1**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 78.57 353 *eP* **P 23 33 26.3 -0.1**
comp=Z,4.4nm,0.8s
STHS Stebnicka Huta 78.58 350 *eP* **P 23 33 27.3 +0.8**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 78.58 350 *eP* **P 23 33 27.3 +0.8**
STHS *ep*P **PcP 23 33 36.8 +1.4**
GIVF Givet 78.68 1 *eP* **P 23 33 27.4 +0.4**
MANZ Manzenberg 78.69 356 *eP* **P 23 33 27.8 +0.7**
comp=Z,3.0nm,0.8s
BAIF Baives 78.71 1⇑*iP* **P 23 33 27.7 +0.6**
comp=Z,7.4nm,0.8s
ROTZ Rotzenmuhle 78.90 356 *eP* **P 23 33 29.3 +1.1**
comp=Z,4.0nm,0.7s
ROTZ *ep*P **pP 23 33 42.4 +1.0**
KOLS Kolonicke sedl 78.95 349 *eP* **P 23 33 28.6 +0.1**
KOLS pmax pmax
comp=Z,8.0nm,1.3s
KOLS Kolonicke sedl 78.95 349 *eP* **P 23 33 28.6 +0.1**
GRF Grafenberg Arr 79.02 357 *eP* **P 23 33 30.1 +1.2**
comp=Z,15nm,0.6s
GRF *ep*P **pP 23 33 43.2 +1.1**
GRF Grafenberg Arr 79.02 357 *eP* **P 23 33 30.1 +1.2**
GRF *e*PP **pP 23 33 43.2 +1.1**
GRF pmax pmax
comp=Z,15nm,0.6s
GRFO Grafenberg 79.02 357 *eP* **P 23 33 28.6 -0.2**
GRFO *e*PP **pP 23 33 42.9 +0.8**
GRFO pmax pmax
comp=Z,7.0nm,0.4s
GRFO Grafenberg 79.02 357 *eP* **P 23 33 28.6 -0.2**
comp=Z,6.6nm,0.4s
GRFO *ep*P **pP 23 33 42.9 +0.8**
CRVS Cervenica-Dubn 79.07 350 *eP* **P 23 33 29.1 0.0**
CRVS pmax pmax
comp=Z,4.0nm,0.8s
CRVS Cervenica-Dubn 79.07 350 *eP* **P 23 33 29.1 0.0**
VRAC Vranov 79.11 353 LR LR 00 06 02.7
comp=Z,52nm,21.3s,baz=5.0,slow=34
TREC Trest 79.20 354⇑⇑*eP* **P 23 33 30.1 +0.2**
TREC *e*PP **pP 23 33 43.3 +0.2**
TREC Trest 79.20 354⇑⇑*eP* **P 23 33 30.1 +0.2**
TREC *ep*P **pP 23 33 43.3 +0.2**
KHC Kasperske Hory 79.47 355⇑*iP* **P 23 33 32.1 +0.7**
KHC *e*PP **pP 23 33 44.7 +0.1**
KHC Kasperske Hory 79.47 355⇑*iP* **P 23 33 32.1 +0.7**
KHC *ep*P **pP 23 33 44.7 +0.1**
KHC Kasperske Hory 79.47 355 *eP* **P 23 33 31.6 +0.2**
comp=Z,17nm,1.3s
KHC *ep*P **pP 23 33 44.5 -0.2**
WET Wettzell 79.50 356 *eP* **P 23 33 32.4 +0.9**
comp=Z,2.0nm,0.7s
WET Wettzell 79.50 356 *eP* **P 23 33 32.4 +0.9**
WET pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 79.59 351 *eP* **P 23 33 32.1 +0.1**
KECS pmax pmax
comp=Z,3.0nm,0.6s
KECS Kecovo 79.59 351 *eP* **P 23 33 32.1 +0.1**
KECS *ep*P **pP 23 33 45.4 +0.2**
TRPA Tarpa 79.71 349⇓*iP* **P 23 33 33.0 +0.4**
VYHS Vyhne 79.73 352 *eP* **P 23 33 33.1 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 79.73 352 *eP* **P 23 33 33.1 +0.3**
GEC2 GERESS Array S 79.75 355 *eP* **P 23 33 33.6 +0.6**
comp=Z,4.0nm,0.7s
GEC2 GERESS Array S 79.75 355 *eP* **P 23 33 33.6 +0.6**
GEC2 pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 79.75 355 P **P 23 33 32.9 -0.1**
GERES GERESS Array B 79.75 355 P **P 23 33 32.9 -0.1**
comp=Z,4.4nm,0.7s,baz=16,slow=5.0,SNR=43
KIV Kislovodsk 79.79 334 *eP* **P 23 33 33.6 +0.3**
KIV pmax pmax
comp=Z,27nm,1.0s
SMOL Smolenice 79.83 353 *eP* **P 23 33 34.3 +1.0**
SMOL *e* 23 33 47.6
SMOL Smolenice 79.83 353 *eP* **P 23 33 34.3 +1.0**
SMOL *ep*P **pP 23 33 47.6 +1.1**
FLN La Foliniere 79.85 5 *eP* **P 23 33 33.5 +0.1**
comp=Z,49nm,1.4s
FLN *e*R
comp=Z,84nm,18.2s
BURAR Bucovina Array 79.87 347⇑P **P 23 33 33.6 -0.1**
BURAR Bucovina Array 79.87 347⇑*iP* **P 23 33 33.6 -0.1**
KBZ Khabaz 79.95 334 P **P 23 33 34.7 +0.8**
KBZ Khabaz 79.95 334 P **P 23 33 34.7 +0.8**
KBZ Khabaz 79.95 334 P **P 23 33 34.7 +0.8**
comp=Z,15nm,0.9s,baz=57,slow=2.7,SNR=33
KBZ LR LR 00 12 31.9
comp=Z,82nm,21.0s,baz=32,slow=38
STU Stuttgart 79.99 358 *eP* **P 23 33 35.0 +0.9**
comp=Z,6.0nm,0.7s
LDF La Druitiere 80.04 4⇑*iP* **P 23 33 34.3 -0.1**
comp=Z,8.9nm,0.6s
ROSF Rostrenen 80.11 7 *eP* **P 23 33 35.3 +0.5**
comp=Z,18nm,1.0s
ZST Bratislava 80.18 353 *eP* **P 23 33 33.8 -1.3**
ZST Bratislava 80.18 353 *eP* **P 23 33 33.8 -1.3**
GRR Gorron 80.21 5⇑*iP* **P 23 33 35.5 +0.2**
PAGF Fort de Pagny 80.23 0⇑*iP* **P 23 33 36.4 +0.9**
comp=Z,8.2nm,0.7s
SGMF Saint Gilles 80.24 6 *eP* **P 23 33 35.7 +0.2**
MEZF Maizieres J'vi 80.28 1 *eP* **P 23 33 36.3 +0.6**
CDF Champ du Feu 80.38 359⇑*iP* **P 23 33 36.7 +0.4**
comp=Z,9.6nm,0.6s
BFO Black Forest 80.45 359 *eP* **P 23 33 37.4 +0.7**
comp=Z,4.0nm,0.8s
BFO *ep*P **pP 23 33 50.3 +0.4**
BFO Black Forest 80.45 359 *eP* **P 23 33 37.4 +0.7**
BFO *e*PP **pP 23 33 50.3 +0.4**
BFO pmax pmax
comp=Z,4.0nm,0.8s
BFO Black Forest 80.45 359 *eP* **P 23 33 35.7 -1.0**
comp=Z,8.0nm,1.0s
CONA Conrad Observa 80.53 354⇑*iP* **P 23 33 37.9 +0.7**
comp=Z,8.3nm,0.7s,SNR=8.2
ZEI Tsey 80.54 333 *eP* **P 23 33 36.9 -0.6**
ZEI pmax pmax
comp=Z,35nm,1.1s
FUR Furstenfeldbru 80.54 357 *eP* **P 23 33 38.0 +0.9**
comp=Z,8.0nm,0.8s
FUR Furstenfeldbru 80.54 357 *eP* **P 23 33 38.0 +0.9**
FUR pmax pmax
comp=Z,8.0nm,0.8s
ECH Echery 80.57 360 *eP* **P 23 33 36.7 -0.6**
ECH *e*PP **pP 23 33 50.2 -0.4**
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH Echery 80.57 360 *eP* **P 23 33 36.7 -0.6**
comp=Z,9.6nm,1.0s
ECH *ep*P **pP 23 33 50.1 -0.4**
SFTF Sexfontaines 80.58 1⇑*iP* **P 23 33 37.8 +0.5**
comp=Z,8.2nm,0.5s
GUDG Gudauri 80.67 332 P **P 23 33 38.6 +0.4**
MOA Molln 80.72 355⇑*iP* **P 23 33 38.5 +0.4**
comp=Z,2.6nm,0.8s
TESR Tescani 80.74 346⇓*iP* **P 23 33 38.3 +0.1**
HAU Haudompre 80.79 0⇑*iP* **P 23 33 38.9 +0.4**
comp=Z,11nm,0.6s
HAU *e*R
comp=Z,65nm,20.5s
ONI Oni 80.85 333 P **P 23 33 40.8 +1.9**
RJOB Jochberg 80.91 356 *eP* **P 23 33 40.0 +0.9**
comp=Z,5.0nm,0.8s
SOC Sochi 80.92 336 *eP* **P 23 33 38.3 -0.9**
SOC *e*PPP PPP 23 38 30.3
SOC *e*S **S 23 43 44.8 +0.6**
SOC *e*SS SS 23 49 05.1 +7.8
SOC pmax pmax
comp=Z,20nm,0.6s
DUS Dusheti 80.95 332 P **P 23 33 41.2 +1.7**
HINF Hinteralfeld 80.97 360⇑*iP* **P 23 33 39.7 +0.2**
comp=Z,10nm,0.5s
ARSA Arzberg 81.23 354⇓*iP* **P 23 33 41.7 +0.8**
comp=Z,5.3nm,0.7s
TBLG Delisi 81.27 332 *eP* **P 23 33 41.8 +0.7**
TBLG Delisi 81.27 332 P **P 23 33 41.8 +0.7**
DGRG David-gareji 81.34 331 P **P 23 33 40.8 -0.8**
WATA Walderalm 81.36 356⇑*iP* **P 23 33 42.2 +0.5**
comp=Z,7.6nm,1.0s,SNR=5.6
VRI Vrincioaia 81.36 346 ⇓P **P 23 33 42.3 +0.8**
VRI Vrincioaia 81.36 346⇓*iP* **P 23 33 42.3 +0.8**
MOTA Moosalm 81.37 357⇑*iP* **P 23 33 42.2 +0.5**
comp=Z,7.9nm,1.0s,SNR=6.1
PLOR Plostina 81.39 346⇑P **P 23 33 42.4 +0.7**
PLOR Plostina 81.39 346⇑*iP* **P 23 33 42.3 +0.6**
WTTA Wattenberg 81.43 356⇓*iP* **P 23 33 42.7 +0.6**
comp=Z,7.5nm,0.7s,SNR=5.7
LOR Lormes 81.50 2⇑*iP* **P 23 33 42.6 +0.3**
comp=Z,12nm,0.7s
LOR *e*R
comp=Z,94nm,18.5s
KBA Koelnbreinsper 81.53 355⇑*iP* **P 23 33 43.6 +0.9**
comp=Z,18nm,0.6s,SNR=18
TLCR 81.69 344⇑P **P 23 33 44.0 +0.8**
TLCR 81.69 344⇑*iP* **P 23 33 44.0 +0.8**
SSF Saint Saulge 81.70 2⇑*iP* **P 23 33 43.8 +0.5**
comp=Z,14nm,0.7s
FETA Feichten 81.70 357⇓*iP* **P 23 33 44.1 +0.6**
comp=Z,8.4nm,0.8s,SNR=6.6
CFR Carcaliu 81.81 345⇑P **P 23 33 44.3 +0.5**
CFR Carcaliu 81.81 345⇑*iP* **P 23 33 44.3 +0.5**
SOKA Soboth 81.84 354⇑*iP* **P 23 33 44.5 +0.4**
comp=Z,18nm,1.4s,SNR=11
MLR Muntele Rosu 81.85 346⇓⇓*iP* **P 23 33 44.7 +0.4**
MLR Muntele Rosu 81.85 346 LR LR 00 11 15.5
comp=Z,16nm,21.0s,baz=166,slow=36
PERS Pernice 81.87 354 *i* P **P 23 33 44.7 +0.4**
PERS *i* 23 33 57.6
ABTA Abfaltersbach 81.91 356⇑*iP* **P 23 33 44.8 +0.3**
comp=Z,8.6nm,1.2s,SNR=6.2
AVF Avril sur Loir 81.97 2⇑*iP* **P 23 33 45.0 +0.3**
comp=Z,13nm,0.7s
GROS Grobnik 82.02 354 *i* P **P 23 33 45.3 +0.2**
MFF Saint Martin d 82.03 5 *eP* **P 23 33 45.5 +0.5**
VOIR 82.03 347⇑P **P 23 33 46.4 +1.2**
VOIR 82.03 347⇑⇑*iP* **P 23 33 46.3 +1.1**
SMF Signal de Mont 82.12 2⇑*iP* **P 23 33 45.9 +0.4**
comp=Z,16nm,0.8s
CABF La Chapelle 82.18 0⇑*iP* **P 23 33 46.8 +0.9**
comp=Z,23nm,0.8s
BGF Bois d'Agland 82.19 2 *eP* **P 23 33 46.2 +0.3**
TUE Stuetta 82.29 358 *eP* **P 23 33 46.0 -0.6**
comp=Z,10nm,1.0s
BZS Buzias 82.29 349 ⇓P **P 23 33 46.6 +0.2**
BZS Buzias 82.29 349⇓*iP* **P 23 33 46.6 +0.2**
ROBS Robic 82.36 355 *i* P **P 23 33 46.3 -0.4**
GZR Gura Zlata 82.37 348 ⇓P **P 23 33 46.8 -0.1**
GZR Gura Zlata 82.37 348⇓*iP* **P 23 33 46.8 -0.1**
TCF Toulx Ste Croi 82.44 3⇑*iP* **P 23 33 47.4 +0.2**
comp=Z,8.2nm,0.8s
TIRR Tirgusor 82.46 344 ⇓P **P 23 33 48.2 +0.9**
TIRR Tirgusor 82.46 344⇓*iP* **P 23 33 48.2 +0.9**
GNI Garni 82.72 331 LR LR 00 17 08.5
comp=Z,83nm,19.3s,baz=146,slow=40
BOJS Bojanci 82.99 354 *i* P **P 23 33 50.1 +0.1**
LPL La Plagne 83.28 360 *eP* **P 23 33 52.5 +0.7**
comp=Z,3.5nm,0.6s
LPG La Plagne 83.30 360 *eP* **P 23 33 52.6 +0.6**
comp=Z,13nm,1.0s
RJF Les Rejaudoux 83.39 3⇑*iP* **P 23 33 52.4 +0.2**
comp=Z,7.8nm,0.8s
RJF *e*R
comp=Z,78nm,19.2s
ZIMR 83.73 346⇑P **P 23 33 54.6 +0.8**
ZIMR 83.73 346⇑*iP* **P 23 33 54.6 +0.8**
LFF La Frestale 83.73 4 *eP* **P 23 33 54.5 +0.7**
comp=Z,16nm,0.7s
BNI Bardonecchia 83.74 360 *eP* **P 23 33 54.9 +0.8**
BNI *e*PP **pP 23 34 08.6 +1.2**
BNI pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 83.74 360 *eP* **P 23 33 54.9 +0.8**
comp=Z,12nm,0.8s
BNI *ep*P **pP 23 34 08.6 +1.2**
CAF Calviac 83.79 3 *eP* **P 23 33 54.9 +0.7**
ORIF Oris-en-Rattie 83.87 0 *eP* **P 23 33 55.2 +0.5**
comp=Z,8.1nm,0.6s
ORIF *e*R
comp=Z,66nm,21.5s
VIVF Saint-Julien-l 83.92 1⇑*iP* **P 23 33 55.7 +0.8**
comp=Z,25nm,1.1s
DIVS Divibare 83.97 350 P **P 23 33 55.0 -0.2**
MBDF Montbardon 84.07 360⇑*iP* **P 23 33 57.1 +1.3**
comp=Z,11nm,0.6s
WRA Warramunga Arr 84.51 228 P **P 23 33 56.9 -1.2**
WRA pP **pP 23 34 09.6 -1.8**
WRA Warramunga Arr 84.51 228 P **P 23 33 56.9 -1.2**
comp=Z,1.8nm,0.6s,baz=35,slow=6.2,SNR=30
WRA pP **pP 23 34 09.6 -1.8**
comp=Z,3.1nm,0.6s,baz=32,slow=5.7,SNR=12
LASF Ste Croix 84.69 2 *eP* **P 23 34 00.2 +1.4**
JMB Yambol 84.70 345 P **P 23 34 00.1 +1.3**
JMB Yambol 84.70 345 P **P 23 34 00.1 +1.3**
JMB Yambol 84.70 345 P **P 23 34 00.1 +1.3**
SMRF Simiane la Rot 84.81 1⇑*iP* **P 23 34 01.0 +1.6**
comp=Z,49nm,1.2s
SBF Sospel 84.93 359 *eP* **P 23 34 00.6 +0.6**
comp=Z,42nm,0.8s
VTS Vitosha 85.07 348 ⇓P **P 23 34 01.1 +0.2**
VTS Vitosha 85.07 348 *eP* **P 23 34 00.6 -0.3**
VTS Vitosha 85.07 348⇓*iP* **P 23 34 01.1 +0.2**
FRF La Foret Royal 85.23 360⇑⇑*iP* **P 23 34 02.0 +0.5**
comp=Z,47nm,1.2s
PLD Plovdiv 85.34 346 P **P 23 34 02.7 +0.7**
PLD Plovdiv 85.34 346 P **P 23 34 02.7 +0.7**
PLD Plovdiv 85.34 346 P **P 23 34 02.7 +0.7**
MTLF Montolieu 85.38 3 *eP* **P 23 34 03.1 +0.9**
comp=Z,5.4nm,0.6s
SJPF Ste Jean 85.44 6⇑*iP* **P 23 34 03.2 +0.6**
comp=Z,5.3nm,0.7s
LMR La Mourre 85.46 360 *eP* **P 23 34 03.4 +0.8**
comp=Z,58nm,1.2s
EPF Esparros 85.61 4 *eP* **P 23 34 03.4 -0.1**
comp=Z,5.5nm,0.8s
ETSF Etsaut 85.70 5 *eP* **P 23 34 04.9 +1.0**
comp=Z,20nm,1.1s
PDG Podgorica 85.70 351 P **P 23 34 03.9 +0.1**
TTG Podgorica 85.70 351 P **P 23 34 03.9 +0.1**
TTG Podgorica 85.70 351 P **P 23 34 03.9 +0.1**
SKO Skopje 85.91 349 P **P 23 34 06.5 +1.6**
SKO Skopje 85.91 349 P **P 23 34 06.5 +1.6**
SKO Skopje 85.91 349 *i* P **P** 23 34 01.4 -3.4
SKO Skopje 85.91 349 P **P 23 34 06.5 +1.6**
BR131 Keskin Array S 86.01 339 *eP* **P 23 34 05.0 -0.6**
comp=Z,4.1nm,0.6s
RDO Rodhopi 86.16 346 P **P 23 34 07.2 +1.1**
RDO Rodhopi 86.16 346 *eP* **P 23 34 07.2 +1.1**
RDO Rodhopi 86.16 346 P **P 23 34 07.2 +1.1**
MALT Malatya 86.20 335 ⇓P P 23 34 11.4 +4.9
MALT Malatya 86.20 335⇓*iP* P 23 34 11.4 +4.9
NVR Nevrokopi 86.20 347 P **P 23 34 07.4 +1.0**
NVR Nevrokopi 86.20 347 *eP* **P 23 34 07.4 +1.0**
NVR Nevrokopi 86.20 347 P **P 23 34 07.4 +1.0**
PGF Pioggiola 86.22 358⇑*iP* **P 23 34 06.9 +0.4**
comp=Z,29nm,0.9s
AQU L'Aquila 86.24 355 *eP* **P 23 34 07.0 +0.5**
comp=Z,38nm,0.6s
PBRG Braganca 86.28 10 *eP* **P 23 34 06.4 -0.4**
comp=Z,13nm,1.9s
PHP Peshkopia 86.31 350 P **P 23 34 07.0 +0.1**
PHP Peshkopia 86.31 350 P **P 23 34 07.0 +0.1**
PHP Peshkopia 86.31 350 P **P 23 34 07.0 +0.1**
VAY Valandovo 86.41 348 P **P 23 34 06.9 -0.4**
VAY Valandovo 86.41 348 P **P 23 34 06.9 -0.4**
VAY Valandovo 86.41 348 *i* P P 23 34 01.7 -5.6
VAY Valandovo 86.41 348 P **P 23 34 06.9 -0.4**
SRS Serrai 86.47 347 P **P 23 34 08.1 +0.4**
SRS Serrai 86.47 347 P **P 23 34 08.1 +0.4**
SRS Serrai 86.47 347 P **P 23 34 08.1 +0.4**
KNT Kendrikon 86.52 348 P **P 23 34 08.0 +0.1**
KNT Kendrikon 86.52 348 P **P 23 34 08.0 +0.1**
KNT Kendrikon 86.52 348 P **P 23 34 08.0 +0.1**
GRG Griva 86.79 348 P **P 23 34 10.3 +1.0**
GRG Griva 86.79 348 P **P 23 34 10.3 +1.0**
GRG Griva 86.79 348 P **P 23 34 10.3 +1.0**
SOH Sokhos 86.79 347 P **P 23 34 09.7 +0.4**
SOH Sokhos 86.79 347 P **P 23 34 09.7 +0.4**
SOH Sokhos 86.79 347 *eP* **P 23 34 10.3 +1.0**
SOH Sokhos 86.79 347 P **P 23 34 09.7 +0.4**
BIA Bitola 86.86 349 P **P 23 34 09.4 -0.3**
BIA Bitola 86.86 349 *i* P **P 23 34 09.1 -0.6**
BIA Bitola 86.86 349 P **P 23 34 09.4 -0.3**
MVO Moncorvo 86.88 10 *eP* **P 23 34 09.9 +0.1**
comp=Z,13nm,1.5s
MVO *ep*P **pP 23 34 23.1 -0.1**
HORT Hortiatis 87.05 347 P **P 23 34 10.7 +0.1**
HORT Hortiatis 87.05 347 P **P 23 34 10.7 +0.1**
FNA Florina 87.09 349 P **P 23 34 10.7 -0.1**
FNA Florina 87.09 349 P **P 23 34 10.7 -0.1**
FNA Florina 87.09 349 *eP* **P 23 34 10.7 -0.1**
FNA Florina 87.09 349 P **P 23 34 10.7 -0.1**
HYB Hyderabad 87.16 295 *i* P **P 23 34 10.0 -1.4**
OUR Ouranopolis 87.18 347 P **P 23 34 11.5 +0.4**
OUR Ouranopolis 87.18 347 P **P 23 34 11.5 +0.4**
OUR Ouranopolis 87.18 347 P **P 23 34 11.5 +0.4**
PLG Polygyros 87.22 347 P **P 23 34 11.3 -0.1**
PLG Polygyros 87.22 347 P **P 23 34 11.3 -0.1**
PLG Polygyros 87.22 347 *eP* **P 23 34 11.4 0.0**
PLG Polygyros 87.22 347 P **P 23 34 11.3 -0.1**
PVIS Viseu 87.23 11 *eP* **P 23 34 11.8 +0.4**
comp=Z,13nm,1.8s
PVIS *ep*P **pP 23 34 22.4 -2.4**
LIA Limnos Island 87.43 346 *eP* **P 23 34 12.4 +0.1**
NEST Nestorio 87.49 349 P **P 23 34 13.0 +0.2**
MTE Manteigas 87.58 11 *eP* **P 23 34 13.3 +0.1**

MTE				*e*pP	pP	23 34 20.9	-5.6
LIT	**Litokhoron**	**87.62**	**348**	*e*P	**P**	**23 34 13.3**	**0.0**
PCAS	**Casmilo, Conde**	**87.81**	**11**	*e*P	**P**	**23 34 14.4**	**+0.2**
	comp=Z,12nm,1.7s						
PCAS				*e*pP	**pP**	**23 34 27.8**	**+0.2**
AS31	**Alice Springs**	**87.93**	**227**	*e*P	**P**	**23 34 14.6**	**-0.2**
AS31				*e*pP	**pP**	**23 34 26.9**	**-1.3**
ASAR	**Alice Springs**	**87.93**	**227**	P	**P**	**23 34 14.3**	**-0.5**
ASAR				pP	**pP**	**23 34 27.9**	**-0.4**
ASAR	**Alice Springs**	**87.93**	**227**	P	**P**	**23 34 14.3**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=31,slow=4.7,SNR=37						
ASAR				pP	**pP**	**23 34 27.9**	**-0.4**
	comp=Z,5.8nm,0.8s,baz=31,slow=4.4,SNR=14						
PCBR	**Castelo Branco**	**88.14**	**11**	*e*P	**P**	**23 34 15.5**	**-0.2**
	comp=Z,12nm,1.9s						
SRN	**Sarande**	**88.14**	**350**	P	**P**	**23 34 15.6**	**-0.1**
SRN	**Sarande**	**88.14**	**350**	P	**P**	**23 34 15.6**	**-0.1**
THL	**Klokotos Trika**	**88.21**	**348**	*e*P	**P**	**23 34 15.9**	**-0.1**
XOR	**Xorichti**	**88.25**	**347**	P	**P**	**23 34 15.0**	**-1.3**
XOR	**Xorichti**	**88.25**	**347**	P	**P**	**23 34 15.0**	**-1.3**
PTOM	**Tomar**	**88.25**	**11**	*e*P	**P**	**23 34 16.6**	**+0.4**
	comp=Z,13nm,1.4s						
PTOM				*e*pP	**pP**	**23 34 29.6**	**-0.1**
JAN	**Janina**	**88.26**	**349**	P	**P**	**23 34 17.1**	**+0.7**
JAN	**Janina**	**88.26**	**349**	P	**P**	**23 34 17.1**	**+0.7**
JAN	**Janina**	**88.26**	**349**	*e*P	**P**	**23 34 17.1**	**+0.7**
JAN	**Janina**	**88.26**	**349**	P	**P**	**23 34 17.1**	**+0.7**
NEO	**Neokhori**	**88.30**	**347**	P	**P**	**23 34 16.1**	**-0.4**
NEO	**Neokhori**	**88.30**	**347**	*e*P	**P**	**23 34 15.8**	**-0.7**
NEO	**Neokhori**	**88.30**	**347**	P	**P**	**23 34 16.1**	**-0.4**
KEK	**Kerkira**	**88.33**	**350**	P	**P**	**23 34 15.6**	**-1.0**
KEK	**Kerkira**	**88.33**	**350**	*e*P	**P**	**23 34 15.2**	**-1.4**
KEK	**Kerkira**	**88.33**	**350**	P	**P**	**23 34 15.6**	**-1.0**
IGT	**Igoumenitsa**	**88.45**	**349**	P	**P**	**23 34 17.5**	**+0.3**
IGT	**Igoumenitsa**	**88.45**	**349**	P	**P**	**23 34 17.5**	**+0.3**
IGT	**Igoumenitsa**	**88.45**	**349**	P	**P**	**23 34 17.5**	**+0.3**
PMRV	**Marv??o**	**88.56**	**11**	*e*P	**P**	**23 34 18.6**	**+0.9**
	comp=Z,15nm,1.5s						
ESDC	**Sonseca Array**	**88.66**	**8**	P	**P**	**23 34 18.0**	**-0.3**
ESDC				pP	**pP**	**23 34 31.2**	**-0.5**
ESDC	**Sonseca Array**	**88.66**	**8**	P	**P**	**23 34 18.0**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=352,slow=4.2,SNR=14						
ESDC				pP	**pP**	**23 34 31.2**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=350,slow=4.5,SNR=6.0						
AGG	**Agios Georgios**	**88.70**	**348**	P	**P**	**23 34 17.1**	**-1.3**
AGG	**Agios Georgios**	**88.70**	**348**	P	**P**	**23 34 17.1**	**-1.3**
AGG	**Agios Georgios**	**88.70**	**348**	*e*P	**P**	**23 34 17.5**	**-0.9**
AGG	**Agios Georgios**	**88.70**	**348**	P	**P**	**23 34 17.1**	**-1.3**
PMAFR	**Mafra**	**88.79**	**12**	*e*P	**P**	**23 34 18.2**	**-0.6**
	comp=Z,37nm,1.3s						
PMAFR				*e*pP	pP	23 34 37.7	+5.5
PMTG	**Montargil**	**88.81**	**11**	*e*P	**P**	**23 34 18.8**	**-0.1**
	comp=Z,8.6nm,1.8s						
EVR	**Evrytania**	**88.87**	**348**	P	**P**	**23 34 19.8**	**+0.4**
EVR	**Evrytania**	**88.87**	**348**	*e*P	**P**	**23 34 19.7**	**+0.4**
EVR	**Evrytania**	**88.87**	**348**	P	**P**	**23 34 19.8**	**+0.4**
POO	**Poona**	**88.88**	**299**	||*i*P	**P**	**23 34 19.0**	**-0.6**
	comp=Z,50nm,1.0s						
LKR	**Lokris**	**88.98**	**347**	*e*P	**P**	**23 34 18.8**	**-0.9**
PESTR	**Estremoz**	**89.09**	**11**	*e*P	**P**	**23 34 18.8**	**-1.4**
	comp=Z,13nm,1.6s						
PESTR				*e*pP	**pP**	**23 34 33.5**	**-0.2**
LKD2	**Lefkada island**	**89.14**	**349**	P	**P**	**23 34 20.0**	**-0.5**
LKD2	**Lefkada island**	**89.14**	**349**	*e*P	**P**	**23 34 20.3**	**-0.2**
LKD2	**Lefkada island**	**89.14**	**349**	P	**P**	**23 34 20.0**	**-0.5**
DSF	**Desfina**	**89.28**	**347**	P	**P**	**23 34 20.3**	**-0.9**
DSF	**Desfina**	**89.28**	**347**	P	**P**	**23 34 20.3**	**-0.9**
EFP	**Efpalio**	**89.34**	**348**	P	**P**	**23 34 21.4**	**0.0**
EFP	**Efpalio**	**89.34**	**348**	*e*P	**P**	**23 34 22.2**	**+0.8**
LAKA	**Lakka**	**89.52**	**348**	P	**P**	**23 34 22.5**	**+0.2**
LAKA	**Lakka**	**89.52**	**348**	*e*P	**P**	**23 34 23.2**	**+0.9**
LAKA	**Lakka**	**89.52**	**348**	P	**P**	**23 34 22.5**	**+0.2**
ATH	**Athens Observa**	**89.54**	**346**	*e*P	P	23 34 29.7	+7.4
KLV	**Kalavryta, Ach**	**89.69**	**348**	P	**P**	**23 34 22.9**	**-0.2**
KLV	**Kalavryta, Ach**	**89.69**	**348**	*e*P	**P**	**23 34 23.0**	**-0.2**
KLV	**Kalavryta, Ach**	**89.69**	**348**	P	**P**	**23 34 22.9**	**-0.2**
VLS	**Valsamata**	**89.75**	**349**	P	**P**	**23 34 23.4**	**0.0**
VLS	**Valsamata**	**89.75**	**349**	P	**P**	**23 34 23.4**	**0.0**
VLS	**Valsamata**	**89.75**	**349**	*e*P	**P**	**23 34 23.3**	**-0.1**
VLS	**Valsamata**	**89.75**	**349**	P	**P**	**23 34 23.4**	**0.0**
RLS	**Riolos of Patr**	**89.76**	**348**	P	**P**	**23 34 23.6**	**+0.2**
RLS	**Riolos of Patr**	**89.76**	**348**	*e*P	**P**	**23 34 24.0**	**+0.6**
RLS	**Riolos of Patr**	**89.76**	**348**	P	**P**	**23 34 23.6**	**+0.2**
GUR	**Goura**	**89.77**	**347**	P	**P**	**23 34 23.0**	**-0.6**
GUR	**Goura**	**89.77**	**347**	P	**P**	**23 34 23.0**	**-0.6**
PBAR	**Barrancos**	**89.84**	**11**	*e*P	**P**	**23 34 23.0**	**-0.7**
	comp=Z,13nm,1.6s						
PBAR				*e*pP	**pP**	**23 34 36.9**	**-0.3**
DID	**Didima**	**90.07**	**347**	*e*P	**P**	**23 34 22.7**	**-2.2**
CEL	**Celeste**	**90.15**	**353**	*e*P	P	23 34 21.8	-3.5
	comp=Z,5.1nm,0.7s						
ARG	**Arkhangelos**	**90.52**	**343**	*e*P	**P**	**23 34 26.6**	**-0.3**
ITM	**Ithomi**	**90.57**	**348**	P	**P**	**23 34 26.6**	**-0.6**
ITM	**Ithomi**	**90.57**	**348**	*e*P	**P**	**23 34 26.2**	**-1.0**
ITM	**Ithomi**	**90.57**	**348**	P	**P**	**23 34 26.6**	**-0.6**
PYL	**PYLOS**	**90.87**	**348**	*e*P	**P**	**23 34 27.2**	**-1.4**
DYR	**Agios Nikonas**	**90.92**	**347**	*e*P	**P**	**23 34 28.7**	**-0.2**
ZKR	**Zakros**	**91.94**	**344**	*e*P	**P**	**23 34 32.7**	**-0.8**
STKA	**Stephens Creek**	**91.97**	**217**	*e*P	**P**	**23 34 33.2**	**-0.2**
STKA				*e*pP	**pP**	**23 34 46.5**	**-0.3**
STKA	**Stephens Creek**	**91.97**	**217**	P	**P**	**23 34 33.1**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=78,slow=4.3,SNR=8.2						
STKA				pP	**pP**	**23 34 46.8**	**-0.1**
	comp=Z,7.2nm,0.7s,baz=353,slow=5.6,SNR=12						
STKA				LR	LR	00 12 27.9	
	comp=Z,148nm,20.4s,baz=24,slow=33						
MMAI	**Mount Meron Ar**	**91.99**	**336**	LR	LR	00 23 58.9	
	comp=Z,43nm,18.4s,baz=85,slow=41						
LAST	**Lasithi**	**92.02**	**344**	P	**P**	**23 34 32.6**	**-1.4**
LAST	**Lasithi**	**92.02**	**344**	*e*P	**P**	**23 34 32.9**	**-1.1**
LAST	**Lasithi**	**92.02**	**344**	P	**P**	**23 34 32.6**	**-1.4**
SIVA	**Sivas**	**92.27**	**345**	*e*P	**P**	**23 34 37.7**	**+2.7**
ASF	**Jabal al Asfar**	**92.40**	**335**	P	**P**	**23 34 35.8**	**-0.1**
ASF	**Jabal al Asfar**	**92.40**	**335**	P	**P**	**23 34 35.8**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=343,slow=1.4,SNR=7.1						
ASF				LR	LR	00 23 16.4	
	comp=Z,55nm,19.1s,baz=227,slow=40						
EIL	**Elat**	**95.29**	**335**	LR	LR	00 27 21.6	
	comp=Z,96nm,18.1s,baz=94,slow=42						
MDT	**Midelt**	**95.40**	**9**	LR	LR	00 16 30.9	
	comp=Z,35nm,19.8s,baz=292,slow=35						
TORD	**Torodi Ar. Bea**	**115.41**	**5**	PKP	**PKPdf**	**23 40 05.9**	**-1.1**
TORD				PKKPbc	**PKKPbc**	**23 50 37.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**115.41**	**5**	PKP	**PKPdf**	**23 40 05.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=333,slow=2.1,SNR=10						
TORD				PKKPbc	**PKKPbc**	**23 50 37.2**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=186,slow=2.7,SNR=3.3						
CPUP	**Villa Florida**	**126.32**	**88**	PKP	**PKPdf**	**23 40 26.1**	**-1.3**
CPUP	**Villa Florida**	**126.32**	**88**	PKP	**PKPdf**	**23 40 26.1**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=293,slow=3.0,SNR=3.1						
TSUM	**Tsumeb**	**146.51**	**341**	*e*PKPab	**PKPbc**	**23 41 06.8**	**+0.4**
MAW	**Mawson**	**148.65**	**218**	PKPbc	**PKPbc**	**23 41 10.9**	**+0.3**
MAW				pPKPbc	**pPKPbc**	**23 41 24.3**	**-0.1**
MAW	**Mawson**	**148.65**	**218**	PKPbc	**PKPbc**	**23 41 10.9**	**+0.3**
	comp=Z,12nm,0.8s,baz=80,slow=3.2,SNR=29						
MAW				pPKPbc	**pPKPbc**	**23 41 24.3**	**-0.1**
	comp=Z,15nm,0.7s,baz=142,slow=0.1,SNR=16						
BOSA	**Boshof**	**153.07**	**321**	PKPbc	**PKPbc**	**23 41 22.4**	**-0.1**
BOSA	**Boshof**	**153.07**	**321**	PKPbc	**PKPbc**	**23 41 22.4**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=2.7,slow=3.9,SNR=10						

MEX 19 23:29:10.9±0.5, 16°.27N×98°.20W, h14km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**30**	*i*P	Pg	23 29 13.8	-0.8
PNIG				*i*S	Sg	23 29 16.8	-0.4
UTMO	**Huajuapan**	**1.60**	**14**	*i*P	Pn	23 29 35.9	-3.1
UTMO				*i*S	Sn	23 29 54.4	-5.3
ACX	**Acapulco**	**1.70**	**291**	*i*P	Pn	23 29 35.1	-5.0
ACX				*i*S	Sn	23 29 56.1	-5.6
HUIG	**Huatulco**	**2.07**	**104**	*i*P	Pn	23 29 42.3	-3.0
HUIG				*i*S	Sn	23 30 06.5	-4.5
PLIG	**Platanillo**	**2.45**	**330**	*i*P	Pn	23 29 47.3	-3.3
PLIG				*i*S	Sn	23 30 16.5	-3.9
CMIG	**Matias Romero**	**3.28**	**75**	*i*P	Pn	23 29 59.9	-2.0
CMIG				*e*S	Sn	23 30 36.9	-3.9

IDC 19 23:43:25.3±1.5, 14°.82N×92°.99E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/27, mbtmp3.6/4, Error ellipse: s-maj=37.4km s-min=27.1km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.76**	**57**	Pn	Pn	23 45 04.2	-1.6
	baz=241,slow=14,SNR=5.7						
CMAR				Sn	Sn	23 46 22.9	-0.7
	0.4nm,0.3s,baz=237,slow=27,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.56**	**352**	P	P	23 50 59.5	+1.5
	1.2nm,0.6s,baz=175,slow=8.7,SNR=7.7						
ASAR	**Alice Springs**	**55.34**	**133**	P	P	23 53 02.0	+0.6
	0.2nm,0.3s,baz=316,slow=6.6,SNR=3.1						
GERES	**GERESS Array B**	**71.96**	**317**	P	P	23 54 49.4	-1.6
	0.5nm,0.6s,baz=99,slow=6.1,SNR=5.7						

MEX 20 00:06:49.6±0.4, 15°.75N×95°.26W, h48km±13km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.81**	**271**	*i*P	Pn	00 07 03.1	-1.7
HUIG				*e*S	Sn	00 07 14.0	-1.9
CMIG	**Matias Romero**	**1.38**	**15**	*i*P	Pn	00 07 10.9	-1.6
CMIG				*i*S	Sn	00 07 27.0	-2.7
PCIG		**1.97**	**91**	*e*P	Pn	00 07 15.3	-5.2
PCIG				*i*S	Sn	00 07 38.8	-5.2
TGIG		**2.30**	**63**	*e*P	Pn	00 07 23.5	-1.6
TGIG				*i*S	Sn	00 07 50.7	-1.6
PNIG	**Pinotepa**	**2.83**	**283**	*i*P	Pn	00 07 31.3	-1.0
PNIG				*i*S	Sn	00 08 03.9	-1.4
UTMO	**Huajuapan**	**3.19**	**311**	*i*P	Pn	00 07 36.2	-1.5
UTMO				*i*S	Sn	00 08 12.9	-1.7
TPIG	**Tehuac#an**	**3.33**	**323**	*i*P	Pn	00 07 38.1	-1.3
TPIG				*i*S	Sn	00 08 15.9	-2.0

IDC 20 00:48:25.6±3.1, 1°.90S×98°.75E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/24, mbtmp3.4/6, ML2.8/1, Error ellipse: s-maj=119.5km s-min=22.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.67**	**2**	Pn	Pn	00 49 35.9	-1.7
	0.4nm,0.3s,baz=169,slow=11,SNR=1.7						
WRA	**Warramunga Arr**	**39.13**	**120**	P	P	00 55 55.1	-0.2
	0.3nm,0.5s,baz=302,slow=9.5,SNR=7.7						
ASAR	**Alice Springs**	**40.33**	**125**	P	P	00 56 05.1	-0.1
	0.2nm,0.3s,baz=296,slow=7.1,SNR=3.7						
SONM	**Songino Array**	**49.98**	**7**	P	P	00 57 21.9	+0.2
	0.1nm,0.3s,baz=188,slow=7.6,SNR=2.0						
MKAR	**Makanchi Array**	**50.60**	**345**	P	P	00 57 26.6	+0.3
	0.5nm,0.6s,baz=146,slow=8.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**56.85**	**350**	P	P	00 58 10.9	-0.9
	0.2nm,0.3s,baz=165,slow=6.0,SNR=3.0						
TXAR	**Lajitas Array**	**145.37**	**36**	PKPbc	PKPbc	01 08 05.5	-0.7
	0.1nm,0.4s,baz=321,slow=3.7,SNR=2.4						

*IDC **20** 01:12:20.8±0.7, 22°.44S×171°.82E, h0km, mb4.3/14, mb1 4.4/16, mb1mx4.4/22, mbtmp4.3/16, ML4.0/2, MS3.8/13, Ms1 3.8/13, ms1mx3.5/34, Error ellipse: s-maj=21.1km s-min=19.4km az=179.0*
*ISCJB **20** 01:12:24.5±0.5, 22°.55S±0°.08×171°.82E±0°.05, h40km, mb4.4/21, MS3.8/10, Error ellipse: s-maj=11.6km s-min=6.9km az=12.2*
*NEIC **20** 01:12:28.1±1.4, 22°.67S×171°.74E, h56km±13km, mb4.7/5, Error ellipse: s-maj=12.4km s-min=11.8km az=194.0*
*AUST **20** 01:12:44.1, 22°.43S×174°.32E, h450km*
ISC 20 01:12:26.4±0.5, 22°.55S±0°.09×171°.80E±0°.07, h40km, n70, σ19.44/68, mb4.3/21, MS3.8/10, 5C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.56**	**274**	*e*S	**Sn**	**01 14 25.9**	**+1.2**
DZM	**Mont Dzumac**	**4.98**	**275**	*e*Pn	**Pn**	**01 13 38.8**	**0.0**
	36nm,0.2s						
DZM				*e*Sn	**Sn**	**01 14 31.2**	**-4.0**
	47nm,0.2s						
DZM	**Mont Dzumac**	**4.98**	**275**	*e*Pn	**Pn**	**01 13 39.0**	**+0.2**
DZM				*e*S	**Sn**	**01 14 31.4**	**-3.8**
DZM	**Mont Dzumac**	**4.98**	**275**	Pn	**Pn**	**01 13 38.8**	**0.0**
	7.1nm,0.3s,baz=107,slow=15,SNR=75						
DZM				Sn	**Sn**	**01 14 36.6**	**+1.4**
	8.9nm,0.3s,baz=119,slow=23,SNR=19						
NOUC	**Port Laguerre**	**5.11**	**274**	*e*P	**Pn**	**01 13 40.8**	**+0.4**
NOUC				*e*S	**Sn**	**01 14 39.5**	**+1.4**
MSVF	**Nonsavu**	**7.58**	**52**	*e*Pn	Pn	01 14 18.9	+4.4
	53nm,0.9s						
RAO	**Raoul Island**	**11.41**	**128**	LR	LR	01 18 25.2	
	comp=Z,395nm,21.3s,baz=280,slow=32						
LHI	**Lord Howe Isla**	**14.43**	**229**	P	P	01 16 13.1	+19
	baz=16,SNR=3.8						
URZ	**Urewera**	**16.31**	**165**	Pn	**Pn**	**01 16 12.0**	**-0.4**
URZ	**Urewera**	**16.31**	**165**	Pn	**Pn**	**01 16 12.0**	**-0.4**
	0.6nm,0.3s,baz=335,slow=19,SNR=5.1						
URZ				LR	LR	01 21 09.0	
	comp=Z,193nm,19.6s,baz=352,slow=32						
AFI	**Afiamalu**	**17.80**	**64**	LR	LR	01 22 00.4	
	comp=Z,260nm,18.0s,baz=94,slow=33						
RPZ	**Rata Peaks**	**21.11**	**181**	P	**P**	**01 17 05.1**	**-2.5**
RPZ	**Rata Peaks**	**21.11**	**181**	P	**P**	**01 17 05.1**	**-2.5**
	12nm,1.1s,baz=33,slow=1.1,SNR=3.8						
RPZ				LR	LR	01 23 06.2	
	comp=Z,352nm,20.0s,baz=0.8,slow=30						
RMQ	**Roma**	**21.32**	**255**	P	P	01 17 14.9	+5.0
	baz=24,SNR=6.8						
CTA	**Charters Tower**	**23.91**	**271**	P	**P**	**01 17 37.9**	**+1.2**
CTA	**Charters Tower**	**23.91**	**271**	P	**P**	**01 17 37.9**	**+1.2**
	3.0nm,0.7s,baz=88,slow=14,SNR=3.2						
CMSA	**Cobar Meteorol**	**24.86**	**243**	P	**P**	**01 17 47.5**	**+2.2**
	baz=27,SNR=10						
MTSU	**Mount Surprise**	**26.12**	**275**	P	**P**	**01 17 58.5**	**+1.7**
	baz=28,SNR=7.7						
PMG	**Port Moresby**	**27.00**	**295**	P	**P**	**01 18 02.7**	**-2.0**
PMG	**Port Moresby**	**27.00**	**295**	P	**P**	**01 18 02.7**	**-2.0**
	19nm,0.8s,baz=199,slow=3.0,SNR=3.6						
STKA	**Stephens Creek**	**28.34**	**244**	P	**P**	**01 18 18.0**	**+1.3**
STKA	**Stephens Creek**	**28.34**	**244**	P	**P**	**01 18 18.0**	**+1.3**
	1.7nm,0.8s,baz=92,slow=12,SNR=3.1						
STKA				LR	LR	01 29 29.1	
	comp=Z,140nm,19.5s,baz=45,slow=36						
AS31	**Alice Springs**	**34.80**	**261**	*e*P	**P**	**01 19 13.5**	**0.0**
ASAR	**Alice Springs**	**34.80**	**261**	P	**P**	**01 19 13.5**	**-0.1**
ASAR				PcP	**PcP**	**01 21 46.5**	**+0.1**
ASAR	**Alice Springs**	**34.80**	**261**	P	**P**	**01 19 13.5**	**-0.1**
	6.0nm,0.8s,baz=86,slow=8.8,SNR=44						
ASAR				PcP	**PcP**	**01 21 46.5**	**+0.1**
	0.6nm,0.6s,baz=114,slow=3.4,SNR=4.3						
ASAR				LR	LR	01 33 08.2	
	comp=Z,163nm,21.4s,baz=199,slow=36						
WRA	**Warramunga Arr**	**34.95**	**267**	P	**P**	**01 19 13.9**	**-1.0**
WRA				PcP	**PcP**	**01 21 47.2**	**+0.3**
WRA	**Warramunga Arr**	**34.95**	**267**	P	**P**	**01 19 13.9**	**-1.0**
	2.5nm,0.7s,baz=96,slow=8.5,SNR=52						
WRA				PcP	**PcP**	**01 21 47.2**	**+0.3**
	0.6nm,0.8s,baz=102,slow=4.0,SNR=3.3						
WRA				LR	LR	01 33 50.6	
	comp=Z,153nm,18.5s,baz=105,slow=37						
JAY	**Jayapura**	**36.15**	**299**	P	**P**	**01 19 23.2**	**-2.0**
	baz=38,SNR=3.0						
FITZ	**Fitzroy Crossi**	**43.38**	**267**	*e*P	**P**	**01 20 25.8**	**+0.5**
	5.5nm,0.8s						
MBWA	**Marble Bar**	**48.14**	**261**	*e*P	**P**	**01 21 03.0**	**+0.2**
	31nm,1.3s						
MEEK	**Meekatharra**	**48.25**	**254**	P	**P**	**01 21 03.3**	**-0.4**
	baz=50,SNR=5.0						
LUWI	**Luwuk**	**52.20**	**287**	P	P	01 21 40.1	+6.5
	baz=54,SNR=6.0						
VNDA	**Vanda**	**55.23**	**183**	P	**P**	**01 21 54.8**	**-0.1**
VNDA	**Vanda**	**55.23**	**183**	P	**P**	**01 21 54.8**	**-0.1**
	0.5nm,0.7s,baz=19,slow=4.5,SNR=3.5						
CASY	**Casey**	**58.09**	**205**	*e*P	**P**	**01 22 18.0**	**+2.6**
	7.3nm,1.1s						
KSM	**Kuching**	**64.44**	**283**	*e*P	**P**	**01 22 59.6**	**+0.4**
	6.5nm,0.5s						
MJAR	**Matsushiro Arr**	**66.79**	**331**	P	**P**	**01 23 13.5**	**-0.4**
MJAR	**Matsushiro Arr**	**66.79**	**331**	P	**P**	**01 23 13.5**	**-0.4**
	2.3nm,0.9s,baz=172,slow=7.3,SNR=4.3						
QSPA	**South Pole Qui**	**67.52**	**180**	*e*P	**P**	**01 23 16.7**	**-1.6**
	13nm,1.2s						
ASAJ	**Asahikawa**	**71.54**	**338**	LR	LR	01 48 46.8	
	comp=Z,48nm,20.8s,baz=181,slow=31						
KSRS	**Korea Array**	**72.58**	**325**	P	**P**	**01 23 49.4**	**0.0**
	2.3nm,0.9s,baz=134,slow=6.6,SNR=6.8						
KSAR	**Wonju Array Be**	**72.59**	**325**	P	**P**	**01 23 49.5**	**-0.1**
MAW	**Mawson**	**76.27**	**202**	LR	LR	01 54 16.0	
	comp=Z,54nm,18.6s,baz=336,slow=33						
PETK	**Petropavlovsk-**	**76.33**	**351**	P	**P**	**01 24 11.4**	**+0.4**
PETK	**Petropavlovsk-**	**76.33**	**351**	P	**P**	**01 24 11.4**	**+0.4**
	1.3nm,0.4s,baz=164,slow=5.3,SNR=5.1						
PETK				LR	LR	01 52 24.2	
	comp=Z,66nm,19.6s,baz=290,slow=32						
CMAR	**Chiang Mai Arr**	**82.03**	**294**	P	**P**	**01 24 44.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**82.03**	**294**	P	**P**	**01 24 44.9**	**+2.0**
	3.5nm,0.9s,baz=140,slow=4.1,SNR=17						
PMSA	**Palmer Station**	**82.98**	**159**	P	**P**	**01 24 49.2**	**+2.2**
PMSA	**Palmer Station**	**82.98**	**159**	P	**P**	**01 24 49.2**	**+2.2**
	7.7nm,0.7s,baz=348,slow=9.2,SNR=4.4						
SNAA	**Sanae**	**85.95**	**182**	*e*P	**P**	**01 24 59.1**	**-2.9**
	3.5nm,1.0s						
YBH	**Yreka Blue Hor**	**88.05**	**43**	LR	LR	01 56 53.2	
	comp=Z,46nm,20.4s,baz=184,slow=30						
NVAR	**Mina Array Bea**	**89.23**	**48**	P	**P**	**01 25 19.4**	**+0.9**
NVAR	**Mina Array Bea**	**89.23**	**48**	P	**P**	**01 25 19.4**	**+0.9**
	1.4nm,0.8s,baz=226,slow=7.6,SNR=9.3						
SONM	**Songino Array**	**91.29**	**322**	P	**P**	**01 25 26.8**	**-0.9**
SONM	**Songino Array**	**91.29**	**322**	P	**P**	**01 25 26.8**	**-0.9**
	1.2nm,0.7s,baz=142,slow=4.9,SNR=8.3						
ILAR	**Eielson Array**	**92.69**	**16**	P	**P**	**01 25 32.5**	**-1.1**
ILAR	**Eielson Array**	**92.69**	**16**	P	**P**	**01 25 32.5**	**-1.1**
	0.6nm,0.9s,baz=243,slow=3.7,SNR=3.4						
ILAR				LR	LR	02 01 37.7	
	comp=Z,68nm,19.6s,baz=307,slow=32						
PDAR	**Pinedale Array**	**97.12**	**47**	LR	LR	02 02 05.2	
	comp=Z,36nm,18.4s,baz=67,slow=31						
BOSA	**Boshof**	**119.76**	**214**	PKP	**PKPdf**	**01 31 13.0**	**0.0**
BOSA	**Boshof**	**119.76**	**214**	PKP	**PKPdf**	**01 31 13.0**	**0.0**
	3.5nm,1.0s,baz=180,slow=8.1,SNR=3.1						
MLR	**Muntele Rosu**	**144.02**	**318**	||*i*P	PKPbc	01 31 56.2	+0.4
VOIR		**144.60**	**318**	||*i*P	PKPbc	01 31 58.0	+0.5
ARR	**Arges**	**144.89**	**318**	||*i*P	**PKPdf**	**01 31 59.8**	**+0.6**
BRG	**Berggiesshubel**	**146.88**	**334**	*e*(P)	**PKPbc**	**01 32 03.9**	**-0.4**
	3.2nm,1.0s						
VTS	**Vitosha**	**147.11**	**315**	||*i*P	**PKPab**	**01 32 08.6**	**+1.6**
PKSM	**Moragy**	**147.91**	**324**	||*i*P	**PKPbc**	**01 32 06.1**	**-1.1**
GERES	**GERESS Array B**	**148.53**	**332**	PKPbc	**PKPbc**	**01 32 08.7**	**-0.2**
GERES	**GERESS Array B**	**148.53**	**332**	PKPbc	**PKPbc**	**01 32 08.7**	**-0.2**
	0.8nm,0.7s,baz=14,slow=2.8,SNR=7.5						
TORD	**Torodi Ar. Bea**	**166.73**	**227**	PKP	**PKPdf**	**01 32 27.4**	**-1.1**
TORD				PKPab	**PKPab**	**01 33 33.2**	**+1.9**
TORD	**Torodi Ar. Bea**	**166.73**	**227**	PKP	**PKPdf**	**01 32 27.4**	**-1.1**
	1.5nm,1.1s,baz=86,slow=1.5,SNR=3.9						
TORD				PKPab	**PKPab**	**01 33 33.2**	**+1.9**
	0.8nm,0.9s,baz=158,slow=4.5,SNR=2.9						

*ISCJB **20** 01:17:47.9±0.5, 51°.56N±0°.05×173°.49W±0°.03, h36km±3km, mb4.5/107, MS3.8/18, Error ellipse: s-maj=8.4km s-min=3.1km az=175.8*
*MOS **20

BBB	Bella Bella	27.69	71	P	P	01 23 38.7	+5.0
BBB	Bella Bella	27.69	71	P	P	01 23 38.7	+5.0
	comp=Z,8.9nm,0.9s,baz=271,slow=10.0,SNR=4.4						
BBB				LR	LR	01 33 01.2	
	comp=Z,78nm,18.1s,baz=284,slow=33						
YSS	Yuzh-Sakhalins	28.57	278	eP	P	01 23 44.0	+2.4
ASAJ	Asahikawa	30.00	273	P	P	01 23 54.6	+0.3
ASAJ	Asahikawa	30.00	273	P	P	01 23 54.6	+0.3
	comp=Z,7.3nm,0.8s,baz=29,slow=18,SNR=4.2						
YKA	Yellowknife Ar	32.69	47	P	P	01 24 17.3	-0.4
YKA				PcP	PcP	01 27 03.1	+0.7
YKA	Yellowknife Ar	32.69	47	P	P	01 24 17.3	-0.4
	comp=Z,1.3nm,0.5s,baz=274,slow=8.0,SNR=19						
YKA				PcP	PcP	01 27 03.1	+0.7
	comp=Z,0.7nm,0.7s,baz=289,slow=2.2,SNR=4.0						
NEW	Newport	35.70	73	eP	P	01 24 45.0	+0.9
	comp=Z,7.5nm,0.9s						
NEW	Newport	35.70	73	⇓P	P	01 24 44.2	+0.1
	baz=36						
EDM	Edmonton	35.81	63	eP	P	01 24 45.8	+0.9
EDM	Edmonton	35.81	63	eP	P	01 24 45.8	+0.9
USRK	Ussuriysk Arra	36.52	280	P	P	01 24 50.4	-0.7
	comp=Z,5.4nm,0.7s,baz=49,slow=9.6,SNR=14						
USRK				LR	LR	01 40 04.0	
	comp=Z,116nm,19.6s,baz=29,slow=36						
MJAR	Matsushiro Arr	37.08	265	P	P	01 24 56.2	+0.2
MJAR	Matsushiro Arr	37.08	265	P	P	01 24 56.2	+0.2
	comp=Z,0.6nm,0.4s,baz=50,slow=7.0,SNR=3.5						
MJAR				LR	LR	01 38 27.3	
	comp=Z,81nm,21.3s,baz=80,slow=33						
WALA	Waterton Lakes	37.23	70	eP	P	01 24 57.8	+0.5
	comp=Z,0.2nm,0.9s						
BSMT	Bassoo Peak	37.28	72	eP	P	01 24 58.7	+1.0
WVOR	Wild Horse Val	37.72	82	eP	P	01 25 01.6	+0.2
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WVOR	Wild Horse Val	37.72	82	eP	P	01 25 01.6	+0.2
	comp=Z,3.4nm,0.8s						
MDJ	Mudanjiang	37.77	282	P	P	01 25 01.5	-0.2
MDJ				pP	pP	01 25 13.0	-0.8
MDJ				sP	sP	01 25 17.8	-1.3
MDJ				PP	PP	01 26 27.4	-0.9
MDJ				S	S	01 30 50.8	+1.8
MDJ				PcS	PcS	01 31 05.3	-0.9
MDJ				sS	sS	01 31 11.3	+2.0
MDJ				ScS	ScS	01 35 10.0	+0.1
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,38nm,3.9s						
MDJ				LR	LR		
	comp=N,79nm,12.6s						
MDJ				LR	LR		
	comp=E,120nm,15.0s						
MDJ				LR	LR		
	comp=Z,160nm,21.4s						
MSO	Missoula	38.28	73	eP	P	01 25 06.6	+0.5
	comp=Z,5.7nm,1.0s						
MSO	Missoula	38.28	73	⇑P	P	01 25 06.2	+0.2
	baz=38						
SLMT	Seeley Lake	38.34	72	eP	P	01 25 07.1	+0.4
CHMT	Chamberlain Mo	38.65	72	eP	P	01 25 09.7	+0.4
CMB	Columbia Colle	39.19	89	eP	P	01 25 11.3	-2.4
CMB				pmax	pmax		
	comp=Z,7.0nm,1.4s						
CMB	Columbia Colle	39.19	89	eP	P	01 25 11.3	-2.4
	comp=Z,7.3nm,1.4s						
B17A	L&G Farms, Che	39.41	69	⇑P	P	01 25 15.5	0.0
	baz=39,SNR=5.8						
WAKR	Walker	39.50	88	eP	P	01 25 16.1	-0.3
A18A	Metzger Ranch,	39.66	68	⇑P	P	01 25 16.9	-0.6
	baz=40,SNR=5.1						
LRM	Limekiln Ridge	39.68	73	eP	P	01 25 18.9	+0.9
HLID	Hailey	39.69	78	eP	P	01 25 17.4	-0.6
	comp=Z,3.6nm,1.1s						
C17A	Wharram Farm,	39.76	70	⇑P	P	01 25 18.5	+0.1
	baz=40						
B18A	Beardsley Farm	39.96	69	⇑P	P	01 25 20.1	+0.1
	baz=40,SNR=8.1						
MCMT	McKenzie Canyo	39.96	75	eP	P	01 25 21.1	+0.8
	comp=Z,1.5nm,0.5s						
D17A	Six Diamond Ra	40.05	71	⇓P	P	01 25 20.9	0.0
	baz=40						
EGMT	Eagleton	40.16	69	eP	P	01 25 21.9	+0.2
	comp=Z,14nm,0.8s						
EGMT	Eagleton	40.16	69	⇓P	P	01 25 21.6	0.0
	baz=40,SNR=14						
NVAR	Mina Array Bea	40.25	87	P	P	01 25 23.8	+1.1
NVAR	Mina Array Bea	40.25	87	P	P	01 25 23.8	+1.1
	comp=Z,1.6nm,0.8s,baz=297,slow=8.0,SNR=10						
BOZ	Bozeman (W)	40.26	73	eP	P	01 25 22.9	+0.2
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BOZ	Bozeman (W)	40.26	73	eP	P	01 25 22.9	+0.2
	comp=Z,4.4nm,1.0s						
A19A	Klindworth Far	40.30	67	⇓P	P	01 25 22.9	+0.1
	baz=40,SNR=5.4						
E17A	Martinsdale	40.30	72	⇑P	P	01 25 23.5	+0.5
	baz=40,SNR=5.4						
B19A	Brinkman Farms	40.41	68	⇓P	P	01 25 23.9	+0.1
	baz=40,SNR=10						
D18A	Linhart Farms,	40.54	70	⇑P	P	01 25 25.4	+0.4
	baz=40,SNR=6.2						
F17A	Fitzpatrick Pl	40.70	72	⇑P	P	01 25 26.5	+0.2
	baz=41						
C19A	Slack Wire Ran	40.71	69	⇑P	P	01 25 26.8	+0.6
	baz=41,SNR=13						
CN2	Changchun	40.73	284	eP	P	01 25 27.3	+1.0
A20A	Cobblestone Ra	40.79	67	⇓P	P	01 25 27.1	+0.2
	baz=41						
E18A	Harlowton	40.80	71	⇓P	P	01 25 27.5	+0.4
	baz=41						
B20A	Solberg Farm,	40.95	68	⇓P	P	01 25 28.9	+0.7
	baz=41						
H16A	Russell Place,	40.99	74	⇑P	P	01 25 29.3	+0.5
	baz=41						
D19A	Cripps Ranch,	41.10	70	⇓P	P	01 25 29.7	+0.2
	baz=41,SNR=7.5						
F18A	Big Timber	41.27	72	⇑P	P	01 25 31.5	+0.6
	baz=41						
FFC	Flin Flon	41.32	56	eP	P	01 25 30.9	-0.2
FFC				pmax	pmax		
	comp=Z,19nm,1.0s						
FFC	Flin Flon	41.32	56	eP	P	01 25 30.9	-0.2
	comp=Z,20nm,1.0s						
C20A	Veseth Ranch,	41.33	69	⇓P	P	01 25 31.8	+0.5
	baz=41,SNR=7.4						
E19A	Rath Farm, Rou	41.52	71	⇑P	P	01 25 33.3	+0.3
	baz=41						
B21A	Ellsworth Farm	41.54	67	⇓P	P	01 25 33.3	+0.3
	baz=41						
IMW	Indian Meadow	41.62	75	eP	P	01 25 35.5	+1.5
	comp=Z,0.8nm,0.4s						
RRI2	Red Ridge	41.69	76	eP	P	01 25 33.5	-1.1
	comp=Z,13nm,1.5s						
C21A	Desert Coulee	41.80	68	⇑P	P	01 25 35.5	+0.3
	baz=42						
A22A	Carney Farms,	41.88	66	⇓P	P	01 25 36.2	+0.4
	baz=42						
E20A	Meyer Farm, Mu	41.88	70	⇓P	P	01 25 36.5	+0.6
	baz=42						
RLMT	Red Lodge	41.95	73	eP	P	01 25 37.1	+0.5
	comp=Z,9.2nm,1.0s						
H18A	Shoshone NF, C	41.95	73	⇑P	P	01 25 37.1	+0.4
	baz=42						
REDW	Red Top Meadow	41.97	76	eP	P	01 25 38.3	+1.5
	comp=Z,12nm,1.6s						
R11A	Troy Canyon, C	41.99	85	⇑P	P	01 25 37.6	+0.7
	baz=42						
BGU	Big Grassy Mou	42.03	80	eP	P	01 25 38.1	+0.9
	comp=Z,12nm,1.8s						
MPMC	Manual Prospec	42.23	89	⇑P	P	01 25 39.0	0.0
	baz=42						
F20A	Billings	42.25	71	⇓P	P	01 25 39.5	+0.6
	baz=42						
H19A	Powell	42.36	73	⇑P	P	01 25 40.1	+0.2
	baz=42						
FURC	Furnace Creek,	42.37	88	⇑P	P	01 25 40.3	+0.5
	baz=42						
A23A	Redstone	42.49	65	⇓P	P	01 25 41.0	+0.3
	baz=42						
G20A	Bridger	42.52	72	⇓P	P	01 25 41.1	-0.1
	baz=42,SNR=6.4						
DUG	Dugway	42.59	81	eP	P	01 25 42.6	+0.8
DUG				pmax	pmax		
	comp=Z,14nm,1.4s						
DUG	Dugway	42.59	81	eP	P	01 25 42.6	+0.8
	comp=Z,14nm,1.4s						
DUG	Dugway	42.59	81	⇑P	P	01 25 42.4	+0.6
	baz=42						
B23A	Brockton	42.68	66	⇓P	P	01 25 42.1	-0.2
	baz=42,SNR=5.3						
D22A	Cohagen	42.68	68	⇓P	P	01 25 42.9	+0.6
	baz=42,SNR=5.4						
C23A	Lambert	42.91	67	⇑P	P	01 25 44.7	+0.5
	baz=43,SNR=9.5						
KSRS	Korea Array	42.92	275	P	P	01 25 44.6	+0.3
	comp=Z,5.3nm,1.0s,baz=59,slow=7.7,SNR=9.2						
KSRS				LR	LR	01 42 21.1	
	comp=Z,38nm,19.4s,baz=35,slow=34						
KSAR	Wonju Array Be	42.95	275	P	P	01 25 44.6	0.0
A24A	Westby	43.00	65	⇑P	P	01 25 44.9	0.0
	baz=43,SNR=5.5						
H20A	Greybull	43.05	73	⇑P	P	01 25 45.4	-0.1
	baz=43						
PDAR	Pinedale Array	43.09	76	P	P	01 25 44.8	-1.1
PDAR	Pinedale Array	43.09	76	P	P	01 25 44.8	-1.1
	comp=Z,2.0nm,0.5s,baz=298,slow=5.9,SNR=16						
GSC	Goldstone	43.15	89	eP	P	01 25 46.6	+0.3
GSC				pmax	pmax		
	comp=Z,13nm,1.1s						
GSC	Goldstone	43.15	89	eP	P	01 25 46.6	+0.3
	comp=Z,13nm,1.1s						
GSC	Goldstone	43.15	89	⇓P	P	01 25 47.2	+0.9
	baz=43						
M17A	Scullys Gap (B	43.16	78	⇑P	P	01 25 47.0	+0.5
	baz=43						
D23A	Lindsay	43.23	68	⇓P	P	01 25 47.6	+0.8
	baz=43						
BFSC	Mount Baldy Ra	43.30	91	⇓P	P	01 25 48.3	+0.6
	baz=43						
F22A	Rosebud	43.37	70	⇑P	P	01 25 48.2	+0.2
	baz=43						
K19A	Absolon Red Bu	43.48	75	⇓P	P	01 25 49.3	+0.3
	baz=43						
C24A	Savage	43.49	67	⇓P	P	01 25 49.2	+0.3
	baz=43						
A25A	Svangstu Ranch	43.50	64	⇓P	P	01 25 48.6	-0.2
	baz=43,SNR=7.4						
H21A	Big Horn, Sher	43.54	72	⇓P	P	01 25 49.6	+0.1
	baz=43						
G22A	Birney	43.66	71	⇓P	P	01 25 50.6	+0.3
	baz=44						
D24A	Glendive	43.77	67	⇓P	P	01 25 51.8	+0.7
	baz=44,SNR=6.4						
B25A	Knox Farm, Ray	43.82	65	⇑P	P	01 25 51.8	+0.3
	baz=44						
I21A	Big Trails, Te	43.85	73	⇑P	P	01 25 52.1	+0.1
	baz=44						
K20A	Yellowstone Ra	43.88	75	⇓P	P	01 25 52.4	+0.2
	baz=44						
F23A	Volborg	43.90	70	⇓P	P	01 25 52.2	-0.1
	baz=44,SNR=6.1						
MSU	Marysvale	44.00	82	eP	P	01 25 56.0	+2.7
MSU	Marysvale	44.00	82	eP	P	01 25 56.0	+2.7
C25A	Freed Ranch, W	44.06	66	⇓P	P	01 25 53.7	+0.3
	baz=44						
E24A	Baker	44.08	68	⇓P	P	01 25 54.0	+0.4
	baz=44						
A26A	Wade Farm, Ken	44.12	64	⇓P	P	01 25 53.9	0.0
	baz=44						
GMRC	Granite Mounta	44.20	89	⇓P	P	01 25 55.2	+0.4
	baz=44						
G23A	Biddle	44.20	70	⇓P	P	01 25 54.8	+0.2
	baz=44						
L20A	Wamsutter	44.26	76	⇓P	P	01 25 55.3	0.0
	baz=44						
B26A	Jensen Ranch,	44.29	65	⇓P	P	01 25 55.2	0.0
	baz=44						
I22A	9 Mile Ranch,	44.29	72	⇓P	P	01 25 56.2	+0.8
	baz=44						
K21A	Alcova	44.55	74	⇓P	P	01 25 57.7	+0.1
	baz=44						
J22A	Midwest	44.57	73	⇓P	P	01 25 57.9	+0.3
	baz=44						
E25A	Miller Ranch,	44.64	68	⇑P	P	01 25 58.6	+0.5
	baz=44						
SRU	San Rafael	44.66	80	eP	P	01 25 59.6	+1.1
SRU				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SRU	San Rafael	44.66	80	eP	P	01 25 59.6	+1.1
	comp=Z,9.3nm,1.1s						
G24A	Alzada	44.70	70	⇓P	P	01 25 58.3	-0.4
	baz=44						
O19A	Miners Draw (B	44.80	78	⇓P	P	01 25 59.7	+0.1
	baz=45						
B27A	Peters Farms,	44.82	64	⇓P	P	01 25 60.0	+0.5
	baz=45						
IRM	Iron Mountain	44.92	89	⇓P	P	01 26 00.5	0.0
	baz=45						
H24A	Dirks Ranch, A	44.95	70	⇓P	P	01 26 00.4	-0.2
	baz=45						
K22A	Casper	44.98	74	⇑P	P	01 26 01.5	+0.5
	baz=45						
W13A	Hualapai Mount	45.10	87	⇑P	P	01 26 02.2	+0.2
	baz=45						
A28A	Rude Farm, Bot	45.11	63	⇑P	P	01 26 02.0	+0.2
	baz=45						
E26A	Carlson Angus	45.20	67	⇑P	P	01 26 02.4	-0.1
	baz=45,SNR=5.9						
U15A	North Rim	45.24	85	⇓P	P	01 26 03.6	+0.4
	baz=45						
B28A	Dugan Ranch, T	45.30	64	⇑P	P	01 26 03.5	+0.3
	baz=45						
O20A	White River Ci	45.43	78	eP	P	01 26 03.9	-0.8
O20A	White River Ci	45.43	78	⇑P	P	01 26 04.5	-0.2
	baz=45						
H25A	Fruitdale	45.58	70	⇓P	P	01 26 05.5	-0.1
	baz=45						
J24A	Dixon Ranch, L	45.70	72	⇓P	P	01 26 06.7	+0.1
	baz=46						
F27A	Lemmon	45.78	68	⇑P	P	01 26 07.1	-0.1
	baz=46						
L23A	Garrett	45.79	74	⇓P	P	01 26 07.3	-0.2
	baz=46,SNR=5.9						
I25A	Rochford	45.84	71	⇓P	P	01 26 07.9	0.0
	baz=46						
MDND	Maddock	46.06	64	⇓P	P	01 26 09.2	0.0
	baz=46						
PV04	Paradox Valley	46.09	80	eP	P	01 26 09.9	0.0
G27A	Dupree	46.12	68	⇑P	P	01 26 10.1	+0.3
	baz=46						
PV01	Paradox Valley	46.46	80	eP	P	01 26 12.8	0.0
	comp=Z,381nm,0.7s						
R20A	Redvale	46.55	80	⇑P	P	01 26 13.5	+0.1
	baz=46						
ULM	Lac du Bonnet	46.78	59	P	P	01 26 14.4	-0.4
ULM	Lac du Bonnet	46.78	59	P	P	01 26 14.4	-0.4
	comp=Z,3.3nm,0.6s,baz=313,slow=8.6,SNR=4.1						
S20A	Disappointment	46.78	80	⇑P	P	01 26 15.4	+0.1
	baz=47						
I27A	Quinn	46.80	70	⇑P	P	01 26 15.4	+0.2
	baz=47						
S21A	Coal Bank Pass	47.24	80	⇑P	P	01 26 19.0	0.0
	baz=47						
I28A	Midland	47.36	69	⇑P	P	01 26 18.9	-0.6
	baz=47,SNR=5.1						
J28A	Allard Ranch,	47.66	70	⇓P	P	01 26 22.0	+0.2
	baz=48						
AGMN	Agassiz Nation	47.88	62	eP	P	01 26 22.2	-1.2
	comp=Z,10nm,0.8s						
U21A	Nageezi	48.11	81	⇑P	P	01 26 25.5	-0.1
	baz=48						
BRSD	Miller	48.38	67	eP	P	01 26 27.9	+0.5
	comp=Z,32nm,1.1s						
SDCO	Great Sand Dun	48.59	79	eP	P	01 26 29.5	+0.1
	comp=Z,2.9nm,1.1s						
V23A	Ortiz Mt. (NFS	49.46	81	⇑P	P	01 26 36.6	+0.6
	baz=49						
SONM	Songino Array	49.47	299	P	P	01 26 36.5	+0.6
SONM	Songino Array	49.47	299	P	P	01 26 36.5	+0.6
	comp=Z,2.8nm,0.6s,baz=50,slow=7.5,SNR=16						
SONM				LR	LR	01 48 27.6	
	comp=Z,140nm,19.4s,baz=9.9,slow=37						
LAZ	Ladron	49.75	83	eP	P	01 26 37.8	-0.4
	comp=Z,1.0nm,1.0s						
ANMO	Albuquerque	49.81	82	eP	P	01 26 39.2	+0.5
	comp=Z,5.5nm,1.4s						
U25A	Circle Dot Ran	50.12	79	⇓P	P	01 26 41.4	+0.3
	baz=50						
ECSD	EROS Data Cent	50.16	67	eP	P	01 26 39.8	-1.1
	comp=Z,5.1nm,0.7s						
W24A	Lazy 6 Ranch,	50.28	81	⇑P	P	01 26 42.0	-0.2
	baz=50						
Y23A	Lovelace Mesa,	50.73	83	⇑P	P	01 26 46.0	+0.3
	baz=51						
HHC	Hu-ho-hao-te	50.78	289	eP	P	01 26 45.6	-0.2
HHC				PcP	PcP	01 28 03.1	+0.9
HHC				PP	PP	01 28 43.0	+1.1
HHC				ScP	ScP	01 31 54.3	-0.1
HHC				PcS	PcS	01 31 59.0	-0.7
HHC				S	S	01 33 55.3	-2.9
HHC				ScS	ScS	01 36 28.8	-3.7
HHC				SS	SS	01 37 27.6	-5.0
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,5.7s						
HHC				LR	LR		
	comp=N,240nm,16.9s						
HHC				LR	LR		
	comp=E,190nm,17.1s						
HHC				LR	LR		
	comp=Z,160nm,16.9s						
W25A	X Bar L Ranch,	50.86	80	⇓P	P	01 26 47.0	+0.4
	baz=51						
S28A	Manter	50.88	76	⇑P	P	01 26 47.1	+0.5
	baz=51						
V26A	Tequesquite Ra	50.90	79	⇑P	P	01 26 47.1	+0.3
	baz=51						
Y24A	Capitan	51.12	82	⇓P	P	01 26 49.0	+0.4
	baz=51						
NJ2	Nanjing	52.09	276	eP	P	01 26 54.6	-0.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
224A	Cornudas Mount	52.31	84	⇑P	P	01 26 57.7	+0.3
	baz=52						
125A	Gardner Draw,	52.45	83	⇑P	P	01 26 58.7	+0.3
	baz=52						
Y27A	Causey	52.55	81	⇓P	P	01 26 59.1	0.0
	baz=52						
225A	Deer Hill, Car	52.72	84	⇓P	P	01 27 00.6	+0.1
	baz=53						
325A	Bean Ranch, Si	53.13	84	⇑P	P	01 27 03.4	-0.1
	baz=53						
226B	Tecolote Peak,	53.15	83	⇑P	P	01 27 03.5	0.0
	baz=53						
425A	Indio Mountain	53.53	85	⇑P	P	01 27 06.2	-0.1
	baz=53						
128A	Castleberry Fa	53.82	81	⇑P	P	01 27 08.4	0.0
	baz=54						
Z29A	Hungry Hill Ra	53.87	80	⇑P	P	01 27 08.5	-0.2
	baz=54						
HVS	Khovu-Aksy	54.00	309	eP	P	01 27 09.4	-0.1
HVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
328A	Wristen Ranch,	54.47	83	⇑P	P	01 27 12.8	-0.3
	baz=54						
626A	Big Bend Ranch	54.91	85	⇓P	P	01 27 16.6	+0.2
	baz=55						
428A	Kincaid Ranch,	55.00	83	⇓P	P	01 27 17.3	+0.3
	baz=55						
Z32A	Haskell	55.20	79	⇓P	P	01 27 18.4	+0.1
	baz=55						
528A	Cox Ranch, San	55.32	84	⇑P	P	01 27 19.8	+0.4
	baz=55						
TXAR	Lajitas Array	55.36	85	P	P	01 27 18.6	-0.9
TXAR	Lajitas Array	55.36	85	P	P	01 27 18.6	-0.9
	comp=Z,1.1nm,0.7s,baz=310,slow=5.9,SNR=6.4						
627A	Terlingua Ranc	55.45	85	⇑P	P	01 27 20.4	+0.2
	baz=55						
429A	Davenport Ranc	55.56	83	⇑P	P	01 27 21.4	+0.4
	baz=55						
628A	Black Gap, Mar	55.73	84	⇑P	P	01 27 22.5	+0.2
	baz=56						
430A	Baggett Ranch,	55.85	82	⇑P	P	01 27 23.0	-0.1
	baz=56						
331A	San Angelo	55.99	81	⇓P	P	01 27 24.1	0.0
	baz=56						
530A	J-C Ranch, Com	56.23	83	⇑P	P	01 27 25.8	-0.1
	baz=56						
ZALV	Zalesovo Beam	56.24	316	LR	LR	01 53 02.2	
	comp=Z,65nm,18.1s,baz=70,slow=38						
431A	Sonora	56.31	82	⇑P	P	01 27 26.4	0.0
	baz=56						
SFIN	Scholer Farm	57.73	64	eP	P	01 27 36.2	0.0
	comp=Z,10nm,0.9s						
SFIN	Scholer Farm	57.73	64	⇑P	P	01 27 35.7	-0.5
	baz=58						
SCHQ	Schefferville	57.75	41	P	P	01 27 35.4	-0.8
SCHQ	Schefferville	57.75	41	P	P	01 27 35.4	-0.8
	comp=Z,1.9nm,0.5s,baz=302,slow=9.5,SNR=4.3						
MIAR	Mount Ida	57.93	74	eP	P	01 27 37.3	-0.4
MIAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MIAR	Mount Ida	57.93	74	eP	P	01 27 37.3	-0.4
	comp=Z,8.8nm,1.0s						
ARCES	ARCESS Array B	58.40	352	P	P	01 27 40.4	0.0
ARCES				PcP	PcP	01 28 31.2	+0.4
ARCES	ARCESS Array B	58.40	352	P	P	01 27 40.4	0.0
	comp=Z,2.4nm,0.7s,baz=14,slow=6.5,SNR=6.9						
ARCES				PcP	PcP	01 28 31.2	+0.4
	comp=Z,1.9nm,0.5s,baz=19,slow=3.8,SNR=7.3						
ARCES				LR	LR	01 52 39.9	
	comp=Z,62nm,21.8s,baz=0.2,slow=36						
LZH	Lanzhou	58.46	290	eP	P	01 27 42.8	+1.2
LZH				pP	pP	01 27 54.0	-0.3
LZH				sP	sP	01 28 00.1	+0.6
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,93nm,5.0s						
LZH				LR	LR		
	comp=N,91nm,9.4s						
LZH				LR	LR		
	comp=E,210nm,17.8s						
LZH				LR	LR		
	comp=Z,140nm,17.3s						
GTA	Gaotai	58.52	295	eP	P	01 27 42.0	+0.1
GTA				pP	pP	01 27 54.8	+0.2
GTA				sP	sP	01 28 00.1	+0.3
GTA				S	S	01 35 40.9	-1.3
GTA				sS	sS	01 36 02.1	-1.3
GTA				SS	SS	01 39 35.4	+0.9
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,39nm,5.9s						
GTA				LR	LR		
	comp=N,99nm,17.8s						
GTA				LR	LR		
	comp=E,94nm,18.1s						
GTA				LR	LR		
	comp=Z,110nm,17.3s						
PLAL	Pickwick Lake	60.88	70	eP	P	01 27 57.1	-0.9
	comp=Z,12nm,1.2s						
MSNY	Massena	61.06	53	eP	P	01 27 59.1	+0.1
	comp=Z,272nm,1.0s						
WMQ	Urumqi	61.95	306	eP	P	01 28 08.3	+3.1
WMQ				pP	pP	01 28 21.6	+3.5
WMQ				PcP	PcP	01 28 48.4	+2.8
WMQ				S	S	01 36 26.5	+0.5
WMQ				sS	sS	01 36 49.0	+1.7
WMQ				ScS	SKKSac	01 37 52.8	-0.3
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,66nm,4.8s						
WMQ				LR	LR		
	comp=N,82nm,20.0s						
WMQ				LR	LR		
	comp=E,68nm,22.0s						
WMQ				LR	LR		
	comp=Z,49nm,20.0s						
NCB	Newcomb	62.11	54	eP	P	01 28 06.5	+0.3

MK31	Makanchi Array	62.44	311	eP	P	01 28 08.0	-0.4
MK31	Makanchi Array	62.44	311	eP	P	01 28 08.0	-0.4
MKAR	Makanchi Array	62.44	311	ceP	P	01 28 07.6	-0.8
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
MKAR	Makanchi Array	62.44	311	P	P	01 28 07.7	-0.8
MKAR	Makanchi Array	62.44	311	P	P	01 28 07.7	-0.8
comp=Z,2.1nm,0.7s,baz=49,slow=5.5,SNR=20							
MKAR				LR	LR	01 55 51.3	
comp=Z,62nm,18.7s,baz=242,slow=36							
BINY	Binghamton	62.48	56	P	P	01 28 09.1	+0.4
comp=Z,5.4nm,0.6s							
SSPA	Standing Stone	62.60	59	eP	P	01 28 09.7	+0.2
comp=Z,62nm,2.2s							
BVAR	Borovoye Array	62.81	322	LR	LR	01 58 57.1	
comp=Z,164nm,18.4s,baz=54,slow=39							
ACCN	Adirondack Com	62.81	54	eP	P	01 28 10.9	0.0
comp=Z,19nm,1.1s							
BRVK	Borovoye	62.82	322	eP	P	01 28 11.0	+0.2
BRVK				pmax	pmax		
comp=Z,13nm,1.6s							
BRVK	Borovoye	62.82	322	eP	P	01 28 11.0	+0.2
comp=Z,13nm,1.6s							
GYA	Guiyang	63.56	280	eP	P	01 28 16.8	+0.6
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
ARU	Arti	64.11	331	d iP	P	01 28 19.3	+0.1
ARU						01 30 36.8	
ARU				S	S	01 36 54.3	+2.0
ARU				SS	SS	01 40 58.7	-2.1
ARU				pmax	pmax		
comp=Z,16nm,1.7s							
KMSC	Kings Mountain	64.65	65	⇓P	P	01 28 23.1	0.0
baz=64							
WES	Weston	64.72	53	eP	P	01 28 23.3	-0.1
WES				pmax	pmax		
comp=Z,15nm,0.8s							
WES	Weston	64.72	53	eP	P	01 28 23.3	-0.1
comp=Z,15nm,0.8s							
KAF	Kangasniemi	65.57	350	eP	P	01 28 27.9	-0.7
KAF	Kangasniemi	65.57	350	ep	P	01 28 27.9	-0.7
FINES	FINESS Array B	66.25	350	P	P	01 28 32.1	-0.9
FINES	FINESS Array B	66.25	350	P	P	01 28 32.1	-0.9
comp=Z,1.2nm,0.7s,baz=356,slow=2.7,SNR=7.0							
FINES				LR	LR	01 59 01.5	
comp=Z,15nm,18.6s,baz=22,slow=37							
KMI	Kunming	66.94	282	P	P	01 28 40.3	+2.0
KMI				pmax	pmax		
comp=Z,14nm,0.9s							
NOA	NORSAR Array B	67.67	358	P	P	01 28 41.8	-0.3
NOA	NORSAR Array B	67.67	358	P	P	01 28 41.8	-0.3
comp=Z,0.9nm,0.6s,baz=3.5,slow=6.4,SNR=2.8							
TKM2	Tokmak 2	68.48	312	eP	P	01 28 48.6	+0.9
TKM2				pmax	pmax		
comp=Z,6.0nm,0.9s							
TKM2	Tokmak 2	68.48	312	eP	P	01 28 48.5	+0.9
comp=Z,5.7nm,0.9s							
AAK	Ala-Archa	69.21	313	eP	P	01 28 52.6	+0.4
AAK				pmax	pmax		
comp=Z,6.0nm,0.9s							
AAK	Ala-Archa	69.21	313	eP	P	01 28 52.6	+0.4
comp=Z,5.5nm,0.9s							
AAK	Ala-Archa	69.21	313	LR	LR	01 58 42.5	
comp=Z,39nm,20.6s,baz=137,slow=35							
EKS2	Erkin-Say	69.52	313	eP	P	01 28 54.8	+0.8
EKS2				pmax	pmax		
comp=Z,8.0nm,0.6s							
EKS2	Erkin-Say	69.52	313	eP	P	01 28 54.8	+0.8
comp=Z,8.0nm,0.6s							
ABKAR	Akbulak array	69.70	326	eP	P	01 28 55.1	+0.2
comp=Z,2.0nm,0.5s							
LSA	Lhasa	70.44	293	P	P	01 29 01.1	+0.8
LSA	Lhasa	70.44	293	eP	P	01 29 02.0	+1.7
LSA				pmax	pmax		
comp=Z,14nm,0.7s							
LSA	Lhasa	70.44	293	eP	P	01 29 02.0	+1.7
comp=Z,14nm,0.7s							
KKAR	Karatay Array	70.61	316	eP	P	01 29 00.5	-0.1
KKAR				pmax	pmax		
comp=Z,2.0nm,0.5s							
KKAR	Karatay Array	70.61	316	eP	P	01 29 00.5	-0.1
comp=Z,1.8nm,0.5s							
KSH	Kashi	70.97	310	P	P	01 29 07.1	+4.1
KSH				PP	PP	01 31 48.0	+7.9
KSH				S	S	01 38 17.5	+2.2
KSH				SS	SS	01 42 53.6	+5.7
KSH				pmax	pmax		
comp=Z,12nm,0.9s							
KSH				pmax	pmax		
comp=Z,87nm,5.2s							
KSH				LR	LR		
comp=N,58nm,4.5s							
KSH				LR	LR		
comp=E,77nm,4.7s							
KSH				LR	LR		
comp=Z,160nm,4.6s							
PPT2	Papeete2	71.98	156	eLR	LR	01 29 34.3	
comp=Z,83nm,23.2s							
VRHR	Novokhopersk	73.46	338	eP	P	01 29 15.9	-1.5
VRHR				pmax	pmax		
comp=N,9.0nm,0.6s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.6s							
VRHR				pmax	pmax		
comp=Z,10.0nm,0.6s							
VSR	Storozhevoye	73.91	339	eP	P	01 29 19.4	-0.7
VSR				pmax	pmax		
comp=Z,20nm,1.4s							
VSR				pmax	pmax		
comp=N,8.0nm,0.7s							
VSR				pmax	pmax		
comp=E,7.0nm,1.4s							
VORD	Divnogorie	74.11	339	eP	P	01 29 20.9	-0.4
VORD				pmax	pmax		
comp=N,4.0nm,0.6s							
VORD				pmax	pmax		
comp=E,10.0nm,0.6s							
VORD				pmax	pmax		
comp=Z,10.0nm,0.6s							
TAPN	Taplejung	74.19	294	eP	P	01 29 23.2	+0.7
comp=Z,47nm,0.8s							
CMAR	Chiang Mai Arr	74.25	280	P	P	01 29 22.5	-0.1
CMAR	Chiang Mai Arr	74.25	280	P	P	01 29 22.5	-0.1
comp=Z,1.4nm,0.8s,baz=41,slow=5.9,SNR=6.6							
ODAN	Odare	74.74	294	eP	P	01 29 26.2	+0.5
comp=Z,20nm,0.9s							
GUN	Gumba	74.79	296	eP	P	01 29 26.8	+0.7
JIRN	Jiri	74.81	295	eP	P	01 29 27.1	+0.9
comp=Z,53nm,0.7s							
RAMN	Ramite	75.12	295	eP	P	01 29 28.4	+0.5
comp=Z,72nm,0.8s							
KKN	Kakani	75.22	296	eP	P	01 29 29.2	+0.8
PKI	Pulchoki	75.32	296	eP	P	01 29 29.5	+0.4
comp=Z,51nm,1.1s							
PKIN	Phulchoki	75.32	296	eP	P	01 29 29.5	+0.5
DZM	Mont Dzumac	75.41	199	P	P	01 29 30.7	+1.6
DZM	Mont Dzumac	75.41	199	P	P	01 29 30.7	+1.6
comp=Z,5.9nm,0.8s,baz=199,slow=10,SNR=2.3							
DMN	Daman	75.46	296	eP	P	01 29 30.6	+0.8
comp=Z,35nm,1.0s							
DANN	Dangsing	75.64	297	eP	P	01 29 31.5	+0.6
comp=Z,70nm,0.8s							
KOLN	Koldanda	76.18	297	eP	P	01 29 34.3	+0.5
comp=Z,20nm,0.8s							
AKASG	Malin Array Be	76.29	345	P	P	01 29 32.9	-0.9
AKASG	Malin Array Be	76.29	345	P	P	01 29 32.9	-0.9
AKASG	Malin Array Be	76.29	345	P	P	01 29 32.9	-0.9
comp=Z,1.8nm,0.4s,baz=16,slow=5.5,SNR=4.2							
CLL	Collm	77.34	356	eP	P	01 29 39.0	-0.7
CLL	Collm	77.34	356	eP	P	01 29 39.0	-0.7
BRG	Berggiesshubel	77.73	355	eP	P	01 29 41.9	0.0
comp=Z,9.5nm,1.4s							
BRG	Berggiesshubel	77.73	355	eP	P	01 29 41.9	0.0
BRG				pmax	pmax		
comp=Z,10.0nm,1.4s							
DPC	Dobruska-Polom	78.11	354	eP	P	01 29 44.3	+0.2
DPC	Dobruska-Polom	78.11	354	eP	P	01 29 44.6	+0.5
DPC				pmax	pmax		
comp=Z,23nm,0.9s							
DPC	Dobruska-Polom	78.11	354	eP	P	01 29 44.3	+0.2
DPC	Dobruska-Polom	78.11	354	eP	P	01 29 44.6	+0.5
comp=Z,23nm,0.9s							
KWP	Kalwaria Pacla	78.23	349	⇓iP	P	01 29 45.1	+0.4
KWP	Kalwaria Pacla	78.23	349	eP	P	01 29 44.7	0.0
KBL	Kabul	78.25	312	eP	P	01 29 44.6	-0.7
KBL				pmax	pmax		
comp=Z,6.0nm,0.9s							
KBL	Kabul	78.25	312	eP	P	01 29 44.6	-0.7
comp=Z,6.1nm,0.9s							
PRU	Pruhonice	78.58	355	eP	P	01 29 46.9	+0.3
PRU	Pruhonice	78.58	355	eP	P	01 29 46.9	+0.3
BAIF	Baives	78.72	1	eP	P	01 29 48.0	+0.6
TREC	Trest	79.22	354	eP	P	01 29 50.4	+0.2
TREC	Trest	79.22	354	eP	P	01 29 50.4	+0.2
KHC	Kasperske Hory	79.49	355	eP	P	01 29 51.9	+0.2
KHC				pmax	pmax		
comp=Z,8.0nm,1.3s							
KHC	Kasperske Hory	79.49	355	eP	P	01 29 52.2	+0.5
KHC	Kasperske Hory	79.49	355	eP	P	01 29 51.9	+0.2
comp=Z,8.0nm,1.3s							
VYHS	Vyhne	79.75	352	eP	P	01 29 53.2	+0.1
VYHS				pmax	pmax		
comp=Z,22nm,2.6s							
VYHS	Vyhne	79.75	352	eP	P	01 29 53.2	+0.1
GERES	GERESS Array B	79.77	355	P	P	01 29 53.3	0.0
GERES	GERESS Array B	79.77	355	P	P	01 29 53.3	0.0
comp=Z,1.0nm,0.6s,baz=22,slow=4.6,SNR=11							
KIV	Kislovodsk	79.82	334	eP	P	01 29 54.2	+0.6
KIV				pmax	pmax		
comp=Z,7.0nm,1.0s							
BURAR	Bucovina Array	79.89	347	⇑iP	P	01 29 54.0	0.0
KBZ	Khabaz	79.97	334	P	P	01 29 54.7	+0.4
KBZ	Khabaz	79.97	334	P	P	01 29 54.7	+0.4
KBZ	Khabaz	79.97	334	P	P	01 29 54.7	+0.4
comp=Z,3.3nm,0.8s,baz=45,slow=4.9,SNR=8.8							
LDF	La Druitiere	80.05	4	eP	P	01 29 54.4	-0.3
comp=Z,4.5nm,0.7s							
ROSF	Rostrenen	80.12	7	eP	P	01 29 55.9	+0.9
PAGF	Fort de Pagny	80.25	1	eP	P	01 29 56.6	+0.9
comp=Z,3.0nm,0.8s							
CDF	Champ du Feu	80.39	359	eP	P	01 29 56.9	+0.3
ZEI	Tsey	80.56	333	eP	P	01 29 56.7	-1.1
ZEI				pmax	pmax		
comp=Z,6.0nm,0.5s							
SFTF	Sexfontaines	80.59	1	eP	P	01 29 58.0	+0.4
HAU	Haudompre	80.80	0	eP	P	01 29 59.1	+0.4
comp=Z,4.2nm,0.6s							
HINF	Hinteralfeld	80.99	360	eP	P	01 29 59.9	+0.1
comp=Z,2.5nm,0.5s							
DRGR		81.02	349	⇓iP	P	01 29 59.9	-0.1
LOR	Lormes	81.51	2	eP	P	01 30 02.9	+0.4
comp=Z,5.6nm,0.8s							
KBA	Koelnbreinsper	81.55	355	⇑iP	P	01 30 03.8	+0.8
comp=Z,5.9nm,0.7s							
TLCR		81.71	344	⇓iP	P	01 30 04.8	+1.3
SSF	Saint Saulge	81.71	2	eP	P	01 30 03.9	+0.3
comp=Z,2.5nm,0.5s							
FETA	Feichten	81.72	357	⇑iP	P	01 30 04.2	+0.4
comp=Z,5.9nm,1.3s							
CFR	Carcaliu	81.83	345	⇑iP	P	01 30 04.9	+0.7
MLR	Muntele Rosu	81.86	346	⇑iP	P	01 30 06.1	+1.5
AVF	Avril sur Loir	81.98	2	eP	P	01 30 05.2	+0.3
SMF	Signal de Mont	82.13	2	eP	P	01 30 06.2	+0.4
comp=Z,4.9nm,0.7s							
CABF	La Chapelle	82.19	0	eP	P	01 30 07.0	+0.8
BGF	Bois d'Agland	82.20	3	eP	P	01 30 06.7	+0.6
TUE	Stuetta	82.30	358	eP	P	01 30 07.2	+0.3
comp=Z,19nm,1.9s							
TCF	Toulx Ste Croi	82.45	3	eP	P	01 30 07.5	0.0
comp=Z,1.7nm,0.5s							
TIRR	Tirgusor	82.48	344	⇑iP	P	01 30 07.6	0.0
BNI	Bardonecchia	83.75	360	eP	P	01 30 16.0	+1.6
BNI				pmax	pmax		
comp=Z,5.0nm,0.9s							
BNI	Bardonecchia	83.75	360	eP	P	01 30 15.9	+1.6
comp=Z,4.6nm,0.9s							
ORIF	Oris-en-Rattie	83.89	0	eP	P	01 30 16.8	+1.8
MBDF	Montbardon	84.08	360	eP	P	01 30 17.4	+1.3
WRA	Warramunga Arr	84.52	228	P	P	01 30 17.2	-1.1
WRA	Warramunga Arr	84.52	228	P	P	01 30 17.2	-1.1
comp=Z,0.5nm,0.7s,baz=31,slow=5.7,SNR=4.6							
SMRF	Simiane la Rot	84.83	1	eP	P	01 30 21.0	+1.3
SBF	Sospel	84.94	359	eP	P	01 30 21.1	+0.8
comp=Z,9.2nm,0.8s							
FRF	La Foret Royal	85.25	360	eP	P	01 30 22.3	+0.5
MTLF	Montolieu	85.39	3	eP	P	01 30 23.7	+1.2
comp=Z,2.9nm,0.8s							
LMR	La Mourre	85.47	360	eP	P	01 30 23.8	+0.9
PGF	Pioggiola	86.23	358	eP	P	01 30 27.2	+0.4
comp=Z,28nm,1.2s							
GRG	Griva	86.81	348	eP	P	01 30 30.2	+0.6
FNA	Florina	87.11	349	eP	P	01 30 31.1	0.0
ASAR	Alice Springs	87.94	227	P	P	01 30 34.9	-0.2
ASAR	Alice Springs	87.94	227	P	P	01 30 34.9	-0.2
comp=Z,1.5nm,0.8s,baz=28,slow=4.9,SNR=12							
JAN	Jamna	88.28	349	eP	P	01 30 37.2	+0.5
AOS	Alonnisos	88.36	347	eP	sP	01 30 58.7	+3.3
ESDC	Sonseca Array	88.67	8	P	P	01 30 38.5	-0.1
ESDC	Sonseca Array	88.67	8	P	P	01 30 38.5	-0.1
comp=Z,0.8nm,0.8s,baz=342,slow=4.4,SNR=6.2							
EVR	Evrytania	88.89	348	eP	P	01 30 39.6	0.0
LKD2	Lefkada island	89.16	349	eP	P	01 30 39.9	-0.9
EVO	Evora	89.38	11	eP	P	01 30 43.8	+2.0
comp=Z,14nm,1.3s							
KLV	Kalavryta, Ach	89.71	348	eP	P	01 30 43.1	-0.3
VLS	Valsamata	89.77	349	eP	P	01 30 43.8	+0.1
GUR	Goura	89.79	348	eP	P	01 30 43.7	-0.1
TORD	Torodi Ar. Bea	115.42	5	PKP	PKPdf	01 36 26.8	-0.4
TORD	Torodi Ar. Bea	115.42	5	PKP	PKPdf	01 36 26.8	-0.4
comp=Z,0.1nm,0.7s,baz=7,9,slow=2.6,SNR=3.2							
MAW	Mawson	148.66	218	PKPbc	PKPbc	01 37 29.1	-1.7
MAW	Mawson	148.66	218	PKPbc	PKPbc	01 37 29.1	-1.7
comp=Z,4.0nm,0.8s,baz=50,slow=4.4,SNR=9.2							
BOSA	Boshof	153.09	321	PKPbc	PKPbc	01 37 42.5	-0.1
BOSA	Boshof	153.09	321	PKPbc	PKPbc	01 37 42.5	-0.1
comp=Z,5.9nm,1.1s,baz=4.1,slow=2.0,SNR=2.6							

WEL 20 01:20:58.2±0.2, 40°.34S×174°.04E, h127km±1km, ML3.5/14, 20C-5D, Error ellipse: s-maj=1.2km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.47	191	⇑PN	Pn	01 21 16.6	-0.3
DUWZ				SN	Sn	01 21 30.0	-1.0
KIW	Kapiti Island	0.84	129	⇑PN	Pn	01 21 19.4	-0.1
KIW				SN	Sn	01 21 34.0	-1.6
KIW				AML	AML	01 21 35.7	
TCW	Tory Channel	0.89	168	⇑PN	Pn	01 21 20.7	+0.1
TCW				AML	AML	01 21 35.7	
TCW				AML	AML	01 21 35.8	
WAZ	Wanganui	0.93	52	PN	Pn	01 21 20.7	+0.5
OGWZ	Otaki Gorge	0.99	119	⇑PN	Pn	01 21 20.8	+0.1
DFE	Dawson Falls	1.01	3	PN	Pn	01 21 21.1	0.0
NNZ	Nelson	1.01	209	⇑PN	Pn	01 21 20.7	-0.3
NWEZ	Newall Road	1.07	353	PN	Pn	01 21 21.5	-0.1
TUWZ	Tuamarina	1.09	184	PN	Pn	01 21 21.3	-0.4
TUWZ				AML	AML	01 21 38.5	
TUWZ				AML	AML	01 21 39.4	
SNZO	South Karori	1.09	153	⇑PN	Pn	01 21 21.7	0.0
SNZO				SN	Sn	01 21 38.4	-1.3
SNZO				AML	AML	01 21 40.4	
WEL	Wellington	1.10	150	⇑PN	Pn	01 21 21.8	0.0
CAW	Cannon Point	1.10	135	⇑PN	Pn	01 21 21.9	+0.1
CAW				AML	AML	01 21 41.1	
CAW				AML	AML	01 21 41.3	
PKE	Pukeiti	1.14	358	PN	Pn	01 21 22.6	+0.3
PKE				SN	Sn	01 21 40.0	-0.6
DREZ	Durham Road	1.15	6	SN	Sn	01 21 40.2	-0.5
MRZ	Mangatainoka R	1.22	106	⇑PN	Pn	01 21 23.0	-0.1
BHW	Baring Head	1.24	150	⇑PN	Pn	01 21 23.1	-0.2
BHW				AML	AML	01 21 42.5	
BHW				AML	AML	01 21 42.8	
HOWZ	Holdsworth Sta	1.26	117	⇑PN	Pn	01 21 23.4	-0.1
POWZ	Post Office Ro	1.32	93	PN	Pn	01 21 24.1	0.0
VRZ	Vera Road	1.33	25	PN	Pn	01 21 24.0	-0.2
BSWZ	Blackbirch Sta	1.38	185	PN	Pn	01 21 24.8	0.0
BSWZ				AML	AML	01 21 44.8	
BSWZ				AML	AML	01 21 45.0	
MTW	Mount Morrison	1.38	127	⇑PN	Pn	01 21 24.7	-0.1
MTW				AML	AML	01 21 45.3	
MTW				AML	AML	01 21 45.3	
MSWZ	Moikau Station	1.42	140	⇑PN	Pn	01 21 25.1	-0.1
MSWZ				AML	AML	01 21 45.7	
MSWZ				AML	AML	01 21 46.0	
CMWZ	Cape Campbell	1.42	175	SN	Sn	01 21 45.3	-0.4
CMWZ				AML	AML	01 21 51.4	
PKVZ	Pokaka	1.45	44	PN	Pn	01 21 25.4	-0.3
MTVZ	Mangateitei	1.46	50	PN	Pn	01 21 25.8	+0.1
TIWZ	Tintock	1.47	108	⇑PN	Pn	01 21 25.8	-0.1
PAWZ	Paruwai Farm	1.48	135	⇑PN	Pn	01 21 25.8	-0.1
PAWZ				AML	AML	01 21 47.1	
PAWZ				AML	AML	01 21 47.2	
TSZ	Takapari Road	1.50	80	PN	Pn	01 21 26.0	-0.2
TSZ				AML	AML	01 21 47.0	
TSZ				AML	AML	01 21 48.3	
PLWZ	Palliser	1.54	144	⇑PN	Pn	01 21 26.3	-0.2
WNVZ	Wahianoa	1.57	50	⇓PN	Pn	01 21 26.8	-0.3
TMWZ	Te Maipa	1.60	119	⇑PN	Pn	01 21 27.3	-0.1
MOVZ	Moawhango	1.61	55	PN	Pn	01 21 26.9	-0.7
WPVZ	Whakapapa	1.62	46	PN	Pn	01 21 27.2	-0.5
DVHZ	Dannevirke	1.63	89	PN	Pn	01 21 27.2	-0.4
TRWZ	Traveller	1.64	131	PN	Pn	01 21 27.6	-0.1
TRWZ				AML	AML	01 21 51.4	
TRWZ				AML	AML	01 21 52.4	
TUVZ	Tukino	1.64	50	PN	Pn	01 21 27.5	-0.4
THZ	Tophouse	1.66	211	⇑PN	Pn	01 21 27.5	-0.6
TWVZ	Taurewa	1.66	41	⇑PN	Pn	01 21 27.6	-0.6
NGZ	Ngauruhoe	1.67	47	PN	Pn	01 21 27.2	-1.1
WTVZ	West Tongariro	1.71	45	PN	Pn	01 21 28.1	-0.6
PNHZ	Pukenui	1.71	76	PN	Pn	01 21 28.1	-0.5
OTVZ	Oturere	1.72	47	PN	Pn	01 21 28.3	-0.5
BFZ	Birch Farm	1.72	102	⇓PN	Pn	01 21 28.4	-0.3
KRVZ	Karewarewa	1.75	45	PN	Pn	01 21 28.6	-0.6
BHHZ	Black Hill Sta	1.77	62	PN	Pn	01 21 28.7	-0.7
WPHZ	Waipukurau	1.86	82	PN	Pn	01 21 30.0	-0.3
HIZ	Hauiti	1.93	19	⇓PN	Pn	01 21 30.4	-0.8
PRHZ	Porangahau	1.99	89	PN	Pn	01 21 31.8	-0.1
DSZ	Denniston Nort	2.20	230	⇓PN	Pn	01 21 33.3	-1.2
DSZ				SN	Sn	01 21 58.9	-3.5
BKZ	Black Stump Fm	2.22	59	⇓PN	Pn	01 21 33.8	-1.1
BKZ				AML	AML	01 22 03.3	
NMHZ	Naumai	2.47	61	PN	Pn	01 21 37.5	-0.5
LTZ	Lake Taylor	2.78	208	PN	Pn	01 21 40.5	-1.4
KNZ	Kokohu	3.10	66	PN	Pn	01 21 44.0	-2.0
MHGZ	Mahia Peninsul	3.21	70	PN	Pn	01 21 46.1	-1.4
MWZ	Matawai	3.36	55	PN	Pn	01 21 47.2	-2.3
MQZ	McQueen's Vall	3.52	197	⇑PN	Pn	01 21 48.8	-2.7
MQZ				SN	Sn	01 22 26.2	-6.6
WVZ	Waitaha Valley	3.69	221	PN	Pn	01 21 51.5	-2.1
RPZ	Rata Peaks	4.04	212	PN	Pn	01 21 56.7	-1.7
FOZ	Fox Glacier	4.57	224	PN	Pn	01 22 01.7	-3.7
ODZ	Otahua Downs	5.33	207	PN	Pn	01 22 13.1	-2.5
JCZ	Jackson Bay	5.41	225	PN	Pn	01 22 13.5	-3.3

*ISK **20** 01:32:23.4, 35°.84N×30°.59E, h33km, MD3.3*
*CSEM **20** 01:32:23.4±0.8, 35°.77N×30°.54E, h20km, MD2.8, Error ellipse: s-maj=21.1km s-min=11.3km az=20.0*
*ISCJB **20** 01:32:24.4±1.7, 35°.80N±0°.08×30°.48E±0°.08, h26km±9km, Error ellipse: s-maj=13.9km s-min=10.9km az=11.0*
*DDA **20** 01:32:31.8, 36°.27N×30°.24E, h7km, MD2.8*

ISC 20 01:32:22.7±2.1, 35°.79N±0°.09×30°.57E±0°.05, h23km±15km, n17, σ1°.22/31, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.89	300	i P	Pn	01 32 41.2	+1.2
AKAS				i S	Sb	01 32 50.4	-0.7
AKAS	Kas	0.89	300	i P	Pn	01 32 41.2	+1.2
AKAS				i S	Sb	01 32 50.4	-0.7
ELL	Elmali	1.09	331	ePG	Pn	01 32 42.7	0.0
ELL				eSG	Sb	01 32 56.3	-0.5
ELL	Elmali	1.09	331	ePg	Pn	01 32 42.7	0.0
ELL				eSg	Sb	01 32 56.3	-0.5
KORT	Korkueli	1.22	352	i P	Pb	01 32 46.5	+1.4
KORT				i S	Sb	01 33 01.0	+0.6
KORT	Korkueli	1.22	352	i P	Pb	01 32 46.5	+1.4
KORT				i S	Sb	01 33 01.0	+0.6
FETY	Fethiye	1.46	305	ePN	Pn	01 32 47.9	+0.2
FETY				eSN	Sn	01 33 05.0	-1.1
FETY	Fethiye	1.46	305	ePn	Pn	01 32 47.9	+0.2
FETY				eSn	Sn	01 33 05.1	-1.1
GOLH	Golhisar	1.65	331	i P	Pb	01 32 52.7	+0.2
GOLH				i S	Sn	01 33 11.9	+0.9
GOLH	Golhisar	1.65	331	i P	Pb	01 32 52.7	+0.2
GOLH				i S	Sn	01 33 11.9	+0.9
DALY	Dalyan (Mu¨la	1.85	304	ePN	Pn	01 32 54.4	+1.4
DALY				eSN	Sn	01 33 14.9	-0.7
DALY	Dalyan (Mu¨la	1.85	304	ePn	Pn	01 32 54.4	+1.4
DALY				eSn	Sn	01 33 15.0	-0.7
DNZL	Cakiroluk	2.25	328	eP	Pb	01 33 03.1	+0.3
DNZL				i S	Sn	01 33 27.9	+2.0
IKL	Isikli	2.57	79	ePN	Pn	01 33 03.1	+0.2
IKL	Isikli	2.57	79	ePn	Pn	01 33 03.1	+0.2
KHAL	Karahalli	2.71	342	i P	Pb	01 33 08.2	-2.3
KHAL				i S	Sn	01 33 34.5	-2.6
KHAL	Karahalli	2.71	342	i P	Pb	01 33 08.2	-2.3

IDC 20 01:36:36.6±4.8, 21°.54N×144°.44E, h100km±44km, mb3.6/5, mb1 3.8/6, mb1mx3.3/27, mbtmp3.7/6, Error ellipse: s-maj=68.6km s-min=19.1km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.90	340	P	Pn	01 38 02.7	+1.2
2.6nm,0.3s,baz=143,slow=20,SNR=4.4							
CBIJ				S	Sn	01 39 07.5	-0.3
18nm,0.3s,baz=122,slow=23,SNR=10							
WRA	Warramunga Arr	42.40	194	P	P	01 44 21.2	-0.1
1.3nm,0.5s,baz

KURK	Kurchatov	54.99	344	P		P	01 56 41.5	-0.9
ZAA0	Zalesovo Array	56.60	350	eP		P	01 56 52.8	-1.0
ZALV	Zalesovo Beam	56.60	350	P		P	01 56 53.9	+0.1
ZALV	Zalesovo Beam	56.60	350	P		P	01 56 53.9	+0.1
	1.6nm,0.4s,baz=167,slow=5.4,SNR=14							
BVAR	Borovoye Array	59.53	340	P		P	01 57 13.6	-0.8
BVAR	Borovoye Array	59.53	340	P		P	01 57 13.6	-0.8
	0.8nm,0.5s,baz=134,slow=11,SNR=7.0							
ABKAR	Akbulak array	60.93	332	eP		P	01 57 23.1	-0.9
	0.9nm,0.6s							
KBZ	Khabaz	67.55	319	P		P	01 58 08.1	+0.6
KBZ	Khabaz	67.55	319	P		P	01 58 08.1	+0.6
	2.2nm,0.8s,baz=123,slow=6.9,SNR=5.6							
FINES	FINESS Array B	83.41	332	P		P	01 59 38.5	+0.3
FINES	FINESS Array B	83.41	332	P		P	01 59 38.5	+0.3
	1.1nm,0.5s,baz=104,slow=6.1,SNR=9.5							
GERES	GERESS Array B	88.29	319	P		P	02 00 03.1	+0.3
GERES	GERESS Array B	88.29	319	P		P	02 00 03.1	+0.3
	0.4nm,0.6s,baz=64,slow=6.1,SNR=6.6							
CPUP	Villa Florida	144.32	217	PKP		PKPdf	02 06 47.7	-0.2
CPUP	Villa Florida	144.32	217	PKP		PKPdf	02 06 47.7	-0.2
	2.5nm,0.7s,baz=356,slow=2.5,SNR=5.8							
TXAR	Lajitas Array	144.70	36	PKP		PKPdf	02 06 48.5	-0.2
TXAR	Lajitas Array	144.70	36	PKP		PKPdf	02 06 48.5	-0.2
	1.3nm,0.7s,baz=241,slow=2.3,SNR=7.3							
MIAR	Mount Ida	145.00	19	ePKPbc		PKPdf	02 06 48.4	-0.5
TZTN	Tazewell	145.05	4	ePKPdf		PKPab	02 06 48.3	0.0
JCT	Junction City	145.94	30	ePKPbc		PKPab	02 06 52.0	+0.1

IDC 20 02:41:48.5±4.5, 31°.01N×141°.53E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=181.7km s-min=23.4km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.17	334	Pn	Pn	02 43 20.6	-0.3
	0.7nm,0.3s,baz=158,slow=11,SNR=8.1						
SONM	Songino Array	31.58	312	P	P	02 48 13.4	+0.6
	0.2nm,0.4s,baz=109,slow=7.8,SNR=2.8						
KURBB	Kurchatov Arra	49.95	312	P	P	02 50 43.3	-0.7
	0.4nm,0.4s,baz=84,slow=8.5,SNR=4.0						
WRA	Warramunga Arr	51.13	189	P	P	02 50 52.9	-0.2
	0.2nm,0.3s,baz=7.1,slow=7.7,SNR=7.0						
ASAR	Alice Springs	54.85	189	P	P	02 51 20.7	+0.1
	0.1nm,0.3s,baz=17,slow=14,SNR=5.0						

*IDC **20** 02:44:20.0±0.8, 23°.38N×123°.43E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/27, mbtmp3.9/15, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/36, Error ellipse: s-maj=25.1km s-min=18.3km az=75.0*
*ISCJB **20** 02:44:23.2±1.4, 23°.37N±0°.07×123°.59E±0°.07, h33km±12km, mb3.8/14, Error ellipse: s-maj=12.0km s-min=11.2km az=10.3*
*JMA **20** 02:44:24.2±0.2, 23°.43N×123°.59E, h49km±3km, M3.2*
ISC 20 02:44:23.9±2.2, 23°.40N±0°.09×123°.60E±0°.07, h26km±13km, n24, σ1°.09/30, mb3.9/14, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.68	16	P	Pb	02 44 37.3	+0.2
HATJ				eS	Sb	02 44 46.6	+0.5
JKRS	Kuro-shima	0.91	24	P	Pb	02 44 40.7	-0.4
JKRS				eS	Sb	02 44 52.3	-0.5
IRIF	Iriomote-Funau	0.94	7	P	Pn	02 44 40.9	-0.5
IRIF				eS	Sb	02 44 53.1	-0.4
JIJ	Ishigaki jima	1.08	27	P	Pn	02 44 42.7	-0.7
JIJ				eS	Sn	02 44 57.0	-0.5
YOJ	Yonaguni jima	1.19	333	P	Pn	02 44 44.1	-0.8
YOJ				S	Sn	02 44 59.2	-1.0
JTJ	Tarama	1.59	39	P	Pn	02 44 50.3	-0.1
JTJ				eS	Sn	02 45 08.8	-1.4
JKE	Kume jima 2	4.10	44	P	Pn	02 45 23.4	-1.6
JOW	Kunigami	5.44	50	P	Pn	02 45 41.4	-2.0
KSRS	Korea Array	14.49	14	Pn	Pn	02 47 49.6	+2.4
	baz=191,slow=7.8,SNR=3.0						
KSRS				LR	LR	02 54 32.3	
	comp=Z,98nm,19.3s,baz=162,slow=42						
MJAR	Matsushiro Arr	18.18	41	P	P	02 48 35.9	+1.2
	0.5nm,0.3s,baz=227,slow=8.5,SNR=9.3						
ASAJ	Asahikawa	25.89	32	P	P	02 49 53.7	0.0
	7.1nm,0.6s,baz=250,slow=12,SNR=4.8						
SONM	Songino Array	27.98	335	P	P	02 50 11.8	-0.9
	1.1nm,0.8s,baz=151,slow=10,SNR=7.6						
PETK	Petropavlovsk-	39.31	32	P	P	02 51 51.1	+0.5
	2.5nm,0.8s,baz=195,slow=4.6,SNR=5.4						
MKAR	Makanchi Array	40.44	316	P	P	02 52 00.7	+0.5
	0.3nm,0.6s,baz=102,slow=11,SNR=3.6						
ZALV	Zalesovo Beam	42.11	326	P	P	02 52 13.0	-0.7
	1.4nm,0.5s,baz=121,slow=8.7,SNR=5.0						
KURBB	Kurchatov Arra	44.13	320	P	P	02 52 28.8	-1.4
	0.3nm,0.4s,baz=111,slow=8.1,SNR=3.0						
WRA	Warramunga Arr	44.34	165	P	P	02 52 31.9	-0.2
	2.0nm,0.9s,baz=347,slow=8.9,SNR=7.9						
ASAR	Alice Springs	47.85	167	P	P	02 52 60.0	+0.2
	0.5nm,0.5s,baz=351,slow=7.5,SNR=6.9						
KBZ	Khabaz	67.69	309	P	P	02 55 19.3	+0.3
	0.5nm,0.5s,baz=82,slow=7.1,SNR=2.5						
ILAR	Eielson Array	68.89	27	P	P	02 55 27.5	+1.4
	0.3nm,0.8s,baz=297,slow=9.8,SNR=5.8						
INK	Inuvik	73.11	22	P	P	02 55 53.5	+1.9
	1.3nm,0.9s,baz=319,slow=9.3,SNR=3.7						
FINES	FINESS Array B	73.23	330	P	P	02 55 52.1	-0.4
	2.9nm,0.9s,baz=57,slow=5.1,SNR=4.7						
YKA	Yellowknife Ar	82.81	23	P	P	02 56 46.0	+0.4
	0.8nm,0.7s,baz=308,slow=4.7,SNR=5.8						
GERES	GERESS Array B	84.84	321	P	P	02 56 54.8	-1.7
	0.3nm,0.6s,baz=63,slow=5.6,SNR=3.0						

IDC 20 02:51:35.7±5.5, 29°.89S×178°.17W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/17, mbtmp3.4/2, Error ellipse: s-maj=322.6km s-min=78.2km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.99	266	P	P	02 59 36.6	-0.5
	0.2nm,0.4s,baz=104,slow=6.8,SNR=2.9						
WRA	Warramunga Arr	43.94	272	P	P	02 59 44.8	+0.1
	0.7nm,0.9s,baz=110,slow=8.2,SNR=6.8						
FINES	FINESS Array B	144.62	340	PKP	PKPdf	03 11 13.0	-0.6
	1.4nm,0.8s,baz=45,slow=1.9,SNR=3.4						

IDC 20 02:55:08.5±3.9, 8°.24S×74°.30W, h135km±51km, mb3.3/3, mb1 3.4/5, mb1mx3.2/22, mbtmp3.2/5, Error ellipse: s-maj=79.8km s-min=20.3km az=39.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	4.20	285	P	Pn	02 56 13.2	+1.6
	4.3nm,0.3s,baz=138,slow=6.4,SNR=33						
ATAH				S	Sn	02 56 59.3	-1.3
	4.2nm,0.3s,baz=270,slow=20,SNR=3.5						
SIV	San Ignacio	15.05	122	P	P	02 58 35.9	-0.5
	0.2nm,0.3s,baz=310,slow=7.9,SNR=2.7						
SIV				S	S	03 01 30.6	+1.8
	0.1nm,0.3s,baz=162,slow=20,SNR=2.2						
CPUP	Villa Florida	24.16	140	P	P	03 00 12.3	+0.1
	1.5nm,0.6s,baz=315,slow=13,SNR=3.5						
TXAR	Lajitas Array	46.86	324	P	P	03 03 26.0	+0.8
	0.2nm,0.8s,baz=131,slow=5.7,SNR=2.5						
TORD	Torodi Ar. Bea	78.39	75	P	P	03 06 54.1	-0.7
	0.9nm,0.6s,baz=259,slow=4.3,SNR=14						

*ATH **20** 03:07:39.6, 38°.70N×21°.29E, h24km±1km, MD2.7/8*
*CSEM **20** 03:07:40.0±0.2, 38°.72N×21°.30E, h20km, ML2.0/4, Error ellipse: s-maj=5.6km s-min=4.6km az=24.0*
THE 20 03:07:38.6, 38°.78N×21°.18E, h15km±1km, ML2.0/4, Error ellipse: s-maj=1.9km s-min=0.9km az=294.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	Lefkada island	0.41	271	P	Pn	03 07 49.8	-0.2
LKD2				S	Sn	03 07 59.3	+1.9
LKD2	Lefkada island	0.41	271	ePN	Pn	03 07 50.0	0.0
LKD2				eSN	Sn	03 07 57.6	+0.2
LKD2	Lefkada island	0.41	271	ePn	Pn	03 07 50.0	0.0
LKD2				eSn	Sn	03 07 57.6	+0.2
LKD2				S	Sb	03 07 59.3	+5.7
EVR	Evrytania	0.51	75	P	Pg	03 07 48.6	-0.3
EVR				S	Sb	03 07 56.4	-0.4
EVR	Evrytania	0.51	75	ePB	Pg	03 07 48.7	-0.2
EVR	Evrytania	0.51	75	ePb	Pg	03 07 48.7	-0.2
AXS	Araxos	0.61	165	P	Pg	03 07 50.6	+0.1
AXS				S	Sb	03 07 59.9	+0.6
AXS	Araxos	0.61	165	P	Pg	03 07 50.6	+0.1
AXS				S	Sb	03 07 59.9	+0.6
EFP	Efpalio	0.67	122	P	Pg	03 07 50.9	-0.9
EFP				S	Sg	03 08 00.9	+0.2
EFP	Efpalio	0.67	122	ePN	Pg	03 07 50.9	-0.9
EFP				eSN	Sg	03 07 59.5	-1.2
EFP	Efpalio	0.67	122	P	Pg	03 07 50.9	-0.9
EFP				eSn	Sg	03 07 59.5	-1.2
EFP				S	Sb	03 08 00.9	-0.3
RLS	Riolos of Patr	0.76	163	P	Pg	03 07 53.2	-0.2
RLS				S	Sn	03 08 04.9	-1.1
RLS	Riolos of Patr	0.76	163	ePN	Pg	03 07 53.1	-0.3
RLS	Riolos of Patr	0.76	163	P	Pg	03 07 53.2	-0.2
RLS				S	Sn	03 08 04.9	-1.1
VLS	Valsamata	0.76	217	ePN	Pn	03 07 54.3	-0.5
VLS	Valsamata	0.76	217	ePn	Pn	03 07 54.3	-0.5
MAKR	Makrakomi, Fth	0.78	73	P	Pg	03 07 53.4	-0.4
MAKR				S	Sb	03 08 05.2	+0.8
MAKR	Makrakomi, Fth	0.78	73	P	Pg	03 07 53.4	-0.4
MAKR				S	Sb	03 08 05.2	+0.8
TRIZ	Trizonia	0.82	120	P	Pg	03 07 53.4	-1.1
TRIZ				S	Sn	03 08 06.4	-1.0
TRIZ	Trizonia	0.82	120	ePN	Pg	03 07 53.2	-1.3
TRIZ	Trizonia	0.82	120	P	Pg	03 07 53.4	-1.1
TRIZ				S	Sn	03 08 06.4	-1.0
LAKA	Lakka	0.83	131	P	Pb	03 07 53.5	-1.3
LAKA				S	Sb	03 08 06.5	+0.7
LAKA	Lakka	0.83	131	ePN	Pb	03 07 53.8	-1.0
LAKA	Lakka	0.83	131	P	Pb	03 07 53.5	-1.3
LAKA	Lakka	0.83	131	ePn	Pb	03 07 53.8	-1.0
LAKA				S	Sb	03 08 06.5	+0.7
KALE	Kalithea	0.85	117	P	Pb	03 07 53.9	-1.3
KALE				S	Sb	03 08 06.4	-0.1
KALE	Kalithea	0.85	117	ePN	Pb	03 07 54.3	-0.9
KALE	Kalithea	0.85	117	P	Pb	03 07 53.9	-1.3
KALE	Kalithea	0.85	117	ePn	Pb	03 07 54.3	-0.9
KALE				S	Sb	03 08 06.4	-0.1
JAN	Janina	0.91	344	ePN	Pn	03 07 58.9	+2.0
JAN	Janina	0.91	344	ePn	Pn	03 07 58.9	+2.0
AGG	Agios Georgios	0.93	75	P	Pb	03 07 56.4	-0.1
AGG				S	Sn	03 08 10.1	-0.2
AGG	Agios Georgios	0.93	75	P	Pb	03 07 56.4	-0.1
AGG				S	Sn	03 08 10.1	-0.2
THL	Klokotos Trika	1.01	40	ePN	Pn	03 07 59.5	+1.2
THL	Klokotos Trika	1.01	40	ePn	Pn	03 07 59.5	+1.2
KLV	Kalavryta, Ach	1.06	134	P	Pb	03 07 57.8	-1.0
KLV				S	Sn	03 08 13.6	0.0
KLV	Kalavryta, Ach	1.06	134	P	Pb	03 07 57.8	-1.0
AMT	Artemida-Makis	1.32	161	ePN	Pb	03 08 03.0	-0.1
AMT	Artemida-Makis	1.32	161	ePn	Pb	03 08 03.0	-0.1
KEK	Kerkira	1.42	311	ePN	Pg	03 08 07.4	+1.5
KEK	Kerkira	1.42	311	ePn	Pg	03 08 07.4	+1.5

*CSEM **20** 03:08:22.9, 38°.71N×21°.31E, h28km, MD2.7, After ATH*
ATH 20 03:08:22.9, 38°.71N×21°.31E, h28km±2km, MD2.7/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.44	62	ePB	Pb	03 08 32.3	-0.2
EVR				eSB	Sb	03 08 39.7	+0.8
EVR	Evrytania	0.44	62	ePb	Pb	03 08 32.3	-0.2
EVR				eSb	Sb	03 08 39.7	+0.8
LKD2	Lefkada island	0.52	279	ePN	Pb	03 08 33.4	-0.2
LKD2				eSN	Sn	03 08 41.8	-0.6
LKD2	Lefkada island	0.52	279	ePn	Pb	03 08 33.4	-0.2
LKD2				eSn	Sn	03 08 41.8	-0.6
EFP	Efpalio	0.55	121	ePN	Pb	03 08 34.1	+0.1
EFP				eSN	Sn	03 08 42.8	-0.2
EFP	Efpalio	0.55	121	ePn	Pb	03 08 34.1	+0.1
EFP				eSn	Sn	03 08 42.8	-0.2
RLS	Riolos of Patr	0.66	169	ePN	Pn	03 08 36.5	+0.1
RLS	Riolos of Patr	0.66	169	ePn	Pn	03 08 36.5	+0.1
TRIZ	Trizonia	0.69	120	ePN	Pn	03 08 36.7	-0.1
TRIZ	Trizonia	0.69	120	ePn	Pn	03 08 36.7	-0.1
LAKA	Lakka	0.70	132	ePN	Pn	03 08 37.3	+0.2
LAKA	Lakka	0.70	132	ePn	Pn	03 08 37.3	+0.2
VLS	Valsamata	0.78	227	ePN	Pn	03 08 38.3	+0.3
VLS	Valsamata	0.78	227	ePn	Pn	03 08 38.3	+0.3
JAN	Janina	1.01	339	ePN	Pb	03 08 42.5	+0.6
JAN	Janina	1.01	339	ePn	Pb	03 08 42.5	+0.6

MEX 20 03:15:29.6±0.8, 18°.12N×103°.35W, h10km±14km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.17	2	eP	Pg	03 15 32.5	-0.7
MMIG				i S	Sg	03 15 35.6	-0.2
R15V		1.20	330	i P	Pb	03 15 48.5	-4.1
R15V				i S	Sb	03 16 03.9	-4.4
EZ5V		1.37	350	eP	Pn	03 15 51.9	-3.3
EZ5V				i S	Sb	03 16 08.0	-5.6

IDC 20 03:25:52.0±20.0, 23°.88S×179°.78W, h474km±182km, mb3.1/6, mb1 3.2/6, mb1mx3.0/20, mbtmp3.1/6, Error ellipse: s-maj=225.4km s-min=42.0km az=54.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	21.17	199	P	P	03 30 02.5	0.0
	7.5nm,1.0s,baz=12,slow=9.0,SNR=2.5						
CTA	Charters Tower	31.68	270	P	P	03 31 36.3	+0.7
	2.5nm,0.4s,baz=112,slow=5.4,SNR=3.2						
STKA	Stephens Creek	34.92	248	P	P	03 32 02.4	-0.6
	1.2nm,0.8s,baz=94,slow=14,SNR=3.3						
ASAR	Alice Springs	42.24	261	P	P	03 33 02.0	-0.8
	0.2nm,0.3s,baz=103,slow=7.7,SNR=3.5						
WRA	Warramunga Arr	42.61	266	P	P	03 33 05.4	-0.3
	1.1nm,0.6s,baz=97,slow=8.3,SNR=15						
FITZ	Fitzroy Crossi	51.03	266	P	P	03 34 09.9	+0.3
	2.4nm,1.1s,baz=102,slow=14,SNR=2.9						

MEX 20 03:35:49.5±0.4, 16°.67N×94°.25W, h147km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.74	304	i P	Pn	03 36 10.6	-1.4
CMIG				i S	Sn	03 36 27.0	-2.0
TGIG		1.08	84	i P	Pn	03 36 12.8	-2.0
TGIG				i S	Sn	03 36 32.2	-1.8
HUIG	Huatulco	2.00	244	i P	Pn	03 36 23.9	-0.6
HUIG				eS	Sn	03 36 48.8	-2.5
PNIG	Pinotepa	3.73	266	i P	Pn	03 36 45.1	-1.2
PNIG				i S	Sn	03 37 29.2	-1.1

*ROM **20** 03:44:07.8±0.1, 42°.23N×13°.52E, h9km, Ml3.1/11, Error ellipse: s-maj=1.0km s-min=0.9km az=78.0*
*ISCJB **20** 03:44:07.9±0.2, 42°.22N±0°.02×13°.52E±0°.03, h9km±2km, mb3.1/1, Error ellipse: s-maj=3.4km s-min=2.7km az=144.7*
*CSEM **20** 03:44:08.3±0.1, 42°.22N×13°.52E, h2km, ML3.7/7, Error ellipse: s-maj=2.9km s-min=2.2km az=62.0*
*IDC **20** 03:44:09.1±1.3, 42°.30N×13°.78E, h0km, mb3.2/1, mb1 3.2/5, mb1mx3.1/30, mbtmp3.1/5, ML2.9/4, Error ellipse: s-maj=23.5km s-min=14.2km az=96.0*
*PRU **20** 03:44:10.6, 42°.28N×13°.47E, h0km*
*LDG **20** 03:44:10.7±0.2, 42°.08N×13°.36E, h10km, Ml2.8/5, Error ellipse: s-maj=9.9km s-min=5.2km az=41.0*
ISC 20 03:44:08.7±0.9, 42°.22N±0°.02×13°.50E±0°.02, h6km±6km, n117, σ1°.31/152, 1C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	Fagnano	0.08	55	Pg	Pg	03 44 10.2	-0.4
FAGN				Sg	Sg	03 44 11.4	-0.5
	94μm,0.4s						
FAGN	Fagnano	0.08	55	Pg	Pg	03 44 10.2	-0.4
FAGN				Sg	Sg	03 44 11.4	-0.5
	94μm,0.4s						
AQU	L'Aquila	0.15	333	Pg	Pg	03 44 11.9	+0.1
AQU				Sg	Sg	03 44 14.3	+0.4
	6μm,0.3s						
AQU	L'Aquila	0.15	333	Pg	Pg	03 44 11.9	+0.1
AQU				Sg	Sg	03 44 14.3	+0.4
	6μm,0.3s						
PTQR	Pietraquaria	0.21	200	Pg	Pg	03 44 13.5	+0.7
PTQR	Pietraquaria	0.21	200	Pg	Pg	03 44 13.5	+0.7
FIAM	Fiamignano	0.28	280	Pg	Pg	03 44 14.6	+0.3
FIAM				Sg	Sg	03 44 19.5	+1.4
	3μm,0.8s						
FIAM	Fiamignano	0.28	280	Pg	Pg	03 44 14.6	+0.3
FIAM				Sg	Sg	03 44 19.5	+1.4
	3μm,0.8s						
VCEL	Villa Celiera	0.31	56	Pg	Pg	03 44 14.3	-0.5
VCEL				Sg	Sg	03 44 19.0	+0.1
	10μm,0.7s						
VCEL	Villa Celiera	0.31	56	Pg	Pg	03 44 14.3	-0.5
VCEL				Sg	Sg	03 44 19.0	+0.1
	10μm,0.7s						
VVLD	Villa Vallelon	0.36	165	Pg	Pg	03 44 15.8	+0.1
VVLD				Sg	Sg	03 44 20.9	+0.4
	2μm,0.6s						
VVLD	Villa Vallelon	0.36	165	Pg	Pg	03 44 15.8	+0.1
VVLD				Sg	Sg	03 44 20.9	+0.4
	2μm,0.6s						
INTR	Introdacqua	0.37	124	Pg	Pg	03 44 15.7	-0.2
INTR				Sg	Sg	03 44 21.3	+0.6
	4μm,0.7s						
INTR	Introdacqua	0.37	124	Pg	Pg	03 44 15.7	-0.2
INTR				Sg	Sg	03 44 21.3	+0.6
	4μm,0.7s						
TERO	Teramo	0.41	11	Pg	Pg	03 44 15.8	-0.9
	2μm,0.6s						
TERO	Teramo	0.41	11	Pg	Pg	03 44 15.8	-0.9
	2μm,0.6s						
GUAR	Guarcino	0.45	198	Pg	Pg	03 44 17.4	+0.1
	939nm,0.3s						
GUAR	Guarcino	0.45	198	Pg	Pg	03 44 17.4	+0.1
	939nm,0.3s						
CERT	Cerreto	0.47	235	Pg	Pg	03 44 17.8	+0.1
	3μm,0.9s						
CERT	Cerreto	0.47	235	Pg	Pg	03 44 17.8	+0.1
	3μm,0.9s						
LNSS	Leonessa	0.51	319	Pg	Pg	03 44 18.7	+0.2
LNSS	Leonessa	0.51	319	Pg	Pg	03 44 18.7	+0.2
POFI	Posta Fibreno	0.53	162	Pg	Pg	03 44 18.5	-0.3
	658nm,0.5s						
POFI	Posta Fibreno	0.53	162	Pg	Pg	03 44 18.5	-0.3
	658nm,0.5s						
LPEL	Lama dei Pelig	0.54	108	Pg	Pg	03 44 18.3	-0.8
LPEL				Sg	Sg	03 44 26.6	+0.5
LPEL	Lama dei Pelig	0.54	108	Pg	Pg	03 44 18.3	-0.8
LPEL				Sg	Sg	03 44 26.6	+0.5
SDI	San Donato	0.56	155	Pg	Pg	03 44 19.1	-0.4
SDI	San Donato	0.56	155	Pg	Pg	03 44 19.1	-0.4
MTCE	Montecelio	0.59	251	Pg	Pg	03 44 19.8	-0.3
	2μm,1.6s						
MTCE	Montecelio	0.59	251	Pg	Pg	03 44 19.8	-0.3
	2μm,1.6s						
MNS	Montasola	0.63	286	Pg	Pg	03 44 20.2	-0.5
MNS	Montasola	0.63	286	Pg	Pg	03 44 20.2	-0.5
CAFR	Castel Frentan	0.63	89	Pg	Pg	03 44 20.5	-0.4
CAFR	Castel Frentan	0.63	89	Pg	Pg	03 44 20.5	-0.4
TRTR	Tortoreto Alta	0.67	28	Pg	Pg	03 44 21.8	+0.3
TRTR	Tortoreto Alta	0.67	28	Pg	Pg	03 44 21.8	+0.3
NRCA	Norcia	0.68	335	Pg	Pg	03 44 20.8	-0.9
NRCA				Sg	Sg	03 44 31.6	+1.1
	398nm,0.2s						
NRCA	Norcia	0.68	335	Pg	Pg	03 44 20.8	-0.9
NRCA				Sg	Sg	03 44 31.6	+1.1
	398nm,0.2s						
GIUL	Giuliano Di Ro	0.69	195	Pg	Pg	03 44 21.6	-0.2
GIUL	Giuliano Di Ro	0.69	195	Pg	Pg	03 44 21.6	-0.2
RNI2	Rionero Sannit	0.71	136	Pg	Pg	03 44 22.2	-0.2
RNI2	Rionero Sannit	0.71	136	Pg	Pg	03 44 22.2	-0.2
OFFI	Offida	0.73	11	Pg	Pg	03 44 22.6	-0.1
OFFI	Offida	0.73	11	Pg	Pg	03 44 22.6	-0.1
CERA	Filignano	0.73	148	Pg	Pg	03 44 21.8	-1.0
CERA	Filignano	0.73	148	Pg	Pg	03 44 21.8	-1.0
MIDA	Miranda	0.81	135	Pg	Pg	03 44 23.1	-1.1
MIDA	Miranda	0.81	135	Pg	Pg	03 44 23.1	-1.1
FDMO	Fiordimonte	0.87	340	Pg	Pg	03 44 24.1	-1.3
FDMO	Fiordimonte	0.87	340	Pg	Pg	03 44 24.1	-1.3
CESI	CESI - Serrava	0.90	331	Pg	Pg	03 44 25.0	-0.9
CESI	CESI - Serrava	0.90	331	Pg	Pg	03 44 25.0	-0.9
GUMA	Gualdo di Mace	0.90	21	Pg	Pg	03 44 24.5	-1.5
GUMA	Gualdo di Mace	0.90	21	Pg	Pg	03 44 24.5	-1.5
TRIV	Trivento	0.91	120	Pg	Pg	03 44 25.2	-0.9
TRIV	Trivento	0.91	120	Pg	Pg	03 44 25.2	-0.9
VAGA	Valle Agricola	0.97	145	Pg	Pg	03 44 26.9	-0.5
VAGA	Valle Agricola	0.97	145	Pg	Pg	03 44 26.9	-0.5
BSSO	Busso	1.06	129	Pg	Pg	03 44 27.9	-1.1
BSSO	Busso	1.06	129	Pg	Pg	03 44 27.9	-1.1
SGG	Gregorio Mates	1.06	141	Pg	Pg	03 44 28.1	-1.0
SGG	Gregorio Mates	1.06	141	Pg	Pg	03 44 28.1	-1.0
CING	Cingoli	1.18	349	Pg	Pg	03 44 30.0	-1.3
CING	Cingoli	1.18	349	Pg	Pg	03 44 30.0	-1.3
ARVD	Arcevia	1.34	343	Pg	Pn	03 44 32.9	-1.1
ARVD	Arcevia	1.34	343	Pg	Pn	03 44 32.9	-1.1
NVLJ	Novalja	2.55	23	ePn	Pn	03 44 50.1	-0.5
NVLJ				Sn	Sn	03 45 22.8	+0.8
NVLJ	Novalja	2.55	23	ePn	Pn	03 44 50.0	-0.5

MBDF				*e*Sn	**Sn**	**03 46 29.6**	**-5.3**
	0.7nm,0.2s						
MBDF	**Montbardon**	**5.50**	**299**	*e*P	**Pn**	**03 45 33.7**	**+2.4**
GERES	**GERESS Array B**	**6.63**	**1**	Pn	**Pn**	**03 45 46.1**	**-0.6**
	0.3nm,0.3s,baz=176,slow=14,SNR=6.7						
GERES				Sn	**Sn**	**03 47 03.5**	**+0.9**
	0.4nm,0.3s,baz=175,slow=27,SNR=4.7						
KHC	**Kasperske Hory**	**6.91**	**0**	*e*PN	**Pn**	**03 45 51.3**	**+0.7**
KHC				*e*SN	**Sn**	**03 47 07.4**	**-2.2**
KHC	**Kasperske Hory**	**6.91**	**0**	Pn	**Pn**	**03 45 51.3**	**+0.7**
KHC				Sn	**Sn**	**03 47 07.4**	**-2.2**
KEST	**Kesra**	**7.24**	**208**	Pn	Pn	03 45 59.6	+4.5
	0.1nm,0.3s,baz=346,slow=8.3,SNR=6.3						
HINF	**Hinteralfeld**	**7.31**	**322**	*e*Pn	**Pn**	**03 45 55.1**	**-0.9**
HINF				*e*Sn	Sn	03 47 13.9	-5.4
	1.5nm,0.4s						
HINF	**Hinteralfeld**	**7.31**	**322**	*e*Pn	**Pn**	**03 45 55.1**	**-0.9**
CDF	**Champ du Feu**	**7.58**	**327**	*e*Pn	**Pn**	**03 45 59.9**	**+0.1**
CDF				*e*Sn	Sn	03 47 20.4	-5.8
	0.6nm,0.2s						
CDF	**Champ du Feu**	**7.58**	**327**	*e*Pn	**Pn**	**03 45 59.9**	**+0.1**
HAU	**Haudompre**	**7.68**	**321**	*e*Pn	**Pn**	**03 46 01.0**	**-0.1**
HAU	**Haudompre**	**7.68**	**321**	*e*Pn	**Pn**	**03 46 01.0**	**-0.1**
MLR	**Muntele Rosu**	**9.57**	**66**	Pn	**Pn**	**03 46 26.5**	**-0.6**
	0.0nm,0.3s,baz=227,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.73**	**203**	P	**P**	**03 50 27.3**	**+2.7**
	0.2nm,0.7s,baz=21,slow=9.7,SNR=3.3						

IDC 20 03:48:07.5±3.1, 1°.65S×99°.45E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=138.3km s-min=21.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.64**	**120**	P	P	03 55 32.2	-0.7
	0.4nm,0.4s,baz=304,slow=9.2,SNR=6.6						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	03 55 44.2	+0.7
	0.3nm,0.3s,baz=292,slow=7.7,SNR=4.5						
SONM	**Songino Array**	**49.66**	**6**	P	P	03 57 01.1	0.0
	0.2nm,0.3s,baz=189,slow=8.3,SNR=2.9						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	03 57 07.2	-0.6
	0.7nm,0.7s,baz=155,slow=8.3,SNR=6.5						
KURBB	**Kurchatov Arra**	**55.06**	**344**	P	P	03 57 41.2	+0.1
	0.2nm,0.3s,baz=162,slow=7.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	03 57 53.0	+0.1
	0.8nm,0.5s,baz=187,slow=7.5,SNR=4.3						
TXAR	**Lajitas Array**	**144.75**	**36**	PKP	PKPbc	04 07 46.3	+0.2
	0.4nm,0.7s,baz=282,slow=2.4,SNR=6.1						

*IDC **20** 04:30:11.7±2.0, 0°.67S×131°.52E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=120.3km s-min=20.7km az=78.0*
*AUST **20** 04:30:16.8±3.0, 0°.93S×132°.29E, h0km, Error ellipse: s-maj=1.8km s-min=1.0km az=293.0*
*ISCJB **20** 04:30:17.9±0.7, 0°.97S±0°.05×132°.24E±0°.09, h33km, mb3.6/3, Error ellipse: s-maj=13.0km s-min=6.3km az=10.6*

ISC 20 04:30:19.8±1.0, 1°.03S±0°.07×132°.12E±0°.10, h35km, n12, σ2§32/11, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.87**	**281**	P	**Pn**	**04 30 35.5**	**0.0**
	baz=1.0,SNR=29						
SWI				S	Sn	04 30 54.5	+7.4
	baz=1.0,SNR=14						
FAKI	**Fak Fak**	**1.88**	**176**	P	Pn	04 30 54.6	+5.0
	baz=2.0,SNR=53						
PALU	**Palau**	**8.64**	**16**	P	**Pn**	**04 32 22.3**	**-0.2**
	baz=8.6,SNR=3.1						
PALU				S	**Sn**	**04 33 58.3**	**-0.5**
	baz=8.6,SNR=3.3						
JAY	**Jayapura**	**8.71**	**100**	P	**Pn**	**04 32 23.4**	**-0.1**
	baz=8.6,SNR=3.2						
KDU	**Kakadu**	**11.59**	**178**	P	**Pn**	**04 33 05.4**	**+2.5**
	baz=12,SNR=8.6						
MTN	**Manton Dam**	**11.78**	**185**	P	**Pn**	**04 33 08.2**	**+2.7**
	baz=12,SNR=18						
FITZ	**Fitzroy Crossi**	**18.12**	**200**	P	**Pn**	**04 34 26.9**	**-2.0**
	0.0nm,0.3s,baz=25,slow=12,SNR=1.9						
FITZ				S	**Sn**	**04 37 49.2**	**-1.0**
	0.1nm,0.3s,baz=198,slow=20,SNR=2.6						
FITZ	**Fitzroy Crossi**	**18.12**	**200**	P	P	04 34 34.4	+5.4
	baz=18,SNR=3.1						
WRA	**Warramunga Arr**	**18.93**	**174**	P	**Pn**	**04 34 38.5**	**-0.1**
	0.2nm,0.3s,baz=354,slow=12,SNR=13						
WRA				S	**Sn**	**04 38 04.8**	**-4.8**
	0.0nm,0.3s,baz=355,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**22.57**	**176**	P	**P**	**04 35 18.4**	**+1.0**
	3.3nm,0.8s,baz=348,slow=10.0,SNR=22						
SONM	**Songino Array**	**53.58**	**339**	P	P	04 39 30.9	-6.6
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**64.52**	**324**	P	P	04 40 46.0	-7.3
	0.6nm,0.6s,baz=111,slow=7.9,SNR=6.7						

*ISCJB **20** 04:49:42.2±0.4, 26°.64N±0°.05×127°.76E±0°.05, h59km±3km, mb3.8/13, Error ellipse: s-maj=10.3km s-min=5.2km az=139.6*
*JMA **20** 04:49:43.0±0.2, 26°.67N×127°.75E, h54km±3km, M3.4*
JMA Felt II J1.
*IDC **20** 04:49:44.8±4.4, 26°.63N×127°.64E, h64km±41km, mb3.6/13, mb1 3.8/14, mb1mx3.6/25, mbtmp3.6/14, ML3.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/26, Error ellipse: s-maj=37.4km s-min=17.6km az=68.0*

ISC 20 04:49:43.0±0.8, 26°.58N±0°.05×127°.81E±0°.04, h54km±7km, n24, σ1§16/32, mb3.9/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.45**	**187**	P	**Pn**	**04 49 55.0**	**+1.1**
JJT2				S	**Sn**	**04 50 03.4**	**+1.7**
JIH	**Iheya**	**0.47**	**17**	P	**Pn**	**04 49 53.8**	**-0.4**
JIH				S	**Sn**	**04 50 01.1**	**-1.1**
JOW	**Kunigami**	**0.48**	**59**	P	**Pn**	**04 49 54.3**	**0.0**
JOW				S	**Sn**	**04 50 02.1**	**-0.4**
JAGN	**Aguni-jima**	**0.51**	**271**	P	**Pn**	**04 49 54.1**	**-0.5**
JAGN				S	**Sn**	**04 50 02.0**	**-1.0**
JKE	**Kume jima 2**	**0.95**	**255**	P	**Pn**	**04 49 59.7**	**-0.5**
JKE				S	**Sn**	**04 50 11.5**	**-1.4**
JTK	**Tokunoshima**	**1.57**	**40**	P	**Pn**	**04 50 08.7**	**+0.2**
JTK				S	**Sn**	**04 50 27.3**	**-0.5**
JAMN	**Amaminishikomi**	**2.05**	**36**	P	**Pn**	**04 50 15.0**	**-0.1**
JAMN				S	**Sn**	**04 50 39.0**	**-0.5**
JAM	**Amami Oshima**	**2.42**	**41**	P	**Pn**	**04 50 20.9**	**+0.8**
JAM				S	**Sn**	**04 50 48.5**	**0.0**
JMZ	**Minamidaito 2**	**3.15**	**103**	P	**Pn**	**04 50 28.9**	**-1.3**
JMZ				S	**Sn**	**04 51 03.2**	**-3.4**
JNU	**Nakatsue**	**7.04**	**21**	P	**Pn**	**04 51 25.2**	**+1.7**
	1.1nm,0.3s,baz=0.1,slow=12,SNR=6.4						
KSRS	**Korea Array**	**10.84**	**0**	LR	LR	04 55 48.4	
	comp=Z,21nm,21.1s,baz=195,slow=34						
SONM	**Songino Array**	**27.05**	**327**	P	**P**	**04 55 21.2**	**+0.7**
	0.5nm,0.5s,baz=140,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**41.02**	**312**	P	**P**	**04 57 20.3**	**-0.7**
	1.1nm,0.6s,baz=94,slow=10.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**41.74**	**323**	P	**P**	**04 57 25.9**	**-0.8**
	1.5nm,0.4s,baz=116,slow=7.7,SNR=8.5						
KURBB	**Kurchatov Arra**	**44.34**	**316**	P	**P**	**04 57 47.6**	**-0.2**
	2.9nm,0.3s,baz=104,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**46.68**	**172**	P	**P**	**04 58 07.3**	**+0.8**
	0.3nm,0.4s,baz=351,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**50.30**	**173**	P	**P**	**04 58 35.9**	**+1.5**
	0.3nm,0.5s,baz=358,slow=10.0,SNR=5.1						
ILAR	**Eielson Array**	**64.30**	**28**	P	**P**	**05 00 13.8**	**+1.2**
	0.2nm,0.7s,baz=287,slow=9.3,SNR=4.1						
KBZ	**Khabaz**	**68.65**	**309**	P	**P**	**05 00 40.1**	**-0.6**
	0.6nm,0.4s,baz=56,slow=7.3,SNR=4.2						
ARCES	**ARCESS Array B**	**69.54**	**338**	P	**P**	**05 00 45.3**	**-0.5**
	2.9nm,0.9s,baz=56,slow=8.8,SNR=2.7						
FINES	**FINESS Array B**	**72.37**	**330**	P	**P**	**05 01 03.0**	**-0.1**
	1.0nm,0.4s,baz=45,slow=4.7,SNR=9.1						
AKASG	**Malin Array Be**	**75.02**	**319**	P	**P**	**05 01 17.8**	**-1.0**
	0.6nm,0.3s,baz=63,slow=6.3,SNR=2.4						
NOA	**NORSAR Array B**	**78.83**	**334**	P	**P**	**05 01 38.6**	**-1.6**
	1.4nm,0.9s,baz=53,slow=5.9,SNR=2.7						
GERES	**GERESS Array B**	**84.69**	**323**	P	**P**	**05 02 12.6**	**+1.3**
	0.4nm,0.6s,baz=353,slow=3.3,SNR=3.4						

IDC 20 04:59:14.1±0.8, 13°.77N×92°.98E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.7/28, mbtmp3.6/11, ML3.6/1, Error ellipse: s-maj=27.6km s-min=16.6km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.39**	**50**	Pn	Pn	05 01 05.2	+1.9
	0.3nm,0.3s,baz=240,slow=15,SNR=2.8						
MBAR	**Makanchi Array**	**34.12**	**347**	P	P	05 06 00.7	+0.1
	0.2nm,0.5s,baz=162,slow=10,SNR=2.4						
SONM	**Songino Array**	**35.75**	**16**	P	P	05 06 15.5	+0.6
	0.2nm,0.3s,baz=191,slow=6.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**38.59**	**345**	P	P	05 06 38.0	-0.7
	0.3nm,0.5s,baz=159,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**40.60**	**353**	P	P	05 06 53.6	-1.8
	0.6nm,0.4s,baz=175,slow=6.5,SNR=2.8						
FITZ	**Fitzroy Crossi**	**45.17**	**134**	P	P	05 07 32.2	-0.7
	0.7nm,0.5s,baz=306,slow=8.7,SNR=4.0						
WRA	**Warramunga Arr**	**52.70**	**129**	P	P	05 08 29.9	-1.0
	0.3nm,0.7s,baz=310,slow=8.0,SNR=6.4						
WRA				PcP	PcP	05 09 40.6	-0.1
	0.4nm,0.5s,baz=325,slow=2.9,SNR=7.7						
ASAR	**Alice Springs**	**54.64**	**133**	P	P	05 08 45.0	0.0
	0.6nm,0.5s,baz=308,slow=6.7,SNR=12						
BOSA	**Boshof**	**77.81**	**236**	P	P	05 11 15.0	+1.2
	1.8nm,0.5s,baz=64,slow=3.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**88.16**	**283**	P	P	05 12 07.3	-0.3
	0.5nm,0.9s,baz=84,slow=4.8,SNR=3.4						
ILAR	**Eielson Array**	**89.73**	**22**	P	P	05 12 15.1	+1.0
	0.1nm,0.5s,baz=302,slow=5.2,SNR=3.3						

*NIED **20** 05:03:00.23°.40N×123°.60E, h11km, Mw3.7 Best double couple: M0=4.00000×10^14 NP1:φ=312.00000°, δ=86.00000°, λ=5.00000°. NP2:φ=222.00000°, δ=85.00000°, λ=176.00000°.*

JMA 20 05:03:08.9±0.3, 23°.42N×123°.63E, h46km±4km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**14**	P	Pn	05 03 21.9	0.0
HATJ				S	Sn	05 03 31.2	0.0
JKRS	**Kuro-shima**	**0.89**	**23**	P	Pn	05 03 25.6	+0.6
JKRS				S	Sn	05 03 37.1	+0.4
IRIF	**Iriomote-Funau**	**0.92**	**6**	P	Pn	05 03 25.7	+0.3
IRIF				*e*S	Sn	05 03 38.3	+0.8
JIJ	**Ishigaki jima**	**1.05**	**26**	P	Pn	05 03 27.2	0.0
JIJ				S	Sn	05 03 40.4	-0.4
YOJ	**Yonaguni jima**	**1.18**	**331**	P	Pn	05 03 29.3	+0.3
YOJ				*e*S	Sn	05 03 44.0	0.0
JTJ	**Tarama**	**1.56**	**39**	P	Pn	05 03 34.7	+0.5
JTJ				S	Sn	05 03 54.2	+0.9
JMJ	**Miyako jima 2**	**2.06**	**47**	P	Pn	05 03 41.7	+0.7
JMJ				*e*S	Sn	05 04 06.2	+0.7
JOGS	**Gusukube**	**2.10**	**50**	P	Pn	05 03 42.3	+0.7
JOGS				*e*S	Sn	05 04 06.3	-0.2

*ISCJB **20** 05:16:48.2±0.7, 37°.10N±0°.05×4°.30E±0°.06, h10km, Error ellipse: s-maj=8.8km s-min=5.1km az=41.2*
*CSEM **20** 05:16:50.3±0.4, 36°.98N×4°.37E, h20km, ML3.4, Error ellipse: s-maj=11.1km s-min=6.8km az=40.0*
*SFS **20** 05:16:51.0, 37°.03N×4°.06E, h0km, ML4.0*
*MDD **20** 05:16:51.1±2.5, 36°.93N×4°.32E, h22km±24km, mb4.1/4, mbLg2.4/1, Error ellipse: s-maj=13.7km s-min=7.5km az=39.0, PRXIMO*
*LDG **20** 05:16:54.3±0.4, 37°.16N×3°.93E, h30km, Ml3.1/4, Error ellipse: s-maj=8.4km s-min=4.5km az=163.0*
*CRAAG **20** 05:17:03.5, 36°.06N×5°.81E, Ml3.4*

ISC 20 05:16:47.6±1.1, 36°.98N±0°.05×4°.33E±0°.04, h10km, n47, σ2§13/61, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**1.17**	**132**	P	**Pg**	**05 17 11.0**	**+1.0**
SET	**Setif**	**1.17**	**132**	P	**Pg**	**05 17 11.0**	**+1.0**
SET	**Setif**	**1.17**	**132**	P	**Pg**	**05 17 11.0**	**+1.0**
DFRA	**Djebel Bou Aff**	**1.32**	**109**	P	**Pg**	**05 17 13.0**	**0.0**
DFRA	**Djebel Bou Aff**	**1.32**	**109**	P	**Pg**	**05 17 13.0**	**0.0**
DFRA	**Djebel Bou Aff**	**1.32**	**109**	P	**Pg**	**05 17 13.0**	**0.0**
CASM	**Ain Smara**	**1.88**	**112**	P	Pn	05 17 15.6	-4.3
CASM	**Ain Smara**	**1.88**	**112**	P	Pn	05 17 15.6	-4.3
CASM	**Ain Smara**	**1.88**	**112**	P	Pn	05 17 15.6	-4.3
CMAH	**Djebel Manchou**	**2.51**	**97**	P	**Pn**	**05 17 29.6**	**+1.1**
CMAH	**Djebel Manchou**	**2.51**	**97**	P	**Pn**	**05 17 29.6**	**+1.1**
CMAH	**Djebel Manchou**	**2.51**	**97**	P	**Pn**	**05 17 29.6**	**+1.1**
ETOS	**Mallorca**	**3.02**	**337**	P	**Pn**	**05 17 37.8**	**+2.2**
	2.3nm,0.2s,SNR=22						
ETOS				S	**Sn**	**05 18 11.3**	**-0.6**
	5.3nm,0.2s,SNR=9.5						
ETOS	**Mallorca**	**3.02**	**337**	P	**Pn**	**05 17 37.8**	**+2.2**
	2.3nm,0.2s,SNR=22						
ETOS				S	**Sn**	**05 18 11.3**	**-0.6**
	5.3nm,0.2s,SNR=9.5						
EBEN	**Beniarda**	**3.99**	**297**	P	**Pn**	**05 17 49.4**	**+0.5**
	0.2nm,0.1s,SNR=6.6						
EBEN				S	**Sn**	**05 18 33.8**	**-2.0**
	1.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.99**	**297**	P	**Pn**	**05 17 49.4**	**+0.5**
	0.2nm,0.1s,SNR=6.6						
EBEN				S	**Sn**	**05 18 33.8**	**-2.0**
	1.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.94**	**291**	P	**Pn**	**05 18 03.9**	**+1.9**
	2.7nm,0.3s,SNR=4.0						
ETOB				S	**Sn**	**05 18 55.2**	**-3.9**
	1.4nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.94**	**291**	P	**Pn**	**05 18 03.9**	**+1.9**
	2.7nm,0.3s,SNR=4.0						
ETOB				S	**Sn**	**05 18 55.2**	**-3.9**
	1.4nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**5.04**	**331**	P	**Pn**	**05 18 05.8**	**+2.5**
	0.5nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**05 18 59.0**	**-2.7**
	2.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.04**	**331**	P	**Pn**	**05 18 05.8**	**+2.5**
	0.5nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**05 18 59.0**	**-2.7**
	2.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.05**	**313**	P	**Pn**	**05 18 05.0**	**+1.5**
	0.6nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**05 18 59.6**	**-2.4**
	0.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.05**	**313**	P	**Pn**	**05 18 05.0**	**+1.5**
	0.6nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**05 18 59.6**	**-2.4**
	0.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.38**	**337**	P	**Pn**	**05 18 11.1**	**+3.1**
	1.7nm,0.2s,SNR=12						
EMIR				S	**Sn**	**05 19 09.8**	**-0.2**
	5.6nm,0.3s,SNR=5.8						
EMIR	**Miracle**	**5.38**	**337**	P	**Pn**	**05 18 11.1**	**+3.1**
	1.7nm,0.2s,SNR=12						
EMIR				S	**Sn**	**05 19 09.8**	**-0.2**
	5.6nm,0.3s,SNR=5.8						
EJON	**La Jonquera**	**5.57**	**349**	P	**Pn**	**05 18 13.4**	**+2.8**
	8.5nm,0.4s,SNR=17						
EJON				S	**Sn**	**05 19 14.0**	**-0.6**
	2.2nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.57**	**349**	P	**Pn**	**05 18 13.4**	**+2.8**
	8.5nm,0.4s,SNR=17						
EJON				S	**Sn**	**05 19 14.0**	**-0.6**
	2.2nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**5.61**	**349**	P	**Pn**	**05 18 13.7**	**+2.6**
FILF	**Fillols**	**5.73**	**347**	P	Pn	05 18 16.3	+3.4
MTLF	**Montolieu**	**6.55**	**346**	*e*Pn	**Pn**	**05 18 24.3**	**+0.3**
MTLF	**Montolieu**	**6.55**	**346**	*e*Pn	**Pn**	**05 18 24.3**	**+0.3**
LMR	**La Mourre**	**6.56**	**14**	*e*Pn	**Pn**	**05 18 25.4**	**+1.3**
LMR				*e*Sn	**Sn**	**05 19 34.3**	**-4.6**
	0.8nm,0.1s						
LMR	**La Mourre**	**6.56**	**14**	*e*Pn	**Pn**	**05 18 25.4**	**+1.3**
PGF	**Pioggiola**	**6.62**	**31**	*e*Pn	**Pn**	**05 18 26.1**	**+1.0**
PGF				*e*Sn	**Sn**	**05 19 38.5**	**-2.1**
	2.0nm,0.3s						
PGF	**Pioggiola**	**6.62**	**31**	*e*Pn	**Pn**	**05 18 26.1**	**+1.0**
PGF				*e*Sn	**Sn**	**05 19 38.5**	**-2.1**
	1.0nm,0.3s						
EPF	**Esparros**	**6.77**	**334**	*e*Pn	**Pn**	**05 18 25.4**	**-1.7**
EPF				*e*Sn	Sn	05 19 34.5	-10
	1.7nm,0.3s						
FRF	**La Foret Royal**	**6.80**	**14**	*e*Pn	**Pn**	**05 18 28.9**	**+1.4**
FRF				*e*Sn	**Sn**	**05 19 40.5**	**-4.5**
	1.9nm,0.3s						
FRF	**La Foret Royal**	**6.80**	**14**	*e*Pn	**Pn**	**05 18 28.9**	**+1.4**
ETSF	**Etsaut**	**7.00**	**329**	*e*P	**Pn**	**05 18 33.2**	**+3.0**
ETSF	**Etsaut**	**7.00**	**329**	*e*P	**Pn**	**05 18 33.2**	**+3.0**
SMRF	**Simiane la Rot**	**7.05**	**7**	*e*Pn	**Pn**	**05 18 32.8**	**+1.9**
SMRF	**Simiane la Rot**	**7.05**	**7**	*e*Pn	**Pn**	**05 18 32.8**	**+1.9**
LASF	**Ste Croix**	**7.09**	**357**	*e*Pn	**Pn**	**05 18 31.5**	**0.0**
LASF	**Ste Croix**	**7.09**	**357**	*e*Pn	**Pn**	**05 18 31.5**	**0.0**
VIVF	**Saint-Julien-l**	**7.87**	**2**	*e*Pn	**Pn**	**05 18 44.6**	**+2.5**
VIVF	**Saint-Julien-l**	**7.87**	**2**	*e*Pn	**Pn**	**05 18 44.6**	**+2.5**
MBDF	**Montbardon**	**7.95**	**13**	*e*Pn	**Pn**	**05 18 46.0**	**+2.6**
MBDF	**Montbardon**	**7.95**	**13**	*e*Pn	**Pn**	**05 18 46.0**	**+2.6**

*BJI **20** 05:55:46.6, 1°.81S×99°.60E, h10km, mB4.9/20, mb4.6/34, Ms4.4/22, Ms7 3.9/22*
*IDC **20** 05:55:50.0±0.4, 1°.36S×99°.50E, h0km, mb4.6/28, mb1 4.6/30, mb1mx4.6/32, mbtmp4.5/30, ML4.4/2, MS3.5/5, Ms1 3.6/5, ms1mx3.1/40, Error ellipse: s-maj=15.0km s-min=10.4km az=60.0*
*TEH **20** 05:55:51.0, 1°.38S×99°.48E, h10km, ML4.8*
*MOS **20** 05:55:53.5±1.0, 1°.28S×99°.52E, h33km, mb5.0/30, Error ellipse: s-maj=12.0km s-min=5.7km az=113.1*
*NEIC **20** 05:55:54.3±2.1, 1°.35S×99°.53E, h29km±14km, mb4.8/10, Error ellipse: s-maj=8.2km s-min=4.6km az=56.0*
*ISCJB **20** 05:55:54.5±0.6, 1°.42S±0°.03×99°.39E±0°.03, h45km±5km, mb4.7/83, MS3.8/14, Error ellipse: s-maj=6.6km s-min=3.9km az=143.5*
*BKK **20** 05:55:55.5±0.6, 1°.5±8°×9°.9E±°, h10km, M4.5/12, mB4.8/6, mb4.6/12, MLv4.9/4, Mw(mB)4.0/6*
*DJA **20** 05:55:55.3±0.9, 1°.5±3°×9°.9E±°, h19km±8km, M4.9/14, mB5.3/10, mb5.1/14, MLv5.1/11, Mw(mB)4.7/10*
*AUST **20** 05:55:56.2, 1°.40S×99°.49E, h25km*

ISC 20 05:55:53.2±0.4, 1°.38S±0°.03×99°.42E±0°.04, h18km±1km, h18km:pP-P, n290, σ1§30/323, mb4.8/84, MS3.8/14, 24C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.14**	**66**	P	**Pn**	**05 56 14.1**	**-0.2**
PDSI				S	**Sn**	**05 56 29.7**	**+0.2**
PPI	**Padang Panjang**	**1.34**	**47**	P	**Pn**	**05 56 17.4**	**+0.4**
PPI				S	**Sg**	**05 56 36.5**	**-0.2**
PPI	**Padang Panjang**	**1.34**	**47**	P	**Pn**	**05 56 17.4**	**+0.4**
	baz=1.3,SNR=4.2						
PPI				S	**Sg**	**05 56 36.8**	**+0.1**
	baz=1.3,SNR=3.8						
BKNI	**Bangkinang**	**2.35**	**44**	P	**Pb**	**05 56 34.0**	**-0.9**
BKNI	**Bangkinang**	**2.35**	**44**	P	**Pb**	**05 56 35.2**	**+0.2**
	baz=2.3,SNR=8.7						
RGRI	**Rengat**	**3.09**	**71**	P	**Pb**	**05 56 46.7**	**-1.0**
MASI	**Maura Aman, Be**	**3.32**	**122**	P	**Pn**	**05 56 45.7**	**+1.4**
KSI	**Kapahiang**	**3.90**	**125**	P	**Pn**	**05 56 54.1**	**+1.9**
KSI				S	**Sn**	**05 57 39.0**	**+1.4**
PSI	**Prapat**	**4.18**	**353**	Pn	**Pn**	**05 56 55.4**	**-0.8**
PSI	**Prapat**	**4.18**	**353**	Pn	**Pn**	**05 56 55.4**	**-0.8**
	4.3nm,0.3s,baz=181,slow=13,SNR=15						
PSI				LR	LR	05 58 51.4	
	comp=Z,806nm,18.2s,baz=166,slow=45						
PSI	**Prapat**	**4.18**	**353**	P	**Pn**	**05 56 56.2**	**0.0**
	baz=4.1,SNR=9.6						
MNAI	**Manna**	**4.61**	**130**	P	**Pn**	**05 57 03.0**	**+0.9**
MNAI	**Manna**	**4.61**	**130**	P	**Pn**	**05 57 02.4**	**+0.4**
	baz=4.5,SNR=44						
MNAI				S	**Sn**	**05 57 54.9**	**-0.3**
	baz=4.5,SNR=10						
SNSI	**Sinabang, Aceh**	**4.87**	**321**	P	**Pn**	**05 57 08.3**	**+2.8**
TSI	**Tuntungan**	**4.92**	**350**	P	Pb	05 57 15.4	-3.4
FRIM	**Kepong**	**5.09**	**26**	P	**Pn**	**05 57 10.4**	**+1.8**
KCSI	**Kotacane, Aceh**	**5.14**	**341**	P	Pn	05 57 12.5	+3.2
BTDF	**Bukit Timah Da**	**5.14**	**58**	P	Pn	05 57 14.1	+4.9
	baz=5.1,SNR=5.1						
BTDF				P	Pn	05 57 14.1	+4.9
	baz=5.1,SNR=5.1						
KGM	**Kluang**	**5.16**	**49**	P	Pn	05 57 14.4	+4.9
MYKOM	**Kota Tinggi**	**5.44**	**55**	P	Pn	05 57 18.6	+5.3
MYKOM	**Kota Tinggi**	**5.44**	**55**	P	Pn	05 57 16.7	+3.3
	81nm,1.0s,956nm0.8nm						
LWLI	**Liwa**	**5.88**	**128**	P	**Pn**	**05 57 22.2**	**+2.6**
	537nm,0.6s,9μm2.1nm						
IPM	**Ipoh**	**6.04**	**15**	*e*Pn	**Pn**	**05 57 21.9**	**+0.3**
IPM	**Ipoh**	**6.04**	**15**	P	Pn	05 57 25.7	+4.1
IPM	**Ipoh**	**6.04**	**15**	P	Pn	05 57 25.3	+3.7
	126nm,0.9s,1μm

comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.0s
GYA LR LR
comp=N,490nm,17.4s
GYA LR LR
comp=E,450nm,18.2s
GYA LR LR
comp=Z,510nm,17.8s
ODAN Odare 30.37 338 *eP* **P 06 02 05.7 +1.2**
comp=Z,25nm,0.6s
FITZ Fitzroy Crossi 30.64 124 P **P 06 02 05.5 -1.2**
FITZ Fitzroy Crossi 30.64 124 P **P 06 02 05.5 -1.2**
comp=Z,4.6nm,1.0s,baz=310,slow=7.9,SNR=10
FITZ Fitzroy Crossi 30.64 124 P **P 06 02 06.4 -0.3**
baz=31,SNR=7.0
TAPN Taplejung 30.70 339 *eP* **P 06 02 09.0 +1.5**
comp=Z,19nm,0.4s
RAMN Ramite 30.75 337 *eP* **P 06 02 09.4 +1.5**
comp=Z,28nm,0.8s
JIRN Jiri 31.55 337 *eP* **P 06 02 16.2 +1.2**
comp=Z,43nm,0.7s
PKI Pulchoki 31.78 336 *eP* **P 06 02 17.6 +0.6**
PKIN Phulchoki 31.79 336 *eP* **P 06 02 17.2 +0.2**
GUN Gumba 31.89 337 *eP* **P 06 02 19.0 +1.0**
comp=Z,45nm,0.6s
LSA Lhasa 31.90 346 P **P 06 02 19.1 +0.9**
DMN Daman 31.94 336 *eP* **P 06 02 19.0 +0.7**
KKN Kakani 32.03 336 *eP* **P 06 02 19.8 +0.7**
comp=Z,22nm,0.8s
CD2 Chengdu 32.37 7 *eP* **P 06 02 24.1 +2.2**
CD2 pP **pP 06 02 28.5 +1.0**
CD2 sP **sP 06 02 31.1 +1.4**
CD2 PP **PP 06 03 32.6 -2.6**
CD2 S **S 06 07 38.3 +3.0**
CD2 sS **sS 06 07 45.1 +0.5**
CD2 SS **SnSn 06 09 34.3 +5.9**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,120nm,4.6s
CD2 LR LR
comp=N,260nm,16.6s
CD2 LR LR
comp=E,300nm,11.2s
CD2 LR LR
comp=Z,220nm,16.6s
KOLN Koldanda 32.73 333 *eP* **P 06 02 26.2 +1.0**
comp=Z,41nm,0.7s
FAKI Fak Fak 32.84 93 P **P 06 02 25.1 -1.1**
baz=33,SNR=4.1
DANN Dangsing 33.16 334 *eP* **P 06 02 29.4 +0.3**
comp=Z,37nm,0.9s
PYUN Piuthan 33.28 333 *eP* **P 06 02 30.5 +0.4**
XAN Xi'an 36.35 13 P **P 06 02 54.3 -2.0**
XAN S S 06 08 30.6 -6.0
XAN pmax pmax
comp=Z,3.0nm,0.6s
XAN LR LR
comp=N,130nm,14.6s
XAN LR LR
comp=E,29nm,10.7s
XAN LR LR
comp=Z,77nm,13.3s
LZH Lanzhou 37.50 6 *eP* **P 06 03 06.8 +0.6**
LZH pP **pP 06 03 10.5 -1.3**
LZH sP **sP 06 03 14.3 +0.2**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH LR LR
comp=N,180nm,14.3s
LZH LR LR
comp=E,120nm,7.2s
LZH LR LR
comp=Z,190nm,13.9s
NJ2 Nanjing 38.01 27 *eP* P 06 03 06.6 -3.7
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=Z,220nm,26.0s
WRA Warramunga Arr 38.81 121 P **P 06 03 16.1 -1.2**
WRA PcP **PcP 06 05 28.0 -0.6**
WRA Warramunga Arr 38.81 121 P **P 06 03 16.1 -1.2**
comp=Z,7.3nm,0.5s,baz=303,slow=9.0,SNR=130
WRA PcP **PcP 06 05 28.0 -0.6**
comp=Z,2.1nm,0.6s,baz=312,slow=2.5,SNR=6.9
WRAB Tennant Creek 38.82 121 *eP* **P 06 03 16.1 -1.3**
WRAB pmax pmax
comp=Z,10.0nm,0.5s
WRAB Tennant Creek 38.82 121 *eP* **P 06 03 16.1 -1.3**
comp=Z,10nm,0.5s
ASAR Alice Springs 40.09 126 P **P 06 03 27.0 -1.0**
ASAR PcP **PcP 06 05 31.8 -0.8**
ASAR S **S 06 09 29.9 -3.8**
ASAR Alice Springs 40.09 126 P **P 06 03 27.0 -1.0**
comp=Z,3.6nm,0.8s,baz=300,slow=8.4,SNR=33
ASAR PcP **PcP 06 05 31.8 -0.8**
comp=Z,3.6nm,0.9s,baz=306,slow=2.7,SNR=11
ASAR S **S 06 09 29.9 -3.8**
comp=Z,1.3nm,1.0s,baz=301,slow=15,SNR=8.4
ASAR LR LR 06 21 27.7
comp=Z,71nm,18.4s,baz=103,slow=38
AS31 Alice Springs 40.09 126 *eP* **P 06 03 27.2 -0.8**
GTA Gaotai 40.59 0 *eP* **P 06 03 33.6 +1.6**
GTA pP **pP 06 03 37.9 +0.2**
GTA sP **sP 06 03 40.6 +0.7**
GTA PcP **PcP 06 05 34.6 +0.6**
GTA S **S 06 09 44.3 +3.5**
GTA sS **sS 06 09 51.0 +0.8**
GTA SS **SS 06 12 40.1 -1.1**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,49nm,5.7s
GTA LR LR
comp=N,84nm,20.9s
GTA LR LR
comp=E,110nm,19.0s
GTA LR LR
comp=Z,110nm,18.3s
JAY Jayapura 41.28 92 P P 06 03 46.0 +8.0
baz=41,SNR=3.8
HHC Hu-ho-hao-te 43.46 13 *eP* **P 06 03 56.0 +0.6**
HHC PP **PP 06 05 39.9 +3.2**
HHC ScP **ScP 06 09 33.3 -0.9**
HHC PcS **PcS 06 09 35.3 -0.8**
HHC S **S 06 10 24.3 +1.1**
HHC SS **SS 06 13 32.3 -5.5**
HHC pmax pmax
comp=Z,27nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=N,590nm,17.0s
HHC LR LR
comp=E,380nm,16.2s
HHC LR LR
comp=Z,510nm,16.2s
BJI Beijing 43.98 19 P **P 06 03 59.0 -0.4**
BJI S **S 06 10 29.5 -1.0**
BJI pmax pmax
comp=Z,14nm,0.4s
BJI LR LR
comp=N,140nm,11.2s
BJI LR LR
comp=E,110nm,12.5s
BJI LR LR
comp=Z,57nm,14.6s
JNU Nakatsue 45.36 38 *eP* **P 06 04 10.7 0.0**
comp=Z,6.1nm,0.9s
TJN Taejon 45.69 32 *eP* **P 06 04 12.5 -0.6**
KSH Kashi 46.02 335 P **P 06 04 14.6 -1.3**
KSH sP **sP 06 04 21.5 -2.4**
KSH PP **PP 06 06 02.5 -1.5**
KSH S **S 06 10 57.3 -3.1**
KSH SS **ScS 06 14 14.8 +3.7**
KSH pmax pmax
comp=Z,4.0nm,0.5s
KSH pmax pmax
comp=Z,40nm,4.0s
KSH LR LR
comp=N,110nm,7.1s
KSH LR LR
comp=E,95nm,5.1s
KSH LR LR
comp=Z,93nm,4.8s

WMQ Urumqi 46.21 348 *eP* **P 06 04 17.8 +0.6**
WMQ pmax pmax
comp=Z,26nm,1.0s
WMQ pmax pmax
comp=Z,140nm,4.0s
WMQ LR LR
comp=Z,45nm,18.0s
BBOO Buckleboo 46.50 136 P **P 06 04 19.3 -0.3**
baz=46,SNR=5.1
KSAR Wonju Array Be 46.76 31 P **P 06 04 21.1 -0.5**
KSRS Korea Array 46.79 31 P **P 06 04 21.1 -0.7**
comp=Z,2.4nm,0.6s,baz=222,slow=8.2,SNR=10
KSRS LR LR 06 27 06.6
comp=Z,32nm,18.6s,baz=198,slow=40
TKM2 Tokmak 2 49.03 337 *eP* **P 06 04 39.9 +0.6**
TKM2 pmax pmax
comp=Z,11nm,0.5s
TKM2 Tokmak 2 49.03 337 *eP* **P 06 04 39.9 +0.6**
comp=Z,11nm,0.5s
SONM Songino Array 49.39 6 P **P 06 04 41.9 0.0**
SONM PcP **PcP 06 06 03.3 -0.8**
SONM Songino Array 49.39 6 P **P 06 04 41.9 0.0**
comp=Z,2.8nm,0.5s,baz=188,slow=9.7,SNR=23
SONM PcP **PcP 06 06 03.3 -0.8**
comp=Z,5.3nm,0.8s,baz=194,slow=4.1,SNR=8.4
CTA Charters Tower 49.39 115 P **P 06 04 41.1 -1.1**
CTA Charters Tower 49.39 115 P **P 06 04 41.1 -1.1**
comp=Z,4.3nm,0.5s,baz=281,slow=8.3,SNR=5.1
ULN Ulaanbaatar 49.49 7 *eP* **P 06 04 42.1 -0.6**
comp=Z,3.0nm,0.6s
ULN *e*PcP **PcP 06 06 04.5 0.0**
EKS2 Erkin-Say 49.56 335 *eP* **P 06 04 43.9 +0.7**
EKS2 Erkin-Say 49.56 335 *eP* **P 06 04 43.9 +0.7**
STKA Stephens Creek 50.00 132 P **P 06 04 46.2 -0.4**
STKA Stephens Creek 50.00 132 P **P 06 04 46.2 -0.4**
comp=Z,8.5nm,0.8s,baz=311,slow=8.2,SNR=20
STKA Stephens Creek 50.00 132 P **P 06 04 46.8 +0.2**
baz=50,SNR=5.5
MK31 Makanchi Array 50.28 345 *i* P **P 06 04 48.7 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s
MK31 Makanchi Array 50.28 345 *eP* **P 06 04 48.9 +0.4**
MKAR Makanchi Array 50.28 345 P **P 06 04 48.7 +0.2**
MKAR Makanchi Array 50.28 345 P **P 06 04 48.7 +0.2**
MKAR Makanchi Array 50.28 345 P **P 06 04 48.7 +0.2**
comp=Z,13nm,0.6s,baz=148,slow=8.0,SNR=120
MKAR LR LR 06 28 55.2
comp=Z,31nm,19.9s,baz=356,slow=40
CN2 Changchun 50.66 24 *eP* **P 06 04 52.9 +1.5**
KK31 Karatay Array 51.34 333 *i* P **P 06 04 56.2 -0.4**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 51.34 333 *eP* **P 06 04 56.5 -0.1**
KKAR Karatay Array 51.34 333 *eP* **P 06 04 56.5 -0.1**
MJAR Matsushiro Arr 52.17 40 P **P 06 05 01.3 -1.6**
MJAR Matsushiro Arr 52.17 40 P **P 06 05 01.3 -1.6**
comp=Z,0.6nm,0.4s,baz=213,slow=6.8,SNR=4.5
HVS Khovu-Aksy 52.54 355⇑ *eP* **P 06 05 04.4 -1.1**
IBAF Bafgh 52.93 312 *eP* **P 06 05 07.6 -1.2**
CMSA Cobar Meteorol 52.96 129 P **P 06 05 08.9 +0.1**
baz=53,SNR=22
MDJ Mudanjiang 53.09 27 P **P 06 05 09.5 -0.1**
MDJ pP **pP 06 05 12.6 -2.8**
MDJ sP **sP 06 05 13.9 -3.7**
MDJ S **S 06 12 40.4 +1.4**
MDJ ScS **ScS 06 14 58.8 +0.3**
MDJ SS **SS 06 16 21.3 +2.6**
MDJ pmax pmax
comp=Z,10.0nm,1.9s
MDJ pmax pmax
comp=Z,68nm,3.8s
MDJ LR LR
comp=N,63nm,23.8s
MDJ LR LR
comp=E,54nm,27.7s
MDJ LR LR
comp=Z,55nm,19.8s
IPAY Payeh 53.16 319 *eP* **P 06 05 09.7 -0.8**
RMQ Roma 53.53 122 P P 06 05 22.9 +10
baz=54,SNR=4.2
USRK Ussuriysk Arra 53.90 29 P **P 06 05 15.0 -0.4**
comp=Z,5.8nm,0.6s,baz=234,slow=6.1,SNR=11
OPO Ambohidratompo 53.95 248 P **P 06 05 16.8 +0.3**
OPO Ambohidratompo 53.95 248 P **P 06 05 16.8 +0.3**
comp=Z,5.1nm,0.8s,baz=66,slow=6.4,SNR=4.6
IPAR Pars 54.02 309 *eP* **P 06 05 15.9 -1.1**
ICHK Chekchek 54.11 312 *eP* **P 06 05 16.0 -1.5**
ISHV Shirvan 54.63 320 *eP* **P 06 05 20.5 -0.8**
IZEF Zefreh 55.96 312 *eP* **P 06 05 28.9 -2.1**
YNG Young 56.18 131 P **P 06 05 32.8 +0.5**
baz=56,SNR=6.8
ZAA0 Zalesovo Array 56.45 350 *eP* **P 06 05 33.6 -0.1**
ZALV Zalesovo Beam 56.45 350 P **P 06 05 33.5 -0.2**
ZALV S **S 06 13 23.3 -0.5**
ZALV Zalesovo Beam 56.45 350 P **P 06 05 33.5 -0.2**
ZALV S **S 06 13 23.3 -0.5**
ZALV Zalesovo Beam 56.45 350 P **P 06 05 33.5 -0.2**
comp=Z,12nm,0.5s,baz=176,slow=5.5,SNR=56
ZALV S **S 06 13 23.3 -0.5**
comp=Z,0.5nm,0.4s,baz=160,slow=11,SNR=4.4
IPIR Pirpir 56.94 311 *eP* **P 06 05 38.1 +0.1**
IVRN Varamin 57.39 314 *eP* **P 06 05 40.4 -0.5**
NVS Novosibirsk 57.60 349 *eP* **P 06 05 39.9 -1.9**
NVS pmax pmax
comp=Z,12nm,1.4s
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
KLR Kul'dur 57.61 25 *eP* P 06 05 38.2 -3.8
KBD Kabd 57.99 306 *eP* **P 06 05 44.7 -0.4**
KBD AMb AMB 06 05 45.5
comp=Z,19nm,0.6s
RDF Al-Radifah 58.02 306 *eP* **P 06 05 44.1 -1.2**
RDF AMb AMB 06 05 46.1
comp=Z,55nm,1.0s
IR5 Iran Long-Peri 58.32 314 *eP* **P 06 05 46.2 -1.3**
NAY Al-Naaiem 58.39 306 *eP* **P 06 05 47.1 -0.7**
NAY AMb AMB 06 05 47.9
comp=Z,1.6nm,0.6s
RST Umm Al-Ruwaisa 58.68 306 *eP* **P 06 05 49.2 -0.7**
RST AMb AMB 06 05 50.2
comp=Z,298nm,0.8s
IRAZ Razeghan 58.88 313 *eP* **P 06 05 49.9 -1.6**
VOSK Vostochnaya 58.95 340 P **P 06 05 50.4 -1.0**
VOSK pmax pmax
comp=Z,5.0nm,0.7s
BVA0 Borovoye Array 59.40 340 *i* P **P 06 05 53.4 -1.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 59.40 340 P **P 06 05 53.3 -1.2**
BVAR Borovoye Array 59.40 340 P **P 06 05 53.3 -1.2**
BVAR Borovoye Array 59.40 340 P **P 06 05 53.3 -1.2**
comp=Z,5.9nm,0.7s,baz=140,slow=8.8,SNR=29
BRVK Borovoye 59.47 340⇑ *eP* **P 06 05 53.8 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 59.47 340 *eP* **P 06 05 54.1 -0.8**
comp=Z,6.0nm,0.8s
AB31 Akbulak array 60.82 332 *i* P **P 06 06 02.9 -1.3**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 60.82 332 *eP* **P 06 06 03.3 -0.9**
comp=Z,7.4nm,0.7s
YSS Yuzh-Sakhalins 61.27 32 *eP* **P 06 06 08.4 +1.1**
KMBO Kilima Mbogo 62.15 269 *eP* **P 06 06 15.1 +0.8**
comp=Z,7.9nm,1.0s
KMBO Kilima Mbogo 62.15 269 P **P 06 06 15.2 +1.0**
comp=Z,5.7nm,0.7s,baz=63,slow=12,SNR=15
SVE Sverdlovsk 65.89 338 *eP* **P 06 06 37.6 -0.1**
SVE pmax pmax
comp=Z,15nm,0.9s
ZEI Tsey 66.38 319 *eP* **P 06 06 40.6 -0.8**
ZEI pmax pmax
comp=Z,14nm,0.9s
ARU Arti 66.41 337 *c i* P **P 06 06 40.0 -1.0**
ARU 06 09 03.7
ARU S **S 06 15 28.9 -1.3**
ARU SS SS 06 19 38.6 -8.5
ARU pmax pmax
comp=Z,13nm,1.2s
YAK Yakutsk 67.29 15 *eP* **P 06 06 46.7 +0.2**
KBZ Khabaz 67.46 319 P **P 06 06 47.6 -0.3**
KBZ Khabaz 67.46 319 P **P 06 06 47.6 -0.3**
KBZ Khabaz 67.46 319 P **P 06 06 47.6 -0.3**

comp=Z,11nm,0.8s,baz=122,slow=8.7,SNR=31
KIV Kislovodsk 67.69 319 *eP* **P 06 06 49.2 -0.4**
KIV pmax pmax
comp=Z,22nm,1.1s
MALT Malatya 68.49 312⇑ *i P* P 06 06 59.6 +4.9
SOKR Solikamsk 69.27 338⇑ *i P* **P 06 06 58.9 0.0**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 70.74 194 P **P 06 07 08.4 +0.5**
MAW Mawson 70.74 194 P **P 06 07 08.4 +0.5**
comp=Z,2.9nm,0.8s,baz=26,slow=5.1,SNR=8.6
MAW Mawson 70.74 194 P **P 06 07 09.1 +1.3**
baz=71,SNR=5.5
VRHR Novokhopersk 71.49 326 *eP* **P 06 07 11.6 -1.1**
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
BR131 Keskin Array S 72.47 312 *eP* **P 06 07 17.4 -1.7**
comp=Z,2.3nm,0.6s
VORD Divnogorie 72.76 325 *eP* **P 06 07 19.1 -1.2**
VORD pmax pmax
comp=N,7.0nm,0.4s
VORD pmax pmax
comp=E,2.0nm,0.4s
VORD pmax pmax
comp=Z,6.0nm,0.4s
VSR Storozhevoye 72.94 325 *eP* **P 06 07 19.5 -1.9**
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 75.27 22⇓ *eP* **P 06 07 34.8 0.0**
TIXI Tiksi 75.34 9⇓ *eP* **P 06 07 33.1 -1.9**
TIXI pmax pmax
comp=Z,3.0nm,0.4s
BOSA Boshof 75.44 241 P **P 06 07 36.5 -0.3**
BOSA Boshof 75.44 241 P **P 06 07 36.5 -0.3**
comp=Z,3.2nm,0.9s,baz=100,slow=6.1,SNR=4.7
RPZ Rata Peaks 75.83 135 P **P 06 07 38.4 -0.1**
RPZ Rata Peaks 75.83 135 P **P 06 07 38.4 -0.1**
comp=Z,8.4nm,0.5s,baz=276,slow=4.2,SNR=13
OBN Obninsk 75.96 328⇓ *i P* **P 06 07 38.4 -0.5**
OBN *e* 06 07 48.0
OBN pmax pmax
comp=Z,18nm,1.2s
TIRR Tirgusor 77.50 316⇑ P **P 06 07 46.2 -1.6**
TIRR Tirgusor 77.50 316⇑ *i P* **P 06 07 46.2 -1.6**
HARR Harsova 77.89 316⇑ P **P 06 07 50.2 +0.2**
HARR Harsova 77.89 316⇑ *i P* **P 06 07 50.2 +0.2**
AKASG Malin Array Be 78.64 322 *ceP* **P 06 07 52.5 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 78.64 322 P **P 06 07 52.8 -1.2**
AKASG Malin Array Be 78.64 322 P **P 06 07 52.8 -1.2**
comp=Z,1.4nm,0.5s,baz=87,slow=5.2,SNR=4.6
VRI Vrincioaia 79.00 317⇑ P **P 06 07 56.4 +0.2**
VRI Vrincioaia 79.00 317⇑ *i P* **P 06 07 56.4 +0.2**
PLOR Plostina 79.05 317⇑ P **P 06 07 57.3 +0.8**
PLOR Plostina 79.05 317⇑ *i P* **P 06 07 57.3 +0.8**
TESR Tescani 79.20 318⇑ *i P* **P 06 07 57.0 -0.2**
MLR Muntele Rosu 79.45 317⇑ *i P* **P 06 07 58.8 0.0**
VOIR 80.05 316⇑ P **P 06 08 01.4 -0.6**
VOIR 80.05 316⇑ *i P* **P 06 08 01.4 -0.6**
BURAR Bucovina Array 80.41 319⇓ P **P 06 08 04.9 +1.0**
BURAR Bucovina Array 80.41 319⇓ *i P* **P 06 08 04.9 +1.0**
JOF Joensuu 81.41 335 *eP* **P 06 08 08.2 -0.5**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 81.41 335 *ep* **P 06 08 08.2 -0.5**
comp=Z,4.2nm,0.6s
TRPA Tarpa 82.28 319⇑ *i P* **P 06 08 14.0 +0.4**
KWP Kalwaria Pacla 82.45 320⇓ P **P 06 08 14.8 +0.3**
KWP Kalwaria Pacla 82.45 320⇓ *i P* **P 06 08 14.8 +0.3**
KOLS Kolonicke sedl 82.60 320 *eP* **P 06 08 16.2 +0.9**
KOLS pmax pmax
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 82.60 320 *eP* **P 06 08 16.2 +0.9**
VNDA Vanda 82.88 169 P **P 06 08 15.9 -0.3**
VNDA Vanda 82.88 169 P **P 06 08 15.9 -0.3**
comp=Z,2.4nm,0.8s,baz=306,slow=4.0,SNR=11
CRVS Cervenica-Dubn 83.12 319 *eP* **P 06 08 18.1 +0.1**
CRVS pmax pmax
comp=Z,5.0nm,1.1s
CRVS Cervenica-Dubn 83.12 319 *eP* **P 06 08 18.1 +0.1**
FINES FINESS Array B 83.29 332 P **P 06 08 18.3 -0.3**
FINES FINESS Array B 83.29 332 P **P 06 08 18.3 -0.3**
comp=Z,6.6nm,0.6s,baz=104,slow=5.9,SNR=35
STHS Stebnicka Huta 83.35 320 *eP* **P 06 08 20.2 +1.0**
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 83.35 320 *eP* **P 06 08 20.2 +1.0**
KAF Kangasniemi 83.37 333 *eP* **P 06 08 18.5 -0.5**
KAF pmax pmax
comp=Z,14nm,0.6s
KAF Kangasniemi 83.37 333 *ep* **P 06 08 18.5 -0.5**
comp=Z,14nm,0.6s
KECS Kecovo 83.69 319 *eP* **P 06 08 20.9 -0.1**
KECS pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 83.69 319 *eP* **P 06 08 20.9 -0.1**
PSZ Piszkesteto 83.99 318⇑ P **P 06 08 22.2 -0.4**
PSZ Piszkesteto 83.99 318⇑ *i P* **P 06 08 22.2 -0.4**
VYHS Vyhne 84.78 319 *eP* **P 06 08 26.8 +0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 84.78 319 *eP* **P 06 08 26.8 +0.3**
ARCES ARCESS Array B 85.69 340 P **P 06 08 30.5 -0.1**
ARCES ARCESS Array B 85.69 340 P **P 06 08 30.5 -0.1**
comp=Z,2.4nm,0.8s,baz=109,slow=4.9,SNR=7.8
CEL Celeste 85.75 308 *eP* **P 06 08 31.9 +0.2**
comp=Z,14nm,1.0s
DPC Dobruska-Polom 86.64 320 *eP* **P 06 08 36.3 +0.6**
DPC *e* 06 08 45.0
DPC Dobruska-Polom 86.64 320 *eP* **P 06 08 36.3 +0.6**
DPC *ep*P **pP 06 08 45.0 +3.2**
SOKA Soboth 87.13 317⇑ *i P* **P 06 08 38.3 0.0**
comp=Z,7.9nm,0.9s
PRU Pruhonice 87.74 320 *eP* **P 06 08 41.7 +0.7**
PRU Pruhonice 87.74 320 *eP* **P 06 08 41.7 +0.7**
BRG Berggiesshubel 88.19 321 *i P* **P 06 08 43.4 +0.2**
comp=Z,4.9nm,0.8s
BRG Berggiesshubel 88.19 321 *i P* **P 06 08 43.4 +0.2**
BRG pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 88.20 319 P **P 06 08 43.2 -0.2**
GERES GERESS Array B 88.20 319 P **P 06 08 43.2 -0.2**
comp=Z,2.6nm,0.7s,baz=90,slow=3.9,SNR=19
KHC Kasperske Hory 88.30 319 *eP* **P 06 08 44.1 +0.3**
KHC *e* 06 08 52.7
KHC Kasperske Hory 88.30 319 *eP* **P 06 08 44.1 +0.3**
KHC *ep*P **pP 06 08 52.7 +2.8**
QSPA South Pole Qui 88.58 180 *eP* **P 06 08 45.0 +0.1**
comp=Z,4.4nm,0.7s
QSPA South Pole Qui 88.58 180 P **P 06 08 45.1 +0.3**
comp=Z,4.6nm,0.7s,baz=337,slow=2.5,SNR=47
CLL Collm 88.81 321 *eP* **P 06 08 46.0 -0.1**
CLL *e* 06 08 55.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 88.81 321 *eP* **P 06 08 46.0 -0.1**
comp=Z,7.0nm,1.0s
CLL *ep*P **pP 06 08 55.0 +2.8**
CLL *es*P **sP 06 08 58.0 +3.6**
MOTA Moosalm 89.86 317⇑ *i P* **P 06 08 50.6 -0.7**
comp=Z,14nm,1.3s
FETA Feichten 90.10 317 *i P* **P 06 08 52.2 -0.2**
comp=Z,5.5nm,1.1s,SNR=4.4
DAVA Damuels 90.69 317⇑ *i PcP* **P 06 08 55.2 +0.1**
comp=Z,17nm,1.1s,SNR=5.1
KEST Kesra 90.85 306 P **P 06 08 57.0 +0.9**
KEST Kesra 90.85 306 P **P 06 08 57.0 +0.9**
comp=Z,5.2nm,0.9s,baz=90,slow=2.0,SNR=14
SNAA Sanae 92.55 198 *eP* **P 06 09 04.2 +1.0**
SNAA Sanae 92.55 198 P **P 06 09 03.8 +0.6**
SNAA Sanae 92.55 198 P **P 06 09 03.8 +0.6**
comp=Z,0.5nm,0.8s,baz=40,slow=4.2,SNR=5.5
TORD Torodi Ar. Bea 97.83 283 P **P 06 09 27.2 -1.1**
TORD PKKPbc PKKPdf 06 26 11.2 +5.3
TORD Torodi Ar. Bea 97.83 283 P **P 06 09 27.3 -1.1**

comp=Z,0.7nm,0.9s,baz=91,slow=5.3,SNR=3.6
TORD PKKPbc PKKPdf 06 26 11.2 +5.3
comp=Z,1.1nm,1.1s,baz=251,slow=4.5,SNR=3.5
IMA2 Indian Mountai 98.07 23 *e*P **P 06 09 28.4 -0.1**
ILAR Eielson Array 101.17 24 PKKPbc PKKPbc 06 25 52.0 -3.2
ILAR Eielson Array 101.17 24 PKKPbc PKKPbc 06 25 52.0 -3.2
comp=Z,0.6nm,0.6s,baz=142,slow=1.9,SNR=7.9
SCHQ Schefferville 125.54 350 PKP **PKPdf 06 14 52.6 -0.7**
SCHQ Schefferville 125.54 350 PKP **PKPdf 06 14 52.6 -0.7**
comp=Z,4.4nm,0.8s,baz=49,slow=9.5,SNR=6.2
NVAR Mina Array Bea 129.49 39 PKP **PKPdf 06 15 01.4 -0.3**
NVAR Mina Array Bea 129.49 39 PKP **PKPdf 06 15 01.4 -0.3**
comp=Z,0.8nm,0.7s,baz=298,slow=1.9,SNR=8.9
REDW Red Top Meadow 130.25 29 *e*PKPdf **PKPdf 06 15 03.3 +0.3**
R11A Troy Canyon, C 131.20 37 *e*PKPdf **PKPdf 06 15 04.8 -0.1**
PDAR Pinedale Array 131.32 28 PKP **PKPdf 06 15 04.1 -0.9**
PDAR Pinedale Array 131.32 28 PKP **PKPdf 06 15 04.1 -0.9**
comp=Z,0.5nm,0.6s,baz=250,slow=1.8,SNR=6.0
ECSD EROS Data Cent 135.47 17 *e*PKPdf **PKPdf 06 15 12.1 -0.4**
BDFB Brasilia 143.64 241 PKPpre PKPpre 06 15 24.8
BDFB Brasilia 143.64 241 PKhKP PKPpre 06 15 24.8
comp=Z,2.8nm,0.9s,baz=153,slow=2.3,SNR=4.8
CPUP Villa Florida 144.46 218 *e*PKPdf **PKPab 06 15 27.5 0.0**
CPUP PKP PKPbc 06 15 27.6 -0.1
CPUP Villa Florida 144.46 218 PKP PKPbc 06 15 27.6 -0.1
comp=Z,16nm,0.8s,baz=129,slow=2.7,SNR=30
TXAR Lajitas Array 144.56 36 PKP PKPbc 06 15 28.0 -0.1
TXAR Lajitas Array 144.56 36 PKP PKPbc 06 15 28.0 -0.1
comp=Z,9.3nm,0.7s,baz=266,slow=1.4,SNR=105
WVT Waverly 144.78 10 *e*PKIKP **PKPab 06 15 27.5 -0.8**
WVT Waverly 144.78 10 *e*PKPdf **PKPab 06 15 27.5 -0.8**
MIAR Mount Ida 144.84 19 *e*PKIKP **PKPab 06 15 28.1 -0.6**
MIAR Mount Ida 144.84 19 *e*PKPdf **PKPab 06 15 28.1 -0.6**
TZTN Tazewell 144.90 4 *e*PKPdf **PKPab 06 15 27.9 -0.9**
UALR University of 145.01 17 *e*PKPdf **PKPab 06 15 28.8 -0.4**
TKL Tuckaleechee C 145.76 5 *e*PKPbc **PKPdf 06 15 30.5 -0.8**
JCT Junction City 145.79 30 *e*PKP2 **PKPbc 06 15 31.8 -0.1**
JCT Junction City 145.79 30 *e*PKPbc **PKPbc 06 15 31.8 -0.1**
CPCT Cooper Cave 145.90 6 *e*PKPdf **PKPdf 06 15 31.0 -0.5**
KMSC Kings Mountain 146.40 1 *e*PKPbc **PKPdf 06 15 32.6 +0.2**
LRAL Lakeview Retre 147.94 10 *e*PKPbc **PKPbc 06 15 36.9 -1.0**
LPAZ La Paz 158.57 215 PKP **PKPdf 06 15 51.8 +0.3**
LPAZ PKPab **PKPab 06 16 26.4 +0.1**
LPAZ La Paz 158.57 215 PKP **PKPdf 06 15 51.8 +0.3**
comp=Z,1.2nm,0.9s,baz=18,slow=3.3,SNR=5.2
LPAZ PKPab **PKPab 06 16 26.4 +0.1**
comp=Z,0.6nm,0.7s,baz=189,slow=11,SNR=3.9

IDC 20 06:10:40.2±0.9, 26°.06S×70°.74E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/26, mbtmp4.0/10, MS3.7/2, Ms1 3.5/2, ms1mx3.3/36, Error ellipse: s-maj=27.3km s-min=25.6km az=115.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.31**	**256**	LR	LR	06 30 53.6	
	comp=Z,122nm,18.9s,baz=151,slow=30						
LSZ	**Lusaka**	**41.07**	**277**	P	P	06 18 26.7	+0.7
	1.0nm,0.5s,baz=121,slow=5.9,SNR=2.7						
MAW	**Mawson**	**41.84**	**185**	LR	LR	06 31 58.4	
	comp=Z,60nm,19.1s,baz=264,slow=30						
CMAR	**Chiang Mai Arr**	**52.05**	**35**	P	P	06 19 52.7	+0.8
	1.1nm,0.6s,baz=228,slow=6.7,SNR=8.4						
WRA	**Warramunga Arr**	**58.37**	**98**	P	P	06 20 37.6	-0.1
	1.3nm,1.1s,baz=250,slow=7.4,SNR=2.5						
VNDA	**Vanda**	**65.00**	**166**	P	P	06 21 21.4	-0.1
	2.5nm,0.9s,baz=278,slow=7.7,SNR=6.5						
MKAR	**Makanchi Array**	**73.26**	**8**	P	P	06 22 12.6	-0.4
	2.2nm,0.9s,baz=199,slow=6.5,SNR=9.6						
KURBB	**Kurchatov Arra**	**76.65**	**5**	P	P	06 22 32.6	+0.1
	1.3nm,0.2s,baz=200,slow=5.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**77.61**	**291**	P	P	06 22 38.2	-0.6
	0.2nm,0.7s,baz=109,slow=6.4,SNR=3.2						
BVAR	**Borovoye Array**	**78.75**	**360**	P	P	06 22 43.4	-0.8
	0.3nm,0.4s,baz=188,slow=5.4,SNR=2.2						
SONM	**Songino Array**	**80.23**	**23**	P	P	06 22 53.0	+0.4
	1.2nm,1.1s,baz=207,slow=6.0,SNR=7.2						
ZALV	**Zalesovo Beam**	**80.60**	**8**	P	P	06 22 53.9	-0.3
	0.9nm,0.6s,baz=202,slow=2.7,SNR=4.5						

GUC 20 06:19:32.7±0.7, 21°.84S×70°.52W, h45km±3km, ML3.5, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.60**	**80**	⇓*i*P	Pn	06 19 45.6	+0.4
PB07				*i* S	Sn	06 19 54.6	+0.4
PB07				AML	AML	06 19 55.1	
	comp=N,6μm,0.3s						
PB09	**Plate Boundary**	**1.19**	**88**	⇓*i*P	Pn	06 19 55.0	+1.9
PB09				*i* S	Sn	06 20 11.3	+3.0
PB09				AML	AML	06 20 14.3	
	comp=E,6μm,0.6s						
CEN1	**Los Morros**	**1.57**	**169**	⇑*i*P	Pn	06 20 01.5	+3.1
CEN1				*i* S	Sn	06 20 23.6	+5.9
CEN1				AML	AML	06 20 31.6	
	comp=E,206nm,0.5s						
HMBC	**Humberstone**	**1.66**	**21**	*e*P	Pn	06 20 00.7	+1.2
HMBC				*e*S	Sn	06 20 22.0	+2.2
HMBC				AML	AML	06 20 31.0	
	comp=E,758nm,0.5s						
PSGC	**Pisagua**	**2.26**	**10**	⇑*i*P	Pn	06 20 08.8	+1.0
PSGC				AML	AML	06 20 49.8	
	comp=E,165nm,0.5s						
MNMC	**Minimini**	**2.83**	**18**	*e*P	Pn	06 20 17.2	+1.4
MNMC				*i* S	Sn	06 20 50.7	+1.8
MNMC				AML	AML	06 21 10.9	
	comp=N,302nm,0.1s						

GUC 20 06:21:10.0±0.7, 31°.80S×72°.14W, h26km±4km, MD3.5, ML2.8, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.16**	**58**	⇑*i*P	Pn	06 21 30.8	+0.1
CMCH				*i* S	Sn	06 21 45.7	0.0
CMCH				AML	AML	06 21 47.1	
	comp=E,2μm,0.7s						
JACH	**Jahuel**	**1.58**	**124**	⇑*i*P	Pn	06 21 37.1	+0.7
JACH				*i* S	Sn	06 21 56.2	+0.1
PEL	**Peldehue**	**1.82**	**138**	*e*P	Pn	06 21 40.8	+1.1
PEL				*i* S	Sb	06 22 04.4	-0.7
PEL				AML	AML	06 22 07.9	
	comp=E,210nm,0.5s						
TLL	**Tololo Astrono**	**2.00**	**36**	*e*P	Pb	06 21 49.8	+3.8
TLL				*i* S	Sb	06 22 15.7	+5.1
TLL				AML	AML	06 22 19.5	
	comp=E,61nm,0.3s						
CLCH	**Cerro Calan**	**2.09**	**140**	⇑*i*P	Pn	06 21 44.8	+1.3
CLCH				*i* S	Sb	06 22 11.2	-1.7
CLCH				AML	AML	06 22 16.6	
	comp=N,85nm,0.4s						
FCH	**Farellones**	**2.18**	**135**	⇑*i*P	Pn	06 21 45.6	+0.6
FCH				*i* S	Sn	06 22 13.7	+2.1
FCH				AML	AML	06 22 17.4	
	comp=E,66nm,0.6s						
LMEL	**Las Melosas**	**2.61**	**142**	⇑*i*P	Pn	06 21 52.3	+1.5
LMEL				*i* S	Sn	06 22 23.9	+2.1
LMEL				AML	AML	06 22 34.1	
	comp=N,35nm,0.2s						

---

*BJI **20** 06:35:01.4, 72°.20N×1°.00E, h6km, mB6.0/58, mb5.6/57, Ms6.0/71, Ms7 5.7/65*
*CSEM **20** 06:35:03.5±0.0, 72°.23N×0°.83E, h2km, mb6.0/99, Ms5.7, Mw6.1, Error ellipse: s-maj=2.1km s-min=1.3km az=47.0*
*ISCJB **20** 06:35:03.6±0.1, 72°.21N±0°.01×0°.67E±0°.03, h10km, mb5.8/475, MS5.8/246, Error ellipse: s-maj=1.8km s-min=1.2km az=136.1*
*IDC **20** 06:35:03.7±0.3, 72°.23N×0°.74E, h0km, mb5.2/36, mb1 5.4/40, mb1mx5.4/40, mbtmp5.2/40, ML5.0/4, MS5.7/52, Ms1 5.7/52, ms1mx5.7/52, Error ellipse: s-maj=9.2km s-min=8.8km az=45.0*
*MOS **20** 06:35:03.2±1.1, 72°.20N×0°.57E, h10km, mb6.1/112, MS5.7/64, Error ellipse: s-maj=13.3km s-min=2.6km az=96.1*
*PDA **20** 06:35:04.4, 72°.22N×0°.97E, h26km, mb5.9*
*NAO **20** 06:35:04.3±8.3, 72°.16N×1°.04E, h16km±67km, ML5.2*
*NEIC **20** 06:35:04.4±0.1, 72°.20N×0°.94E, h6km, mb5.9/253, ME5.7, MS5.7/144, MW6.0, MW5.9(USGS), Error ellipse: s-maj=2.6km s-min=1.5km az=51.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*SFS **20** 06:35:05.0, 72°.20N×0°.80E, h10km, ML6.1*
*NEIC **20** 06:35:05.0±0.0, 72°.22N×0°.89E, h15km*
*TEH **20** 06:35:06.0, 72°.22N×0°.89E, h10km, ML6.1*
*BER **20** 06:35:06.3, 72°.28N×0°.87E, h10km, MD5.0, ML3.8, ML5.2(NAO)*
*GCMT **20** 06:35:06.8±0.1, 72°.22N×0°.84E, h12km, MW6.0, Moment Tensor Solution. s82,c163; s74,c115; Moment tensor: Scale 10^18^Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.20000×10^18^ NP1:ϕ_s24.00000°, δ55.00000°, λ-113.00000°. NP2: ϕ_s241.00000°, δ41.00000°, λ-61.00000°. Principal axes: T 1.3400, Plg7.0000°, Azm130.0000°; N -0.2400, Plg19.0000°, Azm38.0000°; P -1.0900, Plg70.0000°, Azm240.0000°; Data Used: II IU IC G. Surface waves: sta= 98, comp=232, per= 50.*
*BKK **20** 06:35:07.4±0.9, 72°N±8°×±1°9, h10km, M6.0/29, mB6.3/26, mb5.7/29, Mw(mB)6.0/26, Mwp6.2/3*
*AZER **20** 06:35:07.1, 71°.87N×0°.98E, h0km*
*SZGRF **20** 06:35:08.9, 71°.89N×1°.27E, h12km, mb6.1, MS5.8, Norwegian Sea*
*NEIC **20** 06:35:16.5±0.0, 72°.05N×0°.73E, h10km, Moment Tensor Solution. s142 Moment tensor: Scale 10^18^Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.20000×10^18^ NP1:ϕ_s245.00000°, δ51.00000°, λ-55.00000°. NP2:ϕ_s17.00000°, δ50.00000°, λ-124.00000°. Principal axes: T 1.2900, Plg0.0000°, Azm311.0000°; N -0.0800, Plg25.0000°, Azm41.0000°; P -1.2100, Plg64.0000°, Azm219.0000°;*
*DJA **20** 06:35:31.8±6.6, 72°N±12°×±2°9, h196km±52km, M5.5/10, mB6.0/8, mb5.3/10, Mw(mB)5.6/8, Mwp5.6/1*
ISC 20 06:35:05.2±0.2, 72°.21N±0°.02×0°.95E±0°.02, h10km±1km, h9km:pP-P, n2924, σ1°35/3316, mb5.9/486, MS5.7/247, 310C-304D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**3.18**	**252**	*e*P	**Pn**	**06 35 52.8**	**-2.4**
JNE				*e*S	**Sn**	**06 36 30.1**	**-3.1**
JNE				AML	AML	06 37 02.9	
	comp=Z,600nm,0.6s						
JNE	**Jan Mayen East**	**3.18**	**252**	*e*P	**Pn**	**06 35 52.8**	**-2.4**
	SNR=50						
JNE				*e*S	**Sn**	**06 36 30.0**	**-3.1**
	comp=Z,600nm,0.6s,SNR=50						
JNW	**Jan Mayen West**	**3.20**	**253**	⇑*i*P	**Pn**	**06 35 53.0**	**-2.5**
JNW				AML	AML	06 36 60.0	
	comp=Z,336nm,0.6s						
JNW	**Jan Mayen West**	**3.20**	**253**	⇑*i*P	**Pn**	**06 35 53.0**	**-2.5**
	SNR=50						
JMIC	**Jan Mayen**	**3.24**	**252**	Pn	**Pn**	**06 35 53.7**	**-2.4**
JMIC	**Jan Mayen**	**3.24**	**252**	*e*P	**Pn**	**06 35 53.3**	**-2.8**
JMIC				*e*		06 36 29.4	
JMIC	**Jan Mayen**	**3.24**	**252**	Pn	**Pn**	**06 35 53.6**	**-2.5**
JMIC				Sn	**Sn**	**06 36 29.8**	**-4.9**
JMIC	**Jan Mayen**	**3.24**	**252**	Pn	**Pn**	**06 35 53.6**	**-2.5**
	comp=Z,232nm,0.3s,baz=58,slow=5.0,SNR=32						
JMIC				Sn	**Sn**	**06 36 29.8**	**-4.9**
	baz=311,slow=20,SNR=2.8						
JMIC				LR	LR	06 36 52.5	
	comp=Z,70μm,19.2s,baz=12,slow=34						
JMIC	**Jan Mayen**	**3.24**	**252**	*e*P	**Pn**	**06 35 53.3**	**-2.8**
	SNR=50						
JMIC	**Jan Mayen**	**3.24**	**252**	Pn	**Pn**	**06 35 53.6**	**-2.5**
JMIC				Sn	**Sn**	**06 36 29.8**	**-4.9**
JMI	**Jan Mayen**	**3.33**	**252**	*e*P	**Pn**	**06 35 55.0**	**-2.4**
JMI				*e*S	**Sn**	**06 36 35.9**	**-1.0**
JMI				AML	AML	06 37 01.6	
	comp=Z,280nm,0.5s						
JMI	**Jan Mayen**	**3.33**	**252**	*e*P	**Pn**	**06 35 55.0**	**-2.4**
	SNR=50						
JMI				*e*S	**Sn**	**06 36 35.9**	**-1.0**
	comp=Z,280nm,0.5s,SNR=50						
LOF	**Lofoten**	**5.92**	**128**	*e*P	**Pn**	**06 36 32.1**	**-0.7**
LOF				*e*S	**Sn**	**06 37 36.5**	**-4.0**
LOF				AML	AML	06 37 38.1	
	comp=Z,390nm,0.6s						
LOF				*e*T	T	06 41 24.4	
LOF	**Lofoten**	**5.92**	**128**	*e*P	**Pn**	**06 36 32.1**	**-0.7**
	SNR=49						
HSP	**Hornsund**	**6.17**	**32**	*e*P	**Pn**	**06 36 33.9**	**-2.4**
TRO	**Tromso**	**6.42**	**105**	*e*P	**Pn**	**06 36 36.8**	**-3.0**
TRO				*e*T	T	06 42 13.2	
TRO	**Tromso**	**6.42**	**105**	*i* P	**Pn**	**06 36 37.6**	**-2.1**
	SNR=53						
STEI	**Steigen**	**6.49**	**124**	*e*P	**Pn**	**06 36 39.2**	**-1.5**
STEI				*e*		06 41 49.0	
DAG	**Danmarks Havn**	**6.93**	**320**	⇑*i*P	Pn	06 36 41.8	-4.9
DAG							
	comp=Z,86μm,22.0s						
SPA0	**Spitsbergen Ar**	**7.14**	**26**	Pn	**Pn**	**06 36 47.9**	**-1.8**
	baz=207,slow=16						
SPA0				Sn	**Sn**	**06 38 06.3**	**-4.5**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**7.14**	**26**	Pn	**Pn**	**06 36 47.9**	**-1.8**
	baz=207,slow=16						
SPA0				*e*P	**Pn**	**06 36 47.9**	**-1.8**
SPA0				Sn	**Sn**	**06 38 06.3**	**-4.5**
	baz=211,slow=16						
SPA0	**Spitsbergen Ar**	**7.14**	**26**	*e*P	**Pn**	**06 36 47.9**	**-1.8**
	SNR=47						
SPITS	**Spitsbergen Ar**	**7.14**	**26**	Pn	**Pn**	**06 36 47.8**	**-1.8**
SPITS				Sn	**Sn**	**06 38 06.4**	**-4.3**
SPITS	**Spitsbergen Ar**	**7.14**	**26**	Pn	**Pn**	**06 36 47.8**	**-1.8**
	baz=204,slow=14,SNR=294						
SPITS				Sn	**Sn**	**06 38 06.4**	**-4.3**
	baz=213,slow=26,SNR=1.5						
SPITS				LR	LR	06 38 46.1	
	comp=Z,15μm,20.9s,baz=230,slow=31						
SPITS	**Spitsbergen Ar**	**7.14**	**26**	Pn	**Pn**	**06 36 47.8**	**-1.8**
KONS	**Konsvik**	**7.15**	**137**	*e*P	**Pn**	**06 36 47.5**	**-2.3**
KONS				*e*S	Sn	06 38 02.2	-8.8
KBS	**Kingsbay**	**7.27**	**17**	Pn	**Pn**	**06 36 48.8**	**-2.6**
KBS	**Kingsbay**	**7.27**	**17**	*e*P	**Pn**	**06 36 48.7**	**-2.6**
KBS	**Kingsbay**	**7.27**	**17**	*c i*P	**Pn**	**06 36 48.7**	**-2.6**
KBS	**Kingsbay**	**7.27**	**17**	*e*Pn	**Pn**	**06 36 48.6**	**-2.7**
KBS				*e*Sn	**Sn**	**06 38 11.6**	**-2.1**
KBS	**Kingsbay**	**7.27**	**17**	*e*Pn	**Pn**	**06 36 48.6**	**-2.7**
KBS				*e*Sn	**Sn**	**06 38 11.6**	**-2.1**
STOK	**Stokkvaagen**	**7.27**	**138**	*e*P	**Pn**	**06 36 48.9**	**-2.5**
STOK				*e*		06 38 04.7	
KIF	**Kilpisjarvi**	**7.33**	**106**	*i* P	**Pn**	**06 36 49.6**	**-2.5**
	SNR=53						
FLOS	**Flostrand**	**7.34**	**137**	*e*P	**Pn**	**06 36 51.2**	**-1.1**
FLOS				*e*S	Sn	06 38 07.9	-7.8
SCO	**Scoresbysund**	**7.52**	**268**	*i* P	**Pn**	**06 36 53.1**	**-1.7**
SCO							
	comp=Z,67μm,15.0s						
SCO	**Scoresbysund**	**7.52**	**268**	*i* P	**Pn**	**06 36 53.1**	**-1.7**
SCO				*i* S	**Sn**	**06 38 17.9**	**-2.1**
	SNR=56						
MOR8	**Moi Rana**	**7.71**	**135**	*e*P	**Pn**	**06 36 55.2**	**-2.3**
MOR8				*e*S	Sn	06 38 16.2	-8.6
MOR8				AML	AML	06 38 22.6	
	comp=Z,337nm,0.3s						
MOR8	**Moi Rana**	**7.71**	**135**	*e*P	**Pn**	**06 36 55.2**	**-2.3**
	SNR=47						
KTK1	**Kautokeino**	**8.05**	**103**	*e*P	**Pn**	**06 37 00.3**	**-1.7**
KTK1				*e*S	**Sn**	**06 38 27.5**	**-5.5**
KTK1				*e*		06 43 09.3	
KTK1	**Kautokeino**	**8.05**	**103**	*e*P	**Pn**	**06 37 00.3**	**-1.7**
	SNR=47						
ARA0	**ARCESS Array S**	**8.46**	**96**	Pn	**Pn**	**06 37 04.8**	**-2.9**
	baz=299,slow=12						
ARA0				Sn	Sn	06 38 36.2	-6.8
	baz=307,slow=22						
ARA0	**ARCESS Array S**	**8.46**	**96**	Pn	**Pn**	**06 37 04.8**	**-2.9**
	baz=299,slow=12						
ARA0				Sn	Sn	06 38 36.2	-6.8
	baz=307,slow=22						
ARCES	**ARCESS Array B**	**8.46**	**96**	Pn	**Pn**	**06 37 04.8**	**-2.9**
ARCES				Sn	**Sn**	**06 38 38.4**	**-4.7**
ARCES	**ARCESS Array B**	**8.46**	**96**	Pn	**Pn**	**06 37 04.8**	**-2.9**
	comp=Z,11nm,0.3s,baz=308,slow=12,SNR=280						
ARCES				Sn	**Sn**	**06 38 38.3**	**-4.7**
	comp=Z,15nm,0.3s,baz=295,slow=19,SNR=3.6						
ARCES				LR	LR	06 40 22.0	
	comp=Z,40μm,19.8s,baz=299,slow=37						
ARE0	**ARCESS Array S**	**8.46**	**96**	*e*P	**Pn**	**06 37 05.9**	**-1.8**
ARE0	**ARCESS Array S**	**8.46**	**96**	*e*Pn	**Pn**	**06 37 06.0**	**-1.7**
ARE0				*e*Sn	**Sn**	**06 38 41.1**	**-2.0**
ARE0	**ARCESS Array S**	**8.46**	**96**	*e*Pn	**Pn**	**06 37 06.0**	**-1.7**
HEF	**Hetta**	**8.52**	**105**	*i* P	**Pn**	**06 37 07.1**	**-1.5**
	SNR=53						
NSS	**Namsos**	**8.70**	**147**	*e*P	**Pn**	**06 37 09.1**	**-1.9**
NSS	**Namsos**	**8.70**	**147**	*e*P	**Pn**	**06 37 09.1**	**-1.9**
	SNR=47						
HARU	**Harads**	**9.31**	**121**	P	**Pn**	**06 37 17.1**	**-2.2**
TBLU	**Trondheim**	**9.65**	**154**	*e*P	**Pn**	**06 37 22.4**	**-1.6**
TBLU				*e*		06 39 01.0	
TBLU	**Trondheim**	**9.65**	**154**	*e*P	**Pn**	**06 37 22.4**	**-1.6**
	SNR=47						
LILU	**Lilltraesk**	**9.71**	**126**	P	**Pn**	**06 37 23.9**	**-0.9**
SJUU	**Sjulsmark**	**9.98**	**122**	P	**Pn**	**06 37 26.4**	**-2.1**
MOL	**Molde**	**10.00**	**162**	*e*P	**Pn**	**06 37 27.5**	**-1.2**
MOL				*e*		06 39 10.5	
MOL	**Molde**	**10.00**	**162**	*e*P	**Pn**	**06 37 27.5**	**-1.2**
	SNR=47						
NOD	**Norderasen**	**10.21**	**142**	P	**Pn**	**06 37 32.5**	**+0.8**
SVAU	**Svanoeiden**	**10.30**	**129**	P	**Pn**	**06 37 31.5**	**-1.3**
BREU	**Bredtraesk**	**10.58**	**133**	P	**Pn**	**06 37 35.7**	**-1.0**
SOFL	**Sornfelli, Far**	**10.62**	**201**	P	**Pn**	**06 37 37.5**	**+0.1**
SOFL	**Sornfelli, Far**	**10.62**	**201**	*e*P	**Pn**	**06 37 37.5**	**+0.1**
DOMB	**Dombas**	**10.67**	**159**	*e*P	**Pn**	**06 37 35.6**	**-2.4**
DOMB				*e*		06 39 28.2	
SOLU	**Sollefteaa**	**10.86**	**138**	P	**Pn**	**06 37 39.4**	**-1.2**
BORG	**Borgarnes**	**11.01**	**238**	Pn	Pn	06 37 47.2	+4.7
	comp=Z,3μm,1.2s,SNR=7.6						
BORG	**Borgarnes**	**11.01**	**238**	*e*Pn	**Pn**	**06 37 44.3**	**+1.8**
BORG				Sn	**Sn**	**06 39 43.5**	**-2.0**
BORG				*e*Sn		06 39 52.6	
BORG	**Borgarnes**	**11.01**	**238**	Pn	Pn	06 37 45.7	+3.2
	comp=Z,3.2nm,0.3s,baz=40,slow=9.0,SNR=20						
BORG				Sn	**Sn**	**06 39 43.5**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=52,slow=19,SNR=5.1						
BORG				LR	LR	06 40 50.8	
	comp=Z,21μm,20.0s,baz=40,slow=32						
BORG	**Borgarnes**	**11.01**	**238**	*e*Pn	**Pn**	**06 37 44.3**	**+1.8**
BORG				Sn	**Sn**	**06 39 43.5**	**-2.0**
UMAU	**Umeaa**	**11.08**	**129**	P	**Pn**	**06 37 41.8**	**-1.6**
HYA	**Hoyanger**	**11.28**	**167**	*e*P	**Pn**	**06 37 44.3**	**-1.9**
HYA				*e*		06 39 42.0	
SUE	**Sulen**	**11.30**	**171**	*e*P	**Pn**	**06 37 45.7**	**-0.8**
SUE				*e*		06 39 37.1	
SUE	**Sulen**	**11.30**	**171**	*e*P	**Pn**	**06 37 45.7**	**-0.8**
	SNR=47						
HEMU	**Hemsoen**	**11.54**	**137**	P	**Pn**	**06 37 49.0**	**-0.7**
HASU	**Hassela**	**11.72**	**141**	P	**Pn**	**06 37 51.7**	**-0.6**
SUMG	**Summit**	**11.78**	**291**	*e*P	**Pn**	**06 37 51.8**	**-1.7**
SUMG				pmax	pmax		
	comp=Z,1μm,1.2s						
SUMG	**Summit**	**11.78**	**291**	⇑*i*P	**Pn**	**06 37 52.0**	**-1.5**
	comp=Z,416nm,0.9s						
SUMG	**Summit**	**11.78**	**291**	*e*Pn	**Pn**	**06 37 51.8**	**-1.7**
	comp=Z,1μm,1.2s						
SUMG				Sn	Sn	06 40 22.3	+17
SUMG	**Summit**	**11.78**	**291**	*e*Pn	**Pn**	**06 37 51.8**	**-1.7**
	comp=Z,1μm,1.2s						
APA0	**Apatity Array**	**11.82**	**97**	Pn	**Pn**	**06 37 50.7**	**-2.9**
	baz=318,slow=12						
APA0	**Apatity Array**	**11.82**	**97**	P	**Pn**	**06 37 50.7**	**-2.9**
	baz=318,slow=12						
ASK	**Askoy**	**11.89**	**170**	*e*P	**Pn**	**06 37 52.5**	**-2.1**
ASK				*e*		06 39 52.7	
NB2	**NORSAR Subarra**	**11.90**	**155**	Pn	**Pn**	**06 37 54.0**	**-0.8**
	baz=342,slow=14						
NB2	**NORSAR Subarra**	**11.90**	**155**	Pn	**Pn**	**06 37 53.9**	**-1.0**
	comp=Z,381nm,1.4s,baz=345,slow=14						
NB2	**NORSAR Subarra**	**11.90**	**155**	Pn	**Pn**	**06 37 53.9**	**-1.0**
	baz=345,slow=14						
NB2	**NORSAR Subarra**	**11.90**	**155**	Pn	**Pn**	**06 37 53.9**	**-1.0**
	comp=Z,381nm,1.4s,baz=345,slow=14						
NOA	**NORSAR Array B**	**11.90**	**155**	Pn	**Pn**	**06 37 53.5**	**-1.4**
NOA				Sn	Sn	06 39 58.0	-10
NOA	**NORSAR Array B**	**11.90**	**155**	Pn	**Pn**	**06 37 53.5**	**-1.4**
	comp=Z,2.8nm,0.3s,baz=334,slow=12,SNR=54						
NOA				Sn	Sn	06 39 58.0	-10
	comp=Z,4.7nm,0.3s,baz=330,slow=22,SNR=4.4						
NOA				LR	LR	06 42 26.5	
	comp=Z,64μm,19.1s,baz=345,slow=37						
NOA	**NORSAR Array B**	**11.90**	**155**	Pn	**Pn**	**06 37 53.5**	**-1.4**
APA	**Apatity**	**11.97**	**97**	⇓*i*P	**Pn**	**06 37 52.8**	**-2.8**
APA				MLR	MLR		
	comp=Z,59μm,22.0s						
RUND	**Rundenannen**	**11.97**	**169**	*e*P	**Pn**	**06 37 53.6**	**-2.2**
RUND				*e*		06 39 52.0	
BER	**Bergen**	**12.00**	**169**	*e*P	Pn	06 37 52.4	-3.7
NAO01	**NORSAR Array S**	**12.05**	**156**	*e*Pn	**Pn**	**06 37 56.0**	**-0.8**
	comp=Z,50nm,0.7s						
NAO01				*e*Sn	**Sn**	**06 40 05.9**	**-5.3**
NAO01	**NORSAR Array S**	**12.05**	**156**	*e*Pn	**Pn**	**06 37 56.0**	**-0.8**
	comp=Z,50nm,0.7s						
EGD	**Espegrend**	**12.11**	**170**	*e*P	**Pn**	**06 37 54.5**	**-3.1**
EGD				*e*		06 39 57.0	
LVZ	**Lovozero**	**12.15**	**94**	*c i*P	Pn	06 37 55.0

FIA1	FINESS Array S	14.47 125	*e*Pn	Pn	06 38 26.6	-3.2
FINES	FINESS Array B	14.47 125	Pn	Pn	06 38 26.9	-3.0
FINES			Sn	Sn	06 40 57.5	-13
FINES	FINESS Array B	14.47 125	Pn	Pn	06 38 26.9	-3.0
	comp=Z,4.6nm,0.3s,baz=336,slow=12,SNR=131					
FINES			Sn	Sn	06 40 57.5	-13
	comp=Z,2.4nm,0.3s,baz=340,slow=24,SNR=2.9					
FINES			LR	LR	06 43 37.1	
	comp=Z,111μm,19.1s,baz=322,slow=35					
MVH1	Achvaich	14.50 191	P	Pn	06 38 29.5	-0.7
JOF	Joensuu	14.66 114	*e*P	Pn	06 38 28.8	-3.5
JOF	Joensuu	14.66 114	*e*p	Pn	06 38 28.8	-3.5
MCD	Coleburn Disti	14.79 189	P	Pn	06 38 33.1	-1.1
MDO	Dochfour	14.99 191	P	Pn	06 38 35.2	-1.7
KAC	Achnashellach	14.99 193	P	Pn	06 38 35.8	-1.1
MME1	Meikle Cairn	15.04 188	P	Pn	06 38 37.0	-0.6
KPL	Plockton	15.18 194	P	Pn	06 38 38.5	-0.8
	comp=Z,632nm,2.2s					
TMCR	Tamitsa	15.67 102	*e*P	Pn	06 38 43.8	-2.0
TMCR			*e*		06 41 34.5	
TMCR			pmax	pmax		
	comp=Z,813nm,1.2s					
ELO	Logie Almond	15.92 189	P	Pn	06 38 48.5	-0.6
ALE	Alert	15.96 335	Pn	Pn	06 38 43.3	-6.1
	comp=Z,1μm,1.2s,SNR=21					
MUD	Monsted U'grnd	16.18 163	*i* P	Pn	06 38 52.5	+0.1
	comp=Z,256nm,0.9s					
MUD			pmax	pmax		
	comp=Z,49μm,22.0s					
EAB	Aberfoyle	16.24 191	P	Pn	06 38 52.2	-0.9
ESY	Stoneypath	16.43 187	P	Pn	06 38 54.1	-1.5
ESY	Stoneypath	16.43 187	P	Pn	06 38 54.0	-1.5
EDI	Edinburgh	16.44 188	P	Pn	06 38 54.5	-1.2
EDI			pmax	pmax		
	comp=Z,808nm,2.0s					
EDI	Edinburgh	16.44 188	P	Pn	06 38 54.5	-1.2
	comp=Z,808nm,2.0s					
EBL	Broad Law	16.59 188	P	Pn	06 38 56.5	-1.1
EBL	Broad Law	16.59 188	P	Pn	06 38 56.5	-1.1
PUL	Pulkovo	17.00 122⇑	*e*P	Pn	06 39 00.2	-2.5
PUL			pmax	pmax		
	comp=Z,268nm,0.7s					
EKA	Eskdalemuir Ar	17.03 188	Pn	Pn	06 39 02.2	-1.0
EKA			Sn	Sn	06 42 02.2	-10
EKA	Eskdalemuir Ar	17.03 188	Pn	Pn	06 39 02.2	-1.0
	baz=4.6,slow=13,SNR=42					
EKA			Sn	Sn	06 42 02.2	-10
	baz=9.1,slow=23,SNR=5.1					
EKA			LR	LR	06 44 30.0	
	comp=Z,26μm,19.5s,baz=340,slow=33					
EKA	Eskdalemuir Ar	17.03 188	Pn	Pn	06 39 02.2	-1.0
ESK	Eskdalemuir	17.05 188	Pn	Pn	06 39 03.9	+0.5
	comp=Z,1μm,1.7s,SNR=11					
ESK	Eskdalemuir	17.05 188	*e*P	Pn	06 39 00.7	-2.8
ESK			*e*S	S	06 42 18.8	-3.8
ESK			pmax	pmax		
	comp=Z,1μm,1.8s					
ESK	Eskdalemuir	17.05 188	*e*P	Pn	06 39 00.7	-2.8
	comp=Z,1μm,1.8s					
ESK			*e*S	S	06 42 18.8	-3.8
ESK	Eskdalemuir	17.05 188	*i* P	Pn	06 39 03.6	+0.2
	SNR=47					
ECK	Cauldkaine Hil	17.18 188	P	Pn	06 39 04.8	-0.3
ECK	Cauldkaine Hil	17.18 188	*e*P	Pn	06 39 04.8	-0.3
VSU	Vasula	17.25 130	*ce*P	Pn	06 39 02.1	-3.8
COP	Copenhagen	17.28 158	*i* P	Pn	06 39 04.7	-1.5
COP			pmax	pmax		
	comp=Z,77nm,0.9s					
COP			MLR	MLR		
	comp=Z,14μm,20.0s					
COP	Copenhagen	17.28 158	*i* P	Pn	06 39 04.7	-1.5
	comp=Z,77nm,0.8s					
COP						
	comp=Z,14μm,20.0s					
GAL1	Galloway	17.58 191	P	Pn	06 39 08.6	-1.4
	comp=Z,609nm,4.8s					
GAL1	Galloway	17.58 191	*i* P	P	06 39 11.0	0.0
	SNR=46					
LLD	Lille Linde	17.60 158	*i* P	Pn	06 39 09.0	-1.2
	comp=Z,239nm,1.0s					
KESW	Keswick, Cumbr	17.77 188	*e*P	Pn	06 39 12.4	0.0
BSD	Bornholm Skovb	18.15 154⇑	*i*P	Pn	06 39 14.7	-2.3
	comp=Z,149nm,1.1s					
BSD						
	comp=Z,53μm,16.0s					
SFJD	Kangerlussuaq	18.18 279	*i* P	Pn	06 39 14.0	-3.3
	comp=Z,60nm,1.1s					
SFJD						
	comp=Z,52μm,17.0s					
SFJD	Kangerlussuaq	18.18 279	P	Pn	06 39 14.9	-2.4
	comp=Z,36nm,1.0s					
SFJD			*e*S	S	06 42 50.7	+5.3
SFJD	Kangerlussuaq	18.18 279	P	Pn	06 39 14.9	-2.4
	comp=Z,1.2nm,0.3s,baz=49,slow=12,SNR=16					
SFJD			LR	LR	06 45 20.7	
	comp=Z,69μm,19.8s,baz=45,slow=34					
SFJD	Kangerlussuaq	18.18 279	P	Pn	06 39 14.9	-2.4
	comp=Z,35nm,1.0s					
HPK	Haverah Park	18.36 185	P	Pn	06 39 18.5	-1.1
	comp=Z,763nm,4.5s					
HPK	Haverah Park	18.36 185	*e*P	Pn	06 39 18.5	-1.1
RGN	Rugen	18.50 157	*e*P	Pn	06 39 22.0	+0.7
	comp=Z,2μm,1.4s					
RGN	Rugen	18.50 157	*e*P	P	06 39 18.8	-2.4
	comp=Z,2μm,1.4s					
RGN	Rugen	18.50 157	*i* P	P	06 39 20.5	-0.7
	SNR=40					
BSEG	Bad Segeberg	18.78 163	*e*P	Pn	06 39 25.2	+0.5
	comp=Z,2μm,1.8s					
BSEG	Bad Segeberg	18.78 163	*e*P	Pn	06 39 25.2	+0.5
BSEG			pmax	pmax		
	comp=Z,2μm,1.8s					
BSEG	Bad Segeberg	18.78 163	*e*P	Pn	06 39 25.2	+0.5
	comp=Z,2μm,1.8s					
LMK	Market Rasen	18.83 182	P	P	06 39 23.6	-1.2
LMK	Market Rasen	18.83 182	*e*P	P	06 39 23.6	-1.2
WLF1	Llynfaes	19.13 190	*i* P	P	06 39 27.1	-1.0
WPM1	Penmaenmawr	19.14 189	*e*P	P	06 39 27.9	-0.3
STNC	Stoke	19.24 186	*e*P	P	06 39 27.9	-1.4
FOEL	Foel Wylfa	19.48 188	P	P	06 39 30.9	-1.0
	comp=Z,585nm,5.4s					
FOEL	Foel Wylfa	19.48 188	*e*P	P	06 39 30.9	-1.0
HLM1	Long Mynd	19.84 187	*e*P	P	06 39 34.7	-1.2
NRDL	Niedersach Rie	20.19 164	*e*P	Pn	06 39 40.8	-0.7
	comp=Z,1μm,1.7s					
NRDL	Niedersach Rie	20.19 164	*e*P	Pn	06 39 40.8	-0.7
	comp=Z,1μm,1.7s					
IBBN	Ibbenburen	20.20 168	*e*P	P	06 39 40.3	+0.5
	comp=Z,1μm,1.8s					
IBBN	Ibbenburen	20.20 168	*e*P	P	06 39 40.3	+0.5
	comp=Z,1μm,1.8s					
GKP	Gorka Klasztor	20.27 151	*e*P	P	06 39 40.8	+0.2
GKP			*ep*P	pP	06 39 43.4	+0.1
GKP			*e*S	Sn	06 43 29.5	-1.1
GKP			LMZ	LR	06 47 11.7	
GKP	Gorka Klasztor	20.27 151	*e*P	P	06 39 40.9	+0.3
GKP			*e*S	Sn	06 43 29.6	-1.0
MCH1	Michaelchurch	20.36 187	*i* P	P	06 39 39.5	-2.0
WTSB	Winterswijk	20.48 170	*e*P	Pn	06 39 44.3	-0.6
	comp=Z,1μm,1.7s					
NACGM	Naroch	20.51 134	*e*P	P	06 39 40.0	-3.1
SKP1	Kophill	20.58 183	*e*P	P	06 39 43.7	-0.2
RUE	Ruedersdorf	20.58 157	*e*P	P	06 39 44.5	+0.6
	comp=Z,3μm,1.8s					
RUE	Ruedersdorf	20.58 157	*e*P	Pn	06 39 45.1	-1.1
	comp=Z,2μm,1.4s					
RUE	Ruedersdorf	20.58 157	*e*P	P	06 39 44.5	+0.6
	comp=Z,3μm,1.8s					
SUW	Suwalki	20.59 141	*e*P	P	06 39 43.7	-0.3
SUW			*e*S	Sn	06 43 36.5	-1.6
SUW			pmax	pmax		
	comp=Z,828nm,0.9s					
SUW	Suwalki	20.59 141	*e*P	P	06 39 43.7	-0.3
	comp=Z,828nm,0.9s					
SUW			*e*S	Sn	06 43 36.5	-1.6
SUW	Suwalki	20.59 141	*e*P	P	06 39 43.3	-0.7
SUW			*ep*P	Pn	06 39 45.4	-0.9
SUW			*e*S	S	06 43 34.1	+0.2
SUW			LMZ	LR	06 46 59.2	
SUW	Suwalki	20.59 141	*e*P	P	06 39 43.3	-0.7
SUW			*e*S	S	06 43 34.1	+0.2
SWN1	Swindon	20.81 185	*i* P	P	06 39 46.3	-0.1
VAL	Valentia	20.93 200	*e*P	P	06 39 46.3	-1.4
VAL	Valentia	20.93 200	⇓*i* S	S	06 43 42.5	+1.8
VAL	Valentia	20.93 200	⇓*i* S	S	06 43 42.5	+1.8

BUG	Bochum--Univer	21.03 169	*e*P	P	06 39 49.5	+0.7
	comp=Z,2μm,1.6s					
BUG	Bochum--Univer	21.03 169	*e*P	P	06 39 49.5	+0.7
	comp=Z,2μm,1.6s					
MNK	Minsk	21.11 133⇑	*i*P	P	06 39 47.0	-2.7
MNK			*e*		06 40 12.0	
MNK			*e*S	S	06 43 40.0	-4.3
MNK			*e*SS	Sn	06 43 48.0	-2.7
MNK			pmax	pmax		
	comp=Z,500nm,1.0s					
MNK			pmax	pmax		
	comp=N,610nm,1.0s					
MNK			pmax	pmax		
	comp=E,21μm,9.0s					
MNK			pmax	pmax		
	comp=N,46μm,7.0s					
MNK			pmax	pmax		
	comp=Z,59μm,4.0s					
MNK			pmax	pmax		
	comp=E,390nm,1.2s					
MNK			pmax	pmax		
	comp=Z,9μm,6.0s					
MNK			smax	smax		
	comp=E,10μm,5.0s					
MNK			MLR	MLR		
	comp=N,103μm,15.0s					
MNK			MLR	MLR		
	comp=E,114μm,15.0s					
MNK			MLR	MLR		
	comp=Z,181μm,16.0s					
MICGM	Minsk	21.12 133⇑	*i*P	P	06 39 47.0	-2.8
HTL	Hartland	21.43 189	P	P	06 39 53.0	0.0
HTL	Hartland	21.43 189	*e*P	P	06 39 53.0	0.0
BEBN	Eben Emael	21.59 172	P	P	06 39 55.5	+0.7
	comp=Z,286nm,1.5s					
BEBN	Eben Emael	21.59 172	P	P	06 39 55.5	+0.7
	comp=Z,286nm,1.5s					
NEUB	Neuenburg	21.62 161	*e*P	P	06 39 55.8	+0.7
	comp=Z,1μm,1.1s					
NEUB	Neuenburg	21.62 161	*e*P	P	06 39 55.8	+0.7
	comp=Z,1μm,1.1s					
HGN	Heimansgroeve	21.64 171	*e*P	P	06 39 55.5	+0.2
	comp=Z,1μm,1.6s					
HGN			*e*S	S	06 43 54.2	-0.4
HGN			*e*L	L	06 48 15.5	
	comp=Z,6μm,21.0s					
HGN	Heimansgroeve	21.64 171	*e*P	P	06 39 55.5	+0.2
	comp=Z,1μm,1.6s					
HGN			*e*S	S	06 43 54.2	-0.4
CLL	Collm	21.65 159	*e*P	P	06 39 55.6	+0.2
	comp=Z,1μm,1.5s					
CLL	Collm	21.65 159	*e*P	P	06 39 56.0	+0.6
CLL			*e*		06 39 58.0	
CLL			*e*S	S	06 43 57.0	+2.2
CLL			pmax	pmax		
	comp=Z,1μm,1.5s					
CLL			MLR	MLR		
	comp=Z,39μm,22.6s					
CLL	Collm	21.65 159	*e*P	P	06 39 56.0	+0.6
	comp=Z,1μm,1.5s					
CLL			*e*Pmax		06 39 57.0	
CLL			*es*P	sP	06 39 58.0	-1.4
CLL			*i*		06 40 01.3	
	comp=Z,1μm,1.5s					
CLL			*e*(PP)		06 40 11.0	
CLL			*e*PPP	PPP	06 40 23.0	
CLL			*e*S	S	06 43 57.0	+2.2
	comp=N,12μm,15.0s					
CLL			*e*S	S	06 43 57.0	+2.2
	comp=E,20μm,23.5s					
CLL			Lm	MLR	06 47 00.0	
	comp=N,29μm,21.9s					
CLL			Lm	MLR	06 47 00.0	
	comp=E,11μm,18.4s					
CLL			Lmax		06 49 00.0	
CLL	Collm	21.65 159	*e*P	P	06 39 55.6	+0.2
	comp=E,1μm,1.5s					
CLL			*e*S	S	06 43 57.0	+2.2
MEM	Membach	21.79 171	P	P	06 39 57.2	+0.1
	comp=Z,474nm,1.7s					
MEM	Membach	21.79 171	P	P	06 39 57.1	+0.1
	comp=Z,474nm,1.7s					
SNF	Seneffe	21.83 174	P	P	06 39 57.8	+0.4
SNF	Seneffe	21.83 174	P	P	06 39 57.7	+0.4
UBBA	Unterbreizbach	21.84 164	*e*P	P	06 39 58.5	+1.1
	comp=Z,1μm,1.7s					
UBBA	Unterbreizbach	21.84 164	*e*P	P	06 39 58.5	+1.1
	comp=Z,1μm,1.7s					
FBE	Freiberg	22.07 159	*e*P	P	06 40 00.4	+0.5
	comp=Z,2μm,1.5s					
FBE	Freiberg	22.07 159	*e*P	P	06 40 00.4	+0.5
	comp=Z,2μm,1.5s					
MOX	Moxa	22.16 162	*e*P	P	06 40 01.5	+0.5
	comp=Z,1μm,1.7s					
MOX			*e*L	L	06 48 11.3	
	comp=Z,38μm,21.5s					
MOX	Moxa	22.16 162	*e*P	P	06 40 01.5	+0.5
MOX			pmax	pmax		
	comp=Z,1μm,1.7s					
MOX			MLR	MLR		
	comp=Z,38μm,21.5s					
MOX	Moxa	22.16 162	*e*P	P	06 40 01.5	+0.5
	comp=Z,1μm,1.7s					
BRG	Berggiesshubel	22.18 158	*i* P	P	06 40 00.8	-0.4
	comp=Z,3μm,2.5s					
BRG			*e*		06 40 11.5	
	comp=Z,1μm,1.5s					
BRG			S	S	06 44 04.0	-1.1
BRG						
	comp=Z,30μm,22.2s					
BRG						
	comp=N,25μm,21.0s					
BRG						
	comp=E,14μm,21.0s					
BRG	Berggiesshubel	22.18 158	*e*P	P	06 40 01.1	-0.1
	comp=Z,2μm,1.9s					
BRG	Berggiesshubel	22.18 158	*i* P	P	06 40 00.8	-0.4
BRG			S	S	06 44 04.0	-1.1
BRG			pmax	pmax		
	comp=Z,3μm,2.5s					
BRG			pmax	pmax		
	comp=Z,1μm,1.5s					
BRG			MLR	MLR		
	comp=Z,30μm,22.2s					
BRG			MLR	MLR		
	comp=N,25μm,21.0s					
BRG			MLR	MLR		
	comp=E,14μm,21.0s					
BRG	Berggiesshubel	22.18 158	*i* P	P	06 40 00.8	-0.4
	comp=E,1μm,1.5s					
BEL	Belsk	22.23 146	*e*P	P	06 40 01.9	+0.2
BEL			*ep*P	pP	06 40 03.9	-0.5
BEL			*e*S	S	06 44 07.3	+1.3
BEL			LMZ	LR	06 48 01.6	
BEL	Belsk	22.23 146	*e*P	P	06 40 01.9	+0.2
BEL			*e*S	S	06 44 07.4	+1.4
DOU	Dourbes	22.25 174	P	P	06 40 02.5	+0.5
	comp=Z,289nm,2.0s					
DOU	Dourbes	22.25 174	P	P	06 40 02.4	+0.5
	comp=Z,289nm,2.0s					
GIVF	Givet	22.25 173	*e*P	P	06 40 00.4	-1.5
	comp=Z,3μm,1.7s					
GIVF	Givet	22.25 173	*e*P	P	06 40 00.4	-1.5
GIVF	Givet	22.25 173	*e*P	P	06 40 00.4	-1.5
GIVF	Givet	22.25 173	*e*P	P	06 40 00.4	-1.5
	comp=Z,1μm,1.7s					
CCA1	Carnmenellis	22.27 191	*e*P	P	06 40 01.7	-0.4
BAIF	Baives	22.27 174	*e*P	P	06 40 00.6	-1.6
	comp=Z,2μm,1.5s					
BAIF	Baives	22.27 174	*e*P	P	06 40 00.6	-1.6
BAIF	Baives	22.27 174	*e*P	P	06 40 00.6	-1.6
BAIF	Baives	22.27 174	*e*P	P	06 40 00.6	-1.6
	comp=Z,752nm,1.5s					
TNS	Taunus Mts	22.32 167	*e*P	P	06 40 03.4	+0.7
	comp=Z,1μm,1.4s					
TNS	Taunus Mts	22.32 167	*e*P	P	06 40 03.4	+0.7
TNS			pmax	pmax		
	comp=Z,1μm,1.4s					
TNS	Taunus Mts	22.32 167	*e*P	P	06 40 03.4	+0.7
	comp=Z,1μm,1.4s					
WERD	Werda	22.42 161	*e*P	P	06 40 04.2	+0.4
	comp=Z,809nm,1.4s					
WERD	Werda	22.42 161	*e*P	P	06 40 04.2	+0.4
	comp=Z,809nm,1.4s					
MOS	Moscow	22.45 118α	*i*P	P	06 40 03.3	-0.7
MOS			*i* S	S	06 44 11.0	+0.9

MOS			pmax	pmax		
	comp=Z,2μm,1.4s					
MOS			pmax	pmax		
	comp=N,1μm,1.3s					
MOS			pmax	pmax		
	comp=E,327nm,1.3s					
MOS			pmax	pmax		
	comp=Z,8μm,2.8s					
MOS			pmax	pmax		
	comp=E,4μm,3.3s					
MOS			pmax	pmax		
	comp=N,9μm,3.2s					
MOS			smax	smax		
	comp=E,17μm,8.6s					
MOS			smax	smax		
	comp=N,15μm,8.4s					
MOS			MLR	MLR		
	comp=N,88μm,16.0s					
MOS			MLR	MLR		
	comp=Z,102μm,16.0s					
MOS			MLR	MLR		
	comp=E,40μm,15.0s					
MOS	Moscow	22.45 118	*i* P	P	06 40 03.3	-0.7
	comp=E,9μm,3.2s					
MOS			*i* S	S	06 44 11.0	+0.9
	comp=E,15μm,8.4s					
TANN	Tannenbergstha	22.47 160	*e*P	P	06 40 04.9	+0.5
	comp=Z,1μm,1.4s					
TANN	Tannenbergstha	22.47 160	*e*P	P	06 40 04.9	+0.5
	comp=Z,1μm,1.4s					
KSP	Ksiaz	22.51 154⇑	*e*P	P	06 40 04.3	-0.3
KSP			*e*S	S	06 44 08.0	-3.2
KSP	Ksiaz	22.51 154	*e*P	P	06 40 04.3	-0.3
KSP			*ep*P	pP	06 40 06.9	-0.5
KSP			*e*S	S	06 44 12.6	+1.4
KSP			*es*S	sS	06 44 16.0	+0.2
KSP			LMZ	LR	06 46 42.4	
KSP	Ksiaz	22.51 154	*e*P	P	06 40 04.3	-0.3
GUNZ	Gunzen	22.51 161	*e*P	P	06 40 05.1	+0.4
	comp=Z,1μm,1.7s					
GUNZ	Gunzen	22.51 161	*e*P	P	06 40 05.1	+0.4
	comp=Z,1μm,1.7s					
WERN	Wernitzgruen	22.59 161	*e*P	P	06 40 06.2	+0.6
	comp=Z,1μm,1.5s					
WERN	Wernitzgruen	22.59 161	*e*P	P	06 40 06.2	+0.6
	comp=Z,1μm,1.5s					
PVCC	Panska Ves	22.59 157⇓	*i*P	P	06 40 05.6	0.0
PVCC			*e*S	S	06 44 13.8	+0.9
PVCC			MLR	MLR		
	comp=Z,22μm,14.1s					
PVCC	Panska Ves	22.59 157⇓	*i*P	P	06 40 05.6	0.0
PVCC			*e*S	S	06 44 13.8	+0.9
PVCC			AMS	AMS	06 49 20.0	
	comp=Z,22μm,14.1s					
PVCC	Panska Ves	22.59 157	*i* P	P	06 40 05.6	0.0
	comp=Z,22μm,14.1s					
PVCC			*e*S	S	06 44 13.8	+0.9
OBN	Obninsk	22.72 120	*ce*P	P	06 40 05.3	-1.5
OBN			*i*		06 40 31.8	
OBN			*i* S	S	06 44 08.0	-6.9
OBN			pmax	pmax		
	comp=Z,2μm,1.6s					
OBN			MLR	MLR		
	comp=Z,105μm,18.0s					
OBN	Obninsk	22.72 120	P	P	06 40 06.0	-0.8
	comp=Z,6μm,1.2s,SNR=59					
OBN	Obninsk	22.72 120	*e*P	P	06 40 05.3	-1.5
	comp=Z,2μm,1.6s					
WLF	Walferdange	22.74 171	P	P	06 40 08.4	+1.2
	comp=Z,337nm,1.7s					
WLF	Walferdange	22.74 171	*e*P	P	06 40 07.8	+0.6
	comp=Z,930nm,1.8s					
WLF	Walferdange	22.74 171	*e*P	P	06 40 07.4	+0.2
WLF			pmax	pmax		
	comp=Z,526nm,1.3s					
WLF			MLR	MLR		
	comp=Z,6μm,21.0s					
WLF	Walferdange	22.74 171	*e*P	P	06 40 07.4	+0.2
	comp=Z,526nm,1.3s					
WLF			LR	LR		
	comp=Z,6μm,21.0s					
WLF	Walferdange	22.74 171	*e*P	P	06 40 07.4	+0.2
	comp=Z,6μm,21.0s					
UPC	Upice	22.80 155⇓	*i*P	P	06 40 07.7	0.0
UPC			*e*		06 40 10.6	
UPC	Upice	22.80 155⇓	*i*P	P	06 40 07.7	0.0
UPC			*ep*P	pP	06 40 10.6	+0.1
UPC	Upice	22.80 155	*i* P	P	06 40 07.7	0.0
MANZ	Manzenberg	22.86 161	*e*P	P	06 40 08.7	+0.3
	comp=Z,374nm,1.5s					
MANZ	Manzenberg	22.86 161	*e*P	P	06 40 08.7	+0.3
	comp=Z,374nm,1.5s					
DPC	Dobruska-Polom	22.99 154⇓	*i*P	P	06 40 09.9	+0.1
DPC			*e*		06 40 16.7	
DPC			*e*S	S	06 44 19.6	-0.4
DPC	Dobruska-Polom	22.99 154⇓	*i*P	P	06 40 09.9	+0.1
DPC			*ex*	x	06 40 16.7	
DPC			*e*S	S	06 44 19.6	-0.4
DPC			AMS	AMS	06 49 30.0	
DPC	Dobruska-Polom	22.99 154	*e*P	P	06 40 09.7	-0.1
	comp=Z,5μm,1.3s					
DPC	Dobruska-Polom	22.99 154	*e*P	P	06 40 09.7	-0.1
	comp=Z,5μm,1.3s					
DPC			*e*S	S	06 44 19.6	-0.4
PRA	Prague	23.03 157	⇓P	P	06 40 12.0	+1.9
PRA			AMS	AMS	06 49 00.0	
GRA1	Grafenberg Arr	23.07 163	*e*P	P	06 40 11.0	+0.4
	comp=Z,1μm,1.7s					
GRF	Grafenberg Arr	23.07 163	*e*P	P	06 40 11.0	+0.4
	comp=Z,1μm,1.7s					
GRF			*ep*P	pP	06 40 13.9	+0.6
GRF			*e*L	L	06 48 38.7	
	comp=Z,35μm,22.0s					
GRF	Grafenberg Arr	23.07 163	*e*P	P	06 40 11.0	+0.4
GRF			*e**PP	pP	06 40 13.9	+0.6
GRF			pmax	pmax		
	comp=Z,1μm,1.7s					
GRF			MLR	MLR		
	comp=Z,35μm,22.0s					
GRFO	Grafenberg	23.07 163	*e*P	P	06 40 11.0	+0.4
GRFO			pmax	pmax		
	comp=Z,2μm,1.9s					
GRFO	Grafenberg	23.07 163	*e*P	P	06 40 11.0	+0.4
	comp=Z,2μm,1.9s					
GRFO	Grafenberg	23.07 163	*e*P	P	06 40 11.0	+0.4
	comp=Z,2μm,1.9s					
ROTZ	Rotzenmuhle	23.09 161	*e*P	P	06 40 11.7	+0.9
	comp=Z,853nm,1.4s					
ROTZ	Rotzenmuhle	23.09 161	*e*P	P	06 40 11.7	+0.9
	comp=Z,853nm,1.4s					
PRU	Pruhonice	23.12 157	*e*P	P	06 40 11.5	+0.4
PRU			*e*		06 40 14.3	
PRU			*e*S	S	06 44 23.3	+1.2
PRU			MLR	MLR		
	comp=Z,26μm,19.8s					
PRU	Pruhonice	23.12 157⇓	*e*P	P	06 40 11.5	+0.4
PRU			*ep*P	pP	06 40 14.3	+0.5
PRU			*e*S	S	06 44 23.3	+1.2
PRU			AMS	AMS	06 48 20.0	
	comp=Z,26μm,19.8s					
PRU	Pruhonice	23.12 157	*e*P	P	06 40 11.5	+0.4
PRU			*e*S	S	06 44 23.3	+1.2
	comp=Z,26μm,19.8s					
JSA	Saint Aubin	23.14 185	*i* P	P	06 40 09.9	-1.4
LANF	Langenberg	23.52 169	*e*P	P	06 40 15.4	+0.3
RAC	Raciborz	23.52 151	*e*P	P	06 40 15.1	+0.1
RAC			*e*S	S	06 44 29.1	+0.5
RAC			MLR	MLR		
	comp=E,24μm,20.3s					
RAC			MLR	MLR		
	comp=Z,44μm,17.2s					
RAC			MLR	MLR		
	comp=N,66μm,15.6s					
RAC	Raciborz	23.52 151	*e*P	P	06 40 15.1	+0.1
RAC			*e*S	S	06 44 29.1	+0.5
	comp=N,66μm,15.6s					
FLN	La Foliniere	23.53 182	*e*P	P	06 40 13.1	-2.1
	comp=N,1μm,1.6s,baz=3.0					
FLN			*e*R			
	comp=N,21μm,19.0s					
FLN	La Foliniere	23.53 182	*e*P	P	06 40 13.1	-2.1
FLN	La Foliniere	23.53 182	*e*P	P	06 40 13.1	-2.1
OJC	Ojcow	23.63 149⇑	*i*P	P	06 40 17.9	+1.7
OJC			*e*S	S	06 44 32.5	+2.1
OJC	Ojcow	23.63 149	*e*P	P	06 40 16.2	0.0

comp=N,4µm,2.3s
OJC Ojcow 23.63 149 eP P 06 40 16.2 0.0
comp=N,4µm,2.3s
OJC eS S 06 44 32.5 +2.1
LDF La Druitiere 23.70 182 eP P 06 40 14.7 -2.2
comp=N,1µm,1.6s
LDF La Druitiere 23.70 182 eP P 06 40 14.7 -2.2
LDF La Druitiere 23.70 182 eP P 06 40 14.7 -2.2
MORC Moravsky Berou 23.72 153 eP P 06 40 16.9 -0.2
MORC pmax pmax
comp=Z,825nm,1.7s
MORC Moravsky Berou 23.72 153 eP P 06 40 16.9 -0.2
comp=Z,826nm,1.7s
MORC Moravsky Berou 23.72 153 eP P 06 40 16.4 -0.7
MORC eS S 06 44 32.2 +0.2
OKC Ostrava-Krasne 23.75 152 eP P 06 40 17.3 0.0
OKC eS S 06 44 32.2 -0.1
OKC MLR MLR
comp=Z,38µm,15.0s
OKC Ostrava-Krasne 23.75 152⇓eP P 06 40 17.3 0.0
OKC eS S 06 44 32.2 -0.1
OKC AMS AMS 06 50 00.0
comp=Z,38µm,15.0s
OKC Ostrava-Krasne 23.75 152 eP P 06 40 17.3 0.0
comp=Z,38µm,15.0s
OKC eS S 06 44 32.2 -0.1
WET Wettzell 23.77 160 eP P 06 40 18.8 +1.2
comp=Z,2µm,1.9s
WET epP pP 06 40 21.6 +1.2
WET Wettzell 23.77 160 eP P 06 40 18.8 +1.2
WET e*PP pP 06 40 21.6 +1.2
WET pmax pmax
comp=Z,2µm,1.9s
WET Wettzell 23.77 160 eP P 06 40 18.8 +1.2
comp=Z,2µm,1.9s
STU Stuttgart 23.82 166 eP P 06 40 18.9 +0.9
comp=Z,3µm,2.3s
STU Stuttgart 23.82 166 eP P 06 40 18.7 +0.7
STU eS S 06 44 33.6 +0.2
STU pmax pmax
comp=Z,258nm,1.2s
STU Stuttgart 23.82 166 eP P 06 40 18.7 +0.7
comp=Z,258nm,1.2s
STU eS S 06 44 33.6 +0.2
STU Stuttgart 23.82 166 eP P 06 40 18.7 +0.7
comp=Z,258nm,1.2s
STU eS S 06 44 33.6 +0.2
PAGF Fort de Pagny 23.83 172 eP P 06 40 17.5 -0.7
comp=Z,821nm,1.9s,baz=357
PAGF Fort de Pagny 23.83 172 eP P 06 40 17.5 -0.7
PAGF Fort de Pagny 23.83 172 eP P 06 40 17.5 -0.7
comp=Z,410nm,1.9s,baz=357
KHC Kasperske Hory 23.86 159⇓iP P 06 40 19.6 +1.2
KHC e 06 40 22.0
KHC eS S 06 44 35.6 +1.5
KHC MLR MLR
comp=Z,34µm,21.0s
KHC Kasperske Hory 23.86 159⇓iP P 06 40 19.6 +1.2
KHC epP pP 06 40 22.0 +0.7
KHC eS S 06 44 35.6 +1.5
KHC AMS AMS 06 48 30.0
comp=Z,34µm,21.0s
KHC Kasperske Hory 23.86 159 eP P 06 40 19.4 +1.0
comp=Z,3µm,2.3s
KHC eS S 06 44 39.1 +5.0
KHC Kasperske Hory 23.86 159 eP P 06 40 19.4 +1.0
comp=Z,3µm,2.3s
KHC eS S 06 44 35.6 +1.5
comp=Z,34µm,21.0s
MEZF Maizieres J'vi 23.86 173 eP P 06 40 17.6 -0.8
comp=Z,1µm,1.5s,baz=351
MEZF Maizieres J'vi 23.86 173 eP P 06 40 17.6 -0.8
MEZF Maizieres J'vi 23.86 173 eP P 06 40 17.6 -0.8
comp=Z,524nm,1.5s,baz=351
GRR Gorron 23.91 183 eP P 06 40 16.5 -2.4
comp=Z,1µm,1.4s
GRR Gorron 23.91 183 eP P 06 40 16.5 -2.4
GRR Gorron 23.91 183 eP P 06 40 16.5 -2.4
TREC Trest 23.92 156⇓iP P 06 40 19.9 +0.9
TREC e 06 40 22.2
TREC MLR MLR
comp=Z,30µm,13.7s
TREC Trest 23.92 156⇓iP P 06 40 19.9 +0.9
TREC epP pP 06 40 22.2 +0.3
TREC AMS AMS 06 50 20.0
comp=Z,30µm,13.7s
TREC Trest 23.92 156 iP P 06 40 19.9 +0.9
comp=Z,30µm,13.7s
ROSF Rostrenen 24.03 187 eP P 06 40 17.6 -2.4
comp=Z,481nm,1.3s
ROSF Rostrenen 24.03 187 eP P 06 40 17.6 -2.4
ROSF Rostrenen 24.03 187 eP P 06 40 17.6 -2.4
VRAC Vranov 24.05 154 P P 06 40 21.1 +0.9
VRAC Vranov 24.05 154 P P 06 40 21.1 +0.9
comp=Z,124nm,0.7s,baz=349,slow=9.8,SNR=52
VRAC LR LR 06 50 11.4
comp=Z,31µm,18.9s,baz=349,slow=38
VRAC Vranov 24.05 154 eP P 06 40 20.5 +0.3
VRAC eS S 06 44 38.6 +1.5
CDF Champ du Feu 24.05 170 eP P 06 40 19.5 -0.8
comp=Z,2µm,1.5s
CDF Champ du Feu 24.05 170 eP P 06 40 19.5 -0.8
CDF Champ du Feu 24.05 170 eP P 06 40 19.5 -0.8
CDF Champ du Feu 24.05 170 eP P 06 40 19.5 -0.8
comp=Z,784nm,1.5s
SGMF Saint Gilles 24.09 186 eP P 06 40 18.3 -2.2
comp=Z,763nm,1.5s
SGMF Saint Gilles 24.09 186 eP P 06 40 18.3 -2.2
SGMF Saint Gilles 24.09 186 eP P 06 40 18.3 -2.2
GEC2 GERESS Array S 24.15 159 eP P 06 40 23.0 +1.7
comp=Z,584nm,1.3s
GEC2 GERESS Array S 24.15 159 eP P 06 40 23.0 +1.7
GEC2 pmax pmax
comp=Z,584nm,1.3s
GEC2 GERESS Array S 24.15 159 eP P 06 40 23.0 +1.7
comp=Z,584nm,1.3s
GERES GERESS Array B 24.15 159 P P 06 40 22.6 +1.3
GERES GERESS Array B 24.15 159 P P 06 40 22.6 +1.3
comp=Z,78nm,0.8s,baz=357,slow=10,SNR=167
GERES LR LR 06 49 54.5
comp=Z,31µm,20.3s,baz=348,slow=37
GERES GERESS Array B 24.15 159 P P 06 40 22.6 +1.3
SFTF Sexfontaines 24.16 173 eP P 06 40 20.2 -1.0
comp=Z,2µm,1.6s,baz=355
SFTF Sexfontaines 24.16 173 eP P 06 40 20.2 -1.0
SFTF Sexfontaines 24.16 173 eP P 06 40 20.2 -1.0
comp=Z,837nm,1.6s,baz=355
THEF They Montfort 24.17 172 eP P 06 40 19.6 -1.8
BFO Black Forest 24.20 168 P P 06 40 23.4 +1.8
comp=Z,1µm,1.6s,SNR=63
BFO Black Forest 24.20 168 eP P 06 40 21.9 +0.3
comp=Z,1µm,1.9s
BFO Black Forest 24.20 168 eP P 06 40 21.9 +0.3
BFO pmax pmax
comp=Z,1µm,1.9s
BFO Black Forest 24.20 168 eP P 06 40 22.0 +0.3
comp=Z,620nm,1.5s
BFO LR LR
comp=Z,12µm,19.0s
BFO Black Forest 24.20 168 eP P 06 40 21.9 +0.3
comp=Z,1µm,1.9s
ECH Echery 24.24 170 eP P 06 40 22.4 +0.4
ECH pmax pmax
comp=Z,495nm,1.2s
ECH MLR MLR
comp=Z,14µm,19.0s
ECH Echery 24.24 170 eP P 06 40 22.4 +0.4
comp=Z,495nm,1.2s
ECH LR LR
comp=Z,14µm,19.0s
ECH Echery 24.24 170 eP P 06 40 22.2 +0.2
ECH Echery 24.24 170 eP P 06 40 22.4 +0.4
comp=Z,14µm,19.0s
HAU Haudompre 24.41 171 eP P 06 40 22.8 -0.8
comp=Z,1µm,1.7s
HAU eR
comp=Z,13µm,17.3s
HAU Haudompre 24.41 171 eP P 06 40 22.8 -0.8
HAU Haudompre 24.41 171 eP P 06 40 22.8 -0.8
HAU Haudompre 24.41 171 eP P 06 40 22.8 -0.8
comp=Z,628nm,1.7s
QUIF Quistinic 24.45 187 eP P 06 40 21.8 -2.0
comp=Z,727nm,1.6s
QUIF Quistinic 24.45 187 eP P 06 40 21.8 -2.0
QUIF Quistinic 24.45 187 eP P 06 40 21.8 -2.0
comp=Z,363nm,1.6s
NIE Niedzica 24.49 149⇑iP P 06 40 28.0 +3.7
FUR Furstenfeldbru 24.59 163 eP P 06 40 26.3 +1.2
comp=Z,862nm,1.4s
FUR Furstenfeldbru 24.59 163 eP P 06 40 26.3 +1.2
FUR pmax pmax
comp=Z,862nm,1.4s
FUR Furstenfeldbru 24.59 163 eP P 06 40 26.3 +1.2
comp=Z,862nm,1.4s
MOF Molkenrain 24.60 170 eP P 06 40 25.0 -0.4
HINF Hinteralfeld 24.62 170 eP P 06 40 24.7 -0.8
comp=Z,902nm,1.7s
HINF Hinteralfeld 24.62 170 eP P 06 40 24.7 -0.8
HINF Hinteralfeld 24.62 170 eP P 06 40 24.7 -0.8
HINF Hinteralfeld 24.62 170 eP P 06 40 24.7 -0.8
comp=Z,451nm,1.7s
RES Resolute Bay 24.63 321 LR LR 06 49 59.1
comp=Z,83µm,18.5s,baz=44,slow=36
STHS Stebnicka Huta 24.64 147 eP P 06 40 27.6 +2.0
STHS Stebnicka Huta 24.64 147 eP P 06 40 27.6 +2.0
STHS eS S 06 44 49.1 +2.4
STHS Stebnicka Huta 24.64 147 eP P 06 40 27.6 +2.0
STHS eS S 06 44 49.1 +2.4
KWP Kalwaria Pacla 24.69 145 ⇑iP P 06 40 27.4 +1.4
KWP Kalwaria Pacla 24.69 145 ⇑iP P 06 40 27.4 +1.4
KWP Kalwaria Pacla 24.69 145 eP P 06 40 26.2 +0.2
comp=Z,797nm,1.3s
KWP LR LR
comp=Z,54µm,20.0s
KWP Kalwaria Pacla 24.69 145 eP P 06 40 26.7 +0.7
KWP epP pP 06 40 28.9 0.0
KWP eS S 06 44 47.6 +0.2
KWP LMZ LR 06 49 31.7
KWP Kalwaria Pacla 24.69 145 eP P 06 40 26.2 +0.2
comp=Z,797nm,1.3s
KWP eS S 06 44 47.7 +0.3
LVV L'vov 24.75 143 eP P 06 40 28.2 +1.6
LVV e 06 41 10.8
LVV eS S 06 44 50.2 +1.9
LVV e 06 45 50.4
LVV MLR MLR
comp=N,41µm,14.0s
LVV MLR MLR
comp=E,8µm,14.0s
LVV MLR MLR
comp=Z,42µm,14.0s
LVV L'vov 24.75 143 eP P 06 40 28.2 +1.6
LVV eS S 06 44 50.2 +1.9
SOKR Solikamsk 24.89 91c iP P 06 40 28.5 +0.8
SOKR S S 06 44 51.2 +0.8
SOKR pmax pmax
comp=Z,310nm,0.9s
SOKR MLR MLR
comp=Z,20µm,16.0s
SOKR Solikamsk 24.89 91 iP P 06 40 28.5 +0.8
comp=Z,310nm,0.9s
SOKR S S 06 44 51.2 +0.8
comp=Z,20µm,16.0s
SMOL Smolenice 24.94 153 eP P 06 40 30.3 +2.0
SMOL Smolenice 24.94 153 eP P 06 40 30.2 +2.0
SMOL Smolenice 24.94 153 eP P 06 40 30.3 +2.0
KIEV Kiev 24.97 134 eP P 06 40 27.4 -1.1
KIEV pmax pmax
comp=Z,532nm,1.2s
KIEV MLR MLR
comp=Z,74µm,19.0s
KIEV Kiev 24.97 134 eP P 06 40 27.4 -1.1
comp=Z,532nm,1.2s
KIEV LR LR
comp=Z,74µm,19.0s
KIEV Kiev 24.97 134 eP P 06 40 27.4 -1.1
comp=Z,74µm,19.0s
HYF Humbligny 25.03 177 eP P 06 40 28.8 -0.4
HYF Humbligny 25.03 177 eP P 06 40 28.8 -0.4
HYF Humbligny 25.03 177 eP P 06 40 28.8 -0.4
LOR Lormes 25.06 175 eP P 06 40 27.6 -1.8
comp=Z,309nm,1.1s,baz=1.8
LOR eR
comp=Z,17µm,18.2s
LOR Lormes 25.06 175 eP P 06 40 27.6 -1.8
LOR Lormes 25.06 175 eP P 06 40 27.6 -1.8
comp=Z,154nm,1.1s,baz=1.8
LOMF Lomont 25.09 171 eP P 06 40 30.2 +0.5
RJOB Jochberg 25.15 161 eP P 06 40 31.6 +1.3
comp=Z,597nm,1.5s
RJOB Jochberg 25.15 161 eP P 06 40 31.6 +1.3
comp=Z,597nm,1.5s
VYHS Vyhne 25.16 151 eP P 06 40 30.9 +0.6
VYHS pmax pmax
comp=Z,114nm,1.5s
VYHS Vyhne 25.16 151 eP P 06 40 30.9 +0.6
VYHS eS S 06 44 56.1 +1.1
VYHS Vyhne 25.16 151 eP P 06 40 30.9 +0.6
comp=Z,114nm,1.5s
VYHS eS S 06 44 56.1 +1.1
CRVS Cervenica-Dubn 25.18 147 eP P 06 40 31.6 +1.1
CRVS pmax pmax
comp=Z,710nm,1.9s
CRVS Cervenica-Dubn 25.18 147 eP P 06 40 31.6 +1.1
CRVS eS S 06 44 55.2 -0.1
CRVS Cervenica-Dubn 25.18 147 eP P 06 40 31.6 +1.1
comp=Z,710nm,1.9s
CRVS eS S 06 44 55.2 -0.1
MOA Molln 25.20 159⇑ipP P 06 40 31.4 +0.7
comp=Z,5µm,3.6s,SNR=255
MOA Molln 25.20 159 P P 06 40 31.4 +0.7
comp=Z,5µm,3.6s,SNR=255
RETA Reutte 25.21 164⇓ipP P 06 40 31.6 +0.7
comp=Z,9µm,5.9s,SNR=45
RETA Reutte 25.21 164 P P 06 40 31.6 +0.7
comp=Z,9µm,5.9s,SNR=45
SSF Saint Saulge 25.25 176 eP P 06 40 29.3 -1.9
comp=Z,449nm,1.2s
SSF Saint Saulge 25.25 176 eP P 06 40 29.3 -1.9
SSF Saint Saulge 25.25 176 eP P 06 40 29.3 -1.9
SSF Saint Saulge 25.25 176 eP P 06 40 29.3 -1.9
comp=Z,225nm,1.2s
KOLS Kolonicke sedl 25.29 146 eP P 06 40 32.2 +0.8
KOLS pmax pmax
comp=Z,453nm,1.5s
KOLS Kolonicke sedl 25.29 146 eP P 06 40 32.2 +0.8
KOLS eS S 06 44 57.6 +0.6
KOLS Kolonicke sedl 25.29 146 eP P 06 40 32.2 +0.8
comp=Z,453nm,1.5s
KOLS eS S 06 44 57.6 +0.6
CSNA Conrad Observa 25.31 156 iP P 06 40 32.8 +1.0
SNR=238
CSNA Conrad Observa 25.31 156 P P 06 40 32.8 +1.0
SNR=238
CONA Conrad Observa 25.31 156 iP P 06 40 32.8 +1.0
comp=Z,11µm,5.6s,SNR=262
CONA Conrad Observa 25.31 156 P P 06 40 32.8 +1.0
comp=Z,11µm,5.6s,SNR=262
DAVA Damuels 25.34 166⇑ipP P 06 40 33.0 +0.8
comp=Z,3µm,2.4s,SNR=118
DAVA Damuels 25.34 166 P P 06 40 33.0 +0.8
comp=Z,3µm,2.4s,SNR=118
MOTA Moosalm 25.39 164⇓iP P 06 40 33.7 +1.2
comp=Z,423nm,1.3s,SNR=55
MOTA Moosalm 25.39 164 P P 06 40 33.7 +1.2
comp=Z,423nm,1.3s,SNR=55
KECS Kecovo 25.42 149 eP P 06 40 33.4 +0.7
KECS pmax pmax
comp=Z,49nm,1.1s
KECS Kecovo 25.42 149 eP P 06 40 33.4 +0.7
KECS eS S 06 45 01.3 +2.1
KECS Kecovo 25.42 149 eP P 06 40 33.4 +0.7
comp=Z,49nm,1.1s
KECS eS S 06 45 01.3 +2.1
WATA Walderalm 25.43 163⇓iP P 06 40 34.3 +1.3
comp=Z,673nm,1.5s,SNR=50
WATA Walderalm 25.43 163 P P 06 40 34.3 +1.3
comp=Z,673nm,1.5s,SNR=50
WTTA Wattenberg 25.51 163⇑ipP P 06 40 34.6 +0.9
comp=Z,3µm,2.1s,SNR=159
WTTA Wattenberg 25.51 163 P P 06 40 34.6 +0.9
comp=Z,3µm,2.1s,SNR=159
AVF Avril sur Loir 25.52 176 eP P 06 40 31.8 -1.8
comp=Z,503nm,1.2s
AVF Avril sur Loir 25.52 176 eP P 06 40 31.8 -1.8
AVF Avril sur Loir 25.52 176 eP P 06 40 31.8 -1.8
AVF Avril sur Loir 25.52 176 eP P 06 40 31.8 -1.8
comp=Z,251nm,1.2s
UZH Uzhgorod 25.58 146 eP P 06 40 35.1 +1.0
UZH e 06 41 24.3
UZH eS S 06 45 01.5 -0.1
UZH eSS SnSn 06 46 01.7 +7.0
UZH MLR MLR
comp=N,20µm,17.5s
UZH MLR MLR
comp=E,19µm,17.5s
UZH MLR MLR
comp=Z,9µm,17.5s
UZH Uzhgorod 25.58 146 eP P 06 40 35.1 +1.0
UZH eS S 06 45 01.5 -0.1
SOP Sopron 25.64 155⇑eP P 06 40 36.8 +2.2
FETA Feichten 25.68 164⇓ipP P 06 40 36.0 +0.8
comp=Z,3µm,3.5s,SNR=110
FETA Feichten 25.68 164 P P 06 40 36.0 +0.8
comp=Z,3µm,3.5s,SNR=110
SMF Signal de Mont 25.68 175 eP P 06 40 33.4 -1.6
comp=Z,1µm,1.5s
SMF Signal de Mont 25.68 175 eP P 06 40 33.4 -1.6
SMF Signal de Mont 25.68 175 eP P 06 40 33.4 -1.6
SMF Signal de Mont 25.68 175 eP P 06 40 33.4 -1.6
comp=Z,560nm,1.5s
MFF Saint Martin d 25.69 182 eP P 06 40 33.1 -2.0
comp=Z,557nm,1.4s
MFF Saint Martin d 25.69 182 eP P 06 40 33.1 -2.0
MFF Saint Martin d 25.69 182 eP P 06 40 33.1 -2.0
MFF Saint Martin d 25.69 182 eP P 06 40 33.1 -2.0
comp=Z,278nm,1.4s
BGF Bois d'Agland 25.75 177 eP P 06 40 34.0 -1.6
comp=Z,640nm,1.5s
BGF Bois d'Agland 25.75 177 eP P 06 40 34.0 -1.6
BGF Bois d'Agland 25.75 177 eP P 06 40 34.0 -1.6
BGF Bois d'Agland 25.75 177 eP P 06 40 34.0 -1.6
comp=Z,320nm,1.5s
CABF La Chapelle 25.79 172 eP P 06 40 35.0 -1.1
comp=Z,2µm,1.8s
CABF La Chapelle 25.79 172 eP P 06 40 35.0 -1.1
CABF La Chapelle 25.79 172 eP P 06 40 35.0 -1.1
CABF La Chapelle 25.79 172 eP P 06 40 35.0 -1.1
comp=Z,893nm,1.8s
FRB Frobisher Bay 25.82 287 P P 06 40 36.2 +0.1
FRB Frobisher Bay 25.82 287 P P 06 40 36.2 +0.1
comp=Z,71nm,1.0s,baz=38,slow=9.9,SNR=28
FRB LR LR 06 50 02.7
comp=Z,29µm,18.8s,baz=39,slow=35
FRB Frobisher Bay 25.82 287 P P 06 40 36.2 +0.1
DAVOX Davos/Dischmat 25.85 166 P P 06 40 38.2 +1.4
DAVOX Davos/Dischmat 25.85 166 P P 06 40 38.2 +1.4
comp=Z,14nm,0.8s,baz=341,slow=9.9,SNR=40
DAVOX LR LR 06 51 51.2
comp=Z,33µm,19.1s,baz=349,slow=39
DAVOX Davos/Dischmat 25.85 166 P P 06 40 38.2 +1.4
KBA Koelnbreinsper 25.86 160⇓iSP sP 06 40 38.2 -2.7
comp=Z,5µm,5.6s,SNR=104
KBA Koelnbreinsper 25.86 160 P sP 06 40 38.2 -2.7
comp=Z,5µm,5.6s,SNR=104
PSZ Piszkesteto 25.88 150⇑P P 06 40 38.4 +1.5
PSZ Piszkesteto 25.88 150⇑iP P 06 40 38.4 +1.5
PSZ Piszkesteto 25.88 150 eP P 06 40 37.9 +1.0
comp=Z,773nm,1.5s
PSZ LR LR
comp=Z,25µm,21.0s
PSZ Piszkesteto 25.88 150⇑eP P 06 40 38.7 +1.8
PSZ Piszkesteto 25.88 150 eP P 06 40 37.9 +1.0
comp=Z,773nm,1.5s
ARSA Arzberg 25.93 157⇓ipP P 06 40 38.8 +1.4
comp=Z,6µm,5.8s,SNR=84
ARSA Arzberg 25.93 157 P P 06 40 38.8 +1.4
comp=Z,6µm,5.8s,SNR=84
TCF Toulx Ste Croi 26.01 178 eP P 06 40 36.2 -1.8
comp=Z,829nm,1.5s
TCF Toulx Ste Croi 26.01 178 eP P 06 40 36.2 -1.8
TCF Toulx Ste Croi 26.01 178 eP P 06 40 36.2 -1.8
TCF Toulx Ste Croi 26.01 178 eP P 06 40 36.2 -1.8
comp=Z,414nm,1.5s
FUORN Ofenpass-Fuorn 26.04 165 eP P 06 40 39.8 +1.2
FUORN Ofenpass-Fuorn 26.04 165 eP P 06 40 39.8 +1.2
SENIN Lac Senin/Sane 26.10 170 eP P 06 40 39.8 +0.8
comp=Z,1µm,2.1s
SENIN Lac Senin/Sane 26.10 170 eP P 06 40 39.8 +0.8
comp=Z,1µm,2.1s
ABTA Abfaltersbach 26.11 162⇓ipP P 06 40 40.0 +1.0
comp=Z,1µm,2.5s,SNR=72
ABTA Abfaltersbach 26.11 162 P P 06 40 40.0 +1.0
comp=Z,1µm,2.5s,SNR=72
TRPA Tarpa 26.11 146⇑iP P 06 40 40.0 +1.2
TUE Stuetta 26.11 167 eP P 06 40 40.3 +1.1
comp=Z,369nm,1.3s
TUE LR LR
comp=Z,30µm,22.0s
TUE Stuetta 26.11 167 eP P 06 40 40.3 +1.1
comp=Z,369nm,1.3s
PKSG 26.17 153⇑eP P 06 40 41.1 +1.6
PKSG 26.17 153⇑eP P 06 40 41.1 +1.6
BUD Budapest 26.17 152⇑eP P 06 40 41.1 +1.6
BUD Budapest 26.17 152⇑eP P 06 40 41.1 +1.6
CSKK Cs^‡kako 26.18 153⇑eP P 06 40 41.1 +1.5
CSKK Cs^‡kako 26.18 153⇑eP P 06 40 41.1 +1.5
PKST T^'s 26.25 153⇓eP P 06 40 40.9 +0.7
PKST T^'s 26.25 153⇓eP P 06 40 40.9 +0.7
AGO Saint Agoulin 26.26 177 eP P 06 40 40.1 -0.2
MYKA Terra Mystica 26.34 160⇓ipP P 06 40 41.7 +0.7
comp=Z,7µm,6.8s,SNR=49
MYKA Terra Mystica 26.34 160 P P 06 40 41.7 +0.7
comp=Z,7µm,6.8s,SNR=49
SOKA Soboth 26.44 158⇓ipP P 06 40 43.1 +1.1
comp=Z,2µm,3.9s,SNR=52
SOKA Soboth 26.44 158 P P 06 40 43.1 +1.1
comp=Z,2µm,3.9s,SNR=52
VOR Voronezh 26.45 120⇑iP P 06 40 42.0 +0.1
VOR pmax pmax
comp=Z,980nm,1.6s
VOR Voronezh 26.45 120 iP P 06 40 42.0 +0.1
comp=Z,980nm,1.6s
PERS Pernice 26.49 158 iP P 06 40 43.3 +0.9
PERS eS S 06 45 20.2 +4.0
PERS Pernice 26.49 158 P P 06 40 43.3 +0.9
PERS eS S 06 45 20.2 +4.0
OBKA Obir 26.55 159⇓ipP P 06 40 43.9 +0.9
comp=Z,3µm,3.6s,SNR=50
OBKA Obir 26.55 159 P P 06 40 43.9 +0.9
comp=Z,3µm,3.6s,SNR=50
PYM Petit Puy Mans 26.56 177 eP P 06 40 42.4 -0.7
PKS7 Kunszentmiklos 26.62 152⇑eP P 06 40 46.7 +3.2
BEHE Becsehely 26.86 155⇑eP P 06 40 47.6 +1.9
BEHE Becsehely 26.86 155⇑eP P 06 40 47.6 +1.9
PKSN Nyarlorinc 26.87 151⇓eP P 06 40 49.2 +3.4
VSR Storozhevoye 26.91 121 eP P 06 40 45.7 -0.4
VSR i 06 40 45.8
VSR e*PP pP 06 40 48.7 -0.3
VSR eS S 06 45 21.3 -1.2
VSR pmax pmax
comp=N,2µm,1.8s
VSR pmax pmax
comp=E,720nm,1.8s
VSR pmax pmax
comp=Z,1µm,1.8s
VSR pmax pmax
comp=N,1µm,1.3s
VSR pmax pmax
comp=E,540nm,1.3s
VSR pmax pmax
comp=Z,1µm,1.3s
VSR smax smax
comp=N,930nm,4.3s
VSR smax smax
comp=E,3µm,4.3s
VSR smax smax
comp=Z,760nm,4.3s
VSR MLR MLR
comp=N,58µm,20.0s
VSR MLR MLR
comp=E,22µm,20.0s
VSR MLR MLR
comp=Z,124µm,20.0s
VSR Storozhevoye 26.91 121 eP P 06 40 45.7 -0.4
LPL La Plagne 26.91 171 eP P 06 40 45.7 -0.7
comp=Z,374nm,1.3s
LPL La Plagne 26.91 171 eP P 06 40 45.7 -0.7
LPL La Plagne 26.91 171 eP P 06 40 45.7 -0.7
LPL La Plagne 26.91 171 eP P 06 40 45.7 -0.7
comp=Z,187nm,1.3s
LPG La Plagne 26.93 171 eP P 06 40 46.1 -0.6
comp=Z,572nm,1.3s
LPG La Plagne 26.93 171 eP P 06 40 46.1 -0.6

LPG	**La Plagne**	**26.93 171**	*e*P	**P**	**06 40 46.1**	**-0.6**
LPG	**La Plagne**	**26.93 171**	*e*P	**P**	**06 40 46.1**	**-0.6**
	comp=Z,286nm,1.3s					
VOY	**Vojsko**	**26.95 160**	*e*P	**P**	**06 40 47.2**	**+0.6**
VOY			*e*		06 40 52.2	
RJF	**Les Rejaudoux**	**26.99 179**	*e*P	**P**	**06 40 45.2**	**-1.6**
	comp=Z,1μm,1.9s					
RJF			*e*R			
	comp=Z,18μm,18.2s					
RJF	**Les Rejaudoux**	**26.99 179**	*e*P	**P**	**06 40 45.2**	**-1.6**
RJF	**Les Rejaudoux**	**26.99 179**	*e*P	**P**	**06 40 45.2**	**-1.6**
RJF	**Les Rejaudoux**	**26.99 179**	*e*P	**P**	**06 40 45.2**	**-1.6**
	comp=Z,623nm,1.9s					
LJU	**Ljubljana**	**27.01 159**	*i* P	**P**	**06 40 47.8**	**+0.7**
LJU			*e*S	**S**	**06 45 23.0**	**-1.2**
LJU	**Ljubljana**	**27.01 159**	*i* P	**P**	**06 40 47.8**	**+0.7**
SSB	**Saint Sauveur**	**27.06 174**	*e*P	**P**	**06 40 47.4**	**-0.2**
SSB			pmax	pmax		
	comp=Z,391nm,1.9s					
SSB			MLR	MLR		
	comp=Z,11μm,20.0s					
SSB	**Saint Sauveur**	**27.06 174**	*e*P	**P**	**06 40 47.4**	**-0.2**
	comp=Z,391nm,1.9s					
SSB			LR	LR		
	comp=Z,11μm,20.0s					
SSB	**Saint Sauveur**	**27.06 174**	*e*P	**P**	**06 40 47.4**	**-0.2**
	comp=Z,11μm,20.0s					
LBL	**Lubilhac**	**27.08 176**	*e*P	**P**	**06 40 47.9**	**+0.1**
BURAR	**Bucovina Array**	**27.09 142** ⇓P		**P**	**06 40 48.3**	**+0.5**
BURAR	**Bucovina Array**	**27.09 142** ⇓*i*P		**P**	**06 40 48.3**	**+0.5**
JAVS	**Javornik**	**27.11 160** *i* P		**P**	**06 40 48.1**	**0.0**
JAVS	**Javornik**	**27.11 160** *i* P		**P**	**06 40 48.1**	**0.0**
GRN	**Grenoble**	**27.14 173** *e*P		**P**	**06 40 48.9**	**+0.6**
PKS2	**Kecel**	**27.17 152** ⇑*e*P		**P**	**06 40 51.7**	**+3.2**
VORD	**Divnogorie**	**27.17 121** *e*P		**P**	**06 40 48.4**	**0.0**
VORD		*i*			06 40 48.6	
VORD			pmax	pmax		
	comp=N,830nm,1.3s					
VORD			pmax	pmax		
	comp=Z,590nm,1.3s					
VORD			pmax	pmax		
	comp=E,130nm,0.6s					
VORD			pmax	pmax		
	comp=N,1μm,1.5s					
VORD			pmax	pmax		
	comp=E,590nm,1.5s					
VORD			pmax	pmax		
	comp=Z,1μm,1.5s					
VORD			MLR	MLR		
	comp=N,74μm,19.0s					
VORD			MLR	MLR		
	comp=E,23μm,19.0s					
VORD			MLR	MLR		
	comp=Z,100μm,19.0s					
VORD	**Divnogorie**	**27.17 121** *e*P		**P**	**06 40 48.4**	**0.0**
GDM	**Grand'Maison**	**27.20 172** *e*P		**P**	**06 40 48.5**	**-0.4**
LFF	**La Frestale**	**27.35 180** *e*P		**P**	**06 40 48.5**	**-1.6**
	comp=Z,562nm,1.6s					
LFF	**La Frestale**	**27.35 180** *e*P		**P**	**06 40 48.5**	**-1.6**
LFF	**La Frestale**	**27.35 180** *e*P		**P**	**06 40 48.5**	**-1.6**
LFF	**La Frestale**	**27.35 180** *e*P		**P**	**06 40 48.5**	**-1.6**
	comp=Z,281nm,1.6s					
PKSM	**Moragy**	**27.36 153** ⇑P		**P**	**06 40 51.3**	**+1.1**
PKSM	**Moragy**	**27.36 153** ⇑*i*P		**P**	**06 40 51.3**	**+1.1**
PKSM	**Moragy**	**27.36 153** ⇑*e*P		**P**	**06 40 51.4**	**+1.2**
PKSM	**Moragy**	**27.36 153** P		**P**	**06 40 51.3**	**+1.1**
CAF	**Calviac**	**27.37 178** *e*P		**P**	**06 40 48.7**	**-1.6**
	comp=Z,334nm,1.6s					
CAF	**Calviac**	**27.37 178** *e*P		**P**	**06 40 48.7**	**-1.6**
CAF	**Calviac**	**27.37 178** *e*P		**P**	**06 40 48.7**	**-1.6**
CAF	**Calviac**	**27.37 178** *e*P		**P**	**06 40 48.7**	**-1.6**
	comp=Z,167nm,1.6s					
BNI	**Bardonecchia**	**27.37 171** *e*P		**P**	**06 40 51.2**	**+0.7**
BNI		*e*			06 44 09.5	
BNI			pmax	pmax		
	comp=Z,322nm,1.3s					
BNI			MLR	MLR		
	comp=Z,11μm,21.0s					
BNI	**Bardonecchia**	**27.37 171** *e*P		**P**	**06 40 51.2**	**+0.7**
	comp=Z,322nm,1.3s					
BNI			*e*PcP	**PcP**	**06 44 09.5**	**+0.4**
BNI			LR	LR		
	comp=Z,11μm,21.0s					
BNI	**Bardonecchia**	**27.37 171** *e*P		**P**	**06 40 51.2**	**+0.7**
	comp=Z,322nm,1.3s					
DRGR		**27.43 146** ⇑P		**P**	**06 40 52.2**	**+1.3**
DRGR		**27.43 146** ⇑*i*P		**P**	**06 40 52.2**	**+1.3**
DRGR		**27.43 146** P		**P**	**06 40 52.2**	**+1.3**
ORIF	**Oris-en-Rattie**	**27.47 172** *e*P		**P**	**06 40 50.4**	**-0.9**
	comp=Z,393nm,1.2s					
ORIF			*e*R			
	comp=Z,19μm,21.0s					
ORIF	**Oris-en-Rattie**	**27.47 172** *e*P		**P**	**06 40 50.4**	**-0.9**
ORIF	**Oris-en-Rattie**	**27.47 172** *e*P		**P**	**06 40 50.4**	**-0.9**
ORIF	**Oris-en-Rattie**	**27.47 172** *e*P		**P**	**06 40 50.4**	**-0.9**
	comp=Z,197nm,1.2s					
VIVF	**Saint-Julien-I**	**27.49 174** *e*P		**P**	**06 40 50.2**	**-1.2**
	comp=Z,605nm,1.5s					
VIVF	**Saint-Julien-I**	**27.49 174** *e*P		**P**	**06 40 50.2**	**-1.2**
VIVF	**Saint-Julien-I**	**27.49 174** *e*P		**P**	**06 40 50.2**	**-1.2**
VIVF	**Saint-Julien-I**	**27.49 174** *e*P		**P**	**06 40 50.2**	**-1.2**
	comp=Z,302nm,1.5s					
BOJS	**Bojanci**	**27.62 158** *i* P		**P**	**06 40 52.8**	**+0.2**
BOJS			*e*S	**S**	**06 45 33.3**	**-0.6**
BOJS	**Bojanci**	**27.62 158** *i* P		**P**	**06 40 52.8**	**+0.2**
BOJS			*e*S	**S**	**06 45 33.3**	**-0.6**
VRHR	**Novokhopersk**	**27.68 118** *e*P		**P**	**06 40 52.0**	**-1.0**
VRHR			*e**PP	**pP**	**06 40 54.5**	**-1.4**
VRHR			*e*S	**S**	**06 45 33.3**	**-1.3**
VRHR			pmax	pmax		
	comp=E,550nm,2.3s					
VRHR			pmax	pmax		
	comp=Z,170nm,2.3s					
VRHR			pmax	pmax		
	comp=N,250nm,1.1s					
VRHR			pmax	pmax		
	comp=N,40nm,0.8s					
VRHR			pmax	pmax		
	comp=E,20nm,0.8s					
VRHR			pmax	pmax		
	comp=Z,60nm,0.8s					
VRHR			pmax	pmax		
	comp=N,30nm,16.8s					
VRHR			pmax	pmax		
	comp=E,370nm,16.8s					
VRHR			pmax	pmax		
	comp=N,620nm,1.3s					
VRHR			pmax	pmax		
	comp=E,460nm,1.3s					
VRHR			pmax	pmax		
	comp=Z,400nm,1.3s					
VRHR			smax	smax		
	comp=Z,20nm,0.9s					
VRHR			smax	smax		
	comp=N,20nm,0.9s					
VRHR			smax	smax		
	comp=E,10.0nm,0.9s					
VRHR			smax	smax		
	comp=E,2μm,3.8s					
VRHR			smax	smax		
	comp=Z,750nm,3.8s					
VRHR			smax	smax		
	comp=N,270nm,1.9s					
VRHR			MLR	MLR		
	comp=N,12μm,18.0s					
VRHR			MLR	MLR		
	comp=E,41μm,18.0s					
VRHR			MLR	MLR		
	comp=Z,94μm,18.0s					
VRHR	**Novokhopersk**	**27.68 118** *e*P		**P**	**06 40 52.0**	**-1.0**
	comp=Z,250nm,1.1s					
MBDF	**Montbardon**	**27.70 171** *e*P		**P**	**06 40 53.2**	**-0.2**
	comp=Z,580nm,1.4s					
MBDF	**Montbardon**	**27.70 171** *e*P		**P**	**06 40 53.2**	**-0.2**
MBDF	**Montbardon**	**27.70 171** *e*P		**P**	**06 40 53.2**	**-0.2**
MBDF	**Montbardon**	**27.70 171** *e*P		**P**	**06 40 53.2**	**-0.2**
	comp=Z,290nm,1.4s					
SISC	**Sisak**	**27.79 156** P		**P**	**06 40 55.5**	**+1.4**
SISC	**Sisak**	**27.79 156** *i* P		**P**	**06 40 55.4**	**+1.4**
SURF	**Saint Ours**	**27.95 171** *e*P		**P**	**06 40 56.0**	**+0.3**
ARU	**Arti**	**28.03 93** *d i*P		**P**	**06 40 56.2**	**+0.1**
ARU			PPP	PPP	06 41 51.7	
ARU					06 44 12.4	
ARU			S	**S**	**06 45 40.3**	**+0.2**
ARU			pmax	pmax		
	comp=Z,151nm,1.7s					
ARU			MLR	MLR		
	comp=Z,20μm,17.0s					
ARU	**Arti**	**28.03 93** P		**P**	**06 40 56.4**	**+0.3**
	comp=Z,1μm,1.0s,SNR=23					
ARU	**Arti**	**28.03 93** *i* P		**P**	**06 40 56.2**	**+0.1**
	comp=Z,151nm,1.7s					
ARU	**Arti**	**28.03 93** PcP		**PcP**	**06 44 12.4**	**+2.1**
ARU			S	**S**	**06 45 40.3**	**+0.2**
	comp=Z,20μm,17.0s					
LASF	**Ste Croix**	**28.25 176** *e*P		**P**	**06 40 57.7**	**-0.5**
	comp=Z,194nm,1.3s					
LASF	**Ste Croix**	**28.25 176** *e*P		**P**	**06 40 57.7**	**-0.5**
LASF	**Ste Croix**	**28.25 176** *e*P		**P**	**06 40 57.7**	**-0.5**
	comp=Z,97nm,1.3s					
SVE	**Sverdlovsk**	**28.34 91** *de*P		**P**	**06 40 59.7**	**+0.9**
SVE			*e*S	**S**	**06 45 49.4**	**+4.5**
SVE			pmax	pmax		
	comp=Z,153nm,1.6s					
SVE			smax	smax		
	comp=E,18μm,16.1s					
SVE			MLR	MLR		
	comp=Z,17μm,15.0s					
SVE			MLR	MLR		
	comp=N,9μm,15.0s					
SVE			MLR	MLR		
	comp=E,8μm,15.0s					
SVE	**Sverdlovsk**	**28.34 91** *e*P		**P**	**06 40 59.7**	**+0.9**
	comp=E,153nm,1.6s					
KIS	**Kishinev**	**28.39 138** ⇑*i*P		**P**	**06 40 59.5**	**+0.2**
	comp=E,3μm,4.0s					
KIS	**Kishinev**	**28.39 138** *e*PP		**PnPn**	**06 41 48.0**	**+0.1**
KIS	**Kishinev**	**28.39 138** *e*PcP		PcP	06 44 05.0	-6.3
KIS			*i* S	**S**	**06 45 49.0**	**+3.1**
	comp=E,12μm,14.0s					
KIS			*i* SS	SnSn	06 47 16.0	+13
KIS			*i* Li		06 49 13.0	
KIS			*i* LQ	LQ	06 49 32.0	
KIS			LRM	MLR	06 51 46.0	
	comp=E,38μm,17.0s					
KIS	**Kishinev**	**28.39 138** *α i*P		**P**	**06 40 59.5**	**+0.2**
KIS			*e*		06 41 48.0	
KIS			*i* S	**S**	**06 45 49.0**	**+3.1**
KIS			*i* SS	SnSn	06 47 16.0	+13
KIS			pmax	pmax		
	comp=Z,4μm,10.0s					
KIS			pmax	pmax		
	comp=N,3μm,11.0s					
KIS			pmax	pmax		
	comp=Z,5μm,10.0s					
KIS			smax	smax		
	comp=N,12μm,14.0s					
KIS			smax	smax		
	comp=E,3μm,10.0s					
KIS			MLR	MLR		
	comp=N,29μm,16.0s					
KIS			MLR	MLR		
	comp=E,11μm,16.0s					
KIS			MLR	MLR		
	comp=Z,38μm,16.0s					
KIS			MLR	MLR		
	comp=Z,38μm,17.0s					
KIS	**Kishinev**	**28.39 138** *i* P		**P**	**06 40 59.5**	**+0.2**
	comp=Z,5μm,10.0s					
KIS			*i* S	**S**	**06 45 49.0**	**+3.1**
BZS	**Buzias**	**28.39 149** ⇑P		**P**	**06 41 01.2**	**+1.8**
BZS	**Buzias**	**28.39 149** ⇑*i*P		**P**	**06 41 01.2**	**+1.8**
BZS	**Buzias**	**28.39 149** P		**P**	**06 41 01.2**	**+1.8**
SMRF	**Simiane la Rot**	**28.40 173** *e*P		**P**	**06 40 58.6**	**-0.9**
	comp=Z,246nm,1.4s					
SMRF	**Simiane la Rot**	**28.40 173** *e*P		**P**	**06 40 58.6**	**-0.9**
SMRF	**Simiane la Rot**	**28.40 173** *e*P		**P**	**06 40 58.6**	**-0.9**
	comp=Z,123nm,1.4s					
TESR	**Tescani**	**28.42 141** ⇑*i*P		**P**	**06 41 01.6**	**+2.0**
TOUF	**Mont Tournerai**	**28.44 170** *e*P		**P**	**06 41 00.1**	**+0.1**
AUTN	**L'Aution**	**28.46 170** *e*P		**P**	**06 41 00.8**	**+0.5**
SAOF	**Saorge**	**28.48 170** *e*P		**P**	**06 41 00.8**	**+0.6**
VLC	**Villacollemand**	**28.49 166** *e*P		**P**	**06 41 00.8**	**+0.5**
	comp=Z,346nm,1.4s					
VLC			LR	LR		
	comp=Z,35μm,21.0s					
VLC	**Villacollemand**	**28.49 166** *e*P		**P**	**06 41 00.8**	**+0.5**
	comp=Z,346nm,1.4s					
NVLJ	**Novalja**	**28.51 159** P		**P**	**06 40 60.0**	**-0.5**
NVLJ	**Novalja**	**28.51 159** *i* P		**P**	**06 40 59.9**	**-0.5**
MVIF	**Mont Vial**	**28.55 171** *e*P		**P**	**06 41 01.2**	**+0.2**
LUCF	**Luceram**	**28.56 170** *e*P		**P**	**06 41 02.4**	**+1.4**
FGSL	**Fruska Gora**	**28.56 151** *e*P		**P**	**06 41 02.0**	**+1.0**
SBF	**Sospel**	**28.60 170** *e*P		**P**	**06 41 00.5**	**-0.8**
	comp=Z,1μm,1.4s					
SBF	**Sospel**	**28.60 170** *e*P		**P**	**06 41 00.5**	**-0.8**
SBF	**Sospel**	**28.60 170** *e*P		**P**	**06 41 00.5**	**-0.8**
SBF	**Sospel**	**28.60 170** *e*P		**P**	**06 41 00.5**	**-0.8**
	comp=Z,530nm,1.4s					
UDBI	**Udbina**	**28.65 158** P		**P**	**06 41 02.5**	**+0.8**
UDBI	**Udbina**	**28.65 158** *i* P		**P**	**06 41 02.5**	**+0.8**
CALN	**Calern**	**28.68 171** *e*P		**P**	**06 41 02.4**	**+0.3**
REVF	**Revere**	**28.72 170** *e*P		**P**	**06 41 02.2**	**-0.2**
GZR	**Gura Zlata**	**28.80 147** ⇑P		**P**	**06 41 04.1**	**+1.0**
GZR	**Gura Zlata**	**28.80 147** ⇑*i*P		**P**	**06 41 04.1**	**+1.0**
GZR	**Gura Zlata**	**28.80 147** P		**P**	**06 41 04.1**	**+1.0**
FRF	**La Foret Royal**	**28.86 171** *e*P		**P**	**06 41 02.4**	**-1.2**
	comp=Z,368nm,1.3s					
FRF	**La Foret Royal**	**28.86 171** *e*P		**P**	**06 41 02.4**	**-1.2**
FRF	**La Foret Royal**	**28.86 171** *e*P		**P**	**06 41 02.4**	**-1.2**
FRF	**La Foret Royal**	**28.86 171** *e*P		**P**	**06 41 02.4**	**-1.2**
	comp=Z,184nm,1.3s					
MTLF	**Montolieu**	**28.95 178** *e*P		**P**	**06 41 03.6**	**-0.8**
	comp=Z,430nm,1.9s					
MTLF	**Montolieu**	**28.95 178** *e*P		**P**	**06 41 03.6**	**-0.8**
MTLF	**Montolieu**	**28.95 178** *e*P		**P**	**06 41 03.6**	**-0.8**
MTLF	**Montolieu**	**28.95 178** *e*P		**P**	**06 41 03.6**	**-0.8**
	comp=Z,215nm,1.9s					
OSSF	**Osses**	**29.05 183** *e*P		**P**	**06 41 04.5**	**-0.8**
PLOR	**Plostina**	**29.05 141** ⇑P		**P**	**06 41 06.8**	**+1.5**
PLOR	**Plostina**	**29.05 141** ⇑*i*P		**P**	**06 41 06.8**	**+1.5**
PLOR	**Plostina**	**29.05 141** P		**P**	**06 41 06.8**	**+1.5**
VRI	**Vrincioaia**	**29.05 141** ⇑P		**P**	**06 41 06.7**	**+1.4**
VRI	**Vrincioaia**	**29.05 141** ⇑*i*P		**P**	**06 41 06.7**	**+1.4**
VRI	**Vrincioaia**	**29.05 141** P		**P**	**06 41 06.7**	**+1.4**
LMR	**La Mourre**	**29.08 172** *e*P		**P**	**06 41 04.3**	**-1.2**
	comp=Z,232nm,1.3s					
LMR	**La Mourre**	**29.08 172** *e*P		**P**	**06 41 04.3**	**-1.2**
LMR	**La Mourre**	**29.08 172** *e*P		**P**	**06 41 04.3**	**-1.2**
LMR	**La Mourre**	**29.08 172** *e*P		**P**	**06 41 04.3**	**-1.2**
	comp=Z,116nm,1.3s					
ORDF	**Ordiarp**	**29.09 183** *e*P		**P**	**06 41 04.6**	**-1.0**
TEKS	**Tekeris**	**29.12 152** *e*P		**P**	**06 41 07.9**	**+2.0**
ARR	**Arges**	**29.15 144** ⇑*i*P		**P**	**06 41 08.1**	**+1.9**
VOIR		**29.15 144** ⇑P		**P**	**06 41 07.7**	**+1.4**
VOIR		**29.15 144** ⇑*i*P		**P**	**06 41 07.7**	**+1.4**
VOIR		**29.15 144** P		**P**	**06 41 07.7**	**+1.4**
SJPF	**Ste Jean**	**29.19 183** *e*P		**P**	**06 41 04.9**	**-1.7**
	comp=Z,112nm,1.1s					
SJPF	**Ste Jean**	**29.19 183** *e*P		**P**	**06 41 04.9**	**-1.7**
SJPF	**Ste Jean**	**29.19 183** *e*P		**P**	**06 41 04.9**	**-1.7**
SJPF	**Ste Jean**	**29.19 183** *e*P		**P**	**06 41 04.9**	**-1.7**
	comp=Z,56nm,1.1s					
ATE	**Arette**	**29.21 182** *e*P		**P**	**06 41 06.0**	**-0.7**
REYF	**Montagne du Re**	**29.23 182** *e*P		**P**	**06 41 05.8**	**-1.1**
LABF	**Labassere**	**29.24 181** *e*P		**P**	**06 41 06.4**	**-0.7**
EPF	**Esparros**	**29.26 181** *e*P		**P**	**06 41 05.4**	**-1.8**
	comp=Z,532nm,1.7s					
EPF	**Esparros**	**29.26 181** *e*P		**P**	**06 41 05.4**	**-1.8**
EPF	**Esparros**	**29.26 181** *e*P		**P**	**06 41 05.4**	**-1.8**
EPF	**Esparros**	**29.26 181** *e*P		**P**	**06 41 05.4**	**-1.8**
	comp=Z,266nm,1.7s					
LARF	**Larrau**	**29.27 183** *e*P		**P**	**06 41 07.0**	**-0.2**
MLR	**Muntele Rosu**	**29.27 143** ⇑*i*P		**P**	**06 41 09.2**	**+1.9**
MLR	**Muntele Rosu**	**29.27 143** P		**P**	**06 41 08.6**	**+1.3**
MLR	**Muntele Rosu**	**29.27 143** P		**P**	**06 41 08.6**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=335,slow=6.3,SNR=16					
MLR			LR	LR	06 53 10.0	
	comp=Z,17μm,18.5s,baz=335,slow=37					
MLR	**Muntele Rosu**	**29.27 143** P		**P**	**06 41 08.6**	**+1.3**
MLS	**Moulis**	**29.33 180** *e*P		**P**	**06 41 07.6**	**-0.2**
LRDF	**Laroque-de-Fa**	**29.36 178** *e*P		**P**	**06 41 09.4**	**+1.4**
ETSF	**Etsaut**	**29.40 182** *e*P		**P**	**06 41 06.6**	**-1.9**
	comp=Z,369nm,1.4s					
ETSF	**Etsaut**	**29.40 182** *e*P		**P**	**06 41 06.6**	**-1.9**
ETSF	**Etsaut**	**29.40 182** *e*P		**P**	**06 41 06.6**	**-1.9**
ETSF	**Etsaut**	**29.40 182** *e*P		**P**	**06 41 06.6**	**-1.9**
	comp=Z,184nm,1.4s					
VIEF	**Viey**	**29.41 181** *e*P		**P**	**06 41 08.4**	**-0.1**
MELF	**Melles**	**29.42 180** *e*P		**P**	**06 41 07.6**	**-1.0**
RESF	**Ens**	**29.48 181** *e*P		**P**	**06 41 10.1**	**+0.9**
TRUS	**Trudelj**	**29.57 151** *e*P		**P**	**06 41 10.1**	**+0.3**
CARF	**Carcanieres**	**29.58 178** *e*P		**P**	**06 41 09.6**	**-0.5**
DIVS	**Divibare**	**29.63 152** P		**P**	**06 41 11.2**	**+0.7**
DIVS	**Divibare**	**29.63 152** *e*P		**P**	**06 41 10.9**	**+0.4**
FILF	**Fillols**	**29.74 178** *e*P		**P**	**06 41 11.3**	**-0.1**
ISR	**Istrita**	**29.74 142** ⇓P		**P**	**06 41 13.2**	**+1.8**
ISR	**Istrita**	**29.74 142** ⇓*i*P		**P**	**06 41 13.2**	**+1.8**
ISR	**Istrita**	**29.74 142** P		**P**	**06 41 13.2**	**+1.8**
BBLS	**Lazići**	**29.77 153** *e*P		**P**	**06 41 12.8**	**+1.1**
SJAF	**Saint Jean de**	**29.82 177** *e*P		**P**	**06 41 12.6**	**+0.5**
GRUS	**Gruza**	**29.94 151** *e*P		**P**	**06 41 14.1**	**+1.0**
CFR	**Carcaliu**	**29.99 140** ⇑P		**P**	**06 41 14.2**	**+0.7**
CFR	**Carcaliu**	**29.99 140** ⇑*i*P		**P**	**06 41 14.1**	**+0.6**
CFR	**Carcaliu**	**29.99 140** P		**P**	**06 41 14.2**	**+0.7**
PGF	**Pioggiola**	**30.00 168** *e*P		**P**	**06 41 12.9**	**-0.9**
	comp=Z,618nm,1.4s					
PGF	**Pioggiola**	**30.00 168** *e*P		**P**	**06 41 12.9**	**-0.9**
PGF	**Pioggiola**	**30.00 168** *e*P		**P**	**06 41 12.9**	**-0.9**
PGF	**Pioggiola**	**30.00 168** *e*P		**P**	**06 41 12.9**	**-0.9**
	comp=Z,309nm,1.4s					
TLCR		**30.12 139** ⇓P		**P**	**06 41 15.9**	**+1.2**
TLCR		**30.12 139** ⇓*i*P		**P**	**06 41 15.9**	**+1.2**
TLCR		**30.12 139** P		**P**	**06 41 15.9**	**+1.2**
BOLS	**Boljevac**	**30.19 149** *e*P		**P**	**06 41 13.4**	**-1.9**
PLE	**Pljevlja**	**30.29 153** *e*P		**P**	**06 41 16.7**	**+0.3**
PLE	**Pljevlja**	**30.29 153** *e*P		**P**	**06 41 16.8**	**+0.3**
UPM	**Unac-Piva**	**30.35 154** ⇓*i*P		**P**	**06 41 17.6**	**+0.6**
UPM	**Unac-Piva**	**30.35 154** ⇓*i*P		**P**	**06 41 17.6**	**+0.6**
HARR	**Harsova**	**30.42 140** ⇓P		**P**	**06 41 18.0**	**+0.7**
HARR	**Harsova**	**30.42 140** ⇓*i*P		**P**	**06 41 18.0**	**+0.7**
HARR	**Harsova**	**30.42 140** P		**P**	**06 41 18.0**	**+0.7**
STON	**Ston**	**30.52 155** P		**P**	**06 41 17.8**	**-0.4**
STON	**Ston**	**30.52 155** *i* P		**P**	**06 41 17.8**	**-0.4**
AQU	**L'Aquila**	**30.54 162** *e*P		**P**	**06 41 19.1**	**+0.5**
	comp=Z,281nm,1.3s					
AQU			LR	LR		
	comp=Z,37μm,21.0s					
AQU	**L'Aquila**	**30.54 162** *e*P		**P**	**06 41 19.1**	**+0.5**
	comp=Z,37μm,21.0s					
BRY	**Bratogost**	**30.60 154** ⇓*i*P		**P**	**06 41 19.7**	**+0.6**
BRY	**Bratogost**	**30.60 154** ⇓*i*P		**P**	**06 41 19.8**	**+0.6**
PGAV	**Gavieira, Arco**	**30.66 194** *i* P		**P**	**06 41 19.6**	**0.0**
	comp=Z,110nm,1.7s					
PGAV			*e*S	**S**	**06 46 26.1**	**+4.3**
PGAV			*e*LR	LR	06 49 29.8	
	comp=Z,10μm,19.0s					
PBRG	**Braganca**	**30.72 191** *i* P		**P**	**06 41 20.3**	**+0.2**
	comp=Z,171nm,1.7s					
TIRR	**Tirgusor**	**30.74 140** ⇑P		**P**	**06 41 21.0**	**+0.9**
TIRR	**Tirgusor**	**30.74 140** ⇑*i*P		**P**	**06 41 21.0**	**+0.9**
TIRR	**Tirgusor**	**30.74 140** *e*P		**P**	**06 41 20.1**	**0.0**
	comp=Z,140nm,1.2s					
TIRR	**Tirgusor**	**30.74 140** *e*P		**P**	**06 41 20.1**	**0.0**
	comp=Z,140nm,1.2s					
NKME	**Niksic**	**30.79 154** ⇓*i*P		**P**	**06 41 21.1**	**+0.4**
NKME	**Niksic**	**30.79 154** ⇓*i*P		**P**	**06 41 21.1**	**+0.4**
BEY	**Berane**	**30.81 152** ⇓*i*P		**P**	**06 41 21.9**	**+0.9**
IVA	**Berane**	**30.81 152** ⇓*i*P		**P**	**06 41 21.8**	**+0.8**
PCAB	**Cabril**	**30.89 193** *e*P		**P**	**06 41 21.1**	**-0.5**
	comp=Z,130nm,1.3s					
HCY	**Herceg Novi**	**31.04 154** ⇓*i*P		**P**	**06 41 22.7**	**-0.1**
HCY	**Herceg Novi**	**31.04 154** ⇓*i*P		**P**	**06 41 22.8**	**-0.1**
PVY	**Plav**	**31.09 152** *e*P		**P**	**06 41 23.8**	**+0.3**
PVY	**Plav**	**31.09 152** *e*P		**P**	**06 41 23.9**	**+0.4**
BARS	**Barje**	**31.16 150** *e*P		**P**	**06 41 24.0**	**+0.1**
PDG	**Podgorica**	**31.16 153** P		**P**	**06 41 23.4**	**-0.5**
PDG	**Podgorica**	**31.16 153** ⇓*i*P		**P**	**06 41 24.2**	**+0.3**
TTG	**Podgorica**	**31.16 153** ⇓*i*P		**P**	**06 41 24.2**	**+0.3**
TTG	**Podgorica**	**31.16 153** P		**P**	**06 41 23.4**	**-0.5**
TTG	**Podgorica**	**31.16 153** P		**P**	**06 41 23.4**	**-0.5**
TTG	**Podgorica**	**31.16 153** P		**P**	**06 41 23.4**	**-0.5**
POLO	**Lamas de Olo**	**31.21 193** *i* P		**P**	**06 41 24.6**	**+0.1**
	comp=Z,117nm,1.1s					
BUM	**Brajici-Budva**	**31.23 154** ⇓*i*P		**P**	**06 41 25.1**	**+0.4**
BUM	**Brajici-Budva**	**31.23 154** ⇓*i*P		**P**	**06 41 25.2**	**+0.5**
MVO	**Moncorvo**	**31.37 192** *i* P		**P**	**06 41 26.0**	**+0.1**
	comp=Z,280nm,1.4s					
MVO	**Moncorvo**	**31.37 192** *e*PP		PP	06 42 38.4	+1.9
MVO			*e*S	**S**	**06 46 38.1**	**+5.2**
MVO			*e*LR	LR	06 49 48.0	
	comp=Z,7μm,22.6s					
MVO	**Moncorvo**	**31.37 192** *e*PP		PP	06 42 38.4	+1.9
DRME	**Dracevica, Mon**	**31.39 153** *e*P		**P**	**06 41 26.0**	**+0.1**
DRME	**Dracevica, Mon**	**31.39 153** *e*P		**P**	**06 41 26.0**	**+0.1**
SIM	**Simferopol'**	**31.49 132** *ce*P		**P**	**06 41 28.2**	**+1.4**
SIM			*e*S	**S**	**06 46 36.0**	**+1.4**
SIM			*e*SS	**SnSn**	**06 48 18.0**	**-0.8**
SIM			pmax	pmax		
	comp=Z,53nm,1.4s					
SIM			pmax	pmax		
	comp=Z,2μm,5.3s					
SIM			MLR	MLR		
	comp=Z,26μm,15.0s					
SIM	**Simferopol'**	**31.49 132** *e*P		**P**	**06 41 28.2**	**+1.4**
	comp=Z,2μm,5.3s					
SIM			*e*S	**S**	**06 46 36.0**	**+1.4**
VTS	**Vitosha**	**31.60 148** P		**P**	**06 41 27.5**	**-0.5**

MAHO	Mahon	32.43 175	*i* P	P	06 41 35.1	0.0	
SCHQ	Schefferville	32.50 275	*e*P	P	06 41 35.5	-0.1	
	comp=Z,86nm,1.2s						
SCHQ			*e*PP	PP	06 42 49.3	+0.5	
SCHQ			*e*S	S	06 46 51.1	+0.9	
SCHQ	Schefferville	32.50 275	P	P	06 41 35.0	-0.6	
	comp=Z,30nm,0.9s,baz=35,slow=9.6,SNR=18						
SCHQ			LR	LR	06 53 33.6		
	comp=Z,26µm,20.5s,baz=41,slow=34						
SCHQ	Schefferville	32.50 275	*e*P	P	06 41 35.5	-0.1	
	comp=Z,86nm,1.2s						
TIXI	Tiksi	32.57 28	*d i*P	P	06 41 36.8	+0.8	
TIXI			pmax	pmax			
	comp=Z,272nm,1.7s						
TIXI	Tiksi	32.57 28	*i* P	P	06 41 36.8	+0.8	
	comp=Z,272nm,1.7s						
PCAS	Casmilo, Conde	32.58 194	*i* P	P	06 41 36.5	+0.1	
	comp=Z,211nm,2.0s						
PCAS			*e*P	PP	06 42 40.4	-9.4	
ESDC	Sonseca Array	32.70 187	P	P	06 41 37.2	-0.4	
ESDC	Sonseca Array	32.70 187	P	P	06 41 37.2	-0.4	
	comp=Z,12nm,0.7s,baz=1.4,slow=8.5,SNR=53						
ESDC			LR	LR	06 54 09.8		
	comp=Z,5µm,19.8s,baz=10.0,slow=35						
ESDC	Sonseca Array	32.70 187	P	P	06 41 37.2	-0.4	
ESLA	Sonseca Array	32.70 187	*e*P	P	06 41 37.3	-0.3	
	comp=Z,34nm,1.4s						
ESLA			*e*PP	PP	06 42 51.8	+0.5	
ESLA	Sonseca Array	32.70 187	*e*P	P	06 41 37.3	-0.3	
	comp=Z,34nm,1.4s						
PCBR	Castelo Branco	32.72 192	*i* P	P	06 41 37.6	0.0	
	comp=Z,185nm,1.4s						
VAY	Valandovo	32.73 149	P	P	06 41 36.5	-1.2	
VAY	Valandovo	32.73 149	P	P	06 41 36.5	-1.2	
VAY	Valandovo	32.73 149	*i* P	P	06 41 38.1	+0.3	
VAY	Valandovo	32.73 149	P	P	06 41 36.5	-1.2	
VAY	Valandovo	32.73 149	P	P	06 41 36.5	-1.2	
BIA	Bitola	32.84 151	*i* P	P	06 41 38.0	-0.8	
BIA	Bitola	32.84 151	*i* P	P	06 41 37.9	-0.8	
PAB	San Pablo	32.85 188	*e*P	P	06 41 38.9	0.0	
PAB			pmax	pmax			
	comp=Z,557nm,1.2s						
PAB			MLR	MLR			
	comp=Z,11µm,19.0s						
PAB	San Pablo	32.85 188	*e*P	P	06 41 38.9	0.0	
	comp=Z,557nm,1.2s						
PAB			LR	LR			
	comp=Z,11µm,19.0s						
PAB	San Pablo	32.85 188	*e*P	P	06 41 38.8	-0.1	
	comp=Z,557nm,1.2s						
NVR	Nevrokopi	32.92 147	P	P	06 41 39.6	+0.2	
NVR	Nevrokopi	32.92 147	*e*P	P	06 41 38.7	-0.7	
NVR	Nevrokopi	32.92 147	P	P	06 41 39.6	+0.2	
NVR	Nevrokopi	32.92 147	P	P	06 41 39.6	+0.2	
EDRB	Edirne	32.94 143	*e*P	P	06 41 40.0	+0.5	
KNT	Kendrikon	32.94 149	P	P	06 41 39.8	+0.2	
KNT	Kendrikon	32.94 149	P	P	06 41 39.8	+0.2	
KNT	Kendrikon	32.94 149	P	P	06 41 39.8	+0.2	
KNT	Kendrikon	32.94 149	P	P	06 41 39.8	+0.2	
PTOM	Tomar	33.00 193	*e*P	P	06 41 40.2	+0.1	
	comp=Z,425nm,1.0s						
PTOM	Tomar	33.00 193	*e*P	P	06 41 40.2	+0.1	
	comp=Z,425nm,1.0s						
AKTK	Aktyubinsk	33.02 100	P	P	06 41 39.9	-0.3	
	comp=Z,309nm,1.4s						
AKTO	Aktyubinsk	33.02 100	P	P	06 41 39.9	-0.3	
AKTO			pmax	pmax			
	comp=Z,309nm,1.4s						
AKTO	Aktyubinsk	33.02 100	LR	LR	06 55 08.3		
	comp=Z,28µm,20.2s,baz=172,slow=36						
VSL	Villasalto	33.06 168	*e*P	P	06 41 40.7	+0.1	
	comp=Z,216nm,1.3s						
VSL			*e*PP	PnPn	06 42 49.3	-0.6	
VSL			*e*S	S	06 46 55.0	-4.1	
VSL			LR	LR			
	comp=Z,8µm,19.0s						
VSL	Villasalto	33.06 168	*e*P	P	06 41 40.7	+0.1	
	comp=Z,216nm,1.3s						
GRG	Griva	33.06 149	P	P	06 41 41.4	+0.7	
GRG	Griva	33.06 149	P	P	06 41 41.4	+0.7	
GRG	Griva	33.06 149	*e*P	P	06 41 41.6	+0.9	
GRG	Griva	33.06 149	P	P	06 41 41.4	+0.7	
GRG	Griva	33.06 149	P	P	06 41 41.4	+0.7	
FNA	Florina	33.08 151	P	P	06 41 40.7	-0.1	
FNA	Florina	33.08 151	P	P	06 41 40.7	-0.1	
FNA	Florina	33.08 151	*e*P	P	06 41 41.3	+0.5	
FNA	Florina	33.08 151	P	P	06 41 40.7	-0.1	
FNA	Florina	33.08 151	P	P	06 41 40.7	-0.1	
SRS	Serrai	33.10 148	P	P	06 41 40.8	-0.1	
SRS	Serrai	33.10 148	P	P	06 41 40.8	-0.1	
SRS	Serrai	33.10 148	P	P	06 41 40.8	-0.1	
SRS	Serrai	33.10 148	P	P	06 41 40.8	-0.1	
PMRV	Marv??o	33.12 192	*i* P	P	06 41 41.3	+0.1	
	comp=Z,377nm,1.2s						
PMRV	Marv??o	33.12 192	*e*PP	PP	06 43 01.3	+5.4	
PMRV			*e*S	S	06 47 04.2	+4.1	
PMRV			*e*LR	LR	06 50 12.6		
	comp=Z,6µm,19.0s						
PMRV	Marv??o	33.12 192	*e*S	S	06 47 04.2	+4.1	
	comp=Z,344nm,1.4s						
CUC	Castrocucco	33.13 159	*e*P	P	06 41 40.8	-0.5	
	comp=Z,151nm,1.2s						
CUC			*e*PP	PnPn	06 42 44.8	-6.0	
CUC			LR	LR			
	comp=Z,26µm,22.0s						
CUC	Castrocucco	33.13 159	*e*P	P	06 41 40.8	-0.5	
	comp=Z,151nm,1.2s						
KBN	Korca	33.15 152	P	P	06 41 41.8	+0.3	
KBN	Korca	33.15 152	P	P	06 41 41.8	+0.3	
KBN	Korca	33.15 152	P	P	06 41 41.8	+0.3	
KBN	Korca	33.15 152	P	P	06 41 41.8	+0.3	
PHSR	Pinarhisar	33.29 142	*e*P	P	06 41 43.9	+1.3	
SOH	Sokhos	33.35 148	P	P	06 41 43.5	+0.3	
SOH	Sokhos	33.35 148	P	P	06 41 43.5	+0.3	
SOH	Sokhos	33.35 148	P	P	06 41 43.5	+0.3	
SOH	Sokhos	33.35 148	P	P	06 41 43.5	+0.3	
KAVA	Kavala	33.37 147	P	P	06 41 43.2	-0.1	
KAVA	Kavala	33.37 147	P	P	06 41 43.2	-0.1	
KAVA	Kavala	33.37 147	P	P	06 41 43.2	-0.1	
NEST	Nestorio	33.39 152	P	P	06 41 43.5	-0.1	
NEST	Nestorio	33.39 152	P	P	06 41 43.5	-0.1	
THE	Thessaloniki	33.47 149	P	P	06 41 44.3	+0.2	
THE	Thessaloniki	33.47 149	P	P	06 41 44.3	+0.2	
THE	Thessaloniki	33.47 149	P	P	06 41 44.3	+0.2	
THE	Thessaloniki	33.47 149	P	P	06 41 44.3	+0.2	
ALMR	Almeirim	33.47 193	*e*P	P	06 41 44.7	+0.5	
ALMR			AMb	AMB	06 41 47.7		
	comp=Z,1µm,1.5s						
ALMR	Almeirim	33.47 193	*e*P	P	06 41 44.7	+0.5	
ALMR	Almeirim	33.47 193	*e*P	P	06 41 44.7	+0.5	
HORT	Hortiatis	33.52 149	P	P	06 41 45.1	+0.3	
HORT	Hortiatis	33.52 149	P	P	06 41 45.1	+0.3	
HORT	Hortiatis	33.52 149	P	P	06 41 45.1	+0.3	
PMTG	Montargil	33.53 193	*i* P	P	06 41 44.3	-0.4	
	comp=Z,215nm,1.3s						
PMTG			*e*P	PP	06 42 55.3	-5.1	
CTYL	Yal??k??y-??at	33.59 141	*e*P	P	06 41 46.4	+1.3	
KZN	Kozani	33.60 151	P	P	06 41 44.9	-0.5	
KZN	Kozani	33.60 151	P	P	06 41 44.9	-0.5	
KZN	Kozani	33.60 151	P	P	06 41 44.9	-0.5	
KZN	Kozani	33.60 151	P	P	06 41 44.9	-0.5	
PESTR	Estremoz	33.69 192	*i* P	P	06 41 45.9	-0.3	
	comp=Z,261nm,1.3s						
PESTR			*e*P	PP	06 42 54.1	-8.1	
PMAFR	Mafra	33.73 194	*i* P	P	06 41 46.0	-0.4	
	comp=Z,312nm,1.2s						
PMAFR			*e*P	PP	06 42 54.1	-8.4	
ALN	Alexandroupoli	33.73 145	P	P	06 41 50.1	+3.7	
ALN	Alexandroupoli	33.73 145	P	P	06 41 50.1	+3.7	
ALN	Alexandroupoli	33.73 145	P	P	06 41 50.1	+3.7	
SRN	Sarande	33.77 153	P	P	06 41 46.2	-0.5	
SRN	Sarande	33.77 153	P	P	06 41 46.2	-0.5	
SRN	Sarande	33.77 153	P	P	06 41 46.2	-0.5	
PLG	Polygyros	33.80 148	P	P	06 41 47.6	+0.5	
PLG	Polygyros	33.80 148	P	P	06 41 47.6	+0.5	
PLG	Polygyros	33.80 148	*e*P	P	06 41 48.0	+0.9	
PLG	Polygyros	33.80 148	P	P	06 41 47.6	+0.5	
PLG	Polygyros	33.80 148	P	P	06 41 47.6	+0.5	
SLVT	Silivri	33.81 142	*e*P	P	06 41 48.0	+0.9	
CTKS	Kestanelik-??a	33.86 141	*e*P	P	06 41 48.8	+1.3	
PACT	Alcochete	33.88 194	*i* P	P	06 41 47.1	-0.6	
	comp=Z,322nm,1.3s						
PACT			*e*P	PP	06 42 56.5	-7.7	
KEK	Kerkira	33.90 153	P	P	06 41 46.6	-1.3	
KEK	Kerkira	33.90 153	*e*P	P	06 41 47.8	-0.1	
KEK	Kerkira	33.90 153	P	P	06 41 46.6	-1.3	
KEK	Kerkira	33.90 153	P	P	06 41 46.6	-1.3	
ENEZ	Enez	33.91 145	*e*P	P	06 41 48.7	+0.8	
OUR	Ouranopolis	33.93 148	P	P	06 41 48.2	+0.1	
OUR	Ouranopolis	33.93 148	P	P	06 41 48.2	+0.1	
OUR	Ouranopolis	33.93 148	P	P	06 41 48.2	+0.1	
OUR	Ouranopolis	33.93 148	P	P	06 41 48.2	+0.1	
ELBA	Catalca	33.93 141	*i* Pn	P	06 41 49.6	+1.4	
PMST	Lisbon--Monsan	33.93 194	A	A	06 41 58.3		
	comp=Z,344nm,1.4s						
PMST			*e*P	PP	06 42 54.1	-11	
KLYT	Kilyos	33.95 141	*e*P	P	06 41 49.1	+0.8	
LIS	Lisbon	33.95 194	*e*P	P	06 41 48.8	+0.5	
LIS			AMb	AMB	06 41 52.1		
	comp=Z,260nm,1.0s						
LIS			*e*S	S	06 47 14.6	+1.7	
LIS	Lisbon	33.95 194	*e*P	P	06 41 48.8	+0.5	
LIS			*e*S	S	06 47 14.6	+1.7	
BGKT	Bogazkoy	33.96 141	*e*P	P	06 41 50.0	+1.5	
EVO	Evora	34.05 193	*e*P	P	06 41 47.7	-1.6	
	comp=Z,109nm,1.2s						
EVO			*e*R				
	comp=Z,16µm,19.8s						
EVO	Evora	34.05 193	*i* P	P	06 41 49.1	-0.2	
	comp=Z,53nm,1.9s						
EVO			*e*P	PP	06 42 55.3	-11	
SMTH	Samothraki Isl	34.05 145	P	P	06 41 49.5	+0.2	
SMTH	Samothraki Isl	34.05 145	P	P	06 41 49.5	+0.2	
SMTH	Samothraki Isl	34.05 145	P	P	06 41 49.5	+0.2	
MFT	Murefte	34.06 143	*e*P	P	06 41 50.8	+1.4	
EVOP	Sao Brissos	34.07 193	*e*P	P	06 41 47.7	-1.6	
EVOP	Sao Brissos	34.07 193	*e*P	P	06 41 47.7	-1.6	
EVOP	Sao Brissos	34.07 193	*e*P	P	06 41 47.7	-1.6	
	comp=Z,54nm,1.2s						
JAN	Janina	34.10 152	P	P	06 41 49.9	+0.2	
JAN	Janina	34.10 152	P	P	06 41 49.9	+0.2	
JAN	Janina	34.10 152	P	P	06 41 49.9	+0.2	
JAN	Janina	34.10 152	P	P	06 41 49.9	+0.2	
SOC	Sochi	34.12 126	*e*P	P	06 41 50.4	+0.6	
SOC			*e*S	S	06 47 16.6	+1.2	
SOC			*e*SS	SnSn	06 49 25.5	+3.0	
SOC			*e*		06 52 05.7		
SOC			pmax	pmax			
	comp=Z,101nm,1.1s						
SOC			MLR	MLR			
	comp=Z,19µm,13.0s						
SOC	Sochi	34.12 126	*e*P	P	06 41 50.4	+0.6	
	comp=Z,101nm,1.1s						
SOC			*e*S	S	06 47 16.6	+1.2	
ISK	Istanbul-Kandi	34.13 141	*e*P	P	06 41 51.6	+1.7	
RKY	Sarkoy-Tekirda	34.14 143	*e*P	P	06 41 51.0	+0.9	
IGT	Igoumenitsa	34.15 153	P	P	06 41 49.8	-0.3	
IGT	Igoumenitsa	34.15 153	P	P	06 41 49.8	-0.3	
IGT	Igoumenitsa	34.15 153	P	P	06 41 49.8	-0.3	
IGT	Igoumenitsa	34.15 153	P	P	06 41 49.8	-0.3	
SILT	Sile	34.16 140	*e*P	P	06 41 51.6	+1.4	
PAIG	Paliouri	34.27 148	P	P	06 41 51.5	+0.4	
PAIG	Paliouri	34.27 148	P	P	06 41 51.5	+0.4	
PAIG	Paliouri	34.27 148	P	P	06 41 51.5	+0.4	
PAIG	Paliouri	34.27 148	P	P	06 41 51.5	+0.4	
GELI	Tayfur-Gelibol	34.29 144	*e*P	P	06 41 51.9	+0.6	
BZK	Bozkurt	34.30 134	*e*P	P	06 41 53.1	+1.7	
PBAR	Barrancos	34.35 191	*i* P	P	06 41 51.7	-0.1	
	comp=Z,180nm,1.6s						
PBAR			*e*P	PP	06 43 01.9	-7.5	
BUY	Buyukada	34.35 141	*e*P	P	06 41 53.4	+1.6	
BUY	Buyukada	34.35 141	*e*P	P	06 41 48.8	-3.0	
THL	Klokotos Trika	34.37 151	P	P	06 41 51.6	-0.4	
THL	Klokotos Trika	34.37 151	P	P	06 41 51.6	-0.4	
LPK	Lapseki	34.37 144	*e*P	P	06 41 53.4	+1.4	
KDZE	Karadeniz Ereo	34.37 137	*e*P	P	06 41 53.0	+1.0	
KRBG	Karabiga-Canak	34.45 143	*e*P	P	06 41 52.6	0.0	
HRT	Hereke	34.49 140	*e*P	P	06 41 54.4	+1.3	
BRVK	Borovoye	34.49 86	P	P	06 41 54.0	+1.0	
	comp=Z,179nm,1.0s,SNR=14						
BRVK	Borovoye	34.49 86	*d i*P	P	06 41 53.1	+0.1	
BRVK			pmax	pmax			
	comp=Z,41nm,1.7s						
BRVK			MLR	MLR			
	comp=Z,12µm,24.0s						
BRVK	Borovoye	34.49 86	*e*P	P	06 41 53.5	+0.6	
	comp=Z,114nm,1.6s						
BRVK			*e*PP	PnPn	06 43 00.9	-6.8	
BRVK			*e*PcP	PcP	06 44 28.4	+0.8	
BRVK			LR	LR			
	comp=Z,8µm,22.0s						
BRVK	Borovoye	34.49 86	*i* P	P	06 41 53.1	+0.1	
	comp=Z,12µm,24.0s						
PNCL	Nicolau / Gran	34.51 193	*i* P	P	06 41 53.0	-0.2	
	comp=Z,135nm,1.4s						
KIV	Kislovodsk	34.53 122	*e*P	P	06 41 54.3	+0.9	
KIV			*e*		06 43 09.5		
KIV			*e*S	S	06 47 23.8	+1.9	
KIV			pmax	pmax			
	comp=Z,133nm,1.0s						
KIV			pmax	pmax			
	comp=Z,2µm,4.8s						
KIV			MLR	MLR			
	comp=Z,39µm,15.0s						
KIV	Kislovodsk	34.53 122	P	P	06 41 54.5	+1.1	
	comp=Z,769nm,1.6s,SNR=33						
KIV	Kislovodsk	34.53 122	*e*P	P	06 41 54.3	+0.9	
	comp=Z,2µm,4.8s						
KIV			*e*S	S	06 47 23.8	+1.9	
	comp=Z,39µm,15.0s						
PBEJ	Beja	34.55 192	*e*P	P	06 41 52.8	-0.8	
	comp=Z,256nm,1.3s						
LIA	Limnos Island	34.55 146	P	P	06 41 53.9	+0.4	
LIA	Limnos Island	34.55 146	P	P	06 41 53.9	+0.4	
LIA	Limnos Island	34.55 146	P	P	06 41 53.9	+0.4	
BVA0	Borovoye Array	34.55 86	P	P	06 41 53.7	+0.2	
BVA0			pmax	pmax			
	comp=Z,1µm,4.0s						
BVA0	Borovoye Array	34.55 86	P	P	06 41 53.7	+0.2	
	comp=Z,1µm,4.0s						
BVAR	Borovoye Array	34.55 86	P	P	06 41 53.6	+0.1	
BVAR					06 43 08.1		
BVAR					06 44 28.3		
BVAR	Borovoye Array	34.55 86	P	P	06 41 53.6	+0.1	
BVAR			PP	PnPn	06 43 08.1	-0.4	
BVAR			PcP	PcP	06 44 28.3	+0.5	
BVAR	Borovoye Array	34.55 86	P	P	06 41 53.6	+0.1	
	comp=Z,7.3nm,0.6s,baz=325,slow=7.2,SNR=30						
BVAR			PP	PnPn	06 43 08.1	-0.4	
	comp=Z,11nm,0.6s,baz=339,slow=12,SNR=3.6						
BVAR			PcP	PcP	06 44 28.3	+0.5	
	comp=Z,19nm,0.8s,baz=288,slow=1.4,SNR=5.9						
BVAR			LR	LR	06 57 07.7		
	comp=Z,3µm,19.3s,baz=186,slow=38						
BVAR	Borovoye Array	34.55 86	P	P	06 41 53.6	+0.1	
BVAR	Borovoye Array	34.55 86	PcP	PcP	06 44 28.3	+0.5	
ARMT	Armutlu	34.58 141	*e*P	P	06 41 55.2	+1.4	
AB31	Akbulak array	34.65 99	*i* P	P	06 41 54.6	+0.3	
AB31			pmax	pmax			
	comp=Z,195nm,1.1s						
AB31	Akbulak array	34.65 99	*i* P	P	06 41 54.6	+0.3	
	comp=Z,195nm,1.1s						
ABKAR	Akbulak array	34.65 99	*e*P	P	06 41 54.2	-0.1	
ABKAR			*e*PcP	PcP	06 44 29.1	+0.9	
ABKAR	Akbulak array	34.65 99	*e*P	P	06 41 54.2	-0.1	
YLV	Yalova	34.67 140	*e*P	P	06 41 55.9	+1.2	
SAFT	Safranbolu	34.71 136	*e*P	P	06 41 55.4	+0.5	
CART	Cartagena	34.71 183	*i* P	P	06 41 55.0	+0.1	
CART			*i* S	S	06 47 27.1	+2.5	
XOR	Xorichti	34.74 149	P	P	06 41 54.8	-0.5	
XOR	Xorichti	34.74 149	P	P	06 41 54.8	-0.5	
XOR	Xorichti	34.74 149	P	P	06 41 54.8	-0.5	
SPNC	Sapanca-Adapaz	34.74 139	*e*P	P	06 41 56.9	+1.7	
BOZC	Bozcaada	34.76 145	*e*P	P	06 41 54.4	-1.0	
KCTX	Karacabey (Bur	34.77 142	*e*P	P	06 41 55.8	+0.3	
MDNY	Mudanya-Bursa	34.77 141	*e*P	P	06 41 57.0	+1.6	
KBZ	Khabaz	34.79 122	P	P	06 41 57.3	+1.7	
KBZ	Khabaz	34.79 122	P	P	06 41 57.2	+1.7	
KBZ	Khabaz	34.79 122	P	P	06 41 57.2	+1.7	
	comp=Z,58nm,1.0s,baz=338,slow=9.3,SNR=74						
KBZ			LR	LR	06 56 06.1		
	comp=Z,55µm,18.7s,baz=335,slow=36						
KBZ	Khabaz	34.79 122	P	P	06 41 57.2	+1.7	
NEO	Neokhori	34.81 149	P	P	06 41 55.1	-0.7	
NEO	Neokhori	34.81 149	P	P	06 41 55.1	-0.7	
NEO	Neokhori	34.81 149	P	P	06 41 55.1	-0.7	
EZN	Ezine	34.82 145	*e*P	P	06 41 55.8	-0.1	
CEL	Celeste	34.85 159	*e*P	P	06 41 54.2	-2.0	
	comp=Z,222nm,1.1s						
CEL			LR	LR			
	comp=Z,11µm,20.0s						
CEL	Celeste	34.85 159	*e*P	P	06 41 54.2	-2.0	
	comp=Z,222nm,1.1s						
GONE	Gonen-Balikesi	34.85 143	*e*P	P	06 41 56.5	+0.3	
ADVT	Abdulvahap	34.88 140	*e*P	P	06 41 56.8	+0.4	
DIKM	Dikmen	34.88 132	*e*P	P	06 41 57.9	+1.5	
MAKR	Makrakomi, Fth	34.92 151	P	P	06 41 56.6	-0.2	
MAKR	Makrakomi, Fth	34.92 151	P	P	06 41 56.6	-0.2	
MAKR	Makrakomi, Fth	34.92 151	P	P	06 41 56.6	-0.2	
LKD2	Lefkada island	34.93 153	P	P	06 41 56.5	-0.4	
LKD2	Lefkada island	34.93 153	*e*P	P	06 41 57.5	+0.6	
LKD2	Lefkada island	34.93 153	P	P	06 41 56.5	-0.4	
LKD2	Lefkada island	34.93 153	P	P	06 41 56.5	-0.4	
AGG	Agios Georgios	34.95 150	P	P	06 41 57.0	0.0	
AGG	Agios Georgios	34.95 150	P	P	06 41 57.0	0.0	
AGG	Agios Georgios	34.95 150	*e*P	P	06 41 57.6	+0.6	
AGG	Agios Georgios	34.95 150	P	P	06 41 57.0	0.0	
AGG	Agios Georgios	34.95 150	P	P	06 41 57.0	0.0	
PCVE	Castro Verde	34.95 193	*i* P	P	06 41 57.3	+0.3	
	comp=Z,142nm,1.4s						
EVR	Evrytania	34.97 151	P	P	06 41 58.0	+0.7	
EVR	Evrytania	34.97 151	*e*P	P	06 42 00.3	+3.0	
EVR	Evrytania	34.97 151	P	P	06 41 58.0	+0.7	
EVR	Evrytania	34.97 151	P	P	06 41 58.0	+0.7	
SKIA	Skiathos	34.98 149	P	P	06 41 57.2	-0.1	
SKIA	Skiathos	34.98 149	P	P	06 41 57.2	-0.1	
VOSK	Vostochnaya	35.00 85	P	P	06 41 57.2	-0.1	
VOSK			pmax	pmax			
	comp=Z,789nm,2.5s						
VOSK	Vostochnaya	35.00 85	P	P	06 41 57.2	-0.1	
	comp=Z,789nm,2.5s						
GULT	Gulveren	35.03 139	*e*P	P	06 41 59.5	+1.7	
AOS	Alonnisos	35.05 148	P	P	06 41 58.7	+0.9	
AOS	Alonnisos	35.05 148	P	P	06 41 58.7	+0.9	
AOS	Alonnisos	35.05 148	P	P	06 41 58.7	+0.9	
PTEO	Sao Teotonio	35.09 193	*e*P	P	06 41 58.1	-0.1	
	comp=Z,200nm,1.7s						
PTEO	Sao Teotonio	35.09 193	*e*P	P	06 41 58.1	-0.1	
	comp=Z,200nm,1.7s						
ILGA	Ilgaz	35.11 135	*i* Pn	P	06 42 00.8	+2.1	
CAVI	Cavuskoy	35.12 140	*e*P	P	06 42 00.2	+1.7	
MDUB	Mudurnu	35.13 138	*e*P	P	06 41 59.9	+1.2	
BALY	Balya	35.14 143	*i* Pn	P	06 41 59.9	+1.2	
PVAQ	Vaqueiros	35.16 192	*i* P	P	06 41 58.6	-0.2	
	comp=Z,133nm,1.6s						
PVAQ			*e*S	S	06 47 38.5	+7.0	
PVAQ			*e*LR	LR	06 51 46.7		
	comp=Z,11µm,19.0s						
TOS	Tosya	35.19 134	*e*P	P	06 42 01.9	+2.6	
SMIA	Simia	35.22 149	P	P	06 41 58.8	-0.6	
SMIA	Simia	35.22 149	P	P	06 41 58.8	-0.6	
AXAR	Agios Charalam	35.25 150	P	P	06 41 59.5	-0.1	
AXAR	Agios Charalam	35.25 150	P	P	06 41 59.5	-0.1	
AXAR	Agios Charalam	35.25 150	P	P	06 41 59.5	-0.1	
BALB	Balikesir	35.28 143	*e*P	P	06 42 01.2	+1.4	
MORF	Marmelete	35.32 193	*e*P	P	06 42 00.5	+0.2	
MORF			*e*S	S	06 47 35.1	+1.0	
MORF	Marmelete	35.32 193	*i* P	P	06 41 59.6	-0.7	
	comp=Z,128nm,1.7s						
MORF	Marmelete	35.32 193	*e*P	P	06 42 00.5	+0.2	
MORF			*e*S	S	06 47 35.1	+1.0	
PBDV	Barranco-do-Ve	35.33 192	*i* P	P	06 42 00.6	+0.3	
	comp=Z,221nm,1.5s						
SIGR	SIGRI	35.34 146	P	P	06 42 00.5	+0.2	
SIGR	SIGRI	35.34 146	P	P	06 42 00.5	+0.2	
SIGR	SIGRI	35.34 146	P	P	06 42 00.5	+0.2	
ATAL	Atalanti	35.38 149	P	P	06 41 58.9	-1.8	
ATAL	Atalanti	35.38 149	P	P	06 41 58.9	-1.8	
ATAL	Atalanti	35.38 149	P	P	06 41 58.9	-1.8	
PRK	Paraskevi	35.38 145	P	P	06 42 00.9	+0.2	
PRK	Paraskevi	35.38 145	P	P	06 42 00.9	+0.2	
PRK	Paraskevi	35.38 145	P	P	06 42 00.9	+0.2	
PRK	Paraskevi	35.38 145	P	P	06 42 00.9	+0.2	
DURS	Dursunbey	35.44 142	*i* Pn	P	06 42 02.9	+1.6	
MRKA	Markates	35.45 149	P	P	06 42 00.4	-1.0	
MRKA	Markates	35.45 149	P	P	06 42 00.4	-1.0	
EFP	Efpalio	35.47 151	P	P	06 42 02.2	+0.8	
EFP	Efpalio	35.47 151	*e*P	P	06 41 59.2	-2.2	
EFP	Efpalio	35.47 151	P	P	06 42 02.2	+0.8	
PFVI	Vila Bisbo	35.50 194	*i* P	P	06 42 01.7	-0.1	
	comp=Z,142nm,1.3s						
VLS	Valsamata	35.52 153	P	P	06 42 00.7	-1.3	
VLS	Valsamata	35.52 153	P	P	06 42 00.7	-1.3	
VLS	Valsamata	35.52 153	*e*P	P	06 42 02.0	0.0	
VLS	Valsamata	35.52 153	P	P	06 42 00.7	-1.3	
VLS	Valsamata	35.52 153	P	P	06 42 00.7	-1.3	
LIJA	Lijar	35.52 189	*i* P	P	06 42 03.5	+1.4	
HAVZ	Havza	35.53 132	*i* Pn	P	06 42 04.3	+2.2	
KALE	Kalithea	35.54 151	P	P	06 42 01.8	-0.3	
KALE	Kalithea	35.54 151	*e*P	P	06 42 03.3	+1.2	
KALE	Kalithea	35.54 151	P	P	06 42 01.8	-0.3	
KALE	Kalithea	35.54 151	P	P	06 42 01.8	-0.3	
BORA	Eskisehir	35.55 139	*i* Pn	P

CASM	Ain Smara	36.13	172	P	P	06 42 06.4 -0.9
ACOR	Acrocorinthos	36.14	150	P	P	06 42 07.9 +0.6
ACOR	Acrocorinthos	36.14	150	P	P	06 42 07.9 +0.6
PTL	Penteli	36.14	149	P	P	06 42 06.5 -0.8
PTL	Penteli	36.14	149	P	P	06 42 06.5 -0.8
PTL	Penteli	36.14	149	P	P	06 42 06.5 -0.8
CORM	Corum	36.15	134	eP	P	06 42 09.6 +2.1
ERBA	Erbaa	36.15	131	i Pn	P	06 42 09.5 +2.1
SET	Setif	36.15	174	P	P	06 42 10.0 +2.5
SET	Setif	36.15	174	P	P	06 42 10.0 +2.5
CHOS	Chios island	36.17	146	P	P	06 42 07.6 0.0
CHOS	Chios island	36.17	146	P	P	06 42 07.6 0.0
CHOS	Chios island	36.17	146	P	P	06 42 07.6 0.0
SVRH	Sivrihisar-ESK	36.19	138	eP	P	06 42 08.5 +0.8
ATH	Athens Observa	36.19	149	P	P	06 42 07.9 +0.3
ATH	Athens Observa	36.19	149	P	P	06 42 07.9 +0.3
ATH	Athens Observa	36.19	149	eP	P	06 42 00.6 -7.0
ATH	Athens Observa	36.19	149	P	P	06 42 07.9 +0.3
ATH	Athens Observa	36.19	149	P	P	06 42 07.9 +0.3
ATHU	Athens Univers	36.21	149	P	P	06 42 08.3 +0.5
ATHU	Athens Univers	36.21	149	P	P	06 42 08.3 +0.5
ATHU	Athens Univers	36.21	149	P	P	06 42 08.3 +0.5
MRMA	Marmari	36.21	148	P	P	06 42 09.1 +1.2
MRMA	Marmari	36.21	148	P	P	06 42 09.1 +1.2
PGRA	Graciosa	36.26	220	eP	P	06 42 10.8 +2.5
	comp=Z,394nm,1.4s					
PGRA	Graciosa	36.26	220	eP	P	06 42 10.8 +2.5
	comp=Z,394nm,1.4s					
URLA	Izmir	36.30	145	i Pn	P	06 42 09.8 +1.2
AMT	Artemida-Makis	36.31	152	P	P	06 42 08.7 -0.1
AMT	Artemida-Makis	36.31	152	P	P	06 42 08.7 -0.1
EANR	'Ain N'Sour	36.33	180	P	P	06 42 10.5 +1.5
EANR	'Ain N'Sour	36.33	180	P	P	06 42 10.5 +1.5
BR131	Keskin Array S	36.36	135	eP	P	06 42 10.5 +1.2
	comp=Z,34nm,0.9s					
BR131	Keskin Array S	36.36	135	eP	P	06 42 10.5 +1.2
	comp=Z,34nm,0.9s					
GUDG	Gudauri	36.39	121	P	P	06 42 11.0 +1.4
GUDG	Gudauri	36.39	121	P	P	06 42 11.0 +1.4
ESPY	Espiye-Giresun	36.39	129	eP	P	06 42 09.8 +0.4
BBAL	Bala	36.43	136	i Pn	P	06 42 12.1 +2.2
AFSR	Af´ar-Bala (A	36.51	136	eP	P	06 42 12.5 +2.0
KULA	Kula-Manisa	36.52	142	eP	P	06 42 11.9 +1.3
RSDY	Resadiye-TOKAT	36.55	130	eP	P	06 42 13.3 +2.5
INK	Inuvik	36.55	334	eP	P	06 42 09.1 -1.4
	comp=Z,563nm,1.3s					
INK				ePP	PnPn	06 43 30.7 -2.2
INK				ePcP	PcP	06 44 33.9 +0.5
INK				eS	S	06 47 53.3 +1.0
INK	Inuvik	36.55	334	eP	P	06 42 09.1 -1.4
	comp=Z,563nm,1.3s					
DID	Didima	36.57	150	P	P	06 42 10.0 -1.0
DID	Didima	36.57	150	P	P	06 42 10.0 -1.0
DID	Didima	36.57	150	P	P	06 42 10.0 -1.0
VLX	Vlachokerasia	36.57	151	P	P	06 42 11.6 +0.5
VLX	Vlachokerasia	36.57	151	P	P	06 42 11.6 +0.5
VLX	Vlachokerasia	36.57	151	P	P	06 42 11.6 +0.5
DIDY	Didyma	36.60	150	P	P	06 42 11.6 +0.3
DIDY	Didyma	36.60	150	P	P	06 42 11.6 +0.3
BCA	Borcka	36.61	125	eP	P	06 42 11.5 +0.3
ROSA	Rosais	36.61	220	eP	P	06 42 14.5 +3.2
	comp=Z,694nm,1.4s					
CDAG	Cicekdag	36.62	135	i Pn	P	06 42 13.3 +1.9
PMAN	Manadas	36.66	220	eP	P	06 42 13.8 +2.1
	comp=Z,510nm,1.9s					
PMAN	Manadas	36.66	220	eP	P	06 42 13.8 +2.1
	comp=Z,510nm,1.9s					
PZAR	Pazar-Rize	36.68	126	eP	P	06 42 13.3 +1.6
ITM	Ithomi	36.69	151	P	P	06 42 11.9 -0.1
ITM	Ithomi	36.69	151	eP	P	06 42 09.9 -2.1
ITM	Ithomi	36.69	151	P	P	06 42 11.9 -0.1
ITM	Ithomi	36.69	151	P	P	06 42 11.9 -0.1
DBOC	Borcka	36.71	125	i Pn	P	06 42 13.1 +0.9
MAK	Makhachkala	36.74	117	eP	P	06 42 12.8 +0.5
MAK				e		06 43 39.8
MAK				e		06 44 30.0
MAK				eS	S	06 47 57.1 +1.5
MAK				eSS	SnSn	06 50 27.4 +1.4
MAK				e		06 52 31.9
MAK				pmax	pmax	
	comp=Z,497nm,2.3s					
MAK				MLR	MLR	
	comp=Z,24μm,14.0s					
MAK	Makhachkala	36.74	117	eP	P	06 42 12.8 +0.5
	comp=Z,497nm,2.3s					
MAK				eS	S	06 47 57.1 +1.5
MAK				eScS	ScS	06 52 31.9 +4.5
	comp=Z,24μm,14.0s					
BOLV	Bolvadin	36.77	139	i Pn	P	06 42 14.2 +1.4
DUS	Dusheti	36.80	121	P	P	06 42 15.2 +2.3
DUS	Dusheti	36.80	121	P	P	06 42 15.2 +2.3
KEST	Kesra	36.80	169	eP	P	06 42 13.4 +0.4
KEST				ePP	PP	06 43 42.4 +5.8
KEST	Kesra	36.80	169	P	P	06 42 13.5 +0.4
	comp=Z,5.8nm,0.8s,baz=9.9,slow=4.0,SNR=15					
KEST				LR	LR	06 58 33.2
	comp=Z,4μm,18.6s,baz=312,slow=38					
KEST	Kesra	36.80	169	eP	P	06 42 13.4 +0.4
KIZT	Kizilcal	36.80	138	eP	P	06 42 15.1 +2.1
KHAL	Karahalli	36.82	141	i Pn	P	06 42 14.6 +1.5
SHUT	Suhut-Afyon	36.85	140	eP	P	06 42 14.3 +0.8
NVS	Novosibirsk	36.86	73	⇓iP	P	06 42 13.1 -0.1
NVS				eS	S	06 48 01.4 +4.2
NVS				eSS	ScS	06 52 26.1 -1.6
NVS				pmax	pmax	
	comp=N,124nm,1.4s					
NVS				pmax	pmax	
	comp=Z,333nm,1.4s					
NVS				pmax	pmax	
	comp=E,54nm,1.7s					
NVS				pmax	pmax	
	comp=N,137nm,2.6s					
NVS				pmax	pmax	
	comp=E,82nm,2.6s					
NVS				pmax	pmax	
	comp=Z,202nm,2.6s					
NVS				smax	smax	
	comp=N,199nm,3.4s					
NVS				smax	smax	
	comp=E,88nm,2.4s					
NVS	Novosibirsk	36.86	73	i P	P	06 42 13.1 -0.1
	comp=E,199nm,3.4s					
KHL	Karahalli	36.87	141	eP	P	06 42 15.1 +1.5
ETRT	Tiaret	36.89	180	P	P	06 42 15.0 +1.2
ETRT	Tiaret	36.89	180	P	P	06 42 15.0 +1.2
ARTV	Artvin	36.93	125	i Pn	P	06 42 15.6 +1.4
SVSK	Karacayir	36.93	131	eP	P	06 42 15.1 +1.2
DKH	Dar Kharkhour	36.94	189	i P	P	06 42 17.0 +2.8
SUSE	Susehri	36.94	130	i Pn	P	06 42 16.7 +2.5
PYL	PYLOS	36.94	152	P	P	06 42 12.5 -1.6
PYL	PYLOS	36.94	152	eP	P	06 42 13.9 -0.2
PYL	PYLOS	36.94	152	P	P	06 42 12.5 -1.6
PYL	PYLOS	36.94	152	P	P	06 42 12.5 -1.6
SMG	Samos	36.97	145	P	P	06 42 13.9 -0.5
SMG	Samos	36.97	145	P	P	06 42 13.9 -0.5
SMG	Samos	36.97	145	P	P	06 42 13.9 -0.5
PSET	Sete Cidades	37.00	216	eP	P	06 42 16.5 +1.9
	comp=E,472nm,1.3s					
PSET	Sete Cidades	37.00	216	eP	P	06 42 16.5 +1.9
	comp=E,472nm,1.3s					
CMLA	Cha da Macela	37.02	216	eP	P	06 42 16.0 +1.2
	comp=E,263nm,1.5s					
CMLA	Cha da Macela	37.02	216	PFAKE		06 42 30.0 +15
CMLA				LR	LR	
	comp=Z,5μm,21.0s					
CMLA	Cha da Macela	37.02	216	eP	P	06 42 16.0 +1.2
	comp=Z,263nm,1.5s					
DAGI	Agillar	37.02	125	i Pn	P	06 42 16.7 +1.8
MELI	Melilla	37.04	185	i P	P	06 42 14.3 -0.6
MELI				i S	S	06 48 00.1 -0.2
GCAM	G?zelcaml?	37.05	144	i Pn	P	06 42 16.0 +1.0
FCC	Fort Churchill	37.05	301	eP	P	06 42 13.6 -1.2
FCC				pmax	pmax	
	comp=Z,5.0nm,1.3s					
FCC	Fort Churchill	37.05	301	eP	P	06 42 13.6 -1.2
	comp=Z,5.2nm,1.3s					
FCC	Fort Churchill	37.05	301	eP	P	06 42 13.6 -1.2
	comp=Z,5.0nm,1.3s					
WDD	Wield Dalam	37.08	162	PFAKE		06 42 30.0 +15
WDD				LR	LR	
	comp=Z,23μm,21.0s					
AKH	Akhalkalaki	37.12	123	P	P	06 42 17.9 +2.1
AKH				S	S	06 48 04.7 +2.9
AKH	Akhalkalaki	37.12	123	P	P	06 42 17.9 +2.1
AKH				S	S	06 48 04.7 +2.9
MPAL	Palemas	37.14	187	i P	P	06 42 16.0 +0.2
TBLG	Delisi	37.14	121	P	P	06 42 17.8 +2.0
TBLG				S	S	06 48 06.9 +5.0
TBLG	Delisi	37.14	121	P	P	06 42 17.8 +2.0
TBLG				S	S	06 48 06.9 +5.0
TBLG	Delisi	37.14	121	P	P	06 42 17.8 +2.0
DDEM	Demirkent	37.16	125	i Pn	P	06 42 17.6 +1.6
DYR	Agios Nikonas	37.16	151	P	P	06 42 15.3 -0.7
DYR	Agios Nikonas	37.16	151	eP	P	06 42 16.7 +0.7
DYR	Agios Nikonas	37.16	151	P	P	06 42 15.3 -0.7
AYDN	Tasoluk	37.21	144	i Pn	P	06 42 17.5 +1.1
BAYT	Ayd¯–ntepe-Bay	37.23	127	eP	P	06 42 18.6 +1.9
KELT	Kelkit	37.25	128	eP	P	06 42 18.1 +1.2
KELT	Kelkit	37.25	128	eP	P	06 42 18.1 +1.2
VLI	Veliai	37.30	150	P	P	06 42 15.8 -1.3
VLI	Veliai	37.30	150	eP	P	06 42 17.2 +0.1
VLI	Veliai	37.30	150	P	P	06 42 15.8 -1.3
VLI	Veliai	37.30	150	P	P	06 42 15.8 -1.3
ZAI	Zaio	37.36	185	i P	P	06 42 18.0 +0.3
APE	Apeiranthos	37.37	147	eP	P	06 42 18.9 +1.1
APE	Apeiranthos	37.37	147	P	P	06 42 16.4 -1.4
APE	Apeiranthos	37.37	147	⇑P	P	06 42 18.9 +1.1
APE	Apeiranthos	37.37	147	eP	P	06 42 18.2 +0.4
APE	Apeiranthos	37.37	147	⇑iP	P	06 42 18.9 +1.1
APE	Apeiranthos	37.37	147	P	P	06 42 16.4 -1.4
APE	Apeiranthos	37.37	147	P	P	06 42 16.4 -1.4
KZR	Kazreti	37.38	122	P	P	06 42 20.0 +2.1
KZR	Kazreti	37.38	122	P	P	06 42 20.0 +2.1
DNZL	Cakiroluk	37.40	142	i Pn	P	06 42 19.4 +1.2
MLSB	Milas	37.54	144	eP	P	06 42 21.1 +1.9
ISP	Isparta	37.55	140	eP	P	06 42 19.9 +0.5
ISP	Isparta	37.55	140	P	P	06 42 20.1 +0.7
ISP	Isparta	37.55	140	⇑P	P	06 42 21.1 +1.7
ISP	Isparta	37.55	140	⇑iP	P	06 42 21.1 +1.7
ISP	Isparta	37.55	140	eP	P	06 42 19.2 -0.2
ISP				ePP	PP	06 43 42.6 -2.2
ISP				eS	S	06 48 09.5 +1.2
ISP				LR	LR	
	comp=Z,13μm,19.0s					
ISP	Isparta	37.55	140	eP	P	06 42 19.2 -0.2
LADK	Ladik-KONYA	37.56	138	eP	P	06 42 20.7 +1.2
RSA	Sarsar	37.57	189	eP	P	06 42 20.0 +0.5
KOPT	Kop Dagi	37.67	127	eP	P	06 42 23.5 +2.9
KOPT	Kop Dagi	37.67	127	eP	P	06 42 23.5 +2.9
PSMN	Pico do Norte,	37.68	215	eP	P	06 42 22.2 +1.8
	comp=Z,186nm,1.3s					
PSMN	Pico do Norte,	37.68	215	eP	P	06 42 22.2 +1.8
	comp=Z,186nm,1.3s					
BNN	Bunyan	37.69	133	eP	P	06 42 22.9 +2.3
BODT	Bodrum	37.69	144	eP	P	06 42 18.7 -1.7
BDRM	Kayabasi	37.71	144	eP	P	06 42 20.8 +0.2
BDRM	Kayabasi	37.71	144	eP	P	06 42 20.8 +0.2
ILIC	ilic-Erzincan	37.74	129	eP	P	06 42 23.6 +2.6
YER	Yerkesik	37.79	143	eP	P	06 42 21.8 +0.4
SULT	Sultanhani-AKS	37.80	136	eP	P	06 42 23.6 +2.1
KONT	Konya--Tatoy	37.80	138	eP	P	06 42 22.9 +1.4
ERZN	Erzincan	37.89	128	eP	P	06 42 24.9 +2.6
KEMA	Kemaliye	37.90	130	i Pn	P	06 42 24.3 +2.0
BCK	Bucak	37.91	140	eP	P	06 42 23.6 +1.2
GOLH	Golhisar	37.93	142	eP	P	06 42 23.9 +1.3
GOLH	Golhisar	37.93	142	eP	P	06 42 23.9 +1.3
PINB	Pinarbasi	37.98	132	i Pn	P	06 42 25.4 +2.2
SUTC	Sutluce-Ispart	37.98	140	eP	P	06 42 25.2 +2.2
EZM	Erzurum	37.99	126	eP	P	06 42 23.0 -0.3
HOMI	Horasan	38.00	125	i Pn	P	06 42 25.5 +2.2
SANT	Santorini	38.04	147	eP	P	06 42 22.5 -0.9
	comp=Z,245nm,1.2s					
SANT				ePP	PnPn	06 43 51.2 -0.3
SANT				LR	LR	
	comp=Z,7μm,19.0s					
SANT	Santorini	38.04	147	eP	P	06 42 22.5 -0.9
	comp=Z,245nm,1.2s					
DAT	Datca	38.06	144	eP	P	06 42 25.2 +1.5
ZAA0	Zalesovo Array	38.10	72	eP	P	06 42 23.4 -0.3
ZAA0				ePP	PnPn	06 43 52.5 +0.6
ZAA0	Zalesovo Array	38.10	72	eP	P	06 42 23.4 -0.3
ZALV	Zalesovo Beam	38.10	72	P	P	06 42 23.5 -0.2
ZALV						06 43 52.0
ZALV						06 44 38.9
ZALV	Zalesovo Beam	38.10	72	P	P	06 42 23.5 -0.2
ZALV				PP	PnPn	06 43 52.0 +0.1
ZALV				PcP	PcP	06 44 38.9 +0.5
ZALV				PKiKP	PKiKP	06 51 51.0 -1.9
ZALV	Zalesovo Beam	38.10	72	P	P	06 42 23.5 -0.2
	comp=Z,25nm,0.8s,baz=331,slow=7.9,SNR=30					
ZALV				PP	PnPn	06 43 52.0 +0.1
	comp=Z,61nm,1.0s,baz=330,slow=8.3,SNR=4.3					
ZALV				PcP	PcP	06 44 38.9 +0.5
	comp=Z,16nm,0.9s,baz=330,slow=4.6,SNR=2.3					
ZALV				PKiKP	PKiKP	06 51 51.0 -1.9
	comp=Z,2.1nm,0.8s,baz=306,slow=3.4,SNR=3.8					
ZALV				LR	LR	07 01 42.3
	comp=Z,5μm,18.1s,baz=67,slow=42					
ZALV	Zalesovo Beam	38.10	72	P	P	06 42 23.5 -0.2
TURN	Turunc	38.10	143	eP	P	06 42 24.9 +1.0
TURN	Turunc	38.10	143	eP	P	06 42 24.9 +1.0
NIS1	Nisyros Isl.	38.11	145	P	P	06 42 23.9 -0.1
NIS1	Nisyros Isl.	38.11	145	P	P	06 42 23.9 -0.1
NIS1	Nisyros Isl.	38.11	145	P	P	06 42 23.9 -0.1
NIG	Nigde	38.12	135	eP	P	06 42 26.0 +1.6
DALY	Dalyan (Mu¯la	38.17	143	eP	P	06 42 25.9 +1.5
ANKY	Antikythira Is	38.19	150	P	P	06 42 25.8 +1.2
ANKY	Antikythira Is	38.19	150	P	P	06 42 25.8 +1.2
ANKY	Antikythira Is	38.19	150	P	P	06 42 25.8 +1.2
SEKA	Sheki	38.29	118	⇑P	P	06 42 26.2 +0.7
	SNR=24					
SEKA	Sheki	38.29	118	⇑P	P	06 42 26.2 +0.7
	SNR=24					
SEKA	Sheki	38.29	118	⇑P	P	06 42 26.2 +0.7
	SNR=24					
SEKA	Sheki	38.29	118	P	P	06 42 26.2 +0.7
	SNR=24					
KORT	Korkueli	38.31	141	i Pn	P	06 42 27.3 +1.4
DARE	Darende-Malaty	38.33	131	eP	P	06 42 27.9 +2.0
TGT	Taghat	38.34	188	i P	P	06 42 25.0 -1.0
FETY	Fethiye	38.42	142	eP	P	06 42 27.8 +1.1
PTK	Pertek	38.47	129	eP	P	06 42 29.8 +2.6
ELL	Elmali	38.47	141	eP	P	06 42 29.0 +1.8
QUBA	Quba, Azerbaij	38.50	117	⇓P	P	06 42 28.4 +1.1
	SNR=16					
QUBA	Quba, Azerbaij	38.50	117	⇓P	P	06 42 28.4 +1.1
	SNR=16					
QUBA	Quba, Azerbaij	38.50	117	⇓P	P	06 42 28.4 +1.1
	SNR=16					
QUBA	Quba, Azerbaij	38.50	117	P	P	06 42 28.4 +1.1
	SNR=16					
RTC	Rabat Centre	38.51	190	eP	P	06 42 27.3 0.0
RTC				ePP	PP	06 43 56.1 +0.9
RTC				LR	LR	
	comp=Z,4μm,20.0s					
RTC	Rabat Centre	38.51	190	eP	P	06 42 27.3 0.0
YKW3	Yellowknife Ar	38.57	318	eP	P	06 42 26.3 -1.3
	comp=Z,7.5nm,1.2s					
YKW3				ePcP	PcP	06 44 38.8 -0.9
YKW3	Yellowknife Ar	38.57	318	eP	P	06 42 26.3 -1.3
	comp=Z,7.5nm,1.2s					
GANJ	Ganja	38.58	120	⇑P	P	06 42 28.2 +0.2
	SNR=39					
GANJ	Ganja	38.58	120	⇑P	P	06 42 28.2 +0.2
	SNR=39					
GANJ				⇑S	S	06 48 23.6 0.0
GANJ	Ganja	38.58	120	⇑P	P	06 42 28.2 +0.2
	SNR=39					
GANJ	Ganja	38.58	120	P	P	06 42 28.2 +0.2
	SNR=39					
GANJ				S	S	06 48 23.6 0.0
KRAR	Krasnoyarsk	38.60	64	⇓iP	P	06 42 29.8 +1.9
KRAR				pmax	pmax	
	comp=Z,103nm,1.0s					
KRAR				MLR	MLR	
	comp=Z,6μm,21.0s					
KRAR	Krasnoyarsk	38.60	64	i P	P	06 42 29.8 +1.9
	comp=Z,6μm,21.0s					
GNI	Garni	38.62	122	eP	P	06 42 30.0 +1.6
GNI	Garni	38.62	122	eP	P	06 42 30.1 +1.6
	comp=Z,551nm,1.5s					
GNI				ePP	PnPn	06 43 58.5 -0.2
GNI				LR	LR	
	comp=Z,29μm,19.0s					
GNI	Garni	38.62	122	i P	P	06 42 29.9 +1.4
	comp=Z,36μm,23.0s					
YKA	Yellowknife Ar	38.63	318	P	P	06 42 26.9 -1.1
YKA				PcP	PcP	06 44 39.8 -0.1
YKA	Yellowknife Ar	38.63	318	P	P	06 42 26.9 -1.1
	comp=Z,278nm,1.1s,baz=23,slow=7.9,SNR=92					
YKA				PcP	PcP	06 44 39.8 -0.1
	comp=Z,14nm,0.9s,baz=17,slow=2.9,SNR=8.7					
YKA	Yellowknife Ar	38.63	318	P	P	06 42 26.9 -1.1
ARG	Arkhangelos	38.66	144	P	P	06 42 27.4 -1.2
ARG	Arkhangelos	38.66	144	P	P	06 42 27.4 -1.2
ARG	Arkhangelos	38.66	144	P	P	06 42 27.4 -1.2
ARG	Arkhangelos	38.66	144	P	P	06 42 27.4 -1.2
BNGB	Bing¨ll	38.69	127	eP	P	06 42 32.4 +3.5
AGRB	Hanur-Agry	38.71	124	eP	P	06 42 31.3 +2.0
HDMB	Hadim	38.78	138	eP	P	06 42 31.6 +1.8
VAM	Vamos	38.78	149	P	P	06 42 29.9 +0.3
VAM	Vamos	38.78	149	P	P	06 42 29.9 +0.3
VAM	Vamos	38.78	149	eP	P	06 42 42.6 +13
VAM	Vamos	38.78	149	P	P	06 42 29.9 +0.3
VAM	Vamos	38.78	149	P	P	06 42 29.9 +0.3
MALT	Malatya	38.79	130	⇑P	P	06 42 31.6 +1.8
MALT	Malatya	38.79	130	⇑iP	P	06 42 31.6 +1.8
MALT	Malatya	38.79	130	P	P	06 42 31.6 +1.8
TUTA	Tutak	38.83	124	i Pn	P	06 42 32.2 +1.9
BNGL	BINGOL	38.84	127	i Pn	P	06 42 33.0 +2.6
SIZA	Siyzn	38.87	117	P	P	06 42 32.2 +1.8
	SNR=15					
SIZA	Siyzn	38.87	117	P	P	06 42 32.2 +1.8
	SNR=15					
SIZA				⇓S	S	06 48 29.4 +1.2
SIZA	Siyzn	38.87	117	P	P	06 42 32.2 +1.8
	SNR=15					
SIZA	Siyzn	38.87	117	P	P	06 42 32.2 +1.8
	SNR=15					
SIZA				S	S	06 48 29.4 +1.2
AKAS	Kas	38.91	142	i Pn	P	06 42 32.1 +1.2
DYDN	Diyadin	38.92	123	eP	P	06 42 32.9 +1.8
DYDN	Diyadin	38.92	123	eP	P	06 42 32.9 +1.8
IML	Ismayilli	38.94	118	P	P	06 42 31.8 +0.8
	SNR=28					
IML	Ismayilli	38.94	118	P	P	06 42 31.8 +0.8
	SNR=28					
IML				⇓S	S	06 48 26.3 -2.9
IML	Ismayilli	38.94	118	P	P	06 42 31.8 +0.8
	SNR=28					
IML	Ismayilli	38.94	118	P	P	06 42 31.8 +0.8
	SNR=28					
GULE	Gulek	38.95	135	i Pn	P	06 42 32.9 +1.6
KOZT	Kozan	38.99	134	eP	P	06 42 34.4 +2.9
IDI	Anoyia	39.00	148	P	P	06 42 29.3 -2.3
IDI	Anoyia	39.00	148	eP	P	06 42 29.0 -2.6
IDI				ePP	PP	06 44 00.4 -0.4
ANDN	Andirin	39.02	133	i Pn	P	06 42 33.5 +1.8
KARA	Karaisali	39.03	135	eP	P	06 42 34.4 +2.7
PQL	Pirkuli	39.06	117	⇑P	P	06 42 32.8 +0.7
	SNR=26					
PQL	Pirkuli	39.06	117	⇑P	P	06 42 32.8 +0.7
	SNR=26					
PQL				⇑S	S	06 48 29.1 -2.1
PQL	Pirkuli	39.06	117	⇑P	P	06 42 32.8 +0.7
	SNR=26					
PQL	Pirkuli	39.06	117	P	P	06 42 32.8 +0.7
	SNR=26					
KURK	Kurchatov	39.08	80	P	P	06 42 32.1 +0.1
KURK						06 44 03.1
KURK						06 44 41.9
KURK	Kurchatov	39.08	80	P	P	06 42 32.1 +0.1
KURK				PP	PnPn	06 44 03.0 -0.7
KURK				PcP	PcP	06 44 41.9 +0.4
KURK	Kurchatov	39.08	80	P	P	06 42 32.1 +0.1
KARP	Karpathos	39.13	145	P	P	06 42 31.7 -0.9
KARP	Karpathos	39.13	145	P	P	06 42 31.7 -0.9
KARP	Karpathos	39.13	145	P	P	06 42 31.7 -0.9
KURBB	Kurchatov Arra	39.13	80	P	P	06 42 32.1 -0.3
	comp=Z,22nm,0.8s,baz=335,slow=7.2,SNR=51					
KURBB				PP	PP	06 44 03.0 +1.2
	comp=Z,22nm,1.1s,baz=333,slow=9.1,SNR=7.8					
KURBB				PcP	PcP	06 44 41.9 +0.2
	comp=Z,12nm,0.7s,baz=327,slow=3.3,SNR=9.6					
NPS	Neapolis	39.15	147	P	P	06 42 31.5 -1.2
NPS	Neapolis	39.15	147	P	P	06 42 31.5 -1.2
NPS	Neapolis	39.15	147	P	P	06 42 31.5 -1.2
NPS	Neapolis	39.15	147	P	P	06 42 31.5 -1.2
BRDA	Brd	39.16	119	P	P	06 42 35.0 +2.2
	SNR=33					
BRDA				⇑S	S	06 48 37.2 +4.8
BRDA	Brd	39.16	119	P	P	06 42 35.0 +2.2
	SNR=33					
ERMK	Ermenek	39.17	138	i Pn	P	06 42 34.0 +0.9
LAST	Lasithi	39.22	147	P	P	06 42 31.8 -1.6
LAST	Lasithi	39.22	147	P	P	06 42 31.8 -1.6
LAST	Lasithi	39.22	147	P	P	06 42 31.8 -1.6
SIVA	Sivas	39.26	148	P	P	06 42 40.0 +6.4
SIVA	Sivas	39.26	148	P	P	06 42 40.0 +6.4
AYKD	Aykdinkavak	39.28	133	i Pn	P	06 42 35.8 +1.9
CLDR	Caldiran	39.36	123	eP	P	06 42 36.2 +1.5
ZKR	Zakros	39.39	147	P	P	06 42 33.1 -1.7
ZKR	Zakros	39.39	147	P	P	06 42 33.1 -1.7
ZKR	Zakros	39.39	147	P	P	06 42 33.1 -1.7
CEYT	Ceyhan	39.43	134	eP	P	06 42 36.7 +1.7
GAZI	Gazipasa	39.45	139	i Pn	P	06 42 34.8 -0.4
COLD	Coldfoot	39.49	343	eP	P	06 42 34.8 -0.5
	comp=Z,178nm,1.4s					
COLD				ePcP	PcP	06 44 44.9 +2.4
COLD	Coldfoot	39.49	343	eP	P	06 42 34.8 -0.5
	comp=Z,178nm,1.4s					
TATV	Tatvan	39.54	126	i Pn	P	06 42 38.4 +2.2
MDT	Midelt	39.56	187	P	P	06 42 35.8 -0.6
MDT				PcP	PcP	06 44 43.5 0.0
MDT	Midelt	39.56	187	P	P	06 42 35.8 -0.6
	comp=Z,20nm,1.0s,baz=24,slow=9.5,SNR=24					
MDT				PcP

SNR=36
LMSR eS S 06 48 55.7 +1.0
SNR=37
GHAR Gharyan 40.66 164 eP P 06 42 46.6 +1.2
SNR=36
GHAR eS S 06 48 57.4 +2.3
SNR=37
HAKT HAKKARI 40.80 124 i Pn P 06 42 48.8 +2.1
CSS Prodhromos 40.88 138 eP P 06 42 47.0 -0.2
CSS Prodhromos 40.88 138 P P 06 42 46.8 -0.3
CSS Prodhromos 40.88 138 eP P 06 42 46.9 -0.3
comp=Z,509nm,1.3s
CSS eS S 06 48 55.4 -2.9
CSS LR LR
comp=Z,8μm,19.0s
CSS Prodhromos 40.88 138 eP P 06 42 46.9 -0.2
comp=Z,509nm,1.3s
EGAK Eagle 40.90 336 eP P 06 42 46.3 -0.6
EGAK ePP PP 06 44 17.2 -3.6
EGAK ePcP PcP 06 44 48.7 +1.6
EGAK LR LR
comp=Z,11μm,22.0s
EGAK Eagle 40.90 336 eP P 06 42 46.3 -0.6
IMA2 Indian Mountai 40.93 345 eP P 06 42 46.9 -0.4
IMA2 ePcP PcP 06 44 47.3 -0.1
IMA2 Indian Mountai 40.93 345 eP P 06 42 46.9 -0.4
IHRS Heris 40.95 120 eP P 06 42 48.6 +0.7
IHRS Heris 40.95 120 eP P 06 42 48.6 +0.7
WRDH Warideh 41.02 134 eP P 06 42 49.0 +0.7
WRDH Warideh 41.02 134 eP P 06 42 49.0 +0.7
SNR=46
CIA Chichaoua 41.03 193 i P P 06 42 49.0 +0.6
IM04 Indian Mountai 41.03 345 eP P 06 42 47.8 -0.2
IM04 ePcP PcP 06 44 47.9 +0.3
IM04 Indian Mountai 41.03 345 eP P 06 42 47.8 -0.2
LKRN Lenkeran, Azer 41.05 118 ⇑P P 06 42 49.2 +0.8
SNR=38
LKRN Lenkeran, Azer 41.05 118 ⇑P P 06 42 49.2 +0.8
SNR=38
LKRN ⇓S S 06 49 06.2 +5.6
LKRN Lenkeran, Azer 41.05 118 ⇑P P 06 42 49.2 +0.8
SNR=38
LKRN Lenkeran, Azer 41.05 118 P P 06 42 49.2 +0.8
SNR=38
CUKT Cukurca 41.07 125 eP P 06 42 49.7 +0.9
IAZR Azarshahr 41.27 122 eP P 06 42 51.2 +0.6
IAZR Azarshahr 41.27 122 eP P 06 42 51.2 +0.6
OUK Oukaimeden 41.33 191 i P P 06 42 51.0 -0.2
DAWY Dawson 41.36 335 eP P 06 42 49.0 -1.8
DAWY ePP PP 06 44 27.3 +1.4
DAWY eS S 06 49 05.6 +0.7
DAWY Dawson 41.36 335 eP P 06 42 49.0 -1.8
KFRA Kufra 41.39 134 eP P 06 42 51.1 -0.2
KFRA Kufra 41.39 134 eP P 06 42 51.1 -0.2
SNR=46
BIDA Albida 41.47 134 eP P 06 42 53.5 +1.5
BIDA Albida 41.47 134 eP P 06 42 53.5 +1.5
SNR=46
YAK Yakutsk 41.54 34 eP P 06 42 51.4 -0.8
YAK e 06 44 27.9
YAK e 06 44 49.8
YAK eS S 06 49 04.0 -3.4
YAK eSS SS 06 52 13.8 +2.5
YAK e 06 52 58.0
YAK pmax pmax
comp=Z,131nm,1.3s
YAK pmax pmax
comp=N,115nm,1.5s
YAK pmax pmax
comp=E,34nm,1.4s
YAK pmax pmax
comp=Z,169nm,1.5s
YAK pmax pmax
comp=N,210nm,1.5s
YAK pmax pmax
comp=E,65nm,1.3s
YAK smax smax
comp=N,906nm,4.3s
YAK smax smax
comp=E,772nm,5.3s
YAK MLR MLR
comp=Z,4μm,21.0s
YAK MLR MLR
comp=N,4μm,20.0s
YAK MLR MLR
comp=E,3μm,16.0s
YAK Yakutsk 41.54 34 eP P 06 42 51.4 -0.8
comp=E,169nm,1.5s
YAK Yakutsk 41.54 34 ePcP PcP 06 44 49.8 +0.6
comp=E,906nm,4.3s
YAK eScS ScS 06 52 58.0 +3.2
comp=E,4μm,20.0s
ILAR Eielson Array 41.56 340 P P 06 42 52.5 +0.1
ILAR PcP PcP 06 44 49.2 0.0
ILAR P'P'ab P'P'ab 07 16 24.4 +1.7
ILAR Eielson Array 41.56 340 P P 06 42 52.5 +0.1
comp=E,193nm,1.2s,baz=5.3,slow=6.8,SNR=133
ILAR PcP PcP 06 44 49.2 0.0
comp=E,45nm,1.2s,baz=337,slow=3.1,SNR=6.5
ILAR LR LR 07 00 01.0
comp=E,5μm,22.0s,baz=39,slow=36
ILAR PKP2ab 07 16 24.4
comp=E,0.5nm,0.8s,baz=193,slow=5.0,SNR=4.0
ILAR Eielson Array 41.56 340 P P 06 42 52.5 +0.1
COLA College 41.56 341 eP P 06 42 52.6 +0.3
COLA e 06 44 25.4
COLA eS S 06 49 07.4 -0.3
COLA pmax pmax
comp=Z,1μm,1.3s
COLA MLR MLR
comp=Z,10μm,19.0s
COLA College 41.56 341 eP P 06 42 52.6 +0.3
comp=Z,1μm,1.3s
COLA ePP PP 06 44 25.4 -2.6
COLA eS S 06 49 07.4 -0.3
COLA LR LR
comp=Z,10μm,19.0s
COLA College 41.56 341 eP P 06 42 52.6 +0.3
comp=Z,1μm,1.3s
ISRB Sarab 41.58 120 eP P 06 42 53.4 +0.3
ISRB Sarab 41.58 120 eP P 06 42 53.4 +0.3
EMMW East Machias 41.60 267 eP P 06 42 51.7 -1.2
comp=Z,558nm,1.5s
EMMW ePP PP 06 44 30.9 +2.2
EMMW East Machias 41.60 267 eP P 06 42 51.7 -1.2
comp=Z,558nm,1.5s
PKME Peaks-Kenny Pk 41.66 269 eP P 06 42 52.7 -0.6
comp=Z,268nm,1.4s
PKME ePP PnPn 06 44 32.8 -1.4
PKME LR LR
comp=Z,21μm,20.0s
PKME Peaks-Kenny Pk 41.66 269 eP P 06 42 52.7 -0.6
comp=Z,268nm,1.4s
LTBQ Tobruq 42.02 150 eP P 06 42 55.7 -0.7
SNR=36
LTBQ eS S 06 49 17.5 +2.4
SNR=36
LSRT Sirt 42.03 160 eP P 06 42 56.9 +0.3
SNR=36
LSRT eS S 06 49 18.2 +2.9
SNR=36
HWQ Hawqa 42.10 135 eP P 06 42 57.7 +0.5
HWQ Hawqa 42.10 135 eP P 06 42 57.7 +0.5
AFS Agadir Fac de 42.22 193 eP P 06 42 58.0 -0.1
TNA Tin City 42.28 353 eP P 06 42 58.8 +0.6
comp=Z,71nm,1.0s
TNA Tin City 42.28 353 eP P 06 42 58.8 +0.6
comp=Z,71nm,1.0s
BHL Bhannes 42.39 135 eP P 06 43 00.4 +0.8
BHL Bhannes 42.39 135 eP P 06 43 00.4 +0.8
WVL Waterville 42.40 269 eP P 06 42 59.4 0.0
comp=Z,655nm,1.5s
WVL Waterville 42.40 269 eP P 06 42 59.4 0.0
comp=Z,655nm,1.5s
LJBD Adjabya 42.62 155 eP P 06 43 03.3 +2.0
SNR=36
LJBD eS S 06 49 24.5 +0.6
SNR=36
FFC Flin Flon 42.67 303 eP P 06 43 00.7 -0.8
FFC pmax pmax
comp=Z,966nm,1.1s
FFC MLR MLR
comp=Z,9μm,20.0s
FFC Flin Flon 42.67 303 eP P 06 43 00.7 -0.8
comp=Z,966nm,1.1s
FFC LR LR
comp=Z,9μm,20.0s
FFC Flin Flon 42.67 303 P P 06 43 00.9 -0.7
comp=Z,2μm,1.2s
FFC Flin Flon 42.67 303 eP P 06 43 00.7 -0.8
comp=Z,9μm,20.0s
MCK McKinley 42.79 341 eP P 06 43 02.0 -0.4
MCK e 06 44 51.7
MCK pmax pmax
comp=Z,323nm,1.4s
MCK McKinley 42.79 341 eP P 06 43 02.0 -0.4
comp=Z,323nm,1.4s
MCK ePcP PcP 06 44 51.7 -1.6
MCK McKinley 42.79 341 eP P 06 43 02.0 -0.4
comp=Z,323nm,1.4s
RCY Rachaya 42.83 135 eP P 06 43 04.0 +0.9
RCY Rachaya 42.83 135 eP P 06 43 04.1 +0.9
LSHF Shwairf 42.88 163 eP P 06 43 03.5 0.0
SNR=35
LSHF eS S 06 49 30.7 +2.8
SNR=36
BRBR Barbar 42.93 135 eP P 06 43 05.3 +1.2
BRBR eS PP 06 44 43.5 0.0
BRBR Barbar 42.93 135 eP P 06 43 05.3 +1.2
SNR=46
MENT Mentasta 42.99 337 eP P 06 43 05.1 +1.1
MENT Mentasta 42.99 337 eP P 06 43 05.1 +1.1
PAX Paxson 43.16 338 eP P 06 43 04.9 -0.6
PAX pmax pmax
comp=Z,172nm,1.1s
PAX Paxson 43.16 338 eP P 06 43 04.9 -0.6
comp=Z,172nm,1.1s
PAX Paxson 43.16 338 eP P 06 43 04.9 -0.6
comp=Z,172nm,1.1s
MMAI Mount Meron Ar 43.20 136 LR LR 07 01 53.7
comp=Z,9μm,21.7s,baz=335,slow=37
TRF Thorofare Moun 43.20 342 eP P 06 43 03.7 -2.2
comp=Z,78nm,1.1s
TRF Thorofare Moun 43.20 342 eP P 06 43 03.7 -2.2
comp=Z,78nm,1.1s
FRNY Flat Rock 43.37 273 eP P 06 43 07.3 0.0
comp=Z,212nm,1.4s
FRNY Flat Rock 43.37 273 eP P 06 43 07.3 0.0
comp=Z,212nm,1.4s
LBNH Lisbon 43.39 271 eP P 06 43 07.7 +0.2
LBNH eS S 06 49 37.8 +2.7
LBNH pmax pmax
comp=Z,241nm,1.5s
LBNH MLR MLR
comp=Z,16μm,20.0s
LBNH Lisbon 43.39 271 eP P 06 43 07.7 +0.2
comp=Z,241nm,1.5s
LBNH eS S 06 49 37.8 +2.7
LBNH LR LR
comp=Z,16μm,20.0s
LBNH Lisbon 43.39 271 eP P 06 43 07.7 +0.2
comp=Z,241nm,1.5s
LBNH eS S 06 49 37.8 +2.7
comp=Z,16μm,20.0s
KK31 Karatay Array 43.40 93 P P 06 43 08.0 +0.4
KK31 pmax pmax
comp=Z,174nm,1.2s
KK31 Karatay Array 43.40 93 P P 06 43 08.0 +0.4
comp=Z,174nm,1.2s
KKAR Karatay Array 43.40 93 eP P 06 43 07.5 -0.1
KKAR e 06 44 48.2
KKAR pmax pmax
comp=Z,117nm,1.1s
KKAR Karatay Array 43.40 93 eP P 06 43 07.5 -0.1
comp=Z,117nm,1.1s
KKAR ePP PP 06 44 48.2 0.0
KKAR Karatay Array 43.40 93 eP P 06 43 07.5 -0.1
comp=Z,117nm,1.1s
MSNY Massena 43.61 274 eP P 06 43 09.9 +0.7
comp=Z,3μm,1.2s
MSNY Massena 43.61 274 eP P 06 43 09.9 +0.7
comp=Z,3μm,1.2s
TCHB Talchebab 43.65 135 eP P 06 43 14.0 +4.3
MK31 Makanchi Array 43.68 80 P P 06 43 09.9 +0.1
MK31 pmax pmax
comp=Z,171nm,1.4s
MK31 Makanchi Array 43.68 80 eP P 06 43 10.3 +0.5
MK31 e 06 44 53.2
MK31 Makanchi Array 43.68 80 P P 06 43 09.9 +0.1
comp=Z,171nm,1.4s
MKAR Makanchi Array 43.68 80 P P 06 43 10.2 +0.4
MKAR 06 44 51.1
MKAR 06 44 57.2
MKAR Makanchi Array 43.68 80 P P 06 43 10.2 +0.4
MKAR PP PP 06 44 51.1 0.0
MKAR PcP PcP 06 44 57.2 +0.5
MKAR Makanchi Array 43.68 80 P P 06 43 10.2 +0.4
comp=Z,9.9nm,0.8s,baz=344,slow=6.5,SNR=30
MKAR PP PP 06 44 51.1 0.0
comp=Z,9.5nm,1.0s,baz=338,slow=6.9,SNR=1.9
MKAR PcP PcP 06 44 57.2 +0.5
comp=Z,13nm,0.8s,baz=343,slow=3.7,SNR=5.8
MKAR LR LR 07 02 41.2
comp=Z,7μm,19.3s,baz=330,slow=38
MKAR Makanchi Array 43.68 80 P P 06 43 10.2 +0.4
ZALF Zalf 43.71 134 eP P 06 43 11.2 +1.0
ZALF eS PP 06 44 51.4 -0.3
ZALF Zalf 43.71 134 eP P 06 43 11.2 +1.0
SNR=46
SEY Seymchan 43.73 18 c iP P 06 43 11.5 +1.6
SEY Seymchan 43.73 18 i P P 06 43 11.5 +1.6
SALA Sala 43.78 135 eP P 06 43 11.9 +1.0
SALA Sala 43.78 135 eP P 06 43 11.9 +1.0
SNR=46
LONY Lake Ozonia 43.87 274 eP P 06 43 10.9 -0.4
comp=Z,242nm,1.4s
LONY e 06 44 54.5
LONY eS S 06 49 44.5 +2.4
LONY LR LR
comp=Z,13μm,20.0s
LONY Lake Ozonia 43.87 274 eP P 06 43 10.9 -0.4
comp=Z,242nm,1.4s
LJFR Jufra 43.91 161 eP P 06 43 12.1 +0.3
SNR=35
LJFR eS S 06 49 43.1 +0.2
SNR=36
PPLA Purkeypile 43.92 343 eP P 06 43 10.7 -1.0
comp=Z,276nm,1.4s
PPLA Purkeypile 43.92 343 eP P 06 43 10.7 -1.0
comp=Z,276nm,1.4s
HNH Hanover 43.99 271 eP P 06 43 12.7 +0.4
comp=Z,422nm,1.6s
HNH Hanover 43.99 271 eP P 06 43 12.7 +0.4
comp=Z,422nm,1.6s
MDV Middlebury 44.00 272 eP P 06 43 12.5 +0.2
MDV Middlebury 44.00 272 eP P 06 43 12.5 +0.2
FFD Franklin Falls 44.01 270 eP P 06 43 12.8 +0.4
comp=Z,441nm,1.5s
FFD Franklin Falls 44.01 270 eP P 06 43 12.8 +0.4
comp=Z,441nm,1.5s
ILIN Lien 44.14 122 eP P 06 43 13.9 0.0
ILIN Lien 44.14 122 eP P 06 43 13.9 0.0
IDHR Dehrash 44.19 123 eP P 06 43 13.2 -1.1
IDHR Dehrash 44.19 123 eP P 06 43 13.2 -1.1
ASF Jabal al Asfar 44.33 135 LR LR 07 01 46.6
comp=Z,5μm,20.9s,baz=132,slow=36
IPRN Peran 44.34 115 eP P 06 43 15.7 +0.3
NCB Newcomb 44.34 273 eP P 06 43 14.7 -0.4
comp=Z,180nm,1.4s
NCB LR LR
comp=Z,10μm,21.0s
NCB Newcomb 44.34 273 eP P 06 43 14.7 -0.4
comp=Z,180nm,1.4s
IRAZ Razeghan 44.47 118 eP P 06 43 17.5 +1.0
IRAZ Razeghan 44.47 118 eP P 06 43 17.5 +1.0
IVIS Veis 44.48 122 eP P 06 43 16.5 +0.1
IVIS Veis 44.48 122 eP P 06 43 16.5 +0.1
LUJL Ujela 44.53 154 eP P 06 43 16.8 +0.1
SNR=35
SML Sawmill 44.61 340 eP P 06 43 16.5 -0.6
SML pmax pmax
comp=Z,92nm,1.4s
SML Sawmill 44.61 340 eP P 06 43 16.5 -0.6
comp=Z,92nm,1.4s
SML Sawmill 44.61 340 eP P 06 43 16.5 -0.6
comp=Z,92nm,1.4s
LZLA Zalla 44.63 159 eP P 06 43 18.3 +0.7
SNR=35
LZLA eS S 06 49 53.5 +0.1
SNR=35
TAS Tashkent 44.65 95 eP P 06 43 19.2 +1.6
ISHV Shirvan 44.66 109 eP P 06 43 19.0 +1.0
ISHV Shirvan 44.66 109 eP P 06 43 19.0 +1.0
MOY Mondy 44.67 61 eP P 06 43 19.3 +1.5
MOY pmax pmax
comp=Z,692nm,2.1s
MOY Mondy 44.67 61 eP P 06 43 19.3 +1.5
comp=Z,692nm,2.1s
IR3 Iran Long-Peri 44.70 117 eP P 06 43 20.3 +2.1
IR3 Iran Long-Peri 44.70 117 eP P 06 43 20.3 +2.1
ACCN Adirondack Com 44.70 272 eP P 06 43 18.0 0.0
comp=Z,218nm,1.4s
ACCN eS S 06 49 57.5 +3.2
ACCN Adirondack Com 44.70 272 eP P 06 43 18.0 0.0
comp=Z,218nm,1.4s
ACCN eS S 06 49 57.5 +3.2
IKIA Kiasar 44.75 114 eP P 06 43 20.2 +1.5
IKIA Kiasar 44.75 114 eP P 06 43 20.2 +1.5
CHMS Chumysh 44.80 89 i P P 06 43 20.7 +1.9
CHMS Chumysh 44.80 89 P P 06 43 20.7 +1.9
SNR=9.7
CHMS Chumysh 44.80 89 i P P 06 43 20.7 +1.9
EKS2 Erkin-Say 44.81 90 eP P 06 43 19.7 +0.7
EKS2 e 06 44 59.8
EKS2 pmax pmax
comp=Z,38nm,0.9s
EKS2 MLR MLR
comp=Z,9μm,19.0s
EKS2 Erkin-Say 44.81 90 P P 06 43 20.9 +1.9
SNR=12
EKS2 Erkin-Say 44.81 90 eP P 06 43 19.7 +0.7
comp=Z,38nm,0.9s
EKS2 e 06 44 59.8
EKS2 LR LR
comp=Z,9μm,19.0s
EKS2 Erkin-Say 44.81 90 eP P 06 43 19.7 +0.7
comp=Z,38nm,0.9s
EKS2 Erkin-Say 44.81 90 ePcP PcP 06 44 59.8 -0.9
comp=Z,9μm,19.0s
IR5 Iran Long-Peri 44.82 118 eP P 06 43 19.8 +0.6
IR5 Iran Long-Peri 44.82 118 eP P 06 43 19.8 +0.6
HRV Adam Dziewonsk 44.85 270 eP P 06 43 19.1 -0.1
HRV eS S 06 50 01.4 +5.0
HRV pmax pmax
comp=Z,158nm,1.3s
HRV Adam Dziewonsk 44.85 270 eP P 06 43 19.1 -0.1
comp=Z,158nm,1.3s
HRV e 06 45 12.9
HRV eS S 06 50 01.4 +5.0
HRV Adam Dziewonsk 44.85 270 eP P 06 43 19.1 -0.1
comp=Z,158nm,1.3s
IDMV Damavand 44.88 116 eP P 06 43 21.4 +1.6
IDMV Damavand 44.88 116 eP P 06 43 21.4 +1.6
WES Weston 44.89 269 eP P 06 43 19.4 -0.1
WES pmax pmax
comp=Z,466nm,1.5s
WES Weston 44.89 269 eP P 06 43 19.4 -0.1
comp=Z,466nm,1.5s
WES Weston 44.89 269 eP P 06 43 19.4 -0.1
comp=Z,466nm,1.5s
PMR Palmer 44.90 340 eP P 06 43 18.5 -0.8
PMR e 06 45 00.9
PMR pmax pmax
comp=Z,93nm,1.2s
PMR Palmer 44.90 340 eP P 06 43 18.5 -0.8
comp=Z,93nm,1.2s
PMR e 06 45 00.9
PMR Palmer 44.90 340 eP P 06 43 18.5 -0.8
comp=Z,93nm,1.2s
PMR Palmer 44.90 340 ePcP PcP 06 45 00.9 +0.4
FRU Bishkek 44.91 89 ⇓ i P P 06 43 20.0 +0.3
FRU e 06 45 04.0
FRU pmax pmax
comp=Z,250nm,2.2s
FRU pmax pmax
comp=Z,2μm,6.5s
FRU MLR MLR
comp=Z,12μm,16.0s
FRU Bishkek 44.91 89 i P P 06 43 20.0 +0.3
comp=Z,2μm,6.5s
IKOM Komasi 44.98 122 eP P 06 43 20.7 +0.2
IKOM Komasi 44.98 122 eP P 06 43 20.7 +0.2
DIV Divide 44.99 338 eP P 06 43 18.0 -2.1
comp=Z,193nm,1.5s
DIV Divide 44.99 338 eP P 06 43 18.0 -2.1
comp=Z,193nm,1.5s
BMRM Bremner River 45.01 337 eP P 06 43 17.9 -2.4
comp=Z,311nm,1.4s
BMRM eS S 06 49 59.2 +0.9
BMRM Bremner River 45.01 337 eP P 06 43 17.9 -2.4
comp=Z,311nm,1.4s
BMRM eS S 06 49 59.2 +0.9
ISHM Shahmirzad 45.01 115 eP P 06 43 22.9 +2.0
ISHM Shahmirzad 45.01 115 eP P 06 43 22.9 +2.0
IRK Irkutsk 45.02 58 eP P 06 43 19.6 -0.8
IRK e 06 45 01.8
IRK pmax pmax
comp=Z,376nm,2.1s
IRK Irkutsk 45.02 58 eP P 06 43 19.6 -0.8
comp=Z,376nm,2.1s
IRK Irkutsk 45.02 58 ePcP PcP 06 45 01.8 +0.7
IFIR Firoozkooh 45.02 115 eP P 06 43 22.3 +1.4
IFIR Firoozkooh 45.02 115 eP P 06 43 22.3 +1.4
IEMG Emamgholi 45.05 108 eP P 06 43 21.7 +0.5
IEMG Emamgholi 45.05 108 eP P 06 43 21.7 +0.5
AAK Ala-Archa 45.05 89 P P 06 43 22.8 +1.8
comp=Z,311nm,1.2s,SNR=15
AAK Ala-Archa 45.05 89 P P 06 43 22.4 +1.4
AAK 06 45 02.3
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK pmax pmax
comp=Z,26nm,1.1s
AAK Ala-Archa 45.05 89 P P 06 43 22.2 +1.2
SNR=8.1
AAK Ala-Archa 45.05 89 eP P 06 43 20.8 -0.2
comp=Z,89nm,1.3s
AAK e 06 45 01.2
AAK PcP PcP 06 45 02.3 +0.7
AAK LR LR
comp=Z,6μm,20.0s
AAK Ala-Archa 45.05 89 P P 06 43 22.4 +1.4
comp=Z,8.8nm,0.9s,baz=323,slow=5.8,SNR=20
AAK PcP PcP 06 45 02.3 +0.7
comp=Z,26nm,1.1s,baz=180,slow=2.0,SNR=4.4
AAK Ala-Archa 45.05 89 eP P 06 43 20.8 -0.2
comp=Z,89nm,1.3s
AAK Ala-Archa 45.05 89 PcP PcP 06 45 02.3 +0.7
comp=Z,26nm,1.1s
ULM Lac du Bonnet 45.08 296 P P 06 43 20.5 -0.4
comp=Z,39nm,1.0s
ULM e 06 44 59.4
ULM PcP PcP 06 45 01.5 +0.2
ULM eS S 06 49 58.1 -1.4
ULM Lac du Bonnet 45.08 296 P P 06 43 20.5 -0.4
comp=Z,113nm,1.0s,baz=31,slow=9.4,SNR=41
ULM PcP PcP 06 45 01.5 +0.2
comp=Z,36nm,1.0s,baz=12,slow=3.7,SNR=4.5
ULM LR LR 07 01 59.5
comp=Z,31μm,18.0s,baz=30,slow=36
ULM Lac du Bonnet 45.08 296 P P 06 43 20.5 -0.4
comp=Z,39nm,1.0s
SADO Sadowa 45.13 278 LR LR 07 00 54.0
comp=Z,10μm,21.9s,baz=34,slow=34
TKM2 Tokmak 2 45.13 88 i P P 06 43 22.7 +1.0
TKM2 Tokmak 2 45.13 88 P P 06 43 22.8 +1.0
SNR=16
TKM2 Tokmak 2 45.13 88 eP P 06 43 22.9 +1.2
comp=Z,117nm,1.5s
TKM2 e 06 45 06.8
TKM2 LR LR
comp=Z,13μm,21.0s
TKM2 Tokmak 2 45.13 88 i P P 06 43 22.7 +1.0
KBK Karagaybulak 45.17 89 i P P 06 43 23.5 +1.5
KBK Karagaybulak 45.17 89 P P 06 43 23.5 +1.5
SNR=10.0
KBK Karagaybulak 45.17 89 i P P 06 43 23.5 +1.5
ISFR Sfrayin 45.20 109 eP P 06 43 23.6 +1.3
SKAG Skagway 45.20 330 eP P 06 43 20.9 -0.8
comp=Z,172nm,1.4s
SKAG e 06 45 03.6
SKAG Skagway 45.20 330 eP P 06 43 20.9 -0.8
comp=Z,172nm,1.4s
AML Almayashu 45.27 90 P P 06 43 30.7 +7.7
SNR=6.8
AML Almayashu 45.27 90 P P 06 43 24.9 +1.9

SNR=23
QUA2 Belchertown 45.30 270 *e*P **P 06 43 22.6 -0.1**
comp=Z,478nm,1.6s
QUA2 Belchertown 45.30 270 *e*P **P 06 43 22.6 -0.1**
comp=Z,478nm,1.6s
DLBC Dease Lake 45.31 326 *e*P **P 06 43 21.6 -1.1**
DLBC Dease Lake 45.31 326 LR LR 07 02 59.8
comp=Z,42µm,19.3s,baz=25,slow=37
DLBC Dease Lake 45.31 326 *e*P **P 06 43 21.6 -1.1**
IVRN Varamin 45.34 117 *e*P **P 06 43 24.6 +1.3**
IVRN Varamin 45.34 117 *e*P **P 06 43 24.6 +1.3**
TLY Talaya 45.37 59 P **P 06 43 23.5 +0.3**
comp=Z,243nm,1.1s,SNR=20
BRYW Bryant College 45.38 269 *e*P **P 06 43 23.4 -0.1**
comp=Z,475nm,1.7s
BRYW Bryant College 45.38 269 *e*P **P 06 43 23.4 -0.1**
comp=Z,475nm,1.7s
IANJ Anjilo 45.51 114 *e*P **P 06 43 25.1 +0.3**
IANJ Anjilo 45.51 114 *e*P **P 06 43 25.1 +0.3**
CLNS Chul'man 45.52 40 *e*P **P 06 43 23.9 -0.5**
CLNS *e**PP pP 06 43 32.7 +5.3
CLNS *e* 06 44 58.1
CLNS *e* 06 45 10.6
CLNS *e*PPP PPP 06 45 54.0
CLNS *e*S **S 06 50 08.4 +2.6**
CLNS pmax pmax
comp=Z,251nm,1.1s
CLNS pmax pmax
comp=N,138nm,1.2s
CLNS pmax pmax
comp=E,38nm,1.2s
CLNS pmax pmax
comp=Z,37nm,1.1s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=N,30nm,0.9s
CLNS smax smax
comp=E,223nm,8.4s
CLNS smax smax
comp=N,2µm,12.5s
CLNS MLR MLR
comp=E,4µm,13.0s
CLNS MLR MLR
comp=Z,6µm,18.0s
CLNS MLR MLR
comp=E,4µm,17.0s
CLNS Chul'man 45.52 40 *e*P **P 06 43 23.9 -0.5**
comp=E,138nm,1.2s
CLNS *e*S **S 06 50 08.4 +2.6**
comp=E,6µm,18.0s
IKRD Kardeh 45.60 108 *e*P **P 06 43 28.7 +3.2**
IAKL Akhelmad 45.84 108 *e*P **P 06 43 28.4 +1.0**
EYMN Ely 45.92 291 *e*P **P 06 43 27.3 -0.4**
comp=E,188nm,1.2s
EYMN LR LR
comp=Z,26µm,21.0s
EYMN Ely 45.92 291 *e*P **P 06 43 27.3 -0.4**
comp=Z,188nm,1.2s
IPAY Payeh 46.05 108 *e*P **P 06 43 29.2 +0.2**
IPAY Payeh 46.05 108 *e*P **P 06 43 29.2 +0.2**
ISFB Sefidab 46.09 116 *e*P **P 06 43 30.0 +0.8**
ISFB Sefidab 46.09 116 *e*P **P 06 43 30.0 +0.8**
ISRO Mashad 46.32 108 *e*P **P 06 43 30.9 -0.1**
ISRO Mashad 46.32 108 *e*P **P 06 43 30.9 -0.1**
EIL Elat 46.33 138 P **P 06 43 32.0 +0.9**
EIL Elat 46.33 138 P **P 06 43 32.0 +0.9**
comp=Z,147nm,1.1s,baz=347,slow=9.6,SNR=30
EIL Elat 46.33 138 P **P 06 43 32.0 +0.9**
YLE Yale 46.36 270 *e*P **P 06 43 31.6 +0.5**
comp=Z,1µm,1.5s
YLE Yale 46.36 270 *e*P **P 06 43 31.6 +0.5**
comp=Z,1µm,1.5s
RSO Redoubt South 46.37 342 *e*P **P 06 43 30.0 -1.2**
comp=Z,41nm,0.3s
RSO Redoubt South 46.37 342 *e*P **P 06 43 30.0 -1.2**
comp=Z,41nm,0.3s
IMOG Moghan 46.47 108 *e*P **P 06 43 33.7 +1.3**
IMOG Moghan 46.47 108 *e*P **P 06 43 33.7 +1.3**
IMYA Miami 46.47 107 *e*P **P 06 43 33.5 +1.2**
IMYA Miami 46.47 107 *e*P **P 06 43 33.5 +1.2**
BINY Binghamton 46.49 274 *e*P **P 06 43 32.4 +0.2**
comp=Z,384nm,1.4s
BINY LR LR
comp=Z,13µm,21.0s
BINY Binghamton 46.49 274 *e*P **P 06 43 32.4 +0.2**
comp=Z,384nm,1.4s
EDM Edmonton 46.82 311 *e*P **P 06 43 33.5 -1.2**
EDM *e* 06 45 25.8
EDM *e*S **S 06 50 24.6 0.0**
EDM Edmonton 46.82 311 *e*P **P 06 43 33.5 -1.2**
EDM *e*PP **PP 06 45 25.8 +1.4**
EDM *e*S **S 06 50 24.6 0.0**
EDM Edmonton 46.82 311 *e*P **P 06 43 33.5 -1.2**
AGMN Agassiz Nation 46.84 295 *e*P **P 06 43 34.4 -0.5**
comp=Z,159nm,1.0s
AGMN *e*S **S 06 50 24.8 -0.1**
AGMN LR LR
comp=Z,25µm,20.0s
AGMN Agassiz Nation 46.84 295 *e*P **P 06 43 34.4 -0.5**
comp=Z,159nm,1.0s
AGMN *e*S **S 06 50 24.8 -0.1**
IKLH Kolahrood 46.88 118 *e*P **P 06 43 36.8 +1.2**
IKLH Kolahrood 46.88 118 *e*P **P 06 43 36.8 +1.2**
CPNY Central Park 47.15 271 *e*P **P 06 43 37.6 +0.3**
comp=Z,52nm,1.2s
CPNY *e*PP **PP 06 45 30.1 +2.2**
CPNY Central Park 47.15 271 *e*P **P 06 43 37.6 +0.3**
comp=Z,52nm,1.2s
IPIR Pirpir 47.29 119 *e*P **P 06 43 41.4 +2.5**
IPIR Pirpir 47.29 119 *e*P **P 06 43 41.4 +2.5**
BRNJ Basking Ridge 47.44 271 *e*P **P 06 43 41.0 +1.4**
comp=Z,23µm,1.2s
BRNJ Basking Ridge 47.44 271 *e*P **P 06 43 41.0 +1.4**
comp=Z,10µm,1.2s
IZEF Zefreh 47.48 117 *e*P **P 06 43 40.1 -0.2**
IZEF Zefreh 47.48 117 *e*P **P 06 43 40.1 -0.2**
SIT Sitka 47.50 329 *e*P **P 06 43 39.7 -0.1**
SIT pmax pmax
comp=Z,58nm,1.4s
SIT Sitka 47.50 329 *e*P **P 06 43 39.7 -0.1**
comp=Z,58nm,1.4s
SIT Sitka 47.50 329 *e*P **P 06 43 39.7 -0.1**
comp=Z,58nm,1.4s
WRAK Wrangell Islan 47.62 327 *e*P **P 06 43 41.0 +0.2**
comp=Z,116nm,1.4s
WRAK *e*S S 06 50 44.1 +8.4
WRAK LR LR
comp=Z,27µm,20.0s
WRAK Wrangell Islan 47.62 327 *e*P **P 06 43 41.0 +0.2**
comp=Z,116nm,1.4s
B28A Dugan Ranch, T 47.94 298 ⇑P **P 06 43 42.6 -0.8**
baz=48,SNR=101
A26A Wade Farm, Ken 47.98 300 ⇓P **P 06 43 43.4 -0.4**
baz=48
WMQ Urumqi 47.99 77 P **P 06 43 45.0 +1.1**
WMQ pP **pP 06 43 51.3 +4.4**
WMQ PcP **PcP 06 45 14.5 +2.7**
WMQ PP **PP 06 45 37.0 +1.4**
WMQ S **S 06 50 41.1 -0.4**
WMQ sS **sS 06 50 47.5 +1.1**
WMQ ScS **ScS 06 53 36.5 -0.3**
WMQ pmax pmax
comp=Z,110nm,1.4s
WMQ pmax pmax
comp=Z,2µm,4.0s
WMQ LR LR
comp=N,5µm,19.0s
WMQ LR LR
comp=E,12µm,21.0s
WMQ LR LR
comp=Z,7µm,20.0s
B27A Peters Farms, 48.23 299 ⇑P **P 06 43 45.1 -0.5**
baz=48,SNR=11
B27A ⇓S **S 06 50 40.5 -4.1**
baz=48
B27A ⇓S **S 06 50 40.5 -4.1**
baz=48
B27A ⇓S **S 06 50 40.5 -4.1**
baz=48
ALLY Alegheny Colle 48.27 277 *e*P **P 06 43 46.1 +0.1**
comp=Z,460nm,1.3s
ALLY *e*S **S 06 50 45.9 +0.6**
ALLY Alegheny Colle 48.27 277 *e*P **P 06 43 46.1 +0.1**
comp=Z,460nm,1.3s
ALLY *e*S **S 06 50 45.9 +0.6**
MDND Maddock 48.29 297 *e*P **P 06 43 44.1 -2.0**
MDND Maddock 48.29 297 *e*P **P 06 43 44.1 -2.0**
MDND Maddock 48.29 297 ⇓P **P 06 43 45.0 -1.1**
baz=48,SNR=26
KSH Kashi 48.35 90 P P 06 43 50.3 +3.5
KSH sP sP 06 43 57.5 +6.5
KSH PP **PP 06 45 42.3 +3.2**
KSH S **S 06 50 49.5 +2.7**
KSH sS sS 06 50 56.5 +4.8
KSH SS **SS 06 54 12.9 -2.9**
KSH pmax pmax
comp=Z,26nm,0.6s
KSH pmax pmax
comp=Z,2µm,6.0s
KSH LR LR
comp=N,5µm,11.9s
KSH LR LR
comp=E,3µm,12.7s
KSH LR LR
comp=Z,9µm,15.0s
A24A Westby 48.48 302 ⇑P **P 06 43 47.4 -0.1**
baz=48,SNR=31
SSPA Standing Stone 48.50 275 *e*P **P 06 43 47.7 -0.1**
comp=Z,229nm,1.4s
SSPA Standing Stone 48.50 275 *e*P **P 06 43 47.7 -0.1**
comp=Z,229nm,1.4s
B26A Jensen Ranch, 48.51 300 ⇑P **P 06 43 47.6 -0.3**
baz=48,SNR=12
C28A Hausauer Farms 48.62 298 ⇓P **P 06 43 48.2 -0.5**
baz=48,SNR=17
CRAG Craig 48.66 327 *e*P **P 06 43 48.8 0.0**
comp=Z,132nm,1.4s
CRAG Craig 48.66 327 *e*P **P 06 43 48.8 0.0**
comp=Z,132nm,1.4s
A23A Redstone 48.67 302 ⇓P **P 06 43 48.4 -0.6**
baz=48,SNR=6.4
ICHK Chekchek 48.67 115 *e*P **P 06 43 50.8 +1.3**
ICHK Chekchek 48.67 115 *e*P **P 06 43 50.8 +1.3**
AAM Ann Arbor 48.74 281 *e*P **P 06 43 50.4 +0.8**
AAM *e* 06 45 44.1
AAM *e*S **S 06 50 55.7 +3.8**
AAM pmax pmax
comp=Z,113nm,1.1s
AAM MLR MLR
comp=Z,19µm,19.0s
AAM Ann Arbor 48.74 281 *e*P **P 06 43 50.4 +0.8**
comp=Z,113nm,1.1s
AAM *e*PP **PP 06 45 44.0 +1.7**
AAM *e*S **S 06 50 55.7 +3.8**
AAM LR LR
comp=Z,19µm,19.0s
AAM Ann Arbor 48.74 281 *e*P **P 06 43 50.4 +0.8**
comp=Z,113nm,1.1s
SPMN St. Paul 48.77 290 *e*P **P 06 43 50.3 +0.4**
SPMN *e*PcP **PcP 06 45 15.1 +0.6**
SPMN *e*PP **PP 06 45 42.7 +0.1**
SPMN St. Paul 48.77 290 *e*P **P 06 43 50.3 +0.4**
SPMN St. Paul 48.77 290 ⇓P **P 06 43 49.8 0.0**
baz=49,SNR=77
ISAD Sadrabad 48.78 116 *e*P **P 06 43 48.6 -1.8**
ISAD Sadrabad 48.78 116 *e*P **P 06 43 48.6 -1.8**
B25A Knox Farm, Ray 48.85 301 ⇑P **P 06 43 50.5 0.0**
baz=49,SNR=7.7
A22A Carney Farms, 48.91 303 ⇓P **P 06 43 50.5 -0.4**
baz=49,SNR=108
C27A Sayler Ranch, 48.92 299 ⇓P **P 06 43 51.0 0.0**
baz=49,SNR=12
DGMT Dagmar 48.94 302 *e*P **P 06 43 50.5 -0.6**
comp=Z,162nm,1.3s
DGMT LR LR
comp=Z,18µm,19.0s
DGMT Dagmar 48.94 302 *e*P **P 06 43 50.5 -0.6**
comp=Z,162nm,1.3s
DGMT Dagmar 48.94 302 ⇑P **P 06 43 50.5 -0.6**
baz=49,SNR=17
C26A Wahner Farm, P 48.98 300 ⇑P **P 06 43 51.3 -0.1**
baz=49,SNR=13
KDAK Kodiak Island 49.00 342 P **P 06 43 50.8 -0.5**
comp=Z,940nm,1.1s,SNR=12
KDAK Kodiak Island 49.00 342 *e*P **P 06 43 50.0 -1.3**
comp=Z,320nm,1.4s
KDAK *e*PcP **PcP 06 45 15.9 +0.8**
KDAK *e*S **S 06 50 57.6 +2.5**
KDAK LR LR
comp=Z,8µm,21.0s
KDAK Kodiak Island 49.00 342 *e*P **P 06 43 50.0 -1.3**
comp=Z,320nm,1.4s
MIB Mutribah 49.09 124 *e*P **P 06 43 53.0 +0.6**
MIB AMb AMB 06 43 56.9
comp=Z,312nm,1.0s
MIB Mutribah 49.09 124 *e*P **P 06 43 53.0 +0.6**
comp=Z,312nm,1.0s
B23A Brockton 49.16 302 ⇓P **P 06 43 52.5 -0.3**
baz=49,SNR=68
A21A Bergtoll Ranch 49.17 304 ⇓P **P 06 43 52.1 -0.8**
baz=49,SNR=92
RST Umm Al-Ruwaisa 49.29 124 *e*P **P 06 43 54.6 +0.6**
RST AMb AMB 06 44 01.6
comp=Z,2µm,1.0s
RST Umm Al-Ruwaisa 49.29 124 *e*P **P 06 43 54.6 +0.6**
comp=Z,2µm,1.0s
SDMD Soldier's Deli 49.30 273 *e*P **P 06 43 53.8 -0.1**
comp=Z,300nm,1.3s
SDMD *e*S **S 06 51 04.0 +4.1**
SDMD Soldier's Deli 49.30 273 *e*P **P 06 43 53.8 -0.1**
comp=Z,300nm,1.3s
C25A Freed Ranch, W 49.39 300 ⇓P **P 06 43 54.7 +0.1**
baz=49
UMR Umm Al-Rimmam 49.43 123 *e*P **P 06 43 55.9 +0.8**
UMR AMb AMB 06 43 59.4
comp=Z,474nm,1.1s
UMR Umm Al-Rimmam 49.43 123 *e*P **P 06 43 55.8 +0.8**
comp=Z,474nm,1.1s
D27A Center 49.49 299 ⇑P **P 06 43 54.9 -0.5**
baz=49,SNR=24
TAM Tamanrasset 49.51 174 *e*P **P 06 43 56.8 +0.9**
TAM *e* 06 45 51.4
TAM pmax pmax
comp=Z,179nm,1.6s
TAM MLR MLR
comp=Z,6µm,20.0s
TAM Tamanrasset 49.51 174 *e*P **P 06 43 56.8 +0.9**
comp=Z,179nm,1.6s
TAM *e*PP **PP 06 45 51.4 +1.4**
TAM LR LR
comp=Z,6µm,20.0s
TAM Tamanrasset 49.51 174 *e*P **P 06 43 56.8 +0.9**
comp=Z,179nm,1.6s
A20A Cobblestone Ra 49.53 305 ⇑P **P 06 43 55.0 -0.6**
baz=49,SNR=46
IMEH Mehriz 49.53 115 *e*P **P 06 43 56.3 +0.2**
IMEH Mehriz 49.53 115 *e*P **P 06 43 56.3 +0.2**
B22A Reddig Ranch S 49.57 303 ⇑P **P 06 43 55.4 -0.5**
baz=49,SNR=22
NAY Al-Naaiem 49.59 124 *e*P **P 06 43 56.7 +0.4**
NAY AMb AMB 06 44 00.4
comp=Z,7.6nm,1.3s
NAY Al-Naaiem 49.59 124 *e*P **P 06 43 56.7 +0.4**
comp=Z,7.6nm,1.3s
SONM Songino Array 49.61 59 P **P 06 43 57.1 +0.8**
SONM PcP **PcP 06 45 18.1 +0.4**
SONM P'P' 07 14 53.3
SONM Songino Array 49.61 59 P **P 06 43 57.1 +0.8**
comp=Z,49nm,1.0s,baz=328,slow=7.0,SNR=115
SONM PcP **PcP 06 45 18.1 +0.4**
comp=Z,20nm,1.2s,baz=334,slow=3.4,SNR=3.6
SONM LR LR 07 07 52.4
comp=Z,7µm,20.2s,baz=343,slow=40
SONM PKPPKP **P'P'df 07 14 53.3 -3.1**
comp=Z,1.9nm,1.2s,baz=191,slow=1.5,SNR=4.4
SONM Songino Array 49.61 59 P **P 06 43 57.1 +0.8**
SONM Songino Array 49.61 59 PcP **PcP 06 45 18.1 +0.4**
IBAF Bafgh 49.61 114 *e*P **P 06 43 57.3 +0.7**
IBAF Bafgh 49.61 114 *e*P **P 06 43 57.3 +0.7**
OHAK Old Harbor 49.62 342 *e*P **P 06 43 55.0 -1.1**
comp=Z,296nm,1.4s
OHAK Old Harbor 49.62 342 *e*P **P 06 43 55.0 -1.1**
comp=Z,296nm,1.4s
LKFR Kufra 49.67 153 *e*P **P 06 43 58.0 +1.1**
SNR=33
LKFR *e*S **S 06 51 05.6 +0.3**
SNR=34
A19A Klindworth Far 49.69 305 ⇑P **P 06 43 56.2 -0.7**
baz=49,SNR=142
B21A Ellsworth Farm 49.71 304 ⇓P **P 06 43 56.0 -1.0**
baz=50,SNR=30
ULN Ulaanbaatar 49.75 58 *e*P **P 06 43 56.9 -0.6**
comp=Z,131nm,1.3s
ULN LR LR
comp=Z,5µm,20.0s
ULN Ulaanbaatar 49.75 58 P **P 06 43 58.1 +0.6**
comp=Z,106nm,1.6s,comp=Z,2µm
ULN Ulaanbaatar 49.75 58 *e*P **P 06 43 56.9 -0.6**
comp=Z,5µm,20.0s
IDAH Dahanechah 49.76 109 *e*P **P 06 43 57.7 -0.2**
IDAH Dahanechah 49.76 109 *e*P **P 06 43 57.7 -0.2**
KBD Kabd 49.78 123 *e*P **P 06 43 58.2 +0.5**
KBD AMb AMB 06 44 02.1
comp=Z,202nm,1.2s
KBD Kabd 49.78 123 *e*P **P 06 43 58.2 +0.5**
comp=Z,202nm,1.2s
D26A Manning 49.80 299 ⇓P **P 06 43 57.6 -0.1**
baz=50,SNR=23
IKOO Kooshah 49.81 110 *e*P **P 06 43 58.9 +0.7**
IKOO Kooshah 49.81 110 *e*P **P 06 43 58.9 +0.7**
C23A Lambert 49.82 302 ⇓P **P 06 43 58.0 +0.1**
baz=50,SNR=47
C24A Savage 49.87 301 ⇑P **P 06 43 58.0 -0.2**
baz=50,SNR=36
D25A Fairfield 49.93 300 ⇑P **P 06 43 59.1 +0.4**
baz=50,SNR=39
B20A Solberg Farm, 49.96 305 ⇑P **P 06 43 58.3 -0.6**
baz=50,SNR=15
A18A Metzger Ranch, 49.97 306 ⇓P **P 06 43 58.2 -0.8**
baz=50,SNR=83
RDF Al-Radifah 49.98 124 *e*P **P 06 44 00.1 +0.9**
RDF AMb AMB 06 44 03.9
comp=Z,300nm,1.1s
RDF Al-Radifah 49.98 124 *e*P **P 06 44 00.1 +0.9**
comp=Z,300nm,1.1s
C22A Vida 50.05 303 ⇓P **P 06 43 59.1 -0.5**
baz=50,SNR=47
E27A Carson 50.12 298 ⇑P **P 06 43 60.0 -0.2**
baz=50,SNR=34
JFWS Jewell Farm 50.14 287 *e*P **P 06 44 00.2 -0.1**
JFWS *e* 06 45 20.2
JFWS pmax pmax
comp=Z,215nm,1.2s
JFWS MLR MLR
comp=Z,21µm,19.0s
JFWS Jewell Farm 50.14 287 *e*P **P 06 44 00.2 -0.1**
comp=Z,215nm,1.2s
JFWS *e*PcP **PcP 06 45 20.2 +0.7**
JFWS LR LR
comp=Z,21µm,19.0s
JFWS Jewell Farm 50.14 287 *e*P **P 06 44 00.2 -0.1**
comp=Z,215nm,1.2s
B19A Brinkman Farms 50.17 305 ⇑P **P 06 43 59.8 -0.8**
baz=50,SNR=93
D24A Glendive 50.23 301 ⇓P **P 06 44 01.0 0.0**
baz=50,SNR=39
C21A Desert Coulee 50.29 304 ⇓P **P 06 44 00.7 -0.7**
baz=50,SNR=32
E26A Carlson Angus 50.33 299 ⇑P **P 06 44 01.7 0.0**
baz=50,SNR=38
D23A Lindsay 50.41 302 ⇓P **P 06 44 02.3 0.0**
baz=50,SNR=115
B18A Beardsley Farm 50.44 306 ⇓P **P 06 44 01.7 -0.9**
baz=50,SNR=127
E25A Miller Ranch, 50.55 300 ⇓P **P 06 44 03.3 -0.1**
baz=50,SNR=70
IPAR Pars 50.56 117 *e*P **P 06 44 04.2 +0.2**
IPAR Pars 50.56 117 *e*P **P 06 44 04.2 +0.2**
CBN Corbin 50.57 273 *e*P **P 06 44 03.7 +0.1**
comp=Z,268nm,1.5s
CBN LR LR
comp=Z,19µm,19.0s
CBN Corbin 50.57 273 *e*P **P 06 44 03.7 +0.1**
comp=Z,268nm,1.5s
C20A Veseth Ranch, 50.63 304 ⇑P **P 06 44 03.4 -0.6**
baz=50,SNR=118
D22A Cohagen 50.68 303 ⇑P **P 06 44 04.0 -0.4**
baz=50,SNR=111
E24A Baker 50.73 301 ⇓P **P 06 44 04.6 -0.3**
baz=50,SNR=17
F27A Lemmon 50.76 298 ⇓P **P 06 44 05.0 0.0**
baz=50,SNR=73
EGMT Eagleton 50.78 306 *e*P **P 06 44 04.3 -0.8**
comp=Z,414nm,1.1s
EGMT LR LR
comp=Z,28µm,20.0s
EGMT Eagleton 50.78 306 *e*P **P 06 44 04.3 -0.8**
comp=Z,414nm,1.1s
EGMT Eagleton 50.78 306 ⇓P **P 06 44 04.4 -0.8**
baz=50,SNR=158
B17A L&G Farms, Che 50.79 307 ⇑P **P 06 44 03.8 -1.4**
baz=50,SNR=42
KBL Kabul 50.82 99 *e*P **P 06 44 06.3 +0.5**
KBL *e* 06 45 22.3
KBL *e* 06 46 04.5
KBL pmax pmax
comp=Z,60nm,1.1s
KBL Kabul 50.82 99 *e*P **P 06 44 06.3 +0.5**
comp=Z,60nm,1.1s
KBL *e*PcP **PcP 06 45 22.3 -0.1**
KBL *e*PP **PP 06 46 04.5 +2.9**
KBL Kabul 50.82 99 *e*P **P 06 44 06.3 +0.5**
comp=Z,60nm,1.1s
WALA Waterton Lakes 50.82 310 *e*P **P 06 44 04.3 -1.3**
comp=Z,5.6nm,1.1s
WALA *e*S **S 06 51 22.2 +1.0**
WALA Waterton Lakes 50.82 310 *e*P **P 06 44 04.3 -1.3**
comp=Z,5.6nm,1.1s
WALA *e*S **S 06 51 22.2 +1.0**
C19A Slack Wire Ran 50.87 305 ⇓P **P 06 44 05.2 -0.6**
baz=51,SNR=69
BBB Bella Bella 50.91 322 LR LR 07 06 05.2
comp=Z,26µm,19.4s,baz=26,slow=37
F26A Lodgepole 50.95 299 ⇑P **P 06 44 06.0 -0.5**
baz=51,SNR=80
D21A La Casta Ranch 50.97 303 ⇑P **P 06 44 06.0 -0.6**
baz=51,SNR=72
CHGN Chignik 50.97 345 *e*P **P 06 44 06.6 +0.2**
CHGN Chignik 50.97 345 *e*P **P 06 44 06.6 +0.2**
ISRV Sarvestan 51.02 118 *e*P **P 06 44 07.6 +0.1**
ISRV Sarvestan 51.02 118 *e*P **P 06 44 07.6 +0.1**
E23A Ismay 51.05 301 ⇓P **P 06 44 06.7 -0.5**
baz=51,SNR=41
F25A Bowman 51.09 300 ⇓P **P 06 44 07.2 -0.4**
baz=51,SNR=20
G27A Dupree 51.19 298 ⇓P **P 06 44 07.7 -0.6**
baz=51,SNR=140
G28A Parade 51.19 297 ⇑P **P 06 44 07.7 -0.6**
baz=51,SNR=67
JSRW J. Sargeant Re 51.20 273 *e*P **P 06 44 08.0 -0.3**
JSRW *e*PcP **PcP 06 45 23.5 0.0**
JSRW J. Sargeant Re 51.20 273 *e*P **P 06 44 08.0 -0.3**
ECSD EROS Data Cent 51.23 293 *e*P **P 06 44 08.2 -0.4**
comp=Z,236nm,1.3s
ECSD *e*S **S 06 51 25.3 -1.4**
ECSD LR LR
comp=Z,19µm,21.0s
ECSD EROS Data Cent 51.23 293 *e*P **P 06 44 08.2 -0.4**
comp=Z,236nm,1.3s
ECSD *e*S **S 06 51 25.3 -1.4**
BRSD Miller 51.23 295 *e*P **P 06 44 08.3 -0.3**
BRSD Miller 51.23 295 *e*P **P 06 44 08.3 -0.3**
BRSD Miller 51.23 295 ⇓P **P 06 44 07.9 -0.7**
baz=51,SNR=41
D20A Manuel Ranch, 51.24 304 ⇑P **P 06 44 08.3 -0.3**
baz=51,SNR=217
E22A Miles City 51.28 302 ⇑P **P 06 44 08.2 -0.7**
baz=51,SNR=17
D19A Cripps Ranch, 51.36 305 ⇑P **P 06 44 08.9 -0.6**
baz=51,SNR=185
C17A Wharram Farm, 51.39 306 ⇑P **P 06 44 08.8 -1.0**
baz=51,SNR=61
F24A Ekalaka 51.43 300 ⇓P **P 06 44 09.7 -0.4**
baz=51,SNR=48
G26A Maurine 51.45 299 ⇑P **P 06 44 09.7 -0.5**
baz=51,SNR=61
E21A Keefer Ranch, 51.48 303 ⇑P **P 06 44 10.0 -0.4**
baz=51,SNR=31
SFIN Scholer Farm 51.53 283 *e*P **P 06 44 10.2 -0.6**
SFIN Scholer Farm 51.53 283 *e*P **P 06 44 10.2 -0.6**
SFIN Scholer Farm 51.53 283 ⇑P **P 06 44 09.6 -1.2**
baz=51,SNR=22
HIA Hailar 51.54 47 *e*P **P 06 44 10.8 0.0**
comp=Z,186nm,1.4s
HIA LR LR
comp=Z,10µm,19.0s
HIA Hailar 51.54 47 *e*P **P 06 44 10.8 0.0**

comp=Z,10µm,19.0s
D18A Linhart Farms, 51.56 305 ⇑P P 06 44 10.3 -0.8
baz=51,SNR=260
H28A Mission Ridge 51.59 297 ⇓P P 06 44 10.6 -0.7
baz=51,SNR=44
G25A Newell 51.76 299 ⇓P P 06 44 12.0 -0.6
baz=52,SNR=50
E20A Meyer Farm, Mu 51.78 304 ⇓P P 06 44 12.2 -0.5
baz=52,SNR=82
F23A Volborg 51.80 301 ⇓P P 06 44 12.2 -0.6
baz=52,SNR=75
D17A Six Diamond Ra 51.82 306 ⇑P P 06 44 12.1 -1.0
baz=52,SNR=78
G24A Alzada 51.90 300 ⇓P P 06 44 12.9 -0.8
baz=52,SNR=24
BLMT Blacktail Moun 51.91 310 eP P 06 44 13.2 -0.6
comp=Z,88nm,1.3s
BLMT Blacktail Moun 51.91 310 eP P 06 44 13.2 -0.6
comp=Z,88nm,1.3s
H27A Howes 51.92 298 ⇓P P 06 44 12.8 -0.9
baz=52,SNR=56
YBMT Yellow Bay 51.97 309 eP P 06 44 13.5 -0.6
comp=Z,70nm,1.0s
YBMT Yellow Bay 51.97 309 eP P 06 44 13.5 -0.6
comp=Z,70nm,1.0s
F22A Rosebud 51.97 302 ⇑P P 06 44 13.5 -0.6
baz=52,SNR=30
E19A Rath Farm, Rou 51.99 304 ⇑P P 06 44 14.0 -0.3
baz=52,SNR=82
BBSR BB Station 52.10 258 eP P 06 44 14.9 -0.2
comp=Z,167nm,1.5s
BBSR ePcP PcP 06 45 29.7 +2.8
BBSR LR LR
comp=Z,2µm,21.0s
BBSR BB Station 52.10 258 eP P 06 44 14.9 -0.2
comp=Z,167nm,1.5s
H26A Fairpoint 52.12 298 ⇑P P 06 44 14.5 -0.7
baz=52,SNR=126
JTMT Jette 52.14 309 eP P 06 44 14.4 -1.0
comp=Z,106nm,1.1s
JTMT Jette 52.14 309 eP P 06 44 14.4 -1.0
comp=Z,106nm,1.1s
F21A Absaloka Mine, 52.15 303 ⇓P P 06 44 15.0 -0.5
baz=52
BSMT Bassoo Peak 52.16 310 eP P 06 44 14.9 -0.8
comp=Z,158nm,1.1s
BSMT Bassoo Peak 52.16 310 eP P 06 44 14.9 -0.8
comp=Z,158nm,1.1s
E18A Harlowton 52.17 305 ⇑P P 06 44 15.4 -0.3
baz=52,SNR=312
VWCC Virginia Weste 52.26 275 eP P 06 44 17.9 +1.7
VWCC Virginia Weste 52.26 275 eP P 06 44 17.9 +1.7
I28A Midland 52.26 297 ⇓P P 06 44 15.7 -0.5
baz=52,SNR=142
G23A Biddle 52.28 301 ⇓P P 06 44 15.6 -0.9
baz=52,SNR=65
SWMT Swartz Lake 52.29 309 eP P 06 44 16.3 -0.3
comp=Z,139nm,1.0s
SWMT ePP PP 06 46 14.0 -0.6
SWMT Swartz Lake 52.29 309 eP P 06 44 16.3 -0.3
comp=Z,139nm,1.0s
NEW Newport 52.32 312 eP P 06 44 15.9 -0.7
comp=Z,142nm,1.0s
NEW eS S 06 51 46.6 +5.0
NEW Newport 52.32 312 LR LR 07 06 29.3
comp=Z,26µm,18.8s,baz=12,slow=36
NEW Newport 52.32 312 eP P 06 44 15.9 -0.7
comp=Z,142nm,1.0s
NEW Newport 52.32 312 ⇑P P 06 44 15.9 -0.7
baz=52,SNR=150
H25A Fruitdale 52.34 299 ⇓P P 06 44 16.1 -0.7
baz=52,SNR=78
BLA Blacksburg 52.42 275 eP P 06 44 16.7 -0.8
BLA eS S 06 51 42.7 -0.5
BLA pmax pmax
comp=Z,213nm,1.3s
BLA MLR MLR
comp=Z,20µm,20.0s
BLA Blacksburg 52.42 275 eP P 06 44 16.7 -0.8
comp=Z,213nm,1.3s
BLA eS S 06 51 42.7 -0.5
BLA LR LR
comp=Z,20µm,20.0s
BLA Blacksburg 52.42 275 eP P 06 44 16.7 -0.8
comp=Z,213nm,1.3s
BLA eS S 06 51 42.7 -0.5
comp=Z,20µm,20.0s
SLMT Seeley Lake 52.42 308 eP P 06 44 16.4 -1.2
comp=Z,144nm,1.0s
SLMT Seeley Lake 52.42 308 eP P 06 44 16.4 -1.2
comp=Z,144nm,1.0s
I27A Quinn 52.43 298 ⇑P P 06 44 16.7 -0.8
baz=52,SNR=45
F20A Billings 52.44 303 ⇑P P 06 44 17.0 -0.6
baz=52,SNR=23
BLO Bloomington 52.47 282 eP P 06 44 16.9 -0.9
BLO pmax pmax
comp=Z,169nm,1.3s
BLO Bloomington 52.47 282 eP P 06 44 16.9 -0.9
comp=Z,169nm,1.3s
BLO Bloomington 52.47 282 eP P 06 44 16.9 -0.9
comp=Z,169nm,1.3s
H24A Dirks Ranch, A 52.48 300 ⇑P P 06 44 16.8 -1.1
baz=52,SNR=55
G22A Birney 52.50 302 ⇑P P 06 44 17.3 -0.8
baz=52,SNR=38
E17A Martinsdale 52.51 306 ⇓P P 06 44 17.5 -0.8
baz=52,SNR=37
HRY Holter Researc 52.52 307 eP P 06 44 17.3 -0.9
comp=Z,34nm,0.9s
HRY Holter Researc 52.52 307 eP P 06 44 17.3 -0.9
comp=Z,34nm,0.9s
F19A Roth Farm, Mol 52.59 304 ⇑P P 06 44 18.1 -0.7
baz=52,SNR=112
CHMT Chamberlain Mo 52.67 308 eP P 06 44 18.4 -1.1
comp=Z,111nm,1.0s
CHMT Chamberlain Mo 52.67 308 eP P 06 44 18.4 -1.1
comp=Z,111nm,1.0s
I26A New Underwood 52.69 298 ⇑P P 06 44 18.5 -1.0
baz=52
G21A Lodge Grass 52.73 302 ⇓P P 06 44 18.9 -0.9
baz=52,SNR=11
F18A Big Timber 52.74 305 ⇑P P 06 44 19.3 -0.5
baz=52,SNR=164
J28A Allard Ranch, 52.81 297 ⇓P P 06 44 19.4 -0.9
baz=53,SNR=86
GCMT Greycliff 52.84 305 eP P 06 44 21.0 +0.4
comp=Z,109nm,1.1s
GCMT Greycliff 52.84 305 eP P 06 44 21.0 +0.4
comp=Z,109nm,1.1s
H23A Clabaugh Cattl 52.88 301 ⇑P P 06 44 19.9 -1.0
baz=53,SNR=11
MSO Missoula 52.92 309 ⇓P P 06 44 20.6 -0.5
baz=53,SNR=116
RSSD Black Hills 52.92 299 eP P 06 44 20.6 -0.8
RSSD e 06 45 29.9
RSSD pmax pmax
comp=Z,117nm,1.2s
RSSD Black Hills 52.92 299 eP P 06 44 20.6 -0.8
comp=Z,117nm,1.2s
RSSD ePcP PcP 06 45 29.9 -0.3
RSSD Black Hills 52.92 299 eP P 06 44 20.6 -0.8
comp=Z,117nm,1.2s
I25A Rochford 52.93 299 ⇓P P 06 44 20.9 -0.5
baz=53,SNR=86
F17A Fitzpatrick Pl 52.98 306 ⇓P P 06 44 21.1 -0.6
baz=53,SNR=50
G20A Bridger 53.00 303 ⇑P P 06 44 20.7 -1.0
baz=53,SNR=117
H22A Clearmont 53.10 301 ⇓P P 06 44 21.7 -0.8
baz=53,SNR=16
K29A Lazy Trails An 53.17 296 ⇑P P 06 44 22.5 -0.5
baz=53,SNR=34
J27A Elkhorn Farm, 53.18 297 ⇓P P 06 44 22.6 -0.5
baz=53,SNR=68
H21A Big Horn, Sher 53.24 302 ⇓P P 06 44 22.7 -0.9
baz=53,SNR=23
G18A Lazy EL Ranch, 53.25 304 ⇓P P 06 44 22.6 -1.1
baz=53,SNR=36
WCI Wyandotte Cave 53.27 281 eP P 06 44 22.7 -1.0
WCI pmax pmax
comp=Z,127nm,1.3s
WCI Wyandotte Cave 53.27 281 eP P 06 44 22.7 -1.0
comp=Z,127nm,1.3s
WCI Wyandotte Cave 53.27 281 eP P 06 44 22.7 -1.0
comp=Z,127nm,1.3s
I24A Kuemmerle Ranc 53.32 300 ⇓P P 06 44 22.9 -1.3
baz=53,SNR=12

PGC Sidney 53.34 317 eP P 06 44 23.0 -1.1
comp=Z,13nm,1.4s
PGC ePcP PcP 06 45 32.0 +0.7
PGC ePP PP 06 46 23.7 -0.1
PGC Sidney 53.34 317 eP P 06 44 23.0 -1.1
comp=Z,13nm,1.4s
PGC Sidney 53.34 317 ePcP PcP 06 45 32.0 +0.7
RLMT Red Lodge 53.36 304 eP P 06 44 23.0 -1.6
comp=Z,122nm,1.3s
RLMT ePcP PcP 06 45 31.6 -0.2
RLMT eS S 06 51 57.0 +0.8
RLMT LR LR
comp=Z,7µm,22.0s
RLMT Red Lodge 53.36 304 eP P 06 44 23.0 -1.6
comp=Z,122nm,1.3s
J26A Sides Ranch, S 53.41 298 ⇓P P 06 44 23.9 -0.9
baz=53,SNR=44
I23A Meade Ranch, G 53.45 300 ⇑P P 06 44 24.5 -0.7
baz=53
BOZ Bozeman (W) 53.46 306 eP P 06 44 24.3 -0.9
BOZ pmax pmax
comp=Z,72nm,1.4s
BOZ MLR MLR
comp=Z,28µm,19.0s
BOZ Bozeman (W) 53.46 306 eP P 06 44 24.3 -0.9
comp=Z,72nm,1.4s
BOZ LR LR
comp=Z,28µm,19.0s
BOZ Bozeman (W) 53.46 306 eP P 06 44 24.3 -0.9
comp=Z,28µm,19.0s
CNNC Cliffs of the 53.47 272 eP P 06 44 24.3 -0.8
comp=Z,140nm,1.3s
CNNC LR LR
comp=Z,14µm,21.0s
CNNC Cliffs of the 53.47 272 eP P 06 44 24.3 -0.8
comp=Z,140nm,1.3s
LRM Limekiln Ridge 53.50 307 eP P 06 44 25.3 -0.3
comp=Z,937nm,1.3s
LRM Limekiln Ridge 53.50 307 eP P 06 44 25.3 -0.3
comp=Z,937nm,1.3s
K28A Ten Mile Ranch 53.50 296 ⇑P P 06 44 25.2 -0.3
baz=53,SNR=67
J25A Sunshine Ranch 53.54 299 ⇑P P 06 44 24.9 -0.9
baz=53,SNR=111
G17A Pierce Place, 53.54 305 ⇑P P 06 44 25.5 -0.3
baz=53,SNR=45
H20A Greybull 53.62 303 ⇑P P 06 44 25.4 -1.0
baz=53,SNR=145
H19A Powell 53.71 304 ⇓P P 06 44 26.5 -0.5
baz=54,SNR=46
K27A Flueckinger Fa 53.75 297 ⇑P P 06 44 26.4 -1.0
baz=54,SNR=49
I22A 9 Mile Ranch, 53.78 301 ⇑P P 06 44 26.6 -1.0
baz=54,SNR=49
IBND Bandar-abas 53.79 115 eP P 06 44 25.4 -2.2
IBND Bandar-abas 53.79 115 eP P 06 44 25.4 -2.2
BGNE Belgrade 53.81 293 eP P 06 44 27.2 -0.5
BGNE Belgrade 53.81 293 eP P 06 44 27.2 -0.5
BGNE Belgrade 53.81 293 ⇓P P 06 44 26.6 -1.1
baz=54,SNR=8.4
J24A Dixon Ranch, L 53.82 299 ⇓P P 06 44 27.1 -0.7
baz=54,SNR=47
L29A Maesberg Ranch 53.86 295 ⇑P P 06 44 27.4 -0.7
baz=54,SNR=24
H18A Shoshone NF, C 53.87 304 ⇑P P 06 44 27.5 -0.9
baz=54,SNR=106
PEA0B Petropavlovsk- 53.92 17 eP P 06 44 28.0 -0.3
PEA0B Petropavlovsk- 53.92 17 eP P 06 44 28.0 -0.3
PETK Petropavlovsk- 53.92 17 P P 06 44 29.3 +1.0
PETK Petropavlovsk- 53.92 17 P P 06 44 29.3 +1.0
PETK Petropavlovsk- 53.92 17 P P 06 44 29.3 +1.0
comp=Z,32nm,1.0s,baz=46,slow=8.3,SNR=40
PETK LR LR 07 07 27.0
comp=Z,3µm,18.5s,baz=196,slow=36
PETK Petropavlovsk- 53.92 17 P P 06 44 29.3 +1.0
USIN University of 53.93 282 eP P 06 44 27.5 -1.0
comp=Z,200nm,1.3s
USIN University of 53.93 282 eP P 06 44 27.5 -1.0
comp=Z,200nm,1.3s
DLMT Dillon 53.97 307 eP P 06 44 27.6 -1.3
comp=Z,65nm,1.1s
DLMT Dillon 53.97 307 eP P 06 44 27.6 -1.3
comp=Z,65nm,1.1s
J23A Dilts Ranch, B 53.99 300 ⇓P P 06 44 28.4 -0.8
baz=54,SNR=14
TZTN Tazewell 53.99 278 eP P 06 44 28.1 -0.9
comp=Z,148nm,1.3s
TZTN ePcP PcP 06 45 32.6 -1.5
TZTN eS S 06 52 12.6 +8.0
TZTN Tazewell 53.99 278 eP P 06 44 28.1 -0.9
comp=Z,148nm,1.3s
K26A Motz Farm, Whi 54.01 298 ⇓P P 06 44 28.4 -0.8
baz=54,SNR=22
KLR Kul'dur 54.06 38 eP P 06 44 25.0 -4.4
KLR eS S 06 52 00.0 -5.1
KLR e 06 54 10.0
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,210nm,1.8s
KLR MLR MLR
comp=N,5µm,15.0s
KLR MLR MLR
comp=E,4µm,15.0s
KLR MLR MLR
comp=Z,6µm,15.0s
I21A Big Trails, Te 54.07 302 ⇓P P 06 44 28.3 -1.4
baz=54,SNR=158
SLM Saint Louis 54.08 285 eP P 06 44 29.6 0.0
SLM pmax pmax
comp=Z,235nm,1.4s
SLM Saint Louis 54.08 285 eP P 06 44 29.6 0.0
comp=Z,235nm,1.4s
SLM Saint Louis 54.08 285 eP P 06 44 29.6 0.0
comp=Z,235nm,1.4s
PET Petropavlovsk 54.09 16 eP P 06 44 30.0 +0.5
PET e 06 46 30.7
PET eS S 06 52 06.2 +0.9
PET pmax pmax
comp=Z,300nm,2.2s
PET pmax pmax
comp=Z,500nm,8.4s
PET pmax pmax
comp=Z,300nm,15.4s
PET Petropavlovsk 54.09 16 eP P 06 44 30.0 +0.5
comp=Z,300nm,15.4s
PET eS S 06 52 06.2 +0.9
YNR Norris Junctio 54.09 305 eP P 06 44 30.9 +0.9
comp=Z,76nm,1.3s
YNR Norris Junctio 54.09 305 eP P 06 44 30.9 +0.9
comp=Z,76nm,1.3s
I20A Worland 54.16 303 ⇓P P 06 44 29.4 -0.9
baz=54,SNR=96
LKWY Lake 54.16 305 eP P 06 44 32.4 +1.8
LKWY eS S 06 52 08.4 +1.2
LKWY pmax pmax
comp=Z,135nm,1.4s
LKWY MLR MLR
comp=Z,11µm,20.0s
LKWY Lake 54.16 305 eP P 06 44 32.4 +1.8
comp=Z,135nm,1.4s
LKWY eS S 06 52 08.4 +1.2
LKWY LR LR
comp=Z,11µm,20.0s
LKWY Lake 54.16 305 eP P 06 44 32.3 +1.8
comp=Z,135nm,1.4s
LKWY eS S 06 52 08.4 +1.2
comp=Z,11µm,20.0s
QLMT Earthquake Lak 54.17 306 eP P 06 44 30.4 -0.1
comp=Z,19nm,1.4s
QLMT Earthquake Lak 54.17 306 eP P 06 44 30.4 -0.1
comp=Z,19nm,1.4s
M30A Dale-Ortello V 54.18 295 ⇑P P 06 44 29.3 -1.1
baz=54,SNR=7.6
L28A Connealy Angus 54.20 296 ⇑P P 06 44 30.3 -0.3
baz=54,SNR=36
HDW Hoodsport 54.21 316 P P 06 44 30.8 +0.2
HDW Hoodsport 54.21 316 P P 06 44 30.8 +0.2
YMR Madison River 54.21 305 eP P 06 44 30.0 -0.8
comp=Z,108nm,1.2s
YMR Madison River 54.21 305 eP P 06 44 30.0 -0.8
comp=Z,108nm,1.2s
J22A Midwest 54.23 301 ⇓P P 06 44 29.3 -1.5
baz=54,SNR=118
H16A Russell Place, 54.25 306 ⇓P P 06 44 30.7 -0.4
baz=54,SNR=67
K25A Mack Ranch, Ha 54.28 298 ⇑P P 06 44 30.4 -0.9

baz=54,SNR=34
I19A Meeteetse 54.30 303 ⇑P P 06 44 31.0 -0.5
baz=54,SNR=80
L27A T5 Ranch, Ells 54.35 297 ⇓P P 06 44 31.2 -0.5
baz=54,SNR=5.7
OOW Octopus West 54.36 317 P P 06 44 33.9 +2.2
OOW Octopus West 54.36 317 P P 06 44 33.9 +2.2
H17A Grant Village 54.37 305 eP P 06 44 32.9 +0.8
H17A ePcP PcP 06 45 39.7 +4.0
H17A Grant Village 54.37 305 eP P 06 44 32.8 +0.8
H17A Grant Village 54.37 305 ⇓P P 06 44 32.8 +0.8
baz=54,SNR=101
YFT Old Faithful 54.38 305 eP P 06 44 32.8 +0.7
comp=Z,170nm,1.1s
YFT Old Faithful 54.38 305 eP P 06 44 32.8 +0.7
comp=Z,170nm,1.1s
K24A Anderson Ranch 54.43 299 ⇓P P 06 44 31.6 -0.8
baz=54
M29A Burnside Ranch 54.49 295 ⇑P P 06 44 32.2 -0.5
baz=54
MCMT McKenzie Canyo 54.53 307 eP P 06 44 33.2 0.0
comp=Z,75nm,1.2s
MCMT McKenzie Canyo 54.53 307 eP P 06 44 33.2 0.0
comp=Z,75nm,1.2s
J21A Lysite 54.55 302 ⇓P P 06 44 32.4 -0.8
baz=54,SNR=68
NAC Naches 54.59 314 P P 06 44 33.4 +0.1
NAC Naches 54.59 314 P P 06 44 33.4 +0.1
L26A Underwood Farm 54.60 298 ⇑P P 06 44 33.1 -0.5
baz=54,SNR=8.4
KMSC Kings Mountain 54.61 275 eP P 06 44 32.8 -0.8
KMSC Kings Mountain 54.61 275 eP P 06 44 32.8 -0.8
KMSC Kings Mountain 54.61 275 ⇑P P 06 44 32.7 -0.9
baz=54,SNR=51
K23A Bowen Ranch, D 54.62 300 ⇓P P 06 44 32.4 -1.3
baz=54,SNR=17
NLWA Neilton Lookou 54.62 317 eP P 06 44 34.0 +0.4
comp=Z,242nm,1.3s
NLWA ePP PP 06 46 34.4 -1.1
NLWA LR LR
comp=Z,20µm,20.0s
NLWA Neilton Lookou 54.62 317 eP P 06 44 34.0 +0.4
comp=Z,242nm,1.3s
SIUC Southern Illin 54.62 283 eP P 06 44 31.9 -1.7
comp=Z,272nm,1.3s
SIUC Southern Illin 54.62 283 eP P 06 44 31.9 -1.7
comp=Z,272nm,1.3s
RAYN Ar Rayn 54.64 128 P P 06 44 35.5 +1.6
comp=Z,672nm,0.9s,SNR=18
FLWY Flagg Ranch 54.69 305 eP P 06 44 35.1 +0.8
comp=Z,503nm,1.9s
FLWY Flagg Ranch 54.69 305 eP P 06 44 35.1 +0.8
comp=Z,503nm,1.9s
J20A Shoshoni 54.70 302 ⇑P P 06 44 33.7 -0.6
baz=54,SNR=88
M28A Bar X Bar Ranc 54.73 296 ⇑P P 06 44 34.0 -0.4
baz=54,SNR=16
L25A Engebretsen Ra 54.73 298 ⇑P P 06 44 34.0 -0.5
baz=54,SNR=13
LON Longmire 54.79 315 eP P 06 44 33.8 -1.0
LON pmax pmax
comp=Z,184nm,1.4s
LON Longmire 54.79 315 eP P 06 44 33.8 -1.0
comp=Z,184nm,1.4s
LON Longmire 54.79 315 eP P 06 44 33.8 -1.0
comp=Z,184nm,1.4s
I17A Pilgrim Ck. 54.81 305 ⇓P P 06 44 35.4 +0.2
baz=55
I18A Diamond G Ranc 54.83 304 ⇑P P 06 44 34.8 -0.5
baz=55,SNR=58
TKL Tuckaleechee C 54.88 278 eP P 06 44 34.9 -0.6
TKL Tuckaleechee C 54.88 278 LR LR 07 07 12.3
comp=Z,9µm,20.8s,baz=29,slow=35
TKL Tuckaleechee C 54.88 278 eP P 06 44 34.9 -0.6
M27A Reverse DX Ran 54.88 297 ⇑P P 06 44 35.0 -0.6
baz=55,SNR=12
IMW Indian Meadow 54.93 305 eP P 06 44 35.8 -0.3
comp=Z,200nm,1.1s
IMW eS S 06 52 23.5 +6.0
IMW Indian Meadow 54.93 305 eP P 06 44 35.8 -0.3
comp=Z,200nm,1.1s
N30A Hueftle Ranch, 54.93 294 ⇓P P 06 44 35.0 -0.9
baz=55,SNR=14
K22A Casper 54.95 301 ⇓P P 06 44 34.9 -1.3
baz=55,SNR=122
MOOW Moose Ponds 55.02 305 eP P 06 44 35.7 -1.0
comp=Z,87nm,1.2s
MOOW ePcP PcP 06 45 40.7 +2.5
MOOW eS S 06 52 19.7 +1.1
MOOW Moose Ponds 55.02 305 eP P 06 44 35.7 -1.0
comp=Z,87nm,1.2s
J19A Crowheart 55.04 303 ⇑P P 06 44 36.3 -0.4
baz=55,SNR=196
N29A Votaw Ranch, W 55.05 295 ⇑P P 06 44 36.2 -0.6
baz=55,SNR=11
I16A Newdale 55.08 305 ⇑P P 06 44 37.7 +0.6
baz=55,SNR=160
ATTU Attu Island--F 55.09 6 eP P 06 44 37.3 +0.6
FX1 Attu Island--F 55.09 6 eP P 06 44 37.3 +0.6
FX1 Attu Island--F 55.09 6 eP P 06 44 37.3 +0.6
L24A Wheatland 55.09 299 ⇑P P 06 44 36.5 -0.6
baz=55,SNR=29
LOHW Long Hollow 55.11 305 eP P 06 44 36.8 -0.5
comp=Z,113nm,1.4s
LOHW eS S 06 52 28.3 +8.5
LOHW Long Hollow 55.11 305 eP P 06 44 36.8 -0.5
comp=Z,113nm,1.4s
M26A McRoberts Ranc 55.15 297 ⇓P P 06 44 37.3 -0.2
baz=55,SNR=23
K21A Alcova 55.16 301 ⇓P P 06 44 36.2 -1.4
baz=55,SNR=32
DHRM DHARAMSHALA 55.16 93 eP P 06 44 37.9 0.0
DHRM AMB AMB 06 44 45.6
comp=Z,192nm,1.2s
L23A Garrett 55.23 300 ⇑P P 06 44 36.8 -1.5
baz=55,SNR=46
SMY Shemya 55.27 5 eP P 06 44 38.6 +0.6
SMY e 06 45 39.7
SMY pmax pmax
comp=Z,608nm,1.4s
SMY Shemya 55.27 5 eP P 06 44 38.6 +0.6
comp=Z,608nm,1.4s
SMY ePcP PcP 06 45 39.7 +1.0
SMY Shemya 55.27 5 eP P 06 44 38.6 +0.6
comp=Z,608nm,1.4s
SNOW Snow King Moun 55.29 305 eP P 06 44 38.5 -0.1
comp=Z,108nm,1.2s
SNOW ePcP PcP 06 45 40.8 +1.5
SNOW eS S 06 52 28.1 +5.8
SNOW Snow King Moun 55.29 305 eP P 06 44 38.5 -0.1
comp=Z,108nm,1.2s
CPCT Cooper Cave 55.30 278 eP P 06 44 36.6 -1.9
CPCT Cooper Cave 55.30 278 eP P 06 44 36.6 -1.9
TPAW Teton Pass 55.31 305 eP P 06 44 38.2 -0.6
comp=Z,111nm,1.2s
TPAW ePcP PcP 06 45 42.4 +3.0
TPAW eS S 06 52 26.8 +4.1
TPAW Teton Pass 55.31 305 eP P 06 44 38.2 -0.6
comp=Z,111nm,1.2s
ASR Mount Adams--S 55.31 315 P P 06 44 38.8 +0.1
ASR Mount Adams--S 55.31 315 P P 06 44 38.8 +0.1
OGNE Ogallala 55.33 296 eP P 06 44 38.4 -0.4
comp=Z,561nm,1.3s
OGNE LR LR
comp=Z,18µm,20.0s
OGNE Ogallala 55.33 296 eP P 06 44 38.4 -0.4
comp=Z,561nm,1.3s
OGNE Ogallala 55.33 296 ⇑P P 06 44 37.9 -0.9
baz=55,SNR=68
HABR Khabarovsk 55.40 35 deP P 06 44 38.2 -0.8
HABR e*PP pP 06 44 40.8 -1.2
HABR e*SP sP 06 44 41.9 -1.3
HABR 06 45 38.1
HABR S S 06 52 23.0 0.0
HABR e*SS sS 06 52 27.6 -0.4
HABR eSS SS 06 56 08.8 +2.1
HABR eSSS SSS 06 58 15.6
HABR pmax pmax
comp=Z,2µm,3.8s
HABR MLR MLR
comp=Z,4µm,16.0s
HABR Khabarovsk 55.40 35 eP P 06 44 38.2 -0.8
comp=Z,2µm,3.8s
HABR Khabarovsk 55.40 35 PcP PcP 06 45 38.1 -1.1
HABR S S 06 52 23.0 0.0
K19A Absolon Red Bu 55.40 303 ⇓P P 06 44 37.8 -1.6

baz=55,SNR=49
REDW Red Top Meadow 55.41 305 *e*P **P 06 44 39.1 -0.4**
comp=Z,212nm,1.3s
REDW *e*S S 06 52 29.8 +5.9
REDW Red Top Meadow 55.41 305 *e*P **P 06 44 39.1 -0.4**
comp=Z,212nm,1.3s
K20A Yellowstone Ra 55.42 302 ⇑P **P 06 44 38.4 -1.2**
baz=55,SNR=74
M25A Palm-Egli Farm 55.42 298 ⇓P **P 06 44 39.2 -0.4**
baz=55,SNR=29
N28A Pribbeno Ranch 55.43 296 ⇓P **P 06 44 39.0 -0.5**
baz=55,SNR=62
O30A MW Ranch, Wils 55.49 294 ⇑P **P 06 44 39.1 -0.8**
baz=55,SNR=20
L22A Ellis Ranch, M 55.51 300 ⇑P **P 06 44 39.3 -0.9**
baz=55,SNR=121
KSU1 Kansas State U 55.51 291 *e*P **P 06 44 38.6 -1.4**
comp=Z,252nm,1.3s
KSU1 LR LR
comp=Z,30μm,20.0s
KSU1 Kansas State U 55.51 291 *e*P **P 06 44 38.6 -1.4**
comp=Z,252nm,1.3s
RRI2 Red Ridge 55.54 305 *e*P **P 06 44 39.7 -0.8**
comp=Z,128nm,1.3s
RRI2 *e*PcP **PcP 06 45 39.7 -0.5**
RRI2 *e*S S 06 52 32.9 +7.1
RRI2 Red Ridge 55.54 305 *e*P **P 06 44 39.7 -0.8**
comp=Z,128nm,1.3s
BMO Blue Mountains 55.57 311 *e*P **P 06 44 39.1 -1.4**
comp=Z,154nm,1.1s
BMO *e*PcP **PcP 06 45 41.7 +1.5**
BMO LR LR
comp=Z,14μm,21.0s
BMO Blue Mountains 55.57 311 *e*P **P 06 44 39.1 -1.4**
comp=Z,154nm,1.1s
N27A Anderson Farm, 55.59 297 ⇑P **P 06 44 40.3 -0.4**
baz=55,SNR=41
GTA Gaotai 55.60 68 ⇓P **P 06 44 41.3 +0.5**
GTA pP **pP 06 44 46.0 +2.2**
GTA sP **sP 06 44 48.3 +3.3**
GTA S **S 06 52 28.5 +2.2**
GTA sS sS 06 52 36.9 +5.6
GTA pmax pmax
comp=Z,53nm,2.5s
GTA pmax pmax
comp=Z,1μm,5.5s
GTA LR LR
comp=N,4μm,19.5s
GTA LR LR
comp=E,5μm,19.5s
GTA LR LR
comp=Z,5μm,20.9s
M24A Cheyenne 55.60 299 ⇓P **P 06 44 40.6 -0.3**
baz=55,SNR=55
BW06 Boulder Array 55.63 303 *e*P **P 06 44 40.8 -0.3**
comp=Z,132nm,1.3s
BW06 *e*PcP **PcP 06 45 37.0 -3.6**
BW06 LR LR
comp=Z,11μm,22.0s
BW06 Boulder Array 55.63 303 *e*P **P 06 44 40.8 -0.3**
comp=Z,132nm,1.3s
PDAR Pinedale Array 55.63 303 P **P 06 44 40.7 -0.4**
PDAR P'P' 07 14 56.9
PDAR Pinedale Array 55.63 303 P **P 06 44 40.7 -0.4**
comp=Z,91nm,1.1s,baz=46,slow=5.4,SNR=124
PDAR LR LR 07 08 02.2
comp=Z,6μm,20.8s,baz=24,slow=36
PDAR PKPPKP P'P'df 07 14 56.9 +8.9
comp=Z,0.8nm,1.0s,baz=182,slow=2.7,SNR=4.7
PDAR Pinedale Array 55.63 303 P **P 06 44 40.7 -0.4**
WVT Waverly 55.67 281 *e*P **P 06 44 39.0 -2.2**
WVT *e* 06 45 39.9
WVT pmax pmax
comp=Z,70nm,1.4s
WVT Waverly 55.67 281 *e*P **P 06 44 39.0 -2.2**
comp=Z,70nm,1.4s
WVT *e*PcP **PcP 06 45 39.9 -0.6**
WVT Waverly 55.67 281 *e*P **P 06 44 39.0 -2.2**
comp=Z,70nm,1.4s
PARMO Parma 55.76 283 *e*P **P 06 44 42.3 +0.5**
PARMO Parma 55.76 283 *e*P **P 06 44 42.3 +0.5**
N26A Koester Ranch, 55.76 297 ⇓P **P 06 44 41.4 -0.6**
baz=56,SNR=16
L21A Rawlins 55.82 301 ⇑P **P 06 44 41.1 -1.3**
baz=56,SNR=135
M23A Laramie 55.84 300 ⇓P **P 06 44 41.8 -0.8**
baz=56,SNR=23
NAZ Nazwa, Dubai 55.88 117 P **P 06 44 42.7 -0.1**
P31A Stockton 55.91 293 ⇓P **P 06 44 42.0 -0.9**
baz=56,SNR=68
PHWY Pilot Hill 55.93 299 *e*P **P 06 44 43.1 -0.2**
comp=Z,121nm,1.2s
PHWY *e*S **S 06 52 32.6 +1.6**
PHWY Pilot Hill 55.93 299 *e*P **P 06 44 43.1 -0.2**
comp=Z,121nm,1.2s
PHWY *e*S **S 06 52 32.6 +1.6**
PVMO Portageville 55.97 283 *e*P **P 06 44 43.2 -0.1**
comp=Z,109nm,0.5s
PVMO Portageville 55.97 283 *e*P **P 06 44 43.2 -0.1**
comp=Z,109nm,0.5s
GLAT Glass 55.98 283 *e*P **P 06 44 43.0 -0.4**
GLAT Glass 55.98 283 *e*P **P 06 44 43.0 -0.4**
VLL Laurance Lake 55.99 314 P **P 06 44 44.8 +1.3**
VLL Laurance Lake 55.99 314 P **P 06 44 44.8 +1.3**
N25A Grover 56.01 298 ⇑P **P 06 44 43.7 -0.1**
baz=56
O28A Krutsinger Ran 56.02 296 ⇑P **P 06 44 43.0 -0.7**
baz=56,SNR=32
L20A Wamsutter 56.03 302 ⇓P **P 06 44 43.1 -0.8**
baz=56,SNR=50
RWWY Rawlins 56.03 301 *e*P **P 06 44 42.0 -2.0**
comp=Z,139nm,1.3s
RWWY *e*PcP **PcP 06 45 43.5 +1.3**
RWWY *e*S S 06 52 43.4 +11
RWWY Rawlins 56.03 301 *e*P **P 06 44 42.0 -2.0**
comp=Z,139nm,1.3s
UOSS Wadi Hilu 56.07 116 P **P 06 44 46.0 +1.8**
comp=Z,561nm,1.0s,SNR=7.7
FAQ Al Faqa, Dubai 56.09 117 P **P 06 44 43.5 -0.8**
HLID Hailey 56.10 308 *e*P **P 06 44 43.6 -0.8**
comp=Z,182nm,1.1s
HLID *e*S **S 06 52 34.2 +1.2**
HLID LR LR
comp=Z,17μm,20.0s
HLID Hailey 56.10 308 *e*P **P 06 44 43.6 -0.8**
comp=Z,182nm,1.1s
HLID *e*S **S 06 52 34.2 +1.2**
HLID Hailey 56.10 308 ⇑P **P 06 44 43.7 -0.7**
baz=56,SNR=335
ASUD Al Ashush, Dub 56.13 117 P **P 06 44 44.2 -0.4**
P30A Selden 56.13 294 ⇑P **P 06 44 43.7 -0.8**
baz=56,SNR=106
M22A Cedar Creek Ra 56.14 300 ⇑P **P 06 44 43.8 -1.0**
baz=56,SNR=36
M21A Separation Pea 56.15 301 ⇓P **P 06 44 43.5 -1.3**
baz=56,SNR=64
O27A Beecher Island 56.15 296 ⇓P **P 06 44 43.8 -0.9**
baz=56,SNR=12
HATD Hatta, Dubai 56.16 116 P **P 06 44 44.9 0.0**
SKR Severo-Kuril's 56.17 19 *e*P P 06 44 38.0 -6.5
SKR *e* 06 46 47.0
SKR *e*PS **PnS 06 52 40.0 -2.8**
SKR *e* 06 54 30.0
SKR pmax pmax
comp=N,1μm,8.0s
SKR pmax pmax
comp=Z,1μm,8.0s
SKR pmax pmax
comp=E,1μm,1.0s
SKR MLR MLR
comp=N,3μm,16.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,5μm,16.0s
ADK Adak 56.20 358 *e*P **P 06 44 42.8 -1.9**
ADK *e* 06 46 50.1
ADK pmax pmax
comp=Z,1μm,1.2s
ADK MLR MLR
comp=Z,4μm,19.0s
ADK Adak 56.20 358 *e*P **P 06 44 42.8 -1.9**
comp=Z,1μm,1.2s
ADK *e*PP **PP 06 46 50.1 +0.8**
ADK LR LR
comp=Z,4μm,19.0s
ADK Adak 56.20 358 *e*P **P 06 44 42.8 -1.9**
comp=Z,1μm,1.2s
L19A Farson 56.21 303 ⇑P **P 06 44 44.5 -0.7**
baz=56,SNR=84
N24A Carr 56.22 299 ⇓P **P 06 44 45.0 -0.2**
baz=56,SNR=18
ASHO Ashiyiah 56.28 116 P **P 06 44 46.6 +0.9**
SNR=9.3
ASHO Ashiyiah 56.28 116 P **P 06 44 46.6 +0.9**
SNR=9.3
HALT Halls 56.33 283 *e*P **P 06 44 45.2 -0.7**
HALT Halls 56.33 283 *e*P **P 06 44 45.2 -0.7**
O26A Horse Wrangler 56.33 297 ⇑P **P 06 44 45.4 -0.7**
baz=56,SNR=45
Q31A Ellis 56.40 293 ⇓P **P 06 44 45.6 -0.8**
baz=56,SNR=59
N23A Red Feather La 56.44 299 ⇓P **P 06 44 46.8 -0.1**
baz=56,SNR=129
SMLA Simla 56.47 92 *e*P **P 06 44 47.8 +0.9**
SMLA AMB AMB 06 44 53.7
comp=Z,249nm,0.6s
GNAR Gosnell 56.48 283 *e*P **P 06 44 47.4 +0.4**
comp=Z,2μm,1.4s
GNAR Gosnell 56.48 283 *e*P **P 06 44 47.4 +0.4**
comp=Z,2μm,1.4s
P28A Saint Francis 56.53 295 ⇓P **P 06 44 46.8 -0.6**
baz=56,SNR=68
L18A Fontenelle, Gr 56.55 303 ⇓P **P 06 44 47.0 -0.7**
baz=56,SNR=91
MFID Camas Ranch 56.58 309 ⇓P **P 06 44 46.3 -1.5**
baz=56,SNR=19
Q30A Quinter 56.65 294 ⇑P **P 06 44 47.6 -0.7**
baz=56,SNR=149
N22A Wattenberg Ran 56.66 300 ⇓P **P 06 44 47.9 -0.6**
baz=56,SNR=93
O25A Wiggins 56.67 298 ⇑P **P 06 44 47.9 -0.6**
baz=56,SNR=9.5
AMKA Amchitka 56.71 1 *e*P **P 06 44 48.1 -0.3**
comp=Z,328nm,1.4s
AMKA *e*PP **PP 06 46 51.4 -2.5**
AMKA Amchitka 56.71 1 *e*P **P 06 44 48.1 -0.3**
comp=Z,328nm,1.4s
M19A Rock Springs 56.71 302 ⇑P **P 06 44 47.7 -1.2**
baz=56,SNR=23
P27A Ficken Ranch, 56.77 296 ⇓P **P 06 44 48.3 -0.9**
baz=56,SNR=55
O24A Longmont 56.92 298 ⇑P **P 06 44 50.0 -0.3**
baz=57,SNR=70
Q29A Oakley 56.95 294 ⇓P **P 06 44 49.8 -0.6**
baz=57,SNR=94
P26A Davis Ranch, A 56.98 297 ⇓P **P 06 44 50.0 -0.7**
baz=57,SNR=86
N21A Black Mountain 56.98 301 ⇓P **P 06 44 49.9 -0.9**
baz=57,SNR=34
Q28A Sharon Springs 57.02 295 ⇑P **P 06 44 50.6 -0.4**
baz=57,SNR=50
HBAR Harrisburg 57.05 284 *e*P **P 06 44 51.6 +0.6**
HBAR Harrisburg 57.05 284 *e*P **P 06 44 51.6 +0.6**
O23A Lake Granby, G 57.07 299 ⇑P **P 06 44 51.5 0.0**
baz=57,SNR=200
R31A Burdett 57.10 293 ⇓P **P 06 44 50.7 -0.8**
baz=57,SNR=101
N20A Spence Gulch, 57.11 301 ⇓P **P 06 44 51.5 -0.2**
baz=57,SNR=239
M17A Scullys Gap (B 57.13 304 ⇑P **P 06 44 51.1 -0.7**
baz=57,SNR=46
COR Corvallis 57.18 315 *e*P **P 06 44 51.9 +0.1**
COR pmax pmax
comp=Z,328nm,1.4s
COR Corvallis 57.18 315 *e*P **P 06 44 51.9 +0.1**
comp=Z,328nm,1.4s
COR Corvallis 57.18 315 *e*P **P 06 44 51.9 +0.1**
comp=Z,328nm,1.4s
HWUT Hardware Ranch 57.23 305 *e*P **P 06 44 51.7 -0.8**
comp=Z,218nm,1.4s
HWUT *e*S **S 06 52 49.0 +1.0**
HWUT LR LR
comp=Z,11μm,20.0s
HWUT Hardware Ranch 57.23 305 *e*P **P 06 44 51.7 -0.8**
comp=Z,218nm,1.4s
HWUT *e*S **S 06 52 49.0 +1.0**
P25A Willow Gulch B 57.25 297 ⇑P **P 06 44 52.4 -0.2**
baz=57,SNR=46
O22A Kremmling 57.28 300 ⇓P **P 06 44 53.1 +0.1**
baz=57,SNR=152
BTO Baotou 57.28 59 *e*P **P 06 44 52.4 -0.4**
KSCO Kaye Shedlock' 57.29 296 *e*P **P 06 44 52.5 -0.4**
KSCO Kaye Shedlock' 57.29 296 *e*P **P 06 44 52.5 -0.4**
KSCO Kaye Shedlock' 57.29 296 ⇓P **P 06 44 52.5 -0.4**
baz=57,SNR=54
R30A Dighton 57.31 293 ⇓P **P 06 44 52.4 -0.5**
baz=57,SNR=112
ISCO Idaho Springs 57.37 299 *e*P **P 06 44 53.8 +0.2**
ISCO *e* 06 46 59.6
ISCO *e*S **S 06 52 51.4 +1.2**
ISCO pmax pmax
comp=Z,152nm,1.3s
ISCO MLR MLR
comp=Z,38μm,19.0s
ISCO Idaho Springs 57.37 299 *e*P **P 06 44 53.8 +0.2**
comp=Z,152nm,1.3s
ISCO *e*PP **PP 06 46 59.5 -0.9**
ISCO *e*S **S 06 52 51.4 +1.2**
ISCO LR LR
comp=Z,38μm,19.0s
ISCO Idaho Springs 57.37 299 *e*P **P 06 44 53.8 +0.2**
comp=Z,152nm,1.3s
ISCO Idaho Springs 57.37 299 ⇓P **P 06 44 53.9 +0.2**
baz=57,SNR=163
HVU Hansel Valley 57.38 306 *e*P **P 06 44 52.6 -0.9**
HVU pmax pmax
comp=Z,71nm,1.2s
HVU Hansel Valley 57.38 306 *e*P **P 06 44 52.6 -0.9**
comp=Z,71nm,1.2s
HVU Hansel Valley 57.38 306 *e*P **P 06 44 52.6 -0.9**
comp=Z,71nm,1.2s
R29A Marienthal 57.43 294 ⇑P **P 06 44 53.5 -0.3**
baz=57,SNR=48
P24A Kohler Place, 57.45 298 ⇑P **P 06 44 54.1 0.0**
baz=57,SNR=42
HHC Hu-ho-hao-te 57.46 57 *e*P **P 06 44 54.0 0.0**
HHC PcP **PcP 06 45 48.3 +0.7**
HHC PP **PP 06 47 03.1 +2.1**
HHC ScP **ScP 06 49 46.1 -0.9**
HHC PcS **PcS 06 49 47.8 -0.9**
HHC S **S 06 52 47.8 -3.0**
HHC ScS **ScS 06 54 39.8 -3.3**
HHC SS **SS 06 56 37.4 -2.3**
HHC pmax pmax
comp=Z,110nm,1.5s
HHC pmax pmax
comp=Z,1μm,5.7s
HHC LR LR
comp=N,9μm,17.1s
HHC LR LR
comp=E,6μm,17.9s
HHC LR LR
comp=Z,9μm,17.1s
O21A Pagoda 57.48 301 ⇓P **P 06 44 54.3 -0.1**
baz=57,SNR=70
DDI Dehra Dun 57.50 92 *e*P **P 06 44 53.9 -0.4**
DDI AMB AMB 06 45 01.6
comp=Z,456nm,0.6s
Q26A Hugo 57.62 297 ⇓P **P 06 44 55.2 0.0**
baz=57,SNR=124
OXF Oxford 57.65 282 *e*P **P 06 44 53.2 -2.0**
OXF pmax pmax
comp=Z,256nm,1.3s
OXF MLR MLR
comp=Z,16μm,19.0s
OXF Oxford 57.65 282 *e*P **P 06 44 53.2 -2.0**
comp=Z,256nm,1.3s
OXF LR LR
comp=Z,16μm,19.0s
OXF Oxford 57.65 282 *e*P **P 06 44 53.2 -2.0**
comp=Z,16μm,19.0s
HOQ Hoqain 57.67 115 P **P 06 44 56.0 +0.5**
SNR=16
HOQ Hoqain 57.67 115 P **P 06 44 56.0 +0.5**
SNR=16
ARQ Araqi 57.69 116 P **P 06 44 56.2 +0.5**
SNR=15
ARQ Araqi 57.69 116 P **P 06 44 56.2 +0.5**
SNR=15
R28A Tribune 57.69 295 ⇑P **P 06 44 55.3 -0.3**
baz=58,SNR=68
S31A Mullinville 57.71 293 ⇓P **P 06 44 55.2 -0.5**
baz=58,SNR=22
SPUT South Promonto 57.74 305 *e*P **P 06 44 55.8 -0.2**
comp=Z,166nm,1.3s
SPUT South Promonto 57.74 305 *e*P **P 06 44 55.8 -0.2**
comp=Z,166nm,1.3s
O20A White River Ci 57.76 301 *e*P **P 06 44 56.0 -0.2**
O20A *e*S **S 06 52 55.5 +0.5**
O20A White River Ci 57.76 301 *e*P **P 06 44 56.0 -0.2**
O20A *e*S **S 06 52 55.5 +0.5**
O20A White River Ci 57.76 301 ⇑P **P 06 44 56.4 +0.1**
baz=58,SNR=207
Q25A Bedland, Calha 57.83 297 ⇑P **P 06 44 56.4 -0.4**
baz=58,SNR=88
P23A Jefferson 57.83 299 ⇑P **P 06 44 57.1 +0.2**
baz=58,SNR=120
O19A Miners Draw (B 57.84 302 ⇓P **P 06 44 56.9 +0.2**
baz=58,SNR=151
P22A Eagle 57.87 300 ⇓P **P 06 44 56.8 -0.3**
baz=58,SNR=40
S30A Montezuma 57.97 293 ⇓P **P 06 44 56.9 -0.6**
baz=58,SNR=56
CN2 Changchun 57.98 45 ⇓P **P 06 44 57.0 -0.4**
CN2 *e*pP **pP 06 45 01.0 +0.5**
CN2 *e*S **S 06 52 53.6 -3.7**
CN2 pmax pmax
comp=Z,190nm,1.0s
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=N,6μm,20.0s
CN2 LR LR
comp=E,6μm,20.0s
CN2 LR LR
comp=Z,6μm,16.0s
R27A Eads 58.02 296 ⇓P **P 06 44 57.6 -0.3**
baz=58,SNR=114
Q24A Divide 58.03 298 ⇓P **P 06 44 57.7 -0.6**
baz=58,SNR=71
MDJ Mudanjiang 58.06 41 P **P 06 44 57.3 -0.7**
MDJ pP **pP 06 45 00.4 -0.7**
MDJ PP **PP 06 47 05.4 -0.7**
MDJ S **S 06 52 57.6 -0.8**
MDJ sS **sS 06 53 05.9 +2.5**
MDJ ScS **ScS 06 54 47.8 +0.6**
MDJ SS **SS 06 56 49.0 +0.2**
MDJ pmax pmax
comp=Z,140nm,1.2s
MDJ pmax pmax
comp=Z,340nm,3.6s
MDJ LR LR
comp=N,2μm,28.5s
MDJ LR LR
comp=E,3μm,28.5s
MDJ LR LR
comp=Z,4μm,16.5s
MDJ Mudanjiang 58.06 41 *e*P **P 06 44 57.5 -0.6**
comp=Z,186nm,1.2s
MDJ LR LR
comp=Z,3μm,19.0s
MDJ Mudanjiang 58.06 41 *e*P **P 06 44 57.5 -0.6**
comp=Z,186nm,1.2s
P21A Newcastle 58.12 300 ⇓P **P 06 44 58.7 -0.1**
baz=58,SNR=85
CTU Camp Tracy 58.14 304 *e*P **P 06 44 58.1 -0.8**
comp=Z,93nm,1.1s
CTU Camp Tracy 58.14 304 *e*P **P 06 44 58.1 -0.8**
comp=Z,93nm,1.1s
YSS Yuzh-Sakhalins 58.15 30 *de*P **P 06 45 00.0 +1.4**
YSS *i* *SP **sP 06 45 04.0 +1.2**
YSS *e* 06 47 12.0
YSS *e*S **S 06 52 58.0 -1.4**
YSS *e*PS PnS 06 53 22.0 +12
YSS pmax pmax
comp=Z,180nm,1.2s
YSS pmax pmax
comp=Z,900nm,3.0s
YSS smax smax
comp=N,2μm,8.0s
YSS smax smax
comp=E,900nm,7.0s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS Yuzh-Sakhalins 58.15 30 *e*P **P 06 45 00.0 +1.4**
comp=E,900nm,3.0s
JLU Jordanelle 58.15 304 *e*P **P 06 44 58.4 -0.6**
comp=E,160nm,1.6s
JLU *e*S **S 06 53 02.6 +2.4**
JLU Jordanelle 58.15 304 *e*P **P 06 44 58.4 -0.6**
comp=E,160nm,1.6s
JLU *e*S **S 06 53 02.6 +2.4**
S29A Ulysses 58.17 294 ⇑P **P 06 44 58.4 -0.6**
baz=58,SNR=35
WVOR Wild Horse Val 58.17 311 *e*P **P 06 44 59.0 0.0**
WVOR *e* 06 45 54.1
WVOR pmax pmax
comp=Z,55nm,1.2s
WVOR MLR MLR
comp=Z,12μm,19.0s
WVOR Wild Horse Val 58.17 311 *e*P **P 06 44 59.0 0.0**
comp=Z,55nm,1.2s
WVOR *e*PcP **PcP 06 45 54.0 +3.7**
WVOR LR LR
comp=Z,12μm,19.0s
WVOR Wild Horse Val 58.17 311 *e*P **P 06 44 59.0 0.0**
comp=Z,55nm,1.2s
R26A Arlington 58.18 296 ⇓P **P 06 44 58.4 -0.7**
baz=58,SNR=70
TUL1 Tulsa 58.24 289 *e*P **P 06 44 59.1 -0.3**
TUL1 Tulsa 58.24 289 *e*P **P 06 44 59.1 -0.3**
TUL1 Tulsa 58.24 289 ⇓P **P 06 44 58.2 -1.2**
baz=58,SNR=5.7
BGU Big Grassy Mou 58.24 305 *e*P **P 06 44 59.1 -0.5**
comp=Z,81nm,1.2s
BGU Big Grassy Mou 58.24 305 *e*P **P 06 44 59.1 -0.5**
comp=Z,81nm,1.2s
T31A Randall Ranch, 58.25 292 ⇑P **P 06 44 58.8 -0.7**
baz=58,SNR=36
Q23A Hartsel 58.27 299 ⇑P **P 06 44 59.6 -0.4**
baz=58,SNR=23
DAU Daniels Canyon 58.28 304 *e*P **P 06 45 01.0 +1.0**
DAU *e* 06 45 53.2
DAU pmax pmax
comp=Z,104nm,1.3s
DAU Daniels Canyon 58.28 304 *e*P **P 06 45 01.0 +1.0**
comp=Z,104nm,1.3s
DAU *e*PcP **PcP 06 45 53.2 +2.1**
DAU Daniels Canyon 58.28 304 *e*P **P 06 45 01.0 +1.0**
comp=Z,104nm,1.3s
UALR University of 58.28 285 *e*P **P 06 44 58.2 -1.5**
comp=Z,40nm,1.0s
UALR *e*PcP **PcP 06 45 51.0 +0.3**
UALR *e*PP **PP 06 47 08.8 +0.6**
UALR University of 58.28 285 *e*P **P 06 44 58.2 -1.5**
comp=Z,40nm,1.0s
LRAL Lakeview Retre 58.30 279 *e*P **P 06 44 57.6 -2.2**
comp=Z,27nm,1.1s
LRAL LR LR
comp=Z,334nm,20.0s
LRAL Lakeview Retre 58.30 279 *e*P **P 06 44 57.6 -2.2**
comp=Z,27nm,1.1s
SMCO Snowmass 58.32 300 *e*P **P 06 45 00.1 -0.3**
comp=Z,139nm,1.3s
SMCO Snowmass 58.32 300 *e*P **P 06 45 00.1 -0.3**
comp=Z,139nm,1.3s
SMDO Samad 58.37 115 P **P 06 45 01.1 +0.6**
SNR=30
SMDO Samad 58.37 115 P **P 06 45 01.1 +0.6**
SNR=30
P20A De Beque 58.39 301 ⇑P **P 06 45 00.3 -0.3**
baz=58,SNR=134
S28A Manter 58.42 295 ⇓P **P 06 45 00.7 0.0**
baz=58,SNR=95
BSY Bisya 58.43 116 P **P 06 45 01.4 +0.5**
SNR=43
BSYO Bisya 58.46 116 P **P 06 45 01.4 +0.3**
SNR=43
T30A Plains 58.53 293 ⇑P **P 06 45 00.9 -0.6**
baz=58,SNR=12
R25A Fountain Ranch 58.56 297 ⇓P **P 06 45 01.5 -0.2**
baz=58,SNR=21
Q22A Crested Butte, 58.60 299 ⇓P **P 06 45 02.5 +0.3**
baz=58,SNR=149
S27A Las Animas 58.61 296 ⇑P **P 06 45 02.2 0.0**

baz=58,SNR=14
T29A Hugoton 58.65 294 ⇓P **P 06 45 01.9 -0.5**
baz=58,SNR=36
R24A Sanders Place, 58.70 298 ⇑P **P 06 45 02.8 -0.1**
baz=58,SNR=36
TIGA Tifton 58.74 276 *e*P **P 06 45 02.6 -0.3**
TIGA Tifton 58.74 276 *e*P **P 06 45 02.6 -0.3**
TIGA Tifton 58.74 276 ⇑P **P 06 45 02.1 -0.9**
baz=59
MPU Maple Canyon 58.75 304 *e*P **P 06 45 03.7 +0.6**
comp=Z,126nm,1.3s
MPU *e*S **S 06 53 11.5 +3.5**
MPU Maple Canyon 58.75 304 *e*P **P 06 45 03.7 +0.6**
comp=Z,126nm,1.3s
NDI New Delhi 58.77 93 *e*P **P 06 45 03.0 -0.2**
NDI *e*S **S 06 53 08.0 0.0**
Q21A Lamborn Mesa, 58.80 300 ⇑P **P 06 45 03.6 0.0**
baz=59,SNR=84
S26A Kim 58.83 296 ⇓P **P 06 45 03.0 -0.6**
baz=59,SNR=36
MIAR Mount Ida 58.86 286 *e*P **P 06 45 02.6 -1.1**
MIAR *e* 06 47 10.2
MIAR S **S 06 53 07.8 -1.2**
MIAR pmax pmax
comp=Z,226nm,1.4s
MIAR MLR MLR
comp=Z,13μm,19.0s
MIAR Mount Ida 58.86 286 *e*P **P 06 45 02.6 -1.1**
comp=Z,226nm,1.4s
MIAR *e*PP **PP 06 47 10.2 -3.2**
MIAR S **S 06 53 07.8 -1.2**
MIAR LR LR
comp=Z,13μm,19.0s
MIAR Mount Ida 58.86 286 *e*P **P 06 45 02.6 -1.1**
comp=Z,226nm,1.4s
MIAR S **S 06 53 07.8 -1.2**
DUG Dugway 58.88 305 *e*P **P 06 45 04.0 0.0**
DUG pmax pmax
comp=Z,134nm,1.0s
DUG MLR MLR
comp=Z,12μm,19.0s
DUG Dugway 58.88 305 *e*P **P 06 45 04.0 0.0**
comp=Z,134nm,1.0s
DUG LR LR
comp=Z,12μm,19.0s
DUG Dugway 58.88 305 *e*P **P 06 45 04.0 0.0**
comp=Z,12μm,19.0s
DUG Dugway 58.88 305 ⇓P **P 06 45 04.2 +0.2**
baz=59,SNR=193
Q20A Ridgley Place, 58.88 301 ⇑P **P 06 45 03.5 -0.6**
baz=59,SNR=126
T28A Walsh 58.92 295 ⇓P **P 06 45 04.1 -0.2**
baz=59
NLU North Lily Min 58.92 304 *e*P **P 06 45 04.5 +0.1**
comp=Z,612nm,2.1s
NLU *e*S **S 06 53 16.0 +5.9**
NLU North Lily Min 58.92 304 *e*P **P 06 45 04.5 +0.1**
comp=Z,612nm,2.1s
R23A Moffat 58.94 298 ⇓P **P 06 45 04.4 -0.2**
baz=59,SNR=157
USRK Ussuriysk Arra 58.94 39 P **P 06 45 03.6 -0.5**
comp=Z,48nm,0.9s,baz=340,slow=5.9,SNR=51
USRK LR LR 07 12 41.3
comp=Z,4μm,18.8s,baz=334,slow=38
U31A Nine Bar Ranch 58.98 292 ⇑P **P 06 45 04.7 0.0**
baz=59,SNR=22
HUMO Hull Mountain 58.99 314 *e*P **P 06 45 03.7 -0.9**
comp=Z,285nm,1.9s
HUMO Hull Mountain 58.99 314 *e*P **P 06 45 03.7 -0.9**
comp=Z,285nm,1.9s
KEBM Edson Butte 59.03 316 *e*P **P 06 45 07.2 +2.3**
comp=Z,236nm,1.4s
KEBM Edson Butte 59.03 316 *e*P **P 06 45 07.2 +2.3**
comp=Z,236nm,1.4s
TOA0 Torodi Ar. Sit 59.04 179 *e*P **P 06 45 04.2 -0.9**
TOA0 Torodi Ar. Sit 59.04 179 *e*P **P 06 45 04.2 -0.9**
TORD Torodi Ar. Bea 59.04 179 P **P 06 45 04.3 -0.8**
TORD Torodi Ar. Bea 59.04 179 P **P 06 45 04.3 -0.8**
comp=Z,88nm,1.0s,baz=357,slow=7.0,SNR=82
TORD LR LR 07 11 40.4
comp=Z,9μm,18.1s,baz=0.0,slow=37
TORD Torodi Ar. Bea 59.04 179 P **P 06 45 04.3 -0.8**
JMDO Jabal Madar 59.04 115 P **P 06 45 05.5 +0.4**
SNR=26
JMDO Jabal Madar 59.04 115 P **P 06 45 05.5 +0.4**
SNR=26
S25A Robets Cordova 59.05 297 ⇓P **P 06 45 05.1 -0.2**
baz=59,SNR=287
WBK Wadi Bani Khal 59.06 114 P **P 06 45 07.6 +2.4**
SNR=7.3
WBK Wadi Bani Khal 59.06 114 P **P 06 45 07.6 +2.4**
SNR=7.3
U30A WK&E Inc. Balk 59.06 293 ⇓P **P 06 45 05.1 -0.1**
baz=59,SNR=52
T27A Campo 59.14 295 ⇑P **P 06 45 05.6 -0.2**
baz=59,SNR=22
R22A Saguache, Gunn 59.15 299 ⇑P **P 06 45 06.7 +0.5**
baz=59,SNR=146
SDCO Great Sand Dun 59.27 298 *e*P **P 06 45 07.0 +0.1**
comp=Z,93nm,1.3s
SDCO LR LR
comp=Z,28μm,19.0s
SDCO Great Sand Dun 59.27 298 *e*P **P 06 45 07.0 +0.1**
comp=Z,93nm,1.3s
T26A Comanche Natio 59.28 296 ⇓P **P 06 45 06.8 0.0**
baz=59,SNR=137
S24A Houchin Ranch, 59.29 298 ⇓P **P 06 45 06.7 -0.3**
baz=59,SNR=51
U29A Oasis Ranch, S 59.31 294 ⇓P **P 06 45 07.0 +0.1**
baz=59,SNR=10
SRU San Rafael 59.32 303 *e*P **P 06 45 06.9 -0.2**
SRU pmax pmax
comp=Z,159nm,1.4s
SRU San Rafael 59.32 303 *e*P **P 06 45 06.9 -0.2**
comp=Z,159nm,1.4s
SRU San Rafael 59.32 303 *e*P **P 06 45 06.9 -0.2**
comp=Z,159nm,1.4s
TMUT Trail Mountain 59.32 303 *e*P **P 06 45 07.6 +0.4**
comp=Z,140nm,1.2s
TMUT Trail Mountain 59.32 303 *e*P **P 06 45 07.6 +0.4**
comp=Z,140nm,1.2s
BJI Beijing 59.39 54 P **P 06 45 07.3 0.0**
BJI PcP **PcP 06 45 55.1 +0.1**
BJI S **S 06 53 15.8 +0.1**
BJI ScS **ScS 06 54 57.0 0.0**
BJI SS **SS 06 57 09.0 -0.7**
BJI pmax pmax
comp=Z,66nm,2.2s
BJI pmax pmax
comp=Z,990nm,3.7s
BJI LR LR
comp=N,8μm,15.5s
BJI LR LR
comp=E,3μm,16.2s
BJI LR LR
comp=Z,6μm,20.2s
S23A Nye Farm, Mont 59.44 298 ⇓P **P 06 45 08.3 +0.3**
baz=59,SNR=28
V31A Spring Creek L 59.53 292 ⇓P **P 06 45 08.4 0.0**
baz=59,SNR=57
T25A Trinidad 59.54 297 ⇓P **P 06 45 08.1 -0.6**
baz=59,SNR=51
PV04 Paradox Valley 59.57 301 *e*P **P 06 45 08.9 0.0**
PV04 *e*PP **PP 06 47 19.9 0.0**
PV04 Paradox Valley 59.57 301 *e*P **P 06 45 08.9 0.0**
R20A Redvale 59.62 300 ⇑P **P 06 45 09.5 +0.3**
baz=59,SNR=132
S22A 4UR Ranch, Cre 59.62 299 ⇓P **P 06 45 09.6 +0.2**
baz=59,SNR=172
KBO Bosley Butte 59.64 315 *e*P **P 06 45 11.1 +2.0**
comp=Z,180nm,1.3s
KBO Bosley Butte 59.64 315 *e*P **P 06 45 11.1 +2.0**
comp=Z,180nm,1.3s
U28A Mallet 59.64 294 ⇓P **P 06 45 09.2 0.0**
baz=59
Q16A Castle Valley 59.67 303 *e*P **P 06 45 10.1 +0.6**
Q16A *e*S **S 06 53 23.6 +3.8**
Q16A Castle Valley 59.67 303 *e*P **P 06 45 10.1 +0.6**
Q16A Castle Valley 59.67 303 ⇓P **P 06 45 09.8 +0.3**
baz=59,SNR=78
PV01 Paradox Valley 59.73 301 *e*P **P 06 45 10.0 0.0**
comp=Z,26μm,1.2s
PV01 Paradox Valley 59.73 301 *e*P **P 06 45 10.0 0.0**
comp=Z,10μm,1.2s
BMN Battle Mountai 59.74 309 *e*P **P 06 45 10.1 +0.2**
BMN pmax pmax
comp=Z,61nm,1.1s
BMN Battle Mountai 59.74 309 *e*P **P 06 45 10.1 +0.2**
comp=Z,61nm,1.1s
BMN Battle Mountai 59.74 309 *e*P **P 06 45 10.1 +0.2**
comp=Z,61nm,1.1s
YBH Yreka Blue Hor 59.77 314 *e*P **P 06 45 10.0 0.0**
comp=Z,81nm,1.5s
YBH Yreka Blue Hor 59.77 314 LR LR 07 11 09.2
comp=Z,15μm,18.4s,baz=15,slow=36
YBH Yreka Blue Hor 59.77 314 *e*P **P 06 45 10.0 0.0**
comp=Z,81nm,1.5s
U27A Thompson Grove 59.77 295 ⇑P **P 06 45 09.9 -0.3**
baz=60,SNR=80
V30A Spur Ranch, Mi 59.79 293 ⇑P **P 06 45 10.5 +0.3**
baz=60,SNR=14
LZH Lanzhou 59.84 66 ⇓P **P 06 45 11.3 +0.6**
LZH pP **pP 06 45 15.8 +2.1**
LZH sP **sP 06 45 18.1 +3.2**
LZH *e*S **S 06 53 21.0 -1.0**
LZH SS **SS 06 57 16.3 -1.0**
LZH pmax pmax
comp=Z,120nm,1.4s
LZH pmax pmax
comp=Z,590nm,4.2s
LZH LR LR
comp=N,5μm,14.3s
LZH LR LR
comp=E,3μm,12.5s
LZH LR LR
comp=Z,6μm,18.1s
V29A Stinnett 59.92 294 ⇑P **P 06 45 11.2 0.0**
baz=60
S20A Disappointment 59.95 300 ⇑P **P 06 45 11.8 +0.2**
baz=60,SNR=162
VLA Vladivostok 59.96 40 ⇓*i*P **P 06 45 09.7 -1.5**
VLA *e*S **S 06 53 22.2 -0.8**
VLA pmax pmax
comp=Z,132nm,1.2s
VLA MLR MLR
comp=E,89μm,20.0s
VLA Vladivostok 59.96 40 *i* P **P 06 45 09.7 -1.5**
comp=E,132nm,1.2s
VLA *e*S **S 06 53 22.2 -0.8**
S21A Coal Bank Pass 59.96 300 ⇓P **P 06 45 12.0 +0.3**
baz=60,SNR=99
U26A Atchley Ranch, 60.05 296 ⇓P **P 06 45 12.4 +0.2**
baz=60,SNR=138
T23A Casias Ranch, 60.08 298 ⇓P **P 06 45 12.3 -0.1**
baz=60,SNR=67
W31A Holland Ranch, 60.11 292 ⇑P **P 06 45 12.4 0.0**
baz=60,SNR=46
VBMS Vicksburg 60.12 282 *e*P **P 06 45 11.3 -1.1**
comp=E,170nm,1.3s
VBMS LR LR
comp=Z,16μm,20.0s
VBMS Vicksburg 60.12 282 *e*P **P 06 45 11.3 -1.1**
comp=Z,170nm,1.3s
BRAL Brewton 60.20 279 PFAKE 06 45 30.0 +17
BRAL LR LR
comp=Z,12μm,22.0s
WMOK Wichita Mounta 60.20 291 *e*P **P 06 45 12.2 -0.8**
WMOK *e* 06 45 59.0
WMOK *e*S **S 06 53 26.6 +0.2**
WMOK pmax pmax
comp=Z,280nm,1.4s
WMOK MLR MLR
comp=Z,28μm,20.0s
WMOK Wichita Mounta 60.20 291 *e*P **P 06 45 12.2 -0.8**
comp=Z,280nm,1.4s
WMOK *e*PcP **PcP 06 45 59.0 +0.6**
WMOK *e*S **S 06 53 26.6 +0.2**
WMOK LR LR
comp=Z,28μm,20.0s
WMOK Wichita Mounta 60.20 291 *e*P **P 06 45 12.1 -0.9**
comp=Z,280nm,1.4s
U25A Circle Dot Ran 60.23 296 ⇑P **P 06 45 13.5 +0.1**
baz=60,SNR=92
KRMB Red Mountain 60.23 315 *e*P **P 06 45 13.6 +0.3**
comp=Z,127nm,1.2s
KRMB Red Mountain 60.23 315 *e*P **P 06 45 13.6 +0.3**
comp=Z,127nm,1.2s
V28A Channing 60.23 294 ⇑P **P 06 45 13.2 -0.1**
baz=60,SNR=22
W30A Crocket Farms 60.30 292 ⇑P **P 06 45 14.2 +0.4**
baz=60,SNR=7.7
MSU Marysvale 60.31 304 *e*P **P 06 45 15.0 +1.1**
MSU *e* 06 47 24.8
MSU pmax pmax
comp=Z,170nm,1.2s
MSU Marysvale 60.31 304 *e*P **P 06 45 15.0 +1.1**
comp=Z,170nm,1.2s
MSU *e*PP **PP 06 47 24.8 -1.6**
MSU Marysvale 60.31 304 *e*P **P 06 45 15.0 +1.1**
comp=Z,170nm,1.2s
MVU Marysvale 60.32 304 *e*P **P 06 45 15.0 +0.9**
comp=Z,221nm,1.4s
MVU Marysvale 60.32 304 *e*P **P 06 45 15.0 +0.9**
comp=Z,221nm,1.4s
T22A Edith 60.33 299 ⇓P **P 06 45 14.5 +0.3**
baz=60,SNR=156
V27A Dan Oppiter Fa 60.40 295 ⇑P **P 06 45 14.1 -0.4**
baz=60,SNR=40
U24A Moreno Valley 60.46 297 ⇓P **P 06 45 15.2 +0.1**
baz=60,SNR=28
T21A Navajo Lake 60.52 299 ⇑P **P 06 45 15.9 +0.5**
baz=60,SNR=22
KUR Kuril'sk 60.57 26*c* *i*P P 06 45 10.5 -4.8
KUR *i* PPP PPP 06 49 02.3
KUR MLR MLR
comp=N,2μm,17.0s
KUR MLR MLR
comp=E,1μm,17.0s
KUR MLR MLR
comp=Z,2μm,17.0s
MVCO Mesa Verde 60.58 300 *e*P **P 06 45 16.4 +0.6**
comp=Z,512nm,1.3s
MVCO *e*PP **PP 06 47 28.2 -0.6**
MVCO *e*S **S 06 53 34.1 +2.5**
MVCO LR LR
comp=Z,24μm,20.0s
MVCO Mesa Verde 60.58 300 *e*P **P 06 45 16.4 +0.6**
comp=Z,512nm,1.3s
MVCO Mesa Verde 60.58 300 ⇓P **P 06 45 16.4 +0.6**
baz=60,SNR=266
V26A Tequesquite Ra 60.62 296 ⇓P **P 06 45 15.5 -0.5**
baz=60,SNR=63
TIY Taiyuan 60.64 58 *e*P **P 06 45 16.3 +0.3**
TIY PP **PP 06 47 33.8 +4.7**
TIY S **S 06 53 33.8 +1.8**
TIY ScS **ScS 06 55 07.1 +0.5**
TIY pmax pmax
comp=Z,830nm,4.0s
TIY LR LR
comp=N,3μm,13.2s
TIY LR LR
comp=E,1μm,11.0s
TIY LR LR
comp=Z,4μm,16.5s
X31A McDonald Ranch 60.64 292 ⇑P **P 06 45 16.6 +0.5**
baz=60,SNR=112
W29A Amrarillo 60.66 293 ⇑P **P 06 45 16.3 0.0**
baz=60,SNR=8.2
W28A Vega 60.69 294 ⇑P **P 06 45 16.7 +0.3**
baz=60,SNR=17
U23A El Rito 60.78 298 ⇑P **P 06 45 17.2 0.0**
baz=61,SNR=96
KHMM Horse Mountain 60.81 314 *e*P **P 06 45 18.6 +1.3**
comp=Z,238nm,1.3s
KHMM Horse Mountain 60.81 314 *e*P **P 06 45 18.6 +1.3**
comp=Z,238nm,1.3s
V25A Rancho No Teng 60.81 296 ⇑P **P 06 45 17.4 0.0**
baz=61,SNR=173
WDC Whiskeytown Da 60.83 313 *e*P **P 06 45 16.5 -0.7**
WDC pmax pmax
comp=Z,170nm,1.4s
WDC Whiskeytown Da 60.83 313 *e*P **P 06 45 16.5 -0.7**
comp=Z,170nm,1.4s
WDC Whiskeytown Da 60.83 313 *e*P **P 06 45 16.5 -0.7**
comp=Z,170nm,1.4s
AMTX Amarillo 60.89 293 *e*P **P 06 45 18.2 +0.4**
comp=Z,170nm,1.3s
AMTX LR LR
comp=Z,22μm,20.0s
AMTX Amarillo 60.89 293 *e*P **P 06 45 18.2 +0.4**
comp=Z,170nm,1.3s
ASAJ Asahikawa 60.89 31 *e*P **P 06 45 17.1 -0.4**
comp=Z,113nm,1.8s
ASAJ Asahikawa 60.89 31 *e*P **P 06 45 17.1 -0.4**
comp=Z,113nm,1.8s
U22A Llaves 60.92 298 ⇑P **P 06 45 18.4 +0.2**
baz=61,SNR=56
PAHR Pah Rah Range 60.94 310 *e*P **P 06 45 18.2 +0.1**
comp=Z,111nm,1.2s
PAHR *e*PP **PP 06 47 31.7 -0.2**
PAHR *e*ScP **ScP 06 50 08.6 +6.1**
PAHR Pah Rah Range 60.94 310 *e*P **P 06 45 18.2 +0.1**
comp=Z,111nm,1.2s
BEKR Beckworth 61.01 311 *e*P **P 06 45 18.4 -0.3**
comp=Z,45nm,1.1s
BEKR Beckworth 61.01 311 *e*P **P 06 45 18.4 -0.3**
comp=Z,45nm,1.1s
X30A Coker Ranch, T 61.07 292 ⇓P **P 06 45 19.5 +0.5**
baz=61,SNR=140
Y32A R-V Farms, Ver 61.08 291 ⇓P **P 06 45 19.5 +0.6**
baz=61,SNR=111
PYUN Piuthan 61.09 88 *e*P **P 06 45 19.5 +0.1**
comp=Z,823nm,1.0s
U21A Nageezi 61.09 299 ⇑P **P 06 45 19.0 -0.3**
baz=61,SNR=88
DANN Dangsing 61.09 87 *e*P **P 06 45 19.7 +0.2**
comp=Z,470nm,1.2s
V24A Rampart Ranch, 61.10 297 ⇑P **P 06 45 19.5 +0.1**
baz=61,SNR=70
W27A Bowe Ranch, En 61.11 295 ⇑P **P 06 45 19.7 +0.4**
baz=61,SNR=125
W26A Owens Ranch, T 61.28 295 ⇑P **P 06 45 20.1 -0.4**
baz=61,SNR=27
X29A Tulia 61.31 293 ⇓P **P 06 45 20.8 +0.2**
baz=61,SNR=26
ARUT Antelope Range 61.31 305 *e*P **P 06 45 22.0 +1.3**
ARUT pmax pmax
comp=Z,148nm,1.2s
ARUT Antelope Range 61.31 305 *e*P **P 06 45 22.0 +1.3**
comp=Z,148nm,1.2s
ARUT Antelope Range 61.31 305 *e*P **P 06 45 22.0 +1.3**
comp=Z,148nm,1.2s
R11A Troy Canyon, C 61.32 307 *e*P **P 06 45 20.5 -0.3**
R11A *e*S **S 06 53 44.9 +4.0**
R11A Troy Canyon, C 61.32 307 *e*P **P 06 45 20.5 -0.3**
R11A Troy Canyon, C 61.32 307 ⇓P **P 06 45 21.0 +0.2**
baz=61,SNR=268
V23A Ortiz Mt. (NFS 61.33 298 ⇑P **P 06 45 21.7 +0.7**
baz=61,SNR=68
Y31A Rekieta Farm, 61.35 292 ⇑P **P 06 45 21.4 +0.5**
baz=61,SNR=114
W25A X Bar L Ranch, 61.35 296 ⇓P **P 06 45 20.6 -0.4**
baz=61,SNR=25
U20A Newcomb 61.37 300 ⇑P **P 06 45 21.4 +0.3**
baz=61,SNR=28
V22A San Miguel Ran 61.37 298 ⇑P **P 06 45 21.6 +0.3**
baz=61,SNR=101
X28A Dimmitt 61.38 294 ⇓P **P 06 45 21.6 +0.4**
baz=61,SNR=108
YUK Yuzh-Kuril'sk 61.46 28 *i* P **P 06 45 18.5 -2.9**
YUK *i* 06 46 00.3
YUK *i* S S 06 53 35.7 -6.5
YUK 06 55 06.4
YUK *e*SSS SSS 07 00 20.8
YUK pmax pmax
comp=N,186nm,1.2s
YUK pmax pmax
comp=Z,608nm,1.2s
YUK pmax pmax
comp=E,386nm,1.2s
YUK pmax pmax
comp=Z,1μm,1.9s
YUK MLR MLR
comp=N,528nm,20.0s
YUK MLR MLR
comp=E,774nm,20.0s
YUK MLR MLR
comp=Z,3μm,20.0s
X27A F and S Farms, 61.51 294 ⇑P **P 06 45 22.6 +0.5**
baz=61,SNR=29
CCUT Cedar City 61.52 305 *e*P **P 06 45 22.9 +0.7**
comp=Z,172nm,1.2s
CCUT Cedar City 61.52 305 *e*P **P 06 45 22.9 +0.7**
comp=Z,172nm,1.2s
KOLN Koldanda 61.58 88 *e*P **P 06 45 22.6 -0.1**
comp=Z,149nm,1.1s
Y30A Stafford Cattl 61.61 292 ⇑P **P 06 45 22.8 +0.1**
baz=61,SNR=69
W24A Lazy 6 Ranch, 61.62 297 ⇑P **P 06 45 22.9 0.0**
baz=61,SNR=62
V21A Milan 61.67 299 ⇓P **P 06 45 23.1 -0.1**
baz=61,SNR=22
Z32A Haskell 61.74 291 ⇑P **P 06 45 23.6 +0.1**
baz=62,SNR=183
KIPM Iron Peak 61.78 314 *e*P **P 06 45 24.2 +0.4**
comp=Z,140nm,1.5s
KIPM Iron Peak 61.78 314 *e*P **P 06 45 24.2 +0.4**
comp=Z,140nm,1.5s
DL2 Dalian 61.78 50 P **P 06 45 22.8 -0.8**
DL2 S **S 06 53 43.3 -3.1**
DL2 pmax pmax
comp=Z,110nm,1.2s
DL2 pmax pmax
comp=Z,620nm,3.7s
DL2 LR LR
comp=N,3μm,20.1s
DL2 LR LR
comp=Z,6μm,17.2s
NATX Nacogdoches 61.78 286 *e*P **P 06 45 24.8 +1.0**
comp=Z,201nm,1.4s
NATX LR LR
comp=Z,11μm,22.0s
NATX Nacogdoches 61.78 286 *e*P **P 06 45 24.8 +1.0**
comp=Z,201nm,1.4s
X26A CR and CF Fran 61.80 295 ⇓P **P 06 45 24.3 +0.3**
baz=62,SNR=70
Y29A Porterfield Fa 61.85 293 ⇑P **P 06 45 24.1 -0.1**
baz=62,SNR=68
NV11 Mina Array Sit 61.86 309 *e*P **P 06 45 23.8 -0.6**
NV11 *e*PP **PP 06 47 38.3 -1.7**
NV11 Mina Array Sit 61.86 309 *e*P **P 06 45 23.8 -0.6**
W23A Werner Place, 61.87 297 ⇑P **P 06 45 24.6 0.0**
baz=62,SNR=40
V20A Brimhall 61.90 300 ⇑P **P 06 45 24.8 0.0**
baz=62,SNR=87
NVAR Mina Array Bea 61.90 309 P **P 06 45 25.1 +0.4**
NVAR PP **PP 06 47 38.8 -1.6**
NVAR Mina Array Bea 61.90 309 P **P 06 45 25.1 +0.4**
comp=Z,64nm,1.0s,baz=31,slow=5.9,SNR=136
NVAR PP **PP 06 47 38.8 -1.6**
comp=Z,7.5nm,1.1s,baz=27,slow=6.2,SNR=3.7
NVAR LR LR 07 12 43.7
comp=Z,16μm,18.8s,baz=341,slow=37
NVAR Mina Array Bea 61.90 309 P **P 06 45 25.1 +0.4**
KCPM Cahto Peak 61.92 314 *e*P **P 06 45 24.1 -0.6**
comp=Z,70nm,1.3s
KCPM Cahto Peak 61.92 314 *e*P **P 06 45 24.1 -0.6**
comp=Z,70nm,1.3s
Z31A Sharp Cattle R 61.92 291 ⇑P **P 06 45 24.5 -0.2**
baz=62,SNR=66
Y28A McKinney Farm, 61.96 293 ⇓P **P 06 45 24.9 -0.2**
baz=62,SNR=75
MSTX Muleshoe 62.05 294 *e*P **P 06 45 25.7 0.0**
MSTX Muleshoe 62.05 294 *e*P **P 06 45 25.7 0.0**
MSTX Muleshoe 62.05 294 ⇓P **P 06 45 25.9 +0.2**
baz=62,SNR=80
X25A Clemmons Ranch 62.06 296 ⇑P **P 06 45 26.4 +0.6**
baz=62,SNR=28
KKN Kakani 62.08 86 *e*P **P 06 45 26.1 0.0**
comp=Z,226nm,1.1s
LSA Lhasa 62.09 80 P **P 06 45 27.3 +0.9**
LSA sP sP 06 45 38.9 +8.3
LSA PP PP 06 47 48.5 +5.9
LSA S **S 06 53 52.8 +1.4**
LSA LR LR
comp=E,4μm,23.5s
LSA LR LR
comp=Z,4μm,24.2s
LSA Lhasa 62.09 80 *e*P **P 06 45 27.4 +1.0**
LSA pmax pmax
comp=Z,134nm,1.2s
LSA MLR MLR
comp=Z,4μm,20.0s
LSA Lhasa 62.09 80 *e*P **P 06 45 27.4 +1.0**
comp=Z,134nm,1.2s
LSA LR LR
comp=Z,4μm,20.0s
LSA Lhasa 62.09 80 *e*P **P 06 45 27.4 +1.0**
comp=Z,4μm,20.0s
WAKR Walker 62.10 310 *e*P **P 06 45 27.0 +1.0**
comp=Z,421nm,2.0s

WAKR	Walker	62.10	310	eP	P	06 45 27.0 +1.0
	comp=Z,421nm,2.0s					
W22A	Albuquerque	62.15	298	⇓P	P	06 45 27.0 +0.6
	baz=62,SNR=11					
GUN	Gumba	62.15	86	eP	P	06 45 26.9 +0.2
	comp=Z,572nm,1.0s					
ANMO	Albuquerque	62.16	298	eP	P	06 45 26.2 -0.3
	comp=Z,144nm,1.4s					
ANMO				ePP	PP	06 47 43.7 +0.9
ANMO				LR	LR	
	comp=Z,28μm,19.0s					
ANMO	Albuquerque	62.16	298	eP	P	06 45 26.2 -0.3
	comp=Z,144nm,1.4s					
DMN	Daman	62.20	86	eP	P	06 45 27.0 +0.1
	comp=Z,264nm,1.1s					
Z30A	Sanderson Ranc	62.23	292	⇓P	P	06 45 26.4 -0.5
	baz=62,SNR=54					
X24A	Lazy VL Ranch,	62.24	297	⇓P	P	06 45 27.6 +0.6
	baz=62					
Y27A	Causey	62.24	294	⇑P	P	06 45 27.2 +0.2
	baz=62,SNR=88					
U15A	North Rim	62.30	303	⇓P	P	06 45 27.4 -0.2
	baz=62,SNR=150					
PKIN	Phulchoki	62.31	86	eP	P	06 45 27.6 -0.1
	comp=Z,253nm,1.4s					
W21A	San Fidel	62.32	299	⇓P	P	06 45 28.1 +0.5
	baz=62,SNR=8.0					
PKI	Pulchoki	62.32	86	eP	P	06 45 27.8 0.0
	comp=Z,270nm,1.2s					
WHTX	Lake Whitney	62.39	288	eP	P	06 45 27.8 0.0
WHTX				ePP	PP	06 47 45.3 +0.7
WHTX	Lake Whitney	62.39	288	eP	P	06 45 27.8 0.0
WHTX	Lake Whitney	62.39	288	⇑P	P	06 45 27.4 -0.4
	baz=62,SNR=14					
Y26A	Elida	62.39	295	⇓P	P	06 45 28.5 +0.5
	baz=62,SNR=25					
Z29A	Hungry Hill Ra	62.42	293	⇓P	P	06 45 28.0 -0.1
	baz=62,SNR=278					
ABTX	Abilene, Hawle	62.43	291	eP	P	06 45 27.9 -0.2
ABTX				eS	S	06 53 57.2 +2.4
ABTX	Abilene, Hawle	62.43	291	eP	P	06 45 27.9 -0.2
ABTX				eS	S	06 53 57.2 +2.4
ABTX	Abilene, Hawle	62.43	291	⇓P	P	06 45 28.0 -0.2
	baz=62,SNR=56					
X23A	Hourglass Bar	62.43	297	⇑P	P	06 45 28.5 +0.2
	baz=62					
HOPS	Hopland	62.47	313	eP	P	06 45 28.4 +0.2
	comp=Z,203nm,1.3s					
HOPS	Hopland	62.47	313	eP	P	06 45 28.4 +0.2
	comp=Z,203nm,1.3s					
JIRN	Jiri	62.48	85	eP	P	06 45 29.3 +0.4
	comp=Z,281nm,1.0s					
ABTO	Aybut	62.52	122	P	P	06 45 29.6 +0.7
	SNR=10.0					
ABTO	Aybut	62.52	122	P	P	06 45 29.6 +0.7
	SNR=10.0					
W20A	Ramah	62.54	299	⇑P	P	06 45 28.6 -0.5
	baz=62,SNR=59					
Z28A	Tucker Farm, M	62.59	293	⇑P	P	06 45 29.5 +0.2
	baz=62,SNR=108					
131A	Roby	62.59	291	⇓P	P	06 45 29.0 -0.3
	baz=62,SNR=33					
Y25A	Mesa, Roswell	62.63	296	⇑P	P	06 45 30.0 +0.4
	baz=62,SNR=78					
X22A	Bernardo	62.72	298	⇑P	P	06 45 31.0 +0.7
	baz=62,SNR=31					
CMB	Columbia Colle	62.77	311	eP	P	06 45 30.2 -0.1
CMB				pmax	pmax	
	comp=Z,73nm,1.4s					
CMB	Columbia Colle	62.77	311	eP	P	06 45 30.2 -0.1
	comp=Z,73nm,1.4s					
CMB	Columbia Colle	62.77	311	eP	P	06 45 30.2 -0.1
	comp=Z,73nm,1.4s					
MLAC	Mammoth Lakes	62.79	309	⇑P	P	06 45 31.8 +1.1
	baz=62,SNR=59					
Z27A	Tatum	62.79	294	⇑P	P	06 45 30.6 0.0
	baz=63,SNR=184					
LPM	Los Pinos Moun	62.80	297	eP	P	06 45 30.2 -0.6
	comp=Z,87nm,1.4s					
LPM	Los Pinos Moun	62.80	297	eP	P	06 45 30.2 -0.6
	comp=Z,87nm,1.4s					
130A	Snyder	62.83	292	⇓P	P	06 45 30.6 -0.3
	baz=63,SNR=34					
Y24A	Capitan	62.84	296	⇓P	P	06 45 31.5 +0.5
	baz=63,SNR=183					
LAZ	Ladron	62.85	298	eP	P	06 45 31.8 +0.6
	comp=Z,63nm,1.5s					
LAZ				ePP	PP	06 47 50.0 +1.1
LAZ	Ladron	62.85	298	eP	P	06 45 31.8 +0.6
	comp=Z,63nm,1.5s					
W18A	Petrified Fore	62.88	300	eP	P	06 45 31.6 +0.3
W18A	Petrified Fore	62.88	300	eP	P	06 45 31.6 +0.3
W18A	Petrified Fore	62.88	300	⇑P	P	06 45 31.2 0.0
	baz=63,SNR=99					
WUAZ	Wupatki	62.93	302	eP	P	06 45 32.2 +0.6
	comp=Z,191nm,1.3s					
WUAZ				LR	LR	
	comp=Z,11μm,22.0s					
WUAZ	Wupatki	62.93	302	eP	P	06 45 32.2 +0.6
	comp=Z,191nm,1.3s					
WUAZ	Wupatki	62.93	302	⇓P	P	06 45 31.7 +0.1
	baz=63,SNR=61					
BNM	Barren Site	62.95	297	eP	P	06 45 32.8 +0.9
	comp=Z,150nm,1.5s					
BNM				ePcP	PcP	06 46 12.8 +2.9
BNM				ePP	PP	06 47 51.6 +1.8
BNM	Barren Site	62.95	297	eP	P	06 45 32.8 +0.9
	comp=Z,150nm,1.5s					
SHPR	Sheep Range	62.96	306	eP	P	06 45 32.4 +0.6
	comp=Z,121nm,1.1s					
SHPR	Sheep Range	62.96	306	eP	P	06 45 32.4 +0.6
	comp=Z,121nm,1.1s					
X21A	Alamocita Cree	62.99	299	⇑P	P	06 45 32.6 +0.5
	baz=63,SNR=85					
Y23A	Lovelace Mesa,	63.00	297	⇑P	P	06 45 33.0 +0.9
	baz=63,SNR=255					
ERM	Erimo	63.03	31	P	P	06 45 32.7 +0.8
	comp=Z,879nm,1.0s,SNR=6.6					
ERM	Erimo	63.03	31	dP	P	06 45 32.4 +0.5
ERM				pmax	pmax	
	comp=Z,270nm,1.7s					
ERM	Erimo	63.03	31	eP	P	06 45 31.2 -0.7
	comp=Z,160nm,1.0s					
ERM				LR	LR	
	comp=Z,3μm,20.0s					
ERM	Erimo	63.03	31	eP	P	06 45 31.2 -0.7
	comp=Z,160nm,1.0s					
LENM	Lemitar	63.03	298	P	P	06 45 32.4 +0.1
	comp=Z,109nm,1.4s					
LENM	Lemitar	63.03	298	P	P	06 45 32.4 +0.1
	comp=Z,109nm,1.4s					
GRAC	Grapevine Rang	63.03	308	⇑P	P	06 45 32.6 +0.5
	baz=63,SNR=87					
Z26A	Caprock	63.05	295	⇑P	P	06 45 33.1 +0.7
	baz=63,SNR=55					
129A	Stewart Farms,	63.06	293	⇑P	P	06 45 32.2 -0.2
	baz=63,SNR=15					
Y22D	IRIS PASSCAL I	63.10	298	⇑P	P	06 45 33.7 +0.9
	baz=63,SNR=5.8					
232A	Coleman	63.12	290	⇓P	P	06 45 32.7 0.0
	baz=63,SNR=74					
XAN	Xi'an	63.16	62	P	P	06 45 32.4 -0.6
XAN				pP	pP	06 45 38.4 +2.3
XAN				PP	PP	06 47 48.5 -2.9
XAN				S	S	06 54 04.8 +0.8
XAN				ScS	SKSac	06 55 26.8 +1.1
XAN				SS	SS	06 58 10.6 +1.4
XAN				pmax	pmax	
	comp=Z,18nm,1.1s					
XAN				pmax	pmax	
	comp=Z,170nm,3.7s					
XAN				LR	LR	
	comp=N,4μm,28.1s					
XAN				LR	LR	
	comp=E,3μm,26.5s					
XAN				LR	LR	
	comp=Z,2μm,18.2s					
TIN	Tinemaha	63.19	308	⇓P	P	06 45 34.0 +0.8
	baz=63,SNR=18					
MCCM	Marconi Confer	63.23	313	eP	P	06 45 34.4 +1.0
	comp=Z,206nm,1.3s					
MCCM	Marconi Confer	63.23	313	eP	P	06 45 34.3 +1.0
	comp=Z,206nm,1.3s					
TAPN	Taplejung	63.23	84	eP	P	06 45 33.7 -0.2
	comp=Z,767nm,1.7s					
128A	Castleberry Fa	63.24	293	⇓P	P	06 45 34.1 +0.5
	baz=63,SNR=72					
Y22A	Socorro	63.25	298	⇓P	P	06 45 34.1 +0.4
	baz=63,SNR=90					
Z25A	Roswell	63.25	295	⇓P	P	06 45 34.4 +0.7
	baz=63,SNR=118					
TIA	Tai'an	63.25	54	⇓P	P	06 45 34.3 +0.8
TIA				S	S	06 54 10.3 +5.3
TIA				pmax	pmax	
	comp=Z,100nm,1.2s					
TIA				pmax	pmax	
	comp=Z,1μm,3.5s					
TIA				LR	LR	
	comp=N,5μm,15.7s					
TIA				LR	LR	
	comp=E,3μm,15.7s					
TIA				LR	LR	
	comp=Z,9μm,15.2s					
231A	Bronte	63.27	291	⇑P	P	06 45 33.6 -0.1
	baz=63,SNR=56					
RAMN	Ramite	63.27	85	eP	P	06 45 33.8 -0.3
	comp=Z,320nm,1.1s					
Y21A	Point of Rocks	63.37	298	⇓P	P	06 45 35.3 +0.7
	baz=63,SNR=50					
Z24A	Sheeppen Canyo	63.38	296	⇑P	P	06 45 35.3 +0.6
	baz=63,SNR=67					
FURC	Furnace Creek,	63.41	307	⇑P	P	06 45 35.0 +0.5
	baz=63,SNR=58					
127A	Arkansas Junct	63.43	294	⇓P	P	06 45 34.9 0.0
	baz=63,SNR=41					
X18A	Snowflake	63.49	300	⇓P	P	06 45 34.7 -0.6
	baz=63,SNR=12					
230A	Sterling City	63.54	292	⇓P	P	06 45 35.4 -0.1
	baz=63,SNR=68					
ODAN	Odare	63.60	85	eP	P	06 45 36.5 +0.3
	comp=Z,546nm,1.1s					
332A	Millersview	63.62	290	⇓P	P	06 45 36.0 -0.1
	baz=63,SNR=112					
126A	Clayton Basin,	63.65	295	⇓P	P	06 45 36.5 +0.2
	baz=63,SNR=41					
Y20A	Horse Springs,	63.66	299	⇓P	P	06 45 36.6 0.0
	baz=63,SNR=34					
229A	Bryant Ranch,	63.66	292	⇑P	P	06 45 36.1 -0.3
	baz=64,SNR=19					
SAC	San Andreas	63.67	312	eP	P	06 45 36.8 +0.6
SAC				e		06 46 10.2
SAC				pmax	pmax	
	comp=Z,97nm,1.1s					
SAC	San Andreas	63.67	312	eP	P	06 45 36.8 +0.6
	comp=Z,97nm,1.1s					
SAC				ePcP	PcP	06 46 10.2 -2.2
SAC	San Andreas	63.67	312	eP	P	06 45 36.8 +0.6
	comp=Z,97nm,1.1s					
Z23A	Rita Site, Whi	63.68	297	⇑P	P	06 45 37.5 +1.0
	baz=64,SNR=50					
CWC	Cottonwood Cre	63.74	308	⇑P	P	06 45 37.8 +0.8
	baz=64,SNR=60					
228A	UT Block 9, Go	63.74	293	⇑P	P	06 45 36.9 -0.1
	baz=64,SNR=37					
SHOC	Shoshone	63.81	306	⇓P	P	06 45 38.0 +0.8
	baz=64,SNR=43					
125A	Gardner Draw,	63.81	295	⇓P	P	06 45 37.3 -0.1
	baz=64,SNR=51					
HKT	Hockley	63.82	286	eP	P	06 45 36.5 -0.8
HKT				e		06 47 54.9
HKT				pmax	pmax	
	comp=Z,120nm,1.7s					
HKT	Hockley	63.82	286	eP	P	06 45 36.5 -0.8
	comp=Z,120nm,1.7s					
HKT				ePP	PP	06 47 54.9 -2.3
HKT	Hockley	63.82	286	eP	P	06 45 36.5 -0.8
	comp=Z,120nm,1.7s					
331A	San Angelo	63.89	291	⇑P	P	06 45 37.6 -0.2
	baz=64,SNR=101					
Z22A	Elephant Butte	63.89	297	⇑P	P	06 45 38.4 +0.4
	baz=64,SNR=129					
BHPL	Bhopal	63.93	95	eP	P	06 45 38.3 +0.2
BHPL				AMB	AMB	06 45 39.7
	comp=Z,82nm,4.2s					
MPMC	Manual Prospec	63.96	308	⇓P	P	06 45 39.0 +0.6
	baz=64,SNR=222					
CLNB	Carlsbad	63.97	294	eP	P	06 45 40.1 +1.7
	comp=Z,1.4nm,0.2s					
CLNB	Carlsbad	63.97	294	eP	P	06 45 40.1 +1.7
	comp=Z,1.4nm,0.2s					
W13A	Hualapai Mount	63.97	304	⇓P	P	06 45 39.2 +0.7
	baz=64,SNR=88					
X16A	Lo Mia Camp, P	63.99	302	⇑P	P	06 45 38.9 +0.2
	baz=64,SNR=96					
124A	Stringfield Ra	64.00	296	⇓P	P	06 45 39.0 +0.2
	baz=64,SNR=80					
330A	Mertzon	64.01	292	⇑P	P	06 45 38.2 -0.5
	baz=64,SNR=49					
Z21A	St. Cloud Mine	64.03	298	⇑P	P	06 45 39.8 +0.9
	baz=64,SNR=81					
227A	Bennet, Jal	64.04	294	⇓P	P	06 45 39.1 +0.2
	baz=64,SNR=7.3					
432A	Menard	64.11	290	⇑P	P	06 45 38.5 -0.8
	baz=64,SNR=11					
RCTC	Rector, Farmer	64.14	309	⇓P	P	06 45 39.5 +0.1
	baz=64,SNR=62					
329A	Wagon Wheel Ra	64.16	292	⇑P	P	06 45 39.7 0.0
	baz=64,SNR=27					
GDL2	Guadalupe Moun	64.16	295	eP	P	06 45 39.6 -0.2
	comp=Z,70nm,1.5s					
GDL2	Guadalupe Moun	64.16	295	eP	P	06 45 39.6 -0.2
	comp=Z,70nm,1.5s					
TUQ	Turquoise Moun	64.17	306	⇓P	P	06 45 40.4 +0.7
	baz=64,SNR=20					
GRTK	Grand Turk	64.22	260	eP	P	06 45 39.6 -0.4
	comp=Z,329nm,1.4s					
GRTK				LR	LR	
	comp=Z,3μm,22.0s					
GRTK	Grand Turk	64.22	260	eP	P	06 45 39.6 -0.4
	comp=Z,329nm,1.4s					
226B	Tecolote Peak,	64.22	294	⇓P	P	06 45 40.6 +0.6
	baz=64					
SAO	San Andreas Ge	64.23	311	eP	P	06 45 41.4 +1.4
SAO				e		06 46 17.5
SAO				pmax	pmax	
	comp=Z,92nm,1.3s					
SAO	San Andreas Ge	64.23	311	eP	P	06 45 41.4 +1.4
	comp=Z,92nm,1.3s					
SAO				ePcP	PcP	06 46 17.4 +2.7
SAO	San Andreas Ge	64.23	311	eP	P	06 45 41.4 +1.4
	comp=Z,92nm,1.3s					
123A	Bell Site, Whi	64.28	297	⇓P	P	06 45 40.9 +0.4
	baz=64,SNR=7.5					
INCN	Inchon	64.28	46	eP	P	06 45 40.2 -0.1
	comp=Z,75nm,0.9s					
INCN				LR	LR	
	comp=Z,3μm,20.0s					
INCN	Inchon	64.28	46	eP	P	06 45 40.2 -0.1
	comp=Z,75nm,0.9s					
LDFC	Landfair	64.30	305	eP	P	06 45 41.4 +0.8
	comp=Z,228nm,1.4s					
LDFC	Landfair	64.30	305	eP	P	06 45 41.4 +0.8
	comp=Z,228nm,1.4s					
225A	Deer Hill, Car	64.38	295	⇑P	P	06 45 40.8 -0.4
	baz=64,SNR=32					
122A	Conniff Cattle	64.42	297	⇓P	P	06 45 42.4 +1.0
	baz=64,SNR=27					
Z20A	Nine Sixteen R	64.46	299	⇑P	P	06 45 42.4 +0.7
	baz=64,SNR=98					
JCT	Junction City	64.48	290	eP	P	06 45 41.2 -0.6
JCT				eS	S	06 54 23.0 +2.5
JCT				pmax	pmax	
	comp=Z,238nm,1.4s					
JCT				MLR	MLR	
	comp=Z,22μm,22.0s					
JCT	Junction City	64.48	290	eP	P	06 45 41.2 -0.6
	comp=Z,238nm,1.4s					
JCT				eS	S	06 54 23.0 +2.5
JCT				LR	LR	
	comp=Z,22μm,22.0s					
JCT	Junction City	64.48	290	eP	P	06 45 41.2 -0.6
	comp=Z,238nm,1.4s					
JCT				eS	S	06 54 23.0 +2.5
	comp=Z,22μm,22.0s					
JCT	Junction City	64.48	290	⇑P	P	06 45 41.7 -0.1
	baz=64,SNR=41					
328A	Wristen Ranch,	64.50	293	⇓P	P	06 45 41.7 -0.1
	baz=64,SNR=85					
GSC	Goldstone	64.51	307	eP	P	06 45 43.3 +1.3
GSC				pmax	pmax	
	comp=Z,105nm,1.3s					
GSC	Goldstone	64.51	307	eP	P	06 45 43.3 +1.3
	comp=Z,105nm,1.3s					
GSC	Goldstone	64.51	307	eP	P	06 45 43.3 +1.3
	comp=Z,105nm,1.3s					
GSC	Goldstone	64.51	307	⇑P	P	06 45 42.4 +0.5
	baz=64,SNR=72					
431A	Sonora	64.53	291	⇑P	P	06 45 41.8 -0.2
	baz=64,SNR=153					
VES	Vestal, Richgr	64.55	309	⇓P	P	06 45 42.2 +0.1
	baz=64,SNR=19					
LRMC	Laurel Mountai	64.56	308	⇓P	P	06 45 42.8 +0.5
	baz=64,SNR=31					
ISA	Isabella	64.57	308	eP	P	06 45 43.1 +0.8
ISA				pmax	pmax	
	comp=Z,187nm,1.1s					
ISA	Isabella	64.57	308	eP	P	06 45 43.1 +0.8
	comp=Z,187nm,1.1s					
ISA	Isabella	64.57	308	eP	P	06 45 43.1 +0.8
	comp=Z,187nm,1.1s					
ISA	Isabella	64.57	308	⇑P	P	06 45 43.3 +1.0
	baz=64,SNR=233					
KSRS	Korea Array	64.59	45	P	P	06 45 41.9 -0.4
	comp=Z,17nm,0.9s,baz=350,slow=6.3,SNR=35					
KSRS				PP	PP	06 48 02.0 -1.8
	comp=Z,4.7nm,1.0s,baz=344,slow=9.1,SNR=4.4					
KSRS				LR	LR	07 16 18.9
	comp=Z,4μm,18.1s,baz=346,slow=38					
KSRS	Korea Array	64.59	45	P	P	06 45 41.9 -0.4
	comp=Z,18nm,0.9s					
KSAR	Wonju Array Be	64.59	45	P	P	06 45 41.9 -0.4
KSAR				PP	PP	06 48 02.0 -1.8
KSAR	Wonju Array Be	64.59	45	P	P	06 45 41.9 -0.4
KSAR	Wonju Array Be	64.59	45	PP	PP	06 48 02.0 -1.8
224A	Cornudas Mount	64.60	296	⇓P	P	06 45 42.5 -0.1
	baz=64,SNR=13					
430A	Baggett Ranch,	64.61	291	⇓P	P	06 45 42.7 +0.1
	baz=64,SNR=127					
CD2	Chengdu	64.67	68	P	P	06 45 43.9 +0.9
CD2				pP	pP	06 45 48.8 +2.7
CD2				sP	sP	06 45 50.8 +3.6
CD2				PcP	PcP	06 46 17.8 +1.1
CD2				PP	PP	06 48 06.9 +2.2
CD2				S	S	06 54 22.3 -0.5
CD2				sS	sS	06 54 27.9 +0.1
CD2				ScS	SKSac	06 55 33.9 -3.3
CD2				SS	SS	06 58 33.3 +0.5
CD2				pmax	pmax	
	comp=Z,100nm,0.8s					
CD2				pmax	pmax	
	comp=Z,1μm,4.6s					
CD2				LR	LR	
	comp=N,2μm,25.0s					
CD2				LR	LR	
	comp=E,7μm,26.2s					
CD2				LR	LR	
	comp=Z,3μm,19.0s					
327A	Balmorhea Ranc	64.70	294	⇑P	P	06 45 43.8 +0.6
	baz=64					
GMRC	Granite Mounta	64.72	306	⇑P	P	06 45 43.9 +0.5
	baz=64,SNR=167					
JBP	Jabalpur	64.78	93	⇓iP	P	06 45 43.3 -0.4
JBP				eS	S	06 54 24.4 +0.2
121A	Cookes Peak, D	64.79	298	⇑P	P	06 45 44.6 +0.7
	baz=65,SNR=29					
PDMCI	Parker Dam,Lak	64.80	304	⇓P	P	06 45 44.8 +1.1
	baz=65,SNR=53					
HEC	Hector,Ludlow	64.84	306	⇑P	P	06 45 45.2 +1.1
	baz=65,SNR=84					
532A	Rocksprings	64.84	290	⇑P	P	06 45 43.6 -0.6
	baz=65,SNR=53					
Y14A	Wickenburg	64.85	303	⇑P	P	06 45 44.5 +0.4
	baz=65,SNR=56					
326A	Caldwell Ranch	64.89	294	⇓P	P	06 45 44.8 +0.3
	baz=65,SNR=106					
223A	Chaparral, Ant	64.92	296	⇓P	P	06 45 45.8 +1.1
	baz=65,SNR=6.5					
MNTX	Cornudas Mount	64.92	295	eP	P	06 45 44.7 +0.1
	comp=Z,82nm,1.3s					
MNTX				ePcP	PcP	06 46 19.0 +1.3
MNTX				LR	LR	
	comp=Z,12μm,19.0s					
MNTX	Cornudas Mount	64.92	295	eP	P	06 45 44.7 +0.1
	comp=Z,82nm,1.3s					
429A	Davenport Ranc	64.95	292	⇑P	P	06 45 43.6 -1.2
	baz=65,SNR=34					
RRX	Edison Barstow	64.96	307	⇓P	P	06 45 46.1 +1.3
	baz=65,SNR=6.1					
531A	Rocksprings	65.00	291	⇑P	P	06 45 44.7 -0.4
	baz=65,SNR=43					
222A	Williams Famil	65.01	297	⇓P	P	06 45 46.0 +0.8
	baz=65,SNR=18					
428A	Kincaid Ranch,	65.08	293	⇓P	P	06 45 46.2 +0.5
	baz=65,SNR=54					
ANWB	Willy Bob	65.08	249	PFAKE		06 46 00.0 +14
ANWB				LR	LR	
	comp=Z,3μm,22.0s					
325A	Bean Ranch, Si	65.11	295	⇓P	P	06 45 45.6 -0.4
	baz=65,SNR=22					
427A	Hayter Ranch,	65.17	293	⇓P	P	06 45 46.5 +0.2
	baz=65,SNR=87					
ARVC	Arvin	65.17	308	⇑P	P	06 45 46.2 +0.1
	baz=65,SNR=9.9					
IRM	Iron Mountain	65.18	305	⇑P	P	06 45 46.8 +0.6
	baz=65,SNR=69					
324A	Moseley Ranch,	65.19	295	⇓P	P	06 45 46.0 -0.5
	baz=65,SNR=29					
EDW2	Edwards Air Fo	65.20	308	⇑P	P	06 45 46.8 +0.4
	baz=65,SNR=71					
530A	J-C Ranch, Com	65.24	291	⇓P	P	06 45 46.0 -0.7
	baz=65,SNR=79					
SMMC	Simmler	65.28	309	⇑P	P	06 45 47.0 +0.1
	baz=65,SNR=24					
221A	Mesquite Ranch	65.29	298	⇑P	P	06 45 47.2 +0.1
	baz=65,SNR=8.0					
STVI	Saint Thomas	65.36	253	eP	P	06 45 46.8 -0.6
	comp=Z,382nm,1.7s					
STVI	Saint Thomas	65.36	253	eP	P	06 45 46.8 -0.6
	comp=Z,382nm,1.7s					
632A	Uvalde	65.39	290	⇑P	P	06 45 47.5 -0.1
	baz=65,SNR=25					
Y12C	Blythe	65.42	304	⇓P	P	06 45 48.5 +0.8
	baz=65,SNR=68					
426A	McDonald Obser	65.51	294	⇓P	P	06 45 48.0 -0.7
	baz=65,SNR=122					
529A	Stev Forest Ra	65.51	292	⇑P	P	06 45 47.4 -1.1
	baz=65,SNR=32					
BBRC	Big Bear Solar	65.53	306	⇓P	P	06 45 49.4 +0.7
	baz=65,SNR=25					
BELC	Belle Mtn. Jos	65.55	306	⇓P	P	06 45 49.6 +0.8
	baz=65,SNR=74					
DBIC	Dimbokro	65.57	186	P	P	06 45 47.7 -1.2
	comp=Z,71nm,2.0s					
DBIC	Dimbokro	65.57	186	P	P	06 45 47.7 -1.2
	comp=Z,28nm,1.1s,baz=335,slow=7.4,SNR=10					
DBIC				LR	LR	07 14 22.6
	comp=Z,5μm,21.0s,baz=348,slow=36					
DBIC	Dimbokro	65.57	186	P	P	06 45 47.7 -1.2
	comp=Z,71nm,2.0s					
220A	Playas Peak, P	65.59	298	⇑P	P	06 45 49.5 +0.5
	baz=65,SNR=32					
TIC	Toumodi	65.60	187	eP	P	06 45 48.1 -1.0
	comp=Z,139nm,1.2s					
PKM	Peak Mountain	65.63	309	⇓P	P	06 45 50.2 +0.9
	baz=65,SNR=50					
OSI	Osito Adit	65.63	308	eP	P	06 45 50.7 +1.5
	comp=Z,171nm,1.3s					
OSI	Osito Adit	65.63	308	eP	P	06 45 50.7 +1.5
	comp=Z,171nm,1.3s					
OSI	Osito Adit	65.63	308	⇑P	P	06 45 50.4 +1.2
	baz=65,SNR=8.0					
528A	Cox Ranch, San	65.64	293	⇑P	P	06 45 48.6 -0.8
	baz=65,SNR=53					
425A	Indio Mountain	65.67	295	⇑P	P	06 45 49.1 -0.4
	baz=66,SNR=69					
CBYP	Canovanas	65.70	253	eP	P	06 45 49.1 -0.6
	comp=Z,450nm,1.8s					
CBYP	Canovanas	65.70	253	eP	P	06 45 49.1 -0.6
	comp=Z,450nm,1.8s					
631A	Perdido Creek	65.71	290	⇑P	P	06 45 48.6 -1.1
	baz=66,SNR=20					
BFSC	Mount Baldy Ra	65.73	307	⇑P	P	06 45 50.3 +0.3
	baz=66,SNR=64					
BC3	Big Chuckawall	65.74	305	⇓P	P	06 45 50.7 +0.7
	baz=66,SNR=45					
TUC	Tucson	65.81	300	eP	P	06 45 50.8 +0.4
TUC				eS	S	06 54 42.2 +5.4
TUC				pmax	pmax	
	comp=Z,

comp=Z,177nm,1.5s
TUC eS S 06 54 42.2 +5.4
TUC LR LR
comp=Z,21μm,20.0s
TUC Tucson 65.81 300 eP P 06 45 50.8 +0.4
comp=Z,177nm,1.5s
MWC Mount Wilson 65.84 307 eP P 06 45 52.1 +1.4
MWC pmax pmax
comp=Z,223nm,1.3s
MWC Mount Wilson 65.84 307 eP P 06 45 52.1 +1.4
comp=Z,223nm,1.3s
MWC Mount Wilson 65.84 307 eP P 06 45 52.1 +1.4
comp=Z,223nm,1.3s
KIC Kosan Boka 65.87 186 eP P 06 45 49.7 -1.1
comp=Z,207nm,1.1s
DECC Green Verdugo 65.89 308 ⇓P P 06 45 51.1 +0.3
baz=66
527A Woodward Ranch 65.89 293 ⇓P P 06 45 50.2 -0.8
baz=66,SNR=88
PASC Pasadena Art C 65.93 308 eP P 06 45 51.9 +0.9
comp=Z,133nm,1.3s
PASC ePcP PcP 06 46 23.2 +1.4
PASC Pasadena Art C 65.93 308 eP P 06 45 51.9 +0.9
comp=Z,133nm,1.3s
LRS Lares 65.97 254 eP P 06 45 51.2 -0.3
LRS ePP PP 06 48 16.8 +0.4
LRS Lares 65.97 254 eP P 06 45 51.2 -0.3
BOK Bokaro 66.01 87 eP P 06 45 52.2 +0.5
BOK AMB AMB 06 45 57.9
comp=Z,107nm,0.3s
LIC Lamto 66.02 187 eP P 06 45 50.5 -1.2
comp=Z,106nm,1.1s
LIC eR
comp=Z,7μm,23.0s
LIC Lamto 66.02 187 eP P 06 45 51.2 -0.5
comp=Z,127nm,1.1s
LIC Lamto 66.02 187 eP P 06 45 50.5 -1.2
LIC Lamto 66.02 187 eP P 06 45 50.5 -1.2
comp=Z,53nm,1.1s
PFO Pinyon Flat Ob 66.03 306 eP P 06 45 51.9 0.0
comp=Z,56nm,1.1s
PFO ePP PP 06 48 16.4 -0.3
PFO LR LR
comp=Z,9μm,21.0s
PFO Pinyon Flat Ob 66.03 306 eP P 06 45 51.9 0.0
comp=Z,56nm,1.1s
PFO Pinyon Flat Ob 66.03 306 ⇓P P 06 45 52.2 +0.3
baz=66,SNR=44
SBC Santa Barbara 66.04 309 ⇓P P 06 45 52.6 +0.9
baz=66,SNR=8.6
CELP Cerrillos 66.10 254 eP P 06 45 52.2 0.0
CELP Cerrillos 66.10 254 eP P 06 45 52.2 0.0
526A Mary Lane Ranc 66.10 294 ⇑P P 06 45 52.0 -0.4
baz=66,SNR=39
320A Kipp Ranch, An 66.12 298 ⇓P P 06 45 52.5 0.0
baz=66,SNR=34
OBIP Obispado Ponce 66.13 254 eP P 06 45 52.2 -0.3
comp=Z,364nm,1.8s
OBIP Obispado Ponce 66.13 254 eP P 06 45 52.2 -0.3
comp=Z,364nm,1.8s
113A Mohawk Valley, 66.15 303 ⇓P P 06 45 53.4 +0.9
baz=66,SNR=18
GLA Glamis 66.16 304 eP P 06 45 54.1 +1.5
GLA pmax pmax
comp=Z,267nm,1.3s
GLA Glamis 66.16 304 eP P 06 45 54.1 +1.5
comp=Z,267nm,1.3s
GLA Glamis 66.16 304 eP P 06 45 54.1 +1.5
comp=Z,267nm,1.3s
GLA Glamis 66.16 304 ⇑P P 06 45 53.4 +0.9
baz=66,SNR=64
SHL Shillong 66.18 81 eP P 06 45 51.0 -1.9
SHL AMB AMB 06 45 59.0
comp=Z,75nm,0.0s
SHL eS S 06 54 42.0 +0.4
732A Laxson Ranch, 66.18 289 ⇑P P 06 45 51.9 -0.8
baz=66,SNR=37
AKL Akola 66.19 97 iP P 06 45 53.4 +0.5
AKL AMP 06 46 02.4
comp=Z,250nm,1.9s
AKL ix x 06 54 45.0
BLG Laguna Peak 66.20 308 ⇓P P 06 45 53.2 +0.4
baz=66,SNR=14
MURC Murrieta 66.23 306 ⇑P P 06 45 53.2 +0.2
baz=66,SNR=22
319A Douglas 66.29 299 ⇓P P 06 45 53.9 +0.3
baz=66,SNR=32
628A Black Gap, Mar 66.30 292 ⇑P P 06 45 53.0 -0.5
baz=66,SNR=83
CRPR Cabo Rojo, PR 66.32 255 eP P 06 45 54.0 +0.3
comp=Z,260nm,1.6s
CRPR Cabo Rojo, PR 66.32 255 eP P 06 45 54.0 +0.3
comp=Z,260nm,1.6s
FMP Fort Macarthur 66.39 307 ⇓P P 06 45 53.9 -0.1
baz=66
NGP Nagpur 66.39 95 eP P 06 45 50.0 -4.1
NGP iS S 06 54 39.0 -4.9
627A Terlingua Ranc 66.48 293 ⇓P P 06 45 53.6 -1.1
baz=66,SNR=48
SWSC Sam W. Stewart 66.51 305 ⇑P P 06 45 55.4 +0.7
baz=66,SNR=26
SSG Sans Toucher 66.55 249 eP P 06 45 55.9 +0.6
DOG Dongo Capester 66.59 248 eP P 06 45 55.6 +0.2
LKG Breislack 66.59 248 eP P 06 45 56.0 +0.4
ECG Echelle 66.59 248 eP P 06 45 56.4 +0.8
TAG Tarade 66.59 248 eP P 06 45 55.5 -0.1
626A Big Bend Ranch 66.59 294 ⇓P P 06 45 54.5 -1.0
baz=66,SNR=92
SCG Saint Claude 66.61 249 eP P 06 45 56.4 +0.8
MGG Marie-Galante 66.61 248 eP P 06 45 57.1 +1.6
PHG Guadaloupe-2 66.61 248 eP P 06 45 55.6 0.0
BOM Bombay 66.61 101 ex x 06 47 58.9
BOM AMB AMB 06 48 04.0
comp=Z,137nm,1.1s
SDDR Presa de Saban 66.65 259 eP P 06 45 55.8 0.0
comp=Z,271nm,1.5s
SDDR LR LR
comp=Z,3μm,20.0s
SDDR Presa de Saban 66.65 259 eP P 06 45 55.8 0.0
comp=Z,271nm,1.5s
HMG Houelmont 66.66 249 eP P 06 45 55.8 -0.1
TXAR Lajitas Array 66.67 293 P P 06 45 55.0 -1.0
TXAR PP PP 06 48 18.8 -3.5
TXAR ⇑e 07 14 11.2
TXAR P'P' 07 14 28.9
TXAR Lajitas Array 66.67 293 P P 06 45 55.0 -1.0
comp=Z,12nm,0.9s,baz=35,slow=4.6,SNR=59
TXAR PP PP 06 48 18.8 -3.5
comp=Z,6.3nm,1.0s,baz=59,slow=7.4,SNR=4.3
TXAR PKP2bc 07 14 11.2
comp=Z,0.9nm,1.0s,baz=282,slow=0.8,SNR=4.2
TXAR PKPPKP P'P'df 07 14 28.9 -0.3
comp=Z,0.9nm,1.0s,baz=151,slow=2.1,SNR=5.2
TXAR LR LR 07 14 57.6
comp=Z,11μm,18.9s,baz=125,slow=36
TXAR Lajitas Array 66.67 293 P P 06 45 55.0 -1.0
214A Organ Pipe Nat 66.68 302 ⇓P P 06 45 56.2 +0.3
baz=66,SNR=28
KVTX Kingsville 66.69 287 eP P 06 45 56.1 +0.2
comp=Z,217nm,1.3s
KVTX LR LR
comp=Z,12μm,19.0s
KVTX Kingsville 66.69 287 eP P 06 45 56.1 +0.2
comp=Z,217nm,1.3s
CIS Catalina Islan 66.71 307 ⇓P P 06 45 56.4 +0.3
baz=66,SNR=22
MONP Monument Peak 66.71 306 ⇑P P 06 45 56.7 +0.4
baz=66,SNR=46
TBG Guadaloupe-3 66.77 248 eP P 06 45 56.1 -0.4
DVTC Desert V Tower 66.85 305 ⇓P P 06 45 58.0 +1.0
baz=67,SNR=27
ENH Enshi 66.87 63 eP P 06 45 57.2 0.0
comp=Z,44nm,0.8s
ENH Enshi 66.87 63 eP P 06 45 57.2 0.0
comp=Z,44nm,0.8s
109C Camp Elliot, M 66.88 306 ⇓P P 06 45 58.1 +0.9
baz=67,SNR=11
GTBY Guantanamo Bay 66.92 263 PFAKE 06 46 10.0 +13
GTBY LR LR
comp=Z,3μm,20.0s
BAR Barrett 66.97 306 eP P 06 45 59.0 +1.2
comp=Z,106nm,1.3s
BAR Barrett 66.97 306 eP P 06 45 59.0 +1.2
comp=Z,106nm,1.3s
SCI San Clemente I 67.15 307 ⇓P P 06 45 59.7 +0.8
baz=67,SNR=12

POO Poona 67.27 101 ex x 06 45 55.9
POO ⇑iP P 06 46 00.0 +0.2
comp=Z,159nm,1.2s
POO AMB AMB 06 46 07.3
comp=Z,123nm,2.2s
POO iPCP PcP 06 46 26.0 -1.6
MAT Matsushiro 67.52 36 P P 06 46 00.1 -1.1
MAT S S 06 54 59.0 +1.7
MJAR Matsushiro Arr 67.52 36 P P 06 46 01.1 -0.1
MJAR P'P' 07 14 25.7
MJAR Matsushiro Arr 67.52 36 P P 06 46 01.1 -0.1
comp=Z,122nm,1.0s,baz=342,slow=5.6,SNR=114
MJAR PKPPKP P'P'df 07 14 25.7 -3.7
comp=Z,0.5nm,0.2s,baz=197,slow=2.6,SNR=4.5
MJAR LR LR 07 20 03.3
comp=Z,2μm,18.4s,baz=350,slow=40
MJAR Matsushiro Arr 67.52 36 P P 06 46 01.1 -0.1
NJ2 Nanjing 67.64 54 eP P 06 46 02.3 +0.4
NJ2 pP pP 06 46 04.6 -0.4
NJ2 sP sP 06 46 05.8 -0.4
NJ2 PP PP 06 48 30.0 -0.5
NJ2 S S 06 55 00.0 +1.3
NJ2 pmax pmax
comp=Z,60nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,3.5s
NJ2 LR LR
comp=N,4μm,18.2s
NJ2 LR LR
comp=E,4μm,19.1s
NJ2 LR LR
comp=Z,6μm,24.6s
FDF Fort de France 67.69 248 eP P 06 46 02.0 -0.4
FDF pmax pmax
comp=Z,149nm,1.1s
FDF MLR MLR
comp=Z,2μm,20.0s
FDF Fort de France 67.69 248 eP P 06 46 02.0 -0.4
comp=Z,149nm,1.1s
FDF LR LR
comp=Z,2μm,20.0s
FDF Fort de France 67.69 248 eP P 06 46 02.0 -0.4
comp=Z,2μm,20.0s
WHN Wuhan 67.92 59 ⇓P P 06 46 02.8 -0.9
WHN S S 06 55 04.5 +2.4
WHN pmax pmax
comp=Z,2μm,4.2s
WHN LR LR
comp=N,2μm,11.6s
WHN LR LR
comp=E,6μm,13.6s
WHN LR LR
comp=Z,7μm,14.5s
BBGH Gun Hill 68.75 245 PFAKE 06 46 20.0 +11
BBGH LR LR
comp=Z,4μm,20.0s
WNDE Wendo Genet 69.01 139 eP P 06 46 13.2 +2.3
SSE Sheshan 69.13 52 P P 06 46 11.4 +0.1
SSE sP sP 06 46 16.3 +0.8
SSE S S 06 55 15.6 -0.9
SSE sS sS 06 55 21.4 -0.2
SSE SS SS 06 59 45.8 +4.1
SSE pmax pmax
comp=Z,72nm,0.7s
SSE pmax pmax
comp=Z,350nm,3.5s
SSE LR LR
comp=N,2μm,21.7s
SSE LR LR
comp=E,4μm,21.7s
SSE LR LR
comp=Z,5μm,16.8s
MTDJ Mount Denham 69.26 265 eP P 06 46 13.2 +0.9
comp=Z,110nm,1.6s
MTDJ LR LR
comp=Z,2μm,20.0s
MTDJ Mount Denham 69.26 265 eP P 06 46 13.2 +0.9
comp=Z,110nm,1.6s
JNU Nakatsue 69.39 43 P P 06 46 13.0 0.0
comp=Z,5.2nm,1.0s
JNU Nakatsue 69.39 43 P P 06 46 13.0 0.0
comp=Z,63nm,0.9s,baz=24,slow=4.7,SNR=27
JNU Nakatsue 69.39 43 P P 06 46 13.0 0.0
comp=Z,5.2nm,1.0s
GYA Guiyang 69.69 67⇓iP P 06 46 14.9 -0.1
GYA PcP PcP 06 46 37.8 0.0
GYA S S 06 55 22.0 -1.5
GYA SKS SKSac 06 56 11.4 -4.2
GYA SS SS 06 59 51.3 +0.5
GYA LR LR
comp=N,10μm,20.4s
GYA LR LR
comp=E,9μm,21.2s
GYA LR LR
comp=Z,16μm,20.8s
HYB Hyderabad 69.75 96 iP P 06 46 14.5 -0.8
comp=Z,150nm,1.0s
HYB e 06 46 16.5
HYB esP sP 06 46 19.5 -0.1
HYB ePP PP 06 48 52.0 +2.8
HYB eS S 06 55 26.0 +1.8
HYB e 06 56 12.0
HYB eSS SS 06 59 50.0 -2.0
HYB LR LR 07 18 12.0
comp=Z,5.6nm,20.0s
HYB Hyderabad 69.75 96 eP P 06 46 15.3 0.0
HYB AMB AMB 06 46 16.9
comp=Z,86nm,3.1s
KMI Kunming 69.83 71 P P 06 46 15.6 -0.3
KMI pP pP 06 46 19.0 -0.1
KMI sP sP 06 46 21.0 +0.8
KMI PP PP 06 48 53.6 +3.7
KMI S S 06 55 23.8 -1.5
KMI SKS SKSac 06 56 13.9 -2.9
KMI SS SS 06 59 51.8 -1.4
KMI pmax pmax
comp=Z,34nm,1.2s
KMI pmax pmax
comp=Z,750nm,3.2s
KMI LR LR
comp=N,2μm,15.0s
KMI LR LR
comp=E,4μm,17.0s
KMI LR LR
comp=Z,3μm,19.1s
GRGR Grenville 70.30 247 eP P 06 46 16.9 -1.7
comp=Z,422nm,1.5s
GRGR LR LR
comp=Z,1μm,20.0s
GRGR Grenville 70.30 247 eP P 06 46 16.9 -1.7
comp=Z,422nm,1.5s
TEIG Tepich 70.67 276 eP P 06 46 19.8 -1.1
comp=Z,113nm,1.4s
TEIG Tepich 70.67 276 LR LR 07 16 16.2
comp=Z,12μm,21.5s,baz=18,slow=35
TEIG Tepich 70.67 276 eP P 06 46 19.8 -1.1
comp=Z,113nm,1.4s
VIS Vishakhapatnam 70.93 92 eP P 06 46 23.5 +1.1
VIS AMB AMB 06 46 29.9
comp=Z,135nm,1.6s
CMAI Chiengmai2 73.64 76 P P 06 46 40.0 +1.2
comp=Z,192nm,1.2s,comp=Z,3μm
QZH Quanzhou 74.36 57⇓iP P 06 46 41.0 -1.8
QZH S S 06 56 16.0 -0.8
QZH pmax pmax
comp=Z,1μm,3.8s
QZH LR LR
comp=N,4μm,13.9s
QZH LR LR
comp=E,4μm,15.6s
QZH LR LR
comp=Z,8μm,15.6s
PAYA Payao 74.42 76 P P 06 46 43.7 +0.5
comp=Z,50nm,1.0s,comp=Z,376nm
CHTO Chiang Mai 74.66 77 PFAKE 06 47 00.0 +15
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 74.66 77 P P 06 46 44.1 -0.5
comp=Z,95nm,1.8s,comp=Z,2μm
CHTO Chiang Mai 74.66 77 P P 06 46 44.5 -0.1
comp=Z,95nm,1.8s,comp=Z,2μm
CMMT Chiang Mai 74.66 77 P P 06 46 44.1 -0.6
GZH Guangzhou 74.74 62 P P 06 46 42.0 -3.0
GZH S SKiKP 06 56 15.0 +5.3
GZH pmax pmax
comp=Z,1μm,3.6s

GZH LR LR
comp=N,5μm,25.9s
GZH LR LR
comp=E,16μm,23.3s
GZH LR LR
comp=Z,13μm,20.6s
JOW Kunigami 74.89 47 eP P 06 46 44.7 -1.2
comp=Z,58nm,0.9s
JOW Kunigami 74.89 47 eP P 06 46 44.7 -1.2
comp=Z,58nm,0.9s
CM31 Chiang Mai Arr 75.00 77 eP P 06 46 46.5 -0.1
comp=Z,78nm,1.1s
CM31 Chiang Mai Arr 75.00 77 eP P 06 46 46.5 -0.1
comp=Z,78nm,1.1s
CMAR Chiang Mai Arr 75.00 77 P P 06 46 46.5 -0.1
CMAR PP PP 06 49 39.9 +5.9
CMAR Chiang Mai Arr 75.00 77 P P 06 46 46.5 -0.1
comp=Z,32nm,0.9s,baz=322,slow=6.8,SNR=146
CMAR PP PP 06 49 39.9 +5.9
comp=Z,6.2nm,1.1s,baz=332,slow=9.2,SNR=6.1
CMAR LR LR 07 24 53.3
comp=Z,1μm,18.2s,baz=171,slow=40
CMAR Chiang Mai Arr 75.00 77 P P 06 46 46.5 -0.1
TATO Taipei 75.06 54 eP P 06 46 47.4 +0.5
comp=Z,264nm,1.5s
TATO LR LR
comp=Z,6μm,20.0s
TATO Taipei 75.06 54 eP P 06 46 47.4 +0.5
comp=Z,264nm,1.5s
MBAR Mbarara 75.12 149 P P 06 46 47.2 -0.2
comp=Z,99nm,1.0s,SNR=9.1
MBAR Mbarara 75.12 149 PFAKE 06 47 00.0 +13
MBAR LR LR
comp=Z,291nm,21.0s
YHNB Yeheng 75.32 54 eP P 06 46 48.1 -0.4
comp=Z,59nm,1.0s
YHNB LR LR
comp=Z,5μm,19.0s
YHNB Yeheng 75.32 54 eP P 06 46 48.1 -0.4
comp=Z,59nm,1.0s
SDV Santo Domingo 76.00 255 eP P 06 46 52.3 -0.2
comp=Z,128nm,1.3s
SDV LR LR
comp=Z,611nm,22.0s
SDV Santo Domingo 76.00 255 eP P 06 46 52.3 -0.2
comp=Z,128nm,1.3s
SSLB Suanglung 76.06 55 eP P 06 46 52.6 -0.1
comp=Z,181nm,1.0s
SSLB Suanglung 76.06 55 eP P 06 46 52.6 -0.1
comp=Z,181nm,1.0s
TPUB Ta-pu 76.45 55 eP P 06 46 55.0 +0.1
comp=Z,83nm,1.1s
TPUB Ta-pu 76.45 55 eP P 06 46 55.0 +0.1
comp=Z,83nm,1.1s
YULB Yu-li 76.53 55 eP P 06 46 54.9 -0.4
comp=Z,77nm,1.1s
YULB Yu-li 76.53 55 eP P 06 46 54.9 -0.4
comp=Z,77nm,1.1s
LOEI Loei 76.58 75 P P 06 46 55.4 -0.3
comp=Z,100nm,1.3s,comp=Z,2μm
KMBO Kilima Mbogo 76.75 143 P P 06 46 57.5 +0.6
KMBO Kilima Mbogo 76.75 143 P P 06 46 57.5 +0.6
comp=Z,15nm,1.0s,baz=359,slow=7.0,SNR=17
KMBO LR LR 07 23 37.7
comp=Z,3μm,19.8s,baz=344,slow=38
KMBO Kilima Mbogo 76.75 143 P P 06 46 57.5 +0.6
TWG Pinlang 77.02 55 eP P 06 46 57.5 -0.5
comp=Z,242nm,1.1s
TWG Pinlang 77.02 55 eP P 06 46 57.5 -0.5
comp=Z,242nm,1.1s
QIZ Qiongzhong 77.63 66 P P 06 47 00.5 -1.0
QIZ pP pP 06 47 04.4 -0.2
QIZ sP sP 06 47 06.3 +0.5
QIZ S S 06 56 53.8 +0.8
QIZ pmax pmax
comp=Z,41nm,1.0s
QIZ pmax pmax
comp=Z,600nm,4.2s
QIZ LR LR
comp=N,2μm,18.6s
QIZ LR LR
comp=E,380nm,15.8s
QIZ LR LR
comp=Z,3μm,26.1s
QIZ Qiongzhong 77.63 66 eP P 06 47 01.0 -0.5
comp=Z,177nm,1.7s
QIZ LR LR
comp=Z,3μm,20.0s
QIZ Qiongzhong 77.63 66 eP P 06 47 01.0 -0.5
comp=Z,177nm,1.7s
TRD Trivandrum 77.68 101⇑eP P 06 47 00.4 -1.4
UTHA Uthaitani 77.88 77 P P 06 47 03.5 +0.6
comp=Z,32nm,1.1s,comp=Z,298nm
PANO Nakornpanom 77.91 72 P P 06 47 03.0 -0.1
comp=Z,153nm,1.0s,comp=Z,3μm
DGPR DIGLIPUR 78.16 84 eP P 06 47 03.7 -0.7
DGPR AMB AMB 06 47 11.6
comp=Z,132nm,1.1s
CHAI Chaiyaphum 78.32 75 P P 06 47 05.4 0.0
comp=Z,22nm,1.1s,comp=Z,243nm
BCIP Isla Barro Col 78.51 264 eP P 06 47 05.0 -1.4
comp=Z,169nm,1.5s
BCIP LR LR
comp=Z,2μm,20.0s
BCIP Isla Barro Col 78.51 264 eP P 06 47 05.0 -1.4
comp=Z,169nm,1.5s
PBA Port Blair 79.54 85 eP P 06 47 12.1 +0.1
PBA AMB AMB 06 47 19.3
comp=Z,142nm,1.1s
NAYO Nakonayok 79.62 76 P P 06 47 12.7 +0.2
comp=Z,126nm,1.0s,comp=Z,2μm
MIDW Midway 79.84 358 eP P 06 47 13.8 +0.3
comp=Z,150nm,1.0s
MIDW LR LR
comp=Z,2μm,22.0s
MIDW Midway 79.84 358 eP P 06 47 13.9 +0.3
comp=Z,150nm,1.0s
UBPT Khong Chiam 79.93 72 P P 06 47 13.6 -0.6
comp=Z,75nm,2.4s,comp=Z,2μm
UBPT Khong Chiam 79.93 72 P P 06 47 13.6 -0.6
comp=Z,75nm,2.4s,comp=Z,2μm
PALK Pallekele 79.98 98 eP P 06 47 14.8 +0.3
comp=Z,145nm,1.4s
PALK Pallekele 79.98 98 P P 06 47 21.2 +6.7
PALK Pallekele 79.98 98 eP P 06 47 14.8 +0.3
comp=Z,145nm,1.4s
PHET Kaeng Krachan 80.44 78 P P 06 47 17.6 +0.7
comp=Z,21μm,1.1s,comp=Z,437μm
ASCN Ascension 80.61 195 PFAKE 06 47 30.0 +12
ASCN LR LR
comp=Z,646nm,19.0s
ROSC El Rosal 80.92 257 eP P 06 47 20.2 +0.2
ROSC El Rosal 80.92 257 P P 06 47 20.4 +0.4
comp=Z,32nm,0.8s,baz=82,slow=5.6,SNR=27
ROSC LR LR 07 19 21.1
comp=Z,2μm,21.8s,baz=2.2,slow=33
ROSC El Rosal 80.92 257 eP P 06 47 20.2 +0.2
RCBR Riachuelo 81.44 217 eP P 06 47 22.6 +0.3
comp=Z,1μm,1.8s
RCBR LR LR
comp=Z,2μm,21.0s
RCBR Riachuelo 81.44 217 eP P 06 47 22.6 +0.3
comp=Z,1μm,1.8s
BESB Sao Joao Dos P 83.79 224⇓iP P 06 47 33.6 -0.8
BESB i 06 47 56.1
BESB i 06 48 19.4
BESB i 06 48 53.5
BESB i 06 50 45.7
BESB i 06 51 47.6
MSEY Mahe Island 84.22 125 PFAKE 06 47 50.0 +13
MSEY LR LR
comp=Z,5μm,19.0s
PKDT Phuket 84.80 81 P P 06 47 45.8 +6.2
comp=Z,90nm,2.0s
TGY Tagaytay City 85.33 57 LR LR 07 30 10.8
comp=Z,12nm,18.2s,baz=195,slow=39
KIP Kipapa 85.51 340 ceP P 06 47 45.0 +1.8
KIP pmax pmax
comp=Z,259nm,1.2s
KIP Kipapa 85.51 340 eP P 06 47 45.2 +2.0
comp=Z,342nm,1.4s
KIP LR LR
comp=Z,2μm,20.0s
KIP Kipapa 85.51 340 eP P 06 47 45.0 +1.8
comp=Z,259nm,1.2s
HON Honolulu 85.61 340 P P 06 47 43.0 -0.6
HON Honolulu 85.61 340 P P 06 47 43.0 -0.6

HON	Honolulu	85.61	340	P		P	06 47 43.0	-0.6
KULM	Kulim	87.96	79	eP		P	06 47 54.5	-0.7
	comp=Z,94nm,1.3s							
KULM				LR		LR		
	comp=Z,3μm,19.0s							
KULM	Kulim	87.96	79	P		P	06 47 54.5	-0.7
KULM	Kulim	87.96	79	eP		P	06 47 54.5	-0.7
	comp=Z,94nm,1.3s							
SHEL	Horse Pasture	88.07	186	PFAKE			06 48 10.0	+14
SHEL				LR		LR		
	comp=Z,2μm,21.0s							
WAKE	Wake Island	88.22	13	PFAKE			06 48 10.0	+14
WAKE				LR		LR		
	comp=Z,2μm,21.0s							
KTGM	Kuala Trenggan	88.67	77	P		P	06 47 57.8	-0.7
IPM	Ipoh	88.84	79	eP		P	06 47 58.1	-1.2
	comp=Z,93nm,1.3s							
IPM	Ipoh	88.84	79	P		P	06 47 58.7	-0.7
IPM	Ipoh	88.84	79	eP		P	06 47 58.2	-1.2
	comp=Z,93nm,1.3s							
LSZ	Lusaka	89.16	154	PFAKE			06 48 10.0	+9.2
LSZ				LR		LR		
	comp=Z,3μm,21.0s							
PSI	Prapat	89.79	82	P		P	06 48 03.5	-0.4
PSI	Prapat	89.79	82	P		P	06 48 03.5	-0.4
	comp=Z,43nm,0.9s,baz=346,slow=6.5,SNR=38							
PSI				LR		LR	07 31 33.4	
	comp=Z,2μm,21.8s,baz=310,slow=38							
FRIM	Kepong	90.20	79	P		P	06 48 06.1	+0.4
SAML	Samuel	90.83	243	eP		P	06 48 08.1	-0.4
	comp=Z,155nm,1.8s							
SAML				LR		LR		
	comp=Z,1μm,19.0s							
SAML	Samuel	90.83	243	eP		P	06 48 08.1	-0.4
	comp=Z,155nm,1.8s							
PAYG	Puerto Ayora	91.02	271	PFAKE			06 48 20.0	+11
PAYG				LR		LR		
	comp=Z,2μm,22.0s							
GUMO	Guam	91.11	35	PFAKE			06 48 20.0	+10
GUMO				LR		LR		
	comp=Z,892nm,19.0s							
KDM	Kudat	91.11	63	P		P	06 48 09.0	-0.9
DGAR	Diego Garcia	91.44	110	PFAKE			06 48 20.0	+8.6
DGAR				LR		LR		
	comp=Z,4μm,20.0s							
KKM	Kota Kinabalu	91.77	64	PFAKE			06 48 20.0	+6.9
KKM				LR		LR		
	comp=Z,4μm,22.0s							
KKM	Kota Kinabalu	91.77	64	P		P	06 48 13.9	+0.7
KGM	Kluang	91.87	78	P		P	06 48 12.8	-0.6
TSUM	Tsumeb	91.88	164	PFAKE			06 48 20.0	+6.6
TSUM				LR		LR		
	comp=Z,4μm,20.0s							
MYKOM	Kota Tinggi	92.24	77	P		P	06 48 14.9	-0.3
SDKM	Sandakan	92.43	63	P		P	06 48 14.8	-1.3
MYLDM	Lahad Datu	93.22	62	P		P	06 48 18.1	-1.6
DAV	Davao City (W)	93.27	55	LR		LR	07 37 18.1	
	comp=Z,1μm,19.8s,baz=336,slow=40							
BDFB	Brasilia	93.47	227	P		P	06 48 20.6	-0.2
BDFB	Brasilia	93.47	227	P		P	06 48 20.6	-0.2
	comp=Z,14nm,1.1s,baz=341,slow=3.1,SNR=11							
BDFB				LR		LR	07 24 21.0	
	comp=Z,2μm,19.6s,baz=177,slow=32							
BDFB	Brasilia	93.47	227	P		P	06 48 20.5	-0.2
TSM	Tawau	93.90	63	P		P	06 48 21.6	-1.2
SBUM	Sibu	94.07	69	P		P	06 48 22.8	-0.8
KSM	Kuching	94.45	71	eP		P	06 48 24.5	-0.8
	comp=Z,38nm,1.1s							
KSM				LR		LR		
	comp=Z,2μm,20.0s							
KSM	Kuching	94.45	71	P		P	06 48 24.6	-0.7
KSM	Kuching	94.45	71	eP		P	06 48 24.5	-0.8
	comp=Z,38nm,1.1s							
OPO	Ambohidratompo	95.71	136	LR		LR	07 34 37.8	
	comp=Z,3μm,21.8s,baz=333,slow=37							
ABPO	Ambohimpanom	96.15	137	PFAKE			06 48 40.0	+6.9
ABPO				LR		LR		
	comp=Z,4μm,22.0s							
NNA	Nana	97.63	255	PFAKE			06 48 50.0	+10
NNA				LR		LR		
	comp=Z,1μm,21.0s							
LPAZ	La Paz	99.20	245	P		Pdif	06 48 46.6	-0.7
LPAZ				PKKP		PKKPdf	07 05 12.5	-0.3
LPAZ	La Paz	99.20	245	P		Pdif	06 48 46.6	-0.7
	comp=Z,0.8nm,0.9s,baz=34,slow=7.3,SNR=4.1							
LPAZ				PKKP		PKKPdf	07 05 12.5	-0.3
	comp=Z,2.1nm,0.8s,baz=191,slow=3.5,SNR=8.6							
LPAZ				LR		LR	07 31 41.2	
	comp=Z,980nm,19.5s,baz=346,slow=34							
LPAZ	La Paz	99.20	245	P		Pdif	06 48 46.7	-0.7
LPAZ	La Paz	99.20	245	PKKP		PKKPdf	07 05 12.5	-0.3
KAPI	Kappang	103.31	64	Pdif		Pdif	06 49 02.7	-2.3
KAPI				LR		LR		
	comp=Z,2μm,21.0s							
KAPI	Kappang	103.31	64	Pdiff		Pdif	06 49 02.7	-2.3
	comp=Z,23nm,1.0s,baz=344,slow=7.4,SNR=5.1							
COCO	West Island	103.32	88	PFAKE			06 49 20.0	+15
COCO				LR		LR		
	comp=Z,3μm,22.0s							
XMAS	Kiritimati	104.59	338	PFAKE			06 49 20.0	+9.2
XMAS				LR		LR		
	comp=Z,4μm,20.0s							
SUR	Sutherland	105.22	163	PFAKE			06 53 40.0	
SUR				LR		LR		
	comp=Z,10μm,20.0s							
LVC	Limon Verde	105.43	244	PFAKE			06 53 40.0	
LVC				LR		LR		
	comp=Z,1μm,22.0s							
TARA	Tarawa	106.38	8	PFAKE			06 53 40.0	
TARA				LR		LR		
	comp=Z,1μm,19.0s							
TRIS	Tristan da Cun	109.38	191	PFAKE			06 53 50.0	
TRIS				LR		LR		
	comp=Z,1μm,20.0s							
LCO	Las Campanas	111.98	244	PFAKE			06 53 50.0	
LCO				LR		LR		
	comp=Z,1μm,22.0s							
TAOE	Nuku Hiva Isla	112.45	318	eSP		SP	07 03 57.7	-2.3
	comp=Z,2μm,29.6s							
TAOE				eSS		SS	07 10 12.7	+5.8
	comp=Z,3μm,29.7s							
TAOE	Nuku Hiva Isla	112.45	318	eLR		LR	07 27 20.7	
	comp=Z,13μm,25.9s							
PMG	Port Moresby	113.99	37	PFAKE			06 54 00.0	
PMG				LR		LR		
	comp=Z,1μm,21.0s							
FUNA	Funafuti	116.36	2	PFAKE			06 54 00.0	+11
FUNA				LR		LR		
	comp=Z,8μm,20.0s							
FITZ	Fitzroy Crossi	117.41	62	PKP		PKPdf	06 53 49.3	-1.2
FITZ				PKKPbc		PKKPbc	07 04 11.2	+0.6
FITZ	Fitzroy Crossi	117.41	62	PKP		PKPdf	06 53 49.3	-1.2
	comp=Z,5.3nm,0.9s,baz=19,slow=5.2,SNR=5.6							
FITZ				PKKPbc		PKKPbc	07 04 11.2	+0.6
	comp=Z,3.0nm,0.9s,baz=135,slow=4.3,SNR=3.0							
TRQA	Tornquist	118.28	233	PFAKE			06 54 00.0	+8.4
TRQA				LR		LR		
	comp=Z,2μm,20.0s							
MBWA	Marble Bar	118.66	69	ePKPdf		PKPdf	06 53 52.5	-0.3
MBWA				LR		LR		
	comp=Z,2μm,22.0s							
WRAB	Tennant Creek	121.41	53	ePKIKP		PKPdf	06 53 57.5	-0.7
WRAB				MLR		MLR		
	comp=Z,1μm,20.0s							
WRAB	Tennant Creek	121.41	53	ePKPdf		PKPdf	06 53 57.5	-0.7
WRAB				LR		LR		
	comp=Z,1μm,20.0s							
WRA	Warramunga Arr	121.42	53	PKP		PKPdf	06 53 56.7	-1.5
WRA				PP		PP	06 55 29.1	-0.6
WRA				PKKPab		PKKPbc	07 03 55.9	-0.1
WRA	Warramunga Arr	121.42	53	PKP		PKPdf	06 53 56.7	-1.5
	comp=Z,19nm,1.1s,baz=358,slow=1.7,SNR=46							
WRA				PP		PP	06 55 29.1	-0.6
	comp=Z,5.9nm,1.1s,baz=350,slow=7.3,SNR=6.9							
WRA				PKKPab		PKKPbc	07 03 55.9	-0.1
	comp=Z,3.0nm,0.9s,baz=168,slow=3.6,SNR=7.8							
AFI	Afiamalu	121.56	352	PFAKE			06 54 10.0	+11
AFI				LR		LR		
	comp=Z,2μm,21.0s							
RPN	Rapa Nui	121.77	280	PFAKE			06 54 10.0	+11
RPN				LR		LR		
	comp=Z,3μm,20.0s							
PPT2	Papeete2	122.76	326	ePP		PP	06 55 32.3	-6.3
	comp=Z,206nm,26.5s							
PPT2	Papeete2	122.76	326	eSS		SS	07 12 26.8	+6.0
	comp=Z,7μm,33.8s							
PPT2	Papeete2	122.76	326	eLR		LR	07 32 03.5	
	comp=Z,8μm,24.8s							
PLCA	Paso Flores	122.98	239	ePKPdf		PKPdf	06 53 60.0	-0.7
PLCA				PKP		PKPdf	06 54 00.8	+0.1
PLCA	Paso Flores	122.98	239	PKP		PKPdf	06 54 00.8	+0.1
	comp=Z,8.7nm,0.8s,baz=359,slow=2.7,SNR=18							
CTA	Charters Tower	124.23	40	PKP		PKPdf	06 54 03.2	-0.4
CTA	Charters Tower	124.23	40	PKP		PKPdf	06 54 03.2	-0.4
	comp=Z,11nm,1.0s,baz=356,slow=4.8,SNR=5.4							
CTAO	Charters Tower	124.23	40	PFAKE			06 54 10.0	+6.4
CTAO				LR		LR		
	comp=Z,1μm,21.0s							
AS31	Alice Springs	124.88	55	ePKPdf		PKPdf	06 54 04.0	-0.8
ASAR	Alice Springs	124.88	55	PKP		PKPdf	06 54 03.3	-1.5
ASAR				PP		PP	06 55 59.8	+6.7
ASAR				PKKPbc		PKKPab	07 03 43.9	-1.1
ASAR	Alice Springs	124.88	55	PKP		PKPdf	06 54 03.3	-1.5
	comp=Z,13nm,0.7s,baz=347,slow=2.1,SNR=117							
ASAR				PP		PP	06 55 59.8	+6.7
	comp=Z,2.7nm,0.9s,baz=339,slow=5.2,SNR=4.3							
ASAR				PKKPbc		PKKPab	07 03 43.9	-1.1
	comp=Z,1.1nm,0.8s,baz=161,slow=4.1,SNR=4.5							
RKT	Rikitea	125.09	308	ePP		PP	06 55 51.7	-2.6
	comp=Z,138nm,28.8s							
RKT	Rikitea	125.09	308	eSS		SS	07 12 54.6	+4.4
	comp=Z,3μm,37.8s							
RKT	Rikitea	125.09	308	eLR		LR	07 33 06.1	
	comp=Z,5μm,36.2s							
MSVF	Nonsavu	125.50	3	PFAKE			06 54 20.0	+14
MSVF				LR		LR		
	comp=Z,1μm,20.0s							
RAR	Rarotonga	127.81	337	PFAKE			06 54 20.0	+10
RAR				LR		LR		
	comp=Z,4μm,19.0s							
TBI	Tubuai	128.37	325	ePP		PP	06 56 13.9	-2.0
	comp=Z,180nm,28.2s							
TBI	Tubuai	128.37	325	eSS		SS	07 13 32.9	+1.9
	comp=Z,5μm,36.5s							
TBI	Tubuai	128.37	325	eLR		LR	07 34 39.4	
	comp=Z,5μm,25.8s							
NWAO	Narrogin (SRO)	129.00	76	PKP		PKPdf	06 54 11.6	-0.7
NWAO				LR		LR		
	comp=Z,944nm,19.0s							
NWAO	Narrogin (SRO)	129.00	76	PKP		PKPdf	06 54 11.6	-0.7
	comp=Z,27nm,0.9s,baz=173,slow=3.0,SNR=4.5							
DZM	Mont Dzumac	129.17	17	eLR		LR	07 34 50.6	
	comp=Z,3μm,22.5s							
DZM	Mont Dzumac	129.17	17	PKP		PKPdf	06 54 13.8	+0.7
DZM	Mont Dzumac	129.17	17	PKP		PKPdf	06 54 13.8	+0.7
	comp=Z,43nm,1.2s,baz=280,slow=22,SNR=4.0							
FORT	Forrest	130.10	64	ePKPdf		PKPdf	06 54 14.0	-0.5
EFI	East Falkland	130.24	224	PFAKE			06 54 30.0	+16
EFI				LR		LR		
	comp=Z,906nm,19.0s							
STKA	Stephens Creek	134.61	49	PKPpre		PKPpre	06 54 15.5	
STKA				PKP		PKPdf	06 54 23.3	+0.3
STKA	Stephens Creek	134.61	49	PKhKP		PKPpre	06 54 15.5	
	comp=Z,1.7nm,0.8s,baz=322,slow=2.2,SNR=2.8							
STKA				PKP		PKPdf	06 54 23.3	+0.3
	comp=Z,13nm,1.1s,baz=343,slow=2.4,SNR=4.2							
RAO	Raoul Island	136.99	359	PFAKE			06 54 40.0	+13
RAO				LR		LR		
	comp=Z,2μm,22.0s							
CAN	Canberra	139.55	42	ePKIKP		PKPdf	06 54 32.0	-0.1
CAN				MLR		MLR		
	comp=Z,2μm,20.0s							
CAN	Canberra	139.55	42	ePKPdf		PKPdf	06 54 32.0	-0.1
CAN				LR		LR		
	comp=Z,2μm,20.0s							
VNA1	Neumayer--Stat	142.75	185	ePKPdf		PKPdf	06 54 33.9	-2.7
MAIT	Maitri	142.92	174	eP		PKPdf	06 54 30.3	-6.6
MAIT				e			06 55 25.2	
VNA2	Neumayer--Watz	143.00	185	ePKPdf		PKPbc	06 54 33.4	-0.6
VNA2	Neumayer--Watz	143.00	185	ePKP		PKPdf	06 54 39.0	+1.9
SYO	Syowa Base	143.24	158	‖eX		PKPab	06 54 32.9	-0.4
PMSA	Palmer Station	143.52	221	PFAKE			06 54 50.0	+12
PMSA				LR		LR		
	comp=Z,1μm,22.0s							
SNAA	Sanae	143.67	182	PKP		PKPab	06 54 34.5	-0.7
SNAA				ePKPdf		PKPbc	06 54 35.0	-0.9
SNAA	Sanae	143.67	182	PKP		PKPab	06 54 34.5	-0.6
	comp=Z,12nm,0.9s,baz=29,slow=0.7,SNR=92							
MAW	Mawson	145.44	143	ePKPbc		PKPbc	06 54 41.4	0.0
MAW	Mawson	145.44	143	PKPbc		PKPdf	06 54 40.8	-0.5
	comp=Z,40nm,0.7s,baz=334,slow=4.9,SNR=58							
URZ	Urewera	145.92	5	ePKPdf		PKPdf	06 54 42.1	-1.0
TAU	Tasmania Unive	146.47	47	ePKP2		PKPab	06 54 46.3	0.0
TAU				MLR		MLR		
	comp=Z,3μm,22.0s							
TAU	Tasmania Unive	146.47	47	ePKPbc		PKPab	06 54 46.2	0.0
TAU				LR		LR		
	comp=Z,3μm,22.0s							
SNZO	South Karori	148.87	9	ePKPdf		PKPdf	06 54 46.8	-1.2
SNZO				LR		LR		
	comp=Z,2μm,21.0s							
RPZ	Rata Peaks	151.03	15	ePKPdf		PKPdf	06 54 51.6	+0.3
RPZ				ePKPbc		PKPbc	06 54 56.8	-0.4
MIR	Mirnyy	151.22	124	ePKIKP		PKPdf	06 54 51.0	+0.2
ODZ	Otahua Downs	152.32	16	ePKPdf		PKPdf	06 54 54.8	+1.6
ODZ				ePKPab		PKPab	06 55 12.4	+2.3
QSPA	South Pole Qui	162.16	180	ePKPdf		PKPdf	06 55 00.4	-4.6
QSPA				PKP		PKPdf	06 55 01.3	-3.7
QSPA				ePKPab		PKPab	06 55 51.4	-0.7
QSPA				PKPab		PKPab	06 55 51.8	-0.3
QSPA				PP		PP	06 59 36.4	-0.8
QSPA				ePP		PP	06 59 37.0	-0.2
QSPA				LR		LR		
	comp=Z,2μm,21.0s							
QSPA	South Pole Qui	162.16	180	PKP		PKPdf	06 55 01.3	-3.7
	comp=Z,8.0nm,1.1s,baz=236,slow=0.3,SNR=9.2							
QSPA				PKPab		PKPab	06 55 51.8	-0.3
	comp=Z,22nm,0.8s,baz=226,slow=2.7,SNR=20							
QSPA				PP		PP	06 59 36.4	-0.8
	comp=Z,6.2nm,1.1s,baz=114,slow=4.4,SNR=4.0							
DRV	Dumont d'Urvil	164.87	89	PP		PP	06 59 28.0	-23
VNDA	Vanda	172.74	146	PKP		PKPdf	06 55 07.5	-4.7
VNDA				ePKPdf		PKPdf	06 55 07.9	-4.4
VNDA				PKPab		PKPab	06 56 36.3	-2.2
VNDA				ePKPab		PKPab	06 56 37.9	-0.6
VNDA				PP		PP	07 00 33.3	+2.3
VNDA	Vanda	172.74	146	PKP		PKPdf	06 55 07.5	-4.7
	comp=Z,5.8nm,1.4s,baz=306,slow=0.8,SNR=8.2							
VNDA				PKPab		PKPab	06 56 36.3	-2.2
	comp=Z,1.2nm,0.8s,baz=225,slow=1.4,SNR=3.1							
VNDA				PP		PP	07 00 33.3	+2.3
	comp=Z,3.0nm,1.1s,baz=209,slow=5.4,SNR=6.3							
SBA	Scott Base	173.27	154	ePKIKP		PKPdf	06 55 08.5	-3.9
SBA				MLR		MLR		
	comp=Z,3μm,19.0s							
SBA	Scott Base	173.27	154	ePKPdf		PKPdf	06 55 08.5	-3.9
SBA				LR		LR		
	comp=Z,3μm,19.0s							

BJI ***20*** *06:50:44.4, 1°.51N×127°.35E, h35km, mB5.4/22, mb5.0/44, Ms5.5/23, Ms7 5.2/25*
BKK ***20*** *06:50:46.9±0.5, 3°N±5°×12°8E±°, h10km, M4.8/20, mB5.3/6, mb4.9/20, MLv4.9/1, Mw(mB)4.7/6*
IDC ***20*** *06:50:52.0±2.4, 2°.34N×127°.03E, h27km±15km, mb4.7/27, mb1 4.8/28, mb1mx4.8/30, mbtmp4.7/28, ML4.2/1, Error ellipse: s-maj=17.5km s-min=8.3km az=81.0*
MOS ***20*** *06:50:51.4±1.1, 2°.40N×126°.98E, h33km, mb5.5/28, Error ellipse: s-maj=13.6km s-min=6.4km az=114.1*
NEIC ***20*** *06:50:52.9±0.2, 2°.36N×127°.10E, h35km, mb5.0/36, Error ellipse: s-maj=6.3km s-min=3.9km az=76.0*
DJA ***20*** *06:50:53.8±1.3, 2°N±10°×12°7E±°, h10km, M5.0/9, mB5.5/4, mb4.9/9, MLv5.1/4, Mw(mB)5.0/4, Mwp5.6/1*
ISCJB ***20*** *06:50:53.8±0.6, 2°.40N±0°.03×127°.20E±0°.03, h58km±5km, mb5.1/98, MS5.1/11, Error ellipse: s-maj=5.4km s-min=4.0km az=151.3*
TEH ***20*** *06:50:53.0, 2°.45N×127°.26E, h35km, ML5.0*
AUST ***20*** *06:50:54.1±0.3, 2°.36N×127°.00E, h49km, Error ellipse: s-maj=1.0km s-min=0.8km az=24.0*
ISC 20 06:50:53.3±0.3, 2°.38N±0°.03×127°.11E±0°.04, h40km±2km, h40km:pP-P, n331, σ1§38/370, mb5.1/99, MS5.2/11, 3C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.62	171	P	Pn	06 51 19.3	-0.1
LBMI	Labuha	3.02	173	P	Pn	06 51 40.3	+1.6
KMSI	Cibinong	3.61	240	P	Pn	06 51 52.2	+5.5
GTOI	Gorontalo	4.45	247	P	Pn	06 52 02.2	+3.9
DAV	Davao City (W)	4.90	342	Pn	Pn	06 52 09.2	+4.6
DAV				Sn	Sn	06 53 09.0	+8.9
DAV	Davao City (W)	4.90	342	Pn	Pn	06 52 09.2	+4.6
	53nm,0.3s,baz=252,slow=17,SNR=3.6						
DAV				Sn	Sn	06 53 09.0	+8.9
	86nm,0.3s,baz=252,slow=20,SNR=2.6						
SWI	Sorong	5.25	128	P	Pn	06 52 11.4	+2.1
SWI	Sorong	5.25	128	P	Pn	06 52 11.4	+2.1
	baz=5.3,SNR=4.7						
MRSI	Marisa	5.51	250	P	Pn	06 52 16.6	+3.8
LUWI	Luwuk	5.51	232	P	Pn	06 52 18.4	+5.5
LUWI	Luwuk	5.51	232	P	Pn	06 52 18.1	+5.2
	baz=5.4,SNR=8.6						
FAKI	Fak Fak	7.35	136	P	Pn	06 52 41.9	+3.7
	baz=7.4,SNR=8.9						
SKSI	Soroako, Sulaw	7.56	230	P	Pn	06 52 43.4	+2.3
KKSI	Kolaka, Sulawe	8.49	220	P	Pn	06 52 58.2	+4.3
PALU	Palau	8.84	56	P	Pn	06 53 03.9	+5.3
	baz=9.0,SNR=7.1						
PALU				S	Sn	06 54 36.5	-0.5
	baz=9.0,SNR=4.1						
MYLDM	Lahad Datu	9.03	288	P	Pn	06 53 04.4	+3.1
MYLDM	Lahad Datu	9.03	288	P	Pn	06 53 05.8	+4.5
	146nm,1.0s						
TSM	Tawau	9.42	282	P	Pn	06 53 10.4	+3.8
BAKI	Biak	9.67	111	P	Pn	06 53 17.8	+7.8
SPSI	Sidrap Palu	9.67	229	P	Pn	06 53 15.2	+5.1
	56nm,0.7s,846nm						
TLE	Tual	9.74	145	P	Pn	06 53 18.5	+7.5
TLE	Tual	9.74	145	P	Pn	06 53 18.6	+7.5
	baz=9.8,SNR=4.9						
BKSI	Bulukumba	10.36	222	P	Pn	06 53 24.1	+4.7
	53nm,1.0s,644nm12μm						
KAPI	Kappang	10.39	225	Pn	Pn	06 53 19.9	-0.1
	18nm,0.9s						
KAPI				Sn	Sn	06 55 11.9	-3.3
KAPI	Kappang	10.39	225	Pn	Pn	06 53 20.2	+0.3
	2.0nm,0.3s,baz=36,slow=8.0,SNR=3.7						
KAPI				Sn	Sn	06 55 11.9	-3.3
	4.2nm,0.3s,baz=6.3,slow=18,SNR=1.5						
SDKM	Sandakan	10.41	288	P	Pn	06 53 23.9	+3.7
KKM	Kota Kinabalu	11.46	289	Pn	Pn	06 53 36.0	+1.3
KKM	Kota Kinabalu	11.46	289	P	Pn	06 53 37.9	+3.3
SOEI	Soe	12.38	193	P	P	06 54 03.8	+5.3
LBFI	Labuhan Bajo,	12.97	214	P	P	06 54 10.1	+5.2
BTM	Bintulu	14.04	274	P	Pn	06 54 13.9	+4.1
JAY	Jayapura	14.43	110	P	P	06 54 31.3	+10
JAY	Jayapura	14.43	110	P	P	06 54 23.3	+2.1
	baz=14,SNR=9.6						
SBUM	Sibu	14.88	271	P	P	06 54 25.3	-0.8
SBUM	Sibu	14.88	271	P	P	06 54 28.2	+2.0
MTNI	Mataram	15.45	225	P	P	06 54 35.7	+3.2
	70nm,0.7s						
MTN	Manton Dam	15.64	165	P	P	06 54 35.5	+0.9
	baz=16,SNR=5.4						
SRBI	Singaraja	15.78	229	P	P	06 54 41.3	+5.2
STKI	Sintang	15.80	262	P	P	06 54 48.2	+12
KDU	Kakadu	15.89	161	P	Pn	06 54 34.0	-0.2
	baz=16,SNR=13						
KMMI	Kalianget	16.12	234	P	P	06 54 44.2	+4.2
DNP	Denpasar	16.17	227	P	P	06 54 46.6	+6.1
KSM	Kuching	16.82	267	ePn	Pn	06 54 46.1	+0.1
	32nm,0.9s						
KSM	Kuching	16.82	267	P	P	06 54 50.1	+2.4
KSM	Kuching	16.82	267	P	P	06 54 50.5	+2.8
	38nm,1.0s						
KSM	Kuching	16.82	267	P	P	06 54 50.3	+2.5
	baz=17,SNR=5.0						
BLJI	Banyuglugur	16.82	233	P	P	06 54 51.0	+3.3
GMJI	Gumukmas	17.26	232	P	P	06 54 56.9	+4.4
KNRA	Kununurra	18.02	175	P	Pn	06 55 00.6	-0.2
	baz=18,SNR=18						
SJI	Sawahan	18.31	237	P	Pn	06 55 07.4	+2.9
	66nm,0.9s,4μm						
PWJI	Pagerwojo	18.44	236	P	Pn	06 55 08.3	+2.4
	113nm,1.1s,13μm						
BJII	Banjamegara	19.87	241	P	Pn	06 55 25.1	+1.9
	52nm,1.7s						
TPI	Tanjungpandan	20.11	255	P	Pn	06 55 28.9	+2.9
FITZ	Fitzroy Crossi	20.40	184	eP	P	06 55 26.7	-0.3
	15nm,0.7s						
FITZ	Fitzroy Crossi	20.40	184	P	P	06 55 26.5	-0.5
	15nm,0.6s,baz=1.6,slow=10,SNR=39						
FITZ	Fitzroy Crossi	20.40	184	P	P	06 55 26.5	-0.5
	baz=20,SNR=36						
TWG	Pinlang	21.15	344	eP	P	06 55 32.3	-2.7
	162nm,0.6s						
YULB	Yu-li	21.64	345	eP	P	06 55 37.3	-3.0
	20nm,0.6s						
TPUB	Ta-pu	21.73	344	eP	P	06 55 39.1	-2.2
	66nm,0.8s						
SSLB	Suanglung	22.10	345	eP	P	06 55 44.1	-1.1
	46nm,0.9s						
COEN	Coen	22.74	136	P	P	06 55 50.7	-1.4
	168nm,1.0s						
COEN	Coen	22.74	136	P	P	06 55 52.5	+0.3
	baz=23,SNR=3.7						
YHNB	Yeheng	22.84	346	eP	P	06 55 52.2	-1.0
	48nm,0.7s						
MYKOM	Kota Tinggi	23.26	269	P	P	06 56 00.6	+3.1
WRAB	Tennant Creek	23.28	163	P	P	06 55 56.0	-1.7
	767nm,0.4s,SNR=99						
WRAB	Tennant Creek	23.28	163	eP	P	06 55 56.9	-0.8
WRAB				pmax	pmax		
	comp=Z,62nm,0.5s						
WRAB	Tennant Creek	23.28	163	eP	P	06

	comp=Z,10.0nm,0.8s					
JNU	**Nakatsue**	**30.79**	**6**	*e*P	**P**	**06 57 05.5 +0.3**
	comp=Z,10nm,0.9s					
JNU	**Nakatsue**	**30.79**	**6**	P	**P**	**06 57 06.0 +0.8**
	comp=Z,16nm,0.9s,baz=174,slow=4.8,SNR=7.2					
GYA	**Guiyang**	**30.96**	**322**	P	**P**	**06 57 08.8 +1.8**
GYA				pP	**pP**	**06 57 18.5 +0.4**
GYA				sP	**sP**	**06 57 23.3 +0.4**
GYA				PP	**PP**	**06 58 14.0 -3.4**
GYA				S	**S**	**07 02 10.6 +1.6**
GYA				sS	**sS**	**07 02 28.4 +0.8**
GYA				ScP	**ScP**	**07 03 42.8 +0.2**
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,120nm,4.8s					
GYA				LR	LR	
	comp=Z,540nm,17.8s					
LAMP	**Lampang**	**31.34**	**303**	P	**P**	**06 57 12.7 +2.4**
	comp=Z,5.8nm,0.8s					
PATS	**Pohnpei**	**31.40**	**81**	S	S	07 01 48.9 -27
	baz=32,SNR=3.7					
CMAR	**Chiang Mai Arr**	**31.89**	**302**	P	**P**	**06 57 15.2 0.0**
CMAR				PcP	**PcP**	**07 00 06.3 +1.1**
CMAR	**Chiang Mai Arr**	**31.89**	**302**	P	**P**	**06 57 15.2 0.0**
	comp=Z,3.3nm,0.4s,baz=123,slow=6.6,SNR=28					
CMAR				PcP	**PcP**	**07 00 06.3 +1.1**
	comp=Z,1.3nm,0.4s,baz=126,slow=1.1,SNR=10					
CMMT	**Chiang Mai**	**32.05**	**303**	P	**P**	**06 57 16.1 -0.4**
	comp=Z,15nm,0.9s					
CHTO	**Chiang Mai**	**32.05**	**303**	*e*P	**P**	**06 57 15.9 -0.7**
CHTO				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CHTO	**Chiang Mai**	**32.05**	**303**	*e*P	**P**	**06 57 15.9 -0.7**
	comp=Z,9.5nm,0.8s					
CHTO	**Chiang Mai**	**32.05**	**303**	P	**P**	**06 57 16.5 -0.1**
	comp=Z,17nm,1.0s					
ENH	**Enshi**	**32.38**	**331**	*e*P	**P**	**06 57 19.1 -0.2**
	comp=Z,20nm,0.7s					
ENH				*e*PP	**PP**	**06 58 32.4 -0.7**
KMI	**Kunming**	**32.60**	**316**	P	**P**	**06 57 23.3 +1.7**
KMI				pP	**pP**	**06 57 31.1 -1.6**
KMI				S	**S**	**07 02 36.8 +1.9**
KMI				pmax	pmax	
	comp=Z,26nm,0.8s					
KMI				LR	LR	
	comp=N,1μm,18.7s					
KMI				LR	LR	
	comp=E,1μm,17.2s					
KMI				LR	LR	
	comp=Z,2μm,16.5s					
FORT	**Forrest**	**32.99**	**179**	*e*P	**P**	**06 57 23.5 -1.0**
	comp=Z,46nm,0.8s					
FORT				*e*PcP	**PcP**	**07 00 08.3 +0.4**
FORT	**Forrest**	**32.99**	**179**	P	**P**	**06 57 24.1 -0.4**
	baz=33,SNR=9.3					
MORW	**Morawa**	**33.02**	**198**	P	**P**	**06 57 25.0 +0.1**
	baz=33,SNR=10					
BLDU	**Ballidu**	**34.28**	**196**	P	**P**	**06 57 35.8 0.0**
	baz=34,SNR=9.5					
KSAR	**Wonju Array Be**	**34.90**	**1**	P	**P**	**06 57 42.1 +1.0**
KSAR				PcP	**PcP**	**07 00 14.9 +1.6**
KSRS	**Korea Array**	**34.91**	**1**	P	**P**	**06 57 42.1 +0.9**
	comp=Z,7.0nm,0.8s,baz=175,slow=9.8,SNR=20					
KSRS				PcP	**PcP**	**07 00 14.9 +1.6**
	comp=Z,1.6nm,0.7s,baz=182,slow=2.8,SNR=4.5					
KLBR	**Kellerberrin**	**34.94**	**194**	P	**P**	**06 57 41.6 +0.1**
	baz=35,SNR=31					
MAT	**Matsushiro**	**35.51**	**15**	P	**P**	**06 57 44.4 -1.9**
MJAR	**Matsushiro Arr**	**35.51**	**15**	P	**P**	**06 57 45.5 -0.8**
MJAR				PcP	**PcP**	**07 00 15.7 +0.6**
MJAR	**Matsushiro Arr**	**35.51**	**15**	P	**P**	**06 57 45.5 -0.8**
	comp=Z,4.6nm,0.9s,baz=187,slow=8.9,SNR=11					
MJAR				PcP	**PcP**	**07 00 15.7 +0.6**
	comp=Z,2.4nm,0.9s,baz=180,slow=3.2,SNR=5.3					
XAN	**Xi'an**	**35.79**	**334**	P	**P**	**06 57 48.0 -0.8**
XAN				pmax	pmax	
	comp=Z,5.0nm,0.7s					
CD2	**Chengdu**	**35.95**	**325**	*e*P	**P**	**06 57 49.8 -0.5**
CD2				pP	**pP**	**06 58 00.3 -1.2**
CD2				sP	**sP**	**06 58 03.8 -2.6**
CD2				PP	**PP**	**06 59 12.8 +0.2**
CD2				S	**S**	**07 03 26.1 -0.1**
CD2				pmax	pmax	
	comp=Z,30nm,1.2s					
CD2				LR	LR	
	comp=N,870nm,14.2s					
CD2				LR	LR	
	comp=Z,1μm,14.3s					
BBOO	**Buckleboo**	**36.01**	**167**	*e*P	**P**	**06 57 50.0 -0.6**
	comp=Z,595nm,0.8s					
BBOO				*e*PP	**PnPn**	**06 59 10.3 -2.1**
BBOO				*e*PcP	**PcP**	**07 00 17.3 +0.6**
BBOO	**Buckleboo**	**36.01**	**167**	P	**P**	**06 57 50.1 -0.6**
	baz=36,SNR=52					
EIDS	**Eidsvold**	**36.06**	**141**	*e*P	**P**	**06 57 50.7 -0.5**
	comp=Z,17nm,1.1s					
EIDS	**Eidsvold**	**36.06**	**141**	P	**P**	**06 57 52.3 +1.1**
	baz=36,SNR=3.2					
NWAO	**Narrogin (SRO)**	**36.34**	**194**	P	**P**	**06 57 53.0 -0.4**
NWAO	**Narrogin (SRO)**	**36.34**	**194**	P	**P**	**06 57 53.0 -0.4**
	comp=Z,38nm,0.8s,baz=17,slow=8.0,SNR=20					
STKA	**Stephens Creek**	**36.74**	**159**	*e*P	**P**	**06 57 56.8 -0.1**
	comp=Z,20nm,0.8s					
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**06 57 56.8 -0.1**
	comp=Z,93nm,0.7s,baz=340,slow=8.5,SNR=164					
STKA	**Stephens Creek**	**36.74**	**159**	P	**P**	**06 57 56.9 -0.1**
	baz=37,SNR=127					
RKGY	**Rocky Gully**	**38.01**	**194**	P	**P**	**06 58 09.0 +1.4**
	baz=38,SNR=17					
CMSA	**Cobar Meteorol**	**38.08**	**154**	P	**P**	**06 58 08.7 +0.5**
	baz=38,SNR=43					
BJI	**Beijing**	**38.78**	**347**	P	**P**	**06 58 15.1 +1.1**
BJI				sP	**sP**	**06 58 30.5 +0.4**
BJI				S	**ScP**	**07 04 12.8 +2.7**
BJI				sS	**sS**	**07 04 27.8 +0.3**
BJI				SS	**SnSn**	**07 07 03.0 +2.4**
BJI				pmax	pmax	
	comp=Z,83nm,0.7s					
BJI				LR	LR	
	comp=N,8μm,15.1s					
BJI				LR	LR	
	comp=E,3μm,17.0s					
BJI				LR	LR	
	comp=Z,6μm,20.5s					
LZH	**Lanzhou**	**39.85**	**330**	*e*P	**P**	**06 58 24.3 +1.0**
LZH				pP	**pP**	**06 58 34.0 -0.6**
LZH				sP	**sP**	**06 58 38.3 -1.1**
LZH				pmax	pmax	
	comp=Z,22nm,1.0s					
LZH				pmax	pmax	
	comp=Z,95nm,4.6s					
LZH				LR	LR	
	comp=N,2μm,11.5s					
LZH				LR	LR	
	comp=E,3μm,14.2s					
LZH				LR	LR	
	comp=Z,7μm,16.2s					
ARMA	**Armidale**	**40.14**	**146**	*e*P	**P**	**06 58 26.1 +0.5**
	comp=Z,28nm,0.8s					
ARMA				*e*PcP	**PcP**	**07 00 30.7 +1.1**
ARMA	**Armidale**	**40.14**	**146**	P	**P**	**06 58 26.5 +0.9**
	baz=40,SNR=16					
HHC	**Hu-ho-hao-te**	**40.79**	**342**	*e*P	**P**	**06 58 31.8 +0.9**
HHC				PP	**PnPn**	**07 00 09.8 0.0**
HHC				PcP	**PcP**	**07 00 32.3 +0.8**
HHC				ScP	**ScP**	**07 04 18.8 +0.7**
HHC				PcS	**PcS**	**07 04 22.8 +0.4**
HHC				S	**S**	**07 04 40.8 +1.7**
HHC				ScS	**ScS**	**07 08 32.1 -0.9**
HHC				pmax	pmax	
	comp=Z,48nm,0.7s					
HHC				pmax	pmax	
	comp=Z,240nm,5.7s					
HHC				LR	LR	
	comp=N,2μm,15.1s					
HHC				LR	LR	
	comp=E,4μm,15.2s					
HHC				LR	LR	
	comp=Z,3μm,15.6s					
SHL	**Shillong**	**40.99**	**307**	*e*P	**P**	**06 58 32.0 -0.8**
SHL				*ex*	x	07 01 40.0
CN2	**Changchun**	**41.27**	**358**	*e*P	P	06 58 37.8 +3.1
ARPS	**Mount Arapiles**	**41.29**	**162**	P	**P**	**06 58 35.4 +0.5**
	baz=42,SNR=12					
YNG	**Young**	**41.62**	**153**	P	**P**	**06 58 38.9 +1.3**
	baz=42,SNR=14					
USRK	**Ussuriysk Arra**	**41.87**	**5**	P	**P**	**06 58 40.8 +1.3**
	comp=Z,19nm,0.9s,baz=191,slow=6.8,SNR=25					
MDJ	**Mudanjiang**	**42.12**	**3**	P	**P**	**06 58 43.1 +1.5**
MDJ				pP	**pP**	**06 58 52.0 -0.9**
MDJ				sP	**sP**	**06 58 55.8 -1.9**
MDJ				PP	**PP**	**07 00 20.8 +1.1**
MDJ				PcP	**PcP**	**07 00 37.1 +1.5**
MDJ				S	**S**	**07 05 01.4 +3.0**
MDJ				SS	**SS**	**07 08 12.8 +5.6**
MDJ				ScS	**ScS**	**07 08 42.5 +1.9**
MDJ				pmax	pmax	
	comp=Z,38nm,0.9s					
MDJ				pmax	pmax	
	comp=Z,490nm,8.6s					
MDJ				LR	LR	
	comp=N,1μm,22.2s					
MDJ				LR	LR	
	comp=E,2μm,18.2s					
MDJ				LR	LR	
	comp=Z,2μm,14.7s					
MDJ	**Mudanjiang**	**42.12**	**3**	*e*P	**P**	**06 58 41.7 +0.1**
	comp=Z,35nm,0.9s					
CAN	**Canberra**	**42.74**	**153**	*e*P	**P**	**06 58 48.2 +1.4**
CAN				pmax	pmax	
	comp=Z,40nm,0.8s					
CAN	**Canberra**	**42.74**	**153**	*e*P	**P**	**06 58 48.2 +1.4**
	comp=Z,40nm,0.8s					
CNB	**Canberra Magne**	**42.90**	**153**	P	**P**	**06 58 49.3 +1.1**
	baz=43,SNR=4.9					
TOO	**Toolangi**	**43.25**	**159**	P	**P**	**06 58 52.3 +1.4**
	baz=44,SNR=9.9					
LSA	**Lhasa**	**43.62**	**312**	P	**P**	**06 58 54.8 +0.2**
LSA	**Lhasa**	**43.62**	**312**	*e*P	**P**	**06 58 55.4 +0.8**
LSA				pmax	pmax	
	comp=Z,17nm,0.7s					
LSA	**Lhasa**	**43.62**	**312**	*e*P	**P**	**06 58 55.4 +0.8**
	comp=Z,17nm,0.7s					
MILA	**Mila**	**44.26**	**155**	P	**P**	**06 59 00.4 +1.3**
	baz=44,SNR=5.3					
GTA	**Gaotai**	**44.45**	**330**	*e*P	**P**	**06 59 00.9 +0.3**
GTA				pP	pP	06 59 06.9 -5.2
GTA				PcP	**PP**	**07 00 45.8 +0.9**
GTA				S	**S**	**07 05 34.1 +1.1**
GTA				pmax	pmax	
	comp=Z,10.0nm,0.7s					
GTA				pmax	pmax	
	comp=Z,480nm,5.9s					
GTA				LR	LR	
	comp=N,3μm,15.2s					
GTA				LR	LR	
	comp=E,2μm,16.2s					
GTA				LR	LR	
	comp=Z,3μm,14.7s					
TAPN	**Taplejung**	**45.13**	**307**	*e*P	**P**	**06 59 06.0 -0.5**
ODAN	**Odare**	**45.17**	**306**	*e*P	**P**	**06 59 06.1 -0.6**
	comp=Z,32nm,0.7s					
RAMN	**Ramite**	**45.84**	**306**	*e*P	**P**	**06 59 11.9 -0.2**
	comp=Z,62nm,1.1s					
HABR	**Khabarovsk**	**46.42**	**7**	*e*P	**P**	**06 59 14.1 -1.8**
HABR				*SP	**sP**	**06 59 28.2 -4.0**
HABR				*e*		07 00 48.6
HABR				*e*		07 01 03.5
HABR				S	**S**	**07 06 00.0 -0.9**
HABR				*e**SS	**sS**	**07 06 16.7 -3.3**
HABR				*e*		07 09 06.2
HABR				*e*SSS	SSS	07 10 23.7
HABR				pmax	pmax	
	comp=N,17nm,0.7s					
HABR				pmax	pmax	
	comp=E,92nm,2.0s					
HABR				pmax	pmax	
	comp=Z,170nm,3.0s					
HABR				MLR	MLR	
	comp=Z,2μm,18.0s					
YSS	**Yuzh-Sakhalins**	**46.44**	**15**	*e*P	P	06 59 27.0 +11
JIRN	**Jiri**	**46.48**	**307**	*e*P	**P**	**06 59 16.8 -0.4**
	comp=Z,23nm,0.5s					
GUN	**Gumba**	**46.83**	**307**	*e*P	**P**	**06 59 19.5 -0.4**
	comp=Z,39nm,0.4s					
KLR	**Kul'dur**	**46.84**	**4**	*e*P	**P**	**06 59 16.4 -2.8**
PKI	**Pulchoki**	**47.06**	**306**	*e*P	**P**	**06 59 20.8 -1.0**
PKIN	**Phulchoki**	**47.08**	**306**	*e*P	**P**	**06 59 20.7 -1.1**
	comp=Z,12nm,0.6s					
KKN	**Kakani**	**47.26**	**306**	*e*P	**P**	**06 59 22.3 -0.8**
DMN	**Daman**	**47.33**	**306**	*e*P	**P**	**06 59 23.0 -0.7**
	comp=Z,30nm,0.9s					
KOLN	**Koldanda**	**48.61**	**306**	*e*P	**P**	**06 59 33.2 -0.4**
	comp=Z,52nm,0.7s					
SONM	**Songino Array**	**48.69**	**341**	P	**P**	**06 59 35.0 +1.2**
SONM				PcP	**PcP**	**07 00 59.4 +0.9**
SONM	**Songino Array**	**48.69**	**341**	P	**P**	**06 59 35.0 +1.2**
	comp=Z,14nm,0.7s,baz=157,slow=9.1,SNR=100					
SONM				PcP	**PcP**	**07 00 59.4 +0.9**
	comp=Z,7.0nm,0.8s,baz=169,slow=3.7,SNR=6.1					
DANN	**Dangsing**	**48.71**	**306**	*e*P	**P**	**06 59 33.8 -0.7**
	comp=Z,67nm,0.8s					
HYB	**Hyderabad**	**49.94**	**291**	*i* P	**P**	**06 59 42.5 -1.2**
TLY	**Talaya**	**52.92**	**342**	*e*P	**P**	**07 00 06.5 +1.1**
TLY	**Talaya**	**52.92**	**342**	P	**P**	**07 00 07.0 +1.6**
	comp=Z,158nm,0.8s,SNR=6.9					
IRK	**Irkutsk**	**53.22**	**343**	*e*P	**P**	**07 00 08.3 +0.7**
IRK				pmax	pmax	
	comp=Z,52nm,2.0s					
MOY	**Mondy**	**53.77**	**340**	*e*P	**P**	**07 00 13.9 +2.1**
MOY				pmax	pmax	
	comp=Z,51nm,1.4s					
WMQ	**Urumqi**	**54.05**	**325**	P	**P**	**07 00 14.1 +0.2**
WMQ				pmax	pmax	
	comp=Z,20nm,1.6s					
WMQ				pmax	pmax	
	comp=Z,1μm,5.6s					
WMQ				LR	LR	
	comp=Z,2μm,18.0s					
CLNS	**Chul'man**	**54.33**	**358**	*e*P	**P**	**07 00 16.6 +1.0**
CLNS				pmax	pmax	
	comp=Z,14nm,0.9s					
CLNS				pmax	pmax	
	comp=N,9.0nm,0.9s					
CLNS				pmax	pmax	
	comp=E,3.0nm,0.7s					
SMLA	**Simla**	**55.07**	**307**	*i* P	**P**	**07 00 20.1 -1.3**
PEA0B	**Petropavlovsk-**	**56.53**	**22**	*e*P	**P**	**07 00 32.7 +1.2**
PETK	**Petropavlovsk-**	**56.53**	**22**	P	**P**	**07 00 32.7 +1.2**
PETK	**Petropavlovsk-**	**56.53**	**22**	P	**P**	**07 00 32.7 +1.2**
PETK	**Petropavlovsk-**	**56.53**	**22**	P	**P**	**07 00 32.7 +1.2**
	comp=E,9.3nm,0.9s,baz=181,slow=4.5,SNR=10.0					
MK31	**Makanchi Array**	**58.88**	**326**	*e*P	**P**	**07 00 48.7 +0.5**
MK31	**Makanchi Array**	**58.88**	**326**	*e*P	**P**	**07 00 48.6 +0.5**
MKAR	**Makanchi Array**	**58.88**	**326**	P	**P**	**07 00 48.5 +0.4**
MKAR	**Makanchi Array**	**58.88**	**326**	P	**P**	**07 00 48.5 +0.4**
MKAR	**Makanchi Array**	**58.88**	**326**	P	**P**	**07 00 48.5 +0.4**
	comp=E,12nm,0.5s,baz=121,slow=8.1,SNR=78					
KSH	**Kashi**	**59.27**	**316**	P	**P**	**07 00 52.8 +1.7**
KSH				sP	**sP**	**07 01 06.6 -1.1**
KSH				PP	**PP**	**07 03 05.6 +3.2**
KSH				S	**S**	**07 08 55.3 -1.4**
KSH				pmax	pmax	
	comp=Z,7.0nm,0.5s					
KSH				LR	LR	
	comp=N,790nm,12.4s					
KSH				LR	LR	
	comp=E,490nm,9.9s					
KSH				LR	LR	
	comp=Z,540nm,11.9s					
YAK	**Yakutsk**	**59.54**	**1**	*e*P	**P**	**07 00 52.5 +0.1**
YAK				pmax	pmax	
	comp=Z,77nm,0.8s					
YAK				pmax	pmax	
	comp=N,24nm,1.2s					
RPZ	**Rata Peaks**	**60.45**	**145**	P	**P**	**07 00 59.1 +0.1**
RPZ	**Rata Peaks**	**60.45**	**145**	P	**P**	**07 00 59.1 +0.1**
	comp=N,9.8nm,0.6s,baz=292,slow=2.7,SNR=11					
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**07 01 09.1 +0.1**
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**07 01 09.1 +0.1**
ZALV	**Zalesovo Beam**	**61.96**	**333**	P	**P**	**07 01 09.1 +0.1**
	comp=N,11nm,0.7s,baz=116,slow=6.6,SNR=37					
KBL	**Kabul**	**62.65**	**308**	*e*P	**P**	**07 01 13.9 -0.4**
KBL				pmax	pmax	
	comp=Z,6.0nm,0.5s					
KBL	**Kabul**	**62.65**	**308**	*e*P	**P**	**07 01 13.9 -0.4**
	comp=Z,5.9nm,0.5s					
KBL	**Kabul**	**62.65**	**308**	P	**P**	**07 01 15.5 +1.3**
	baz=63,SNR=3.2					
NVS	**Novosibirsk**	**63.24**	**333**	*e*P	**P**	**07 01 16.3 -1.2**
NVS				*e*S	**S**	**07 09 44.1 -2.2**
NVS				pmax	pmax	
	comp=N,16nm,0.8s					
NVS				pmax	pmax	
	comp=E,23nm,0.8s					
NVS				pmax	pmax	
	comp=Z,36nm,0.8s					
NVS				smax	smax	
	comp=E,19nm,1.9s					
KK31	**Karatay Array**	**64.48**	**317**	*i* P	**P**	**07 01 25.8 -0.2**
KK31				pmax	pmax	
	comp=Z,10.0nm,1.0s					
KKAR	**Karatay Array**	**64.48**	**317**	*e*P	**P**	**07 01 26.2 +0.2**
KKAR				pmax	pmax	
	comp=Z,4.0nm,0.7s					
KKAR	**Karatay Array**	**64.48**	**317**	*e*P	**P**	**07 01 26.2 +0.2**
	comp=Z,4.5nm,0.7s					
VOSK	**Vostochnaya**	**68.20**	**327**	P	**P**	**07 01 49.7 +0.1**
VOSK				pmax	pmax	
	comp=Z,31nm,0.7s					
BVA0	**Borovoye Array**	**68.65**	**327**	*i* P	**P**	**07 01 53.0 +0.6**
BVA0				pmax	pmax	
	comp=Z,58nm,1.0s					
BRVK	**Borovoye**	**68.73**	**327**	P	**P**	**07 01 53.8 +0.9**
	comp=Z,445nm,0.7s,SNR=37					
BRVK	**Borovoye**	**68.73**	**327**	P	**P**	**07 01 53.5 +0.6**
BRVK				pmax	pmax	
	comp=Z,115nm,0.9s					
BRVK	**Borovoye**	**68.73**	**327**	*e*P	**P**	**07 01 53.7 +0.9**
	comp=Z,54nm,0.8s					
IDAH	**Dahanechah**	**69.64**	**304**	*e*P	**P**	**07 01 59.8 +0.5**
IAKL	**Akhelmad**	**71.28**	**308**	*e*P	**P**	**07 02 09.0 -0.2**
IBAF	**Bafgh**	**73.06**	**302**	*e*P	**P**	**07 02 19.5 -0.3**
AB31	**Akbulak array**	**73.43**	**321**	*i* P	**P**	**07 02 21.8 +0.4**
AB31				pmax	pmax	
	comp=Z,44nm,0.7s					
ABKAR	**Akbulak array**	**73.43**	**321**	*e*P	**P**	**07 02 21.8 +0.4**
	comp=Z,16nm,0.8s					
ISAD	**Sadrabad**	**74.69**	**302**	*e*P	**P**	**07 02 29.7 +0.2**
ISRV	**Sarvestan**	**74.90**	**300**	*e*P	**P**	**07 02 30.4 -0.5**
AKTO	**Aktyubinsk**	**74.95**	**322**	P	**P**	**07 02 31.0 +0.7**
AKTO	**Aktyubinsk**	**74.95**	**322**	P	**P**	**07 02 31.0 +0.7**
AKTO	**Aktyubinsk**	**74.95**	**322**	P	**P**	**07 02 31.0 +0.7**
	comp=Z,63nm,0.7s,baz=103,slow=7.7,SNR=238					
IPAR	**Pars**	**75.00**	**300**	*e*P	**P**	**07 02 31.9 +0.5**
SVE	**Sverdlovsk**	**75.31**	**329**	*i*P	**P**	**07 02 32.8 +0.6**
SVE				pmax	pmax	
	comp=Z,94nm,0.8s					
ISFB	**Sefidab**	**76.18**	**305**	*e*P	**P**	**07 02 37.7 -0.1**
ARU	**Arti**	**76.28**	**328**	*c i*P	**P**	**07 02 37.8 +0.1**
ARU						07 05 26.9
ARU				S	**S**	**07 12 21.3 +2.0**
ARU				SS	**SS**	**07 17 07.8 -6.0**
ARU				pmax	pmax	
	comp=Z,49nm,0.7s					
IVRN	**Varamin**	**76.67**	**305**	*e*P	**P**	**07 02 41.1 +0.5**
IPIR	**Pirpir**	**77.12**	**303**	*e*P	**P**	**07 02 44.3 +0.9**
RDF	**Al-Radifah**	**79.72**	**299**	*e*P	**P**	**07 02 57.8 +0.3**
RDF				AMb	AMB	07 02 59.0
	comp=Z,79nm,1.0s					
NAY	**Al-Naaiem**	**80.00**	**299**	*e*P	**P**	**07 02 59.2 +0.2**
NAY				AMb	AMB	07 03 00.2
	comp=Z,3.3nm,0.8s					
ISRB	**Sarab**	**80.21**	**308**	*e*P	**P**	**07 03 00.6 +0.4**
RST	**Umm Al-Ruwaisa**	**80.23**	**299**	*e*P	**P**	**07 02 59.8 -0.4**
RST				AMb	AMB	07 03 01.6
	comp=Z,894nm,1.0s					
IVIS	**Veis**	**80.63**	**304**	*e*P	**P**	**07 03 00.8 -1.6**
IHRS	**Heris**	**80.74**	**308**	*e*P	**P**	**07 03 02.8 -0.2**
IDHR	**Dehrash**	**81.02**	**305**	*e*P	**P**	**07 03 03.4 -1.2**
ABPO	**Ambohimpanom**	**81.22**	**250**	*e*P	**P**	**07 03 06.4 +0.5**
ABPO				pmax	pmax	
	comp=Z,12nm,0.9s					
ABPO	**Ambohimpanom**	**81.22**	**250**	*e*P	**P**	**07 03 06.4 +0.5**
	comp=Z,12nm,0.9s					
RAYN	**Ar Rayn**	**81.36**	**293**	P	**P**	**07 03 07.1 +0.7**
	comp=Z,253nm,0.8s,SNR=9.6					
IAZR	**Azarshahr**	**81.53**	**308**	*e*P	**P**	**07 03 07.9 +0.6**
IMRD	**Marand**	**81.81**	**309**	*e*P	**P**	**07 03 09.1 +0.4**
ISHB	**Shabestar**	**81.85**	**308**	*e*P	**P**	**07 03 09.8 +0.8**
VNDA	**Vanda**	**82.05**	**173**	*e*P	**P**	**07 03 08.8 -0.1**
	comp=Z,9.4nm,0.9s					
VNDA	**Vanda**	**82.05**	**173**	P	**P**	**07 03 09.1 +0.2**
	comp=Z,10nm,0.8s,baz=316,slow=7.0,SNR=26					
DGRG	**David-gareji**	**82.24**	**311**	P	**P**	**07 03 12.9 +2.2**
OHAK	**Old Harbor**	**82.37**	**33**	P	**P**	**07 03 12.0 +1.1**
MAW	**Mawson**	**82.63**	**200**	*e*P	**P**	**07 03 12.8 +0.8**
	comp=Z,0.9nm,0.5s					
MAW	**Mawson**	**82.63**	**200**	P	**P**	**07 03 12.8 +0.8**
	comp=Z,8.8nm,0.6s,baz=74,slow=6.1,SNR=50					
MAW	**Mawson**	**82.63**	**200**	P	**P**	**07 03 12.9 +0.8**
	baz=83,SNR=40					
GNI	**Garni**	**82.64**	**310**	P	**P**	**07 03 14.1 +1.1**
	comp=Z,20nm,0.8s					
TBLG	**Delisi**	**82.73**	**312**	*e*P	**P**	**07 03 14.6 +1.4**
TBLG	**Delisi**	**82.73**	**312**	P	**P**	**07 03 14.6 +1.4**
DUS	**Dusheti**	**82.78**	**312**	P	**P**	**07 03 15.7 +2.2**
KZR	**Kazreti**	**82.95**	**311**	P	**P**	**07 03 16.1 +1.7**
SBA	**Scott Base**	**82.95**	**172**	*e*P	**P**	**07 03 14.5 +0.9**
SBA				pmax	pmax	
	comp=Z,10.0nm,1.2s					
SBA	**Scott Base**	**82.95**	**172**	*e*P	**P**	**07 03 14.5 +0.9**
	comp=Z,10nm,1.2s					
GUDG	**Gudauri**	**82.96**	**312**	P	**P**	**07 03 15.9 +1.2**
RSO	**Redoubt South**	**83.07**	**29**	*e*P	**P**	**07 03 14.9 +0.1**
	comp=Z,34nm,0.9s					
IM04	**Indian Mountai**	**83.40**	**24**	*e*P	**P**	**07 03 17.5 +1.3**
ZEI	**Tsey**	**83.41**	**313**	*e*P	**P**	**07 03 16.0 -1.0**
ZEI				pmax	pmax	
	comp=Z,40nm,1.3s					
IMA2	**Indian Mountai**	**83.45**	**24**	*e*P	**P**	**07 03 18.3 +1.8**
AKH	**Akhalkalaki**	**83.65**	**311**	P	**P**	**07 03 20.2 +2.0**
ONI	**Oni**	**83.73**	**312**	P	**P**	**07 03 20.2 +1.8**
KBZ	**Khabaz**	**84.18**	**314**	P	**P**	**07 03 21.1 +0.6**
KBZ	**Khabaz**	**84.18**	**314**	P	**P**	**07 03 21.1 +0.6**
KBZ	**Khabaz**	**84.18**	**314**	P	**P**	**07 03 21.1 +0.6**
	comp=Z,6.8nm,1.0s,baz=97,slow=8.1,SNR=12					
KIV	**Kislovodsk**	**84.34**	**314**	*e*P	**P**	**07 03 22.3 +0.8**
KIV				pmax	pmax	
	comp=Z,14nm,1.1s					
PMR	**Palmer**	**84.94**	**29**	*e*P	**P**	**07 03 24.4 +0.4**
PMR				pmax	pmax	
	comp=Z,25nm,1.0s					
PMR	**Palmer**	**84.94**	**29**	*e*P	**P**	**07 03 24.4 +0.4**
	comp=Z,25nm,1.0s					
MCK	**McKinley**	**85.19**	**26**	*e*P	**P**	**07 03 25.7 +0.4**
MCK				pmax	pmax	
	comp=Z,26nm,1.3s					
MCK	**McKinley**	**85.19**	**26**	*e*P	**P**	**07 03 25.7 +0.4**
	comp=Z,26nm,1.3s					
VRHR	**Novokhopersk**	**85.32**	**321**	*e*P	**P**	**07 03 24.5 -1.6**
VRHR				pmax	pmax	
	comp=Z,10.0nm,0.5s					
VRHR				pmax	pmax	
	comp=N,4.0nm,0.4s					
VRHR				pmax	pmax	
	comp=E,6.0nm,0.4s					
VRHR				pmax	pmax	
	comp=N,40nm,0.8s					
VRHR				pmax

OBN	**Obninsk**	88.38	325	*eP*	P	07 03 40.6	-0.3
OBN				pmax	pmax		
comp=Z,38nm,1.2s							
EGAK	**Eagle**	88.60	25	*eP*	P	07 03 42.4	+0.6
comp=Z,4.7nm,1.0s							
KMBO	**Kilima Mbogo**	89.91	269	P	P	07 03 49.4	0.0
KMBO	**Kilima Mbogo**	89.91	269	P	P	07 03 49.4	0.0
comp=Z,2.9nm,0.7s,baz=61,slow=10,SNR=7.8							
SYO	**Syowa Base**	91.31	201‖	*eP*	P	07 03 54.0	-0.3
SYO	**Syowa Base**	91.31	201‖	*es*P	sP	07 04 10.9	-0.4
ARCES	**ARCESS Array B**	91.84	340	P	P	07 03 55.9	-0.9
ARCES	**ARCESS Array B**	91.84	340	P	P	07 03 55.9	-0.9
comp=Z,11nm,0.7s,baz=81,slow=5.6,SNR=35							
QSPA	**South Pole Qui**	92.30	180	P	P	07 03 59.2	+0.1
QSPA	**South Pole Qui**	92.30	180	P	P	07 03 59.2	+0.1
comp=Z,4.3nm,1.0s,baz=155,slow=1.3,SNR=11							
KAF	**Kangasniemi**	92.96	332	*eP*	P	07 04 00.5	-1.6
KAF	**Kangasniemi**	92.96	332	*ep*	P	07 04 00.5	-1.6
FINES	**FINESS Array B**	93.19	332	P	P	07 04 02.3	-0.9
FINES	**FINESS Array B**	93.19	332	P	P	07 04 02.3	-0.9
comp=Z,3.3nm,0.7s,baz=93,slow=7.0,SNR=9.3							
WRAK	**Wrangell Islan**	93.86	33	*eP*	P	07 04 07.5	+1.2
comp=Z,8.9nm,0.8s							
DLBC	**Dease Lake**	94.70	31	P	P	07 04 11.4	+1.1
DLBC	**Dease Lake**	94.70	31	P	P	07 04 11.4	+1.1
comp=Z,2.5nm,0.9s,baz=309,slow=6.5,SNR=5.1							
MLR	**Muntele Rosu**	96.13	316	P	P	07 04 17.0	-0.3
MLR	**Muntele Rosu**	96.13	316	P	P	07 04 17.0	-0.3
comp=Z,1.1nm,0.8s,baz=180,slow=8.9,SNR=7.4							
UZH	**Uzhgorod**	97.97	320	*eP*	P	07 04 25.7	+0.4
CRVS	**Cervenica-Dubn**	98.45	320	*eP*	Pdif	07 04 28.1	+0.6
CRVS	**Cervenica-Dubn**	98.45	320	PDIF	Pdif	07 04 28.1	+0.6
STHS	**Stebnicka Huta**	98.47	321	*eP*	Pdif	07 04 28.5	+1.0
STHS	**Stebnicka Huta**	98.47	321	PDIF	Pdif	07 04 28.5	+1.0
DAG	**Danmarks Havn**	98.63	352	*i* P	P	07 04 27.1	-0.6
comp=Z,7.1nm,0.7s							
KECS	**Kecovo**	99.17	320	*eP*	Pdif	07 04 30.3	-0.4
KECS	**Kecovo**	99.17	320	PDIF	Pdif	07 04 30.3	-0.4
NB2	**NORSAR Subarra**	100.16	334	P	Pdif	07 04 33.5	-1.4
comp=Z,2.7nm,0.7s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	100.16	334	P	Pdif	07 04 33.5	-1.4
NOA	**NORSAR Array B**	100.16	334	P	Pdif	07 04 33.5	-1.4
comp=Z,2.2nm,0.7s,baz=68,slow=4.5,SNR=6.0							
YKA	**Yellowknife Ar**	100.56	25	P	Pdif	07 04 37.1	+0.6
YKA	**Yellowknife Ar**	100.56	25	P	Pdif	07 04 37.1	+0.6
comp=Z,0.7nm,0.7s,baz=294,slow=4.6,SNR=3.4							
CLL	**Collm**	102.95	324	*ePP*	PP	07 08 59.0	-2.7
NVAR	**Mina Array Bea**	107.51	48	Pdif	Pdif	07 05 09.3	+0.9
NVAR				PKKPbc	PKKPbc	07 20 32.2	-0.2
NVAR				PKKP	PKKPdf	07 20 46.1	+0.5
NVAR	**Mina Array Bea**	107.51	48	Pdiff	Pdif	07 05 09.3	+0.9
comp=Z,0.5nm,0.9s,baz=243,slow=3.8,SNR=3.5							
NVAR				PKKPbc	PKKPbc	07 20 32.2	-0.2
comp=Z,0.6nm,0.8s,baz=148,slow=4.1,SNR=5.1							
NVAR				PKKP	PKKPdf	07 20 46.1	+0.5
comp=Z,0.5nm,0.7s,baz=124,slow=4.8,SNR=5.3							
PDAR	**Pinedale Array**	112.11	42	PKKPbc	PKKPbc	07 20 16.4	-1.4
PDAR	**Pinedale Array**	112.11	42	PKKPbc	PKKPbc	07 20 16.4	-1.4
comp=Z,0.5nm,0.7s,baz=120,slow=5.3,SNR=5.7							
PV01	**Paradox Valley**	114.76	46	*e*PKPdf	PKPdf	07 09 31.2	+0.9
RSSD	**Black Hills**	115.01	38	*e*PKIKP	PKPdf	07 09 30.2	-0.4
RSSD	**Black Hills**	115.01	38	*e*PKPdf	PKPdf	07 09 30.2	-0.4
ANMO	**Albuquerque**	117.64	48	*e*PKPdf	**PKPdf**	07 09 36.8	+0.9
ECSD	**EROS Data Cent**	119.67	35	*e*PKPdf	**PKPdf**	07 09 39.7	+0.4
BGNE	**Belgrade**	120.12	38	*e*PKPdf	**PKPdf**	07 09 40.5	+0.2
TXAR	**Lajitas Array**	122.11	53	PKP	**PKPdf**	07 09 45.5	+1.0
TXAR				PKKPbc	**PKKPbc**	07 19 40.7	-1.1
TXAR	**Lajitas Array**	122.11	53	PKP	**PKPdf**	07 09 45.5	+1.0
comp=Z,1.6nm,0.7s,baz=222,slow=1.2,SNR=22							
TXAR				PKKPbc	**PKKPbc**	07 19 40.7	-1.1
comp=Z,0.3nm,0.7s,baz=123,slow=9.1,SNR=4.1							
KSU1	**Kansas State U**	122.41	40	*e*PKPdf	**PKPdf**	07 09 45.2	+0.5
TORD	**Torodi Ar. Bea**	123.69	287	PKP	**PKPdf**	07 09 47.8	0.0
TORD	**Torodi Ar. Bea**	123.69	287	PKP	**PKPdf**	07 09 47.8	0.0
comp=Z,5.0nm,0.8s,baz=67,slow=1.8,SNR=29							
JCT	**Junction City**	124.64	50	*e*PKIKP	**PKPdf**	07 09 49.9	+0.6
JCT	**Junction City**	124.64	50	*e*PKPdf	**PKPdf**	07 09 49.9	+0.6
MIAR	**Mount Ida**	127.02	42	*e*PKIKP	**PKPdf**	07 09 55.2	+1.5
MIAR	**Mount Ida**	127.02	42	*e*PKPdf	**PKPdf**	07 09 55.2	+1.5
SADO	**Sadowa**	127.54	23	PKP	**PKPdf**	07 09 54.7	+0.4
SADO	**Sadowa**	127.54	23	PKP	**PKPdf**	07 09 54.7	+0.4
comp=Z,5.2nm,1.0s,baz=319,slow=9.3,SNR=3.0							
WVT	**Waverly**	129.71	37	*e*PKIKP	**PKPdf**	07 09 59.0	+0.3
WVT	**Waverly**	129.71	37	*e*PKPdf	**PKPdf**	07 09 59.0	+0.3
DBIC	**Dimbokro**	131.22	281	PKP	**PKPdf**	07 10 02.1	0.0
DBIC	**Dimbokro**	131.22	281	PKP	**PKPdf**	07 10 02.1	0.0
comp=Z,4.1nm,1.0s,baz=180,slow=4.0,SNR=3.6							
TKL	**Tuckaleechee C**	132.40	34	PKP	**PKPdf**	07 10 04.7	+0.9
TKL	**Tuckaleechee C**	132.40	34	PKP	**PKPdf**	07 10 04.7	+0.9
comp=Z,7.2nm,0.8s,baz=140,slow=2.5,SNR=12							
PLCA	**Paso Flores**	138.62	160	*e*PKPdf	**PKPdf**	07 10 16.9	+1.5
PLCA				PKP	**PKPdf**	07 10 17.1	+1.7
PLCA	**Paso Flores**	138.62	160	PKP	**PKPdf**	07 10 17.1	+1.7
comp=Z,3.4nm,0.8s,baz=219,slow=2.6,SNR=9.1							
BCIP	**Isla Barro Col**	150.80	67	*e*PKPbc	**PKPbc**	07 10 42.9	+0.4
CPUP	**Villa Florida**	155.81	170	PKP	**PKPdf**	07 10 44.5	+0.7
CPUP	**Villa Florida**	155.81	170	PKP	**PKPdf**	07 10 44.5	+0.7
comp=Z,2.0nm,0.8s,baz=129,slow=6.5,SNR=2.4							
LPAZ	**La Paz**	159.60	134	PKP	**PKPdf**	07 10 50.5	+0.9
LPAZ				PKPab	**PKPab**	07 11 28.9	+1.1
LPAZ	**La Paz**	159.60	134	PKP	**PKPdf**	07 10 50.5	+0.9
comp=Z,2.8nm,0.9s,baz=3.0,slow=1.8,SNR=9.8							
LPAZ				PKPab	**PKPab**	07 11 28.9	+1.1
comp=Z,2.5nm,1.0s,baz=244,slow=2.4,SNR=3.5							
BDFB	**Brasilia**	165.97	200	PKPab	**PKPab**	07 11 54.2	-0.7
BDFB	**Brasilia**	165.97	200	PKPab	**PKPab**	07 11 54.2	-0.7
comp=Z,2.0nm,0.7s,baz=166,slow=8.3,SNR=4.1							

ISCJB ***20*** *07:22:55.0±0.4, 1°.50S±0°.05×99°.34E±0°.05, h10km, mb4.3/22, Error ellipse: s-maj=7.3km s-min=6.0km az=136.0*
IDC ***20*** *07:22:55.5±0.6, 1°.42S×99°.60E, h0km, mb4.3/17, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, ML4.3/2, Error ellipse: s-maj=21.8km s-min=13.7km az=67.0*
NEIC ***20*** *07:22:56.9±0.4, 1°.49S×99°.54E, h10km, mb4.3/2, Error ellipse: s-maj=13.2km s-min=7.4km az=74.0*
DJA ***20*** *07:22:57.3±2.4, 1°.5±4°×9°.9E±°, h9km±22km, M4.8/4, mb4.6/3, MLv4.9/4*
ISC 20 07:22:56.6±0.5, 1°.50S±0°.06×99°.54E±0°.06, h10km, n60, σ1§24/64, mb4.3/22, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	1.09	58	P	Pn	07 23 18.9	+0.9
PDSI				S	Sn	07 23 36.0	+2.8
PPI	**Padang Panjang**	1.34	40	P	Pg	07 23 22.5	0.0
MASI	**Maura Aman, Be**	3.15	121	P	Pb	07 23 49.9	-2.9
PSI	**Prapat**	4.32	352	Pn	Pn	07 24 01.6	-0.8
PSI	**Prapat**	4.32	352	Pn	Pn	07 24 01.6	-0.8
2.0nm,0.3s,baz=186,slow=11,SNR=9.5							
MNAI	**Manna**	4.44	130	P	Pn	07 24 06.5	+2.4
EGSI	**Enggano, Bengk**	4.70	145	P	Pn	07 24 08.9	+1.2
KCSI	**Kotacane, Aceh**	5.29	341	P	Pn	07 24 15.5	-0.3
60nm,0.8s							
MYKOM	**Kota Tinggi**	5.41	53	P	Pn	07 24 23.4	+6.0
KLSI		6.08	122	P	Pn	07 24 29.3	+2.7
28nm,0.6s,0.1nm							
IPM	**Ipoh**	6.12	14	*e*Pn	Pn	07 24 30.7	+3.5
31nm,0.5s							
KULM	**Kulim**	6.83	9	*e*Pn	Pn	07 24 37.4	+0.3
19nm,0.6s							
KULM	**Kulim**	6.83	9	P	Pn	07 24 37.8	+0.8
CMAR	**Chiang Mai Arr**	19.84	358	P	Pn	07 27 28.2	-1.2
CMAR	**Chiang Mai Arr**	19.84	358	P	Pn	07 27 28.2	-1.2
1.4nm,0.3s,baz=188,slow=9.6,SNR=16							
WRA	**Warramunga Arr**	38.64	121	P	P	07 30 20.4	-0.3
WRA	**Warramunga Arr**	38.64	121	P	P	07 30 20.4	-0.3
3.0nm,0.7s,baz=303,slow=9.1,SNR=31							
WRAB	**Tennant Creek**	38.65	121	*e*P	P	07 30 20.6	-0.1
4.4nm,0.6s							
ASAR	**Alice Springs**	39.92	126	P	P	07 30 31.9	+0.6
ASAR				PcP	PcP	07 32 36.9	-0.1
ASAR				S	S	07 36 32.6	-4.0
ASAR	**Alice Springs**	39.92	126	P	P	07 30 31.9	+0.6
1.5nm,0.5s,baz=301,slow=8.0,SNR=33							
ASAR				PcP	PcP	07 32 36.9	-0.1
0.3nm,0.5s,baz=316,slow=2.9,SNR=2.5							
ASAR				S	S	07 36 32.6	-4.0
0.5nm,0.9s,baz=299,slow=14,SNR=4.4							
KSAR	**Wonju Array Be**	46.80	31	P	P	07 31 25.9	-0.7
KSRS	**Korea Array**	46.83	31	P	P	07 31 25.9	-0.9
2.7nm,0.6s,baz=223,slow=8.4,SNR=10.0							
SONM	**Songino Array**	49.50	6	P	P	07 31 47.3	-0.1
SONM				PcP	PcP	07 33 09.9	+0.5
SONM	**Songino Array**	49.50	6	P	P	07 31 47.3	-0.1
1.8nm,0.5s,baz=189,slow=8.5,SNR=15							
SONM				PcP	PcP	07 33 09.9	+0.5
0.7nm,0.6s,baz=210,slow=4.5,SNR=2.6							
STKA	**Stephens Creek**	49.83	132	P	P	07 31 51.2	+1.1
STKA	**Stephens Creek**	49.83	132	P	P	07 31 51.2	+1.1
1.1nm,0.3s,baz=320,slow=7.9,SNR=3.8							
MK31	**Makanchi Array**	50.43	345	*eP*	P	07 31 54.5	+0.1
MKAR	**Makanchi Array**	50.43	345	P	P	07 31 54.6	+0.2
MKAR	**Makanchi Array**	50.43	345	P	P	07 31 54.6	+0.2
5.4nm,0.5s,baz=159,slow=8.1,SNR=31							
USRK	**Ussuriysk Arra**	53.94	29	P	P	07 32 20.1	-0.4
4.8nm,0.6s,baz=214,slow=4.9,SNR=12							
ZALV	**Zalesovo Beam**	56.59	350	P	P	07 32 39.1	-0.3
ZALV	**Zalesovo Beam**	56.59	350	P	P	07 32 39.2	-0.3
4.6nm,0.5s,baz=181,slow=6.3,SNR=9.1							
RDF	**Al-Radifah**	58.19	306	*eP*	P	07 32 50.9	-0.3
RDF				AMb	AMB	07 32 51.8	
comp=Z,28nm,1.0s							
NAY	**Al-Naaiem**	58.56	306	*eP*	P	07 32 53.0	-0.8
NAY				AMb	AMB	07 32 53.7	
comp=Z,0.4nm,0.5s							
MIB	**Mutribah**	58.69	306	*eP*	P	07 32 54.3	-0.4
MIB				AMb	AMB	07 32 55.3	
comp=Z,20nm,1.0s							
ABKAR	**Akbulak array**	60.98	331	*eP*	P	07 33 09.5	-0.7
comp=Z,1.4nm,0.6s							
KMBO	**Kilima Mbogo**	62.27	270	P	P	07 33 21.1	+1.3
KMBO	**Kilima Mbogo**	62.27	270	P	P	07 33 21.1	+1.3
comp=Z,1.2nm,0.3s,baz=221,slow=24,SNR=5.8							
KBZ	**Khabaz**	67.63	319	P	P	07 33 54.1	+0.3
KBZ	**Khabaz**	67.63	319	P	P	07 33 54.1	+0.3
comp=Z,2.4nm,0.8s,baz=156,slow=10.0,SNR=6.5							
MAW	**Mawson**	70.66	194	P	P	07 34 13.6	+1.4
MAW	**Mawson**	70.66	194	P	P	07 34 13.6	+1.4
comp=Z,0.9nm,0.4s,baz=61,slow=10,SNR=4.2							
PETK	**Petropavlovsk-**	72.71	32	P	P	07 34 24.6	-0.3
PETK	**Petropavlovsk-**	72.71	32	P	P	07 34 24.5	-0.3
comp=Z,1.4nm,0.6s,baz=190,slow=2.6,SNR=3.3							
VNDA	**Vanda**	82.74	169	P	P	07 35 21.4	+1.1
VNDA	**Vanda**	82.74	169	P	P	07 35 21.4	+1.1
comp=Z,0.6nm,0.6s,baz=4.7,slow=6.0,SNR=7.2							
FINES	**FINESS Array B**	83.46	332	P	P	07 35 23.7	-0.5
FINES	**FINESS Array B**	83.46	332	P	P	07 35 23.7	-0.5
comp=Z,0.9nm,0.6s,baz=90,slow=4.2,SNR=5.7							
ARCES	**ARCESS Array B**	85.85	340	P	P	07 35 36.7	+0.5
ARCES	**ARCESS Array B**	85.85	340	P	P	07 35 36.7	+0.5
comp=Z,1.9nm,0.8s,baz=88,slow=4.9,SNR=3.2							
GERES	**GERESS Array B**	88.37	319	P	P	07 35 48.4	-0.6
GERES	**GERESS Array B**	88.37	319	P	P	07 35 48.4	-0.6
comp=Z,0.4nm,0.4s,baz=70,slow=5.6,SNR=3.2							
KEST	**Kesra**	91.02	306	P	P	07 36 03.0	+1.3
KEST	**Kesra**	91.02	306	P	P	07 36 03.0	+1.3
comp=Z,0.4nm,0.8s,baz=70,slow=4.2,SNR=3.6							
NVAR	**Mina Array Bea**	129.50	39	PKP	**PKPdf**	07 42 08.2	+1.6
NVAR	**Mina Array Bea**	129.50	39	PKP	**PKPdf**	07 42 08.2	+1.6
comp=Z,0.2nm,0.5s,baz=266,slow=2.6,SNR=2.8							
CPUP	**Villa Florida**	144.44	217	PKP	**PKPdf**	07 42 32.7	-1.4
CPUP	**Villa Florida**	144.44	217	PKP	**PKPdf**	07 42 32.7	-1.4
comp=Z,6.0nm,0.8s,baz=94,slow=3.7,SNR=12							
TXAR	**Lajitas Array**	144.58	36	PKP	**PKPdf**	07 42 33.8	-0.6
TXAR	**Lajitas Array**	144.58	36	PKP	**PKPdf**	07 42 33.8	-0.6
comp=Z,1.5nm,0.6s,baz=276,slow=1.7,SNR=30							

MOS ***20*** *07:44:42.4±1.1, 1°.61N×126°.29E, h33km, mb4.8/5, Error ellipse: s-maj=20.7km s-min=8.8km az=113.4*
BKK ***20*** *07:44:42.6±0.7, 2°.1N±6°×12°.7E±°, h10km, M4.8/9, mB5.5/1, mb4.9/9, MLv4.7/2, Mw(mB)4.9/1*
IDC ***20*** *07:44:44.0±3.5, 1°.57N×126°.22E, h31km±24km, mb4.2/16, mb1 4.2/17, mb1mx4.2/22, mbtmp4.2/17, ML4.3/1, MS4.4/1, Ms1 4.4/1, ms1mx3.2/34, Error ellipse: s-maj=26.5km s-min=10.4km az=75.0*
ISCJB ***20*** *07:44:44.3±0.3, 1°.70N±0°.03×126°.59E±0°.05, h47km, mb4.5/33, MS4.4/1, Error ellipse: s-maj=6.7km s-min=4.6km az=163.5*
DJA ***20*** *07:44:45.5±1.3, 2°.N±9°×12°.7E±°, h30km±19km, M4.8/8, mb5.0/4, mB5.1/1, MLv4.7/8, Mw(mB)4.4/1*
NEIC ***20*** *07:44:50.3±1.9, 1°.55N×126°.36E, h91km±18km, mb4.6/6, Error ellipse: s-maj=19.5km s-min=8.3km az=73.0*
AUST ***20*** *07:44:55.2±1.1, 0°.98N×126°.48E, h99km, Error ellipse: s-maj=2.3km s-min=1.0km az=12.0*
ISC 20 07:44:45.8±0.4, 1°.69N±0°.05×126°.60E±0°.06, h47km, n112, σ1§56/108, mb4.4/33, 1C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.19	140	P	Pn	07 45 05.7	-0.3
LBMI	**Labuha**	2.48	159	P	Pn	07 45 24.2	+0.5
KMSI	**Cibinong**	2.84	247	P	Pn	07 45 29.2	+0.5
GTOI	**Gorontalo**	3.74	254	P	Pn	07 45 43.7	+2.7
LUWI	**Luwuk**	4.69	235	P	Pn	07 45 57.1	+3.0
LUWI	**Luwuk**	4.69	235	P	Pn	07 45 57.4	+3.3
baz=4.2,SNR=13							
MRSI	**Marisa**	4.81	256	P	Pn	07 45 58.0	+2.2
NLAI	**Namlea**	4.92	174	P	Pn	07 45 57.9	+0.6
SKSI	**Soroako, Sulaw**	6.73	232	P	Pn	07 46 22.5	+0.3
94nm,0.7s,1μm0.3nm							
FAKI	**Fak Fak**	7.27	129	P	Pn	07 46 33.4	+3.9
baz=7.0,SNR=4.0							
MYLDM	**Lahad Datu**	8.80	293	P	Pn	07 46 51.7	+1.2
117nm,1.1s							
SPSI	**Sidrap Palu**	8.84	231	P	Pn	07 46 52.7	+1.6
33nm,0.5s							
BKSI	**Bulukumba**	9.51	223	P	Pn	07 47 02.6	+2.4
KAPI	**Kappang**	9.55	226	*e*Pn	Pn	07 47 01.1	+0.3
KAPI	**Kappang**	9.55	226	Pn	Pn	07 47 00.1	-0.7
2.8nm,0.3s,baz=61,slow=22,SNR=9.9							
KKM	**Kota Kinabalu**	11.23	293	*e*Pn	Pn	07 47 28.2	+4.4
WSI	**Waingapu**	12.91	209	S	S	07 50 30.6	-2.3
baz=12,SNR=6.2							
SBUM	**Sibu**	14.39	273	P	P	07 48 14.6	+1.8
MTN	**Manton Dam**	15.12	163	P	Pn	07 48 05.2	-11
baz=15,SNR=4.1							
KMMI	**Kalianget**	15.31	235	P	P	07 48 25.0	+2.1
KDU	**Kakadu**	15.43	158	P	P	07 48 22.0	-2.2
baz=15,SNR=15							
KSM	**Kuching**	16.29	269	P	P	07 48 35.9	+2.0
baz=16,SNR=3.4							
KNRA	**Kununurra**	17.39	173	P	Pn	07 48 44.7	-0.5
baz=17,SNR=14							
FITZ	**Fitzroy Crossi**	19.69	183	P	P	07 49 09.9	-1.4
FITZ	**Fitzroy Crossi**	19.69	183	P	P	07 49 09.9	-1.4
0.7nm,0.3s,baz=7.4,slow=10,SNR=22							
FITZ	**Fitzroy Crossi**	19.69	183	P	P	07 49 10.0	-1.2
baz=19,SNR=20							
MANU	**Manus Island**	21.09	100	S	S	07 53 07.1	-12
baz=21,SNR=3.6							
TPUB	**Ta-pu**	22.25	345	*eP*	P	07 49 38.0	-0.8
13nm,0.5s							
WRAB	**Tennant Creek**	22.79	161	*eP*	P	07 49 43.5	-1.2
WRAB				pmax	pmax		
comp=Z,50nm,0.8s							
WRAB	**Tennant Creek**	22.79	161	*eP*	P	07 49 43.5	-1.2
comp=Z,50nm,0.8s							
WRA	**Warramunga Arr**	22.80	161	P	P	07 49 43.5	-1.3
WRA				PcP	PcP	07 53 35.2	+0.1
WRA				S	S	07 53 51.1	+0.5
WRA	**Warramunga Arr**	22.80	161	P	P	07 49 43.5	-1.3
comp=Z,48nm,0.8s,baz=338,slow=11,SNR=133							
WRA				PcP	PcP	07 53 35.2	+0.1
comp=Z,0.9nm,0.5s,baz=333,slow=2.1,SNR=6.0							
WRA				S	S	07 53 51.1	+0.5
comp=Z,1.6nm,0.8s,baz=342,slow=17,SNR=4.6							
JOW	**Kunigami**	25.05	4	*eP*	P	07 50 10.1	+4.3
comp=Z,20nm,1.1s							
AS31	**Alice Springs**	26.18	165	*eP*	P	07 50 15.2	-1.0
ASAR	**Alice Springs**	26.18	165	P	P	07 50 15.6	-0.6
ASAR				PcP	PcP	07 53 42.0	-0.5
ASAR				S	S	07 54 48.6	+3.6
ASAR	**Alice Springs**	26.18	165	P	P	07 50 15.6	-0.6
comp=Z,4.1nm,0.4s,baz=351,slow=15,SNR=71							
ASAR				PcP	PcP	07 53 42.0	-0.5
comp=Z,1.3nm,0.5s,baz=345,slow=2.2,SNR=6.7							
ASAR				S	S	07 54 48.6	+3.6
comp=Z,0.5nm,0.8s,baz=349,slow=23,SNR=3.1							
MTSU	**Mount Surprise**	26.31	139	P	P	07 50 18.4	+1.0
baz=26,SNR=6.5							
CHBT	**CHBT**	26.43	296	P	P	07 50 22.9	+4.4
comp=Z,11nm,1.0s							
PSI	**Prapat**	27.68	273	P	P	07 50 26.4	-3.5
PSI	**Prapat**	27.68	273	P	P	07 50 26.4	-3.5
comp=Z,1.9nm,0.3s,baz=41,slow=2.9,SNR=5.4							
CTA	**Charters Tower**	28.98	139	P	P	07 50 43.8	+2.6
CTA	**Charters Tower**	28.98	139	P	P	07 50 43.8	+2.6
comp=Z,3.5nm,0.7s,baz=335,slow=12,SNR=4.7							
MEEK	**Meekatharra**	29.20	195	P	P	07 50 42.5	-0.6
baz=29,SNR=5.0							
LOEI	**Loei**	29.45	304	P	P	07 50 42.5	-2.9
UTHA	**Uthaitani**	30.12	299	P	P	07 50 51.7	+0.4
NANT	**Nan**	30.55	306	P	P	07 51 00.8	+5.6
comp=Z,22nm,0.7s							
JNU	**Nakatsue**	31.52	7	P	P	07 51 06.1	+2.5
JNU	**Nakatsue**	31.52	7	P	P	07 51 06.1	+2.5
comp=Z,6.6nm,0.8s,baz=90,slow=4.0,SNR=4.1							
MORW	**Morawa**	32.21	198	P	P	07 51 09.4	-0.2
baz=32,SNR=4.0							
FORT	**Forrest**	32.32	178	*eP*	P	07 51 10.3	-0.2
comp=Z,42nm,0.6s							
FORT	**Forrest**	32.32	178	P	P	07 51 10.2	-0.2
baz=32,SNR=23							
KLBR	**Kellerberrin**	34.15	194	P	P	07 51 27.3	+0.8
baz=34,SNR=6.1							
BBOO	**Buckleboo**	35.46	166	*eP*	P	07 51 38.5	+0.7
comp=Z,420nm,1.3s							
BBOO	**Buckleboo**	35.46	166	P	P	07 51 37.3	-0.5
baz=35,SNR=15							
KSAR	**Wonju Array Be**	35.60	2	P	P	07 51 40.0	+1.1
KSRS	**Korea Array**	35.61	2	P	P	07 51 40.0	+1.0
comp=Z,1.7nm,0.7s,baz=180,slow=9.4,SNR=5.2							
STKA	**Stephens Creek**	36.29	158	*eP*	P	07 51 44.7	-0.2
STKA	**Stephens Creek**	36.29	158	P	P	07 51 44.4	-0.5
comp=Z,4.1nm,0.7s,baz=338,slow=10,SNR=11							
STKA	**Stephens Creek**	36.29	158	P	P	07 51 44.8	-0.2
baz=36,SNR=9.8							
MJAR	**Matsushiro Arr**	36.30	16	P	P	07 51 46.5	+1.5
MJAR	**Matsushiro Arr**	36.30	16	P	P	07 51 46.5	+1.5
comp=Z,2.1nm,0.6s,baz=181,slow=8.8,SNR=7.2							
ARMA	**Armidale**	39.86	145	P	P	07 52 16.1	+1.0
baz=40,SNR=5.6							
ARPS	**Mount Arapiles**	40.80	161	P	P	07 52 23.1	+0.4
baz=40,SNR=6.3							
HHC	**Hu-ho-hao-te**	41.29	343	*eP*	P	07 52 29.4	+2.6
HHC				S	S	07 58 40.3	+2.4
HHC				pmax	pmax		
comp=Z,39nm,0.7s							
HHC				pmax	pmax		
comp=Z,650nm,5.5s							
USRK	**Ussuriysk Arra**	42.60	6	P	P	07 52 38.6	+1.3
comp=Z,3.2nm,0.7s,baz=180,slow=7.1,SNR=5.5							
TOO	**Toolangi**	42.80	158	P	P	07 52 40.6	+1.5
baz=42,SNR=3.8							
DZM	**Mont Dzumac**	45.49	124	LR	LR	08 10 03.0	
comp=Z,433nm,19.3s,baz=347,slow=33	

Ms1 3.7/1, ms1mx2.9/38, Error ellipse: s-maj=113.5km s-min=26.8km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.36**	**192**	Pn	Pn	07 58 28.9	-2.0
	0.1nm,0.3s,baz=291,slow=16,SNR=3.9						
FITZ				LR	LR	08 04 07.7	
	comp=Z,386nm,21.4s,baz=336,slow=40						
WRA	**Warramunga Arr**	**15.87**	**160**	Pn	Pn	07 59 05.4	+0.6
	0.1nm,0.3s,baz=347,slow=12,SNR=9.1						
WRA				Sn	Sn	08 01 50.7	-11
	0.2nm,0.3s,baz=338,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**19.25**	**165**	P	Pn	07 59 46.6	-0.4
	0.4nm,0.3s,baz=344,slow=9.7,SNR=34						
ASAR				S	Sn	08 03 06.2	-17
	0.1nm,0.3s,baz=350,slow=22,SNR=4.8						
MKAR	**Makanchi Array**	**65.81**	**327**	P	P	08 06 07.1	0.0
	0.4nm,0.5s,baz=109,slow=7.5,SNR=6.7						

*IDC **20** 08:07:41.0±0.9, 0.°39S×133.°30E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, ML3.7/2, Error ellipse: s-maj=49.2km s-min=15.0km az=80.0*
*ISCJB **20** 08:07:44.0±0.6, 0.°45S±0.°05×133.°25E±0.°05, h32km, mb3.9/7, Error ellipse: s-maj=6.9km s-min=6.7km az=9.1*
*DJA **20** 08:07:45.9±0.8, 0.°S±6.°×13.°3E±.°, h92km±19km, M4.2/4, MLv4.2/4*
*AUST **20** 08:07:55.2, 0.°99S×132.°50E, h100km*
ISC 20 08:07:45.6±0.8, 0.°47S±0.°06×133.°16E±0.°05, h32km, n25, σ2°06/32, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.45**	**135**	P	Pn	08 08 11.0	+1.4
RKPI				S	Sb	08 08 31.7	+1.6
SWI	**Sorong**	**1.94**	**258**	P	Pn	08 08 16.4	+0.1
SWI				S	Sb	08 08 42.4	-1.7
SWI	**Sorong**	**1.94**	**258**	P	Pn	08 08 16.5	+0.2
	baz=1.2,SNR=21						
FAKI	**Fak Fak**	**2.59**	**200**	P	Pn	08 08 26.3	+1.0
FAKI				S	Sn	08 08 58.1	+2.3
FAKI	**Fak Fak**	**2.59**	**200**	P	Pn	08 08 26.4	+1.0
	baz=1.9,SNR=137						
FAKI				S	Sn	08 08 57.5	+1.6
	baz=1.9,SNR=5.4						
BAKI	**Biak**	**3.03**	**104**	P	Pn	08 08 32.4	+1.0
TLE	**Tual**	**5.15**	**185**	P	Pn	08 09 02.5	+2.0
TLE	**Tual**	**5.15**	**185**	P	Pn	08 09 02.4	+1.9
	baz=4.7,SNR=7.2						
TLE				S	Sn	08 10 01.6	+2.8
	baz=4.7,SNR=3.4						
PALU	**Palau**	**7.87**	**10**	P	Pn	08 09 36.4	-1.6
	baz=8.6,SNR=3.0						
LUWI	**Luwuk**	**10.40**	**267**	S	Sn	08 12 13.9	+5.7
	baz=9.7,SNR=4.7						
KDU	**Kakadu**	**12.15**	**183**	P	Pn	08 10 34.9	-1.7
	baz=12,SNR=17						
KDU				S	Sn	08 12 45.9	-5.2
	baz=12,SNR=6.3						
KNRA	**Kununurra**	**15.72**	**196**	P	Pn	08 11 22.0	-2.8
	baz=15,SNR=9.3						
KNRA				S	Sn	08 14 17.0	-1.1
	baz=15,SNR=3.6						
FITZ	**Fitzroy Crossi**	**19.01**	**202**	P	P	08 12 04.2	-0.7
	0.1nm,0.3s,baz=120,slow=6.3,SNR=3.2						
FITZ				S	Sn	08 15 23.1	-15
	0.2nm,0.3s,baz=225,slow=14,SNR=4.0						
FITZ	**Fitzroy Crossi**	**19.01**	**202**	P	P	08 12 04.3	-0.7
	baz=18,SNR=8.6						
WRA	**Warramunga Arr**	**19.39**	**177**	P	P	08 12 07.9	-1.1
	0.4nm,0.3s,baz=355,slow=12,SNR=15						
WRA				S	S	08 15 36.3	-10
	0.2nm,0.3s,baz=7.8,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**23.07**	**178**	P	P	08 12 47.5	-1.0
	8.4nm,0.9s,baz=3.8,slow=11,SNR=31						
ASAR				S	S	08 17 05.7	+8.1
	1.2nm,0.9s,baz=356,slow=21,SNR=5.3						
CTA	**Charters Tower**	**23.33**	**147**	P	P	08 12 51.9	+0.7
	3.0nm,0.9s,baz=338,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**32.24**	**166**	P	P	08 14 10.1	-1.0
	2.5nm,0.8s,baz=356,slow=14,SNR=7.1						
STKA	**Stephens Creek**	**32.24**	**166**	P	P	08 14 11.1	-0.1
	baz=32,SNR=5.3						
LHI	**Lord Howe Isla**	**39.43**	**144**	S	S	08 21 09.7	-2.9
	baz=40,SNR=3.3						
MKAR	**Makanchi Array**	**64.68**	**324**	P	P	08 18 21.7	+1.2
	0.9nm,0.7s,baz=108,slow=8.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**67.28**	**331**	P	P	08 18 37.3	+0.3
	0.6nm,0.4s,baz=104,slow=6.1,SNR=2.7						
VNDA	**Vanda**	**78.53**	**174**	P	P	08 19 44.0	+0.7
	0.7nm,0.6s,baz=327,slow=6.0,SNR=4.0						
ILAR	**Eielson Array**	**86.14**	**25**	P	P	08 20 22.9	-0.4
	0.2nm,0.6s,baz=248,slow=4.4,SNR=4.2						
CPUP	**Villa Florida**	**151.50**	**160**	PKPbc	PKPbc	08 27 38.3	+1.1
	0.3nm,0.4s,baz=326,slow=3.6,SNR=3.7						

*DDA **20** 08:16:48.7, 37.°67N×26.°77E, h8km, MD2.8*
*ATH **20** 08:16:49.9, 37.°69N×26.°75E, h10km±7km, MD2.9/4*
*CSEM **20** 08:16:49.1±0.2, 37.°65N×26.°73E, h2km, MD2.9, Error ellipse: s-maj=4.4km s-min=3.1km az=50.0*
*ISK **20** 08:16:50.6, 37.°57N×26.°78E, h8km, MD2.9*
ISC 20 08:16:49.8±0.9, 37.°67N±0.°02×26.°76E±0.°02, h10km±6km, n40, σ0°67/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.07**	**57**	*e*PG	Pg	08 16 51.7	-0.4
SMG				*e*SG	Sg	08 16 54.0	+0.2
SMG	**Samos**	**0.07**	**57**	*e*Pg	Pg	08 16 51.7	-0.4
SMG				*e*Sg	Sg	08 16 54.0	+0.2
GCAM	**G?zelcaml?**	**0.38**	**85**	*i* P	Pg	08 16 56.6	-0.6
GCAM				*i* S	Sg	08 17 02.2	0.0
GCAM	**G?zelcaml?**	**0.38**	**85**	*i* P	Pg	08 16 56.6	-0.6
GCAM				*i* S	Sg	08 17 02.2	0.0
URLA	**Izmir**	**0.70**	**349**	*i* P	Pg	08 17 02.3	-1.1
URLA				*i* S	Sg	08 17 12.0	-0.6
URLA	**Izmir**	**0.70**	**349**	*i* P	Pg	08 17 02.3	-1.1
URLA				*i* S	Sg	08 17 12.0	-0.6
BODT	**Bodrum**	**0.75**	**144**	*e*PG	Pg	08 17 03.6	-0.6
BODT				*e*SG	Sg	08 17 13.7	-0.3
BODT	**Bodrum**	**0.75**	**144**	*e*Pg	Pg	08 17 03.6	-0.6
BODT				*e*Sg	Sg	08 17 13.7	-0.3
BDRM	**Kayabasi**	**0.81**	**138**	*i* P	Pg	08 17 04.3	-1.2
BDRM				*i* S	Sg	08 17 15.7	-0.4
BDRM	**Kayabasi**	**0.81**	**138**	*i* P	Pg	08 17 04.3	-1.2
BDRM				*i* S	Sg	08 17 15.7	-0.4
AYDN	**Tasoluk**	**0.89**	**90**	*i* P	Pg	08 17 05.8	-1.1
AYDN				*i* S	Sg	08 17 17.9	-0.6
AYDN	**Tasoluk**	**0.89**	**90**	*i* P	Pg	08 17 05.8	-1.1
AYDN				*i* S	Sg	08 17 17.9	-0.6
MLSB	**Milas**	**0.89**	**115**	*e*PG	Pg	08 17 06.9	-0.1
MLSB				*e*SG	Sg	08 17 19.1	+0.5
MLSB	**Milas**	**0.89**	**115**	*e*Pg	Pg	08 17 06.9	-0.1
MLSB				*e*Sg	Sg	08 17 19.1	+0.5
CHOS	**Chios island**	**0.91**	**322**	*e*PG	Pg	08 17 06.3	-1.0
CHOS				*e*SB	Sg	08 17 18.8	-0.3
CHOS	**Chios island**	**0.91**	**322**	*e*Pg	Pg	08 17 06.3	-1.0
CHOS				*e*Sb	Sg	08 17 18.8	-0.3
DAT	**Datca**	**1.14**	**145**	*e*PG	Pg	08 17 10.2	-1.6
DAT				*e*SG	Sg	08 17 26.2	-0.4
DAT	**Datca**	**1.14**	**145**	*e*Pg	Pg	08 17 10.2	-1.6
DAT				*e*Sg	Sg	08 17 26.2	-0.4
APE	**Apeiranthos**	**1.15**	**239**	*e*PN	Pn	08 17 12.4	+0.4
APE	**Apeiranthos**	**1.15**	**239**	*e*PB	Pg	08 17 11.9	0.0
APE	**Apeiranthos**	**1.15**	**239**	*e*Pb	Pg	08 17 11.9	0.0
APE	**Apeiranthos**	**1.15**	**239**	*e*Pn	Pn	08 17 12.4	+0.4
YER	**Yerkesik**	**1.32**	**113**	*e*PN	Pn	08 17 14.8	+0.4
YER	**Yerkesik**	**1.32**	**113**	*e*Pn	Pn	08 17 14.8	+0.4
AKHS	**Akhisar**	**1.46**	**34**	*i* P	Pn	08 17 16.2	-0.1
AKHS	**Akhisar**	**1.46**	**34**	*i* P	Pn	08 17 16.2	-0.1
PRK	**Paraskevi**	**1.62**	**346**	*e*PG	Pb	08 17 19.7	-0.1
PRK				*e*SB	Sg	08 17 42.8	+0.9
PRK	**Paraskevi**	**1.62**	**346**	*e*Pg	Pb	08 17 19.7	-0.1
PRK				*e*Sb	Sg	08 17 42.8	+0.9
MANT	**Manisa**	**1.64**	**59**	*i* P	Pb	08 17 20.4	+0.2
MANT				*i* S	Sb	08 17 41.6	+0.6
MANT	**Manisa**	**1.64**	**59**	*i* P	Pb	08 17 20.4	+0.2
KULA	**Kula-Manisa**	**1.72**	**60**	*e*PN	Pg	08 17 22.6	-0.2
KULA	**Kula-Manisa**	**1.72**	**60**	*e*Pn	Pg	08 17 22.6	-0.2
FETY	**Fethiye**	**2.12**	**118**	*e*PN	Pn	08 17 26.5	+1.2
FETY	**Fethiye**	**2.12**	**118**	*e*Pn	Pn	08 17 26.5	+1.2
BALY	**Balya**	**2.17**	**18**	*i* P	Pb	08 17 29.4	+0.2
BALY				*i* S	Sg	08 17 59.5	-0.2
BALY	**Balya**	**2.17**	**18**	*i* P	Pb	08 17 29.4	+0.2
EZN	**Ezine**	**2.18**	**351**	*e*PN	Pb	08 17 29.7	+0.4
EZN	**Ezine**	**2.18**	**351**	*e*Pn	Pb	08 17 29.7	+0.4
GONE	**Gonen-Balikesi**	**2.48**	**17**	*e*PN	Pb	08 17 34.2	-0.2
GONE	**Gonen-Balikesi**	**2.48**	**17**	*e*Pn	Pb	08 17 34.2	-0.2

*ISCJB **20** 08:18:35.8±1.1, 32.°80N±0.°06×140.°7E±0.°1, h76km±11km, mb3.5/2, Error ellipse: s-maj=16.5km s-min=8.8km az=18.2*
*JMA **20** 08:18:36.9±0.1, 32.°85N×140.°75E, h65km, M3.2*
*IDC **20** 08:18:40.2±9.3, 34.°58N×139.°51E, h213km±237km, mb2.8/2, mb1 3.0/3, mb1mx2.7/25, mbtmp2.7/3, ML2.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/9, Error ellipse: s-maj=346.4km s-min=144.6km az=153.0*
ISC 20 08:18:36.8±1.7, 32.°79N±0.°10×140.°8E±0.°1, h65km±18km, n12, σ0°46/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.84**	**292**	P	Pn	08 18 53.1	+0.1
JHJ2				*e*S	Sn	08 19 05.5	+0.4
JHCJ	**Hachijojimakas**	**0.84**	**290**	P	Pn	08 18 53.3	+0.2
JHCJ				S	Sn	08 19 04.4	-0.7
BSO1	**Boso 1**	**1.87**	**6**	P	Pn	08 19 06.0	0.0
BSO1				S	Sn	08 19 28.5	+0.2
JKO	**Kozu shima**	**1.94**	**316**	P	Pn	08 19 07.9	+0.5
JKO				*e*S	Sn	08 19 30.4	-0.3
BSO2	**Boso 2**	**1.96**	**0**	S	Sn	08 19 30.8	0.0
BSO3	**Boso 3**	**2.02**	**354**	P	Pn	08 19 08.4	+0.2
BSO3				S	Sn	08 19 32.0	-0.3
JIM2	**Oshima 3**	**2.21**	**331**	P	Pn	08 19 11.2	0.0
JIM2				S	Sn	08 19 37.0	-0.5
JIZS	**Izushimoda**	**2.47**	**322**	P	Pn	08 19 15.5	+0.8
KTJJ	**Kamata 2**	**2.55**	**327**	P	Pn	08 19 16.3	+0.6
KTJJ				S	Sn	08 19 44.9	-0.7
JNU	**Nakatsue**	**8.30**	**275**	LR	LR	08 22 21.4	
	comp=Z,134nm,20.0s,baz=172,slow=30						
WRA	**Warramunga Arr**	**52.79**	**188**	P	P	08 27 45.5	+0.1
	0.2nm,0.3s,baz=5.8,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**56.52**	**188**	P	P	08 28 12.1	-0.2
	0.2nm,0.6s,baz=3.1,slow=6.9,SNR=3.7						

JMA 20 08:18:58.9±0.1, 35.°72N×139.°18E, h123km±1km, M1.7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.15**	**32**	P	Pn	08 19 16.0	+0.2
JHU				S	Sn	08 19 29.1	+0.5
JRY	**Ryogami san**	**0.37**	**323**	P	Pn	08 19 16.7	+0.2
JRY				S	Sn	08 19 30.5	+0.6
JOD2	**Odawara 2**	**0.46**	**189**	P	Pn	08 19 17.0	0.0
JOD2				S	Sn	08 19 30.6	0.0
JYN	**Shimob**	**0.56**	**247**	P	Pn	08 19 17.4	-0.3
JAG	**Ashikaga**	**0.74**	**17**	P	Pn	08 19 18.9	+0.1
JAG				S	Sn	08 19 34.1	+0.1
MJAR	**Matsushiro Arr**	**1.14**	**316**	P	Pn	08 19 21.7	-0.8
	1.1nm,0.3s,baz=152,slow=9.6,SNR=11						
MJAR				S	Sn	08 19 40.0	-0.5
	0.7nm,0.3s,baz=203,slow=21,SNR=5.3						
MAT	**Matsushiro**	**1.14**	**316**	P	Pn	08 19 22.0	-0.6
MAT				S	Sn	08 19 39.7	-0.9
MAT	**Matsushiro**	**1.14**	**316**	P	Pn	08 19 22.1	-0.5
MAT				S	Sn	08 19 40.0	-0.6

*CASC **20** 08:43:29.9±2.4, 13.°45N×90.°83W, h38km±460km, MD3.6, ML3.3*
*IDC **20** 08:43:35.3±8.4, 13.°11N×93.°22W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/23, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=278.0km s-min=129.8km az=45.0*
ISC 20 08:43:29.7±3.1, 13.°5N±0.°2×90.°86W±0.°07, h32km±17km, n17, σ0°54/23, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.92**	**16**	*e*P	Pb	08 43 47.6	+0.4
FUG	**Fuego 3**	**0.94**	**1**	*e*P	Pb	08 43 47.5	0.0
JAT	**Jato**	**1.10**	**317**	⇑*e*P	Pn	08 43 48.3	-0.6
NBG	**Las Nubes**	**1.19**	**25**	⇑*e*P	Pb	08 43 52.5	+0.7
RTR	**El Retiro**	**1.25**	**72**	*e*P	Pn	08 43 51.0	-0.1
RTR				*e*S	Sn	08 44 07.0	+0.1
SBLS	**San Blas**	**1.25**	**75**	*e*P	Pn	08 43 50.9	-0.3
SBLS				*e*S	Sn	08 44 07.3	+0.2
SNJE	**San Jose**	**1.27**	**73**	*e*P	Pn	08 43 51.5	0.0
SNJE				*e*S	Sn	08 44 06.8	-0.8
RBDL	**Robledal**	**1.29**	**62**	*e*P	Pn	08 43 52.3	+0.6
RBDL				*e*S	Sb	08 44 09.5	-0.3
SNET	**Serv Nac Est T**	**1.60**	**83**	*e*P	Pn	08 43 55.8	0.0
SNET				*e*S	Sn	08 44 14.8	-0.6
SNET				AML	AML	08 44 22.4	
	comp=Z,359nm,0.3s						
LFU	**La Fuente**	**1.72**	**82**	*e*P	Pn	08 43 58.0	+0.5
LFRS	**El Faro**	**1.76**	**86**	*e*P	Pn	08 43 58.4	+0.3
LFRS				*e*S	Sn	08 44 19.1	-0.4
MRL	**Marmol**	**1.92**	**36**	⇑*e*P	Pb	08 44 03.3	-0.9
SNVI	**San Vicente**	**1.97**	**87**	*e*P	Pn	08 44 01.5	+0.5
SNVI				*e*S	Sn	08 44 23.8	-1.0
CNCH	**Conchagua**	**2.96**	**94**	*e*P	Pn	08 44 14.4	-0.2
TXAR	**Lajitas Array**	**19.72**	**325**	P	P	08 47 56.9	+0.1
	comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=9.2						
NVAR	**Mina Array Bea**	**34.75**	**321**	P	P	08 50 18.1	+0.7
	comp=Z,0.8nm,0.6s,baz=138,slow=8.2,SNR=9.2						
ILAR	**Eielson Array**	**63.73**	**337**	P	P	08 54 05.1	+7.0
	comp=Z,0.1nm,0.5s,baz=123,slow=7.8,SNR=2.8						

*AUST **20** 08:48:52.1±3.5, 0.°74S×98.°72E, h11km, Error ellipse: s-maj=1.9km s-min=1.1km az=283.0*
*ISCJB **20** 08:48:56.4±0.3, 0.°39S±0.°04×99.°06E±0.°05, h53km, mb4.3/27, MS4.5/1, Error ellipse: s-maj=7.3km s-min=5.2km az=138.8*
*DJA **20** 08:48:59.5±1.3, 0.°S±4.°×9.°9E±.°, h23km±14km, M4.5/8, mb4.5/5, mB4.8/4, MLv4.7/8, Mw(mB)4.1/4*
*IDC **20** 08:48:59.1±3.4, 0.°34S×99.°32E, h62km±29km, mb3.9/22, mb1 4.0/24, mb1mx3.9/31, mbtmp3.9/24, ML4.5/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/40, Error ellipse: s-maj=23.4km s-min=11.4km az=63.0*
*NEIC **20** 08:49:00.5±1.4, 0.°32S×99.°36E, h78km±12km, mb4.4/2, Error ellipse: s-maj=16.9km s-min=8.2km az=61.0*
ISC 20 08:48:58.1±0.4, 0.°38S±0.°06×99.°14E±0.°07, h53km, n90, σ1°10/87, mb4.2/27, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.26**	**93**	P	Pn	08 49 20.1	+0.6
PPI				S	Sn	08 49 36.1	+0.7
PPI	**Padang Panjang**	**1.26**	**93**	P	Pn	08 49 20.0	+0.6
	baz=1.7,SNR=118						
PDSI	**Padang**	**1.43**	**112**	P	Pn	08 49 21.7	0.0
PDSI				S	Sn	08 49 32.2	-7.2
BKNI	**Bangkinang**	**2.03**	**70**	P	Pn	08 49 34.6	+4.7
BKNI	**Bangkinang**	**2.03**	**70**	P	Pn	08 49 34.4	+4.5
	baz=2.6,SNR=12						
KRJI	**Kerinci**	**2.88**	**126**	P	Pn	08 49 37.6	-4.1
PSI	**Prapat**	**3.17**	**356**	P	Pn	08 49 45.5	-0.1
PSI	**Prapat**	**3.17**	**356**	P	Pn	08 49 45.5	-0.1
	27nm,0.3s,baz=186,slow=3.9,SNR=50						
PSI	**Prapat**	**3.17**	**356**	P	Pn	08 49 45.7	0.0
	baz=3.4,SNR=43						
TSI	**Tuntungan**	**3.90**	**352**	P	Pn	08 50 00.8	+5.2
KCSI	**Kotacane, Aceh**	**4.11**	**341**	P	Pn	08 50 00.9	+2.4
MASI	**Maura Aman, Be**	**4.14**	**132**	P	Pn	08 50 01.2	+2.3
FRIM	**Kepong**	**4.37**	**35**	P	Pn	08 50 03.2	+1.1
KSI	**Kapahiang**	**4.74**	**133**	P	Pn	08 50 09.3	+2.1
KGM	**Kluang**	**4.81**	**60**	P	Pn	08 50 09.8	+1.6
MYKOM	**Kota Tinggi**	**5.18**	**65**	P	Pn	08 50 14.6	+1.4
MYKOM	**Kota Tinggi**	**5.18**	**65**	P	Pn	08 50 14.1	+0.9
	37nm,0.9s,1μm0.3nm						
IPM	**Ipoh**	**5.18**	**21**	*e*Pn	Pn	08 50 15.0	+1.7
	51nm,0.5s						
IPM	**Ipoh**	**5.18**	**21**	P	Pn	08 50 14.1	+0.8
IPM	**Ipoh**	**5.18**	**21**	P	Pn	08 50 16.0	+2.8
	57nm,1.0s,983nm0.3nm						
KULM	**Kulim**	**5.83**	**15**	*e*Pn	Pn	08 50 23.3	+1.2
	27nm,0.6s						
KULM	**Kulim**	**5.83**	**15**	P	Pn	08 50 22.6	+0.5
KULM	**Kulim**	**5.83**	**15**	P	Pn	08 50 23.4	+1.3
	45nm,0.9s,584nm0.2nm						
EGSI	**Enggano, Bengk**	**5.85**	**148**	P	Pn	08 50 22.7	+0.4
	128nm,0.7s						
KTGM	**Kuala Trenggan**	**6.94**	**35**	P	Pn	08 50 37.5	+0.2
SKLT	**Songkhla**	**7.65**	**11**	P	Pn	08 50 49.9	+2.9
UGM	**Wanagama**	**13.59**	**124**	P	P	08 52 21.9	+6.1
	baz=14,SNR=5.0						
CMAR	**Chiang Mai Arr**	**18.72**	**359**	P	Pn	08 53 13.9	+0.5
CMAR				PcP	PcP	08 57 39.2	+0.2
CMAR	**Chiang Mai Arr**	**18.72**	**359**	P	Pn	08 53 14.0	+0.5
	1.0nm,0.3s,baz=186,slow=10,SNR=7.7						
CMAR				PcP	PcP	08 57 39.2	+0.2
	0.3nm,0.3s,baz=197,slow=3.6,SNR=4.4						
CMAR				LR	LR	09 00 51.4	
	comp=Z,107nm,21.9s,baz=146,slow=38						
SOEI	**Soe**	**26.68**	**111**	S	S	08 59 24.4	+20
	baz=27,SNR=3.7						
PALU	**Palau**	**36.07**	**77**	P	P	08 55 60.0	+4.9
	baz=37,SNR=3.5						
WRA	**Warramunga Arr**	**39.56**	**122**	P	P	08 56 22.5	-2.0
WRA				PcP	PcP	08 58 29.8	-1.4
WRA	**Warramunga Arr**	**39.56**	**122**	P	P	08 56 22.5	-2.0
	2.4nm,0.6s,baz=303,slow=9.0,SNR=60						
WRA				PcP	PcP	08 58 29.8	-1.4
	0.4nm,0.5s,baz=308,slow=2.3,SNR=3.7						
WRAB	**Tennant Creek**	**39.57**	**122**	*e*P	P	08 56 22.9	-1.7
	1.7nm,0.4s						
FORT	**Forrest**	**40.83**	**140**	P	P	08 56 36.0	+1.2
	baz=41,SNR=6.0						
ASAR	**Alice Springs**	**40.90**	**127**	P	P	08 56 33.6	-2.0
ASAR				PcP	PcP	08 58 35.5	0.0
ASAR	**Alice Springs**	**40.90**	**127**	P	P	08 56 33.6	-2.0
	1.1nm,0.3s,baz=302,slow=8.1,SNR=32						
ASAR				PcP	PcP	08 58 35.5	0.0
	1.1nm,0.7s,baz=304,slow=3.7,SNR=7.2						
KSAR	**Wonju Array Be**	**46.07**	**32**	P	P	08 57 14.8	-2.1
KSRS	**Korea Array**	**46.10**	**32**	P	P	08 57 14.8	-2.3
	0.8nm,0.5s,baz=219,slow=9.4,SNR=3.1						
SONM	**Songino Array**	**48.44**	**7**	P	P	08 57 35.4	+0.1
SONM				PcP	PcP	08 59 01.2	+0.2
SONM	**Songino Array**	**48.44**	**7**	P	P	08 57 35.4	+0.1
	2.1nm,0.5s,baz=190,slow=9.4,SNR=22						
SONM				PcP	PcP	08 59 01.2	+0.2
	1.0nm,0.7s,baz=183,slow=3.1,SNR=2.8						
MK31	**Makanchi Array**	**49.25**	**345**	*e*P	P	08 57 42.3	+0.9
MKAR	**Makanchi Array**	**49.25**	**345**	P	P	08 57 41.7	+0.3
MKAR	**Makanchi Array**	**49.25**	**345**	P	P	08 57 41.7	+0.3
	1.4nm,0.4s,baz=154,slow=8.5,SNR=16						
STKA	**Stephens Creek**	**50.87**	**132**	*e*P	P	08 57 53.7	-0.3
STKA	**Stephens Creek**	**50.87**	**132**	P	P	08 57 53.0	-1.0
	1.8nm,0.5s,baz=308,slow=4.2,SNR=11						
STKA	**Stephens Creek**	**50.87**	**132**	P	P	08 57 53.7	-0.3
	baz=51,SNR=7.9						
USRK	**Ussuriysk Arra**	**53.16**	**29**	P	P	08 58 10.5	-0.3
	3.0nm,0.8s,baz=206,slow=7.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**53.76**	**344**	P	P	08 58 14.9	-0.1
	0.5nm,0.4s,baz=164,slow=7.2,SNR=11						
CMSA	**Cobar Meteorol**	**53.80**	**130**	P	P	08 58 15.6	-0.1
	baz=54,SNR=7.3						
KURK	**Kurchatov**	**53.82**	**344**	P	P	08 58 14.9	-0.5
ZALV	**Zalesovo Beam**	**55.43**	**350**	P	P	08 58 26.8	-0.3
ZALV	**Zalesovo Beam**	**55.43**	**350**	P	P	08 58 26.8	-0.3
	1.5nm,0.3s,baz=157,slow=7.1,SNR=8.5						
NAY	**Al-Naaiem**	**57.58**	**305**	*e*P	P	08 58 42.1	-0.8
NAY				AMb	AMB	08 58 43.5	
	comp=Z,0.5nm,1.4s						
MIB	**Mutribah**	**57.71**	**306**	*e*P	P	08 58 43.4	-0.4
MIB				AMb	AMB	08 58 44.4	
	comp=Z,15nm,0.7s						
RST	**Umm Al-Ruwaisa**	**57.87**	**306**	*e*P	P	08 58 44.1	-0.8
RST				AMb	AMB	08 58 45.5	
	comp=Z,65nm,0.8s						
BVAR	**Borovoye Array**	**58.38**	**340**	P	P	08 58 47.2	-0.8
BVAR	**Borovoye Array**	**58.38**	**340**	P	P	08 58 47.2	-0.8
	comp=Z,1.6nm,0.6s,baz=140,slow=9.2,SNR=7.5						
ABKAR	**Akbulak array**	**59.81**	**331**	*e*P	P	08 58 57.3	-0.7
	comp=Z,3.3nm,0.8s						
AKTO	**Aktyubinsk**	**61.53**	**331**	P	P	08 59 08.5	-1.2
AKTO	**Aktyubinsk**	**61.53**	**331**	P	P	08 59 08.5	-1.2
	comp=Z,0.6nm,0.3s,baz=152,slow=3.7,SNR=3.8						
KBZ	**Khabaz**	**66.53**	**319**	P	P	08 59 42.6	0.0
KBZ	**Khabaz**	**66.53**	**319**	P	P	08 59 42.6	0.0
	comp=Z,2.2nm,1.0s,baz=142,slow=5.8,SN

MLZ	Mavora Lakes	1.65	70	Pn	Pn	08 55 49.6	+0.4
APZ	The Paps	1.67	124	PN	Pn	08 55 49.5	0.0
APZ	The Paps	1.67	124	Pn	Pn	08 55 49.5	0.0
MSZ	Milford Sound	1.86	48	PN	Pn	08 55 52.5	+0.4
MSZ				AML	AML	08 56 28.4	
MSZ				AML	AML	08 56 28.5	
MSZ				AML	AML	08 56 28.9	
MSZ				AML	AML	08 56 29.0	
MSZ	Milford Sound	1.86	48	Pn	Pn	08 55 52.5	+0.4
SYZ	Scrubby Hill	2.28	107	⇑PN	Pn	08 55 58.7	+0.9
SYZ	Scrubby Hill	2.28	107	Pn	Pn	08 55 58.8	+0.9
SYZ				Sn	Sn	08 56 20.3	-5.5
SYZ				Sn	Sb	08 56 28.2	-1.5
WKZ	Wanaka	2.41	64	PN	Pn	08 56 01.1	+1.5
WKZ				AML	AML	08 56 42.0	
WKZ				AML	AML	08 56 42.0	
WKZ				AML	AML	08 56 43.1	
WKZ				AML	AML	08 56 50.1	
WKZ	Wanaka	2.41	64	Pn	Pn	08 56 01.5	+1.8
WKZ				Sn	Sb	08 56 32.9	-0.5
EAZ	Earnscleugh	2.44	75	PN	Pn	08 56 01.6	+1.5
EAZ				AML	AML	08 56 43.4	
EAZ				AML	AML	08 56 43.4	
EAZ				AML	AML	08 56 51.0	
EAZ				AML	AML	08 56 51.1	
EAZ	Earnscleugh	2.44	75	Pn	Pn	08 56 02.0	+1.9
EAZ				Sn	Sb	08 56 34.2	-0.1
TUZ	Tuapeka	2.56	92	PN	Pn	08 56 02.7	+1.1
TUZ				AML	AML	08 56 40.6	
TUZ				AML	AML	08 56 44.7	
TUZ	Tuapeka	2.56	92	Pn	Pn	08 56 02.6	+1.1
JCZ	Jackson Bay	2.71	48	PN	Pn	08 56 03.8	0.0
JCZ				AML	AML	08 56 55.7	
JCZ				AML	AML	08 56 56.4	
JCZ	Jackson Bay	2.71	48	Pn	Pn	08 56 04.6	+0.8
LBZ	Lake Benmore	3.35	64	PN	Pn	08 56 12.7	+0.1
LBZ				AML	AML	08 57 05.4	
LBZ				AML	AML	08 57 05.4	
LBZ				AML	AML	08 57 11.2	
LBZ				AML	AML	08 57 11.2	
LBZ	Lake Benmore	3.35	64	Pn	Pn	08 56 13.1	+0.5
ODZ	Otahua Downs	3.40	77	PN	Pn	08 56 13.0	-0.2
ODZ	Otahua Downs	3.40	77	Pn	Pn	08 56 13.2	-0.1
FOZ	Fox Glacier	3.55	50	PN	Pn	08 56 16.1	+0.9
FOZ				AML	AML	08 57 27.9	
FOZ				AML	AML	08 57 28.0	
FOZ				AML	AML	08 57 37.6	
FOZ				AML	AML	08 57 37.6	
FOZ	Fox Glacier	3.55	50	Pn	Pn	08 56 16.8	+1.6
RPZ	Rata Peaks	4.24	60	*e*PN	Pn	08 56 23.8	-0.9
RPZ				AML	AML	08 57 43.0	
RPZ				AML	AML	08 57 47.9	
RPZ	Rata Peaks	4.24	60	Pn	Pn	08 56 24.9	+0.1
RPZ				Sn	Sn	08 57 14.7	+0.5
RPZ	Rata Peaks	4.24	60	Pn	Pn	08 56 24.9	+0.1
	20nm,0.3s,baz=229,slow=5.3,SNR=74						
RPZ				Sn	Sn	08 57 14.7	+0.5
	58nm,0.3s,baz=359,slow=22,SNR=15						
RPZ				LR	LR	08 58 12.2	
	comp=Z,343nm,18.6s,baz=245,slow=41						
WVZ	Waitaha Valley	4.44	52	*e*PN	Pn	08 56 27.0	-0.5
WVZ				AML	AML	08 57 46.7	
WVZ				AML	AML	08 58 00.7	
WVZ	Waitaha Valley	4.44	52	Pn	Pn	08 56 27.4	-0.1
MQZ	McQueen's Vall	5.25	67	*e*PN	Pn	08 56 37.7	-0.9
MQZ				SN	Sn	08 57 36.0	-2.8
MQZ	McQueen's Vall	5.25	67	Pn	Pn	08 56 37.8	-0.8
LTZ	Lake Taylor	5.50	57	*e*PN	Pn	08 56 40.8	-1.3
LTZ				AML	AML	08 58 43.3	
LTZ				AML	AML	08 58 47.9	
LTZ	Lake Taylor	5.50	57	Pn	Pn	08 56 41.1	-1.0
DSZ	Denniston Nort	5.94	47	*e*PN	Pn	08 56 47.1	-1.0
DSZ				AML	AML	08 58 11.8	
DSZ				AML	AML	08 58 12.5	
DSZ	Denniston Nort	5.94	47	Pn	Pn	08 56 47.7	-0.4
KHZ	Kahutara	6.47	60	*e*Pn	Pn	08 56 58.7	+3.3
	68nm,1.1s						
KHZ				*e*Sn	Sn	08 58 06.6	-2.5
THZ	Tophouse	6.51	53	*e*PN	Pn	08 56 54.7	-1.3
THZ				AML	AML	08 58 10.4	
THZ				AML	AML	08 58 10.7	
THZ	Tophouse	6.51	53	Pn	Pn	08 56 55.0	-1.0
QRZ	Quartz Range	6.98	45	*e*PN	Pn	08 57 01.8	-0.6
QRZ	Quartz Range	6.98	45	Pn	Pn	08 57 01.9	-0.5
NNZ	Nelson	7.14	51	*e*PN	Pn	08 57 05.4	+0.7
NNZ				SN	Sn	08 58 24.6	-1.1
NNZ				AML	AML	08 58 56.7	
NNZ	Nelson	7.14	51	Pn	Pn	08 57 05.5	+0.8
NNZ				Sn	Sn	08 58 24.6	-1.1
TUWZ	Tuamarina	7.32	55	Pn	Pn	08 57 09.8	+2.8
TCW	Tory Channel	7.65	55	Pn	Pn	08 57 14.7	+3.1
DUWZ	D'Urville Isla	7.73	51	Pn	Pn	08 57 14.4	+1.7
CAW	Cannon Point	8.18	57	Pn	Pn	08 57 19.4	+0.6
URZ	Urewera	11.27	51	Pn	Pn	08 58 01.8	+0.7
URZ	Urewera	11.27	51	Pn	Pn	08 58 01.8	+0.7
	0.6nm,0.3s,baz=249,slow=7.2,SNR=3.4						
TAU	Tasmania Unive	13.67	276	*e*Pn	Pn	08 58 29.1	-4.7
MOO	Moorlands	13.92	278	P	Pn	08 58 33.3	-4.0
	baz=14,SNR=9.7						
MILA	Mila	15.38	299	P	Pn	08 58 54.2	-3.0
	baz=15,SNR=48						
MILA				S	Sn	09 01 31.6	-16
	baz=15,SNR=7.2						
CNB	Canberra Magne	16.44	304	P	P	08 59 16.0	+2.3
	baz=16,SNR=5.4						
CAN	Canberra	16.65	304	*e*Pn	Pn	08 59 11.7	-1.8
	48nm,1.4s						
TOO	Toolangi	17.38	291	P	Pn	08 59 21.9	-0.8
	baz=17,SNR=30						
YNG	Young	17.72	305	P	Pn	08 59 26.1	-0.8
	baz=18,SNR=7.3						
CMSA	Cobar Meteorol	21.29	305	P	P	09 00 07.4	+0.8
	baz=21,SNR=14						
STKA	Stephens Creek	23.47	298	P	P	09 00 30.8	+1.0
STKA	Stephens Creek	23.47	298	P	P	09 00 30.8	+1.0
	5.7nm,0.8s,baz=129,slow=9.3,SNR=12						
STKA				LR	LR	09 08 33.6	
	comp=Z,312nm,18.4s,baz=209,slow=34						
STKA	Stephens Creek	23.47	298	P	P	09 00 31.1	+1.3
	baz=23,SNR=7.9						
EIDS	Eidsvold	23.74	325	*e*P	P	09 00 33.8	+1.4
	90nm,1.6s						
EIDS	Eidsvold	23.74	325	P	P	09 00 33.9	+1.5
	baz=24,SNR=6.5						
RMQ	Roma	23.77	319	P	P	09 00 34.1	+1.5
	baz=24,SNR=8.7						
RMQ				S	Sn	09 05 05.0	-4.7
	baz=24,SNR=4.7						
ASAR	Alice Springs	34.09	300	P	P	09 02 03.5	-1.2
ASAR				PcP	PcP	09 04 42.0	-0.2
ASAR	Alice Springs	34.09	300	P	P	09 02 03.5	-1.2
	1.8nm,0.7s,baz=126,slow=8.4,SNR=27						
ASAR				PcP	PcP	09 04 42.0	-0.2
	1.0nm,0.7s,baz=129,slow=3.9,SNR=6.9						
ASAR				LR	LR	09 15 53.6	
	comp=Z,256nm,20.7s,baz=138,slow=36						
AS31	Alice Springs	34.09	300	*e*P	P	09 02 04.3	-0.5
WRA	Warramunga Arr	36.69	304	P	P	09 02 25.9	-1.3
WRA				PcP	PcP	09 04 49.7	-0.1
WRA	Warramunga Arr	36.69	304	P	P	09 02 25.9	-1.3
	2.4nm,0.7s,baz=137,slow=8.0,SNR=22						
WRA				PcP	PcP	09 04 49.7	-0.1
	1.5nm,0.9s,baz=130,slow=3.7,SNR=5.7						
WRA				LR	LR	09 16 15.6	
	comp=Z,299nm,18.3s,baz=130,slow=34						
HNR	Honiara	36.73	350	LR	LR	09 16 06.6	
	comp=Z,257nm,18.1s,baz=303,slow=34						
NWAO	Narrogin (SRO)	39.23	272	LR	LR	09 15 47.0	
	comp=Z,203nm,21.0s,baz=118,slow=31						
MEEK	Meekatharra	42.05	281	P	P	09 03 11.5	-0.4
	baz=42,SNR=3.2						
KNRA	Kununurra	43.30	302	P	P	09 03 29.9	+7.8
	baz=43,SNR=3.6						
FITZ	Fitzroy Crossi	43.34	296	P	P	09 03 22.2	-0.2
	baz=43,SNR=4.0						
QSPA	South Pole Qui	44.20	180	*e*P	P	09 03 29.1	+0.2
	8.4nm,1.1s						
QSPA	South Pole Qui	44.20	180	P	P	09 03 30.1	+1.2
	5.9nm,1.2s,baz=346,slow=3.2,SNR=4.4						
MTN	Manton Dam	44.20	307	P	P	09 03 28.8	-0.5
	baz=44,SNR=6.8						
SNAA	Sanae	62.44	184	*e*P	P	09 05 43.3	+0.5
SNAA	Sanae	62.44	184	*e*P	P	09 05 42.9	+0.1
	21nm,1.4s						
VNA1	Neumayer--Stat	63.66	182	*e*P	P	09 05 51.3	+0.5
MJAR	Matsushiro Arr	85.82	338	P	P	09 07 59.6	+0.2
MJAR	Matsushiro Arr	85.82	338	P	P	09 07 59.6	+0.2
	1.1nm,0.6s,baz=158,slow=5.1,SNR=5.8						
CMAR	Chiang Mai Arr	88.10	299	P	P	09 08 11.7	+0.9
CMAR	Chiang Mai Arr	88.10	299	P	P	09 08 11.7	+0.9
	1.0nm,0.4s,baz=151,slow=4.3,SNR=13						
KSRS	Korea Array	89.78	331	LR	LR	09 44 37.2	
	comp=Z,64nm,18.7s,baz=206,slow=33						
CPUP	Villa Florida	98.05	142	LR	LR	09 48 01.2	
	comp=Z,78nm,18.7s,baz=278,slow=32						
ILAR	Eielson Array	116.33	21	PKP	PKPdf	09 14 03.0	+0.5
ILAR	Eielson Array	116.33	21	PKP	PKPdf	09 14 03.0	+0.5
	0.3nm,0.8s,baz=221,slow=3.6,SNR=3.5						
MKAR	Makanchi Array	117.87	309	PKP	PKPdf	09 14 05.7	-0.4
MKAR	Makanchi Array	117.87	309	PKP	PKPdf	09 14 05.7	-0.4
	0.2nm,0.5s,baz=132,slow=2.1,SNR=3.2						
KURBB	Kurchatov Arra	122.15	311	PKP	PKPdf	09 14 13.5	-0.6
	1.0nm,0.6s,baz=114,slow=1.6,SNR=7.9						
KURK	Kurchatov	122.16	311	PKP	PKPdf	09 14 13.5	-0.6
HNH	Hanover	139.41	71	*e*PKPdf	PKPdf	09 14 44.9	-2.0
TOA0	Torodi Ar. Sit	144.72	207	*e*PKPdf	PKPab	09 14 55.6	-0.4
TORD	Torodi Ar. Bea	144.72	207	PKP	PKPab	09 14 55.4	-0.6
TORD	Torodi Ar. Bea	144.72	207	PKP	PKPab	09 14 55.4	-0.6
	8.7nm,1.1s,baz=164,slow=1.1,SNR=28						
BR131	Keskin Array S	144.92	277	*e*PKPdf	PKPbc	09 14 56.5	+0.1
SCHQ	Schefferville	145.91	55	PKPbc	PKPdf	09 14 57.7	-0.4
SCHQ	Schefferville	145.91	55	PKPbc	PKPdf	09 14 57.7	-0.4
	1.7nm,0.6s,baz=227,slow=5.6,SNR=5.5						
ARCES	ARCESS Array B	149.28	334	PKPbc	PKPbc	09 15 08.2	+0.7
ARCES	ARCESS Array B	149.28	334	PKPbc	PKPbc	09 15 08.2	+0.7
	7.1nm,0.6s,baz=70,slow=4.0,SNR=21						
JOF	Joensuu	149.46	320	*e*p	PKPbc	09 15 08.9	+0.7
AKASG	Malin Array Be	151.16	295	PKPbc	PKPbc	09 15 12.8	+0.2
AKASG	Malin Array Be	151.16	295	PKPbc	PKPbc	09 15 12.8	+0.2
	4.7nm,0.5s,baz=74,slow=2.9,SNR=14						
KIEV	Kiev	151.17	295	*e*PKPdf	PKPdf	09 15 07.4	+0.7
KIEV				*e*PKPbc	PKPbc	09 15 12.8	+0.1
KIEV				*e*PKPab	PKPab	09 15 20.5	0.0
KAF	Kangasniemi	151.91	320	*e*p	PKPbc	09 15 13.2	-0.8
FINES	FINESS Array B	152.19	318	PKPbc	PKPbc	09 15 15.0	+0.3
FINES	FINESS Array B	152.19	318	PKPbc	PKPbc	09 15 15.0	+0.3
	2.5nm,0.5s,baz=75,slow=3.4,SNR=15						
MLR	Muntele Rosu	152.28	284	PKPbc	PKPbc	09 15 15.6	0.0
MLR	Muntele Rosu	152.28	284	PKPbc	PKPbc	09 15 15.6	0.0
	1.2nm,0.6s,baz=162,slow=3.2,SNR=9.6						
KEST	Kesra	159.66	248	PKPab	PKPab	09 15 57.6	+0.2
KEST	Kesra	159.66	248	PKPab	PKPab	09 15 57.6	+0.2
	0.8nm,0.5s,baz=14,slow=3.4,SNR=4.5						
GERES	GERESS Array B	161.04	289	PKPab	PKPab	09 16 02.3	-0.8
GERES	GERESS Array B	161.04	289	PKPab	PKPab	09 16 02.3	-0.8
	0.3nm,0.3s,baz=123,slow=4.9,SNR=6.0						
ESDC	Sonseca Array	170.32	233	PKPab	PKPab	09 16 44.8	+0.6
ESDC	Sonseca Array	170.32	233	PKPab	PKPab	09 16 44.8	+0.6
	0.2nm,0.3s,baz=123,slow=6.3,SNR=3.8						

WEL 20 08:59:49.3±0.4, 39.72S×174.05E, h228km±3km, ML3.7/8, 2C-10D, Error ellipse: s-maj=2.4km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFE	Dawson Falls	0.39	6	PN	Pn	09 00 19.4	-0.1
NEZ	North Egmont	0.45	4	PN	Pn	09 00 19.7	+0.1
NWEZ	Newall Road	0.46	342	PN	Pn	09 00 19.2	-0.3
PKE	Pukeiti	0.52	354	PN	Pn	09 00 19.7	-0.1
WAZ	Wanganui	0.72	93	PN	Pn	09 00 21.1	+0.6
VRZ	Vera Road	0.81	43	PN	Pn	09 00 20.1	-0.8
VRZ				SN	S	09 00 45.1	-0.5
PKVZ	Pokaka	1.09	67	PN	Pn	09 00 22.3	-0.3
PKVZ				SN	S	09 00 48.4	-0.2
DUWZ	D'Urville Isla	1.09	185	PN	Pn	09 00 22.7	+0.2
DUWZ				SN	S	09 00 47.4	-1.2
MTVZ	Mangateitei	1.15	74	PN	Pn	09 00 22.8	-0.2
FWVZ	Far West T-bar	1.25	69	⇓PN	Pn	09 00 23.6	-0.4
FWVZ				SN	S	09 00 48.6	-2.2
TWVZ	Taurewa	1.25	59	PN	Pn	09 00 23.1	-0.7
WNVZ	Wahianoa	1.26	73	⇓PN	Pn	09 00 23.7	-0.1
WNVZ				SN	S	09 00 49.2	-1.6
WPVZ	Whakapapa	1.26	67	PN	Pn	09 00 23.6	-0.3
NGZ	Ngauruhoe	1.31	66	PN	Pn	09 00 24.1	-0.2
TUVZ	Tukino	1.32	71	PN	Pn	09 00 24.2	-0.1
KIW	Kapiti Island	1.32	150	PN	Pn	09 00 24.0	0.0
WTVZ	West Tongariro	1.33	64	PN	Pn	09 00 23.9	-0.5
MOVZ	Moawhango	1.35	77	PN	Pn	09 00 23.9	-0.6
HIZ	Hauiti	1.35	28	⇓PN	Pn	09 00 23.3	-1.1
KRVZ	Karewarewa	1.38	64	PN	Pn	09 00 24.2	-0.5
OGWZ	Otaki Gorge	1.39	142	PN	Pn	09 00 24.9	+0.3
KATZ	Kakaramea	1.47	60	PN	Pn	09 00 25.1	-0.3
POWZ	Post Office Ro	1.48	118	PN	Pn	09 00 25.4	+0.1
MRZ	Mangatainoka R	1.50	129	⇓PN	Pn	09 00 25.5	0.0
MRZ				AML	AML	09 00 43.2	
TCW	Tory Channel	1.50	174	SN	S	09 00 52.8	-1.1
TCW				AML	AML	09 00 53.9	
TSZ	Takapari Road	1.51	104	⇓PN	Pn	09 00 25.7	+0.1
BHHZ	Black Hill Sta	1.57	82	PN	Pn	09 00 25.5	-0.7
NNZ	Nelson	1.58	199	⇑PN	Pn	09 00 26.0	-0.1
CAW	Cannon Point	1.59	151	PN	Pn	09 00 26.2	-0.1
CAW				AML	AML	09 00 55.7	
CAW				AML	AML	09 00 56.3	
QRZ	Quartz Range	1.61	226	PN	Pn	09 00 25.7	-0.7
QRZ				SN	S	09 00 52.3	-3.1
HOWZ	Holdsworth Sta	1.63	137	PN	Pn	09 00 26.5	-0.1
PNHZ	Pukenui	1.67	98	PN	Pn	09 00 27.0	0.0
TUWZ	Tuamarina	1.71	183	PN	Pn	09 00 27.4	+0.1
TUWZ				AML	AML	09 00 55.9	
TUWZ				AML	AML	09 00 57.7	
DVHZ	Dannevirke	1.73	110	PN	Pn	09 00 27.5	+0.1
TIWZ	Tintock	1.76	128	⇓PN	Pn	09 00 27.8	+0.1
BHW	Baring Head	1.80	160	PN	Pn	09 00 27.8	-0.2
WPHZ	Waipukurau	1.87	102	PN	Pn	09 00 28.9	+0.2
MSWZ	Moikau Station	1.93	152	PN	Pn	09 00 29.0	-0.2
BFZ	Birch Farm	1.94	121	⇑PN	Pn	09 00 29.3	0.0
PAWZ	Paruwai Farm	1.97	148	PN	Pn	09 00 29.4	-0.2
PAWZ				AML	AML	09 01 01.7	
BKZ	Black Stump Fm	1.97	75	⇓PN	Pn	09 00 29.0	-0.7
BKZ				AML	AML	09 01 58.5	
BKZ				AML	AML	09 00 58.7	
TMWZ	Te Maipa	1.98	135	⇓PN	Pn	09 00 29.7	0.0
PRHZ	Porangahau	2.06	106	⇓PN	Pn	09 00 30.8	+0.3
MCHZ	McNeill Hill	2.06	83	PN	Pn	09 00 31.0	+0.5
PLWZ	Palliser	2.07	154	PN	Pn	09 00 30.3	-0.3
TRWZ	Traveller	2.09	144	PN	Pn	09 00 30.7	0.0
KAHZ	Kahuranaki	2.18	93	PN	Pn	09 00 32.0	+0.3
PXZ	Pawanui	2.19	99	⇓PN	Pn	09 00 31.9	+0.2
PXZ				AML	AML	09 01 06.7	
NMHZ	Naumai	2.22	75	PN	Pn	09 00 32.4	+0.2
THZ	Tophouse	2.22	203	PN	Pn	09 00 31.6	-0.6
THZ				SN	S	09 01 03.0	-2.8
DSZ	Denniston Nort	2.65	219	PN	Pn	09 00 35.4	-1.2
URZ	Urewera	2.79	60	PN	Pn	09 00 36.1	-2.1
URZ				AML	AML	09 01 11.8	
KNZ	Kokohu	2.89	77	PN	Pn	09 00 38.7	-0.5
MWZ	Matawai	3.04	64	PN	Pn	09 00 39.3	-1.7
PRGZ	Paritu Road	3.08	76	PN	Pn	09 00 40.9	-0.5
LTZ	Lake Taylor	3.34	203	PN	Pn	09 00 43.0	-1.4
LTZ				SN	S	09 01 24.3	-3.4
PUZ	Puketiti	3.67	65	PN	Pn	09 00 46.2	-2.0
PUZ				SN	S	09 01 29.5	-5.0
MQZ	McQueen's Vall	4.12	194	PN	Pn	09 00 50.4	-3.1
MQZ				SN	S	09 01 39.0	-5.2
WVZ	Waitaha Valley	4.18	216	PN	Pn	09 00 51.9	-2.4
RPZ	Rata Peaks	4.58	208	PN	Pn	09 00 57.1	-2.1
FOZ	Fox Glacier	5.05	219	PN	Pn	09 01 01.2	-3.7
LBZ	Lake Benmore	5.48	210	*e*PN	Pn	09 01 07.5	-2.9
JCZ	Jackson Bay	5.88	220	PN	Pn	09 01 12.2	-3.3
ODZ	Otahua Downs	5.89	204	PN	Pn	09 01 13.6	-1.9

IDC 20 09:00:22.6±1.4, 7.05S×155.17E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/33, Error ellipse: s-maj=47.1km s-min=28.2km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.27	253	Pn	Pn	09 02 28.4	+4.6
	1.4nm,0.3s,baz=79,slow=16,SNR=3.4						
PMG				LR	LR	09 05 23.9	
	comp=Z,85nm,18.7s,baz=301,slow=36						
WRA	Warramunga Arr	23.93	236	P	P	09 05 38.3	-0.2
	2.6nm,0.9s,baz=60,slow=9.7,SNR=7.5						
ASAR	Alice Springs	26.26	229	P	P	09 05 59.5	-0.3
	0.7nm,0.8s,baz=61,slow=9.1,SNR=7.3						
CMAR	Chiang Mai Arr	60.97	296	P	P	09 10 39.1	+1.0
	1.2nm,0.3s,baz=122,slow=4.7,SNR=4.0						
SONM	Songino Array	69.48	327	P	P	09 11 33.0	-0.1
	0.3nm,0.4s,baz=138,slow=6.3,SNR=3.5						
MKAR	Makanchi Array	83.56	319	P	P	09 12 51.3	-1.5
	0.3nm,0.7s,baz=101,slow=6.8,SNR=2.6						
MAW	Mawson	84.41	203	P	P	09 12 56.9	+0.3
	1.2nm,1.0s,baz=124,slow=3.6,SNR=2.5						
NVAR	Mina Array Bea	91.62	52	P	P	09 13 32.3	+0.1
	0.5nm,0.8s,baz=266,slow=6.0,SNR=4.4						
TORD	Torodi Ar. Bea	153.21	285	PKPbc	PKPbc	09 20 23.7	+0.1
	0.9nm,0.8s,baz=77,slow=2.3,SNR=4.1						
TORD				PKPab	PKPab	09 20 35.2	-0.1
	1.6nm,0.9s,baz=56,slow=2.9,SNR=5.9						

IDC 20 09:05:46.0±1.8, 10.58S×152.51E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, ML3.4/2, MS3.7/1, Ms1 3.6/1, ms1mx2.7/22, Error ellipse: s-maj=89.9km s-min=27.6km az=124.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	11.22	212	Pn	Pn	09 08 28.1	+0.3
	0.4nm,0.3s,baz=34,slow=16,SNR=2.3						
WRA	Warramunga Arr	19.83	240	P	P	09 10 17.7	-0.9
	0.1nm,0.3s,baz=62,slow=11,SNR=4.4						
ASAR	Alice Springs	22.00	231	P	P	09 10 43.1	+1.0
	0.4nm,0.8s,baz=64,slow=9.3,SNR=5.3						
STKA	Stephens Creek	23.48	204	P	P	09 10 57.2	-0.3
	1.3nm,0.9s,baz=41,slow=15,SNR=2.7						
STKA				LR	LR	09 20 32.9	
	comp=Z,207nm,21.2s,baz=24,slow=38						
ILAR	Eielson Array	87.59	22	P	P	09 18 36.0	+0.2
	0.5nm,0.8s,baz=252,slow=3.6,SNR=5.2						
TORD	Torodi Ar. Bea	151.33	278	PKPbc	PKPbc	09 25 42.2	-0.6
	0.6nm,1.0s,baz=74,slow=3.0,SNR=2.9						

*IDC **20** 09:06:51.1±0.5, 1.43S×99.41E, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.2/31, mbtmp4.2/24, ML3.9/2, Error ellipse: s-maj=21.2km s-min=12.1km az=60.0*

*NEIC **20** 09:06:52.4±0.3, 1.44S×99.42E, h10km, mb4.7/2, Error ellipse: s-maj=10.7km s-min=6.0km az=70.0*

*ISCJB **20** 09:06:53.9±0.3, 1.37S±0.05×99.36E±0.05, h30km, mb4.3/27, Error ellipse: s-maj=8.3km s-min=5.1km az=135.4*

*AUST **20** 09:07:00.2, 1.40S×99.49E, h35km*

*DJA **20** 09:07:03.4±1.3, 1°S±6°×10°0E±1°0, h23km±10km, M4.7/4, mb5.0/2, MLv4.5/4*

ISC 20 09:06:55.9±0.4, 1.33S±0.05×99.44E±0.06, h30km, n91, σ0.85/92, mb4.4/27, 4C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.10	68	P	Pn	09 07 14.6	-0.7
PDSI				S	Sn	09 07 23.0	-6.6
PPI	Padang Panjang	1.29	48	P	Pn	09 07 18.5	+0.6
PPI				S	Sn	09 07 31.4	-2.8
PPI	Padang Panjang	1.29	48	P	Pn	09 07 18.6	+0.6
	baz=1.3,SNR=145						
PPI				S	Sb	09 07 36.8	+1.0
	baz=1.3,SNR=5.3						
BKNI	Bangkinang	2.29	44	P	Pb	09 07 38.5	+1.8
	baz=2.3,SNR=3.8						
MASI	Maura Aman, Be	3.33	123	P	Pn	09 07 47.4	+1.4
KSI	Kapahiang	3.90	126	P	Pn	09 07 55.6	+1.7
KSI				S	Sn	09 08 38.3	-0.5
PSI	Prapat	4.13	353	Pn	Pn	09 07 57.1	0.0
PSI	Prapat	4.13	353	Pn	Pn	09 07 57.1	0.0
	1.0nm,0.3s,baz=178,slow=10,SNR=5.9						
PSI	Prapat	4.13	353	P	Pn	09 07 59.5	+2.3
	baz=4.1,SNR=3.7						
MYKOM	Kota Tinggi	5.39	55	P	Pn	09 08 19.8	+5.5
LWLI	Liwa	5.89	129	P	Pn	09 08 24.9	+3.6
	225nm,0.7s						
IPM	Ipoh	5.98	15	*e*Pn	Pn	09 08 22.5	0.0
	23nm,0.6s						
IPM	Ipoh	5.98	15	P	Pn	09 08 29.2	+6.7
KLSI		6.25	122	P	Pn	09 08 28.4	+2.3
KULM	Kulim

AKTO	Aktyubinsk	62.51	332	P		P	09 17 15.7 -0.9
	comp=Z,1.1nm,0.5s,baz=139,slow=6.7,SNR=3.6						
KBZ	Khabaz	67.44	319	P		P	09 17 49.3 +0.5
KBZ	Khabaz	67.44	319	P		P	09 17 49.3 +0.5
	comp=Z,4.2nm,0.8s,baz=128,slow=5.7,SNR=12						
MAW	Mawson	70.79	194	P		P	09 18 08.7 -0.5
MAW	Mawson	70.79	194	P		P	09 18 08.7 -0.5
	comp=Z,1.6nm,0.9s,baz=309,slow=4.8,SNR=4.2						
RPZ	Rata Peaks	75.85	135	P		P	09 18 39.2 -0.3
RPZ	Rata Peaks	75.85	135	P		P	09 18 39.2 -0.3
	comp=Z,2.7nm,0.5s,baz=287,slow=4.3,SNR=6.1						
VRI	Vrincioaia	78.98	317	⇑*i*P		P	09 18 57.6 +0.6
PLOR	Plostina	79.03	317	⇑*i*P		P	09 18 57.2 -0.1
TESR	Tescani	79.19	318	⇑*i*P		P	09 18 58.4 +0.3
MLR	Muntele Rosu	79.43	317	⇓*i*P		P	09 19 00.2 +0.6
MLR	Muntele Rosu	79.43	317	P		P	09 19 00.3 +0.6
MLR	Muntele Rosu	79.43	317	P		P	09 19 00.3 +0.6
	comp=Z,1.2nm,0.7s,baz=94,slow=1.8,SNR=8.2						
BURAR	Bucovina Array	80.39	319	⇑*i*P		P	09 19 04.9 +0.1
VNDA	Vanda	82.92	169	P		P	09 19 16.9 -0.5
VNDA	Vanda	82.92	169	P		P	09 19 16.9 -0.5
	comp=Z,0.7nm,0.8s,baz=292,slow=6.9,SNR=4.8						
FINES	FINESS Array B	83.26	332	P		P	09 19 19.1 -0.4
FINES	FINESS Array B	83.26	332	P		P	09 19 19.1 -0.4
	comp=Z,1.9nm,0.6s,baz=104,slow=8.0,SNR=7.7						
GERES	GERESS Array B	88.18	319	P		P	09 19 43.0 -1.2
GERES	GERESS Array B	88.18	319	P		P	09 19 43.0 -1.2
	comp=Z,0.4nm,0.4s,baz=98,slow=4.0,SNR=6.5						
DAVOX	Davos/Dischmat	90.66	317	P		P	09 19 56.2 +0.2
DAVOX	Davos/Dischmat	90.66	317	P		P	09 19 56.2 +0.2
	comp=Z,3.5nm,0.6s,baz=9.5,slow=18,SNR=5.7						
KEST	Kesra	90.84	306	P		P	09 19 58.1 +1.1
KEST	Kesra	90.84	306	P		P	09 19 58.1 +1.1
	comp=Z,1.5nm,0.8s,baz=101,slow=5.2,SNR=5.5						
NVAR	Mina Array Bea	129.43	38	PKP		PKPdf	09 26 02.8 +0.4
NVAR	Mina Array Bea	129.43	38	PKP		PKPdf	09 26 02.8 +0.4
	comp=Z,0.2nm,0.6s,baz=132,slow=2.2,SNR=3.9						
PDAR	Pinedale Array	131.26	28	PKP		PKPdf	09 26 05.0 -0.8
PDAR	Pinedale Array	131.26	28	PKP		PKPdf	09 26 05.0 -0.8
	comp=Z,0.3nm,0.6s,baz=288,slow=0.9,SNR=3.6						
TXAR	Lajitas Array	144.50	36	PKP		PKPdf	09 26 29.8 -0.6
TXAR	Lajitas Array	144.50	36	PKP		PKPdf	09 26 29.8 -0.6
	comp=Z,2.4nm,0.7s,baz=253,slow=1.3,SNR=30						
CPUP	Villa Florida	144.52	218	*e*PKPdf		PKPab	09 26 28.6 0.0
CPUP				PKP		PKPbc	09 26 29.1 +0.2
CPUP	Villa Florida	144.52	218	PKP		PKPbc	09 26 29.1 +0.2
	comp=Z,5.4nm,0.7s,baz=113,slow=3.2,SNR=12						
MIAR	Mount Ida	144.79	19	*e*PKPdf		PKPab	09 26 29.4 0.0
TKL	Tuckaleechee C	145.71	5	*e*PKPdf		PKPdf	09 26 31.4 -0.7
JCT	Junction City	145.74	30	*e*PKPdf		PKPbc	09 26 33.0 +0.3
CPCT	Cooper Cave	145.85	6	*e*PKPdf		PKPdf	09 26 32.3 -0.1
KMSC	Kings Mountain	146.35	1	*e*PKPdf		PKPdf	09 26 32.0 -1.2

*ISCJB **20** 09:19:48.8±0.7,32°.97N±0°.04×140°.43E±0°.07,h83km±5km, mb3.8/6,Error ellipse: s-maj=9.6km s-min=6.6km az=14.9*
*JMA **20** 09:19:50.8±0.1,33°.07N×140°.43E,h69km±2km,M3.5*
*IDC **20** 09:19:53.9±2.9,32°.90N×139°.99E,h105km±26km,mb3.6/6, mb1 3.7/8,mb1mx3.4/24,mbtmp3.5/8,Error ellipse: s-maj=37.5km s-min=16.5km az=87.0*

ISC 20 09:19:50.0±1.0,32°.98N±0°.06×140°.43E±0°.07,h73km±8km, n25,σ1§06/40,mb3.9/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.53	284	P		Pn	09 20 03.7 +0.4
JHJ2				S		Sn	09 20 13.3 +0.1
JHCJ	Hachijojimakas	0.54	280	P		Pn	09 20 03.9 +0.5
JHCJ				S		Sn	09 20 12.9 -0.4
JMY	Miyakejima3	1.33	325	P		Pn	09 20 12.9 +0.1
JMY				*e*S		Sn	09 20 30.5 +0.5
JKO	Kozu shima	1.61	318	P		Pn	09 20 16.6 +0.1
JKO				S		Sn	09 20 35.8 -0.8
BSO1	Boso 1	1.73	15	P		Pn	09 20 17.6 +0.1
BSO1				S		Sn	09 20 38.7 +0.3
BSO2	Boso 2	1.78	9	S		Sn	09 20 40.5 +0.3
BSO3	Boso 3	1.81	2	P		Pn	09 20 19.4 +0.5
BSO3				S		Sn	09 20 40.8 -0.2
JIM2	Oshima 3	1.92	335	P		Pn	09 20 20.6 0.0
JIM2				S		Sn	09 20 42.7 -1.2
BSO4	Boso 4	2.00	358	P		Pn	09 20 22.6 +1.0
BSO4				S		Sn	09 20 45.7 0.0
JIZS	Izushimoda	2.16	324	P		Pn	09 20 24.3 +0.5
JIZS				S		Sn	09 20 49.8 +0.2
KTJJ	Kamata 2	2.25	330	P		Pn	09 20 25.3 +0.3
KTJJ				S		Sn	09 20 51.0 -0.7
TK02	Tokai 2	2.43	294	P		Pn	09 20 28.3 +1.0
TK02				S		Sn	09 20 57.8 +1.9
JOD2	Odawara 2	2.53	334	P		Pn	09 20 29.2 +0.3
JOD2				S		Sn	09 20 57.3 -1.4
TK04	Tokai 4	2.55	304	P		Pn	09 20 30.1 +1.1
MJAR	Matsushiro Arr	3.99	333	P		Pn	09 20 49.9 +1.2
	1.9nm,0.3s,baz=158,slow=12,SNR=17						
MJAR				S		Sn	09 21 38.0 +3.7
	1.3nm,0.3s,baz=23,slow=30,SNR=5.1						
MAT	Matsushiro	3.99	333	P		Pn	09 20 49.0 +0.2
MAT				S		Sn	09 21 33.2 -1.1
JNU	Nakatsue	8.02	274	P		Pn	09 21 43.9 0.0
	0.1nm,0.3s,baz=117,slow=11,SNR=3.3						
ZALV	Zalesovo Beam	44.14	316	PcP		PcP	09 29 34.5 -0.3
	0.6nm,0.3s,baz=90,slow=4.3,SNR=2.7						
MKAR	Makanchi Array	45.69	305	P		P	09 28 01.9 -1.7
	0.6nm,0.5s,baz=85,slow=10.0,SNR=7.9						
WRA	Warramunga Arr	52.95	187	P		P	09 28 58.1 -0.9
	0.5nm,0.3s,baz=7.5,slow=7.5,SNR=33						
ASAR	Alice Springs	56.68	187	P		P	09 29 25.2 -0.6
	0.4nm,0.4s,baz=3.9,slow=6.9,SNR=17						
ASAR				PcP		PcP	09 30 22.8 +1.5
	0.4nm,0.8s,baz=358,slow=4.6,SNR=3.7						
STKA	Stephens Creek	64.52	179	P		P	09 30 18.8 -0.3
	0.9nm,0.7s,baz=350,slow=12,SNR=3.0						
FINES	FINESS Array B	72.02	333	P		P	09 31 04.7 -1.0
	2.3nm,0.8s,baz=56,slow=7.1,SNR=6.4						
TXAR	Lajitas Array	93.24	52	P		P	09 32 58.3 +1.5
	0.4nm,0.9s,baz=298,slow=2.7,SNR=3.5						
LPAZ	La Paz	149.31	64	PKPbc		PKPbc	09 39 32.9 +1.2
	0.5nm,0.4s,baz=350,slow=6.1,SNR=3.2						

IDC 20 09:33:39.3±4.0,1°.34S×99°.72E,h0km,mb3.2/3,mb1 3.3/4, mb1mx3.2/23,mbtmp3.2/4,ML2.6/1,Error ellipse: s-maj=180.4km s-min=26.0km az=57.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.19	349	Pn		Pn	09 34 44.7 +0.1
	0.4nm,0.3s,baz=172,slow=12,SNR=3.4						
WRA	Warramunga Arr	38.57	121	P		P	09 41 04.0 -0.2
	0.4nm,0.8s,baz=302,slow=9.0,SNR=3.9						
ASAR	Alice Springs	39.87	127	P		P	09 41 15.4 +0.3
	0.2nm,0.8s,baz=303,slow=7.8,SNR=3.5						
MKAR	Makanchi Array	50.32	344	P		P	09 42 37.4 -0.4
	0.1nm,0.3s,baz=156,slow=9.7,SNR=3.2						
TXAR	Lajitas Array	144.35	36	PKP		PKPbc	09 53 16.6 -0.1
	0.2nm,0.4s,baz=336,slow=2.0,SNR=3.7						

*BER **20** 09:40:14.9±3.3,58°.76N×14°.91E,h0km±24km, ML2.0(NAO)*
*NAO **20** 09:40:14.8±2.2,58°.75N×14°.98E,ML2.0*
*CSEM **20** 09:40:14.9±0.1,58°.82N×15°.12E,h2km,ML2.0,Error ellipse: s-maj=3.0km s-min=2.6km az=162.0,Suspected Mining explosion.*
*UPP **20** 09:40:14.8,58°.81N×15°.12E,h0km,ML2.5,Suspected Mining explosion.*

HEL 20 09:40:15.7±0.1,58°.81N×15°.13E,h0km,ML2.0, ML2.0(NAO),ML2.5(UPP),2C-11D,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRAU	Nora	0.76	356	⇓*i*P		Pg	09 40 29.2 -1.1
NRAU				*i* S		Sg	09 40 39.3 -1.0
NRAU	Nora	0.76	356	P		Pg	09 40 29.2 -1.1
NRAU				S		Sg	09 40 39.2 -1.0
ESKU	Eskilstuna	0.78	57	⇓*i*P		Pg	09 40 29.5 -1.1
ESKU				*i* S		Sg	09 40 39.0 -1.6
ESKU	Eskilstuna	0.78	57	P		Pg	09 40 29.4 -1.2
ESKU				S		Sg	09 40 39.0 -1.6
VIKU	Vikbolandet	0.88	110	⇓*i*P		Pg	09 40 31.2 -1.3
VIKU				*i* S		Sg	09 40 42.9 -0.9
VIKU	Vikbolandet	0.88	110	⇓P		Pg	09 40 31.2 -1.3
VIKU				S		Sg	09 40 42.8 -1.0
NASU	Vaermlandsnaes	1.02	277	⇓*e*P		Pg	09 40 33.4 -1.8
NASU				*e*S		Sg	09 40 47.1 -1.3
NASU	Vaermlandsnaes	1.02	277	⇓P		Pg	09 40 33.4 -1.8
NASU				S		Sg	09 40 47.1 -1.3
EKSU	Eksjoe	1.25	176	⇓*e*P		Pg	09 40 37.6 -1.9
EKSU				*e*S		Sg	09 40 54.5 -1.2
EKSU	Eksjoe	1.25	176	⇓P		Pg	09 40 37.7 -1.9
EKSU				S		Sg	09 40 54.5 -1.2
BACU	Backbrunna	1.46	43	⇓*e*P		Pn	09 40 41.9 -1.3
BACU	Backbrunna	1.46	43	P		Pn	09 40 41.8 -1.4
FINU	Finntorp	1.49	295	*e*P		Pn	09 40 42.0 -1.7
FINU				*e*S		Sg	09 41 02.3 -1.3
FINU	Finntorp	1.49	295	P		Pn	09 40 42.0 -1.7
FINU				S		Sg	09 41 02.2 -1.4
NYNU	Nynaeshamn	1.50	81	*e*P		Pn	09 40 42.4 -1.4
NYNU				*e*S		Sg	09 41 01.8 -2.1
NYNU	Nynaeshamn	1.50	81	P		Pn	09 40 42.4 -1.4
NYNU				S		Sg	09 41 01.8 -2.1
UDD	Uddeholm	1.50	329	*e*P		Pn	09 40 42.2 -1.6
UDD				*e*S		Sg	09 41 02.8 -1.1
UDD	Uddeholm	1.50	329	P		Pn	09 40 42.2 -1.7
UDD				S		Sg	09 41 02.8 -1.2
HFS	Hagfors	1.52	332	Pg		Pn	09 40 42.6 -1.5
	baz=156,slow=18						
HFS				Lg		Lg	09 41 03.0
	baz=157,slow=37						
HFS	Hagfors	1.52	332	Pg		Pn	09 40 42.6 -1.5
	baz=156,slow=18						
HFS				Lg		Lg	09 41 03.0
	baz=157,slow=37						
HFS	Hagfors	1.52	332	*e*P		Pn	09 40 42.6 -1.5
HFS				*e*SB		Sg	09 41 03.0 -1.4
HFS	Hagfors	1.52	332	P		Pn	09 40 42.6 -1.5
HFS				Lg		Lg	09 41 03.0
	baz=157,slow=31,SNR=4.2						
UPP	Uppsala	1.65	50	*e*P		Pn	09 40 45.3 -0.6
UPP	Uppsala	1.65	50	P		Pn	09 40 45.3 -0.6
GNOU	Gnosjoe	1.69	206	⇑*e*P		Pn	09 40 45.5 -0.9
GNOU	Gnosjoe	1.69	206	P		Pn	09 40 45.5 -1.0
OSKU	Oskarshamn	1.70	162	*e*P		Pn	09 40 45.7 -0.9
OSKU				*e*S		Sn	09 41 08.3 -0.7
OSKU	Oskarshamn	1.70	162	P		Pn	09 40 45.6 -1.0
OSKU				S		Sn	09 41 08.2 -0.8
BORU	Boraas	1.72	228	*e*P		Pn	09 40 45.8 -1.0
BORU	Boraas	1.72	228	P		Pn	09 40 45.8 -1.0
FALU	Falun	1.73	12	⇓*e*P		Pn	09 40 46.4 -0.5
FALU				*e*S		Sn	09 41 08.7 -0.9
FALU	Falun	1.73	12	P		Pn	09 40 46.3 -0.6
FALU				S		Sn	09 41 08.7 -0.9
OSTU	Oestervaala	1.75	35	⇓*e*P		Pn	09 40 46.8 -0.5
OSTU				*e*S		Sn	09 41 09.1 -1.2
OSTU	Oestervaala	1.75	35	P		Pn	09 40 46.7 -0.6
OSTU				S		Sn	09 41 09.0 -1.2
BYXU	Byxelkrok	1.82	146	⇑*e*P		Pn	09 40 48.0 -0.2
BYXU	Byxelkrok	1.82	146	P		Pn	09 40 48.0 -0.2
FLYU	Flymyra	1.93	46	*e*P		Pn	09 40 49.6 -0.1
FLYU				*e*S		Sn	09 41 14.4 -0.2
FLYU	Flymyra	1.93	46	P		Pn	09 40 49.6 -0.1
FLYU				S		Sn	09 41 14.4 -0.2
NRTU	Norrtaelje	2.00	63	*e*P		Pn	09 40 50.9 +0.3
NRTU				*e*S		Sn	09 41 16.4 +0.1
NRTU	Norrtaelje	2.00	63	P		Pn	09 40 50.9 +0.3
NRTU				S		Sn	09 41 16.4 +0.1
STRU	Stroemstad	2.06	278	*e*P		Pn	09 40 51.6 +0.1
STRU				*e*S		Sb	09 41 19.1 -1.0
STRU	Stroemstad	2.06	278	P		Pn	09 40 51.5 0.0
STRU				S		Sb	09 41 19.1 -1.0
FORU	Forsmark	2.21	43	*e*P		Pn	09 40 54.3 +0.7
FORU				*e*S		Sn	09 41 23.0 +1.4
FORU	Forsmark	2.21	43	P		Pn	09 40 54.2 +0.6
FORU				S		Sn	09 41 23.0 +1.4
FABU	Falkenberg	2.23	216	*e*P		Pn	09 40 53.8 0.0
FABU				*e*S		Sb	09 41 23.5 -1.3
FABU	Falkenberg	2.23	216	P		Pn	09 40 53.7 -0.1
FABU				S		Sb	09 41 23.5 -1.3
NB2	NORSAR Subarra	2.98	320	Pn		Pn	09 41 01.8 -2.5
	baz=142,slow=14						
NB2				Lg		Lg	09 41 44.5
NB2	NORSAR Subarra	2.98	320	Pn		Pn	09 41 01.8 -2.5
	baz=142,slow=14						
NB2				Lg		Lg	09 41 44.5
NB2	NORSAR Subarra	2.98	320	*e*P		Pn	09 41 01.8 -2.5
NB2				*e*SB		Sb	09 41 44.5 -2.2
NB2	NORSAR Subarra	2.98	320	P		Pn	09 41 01.8 -2.5
NB2				Lg		Lg	09 41 44.5
	SNR=50						
RAF	Rauma	4.01	54	*e*PG		Pb	09 41 26.6 -0.5
RAF				*e*S		Sn	09 42 03.7 -2.1
RAF				*e*SG		Sb	09 42 17.0 +1.0
RAF				MSG			09 42 21.1
	comp=Z,2.5nm,0.2s						
MTSE	Matsula	4.52	88	*e*P		Pn	09 41 24.2 -1.1
MTSE				*e*SG		Sb	09 42 32.4 +1.6
MTSE	Matsula	4.52	88	P		Pn	09 41 24.2 -1.1
MEF	Metsahovi	4.92	69	*e*P		Pn	09 41 30.8 0.0
MEF				*e*S		Sn	09 42 25.6 -2.8
MEF				*e*SG		Sb	09 42 45.0 +2.7
MEF				MSG			09 42 48.3
	comp=Z,2.1nm,0.2s						
MEF	Metsahovi	4.92	69	P		Pn	09 41 30.7 -0.1
MEF				S		Sn	09 42 25.5 -2.9
KEF	Keuruu	5.87	51	*e*P		Pn	09 41 43.3 -0.6
KEF				*e*S		Sn	09 42 49.1 -2.7
KEF	Keuruu	5.87	51	P		Pn	09 41 43.2 -0.6
KEF				S		Sn	09 42 49.0 -2.7
FIA0	FINESS Array S	6.07	60	Pn		Pn	09 41 46.7 +0.1
	baz=249,slow=12						
FIA0				Sn		Sn	09 42 54.5 -2.2
	baz=245,slow=22						
FIA0				Lg		Lg	09 43 24.9
	baz=260,slow=37						
FIA0	FINESS Array S	6.07	60	Pn		Pn	09 41 46.7 +0.1
	baz=249,slow=12						
FIA0				Sn		Sn	09 42 54.5 -2.2
	baz=245,slow=22						
FIA0				Lg		Lg	09 43 24.9
	baz=260,slow=37						
FIA0	FINESS Array S	6.07	60	*e*P		Pn	09 41 46.4 -0.2
FIA0				*e*S		Sn	09 42 54.3 -2.4
FIA0				*e*SG		Sb	09 43 22.3 +7.0
FIA0				MSG			09 43 28.4
	comp=Z,1.5nm,0.3s						
FIA0	FINESS Array S	6.07	60	P		Pn	09 41 46.4 -0.2
FIA0	FINESS Array S	6.07	60	Pn		Pn	09 41 46.7 +0.1
	baz=249,slow=12,SNR=50						
FIA0				S		Sn	09 42 54.2 -2.5
FIA0				Lg		Lg	09 43 24.9
	baz=260,slow=29,SNR=5.0						
KAF	Kangasniemi	6.44	54	*e*S		Sn	09 43 01.5 -4.2
KAF				*e*SG		Sb	09 43 31.8 +5.8
KAF				MSG			09 43 35.5
	comp=Z,0.8nm,0.2s						
SUF	Sumiainen	6.67	49	*e*SG		Sb	09 43 38.5 +6.1
SUF				MSG			09 43 43.6
	comp=Z,1.1nm,0.3s						
ARA0	ARCESS Array S	11.65	18	Pn		Pn	09 42 58.4 -4.6
	baz=203,slow=16						
ARA0	ARCESS Array S	11.65	18	Pn		Pn	09 42 58.4 -4.6
	baz=203,slow=16						
ARA0	ARCESS Array S	11.65	18	*e*P		Pn	09 42 58.4 -4.6
SPA0	Spitsbergen Ar	19.46	1	Pn		P	09 44 41.4 -2.2
	baz=174,slow=16						
SPA0	Spitsbergen Ar	19.46	1	Pn		P	09 44 41.4 -2.2
	baz=174,slow=16						
SPA0	Spitsbergen Ar	19.46	1	*e*P		P	09 44 41.4 -2.2
SPA0	Spitsbergen Ar	19.46	1	P		P	09 44 41.3 -2.2

*IDC **20** 09:43:04.3±0.8,46°.20S×166°.20E,h0km,mb4.2/6, mb1 4.3/8,mb1mx4.1/18,mbtmp4.2/8,ML3.7/2,MS3.8/4, Ms1 3.8/4,ms1mx3.4/17,Error ellipse: s-maj=22.5km s-min=21.2km az=152.0*
*ISCJB **20** 09:43:05.2±0.5,46°.13S±0°.05×166°.12E±0°.04,h12km, mb4.2/6,MS3.8/4,Error ellipse: s-maj=7.7km s-min=4.3km az=170.7*
*WEL **20** 09:43:07.8±0.5,46°.07S×166°.17E,h31km±1km,ML4.5/21, Error ellipse: s-maj=6.0km s-min=2.2km az=90.0*
*AUST **20** 09:43:08.7±0.0,46°.16S×166°.22E,h39km,Error ellipse: s-maj=1.4km s-min=0.8km az=357.0*

*NEIC **20** 09:43:09.2,46°.24S×166°.45E,h5km,ML4.5(WEL),After WEL*

ISC 20 09:43:06.0±0.6,46°.18S±0°.06×166°.26E±0°.05,h12km,n75, σ1§32/80,mb4.2/6,MS3.7/4,3C-1D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.94	42	⇑PN		Pg	09 43 23.9 -0.3
DCZ				SN		Sg	09 43 37.0 +0.5
DCZ				AML	AML	09 43 37.4	
DCZ				AML	AML	09 43 38.7	
DCZ				AML	AML	09 43 38.7	
DCZ	Deep Cove	0.94	42	P*		Pg	09 43 23.6 -0.5
DCZ				S*		Sg	09 43 37.0 +0.5
WHZ	Wether Hill Ro	1.21	77	⇑PN		Pn	09 43 29.5 +0.7
WHZ				SN		Sn	09 43 46.4 +1.3
WHZ				AML	AML	09 43 49.9	
WHZ	Wether Hill Ro	1.21	77	P*		Pn	09 43 29.1 +0.4
WHZ				S*		Sg	09 43 47.1 +2.0
APZ	The Paps	1.36	119	⇓PN		Pn	09 43 31.4 +0.5
APZ	The Paps	1.36	119	P*		Pn	09 43 31.4 +0.5
MLZ	Mavora Lakes	1.58	59	PN		Pn	09 43 34.9 +1.0
MLZ				AML	AML	09 44 01.2	
MLZ				AML	AML	09 44 01.4	
MLZ	Mavora Lakes	1.58	59	Pn		Pn	09 43 34.9 +1.0
MSZ	Milford Sound	1.91	39	PN		Pn	09 43 38.7 +0.3
MSZ				AML	AML	09 44 17.6	
MSZ				AML	AML	09 44 17.6	
MSZ				AML	AML	09 44 18.2	
MSZ				AML	AML	09 44 18.2	
MSZ	Milford Sound	1.91	39	Pn		Pn	09 43 38.7 +0.3
SYZ	Scrubby Hill	2.03	101	⇑PN		Pn	09 43 41.3 +1.2
SYZ	Scrubby Hill	2.03	101	Pn		Pn	09 43 41.2 +1.2
EAZ	Earnscleugh	2.34	67	PN		Pn	09 43 46.5 +2.2
EAZ				AML	AML	09 44 23.6	
EAZ				AML	AML	09 44 28.9	
EAZ				AML	AML	09 44 28.9	
EAZ	Earnscleugh	2.34	67	Pn		Pn	09 43 47.0 +2.7
TUZ	Tuapeka	2.36	86	PN		Pn	09 43 46.4 +1.9
TUZ				AML	AML	09 44 20.0	
TUZ				AML	AML	09 44 22.5	
TUZ	Tuapeka	2.36	86	Pn		Pn	09 43 46.5 +1.9
WKZ	Wanaka	2.37	56	PN		Pb	09 43 47.6 -1.0
WKZ				AML	AML	09 44 27.4	
WKZ				AML	AML	09 44 36.1	
WKZ				AML	AML	09 44 36.1	
WKZ				AML	AML	09 44 43.4	
WKZ	Wanaka	2.37	56	Pn		Pb	09 43 47.6 -1.0
JCZ	Jackson Bay	2.75	41	*e*PN		Pn	09 43 52.2 +2.1
JCZ				AML	AML	09 44 42.2	
JCZ				AML	AML	09 44 42.5	
JCZ	Jackson Bay	2.75	41	Pn		Pn	09 43 52.6 +2.5
ODZ	Otahua Downs	3.28	71	PN		Pn	09 43 57.6 +0.4
ODZ	Otahua Downs	3.28	71	*e*Pn		Pn	09 43 58.6 +1.4
LBZ	Lake Benmore	3.30	59	PN		Pn	09 43 58.8 +1.3
LBZ				AML	AML	09 44 43.2	
LBZ				AML	AML	09 44 55.1	
LBZ	Lake Benmore	3.30	59	Pn		Pn	09 43 58.8 +1.3
FOZ	Fox Glacier	3.58	44	PN		Pn	09 44 03.5 +2.2
FOZ				AML	AML	09 45 07.0	
FOZ				AML	AML	09 45 13.8	
FOZ	Fox Glacier	3.58	44	Pn		Pn	09 44 04.3 +3.0
RPZ	Rata Peaks	4.20	56	PN		Pn	09 44 10.8 +0.9
RPZ				AML	AML	09 45 29.1	
RPZ				AML	AML	09 45 34.6	
RPZ	Rata Peaks	4.20	56	*e*Pn		Pn	09 44 10.8 +0.9
RPZ				Sn		Sn	09 44 60.0 +1.0
RPZ	Rata Peaks	4.20	56	Pn		Pn	09 44 10.8 +0.9
	8.2nm,0.3s,baz=227,slow=4.4,SNR=54						
RPZ				Sn		Sn	09 44 60.0 +1.0
	21nm,0.3s,baz=46,slow=22,SNR=8.9						
WVZ	Waitaha Valley	4.46	47	*e*PN		Pn	09 44 14.1 +0.8
WVZ				AML	AML	09 45 22.9	
WVZ				AML	AML	09 45 49.9	
WVZ	Waitaha Valley	4.46	47	Pn		Pn	09 44 15.1 +1.8
MQZ	McQueen's Vall	5.17	64	*e*PN		Pn	09 44 23.4 +0.3
MQZ	McQueen's Vall	5.17	64	Pn		Pn	09 44 24.0 +0.9
LTZ	Lake Taylor	5.48	54	*e*PN		Pn	09 44 27.9 +0.4
LTZ				AML	AML	09 45 33.5	
LTZ				AML	AML	09 45 44.3	
DSZ	Denniston Nort	5.97	44	*e*PN		Pn	09 44 35.3 +1.1
DSZ				AML	AML	09 45 56.7	
DSZ				AML	AML	09 46 00.1	
DSZ	Denniston Nort	5.97	44	Pn		Pn	09 44 35.4 +1.2
THZ	Tophouse	6.52	50	*e*PN		Pn	09 44 41.3 -0.4
THZ				AML	AML	09 46 01.4	
THZ				AML	AML	09 46 08.0	
THZ	Tophouse	6.52	50	Pn		Pn	09 44 41.9 +0.2
QRZ	Quartz Range	7.03	43	*e*PN		Pn	09 44 49.0 +0.3
HIZ	Hauiti	9.96	43	*e*PN		Pn	09 45 29.6 +0.8
URZ	Urewera	11.28	49	Pn		Pn	09 45 45.9 -1.0
URZ				Sn		Sn	09 47 49.2 -3.7
URZ	Urewera	11.28	49	Pn		Pn	09 45 45.9 -1.0
	0.3nm,0.3s,baz=247,slow=7.9,SNR=3.1						
URZ				Sn		Sn	09 47 49.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**13.08**	**320**	Pn	Pn	09 58 45.0	-2.8
	0.6nm,0.4s,baz=127,slow=14,SNR=26						
MK31				⇓Lg	Lg	10 01 03.5	
	1.0nm,0.5s,baz=125,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**13.08**	**320**	Pn	Pn	09 58 45.5	-2.2
	0.6nm,0.3s,baz=127,slow=14,SNR=21						
MKAR				Sn	Sn	10 01 04.8	-9.1
	0.2nm,0.3s,baz=135,slow=25,SNR=3.7						
SONM	**Songino Array**	**13.52**	**36**	Pn	Pn	09 58 55.7	+1.8
	0.6nm,0.3s,baz=218,slow=14,SNR=3.2						
KURBB	**Kurchatov Arra**	**17.50**	**324**	Pn	Pn	09 59 43.3	-2.6
	0.1nm,0.3s,baz=133,slow=11,SNR=9.1						
ZALV	**Zalesovo Beam**	**17.86**	**341**	P	Pn	09 59 50.2	-0.2
	0.1nm,0.3s,baz=144,slow=10.0,SNR=2.9						
BVAR	**Borovoye Array**	**22.96**	**321**	P	P	10 00 46.2	-0.3
	0.7nm,0.5s,baz=116,slow=12,SNR=3.3						
DAVOX	**Davos/Dischmat**	**60.68**	**308**	LR	LR	10 37 02.5	
	comp=Z,91nm,19.1s,baz=80,slow=41						
ASAR	**Alice Springs**	**71.13**	**142**	P	P	10 07 01.4	+0.4
	0.6nm,0.7s,baz=329,slow=6.2,SNR=5.4						
YKA	**Yellowknife Ar**	**77.68**	**13**	P	P	10 07 38.0	-0.7
	0.1nm,0.4s,baz=332,slow=5.3,SNR=3.0						

LDG ***20*** *10:05:17.4±0.1,51°.56N×89°.37E,h10km,Mb4.7/16, Ms3.5/8,Error ellipse: s-maj=5.7km s-min=3.6km az=52.0*
ISCJB ***20*** *10:05:18.7±0.7,51°.48N±0°.02×88°.94E±0°.03,h4km±4km, mb4.5/75,MS3.9/13,Error ellipse: s-maj=3.9km s-min=3.3km az=4.5*
ASRS ***20*** *10:05:18.8±1.7,51°.40N×89°.21E,h15km,Ms4.3/4*
IDC ***20*** *10:05:18.5±0.5,51°.44N×89°.25E,h0km,mb4.1/21, mb1 4.4/28,mb1mx4.3/34,mbtmp4.2/28,ML4.5/6,MS3.7/7, Ms1 3.7/7,ms1mx3.2/40,Error ellipse: s-maj=10.7km s-min=7.9km az=175.0*
MOS ***20*** *10:05:19.8±1.0,51°.45N×89°.05E,h16km,mb4.6/19,Error ellipse: s-maj=6.8km s-min=5.2km az=121.8*
BJI ***20*** *10:05:20.5,51°.48N×89°.06E,h10km,mB4.6/26,mb4.4/33, ML5.0/4,Ms4.6/26,Ms7 4.2/25*
NEIC ***20*** *10:05:24.1±1.6,51°.43N×89°.17E,h35km±11km,mb4.7/14, Error ellipse: s-maj=6.0km s-min=5.3km az=188.0*
NNC ***20*** *10:05:24.6±2.6,51°.54N×88°.31E,h0km,mb5.0,mpv5.0, Error ellipse: s-maj=19.9km s-min=12.9km az=55.0*
ISC 20 10:05:22.1±0.5,51°.54N±0°.03×88°.85E±0°.03,h13km±2km, h13km:pP-P,n273,σ1s60/314,mb4.5/75,MS3.8/14, 33C-14D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASR	**Tashtagol**	**1.36**	**334**	*e*PG	**Pb**	**10 05 48.6**	**+1.1**
TASR				*e*		10 06 10.2	
TASR	**Tashtagol**	**1.36**	**334**	*e*Pg	**Pb**	**10 05 48.6**	**+1.1**
TASR				*e*Sg	**Sg**	**10 06 10.2**	**+4.2**
AKAR	**Aktash**	**1.45**	**213**	*e*PG	**Pn**	**10 05 46.1**	**-2.0**
AKAR				*e*		10 06 04.9	
AKAR	**Aktash**	**1.45**	**213**	*e*Pg	**Pn**	**10 05 46.1**	**-2.0**
AKAR				*e*Sg	**Sn**	**10 06 04.9**	**-2.0**
UKR	**Ust'-Kan**	**2.63**	**258**	*e*PN	**Pb**	**10 06 08.3**	**-0.8**
UKR				*e*		10 06 47.9	
UKR	**Ust'-Kan**	**2.63**	**258**	*e*Pg	**Pb**	**10 06 08.3**	**-0.8**
UKR				*e*Sg	**Sg**	**10 06 47.9**	**+1.2**
ABNR	**Abakan**	**2.70**	**35**	⇑*i*PN	**Pn**	**10 06 06.2**	**+1.1**
HVS	**Khovu-Aksy**	**3.07**	**96**	*i* PN	**Pn**	**10 06 08.3**	**-2.0**
ZAA0	**Zalesovo Array**	**3.44**	**316**	*e*Pn	Pn	10 06 18.6	+3.3
ZAA0				*e*Sn	**Sn**	**10 06 58.1**	**+2.2**
ZALV	**Zalesovo Beam**	**3.44**	**316**	PN	Pn	10 06 18.7	+3.4
ZALV						10 07 01.5	
ZALV						10 07 13.1	
ZALV	**Zalesovo Beam**	**3.44**	**316**	Pn	Pn	10 06 18.7	+3.4
ZALV				Sn	**Sb**	**10 07 01.5**	**-2.9**
ZALV				Lg	Lg	10 07 13.1	
ZALV	**Zalesovo Beam**	**3.44**	**316**	Pn	Pn	10 06 18.7	+3.4
	82nm,0.3s,baz=136,slow=12,SNR=477						
ZALV				Sn	**Sb**	**10 07 01.5**	**-2.9**
	54nm,0.3s,baz=132,slow=23,SNR=5.7						
ZALV				Lg	Lg	10 07 13.1	
	136nm,0.3s,baz=138,slow=28,SNR=7.3						
KZLR	**Kyzyl**	**3.50**	**85**	*e*PN	**Pn**	**10 06 14.0**	**-2.1**
NVS	**Novosibirsk**	**4.73**	**317**	*e*PN	**Pn**	**10 06 35.4**	**+2.4**
NVS				*e*		10 06 48.5	
NVS				*e*		10 07 32.6	
NVS	**Novosibirsk**	**4.73**	**317**	*e*Pg	Pb	10 06 48.6	+3.9
NVS				*e*Sg	**Sg**	**10 07 52.7**	**-1.0**
KRAR	**Krasnoyarsk**	**5.08**	**26**	*e*PN	**Pn**	**10 06 37.7**	**-0.1**
MK31	**Makanchi Array**	**6.41**	**225**	⇑Pn	**Pn**	**10 06 57.5**	**+1.4**
	48nm,0.5s,baz=50,slow=12,SNR=845						
MK31				⇓Sn	**Sn**	**10 08 08.9**	**-0.1**
	172nm,0.8s						
MK31				⇑Lg	Lg	10 08 38.9	
	600nm,0.9s,baz=48,slow=25,SNR=8.9						
MK31	**Makanchi Array**	**6.41**	**225**	*e*PN	**Pn**	**10 06 57.5**	**+1.4**
MK31						10 08 10.6	
MK31						10 08 38.9	
MK31				pmax	pmax		
	comp=Z,31nm,0.3s						
MK31				smax	smax		
	comp=N,204nm,0.7s						
MK31	**Makanchi Array**	**6.41**	**225**	*e*Pn	**Pn**	**10 06 57.6**	**+1.4**
MKAR	**Makanchi Array**	**6.41**	**225**	PN	**Pn**	**10 06 57.5**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,17nm,0.3s						
MKAR	**Makanchi Array**	**6.41**	**225**	*e*Pn	**Pn**	**10 06 57.5**	**+1.4**
MKAR				Sn	**Sn**	**10 08 10.6**	**+1.6**
MKAR				Lg	Lg	10 08 39.5	
MKAR	**Makanchi Array**	**6.41**	**225**	Pn	**Pn**	**10 06 57.5**	**+1.4**
	comp=Z,17nm,0.3s,baz=54,slow=9.7,SNR=347						
MKAR				Sn	**Sn**	**10 08 10.6**	**+1.6**
	comp=Z,8.7nm,0.3s,baz=43,slow=24,SNR=3.1						
MKAR				Lg	Lg	10 08 39.5	
	comp=Z,13nm,0.3s,baz=47,slow=25,SNR=9.7						
KURK	**Kurchatov**	**6.49**	**267**	PN	**Pn**	**10 06 59.2**	**+1.9**
KURK						10 08 17.6	
KURK	**Kurchatov**	**6.49**	**267**	Pn	**Pn**	**10 06 59.1**	**+1.9**
KURK				Sn	Sn	10 08 17.6	+6.5
KURK				Lg	Lg	10 08 52.0	
KURBB	**Kurchatov Arra**	**6.57**	**266**	Pn	**Pn**	**10 07 00.7**	**+2.4**
	comp=Z,127nm,0.7s						
KURBB				Sn	**Sn**	**10 08 14.6**	**+1.7**
	comp=Z,578nm,0.7s						
KURBB				Lg	Lg	10 08 44.6	
	comp=Z,2μm,0.8s						
KURBB	**Kurchatov Arra**	**6.57**	**266**	Pn	**Pn**	**10 06 59.1**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=82,slow=15,SNR=131						
KURBB				Sn	**Sn**	**10 08 17.6**	**+4.7**
	comp=Z,8.0nm,0.3s,baz=80,slow=26,SNR=7.6						
KURBB				Lg	Lg	10 08 52.0	
	comp=Z,5.4nm,0.3s,baz=82,slow=33,SNR=5.4						
WMQ	**Urumqi**	**7.76**	**186**	Pn	Pn	10 07 23.5	+8.8
WMQ				Sn	**Sn**	**10 08 45.5**	**+3.1**
WMQ				smax	smax		
	comp=N,280nm,0.8s						
WMQ				smax	smax		
	comp=E,350nm,1.1s						
WMQ				LR	LR		
	comp=N,200nm,26.0s						
WMQ				LR	LR		
	comp=E,210nm,18.0s						
WMQ				LR	LR		
	comp=Z,190nm,16.0s						
VOSK	**Vostochnaya**	**11.05**	**283**	⇑Pn	**Pn**	**10 07 58.9**	**-0.8**
	comp=Z,25nm,0.8s						
VOSK				⇓Sn	**Sn**	**10 09 58.6**	**-4.5**
	comp=Z,61nm,0.8s						
VOSK				⇓Lg	Lg	10 11 07.3	
	comp=Z,217nm,1.5s						
VOSK	**Vostochnaya**	**11.05**	**283**	P	**Pn**	**10 07 59.9**	**+0.2**
VOSK						10 09 58.5	
VOSK				pmax	pmax		
	comp=Z,19nm,0.4s						
VOSK				smax	smax		
	comp=N,34nm,0.4s						
BVA0	**Borovoye Array**	**11.41**	**285**	⇓Pn	**Pn**	**10 08 04.1**	**-0.5**
	comp=N,62nm,0.9s						
BVA0				⇑Sn	**Sn**	**10 10 08.4**	**-3.3**
	comp=N,58nm,0.7s						
BVA0	**Borovoye Array**	**11.41**	**285**	P	**Pn**	**10 08 05.1**	**+0.5**
BVA0						10 10 08.8	
BVA0				pmax	pmax		
	comp=Z,80nm,1.0s						
BVA0				smax	smax		
	comp=N,60nm,0.6s						
BVAR	**Borovoye Array**	**11.41**	**285**	P	**Pn**	**10 08 05.8**	**+1.3**
BVAR						10 10 10.6	
BVAR	**Borovoye Array**	**11.41**	**285**	Pn	**Pn**	**10 08 05.8**	**+1.3**
BVAR				Sn	**Sn**	**10 10 10.6**	**-1.2**
BVAR				Lg	Lg	10 11 25.6	
BVAR	**Borovoye Array**	**11.41**	**285**	Pn	**Pn**	**10 08 05.8**	**+1.3**
	comp=N,4.5nm,0.3s,baz=84,slow=15,SNR=155						
BVAR				Sn	**Sn**	**10 10 10.6**	**-1.2**
	comp=N,7.6nm,0.3s,baz=90,slow=24,SNR=8.4						
BVAR				Lg	Lg	10 11 25.6	
	baz=66,slow=30,SNR=2.4						
BVAR				LR	LR	10 12 57.0	
	comp=N,308nm,19.7s,baz=125,slow=39						
BRVK	**Borovoye**	**11.47**	**285**	⇑Pn	**Pn**	**10 08 05.9**	**+0.5**
	comp=N,107nm,0.9s						
BRVK				⇑Sn	**Sn**	**10 10 14.1**	**+0.9**
	comp=N,92nm,0.8s						
BRVK	**Borovoye**	**11.47**	**285**	*c i*P	**Pn**	**10 08 06.1**	**+0.7**
BRVK	**Borovoye**	**11.47**	**285**	*e*Pn	**Pn**	**10 08 06.4**	**+1.0**
BRVK				*e*Sn	**Sn**	**10 10 13.6**	**+0.4**
SONM	**Songino Array**	**11.95**	**101**	Pn	Pn	10 08 08.0	-4.1
SONM				Lg	Lg	10 11 28.3	
SONM	**Songino Array**	**11.95**	**101**	Pn	Pn	10 08 08.0	-4.1
	comp=N,0.1nm,0.3s,baz=280,slow=12,SNR=12						
SONM				Lg	Lg	10 11 28.3	
	comp=N,1.2nm,0.3s,baz=289,slow=25,SNR=6.2						
SONM				LR	LR	10 12 40.2	
	comp=N,684nm,18.5s,baz=235,slow=38						
TKM2	**Tokmak 2**	**12.45**	**231**	⇑Pn	**Pn**	**10 08 19.1**	**0.0**
	comp=N,9.5nm,0.7s						
TKM2				⇓Lg	Lg	10 11 51.6	
	comp=N,231nm,1.2s						
TKM2	**Tokmak 2**	**12.45**	**231**	*e*P	**Pn**	**10 08 20.4**	**+1.3**
TKM2	**Tokmak 2**	**12.45**	**231**	*e*Pn	**Pn**	**10 08 20.4**	**+1.3**
FRU	**Bishkek**	**13.00**	**234**	*e*P	**P**	**10 08 36.0**	**-0.9**
AAK	**Ala-Archa**	**13.21**	**233**	*e*P	**Pn**	**10 08 30.5**	**+1.1**
AAK	**Ala-Archa**	**13.21**	**233**	*e*Pn	**Pn**	**10 08 30.5**	**+1.1**
AAK				Lg	Lg	10 12 15.1	
AAK	**Ala-Archa**	**13.21**	**233**	Pn	**Pn**	**10 08 30.4**	**+1.1**
	comp=N,0.7nm,0.3s,baz=69,slow=13,SNR=4.1						
AAK				Lg	Lg	10 12 15.1	
	comp=N,0.5nm,0.3s,baz=221,slow=22,SNR=4.1						
AAK				LR	LR	10 13 45.6	
	comp=N,179nm,20.6s,baz=207,slow=38						
EKS2	**Erkin-Say**	**13.55**	**235**	*e*P	**Pn**	**10 08 36.5**	**+2.5**
EKS2	**Erkin-Say**	**13.55**	**235**	*e*Pn	**Pn**	**10 08 36.5**	**+2.5**
GTA	**Gaotai**	**14.34**	**143**	*e*P	**Pn**	**10 08 45.5**	**+0.7**
GTA				pP	**P**	**10 08 48.8**	**-3.1**
GTA				sP		10 08 51.8	
GTA				S	**Sn**	**10 11 25.8**	**+2.2**
GTA				sS	S	10 11 31.4	-13
GTA				SS	**SnSn**	**10 11 43.3**	**+7.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,67nm,4.5s						
GTA				LR	LR		
	comp=N,720nm,8.8s						
GTA				LR	LR		
	comp=E,1μm,9.0s						
GTA				LR	LR		
	comp=Z,850nm,11.4s						
KK31	**Karatay Array**	**15.00**	**243**	⇑Pn	Pn	10 08 50.0	-3.6
	comp=Z,9.0nm,0.7s,baz=48,slow=11,SNR=84						
KK31				⇓Sn	**Sn**	**10 11 38.2**	**-1.3**
	comp=Z,26nm,1.1s,baz=45,slow=22,SNR=4.7						
KK31				⇓Lg	Lg	10 13 11.9	
	comp=Z,122nm,1.3s,baz=46,slow=28,SNR=3.7						
KK31	**Karatay Array**	**15.00**	**243**	*i* P	Pn	10 08 50.0	-3.6
KK31				*e*		10 11 34.2	
KK31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KK31				smax	smax		
	comp=N,13nm,0.7s						
KKAR	**Karatay Array**	**15.00**	**243**	*e*P	**Pn**	**10 08 50.8**	**-2.8**
KKAR	**Karatay Array**	**15.00**	**243**	*e*Pn	**Pn**	**10 08 50.8**	**-2.8**
KSH	**Kashi**	**15.00**	**222**	*e*P	P	10 09 06.4	+7.2
KSH				sP	sP	10 09 13.6	+8.8
KSH				S	**S**	**10 12 01.8**	**+4.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,53nm,3.8s						
KSH				LR	LR		
	comp=N,840nm,5.9s						
KSH				LR	LR		
	comp=E,520nm,6.1s						
KSH				LR	LR		
	comp=Z,650nm,6.6s						
SVE	**Sverdlovsk**	**17.27**	**299**	*e*P	**Pn**	**10 09 22.9**	**+0.3**
SVE				pmax	pmax		
	comp=Z,94nm,1.2s						
SVE				MLR	MLR		
	comp=Z,593nm,13.0s						
ARU	**Arti**	**18.38**	**297**	*d i*P	**Pn**	**10 09 36.8**	**+0.4**
ARU				S	**S**	**10 13 06.6**	**+0.8**
ARU				pmax	pmax		
	comp=Z,40nm,0.6s						
ARU				MLR	MLR		
	comp=Z,334nm,16.0s						
AB31	**Akbulak array**	**18.52**	**274**	⇑Pn	**P**	**10 09 37.5**	**-0.4**
	comp=Z,13nm,0.8s,baz=75,slow=12,SNR=147						
AB31				⇓Sn	**Sn**	**10 13 01.7**	**-3.0**
	comp=Z,6.4nm,0.8s						
AB31				⇑Lg	Lg	10 15 02.5	
	comp=Z,17nm,1.1s						
ABKAR	**Akbulak array**	**18.52**	**274**	*e*P	**P**	**10 09 37.8**	**-0.1**
LZH	**Lanzhou**	**18.80**	**139**	*e*P	**P**	**10 09 39.0**	**-2.3**
LZH				pP	**pP**	**10 09 44.8**	**-0.3**
LZH				sP	**sP**	**10 09 47.5**	**+0.7**
LZH				S	Sn	10 13 04.3	-7.6
LZH				sS	**S**	**10 13 13.3**	**-1.6**
LZH				SS	**SnSn**	**10 13 26.5**	**+0.9**
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				pmax	pmax		
	comp=Z,87nm,5.6s						
LZH				LR	LR		
	comp=N,880nm,11.2s						
LZH				LR	LR		
	comp=E,710nm,12.2s						
LZH				LR	LR		
	comp=Z,780nm,13.0s						
HHC	**Hu-ho-hao-te**	**18.93**	**115**	*e*P	**P**	**10 09 41.0**	**-1.7**
HHC				PP	**PnPn**	**10 09 57.4**	**+1.9**
HHC				S	Sn	10 13 07.4	-7.6
HHC				SS	**SnSn**	**10 13 32.5**	**+3.8**
HHC				PcP	**PcP**	**10 14 08.3**	**+0.2**
HHC				ScS	**ScS**	**10 21 22.6**	**-2.1**
HHC				pmax	pmax		
	comp=Z,72nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,4.7s						
HHC				LR	LR		
	comp=N,1μm,9.1s						
HHC				LR	LR		
	comp=E,1μm,8.1s						
HHC				LR	LR		
	comp=Z,890nm,9.0s						
AKTO	**Aktyubinsk**	**19.38**	**279**	⇓Pn	**Pn**	**10 09 48.3**	**-0.2**
	comp=Z,28nm,0.8s						
AKTO				⇑Sn	**Sn**	**10 13 22.9**	**-2.5**
	comp=Z,11nm,1.4s						
AKTO				⇓Lg	Lg	10 15 30.1	
	comp=Z,24nm,1.2s						
AKTO	**Aktyubinsk**	**19.38**	**279**	P	**Pn**	**10 09 49.0**	**+0.6**
AKTO	**Aktyubinsk**	**19.38**	**279**	P	**Pn**	**10 09 49.0**	**+0.6**
AKTO	**Aktyubinsk**	**19.38**	**279**	P	**Pn**	**10 09 49.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=74,slow=12,SNR=32						
AKTO				LR	LR	10 17 43.5	
	comp=Z,139nm,20.3s,baz=169,slow=38						
SOKR	**Solikamsk**	**19.67**	**307**	⇓*i*P	**Pn**	**10 09 53.1**	**+1.3**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HIA	**Hailar**	**19.75**	**84**	P	**P**	**10 09 48.8**	**-2.7**
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**21.88**	**175**	P	**P**	**10 10 16.1**	**+1.0**
LSA	**Lhasa**	**21.88**	**175**	*e*P	**P**	**10 10 13.6**	**-1.5**
LSA				pmax	pmax		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**21.88**	**175**	*e*P	**P**	**10 10 13.6**	**-1.5**
	comp=Z,20nm,0.9s						
BJI	**Beijing**	**22.11**	**111**	P	**P**	**10 10 17.0**	**0.0**
BJI				S	**S**	**10 14 21.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
BJI				LR	LR		
	comp=N,340nm,8.0s						
BJI				LR	LR		
	comp=E,270nm,8.4s						
BJI				LR	LR		
	comp=Z,170nm,18.1s						
KBL	**Kabul**	**22.20**	**228**	*e*P	**P**	**10 10 17.7**	**-0.5**
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
KBL	**Kabul**	**22.20**	**228**	*e*P	**P**	**10 10 17.7**	**-0.5**
	comp=Z,14nm,0.8s						
CD2	**Chengdu**	**23.37**	**146**	*e*P	**P**	**10 10 31.0**	**+0.7**
CD2				pP	**pP**	**10 10 35.3**	**+1.0**
CD2				sP	**sP**	**10 10 38.0**	**+2.0**
CD2				PP	**PnPn**	**10 11 02.1**	**+5.7**
CD2				S	**S**	**10 14 39.8**	**-3.0**
CD2				sS	**sS**	**10 14 46.1**	**-3.5**
CD2				SS	**SnSn**	**10 15 26.0**	**+8.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,80nm,4.8s						
CD2				LR	LR		
	comp=N,370nm,12.0s						
CD2				LR	LR		
	comp=E,880nm,10.8s						
CD2				LR	LR		
	comp=Z,550nm,13.2s						
YAK	**Yakutsk**	**24.28**	**49**	*e*P	**P**	**10 10 36.6**	**-2.0**
YAK				*e**PP	**pP**	**10 10 45.5**	**+2.7**
YAK				*e*PPP	PPP	10 11 15.8	
YAK				*e*		10 14 12.6	
YAK				*e*S	**S**	**10 14 54.2**	**-2.6**
YAK				*e*SS	**SnSn**	**10 15 39.5**	**+0.3**
YAK				*e*		10 21 38.1	
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				smax	smax		
	comp=N,15nm,1.5s						
YAK				smax	smax		
	comp=E,37nm,3.2s						
YAK				MLR	MLR		
	comp=E,76nm,11.0s						
SNY	**Shenyang**	**25.51**	**99**	⇓P	**P**	**10 10 51.0**	**+1.1**
SNY				pmax	pmax		
	comp=Z,11nm,0.8s						
SNY				pmax	pmax		
	comp=Z,100nm,3.7s						
SNY				LR	LR		
	comp=N,280nm,9.5s						
SNY				LR	LR		
	comp=E,310nm,12.5s						
SNY				LR	LR		
	comp=Z,300nm,17.1s						
CN2	**Changchun**	**25.61**	**93**	*e*P	**P**	**10 10 49.8**	**-1.1**
TIXI	**Tiksi**	**26.84**	**27**	⇑*e*P	**P**	**10 11 01.7**	**0.0**
TIXI				pmax	pmax		
	comp=Z,12nm,1.6s						
MDJ	**Mudanjiang**	**27.80**	**88**	P	**P**	**10 11 09.6**	**-1.0**
MDJ				pP	**pP**	**10 11 12.8**	**-1.9**
MDJ				PcP	**PcP**	**10 14 27.6**	**+1.1**
MDJ				S	**S**	**10 15 51.3**	**-1.6**
MDJ				ScP	**ScP**	**10 18 07.3**	**+0.7**
MDJ				ScS	**ScS**	**10 21 59.3**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,80nm,4.2s						
MDJ				LR	LR		
	comp=N,250nm,10.7s						
MDJ				LR	LR		
	comp=E,200nm,10.0s						
MDJ				LR	LR		
	comp=Z,250nm,10.4s						
KMI	**Kunming**	**28.44**	**153**	P	**P**	**10 11 17.6**	**+0.9**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GYA	**Guiyang**	**28.46**	**145**	P	**P**	**10 11 18.8**	**+2.0**
GYA				PP	**PnPn**	**10 12 10.3**	**+4.3**
GYA				PcP	**PcP**	**10 14 31.0**	**+2.5**
GYA				S	**S**	**10 16 03.6**	**-0.2**
GYA				SS	**SnSn**	**10 17 29.4**	**+7.1**
GYA				ScP	**ScP**	**10 18 10.8**	**+1.7**
GYA				ScS	**ScS**	**10 22 01.4**	**-1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,550nm,16.8s						
GYA				LR	LR		
	comp=E,460nm,17.0s						
GYA				LR	LR		
	comp=Z,510nm,17.4s						
VRHR	**Novokhopersk**	**29.12**	**288**	*e*P	**P**	**10 11 21.7**	**-0.6**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				MLR	MLR		
	comp=E,170nm,10.0s						
VRHR				MLR	MLR		
	comp=Z,170nm,10.0s						
VRHR				MLR	MLR		
	comp=N,30nm,5.0s						
NJ2	**Nanjing**	**29.34**	**120**	*e*P	**P**	**10 11 22.8**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Arra**	**29.50**	**87**	LR	LR	10 23 40.6	
	comp=Z,109nm,20.3s,baz=169,slow=38						
VSR	**Storozhevoye**	**30.54**	**289**	*i* P	**P**	**10 11 34.9**	**+0.1**
VORD	**Divnogorie**	**30.55**	**289**	*e*P	**P**	**10 11 35.2**	**+0.3**
VORD				pmax	pmax		
	comp=N,6.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,6.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VORD				MLR	MLR		
	comp=N,100nm,13.0s						
VORD				MLR	MLR		
	comp=E,160nm,13.0s						
VORD				MLR	MLR		
	comp=Z,160nm,13.0s						
KSAR	**Wonju Array Be**	**30.80**	**102**	P	**P**	**10 11 34.8**	**-2.5**
KSRS	**Korea Array**	**30.82**	**102**	P	**P**	**10 11 34.8**	**-2.6**
	comp=Z,2.0nm,0.8s,baz=311,slow=7.0,SNR=6.9						
KSRS				LR	LR	10 24 34.9	
	comp=Z,160nm,18.4s,baz=300,slow=38						
OBN	**Obninsk**	**30.82**	**298**	*e*P	**P**	**10 11 36.9**	**-0.4**
OBN				*i*		10 11 43.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
APA	**Apatity**	**31.00**	**322**	⇑*e*P	P	10 11 44.0	+5.2
APA				MLR	MLR		
	comp=Z,400nm,17.0s						
KBZ	**Khabaz**	**31.49**	**274**	P	**P**	**10 11 45.4**	**+2.1**
KBZ	**Khabaz**	**31.49**	**274**	P	**P**	**10 11 45.4**	**+2.1**
KBZ	**Khabaz**	**31.49**	**274**	P	**P**	**10 11 45.4**	**+2.1**
	comp=Z,1.4nm,0.6s,baz=80,slow=6.1,SNR=4.6						
KIV	**Kislovodsk**	**31.51**	**275**	*e*P	**P**	**10 11 44.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,87nm,15.0s						
JOF	**Joens

AKASG	Malin Array Be	36.53 293	P	P	10 12 27.0 +0.1
AKASG	Malin Array Be	36.53 293	P	P	10 12 27.0 +0.1
	comp=Z,2.6nm,0.6s,baz=52,slow=8.6,SNR=4.1				
KIEV	Kiev	36.54 293	eP	P	10 12 27.2 +0.2
SPITS	Spitsbergen Ar	36.59 341	P	P	10 12 28.3 +1.1
SPITS	Spitsbergen Ar	36.59 341	P	P	10 12 28.3 +1.1
	comp=Z,2.1nm,0.6s,baz=111,slow=7.9,SNR=3.4				
SPITS			LR	LR	10 29 57.0
	comp=Z,94nm,18.8s,baz=140,slow=40				
MIB	Mutribah	37.56 251	eP	P	10 12 36.7 +0.8
MIB			AMb	AMB	10 12 37.9
	comp=Z,33nm,1.1s				
RST	Umm Al-Ruwaisa	37.98 251	eP	P	10 12 39.6 +0.1
RST			AMb	AMB	10 12 41.4
	comp=Z,362nm,0.9s				
NAY	Al-Naaiem	38.03 250	eP	P	10 12 40.5 +0.6
NAY			AMb	AMB	10 12 41.6
	comp=Z,1.3nm,1.1s				
RDF	Al-Radifah	38.08 250	eP	P	10 12 41.0 +0.7
RDF			AMb	AMB	10 12 42.6
	comp=Z,42nm,1.0s				
BR131	Keskin Array S	39.47 275	eP	P	10 12 53.7 +1.6
	comp=Z,5.7nm,0.9s				
KOLS	Kolonicke sedl	41.34 294	eP	P	10 13 08.0 +0.8
KOLS			pmax	pmax	
	comp=Z,2.0nm,0.9s				
KOLS	Kolonicke sedl	41.34 294	eP	P	10 13 08.0 +0.8
KOLS			ePP	PP	10 14 44.0 +1.5
NB2	NORSAR Subarra	41.64 314	P	P	10 13 09.5 -0.1
	comp=Z,2.6nm,0.7s,baz=61,slow=7.9				
NOA	NORSAR Array B	41.64 314	P	P	10 13 10.0 +0.4
NOA	NORSAR Array B	41.64 314	P	P	10 13 10.0 +0.4
	comp=Z,2.1nm,0.8s,baz=62,slow=7.7,SNR=9.2				
STHS	Stebnicka Huta	41.68 295	ePP	PP	10 14 46.2 -0.1
CRVS	Cervenica-Dubn	41.82 294	eP	P	10 13 11.5 +0.3
CRVS			pmax	pmax	
	comp=Z,2.0nm,0.6s				
CRVS	Cervenica-Dubn	41.82 294	eP	P	10 13 11.5 +0.3
CRVS			ePP	PP	10 14 46.6 -1.1
KECS	Kecovo	42.59 294	eP	P	10 13 18.8 +1.4
KECS			pmax	pmax	
	comp=Z,3.0nm,1.0s				
KECS	Kecovo	42.59 294	eP	P	10 13 18.8 +1.4
KECS			ePP	PP	10 14 57.5 +1.5
RAYN	Ar Rayn	43.38 247	eP	P	10 13 24.7 +0.5
	comp=Z,22nm,0.8s				
VYHS	Vyhne	43.52 295	eP	P	10 13 26.6 +1.6
VYHS			pmax	pmax	
	comp=Z,4.0nm,1.2s				
VYHS	Vyhne	43.52 295	eP	P	10 13 26.6 +1.6
VYHS			ePP	PP	10 15 08.5 +2.5
DPC	Dobruska-Polom	43.96 298	eP	P	10 13 30.0 +1.4
DPC			pmax	pmax	
	comp=Z,20nm,0.8s				
DPC	Dobruska-Polom	43.96 298	eP	P	10 13 29.9 +1.4
DPC			ex	x	10 13 34.2
DPC	Dobruska-Polom	43.96 298	eP	P	10 13 30.0 +1.4
	comp=Z,20nm,0.8s				
CLL	Collm	45.27 301	i P	P	10 13 39.5 +0.6
CLL			i		10 13 43.8
CLL			pmax	pmax	
	comp=Z,8.0nm,0.8s				
CLL	Collm	45.27 301	i P	P	10 13 39.5 +0.6
	comp=Z,8.0nm,0.8s				
CLL			i		10 13 43.8
CLL			ePP	PP	10 15 27.0 +2.5
KHC	Kasperske Hory	46.12 298	eP	P	10 13 44.6 -1.1
KHC			e		10 13 51.3
KHC	Kasperske Hory	46.12 298	eP	P	10 13 44.6 -1.1
KHC			ex	x	10 13 51.3
GERES	GERESS Array B	46.21 298	P	P	10 13 46.9 +0.4
GERES	GERESS Array B	46.21 298	P	P	10 13 46.9 +0.4
	comp=Z,0.3nm,0.3s,baz=46,slow=8.4,SNR=4.0				
KBA	Koelnbreinsper	47.39 296	⇓iP	P	10 13 57.6 +1.7
	comp=Z,4.4nm,0.6s				
RETA	Reutte	48.60 298	⇑iP	P	10 14 06.4 +1.3
	comp=Z,3.6nm,0.7s				
FETA	Feichten	48.89 297	⇑iP	P	10 14 08.5 +1.1
	comp=Z,4.6nm,0.9s				
DAVA	Damuels	49.20 298	⇑iP	P	10 14 10.9 +1.1
	comp=Z,5.5nm,0.7s				
FUORN	Ofenpass-Fuorn	49.38 297	eP	P	10 14 12.3 +0.9
	comp=Z,6.8nm,0.8s				
CDF	Champ du Feu	49.96 301	eP	P	10 14 15.7 +0.2
CDF	Champ du Feu	49.96 301	eP	P	10 14 15.7 +0.2
CDF	Champ du Feu	49.96 301	eP	P	10 14 15.7 +0.2
GIVF	Givet	50.26 304	eP	P	10 14 18.6 +1.0
GIVF	Givet	50.26 304	eP	P	10 14 18.6 +1.0
GIVF	Givet	50.26 304	eP	P	10 14 18.6 +1.0
HAU	Haudompre	50.70 301	eP	P	10 14 21.4 +0.4
	comp=Z,11nm,0.7s				
HAU			eR		
	comp=Z,84nm,19.2s				
HAU	Haudompre	50.70 301	eP	P	10 14 21.4 +0.4
HAU	Haudompre	50.70 301	eP	P	10 14 21.4 +0.4
MEZF	Maizieres J'vi	51.09 302	eP	P	10 14 25.2 +1.3
	comp=Z,18nm,0.8s				
MEZF	Maizieres J'vi	51.09 302	eP	P	10 14 25.2 +1.3
CEL	Celeste	51.27 285	eP	P	10 14 26.1 +0.6
	comp=Z,13nm,0.9s				
CEL			ePcP	PcP	10 15 39.9 -0.5
LPL	La Plagne	52.01 298	⇑iP	P	10 14 32.0 +0.9
	comp=Z,6.3nm,0.5s				
LPL	La Plagne	52.01 298	⇑iP	P	10 14 32.0 +0.9
LPL	La Plagne	52.01 298	⇑iP	P	10 14 32.0 +0.9
LPG	La Plagne	52.01 298	eP	P	10 14 32.1 +0.9
LPG	La Plagne	52.01 298	eP	P	10 14 32.1 +0.9
LPG	La Plagne	52.01 298	eP	P	10 14 32.1 +0.9
BNI	Bardonecchia	52.33 297	eP	P	10 14 34.3 +1.0
BNI			pmax	pmax	
	comp=Z,5.0nm,0.6s				
BNI	Bardonecchia	52.33 297	eP	P	10 14 34.3 +1.0
	comp=Z,4.7nm,0.6s				
MBDF	Montbardon	52.48 297	⇑iP	P	10 14 34.5 0.0
	comp=Z,22nm,0.7s				
MBDF	Montbardon	52.48 297	⇑iP	P	10 14 34.5 0.0
MBDF	Montbardon	52.48 297	⇑iP	P	10 14 34.5 0.0
PGF	Pioggiola	52.59 294	eP	P	10 14 35.8 +0.5
PGF	Pioggiola	52.59 294	eP	P	10 14 35.8 +0.5
PGF	Pioggiola	52.59 294	eP	P	10 14 35.8 +0.5
SBF	Sospel	52.65 296	eP	P	10 14 36.8 +1.1
	comp=Z,26nm,0.9s				
SBF	Sospel	52.65 296	eP	P	10 14 36.8 +1.1
SBF	Sospel	52.65 296	eP	P	10 14 36.8 +1.1
ORIF	Oris-en-Rattie	52.85 298	⇑iP	P	10 14 37.7 +0.5
	comp=Z,11nm,0.7s				
ORIF			eR		
	comp=Z,143nm,18.2s				
ORIF	Oris-en-Rattie	52.85 298	⇑iP	P	10 14 37.7 +0.5
ORIF	Oris-en-Rattie	52.85 298	⇑iP	P	10 14 37.7 +0.5
SMF	Signal de Mont	52.88 301	eP	P	10 14 37.2 -0.1
	comp=Z,16nm,1.1s				
SMF	Signal de Mont	52.88 301	eP	P	10 14 37.2 -0.1
SMF	Signal de Mont	52.88 301	eP	P	10 14 37.2 -0.1
AVF	Avril sur Loir	53.05 301	eP	P	10 14 38.3 -0.2
AVF	Avril sur Loir	53.05 301	eP	P	10 14 38.3 -0.2
AVF	Avril sur Loir	53.05 301	eP	P	10 14 38.3 -0.2
IMA2	Indian Mountai	53.45 27	eP	P	10 14 40.7 -0.7
LMR	La Mourre	53.50 296	eP	P	10 14 42.4 +0.5
LMR	La Mourre	53.50 296	eP	P	10 14 42.4 +0.5
LMR	La Mourre	53.50 296	eP	P	10 14 42.4 +0.5
COLD	Coldfoot	53.53 25	eP	P	10 14 41.3 -0.5
	comp=Z,46nm,2.6s				
VIVF	Saint-Julien-l	53.55 298	eP	P	10 14 42.5 +0.2
VIVF	Saint-Julien-l	53.55 298	eP	P	10 14 42.5 +0.2
VIVF	Saint-Julien-l	53.55 298	eP	P	10 14 42.5 +0.2
SMRF	Simiane la Rot	53.62 297	⇑iP	P	10 14 43.1 +0.3
	comp=Z,8.6nm,0.8s				
SMRF	Simiane la Rot	53.62 297	⇑iP	P	10 14 43.1 +0.3
LDF	La Druitiere	53.74 305	eP	P	10 14 43.6 +0.1
	comp=Z,11nm,0.7s				
LDF	La Druitiere	53.74 305	eP	P	10 14 43.6 +0.1
LDF	La Druitiere	53.74 305	eP	P	10 14 43.6 +0.1
FLN	La Foliniere	53.82 305	eP	P	10 14 44.1 0.0
	comp=Z,16nm,0.7s				
FLN			eR		
	comp=Z,162nm,18.5s				
FLN	La Foliniere	53.82 305	eP	P	10 14 44.1 0.0
FLN	La Foliniere	53.82 305	eP	P	10 14 44.1 0.0
GRR	Gorron	54.25 305	eP	P	10 14 47.2 -0.1
	comp=Z,8.6nm,0.6s				
GRR	Gorron	54.25 305	eP	P	10 14 47.2 -0.1
GRR	Gorron	54.25 305	eP	P	10 14 47.2 -0.1
LASF	Ste Croix	54.50 298	eP	P	10 14 49.8 +0.6
LASF	Ste Croix	54.50 298	eP	P	10 14 49.8 +0.6
RJF	Les Rejaudoux	54.98 301	eP	P	10 14 53.0 +0.3
RJF			eR		
	comp=Z,68nm,17.0s				
RJF	Les Rejaudoux	54.98 301	eP	P	10 14 53.0 +0.3
RJF	Les Rejaudoux	54.98 301	eP	P	10 14 53.0 +0.3
MFF	Saint Martin d	55.03 303	⇑iP	P	10 14 53.3 +0.4
	comp=Z,7.9nm,0.6s				
MFF	Saint Martin d	55.03 303	⇑iP	P	10 14 53.3 +0.4
MFF	Saint Martin d	55.03 303	⇑iP	P	10 14 53.3 +0.4
LFF	La Frestale	55.64 301	eP	P	10 14 58.2 +0.8
LFF	La Frestale	55.64 301	eP	P	10 14 58.2 +0.8
LFF	La Frestale	55.64 301	eP	P	10 14 58.2 +0.8
QUIF	Quistinic	55.73 306	eP	P	10 14 58.2 +0.2
QUIF	Quistinic	55.73 306	eP	P	10 14 58.2 +0.2
QUIF	Quistinic	55.73 306	eP	P	10 14 58.2 +0.2
MTLF	Montolieu	55.88 298	eP	P	10 14 59.7 +0.5
MTLF	Montolieu	55.88 298	eP	P	10 14 59.7 +0.5
MTLF	Montolieu	55.88 298	eP	P	10 14 59.7 +0.5
ILAR	Eielson Array	56.29 25	P	P	10 15 00.5 -1.3
ILAR	Eielson Array	56.29 25	P	P	10 15 00.5 -1.3
	comp=Z,1.2nm,0.8s,baz=315,slow=3.8,SNR=14				
INK	Inuvik	56.40 18	eP	P	10 15 01.6 -0.8
	comp=Z,6.6nm,1.0s				
KEST	Kesra	56.86 287	P	P	10 15 06.5 +0.1
KEST	Kesra	56.86 287	P	P	10 15 06.5 +0.1
	comp=Z,1.0nm,0.8s,baz=338,slow=3.9,SNR=4.7				
EPF	Esparros	57.12 299	eP	P	10 15 07.7 -0.3
EPF	Esparros	57.12 299	eP	P	10 15 07.7 -0.3
EPF	Esparros	57.12 299	eP	P	10 15 07.7 -0.3
SJPF	Ste Jean	57.91 300	eP	P	10 15 15.1 +1.5
	comp=Z,5.8nm,0.7s				
SJPF	Ste Jean	57.91 300	eP	P	10 15 15.1 +1.5
SJPF	Ste Jean	57.91 300	eP	P	10 15 15.1 +1.5
ESDC	Sonseca Array	61.77 299	P	P	10 15 40.2 0.0
ESDC	Sonseca Array	61.77 299	P	P	10 15 40.2 0.0
	comp=Z,0.5nm,0.3s,baz=45,slow=7.3,SNR=7.6				
COCO	West Island	63.84 171	eP	P	10 15 47.0 -7.0
COCO	West Island	63.84 171	eP	P	10 15 47.0 -7.0
	comp=Z,302nm,0.4s				
YKA	Yellowknife Ar	64.81 12	P	P	10 15 58.9 -1.0
YKA	Yellowknife Ar	64.81 12	P	P	10 15 58.8 -1.0
	comp=Z,3.7nm,0.8s,baz=342,slow=7.1,SNR=12				
KMBO	Kilima Mbogo	68.12 238	P	P	10 16 21.1 -0.9
KMBO	Kilima Mbogo	68.12 238	P	P	10 16 21.1 -0.9
	comp=Z,1.3nm,0.4s,baz=27,slow=14,SNR=4.2				
TAM	Tamanrasset	68.42 280	eP	P	10 16 24.4 +0.6
TAM	Tamanrasset	68.42 280	eP	P	10 16 24.4 +0.6
FFC	Flin Flon	73.72 7	eP	P	10 16 54.3 -0.9
FFC	Flin Flon	73.72 7	eP	P	10 16 54.2 -0.9
EDM	Edmonton	73.96 14	eP	P	10 16 57.1 +0.4
EDM	Edmonton	73.96 14	eP	P	10 16 57.1 +0.4
TORD	Torodi Ar. Bea	78.07 276	P	P	10 17 19.8 -0.9
TORD	Torodi Ar. Bea	78.07 276	P	P	10 17 19.8 -0.9
	comp=Z,5.6nm,0.9s,baz=35,slow=6.4,SNR=26				
ULM	Lac du Bonnet	78.51 3	eP	P	10 17 21.1 -1.4
ULM	Lac du Bonnet	78.51 3	P	P	10 17 20.9 -1.6
	comp=Z,4.4nm,0.7s,baz=358,slow=7.4,SNR=4.0				
BSMT	Bassoo Peak	78.94 16	eP	P	10 17 24.8 -0.4
JTMT	Jette	79.12 16	eP	P	10 17 25.6 -0.6
	comp=Z,2.4nm,0.8s				
SWMT	Swartz Lake	79.40 16	eP	P	10 17 27.0 -0.7
AGMN	Agassiz Nation	80.46 3	P	P	10 17 34.7 +1.5
WRA	Warramunga Arr	81.54 137	P	P	10 17 35.2 -3.9
WRA	Warramunga Arr	81.54 137	P	P	10 17 35.2 -3.9
	comp=Z,2.9nm,0.7s,baz=342,slow=5.7,SNR=29				
IMW	Indian Meadow	83.41 14	eP	P	10 17 48.5 -0.7
RSSD	Black Hills	84.07 9	eP	P	10 17 51.9 -0.6
RSSD			pmax	pmax	
	comp=Z,9.0nm,1.4s				
RSSD	Black Hills	84.07 9	eP	P	10 17 51.9 -0.6
	comp=Z,9.0nm,1.4s				
ASAR	Alice Springs	84.67 139	P	P	10 17 51.5 -3.8
ASAR	Alice Springs	84.67 139	P	P	10 17 51.5 -3.8
	comp=Z,1.3nm,0.6s,baz=333,slow=5.1,SNR=24				
PDAR	Pinedale Array	84.72 14	P	P	10 17 53.7 -2.1
PDAR	Pinedale Array	84.72 14	P	P	10 17 53.7 -2.1
	comp=Z,0.4nm,0.6s,baz=29,slow=3.4,SNR=4.6				
ECSD	EROS Data Cent	84.99 4	eP	P	10 17 53.5 -3.3
DUG	Dugway	86.71 16	eP	P	10 18 04.9 -0.7
DUG	Dugway	86.71 16	eP	P	10 18 04.9 -0.7
NVAR	Mina Array Bea	87.31 21	P	P	10 18 07.8 -0.8
NVAR	Mina Array Bea	87.31 21	P	P	10 18 07.8 -0.8
	comp=Z,0.6nm,0.6s,baz=319,slow=3.4,SNR=6.4				
ISCO	Idaho Springs	88.17 11	eP	P	10 18 12.5 -0.3
ISCO	Idaho Springs	88.17 11	eP	P	10 18 12.5 -0.3
Q16A	Castle Valley	88.23 15	eP	P	10 18 12.2 -0.9
SMCO	Snowmass	88.61 12	eP	P	10 18 15.1 0.0
	comp=Z,4.7nm,1.2s				
PV01	Paradox Valley	89.41 14	eP	P	10 18 18.1 -0.5
	comp=Z,294nm,0.6s				
TXAR	Lajitas Array	98.73 11	P	P	10 19 00.2 -1.1
TXAR	Lajitas Array	98.73 11	P	P	10 19 00.2 -1.1
	comp=Z,0.1nm,0.5s,baz=5.7,slow=2.7,SNR=2.7				
CPUP	Villa Florida	144.11 302	PKP	PKPab	10 24 53.8 -1.0
CPUP	Villa Florida	144.11 302	PKP	PKPab	10 24 53.8 -1.0
	comp=Z,12nm,0.8s,baz=16,slow=2.8,SNR=20				
PLCA	Paso Flores	162.16 299	PKPab	PKPab	10 26 09.9 +0.4
PLCA	Paso Flores	162.16 299	PKPab	PKPab	10 26 09.9 +0.4
	comp=Z,4.5nm,0.8s,baz=46,slow=3.4,SNR=9.8				

BYKL ***20*** *10:16:32.2±0.2,53°.24N×108°.08E,h11km±5km*

MOS 20 10:16:30.9±1.0,53°.23N×108°.15E,h6km,mb4.3/1,11C-7D,
Error ellipse: s-maj=20.6km s-min=12.4km az=61.3,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	Maximikha	0.36	85	⇑iPg	Pb	10 16 39.5	-0.3
MXMB				i Sg	Sb	10 16 45.2	-0.6
MXMB				Pmax			
	200nm,0.1s						
MXMB				Smax			
	4μm,0.6s						
OGRR	Ongureny	0.53	322	⇑iPG	Pb	10 16 42.0	-0.7
OGRR				e		10 16 49.2	
OGRR				pmax	pmax		
	comp=Z,423nm,0.1s						
OGRR				smax	smax		
	comp=E,2μm,0.1s						
OGRR	Ongureny	0.53	322	⇑iPg	Pb	10 16 42.0	-0.7
	comp=E,738nm,0.4s						
OGRR				⇓iPg	Pb	10 16 42.0	-0.7
	comp=E,178nm,0.4s						
OGRR				⇑iPg	Pb	10 16 42.0	-0.7
	comp=E,866nm,0.4s						
OGRR				eSg	Sg	10 16 48.6	+0.5
OGRR				Pmax			
	comp=E,222nm,0.1s						
OGRR				Smax			
	comp=E,2μm,0.2s						
ZRHB	Zarechye	0.91	222	ePg	Pb	10 16 48.8	-0.3
ZRHB				eSg	Sb	10 17 00.9	-0.5
ZRHB				e		10 17 04.7	
ZRHB				Pmax			
	comp=E,367nm,0.4s						
ZRHB				max			
	comp=E,2μm,0.7s						
TRG	Tyrgan	1.18	247	⇑iPG	Pg	10 16 52.7	-1.0
TRG				e		10 17 09.3	
TRG				pmax	pmax		
	comp=Z,113nm,0.2s						
TRG				smax	smax		
	comp=E,2μm,0.2s						
TRG	Tyrgan	1.18	247	⇓iPg	Pg	10 16 52.8	-0.9
TRG				ePb	Pn	10 16 54.6	+0.5
TRG				eSg	Sg	10 17 08.6	-0.5
TRG				eSb	Sn	10 17 11.5	+0.9
TRG				max			
	comp=E,113nm,0.1s						
TRG				max			
	comp=E,2μm,0.2s						
SYVR	Suvo	1.19	68	ePG	Pn	10 16 54.0	-0.1
SYVR				e		10 17 11.0	
SYVR				pmax	pmax		
	comp=Z,145nm,0.3s						
SYVR				smax	smax		
	comp=E,468nm,0.3s						
SYVR	Suvo	1.19	68	⇓iPg	Pn	10 16 54.3	+0.2
SYVR				e		10 16 57.6	
SYVR				i Sg	Sn	10 17 11.0	+0.4
SYVR				eSb	Sb	10 17 13.3	+3.8
SYVR				Pmax			
	comp=E,143nm,0.4s						
SYVR				max			
	comp=E,460nm,0.3s						
UUDB	Ulan-Yde	1.40	192	⇑iPg	Pb	10 16 57.3	-0.1
UUDB				⇑iPb	Pg	10 16 58.1	+0.4
UUDB				i Sg	Sg	10 17 16.0	+0.1
UUDB				eSb	Sn	10 17 18.0	+2.2
UUDB				max			
	comp=E,111nm,0.2s						
UUDB				max			
	comp=E,903nm,0.4s						
KAB	Kabansk	1.49	218	ePg	Pn	10 16 58.5	+0.3
KAB				eSg	Sg	10 17 19.7	+0.8
KAB				eSb	Sb	10 17 21.6	+3.4
KAB				Pmax			
	comp=E,213nm,0.3s						
KAB				Smax			
	comp=E,964nm,0.4s						
YLYR	Ulyunkhan	2.42	46	ePN	Pn	10 17 12.2	+1.1
YLYR				e		10 17 14.6	
YLYR				e		10 17 47.7	
YLYR				pmax	pmax		
	comp=Z,39nm,0.4s						
YLYR				smax	smax		
	comp=N,270nm,0.4s						
YLYR	Ulyunkhan	2.42	46	⇓iPn	Pn	10 17 12.2	+1.1
YLYR				ePg	Pb	10 17 15.3	+0.3
YLYR				e		10 17 17.2	
YLYR				e		10 17 21.3	
YLYR				i Sg	Sg	10 17 48.1	-0.8
YLYR				max			
	comp=N,39nm,0.4s						
YLYR				Smax			
	comp=N,272nm,0.5s						
LSTR	Listvyanka	2.44	237	⇓iPn	Pn	10 17 11.7	+0.4
LSTR				⇑iPg	Pb	10 17 15.2	0.0
LSTR				eSn	Sn	10 17 40.7	-0.8
LSTR				i Sg	Sb	10 17 46.6	+1.1
LSTR				e		10 17 49.7	
LSTR				Pmax			
	comp=N,18nm,0.2s						
LSTR				Smax			
	comp=N,74nm,0.7s						
IRK	Irkutsk	2.56	249	ePN	Pb	10 17 15.7	-1.5
IRK				e		10 17 48.2	
IRK				pmax	pmax		
	comp=Z,179nm,0.2s						
IRK				smax	smax		
	comp=N,517nm,0.4s						
IRK	Irkutsk	2.56	249	ePg	Pb	10 17 15.8	-1.4
IRK				e		10 17 20.1	
IRK				eSg	Sb	10 17 49.2	+0.4
IRK				Pmax			
	comp=N,159nm,0.1s						
IRK				Smax			
	comp=N,892nm,0.5s						
NIZ	Nizh Angarsk	2.68	17	ePN	Pn	10 17 16.4	+1.8
NIZ				e		10 17 19.3	
NIZ	Nizh Angarsk	2.68	17	⇓iPn	Pn	10 17 16.4	+1.8
NIZ				ePg	Pb	10 17 20.0	+0.8
NIZ				e		10 17 51.2	
NIZ				eSg	Sg	10 17 54.7	-2.3
NIZ				Pmax			
	comp=N,22nm,0.2s						
NIZ				Smax			
	comp=N,223nm,0.6s						
TLY	Talaya	3.16	242	ePN	Pn	10 17 21.4	+0.2
TLY				e		10 17 28.4	
TLY				e		10 18 07.9	
TLY				pmax	pmax		
	comp=Z,13nm,0.2s						
TLY				smax	smax		
	comp=N,91nm,0.4s						
TLY	Talaya	3.16	242	⇓iPn	Pn	10 17 21.3	+0.1
TLY				ePg	Pb	10 17 27.2	-0.3
TLY				e		10 17 34.1	
TLY				i Sg	Sb	10 18 08.2	+1.9
TLY				max			
	comp=N,21nm,0.4s						
TLY				Smax			
	comp=N,97nm,0.1s						
KMO	Kumora	3.20	33	ePN	Pn	10 17 22.3	+0.5
KMO				e		10 17 28.6	
KMO				eS	Sn	10 18 00.8	+0.6
KMO				e		10 18 10.1	
KMO				pmax	pmax		
	comp=Z,42nm,0.4s						
KMO				smax	smax		
	comp=E,181nm,0.6s						
KMO	Kumora	3.20	33	⇑iPn	Pn	10 17 23.2	+1.4
KMO				e		10 17 24.4	
KMO				ePg	Pb	10 17 28.4	+0.2
KMO				ePgPg	PbPb	10 17 31.4	+0.1
KMO				e		10 18 01.8	
KMO				i Sg	Sg	10 18 11.3	-2.5
KMO				max			
	comp=E,47nm,0.4s						
KMO				Smax			
	comp=E,180nm,1.0s						
CIT	Chita	3.51	108	ePg	Pb	10 17 34.6	+1.1
CIT				e		10 17 39.0	
CIT				eSg	Sg	10 18 21.7	-2.1
CIT				eSgSg	SbSb	10 18 24.8	+3.3
CIT				Pmax			
	comp=E,183nm,0.2s						
CIT				eSgSg			
	comp=E,552nm,0.7s						
YOA	Uoyan	3.57	34	eSg	Sg	10 18 24.7	-1.0
YOA				Smax			
	comp=E,519nm,1.9s						
SVKR	Severomuysk	4.27	45	e	Pg	10 18 42.2	+49
SVKR				eSg	Sg	10 18 45.6	-2.6
SVKR				e		10 18 48.1	
SVKR				max			
	comp=E,213nm,0.5s						
KPC	Khapcheranga	4.41	141	ePn	Pn	10 17 38.1	-0.4
KPC				ePg	Pb	10 17 51.3	+2.4
KPC				e		10 17 56.9	
KPC				eSn	Sn	10 18 27.9	-2.3
KPC				eSg	Sg	10 18 49.6	-3.2
KPC				e		10 18 51.7	
KPC				Pmax			
	comp=E,20nm,0.6s						
KPC				max			
	comp=E,62nm,1.0s						
MOY	Mondy	4.65	253	ePn	Pn	10 17 44.4	+2.6
MOY				e		10 17 50.1	
MOY				Pg	Pb	10 17 55.5	+2.6
MOY				e		10 18 38.4	
MOY				eSg	Sb	10 18 53.9	+4.6
MOY				Pmax			
	comp=E,24nm,1.0s						
MOY				Smax			
	comp=E,82nm,1.2s						
ORL	Orlik	5.10	266	ePN	Pn	10 17 50.1	+2.2
ORL				e		10 18 03.4	
ORL				e		10 19 08.0	
ORL				pmax	pmax		
	comp=Z,22nm,0.6s						
ORL				smax	smax		
	comp=N,63nm,1.1s						
ORL	Orlik	5.10	266	⇑iPn	Pn	10 17 50.4	+2.5
ORL				⇑i		10 17 57.5	
ORL				eSn	Sn	10 18 47.5	+0.3
ORL				i Sg	Sb	10 19 07.9	+5.7
ORL				max			
	comp=N,24nm,1.5s						
ORL				Smax			
	comp=N,63nm,1.0s						
ULN	Ulaanbaatar	5.42	188	ePg	Pb	10 18 10.4	+4.3
ULN				e		10 19 13.2	
ULN				eSg	Sg	10 19 21.7	-3.5
BOD	Bodaibo	5.67	34	e	Pg	10 18 16.3	-3.2
BOD				eSg	Sg	10 19 29.5	-3.5
BOD				Smax			
	comp=N,40nm,1.3s						
CRS	Chara	6.88	54	ePg	Pb	10 18 35.8	+5.0
CRS				eSg	Sg	10 20 07.4	-4.3
CRS				e		10 20 10.9	
TUP	Tupik	7.09	76	e	Pn	10 18 09.4	-5.8
TUP				ePg	Pb	10 18 39.5	+5.0
TUP				e		10 19 48.9	
TUP				i Sg	Sg	10 20 12.3	-6.3

TUP Pmax
comp=N,6.0nm,1.2s
TUP Smax
comp=N,103nm,1.5s

IDC ***20*** *10:20:08.9±1.3, 37°.87N×21°.25E, h0km, mb3.9/8, mb1 3.8/8, mb1mx3.6/28, mbtmp3.9/8, Error ellipse: s-maj=36.2km s-min=23.7km az=128.0*
ISCJB ***20*** *10:20:12.7±0.5, 37°.84N±0°.02×21°.17E±0°.04, h25km±3km, mb3.7/8, Error ellipse: s-maj=5.0km s-min=3.6km az=161.5*
CSEM ***20*** *10:20:12.8±0.2, 37°.83N×21°.23E, h10km, MD3.4, Error ellipse: s-maj=5.8km s-min=3.9km az=71.0*
THE ***20*** *10:20:13.4, 37°.79N×21°.29E, h17km±1km, ML3.3/4, Error ellipse: s-maj=1.5km s-min=0.9km az=282.0*
ATH ***20*** *10:20:13.3, 37°.88N×21°.27E, h22km±1km, MD3.4/30, ML3.4*

ISC 20 10:20:12.8±0.9, 37°.82N±0°.02×21°.26E±0°.02, h24km±7km, n112, σ1§28/140, mb3.8/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.29**	**34**	P	**Pb**	**10 20 19.8**	**+0.1**
RLS				S	**Sb**	**10 20 24.7**	**+0.4**
RLS	**Riolos of Patr**	**0.29**	**34**	*e*PB	**Pb**	**10 20 19.7**	**+0.1**
RLS				*e*SB	**Sb**	**10 20 23.5**	**-0.8**
RLS	**Riolos of Patr**	**0.29**	**34**	*e*Pb	**Pb**	**10 20 19.7**	**+0.1**
RLS				*e*Sb	**Sb**	**10 20 23.5**	**-0.8**
RLS				S	**Sb**	**10 20 24.7**	**+0.4**
AXS	**Araxos**	**0.39**	**14**	P	**Pb**	**10 20 21.5**	**+0.3**
AXS				S	**Sn**	**10 20 28.7**	**-1.0**
AXS	**Araxos**	**0.39**	**14**	P	**Pb**	**10 20 21.5**	**+0.3**
AXS				S	**Sn**	**10 20 28.7**	**-1.0**
AMT	**Artemida-Makis**	**0.46**	**128**	P	**Pb**	**10 20 20.9**	**-1.3**
AMT				S	**Sb**	**10 20 28.7**	**+0.1**
AMT	**Artemida-Makis**	**0.46**	**128**	*e*PB	**Pb**	**10 20 21.8**	**-0.4**
AMT				*e*SB	**Sn**	**10 20 30.0**	**-1.3**
AMT	**Artemida-Makis**	**0.46**	**128**	P	**Pb**	**10 20 20.9**	**-1.3**
AMT	**Artemida-Makis**	**0.46**	**128**	*e*Pb	**Pb**	**10 20 21.8**	**-0.4**
AMT				S	**Sb**	**10 20 28.7**	**+0.1**
AMT				*e*Sb	**Sn**	**10 20 30.0**	**-1.3**
SFD	**Strofades**	**0.59**	**199**	P	**Pn**	**10 20 25.7**	**-0.1**
SFD				S	**Sn**	**10 20 37.5**	**+2.8**
SFD	**Strofades**	**0.59**	**199**	*e*PN	**Pn**	**10 20 25.7**	**-0.1**
SFD				*e*SN	**Sn**	**10 20 35.8**	**+1.1**
SFD	**Strofades**	**0.59**	**199**	P	**Pn**	**10 20 25.7**	**-0.1**
SFD				*e*Sn	**Sn**	**10 20 35.8**	**+1.1**
SFD				S	**Sn**	**10 20 37.5**	**+2.8**
VLS	**Valsamata**	**0.64**	**305**	P	**Pb**	**10 20 25.6**	**+0.2**
VLS				S	**Sn**	**10 20 37.0**	**+1.1**
VLS	**Valsamata**	**0.64**	**305**	*e*PN	**Pb**	**10 20 25.4**	**0.0**
VLS				*e*SN	**Sb**	**10 20 34.4**	**+0.5**
VLS	**Valsamata**	**0.64**	**305**	P	**Pb**	**10 20 25.6**	**+0.2**
VLS				*e*Sn	**Sb**	**10 20 34.4**	**+0.5**
VLS				S	**Sn**	**10 20 37.0**	**+1.1**
LAKA	**Lakka**	**0.71**	**53**	P	**Pb**	**10 20 26.3**	**-0.2**
LAKA				S	**Sn**	**10 20 37.5**	**-0.1**
LAKA	**Lakka**	**0.71**	**53**	*e*PN	**Pb**	**10 20 26.5**	**0.0**
LAKA				*e*SN	**Sb**	**10 20 36.5**	**+0.6**
LAKA	**Lakka**	**0.71**	**53**	P	**Pb**	**10 20 26.3**	**-0.2**
LAKA				*e*Sn	**Sb**	**10 20 36.5**	**+0.6**
LAKA				S	**Sn**	**10 20 37.5**	**-0.1**
KLV	**Kalavryta, Ach**	**0.74**	**72**	P	**Pb**	**10 20 26.6**	**-0.5**
KLV				S	**Sn**	**10 20 38.5**	**+0.1**
KLV	**Kalavryta, Ach**	**0.74**	**72**	*e*PB	**Pb**	**10 20 26.7**	**-0.4**
KLV				*e*SN	**Sn**	**10 20 38.5**	**+0.1**
KLV	**Kalavryta, Ach**	**0.74**	**72**	*e*Pb	**Pb**	**10 20 26.7**	**-0.4**
KLV				S	**Sn**	**10 20 38.5**	**+0.1**
EFP	**Efpalio**	**0.80**	**40**	P	**Pb**	**10 20 27.6**	**-0.4**
EFP	**Efpalio**	**0.80**	**40**	*e*PN	**Pb**	**10 20 28.1**	**+0.1**
EFP	**Efpalio**	**0.80**	**40**	P	**Pb**	**10 20 27.6**	**-0.4**
EFP	**Efpalio**	**0.80**	**40**	*e*Pn	**Pb**	**10 20 28.1**	**+0.1**
ITM	**Ithomi**	**0.83**	**140**	P	**Pb**	**10 20 27.8**	**-0.7**
ITM				S	**Sn**	**10 20 40.4**	**-0.1**
ITM	**Ithomi**	**0.83**	**140**	*e*PN	**Pn**	**10 20 28.5**	**-0.5**
ITM	**Ithomi**	**0.83**	**140**	P	**Pb**	**10 20 27.8**	**-0.7**
ITM	**Ithomi**	**0.83**	**140**	*e*Pn	**Pn**	**10 20 28.5**	**-0.5**
ITM				S	**Sn**	**10 20 40.4**	**-0.1**
TRIZ	**Trizonia**	**0.84**	**49**	P	**Pb**	**10 20 28.6**	**-0.2**
TRIZ				S	**Sn**	**10 20 41.8**	**+0.9**
TRIZ	**Trizonia**	**0.84**	**49**	*e*PN	**Pb**	**10 20 28.6**	**-0.2**
TRIZ	**Trizonia**	**0.84**	**49**	P	**Pb**	**10 20 28.6**	**-0.2**
TRIZ				S	**Sn**	**10 20 41.8**	**+0.9**
GUR	**Goura**	**0.86**	**82**	P	**Pb**	**10 20 28.6**	**-0.6**
GUR	**Goura**	**0.86**	**82**	*e*PN	**Pb**	**10 20 28.8**	**-0.4**
GUR	**Goura**	**0.86**	**82**	*e*Pb	**Pb**	**10 20 28.8**	**-0.4**
VLX	**Vlachokerasia**	**0.99**	**116**	*e*PN	**Pn**	**10 20 32.6**	**+1.2**
VLX	**Vlachokerasia**	**0.99**	**116**	*e*Pn	**Pn**	**10 20 32.6**	**+1.2**
PYL	**PYLOS**	**0.99**	**157**	P	**Pb**	**10 20 30.3**	**-1.1**
PYL				S	**Sn**	**10 20 48.1**	**+3.5**
PYL	**PYLOS**	**0.99**	**157**	*e*PN	**Pn**	**10 20 33.0**	**+1.7**
PYL	**PYLOS**	**0.99**	**157**	P	**Pb**	**10 20 30.3**	**-1.1**
PYL	**PYLOS**	**0.99**	**157**	*e*Pn	**Pn**	**10 20 33.0**	**+1.7**
PYL				S	**Sn**	**10 20 48.1**	**+3.5**
LKD2	**Lefkada island**	**1.08**	**334**	*e*PN	**Pb**	**10 20 33.3**	**+0.4**
LKD2	**Lefkada island**	**1.08**	**334**	*e*Pn	**Pb**	**10 20 33.3**	**+0.4**
DSF	**Desfina**	**1.16**	**59**	P	**Pn**	**10 20 34.1**	**+0.4**
DSF	**Desfina**	**1.16**	**59**	P	**Pn**	**10 20 34.1**	**+0.4**
EVR	**Evrytania**	**1.18**	**21**	P	**Pb**	**10 20 34.6**	**0.0**
EVR	**Evrytania**	**1.18**	**21**	*e*PN	**Pb**	**10 20 35.0**	**+0.4**
EVR	**Evrytania**	**1.18**	**21**	P	**Pb**	**10 20 34.6**	**0.0**
EVR	**Evrytania**	**1.18**	**21**	*e*Pn	**Pb**	**10 20 35.0**	**+0.4**
DYR	**Agios Nikonas**	**1.36**	**140**	*e*PB	**Pb**	**10 20 38.4**	**+0.9**
DYR	**Agios Nikonas**	**1.36**	**140**	*e*Pb	**Pb**	**10 20 38.4**	**+0.9**
LTK	**Loutraki**	**1.37**	**81**	*e*PN	**Pb**	**10 20 40.5**	**+2.8**
AGG	**Agios Georgios**	**1.47**	**35**	*e*PN	**Pb**	**10 20 40.1**	**+0.6**
AGG	**Agios Georgios**	**1.47**	**35**	*e*Pn	**Pb**	**10 20 40.1**	**+0.6**
DID	**Didima**	**1.60**	**101**	*e*PN	**Pb**	**10 20 42.1**	**+0.4**
DID	**Didima**	**1.60**	**101**	*e*Pn	**Pb**	**10 20 42.1**	**+0.4**
LKR	**Lokris**	**1.60**	**58**	*e*PN	**Pb**	**10 20 42.3**	**+0.6**
LKR	**Lokris**	**1.60**	**58**	*e*Pn	**Pb**	**10 20 42.3**	**+0.6**
VLI	**Veliai**	**1.73**	**129**	*e*PN	**Pb**	**10 20 44.8**	**+0.9**
VLI	**Veliai**	**1.73**	**129**	*e*Pn	**Pb**	**10 20 44.8**	**+0.9**
NAIG	**Nisos Aigina**	**1.77**	**91**	*e*PN	**Pb**	**10 20 44.3**	**-0.2**
NAIG	**Nisos Aigina**	**1.77**	**91**	*e*Pn	**Pb**	**10 20 44.3**	**-0.2**
THL	**Klokotos Trika**	**1.84**	**18**	*e*PN	**Pb**	**10 20 46.7**	**+0.9**
JAN	**Janina**	**1.87**	**350**	*e*PN	**Pb**	**10 20 46.1**	**-0.1**
JAN	**Janina**	**1.87**	**350**	*e*Pn	**Pb**	**10 20 46.1**	**-0.1**
ATH	**Athens Observa**	**1.95**	**85**	*e*PN	**Pb**	**10 20 47.3**	**-0.3**
ATH	**Athens Observa**	**1.95**	**85**	*e*Pn	**Pb**	**10 20 47.3**	**-0.3**
PTL	**Penteli**	**2.07**	**83**	*e*PB	**Pb**	**10 20 49.1**	**-0.7**
PTL	**Penteli**	**2.07**	**83**	*e*Pb	**Pb**	**10 20 49.1**	**-0.7**
KYTH	**Kithira**	**2.09**	**137**	*e*PN	**Pb**	**10 20 50.4**	**+0.4**
KYTH	**Kithira**	**2.09**	**137**	*e*Pn	**Pb**	**10 20 50.4**	**+0.4**
NEO	**Neokhori**	**2.14**	**45**	*e*PN	**Pb**	**10 20 49.7**	**-1.2**
NEO	**Neokhori**	**2.14**	**45**	*e*Pn	**Pb**	**10 20 49.7**	**-1.2**
KEK	**Kerkira**	**2.21**	**329**	*e*PB	**Pn**	**10 20 50.1**	**+2.0**
KEK	**Kerkira**	**2.21**	**329**	*e*Pb	**Pn**	**10 20 50.1**	**+2.0**
AOS	**Alonnisos**	**2.46**	**56**	*e*PN	**Pn**	**10 20 53.8**	**+2.3**
AOS	**Alonnisos**	**2.46**	**56**	*e*Pn	**Pn**	**10 20 53.8**	**+2.3**
ANKY	**Antikythira Is**	**2.54**	**139**	*e*PN	**Pb**	**10 20 56.4**	**-1.3**
ANKY	**Antikythira Is**	**2.54**	**139**	*e*Pn	**Pb**	**10 20 56.4**	**-1.3**
PAIG	**Paliouri**	**2.83**	**41**	*e*PN	**Pn**	**10 20 58.7**	**+2.2**
PAIG	**Paliouri**	**2.83**	**41**	*e*Pn	**Pn**	**10 20 58.7**	**+2.2**
FNA	**Florina**	**2.97**	**2**	*e*PB	Pn	10 21 01.7	+3.2
FNA	**Florina**	**2.97**	**2**	*e*Pb	Pn	10 21 01.7	+3.2
PLG	**Polygyros**	**3.07**	**33**	*e*PN	**Pn**	**10 21 02.2**	**+2.3**
PLG	**Polygyros**	**3.07**	**33**	*e*Pn	**Pn**	**10 21 02.2**	**+2.3**
GRG	**Griva**	**3.26**	**15**	*e*PN	**Pn**	**10 21 05.1**	**+2.6**
GRG	**Griva**	**3.26**	**15**	*e*Pn	**Pn**	**10 21 05.1**	**+2.6**
SOH	**Sokhos**	**3.41**	**28**	*e*PN	Pn	10 21 08.0	+3.4
SOH	**Sokhos**	**3.41**	**28**	*e*Pn	Pn	10 21 08.0	+3.4
APE	**Apeiranthos**	**3.48**	**101**	*e*PN	**Pn**	**10 21 07.8**	**+2.3**
APE	**Apeiranthos**	**3.48**	**101**	*e*Pn	**Pn**	**10 21 07.8**	**+2.3**
CHOS	**Chios island**	**3.83**	**80**	*e*PN	**Pn**	**10 21 13.2**	**+2.9**
CHOS	**Chios island**	**3.83**	**80**	*e*Pn	**Pn**	**10 21 13.2**	**+2.9**
NVR	**Nevrokopi**	**4.06**	**29**	*e*PN	**Pn**	**10 21 15.6**	**+2.1**
NVR	**Nevrokopi**	**4.06**	**29**	*e*Pn	**Pn**	**10 21 15.6**	**+2.1**
PRK	**Paraskevi**	**4.18**	**68**	*e*PN	**Pn**	**10 21 17.0**	**+1.9**
PRK	**Paraskevi**	**4.18**	**68**	*e*Pn	**Pn**	**10 21 17.0**	**+1.9**
SMG	**Samos**	**4.42**	**90**	*e*PN	**Pn**	**10 21 20.9**	**+2.5**
SMG	**Samos**	**4.42**	**90**	*e*Pn	**Pn**	**10 21 20.9**	**+2.5**
BARS	**Barje**	**5.01**	**5**	*e*Pn	**Pn**	**10 21 27.9**	**+1.3**
STON	**Ston**	**5.74**	**333**	*e*PN	**Pn**	**10 21 36.1**	**-0.3**
STON				Sn	**Sn**	**10 22 38.3**	**-3.1**
STON	**Ston**	**5.74**	**333**	*e*Pn	**Pn**	**10 21 36.1**	**-0.3**
GRUS	**Gruza**	**6.08**	**356**	*e*Pn	**Pn**	**10 21 41.3**	**+0.1**
DIVS	**Divibare**	**6.35**	**352**	*e*Pn	**Pn**	**10 21 45.4**	**+0.4**
HFS	**Hagfors**	**22.85**	**350**	P	**P**	**10 25 12.9**	**-1.2**
	1.3nm,0.6s,baz=143,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**23.84**	**6**	P	**P**	**10 25 22.9**	**-1.0**
	1.7nm,0.6s,baz=177,slow=8.8,SNR=8.9						
AKTO	**Aktyubinsk**	**28.94**	**52**	P	**P**	**10 26 09.9**	**-0.1**
	0.8nm,0.3s,baz=270,slow=6.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.12**	**221**	P	**P**	**10 26 20.8**	**0.0**
	0.7nm,0.7s,baz=34,slow=9.2,SNR=6.7						
ARCES	**ARCESS Array B**	**31.86**	**3**	P	**P**	**10 26 34.6**	**-1.0**
	0.9nm,0.7s,baz=191,slow=11,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.98**	**53**	P	**P**	**10 28 01.0**	**-0.7**
	0.4nm,0.3s,baz=286,slow=8.5,SNR=3.8						
MKAR	**Makanchi Array**	**44.99**	**58**	P	**P**	**10 28 25.4**	**-0.8**
	0.6nm,0.5s,baz=269,slow=8.4,SNR=11						
ZALV	**Zalesovo Beam**	**45.50**	**48**	P	**P**	**10 28 29.1**	**-0.9**
	1.8nm,0.4s,baz=279,slow=7.9,SNR=7.9						

ISCJB ***20*** *10:42:54.7±0.5, 43°.69N±0°.06×85°.81E±0°.05, h10km, mb3.7/7, MS3.0/1, Error ellipse: s-maj=9.4km s-min=4.2km az=25.8*
IDC ***20*** *10:42:55.2±0.8, 43°.85N×86°.33E, h0km, mb3.8/8, mb1 4.0/12, mb1mx3.8/30, mbtmp3.8/12, ML3.8/4, MS3.0/2, Ms1 2.9/2, ms1mx2.4/38, Error ellipse: s-maj=25.7km s-min=11.3km az=49.0*
NNC ***20*** *10:42:59.1±1.4, 43°.70N×85°.44E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=15.8km s-min=7.4km az=82.0*
BJI ***20*** *10:43:00.0, 43°.68N×85°.98E, h11km, ML3.7/9*

ISC 20 10:42:57.6±0.8, 43°.73N±0°.09×85°.84E±0°.06, h10km, n26, σ2§09/30, mb3.8/7, 11C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.35**	**85**	Pg	**Pn**	**10 43 22.8**	**+0.2**
WMQ				Sg	**Sb**	**10 43 40.0**	**-0.4**
WMQ				smax	smax		
	comp=N,900nm,0.6s						
WMQ				smax	smax		
	comp=E,130nm,0.4s						
MK31	**Makanchi Array**	**3.96**	**322**	Pn	**Pn**	**10 44 00.4**	**+2.0**
	comp=E,1.7nm,0.3s,baz=137,slow=14,SNR=162						
MK31				⇓Pg	**Pb**	**10 44 08.3**	**+0.9**
	comp=E,5.2nm,0.4s,baz=135,slow=15,SNR=17						
MK31				⇑Sn	**Sn**	**10 44 45.8**	**+0.9**
	comp=E,25nm,0.5s						
MK31				⇑Lg	Lg	10 45 00.8	
	comp=E,75nm,0.4s,baz=138,slow=27,SNR=4.9						
MKAR	**Makanchi Array**	**3.96**	**322**	Pn	**Pn**	**10 44 01.2**	**+2.8**
	comp=E,2.1nm,0.3s,baz=136,slow=14,SNR=73						
MKAR				Pg	**Pb**	**10 44 09.1**	**+1.6**
	comp=E,3.9nm,0.3s,baz=138,slow=14,SNR=23						
MKAR				Lg	Lg	10 45 04.1	
	comp=E,51nm,0.3s,baz=146,slow=31,SNR=18						
TKM2	**Tokmak 2**	**7.51**	**267**	⇓Pn	**Pn**	**10 44 46.3**	**-1.1**
	comp=E,2.5nm,0.7s						
TKM2				⇓Lg	Lg	10 46 49.7	
	comp=E,15nm,0.8s						
AAK	**Ala-Archa**	**8.36**	**266**	Pn	Pn	10 45 05.3	+6.3
	comp=E,0.6nm,0.3s,baz=66,slow=17,SNR=2.9						
AAK				Lg	Lg	10 47 33.3	
	comp=E,0.9nm,0.3s,baz=354,slow=19,SNR=3.1						
KURBB	**Kurchatov Arra**	**8.50**	**327**	⇑Pn	**Pn**	**10 45 01.8**	**+1.1**
KURBB				⇑Sn	**Sn**	**10 46 37.7**	**+1.1**
KURBB				⇑Lg	Lg	10 47 22.9	
KURBB	**Kurchatov Arra**	**8.50**	**327**	Pn	**Pn**	**10 45 01.4**	**+0.6**
	comp=E,0.6nm,0.3s,baz=131,slow=13,SNR=32						
KURBB				Lg	Lg	10 47 27.2	
	comp=E,0.7nm,0.3s,baz=138,slow=32,SNR=14						
ZALV	**Zalesovo Beam**	**10.25**	**357**	Pn	**Pn**	**10 45 23.6**	**-1.0**
	comp=E,2.6nm,0.3s,baz=182,slow=13,SNR=38						
ZALV				Sn	**Sn**	**10 47 15.7**	**-3.8**
	comp=E,2.8nm,0.3s,baz=173,slow=26,SNR=7.2						
ZALV				Lg	Lg	10 48 24.1	
	baz=180,slow=23,SNR=3.2						
KK31	**Karatay Array**	**11.17**	**272**	⇑Pn	Pn	10 45 36.0	-1.4
	comp=E,0.4nm,0.5s						
KK31				⇑Lg	Lg	10 48 46.6	
	comp=E,2.3nm,0.5s,baz=72,slow=27,SNR=4.3						
GTA	**Gaotai**	**11.32**	**108**	*e*P	**Pn**	**10 45 38.1**	**-1.4**
GTA				pP		10 45 42.3	
GTA				sP		10 45 44.3	
GTA				S	**Sn**	**10 47 50.3**	**+4.1**
GTA				sS		10 47 55.9	
GTA				SS	**SnSn**	**10 48 05.0**	**+7.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,74nm,4.0s						
GTA				LR	LR		
	comp=N,73nm,7.8s						
GTA				LR	LR		
	comp=E,70nm,8.1s						
GTA				LR	LR		
	comp=Z,69nm,8.8s						
VOSK	**Vostochnaya**	**13.36**	**318**	⇓Pn	**Pn**	**10 46 06.5**	**-0.7**
	comp=Z,2.2nm,0.8s						
VOSK				⇑Sn	**Sn**	**10 48 35.1**	**-0.6**
	comp=Z,2.0nm,1.1s						
VOSK				⇓Lg	Lg	10 49 57.9	
	comp=Z,13nm,1.1s						
BVA0	**Borovoye Array**	**13.83**	**318**	⇓Pn	**Pn**	**10 46 13.2**	**-0.4**
	comp=Z,3.0nm,1.1s,baz=225,slow=43,SNR=5.4						
BVA0				⇑Sn	**Sn**	**10 48 47.5**	**+0.5**
	comp=Z,2.3nm,0.7s						
BVA0				⇑Lg	Lg	10 50 14.0	
	comp=Z,7.3nm,0.8s,baz=145,slow=33,SNR=3.8						
BVAR	**Borovoye Array**	**13.83**	**318**	LR	LR	10 51 58.2	
	comp=Z,47nm,21.3s,baz=293,slow=39						
BRVK	**Borovoye**	**13.90**	**318**	⇑Pn	**Pn**	**10 46 14.3**	**-0.2**
	comp=Z,2.8nm,0.6s						
BRVK				⇓Lg	Lg	10 50 16.1	
	comp=Z,23nm,1.3s						
AB31	**Akbulak array**	**18.62**	**296**	Pn	**P**	**10 47 15.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=98,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**20.02**	**299**	⇓Pn	**P**	**10 47 31.1**	**+0.6**
	comp=Z,0.5nm,0.4s						
AKTO	**Aktyubinsk**	**20.02**	**299**	P	Pn	10 47 33.3	+1.1
	comp=Z,0.8nm,0.3s,baz=114,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**27.51**	**152**	P	**P**	**10 48 43.1**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=328,slow=10.0,SNR=6.8						
KBZ	**Khabaz**	**30.77**	**285**	LR	LR	11 03 40.0	
	comp=Z,36nm,20.8s,baz=213,slow=40						
FINES	**FINESS Array B**	**38.78**	**318**	P	**P**	**10 50 21.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=77,slow=8.2,SNR=5.3						
ARCES	**ARCESS Array B**	**39.55**	**331**	P	**P**	**10 50 28.4**	**0.0**
	comp=Z,2.5nm,0.9s,baz=81,slow=7.4,SNR=3.0						
NB2	**NORSAR Subarra**	**45.95**	**319**	P	**P**	**10 51 20.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**45.95**	**319**	P	**P**	**10 51 20.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=76,slow=7.9,SNR=5.2						
ILAR	**Eielson Array**	**64.27**	**22**	P	**P**	**10 53 31.1**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=329,slow=6.3,SNR=3.8						
WRA	**Warramunga Arr**	**77.39**	**134**	P		10 54 50.7	-2.1
	comp=Z,0.9nm,0.6s,baz=327,slow=4.3,SNR=13						
ASAR	**Alice Springs**	**80.26**	**136**	P	**P**	**10 55 06.5**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=336,slow=6.2,SNR=6.7						

MEX 20 10:44:33.8±0.4, 18°.14N×103°.40W, h9km±5km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.16**	**20**	*i* P	Pg	10 44 36.8	-0.5
MMIG				*e*S	Sg	10 44 39.2	-0.4
R15V		**1.16**	**332**	*i* P	Pb	10 44 51.8	-4.5
R15V				*i* S	Sg	10 45 07.2	-4.3
EZ5V		**1.35**	**352**	*i* P	Pn	10 44 55.4	-3.8
EZ5V				*e*S	Sb	10 45 12.0	-5.2

ISCJB ***20*** *11:02:49.8±0.4, 31°.70N±0°.03×49°.99E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=3.7km az=39.6*
CSEM ***20*** *11:02:49.7±0.1, 31°.67N×49°.95E, h2km, ML3.5, Error ellipse: s-maj=2.9km s-min=2.1km az=128.0*
TEH ***20*** *11:02:50.3, 31°.66N×49°.94E, h2km, ML3.5*

ISC 20 11:02:49.9±1.2, 31°.67N±0°.04×49°.95E±0°.04, h10km, n60, σ0§97/68, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.29**	**38**	*e*Pg	**Pn**	**11 03 13.8**	**-0.4**
IPIR				*e*Sg	**Sb**	**11 03 31.3**	**+0.2**
IPIR				*e*		11 03 38.1	
	comp=Z,9μm,0.2s						
IPIR	**Pirpir**	**1.29**	**38**	*e*Pg	**Pn**	**11 03 13.8**	**-0.4**
IPIR				*e*Sg	**Sb**	**11 03 31.3**	**+0.2**
IGAR	**Gharneh**	**1.92**	**67**	*e*Pn	**Pb**	**11 03 24.2**	**-1.0**
IGAR				*e*Sg	**Sb**	**11 03 50.3**	**+1.0**
IGAR				*e*		11 03 56.1	
	comp=Z,3μm,0.2s						
KHMZ	**Khomeyn**	**2.06**	**0**	*e*Pn	**Pb**	**11 03 26.3**	**-1.2**
IKLH	**Kolahrood**	**2.14**	**40**	*e*Pn	**Pb**	**11 03 27.5**	**-1.5**
IKLH				*e*Sg	**Sb**	**11 03 57.1**	**+1.4**
IKLH				*e*		11 04 02.5	
	comp=N,8μm,0.4s						
IKLH	**Kolahrood**	**2.14**	**40**	*e*Pn	**Pb**	**11 03 27.5**	**-1.5**
IKLH				*e*Sg	**Sb**	**11 03 57.1**	**+1.4**
IZEF	**Zefreh**	**2.36**	**58**	*e*Pn	**Pn**	**11 03 30.2**	**+1.3**
IZEF				*e*		11 03 39.0	
	comp=Z,1μm,0.2s						
IZEF				*e*Sg	**Sg**	**11 04 04.4**	**-1.3**
IZEF	**Zefreh**	**2.36**	**58**	*e*Pn	**Pn**	**11 03 30.2**	**+1.3**
IZEF				*e*Sg	**Sg**	**11 04 04.4**	**-1.3**
NASN	**Na'in**	**2.67**	**64**	*e*Pn	**Pn**	**11 03 34.6**	**+1.3**
UMR	**Umm Al-Rimmam**	**2.86**	**223**	*e*P	**Pn**	**11 03 36.1**	**+0.6**
UMR	**Umm Al-Rimmam**	**2.86**	**223**	*e*P	**Pn**	**11 03 36.1**	**+0.6**
ASAO	**Ashtian**	**2.87**	**1**	*e*Pn	**Pn**	**11 03 37.4**	**+1.5**
GHVR	**GHOM**	**3.02**	**22**	*e*Pn	**Pn**	**11 03 39.5**	**+1.7**
GHVR				*e*Sg	**Sg**	**11 04 27.5**	**+0.6**
KBD	**Kabd**	**3.16**	**219**	*e*P	**Pn**	**11 03 40.6**	**+0.9**
KBD				AML	AML	11 04 21.3	
	comp=Z,40nm,0.2s						
KBD	**Kabd**	**3.16**	**219**	*e*P	**Pn**	**11 03 40.6**	**+0.9**
ISAD	**Sadrabad**	**3.19**	**85**	*e*Pn	**Pn**	**11 03 41.6**	**+1.2**
ISAD				*e*		11 03 43.1	
	comp=Z,908nm,0.1s						
ISAD	**Sadrabad**	**3.19**	**85**	*e*Pn	**Pn**	**11 03 41.6**	**+1.2**
IKOM	**Komasi**	**3.23**	**321**	*e*Pn	**Pn**	**11 03 41.8**	**+1.0**
IKOM				*e*		11 05 20.7	
	comp=N,4μm,0.1s						
IKOM	**Komasi**	**3.23**	**321**	*e*Pn	**Pn**	**11 03 41.8**	**+1.0**
IPAR	**Pars**	**3.23**	**124**	*e*Pn	**Pn**	**11 03 41.6**	**+0.6**
IPAR				*e*		11 04 25.5	
	comp=Z,518nm,0.3s						
IPAR	**Pars**	**3.23**	**124**	*e*Pn	**Pn**	**11 03 41.6**	**+0.6**
ISFB	**Sefidab**	**3.29**	**35**	*e*Pn	**Pn**	**11 03 42.6**	**+1.0**
ISFB				*e*		11 04 40.2	
	comp=Z,513nm,0.3s						
ISFB	**Sefidab**	**3.29**	**35**	*e*Pn	**Pn**	**11 03 42.6**	**+1.0**
RST	**Umm Al-Ruwaisa**	**3.34**	**230**	*e*P	**Pn**	**11 03 42.7**	**+0.5**
RST	**Umm Al-Ruwaisa**	**3.34**	**230**	*e*P	**Pn**	**11 03 42.7**	**+0.5**
NAY	**Al-Naaiem**	**3.36**	**225**	*e*P	**Pn**	**11 03 43.3**	**+0.8**
NAY				AML	AML	11 04 32.0	
	comp=Z,1.5nm,0.3s						
NAY	**Al-Naaiem**	**3.36**	**225**	*e*P	**Pn**	**11 03 43.3**	**+0.8**
RDF	**Al-Radifah**	**3.43**	**218**	*e*P	**Pn**	**11 03 44.4**	**+1.0**
RDF				AML	AML	11 04 26.8	
	comp=Z,61nm,0.3s						
RDF	**Al-Radifah**	**3.43**	**218**	*e*P	**Pn**	**11 03 44.4**	**+1.0**
ISRV	**Sarvestan**	**3.56**	**129**	*e*Pn	**Pn**	**11 03 46.1**	**+0.6**

113nm,0.7s
PMG S **Sn** **11 41 59.1 +0.1**
PMG Port Moresby 6.15 235 P Pn 11 40 51.1 +1.2
19nm,0.3s,baz=58,slow=7.0,SNR=31
PMG S **Sn** **11 41 59.1 +0.1**
1.7nm,0.3s,baz=342,slow=19,SNR=1.7
COEN Coen 12.02 227 Pn Pn 11 42 09.8 -0.6
CTAO Charters Tower 15.28 202 *e*Pn **Pn 11 42 54.2 -0.3**
WRAB Tennant Creek 22.32 230 *e*P **P 11 44 14.6 -1.4**
3.6nm,0.7s
WRA Warramunga Arr 22.34 230 P P 11 44 16.3 +0.1
WRA Warramunga Arr 22.34 230 P P 11 44 16.3 +0.1
2.3nm,0.7s,baz=53,slow=10,SNR=26
AS31 Alice Springs 24.99 223 *e*P **P 11 44 42.8 +0.9**
ASAR Alice Springs 25.00 223 P P 11 44 40.2 -1.7
ASAR Alice Springs 25.00 223 P P 11 44 40.2 -1.7
2.7nm,0.8s,baz=61,slow=9.0,SNR=21
FITZ Fitzroy Crossi 28.69 243 *e*P **P 11 45 14.2 -0.9**
7.2nm,0.9s
FITZ Fitzroy Crossi 28.69 243 P P 11 45 14.7 -0.4
6.4nm,0.5s,baz=59,slow=8.1,SNR=50
RAO Raoul Island 36.50 133 LR LR 11 58 16.5
comp=Z,63nm,19.5s,baz=66,slow=31
CMAR Chiang Mai Arr 57.87 296 P P 11 49 10.4 +0.5
CMAR Chiang Mai Arr 57.87 296 P P 11 49 10.4 +0.5
0.7nm,0.3s,baz=108,slow=5.5,SNR=4.4
FX1 Attu Island--F 61.17 14 P P 11 49 32.5 +0.4
FX1 Attu Island--F 61.17 14 P P 11 49 32.5 +0.4
7.5nm,0.6s,baz=149,slow=5.9,SNR=5.6
SONM Songino Array 66.97 328 P P 11 50 10.8 +0.4
SONM Songino Array 66.97 328 P P 11 50 10.8 +0.4
0.6nm,0.5s,baz=130,slow=5.2,SNR=6.0
MKAR Makanchi Array 80.80 319 P P 11 51 31.5 +0.2
MKAR Makanchi Array 80.80 319 P P 11 51 31.5 +0.2
1.2nm,0.8s,baz=98,slow=10,SNR=6.4
ZALV Zalesovo Beam 81.76 327 P P 11 51 35.0 -1.2
ZALV Zalesovo Beam 81.76 327 P P 11 51 35.0 -1.2
0.8nm,0.3s,baz=107,slow=5.1,SNR=6.1
MCK McKinley 82.07 23 *e*P **P 11 51 37.1 -0.5**
4.6nm,0.6s
COLA College 83.05 22 *e*P **P 11 51 41.8 -0.9**
11nm,0.6s
ILAR Eielson Array 83.36 22 P P 11 51 43.2 -1.1
ILAR Eielson Array 83.36 22 P P 11 51 43.2 -1.1
2.7nm,0.7s,baz=249,slow=5.2,SNR=33
MAW Mawson 84.37 203 P P 11 51 49.8 +0.4
MAW Mawson 84.37 203 P P 11 51 49.8 +0.4
0.8nm,0.7s,baz=81,slow=6.1,SNR=4.6
INK Inuvik 89.66 21 P P 11 52 14.4 -0.6
INK Inuvik 89.66 21 P P 11 52 14.4 -0.6
1.1nm,0.7s,baz=280,slow=2.0,SNR=5.6
NVAR Mina Array Bea 93.17 52 P P 11 52 33.4 +1.1
NVAR Mina Array Bea 93.17 52 P P 11 52 33.4 +1.1
0.7nm,0.6s,baz=266,slow=6.2,SNR=4.5
TORD Torodi Ar. Bea 150.12 286 PKPbc **PKPbc 11 59 08.9 -0.4**
TORD Torodi Ar. Bea 150.12 286 PKPbc **PKPbc 11 59 08.9 -0.4**
5.4nm,0.8s,baz=76,slow=2.3,SNR=28

MEX 20 11:42:53.8±1.0, 17°.65N×94°.99W, h138km±10km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56**	**170**	*i* P	Pn	11 43 12.9	-1.3
CMIG				*i* S	Sn	11 43 27.5	-2.1
TGIG		**1.98**	**116**	*i* P	Pn	11 43 27.1	-1.0
TGIG				*e*S	Sn	11 43 51.6	-2.7
HUIG	**Huatulco**	**2.15**	**210**	*i* P	Pn	11 43 27.8	-2.3
HUIG				*i* S	Sn	11 43 56.6	-1.4
TPIG	**Tehuac#an**	**2.39**	**289**	*i* P	Pn	11 43 32.4	-0.8
TPIG				*i* S	Sn	11 44 01.7	-1.8
PCIG		**2.57**	**138**	*i* P	Pn	11 43 34.3	-0.9
PCIG				*i* S	Sn	11 44 05.8	-1.3
UTMO	**Huajuapan**	**2.69**	**274**	*i* P	Pn	11 43 35.0	-2.1
UTMO				*i* S	Sn	11 44 07.8	-2.5

KRSC 20 11:51:39.9±0.9, 53°.68N×161°.01E, h25km±25km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.83**	**226**	*e*P	Pb	11 51 55.3	-0.4
SPN				*e*S	Sb	11 52 06.4	0.0
MKZ	**Mys Kozlova**	**0.97**	**25**	*e*P	Pn	11 51 56.4	-1.6
MKZ				*e*S	Sb	11 52 08.9	-1.6
KII	**Karymskiy**	**0.99**	**292**	*e*P	Pn	11 51 57.7	-0.6
KII				*e*S	Sb	11 52 10.8	-0.4
NLC	**Nalytchevo**	**1.12**	**244**	*e*P	Pn	11 51 59.4	-0.5
NLC				*e*S	Sn	11 52 13.8	-0.7
SDLR	**Sedlovina**	**1.33**	**253**	*e*P	Pn	11 52 02.9	-0.2
SDLR				*e*S	Sn	11 52 19.9	-0.2
SMAR	**Somma**	**1.39**	**253**	*e*P	Pn	11 52 03.6	-0.3
SMAR				*e*S	Sn	11 52 21.0	-0.6
UGLR	**Uglovaya**	**1.39**	**251**	*e*P	Pn	11 52 04.1	+0.3
UGLR				*e*S	Sn	11 52 22.0	+0.5
AVH	**Avacha**	**1.42**	**254**	*e*P	Pn	11 52 04.4	+0.2
AVH				*e*S	Sn	11 52 22.4	+0.2
KOK	**Koryaka**	**1.47**	**256**	*e*P	Pn	11 52 05.1	+0.2
KOK				*e*S	Sn	11 52 23.5	0.0
PET	**Petropavlovsk**	**1.56**	**246**	*e*P	Pn	11 52 06.0	0.0
PET				*e*S	Sn	11 52 25.3	0.0
GNL	**Ganaly**	**1.82**	**272**	*e*P	Pn	11 52 10.7	+0.9
GNL				*e*S	Sn	11 52 33.3	+1.1
RUS	**Russkaya**	**1.96**	**231**	*e*P	Pn	11 52 12.8	+1.3
RUS				*e*S	Sn	11 52 36.9	+1.7
MTVR	**Mutnovka**	**2.08**	**236**	*e*P	Pn	11 52 15.2	+1.8
MTVR				*e*S	Sb	11 52 41.0	-1.8
KMNR	**Kamenistaya**	**2.13**	**348**	*e*P	Pn	11 52 15.8	+1.8
KMNR				*e*S	Sb	11 52 41.9	-2.1
ASAK	**Asacha**	**2.28**	**237**	*e*P	Pb	11 52 18.8	-1.7
ASAK				*e*S	Sb	11 52 47.3	-1.1
KPT	**Kopyto**	**2.34**	**349**	*e*P	Pn	11 52 17.5	+0.7
APC	**Apacha**	**2.43**	**253**	*e*P	Pb	11 52 20.5	-2.4
APC				*e*S	Sn	11 52 49.6	+2.7
KOZ	**Kozyrevsk**	**2.47**	**345**	*e*P	Pn	11 52 20.5	+1.9
KOZ				*e*S	Sn	11 52 50.2	+2.2
ESO	**Esso**	**2.62**	**330**	*e*P	Pn	11 52 21.0	+0.4
KLY	**Klyuchi**	**2.65**	**356**	*e*P	Pn	11 52 22.0	+1.1
KLY				*e*S	Sn	11 52 52.6	+0.4
KBTR	**Krutoberegovo**	**2.74**	**22**	*e*P	Pn	11 52 22.8	+0.6
KBTR				*e*S	Sn	11 52 54.3	-0.2
BDR	**Baidarnaya**	**2.90**	**2**	*e*P	Pn	11 52 25.6	+1.1
BKI	**Bering**	**3.27**	**60**	*e*S	Sn	11 53 03.5	-4.1

IDC ***20*** *12:12:40.5±0.3, 3°.82N×126°.64E, h0km, mb5.0/33, mb1 5.1/33, mb1mx5.1/34, mbtmp5.0/33, MS4.6/24, Ms1 4.7/24, ms1mx4.5/39, Error ellipse: s-maj=15.5km s-min=8.2km az=74.0*
NEIC ***20*** *12:12:42.2±0.1, 3°.83N×126°.60E, h10km, mb5.4/56, Error ellipse: s-maj=5.6km s-min=3.5km az=74.0*
NEIC Felt [IV] at Melonguanne and in the Kepulauan Talaud and [III] at Tahuna.
ISCJB ***20*** *12:12:44.4±0.1, 3°.95N±0°.02×126°.78E±0°.02, h33km, mb5.3/166, MS4.8/54, Error ellipse: s-maj=3.1km s-min=2.3km az=165.8*
MOS ***20*** *12:12:44.3±1.2, 3°.86N×126°.57E, h33km, mb5.5/59, MS4.6/10, Error ellipse: s-maj=9.1km s-min=4.6km az=114.9*
GCMT ***20*** *12:12:47.4±0.2, 3°.99N×126°.61E, h20km, MW5.3, Moment Tensor Solution. s20,c24; s79,c107; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s19.00000°, δ79.00000°, λ116.00000°. NP2: ϕ_s130.00000°, δ28.00000°, λ23.00000°. Principal axes: T 1.0600, Plg49.0000°, Azm318.0000°; N -0.1100, Plg26.0000°, Azm194.0000°; P -0.9400, Plg29.0000°, Azm88.0000°; Data Used: IU G IC II CN.*
BJI ***20*** *12:12:48.4, 4°.04N×126°.53E, h63km, mB5.2/41, mb5.1/58, Ms4.8/64, Ms7 4.7/59*
BKK ***20*** *12:12:49.3±0.6, 4°N±4°×12°7E±°, h65km±5km, M5.2/33, mB5.6/26, mb5.2/33, MLv5.9/5, Mw(mB)5.1/26, Mwp6.4/2*
DJA ***20*** *12:12:50.8±0.3, 4°N±3°×12°7E±°, h66km±3km, M5.3/63, mb5.3/63, mB5.7/48, MLv5.6/12, Mw(mB)5.2/48, Mwp5.9/3*
AUST ***20*** *12:12:51.8±0.1, 3°.59N×126°.77E, h82km, Error ellipse: s-maj=0.8km s-min=0.6km az=35.0*
ISC 20 12:12:45.1±0.7, **3°.85N**±0°.03×**126°.62E**±0°.04, **h27**km±4km,

n554,σ1$45/524, mb5.3/165, MS4.7/54, 43C-18D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.10**	**261**	P	Pb	12 13 12.9	+7.5
GSPH	**General Santos**	**2.77**	**323**	⇑*i*P	**Pn**	**12 13 29.5**	**+1.7**
MATI	**Mati**	**3.09**	**353**	*e*P	Pn	12 13 35.5	+3.4
MATI				*e*S	Sn	12 14 00.8	-7.4
TNTI	**Ternate**	**3.15**	**166**	P	**Pn**	**12 13 33.7**	**+0.8**
TNTI				S	**Sn**	**12 14 08.9**	**-0.8**
DAV	**Davao City (W)**	**3.36**	**342**	*e*Pn	Pn	12 13 38.4	+2.6
DAV				*e*Sn	**Sb**	**12 14 20.1**	**-4.3**
DAV	**Davao City (W)**	**3.36**	**342**	P	Pb	12 13 40.7	-3.2
DAV	**Davao City (W)**	**3.36**	**342**	Pn	Pn	12 13 37.9	+2.1
	80nm,0.3s,baz=211,slow=2.3,SNR=7.0						
DMPH	**Davao City--Mi**	**3.39**	**341**	⇑*e*P	**Pb**	**12 13 45.3**	**+0.8**
DMPH				*e*S	**Sb**	**12 14 20.6**	**-4.8**
KCP	**Kidapawan**	**3.48**	**334**	⇑*e*P	Pb	12 13 42.2	-3.9
KCP				*i* S	**Sb**	**12 14 27.9**	**-0.1**
CTBH	**Cotabato--PC H**	**4.09**	**325**	⇑*e*P	Pn	12 13 49.3	+3.4
CTBH				*e*S	**Sn**	**12 14 37.1**	**+4.2**
KMSI	**Cibinong**	**4.19**	**219**	P	Pn	12 13 52.8	+5.6
BUKP	**Musuan**	**4.29**	**339**	*e*P	Pn	12 13 52.3	+3.7
LBMI	**Labuha**	**4.55**	**169**	P	**Pn**	**12 13 53.9**	**+1.7**
GTOI	**Gorontalo**	**4.81**	**228**	P	Pn	12 13 58.7	+2.9
PAGZ	**Pagadian**	**5.11**	**321**	*e*P	Pn	12 14 03.2	+3.4
BUTP	**Butuan**	**5.18**	**349**	*e*P	Pn	12 14 05.6	+4.8
IPIL	**Ipil**	**5.61**	**314**	⇑*e*P	Pn	12 14 09.6	+2.9
IPIL				*e*S	**Sn**	**12 15 12.4**	**+2.1**
DCPH	**Dipolog City**	**5.71**	**326**	⇓*e*P	Pn	12 14 13.5	+5.4
MRSI	**Marisa**	**5.75**	**234**	P	Pn	12 14 12.1	+3.4
	973nm,0.8s,9μm3.3nm						
LUWI	**Luwuk**	**6.20**	**218**	P	Pn	12 14 20.3	+5.5
	2μm,1.0s,19μm6.6nm						
LUWI	**Luwuk**	**6.20**	**218**	P	Pn	12 14 20.7	+5.9
	baz=6.1,SNR=22						
SNPH	**Sibulan**	**6.40**	**329**	*e*P	Pn	12 14 08.9	-8.8
TOLI	**Toli-Toli**	**6.42**	**245**	P	Pn	12 14 21.6	+3.8
	909nm,1.0s,12μm15μm3.9nm						
SWI	**Sorong**	**6.60**	**135**	P	**Pn**	**12 14 21.0**	**+0.7**
	342nm,1.1s,4μm1.2nm						
SWI	**Sorong**	**6.60**	**135**	P	**Pn**	**12 14 21.1**	**+0.7**
	baz=6.3,SNR=17						
SWI				S	**Sn**	**12 15 34.6**	**0.0**
	baz=6.3,SNR=5.3						
LLP	**Lapu-Lapu**	**6.94**	**338**	⇓*e*P	Pn	12 14 29.1	+4.1
LLP				*e*S	Sn	12 15 50.3	+7.2
PLP	**Palo**	**7.44**	**348**	⇑*e*P	Pn	12 14 35.9	+3.9
MSAI	**Masohi**	**7.52**	**162**	P	Pn	12 14 37.2	+4.2
	42nm,0.8s,0.2nm						
AAI	**Ambon**	**7.66**	**168**	P	Pn	12 14 38.9	+4.0
	267nm,1.2s,8μm278μm0.9nm						
AAI	**Ambon**	**7.66**	**168**	P	Pn	12 14 37.2	+2.4
	baz=7.4,SNR=4.1						
MYLDM	**Lahad Datu**	**8.20**	**280**	P	Pn	12 14 48.1	+5.8
MYLDM	**Lahad Datu**	**8.20**	**280**	P	Pn	12 14 49.5	+7.2
	672nm,0.9s,6μm33μm						
SKSI	**Soroako, Sulaw**	**8.25**	**220**	P	Pn	12 14 48.9	+5.8
	469nm,1.2s						
PCI	**Palu**	**8.26**	**235**	P	Pn	12 14 50.0	+6.8
	693nm,1.0s,108μm						
PALU	**Palau**	**8.55**	**66**	P	**Pn**	**12 14 47.3**	**0.0**
	baz=8.5,SNR=16						
RCP	**Roxas**	**8.56**	**334**	⇑*e*P	Pn	12 14 52.1	+4.8
TSM	**Tawau**	**8.73**	**273**	P	Pn	12 14 54.2	+4.5
TSM	**Tawau**	**8.73**	**273**	P	Pn	12 14 56.1	+6.5
FAKI	**Fak Fak**	**8.77**	**140**	P	**Pn**	**12 14 52.0**	**+1.8**
	193nm,0.9s,2μm						
FAKI	**Fak Fak**	**8.77**	**140**	P	**Pn**	**12 14 51.3**	**+1.1**
	baz=8.5,SNR=41						
BNDI	**Bandanaira**	**8.95**	**158**	P	Pn	12 15 03.1	+11
RKPI	**Ransiki, Papua**	**9.25**	**125**	P	Pn	12 15 00.7	+4.0
	212nm,0.9s,7μm						
KKSI	**Kolaka, Sulawe**	**9.39**	**212**	P	Pn	12 15 04.3	+5.6
	137nm,1.2s,2μm						
SDKM	**Sandakan**	**9.55**	**281**	P	Pn	12 15 06.5	+5.5
PPR	**Puerto Princes**	**9.79**	**307**	⇑*e*P	Pn	12 15 15.0	+11
MMSI	**Mamuju**	**10.08**	**230**	P	Pn	12 15 14.2	+6.1
	205nm,1.2s,3μm						
BBSI	**Bau Bau**	**10.12**	**204**	P	Pn	12 15 14.1	+5.4
	153nm,0.9s,2μm						
KDM	**Kudat**	**10.20**	**288**	P	Pn	12 15 14.8	+5.0
SMKI	**Samarinda**	**10.32**	**246**	P	Pn	12 15 18.0	+6.5
	885nm,1.0s						
SPSI	**Sidrap Palu**	**10.35**	**221**	P	Pn	12 15 18.1	+6.3
	108nm,1.0s,1μm						
KKM	**Kota Kinabalu**	**10.59**	**282**	*e*Pn	Pn	12 15 19.6	+4.4
KKM				*e*Sn	**Sn**	**12 17 12.4**	**-0.5**
KKM	**Kota Kinabalu**	**10.59**	**282**	P	Pn	12 15 20.8	+5.6
KKM	**Kota Kinabalu**	**10.59**	**282**	P	Pn	12 15 21.8	+6.6
	148nm,1.3s,3μm						
KKM	**Kota Kinabalu**	**10.59**	**282**	P	Pn	12 15 23.4	+8.2
	baz=11,SNR=7.0						
BAKI	**Biak**	**10.73**	**118**	P	Pn	12 15 20.2	+3.2
	219nm,0.9s,5μm						
GQP	**Guinayangan**	**10.80**	**338**	⇑*e*P	Pn	12 15 31.4	+13
BKB	**Balikpapan**	**10.96**	**243**	P	Pn	12 15 25.3	+5.1
	196nm,1.2s						
KAPI	**Kappang**	**11.16**	**218**	*e*Pn	**Pn**	**12 15 24.6**	**+1.6**
KAPI	**Kappang**	**11.16**	**218**	P	Pn	12 15 28.7	+5.7
	125nm,1.5s,1μm						
KAPI	**Kappang**	**11.16**	**218**	Pn	Pn	12 15 26.4	+3.4
	1.5nm,0.3s,baz=22,slow=11,SNR=4.0						
KAPI				LR	LR	12 20 24.5	
	comp=Z,3μm,18.6s,baz=64,slow=42						
SRPI	**Serui, Papua**	**11.18**	**120**	P	Pn	12 15 25.7	+2.5
	225nm,0.8s,5μm						
BKSI	**Bulukumba**	**11.19**	**215**	P	Pn	12 15 29.0	+5.7
	60nm,1.6s,1μm						
TLE	**Tual**	**11.24**	**147**	P	Pn	12 15 27.0	+3.0
	254nm,1.2s,4μm						
TLE	**Tual**	**11.24**	**147**	P	Pn	12 15 27.2	+3.2
	baz=11,SNR=4.4						
TGY	**Tagaytay City**	**11.62**	**332**	LR	LR	12 20 32.8	
	comp=Z,39nm,18.2s,baz=148,slow=40						
KBKI	**Kotabaru**	**12.63**	**236**	P	P	12 15 49.8	-4.4
MTKI	**Muara Teweh, K**	**12.64**	**248**	P	P	12 15 49.6	-4.7
	210nm,1.8s,8μm						
MMRI	**Maumere**	**13.15**	**199**	P	Pn	12 15 55.3	+5.1
	200nm,1.7s,2μm						
SOEI	**Soe**	**13.72**	**190**	P	**P**	**12 16 08.4**	**+2.0**
SOEI	**Soe**	**13.72**	**190**	P	**P**	**12 16 05.6**	**-0.9**
	baz=14,SNR=9.4						
BBKI	**Banjar Baru**	**13.83**	**238**	P	**P**	**12 16 06.7**	**-0.8**
	249nm,1.8s,5μm						
LBFI	**Labuhan Bajo,**	**13.97**	**209**	P	P	12 16 12.4	+3.3
SBUM	**Sibu**	**14.44**	**265**	P	**P**	**12 16 14.1**	**-0.2**
SBUM	**Sibu**	**14.44**	**265**	P	**P**	**12 16 14.2**	**-0.2**
	121nm,1.6s,2μm						
WSI	**Waingapu**	**14.84**	**205**	P	**P**	**12 16 16.6**	**-2.1**
	669nm,1.1s,10μm						
JAY	**Jayapura**	**15.44**	**114**	P	**P**	**12 16 24.6**	**-0.9**
	178nm,0.9s,3μm						
STKI	**Sintang**	**15.59**	**256**	P	**P**	**12 16 28.7**	**+1.6**
	136nm,1.5s,8μm						
SRBI	**Singaraja**	**16.43**	**224**	P	**P**	**12 16 38.1**	**+1.7**
	164nm,1.1s,2μm						
KSM	**Kuching**	**16.46**	**262**	*e*P	**P**	**12 16 38.2**	**+1.4**
KSM	**Kuching**	**16.46**	**262**	P	**P**	**12 16 40.3**	**+3.5**
KSM	**Kuching**	**16.46**	**262**	P	**P**	**12 16 37.9**	**+1.1**
	109nm,1.2s,2μm						
KSM	**Kuching**	**16.46**	**262**	P	**P**	**12 16 39.1**	**+2.4**
	baz=17,SNR=24						
MTN	**Manton Dam**	**17.18**	**165**	P	**Pn**	**12 16 39.9**	**-3.5**
	baz=17,SNR=76						
KDU	**Kakadu**	**17.43**	**161**	P	**Pn**	**12 16 42.7**	**-3.8**
	baz=17,SNR=28						
GMJI	**Gumukmas**	**17.82**	**227**	P	P	12 16 56.6	+4.7
	184nm,0.9s,2μm						
KRKI	**Karangkates**	**18.49**	**230**	P	Pn	12 17 05.2	+5.7
	293nm,1.3s,8μm						
SJI	**Sawahan**	**18.76**	**232**	P	**Pn**	**12 17 05.4**	**+2.5**
	114nm,0.9s						
PWJI	**Pagerwojo**	**18.91**	**231**	P	**Pn**	**12 17 07.2**	**+2.7**
	106nm,0.9s,11μm						
KNRA	**Kununurra**	**19.52**	**174**	P	**P**	**12 17 09.3**	**-1.2**
	baz=19,SNR=35						
TWG	**Pinlang**	**19.60**	**345**	*e*P	**P**	**12 17 09.4**	**-2.0**
	390nm,0.6s						
UGM	**Wanagama**	**19.86**	**234**	P	**Pn**	**12 17 15.5**	**-0.4**
	baz=20,SNR=5.1						
TPI	**Tanjungpandan**	**20.05**	**251**	P	Pn	12 17 22.6	+4.3
	58nm,1.1s,642nm						
YULB	**Yu-li**	**20.09**	**346**	*e*P	**P**	**12 17 14.3**	**-2.4**
	57nm,0.6s						
TPUB	**Ta-pu**	**20.18**	**344**	*e*P	**P**	**12 17 16.4**	**-1.2**
	217nm,0.7s						
BJII	**Banjamegara**	**20.20**	**237**	P	Pn	12 17 20.9	+0.8
	94nm,1.7s,2μm						
GUMO	**Guam**	**20.45**	**61**	*e*P	**P**	**12 17 20.9**	**+0.2**
	111nm,0.9s						
SSLB	**Suanglung**	**20.56**	**345**	*e*P	**P**	**12 17 20.6**	**-1.2**
	117nm,0.7s						
NACB	**Ninganchiao**	**20.77**	**347**	*e*P	**P**	**12 17 23.7**	**-0.4**
	94nm,0.4s						
NACB				*e*Pn	pP	12 17 32.5	+1.0
YHNB	**Yeheng**	**21.30**	**347**	*e*P	**P**	**12 17 29.0**	**-0.9**
	174nm,0.7s						
MANU	**Manus Island**	**21.55**	**105**	S	S	12 21 16.7	-14
	baz=21,SNR=4.5						
TATO	**Taipei**	**21.57**	**347**	*e*P	**P**	**12 17 33.2**	**+0.6**
	120nm,0.8s						
LEM	**Lembang**	**21.73**	**241**	P	P	12 17 38.6	+4.0
	150nm,1.0s,3μm						
FITZ	**Fitzroy Crossi**	**21.84**	**182**	P	**P**	**12 17 34.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.84**	**182**	P	**P**	**12 17 34.3**	**-1.2**
	35nm,0.8s,baz=18,slow=11,SNR=78						
FITZ	**Fitzroy Crossi**	**21.84**	**182**	S	**S**	**12 21 32.6**	**-3.1**
	baz=22,SNR=6.8						
CISI	**Cisompet, Garu**	**21.92**	**239**	P	P	12 17 52.0	+15
CBJI	**Citeko**	**22.22**	**243**	P	**P**	**12 17 42.1**	**+2.4**
	355nm,1.1s						
QIZ	**Qiongzhong**	**22.27**	**314**	P	**P**	**12 17 39.8**	**-0.4**
QIZ				pP	pP	12 17 53.4	+5.7
QIZ				pmax	pmax		
	comp=Z,18nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,220nm,6.2s						
QIZ				LR	LR		
	comp=N,1μm,16.3s						
QIZ				LR	LR		
	comp=E,390nm,14.4s						
QIZ				LR	LR		
	comp=Z,2μm,26.0s						
QIZ	**Qiongzhong**	**22.27**	**314**	*e*P	**P**	**12 17 39.8**	**-0.4**
	comp=Z,63nm,1.1s						
QZH	**Quanzhou**	**22.34**	**341**	⇑*i*P	**P**	**12 17 38.3**	**-2.6**
QZH				S	S	12 21 38.8	-6.4
QZH				pmax	pmax		
	comp=Z,170nm,0.7s						
QZH				LR	LR		
	comp=N,5μm,18.6s						
QZH				LR	LR		
	comp=E,2μm,22.9s						
QZH				LR	LR		
	comp=Z,8μm,23.9s						
DBJI	**Dramaga**	**22.36**	**243**	P	**P**	**12 17 42.5**	**+1.2**
	comp=Z,102nm,2.1s,comp=Z,4μm						
MYKOM	**Kota Tinggi**	**22.83**	**265**	P	P	12 17 50.1	+3.9
MYKOM	**Kota Tinggi**	**22.83**	**265**	P	**P**	**12 17 50.0**	**+3.8**
	comp=Z,82nm,1.7s,comp=Z,1μm						
PMBI	**Palembang**	**22.84**	**253**	P	**P**	**12 17 50.2**	**+3.8**
	comp=Z,630nm,0.7s,comp=Z,7μm						
JOW	**Kunigami**	**22.90**	**4**	*e*P	**P**	**12 17 47.2**	**+0.4**
	comp=Z,46nm,0.9s						
BTDF	**Bukit Timah Da**	**22.95**	**264**	P	**P**	**12 17 49.7**	**+2.2**
	baz=23,SNR=3.0						
BTDF				P	**P**	**12 17 49.7**	**+2.2**
	baz=23,SNR=3.0						
GZH	**Guangzhou**	**23.03**	**327**	P	**P**	**12 17 50.3**	**+2.1**
GZH				pmax	pmax		
	comp=Z,500nm,5.3s						
GZH				LR	LR		
	comp=N,4μm,20.5s						
GZH				LR	LR		
	comp=E,1μm,19.3s						
GZH				LR	LR		
	comp=Z,6μm,20.0s						
KTGM	**Kuala Trenggan**	**23.45**	**274**	P	**P**	**12 17 55.1**	**+2.6**
KLSI		**23.45**	**249**	P	**P**	**12 17 54.3**	**+1.8**
	comp=Z,68nm,0.9s,comp=Z,2μm						
UBPT	**Khong Chiam**	**23.71**	**300**	P	**P**	**12 17 55.6**	**+0.6**
	comp=Z,172nm,1.1s,comp=Z,2μm						
UBPT	**Khong Chiam**	**23.71**	**300**	P	**P**	**12 17 54.8**	**-0.2**
	comp=Z,172nm,1.1s,comp=Z,2μm						
KASI	**Kota Agung**	**23.98**	**247**	P	**P**	**12 18 01.4**	**+3.9**
	comp=Z,103nm,1.0s						
COEN	**Coen**	**24.15**	**137**	*e*P	**P**	**12 17 57.2**	**-1.9**
	comp=Z,317nm,1.0s						
COEN	**Coen**	**24.15**	**137**	P	**P**	**12 17 57.3**	**-1.9**
	baz=24,SNR=5.7						
PMG	**Port Moresby**	**24.35**	**123**	*e*P	**P**	**12 17 59.1**	**-1.9**
PMG	**Port Moresby**	**24.35**	**123**	P	**P**	**12 17 58.7**	**-2.2**
	comp=Z,22nm,0.8s,baz=324,slow=11,SNR=4.2						
PMG				LR	LR	12 28 31.5	
	comp=Z,1μm,19.9s,baz=314,slow=39						
WRAB	**Tennant Creek**	**24.83**	**162**	P	**P**	**12 18 03.0**	**-2.3**
	comp=Z,2μm,0.6s,SNR=60						
WRAB	**Tennant Creek**	**24.83**	**162**	*e*P	**P**	**12 18 03.6**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,181nm,0.8s						
WRAB	**Tennant Creek**	**24.83**	**162**	*e*P	**P**	**12 18 03.6**	**-1.7**
	comp=Z,181nm,0.8s						
WRA	**Warramunga Arr**	**24.84**	**162**	P	**P**	**12 18 03.3**	**-2.1**
WRA				S	**S**	**12 22 26.4**	**-0.2**
WRA	**Warramunga Arr**	**24.84**	**162**	P	**P**	**12 18 03.3**	**-2.1**
	comp=Z,93nm,0.7s,baz=345,slow=9.8,SNR=279						
WRA				S	**S**	**12 22 26.4**	**-0.2**
	comp=Z,13nm,1.1s,baz=334,slow=14,SNR=5.9						
FRIM	**Kepong**	**24.95**	**269**	P	**P**	**12 18 09.1**	**+2.6**
IPM	**Ipoh**	**25.53**	**272**	*e*P	**P

WHN				LR	LR	
	comp=E,4μm,20.9s					
WHN				LR	LR	
	comp=Z,7μm,20.0s					
NJ2	**Nanjing**	**28.98**	**346**	*e*P	**P**	**12 18 42.8 +0.3**
NJ2				pP	pP	12 18 56.8 +6.3
NJ2				sP	sP	12 19 02.6 +8.7
NJ2				S	**S**	**12 23 35.0 +3.1**
NJ2				pmax	pmax	
	comp=Z,30nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,180nm,3.5s					
NJ2				LR	LR	
	comp=N,1μm,14.3s					
NJ2				LR	LR	
	comp=E,1μm,19.1s					
NJ2				LR	LR	
	comp=Z,1μm,16.3s					
UTHA	**Uthaitani**	**29.15**	**295**	P	**P**	**12 18 46.5 +2.3**
	comp=Z,7.7nm,0.7s,comp=Z,81nm					
NANT	**Nan**	**29.36**	**302**	P	**P**	**12 18 46.6 +0.5**
	comp=Z,138nm,0.8s,comp=Z,2μm					
JNU	**Nakatsue**	**29.39**	**7**	*e*P	**P**	**12 18 46.0 -0.2**
	comp=Z,25nm,0.9s					
JNU	**Nakatsue**	**29.39**	**7**	P	**P**	**12 18 46.1 0.0**
	comp=Z,26nm,0.9s,baz=18,slow=1.8,SNR=10.0					
JNU				LR	LR	12 30 20.2
	comp=Z,810nm,21.0s,baz=344,slow=36					
GYA	**Guiyang**	**29.50**	**322**	P	**P**	**12 18 49.8 +2.5**
GYA				pP	pP	12 19 04.3 +8.9
GYA				sP	sP	12 19 11.0 +12
GYA				PP	**PP**	**12 19 48.4 -5.8**
GYA				PcP	**PcP**	**12 21 52.0 -0.5**
GYA				S	**S**	**12 23 40.8 +0.3**
GYA				ScP	**ScP**	**12 25 29.4 -3.3**
GYA				pmax	pmax	
	comp=Z,20nm,0.8s					
GYA				pmax	pmax	
	comp=Z,140nm,4.8s					
GYA				LR	LR	
	comp=N,790nm,16.8s					
GYA				LR	LR	
	comp=E,680nm,17.0s					
GYA				LR	LR	
	comp=Z,840nm,17.4s					
LAMP	**Lampang**	**30.15**	**301**	P	**P**	**12 18 53.9 +0.9**
	comp=Z,17nm,0.9s,comp=Z,112nm					
CTA	**Charters Tower**	**30.63**	**142**	P	**P**	**12 18 57.8 +0.5**
CTA	**Charters Tower**	**30.63**	**142**	P	**P**	**12 18 57.8 +0.5**
	comp=Z,18nm,0.7s,baz=320,slow=10,SNR=11					
CTAO	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**12 18 57.4 +0.2**
CTAO				pmax	pmax	
	comp=Z,18nm,0.8s					
CTAO	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**12 18 57.4 +0.2**
	comp=Z,18nm,0.8s					
CM31	**Chiang Mai Arr**	**30.71**	**300**	*e*P	**P**	**12 18 56.7 -1.3**
	comp=Z,17nm,0.8s					
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**12 18 58.2 +0.2**
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**12 18 58.2 +0.2**
	comp=Z,8.6nm,0.8s,baz=120,slow=7.5,SNR=49					
CMAR				LR	LR	12 31 06.8
	comp=Z,926nm,20.9s,baz=327,slow=36					
CMMT	**Chiang Mai**	**30.86**	**301**	P	**P**	**12 18 59.8 +0.5**
	comp=Z,43nm,0.9s,comp=Z,580nm					
CMMT	**Chiang Mai**	**30.86**	**301**	P	**P**	**12 18 59.1 -0.2**
	comp=Z,43nm,0.9s,comp=Z,580nm					
CHTO	**Chiang Mai**	**30.86**	**301**	*e*P	**P**	**12 18 59.6 +0.3**
CHTO				pmax	pmax	
	comp=Z,28nm,0.8s					
CHTO	**Chiang Mai**	**30.86**	**301**	*e*P	**P**	**12 18 59.6 +0.3**
	comp=Z,28nm,0.8s					
CHTO	**Chiang Mai**	**30.86**	**301**	P	**P**	**12 18 59.5 +0.3**
	comp=Z,47nm,0.9s,comp=Z,534nm					
ENH	**Enshi**	**30.86**	**330**	*e*P	**P**	**12 18 58.8 -0.5**
	comp=Z,37nm,0.8s					
KMI	**Kunming**	**31.21**	**315**	P	**P**	**12 19 04.8 +2.2**
KMI				pP	pP	12 19 19.0 +8.3
KMI				sP	sP	12 19 25.1 +11
KMI				PP	**PnPn**	**12 20 09.3 +4.4**
KMI				S	**S**	**12 24 06.0 -1.5**
KMI				pmax	pmax	
	comp=Z,14nm,1.0s					
KMI				pmax	pmax	
	comp=Z,110nm,5.4s					
KMI				LR	LR	
	comp=N,930nm,16.3s					
KMI				LR	LR	
	comp=E,1μm,21.1s					
KMI				LR	LR	
	comp=Z,2μm,23.9s					
MEEK	**Meekatharra**	**31.29**	**194**	P	**P**	**12 19 02.5 -0.5**
	baz=31,SNR=32					
KSAR	**Wonju Array Be**	**33.45**	**2**	P	**P**	**12 19 22.5 +0.7**
KSAR				PcP	**PcP**	**12 22 03.1 +0.4**
KSRS	**Korea Array**	**33.46**	**2**	P	**P**	**12 19 22.5 +0.7**
	comp=Z,15nm,0.8s,baz=178,slow=9.5,SNR=45					
KSRS				PcP	**PcP**	**12 22 03.1 +0.4**
	comp=Z,1.6nm,0.6s,baz=185,slow=2.8,SNR=3.7					
MAT	**Matsushiro**	**34.24**	**17**	P	**P**	**12 19 26.6 -2.1**
MAT				S	S	12 24 49.0 -4.9
MJAR	**Matsushiro Arr**	**34.24**	**17**	P	**P**	**12 19 27.0 -1.7**
MJAR				PcP	**PcP**	**12 22 06.8 +1.8**
MJAR	**Matsushiro Arr**	**34.24**	**17**	P	**P**	**12 19 27.0 -1.7**
	comp=Z,6.4nm,0.8s,baz=183,slow=10,SNR=26					
MJAR				PcP	**PcP**	**12 22 06.8 +1.8**
	comp=Z,2.7nm,0.8s,baz=186,slow=3.7,SNR=4.5					
MJAR				LR	LR	12 33 42.0
	comp=Z,1μm,18.3s,baz=185,slow=37					
XAN	**Xi'an**	**34.25**	**333**	P	**P**	**12 19 27.9 -1.0**
XAN				pP	pP	12 19 40.9 +3.9
XAN				pmax	pmax	
	comp=Z,15nm,0.7s					
XAN				LR	LR	
	comp=N,900nm,21.8s					
XAN				LR	LR	
	comp=E,330nm,21.4s					
XAN				LR	LR	
	comp=Z,590nm,20.1s					
MORW	**Morawa**	**34.27**	**197**	P	**P**	**12 19 28.7 -0.3**
	baz=34,SNR=9.0					
FORT	**Forrest**	**34.47**	**178**	*e*P	**P**	**12 19 29.4 -1.2**
	comp=Z,87nm,0.8s					
FORT	**Forrest**	**34.47**	**178**	P	**P**	**12 19 29.9 -0.8**
	baz=34,SNR=20					
CD2	**Chengdu**	**34.48**	**324**	*e*P	**P**	**12 19 30.8 -0.1**
CD2				pP	pP	12 19 45.5 +6.5
CD2				sP	sP	12 19 52.5 +10
CD2				PP	**PP**	**12 20 48.8 -0.5**
CD2				PcP	**PcP**	**12 22 04.3 -1.6**
CD2				S	**S**	**12 24 54.4 -3.4**
CD2				sS	sS	12 25 20.3 +9.0
CD2				ScS	ScS	12 29 44.9 -7.4
CD2				pmax	pmax	
	comp=Z,40nm,1.0s					
CD2				pmax	pmax	
	comp=Z,200nm,4.8s					
CD2				LR	LR	
	comp=N,1μm,20.2s					
CD2				LR	LR	
	comp=E,2μm,17.8s					
CD2				LR	LR	
	comp=Z,2μm,19.0s					
DL2	**Dalian**	**35.18**	**353**	P	**P**	**12 19 36.0 -0.8**
DL2				S	**S**	**12 25 08.9 +0.5**
BLDU	**Ballidu**	**35.56**	**195**	P	**P**	**12 19 39.7 -0.4**
	baz=36,SNR=36					
HNR	**Honiara**	**35.74**	**112**	LR	LR	12 33 29.3
	comp=Z,725nm,20.3s,baz=101,slow=35					
KLBR	**Kellerberrin**	**36.24**	**193**	P	**P**	**12 19 45.6 -0.3**
	baz=36,SNR=35					
RMQ	**Roma**	**37.00**	**146**	P	**P**	**12 19 51.6 -0.9**
	baz=37,SNR=6.7					
BJI	**Beijing**	**37.24**	**347**	P	**P**	**12 19 54.5 +0.2**
BJI				pP	pP	12 20 09.5 +7.0
BJI				sP	sP	12 20 15.9 +10
BJI				S	**S**	**12 25 37.8 -2.0**
BJI				pmax	pmax	
	comp=Z,150nm,0.7s					
BJI				LR	LR	
	comp=N,430nm,24.3s					
BJI				LR	LR	
	comp=E,820nm,23.2s					
BJI				LR	LR	
	comp=Z,560nm,24.9s					
EIDS	**Eidsvold**	**37.52**	**142**	*e*P	**P**	**12 19 55.7 -1.2**
	comp=Z,37nm,0.8s					
EIDS	**Eidsvold**	**37.52**	**142**	P	**P**	**12 19 55.7 -1.2**
	baz=37,SNR=20					
BBOO	**Buckleboo**	**37.55**	**167**	*e*P	**P**	**12 19 56.1 -1.0**
	comp=Z,448nm,0.6s					
BBOO	**Buckleboo**	**37.55**	**167**	P	**P**	**12 19 56.2 -0.8**
	baz=38,SNR=38					
NWAO	**Narrogin (SRO)**	**37.65**	**193**	*e*P	**P**	**12 19 57.4 -0.5**
	comp=Z,48nm,1.0s					
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**	**12 19 57.9 0.0**
	comp=Z,30nm,0.8s,baz=23,slow=9.1,SNR=23					
SNY	**Shenyang**	**37.91**	**356**	⇑P	**P**	**12 20 01.3 +1.4**
SNY				S	**S**	**12 25 51.1 +1.2**
SNY				pmax	pmax	
	comp=Z,82nm,0.7s					
SNY				pmax	pmax	
	comp=Z,1μm,3.2s					
SNY				LR	LR	
	comp=N,500nm,20.8s					
SNY				LR	LR	
	comp=E,920nm,21.8s					
SNY				LR	LR	
	comp=Z,730nm,23.7s					
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**12 20 02.5 -0.7**
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**12 20 02.5 -0.7**
	comp=Z,72nm,0.7s,baz=336,slow=8.0,SNR=88					
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**12 20 02.6 -0.7**
	baz=38,SNR=71					
LZH	**Lanzhou**	**38.34**	**330**	⇑P	**P**	**12 20 04.3 +0.4**
LZH				pP	pP	12 20 19.1 +7.0
LZH				sP	sP	12 20 26.5 +11
LZH				*e*S	S	12 25 52.0 -5.0
LZH				sS	ScP	12 26 21.5 +18
LZH				pmax	pmax	
	comp=Z,58nm,1.0s					
LZH				pmax	pmax	
	comp=Z,200nm,4.0s					
LZH				LR	LR	
	comp=N,740nm,13.7s					
LZH				LR	LR	
	comp=E,2μm,15.2s					
LZH				LR	LR	
	comp=Z,2μm,16.1s					
HHC	**Hu-ho-hao-te**	**39.24**	**342**	*e*P	**P**	**12 20 11.3 -0.1**
HHC				PP	**PnPn**	**12 21 47.0 +2.5**
HHC				PcP	**PcP**	**12 22 16.6 -3.5**
HHC				ScP	ScP	12 26 00.9 -6.1
HHC				S	**S**	**12 26 08.5 -1.9**
HHC				sS	sS	12 26 34.8 +11
HHC				ScS	ScS	12 30 11.4 -7.3
HHC				pmax	pmax	
	comp=Z,62nm,0.8s					
HHC				pmax	pmax	
	comp=Z,410nm,5.0s					
HHC				LR	LR	
	comp=N,2μm,15.8s					
HHC				LR	LR	
	comp=E,2μm,15.2s					
HHC				LR	LR	
	comp=Z,2μm,15.8s					
RKGY	**Rocky Gully**	**39.32**	**193**	P	**P**	**12 20 13.0 +1.0**
	baz=39,SNR=6.9					
VLA	**Vladivostok**	**39.38**	**6⇑**	*e*P	**P**	**12 20 12.3 0.0**
VLA				pmax	pmax	
	comp=Z,35nm,1.2s					
CMSA	**Cobar Meteorol**	**39.61**	**154**	P	**P**	**12 20 13.8 -0.6**
	baz=40,SNR=23					
SHL	**Shillong**	**39.71**	**306⇑**	*i*P	**P**	**12 20 14.0 -1.6**
SHL				*e*x	x	12 26 45.0
CN2	**Changchun**	**39.79**	**359**	⇑P	**P**	**12 20 16.3 +0.5**
CN2				*e*pP	pP	12 20 31.6 +7.6
CN2				*e*S	**S**	**12 26 16.8 -1.5**
CN2				pmax	pmax	
	comp=Z,20nm,0.8s					
CN2				pmax	pmax	
	comp=Z,200nm,5.0s					
CN2				LR	LR	
	comp=N,770nm,18.0s					
CN2				LR	LR	
	comp=E,700nm,18.0s					
CN2				LR	LR	
	comp=Z,470nm,18.0s					
USRK	**Ussuriysk Arra**	**40.46**	**6**	P	**P**	**12 20 22.2 +0.9**
	comp=Z,17nm,0.6s,baz=198,slow=9.4,SNR=30					
MDJ	**Mudanjiang**	**40.68**	**3**	P	**P**	**12 20 24.4 +1.3**
MDJ				pP	pP	12 20 37.3 +6.0
MDJ				sP	sP	12 20 44.0 +9.3
MDJ				PP	**PP**	**12 21 59.3 +2.1**
MDJ				PcP	**PcP**	**12 22 24.1 -0.4**
MDJ				S	**S**	**12 26 32.3 +0.8**
MDJ				sS	sS	12 26 55.0 +10
MDJ				ScS	**ScS**	**12 30 24.9 -1.9**
MDJ				pmax	pmax	
	comp=Z,63nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,120nm,4.0s					
MDJ				LR	LR	
	comp=N,670nm,30.6s					
MDJ				LR	LR	
	comp=E,370nm,32.8s					
MDJ				LR	LR	
	comp=Z,710nm,26.3s					
MDJ	**Mudanjiang**	**40.68**	**3**	*e*P	**P**	**12 20 23.9 +0.9**
	comp=Z,45nm,0.8s					
ERM	**Erimo**	**40.77**	**19⇑**	*e*P	**P**	**12 20 22.2 -1.7**
ERM				pmax	pmax	
	comp=Z,42nm,1.5s					
ARMA	**Armidale**	**41.63**	**147**	*e*P	**P**	**12 20 31.0 -0.3**
	comp=Z,50nm,0.8s					
ARMA	**Armidale**	**41.63**	**147**	P	**P**	**12 20 31.2 0.0**
	baz=42,SNR=33					
LSA	**Lhasa**	**42.27**	**311**	P	**P**	**12 20 37.8 +0.8**
LSA	**Lhasa**	**42.27**	**311**	*e*P	**P**	**12 20 37.8 +0.8**
LSA				pmax	pmax	
	comp=Z,31nm,0.6s					
LSA	**Lhasa**	**42.27**	**311**	*e*P	**P**	**12 20 37.8 +0.8**
	comp=Z,31nm,0.6s					
ASAJ	**Asahikawa**	**42.51**	**17**	*e*P	**P**	**12 20 39.0 +0.9**
	comp=Z,16nm,0.8s					
ARPS	**Mount Arapiles**	**42.84**	**162**	P	**P**	**12 20 41.1 +0.3**
	baz=43,SNR=49					
GTA	**Gaotai**	**42.93**	**329**	*e*P	**P**	**12 20 41.5 -0.3**
GTA				pP	pP	12 20 53.9 +3.8
GTA				sP	sP	12 20 59.3 +5.9
GTA				PcP	**PcP**	**12 22 32.3 +0.1**
GTA				S	**S**	**12 27 04.0 -1.3**
GTA				sS	sS	12 27 24.6 +5.7
GTA				SS	**SS**	**12 30 11.3 -6.3**
GTA				pmax	pmax	
	comp=Z,10.0nm,1.5s					
GTA				pmax	pmax	
	comp=Z,110nm,6.4s					
GTA				LR	LR	
	comp=N,930nm,20.9s					
GTA				LR	LR	
	comp=E,2μm,20.4s					
GTA				LR	LR	
	comp=Z,2μm,20.7s					
YNG	**Young**	**43.15**	**153**	P	**P**	**12 20 44.0 +0.5**
	baz=43,SNR=16					
MGCD	**Mangrove Creek**	**43.55**	**150**	P	**P**	**12 20 48.0 +1.3**
	baz=43,SNR=12					
TAPN	**Taplejung**	**43.85**	**306**	*e*P	**P**	**12 20 49.1 -0.5**
	comp=Z,57nm,0.9s					
ODAN	**Odare**	**43.90**	**305**	*e*P	**P**	**12 20 49.6 -0.4**
	comp=Z,115nm,0.7s					
CAN	**Canberra**	**44.27**	**154**	*e*P	**P**	**12 20 52.9 +0.4**
CAN				pmax	pmax	
	comp=Z,27nm,0.8s					
CAN	**Canberra**	**44.27**	**154**	*e*P	**P**	**12 20 52.9 +0.4**
	comp=Z,27nm,0.8s					
CNB	**Canberra Magne**	**44.43**	**153**	P	**P**	**12 20 54.4 +0.6**
	baz=44,SNR=22					
RAMN	**Ramite**	**44.58**	**305**	*e*P	**P**	**12 20 55.1 -0.3**
	comp=Z,49nm,0.7s					
TOO	**Toolangi**	**44.80**	**159**	P	**P**	**12 20 57.7 +1.0**
	baz=45,SNR=17					
HABR	**Khabarovsk**	**45.04**	**8**	*c*P	**P**	**12 20 56.4 -1.9**
HABR				*e**PP	**pP**	**12 21 05.6 -1.0**
HABR				*e**SP	sP	12 21 10.0 0.0
HABR				*e*		12 22 41.4
HABR				PPP	PPP	12 23 20.4
HABR				*e*S	**S**	**12 27 33.5 -1.9**
HABR				*e*		12 30 50.9
HABR				*e*SSS	SSS	12 31 41.6
HABR				pmax	pmax	
	comp=E,76nm,2.8s					
HABR				pmax	pmax	
	comp=Z,142nm,2.8s					
HABR				pmax	pmax	
	comp=N,80nm,2.1s					
YSS	**Yuzh-Sakhalins**	**45.15**	**16**	*e*P	**P**	**12 21 01.6 +2.3**
YSS				*e*		12 30 56.0
YSS				pmax	pmax	
	comp=Z,30nm,0.9s					
YSS				MLR	MLR	
	comp=E,700nm,19.0s					
YSS				MLR	MLR	
	comp=Z,500nm,19.0s					
JIRN	**Jiri**	**45.21**	**306**	*e*P	**P**	**12 21 00.2 -0.3**
	comp=Z,78nm,0.9s					
KLR	**Kul'dur**	**45.42**	**5**	*e*P	**P**	**12 20 59.0 -2.4**
KLR				*e*SS	SS	12 30 50.0 -15
GUN	**Gumba**	**45.56**	**306**	*e*P	**P**	**12 21 03.0 -0.3**
	comp=Z,75nm,0.5s					
HIA	**Hailar**	**45.63**	**354**	*e*P	**P**	**12 21 04.5 +1.5**
	comp=Z,126nm,1.0s					
MILA	**Mila**	**45.80**	**155**	P	**P**	**12 21 07.1 +2.4**
	baz=46,SNR=12					
PKI	**Pulchoki**	**45.80**	**305**	*e*P	**P**	**12 21 04.4 -0.8**
	comp=Z,33nm,0.6s					
PKIN	**Phulchoki**	**45.82**	**305**	*e*P	**P**	**12 21 04.3 -0.9**
	comp=Z,20nm,0.7s					
KKN	**Kakani**	**46.00**	**306**	*e*P	**P**	**12 21 05.8 -0.8**
	comp=Z,76nm,1.1s					
DMN	**Daman**	**46.07**	**305**	*e*P	**P**	**12 21 06.3 -0.9**
DZM	**Mont Dzumac**	**46.70**	**125**	*e*P	**P**	**12 21 12.0 0.0**
	comp=Z,125nm,1.2s					
DZM				*e*S	**S**	**12 28 01.0 +0.7**
	comp=Z,688nm,26.4s					
DZM				*e*LR	LR	12 34 17.1
	comp=Z,695nm,23.9s					
DZM	**Mont Dzumac**	**46.70**	**125**	*e*P	**P**	**12 21 09.4 -2.6**
DZM	**Mont Dzumac**	**46.70**	**125**	P	**P**	**12 21 11.8 -0.2**
DZM	**Mont Dzumac**	**46.70**	**125**	P	**P**	**12 21 11.8 -0.2**
	comp=Z,38nm,0.8s,baz=277,slow=11,SNR=18					
ULN	**Ulaanbaatar**	**46.97**	**342**	*e*P	**P**	**12 21 13.8 +0.1**
	comp=Z,100nm,1.4s					
SONM	**Songino Array**	**47.14**	**341**	P	**P**	**12 21 15.1 0.0**
SONM	**Songino Array**	**47.14**	**341**	P	**P**	**12 21 15.1 0.0**
	comp=Z,11nm,0.9s,baz=155,slow=8.8,SNR=34					
SONM				LR	LR	12 43 49.2
	comp=Z,935nm,21.0s,baz=153,slow=40					
KOLN	**Koldanda**	**47.36**	**305**	*e*P	**P**	**12 21 16.8 -0.5**
	comp=Z,90nm,0.5s					
DANN	**Dangsing**	**47.45**	**306**	*e*P	**P**	**12 21 17.4 -0.7**
	comp=Z,106nm,0.6s					
HYB	**Hyderabad**	**48.97**	**290**	*i*P	**P**	**12 21 28.5 -1.1**
CIT	**Chita**	**49.22**	**349**	*e*P	**P**	**12 21 32.3 +1.3**
CIT				*e*		12 21 41.0
CIT				pmax	pmax	
	comp=Z,183nm,1.6s					
LATR	**Latur**	**51.01**	**291**	*e*P	P	12 21 48.0 +2.9
TLY	**Talaya**	**51.38**	**342**	*e*P	**P**	**12 21 47.9 +0.6**
TLY	**Talaya**	**51.38**	**342**	P	**P**	**12 21 48.3 +1.0**
	comp=Z,113nm,0.8s,SNR=6.9					
IRK	**Irkutsk**	**51.68**	**343**	*e*P	P	12 21 46.2 -3.3
IRK				pmax	pmax	
	comp=Z,55nm,1.8s					
AGRA	**Agra**	**51.90**	**302**	*e*x	x	12 22 05.7
AGRA				AMB	AMB	12 22 11.8
	comp=Z,21nm,0.6s					
MOY	**Mondy**	**52.23**	**340**	*e*P	**P**	**12 21 54.1 +0.3**
MOY				pmax	pmax	
	comp=Z,42nm,2.3s					
WMQ	**Urumqi**	**52.56**	**325**	P	P	12 21 51.1 -5.2
WMQ				sP	sP	12 22 12.0 +4.0
WMQ				PcP	PcP	12 22 59.5 -6.9
WMQ				PP	**PP**	**12 23 52.3 -3.2**
WMQ				S	S	12 29 12.6 -9.1
WMQ				pmax	pmax	
	comp=Z,220nm,1.8s					
WMQ				pmax	pmax	
	comp=Z,2μm,4.2s					
WMQ				LR	LR	
	comp=N,13μm,26.0s					
WMQ				LR	LR	
	comp=E,10μm,28.0s					
WMQ				LR	LR	
	comp=Z,11μm,22.0s					
CLNS	**Chul'man**	**52.85**	**359**	*e*P	**P**	**12 21 58.5 +0.3**
CLNS				pmax	pmax	
	comp=Z,15nm,0.8s					
CLNS				pmax	pmax	
	comp=N,13nm,0.9s					
CLNS				pmax	pmax	
	comp=E,9.0nm,0.7s					
SONA	**Sohna**	**52.93**	**303**	*e*x	P	12 22 04.9 +5.6
SONA				AMB	AMB	12 22 08.9
	comp=Z,47nm,1.2s					
NDI	**New Delhi**	**52.96**	**303**	*e*P	**P**	**12 21 58.0 -1.4**
AYAN	**Aya Nagar**	**52.97**	**303**	*e*P	**P**	**12 22 00.8 +1.3**
POO	**Poona**	**53.56**	**290⇓**	*i*P	**P**	**12 22 03.0 -1.1**
	comp=Z,50nm,1.0s					
KKR	**Kurukshetra**	**53.69**	**305**	*e*P	**P**	**12 22 03.2 -1.7**
KKR				AMB	AMB	12 22 08.0
	comp=Z,42nm,0.5s					
RTK	**Rohtak**	**53.73**	**303**	*e*P	**P**	**12 22 05.5 +0.3**
SMLA	**Simla**	**53.80**	**306**	*i* P	**P**	**12 22 05.3 -0.2**
SMLA	**Simla**	**53.80**	**306**	*e*P	**P**	**12 22 05.3 -0.2**
KHET	**Khetri**	**53.96**	**302**	*e*P	**P**	**12 22 05.2 -1.6**
KHET				AMB	AMB	12 22 06.7
	comp=Z,40nm,1.3s					
HVS	**Khovu-Aksy**	**54.58**	**335***c*	*i*P	**P**	**12 22 10.9 -0.1**
MSVF	**Nonsavu**	**55.07**	**115**	P	**P**	**12 22 16.9 +1.8**
	comp=Z,458nm,1.0s,SNR=12					
MSVF	**Nonsavu**	**55.07**	**115**	*e*P	**P**	**12 22 15.8 +0.7**
MSVF				pmax	pmax	
	comp=Z,62nm,1.0s					
MSVF	**Nonsavu**	**55.07**	**115**	*e*P	**P**	**12 22 15.8 +0.7**
	comp=Z,62nm,1.0s					
DLH	**Dalhousie**	**55.24**	**307**	*e*P	**P**	**12 22 15.0 -1.3**
DLH				*e*4		12 22 19.0
PEA0B	**Petropavlovsk-**	**55.36**	**22**	*e*P	**P**	**12 22 17.0 +0.5**
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**12 22 17.3 +0.8**
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**12 22 17.3 +0.8**
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**12 22 17.3 +0.8**
	comp=Z,24nm,0.6s,baz=188,slow=6.9,SNR=30					
PETK				LR	LR	12 46 55.4
	comp=Z,269nm,18.5s,baz=219,slow=37					
THN	**Thein Dam**	**55.40**	**307**	*e*x	P	12 22 23.0 +5.8
MK31	**Makanchi Array**	**57.39**	**325**	*e*P	**P**	**12 22 30.5 -0.6**
MK31				pmax	pmax	
	comp=Z,5.0nm,0.4s					
MK31	**Makanchi Array**	**57.39**	**325**	*e*P	**P**	**12 22 30.6 -0.6**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**12 22 30.6 -0.6**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**12 22 30.6 -0.6**
MKAR				ScP	**ScP**	**12 27 25.2 +2.1**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**12 22 30.6 -0.6**
	comp=Z,8.3nm,0.4s,baz=118,slow=7.1,SNR=104					
MKAR				ScP	**ScP**	**12 27 25.2 +2.1**
	comp=Z,2.9nm,0.7s,baz=121,slow=5.5,SNR=4.8					
MKAR				LR	LR	12 48 55.2
	comp=Z,1μm,19.3s,baz=113,slow=38					
KSH	**Kashi**	**57.88**	**315**	P	**P**	**12 22 36.0 +1.2**
KSH				sP	sP	12 22 59.1 +12
KSH				PP	**PP**	**12 24 47.0 +3.7**
KSH				S	S	12 30 28.3 -4.8
KSH				sS	sS	12 30 55.3 +8.1
KSH				SS	**SS**	**12 34 22.3 -2.0**
KSH				pmax	pmax	
	comp=Z,67nm,1.6s					
KSH				pmax	pmax	
	comp=Z,160nm,3.7s					
KSH				LR	LR	
	comp=N,2μm,14.4s					
KSH				LR	LR	
	comp=E,740nm,13.7s					
KSH				LR	LR	
	comp=Z,330nm,23.7s					
YAK	**Yakutsk**	**58.09**	**2***c*	*i*P	**P**	**12 22 36.4 +0.7**
YAK				*e*		12 23 24.9
YAK				*e*		12 24 46.8
YAK				*e*PPP	PPP	12 26 04.4
YAK				*e*S	**S**	**12 30 30.9 -3.9**
YAK				*e*		12 32 21.1
YAK				*e*SS	**SS**	**12 34 28.6 +2.1**
YAK				pmax	pmax	
	comp=Z,50nm,0.9s					
YAK				pmax	pmax	
	comp=N,26nm,1.2s					
YAK				pmax	pmax	

comp=Z,66nm,0.7s
NAY Al-Naaiem 78.86 299 *e*P **P 12 24 44.5 -1.8**
NAY AMb AMB 12 24 49.3
comp=Z,1.5nm,1.2s
RST Umm Al-Ruwaisa 79.08 299 *e*P **P 12 24 45.4 -2.0**
RST AMb AMB 12 24 49.1
comp=Z,375nm,0.6s
MAK Makhachkala 79.41 313 *e*P **P 12 24 47.7 -1.2**
MAK *e**PP pP 12 25 03.7 +6.0
MAK *e* 12 27 46.7
MAK *e*S **S 12 34 46.1 -2.3**
MAK *e**SS **ScS 12 35 12.1 +1.5**
MAK pmax pmax
comp=Z,133nm,1.3s
RAYN Ar Rayn 80.33 293 P **P 12 24 53.5 -0.9**
comp=Z,91nm,1.1s,SNR=8.0
OPO Ambohidratompo 81.23 251 P **P 12 24 59.1 -0.3**
OPO Ambohidratompo 81.23 251 P **P 12 24 59.1 -0.3**
comp=Z,4.7nm,0.7s,baz=76,slow=6.0,SNR=4.7
OHAK Old Harbor 81.41 33 *e*P **P 12 25 00.3 +0.9**
comp=Z,63nm,1.0s
KDAK Kodiak Island 81.85 32 P **P 12 25 03.0 +1.3**
comp=Z,273nm,1.1s,SNR=11
KDAK Kodiak Island 81.85 32 *e*P **P 12 25 02.3 +0.7**
comp=Z,37nm,0.8s
ZEI Tsey 82.05 312 *e*P **P 12 25 02.2 -1.2**
ZEI pmax pmax
comp=Z,22nm,0.8s
IM04 Indian Mountai 82.26 24 *e*P **P 12 25 04.8 +1.1**
IMA2 Indian Mountai 82.31 24 *e*P **P 12 25 05.2 +1.1**
PPLA Purkeypile 82.57 27 *e*P **P 12 25 06.3 +0.8**
comp=Z,21nm,0.7s
KBZ Khabaz 82.81 313 P **P 12 25 07.3 +0.3**
KBZ Khabaz 82.81 313 P **P 12 25 07.2 +0.3**
KBZ Khabaz 82.81 313 P **P 12 25 07.2 +0.3**
comp=Z,3.5nm,0.7s,baz=92,slow=5.4,SNR=7.8
KBZ LR LR 13 09 44.5
comp=Z,380nm,19.3s,baz=266,slow=41
KIV Kislovodsk 82.97 314 *e*P **P 12 25 06.9 -1.1**
KIV pmax pmax
comp=Z,10.0nm,0.8s
TRF Thorofare Moun 83.48 27 *e*P **P 12 25 10.2 -0.1**
comp=Z,302nm,1.9s
VNDA Vanda 83.56 173 *e*P **P 12 25 09.5 -0.7**
VNDA Vanda 83.56 173 P **P 12 25 09.1 -1.2**
comp=Z,6.9nm,0.9s,baz=311,slow=6.1,SNR=28
VNDA LR LR 13 02 30.4
comp=Z,198nm,19.9s,baz=336,slow=36
COLD Coldfoot 83.82 23 *e*P **P 12 25 13.2 +1.4**
comp=Z,59nm,1.1s
MAW Mawson 83.83 200 P **P 12 25 12.4 +0.7**
MAW Mawson 83.83 200 P **P 12 25 12.4 +0.7**
comp=Z,5.9nm,1.0s,baz=73,slow=6.0,SNR=10.0
MAW Mawson 83.83 200 P **P 12 25 12.5 +0.7**
baz=84,SNR=7.9
VRHR Novokhopersk 83.87 321 *e*P **P 12 25 10.9 -1.4**
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
PMR Palmer 83.89 29 *e*P **P 12 25 12.4 +0.2**
PMR pmax pmax
comp=Z,62nm,1.1s
PMR Palmer 83.89 29 *e*P **P 12 25 12.3 +0.2**
comp=Z,62nm,1.1s
MCK McKinley 84.10 26 *e*P **P 12 25 13.7 +0.4**
MCK pmax pmax
comp=Z,93nm,1.1s
MCK McKinley 84.10 26 *e*P **P 12 25 13.7 +0.4**
comp=Z,93nm,1.1s
SML Sawmill 84.28 28 *e*P **P 12 25 14.7 +0.4**
SML pmax pmax
comp=Z,39nm,1.2s
SML Sawmill 84.28 28 *e*P **P 12 25 14.7 +0.4**
comp=Z,39nm,1.2s
SBA Scott Base 84.47 172 *e*P **P 12 25 15.3 +0.5**
SBA pmax pmax
comp=Z,18nm,1.2s
SBA Scott Base 84.47 172 *e*P **P 12 25 15.3 +0.5**
comp=Z,18nm,1.2s
COLA College 84.63 25 *e*P **P 12 25 16.7 +0.8**
COLA pmax pmax
comp=Z,153nm,1.5s
COLA College 84.63 25 *e*P **P 12 25 16.7 +0.8**
comp=Z,153nm,1.5s
ILAR Eielson Array 85.04 25 P **P 12 25 17.4 -0.6**
ILAR Eielson Array 85.04 25 P **P 12 25 17.4 -0.6**
comp=Z,2.2nm,0.5s,baz=240,slow=6.2,SNR=36
ILAR LR LR 13 05 06.1
comp=Z,119nm,18.8s,baz=120,slow=37
PPT Papeete 85.26 108 LR LR 12 57 16.2
comp=Z,283nm,20.3s,baz=83,slow=31
PPT2 Papeete2 85.26 108 *e*S **S 12 35 47.4 -2.0**
comp=Z,213nm,25.5s
PPT2 Papeete2 85.26 108 *e*LR LR 12 52 17.2
comp=Z,444nm,25.5s
VORD Divnogorie 85.34 321 *e*P **P 12 25 18.5 -1.2**
VORD pmax pmax
comp=Z,40nm,1.7s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,50nm,0.9s
VSR Storozhevoye 85.42 321 *e*P **P 12 25 19.2 -0.9**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
DIV Divide 85.50 29 *e*P **P 12 25 21.8 +1.4**
comp=Z,89nm,1.0s
PAX Paxson 85.64 27 *e*P **P 12 25 22.0 +0.8**
PAX pmax pmax
comp=Z,41nm,1.2s
PAX Paxson 85.64 27 *e*P **P 12 25 22.0 +0.8**
comp=Z,41nm,1.2s
TMCR Tamitsa 85.94 334 *e*P **P 12 25 22.7 +0.3**
TMCR pmax pmax
comp=Z,54nm,1.1s
TBI Tubuai 85.94 114 *e*S **S 12 35 56.8 +1.1**
comp=Z,168nm,27.5s
TBI Tubuai 85.94 114 *e*LR LR 12 52 29.6
comp=Z,543nm,26.2s
BMRM Bremner River 86.06 29 *e*P **P 12 25 24.6 +1.4**
comp=Z,31nm,0.8s
MALT Malatya 86.21 308 ⇑P P 12 25 29.0 +4.5
MALT Malatya 86.21 308 ⇑*i*P P 12 25 29.0 +4.5
MOS Moscow 86.27 325 *e*P **P 12 25 21.4 -2.9**
MOS pmax pmax
comp=Z,74nm,1.1s
ANN Anapa 86.73 315 *e*P **P 12 25 25.3 -1.5**
ANN pmax pmax
comp=Z,57nm,1.3s
ANN MLR MLR
comp=N,423nm,20.0s
ANN MLR MLR
comp=E,141nm,20.0s
ANN MLR MLR
comp=Z,317nm,20.0s
OBN Obninsk 86.89 325*c i*P **P 12 25 26.5 -0.8**
OBN pmax pmax
comp=Z,114nm,1.6s
OBN MLR MLR
comp=Z,500nm,18.0s
EGAK Eagle 87.50 25 *e*P **P 12 25 30.4 +0.3**
comp=Z,7.1nm,0.9s
APA Apatity 87.69 337 ⇓*i*P P 12 25 34.4 +3.5
APA *i* S **S 12 36 12.0 +0.9**
APA *i* PS **PnS 12 37 20.0 +5.4**
APA MLR MLR
comp=Z,1μm,20.0s
DAWY Dawson 88.31 26 *e*P **P 12 25 34.5 +0.5**
JOF Joensuu 89.02 333 *e*P **P 12 25 37.0 -0.3**
JOF pmax pmax
comp=Z,25nm,0.7s
JOF Joensuu 89.02 333 *e*p **P 12 25 37.0 -0.3**
comp=Z,25nm,0.7s
SIM Simferopol' 89.08 315 P P 12 25 43.4 +5.4
SIM *e*S **S 12 36 28.0 +2.9**
SIM pmax pmax
comp=Z,12nm,0.5s
KMBO Kilima Mbogo 89.44 269 P **P 12 25 40.8 +0.1**
KMBO Kilima Mbogo 89.44 269 P **P 12 25 40.8 +0.1**
comp=Z,3.9nm,0.7s,baz=48,slow=13,SNR=8.9
HYT Haines Junctio 89.53 29 *e*P **P 12 25 40.8 +0.8**
BR131 Keskin Array S 89.85 310 *e*P **P 12 25 40.7 -1.3**
comp=Z,7.9nm,0.9s
INK Inuvik 90.09 21 *e*P **P 12 25 41.9 -0.3**
comp=Z,21nm,1.2s
ARCES ARCESS Array B 90.29 340 P **P 12 25 42.6 -0.5**
ARCES ARCESS Array B 90.29 340 P **P 12 25 42.6 -0.5**
comp=Z,11nm,0.7s,baz=74,slow=5.6,SNR=18
ARCES LR LR 13 11 50.7
comp=Z,343nm,19.9s,baz=284,slow=39
ARE0 ARCESS Array S 90.29 340 *e*P **P 12 25 44.0 +0.9**
KAF Kangasniemi 91.43 332 *e*P **P 12 25 47.6 -1.0**
KAF pmax pmax
comp=Z,15nm,0.7s
KAF Kangasniemi 91.43 332 *e*p **P 12 25 47.6 -1.0**
comp=Z,15nm,0.7s
FIA1 FINESS Array S 91.67 332 *e*P **P 12 25 48.6 -1.0**
FINES FINESS Array B 91.67 332 P **P 12 25 48.9 -0.7**
FINES FINESS Array B 91.67 332 P **P 12 25 48.9 -0.7**
comp=Z,4.7nm,0.6s,baz=65,slow=4.9,SNR=18
FINES LR LR 13 11 26.9
comp=Z,486nm,20.1s,baz=68,slow=38
AKASG Malin Array Be 91.72 321 P **P 12 25 48.9 -1.3**
AKASG Malin Array Be 91.72 321 P **P 12 25 48.9 -1.3**
AKASG Malin Array Be 91.72 321 P **P 12 25 48.9 -1.3**
comp=Z,8.9nm,0.6s,baz=63,slow=5.6,SNR=17
AKASG LR LR 13 12 55.3
comp=Z,493nm,21.1s,baz=75,slow=39
KIEV Kiev 91.73 321 *e*P **P 12 25 48.3 -1.9**
KIEV pmax pmax
comp=Z,9.0nm,0.7s
KIEV Kiev 91.73 321 *e*P **P 12 25 48.3 -1.9**
comp=Z,9.4nm,0.7s
VSU Vasula 91.90 329 ⇑*i*P **P 12 25 50.0 -0.8**
VSU pmax pmax
comp=Z,57nm,1.2s
MICGM Minsk 91.96 325 *e* **P 12 25 50.0 -1.2**
MNK Minsk 91.98 325 *e*P **P 12 25 50.0 -1.3**
SYO Syowa Base 92.50 201 ⇓*e*P **P 12 25 52.7 -0.6**
SYO Syowa Base 92.50 201 ⇑*e*PcP **PcP 12 25 55.0 +1.0**
WRAK Wrangell Islan 92.90 33 *e*P **P 12 25 56.4 +1.0**
comp=Z,24nm,0.8s
TIRR Tirgusor 93.17 315 ⇓P **P 12 25 57.1 +0.1**
TIRR Tirgusor 93.17 315 ⇓*i*P **P 12 25 57.1 +0.1**
CFR Carcaliu 93.26 316 ⇑P **P 12 25 57.1 -0.3**
CFR Carcaliu 93.26 316 ⇑*i*P **P 12 25 57.1 -0.3**
DLBC Dease Lake 93.70 31 *e*P **P 12 25 59.5 +0.2**
QSPA South Pole Qui 93.76 180 P **P 12 25 59.8 +0.5**
QSPA South Pole Qui 93.76 180 P **P 12 25 59.8 +0.5**
comp=Z,4.7nm,1.0s,baz=330,slow=2.1,SNR=38
TESR Tescani 94.07 317 ⇑*i*P **P 12 26 00.6 -0.5**
VRI Vrincioaia 94.13 316 ⇓P **P 12 26 01.8 +0.4**
VRI Vrincioaia 94.13 316 ⇓*i*P **P 12 26 01.8 +0.4**
PLOR Plostina 94.18 316 ⇑P **P 12 26 01.5 -0.2**
PLOR Plostina 94.18 316 ⇑*i*P **P 12 26 01.5 -0.2**
ISR Istrita 94.38 316 ⇓P **P 12 26 04.1 +1.4**
ISR Istrita 94.38 316 ⇓*i*P **P 12 26 04.1 +1.4**
MLR Muntele Rosu 94.73 316 ⇑*i*P **P 12 26 04.4 0.0**
SUW Suwalki 94.76 325 *e*P **P 12 26 03.7 -0.3**
SUW Suwalki 94.76 325 *e*P **P 12 26 03.7 -0.3**
comp=Z,48nm,0.3s
SUW Suwalki 94.76 325 *e*P **P 12 26 03.8 -0.3**
SUW *e* 12 26 12.1
BURAR Bucovina Array 94.83 318 ⇓P **P 12 26 03.8 -0.9**
BURAR Bucovina Array 94.83 318 ⇓*i*P **P 12 26 03.8 -0.9**
LVV L'vov 95.16 321 *e*P P 12 25 56.4 -10
VOIR 95.36 316 ⇑P **P 12 26 08.3 +1.1**
VOIR 95.36 316 ⇑*i*P **P 12 26 08.3 +1.1**
KWP Kalwaria Pacla 96.04 321 *e*P **P 12 26 09.7 -0.4**
LOT Lotru 96.24 316 ⇓*i*P **P 12 26 13.3 +2.1**
KOLS Kolonicke sedl 96.48 320 *e*P **P 12 26 11.8 -0.3**
KOLS Kolonicke sedl 96.48 320 *e*P **P 12 26 11.8 -0.3**
UZH Uzhgorod 96.53 320*c i*P **P 12 26 12.3 0.0**
DRGR 96.67 318 ⇑P **P 12 26 13.0 -0.1**
DRGR 96.67 318 ⇑*i*P **P 12 26 13.0 -0.1**
CRVS Cervenica-Dubn 97.00 320 *e*P **P 12 26 14.8 +0.3**
CRVS Cervenica-Dubn 97.00 320 *e*P **P 12 26 14.8 +0.3**
STHS Stebnicka Huta 97.02 321 *e*P Pdif 12 26 15.4 +0.8
STHS Stebnicka Huta 97.02 321 *e*P Pdif 12 26 15.4 +0.8
DAG Danmarks Havn 97.12 352 ⇓*i*P **P 12 26 13.8 -0.6**
comp=Z,7.5nm,0.9s
OJC Ojcow 97.72 322 *e*P **P 12 26 17.7 +0.1**
KECS Kecovo 97.73 320 *e*P **P 12 26 17.4 -0.4**
KECS Kecovo 97.73 320 *e*P **P 12 26 17.4 -0.4**
HFS Hagfors 97.86 332 LR LR 13 12 43.3
comp=Z,356nm,19.5s,baz=70,slow=37
NB2 NORSAR Subarra 98.62 334 P **P 12 26 20.0 -1.5**
comp=Z,7.0nm,0.8s,baz=66,slow=4.4
NB2 NORSAR Subarra 98.62 334 P **P 12 26 20.0 -1.5**
baz=66,slow=4.4
NOA NORSAR Array B 98.62 334 P **P 12 26 20.4 -1.1**
NOA NORSAR Array B 98.62 334 P **P 12 26 20.4 -1.1**
comp=Z,3.4nm,0.7s,baz=66,slow=4.6,SNR=12
NOA LR LR 13 15 43.9
comp=Z,633nm,20.5s,baz=60,slow=38
OKC Ostrava-Krasne 98.84 322 AMS AMS 13 18 10.0
comp=Z,200nm,18.8s
MORC Moravsky Berou 99.24 322 *e*P **Pdif 12 26 24.5 -0.1**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 99.24 322 *e*P **Pdif 12 26 24.5 -0.1**
comp=Z,6.5nm,1.0s
YKA Yellowknife Ar 99.43 24 P **Pdif 12 26 25.1 +0.1**
YKA Yellowknife Ar 99.43 24 P **Pdif 12 26 25.1 +0.1**
comp=Z,0.8nm,0.6s,baz=303,slow=4.8,SNR=4.7
KSP Ksiaz 99.67 323 *e*P **Pdif 12 26 26.5 +0.1**
KSP *e* 12 26 35.0
KSP Ksiaz 99.67 323 *e*P **Pdif 12 26 26.4 +0.1**
KSP *e* 12 26 35.0
DPC Dobruska-Polom 99.81 322 *e*P **Pdif 12 26 27.5 +0.4**
DPC *e* 12 26 35.7
DPC Dobruska-Polom 99.81 322 *e*PDIFF **Pdif 12 26 27.5 +0.4**
DPC *ex* x 12 26 35.7
DPC AMS AMS 13 12 00.0
UPC Upice 99.95 323 *e*P **Pdif 12 26 30.5 +2.9**
UPC Upice 99.95 323 *e*PDIFF **Pdif 12 26 30.5 +2.9**
UPC *ex* x 12 26 35.8
TREC Trest 100.66 322 AMS AMS 13 18 00.0
comp=Z,500nm,17.0s
CONA Conrad Observa 100.86 320 ⇑*i*Pdiff **Pdif 12 26 32.4 +0.5**
comp=Z,3.0nm,0.9s
PRU Pruhonice 101.01 322 *e*P **Pdif 12 26 32.8 +0.4**
PRU MLR MLR
comp=Z,400nm,27.8s
PRU Pruhonice 101.01 322 *e*PDIFF **Pdif 12 26 32.8 +0.4**
PRU *ex* x 12 26 41.2
PRU AMS AMS 13 13 10.0
comp=Z,400nm,27.8s
PRA Prague 101.05 323 AMS AMS 13 13 30.0
BRG Berggiesshubel 101.07 323 *e*P **Pdif 12 26 32.8 +0.2**
comp=Z,8.0nm,0.9s
BRG *e* 12 26 41.4
comp=Z,12nm,0.8s
BRG Berggiesshubel 101.07 323 *e*P **Pdif 12 26 32.8 +0.2**
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,0.8s
CLL Collm 101.47 324 *e*PS PS 12 39 41.0 -7.0
CLL *e*(SSS) 12 50 00.0
KHC Kasperske Hory 101.89 322 *e*P **Pdif 12 26 35.7 -0.7**
KHC MLR MLR
comp=Z,300nm,19.0s
KHC Kasperske Hory 101.89 322 *e*PDIFF **Pdif 12 26 35.7 -0.7**
KHC *e*pP pP 12 26 42.4 -3.1
KHC AMS AMS 13 19 10.0
comp=Z,300nm,19.0s
GERES GERESS Array B 101.92 322 P **Pdif 12 26 36.2 -0.3**
GERES PP **PP 12 30 51.9 +4.4**
GERES GERESS Array B 101.92 322 P **Pdif 12 26 36.2 -0.3**
comp=Z,0.9nm,0.7s,baz=51,slow=4.3,SNR=9.8
GERES PP **PP 12 30 51.9 +4.4**
comp=Z,0.4nm,0.2s,baz=66,slow=7.6,SNR=3.6
NVAR Mina Array Bea 106.91 48 Pdif **Pdif 12 26 59.9 +0.8**
NVAR PKiKP **PKiKP 12 31 07.9 -1.1**
NVAR PKKPbc **PKKPbc 12 42 31.9 +4.0**
NVAR Mina Array Bea 106.91 48 Pdiff **Pdif 12 26 59.9 +0.8**

comp=Z,1.1nm,0.7s,baz=269,slow=5.6,SNR=16
NVAR PKiKP **PKiKP** **12 31 07.9 -1.1**
comp=Z,0.2nm,0.6s,baz=253,slow=4.3,SNR=2.3
NVAR PKKPbc **PKKPbc** **12 42 31.9 +4.0**
comp=Z,0.8nm,0.8s,baz=157,slow=3.3,SNR=4.7
HLID Hailey 107.79 42 *e*PKPdf 12 31 12.1
PDAR Pinedale Array 111.34 41 PKiKP **PKiKP** **12 31 16.4 -0.8**
PDAR Pinedale Array 111.34 41 PKiKP **PKiKP** **12 31 16.4 -0.8**
comp=Z,0.4nm,0.7s,baz=29,slow=2.1,SNR=4.7
PV01 Paradox Valley 114.09 45 *e*PKPdf PKPdf 12 31 23.7 +1.1
RSSD Black Hills 114.16 38 *e*PKIKP PKPdf 12 31 23.2 +0.6
RSSD Black Hills 114.16 38 *e*PKPdf PKPdf 12 31 23.2 +0.6
ANMO Albuquerque 117.03 47 *e*PKPdf **PKPdf** **12 31 29.2 +0.9**
ECSD EROS Data Cent 118.75 34 *e*PKPdf **PKPdf** **12 31 31.1 0.0**
MNTX Cornudas Mount 119.26 50 *e*PKPdf **PKPdf** **12 31 33.4 +1.0**
BGNE Belgrade 119.27 37 *e*PKPdf **PKPdf** **12 31 32.7 +0.5**
SCHQ Schefferville 120.46 9 PKP **PKPdf** **12 31 33.7 -0.3**
SCHQ Schefferville 120.46 9 PKP **PKPdf** **12 31 33.7 -0.3**
comp=Z,3.9nm,1.0s,baz=225,slow=5.7,SNR=2.9
KSU1 Kansas State U 121.59 39 *e*PKPdf **PKPdf** **12 31 37.1 +0.4**
TXAR Lajitas Array 121.61 52 PKP **PKPdf** **12 31 37.8 +0.6**
TXAR Lajitas Array 121.61 52 PKP **PKPdf** **12 31 37.8 +0.6**
comp=Z,1.2nm,0.7s,baz=241,slow=2.3,SNR=13
WMOK Wichita Mounta 122.62 44 *e*PKIKP **PKPdf** **12 31 39.1 +0.3**
WMOK Wichita Mounta 122.62 44 *e*PKPdf **PKPdf** **12 31 39.1 +0.3**
JFWS Jewell Farm 122.76 32 *e*PKIKP **PKPdf** **12 31 38.4 -0.4**
JFWS Jewell Farm 122.76 32 *e*PKPdf **PKPdf** **12 31 38.4 -0.4**
TOA0 Torodi Ar. Sit 122.77 288 *e*PKPdf **PKPdf** **12 31 38.8 -0.7**
TORD Torodi Ar. Bea 122.77 288 PKP **PKPdf** **12 31 39.2 -0.4**
TORD PKKPab **PKKPab** **12 41 32.9 +0.1**
TORD Torodi Ar. Bea 122.77 288 PKP **PKPdf** **12 31 39.2 -0.4**
comp=Z,2.3nm,0.6s,baz=50,slow=1.8,SNR=14
TORD PKKPab **PKKPab** **12 41 32.9 +0.1**
comp=Z,1.1nm,0.6s,baz=283,slow=3.8,SNR=6.3
JCT Junction City 124.06 49 *e*PKIKP **PKPdf** **12 31 42.5 +0.7**
JCT Junction City 124.06 49 *e*PKPdf **PKPdf** **12 31 42.5 +0.7**
MIAR Mount Ida 126.26 41 *e*PKIKP **PKPdf** **12 31 47.1 +1.3**
MIAR Mount Ida 126.26 41 *e*PKPdf **PKPdf** **12 31 47.1 +1.3**
HKT Hockley 127.29 47 *e*PKIKP **PKPdf** **12 31 49.1 +1.3**
HKT Hockley 127.29 47 *e*PKPdf **PKPdf** **12 31 49.1 +1.3**
WVT Waverly 128.82 36 *e*PKIKP **PKPdf** **12 31 51.9 +1.3**
WVT Waverly 128.82 36 *e*PKPdf **PKPdf** **12 31 51.9 +1.3**
SSPA Standing Stone 130.36 24 *e*PKPdf **PKPdf** **12 31 54.2 +0.8**
LRAL Lakeview Retre 131.44 38 *e*PKPdf **PKPdf** **12 31 56.7 +1.0**
TKL Tuckaleechee C 131.47 33 *e*PKPdf **PKPdf** **12 31 56.2 +0.5**
PLCA Paso Flores 140.16 160 PKP **PKPdf** **12 32 12.3 +0.5**
PLCA Paso Flores 140.16 160 PKP **PKPdf** **12 32 12.3 +0.5**
comp=Z,3.2nm,0.9s,baz=171,slow=6.9,SNR=6.8
TRQA Tornquist 145.06 168 *e*PKPdf **PKPbc** **12 32 19.7 -0.1**
CFAA Coronel Fontan 149.06 155 PKPbc **PKPbc** **12 32 31.3 -0.1**
CFAA Coronel Fontan 149.06 155 PKPbc **PKPbc** **12 32 31.3 -0.1**
comp=Z,1.7nm,0.6s,baz=206,slow=3.5,SNR=20
LCO Las Campanas 150.06 149 *e*PKPbc **PKPbc** **12 32 34.5 +0.2**
LCO *e*PKPab **PKPab** **12 32 40.8 +0.8**
BCIP Isla Barro Col 150.63 64 *e*PKPbc **PKPbc** **12 32 36.1 +0.4**
SDDR Presa de Saban 151.27 37 *e*PKPbc **PKPbc** **12 32 37.7 +0.6**
ATAH Atahualpa 154.90 99 PKPbc **PKPbc** **12 32 45.7 0.0**
ATAH Atahualpa 154.90 99 PKPbc **PKPbc** **12 32 45.7 0.0**
comp=Z,6.8nm,0.8s,baz=277,slow=8.1,SNR=3.2
LPAZ La Paz 160.96 131 *e*PKPdf **PKPdf** **12 32 45.3 +0.7**
LPAZ La Paz 160.96 131 PKP **PKPdf** **12 32 45.4 +0.7**
comp=Z,1.9nm,0.8s,baz=9.1,slow=5.9,SNR=7.2
SIV San Ignacio 165.77 148 PKP **PKPdf** **12 32 50.3 +1.8**
SIV PKPab **PKPab** **12 33 47.7 +0.2**
SIV San Ignacio 165.77 148 PKP **PKPdf** **12 32 50.3 +1.8**
comp=Z,1.5nm,0.8s,baz=207,slow=7.5,SNR=2.3
SIV PKPab **PKPab** **12 33 47.7 +0.2**
comp=Z,1.7nm,0.8s,baz=252,slow=9.6,SNR=2.9
SAML Samuel 169.03 118 *e*PKPdf **PKPdf** **12 32 50.5 -0.4**
SAML *e*PKPab **PKPab** **12 34 01.9 -0.3**

*IDC **20** 12:29:17.5±1.6, 10°.97S×114°.82E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=62.1km s-min=17.5km az=56.0*
*ISCJB **20** 12:29:24.1±1.1, 11°.15S±0°.07×114°.53E±0°.05, h81km±11km, mb3.9/6, Error ellipse: s-maj=11.4km s-min=7.4km az=13.0*
*DJA **20** 12:29:27.5±0.6, 11°S±5°×11°4E±°, h63km±32km, M4.6/13, mb4.9/1, mB5.5/1, MLv4.5/13, Mw(mB)4.9/1*
ISC 20 12:29:25.3±1.8, 11°2S±0°.1×114°54E±0°.06, h70km±17km, n24, σ1°.05/33, mb4.0/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.39**	**15**	P	**Pn**	**12 30 02.3**	**0.0**
IGBI				S	**Sn**	**12 30 30.0**	**-0.5**
DNP	**Denpasar**	**2.54**	**15**	P	**Pn**	**12 30 04.3**	**0.0**
DNP				S	**Sn**	**12 30 34.8**	**+0.6**
NBBI	**Negara**	**2.76**	**2**	P	**Pn**	**12 30 06.3**	**-1.0**
NBBI				S	**Sn**	**12 30 38.4**	**-1.2**
BYJI	**Banyuwangi**	**2.92**	**356**	P	**Pn**	**12 30 09.4**	**-0.1**
BYJI				S	**Sn**	**12 30 43.4**	**-0.1**
MTNI	**Mataram**	**2.97**	**33**	P	**Pn**	**12 30 11.8**	**+1.7**
MTNI				S	**Sn**	**12 30 46.6**	**+2.0**
GMJI	**Gumukmas**	**3.05**	**339**	P	**Pn**	**12 30 10.5**	**-0.8**
GMJI				S	**Sn**	**12 30 45.7**	**-1.0**
SRBI	**Singaraja**	**3.12**	**12**	P	**Pn**	**12 30 12.8**	**+0.7**
SRBI				S	**Sn**	**12 30 48.6**	**+0.4**
BLJI	**Banyuglugur**	**3.51**	**345**	P	**Pn**	**12 30 18.3**	**+0.8**
KRKI	**Karangkates**	**3.61**	**325**	P	**Pn**	**12 30 19.5**	**+0.6**
KRKI				S	**Sn**	**12 31 01.2**	**+0.8**
KMMI	**Kalianget**	**4.11**	**352**	P	**Pn**	**12 30 25.6**	**-0.1**
PWJI	**Pagerwojo**	**4.11**	**319**	P	**Pn**	**12 30 25.5**	**-0.2**
PWJI				S	**Sn**	**12 31 11.7**	**-0.9**
SJI	**Sawahan**	**4.36**	**321**	P	**Pn**	**12 30 30.0**	**+0.9**
SJI				S	**Sn**	**12 31 20.2**	**+1.5**
PCJI	**Pacitan**	**4.43**	**311**	P	**Pn**	**12 30 30.3**	**+0.3**
WSI	**Waingapu**	**5.85**	**76**	P	Sn	12 32 01.3	+6.0
LBFI	**Labuhan Bajo,**	**5.90**	**64**	P	**Pn**	**12 30 50.6**	**+0.4**
KAPI	**Kappang**	**7.99**	**41**	Pn	**Pn**	**12 31 17.1**	**-1.6**
2.5nm,0.3s,baz=225,slow=7.6,SNR=11							
FITZ	**Fitzroy Crossi**	**12.77**	**124**	Pn	Pn	12 32 16.8	-7.2
0.7nm,0.3s,baz=313,slow=9.1,SNR=29							
FITZ				Sn	Sn	12 34 27.7	-17
1.1nm,0.3s,baz=188,slow=20,SNR=13							
WRA	**Warramunga Arr**	**20.96**	**117**	P	**P**	**12 34 01.4**	**-1.4**
3.2nm,0.6s,baz=290,slow=12,SNR=23							
WRA				S	S	12 37 42.1	-11
0.8nm,0.7s,baz=276,slow=22,SNR=5.6							
ASAR	**Alice Springs**	**22.24**	**127**	P	**P**	**12 34 15.8**	**-0.8**
0.8nm,0.4s,baz=302,slow=9.6,SNR=20							
ASAR				PcP	**PcP**	**12 38 11.4**	**+0.9**
0.4nm,0.6s,baz=294,slow=2.0,SNR=4.3							
STKA	**Stephens Creek**	**32.38**	**134**	P	**P**	**12 35 48.2**	**-0.1**
3.5nm,0.8s,baz=300,slow=7.9,SNR=9.0							
MJAR	**Matsushiro Arr**	**52.41**	**24**	P	**P**	**12 38 28.2**	**-2.5**
0.9nm,0.7s,baz=202,slow=9.0,SNR=4.8							
USRK	**Ussuriysk Arra**	**57.33**	**15**	P	**P**	**12 39 06.4**	**+0.5**
1.9nm,0.7s,baz=224,slow=11,SNR=3.4							
SONM	**Songino Array**	**59.16**	**354**	P	**P**	**12 39 19.7**	**+0.8**
0.3nm,0.3s,baz=165,slow=6.0,SNR=3.6							
MKAR	**Makanchi Array**	**64.49**	**336**	P	**P**	**12 39 55.8**	**+1.2**
1.0nm,0.4s,baz=146,slow=7.6,SNR=12							

IDC 20 12:30:01.4±1.2, 16°.06S×174°.88W, h281km±11km, mb3.6/10, mb1 3.8/11, mb1mx3.7/20, mbtmp3.6/11, Error ellipse: s-maj=22.6km s-min=11.6km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.68**	**55**	P	Pn	12 31 04.1	+0.9
15nm,0.3s,baz=100,slow=2.2,SNR=26							
AFI				S	S	12 31 52.4	-0.1
40nm,0.3s,baz=6.5,slow=21,SNR=13							
STKA	**Stephens Creek**	**42.48**	**240**	P	P	12 37 29.5	0.0
3.3nm,0.8s,baz=123,slow=7.1,SNR=4.8							
WRA	**Warramunga Arr**	**48.31**	**257**	P	P	12 38 15.1	-0.2
4.5nm,0.7s,baz=92,slow=6.7,SNR=30							
ASAR	**Alice Springs**	**48.55**	**252**	P	P	12 38 16.7	-0.4
32nm,0.6s,baz=87,slow=7.8,SNR=392							
FITZ	**Fitzroy Crossi**	**56.68**	**259**	P	P	12 39 16.0	-0.4
0.9nm,0.7s,baz=74,slow=7.4,SNR=4.5							
VNDA	**Vanda**	**62.59**	**186**	P	P	12 39 56.5	+1.1
1.8nm,0.9s,baz=5.0,slow=6.8,SNR=7.3							
PETK	**Petropavlovsk-**	**72.83**	**343**	P	P	12 40 59.9	+0.5
1.1nm,0.7s,baz=149,slow=9.8,SNR=3.6							
NVAR	**Mina Array Bea**	**75.77**	**43**	P	P	12 41 17.4	+0.5
2.8nm,0.7s,baz=225,slow=9.4,SNR=30							
TXAR	**Lajitas Array**	**82.16**	**57**	P	P	12 41 51.3	-0.2
1.0nm,0.7s,baz=216,slow=6.2,SNR=8.2							
ILAR	**Eielson Array**	**83.37**	**12**	P	P	12 41 55.9	-0.9
0.6nm,0.6s,baz=228,slow=5.8,SNR=15							
PDAR	**Pinedale Array**	**83.70**	**42**	P	P	12 41 59.2	-0.1
3.5nm,0.8s,baz=206,slow=3.5,SNR=27							
MAW	**Mawson**	**86.72**	**199**	P	P	12 42 12.8	-0.6
2.3nm,0.7s,baz=110,slow=5.6,SNR=8.9							
ARCES	**ARCESS Array B**	**125.05**	**351**	PKP	PKPdf	12 48 27.4	-0.3
6.8nm,1.2s,baz=48,slow=1.3,SNR=3.5							
GERES	**GERESS Array B**	**146.55**	**350**	PKPbc	PKPbc	12 49 10.0	+0.1
0.4nm,0.4s,baz=29,slow=3.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**175.60**	**131**	PKPab	PKPab	12 51 16.1	-1.9
1.2nm,0.9s,baz=254,slow=4.2,SNR=5.6							

*BJI **20** 12:33:52.4, 1°.70S×99°.01E, h10km, mB5.3/13, mb4.6/29, Ms4.7/10, Ms7 4.4/9*
*IDC **20** 12:33:53.6±0.4, 1°.45S×99°.44E, h0km, mb4.5/26, mb1 4.6/28, mb1mx4.5/32, mbtmp4.5/28, ML4.1/2, Error ellipse: s-maj=15.7km s-min=10.4km az=61.0*
*NEIC **20** 12:33:55.1±0.2, 1°.51S×99°.42E, h10km, mb4.8/14, Error ellipse: s-maj=8.5km s-min=5.4km az=67.0*
*ISCJB **20** 12:33:56.4±0.2, 1°.51S±0°.03×99°.32E±0°.03, h30km, mb4.7/68, MS4.3/3, Error ellipse: s-maj=5.5km s-min=3.4km az=43.0*
*TEH **20** 12:33:56.0, 1°.51S×99°.37E, h10km, ML4.8*
*MOS **20** 12:33:57.1±0.9, 1°.36S×99°.50E, h33km, mb5.0/23, Error ellipse: s-maj=14.9km s-min=6.7km az=109.4*
*AUST **20** 12:34:01.8±1.4, 1°.64S×99°.41E, h53km, Error ellipse: s-maj=1.9km s-min=0.9km az=229.0*
*DJA **20** 12:34:02.1±1.2, 2°S±3°×10°0E±°, h5km±9km, M4.8/23, mB5.2/7, mb4.8/23, MLv5.0/14, Mw(mB)4.6/7*
*BKK **20** 12:34:10.8±0.9, 1°S±8°×10°0E±°, h10km, M4.6/13, mB5.2/2, mb4.5/13, MLv4.7/6, Mw(mB)4.6/2*
ISC 20 12:33:57.0±0.4, 1°.54S±0°.04×99°.33E±0°.05, h21km±4km, n277, σ1°.39/282, mb4.8/68, MS4.3/3, 48C-30D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.29**	**61**	P	**Pn**	**12 34 18.6**	**-1.2**
PDSI				S	**Sn**	**12 34 31.6**	**-4.8**
PPI	**Padang Panjang**	**1.51**	**45**	P	**Pn**	**12 34 21.5**	**-1.3**
PPI	**Padang Panjang**	**1.51**	**45**	S	**Sb**	**12 34 44.1**	**+1.0**
baz=1.5,SNR=12							
BKNI	**Bangkinang**	**2.52**	**43**	P	**Pb**	**12 34 39.5**	**-2.0**
BKNI	**Bangkinang**	**2.52**	**43**	P	**Pb**	**12 34 42.7**	**+1.2**
baz=2.6,SNR=9.7							
RGRI	**Rengat**	**3.22**	**69**	P	**Pn**	**12 34 47.9**	**+1.5**
MASI	**Maura Aman, Be**	**3.31**	**119**	P	Pn	12 34 51.0	+3.4
KSI	**Kapahiang**	**3.87**	**123**	P	Pn	12 34 58.8	+3.4
KSI				S	**Sn**	**12 35 39.9**	**-0.4**
PSI	**Prapat**	**4.33**	**355**	Pn	**Pn**	**12 35 00.2**	**-1.5**
PSI	**Prapat**	**4.33**	**355**	Pn	**Pn**	**12 35 00.2**	**-1.5**
3.4nm,0.3s,baz=166,slow=11,SNR=8.5							
PSI	**Prapat**	**4.33**	**355**	P	**Pn**	**12 35 02.0**	**+0.2**
baz=4.4,SNR=5.8							
MNAI	**Manna**	**4.58**	**128**	P	**Pn**	**12 35 05.9**	**+0.9**
MNAI	**Manna**	**4.58**	**128**	P	**Pn**	**12 35 05.8**	**+0.8**
baz=4.5,SNR=30							
MNAI				S	**Sn**	**12 35 57.3**	**-0.3**
baz=4.5,SNR=8.8							
EGSI	**Enggano, Bengk**	**4.79**	**142**	P	**Pn**	**12 35 07.8**	**-0.2**
TSI	**Tuntungan**	**5.07**	**351**	P	Pb	12 35 19.6	-5.3
251nm,0.9s,1.6nm							
KCSI	**Kotacane, Aceh**	**5.26**	**343**	P	Pb	12 35 22.1	-6.3
89nm,0.9s,3μm0.9nm							
FRIM	**Kepong**	**5.27**	**26**	P	**Pn**	**12 35 14.2**	**-0.4**
MYKOM	**Kota Tinggi**	**5.60**	**54**	P	**Pn**	**12 35 16.7**	**-2.3**
MYKOM	**Kota Tinggi**	**5.60**	**54**	P	**Pn**	**12 35 20.7**	**+1.7**
113nm,0.9s,905nm0.9nm							
LWLI	**Liwa**	**5.85**	**126**	P	Pn	12 35 26.7	+4.1
274nm,0.6s,5μm1.9nm							
IPM	**Ipoh**	**6.21**	**16**	*e*Pn	**Pn**	**12 35 28.2**	**+0.7**
74nm,0.6s							
IPM	**Ipoh**	**6.21**	**16**	P	**Pn**	**12 35 29.3**	**+1.8**
IPM	**Ipoh**	**6.21**	**16**	P	**Pn**	**12 35 29.9**	**+2.4**
127nm,0.9s,1μm0.5nm							
KLSI		**6.23**	**120**	P	**Pn**	**12 35 29.8**	**+2.0**
64nm,0.8s,0.2nm							
KASI	**Kota Agung**	**6.50**	**128**	P	**Pn**	**12 35 34.1**	**+2.7**
126nm,0.8s,2μm0.8nm							
KULM	**Kulim**	**6.91**	**11**	*e*Pn	**Pn**	**12 35 36.6**	**-0.5**
54nm,0.8s							
KULM	**Kulim**	**6.91**	**11**	P	**Pn**	**12 35 37.2**	**+0.1**
KULM	**Kulim**	**6.91**	**11**	P	Pn	12 35 42.6	+5.5
86nm,0.8s,4μm0.4nm							
KTGM	**Kuala Trenggan**	**7.81**	**29**	P	**Pn**	**12 35 50.0**	**+0.5**
SKLT	**Songkhla**	**8.75**	**8**	P	Pn	12 36 08.8	+6.4
48nm,1.0s							
SKLT	**Songkhla**	**8.75**	**8**	P	Pn	12 36 08.7	+6.4
48nm,1.0s,0.1nm							
DBJI	**Dramaga**	**8.92**	**124**	P	**Pn**	**12 36 06.8**	**+2.1**
62nm,0.7s							
CISI	**Cisompet, Garu**	**10.35**	**126**	P	**Pn**	**12 36 26.7**	**+2.3**
70nm,1.1s							
SBUM	**Sibu**	**13.48**	**73**	P	**Pn**	**12 37 10.0**	**+2.9**
SBUM	**Sibu**	**13.48**	**73**	P	**Pn**	**12 37 07.8**	**+0.7**
22nm,1.5s							
UBPT	**Khong Chiam**	**17.78**	**20**	P	P	12 38 10.4	+6.4
UBPT	**Khong Chiam**	**17.78**	**20**	P	P	12 38 11.8	+7.8
11nm,0.9s							
PBKT	**Sadao Pong**	**18.07**	**5**	P	P	12 38 13.3	+6.2
8.9nm,0.7s							
PBKT	**Sadao Pong**	**18.07**	**5**	P	P	12 38 14.6	+7.5
9.0nm,0.7s							
SDKM	**Sandakan**	**19.21**	**68**	P	**Pn**	**12 38 20.8**	**0.0**
KDM	**Kudat**	**19.38**	**64**	P	**Pn**	**12 38 25.6**	**+2.8**
TSM	**Tawau**	**19.41**	**73**	P	**P**	**12 38 22.1**	**+0.1**
MMSI	**Mamuju**	**19.60**	**94**	P	**Pn**	**12 38 26.6**	**+1.1**
62nm,0.9s							
CM31	**Chiang Mai Arr**	**19.88**	**359**	*e*P	**P**	**12 38 27.0**	**0.0**
17nm,0.8s							
CMAR	**Chiang Mai Arr**	**19.88**	**359**	P	**P**	**12 38 27.0**	**0.0**
CMAR	**Chiang Mai Arr**	**19.88**	**359**	P	**P**	**12 38 27.0**	**0.0**
0.5nm,0.3s,baz=185,slow=9.9,SNR=24							
LAMP	**Lampang**	**19.94**	**1**	P	**Pn**	**12 38 33.5**	**+4.1**
16nm,0.9s							
CMMT	**Chiang Mai**	**20.23**	**359**	P	Pn	12 38 35.6	+2.7
12nm,0.9s							
CMMT	**Chiang Mai**	**20.23**	**359**	P	Pn	12 38 35.6	+2.7
12nm,0.9s							
CHTO	**Chiang Mai**	**20.23**	**359**	*e*P	**P**	**12 38 29.9**	**-1.0**
CHTO				pmax	pmax		
comp=Z,9.0nm,0.8s							
CHTO	**Chiang Mai**	**20.23**	**359**	*e*P	**P**	**12 38 29.9**	**-1.0**
comp=Z,9.1nm,0.8s							
CHTO	**Chiang Mai**	**20.23**	**359**	P	Pn	12 38 38.4	+5.5
comp=Z,14nm,0.9s							
CHTO	**Chiang Mai**	**20.23**	**359**	P	Pn	12 38 36.1	+3.2
comp=Z,7.6nm,1.3s							
MYLDM	**Lahad Datu**	**20.27**	**71**	P	Pn	12 38 33.6	+0.2
MYLDM	**Lahad Datu**	**20.27**	**71**	P	Pn	12 38 33.5	0.0
comp=Z,40nm,0.9s							
SPSI	**Sidrap Palu**	**20.55**	**97**	P	Pn	12 38 38.0	+1.3
comp=Z,23nm,1.4s							
KAPI	**Kappang**	**20.67**	**100**	P	**P**	**12 38 35.8**	**+0.1**
KAPI	**Kappang**	**20.67**	**100**	P	Pn	12 38 38.8	+0.7
comp=Z,37nm,1.1s							
KAPI	**Kappang**	**20.67**	**100**	P	**P**	**12 38 35.8**	**+0.1**
comp=Z,8.8nm,0.3s,baz=212,slow=19,SNR=2.5							
BKSI	**Bulukumba**	**21.09**	**101**	P	**P**	**12 38 42.0**	**+1.8**
comp=Z,41nm,0.8s							
MRSI	**Marisa**	**22.69**	**85**	P	**P**	**12 39 00.2**	**+2.7**
comp=Z,53nm,0.9s							
LUWI	**Luwuk**	**23.44**	**89**	P	**P**	**12 39 08.8**	**+3.7**
comp=Z,65nm,0.9s							
GTOI	**Gorontalo**	**23.77**	**85**	P	**P**	**12 39 07.0**	**-1.3**
KMI	**Kunming**	**26.71**	**7**	P	P	12 39 40.8	+5.6
KMI				pmax	pmax		
comp=Z,14nm,0.6s							
SHL	**Shillong**	**27.89**	**346**	*e*P	**P**	**12 39 44.0**	**-1.8**
GYA	**Guiyang**	**28.72**	**14**	P	**P**	**12 39 54.6**	**+1.5**
GYA				PP	**PnPn**	**12 40 47.8**	**+3.8**
GYA				PcP	**PcP**	**12 43 05.3**	**+1.9**
GYA				S	**S**	**12 44 43.0**	**+1.6**
GYA				SS	**SnSn**	**12 46 11.3**	**+8.3**
GYA				ScP	**ScP**	**12 46 45.5**	**+1.8**
GYA				ScS	**ScS**	**12 50 38.8**	**+1.4**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,90nm,4.9s							
GYA				LR	LR		
comp=N,550nm,16.9s							
GYA				LR	LR		
comp=E,460nm,17.2s							
GYA				LR	LR		
comp=Z,510nm,17.6s							
FITZ	**Fitzroy Crossi**	**30.62**	**124**	P	**P**	**12 40 09.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.62**	**124**	P	**P**	**12 40 09.0**	**-0.9**
comp=Z,5.7nm,0.9s,baz=295,slow=6.7,SNR=6.4							
FITZ	**Fitzroy Crossi**	**30.62**	**124**	P	**P**	**12 40 09.2**	**-0.7**
baz=31,SNR=3.6							
LSA	**Lhasa**	**32.03**	**346**	P	**P**	**12 40 22.4**	**-0.4**
CD2	**Chengdu**	**32.54**	**7**	*e*P	**P**	**12 40 28.3**	**+1.6**
CD2				pP	**pP**	**12 40 33.3**	**+0.1**
CD2				sP	**sP**	**12 40 35.8**	**0.0**
CD2				PP	**PP**	**12 41 37.8**	**-2.7**
CD2				S	**S**	**12 45 43.9**	**+2.8**
CD2				sS	**sS**	**12 45 50.8**	**-0.9**
CD2				SS	**SnSn**	**12 47 41.0**	**+5.2**
CD2				pmax	pmax		
comp=Z,20nm,1.0s							
CD2				pmax	pmax		
comp=Z,340nm,11.8s							
CD2				LR	LR		
comp=N,260nm,15.6s							
CD2				LR	LR		
comp=E,420nm,15.5s							
CD2				LR	LR		
comp=Z,230nm,16.6s							
FAKI	**Fak Fak**	**32.92**	**93**	S	S	12 45 54.9	+7.5
baz=33,SNR=4.8							
MTN	**Manton Dam**	**33.44**	**111**	S	S	12 45 37.6	-18
baz=33,SNR=8.6							
XAN	**Xi'an**	**36.52**	**13**	P	**P**	**12 40 58.3**	**-2.8**
XAN				pmax	pmax		
comp=Z,2.0nm,0.6s							
LZH	**Lanzhou**	**37.67**	**6**	*e*P	**P**	**12 41 12.5**	**+1.5**
LZH				pP	**pP**	**12 41 16.8**	**-0.7**
LZH				sP	**sP**	**12 41 19.0**	**-1.1**
LZH				pmax	pmax		
comp=Z,14nm,1.0s							
NJ2	**Nanjing**	**38.19**	**27**	*e*P	**P**	**12 41 16.3**	**+1.1**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**12 41 19.2**	**-1.4**
WRA				PcP	**PcP**	**12 43 31.8**	**-0.1**
WRA	**Warramunga Arr**	**38.80**	**121**	P	**P**	**12 41 19.2**	**-1.4**
comp=Z,6.8nm,0.8s,baz=302,slow=9.1,SNR=28							
WRA				PcP	**PcP**	**12 43 31.8**	**-0.1**
comp=Z,1.7nm,0.8s,baz=315,slow=2.2,SNR=4.7							
WRAB	**Tennant Creek**	**38.80**	**121**	*e*P	**P**	**12 41 19.3**	**-1.4**
WRAB				pmax	pmax		
comp=Z,9.0nm,0.6s							
WRAB	**Tennant Creek**	**38.80**	**121**	*e*P	**P**	**12 41 19.3**	**-1.4**
comp=Z,8.9nm,0.6s							
AS31	**Alice Springs**	**40.06**	**126**	*e*P	**P**	**12 41 30.5**	**-0.6**
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**12 41 29.9**	**-1.2**
ASAR				PcP	**PcP**	**12 43 36.0**	**+0.1**
ASAR				S	**S**	**12 47 32.2**	**-4.0**
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**12 41 29.9**	**-1.2**
comp=Z,3.0nm,0.8s,baz=297,slow=7.7,SNR=18							
ASAR				PcP	**PcP**	**12 43 36.0**	**+0.1**
comp=Z,2.2nm,0.9s,baz=302,slow=3.5,SNR=6.8							
ASAR				S	**S**	**12 47 32.2**	**-4.0**
comp=Z,1.2nm,0.9s,baz=300,slow=15,SNR=9.0							
GTA	**Gaotai**	**40.75**	**1**	P	**P**	**12 41 38.5**	**+1.8**
GTA				pP	**pP**	**12 41 43.1**	**-0.1**
GTA				sP	**sP**	**12 41 45.5**	**-0.3**
GTA				pmax	pmax		
comp=Z,4.0nm,1.3s							
HHC	**Hu-ho-hao-te**	**43.64**	**13**	*e*P	**P**	**12 42 00.6**	**+0.4**
HHC				PP	**PP**	**12 43 43.8**	**+1.9**
HHC				ScP	**ScP**	**12 47 37.3**	**-0.6**
HHC				PcS	**PcS**	**12 47 39.0**	**-1.2**
HHC				S	**S**	**12 48 30.5**	**+1.7**
HHC				sS	**sS**	**12 48 37.8**	**-1.8**
HHC				SS	**SS**	**12 51 39.3**	**-5.1**
HHC				ScS	**ScS**	**12 51 57.3**	**-1.5**
HHC				pmax	pmax		
comp=Z,35nm,0.7s							
HHC				pmax	pmax		
comp=Z,860nm,5.8s							
HHC				LR	LR		
comp=N,470nm,16.3s							
HHC				LR	LR		
comp=E,280nm,17.0s							
HHC				LR	LR		
comp=Z,580nm,17.0s							
JNU	**Nakatsue**	**45.54**	**38**	*e*P	**P**	**12 42 14.4**	**-1.0**
comp=Z,7.4nm,0.9s							
JNU	**Nakatsue**	**45.54**	**

ZALV Zalesovo Beam 56.60 350 P P 12 43 37.5 -0.6
ZALV S **S** **12 51 28.4 -0.4**
ZALV Zalesovo Beam 56.60 350 P P 12 43 37.5 -0.6
comp=Z,16nm,0.8s,baz=182,slow=5.8,SNR=36
ZALV S **S** **12 51 28.4 -0.4**
comp=Z,0.8nm,0.6s,baz=156,slow=11,SNR=5.5
NVS Novosibirsk 57.74 349⇓ *e*P P 12 43 43.6 -2.5
NVS *e*S **S** **12 51 42.3 -1.5**
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS smax smax
comp=E,8.0nm,1.4s
RAYN Ar Rayn 57.93 299 *e*P P 12 43 47.9 -0.3
comp=E,4.6nm,0.8s
NAY Al-Naaiem 58.41 306 *e*P P 12 43 50.7 -0.7
NAY AMb AMB 12 43 51.8
comp=Z,1.2nm,1.1s
MIB Mutribah 58.55 307 *e*P P 12 43 51.8 -0.5
MIB AMb AMB 12 43 53.1
comp=Z,43nm,0.9s
RST Umm Al-Ruwaisa 58.71 306 *e*P P 12 43 52.4 -1.0
RST AMb AMB 12 43 53.7
comp=Z,185nm,0.8s
BRVK Borovoye 59.59 340⇑ *e*P P 12 43 57.8 -1.3
BRVK pmax pmax
comp=Z,3.0nm,0.7s
AB31 Akbulak array 60.92 332 *i*P P 12 44 06.5 -1.8
AB31 pmax pmax
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 60.92 332 *e*P P 12 44 07.1 -1.2
comp=Z,3.7nm,0.6s
YSS Yuzh-Sakhalins 61.45 32⇑ *e*P P 12 44 11.5 -0.4
YSS *e* 12 44 20.3
KMBO Kilima Mbogo 62.06 270 *e*P P 12 44 17.7 +0.7
comp=Z,6.1nm,0.9s
KMBO Kilima Mbogo 62.06 270 P P 12 44 18.4 +1.4
comp=Z,5.2nm,0.7s,baz=56,slow=11,SNR=14
SVE Sverdlovsk 66.01 338⇑ *i*P P 12 44 41.3 -0.5
SVE pmax pmax
comp=Z,12nm,0.9s
ARU Arti 66.52 337*d* *i*P P 12 44 43.8 -1.3
ARU 12 47 06.9
ARU S **S** **12 53 34.9 +0.3**
ARU SS **SS** **12 57 49.5 -2.5**
ARU pmax pmax
comp=Z,6.0nm,1.0s
YAK Yakutsk 67.47 15 *e*P P 12 44 50.1 -0.9
YAK pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 67.53 319 P P 12 44 51.4 -0.3
KBZ Khabaz 67.53 319 P P 12 44 51.4 -0.3
KBZ Khabaz 67.53 319 P P 12 44 51.4 -0.3
comp=Z,7.5nm,0.8s,baz=121,slow=5.8,SNR=23
KIV Kislovodsk 67.76 319 *e*P P 12 44 53.1 -0.3
KIV pmax pmax
comp=Z,11nm,1.0s
MAW Mawson 70.57 194 *e*P P 12 45 11.1 +1.0
MAW Mawson 70.57 194 P P 12 45 10.2 +0.1
comp=Z,3.0nm,0.8s,baz=357,slow=7.0,SNR=6.6
MAW Mawson 70.57 194 P P 12 45 11.8 +1.7
baz=71,SNR=5.1
VRHR Novokhopersk 71.58 326 *e*P P 12 45 14.9 -1.7
VRHR pmax pmax
comp=E,310nm,4.3s
VRHR pmax pmax
comp=Z,80nm,4.3s
VRHR pmax pmax
comp=N,50nm,1.5s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,8.0nm,0.9s
PETK Petropavlovsk- 72.85 32 P P 12 45 24.1 -0.1
PETK Petropavlovsk- 72.85 32 P P 12 45 24.1 -0.1
PETK Petropavlovsk- 72.85 32 P P 12 45 24.1 -0.1
comp=E,1.8nm,0.7s,baz=213,slow=5.4,SNR=9.2
VSR Storozhevoye 73.02 325 *e*P P 12 45 23.7 -1.5
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
SEY Seymchan 75.45 22⇓ *e*P P 12 45 38.4 -0.8
OBN Obninsk 76.05 328 *e*P P 12 45 41.9 -0.8
OBN pmax pmax
comp=Z,12nm,1.3s
VRI Vrincioaia 79.06 317⇓ *i*P P 12 46 00.2 +0.4
TESR Tescani 79.27 318⇑ *i*P P 12 46 00.5 -0.4
MLR Muntele Rosu 79.51 317⇑ *i*P P 12 46 02.0 -0.4
VOIR 80.11 317⇓ *i*P P 12 46 05.3 -0.3
BURAR Bucovina Array 80.48 319⇑ *i*P P 12 46 08.0 +0.4
VTS Vitosha 80.85 313⇑ *i*P P 12 46 09.3 -0.5
KOLS Kolonicke sedl 82.67 320 *e*P P 12 46 19.5 +0.5
KOLS pmax pmax
comp=Z,10.0nm,0.8s
KOLS Kolonicke sedl 82.67 320 *e*P P 12 46 19.5 +0.5
VNDA Vanda 82.74 169 P P 12 46 19.2 +0.4
VNDA Vanda 82.74 169 P P 12 46 19.2 +0.4
comp=Z,1.6nm,0.8s,baz=299,slow=4.6,SNR=8.3
CRVS Cervenica-Dubn 83.19 319 *e*P P 12 46 22.2 +0.4
CRVS pmax pmax
comp=Z,5.0nm,1.3s
CRVS Cervenica-Dubn 83.19 319 *e*P P 12 46 22.2 +0.4
FINES FINESS Array B 83.40 332 P P 12 46 21.9 -0.6
FINES FINESS Array B 83.40 332 P P 12 46 21.9 -0.6
comp=Z,3.7nm,0.6s,baz=101,slow=5.6,SNR=20
STHS Stebnicka Huta 83.42 320 *e*P P 12 46 23.5 +0.6
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 83.42 320 *e*P P 12 46 23.5 +0.6
KAF Kangasniemi 83.47 333 *e*P P 12 46 21.1 -1.8
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF Kangasniemi 83.47 333 *e*p P 12 46 21.1 -1.8
comp=Z,9.7nm,0.7s
KECS Kecovo 83.76 319 *e*P P 12 46 24.3 -0.4
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 83.76 319 *e*P P 12 46 24.3 -0.4
SBA Scott Base 83.84 169 *e*P P 12 46 26.4 +1.9
SBA pmax pmax
comp=Z,86nm,2.8s
SBA Scott Base 83.84 169 *e*P P 12 46 26.4 +1.9
comp=Z,86nm,2.8s
PSZ Piszkesteto 84.06 318 *e*P P 12 46 26.2 -0.1
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 84.06 318⇑ *i*P P 12 46 25.4 -0.9
PSZ Piszkesteto 84.06 318 *e*P P 12 46 26.2 -0.1
comp=Z,5.2nm,0.9s
ARCES ARCESS Array B 85.82 340 P P 12 46 33.5 -1.1
ARCES ARCESS Array B 85.82 340 P P 12 46 33.5 -1.1
comp=Z,3.7nm,0.9s,baz=76,slow=6.5,SNR=5.0
DPC Dobruska-Polom 86.71 320 *e*P P 12 46 40.0 +0.5
DPC pmax pmax
comp=Z,29nm,0.8s
DPC Dobruska-Polom 86.71 320 *e*P P 12 46 40.0 +0.5
comp=Z,29nm,0.8s
BRG Berggiesshubel 88.27 321 *e*P P 12 46 47.0 +0.2
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 88.27 321 *e*P P 12 46 47.0 +0.2
BRG pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 88.27 319 P P 12 46 47.2 +0.1
GERES GERESS Array B 88.27 319 P P 12 46 47.2 +0.1
comp=Z,1.6nm,0.7s,baz=92,slow=3.1,SNR=10
CLL Collm 88.89 321 *i*P P 12 46 49.6 -0.2
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 88.89 321 *i*P P 12 46 49.6 -0.2
comp=Z,7.0nm,0.9s
FUORN Ofenpass-Fuorn 90.47 316 *e*P P 12 46 58.2 +0.5
comp=Z,11nm,1.2s
KEST Kesra 90.88 306 *e*P P 12 47 01.1 +1.5
KEST Kesra 90.88 306 P P 12 47 00.7 +1.1
comp=Z,3.0nm,0.9s,baz=330,slow=0.2,SNR=9.0
SNAA Sanae 92.37 198 *e*P P 12 47 07.4 +1.7
SNAA Sanae 92.37 198 P P 12 47 07.1 +1.4
SNAA Sanae 92.37 198 P P 12 47 07.1 +1.4
comp=Z,1.2nm,1.2s,baz=89,slow=3.9,SNR=3.7

VNA2 Neumayer--Watz 93.98 198 *e*P P 12 47 10.3 -2.7
VNA2 Neumayer--Watz 93.98 198 *e*PKP 12 52 08.9
TORD Torodi Ar. Bea 97.79 283 P P 12 47 31.5 0.0
TORD Torodi Ar. Bea 97.79 283 P P 12 47 31.5 0.0
comp=Z,0.6nm,0.9s,baz=87,slow=5.9,SNR=3.6
IMA2 Indian Mountai 98.25 23 *e*P Pdif 12 47 35.2 +2.5
C17A Wharram Farm, 127.20 25 ⇓P PKPdf 12 52 59.5 -0.7
baz=127
D17A Six Diamond Ra 127.61 26 ⇓P PKPdf 12 53 01.4 +0.3
baz=127
B20A Solberg Farm, 127.67 23 ⇑P PKPdf 12 53 00.9 -0.1
baz=128
MFID Camas Ranch 127.86 32 ⇓P PKPdf 12 53 02.0 +0.4
baz=128
H16A Russell Place, 129.23 28 ⇑P PKPdf 12 53 04.2 -0.1
baz=129
C23A Lambert 129.26 21 ⇓P PKPdf 12 53 04.6 +0.6
baz=129
D22A Cohagen 129.44 22 ⇑P PKPdf 12 53 05.2 +0.8
baz=129
NVAR Mina Array Bea 129.66 39 PKP PKPdf 12 53 05.2 -0.1
NVAR Mina Array Bea 129.66 39 PKP PKPdf 12 53 05.2 -0.1
comp=Z,0.7nm,0.8s,baz=266,slow=2.3,SNR=6.0
I20A Worland 131.23 26 ⇑P PKPdf 12 53 08.3 +0.3
baz=131
R11A Troy Canyon, C 131.37 37 ⇑P PKPdf 12 53 09.0 +0.5
baz=131
PDAR Pinedale Array 131.50 28 PKP PKPdf 12 53 06.8 -1.9
PDAR Pinedale Array 131.50 28 PKP PKPdf 12 53 06.8 -1.9
comp=Z,0.4nm,0.6s,baz=173,slow=2.5,SNR=4.4
MPMC Manual Prospec 131.61 41 ⇑P PKPdf 12 53 09.6 +0.5
baz=131
I21A Big Trails, Te 131.71 26 ⇓P PKPdf 12 53 09.5 +0.5
baz=132
DUG Dugway 131.72 33 ⇓P PKPdf 12 53 09.5 +0.4
baz=132
J20A Shoshoni 131.72 27 ⇓P PKPdf 12 53 09.5 +0.5
baz=132
K19A Absolon Red Bu 131.78 28 ⇑P PKPdf 12 53 09.4 +0.2
baz=132
EDW2 Edwards Air Fo 131.97 42 ⇑P PKPdf 12 53 10.0 +0.4
baz=132
H24A Dirks Ranch, A 132.07 23 ⇓P PKPdf 12 53 09.4 -0.2
baz=132
GSC Goldstone 132.51 41 ⇑P PKPdf 12 53 10.9 +0.3
baz=132
M21A Separation Pea 133.42 28 ⇓P PKPdf 12 53 12.6 +0.2
baz=133
N20A Spence Gulch, 133.60 29 ⇑P PKPdf 12 53 12.9 +0.2
baz=133
L23A Garrett 133.77 26 ⇑P PKPdf 12 53 13.3 +0.3
baz=134
BELC Belle Mtn. Jos 133.82 42 ⇓P PKPdf 12 53 13.5 +0.3
baz=134
N21A Black Mountain 134.01 28 ⇑P PKPdf 12 53 13.4 -0.1
baz=134
O20A White River Ci 134.14 30 ⇓P PKPdf 12 53 13.8 +0.1
baz=134
K26A Motz Farm, Whi 134.33 23 ⇑P PKPdf 12 53 14.0 +0.1
baz=134
S21A Coal Bank Pass 136.24 32 ⇓P PKPdf 12 53 18.1 +0.2
baz=136
T25A Trinidad 138.35 29 ⇓P PKPdf 12 53 22.3 +0.6
baz=138
S26A Kim 138.41 28 ⇓P PKPdf 12 53 22.1 +0.5
baz=138
X21A Alamocita Cree 138.62 35 ⇑P PKPdf 12 53 22.4 +0.2
baz=138
T26A Comanche Natio 138.72 28 ⇑P PKPdf 12 53 23.2 +0.9
baz=138
X22A Bernardo 139.01 34 ⇑P PKPdf 12 53 23.4 +0.5
baz=139
V24A Rampart Ranch, 139.03 31 ⇑P PKPdf 12 53 23.5 +0.5
baz=139
Z20A Nine Sixteen R 139.09 37 ⇑P PKPdf 12 53 24.0 +1.0
baz=139
W27A Bowe Ranch, En 140.66 30 ⇑P PKPdf 12 53 25.6 -0.2
baz=140
X26A CR and CF Fran 140.69 31 ⇑P PKPdf 12 53 26.1 +0.2
baz=140
Z24A Sheeppen Canyo 140.80 34 ⇓P PKPdf 12 53 26.3 +0.1
baz=141
425A Indio Mountain 142.90 36 ⇑P PKPdf 12 53 27.3 -2.6
baz=143
Z30A Sanderson Ranc 143.04 29 ⇓P PKPdf 12 53 27.4 -2.6
baz=143
326A Caldwell Ranch 143.08 34 ⇑P PKPbc 12 53 27.6 +0.7
baz=143
Z31A Sharp Cattle R 143.49 28 ⇑P PKPab 12 53 27.0 0.0
baz=143
526A Mary Lane Ranc 143.95 36 ⇑P PKPbc 12 53 29.4 -0.2
baz=144
329A Wagon Wheel Ra 144.04 32 ⇑P PKPbc 12 53 29.7 -0.1
baz=144
527A Woodward Ranch 144.17 35 ⇓P PKPbc 12 53 30.2 -0.1
baz=144,SNR=13
428A Kincaid Ranch, 144.25 34 ⇑P PKPbc 12 53 30.5 +0.1
baz=144,SNR=10.0
626A Big Bend Ranch 144.30 36 ⇑P PKPbc 12 53 30.9 +0.3
baz=144,SNR=8.0
330A Mertzon 144.53 31 ⇑P PKPab 12 53 30.6 -0.4
baz=144
528A Cox Ranch, San 144.62 34 ⇓P PKPab 12 53 31.3 -0.2
baz=144
TXAR Lajitas Array 144.73 36 PKP PKPbc 12 53 32.1 +0.1
TXAR Lajitas Array 144.73 36 PKP PKPbc 12 53 32.1 +0.1
comp=Z,8.0nm,0.6s,baz=264,slow=1.3,SNR=61
429A Davenport Ranc 144.76 33 ⇑P PKPab 12 53 31.2 -0.7
baz=145
627A Terlingua Ranc 144.81 36 ⇑P PKPab 12 53 31.8 -0.4
baz=145,SNR=21
232A Coleman 144.90 29 ⇑P PKPab 12 53 31.5 -0.8
baz=145,SNR=5.4
430A Baggett Ranch, 144.99 32 ⇑P PKPab 12 53 31.7 -1.0
baz=145
MIAR Mount Ida 145.02 19 *e*PKIKP PKPab 12 53 31.9 -0.7
MIAR Mount Ida 145.02 19 *e*PKPdf PKPab 12 53 31.9 -0.7
TZTN Tazewell 145.07 4 *e*PKPdf PKPab 12 53 31.6 -1.1
628A Black Gap, Mar 145.07 35 ⇓P PKPbc 12 53 32.3 -0.8
baz=145
332A Millersview 145.27 29 ⇑P PKPbc 12 53 32.7 -0.9
baz=145,SNR=12
431A Sonora 145.40 31 ⇑P PKPbc 12 53 33.2 -0.9
baz=145,SNR=5.1
530A J-C Ranch, Com 145.43 33 ⇑P PKPbc 12 53 33.8 -0.4
baz=145,SNR=22
432A Menard 145.66 30 ⇓P PKPdf 12 53 34.4 -0.3
baz=146
531A Rocksprings 145.84 32 ⇓P PKPdf 12 53 35.0 0.0
baz=146,SNR=22
JCT Junction City 145.97 30 *e*PKP2 PKPbc 12 53 35.4 -0.5
JCT Junction City 145.97 30 *e*PKPdf PKPbc 12 53 35.4 -0.5
JCT Junction City 145.97 30 ⇓P PKPbc 12 53 35.3 -0.5
baz=146,SNR=21
CPCT Cooper Cave 146.07 6 *e*PKPdf PKPdf 12 53 34.9 -0.2
532A Rocksprings 146.20 31 ⇑P PKPdf 12 53 35.5 -0.1
baz=146,SNR=8.4
631A Perdido Creek 146.42 32 ⇓P PKPdf 12 53 36.3 +0.4
baz=146
KMSC Kings Mountain 146.56 1 *e*PKPdf PKPdf 12 53 35.9 -0.1
KMSC Kings Mountain 146.56 1 ⇓P PKPdf 12 53 36.5 +0.6
baz=146
632A Uvalde 146.76 31 ⇓P PKPbc 12 53 37.3 -0.9
baz=147,SNR=7.0
732A Laxson Ranch, 147.28 32 ⇑P PKPbc 12 53 39.0 -0.6
baz=147

*BJI **20** 12:51:37.4,2˚.01S×99˚.17E,h10km,mB4.8/17,mb4.6/33, Ms4.4/18,Ms7 4.1/18*
*ISCJB **20** 12:51:40.2±1.4, 1˚.54S±0˚.03×99˚.21E±0˚.03,h5km±8km, mb4.7/78,MS4.0/14,Error ellipse: s-maj=6.2km s-min=4.7km az=141.1*
*IDC **20** 12:51:41.2±0.4, 1˚.45S×99˚.42E,h0km,mb4.6/29, mb1 4.6/31,mb1mx4.6/34,mbtmp4.5/31,ML4.4/2,MS3.7/7, Ms1 3.8/7,ms1mx3.3/41,Error ellipse: s-maj=15.7km s-min=10.9km az=61.0*
*NEIC **20** 12:51:42.7±0.2, 1˚.50S×99˚.37E,h10km,mb4.8/16,Error ellipse: s-maj=7.7km s-min=5.0km az=62.0*
*TEH **20** 12:51:43.0, 1˚.56S×99˚.34E,h10km,ML4.8*
*MOS **20** 12:51:44.7±1.0, 1˚.35S×99˚.49E,h33km,mb5.0/31,Error ellipse: s-maj=13.3km s-min=6.1km az=113.5*
*AUST **20** 12:51:47.7±1.5, 1˚.48S×99˚.52E,h37km,Error ellipse: s-maj=2.5km s-min=0.9km az=248.0*

*DJA **20** 12:51:48.5±0.4, 1˚.S±3˚×10˚.0E±˚,h10km,M4.8/16,mB5.2/9, mb4.8/16,MLv5.0/13,Mw(mB)4.6/9*
ISC 20 12:51:44.1±0.4, 1˚.61S±0˚.04×99˚.29E±0˚.05, h19km±1km, n229,σ1§57/255, mb4.8/78, MS4.0/14, 11C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang Panjang**	**1.36**	**59**	P	**Pn**	**12 52 05.7**	**-2.4**
PPI	**Padang Panjang**	**1.59**	**44**	P	**Pn**	**12 52 09.2**	**-2.1**
PPI	**Padang Panjang**	**1.59**	**44**	P	**Pn**	**12 52 09.2**	**-2.1**
	baz=1.4,SNR=369						
PPI				S	**Sb**	**12 52 31.8**	**-0.9**
	baz=1.4,SNR=9.8						
BKNI	**Bangkinang**	**2.60**	**42**	P	**Pn**	**12 52 25.6**	**+0.4**
BKNI	**Bangkinang**	**2.60**	**42**	P	**Pn**	**12 52 24.3**	**-0.9**
	baz=2.4,SNR=8.7						
MASI	**Maura Aman, Be**	**3.31**	**117**	P	Pb	12 52 38.9	-3.5
KSI	**Kapahiang**	**3.87**	**122**	P	Pn	12 52 47.0	+4.2
PSI	**Prapat**	**4.40**	**355**	Pn	**Pn**	**12 52 47.3**	**-2.8**
PSI	**Prapat**	**4.40**	**355**	Pn	**Pn**	**12 52 47.3**	**-2.8**
	5.1nm,0.3s,baz=325,slow=13,SNR=13						
PSI				LR	LR	12 54 43.7	
	comp=Z,738nm,18.9s,baz=169,slow=44						
PSI	**Prapat**	**4.40**	**355**	P	**Pn**	**12 52 48.0**	**-2.0**
	baz=4.2,SNR=9.5						
MNAI	**Manna**	**4.57**	**127**	P	**Pn**	**12 52 54.8**	**+2.5**
MNAI	**Manna**	**4.57**	**127**	P	**Pn**	**12 52 53.4**	**+1.1**
	baz=4.5,SNR=37						
MNAI				S	**Sn**	**12 53 45.8**	**+0.9**
	baz=4.5,SNR=7.5						
TSI	**Tuntungan**	**5.13**	**352**	P	Pn	12 53 04.5	+4.5
	322nm,0.9s,4μm1.9nm						
KCSI	**Kotacane, Aceh**	**5.32**	**343**	P	Pn	12 53 08.1	+5.4
	137nm,0.8s,3μm1.1nm						
FRIM	**Kepong**	**5.35**	**26**	P	**Pn**	**12 53 02.3**	**-0.8**
BTDF	**Bukit Timah Da**	**5.36**	**57**	P	Pn	12 53 09.9	+6.6
	baz=5.1,SNR=4.2						
BTDF				P	Pn	12 53 09.9	+6.6
	baz=5.1,SNR=4.2						
MYKOM	**Kota Tinggi**	**5.67**	**53**	P	**Pn**	**12 53 05.3**	**-2.2**
MYKOM	**Kota Tinggi**	**5.67**	**53**	P	**Pn**	**12 53 07.9**	**+0.4**
	143nm,0.9s,1μm1.0nm						
LWLI	**Liwa**	**5.84**	**126**	P	Pn	12 53 13.4	+3.5
	300nm,0.7s,6μm1.7nm						
KLSI		**6.23**	**120**	P	**Pn**	**12 53 17.4**	**+2.2**
	60nm,0.8s,0.2nm						
IPM	**Ipoh**	**6.29**	**16**	*e*Pn	**Pn**	**12 53 16.0**	**0.0**
IPM	**Ipoh**	**6.29**	**16**	P	**Pn**	**12 53 16.0**	**0.0**
IPM	**Ipoh**	**6.29**	**16**	P	**Pn**	**12 53 17.5**	**+1.5**
	167nm,1.0s,1μm0.5nm						
KASI	**Kota Agung**	**6.49**	**127**	P	**Pn**	**12 53 20.2**	**+1.5**
KULM	**Kulim**	**6.99**	**11**	*e*Pn	**Pn**	**12 53 24.6**	**-0.9**
KULM	**Kulim**	**6.99**	**11**	P	**Pn**	**12 53 25.7**	**+0.2**
KULM	**Kulim**	**6.99**	**11**	P	Pn	12 53 28.7	+3.1
	108nm,0.8s,1μm0.5nm						
KTGM	**Kuala Trenggan**	**7.89**	**29**	P	**Pn**	**12 53 37.2**	**-0.8**
BSI	**Banda Aceh**	**8.11**	**331**	P	Pn	12 53 48.0	+7.0
	35nm,0.9s						
SKLT	**Songkhla**	**8.82**	**9**	P	Pn	12 53 53.9	+3.2
	54nm,0.8s,530nm						
DBJI	**Dramaga**	**8.91**	**124**	P	**Pn**	**12 53 54.8**	**+2.8**
	59nm,1.1s,2μm						
CISI	**Cisompet, Garu**	**10.34**	**125**	P	**Pn**	**12 54 09.7**	**-2.0**
	baz=10,SNR=8.3						
SBUM	**Sibu**	**13.54**	**73**	P	Pn	12 54 50.9	-4.4
SBUM	**Sibu**	**13.54**	**73**	P	**Pn**	**12 54 56.6**	**+1.2**
	22nm,1.4s						
PHET	**Kaeng Krachan**	**14.43**	**1**	P	P	12 55 19.2	+4.9
CMAR	**Chiang Mai Arr**	**19.94**	**359**	P	**P**	**12 56 14.4**	**-0.8**
CMAR				S	**Sn**	**13 00 05.0**	**+4.1**
CMAR				PcP	**PcP**	**13 00 32.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**19.94**	**359**	P	**P**	**12 56 14.4**	**-0.8**
	1.3nm,0.3s,baz=184,slow=10,SNR=18						
CMAR				S	**Sn**	**13 00 05.0**	**+4.1**
	baz=177,slow=14,SNR=7.4						
CMAR				PcP	**PcP**	**13 00 32.8**	**+0.9**
	baz=205,slow=2.7,SNR=5.3						
CMAR				LR	LR	13 04 31.3	
	comp=Z,237nm,20.0s,baz=335,slow=39						
CMMT	**Chiang Mai**	**20.30**	**359**	P	Pn	12 56 23.6	+2.5
	16nm,0.9s						
CHTO	**Chiang Mai**	**20.30**	**359**	*e*P	**P**	**12 56 18.1**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**20.30**	**359**	*e*P	**P**	**12 56 18.1**	**-1.0**
	comp=Z,12nm,0.9s						
MYLDM	**Lahad Datu**	**20.34**	**71**	P	Pn	12 56 22.5	+0.9
	comp=Z,49nm,1.0s						
PALK	**Pallekele**	**20.54**	**296**	*e*Pn	**P**	**12 56 23.0**	**+1.1**
	comp=Z,45nm,1.5s						
SPSI	**Sidrap Palu**	**20.58**	**97**	P	Pn	12 56 24.6	+0.1
	comp=Z,18nm,1.2s						
KAPI	**Kappang**	**20.70**	**100**	P	Pn	12 56 24.9	-1.0
KAPI	**Kappang**	**20.70**	**100**	P	Pn	12 56 24.9	-1.0
	comp=Z,7.8nm,0.5s,baz=247,slow=12,SNR=3.0						
BKSI	**Bulukumba**	**21.11**	**101**	P	**P**	**12 56 29.9**	**+1.9**
	comp=Z,41nm,0.8s						
QIZ	**Qiongzhong**	**22.98**	**26**	P	**P**	**12 56 47.6**	**-0.3**
QIZ				S	**S**	**13 00 58.6**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
QIZ				pmax	pmax		
	comp=Z,100nm,10.8s						
QIZ				LR	LR		
	comp=N,200nm,12.8s						
QIZ				LR	LR		
	comp=Z,280nm,13.2s						
QIZ	**Qiongzhong**	**22.98**	**26**	*e*P	**P**	**12 56 44.7**	**-3.2**
	comp=Z,6.5nm,0.9s						
GTOI	**Gorontalo**	**23.82**	**85**	P	**P**	**12 56 58.3**	**+2.0**
KMI	**Kunming**	**26.78**	**7**	P	**P**	**12 57 25.9**	**+2.5**
KMI				pP	**pP**	**12 57 28.6**	**-0.5**
KMI				S	**S**	**13 02 01.1**	**+2.3**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				LR	LR		
	comp=N,230nm,9.2s						
KMI				LR	LR		
	comp=E,200nm,10.2s						
KMI				LR	LR		
	comp=Z,200nm,14.0s						
SHL	**Shillong**	**27.95**	**346**	*e*P	**P**	**12 57 33.0**	**-0.8**
GYA	**Guiyang**	**28.80**	**14**	P	**P**	**12 57 44.0**	**+2.7**
GYA				PP	**PnPn**	**12 58 37.4**	**+4.9**
GYA				PcP	**PcP**	**13 00 52.3**	**+1.2**
GYA				S	**S**	**13 02 33.0**	**+2.6**
GYA				SS	**SnSn**	**13 04 01.5**	**+9.1**
GYA				ScP	**SS**	**13 04 33.8**	**+1.1**
GYA				ScS	**ScS**	**13 08 25.3**	**-0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,520nm,16.7s						
GYA				LR	LR		
	comp=E,480nm,17.3s						
GYA				LR	LR		
	comp=Z,540nm,17.8s						
FITZ	**Fitzroy Crossi**	**30.61**	**124**	*e*P	**P**	**12 57 56.1**	**-1.3**
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**30.61**	**124**	P	**P**	**12 57 56.4**	**-0.9**
	comp=Z,8.3nm,0.9s,baz=290,slow=7.5,SNR=11						
FITZ	**Fitzroy Crossi**	**30.61**	**124**	P	**P**	**12 57 56.6**	**-0.8**
	baz=31,SNR=7.8						
LSA	**Lhasa**	**32.09**	**347**	P	**P**	**12 58 10.9**	**+0.1**
LSA	**Lhasa**	**32.09**	**347**	*e*P	**P**	**12 58 10.2**	**-0.6**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**32.09**	**347**	*e*P	**P**	**12 58 10.2**	**-0.6**
	comp=Z,11nm,0.6s						
CD2	**Chengdu**	**32.62**	**7**	*e*P	**P**	**12 58 15.8**	**+0.9**
CD2				pP	**pP**	**12 58 20.1**	**-0.5**
CD2				sP	**sP**	**12 58 22.0**	**-0.9**
CD2				PP	**PnPn**	**12 59 25.1**	**+2.2**
CD2				S	**S**	**13 03 31.3**	**+1.3**
CD2				sS	**sS**	**13 03 38.3**	**-1.1**
CD2				SS	**SnSn**	**13 05 27.8**	**+2.6**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				pmax	pmax		
	comp=Z,120nm,7.2s						
CD2				LR	LR		
	comp=N,310nm,13.2s						
CD2				LR	LR		

comp=Z,280nm,16.6s
XAN Xi'an 36.60 13 P **P 12 58 46.1 -3.2**
XAN pmax pmax
comp=Z,2.0nm,0.5s
LZH Lanzhou 37.74 6 *e*P **P 12 59 01.0 +1.9**
LZH pP **pP 12 59 06.3 +1.4**
LZH sP **sP 12 59 08.5 +1.3**
LZH pmax pmax
comp=Z,14nm,1.0s
NJ2 Nanjing 38.27 27 *e*P **P 12 59 03.6 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WRA Warramunga Arr 38.80 120 P **P 12 59 07.0 -1.1**
WRA Warramunga Arr 38.80 120 P **P 12 59 07.0 -1.1**
comp=Z,10nm,0.8s,baz=301,slow=9.1,SNR=64
WRAB Tennant Creek 38.80 120 *e*P **P 12 59 07.0 -1.1**
WRAB pmax pmax
comp=Z,13nm,0.6s
WRAB Tennant Creek 38.80 120 *e*P **P 12 59 07.0 -1.1**
comp=Z,13nm,0.6s
ASAR Alice Springs 40.05 126 P **P 12 59 18.1 -0.5**
ASAR PcP **PcP 13 01 23.8 +0.4**
ASAR S **S 13 05 20.6 -3.4**
ASAR Alice Springs 40.05 126 P **P 12 59 18.1 -0.5**
comp=Z,3.6nm,0.8s,baz=299,slow=7.7,SNR=41
ASAR PcP **PcP 13 01 23.8 +0.4**
comp=Z,2.4nm,0.9s,baz=300,slow=3.7,SNR=5.8
ASAR S **S 13 05 20.6 -3.4**
comp=Z,0.8nm,0.9s,baz=306,slow=17,SNR=7.1
ASAR LR LR 13 15 08.6
comp=Z,145nm,21.2s,baz=340,slow=35
AS31 Alice Springs 40.05 126 *e*P **P 12 59 18.1 -0.4**
GTA Gaotai 40.82 1 *e*P **P 12 59 26.4 +1.6**
GTA pP **pP 12 59 33.0 +2.4**
GTA sP **sP 12 59 36.3 +3.4**
GTA PcP **PcP 13 01 26.0 +0.4**
GTA S **S 13 05 37.5 +2.4**
GTA sS **sS 13 05 46.0 +1.3**
GTA SS **SS 13 08 35.6 -1.1**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,10.4s
GTA LR LR
comp=N,110nm,14.7s
GTA LR LR
comp=E,110nm,14.7s
GTA LR LR
comp=Z,120nm,14.3s
HHC Hu-ho-hao-te 43.71 13 *e*P **P 12 59 47.6 -0.7**
HHC PP **PP 13 01 31.3 +1.1**
HHC ScP **ScP 13 05 24.4 -1.7**
HHC PcS **PcS 13 05 26.3 -1.7**
HHC S **S 13 06 16.8 -0.9**
HHC SS SS 13 09 25.8 -7.8
HHC ScS **ScS 13 09 43.9 -3.2**
HHC pmax pmax
comp=Z,47nm,0.8s
HHC pmax pmax
comp=Z,210nm,5.6s
HHC LR LR
comp=N,400nm,16.6s
HHC LR LR
comp=E,230nm,16.4s
HHC LR LR
comp=Z,380nm,16.3s
BJI Beijing 44.23 19 P **P 12 59 53.4 +1.1**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=N,130nm,14.7s
BJI LR LR
comp=E,120nm,17.8s
BJI LR LR
comp=Z,60nm,17.7s
JNU Nakatsue 45.62 38 P **P 13 00 01.5 -2.0**
JNU Nakatsue 45.62 38 P **P 13 00 01.5 -2.0**
comp=Z,6.3nm,0.6s,baz=100,slow=13,SNR=5.6
KSH Kashi 46.18 335 P **P 13 00 06.3 -1.7**
KSH pmax pmax
comp=Z,5.0nm,0.8s
KSH pmax pmax
comp=Z,71nm,4.9s
WMQ Urumqi 46.41 348 P **P 13 00 09.6 0.0**
WMQ sP **sP 13 00 18.5 +0.7**
WMQ PcP **PcP 13 01 44.9 +0.6**
KSAR Wonju Array Be 47.02 31 P **P 13 00 12.8 -1.6**
KSRS Korea Array 47.05 31 P **P 13 00 12.8 -1.8**
comp=Z,2.0nm,0.6s,baz=222,slow=8.3,SNR=9.1
KSRS LR LR 13 20 49.8
comp=Z,28nm,20.6s,baz=5.9,slow=37
TKM2 Tokmak 2 49.20 337 *e*P **P 13 00 31.7 +0.2**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 Tokmak 2 49.20 337 *e*P **P 13 00 31.7 +0.2**
comp=Z,11nm,0.8s
AAK Ala-Archa 49.40 336⇑ *i*P **P 13 00 32.8 -0.1**
AAK pmax pmax
comp=Z,18nm,1.7s
CTA Charters Tower 49.40 115 P **P 13 00 32.9 -0.3**
CTA Charters Tower 49.40 115 P **P 13 00 32.9 -0.3**
comp=Z,6.7nm,0.8s,baz=275,slow=12,SNR=7.5
CTAO Charters Tower 49.40 115 *e*P **P 13 00 32.4 -0.8**
CTAO pmax pmax
comp=Z,25nm,1.5s
CTAO Charters Tower 49.40 115 *e*P **P 13 00 32.4 -0.8**
comp=Z,24nm,1.5s
SONM Songino Array 49.63 6 P **P 13 00 34.1 -0.4**
SONM PcP **PcP 13 01 55.3 -0.6**
SONM Songino Array 49.63 6 P **P 13 00 34.1 -0.4**
comp=Z,3.1nm,0.6s,baz=190,slow=9.2,SNR=17
SONM PcP **PcP 13 01 55.3 -0.6**
comp=Z,3.2nm,0.6s,baz=186,slow=4.4,SNR=4.9
EKS2 Erkin-Say 49.71 335 *e*P **P 13 00 35.7 +0.4**
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 49.71 335 *e*P **P 13 00 35.7 +0.4**
comp=Z,14nm,0.8s
ULN Ulaanbaatar 49.74 7 *e*P **P 13 00 35.0 -0.5**
comp=Z,6.7nm,0.8s
STKA Stephens Creek 49.94 132 P **P 13 00 37.9 +0.8**
STKA Stephens Creek 49.94 132 P **P 13 00 37.9 +0.8**
comp=Z,12nm,0.7s,baz=305,slow=6.8,SNR=25
STKA Stephens Creek 49.94 132 P **P 13 00 37.8 +0.8**
baz=50,SNR=17
MK31 Makanchi Array 50.47 345 *i*P **P 13 00 40.1 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.4s
MK31 Makanchi Array 50.47 345 *e*P **P 13 00 40.3 -0.5**
MKAR Makanchi Array 50.47 345 *ce*P **P 13 00 40.2 -0.6**
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 50.47 345 *e*P **P 13 00 40.6 -0.2**
MKAR Makanchi Array 50.47 345 P **P 13 00 40.3 -0.6**
comp=Z,12nm,0.6s,baz=149,slow=8.1,SNR=72
CN2 Changchun 50.92 24 *e*P **P 13 00 46.4 +2.2**
KKAR Karatay Array 51.49 333 *e*P **P 13 00 47.9 -0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 51.49 333 *e*P **P 13 00 47.9 -0.6**
comp=Z,1.9nm,0.6s
HVS Khovu-Aksy 52.76 356⇑ *e*P **P 13 00 57.1 -0.9**
HVS pmax pmax
comp=Z,7.0nm,0.6s
CMSA Cobar Meteorol 52.91 129 P **P 13 01 00.0 +0.7**
baz=53,SNR=19
IBAF Bafgh 52.99 312 *e*P **P 13 00 59.3 -0.8**
MDJ Mudanjiang 53.35 27 P **P 13 01 02.8 +0.5**
MDJ pP **pP 13 01 05.9 -2.4**
MDJ sP **sP 13 01 07.3 -3.3**
MDJ PcP **PcP 13 02 10.8 +1.1**
MDJ PP **PP 13 03 06.1 +3.3**
MDJ S **S 13 08 35.5 +2.1**
MDJ ScS **ScS 13 10 50.3 -0.8**
MDJ SS **SKiKP 13 12 17.0 -1.6**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,66nm,3.6s
MDJ LR LR
comp=N,47nm,19.7s
MDJ LR LR
comp=E,35nm,19.7s
MDJ LR LR
comp=Z,45nm,23.0s

IMEH Mehriz 53.60 312 *e*P **P 13 01 02.3 -2.4**
IPAR Pars 54.07 309 *e*P **P 13 01 07.8 -0.5**
USRK Ussuriysk Arra 54.15 29 P **P 13 01 06.9 -1.3**
comp=Z,4.3nm,0.6s,baz=233,slow=4.6,SNR=9.0
ICHK Chekchek 54.17 312 *e*P **P 13 01 06.7 -2.2**
SHI Shiraz 54.39 309 *e*P **P 13 01 08.8 -1.7**
KURBB Kurchatov Arra 54.98 344 P **P 13 01 13.3 -0.7**
comp=Z,2.3nm,0.2s,baz=163,slow=7.2,SNR=23
KURK Kurchatov 55.04 344 P **P 13 01 13.4 -1.1**
KURK Kurchatov 55.04 344 P **P 13 01 13.3 -1.1**
YNG Young 56.12 131 P **P 13 01 23.9 +1.2**
baz=56,SNR=6.4
ZAA0 Zalesovo Array 56.66 350 *e*P **P 13 01 25.2 -0.8**
ZALV Zalesovo Beam 56.66 350 P **P 13 01 25.2 -0.9**
ZALV Zalesovo Beam 56.66 350 P **P 13 01 25.2 -0.9**
ZALV Zalesovo Beam 56.66 350 P **P 13 01 25.2 -0.9**
comp=Z,20nm,0.8s,baz=182,slow=5.8,SNR=70
CAN Canberra 57.00 132 *e*P **P 13 01 29.6 +0.6**
CAN Canberra 57.00 132 *e*P **P 13 01 29.6 +0.6**
ARMA Armidale 57.20 126 P **P 13 01 32.2 +1.6**
baz=57,SNR=5.6
NVS Novosibirsk 57.80 349 *e*P **P 13 01 31.3 -2.8**
NVS pmax pmax
comp=Z,9.0nm,0.7s
NVS pmax pmax
comp=N,7.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.4s
RDF Al-Radifah 58.05 306 *e*P **P 13 01 35.9 -0.5**
RDF AMb AMB 13 01 37.3
comp=Z,41nm,1.0s
NAY Al-Naaiem 58.42 306 *e*P **P 13 01 38.0 -1.0**
NAY AMb AMB 13 01 39.1
comp=Z,0.8nm,0.8s
MIB Mutribah 58.56 307 *e*P **P 13 01 39.5 -0.4**
MIB AMb AMB 13 01 40.8
comp=Z,49nm,0.9s
RST Umm Al-Ruwaisa 58.72 306 *e*P **P 13 01 40.1 -1.0**
RST AMb AMB 13 01 41.4
comp=Z,198nm,0.8s
VOSK Vostochnaya 59.13 340 P **P 13 01 41.5 -2.0**
VOSK pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 59.58 340 P **P 13 01 45.2 -1.4**
BVAR Borovoye Array 59.58 340 P **P 13 01 45.2 -1.4**
BVAR Borovoye Array 59.58 340 P **P 13 01 45.2 -1.4**
comp=Z,4.2nm,0.7s,baz=132,slow=7.6,SNR=20
BVAR LR LR 13 29 41.2
comp=Z,73nm,19.3s,baz=109,slow=38
BRVK Borovoye 59.64 340 *de*P **P 13 01 45.6 -1.4**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
ASAJ Asahikawa 59.70 35 P **P 13 01 47.5 0.0**
ASAJ Asahikawa 59.70 35 P **P 13 01 47.5 0.0**
comp=Z,2.7nm,0.5s,baz=297,slow=14,SNR=4.7
AB31 Akbulak array 60.96 332 *i*P **P 13 01 54.4 -1.7**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 60.96 332 *e*P **P 13 01 54.7 -1.4**
comp=Z,3.2nm,0.6s
YSS Yuzh-Sakhalins 61.53 32⇑ *e*P P 13 02 08.0 +8.0
KMBO Kilima Mbogo 62.02 270 *e*P **P 13 02 06.2 +1.9**
KMBO Kilima Mbogo 62.02 270 P **P 13 02 06.0 +1.7**
comp=Z,5.9nm,0.7s,baz=60,slow=11,SNR=14
SVE Sverdlovsk 66.06 338 *e*P **P 13 02 27.9 -1.7**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 66.57 337 *d i*P **P 13 02 31.4 -1.5**
ARU S **S 13 11 21.0 -2.0**
ARU pmax pmax
comp=Z,12nm,1.7s
YAK Yakutsk 67.55 15 *e*P **P 13 02 36.6 -2.4**
YAK pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 67.55 319 P **P 13 02 39.2 -0.2**
KBZ Khabaz 67.55 319 P **P 13 02 39.2 -0.2**
KBZ Khabaz 67.55 319 P **P 13 02 39.2 -0.2**
comp=Z,8.6nm,0.8s,baz=119,slow=5.6,SNR=21
KIV Kislovodsk 67.79 319 *e*P **P 13 02 40.7 -0.4**
KIV pmax pmax
comp=Z,13nm,1.0s
EIL Elat 68.72 303 LR LR 13 33 43.8
comp=Z,110nm,18.0s,baz=277,slow=37
MAW Mawson 70.49 194 P **P 13 02 59.7 +2.5**
MAW Mawson 70.49 194 P **P 13 02 59.7 +2.5**
comp=Z,2.9nm,0.9s,baz=31,slow=8.4,SNR=5.3
MAW LR LR 13 29 45.8
comp=Z,81nm,19.5s,baz=185,slow=32
VRHR Novokhopersk 71.61 326 *e*P **P 13 03 03.0 -1.3**
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.3s
BR131 Keskin Array S 72.54 313 *e*P **P 13 03 08.9 -1.4**
comp=E,2.5nm,0.8s
VORD Divnogorie 72.88 325 *e*P **P 13 03 10.2 -1.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,5.0nm,0.5s
VORD pmax pmax
comp=E,5.0nm,0.5s
PETK Petropavlovsk- 72.93 32 P **P 13 03 10.5 -1.7**
PETK Petropavlovsk- 72.93 32 P **P 13 03 10.5 -1.7**
PETK Petropavlovsk- 72.93 32 P **P 13 03 10.5 -1.7**
comp=E,1.5nm,0.7s,baz=193,slow=6.1,SNR=4.2
VSR Storozhevoye 73.05 325 *e*P **P 13 03 11.5 -1.5**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 75.23 241 P **P 13 03 27.2 +0.9**
BOSA Boshof 75.23 241 P **P 13 03 27.2 +0.9**
comp=Z,3.3nm,0.9s,baz=61,slow=10,SNR=3.4
SEY Seymchan 75.53 22⇑ *e*P **P 13 03 26.0 -1.1**
TIXI Tiksi 75.59 9⇓ *e*P **P 13 03 28.7 +1.4**
TIXI pmax pmax
comp=Z,12nm,1.0s
VRI Vrincioaia 79.09 317⇑ *i*P **P 13 03 47.5 0.0**
MLR Muntele Rosu 79.53 317⇑ *i*P **P 13 03 50.0 -0.1**
MLR Muntele Rosu 79.53 317 P **P 13 03 50.2 +0.1**
MLR Muntele Rosu 79.53 317 P **P 13 03 50.2 +0.1**
comp=Z,2.2nm,0.9s,baz=193,slow=2.6,SNR=10
BURAR Bucovina Array 80.50 319⇑ *i*P **P 13 03 55.7 +0.5**
VTS Vitosha 80.87 313⇑ *i*P **P 13 03 56.6 -0.8**
BZS Buzias 82.54 316⇑ *i*P P 13 03 59.3 -6.6
VNDA Vanda 82.68 169 P **P 13 04 07.2 +1.2**
VNDA Vanda 82.68 169 P **P 13 04 07.2 +1.2**
comp=Z,1.1nm,0.6s,baz=296,slow=5.7,SNR=7.7
KOLS Kolonicke sedl 82.70 320 *e*P **P 13 04 07.5 +0.8**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 82.70 320 *e*P **P 13 04 07.5 +0.8**
FINES FINESS Array B 83.44 332 P **P 13 04 09.9 -0.3**
FINES FINESS Array B 83.44 332 P **P 13 04 09.9 -0.3**
comp=Z,4.2nm,0.6s,baz=106,slow=6.4,SNR=17
STHS Stebnicka Huta 83.45 320 *e*P **P 13 04 11.6 +1.0**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 83.45 320 *e*P **P 13 04 11.6 +1.0**
KAF Kangasniemi 83.52 333 *e*P **P 13 04 09.1 -1.5**
KAF pmax pmax
comp=Z,12nm,0.7s
KAF Kangasniemi 83.52 333 *ep* **P 13 04 09.1 -1.5**
comp=Z,12nm,0.7s
SBA Scott Base 83.78 169 *e*P **P 13 04 13.6 +1.9**
SBA pmax pmax
comp=Z,54nm,2.5s
SBA Scott Base 83.78 169 *e*P **P 13 04 13.6 +1.9**
comp=Z,54nm,2.5s
KECS Kecovo 83.78 319 *e*P **P 13 04 12.0 -0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 83.78 319 *e*P **P 13 04 12.0 -0.3**
PSZ Piszkesteto 84.08 318 *e*P **P 13 04 13.9 0.0**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
PSZ Piszkesteto 84.08 318⇑ *i*P **P 13 04 14.1 +0.1**
PSZ Piszkesteto 84.08 318 *e*P **P 13 04 13.9 0.0**
comp=Z,4.6nm,0.8s
ARCES ARCESS Array B 85.87 340 P **P 13 04 22.0 -0.4**

ARCES ARCESS Array B 85.87 340 P **P 13 04 22.0 -0.4**
comp=Z,2.0nm,0.8s,baz=133,slow=5.1,SNR=4.7
DPC Dobruska-Polom 86.73 320 *e*P **P 13 04 27.7 +0.6**
DPC pmax pmax
comp=Z,27nm,0.7s
DPC Dobruska-Polom 86.73 320 *e*P **P 13 04 27.7 +0.6**
comp=Z,27nm,0.7s
GERES GERESS Array B 88.29 319 P **P 13 04 34.7 0.0**
GERES GERESS Array B 88.29 319 P **P 13 04 34.7 0.0**
comp=Z,1.7nm,0.7s,baz=81,slow=4.5,SNR=12
BRG Berggiesshubel 88.29 321 *e*P **P 13 04 34.6 +0.1**
comp=Z,4.7nm,1.0s
BRG pmax pmax
comp=Z,521nm,16.8s
BRG pmax pmax
comp=N,243nm,22.9s
BRG pmax pmax
comp=E,469nm,22.9s
BRG Berggiesshubel 88.29 321 *e*P **P 13 04 34.6 +0.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=Z,521nm,16.8s
BRG MLR MLR
comp=N,243nm,22.9s
BRG MLR MLR
comp=E,469nm,22.9s
CLL Collm 88.92 321⇓ *i*P **P 13 04 37.6 +0.2**
CLL pmax pmax
comp=Z,12nm,1.3s
CLL Collm 88.92 321⇓ *i*P **P 13 04 37.6 +0.2**
comp=Z,12nm,1.3s
CLL *e*PP **PP 13 08 07.0 +0.1**
HFS Hagfors 89.18 330 P **P 13 04 37.8 -0.7**
HFS Hagfors 89.18 330 P **P 13 04 37.8 -0.7**
comp=Z,3.9nm,0.9s,baz=100,slow=4.4,SNR=4.5
GRFO Grafenberg 89.96 320 *e*P **P 13 04 45.4 +3.0**
GRFO Grafenberg 89.96 320 *e*P **P 13 04 45.4 +3.0**
SPITS Spitsbergen Ar 90.11 348 P **P 13 04 41.8 -0.7**
SPITS Spitsbergen Ar 90.11 348 P **P 13 04 41.8 -0.7**
comp=Z,8.9nm,0.8s,baz=86,slow=12,SNR=9.0
DAVOX Davos/Dischmat 90.76 317 P **P 13 04 45.5 -1.0**
DAVOX Davos/Dischmat 90.76 317 P **P 13 04 45.5 -1.0**
comp=Z,3.9nm,0.5s,baz=110,slow=8.5,SNR=7.0
KEST Kesra 90.89 306 P **P 13 04 46.7 -0.4**
KEST Kesra 90.89 306 P **P 13 04 46.7 -0.4**
comp=Z,3.1nm,0.9s,baz=281,slow=3.3,SNR=9.0
SNAA Sanae 92.29 198 *e*P **P 13 04 55.1 +2.2**
VNA2 Neumayer--Watz 93.90 198 *e*P **P 13 04 59.2 -1.0**
VNA2 Neumayer--Watz 93.90 198 *ep*P pP 13 05 06.9 +0.4
TORD Torodi Ar. Bea 97.76 283 P **P 13 05 18.3 -0.7**
TORD Torodi Ar. Bea 97.76 283 P **P 13 05 18.3 -0.7**
comp=Z,0.5nm,0.9s,baz=98,slow=3.7,SNR=3.0
IMA2 Indian Mountai 98.33 23 *e*P Pdif 13 05 21.4 +0.8
ILAR Eielson Array 101.43 24 PKKPbc PKKPbc 13 21 43.0 -2.3
ILAR Eielson Array 101.43 24 PKKPbc PKKPbc 13 21 43.0 -2.3
comp=Z,0.5nm,0.8s,baz=158,slow=2.3,SNR=5.6
NVAR Mina Array Bea 129.74 39 PKP **PKPdf 13 10 51.5 -1.5**
NVAR Mina Array Bea 129.74 39 PKP **PKPdf 13 10 51.5 -1.5**
comp=Z,0.6nm,0.7s,baz=243,slow=1.7,SNR=4.5
TXAR Lajitas Array 144.81 36 PKP PKPbc 13 11 19.8 0.0
TXAR Lajitas Array 144.81 36 PKP PKPbc 13 11 19.8 0.0
comp=Z,9.1nm,0.6s,baz=253,slow=1.3,SNR=68
CFAA Coronel Fontan 144.91 199 PKPbc **PKPdf 13 11 20.9 +0.1**
CFAA Coronel Fontan 144.91 199 PKPbc **PKPdf 13 11 20.9 +0.1**
comp=Z,3.5nm,0.7s,baz=172,slow=3.2,SNR=50
WVT Waverly 145.02 10 *e*PKIKP **PKPab 13 11 19.0 -1.1**
WVT Waverly 145.02 10 *e*PKPdf **PKPab 13 11 19.0 -1.1**
MIAR Mount Ida 145.10 19 *e*PKIKP **PKPbc 13 11 19.7 -0.7**
MIAR Mount Ida 145.10 19 *e*PKPdf **PKPbc 13 11 19.7 -0.7**
JCT Junction City 146.05 30 *e*PKP2 **PKPdf 13 11 23.0 +0.1**
JCT Junction City 146.05 30 *e*PKPdf **PKPdf 13 11 23.0 +0.1**
CPCT Cooper Cave 146.14 6 *e*PKPdf **PKPdf 13 11 22.4 -0.5**
LRAL Lakeview Retre 148.19 10 *e*PKPbc **PKPbc 13 11 28.5 -1.0**
SIV San Ignacio 153.88 227 PKPbc **PKPbc 13 11 43.7 +0.2**
SIV San Ignacio 153.88 227 PKPbc **PKPbc 13 11 43.7 +0.2**
comp=Z,1.1nm,0.6s,baz=98,slow=7.1,SNR=5.1
LPAZ La Paz 158.31 214 PKP **PKPdf 13 11 42.6 +0.5**
LPAZ La Paz 158.31 214 PKP **PKPdf 13 11 42.6 +0.5**
comp=Z,0.8nm,0.7s,baz=26,slow=2.3,SNR=3.5

---

*ISCJB **20** 12:56:22.0±0.5, 72°.31N±0°.05×1°.5E±0°.2, h10km, mb3.9/14, MS4.0/2, Error ellipse: s-maj=9.2km s-min=5.8km az=145.9*
*IDC **20** 12:56:22.1±0.6, 72°.23N×0°.89E, h0km, mb3.9/12, mb1 4.1/18, mb1mx3.9/33, mbtmp3.9/18, ML3.7/6, MS3.6/3, Ms1 3.7/3, ms1mx3.0/49, Error ellipse: s-maj=18.5km s-min=11.9km az=54.0*
*NAO **20** 12:56:23.5±3.4, 72°.20N×1°.54E, ML3.7*
*CSEM **20** 12:56:23.6±0.2, 72°.28N×1°.26E, h10km, ML2.9, Error ellipse: s-maj=9.1km s-min=5.2km az=66.0*
*NEIC **20** 12:56:23.4±0.4, 72°.29N×1°.11E, h10km, mb4.4/1, Error ellipse: s-maj=10.5km s-min=7.1km az=65.0*
*BER **20** 12:56:27.4±3.4, 72°.28N×1°.16E, h15km±41km, MD3.0, ML2.9, ML3.7(NAO)*

ISC 20 12:56:23.6±0.5, 72°.27N±0°.06×1°.43E±0°.07, h10km, n98, σ1§44/98, mb4.0/14, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**3.40**	**253**	LR	LR	12 57 44.2	
	comp=Z,198nm,19.3s,baz=250,slow=25						
LOF	**Lofoten**	**5.84**	**129**	*e*P	**Pn**	**12 57 52.5**	**+2.4**
LOF				*e*S	**Sn**	**12 58 56.1**	**-0.8**
LOF				AML	AML	12 59 01.0	
	comp=Z,14nm,0.8s						
LOF	**Lofoten**	**5.84**	**129**	*e*P	**Pn**	**12 57 52.5**	**+2.4**
	SNR=53						
LOF				*e*S	**Sn**	**12 58 56.2**	**-0.8**
	comp=Z,14nm,0.8s,SNR=53						
TRO	**Tromso**	**6.30**	**106**	*e*P	**Pn**	**12 57 57.6**	**+1.2**
TRO	**Tromso**	**6.30**	**106**	*e*P	**Pn**	**12 57 57.6**	**+1.2**
	SNR=51						
STEI	**Steigen**	**6.41**	**126**	*e*P	**Pn**	**12 57 59.4**	**+1.6**
STEI				AML	AML	12 59 11.4	
	comp=Z,10nm,0.6s						
SPA0	**Spitsbergen Ar**	**7.03**	**26**	Pn	**Pn**	**12 58 07.2**	**+0.8**
	baz=218,slow=14						
SPA0	**Spitsbergen Ar**	**7.03**	**26**	*e*P	**Pn**	**12 58 08.3**	**+1.9**
SPA0	**Spitsbergen Ar**	**7.03**	**26**	Pn	**Pn**	**12 58 07.2**	**+0.8**
	baz=218,slow=13,SNR=1.9						
SPA0	**Spitsbergen Ar**	**7.03**	**26**	*e*P	**Pn**	**12 58 08.3**	**+1.9**
	SNR=51						
SPITS	**Spitsbergen Ar**	**7.03**	**26**	Pn	**Pn**	**12 58 06.7**	**+0.3**
SPITS	**Spitsbergen Ar**	**7.03**	**26**	Pn	**Pn**	**12 58 06.7**	**+0.3**
	baz=202,slow=15,SNR=78						
SPITS	**Spitsbergen Ar**	**7.03**	**26**	Pn	**Pn**	**12 58 06.7**	**+0.3**
KONS	**Konsvik**	**7.10**	**139**	*e*P	**Pn**	**12 58 08.6**	**+1.3**
KONS				*e*S	**Sn**	**12 59 23.3**	**-4.6**
KONS				AML	AML	12 59 27.7	
	comp=Z,19nm,0.6s						
KBS	**Kingsbay**	**7.17**	**16**	Pn	**Pn**	**12 58 07.3**	**-1.0**
KBS	**Kingsbay**	**7.17**	**16**	*e*P	**Pn**	**12 58 07.4**	**-0.9**
KBS	**Kingsbay**	**7.17**	**16**	*e*Pn	**Pn**	**12 58 08.3**	**0.0**
	comp=Z,16nm,0.8s						
KBS	**Kingsbay**	**7.17**	**16**	*e*P	**Pn**	**12 58 07.4**	**-0.9**
	SNR=51						
KBS	**Kingsbay**	**7.17**	**16**	*e*Pn	**Pn**	**12 58 08.3**	**0.0**
	comp=Z,16nm,0.8s						
STOK	**Stokkvaagen**	**7.22**	**140**	*e*S	Sn	12 59 24.9	-6.1
STOK				AML	AML	12 59 34.1	
	comp=Z,20nm,0.8s						
FLOS	**Flostrand**	**7.29**	**139**	*e*P	**Pn**	**12 58 11.9**	**+2.0**
FLOS				*e*S	**Sn**	**12 59 29.1**	**-3.5**
FLOS				AML	AML	12 59 32.9	
	comp=Z,36nm,0.8s						
MOR8	**Moi Rana**	**7.66**	**137**	*e*P	**Pn**	**12 58 16.2**	**+1.2**
MOR8				AML	AML	12 59 42.2	
	comp=Z,19nm,0.5s						
MOR8	**Moi Rana**	**7.66**	**137**	*e*P	**Pn**	**12 58 16.2**	**+1.2**
	SNR=51						
KTK1	**Kautokeino**	**7.92**	**104**	*e*P	**Pn**	**12 58 21.0**	**+2.4**
KTK1	**Kautokeino**	**7.92**	**104**	*e*P	**Pn**	**12 58 21.0**	**+2.4**
	SNR=51						
ARA0	**ARCESS Array S**	**8.32**	**97**	Pn	**Pn**	**12 58 24.9**	**+0.8**
	baz=305,slow=11						
ARA0				Sn	**Sn**	**12 59 54.8**	**-3.2**
	baz=287,slow=22						
ARA0	**ARCESS Array S**	**8.32**	**97**	P	**Pn**	**12 58 24.9**	**+0.8**
	baz=305,slow=11						
ARA0				Sn	**Sn**	**12 59 54.8**	**-3.2**
	baz=287,slow=22						

ARA0	ARCESS Array S	8.32	97	P		Pn	12 58 24.9 +0.8
	baz=305,slow=11,SNR=51						
ARCES	ARCESS Array B	8.32	97	Pn		Pn	12 58 24.9 +0.8
ARCES	ARCESS Array B	8.32	97	Pn		Pn	12 58 24.9 +0.8
	comp=Z,0.8nm,0.3s,baz=310,slow=12,SNR=14						
ARCES	ARCESS Array B	8.32	97	Pn		Pn	12 58 24.9 +0.8
ARE0	ARCESS Array S	8.32	97	Pn		Pn	12 58 23.9 -0.2
ARE0	ARCESS Array S	8.32	97	Pn		Pn	12 58 23.9 -0.2
NOA	NORSAR Array B	11.90	156	Pn		Pn	12 59 14.7 +1.6
NOA	NORSAR Array B	11.90	156	Pn		Pn	12 59 14.7 +1.6
	comp=Z,0.3nm,0.3s,baz=346,slow=13,SNR=3.0						
NOA	NORSAR Array B	11.90	156	Pn		Pn	12 59 14.7 +1.6
HFS	Hagfors	13.11	152	Pn		Pn	12 59 30.6 +1.1
	baz=350,slow=12						
HFS				Sn		Sn	13 01 47.6 -7.6
	baz=350,slow=28						
HFS	Hagfors	13.11	152	Pn		Pn	12 59 30.6 +1.1
	baz=350,slow=12						
HFS				Sn		Sn	13 01 47.6 -7.6
	baz=350,slow=28						
HFS	Hagfors	13.11	152	Pn		Pn	12 59 31.5 +1.9
HFS				Sn		Sn	13 01 45.3 -10
HFS	Hagfors	13.11	152	Pn		Pn	12 59 31.5 +1.9
	comp=Z,0.9nm,0.3s,baz=354,slow=13,SNR=21						
HFS				Sn		Sn	13 01 45.3 -10
	comp=Z,0.6nm,0.3s,baz=357,slow=24,SNR=7.6						
HFS	Hagfors	13.11	152	Pn		Pn	12 59 30.6 +1.1
	baz=350,slow=12,SNR=55						
KAF	Kangasniemi	13.88	124	*e*p		Pn	12 59 38.6 -1.4
KAF	Kangasniemi	13.88	124	*e*P		Pn	12 59 38.6 -1.4
FIA0	FINESS Array S	14.39	126	Pn		Pn	12 59 47.5 +0.5
	baz=348,slow=37						
FIA0	FINESS Array S	14.39	126	Pn		Pn	12 59 47.5 +0.5
	baz=348,slow=37						
FIA0	FINESS Array S	14.39	126	Pn		Pn	12 59 47.5 +0.5
	baz=348,slow=37,SNR=55						
FINES	FINESS Array B	14.39	126	Pn		Pn	12 59 47.0 0.0
FINES	FINESS Array B	14.39	126	Pn		Pn	12 59 47.0 0.0
	comp=Z,0.4nm,0.3s,baz=338,slow=14,SNR=14						
FINES	FINESS Array B	14.39	126	Pn		Pn	12 59 47.0 0.0
EKA	Eskdalemuir Ar	17.11	189	P		Pn	13 00 21.9 -0.7
EKA	Eskdalemuir Ar	17.11	189	P		Pn	13 00 21.9 -0.7
	baz=359,slow=11,SNR=2.9						
CLL	Collm	21.65	160	*e*(P)		P	13 01 16.0 +2.2
CLL				*e*S		Sn	13 05 18.0 -4.0
CLL				LmV			13 15 00.0
	comp=Z,300nm,21.7s						
BRG	Berggiesshubel	22.18	159	*e*P		P	13 01 26.6 +7.1
	comp=Z,6.6nm,1.0s						
VRAC	Vranov	24.04	155	P		P	13 01 40.1 +1.6
VRAC	Vranov	24.04	155	P		P	13 01 40.1 +1.6
	comp=Z,4.7nm,0.7s,baz=7.1,slow=11,SNR=4.9						
VRAC	Vranov	24.04	155	P		P	13 01 40.1 +1.6
GERES	GERESS Array B	24.16	160	P		P	13 01 40.4 +0.7
GERES	GERESS Array B	24.16	160	P		P	13 01 40.4 +0.7
	comp=Z,3.2nm,0.9s,baz=0.8,slow=9.3,SNR=16						
GERES	GERESS Array B	24.16	160	P		P	13 01 40.3 +0.7
KWP	Kalwaria Pacla	24.65	146	*e*P		P	13 01 45.0 +1.0
	comp=Z,8.0nm,0.9s						
KWP	Kalwaria Pacla	24.65	146	*e*P		P	13 01 45.0 +1.0
	comp=Z,8.0nm,0.9s						
AKASG	Malin Array Be	24.91	135	P		P	13 01 46.4 +0.2
AKASG	Malin Array Be	24.91	135	P		P	13 01 46.4 +0.2
	comp=Z,2.4nm,0.6s,baz=342,slow=9.6,SNR=3.4						
AKASG	Malin Array Be	24.91	135	P		P	13 01 46.4 +0.2
YKA	Yellowknife Ar	38.68	318	P		P	13 03 46.4 -0.4
YKA	Yellowknife Ar	38.68	318	P		P	13 03 46.4 -0.4
	comp=Z,2.4nm,0.9s,baz=22,slow=9.0,SNR=6.4						
YKA	Yellowknife Ar	38.68	318	P		P	13 03 46.4 -0.4
ILAR	Eielson Array	41.56	340	P		P	13 04 11.8 +1.2
ILAR	Eielson Array	41.56	340	P		P	13 04 11.8 +1.2
	comp=Z,1.3nm,0.8s,baz=9.4,slow=6.9,SNR=16						
ILAR	Eielson Array	41.56	340	P		P	13 04 11.8 +1.2
DLBC	Dease Lake	45.34	326	LR		LR	13 24 58.7
	comp=Z,194nm,18.3s,baz=180,slow=38						
SONM	Songino Array	49.45	59	P		P	13 05 14.6 +1.1
SONM	Songino Array	49.45	59	P		P	13 05 14.6 +1.1
	comp=Z,0.9nm,1.0s,baz=322,slow=6.8,SNR=4.4						
SONM	Songino Array	49.45	59	P		P	13 05 14.6 +1.1
PDAR	Pinedale Array	55.72	304	P		P	13 05 57.6 -2.4
PDAR	Pinedale Array	55.72	304	P		P	13 05 57.6 -2.4
	comp=Z,0.6nm,0.9s,baz=73,slow=5.1,SNR=4.7						
TORD	Torodi Ar. Bea	59.09	180	P		P	13 06 24.1 +0.2
TORD	Torodi Ar. Bea	59.09	180	P		P	13 06 24.1 +0.2
	comp=Z,1.8nm,0.8s,baz=357,slow=6.8,SNR=12						
TORD	Torodi Ar. Bea	59.09	180	P		P	13 06 24.0 +0.2
R11A	Troy Canyon, C	61.40	307	P		P	13 06 38.2 -1.4
R11A	Troy Canyon, C	61.40	307	P		P	13 06 38.2 -1.4
NVAR	Mina Array Bea	61.97	309	P		P	13 06 44.4 +0.9
NVAR	Mina Array Bea	61.97	309	P		P	13 06 44.4 +0.9
	comp=Z,0.4nm,0.6s,baz=31,slow=5.0,SNR=5.7						
NVAR	Mina Array Bea	61.97	309	P		P	13 06 44.4 +0.9
TXAR	Lajitas Array	66.78	293	P		P	13 07 13.0 -2.0
TXAR	Lajitas Array	66.78	293	P		P	13 07 13.0 -2.0
	comp=Z,0.2nm,0.3s,baz=54,slow=6.8,SNR=3.7						
TXAR				LR		LR	13 35 40.5
	comp=Z,90nm,19.7s,baz=180,slow=35						
MJAR	Matsushiro Arr	67.39	37	P		P	13 07 19.5 +0.9
MJAR	Matsushiro Arr	67.39	37	P		P	13 07 19.5 +0.9
	comp=Z,1.2nm,0.9s,baz=4.2,slow=4.9,SNR=3.5						
MJAR	Matsushiro Arr	67.39	37	P		P	13 07 19.5 +0.9
CMAR	Chiang Mai Arr	74.84	77	P		P	13 08 05.3 +1.3
CMAR	Chiang Mai Arr	74.84	77	P		P	13 08 05.3 +1.3
	comp=Z,1.3nm,0.8s,baz=324,slow=6.6,SNR=4.7						
CMAR	Chiang Mai Arr	74.84	77	P		P	13 08 05.3 +1.3
ASAR	Alice Springs	124.73	55	PKP		PKPdf	13 15 21.2 -1.6
ASAR	Alice Springs	124.73	55	PKP		PKPdf	13 15 21.2 -1.6
	comp=Z,0.4nm,0.7s,baz=11,slow=1.4,SNR=7.1						
SNAA	Sanae	143.74	182	PKP		PKPbc	13 15 54.3 -0.1
SNAA	Sanae	143.74	182	PKP		PKPbc	13 15 54.3 -0.1
	comp=Z,0.6nm,0.9s,baz=350,slow=1.5,SNR=5.4						
MAW	Mawson	145.40	144	PKPbc		PKPdf	13 15 59.5 -0.1
MAW	Mawson	145.40	144	PKPbc		PKPdf	13 15 59.5 -0.1
	comp=Z,3.2nm,0.8s,baz=297,slow=7.4,SNR=8.0						

*IDC **20** 13:02:29.3±1.9, 22°.74N×121°.88E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=332.8km s-min=26.9km az=70.0*
*ISCJB **20** 13:02:37.7±0.4, 22°.68N±0°.02×121°.19E±0°.02, h66km±4km, mb3.4/3, Error ellipse: s-maj=3.7km s-min=3.4km az=29.9*
*TAP **20** 13:02:38.0, 22°.67N×121°.15E, h61km, ML3.9, B*
*JMA **20** 13:02:38.4±0.3, 22°.61N×121°.32E, h93km, M3.4*
ISC 20 13:02:38.3±1.0, 22°.68N±0°.03×121°.18E±0°.03, h60km±6km, n60, σ0s92/94, mb3.5/3, 6C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	Taitung	0.08	337	P		Pn	13 02 47.7 +0.4
	baz=349						
TTN				*e*S		Sn	13 02 54.9 +1.1
	baz=349						
TWG	Pinlang	0.17	324	⇓*i*P		Pn	13 02 47.5 -0.2
	baz=334						
TWG				*i* S		Sn	13 02 54.0 -0.4
	baz=334						
TAW	Tawu	0.42	219	*i* P		Pn	13 02 49.3 -0.1
	baz=209						
TAW				*i* S		Sn	13 02 57.3 -0.2
	baz=209						
CHKT	Chengkung	0.45	23	⇑*i*P		Pn	13 02 49.9 +0.1
	baz=25						
CHKT				*i* S		Sn	13 02 58.4 +0.4
	baz=25						
SCZT	Fangliau	0.60	239	*e*P		Pn	13 02 51.2 -0.2
	baz=233						
SCZT				*e*S		Sn	13 03 01.7 +0.7
	baz=233						
SGLT	Jiouru	0.64	274	*e*P		Pn	13 02 52.6 +0.8
	baz=275						
TWF1	Yuli	0.68	9	P		Pn	13 02 51.6 -0.7
	baz=11						
TWF1				*e*S		Sn	13 03 01.9 -0.6
	baz=11						
SGST	Jiashian	0.68	306	⇑P		Pn	13 02 52.5 +0.2
	baz=308						
SGST				*e*S		Sn	13 03 03.2 +0.7
	baz=308						
LAY	Lan-yu	0.73	152	*e*P		Pn	13 02 52.0 -0.9
	baz=155						
LAY				*e*S		Sn	13 03 02.6 -1.1
	baz=155						
CHN1	Nanshi	0.78	310	⇑*i*P		Pn	13 02 53.5 0.0
	baz=312						
CHN1				*e*S		Sn	13 03 04.9 +0.1
	baz=312						
HEN	Hengchun	0.79	211	*e*P		Pn	13 02 54.1 +0.5
	baz=205						
HEN				*e*S		Sn	13 03 05.8 +0.9
	baz=205						
KAU	Kaohsiung	0.81	262	*e*P		Pn	13 02 57.0 +3.1
	baz=262						
TWK1	Hengchun	0.81	205	P		Pn	13 02 54.2 +0.2
	baz=201						
TWK1				*e*S		Sn	13 03 06.1 +0.6
	baz=201						
TSEB	Hengchuen, Pin	0.82	198	⇑*i*P		Pn	13 02 54.8 +0.7
	baz=198						
TSEB				S		Sn	13 03 07.2 +1.5
	baz=198						
TWP	Hsiaoliuchiu	0.83	246	*e*P		Pn	13 02 55.0 +0.9
	baz=258						
EHY	Hungye	0.83	9	P		Pn	13 02 53.5 -0.7
	baz=18						
EHY				*e*S		Sn	13 03 04.8 -1.1
	baz=18						
YUS	Yu-Shan	0.83	345	⇑P		Pn	13 02 55.3 +0.6
	baz=347						
YUS				*e*S		Sn	13 03 07.4 +0.8
	baz=347						
CHN3	Shinhua	0.85	298	*e*P		Pn	13 02 55.0 +0.6
	baz=299						
CHN3				*e*S		Sn	13 03 08.1 +1.9
	baz=299						
ALS	Alishan	0.89	337	⇑*i*P		Pn	13 02 55.8 +0.5
	baz=339						
ALS				*e*S		Sn	13 03 08.4 +0.6
	baz=339						
TAI1	Yung-k'ang	0.95	292	*e*P		Pn	13 02 54.7 -0.9
	baz=294						
TAI1				*e*S		Sn	13 03 08.9 +0.5
	baz=294						
CHN5	Tsauling	1.02	333	P		Pn	13 02 56.6 -0.1
	baz=324						
CHN5				*e*S		Sn	13 03 10.9 +0.6
	baz=324						
SCLT	Jiali	1.03	299	*e*P		Pn	13 02 57.0 +0.3
	baz=300						
SCLT				*e*S		Sn	13 03 11.1 +0.7
	baz=300						
CHN2	Minshiung	1.06	323	*e*P		Pn	13 02 56.7 -0.4
	baz=324						
CHY	Chiayi	1.07	320	*e*P		Pn	13 02 56.6 -0.6
	baz=321						
CHY				*e*S		Sn	13 03 10.8 -0.5
	baz=321						
WGK	Gukeng	1.15	330	P		Pn	13 02 58.2 -0.1
	baz=332						
WGK				S		Sn	13 03 13.5 +0.4
	baz=332						
ESL	Shilin	1.15	12	*e*P		Pn	13 02 57.6 -0.7
	baz=19						
ESL				*e*S		Sn	13 03 11.4 -1.9
	baz=19						
SMLT	Sun Moon Lake	1.22	348	P		Pn	13 02 59.9 +0.6
	baz=349						
TYC	Yuchr	1.25	346	P		Pn	13 03 00.0 +0.4
	baz=348						
WNT	Mingjian	1.27	339	*e*P		Pn	13 02 59.8 -0.1
	baz=330						
WNT				*e*S		Sn	13 03 16.3 +0.1
	baz=330						
WSF	Szhu	1.29	317	*e*P		Pn	13 02 59.8 -0.4
	baz=319						
WSF				*e*S		Sn	13 03 16.1 -0.6
	baz=319						
HWA	Hwalien	1.35	17	*e*P		Pn	13 03 01.6 +0.7
	baz=18						
WTCT	Ta-ch'eng	1.44	325	*e*P		Pn	13 03 01.7 -0.4
	baz=326						
WTCT				*e*S		Sn	13 03 19.6 -0.4
	baz=326						
TWD	Chiawan	1.44	15	*e*P		Pn	13 03 01.8 -0.4
	baz=16						
WHF	Hehuan Shan	1.46	3	*e*P		Pn	13 03 03.3 +0.5
	baz=11						
WDGT	Dungji	1.51	293	*e*P		Pn	13 03 01.9 -1.3
	baz=293						
WDGT				*e*S		Sn	13 03 19.6 -2.2
	baz=293						
TCU	Taichung	1.53	343	*e*P		Pn	13 03 03.9 +0.5
	baz=343						
TWT	Tachien	1.56	360	*e*P		Pn	13 03 06.4 +2.4
	baz=350						
TWQ1	Liyutan	1.70	347	P		Pn	13 03 06.1 +0.4
	baz=337						
NNS	Nan Shan	1.76	6	*e*P		Pn	13 03 08.2 +1.6
	baz=16						
NSY	Sanyi	1.77	348	*e*P		Pn	13 03 07.0 +0.4
	baz=337						
ENA	Nanau	1.81	16	*e*P		Pn	13 03 08.2 +1.0
	baz=17						
NSTT	Nanjuang	1.95	355	*e*P		Pn	13 03 10.4 +1.3
	baz=355						
ENTT	Nioudou	1.98	10	*e*P		Pn	13 03 10.4 +0.9
	baz=18						
NSK	Sanguang	1.99	5	*e*P		Pn	13 03 10.5 +0.8
	baz=349						
NSK				*e*S		Sn	13 03 35.0 +1.4
	baz=349						
TWC	Suao	2.01	18	*e*P		Pn	13 03 11.4 +1.4
	baz=10.0						
TWE	Neicheng	2.08	12	*e*P		Pn	13 03 11.8 +1.1
	baz=20						
TWA	Mucha	2.32	9	*e*P		Pn	13 03 14.7 +0.6
	baz=9.0						
TWB1	Santiao Chiao	2.43	18	*e*P		Pn	13 03 17.0 +1.4
	baz=9.0						
TWB1				*e*S		Sn	13 03 45.3 +1.1
	baz=9.0						
NWF	Wu-fen Shan	2.44	13	*e*P		Pn	13 03 16.1 +0.2
	baz=12						
YOJ	Yonaguni jima	2.44	43	P		Pn	13 03 16.7 +1.0
YOJ				S		Sn	13 03 45.9 +1.4
HATJ	Hateruma jima	2.77	60	P		Pn	13 03 20.6 +0.3
HATJ				S		Sn	13 03 52.7 +0.1
IRIF	Iriomote-Funau	2.86	54	P		Pn	13 03 22.3 +0.8
IRIF				S		Sn	13 03 56.0 +1.3
JKRS	Kuro-shima	3.02	59	P		Pn	13 03 24.4 +0.7
JKRS				S		Sn	13 03 59.0 +0.3
KNM	Kinmen	3.05	305	*e*P		Pn	13 03 23.6 -0.5
	baz=302						
JIJ	Ishigaki jima	3.19	58	P		Pn	13 03 26.1 +0.1
JIJ				S		Sn	13 04 02.5 -0.4
JTJ	Tarama	3.77	58	P		Pn	13 03 34.5 +0.6
JTJ				S		Sn	13 04 17.4 +0.3
JOGS	Gusukube	4.39	61	P		Pn	13 03 43.2 +0.8
JOGS				*e*S		Sn	13 04 31.9 -0.4
SONM	Songino Array	27.75	338	P		P	13 08 21.4 +0.2
	0.6nm,0.7s,baz=156,slow=11,SNR=5.2						
WRA	Warramunga Arr	44.27	162	P		P	13 10 38.7 -3.4
	1.2nm,1.2s,baz=344,slow=8.9,SNR=6.4						
ASAR	Alice Springs	47.70	164	P		P	13 11 07.9 -1.2
	0.2nm,0.3s,baz=346,slow=8.4,SNR=7.2						

*CRAAG **20** 13:37:04.5, 35°.81N×5°.46E, MI3.7*
*ISCJB **20** 13:37:09.3±0.9, 36°.01N±0°.08×5°.47E±0°.05, h8km±6km, Error ellipse: s-maj=13.7km s-min=7.4km az=4.0*
*CSEM **20** 13:37:09.2±0.5, 35°.94N×5°.50E, h2km, ML1.5, Error ellipse: s-maj=19.7km s-min=7.5km az=173.0*
*MDD **20** 13:37:10.1±0.8, 35°.98N×5°.49E, h0km, mb3.8/2, mbLg1.5/1, Error ellipse: s-maj=9.6km s-min=5.3km az=3.0, PRXIMO*
ISC 20 13:37:08.4±1.5, 35°.94N±0°.05×5°.47E±0°.03, h1km±14km, n40, σ0s40/39, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	Kef el Ahmar	0.09	25	P		Pg	13 37 09.8 -0.4
CKHR	Kef el Ahmar	0.09	25	P		Pg	13 37 09.8 -0.4
CKHR	Kef el Ahmar	0.09	25	P		Pg	13 37 09.8 -0.4
SET	Setif	0.27	349	P		Pg	13 37 14.0 +0.4
SET	Setif	0.27	349	P		Pg	13 37 14.0 +0.4
SET	Setif	0.27	349	P		Pg	13 37 14.0 +0.4
DFRA	Djebel Bou Aff	0.69	29	P		Pb	13 37 23.6 +0.2
DFRA	Djebel Bou Aff	0.69	29	P		Pb	13 37 23.6 +0.2
DFRA	Djebel Bou Aff	0.69	29	P		Pb	13 37 23.6 +0.2
CTEI	Djebel Teioual	0.77	80	P		Pg	13 37 23.4 +0.1
CTEI	Djebel Teioual	0.77	80	P		Pg	13 37 23.4 +0.1
CTEI	Djebel Teioual	0.77	80	P		Pg	13 37 23.4 +0.1
CASM	Ain Smara	0.89	68	P		Pg	13 37 25.3 -0.2
CASM	Ain Smara	0.89	68	P		Pg	13 37 25.3 -0.2
CASM	Ain Smara	0.89	68	P		Pg	13 37 25.3 -0.2
CKFL	Kef-Lekhel	1.12	65	P		Pg	13 37 30.1 +0.3
CKFL	Kef-Lekhel	1.12	65	P		Pg	13 37 30.1 +0.3
CKFL	Kef-Lekhel	1.12	65	P		Pg	13 37 30.1 +0.3
AKET	Djebel Ketaf	1.29	275	P		Pg	13 37 33.4 +0.2
AKET	Djebel Ketaf	1.29	275	P		Pg	13 37 33.4 +0.2
AKET	Djebel Ketaf	1.29	275	P		Pg	13 37 33.4 +0.2
ADJB	Djebel Djouab	1.66	278	P		Pb	13 37 40.0 +0.2
ADJB	Djebel Djouab	1.66	278	P		Pb	13 37 40.0 +0.2
ADJB	Djebel Djouab	1.66	278	P		Pb	13 37 40.0 +0.2
CMAH	Djebel Manchou	1.72	66	P		Pb	13 37 40.9 0.0
CMAH	Djebel Manchou	1.72	66	P		Pb	13 37 40.9 0.0
CMAH	Djebel Manchou	1.72	66	P		Pb	13 37 40.9 0.0
EMHD	Djebel Mahouad	2.05	278	P		Pg	13 37 47.7 -0.1
EMHD	Djebel Mahouad	2.05	278	P		Pg	13 37 47.7 -0.1
EMHD	Djebel Mahouad	2.05	278	P		Pg	13 37 47.7 -0.1
ETRT	Tiaret	3.44	262	P		Pg	13 38 20.0 +5.7
ETRT	Tiaret	3.44	262	P		Pg	13 38 20.0 +5.7
ETRT	Tiaret	3.44	262	P		Pg	13 38 20.0 +5.7
EANR	'Ain N'Sour	3.54	272	P		Pg	13 38 15.5 -0.8
EANR	'Ain N'Sour	3.54	272	P		Pg	13 38 15.5 -0.8
EANR	'Ain N'Sour	3.54	272	P		Pg	13 38 15.5 -0.8
ETOS	Mallorca	4.36	332	P		Pn	13 38 16.1 +0.2
	1.1nm,0.2s,SNR=7.6						
ETOS				S		Sn	13 39 06.6 -0.7
	0.4nm,0.3s,SNR=7.9						
ETOS	Mallorca	4.36	332	P		Pn	13 38 16.1 +0.2
	1.1nm,0.2s,SNR=7.6						
ETOS				S		Sn	13 39 06.6 -0.7
	0.4nm,0.3s,SNR=7.9						
EBER	Berja	6.80	281	P		Pn	13 38 50.1 +0.6
	0.9nm,0.2s,SNR=7.9						
EBER	Berja	6.80	281	P		Pn	13 38 50.1 +0.6
	0.9nm,0.2s,SNR=7.9						

*AUST **20** 13:47:09.1, 2°.00S×125°.00E, h35km*
*ISCJB **20** 13:48:15.7±0.6, 6°.81S±0°.08×126°.5E±0°.1, h412km, mb3.6/5, Error ellipse: s-maj=19.7km s-min=8.7km az=159.7*
*IDC **20** 13:48:21.1±2.4, 7°.07S×126°.39E, h473km±33km, mb3.2/5, mb1 3.1/8, mb1mx2.9/21, mbtmp3.0/8, Error ellipse: s-maj=26.8km s-min=12.0km az=68.0*
ISC 20 13:48:17.1±0.7, 6.77S±0°.08×126°.6E±0°.1, h412km, n16, σ2s37/16, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	6.83	56	S		P	13 49 58.5 -1.2
	baz=7.3,SNR=11						
MTN	Manton Dam	7.53	144	P		P	13 50 07.0 -0.3
	baz=12,SNR=21						
KDU	Kakadu	8.27	136	P		P	13 50 14.7 -0.6
	baz=13,SNR=5.7						
KNRA	Kununurra	9.11	167	P		P	13 50 24.9 +0.3
	baz=14,SNR=21						
FITZ	Fitzroy Crossi	11.30	185	P		P	13 50 49.0 +0.2
	0.4nm,0.3s,baz=30,slow=7.7,SNR=26						
FITZ	Fitzroy Crossi	11.30	185	P		P	13 50 49.1 +0.2
	baz=16,SNR=12						
WRA	Warramunga Arr	15.11	151	P		P	13 51 29.6 -0.9
	0.3nm,0.3s,baz=321,slow=12,SNR=23						
WRA				S		S	13 54 15.7 +5.2
	0.2nm,0.3s,baz=327,slow=18,SNR=4.5						
COEN	Coen	17.82	115	P		P	13 51 52.5 -7.0
	baz=22,SNR=12						
ASAR	Alice Springs	18.22	158	P		P	13 52 04.3 +0.8
	0.5nm,0.3s,baz=341,slow=11,SNR=33						
ASAR				S		S	13 55 04.3 -6.1
	baz=341,slow=37,SNR=2.8						
MEEK	Meekatharra	21.16	200	P		P	13 52 31.2 -0.2
	baz=25,SNR=10						
PSI	Prapat	29.19	288	P		P	13 53 41.8 -1.5
	4.8nm,0.7s,baz=166,slow=12,SNR=7.7						
EIDS	Eidsvold	29.85	131	P		P	13 53 53.8 +5.0
	baz=34,SNR=5.4						
MJAR	Matsushiro Arr	44.45	13	P		P	13 55 49.5 0.0
	1.9nm,0.6s,baz=193,slow=8.7,SNR=5.8						
SONM	Songino Array	57.21	344	P		P	13 57 24.4 +1.0
	0.5nm,0.6s,baz=173,slow=6.9,SNR=4.1						
PETK	Petropavlovsk-	65.23	20	P		P	13 58 17.6 +1.5
	2.3nm,0.5s,baz=185,slow=5.7,SNR=20						
MKAR	Makanchi Array	68.21	328	P		P	13 58 22.6 +0.2
	0.3nm,0.4s,baz=116,slow=7.8,SNR=5.9						

*NIED **20** 13:51:00.23°.40N×123°.70E, h8km, Mw3.9 Best double couple: M0=9.35000×10^14 NP1:φ0=40.00000°, δ87.00000°, λ169.00000°. NP2:φ0=131.00000°, δ79.00000°, λ3.00000°.*
*IDC **20** 13:51:16.8±1.3, 23°.48N×123°.67E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/26, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=33.5km s-min=24.3km az=90.0*
*JMA **20** 13:51:19.4±0.2, 23°.43N×123°.67E, h44km±2km, M3.8*
ISC 20 13:51:17.2±2.5, 23°.48N±0°.08×123°.74E±0°.05, h4km±15km, n22, σ0s99/31, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.57	6	P		Pn	13 51 32.1 -0.1
HATJ				S		Sn	13 51 41.0 -1.1
JKRS	Kuro-shima	0.79	18	P		Pn	13 51 35.3 +0.2
JKRS				S		Sn	13 51 47.1 -0.3
IRIF	Iriomote-Funau	0.85	359	P		Pn	13 51 35.9 0.0
IRIF				*e*S		Sn	13 51 48.6 -0.2
JIJ	Ishigaki jima	0.95	23	P		Pn	13 51 37.5 +0.1
JIJ				S		Sn	13 51 50.3 -1.1
YOJ	Yonaguni jima	1.18	326	P		Pb	13 51 40.0 -0.2
YOJ				S		Sg	13 51 54.5 -0.6
JTJ	Tarama	1.45	37	P		Pb	13 51 45.0 +0.2
JTJ				S		Sg	13 52 04.2 +0.4
JMJ	Miyako jima 2	1.94	47	P		Pn	13 51 51.8 +0.8
JMJ				S		Sb	13 52 17.0 -0.8
JOGS	Gusukube	1.98	50	P		Pn	13 51 52.6 +1.0
JOGS				S		Sb	13

NEIC ***20*** *14:01:12.5, 19°.05N×65°.76W, h125km, MD3.5(RSPR), After RSPR.*

RSPR 20 14:01:12.5, 19°.05N×65°.76W, h125km±5km, MD3.5/3, 6C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.78**	**187**	*e*Pn	Pn	14 01 31.0	-2.2
CBYP				*e*Sn	Sn	14 01 45.5	-3.2
MTP	**Monte Pirata**	**0.97**	**168**	⇓*e*P	Pn	14 01 34.2	-0.5
MTP	**Monte Pirata**	**0.97**	**168**	*e*S	Sn	14 01 51.5	0.0
MTP	**Monte Pirata**	**0.97**	**168**	⇓*e*P	Pn	14 01 34.2	-0.5
MTP				*e*S	Sn	14 01 51.5	0.0
MTP	**Monte Pirata**	**0.97**	**168**	⇓*e*P	Pn	14 01 34.2	-0.5
MTP				*e*S	Sn	14 01 51.5	0.0
CPD	**Cerro la Pandu**	**1.02**	**188**	⇑*e*P	Pn	14 01 35.1	-0.1
CPD	**Cerro la Pandu**	**1.02**	**188**	*e*S	Sn	14 01 52.6	+0.2
CPD	**Cerro la Pandu**	**1.02**	**188**	⇑*e*P	Pn	14 01 35.1	-0.1
CPD				*e*S	Sn	14 01 52.6	+0.2
CPD	**Cerro la Pandu**	**1.02**	**188**	⇑*e*P	Pn	14 01 35.1	-0.1
CPD				*e*S	Sn	14 01 52.6	+0.2
STVI	**Saint Thomas**	**1.03**	**132**	⇑*e*P	Pn	14 01 34.9	-0.5
STVI	**Saint Thomas**	**1.03**	**132**	*e*S	Sn	14 01 52.5	-0.1
STVI	**Saint Thomas**	**1.03**	**132**	⇑*e*P	Pn	14 01 34.9	-0.5
STVI				*e*S	Sn	14 01 52.5	-0.1
STVI	**Saint Thomas**	**1.03**	**132**	⇑*e*P	Pn	14 01 34.9	-0.5
STVI				*e*S	Sn	14 01 52.5	-0.1
AOPR	**Arecibo Observ**	**1.17**	**234**	⇓*e*P	Pn	14 01 36.8	0.0
AOPR	**Arecibo Observ**	**1.17**	**234**	*e*S	Sn	14 01 55.0	-0.1
AOPR	**Arecibo Observ**	**1.17**	**234**	⇓*e*P	Pn	14 01 36.8	0.0
AOPR				*e*S	Sn	14 01 55.0	-0.1
AOPR	**Arecibo Observ**	**1.17**	**234**	⇓*e*P	Pn	14 01 36.8	0.0
AOPR				*e*S	Sn	14 01 55.0	-0.1
CELP	**Cerrillos**	**1.24**	**219**	*e*S	Sn	14 01 55.9	-0.5
CELP	**Cerrillos**	**1.24**	**219**	*e*Pn	Pn	14 01 36.7	-0.7
CELP	**Cerrillos**	**1.24**	**219**	*e*S	Sn	14 01 55.9	-0.5

NIED ***20*** *14:18:00, 23°.30N×123°.50E, h11km, Mw5.2 Best double couple: M₀6.54000×10¹⁶ NP1:φs222.00000°, δ86.00000°, λ-144.00000°. NP2:φs129.00000°, δ54.00000°, λ-5.00000°.*

IDC ***20*** *14:18:08.0±0.3, 23°.54N×123°.49E, h0km, mb4.9/41, mb1 5.0/44, mb1mx5.0/46, mbtmp4.9/44, ML4.8/3, MS4.6/26, Ms1 4.6/26, ms1mx4.5/36, Error ellipse: s-maj=12.2km s-min=9.0km az=78.0*

BJI ***20*** *14:18:08.6, 23°.46N×123°.62E, h25km, mB5.1/43, mb4.9/50, Ms5.1/67, Ms7 5.0/60*

ISCJB ***20*** *14:18:10.5±0.4, 23°.48N±0°.01×123°.51E±0°.01, h28km±2km, mb5.2/221, MS4.8/63, Error ellipse: s-maj=2.3km s-min=1.8km az=158.8*

SZGRF ***20*** *14:18:10.6, 23°.14N×124°.27E, h27km, mb5.1, Southwestern Ryukyu Islands, Japan*

JMA ***20*** *14:18:10.3±0.2, 23°.42N×123°.52E, h49km±3km, M5.4*

JMA Felt I J1.

TAP ***20*** *14:18:10.7, 23°.53N×123°.57E, h61km±2km, ML5.5, D*

BKK ***20*** *14:18:11.5±0.3, 24°N±4°×12°4E±°, h10km, M4.8/30, mB5.3/18, mb5.1/30, MLv5.0/1, Mw(mB)4.8/18, Mwp5.1/1*

MOS ***20*** *14:18:11.5±1.2, 23°.56N×123°.53E, h33km, mb5.5/101, MS4.8/26, Error ellipse: s-maj=7.3km s-min=3.9km az=117.3*

NEIC ***20*** *14:18:12.0±0.2, 23°.47N×123°.43E, mb5.3/86, MW5.1(NIED), Error ellipse: s-maj=4.7km s-min=4.3km az=180.0*

NEIC Felt at Kao-hsiung and Taipei, Taiwan. Recorded [2 TAP] in T'ai-tung and [1 TAP] in Hua-lien, I-lan and Nan-t'ou. Recorded [1 JMA] on Hateruma-jima, Iriomote-jima and Ishigaki-jima.

GCMT ***20*** *14:18:12.5±0.2, 23°.41N×123°.46E, h17km, MW5.2, Moment Tensor Solution. s50,c72; s85,c150; Moment tensor: Scale 10¹⁶Nm; Mrr=0.99±.16; Mθθ7.35±.15; Mφφ-6.37±.15; Mrθ2.42±.35; Mrφ0.09±.11; Mθφ-0.02±.36; Best double couple: M₀7.20000×10¹⁶ NP1:φs136.00000°, δ80.00000°, λ11.00000°. NP2:φs44.00000°, δ79.00000°, λ170.00000°. Principal axes: T 8.0000, Plg15.0000°, Azm360.0000°; N -1.6400, Plg75.0000°, Azm178.0000°; P -6.3700, Plg0.0000°, Azm270.0000°; Data Used: II IU IC G CN.*

DJA ***20*** *14:18:12.2±2.4, 24°N±6°×12°4E±°, h26km±21km, M5.0/21, mB5.5/18, mb5.2/21, MLv5.1/1, Mw(mB)5.0/18*

ISC 20 14:18:12.6±0.3, 23°.49N±0°.02×123°.54E±0°.02, h33km±1km, h33km:pP-P, n743, σ1§54/884, mb5.2/223, MS4.8/64, 74C-26D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.62**	**24**	P	**Pn**	**14 18 23.8**	**-1.2**
HATJ				S	**Sb**	**14 18 33.9**	**+0.2**
IRIF	**Iriomote-Funau**	**0.86**	**12**	P	**Pn**	**14 18 27.2**	**-1.2**
IRIF				S	**Sn**	**14 18 39.6**	**-0.2**
JKRS	**Kuro-shima**	**0.86**	**30**	P	**Pn**	**14 18 27.5**	**-0.9**
JKRS				S	**Sn**	**14 18 39.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.03**	**32**	P	**Pn**	**14 18 29.4**	**-1.4**
JIJ				S	**Sn**	**14 18 43.2**	**-0.9**
YOJ	**Yonaguni jima**	**1.08**	**334**	⇑*i*P	**Pn**	**14 18 30.3**	**-1.1**
	baz=321						
YOJ				S	**Sn**	**14 18 44.7**	**-0.6**
	baz=321						
YOJ	**Yonaguni jima**	**1.08**	**334**	P	**Pn**	**14 18 30.3**	**-1.1**
YOJ				S	**Sn**	**14 18 44.2**	**-1.1**
JTJ	**Tarama**	**1.56**	**43**	P	**Pn**	**14 18 37.1**	**-1.0**
JTJ				S	**Sn**	**14 18 57.3**	**+0.1**
HWA	**Hwalien**	**1.83**	**286**	P	**Pn**	**14 18 39.8**	**-2.1**
	baz=275						
TEGC	**Jichi Village**	**1.84**	**277**	P	**Pn**	**14 18 40.2**	**-1.7**
	baz=282						
TEGC				*e*S	**Sn**	**14 19 01.3**	**-2.8**
	baz=282						
TWD	**Chiawan**	**1.87**	**289**	⇑P	**Pn**	**14 18 40.2**	**-2.1**
	baz=287						
TWD				*e*S	**Sn**	**14 19 01.1**	**-3.7**
	baz=287						
ENA	**Nanau**	**1.89**	**300**	⇑P	**Pn**	**14 18 41.7**	**-0.8**
	baz=298						
ENA				*e*S	**Sn**	**14 19 04.3**	**-1.0**
	baz=298						
NACB	**Ninganchiao**	**1.90**	**291**	*e*Pn	Pn	14 18 39.7	-3.0
TWC	**Suao**	**1.90**	**306**	P	**Pn**	**14 18 41.7**	**-1.0**
	baz=304						
TWC				*e*S	**Sn**	**14 19 04.5**	**-1.1**
	baz=304						
ESL	**Shilin**	**1.96**	**280**	P	**Pn**	**14 18 40.7**	**-2.7**
	baz=278						
ESL				*e*S	**Sn**	**14 19 01.8**	**-5.0**
	baz=278						
EHY	**Hungye**	**2.03**	**271**	⇑*i*P	**Pn**	**14 18 42.4**	**-2.2**
	baz=262						
EHY				S	**Sn**	**14 19 05.8**	**-3.0**
	baz=262						
CHKT	**Chengkung**	**2.03**	**259**	⇑P	**Pn**	**14 18 41.6**	**-2.9**
	baz=258						
CHKT				*e*S	**Sn**	**14 19 03.2**	**-5.6**
	baz=258						
YULB	**Yu-li**	**2.06**	**268**	*e*Pn	**Pn**	**14 18 42.5**	**-2.4**
TWF1	**Yuli**	**2.06**	**267**	⇑P	**Pn**	**14 18 42.6**	**-2.3**
	baz=265						
TWF1				S	**Sn**	**14 19 05.2**	**-4.3**
	baz=265						
ILA	**Ilan**	**2.07**	**308**	*e*P	**Pn**	**14 18 44.8**	**-0.2**
	baz=307						
TWB1	**Santiao Chiao**	**2.07**	**317**	*e*P	**Pn**	**14 18 44.0**	**-1.0**
	baz=307						
JMJ	**Miyako jima 2**	**2.08**	**50**	⇓*e*P	**Pn**	**14 18 44.9**	**-0.3**
	baz=50						
JMJ				*e*S	**Sn**	**14 19 09.7**	**-0.2**
	baz=50						
JMJ	**Miyako jima 2**	**2.08**	**50**	P	**Pn**	**14 18 44.4**	**-0.8**
JMJ				S	**Sn**	**14 19 09.6**	**-0.3**
TWE	**Neicheng**	**2.10**	**306**	*e*P	**Pn**	**14 18 44.9**	**-0.6**
	baz=304						
JOGS	**Gusukube**	**2.13**	**53**	P	**Pn**	**14 18 44.9**	**-0.9**
JOGS				S	**Sn**	**14 19 11.9**	**+0.8**
ENTT	**Nioudou**	**2.13**	**303**	P	**Pn**	**14 18 45.5**	**-0.5**
	baz=301						
ENTT				*e*S	**Sn**	**14 19 10.7**	**-0.6**
	baz=301						
WHF	**Hehuan Shan**	**2.18**	**288**	⇑*i*P	**Pn**	**14 18 45.2**	**-1.8**
	baz=286						
WHF				*e*S	**Sn**	**14 19 10.1**	**-3.0**
	baz=286						
NNS	**Nan Shan**	**2.19**	**296**	⇑P	**Pn**	**14 18 45.9**	**-1.0**
	baz=294						
NNS				*e*S	**Sn**	**14 19 10.7**	**-2.2**
	baz=294						
NWF	**Wu-fen Shan**	**2.25**	**315**	⇓*e*P	**Pn**	**14 18 47.1**	**-0.5**
	baz=302						
NWF				*e*S	**Sn**	**14 19 12.1**	**-2.1**
	baz=302						
TWT	**Tachien**	**2.29**	**290**	P	**Pn**	**14 18 47.3**	**-1.0**
	baz=288						
TWT				*e*S	**Sn**	**14 19 12.8**	**-2.6**
	baz=288						
YHNB	**Yeheng**	**2.30**	**301**	*e*Pn	**Pn**	**14 18 47.6**	**-0.7**
NSK	**Sanguang**	**2.31**	**301**	*e*P	**Pn**	**14 18 47.8**	**-0.7**
	baz=299						
NSK				*e*S	**Sn**	**14 19 13.5**	**-2.3**
	baz=299						
TTN	**Taitung**	**2.32**	**252**	*e*P	**Pn**	**14 18 46.1**	**-2.3**
	baz=244						
TTN				*e*S	**Sn**	**14 19 10.9**	**-4.9**
	baz=244						
TWA	**Mucha**	**2.32**	**310**	*e*P	**Pn**	**14 18 48.6**	**+0.1**
	baz=309						
TWA				*e*S	**Sn**	**14 19 16.3**	**+0.4**
	baz=309						
LAY	**Lan-yu**	**2.33**	**232**	⇑*i*P	Pn	14 18 45.6	-3.1
	baz=240						
TWG	**Pinlang**	**2.36**	**254**	*e*P	**Pn**	**14 18 46.5**	**-2.6**
	baz=259						
TWG				*e*S	**Sn**	**14 19 12.7**	**-4.3**
	baz=259						
TWG	**Pinlang**	**2.36**	**254**	*e*Pn	**Pn**	**14 18 46.3**	**-2.8**
YUS	**Yu-Shan**	**2.37**	**270**	⇑*i*P	**Pn**	**14 18 48.3**	**-1.4**
	baz=269						
YUS				S	**Sn**	**14 19 14.7**	**-3.1**
	baz=269						
TATO	**Taipei**	**2.38**	**309**	*e*Pn	**Pn**	**14 18 49.0**	**-0.4**
SSLB	**Suanglung**	**2.39**	**278**	*e*Pn	**Pn**	**14 18 47.4**	**-2.1**
TAP1	**Taipei**	**2.40**	**310**	*e*P	**Pn**	**14 18 49.9**	**+0.4**
	baz=309						
TAP1				*e*S	**Sn**	**14 19 18.2**	**+0.4**
	baz=309						
TAP	**Taipei**	**2.41**	**310**	*e*P	**Pn**	**14 18 49.4**	**-0.3**
	baz=309						
SMLT	**Sun Moon Lake**	**2.45**	**280**	⇑P	**Pn**	**14 18 49.2**	**-1.2**
	baz=278						
SMLT				*e*S	**Sn**	**14 19 16.7**	**-2.5**
	baz=278						
TYC	**Yuchr**	**2.49**	**280**	⇑*i*P	**Pn**	**14 18 49.8**	**-1.0**
	baz=279						
TYC				S	**Sn**	**14 19 16.7**	**-3.3**
	baz=279						
TWY	**Chenhua**	**2.51**	**316**	*e*P	**Pn**	**14 18 50.5**	**-0.5**
	baz=303						
ALS	**Alishan**	**2.51**	**271**	⇑*i*P	**Pn**	**14 18 50.6**	**-0.8**
	baz=270						
ALS				*e*S	**Sn**	**14 19 19.0**	**-1.9**
	baz=270						
PCYT	**Pengchaiyu**	**2.51**	**328**	*e*P	**Pn**	**14 18 51.1**	**-0.1**
	baz=316						
NSTT	**Nanjuang**	**2.58**	**297**	*e*P	**Pn**	**14 18 52.4**	**+0.3**
	baz=295						
NSTT				*e*S	**Sn**	**14 19 21.6**	**-0.7**
	baz=295						
NCU	**National Centr**	**2.60**	**305**	*e*P	**Pn**	**14 18 52.2**	**-0.2**
	baz=303						
CHN5	**Tsauling**	**2.62**	**273**	⇑P	**Pn**	**14 18 52.6**	**-0.1**
	baz=266						
CHN5				*e*S	**Sn**	**14 19 23.2**	**-0.4**
	baz=266						
WNT	**Mingjian**	**2.64**	**279**	⇑*i*P	**Pn**	**14 18 53.1**	**+0.2**
	baz=277						
WNT				*e*S	**Sn**	**14 19 23.9**	**+0.1**
	baz=277						
TWQ1	**Liyutan**	**2.67**	**289**	*i* P	**Pn**	**14 18 53.6**	**+0.3**
	baz=288						
TWQ1				*e*S	**Sn**	**14 19 25.3**	**+0.8**
	baz=288						
TPUB	**Ta-pu**	**2.68**	**267**	*e*Pn	**Pn**	**14 18 52.7**	**-0.7**
TAW	**Tawu**	**2.68**	**246**	*e*P	**Pn**	**14 18 51.4**	**-2.1**
	baz=244						
TAW				*e*S	**Sn**	**14 19 20.4**	**-4.4**
	baz=244						
TCU	**Taichung**	**2.70**	**285**	⇑*i*P	**Pn**	**14 18 54.4**	**+0.7**
	baz=293						
TCU				*e*S	**Sn**	**14 19 25.2**	**-0.1**
	baz=293						
NSY	**Sanyi**	**2.70**	**291**	*e*P	**Pn**	**14 18 54.4**	**+0.6**
	baz=289						
NSY				*e*S	**Sn**	**14 19 23.9**	**-1.5**
	baz=289						
WGK	**Gukeng**	**2.73**	**275**	*e*P	**Pn**	**14 18 54.3**	**+0.1**
	baz=273						
WGK				*e*S	**Sn**	**14 19 25.8**	**-0.3**
	baz=273						
SGST	**Jiashian**	**2.75**	**262**	P	**Pn**	**14 18 54.0**	**-0.4**
	baz=258						
SGST				*e*S	**Sn**	**14 19 25.5**	**-0.9**
	baz=258						
CHN1	**Nanshi**	**2.78**	**264**	⇑*i*P	**Pn**	**14 18 55.0**	**+0.1**
	baz=260						
CHN1				S	**Sn**	**14 19 27.0**	**-0.3**
	baz=260						
CHN2	**Minshiung**	**2.81**	**271**	⇑P	**Pn**	**14 18 55.8**	**+0.6**
	baz=270						
CHN2				S	**Sn**	**14 19 29.1**	**+1.2**
	baz=270						
CHY	**Chiayi**	**2.86**	**271**	⇑*i*P	**Pn**	**14 18 56.1**	**+0.2**
	baz=269						
CHY				*i* S	**Sn**	**14 19 28.8**	**-0.3**
	baz=269						
TSEB	**Hengchuen, Pin**	**2.90**	**237**	P	**Pn**	**14 18 55.5**	**-1.0**
	baz=237						
TSEB				*e*S	**Sn**	**14 19 27.6**	**-2.6**
	baz=237						
SGLT	**Jiouru**	**2.91**	**255**	*e*P	**Pn**	**14 18 56.7**	**+0.1**
	baz=257						
SCZT	**Fangliau**	**2.91**	**248**	⇑P	**Pn**	**14 18 55.3**	**-1.3**
	baz=247						
SCZT				*e*S	**Sn**	**14 19 29.1**	**-1.3**
	baz=247						
CHN3	**Shinhua**	**2.94**	**263**	⇑P	**Pn**	**14 18 58.3**	**+1.2**
	baz=272						
CHN3				S	**Sn**	**14 19 32.9**	**+1.6**
	baz=272						
TWK1	**Hengchun**	**2.95**	**239**	⇑*i*P	**Pn**	**14 18 55.4**	**-1.8**
	baz=238						
TWK1				*e*S	**Sn**	**14 19 26.9**	**-4.6**
	baz=238						
HEN	**Hengchun**	**2.98**	**241**	⇑*i*P	**Pn**	**14 18 56.4**	**-1.1**
	baz=240						
WTCT	**Ta-ch'eng**	**3.01**	**278**	⇑*i*P	**Pn**	**14 18 58.1**	**+0.2**
	baz=276						
WTCT				*e*S	**Sn**	**14 19 34.0**	**+1.2**
	baz=276						
WSF	**Szhu**	**3.04**	**273**	*e*P	**Pn**	**14 18 58.5**	**+0.1**
	baz=272						
WSF				S	**Sn**	**14 19 33.2**	**-0.6**
	baz=272						
TAI1	**Yung-k'ang**	**3.08**	**262**	⇑P	**Pn**	**14 18 59.4**	**+0.6**
	baz=261						
TAI1				*e*S	**Sn**	**14 19 35.4**	**+0.9**
	baz=261						
SCLT	**Jiali**	**3.09**	**265**	*e*P	**Pn**	**14 18 59.0**	**0.0**
	baz=273						
SCLT				*e*S	**Sn**	**14 19 34.7**	**-0.1**
	baz=273						
KAU	**Kaohsiung**	**3.11**	**253**	P	**Pn**	**14 19 00.5**	**+1.1**
	baz=252						
KAU				*e*S	**Sn**	**14 19 37.3**	**+1.9**
	baz=252						
TWP	**Hsiaoliuchiu**	**3.14**	**249**	P	**Pn**	**14 19 01.3**	**+1.5**
	baz=247						
TWP				*e*S	**Sn**	**14 19 38.6**	**+2.5**
	baz=247						
WDGT	**Dungji**	**3.57**	**267**	*e*P	**Pn**	**14 19 05.0**	**-0.7**
	baz=266						
WDGT				*e*S	**Sn**	**14 19 43.6**	**-3.1**
	baz=266						
JKE	**Kume jima 2**	**4.08**	**46**	P	**Pn**	**14 19 10.0**	**-2.8**
JKE				*e*S	**Sn**	**14 19 57.3**	**-2.1**
JAGN	**Aguni-jima**	**4.56**	**47**	P	**Pn**	**14 19 16.6**	**-2.7**
JAGN				*e*S	**Sn**	**14 20 11.4**	**+0.2**
JJT2	**Tamagusuku 2**	**4.65**	**55**	P	**Pn**	**14 19 18.8**	**-1.7**
JJT2				*e*S	**Sn**	**14 20 12.1**	**-1.2**
QZH	**Quanzhou**	**4.74**	**289**	⇓*i*Pn	**Pn**	**14 19 18.8**	**-3.0**
QZH				Sn	Sn	14 20 09.3	-6.3
QZH				LR	LR		
	comp=N,28μm,14.5s						
QZH				LR	LR		
	comp=E,20μm,12.9s						
QZH				LR	LR		
	comp=Z,30μm,10.3s						
KNM	**Kinmen**	**4.76**	**282**	*e*P	**Pn**	**14 19 22.3**	**+0.3**
	baz=280						
KNM				*e*S	**Sn**	**14 20 13.3**	**-2.8**
	baz=280						
JIH	**Iheya**	**5.34**	**48**	P	Pn	14 19 27.2	-2.9
JIH				*e*S	**Sn**	**14 20 28.6**	**-1.8**
SGCP	**Mt. Cagua**	**5.40**	**195**	*e*P	**Pn**	**14 19 29.0**	**-1.9**
SGCP				*e*S	**Sn**	**14 20 36.0**	**+4.0**
JOW	**Kunigami**	**5.43**	**51**	⇓*e*P	**Pn**	**14 19 28.6**	**-2.7**
	baz=52						
JOW	**Kunigami**	**5.43**	**51**	*e*Pn	Pn	14 19 28.2	-3.1
JOW	**Kunigami**	**5.43**	**51**	P	Pn	14 19 28.4	-2.9
JOW				*e*S	**Sn**	**14 20 31.1**	**-1.6**
CVP	**Callao Caves**	**5.98**	**196**	⇓*i*P	**Pn**	**14 19 38.1**	**-0.7**
APYP	**Conner**	**6.00**	**201**	*e*P	**Pn**	**14 19 37.4**	**-1.6**
ABRA	**Dolores**	**6.38**	**205**	*e*P	**Pn**	**14 19 44.2**	**-0.2**
PALP	**Palanan**	**6.48**	**189**	⇑*e*P	**Pn**	**14 19 44.0**	**-1.7**
JTK	**Tokunoshima**	**6.49**	**48**	P	Pn	14 19 42.0	-3.9
JTK				*e*S	**Sn**	**14 20 55.2**	**-3.6**
CAUP	**Cauayan**	**6.71**	**194**	*e*P	**Pn**	**14 19 49.7**	**+0.8**
JAMN	**Amaminishikomi**	**6.94**	**46**	P	Pn	14 19 48.0	-4.0
JAMN				*e*S	**Sn**	**14 21 04.7**	**-5.1**
JAM	**Amami Oshima**	**7.34**	**47**	P	Pn	14 19 53.7	-3.7
JAM				*e*S	**Sn**	**14 21 14.8**	**-4.8**
JMZ	**Minamidaito 2**	**7.37**	**70**	P	Pn	14 19 53.4	-4.4
JMZ				*e*S	Sn	14 21 08.2	-12
JZK	**Kikaishima**	**7.53**	**49**	P	**Pn**	**14 19 57.4**	**-2.7**
SSE	**Sheshan**	**7.86**	**345**	P	**Pn**	**14 20 05.4**	**+0.8**
SSE				pP		14 20 12.8	
SSE				S	**Sn**	**14 21 34.9**	**+2.5**
SSE				sS		14 21 47.1	
SSE				pmax	pmax		
	comp=Z,84nm,0.8s						
SSE				pmax	pmax		
	comp=Z,240nm,5.8s						
SSE				LR	LR		
	comp=N,7μm,17.0s						
SSE				LR	LR		
	comp=E,2μm,17.0s						
SSE				LR	LR		
	comp=Z,10μm,16.5s						
BALP	**Baler**	**7.93**	**194**	*e*P	**Pn**	**14 20 05.0**	**-0.6**
JNN	**Nakanoshima**	**8.49**	**41**	P	Pn	14 20 10.0	-3.3
GZH	**Guangzhou**	**9.38**	**270**	P	Pn	14 20 20.8	-4.7
GZH				S	Sn	14 22 03.4	-6.4
GZH				smax	smax		
	comp=N,660nm,1.0s						
GZH				smax	smax		
	comp=E,420nm,0.9s						
NJ2	**Nanjing**	**9.48**	**335**	*e*P	**Pn**	**14 20 25.8**	**-1.0**
NJ2				pP		14 20 32.8	
NJ2				sP		14 20 37.6	
NJ2				S	**Sn**	**14 22 11.0**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,240nm,5.9s						
NJ2				LR	LR		
	comp=N,8μm,12.3s						
NJ2				LR	LR		
	comp=E,6μm,10.5s						
NJ2				LR	LR		
	comp=Z,9μm,10.2s						
GQP	**Guinayangan**	**9.59**	**186**	⇑*e*P	**Pn**	**14 20 28.6**	**+0.2**
PVCP	**Virac**	**9.86**	**176**	⇓*e*P	**Pn**	**14 20 30.2**	**-1.9**
PVCP				*e*S	Sn	14 22 06.0	-16
BOAC	**Boac**	**10.11**	**189**	*e*P	**Pn**	**14 20 36.4**	**+0.9**
AUQP	**San Andres**	**10.15**	**185**	*e*P	**Pn**	**14 20 36.3**	**+0.3**
AUQP				*e*S	Px	14 20 46.8	
WHN	**Wuhan**	**10.79**	**313**	P	**Pn**	**14 20 46.4**	**+1.7**
WHN				S	**Sn**	**14 22 41.4**	**-2.9**
WHN				LR	LR		
	comp=N,10μm,7.6s						
WHN				LR	LR		
	comp=E,9μm,8.0s						
WHN				LR	LR		
	comp=Z,14μm,12.5s						
SJMP	**San Jose**	**11.21**	**192**	*e*P	**Pn**	**14 20 52.6**	**+2.0**
JNU	**Nakatsue**	**11.57**	**32**	*e*Pn	Pn	14 20 51.2	-4.3
JNU	**Nakatsue**	**11.57**	**32**	Pn	**Pn**	**14 20 53.5**	**-2.0**
	comp=Z,6.6nm,0.3s,baz=250,slow=4.0,SNR=82						
QIZ	**Qiongzhong**	**13.51**	**253**	P	Pn	14 21 19.1	-3.0
QIZ				pmax	pmax		
	comp=Z,18nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,180nm,10.2s						
QIZ				LR	LR		
	comp=N,5μm,20.7s						
QIZ				LR	LR		
	comp=Z,5μm,17.0s						
QIZ	**Qiongzhong**	**13.51**	**253**	*e*Pn	**Pn**	**14 21 20.6**	**-1.5**
	comp=Z,90nm,1.4s						
QIZ				*e*Sn	**Sn**	**14 23 47.5**	**-3.7**
TIA	**Tai'an**	**13.84**	**338**	⇑P	**Pn**	**14 21 28.5**	**+2.0**
TIA				S	Sn	14 24 09.5	+11
TIA				pmax	pmax		
	comp=Z,60nm,1.4s						
TIA				pmax	pmax		
	comp=Z,1μm,7.8s						
TIA				LR	LR		
	comp=N,5μm,16.7s						
TIA				LR	LR		
	comp=E,4μm,11.8s						
TIA				LR	LR		
	comp=Z,7μm,14.0s						
INCN	**Inchon**	**14.20**	**10**	*e*Pn	**Pn**	**14 21 31.7**	**+0.3**
ENH	**Enshi**	**14.23**	**301**	*e*Pn	**Pn**	**14 21 29.3**	**-2.6**
	comp=Z,27nm,1.5s						
KSAR	**Wonju Array Be**	**14.40**	**14**	Pn	**Pn**	**14 21 33.9**	**-0.2**
KSRS	**Korea Array**	**14.42**	**14**	Pn	**Pn**	**14 21 33.9**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=193,slow=13,SNR=47						
KSRS				LR	LR	14 28 01.9	
	comp=Z,4μm,19.2s,baz=197,slow=41						
DL2	**Dalian**	**15.45**	**354**	P	**Pn**	**14 21 48.3**	**+0.2**
DL2				S	**Sn**	**14 24 40.0**	**+1.8**
GYA	**Guiyang**	**15.58**	**284**	⇑*i*P	**Pn**	**14 21 48.8**	**-1.2**
GYA				pP	**P**	**14 21 56.4**	**+2.5**
GYA				PP	**pP**	**14 22 01.5**	**-1.2**
GYA				S	**Sn**	**14 24 39.0**	**-2.7**
GYA				SS	**S**	**14 24 56.3**	**0.0**
GYA				PcP	**PcP**	**14 26 51.1**	**+0.2**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.3s						
GYA				LR	LR		
	comp=N,3μm,14.7s						
GYA				LR	LR		
	comp=E,3μm,15.3s						
GYA				LR	LR		
	comp=Z,3μm,13.8s						
DAV	**Davao City (W)**	**16.44**	**173**	LR	LR	14 29 50.4	
	comp=Z,1μm,18.3s,baz=348,slow=43						
XAN	**Xi'an**	**16.55**	**313**	P	**P**	**14 22 05.1**	**+0.5**
XAN				S	**Sn**	**14 25 01.9**	**-3.2**
XAN				LR	LR		
	comp=N,5μm,18.4s						
XAN				LR	LR		
	comp

BJI				S	Sn	14 25 33.1	+2.0
BJI				pmax	pmax		
	comp=Z,72nm,1.4s						
BJI				pmax	pmax		
	comp=Z,810nm,9.7s						
BJI				LR	LR		
	comp=N,4μm,16.0s						
BJI				LR	LR		
	comp=E,2μm,12.8s						
BJI				LR	LR		
	comp=Z,2μm,17.6s						
KDM	**Kudat**	**17.69**	**202**	P	**P**	**14 22 19.3**	**+2.1**
MJAR	**Matsushiro Arr**	**18.15**	**41**	P	**Pn**	**14 22 20.5**	**-1.6**
MJAR	**Matsushiro Arr**	**18.15**	**41**	P	**Pn**	**14 22 20.5**	**-1.6**
	comp=Z,4.0nm,0.3s,baz=229,slow=9.3,SNR=146						
SNY	**Shenyang**	**18.29**	**0** ⇑	P	**P**	**14 22 22.8**	**-0.8**
SNY				S	**Sn**	**14 25 46.3**	**-0.5**
SNY				pmax	pmax		
	comp=Z,1μm,2.8s						
SNY				LR	LR		
	comp=N,6μm,15.3s						
SNY				LR	LR		
	comp=E,3μm,15.5s						
SNY				LR	LR		
	comp=Z,7μm,16.2s						
KKM	**Kota Kinabalu**	**18.72**	**203**	*e*P	**P**	**14 22 26.2**	**-2.4**
	comp=Z,141nm,1.4s						
KKM	**Kota Kinabalu**	**18.72**	**203**	P	**Pn**	**14 22 31.0**	**+1.7**
SDKM	**Sandakan**	**18.77**	**200**	P	**Pn**	**14 22 31.2**	**+1.4**
MYLDM	**Lahad Datu**	**18.84**	**196**	P	**Pn**	**14 22 32.1**	**+1.5**
MYLDM	**Lahad Datu**	**18.84**	**196**	P	**Pn**	**14 22 33.0**	**+2.4**
UBPT	**Khong Chiam**	**18.88**	**248**	P	**Pn**	**14 22 34.3**	**+3.2**
UBPT	**Khong Chiam**	**18.88**	**248**	P	**Pn**	**14 22 34.0**	**+2.9**
	comp=Z,84nm,1.6s,comp=Z,2μm						
KMI	**Kunming**	**19.02**	**279**	P	**Pn**	**14 22 35.0**	**+2.0**
KMI				pP	**pP**	**14 22 43.9**	**+3.0**
KMI				sP	**sP**	**14 22 48.0**	**+2.8**
KMI				S	Sn	14 25 56.3	-9.0
KMI				sS	**S**	**14 26 10.3**	**+3.9**
KMI				SS	**SnSn**	**14 26 22.8**	**+3.4**
KMI				pmax	pmax		
	comp=Z,32nm,1.3s						
KMI				pmax	pmax		
	comp=Z,4μm,11.8s						
KMI				LR	LR		
	comp=N,7μm,13.4s						
KMI				LR	LR		
	comp=E,4μm,11.4s						
KMI				LR	LR		
	comp=Z,4μm,11.9s						
CD2	**Chengdu**	**19.07**	**297**	P	**Pn**	**14 22 33.4**	**+0.1**
CD2				pP	**pP**	**14 22 41.6**	**+0.5**
CD2				sP	**sP**	**14 22 46.8**	**+1.4**
CD2				PP	**PnPn**	**14 22 50.3**	**+4.1**
CD2				S	**Sn**	**14 26 00.3**	**-5.7**
CD2				sS	**S**	**14 26 12.0**	**+5.1**
CD2				SS	**SnSn**	**14 26 25.8**	**+5.7**
CD2				pmax	pmax		
	comp=Z,50nm,1.2s						
CD2				pmax	pmax		
	comp=Z,710nm,4.8s						
CD2				LR	LR		
	comp=N,6μm,14.2s						
CD2				LR	LR		
	comp=E,6μm,15.4s						
CD2				LR	LR		
	comp=Z,9μm,17.8s						
TSM	**Tawau**	**19.85**	**197**	P	**Pn**	**14 22 43.5**	**+0.8**
HHC	**Hu-ho-hao-te**	**20.02**	**333**	*e*P	**P**	**14 22 43.3**	**+0.6**
HHC				PP	**PnPn**	**14 23 02.8**	**+3.5**
HHC				S	**S**	**14 26 22.8**	**-3.3**
HHC				SS	**SnSn**	**14 26 51.3**	**+7.6**
HHC				PcP	**PcP**	**14 26 57.5**	**-0.4**
HHC				ScP	**ScP**	**14 30 29.5**	**-2.3**
HHC				PcS	**PcS**	**14 30 33.8**	**-1.6**
HHC				pmax	pmax		
	comp=Z,180nm,1.3s						
HHC				pmax	pmax		
	comp=Z,1μm,4.1s						
HHC				LR	LR		
	comp=N,6μm,13.0s						
HHC				LR	LR		
	comp=E,6μm,12.8s						
HHC				LR	LR		
	comp=Z,9μm,12.8s						
CN2	**Changchun**	**20.32**	**4**	*e*P	**P**	**14 22 45.0**	**-0.8**
CN2				*e*sP	**sP**	**14 22 57.8**	**-1.1**
CN2				*e*S	**S**	**14 26 28.5**	**-3.3**
CN2				pmax	pmax		
	comp=Z,100nm,1.2s						
CN2				pmax	pmax		
	comp=Z,500nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,5μm,15.0s						
CN2				LR	LR		
	comp=Z,4μm,16.0s						
BTO	**Baotou**	**20.51**	**329**	*e*P	**P**	**14 22 47.4**	**-0.6**
VLA	**Vladivostok**	**20.77**	**17** ⇑	*e*P	Pn	14 22 52.6	-0.6
VLA				pmax	pmax		
	comp=Z,88nm,1.6s						
LZH	**Lanzhou**	**21.16**	**311**	P	**P**	**14 22 56.8**	**+1.7**
LZH				pP	**pP**	**14 23 08.5**	**+4.5**
LZH				sP	**sP**	**14 23 11.0**	**+2.7**
LZH				S	**S**	**14 26 46.0**	**-2.8**
LZH				sS	Sn	14 26 55.0	-1.4
LZH				SS	**SnSn**	**14 27 16.5**	**+4.9**
LZH				pmax	pmax		
	comp=Z,90nm,1.1s						
LZH				pmax	pmax		
	comp=Z,430nm,4.0s						
LZH				LR	LR		
	comp=N,6μm,14.9s						
LZH				LR	LR		
	comp=E,3μm,11.9s						
LZH				LR	LR		
	comp=Z,6μm,16.7s						
CHAI	**Chaiyaphum**	**21.63**	**253**	P	**P**	**14 23 01.1**	**+0.9**
	comp=Z,12nm,1.6s,comp=Z,167nm						
MDJ	**Mudanjiang**	**21.65**	**12**	P	**P**	**14 22 59.8**	**-0.3**
MDJ				pP	**pP**	**14 23 07.9**	**-1.2**
MDJ				sP	**sP**	**14 23 12.3**	**-1.0**
MDJ				ScS	ScS	14 34 11.8	-7.8
MDJ				pmax	pmax		
	comp=Z,40nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.6s						
MDJ				LR	LR		
	comp=N,2μm,15.2s						
MDJ				LR	LR		
	comp=E,4μm,16.1s						
MDJ				LR	LR		
	comp=Z,5μm,17.9s						
MDJ	**Mudanjiang**	**21.65**	**12**	*e*P	**P**	**14 22 59.1**	**-1.0**
	comp=Z,52nm,1.2s						
LOEI	**Loei**	**21.68**	**258**	P	**P**	**14 22 58.7**	**-2.0**
	comp=Z,249nm,1.2s						
USRK	**Ussuriysk Arra**	**21.80**	**17**	P	**P**	**14 23 01.1**	**-0.6**
	comp=Z,5.9nm,0.6s,baz=188,slow=8.0,SNR=11						
USRK				LR	LR	14 32 58.5	
	comp=Z,4μm,18.4s,baz=183,slow=41						
PBKT	**Sadao Pong**	**22.27**	**256**	P	**P**	**14 23 08.8**	**+1.7**
	comp=Z,57nm,1.2s,comp=Z,842nm						
PBKT	**Sadao Pong**	**22.27**	**256**	P	**P**	**14 23 08.7**	**+1.7**
	comp=Z,57nm,1.2s,comp=Z,844nm						
GUMO	**Guam**	**22.47**	**112**	*e*P	**P**	**14 23 07.2**	**-2.0**
	comp=Z,357nm,1.1s						
BTM	**Bintulu**	**22.56**	**208**	P	**P**	**14 23 10.5**	**+0.3**
GTOI	**Gorontalo**	**22.72**	**181**	P	**P**	**14 23 10.1**	**-1.7**
	comp=Z,162nm,1.1s,comp=Z,2μm						
CHBT	**CHBT**	**22.78**	**246**	P	**P**	**14 23 13.9**	**+1.5**
	comp=Z,30nm,1.7s,comp=Z,852nm						
CHBT	**CHBT**	**22.78**	**246**	P	**P**	**14 23 13.9**	**+1.5**
	comp=Z,30nm,1.7s,comp=Z,852nm						
NAYO	**Nakonayok**	**22.89**	**250**	P	**P**	**14 23 15.8**	**+2.2**
	comp=Z,55nm,1.6s						
TNTI	**Ternate**	**22.89**	**170**	P	**P**	**14 23 14.5**	**+0.9**
	comp=Z,292nm,1.6s,comp=Z,4μm						
MRSI	**Marisa**	**22.93**	**184**	P	**P**	**14 23 15.7**	**+1.7**
	comp=Z,96nm,1.1s,comp=Z,2μm						
CMMT	**Chiang Mai**	**23.39**	**263**	P	**P**	**14 23 19.3**	**+0.7**
	comp=Z,33nm,1.7s,comp=Z,687nm						
CMMT	**Chiang Mai**	**23.39**	**263**	P	**P**	**14 23 19.3**	**+0.7**
	comp=Z,33nm,1.7s,comp=Z,687nm						
CHTO	**Chiang Mai**	**23.39**	**263**	*e*P	**P**	**14 23 14.8**	**-3.9**
CHTO				pmax	pmax		
	comp=Z,93nm,1.6s						
CHTO	**Chiang Mai**	**23.39**	**263**	*e*P	**P**	**14 23 14.8**	**-3.9**
	comp=Z,93nm,1.6s						
CHTO	**Chiang Mai**	**23.39**	**263**	P	**P**	**14 23 20.1**	**+1.4**
	comp=Z,37nm,1.7s,comp=Z,632nm						
CHTO	**Chiang Mai**	**23.39**	**263**	P	**P**	**14 23 19.7**	**+1.0**
	comp=Z,37nm,1.7s,comp=Z,633nm						
CM31	**Chiang Mai Arr**	**23.49**	**262**	*e*P	**P**	**14 23 16.9**	**-2.7**
	comp=Z,19nm,1.1s						
CMAR	**Chiang Mai Arr**	**23.49**	**262**	P	**P**	**14 23 20.1**	**+0.5**
CMAR				PcP	**PcP**	**14 27 05.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**23.49**	**262**	P	**P**	**14 23 20.1**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=60,slow=7.6,SNR=39						
CMAR				PcP	**PcP**	**14 27 05.8**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=40,slow=0.5,SNR=13						
CMAR				LR	LR	14 33 00.8	
	comp=Z,1μm,21.6s,baz=72,slow=38						
SBUM	**Sibu**	**23.61**	**209**	P	**P**	**14 23 21.4**	**+0.6**
SBUM	**Sibu**	**23.61**	**209**	P	**P**	**14 23 20.3**	**-0.5**
	comp=Z,89nm,0.9s,comp=Z,809nm						
UTHA	**Uthaitani**	**24.01**	**255**	P	**P**	**14 23 26.9**	**+2.3**
	comp=Z,8.7nm,1.1s,comp=Z,96nm						
LBMI	**Labuha**	**24.29**	**170**	P	**P**	**14 23 28.5**	**+1.4**
	comp=Z,288nm,1.3s,comp=Z,5μm						
LUWI	**Luwuk**	**24.40**	**182**	P	**P**	**14 23 29.5**	**+1.5**
	comp=Z,105nm,1.6s,comp=Z,2μm						
ERM	**Erimo**	**24.67**	**37**	P	**P**	**14 23 29.4**	**-0.9**
	comp=Z,688nm,0.8s,SNR=14						
ERM	**Erimo**	**24.67**	**37**	*d iP*	**P**	**14 23 29.7**	**-0.6**
ERM				pmax	pmax		
	comp=Z,100nm,0.8s						
ERM	**Erimo**	**24.67**	**37**	*e*P	**P**	**14 23 27.7**	**-2.6**
	comp=Z,101nm,0.9s						
PHET	**Kaeng Krachan**	**24.99**	**249**	P	**P**	**14 23 35.7**	**+2.2**
	comp=Z,89nm,1.1s						
SWI	**Sorong**	**25.35**	**162**	P	**P**	**14 23 35.9**	**-0.8**
	comp=Z,49nm,1.2s,comp=Z,816nm						
KSM	**Kuching**	**25.37**	**212**	*e*P	**P**	**14 23 34.6**	**-2.3**
	comp=Z,60nm,1.2s						
KSM	**Kuching**	**25.37**	**212**	P	**P**	**14 23 37.6**	**+0.8**
KSM	**Kuching**	**25.37**	**212**	P	**P**	**14 23 36.4**	**-0.5**
	comp=Z,41nm,1.1s,comp=Z,766nm						
GTA	**Gaotai**	**25.61**	**314**	P	**P**	**14 23 38.8**	**-0.3**
GTA				pP	**pP**	**14 23 48.6**	**0.0**
GTA				sP	**sP**	**14 23 52.5**	**-0.2**
GTA				PcP	**PcP**	**14 27 10.8**	**+1.4**
GTA				S	**S**	**14 28 04.3**	**-0.8**
GTA				sS	**sS**	**14 28 19.8**	**-1.1**
GTA				SS	SnSn	14 29 12.0	+11
GTA				pmax	pmax		
	comp=Z,13nm,1.3s						
GTA				pmax	pmax		
	comp=Z,120nm,5.7s						
GTA				LR	LR		
	comp=N,3μm,20.0s						
GTA				LR	LR		
	comp=E,2μm,18.8s						
GTA				LR	LR		
	comp=Z,3μm,17.6s						
ASAJ	**Asahikawa**	**25.85**	**33**	*e*P	**P**	**14 23 38.9**	**-2.1**
	comp=Z,25nm,0.8s						
ASAJ	**Asahikawa**	**25.85**	**33**	P	**P**	**14 23 40.2**	**-0.8**
	comp=Z,86nm,1.0s,baz=243,slow=10,SNR=63						
ASAJ				LR	LR	14 34 26.4	
	comp=Z,3μm,21.9s,baz=4.5,slow=38						
HIA	**Hailar**	**25.90**	**354**	*e*P	**P**	**14 23 39.3**	**-2.2**
	comp=Z,155nm,1.0s						
STKI	**Sintang**	**26.07**	**208**	P	**P**	**14 23 44.8**	**+1.6**
	comp=Z,30nm,0.7s,comp=Z,7μm						
MMSI	**Mamuju**	**26.41**	**190**	P	**P**	**14 23 47.8**	**+1.5**
	comp=Z,120nm,1.2s,comp=Z,2μm						
KLR	**Kul'dur**	**26.49**	**12**	*e*P	P	14 23 41.8	-5.0
KLR				*e*S	**S**	**14 28 16.0**	**-2.6**
KLR				pmax	pmax		
	comp=E,40nm,1.6s						
KLR				pmax	pmax		
	comp=Z,57nm,1.6s						
KLR				MLR	MLR		
	comp=E,3μm,15.0s						
HABR	**Khabarovsk**	**26.55**	**17**	*c*P	**P**	**14 23 45.1**	**-2.2**
HABR				*e**PP	**pP**	**14 23 54.1**	**-2.8**
HABR				*e**SP	**sP**	**14 23 58.6**	**-2.4**
HABR				*e*PPP	PPP	14 24 34.5	
HABR				*e*		14 27 08.5	
HABR				*e*S	**S**	**14 28 18.1**	**-1.4**
HABR				*e**SS	**sS**	**14 28 34.1**	**-1.3**
HABR				*e*SS	**SnSn**	**14 29 22.1**	**-1.1**
HABR				pmax	pmax		
	comp=E,64nm,2.6s						
HABR				pmax	pmax		
	comp=Z,33nm,1.9s						
HABR				pmax	pmax		
	comp=N,38nm,1.9s						
HABR				MLR	MLR		
	comp=Z,4μm,19.0s						
HABR				MLR	MLR		
	comp=N,3μm,19.0s						
HABR				MLR	MLR		
	comp=E,2μm,19.0s						
KTGM	**Kuala Trenggan**	**26.70**	**231**	P	**P**	**14 23 49.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**27.49**	**36**	*c iP*	**P**	**14 23 57.9**	**+2.1**
YUK				*i*		14 24 44.3	
YUK				*i* S	**S**	**14 28 38.4**	**+4.0**
YUK				*i* SS	**SnSn**	**14 29 45.4**	**-0.7**
YUK				pmax	pmax		
	comp=E,680nm,1.3s						
YUK				pmax	pmax		
	comp=N,557nm,1.3s						
YUK				pmax	pmax		
	comp=Z,1μm,1.8s						
YUK				MLR	MLR		
	comp=N,491nm,20.0s						
YUK				MLR	MLR		
	comp=E,716nm,20.0s						
YUK				MLR	MLR		
	comp=Z,1μm,20.0s						
ULN	**Ulaanbaatar**	**27.65**	**336**	*e*P	**P**	**14 23 53.0**	**-4.4**
	comp=Z,22nm,1.0s						
ULN	**Ulaanbaatar**	**27.65**	**336**	P	**P**	**14 23 56.5**	**-0.9**
	comp=Z,26nm,1.6s,comp=Z,316nm						
SONM	**Songino Array**	**27.87**	**335**	P	**P**	**14 23 58.2**	**-1.2**
SONM				PcP	**PcP**	**14 27 14.7**	**+0.1**
SONM	**Songino Array**	**27.87**	**335**	P	**P**	**14 23 58.2**	**-1.2**
	comp=Z,29nm,0.8s,baz=146,slow=9.2,SNR=170						
SONM				PcP	**PcP**	**14 27 14.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=161,slow=4.3,SNR=6.6						
SONM				LR	LR	14 36 34.0	
	comp=Z,3μm,19.0s,baz=144,slow=40						
YSS	**Yuzh-Sakhalins**	**28.04**	**29**	*e*P	**P**	**14 24 02.0**	**+1.3**
YSS				*e**PP	**pP**	**14 24 12.2**	**+1.9**
YSS				*e*		14 25 03.7	
YSS				*e*S	**S**	**14 28 42.0**	**-1.0**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,800nm,13.0s						
KULM	**Kulim**	**28.53**	**234**	P	**P**	**14 24 05.3**	**-0.1**
KAPI	**Kappang**	**28.57**	**188**	LR	LR	14 35 30.6	
	comp=E,667nm,19.5s,baz=229,slow=36						
IPM	**Ipoh**	**28.80**	**232**	P	**P**	**14 24 07.7**	**0.0**
MYKOM	**Kota Tinggi**	**28.80**	**224**	P	**P**	**14 24 08.1**	**+0.3**
MYKOM	**Kota Tinggi**	**28.80**	**224**	P	**P**	**14 24 08.5**	**+0.8**
	comp=E,46nm,1.2s						
SHL	**Shillong**	**28.84**	**281**	*e*P	**P**	**14 24 08.0**	**-0.3**
KGM	**Kluang**	**28.97**	**225**	P	**P**	**14 24 09.9**	**+0.6**
KUR	**Kuril'sk**	**29.36**	**36**	*e*P	**P**	**14 24 12.4**	**0.0**
KUR				S	S	14 28 55.5	-8.2
KUR				MLR	MLR		
	comp=N,811nm,19.0s						
KUR				MLR	MLR		
	comp=E,1μm,19.0s						
KUR				MLR	MLR		
	comp=Z,898nm,19.0s						
CIT	**Chita**	**29.50**	**347**	*e*P	**P**	**14 24 12.3**	**-1.4**
CIT				*e*		14 24 23.7	
CIT				pmax	pmax		
	comp=Z,109nm,2.0s						
LSA	**Lhasa**	**29.55**	**289**	P	**P**	**14 24 16.9**	**+2.0**
LSA				S	S	14 28 58.3	-10
LSA				LR	LR		
	comp=N,2μm,16.2s						
LSA				LR	LR		
	comp=E,3μm,18.1s						
LSA				LR	LR		
	comp=Z,3μm,16.2s						
LSA	**Lhasa**	**29.55**	**289**	*e*P	**P**	**14 24 13.4**	**-1.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**29.55**	**289**	*e*P	**P**	**14 24 13.4**	**-1.5**
	comp=Z,12nm,0.6s						
PSI	**Prapat**	**31.47**	**233**	P	**P**	**14 24 32.4**	**+0.9**
PSI	**Prapat**	**31.47**	**233**	P	**P**	**14 24 32.4**	**+0.9**
	comp=Z,7.1nm,0.7s,baz=345,slow=5.5,SNR=10						
PSI				LR	LR	14 36 15.5	
	comp=Z,510nm,20.2s,baz=42,slow=34						
MMRI	**Maumere**	**31.95**	**182**	P	**P**	**14 24 36.3**	**+0.7**
	comp=Z,115nm,1.9s,comp=Z,2μm						
LBFI	**Labuhan Bajo,**	**31.97**	**187**	P	**P**	**14 24 36.2**	**+0.5**
	comp=Z,376nm,1.0s,comp=Z,4μm						
IRK	**Irkutsk**	**32.28**	**338**	*e*P	**P**	**14 24 35.8**	**-2.3**
IRK				pmax	pmax		
	comp=Z,48nm,1.4s						
TAPN	**Taplejung**	**32.52**	**284**	*e*P	**P**	**14 24 42.2**	**+1.3**
	comp=Z,53nm,1.1s						
PPI	**Padang Panjang**	**32.74**	**227**	P	**P**	**14 24 43.6**	**+1.0**
	comp=Z,50nm,1.4s						
ODAN	**Odare**	**32.82**	**284**	*e*P	**P**	**14 24 45.0**	**+1.6**
	comp=Z,12nm,0.5s						
MOY	**Mondy**	**33.05**	**334**	*e*P	**P**	**14 24 43.7**	**-1.3**
MOY				pmax	pmax		
	comp=Z,55nm,2.2s						
KLSI		**33.48**	**216**	P	**P**	**14 24 50.3**	**+1.3**
JIRN	**Jiri**	**33.86**	**285**	*e*P	**P**	**14 24 54.2**	**+1.5**
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**34.13**	**285**	*e*P	**P**	**14 24 56.3**	**+1.3**
PKI	**Pulchoki**	**34.55**	**285**	*e*P	**P**	**14 24 59.5**	**+0.8**
PKIN	**Phulchoki**	**34.56**	**285**	*e*P	**P**	**14 24 59.5**	**+0.8**
	comp=Z,8.7nm,0.6s						
KKN	**Kakani**	**34.66**	**285**	*e*P	**P**	**14 25 00.4**	**+0.9**
DMN	**Daman**	**34.82**	**285**	*e*P	**P**	**14 25 01.9**	**+1.0**
WMQ	**Urumqi**	**35.69**	**313**	*e*P	**P**	**14 25 07.3**	**-0.6**
WMQ				sP	**sP**	**14 25 22.4**	**+0.7**
WMQ				PP	**PnPn**	**14 26 27.4**	**-0.7**
WMQ				S	**S**	**14 30 41.1**	**-1.4**
WMQ				sS	**sS**	**14 30 55.1**	**-3.4**
WMQ				SS	**SnSn**	**14 33 00.3**	**-5.2**
WMQ				pmax	pmax		
	comp=Z,150nm,1.6s						
WMQ				pmax	pmax		
	comp=Z,880nm,5.0s						
WMQ				LR	LR		
	comp=N,23μm,24.0s						
WMQ				LR	LR		
	comp=E,4μm,25.0s						
WMQ				LR	LR		
	comp=Z,7μm,20.0s						
HVS	**Khovu-Aksy**	**35.95**	**328**	*d iP*	**P**	**14 25 09.2**	**-0.9**
DANN	**Dangsing**	**35.99**	**286**	*e*P	**P**	**14 25 12.2**	**+1.2**
SKR	**Severo-Kuril's**	**37.07**	**35**	*e*P	P	14 25 13.5	-5.9
SKR				*e*		14 25 26.5	
SKR				*e*		14 25 28.0	
SKR				*e*		14 27 42.0	
SKR				pmax	pmax		
	comp=E,800nm,2.0s						
SKR				pmax	pmax		
	comp=Z,800nm,2.0s						
SKR				pmax	pmax		
	comp=Z,130nm,1.0s						
SKR				MLR	MLR		
	comp=N,900nm,18.0s						
SKR				MLR	MLR		
	comp=E,700nm,18.0s						
SKR				MLR	MLR		
	comp=Z,1μm,18.0s						
YAK	**Yakutsk**	**38.75**	**5**	*c iP*	**P**	**14 25 31.4**	**-2.1**
YAK				*e**PP	**pP**	**14 25 39.3**	**-4.0**
YAK				*e*		14 26 59.2	
YAK				*e*		14 27 44.0	
YAK				*e*S	**S**	**14 31 25.0**	**-3.3**
YAK				*e*SS	**SnSn**	**14 34 16.0**	**-2.8**
YAK				*e*SSS	SSS	14 34 36.3	
YAK				*e*		14 35 37.2	
YAK				pmax	pmax		
	comp=Z,93nm,1.0s						
YAK				pmax	pmax		
	comp=N,51nm,1.2s						
YAK				pmax	pmax		
	comp=E,12nm,1.1s						
YAK				pmax	pmax		
	comp=Z,33nm,2.1s						
YAK				pmax	pmax		
	comp=N,32nm,2.7s						
YAK				pmax	pmax		
	comp=E,24nm,2.5s						
YAK				smax	smax		
	comp=N,27nm,2.3s						
YAK				smax	smax		
	comp=E,34nm,2.5s						
YAK				MLR	MLR		
	comp=Z,3μm,17.0s						
YAK				MLR	MLR		
	comp=N,2μm,17.0s						
YAK				MLR	MLR		
	comp=E,780nm,19.0s						
PEA0B	**Petropavlovsk-**	**39.27**	**32**	*e*P	**P**	**14 25 36.9**	**-1.1**
PETK	**Petropavlovsk-**	**39.27**	**32**	P	**P**	**14 25 38.4**	**+0.4**
PETK	**Petropavlovsk-**	**39.27**	**32**	P	**P**	**14 25 38.4**	**+0.4**
PETK	**Petropavlovsk-**	**39.27**	**32**	P	**P**	**14 25 38.4**	**+0.4**
	comp=E,29nm,0.7s,baz=206,slow=3.6,SNR=133						
PETK				LR	LR	14 43 59.4	
	comp=E,730nm,18.2s,baz=231,slow=40						
KRAR	**Krasnoyarsk**	**39.52**	**333** ⇓	*e*P	**P**	**14 25 40.3**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,75nm,1.7s						
PET	**Petropavlovsk**	**39.69**	**33**	*e*P	**P**	**14 25 41.2**	**-0.3**
PET				*e*S	**S**	**14 31 44.1**	**+1.4**
PET				pmax	pmax		
	comp=Z,700nm,1.5s						
PET				pmax	pmax		
	comp=Z,247nm,1.1s						
PET				pmax	pmax		
	comp=Z,100nm,2.0s						
PET				MLR	MLR		
	comp=Z,1μm,18.0s						
PET				MLR	MLR		
	comp=Z,900nm,19.0s						
MK31	**Makanchi Array**	**40.34**	**316**	*e*P	**P**	**14 25 46.4**	**-0.6**
MK31				*e*		14 27 49.8	
MK31	**Makanchi Array**	**40.34**	**316**	*e*P	**P**	**14 25 46.4**	**-0.6**
MK31				*e*PcP	**PcP**	**14 27 49.8**	**-0.2**
MKAR	**Makanchi Array**	**40.34**	**316**	*c e*P	**P**	**14 25 46.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MKAR	**Makanchi Array**	**40.34**	**316**	P	**P**	**14 25 46.8**	**-0.3**
MKAR	**Makanchi Array**	**40.34**	**316**	P	**P**	**14 25 46.8**	**-0.3**
	comp=Z,7.5nm,0.4s,baz=98,slow=9.4,SNR=127						
MKAR				PcP	**PcP**	**14 27 50.6**	**+0.6**
	comp=Z,7.9nm,0.7s,baz=81,slow=4.6,SNR=8.8						
FITZ	**Fitzroy Crossi**	**41.39**	**177**	*e*P	**P**	**14 25 55.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.39**	**177**	P	**P**	**14 25 55.3**	**-0.6**
	comp=Z,14nm,0.8s,baz=16,slow=6.5,SNR=31						
COEN	**Coen**	**41.88**	**151**	*e*P	**P**	**14 25 59.3**	**-0.7**
	comp=Z,282nm,0.8s						
COEN				*e*pP	**pP**	**14 26 08.4**	**-1.4**
ZAA0	**Zalesovo Array**	**42.00**	**326**	*e*P	**P**	**14 25 58.2**	**-2.3**
ZAA0				*e*PcP	**PcP**	**14 27 54.6**	**-0.6**
ZALV	**Zalesovo Beam**	**42.00**	**326**	P	**P**	**14 25 59.1**	**-1.4**
ZALV						14 27 54.6	
ZALV	**Zalesovo Beam**	**42.00**	**326**	P	**P**	**14 25 59.1**	**-1.4**
ZALV				PcP	**PcP**	**14 27 54.6**	**-0.6**
ZALV	**Zalesovo Beam**	**42.00**	**326**	P	**P**	**14 25 59.1**	**-1.4**
	comp=Z,17nm,0.6s,baz=110,slow=7.8,SNR=96						
ZALV				PcP	**PcP**	**14 27 54.6**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=103,slow=4.9,SNR=5.2						
ZALV				LR	LR	14 45 48.8	
	comp=Z,761nm,19.8s,baz=182,slow=40						
**HYB

comp=Z,110nm,3.0s
KSH LR LR
comp=N,1μm,15.7s
KSH LR LR
comp=E,2μm,14.9s
KSH LR LR
comp=Z,2μm,15.9s
NVS Novosibirsk 43.25 327 ⇓ *i* P **P 14 26 08.2 -2.5**
NVS *e* 14 27 49.8
NVS *e*S S 14 32 28.7 -6.8
NVS pmax pmax
comp=N,21nm,1.8s
NVS pmax pmax
comp=E,33nm,1.8s
NVS pmax pmax
comp=Z,22nm,1.9s
NVS pmax pmax
comp=N,20nm,2.0s
NVS pmax pmax
comp=E,16nm,1.6s
NVS smax smax
comp=E,14nm,1.4s
NVS smax smax
comp=N,11nm,1.7s
TKM2 Tokmak 2 43.88 308 *e*P **P 14 26 15.9 -0.4**
TKM2 pmax pmax
comp=Z,77nm,1.1s
TKM2 Tokmak 2 43.88 308 P **P 14 26 17.9 +1.6**
SNR=42
TKM2 Tokmak 2 43.88 308 *e*P **P 14 26 15.8 -0.4**
comp=Z,77nm,1.1s
SEY Seymchan 43.92 19 *de*P **P 14 26 15.6 -0.3**
KZA Kyzart 43.99 307 *i* P **P 14 26 19.1 +1.7**
KZA Kyzart 43.99 307 P **P 14 26 19.1 +1.7**
SNR=29
KURK Kurchatov 44.01 320 P **P 14 26 16.2 -0.6**
KURK 14 28 01.9
KURK Kurchatov 44.01 320 P **P 14 26 16.2 -0.6**
KURK PcP **PcP 14 28 01.9 -0.2**
KURBB Kurchatov Arra 44.03 320 P **P 14 26 16.2 -0.8**
comp=Z,11nm,0.7s,baz=115,slow=8.8,SNR=54
KURBB PcP **PcP 14 28 01.9 -0.2**
comp=Z,6.7nm,0.7s,baz=114,slow=3.7,SNR=9.8
KBK Karagaybulak 44.31 308 *i* P **P 14 26 21.3 +1.7**
KBK Karagaybulak 44.31 308 P **P 14 26 21.3 +1.7**
SNR=23
WRAB Tennant Creek 44.43 165 P **P 14 26 20.0 -0.5**
comp=Z,206nm,1.0s,SNR=16
WRAB Tennant Creek 44.43 165 *e*P **P 14 26 19.4 -1.1**
WRAB pmax pmax
comp=Z,35nm,1.0s
WRAB Tennant Creek 44.43 165 *e*P **P 14 26 19.4 -1.1**
comp=Z,36nm,1.0s
WRA Warramunga Arr 44.44 165 P **P 14 26 20.1 -0.4**
WRA Warramunga Arr 44.44 165 P **P 14 26 20.1 -0.4**
comp=Z,22nm,0.8s,baz=347,slow=8.9,SNR=131
WRA LR LR 14 47 11.4
comp=Z,213nm,18.1s,baz=10.0,slow=39
CHMS Chumysh 44.51 308 *i* P **P 14 26 22.1 +1.0**
CHMS Chumysh 44.51 308 P **P 14 26 22.1 +1.0**
SNR=19
UCH Uchtor 44.56 307 *i* P **P 14 26 24.4 +2.5**
UCH Uchtor 44.56 307 P **P 14 26 24.4 +2.5**
SNR=18
FRU Bishkek 44.58 308 *i* P **P 14 26 21.0 -0.6**
FRU *i* 14 26 34.0
FRU pmax pmax
comp=Z,60nm,1.6s
FRU MLR MLR
comp=Z,1μm,17.0s
AAK Ala-Archa 44.63 308 P **P 14 26 23.2 +1.0**
comp=Z,120nm,0.8s,SNR=6.1
AAK Ala-Archa 44.63 308 *c i* P **P 14 26 23.2 +1.0**
AAK pmax pmax
comp=Z,80nm,1.5s
AAK Ala-Archa 44.63 308 P **P 14 26 23.4 +1.2**
SNR=9.9
AAK Ala-Archa 44.63 308 *e*P **P 14 26 21.8 -0.4**
comp=Z,22nm,1.0s
AAK Ala-Archa 44.63 308 P **P 14 26 22.9 +0.7**
comp=Z,18nm,1.0s,baz=107,slow=5.1,SNR=20
USP Ospenovka 44.74 308 *i* P **P 14 26 23.9 +1.0**
USP Ospenovka 44.74 308 P **P 14 26 23.9 +1.0**
SNR=11
AML Almayashu 45.15 307 *i* P **P 14 26 28.7 +2.1**
AML Almayashu 45.15 307 P **P 14 26 28.7 +2.1**
SNR=31
EKS2 Erkin-Say 45.16 307 *e*P **P 14 26 26.4 +0.1**
EKS2 pmax pmax
comp=Z,20nm,0.9s
EKS2 Erkin-Say 45.16 307 P **P 14 26 28.0 +1.6**
SNR=16
EKS2 Erkin-Say 45.16 307 *e*P **P 14 26 26.4 +0.1**
comp=Z,20nm,0.9s
FX1 Attu Island--F 47.49 39 *e*P **P 14 26 46.0 +1.6**
KK31 Karatay Array 47.60 308 *e*P **P 14 26 45.4 0.0**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 47.60 308 *e*P **P 14 26 45.4 0.0**
KKAR Karatay Array 47.60 308 *e*P **P 14 26 45.4 0.0**
AS31 Alice Springs 47.94 167 *e*P **P 14 26 48.1 -0.1**
ASAR Alice Springs 47.95 167 P **P 14 26 48.7 +0.6**
ASAR Alice Springs 47.95 167 P **P 14 26 48.7 +0.6**
comp=Z,8.4nm,0.6s,baz=354,slow=13,SNR=322
ASAR LR LR 14 47 45.9
comp=Z,223nm,21.0s,baz=344,slow=37
TIXI Tiksi 48.28 2 *c i* P **P 14 26 48.2 -1.9**
TIXI pmax pmax
comp=Z,37nm,0.8s
TIXI MLR MLR
comp=Z,3μm,17.0s
KBL Kabul 48.40 296 *e*P **P 14 26 50.8 -1.2**
KBL pmax pmax
comp=Z,63nm,1.1s
KBL Kabul 48.40 296 *e*P **P 14 26 50.8 -1.2**
comp=Z,63nm,1.1s
CTA Charters Tower 48.65 151 P **P 14 26 54.7 +1.1**
CTA Charters Tower 48.65 151 P **P 14 26 54.7 +1.1**
comp=Z,6.0nm,0.8s,baz=309,slow=9.2,SNR=6.9
CTAO Charters Tower 48.65 151 *e*P **P 14 26 53.2 -0.4**
CTAO pmax pmax
comp=Z,27nm,1.2s
CTAO Charters Tower 48.65 151 *e*P **P 14 26 53.2 -0.4**
comp=Z,27nm,1.2s
VOSK Vostochnaya 49.15 320 P **P 14 26 55.8 -1.3**
VOSK pmax pmax
comp=Z,37nm,1.3s
BVA0 Borovoye Array 49.57 321 P **P 14 26 59.5 -0.9**
BVA0 pmax pmax
comp=Z,59nm,1.5s
BVAR Borovoye Array 49.57 321 P **P 14 27 00.2 -0.2**
BVAR 14 28 21.6
BVAR Borovoye Array 49.57 321 P **P 14 27 00.2 -0.2**
BVAR PcP **PcP 14 28 21.6 -0.1**
BVAR Borovoye Array 49.57 321 P **P 14 27 00.2 -0.2**
comp=Z,11nm,0.8s,baz=104,slow=8.6,SNR=40
BVAR PcP **PcP 14 28 21.6 -0.1**
comp=Z,9.3nm,0.7s,baz=95,slow=4.5,SNR=9.2
BRVK Borovoye 49.64 321 P **P 14 27 00.4 -0.5**
comp=Z,212nm,0.8s,SNR=19
BRVK Borovoye 49.64 321 *c i* P **P 14 27 00.1 -0.8**
BRVK pmax pmax
comp=Z,28nm,0.7s
BRVK Borovoye 49.64 321 *e*P **P 14 26 58.5 -2.4**
comp=Z,30nm,0.8s
ADK Adak 53.31 42 *e*P **P 14 27 27.9 -0.4**
ADK pmax pmax
comp=Z,42nm,1.0s
ADK Adak 53.31 42 *e*P **P 14 27 27.9 -0.4**
comp=Z,42nm,1.0s
ATKA Atka Island 54.88 42 *e*P **P 14 27 40.4 +0.6**
comp=Z,61nm,1.0s
EIDS Eidsvold 55.42 149 *e*P **P 14 27 42.4 -1.5**
comp=Z,62nm,2.0s
EIDS *e*pP **pP 14 27 51.4 -2.6**
AB31 Akbulak array 55.46 315 *i* P **P 14 27 44.6 +0.6**
AB31 pmax pmax
comp=Z,19nm,0.5s
ABKAR Akbulak array 55.46 315 *e*P **P 14 27 44.6 +0.6**
SVE Sverdlovsk 55.87 324 ⇓ *e*P **P 14 27 46.9 +0.1**
SVE pmax pmax
comp=Z,70nm,1.6s
SVE MLR MLR
comp=Z,755nm,16.0s
NWAO Narrogin (SRO) 56.42 186 P **P 14 27 51.3 +0.3**
NWAO Narrogin (SRO) 56.42 186 P **P 14 27 51.3 +0.3**
comp=Z,11nm,0.9s,baz=350,slow=6.1,SNR=4.3
AKTO Aktyubinsk 56.77 316 P **P 14 27 53.5 +0.1**
AKTO pmax pmax
comp=Z,46nm,1.4s
AKTO Aktyubinsk 56.77 316 P **P 14 27 53.6 +0.3**
AKTO Aktyubinsk 56.77 316 P **P 14 27 53.6 +0.3**
comp=Z,17nm,0.8s,baz=94,slow=7.9,SNR=43
ARU Arti 56.95 323 *c i* P **P 14 27 54.0 -0.5**
ARU 14 28 48.2
ARU 14 29 58.7
ARU S **S 14 35 48.3 +2.0**
ARU SS **SS 14 39 31.8 -2.8**
ARU pmax pmax
comp=Z,95nm,1.7s
ARU MLR MLR
comp=Z,470nm,15.0s
ARU Arti 56.95 323 P **P 14 27 54.4 -0.1**
comp=Z,267nm,0.7s,SNR=13
BBOO Buckleboo 57.25 167 *e*P **P 14 27 56.1 -0.7**
comp=Z,1μm,1.5s
STKA Stephens Creek 57.70 162 *e*P **P 14 27 58.4 -1.6**
comp=Z,3.5nm,0.9s
STKA Stephens Creek 57.70 162 P **P 14 28 00.8 +0.7**
comp=Z,13nm,0.7s,baz=342,slow=5.9,SNR=36
STKA LR LR 14 54 02.0
comp=Z,387nm,21.4s,baz=358,slow=37
SOKR Solikamsk 58.29 327 *c i* P **P 14 28 04.0 +0.2**
SOKR pmax pmax
comp=Z,50nm,1.3s
SOKR MLR MLR
comp=Z,990nm,17.0s
DZM Mont Dzumac 61.59 134 *e*P P 14 28 31.6 +4.4
comp=Z,90nm,1.6s
DZM Mont Dzumac 61.59 134 *e*LR LR 14 46 52.3
comp=Z,933nm,27.4s
DZM Mont Dzumac 61.59 134 P **P 14 28 29.3 +2.2**
DZM Mont Dzumac 61.59 134 P **P 14 28 29.3 +2.2**
comp=Z,6.3nm,0.6s,baz=360,slow=13,SNR=7.8
MAK Makhachkala 64.42 308 *e*P **P 14 28 47.2 +1.6**
MAK *e* 14 31 08.3
MAK *e*S **S 14 37 26.1 +4.1**
MAK *e*SSS SSS 14 44 24.2
MAK pmax pmax
comp=Z,79nm,1.3s
MAK MLR MLR
comp=Z,672nm,19.0s
SVW2 Sparrevohn 65.35 32 *e*P **P 14 28 51.2 -0.2**
IM04 Indian Mountai 65.83 26 *e*P **P 14 28 54.8 +0.4**
IM04 *e*PP **PP 14 31 20.5 +1.3**
IMA2 Indian Mountai 65.86 26 *e*P **P 14 28 55.9 +1.1**
DGRG David-gareji 66.24 306 P **P 14 28 59.5 +2.0**
DUS Dusheti 66.61 307 P **P 14 29 01.6 +1.7**
TBLG Delisi 66.65 307 P pP 14 29 12.2 +1.7
GUDG Gudauri 66.70 308 P **P 14 29 02.1 +1.5**
PPLA Purkeypile 66.78 30 *e*P **P 14 29 02.2 +1.5**
comp=Z,55nm,1.2s
RSO Redoubt South 66.79 32 *e*P **P 14 29 00.9 +0.1**
GNI Garni 66.96 305 *e*P **P 14 29 00.1 -2.2**
SPU Mount Spurr 67.04 32 *e*P **P 14 29 01.1 -1.2**
ZEI Tsey 67.06 308 *e*P **P 14 29 02.5 -0.5**
ZEI pmax pmax
comp=Z,22nm,0.7s
VRHR Novokhopersk 67.10 317 *e*P **P 14 29 02.1 -0.7**
VRHR *e*S **S 14 37 52.7 -1.8**
VRHR pmax pmax
comp=Z,510nm,22.8s
VRHR pmax pmax
comp=N,50nm,11.4s
VRHR pmax pmax
comp=E,360nm,22.8s
VRHR pmax pmax
comp=N,40nm,1.4s
VRHR pmax pmax
comp=E,70nm,1.4s
VRHR pmax pmax
comp=Z,120nm,1.4s
VRHR pmax pmax
comp=N,210nm,0.9s
VRHR pmax pmax
comp=E,230nm,0.9s
VRHR smax smax
comp=N,110nm,2.0s
VRHR smax smax
comp=Z,7.0nm,0.4s
VRHR smax smax
comp=E,30nm,0.7s
VRHR MLR MLR
comp=Z,380nm,18.0s
VRHR MLR MLR
comp=N,50nm,15.0s
VRHR MLR MLR
comp=E,230nm,18.0s
COLD Coldfoot 67.15 25 *e*P **P 14 29 04.8 +2.0**
comp=E,21nm,1.0s
MSVF Nonsavu 67.17 123 *e*P **P 14 29 05.7 +2.0**
MSVF *e**PP **pP 14 29 13.1 -1.0**
MSVF pmax pmax
comp=Z,33nm,1.1s
MSVF Nonsavu 67.17 123 *e*P **P 14 29 05.7 +2.0**
comp=Z,33nm,1.1s
MSVF *e*pP **pP 14 29 13.1 -1.0**
TMCR Tamitsa 67.18 332 *e*P **P 14 29 03.7 +0.7**
TMCR *e* 14 29 29.2
TMCR pmax pmax
comp=Z,132nm,1.5s
KDAK Kodiak Island 67.23 35 P **P 14 29 04.0 +0.6**
comp=Z,313nm,1.4s,SNR=8.6
KDAK Kodiak Island 67.23 35 P **P 14 29 04.6 +1.2**
comp=Z,11nm,0.5s,baz=328,slow=3.7,SNR=12
RDF Al-Radifah 67.32 293 *e*P **P 14 29 04.5 -0.1**
RDF AMb AMB 14 29 05.7
comp=Z,87nm,0.8s
ONI Oni 67.42 308 P **P 14 29 06.3 +1.3**
NAY Al-Naaiem 67.50 293 *e*P **P 14 29 05.4 -0.3**
NAY AMb AMB 14 29 06.4
comp=Z,1.8nm,0.7s
TRF Thorofare Moun 67.57 29 *e*P **P 14 29 08.5 +2.7**
comp=Z,21nm,0.9s
KBZ Khabaz 67.59 309 P **P 14 29 07.1 +1.2**
KBZ Khabaz 67.59 309 P **P 14 29 07.1 +1.2**
KBZ Khabaz 67.59 309 P **P 14 29 07.1 +1.2**
comp=Z,14nm,0.8s,baz=98,slow=4.9,SNR=37
KBZ LR LR 15 02 38.8
comp=Z,767nm,18.1s,baz=66,slow=40
AKH Akhalkalaki 67.63 307 P **P 14 29 08.6 +2.1**
RST Umm Al-Ruwaisa 67.64 294 *e*P **P 14 29 05.9 -0.7**
RST AMb AMB 14 29 07.4
comp=Z,148nm,0.9s
KIV Kislovodsk 67.69 310 *e*P **P 14 29 07.2 +0.4**
KIV *e* 14 29 34.1
KIV *e*S **S 14 38 03.0 +0.9**
KIV pmax pmax
comp=Z,44nm,1.0s
KIV pmax pmax
comp=Z,12nm,2.7s
KIV MLR MLR
comp=Z,483nm,18.0s
KIV Kislovodsk 67.69 310 P **P 14 29 08.8 +2.0**
comp=Z,242nm,0.7s,SNR=5.9
LVZ Lovozero 68.06 336 ⇑ *e*P **P 14 29 08.7 +0.1**
LVZ pmax pmax
comp=Z,34nm,1.2s
MCK McKinley 68.13 29 *e*P **P 14 29 10.1 +1.0**
MCK pmax pmax
comp=Z,94nm,1.6s
MCK McKinley 68.13 29 *e*P **P 14 29 10.1 +1.0**
comp=Z,94nm,1.6s
PMR Palmer 68.38 31 *e*P **P 14 29 11.1 +0.5**
PMR Palmer 68.38 31 *e*P **P 14 29 11.1 +0.5**
COLA College 68.42 27 *e*P **P 14 29 12.2 +1.4**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 68.42 27 *e*P **P 14 29 12.2 +1.4**
comp=Z,22nm,0.8s
VORD Divnogorie 68.58 317 *e*P **P 14 29 11.7 -0.3**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,9.0nm,0.7s
VORD pmax pmax
comp=E,30nm,1.4s
VORD MLR MLR
comp=N,250nm,17.0s
VORD MLR MLR
comp=E,550nm,17.0s
VORD MLR MLR
comp=Z,410nm,17.0s
APA Apatity 68.58 336 ⇑ *i*P **P 14 29 12.6 +0.8**
APA *i* 14 29 28.0
APA *e*S **S 14 38 10.0 -1.7**
APA *e* 14 39 04.0
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,1μm,19.0s
VSR Storozhevoye 68.61 318 *e*P **P 14 29 11.7 -0.5**
VSR *e**PP **pP 14 29 24.5 +1.9**
VSR *e* 14 31 42.2
VSR *e*S **S 14 38 09.3 -3.2**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,40nm,0.9s
VSR pmax pmax
comp=Z,60nm,2.0s
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,6.0nm,0.4s
VSR smax smax
comp=N,90nm,2.1s
VSR smax smax
comp=E,30nm,2.1s
VSR smax smax
comp=Z,70nm,2.1s
VSR MLR MLR
comp=N,210nm,22.0s
VSR MLR MLR
comp=E,330nm,22.0s
VSR MLR MLR
comp=Z,510nm,22.0s
MOS Moscow 68.66 323 *e*P P 14 29 08.4 -4.1
MOS *e*S **S 14 38 09.7 -3.3**
MOS pmax pmax
comp=Z,79nm,0.9s
SML Sawmill 68.71 31 *e*P **P 14 29 13.8 +1.0**
SML pmax pmax
comp=Z,54nm,2.0s
SML Sawmill 68.71 31 *e*P **P 14 29 13.8 +1.0**
comp=Z,54nm,2.0s
ILAR Eielson Array 68.84 27 P **P 14 29 13.1 -0.4**
ILAR Eielson Array 68.84 27 P **P 14 29 13.1 -0.4**
comp=Z,2.5nm,0.5s,baz=263,slow=5.3,SNR=34
ILAR LR LR 15 02 29.4
comp=Z,266nm,18.2s,baz=100,slow=39
OBN Obninsk 69.37 322 *d i* P **P 14 29 17.1 +0.2**
OBN *i* 14 29 38.5
OBN pmax pmax
comp=Z,65nm,1.2s
OBN MLR MLR
comp=Z,500nm,18.0s
PAX Paxson 69.80 29 *e*P **P 14 29 21.3 +1.7**
PAX pmax pmax
comp=Z,15nm,0.9s
PAX Paxson 69.80 29 *e*P **P 14 29 21.3 +1.7**
comp=Z,15nm,0.9s
SOC Sochi 69.87 310 *e*P **P 14 29 18.9 -1.3**
SOC *e* 14 31 53.8
SOC *e*PPP PPP 14 33 37.5
SOC *e*S S 14 38 16.6 -11
SOC pmax pmax
comp=Z,43nm,1.0s
SOC MLR MLR
comp=Z,505nm,19.0s
DIV Divide 70.05 31 *e*P **P 14 29 23.0 +1.9**
comp=Z,46nm,1.0s
JOF Joensuu 70.36 331 *e*P **P 14 29 22.8 0.0**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 70.36 331 *e*p **P 14 29 22.8 0.0**
comp=Z,7.5nm,0.4s
BMRM Bremner River 70.64 31 *e*P **P 14 29 26.5 +1.8**
comp=Z,33nm,0.8s
ARCES ARCESS Array B 70.98 338 P **P 14 29 26.6 0.0**
ARCES ARCESS Array B 70.98 338 P **P 14 29 26.6 0.0**
comp=Z,8.6nm,0.8s,baz=69,slow=8.2,SNR=20
ARCES LR LR 15 06 57.8
comp=Z,674nm,19.4s,baz=70,slow=41
ARE0 ARCESS Array S 70.98 338 *e*P **P 14 29 26.8 +0.2**
KBS Kingsbay 71.12 349 *ce*P **P 14 29 27.4 +0.1**
KBS pmax pmax
comp=Z,31nm,1.1s
KBS Kingsbay 71.12 349 *e*P **P 14 29 27.8 +0.6**
comp=Z,24nm,1.0s
ANN Anapa 71.17 311 *e*P **P 14 29 27.2 -0.9**
ANN *e* 14 29 42.1
ANN *e*S **S 14 38 43.0 +0.2**
ANN pmax pmax
comp=Z,73nm,1.0s
ANN MLR MLR
comp=N,214nm,20.0s
ANN MLR MLR
comp=E,239nm,20.0s
ANN MLR MLR
comp=Z,579nm,20.0s
MALT Malatya 72.17 305 ⇑ *i*P P 14 29 40.4 +6.0
DAWY Dawson 72.17 27 *e*P **P 14 29 32.5 -1.3**
DAWY *e*PcP **PcP 14 29 52.3 +0.3**
KAF Kangasniemi 72.81 331 *e*P **P 14 29 36.0 -1.6**
KAF pmax pmax
comp=Z,7.0nm,0.4s
KAF Kangasniemi 72.81 331 *e*p **P 14 29 36.0 -1.6**
comp=Z,6.8nm,0.4s
INK Inuvik 73.05 22 *e*P **P 14 29 38.5 -0.4**
comp=Z,31nm,1.0s
INK Inuvik 73.05 22 P **P 14 29 39.6 +0.6**
comp=Z,23nm,0.9s,baz=291,slow=6.6,SNR=33
FIA1 FINESS Array S 73.12 330 *e*P **P 14 29 37.9 -1.6**
FIA1 *e*PcP **PcP 14 29 54.8 -1.2**
FINES FINESS Array B 73.12 330 P **P 14 29 39.8 +0.3**
FINES FINESS Array B 73.12 330 P **P 14 29 39.8 +0.3**
comp=Z,13nm,0.7s,baz=52,slow=5.2,SNR=51
FINES LR LR 15 06 03.7
comp=Z,2μm,18.1s,baz=74,slow=39
AFI Afiamalu 73.35 114 LR LR 14 59 49.2
comp=Z,250nm,18.1s,baz=344,slow=34
SIM Simferopol' 73.40 312 *e*P **P 14 29 40.9 -0.6**
SIM *e*S **S 14 39 07.0 -1.4**
SIM pmax pmax
comp=Z,19nm,0.7s
SIM MLR MLR
comp=Z,240nm,18.0s
VSU Vasula 73.74 327 *c i* P **P 14 29 43.5 +0.4**
VSU pmax pmax
comp=Z,152nm,1.7s
HYT Haines Junctio 74.01 30 *e*P **P 14 29 47.0 +2.1**
ALE Alert 74.16 1 P **P 14 29 46.2 +0.9**
comp=Z,114nm,1.2s,SNR=5.1
MICGM Minsk 74.39 323 *e* P 14 29 44.0 -3.0
MNK Minsk 74.41 323 *e*P P 14 29 44.0 -3.2
AKASG Malin Array Be 74.81 319 *ce*P **P 14 29 49.0 -0.6**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKASG Malin Array Be 74.81 319 P **P 14 29 49.1 -0.4**
AKASG Malin Array Be 74.81 319 P **P 14 29 49.1 -0.4**
comp=Z,16nm,0.7s,baz=57,slow=6.1,SNR=33
AKASG LR LR 15 09 26.7
comp=Z,486nm,18.9s,baz=90,slow=41
KIEV Kiev 74.82 319 *e*P **P 14 29 48.9 -0.7**
KIEV Kiev 74.82 319 *e*P **P 14 29 48.9 -0.7**
NACGM Naroch 74.86 324 *e* **P 14 29 48.0 -1.8**
ISAL Salakas 74.99 324 *e*P **P 14 29 50.1 -0.4**
ISAL AMB AMB 14 29 60.0
comp=Z,16nm,1.2s
IIGN Ignalina 75.01 324 *e*P **P 14 29 50.3 -0.4**
IIGN AMB AMB 14 29 59.9
comp=Z,13nm,1.2s
BR131 Keskin Array S 75.31 307 *e*P **P 14 29 51.1 -1.7**
comp=Z,31nm,1.2s
SKAG Skagway 75.51 31 *e*P **P 14 29 55.5 +2.1**
comp=Z,43nm,1.0s
KIS Kishinev 76.28 315 *e*P P 14 30 07.0 +9.0
KIS LRM MLR 15 06 00.0
comp=Z,400nm,20.0s
KIS Kishinev 76.28 315 *e*P P 14 30 07.0 +9.0
KIS *e* 14 30 11.0
KIS *e* 14 39 42.0
KIS MLR MLR
comp=Z,500nm,20.0s
KIS MLR MLR

comp=Z,400nm,20.0s
SIT Sitka 76.41 33 *e*P P 14 30 03.8 +5.3
SIT pmax pmax
comp=Z,47nm,0.9s
SIT Sitka 76.41 33 *e*P P 14 30 03.8 +5.3
comp=Z,47nm,0.9s
CSS Prodhromos 77.09 303 *e*P **P 14 30 03.7 +0.8**
comp=Z,117nm,1.9s
CSS *ep*P **PcP 14 30 14.2 +0.5**
SUW Suwalki 77.14 323 *e*P **P 14 30 03.3 +0.5**
CFR Carcaliu 77.34 314 ⇑P **P 14 30 04.6 +0.5**
CFR Carcaliu 77.34 314 ⇑*i*P **P 14 30 04.6 +0.5**
DAG Danmarks Havn 77.37 352 *i* P **P 14 30 03.4 -0.3**
comp=Z,15nm,0.9s
TIRR Tirgusor 77.41 313 *e*P **P 14 30 04.8 +0.3**
TIRR pmax pmax
comp=Z,16nm,1.0s
TIRR Tirgusor 77.41 313 *e*P **P 14 30 04.8 +0.3**
comp=Z,16nm,1.0s
TESR Tescani 77.84 315 ⇓*i*P **P 14 30 07.2 +0.3**
VRI Vrincioaia 78.03 315 ⇑P **P 14 30 09.5 +1.6**
VRI Vrincioaia 78.03 315 ⇑*i*P **P 14 30 09.5 +1.6**
PLOR Plostina 78.08 315 ⇓P **P 14 30 09.4 +1.1**
PLOR Plostina 78.08 315 ⇓*i*P **P 14 30 09.4 +1.1**
WRAK Wrangell Islan 78.17 33 *e*P **P 14 30 10.1 +1.6**
comp=Z,32nm,1.2s
LVV L'vov 78.24 319 *e*P **P 14 30 09.4 +0.4**
BURAR Bucovina Array 78.35 317 ⇓P **P 14 30 10.0 +0.2**
BURAR Bucovina Array 78.35 317 ⇓*i*P **P 14 30 10.0 +0.2**
DLBC Dease Lake 78.44 31 *e*P **P 14 30 09.6 -0.5**
DLBC Dease Lake 78.44 31 P **P 14 30 12.4 +2.4**
comp=Z,16nm,0.9s,baz=312,slow=6.7,SNR=19
MLR Muntele Rosu 78.67 315 ⇓*i*P **P 14 30 12.8 +1.1**
RES Resolute Bay 78.99 10 P **P 14 30 13.0 +0.3**
RES Resolute Bay 78.99 10 P **P 14 30 13.0 +0.3**
comp=Z,24nm,1.0s,baz=312,slow=7.0,SNR=14
KWP Kalwaria Pacla 79.11 319 *e*P **P 14 30 12.7 -1.1**
KWP pmax pmax
comp=Z,99nm,1.3s
KWP Kalwaria Pacla 79.11 319 *e*P **P 14 30 12.7 -1.1**
comp=Z,100nm,1.3s
KWP Kalwaria Pacla 79.11 319 *e*P **P 14 30 14.4 +0.6**
VOIR 79.28 315 ⇑P **P 14 30 15.3 +0.4**
VOIR 79.28 315 ⇑*i*P **P 14 30 15.3 +0.4**
BEL Belsk 79.33 322 *e*P **P 14 30 15.7 +0.8**
URZ Urewera 79.35 140 P **P 14 30 15.3 +0.2**
URZ Urewera 79.35 140 P **P 14 30 15.3 +0.2**
comp=Z,7.2nm,0.6s,baz=218,slow=16,SNR=9.3
JMB Yambol 79.38 312 *i* P P 14 30 10.7 -4.7
ARR Arges 79.58 315 ⇑*i*P **P 14 30 17.6 +1.1**
KOLS Kolonicke sedl 79.65 319 *e*P **P 14 30 17.2 +0.4**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 79.65 319 *e*P **P 14 30 17.2 +0.4**
UZH Uzhgorod 79.76 319 *e*P **P 14 30 15.1 -2.2**
UZH *e* 14 30 31.3
UZH *e*S S 14 40 11.1 -6.7
UZH MLR MLR
comp=N,600nm,17.0s
UZH MLR MLR
comp=E,700nm,17.0s
UZH MLR MLR
comp=Z,250nm,17.0s
RPZ Rata Peaks 79.83 147 P **P 14 30 18.7 +1.1**
RPZ Rata Peaks 79.83 147 P **P 14 30 18.7 +1.1**
comp=Z,28nm,0.8s,baz=300,slow=1.4,SNR=18
NB2 NORSAR Subarra 79.83 333 P **P 14 30 17.3 -0.3**
comp=Z,16nm,0.9s,baz=52,slow=5.9
NB2 NORSAR Subarra 79.83 333 P **P 14 30 17.3 -0.3**
baz=52,slow=5.9
NOA NORSAR Array B 79.83 333 P **P 14 30 17.2 -0.3**
NOA NORSAR Array B 79.83 333 P **P 14 30 17.2 -0.3**
comp=Z,11nm,0.7s,baz=60,slow=5.3,SNR=26
NOA LR LR 15 09 25.6
comp=Z,585nm,18.4s,baz=75,slow=39
STHS Stebnicka Huta 80.07 320 *e*P **P 14 30 19.9 +0.9**
STHS pmax pmax
comp=Z,8.0nm,1.1s
STHS Stebnicka Huta 80.07 320 *e*P **P 14 30 19.9 +0.9**
CRVS Cervenica-Dubn 80.15 319 *e*P **P 14 30 20.0 +0.5**
CRVS pmax pmax
comp=Z,23nm,1.5s
CRVS Cervenica-Dubn 80.15 319 *e*P **P 14 30 20.0 +0.5**
DRGR 80.24 317 ⇓P **P 14 30 20.9 +0.8**
DRGR 80.24 317 ⇓*i*P **P 14 30 20.9 +0.8**
OJC Ojcow 80.58 321 *e*P **P 14 30 22.1 +0.4**
OJC *e**PP **pP 14 30 30.8 -1.5**
OJC Ojcow 80.58 321 *e*P **P 14 30 22.7 +0.9**
comp=Z,37nm,0.9s
ARG Arkhangelos 80.61 305 *e*P **P 14 30 22.7 +0.5**
NIE Niedzica 80.62 320 *e*P **P 14 30 23.9 +1.9**
NIE *e* 14 30 29.4
KECS Kecovo 80.91 319 *e*P **P 14 30 24.4 +0.8**
KECS pmax pmax
comp=Z,10.0nm,0.9s
KECS Kecovo 80.91 319 *e*P **P 14 30 24.4 +0.8**
MPEP Malo Peshtene 80.96 313 *i* P **P 14 30 24.8 +0.9**
BSD Bornholm Skovb 81.03 327 *i* P **P 14 30 23.8 -0.2**
comp=Z,26nm,1.1s
PSZ Piszkesteto 81.51 319 ⇑P **P 14 30 27.8 +0.9**
PSZ Piszkesteto 81.51 319 ⇑*i*P **P 14 30 27.8 +0.9**
PSZ Piszkesteto 81.51 319 *e*P **P 14 30 27.2 +0.3**
comp=Z,16nm,0.9s
PSZ Piszkesteto 81.51 319 ⇑*e*P **P 14 30 27.3 +0.4**
VTS Vitosha 81.62 313 ⇓P **P 14 30 28.6 +1.0**
VTS Vitosha 81.62 313 ⇓*i* P **P 14 30 28.4 +0.8**
VTS Vitosha 81.62 313 ⇓*i*P **P 14 30 28.6 +1.0**
OKC Ostrava-Krasne 81.70 321 *e*P **P 14 30 28.4 +0.7**
OKC *e* 14 30 42.3
OKC MLR MLR
comp=Z,300nm,19.3s
OKC Ostrava-Krasne 81.70 321 *e*P **P 14 30 28.4 +0.7**
OKC *es*P **sP 14 30 42.3 +0.2**
OKC AMS AMS 15 08 50.0
comp=Z,300nm,19.3s
VYHS Vyhne 81.90 319 *e*P **P 14 30 29.7 +0.9**
VYHS pmax pmax
comp=Z,14nm,0.8s
VYHS Vyhne 81.90 319 *e*P **P 14 30 29.7 +0.9**
MORC Moravsky Berou 82.08 321 *e*P **P 14 30 30.6 +0.8**
MORC Moravsky Berou 82.08 321 *e*P **P 14 30 30.6 +0.8**
KSP Ksiaz 82.30 322 *e*P **P 14 30 31.1 +0.2**
KSP *e**PP **pP 14 30 40.6 -0.8**
KSP *e*S **S 14 40 42.2 -2.0**
KSP Ksiaz 82.30 322 *e*P **P 14 30 31.5 +0.7**
PLG Polygyros 82.37 311 *e*P **P 14 30 30.0 -1.5**
DPC Dobruska-Polom 82.52 322 *e*P **P 14 30 33.0 +0.9**
DPC pmax pmax
comp=Z,78nm,0.8s
DPC Dobruska-Polom 82.52 322 *e*P **P 14 30 32.9 +0.9**
DPC *ep*P **pP 14 30 43.6 +1.0**
DPC AMS AMS 15 11 20.0
DPC Dobruska-Polom 82.52 322 *e*P **P 14 30 33.0 +0.9**
comp=Z,78nm,0.8s
UPC Upice 82.62 322 *e*P **P 14 30 33.2 +0.7**
UPC Upice 82.62 322 *e*P **P 14 30 33.2 +0.7**
PKSG 82.66 319 ⇑*e*P **P 14 30 33.1 +0.4**
YKW3 Yellowknife Ar 82.71 23 *e*P **P 14 30 32.0 -0.8**
comp=Z,0.9nm,1.0s
YKA Yellowknife Ar 82.76 23 P **P 14 30 33.4 +0.5**
YKA PKKPbc **PKKPbc 14 48 55.3 -2.8**
YKA Yellowknife Ar 82.76 23 P **P 14 30 33.4 +0.5**
comp=Z,32nm,1.0s,baz=314,slow=5.2,SNR=42
YKA PKKPbc **PKKPbc 14 48 55.3 -2.8**
comp=Z,0.7nm,0.6s,baz=123,slow=2.7,SNR=5.4
GRG Griva 82.85 312 *e*P **P 14 30 32.7 -1.2**
NPS Neapolis 82.86 305 *e*P **P 14 30 34.1 0.0**
PKST T"s 82.93 319 ⇑*e*P **P 14 30 34.1 -0.1**
LAST Lasithi 83.00 305 *e*P P 14 30 29.7 -5.2
PKSM Moragy 83.03 317 ⇓P **P 14 30 35.2 +0.5**
PKSM Moragy 83.03 317 ⇓*i*P **P 14 30 35.2 +0.5**
PKSM Moragy 83.03 317 ⇓*e*P **P 14 30 35.2 +0.5**
MUD Monsted U'grnd 83.14 329 *i* P **P 14 30 35.2 +0.2**
comp=Z,15nm,0.7s
SUMG Summit 83.40 355 *e*P **P 14 30 37.3 +0.6**
SUMG pmax pmax
comp=Z,64nm,1.2s
SUMG Summit 83.40 355 *i* P **P 14 30 37.6 +0.9**
comp=Z,15nm,0.9s
SUMG Summit 83.40 355 *e*P **P 14 30 37.3 +0.6**
comp=Z,64nm,1.2s
PVCC Panska Ves 83.42 323 *e*P **P 14 30 37.5 +0.9**
PVCC *e* 14 30 52.6
PVCC MLR MLR
comp=Z,600nm,15.9s
PVCC Panska Ves 83.42 323 *e*P **P 14 30 37.5 +0.9**
PVCC *es*P **sP 14 30 52.6 +1.5**
PVCC AMS AMS 15 11 20.0
comp=Z,600nm,15.9s
TREC Trest 83.49 321 *e*P **P 14 30 37.9 +0.8**
TREC MLR MLR
comp=Z,600nm,18.9s
TREC Trest 83.49 321 *e*P **P 14 30 37.9 +0.8**
TREC AMS AMS 15 20 40.0
comp=Z,600nm,18.9s
BRG Berggiesshubel 83.59 323 *i* P **P 14 30 37.9 +0.4**
comp=Z,11nm,0.9s
BRG *e* 14 30 51.7
comp=Z,10nm,1.1s
BRG
comp=Z,1μm,17.1s
BRG
comp=N,508nm,19.1s
BRG
comp=E,658nm,19.1s
BRG Berggiesshubel 83.59 323 *e*P **P 14 30 38.2 +0.7**
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 83.59 323 *i* P **P 14 30 37.9 +0.4**
BRG *e* 14 30 51.7
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,11nm,1.1s
BRG MLR MLR
comp=Z,1μm,17.1s
BRG MLR MLR
comp=N,508nm,19.1s
BRG MLR MLR
comp=E,658nm,19.1s
FNA Florina 83.62 312 *e*P **P 14 30 36.6 -1.4**
PRU Pruhonice 83.69 322 *e*P **P 14 30 38.7 +0.6**
PRU *e* 14 30 53.0
PRU *e* 14 40 54.4
PRU MLR MLR
comp=Z,500nm,19.1s
PRU Pruhonice 83.69 322 *e*P **P 14 30 38.7 +0.6**
PRU *es*P **sP 14 30 53.0 +0.5**
PRU *e*SKS **S 14 40 54.4 -4.0**
PRU AMS AMS 15 12 10.0
comp=Z,500nm,19.1s
AGG Agios Georgios 83.71 310 *e*P **P 14 30 36.6 -1.8**
PRA Prague 83.72 322 P **P 14 30 39.0 +0.8**
PRA AMS AMS 15 12 30.0
CLL Collm 83.89 324 *e*P **P 14 30 39.3 +0.3**
comp=Z,18nm,0.8s
CLL Collm 83.89 324 ⇑*i*P **P 14 30 39.0 0.0**
CLL *e* 14 30 53.0
CLL *e*S S 14 40 53.0 -7.3
CLL pmax pmax
comp=Z,24nm,1.0s
CLL MLR MLR
comp=Z,900nm,18.7s
CLL Collm 83.89 324 ⇑*i*P **P 14 30 39.0 0.0**
comp=Z,24nm,1.0s
CLL *es*P **sP 14 30 53.0 -0.5**
CLL *e* 14 31 06.0
CLL LmV 15 12 00.0
comp=Z,900nm,18.7s
CONA Conrad Observa 83.92 320 ⇑*i*PcP **P 14 30 40.2 +0.8**
comp=Z,30nm,1.0s,SNR=16
BSEG Bad Segeberg 83.94 327 *e*P **P 14 30 40.8 +1.6**
comp=Z,26nm,0.8s
BSEG Bad Segeberg 83.94 327 *e*P **P 14 30 40.8 +1.6**
BSEG pmax pmax
comp=Z,26nm,0.8s
KLV Kalavryta, Ach 84.25 309 *e*P **P 14 30 40.2 -1.1**
LAKA Lakka 84.29 309 *e*P **P 14 30 40.4 -1.0**
ARSA Arzberg 84.45 319 ⇑*i*P **P 14 30 42.4 +0.4**
comp=Z,11nm,0.8s
NEUB Neenburg 84.61 324 *e*P **P 14 30 43.3 +0.6**
comp=Z,14nm,0.8s
TANN Tannenbergstha 84.64 323 *e*P **P 14 30 43.3 +0.3**
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 84.66 322 *e*P **P 14 30 43.4 +0.3**
KHC *e* 14 30 58.0
KHC *e* 14 40 58.9
KHC MLR MLR
comp=Z,800nm,20.0s
KHC Kasperske Hory 84.66 322 *e*P **P 14 30 43.4 +0.3**
KHC *es*P **sP 14 30 58.0 +0.5**
KHC *e*SKS **SKSac 14 40 58.9 -5.9**
KHC AMS AMS 15 12 40.0
comp=Z,800nm,20.0s
KHC Kasperske Hory 84.66 322 *e*P **P 14 30 43.2 +0.2**
comp=Z,15nm,0.8s
DYR Agios Nikonas 84.67 308 *e*P **P 14 30 41.3 -2.0**
GEC2 GERESS Array S 84.73 321 *e*P **P 14 30 44.1 +0.6**
comp=Z,24nm,0.8s
GEC2 GERESS Array S 84.73 321 *e*P **P 14 30 44.1 +0.6**
GEC2 pmax pmax
comp=Z,24nm,0.8s
GERES GERESS Array B 84.73 321 P **P 14 30 43.7 +0.2**
GERES GERESS Array B 84.73 321 P **P 14 30 43.7 +0.2**
comp=Z,23nm,0.8s,baz=57,slow=4.9,SNR=116
GERES LR LR 15 13 23.6
comp=Z,552nm,18.3s,baz=59,slow=39
ITM Ithomi 84.78 308 *e*P **P 14 30 42.6 -1.3**
AMT Artemida-Makis 84.79 309 *e*P **P 14 30 43.6 -0.3**
NRDL Niedersach Rie 84.81 326 *e*P **P 14 30 44.7 +1.1**
comp=Z,16nm,1.0s
MOA Molln 84.90 320 ⇑*i*PcP **P 14 30 44.8 +0.5**
comp=Z,20nm,0.8s,SNR=14
MOX Moxa 84.98 324 *e*P **P 14 30 45.3 +0.7**
comp=Z,6.0nm,0.8s
MOX Moxa 84.98 324 *e*P **P 14 30 45.3 +0.7**
MOX pmax pmax
comp=Z,6.0nm,0.8s
LKD2 Lefkada island 84.99 310 *e*P P 14 30 41.3 -3.6
PERS Pernice 84.99 319 *i* P **P 14 30 44.9 +0.1**
SOKA Soboth 85.02 319 ⇑*i*P **P 14 30 45.0 0.0**
comp=Z,20nm,0.8s,SNR=11
PYL PYLOS 85.04 308 *e*P **P 14 30 43.3 -1.9**
MANZ Manzenberg 85.06 323 *e*P **P 14 30 45.9 +0.9**
comp=Z,9.0nm,0.8s
ROTZ Rotzenmuhle 85.11 323 *e*P **P 14 30 46.4 +1.1**
comp=Z,13nm,0.8s
VLS Valsamata 85.31 310 *e*P **P 14 30 45.3 -1.2**
OPO Ambohidratompo 85.41 248 P **P 14 30 48.3 +0.9**
OPO Ambohidratompo 85.41 248 P **P 14 30 48.3 +0.9**
comp=Z,19nm,0.8s,baz=64,slow=5.0,SNR=17
BOJS Bojanci 85.46 318 *i* P **P 14 30 48.0 +0.9**
LJU Ljubljana 85.64 319 *i* P **P 14 30 48.6 +0.7**
GRF Grafenberg Arr 85.70 323 *e*P **P 14 30 48.7 +0.5**
comp=Z,12nm,1.0s
GRF *ep*P **pP 14 30 57.6 -1.2**
GRF Grafenberg Arr 85.70 323 *e*P **P 14 30 48.7 +0.5**
GRF *e**PP **pP 14 30 57.6 -1.2**
GRF pmax pmax
comp=Z,12nm,1.0s
GRFO Grafenberg 85.70 323 *e*P **P 14 30 48.7 +0.5**
GRFO pmax pmax
comp=Z,126nm,1.9s
GRFO Grafenberg 85.70 323 *e*P **P 14 30 48.7 +0.5**
comp=Z,126nm,1.9s
UBBA Unterbreizbach 85.77 324 *e*P **P 14 30 48.9 +0.6**
comp=Z,4.0nm,0.8s
RJOB Jochberg 85.82 321 *e*P **P 14 30 50.4 +1.5**
RJOB *ep*P **pP 14 30 57.2 -2.3**
comp=Z,10.0nm,0.9s
KBA Koelnbreinsper 85.83 320 ⇑*i*P **P 14 30 48.5 -0.6**
comp=Z,9.6nm,1.2s
JAVS Javornik 85.99 319 *i* P **P 14 30 50.0 +0.1**
IBBN Ibbenburen 86.12 326 *e*P **P 14 30 51.0 +0.8**
comp=Z,38nm,0.8s
IBBN *ep*P **pP 14 30 59.6 -1.2**
FUR Furstenfeldbru 86.47 322 *e*P **P 14 30 53.6 +1.5**
comp=Z,30nm,0.9s
FUR Furstenfeldbru 86.47 322 *e*P **P 14 30 53.6 +1.5**
FUR pmax pmax
comp=Z,30nm,0.9s
BUG Bochum--Univer 86.86 326 *e*P **P 14 30 54.9 +1.1**
comp=Z,20nm,1.0s
RAR Rarotonga 86.87 115 LR LR 15 03 51.0
comp=Z,259nm,19.3s,baz=315,slow=32
TNS Taunus Mts 86.92 324 *e*P **P 14 30 54.2 -0.1**
comp=Z,10.0nm,0.9s
TNS Taunus Mts 86.92 324 *e*P **P 14 30 54.2 -0.1**
TNS pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 87.03 267 *e*P **P 14 30 57.2 +1.5**
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 87.03 267 P **P 14 30 57.5 +1.8**
comp=Z,5.7nm,0.8s,baz=54,slow=22,SNR=15
FETA Feichten 87.39 321 ⇑*i*PcP **P 14 30 57.1 +0.4**
comp=Z,8.7nm,1.0s
FUORN Ofenpass-Fuorn 87.87 321 *e*P **P 14 30 59.7 +0.5**
BFO Black Forest 88.04 323 *e*P **P 14 30 59.8 +0.2**
comp=Z,4.0nm,0.8s
BFO Black Forest 88.04 323 *e*P **P 14 30 59.8 +0.2**
BFO pmax pmax
comp=Z,4.0nm,0.8s
WLF Walferdange 88.46 325 P **P 14 31 02.4 +0.8**
comp=Z,23nm,1.6s
WLF Walferdange 88.46 325 *e*P **P 14 31 02.6 +1.0**
comp=Z,18nm,0.9s
WLF Walferdange 88.46 325 *e*P **P 14 30 58.7 -2.9**
WLF pmax pmax
comp=Z,34nm,1.3s
WLF Walferdange 88.46 325 *e*P **P 14 30 58.6 -2.9**
comp=Z,34nm,1.3s
TUE Stuetta 88.48 321 *e*P **P 14 31 02.2 +0.2**
CEL Celeste 88.55 311 *e*P **P 14 31 03.1 +0.8**
comp=Z,58nm,1.2s
CDF Champ du Feu 88.57 323 ⇑*i*P **P 14 31 02.3 0.0**
comp=Z,42nm,0.9s
CDF Champ du Feu 88.57 323 ⇑*i*P **P 14 31 02.3 0.0**
CDF pmax pmax
comp=Z,42nm,0.9s
CDF Champ du Feu 88.57 323 ⇑*i*P **P 14 31 02.3 0.0**
comp=Z,42nm,0.9s
ECH Echery 88.75 323 *e*P **P 14 31 02.2 -0.8**
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 88.75 323 *e*P **P 14 31 02.2 -0.8**
comp=Z,15nm,1.1s
GIVF Givet 88.90 326 *e*P **P 14 31 03.7 +0.1**
GIVF Givet 88.90 326 *e*P **P 14 31 03.7 +0.1**
GIVF Givet 88.90 326 *e*P **P 14 31 03.7 +0.1**
EDM Edmonton 89.14 30 *e*P P 14 31 08.2 +3.4
EDM Edmonton 89.14 30 *e*P P 14 31 08.2 +3.4
HINF Hinteralfeld 89.14 323 *e*P **P 14 31 04.4 -0.5**
comp=Z,27nm,0.8s
HINF Hinteralfeld 89.14 323 *e*P **P 14 31 04.4 -0.5**
HINF pmax pmax
comp=Z,27nm,0.8s
HINF Hinteralfeld 89.14 323 *e*P **P 14 31 04.4 -0.5**
comp=Z,27nm,0.8s
BAIF Baives 89.24 326 *e*P **P 14 31 05.3 +0.1**
BAIF Baives 89.24 326 *e*P **P 14 31 05.3 +0.1**
BAIF Baives 89.24 326 *e*P **P 14 31 05.3 +0.1**
HAU Haudompre 89.31 323 *e*P **P 14 31 05.4 -0.3**
comp=Z,27nm,0.8s
HAU *e*R
comp=Z,834nm,18.8s
HAU Haudompre 89.31 323 *e*P **P 14 31 05.4 -0.3**
HAU pmax pmax
comp=Z,27nm,0.8s
HAU Haudompre 89.31 323 *e*P **P 14 31 05.4 -0.3**
comp=Z,27nm,0.8s
PAGF Fort de Pagny 89.33 324 *e*P **P 14 31 05.9 +0.2**
comp=Z,6.9nm,0.8s
PAGF Fort de Pagny 89.33 324 *e*P **P 14 31 05.9 +0.2**
comp=Z,6.9nm,0.8s
SFJD Kangerlussuaq 89.69 358 *i* P **P 14 31 06.0 -0.9**
comp=Z,7.1nm,0.9s
SENIN Lac Senin/Sane 89.72 322 *e*P **P 14 31 08.0 +0.2**
comp=Z,12nm,0.8s
MEZF Maizieres J'vi 89.73 324 *e*P **P 14 31 07.8 +0.3**
MEZF Maizieres J'vi 89.73 324 *e*P **P 14 31 07.8 +0.3**
SFTF Sexfontaines 89.91 324 *e*P **P 14 31 08.3 -0.1**
comp=Z,36nm,0.9s
SFTF Sexfontaines 89.91 324 *e*P **P 14 31 08.3 -0.1**
comp=Z,36nm,0.9s
CABF La Chapelle 90.27 322 *e*P **P 14 31 10.0 -0.2**
comp=Z,6.9nm,0.8s
CABF La Chapelle 90.27 322 *e*P **P 14 31 10.0 -0.2**
CABF pmax pmax
comp=Z,7.0nm,0.8s
CABF La Chapelle 90.27 322 *e*P **P 14 31 10.0 -0.2**
comp=Z,6.9nm,0.8s
NEW Newport 90.33 36 *e*P **P 14 31 12.3 +1.9**
comp=Z,17nm,1.0s
NEW Newport 90.33 36 P **P 14 31 12.3 +1.9**
comp=Z,5.5nm,0.7s,baz=295,slow=4.1,SNR=9.5
LPG La Plagne 90.53 321 *e*P **P 14 31 12.0 +0.3**
comp=Z,46nm,0.9s
LPG La Plagne 90.53 321 *e*P **P 14 31 12.0 +0.3**
LPG pmax pmax
comp=Z,46nm,0.9s
LPG La Plagne 90.53 321 *e*P **P 14 31 12.0 +0.3**
comp=Z,46nm,0.9s
LPL La Plagne 90.53 321 *e*P **P 14 31 11.9 +0.2**
LPL La Plagne 90.53 321 *e*P **P 14 31 11.9 +0.2**
LPL La Plagne 90.53 321 *e*P **P 14 31 11.9 +0.2**
DRV Dumont d'Urvil 90.73 174 P P 14 30 56.0 -16
DRV Dumont d'Urvil 90.73 174 SS SS 14 47 44.0 -24
YBH Yreka Blue Hor 90.80 43 P **P 14 31 14.5 +1.7**
YBH Yreka Blue Hor 90.80 43 P **P 14 31 14.5 +1.7**
comp=Z,0.7nm,0.3s,baz=331,slow=10,SNR=3.2
BNI Bardonecchia 90.83 321 *e*P **P 14 31 13.2 +0.2**
comp=Z,15nm,1.2s
BNI Bardonecchia 90.83 321 *e*P **P 14 31 13.2 +0.2**
comp=Z,15nm,1.2s
PGF Pioggiola 90.84 318 *e*P **P 14 31 13.3 +0.3**
comp=Z,23nm,0.9s
PGF Pioggiola 90.84 318 *e*P **P 14 31 13.3 +0.3**
PGF pmax pmax
comp=Z,23nm,0.9s
PGF Pioggiola 90.84 318 *e*P **P 14 31 13.3 +0.3**
comp=Z,23nm,0.9s
MBDF Montbardon 90.96 320 *e*P **P 14 31 12.8 -0.8**
comp=Z,13nm,1.0s
MBDF Montbardon 90.96 320 *e*P **P 14 31 12.8 -0.8**
MBDF pmax pmax
comp=Z,13nm,1.0s
MBDF Montbardon 90.96 320 *e*P **P 14 31 12.8 -0.8**
comp=Z,13nm,1.0s
SBF Sospel 91.06 319 *e*P **P 14 31 13.5 -0.4**
comp=Z,26nm,0.8s
SBF Sospel 91.06 319 *e*P **P 14 31 13.5 -0.4**
SBF pmax pmax
comp=Z,26nm,0.8s
SBF Sospel 91.06 319 *e*P **P 14 31 13.5 -0.4**
comp=Z,26nm,0.8s
LOR Lormes 91.11 324 ⇑*i*P **P 14 31 13.7 -0.3**
comp=Z,24nm,1.1s
LOR *e*R
comp=Z,792nm,20.0s
LOR Lormes 91.11 324 ⇑*i*P **P 14 31 13.7 -0.3**
comp=Z,24nm,1.1s
ORIF Oris-en-Rattie 91.37 321 *e*P **P 14 31 15.5 +0.1**
comp=Z,21nm,1.0s
ORIF *e*R
comp=Z,702nm,18.2s
ORIF Oris-en-Rattie 91.37 321 *e*P **P 14 31 15.5 +0.1**
ORIF pmax pmax
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 91.37 321 *e*P **P 14 31 15.5 +0.1**
comp=Z,21nm,1.0s
SSF Saint Saulge 91.42 324 *e*P **P 14 31 15.4 -0.1**
comp=Z,12nm,0.9s
SSF Saint Saulge 91.42 324 *e*P **P 14 31 15.4 -0.1**
SSF pmax pmax
comp=Z,12nm,0.9s
SSF Saint Saulge 91.42 324 *e*P **P 14 31 15.4 -0.1**
comp=Z,12nm,0.9s
SMF Signal de Mont 91.49 323 *e*P **P 14 31 15.7 -0.1**
comp=Z,40nm,1.0s
SMF Signal de Mont 91.49 323 *e*P **P 14 31 15.7 -0.1**
SMF pmax pmax
comp=Z,40nm,1.0s
SMF Signal de Mont 91.49 323 *e*P **P 14 31 15.7 -0.1**
comp=Z,40nm,1.0s
WALA Waterton Lakes 91.51 34 *e*P **P 14 31 16.0 0.0**
comp=Z,1.1nm,1.3s
AVF Avril sur Loir 91.67 324 *e*P **P 14 31 16.5 -0.1**
comp=Z,27nm,1.0s
AVF Avril sur Loir 91.67 324 *e*P **P 14 31 16.5 -0.1**
AVF pmax pmax
comp=Z,27nm,1.0s
AVF Avril sur Loir 91.67 324 *e*P **P 14 31 16.5 -0.1**
comp=Z,27nm,1.0s
FRF La Foret Royal 91.70 320 *e*P **P 14 31 16.6 -0.2**
comp=Z,18nm,1.0s

FRF	**La Foret Royal**	**91.70**	**320**	*e*P	**P**	**14 31 16.6**	**-0.2**
FRF				pmax	pmax		
comp=Z,18nm,1.0s							
FRF	**La Foret Royal**	**91.70**	**320**	*e*P	**P**	**14 31 16.6**	**-0.2**
comp=Z,18nm,1.0s							
BSMT	**Bassoo Peak**	**91.82**	**35**	*e*P	**P**	**14 31 20.1**	**+2.5**
LMR	**La Mourre**	**91.91**	**319**	*e*P	**P**	**14 31 17.8**	**0.0**
comp=Z,14nm,0.9s							
LMR	**La Mourre**	**91.91**	**319**	*e*P	**P**	**14 31 17.8**	**0.0**
LMR				pmax	pmax		
comp=Z,14nm,0.9s							
LMR	**La Mourre**	**91.91**	**319**	*e*P	**P**	**14 31 17.8**	**0.0**
comp=Z,14nm,0.9s							
SSB	**Saint Sauveur**	**91.92**	**322**	*e*P	**P**	**14 31 16.1**	**-1.8**
SSB				pmax	pmax		
comp=Z,8.0nm,0.9s							
SSB	**Saint Sauveur**	**91.92**	**322**	*e*P	**P**	**14 31 16.1**	**-1.8**
comp=Z,8.3nm,0.9s							
BGF	**Bois d'Agland**	**92.09**	**324**	*e*P	**P**	**14 31 18.5**	**-0.1**
BGF	**Bois d'Agland**	**92.09**	**324**	*e*P	**P**	**14 31 18.5**	**-0.1**
BGF	**Bois d'Agland**	**92.09**	**324**	*e*P	**P**	**14 31 18.5**	**-0.1**
SMRF	**Simiane la Rot**	**92.09**	**320**	*e*P	**P**	**14 31 18.9**	**+0.2**
SMRF	**Simiane la Rot**	**92.09**	**320**	*e*P	**P**	**14 31 18.9**	**+0.2**
VIVF	**Saint-Julien-l**	**92.10**	**321**	*e*P	**P**	**14 31 18.7**	**0.0**
comp=Z,35nm,1.0s							
VIVF	**Saint-Julien-l**	**92.10**	**321**	*e*P	**P**	**14 31 18.7**	**0.0**
VIVF				pmax	pmax		
comp=Z,35nm,1.0s							
VIVF	**Saint-Julien-l**	**92.10**	**321**	*e*P	**P**	**14 31 18.7**	**0.0**
comp=Z,35nm,1.0s							
BMO	**Blue Mountains**	**92.27**	**38**	*e*P	**P**	**14 31 18.5**	**-1.1**
BMO				pmax	pmax		
comp=Z,15nm,1.3s							
BMO	**Blue Mountains**	**92.27**	**38**	*e*P	**P**	**14 31 18.5**	**-1.1**
comp=Z,15nm,1.3s							
FCC	**Fort Churchill**	**92.33**	**19**	*e*P	**P**	**14 31 19.2**	**-0.2**
FCC				pmax	pmax		
comp=Z,1.0nm,1.0s							
FCC	**Fort Churchill**	**92.33**	**19**	*e*P	**P**	**14 31 19.2**	**-0.2**
comp=Z,0.6nm,1.0s							
FLN	**La Foliniere**	**92.45**	**327**	*e*P	**P**	**14 31 20.3**	**+0.1**
FLN				*e*R			
comp=Z,811nm,18.2s							
FLN	**La Foliniere**	**92.45**	**327**	*e*P	**P**	**14 31 20.3**	**+0.1**
FLN	**La Foliniere**	**92.45**	**327**	*e*P	**P**	**14 31 20.3**	**+0.1**
FRB	**Frobisher Bay**	**92.54**	**5**	P	**P**	**14 31 19.2**	**-1.1**
FRB	**Frobisher Bay**	**92.54**	**5**	P	**P**	**14 31 19.2**	**-1.1**
comp=Z,10.0nm,0.7s,baz=354,slow=5.6,SNR=7.8							
TCF	**Toulx Ste Croi**	**92.60**	**324**	*e*P	**P**	**14 31 21.3**	**+0.3**
comp=Z,36nm,1.3s							
TCF	**Toulx Ste Croi**	**92.60**	**324**	*e*P	**P**	**14 31 21.3**	**+0.3**
TCF				pmax	pmax		
comp=Z,36nm,1.3s							
TCF	**Toulx Ste Croi**	**92.60**	**324**	*e*P	**P**	**14 31 21.3**	**+0.3**
comp=Z,36nm,1.3s							
GRR	**Gorron**	**92.88**	**327**	*e*P	**P**	**14 31 22.4**	**+0.2**
GRR	**Gorron**	**92.88**	**327**	*e*P	**P**	**14 31 22.4**	**+0.2**
GRR	**Gorron**	**92.88**	**327**	*e*P	**P**	**14 31 22.4**	**+0.2**
SLMT	**Seeley Lake**	**92.89**	**35**	*e*P	**P**	**14 31 24.2**	**+1.8**
FFC	**Flin Flon**	**92.89**	**24**	*e*P	**P**	**14 31 22.9**	**+0.8**
FFC	**Flin Flon**	**92.89**	**24**	*e*P	**P**	**14 31 22.9**	**+0.8**
WVOR	**Wild Horse Val**	**92.91**	**41**	*e*P	**P**	**14 31 22.9**	**+0.2**
WVOR				pmax	pmax		
comp=Z,10.0nm,1.4s							
WVOR	**Wild Horse Val**	**92.91**	**41**	*e*P	**P**	**14 31 22.9**	**+0.2**
comp=Z,9.8nm,1.4s							
LASF	**Ste Croix**	**93.03**	**321**	*e*P	**P**	**14 31 23.4**	**+0.4**
comp=Z,8.9nm,0.9s							
LASF	**Ste Croix**	**93.03**	**321**	*e*P	**P**	**14 31 23.4**	**+0.4**
comp=Z,8.9nm,0.9s							
CAF	**Calviac**	**93.53**	**323**	⇑*i*P	**P**	**14 31 25.8**	**+0.5**
comp=Z,21nm,0.9s							
CAF	**Calviac**	**93.53**	**323**	⇑*i*P	**P**	**14 31 25.8**	**+0.5**
CAF				pmax	pmax		
comp=Z,21nm,0.9s							
CAF	**Calviac**	**93.53**	**323**	⇑*i*P	**P**	**14 31 25.8**	**+0.5**
comp=Z,21nm,0.9s							
RJF	**Les Rejaudoux**	**93.60**	**323**	*e*P	**P**	**14 31 26.1**	**+0.5**
comp=Z,16nm,0.8s							
RJF				*e*R			
comp=Z,592nm,18.8s							
RJF	**Les Rejaudoux**	**93.60**	**323**	*e*P	**P**	**14 31 26.1**	**+0.5**
RJF				pmax	pmax		
comp=Z,16nm,0.8s							
RJF	**Les Rejaudoux**	**93.60**	**323**	*e*P	**P**	**14 31 26.1**	**+0.5**
comp=Z,16nm,0.8s							
MFF	**Saint Martin d**	**93.67**	**325**	*e*P	**P**	**14 31 25.3**	**-0.5**
MFF	**Saint Martin d**	**93.67**	**325**	*e*P	**P**	**14 31 25.3**	**-0.5**
MFF	**Saint Martin d**	**93.67**	**325**	*e*P	**P**	**14 31 25.3**	**-0.5**
PAHR	**Pah Rah Range**	**94.03**	**44**	*e*pP	pP	14 31 37.0	-1.5
PPT	**Papeete**	**94.09**	**107**	LR	LR	15 04 38.0	
comp=Z,372nm,21.0s,baz=285,slow=30							
PPT2	**Papeete2**	**94.10**	**107**	*e*S	**S**	**14 42 33.3**	**-4.0**
comp=Z,253nm,24.0s							
PPT2	**Papeete2**	**94.10**	**107**	*e*LR	LR	15 01 49.6	
comp=Z,597nm,23.0s,baz=294							
ROSF	**Rostrenen**	**94.12**	**328**	*e*P	**P**	**14 31 27.2**	**-0.7**
comp=Z,93nm,1.3s							
ROSF	**Rostrenen**	**94.12**	**328**	*e*P	**P**	**14 31 27.2**	**-0.7**
ROSF				pmax	pmax		
comp=Z,93nm,1.3s							
ROSF	**Rostrenen**	**94.12**	**328**	*e*P	**P**	**14 31 27.2**	**-0.7**
comp=Z,93nm,1.3s							
LFF	**La Frestale**	**94.25**	**323**	*e*P	**P**	**14 31 29.0**	**+0.4**
LFF	**La Frestale**	**94.25**	**323**	*e*P	**P**	**14 31 29.0**	**+0.4**
LFF	**La Frestale**	**94.25**	**323**	*e*P	**P**	**14 31 29.0**	**+0.4**
KEST	**Kesra**	**94.34**	**312**	P	**P**	**14 31 29.6**	**+0.3**
comp=Z,2.1nm,0.8s,baz=258,slow=2.8,SNR=8.1							
KEST				LR	LR	15 23 50.6	
comp=Z,134nm,18.3s,baz=331,slow=42							
QUIF	**Quistinic**	**94.35**	**327**	*e*P	**P**	**14 31 28.0**	**-0.9**
comp=Z,36nm,1.0s							
QUIF	**Quistinic**	**94.35**	**327**	*e*P	**P**	**14 31 28.0**	**-0.9**
QUIF				pmax	pmax		
comp=Z,36nm,1.0s							
QUIF	**Quistinic**	**94.35**	**327**	*e*P	**P**	**14 31 28.0**	**-0.9**
comp=Z,36nm,1.0s							
MTLF	**Montolieu**	**94.42**	**321**	*e*P	**P**	**14 31 29.7**	**+0.3**
MTLF	**Montolieu**	**94.42**	**321**	*e*P	**P**	**14 31 29.7**	**+0.3**
MTLF	**Montolieu**	**94.42**	**321**	*e*P	**P**	**14 31 29.7**	**+0.3**
DLMT	**Dillon**	**94.57**	**36**	*e*P	**P**	**14 31 31.8**	**+1.5**
comp=Z,7.2nm,0.9s							
WAKR	**Walker**	**94.68**	**45**	*e*P	**P**	**14 31 30.3**	**-0.7**
comp=Z,4.5nm,1.0s							
HLID	**Hailey**	**94.70**	**38**	*e*pP	pP	14 31 38.3	-3.3
NVAR	**Mina Array Bea**	**95.45**	**44**	P	**P**	**14 31 35.6**	**+1.1**
NVAR	**Mina Array Bea**	**95.45**	**44**	P	**P**	**14 31 35.6**	**+1.1**
comp=Z,1.1nm,0.6s,baz=296,slow=5.2,SNR=14							
NVAR				LR	LR	15 11 22.5	
comp=Z,143nm,21.0s,baz=93,slow=33							
NV11	**Mina Array Sit**	**95.54**	**44**	*e*P	**P**	**14 31 33.0**	**-1.8**
EPF	**Esparros**	**95.69**	**322**	*e*P	**P**	**14 31 36.4**	**+1.1**
EPF	**Esparros**	**95.69**	**322**	*e*P	**P**	**14 31 36.4**	**+1.1**
EPF	**Esparros**	**95.69**	**322**	*e*P	**P**	**14 31 36.4**	**+1.1**
ETSF	**Etsaut**	**96.28**	**322**	*e*P	**P**	**14 31 38.4**	**+0.4**
comp=Z,9.1nm,1.0s							
ETSF	**Etsaut**	**96.28**	**322**	*e*P	**P**	**14 31 38.4**	**+0.4**
ETSF				pmax	pmax		
comp=Z,9.0nm,1.0s							
ETSF	**Etsaut**	**96.28**	**322**	*e*P	**P**	**14 31 38.4**	**+0.4**
comp=Z,9.1nm,1.0s							
TBI	**Tubuai**	**96.44**	**113**	*e*LQ	LQ	14 58 49.2	
comp=Z,290nm,26.8s							
TBI				*e*LR	LR	15 02 59.9	
comp=Z,261nm,23.5s,baz=296							
RLMT	**Red Lodge**	**96.49**	**35**	*e*P	**P**	**14 31 39.3**	**+0.3**
comp=Z,7.8nm,1.4s							
SJPF	**Ste Jean**	**96.51**	**323**	*e*P	**P**	**14 31 39.4**	**+0.5**
SJPF	**Ste Jean**	**96.51**	**323**	*e*P	**P**	**14 31 39.4**	**+0.5**
SJPF	**Ste Jean**	**96.51**	**323**	*e*P	**P**	**14 31 39.4**	**+0.5**
PDAR	**Pinedale Array**	**97.92**	**36**	P	Pdif	14 31 46.2	+0.6
PDAR				PP	**PP**	**14 35 45.8**	**+2.1**
PDAR	**Pinedale Array**	**97.92**	**36**	P	Pdif	14 31 46.2	+0.6
comp=Z,0.3nm,0.6s,baz=343,slow=1.9,SNR=3.2							
PDAR				PP	**PP**	**14 35 45.8**	**+2.1**
comp=Z,1.0nm,0.9s,baz=299,slow=6.1,SNR=5.3							
ULM	**Lac du Bonnet**	**98.71**	**24**	LR	LR	15 23 32.7	
comp=Z,409nm,18.1s,baz=333,slow=40							
RKT	**Rikitea**	**108.85**	**108**	*e*LR	LR	15 08 41.0	
comp=Z,379nm,22.8s							
TXAR	**Lajitas Array**	**110.58**	**43**	PKiKP	**PKiKP**	**14 36 43.4**	**+0.9**
TXAR				PP	**PP**	**14 37 18.6**	**+0.7**
TXAR	**Lajitas Array**	**110.58**	**43**	PKiKP	**PKiKP**	**14 36 43.4**	**+0.9**
comp=Z,0.6nm,0.6s,baz=249,slow=0.5,SNR=8.2							
TXAR				PP	**PP**	**14 37 18.6**	**+0.7**
comp=Z,1.9nm,1.2s,baz=308,slow=4.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**112.47**	**296**	PKiKP	**PKiKP**	**14 36 45.9**	**-0.3**
TORD				PP	**PP**	**14 37 36.8**	**+4.6**
TORD				PKKP	**PKKPdf**	**14 47 57.0**	**+2.3**
TORD	**Torodi Ar. Bea**	**112.47**	**296**	PKiKP	**PKiKP**	**14 36 45.9**	**-0.3**
comp=Z,0.5nm,0.5s,baz=26,slow=2.2,SNR=3.8							
TORD				PP	**PP**	**14 37 36.8**	**+4.6**
comp=Z,1.2nm,1.1s,baz=60,slow=8.5,SNR=3.0							
TORD				PKKP	**PKKPdf**	**14 47 57.0**	**+2.3**
comp=Z,1.1nm,1.0s,baz=264,slow=2.8,SNR=6.2							
SNAA	**Sanae**	**123.25**	**198**	*e*PKPdf	**PKPdf**	**14 37 05.3**	**0.0**
VNA2	**Neumayer--Watz**	**124.89**	**198**	*e*PKPdf	**PKPdf**	**14 37 09.2**	**+0.8**
VNA2	**Neumayer--Watz**	**124.89**	**198**	*e*PKP	PKPdf	14 37 21.2	+13
VNA1	**Neumayer--Stat**	**125.28**	**198**	*e*PKPdf	**PKPdf**	**14 37 10.0**	**+0.9**
VNA1	**Neumayer--Stat**	**125.28**	**198**	*e*PKP	PKPdf	14 37 22.6	+14
LPAZ	**La Paz**	**166.90**	**59**	PKP	**PKPdf**	**14 38 17.2**	**+0.8**
LPAZ	**La Paz**	**166.90**	**59**	PKP	**PKPdf**	**14 38 17.2**	**+0.8**
comp=Z,2.6nm,0.9s,baz=17,slow=3.8,SNR=8.1							
BDFB	**Brasilia**	**168.85**	**313**	PKP	**PKPdf**	**14 38 18.1**	**+1.0**
BDFB	**Brasilia**	**168.85**	**313**	PKP	**PKPdf**	**14 38 18.1**	**+1.0**
comp=Z,3.4nm,0.6s,baz=121,slow=6.7,SNR=4.7							

ROM 20 14:28:23.5±0.1, 42°.66N×13°.08E, h9km, Md1.3/3, Ml1.4/2, Error ellipse: s-maj=0.3km s-min=0.3km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.06**	**209**	Pg	Pg	14 28 25.8	+0.2
LNSS				Sg	Sg	14 28 27.3	+0.2
199nm,0.2s							
NRCA	**Norcia**	**0.18**	**8**	Pg	Pg	14 28 27.8	+0.4
NRCA				Sg	Sg	14 28 31.1	+1.1
64nm,0.1s							

IDC 20 15:02:15.8±6.2, 1°.42S×99°.72E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=338.2km s-min=29.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.53**	**121**	P	P	15 09 40.2	-0.2
0.5nm,0.8s,baz=291,slow=8.2,SNR=6.4							
ASAR	**Alice Springs**	**39.82**	**126**	P	P	15 09 51.2	0.0
0.3nm,0.6s,baz=298,slow=7.5,SNR=7.7							
MKAR	**Makanchi Array**	**50.40**	**345**	P	P	15 11 14.9	-0.1
0.5nm,0.8s,baz=153,slow=8.4,SNR=4.2							
TXAR	**Lajitas Array**	**144.41**	**37**	PKP	PKPdf	15 21 54.2	-0.8
0.3nm,0.4s,baz=258,slow=0.9,SNR=6.3							

IDC 20 15:07:35.5±1.0, 13°.86N×92°.98E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=33.8km s-min=18.5km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.33**	**51**	Pn	Pn	15 09 24.6	+0.7
0.3nm,0.3s,baz=242,slow=15,SNR=10							
CMAR				Sn	Sn	15 10 42.1	-5.9
0.5nm,0.3s,baz=241,slow=28,SNR=5.2							
MKAR	**Makanchi Array**	**34.04**	**347**	P	P	15 14 21.2	-0.1
1.2nm,0.7s,baz=157,slow=9.6,SNR=11							
SONM	**Songino Array**	**35.67**	**16**	P	P	15 14 35.3	-0.3
1.1nm,0.8s,baz=202,slow=8.1,SNR=5.9							
KURBB	**Kurchatov Arra**	**38.51**	**345**	P	P	15 14 59.6	+0.2
1.4nm,0.8s,baz=160,slow=7.9,SNR=9.6							
ZALV	**Zalesovo Beam**	**40.51**	**353**	P	P	15 15 15.8	-0.3
1.2nm,0.6s,baz=174,slow=8.0,SNR=6.5							
WRA	**Warramunga Arr**	**52.76**	**129**	P	P	15 16 52.4	-0.3
0.3nm,0.7s,baz=306,slow=9.9,SNR=7.3							
ASAR	**Alice Springs**	**54.70**	**133**	P	P	15 17 06.8	0.0
0.3nm,0.4s,baz=311,slow=7.3,SNR=16							
FINES	**FINESS Array B**	**66.94**	**331**	P	P	15 18 29.1	-0.5
0.6nm,0.5s,baz=119,slow=6.7,SNR=4.2							
GERES	**GERESS Array B**	**72.66**	**317**	P	P	15 19 05.3	0.0
0.7nm,0.7s,baz=104,slow=5.6,SNR=5.6							
TORD	**Torodi Ar. Bea**	**88.13**	**283**	P	P	15 20 29.3	+0.4
0.5nm,0.8s,baz=69,slow=3.6,SNR=2.6							

MEX 20 15:12:24.8±0.4, 18°.60N×103°.10W, h117km±7km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.39**	**217**	*i*P	Pn	15 12 40.7	-1.1
MMIG				*i*S	Sn	15 12 52.6	-2.0
ZIIG	**Zihuatanejo**	**1.84**	**122**	*i*P	Pn	15 12 54.4	-1.8
ZIIG				*i*S	Sn	15 13 18.5	-1.6
ARIG	**Puente Sto Nin**	**2.63**	**97**	*e*P	Pn	15 13 04.9	-1.3
ARIG				*i*S	Sn	15 13 36.4	-1.7
CAIG	**El Cayaco**	**3.11**	**119**	*i*P	Pn	15 13 11.9	-0.6
CAIG				*i*S	Sn	15 13 47.9	-1.4
PLIG	**Platanillo**	**3.42**	**93**	*i*P	Pn	15 13 15.4	-1.3
PLIG				*i*S	Sn	15 13 55.5	-1.3

WEL 20 15:14:34.9±0.3, 45°.74S×166°.47E, h20km±1km, ML3.8/17, 3D, Error ellipse: s-maj=3.1km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.55**	**62**	P*	Pb	15 14 45.2	-0.5
DCZ				S*	Sb	15 14 52.0	-1.1
DCZ				AML	AML	15 14 59.0	
DCZ				AML	AML	15 14 59.0	
DCZ				AML	AML	15 15 00.4	
WHZ	**Wether Hill Ro**	**1.04**	**99**	⇓PN	Pb	15 14 53.8	-0.5
WHZ				SN	Sb	15 15 07.4	-0.1
WHZ				AML	AML	15 15 14.3	
MLZ	**Mavora Lakes**	**1.26**	**73**	⇓PN	Pn	15 14 56.7	-0.6
MLZ				SN	Sn	15 15 11.7	-2.0
MLZ				AML	AML	15 15 21.3	
MSZ	**Milford Sound**	**1.48**	**45**	*e*PN	Pn	15 14 59.2	-1.1
MSZ				AML	AML	15 15 31.5	
MSZ				AML	AML	15 15 31.5	
MSZ				AML	AML	15 15 34.9	
MSZ				AML	AML	15 15 34.9	
APZ	**The Paps**	**1.52**	**137**	PN	Pn	15 15 00.7	-0.3
APZ				SN	Sn	15 15 20.5	+0.3
WKZ	**Wanaka**	**2.01**	**64**	PN	Pb	15 15 09.8	-1.0
WKZ				AML	AML	15 15 41.9	
WKZ				AML	AML	15 15 49.3	
SYZ	**Scrubby Hill**	**2.02**	**114**	PN	Pn	15 15 08.4	+0.7
EAZ	**Earnscleugh**	**2.06**	**77**	⇓PN	Pb	15 15 10.9	-0.7
EAZ				AML	AML	15 15 43.6	
EAZ				AML	AML	15 15 43.7	
EAZ				AML	AML	15 15 45.6	
TUZ	**Tuapeka**	**2.22**	**97**	PN	Pb	15 15 13.0	-1.3
TUZ				AML	AML	15 15 42.8	
TUZ				AML	AML	15 15 47.7	
JCZ	**Jackson Bay**	**2.32**	**45**	AML	AML	15 15 54.7	
JCZ				AML	AML	15 15 55.2	
LBZ	**Lake Benmore**	**2.96**	**64**	PN	Pn	15 15 22.2	+1.5
LBZ				AML	AML	15 16 13.6	
LBZ				AML	AML	15 16 22.2	
ODZ	**Otahua Downs**	**3.02**	**78**	*e*PN	Pn	15 15 22.5	+1.0
FOZ	**Fox Glacier**	**3.16**	**48**	*e*PN	Pn	15 15 26.1	+2.7
FOZ				AML	AML	15 16 21.3	
RPZ	**Rata Peaks**	**3.84**	**60**	*e*PN	Pn	15 15 33.2	+0.4
RPZ				AML	AML	15 16 29.1	
RPZ				AML	AML	15 16 35.3	
WVZ	**Waitaha Valley**	**4.05**	**50**	*e*PN	Pn	15 15 37.4	+1.7
DSZ	**Denniston Nort**	**5.55**	**46**	*e*PN	Pn	15 15 57.5	+1.1
THZ	**Tophouse**	**6.12**	**52**	*e*PN	Pn	15 16 04.9	+0.7
QRZ	**Quartz Range**	**6.60**	**44**	*e*PN	Pn	15 16 12.0	+1.3

*ISCJB **20** 15:19:35.9±0.5, 52°.1N±0°.1×178°.01E±0°.07, h117km±4km, mb3.7/6, Error ellipse: s-maj=21.1km s-min=6.4km az=9.3*
*NEIC **20** 15:19:37.9, 51.83N×177.88E, h109km, MG3.0(AEIC), After AEIC.*
*IDC **20** 15:19:37.8±3.5, 52°.11N×177°.89E, h116km±27km, mb3.3/6, mb1 3.5/7, mb1mx3.1/29, mbtmp3.3/7, Error ellipse: s-maj=32.4km s-min=20.6km az=133.0*
ISC 20 15:19:36.4±0.8, 52°.0N±0°.1×177°.94E±0°.05, h112km±7km, n24, σ1=14/30, mb3.4/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.35**	**92**	P	**Pn**	**15 19 53.3**	**+0.6**
LSNW	**Little Sitkin**	**0.36**	**89**	P	**Pn**	**15 19 53.2**	**+0.5**
LSNW				S	**Sn**	**15 20 05.7**	**+0.8**
LSSE	**Little Sitkin**	**0.39**	**94**	P	**Pn**	**15 19 53.3**	**+0.5**
LSPA	**Little Sitkin**	**0.39**	**91**	P	**Pn**	**15 19 53.2**	**+0.4**
CETU	**Semis' Tuman**	**0.96**	**89**	P	**Pn**	**15 19 57.9**	**+0.6**
CESW	**Semis' Southwe**	**1.01**	**93**	P	**Pn**	**15 19 57.9**	**+0.1**
CEAP	**Semis' Anvil P**	**1.01**	**87**	P	**Pn**	**15 19 58.4**	**+0.5**
CEAP				S	**Sn**	**15 20 14.0**	**-0.1**
AMKA	**Amchitka**	**1.03**	**124**	P	**Pn**	**15 19 58.1**	**+0.1**
AMKA				S	**Sn**	**15 20 12.7**	**-1.7**
CERAA	**Semis' Rag'd T**	**1.08**	**92**	P	**Pn**	**15 19 58.8**	**+0.3**
CERAA				S	**Sn**	**15 20 15.9**	**+0.6**
GANE	**Gareloi Northe**	**2.04**	**93**	P	**Pn**	**15 20 09.9**	**0.0**
GANE				S	**Sn**	**15 20 35.0**	**-0.5**
SMY	**Shemya**	**2.48**	**290**	P	**Pn**	**15 20 16.1**	**+0.6**
TASE	**Tanaga Southea**	**2.50**	**91**	P	**Pn**	**15 20 15.8**	**0.0**
TAFP	**Tanaga Falls P**	**2.52**	**90**	P	**Pn**	**15 20 16.0**	**-0.2**
FX1	**Attu Island--F**	**3.07**	**289**	P	**Pn**	**15 20 23.6**	**+0.4**
4.4nm,0.3s,baz=159,slow=2.8,SNR=103							
FX1				S	**Sn**	**15 20 59.7**	**+0.3**
19nm,0.3s,baz=208,slow=22,SNR=22							
ADK	**Adak**	**3.33**	**89**	P	**Pn**	**15 20 26.1**	**-0.6**
GSCK	**Great Sitkin C**	**3.65**	**87**	P	**Pn**	**15 20 30.2**	**-0.7**
ATKA	**Atka Island**	**4.86**	**84**	P	**Pn**	**15 20 47.1**	**0.0**
PETK	**Petropavlovsk-**	**12.38**	**283**	P	Pn	15 22 32.5	+4.0
0.1nm,0.3s,baz=93,slow=19,SNR=8.1							
PETK				S	**Sn**	**15 24 40.0**	**-4.5**
0.1nm,0.3s,baz=146,slow=16,SNR=3.4							
YKA	**Yellowknife Ar**	**36.30**	**46**	P	**P**	**15 26 28.7**	**+0.1**
0.2nm,0.4s,baz=281,slow=8.1,SNR=3.7							
SPITS	**Spitsbergen Ar**	**49.63**	**355**	P	**P**	**15 28 16.3**	**+0.6**
6.6nm,1.1s,baz=52,slow=12,SNR=5.1							
ARCES	**ARCESS Array B**	**57.15**	**349**	P	**P**	**15 29 10.4**	**-0.2**
3.2nm,1.1s,baz=30,slow=9.3,SNR=2.6							
MKAR	**Makanchi Array**	**58.06**	**306**	P	**P**	**15 29 17.1**	**-0.4**
0.2nm,0.5s,baz=57,slow=5.6,SNR=3.3							
WRA	**Warramunga Arr**	**81.08**	**221**	P	**P**	**15 31 40.2**	**+1.4**
0.2nm,0.6s,baz=35,slow=6.1,SNR=3.7							
ASAR	**Alice Springs**	**84.59**	**220**	P	**P**	**15 31 58.9**	**+1.9**
0.3nm,0.6s,baz=25,slow=5.0,SNR=5.4							

*BYKL **20** 15:21:08.1±0.2, 52°.60N×106°.83E, h15km±3km*
MOS 20 15:21:06.9±0.5, 52°.53N×107°.06E, h12km, mb4.3/1, 11C-13D, Error ellipse: s-maj=33.2km s-min=15.9km az=51.9, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.06**	**63**	⇑*i*Pg	Pg	15 21 12.3	+2.9
ZRHB				*e*Sg	Sg	15 21 15.6	+4.4
ZRHB				*e*		15 21 17.7	
ZRHB				Pmax			
329nm,0.2s							
ZRHB				max			
6μm,0.6s							
TRG	**Tyrgan**	**0.49**	**299**	⇓*i*Pg	Pg	15 21 14.9	-1.8
TRG				*i*		15 21 15.4	
TRG				*e*Sg	Sg	15 21 20.1	-3.2
TRG				max			
208nm,0.1s							
TRG				Smax			
922nm,0.1s							
KAB	**Kabansk**	**0.54**	**208**	⇑*i*PG	Pb	15 21 18.9	+0.6
KAB				*e*		15 21 27.0	
KAB				pmax	pmax		
comp=Z,254nm,0.2s							
KAB				smax	smax		
comp=E,2μm,0.2s							
KAB	**Kabansk**	**0.54**	**208**	⇓*i*Pg	Pb	15 21 18.9	+0.6
KAB				*i* Sg	Sb	15 21 27.0	+0.9
KAB				Pmax			
comp=E,253nm,0.3s							
KAB				Smax			
comp=E,2μm,0.2s							
UUDB	**Ulan-Yde**	**0.76**	**150**	⇓*i*Pg	Pn	15 21 24.4	+0.9
comp=E,28nm,0.5s							
UUDB				⇑*i*Pg	Pn	15 21 24.4	+0.9
comp=E,11nm,0.5s							
UUDB				⇑*i*Pg	Pn	15 21 24.4	+0.9
comp=E,34nm,0.5s							
UUDB				*i* Sg	Sn	15 21 36.2	+1.3
UUDB				*e*Sb	Sb	15 21 39.2	+6.8
UUDB				*e*		15 21 41.7	
UUDB				Pmax			
comp=E,59nm,0.2s							
UUDB				max			
comp=E,639nm,0.6s							
OGRR	**Ongureny**	**1.17**	**16**	*e*

comp=Z,60nm,0.3s
ARS smax smax
comp=E,205nm,0.3s
ARS Arshan 2.92 260 *e* Pn 15 21 54.9 +1.7
ARS *e*Pg Pb 15 21 57.3 -1.6
ARS *e*PgPg PbPb 15 22 01.3 -0.8
ARS *i* Sg Sb 15 22 33.6 -1.0
ARS max
comp=E,60nm,0.3s
ARS Smax
comp=E,216nm,0.3s
YLYR Ulyunkhan 3.39 44⇑*i*Pn Pn 15 22 02.0 +2.4
YLYR *e* 15 22 06.0
YLYR *e*Pg Pb 15 22 09.1 +2.2
YLYR *i* Sg Sg 15 22 54.7 -1.1
YLYR Pmax
comp=E,15nm,0.8s
YLYR Smax
comp=E,30nm,0.8s
NIZ Nizh Angarsk 3.57 23⇓⇓*i*Pn Pn 15 22 04.3 +2.2
NIZ *e*Pg Pb 15 22 11.4 +1.5
NIZ *e*PgPg PbPb 15 22 13.4 +0.3
NIZ *e* 15 22 47.9
NIZ *i* Sg Sg 15 22 57.9 -3.6
NIZ max
comp=E,30nm,0.4s
NIZ Smax
comp=E,53nm,0.6s
MOY Mondy 3.84 259⇓⇓*i* Pn 15 22 09.0 +3.0
MOY ⇓⇓*i*Pg Pb 15 22 14.4 -0.3
MOY ⇓⇓*i*PgPg PbPb 15 22 16.4 -1.5
MOY *i* 15 22 54.2
MOY *i* Sg Sb 15 23 02.3 +1.0
MOY max
comp=E,66nm,1.0s
MOY Smax
comp=E,77nm,0.5s
CIT Chita 4.02 95 *e*Sg Sg 15 23 17.3 +1.2
CIT Smax
comp=E,80nm,0.2s
KPC Khapcheranga 4.38 128⇓⇓*i*Pn Pn 15 22 16.5 +3.2
KPC *e*Pg Pg 15 22 28.7 -2.2
KPC *e*Sg Sg 15 23 28.4 +0.6
KPC *e* 15 23 33.1
KPC Pmax
comp=E,10.0nm,0.7s
KPC max
comp=E,53nm,1.0s
ORL Orlik 4.43 273⇓⇓*i*Pn Pn 15 22 15.1 +1.1
ORL *e* 15 22 20.8
ORL *e* 15 22 30.0
ORL *e* 15 23 06.9
ORL *e*Sg Sb 15 23 20.7 +2.5
ORL max
comp=E,17nm,1.0s
ORL Smax
comp=E,23nm,0.8s
ULN Ulaanbaatar 4.67 180 *e*Pn Pn 15 22 21.7 +4.3
ULN *e*Pg Pg 15 22 33.3 -3.2
ULN *e* 15 23 28.4
ULN *e*Sg Sg 15 23 34.8 -2.3
SVKR Severomuysk 5.23 44 *e*Sg Sg 15 23 51.3 -3.7
SVKR *e* 15 23 55.0
SVKR max
comp=E,81nm,0.5s
BOD Bodaibo 6.63 34 *e*Sg Sg 15 24 33.8 -5.6
BOD *e* 15 24 40.3
BOD max
comp=E,17nm,1.7s
CRS Chara 7.83 52 *e*Sg Sg 15 25 12.5 -5.5
TUP Tupik 7.92 71 *e*PN Pn 15 23 04.3 +2.4
TUP *e* 15 23 31.4
TUP *e*S Sn 15 24 33.9 +2.4
TUP pmax pmax
comp=Z,1.0nm,0.5s
TUP smax smax
comp=N,21nm,0.9s
TUP Tupik 7.92 71⇓⇓*i*Pn Pn 15 23 04.6 +2.7
TUP *e* 15 23 12.8
TUP *e* 15 23 35.2
TUP *e*Sg Sg 15 25 16.2 -5.0
TUP *e* 15 25 20.3
TUP max
comp=N,21nm,1.0s

IDC 20 15:21:59.4±1.1, 53°.64S×140°.22E, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, MS3.6/4, Ms1 3.6/4, ms1mx3.1/26, Error ellipse: s-maj=142.6km s-min=18.1km az=84.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.77**	**3**	P	P	15 26 53.3	+0.7
	8.4nm,0.7s,baz=168,slow=8.9,SNR=16						
RPZ	**Rata Peaks**	**22.48**	**76**	LR	LR	15 33 52.9	
	comp=Z,146nm,20.0s,baz=68,slow=32						
VNDA	**Vanda**	**25.24**	**169**	P	P	15 27 26.3	-0.2
	1.8nm,0.7s,baz=326,slow=10,SNR=8.9						
URZ	**Urewera**	**29.50**	**74**	LR	LR	15 37 56.3	
	comp=Z,95nm,19.6s,baz=186,slow=32						
ASAR	**Alice Springs**	**30.31**	**348**	P	P	15 28 12.6	+0.1
	1.2nm,0.5s,baz=164,slow=10,SNR=37						
WRA	**Warramunga Arr**	**33.94**	**350**	P	P	15 28 43.6	-0.7
	2.5nm,0.8s,baz=174,slow=7.6,SNR=28						
QSPA	**South Pole Qui**	**36.47**	**180**	P	P	15 29 06.1	+0.2
	3.5nm,1.0s,baz=331,slow=7.8,SNR=5.6						
MAW	**Mawson**	**37.63**	**218**	LR	LR	15 43 04.1	
	comp=Z,92nm,19.6s,baz=263,slow=34						
RPN	**Rapa Nui**	**79.69**	**122**	LR	LR	15 59 18.2	
	comp=Z,830nm,20.4s,slow=28						
CMAR	**Chiang Mai Arr**	**80.10**	**321**	LR	LR	16 09 41.7	
	comp=Z,30nm,18.9s,baz=200,slow=36						

IDC 20 15:54:44.4±1.7, 1°.67S×99°.28E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.7/26, mbtmp3.7/10, ML3.0/1, Error ellipse: s-maj=76.0km s-min=17.6km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**355**	Pn	Pn	15 55 51.8	-1.6
	0.9nm,0.3s,baz=169,slow=14,SNR=3.9						
CMAR	**Chiang Mai Arr**	**20.00**	**359**	P	P	15 59 18.6	-0.1
	0.8nm,0.6s,baz=189,slow=9.4,SNR=8.4						
WRA	**Warramunga Arr**	**38.78**	**120**	P	P	16 02 10.7	-0.4
	0.9nm,0.8s,baz=302,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**40.03**	**126**	P	P	16 02 21.9	+0.3
	0.4nm,0.5s,baz=302,slow=7.3,SNR=13						
SONM	**Songino Array**	**49.69**	**6**	P	P	16 03 38.3	0.0
	0.5nm,0.7s,baz=190,slow=7.4,SNR=4.5						
SONM				PcP	PcP	16 04 58.3	-1.3
	0.5nm,0.8s,baz=194,slow=5.3,SNR=3.0						
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	16 03 45.0	+0.5
	1.6nm,0.6s,baz=151,slow=8.3,SNR=19						
KURBB	**Kurchatov Arra**	**55.03**	**344**	P	P	16 04 17.9	+0.1
	0.3nm,0.3s,baz=162,slow=7.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**56.71**	**350**	P	P	16 04 29.9	+0.1
	1.4nm,0.5s,baz=178,slow=5.2,SNR=9.0						
BVAR	**Borovoye Array**	**59.63**	**340**	P	P	16 04 49.4	-0.8
	0.4nm,0.5s,baz=128,slow=9.6,SNR=3.8						
FINES	**FINESS Array B**	**83.49**	**332**	P	P	16 07 14.0	+0.1
	2.8nm,1.1s,baz=112,slow=5.1,SNR=3.5						
TXAR	**Lajitas Array**	**144.87**	**36**	PKP	PKPdf	16 14 24.1	-0.3
	1.0nm,0.5s,baz=230,slow=0.9,SNR=17						

*ISCJB **20** 16:03:40.3±2.4, 36°.0N±0°.2×71°.5E±0°.3, h119km, mb3.6/3, Error ellipse: s-maj=42.4km s-min=25.6km az=34.6*
*IDC **20** 16:03:51.6±9.7, 36°.37N×71°.35E, h193km±104km, mb3.2/3, mb1 3.1/6, mb1mx2.8/28, mbtmp3.0/6, Error ellipse: s-maj=60.8km s-min=49.6km az=113.0*
ISC 20 16:03:42.9±2.5, 36°.1N±0°.3×71°.4E±0°.2, h119km, n7, σ0°69/7, mb3.7/3, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.06**	**355**	Pn	**Pn**	**16 05 24.2**	**+0.7**
	1.6nm,0.3s,baz=178,slow=12,SNR=23						
KK31				⇑Sn	Sn	16 06 31.9	-10
	11nm,0.9s,baz=180,slow=22,SNR=19						
MKAR	**Makanchi Array**	**13.45**	**34**	P	**P**	**16 06 54.1**	**+0.1**
	0.1nm,0.3s,baz=204,slow=10,SNR=4.4						

AKTO	**Aktyubinsk**	**17.32**	**330**	P	**P**	**16 07 36.5**	**-0.2**
	0.3nm,0.3s,baz=124,slow=7.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**20.17**	**23**	P	**P**	**16 08 07.2**	**-0.6**
	0.3nm,0.3s,baz=223,slow=14,SNR=4.2						
FINES	**FINESS Array B**	**38.02**	**326**	P	**P**	**16 10 48.5**	**-0.6**
	0.5nm,0.4s,baz=119,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**41.67**	**338**	P	**P**	**16 11 18.5**	**-0.7**
	2.2nm,0.9s,baz=101,slow=6.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**66.04**	**269**	P	**P**	**16 14 17.7**	**+0.5**
	0.3nm,0.5s,baz=46,slow=4.2,SNR=3.0						

WEL 20 16:04:51.4±0.4, 44°.60S×175°.58E, h33km, ML3.6/26, 3C-2D, Error ellipse: s-maj=3.6km s-min=2.8km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**2.29**	**292**	PN	Pn	16 05 24.9	-1.8
MQZ				SN	Sn	16 05 50.4	-3.4
CRLZ	**Canterbury Las**	**2.36**	**294**	PN	Pn	16 05 26.1	-1.6
CRLZ				SN	Sn	16 05 53.3	-2.3
KHZ	**Kahutara**	**2.63**	**325**	*e*SN	Sn	16 06 00.1	-2.2
LTZ	**Lake Taylor**	**3.01**	**306**	PN	Pn	16 05 35.7	-1.1
LTZ				SN	Sn	16 06 09.0	-2.7
PLWZ	**Palliser**	**3.03**	**355**	PN	Pn	16 05 36.2	-0.9
TUWZ	**Tuamarina**	**3.38**	**339**	PN	Pn	16 05 41.2	-0.6
MTW	**Mount Morrison**	**3.43**	**359**	PN	Pn	16 05 41.2	-1.4
THZ	**Tophouse**	**3.44**	**324**	PN	Pn	16 05 42.7	0.0
TMWZ	**Te Maipa**	**3.49**	**4**	PN	Pn	16 05 42.3	-1.1
CAW	**Cannon Point**	**3.50**	**354**	PN	Pn	16 05 42.9	-0.6
TCW	**Tory Channel**	**3.51**	**344**	PN	Pn	16 05 43.0	-0.6
ODZ	**Otahua Downs**	**3.54**	**261**	PN	Pn	16 05 43.2	-0.9
NNZ	**Nelson**	**3.74**	**334**	PN	Pn	16 05 46.3	-0.5
KIW	**Kapiti Island**	**3.76**	**352**	PN	Pn	16 05 46.8	-0.3
OGWZ	**Otaki Gorge**	**3.79**	**355**	PN	Pn	16 05 46.8	-0.6
TIWZ	**Tintock**	**3.82**	**3**	PN	Pn	16 05 46.7	-1.2
LBZ	**Lake Benmore**	**3.87**	**271**	⇓PN	Pn	16 05 48.1	-0.4
MRZ	**Mangatainoka R**	**3.93**	**360**	PN	Pn	16 05 48.3	-1.1
BFZ	**Birch Farm**	**3.94**	**7**	PN	Pn	16 05 48.3	-1.2
DSZ	**Denniston Nort**	**3.97**	**315**	PN	Pn	16 05 49.9	0.0
DUWZ	**D'Urville Isla**	**3.98**	**342**	PN	Pn	16 05 50.1	0.0
POWZ	**Post Office Ro**	**4.20**	**2**	PN	Pn	16 05 52.5	-0.6
FOZ	**Fox Glacier**	**4.37**	**282**	PN	Pn	16 05 55.3	-0.1
QRZ	**Quartz Range**	**4.38**	**328**	⇑PN	Pn	16 05 56.0	+0.4
TUZ	**Tuapeka**	**4.41**	**250**	PN	Pn	16 05 55.3	-0.7
EAZ	**Earnscleugh**	**4.50**	**260**	PN	Pn	16 05 57.4	+0.2
TSZ	**Takapari Road**	**4.54**	**4**	PN	Pn	16 05 56.6	-1.2
PXZ	**Pawanui**	**4.66**	**12**	⇑PN	Pn	16 05 57.8	-1.5
WKZ	**Wanaka**	**4.68**	**265**	PN	Pn	16 06 00.3	+0.5
PNHZ	**Pukenui**	**4.70**	**6**	PN	Pn	16 05 59.0	-1.0
WAZ	**Wanganui**	**4.86**	**355**	⇓PN	Pn	16 06 03.0	+0.9
KAHZ	**Kahuranaki**	**4.89**	**12**	PN	Pn	16 06 01.2	-1.5
JCZ	**Jackson Bay**	**4.92**	**274**	PN	Pn	16 06 03.0	-0.2
SYZ	**Scrubby Hill**	**4.92**	**244**	PN	Pn	16 06 02.3	-0.7
BHHZ	**Black Hill Sta**	**5.12**	**4**	PN	Pn	16 06 05.0	-0.8
MCHZ	**McNeill Hill**	**5.21**	**10**	PN	Pn	16 06 06.2	-0.8
MLZ	**Mavora Lakes**	**5.31**	**259**	PN	Pn	16 06 09.1	+0.7
MSZ	**Milford Sound**	**5.46**	**266**	PN	Pn	16 06 10.5	+0.1
BKZ	**Black Stump Fm**	**5.47**	**7**	PN	Pn	16 06 09.1	-1.5
WHZ	**Wether Hill Ro**	**5.54**	**254**	PN	Pn	16 06 10.6	-1.0
CTZ	**Chatham Island**	**5.68**	**84**	PN	Pn	16 06 09.9	-3.4
CTZ				SN	Sn	16 07 07.3	-10
APZ	**The Paps**	**5.77**	**244**	PN	Pn	16 06 14.2	-0.4
DCZ	**Deep Cove**	**6.04**	**259**	PN	Pn	16 06 18.8	+0.5
MWZ	**Matawai**	**6.42**	**14**	⇑PN	Pn	16 06 21.4	-2.2

IDC 20 16:16:31.1±7.3, 1°.01S×99°.94E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=377.7km s-min=27.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.55**	**121**	P	P	16 23 56.0	+0.1
	0.5nm,0.7s,baz=298,slow=8.6,SNR=9.1						
ASAR	**Alice Springs**	**39.88**	**127**	P	P	16 24 06.5	-0.4
	0.2nm,0.6s,baz=302,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**50.07**	**344**	P	P	16 25 27.6	-0.1
	0.2nm,0.6s,baz=145,slow=9.0,SNR=2.9						

*ISK **20** 16:30:24.7, 37°.26N×28°.21E, h2km, MD2.3*
*ISCJB **20** 16:30:25.4±0.6, 37°.22N±0°.05×28°.20E±0°.05, h15km±4km, Error ellipse: s-maj=9.3km s-min=4.6km az=31.0*
*DDA **20** 16:30:25.2, 37°.22N×28°.18E, h7km, MD2.6*
*CSEM **20** 16:30:25.5±0.2, 37°.23N×28°.21E, h10km, MD2.3, Error ellipse: s-maj=4.4km s-min=2.7km az=27.0*
ISC 20 16:30:25.6±1.0, 37°.21N±0°.04×28°.21E±0°.03, h11km±7km, n16, σ0°40/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.10**	**142**	*e*PG	**Pg**	**16 30 28.1**	**-0.3**
YER				*e*SG	**Sg**	**16 30 30.6**	**+0.2**
YER	**Yerkesik**	**0.10**	**142**	*e*Pg	**Pg**	**16 30 28.1**	**-0.3**
YER				*e*Sg	**Sg**	**16 30 30.6**	**+0.2**
MLSB	**Milas**	**0.35**	**283**	*e*PG	**Pg**	**16 30 32.3**	**-0.4**
MLSB				*e*SG	**Sg**	**16 30 38.2**	**+0.8**
MLSB	**Milas**	**0.35**	**283**	*e*Pg	**Pg**	**16 30 32.3**	**-0.4**
MLSB				*e*Sg	**Sg**	**16 30 38.2**	**+0.8**
TURN	**Turunc**	**0.47**	**137**	*i* P	**Pg**	**16 30 34.3**	**-0.4**
TURN				*i* S	**Sg**	**16 30 40.9**	**0.0**
TURN	**Turunc**	**0.47**	**137**	*i* P	**Pg**	**16 30 34.3**	**-0.4**
TURN				*i* S	**Sg**	**16 30 40.9**	**0.0**
AYDN	**Tasoluk**	**0.52**	**330**	*i* P	**Pg**	**16 30 35.4**	**-0.3**
AYDN				*i* S	**Sg**	**16 30 42.5**	**-0.1**
AYDN	**Tasoluk**	**0.52**	**330**	*i* P	**Pg**	**16 30 35.4**	**-0.3**
AYDN				*i* S	**Sg**	**16 30 42.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.53**	**138**	*e*PG	**Pb**	**16 30 37.0**	**0.0**
DALY				*e*SG	**Sb**	**16 30 45.5**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.53**	**138**	*e*Pg	**Pb**	**16 30 37.0**	**0.0**
BDRM	**Kayabasi**	**0.63**	**257**	*i* P	**Pg**	**16 30 37.3**	**-0.5**
BDRM				*i* S	**Sg**	**16 30 46.1**	**0.0**
BDRM	**Kayabasi**	**0.63**	**257**	*i* P	**Pg**	**16 30 37.3**	**-0.5**
BDRM				*i* S	**Sg**	**16 30 46.1**	**0.0**
BODT	**Bodrum**	**0.73**	**258**	*e*PG	**Pb**	**16 30 40.2**	**-0.1**
BODT	**Bodrum**	**0.73**	**258**	*e*Pg	**Pb**	**16 30 40.3**	**-0.1**
DNZL	**Cakiroluk**	**0.82**	**54**	*i* P	**Pg**	**16 30 41.2**	**-0.3**
DNZL	**Cakiroluk**	**0.82**	**54**	*i* P	**Pg**	**16 30 41.2**	**-0.3**

IDC 20 16:35:04.8±2.6, 15°.91S×69°.30W, h227km±33km, mb3.2/1, mb1 3.6/1, mb1mx2.9/20, mbtmp3.2/1, Error ellipse: s-maj=101.1km s-min=86.6km az=69.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.18**	**109**	P	Pn	16 35 39.1	-0.3
	11nm,0.3s,baz=283,slow=6.1,SNR=221						
LPAZ				S	S	16 36 06.5	+0.2
	6.7nm,0.3s,baz=34,slow=24,SNR=21						
YKA	**Yellowknife Ar**	**85.81**	**341**	P	P	16 47 18.1	-0.1
	0.4nm,0.5s,baz=134,slow=4.9,SNR=5.5						
WRA	**Warramunga Arr**	**137.47**	**214**	PKP	PKPdf	16 54 02.9	+0.5
	0.4nm,0.9s,baz=150,slow=1.7,SNR=3.0						

WEL 20 16:38:50.9±0.4, 35°.24S×178°.92E, h247km±13km, ML3.5/6, Error ellipse: s-maj=10.8km s-min=10.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.88**	**191**	PN	Pn	16 39 42.0	+0.2
PUZ				SN	S	16 40 20.8	-1.3
MWZ	**Matawai**	**3.28**	**200**	PN	Pn	16 39 47.2	+0.9
MWZ				SN	S	16 40 30.4	+0.1
URZ	**Urewera**	**3.34**	**205**	PN	Pn	16 39 47.2	+0.3
URZ				SN	S	16 40 30.5	-0.8
KNZ	**Kokohu**	**3.90**	**194**	*e*PN	Pn	16 39 53.4	+0.1
KNZ				*e*SN	S	16 40 42.6	-0.2
BKZ	**Black Stump Fm**	**4.37**	**206**	*e*PN	Pn	16 39 59.0	0.0
BKZ				SN	S	16 40 53.0	-0.1
KAHZ	**Kahuranaki**	**4.83**	**199**	*e*PN	Pn	16 40 05.0	+0.5
PXZ	**Pawanui**	**5.05**	**198**	PN	Pn	16 40 06.5	-0.7
PXZ				SN	S	16 41 07.2	-0.7
BFZ	**Birch Farm**	**5.83**	**200**	*e*PN	Pn	16 40 16.2	-0.5
BFZ				SN	S	16 41 22.3	-3.0
MRZ	**Mangatainoka R**	**6.02**	**205**	PN	Pn	16 40 17.9	-1.2
MRZ				SN	S	16 41 26.5	-3.2

GUC 20 16:45:45.8±0.7, 31°.31S×71°.60W, h16km±3km, MD4.0, ML3.7, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.53**	**75**	⇑*i*P	Pg	16 45 56.5	0.0
CMCH				*i* S	Sg	16 46 03.8	+0.2
CMCH				AML	AML	16 46 04.3	
	comp=N,24μm,0.6s						
PACH	**Papudo**	**1.23**	**174**	⇓⇓*i*P	Pn	16 46 07.6	-0.9
PACH				*i* S	Sb	16 46 23.1	-1.3
TLL	**Tololo Astrono**	**1.33**	**31**	⇓⇓*i*P	Pn	16 46 10.3	+0.3
TLL				*i* S	Sb	16 46 28.1	+0.3
TLL				AML	AML	16 46 31.6	
	comp=N,806nm,0.8s						
JACH	**Jahuel**	**1.61**	**148**	*e*P	Pn	16 46 13.5	-0.2
JACH				*i* S	Sn	16 46 34.0	-0.3
IHA	**Instituto Hidr**	**1.71**	**181**	⇑*i*P	Pn	16 46 14.9	-0.1
IHA				*i* S	Sn	16 46 36.4	-0.1
ROCH	**El Roble**	**1.73**	**163**	⇑*i*P	Pn	16 46 15.5	0.0
ROCH				*i* S	Sn	16 46 38.2	+0.8
PEL	**Peldehue**	**1.98**	**157**	⇑*i*P	Pn	16 46 19.3	+0.5
PEL				*i* S	Sb	16 46 44.9	-1.3
PEL				AML	AML	16 46 52.4	
	comp=N,1μm,0.4s						
LCCH	**Las Cruces**	**2.16**	**179**	⇑*i*P	Pn	16 46 21.3	+0.2
CLCH	**Cerro Calan**	**2.27**	**157**	*e*P	Pn	16 46 23.7	+1.0
CLCH				*i* S	Sn	16 46 52.2	+1.9
CLCH				AML	AML	16 46 59.0	
	comp=N,925nm,0.5s						
RCDM	**Rinconada Maip**	**2.27**	**163**	*e*P	Pn	16 46 23.9	+1.2
RCDM				*i* S	Sn	16 46 52.4	+2.0
RCDM				AML	AML	16 46 58.5	
	comp=E,479nm,0.2s						
FCH	**Farellones**	**2.29**	**152**	*e*P	Pn	16 46 23.8	+0.3
FCH				*i* S	Sn	16 46 53.1	+1.4
FCH				AML	AML	16 46 59.0	
	comp=E,339nm,0.5s						
ANTU	**Antumapu**	**2.40**	**160**	*i* S	Sn	16 46 55.7	+2.2
ANTU				AML	AML	16 47 02.0	
	comp=N,415nm,0.7s						
TACH	**Talagante**	**2.40**	**167**	⇑*i*P	Pn	16 46 25.5	+1.0
LCO	**Las Campanas**	**2.42**	**19**	⇑*i*P	Pn	16 46 26.0	+0.9
LCO				AML	AML	16 46 57.9	
	comp=E,281nm,0.7s						
PCH	**Pirque**	**2.48**	**159**	*e*P	Pn	16 46 26.5	+0.9
PCH				*i* S	Sn	16 46 57.5	+1.8
LMEL	**Las Melosas**	**2.79**	**155**	*e*P	Pn	16 46 31.6	+1.6
LMEL				*i* S	Sn	16 47 06.3	+2.8
LMEL				AML	AML	16 47 16.5	
	comp=N,384nm,0.2s						
CACH	**El Canelo**	**2.92**	**164**	⇓⇓*i*P	Pn	16 46 33.5	+1.7
CACH				*i* S	Sn	16 47 09.6	+2.9

*NIED **20** 16:48:00, 40°.80N×143°.00E, h26km, Mw3.8 Best double couple: M0=4.89000×10^14 NP1:φ=25.00000°, δ=79.00000°, λ=107.00000°. NP2:φ=147.00000°, δ=20.00000°, λ=34.00000°.*
*JMA **20** 16:48:58.0±0.3, 40°.83N×143°.04E, h9km±5km, M3.9*
*ISCJB **20** 16:48:59.6±0.8, 40°.81N±0°.04×143°.15E±0°.08, h48km±7km, mb3.7/9, MS3.0/1, Error ellipse: s-maj=10.8km s-min=4.6km az=23.4*
*IDC **20** 16:49:02.8±2.5, 40°.84N×143°.01E, h57km±22km, mb3.4/9, mb1 3.5/11, mb1mx3.4/27, mbtmp3.4/11, ML3.2/2, MS2.9/3, Ms1 2.9/3, ms1mx2.5/29, Error ellipse: s-maj=26.7km s-min=15.0km az=93.0*
ISC 20 16:49:00.7±0.9, 40°.82N±0°.05×143°.11E±0°.08, h39km±5km, n27, σ1°21/34, mb3.5/9, 3C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.19**	**2**	P	**Pn**	**16 49 20.0**	**-0.8**
JEM				*e*S	**Sn**	**16 49 35.5**	**-0.3**
JANG	**Nango**	**1.29**	**250**	⇓P	**Pn**	**16 49 21.2**	**-1.0**
JANG				*e*S	**Sn**	**16 49 37.5**	**-0.8**
JTH	**Tanohata**	**1.30**	**228**	⇑P	**Pn**	**16 49 21.4**	**-0.9**
JTH				*e*S	**Sn**	**16 49 38.4**	**0.0**
JNBK	**Urakawa-nobuka**	**1.48**	**350**	P	**Pn**	**16 49 25.1**	**+0.3**
JTM	**Tenmabayashi**	**1.55**	**269**	P	**Pn**	**16 49 25.1**	**-0.6**
JTM				*e*S	**Sn**	**16 49 44.0**	**-0.6**
JOT	**Ohata**	**1.65**	**290**	⇓P	**Pn**	**16 49 26.3**	**-0.9**
JCH	**Churui**	**1.80**	**6**	P	**Pn**	**16 49 28.2**	**-1.0**
JCH				*e*S	**Sn**	**16 49 49.1**	**-1.7**
JKB	**Kayabe**	**1.89**	**305**	*e*S	**Sn**	**16 49 53.1**	**+0.1**
JOM	**Ohasama**	**1.94**	**227**	P	**Pn**	**16 49 31.4**	**+0.3**
JAH	**Hinai**	**1.99**	**252**	⇑P	**Pn**	**16 49 32.5**	**+0.8**
JAH				*e*S	**Sn**	**16 49 57.8**	**+2.4**
JBT2	**Biratori 2**	**2.03**	**344**	P	**Pn**	**16 49 32.8**	**+0.4**
JBT2				*e*S	**Sn**	**16 49 58.7**	**+2.2**
JMK	**Ichinoseki**	**2.37**	**218**	⇑P	**Pn**	**16 49 37.8**	**+0.9**
JEW	**Eniwo**	**2.37**	**329**	P	**Pn**	**16 49 38.0**	**+1.0**
ASAJ	**Asahikawa**	**3.31**	**354**	P	**Pn**	**16 49 50.4**	**+0.4**
	1.6nm,0.3s,baz=106,slow=29,SNR=22						
ASAJ				S	**Sn**	**16 50 30.6**	**+2.5**
	3.0nm,0.3s,baz=231,slow=28,SNR=3.7						
MAT	**Matsushiro**	**5.74**	**223**	P	**Pn**	**16 50 25.1**	**+1.8**
MAT				S	**Sn**	**16 51 25.6**	**-2.3**
MJAR	**Matsushiro Arr**	**5.74**	**223**	P	**Pn**	**16 50 25.4**	**+2.1**
	0.8nm,0.3s,baz=28,slow=14,SNR=11						
USRK	**Ussuriysk Arra**	**8.87**	**296**	P	Pn	16 51 10.5	+4.3
	0.4nm,0.3s,baz=104,slow=12,SNR=6.4						
USRK				LR	LR	16 54 28.8	
	comp=Z,87nm,21.1s,baz=41,slow=37						
PETK	**Petropavlovsk-**	**15.78**	**34**	LR	LR	16 58 46.6	
	comp=Z,22nm,18.6s,baz=11,slow=37						
SONM	**Songino Array**	**26.99**	**297**	P	**P**	**16 54 39.3**	**+0.5**
	0.5nm,0.7s,baz=95,slow=12,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.44**	**309**	P	**P**	**16 56 34.1**	**-0.9**
	0.8nm,0.4s,baz=92,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**43.33**	**299**	P	**P**	**16 56 58.3**	**-0.4**
	0.7nm,0.7s,baz=79,slow=12,SNR=8.1						
MKAR				LR	LR	17 16 11.1	
	comp=Z,22nm,21.3s,baz=155,slow=38						
KURBB	**Kurchatov Arra**	**44.80**	**305**	P	**P**	**16 57 09.6**	**-0.8**
	1.3nm,0.2s,baz=80,slow=8.6,SNR=6.0						
ILAR	**Eielson Array**	**45.61**	**34**	P	**P**	**16 57 17.2**	**+0.6**
	0.4nm,0.7s,baz=278,slow=5.9,SNR=3.4						
BVAR	**Borovoye Array**	**49.07**	**310**	P	**P**	**16 57 43.5**	**-0.2**
	0.7nm,0.5s,baz=78,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**61.00**	**189**	P	**P**	**16 59 10.0**	**-0.1**
	0.2nm,0.5s,baz=7.0,slow=6.9,SNR=5.9						
ASAR	**Alice

*IDC **20** 17:06:06.5±1.9, 1°.53S×99°.40E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/25, mbtmp3.7/9, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/30, Error ellipse: s-maj=80.7km s-min=17.9km az=57.0*

ISC 20 17:06:10.3±1.0, 1°.7S±0°.1×99°.3E±0°.1, h30km, n13, σ0=84/12, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.59**	**42**	P	**Sn**	**17 06 55.1**	**-0.9**
	baz=4.8,SNR=4.5						
BKNI	**Bangkinang**	**2.60**	**41**	P	**Pb**	**17 06 57.4**	**+1.1**
	baz=5.1,SNR=7.4						
PSI	**Prapat**	**4.44**	**355**	Pn	Pn	17 07 11.2	-4.6
	1.0nm,0.3s,baz=142,slow=17,SNR=2.3						
PSI				LR	LR	17 08 22.1	
	comp=Z,102nm,19.9s,baz=141,slow=32						
UGM	**Wanagama**	**12.76**	**120**	P	**P**	**17 09 19.7**	**-0.9**
	baz=17,SNR=5.0						
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	**P**	**17 10 39.7**	**-0.8**
	0.2nm,0.3s,baz=185,slow=10.0,SNR=3.3						
WRA	**Warramunga Arr**	**38.74**	**120**	P	**P**	**17 13 32.0**	**-0.3**
	0.7nm,0.7s,baz=303,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**17 13 44.2**	**+1.5**
	0.3nm,0.5s,baz=296,slow=7.2,SNR=13						
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**17 14 59.5**	**0.0**
	0.2nm,0.4s,baz=183,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**17 15 05.9**	**0.0**
	1.1nm,0.6s,baz=154,slow=8.5,SNR=14						
KURBB	**Kurchatov Arra**	**55.03**	**344**	P	**P**	**17 15 39.0**	**-0.1**
	0.3nm,0.3s,baz=160,slow=7.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.71**	**350**	P	**P**	**17 15 50.6**	**-0.4**
	0.7nm,0.3s,baz=175,slow=5.4,SNR=5.4						
FINES	**FINESS Array B**	**83.50**	**332**	P	**P**	**17 18 35.4**	**+0.3**
	1.2nm,0.8s,baz=103,slow=8.4,SNR=4.9						
TXAR	**Lajitas Array**	**144.82**	**36**	PKP	**PKPdf**	**17 25 45.1**	**-0.2**
	0.6nm,0.6s,baz=248,slow=0.9,SNR=9.7						

DJA 20 17:08:36.3±1.3, 7°.S±11°.×10°.8E±°., h10km, M3.1/5, MLv3.1/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.64**	**276**	P	Pg	17 08 48.3	-0.7
LEM	**Lembang**	**0.64**	**276**	P	Pg	17 08 48.1	-0.8
	baz=14,SNR=24						
CISI	**Cisompet, Garu**	**0.79**	**214**	P	Pg	17 08 51.0	-0.6
CISI	**Cisompet, Garu**	**0.79**	**214**	P	Pg	17 08 51.1	-0.5
	baz=15,SNR=23						
CMJI	**Cimerak**	**0.90**	**168**	P	Pg	17 08 45.5	-8.1
CLJI	**Cilicap**	**1.11**	**137**	P	Pb	17 08 55.8	-1.7
CBJI	**Citeko**	**1.48**	**289**	P	Pn	17 08 59.8	-3.2
DBJI	**Dramaga**	**1.54**	**283**	P	Pn	17 09 03.2	-0.7
SKJI	**Sukabumi**	**1.69**	**266**	P	Pn	17 09 04.8	-1.2

*ISCJB **20** 17:09:40.9±0.8, 72°.21N±0°.05×2°.1E±0°.2, h10km, mb3.6/2, MS2.9/2, Error ellipse: s-maj=9.7km s-min=6.9km az=178.1*

*NAO **20** 17:09:41.1±3.5, 72°.12N×1°.43E, ML3.0*

*CSEM **20** 17:09:42.8±0.6, 72°.12N×1°.75E, h10km, ML2.1, Error ellipse: s-maj=16.9km s-min=8.1km az=73.0*

*IDC **20** 17:09:43.1±2.7, 71°.97N×1°.82E, h0km, mb3.8/2, mb1 3.8/8, mb1mx3.5/33, mbtmp3.7/8, ML3.4/6, MS2.9/5, Ms1 2.9/5, ms1mx2.6/46, Error ellipse: s-maj=42.1km s-min=22.6km az=105.0*

*BER **20** 17:09:43.3±2.3, 72°.09N×0°.83E, h10km, ML2.1, ML3.0(NAO)*

ISC 20 17:09:42.7±1.2, 72°.18N±0°.06×1°.8E±0°.1, h10km, n31, σ1=05/38, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**6.17**	**106**	*eP*	**Pn**	**17 11 14.5**	**+0.9**
TRO				AML	AML	17 12 27.5	
	comp=Z,3.4nm,0.6s						
TRO	**Tromso**	**6.17**	**106**	*eP*	**Pn**	**17 11 14.5**	**+0.9**
	SNR=47						
SPA0	**Spitsbergen Ar**	**7.06**	**25**	Pn	**Pn**	**17 11 27.5**	**+1.6**
	baz=212,slow=14						
SPA0	**Spitsbergen Ar**	**7.06**	**25**	Pn	**Pn**	**17 11 27.5**	**+1.6**
	baz=212,slow=14						
SPA0	**Spitsbergen Ar**	**7.06**	**25**	Pn	**Pn**	**17 11 27.5**	**+1.6**
	baz=212,slow=13,SNR=50						
SPITS	**Spitsbergen Ar**	**7.06**	**25**	Pn	**Pn**	**17 11 27.9**	**+2.1**
	baz=210,slow=14,SNR=22						
KBS	**Kingsbay**	**7.22**	**16**	Pn	**Pn**	**17 11 27.1**	**-1.0**
KBS				Sn	**Sn**	**17 12 49.2**	**-0.8**
KBS	**Kingsbay**	**7.22**	**16**	*e*Pn	**Pn**	**17 11 28.7**	**+0.7**
KBS				Sn	**Sn**	**17 12 49.2**	**-0.8**
KBS	**Kingsbay**	**7.22**	**16**	*e*Pn	**Pn**	**17 11 28.7**	**+0.7**
	SNR=50						
MOR8	**Moi Rana**	**7.52**	**137**	*e*P	**Pn**	**17 11 32.8**	**+0.7**
MOR8	**Moi Rana**	**7.52**	**137**	*e*P	**Pn**	**17 11 32.8**	**+0.7**
	SNR=47						
KTK1	**Kautokeino**	**7.79**	**104**	*e*P	**Pn**	**17 11 37.7**	**+1.8**
KTK1				*e*S	**Sn**	**17 13 03.5**	**-0.6**
KTK1	**Kautokeino**	**7.79**	**104**	*e*P	**Pn**	**17 11 37.7**	**+1.8**
	SNR=47						
KTK1				*e*S	**Sn**	**17 13 03.5**	**-0.6**
	SNR=47						
ARA0	**ARCESS Array S**	**8.20**	**97**	Pn	**Pn**	**17 11 42.0**	**+0.5**
	baz=300,slow=10						
ARA0				Sn	**Sn**	**17 13 13.9**	**-0.2**
	baz=303,slow=22						
ARA0	**ARCESS Array S**	**8.20**	**97**	P	**Pn**	**17 11 42.0**	**+0.5**
	baz=300,slow=10						
ARA0				Sn	**Sn**	**17 13 13.9**	**-0.2**
	baz=303,slow=22						
ARA0	**ARCESS Array S**	**8.20**	**97**	P	**Pn**	**17 11 42.0**	**+0.5**
	baz=300,slow=10,SNR=47						
ARA0				Sn	**Sn**	**17 13 13.9**	**-0.2**
	baz=303,slow=19,SNR=50						
ARCES	**ARCESS Array B**	**8.20**	**97**	Pn	**Pn**	**17 11 42.4**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=297,slow=12,SNR=15						
ARCES				LR	LR	17 14 36.2	
	comp=Z,42nm,21.8s,baz=296,slow=36						
NOA	**NORSAR Array B**	**11.78**	**157**	Pn	**Pn**	**17 12 30.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=14,SNR=2.6						
NOA				LR	LR	17 16 40.2	
	comp=Z,42nm,18.5s,baz=350,slow=36						
HFS	**Hagfors**	**12.98**	**153**	Pn	**Pn**	**17 12 46.6**	**-0.2**
	baz=344,slow=16						
HFS	**Hagfors**	**12.98**	**153**	Pn	**Pn**	**17 12 46.6**	**-0.2**
	baz=344,slow=16						
HFS	**Hagfors**	**12.98**	**153**	Pn	**Pn**	**17 12 46.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=353,slow=11,SNR=5.6						
HFS				LR	LR	17 17 19.2	
	comp=Z,57nm,19.5s,baz=317,slow=36						
HFS	**Hagfors**	**12.98**	**153**	Pn	**Pn**	**17 12 46.6**	**-0.2**
	baz=344,slow=14,SNR=50						
KAF	**Kangasniemi**	**13.74**	**125**	*ep*	**Pn**	**17 12 54.9**	**-2.2**
KAF	**Kangasniemi**	**13.74**	**125**	*e*P	**Pn**	**17 12 54.9**	**-2.2**
FIA0	**FINESS Array S**	**14.25**	**127**	Pn	**Pn**	**17 13 04.2**	**+0.1**
	baz=316,slow=16						
FIA0	**FINESS Array S**	**14.25**	**127**	Pn	**Pn**	**17 13 04.2**	**+0.1**
	baz=316,slow=16						
FIA0	**FINESS Array S**	**14.25**	**127**	Pn	**Pn**	**17 13 04.2**	**+0.1**
	baz=316,slow=14,SNR=50						
FINES	**FINESS Array B**	**14.25**	**127**	Pn	**Pn**	**17 13 03.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=320,slow=13,SNR=4.8						
EKA	**Eskdalemuir Ar**	**17.05**	**190**	Pn	**Pn**	**17 13 39.6**	**-1.1**
	baz=17,slow=12,SNR=3.2						
VRAC	**Vranov**	**23.92**	**156**	P	**P**	**17 14 56.2**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=11,slow=5.2,SNR=3.7						
VRAC				LR	LR	17 24 36.2	
	comp=Z,45nm,18.8s,baz=85,slow=38						
GERES	**GERESS Array B**	**24.04**	**160**	P	**P**	**17 14 58.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=354,slow=11,SNR=10.0						
GERES				LR	LR	17 23 44.1	
	comp=Z,32nm,21.3s,baz=197,slow=35						

*IDC **20** 17:11:35.9±1.6, 1°.66S×99°.16E, h0km, mb3.7/7, mb1 3.7/9, mb1mx3.6/26, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=71.4km s-min=18.3km az=59.0*

*ISCJB **20** 17:11:38.4±0.9, 1°.58S±0°.09×99°.23E±0°.07, h30km, mb3.7/7, Error ellipse: s-maj=13.7km s-min=9.5km az=162.5*

*DJA **20** 17:11:39.3±1.5, 2°.S±14°.×9°.9E±1°.1, h10km, M4.3/3, MLv4.3/3*

ISC 20 17:11:40.8±1.1, 1°.5S±0°.1×99°.39E±0°.09, h30km, n14, σ1=00/16, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.20**	**62**	P	**Pn**	**17 12 02.0**	**+0.3**
PDSI				S	**Sb**	**17 12 18.6**	**+0.3**
PPI	**Padang Panjang**	**1.42**	**45**	P	**Pn**	**17 12 04.3**	**-0.3**
PPI				S	**Sb**	**17 12 26.5**	**+2.0**
BKNI	**Bangkinang**	**2.43**	**43**	P	**Pb**	**17 12 21.8**	**-2.1**
PSI	**Prapat**	**4.27**	**354**	Pn	**Pn**	**17 12 43.6**	**-0.4**
	0.8nm,0.3s,baz=146,slow=11,SNR=4.0						
CMAR	**Chiang Mai Arr**	**19.81**	**359**	P	**Pn**	**17 16 11.1**	**+0.3**
	0.1nm,0.3s,baz=185,slow=9.7,SNR=3.2						
WRA	**Warramunga Arr**	**38.78**	**121**	P	**P**	**17 19 02.3**	**-0.8**
	0.5nm,0.4s,baz=303,slow=9.0,SNR=6.8						
ASAR	**Alice Springs**	**40.05**	**126**	P	**P**	**17 19 14.7**	**+1.0**
	0.3nm,0.5s,baz=297,slow=7.1,SNR=9.3						
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**17 20 29.6**	**+1.0**
	0.2nm,0.4s,baz=205,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**50.36**	**345**	P	**P**	**17 20 35.7**	**+0.5**
	1.2nm,0.7s,baz=155,slow=7.8,SNR=10						
KURBB	**Kurchatov Arra**	**54.88**	**344**	P	**P**	**17 21 09.1**	**+0.7**
	0.6nm,0.5s,baz=157,slow=5.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	**P**	**17 21 20.5**	**+0.2**
	0.8nm,0.4s,baz=183,slow=5.2,SNR=6.5						
BVAR	**Borovoye Array**	**59.48**	**340**	P	**P**	**17 21 40.8**	**-0.2**
	0.4nm,0.5s,baz=112,slow=6.4,SNR=3.1						
TXAR	**Lajitas Array**	**144.65**	**36**	PKP	**PKPdf**	**17 31 14.9**	**-0.6**
	0.9nm,0.5s,baz=242,slow=0.7,SNR=15						
CFAA	**Coronel Fontan**	**145.07**	**199**	PKP	**PKPdf**	**17 31 15.7**	**-0.4**
	0.3nm,0.5s,baz=225,slow=2.9,SNR=4.5						

*IDC **20** 17:12:19.1±5.8, 23°.22N×123°.17E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/24, Error ellipse: s-maj=393.4km s-min=26.7km az=60.0*

*JMA **20** 17:12:21.2±0.3, 23°.37N×123°.55E, h44km, M3.0*

ISC 20 17:12:22.2±3.7, 23°.4N±0°.1×123°.55E±0°.07, h31km±19km, n13, σ0=78/17, mb3.7/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.69**	**20**	P	**Pn**	**17 12 35.2**	**-0.6**
HATJ				S	**Sb**	**17 12 45.4**	**+0.4**
JKRS	**Kuro-shima**	**0.93**	**27**	P	**Pn**	**17 12 39.1**	**0.0**
JKRS				*e*S	**Sn**	**17 12 50.6**	**-0.7**
IRIF	**Iriomote-Funau**	**0.94**	**10**	P	**Pn**	**17 12 38.8**	**-0.4**
IRIF				S	**Sn**	**17 12 52.5**	**+0.9**
JIJ	**Ishigaki jima**	**1.09**	**30**	P	**Pn**	**17 12 40.7**	**-0.7**
JIJ				S	**Sn**	**17 12 54.7**	**-0.8**
YOJ	**Yonaguni jima**	**1.16**	**335**	P	**Pn**	**17 12 41.9**	**-0.4**
YOJ				S	**Sn**	**17 12 57.1**	**+0.1**
JTJ	**Tarama**	**1.62**	**41**	P	**Pn**	**17 12 48.5**	**-0.1**
JTJ				S	**Sn**	**17 13 09.5**	**+1.1**
JMJ	**Miyako jima 2**	**2.12**	**48**	P	**Pn**	**17 12 55.6**	**0.0**
JMJ				S	**Sn**	**17 13 21.6**	**+0.7**
JOGS	**Gusukube**	**2.17**	**51**	P	**Pn**	**17 12 56.1**	**-0.1**
JKE	**Kume jima 2**	**4.13**	**45**	P	**Pn**	**17 13 21.6**	**-1.6**
ASAJ	**Asahikawa**	**25.91**	**33**	LR	LR	17 29 42.3	
	comp=Z,29nm,18.6s,baz=300,slow=40						
MKAR	**Makanchi Array**	**40.40**	**316**	P	**P**	**17 19 57.8**	**+0.4**
	0.1nm,0.5s,baz=101,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**44.36**	**165**	P	P	17 20 30.2	+0.3
	1.0nm,0.8s,baz=348,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**47.87**	**167**	P	P	17 20 58.4	+0.9
	0.4nm,0.5s,baz=350,slow=8.0,SNR=9.6						

IDC 20 17:31:20.9±1.0, 13°.44N×88°.71W, h64km±9km, mb3.4/10, mb1 3.7/10, mb1mx3.6/23, mbtmp3.4/10, MS3.2/2, Ms1 3.2/2, ms1mx2.7/20, Error ellipse: s-maj=46.2km s-min=14.8km az=58.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**6.76**	**3**	P	Pn	17 33 03.8	+6.2
	5.8nm,0.3s,baz=43,slow=2.1,SNR=33						
TXAR	**Lajitas Array**	**21.04**	**321**	P	P	17 36 00.6	+0.8
	1.5nm,0.5s,baz=143,slow=10,SNR=22						
TXAR				pP	pP	17 36 16.6	+3.1
	1.1nm,0.6s,baz=140,slow=10,SNR=6.7						
TKL	**Tuckaleechee C**	**22.57**	**11**	pP	pP	17 36 35.0	+5.2
	5.5nm,0.9s,baz=207,slow=8.0,SNR=4.3						
TKL				LR	LR	17 45 28.5	
	comp=Z,58nm,20.4s,baz=74,slow=38						
SADO	**Sadowa**	**32.28**	**13**	LR	LR	17 51 06.2	
	comp=Z,43nm,18.5s,baz=226,slow=37						
PDAR	**Pinedale Array**	**34.33**	**332**	P	P	17 38 01.8	0.0
	0.4nm,0.6s,baz=122,slow=13,SNR=4.9						
PDAR				PcP	PcP	17 40 35.4	-1.2
	0.4nm,0.6s,baz=141,slow=5.3,SNR=4.8						
LPAZ	**La Paz**	**35.86**	**145**	P	P	17 38 16.5	+0.9
	0.7nm,0.6s,baz=329,slow=7.1,SNR=3.2						
NVAR	**Mina Array Bea**	**36.16**	**319**	P	P	17 38 18.0	+0.5
	0.3nm,0.4s,baz=129,slow=7.2,SNR=3.2						
NVAR				pP	pP	17 38 34.9	+1.5
	0.8nm,0.8s,baz=142,slow=7.3,SNR=4.4						
NVAR				PcP	PcP	17 40 42.5	+0.5
	0.6nm,0.6s,baz=142,slow=3.4,SNR=6.2						
SIV	**San Ignacio**	**40.02**	**136**	P	P	17 38 50.4	+0.4
	1.3nm,0.6s,baz=310,slow=8.7,SNR=6.2						
SCHQ	**Schefferville**	**44.71**	**18**	P	P	17 39 28.1	+0.6
	2.4nm,0.7s,baz=226,slow=12,SNR=3.5						
CFAA	**Coronel Fontan**	**48.90**	**157**	P	P	17 40 00.5	-0.2
	0.2nm,0.5s,baz=350,slow=12,SNR=2.8						
YKA	**Yellowknife Ar**	**52.35**	**345**	P	P	17 40 25.9	-0.2
	1.8nm,0.6s,baz=144,slow=7.3,SNR=19						
ILAR	**Eielson Array**	**64.63**	**336**	P	P	17 41 50.6	-0.9
	0.5nm,0.6s,baz=173,slow=4.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**87.39**	**77**	P	P	17 44 01.8	-0.2
	0.9nm,1.1s,baz=286,slow=5.8,SNR=2.4						
SONM	**Songino Array**	**117.53**	**349**	PKP	PKPdf	17 49 59.1	-0.8
	0.3nm,0.5s,baz=338,slow=3.1,SNR=2.7						
WRA	**Warramunga Arr**	**138.35**	**255**	PKP	PKPdf	17 50 39.8	-0.2
	0.5nm,0.9s,baz=90,slow=2.2,SNR=5.4						
WRA				pPKP	pPKPdf	17 50 56.8	-1.8
	1.5nm,0.9s,baz=91,slow=2.1,SNR=5.2						
ASAR	**Alice Springs**	**138.48**	**249**	PKP	PKPdf	17 50 40.9	+0.8
	0.4nm,0.9s,baz=92,slow=2.3,SNR=3.7						
ASAR				pPKP	pPKPdf	17 50 56.9	-1.9
	0.4nm,0.7s,baz=94,slow=1.8,SNR=3.5						
CMAR	**Chiang Mai Arr**	**147.42**	**346**	PKPbc	PKPdf	17 50 56.5	+0.4
	1.0nm,0.8s,baz=341,slow=3.7,SNR=8.8						

IDC 20 17:47:23.0±3.0, 5°.19S×102°.55E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/23, Error ellipse: s-maj=154.4km s-min=22.8km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.22**	**118**	P	P	17 54 10.9	+0.1
	0.3nm,0.4s,baz=301,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**35.34**	**124**	P	P	17 54 20.8	+0.2
	0.2nm,0.4s,baz=302,slow=8.2,SNR=13						
ASAR				PcP	PcP	17 56 49.3	-1.7
	0.3nm,0.8s,baz=314,slow=3.0,SNR=3.0						
MJAR	**Matsushiro Arr**	**53.24**	**36**	LR	LR	18 16 49.1	
	comp=Z,35nm,19.9s,baz=80,slow=33						
MKAR	**Makanchi Array**	**54.78**	**343**	P	P	17 56 54.4	-0.3
	0.3nm,0.7s,baz=166,slow=7.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**60.77**	**348**	P	P	17 57 37.0	+0.4
	0.2nm,0.3s,baz=173,slow=7.8,SNR=2.4						
TXAR	**Lajitas Array**	**145.49**	**43**	PKPbc	PKPbc	18 07 03.5	-0.5
	0.1nm,0.4s,baz=252,slow=1.8,SNR=3.3						

*BYKL **20** 17:53:48.6±0.3, 53°.23N×108°.05E, h8km±6km*

MOS 20 17:53:48.6±2.2, 53°.25N×108°.22E, h11km, mb4.3/1, 12C-9D, Error ellipse: s-maj=17.8km s-min=10.8km az=56.6, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.32**	**87**	⇑*i*Pg	Pb	17 53 56.0	-0.3
	27nm,0.3s						
MXMB				⇑*i*Pg	Pb	17 53 56.0	-0.3
	141nm,0.3s						
MXMB				⇑*i*Pg	Pb	17 53 56.0	-0.3
	481nm,0.3s						
MXMB				*i*		17 53 56.4	
MXMB				*e*Sg	Sb	17 54 01.7	+0.2
MXMB				max			
	363nm,0.1s						
MXMB				Smax			
	4μm,0.4s						
OGRR	**Ongureny**	**0.55**	**317**	⇑*i*PG	Pg	17 53 58.5	-0.8
OGRR				*e*		17 54 05.8	
OGRR				pmax	pmax		
	comp=Z,458nm,0.1s						
OGRR				smax	smax		
	comp=E,3μm,0.1s						
OGRR	**Ongureny**	**0.55**	**317**	⇑*i*Pg	Pg	17 53 58.5	-0.8
	comp=E,743nm,0.3s						
OGRR				⇓*i*Pg	Pg	17 53 58.5	-0.8
	comp=E,196nm,0.3s						
OGRR				⇑*i*Pg	Pg	17 53 58.5	-0.8
	comp=E,859nm,0.3s						
OGRR				*e*Sg	Sg	17 54 05.0	-1.5
OGRR				Pmax			
	comp=E,274nm,0.1s						
OGRR				Smax			
	comp=E,3μm,0.1s						
ZRHB	**Zarechye**	**0.95**	**223**	⇑*i*Pg	Pg	17 54 05.0	-2.0
ZRHB				*e*Pb	Pb	17 54 07.1	0.0
ZRHB				*e*Sg	Sg	17 54 16.3	-3.1
ZRHB				*e*Sb	Sn	17 54 20.7	-0.8
ZRHB				max			
	comp=E,125nm,0.2s						
ZRHB				max			
	comp=E,2μm,0.6s						
SYVR	**Suvo**	**1.14**	**68**	*e*PG	Pn	17 54 10.5	0.0
SYVR				*e*		17 54 27.5	
SYVR				pmax	pmax		
	comp=Z,145nm,0.3s						
SYVR				smax	smax		
	comp=E,457nm,0.2s						
SYVR	**Suvo**	**1.14**	**68**	⇑*i*Pg	Pn	17 54 10.5	0.0
SYVR				*e*Pb	Pg	17 54 11.9	+1.3
SYVR				*i* Sg	Sn	17 54 27.5	+1.3
SYVR				max			
	comp=E,143nm,0.4s						
SYVR				Smax			
	comp=E,453nm,0.2s						
TRG	**Tyrgan**	**1.23**	**247**	⇑*i*Pg	Pn	17 54 09.2	-2.7
TRG				*e*Pb	Pb	17 54 11.0	-1.0
TRG				*e*		17 54 13.4	
TRG				*e*Sg	Sb	17 54 25.0	-3.0
TRG				*e*Sb	Sg	17 54 27.9	-0.6
TRG				max			
	comp=E,117nm,0.1s						
TRG				max			
	comp=E,951nm,0.1s						
UUDB	**Ulan-Yde**	**1.43**	**194**	⇑*i*Pg	Pn	17 54 13.7	-0.8
UUDB				⇓*i*Pb	Pb	17 54 14.7	-0.5
UUDB				*e*		17 54 15.8	
UUDB				*i* Sg	Sn	17 54 32.5	-0.7
UUDB				*e*Sb	Sg	17 54 34.5	-0.1
UUDB				max			
	comp=E,213nm,0.5s						
UUDB				max			
	comp=E,1μm,0.6s						
KAB	**Kabansk**	**1.54**	**219**	*e*PG	Pn	17 54 14.8	-1.1
KAB				*e*		17 54 36.1	
KAB				pmax	pmax		
	comp=Z,64nm,0.3s						
KAB				smax	smax		
	comp=N,833nm,0.6s						
YLYR	**Ulyunkhan**	**2.38**	**46**	*e*PN	Pb	17 54 31.5	0.0
YLYR				*e*		17 55 04.8	
YLYR				pmax	pmax		
	comp=Z,35nm,0.3s						
YLYR				smax	smax		
	comp=N,263nm,0.4s						
YLYR	**Ulyunkhan**	**2.38**	**46**	⇓*i*Pn	Pn	17 54 28.7	+1.1
	comp=N,6.0nm,0.4s						
YLYR				⇓*i*Pn	Pn	17 54 28.7	+1.1
	comp=N,4.0nm,0.4s						
YLYR				⇓*i*Pn	Pn	17 54 28.7	+1.1
	comp=N,10.0nm,0.4s						
YLYR				*e*Pg	Pb	17 54 32.0	+0.5
YLYR				*e*Sg	Sg	17 55 05.2	+0.1
YLYR				*e*		17 55 11.4	
YLYR				Pmax			
	comp=N,35nm,0.4s						
YLYR				Smax			
	comp=N,262nm,0.5s						
LSTR	**Listvyanka**	**2.49**	**238**	⇓*i*Pn	Pn	17 54 28.2	-0.9
LSTR				⇓*i*Pg	Pb	17 54 31.7	-1.6
LSTR				*e*		17 54 37.8	
LSTR				*e*Sg	Sb	17 55 03.0	-1.0
LSTR				Pmax			
	comp=N,16nm,0.4s						
LSTR				Smax			
	comp=N,134nm,0.6s						
IRK	**Irkutsk**	**2.60**	**249**	*e*PN	Pb	17 54 33.9	-1.4
IRK				*e*		17 55 05.9	
IRK				pmax	pmax		
	comp=Z,93nm,0.2s						
IRK				smax	smax		
	comp=N,732nm,0.5s						
IRK	**Irkutsk**	**2.60**	**249**	*e*Pg	Pb	17 54 33.0	-2.3
IRK				*e*		17 54 39.0	
IRK				*e*Sg	Sb	17 55 05.7	-1.6
IRK				*e*		17 55 10.5	
IRK				max			
	comp=N,53nm,0.3s						
IRK				max			
	comp=N,733nm,0.4s						
NIZ	**Nizh Angarsk**	**2.65**	**16**	*e*PN	Pn	17 54 32.9	+1.7
NIZ				*e*		17 54 35.7	
NIZ	**Nizh Angarsk**	**2.65**	**16**	⇓*i*Pn	Pn	17 54 32.9	+1.7
NIZ				*e*Pg	Pb	17 54 36.4	+0.4
NIZ				*e*		17 55 05.4	
NIZ				*e*		17 55 07.9	
NIZ				*e*Sg	Sg	17 55 11.1	-2.6
NIZ				Pmax			
	comp=N,23nm,0.3s						
NIZ				Smax			
	comp=N,170nm,0.5s						
KMO	**Kumora**	**3.16**	**32**	*e*PN	Pn	17 54 39.3	+1.0
KMO				*e*		17 54 45.9	
KMO				*e*S	Sn	17 55 17.3	+1.3
KMO				*e*		17 55 27.2	
KMO				pm

ARS				Smax				
	comp=Z,401nm,0.9s							
SVKR	**Severomuysk**	**4.22**	**45**	*e*	Pg	Pn	17 55 06.3	-3.3
SVKR				*e*			17 55 08.1	
SVKR				*e*	Sg	Sg	17 56 03.3	-1.1
SVKR				*e*			17 56 11.8	
SVKR				Smax				
	comp=Z,206nm,0.5s							
KPC	**Khapcheranga**	**4.40**	**142**	*e*	Pn	Pn	17 54 55.1	-0.3
KPC				*e*			17 54 59.3	
KPC				*e*	Pg	Pb	17 55 07.0	+1.0
KPC				*e*			17 55 13.8	
KPC				*e*	Sn	Sn	17 55 45.5	-1.2
KPC				*e*	Sg	Sg	17 56 06.1	-3.9
KPC				*e*			17 56 10.1	
KPC				Pmax				
	comp=Z,18nm,0.5s							
KPC				max				
	comp=Z,62nm,1.1s							
MOY	**Mondy**	**4.70**	**253**	⇓ *i*	Pn	Pn	17 55 00.9	+1.4
MOY				*e*			17 55 08.2	
MOY				⇑ *i*	Pg	Pb	17 55 10.4	-0.7
MOY				*e*			17 55 55.2	
MOY				*i*	Sg	Sb	17 56 10.4	+2.7
MOY				*e*			17 56 15.1	
MOY				Pmax				
	comp=Z,13nm,0.7s							
MOY				max				
	comp=Z,70nm,1.2s							
ORL	**Orlik**	**5.14**	**265**	*e*	PN	Pn	17 55 06.9	+1.2
ORL				*e*			17 55 19.9	
ORL	**Orlik**	**5.14**	**265**	⇑ *i*	Pn	Pn	17 55 06.8	+1.1
ORL				*e*			17 55 13.8	
ORL				*e*	Pg	Pb	17 55 17.8	-0.9
ORL				*e*			17 55 31.6	
ORL				*e*	Sn	Sn	17 56 03.9	-1.2
ORL				*e*	Sg	Sb	17 56 24.4	+3.8
ORL				Pmax				
	comp=Z,17nm,0.4s							
ORL				Smax				
	comp=Z,58nm,0.9s							
ULN	**Ulaanbaatar**	**5.44**	**188**	*e*	Pg	Pb	17 55 26.0	+2.1
ULN				*e*	Sg	Sg	17 56 38.3	-5.3
BOD	**Bodaibo**	**5.63**	**33**	*e*	Pg	Pb	17 55 36.8	+0.4
BOD				*e*	Sg	Sg	17 56 44.9	-4.4
BOD				Smax				
	comp=Z,35nm,1.3s							
CRS	**Chara**	**6.83**	**54**	*e*	Pg	Pg	17 56 00.8	+1.4
CRS				*e*	Sg	Sg	17 57 24.1	-3.7
CRS				*e*			17 57 42.5	
TUP	**Tupik**	**7.04**	**76**	*e*	PN	Pn	17 55 32.3	+0.7
TUP				*e*			17 55 55.5	
TUP				*e*	S	Sn	17 56 52.2	+0.5
TUP				*e*			17 57 26.0	
TUP				pmax		pmax		
	comp=Z,2.0nm,0.5s							
TUP				smax		smax		
	comp=N,88nm,1.1s							
TUP	**Tupik**	**7.04**	**76**	*e*	Pn	Pn	17 55 31.1	-0.5
TUP				*e*	Pg	Pb	17 55 55.5	+4.6
TUP				*e*	Sg	Sg	17 57 28.8	-5.8
TUP				*e*			17 57 32.3	
TUP				max				
	comp=N,62nm,1.0s							
KHNR	**Khani**	**7.68**	**57**	*e*	Sn	Sn	17 57 06.0	-1.4
KHNR				*e*	Sg	Sg	17 57 50.9	-4.2
KHNR				*e*			17 57 55.7	

GUC 20 18:03:31.1±0.9, 22°.99S×70°.35W, h31km±5km, ML3.7, 3C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.42**	**161**	⇓ *i* P	Pn	18 03 42.9	+1.6
CEN1				*i* S	Sn	18 03 51.6	+3.5
PB10	**Plate Boundary**	**0.56**	**200**	⇑ *i* P	Pb	18 03 42.4	-0.2
PB10				*i* S	Sb	18 03 50.0	-0.3
PB10				AML	AML	18 03 51.2	
	comp=N,6μm,0.5s						
ANCH	**Antofagasta**	**0.69**	**185**	⇑ *i* P	Pn	18 03 45.7	+0.9
ANCH				*i* S	Sn	18 03 55.9	+1.4
ANCH				AML	AML	18 03 57.0	
	comp=E,3μm,0.4s						
PB04	**Plate Boundary**	**1.07**	**48**	⇓ *i* P	Pn	18 03 44.7	-5.3
PB04				*i* S	Sn	18 03 54.2	-10
PB04				AML	AML	18 03 55.7	
	comp=N,5μm,0.7s						
PB07	**Plate Boundary**	**1.33**	**19**	⇓ *i* P	Pn	18 03 54.7	+0.9
PB07				*i* S	Sb	18 04 11.8	-0.6
PB07				AML	AML	18 04 13.8	
	comp=N,3μm,0.4s						
PB09	**Plate Boundary**	**1.57**	**41**	⇓ *i* P	Pb	18 03 59.4	-0.3
PB09				*i* S	Sb	18 04 20.0	+0.7
PB09				AML	AML	18 04 26.4	
	comp=E,5μm,0.5s						
PB01	**Plate Boundary**	**2.09**	**23**	⇑ *i* P	Pn	18 04 05.7	+1.5
PB01				*i* S	Sn	18 04 31.6	+2.3
PB01				AML	AML	18 04 38.4	
	comp=E,720nm,0.4s						

IDC 20 19:03:25.6±8.3, 0°.76S×99°.36E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=412.6km s-min=25.9km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.18**	**121**	P	P	19 10 55.6	-0.1
	0.7nm,1.0s,baz=305,slow=9.0,SNR=3.2						
MKAR	**Makanchi Array**	**49.67**	**345**	P	P	19 12 20.0	+0.8
	0.7nm,0.3s,baz=159,slow=8.5,SNR=20						
KURBB	**Kurchatov Arra**	**54.19**	**344**	P	P	19 12 53.1	+0.4
	0.4nm,0.6s,baz=163,slow=6.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**55.84**	**350**	P	P	19 13 03.6	-1.1
	0.7nm,0.3s,baz=175,slow=6.8,SNR=6.3						
BVAR	**Borovoye Array**	**58.81**	**340**	P	P	19 13 24.9	-0.8
	0.3nm,0.5s,baz=142,slow=7.3,SNR=3.0						

SKHL 20 19:13:05.6±0.5, 47°.45N×141°.15E, h10km, mb3.6/3, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.20**	**114**	⇑ *i* Pg	Pg	19 13 29.3	+0.6
YSS				AMB	AMB	19 13 30.1	
	20nm,0.6s						
YSS				*e* Sg	Sn	19 13 45.3	+0.5
YSS				A	A	19 13 46.8	
	190nm,0.4s						
YSS				A	A	19 13 46.8	
	180nm,0.4s						
UGL	**Uglegorsk**	**1.74**	**20**	*e* Pg	Pg	19 13 40.0	+1.0
UGL				AMB	AMB	19 13 45.0	
	49nm,0.4s						
UGL				*e* Sg	Sg	19 14 04.0	+2.5
UGL				A	A	19 14 17.0	
	120nm,0.5s						
UGL				A	A	19 14 17.0	
	170nm,0.5s						
UGL				A	A	19 14 17.0	
	61nm,0.5s						
TYV	**Tymovskoe**	**3.56**	**16**	*e* Pg	Pg	19 14 16.8	+3.1
TYV				AMB	AMB	19 14 17.8	
	12nm,0.8s						
TYV				*e* Sg	Sg	19 15 06.3	+6.5
TYV				A	A	19 15 17.5	
	10.0nm,0.7s						
TEY	**Ternei**	**3.97**	**234**	*e* Sg	Sg	19 15 19.0	+5.9
TEY				A	A	19 15 21.5	
	19nm,0.6s						
GRNR	**Gornyy**	**4.55**	**319**	*e* Sg	Sg	19 15 34.0	+2.4
GRNR				A	A	19 15 35.0	
	19nm,0.6s						
GRNR				A	A	19 15 35.0	
	21nm,0.6s						

IDC 20 19:13:37.6±5.5, 39°.32N×110°.50E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=116.9km s-min=25.3km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.01**	**342**	Pn	Pn	19 15 50.0	+1.0
	0.1nm,0.3s,baz=154,slow=14,SNR=6.9						
SONM				Lg	Lg	19 18 20.4	
	0.1nm,0.3s,baz=162,slow=30,SNR=3.3						
MKAR	**Makanchi Array**	**21.84**	**299**	P	P	19 18 32.2	+0.7
	0.2nm,0.8s,baz=98,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**23.08**	**209**	P	P	19 18 44.4	-0.5
	0.8nm,0.7s,baz=13,slow=9.7,SNR=7.5						

*ISCJB **20** 19:42:32.5±0.3, 1°.47S±0°.04×99°.34E±0°.03, h10km, mb4.5/29, MS3.5/6, Error ellipse: s-maj=5.4km s-min=4.1km az=32.3*
*IDC **20** 19:42:32.9±0.5, 1°.37S×99°.50E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.3/27, mbtmp4.3/22, ML3.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/33, Error ellipse: s-maj=18.6km s-min=12.5km az=60.0*
*NEIC **20** 19:42:34.3±0.3, 1°.41S×99°.47E, h10km, mb4.6/11, Error ellipse: s-maj=11.5km s-min=6.2km az=60.0*
*AUST **20** 19:42:36.4, 1°.40S×99°.49E, h0km*
*DJA **20** 19:42:40.1±0.5, 1°.5±3°×10°.0E±°, h10km, M4.8/8, mb4.9/6, mB5.1/3, MLv4.8/8, Mw(mB)4.4/3*
ISC 20 19:42:34.4±0.4, 1°.40S±0°.05×99°.49E±0°.05, h10km, n107, σ1§14/100, mb4.5/29, MS3.4/6, 3C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.09**	**63**	P	**Pn**	**19 42 56.3**	**+0.5**
PDSI				S	**Sn**	**19 43 11.8**	**+0.9**
PPI	**Padang Panjang**	**1.31**	**44**	P	**Pg**	**19 42 59.5**	**0.0**
PPI				S	**Sg**	**19 43 16.8**	**+0.3**
PPI	**Padang Panjang**	**1.31**	**44**	P	**Pg**	**19 42 59.5**	**0.0**
	baz=1.3,SNR=290						
PPI				S	**Sg**	**19 43 18.9**	**+2.3**
	baz=1.3,SNR=15						
BKNI	**Bangkinang**	**2.31**	**42**	P	**Pg**	**19 43 17.9**	**-0.9**
	baz=2.3,SNR=34						
RGRI	**Rengat**	**3.03**	**70**	P	**Pb**	**19 43 26.9**	**-1.6**
KSI	**Kapahiang**	**3.82**	**126**	P	**Pn**	**19 43 35.9**	**+2.5**
KSI				S	**Sn**	**19 44 18.6**	**+0.1**
PSI	**Prapat**	**4.21**	**352**	Pn	**Pn**	**19 43 38.6**	**-0.2**
PSI	**Prapat**	**4.21**	**352**	Pn	**Pn**	**19 43 38.6**	**-0.2**
	3.2nm,0.3s,baz=174,slow=10,SNR=9.1						
PSI	**Prapat**	**4.21**	**352**	P	**Pn**	**19 43 39.2**	**+0.3**
	baz=4.1,SNR=3.0						
MNAI	**Manna**	**4.54**	**130**	P	**Pn**	**19 43 44.8**	**+1.5**
	baz=4.5,SNR=13						
TSI	**Tuntungan**	**4.96**	**349**	P	**Pb**	**19 44 02.9**	**+1.6**
	147nm,0.9s,0.6nm						
FRIM	**Kepong**	**5.08**	**25**	P	Pn	19 43 55.0	+4.3
BTDF	**Bukit Timah Da**	**5.09**	**57**	P	Pb	19 43 59.8	-3.8
	baz=5.1,SNR=4.5						
BTDF				P	Pb	19 43 59.8	-3.8
	baz=5.1,SNR=4.5						
KGM	**Kluang**	**5.12**	**48**	P	Pn	19 43 57.4	+6.2
KCSI	**Kotacane, Aceh**	**5.18**	**341**	P	**Pn**	**19 43 54.5**	**+2.4**
	46nm,0.7s,974nm0.4nm						
MYKOM	**Kota Tinggi**	**5.39**	**54**	P	Pn	19 44 00.6	+5.6
MYKOM	**Kota Tinggi**	**5.39**	**54**	P	Pn	19 43 59.2	+4.2
	62nm,1.0s,1μm						
LWLI	**Liwa**	**5.81**	**128**	P	**Pn**	**19 44 02.7**	**+1.9**
	330nm,0.7s,4μm1.4nm						
IPM	**Ipoh**	**6.04**	**15**	*e* P	**Pn**	**19 44 06.6**	**+2.7**
	31nm,0.6s						
IPM	**Ipoh**	**6.04**	**15**	P	Pn	19 44 07.5	+3.6
IPM	**Ipoh**	**6.04**	**15**	P	Pb	19 44 15.8	-4.0
KLSI		**6.17**	**122**	P	Pn	19 44 09.0	+3.3
	69nm,0.7s,0.2nm						
KASI	**Kota Agung**	**6.46**	**129**	P	**Pn**	**19 44 11.0**	**+1.3**
KTGM	**Kuala Trenggan**	**7.61**	**29**	P	Pn	19 44 30.0	+4.5
UGM	**Wanagama**	**12.76**	**121**	P	**Pn**	**19 45 38.7**	**+2.7**
	baz=13,SNR=3.4						
UGM				S	**Sn**	**19 48 00.1**	**+1.8**
	baz=13,SNR=21						
SBUM	**Sibu**	**13.29**	**73**	P	Pn	19 45 47.9	+4.6
BTM	**Bintulu**	**14.34**	**71**	P	**P**	**19 46 02.3**	**-2.5**
KKM	**Kota Kinabalu**	**18.27**	**66**	P	**P**	**19 46 49.4**	**+0.9**
SDKM	**Sandakan**	**19.02**	**68**	P	**P**	**19 46 56.9**	**+0.1**
CM31	**Chiang Mai Arr**	**19.74**	**358**	*e* P	**P**	**19 47 04.5**	**0.0**
	8.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.74**	**358**	P	**P**	**19 47 04.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.74**	**358**	P	**P**	**19 47 04.6**	**+0.1**
	0.1nm,0.3s,baz=187,slow=10.0,SNR=13						
MYLDM	**Lahad Datu**	**20.09**	**71**	P	**P**	**19 47 08.3**	**0.0**
KAPI	**Kappang**	**20.55**	**101**	P	Pn	19 47 14.8	-0.8
KAPI	**Kappang**	**20.55**	**101**	P	Pn	19 47 14.8	-0.8
	15nm,0.8s,baz=279,slow=13,SNR=4.2						
LSA	**Lhasa**	**31.94**	**346**	*e* P	**P**	**19 49 01.7**	**+0.7**
	8.0nm,0.9s						
KDU	**Kakadu**	**34.55**	**110**	S	S	19 55 13.9	+21
	baz=35,SNR=3.8						
WRA	**Warramunga Arr**	**38.74**	**121**	P	**P**	**19 49 58.6**	**-0.6**
WRA				PcP	**PcP**	**19 52 10.6**	**-0.4**
WRA	**Warramunga Arr**	**38.74**	**121**	P	**P**	**19 49 58.6**	**-0.6**
	3.4nm,0.6s,baz=302,slow=9.0,SNR=27						
WRA				PcP	**PcP**	**19 52 10.6**	**-0.4**
	0.9nm,0.8s,baz=313,slow=2.4,SNR=4.8						
WRAB	**Tennant Creek**	**38.74**	**121**	*e* P	**P**	**19 49 58.0**	**-1.2**
	8.8nm,0.7s						
AS31	**Alice Springs**	**40.02**	**126**	*e* P	**P**	**19 50 09.7**	**-0.2**
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**19 50 09.7**	**-0.2**
ASAR				PcP	**PcP**	**19 52 14.9**	**-0.1**
ASAR				S	**S**	**19 56 12.6**	**-3.3**
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**19 50 09.7**	**-0.2**
	4.9nm,0.7s,baz=301,slow=7.9,SNR=31						
ASAR				PcP	**PcP**	**19 52 14.9**	**-0.1**
	1.0nm,0.8s,baz=304,slow=2.1,SNR=4.5						
ASAR				S	**S**	**19 56 12.6**	**-3.3**
	3.4nm,1.1s,baz=292,slow=14,SNR=13						
JNU	**Nakatsue**	**45.34**	**38**	P	**P**	**19 50 51.3**	**-1.6**
JNU	**Nakatsue**	**45.34**	**38**	P	**P**	**19 50 51.3**	**-1.6**
	6.4nm,0.8s,baz=240,slow=5.3,SNR=3.0						
JNU				LR	LR	20 11 05.3	
	comp=Z,36nm,20.9s,baz=222,slow=38						
KBL	**Kabul**	**45.75**	**324**	*e* P	**P**	**19 50 55.0**	**-1.4**
KSAR	**Wonju Array Be**	**46.75**	**31**	P	**P**	**19 51 03.2**	**-0.7**
KSRS	**Korea Array**	**46.77**	**31**	P	**P**	**19 51 03.2**	**-0.9**
	1.4nm,0.7s,baz=222,slow=8.1,SNR=5.3						
KSRS				LR	LR	20 11 13.8	
	comp=Z,32nm,18.4s,baz=226,slow=37						
TKM2	**Tokmak 2**	**49.08**	**337**	*e* P	**P**	**19 51 22.7**	**+0.5**
	7.8nm,0.9s						
CTA	**Charters Tower**	**49.31**	**115**	P	**P**	**19 51 24.3**	**+0.2**
CTA	**Charters Tower**	**49.31**	**115**	P	**P**	**19 51 24.3**	**+0.2**
	1.9nm,0.7s,baz=270,slow=11,SNR=2.9						
CTAO	**Charters Tower**	**49.31**	**115**	*e* P	**P**	**19 51 23.9**	**-0.2**
	28nm,1.4s						
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**19 51 24.4**	**-0.1**
SONM				PcP	**PcP**	**19 52 46.2**	**-0.6**
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**19 51 24.4**	**-0.1**
	1.1nm,0.7s,baz=190,slow=9.5,SNR=12						
SONM				PcP	**PcP**	**19 52 46.2**	**-0.6**
	1.1nm,0.7s,baz=183,slow=3.3,SNR=4.3						
ULN	**Ulaanbaatar**	**49.51**	**7**	P	**P**	**19 51 24.7**	**-0.6**
	3.5nm,0.9s						
EKS2	**Erkin-Say**	**49.61**	**335**	*e* P	**P**	**19 51 26.3**	**+0.2**
	7.7nm,1.0s						
STKA	**Stephens Creek**	**49.93**	**132**	*e* P	**P**	**19 51 30.5**	**+1.9**
	1.8nm,0.8s						
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**19 51 29.3**	**+0.7**
	5.8nm,0.9s,baz=304,slow=7.9,SNR=5.5						
STKA				LR	LR	20 13 42.2	
	comp=Z,91nm,19.3s,baz=340,slow=37						
STKA	**Stephens Creek**	**49.93**	**132**	P	P	19 51 37.0	+8.4
	baz=50,SNR=5.3						
MK31	**Makanchi Array**	**50.32**	**345**	*e* P	**P**	**19 51 31.0**	**-0.3**
MKAR	**Makanchi Array**	**50.32**	**345**	P	**P**	**19 51 31.5**	**+0.2**
MKAR	**Makanchi Array**	**50.32**	**345**	P	**P**	**19 51 31.5**	**+0.2**
	3.2nm,0.5s,baz=158,slow=8.6,SNR=50						
MJAR	**Matsushiro Arr**	**52.14**	**40**	P	**P**	**19 51 46.5**	**+1.3**
MJAR	**Matsushiro Arr**	**52.14**	**40**	P	**P**	**19 51 46.5**	**+1.3**
	0.4nm,0.5s,baz=223,slow=8.4,SNR=4.7						
CMSA	**Cobar Meteorol**	**52.88**	**129**	P	**P**	**19 51 53.4**	**+2.6**
	baz=53,SNR=9.1						
RMQ	**Roma**	**53.46**	**122**	P	P	19 52 00.6	+5.4
	baz=54,SNR=4.8						
USRK	**Ussuriysk Arra**	**53.88**	**29**	P	**P**	**19 51 58.0**	**+0.2**
	3.4nm,0.7s,baz=236,slow=6.2,SNR=4.1						
ZAA0	**Zalesovo Array**	**56.49**	**350**	*e* P	**P**	**19 52 16.2**	**-0.3**
ZALV	**Zalesovo Beam**	**56.49**	**350**	P	**P**	**19 52 16.0**	**-0.5**
ZALV	**Zalesovo Beam**	**56.49**	**350**	P	**P**	**19 52 16.0**	**-0.5**
	3.5nm,0.6s,baz=165,slow=6.0,SNR=22						
RDF	**Al-Radifah**	**58.09**	**306**	*e* P	**P**	**19 52 27.8**	**-0.6**
RDF				AMb	AMB	19 52 29.0	
	comp=Z,40nm,1.1s						
NAY	**Al-Naaiem**	**58.46**	**306**	*e* P	**P**	**19 52 29.6**	**-1.3**
NAY				AMb	AMB	19 52 31.2	
	comp=Z,0.8nm,1.2s						
MIB	**Mutribah**	**58.59**	**306**	*e* P	**P**	**19 52 31.3**	**-0.5**
MIB				AMb	AMB	19 52 32.6	
	comp=Z,37nm,0.9s						
RST	**Umm Al-Ruwaisa**	**58.75**	**306**	*e* P	**P**	**19 52 32.1**	**-0.9**
RST				AMb	AMB	19 52 33.1	
	comp=Z,210nm,0.8s						
ABKAR	**Akbulak array**	**60.87**	**331**	*e* P	**P**	**19 52 45.4**	**-1.7**
	comp=Z,8.4nm,1.1s						
KMBO	**Kilima Mbogo**	**62.22**	**269**	*e* P	**P**	**19 52 58.2**	**+1.0**
	comp=Z,8.3nm,1.0s						
KMBO	**Kilima Mbogo**	**62.22**	**269**	P	**P**	**19 52 57.9**	**+0.7**
	comp=Z,5.8nm,0.9s,baz=57,slow=13,SNR=15						
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**19 53 30.2**	**-0.7**
KBZ	**Khabaz**	**67.52**	**319**	P	**P**	**19 53 30.2**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=118,slow=7.1,SNR=9.4						
ASF	**Jabal al Asfar**	**67.83**	**306**	LR	LR	20 21 24.7	
	comp=Z,33nm,18.7s,baz=209,slow=34						
MAW	**Mawson**	**70.73**	**194**	*e* P	**P**	**19 53 51.5**	**+1.1**
	comp=Z,1.7nm,1.1s						
MAW	**Mawson**	**70.73**	**194**	P	**P**	**19 53 51.5**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=342,slow=6.4,SNR=11						
MAW	**Mawson**	**70.73**	**194**	P	**P**	**19 53 51.9**	**+1.5**
	baz=71,SNR=6.4						
PETK	**Petropavlovsk-**	**72.66**	**32**	LR	LR	20 31 23.0	
	comp=Z,18nm,19.3s,baz=71,slow=40						
VRI	**Vrincioaia**	**79.07**	**317**	⇑ *i* P	**P**	**19 54 39.3**	**+0.2**
PLOR	**Plostina**	**79.12**	**317**	⇑ *i* P	**P**	**19 54 40.1**	**+0.7**
MLR	**Muntele Rosu**	**79.52**	**317**	⇑ *i* P	**P**	**19 54 42.1**	**+0.4**
VOIR		**80.12**	**316**	⇓ *i* P	**P**	**19 54 44.1**	**-0.8**
BURAR	**Bucovina Array**	**80.47**	**319**	⇓ *i* P	**P**	**19 54 47.5**	**+0.7**
BZS	**Buzias**	**82.52**	**316**	⇓ *i* P	**P**	**19 54 57.1**	**-0.4**
VNDA	**Vanda**	**82.84**	**169**	P	**P**	**19 54 58.5**	**-0.1**
VNDA	**Vanda**	**82.84**	**169**	P	**P**	**19 54 58.5**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=315,slow=6.3,SNR=8.2						
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**19 55 01.1**	**-0.4**
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**19 55 01.1**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=121,slow=7.1,SNR=6.7						
ARCES	**ARCESS Array B**	**85.74**	**340**	P	**P**	**19 55 13.3**	**-0.2**
ARCES	**ARCESS Array B**	**85.74**	**340**	P	**P**	**19 55 13.3**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=106,slow=5.7,SNR=4.2						
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**19 55 25.8**	**-0.5**
GERES	**GERESS Array B**	**88.26**	**319**	P	**P**	**19 55 25.8**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=104,slow=3.1,SNR=12						
CLL	**Collm**	**88.88**	**321**	*e* P	**P**	**19 55 28.0**	**-1.0**
NOA	**NORSAR Array B**	**90.38**	**331**	LR	LR	20 41 48.0	
	comp=Z,18nm,19.3s,baz=345,slow=39						
KEST	**Kesra**	**90.92**	**306**	P	**P**	**19 55 39.9**	**+0.9**
KEST	**Kesra**	**90.92**	**306**	P	**P**	**19 55 39.9**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=18,slow=3.2,SNR=7.4						
TXAR	**Lajitas Array**	**144.53**	**36**	PKP	PKPbc	20 02 10.9	+0.3
TXAR	**Lajitas Array**	**144.53**	**36**	PKP	PKPbc	20 02 10.9	+0.3
	comp=Z,2.3nm,0.7s,baz=279,slow=1.7,SNR=8.1						
MIAR	**Mount Ida**	**144.84**	**19**	*e* PKPdf	**PKPab**	**20 02 10.7**	**-0.6**
JCT	**Junction City**	**145.78**	**30**	*e* PKPdf	**PKPdf**	**20 02 13.8**	**-0.3**
CPCT	**Cooper Cave**	**145.92**	**6**	*e* P	**PKPdf**	**20 02 13.8**	**-0.4**

IDC 20 19:48:52.5±5.5, 19°.00N×145°.48E, h247km±54km, mb3.5/11, mb1 3.7/12, mb1mx3.5/25, mbtmp3.5/12, Error ellipse: s-maj=24.3km s-min=11.4km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.61**	**341**	P	P	19 52 51.6	-0.3
	0.4nm,0.3s,baz=171,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**40.21**	**196**	P	P	19 56 05.5	0.0
	7.8nm,0.6s,baz=2.0,slow=9.1,SNR=110						
FITZ	**Fitzroy Crossi**	**41.70**	**209**	P	P	19 56 17.5	-0.1
	10nm,0.8s,baz=33,slow=9.2,SNR=53						
SONM	**Songino Array**	**42.78**	**321**	P	P	19 56 25.9	-0.2
	0.2nm,0.5s,baz=115,slow=6.8,SNR=3.0						
ASAR	**Alice Springs**	**43.88**	**195**	P	P	19 56 34.8	-0.2
	3.4nm,0.6s,baz=16,slow=8.0,SNR=60						
CMAR	**Chiang Mai Arr**	**43.98**	**277**	P	P	19 56 37.1	+1.3
	1.1nm,0.7s,baz=66,slow=7.0,SNR=7.8						
STKA	**Stephens Creek**	**50.72**	**184**	P	P	19 57 26.3	-1.1
	2.2nm,0.7s,baz=14,slow=8.3,SNR=6.9						
MKAR	**Makanchi Array**	**58.11**	**314**	P	P	19 58 19.9	-0.5
	0.3nm,0.4s,baz=89,slow=8.7,SNR=9.1						
ILAR	**Eielson Array**	**63.47**	**26**	P	P	19 58 55.5	-0.6
	0.7nm,0.6s,baz=254,slow=4.8,SNR=5.3						
YKA	**Yellowknife Ar**	**77.82**	**28**	P	P	20 00 23.5	+1.0
	0.3nm,0.5s,baz=292,slow=5.4,SNR=3.5						
ARCES	**ARCESS Array B**	**82.14**	**342**	P	P	20 00 45.5	+0.1
	1.3nm,0.8s,baz=76,slow=7.9,SNR=3.8						
NVAR	**Mina Array Bea**	**83.12**	**52**	P	P	20 00 52.1	+0.8
	1.2nm,0.6s,baz=269,slow=4.5,SNR=7.3						
FINES	**FINESS Array B**	**86.53**	**335**	P	P	20 01 05.7	-1.7
	1.3nm,0.5s,baz=51,slow=4.4,SNR=18						
TORD	**Torodi Ar. Bea**	**132.11**	**309**	PKP	PKPdf	20 07 37.7	0.0
	0.5nm,0.9s,baz=6.9,slow=1.3,SNR=4.2						
LPAZ	**La Paz**	**147.88**	**91**	PKPbc	PKPbc	20 08 10.7

CHCH	**Chadas Angostu**	**1.82**	**155**⇑	*i*P	Pn	19 59 20.1	+0.8
CHCH				*e*S	Sn	19 59 42.4	+1.1
LMEL	**Las Melosas**	**1.94**	**144**⇑	*i*P	Pn	19 59 22.0	+1.0
LMEL				*i* S	Sn	19 59 45.7	+1.2
LMEL				AML	AML	19 59 47.5	
	comp=N,2μm,0.2s						
CACH	**El Canelo**	**2.00**	**156**⇑	*i*P	Pn	19 59 23.0	+1.2
CACH				*i* S	Sn	19 59 47.6	+1.6
TLL	**Tololo Astrono**	**2.21**	**18**⇑	*i*P	Pn	19 59 25.8	+0.9
TLL				*i* S	Sn	19 59 52.6	+1.3
TLL				AML	AML	19 59 57.5	
	comp=E,126nm,0.7s						
LCO	**Las Campanas**	**3.35**	**13**⇓	*i*P	Pn	19 59 40.8	+0.3
LCO				*i* S	Sn	20 00 19.9	+0.6
LCO				AML	AML	20 00 21.5	
	comp=E,68nm,0.3s						

IDC 20 20:08:50.6±0.9, 1°.66S×99°.31E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.9/26, mbtmp3.9/13, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/36, Error ellipse: s-maj=44.4km s-min=15.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**355**	Pn	Pn	20 09 58.7	-0.9
	1.6nm,0.3s,baz=138,slow=21,SNR=4.5						
PSI				LR	LR	20 11 52.4	
	comp=Z,94nm,18.8s,baz=151,slow=42						
CMAR	**Chiang Mai Arr**	**20.00**	**359**	P	P	20 13 24.8	-0.2
	0.1nm,0.3s,baz=186,slow=9.4,SNR=10						
KAPI	**Kappang**	**20.68**	**100**	LR	LR	20 22 33.0	
	comp=Z,26nm,21.3s,baz=151,slow=40						
FITZ	**Fitzroy Crossi**	**30.57**	**124**	P	P	20 15 05.1	-1.2
	1.8nm,1.0s,baz=89,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**38.76**	**120**	P	P	20 16 17.3	+0.2
	1.7nm,0.8s,baz=302,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**40.01**	**126**	P	P	20 16 28.2	+0.6
	0.4nm,0.5s,baz=297,slow=8.0,SNR=4.6						
SONM	**Songino Array**	**49.68**	**6**	P	P	20 17 43.3	-1.2
	0.5nm,0.6s,baz=187,slow=8.7,SNR=6.7						
SONM				PcP	PcP	20 19 06.4	+0.6
	0.9nm,0.7s,baz=183,slow=4.7,SNR=4.3						
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	20 17 51.1	+0.4
	3.6nm,0.7s,baz=149,slow=7.9,SNR=33						
KURBB	**Kurchatov Arra**	**55.04**	**344**	P	P	20 18 23.9	0.0
	0.9nm,0.7s,baz=164,slow=6.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	20 18 35.7	-0.3
	2.4nm,0.4s,baz=178,slow=5.8,SNR=18						
KBZ	**Khabaz**	**67.60**	**319**	P	P	20 19 49.8	+0.6
	1.8nm,0.9s,baz=118,slow=8.3,SNR=4.0						
VNDA	**Vanda**	**82.62**	**169**	P	P	20 21 15.1	-0.3
	0.5nm,0.4s,baz=268,slow=5.4,SNR=4.9						
FINES	**FINESS Array B**	**83.50**	**332**	P	P	20 21 20.5	+0.4
	0.9nm,0.5s,baz=99,slow=6.1,SNR=9.3						
GERES	**GERESS Array B**	**88.34**	**319**	P	P	20 21 43.0	-1.5
	0.2nm,0.6s,baz=76,slow=4.1,SNR=3.6						
TXAR	**Lajitas Array**	**144.85**	**36**	PKP	PKPdf	20 28 30.6	+0.1
	2.1nm,0.6s,baz=261,slow=0.9,SNR=23						

*IDC **20** 20:25:37.2±2.8, 7°.96S×108°.31E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=125.9km s-min=23.4km az=54.0*
*DJA **20** 20:25:43.5±1.9, 8°.S±16°×10°.8E±°, h19km±13km, M4.0/9, MLv4.0/9*
*ISCJB **20** 20:25:45.1±0.8, 8°.3S±0°.1×108°.53E±0°.07, h55km, mb3.3/5, Error ellipse: s-maj=17.1km s-min=7.6km az=24.6*
ISC 20 20:25:44.1±1.4, 8°.3S±0°.2×108°.52E±0°.07, h55km, n15, σ2°.23/13, mb3.4/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.76**	**41**	P	**Pn**	20 26 00.6	+1.8
CISI	**Cisompet, Garu**	**1.01**	**317**	P	**Pn**	20 26 02.5	+0.3
BJII	**Banjamegara**	**1.52**	**51**	P	**Pn**	20 26 10.1	+1.0
LEM	**Lembang**	**1.71**	**329**	P	**Pn**	20 26 14.7	+2.9
UGM	**Wanagama**	**2.02**	**79**	P	**Pn**	20 26 14.3	-1.6
SKJI	**Sukabumi**	**2.33**	**303**	P	**Pn**	20 26 21.0	+1.0
DBJI	**Dramaga**	**2.46**	**315**	P	**Pn**	20 26 24.2	+2.3
PCJI	**Pacitan**	**2.63**	**88**	P	**Pn**	20 26 26.0	+1.8
PWJI	**Pagerwojo**	**3.27**	**85**	P	**Pn**	20 26 34.3	+1.4
SJI	**Sawahan**	**3.27**	**80**	P	**Pn**	20 26 35.7	+2.7
WRA	**Warramunga Arr**	**27.54**	**118**	P	**P**	20 31 28.5	+2.5
	0.4nm,0.8s,baz=291,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**28.72**	**125**	P	P	20 31 40.6	+4.1
	0.2nm,0.8s,baz=299,slow=9.5,SNR=3.2						
STKA	**Stephens Creek**	**38.66**	**132**	P	P	20 33 05.5	+3.0
	1.8nm,0.7s,baz=310,slow=7.9,SNR=3.1						
SONM	**Songino Array**	**55.92**	**358**	P	**P**	**20 35 14.9**	**-1.7**
	0.2nm,0.5s,baz=167,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**59.61**	**339**	P	**P**	**20 35 39.9**	**-2.5**
	0.2nm,0.5s,baz=151,slow=8.7,SNR=4.3						

IDC 20 20:35:51.1±2.0, 10°.82S×163°.00E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML4.0/2, Error ellipse: s-maj=39.8km s-min=29.8km az=66.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.30**	**294**	Pn	Pn	20 36 45.5	+1.3
	30nm,0.3s,baz=171,slow=11,SNR=6.5						
HNR				Sn	Sn	20 37 25.5	+1.3
	12nm,0.3s,baz=148,slow=18,SNR=2.9						
DZM	**Mont Dzumac**	**11.67**	**164**	Pn	Pn	20 38 40.4	+1.3
	0.5nm,0.3s,baz=298,slow=14,SNR=8.7						
CTA	**Charters Tower**	**18.57**	**238**	P	Pn	20 40 14.5	+4.5
	0.9nm,0.3s,baz=67,slow=14,SNR=14						
WRA	**Warramunga Arr**	**29.04**	**248**	P	P	20 41 53.3	0.0
	0.2nm,0.4s,baz=80,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**30.51**	**241**	P	P	20 42 06.1	-0.2
	0.7nm,0.6s,baz=67,slow=9.8,SNR=8.3						
FITZ	**Fitzroy Crossi**	**36.84**	**254**	P	P	20 43 01.0	-0.4
	1.2nm,0.7s,baz=88,slow=7.1,SNR=5.2						
SONM	**Songino Array**	**76.91**	**325**	P	P	20 47 46.1	+0.6
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**91.52**	**317**	P	P	20 48 58.6	-1.2
	0.3nm,0.8s,baz=98,slow=6.1,SNR=3.6						

*IDC **20** 21:06:42.2±0.5, 1°.45S×99°.49E, h0km, mb4.3/17, mb1 4.3/19, mb1mx4.2/26, mbtmp4.2/19, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/40, Error ellipse: s-maj=18.9km s-min=10.9km az=58.0*
*NEIC **20** 21:06:43.4±0.3, 1°.54S×99°.49E, h10km, mb4.3/6, Error ellipse: s-maj=11.4km s-min=6.6km az=67.0*
*AUST **20** 21:06:48.0±2.1, 1°.54S×99°.48E, h36km, Error ellipse: s-maj=2.9km s-min=1.0km az=248.0*
*DJA **20** 21:06:58.7±0.4, 1°.S±3°×10°.1E±°, h37km±5km, M4.4/9, mb4.7/4, mB5.0/3, MLv4.3/9, Mw(mB)4.3/3*
*BKK **20** 21:07:06.0±1.7, 0°.S±16°×10°.0E±°, h1km, M4.1/7, mB4.8/3, mb4.2/7, MLv4.1/4, Mw(mB)4.0/3*
ISC 20 21:06:43.9±0.5, 1°.43S±0°.05×99°.50E±0°.05, h10km, n84, σ1°.26/80, mb4.4/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.09**	**62**	P	**Pn**	**21 07 06.5**	**+1.3**
PDSI				S	**Sb**	**21 07 15.1**	**-4.1**
PPI	**Padang Panjang**	**1.32**	**43**	P	**Pg**	**21 07 10.2**	**+1.0**
PPI				S	**Sn**	**21 07 22.2**	**-3.8**
PPI	**Padang Panjang**	**1.32**	**43**	P	**Pg**	**21 07 09.8**	**+0.7**
	baz=1.4,SNR=213						
BKNI	**Bangkinang**	**2.33**	**42**	P	**Pn**	**21 07 24.6**	**+2.4**
BKNI				S	Sn	21 07 39.7	-11
BKNI	**Bangkinang**	**2.33**	**42**	P	**Pn**	**21 07 24.6**	**+2.4**
	baz=2.4,SNR=52						
RGRI	**Rengat**	**3.03**	**69**	P	**Pn**	**21 07 34.5**	**+2.6**
RGRI				S	Sn	21 07 52.1	-16
KSI	**Kapahiang**	**3.80**	**126**	P	Pn	21 07 45.2	+2.6
PSI	**Prapat**	**4.24**	**352**	Pn	**Pn**	**21 07 49.2**	**+0.5**
PSI	**Prapat**	**4.24**	**352**	Pn	**Pn**	**21 07 49.2**	**+0.5**
	1.9nm,0.3s,baz=168,slow=19,SNR=6.1						
PSI				LR	LR	21 09 44.5	
	comp=Z,380nm,19.2s,baz=170,slow=44						
PSI	**Prapat**	**4.24**	**352**	P	**Pn**	**21 07 50.6**	**+1.9**
	baz=4.3,SNR=4.4						
MNAI	**Manna**	**4.52**	**130**	P	Pn	21 07 54.3	+1.8
	baz=4.5,SNR=39						
MNAI				S	**Sn**	**21 08 45.9**	**+0.8**
	baz=4.5,SNR=12						
TSI	**Tuntungan**	**4.98**	**349**	P	**Pg**	**21 08 20.0**	**+0.6**
BTDF	**Bukit Timah Da**	**5.09**	**57**	P	Pn	21 08 05.3	+5.0
	baz=5.2,SNR=3.7						
BTDF				P	Pn	21 08 05.3	+5.0
	baz=5.2,SNR=3.7						
FRIM	**Kepong**	**5.10**	**25**	P	Pn	21 08 03.6	+3.3
KGM	**Kluang**	**5.13**	**48**	P	Pn	21 08 05.9	+5.1
KCSI	**Kotacane, Aceh**	**5.21**	**341**	P	**Pb**	**21 08 15.4**	**+0.3**
	69nm,1.2s,1μm0.4nm						
MYKOM	**Kota Tinggi**	**5.40**	**54**	P	Pn	21 08 09.5	+5.0
LWLI	**Liwa**	**5.79**	**128**	P	Pn	21 08 13.7	+3.8
	247nm,0.7s,4μm1.5nm						
IPM	**Ipoh**	**6.06**	**15**	*e*Pn	**Pn**	**21 08 16.6**	**+3.0**
IPM	**Ipoh**	**6.06**	**15**	P	**Pn**	**21 08 16.7**	**+3.1**
IPM	**Ipoh**	**6.06**	**15**	P	Pb	21 08 23.0	-6.7
KLSI		**6.15**	**122**	P	Pn	21 08 18.0	+3.2
	36nm,0.7s,0.1nm						
KTGM	**Kuala Trenggan**	**7.63**	**28**	P	Pn	21 08 39.1	+3.9
CISI	**Cisompet, Garu**	**10.29**	**127**	P	**Pn**	**21 09 10.5**	**-1.2**
	baz=10,SNR=6.5						
KKM	**Kota Kinabalu**	**18.27**	**66**	P	**P**	**21 11 00.2**	**+2.3**
LOEI	**Loei**	**18.89**	**5**	P	Pn	21 11 15.8	+10
	130nm,0.7s,2μm						
SDKM	**Sandakan**	**19.02**	**68**	P	**Pn**	**21 11 08.8**	**+1.9**
CM31	**Chiang Mai Arr**	**19.77**	**358**	*e*P	**P**	**21 11 15.2**	**+0.9**
	4.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	**P**	**21 11 15.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	**P**	**21 11 15.3**	**+1.0**
	0.3nm,0.3s,baz=185,slow=10,SNR=13						
LAMP	**Lampang**	**19.82**	**0**	P	Pn	21 11 25.7	+9.3
	6.7nm,1.0s,71nm						
MYLDM	**Lahad Datu**	**20.08**	**71**	P	Pn	21 11 20.7	+1.2
CMMT	**Chiang Mai**	**20.12**	**358**	P	Pn	21 11 27.5	+7.5
	6.7nm,1.0s,600nm						
CHTO	**Chiang Mai**	**20.12**	**358**	*e*P	**P**	**21 11 19.3**	**+1.2**
	5.4nm,0.9s						
CHTO	**Chiang Mai**	**20.12**	**358**	P	Pn	21 11 32.2	+12
	10nm,1.2s						
KAPI	**Kappang**	**20.53**	**100**	P	**P**	**21 11 21.9**	**-0.8**
KAPI	**Kappang**	**20.53**	**100**	P	**P**	**21 11 21.9**	**-0.8**
	9.0nm,1.0s,baz=211,slow=19,SNR=2.5						
FITZ	**Fitzroy Crossi**	**30.55**	**124**	P	**P**	**21 12 57.3**	**-0.6**
	baz=30,SNR=4.8						
LSA	**Lhasa**	**31.96**	**346**	*e*P	**P**	**21 13 11.8**	**+1.1**
	24nm,1.6s						
WRA	**Warramunga Arr**	**38.72**	**121**	P	**P**	**21 14 07.7**	**-0.8**
WRA				PcP	**PcP**	**21 16 20.8**	**+0.3**
WRA	**Warramunga Arr**	**38.72**	**121**	P	**P**	**21 14 07.7**	**-0.8**
	4.4nm,0.8s,baz=302,slow=9.0,SNR=29						
WRA				PcP	**PcP**	**21 16 20.7**	**+0.3**
	0.6nm,0.5s,baz=310,slow=2.6,SNR=4.9						
WRAB	**Tennant Creek**	**38.72**	**121**	*e*P	**P**	**21 14 05.7**	**-2.8**
	6.5nm,0.7s						
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**21 14 18.8**	**-0.4**
ASAR				PcP	**PcP**	**21 16 24.9**	**+0.4**
ASAR				S	**S**	**21 20 25.8**	**+0.7**
ASAR	**Alice Springs**	**39.99**	**126**	P	**P**	**21 14 18.8**	**-0.4**
	1.4nm,0.7s,baz=297,slow=7.5,SNR=18						
ASAR				PcP	**PcP**	**21 16 24.9**	**+0.4**
	1.1nm,0.9s,baz=346,slow=3.2,SNR=5.2						
ASAR				S	**S**	**21 20 25.8**	**+0.7**
	0.6nm,0.8s,baz=294,slow=14,SNR=4.8						
ASAR				LR	LR	21 30 53.8	
	comp=Z,55nm,18.7s,baz=315,slow=36						
AS31	**Alice Springs**	**39.99**	**126**	*e*P	P	21 14 13.1	-6.1
JNU	**Nakatsue**	**45.35**	**38**	P	**P**	**21 15 03.3**	**+0.8**
JNU	**Nakatsue**	**45.35**	**38**	P	**P**	**21 15 03.3**	**+0.8**
	6.3nm,0.9s,baz=191,slow=3.9,SNR=3.3						
KSAR	**Wonju Array Be**	**46.76**	**31**	P	**P**	**21 15 13.9**	**+0.4**
KSRS	**Korea Array**	**46.79**	**31**	P	**P**	**21 15 13.9**	**+0.2**
	1.3nm,0.7s,baz=223,slow=8.6,SNR=3.3						
KSRS				LR	LR	21 36 53.8	
	comp=Z,24nm,18.6s,baz=230,slow=39						
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**21 15 34.6**	**+0.5**
SONM				PcP	**PcP**	**21 16 56.4**	**+0.1**
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**21 15 34.6**	**+0.5**
	1.2nm,0.6s,baz=191,slow=8.5,SNR=5.6						
SONM				PcP	**PcP**	**21 16 56.4**	**+0.1**
	1.3nm,0.6s,baz=185,slow=3.7,SNR=4.3						
ULN	**Ulaanbaatar**	**49.53**	**7**	*e*P	P	21 15 31.5	-3.5
	2.9nm,1.0s						
EKS2	**Erkin-Say**	**49.63**	**335**	*e*P	**P**	**21 15 34.6**	**-1.2**
	7.2nm,0.8s						
STKA	**Stephens Creek**	**49.90**	**132**	P	**P**	**21 15 37.9**	**0.0**
STKA	**Stephens Creek**	**49.90**	**132**	P	**P**	**21 15 37.9**	**0.0**
	5.5nm,0.7s,baz=310,slow=8.8,SNR=9.8						
STKA	**Stephens Creek**	**49.90**	**132**	P	**P**	**21 15 38.5**	**+0.6**
	baz=50,SNR=5.2						
MK31	**Makanchi Array**	**50.34**	**345**	*e*P	**P**	**21 15 41.0**	**0.0**
MKAR	**Makanchi Array**	**50.34**	**345**	*e*P	**P**	**21 15 41.3**	**+0.3**
MKAR	**Makanchi Array**	**50.34**	**345**	P	**P**	**21 15 41.1**	**+0.1**
	4.8nm,0.7s,baz=149,slow=8.1,SNR=44						
CMSA	**Cobar Meteorol**	**52.86**	**129**	P	**P**	**21 16 00.9**	**+0.8**
	baz=53,SNR=7.5						
USRK	**Ussuriysk Arra**	**53.90**	**29**	P	**P**	**21 16 08.3**	**+0.9**
	1.7nm,0.6s,baz=198,slow=5.4,SNR=5.0						
ZAA0	**Zalesovo Array**	**56.52**	**350**	*e*P	**P**	**21 16 25.8**	**-0.4**
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	**P**	**21 16 25.9**	**-0.2**
ZALV				S	**S**	**21 24 16.9**	**-0.6**
ZALV	**Zalesovo Beam**	**56.52**	**350**	P	**P**	**21 16 25.9**	**-0.2**
	5.3nm,0.6s,baz=184,slow=5.8,SNR=32						
ZALV				S	**S**	**21 24 16.9**	**-0.6**
	0.5nm,0.6s,baz=141,slow=15,SNR=3.5						
ABKAR	**Akbulak array**	**60.90**	**331**	*e*P	**P**	**21 16 55.4**	**-1.4**
KMBO	**Kilima Mbogo**	**62.23**	**269**	P	**P**	**21 17 06.8**	**0.0**
KMBO	**Kilima Mbogo**	**62.23**	**269**	P	**P**	**21 17 06.8**	**0.0**
	2.5nm,0.7s,baz=54,slow=12,SNR=9.8						
KBZ	**Khabaz**	**67.55**	**319**	P	**P**	**21 17 40.5**	**-0.1**
KBZ	**Khabaz**	**67.55**	**319**	P	**P**	**21 17 40.5**	**-0.1**
	4.4nm,0.8s,baz=133,slow=4.2,SNR=9.5						
MAW	**Mawson**	**70.72**	**194**	P	**P**	**21 17 60.0**	**+0.2**
MAW	**Mawson**	**70.72**	**194**	P	**P**	**21 17 60.0**	**+0.2**
	1.2nm,0.8s,baz=62,slow=13,SNR=2.9						
VNDA	**Vanda**	**82.82**	**169**	P	**P**	**21 19 07.8**	**-0.2**
VNDA	**Vanda**	**82.82**	**169**	P	**P**	**21 19 07.8**	**-0.2**
	1.0nm,0.8s,baz=337,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**21 19 10.9**	**-0.2**
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**21 19 10.9**	**-0.2**
	3.0nm,0.7s,baz=99,slow=4.7,SNR=17						
KAF	**Kangasniemi**	**83.45**	**333**	*e*p	**P**	**21 19 10.4**	**-1.0**
	6.0nm,0.7s						
GERES	**GERESS Array B**	**88.29**	**319**	P	**P**	**21 19 35.3**	**-0.6**
GERES	**GERESS Array B**	**88.29**	**319**	P	**P**	**21 19 35.3**	**-0.6**
	0.6nm,0.6s,baz=104,slow=5.6,SNR=6.9						
KEST	**Kesra**	**90.95**	**306**	P	**P**	**21 19 49.4**	**+0.8**
KEST	**Kesra**	**90.95**	**306**	P	**P**	**21 19 49.4**	**+0.8**
	1.8nm,1.0s,baz=244,slow=2.8,SNR=5.0						
CPUP	**Villa Florida**	**144.48**	**217**	PKP	**PKPdf**	**21 26 19.7**	**-1.7**
CPUP	**Villa Florida**	**144.48**	**217**	PKP	**PKPdf**	**21 26 19.7**	**-1.7**
	4.7nm,0.7s,baz=135,slow=2.9,SNR=10						
TXAR	**Lajitas Array**	**144.55**	**36**	PKP	**PKPdf**	**21 26 20.7**	**-0.9**
TXAR	**Lajitas Array**	**144.55**	**36**	PKP	**PKPdf**	**21 26 20.7**	**-0.9**
	4.4nm,0.6s,baz=268,slow=1.1,SNR=38						

IDC 20 21:29:33.3±1.9, 25°.70S×68°.84W, h104km±6km, mb3.6/1, mb1 3.4/3, mb1mx3.2/18, mbtmp3.3/3, Error ellipse: s-maj=60.8km s-min=36.8km az=38.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.39**	**4**	P	Pn	21 31 46.2	-0.3
	0.3nm,0.3s,baz=227,slow=3.9,SNR=8.2						
CPUP	**Villa Florida**	**10.38**	**96**	P	Pn	21 31 58.6	-0.5
	0.3nm,0.3s,baz=270,slow=13,SNR=2.0						
TORD	**Torodi Ar. Bea**	**78.73**	**69**	P	P	21 41 24.9	+0.1
	0.4nm,0.3s,baz=258,slow=5.1,SNR=27						
TORD				pP	pP	21 41 52.0	+0.5
	1.3nm,0.7s,baz=258,slow=5.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**145.67**	**28**	PKPbc	PKPdf	21 48 58.7	-0.4
	1.2nm,0.5s,baz=304,slow=3.6,SNR=9.0						
ZALV				pPKPbc	pPKPbc	21 49 26.7	-1.1
	1.9nm,0.7s,baz=298,slow=3.5,SNR=5.0						
MKAR	**Makanchi Array**	**148.90**	**40**	PKPbc	PKPbc	21 49 08.4	-0.5
	0.7nm,0.7s,baz=308,slow=2.7,SNR=6.5						
MKAR				pPKPbc	pPKPbc	21 49 36.4	-0.8
	1.4nm,0.8s,baz=296,slow=2.8,SNR=7.4						

IDC 20 21:36:42.0±8.8, 22°.49S×170°.90E, h59km±63km, mb3.1/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=90.8km s-min=50.2km az=162.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.14**	**275**	P	Pn	21 37 42.7	-0.1
	2.3nm,0.3s,baz=105,slow=22,SNR=63						
DZM				S	Sn	21 38 30.7	+0.5
	0.5nm,0.3s,baz=9.0,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**33.99**	**261**	P	P	21 43 20.6	+0.3
	0.4nm,0.8s,baz=98,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**34.12**	**267**	P	P	21 43 21.0	-0.4
	0.1nm,0.3s,baz=98,slow=8.5,SNR=6.4						
GERES	**GERESS Array B**	**148.07**	**331**	PKPbc	PKPbc	21 56 20.3	-0.7
	0.6nm,0.7s,baz=48,slow=4.4,SNR=7.4						
DAVOX	**Davos/Dischmat**	**151.32**	**332**	PKPbc	PKPbc	21 56 28.9	-0.2
	2.3nm,0.8s,baz=307,slow=8.4,SNR=4.4						

IDC 20 21:40:58.8±2.4, 23°.04S×171°.26E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.8/5, ML3.6/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/35, Error ellipse: s-maj=102.8km s-min=35.8km az=163.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**281**	*e*P	Pn	21 42 08.7	-0.4
DZM				*e*S	Sn	21 42 58.4	-4.4
DZM	**Mont Dzumac**	**4.55**	**281**	Pn	Pn	21 42 08.8	-0.3
	3.0nm,0.3s,baz=103,slow=21,SNR=46						
DZM				LR	LR	21 42 57.7	
	comp=Z,154nm,19.6s,baz=35,slow=26						
DZM				Sn	Sn	21 42 57.9	-5.0
	3.9nm,0.3s,baz=0.9,slow=22,SNR=5.7						
RAO	**Raoul Island**	**11.52**	**125**	LR	LR	21 47 23.0	
	comp=Z,418nm,19.9s,baz=230,slow=33						
URZ	**Urewera**	**15.98**	**163**	LR	LR	21 49 58.0	
	comp=Z,66nm,21.2s,baz=90,slow=34						
HNR	**Honiara**	**17.33**	**319**	LR	LR	21 50 33.7	
	comp=Z,70nm,18.5s,baz=272,slow=33						
ASAR	**Alice Springs**	**34.24**	**261**	P	P	21 47 45.9	-0.7
	0.5nm,0.7s,baz=103,slow=8.7,SNR=5.1						
WRA	**Warramunga Arr**	**34.43**	**268**	P	P	21 47 47.8	-0.5
	0.5nm,0.9s,baz=97,slow=8.5,SNR=6.3						
FITZ	**Fitzroy Crossi**	**42.86**	**268**	P	P	21 48 59.6	+0.5
	2.1nm,0.8s,baz=153,slow=10.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**81.77**	**294**	P	P	21 53 20.9	+0.9
	2.0nm,0.9s,baz=137,slow=4.7,SNR=6.4						
GERES	**GERESS Array B**	**148.71**	**331**	PKPbc	PKPbc	22 00 47.3	-0.8
	1.1nm,0.7s,baz=50,slow=2.1,SNR=13						
DAVOX	**Davos/Dischmat**	**151.96**	**332**	PKPbc	PKPbc	22 00 55.6	-0.5
	2.8nm,0.7s,baz=211,slow=1.2,SNR=6.1						

IDC 20 21:41:37.0±5.0, 1°.46S×99°.45E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, MS3.6/2, Ms1 3.6/2, ms1mx2.8/31, Error ellipse: s-maj=252.5km s-min=23.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.74**	**121**	P	P	21 49 02.9	-0.4
	0.5nm,0.9s,baz=297,slow=8.3,SNR=3.8						
ASAR	**Alice Springs**	**40.01**	**126**	P	P	21 49 14.3	+0.4
	0.2nm,0.5s,baz=300,slow=7.7,SNR=4.3						
KSRS	**Korea Array**	**46.84**	**31**	LR	LR	22 10 03.9	
	comp=Z,38nm,18.7s,baz=189,slow=36						
MKAR	**Makanchi Array**	**50.36**	**345**	P	P	21 50 36.0	+0.2
	0.9nm,0.7s,baz=157,slow=9.1,SNR=6.4						
OPO	**Ambohidratompo**	**53.96**	**248**	LR	LR	22 11 44.0	
	comp=Z,87nm,18.6s,baz=333,slow=34						
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	P	21 51 20.9	-0.1
	0.5nm,0.5s,baz=158,slow=4.2,SNR=3.7						
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	PKPbc	22 01 15.3	+0.2
	0.5nm,0.6s,baz=224,slow=1.3,SNR=5.4						

*AUST **20** 21:47:12.6±0.5, 0°.62S×122°.85E, h4km, Error ellipse: s-maj=1.0km s-min=0.8km az=15.0*
*DJA **20** 21:47:13.4±0.2, 1°.S±2°×12°.3E±°, h10km, M4.8/14, mB5.2/8, mb4.8/14, MLv5.0/12, Mw(mB)4.6/8, Mwp6.0/1*
*ISCJB

MTN	Manton Dam	14.57 146	P	P	21 50 45.5	-0.8
	baz=15,SNR=6.8					
KNRA	Kununurra	15.97 159	P	P	21 51 00.7	-1.1
	baz=16,SNR=5.6					
CBJI	Citeko	16.99 250	P	P	21 51 17.7	+4.6
FITZ	Fitzroy Crossi	17.50 171	ePn	P	21 51 18.1	-0.7
FITZ	Fitzroy Crossi	17.50 171	P	P	21 51 18.1	-0.7
	0.4nm,0.3s,baz=349,slow=8.8,SNR=11					
FITZ	Fitzroy Crossi	17.50 171	P	P	21 51 18.4	-0.4
	baz=18,SNR=14					
MYKOM	Kota Tinggi	19.20 277	P	Pn	21 51 39.5	+0.8
MYKOM	Kota Tinggi	19.20 277	P	Pn	21 51 40.0	+1.3
	39nm,1.3s					
KGM	Kluang	19.76 278	P	Pn	21 51 45.9	+0.5
KSI	Kapahiang	20.50 261	P	Pn	21 51 59.3	+5.2
MBWA	Marble Bar	20.57 188	eP	P	21 51 52.2	-0.2
	121nm,2.3s					
KTGM	Kuala Trenggan	20.62 287	P	Pn	21 51 54.5	-1.1
FRIM	Kepong	21.62 281	P	P	21 52 06.8	+3.0
BKNI	Bangkinang	21.88 273	P	P	21 52 12.9	+6.3
WRAB	Tennant Creek	22.16 150	eP	P	21 52 08.8	-0.8
	25nm,1.0s					
WRA	Warramunga Arr	22.17 150	P	P	21 52 08.2	-1.4
WRA			ScP	ScP	21 59 41.9	+0.9
WRA	Warramunga Arr	22.17 150	P	P	21 52 08.2	-1.4
	15nm,0.9s,baz=327,slow=11,SNR=50					
WRA			ScP	ScP	21 59 41.9	+0.9
	2.2nm,1.0s,baz=332,slow=3.1,SNR=7.2					
IPM	Ipoh	22.45 283	eP	P	21 52 14.6	+1.9
	23nm,0.8s					
IPM	Ipoh	22.45 283	P	P	21 52 14.7	+2.0
	30nm,1.0s					
PPI	Padang Panjang	22.50 270	P	P	21 52 15.5	+2.2
	44nm,0.9s,1μm					
PPI	Padang Panjang	22.50 270	P	P	21 52 09.7	-3.6
	baz=22,SNR=3.4					
QIZ	Qiongzhong	23.42 327	P	P	21 52 26.3	+3.6
QIZ			pmax	pmax		
	comp=Z,5.0nm,0.9s					
QIZ			pmax	pmax		
	comp=Z,81nm,5.9s					
QIZ			LR	LR		
	comp=N,110nm,17.4s					
QIZ			LR	LR		
	comp=Z,94nm,20.7s					
QIZ	Qiongzhong	23.42 327	eP	P	21 52 22.0	-0.6
UBPT	Khong Chiam	23.43 313	P	P	21 52 25.0	+2.3
	comp=Z,19nm,1.2s,comp=Z,715nm					
UBPT	Khong Chiam	23.43 313	P	P	21 52 25.0	+2.3
	comp=Z,19nm,1.2s,comp=Z,715nm					
TPUB	Ta-pu	23.95 355	eP	P	21 52 26.9	-0.8
	comp=Z,23nm,0.9s					
YULB	Yu-li	24.00 356	eP	P	21 52 25.3	-2.7
	comp=Z,8.4nm,0.8s					
COEN	Coen	24.01 124	eP	P	21 52 25.4	-2.8
	comp=Z,223nm,1.2s					
COEN	Coen	24.01 124	P	P	21 52 26.1	-2.1
	baz=24,SNR=4.5					
PSI	Prapat	24.21 278	P	P	21 52 30.0	-0.3
PSI	Prapat	24.21 278	P	P	21 52 30.0	-0.3
	comp=Z,13nm,1.0s,baz=78,slow=19,SNR=7.1					
PSI			LR	LR	22 02 27.7	
	comp=Z,208nm,21.4s,baz=287,slow=38					
PSI	Prapat	24.21 278	P	P	21 52 30.3	-0.1
	baz=24,SNR=4.2					
CHBT	CHBT	24.39 304	P	P	21 52 32.8	+1.1
	comp=Z,38nm,1.2s,comp=Z,590nmcomp=Z,24μm					
CHBT	CHBT	24.39 304	P	P	21 52 32.8	+1.1
	comp=Z,38nm,1.2s,comp=Z,590nm					
SSLB	Suanglung	24.41 356	eP	P	21 52 30.7	-1.2
	comp=Z,29nm,1.1s					
AS31	Alice Springs	25.21 156	eP	P	21 52 38.8	-0.4
ASAR	Alice Springs	25.21 156	P	P	21 52 38.8	-0.4
ASAR			PcP	PcP	21 56 12.2	-0.3
ASAR			ScP	ScP	21 59 50.5	+1.4
ASAR	Alice Springs	25.21 156	P	P	21 52 38.8	-0.4
	comp=Z,5.0nm,0.6s,baz=334,slow=9.1,SNR=73					
ASAR			PcP	PcP	21 56 12.2	-0.3
	comp=Z,0.7nm,0.5s,baz=2.2,slow=2.4,SNR=4.6					
ASAR			ScP	ScP	21 59 50.5	+1.4
	comp=Z,0.8nm,0.6s,baz=345,slow=2.8,SNR=6.7					
ASAR			LR	LR	22 03 25.9	
	comp=Z,196nm,18.4s,baz=314,slow=38					
YHNB	Yeheng	25.26 357	eP	P	21 52 40.0	+0.4
	comp=Z,13nm,0.8s					
PANO	Nakornpanom	25.28 315	P	P	21 52 42.8	+3.0
	comp=Z,192nm,0.8s					
KCSI	Kotacane, Aceh	25.46 280	P	P	21 52 41.7	+0.2
	comp=Z,21nm,0.8s					
NAYO	Nakonayok	26.05 306	P	P	21 52 54.9	+8.1
MEEK	Meekatharra	26.12 189	P	P	21 52 46.5	-0.8
	baz=26,SNR=5.0					
CHAI	Chaiyaphum	26.43 310	P	P	21 52 52.0	+1.8
	comp=Z,7.8nm,0.7s,comp=Z,71nm					
MTSU	Mount Surprise	27.26 131	P	P	21 52 58.8	+1.0
	baz=27,SNR=4.4					
PBKT	Sadao Pong	27.61 309	P	P	21 53 08.2	+7.4
PBKT	Sadao Pong	27.61 309	P	P	21 53 08.2	+7.4
LOEI	Loei	27.95 311	P	P	21 53 02.2	-1.7
	comp=Z,136nm,0.7s					
UTHA	Uthaitani	28.25 306	P	P	21 53 12.4	+5.9
	comp=Z,5.1nm,0.8s,comp=Z,61nm					
MORW	Morawa	28.96 192	P	P	21 53 12.1	-0.7
	baz=29,SNR=3.6					
LAMP	Lampang	29.79 311	P	P	21 53 27.9	+7.6
CTA	Charters Tower	29.90 132	P	P	21 53 22.1	+0.8
CTA	Charters Tower	29.90 132	P	P	21 53 22.1	+0.8
	comp=Z,4.1nm,0.7s,baz=354,slow=9.2,SNR=3.5					
CMAR	Chiang Mai Arr	30.28 310	P	P	21 53 25.5	+0.9
CMAR			ScP	ScP	22 00 03.9	-0.8
CMAR	Chiang Mai Arr	30.28 310	P	P	21 53 25.5	+0.9
	comp=Z,1.9nm,0.7s,baz=133,slow=6.6,SNR=21					
CMAR			ScP	ScP	22 00 03.9	-0.8
	comp=Z,0.8nm,0.5s,baz=171,slow=3.0,SNR=7.2					
CMAR			LR	LR	22 06 22.4	
	comp=Z,124nm,19.7s,baz=152,slow=38					
CMMT	Chiang Mai	30.48 311	P	P	21 53 26.8	+0.4
	comp=Z,13nm,1.2s					
CMMT	Chiang Mai	30.48 311	P	P	21 53 26.8	+0.4
	comp=Z,13nm,1.2s					
CHTO	Chiang Mai	30.49 311	eP	P	21 53 27.1	+0.6
	comp=Z,16nm,1.2s					
CHTO	Chiang Mai	30.49 311	P	P	21 53 27.2	+0.7
CHTO	Chiang Mai	30.49 311	P	P	21 53 27.2	+0.7
	comp=Z,15nm,1.2s					
GYA	Guiyang	31.21 331	eP	P	21 53 35.3	+2.5
GYA			pP	pP	21 53 49.8	+6.9
GYA			sP	sP	21 53 57.6	+10
GYA			PP	PP	21 54 41.3	-2.4
GYA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
GYA			pmax	pmax		
	comp=Z,80nm,5.0s					
KMI	Kunming	32.24 324	P	P	21 53 47.0	+4.9
NWAO	Narrogin (SRO)	32.50 189	P	P	21 53 42.5	-1.4
NWAO	Narrogin (SRO)	32.50 189	P	P	21 53 42.5	-1.4
	comp=Z,18nm,1.1s,baz=339,slow=8.6,SNR=3.1					
NJ2	Nanjing	32.80 354	eP	P	21 53 50.8	+4.3
NJ2			pmax	pmax		
	comp=Z,40nm,1.0s					
ENH	Enshi	33.34 339	eP	P	21 53 50.7	-0.7
	comp=Z,11nm,0.8s					
RKGY	Rocky Gully	34.19 189	P	P	21 54 03.4	+4.7
	baz=34,SNR=6.9					
STKA	Stephens Creek	35.69 152	P	P	21 54 13.3	+1.6
STKA	Stephens Creek	35.69 152	P	P	21 54 13.3	+1.6
	comp=Z,3.5nm,0.7s,baz=334,slow=7.5,SNR=3.8					
STKA			LR	LR	22 09 00.8	
	comp=Z,99nm,20.2s,baz=204,slow=36					
CD2	Chengdu	36.32 332	eP	P	21 54 17.9	+0.8
CD2			pP	pP	21 54 28.9	+1.6
CD2			S	S	21 59 57.3	+1.4
CD2			pmax	pmax		
	comp=Z,20nm,0.8s					
CD2			pmax	pmax		
	comp=Z,120nm,4.8s					
CD2			LR	LR		
	comp=E,160nm,14.2s					
CD2			LR	LR		
	comp=Z,150nm,13.2s					
XAN	Xi'an	36.96 341	P	P	21 54 22.8	+0.2
XAN			pmax	pmax		
	comp=Z,2.0nm,1.1s					
MJAR	Matsushiro Arr	39.69 19	P	P	21 54 42.9	-2.5
MJAR	Matsushiro Arr	39.69 19	P	P	21 54 42.9	-2.5
	comp=Z,2.5nm,0.8s,baz=192,slow=9.3,SNR=8.5					
LZH	Lanzhou	40.67 336	eP	P	21 55 02.8	+9.0
LZH			pP	pP	21 55 13.1	+9.1
LZH			sP	sP	21 55 17.0	+8.8
LZH			pmax	pmax		
	comp=Z,14nm,1.0s					
BJI	Beijing	41.01 352	P	P	21 55 00.8	+4.6
BJI			pmax	pmax		
	comp=Z,10.0nm,0.6s					
BJI			LR	LR		
	comp=Z,40nm,18.2s					
HHC	Hu-ho-hao-te	42.62 347	eP	P	21 55 11.9	+2.3
HHC			PP	PcP	21 56 54.1	-7.3
HHC			S	S	22 01 33.9	+3.6
HHC			pmax	pmax		
	comp=Z,21nm,0.7s					
HHC			pmax	pmax		
	comp=Z,140nm,5.3s					
HHC			LR	LR		
	comp=N,220nm,15.2s					
HHC			LR	LR		
	comp=E,190nm,15.2s					
HHC			LR	LR		
	comp=Z,130nm,15.2s					
LSA	Lhasa	42.79 318	P	P	21 55 11.3	-0.2
LSA	Lhasa	42.79 318	eP	P	21 55 11.7	+0.1
	comp=Z,9.2nm,0.6s					
ODAN	Odare	43.80 311	eP	P	21 55 19.0	-0.5
	comp=Z,30nm,0.8s					
TAPN	Taplejung	43.83 312	eP	P	21 55 17.8	-2.0
	comp=Z,21nm,0.6s					
CN2	Changchun	44.36 3	eP	P	21 55 27.6	+4.2
RAMN	Ramite	44.44 311	eP	P	21 55 24.4	-0.3
	comp=Z,19nm,0.6s					
JIRN	Jiri	45.13 312	eP	P	21 55 29.8	-0.5
	comp=Z,27nm,0.6s					
GTA	Gaotai	45.17 335	P	P	21 55 38.1	+8.0
GTA			pP	pP	21 55 48.9	+8.4
GTA			sP	sP	21 55 52.5	+7.8
GTA			S	S	22 02 20.5	+13
GTA			sS	sS	22 02 37.1	+12
GTA			SS	SS	22 05 37.9	+6.9
GTA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,72nm,4.0s					
GTA			LR	LR		
	comp=N,51nm,16.2s					
GTA			LR	LR		
	comp=E,78nm,17.3s					
GTA			LR	LR		
	comp=Z,99nm,16.6s					
USRK	Ussuriysk Arra	45.43 9	LR	LR	22 14 13.6	
	comp=Z,48nm,18.9s,baz=116,slow=36					
GUN	Gumba	45.50 312	eP	P	21 55 32.5	-0.7
	comp=Z,37nm,0.7s					
MDJ	Mudanjiang	45.51 7	P	P	21 55 33.4	+0.9
MDJ			pP	pP	21 55 45.8	+2.9
MDJ			sP	sP	21 55 52.5	+5.4
MDJ			PP	PP	21 57 20.6	+1.1
MDJ			S	S	22 02 13.8	+1.7
MDJ			pmax	pmax		
	comp=Z,7.0nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,55nm,4.1s					
MDJ			LR	LR		
	comp=N,42nm,20.8s					
MDJ			LR	LR		
	comp=E,54nm,24.9s					
MDJ			LR	LR		
	comp=Z,30nm,18.7s					
PKI	Pulchoki	45.67 311	eP	P	21 55 33.4	-1.1
PKIN	Phulchoki	45.68 311	eP	P	21 55 33.4	-1.2
KKN	Kakani	45.88 311	eP	P	21 55 34.8	-1.3
DMN	Daman	45.92 311	eP	P	21 55 34.8	-1.6
	comp=Z,15nm,0.7s					
KOLN	Koldanda	47.15 310	eP	P	21 55 45.4	-0.6
	comp=Z,20nm,0.7s					
DANN	Dangsing	47.32 311	eP	P	21 55 46.8	-0.6
	comp=Z,40nm,0.7s					
ULN	Ulaanbaatar	50.30 346	eP	P	21 56 08.5	-1.3
	comp=Z,4.0nm,1.0s					
SONM	Songino Array	50.43 346	P	P	21 56 09.5	-1.2
SONM			ScP	ScP	22 01 20.3	-2.0
SONM	Songino Array	50.43 346	P	P	21 56 09.5	-1.2
	comp=Z,1.9nm,0.8s,baz=154,slow=9.8,SNR=15					
SONM			ScP	ScP	22 01 20.3	-2.0
	comp=Z,0.4nm,0.6s,baz=144,slow=5.2,SNR=4.1					
WMQ	Urumqi	54.33 329	eP	P	21 56 43.0	+3.3
WMQ			pmax	pmax		
	comp=Z,64nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,900nm,3.2s					
KSH	Kashi	58.63 319	eP	P	21 57 12.8	+2.4
MK31	Makanchi Array	59.15 329	eP	P	21 57 11.8	-2.1
MKAR	Makanchi Array	59.15 329	P	P	21 57 11.9	-1.9
MKAR	Makanchi Array	59.15 329	P	P	21 57 11.9	-1.9
	comp=Z,1.8nm,0.7s,baz=126,slow=8.4,SNR=20					
MKAR			LR	LR	22 25 21.5	
	comp=Z,40nm,19.0s,baz=335,slow=39					
RPZ	Rata Peaks	60.53 142	P	P	21 57 23.6	+0.3
RPZ	Rata Peaks	60.53 142	P	P	21 57 23.6	+0.3
	comp=Z,13nm,1.0s,baz=14,slow=5.4,SNR=5.8					
PETK	Petropavlovsk-	60.96 23	P	P	21 57 27.4	+1.3
PETK	Petropavlovsk-	60.96 23	P	P	21 57 27.4	+1.3
	comp=Z,1.9nm,0.8s,baz=236,slow=6.8,SNR=4.2					
AAK	Ala-Archa	61.20 321	LR	LR	22 25 05.2	
	comp=Z,43nm,18.5s,baz=279,slow=37					
KBL	Kabul	61.31 311	eP	P	21 57 29.8	+0.7
	comp=Z,4.9nm,0.6s					
ZALV	Zalesovo Beam	62.90 336	P	P	21 57 39.5	+0.4
ZALV	Zalesovo Beam	62.90 336	P	P	21 57 39.5	+0.4
	comp=Z,0.8nm,0.6s,baz=116,slow=6.6,SNR=2.8					
ABKAR	Akbulak array	73.21 322	eP	P	21 58 41.7	-2.2
	comp=Z,0.7nm,0.6s					
ATD	Arta Tunnel	80.39 282	LR	LR	22 32 24.7	
	comp=Z,40nm,21.0s,baz=176,slow=34					
KMBO	Kilima Mbogo	85.63 269	LR	LR	22 36 05.4	
	comp=Z,80nm,18.6s,baz=97,slow=34					
TORD	Torodi Ar. Bea	120.48 285	PKP	PKPdf	22 06 03.6	-1.8
TORD	Torodi Ar. Bea	120.48 285	PKP	PKPdf	22 06 03.6	-1.8
	comp=Z,0.4nm,0.6s,baz=43,slow=0.8,SNR=5.1					

*ISCJB **20** 21:47:24.9±1.1, 23°.2S±0°.2×179°.8W±0°.2, h532km, mb4.1/8, Error ellipse: s-maj=28.2km s-min=19.6km az=166.5*
*AUST **20** 21:47:30.2, 23°.13S×179°.67W, h600km*
*IDC **20** 21:47:32.4±5.0, 23°.40S×179°.97W, h608km±59km, mb3.6/8, mb1 3.8/9, mb1mx3.4/21, mbtmp3.6/9, Error ellipse: s-maj=34.2km s-min=26.2km az=45.0*

ISC 20 21:47:26.8±0.8, 23°.4S±0°.2×179°.9W±0°.1, h532km, n23, σ1§39/22, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	10.27	67	S	S	21 51 44.9	+2.0
	baz=9.9,SNR=3.5						
DZM	Mont Dzumac	12.65	273	P	P	21 50 18.0	+5.8
	0.5nm,0.3s,baz=94,slow=19,SNR=5.0						
MGCD	Mangrove Creek	27.24	243	P	P	21 52 30.3	+2.1
	baz=28,SNR=9.5						
RMQ	Roma	28.53	257	P	P	21 52 41.9	+2.3
	baz=29,SNR=4.2						
CNB	Canberra Magne	29.17	239	P	P	21 52 47.0	+1.9
	baz=30,SNR=4.6						
CMSA	Cobar Meteorol	31.47	247	P	P	21 53 06.0	+1.1
	baz=32,SNR=14						
CTA	Charters Tower	31.55	269	P	P	21 53 06.8	+1.1
	22nm,0.4s,baz=94,slow=12,SNR=49						
STKA	Stephens Creek	34.98	247	P	P	21 53 35.4	+0.8
	4.8nm,0.6s,baz=84,slow=11,SNR=16						
STKA	Stephens Creek	34.98	247	P	P	21 53 35.4	+0.8
	baz=35,SNR=13						
ASAR	Alice Springs	42.19	260	P	P	21 54 33.1	0.0
	11nm,0.6s,baz=96,slow=8.0,SNR=24						
WRA	Warramunga Arr	42.51	266	P	P	21 54 35.1	-0.6
	4.4nm,0.3s,baz=92,slow=8.5,SNR=53						
FORT	Forrest	46.55	249	P	P	21 55 06.4	-0.3
	baz=47,SNR=7.0						
MTN	Manton Dam	47.49	274	P	P	21 55 12.8	-1.1
	baz=48,SNR=3.8						
KNRA	Kununurra	48.76	269	P	P	21 55 23.2	-0.2
	baz=49,SNR=7.7						
FITZ	Fitzroy Crossi	50.94	265	P	P	21 55 39.4	0.0
	6.0nm,0.4s,baz=87,slow=5.2,SNR=28						
FITZ	Fitzroy Crossi	50.94	265	P	P	21 55 39.4	0.0
	baz=51,SNR=19						
VNDA	Vanda	54.89	185	P	P	21 56 07.3	+0.7
	0.7nm,0.5s,baz=7.5,slow=8.4,SNR=5.3						
KLBR	Kellerberrin	55.25	247	P	P	21 56 09.3	-0.6
	baz=56,SNR=7.1						
MEEK	Meekatharra	55.32	253	P	P	21 56 09.4	-1.1
	baz=56,SNR=8.4						
MORW	Morawa	57.11	250	P	P	21 56 22.1	-0.7
	baz=57,SNR=6.8						
CMAR	Chiang Mai Arr	89.42	290	P	P	21 59 27.6	+0.2
	1.0nm,0.7s,baz=124,slow=3.0,SNR=6.7						
TXAR	Lajitas Array	90.11	58	P	P	21 59 28.9	-1.5
	0.7nm,0.7s,baz=225,slow=7.2,SNR=7.6						
TORD	Torodi Ar. Bea	169.69	189	PKPab	PKPab	22 07 48.5	-3.0
	0.6nm,1.1s,baz=164,slow=5.2,SNR=3.7						

*IDC **20** 21:56:19.7±1.5, 53°.03N×163°.64W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/29, mbtmp3.6/7, ML3.6/2, MS2.9/1, Ms1 3.0/1, ms1mx2.4/37, Error ellipse: s-maj=36.2km s-min=19.4km az=173.0*
*NEIC **20** 21:56:21.4, 52°.76N×163°.75W, h26km, ML3.4(AEIC), After AEIC.*

ISC 20 21:56:18.7±3.1, 52°.88N±0°.09×163°.68W±0°.05, h2km±18km, n33, σ1§34/41, mb3.6/5, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.69	342	P	Pb	21 56 50.8	+0.4
AKSA	Akutan Strait	1.74	317	P	Pn	21 56 50.7	+0.8
AKSA				S	Sb	21 57 13.3	-0.5
BRPK	Brown Peak	1.77	359	P	Pb	21 56 52.3	+0.5
BRPK				S	Sg	21 57 16.1	+0.6
AKUT	Akutan	1.77	316	P	Pn	21 56 51.3	+1.0
AKUT				S	Sb	21 57 14.2	-0.4
ZRO	Akutan Zero	1.83	312	P	Pn	21 56 52.1	+0.8
ZRO				S	Sb	21 57 15.5	-0.9
AKRB	Akutan Reef Bi	1.90	312	P	Pn	21 56 52.9	+0.8
AKRB				S	Sn	21 57 16.8	+0.1
AKGG	Akutan Green G	1.91	315	P	Pn	21 56 53.0	+0.7
AKGG				S	Sn	21 57 16.9	0.0
SSLW	Shishaldin Wes	1.92	352	P	Pb	21 56 54.2	-0.2
SSBA	Shishaldin	1.92	352	P	Pb	21 56 53.9	-0.5
ISNN	Isanotski Nort	1.96	358	P	Pb	21 56 55.6	+0.6
FALS	False Pass	1.99	4	P	Pb	21 56 55.4	-0.2
FALS				S	Sg	21 57 22.2	-0.3
MREP	Makushin Rep't	2.06	298	P	Pn	21 56 55.0	+0.6
MTBL	Makushin Table	2.10	303	P	Pn	21 56 55.6	+0.7
MSOM	Makushin Julie	2.17	297	P	Pn	21 56 55.5	-0.4
MCIR	Makushin Cirqu	2.20	300	P	Pn	21 56 57.1	+0.8
DT1	Dutton Round H	2.38	20	P	Pn	21 57 00.3	+1.6
DTNA	Dutton South F	2.43	20	P	Pn	21 57 01.3	+2.0
OKFG	Magazine Ridge	2.60	283	P	Pn	21 57 00.7	-1.0
OKTU	Okmok Mt. Tuli	2.68	283	P	Pn	21 57 02.7	-0.2
OKSO	Okmok South	2.74	282	P	Pn	21 57 02.5	-1.2
OKCE	Okmok Cone E	2.76	283	P	Pn	21 57 03.4	-0.5
OKSP	Okmok Steeple	2.81	280	P	Pn	21 57 03.8	-0.8
SDPT	Sand Point	3.11	36	P	Pn	21 57 10.9	+2.2
NIKH	Nikolski High	3.13	274	P	Pn	21 57 07.0	-2.1
VNHG	Veniaminof 1	4.26	36	P	Pn	21 57 27.7	+3.1
KDAK	Kodiak Island	8.01	48	Pn	Pn	21 58 17.2	+1.3
	1.1nm,0.3s,baz=85,slow=21,SNR=14						
KDAK				Sn	Sn	21 59 42.5	-4.4
	0.6nm,0.3s,baz=335,slow=19,SNR=3.0						
ADK	Adak	8.02	268	P	Pn	21 58 15.6	-0.5
ILAR	Eielson Array	14.69	29	Pn	Pn	21 59 45.0	-2.2
	0.1nm,0.3s,baz=223,slow=13,SNR=3.7						
ILAR				LR	LR	22 05 04.8	
	comp=Z,46nm,19.6s,baz=169,slow=36						
PETK	Petropavlovsk-	23.06	286	P	P	22 01 26.3	+1.1
	1.2nm,0.5s,baz=98,slow=13,SNR=4.5						
PDAR	Pinedale Array	36.90	84	P	P	22 03 30.1	+1.3
	0.4nm,0.4s,baz=318,slow=4.2,SNR=4.1						
TXAR	Lajitas Array	49.29	94	P	P	22 05 09.4	+0.4
	0.4nm,0.6s,baz=308,slow=4.3,SNR=4.0						
SONM	Songino Array	53.96	304	P	P	22 05 44.7	+1.0
	0.5nm,0.8s,baz=43,slow=3.7,SNR=4.2						
MKAR	Makanchi Array	65.90	317	P	P	22 07 06.0	+0.3
	0.6nm,0.8s,baz=36,slow=5.1,SNR=4.4						

MAN 20 22:04:51, 10°.15N×122°.41E, h12km, mb4.5, ML3.4, MS3.2, 1C-3D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	Roxas	1.44	13⇓	eP	Pn	22 05 14.2	-2.7
RCP				eS	Sn	22 05 33.6	-2.2
LLP	Lapu-Lapu	1.54	84⇓	eP	Pn	22 05 16.5	-1.9
LLP				eS	Sn	22 05 35.0	-3.4
DCPH	Dipolog City	1.82	149⇑	eP	Pn	22 05 21.9	-0.2
DCPH				eS	Sn	22 05 44.4	-0.7
IPIL	Ipil	2.36	176	eP	Pn	22 05 31.3	+1.8
PAGZ	Pagadian	2.48	157	eP	Pn	22 05 33.1	+1.8
PAGZ				eS	Sn	22 05 37.8	-24
CGP	Cagayan de Oro	2.82	127⇓	eP	Pn	22 05 38.6	+2.7
CGP				eS	Sn	22 06 09.1	-0.8
BUKP	Musuan	3.46	131	eP	Pn	22 05 45.9	+1.0

*IDC **20** 22:05:52.1±0.6, 1°.39S×99°.49E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.1/27, mbtmp4.1/19, ML3.7/2, Error ellipse: s-maj=23.9km s-min=13.0km az=56.0*
*ISCJB **20** 22:05:54.6±0.5, 1°.41S±0°.06×99°.37E±0°.05, h30km, mb4.1/17, Error ellipse: s-maj=8.3km s-min=6.6km az=174.5*
*DJA **20** 22:06:00.2±1.0, 1°.5S±4°.×10°.0E±°, h10km, M4.8/7, mb4.9/3, mB5.3/1, MLv4.7/7, Mw(mB)4.7/1*

ISC 20 22:05:56.8±0.6, 1°.37S±0°.06×99°.48E±0°.06, h30km, n30, σ1§33/33, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.09	65	P	Pn	22 06 15.1	-0.9
PDSI				S	Sb	22 06 31.3	+0.4
PPI	Padang Panjang	1.29	45	P	Pn	22 06 18.8	0.0
PPI				S	Sb	22 06 37.8	+1.0
BKNI	Bangkinang	2.30	43	P	Pb	22 06 40.2	+2.6
RGRI	Rengat	3.03	70	P	Pb	22 06 47.5	-2.6
RGRI				S	Sn	22 07 20.2	+2.1
KSI	Kapahiang	3.85	126	P	Pn	22 06 56.3	+2.2
PSI	Prapat	4.18	352	Pn	Pn	22 06 56.1	-2.6
	1.2nm,0.3s,baz=172,slow=15,SNR=3.5						
SNSI	Sinabang, Aceh	4.90	320	P	Pb	22 07 17.6	-4.3
	102nm,0.7s,0.5nm						
KCSI	Kotacane, Aceh	5.15	341	P	Pb	22 07 20.8	-5.4
	36nm,0.6s,0.2nm						
LWLI	Liwa	5.83	128	P	Pn	22 07 22.6	+1.2
CMAR	Chiang Mai Arr	19.71	358	P	P	22 10 24.6	+0.6
	0.3nm,0.3s,baz=188,slow=9.7,SNR=18						
FITZ	Fitzroy Crossi	30.60	125	P	P	22 12 08.2	-0.1
	0.9nm,0.5s,baz=314,slow=9.8,SNR=4.2						
WRA	Warramunga Arr	38.76	121	P	P	22 13 17.7	-1.2

FINES	FINESS Array B	83.32	332	P	P	22 18 20.7	+0.1
	0.9nm,0.5s,baz=97,slow=6.1,SNR=10						
ARCES	ARCESS Array B	85.71	340	P	P	22 18 32.9	+0.3
	1.4nm,0.8s,baz=90,slow=6.1,SNR=3.8						
GERES	GERESS Array B	88.23	319	P	P	22 18 46.0	+0.6
	0.2nm,0.5s,baz=86,slow=5.6,SNR=6.4						
KEST	Kesra	90.90	306	P	P	22 18 59.3	+1.2
	0.8nm,0.8s,baz=293,slow=7.7,SNR=4.1						
CPUP	Villa Florida	144.50	217	PKP	PKPbc	22 25 29.9	+0.3
	5.4nm,0.8s,baz=131,slow=3.1,SNR=11						
TXAR	Lajitas Array	144.52	36	PKP	PKPbc	22 25 30.2	+0.4
	1.8nm,0.6s,baz=269,slow=1.0,SNR=26						
CFAA	Coronel Fontan	145.19	199	PKPbc	PKPdf	22 25 32.0	-0.2
	1.3nm,0.6s,baz=173,slow=3.4,SNR=22						

*IDC **20** 22:40:59.0±9.1, 23°.11N×123°.66E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/25, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=164.3km s-min=45.0km az=162.0*
*NIED **20** 22:41:00, 23°.40N×123°.70E, h32km, Mw3.6 Best double couple: M0 3.31000×10^14 NP1:φ=228.00000°, δ=88.00000°, λ=-162.00000°. NP2:φ=137.00000°, δ=72.00000°, λ=-3.00000°.*
*JMA **20** 22:41:05.8±0.3, 23°.42N×123°.69E, h50km±4km, M3.6*
ISC 20 22:41:06.9±4.2, 23°.5N±0°.3×123°.68E±0°.07, h42km±29km, n13, σ0°52/18, mb3.3/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.62	11	P	Pn	22 41 18.9	-0.3
HATJ				S	Sn	22 41 28.4	+0.3
JKRS	Kuro-shima	0.84	21	P	Pn	22 41 22.2	-0.1
JKRS				S	Sn	22 41 34.3	+0.8
IRIF	Iriomote-Funau	0.88	3	P	Pn	22 41 22.6	-0.3
IRIF				S	Sn	22 41 34.9	+0.4
JIJ	Ishigaki jima	1.00	25	P	Pn	22 41 23.9	-0.6
JIJ				S	Sn	22 41 37.0	-0.5
YOJ	Yonaguni jima	1.18	329	P	Pn	22 41 26.9	0.0
YOJ				S	Sn	22 41 41.7	-0.1
JTJ	Tarama	1.51	38	P	Pn	22 41 31.1	-0.4
JTJ				S	Sn	22 41 49.9	0.0
JMJ	Miyako jima 2	2.00	47	S	Sn	22 42 02.3	+0.2
JOGS	Gusukube	2.05	50	S	Sn	22 42 04.0	+0.8
KSRS	Korea Array	14.43	14	Pn	P	22 44 29.6	-4.8
	0.1nm,0.3s,baz=196,slow=13,SNR=3.6						
MJAR	Matsushiro Arr	18.10	41	P	Pn	22 45 15.3	+0.2
	0.2nm,0.3s,baz=222,slow=10,SNR=5.0						
SONM	Songino Array	27.97	335	P	P	22 46 53.7	+0.1
	0.6nm,0.8s,baz=134,slow=11,SNR=4.3						
MKAR	Makanchi Array	40.46	316	P	P	22 48 42.1	+0.7
	0.2nm,0.4s,baz=101,slow=9.1,SNR=6.7						
ZALV	Zalesovo Beam	42.11	326	P	P	22 48 54.0	-0.8
	0.5nm,0.5s,baz=113,slow=9.3,SNR=3.1						

*ISCJB **20** 22:45:14.4±0.5, 1°.51N±0°.05×127°.09E±0°.08, h103km, mb4.2/13, Error ellipse: s-maj=11.6km s-min=7.6km az=171.2*
*IDC **20** 22:45:19.8±2.3, 1°.46N×127°.31E, h144km±20km, mb3.9/13, mb1 4.0/15, mb1mx3.8/26, mbtmp3.9/15, Error ellipse: s-maj=31.4km s-min=9.8km az=73.0*
*AUST **20** 22:45:22.0, 1°.50N×127°.00E, h200km*
*DJA **20** 22:45:25.8±0.5, 1°.N±8°.×12°.7E±°., h10km, M4.5/4, MLv4.5/4*
ISC 20 22:45:16.3±0.6, 1°.49N±0°.07×127°.22E±0°.08, h103km, n37, σ1°98/31, mb4.1/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.73	168	P	Pn	22 45 41.2	+6.9
LBMI	Labuha	2.14	172	P	Pn	22 45 56.2	+5.4
KMSI	Cibinong	3.36	254	P	Pn	22 45 56.5	-10
GTOI	Gorontalo	4.29	259	P	Pn	22 46 24.5	+5.0
NLAI	Namlea	4.70	181	P	Pn	22 46 14.4	-11
LUWI	Luwuk	5.11	240	P	Pn	22 46 33.1	+2.6
LUWI	Luwuk	5.11	240	P	Pn	22 46 33.3	+2.7
	baz=4.9,SNR=9.1						
MRSI	Marisa	5.37	259	P	Pn	22 46 36.7	+2.6
KAPI	Kappang	9.87	229	P	Pn	22 47 40.6	+5.4
	3.6nm,0.3s,baz=30,slow=5.9,SNR=12						
KAPI				S	Sn	22 49 23.2	-1.1
	4.7nm,0.3s,baz=12,slow=19,SNR=8.1						
JAY	Jayapura	14.06	106	P	P	22 48 37.3	+1.8
	baz=14,SNR=4.3						
MTN	Manton Dam	14.77	165	P	Pn	22 48 39.5	-0.5
	baz=15,SNR=54						
KDU	Kakadu	15.02	160	P	P	22 48 47.5	+1.3
	baz=15,SNR=8.1						
KNRA	Kununurra	17.13	175	P	P	22 49 10.1	+0.6
	baz=17,SNR=20						
FITZ	Fitzroy Crossi	19.54	184	P	P	22 49 35.4	-0.4
	1.1nm,0.3s,baz=22,slow=9.1,SNR=36						
FITZ	Fitzroy Crossi	19.54	184	P	P	22 49 35.4	-0.4
	baz=20,SNR=22						
COEN	Coen	22.04	135	P	P	22 50 04.9	+2.2
	baz=22,SNR=5.6						
WRA	Warramunga Arr	22.42	162	P	P	22 50 05.7	-1.0
	7.9nm,0.4s,baz=340,slow=11,SNR=147						
WRA				ScP	ScP	22 57 20.4	-5.9
	0.8nm,0.7s,baz=345,slow=3.3,SNR=5.6						
MTSU	Mount Surprise	25.77	140	P	P	22 50 40.0	+2.3
	baz=26,SNR=4.9						
ASAR	Alice Springs	25.84	166	P	P	22 50 37.4	-0.9
	3.2nm,0.5s,baz=352,slow=7.6,SNR=47						
ASAR				ScP	ScP	22 57 30.5	-5.1
	0.5nm,0.4s,baz=343,slow=2.7,SNR=5.0						
MEEK	Meekatharra	29.17	196	P	P	22 51 07.8	-0.2
	baz=29,SNR=5.1						
PATS	Pohnpei	31.45	79	P	P	22 51 22.3	-6.1
	baz=32,SNR=3.4						
CMAR	Chiang Mai Arr	32.45	303	P	P	22 51 37.6	+0.6
	1.4nm,0.3s,baz=116,slow=7.6,SNR=6.1						
KLBR	Kellerberrin	34.11	194	P	P	22 51 50.6	-0.6
	baz=34,SNR=12						
NWAO	Narrogin (SRO)	35.51	195	P	P	22 52 02.5	-0.8
	21nm,1.1s,baz=332,slow=4.1,SNR=5.5						
KSRS	Korea Array	35.79	1	P	P	22 52 06.3	+0.7
	0.8nm,0.3s,baz=177,slow=11,SNR=4.0						
STKA	Stephens Creek	35.88	159	P	P	22 52 05.8	-0.6
	4.3nm,0.5s,baz=318,slow=9.6,SNR=15						
STKA	Stephens Creek	35.88	159	P	P	22 52 06.0	-0.5
	baz=36,SNR=12						
ARMA	Armidale	39.35	146	P	P	22 52 36.6	+0.8
	baz=40,SNR=14						
LHI	Lord Howe Isla	44.62	140	P	P	22 53 11.6	-7.0
	baz=45,SNR=3.8						
SONM	Songino Array	49.56	342	P	P	22 53 56.6	-0.2
	1.1nm,0.6s,baz=159,slow=8.4,SNR=6.8						
MKAR	Makanchi Array	59.66	326	P	P	22 55 09.8	0.0
	3.9nm,0.7s,baz=116,slow=8.1,SNR=54						
ZALV	Zalesovo Beam	62.79	333	P	P	22 55 29.1	-1.7
	0.4nm,0.3s,baz=104,slow=6.1,SNR=3.6						
KBL	Kabul	63.27	308	P	P	22 55 26.8	-7.8
	baz=63,SNR=3.9						
KURBB	Kurchatov Arra	63.87	328	P	P	22 55 37.6	-0.3
	3.5nm,0.6s,baz=128,slow=6.1,SNR=32						
BVAR	Borovoye Array	69.45	327	P	P	22 56 12.7	-0.7
	1.3nm,0.6s,baz=128,slow=9.6,SNR=9.5						
AKTO	Aktyubinsk	75.70	322	P	P	22 56 49.8	-0.7
	1.7nm,0.6s,baz=100,slow=12,SNR=8.5						
VNDA	Vanda	81.16	173	P	P	22 57 18.6	-1.4
	0.7nm,0.5s,baz=314,slow=6.4,SNR=5.4						

*IDC **20** 22:48:21.1±4.7, 1°.55S×99°.46E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=235.2km s-min=23.7km az=54.0*
*ISCJB **20** 22:48:23.3±1.1, 1°.6S±0°.1×99°.3E±0°.1, h30km, mb3.7/4, Error ellipse: s-maj=17.9km s-min=11.0km az=138.5*
*DJA **20** 22:48:29.5±1.2, 1°.S±8°.×10°.0E±°., h10km, M4.2/4, MLv4.2/4*
ISC 20 22:48:25.5±1.4, 1°.5S±0°.1×99°.5E±0°.1, h30km, n10, σ0°83/10, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.13	57	P	Pb	22 48 46.1	-0.4
PDSI				S	Sb	22 49 02.0	+1.1
PPI	Padang Panjang	1.39	40	P	Pb	22 48 49.7	-1.1
PPI				S	Sb	22 49 08.6	+0.5
SDSI	Sungai Dareh	2.01	73	P	Pb	22 49 00.5	-0.9
BKNI	Bangkinang	2.40	40	P	Pb	22 49 11.3	+3.3
RGRI	Rengat	3.06	68	P	Pb	22 49 24.1	+4.8
WRA	Warramunga Arr	38.66	121	P	P	22 55 46.4	-0.4
	0.7nm,0.6s,baz=295,slow=8.9,SNR=5.6						
ASAR	Alice Springs	39.93	126	P	P	22 55 57.9	+0.5
	0.5nm,0.5s,baz=306,slow=7.9,SNR=4.0						
MKAR	Makanchi Array	50.45	345	P	P	22 57 21.3	+0.9
	0.6nm,0.6s,baz=153,slow=8.2,SNR=3.9						
ZALV	Zalesovo Beam	56.62	350	P	P	22 58 05.1	-0.4
	0.4nm,0.3s,baz=151,slow=6.6,SNR=2.5						
TXAR	Lajitas Array	144.62	36	PKP	PKPdf	23 08 00.2	+0.1
	0.3nm,0.4s,baz=221,slow=0.8,SNR=8.9						

GUC 20 22:50:55.0±0.6, 35°.50S×72°.57W, h43km±2km, MD3.9, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	Constitucion	0.21	39	eP	Pn	22 51 02.4	-0.3
CTCH				i S	Sn	22 51 08.7	+0.6
CTCH				AML	AML	22 51 10.3	
	comp=E,12μm,0.4s						
TALC	Talca	0.77	83	eP	Pn	22 51 09.6	+0.1
TALC				i S	Sn	22 51 21.1	+1.1
TALC				AML	AML	22 51 22.2	
	comp=E,3μm,0.2s						
CACH	El Canelo	2.13	50	eP	Pn	22 51 29.3	+1.0
CACH				eS	Sn	22 51 55.1	+1.5
CHCH	Chadas Angostu	2.22	46	↓iP	Pn	22 51 30.7	+1.3
CHCH				i S	Sn	22 51 56.9	+1.1
RCDM	Rinconada Maip	2.48	37	eP	Pn	22 51 30.1	-2.9
RCDM				i S	Sn	22 51 59.4	-2.6
RCDM				AML	AML	22 52 04.2	
	comp=E,222nm,0.6s						
LMEL	Las Melosas	2.55	51	eP	Pn	22 51 35.2	+1.1
LMEL				i S	Sn	22 52 05.9	+1.7
LMEL				AML	AML	22 52 09.1	
	comp=N,260nm,0.8s						
CLCH	Cerro Calan	2.69	39	eP	Pn	22 51 36.7	+0.8
CLCH				i S	Sn	22 52 08.3	+1.1
CLCH				AML	AML	22 52 11.6	
	comp=N,199nm,0.7s						
PEL	Peldehue	2.82	34	eP	Pn	22 51 38.4	+0.7
PEL				i S	Sn	22 52 11.5	+1.0
PEL				AML	AML	22 52 24.1	
	comp=E,304nm,0.5s						
ROCH	El Roble	2.83	28	AML	AML	22 52 20.3	
	comp=N,152nm,0.6s						

IDC 20 23:18:31.0±2.0, 2°.34S×128°.13E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=145.6km s-min=26.2km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.52	161	P	P	23 22 49.0	-0.2
	0.1nm,0.3s,baz=340,slow=12,SNR=8.6						
ASAR	Alice Springs	21.93	166	P	P	23 23 25.9	-0.3
	0.3nm,0.5s,baz=345,slow=12,SNR=4.7						
MKAR	Makanchi Array	63.33	327	P	P	23 29 02.1	+0.1
	0.2nm,0.5s,baz=136,slow=6.7,SNR=4.4						

*ISCJB **20** 23:21:06.6±0.7, 23°.14S±0°.05×69°.07W±0°.06, h110km±7km, mb4.0/2, Error ellipse: s-maj=9.9km s-min=7.1km az=40.2*
*GUC **20** 23:21:07.2±0.6, 23°.11S×69°.08W, h96km±4km, ML4.1*
*IDC **20** 23:21:17.4±9.9, 22°.46S×68°.43W, h152km±71km, mb3.8/2, mb1 3.6/4, mb1mx3.3/18, mbtmp3.6/4, Error ellipse: s-maj=107.1km s-min=38.3km az=10.0*
ISC 20 23:21:07.5±1.0, 23°.14S±0°.06×69°.06W±0°.06, h102km±9km, n14, σ0°68/20, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.82	74	↑iP	Pn	23 21 26.4	-0.2
SPCH				i S	Sn	23 21 41.0	+0.1
SPCH				AML	AML	23 21 42.1	
	comp=N,9μm,0.6s						
PB04	Plate Boundary	0.96	335	↓iP	Pn	23 21 31.1	+3.4
PB04				i S	Sn	23 21 49.2	+6.4
PB04				AML	AML	23 21 51.2	
	comp=N,5μm,0.3s						
CEN1	Los Morros	1.08	256	↓iP	Pn	23 21 29.5	+0.4
CEN1				i S	Sn	23 21 47.1	+1.8
CEN1				AML	AML	23 21 49.6	
	comp=N,1μm,0.5s						
MACH	Maria Elena	1.14	325	↑iP	Pn	23 21 29.6	-0.3
MACH				i S	Sn	23 21 46.4	-0.4
PB09	Plate Boundary	1.35	353	↓iP	Pn	23 21 32.7	+0.5
PB09				i S	Sn	23 21 51.5	+0.6
PB09				AML	AML	23 21 52.6	
	comp=N,9μm,0.6s						
ANCH	Antofagasta	1.36	246	↑iP	Pn	23 21 32.1	0.0
ANCH				i S	Sn	23 21 50.5	-0.3
ANCH				AML	AML	23 21 53.2	
	comp=E,2μm,0.1s						
PB10	Plate Boundary	1.43	255	↑iP	Pn	23 21 32.7	-0.3
PB10				i S	Sn	23 21 51.7	-0.6
PB10				AML	AML	23 21 58.0	
	comp=N,5μm,0.3s						
PB07	Plate Boundary	1.60	331	↓iP	Pn	23 21 35.1	-0.3
PB07				i S	Sn	23 21 56.0	-0.5
PB07				AML	AML	23 21 57.5	
	comp=E,2μm,0.3s						
PB01	Plate Boundary	2.12	349	↓iP	Pn	23 21 41.5	-0.4
PB01				i S	Sn	23 22 08.1	-0.1
PB01				AML	AML	23 22 09.3	
	comp=E,2μm,0.2s						
LPAZ	La Paz	6.87	7	P	Pn	23 22 47.2	+1.0
	comp=E,0.6nm,0.3s,baz=200,slow=6.4,SNR=13						
SIV	San Ignacio	10.35	48	P	Pn	23 23 29.1	-4.0
	comp=E,3.5nm,0.3s,baz=247,slow=12,SNR=29						
SIV				S	Sn	23 25 16.0	-11
	comp=E,0.7nm,0.3s,baz=144,slow=22,SNR=6.1						
BDFB	Brasilia	21.19	73	P	P	23 25 44.3	-0.8
	comp=E,4.3nm,0.3s,baz=235,slow=12,SNR=14						
TORD	Torodi Ar. Bea	78.04	70	P	P	23 32 55.1	-0.3
	comp=E,1.5nm,0.7s,baz=255,slow=5.5,SNR=28						
MKAR	Makanchi Array	147.03	37	PKPbc	PKPbc	23 40 39.2	+0.8
	comp=E,0.2nm,0.6s,baz=309,slow=3.6,SNR=4.5						

*NIED **20** 23:51:00, 35°.70N×140°.00E, h77km, Mw4.2 Best double couple: M0 2.21000×10^15 NP1:φ=188.00000°, δ=80.00000°, λ=-96.00000°. NP2:φ=41.00000°, δ=12.00000°, λ=-58.00000°.*
*ISCJB **20** 23:51:16.1±0.3, 35°.66N±0°.03×139°.98E±0°.05, h70km±3km, mb4.2/23, Error ellipse: s-maj=7.3km s-min=4.7km az=143.7*
*JMA **20** 23:51:16.5±0.2, 35°.71N×139°.97E, h64km±2km, M4.2 Broadband fault plane solution: P waves. NP1: φ=180.00000°, δ=83.00000°, λ=-92.00000°. NP2:φ=19.00000°, δ=7.00000°, λ=-71.00000°. Principal axes: T Plg38.000°, Azm272.0000°; N Plg2.0000°, Azm180.0000°; P Plg52.0000°, Azm87.0000°;*
JMA Felt III J1.
*NEIC **20** 23:51:16.6±0.9, 35°.66N×140°.07E, h61km±8km, mb4.5/1, MW4.2(NIED) Error ellipse: s-maj=11.1km s-min=9.2km az=70.0*
NEIC Recorded [3 JMA] in Chiba; [2 JMA] in Ibaraki, Kanagawa, Shizuoka and Tokyo; [1 JMA] in Gumma, Nagano, Saitama, Tochigi and Yamanashi.
*IDC **20** 23:51:19.1±1.8, 35°.66N×139°.86E, h80km±14km, mb3.9/19, mb1 4.1/22, mb1mx4.0/31, mbtmp3.9/22, MS3.2/9, Ms1 3.2/9, ms1mx2.9/44, Error ellipse: s-maj=18.0km s-min=13.2km az=80.0*
ISC 20 23:51:17.3±0.7, 35°.68N±0°.04×140°.00E±0°.05, h67km±6km, n73, σ1°16/82, mb4.2/23, 3C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	Tokyo	0.19	271	↓iP	Pn	23 51 27.0	-0.5
TOK				eS	Sn	23 51 34.8	-0.2
JCN	Nagara	0.31	147	↑iP	Pn	23 51 28.1	-0.2
JCN				eS	Sn	23 51 36.3	0.0
JOD2	Odawara 2	0.85	241	↓iP	Pn	23 51 32.7	-1.1
JOD2				eS	Sn	23 51 44.1	-2.0
JAG	Ashikaga	0.86	329	↓iP	Pn	23 51 33.0	-1.0
JAG				eS	Sn	23 51 44.8	-1.5
JRY	Ryogami san	0.95	291	↓iP	Pn	23 51 34.5	-0.6
JRY				eS	Sn	23 51 48.0	-0.2
BSO3	Boso 3	0.97	154	↑iP	Pn	23 51 34.1	-1.0
BSO3				eS	Sn	23 51 48.4	+0.1
JIM2	Oshima 3	1.07	206	P	Pn	23 51 34.9	-1.7
JIM2				eS	Sn	23 51 48.8	-2.1
JYN	Shimob	1.20	262	↓iP	Pn	23 51 37.5	-0.8
JYN				S	Sn	23 51 52.8	-1.1
JKT	Katashina	1.24	331	P	Pn	23 51 38.0	-0.8
JKT				eS	Sn	23 51 53.9	-1.0
BSO1	Boso 1	1.30	142	↑↑P	Pn	23 51 37.9	-1.2
JIZS	Izushimoda	1.33	224	↓↓P	Pn	23 51 38.9	-1.0
MJAR	Matsushiro Arr	1.68	301	P	Pn	23 51 44.5	-0.2
MJAR				S	Sn	23 52 05.0	-0.3
MJAR	Matsushiro Arr	1.68	301	P	Pn	23 51 44.5	-0.2
	50nm,0.3s,baz=290,slow=28,SNR=162						
MJAR				S	Sn	23 52 05.0	-0.3
	163nm,0.3s,baz=137,slow=21,SNR=20						
MAT	Matsushiro	1.68	301	P	Pn	23 51 44.6	-0.1
MAT				S	Sn	23 52 05.2	-0.2
ERM	Erimo	6.79	20	ePn	Pn	23 52 52.9	-1.3
ERM				eSn	Sn	23 54 05.6	-4.4
JNU	Nakatsue	7.96	254	ePn	Pn	23 53 12.5	+2.3
JNU	Nakatsue	7.96	254	P	Pn	23 53 10.6	+0.3
	1.1nm,0.3s,baz=89,slow=7.5,SNR=9.3						
JNU				LR	LR	23 55 41.1	
	comp=Z,101nm,19.2s,baz=300,slow=33						
CBIJ	Chichi jima	8.76	167	P	Pn	23 53 18.2	-3.1
CBIJ	Chichi jima	8.76	167	P	Pn	23 53 18.2	-3.1
	38nm,0.3s,baz=288,slow=12,SNR=23						
KSRS	Korea Array	9.87	284	P	Pn	23 53 38.0	+1.6
	0.8nm,0.3s,baz=100,slow=14,SNR=24						
KSRS				LR	LR	23 57 22.5	
	comp=Z,98nm,20.5s,baz=163,slow=37						
KSAR	Wonju Array Be	9.90	284	P	Pn	23 53 38.0	+1.2
USRK	Ussuriysk Arra	10.48	327	P	Pn	23 53 46.5	+1.8
	0.2nm,0.3s,baz=165,slow=22,SNR=3.6						
PETK	Petropavlovsk-	21.43	30	LR	LR	00 04 19.3	
	comp=Z,16nm,20.4s,baz=203,slow=36						
SONM	Songino Array	27.63	306	P	P	23 56 57.0	-1.5
SONM	Songino Array	27.63	306	P	P	23 56 57.0	-1.5
	1.4nm,0.6s,baz=104,slow=8.9,SNR=11						
SONM				LR	LR	00 07 36.0	
	comp=Z,46nm,20.8s,baz=298,slow=36						
ZAA0	Zalesovo Array	42.00	314	eP	P	23 59 01.4	-0.2
ZALV	Zalesovo Beam	42.00	314	P	P	23 59 02.0	+0.4
ZALV				PcP	PcP	00 00 55.1	-0.5
ZALV	Zalesovo Beam	42.00	314	P	P	23 59 02.0	+0.4
	18nm,0.6s,baz=91,slow=6.4,SNR=71						
ZALV				PcP	PcP	00 00 55.1	-0.5
	1.0nm,0.5s,baz=84,slow=2.0,SNR=3.9						
ZALV				LR	LR	00 16 27.4	
	comp=Z,13nm,19.6s,baz=77,slow=36						
MKAR	Makanchi Array	43.88	303	P	P	23 59 17.3	+0.3
MKAR	Makanchi Array	43.88	303	P	P	23 59 17.3	+0.3
	3.7nm,0.6s,baz=88,slow=9.4,SNR=46						
MKAR				LR	LR	00 17 54.6	
	comp=Z,36nm,20.1s,baz=175,slow=36						
KURK	Kurchatov	45.88	309	P	P	23 59 33.2	+0.4
KURBB	Kurchatov Arra	45.94	309	P	P	23 59 33.2	-0.1
	16nm,0.6s,baz=87,slow=8.5,SNR=123						
HNR	Honiara	48.66	153	P	P	23 59 59.0	+4.3
HNR	Honiara	48.66	153	P	P	23 59 58.9	+4.3
	34nm,0.3s,baz=84,slow=19,SNR=2.3						
AAK	Ala-Archa	50.13	299	eP	P	00 00 06.2	+0.2
	2.8nm,0.5s						
AAK	Ala-Archa	50.13	299	P	P	00 00 07.0	+1.0
	2.6nm,0.5s,baz=89,slow=3.8,SNR=6.8						
AAK				LR	LR	00 24 25.0	
	comp=Z,30nm,18.3s,baz=161,slow=40						
BVAR	Borovoye Array	50.64	313	P	P	00 00 09.2	-0.2
BVAR	Borovoye Array	50.64	313	P	P	00 00 09.2	-0.2
	1.9nm,0.5s,baz=78,slow=9.0,SNR=5.7						
ILAR	Eielson Array	51.24	32	P	P	00 00 13.7	-0.1
ILAR	Eielson Array	51.24	32	P	P	00 00 13.7	-0.1
	1.0nm,0.8s,baz=276,slow=6.9,SNR=8.3						
FITZ	Fitzroy Crossi	55.19	197	P	P	00 00 43.2	0.0
FITZ	Fitzroy Crossi	55.19	197	P	P	00 00 43.2	0.0
	3.9nm,0.8s,baz=44,slow=5.0,SNR=9.4						
WRA	Warramunga Arr	55.58	186	P	P	00 00 45.5	-0.4
WRA	Warramunga Arr	55.58	186	P	P	00 00 45.5	-0.4
	2.9nm,0.4s,baz=22,slow=7.2,SNR=90						
INK	Inuvik	56.11	27	P	P	00 00 50.6	+1.5
	1.7nm,0.7s,baz=269,slow=11,SNR=4.8						
ASAR	Alice Springs	59.31	186	P	P	00 01 12.9	+0.7
ASAR	Alice Springs	59.31	186	P	P	00 01 12.9	+0.7
	0.5nm,0.6s,baz=16,slow=12,SNR=6.2						
ARCES	ARCESS Array B	64.86	339	P	P	00 01 49.1	+0.4
ARCES	ARCESS Array B	64.86	339	P	P	00 01 49.1	+0.4
	0.7nm,0.5s,baz=54,slow=7.2,SNR=7.9						
JOF	Joensuu	66.61	332	ep	P	00 02 00.2	0.0
	1.3nm,0.4s						
KAF	Kangasniemi	68.98	333	ep	P	00 02 13.8	-1.2
	2.4nm,0.5s						
FINES	FINESS Array B	69.47	332	P	P	00 02 18.1	0.0
FINES	FINESS Array B	69.47	332	P	P	00 02 18.1	0.0
	1.9nm,0.5s,baz=56,slow=5.6,SNR=16						
KBZ	Khabaz	70.91	310	P	P	00 02 31.4	+4.2
KBZ	Khabaz	70.91	310	P	P	00 02 31.4	+4.2
	2.5nm,0.8s,baz=40,slow=3.1,SNR=4.5						
AKASG	Malin Array Be	74.66	322	P	P	00 02 48.8	-0.5
AKASG	Malin Array Be	74.66	322	P	P	00 02 48.8	-0.5
	1.0nm,0.3s,baz=47,slow=5.8,SNR=5.2						
NB2	NORSAR Subarra	74.98	337	P	P	00 02 51.0	0.0
	comp=Z,0.8nm,0.5s,baz=42,slow=6.2						
NOA	NORSAR Array B	74.98	337	P	P	00 02 51.2	+0.2
NOA	NORSAR Array B	74.98	337	P	P	00 02 51.2	+0.2
	comp=Z,0.9nm,0.5s,baz=43,slow=5.5,SNR=5.1						
NOA				LR	LR	00 43 11.3	
	comp=Z,11nm,18.9s,baz=355,slow=42						
NVAR	Mina Array Bea	76.72	52	P	P	00 03 03.6	+2.0
NVAR	Mina Array Bea	76.72	52	P	P	00 03 03.6	+2.0
	comp=Z,0.6nm,0.5s,baz=308,slow=5.5,SNR=5.2						
PDAR	Pinedale Array	79.43	45	P	P	00 03 17.8	+1.2
PDAR	Pinedale Array	79.43	45	P	P	00 03 17.8	+1.2

PUZ				SN	Sn	23 52 11.5	-0.4
PUZ				AML	AML	23 52 17.6	
HATZ	**Hinemaiaia**	**1.00 227**		P*	Pn	23 51 58.7	-0.4
BKZ	**Black Stump Fm**	**1.04 204**		P*	Pn	23 51 59.3	-0.4
BKZ				AML	AML	23 52 20.3	
BKZ				AML	AML	23 52 20.7	
WATZ	**Wairara**	**1.14 244**	⇓P*		Pn	23 52 00.6	-0.2
MHGZ	**Mahia Peninsul**	**1.16 144**		PN	Pn	23 52 00.5	-0.6
RATZ	**Rangitukua**	**1.19 236**	⇓P*		Pn	23 52 01.4	-0.1
MXZ	**Matakaoa Point**	**1.20 57**		P*	Pn	23 52 02.2	+0.7
MXZ				AML	AML	23 52 05.7	
MXZ				AML	AML	23 52 25.7	
RITZ	**Rihia Road**	**1.20 230**		P*	Pn	23 52 01.8	+0.1
KATZ	**Kakaramea**	**1.30 234**	⇓P*		Pn	23 52 03.2	+0.1
TOZ	**Tahuroa Road**	**1.31 291**	⇓P*		Pn	23 52 02.9	-0.1
KRVZ	**Karewarewa**	**1.40 231**	⇓P*		Pn	23 52 04.5	0.0
OTVZ	**Oturere**	**1.43 228**	⇓P*		Pn	23 52 04.8	-0.1
CKHZ	**Cape Kidnapper**	**1.44 179**		PN	Pn	23 52 04.1	-0.8
WTVZ	**West Tongariro**	**1.45 231**		P*	Pn	23 52 05.2	+0.1
NGZ	**Ngauruhoe**	**1.48 229**	⇓P*		Pn	23 52 05.5	0.0
BHHZ	**Black Hill Sta**	**1.48 211**		P*	Pn	23 52 05.1	-0.4
TWVZ	**Taurewa**	**1.52 235**		P*	Pn	23 52 05.9	-0.1
WPVZ	**Whakapapa**	**1.53 229**		P*	Pn	23 52 06.2	+0.1
MOVZ	**Moawhango**	**1.56 220**	⇓P*		Pn	23 52 06.0	-0.5
WNVZ	**Wahianoa**	**1.58 225**	⇑P*		Pn	23 52 06.7	-0.2
MTVZ	**Mangateitei**	**1.69 226**		P*	Pn	23 52 08.2	-0.1
PKVZ	**Pokaka**	**1.71 230**		P*	Pn	23 52 08.6	+0.1
HIZ	**Hauiti**	**1.74 259**		PN	Pn	23 52 09.2	+0.3
PNHZ	**Pukenui**	**1.82 201**		PN	Pn	23 52 08.3	-1.7
PXZ	**Pawanui**	**1.82 184**		PN	Pn	23 52 08.1	-1.8
PXZ				AML	AML	23 52 56.8	
PXZ				AML	AML	23 52 56.8	
PXZ				AML	AML	23 52 58.1	
PXZ				AML	AML	23 52 58.7	
MKAZ	**Moumakai**	**1.85 306**	⇓PN		Pn	23 52 10.4	0.0
VRZ	**Vera Road**	**2.00 242**		P*	Pn	23 52 12.8	+0.4
TSZ	**Takapari Road**	**2.02 204**		AML	AML	23 52 44.2	
TSZ				AML	AML	23 52 47.4	
WAZ	**Wanganui**	**2.22 226**	⇓PN		Pn	23 52 15.6	+0.2
BFZ	**Birch Farm**	**2.54 194**		PN	Pn	23 52 17.2	-2.5
MRZ	**Mangatainoka R**	**2.69 204**		PN	Pn	23 52 18.9	-2.9
MRZ				AML	AML	23 52 54.3	
MRZ				AML	AML	23 53 08.4	
HOWZ	**Holdsworth Sta**	**2.93 203**		PN	Pn	23 52 21.5	-3.5
OGWZ	**Otaki Gorge**	**2.97 209**	*e*PN		Pn	23 52 23.0	-2.6
TMWZ	**Te Maipa**	**3.02 197**		PN	Pn	23 52 23.2	-3.2
KIW	**Kapiti Island**	**3.11 211**		PN	Pn	23 52 24.6	-2.9
CAW	**Cannon Point**	**3.27 207**		AML	AML	23 53 18.8	
CAW				AML	AML	23 53 20.2	
DUWZ	**D'Urville Isla**	**3.54 222**		PN	Pn	23 52 35.8	+2.5
SNZO	**South Karori**	**3.58 209**		PN	Pn	23 52 29.8	-4.0
SNZO				AML	AML	23 53 26.7	
SNZO				AML	AML	23 53 30.3	
TCW	**Tory Channel**	**3.67 215**		AML	AML	23 53 28.8	
TCW				AML	AML	23 53 31.1	
TUWZ	**Tuamarina**	**4.00 216**		PN	Pn	23 52 36.3	-3.3
TUWZ				AML	AML	23 53 36.6	
BSWZ	**Blackbirch Sta**	**4.26 214**		PN	Pn	23 52 39.9	-3.3
QRZ	**Quartz Range**	**4.36 232**	*e*PN		Pn	23 52 40.8	-3.7
MQZ	**McQueen's Vall**	**6.41 210**		PN	Pn	23 53 06.1	-6.5
CTZ	**Chatham Island**	**7.31 141**	*e*PN		Pn	23 53 22.5	-2.4

IDC 20 23:53:25.9±2.3, 1°52.S×99°38.E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=108.3km s-min=27.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.32**	**354**	Pn	Pn	23 54 35.5	+2.4
0.5nm,0.3s,baz=165,slow=12,SNR=1.9							
ASAR	**Alice Springs**	**40.03**	**126**	P	P	00 01 03.0	0.0
0.6nm,0.6s,baz=304,slow=7.8,SNR=5.5							
SONM	**Songino Array**	**49.54**	**6**	P	P	00 02 18.4	-0.2
0.3nm,0.4s,baz=199,slow=8.0,SNR=2.6							
MKAR	**Makanchi Array**	**50.41**	**345**	P	P	00 02 25.3	+0.2
0.9nm,0.5s,baz=156,slow=8.4,SNR=10							
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	P	00 03 10.1	-0.2
0.6nm,0.4s,baz=167,slow=7.8,SNR=3.6							
FINES	**FINESS Array B**	**83.41**	**332**	P	P	00 05 54.9	0.0
0.9nm,0.7s,baz=111,slow=10,SNR=4.2							
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	PKPbc	00 13 04.5	+0.1
0.3nm,0.5s,baz=184,slow=1.3,SNR=9.9							

IDC 20 23:59:31.9±2.1, 46°.31S×165°.48E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/14, mbtmp3.4/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/17, Error ellipse: s-maj=196.1km s-min=48.5km az=31.0

WEL 20 23:59:33.8±0.5, 45°.93S×165°.81E, h12km, ML4.1/15, Error ellipse: s-maj=4.1km s-min=2.2km az=90.0

ISCJB 20 23:59:34.5±0.9, 45°.96S±0°.08×165°.78E±0°.08, h33km, mb3.4/2, Error ellipse: s-maj=11.8km s-min=7.7km az=18.0

ISC 20 23:59:36.6±1.1, 45°.99S±0°.08×165°.85E±0°.08, h35km, n19, σ1§04/21, 1C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.04**	**61**	P*	**Pn**	**23 59 52.1**	**-2.6**
DCZ				AML	AML	00 00 05.6	
DCZ				AML	AML	00 00 05.7	
DCZ				AML	AML	00 00 06.6	
DCZ				AML	AML	00 00 06.6	
WHZ	**Wether Hill Ro**	**1.46**	**87**	⇑PN	**Pn**	**23 59 59.5**	**-1.1**
WHZ				SN	**Sn**	**00 00 19.6**	**+1.1**
WHZ				AML	AML	00 00 27.2	
APZ	**The Paps**	**1.70**	**121**	⇓PN	**Pn**	**00 00 03.0**	**-0.9**
APZ				SN	**Sn**	**00 00 24.9**	**+0.5**
MLZ	**Mavora Lakes**	**1.75**	**69**	PN	**Pn**	**00 00 03.3**	**-1.2**
MLZ				SN	**Sn**	**00 00 25.9**	**+0.4**
MLZ				AML	AML	00 00 32.2	
MSZ	**Milford Sound**	**1.97**	**49**	*e*PN	**Pn**	**00 00 07.3**	**-0.1**
MSZ				AML	AML	00 00 41.7	
MSZ				AML	AML	00 00 41.7	
MSZ				AML	AML	00 00 43.7	
SYZ	**Scrubby Hill**	**2.35**	**105**	PN	**Pn**	**00 00 12.3**	**-0.3**
WKZ	**Wanaka**	**2.51**	**64**	PN	**Pn**	**00 00 16.1**	**+1.2**
WKZ				AML	AML	00 01 08.4	
WKZ				AML	AML	00 01 08.4	
WKZ				AML	AML	00 01 12.7	
EAZ	**Earnscleugh**	**2.54**	**74**	⇓PN	**Pn**	**00 00 15.7**	**+0.5**
EAZ				AML	AML	00 00 57.3	
EAZ				AML	AML	00 00 57.3	
EAZ				AML	AML	00 01 04.2	
EAZ				AML	AML	00 01 08.4	
TUZ	**Tuapeka**	**2.64**	**91**	PN	**Pn**	**00 00 16.3**	**-0.3**
TUZ				AML	AML	00 00 51.0	
TUZ				AML	AML	00 00 59.4	
JCZ	**Jackson Bay**	**2.81**	**48**	PN	**Pn**	**00 00 18.5**	**-0.6**
JCZ				AML	AML	00 01 06.7	
JCZ				AML	AML	00 01 09.7	
LBZ	**Lake Benmore**	**3.45**	**64**	PN	**Pn**	**00 00 27.1**	**-0.8**
LBZ				AML	AML	00 01 18.6	
LBZ				AML	AML	00 01 34.1	
ODZ	**Otahua Downs**	**3.50**	**76**	PN	**Pn**	**00 00 27.0**	**-1.5**
FOZ	**Fox Glacier**	**3.65**	**50**	PN	**Pn**	**00 00 30.3**	**-0.2**
RPZ	**Rata Peaks**	**4.34**	**60**	LR	LR	00 02 47.3	
comp=Z,304nm,19.5s,baz=352,slow=41							
ASAR	**Alice Springs**	**34.05**	**300**	P	**P**	**00 06 17.6**	**+0.2**
0.3nm,0.4s,baz=131,slow=9.4,SNR=3.8							
WRA	**Warramunga Arr**	**36.65**	**305**	P	**P**	**00 06 39.5**	**-0.4**
0.4nm,0.7s,baz=139,slow=7.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	**144.63**	**207**	PKP	**PKPdf**	**00 19 09.1**	**-0.6**
0.3nm,0.7s,baz=172,slow=1.6,SNR=7.0							
ARCES	**ARCESS Array B**	**149.30**	**334**	PKPbc	**PKPbc**	**00 19 21.6**	**+1.4**
0.9nm,0.6s,baz=64,slow=2.8,SNR=6.6							
FINES	**FINESS Array B**	**152.18**	**318**	PKPbc	**PKPbc**	**00 19 27.8**	**+0.6**
0.8nm,0.6s,baz=123,slow=5.1,SNR=5.0							

IDC 21 00:18:22.0±5.2, 23°.27S×179°.26E, h528km±54km, mb3.3/8, mb1 3.4/9, mb1mx3.2/20, mbtmp3.3/9, Error ellipse: s-maj=33.5km s-min=18.5km az=64.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.05**	**187**	P	P	00 21 30.4	-1.7
0.8nm,0.3s,baz=351,slow=12,SNR=3.9							
PMG	**Port Moresby**	**33.65**	**289**	P	P	00 24 19.3	+0.3
17nm,0.5s,baz=187,slow=8.1,SNR=5.5							
ASAR	**Alice Springs**	**41.47**	**260**	P	P	00 25 22.9	0.0
1.8nm,0.5s,baz=93,slow=8.1,SNR=19							
WRA	**Warramunga Arr**	**41.77**	**266**	P	P	00 25 24.7	-0.7
4.0nm,0.7s,baz=95,slow=8.5,SNR=126							
FITZ	**Fitzroy Crossi**	**50.20**	**265**	P	P	00 26 29.5	0.0
1.2nm,0.4s,baz=115,slow=8.6,SNR=11							
QSPA	**South Pole Qui**	**66.81**	**180**	P	P	00 28 21.9	+1.0
1.0nm,1.0s,baz=76,slow=9.1,SNR=4.0							
KSRS	**Korea Array**	**77.33**	**320**	P	P	00 29 22.5	+0.3
0.6nm,0.4s,baz=134,slow=3.5,SNR=3.2							
MAW	**Mawson**	**78.10**	**201**	P	P	00 29 25.2	-0.6
1.6nm,0.8s,baz=92,slow=11,SNR=3.9							
PETK	**Petropavlovsk-**	**78.33**	**347**	P	P	00 29 27.4	+0.2
1.3nm,0.6s,baz=126,slow=7.3,SNR=3.7							
ARCES	**ARCESS Array B**	**131.13**	**348**	PKP	PKPdf	00 36 32.1	-1.0
1.3nm,0.8s,baz=357,slow=2.7,SNR=6.8							
FINES	**FINESS Array B**	**137.64**	**341**	PKP	PKPdf	00 36 46.2	+0.9
1.1nm,0.8s,baz=108,slow=4.2,SNR=4.1							
AKASG	**Malin Array Be**	**144.08**	**327**	PKP	PKPbc	00 36 55.3	-1.3
1.1nm,0.4s,baz=44,slow=3.3,SNR=5.1							
GERES	**GERESS Array B**	**152.03**	**339**	PKPbc	PKPbc	00 37 16.7	-0.7
0.2nm,0.5s,baz=336,slow=2.9,SNR=5.3							
TORD	**Torodi Ar. Bea**	**169.67**	**193**	PKP	PKPdf	00 37 29.0	-0.7
0.5nm,1.0s,baz=235,slow=5.1,SNR=3.4							

IDC 21 00:25:38.4±0.8, 0°.13S×125°.80E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, ML3.8/2, Error ellipse: s-maj=38.6km s-min=15.4km az=71.0

DJA 21 00:25:43.2±0.7, 0°.N±10°×12°.6E±°, h10km, M4.7/4, MLv4.7/4

ISCJB 21 00:25:44.2±0.6, 0°.25S±0°.08×125°.59E±0°.09, h57km, mb3.8/8, Error ellipse: s-maj=14.4km s-min=10.0km az=141.6

ISC 21 00:25:45.9±0.8, 0°.29S±0°.08×125°.58E±0°.07, h57km, n14, σ1§14/14, mb3.8/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.81**	**298**	P	**Pn**	**00 26 14.8**	**+0.1**
LBMI	**Labuha**	**1.96**	**100**	P	**Pn**	**00 26 16.4**	**-0.3**
LUWI	**Luwuk**	**2.90**	**255**	P	Pn	00 26 35.7	+6.0
LUWI				S	Sn	00 27 16.3	+13
KAPI	**Kappang**	**7.48**	**231**	Pn	**Pn**	**00 27 33.0**	**+0.6**
1.5nm,0.3s,baz=41,slow=11,SNR=3.0							
KAPI				Sn	**Sn**	**00 28 53.2**	**-2.6**
baz=12,slow=20,SNR=1.8							
FITZ	**Fitzroy Crossi**	**17.70**	**180**	P	**P**	**00 29 48.6**	**-0.2**
0.2nm,0.3s,baz=8.6,slow=10,SNR=6.7							
WRA	**Warramunga Arr**	**21.34**	**157**	P	**P**	**00 30 27.1**	**-1.3**
1.6nm,0.5s,baz=335,slow=11,SNR=26							
ASAR	**Alice Springs**	**24.61**	**161**	P	**P**	**00 31 01.6**	**+0.6**
1.1nm,0.5s,baz=344,slow=8.6,SNR=9.0							
CMAR	**Chiang Mai Arr**	**32.12**	**307**	P	**P**	**00 32 09.2**	**+1.1**
0.3nm,0.3s,baz=141,slow=5.8,SNR=2.2							
STKA	**Stephens Creek**	**34.88**	**156**	P	**P**	**00 32 32.6**	**+0.6**
4.3nm,1.0s,baz=342,slow=6.4,SNR=3.3							
KSRS	**Korea Array**	**37.62**	**3**	P	**P**	**00 32 54.0**	**-1.2**
0.7nm,0.6s,baz=176,slow=8.5,SNR=3.6							
MKAR	**Makanchi Array**	**60.23**	**327**	P	**P**	**00 35 47.8**	**-0.4**
0.4nm,0.3s,baz=126,slow=7.5,SNR=12							
ZALV	**Zalesovo Beam**	**63.66**	**334**	P	**P**	**00 36 10.7**	**-0.3**
0.3nm,0.4s,baz=133,slow=8.1,SNR=2.9							
QSPA	**South Pole Qui**	**89.65**	**180**	P	**P**	**00 38 38.7**	**+1.2**
0.5nm,0.8s,baz=330,slow=2.0,SNR=3.2							
TORD	**Torodi Ar. Bea**	**122.97**	**285**	PKP	**PKPdf**	**00 44 37.2**	**+0.3**
0.3nm,0.7s,baz=78,slow=1.7,SNR=3.7							

IDC 21 00:42:48.0±2.5, 14°.82N×120°.05E, h154km±28km, mb3.2/6, mb1 3.4/6, mb1mx3.1/23, mbtmp3.2/6, Error ellipse: s-maj=152.2km s-min=17.4km az=66.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.12**	**130**	P	Pn	00 43 13.8	-0.4
64nm,0.3s,baz=206,slow=17,SNR=6.1							
TGY				S	Sn	00 43 34.5	+0.3
21nm,0.3s,baz=336,slow=20,SNR=6.5							
WRA	**Warramunga Arr**	**37.30**	**157**	P	P	00 49 44.9	-0.5
0.3nm,0.6s,baz=327,slow=10,SNR=7.0							
ASAR	**Alice Springs**	**40.58**	**160**	P	P	00 50 13.0	+0.3
0.2nm,0.3s,baz=332,slow=6.7,SNR=4.2							
MKAR	**Makanchi Array**	**44.76**	**323**	P	P	00 50 46.2	0.0
0.2nm,0.4s,baz=116,slow=8.5,SNR=3.0							
ZALV	**Zalesovo Beam**	**47.78**	**333**	P	P	00 51 09.2	-0.3
0.3nm,0.3s,baz=117,slow=5.2,SNR=2.2							
ARCES	**ARCESS Array B**	**77.82**	**339**	P	P	00 54 28.1	0.0
1.4nm,0.8s,baz=78,slow=6.4,SNR=8.8							
FINES	**FINESS Array B**	**79.00**	**331**	P	P	00 54 34.8	+0.2
2.6nm,1.1s,baz=67,slow=4.7,SNR=8.7							

GUC 21 01:17:04.1±1.0, 22°.05S×68°.56W, h133km±9km, ML3.5, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.69**	**292**	⇑*i*P	Pn	01 17 25.6	+0.8
PB09				*e*S	Sn	01 17 41.2	+0.6
PB09				AML	AML	01 17 42.9	
comp=N,2μm,0.6s							
PB07	**Plate Boundary**	**1.28**	**285**	⇑*i*P	Pn	01 17 31.2	+1.0
PB07				*e*S	Sn	01 17 51.3	+1.2
PB07				AML	AML	01 17 53.3	
comp=N,522nm,0.3s							
CEN1	**Los Morros**	**2.02**	**228**	*e*P	Pn	01 17 41.9	+3.3
CEN1				*e*S	Sn	01 18 07.4	+2.4
CEN1				AML	AML	01 18 16.0	
comp=N,87nm,0.8s							
CEN1				⇓*e*		01 18 48.2	
PB10	**Plate Boundary**	**2.35**	**231**	*e*P	Pn	01 17 44.4	+1.9
PB10				*e*S	Sn	01 18 07.6	-4.5
PB10				AML	AML	01 18 18.4	
comp=E,254nm,0.4s							
ANCH	**Antofagasta**	**2.36**	**226**	*e*P	Pn	01 17 43.3	+0.8
ANCH				AML	AML	01 18 20.6	
comp=E,353nm,0.4s							
PSGC	**Pisagua**	**2.85**	**329**	*e*P	Pn	01 17 50.1	+1.0
PSGC				*e*S	Sn	01 18 24.8	+1.1
PSGC				AML	AML	01 18 26.7	
comp=N,71nm,0.3s							
MNMC	**Minimini**	**3.07**	**341**	*e*P	Pn	01 17 54.6	+2.5
MNMC				*e*S	Sn	01 18 32.5	+3.5
MNMC				AML	AML	01 18 36.2	
comp=E,152nm,0.2s							

MEX 21 01:18:16.5±1.1, 16°.91N×93°.89W, h182km±11km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.74**	**100**	*i* P	Pn	01 18 41.5	-1.3
TGIG				*i* S	Sn	01 19 00.1	-3.0
CMIG	**Matias Romero**	**0.97**	**281**	*i* P	Pn	01 18 43.3	-0.9
CMIG				*i* S	Sn	01 19 03.8	-1.9
PCIG		**1.36**	**152**	*i* P	Pn	01 18 46.7	-0.7
PCIG				*i* S	Sn	01 19 09.4	-1.9
HUIG	**Huatulco**	**2.41**	**242**	*e*P	Pn	01 18 56.2	-2.1
HUIG				*i* S	Sn	01 19 28.2	-2.6
PNIG	**Pinotepa**	**4.10**	**263**	*i* P	Pn	01 19 17.8	-1.2
PNIG				*i* S	Sn	01 20 06.2	-1.6

IDC 21 01:33:00.4±1.7, 0°.09S×125°.91E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=51.6km s-min=24.7km az=68.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.86**	**231**	Pn	Pn	01 34 56.5	+0.4
0.5nm,0.3s,baz=36,slow=19,SNR=2.4							
FITZ	**Fitzroy Crossi**	**17.90**	**181**	P	Pn	01 37 11.3	+0.3
0.1nm,0.3s,baz=0.0,slow=15,SNR=4.8							
WRA	**Warramunga Arr**	**21.39**	**158**	P	P	01 37 49.7	-0.1
1.7nm,0.8s,baz=335,slow=11,SNR=13							
ASAR	**Alice Springs**	**24.69**	**162**	P	P	01 38 23.2	-0.2
0.4nm,0.5s,baz=342,slow=8.8,SNR=3.0							
MKAR	**Makanchi Array**	**60.25**	**327**	P	P	01 43 10.6	-0.1
0.2nm,0.4s,baz=126,slow=7.0,SNR=5.8							

IDC 21 01:43:35.2±17.0, 19°.61S×177°.76W, h520km±182km, mb3.3/4, mb1 3.5/5, mb1mx3.0/21, mbtmp3.3/5, Error ellipse: s-maj=116.7km s-min=29.9km az=32.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.11**	**192**	P	P	01 47 24.4	-0.1
1.1nm,0.3s,baz=100,slow=12,SNR=4.6							
CTA	**Charters Tower**	**33.81**	**263**	P	P	01 49 34.2	+0.1
3.8nm,0.4s,baz=90,slow=8.9,SNR=10							
ASAR	**Alice Springs**	**44.95**	**256**	P	P	01 51 03.8	-0.1
1.5nm,0.3s,baz=86,slow=8.2,SNR=29							
WRA	**Warramunga Arr**	**44.95**	**261**	P	P	01 51 03.5	-0.4
1.1nm,0.3s,baz=98,slow=7.4,SNR=43							
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	P	01 52 06.1	-0.1
1.1nm,0.7s,baz=96,slow=6.0,SNR=4.2							
GERES	**GERESS Array B**	**149.41**	**345**	PKPbc	PKPbc	02 02 25.1	-0.3
0.4nm,0.6s,baz=26,slow=3.4,SNR=4.6							

ISCJB 21 02:13:49.1±0.7, 35°.95N±0°.03×21°.73E±0°.04, h15km±5km, mb3.5/5, Error ellipse: s-maj=6.1km s-min=4.6km az=144.4

CSEM 21 02:13:50.0±0.4, 36°.03N×21°.85E, h5km, MD3.5, Error ellipse: s-maj=9.5km s-min=5.3km az=51.0

THE 21 02:13:51.8, 36°.05N×21°.88E, h13km±1km, ML3.5/4, Error ellipse: s-maj=2.1km s-min=1.0km az=53.0

ATH 21 02:13:51.5, 36°.06N×21°.91E, h23km±1km, MD3.5/26, ML3.4

IDC 21 02:13:54.7±6.2, 36°.17N×22°.05E, h66km±67km, mb3.3/5, mb1 3.3/6, mb1mx3.1/29, mbtmp3.3/6, ML4.0/1, Error ellipse: s-maj=38.6km s-min=26.5km az=120.0

ISC 21 02:13:49.3±1.4, 35°.97N±0°.03×21°.82E±0°.04, h14km±9km, n95, σ1§47/115, mb3.7/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYR	**Agios Nikonas**	**0.89**	**28**	P	**Pg**	**02 14 06.7**	**+0.1**
DYR				S	**Sb**	**02 14 18.4**	**0.0**
DYR	**Agios Nikonas**	**0.89**	**28**	*e*PN	**Pg**	**02 14 06.4**	**-0.2**
DYR				*e*SN	**Sb**	**02 14 17.8**	**-0.6**
DYR	**Agios Nikonas**	**0.89**	**28**	*e*Pn	**Pg**	**02 14 06.4**	**-0.2**
DYR	**Agios Nikonas**	**0.89**	**28**	P	**Pg**	**02 14 06.7**	**+0.1**
DYR				*e*Sn	**Sb**	**02 14 17.8**	**-0.6**
DYR				S	**Sb**	**02 14 18.4**	**0.0**
PYL	**PYLOS**	**0.93**	**356**	P	**Pb**	**02 14 07.7**	**+0.6**
PYL				S	**Sn**	**02 14 20.6**	**-0.3**
PYL	**PYLOS**	**0.93**	**356**	*e*PN	**Pb**	**02 14 08.1**	**+1.0**
PYL				*e*SN	**Sb**	**02 14 19.9**	**+0.6**
PYL	**PYLOS**	**0.93**	**356**	P	**Pb**	**02 14 07.7**	**+0.6**
PYL	**PYLOS**	**0.93**	**356**	*e*Pn	**Pb**	**02 14 08.1**	**+1.0**
PYL				*e*Sn	**Sb**	**02 14 19.9**	**+0.6**
PYL				S	**Sn**	**02 14 20.6**	**-0.3**
KYTH	**Kithira**	**1.04**	**72**	P	**Pg**	**02 14 09.9**	**+0.6**
KYTH	**Kithira**	**1.04**	**72**	*e*PN	**Pn**	**02 14 10.1**	**+0.7**
KYTH	**Kithira**	**1.04**	**72**	P	**Pg**	**02 14 09.9**	**+0.6**
VLI	**Veliai**	**1.17**	**50**	P	**Pb**	**02 14 10.8**	**-0.5**
VLI				S	**Sn**	**02 14 27.7**	**+0.6**
VLI	**Veliai**	**1.17**	**50**	*e*PB	**Pb**	**02 14 11.0**	**-0.3**
VLI				*e*SN	**Sn**	**02 14 26.7**	**-0.4**
VLI	**Veliai**	**1.17**	**50**	P	**Pb**	**02 14 10.8**	**-0.5**
VLI				*e*Sn	**Sn**	**02 14 26.7**	**-0.4**
VLI				S	**Sn**	**02 14 27.7**	**+0.6**
ANKY	**Antikythira Is**	**1.21**	**94**	P	**Pn**	**02 14 12.9**	**+1.2**
ANKY				S	**Sn**	**02 14 29.6**	**+1.7**
ANKY	**Antikythira Is**	**1.21**	**94**	*e*PN	**Pg**	**02 14 13.3**	**+0.7**
ANKY				*e*SN	**Sn**	**02 14 29.2**	**+1.3**
ANKY	**Antikythira Is**	**1.21**	**94**	P	**Pn**	**02 14 12.9**	**+1.2**
ANKY	**Antikythira Is**	**1.21**	**94**	*e*Pn	**Pg**	**02 14 13.3**	**+0.7**
ANKY				*e*Sn	**Sn**	**02 14 29.2**	**+1.3**
ITM	**Ithomi**	**1.21**	**4**	P	**Pb**	**02 14 11.7**	**-0.3**
ITM				S	**Sn**	**02 14 27.8**	**-0.2**
ITM	**Ithomi**	**1.21**	**4**	*e*PB	**Pb**	**02 14 12.1**	**+0.1**
ITM				*e*SN	**Sn**	**02 14 28.9**	**+0.9**
ITM	**Ithomi**	**1.21**	**4**	P	**Pb**	**02 14 11.7**	**-0.3**
ITM	**Ithomi**	**1.21**	**4**	*e*Pb	**Pb**	**02 14 12.1**	**+0.1**
ITM				S	**Sn**	**02 14 27.8**	**-0.2**
ITM				*e*Sn	**Sn**	**02 14 28.9**	**+0.9**
VLX	**Vlachokerasia**	**1.47**	**18**	P	**Pn**	**02 14 16.2**	**+0.8**
VLX				S	**Sb**	**02 14 34.9**	**-0.1**
VLX	**Vlachokerasia**	**1.47**	**18**	*e*PN	**Pn**	**02 14 16.4**	**+1.0**
VLX				*e*SN	**Sg**	**02 14 35.9**	**-0.7**
VLX	**Vlachokerasia**	**1.47**	**18**	*e*Pn	**Pn**	**02 14 16.4**	**+1.0**
VLX				S	**Sb**	**02 14 34.9**	**-0.1**
VLX				*e*Sn	**Sg**	**02 14 35.9**	**-0.7**
DID	**Didima**	**1.91**	**36**	*e*PB	**Pn**	**02 14 22.6**	**+1.2**
DID	**Didima**	**1.91**	**36**	*e*Pb	**Pn**	**02 14 22.6**	**+1.2**
GUR	**Goura**	**2.01**	**12**	P	**Pn**	**02 14 24.0**	**+1.2**
GUR	**Goura**	**2.01**	**12**	P	**Pn**	**02 14 24.0**

0.9nm,0.5s,baz=160,slow=9.4,SNR=4.8
FINES FINESS Array B 25.64 5 P P 02 19 15.2 -2.9
0.9nm,0.7s,baz=173,slow=14,SNR=3.5
TORD Torodi Ar. Bea 29.06 224 P P 02 19 51.2 +2.0
0.1nm,0.5s,baz=34,slow=8.8,SNR=2.7
ARCES ARCESS Array B 33.68 2 P P 02 20 27.5 -1.9
0.6nm,0.5s,baz=183,slow=8.5,SNR=9.0
MKAR Makanchi Array 45.61 57 P P 02 22 06.0 -2.9
0.3nm,0.3s,baz=272,slow=8.1,SNR=8.4

*IDC **21** 02:25:26.6±4.1, 16°.92N×101°.39W, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.8/25, mbtmp3.7/8, ML3.2/3, Error ellipse: s-maj=90.3km s-min=35.6km az=27.0*
*ISCJB **21** 02:25:28.8±0.9, 17°.17N±0°.05×101°.36W±0°.03, h23km±6km, mb3.8/5, Error ellipse: s-maj=8.5km s-min=4.5km az=24.0*
*MEX **21** 02:25:30.7±0.4, 17°.13N×101°.44W, h16km±6km, MD4.2*
ISC 21 02:25:29.2±1.4, 17°.17N±0°.06×101°.40W±0°.04, h16km±8km, n32, σ1§52/45, mb4.0/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.44**	**351**	*i* P	**Pg**	**02 25 38.3**	**+0.2**
ZIIG				*i* S	**Sg**	**02 25 44.4**	**+0.3**
CAIG	**El Cayaco**	**1.09**	**96**	*e*P	**Pb**	**02 25 47.9**	**-1.8**
CAIG				*i* S	**Sb**	**02 26 01.2**	**-2.4**
ACP2	**Acapulco**	**1.47**	**101**	*i* P	**Pn**	**02 25 54.4**	**-0.7**
ACP2				*i* S	**Sn**	**02 26 10.7**	**-3.4**
ARIG	**Puente Sto Nin**	**1.49**	**42**	*i* P	**Pn**	**02 25 54.3**	**-1.1**
ARIG				*i* S	**Sn**	**02 26 12.4**	**-2.3**
ACX	**Acapulco**	**1.50**	**101**	*i* P	**Pg**	**02 25 58.5**	**+0.4**
ACX				*i* S	**Sb**	**02 26 16.4**	**+0.8**
MEIG	**Mezcala**	**1.85**	**66**	*i* P	**Pn**	**02 25 59.7**	**-0.8**
MEIG				*e*S	**Sn**	**02 26 22.0**	**-1.6**
MMIG	**Aquila**	**2.17**	**301**	*i* P	**Pn**	**02 26 03.0**	**-1.6**
MMIG				*e*S	**Sn**	**02 26 28.4**	**-2.8**
PLIG	**Platanillo**	**2.18**	**56**	*i* P	**Pn**	**02 26 04.6**	**-0.4**
PLIG				*e*S	**Sn**	**02 26 30.2**	**-1.5**
URUA	**Uruapan**	**2.33**	**344**	*i* P	**Pn**	**02 26 04.9**	**-2.2**
URUA				*i* S	**Sn**	**02 26 33.1**	**-2.5**
TOVM	**TOLUCA**	**2.66**	**38**	*i* P	**Pn**	**02 26 11.6**	**-0.2**
HMTT	**Tlapaneco**	**2.78**	**77**	*i* P	**Pn**	**02 26 11.7**	**-1.5**
HMTT				*i* S	**Sn**	**02 26 44.3**	**-2.2**
SZVM	**Salazar**	**2.88**	**41**	*e*P	**Pn**	**02 26 14.5**	**-0.3**
MZVM		**2.88**	**45**	*e*P	**Pn**	**02 26 14.4**	**-0.1**
ATVM	**ATLACOMULCO**	**2.97**	**30**	*i* P	**Pn**	**02 26 15.2**	**-0.9**
UNM	**Universidad Na**	**3.01**	**44**	*i* P	**Pn**	**02 26 16.0**	**-0.6**
UNM				*e*S	**Sn**	**02 26 51.3**	**-1.2**
PBIG	**Penon de los B**	**3.15**	**44**	*i* P	Pn	02 26 13.4	-4.8
AMVM	**AMECAMECA**	**3.16**	**51**	*i* P	**Pn**	**02 26 18.3**	**-0.3**
PNIG	**Pinotepa**	**3.23**	**103**	*i* P	**Pn**	**02 26 18.8**	**-0.5**
PNIG				*i* S	**Sn**	**02 26 55.5**	**-1.9**
PPM	**Popocatepetl**	**3.24**	**54**	*i* P	**Pn**	**02 26 19.1**	**-0.9**
PPM				*i* P	Pb	02 26 20.2	-6.6
PPM				*e*S	**Sn**	**02 26 56.8**	**-1.7**
PTVM	**Pico Tres Padr**	**3.24**	**42**	*e*P	**Pn**	**02 26 19.3**	**-0.5**
UTMO	**Huajuapan**	**3.49**	**79**	*i* P	**Pn**	**02 26 23.1**	**0.0**
UTMO				*i* S	**Sn**	**02 27 04.0**	**-0.3**
IIO	**Organos**	**3.50**	**46**	*e*P	**Pn**	**02 26 22.6**	**-0.7**
VTVM	**Tizayuca**	**3.59**	**43**	*i* P	**Pn**	**02 26 24.9**	**+0.3**
TPIG	**Tehuac#an**	**4.04**	**71**	*i* P	**Pn**	**02 26 29.6**	**-1.0**
TPIG				*i* S	**Sn**	**02 27 17.3**	**-0.4**
CMIG	**Matias Romero**	**6.23**	**90**	Pn	**Pn**	**02 27 00.8**	**+0.3**
	0.5nm,0.3s,baz=273,slow=11,SNR=6.5						
CMIG				Lg	Lg	02 28 34.9	
	3.2nm,0.3s,baz=339,slow=17,SNR=6.0						
TXAR	**Lajitas Array**	**12.29**	**351**	Pn	Pn	02 28 30.3	+6.6
	0.0nm,0.3s,baz=167,slow=14,SNR=3.2						
TXAR				Lg	Lg	02 31 57.4	
	0.1nm,0.3s,baz=171,slow=30,SNR=3.7						
ANMO	**Albuquerque**	**18.27**	**347**	P	**P**	**02 29 44.6**	**+2.1**
	0.1nm,0.3s,baz=154,slow=11,SNR=6.5						
NVAR	**Mina Array Bea**	**25.84**	**328**	P	**P**	**02 31 03.1**	**+2.8**
	4.5nm,0.8s,baz=147,slow=11,SNR=9.8						
PDAR	**Pinedale Array**	**26.45**	**346**	P	**P**	**02 31 06.9**	**+1.2**
	1.0nm,0.8s,baz=157,slow=9.6,SNR=7.8						
YKA	**Yellowknife Ar**	**46.22**	**352**	P	**P**	**02 33 54.2**	**+0.9**
	1.5nm,0.8s,baz=159,slow=7.3,SNR=6.7						
INK	**Inuvik**	**55.02**	**346**	P	**P**	**02 35 00.9**	**+1.3**
	2.8nm,1.0s,baz=143,slow=7.2,SNR=4.8						
ILAR	**Eielson Array**	**56.48**	**338**	P	**P**	**02 35 11.8**	**+1.6**
	0.4nm,0.9s,baz=155,slow=6.5,SNR=5.1						

IDC 21 02:39:19.9±1.8, 32°.87S×178°.95W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, ML4.4/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/23, Error ellipse: s-maj=45.0km s-min=41.8km az=72.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.26**	**210**	Pn	Pn	02 40 53.5	0.0
	9.3nm,0.3s,baz=42,slow=12,SNR=24						
URZ				Sn	Sn	02 41 58.8	-6.9
	2.9nm,0.3s,baz=89,slow=15,SNR=4.1						
ASAR	**Alice Springs**	**42.24**	**270**	P	P	02 47 15.2	+0.1
	0.3nm,0.3s,baz=113,slow=7.6,SNR=5.4						
WRA	**Warramunga Arr**	**43.45**	**275**	P	P	02 47 24.5	-0.4
	0.3nm,0.3s,baz=114,slow=8.2,SNR=15						
WRA				LR	LR	03 02 48.4	
	comp=Z,71nm,21.8s,baz=290,slow=32						
PMSA	**Palmer Station**	**70.35**	**156**	LR	LR	03 15 02.7	
	comp=Z,171nm,20.4s,baz=28,slow=30						
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	PKPbc	02 59 04.0	-0.2
	1.0nm,0.5s,baz=50,slow=4.2,SNR=12						
TORD	**Torodi Ar. Bea**	**160.35**	**182**	PKPab	PKPab	03 00 01.6	-0.9
	0.2nm,0.6s,baz=176,slow=3.6,SNR=2.7						

*IDC **21** 03:00:06.5±1.6, 0°.19S×125°.66E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=51.3km s-min=23.7km az=68.0*
*ISCJB **21** 03:00:14.3±1.6, 0°.5S±0°.1×125°.5E±0°.2, h57km, mb3.5/3, Error ellipse: s-maj=30.8km s-min=12.0km az=141.2*
*DJA **21** 03:00:22.4±2.4, 1°.N±24°.×12°.5E±°, h21km±18km, M4.2/4, MLv4.2/4*
ISC 21 03:00:14.5±1.1, 0°.4S±0°.1×125°.54E±0°.10, h57km, n9, σ1§32/8, mb3.4/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.85**	**303**	P	**Pn**	**03 00 43.3**	**-0.7**
LBMI	**Labuha**	**1.97**	**96**	P	**Sn**	**03 01 09.4**	**+0.2**
GTOI	**Gorontalo**	**2.74**	**293**	P	**Pn**	**03 00 58.0**	**+1.9**
LUWI	**Luwuk**	**2.83**	**258**	P	Pn	03 01 11.0	+14
KAPI	**Kappang**	**7.36**	**232**	Pn	**Pn**	**03 01 58.7**	**-0.7**
	0.4nm,0.3s,baz=90,slow=17,SNR=2.1						
FITZ	**Fitzroy Crossi**	**17.56**	**180**	P	**Pn**	**03 04 16.3**	**+0.9**
	0.1nm,0.3s,baz=8.2,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**21.22**	**157**	P	**P**	**03 04 55.2**	**-0.5**
	0.8nm,0.4s,baz=335,slow=11,SNR=15						
ASAR	**Alice Springs**	**24.48**	**161**	P	**P**	**03 05 29.8**	**+1.3**
	0.6nm,0.6s,baz=346,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**60.33**	**327**	P	**P**	**03 10 16.3**	**-1.3**
	0.4nm,0.3s,baz=124,slow=7.8,SNR=8.3						

*ISCJB **21** 03:02:54.4±0.8, 37°.6N±0°.1×133°.88E±0°.10, h450km, Error ellipse: s-maj=15.3km s-min=10.5km az=177.2*
*IDC **21** 03:02:56.9±2.9, 37°.68N×133°.86E, h401km±51km, mb1 2.7/5, mb1mx2.5/27, mbtmp2.7/5, Error ellipse: s-maj=36.1km s-min=21.1km az=156.0*
*JMA **21** 03:02:57.8±0.6, 37°.52N×134°.17E, h441km, M3.0*
ISC 21 03:02:55.9±1.9, 37°.5N±0°.2×134°.0E±0°.2, h450km, n9, σ1§58/9, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**2.46**	**153**	P	**P**	**03 04 00.2**	**+0.9**
JNG	**Nsakai**	**3.42**	**107**	P	**P**	**03 04 07.8**	**+1.5**
MJAR	**Matsushiro Arr**	**3.47**	**105**	P	**P**	**03 04 08.1**	**+1.5**
	0.3nm,0.3s,baz=297,slow=10.0,SNR=4.1						
MJAR				S	**S**	**03 05 02.3**	**-1.7**
	0.3nm,0.3s,baz=291,slow=21,SNR=3.0						
KSRS	**Korea Array**	**4.87**	**271**	P	P	03 04 16.3	-2.6
	1.1nm,0.3s,baz=85,slow=9.8,SNR=21						
JFT	**Otama**	**5.01**	**88**	P	**P**	**03 04 22.0**	**+1.7**
JNU	**Nakatsue**	**5.06**	**212**	P	**P**	**03 04 20.1**	**-0.9**
	0.4nm,0.3s,baz=344,slow=14,SNR=2.9						
JMM	**Marumori**	**5.37**	**84**	P	**P**	**03 04 24.7**	**+0.9**
JMM				*e*S	**S**	**03 05 34.1**	**-1.5**
USRK	**Ussuriysk Arra**	**6.88**	**348**	P	P	03 04 36.9	-2.2
	0.4nm,0.3s,baz=166,slow=11,SNR=4.9						
ASAJ	**Asahikawa**	**9.27**	**42**	P	**P**	**03 05 04.9**	**+0.1**
	1.7nm,0.3s,baz=240,slow=24,SNR=8.4						

CASC 21 03:06:34.9±1.8, 9°.34N×82°.75W, h13km±10km, MD3.5, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.24**	**72**	*e*P	Pg	03 06 40.5	+0.5
CNI				*e*S	Sb	03 06 44.7	-0.5
CTCR	**Cotoan**	**0.44**	**182**	⇓*i*P	Pg	03 06 44.2	+0.2
BRU2	**Volcan**	**0.55**	**174**	⇓*i*P	Pg	03 06 45.9	+0.1
BRU2				*e*S	Sb	03 06 54.5	0.0
TBS2		**0.55**	**171**	*e*P	Pg	03 06 45.1	-0.9
TBS2				*e*S	Sg	03 06 52.8	-0.6
BRU	**Baru**	**0.56**	**161**	*e*P	Pg	03 06 46.4	-0.1
ACR	**Cerro Adams**	**0.80**	**211**	*e*P	Pg	03 06 50.5	0.0
ACR				*e*S	Sb	03 07 01.6	0.0
BUS	**Buena Vista**	**1.02**	**282**	*e*P	Pb	03 06 53.6	-1.4
BUS				*e*S	Sb	03 07 08.2	-0.6
URSC	**Urasca**	**1.13**	**296**	*e*P	Pb	03 06 54.8	-1.8
URSC				*e*S	Sb	03 07 09.5	-1.8
QCR	**Quepos**	**1.40**	**273**	*e*P	Pn	03 07 00.2	0.0
CGA2	**Cerro Gallo 2**	**1.82**	**292**	*e*P	Pn	03 07 06.5	+0.3
CGA2				*e*S	Sb	03 07 30.3	-1.0

MEX 21 03:10:43.5±0.7, 17°.10N×95°.50W, h105km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.59**	**91**	*i* P	Pn	03 10 59.7	-0.8
CMIG				*i* S	Sn	03 11 11.2	-2.0
HUIG	**Huatulco**	**1.45**	**204**	*i* P	Pn	03 11 08.1	-1.3
HUIG				*i* S	Sn	03 11 27.6	-1.3
TPIG	**Tehuac#an**	**2.20**	**307**	*i* P	Pn	03 11 10.5	-8.6
TPIG				*i* S	Sn	03 11 37.9	-8.5
TGIG		**2.30**	**98**	*i* P	Pn	03 11 19.9	-0.4
TGIG				*e*S	Sn	03 11 46.1	-2.3
PCIG		**2.59**	**122**	*e*P	Pn	03 11 22.2	-1.8
PCIG				*i* S	Sn	03 11 54.2	-0.9
PNIG	**Pinotepa**	**2.61**	**255**	*i* P	Pn	03 11 22.8	-1.4
PNIG				*e*S	Sn	03 11 53.4	-2.2
PNIG				*i* S	Sn	03 11 53.7	-1.9

IDC 21 03:26:23.6±7.7, 22°.41S×173°.55W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=329.5km s-min=38.4km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.14**	**258**	P	P	03 35 05.1	-0.8
	0.8nm,0.3s,baz=93,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**48.45**	**263**	P	P	03 35 08.7	+0.5
	0.6nm,0.3s,baz=102,slow=8.0,SNR=35						
ILAR	**Eielson Array**	**89.31**	**11**	P	P	03 39 21.3	-0.1
	0.2nm,0.5s,baz=194,slow=3.3,SNR=3.3						

*IDC **21** 03:48:03.0±0.7, 2°.12N×126°.74E, h0km, mb4.0/10, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=36.3km s-min=15.1km az=81.0*
*NEIC **21** 03:48:06.6±3.2, 2°.10N×126°.71E, h25km±23km, mb4.5/5, Error ellipse: s-maj=13.1km s-min=6.2km az=56.0*
*ISCJB **21** 03:48:07.5±0.5, 2°.05N±0°.07×126°.55E±0°.09, h47km, mb4.2/13, Error ellipse: s-maj=14.3km s-min=8.6km az=153.0*
ISC 21 03:48:09.5±0.6, 2°.06N±0°.09×126°.6E±0°.1, h47km, n34, σ0§80/38, mb4.2/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.82**	**224**	Pn	**Pn**	**03 50 27.6**	**-0.5**
KAPI	**Kappang**	**9.82**	**224**	Pn	**Pn**	**03 50 27.6**	**-0.5**
	1.1nm,0.3s,baz=57,slow=17,SNR=5.1						
KKM	**Kota Kinabalu**	**11.11**	**291**	*e*Pn	**Pn**	**03 50 44.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**20.06**	**183**	P	**P**	**03 52 38.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.06**	**183**	P	**P**	**03 52 38.9**	**-0.1**
	1.5nm,0.4s,baz=9.1,slow=10,SNR=19						
WRAB	**Tennant Creek**	**23.14**	**161**	*e*P	**P**	**03 53 11.1**	**-0.8**
	5.0nm,0.4s						
WRA	**Warramunga Arr**	**23.14**	**161**	P	**P**	**03 53 11.1**	**-0.8**
WRA				PcP	**PcP**	**03 56 59.8**	**+0.3**
WRA	**Warramunga Arr**	**23.14**	**161**	P	**P**	**03 53 11.1**	**-0.8**
	4.3nm,0.4s,baz=338,slow=10,SNR=72						
WRA				PcP	**PcP**	**03 56 59.8**	**+0.3**
	0.5nm,0.5s,baz=328,slow=2.4,SNR=5.3						
PMG	**Port Moresby**	**23.42**	**119**	*e*P	**P**	**03 53 13.9**	**-0.8**
	57nm,1.3s						
IPM	**Ipoh**	**25.66**	**276**	*e*P	**P**	**03 53 35.8**	**+0.5**
AS31	**Alice Springs**	**26.53**	**165**	*e*P	**P**	**03 53 42.2**	**-0.9**
ASAR	**Alice Springs**	**26.54**	**165**	P	**P**	**03 53 42.8**	**-0.3**
ASAR				PcP	**PcP**	**03 57 07.7**	**+0.7**
ASAR	**Alice Springs**	**26.54**	**165**	P	**P**	**03 53 42.8**	**-0.3**
	0.9nm,0.4s,baz=341,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	**03 57 07.7**	**+0.7**
	1.2nm,0.5s,baz=350,slow=2.4,SNR=9.4						
FORT	**Forrest**	**32.68**	**178**	*e*P	**P**	**03 54 37.6**	**+0.2**
	24nm,0.8s						
STKA	**Stephens Creek**	**36.62**	**158**	P	**P**	**03 55 11.4**	**0.0**
STKA	**Stephens Creek**	**36.62**	**158**	P	**P**	**03 55 11.4**	**0.0**
	3.6nm,0.7s,baz=340,slow=10.0,SNR=5.1						
PETK	**Petropavlovsk-**	**57.01**	**22**	P	**P**	**03 57 51.2**	**+0.8**
PETK	**Petropavlovsk-**	**57.01**	**22**	P	**P**	**03 57 51.2**	**+0.8**
	0.6nm,0.6s,baz=222,slow=5.8,SNR=2.6						
MK31	**Makanchi Array**	**58.86**	**326**	*e*P	**P**	**03 58 03.1**	**-0.4**
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**03 58 03.3**	**-0.2**
MKAR	**Makanchi Array**	**58.86**	**326**	P	**P**	**03 58 03.3**	**-0.2**
	0.8nm,0.4s,baz=120,slow=7.5,SNR=13						
EKS2	**Erkin-Say**	**62.01**	**318**	*e*P	**P**	**03 58 26.1**	**+0.9**
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**62.02**	**334**	P	**P**	**03 58 25.2**	**+0.3**
ZALV	**Zalesovo Beam**	**62.02**	**334**	P	**P**	**03 58 25.2**	**+0.3**
	0.4nm,0.4s,baz=99,slow=7.6,SNR=2.5						
ABKAR	**Akbulak array**	**73.37**	**321**	*e*P	**P**	**03 59 36.2**	**-0.3**
VNDA	**Vanda**	**81.79**	**173**	*e*P	**P**	**04 00 23.0**	**+0.1**
	2.1nm,0.8s						
VNDA	**Vanda**		**81.79**	**173**	**P**	**04 00 23.7**	**+0.7**
	1.2nm,0.6s,baz=326,slow=4.9,SNR=6.3						
MAW	**Mawson**	**82.16**	**200**	P	**P**	**04 00 26.0**	**+1.0**
MAW	**Mawson**	**82.16**	**200**	P	**P**	**04 00 26.0**	**+1.0**
	1.3nm,0.6s,baz=75,slow=7.7,SNR=4.0						
ILAR	**Eielson Array**	**86.65**	**25**	P	**P**	**04 00 45.9**	**-2.0**
ILAR	**Eielson Array**	**86.65**	**25**	P	**P**	**04 00 45.9**	**-2.0**
	0.2nm,0.6s,baz=248,slow=5.0,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**123.31**	**287**	*e*PKPdf	**PKPdf**	**04 07 02.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**123.31**	**287**	PKP	**PKPdf**	**04 07 03.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**123.31**	**287**	PKP	**PKPdf**	**04 07 03.4**	**+1.0**
	0.4nm,0.9s,baz=90,slow=4.3,SNR=2.7						

IDC 21 03:50:01.3±2.6, 14°.94N×123°.67E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=182.3km s-min=24.8km az=90.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.74**	**9**	P	P	03 55 04.8	-0.2
	0.8nm,0.7s,baz=173,slow=9.4,SNR=2.6						
FITZ	**Fitzroy Crossi**	**32.89**	**177**	P	P	03 56 36.6	-0.7
	0.4nm,0.5s,baz=5.9,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**36.22**	**163**	P	P	03 57 06.9	+0.8
	0.3nm,0.3s,baz=343,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**39.65**	**165**	P	P	03 57 34.8	-0.3
	0.1nm,0.3s,baz=357,slow=15,SNR=2.5						

*ISCJB **21** 04:17:18.3±0.6, 40°.90N±0°.05×73°.81E±0°.05, h4km, mb3.7/7, MS3.4/3, Error ellipse: s-maj=6.7km s-min=5.6km az=174.5*
*IDC **21** 04:17:18.8±1.5, 40°.77N×73°.87E, h0km, mb3.8/7, mb1 3.9/12, mb1mx3.7/30, mbtmp3.8/12, ML3.5/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/32, Error ellipse: s-maj=26.0km s-min=15.6km az=159.0*
*BJI **21** 04:17:21.9, 41°.44N×73°.47E, h28km, mB4.2/1, ML3.8/3*
*NNC **21** 04:17:24.0±1.3, 41°.19N×73°.89E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=13.8km s-min=4.9km az=170.0*
*MOS **21** 04:17:25.8±1.0, 41°.28N×73°.49E, h33km, mb4.0/4, Error ellipse: s-maj=14.1km s-min=6.4km az=73.5*
ISC 21 04:17:20.3±0.7, 41°.02N±0°.04×74°.04E±0°.05, h4km, n57, σ1§24/57, mb3.8/7, MS3.1/3, 16C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.14**	**347**	*i* PG	**Pg**	**04 17 42.0**	**-0.2**
AML	**Almayashu**	**1.14**	**347**	P	**Pg**	**04 17 42.0**	**-0.2**
	SNR=754						
UCH	**Uchtor**	**1.26**	**16**	*i* PG	**Pg**	**04 17 43.9**	**-0.6**
UCH	**Uchtor**	**1.26**	**16**	P	**Pg**	**04 17 43.9**	**-0.6**
	SNR=114						
KZA	**Kyzart**	**1.40**	**40**	P	**Pn**	**04 17 45.8**	**-1.2**
	SNR=487						
AAK	**Ala-Archa**	**1.65**	**12**	PN	**Pb**	**04 17 51.0**	**-0.4**
AAK						04 18 13.1	
AAK				pmax	pmax		
	comp=Z,75nm,0.3s						
AAK				smax	smax		
	comp=N,180nm,0.3s						
AAK	**Ala-Archa**	**1.65**	**12**	P	**Pb**	**04 17 51.1**	**-0.4**
	SNR=152						
AAK	**Ala-Archa**	**1.65**	**12**	Pn	**Pb**	**04 17 51.0**	**-0.4**
	comp=N,75nm,0.3s,baz=158,slow=8.5,SNR=144						
AAK				Sn	**Sg**	**04 18 13.1**	**-0.3**
	comp=N,180nm,0.3s,baz=263,slow=19,SNR=18						
EKS2	**Erkin-Say**	**1.65**	**353**	P	**Pb**	**04 17 51.2**	**-0.2**
	SNR=122						
KBK	**Karagaybulak**	**1.77**	**22**	*i* PN	**Pb**	**04 17 53.3**	**-0.2**
KBK	**Karagaybulak**	**1.77**	**22**	P	**Pb**	**04 17 53.3**	**-0.2**
	SNR=106						
FRU	**Bishkek**	**1.86**	**13**	⇓*i*PN	**Pn**	**04 17 54.0**	**+0.9**
FRU				*e*S	**Sb**	**04 18 19.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,544nm,1.4s						
FRU				smax	smax		
	comp=E,2μm,1.4s						
CHMS	**Chumysh**	**2.05**	**15**	*i* PN	**Pb**	**04 17 58.1**	**0.0**
CHMS	**Chumysh**	**2.05**	**15**	P	**Pb**	**04 17 58.1**	**0.0**
	SNR=88						
ULHL	**Ulahol**	**2.06**	**53**	P	**Pn**	**04 17 57.1**	**+1.2**
	SNR=44						
KSH	**Kashi**	**2.11**	**135**	Pg	**Pb**	**04 18 00.3**	**+1.1**
KSH				Sg	**Sn**	**04 18 21.3**	**-1.9**
KSH				smax	smax		
	comp=N,400nm,0.8s						
KSH				smax	smax		
	comp=E,170nm,0.7s						
TKM2	**Tokmak 2**	**2.23**	**31**	⇓Pn	**Pb**	**04 18 00.5**	**-0.8**
	comp=E,135nm,0.5s						
TKM2				⇑Sn	**Sb**	**04 18 29.9**	**+0.5**
	comp=E,454nm,0.5s						
TKM2	**Tokmak 2**	**2.23**	**31**	*i* PN	**Pb**	**04 18 00.8**	**-0.5**
TKM2	**Tokmak 2**	**2.23**	**31**	P	**Pb**	**04 18 00.9**	**-0.5**
	SNR=402						
USP	**Ospenovka**	**2.27**	**9**	*i* PN	**Pb**	**04 18 02.1**	**+0.1**
USP	**Ospenovka**	**2.27**	**9**	P	**Pb**	**04 18 02.0**	**+0.1**
	SNR=210						
KNDC	**Almaty**	**3.09**	**44**	⇑Pn	**Pb**	**04 18 15.3**	**-0.6**
KNDC				⇑Lg	Lg	04 18 59.9	
AAA	**Alma-Ata**	**3.12**	**43**	*e*PN	**Pb**	**04 18 17.3**	**+0.9**
AAA				*e*S	**Sb**	**04 18 56.7**	**+1.8**
AAA				pmax	pmax		
	comp=Z,330nm,0.3s						
AAA				smax	smax		
	comp=N,1μm,0.7s						
KK31	**Karatay Array**	**3.35**	**310**	Pn	**Pn**	**04 18 15.0**	**+1.5**
	comp=N,3.0nm,0.5s,baz=113,slow=15,SNR=321						
KK31				⇓Pg	**Pb**	**04 18 21.0**	**+0.7**
	comp=N,10nm,0.3s,baz=135,slow=17,SNR=46						
KK31				Lg	Lg	04 19 05.2	
	comp=N,152nm,0.5s,baz=130,slow=26,SNR=19						
MK31	**Makanchi Array**	**8.29**	**43**	⇑Pn	Pn	04 19 24.8	+3.4
	comp=N,3.0nm,0.5s,baz=220,slow=14,SNR=9.0						
MK31				⇑Lg	Lg	04 21 45.2	
	comp=N,11nm,0.7s,baz=228,slow=26,SNR=5.7						
MKAR	**Makanchi Array**	**8.29**	**43**	P	Pn	04 19 25.3	+3.9
MKAR	**Makanchi Array**	**8.29**	**43**	Pn	Pn	04 19 25.3	+3.9
	comp=N,0.2nm,0.3s,baz=225,slow=14,SNR=8.2						
MKAR				Lg	Lg	04 21 39.4	
	comp=N,0.9nm,0.3s,baz=232,slow=30,SNR=5.3						
KURBB	**Kurchatov Arra**	**10.10**	**17**	⇓Pn	Pn	04 19 49.4	+3.4
	comp=N,3.0nm,0.7s						
KURBB				⇑Lg	Lg	04 22 42.6	
	comp=N,91nm,0.8s						
KURBB	**Kurchatov Arra**	**10.10**	**17**	Pn	**Pn**	**04 19 47.8**	**+1.7**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=11						
KURBB				Lg	Lg	04 22 36.3	
	comp=N,0.3nm,0.3s,baz=201,slow=30,SNR=5.5						
KURK	**Kurchatov**	**10.21**	**17**	P	**Pn**	**04 19 47.8**	**+0.3**
VOSK	**Vostochnaya**	**11.89**	**351**	⇑Pn	**Pn**	**04 20 12.5**	**+1.9

AUST 21 04:38:16.7±0.0,23°.31S×178°.18E,h534km±1km, Error ellipse: s-maj=6.0km s-min=2.4km az=253.0

ISC 21 04:38:10.8±0.7,24°.2S±0°.1×179°.12E±0°.09,h550km,n22, σ1§39/23,mb3.7/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	11.39	65	S	S	04 42 49.0	+0.6
	baz=12,SNR=7.4						
DZM	**Mont Dzumac**	11.86	278	P	P	04 40 48.3	+0.2
	1.4nm,0.3s,baz=81,slow=17,SNR=5.9						
AFI	**Afiamalu**	13.37	42	P	P	04 40 57.0	-6.8
	7.2nm,0.3s,baz=245,slow=22,SNR=5.9						
URZ	**Urewera**	14.11	187	P	P	04 41 09.8	-1.2
	1.8nm,0.3s,baz=340,slow=5.5,SNR=11						
URZ				S	S	04 43 37.0	-2.3
	0.4nm,0.3s,baz=330,slow=16,SNR=6.5						
RPZ	**Rata Peaks**	20.56	197	P	P	04 42 14.7	+3.0
	2.5nm,0.4s,baz=45,slow=6.7,SNR=3.4						
MGCD	**Mangrove Creek**	26.09	244	P	P	04 43 01.8	+0.6
	baz=26,SNR=7.8						
RMQ	**Roma**	27.51	259	P	P	04 43 15.7	+1.9
	baz=27,SNR=5.0						
CMSA	**Cobar Meteorol**	30.36	249	P	P	04 43 39.0	+0.7
	baz=30,SNR=10						
TOO	**Toolangi**	31.61	237	S	S	04 48 29.4	+10
	baz=31,SNR=7.2						
MTSU	**Mount Surprise**	32.95	274	P	P	04 44 00.8	+0.1
	baz=32,SNR=6.1						
STKA	**Stephens Creek**	33.86	248	P	P	04 44 08.6	+0.5
	6.5nm,0.6s,baz=88,slow=9.2,SNR=20						
STKA	**Stephens Creek**	33.86	248	P	P	04 44 08.8	+0.6
	baz=33,SNR=14						
COEN	**Coen**	35.38	280	P	P	04 44 21.0	0.0
	baz=34,SNR=6.4						
ASAR	**Alice Springs**	41.19	261	P	P	04 45 07.8	-0.4
	13nm,0.8s,baz=92,slow=8.3,SNR=94						
ASAR				ScP	ScP	04 49 53.4	+1.5
	0.3nm,0.6s,baz=110,slow=5.2,SNR=3.3						
ASAR				S	S	04 50 41.2	-1.3
	0.7nm,0.8s,baz=100,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	41.59	267	P	P	04 45 10.1	-1.2
	14nm,0.7s,baz=105,slow=8.7,SNR=97						
KDU	**Kakadu**	45.52	276	P	P	04 45 40.5	-1.3
	baz=45,SNR=6.1						
FITZ	**Fitzroy Crossi**	50.01	266	P	P	04 46 14.8	-0.5
	baz=49,SNR=11						
QSPA	**South Pole Qui**	65.88	180	P	P	04 48 03.8	+1.7
	1.2nm,0.5s,baz=252,slow=0.3,SNR=5.7						
MAW	**Mawson**	77.18	201	P	P	04 49 08.9	+1.1
	1.5nm,0.6s,baz=122,slow=7.2,SNR=4.5						
TXAR	**Lajitas Array**	91.27	58	P	P	04 50 18.2	0.0
	0.5nm,0.7s,baz=209,slow=6.4,SNR=7.4						
PDAR	**Pinedale Array**	93.47	44	P	P	04 50 25.8	-2.3
	0.2nm,0.5s,baz=205,slow=1.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	168.73	193	PKPab	PKPab	04 58 30.0	+0.4
	0.4nm,0.8s,baz=168,slow=2.9,SNR=7.5						

AUST 21 04:44:47.2±1.6,31°.59S×178°.28W,h186km, Error ellipse: s-maj=2.8km s-min=1.0km az=278.0

ISCJB 21 04:44:53.0±0.4,31°.48S±0°.05×179°.53W±0°.07,h200km, mb4.3/19, Error ellipse: s-maj=9.0km s-min=6.1km az=19.9

NEIC 21 04:44:53.7±0.8,31°.44S×179°.34W,h210km±7km,mb4.5/13, Error ellipse: s-maj=11.3km s-min=8.7km az=107.0

IDC 21 04:44:56.4±0.8,31°.21S×179°.36W,h229km±8km,mb4.0/10, mb1 4.0/13,mb1mx3.9/19,mbtmp3.9/13, Error ellipse: s-maj=13.4km s-min=12.5km az=92.0

ISC 21 04:44:53.4±0.4,31°.45S±0°.06×179°.51W±0°.08,h200km, n95,σ1§69/106,mb4.5/18,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.58	32	P	Pn	04 45 38.5	+0.2
RAO				S	Sn	04 46 14.8	+1.6
RAO	**Raoul Island**	2.58	32	P	Pn	04 45 38.4	+0.2
	126nm,0.3s,baz=232,slow=19,SNR=4.4						
RAO				S	Sn	04 46 14.8	+1.6
	2μm,0.3s,baz=128,slow=20,SNR=16						
URZ	**Urewera**	7.34	201	ePn	Pn	04 46 39.2	+1.2
	14nm,0.5s						
URZ				eSn	Sn	04 47 59.3	-1.8
URZ	**Urewera**	7.34	201	P	Pn	04 46 38.3	+0.3
	1.5nm,0.3s,baz=199,slow=20,SNR=15						
URZ				S	Sn	04 47 59.2	-1.8
	6.6nm,0.3s,baz=52,slow=7.2,SNR=12						
SNZO	**South Karori**	10.89	204	ePn	Pn	04 47 22.8	-1.1
SNZO				eS	Sn	04 49 17.8	-7.5
RPZ	**Rata Peaks**	14.34	209	P	Pn	04 48 05.9	-1.4
RPZ				S	S	04 50 34.7	-12
RPZ	**Rata Peaks**	14.34	209	P	Pn	04 48 05.9	-1.4
	0.8nm,0.3s,baz=32,slow=7.9,SNR=3.6						
RPZ				S	S	04 50 34.7	-12
	1.2nm,0.3s,baz=90,slow=20,SNR=10						
NIUE	**Niue**	15.05	37	S	S	04 50 49.5	-14
	baz=15,SNR=11						
DZM	**Mont Dzumac**	15.63	303	P	Pn	04 48 25.1	+1.7
DZM	**Mont Dzumac**	15.63	303	P	Pn	04 48 25.1	+1.7
	0.2nm,0.3s,baz=127,slow=20,SNR=1.7						
AFI	**Afiamalu**	18.84	24	P	P	04 48 58.0	-0.5
AFI	**Afiamalu**	18.84	24	P	P	04 48 58.0	-0.5
	2.1nm,0.3s,baz=198,slow=3.2,SNR=3.0						
CMSA	**Cobar Meteorol**	29.61	261	P	P	04 50 43.3	+3.5
	baz=31,SNR=9.4						
CTAO	**Charters Tower**	32.72	282	eP	P	04 51 09.6	+2.3
	7.7nm,0.6s						
STKA	**Stephens Creek**	32.99	259	eP	P	04 51 12.3	+2.8
	2.2nm,0.9s						
STKA	**Stephens Creek**	32.99	259	P	P	04 51 12.6	+3.1
	9.8nm,0.5s,baz=91,slow=9.4,SNR=27						
STKA	**Stephens Creek**	32.99	259	P	P	04 51 12.7	+3.1
	baz=34,SNR=20						
MTSU	**Mount Surprise**	35.25	283	P	P	04 51 31.9	+2.8
	baz=36,SNR=11						
BBOO	**Buckleboo**	37.45	256	P	P	04 51 49.0	+1.4
	baz=38,SNR=8.4						
COEN	**Coen**	38.34	288	eP	P	04 51 56.6	+1.5
	50nm,0.8s						
AS31	**Alice Springs**	41.78	269	eP	P	04 52 24.2	+0.8
ASAR	**Alice Springs**	41.78	269	P	P	04 52 24.6	+1.2
ASAR				ScP	ScP	04 57 42.0	-4.9
ASAR	**Alice Springs**	41.78	269	P	P	04 52 24.6	+1.2
	12nm,0.4s,baz=105,slow=7.4,SNR=155						
ASAR				ScP	ScP	04 57 42.0	-4.9
	0.5nm,0.7s,baz=107,slow=3.1,SNR=5.2						
WRAB	**Tennant Creek**	42.86	274	eP	P	04 52 32.8	+0.7
	32nm,0.5s						
WRA	**Warramunga Arr**	42.86	274	P	P	04 52 33.4	+1.2
WRA				ScP	ScP	04 57 46.7	-4.6
WRA				S	S	04 58 39.2	-2.4
WRA	**Warramunga Arr**	42.86	274	P	P	04 52 33.4	+1.2
	42nm,0.4s,baz=110,slow=8.2,SNR=759						
WRA				ScP	ScP	04 57 46.7	-4.6
	0.8nm,0.8s,baz=123,slow=3.6,SNR=4.1						
WRA				S	S	04 58 39.2	-2.4
	0.6nm,0.9s,baz=114,slow=14,SNR=4.5						
FORT	**Forrest**	44.54	257	eP	P	04 52 45.6	+0.2
	44nm,1.1s						
SBA	**Scott Base**	46.90	184	eP	P	04 53 06.7	+3.6
	20nm,1.1s						
VNDA	**Vanda**	46.93	185	eP	P	04 53 05.5	+2.1
	2.0nm,0.8s						
VNDA	**Vanda**	46.93	185	P	P	04 53 06.1	+2.8
	1.4nm,0.7s,baz=10.0,slow=6.0,SNR=6.8						
KDU	**Kakadu**	47.84	282	P	P	04 53 11.6	+0.3
	baz=49,SNR=3.5						
MTN	**Manton Dam**	48.89	281	P	P	04 53 19.7	+0.5
	baz=50,SNR=3.9						
KNRA	**Kununurra**	49.51	276	P	P	04 53 25.2	+1.3
	baz=50,SNR=3.5						
FITZ	**Fitzroy Crossi**	51.08	271	P	P	04 53 36.6	+0.9
	baz=52,SNR=22						
MEEK	**Meekatharra**	53.70	258	P	P	04 53 55.1	+0.2
	baz=55,SNR=3.3						
QSPA	**South Pole Qui**	58.66	180	eP	P	04 54 31.4	+1.9
	15nm,0.7s						
QSPA	**South Pole Qui**	58.66	180	P	P	04 54 31.8	+2.3
	14nm,0.6s,baz=28,slow=1.3,SNR=52						
MAW	**Mawson**	70.87	201	P	P	04 55 48.0	-0.1
MAW	**Mawson**	70.87	201	P	P	04 55 48.0	-0.1
	3.6nm,0.7s,baz=121,slow=8.3,SNR=9.3						
MAW	**Mawson**	70.87	201	P	P	04 55 48.2	+0.1
	baz=71,SNR=10.0						
KKM	**Kota Kinabalu**	71.67	289	eP	P	04 55 54.9	+1.1
	11nm,0.8s						
SNAA	**Sanae**	77.14	179	eP	P	04 56 24.9	+0.5
SNAA	**Sanae**	77.14	179	eP	P	04 56 24.5	+0.1
	4.6nm,0.8s						
VNA2	**Neumayer--Watz**	77.76	177	eP	P	04 56 28.7	+0.9
VNA1	**Neumayer--Stat**	78.00	177	eP	P	04 56 30.0	+1.0
PLCA	**Paso Flores**	82.73	134	eP	P	04 56 55.6	+0.6
	2.5nm,0.8s						
PLCA	**Paso Flores**	82.73	134	P	P	04 56 55.7	+0.7
	1.8nm,0.8s,baz=217,slow=13,SNR=3.4						
IPM	**Ipoh**	83.37	279	eP	P	04 56 58.2	-0.3
KULM	**Kulim**	84.12	280	eP	P	04 57 01.7	-0.6
	8.8nm,1.0s						
KSRS	**Korea Array**	84.32	321	P	P	04 57 03.7	+1.1
	0.9nm,0.7s,baz=151,slow=5.3,SNR=3.8						
KSAR	**Wonju Array Be**	84.33	321	P	P	04 57 03.7	+1.0
PETK	**Petropavlovsk-**	86.51	346	P	P	04 57 12.7	-0.5
PETK	**Petropavlovsk-**	86.51	346	P	P	04 57 12.7	-0.5
	1.1nm,0.6s,baz=131,slow=8.1,SNR=4.4						
USRK	**Ussuriysk Arra**	87.33	327	P	P	04 57 18.1	+0.8
	2.0nm,0.7s,baz=132,slow=4.3,SNR=2.9						
LPAZ	**La Paz**	98.88	115	P	Pdif	04 58 12.4	+0.5
LPAZ	**La Paz**	98.88	115	P	Pdif	04 58 12.4	+0.5
	0.4nm,0.6s,baz=226,slow=8.1,SNR=2.8						
MK31	**Makanchi Array**	117.45	310	ePKPdf	PKPdf	05 03 13.3	-1.6
MKAR	**Makanchi Array**	117.45	310	PKP	PKPdf	05 03 13.1	-1.8
MKAR	**Makanchi Array**	117.45	310	PKP	PKPdf	05 03 13.1	-1.8
	0.3nm,0.4s,baz=135,slow=1.3,SNR=7.1						
ZALV	**Zalesovo Beam**	117.95	318	PKP	PKPdf	05 03 13.3	-2.2
ZALV	**Zalesovo Beam**	117.95	318	PKP	PKPdf	05 03 13.4	-2.2
	0.5nm,0.3s,baz=145,slow=5.3,SNR=2.2						
KURK	**Kurchatov**	120.83	314	PKP	PKPdf	05 03 19.6	-1.6
KURBB	**Kurchatov Arra**	120.87	313	PKP	PKPdf	05 03 19.6	-1.7
	0.7nm,0.4s,baz=111,slow=2.1,SNR=7.5						
TKM2	**Tokmak 2**	120.91	304	ePKPdf	PKPdf	05 03 21.1	-0.9
EKS2	**Erkin-Say**	122.13	303	ePKPdf	PKPdf	05 03 23.0	-1.2
KBL	**Kabul**	123.44	293	ePKPdf	PKPdf	05 03 26.6	-0.4
KKAR	**Karatay Array**	124.57	303	ePKPdf	PKPdf	05 03 27.4	-1.2
BVAR	**Borovoye Array**	126.24	315	PKP	PKPdf	05 03 30.6	-0.9
BVAR	**Borovoye Array**	126.24	315	PKP	PKPdf	05 03 30.6	-0.9
	0.8nm,0.4s,baz=64,slow=3.4,SNR=3.8						
BRVK	**Borovoye**	126.31	315	ePKPdf	PKPdf	05 03 30.6	-1.0
AKTO	**Aktyubinsk**	133.84	312	PKP	PKPdf	05 03 44.7	-1.4
AKTO	**Aktyubinsk**	133.84	312	PKP	PKPdf	05 03 44.7	-1.4
	1.0nm,0.6s,baz=135,slow=1.4,SNR=4.0						
ARCES	**ARCESS Array B**	139.32	347	PKPpre	PKPpre	05 03 47.2	
ARCES				PKP	PKPdf	05 03 56.4	+0.7
ARCES	**ARCESS Array B**	139.32	347	PKhKP	PKPpre	05 03 47.2	
	1.5nm,0.7s,baz=62,slow=2.0,SNR=6.6						
ARCES				PKP	PKPdf	05 03 56.4	+0.7
	2.4nm,0.9s,baz=65,slow=2.5,SNR=6.4						
JOF	**Joensuu**	142.90	337	ep	PKPdf	05 03 54.0	-8.2
	1.5nm,0.6s						
KBZ	**Khabaz**	144.60	302	PKP	PKPab	05 04 04.1	-0.8
KBZ	**Khabaz**	144.60	302	PKP	PKPab	05 04 04.1	-0.8
	2.4nm,0.7s,baz=15,slow=2.1,SNR=4.7						
KAF	**Kangasniemi**	145.08	339	ep	PKPbc	05 04 03.7	-2.3
	3.0nm,0.4s						
FINES	**FINESS Array B**	145.66	338	PKPbc	PKPdf	05 04 06.3	-0.7
FINES	**FINESS Array B**	145.66	338	PKPbc	PKPdf	05 04 06.3	-0.7
	5.5nm,0.4s,baz=49,slow=3.6,SNR=58						
NB2	**NORSAR Subarra**	149.57	350	PKP	PKPbc	05 04 16.9	-1.5
	comp=Z,1.0nm,0.4s,baz=13,slow=2.5						
NOA	**NORSAR Array B**	149.57	350	PKPbc	PKPdf	05 04 16.7	+3.1
NOA	**NORSAR Array B**	149.57	350	PKPbc	PKPdf	05 04 16.7	+3.1
	comp=Z,1.2nm,0.4s,baz=16,slow=4.1,SNR=7.0						
NAO01	**NORSAR Array S**	149.81	350	ePKPdf	PKPdf	05 04 12.9	-1.0
NAO01				ePKPbc	PKPbc	05 04 18.4	-0.5
NAO01				ePKPab	PKPab	05 04 23.9	-1.1
KIEV	**Kiev**	151.33	320	ePKPab	PKPab	05 04 30.6	-1.0
BR131	**Keskin Array S**	151.93	296	ePKPbc	PKPbc	05 04 23.0	-1.7
CSS	**Prodhromos**	152.37	286	ePKPbc	PKPbc	05 04 25.3	-0.3
DBIC	**Dimbokro**	154.84	167	ePKPdf	PKPdf	05 04 22.1	-0.6
DBIC				ePKPbc	PKPbc	05 04 31.0	-0.6
DBIC				ePKPab	PKPab	05 04 45.9	-1.5
MORC	**Moravsky Berou**	157.67	330	ePKPdf	PKPdf	05 04 24.8	-0.7
MORC				ePKPab	PKPab	05 04 57.9	-0.9
GERES	**GERESS Array B**	159.96	334	PKPab	PKPab	05 05 08.1	-0.7
GERES	**GERESS Array B**	159.96	334	PKPab	PKPab	05 05 08.1	-0.7
	comp=Z,0.5nm,0.6s,baz=35,slow=4.9,SNR=4.2						
TOA0	**Torodi Ar. Sit**	161.75	184	ePKPab	PKPab	05 05 16.9	-0.3
TORD	**Torodi Ar. Bea**	161.75	184	PKP	PKPdf	05 04 30.5	-0.6
TORD				PKPab	PKPab	05 05 17.3	+0.1
TORD	**Torodi Ar. Bea**	161.75	184	PKP	PKPdf	05 04 30.5	-0.6
	comp=Z,0.9nm,1.1s,baz=180,slow=4.2,SNR=3.9						
TORD				PKPab	PKPab	05 05 17.3	+0.1
	comp=Z,1.5nm,0.7s,baz=178,slow=3.8,SNR=20						
BNI	**Bardonecchia**	165.58	342	ePKPdf	PKPdf	05 04 31.6	-2.3

GUC 21 04:48:41.0±0.7,33°.20S×70°.02W,h14km±9km,MD3.9, ML3.1,3C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	0.27	240	⇓iP	Pg	04 48 43.8	-3.3
FCH				i S	Sg	04 48 48.1	-3.2
FCH				AML	AML	04 48 48.9	
	comp=N,6μm,0.4s						
CLCH	**Cerro Calan**	0.48	245	⇓iP	Pg	04 48 50.6	-0.1
CLCH				i S	Sg	04 48 57.7	+0.4
CLCH				AML	AML	04 49 00.7	
	comp=E,5μm,0.4s						
LACH	**Col Las Americ**	0.50	239	eP	Pg	04 48 50.7	-0.3
LACH				eS	Sg	04 48 58.1	+0.2
PEL	**Peldehue**	0.56	275	⇑iP	Pg	04 48 51.7	-0.5
PEL				i S	Sg	04 48 59.5	-0.3
PCH	**Pirque**	0.59	224	eP	Pg	04 48 52.5	-0.3
PCH				i S	Sg	04 49 01.1	+0.2
SAN	**Santiago**	0.60	244	eP	Pg	04 48 52.2	-0.6
SAN				i S	Sg	04 49 01.1	+0.2
ANTU	**Antumapu**	0.64	234	eP	Pg	04 48 53.1	-0.5
ANTU				i S	Sg	04 49 02.0	-0.1
ANTU				AML	AML	04 49 02.9	
	comp=N,940nm,0.3s						
LMEL	**Las Melosas**	0.67	194	⇑iP	Pg	04 48 53.7	-0.6
LMEL				eS	Sg	04 49 03.3	-0.1
LMEL				AML	AML	04 49 03.9	
	comp=N,974nm,0.2s						
ROCH	**El Roble**	0.87	285	eP	Pb	04 48 57.4	-0.8
ROCH				i S	Sg	04 49 08.9	-0.8
TACH	**Talagante**	0.90	239	eP	Pb	04 48 57.7	-0.7
TACH				i S	Sb	04 49 09.8	-0.5
CHCH	**Chadas Angostu**	0.91	216	eP	Pb	04 48 57.7	-0.9
CACH	**El Canelo**	1.04	208	⇑iP	Pb	04 49 00.9	-0.1
CACH				i S	Sn	04 49 15.5	-0.3
IHA	**Instituto Hidr**	1.38	277	eP	Pn	04 49 06.0	+0.3
LNV	**Longovilo**	1.39	237	eP	Pn	04 49 05.5	-0.5
CMCH	**Combarbala**	2.18	337	eP	Pb	04 49 18.9	-1.5
CMCH				eS	Sb	04 49 48.8	+1.4
CMCH				AML	AML	04 49 59.6	
	comp=E,326nm,0.9s						

IDC 21 05:04:23.1±1.4,11°.94S×166°.30E,h46km±9km,mb3.7/8, mb1 3.9/8,mb1mx3.6/19,mbtmp3.7/8,MS3.8/2,Ms1 3.8/2, ms1mx3.1/30,Error ellipse: s-maj=37.2km s-min=23.1km az=142.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	10.07	179	P	Pn	05 06 40.4	-4.9
	0.2nm,0.3s,baz=90,slow=22,SNR=17						
DZM				S	Sn	05 08 40.1	+3.0
	baz=270,slow=20,SNR=2.0						
AFI	**Afiamalu**	21.46	98	LR	LR	05 15 10.3	
	comp=Z,56nm,18.0s,baz=330,slow=30						
WRA	**Warramunga Arr**	31.70	251	P	P	05 10 42.8	+0.2
	0.6nm,0.6s,baz=84,slow=9.5,SNR=9.3						
WRA				pP	pP	05 10 53.7	-1.2
	0.6nm,0.7s,baz=83,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	32.89	245	P	P	05 10 53.0	-0.1
	0.8nm,0.7s,baz=71,slow=9.8,SNR=7.2						
ASAR				pP	pP	05 11 05.5	+0.2
	0.8nm,0.6s,baz=69,slow=9.6,SNR=4.5						
FITZ	**Fitzroy Crossi**	39.68	256	P	P	05 11 51.4	+0.4
	1.7nm,0.9s,baz=68,slow=5.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	72.96	294	P	P	05 15 48.6	+0.3
	1.2nm,0.5s,baz=126,slow=4.2,SNR=5.9						
CMAR				pP	pP	05 16 02.4	+0.6
	1.5nm,0.8s,baz=125,slow=4.5,SNR=2.0						
QSPA	**South Pole Qui**	78.07	180	P	P	05 16 16.6	-0.3
	2.8nm,1.0s,baz=44,slow=2.9,SNR=5.0						
ILAR	**Eielson Array**	84.19	18	P	P	05 16 48.9	-0.2
	0.3nm,0.5s,baz=246,slow=5.0,SNR=9.5						
PFO	**Pinyon Flat Ob**	86.16	55	LR	LR	05 45 28.5	
	comp=Z,201nm,20.8s,baz=359,slow=29						
MKAR	**Makanchi Array**	94.54	317	P	P	05 17 37.1	-1.7
	0.9nm,0.7s,baz=90,slow=6.6,SNR=8.7						
TXAR	**Lajitas Array**	95.78	61	P	P	05 17 45.2	+0.3
	0.1nm,0.6s,baz=226,slow=3.6,SNR=2.5						
ARCES	**ARCESS Array B**	117.33	346	PKP	PKPdf	05 23 03.6	+0.7
	0.9nm,0.6s,baz=82,slow=1.9,SNR=3.8						

IDC 21 05:09:38.3±2.9,22°.52S×147°.97E,h0km,mb1 3.7/4, mb1mx3.5/15,mbtmp3.5/4,ML3.3/4,Error ellipse: s-maj=53.3km s-min=19.4km az=72.0,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	2.90	326	Pn	Pn	05 10 25.6	-0.2
	5.4nm,0.3s,baz=145,slow=15,SNR=12						
CTA				Pg	Pb	05 10 31.9	+0.9
	10nm,0.3s,baz=145,slow=18,SNR=17						
CTA				Sn	Sn	05 11 02.8	+1.2
	12nm,0.3s,baz=109,slow=19,SNR=6.4						
CTA				Lg	Lg	05 11 10.1	
	18nm,0.3s,baz=234,slow=19,SNR=11						
STKA	**Stephens Creek**	10.91	210	Pn	Pn	05 12 14.6	-1.1
	0.2nm,0.3s,baz=42,slow=15,SNR=2.9						
STKA				Sn	Sn	05 14 13.3	-5.3
	0.1nm,0.3s,baz=336,slow=18,SNR=1.9						
STKA				Lg	Lg	05 15 29.5	
	0.2nm,0.3s,baz=331,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	12.97	279	Pn	Pn	05 12 43.2	-0.9
	0.1nm,0.3s,baz=103,slow=12,SNR=8.4						
WRA				Sn	Sn	05 15 04.8	-4.5
	0.1nm,0.3s,baz=107,slow=22,SNR=3.7						
WRA				Lg	Lg	05 16 33.6	
	0.3nm,0.3s,baz=106,slow=28,SNR=13						
ASAR	**Alice Springs**	13.00	262	Pn	Pn	05 12 45.9	+1.4
	0.1nm,0.3s,baz=86,slow=13,SNR=7.7						
ASAR				Sn	Sn	05 15 08.2	-1.8
	0.1nm,0.3s,baz=88,slow=24,SNR=2.9						
ASAR				Lg	Lg	05 16 36.1	
	0.1nm,0.3s,baz=86,slow=28,SNR=4.4						
FITZ	**Fitzroy Crossi**	21.39	278	P	P	05 14 31.7	+4.0
	1.2nm,0.7s,baz=127,slow=10.0,SNR=6.0						
FITZ				Lg	Lg	05 20 57.9	
	1.3nm,0.8s,baz=14,slow=17,SNR=1.9						
TORD	**Torodi Ar. Bea**	146.64	260	PKPbc	PKPbc	05 29 22.1	-0.7
	1.9nm,1.0s,baz=104,slow=3.2,SNR=7.1						

IDC 21 05:10:35.2±10.0,2°.54N×128°.30E,h256km±99km,mb3.1/5, mb1 3.3/5,mb1mx3.1/20,mbtmp3.1/5,Error ellipse: s-maj=84.3km s-min=27.7km az=60.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	20.68	187	P	P	05 14 56.2	+0.1
	1.8nm,0.7s,baz=14,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	23.11	165	P	P	05 15 18.9	-0.1
	1.2nm,0.4s,baz=345,slow=10.0,SNR=23						
ASAR	**Alice Springs**	26.61	168	P	P	05 15 50.7	+0.2
	0.4nm,0.3s,baz=351,slow=6.9,SNR=4.1						
STKA	**Stephens Creek**	36.48	161	P	P	05 17 15.8	-0.5
	3.3nm,0.7s,baz=332,slow=9.5,SNR=4.5						
MKAR	**Makanchi Array**	59.43	325	P	P	05 20 11.1	-0.1
	0.3nm,0.4s,baz=115,slow=7.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	124.78	288	PKP	PKPdf	05 29 05.4	-0.1
	0.2nm,0.6s,baz=99,slow=0.7,SNR=3.3						

ISCJB 21 05:50:00.5±0.4,24°.05N±0°.02×122°.29E±0°.02,h18km±4km, Error ellipse: s-maj=3.7km s-min=2.5km az=159.2

JMA 21 05:50:01.9±0.2,24°.51N×122°.26E,h48km±2km,M3.3

TAP 21 05:50:01.2,24°.12N×122°.25E,h24km,ML3.7,C

ISC 21 05:50:00.0±1.2,24°.05N±0°.03×122°.28E±0°.02,h7km±10km, n50,σ1§16/40,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	0.62	307	P	Pg	05 50 12.2	+0.2
	baz=311						
ENA				eS	Sg	05 50 20.8	+0.6
	baz=311						
HWA	**Hwalien**	0.62	264	eP	Pg	05 50 15.9	+3.9
	baz=242						
TWD	**Chiawan**	0.63	273	eP	Pg	05 50 12.6	+0.5
	baz=252						
TWD				eS	Sg	05 50 22.4	+2.1
	baz=252						
TWC	**Suao**	0.69	325	⇓iP	Pg	05 50 12.8	-0.4
	baz=323						
TWC				eS	Sg	05 50

TWY	**Chenhua**	**1.37**	**333**	*e*P	Pg	05 50 25.5	-0.9
	baz=342						
TWY				*e*S	**Sg**	**05 50 42.2**	**-2.0**
	baz=342						
HATJ	**Hateruma jima**	**1.39**	**89**	P	**Pg**	**05 50 26.9**	**+0.2**
HATJ				S	**Sg**	**05 50 44.8**	**+0.1**
NSY	**Sanyi**	**1.44**	**285**	*e*P	Pn	05 50 26.7	+0.2
	baz=270						
NSY				*e*S	**Sg**	**05 50 44.0**	**-2.2**
	baz=270						
ALS	**Alishan**	**1.46**	**249**	*e*P	Pn	05 50 26.1	-0.8
	baz=246						
TCU	**Taichung**	**1.47**	**274**	*e*P	Pn	05 50 26.7	-0.2
	baz=272						
TCU				*e*S	**Sg**	**05 50 46.3**	**-1.1**
	baz=272						
WNT	**Mingjian**	**1.47**	**264**	*e*P	**Pn**	**05 50 28.1**	**+1.2**
	baz=250						
CHN5	**Tsauling**	**1.54**	**253**	*e*P	Pn	05 50 28.1	+0.2
	baz=241						
CHN5				*e*S	**Sn**	**05 50 47.1**	**-1.1**
	baz=241						
PCYT	**Pengchaiyu**	**1.59**	**353**	*i* P	Pn	05 50 27.1	-1.3
	baz=352						
JKRS	**Kuro-shima**	**1.59**	**83**	P	Pn	05 50 28.5	0.0
JKRS				*e*S	**Sn**	**05 50 48.5**	**-0.7**
WGK	**Gukeng**	**1.62**	**257**	*e*P	Pn	05 50 29.2	+0.3
	baz=255						
TWG	**Pinlang**	**1.65**	**223**	*e*P	Pn	05 50 28.0	-1.4
	baz=222						
TWG				*e*S	Sn	05 50 48.4	-2.5
	baz=222						
JIJ	**Ishigaki jima**	**1.73**	**79**	P	Pn	05 50 29.6	-0.8
JIJ				*e*S	Sn	05 50 50.8	-1.9
CHY	**Chiayi**	**1.79**	**253**	*e*P	Pn	05 50 30.5	-0.8
	baz=250						
CHY				*e*S	**Sn**	**05 50 53.6**	**-0.6**
	baz=250						
CHN1	**Nanshi**	**1.83**	**242**	*e*P	Pn	05 50 31.9	+0.1
	baz=241						
CHN1				*e*S	**Sn**	**05 50 54.5**	**-0.7**
	baz=241						
SGST	**Jiashian**	**1.83**	**239**	*e*P	Pn	05 50 32.0	+0.1
	baz=237						
SGST				*e*S	**Sn**	**05 50 55.9**	**+0.6**
	baz=237						
TWM1	**Shoushan**	**2.10**	**235**	*e*P	Pn	05 50 37.8	+2.2
	baz=233						
LAY	**Lan-yu**	**2.11**	**199**	*e*P	Pn	05 50 33.5	-2.2
	baz=208						
LAY				*e*S	Sn	05 50 57.3	-4.9
	baz=208						
SCZT	**Fangliau**	**2.27**	**223**	*e*P	Pn	05 50 38.1	+0.3
	baz=217						
SCZT				*e*S	**Sn**	**05 51 07.3**	**+1.3**
	baz=217						
JTJ	**Tarama**	**2.28**	**75**	P	Pn	05 50 37.7	-0.3
JTJ				*e*S	Sn	05 51 04.8	-1.6
TSEB	**Hengchuen, Pin**	**2.49**	**211**	*e*P	Pn	05 50 38.8	-2.1
	baz=212						
TWK1	**Hengchun**	**2.50**	**213**	*e*P	Pn	05 50 41.0	-0.1
	baz=214						
TWK1				*e*S	**Sn**	**05 51 11.3**	**-0.5**
	baz=214						
WDGT	**Dungji**	**2.53**	**252**	*e*P	Pn	05 50 41.1	-0.4
	baz=239						
WDGT				*e*S	Sn	05 51 10.8	-1.8
	baz=239						
KNM	**Kinmen**	**3.53**	**277**	*e*P	Pn	05 50 56.0	+0.8
	baz=275						

IDC 21 05:54:05.7±1.9, 1°74S×99°48E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=88.9km s-min=20.4km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.55**	**353**	Pn	Pn	05 55 14.8	-1.2
	0.9nm,0.3s,baz=158,slow=19,SNR=3.3						
CMAR	**Chiang Mai Arr**	**20.08**	**359**	P	P	05 58 41.1	+0.2
	1.0nm,0.3s,baz=195,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**38.57**	**120**	P	P	06 01 30.1	-0.6
	0.5nm,0.4s,baz=302,slow=9.0,SNR=7.5						
WRA				PcP	PcP	06 03 43.6	+0.1
	0.4nm,0.8s,baz=318,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**39.82**	**126**	P	P	06 01 41.4	+0.2
	0.7nm,0.5s,baz=297,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**50.64**	**345**	P	P	06 03 06.5	-0.3
	0.8nm,0.6s,baz=153,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**83.64**	**332**	P	P	06 06 35.9	-0.1
	1.2nm,0.9s,baz=98,slow=7.9,SNR=3.4						
TXAR	**Lajitas Array**	**144.81**	**37**	PKP	PKPbc	06 13 44.8	+0.3
	0.4nm,0.4s,baz=203,slow=0.5,SNR=22						

IDC 21 05:54:58.0±5.8, 1°42S×99°71E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/20, mbtmp3.5/2, Error ellipse: s-maj=296.5km s-min=31.9km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.53**	**121**	P	P	06 02 22.6	-0.1
	0.3nm,0.5s,baz=297,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**50.40**	**345**	P	P	06 03 57.2	0.0
	0.3nm,0.4s,baz=147,slow=8.4,SNR=2.6						
TXAR	**Lajitas Array**	**144.42**	**37**	PKP	PKPbc	06 14 36.3	+0.7
	0.3nm,0.6s,baz=270,slow=0.9,SNR=2.5						

IDC 21 06:00:39.9±2.6, 20°22S×177°61W, h478km±29km, mb3.2/8, mb1 3.4/10, mb1mx3.3/19, mbtmp3.2/10, Error ellipse: s-maj=33.4km s-min=15.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.39**	**43**	P	P	06 02 38.9	-1.2
	5.1nm,0.3s,baz=85,slow=2.2,SNR=5.0						
AFI				S	S	06 04 14.1	-4.6
	7.6nm,0.3s,baz=150,slow=23,SNR=5.8						
DZM	**Mont Dzumac**	**14.99**	**260**	P	P	06 03 51.7	+1.1
	0.2nm,0.3s,baz=66,slow=18,SNR=2.6						
STKA	**Stephens Creek**	**38.24**	**244**	P	P	06 07 18.4	+0.3
	2.8nm,0.7s,baz=293,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**44.94**	**256**	P	P	06 08 11.6	+0.1
	1.8nm,0.5s,baz=86,slow=8.6,SNR=23						
WRA	**Warramunga Arr**	**45.00**	**262**	P	P	06 08 11.4	-0.6
	1.1nm,0.3s,baz=97,slow=7.6,SNR=62						
FITZ	**Fitzroy Crossi**	**53.43**	**262**	P	P	06 09 14.7	+0.2
	0.8nm,0.4s,baz=145,slow=18,SNR=11						
MAW	**Mawson**	**81.95**	**200**	P	P	06 12 08.0	-0.4
	0.9nm,0.6s,baz=135,slow=1.4,SNR=4.5						
TXAR	**Lajitas Array**	**86.59**	**57**	P	P	06 12 33.9	+1.7
	0.7nm,0.8s,baz=208,slow=5.0,SNR=9.7						
ILAR	**Eielson Array**	**87.96**	**13**	P	P	06 12 37.4	-0.2
	0.3nm,0.7s,baz=217,slow=4.9,SNR=4.7						
PDAR	**Pinedale Array**	**88.50**	**43**	P	P	06 12 41.3	+0.3
	0.4nm,0.7s,baz=202,slow=1.6,SNR=4.6						
GERES	**GERESS Array B**	**150.03**	**345**	PKPbc	PKPbc	06 19 34.4	-1.5
	0.3nm,0.2s,baz=32,slow=3.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**172.94**	**174**	PKPab	PKPab	06 21 23.4	-0.7
	0.3nm,0.7s,baz=203,slow=2.8,SNR=3.1						

*ISCJB **21** 06:23:49.5±0.5, 17°34S±0°06×72°24W±0°09, h29km, mb4.2/12, MS3.8/3, Error ellipse: s-maj=12.8km s-min=6.8km az=152.0*
*NEIC **21** 06:23:52.1±1.0, 17°41S×72°26W, h38km±9km, mb4.4/3, Error ellipse: s-maj=12.1km s-min=8.2km az=67.0*
*IDC **21** 06:23:52.3±1.0, 17°35S×72°25W, h36km±6km, mb4.0/9, mb1 4.1/11, mb1mx3.9/19, mbtmp4.0/11, ML4.3/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/27, Error ellipse: s-maj=25.0km s-min=19.4km az=46.0*

ISC 21 06:23:51.6±0.5, 17°46S±0°07×72°26W±0°09, h29km, n46, σ1°66/47, mb4.3/12, MS4.1/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.12**	**74**	*e*Pn	Pn	06 24 58.4	+5.2
LPAZ	**La Paz**	**4.12**	**74**	Pn	Pn	06 24 58.4	+5.2
	2.3nm,0.3s,baz=254,slow=9.7,SNR=89						
LPAZ				LR	LR	06 26 20.8	
	comp=Z,132nm,19.2s,baz=266,slow=36						
LVC	**Limon Verde**	**6.02**	**149**	*e*Pn	**Pn**	**06 25 20.1**	**+1.2**
	24nm,0.4s						
LVC				*e*Sn	**Sn**	**06 26 30.0**	**+3.0**
NNA	**Nana**	**7.02**	**320**	*e*Pn	**Pn**	**06 25 32.8**	**+0.3**
	30nm,0.7s						
SIV	**San Ignacio**	**10.82**	**84**	Pn	**Pn**	**06 26 25.7**	**+1.1**
SIV				Sn	Sn	06 28 33.4	+8.6
SIV	**San Ignacio**	**10.82**	**84**	Pn	**Pn**	**06 26 25.7**	**+1.1**
	2.4nm,0.3s,baz=279,slow=12,SNR=25						
SIV				Sn	Sn	06 28 33.4	+8.6
	0.2nm,0.3s,baz=349,slow=19,SNR=2.9						
SIV				LR	LR	06 31 17.3	
	comp=Z,335nm,18.6s,slow=41						
ATAH	**Atahualpa**	**11.88**	**329**	Pn	Pn	06 26 47.2	+7.8
ATAH				Sn	**Sn**	**06 28 56.5**	**+5.2**
ATAH	**Atahualpa**	**11.88**	**329**	Pn	Pn	06 26 47.2	+7.8
	0.3nm,0.3s,baz=128,slow=17,SNR=3.4						
ATAH				Sn	**Sn**	**06 28 56.5**	**+5.2**
	0.2nm,0.3s,baz=144,slow=19,SNR=2.2						
ATAH				LR	LR	06 31 55.2	
	comp=Z,121nm,19.7s,baz=270,slow=41						
SAML	**Samuel**	**12.23**	**47**	*e*Pn	**Pn**	**06 26 42.8**	**-1.1**
	17nm,0.8s						
CFAA	**Coronel Fontan**	**14.55**	**166**	Pn	**Pn**	**06 27 13.7**	**-1.9**
CFAA				Sn	Sn	06 29 45.7	-10
CFAA	**Coronel Fontan**	**14.55**	**166**	Pn	**Pn**	**06 27 13.7**	**-1.9**
	0.0nm,0.3s,baz=338,slow=14,SNR=6.3						
CFAA				Sn	Sn	06 29 45.7	-10
	0.0nm,0.3s,baz=165,slow=20,SNR=1.6						
CPUP	**Villa Florida**	**16.42**	**125**	Pn	**Pn**	**06 27 39.6**	**-0.3**
CPUP	**Villa Florida**	**16.42**	**125**	Pn	**Pn**	**06 27 39.6**	**-0.3**
	0.2nm,0.3s,baz=337,slow=15,SNR=2.4						
ROSC	**El Rosal**	**22.27**	**355**	P	**P**	**06 28 46.6**	**-0.3**
ROSC	**El Rosal**	**22.27**	**355**	P	**P**	**06 28 46.6**	**-0.3**
	2.6nm,0.4s,baz=104,slow=19,SNR=2.6						
PLCA	**Paso Flores**	**23.24**	**177**	P	**P**	**06 28 57.6**	**+1.0**
PLCA	**Paso Flores**	**23.24**	**177**	P	**P**	**06 28 57.6**	**+1.0**
	2.5nm,0.8s,baz=5.2,slow=9.9,SNR=4.6						
BDFB	**Brasilia**	**23.31**	**89**	P	**P**	**06 28 56.4**	**-1.1**
BDFB	**Brasilia**	**23.31**	**89**	P	**P**	**06 28 56.4**	**-1.1**
	5.5nm,0.7s,baz=256,slow=14,SNR=10						
BDFB				LR	LR	06 37 52.9	
	comp=Z,76nm,18.6s,baz=134,slow=36						
TXAR	**Lajitas Array**	**55.53**	**326**	P	**P**	**06 33 22.0**	**-2.4**
TXAR	**Lajitas Array**	**55.53**	**326**	P	**P**	**06 33 22.0**	**-2.4**
	0.4nm,0.7s,baz=151,slow=8.0,SNR=6.5						
MIAR	**Mount Ida**	**55.55**	**339**	*e*P	**P**	**06 33 22.7**	**-1.6**
	5.1nm,0.9s						
SDCO	**Great Sand Dun**	**63.19**	**331**	*e*P	**P**	**06 34 16.3**	**-1.1**
	0.7nm,0.7s						
DBIC	**Dimbokro**	**70.74**	**76**	P	**P**	**06 35 04.8**	**-0.8**
DBIC				pP	**pP**	**06 35 15.7**	**+1.0**
DBIC	**Dimbokro**	**70.74**	**76**	P	**P**	**06 35 04.8**	**-0.8**
	2.7nm,0.6s,baz=228,slow=4.7,SNR=2.9						
DBIC				pP	**pP**	**06 35 15.7**	**+1.0**
	3.7nm,0.7s,baz=238,slow=6.9,SNR=2.6						
DBIC				LR	LR	07 04 08.7	
	comp=Z,108nm,21.3s,baz=138,slow=34						
QSPA	**South Pole Qui**	**72.71**	**180**	*e*P	**P**	**06 35 17.7**	**+0.9**
	3.4nm,0.6s						
TOA0	**Torodi Ar. Sit**	**79.07**	**72**	*e*P	**P**	**06 35 52.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**79.07**	**72**	P	**P**	**06 35 52.8**	**-1.0**
TORD				pP	**pP**	**06 36 05.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**79.07**	**72**	P	**P**	**06 35 52.8**	**-1.0**
	2.4nm,0.7s,baz=263,slow=5.0,SNR=19						
TORD				pP	**pP**	**06 36 05.1**	**+2.1**
	3.5nm,0.6s,baz=268,slow=4.9,SNR=11						
TORD				LR	LR	07 09 25.2	
	comp=Z,105nm,19.3s,baz=200,slow=35						
ESDC	**Sonseca Array**	**85.25**	**46**	P	**P**	**06 36 26.2**	**+0.5**
ESDC	**Sonseca Array**	**85.25**	**46**	P	**P**	**06 36 26.2**	**+0.5**
	2.0nm,0.7s,baz=256,slow=4.9,SNR=11						
YKA	**Yellowknife Ar**	**86.36**	**342**	P	**P**	**06 36 29.0**	**-1.6**
YKA	**Yellowknife Ar**	**86.36**	**342**	P	**P**	**06 36 29.0**	**-1.6**
	2.0nm,0.8s,baz=136,slow=4.7,SNR=7.6						
MAW	**Mawson**	**89.07**	**164**	P	**P**	**06 36 44.5**	**+0.8**
MAW	**Mawson**	**89.07**	**164**	P	**P**	**06 36 44.5**	**+0.8**
	0.8nm,0.5s,baz=217,slow=5.1,SNR=4.7						
ASAR	**Alice Springs**	**131.80**	**213**	PKP	**PKPdf**	**06 43 02.0**	**-0.8**
ASAR	**Alice Springs**	**131.80**	**213**	PKP	**PKPdf**	**06 43 02.0**	**-0.8**
	0.3nm,0.6s,baz=110,slow=1.4,SNR=2.8						
WRA	**Warramunga Arr**	**134.57**	**216**	PKP	**PKPdf**	**06 43 07.5**	**-0.5**
WRA	**Warramunga Arr**	**134.57**	**216**	PKP	**PKPdf**	**06 43 07.5**	**-0.5**
	0.8nm,0.8s,baz=146,slow=2.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**139.48**	**21**	PKP	**PKPdf**	**06 43 15.8**	**-0.3**
ZALV	**Zalesovo Beam**	**139.48**	**21**	PKP	**PKPdf**	**06 43 15.8**	**-0.3**
	1.0nm,0.6s,baz=318,slow=1.9,SNR=4.2						
MKAR	**Makanchi Array**	**143.98**	**30**	PKP	PKPab	06 43 21.6	-0.1
MKAR				pPKP	pPKPdf	06 43 34.3	+0.3
MKAR	**Makanchi Array**	**143.98**	**30**	PKP	PKPab	06 43 21.6	-0.1
	1.0nm,0.7s,baz=324,slow=4.4,SNR=11						
MKAR				pPKP	pPKPdf	06 43 34.3	+0.3
	0.5nm,0.6s,baz=330,slow=3.5,SNR=3.5						
USRK	**Ussuriysk Arra**	**146.41**	**328**	PKPbc	**PKPbc**	**06 43 29.6**	**-0.3**
	2.5nm,0.8s,baz=90,slow=2.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**147.07**	**311**	PKPbc	**PKPbc**	**06 43 31.9**	**-0.2**
MJAR	**Matsushiro Arr**	**147.07**	**311**	PKPbc	**PKPbc**	**06 43 31.9**	**-0.2**
	0.6nm,0.3s,baz=91,slow=2.4,SNR=4.1						

IDC 21 06:35:06.3±7.6, 12°95N×143°42E, h258km±78km, mb3.6/11, mb1 3.7/11, mb1mx3.5/23, mbtmp3.6/11, MS2.9/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=25.9km s-min=12.6km az=68.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**23.12**	**332**	P	P	06 39 49.3	-0.6
	2.9nm,0.6s,baz=216,slow=19,SNR=2.8						
MJAR	**Matsushiro Arr**	**23.95**	**350**	LR	LR	06 47 17.0	
	comp=Z,33nm,21.2s,baz=25,slow=30						
WRA	**Warramunga Arr**	**33.89**	**195**	P	P	06 41 24.3	-0.9
	2.6nm,0.7s,baz=17,slow=9.3,SNR=35						
ASAR	**Alice Springs**	**37.56**	**194**	P	P	06 41 56.0	-0.4
	1.7nm,0.5s,baz=18,slow=13,SNR=36						
DZM	**Mont Dzumac**	**41.49**	**147**	P	P	06 42 30.1	+1.4
	4.7nm,0.6s,baz=279,slow=18,SNR=10						
CMAR	**Chiang Mai Arr**	**43.09**	**283**	P	P	06 42 42.2	+0.6
	2.6nm,0.4s,baz=81,slow=7.2,SNR=8.7						
STKA	**Stephens Creek**	**44.61**	**182**	P	P	06 42 52.5	-0.9
	1.1nm,0.5s,baz=343,slow=9.4,SNR=3.1						
MKAR	**Makanchi Array**	**60.98**	**317**	P	P	06 44 53.2	+0.6
	1.6nm,0.5s,baz=91,slow=8.4,SNR=17						
ZALV	**Zalesovo Beam**	**61.33**	**325**	P	P	06 44 54.8	+0.1
	1.0nm,0.4s,baz=132,slow=5.6,SNR=2.6						
ILAR	**Eielson Array**	**69.74**	**25**	P	P	06 45 47.4	-0.9
	0.2nm,0.5s,baz=244,slow=6.1,SNR=6.8						
ARCES	**ARCESS Array B**	**87.25**	**342**	P	P	06 47 23.4	-0.1
	3.2nm,1.0s,baz=78,slow=6.3,SNR=7.3						
FINES	**FINESS Array B**	**91.14**	**335**	P	P	06 47 41.0	-0.7
	1.0nm,0.3s,baz=58,slow=4.8,SNR=12						

*NOU **21** 07:18:20.6±0.6, 20°00S×168°55E, h10km±999km, MD3.2, ML3.2*
*IDC **21** 07:18:22.9±5.1, 20°28S×168°89E, h46km±51km, mb3.7/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, ML3.0/1, MS3.1/2, Ms1 3.0/2, ms1mx2.6/27, Error ellipse: s-maj=110.8km s-min=35.7km az=147.0*

ISC 21 07:18:21.0±2.4, 20°45S±0°5×169°1E±0°4, h31km, n8, σ1°24/13, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.97**	**236**	*e*P	**Pn**	**07 19 05.8**	**-0.3**
DZM				*e*S	**Sn**	**07 19 39.9**	**-0.9**
DZM				AMP		07 19 48.2	
	comp=Z,1μm,2.1s						
DZM	**Mont Dzumac**	**2.97**	**236**	P	**Pn**	**07 19 06.4**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=60,slow=19,SNR=128						
DZM				S	**Sn**	**07 19 40.7**	**-0.1**
	comp=Z,15nm,0.3s,baz=156,slow=19,SNR=16						
DZM				LR	LR	07 20 09.8	
	comp=Z,173nm,19.4s,baz=21,slow=37						
NORM	**Noumea**	**3.03**	**233**	*e*P	**Pn**	**07 19 07.5**	**+0.6**
NOUC	**Port Laguerre**	**3.10**	**237**	*e*P	**Pn**	**07 19 08.4**	**+0.6**
NOUC				*e*S	**Sn**	**07 19 43.7**	**-0.1**
NOUC				AMP		07 20 00.5	
	comp=Z,47nm,3.2s						
STKA	**Stephens Creek**	**27.12**	**240**	P	**P**	**07 24 00.7**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=99,slow=7.4,SNR=6.3						
STKA				LR	LR	07 34 35.7	
	comp=Z,61nm,20.1s,baz=48,slow=36						
WRA	**Warramunga Arr**	**32.59**	**265**	P	**P**	**07 24 48.5**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=94,slow=8.6,SNR=23						
WRA				pP	**pP**	**07 25 01.0**	**+2.0**
	comp=Z,0.6nm,0.9s,baz=95,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**32.73**	**258**	P	**P**	**07 24 50.1**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=87,slow=9.2,SNR=36						
ASAR				pP	**pP**	**07 25 02.7**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=83,slow=9.0,SNR=4.9						
ILAR	**Eielson Array**	**91.39**	**17**	P	**P**	**07 31 23.2**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=223,slow=5.1,SNR=3.8						

*NIED **21** 07:39:00.25±20N×124°50E, h104km, Mw4.2 Best double couple: M0=1.9500×10^15 NP1:φ=52.00000°, δ88.00000°, λ-85.00000°. NP2:φ=161.00000°, δ6.00000°, λ-161.00000°.*
*ISCJB **21** 07:39:50.1±0.2, 25°19N±0°04×124°51E±0°03, h101km±3km, mb4.2/39, Error ellipse: s-maj=7.8km s-min=3.4km az=150.7*
*JMA **21** 07:39:51.8±0.1, 25°18N×124°48E, h90km±3km, M3.9*
*NEIC **21** 07:39:51.8±0.5, 25°17N×124°49E, h99km±5km, mb4.4/13, Error ellipse: s-maj=7.0km s-min=5.8km az=143.0*
*IDC **21** 07:39:51.6±0.9, 25°26N×124°55E, h99km±9km, mb3.9/22, mb1 4.0/24, mb1mx4.0/31, mbtmp3.9/24, MS2.8/2, Ms1 2.8/2, ms1mx2.3/38, Error ellipse: s-maj=17.2km s-min=12.1km az=69.0*

ISC 21 07:39:51.7±0.5, 25°17N±0°06×124°51E±0°04, h100km±6km, n98, σ1°11/123, mb4.3/39, 1C, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.55**	**162**	P	**Pn**	**07 40 07.4**	**-0.5**
JTJ				S	**Sn**	**07 40 18.9**	**-1.1**
JMJ	**Miyako jima 2**	**0.79**	**116**	P	**Pn**	**07 40 09.7**	**-0.2**
JMJ				S	**Sn**	**07 40 23.0**	**-0.7**
JIJ	**Ishigaki jima**	**0.87**	**203**	P	**Pn**	**07 40 09.9**	**-0.8**
JIJ				S	**Sn**	**07 40 23.3**	**-1.7**
JOGS	**Gusukube**	**0.91**	**116**	P	**Pn**	**07 40 11.1**	**0.0**
JOGS				*e*S	**Sn**	**07 40 25.7**	**0.0**
JKRS	**Kuro-shima**	**1.03**	**206**	P	**Pn**	**07 40 12.0**	**-0.5**
JKRS				S	**Sn**	**07 40 27.1**	**-1.0**
IRIF	**Iriomote-Funau**	**1.09**	**221**	P	**Pn**	**07 40 12.6**	**-0.5**
IRIF				S	**Sn**	**07 40 28.3**	**-1.0**
HATJ	**Hateruma jima**	**1.28**	**210**	P	**Pn**	**07 40 15.3**	**0.0**
HATJ				*e*S	**Sn**	**07 40 32.5**	**-0.6**
YOJ	**Yonaguni jima**	**1.53**	**243**	P	**Pn**	**07 40 18.4**	**+0.1**
YOJ				*e*S	**Sn**	**07 40 38.1**	**-0.5**
JKE	**Kume jima 2**	**2.35**	**60**	P	**Pn**	**07 40 28.7**	**-0.2**
JKE				*e*S	**Sn**	**07 40 57.2**	**-0.2**
TATO	**Taipei**	**2.75**	**267**	*e*Pn	**Pn**	**07 40 35.2**	**+1.1**
NACB	**Ninganchiao**	**2.83**	**250**	*e*Pn	**Pn**	**07 40 35.2**	**0.0**
JAGN	**Aguni-jima**	**2.84**	**59**	P	**Pn**	**07 40 35.4**	**+0.1**
JAGN				*e*S	**Sn**	**07 41 07.7**	**-1.1**
YHNB	**Yeheng**	**2.89**	**261**	*e*Pn	**Pn**	**07 40 37.5**	**+1.5**
YULB	**Yu-li**	**3.42**	**240**	*e*Pn	**Pn**	**07 40 41.3**	**-1.8**
YULB				*e*Sn	**Sn**	**07 41 19.5**	**-3.4**
SSLB	**Suanglung**	**3.52**	**248**	*e*Pn	**Pn**	**07 40 43.4**	**-1.0**
SSLB				*e*Sn	**Sn**	**07 41 22.2**	**-3.0**
JIH	**Iheya**	**3.62**	**58**	P	**Pn**	**07 40 45.5**	**-0.2**
JIH				*e*S	**Sn**	**07 41 25.5**	**-2.1**
JOW	**Kunigami**	**3.77**	**63**	*e*Pn	**Pn**	**07 40 46.8**	**-1.0**
JOW	**Kunigami**	**3.77**	**63**	P	**Pn**	**07 40 46.8**	**-1.0**
JOW				*e*S	**Sn**	**07 41 28.7**	**-2.5**
TWG	**Pinlang**	**3.92**	**234**	*e*Pn	**Pn**	**07 40 47.8**	**-2.0**
TWG				*e*Sn	**Sn**	**07 41 29.4**	**-5.4**
TPUB	**Ta-pu**	**4.00**	**243**	*e*Pn	**Pn**	**07 40 51.2**	**+0.3**
TPUB				*e*Sn	**Sn**	**07 41 37.4**	**+0.6**
JTK	**Tokunoshima**	**4.76**	**56**	P	**Pn**	**07 40 59.6**	**-1.5**
JAMN	**Amaminishikomi**	**5.18**	**53**	P	**Pn**	**07 41 04.3**	**-2.4**
JAM	**Amami Oshima**	**5.58**	**53**	P	**Pn**	**07 41 10.8**	**-1.5**
KSAR	**Wonju Array Be**	**12.57**	**12**	P	**Pn**	**07 42 49.2**	**+2.4**
KSRS	**Korea Array**	**12.59**	**13**	P	**Pn**	**07 42 49.2**	**+2.1**
	0.3nm,0.3s,baz=189,slow=13,SNR=19						
KSRS				LR	LR	07 48 31.6	
	comp=Z,25nm,18.8s,baz=240,slow=42						
MJAR	**Matsushiro Arr**	**16.32**	**43**	P	**P**	**07 43 35.6**	**-0.4**
MJAR	**Matsushiro Arr**	**16.32**	**43**	P	**P**	**07 43 35.6**	**-0.4**
	0.5nm,0.3s,baz=230,slow=9.4,SNR=4.1						
USRK	**Ussuriysk Arra**	**19.95**	**16**	P	**P**	**07 44 14.3**	**-1.3**
	0.2nm,0.3s,baz=168,slow=8.8,SNR=3.7						
ASAJ	**Asahikawa**	**23.96**	**33**	LR	LR	07 55 39.4	
	comp=Z,28nm,18.6s,baz=127,slow=40						
CMAR	**Chiang Mai Arr**	**24.64**	**259**	P	**P**	**07 45 05.2**	**+2.2**
CMAR	**Chiang Mai Arr**	**24.64**	**259**	P	**P**	**07 45 05.2**	**+2.2**
	0.7nm,0.3s,baz=64,slow=8.2,SNR=5.3						
SONM	**Songino Array**	**26.78**	**332**	P	**P**	**07 45 21.2**	**-1.0**
SONM	**Songino Array**	**26.78**	**332**	P	**P**	**07 45 21.2**	**-1.

MIB AMb AMB 07 50 37.2
comp=Z,18nm,0.6s
RDF Al-Radifah 67.50 292 *eP* **P 07 50 36.9 -0.4**
RDF AMb AMB 07 50 38.4
comp=Z,23nm,0.9s
NAY Al-Naaiem 67.66 293 *eP* **P 07 50 37.6 -0.7**
NAY AMb AMB 07 50 38.6
comp=Z,0.5nm,0.7s
JOF Joensuu 69.34 331 *ep* **P 07 50 46.4 -1.7**
comp=Z,1.6nm,0.4s
EGAK Eagle 69.34 27 *eP* **P 07 50 47.8 -0.3**
comp=Z,3.3nm,0.7s
ARCES ARCESS Array B 69.76 338 P **P 07 50 50.2 -0.4**
ARCES pP **PcP 07 51 12.2 -0.5**
ARCES ARCESS Array B 69.76 338 P **P 07 50 50.2 -0.4**
comp=Z,1.7nm,0.9s,baz=72,slow=7.8,SNR=5.3
ARCES pP **PcP 07 51 12.2 -0.5**
comp=Z,2.4nm,0.7s,baz=49,slow=8.2,SNR=2.8
DAWY Dawson 70.28 28 *eP* **P 07 50 54.4 +0.5**
INK Inuvik 71.17 23 *eP* **P 07 50 59.3 +0.2**
comp=Z,3.0nm,0.6s
FINES FINESS Array B 72.12 330 P **P 07 51 04.6 -0.4**
FINES FINESS Array B 72.12 330 P **P 07 51 04.6 -0.4**
comp=Z,2.1nm,0.5s,baz=64,slow=5.7,SNR=15
HYT Haines Junctio 72.12 31 *eP* **P 07 51 06.7 +1.5**
SKAG Skagway 73.62 32 *eP* **P 07 51 15.5 +1.7**
comp=Z,3.1nm,0.7s
AKASG Malin Array Be 74.14 319 P **P 07 51 16.1 -1.0**
AKASG Malin Array Be 74.14 319 P **P 07 51 16.1 -1.0**
comp=Z,0.6nm,0.3s,baz=64,slow=6.4,SNR=4.5
ASF Jabal al Asfar 75.16 299 P **P 07 51 23.9 +0.4**
ASF Jabal al Asfar 75.16 299 P **P 07 51 23.9 +0.4**
comp=Z,1.2nm,0.6s,baz=26,slow=5.1,SNR=3.9
MLR Muntele Rosu 78.13 315 P **P 07 51 39.4 -0.6**
MLR Muntele Rosu 78.13 315 P **P 07 51 39.4 -0.6**
comp=Z,0.5nm,0.5s,baz=162,slow=3.2,SNR=4.0
NB2 NORSAR Subarra 78.76 333 P **P 07 51 42.0 -1.1**
comp=Z,0.7nm,0.5s,baz=54,slow=5.6
NOA NORSAR Array B 78.76 333 P **P 07 51 41.9 -1.1**
NOA NORSAR Array B 78.76 333 P **P 07 51 41.9 -1.1**
comp=Z,1.4nm,0.7s,baz=58,slow=5.3,SNR=5.6
YKA Yellowknife Ar 80.88 24 P **P 07 51 54.6 +0.3**
YKA Yellowknife Ar 80.88 24 P **P 07 51 54.6 +0.3**
comp=Z,3.7nm,0.6s,baz=304,slow=5.4,SNR=21
GERES GERESS Array B 83.98 322 P **P 07 52 10.7 -0.3**
GERES GERESS Array B 83.98 322 P **P 07 52 10.7 -0.3**
comp=Z,0.9nm,0.7s,baz=29,slow=3.0,SNR=5.6
NEW Newport 88.45 36 *eP* **P 07 52 33.4 +0.6**
comp=Z,1.4nm,0.6s

IDC 21 07:44:17.0±2.8, 11°.33S×161°.18E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=67.2km s-min=34.7km az=87.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.24**	**327**	Pn	Pn	07 44 56.5	+1.0
	27nm,0.3s,baz=158,slow=3.9,SNR=4.4						
HNR				Sn	Sn	07 45 23.4	-0.5
	172nm,0.3s,baz=165,slow=19,SNR=17						
WRA	**Warramunga Arr**	**27.19**	**248**	P	P	07 50 02.8	+0.1
	0.6nm,0.7s,baz=78,slow=9.6,SNR=4.6						
SONM	**Songino Array**	**76.30**	**325**	P	P	07 56 08.3	+0.4
	1.2nm,0.7s,baz=132,slow=5.8,SNR=7.1						
MKAR	**Makanchi Array**	**90.69**	**318**	P	P	07 57 20.9	-0.9
	0.5nm,0.6s,baz=116,slow=4.0,SNR=4.6						

IDC 21 07:51:35.9±6.2, 36°.50N×71°.12E, h205km±52km, mb3.1/3, mb1 3.2/7, mb1mx3.0/29, mbtmp3.1/7, 1D, Error ellipse: s-maj=52.7km s-min=26.6km az=44.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.61**	**356**	⇓P	Pn	07 53 09.6	-1.5
	0.5nm,0.3s,baz=186,slow=13,SNR=7.6						
KK31				S	S	07 54 20.1	-6.4
	6.1nm,0.6s,baz=187,slow=23,SNR=10						
AAK	**Ala-Archa**	**6.66**	**22**	P	Pn	07 53 12.7	+0.8
	1.5nm,0.3s,baz=178,slow=7.3,SNR=7.3						
AAK				S	S	07 54 26.6	-1.3
	1.0nm,0.3s,baz=329,slow=23,SNR=15						
MKAR	**Makanchi Array**	**13.23**	**36**	P	Pn	07 54 36.9	+0.8
	0.1nm,0.3s,baz=213,slow=12,SNR=3.2						
AKTO	**Aktyubinsk**	**16.83**	**330**	P	P	07 55 18.6	+0.1
	0.3nm,0.3s,baz=118,slow=15,SNR=3.1						
ZALV	**Zalesovo Beam**	**19.88**	**24**	P	P	07 55 52.0	+0.6
	0.4nm,0.3s,baz=230,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**41.18**	**338**	P	P	07 58 59.5	-0.4
	1.2nm,0.8s,baz=114,slow=9.0,SNR=4.8						
WRA	**Warramunga Arr**	**81.91**	**122**	P	P	08 03 32.4	-0.4
	0.1nm,0.4s,baz=322,slow=5.1,SNR=5.3						
ASAR	**Alice Springs**	**84.18**	**125**	P	P	08 03 44.4	0.0
	0.3nm,0.5s,baz=309,slow=4.9,SNR=5.9						

*IDC **21** 07:51:40.2±1.0, 17°.35S×176°.99W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML1.8/1, MS3.7/14, Ms1 3.7/14, ms1mx3.5/29, Error ellipse: s-maj=37.8km s-min=22.1km az=155.0*
*ISCJB **21** 07:51:42.4±0.7, 17°.7S±0°.2×176°.7W±0°.1, h33km, mb4.2/11, MS3.8/10, Error ellipse: s-maj=26.8km s-min=11.4km az=154.7*
*NEIC **21** 07:51:44.3±0.7, 17°.77S×176°.65W, h35km, mb4.6/4, Error ellipse: s-maj=32.6km s-min=12.3km az=155.0*
ISC 21 07:51:44.8±0.7, 17°.5S±0°.2×176°.7W±0°.1, h35km, n45, σ1ŝ54/30, mb4.0/11, MS3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.99**	**267**	*eP*n	**Pn**	**07 52 59.1**	**+1.8**
AFI	**Afiamalu**	**5.98**	**54**	Pn	**Pn**	**07 53 09.6**	**-1.3**
AFI	**Afiamalu**	**5.98**	**54**	Pn	**Pn**	**07 53 09.6**	**-1.3**
	1.2nm,0.3s,baz=240,slow=20,SNR=3.1						
AFI				LR	LR	07 54 36.4	
	comp=Z,146nm,19.6s,baz=63,slow=29						
RAO	**Raoul Island**	**11.71**	**185**	LR	LR	07 58 09.0	
	comp=Z,563nm,21.0s,baz=280,slow=33						
RAR	**Rarotonga**	**16.40**	**106**	LR	LR	08 00 00.5	
	comp=Z,352nm,18.4s,baz=94,slow=30						
DZM	**Mont Dzumac**	**16.47**	**251**	*e*LR	LR	07 59 17.3	
	516nm,23.6s						
DZM	**Mont Dzumac**	**16.47**	**251**	LR	LR	08 00 03.4	
	comp=Z,46nm,19.6s,baz=2.1,slow=31						
URZ	**Urewera**	**21.34**	**193**	LR	LR	08 03 30.8	
	comp=Z,337nm,20.2s,baz=43,slow=33						
HNR	**Honiara**	**24.06**	**287**	LR	LR	08 05 09.2	
	comp=Z,191nm,19.1s,baz=143,slow=34						
PPT2	**Papeete2**	**25.87**	**94**	*e*LR	LR	08 03 28.6	
	520nm,27.5s,baz=256						
PPT	**Papeete**	**25.88**	**94**	LR	LR	08 04 21.9	
	comp=Z,254nm,19.2s,baz=346,slow=29						
TBI	**Tubuai**	**26.17**	**107**	*e*LR	LR	08 03 40.1	
	392nm,28.8s						
RPZ	**Rata Peaks**	**28.07**	**199**	LR	LR	08 08 13.3	
	comp=Z,276nm,18.5s,baz=5.2,slow=35						
CTAO	**Charters Tower**	**35.09**	**260**	*eP*	**P**	**07 58 35.2**	**+0.2**
	7.6nm,0.9s						
PMG	**Port Moresby**	**35.99**	**278**	LR	LR	08 11 54.2	
	comp=Z,127nm,18.6s,baz=205,slow=34						
RKT	**Rikitea**	**39.44**	**105**	*e*LR	LR	08 09 46.3	
	270nm,27.5s						
WRA	**Warramunga Arr**	**46.28**	**259**	P	**P**	**08 00 05.7**	**-1.7**
WRA	**Warramunga Arr**	**46.28**	**259**	P	**P**	**08 00 05.7**	**-1.7**
	1.9nm,1.0s,baz=96,slow=9.3,SNR=8.1						
WRA				LR	LR	08 17 39.7	
	comp=Z,125nm,21.9s,baz=300,slow=34						
AS31	**Alice Springs**	**46.44**	**254**	*eP*	**P**	**08 00 06.4**	**-2.2**
ASAR	**Alice Springs**	**46.44**	**254**	P	**P**	**08 00 07.1**	**-1.5**
ASAR	**Alice Springs**	**46.44**	**254**	P	**P**	**08 00 07.1**	**-1.5**
	7.4nm,0.8s,baz=86,slow=8.4,SNR=50						
FITZ	**Fitzroy Crossi**	**54.67**	**260**	LR	LR	08 20 06.9	
	comp=Z,88nm,18.8s,baz=98,slow=31						
MJAR	**Matsushiro Arr**	**68.59**	**322**	P	**P**	**08 02 41.7**	**-2.6**
MJAR	**Matsushiro Arr**	**68.59**	**322**	P	**P**	**08 02 41.7**	**-2.6**
	0.9nm,0.7s,baz=153,slow=4.6,SNR=2.5						
QSPA	**South Pole Qui**	**72.51**	**180**	*eP*	**P**	**08 03 06.0**	**-2.0**
	6.2nm,1.1s						
KSRS	**Korea Array**	**75.51**	**317**	P	**P**	**08 03 26.0**	**+0.3**
	1.1nm,0.8s,baz=126,slow=6.2,SNR=3.8						
KSAR	**Wonju Array Be**	**75.53**	**317**	P	**P**	**08 03 26.0**	**+0.2**
TXAR	**Lajitas Array**	**84.45**	**57**	P	**P**	**08 04 16.3**	**+2.0**
	0.5nm,1.0s,baz=202,slow=4.6,SNR=3.8						
MAW	**Mawson**	**84.74**	**199**	LR	LR	08 39 55.2	
	comp=Z,73nm,18.3s,baz=342,slow=34						
COLA	**College**	**85.08**	**12**	*eP*	**P**	**08 04 16.1**	**-0.4**
	10nm,0.9s						
RRI2	**Red Ridge**	**85.14**	**42**	*eP*	**P**	**08 04 19.4**	**+1.7**
	3.6nm,1.3s						
ILAR	**Eielson Array**	**85.18**	**12**	P	**P**	**08 04 16.8**	**-0.3**
ILAR	**Eielson Array**	**85.18**	**12**	P	**P**	**08 04 16.8**	**-0.3**
	0.7nm,0.9s,baz=231,slow=5.5,SNR=7.5						
ILAR				LR	LR	08 39 23.6	
	comp=Z,41nm,18.1s,baz=153,slow=34						
PDAR	**Pinedale Array**	**85.99**	**43**	P	**P**	**08 04 23.1**	**+1.1**
PDAR	**Pinedale Array**	**85.99**	**43**	P	**P**	**08 04 23.1**	**+1.1**
	0.9nm,1.1s,baz=205,slow=4.0,SNR=4.1						
ULM	**Lac du Bonnet**	**97.60**	**40**	LR	LR	08 42 30.6	
	comp=Z,53nm,20.8s,baz=336,slow=31						
MKAR	**Makanchi Array**	**110.03**	**314**	PKiKP	**PKiKP**	**08 10 11.7**	**-1.0**
MKAR	**Makanchi Array**	**110.03**	**314**	PKiKP	**PKiKP**	**08 10 11.7**	**-1.0**
	0.5nm,0.9s,baz=116,slow=3.4,SNR=3.2						
BRTR	**Keskin Array B**	**145.65**	**316**	PKPbc	**PKPab**	**08 11 21.7**	**+1.1**
BRTR	**Keskin Array B**	**145.65**	**316**	PKPbc	**PKPab**	**08 11 21.7**	**+1.1**
	4.1nm,0.9s,baz=120,slow=2.1,SNR=15						
GERES	**GERESS Array B**	**147.65**	**347**	PKPbc	**PKPbc**	**08 11 26.4**	**+0.7**
GERES	**GERESS Array B**	**147.65**	**347**	PKPbc	**PKPbc**	**08 11 26.4**	**+0.7**
	1.0nm,0.6s,baz=19,slow=4.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**175.37**	**161**	PKPab	**PKPab**	**08 13 30.1**	**+1.6**
TORD	**Torodi Ar. Bea**	**175.37**	**161**	PKPab	**PKPab**	**08 13 30.1**	**+1.6**
	0.6nm,1.0s,baz=149,slow=3.4,SNR=3.2						

*IDC **21** 07:59:06.5±1.3, 1°.43S×99°.52E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=52.7km s-min=17.3km az=63.0*
*DJA **21** 07:59:16.0±2.1, 1°.5±10°.×10°.0E±1°.3, h7km±8km, M4.2/4, MLv4.2/4*
ISC 21 07:59:10.5±1.0, 1°.40S±0°.10×99°.46E±0°.09, h30km, n14, σ1ŝ21/15, mb4.1/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.11**	**64**	P	**Pb**	**07 59 29.8**	**-1.3**
PDSI				S	**Sb**	**07 59 47.5**	**+2.3**
PPI	**Padang Panjang**	**1.32**	**45**	P	**Pb**	**07 59 33.5**	**-1.1**
SDSI	**Sungai Dareh**	**2.02**	**77**	P	**Pb**	**07 59 44.9**	**-1.6**
BKNI	**Bangkinang**	**2.33**	**43**	P	**Pb**	**07 59 49.9**	**-1.9**
PSI	**Prapat**	**4.21**	**353**	Pn	**Pn**	**08 00 12.2**	**-0.5**
	1.1nm,0.3s,baz=154,slow=18,SNR=3.6						
CMAR	**Chiang Mai Arr**	**19.74**	**359**	P	**P**	**08 03 38.4**	**+0.4**
	0.4nm,0.3s,baz=187,slow=9.2,SNR=6.1						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**08 06 31.5**	**-1.0**
	0.3nm,0.4s,baz=301,slow=9.7,SNR=9.8						
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**08 06 43.9**	**+0.6**
	0.4nm,0.6s,baz=303,slow=7.3,SNR=6.9						
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**08 08 02.0**	**+0.1**
	2.1nm,0.9s,baz=315,slow=8.6,SNR=2.4						
MKAR	**Makanchi Array**	**50.31**	**345**	P	**P**	**08 08 05.2**	**+0.8**
	0.7nm,0.3s,baz=155,slow=8.8,SNR=16						
USRK	**Ussuriysk Arra**	**53.89**	**29**	P	**P**	**08 08 31.5**	**+0.5**
	1.4nm,0.6s,baz=228,slow=2.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**56.48**	**350**	P	**P**	**08 08 50.1**	**+0.6**
	1.3nm,0.4s,baz=168,slow=5.4,SNR=4.8						
TXAR	**Lajitas Array**	**144.54**	**36**	PKP	**PKPdf**	**08 18 44.6**	**-0.3**
	0.4nm,0.5s,baz=212,slow=0.7,SNR=7.9						
CFAA	**Coronel Fontan**	**145.16**	**199**	PKPbc	**PKPbc**	**08 18 45.5**	**+0.1**
	0.2nm,0.5s,baz=146,slow=4.9,SNR=5.3						

*FUNV **21** 08:03:22.6, 9°.98N×73°.24W, h14km, MW4.7*
*ISCJB **21** 08:03:23.8±0.7, 10°.02N±0°.04×73°.11W±0°.05, h76km±7km, mb3.6/6, Error ellipse: s-maj=7.8km s-min=6.2km az=31.1*
*IDC **21** 08:03:25.3±3.4, 9°.93N×73°.19W, h69km±31km, mb3.5/6, mb1 3.7/8, mb1mx3.5/23, mbtmp3.6/8, ML2.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/29, Error ellipse: s-maj=24.9km s-min=16.3km az=57.0*
ISC 21 08:03:25.3±1.2, 10°.00N±0°.05×73°.09W±0°.07, h70km±12km, n32, σ1ŝ11/42, mb3.9/6, 9C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.84**	**54**	⇑*eP*	**Pn**	**08 03 39.8**	**-2.0**
VIRV				*e*S	**Sn**	**08 03 54.0**	**0.0**
VIGV	**El Vigia**	**2.06**	**124**	*eP*	**Pn**	**08 03 58.0**	**+0.2**
VIGV				*e*S	**Sn**	**08 04 23.9**	**+1.4**
CAPV	**Capacho**	**2.26**	**160**	*eP*	**Pn**	**08 03 58.9**	**-1.8**
CAPV				*e*S	**Sn**	**08 04 27.4**	**-0.3**
QARV	**Quebrada Arrib**	**2.54**	**85**	*e*S	**Sn**	**08 04 35.8**	**+1.6**
DABV	**Dabajuro**	**2.58**	**69**	⇑*eP*	**Pn**	**08 04 05.1**	**+0.3**
DABV				*e*S	**Sn**	**08 04 37.1**	**+2.0**
SOCV	**Socops**	**2.79**	**128**	*eP*	**Pn**	**08 04 07.5**	**-0.1**
SOCV				*e*S	**Sn**	**08 04 40.7**	**+0.3**
CURV	**Curarigua**	**3.08**	**90**	⇑*eP*	**Pn**	**08 04 12.5**	**+0.8**
CURV				*e*S	**Sn**	**08 04 48.9**	**+1.4**
SIQV	**Siquisique**	**3.30**	**78**	⇑*eP*	**Pn**	**08 04 14.6**	**0.0**
SIQV				*e*S	**Sn**	**08 04 53.1**	**+0.5**
TEPV	**Terepaima**	**3.84**	**90**	⇑*i*P	**Pn**	**08 04 22.5**	**+0.5**
TEPV				*e*S	**Sn**	**08 05 06.0**	**-0.1**
JACV	**Jacura**	**4.33**	**75**	*eP*	**Pn**	**08 04 28.7**	**+0.1**
ELOV	**Elorza**	**4.65**	**130**	⇑*eP*	**Pn**	**08 04 32.5**	**-0.6**
BAUV	**El Baul**	**5.09**	**102**	⇑*eP*	**Pn**	**08 04 39.0**	**-0.1**
TURV	**Turiamo**	**5.19**	**85**	⇑*eP*	**Pn**	**08 04 39.4**	**-1.0**
TURV				*e*S	**Sn**	**08 05 37.3**	**-1.6**
ROSC	**El Rosal**	**5.26**	**194**	P	**Pn**	**08 04 40.9**	**-0.9**
	3.7nm,0.3s,baz=273,slow=14,SNR=22						
ROSC				S	**Sn**	**08 05 44.1**	**+2.8**
	4.5nm,0.3s,baz=253,slow=19,SNR=2.5						
ROSC				LR	LR	08 07 00.1	
	comp=Z,74nm,18.7s,baz=172,slow=42						
FUNV	**FUNVISIS**	**6.20**	**85**	⇑*eP*	**Pn**	**08 04 54.3**	**0.0**
MERV	**Las Mercedes**	**6.74**	**96**	*eP*	**Pn**	**08 05 01.5**	**-0.2**
CUPV	**Cepira**	**7.20**	**89**	*eP*	**Pn**	**08 05 08.0**	**0.0**
PCRV	**Puerto La Cruz**	**8.33**	**88**	*eP*	**Pn**	**08 05 23.5**	**+0.1**
PRGV	**PARIAGUAN**	**8.43**	**98**	*eP*	**Pn**	**08 05 23.3**	**-1.4**
GUNV	**Guanoco**	**10.00**	**88**	*eP*	**Pn**	**08 05 44.5**	**-1.6**
RIOV	**Rio Grande**	**11.30**	**99**	*eP*	**Pn**	**08 06 02.1**	**-1.9**
TEIG	**Tepich**	**17.82**	**307**	P	**P**	**08 07 28.4**	**-0.1**
	1.2nm,0.3s,baz=145,slow=12,SNR=14						
LPAZ	**La Paz**	**26.58**	**169**	P	**P**	**08 08 56.8**	**-1.0**
	0.3nm,0.4s,baz=334,slow=6.5,SNR=3.1						
SIV	**San Ignacio**	**28.44**	**155**	LR	LR	08 21 05.3	
	comp=Z,68nm,20.7s,slow=37						
TXAR	**Lajitas Array**	**34.45**	**308**	P	**P**	**08 10 05.6**	**-0.9**
	0.2nm,0.6s,baz=115,slow=6.4,SNR=3.2						
TXAR				LR	LR	08 25 46.9	
	comp=Z,32nm,18.1s,baz=0.0,slow=39						
BDFB	**Brasilia**	**35.58**	**135**	P	**P**	**08 10 17.2**	**+0.8**
	0.8nm,0.4s,baz=239,slow=5.9,SNR=2.5						
SCHQ	**Schefferville**	**44.99**	**5**	P	**P**	**08 11 34.9**	**+1.3**
	1.4nm,0.4s,baz=204,slow=11,SNR=7.8						
PDAR	**Pinedale Array**	**45.56**	**322**	P	**P**	**08 11 38.7**	**+0.1**
	1.0nm,0.9s,baz=127,slow=10,SNR=7.3						
PLCA	**Paso Flores**	**50.53**	**177**	LR	LR	08 33 45.5	
	comp=Z,69nm,19.7s,baz=297,slow=36						
TORD	**Torodi Ar. Bea**	**73.10**	**79**	P	**P**	**08 14 49.0**	**+0.2**
	0.9nm,0.4s,baz=285,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**150.88**	**239**	PKPbc	**PKPbc**	**08 23 10.8**	**0.0**
	0.4nm,0.6s,baz=110,slow=3.2,SNR=4.3						
ASAR				PKPab	**PKPab**	**08 23 18.5**	**+0.2**
	1.0nm,0.7s,baz=113,slow=3.2,SNR=4.6						
WRA	**Warramunga Arr**	**151.76**	**246**	PKPbc	**PKPbc**	**08 23 12.8**	**-0.1**
	0.3nm,0.3s,baz=105,slow=2.6,SNR=22						
WRA				PKPab	**PKPab**	**08 23 20.5**	**-1.5**
	0.8nm,0.3s,baz=347,slow=0.2,SNR=19						

IDC 21 08:07:15.0±25.0, 19°.06S×172°.62W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/21, mbtmp4.0/4, Error ellipse: s-maj=474.9km s-min=150.7km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.69**	**261**	P	P	08 14 41.3	+0.4
	1.0nm,0.4s,baz=80,slow=8.9,SNR=3.4						
STKA	**Stephens Creek**	**42.96**	**243**	P	P	08 15 16.1	0.0
	2.0nm,0.8s,baz=117,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**49.78**	**255**	P	P	08 16 09.3	-0.5
	1.2nm,0.5s,baz=97,slow=7.4,SNR=29						
WRA	**Warramunga Arr**	**49.83**	**260**	P	P	08 16 10.0	-0.2
	0.7nm,0.3s,baz=97,slow=7.4,SNR=49						

IDC 21 08:49:13.4±4.7, 1°.56S×99°.66E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=249.4km s-min=28.8km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.51**	**121**	P	P	08 56 37.9	0.0
	0.4nm,0.5s,baz=296,slow=8.5,SNR=5.6						
ASAR	**Alice Springs**	**39.78**	**126**	P	P	08 56 48.3	-0.3
	0.2nm,0.6s,baz=305,slow=8.0,SNR=3.4						
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	08 58 13.5	0.0
	0.3nm,0.5s,baz=150,slow=9.4,SNR=4.8						
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPbc	09 08 52.1	+0.7
	0.2nm,0.4s,baz=220,slow=0.7,SNR=7.7						

IDC 21 09:10:09.2±5.2, 1°.29S×99°.72E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=275.2km s-min=28.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.59**	**121**	P	P	09 17 33.9	-0.5
	0.4nm,0.9s,baz=297,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**39.90**	**127**	P	P	09 17 45.7	+0.4
	0.3nm,0.7s,baz=296,slow=7.4,SNR=4.0						
MKAR	**Makanchi Array**	**50.27**	**344**	P	P	09 19 07.6	+0.2
	0.3nm,0.6s,baz=152,slow=6.5,SNR=4.3						
TXAR	**Lajitas Array**	**144.30**	**36**	PKP	PKPbc	09 29 46.7	+0.3
	0.1nm,0.6s,baz=289,slow=2.8,SNR=3.6						

*IDC **21** 09:27:24.4±1.0, 0°.80N×97°.35E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.0/29, mbtmp4.1/16, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/44, Error ellipse: s-maj=31.4km s-min=14.7km az=59.0*
*ISCJB **21** 09:27:26.2±0.6, 0°.79N±0°.06×97°.32E±0°.08, h27km, mb4.2/16, MS3.4/3, Error ellipse: s-maj=11.6km s-min=9.0km az=3.9*
*NEIC **21** 09:27:29.6±0.5, 0°.84N×97°.41E, h35km, mb4.4/3, Error ellipse: s-maj=11.9km s-min=7.7km az=70.0*
ISC 21 09:27:28.2±0.9, 0°.82N±0°.09×97°.3E±0°.1, h27km, n39, σ0ŝ78/41, mb4.2/16, MS3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.54**	**39**	Pn	**Pn**	**09 28 06.8**	**-1.0**
PSI				Sn	**Sn**	**09 28 38.7**	**+0.8**
PSI	**Prapat**	**2.54**	**39**	Pn	**Pn**	**09 28 06.8**	**-1.0**
	12nm,0.3s,baz=250,slow=7.6,SNR=28						
PSI				Sn	**Sn**	**09 28 38.7**	**+0.8**
	9.2nm,0.3s,baz=151,slow=16,SNR=6.3						
PSI				LR	LR	09 28 55.6	
	comp=Z,310nm,19.0s,baz=241,slow=37						
IPM	**Ipoh**	**5.19**	**45**	*e*Pn	**Pn**	**09 28 44.6**	**+0.5**
	56nm,0.6s						
KULM	**Kulim**	**5.55**	**37**	*e*Pn	**Pn**	**09 28 48.9**	**-0.2**
	19nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.60**	**5**	P	**Pn**	**09 31 29.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**17.60**	**5**	P	**Pn**	**09 31 29.9**	**-1.9**
	0.7nm,0.3s,baz=192,slow=11,SNR=8.1						
CHTO	**Chiang Mai**	**17.96**	**5**	*e*Pn	**Pn**	**09 31 35.2**	**-0.9**
	5.2nm,0.8s						
YULB	**Yu-li**	**32.33**	**44**	*eP*	**P**	**09 33 56.2**	**+0.8**
	6.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.61**	**125**	P	**P**	**09 34 06.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.61**	**125**	P	**P**	**09 34 06.0**	**-0.6**
	1.8nm,0.9s,baz=322,slow=3.1,SNR=3.8						
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**09 35 15.0**	**-0.4**
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**09 35 15.0**	**-0.4**
	1.5nm,0.8s,baz=303,slow=9.0,SNR=9.8						
WRA				LR	LR	09 52 21.8	
	comp=Z,53nm,20.8s,baz=5.0,slow=36						
WRAB	**Tennant Creek**	**41.74**	**122**	*eP*	**P**	**09 35 14.1**	**-1.3**
	21nm,1.8s						
ASAR	**Alice Springs**	**43.07**	**127**	P	**P**	**09 35 26.2**	**0.0**
ASAR	**Alice Springs**	**43.07**	**127**	P	**P**	**09 35 26.2**	**0.0**
	0.8nm,0.6s,baz=300,slow=7.7,SNR=13						
JNU	**Nakatsue**	**45.01**	**41**	P	**P**	**09 35 42.2**	**+0.5**
JNU	**Nakatsue**	**45.01**	**41**	P	**P**	**09 35 42.2**	**+0.5**
	2.5nm,0.6s,baz=254,slow=7.4,SNR=2.8						
KSAR	**Wonju Array Be**	**46.06**	**34**	P	**P**	**09 35 49.6**	**-0.3**
KSRS	**Korea Array**	**46.09**	**34**	P	**P**	**09 35 49.6**	**-0.5**
	1.6nm,0.6s,baz=222,slow=12,SNR=7.2						
KSRS				LR	LR	09 57 19.2	
	comp=Z,31nm,18.1s,baz=165,slow=39						
MK31	**Makanchi Array**	**47.64**	**346**	*eP*	**P**	**09 36 03.3**	**+1.2**
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**09 36 03.0

10.0nm,1.1s,baz=32,slow=32,SNR=4.5
VOSK Vostochnaya 9.44 267 ⇑Sn Sn 09 42 17.4 -2.6
6.2nm,0.8s
BVA0 Borovoye Array 9.71 269 ⇓Sn Sn 09 42 27.9 +1.3
2.6nm,0.8s
BRVK Borovoye 9.76 270 ⇓Sn Sn 09 42 30.9 +3.0
4.1nm,0.8s

IDC 21 10:44:43.0±12.0, 4°.20S×126°.27E, h0km, mb4.3/2, mb1 4.1/4, mb1mx3.6/23, mbtmp3.9/4, ML3.5/2, Error ellipse: s-maj=187.3km s-min=110.4km az=130.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.83**	**183**	Pn	Pn	10 48 02.5	+2.0
0.1nm,0.3s,baz=12,slow=14,SNR=3.6							
WRA	**Warrarmunga Arr**	**17.51**	**154**	P	P	10 48 49.6	-0.5
0.3nm,0.3s,baz=328,slow=14,SNR=24							
ASAR	**Alice Springs**	**20.71**	**160**	P	P	10 49 24.1	-1.0
3.7nm,0.3s,baz=334,slow=11,SNR=66							
STKA	**Stephens Creek**	**31.07**	**154**	P	P	10 51 02.9	-0.1
6.9nm,1.2s,baz=326,slow=7.3,SNR=3.3							

*ISCJB **21** 10:44:48.0±0.7, 13°.7N±0°.1×120°.8E±0°.1, h200km, mb3.7/6, Error ellipse: s-maj=19.7km s-min=11.3km az=144.8*
*IDC **21** 10:44:50.9±0.6, 13°.81N×120°.80E, h218km±5km, mb3.4/6, mb1 3.6/6, mb1mx3.3/25, mbtmp3.4/6, Error ellipse: s-maj=25.6km s-min=12.3km az=65.0*
*MAN **21** 10:44:59, 14°.08N×120°.50E, h43km, mb4.4, ML3.2, MS3.1*
ISC 21 10:44:49.3±1.0, 13°.7N±0°.1×120°.7E±0°.1, h200km, n11, σ2°32/11, mb3.7/6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.51**	**31**	P	Pn	10 45 20.3	+3.7
190nm,0.3s,baz=142,slow=17,SNR=16							
TGY				S	**Sn**	**10 45 42.9**	**+5.1**
124nm,0.3s,baz=236,slow=14,SNR=3.4							
BOAC	**Boac**	**1.16**	**100**	eP	Pn	10 45 24.5	+4.3
BOAC				eS	**Sn**	**10 45 41.5**	**-2.5**
SCZP	**Santa Cruz**	**2.23**	**341**	eP	**Pn**	**10 45 29.2**	**-0.9**
SCZP				eS	Sn	10 45 50.5	-12
BALP	**Baler**	**2.25**	**23**	eP	**Pn**	**10 45 32.1**	**+1.7**
BCPH	**Baguio City Da**	**2.71**	**358**	⇑iP	**Pn**	**10 45 35.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.41**	**286**	P	**P**	**10 49 22.7**	**+1.0**
1.4nm,0.5s,baz=96,slow=7.5,SNR=13							
KSRS	**Korea Array**	**24.57**	**14**	P	**P**	**10 49 49.1**	**-1.7**
0.6nm,0.4s,baz=194,slow=9.6,SNR=2.8							
WRA	**Warrarmunga Arr**	**36.00**	**158**	P	**P**	**10 51 31.6**	**+0.2**
3.4nm,0.5s,baz=336,slow=9.4,SNR=45							
SONM	**Songino Array**	**36.09**	**344**	P	**P**	**10 51 30.7**	**-1.2**
1.1nm,0.6s,baz=163,slow=10,SNR=7.5							
ASAR	**Alice Springs**	**39.29**	**161**	P	**P**	**10 51 59.8**	**+0.9**
2.7nm,0.4s,baz=336,slow=6.7,SNR=45							
MKAR	**Makanchi Array**	**46.05**	**324**	P	**P**	**10 52 52.7**	**-0.4**
1.1nm,0.7s,baz=105,slow=9.3,SNR=7.9							

CASC 21 10:46:01.4±2.1, 8°.38N×82°.84W, h22km±7km, MD3.5, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.43**	**310**	⇑iP	Pb	10 46 09.9	-0.5
ACR				eP	Pn	10 46 09.9	-2.4
ACR				eS	Sb	10 46 16.6	+0.2
ACR				eS	Sn	10 46 16.7	-2.8
BRU2	**Volcan**	**0.44**	**19**	eP	Pb	10 46 10.6	-0.1
BRU2				eS	Sb	10 46 18.1	+1.2
TBS2		**0.45**	**23**	eP	Pn	10 46 11.8	-0.9
TBS2				eS	Sn	10 46 19.8	-0.5
CTCR	**Cotoan**	**0.52**	**8**	eP	Pb	10 46 11.9	-0.3
CTCR				eS	Sb	10 46 20.0	+0.5
BUS	**Buena Vista**	**1.48**	**322**	eP	Pn	10 46 26.7	-0.7
BUS				eS	Sn	10 46 46.3	-0.1
URSC	**Urasca**	**1.72**	**327**	eP	Pn	10 46 30.4	+0.1
CGA2	**Cerro Gallo 2**	**2.29**	**315**	eP	Pn	10 46 39.6	+1.5
CGA2				eS	Sn	10 47 07.8	+2.2

IDC 21 10:52:04.5±7.5, 1°.06S×99°.55E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=406.7km s-min=30.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrarmunga Arr**	**38.85**	**121**	P	P	10 59 31.8	-0.1
0.4nm,0.7s,baz=299,slow=9.0,SNR=3.9							
ASAR	**Alice Springs**	**40.17**	**127**	P	P	10 59 42.5	-0.2
0.3nm,0.8s,baz=299,slow=8.2,SNR=2.7							
MKAR	**Makanchi Array**	**50.01**	**345**	P	P	11 01 00.6	-0.1
0.5nm,0.6s,baz=148,slow=7.0,SNR=5.1							
TXAR	**Lajitas Array**	**144.22**	**36**	PKP	PKPdf	11 11 43.0	-0.4
0.3nm,0.8s,baz=224,slow=0.8,SNR=4.1							

*IDC **21** 10:53:55.3±1.3, 23°.63S×175°.71W, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/20, mbtmp4.2/9, ML2.8/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/32, Error ellipse: s-maj=56.3km s-min=20.4km az=148.0*
*ISCJB **21** 10:53:56.3±0.7, 24°.0S±0°.2×175°.45W±0°.09, h28km, mb4.2/10, MS3.4/2, Error ellipse: s-maj=24.4km s-min=11.9km az=172.0*
*NEIC **21** 10:53:59.3±0.6, 24°.04S×175°.46W, h35km, mb4.3/3, Error ellipse: s-maj=22.3km s-min=10.6km az=172.0*
ISC 21 10:53:58.3±0.7, 24°.0S±0°.2×175°.42W±0°.09, h28km, n40, σ1§05/30, mb4.3/10, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.75**	**315**	ePn	**Pn**	**10 56 03.3**	**+0.2**
79nm,1.3s							
AFI	**Afiamalu**	**10.64**	**20**	ePn	Pn	10 56 23.2	-5.9
AFI				Sn	Sn	10 58 07.2	-20
AFI	**Afiamalu**	**10.64**	**20**	Pn	Pn	10 56 23.1	-5.9
4.0nm,0.3s,baz=77,slow=19,SNR=5.5							
AFI				Sn	Sn	10 58 07.2	-20
1.7nm,0.3s,baz=8.2,slow=23,SNR=2.2							
RAR	**Rarotonga**	**14.72**	**82**	ePn	**Pn**	**10 57 23.9**	**-0.7**
RAR	**Rarotonga**	**14.72**	**82**	Pn	**Pn**	**10 57 22.9**	**-1.7**
2.1nm,0.3s,baz=270,slow=4.4,SNR=7.1							
DZM	**Mont Dzumac**	**16.81**	**273**	eLR	LR	11 01 25.2	
182nm,22.9s							
TBI	**Tubuai**	**23.77**	**94**	eLR	LR	11 04 59.6	
152nm,28.0s							
PAE	**Paea**	**24.94**	**80**	eT	T	11 25 25.3	
2.6nm,0.3s							
PPT2	**Papeete2**	**24.97**	**80**	eLR	LR	11 05 41.4	
161nm,25.5s							
PPT2	**Papeete2**	**24.97**	**80**	eT	T	11 25 28.7	
2.5nm,0.3s							
PPT	**Papeete**	**24.98**	**80**	LR	LR	11 06 43.7	
comp=Z,120nm,18.0s,baz=230,slow=30							
MEH	**Mehetia**	**26.24**	**82**	eT	T	11 27 07.2	
39nm,0.2s							
HNR	**Honiara**	**27.63**	**298**	LR	LR	11 08 44.4	
comp=Z,87nm,21.2s,baz=101,slow=33							
CTA	**Charters Tower**	**35.67**	**269**	P	**P**	**11 00 53.0**	**-1.3**
CTA	**Charters Tower**	**35.67**	**269**	P	**P**	**11 00 53.0**	**-1.3**
1.7nm,0.3s,baz=93,slow=12,SNR=4.7							
CTAO	**Charters Tower**	**35.67**	**269**	eP	**P**	**11 00 53.2**	**-1.1**
1.7nm,0.5s							
STKA	**Stephens Creek**	**38.57**	**248**	eP	**P**	**11 01 19.9**	**+1.0**
STKA	**Stephens Creek**	**38.57**	**248**	P	**P**	**11 01 19.1**	**+0.3**
1.2nm,0.6s,baz=91,slow=7.3,SNR=4.4							
ASAR	**Alice Springs**	**46.14**	**260**	P	**P**	**11 02 20.6**	**-0.1**
ASAR	**Alice Springs**	**46.14**	**260**	P	**P**	**11 02 20.6**	**-0.1**
2.4nm,0.9s,baz=95,slow=8.2,SNR=16							
WRAB	**Tennant Creek**	**46.57**	**265**	eP	**P**	**11 02 22.9**	**-1.1**
4.5nm,0.9s							
WRA	**Warrarmunga Arr**	**46.58**	**265**	P	**P**	**11 02 21.8**	**-2.3**
WRA	**Warrarmunga Arr**	**46.58**	**265**	P	**P**	**11 02 21.8**	**-2.3**
2.6nm,0.8s,baz=95,slow=8.4,SNR=22							
ISA	**Isabella**	**80.15**	**44**	eP	**P**	**11 06 06.2**	**+0.1**
1.6nm,0.4s							
PETK	**Petropavlovsk-**	**80.29**	**344**	P	**P**	**11 06 05.6**	**-0.7**
PETK	**Petropavlovsk-**	**80.29**	**344**	P	**P**	**11 06 05.6**	**-0.7**
3.5nm,0.8s,baz=125,slow=9.3,SNR=12							
TXAR	**Lajitas Array**	**86.98**	**56**	P	**P**	**11 06 42.1**	**+0.8**
TXAR	**Lajitas Array**	**86.98**	**56**	P	**P**	**11 06 42.1**	**+0.8**
1.1nm,0.9s,baz=198,slow=7.5,SNR=11							
ILAR	**Eielson Array**	**91.24**	**12**	P	**P**	**11 07 00.8**	**+0.5**
ILAR	**Eielson Array**	**91.24**	**12**	P	**P**	**11 07 00.9**	**+0.5**
0.2nm,0.7s,baz=204,slow=6.3,SNR=3.4							
CMAR	**Chiang Mai Arr**	**93.52**	**289**	P	**P**	**11 07 12.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**93.52**	**289**	P	**P**	**11 07 12.7**	**+0.6**
1.2nm,0.6s,baz=140,slow=2.6,SNR=8.5							
MKAR	**Makanchi Array**	**115.34**	**312**	PKP	**PKPdf**	**11 12 38.3**	**+1.1**
MKAR	**Makanchi Array**	**115.34**	**312**	PKP	**PKPdf**	**11 12 38.3**	**+1.1**
0.3nm,0.7s,baz=66,slow=3.9,SNR=2.3							
AKASG	**Malin Array Be**	**147.25**	**331**	PKPbc	**PKPbc**	**11 13 38.5**	**-0.3**
AKASG	**Malin Array Be**	**147.25**	**331**	PKPbc	**PKPbc**	**11 13 38.5**	**-0.3**
1.1nm,0.4s,baz=38,slow=4.1,SNR=5.0							
BRTR	**Keskin Array B**	**150.95**	**310**	PKPbc	**PKPbc**	**11 13 49.5**	**+0.7**
BRTR	**Keskin Array B**	**150.95**	**310**	PKPbc	**PKPbc**	**11 13 49.5**	**+0.7**
1.3nm,0.7s,baz=139,slow=5.9,SNR=6.0							
TORD	**Torodi Ar. Bea**	**168.84**	**165**	PKP	**PKPdf**	**11 14 04.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**168.84**	**165**	PKP	**PKPdf**	**11 14 04.6**	**+1.0**
0.8nm,1.0s,baz=250,slow=2.9,SNR=2.8							

IDC 21 10:55:18.4±2.3, 7°.20S×79°.44W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/35, Error ellipse: s-maj=109.6km s-min=45.3km az=39.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**14.28**	**130**	Pn	Pn	10 58 44.0	+1.1
0.1nm,0.3s,baz=319,slow=11,SNR=3.4							
CPUP	**Villa Florida**	**28.37**	**135**	LR	LR	11 14 31.6	
comp=Z,72nm,21.6s,baz=299,slow=41							
BDFB	**Brasilia**	**31.89**	**108**	LR	LR	11 15 21.8	
comp=Z,116nm,18.8s,baz=245,slow=38							
TORD	**Torodi Ar. Bea**	**83.06**	**76**	P	P	11 07 46.2	-0.4
0.7nm,0.8s,baz=264,slow=4.4,SNR=3.6							
ILAR	**Eielson Array**	**87.10**	**337**	P	P	11 08 06.4	+0.5
0.2nm,0.7s,baz=145,slow=3.1,SNR=5.1							
WRA	**Warrarmunga Arr**	**137.19**	**230**	PKP	PKPdf	11 14 43.3	-1.5
0.3nm,0.7s,baz=129,slow=1.3,SNR=4.0							

IDC 21 11:04:15.7±1.4, 13°.85N×92°.76E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=45.4km s-min=28.6km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.50**	**52**	Pn	Pn	11 06 08.3	+1.8
0.4nm,0.3s,baz=246,slow=18,SNR=4.2							
MKAR	**Makanchi Array**	**34.00**	**347**	P	P	11 10 59.9	-1.3
0.3nm,0.8s,baz=159,slow=8.6,SNR=3.3							
WRA	**Warrarmunga Arr**	**52.92**	**129**	P	P	11 13 33.8	-0.3
0.3nm,0.8s,baz=307,slow=10,SNR=3.4							
ASAR	**Alice Springs**	**54.85**	**132**	P	P	11 13 47.8	-0.4
0.2nm,0.4s,baz=307,slow=7.1,SNR=7.1							
TORD	**Torodi Ar. Bea**	**87.93**	**283**	P	P	11 17 09.3	+1.1
0.5nm,0.8s,baz=57,slow=5.3,SNR=2.5							

*IDC **21** 11:15:37.2±0.5, 22°.57S×171°.24E, h0km, mb4.5/20, mb1 4.6/22, mb1mx4.6/24, mbtmp4.5/22, ML3.9/2, MS4.9/29, Ms1 4.9/29, ms1mx4.8/35, Error ellipse: s-maj=15.9km s-min=14.7km az=127.0*
*BKK **21** 11:15:38.7±0.6, 22°.5±12°×17°.2E±1°.3, h10km, M5.4/20, mB5.9/8, mb5.2/20, Mw(mB)5.5/8*
*DJA **21** 11:15:39.9±4.9, 23°.5±9°×17°.2E±1°.5, h16km±32km, M5.3/23, mB5.8/12, mb5.1/23, Mw(mB)5.3/12*
*NEIC **21** 11:15:39.0±0.2, 22°.54S×171°.24E, h10km, mb5.2/48, MS5.2/128, MW5.7, Error ellipse: s-maj=6.3km s-min=5.5km az=148.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^17 Nm; Mrr1.80; Mθθ-1.00; Mφφ-0.80; Mrθ3.93; Mrφ0.35; Mθφ-0.74; Best double couple: M0=4.30000×10^17 NP1:φs=102.00000°, δ80.00000°, λ86.00000°. NP2:φs=304.00000°, δ11.00000°, λ111.00000°. Principal axes: T 4.6000, Plg54.0000°, Azm7.0000°; N -0.6600, Plg3.0000°, Azm103.0000°; P -3.9400, Plg34.0000°, Azm195.0000°;*
*SZGRF **21** 11:15:40.0, 22°.55S×172°.97E, h33km, mb5.1, Southeast of Loyalty Islands*
*ISCJB **21** 11:15:41.2±1.1, 22°.64S±0°.04×171°.16E±0°.04, h33km±9km, mb5.0/87, MS5.1/179, Error ellipse: s-maj=7.2km s-min=6.0km az=17.2*
*MOS **21** 11:15:42.1±1.4, 22°.73S×171°.14E, h33km, mb5.4/29, MS5.1/25, Error ellipse: s-maj=10.4km s-min=9.0km az=154.8*
*GCMT **21** 11:15:46.4±0.1, 22°.78S×171°.13E, h22km, MW5.6, Moment Tensor Solution. s97,c179; s42,c48; Moment tensor: Scale 10^17 Nm; Mrr2.47±.04; Mθθ-2.47±.03; Mφφ0.00±.03; Mrθ1.48±.06; Mθφ0.95±.02; Mφr-0.43±.06; Best double couple: M0=3.10000×10^17 NP1:φs=107.00000°, δ60.00000°, λ88.00000°. NP2:φs=290.00000°, δ30.00000°, λ93.00000°. Principal axes: T 2.8900, Plg75.0000°, Azm13.0000°; N 0.3200, Plg1.0000°, Azm108.0000°; P -3.2100, Plg15.0000°, Azm198.0000°; Data Used: II IU CN IC G. Surface waves: sta=104, comp=195, per= 50.*
*BJI **21** 11:15:47.5, 22°.13S×170°.90E, h64km, mB5.4/41, mb4.8/40, Ms5.2/45, Ms7 4.8/45*
*AUST **21** 11:15:47.5, 23°.00S×171°.09E, h60km*
ISC 21 11:15:42.5±1.2, 22°.63S±0°.05×171°.17E±0°.04, h29km±7km, n473, σ1§48/384, mb5.0/86, MS5.2/180, 18C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.41**	**276**	ePn	**Pn**	**11 16 46.7**	**-0.8**
158nm,0.2s							
DZM				eSn	**Sn**	**11 17 36.9**	**-1.1**
202nm,0.3s							
DZM				eLR	LR	11 17 49.7	
14μm,23.3s							
DZM	**Mont Dzumac**	**4.41**	**276**	eP	**Pn**	**11 16 46.3**	**-1.2**
DZM				eS	**Sn**	**11 17 36.4**	**-1.5**
DZM	**Mont Dzumac**	**4.41**	**276**	Pn	**Pn**	**11 16 46.5**	**-1.0**
DZM				Sn	**Sn**	**11 17 37.6**	**-0.4**
DZM	**Mont Dzumac**	**4.41**	**276**	Pn	**Pn**	**11 16 46.5**	**-1.0**
49nm,0.3s,baz=129,slow=14,SNR=266							
DZM				Sn	**Sn**	**11 17 37.6**	**-0.4**
40nm,0.3s,baz=163,slow=19,SNR=5.0							
NOUC	**Port Laguerre**	**4.53**	**276**	eP	**Pn**	**11 16 47.8**	**-1.4**
NOUC				eS	**Sn**	**11 17 36.9**	**-4.0**
NFK	**Norfolk Island**	**7.02**	**204**	P	**Pn**	**11 17 20.2**	**-3.1**
baz=6.7,SNR=78							
NFK				S	Sn	11 18 34.4	-7.7
baz=6.7,SNR=7.8							
MSVF	**Nonsavu**	**8.09**	**54**	eP	Pn	11 17 42.8	+4.6
MSVF	**Nonsavu**	**8.09**	**54**	ePn	Pn	11 17 42.8	+4.6
RAO	**Raoul Island**	**11.83**	**126**	LR	LR	11 21 58.0	
comp=Z,6μm,20.6s,baz=340,slow=32							
OUZ	**Omahuta**	**12.72**	**171**	ePn	**Pn**	**11 18 42.1**	**+0.6**
LHI	**Lord Howe Isla**	**13.94**	**228**	P	Pn	11 18 46.6	-11
baz=14,SNR=4.4							
URZ	**Urewera**	**16.39**	**163**	ePn	**Pn**	**11 19 30.3**	**-0.2**
1μm,2.3s							
URZ				eSn	**Sn**	**11 22 35.2**	**+3.8**
URZ	**Urewera**	**16.39**	**163**	Pn	**P**	**11 19 32.1**	**-1.0**
0.8nm,0.3s,baz=19,slow=7.0,SNR=15							
URZ				LR	LR	11 24 23.9	
comp=Z,9μm,21.8s,baz=346,slow=32							
HNR	**Honiara**	**16.97**	**319**	Pn	**P**	**11 19 40.6**	**+1.0**
HNR	**Honiara**	**16.97**	**319**	Pn	**P**	**11 19 40.6**	**+1.0**
11nm,0.3s,baz=352,slow=16,SNR=9.3							
HNR				LR	LR	11 24 39.5	
comp=Z,583nm,21.0s,baz=140,slow=32							
AFI	**Afiamalu**	**18.36**	**65**	eP	**Pn**	**11 19 57.4**	**+2.3**
AFI				eSn	S	11 23 31.3	+7.8
AFI	**Afiamalu**	**18.36**	**65**	P	**P**	**11 19 53.9**	**-1.1**
3.3nm,0.3s,baz=260,slow=12,SNR=8.6							
AFI				LR	LR	11 25 34.7	
comp=Z,5μm,18.5s,baz=242,slow=33							
EIDS	**Eidsvold**	**18.55**	**258**	eP	**Pn**	**11 19 58.9**	**+1.6**
23nm,0.8s							
EIDS				eS	**Sn**	**11 23 25.6**	**+1.7**
EIDS	**Eidsvold**	**18.55**	**258**	P	**Pn**	**11 19 58.9**	**+1.6**
baz=18,SNR=5.3							
SNZO	**South Karori**	**18.86**	**172**	eP	**Pn**	**11 20 01.9**	**+0.9**
457nm,1.4s							
ARMA	**Armidale**	**19.11**	**242**	eP	**Pn**	**11 20 05.6**	**+1.4**
ARMA				eS	**S**	**11 23 41.5**	**+3.2**
ARMA	**Armidale**	**19.11**	**242**	P	**Pn**	**11 20 06.3**	**+2.1**
baz=19,SNR=6.9							
KHZ	**Kahutara**	**19.83**	**175**	eP	**P**	**11 20 11.6**	**+0.7**
782nm,1.7s							
RMQ	**Roma**	**20.73**	**255**	P	Pn	11 20 23.1	-0.3
baz=21,SNR=20							
RMQ				S	S	11 23 48.0	-23
baz=21,SNR=6.6							
RPZ	**Rata Peaks**	**21.03**	**180**	eP	**P**	**11 20 23.5**	**-0.4**
206nm,1.4s							
RPZ	**Rata Peaks**	**21.03**	**180**	P	**P**	**11 20 24.4**	**+0.5**
72nm,1.2s,baz=22,slow=3.6,SNR=18							
RPZ				LR	LR	11 27 18.8	
comp=Z,5μm,21.9s,baz=2.7,slow=33							
ODZ	**Otahua Downs**	**22.36**	**181**	eP	**P**	**11 20 38.1**	**-0.1**
CNB	**Canberra Magne**	**22.82**	**232**	P	P	11 20 37.2	-6.0
baz=22,SNR=5.2							
CAN	**Canberra**	**23.09**	**232**	eP	**P**	**11 20 46.0**	**0.0**
CAN				pmax	pmax		
comp=Z,311nm,1.8s							
CAN				MLR	MLR		
comp=Z,5μm,19.0s							
CAN	**Canberra**	**23.09**	**232**	eP	**P**	**11 20 46.0**	**0.0**
comp=Z,311nm,1.8s							
CAN				LR	LR		
comp=Z,5μm,19.0s							
YNG	**Young**	**23.09**	**235**	P	**P**	**11 20 46.6**	**+0.6**
baz=23,SNR=8.0							
CTA	**Charters Tower**	**23.33**	**272**	P	**P**	**11 20 50.0**	**+1.5**
CTA	**Charters Tower**	**23.33**	**272**	P	**P**	**11 20 50.0**	**+1.5**
comp=Z,8.7nm,0.7s,baz=92,slow=12,SNR=11							
CTA				LR	LR	11 29 24.5	
comp=Z,3μm,18.2s,baz=93,slow=35							
CTAO	**Charters Tower**	**23.33**	**272**	eP	**P**	**11 20 49.3**	**+0.8**
CTAO				pmax	pmax		
comp=Z,171nm,1.7s							
CTAO				MLR	MLR		
comp=Z,3μm,19.0s							
CTAO	**Charters Tower**	**23.33**	**272**	eP	**P**	**11 20 49.3**	**+0.8**
comp=Z,171nm,1.7s							
CTAO				LR	LR		
comp=Z,3μm,19.0s							
MILA	**Mila**	**23.82**	**228**	P	**P**	**11 20 53.5**	**+0.4**
baz=24,SNR=5.8							
CMSA	**Cobar Meteorol**	**24.31**	**243**	P	**P**	**11 20 57.6**	**-0.1**
baz=24,SNR=41							
MTSU	**Mount Surprise**	**25.55**	**275**	P	**P**	**11 21 09.8**	**+0.9**
baz=26,SNR=48							
PMG	**Port Moresby**	**26.50**	**296**	P	**P**	**11 21 18.1**	**+0.5**
PMG	**Port Moresby**	**26.50**	**296**	P	**P**	**11 21 18.1**	**+0.5**
comp=Z,26nm,0.7s,baz=56,slow=4.0,SNR=8.3							
PMG				LR	LR	11 30 02.3	
comp=Z,2μm,21.4s,baz=318,slow=33							
TOO	**Toolangi**	**26.63**	**230**	P	**P**	**11 21 19.2**	**+0.6**
baz=26,SNR=3.9							
RAR	**Rarotonga**	**26.98**	**93**	PFAKE		11 21 30.0	+8.1
RAR				LR	LR		
comp=Z,2μm,21.0s							
STKA	**Stephens Creek**	**27.78**	**244**	eP	**P**	**11 21 28.2**	**-0.8**
comp=Z,26nm,1.6s							
STKA	**Stephens Creek**	**27.78**	**244**	P	**P**	**11 21 29.4**	**+0.3**
comp=Z,6.2nm,0.7s,baz=90,slow=11,SNR=10.0							
STKA				LR	LR	11 31 42.3	
comp=Z,4μm,20.0s,baz=73,slow=35							
STKA	**Stephens Creek**	**27.78**	**244**	P	**P**	**11 21 29.6**	**+0.6**
baz=28,SNR=8.9							
COEN	**Coen**	**27.90**	**283**	eP	**P**	**11 21 31.3**	**+1.0**
comp=Z,353nm,1.0s							
COEN	**Coen**	**27.90**	**283**	P	**P**	**11 21 31.2**	**+1.0**
baz=28,SNR=7.7							
TAU	**Tasmania Unive**	**28.31**	**219**	PFAKE		11 21 50.0	+16
TAU				LR	LR		
comp=Z,6μm,19.0s							
AS31	**Alice Springs**	**34.22**	**261**	eP	**P**	**11 22 24.9**	**-1.0**
ASAR	**Alice Springs**	**34.22**	**261**	P	**P**	**11 22 24.9**	**-0.9**
ASAR	**Alice Springs**	**34.22**	**261**	P	**P**	**11 22 25.0**	**-0.9**
comp=Z,10nm,0.8s,baz=96,slow=9.7,SNR=99							
ASAR				LR	LR	11 36 26.8	
comp=Z,3μm,18.0s,baz=98,slow=36							
WRAB	**Tennant Creek**	**34.36**	**267**	eP	**P**	**11 22 25.8**	**-1.3**
WRAB				pmax	pmax		
comp=Z,9.0nm,0.8s							
WRAB				MLR	MLR		
comp=Z,4μm,19.0s							
WRAB	**Tennant Creek**	**34.36**	**267**	eP	**P**	**11 22 25.8**	**-1.3**
comp=Z,8.5nm,0.8s							
WRAB				LR	LR		
comp=Z,4μm,19.0s							
WRA	**Warrarmunga Arr**	**34.37**	**267**	P	**P**	**11 22 25.6**	**-1.5**
WRA	**Warrarmunga Arr**	**34.37**	**267**	P	**P**	**11 22 25.6**	**-1.5**
comp=Z,2.1nm,0.5s,baz=97,slow=8.5,SNR=60							
WRA				LR	LR	11 36 37.1	
comp=Z,4μm,18.2s,baz=100,slow=37							
TBI	**Tubuai**	**36.18**	**99**	eS	**S**	**11 28 18.8**	**-2.2**
comp=Z,342nm,27.2s							
TBI				eLQ	LQ	11 30 50.6	
comp=Z,2μm,26.2s							
TBI				eLR	LR	11 32 31.3	
comp=Z,2μm,27.8s,baz=261							
PPT2	**Papeete2**	**37.13**	**90**	eS	**S**	**11 28 35.7**	**-0.1**
comp=Z,846nm,26.2s							
PPT2				eLQ	LQ	11 31 08.3	
comp=Z,2μm,27.5s							
PPT2				eLR	LR	11 32 58.0	
comp=Z,2μm,24.2s,baz=244							
PPT	**Papeete**	**37.13**	**89**	LR	LR	11 33 51.4	
comp=Z,1μm,21.9s,baz=244,slow=30							
KDU	**Kakadu**	**38.07**	**278**	P	**P**	**11 22 58.0**	**-0.8**
baz=38,SNR=12							
FORT	**Forrest**	**39.16**	**249**	eP	**P**	**11 23 06.8**	**-1.1**
comp=Z,46nm,0.8s							
XMAS	**Kiritimati**	**39.23**	**55**	PFAKE		11 23 20.0	+11
XMAS				LR	LR		
comp=Z,3μm,20.0s							
MTN	**Manton Dam**	**39.24**	**277**	P	**P**	**11 23 07.8**	**-0.9**
baz=39,SNR=13							
KNRA	**Kununurra**	**40.54**	**272**	P	**P**	**11 23 18.9**	**-0.6**
baz=40,SNR=5.7

comp=Z,3μm,19.0s
DAV Davao City (W) 53.49 298 LR LR 11 48 48.9
comp=Z,456nm,18.1s,baz=122,slow=37
VNDA Vanda 55.13 182 *e*P **P** **11 25 11.3 -0.3**
comp=Z,71nm,2.1s
VNDA Vanda 55.13 182 P **P** **11 25 11.3 -0.3**
comp=Z,1.5nm,0.9s,baz=12,slow=8.0,SNR=5.3
VNDA LR LR 11 46 14.2
comp=Z,2μm,18.7s,baz=14,slow=33
SBA Scott Base 55.32 181 *e*P **P** **11 25 12.9 -0.1**
SBA MLR MLR
comp=Z,2μm,20.0s
SBA Scott Base 55.32 181 *e*P **P** **11 25 12.9 -0.1**
comp=Z,312nm,2.2s
SBA LR LR
comp=Z,2μm,20.0s
CASY Casey 57.78 205 PFAKE 11 25 40.0 +9.4
CASY LR LR
comp=Z,2μm,19.0s
KKM Kota Kinabalu 60.81 291 PFAKE 11 26 00.0 +7.5
KKM LR LR
comp=Z,339nm,20.0s
KKM Kota Kinabalu 60.81 291 P P 11 25 56.8 +4.3
baz=61,SNR=4.1
SBUM Sibu 62.62 285 P **P** **11 26 06.5 +1.9**
comp=Z,28nm,1.8s,comp=Z,729nm
KSM Kuching 63.90 284 *e*P **P** **11 26 12.9 -0.2**
comp=Z,36nm,0.9s
KSM LR LR
comp=Z,633nm,20.0s
KSM Kuching 63.90 284 P **P** **11 26 12.9 -0.2**
comp=Z,43nm,1.1s,comp=Z,688nm
KSM Kuching 63.90 284 P **P** **11 26 13.1 0.0**
baz=64,SNR=9.8
MIR Mirnyy 64.75 206 *e*P P 11 26 23.0 +5.2
MIR *e* 11 26 41.0
MIR *e* 11 26 47.0
MIR pmax pmax
comp=Z,91nm,2.0s
MJAR Matsushiro Arr 66.58 331 P **P** **11 26 29.5 -0.5**
MJAR Matsushiro Arr 66.58 331 P **P** **11 26 29.5 -0.5**
comp=Z,0.8nm,0.5s,baz=290,slow=24,SNR=4.2
MJAR LR LR 11 51 50.2
comp=Z,302nm,19.1s,baz=125,slow=33
TPUB Ta-pu 67.08 310 *e*P **P** **11 26 31.5 -2.0**
comp=Z,22nm,0.9s
SSLB Suanglung 67.16 310 *e*P **P** **11 26 32.1 -1.9**
comp=Z,15nm,0.8s
YHNB Yeheng 67.43 311 *e*P **P** **11 26 35.3 -0.4**
comp=Z,33nm,1.0s
YHNB LR LR
comp=Z,405nm,20.0s
QSPA South Pole Qui 67.44 180 P **P** **11 26 34.4 -1.0**
QSPA LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 67.44 180 P **P** **11 26 34.3 -1.0**
comp=Z,20nm,1.0s,baz=13,slow=1.6,SNR=32
JNU Nakatsue 67.46 324 P **P** **11 26 34.3 -1.4**
JNU Nakatsue 67.46 324 P **P** **11 26 34.3 -1.4**
comp=Z,3.4nm,0.7s,baz=27,slow=4.5
JNU LR LR 11 52 10.1
comp=Z,487nm,21.1s,baz=130,slow=32
TATO Taipei 67.55 312 PFAKE 11 26 50.0 +14
TATO LR LR
comp=Z,534nm,19.0s
ERM Erimo 69.34 338 PFAKE 11 27 00.0 +13
ERM LR LR
comp=Z,2μm,20.0s
QZH Quanzhou 69.56 310⇑ *i*P **P** **11 26 47.3 -1.6**
QZH pP PcP 11 27 03.8 -8.1
QZH S **S** **11 35 53.3 -1.9**
QZH pmax pmax
comp=Z,540nm,9.2s
QZH LR LR
comp=N,850nm,21.6s
QZH LR LR
comp=E,910nm,20.4s
QZH LR LR
comp=Z,580nm,16.4s
MYKOM Kota Tinggi 69.86 281 P P 11 26 53.9 +2.8
comp=Z,28nm,0.9s,comp=Z,672nm
YUK Yuzh-Kuril'sk 70.28 341*c* *i*P **P** **11 26 53.2 +0.3**
YUK S **S** **11 36 06.0 +3.1**
COCO West Island 71.08 264 PFAKE 11 27 10.0 +11
COCO LR LR
comp=Z,2μm,20.0s
GZH Guangzhou 72.31 305 P **P** **11 27 04.9 -0.7**
GZH S **S** **11 36 28.6 +1.4**
GZH pmax pmax
comp=Z,510nm,8.8s
GZH LR LR
comp=N,360nm,21.8s
GZH LR LR
comp=E,490nm,20.0s
GZH LR LR
comp=Z,660nm,24.0s
KSRS Korea Array 72.31 325 P **P** **11 27 05.3 0.0**
comp=Z,1.2nm,0.8s,baz=136,slow=6.7,SNR=5.8
KSRS LR LR 11 57 52.3
comp=Z,518nm,19.4s,baz=133,slow=35
KSAR Wonju Array Be 72.32 325 P **P** **11 27 05.3 -0.1**
QIZ Qiongzhong 72.82 300 P **P** **11 27 10.0 +1.2**
QIZ pP **PcP** **11 27 26.4 +0.5**
QIZ sS SKiKP 11 36 59.3 +19
QIZ pmax pmax
comp=Z,7.0nm,1.3s
QIZ pmax pmax
comp=Z,210nm,6.5s
QIZ LR LR
comp=N,180nm,16.0s
QIZ LR LR
comp=E,76nm,19.0s
QIZ LR LR
comp=Z,360nm,30.5s
QIZ Qiongzhong 72.82 300 *e*P **P** **11 27 10.0 +1.2**
comp=Z,39nm,1.2s
QIZ LR LR
comp=Z,273nm,19.0s
INCN Inchon 73.02 324 PFAKE 11 27 20.0 +10
INCN LR LR
comp=Z,386nm,19.0s
IPM Ipoh 73.55 282 *e*P **P** **11 27 13.9 +0.7**
comp=Z,93nm,1.5s
IPM Ipoh 73.55 282 P **P** **11 27 14.1 +0.8**
comp=Z,36nm,1.4s
YSS Yuzh-Sakhalins 73.86 340 *e*P **P** **11 27 14.4 +0.1**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,800nm,18.0s
NJ2 Nanjing 73.88 316 *e*P P 11 27 17.8 +3.0
NJ2 pP PcP 11 27 36.0 +5.9
NJ2 sP sP 11 27 41.3 +14
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,35nm,4.6s
NJ2 LR LR
comp=N,5μm,19.0s
NJ2 LR LR
comp=E,3μm,19.5s
NJ2 LR LR
comp=Z,2μm,14.6s
SKR Severo-Kuril's 74.19 350 *e*P P 11 27 12.0 -4.1
SKR *e* 11 27 23.0
SKR *e* 11 30 09.0
SKR *e*PPP PPP 11 31 48.0
SKR *e*S **S** **11 36 49.0 +1.6**
SKR *e* 11 37 20.0
SKR *e*PS **PnS** **11 37 32.0 +8.1**
SKR *e*SS **SS** **11 41 38.0 +4.1**
SKR *e*SSS SSS 11 44 55.0
SKR pmax pmax
comp=Z,700nm,6.0s
SKR smax smax
comp=E,1μm,18.0s
SKR MLR MLR
comp=N,900nm,18.0s
SKR MLR MLR
comp=E,700nm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
KULM Kulim 74.23 283 *e*P **P** **11 27 17.6 +0.4**
comp=Z,15nm,0.8s
KULM LR LR
comp=Z,946nm,21.0s
KULM Kulim 74.23 283 P **P** **11 27 17.4 +0.2**
comp=Z,24nm,1.4s
UBPT Khong Chiam 74.53 294 P **P** **11 27 18.2 -0.7**
comp=Z,19nm,1.3s,comp=Z,530nm
UBPT Khong Chiam 74.53 294 P **PcP** **11 27 33.9 +0.6**
VLA Vladivostok 74.74 331⇓ *e*P **P** **11 27 21.0 +1.5**
VLA pmax pmax
comp=Z,55nm,1.7s
ADK Adak 74.95 8 PFAKE 11 27 30.0 +9.5
ADK LR LR
comp=Z,918nm,20.0s
USRK Ussuriysk Arra 75.56 332 P **P** **11 27 23.3 -0.8**
comp=Z,1.3nm,0.6s,baz=98,slow=11,SNR=2.7
USRK LR LR 11 57 12.2
comp=Z,537nm,19.9s,baz=130,slow=33
WHN Wuhan 75.95 312⇑ *i*P **P** **11 27 26.4 -0.4**
WHN S **S** **11 37 09.3 +1.4**
WHN LR LR
comp=N,1μm,20.1s
WHN LR LR
comp=E,1μm,19.6s
WHN LR LR
comp=Z,1μm,18.8s
MAW Mawson 75.98 202 P **P** **11 27 25.7 -0.7**
MAW Mawson 75.98 202 P **P** **11 27 25.7 -0.7**
comp=Z,3.3nm,0.7s,baz=128,slow=9.4,SNR=9.6
MAW LR LR 11 59 02.6
comp=Z,1μm,18.6s,baz=83,slow=34
MAW Mawson 75.98 202 P **P** **11 27 25.9 -0.5**
baz=75,SNR=5.3
PANO Nakornpanom 76.15 295 P **P** **11 27 29.6 +1.4**
comp=Z,21nm,1.8s
PEA0B Petropavlovsk- 76.32 352 *e*P **P** **11 27 28.4 0.0**
PETK Petropavlovsk- 76.32 352 P **P** **11 27 26.9 -1.5**
PETK Petropavlovsk- 76.32 352 P **P** **11 27 26.9 -1.5**
PETK Petropavlovsk- 76.32 352 P **P** **11 27 26.9 -1.5**
comp=Z,1.9nm,0.6s,baz=150,slow=7.6,SNR=7.7
PETK LR LR 11 57 36.2
comp=Z,1μm,19.6s,baz=152,slow=33
SKNT Sakolnakorn 76.59 295 P **P** **11 27 30.9 +0.2**
comp=Z,55nm,1.2s,comp=Z,3μm
DL2 Dalian 76.79 322 P **P** **11 27 30.5 -0.8**
DL2 S **S** **11 37 16.9 +0.1**
DL2 pmax pmax
comp=Z,16nm,1.5s
DL2 pmax pmax
comp=Z,210nm,6.3s
DL2 LR LR
comp=E,250nm,18.6s
DL2 LR LR
comp=Z,210nm,22.7s
MDJ Mudanjiang 76.95 331 P P 11 27 34.6 +2.5
MDJ pP PcP 11 27 51.3 +8.2
MDJ sP sP 11 27 58.1 +13
MDJ PP **PP** **11 30 27.6 +1.7**
MDJ S **S** **11 37 19.1 +0.8**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,260nm,8.2s
MDJ LR LR
comp=N,290nm,27.4s
MDJ LR LR
comp=E,110nm,28.0s
MDJ LR LR
comp=Z,380nm,24.9s
MDJ Mudanjiang 76.95 331 PFAKE 11 27 40.0 +7.9
MDJ LR LR
comp=Z,560nm,21.0s
NAYO Nakonayok 77.61 291 P PcP 11 27 51.2 +4.6
SNY Shenyang 77.79 326⇑ P **P** **11 27 36.1 -0.8**
SNY pmax pmax
comp=Z,310nm,8.2s
SNY LR LR
comp=N,370nm,15.0s
SNY LR LR
comp=E,420nm,19.2s
SNY LR LR
comp=Z,460nm,21.0s
CN2 Changchun 78.28 328 *e*P **P** **11 27 39.4 -0.1**
CN2 *e*pP PcP 11 27 56.1 +7.3
CN2 *e*sP sP 11 28 02.8 +11
CN2 *e*S **S** **11 37 30.3 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,500nm,18.0s
CN2 LR LR
comp=Z,600nm,21.0s
PBKT Sadao Pong 78.94 293 P **P** **11 27 44.8 +1.0**
comp=Z,24nm,1.9s
PBKT Sadao Pong 78.94 293 P **P** **11 27 45.8 +2.0**
comp=Z,24nm,0.9s
LOEI Loei 79.13 294 P **P** **11 27 44.7 -0.2**
comp=Z,20nm,1.9s
GYA Guiyang 79.22 305 P **P** **11 27 44.4 -0.9**
GYA pP PcP 11 28 01.1 +7.5
GYA sP sP 11 28 12.0 +14
GYA PP PP 11 30 49.8 +4.4
GYA S **S** **11 37 40.8 -3.0**
GYA SKS SKSac 11 37 49.6 -10
GYA sS **ScS** **11 38 05.8 -0.6**
GYA SS **SS** **11 42 46.3 -4.9**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,390nm,7.9s
GYA LR LR
comp=N,890nm,15.6s
GYA LR LR
comp=E,660nm,20.2s
GYA LR LR
comp=Z,920nm,16.8s
KLR Kul'dur 79.69 335 *e*P PcP 11 27 59.7 +4.8
UTHA Uthaitani 79.79 292 P **P** **11 27 49.9 +1.5**
comp=Z,6.5nm,1.1s
PAF Port-aux-Franc 79.94 221 PFAKE 11 28 00.0 +11
PAF LR LR
comp=Z,2μm,22.0s
NANT Nan 80.21 295 P **P** **11 27 52.9 +2.2**
comp=Z,82nm,1.0s
BJI Beijing 80.69 320 P **P** **11 27 52.8 0.0**
BJI sP sP 11 28 18.3 +13
BJI PP **PP** **11 30 57.5 +0.3**
BJI S **S** **11 37 58.6 +0.2**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI pmax pmax
comp=Z,330nm,8.8s
BJI LR LR
comp=N,400nm,23.4s
BJI LR LR
comp=E,540nm,20.4s
BJI LR LR
comp=Z,590nm,22.6s
LAMP Lampang 80.97 294 P **P** **11 27 56.3 +1.5**
comp=Z,11nm,1.0s
CM31 Chiang Mai Arr 81.53 294 *e*P **P** **11 27 59.1 +1.4**
comp=Z,9.2nm,0.6s
CMAR Chiang Mai Arr 81.53 294 P **P** **11 27 58.7 +0.9**
CMAR PKKPbc PKKPbc 11 46 35.8 +4.8
CMAR Chiang Mai Arr 81.53 294 P **P** **11 27 58.7 +0.9**
comp=Z,9.4nm,0.5s,baz=135,slow=4.2,SNR=38
CMAR PKKPbc PKKPbc 11 46 35.8 +4.8
comp=Z,1.2nm,0.8s,baz=283,slow=5.1,SNR=4.2
KMI Kunming 81.58 302 P **P** **11 28 00.0 +1.8**
KMI pP pP 11 28 18.5 +11
KMI sP sP 11 28 25.1 +14
KMI PP PP 11 31 10.3 +5.1
KMI S **S** **11 38 06.1 -2.7**
KMI SKS SKSac 11 38 09.6 -6.8
KMI sS ScS 11 38 36.9 +11
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,330nm,5.1s
KMI LR LR
comp=N,260nm,17.3s
KMI LR LR
comp=E,480nm,16.6s
KMI LR LR
comp=Z,330nm,15.9s
CMMT Chiang Mai 81.68 294 P **P** **11 27 59.1 +0.5**
comp=Z,45nm,1.2s,comp=Z,793nm
CMMT Chiang Mai 81.68 294 P **P** **11 27 59.1 +0.5**
comp=Z,45nm,1.2s,comp=Z,793nm
CHTO Chiang Mai 81.69 294 *e*P **P** **11 27 58.8 +0.2**
CHTO pmax pmax
comp=Z,43nm,1.1s
CHTO MLR MLR
comp=Z,437nm,21.0s
CHTO Chiang Mai 81.69 294 *e*P **P** **11 27 58.8 +0.2**
comp=Z,43nm,1.1s
CHTO LR LR
comp=Z,437nm,21.0s
CHTO Chiang Mai 81.69 294 P **P** **11 27 59.5 +1.0**
comp=Z,50nm,1.2s,comp=Z,739nm
CHTO Chiang Mai 81.69 294 P **P** **11 27 59.6 +1.0**
comp=Z,28nm,0.8s,comp=Z,739nm
XAN Xi'an 81.71 312 P **P** **11 27 57.8 -0.7**
XAN pP pP 11 28 15.0 +7.2
XAN sP sP 11 28 21.8 +11
XAN sS **ScS** **11 38 31.8 +5.5**
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,84nm,9.0s
XAN LR LR
comp=N,160nm,19.2s
XAN LR LR
comp=E,79nm,18.1s
XAN LR LR
comp=Z,97nm,19.2s
CD2 Chengdu 83.71 307 *e*P **P** **11 28 09.8 +0.9**
CD2 pP pP 11 28 27.8 +10
CD2 sP sP 11 28 35.1 +13
CD2 PP **PP** **11 31 25.8 +3.4**
CD2 SKS S 11 38 23.3 -6.7
CD2 S **SKSac** **11 38 26.9 -3.0**
CD2 sS ScS 11 38 57.8 +15
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,400nm,8.2s
CD2 LR LR
comp=N,360nm,16.6s
CD2 LR LR
comp=E,490nm,17.8s
CD2 LR LR
comp=Z,470nm,17.8s
HHC Hu-ho-hao-te 83.95 319 *e*P **P** **11 28 09.0 -1.0**
HHC pP pP 11 28 27.5 +8.2
HHC sP sP 11 28 34.3 +12
HHC PP **PP** **11 31 27.8 +3.6**
HHC SKS SKSac 11 38 25.3 -5.9
HHC S **S** **11 38 30.1 -2.0**
HHC sS ScS 11 38 58.9 +14
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,560nm,5.2s
HHC LR LR
comp=N,540nm,16.1s
HHC LR LR
comp=E,780nm,17.9s
HHC LR LR
comp=Z,1μm,17.3s
HIA Hailar 84.93 329 PFAKE 11 28 30.0 +15
HIA LR LR
comp=Z,565nm,21.0s
KDAK Kodiak Island 85.64 19 PFAKE 11 28 30.0 +12
KDAK LR LR
comp=Z,1μm,19.0s
MAIT Maitri 85.73 187 *e*P P 11 28 14.3 -4.1
SNAA Sanae 85.86 182 *e*P **P** **11 28 17.7 -1.4**
SNAA Sanae 85.86 182 *e*PcP **P** **11 28 19.8 +0.7**
SNAA Sanae 85.86 182 *e*pP P 11 28 33.5 +14
SNAA Sanae 85.86 182 *e*P **P** **11 28 16.9 -2.3**
comp=Z,49nm,1.4s
LZH Lanzhou 86.32 312 *e*P **P** **11 28 23.9 +1.9**
LZH pP pP 11 28 42.1 +11
LZH sP sP 11 28 47.5 +13
LZH S **SKKSac** **11 38 55.5 +1.1**
LZH sS ScS 11 39 23.3 +19
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,88nm,4.8s
LZH LR LR
comp=N,210nm,12.9s
LZH LR LR
comp=E,470nm,17.3s
LZH LR LR
comp=Z,340nm,18.0s
SEY Seymchan 86.56 352⇓ *e*P P 11 28 26.1 +3.8
VNA2 Neumayer--Watz 86.69 180 *e*P **P** **11 28 21.5 -1.7**
VNA2 Neumayer--Watz 86.69 180 *e*PcP **P** **11 28 23.7 +0.5**
VNA2 Neumayer--Watz 86.69 180 *e*pP P 11 28 37.2 +14
SAO San Andreas Ge 86.72 48 *e*P **P** **11 28 20.7 -3.1**
SAO pmax pmax
comp=Z,14nm,1.0s
SAO San Andreas Ge 86.72 48 *e*P **P** **11 28 20.7 -3.1**
comp=Z,14nm,1.0s
KHMM Horse Mountain 87.39 44 *e*P **P** **11 28 27.1 0.0**
comp=Z,25nm,1.1s
WDC Whiskeytown Da 87.99 44 *e*P **P** **11 28 29.6 -0.2**
WDC pmax pmax
comp=Z,14nm,1.2s
WDC Whiskeytown Da 87.99 44 *e*P **P** **11 28 29.6 -0.2**
comp=Z,14nm,1.2s
CMB Columbia Colle 88.09 47 *e*P **P** **11 28 29.8 -0.6**
CMB pmax pmax
comp=Z,24nm,1.2s
CMB Columbia Colle 88.09 47 *e*P **P** **11 28 29.8 -0.6**
comp=Z,24nm,1.2s
CLNS Chul'man 88.20 337 *e*P **P** **11 28 30.9 +0.4**
CLNS *e**PP pP 11 28 43.8 +3.9
CLNS *e* 11 31 55.6
CLNS *e*PPP PPP 11 33 54.8
CLNS *e*S S 11 38 55.1 -18
CLNS *e* 11 40 18.1
CLNS pmax pmax
comp=N,4.0nm,1.1s
CLNS pmax pmax
comp=Z,6.0nm,1.2s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS pmax pmax
comp=Z,2.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,0.8s
CLNS pmax pmax
comp=N,2.0nm,0.7s
CLNS smax smax
comp=N,91nm,12.9s
CLNS smax smax
comp=E,141nm,10.9s
CLNS MLR MLR
comp=E,163nm,13.0s
CLNS MLR MLR
comp=Z,216nm,18.0s
CLNS MLR MLR
comp=N,152nm,19.0s
ISA Isabella 88.23 50 *e*P **P** **11 28 30.4 -0.8**
ISA pmax pmax
comp=Z,16nm,1.0s
ISA Isabella 88.23 50 *e*P **P** **11 28 30.4 -0.8**
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 88.50 43 *e*P **P** **11 28 32.0 -0.3**
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 88.50 43 P **P** **11 28 32.0 -0.3**
comp=Z,2.7nm,0.6s,baz=155,slow=1.6,SNR=19
YBH LR LR 12 05 27.6
comp=Z,352nm,18.1s,baz=234,slow=34
PFO Pinyon Flat Ob 88.70 53 PFAKE 11 28 40.0 +6.5
PFO LR LR
comp=Z,1μm,22.0s
HUMO Hull Mountain 88.81 42 *e*P **P** **11 28 33.8 +0.1**
comp=Z,11nm,1.0s
WAKR Walker 88.97 47 *e*P **P** **11 28 33.8 -1.0**
comp=Z,22nm,1.2s
BEKR Beckworth 89.05 46 *e*P **P** **11 28 34.3 -0.8**
comp=Z,9.1nm,1.3s
GSC Goldstone 89.25 51 *e*P **P** **11 28 35.0 -1.0**
GSC pmax pmax
comp=Z,13nm,1.4s
GSC Goldstone 89.25 51 *e*P **P** **11 28 35.0 -1.0**
comp=Z,13nm,1.4s

LPIG	**La Paz**	**89.28**	**64**	LR	LR	11 59 15.2		
	comp=Z,681nm,21.2s,baz=239,slow=29							
PAHR	**Pah Rah Range**	**89.61**	**46**	*e*P	**P**	**11 28 37.0**		**-0.7**
	comp=Z,22nm,1.1s							
GLA	**Glamis**	**89.65**	**54**	*e*P	**P**	**11 28 37.9**		**0.0**
GLA				pmax	pmax			
	comp=Z,17nm,0.9s							
GLA	**Glamis**	**89.65**	**54**	*e*P	**P**	**11 28 37.9**		**0.0**
	comp=Z,17nm,0.9s							
TPH	**Tonopah**	**90.28**	**48**	PFAKE		11 28 50.0		+9.1
TPH				LR	LR			
	comp=Z,1μm,21.0s							
SHL	**Shillong**	**90.52**	**297**	*e*P	**P**	**11 28 42.0**		**-0.3**
GTA	**Gaotai**	**90.75**	**313**	*e*P	**P**	**11 28 43.0**		**0.0**
GTA				pP	pP	11 29 00.1		+7.7
GTA				sP	sP	11 29 06.9		+11
GTA				SKS	SKSac	11 39 07.8		-5.0
GTA				S	**SKKSac**	**11 39 32.6**		**+5.3**
GTA				sS	ScS	11 40 01.1		+20
GTA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
GTA				pmax	pmax			
	comp=Z,230nm,5.8s							
GTA				LR	LR			
	comp=N,250nm,17.8s							
GTA				LR	LR			
	comp=E,290nm,18.3s							
GTA				LR	LR			
	comp=Z,260nm,18.8s							
NLWA	**Neilton Lookou**	**90.86**	**38**	*e*P	**P**	**11 28 40.9**		**-2.3**
NLWA				LR	LR			
	comp=Z,1μm,19.0s							
SHPR	**Sheep Range**	**90.99**	**51**	*e*P	**P**	**11 28 43.9**		**-0.3**
	comp=Z,11nm,1.2s							
SONM	**Songino Array**	**91.00**	**322**	P	**P**	**11 28 42.8**		**-1.1**
SONM	**Songino Array**	**91.00**	**322**	P	**P**	**11 28 42.8**		**-1.1**
	comp=Z,3.2nm,0.8s,baz=134,slow=4.2,SNR=20							
BBB	**Bella Bella**	**91.33**	**32**	LR	LR	12 05 30.6		
	comp=Z,1μm,18.4s,baz=252,slow=33							
BMN	**Battle Mountai**	**91.41**	**46**	*e*P	**P**	**11 28 45.2**		**-0.9**
BMN				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BMN				MLR	MLR			
	comp=Z,1μm,20.0s							
BMN	**Battle Mountai**	**91.41**	**46**	*e*P	**P**	**11 28 45.2**		**-0.9**
	comp=Z,7.9nm,1.0s							
BMN				LR	LR			
	comp=Z,1μm,20.0s							
WVOR	**Wild Horse Val**	**91.46**	**44**	*e*P	**P**	**11 28 45.7**		**-0.5**
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
WVOR				MLR	MLR			
	comp=Z,471nm,19.0s							
WVOR	**Wild Horse Val**	**91.46**	**44**	*e*P	**P**	**11 28 45.7**		**-0.5**
	comp=Z,7.3nm,1.0s							
WVOR				LR	LR			
	comp=Z,471nm,19.0s							
R11A	**Troy Canyon, C**	**91.55**	**49**	*e*P	**P**	**11 28 45.8**		**-1.0**
WRAK	**Wrangell Islan**	**91.98**	**28**	PFAKE		11 29 00.0		+12
WRAK				LR	LR			
	comp=Z,2μm,19.0s							
TUC	**Tucson**	**92.38**	**56**	*e*P	**P**	**11 28 48.7**		**-1.9**
TUC				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TUC				MLR	MLR			
	comp=Z,852nm,20.0s							
TUC	**Tucson**	**92.38**	**56**	*e*P	**P**	**11 28 48.7**		**-1.9**
	comp=Z,3.2nm,1.0s							
TUC				LR	LR			
	comp=Z,852nm,20.0s							
COLA	**College**	**92.76**	**16**	*e*P	**P**	**11 28 50.5**		**-0.9**
COLA				pmax	pmax			
	comp=Z,24nm,1.2s							
COLA				MLR	MLR			
	comp=Z,939nm,19.0s							
COLA	**College**	**92.76**	**16**	*e*P	**P**	**11 28 50.5**		**-0.9**
	comp=Z,24nm,1.2s							
COLA				LR	LR			
	comp=Z,939nm,19.0s							
ARUT	**Antelope Range**	**92.80**	**50**	*e*P	**P**	**11 28 52.2**		**-0.3**
ARUT				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ARUT	**Antelope Range**	**92.80**	**50**	*e*P	**P**	**11 28 52.2**		**-0.3**
	comp=Z,5.6nm,1.1s							
LSA	**Lhasa**	**92.82**	**301**	PFAKE		11 29 00.0		+6.8
LSA				LR	LR			
	comp=Z,272nm,19.0s							
ILAR	**Eielson Array**	**92.93**	**17**	P	**P**	**11 28 49.4**		**-2.9**
ILAR	**Eielson Array**	**92.93**	**17**	P	**P**	**11 28 49.4**		**-2.9**
	comp=Z,0.6nm,0.6s,baz=227,slow=4.9,SNR=11							
ILAR				LR	LR	12 10 23.1		
	comp=Z,1μm,18.2s,baz=38,slow=35							
WUAZ	**Wupatki**	**93.30**	**53**	*e*P	**P**	**11 28 54.5**		**-0.5**
	comp=Z,6.7nm,1.1s							
WUAZ				LR	LR			
	comp=Z,887nm,21.0s							
BMO	**Blue Mountains**	**93.48**	**43**	PFAKE		11 29 10.0		+15
BMO				LR	LR			
	comp=Z,788nm,21.0s							
MVU	**Marysvale**	**93.98**	**50**	PFAKE		11 29 10.0		+12
MVU				LR	LR			
	comp=Z,1μm,21.0s							
DLBC	**Dease Lake**	**94.22**	**27**	LR	LR	12 07 54.6		
	comp=Z,1μm,18.2s,baz=290,slow=33							
DUG	**Dugway**	**94.30**	**48**	PFAKE		11 29 10.0		+11
DUG				LR	LR			
	comp=Z,1μm,20.0s							
EGAK	**Eagle**	**94.54**	**19**	PFAKE		11 29 10.0		+10
EGAK				LR	LR			
	comp=Z,703nm,20.0s							
TLY	**Talaya**	**94.56**	**325**	*e*P	P	11 29 10.2		+10
TLY				*e*		11 32 58.9		
TLY				*e*SS	SS	11 46 28.4		-6.2
TLY				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,324nm,20.0s							
HLID	**Hailey**	**94.72**	**45**	*e*P	**P**	**11 29 01.5**		**+0.2**
	comp=Z,1.6nm,0.8s							
HLID				LR	LR			
	comp=Z,663nm,19.0s							
PLCA	**Paso Flores**	**94.82**	**138**	LR	LR	12 02 12.0		
	comp=Z,283nm,20.6s,baz=136,slow=30							
DGAR	**Diego Garcia**	**95.15**	**260**	‖ *e*P	**P**	**11 29 03.2**		**-0.5**
NEW	**Newport**	**95.22**	**40**	PFAKE		11 29 10.0		+6.8
NEW				LR	LR			
	comp=Z,1μm,19.0s							
SRU	**San Rafael**	**95.44**	**50**	*e*P	**P**	**11 29 04.8**		**+0.1**
SRU				pmax	pmax			
	comp=Z,3.0nm,0.8s							
SRU	**San Rafael**	**95.44**	**50**	*e*P	**P**	**11 29 04.8**		**+0.1**
	comp=Z,3.3nm,0.8s							
HWUT	**Hardware Ranch**	**95.76**	**47**	PFAKE		11 29 20.0		+14
HWUT				LR	LR			
	comp=Z,1μm,19.0s							
MVCO	**Mesa Verde**	**96.12**	**52**	PFAKE		11 29 20.0		+12
MVCO				LR	LR			
	comp=Z,999nm,21.0s							
MCMT	**McKenzie Canyo**	**96.29**	**44**	*e*P	**P**	**11 29 08.2**		**-0.3**
	comp=Z,0.9nm,1.0s							
MNTX	**Cornudas Mount**	**96.33**	**58**	PFAKE		11 29 20.0		+11
MNTX				LR	LR			
	comp=Z,805nm,21.0s							
ANMO	**Albuquerque**	**96.75**	**55**	LR	LR	12 05 07.7		
	comp=Z,814nm,20.1s,baz=248,slow=31							
TXAR	**Lajitas Array**	**96.81**	**61**	P	**P**	**11 29 10.7**		**-0.3**
TXAR				PKKPbc	**PKKPdf**	**11 45 58.6**		**+3.1**
TXAR	**Lajitas Array**	**96.81**	**61**	P	**P**	**11 29 10.7**		**-0.3**
	comp=Z,0.4nm,0.6s,baz=212,slow=5.4,SNR=8.7							
TXAR				PKKPbc	**PKKPdf**	**11 45 58.6**		**+3.1**
	comp=Z,0.3nm,0.8s,baz=106,slow=6.7,SNR=3.6							
TXAR				LR	LR	12 05 04.9		
	comp=Z,986nm,19.3s,baz=0.0,slow=31							
BOZ	**Bozeman (W)**	**97.42**	**44**	PFAKE		11 29 20.0		+6.5
BOZ				LR	LR			
	comp=Z,810nm,19.0s							
BW06	**Boulder Array**	**97.60**	**47**	PFAKE		11 29 20.0		+5.5
BW06				LR	LR			
	comp=Z,1μm,19.0s							
PDAR	**Pinedale Array**	**97.60**	**47**	P	Pdif	11 29 15.0		+0.4
PDAR	**Pinedale Array**	**97.60**	**47**	P	Pdif	11 29 15.0		+0.5
	comp=Z,0.4nm,0.7s,baz=222,slow=3.6,SNR=4.2							
PDAR				LR	LR	12 09 31.6		
	comp=Z,881nm,18.2s,baz=253,slow=33							
PAYG	**Puerto Ayora**	**97.63**	**94**	PFAKE		11 29 30.0		+15
PAYG				LR	LR			
	comp=Z,655nm,20.0s							
LKWY	**Lake**	**97.77**	**45**	PFAKE		11 29 30.0		+15
LKWY				LR	LR			
	comp=Z,2μm,20.0s							
SDCO	**Great Sand Dun**	**98.52**	**53**	PFAKE		11 29 30.0		+11
SDCO				LR	LR			
	comp=Z,714nm,20.0s							
RLMT	**Red Lodge**	**98.73**	**45**	PFAKE		11 29 30.0		+11
RLMT				LR	LR			
	comp=Z,803nm,20.0s							
ISCO	**Idaho Springs**	**99.20**	**51**	PFAKE		11 29 30.0		+8.2
ISCO				LR	LR			
	comp=Z,596nm,19.0s							
EGMT	**Eagleton**	**99.56**	**42**	PFAKE		11 29 30.0		+7.1
EGMT				LR	LR			
	comp=Z,776nm,21.0s							
CMIG	**Matias Romero**	**99.94**	**76**	LR	LR	12 03 47.1		
	comp=Z,375nm,19.1s,baz=240,slow=29							
JCT	**Junction City**	**100.35**	**61**	PFAKE		11 29 40.0		+13
JCT				LR	LR			
	comp=Z,904nm,19.0s							
AMTX	**Amarillo**	**100.38**	**57**	PFAKE		11 29 40.0		+13
AMTX				LR	LR			
	comp=Z,929nm,21.0s							
WMQ	**Urumqi**	**100.83**	**313**	*e*P	**Pdif**	**11 29 29.5**		**+0.8**
WMQ				PP	**PP**	**11 33 38.5**		**+1.5**
WMQ				SKS		11 40 00.1		
WMQ				S	SKKSac	11 40 59.0		+18
WMQ				sS	sS	11 41 26.0		+5.5
WMQ				LR	LR			
	comp=N,240nm,21.0s							
WMQ				LR	LR			
	comp=E,140nm,22.0s							
WMQ				LR	LR			
	comp=Z,280nm,22.0s							
KVTX	**Kingsville**	**100.92**	**65**	PFAKE		11 29 40.0		+11
KVTX				LR	LR			
	comp=Z,548nm,19.0s							
OGNE	**Ogallala**	**102.16**	**51**	PFAKE		11 29 50.0		+15
OGNE				LR	LR			
	comp=Z,548nm,19.0s							
WMOK	**Wichita Mounta**	**102.58**	**58**	PFAKE		11 29 50.0		+13
WMOK				LR	LR			
	comp=Z,976nm,20.0s							
DGMT	**Dagmar**	**103.19**	**43**	PFAKE		11 29 50.0		+11
DGMT				LR	LR			
	comp=Z,946nm,22.0s							
NATX	**Nacogdoches**	**104.93**	**62**	PFAKE		11 30 00.0		+13
NATX				LR	LR			
	comp=Z,859nm,19.0s							
NNA	**Nana**	**105.05**	**110**	PFAKE		11 34 10.0		
NNA				LR	LR			
	comp=Z,323nm,20.0s							
MK31	**Makanchi Array**	**105.40**	**315**	*e*PKPdf	**PKiKP**	**11 34 02.0**		**-0.5**
MKAR	**Makanchi Array**	**105.40**	**315**	P	**Pdif**	**11 29 48.3**		**-0.5**
MKAR	**Makanchi Array**	**105.40**	**315**	Pdif	**Pdif**	**11 29 48.3**		**-0.5**
MKAR				PKiKP	**PKiKP**	**11 34 02.9**		**+0.4**
MKAR	**Makanchi Array**	**105.40**	**315**	Pdiff	**Pdif**	**11 29 48.3**		**-0.5**
	comp=Z,0.3nm,0.5s,baz=87,slow=6.1,SNR=3.9							
MKAR				PKiKP	**PKiKP**	**11 34 02.9**		**+0.4**
	comp=Z,0.2nm,0.5s,baz=29,slow=0.6,SNR=4.2							
KSU1	**Kansas State U**	**105.56**	**54**	PFAKE		11 34 10.0		
KSU1				LR	LR			
	comp=Z,866nm,20.0s							
FFC	**Flin Flon**	**106.39**	**37**	PFAKE		11 34 20.0		
FFC				LR	LR			
	comp=Z,607nm,20.0s							
MIAR	**Mount Ida**	**106.61**	**59**	PFAKE		11 34 20.0		
MIAR				LR	LR			
	comp=Z,845nm,20.0s							
ECSD	**EROS Data Cent**	**106.83**	**49**	PFAKE		11 34 20.0		
ECSD				LR	LR			
	comp=Z,1μm,20.0s							
TEIG	**Tepich**	**106.89**	**75**	PFAKE		11 34 20.0		
TEIG				LR	LR			
	comp=Z,397nm,20.0s							
VBMS	**Vicksburg**	**108.44**	**62**	PFAKE		11 34 20.0		
VBMS				LR	LR			
	comp=Z,766nm,21.0s							
AGMN	**Agassiz Nation**	**108.47**	**45**	PFAKE		11 34 20.0		
AGMN				LR	LR			
	comp=Z,1μm,22.0s							
KURBB	**Kurchatov Arra**	**108.78**	**318**	PKKP	**PKKPdf**	**11 45 33.2**		**-0.7**
	comp=Z,0.2nm,0.2s,baz=276,slow=4.1,SNR=4.4							
TKM2	**Tokmak 2**	**108.99**	**309**	PFAKE		11 34 20.0		
TKM2				LR	LR			
	comp=Z,271nm,21.0s							
AAK	**Ala-Archa**	**109.72**	**309**	PFAKE		11 34 20.0		
AAK				LR	LR			
	comp=Z,352nm,20.0s							
OXF	**Oxford**	**109.92**	**60**	PFAKE		11 34 20.0		
OXF				LR	LR			
	comp=Z,833nm,20.0s							
EKS2	**Erkin-Say**	**110.24**	**309**	PFAKE		11 34 20.0		
EKS2				LR	LR			
	comp=Z,343nm,21.0s							
BRAL	**Brewton**	**110.98**	**64**	PFAKE		11 34 20.0		
BRAL				LR	LR			
	comp=Z,476nm,20.0s							
JFWS	**Jewell Farm**	**111.16**	**51**	PFAKE		11 34 20.0		
JFWS				LR	LR			
	comp=Z,1μm,20.0s							
EYMN	**Ely**	**111.26**	**46**	PFAKE		11 34 20.0		
EYMN				LR	LR			
	comp=Z,896nm,20.0s							
ABPO	**Ambohimpanom**	**111.35**	**237**	PFAKE		11 34 30.0		
ABPO				LR	LR			
	comp=Z,1μm,22.0s							
LRAL	**Lakeview Retre**	**111.52**	**62**	PFAKE		11 34 30.0		
LRAL				LR	LR			
	comp=Z,411nm,20.0s							
MSEY	**Mahe Island**	**111.61**	**255**	PFAKE		11 34 30.0		
MSEY				LR	LR			
	comp=Z,1μm,20.0s							
BRVK	**Borovoye**	**114.22**	**319**	PFAKE		11 34 30.0		+11
BRVK				LR	LR			
	comp=Z,562nm,20.0s							
AAM	**Ann Arbor**	**115.85**	**53**	PFAKE		11 34 30.0		+7.7
AAM				LR	LR			
	comp=Z,640nm,22.0s							
MTDJ	**Mount Denham**	**115.97**	**80**	PFAKE		11 34 30.0		+6.6
MTDJ				LR	LR			
	comp=Z,211nm,19.0s							
BLA	**Blacksburg**	**117.61**	**59**	PFAKE		11 34 40.0		+14
BLA				LR	LR			
	comp=Z,924nm,21.0s							
SAML	**Samuel**	**118.22**	**114**	PFAKE		11 34 40.0		+12
SAML				LR	LR			
	comp=Z,491nm,20.0s							
CNNC	**Cliffs of the**	**119.35**	**61**	PFAKE		11 34 40.0		+11
CNNC				LR	LR			
	comp=Z,567nm,19.0s							
CBN	**Corbin**	**120.13**	**58**	PFAKE		11 34 40.0		+9.3
CBN				LR	LR			
	comp=Z,1μm,21.0s							
ABKAR	**Akbulak array**	**120.54**	**315**	*e*PKPdf	**PKPdf**	**11 34 30.9**		**-0.3**
ARU	**Arti**	**121.02**	**323**	*i* PKIKP	**PKPdf**	**11 34 33.4**		**+1.6**
ARU						11 36 08.8		
ARU						11 41 32.1		
ARU				SS	SS	11 52 35.8		+3.7
BINY	**Binghamton**	**121.51**	**53**	PFAKE		11 34 40.0		+6.7
BINY				LR	LR			
	comp=Z,772nm,20.0s							
LONY	**Lake Ozonia**	**122.60**	**51**	PFAKE		11 34 50.0		+15
LONY				LR	LR			
	comp=Z,941nm,22.0s							
GRTK	**Grand Turk**	**122.64**	**78**	PFAKE		11 34 50.0		+14
GRTK				LR	LR			
	comp=Z,966nm,20.0s							
KBS	**Kingsbay**	**122.84**	**355**	PFAKE		11 34 50.0		+15
KBS				LR	LR			
	comp=Z,259nm,20.0s							
NCB	**Newcomb**	**122.85**	**51**	PFAKE		11 34 50.0		+14
NCB				LR	LR			
	comp=Z,1μm,20.0s							
LBNH	**Lisbon**	**124.51**	**51**	PFAKE		11 34 50.0		+11
LBNH				LR	LR			
	comp=Z,1μm,19.0s							
PKME	**Peaks-Kenny Pk**	**126.34**	**50**	PFAKE		11 34 50.0		+7.6
PKME				LR	LR			
	comp=Z,798nm,19.0s							
LSZ	**Lusaka**	**127.72**	**227**	PFAKE		11 35 00.0		+14
LSZ				LR	LR			
	comp=Z,1μm,21.0s							
APA	**Apatity**	**128.01**	**341**	‖ *i* PKIKP	PKPdf	11 34 57.0		+12
APA				MLR	MLR			
	comp=Z,700nm,23.0s							
SFJD	**Kangerlussuaq**	**128.50**	**20**	PFAKE		11 35 00.0		+14
SFJD				LR	LR			
	comp=Z,1μm,21.0s							
GRGR	**Grenville**	**128.75**	**92**	PFAKE		11 35 00.0		+12
GRGR				LR	LR			
	comp=Z,248nm,20.0s							
ARCES	**ARCESS Array B**	**128.79**	**345**	PKP	**PKPdf**	**11 34 44.9**		**-1.5**
ARCES	**ARCESS Array B**	**128.79**	**345**	PKP	**PKPdf**	**11 34 44.9**		**-1.5**
	comp=Z,2.1nm,0.6s,baz=91,slow=1.0,SNR=14							
KMBO	**Kilima Mbogo**	**129.29**	**249**	PFAKE		11 35 00.0		+11
KMBO				LR	LR			
	comp=Z,762nm,19.0s							
FDF	**Fort de France**	**130.03**	**89**	PFAKE		11 35 00.0		+10
FDF				LR	LR			
	comp=Z,268nm,20.0s							
TSUM	**Tsumeb**	**131.06**	**214**	PFAKE		11 35 00.0		+7.6
TSUM				LR	LR			
	comp=Z,795nm,21.0s							
GNI	**Garni**	**131.78**	**304**	PFAKE		11 35 00.0		+6.9
GNI				LR	LR			
	comp=Z,268nm,21.0s							
VRHR	**Novokhopersk**	**131.90**	**319**	*e*PKIKP	**PKPdf**	**11 34 52.2**		**-0.6**
VRHR				pmax	pmax			
	comp=N,8.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,10.0nm,1.1s							
KBZ	**Khabaz**	**132.72**	**309**	PKIKP	**PKPdf**	**11 34 54.9**		**+0.4**
KBZ	**Khabaz**	**132.72**	**309**	PKP	**PKPdf**	**11 34 54.9**		**+0.4**
KBZ	**Khabaz**	**132.72**	**309**	PKP	**PKPdf**	**11 34 54.9**		**+0.4**
	comp=E,1.0nm,0.6s,baz=85,slow=11,SNR=2.4							
KIV	**Kislovodsk**	**132.83**	**310**	PKIKP	PKPdf	11 35 12.0		+17
KIV				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OBN	**Obninsk**	**133.30**	**326**	PKIKP	PKPdf	11 35 07.0		+12
OBN				pmax	pmax			
	comp=Z,8.0nm,0.4s							
VSR	**Storozhevoye**	**133.34**	**320**	*e*PKIKP	**PKPdf**	**11 34 54.7**		**-0.8**
VSR				pmax	pmax			
	comp=N,5.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,6.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
VORD	**Divnogorie**	**133.34**	**320**	*e*PKIKP	**PKPdf**	**11 34 53.7**		**-1.8**
VORD				pmax	pmax			
	comp=E,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=Z,3.0nm,0.9s							
VORD				pmax	pmax			
	comp=N,10.0nm,0.8s							
FINES	**FINESS Array B**	**134.39**	**337**	PKP	**PKPdf**	**11 34 56.8**		**-0.3**
FINES	**FINESS Array B**	**134.39**	**337**	PKhKP	PKPpre	11 34 44.3		
	comp=N,1.0nm,0.8s,baz=211,slow=0.8,SNR=2.2							
FINES				PKP	**PKPdf**	**11 34 56.8**		**-0.3**
	comp=N,2.0nm,0.6s,baz=48,slow=2.8,SNR=5.7							
MBAR	**Mbarara**	**135.09**	**244**	PFAKE		11 35 10.0		+10
MBAR				LR	LR			
	comp=Z,681nm,22.0s							
NOA	**NORSAR Array B**	**139.17**	**345**	PKPpre	PKPpre	11 34 57.9		
NOA	**NORSAR Array B**	**139.17**	**345**	PKhKP	PKPpre	11 34 57.9		
	comp=Z,0.7nm,0.6s,baz=76,slow=1.9,SNR=2.9							
AKASG	**Malin Array Be**	**139.28**	**323**	PKIKP	PKPdf	11 35 01.0		-5.5
AKASG						11 35 06.0		
AKASG	**Malin Array Be**	**139.28**	**323**	PKPpre	PKPpre	11 35 01.0		
AKASG				PKP	**PKPdf**	**11 35 06.0**		**-0.6**
AKASG	**Malin Array Be**	**139.28**	**323**	PKhKP	PKPpre	11 35 01.0		
	comp=Z,0.3nm,0.3s,baz=194,slow=1.9,SNR=2.4							
AKASG				PKP	**PKPdf**	**11 35 06.0**		**-0.6**
	comp=Z,1.4nm,0.5s,baz=66,slow=2.3,SNR=5.9							
KIEV	**Kiev**	**139.29**	**323**	PFAKE		11 35 20.0		+13
KIEV				LR	LR			
	comp=Z,548nm,19.0s							
HFS	**Hagfors**	**139.32**	**343**	PKhKP	PKPpre	11 34 56.3		
	comp=Z,4.8nm,1.0s,baz=78,slow=7.7,SNR=3.9							
BRTR	**Keskin Array B**	**140.27**	**305**	PKP	**PKPdf**	**11 35 09.9**		**+1.0**
BRTR	**Keskin Array B**	**140.27**	**305**	PKP	**PKPdf**	**11 35 09.9**		**+1.0**
	comp=Z,0.9nm,0.6s,baz=61,slow=4.8,SNR=4.6							
KONO	**Kongsberg**	**140.78**	**345**	PFAKE		11 35 20.0		+11
KONO				LR	LR			
	comp=Z,458nm,19.0s							
ANTO	**Ankara**	**140.88**	**306**	PFAKE		11 35 20.0		+10
ANTO				LR	LR			
	comp=Z,236nm,20.0s							
KIS	**Kishinev**	**141.22**	**318**	*e*PKP	PKPdf	11 35 20.0		+10
KIS				LRM	MLR	12 41 00.0		
	comp=Z,300nm,22.0s							
KIS	**Kishinev**	**141.22**	**318**	*e*PKIKP	PKPdf	11 35 20.0		+10
KIS				*e*		11 35 30.0		
KIS				*e*		11 38 16.0		
RCBR	**Riachuelo**	**141.26**	**134**	PFAKE		11 35 20.0		+8.7
RCBR				LR	LR			
	comp=Z,448nm,20.0s							
CSS	**Prodhromos**	**141.33**	**298**	PFAKE		11 35 20.0		+9.2
CSS				LR	LR			
	comp=Z,492nm,19.0s							
LVV	**L'vov**	**142.57**	**325**	*e*PKIKP	PKPdf	11 35 21.7		+9.2
ISP	**Isparta**	**143.07**	**303**	PFAKE		11 35 30.0		+16
ISP				LR	LR			
	comp=Z,380nm,19.0s							
KWP	**Kalwaria Pacla**	**143.38**	**325**	PFAKE		11 35 30.0		+16
KWP				LR	LR			
	comp=Z,376nm,20.0s							
MLR	**Muntele Rosu**	**143.68**	**317**	PKP	PKPbc	11 35 12.8		+0.4
MLR	**Muntele Rosu**	**143.68**	**317**	PKP	PKPbc	11 35 12.8		+0.4
	comp=Z,1.5nm,0.6s,baz=242,slow=3.3,SNR=9.2							
KOLS	**Kolonicke sedl**	**144.02**	**325**	*e*PKIKP	PKPbc	11 35 13.2		+0.1
KOLS	**Kolonicke sedl**	**144.02**	**325**	*e*PKP	PKPbc	11 35 13.1		0.0
UZH	**Uzhgorod**	**144.19**	**324**	*e*PKIKP	**PKPab**	**11 35 13.0**		**-0.1**
UZH				*e*		11 35 18.5		
STHS	**Stebnicka Huta**	**144.28**	**326**	*e*PKIKP	PKPbc	11 35 14.2		+0.3
STHS	**Stebnicka Huta**	**144.28**	**326**	*e*PKP	PKPbc	11 35 14.1		+0.2
STHS				*e*		11 35 40.4		
CRVS	**Cervenica-Dubn**	**144.47**	**325**	*e*PKIKP	**PKPdf**	**11 35 15.7**		**-0.2**
CRVS	**Cervenica-Dubn**	**144.47**	**325**	*e*PKP	**PKPdf**	**11 35 15.7**		**-0.2**
KECS	**Kecovo**	**145.24**	**325**	*e*PKP2	**PKPbc**	**11 35 16.1**		**-0.9**
KECS				*e*		11 38 40.6		
KECS	**Kecovo**	**145.24**	**325**	*e*PKP	**PKPbc**	**11 35 16.0**		**-0.9**
KECS				*e*PP	**PP**	**11 38 40.6**		**+4.3**
RUE	**Ruedersdorf**	**145.52**	**335**	*e*PKPbc	**PKPdf**	**11 35 16.8**		**-0.7**
BSEG	**Bad Segeberg**	**145.55**	**340**	*e*PKPbc	**PKPdf**	**11 35 16.7**		**-0.8**
BSEG	**Bad Segeberg**	**145.55**	**340**	*e*PKIKP	**PKPdf**	**11 35 16.7**		**-0.8**
OKC	**Ostrava-Krasne**	**145.56**	**

PVCC			*e*		11 38 45.4	
PVCC			MLR	MLR		
comp=Z,600nm,18.2s						
PVCC	**Panska Ves**	**146.69 333**	*i* PKP	**PKPbc**	**11 35 20.7**	**-0.6**
PVCC			*ex*	x	11 35 32.8	
PVCC			*e*PP	**PP**	**11 38 45.4**	**+0.8**
PVCC			AMS	AMS	12 38 30.0	
comp=Z,600nm,18.2s						
BRG	**Berggiesshubel**	**146.69 333**	⇑*i*PKP	**PKPdf**	**11 35 20.2**	**+0.6**
comp=Z,35nm,0.9s						
BRG			*e*		11 35 28.3	
comp=Z,47nm,1.2s						
BRG			SKP		11 38 45.2	
comp=Z,14nm,0.8s						
BRG			*e*		11 48 59.0	
BRG			SKKS		11 51 26.0	
BRG			SS	SS	11 57 58.0	+17
BRG	**Berggiesshubel**	**146.69 333**	*e*PKPbc	**PKPdf**	**11 35 20.2**	**+0.6**
BRG	**Berggiesshubel**	**146.69 333**	⇑*i*PKP2	**PKPdf**	**11 35 20.2**	**+0.6**
BRG					11 38 45.2	
BRG					11 51 26.0	
BRG			pmax	pmax		
comp=Z,35nm,1.0s						
BRG			pmax	pmax		
comp=N,14nm,0.8s						
CLL	**Collm**	**146.74 335**	*e*PKPbc	**PKPdf**	**11 35 20.1**	**+0.4**
CLL	**Collm**	**146.74 335**	⇑*i*PKP2	**PKPdf**	**11 35 20.2**	**+0.5**
CLL			pmax	pmax		
comp=Z,34nm,1.0s						
CLL			MLR	MLR		
comp=Z,400nm,20.0s						
CLL	**Collm**	**146.74 335**	⇑*i*PKPbc	**PKPdf**	**11 35 20.2**	**+0.5**
comp=Z,34nm,1.0s						
CLL			*e*PKPlp		11 35 24.0	
comp=Z,400nm,18.1s						
CLL			*i* (pPKiKP)		11 35 27.9	
CLL			*i*		11 35 33.2	
CLL			*e*PP	**PP**	**11 38 45.0**	**+0.2**
comp=Z,16nm,1.0s						
CLL			*e*PKSdf	**PKSdf**	**11 38 56.0**	**+1.2**
CLL			*e*PSKS		11 48 59.0	
CLL			*e*PPS	PPS	11 51 26.0	
CLL			*e*		11 53 59.0	
CLL			*e*SS	SS	11 57 39.0	-2.6
CLL			*e*PSPS		11 58 45.0	
CLL			*e*SSS	SSS	12 03 00.0	
CLL			*e*SSSS		12 07 30.0	
CLL			Lm	MLR	12 43 00.0	
comp=N,400nm,19.7s						
CLL			Lm	MLR	12 43 00.0	
comp=E,200nm,20.1s						
CLL			Lm	MLR	12 43 00.0	
comp=Z,400nm,20.0s						
SMOL	**Smolenice**	**146.79 328**	*e*PKP2	**PKPbc**	**11 35 21.9**	**+0.2**
SMOL	**Smolenice**	**146.79 328**	*e*PKP	**PKPbc**	**11 35 21.9**	**+0.2**
NRDL	**Niedersach Rie**	**146.83 339**	*e*PKPbc	**PKPdf**	**11 35 20.5**	**+0.8**
FBE	**Freiberg**	**146.90 334**	*e*PKPbc	**PKPbc**	**11 35 21.0**	**-0.9**
PKSG		**147.03 325**	⇓*e*PKPdf	**PKPbc**	**11 35 21.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**147.07 354**	PKPbc	**PKPdf**	**11 35 20.1**	**-0.1**
EKA	**Eskdalemuir Ar**	**147.07 354**	PKPbc	**PKPdf**	**11 35 20.1**	**-0.1**
comp=Z,6.2nm,0.6s,baz=0.5,slow=2.6,SNR=25						
ESK	**Eskdalemuir**	**147.09 354**	PFAKE		11 35 30.0	+6.2
ESK			LR	LR		
comp=Z,287nm,19.0s						
PRA	**Prague**	**147.09 332**	PKP	**PKPbc**	**11 35 22.0**	**-0.4**
PRA			AMS	AMS	12 37 00.0	
PRU	**Pruhonice**	**147.10 332**	*i* PKP2	**PKPbc**	**11 35 21.4**	**-1.1**
PRU			*e*		11 38 45.7	
PRU			MLR	MLR		
comp=Z,500nm,19.4s						
PRU	**Pruhonice**	**147.10 332**	*i* PKP	**PKPbc**	**11 35 21.4**	**-1.1**
PRU			*ex*	x	11 35 32.6	
PRU			*e*PP	**PP**	**11 38 45.7**	**-1.4**
PRU			AMS	AMS	12 36 20.0	
comp=Z,500nm,19.4s						
ZST	**Bratislava**	**147.16 327**	*e*PKIKP	**PKPdf**	**11 35 21.3**	**+0.8**
ZST	**Bratislava**	**147.16 327**	*e*PKP	**PKPdf**	**11 35 21.3**	**+0.8**
TREC	**Trest**	**147.18 330**	*i* PKP2	**PKPbc**	**11 35 21.7**	**-1.1**
TREC			*e*		11 38 46.8	
TREC			MLR	MLR		
comp=Z,500nm,22.6s						
TREC	**Trest**	**147.18 330**	*i* PKP	**PKPbc**	**11 35 21.7**	**-1.1**
TREC			*e*PP	**PP**	**11 38 46.8**	**-0.9**
TREC			AMS	AMS	12 39 10.0	
comp=Z,500nm,22.6s						
NEUB	**Neuenburg**	**147.29 336**	*e*PKPbc	**PKPbc**	**11 35 21.9**	**-1.0**
SANT	**Santorini**	**147.35 303**	PFAKE		11 35 30.0	+4.4
SANT			LR	LR		
comp=Z,362nm,20.0s						
PKSM	**Moragy**	**147.62 323**	⇓*e*PKPdf	**PKPdf**	**11 35 21.3**	**0.0**
TANN	**Tannenbergstha**	**147.65 334**	*e*PKPbc	**PKPbc**	**11 35 23.2**	**-0.9**
WERD	**Werda**	**147.68 334**	*e*PKPbc	**PKPbc**	**11 35 23.2**	**-0.9**
GUNZ	**Gunzen**	**147.74 334**	*e*PKPbc	**PKPbc**	**11 35 23.4**	**-0.9**
IBBN	**Ibbenburen**	**147.74 341**	*e*PKPbc	**PKPbc**	**11 35 23.1**	**-1.0**
WERN	**Wernitzgruen**	**147.78 334**	*e*PKPbc	**PKPbc**	**11 35 23.7**	**-0.7**
MOX	**Moxa**	**147.80 335**	*e*PKPbc	**PKPbc**	**11 35 23.3**	**-1.1**
MOX			*e*L	L	12 40 39.4	
comp=N,328nm,21.7s						
MOX	**Moxa**	**147.80 335**	*e*PKP2	**PKPbc**	**11 35 23.3**	**-1.1**
MOX			MLR	MLR		
comp=N,300nm,21.7s						
CONA	**Conrad Observa**	**147.96 328**	⇑*i*pPKPdf	**PKPbc**	**11 35 24.3**	**-0.7**
comp=N,24nm,1.0s,SNR=12						
CONA			⇑*i*PP	**PP**	**11 38 48.8**	**-3.6**
comp=N,7.4nm,0.8s						
IDI	**Anoyia**	**148.07 301**	*e*PKPbc	**PKPbc**	**11 35 24.8**	**-0.9**
KHC	**Kasperske Hory**	**148.16 332**	*i* PKP2	**PKPbc**	**11 35 24.3**	**-1.2**
KHC			MLR	MLR		
comp=Z,600nm,25.1s						
KHC	**Kasperske Hory**	**148.16 332**	*i* PKP	**PKPbc**	**11 35 24.3**	**-1.2**
KHC			*e*pPKP	**PKPab**	**11 35 32.0**	**+3.6**
KHC			*ex*	x	11 35 36.7	
KHC			*e*PP	**PP**	**11 38 49.1**	**-4.3**
KHC			AMS	AMS	12 47 10.0	
comp=Z,600nm,25.1s						
KHC	**Kasperske Hory**	**148.16 332**	*e*PKPdf	**PKPdf**	**11 35 22.0**	**-0.2**
KHC			*e*PKPbc	**PKPbc**	**11 35 24.9**	**-0.6**
KHC			*e*PKPab	**PKPab**	**11 35 28.3**	**-0.1**
ROTZ	**Rotzenmuhle**	**148.25 334**	*e*PKPbc	**PKPbc**	**11 35 24.8**	**-0.8**
GEC2	**GERESS Array S**	**148.32 331**	*e*PKPbc	**PKPbc**	**11 35 24.9**	**-1.1**
GEC2	**GERESS Array S**	**148.32 331**	*e*PKP2	**PKPbc**	**11 35 24.9**	**-1.1**
GERES	**GERESS Array B**	**148.32 331**	PKPbc	**PKPdf**	**11 35 24.0**	**+1.4**
GERES	**GERESS Array B**	**148.32 331**	PKPbc	**PKPdf**	**11 35 24.0**	**+1.4**
comp=Z,9.8nm,0.7s,baz=38,slow=2.4,SNR=58						
WET	**Wettzell**	**148.45 332**	*e*PKPbc	**PKPbc**	**11 35 25.3**	**-0.9**
WET	**Wettzell**	**148.45 332**	*e*PKP2	**PKPbc**	**11 35 25.3**	**-0.9**
BUG	**Bochum--Univer**	**148.65 341**	*e*PKPbc	**PKPbc**	**11 35 25.1**	**-1.4**
KOGS	**Kog**	**148.76 326**	*i* PKPbc	**PKPbc**	**11 35 25.7**	**-1.3**
MOA	**Molln**	**148.78 329**	⇑*i*PKPbc	**PKPbc**	**11 35 25.8**	**-1.3**
comp=Z,15nm,0.9s,SNR=6.8						
PERS	**Pernice**	**149.21 327**	*i* PKPbc	**PKPbc**	**11 35 26.6**	**-1.7**
SOKA	**Soboth**	**149.23 327**	⇑*i*PKPbc	**PKPbc**	**11 35 26.8**	**-1.6**
comp=Z,32nm,1.4s,SNR=12						
SOKA	**Soboth**	**149.23 327**	P	PP	11 38 51.5	-8.3
comp=Z,10nm,1.1s						
TNS	**Taunus Mts**	**149.31 338**	*e*PKPbc	**PKPbc**	**11 35 27.3**	**-1.1**
TIR	**Tirane**	**149.54 315**	PFAKE		11 35 40.0	+5.8
TIR			LR	LR		
comp=Z,647nm,20.0s						
RJOB	**Jochberg**	**149.54 331**	*e*PKPbc	**PKPbc**	**11 35 27.5**	**-1.6**
PDKS	**Podkum**	**149.66 326**	*e*PKPbc	**PKPbc**	**11 35 28.1**	**-1.3**
MEM	**Membach**	**149.76 341**	PKPbc	**PKPbc**	**11 35 27.9**	**-1.5**
KBA	**Koelnbreinsper**	**149.77 329**	*i* sPKPdf	**PKPbc**	**11 35 27.9**	**-1.9**
comp=Z,42nm,1.1s,SNR=10						
BOJS	**Bojanci**	**149.90 325**	*i* PKPdf	**PKPbc**	**11 35 29.1**	**-0.8**
BOJS			*i*		11 38 53.8	
LJU	**Ljubljana**	**149.92 327**	*i* PKPbc	**PKPbc**	**11 35 28.7**	**-1.2**
LJU			*e*		11 38 53.3	
MYKA	**Terra Mystica**	**149.95 328**	⇓*i*sPKPdf	**PKPbc**	**11 35 28.1**	**-2.0**
comp=Z,19nm,0.6s,SNR=14						
BCLA	**Clavier**	**150.13 342**	PKPbc	**PKPbc**	**11 35 29.4**	**-0.9**
STU	**Stuttgart**	**150.24 336**	*e*PKPbc	**PKPbc**	**11 35 29.4**	**-1.2**
WATA	**Walderalm**	**150.39 331**	⇑*i*sPKPdf	**PKPbc**	**11 35 29.5**	**-1.7**
comp=Z,20nm,0.5s						
ABTA	**Abfaltersbach**	**150.40 330**	⇑*i*pPKPdf	**PKPbc**	**11 35 28.6**	**-2.6**
comp=Z,21nm,0.7s,SNR=8.2						
WTTA	**Wattenberg**	**150.42 331**	⇑*i*PKPbc	**PKPbc**	**11 35 29.8**	**-1.5**
comp=Z,26nm,0.7s,SNR=10						
WLF	**Walferdange**	**150.54 340**	PKPbc	**PKPbc**	**11 35 29.9**	**-1.5**
WLF	**Walferdange**	**150.54 340**	*e*PKIKP	**PKPdf**	**11 35 25.0**	**-0.9**
WLF			*e*		11 35 31.0	
WLF			*e*		11 35 38.6	
WLF			MLR	MLR		
comp=Z,558nm,19.0s						
WLF	**Walferdange**	**150.54 340**	*e*PKPdf	**PKPdf**	**11 35 25.0**	**-0.9**
WLF			*e*PKPbc	**PKPbc**	**11 35 31.0**	**-0.3**
WLF			*e*PKPab	**PKPab**	**11 35 38.6**	**+0.6**
WLF			LR	LR		
comp=Z,558nm,19.0s						
MOTA	**Moosalm**	**150.59 332**	⇑*i*sPKPdf	**PKPbc**	**11 35 30.1**	**-1.7**
comp=Z,26nm,0.7s,SNR=17						
MOTA	**Moosalm**	**150.59 332**	P	**SKPdf**	**11 38 54.7**	**-3.1**
comp=Z,16nm,0.8s,SNR=8.3						
DOU	**Dourbes**	**150.63 342**	PKPbc	**PKPbc**	**11 35 30.2**	**-1.3**
BFO	**Black Forest**	**150.93 336**	*e*PKIKP	**PKPdf**	**11 35 25.6**	**-1.0**
BFO			*e*		11 35 30.5	
BFO			*e*		11 35 39.4	
BFO			MLR	MLR		
comp=Z,392nm,21.0s						
BFO	**Black Forest**	**150.93 336**	*e*PKPdf	**PKPdf**	**11 35 25.6**	**-1.0**
BFO			*e*PKPbc	**PKPbc**	**11 35 30.5**	**-1.8**
BFO			*e*PKPab	**PKPab**	**11 35 39.4**	**-0.3**
BFO			LR	LR		
comp=Z,392nm,21.0s						
FETA	**Feichten**	**151.00 332**	⇑*i*PKPbc	**PKPbc**	**11 35 31.4**	**-1.3**
comp=Z,40nm,1.0s,SNR=18						
FETA	**Feichten**	**151.00 332**	P	**SKPdf**	**11 38 56.2**	**-2.2**
comp=Z,17nm,0.9s,SNR=8.3						
DAVA	**Damuels**	**151.16 333**	⇑*i*PKPbc	**PKPbc**	**11 35 31.7**	**-1.4**
comp=Z,17nm,0.8s						
ECH	**Echery**	**151.45 337**	*e*PKIKP	**PKPdf**	**11 35 27.8**	**+0.4**
ECH			*e*		11 35 32.1	
ECH			*e*		11 35 41.4	
ECH			MLR	MLR		
comp=Z,404nm,19.0s						
ECH	**Echery**	**151.45 337**	*e*PKPdf	**PKPdf**	**11 35 27.8**	**+0.4**
ECH			*e*PKPbc	**PKPbc**	**11 35 32.1**	**-1.5**
ECH			*e*PKPab	**PKPab**	**11 35 41.4**	**-0.5**
ECH			LR	LR		
comp=Z,404nm,19.0s						
DAVOX	**Davos/Dischmat**	**151.56 332**	PKPbc	**PKPbc**	**11 35 32.7**	**-1.3**
DAVOX	**Davos/Dischmat**	**151.56 332**	PKPbc	**PKPbc**	**11 35 32.7**	**-1.3**
comp=Z,23nm,0.7s,baz=59,slow=1.2,SNR=16						
MOF	**Molkenrain**	**151.77 337**	PKP	**PKPbc**	**11 35 32.1**	**-2.3**
THEF	**They Montfort**	**151.85 339**	PKP	**PKPdf**	**11 35 27.8**	**-0.2**
TUE	**Stuetta**	**152.03 333**	*e*PKPdf	**PKPdf**	**11 35 29.0**	**+0.4**
TUE			*e*PKPbc	**PKPbc**	**11 35 34.1**	**-1.0**
TUE			*e*PKPab	**PKPab**	**11 35 45.0**	**+0.4**
TUE			LR	LR		
comp=Z,521nm,19.0s						
LOMF	**Lomont**	**152.31 337**	PKP	**PKPbc**	**11 35 33.8**	**-1.8**
CUC	**Castrocucco**	**152.88 315**	PFAKE		11 35 40.0	+3.0
CUC			LR	LR		
comp=Z,394nm,20.0s						
AQU	**L'Aquila**	**152.96 322**	PFAKE		11 35 40.0	+2.8
AQU			LR	LR		
comp=Z,644nm,22.0s						
VLC	**Villacollemand**	**153.32 328**	PFAKE		11 35 40.0	+2.1
VLC			LR	LR		
comp=Z,399nm,20.0s						
CEL	**Celeste**	**153.71 312**	PFAKE		11 35 40.0	+1.1
CEL			LR	LR		
comp=Z,383nm,19.0s						
BNI	**Bardonecchia**	**154.28 334**	*e*PKIKP	**PKPdf**	**11 35 31.6**	**-0.2**
BNI			*e*		11 35 39.0	
BNI			MLR	MLR		
comp=Z,903nm,21.0s						
BNI	**Bardonecchia**	**154.28 334**	*e*PKPdf	**PKPdf**	**11 35 31.6**	**-0.2**
BNI			*e*PKPbc	**PKPbc**	**11 35 39.0**	**-1.0**
BNI			LR	LR		
comp=Z,903nm,21.0s						
SSB	**Saint Sauveur**	**154.90 337**	PFAKE		11 35 40.0	-1.2
SSB			LR	LR		
comp=Z,531nm,20.0s						
WDD	**Wield Dalam**	**155.80 308**	PFAKE		11 35 40.0	+6.1
WDD			LR	LR		
comp=Z,459nm,19.0s						
VSL	**Villasalto**	**157.14 322**	PFAKE		11 35 50.0	+14
VSL			LR	LR		
comp=Z,421nm,19.0s						
MTE	**Manteigas**	**162.25 357**	PFAKE		11 35 50.0	+8.5
MTE			LR	LR		
comp=Z,667nm,19.0s						
ESLA	**Sonseca Array**	**162.51 347**	*e*PKPdf	**PKPdf**	**11 35 38.8**	**-3.0**
PAB	**San Pablo**	**162.71 348**	*e*PKIKP	**PKPdf**	**11 35 44.6**	**+2.6**
PAB			MLR	MLR		
comp=Z,1μm,20.0s						
PAB	**San Pablo**	**162.71 348**	*e*PKPdf	**PKPdf**	**11 35 44.6**	**+2.6**
PAB			LR	LR		
comp=Z,1μm,20.0s						
TOA0	**Torodi Ar. Sit**	**166.25 228**	*e*PKPdf	**PKPdf**	**11 35 44.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**166.25 228**	PKP	**PKPdf**	**11 35 44.5**	**-1.2**
TORD			PKPab	**PKPab**	**11 36 46.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**166.25 228**	PKP	**PKPdf**	**11 35 44.5**	**-1.2**
comp=Z,2.5nm,0.7s,baz=7.4,slow=0.8,SNR=10						
TORD			PKPab	**PKPab**	**11 36 46.3**	**-0.4**
comp=Z,8.3nm,1.1s,baz=126,slow=3.8,SNR=8.1						
TAM	**Tamanrasset**	**166.75 273**	PFAKE		11 36 00.0	+14
TAM			LR	LR		
comp=Z,824nm,20.0s						
RTC	**Rabat Centre**	**168.55 352**	PFAKE		11 36 00.0	+13
RTC			LR	LR		
comp=Z,594nm,20.0s						

IDC 21 11:19:01.8±0.8, 22°.77S×171°.19E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.2/17, mbtmp4.2/10, ML4.5/1, Error ellipse: s-maj=26.9km s-min=22.2km az=168.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.45**	**278**	Pn	Pn	11 20 11.6	+0.9
25nm,0.3s,baz=163,slow=21,SNR=6.2							
DZM				Sn	Sn	11 21 01.3	-2.0
30nm,0.3s,baz=0.1,slow=21,SNR=2.7							
ASAR	**Alice Springs**	**34.22**	**261**	P	P	11 25 49.6	+0.2
3.8nm,0.8s,baz=93,slow=9.4,SNR=3.5							
WRA	**Warramunga Arr**	**34.38**	**268**	P	P	11 25 50.0	-0.9
1.4nm,0.8s,baz=97,slow=8.7,SNR=6.5							
QSPA	**South Pole Qui**	**67.31**	**180**	P	P	11 29 58.9	+0.6
4.5nm,1.0s,baz=56,slow=3.5,SNR=3.3							
KSRS	**Korea Array**	**72.43**	**325**	P	P	11 30 30.5	+0.6
0.9nm,0.7s,baz=133,slow=5.2,SNR=3.1							
PETK	**Petropavlovsk-**	**76.46**	**352**	P	P	11 30 53.3	+0.3
1.5nm,1.0s,baz=134,slow=8.4,SNR=3.3							
CMAR	**Chiang Mai Arr**	**81.61**	**294**	P	P	11 31 23.2	+1.1
2.1nm,0.6s,baz=135,slow=3.8,SNR=6.8							
SONM	**Songino Array**	**91.12**	**322**	P	P	11 32 08.1	-0.3
3.2nm,1.0s,baz=139,slow=5.0,SNR=8.8							
ILAR	**Eielson Array**	**93.06**	**17**	P	P	11 32 11.0	-5.9
0.5nm,0.9s,baz=223,slow=4.9,SNR=3.8							
TXAR	**Lajitas Array**	**96.85**	**61**	P	P	11 32 33.5	-1.7
0.3nm,0.8s,baz=256,slow=3.6,SNR=3.1							
PDAR	**Pinedale Array**	**97.67**	**47**	P	Pdif	11 32 40.3	+1.4
0.4nm,0.9s,baz=219,slow=4.2,SNR=3.2							
VRAC	**Vranov**	**146.79**	**329**	PKPbc	PKPbc	11 38 45.5	-0.3
6.6nm,0.7s,baz=88,slow=2.8,SNR=4.5							
EKA	**Eskdalemuir Ar**	**147.21**	**354**	PKPbc	PKPdf	11 38 44.6	+0.1
0.5nm,0.3s,baz=337,slow=3.9,SNR=4.0							
GERES	**GERESS Array B**	**148.45**	**331**	PKPbc	PKPbc	11 38 49.6	-0.8
7.0nm,0.8s,baz=48,slow=2.0,SNR=12							
DAVOX	**Davos/Dischmat**	**151.69**	**332**	PKPbc	PKPbc	11 38 57.5	-0.9
14nm,0.8s,baz=49,slow=4.0,SNR=8.8							
TORD	**Torodi Ar. Bea**	**166.18**	**228**	PKP	PKPdf	11 39 09.4	-0.4
1.0nm,0.8s,baz=141,slow=1.1,SNR=3.4							
TORD				PKPab	PKPab	11 40 09.2	-1.1
1.1nm,0.9s,baz=112,slow=3.2,SNR=3.0							

*IDC **21** 11:22:51.9±1.1, 23°.36S×175°.83W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, ML2.5/1, Error ellipse: s-maj=34.1km s-min=24.5km az=146.0*
*NEIC **21** 11:22:53.2±0.8, 23°.44S×175°.83W, h10km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=14.0km az=122.0*

ISC 21 11:22:56.5±0.8, 23°.5S±0°.1×175°.8W±0°.2, h33km, n20, σ1§51/19, mb4.1/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.09**	**198**	*e*Pn	**Pn**	**11 24 22.0**	**-2.3**
AFI	**Afiamalu**	**10.21**	**22**	*e*Pn	**Pn**	**11 25 17.8**	**-3.1**
AFI				*e*Sn	**Sn**	**11 27 14.1**	**-0.3**
AFI	**Afiamalu**	**10.21**	**22**	Pn	Pn	11 25 17.2	-3.8
2.4nm,0.3s,baz=342,slow=13,SNR=6.9							
AFI				Sn	Sn	11 27 01.7	-13
1.8nm,0.3s,baz=5.8,slow=21,SNR=1.6							
CTA	**Charters Tower**	**35.36**	**268**	P	**P**	**11 29 49.7**	**+0.4**
CTA	**Charters Tower**	**35.36**	**268**	P	**P**	**11 29 49.7**	**+0.4**
1.2nm,0.4s,baz=99,slow=12,SNR=3.3							
CTAO	**Charters Tower**	**35.36**	**268**	P	P	11 29 54.6	+5.3
ASAR	**Alice Springs**	**45.93**	**259**	P	**P**	**11 31 15.6**	**-1.0**
ASAR	**Alice Springs**	**45.93**	**259**	P	**P**	**11 31 15.6**	**-1.0**
0.7nm,0.7s,baz=92,slow=6.6,SNR=6.7							
WRAB	**Tennant Creek**	**46.30**	**264**	*e*P	**P**	**11 31 18.1**	**-1.4**
1.7nm,0.7s							
WRA	**Warramunga Arr**	**46.31**	**264**	P	**P**	**11 31 18.2**	**-1.3**
WRA	**Warramunga Arr**	**46.31**	**264**	P	**P**	**11 31 18.2**	**-1.3**
1.0nm,0.7s,baz=96,slow=8.4,SNR=14							
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**11 33 44.5**	**+0.8**
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**11 33 44.5**	**+0.8**
1.9nm,1.0s,baz=168,slow=1.6,SNR=6.0							
PETK	**Petropavlovsk-**	**79.65**	**344**	P	**P**	**11 35 01.5**	**+1.1**
PETK	**Petropavlovsk-**	**79.65**	**344**	P	**P**	**11 35 01.5**	**+1.1**
1.2nm,0.7s,baz=146,slow=11,SNR=4.1							
TXAR	**Lajitas Array**	**86.93**	**56**	P	**P**	**11 35 39.0**	**+0.5**
TXAR	**Lajitas Array**	**86.93**	**56**	P	**P**	**11 35 39.0**	**+0.5**
0.3nm,0.7s,baz=200,slow=7.7,SNR=3.4							
EGMT	**Eagleton**	**92.44**	**38**	*e*P	**P**	**11 36 06.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**93.03**	**289**	P	**P**	**11 36 08.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**93.03**	**289**	P	**P**	**11 36 08.8**	**+1.5**
0.8nm,0.6s,baz=124,slow=3.9,SNR=4.1							

*IDC **21** 11:27:43.5±1.1, 22°.81S×171°.21E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/25, Error ellipse: s-maj=33.9km s-min=24.5km az=41.0*
*NOU **21** 11:27:48.4±0.3, 22°.58S×169°.08E, h10km±38km, MD3.7, ML3.3*

ISC 21 11:27:48.9±1.1, 22°.8S±0°.3×170°.5E±0°.1, h28km, n14, σ2§23/11, mb3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	**Noumea**	**3.77**	**277**	*e*P	**Pb**	**11 28 52.2**	**-2.6**
DZM	**Mont Dzumac**	**3.83**	**280**	*e*P	**Pb**	**11 28 53.0**	**-2.9**
DZM				AMP		11 29 52.2	
comp=Z,554nm,4.3s							
DZM	**Mont Dzumac**	**3.83**	**280**	Pn	**Pb**	**11 28 53.4**	**-2.5**
comp=Z,15nm,0.3s,baz=120,slow=11,SNR=37							
DZM				Sn	**Sb**	**11 29 44.5**	**+2.6**
comp=Z,14nm,0.3s,baz=83,slow=18,SNR=4.6							
NOUC	**Port Laguerre**	**3.95**	**279**	*e*P	Pb	11 28 53.8	-4.1
NOUC				*e*S	**Sb**	**11 29 45.5**	**+0.2**
NOUC				AMP		11 29 51.7	
comp=Z,26nm,4.8s							
URZ	**Urewera**	**16.45**	**161**	LR	LR	11 36 37.8	
comp=Z,425nm,18.7s,baz=338,slow=33							
ASAR	**Alice Springs**	**33.60**	**261**	P	P	11 34 31.5	+4.3
comp=Z,0.9nm,0.8s,baz=88,slow=9.3,SNR=6.6							
WRA	**Warramunga Arr**	**33.76**	**268**	P	**P**	**11 34 31.5**	**+3.0**
comp=Z,0.3nm,0.4s,baz=97,slow=8.7,SNR=5.6							
VNDA	**Vanda**	**54.97**	**182**	P	P	11 37 14.9	-2.2
comp=Z,0.7nm,0.6s,baz=9.5,slow=12,SNR=2.8							
QSPA	**South Pole Qui**	**67.31**	**180**	P	**P**	**11 38 40.7**	**-0.4**
comp=Z,2.6nm,1.0s,baz=356,slow=2.1,SNR=5.7							
CMAR	**Chiang Mai Arr**	**81.03**	**294**	P	P	11 40 05.2	+3.5
comp=Z,1.5nm,0.6s,baz=130,slow=3.9,SNR=8.1							
SONM	**Songino Array**	**90.74**	**323**	P	**P**	**11 40 50.3**	**+0.9**
comp=Z,0.2nm,0.4s,baz=94,slow=4.3,SNR=3.7							
EKA	**Eskdalemuir Ar**	**147.13**	**353**	PKPbc	**PKPdf**	**11 47 26.7**	**-0.1**
comp=Z,0.7nm,0.4s,baz=5.4,slow=3.3,SNR=4.1							
GERES	**GERESS Array B**	**148.14**	**330**	PKPbc	**PKPbc**	**11 47 31.2**	**-0.9**
comp=Z,1.3nm,0.4s,baz=48,slow=2.0,SNR=11							
TORD	**Torodi Ar. Bea**	**165.70**	**230**	PKP	**PKPdf**	**11 47 51.2**	**-0.7**
comp=Z,0.6nm,0.9s,baz=333,slow=3.0,SNR=2.2							

*MOS **21** 11:38:00.6±0.9, 42°.15N×133°.61E, h459km, mb3.8/18, Error ellipse: s-maj=15.3km s-min=12.0km az=87.5*
*ISCJB **21** 11:38:00.6±0.2, 42°.09N±0°.03×133°.69E±0°.04, h462km, mb3.8/28, Error ellipse: s-maj=4.7km s-min=3.5km az=28.1*
*SKHL **21** 11:38:01.1±0.1, 42°.20N×133°.68E, h456km±7km, mb4.5/3, msh4.4/1*
*NEIC **21** 11:38:01.3±0.9, 42°.05N×133°.57E, h449km±8km, mb4.1/9, Error ellipse: s-maj=25.0km s-min=9.5km az=173.0*
*JMA **21** 11:38:02.0±0.3, 42°.06N×134°.28E, h515km, M3.6*
*IDC **21** 11:38:02.1±0.6, 42°.14N×133°.53E, h461km±7km, mb3.3/19, mb1 3.4/24, mb1mx3.3/35, mbtmp3.3/24, Error ellipse: s-maj=10.5km s-min=9.0km az=122.0*

**ISC 21 11:38:01.6±0.4, 42°.05

7.0nm,0.5s
KROS Kirovskiy 13.18 342 *e*P **P 11 40 50.4 -2.3**
KROS AMB AMB 11 40 52.6
4.0nm,0.5s
SONM Songino Array 20.13 296 P **P 11 42 02.7 -0.7**
0.7nm,0.3s,baz=102,slow=9.4,SNR=7.1
FX1 Attu Island--F 28.43 54 P **P 11 43 18.9 +1.7**
1.2nm,0.4s,baz=54,slow=14,SNR=6.2
ZALV Zalesovo Beam 34.15 307 P **P 11 44 05.7 -0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV pmax pmax
comp=N,1.0nm,0.6s
ZALV Zalesovo Beam 34.15 307 P **P 11 44 05.7 -0.7**
comp=N,0.5nm,0.3s,baz=85,slow=8.8,SNR=2.1
ZALV ScP **ScP 11 49 30.2 -0.8**
comp=N,1.2nm,0.6s,baz=77,slow=6.2,SNR=3.5
MK31 Makanchi Array 36.50 295 *e*P **P 11 44 25.4 -0.9**
MK31 Makanchi Array 36.50 295 *e*P **P 11 44 25.4 -0.9**
MKAR Makanchi Array 36.50 295 *e*P **P 11 44 25.4 -0.8**
MKAR Makanchi Array 36.50 295 P **P 11 44 25.4 -0.8**
MKAR Makanchi Array 36.50 295 *e*P **P 11 44 25.4 -0.8**
MKAR Makanchi Array 36.50 295 P **P 11 44 25.3 -1.0**
comp=N,2.8nm,0.7s,baz=86,slow=9.6,SNR=18
CHTO Chiang Mai 37.50 243 *e*P **P 11 44 34.9 +0.1**
CHTO pmax pmax
comp=Z,11nm,0.5s
CHTO Chiang Mai 37.50 243 *e*P **P 11 44 34.9 +0.1**
comp=Z,11nm,0.5s
CMAR Chiang Mai Arr 37.75 242 P **P 11 44 36.9 0.0**
comp=Z,1.8nm,0.4s,baz=38,slow=6.8,SNR=12
KURK Kurchatov 38.19 303 P **P 11 44 39.2 -0.8**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 38.26 302 P **P 11 44 39.2 -1.4**
comp=Z,1.7nm,0.6s,baz=82,slow=8.5,SNR=18
KURBB ScP **ScP 11 49 43.1 -3.3**
comp=Z,0.3nm,0.4s,baz=74,slow=3.9,SNR=4.6
TAPN Taplejung 40.09 264 *e*P **P 11 44 55.0 -1.2**
ODAN Odare 40.60 263 *e*P **P 11 44 58.6 -1.6**
JIRN Jiri 41.05 265 *e*P **P 11 45 03.5 -0.4**
comp=Z,18nm,0.4s
RAMN Ramite 41.13 264 *e*P **P 11 45 03.7 -0.8**
comp=Z,42nm,0.8s
GUN Gumba 41.14 266 *e*P **P 11 45 04.3 -0.4**
comp=Z,87nm,0.4s
KKN Kakani 41.65 266 *e*P **P 11 45 08.3 -0.3**
PKI Pulchoki 41.68 266 *e*P **P 11 45 08.1 -0.8**
comp=Z,28nm,0.5s
PKIN Phulchoki 41.68 266 *e*P **P 11 45 08.5 -0.4**
comp=Z,21nm,0.6s
DMN Daman 41.88 266 *e*P **P 11 45 09.9 -0.5**
comp=Z,20nm,0.5s
TKM2 Tokmak 2 42.13 292 *e*P **P 11 45 12.1 -0.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 42.13 292 *e*P **P 11 45 12.1 -0.1**
comp=Z,5.3nm,0.8s
DANN Dangsing 42.48 268 *e*P **P 11 45 15.1 -0.1**
comp=Z,152nm,0.5s
KOLN Koldanda 42.91 267 *e*P **P 11 45 18.1 -0.4**
PYUN Piuthan 43.19 268 *e*P **P 11 45 20.5 -0.2**
comp=Z,32nm,0.5s
IMA2 Indian Mountai 45.56 33 *e*P **P 11 45 39.5 +1.0**
KDAK Kodiak Island 47.51 44 P **P 11 45 53.7 +0.5**
KDAK Kodiak Island 47.51 44 P **P 11 45 53.7 +0.5**
comp=Z,5.2nm,0.6s,baz=315,slow=5.7,SNR=4.0
COLA College 48.15 34 *e*P **P 11 45 59.1 +1.2**
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 48.15 34 *e*P **P 11 45 59.1 +1.2**
COLA College 48.15 34 *e*P **P 11 45 59.1 +1.2**
comp=Z,11nm,0.8s
ILAR Eielson Array 48.57 34 P **P 11 46 01.7 +0.5**
ILAR Eielson Array 48.57 34 P **P 11 46 01.6 +0.5**
comp=Z,2.1nm,0.4s,baz=278,slow=6.8,SNR=66
ABKAR Akbulak array 50.18 305 *e*P **P 11 46 12.0 -1.2**
comp=Z,1.0nm,0.4s
BMRM Bremner River 50.57 39 *e*P **P 11 46 13.2 -2.8**
EGAK Eagle 50.95 33 *e*P **P 11 46 19.7 +1.0**
comp=Z,2.2nm,0.4s
INK Inuvik 52.69 28 P **P 11 46 32.1 +0.9**
INK Inuvik 52.69 28 *e*P **P 11 46 32.0 +0.9**
comp=Z,2.2nm,0.4s
INK Inuvik 52.69 28 P **P 11 46 32.0 +0.9**
comp=Z,2.3nm,0.4s,baz=297,slow=6.1,SNR=16
HYT Haines Junctio 53.88 37 *e*P **P 11 46 41.0 +1.1**
ARCES ARCESS Array B 57.13 337 P **P 11 47 02.1 -0.3**
ARCES ARCESS Array B 57.13 337 P **P 11 47 02.1 -0.3**
comp=Z,0.8nm,0.4s,baz=65,slow=8.2,SNR=7.6
DLBC Dease Lake 58.34 38 P **P 11 47 13.1 +2.1**
comp=Z,0.9nm,0.5s,baz=275,slow=13,SNR=3.0
FINES FINESS Array B 61.53 329 P **P 11 47 31.4 -0.6**
comp=Z,1.5nm,0.6s,baz=72,slow=8.2,SNR=5.1
WRA Warramunga Arr 61.68 179 P **P 11 47 34.1 +0.6**
comp=Z,0.8nm,0.4s,baz=355,slow=7.1,SNR=32
YKA Yellowknife Ar 62.40 29 P **P 11 47 37.4 -0.3**
YKA Yellowknife Ar 62.40 29 P **P 11 47 37.4 -0.3**
comp=Z,0.8nm,0.6s,baz=305,slow=6.1,SNR=4.3
ASAR Alice Springs 65.38 180 P **P 11 47 58.5 +1.1**
comp=Z,0.5nm,0.3s,baz=355,slow=6.7,SNR=11
HFS Hagfors 66.98 332 P **P 11 48 06.4 -0.4**
HFS Hagfors 66.98 332 P **P 11 48 06.4 -0.4**
comp=Z,0.7nm,0.4s,baz=72,slow=9.5,SNR=4.7
NOA NORSAR Array B 67.17 334 P **P 11 48 07.6 -0.5**
comp=Z,1.0nm,0.7s,baz=28,slow=7.6,SNR=3.3
YBH Yreka Blue Hor 71.84 50 P **P 11 48 38.4 +1.8**
comp=Z,0.8nm,0.6s,baz=102,slow=6.0,SNR=3.6
FFC Flin Flon 72.54 30 *e*P **P 11 48 41.0 +0.7**
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 72.54 30 *e*P **P 11 48 41.0 +0.7**
FFC Flin Flon 72.54 30 *e*P **P 11 48 41.0 +0.7**
comp=Z,8.7nm,0.9s
STKA Stephens Creek 73.92 173 P **P 11 48 50.3 +2.0**
comp=Z,1.8nm,0.5s,baz=331,slow=9.1,SNR=5.8
DLMT Dillon 74.79 42 *e*P **P 11 48 55.3 +1.8**
comp=Z,4.1nm,0.5s
H17A Grant Village 76.49 42 *e*P P 11 49 06.5 +3.4
MOOW Moose Ponds 76.87 42 *e*P **P 11 49 07.6 +2.3**
comp=Z,1.8nm,0.9s
PDAR Pinedale Array 78.18 42 P **P 11 49 13.2 +0.8**
comp=Z,1.9nm,0.6s,baz=55,slow=0.6,SNR=13
LPAZ La Paz 148.20 43 PKPbc **PKPbc 11 56 56.4 +0.6**
comp=Z,0.6nm,0.4s,baz=262,slow=6.8,SNR=4.4

IDC 21 11:49:17.1±3.5, 22°.51S×171°.14E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/17, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=157.8km s-min=46.7km az=164.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.37**	**275**	*e*P	Pn	11 50 26.5	+1.6
DZM				*e*S	Sn	11 51 14.1	-2.6
DZM	**Mont Dzumac**	**4.37**	**275**	Pn	Pn	11 50 26.5	+1.6
	3.8nm,0.3s,baz=122,slow=19,SNR=35						
DZM				Sn	Sn	11 51 14.4	-2.3
	4.7nm,0.3s,baz=109,slow=21,SNR=7.0						
NOUC	**Port Laguerre**	**4.50**	**274**	*e*S	Sn	11 51 18.6	-1.0
ASAR	**Alice Springs**	**34.22**	**261**	P	P	11 56 04.1	-0.6
	0.4nm,0.7s,baz=85,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**34.35**	**267**	P	P	11 56 05.2	-0.7
	0.1nm,0.4s,baz=97,slow=8.3,SNR=6.1						
GERES	**GERESS Array B**	**148.20**	**331**	PKPbc	PKPbc	12 09 04.7	-0.3
	0.9nm,0.6s,baz=38,slow=2.4,SNR=8.0						

---

*NNC **21** 11:50:18.1±3.7, 50°.31N×73°.15E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=53.0km s-min=12.4km az=32.0*
*ISCJB **21** 11:50:19.5±0.6, 50°.72N±0°.05×73°.62E±0°.07, h10km, mb3.5/1, Error ellipse: s-maj=8.7km s-min=5.2km az=36.7*
*IDC **21** 11:50:22.2±1.1, 51°.15N×73°.86E, h0km, mb3.4/1, mb1 3.2/5, mb1mx3.1/31, mbtmp3.0/5, ML2.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=25.4km s-min=8.4km az=33.0*
ISC 21 11:50:22.3±0.9, 50°.83N±0°.06×73°.64E±0°.05, h10km, n12, σ1s78/21, 5C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.52**	**320**	⇑Pn	**Pn**	**11 51 02.3**	**-1.0**
	8.3nm,0.6s						
VOSK				⇓Sn	**Sn**	**11 51 35.2**	**+1.1**
	69nm,1.0s						
BVA0	**Borovoye Array**	**2.98**	**319**	Pn	**Pn**	**11 51 10.4**	**+0.7**
	8.4nm,0.6s,baz=114,slow=16,SNR=23						
BVA0				⇑Sn	**Sb**	**11 51 50.8**	**-1.2**
	43nm,0.8s,baz=123,slow=24,SNR=16						
BVAR	**Borovoye Array**	**2.98**	**319**	Pn	**Pn**	**11 51 09.3**	**-0.4**
	2.1nm,0.3s,baz=134,slow=16,SNR=22						
BVAR				Lg	Lg	11 51 51.0	
	4.2nm,0.3s,baz=128,slow=30,SNR=17						
BRVK	**Borovoye**	**3.05**	**318**	⇓Pn	**Pn**	**11 51 12.4**	**+1.8**
	11nm,0.7s						
BRVK				⇑Sn	**Sn**	**11 51 52.4**	**+5.3**
	78nm,0.7s						
KURBB	**Kurchatov Arra**	**3.11**	**92**	⇑Pn	**Pn**	**11 51 10.7**	**-0.7**
	15nm,0.5s						
KURBB				⇑Sn	**Sb**	**11 51 57.5**	**+1.8**
	167nm,0.7s						
KURBB	**Kurchatov Arra**	**3.11**	**92**	Pn	**Pn**	**11 51 10.8**	**-0.6**
	0.2nm,0.3s,baz=278,slow=14,SNR=27						
KURBB				Lg	Lg	11 51 57.1	
	1.0nm,0.3s,baz=285,slow=37,SNR=14						
MK31	**Makanchi Array**	**6.99**	**122**	⇓Pn	**Pn**	**11 52 04.2**	**-0.5**
	1.1nm,0.9s,baz=287,slow=12,SNR=6.1						
MK31				⇓Pg	**Pb**	**11 52 25.2**	**+1.4**
	1.2nm,0.6s,baz=305,slow=13,SNR=5.1						
MK31				Lg	Lg	11 53 57.4	
	8.8nm,0.7s,baz=312,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**6.99**	**122**	Pn	**Pn**	**11 52 05.3**	**+0.5**
	0.1nm,0.3s,baz=313,slow=23,SNR=4.3						
MKAR				Pg	**Pb**	**11 52 24.8**	**+1.0**
	0.3nm,0.3s,baz=295,slow=15,SNR=5.5						
MKAR				Sn	**Sn**	**11 53 26.1**	**+1.8**
	0.2nm,0.3s,baz=309,slow=22,SNR=3.2						
MKAR				Lg	Lg	11 53 57.5	
	0.4nm,0.3s,baz=338,slow=23,SNR=6.9						
ZALV	**Zalesovo Beam**	**7.52**	**61**	Pn	**Pn**	**11 52 11.0**	**-0.9**
	0.2nm,0.3s,baz=246,slow=14,SNR=3.6						
ZALV				Pg	**Pb**	**11 52 32.5**	**-0.2**
	0.0nm,0.3s,baz=253,slow=14,SNR=3.9						
ZALV				Sn	**Sn**	**11 53 35.8**	**-1.3**
	0.2nm,0.3s,baz=342,slow=19,SNR=4.1						
ZALV				Lg	Lg	11 54 20.9	
	0.2nm,0.3s,baz=246,slow=26,SNR=6.0						
AAK	**Ala-Archa**	**8.22**	**176**	Sn	**Sn**	**11 53 52.5**	**-2.2**
	0.4nm,0.3s,baz=358,slow=14,SNR=1.6						
AAK				Lg	Lg	11 54 47.8	
	0.7nm,0.3s,baz=0.5,slow=22,SNR=11						
AAK				LR	LR	11 55 09.8	
	comp=Z,60nm,18.2s,baz=249,slow=34						
AKTO	**Aktyubinsk**	**9.94**	**274**	Pn	Pn	11 52 43.0	-2.2
	0.2nm,0.3s,baz=97,slow=13,SNR=2.0						
AKTO				Sn	**Sn**	**11 54 36.8**	**+0.1**
	0.2nm,0.3s,baz=222,slow=15,SNR=4.3						
AKTO				Lg	Lg	11 55 30.5	
	0.2nm,0.3s,baz=246,slow=15,SNR=4.0						
ILAR	**Eielson Array**	**60.53**	**19**	P	**P**	**12 00 30.4**	**-1.8**
	0.2nm,0.5s,baz=319,slow=4.3,SNR=7.4						

IDC 21 11:51:13.7±0.9, 12°.85N×75°.62W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/26, mbtmp3.9/11, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx3.1/27, Error ellipse: s-maj=34.5km s-min=20.1km az=62.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**8.04**	**171**	Pn	Pn	11 53 13.6	+1.2
	1.6nm,0.3s,baz=294,slow=18,SNR=2.3						
ROSC				Sn	Sn	11 54 44.0	-0.4
	3.4nm,0.3s,baz=91,slow=23,SNR=2.0						
TEIG	**Tepich**	**14.17**	**303**	Pn	Pn	11 54 33.8	-2.0
	1.7nm,0.3s,baz=6.0,slow=2.7,SNR=10						
TEIG				LR	LR	11 59 47.5	
	comp=Z,163nm,21.0s,baz=266,slow=36						
TXAR	**Lajitas Array**	**30.76**	**307**	P	P	11 57 31.9	+0.8
	0.7nm,0.5s,baz=132,slow=8.6,SNR=16						
ANMO	**Albuquerque**	**35.52**	**314**	P	P	11 58 14.1	+1.4
	0.7nm,0.7s,baz=120,slow=8.4,SNR=5.0						
PDAR	**Pinedale Array**	**41.81**	**322**	P	P	11 59 05.2	-0.3
	0.4nm,0.7s,baz=98,slow=11,SNR=3.9						
SCHQ	**Schefferville**	**42.45**	**8**	P	P	11 59 11.0	+0.8
	1.2nm,0.5s,baz=211,slow=12,SNR=3.6						
YBH	**Yreka Blue Hor**	**49.94**	**314**	P	P	12 00 08.5	-1.1
	1.7nm,0.8s,baz=1.0,slow=1.4,SNR=5.7						
YKA	**Yellowknife Ar**	**56.79**	**340**	P	P	12 00 58.5	-1.0
	1.2nm,0.6s,baz=130,slow=7.4,SNR=5.5						
DLBC	**Dease Lake**	**60.89**	**331**	P	P	12 01 28.6	+0.5
	2.2nm,0.8s,baz=124,slow=9.6,SNR=5.1						
ILAR	**Eielson Array**	**70.50**	**334**	P	P	12 02 29.2	-0.7
	0.2nm,0.6s,baz=113,slow=5.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**75.02**	**80**	P	P	12 02 57.7	-0.1
	0.2nm,0.7s,baz=299,slow=3.5,SNR=3.1						
ASAR	**Alice Springs**	**150.03**	**245**	PKP	PKPdf	12 11 02.0	-0.2
	0.3nm,0.5s,baz=108,slow=2.8,SNR=2.5						
ASAR				PKPbc	PKPbc	12 11 06.5	-0.6
	0.8nm,0.9s,baz=109,slow=2.8,SNR=5.8						
WRA	**Warramunga Arr**	**150.44**	**252**	PKPbc	PKPbc	12 11 07.6	-0.6
	0.4nm,0.5s,baz=94,slow=2.9,SNR=14						
WRA				PKPab	PKPab	12 11 18.1	+3.5
	0.4nm,0.6s,baz=94,slow=2.9,SNR=7.4						

IDC 21 12:06:20.2±1.2, 2°.74N×127°.00E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, Error ellipse: s-maj=110.0km s-min=15.3km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.75**	**184**	P	P	12 11 03.2	+0.5
	0.9nm,0.7s,baz=8.4,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**23.66**	**163**	P	P	12 11 33.6	+0.1
	0.8nm,0.4s,baz=340,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.09**	**166**	P	P	12 12 04.4	-0.5
	0.4nm,0.6s,baz=344,slow=6.6,SNR=8.3						
STKA	**Stephens Creek**	**37.11**	**159**	P	P	12 13 32.5	-0.1
	3.5nm,0.9s,baz=344,slow=9.8,SNR=4.0						
SONM	**Songino Array**	**48.32**	**341**	P	P	12 15 04.1	+0.5
	1.8nm,0.8s,baz=164,slow=7.5,SNR=9.3						
MKAR	**Makanchi Array**	**58.52**	**325**	P	P	12 16 18.1	-0.4
	0.5nm,0.4s,baz=122,slow=8.6,SNR=10						
ZALV	**Zalesovo Beam**	**61.59**	**333**	P	P	12 16 38.9	-0.5
	0.5nm,0.4s,baz=116,slow=6.7,SNR=2.7						
KURBB	**Kurchatov Arra**	**62.72**	**328**	P	P	12 16 47.2	+0.2
	1.0nm,0.5s,baz=130,slow=6.0,SNR=8.5						

---

*IDC **21** 12:09:46.7±0.9, 13°.63N×126°.58E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, Error ellipse: s-maj=57.1km s-min=17.5km az=71.0*
*ISCJB **21** 12:09:51.0±0.8, 13°.25N±0°.08×125°.58E±0°.07, h33km, mb3.7/7, Error ellipse: s-maj=11.3km s-min=10.1km az=19.2*
ISC 21 12:09:53.0±1.1, 13°.25N±0°.09×125°.5E±0°.1, h35km, n9, σ0s98/10, mb3.6/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**1.10**	**228**	*e*P	**Pn**	**12 10 13.0**	**+1.0**
CNP				*e*S	**Sn**	**12 10 25.1**	**-0.9**
PVCP	**Virac**	**1.36**	**285**	⇑*i*P	**Pn**	**12 10 15.1**	**-0.4**
PVCP				*e*S	**Sn**	**12 10 32.1**	**-0.1**
WRA	**Warramunga Arr**	**34.11**	**165**	P	**P**	**12 16 33.3**	**-1.4**
	0.3nm,0.8s,baz=358,slow=8.2,SNR=3.1						
ASAR	**Alice Springs**	**37.60**	**167**	P	**P**	**12 17 05.0**	**+0.5**
	0.5nm,0.6s,baz=350,slow=7.5,SNR=7.6						
SONM	**Songino Array**	**37.98**	**339**	P	**P**	**12 17 07.2**	**-0.5**
	1.1nm,1.1s,baz=158,slow=9.3,SNR=3.5						
STKA	**Stephens Creek**	**47.45**	**161**	P	**P**	**12 18 24.1**	**-0.3**
	3.0nm,0.9s,baz=328,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**49.23**	**322**	P	**P**	**12 18 39.2**	**+1.2**
	1.0nm,0.8s,baz=119,slow=8.4,SNR=6.9						
KURBB	**Kurchatov Arra**	**53.22**	**324**	P	**P**	**12 19 08.8**	**+1.0**
	1.4nm,0.7s,baz=121,slow=7.7,SNR=9.1						
ILAR	**Eielson Array**	**77.10**	**26**	P	P	12 21 37.1	-5.5
	0.3nm,0.9s,baz=272,slow=5.3,SNR=3.6						

---

*IDC **21** 12:12:41.1±0.7, 53°.85N×163°.10E, h0km, mb3.6/10, mb1 3.9/12, mb1mx3.7/28, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=23.2km s-min=10.4km az=179.0*
*MOS **21** 12:12:43.8±1.2, 53°.85N×163°.10E, h38km, mb4.0/7, Error ellipse: s-maj=12.0km s-min=9.2km az=74.2*
*ISCJB **21** 12:12:44.3±0.6, 53°.83N±0°.02×162°.96E±0°.05, h36km±7km, mb3.6/10, Error ellipse: s-maj=5.7km s-min=3.2km az=25.2*
*KRSC **21** 12:12:44.1±0.9, 53°.82N×162°.91E, h42km±41km, ML4.1*
ISC 21 12:12:42.8±3.2, 53°.80N±0°.03×163°.12E±0°.03, h17km±20km, n65, σ1s77/106, mb3.7/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.11**	**313**	PN	**Pb**	**12 13 02.7**	**-0.9**
MKZ				S	**Sb**	**12 13 16.6**	**-1.2**
MKZ	**Mys Kozlova**	**1.11**	**313**	*e*P	**Pb**	**12 13 02.7**	**-0.9**
MKZ				*i*S	**Sb**	**12 13 16.6**	**-1.2**
SPN	**Mys Shipunski**	**1.98**	**250**	PN	**Pn**	**12 13 14.7**	**-0.9**
SPN				S	**Sn**	**12 13 36.9**	**-3.1**
SPN	**Mys Shipunski**	**1.98**	**250**	*e*P	**Pn**	**12 13 14.7**	**-0.9**
SPN				*i*S	**Sn**	**12 13 36.9**	**-3.1**
BKI	**Bering**	**2.18**	**49**	PN	**Pn**	**12 13 17.5**	**-0.7**
BKI				S	**Sn**	**12 13 41.5**	**-3.3**
BKI	**Bering**	**2.18**	**49**	*e*P	**Pn**	**12 13 17.5**	**-0.7**
BKI				*i*S	**Sn**	**12 13 41.5**	**-3.3**
KII	**Karymskiy**	**2.18**	**278**	*e*P	**Pn**	**12 13 17.6**	**-0.8**
KII				*i*S	**Sn**	**12 13 42.2**	**-2.9**
TUMR	**Tumrok**	**2.28**	**312**	*e*P	**Pn**	**12 13 19.2**	**-0.6**
TUMR				*e*S	**Sn**	**12 13 44.7**	**-2.9**
NLC	**Nalytchevo**	**2.34**	**256**	PN	**Pn**	**12 13 19.9**	**-0.6**
NLC				S	**Sn**	**12 13 45.9**	**-2.9**
NLC	**Nalytchevo**	**2.34**	**256**	*e*P	**Pn**	**12 13 19.9**	**-0.6**
NLC				*i*S	**Sn**	**12 13 45.9**	**-2.9**
KBTR	**Krutoberegovo**	**2.42**	**356**	PN	**Pn**	**12 13 20.4**	**-1.2**
KBTR				S	**Sn**	**12 13 47.3**	**-3.5**
KBTR	**Krutoberegovo**	**2.42**	**356**	*e*P	**Pn**	**12 13 20.4**	**-1.2**
KBTR				*i*S	**Sn**	**12 13 47.3**	**-3.5**
BZGR	**Bezymyannyi-Gr**	**2.56**	**328**	*e*P	**Pn**	**12 13 24.3**	**+0.7**
BZGR				*i*S	**Sn**	**12 13 53.3**	**-1.1**
KMNR	**Kamenistaya**	**2.57**	**321**	*e*P	**Pn**	**12 13 24.5**	**+0.7**
KMNR				*i*S	**Sn**	**12 13 53.6**	**-1.2**
SDLR	**Sedlovina**	**2.58**	**260**	*e*P	**Pn**	**12 13 23.5**	**-0.4**
ZLN	**Zelenaya**	**2.59**	**330**	P	**Pn**	**12 13 24.2**	**+0.1**
ZLN				*i*S	**Sn**	**12 13 53.1**	**-2.1**
BZMR	**Bezymyannaya**	**2.62**	**326**	*e*P	**Pn**	**12 13 24.2**	**-0.3**
SMAR	**Somma**	**2.63**	**260**	*e*P	**Pn**	**12 13 24.4**	**-0.3**
SMAR				*i*S	**Sn**	**12 13 53.4**	**-3.0**
UGLR	**Uglovaya**	**2.63**	**259**	*e*P	**Pn**	**12 13 24.6**	**0.0**
BZWR	**Bezymyannyi-We**	**2.65**	**326**	*e*P	**Pn**	**12 13 24.4**	**-0.4**
KRER	**Koryakskii**	**2.66**	**261**	*e*P	**Pn**	**12 13 24.9**	**-0.1**
KRER				*i*S	**Sn**	**12 13 54.6**	**-2.3**
AVH	**Avacha**	**2.67**	**260**	*e*P	**Pn**	**12 13 25.3**	**+0.2**
AVH				*i*S	**Sn**	**12 13 54.8**	**-2.3**
LGNR	**Loginova**	**2.68**	**329**	P	**Pn**	**12 13 25.4**	**-0.1**
LGNR				*i*S	**Sn**	**12 13 55.3**	**-2.4**
KIRR	**Kirishev**	**2.69**	**324**	*e*P	**Pn**	**12 13 25.9**	**+0.5**
KIRR				*i*S	**Sn**	**12 13 56.5**	**-1.1**
KOK	**Koryaka**	**2.72**	**261**	*e*P	**Pn**	**12 13 25.7**	**-0.2**
KOK				*i*S	**Sn**	**12 13 55.7**	**-2.7**
KPT	**Kopyto**	**2.74**	**324**	*e*P	**Pn**	**12 13 26.9**	**+0.8**
KPT				*e*S	**Sn**	**12 13 57.7**	**-1.1**
PET	**Petropavlovsk**	**2.79**	**256**	PN	**Pn**	**12 13 26.2**	**-0.4**
PET				S	**Sn**	**12 13 56.8**	**-3.0**
PET	**Petropavlovsk**	**2.79**	**256**	*e*P	**Pn**	**12 13 26.2**	**-0.4**
PET				*i*S	**Sn**	**12 13 56.8**	**-3.0**
KRSR	**Krestovskiy**	**2.83**	**330**	*e*P	**Pn**	**12 13 27.5**	**+0.1**
KRSR				*i*S	**Sn**	**12 13 58.9**	**-2.3**
KLY	**Klyuchi**	**2.89**	**332**	PN	**Pn**	**12 13 27.2**	**-0.8**
KLY				S	**Sn**	**12 13 58.4**	**-4.0**
KLY	**Klyuchi**	**2.89**	**332**	*e*P	**Pn**	**12 13 27.2**	**-0.8**
KLY				*i*S	**Sn**	**12 13 58.4**	**-4.0**
KOZR	**Kozyr**	**2.94**	**322**	PN	**Pn**	**12 13 29.9**	**+1.2**
KOZR				S	**Sn**	**12 14 03.3**	**-0.2**
KOZ	**Kozyrevsk**	**2.94**	**322**	*e*P	**Pn**	**12 13 29.9**	**+1.2**
KOZ				*i*S	**Sn**	**12 14 03.3**	**-0.3**
SMKR	**Semkarok**	**2.94**	**342**	*e*P	**Pn**	**12 13 29.0**	**+0.1**
SMKR				*i*S	**Sn**	**12 14 01.7**	**-2.1**
BDR	**Baidarnaya**	**2.98**	**339**	*e*P	**Pn**	**12 13 30.0**	**+0.6**
BDR				*i*S	**Sn**	**12 14 03.6**	**-1.2**
SRKR	**Sorokina**	**3.07**	**339**	*e*P	**Pn**	**12 13 30.7**	**+0.1**
SRKR				*i*S	**Sn**	**12 14 04.3**	**-2.6**
GNL	**Ganaly**	**3.08**	**270**	*e*P	**Pn**	**12 13 31.5**	**+0.8**
GNL				*i*S	**Sn**	**12 14 06.3**	**-0.9**
RUS	**Russkaya**	**3.10**	**246**	PN	**Pn**	**12 13 30.6**	**-0.3**
RUS	**Russkaya**	**3.10**	**246**	*e*P	**Pn**	**12 13 30.6**	**-0.3**
RUS				*i*S	**Sn**	**12 14 04.3**	**-3.1**
SRDR	**Sredinnyy**	**3.19**	**324**	*e*P	**Pn**	**12 13 32.7**	**+0.4**
MTVR	**Mutnovka**	**3.25**	**248**	*e*P	**Pn**	**12 13 33.4**	**+0.2**
MTVR				*i*S	**Sn**	**12 14 09.3**	**-2.3**
GRL	**Gorelyy**	**3.29**	**250**	*e*P	**Pn**	**12 13 34.2**	**+0.6**
PETK	**Petropavlovsk-**	**3.31**	**260**	PN	**Pn**	**12 13 34.4**	**+0.5**
PETK						12 14 13.3	
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK				smax	smax		
	comp=N,10.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.31**	**260**	Pn	**Pn**	**12 13 34.4**	**+0.5**
	comp=N,4.0nm,0.3s,baz=82,slow=16,SNR=60						
PETK				Sn	**Sn**	**12 14 13.3**	**+0.4**
	comp=N,9.9nm,0.3s,baz=16,slow=27,SNR=12						
ESO	**Esso**	**3.33**	**312**	PN	**Pn**	**12 13 34.2**	**+0.2**
ESO				S	**Sn**	**12 14 10.4**	**-2.8**
ESO	**Esso**	**3.33**	**312**	*e*P	**Pn**	**12 13 34.2**	**+0.2**
ESO				*e*S	**Sn**	**12 14 10.4**	**-2.8**
ASAK	**Asacha**	**3.45**	**248**	*e*P	**Pn**	**12 13 36.5**	**+0.6**
ASAK				*i*S	**Sn**	**12 14 15.0**	**-1.4**
APC	**Apacha**	**3.68**	**259**	*e*P	**Pn**	**12 13 40.0**	**+1.1**

CMAR	**Chiang Mai Arr**	**16.45**	**11**	Pn	Pn	12 44 32.4	+0.5
	0.2nm,0.3s,baz=196,slow=12,SNR=2.8						
CMAR				LR	LR	12 50 49.1	
	comp=Z,120nm,19.5s,baz=317,slow=37						
WRA	**Warramunga Arr**	**43.92**	**122**	P	P	12 48 48.2	-0.2
	0.9nm,1.0s,baz=300,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**45.88**	**347**	P	P	12 49 03.2	-0.5
	0.8nm,0.7s,baz=167,slow=9.2,SNR=7.0						
ZALV	**Zalesovo Beam**	**52.31**	**352**	P	P	12 49 52.9	+0.1
	0.8nm,0.6s,baz=168,slow=7.4,SNR=4.4						

*IDC **21** 12:46:00.3±0.5, 14°.17N×93°.08E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.3/29, mbtmp4.3/19, ML4.3/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/38, Error ellipse: s-maj=19.6km s-min=12.6km az=55.0*
*BJI **21** 12:46:01.7, 14°.11N×93°.26E, h23km, mB4.6/11, mb4.5/14, Ms4.3/2, Ms7 4.3/2*
*ISCJB **21** 12:46:03.8±0.3, 14°.26N±0°.04×93°.16E±0°.04, h32km, mb4.4/32, MS3.7/2, Error ellipse: s-maj=5.5km s-min=5.4km az=35.3*
*NEIC **21** 12:46:06.0±0.3, 14°.21N×93°.09E, h35km, mb4.4/6, Error ellipse: s-maj=8.2km s-min=6.5km az=60.0*

ISC 21 12:46:05.4±0.5, 14°.23N±0°.06×93°.13E±0°.06, h32km, n89, σ1°13/96, mb4.5/32, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.06**	**190**	*eP*	**Pb**	**12 46 25.1**	**-0.2**
DGPR				AMB	AMB	12 46 36.4	
	comp=Z,1μm,0.4s						
PBA	**Port Blair**	**2.59**	**188**	*eP*	Pn	12 46 44.6	-0.5
CM31	**Chiang Mai Arr**	**6.99**	**52**	*ePn*	**Pn**	**12 47 47.5**	**+1.8**
	comp=Z,11nm,0.4s						
CM31				*e*Sn	**Sn**	**12 49 03.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**6.99**	**52**	Pn	**Pn**	**12 47 46.1**	**+0.5**
CMAR				Sn	**Sn**	**12 49 01.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**6.99**	**52**	Pn	**Pn**	**12 47 46.1**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=244,slow=15,SNR=17						
CMAR				Sn	**Sn**	**12 49 01.3**	**-2.7**
	comp=Z,2.8nm,0.3s,baz=243,slow=27,SNR=6.3						
CHTO	**Chiang Mai**	**7.20**	**50**	*ePn*	**Pn**	**12 47 49.8**	**+1.2**
	comp=Z,11nm,0.5s						
CHTO				*e*Sn	**Sn**	**12 49 08.4**	**-0.9**
VIS	**Vishakhapatnam**	**10.04**	**292**	*eP*	**Pn**	**12 48 26.2**	**-1.3**
VIS				AMB	AMB	12 48 34.7	
	comp=Z,33nm,0.6s						
VIS				*i* x	x	12 50 09.2	
SHL	**Shillong**	**11.34**	**354**	*eP*	**Pn**	**12 48 45.6**	**+0.1**
SHL				*ex*	x	12 50 43.4	
BOK	**Bokaro**	**11.72**	**325**	*eP*	**Pn**	**12 48 49.5**	**-1.0**
BOK				AMB	AMB	12 49 00.6	
	comp=Z,17nm,1.8s						
PSI	**Prapat**	**12.72**	**153**	Pn	Pn	12 49 08.2	+3.8
PSI	**Prapat**	**12.72**	**153**	Pn	Pn	12 49 08.2	+3.8
	comp=Z,0.7nm,0.3s,baz=331,slow=14,SNR=13						
PSI				LR	LR	12 54 33.2	
	comp=Z,236nm,18.9s,baz=84,slow=40						
ODAN	**Odare**	**13.66**	**338**	*eP*	**Pn**	**12 49 16.5**	**-0.8**
	comp=Z,54nm,0.4s						
HYB	**Hyderabad**	**14.38**	**285**	*i* P	**P**	**12 49 34.0**	**+0.5**
HYB	**Hyderabad**	**14.38**	**285**	*eP*	**Pn**	**12 49 26.6**	**-0.3**
HYB				AMB	AMB	12 51 56.4	
	comp=Z,11nm,0.9s						
PKI	**Pulchoki**	**15.10**	**333**	*eP*	**Pn**	**12 49 34.6**	**-2.2**
	comp=Z,38nm,0.4s						
PKIN	**Phulchoki**	**15.11**	**333**	*eP*	**Pn**	**12 49 34.5**	**-2.4**
	comp=Z,19nm,0.4s						
PKIN				*e*S	Sn	12 52 13.0	-11
DMN	**Daman**	**15.27**	**332**	*eP*	**Pn**	**12 49 37.4**	**-1.6**
LSA	**Lhasa**	**15.50**	**354**	P	**P**	**12 49 45.5**	**-0.9**
LSA	**Lhasa**	**15.50**	**354**	*ePn*	**Pn**	**12 49 43.0**	**+0.8**
	comp=Z,5.3nm,0.4s						
LSA				*e*Sn	**Sn**	**12 52 34.9**	**+1.6**
KOLN	**Koldanda**	**16.13**	**328**	*eP*	**P**	**12 49 52.3**	**-0.8**
PYUN	**Piuthan**	**16.71**	**327**	*eP*	**Pn**	**12 49 57.0**	**-0.5**
BHPL	**Bhopal**	**17.35**	**303**	*eP*	**P**	**12 50 06.9**	**+0.4**
BHPL				AMB	AMB	12 50 20.8	
	comp=Z,14nm,0.8s						
ENH	**Enshi**	**21.96**	**41**	*eP*	**P**	**12 50 57.2**	**+0.6**
	comp=Z,8.4nm,0.6s						
SMLA	**Simla**	**22.31**	**322**	*eP*	**P**	**12 51 01.2**	**+0.9**
SMLA				AMB	AMB	12 51 14.9	
	comp=Z,11nm,1.4s						
DHRM	**DHARAMSHALA**	**23.62**	**322**	*eP*	**P**	**12 51 13.9**	**-0.1**
DHRM				AMB	AMB	12 51 15.3	
	comp=Z,19nm,0.1s						
XAN	**Xi'an**	**24.36**	**33**	P	**P**	**12 51 20.6**	**-0.1**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,20nm,8.3s						
WHN	**Wuhan**	**25.39**	**47**	P	P	12 51 37.6	+7.6
GTA	**Gaotai**	**25.76**	**12**	P	**P**	**12 51 35.3**	**+1.8**
GTA				pP	**pP**	**12 51 39.4**	**-3.3**
GTA				sP	**sP**	**12 51 42.3**	**-4.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**31.02**	**28**	*eP*	**P**	**12 52 21.0**	**+0.7**
HHC				S	**S**	**12 57 24.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,59nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,4.9s						
EKS2	**Erkin-Say**	**32.88**	**333**	*eP*	**P**	**12 52 38.4**	**+1.7**
	comp=Z,2.3nm,0.6s						
MK31	**Makanchi Array**	**33.71**	**347**	*eP*	**P**	**12 52 44.4**	**+0.7**
MKAR	**Makanchi Array**	**33.71**	**347**	P	**P**	**12 52 44.2**	**+0.4**
MKAR	**Makanchi Array**	**33.71**	**347**	P	**P**	**12 52 44.2**	**+0.4**
	comp=Z,5.6nm,0.7s,baz=169,slow=9.0,SNR=45						
MKAR				LR	LR	13 08 34.6	
	comp=Z,81nm,18.8s,baz=350,slow=40						
SONM	**Songino Array**	**35.27**	**16**	P	**P**	**12 52 58.2**	**+0.9**
SONM	**Songino Array**	**35.27**	**16**	P	**P**	**12 52 58.2**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=200,slow=9.3,SNR=16						
KURBB	**Kurchatov Arra**	**38.18**	**345**	P	**P**	**12 53 22.2**	**+0.3**
	comp=Z,6.4nm,0.7s,baz=166,slow=7.9,SNR=64						
KURK	**Kurchatov**	**38.24**	**345**	P	**P**	**12 53 22.2**	**-0.2**
KSAR	**Wonju Array Be**	**38.55**	**47**	P	**P**	**12 53 25.2**	**-0.1**
KSRS	**Korea Array**	**38.59**	**47**	P	**P**	**12 53 25.2**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=248,slow=6.4,SNR=5.4						
ZAA0	**Zalesovo Array**	**40.16**	**352**	*eP*	**P**	**12 53 38.9**	**+0.4**
ZALV	**Zalesovo Beam**	**40.16**	**352**	P	**P**	**12 53 38.1**	**-0.4**
ZALV	**Zalesovo Beam**	**40.16**	**352**	P	**P**	**12 53 38.1**	**-0.4**
	comp=Z,4.2nm,0.6s,baz=171,slow=7.5,SNR=20						
ABKAR	**Akbulak array**	**44.25**	**329**	*eP*	**P**	**12 54 12.7**	**+0.9**
	comp=Z,7.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.39**	**134**	*eP*	**P**	**12 54 20.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**45.39**	**134**	P	**P**	**12 54 20.4**	**-0.8**
	comp=Z,3.5nm,0.4s,baz=327,slow=8.7,SNR=61						
MJAR	**Matsushiro Arr**	**45.87**	**53**	P	**P**	**12 54 25.9**	**+0.9**
MJAR	**Matsushiro Arr**	**45.87**	**53**	P	**P**	**12 54 25.9**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=269,slow=8.6,SNR=5.7						
WRA	**Warramunga Arr**	**52.88**	**129**	P	**P**	**12 55 17.7**	**-1.0**
WRA				PcP	**PcP**	**12 56 27.9**	**+0.3**
WRA	**Warramunga Arr**	**52.88**	**129**	P	**P**	**12 55 17.7**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=310,slow=8.0,SNR=14						
WRA				PcP	**PcP**	**12 56 27.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=316,slow=3.6,SNR=2.7						
WRAB	**Tennant Creek**	**52.88**	**129**	*eP*	**P**	**12 55 18.3**	**-0.4**
	comp=Z,1.7nm,0.3s						
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**12 55 32.6**	**-0.4**
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**12 55 32.6**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=312,slow=7.3,SNR=69						
BR131	**Keskin Array S**	**57.64**	**308**	*eP*	**P**	**12 55 52.5**	**-0.4**
	comp=Z,5.5nm,0.9s						
BRTR	**Keskin Array B**	**57.64**	**308**	P	**P**	**12 55 52.1**	**-0.8**
BRTR	**Keskin Array B**	**57.64**	**308**	P	**P**	**12 55 52.1**	**-0.8**
	comp=Z,4.5nm,0.7s,baz=117,slow=6.9,SNR=23						
JOF	**Joensuu**	**64.73**	**334**	*ep*	**P**	**12 56 40.3**	**-0.1**
	comp=Z,5.0nm,0.6s						
STKA	**Stephens Creek**	**65.25**	**135**	P	**P**	**12 56 43.8**	**-0.4**
STKA	**Stephens Creek**	**65.25**	**135**	P	**P**	**12 56 43.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=319,slow=8.8,SNR=8.1						
STKA				LR	LR	13 28 30.9	
	comp=Z,90nm,19.8s,baz=206,slow=39						
FINES	**FINESS Array B**	**66.68**	**331**	P	**P**	**12 56 52.5**	**-0.4**
FINES	**FINESS Array B**	**66.68**	**331**	P	**P**	**12 56 52.5**	**-0.4**
	comp=Z,6.4nm,0.8s,baz=111,slow=6.1,SNR=17						
KOLS	**Kolonicke sedl**	**66.84**	**317**	*eP*	**P**	**12 56 56.1**	**+1.9**
CRVS	**Cervenica-Dubn**	**67.37**	**317**	*eP*	**P**	**12 56 57.9**	**+0.3**
ARCES	**ARCESS Array B**	**68.99**	**340**	P	**P**	**12 57 07.6**	**+0.2**
ARCES	**ARCESS Array B**	**68.99**	**340**	P	**P**	**12 57 07.6**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=95,slow=6.5,SNR=25						
VYHS	**Vyhne**	**69.08**	**317**	*eP*	**P**	**12 57 08.3**	**-0.1**
GERES	**GERESS Array B**	**72.49**	**317**	P	**P**	**12 57 29.0**	**-0.1**
GERES	**GERESS Array B**	**72.49**	**317**	P	**P**	**12 57 29.0**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=88,slow=7.0,SNR=16						
NB2	**NORSAR Subarra**	**73.75**	**330**	P	**P**	**12 57 35.5**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**73.75**	**330**	P	**P**	**12 57 35.5**	**-0.8**
NOA	**NORSAR Array B**	**73.75**	**330**	P	**P**	**12 57 35.5**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=89,slow=5.8,SNR=7.9						
LPG	**La Plagne**	**77.48**	**314**	*eP*	**P**	**12 57 57.9**	**-0.4**
	comp=Z,9.0nm,0.6s						
LPL	**La Plagne**	**77.49**	**314**	*eP*	**P**	**12 57 57.2**	**-1.1**
	comp=Z,9.4nm,0.5s						
BOSA	**Boshof**	**78.19**	**236**	P	**P**	**12 58 02.8**	**+0.6**
BOSA	**Boshof**	**78.19**	**236**	P	**P**	**12 58 02.8**	**+0.6**
	comp=Z,4.0nm,0.5s,baz=79,slow=4.1,SNR=11						
VIVF	**Saint-Julien-l**	**79.03**	**314**	*eP*	**P**	**12 58 05.8**	**-0.8**
SMF	**Signal de Mont**	**79.32**	**315**	*eP*	**P**	**12 58 07.0**	**-1.1**
	comp=Z,6.0nm,0.7s						
MTLF	**Montolieu**	**81.04**	**312**	*eP*	**P**	**12 58 17.0**	**-0.4**
	comp=Z,3.9nm,0.8s						
LDF	**La Druitiere**	**81.59**	**318**	*eP*	**P**	**12 58 20.1**	**-0.2**
SGMF	**Saint Gilles**	**83.25**	**318**	*eP*	**P**	**12 58 28.3**	**-0.6**
IMA2	**Indian Mountai**	**86.14**	**22**	*eP*	**P**	**12 58 44.0**	**+0.7**
IMA2				*ep*P	**pP**	**12 58 55.7**	**+2.2**
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**12 58 54.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**88.19**	**283**	P	**P**	**12 58 54.1**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=85,slow=4.0,SNR=16						
ILAR	**Eielson Array**	**89.25**	**22**	P	**P**	**12 58 57.4**	**-0.7**
ILAR	**Eielson Array**	**89.25**	**22**	P	**P**	**12 58 57.4**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=295,slow=4.2,SNR=16						
MENT	**Mentasta**	**91.45**	**23**	P	**P**	**12 59 10.6**	**+2.2**
PDAR	**Pinedale Array**	**119.58**	**19**	PKP	**PKPdf**	**13 04 52.6**	**0.0**
PDAR	**Pinedale Array**	**119.58**	**19**	PKP	**PKPdf**	**13 04 52.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=93,slow=1.8,SNR=5.4						
TXAR	**Lajitas Array**	**133.75**	**20**	PKP	**PKPdf**	**13 05 21.4**	**+1.5**
TXAR	**Lajitas Array**	**133.75**	**20**	PKP	**PKPdf**	**13 05 21.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=74,slow=1.3,SNR=5.4						

GUC 21 13:08:31.5±0.3, 31°.84S×69°.90W, h145km±4km, MD3.3, ML3.5, 2C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.15**	**305**	⇑*i*P	Pn	13 08 57.6	+0.3
CMCH				*i* S	Sn	13 09 17.4	+0.5
CMCH				AML	AML	13 09 19.6	
	comp=E,2μm,0.7s						
PACH	**Papudo**	**1.47**	**242**	*eP*	Pn	13 09 00.6	+0.2
PACH				*i* S	Sn	13 09 23.0	+0.4
CLCH	**Cerro Calan**	**1.64**	**199**	*i* P	Pn	13 09 02.7	+0.4
CLCH				*i* S	Sn	13 09 26.3	+0.4
CLCH				AML	AML	13 09 27.7	
	comp=E,572nm,0.4s						
CLCH				AML	AML	13 09 28.4	
	comp=E,789nm,0.5s						
ANTU	**Antumapu**	**1.83**	**199**	*eP*	Pn	13 09 04.7	+0.3
ANTU				*e*S	Sn	13 09 30.1	+0.4
ANTU				AML	AML	13 09 31.2	
	comp=E,315nm,0.4s						
TLL	**Tololo Astrono**	**1.84**	**335**	*eP*	Pn	13 09 05.4	+0.5
TLL				*i* S	Sn	13 09 31.0	+0.7
LMEL	**Las Melosas**	**2.02**	**187**	*eP*	Pn	13 09 07.2	+0.5
LMEL				*i* S	Sn	13 09 34.4	+0.5
LMEL				AML	AML	13 09 43.7	
	comp=N,186nm,0.1s						
CHCH	**Chadas Angostu**	**2.18**	**197**	*i* P	Pn	13 09 09.1	+0.5
CHCH				*i* S	Sn	13 09 37.4	+0.3
CACH	**El Canelo**	**2.34**	**194**	*eP*	Pn	13 09 11.6	+1.0
CACH				*i* S	Sn	13 09 41.8	+1.1
LCO	**Las Campanas**	**2.90**	**346**	⇑*i*P	Pn	13 09 18.0	+0.2
LCO				*i* S	Sn	13 09 53.8	+0.3
LCO				AML	AML	13 09 55.2	
	comp=N,82nm,0.4s						

IDC 21 13:23:45.6±5.5, 1°.24S×99°.64E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=298.9km s-min=31.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.69**	**121**	P	P	13 31 10.8	-0.7
	0.3nm,0.9s,baz=297,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**39.99**	**127**	P	P	13 31 23.1	+0.7
	0.2nm,0.8s,baz=301,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**50.21**	**345**	P	P	13 32 43.6	+0.3
	0.2nm,0.6s,baz=153,slow=8.0,SNR=2.6						
TXAR	**Lajitas Array**	**144.31**	**36**	PKP	PKPbc	13 43 22.7	-0.1
	0.1nm,0.5s,baz=5.0,slow=2.1,SNR=3.4						

IDC 21 13:28:56.6±4.8, 5°.94S×149°.35E, h86km±41km, mb3.3/4, mb1 3.5/6, mb1mx3.3/20, mbtmp3.4/6, MS2.9/1, Ms1 2.9/1, ms1mx2.3/16, Error ellipse: s-maj=72.9km s-min=30.1km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.07**	**212**	P	Pn	13 29 56.3	-0.4
	7.4nm,0.3s,baz=59,slow=5.1,SNR=23						
PMG				S	Sn	13 30 47.9	+4.6
	9.6nm,0.3s,baz=93,slow=19,SNR=8.8						
PMG				LR	LR	13 31 48.7	
	comp=Z,140nm,20.1s,baz=248,slow=42						
CTA	**Charters Tower**	**14.39**	**192**	P	Pn	13 32 16.1	-0.1
	0.1nm,0.3s,baz=19,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**20.17**	**225**	P	Pn	13 33 25.9	-1.1
	1.9nm,0.7s,baz=51,slow=10,SNR=24						
ASAR	**Alice Springs**	**23.06**	**219**	P	P	13 33 55.2	+0.2
	0.5nm,0.3s,baz=52,slow=8.9,SNR=27						
FITZ	**Fitzroy Crossi**	**26.11**	**240**	P	P	13 34 22.2	-0.6
	0.8nm,0.5s,baz=66,slow=12,SNR=8.5						
SONM	**Songino Array**	**65.51**	**330**	P	P	13 39 31.3	+0.2
	0.2nm,0.5s,baz=138,slow=6.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**147.34**	**285**	PKPbc	PKPdf	13 48 30.1	+1.0
	1.6nm,0.8s,baz=80,slow=3.0,SNR=4.3						

*AUST **21** 13:31:29.8, 2°.00N×122°.50E, h100km*
*ISCJB **21** 13:31:50.6±0.4, 0°.28N±0°.04×122°.41E±0°.06, h173km±3km, mb3.7/9, Error ellipse: s-maj=9.4km s-min=6.8km az=158.7*
*IDC **21** 13:31:51.4±2.1, 0°.23N×122°.61E, h160km±21km, mb3.5/9, mb1 3.7/12, mb1mx3.5/27, mbtmp3.6/12, Error ellipse: s-maj=26.0km s-min=10.8km az=69.0*
*DJA **21** 13:31:54.6±0.7, 0°.7N±4°.×12°.2E±°, h134km±6km, M4.2/8, mb4.2/1, MLv4.1/8*

ISC 21 13:31:51.9±0.7, 0°.22N±0°.05×122°.43E±0°.06, h163km±6km, n36, σ1°30/39, mb3.7/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.55**	**298**	P	**Pn**	**13 32 14.9**	**-0.1**
MRSI				S	**Sn**	**13 32 32.6**	**0.0**
LUWI	**Luwuk**	**1.30**	**165**	P	**Pn**	**13 32 20.9**	**+0.4**
LUWI				S	**Sn**	**13 32 41.7**	**-0.9**
LUWI	**Luwuk**	**1.30**	**165**	P	**Pn**	**13 32 20.7**	**+0.2**
	baz=3.1,SNR=35						
LUWI				S	**Sn**	**13 32 41.9**	**-0.7**
	baz=3.1,SNR=23						
KMSI	**Cibinong**	**1.59**	**77**	P	**Pn**	**13 32 24.7**	**+1.3**
KMSI				S	**Sn**	**13 32 48.9**	**+1.3**
TOLI	**Toli-Toli**	**1.86**	**299**	P	**Pn**	**13 32 28.0**	**+1.7**
TOLI				S	**Sn**	**13 32 52.1**	**-0.8**
SKSI	**Soroako, Sulaw**	**2.94**	**202**	P	**Pn**	**13 32 39.9**	**+0.8**
KKSI	**Kolaka, Sulawe**	**4.43**	**190**	P	**Pn**	**13 32 59.3**	**+1.2**
SPSI	**Sidrap Palu**	**4.93**	**213**	P	**Pn**	**13 33 06.1**	**+1.4**
KAPI	**Kappang**	**5.85**	**207**	P	**Pn**	**13 33 17.0**	**+0.2**
	7.8nm,0.3s,baz=38,slow=12,SNR=12						
BKSI	**Bulukumba**	**5.97**	**203**	P	**Pn**	**13 33 20.7**	**+2.4**
DAV	**Davao City (W)**	**7.50**	**25**	P	**Pn**	**13 33 36.1**	**-2.5**
	83nm,0.3s,baz=277,slow=3.8,SNR=3.4						
TLE	**Tual**	**11.82**	**120**	S	Sn	13 36 26.9	-20
	baz=13,SNR=3.3						
MTN	**Manton Dam**	**15.59**	**147**	P	**P**	**13 35 25.1**	**+1.3**
	baz=17,SNR=3.3						
KDU	**Kakadu**	**16.24**	**143**	P	**P**	**13 35 32.2**	**+1.2**
	baz=18,SNR=3.9						
KNRA	**Kununurra**	**16.99**	**159**	P	**Pn**	**13 35 40.1**	**+0.1**
	baz=19,SNR=11						
FITZ	**Fitzroy Crossi**	**18.48**	**170**	P	**P**	**13 35 55.5**	**0.0**
	1.7nm,0.3s,baz=350,slow=11,SNR=32						
FITZ	**Fitzroy Crossi**	**18.48**	**170**	P	**P**	**13 35 55.9**	**+0.4**
	baz=20,SNR=11						
WRA	**Warramunga Arr**	**23.19**	**150**	P	**P**	**13 36 43.1**	**-1.3**
	0.8nm,0.3s,baz=326,slow=10,SNR=19						
WRA				PcP	**PcP**	**13 40 26.4**	**-1.3**
	0.5nm,1.1s,baz=324,slow=2.3,SNR=3.6						
ASAR	**Alice Springs**	**26.23**	**156**	P	**P**	**13 37 11.2**	**-0.7**
	1.0nm,0.5s,baz=344,slow=14,SNR=23						
ASAR				PcP	**PcP**	**13 40 33.5**	**-0.9**
	0.4nm,0.3s,baz=352,slow=2.1,SNR=13						
MEEK	**Meekatharra**	**26.95**	**188**	P	**P**	**13 37 17.3**	**-1.0**
	baz=29,SNR=13						
CMAR	**Chiang Mai Arr**	**29.34**	**309**	P	**P**	**13 37 42.0**	**+2.4**
	1.7nm,0.8s,baz=132,slow=6.4,SNR=9.1						
MORW	**Morawa**	**29.76**	**191**	P	**P**	**13 37 42.6**	**-0.5**
	baz=32,SNR=3.4						
KLBR	**Kellerberrin**	**31.95**	**188**	P	**P**	**13 38 01.6**	**-0.8**
	baz=34,SNR=6.8						
STKA	**Stephens Creek**	**36.72**	**152**	P	**P**	**13 38 42.9**	**-0.5**
	2.7nm,0.5s,baz=337,slow=9.0,SNR=9.8						
STKA	**Stephens Creek**	**36.72**	**152**	P	**P**	**13 38 43.6**	**+0.2**
	baz=38,SNR=8.1						
RAMN	**Ramite**	**43.50**	**311**	*eP*	**P**	**13 39 41.2**	**+1.6**
	8.2nm,0.5s						
JIRN	**Jiri**	**44.18**	**311**	*eP*	**P**	**13 39 42.0**	**-3.2**
	6.0nm,0.3s						
GUN	**Gumba**	**44.54**	**311**	*eP*	P	13 39 43.8	-4.3
KOLN	**Koldanda**	**46.21**	**310**	*eP*	**P**	**13 39 59.0**	**-2.0**
	8.5nm,0.6s						
DANN	**Dangsing**	**46.37**	**310**	*eP*	P	13 39 56.1	-6.3
	20nm,0.6s						
PYUN	**Piuthan**	**46.84**	**310**	*eP*	P	13 40 01.2	-4.7
	21nm,0.6s						
SONM	**Songino Array**	**49.43**	**346**	P	**P**	**13 40 25.7**	**+0.3**
	0.5nm,0.8s,baz=163,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**58.13**	**329**	P	**P**	**13 41 28.6**	**+0.1**
	1.3nm,0.5s,baz=123,slow=8.9,SNR=21						
PETK	**Petropavlovsk-**	**60.31**	**24**	P	**P**	**13 41 43.8**	**+0.5**
	0.9nm,0.9s,baz=207,slow=2.7,SNR=4.6						
KURBB	**Kurchatov Arra**	**62.49**	**330**	P	**P**	**13 41 58.2**	**+0.3**
	0.7nm,0.3s,baz=138,slow=6.2,SNR=5.3						
BVAR	**Borovoye Array**	**68.00**	**329**	P	**P**	**13 42 32.1**	**-1.3**
	0.7nm,0.7s,baz=156,slow=7.6,SNR=4.2						

ROM 21 13:38:42.0±0.1, 42°.59N×13°.19E, h12km±6km, Md1.7/4, Ml1.3/2, Error ellipse: s-maj=2.0km s-min=0.9km az=98.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**279**	Pg	Pg	13 38 45.4	+0.3
LNSS				Sg	Sg	13 38 47.7	+0.3
TERO	**Teramo**	**0.31**	**83**	Pg	Pg	13 38 48.8	+0.4
TERO				Sg	Sg	13 38 53.5	+0.8
FIAM	**Fiamignano**	**0.32**	**189**	Pg	Pg	13 38 49.1	+0.4
FIAM				Sg	Sg	13 38 54.0	+0.9
	15nm,0.4s						

*NSSC **21** 13:39:26.9±2.5, 41°.40N×15°.20E, h5km±999km*
*BJI **21** 13:39:50.0, 41°.69N×18°.58E, h5km, mB5.1/34, mb5.0/45, Ms4.9/36, Ms7 4.7/34*
*SKO **21** 13:39:54.8, 41°.95N×18°.84E, h4km, M4.4, ML5.2*
*TIR **21** 13:39:55.1±1.4, 41°.95N×19°.11E, h20km±127km, ML5.0*
*ROM **21** 13:39:56.9±0.1, 41°.85N×19°.19E, h10km, Ml4.9/72, Error ellipse: s-maj=2.4km s-min=1.7km az=100.0*
*SFS **21** 13:39:56.0, 41°.81N×19°.18E, h10km, ML4.9*
*PDG **21** 13:39:56.9±0.5, 41°.86N×19°.15E, h12km, MD4.8/7, ML4.8/8, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*MOS **21** 13:39:56.7±1.2, 41°.89N×19°.05E, h20km, mb5.1/51, MS4.6/35, Error ellipse: s-maj=3.2km s-min=2.5km az=99.6*
*CSEM **21** 13:39:57.2±0.1, 41°.86N×19°.16E, h10km, ML4.8/8, Mw5.1, Error ellipse: s-maj=1.9km s-min=1.6km az=24.0*
*THE **21** 13:39:57.1, 41°.86N×19°.07E, h0km±2km, ML4.8/3, Error ellipse: s-maj=3.0km s-min=1.1km az=278.0*
*LDG **21** 13:39:57.8±0.1, 41°.91N×19°.21E, h25km, Ml4.7/12, Error ellipse: s-maj=4.7km s-min=3.3km az=9.0*
*TEH **21** 13:39:57.0, 41°.82N×19°.18E, h10km, ML4.9*
*NE

TIR eSg Sn 13 40 23.5 -0.7
SNR=92
TIR S Sn 13 40 24.5 +0.3
HCY Herceg Novi 0.76 319 ⇑iPg Pg 13 40 11.5 -0.9
HCY eSg Sb 13 40 23.3 +0.6
HCY Herceg Novi 0.76 319 ⇑iPg Pg 13 40 11.5 -0.9
HCY eSg Sb 13 40 23.3 +0.6
BCI Bajram Curri 0.83 53 ePG Pb 13 40 12.7 -1.0
BCI eSG Sn 13 40 27.0 +0.4
BCI Bajram Curri 0.83 53 ePg Pb 13 40 12.6 -1.0
SNR=92
BCI eSg Sn 13 40 27.0 +0.4
SNR=92
NKME Niksic 0.91 350 ⇑iPg Pb 13 40 13.7 -1.3
NKME eSg Sn 13 40 28.4 -0.2
NKME Niksic 0.91 350 ⇑iPg Pb 13 40 13.7 -1.3
NKME eSg Sn 13 40 28.4 -0.2
PVY Plav 0.93 39 ⇑iPg Pb 13 40 14.2 -1.2
PVY eSg Sn 13 40 29.6 +0.4
PVY Plav 0.93 39 ⇑iPg Pb 13 40 14.2 -1.2
PVY eSg Sn 13 40 29.6 +0.4
NKY Niksic 0.95 352 ⇑iPg Pb 13 40 14.4 -1.3
NKY Niksic 0.95 352 ⇑iPg Pb 13 40 14.4 -1.3
PHP Peshkopia 0.97 101 ePG Pb 13 40 15.3 -0.7
PHP eSG Sn 13 40 31.3 +1.3
PHP Peshkopia 0.97 101 P Pb 13 40 15.3 -0.7
PHP S Sn 13 40 31.1 +1.1
PHP Peshkopia 0.97 101 P Pb 13 40 15.3 -0.7
PHP S Sn 13 40 31.1 +1.1
PHP Peshkopia 0.97 101 P Pb 13 40 15.3 -0.7
PHP S Sn 13 40 31.1 +1.1
PHP Peshkopia 0.97 101 P Pb 13 40 15.3 -0.7
PHP S Sn 13 40 31.1 +1.1
TREB Trebinje 1.04 324 ePg Pg 13 40 17.8 +0.1
TREB i Sg Sn 13 40 32.3 +0.5
TREB Trebinje 1.04 324 ePg Pg 13 40 17.8 +0.1
TREB i Sg Sn 13 40 32.3 +0.5
BRY Bratogost 1.13 336 ⇓iPg Pb 13 40 17.9 -0.9
BRY i Sg Sg 13 40 35.2 +1.0
BRY Bratogost 1.13 336 ⇓iPg Pb 13 40 17.9 -0.9
BRY i Sg Sg 13 40 35.2 +1.0
BEY Berane 1.13 28 ⇓iPg Pb 13 40 18.1 -0.7
BEY eSg Sg 13 40 36.2 +1.9
IVA Berane 1.13 28 ⇓iPg Pb 13 40 18.1 -0.7
IVA eSg Sg 13 40 36.2 +1.9
UPM Unac-Piva 1.34 352 ⇓iPg Pn 13 40 22.0 +0.1
UPM eSg Sg 13 40 42.4 +1.4
UPM Unac-Piva 1.34 352 ⇓iPg Pn 13 40 22.0 +0.1
UPM eSg Sg 13 40 42.4 +1.4
PLE Pljevlja 1.47 6 ⇑iPg Pn 13 40 23.6 +0.1
PLE eSg Sg 13 40 45.9 +1.0
PLE Pljevlja 1.47 6 ⇑iPg Pn 13 40 23.6 +0.1
PLE eSg Sg 13 40 45.9 +1.0
STON Ston 1.48 313 ePg Pg 13 40 25.7 -0.3
STON Sg Sg 13 40 46.0 +0.8
STON Ston 1.48 313 ePg Pg 13 40 25.7 -0.3
STON Sg Sg 13 40 46.0 +0.8
SJES Sjenica 1.51 23 ePg Pn 13 40 24.4 +0.3
SJES eSg Sg 13 40 47.0 +0.7
SJES Sjenica 1.51 23 ePg Pn 13 40 24.4 +0.3
SJES eSg Sg 13 40 47.0 +0.7
MESG Mesagne 1.62 218 Pg Pn 13 40 25.6 +0.1
38µm,1.1s
MESG Mesagne 1.62 218 P Pn 13 40 25.6 +0.1
38µm,1.1s
SKO Skopje 1.70 86 P Pb 13 40 29.2 +0.8
SKO S Sg 13 40 53.2 +1.1
SKO Skopje 1.70 86 P Pb 13 40 29.2 +0.8
SKO S Sg 13 40 53.2 +1.1
SKO Skopje 1.70 86 *i* Pn Pg 13 40 29.7 -0.4
SKO *i* Sn Sg 13 40 53.2 +1.1
SKO eLg Lg 13 40 53.9
comp=E,18µm,0.8s
SKO eLg Lg 13 40 54.7
comp=N,21µm,1.0s
SKO Skopje 1.70 86 P Pb 13 40 29.2 +0.8
SKO S Sg 13 40 53.2 +1.1
SKO Skopje 1.70 86 P Pb 13 40 29.2 +0.8
SKO Skopje 1.70 86 *i* Pn Pg 13 40 29.7 -0.4
SKO S Sg 13 40 53.2 +1.1
SKO eLg Lg 13 40 54.6
comp=N,21µm,1.0s
KBN Korca 1.74 135 ePG Pb 13 40 29.8 +0.6
KBN Korca 1.74 135 P Pb 13 40 29.9 +0.7
KBN S Sg 13 40 55.1 +1.4
KBN Korca 1.74 135 P Pb 13 40 29.9 +0.7
KBN S Sg 13 40 55.1 +1.4
KBN Korca 1.74 135 P Pb 13 40 29.9 +0.7
KBN S Sg 13 40 55.1 +1.4
KBN Korca 1.74 135 ePg Pb 13 40 29.8 +0.6
SNR=91
BIA Bitola 1.83 117 P Pb 13 40 30.9 +0.3
BIA S Sb 13 40 54.9 +1.6
BIA Bitola 1.83 117 *i* Pn Pb 13 40 30.4 -0.2
BIA *i* Sn Sg 13 40 57.3 +0.9
BIA Bitola 1.83 117 P Pb 13 40 30.9 +0.3
BIA S Sb 13 40 54.9 +1.6
BIA Bitola 1.83 117 *i* Pn Pb 13 40 30.4 -0.2
BIA Bitola 1.83 117 P Pb 13 40 30.9 +0.3
BIA S Sb 13 40 54.9 +1.6
SCTE Santa Cesarea 1.88 197 Pg Pn 13 40 29.9 +1.0
comp=N,11µm,0.5s
SCTE Santa Cesarea 1.88 197 P Pn 13 40 29.9 +1.0
comp=N,11µm,0.5s
BAI Bari 1.88 247 ePn Pn 13 40 29.5 +0.5
NOCI Noci 1.92 236 Pg Pn 13 40 29.8 +0.2
comp=N,16µm,0.8s
NOCI Noci 1.92 236 P Pn 13 40 29.8 +0.2
comp=N,16µm,0.8s
SELS Selova 1.97 46 ePn Pb 13 40 31.8 -1.3
SELS eSn Sb 13 40 57.9 +0.5
FNA Florina 1.98 122 P Pb 13 40 32.9 -0.4
FNA S Sb 13 40 59.4 +1.6
FNA Florina 1.98 122 P Pb 13 40 32.9 -0.4
FNA S Sb 13 40 59.4 +1.6
FNA Florina 1.98 122 eP Pb 13 40 33.8 +0.5
FNA Florina 1.98 122 P Pb 13 40 32.9 -0.4
FNA S Sb 13 40 59.4 +1.6
FNA Florina 1.98 122 P Pb 13 40 32.9 -0.4
FNA S Sb 13 40 59.4 +1.6
BBLS Lazići 2.00 5 ePn Pb 13 40 33.7 +0.1
BBLS eSn Sb 13 40 58.7 +0.4
BBLS Lazići 2.00 5 ePn Pb 13 40 33.7 +0.1
BBLS eSn Sb 13 40 58.7 +0.4
NEST Nestorio 2.03 135 P Pb 13 40 34.0 -0.1
NEST S Sb 13 41 00.8 +1.6
NEST Nestorio 2.03 135 P Pb 13 40 34.0 -0.1
NEST S Sb 13 41 00.8 +1.6
SRN Sarande 2.09 162 P Pn 13 40 33.0 +1.2
SRN Sarande 2.09 162 P Pn 13 40 33.0 +1.2
SRN Sarande 2.09 162 P Pn 13 40 33.0 +1.2
AMUR Altamura 2.16 244 Pg Pn 13 40 33.2 +0.3
comp=N,5µm,0.6s
AMUR Altamura 2.16 244 P Pn 13 40 33.2 +0.3
comp=N,5µm,0.6s
BARS Barje 2.18 63 ePn Pb 13 40 35.5 -1.0
BARS eSn Sb 13 41 04.2 +0.9
KEK Kerkira 2.21 167 P Pn 13 40 34.4 +0.9
KEK Kerkira 2.21 167 Pg Pn 13 40 33.8 +0.3
comp=N,6µm,0.7s
KEK Kerkira 2.21 167 eP Pn 13 40 34.6 +1.1
KEK Kerkira 2.21 167 P Pn 13 40 34.4 +0.9
KEK Kerkira 2.21 167 Pg Pn 13 40 33.8 +0.3
comp=N,6µm,0.7s
KEK Kerkira 2.21 167 P Pn 13 40 34.4 +0.9
DIVS Divibare 2.31 15 P Pn 13 40 36.5 +1.5
DIVS Divibare 2.31 15 ePn Pn 13 40 36.8 +1.8
DIVS eSn Sb 13 41 06.7 -0.4
DIVS Divibare 2.31 15 P Pn 13 40 36.5 +1.5
DIVS Divibare 2.31 15 ePn Pn 13 40 36.8 +1.8
DIVS eSn Sb 13 41 06.7 -0.4
GRUS Gruza 2.31 29 ePn Pb 13 40 37.0 -1.9
GRUS eSn Sb 13 41 06.5 -0.7
GRUS Gruza 2.31 29 ePn Pb 13 40 37.0 -1.9
GRUS eSn Sb 13 41 06.5 -0.7
MRVN Minervino Murg 2.38 251 Pg Pn 13 40 36.2 +0.3
comp=N,5µm,0.8s
MRVN Minervino Murg 2.38 251 P Pn 13 40 36.2 +0.3
comp=N,5µm,0.8s
MIGL Miglionico 2.42 239 Pg Pn 13 40 36.7 +0.3
comp=N,37µm,0.8s
MIGL Miglionico 2.42 239 P Pn 13 40 36.7 +0.3
comp=N,37µm,0.8s
IGT Igoumenitsa 2.50 159 P Pn 13 40 38.9 +1.4
IGT S Sb 13 41 10.6 -1.9
IGT Igoumenitsa 2.50 159 P Pn 13 40 38.9 +1.4
IGT S Sb 13 41 10.6 -1.9
IGT Igoumenitsa 2.50 159 P Pn 13 40 38.9 +1.4
IGT S Sb 13 41 10.6 -1.9
IGT Igoumenitsa 2.50 159 P Pn 13 40 38.9 +1.4
IGT S Sb 13 41 10.6 -1.9
KZN Kozani 2.51 128 P Pn 13 40 39.6 +1.8
KZN Kozani 2.51 128 P Pn 13 40 39.6 +1.8
KZN Kozani 2.51 128 eP Pb 13 40 40.7 -1.6
KZN Kozani 2.51 128 P Pn 13 40 39.6 +1.8
KZN Kozani 2.51 128 P Pn 13 40 39.6 +1.8
TRUS Trudelj 2.52 21 ePn Pn 13 40 38.8 +1.0
TRUS eSn Sb 13 41 11.8 -1.4
TRUS Trudelj 2.52 21 ePn Pn 13 40 38.8 +1.0
TRUS eSn Sb 13 41 11.8 -1.4
JAN Janina 2.55 149 P Pb 13 40 40.8 -2.2
JAN Janina 2.55 149 P Pb 13 40 40.8 -2.2
JAN Janina 2.55 149 eP Pb 13 40 40.8 -2.2
JAN Janina 2.55 149 P Pb 13 40 40.8 -2.2
JAN Janina 2.55 149 P Pb 13 40 40.8 -2.2
CRAC Craco 2.56 235 Pg Pn 13 40 38.5 +0.2
comp=N,23µm,1.0s
CRAC Craco 2.56 235 P Pn 13 40 38.5 +0.2
comp=N,23µm,1.0s
PALZ Palazzo San Ge 2.59 250 Pg Pn 13 40 39.4 +0.6
comp=N,34µm,1.2s
PALZ Palazzo San Ge 2.59 250 P Pn 13 40 39.4 +0.6
comp=N,34µm,1.2s
GRG Griva 2.60 110 P Pn 13 40 41.1 +2.2
GRG Griva 2.60 110 P Pn 13 40 41.1 +2.2
GRG Griva 2.60 110 eP Pb 13 40 41.5 -2.2
GRG Griva 2.60 110 P Pn 13 40 41.1 +2.2
GRG Griva 2.60 110 P Pn 13 40 41.1 +2.2
VAY Valandovo 2.61 101 P Pn 13 40 40.0 +1.0
VAY Valandovo 2.61 101 P Pn 13 40 40.0 +1.0
VAY Valandovo 2.61 101 *i* Pn Pn 13 40 40.7 +1.6
VAY eLg Lg 13 41 20.3
comp=N,4µm,0.7s
VAY eLg Lg 13 41 26.0
comp=Z,3µm,0.9s
VAY Valandovo 2.61 101 P Pn 13 40 40.0 +1.0
VAY Valandovo 2.61 101 P Pn 13 40 40.0 +1.0
VAY Valandovo 2.61 101 *i* Pn Pn 13 40 40.6 +1.6
VAY eLg Lg 13 41 25.9
comp=Z,3µm,0.9s
TEKS Tekeris 2.69 5 ePn Pn 13 40 42.3 +2.1
TEKS eSn Sn 13 41 15.0 +2.6
TEKS Tekeris 2.69 5 ePn Pn 13 40 42.3 +2.1
TEKS eSn Sn 13 41 15.0 +2.6
PTRP Pietrapertosa 2.71 241 Pg Pn 13 40 41.1 +0.6
PTRP Pietrapertosa 2.71 241 P Pn 13 40 41.1 +0.6
ORI Oriolo Calabro 2.74 230 Pg Pn 13 40 41.2 +0.3
comp=Z,9µm,0.7s
ORI Oriolo Calabro 2.74 230 P Pn 13 40 41.2 +0.3
comp=Z,9µm,0.7s
PZUN Potenza 2.82 245 Pg Pn 13 40 42.5 +0.6
comp=Z,31µm,2.1s
PZUN Potenza 2.82 245 P Pn 13 40 42.5 +0.6
comp=Z,31µm,2.1s
SVIS Svilajnac 2.82 31 ePn Pn 13 40 43.5 +1.5
VULT Monte Vulture 2.83 252 Pg Pn 13 40 42.7 +0.6
comp=Z,12µm,0.9s
VULT Monte Vulture 2.83 252 P Pn 13 40 42.7 +0.6
comp=Z,12µm,0.9s
BOLS Boljevac 2.83 45 ePn Pn 13 40 42.7 +0.6
BOLS eSn Sn 13 41 17.8 +1.9
BOLS Boljevac 2.83 45 ePn Pn 13 40 42.7 +0.6
BOLS eSn Sn 13 41 17.8 +1.9
SCHR S. Chirico Rap 2.88 236 Pg Pn 13 40 42.9 +0.1
comp=Z,5µm,1.2s
SCHR S. Chirico Rap 2.88 236 P Pn 13 40 42.9 +0.1
comp=Z,5µm,1.2s
KNT Kendrikon 2.89 103 P Pn 13 40 44.8 +1.9
KNT Kendrikon 2.89 103 P Pn 13 40 44.8 +1.9
KNT Kendrikon 2.89 103 P Pn 13 40 44.8 +1.9
KNT Kendrikon 2.89 103 P Pn 13 40 44.8 +1.9
ZAPS Zavoj 2.92 60 ePn Pb 13 40 46.4 -2.8
ZAPS eSn Sb 13 41 21.6 -3.0
ZAPS Zavoj 2.92 60 ePn Pb 13 40 46.4 -2.8
ZAPS eSn Sb 13 41 21.6 -3.0
SGTA Sant Agata di 2.95 257 Pg Pn 13 40 44.6 +0.8
comp=Z,11µm,1.4s
SGTA Sant Agata di 2.95 257 P Pn 13 40 44.6 +0.8
comp=Z,11µm,1.4s
MCEL Monticello 2.98 240 Pg Pn 13 40 44.0 -0.2
comp=Z,4µm,0.9s
MCEL Monticello 2.98 240 P Pn 13 40 44.0 -0.2
comp=Z,4µm,0.9s
MRLC Muro Lucano 2.99 249 Pg Pn 13 40 44.7 +0.4
comp=Z,8µm,1.1s
MRLC Muro Lucano 2.99 249 P Pn 13 40 44.7 +0.4
comp=Z,8µm,1.1s
MELA Melanico ??? S 3.03 268 Pg Pn 13 40 45.6 +0.8
comp=Z,14µm,1.0s
MELA Melanico ??? S 3.03 268 P Pn 13 40 45.6 +0.8
comp=Z,14µm,1.0s
MOCO Biccari - m.te 3.05 262 Pg Pn 13 40 46.4 +1.2
comp=Z,10µm,1.4s
LIT Litokhoron 3.07 124 eP Pn 13 40 47.5 +2.0
CAFE Carife 3.08 255 Pg Pn 13 40 46.3 +0.8
comp=Z,9µm,1.3s
CAFE Carife 3.08 255 P Pn 13 40 46.3 +0.8
comp=Z,9µm,1.3s
VTS Vitosha 3.08 75 P Pn 13 40 48.0 +2.3
VTS Vitosha 3.08 75 P Pn 13 40 48.0 +2.3
VTS Vitosha 3.08 75 ⇓iP Pn 13 40 47.2 +1.5
VTS Vitosha 3.08 75 P Pn 13 40 48.0 +2.3
VTS Vitosha 3.08 75 P Pn 13 40 48.0 +2.3
THE Thessaloniki 3.12 112 P Pn 13 40 47.9 +1.9
THE Thessaloniki 3.12 112 P Pn 13 40 47.9 +1.9
THE Thessaloniki 3.12 112 P Pn 13 40 47.9 +1.9
THE Thessaloniki 3.12 112 P Pn 13 40 47.9 +1.9
MMN Mormanno 3.12 232 Pg Pn 13 40 46.7 +0.7
comp=Z,2µm,1.1s
MMN Mormanno 3.12 232 P Pn 13 40 46.7 +0.7
comp=Z,2µm,1.1s
SNAL S. Angelo Dei 3.13 254 Pg Pn 13 40 46.6 +0.4
comp=Z,6µm,0.7s
SNAL S. Angelo Dei 3.13 254 P Pn 13 40 46.6 +0.4
comp=Z,6µm,0.7s
CUC Castrocucco 3.16 235 Pg Pn 13 40 46.7 0.0
comp=Z,2µm,0.7s
CUC Castrocucco 3.16 235 ePn Pn 13 40 46.9 +0.3
CUC Castrocucco 3.16 235 ePn Pn 13 40 46.9 +0.3
THL Klokotos Trika 3.16 136 P Pn 13 40 48.7 +2.1
THL Klokotos Trika 3.16 136 eP Pn 13 40 49.3 +2.7
THL Klokotos Trika 3.16 136 P Pn 13 40 48.7 +2.1
SGO Sicignano 3.19 247 Pg Pn 13 40 47.4 +0.2
SGO Sicignano 3.19 247 P Pn 13 40 47.4 +0.2
CIGN Sant'Elia a Pi 3.20 268 Pg Pn 13 40 47.9 +0.7
comp=Z,7µm,1.6s
CIGN Sant'Elia a Pi 3.20 268 P Pn 13 40 47.9 +0.7
comp=Z,7µm,1.6s
MCRV Calabrutti - M 3.20 251 Pg Pn 13 40 47.4 +0.1
comp=Z,2µm,0.5s
MCRV Calabrutti - M 3.20 251 P Pn 13 40 47.4 +0.1
comp=Z,2µm,0.5s
BLY Banja Luka 3.22 334 Pg Pn 13 40 49.3 +1.8
comp=Z,7µm,1.6s
BLY Banja Luka 3.22 334 P Pn 13 40 49.3 +1.8
comp=Z,7µm,1.6s
HORT Hortiatis 3.23 112 P Pn 13 40 49.1 +1.5
HORT Hortiatis 3.23 112 P Pn 13 40 49.1 +1.5
HORT Hortiatis 3.23 112 P Pn 13 40 49.1 +1.5
CDRU Civita di Ruta 3.23 246 Pg Pn 13 40 47.8 +0.1
comp=Z,1µm,0.6s
CDRU Civita di Ruta 3.23 246 P Pn 13 40 47.8 +0.1
comp=Z,1µm,0.6s
MGR Morigerati 3.24 239 Pg Pn 13 40 48.3 +0.6
comp=Z,2µm,0.6s
MGR Morigerati 3.24 239 P Pn 13 40 48.3 +0.6
comp=Z,2µm,0.6s
CSSN Cassano Irpino 3.28 253 Pg Pn 13 40 48.6 +0.3
CSSN Cassano Irpino 3.28 253 P Pn 13 40 48.6 +0.3
LKD2 Lefkada island 3.28 159 P Pn 13 40 49.1 +0.8
LKD2 Lefkada island 3.28 159 eP Pn 13 40 49.4 +1.1
LKD2 Lefkada island 3.28 159 P Pn 13 40 49.1 +0.8
LKD2 Lefkada island 3.28 159 P Pn 13 40 49.1 +0.8
CMPR Campora 3.31 243 Pg Pn 13 40 49.0 +0.3
comp=Z,4µm,0.8s
CMPR Campora 3.31 243 P Pn 13 40 49.0 +0.3
comp=Z,4µm,0.8s
FGSL Fruska Gora 3.32 8 ePn Pn 13 40 50.0 +1.2
IPES Pescosannita 3.32 260 Pg Pn 13 40 50.4 +1.6
FRGS Fruska Gora 3.32 8 ePn Pn 13 40 50.0 +1.2
SOH Sokhos 3.32 107 P Pn 13 40 50.9 +2.0
SOH Sokhos 3.32 107 P Pn 13 40 50.9 +2.0
SOH Sokhos 3.32 107 eP Pn 13 40 51.6 +2.7
SOH Sokhos 3.32 107 P Pn 13 40 50.9 +2.0
SOH Sokhos 3.32 107 P Pn 13 40 50.9 +2.0
PSB1 Pescosannita 3.34 260 Pg Pn 13 40 50.0 +0.9
comp=Z,4µm,1.1s
PSB1 Pescosannita 3.34 260 P Pn 13 40 50.0 +0.9
comp=Z,4µm,1.1s
FRES Fresagrandinar 3.36 273 Pg Pn 13 40 50.7 +1.3
comp=Z,6µm,0.8s
FRES Fresagrandinar 3.36 273 P Pn 13 40 50.7 +1.3
comp=Z,6µm,0.8s
SACR S. Croce Del S 3.38 263 Pg Pn 13 40 50.7 +1.0
comp=Z,3µm,1.2s
SACR S. Croce Del S 3.38 263 P Pn 13 40 50.7 +1.0
comp=Z,3µm,1.2s
SRS Serrai 3.41 101 P Pn 13 40 52.1 +2.1
SRS Serrai 3.41 101 P Pn 13 40 52.1 +2.1
SRS Serrai 3.41 101 P Pn 13 40 52.1 +2.1
SRS Serrai 3.41 101 P Pn 13 40 52.1 +2.1
SERS Sersale 3.41 215 Pg Pn 13 40 49.9 -0.2
comp=Z,3µm,1.2s
SERS Sersale 3.41 215 P Pn 13 40 49.9 -0.2
comp=Z,3µm,1.2s
TRIV Trivento 3.46 270 Pg Pn 13 40 51.9 +1.2
comp=Z,2µm,0.8s
TRIV Trivento 3.46 270 P Pn 13 40 51.9 +1.2
comp=Z,2µm,0.8s
NVR Nevrokopi 3.56 97 P Pn 13 40 54.6 +2.5
NVR Nevrokopi 3.56 97 eP Pn 13 40 55.0 +2.9
NVR Nevrokopi 3.56 97 P Pn 13 40 54.6 +2.5
NVR Nevrokopi 3.56 97 P Pn 13 40 54.6 +2.5
PLG Polygyros 3.56 113 P Pn 13 40 54.4 +2.3
PLG Polygyros 3.56 113 P Pn 13 40 54.4 +2.3
PLG Polygyros 3.56 113 eP Pn 13 40 54.6 +2.5
PLG Polygyros 3.56 113 P Pn 13 40 54.4 +2.3
PLG Polygyros 3.56 113 P Pn 13 40 54.4 +2.3
EVR Evrytania 3.57 145 P Pn 13 40 55.2 +2.8
EVR Evrytania 3.57 145 eP Pn 13 40 55.5 +3.1
EVR Evrytania 3.57 145 P Pn 13 40 55.2 +2.8
EVR Evrytania 3.57 145 P Pn 13 40 55.2 +2.8
SGG Gregorio Mates 3.62 264 Pg Pn 13 40 54.1 +1.0
comp=Z,1µm,0.5s
SGG Gregorio Mates 3.62 264 P Pn 13 40 54.1 +1.0
comp=Z,1µm,0.5s
UDBI Udbina 3.64 318 ePn Pn 13 40 55.4 +2.1
UDBI Sn Sn 13 41 38.3 +2.3
UDBI Udbina 3.64 318 ePn Pn 13 40 55.4 +2.1
UDBI Sn Sn 13 41 38.2 +2.3
MAKR Makrakomi, Fth 3.64 141 P Pn 13 40 55.6 +2.3
MAKR Makrakomi, Fth 3.64 141 P Pn 13 40 55.6 +2.3
MAKR Makrakomi, Fth 3.64 141 P Pn 13 40 55.6 +2.3
MIDA Miranda 3.69 268 Pg Pn 13 40 54.9 +1.0
comp=Z,2µm,0.7s
MIDA Miranda 3.69 268 P Pn 13 40 54.9 +1.0
comp=Z,2µm,0.7s
GRI Girifalco 3.70 216 Pg Pn 13 40 54.2 +0.1
comp=Z,1µm,0.5s
GRI Girifalco 3.70 216 P Pn 13 40 54.2 +0.1
comp=Z,1µm,0.5s
DJES Djerdap 3.71 40 ePn Pn 13 40 55.7 +1.5
DJES eSn Sn 13 41 37.8 +0.1
LPEL Lama dei Pelig 3.72 274 Pg Pn 13 40 55.7 +1.3
comp=Z,2µm,0.7s
LPEL Lama dei Pelig 3.72 274 P Pn 13 40 55.7 +1.3
comp=Z,2µm,0.7s
VAGA Valle Agricola 3.73 265 Pg Pn 13 40 55.9 +1.4
comp=Z,4µm,0.7s
VAGA Valle Agricola 3.73 265 P Pn 13 40 55.9 +1.4
comp=Z,4µm,0.7s
AGG Agios Georgios 3.73 139 P Pn 13 40 56.2 +1.7
AGG Agios Georgios 3.73 139 P Pn 13 40 56.2 +1.7
AGG Agios Georgios 3.73 139 eP Pn 13 40 56.6 +2.1
AGG Agios Georgios 3.73 139 P Pn 13 40 56.2 +1.7
AGG Agios Georgios 3.73 139 P Pn 13 40 56.2 +1.7
OVO Vesuviano 3.74 255 Pg Pn 13 40 55.7 +1.0
OVO Vesuviano 3.74 255 P Pn 13 40 55.7 +1.0
RNI2 Rionero Sannit 3.76 269 Pg Pn 13 40 56.5 +1.6
comp=Z,2µm,0.8s
RNI2 Rionero Sannit 3.76 269 P Pn 13 40 56.5 +1.6
comp=Z,2µm,0.8s
VLS Valsamata 3.85 163 P Pn 13 40 56.0 -0.1
VLS Valsamata 3.85 163 P Pn 13 40 56.0 -0.1
VLS Valsamata 3.85 163 eP Pn 13 40 56.4 +0.3
VLS Valsamata 3.85 163 P Pn 13 40 56.0 -0.1
VLS Valsamata 3.85 163 P Pn 13 40 56.0 -0.1
CERA Filignano 3.87 268 Pg Pn 13 40 57.9 +1.5
comp=Z,2µm,0.6s
CERA Filignano 3.87 268 P Pn 13 40 57.9 +1.5
comp=Z,2µm,0.6s
INTR Introdacqua 3.93 274 Pg Pn 13 40 58.4 +1.1
comp=Z,3µm,0.8s
INTR Introdacqua 3.93 274 P Pn 13 40 58.4 +1.1
comp=Z,3µm,0.8s
PAIG Paliouri 3.93 118 P Pn 13 40 58.4 +1.2
PAIG Paliouri 3.93 118 P Pn 13 40 58.4 +1.2
PAIG Paliouri 3.93 118 eP Pn 13 40 58.6 +1.4
PAIG Paliouri 3.93 118 P Pn 13 40 58.4 +1.2
PAIG Paliouri 3.93 118 P Pn 13 40 58.4 +1.2
OUR Ouranopolis 3.95 111 P Pn 13 40 59.4 +2.0
OUR Ouranopolis 3.95 111 P Pn 13 40 59.4 +2.0
OUR Ouranopolis 3.95 111 P Pn 13 40 59.4 +2.0
OUR Ouranopolis 3.95 111 P Pn 13 40 59.4 +2.0
XOR Xorichti 3.95 128 P Pn 13 40 58.6 +1.0
XOR Xorichti 3.95 128 P Pn 13 40 58.6 +1.0
XOR Xorichti 3.95 128 P Pn 13 40 58.6 +1.0
KFL Anninata 3.96 161 P Pn 13 40 58.1 +0.5
KFL Anninata 3.96 161 P Pn 13 40 58.1 +0.5
MSC Monte Massico 3.96 262 Pg Pn 13 40 58.9 +1.3
MSC Monte Massico 3.96 262 P Pn 13 40 58.9 +1.3
VCEL Villa Celiera 4.00 279 Pg Pn 13 40 59.5 +1.2
comp=Z,3µm,0.8s
VCEL Villa Celiera 4.00 279 P Pn 13 40 59.5 +1.2
comp=Z,3µm,0.8s
PLAC Placanica 4.01 212 Pg Pn 13 40 57.9 -0.4
comp=Z,1µm,0.5s
PLAC Placanica 4.01 212 P Pn 13 40 57.9 -0.4
comp=Z,1µm,0.5s
NEO Neokhori 4.01 128 P Pn 13 40 59.6 +1.3
NEO Neokhori 4.01 128 eP Pn 13 40 59.8 +1.5
NEO Neokhori 4.01 128 P Pn 13 40 59.6 +1.3
NEO Neokhori 4.01 128 P Pn 13 40 59.6 +1.3
EFP Efpalio 4.03 148 eP Pn 13 41 00.8 +2.2
MODR Mondragone 4.04 261 Pg Pn 13 40 59.5 +0.8
comp=Z,615nm,0.6s
MODR Mondragone 4.04 261 P Pn 13 40 59.5 +0.8
comp=Z,615nm,0.6s
AXAR Agios Charalam 4.09 138 P Pn 13 41 01.6 +2.2
AXAR Agios Charalam 4.09 138 P Pn 13 41 01.6 +2.2
AXAR Agios Charalam 4.09 138 P Pn 13 41 01.6 +2.2
PSA1 Psathopyrgos 4.11 149 eP Pn 13 41 03.1 +3.5
KAVA Kavala 4.11 101 P Pn 13 41 01.9 +2.2
KAVA Kavala 4.11 101 P Pn 13 41 01.9 +2.2
KAVA Kavala 4.11 101 P Pn 13 41 01.9 +2.2
JOPP Joppolo 4.12 219 Pg Pn 13 40 59.2 -0.6
comp=Z,1µm,0.6s
JOPP Joppolo 4.12 219 P Pn 13 40 59.2 -0.6
comp=Z,1µm,0.6s
PLD Plovdiv 4.13 85 P Pn 13 41 02.8 +2.8
PLD Plovdiv 4.13 85 P Pn 13 41 02.8 +2.8
PLD Plovdiv 4.13 85 P Pn 13 41 02.8 +2.8
PLD Plovdiv 4.13 85 P Pn 13 41 02.8 +2.8
NVLJ Novalja 4.14 312 ePn Pn 13 41 01.6 +1.5
NVLJ Sn Sn 13 41 49.1 +1.1
NVLJ Novalja 4.14 312 ePn Pn 13 41 01.5 +1.5
NVLJ Sn Sn 13 41 49.1 +1.1
BZS Buzias 4.14 25 ⇑iP Pn 13 41 01.2 +1.1
BZS Buzias 4.14 25 ⇑iP Pn 13 41 01.2 +1.1
BZS Buzias 4.14 25 P Pn 13 41 01.2 +1.1
VVLD Villa Vallelon 4.14 272 Pg Pn 13 41 01.4 +1.2
comp=Z,2µm,0.7s
VVLD Villa Vallelon 4.14 272 P Pn 13 41 01.4 +1.2
comp=Z,2µm,0.7s
TRIZ Trizonia 4.15 147 eP Pn 13 41 03.2 +3.0
KALE Kalithea 4.16 146 P Pn 13 41 02.1 +1.7
KALE Kalithea 4.16 146 eP Pn 13 41 02.3 +1.9
KALE Kalithea 4.16 146 P Pn 13 41 02.1 +1.7

KALE	Kalithea	4.16 146	P	Pn	13 41 02.1 +1.7
OFFI	Offida	4.20 286	Pg	Pn	13 41 03.0 +2.1
	comp=Z,3μm,0.5s				
OFFI	Offida	4.20 286	P	Pn	13 41 03.0 +2.1
	comp=Z,3μm,0.5s				
RLS	Riolos of Patr	4.20 154	P	Pn	13 41 02.2 +1.3
RLS	Riolos of Patr	4.20 154	*e*P	Pn	13 41 02.4 +1.5
RLS	Riolos of Patr	4.20 154	P	Pn	13 41 02.2 +1.3
RLS	Riolos of Patr	4.20 154	P	Pn	13 41 02.2 +1.3
TERO	Teramo	4.20 282	Pg	Pn	13 41 02.4 +1.4
	comp=Z,1μm,0.8s				
TERO	Teramo	4.20 282	P	Pn	13 41 02.4 +1.4
	comp=Z,1μm,0.8s				
LAKA	Lakka	4.22 148	P	Pn	13 41 02.7 +1.5
LAKA	Lakka	4.22 148	*e*P	Pn	13 41 02.8 +1.5
LAKA	Lakka	4.22 148	P	Pn	13 41 02.7 +1.5
LAKA	Lakka	4.22 148	P	Pn	13 41 02.7 +1.5
PTQR	Pietraquaria	4.31 274	Pg	Pn	13 41 04.4 +1.9
	comp=Z,474nm,0.9s				
PTQR	Pietraquaria	4.31 274	P	Pn	13 41 04.4 +1.9
	comp=Z,474nm,0.9s				
DSF	Desfina	4.31 142	P	Pn	13 41 03.6 +1.1
DSF	Desfina	4.31 142	P	Pn	13 41 03.6 +1.1
DSF	Desfina	4.31 142	P	Pn	13 41 03.6 +1.1
AQU	L'Aquila	4.32 278	Pg	Pn	13 41 04.1 +1.5
	comp=Z,2μm,0.7s				
AQU	L'Aquila	4.32 278	*e*Pn	Pn	13 41 03.0 +0.4
AQU	L'Aquila	4.32 278	*e*P	Pn	13 41 03.0 +0.4
ATAL	Atalanti	4.33 136	P	Pn	13 41 04.0 +1.3
ATAL	Atalanti	4.33 136	P	Pn	13 41 04.0 +1.3
ATAL	Atalanti	4.33 136	P	Pn	13 41 04.0 +1.3
LKR	Lokris	4.35 136	*e*P	Pn	13 41 05.1 +2.1
PKSM	Moragy	4.36 355	⇓P	Pn	13 41 04.6 +1.6
PKSM	Moragy	4.36 355	⇓*i*P	Pn	13 41 04.6 +1.6
PKSM	Moragy	4.36 355	S	Sn	13 41 55.6 +2.1
PKSM	Moragy	4.36 355	⇑*e*Pn	Pn	13 41 03.8 +0.8
PKSM			*e*Sn	Sn	13 41 55.4 +1.9
PKSM	Moragy	4.36 355	⇑*e*Pn	Pn	13 41 03.8 +0.8
PKSM	Moragy	4.36 355	P	Pn	13 41 04.6 +1.6
PKSM			*e*Sn	Sn	13 41 55.4 +1.9
GUAR	Guarcino	4.38 271	Pg	Pn	13 41 04.5 +1.1
	comp=Z,1μm,1.0s				
GUAR	Guarcino	4.38 271	P	Pn	13 41 04.5 +1.1
	comp=Z,1μm,1.0s				
GZR	Gura Zlata	4.39 35	⇓P	Pn	13 41 05.4 +1.9
GZR	Gura Zlata	4.39 35	⇓*i*P	Pn	13 41 05.4 +1.9
GZR	Gura Zlata	4.39 35	P	Pn	13 41 05.4 +1.9
CEL	Celeste	4.40 216	Pg	Pn	13 41 03.1 -0.6
	comp=Z,1μm,0.6s				
CEL	Celeste	4.40 216	*e*Pn	Pn	13 41 03.1 -0.6
CEL	Celeste	4.40 216	P	Pn	13 41 03.1 -0.6
	comp=Z,1μm,0.6s				
AOI	Ancona	4.43 294	Pg	Pn	13 41 05.3 +1.2
	comp=Z,1μm,0.9s				
AOI	Ancona	4.43 294	P	Pn	13 41 05.3 +1.2
	comp=Z,1μm,0.9s				
GIUL	Giuliano Di Ro	4.44 268	Pg	Pn	13 41 05.0 +0.8
	comp=Z,832nm,0.9s				
GIUL	Giuliano Di Ro	4.44 268	P	Pn	13 41 05.0 +0.8
	comp=Z,832nm,0.9s				
KLV	Kalavryta, Ach	4.46 148	P	Pn	13 41 05.8 +1.3
KLV	Kalavryta, Ach	4.46 148	*e*P	Pn	13 41 06.2 +1.7
KLV	Kalavryta, Ach	4.46 148	P	Pn	13 41 05.8 +1.3
KLV	Kalavryta, Ach	4.46 148	P	Pn	13 41 05.8 +1.3
VENT	Ventotene	4.46 258	Pg	Pn	13 41 04.7 +0.2
	comp=Z,247nm,0.5s				
VENT	Ventotene	4.46 258	P	Pn	13 41 04.7 +0.2
	comp=Z,247nm,0.5s				
SOI	Samo	4.49 213	Pg	Pn	13 41 04.1 -0.8
	comp=Z,828nm,0.6s				
SOI	Samo	4.49 213	P	Pn	13 41 04.1 -0.8
	comp=Z,828nm,0.6s				
AOS	Alonnisos	4.49 125	P	Pn	13 41 06.8 +1.9
AOS	Alonnisos	4.49 125	*e*P	Pn	13 41 06.8 +1.9
AOS	Alonnisos	4.49 125	P	Pn	13 41 06.8 +1.9
AOS	Alonnisos	4.49 125	P	Pn	13 41 06.8 +1.9
FIAM	Fiamignano	4.52 277	Pg	Pn	13 41 07.5 +2.0
	comp=Z,2μm,0.7s				
FIAM	Fiamignano	4.52 277	P	Pn	13 41 07.5 +2.0
	comp=Z,2μm,0.7s				
MSRU	Castanea	4.57 219	Pg	Pn	13 41 04.9 -1.1
	comp=Z,2μm,0.4s				
MSRU	Castanea	4.57 219	P	Pn	13 41 04.9 -1.1
	comp=Z,2μm,0.4s				
MPAZ	Palizzi	4.61 213	Pg	Pn	13 41 05.6 -1.0
	comp=Z,2μm,0.4s				
MPAZ	Palizzi	4.61 213	P	Pn	13 41 05.6 -1.0
	comp=Z,2μm,0.4s				
BOJS	Bojanci	4.61 323	*i* Pn	Pn	13 41 08.0 +1.5
BOJS			*e*Sn	Sn	13 41 59.0 -0.7
BOJS					
	comp=Z,2μm,1.2s				
BOJS	Bojanci	4.61 323	*i* Pn	Pn	13 41 08.0 +1.5
BOJS			*e*Sn	Sn	13 41 59.0 -0.7
	comp=Z,2μm,1.2s				
LNSS	Leonessa	4.61 281	Pg	Pn	13 41 08.4 +1.7
	comp=Z,2μm,0.8s				
LNSS	Leonessa	4.61 281	P	Pn	13 41 08.4 +1.7
	comp=Z,2μm,0.8s				
CERT	Cerreto	4.62 273	Pg	Pn	13 41 08.1 +1.4
CERT	Cerreto	4.62 273	P	Pn	13 41 08.1 +1.4
PKS2	Kecel	4.62 0	⇓*e*Pn	Pn	13 41 08.1 +1.4
PKS2			*e*Sn	Sn	13 42 01.7 +1.8
PKS2	Kecel	4.62 0	⇓*e*Pn	Pn	13 41 08.1 +1.4
PKS2			*e*Sn	Sn	13 42 01.7 +1.8
GUR	Goura	4.62 147	P	Pn	13 41 08.0 +1.1
GUR	Goura	4.62 147	*e*P	Pn	13 41 08.2 +1.3
GUR	Goura	4.62 147	P	Pn	13 41 08.0 +1.1
GUR	Goura	4.62 147	P	Pn	13 41 08.0 +1.1
FDMO	Fiordimonte	4.65 287	Pg	Pn	13 41 08.4 +1.3
	comp=Z,582nm,0.3s				
FDMO	Fiordimonte	4.65 287	P	Pn	13 41 08.4 +1.3
	comp=Z,582nm,0.3s				
CING	Cingoli	4.66 291	Pg	Pn	13 41 08.3 +1.0
	comp=Z,1μm,0.8s				
CING	Cingoli	4.66 291	P	Pn	13 41 08.3 +1.0
	comp=Z,1μm,0.8s				
MILZ	Milazzo	4.70 221	Pg	Pn	13 41 06.5 -1.2
	comp=Z,2μm,0.4s				
MILZ	Milazzo	4.70 221	P	Pn	13 41 06.5 -1.2
	comp=Z,2μm,0.4s				
SENI	Senigallia	4.74 295	Pg	Pn	13 41 10.1 +1.8
	comp=Z,932nm,1.1s				
SENI	Senigallia	4.74 295	P	Pn	13 41 10.1 +1.8
	comp=Z,932nm,1.1s				
VPL	Vulcano Piano	4.74 224	Pg	Pn	13 41 07.6 -0.8
VPL	Vulcano Piano	4.74 224	P	Pn	13 41 07.6 -0.8
AMT	Artemida-Makis	4.75 155	*e*P	Pn	13 41 10.3 +1.7
CESI	CESI - Serrava	4.77 286	Pg	Pn	13 41 10.3 +1.4
	comp=Z,821nm,1.2s				
CESI	CESI - Serrava	4.77 286	P	Pn	13 41 10.3 +1.4
	comp=Z,821nm,1.2s				
LTK	Loutraki	4.83 142	*e*P	Pn	13 41 09.2 -0.3
SFD	Strofades	4.83 162	*e*P	Pn	13 41 10.9 +1.3
DEV	Deva	4.83 33	⇓P	Pn	13 41 11.9 +2.3
DEV	Deva	4.83 33	⇓*i*P	Pn	13 41 11.9 +2.3
DEV	Deva	4.83 33	S	Sn	13 42 06.8 +1.6
DEV	Deva	4.83 33	P	Pn	13 41 11.9 +2.3
RDO	Rodhopi	4.83 97	P	Pn	13 41 11.8 +2.2
RDO	Rodhopi	4.83 97	*e*P	Pn	13 41 12.6 +3.0
RDO	Rodhopi	4.83 97	P	Pn	13 41 11.8 +2.2
RDO	Rodhopi	4.83 97	P	Pn	13 41 11.8 +2.2
MNS	Montasola	4.85 278	Pg	Pn	13 41 11.3 +1.4
	comp=Z,970nm,0.7s				
MNS	Montasola	4.85 278	P	Pn	13 41 11.3 +1.4
	comp=Z,970nm,0.7s				
ARVD	Arcevia	4.87 292	Pg	Pn	13 41 11.2 +1.0
	comp=Z,629nm,0.7s				
ARVD	Arcevia	4.87 292	P	Pn	13 41 11.2 +1.0
	comp=Z,629nm,0.7s				
LOT	Lotru	4.89 41	⇓*i*P	Pn	13 41 13.1 +2.6
LOT	Lotru	4.89 41	S	Sn	13 42 07.1 +0.3
BEHE	Becsehely	4.91 340	⇓*e*pPn	Pn	13 41 15.3 +4.6
BEHE	Becsehely	4.91 340	⇓*e*Pn	Pn	13 41 15.3 +4.6
ERET	Eretria	4.93 132	P	Pn	13 41 13.2 +2.1
ERET	Eretria	4.93 132	P	Pn	13 41 13.2 +2.1
CESX	Cesi	4.95 281	Pg	Pn	13 41 12.7 +1.5
	comp=Z,1μm,0.7s				
CESX	Cesi	4.95 281	P	Pn	13 41 12.7 +1.5
	comp=Z,1μm,0.7s				
MMME	Mongiuffi-Meli	4.95 219	Pg	Pn	13 41 10.3 -1.0
	comp=Z,2μm,0.5s				
MMME	Mongiuffi-Meli	4.95 219	P	Pn	13 41 10.3 -1.0
	comp=Z,2μm,0.5s				
LIA	Limnos Island	4.96 111	*e*P	Pn	13 41 13.4 +2.0
SMTH	Samothraki Isl	5.00 104	*e*P	Pn	13 41 14.4 +2.5
KOGS	Kog	5.03 336	*e*Pn	Pn	13 41 13.4 +1.1
KOGS	Kog	5.03 336	*e*Pn	Pn	13 41 13.4 +1.1
FSSB	Fossombrone	5.04 293	Pg	Pn	13 41 13.5 +1.0
	comp=Z,2μm,0.5s				
FSSB	Fossombrone	5.04 293	P	Pn	13 41 13.5 +1.0
	comp=Z,2μm,0.5s				
PKSN	Nyarlorinc	5.05 5	⇓*e*Pn	Pn	13 41 14.2 +1.6
PKSN			*e*Sn	Sn	13 42 12.9 +2.4
PKSN	Nyarlorinc	5.05 5	⇓*e*Pn	Pn	13 41 14.2 +1.6
PKSN			*e*Sn	Sn	13 42 12.9 +2.4
PESA	Pesaro	5.09 296	Pg	Pn	13 41 14.1 +1.0
	comp=Z,1μm,0.7s				
PESA	Pesaro	5.09 296	P	Pn	13 41 14.1 +1.0
	comp=Z,1μm,0.7s				
VLX	Vlachokerasia	5.13 150	P	Pn	13 41 15.9 +2.1
VLX	Vlachokerasia	5.13 150	*e*P	Pn	13 41 16.1 +2.3
VLX	Vlachokerasia	5.13 150	P	Pn	13 41 15.9 +2.1
VLX	Vlachokerasia	5.13 150	P	Pn	13 41 15.9 +2.1
ITM	Ithomi	5.15 155	P	Pn	13 41 15.1 +1.1
ITM	Ithomi	5.15 155	*e*P	Pn	13 41 15.1 +1.1
ITM	Ithomi	5.15 155	P	Pn	13 41 15.1 +1.1
ITM	Ithomi	5.15 155	P	Pn	13 41 15.1 +1.1
ATH	Athens Observa	5.23 137	P	Pn	13 41 16.9 +1.8
ATH	Athens Observa	5.23 137	P	Pn	13 41 16.9 +1.8
ATH	Athens Observa	5.23 137	*e*P	Pn	13 41 16.8 +1.7
ATH	Athens Observa	5.23 137	P	Pn	13 41 16.9 +1.8
ATH	Athens Observa	5.23 137	P	Pn	13 41 16.9 +1.8
SKDS	Skadanscina	5.24 316	*i* Pn	Pn	13 41 15.7 +0.5
SKDS			*e*Sn	Sn	13 42 13.3 -2.0
SKDS					
	comp=Z,2μm,1.2s				
SKDS	Skadanscina	5.24 316	*i* Pn	Pn	13 41 15.7 +0.5
SKDS			*e*Sn	Sn	13 42 13.3 -2.0
	comp=Z,2μm,1.2s				
PTL	Penteli	5.25 135	*e*P	Pn	13 41 17.2 +1.8
ALN	Alexandroupoli	5.26 98	*e*P	Pn	13 41 18.7 +3.2
ATHU	Athens Univers	5.27 136	P	Pn	13 41 16.9 +1.2
ATHU	Athens Univers	5.27 136	P	Pn	13 41 16.9 +1.2
ATHU	Athens Univers	5.27 136	P	Pn	13 41 16.9 +1.2
NAIG	Nisos Aigina	5.28 140	*e*P	Pn	13 41 17.2 +1.4
ARR	Arges	5.29 47	⇓*i*P	Pn	13 41 18.6 +2.7
LJU	Ljubljana	5.35 323	*i* Pn	Pn	13 41 17.9 +1.3
LJU			*i* Sn	Sn	13 42 18.9 +0.9
LJU					
	comp=Z,2μm,1.4s				
LJU	Ljubljana	5.35 323	*i* Pn	Pn	13 41 18.0 +1.3
LJU			*i* Sn	Sn	13 42 18.9 +0.9
	comp=Z,2μm,1.4s				
PYL	PYLOS	5.35 157	*e*P	Pn	13 41 17.0 +0.2
DID	Didima	5.37 143	P	Pn	13 41 17.6 +0.6
DID	Didima	5.37 143	*e*P	Pn	13 41 17.7 +0.7
DID	Didima	5.37 143	P	Pn	13 41 17.6 +0.6
DID	Didima	5.37 143	P	Pn	13 41 17.6 +0.6
MTUR	Matau	5.44 50	⇓P	Pn	13 41 21.0 +3.0
MTUR	Matau	5.44 50	⇓*i*P	Pn	13 41 21.0 +3.0
MTUR	Matau	5.44 50	P	Pn	13 41 21.0 +3.0
PKST	T^'s	5.45 352	⇓*e*Pn	Pn	13 41 19.1 +1.0
PKST			*e*Sn	Sn	13 42 22.4 +2.0
PKST	T^'s	5.45 352	⇓*e*Pn	Pn	13 41 19.1 +1.0
PKST			*e*Sn	Sn	13 42 22.4 +2.0
TRI	Trieste	5.48 316	*e*P	Pn	13 41 18.7 +0.2
TRI	Trieste	5.48 316	*e*Pn	Pn	13 41 18.7 +0.2
TRI	Trieste	5.48 316	*e*P	Pn	13 41 18.7 +0.2
CSKK	Cs^‡kako	5.53 354	⇑*e*Pn	Pn	13 41 21.6 +2.4
CSKK			*e*Sn	Sn	13 42 26.7 +4.3
CSKK	Cs^‡kako	5.53 354	⇑*e*Pn	Pn	13 41 21.6 +2.4
DRGR		5.54 26	⇑P	Pn	13 41 21.0 +1.7
DRGR		5.54 26	⇑*i*P	Pn	13 41 21.0 +1.7
DRGR		5.54 26	S	Sn	13 42 22.0 -0.5
DRGR		5.54 26	P	Pn	13 41 21.0 +1.7
JMB	Yambol	5.54 81	P	Pn	13 41 22.4 +3.1
JMB	Yambol	5.54 81	P	Pn	13 41 22.4 +3.1
JMB	Yambol	5.54 81	P	Pn	13 41 22.4 +3.1
JMB	Yambol	5.54 81	P	Pn	13 41 22.4 +3.1
CIOR	Ciorogarla	5.54 60	⇓*i*P	Pn	13 41 22.4 +3.1
PKSG		5.55 355	⇑*e*Pn	Pn	13 41 21.1 +1.7
PKSG			*e*Sn	Sn	13 42 24.9 +2.1
PKSG		5.55 355	⇑*e*Pn	Pn	13 41 21.1 +1.7
PKSG			*e*Sn	Sn	13 42 24.9 +2.1
VOIR		5.56 48	⇓P	Pn	13 41 22.1 +2.5
VOIR		5.56 48	⇓*i*P	Pn	13 41 22.1 +2.5
VOIR		5.56 48	P	Pn	13 41 22.1 +2.5
PERS	Pernice	5.58 330	*i* Pn	Pn	13 41 20.9 +0.9
BOZC	Bozcaada	5.60 109	*i* P	Pn	13 41 22.1 +2.0
BUD	Budapest	5.61 359	⇑*e*Pn	Pn	13 41 23.0 +2.7
BUD			*e*Sn	Sn	13 42 27.5 +3.1
BUD	Budapest	5.61 359	⇑*e*Pn	Pn	13 41 23.0 +2.7
BUD			*e*Sn	Sn	13 42 27.5 +3.1
VOY	Vojsko	5.64 319	⇑*e*Pn	Pn	13 41 21.4 +0.6
VOY			*e*Sn	Sn	13 42 25.5 +0.3
SOKA	Soboth	5.65 330	*i* Pn	Pn	13 41 21.9 +1.0
	SNR=40				
SOKA			⇓*i*Sn	Sn	13 42 25.3 -0.2
SOKA	Soboth	5.65 330	Pn	Pn	13 41 21.9 +1.0
	SNR=40				
SOKA			Sn	Sn	13 42 25.3 -0.2
EDRB	Edirne	5.66 88	*e*P	Pn	13 41 23.3 +2.4
DYR	Agios Nikonas	5.66 153	P	Pn	13 41 21.5 +0.5
DYR	Agios Nikonas	5.66 153	*e*P	Pn	13 41 21.9 +0.9
DYR	Agios Nikonas	5.66 153	P	Pn	13 41 21.5 +0.5
OBKA	Obir	5.70 326	⇓*i*Pn	Pn	13 41 22.9 +1.3
	SNR=25				
OBKA			⇓*i*Sn	Sn	13 42 26.7 -0.1
OBKA	Obir	5.70 326	Pn	Pn	13 41 22.9 +1.3
	SNR=25				
OBKA			Sn	Sn	13 42 26.7 -0.1
GELI	Tayfur-Gelibol	5.71 103	*e*P	Pn	13 41 23.9 +2.3
CJR	Cluj-Napoca	5.79 32	⇑P	Pn	13 41 25.7 +2.9
CJR			S	Sn	13 42 30.3 +1.4
CJR	Cluj-Napoca	5.79 32	⇑*i*P	Pn	13 41 25.7 +2.9
CJR	Cluj-Napoca	5.79 32	P	Pn	13 41 25.7 +2.9
CJR			S	Sn	13 42 30.3 +1.4
EZN	Ezine	5.80 108	*e*P	Pn	13 41 24.7 +1.8
VLI	Veliai	5.92 149	*e*P	Pn	13 41 25.3 +0.8
LPK	Lapseki	5.92 102	*e*P	Pn	13 41 25.6 +1.0
SECR		5.93 55	⇓*i*P	Pn	13 41 28.1 +3.4
ARSA	Arzberg	5.97 335	⇑*i*Pn	Pn	13 41 26.5 +1.2
	SNR=22				
ARSA	Arzberg	5.97 335	Pn	Pn	13 41 26.5 +1.2
	SNR=22				
PRK	Paraskevi	6.01 114	*e*P	Pn	13 41 28.5 +2.7
PSZ	Piszkesteto	6.07 5	⇓P	Pn	13 41 28.0 +1.4
PSZ			S	Sn	13 42 36.8 +1.0
PSZ	Piszkesteto	6.07 5	⇓*i*P	Pn	13 41 28.0 +1.4
PSZ	Piszkesteto	6.07 5	*e*Pn	Pn	13 41 27.5 +0.8
PSZ	Piszkesteto	6.07 5	⇑*e*Pn	Pn	13 41 27.1 +0.5
PSZ			*e*Sn	Sn	13 42 34.6 -1.2
PSZ	Piszkesteto	6.07 5	*e*Pn	Pn	13 41 27.5 +0.8
PSZ	Piszkesteto	6.07 5	P	Pn	13 41 28.0 +1.4
PSZ			*e*Sn	Sn	13 42 34.6 -1.2
PSZ			S	Sn	13 42 36.8 +1.0
MLR	Muntele Rosu	6.10 51	⇑*i*P	Pn	13 41 30.1 +3.0
MLR	Muntele Rosu	6.10 51	P	Pn	13 41 29.9 +2.8
MLR			S	Sn	13 42 41.2 +4.6
MLR	Muntele Rosu	6.10 51	P	Pn	13 41 29.9 +2.8
	comp=Z,2.3nm,0.3s,baz=221,slow=17,SNR=58				
MLR			S	Sn	13 42 41.2 +4.6
	comp=Z,2.3nm,0.3s,baz=301,slow=19,SNR=3.5				
MLR	Muntele Rosu	6.10 51	P	Pn	13 41 29.9 +2.8
	comp=Z,2.0nm,0.3s				
SOP	Sopron	6.10 343	*e*pPn	Pn	13 41 32.6 +5.6
SOP			*e*Sn	Sn	13 42 40.7 +4.2
RKY	Sarkoy-Tekirda	6.15 98	*e*P	Pn	13 41 27.4 -0.3
MYKA	Terra Mystica	6.20 322	⇑*i*Pn	Pn	13 41 29.2 +0.8
	SNR=37				
MYKA			⇑*i*Sn	Sn	13 42 39.2 +0.3
MYKA	Terra Mystica	6.20 322	Pn	Pn	13 41 29.2 +0.8
	SNR=37				
MYKA			Sn	Sn	13 42 39.2 +0.3
MFT	Murefte	6.20 97	*e*P	Pn	13 41 30.9 +2.4
PHSR	Pinarhisar	6.25 89	*e*P	Pn	13 41 31.7 +2.6
ISR	Istrita	6.27 56	⇓P	Pn	13 41 32.5 +3.1
ISR	Istrita	6.27 56	⇓*i*P	Pn	13 41 32.5 +3.1
ISR	Istrita	6.27 56	P	Pn	13 41 32.5 +3.1
AYVA	Ayvalik	6.27 112	*i* P	Pn	13 41 31.9 +2.6
AYVA	Ayvalik	6.27 112	*i* P	Pn	13 41 31.9 +2.6
KRBG	Karabiga-Canak	6.31 101	*e*P	Pn	13 41 33.4 +3.5
CHOS	Chios island	6.32 121	*e*P	Pn	13 41 32.6 +2.5
KYTH	Kithira	6.34 150	*e*P	Pn	13 41 32.1 +1.7
CONA	Conrad Observa	6.50 340	⇓*i*Pn	Pn	13 41 33.9 +1.4
	SNR=19				
CONA	Conrad Observa	6.50 340	Pn	Pn	13 41 33.9 +1.4
	SNR=19				
AMRR	Amara	6.56 63	⇓P	Pn	13 41 36.4 +3.1
AMRR	Amara	6.56 63	⇓*i*P	Pn	13 41 36.4 +3.1
AMRR	Amara	6.56 63	P	Pn	13 41 36.4 +3.1
VYHS	Vyhne	6.63 358	*e*P	Pn	13 41 36.0 +1.8
VYHS			*e*		13 42 50.9
VYHS	Vyhne	6.63 358	*e*PN	Pn	13 41 36.0 +1.8
VYHS			*e*SN	Sn	13 42 50.9 +1.5
VYHS	Vyhne	6.63 358	*e*P	Pn	13 41 36.0 +1.8
VYHS			*e*S	Sn	13 42 50.9 +1.5
GRER		6.66 56	⇓*i*P	Pn	13 41 39.0 +4.3
KBA	Koelnbreinsper	6.67 323	⇑*i*Pn	Pn	13 41 36.2 +1.3
	SNR=23				
KBA			⇓*i*Sn	Sn	13 42 49.9 -0.8
KBA	Koelnbreinsper	6.67 323	Pn	Pn	13 41 36.2 +1.3
	SNR=23				
KBA			Sn	Sn	13 42 49.9 -0.8
KECS	Kecovo	6.68 8	*e*P	Pn	13 41 37.1 +2.2
KECS			*e*		13 42 50.5
KECS	Kecovo	6.68 8	*e*PN	Pn	13 41 37.1 +2.2
KECS			*e*SN	Sn	13 42 50.5 -0.1
KECS	Kecovo	6.68 8	*e*P	Pn	13 41 37.1 +2.2
KECS			*e*S	Sn	13 42 50.5 -0.1
TRPA	Tarpa	6.70 20	⇑*i*P	Pn	13 41 36.3 +1.1
GONE	Gonen-Balikesi	6.70 103	*e*P	Pn	13 41 38.0 +2.8
PLOR	Plostina	6.71 51	⇑P	Pn	13 41 37.9 +2.5
PLOR	Plostina	6.71 51	⇑*i*P	Pn	13 41 37.9 +2.5
PLOR	Plostina	6.71 51	P	Pn	13 41 37.9 +2.5
BALY	Balya	6.75 106	*i* P	Pn	13 41 38.7 +2.7
BALY	Balya	6.75 106	*i* P	Pn	13 41 38.7 +2.7
SMOL	Smolenice	6.75 350	*e*P	Pn	13 41 39.3 +3.3
SMOL			*e*		13 42 55.0
SMOL	Smolenice	6.75 350	*e*PN	Pn	13 41 39.3 +3.3
SMOL			*e*SN	Sn	13 42 55.0 +2.4
SMOL	Smolenice	6.75 350	*e*P	Pn	13 41 39.3 +3.3
SMOL			*e*S	Sn	13 42 55.0 +2.4
VRI	Vrincioaia	6.76 51	⇓P	Pn	13 41 38.9 +2.8
VRI	Vrincioaia	6.76 51	⇓*i*P	Pn	13 41 38.9 +2.8
VRI	Vrincioaia	6.76 51	P	Pn	13 41 38.9 +2.8
ANKY	Antikythira Is	6.81 150	P	Pn	13 41 37.5 +0.8
ANKY	Antikythira Is	6.81 150	*e*P	Pn	13 41 37.8 +1.1
ANKY	Antikythira Is	6.81 150	P	Pn	13 41 37.5 +0.8
ANKY	Antikythira Is	6.81 150	P	Pn	13 41 37.5 +0.8
ABTA	Abfaltersbach	6.82 318	⇑*i*Pn	Pn	13 41 37.3 +0.3
	SNR=30				
ABTA	Abfaltersbach	6.82 318	Pn	Pn	13 41 37.3 +0.3
	SNR=30				
VLC	Villacollemand	6.83 292	*e*Pn	Pn	13 41 37.0 -0.1
VLC	Villacollemand	6.83 292	*e*Pn	Pn	13 41 37.0 -0.1
CTYL	Yal??k??y-??at	6.84 90	*e*P	Pn	13 41 38.8 +1.6
APE	Apeiranthos	6.87 132	*e*P	Pn	13 41 37.3 -0.3
APE	Apeiranthos	6.87 132	*e*P	Pn	13 41 39.0 +1.4
APE	Apeiranthos	6.87 132	⇓*i*P	Pn	13 41 38.8 +1.2
MOA	Molln	6.92 331	⇑*i*Pn	Pn	13 41 39.9 +1.6
	SNR=31				
MOA	Molln	6.92 331	Pn	Pn	13 41 39.9 +1.6
	SNR=31				
CVD	Cernavoda	6.93 66	⇓P	Pn	13 41 42.3 +3.9
CVD	Cernavoda	6.93 66	⇓*i*P	Pn	13 41 42.3 +3.9
CVD	Cernavoda	6.93 66	P	Pn	13 41 42.3 +3.9
BALB	Balikesir	6.98 106	*e*P	Pn	13 41 42.0 +3.0
ELBA	Catalca	6.99 93	*i* P	Sg	13 43 40.1 -1.6
WDD	Wield Dalam	7.00 213	*e*Pn	Pn	13 41 37.1 -2.3
	comp=Z,106nm,0.6s				
WDD			*e*Sn	Sn	13 42 53.6 -5.2
CTKS	Kestanelik-??a	7.03 92	*e*P	Pn	13 41 42.1 +2.3
TESR	Tescani	7.10 47	⇑*i*P	Pn	13 41 43.5 +2.8
IZM	Izmir	7.10 117	*e*P	Pn	13 41 43.5 +2.7
UZH	Uzhgorod	7.11 17	⇑*i*P	Pn	13 41 41.9 +1.1
UZH			*e*S	Sn	13 43 02.1 +0.9
UZH			MLR	MLR	
	comp=N,12μm,10.0s				
UZH			MLR	MLR	
	comp=E,7μm,10.0s				
UZH			MLR	MLR	
	comp=Z,8μm,10.0s				
UZH	Uzhgorod	7.11 17	*i* P	Pn	13 41 41.9 +1.1
UZH			*e*S	Sn	13 43 02.1 +0.9
KCTX	Karacabey (Bur	7.12 100	*e*P	Pn	13 41 40.6 -0.5
BURAR	Bucovina Array	7.17 35	⇓P	Pn	13 41 45.0 +3.1
BURAR	Bucovina Array	7.17 35	⇓*i*P	Pn	13 41 45.0 +3.1
CRVS	Cervenica-Dubn	7.21 12	*e*P	Pn	13 41 44.8 +2.5
CRVS			*e*		13 43 03.2
CRVS	Cervenica-Dubn	7.21 12	*e*PN	Pn	13 41 44.8 +2.5
CRVS			*e*SN	Sn	13 43 03.2 -0.7
CRVS	Cervenica-Dubn	7.21 12	*e*P	Pn	13 41 44.8 +2.5
CRVS			*e*S	Sn	13 43 03.2 -0.7
TIRR	Tirgusor

comp=Z,58nm,0.8s
VSL *e*Sn **Sn** **13 43 17.9 -0.7**
TREC Trest 7.86 342 AMS AMS 13 45 10.0
comp=Z,5μm,12.8s
SILT Sile 7.89 92 *e*P **Pn** **13 41 54.6 +3.0**
BODT Bodrum 7.92 125 *e*P **Pn** **13 41 51.3 -0.7**
FETA Feichten 7.93 313 ⇑*i*Pn **Pn** **13 41 53.4 +1.1**
SNR=24
FETA ⇑*i*Sn **Sn** **13 43 21.9 +0.1**
FETA Feichten 7.93 313 Pn **Pn** **13 41 53.4 +1.1**
SNR=24
FETA Sn **Sn** **13 43 21.9 +0.1**
MOTA Moosalm 7.94 316 ⇑*i*Pn **Pn** **13 41 53.6 +1.2**
SNR=52
MOTA Moosalm 7.94 316 Pn **Pn** **13 41 53.6 +1.2**
SNR=52
IDI Anoyia 7.95 144 *e*Pn **Pn** **13 41 51.3 -1.2**
IDI Anoyia 7.95 144 *e*Pn **Pn** **13 41 51.3 -1.2**
FUORN Ofenpass-Fuorn 7.96 310 *e*Pn **Pn** **13 41 52.4 -0.4**
FUORN Ofenpass-Fuorn 7.96 310 *e*Pn **Pn** **13 41 52.4 -0.4**
GEC2 GERESS Array S 7.96 333 *e*P **Pn** **13 41 54.5 +1.8**
GEC2 *e* 13 43 24.7
GEC2 GERESS Array S 7.96 333 *e*Pn **Pn** **13 41 52.9 +0.2**
GEC2 GERESS Array S 7.96 333 *e*Pn **Pn** **13 41 52.8 +0.2**
GEC2 GERESS Array S 7.96 333 *e*P **Pn** **13 41 54.5 +1.8**
GEC2 *e*S **Sn** **13 43 24.7 +2.2**
GERES GERESS Array B 7.96 333 P **Pn** **13 41 53.5 +0.9**
GERES S **Sn** **13 43 25.6 +3.2**
GERES GERESS Array B 7.96 333 P **Pn** **13 41 53.5 +0.9**
comp=Z,2.7nm,0.3s,baz=155,slow=14,SNR=72
GERES S **Sn** **13 43 25.6 +3.2**
comp=Z,7.9nm,0.3s,baz=153,slow=24,SNR=6.7
GERES GERESS Array B 7.96 333 P **Pn** **13 41 53.6 +0.9**
comp=Z,3.0nm,0.3s
GERES S **Sn** **13 43 25.6 +3.2**
comp=Z,8.0nm,0.3s
HRT Hereke 7.97 94 *e*P Pb 13 42 54.6 +39
MORC Moravsky Berou 7.99 352 *e*P **Pn** **13 41 53.7 +0.7**
MORC Moravsky Berou 7.99 352 *e*Pn **Pn** **13 41 53.6 +0.7**
MORC Moravsky Berou 7.99 352 *e*P **Pn** **13 41 53.7 +0.7**
MORC *e*Sn **Sn** **13 43 25.2 +2.2**
OKC Ostrava-Krasne 8.00 355 *e*P **Pn** **13 41 55.7 +2.7**
OKC MLR MLR
comp=Z,10μm,9.7s
OKC Ostrava-Krasne 8.00 355 *e*PN **Pn** **13 41 55.7 +2.7**
OKC AMS AMS 13 45 30.0
comp=Z,10μm,9.7s
OKC Ostrava-Krasne 8.00 355 Pn **Pn** **13 41 55.7 +2.7**
KULA Kula-Manisa 8.00 112 *e*P **Pn** **13 41 54.2 +1.0**
KWP Kalwaria Pacla 8.14 16 ⇑P Pn 13 41 59.2 +4.1
KWP Kalwaria Pacla 8.14 16 ⇑*i*P Pn 13 41 59.2 +4.1
KWP Kalwaria Pacla 8.14 16 *e*Pn **Pn** **13 41 54.4 -0.6**
comp=Z,25nm,0.6s
KWP *e*Sn **Sn** **13 43 23.8 -2.9**
KWP Kalwaria Pacla 8.14 16 *e*P Pn 13 41 59.5 +4.4
KWP *e*Sg Sb 13 44 40.1 +45
KWP Kalwaria Pacla 8.14 16 *e*Pn **Pn** **13 41 54.4 -0.6**
comp=Z,25nm,0.6s
KWP Kalwaria Pacla 8.14 16 P Pn 13 41 59.2 +4.1
RETA Reutte 8.21 316 ⇑*i*Pn **Pn** **13 41 56.3 +0.3**
SNR=12
RETA ⇓*i*Sn **Sn** **13 43 28.7 +0.3**
RETA Reutte 8.21 316 Pn **Pn** **13 41 56.3 +0.3**
SNR=12
RETA Sn **Sn** **13 43 28.7 +0.3**
RAC Raciborz 8.24 356 *e*P Pn 13 41 59.6 +3.2
RAC MLR MLR
comp=Z,7μm,13.3s
RAC Raciborz 8.24 356 *e*P Pn 13 41 59.6 +3.2
comp=Z,7μm,13.3s
KHC Kasperske Hory 8.25 334 *e*P **Pn** **13 41 57.8 +1.2**
KHC *e* 13 43 28.1
KHC MLR MLR
comp=Z,4μm,14.4s
KHC Kasperske Hory 8.25 334 *e*PN **Pn** **13 41 57.8 +1.2**
KHC *e*x x 13 42 14.5
KHC *e*SN **Sn** **13 43 28.1 -1.3**
KHC AMS AMS 13 45 20.0
comp=Z,4μm,14.4s
KHC Kasperske Hory 8.25 334 *e*Pn **Pn** **13 41 56.4 -0.2**
KHC Kasperske Hory 8.25 334 Pn **Pn** **13 41 57.8 +1.2**
KHC Sn **Sn** **13 43 28.1 -1.3**
DAVOX Davos/Dischmat 8.27 310 P **Pn** **13 41 59.2 +2.2**
DAVOX S **Sn** **13 43 28.7 -1.4**
DAVOX Davos/Dischmat 8.27 310 P **Pn** **13 41 59.2 +2.2**
comp=Z,8.3nm,0.3s,baz=122,slow=15,SNR=32
DAVOX S **Sn** **13 43 28.7 -1.4**
comp=Z,4.5nm,0.3s,baz=162,slow=20,SNR=2.5
DAVOX LR LR 13 45 29.9
comp=Z,1μm,20.1s,baz=116,slow=40
DAVOX Davos/Dischmat 8.27 310 P **Pn** **13 41 59.2 +2.2**
comp=Z,8.0nm,0.3s
DAVOX S **Sn** **13 43 28.7 -1.4**
comp=Z,1μm,20.2s
DAT Datca 8.29 125 *e*P **Pn** **13 41 58.4 +1.2**
OJC Ojcow 8.36 3 *e*P **Pn** **13 41 59.0 +1.0**
OJC Ojcow 8.36 3 *e*Pn **Pn** **13 41 59.0 +1.0**
OJC Ojcow 8.36 3 *e*P **Pn** **13 41 59.0 +1.0**
TUE Stuetta 8.42 306 *e*Pn **Pn** **13 41 59.2 +0.1**
TUE Stuetta 8.42 306 *e*Pn **Pn** **13 41 59.2 +0.1**
YER Yerkesik 8.48 121 *e*P **Pn** **13 42 01.5 +1.8**
WET Wettzell 8.51 331 *e*P **Pn** **13 42 01.8 +1.8**
WET Wettzell 8.51 331 *e*P **Pn** **13 42 01.8 +1.8**
DAVA Damuels 8.56 312 ⇓*i*Pn **Pn** **13 42 01.7 +0.8**
SNR=23
DAVA ⇓*i*Sn **Sn** **13 43 37.4 +0.3**
DAVA Damuels 8.56 312 Pn **Pn** **13 42 01.7 +0.8**
SNR=23
DAVA Sn **Sn** **13 43 37.4 +0.3**
KIS Kishinev 8.59 50 *e*P **Pn** **13 42 03.0 +1.8**
KIS Kishinev 8.59 50 *i*PP Pn 13 42 10.0 +8.8
KIS *e*S **Sn** **13 43 40.0 +2.2**
KIS *e*Li 13 44 08.0
KIS *e*LQ LQ 13 44 26.0
KIS *e*LR LR 13 45 20.0
comp=Z,11μm,14.0s
KIS Kishinev 8.59 50 *e*P **Pn** **13 42 03.0 +1.8**
KIS *e*S **Sn** **13 43 40.0 +2.2**
KIS MLR MLR
comp=Z,12μm,14.0s
KIS MLR MLR
comp=N,7μm,11.0s
KIS MLR MLR
comp=E,6μm,11.0s
KIS MLR MLR
comp=Z,11μm,14.0s
KIS Kishinev 8.59 50 *e*P **Pn** **13 42 03.0 +1.8**
KIS *e*S **Sn** **13 43 40.0 +2.2**
comp=Z,11μm,14.0s
LVV L'vov 8.64 21 *i*P Pn 13 42 05.6 +3.8
LVV *e*S **Sn** **13 43 44.7 +5.8**
LVV MLR MLR
comp=N,4μm,10.0s
LVV MLR MLR
comp=E,2μm,10.0s
LVV MLR MLR
comp=Z,4μm,10.0s
LVV L'vov 8.64 21 *i*P Pn 13 42 05.6 +3.8
KHAL Karahalli 8.64 110 *i*P Pn 13 42 05.4 +3.3
DNZL Cakiroluk 8.67 116 *i*P Pn 13 42 06.2 +3.7
DPC Dobruska-Polom 8.71 348 *e*P **Pn** **13 42 04.9 +2.1**
DPC Dobruska-Polom 8.71 348 *e*PN **Pn** **13 42 04.9 +2.1**
DPC AMS AMS 13 46 00.0
DPC Dobruska-Polom 8.71 348 *e*Pn **Pn** **13 42 03.3 +0.5**
DPC Dobruska-Polom 8.71 348 Pn **Pn** **13 42 04.9 +2.1**
PRU Pruhonice 8.73 340 *e*P **Pn** **13 42 05.4 +2.3**
PRU MLR MLR
comp=Z,4μm,12.9s
PRU Pruhonice 8.73 340 *e*PN **Pn** **13 42 05.4 +2.3**
PRU AMS AMS 13 45 30.0
comp=Z,4μm,12.9s
PRU Pruhonice 8.73 340 Pn **Pn** **13 42 05.4 +2.3**
SAOF Saorge 8.78 288 *e*P **Pn** **13 42 04.2 +0.4**
SBF Sospel 8.85 287 *e*P **Pn** **13 42 05.6 +0.8**
SNR=1.0
SBF *e*Sn Sn 13 43 35.3 -8.8
comp=Z,49nm,0.6s,SNR=1.0
SBF Sospel 8.85 287 *e*P **Pn** **13 42 05.6 +0.8**
SBF *e* 13 43 35.3
SBF Sospel 8.85 287 *e*P **Pn** **13 42 05.6 +0.8**
SBF *e*Sn Sn 13 43 35.3 -8.8
SBF Sospel 8.85 287 *e*P **Pn** **13 42 05.6 +0.8**
SNR=1.0
AUTN L'Aution 8.87 288 *e*P **Pn** **13 42 06.3 +1.0**

KARP Karpathos 8.88 133 *e*P **Pn** **13 42 05.8 +0.6**
UPC Upice 8.91 347 *e*P **Pn** **13 42 07.2 +1.7**
UPC Upice 8.91 347 *e*PN **Pn** **13 42 07.2 +1.7**
UPC Upice 8.91 347 Pn **Pn** **13 42 07.2 +1.7**
LUCF Luceram 8.91 287 *e*P **Pn** **13 42 06.0 +0.3**
ARG Arkhangelos 8.96 126 *e*P Pn 13 41 58.6 -7.7
TOUF Mont Tournerai 9.00 288 *e*P **Pn** **13 42 08.4 +1.4**
SEYT Eskypehyr 9.18 101 *i*P **Pn** **13 42 12.4 +3.0**
MDUB Mudurnu 9.18 95 *e*P Pn 13 42 13.3 +3.9
KSP Ksiaz 9.19 349 *e*P Pn 13 42 16.3 +6.9
KSP Ksiaz 9.19 349 *e*P Pn 13 42 18.1 +8.7
CALN Calern 9.22 286 *e*P **Pn** **13 42 11.9 +1.9**
PVCC Panska Ves 9.22 341 AMS AMS 13 46 00.0
comp=Z,4μm,12.9s
FETY Fethiye 9.29 121 *e*P **Pn** **13 42 13.1 +2.2**
FRF La Foret Royal 9.37 285 *e*P **Pn** **13 42 14.3 +2.4**
FRF La Foret Royal 9.37 285 *e*P **Pn** **13 42 14.3 +2.4**
FRF La Foret Royal 9.37 285 *e*P **Pn** **13 42 14.3 +2.4**
FRF La Foret Royal 9.37 285 *e*P **Pn** **13 42 14.3 +2.4**
LMR La Mourre 9.45 283 *e*P **Pn** **13 42 14.4 +1.4**
SNR=1.0
LMR *e*Sn Sn 13 43 50.0 -8.9
comp=Z,24nm,0.6s,SNR=1.0
LMR La Mourre 9.45 283 *e*P **Pn** **13 42 14.4 +1.4**
LMR *e* 13 43 50.0
LMR La Mourre 9.45 283 *e*P **Pn** **13 42 14.4 +1.4**
LMR *e*Sn Sn 13 43 50.0 -8.9
LMR La Mourre 9.45 283 *e*P **Pn** **13 42 14.4 +1.4**
SNR=1.0
MBDF Montbardon 9.48 292 *e*Pn **Pn** **13 42 12.3 -1.2**
SNR=1.0
MBDF *e*Sn Sn 13 43 50.7 -9.1
comp=Z,28nm,0.4s
MBDF Montbardon 9.48 292 *e*P **Pn** **13 42 12.3 -1.2**
MBDF *e* 13 43 50.7
MBDF Montbardon 9.48 292 *e*Pn **Pn** **13 42 12.3 -1.2**
MBDF *e*Sn Sn 13 43 50.7 -9.1
MBDF Montbardon 9.48 292 *e*Pn **Pn** **13 42 12.3 -1.2**
SNR=1.0
GRA1 Grafenberg Arr 9.59 327 *e*P **Pn** **13 42 15.5 +0.7**
GRF Grafenberg Arr 9.59 327 *e*P **Pn** **13 42 15.5 +0.7**
GRFO Grafenberg 9.59 327 *e*P **Pn** **13 42 14.0 -0.8**
GRFO Grafenberg 9.59 327 *e*Pn **Pn** **13 42 14.0 -0.8**
GRFO Grafenberg 9.59 327 *e*P **Pn** **13 42 14.0 -0.8**
BNI Bardonecchia 9.62 293 *e*P **Pn** **13 42 14.4 -1.1**
BNI Bardonecchia 9.62 293 *e*Pn **Pn** **13 42 14.4 -1.1**
BNI Bardonecchia 9.62 293 *e*P **Pn** **13 42 14.4 -1.1**
SENIN Lac Senin/Sane 9.64 302 *e*Pn **Pn** **13 42 15.2 -0.6**
SENIN Lac Senin/Sane 9.64 302 *e*Pn **Pn** **13 42 15.2 -0.6**
SVRH Sivrihisar-ESK 9.70 100 *e*P **Pn** **13 42 15.9 -0.6**
BRG Berggiesshubel 9.70 340 *i*P **Pn** **13 42 17.7 +1.4**
comp=Z,25nm,0.9s
BRG S **Sn** **13 44 03.0 -1.9**
BRG
comp=Z,4μm,12.4s
BRG
comp=N,3μm,9.2s
BRG
comp=E,3μm,9.2s
BRG Berggiesshubel 9.70 340 *i*P **Pn** **13 42 17.7 +1.4**
BRG S **Sn** **13 44 03.0 -1.9**
BRG pmax pmax
comp=Z,25nm,0.9s
BRG MLR MLR
comp=Z,4μm,12.4s
BRG MLR MLR
comp=N,3μm,9.2s
BRG MLR MLR
comp=E,3μm,9.2s
BRG Berggiesshubel 9.70 340 *i*P **Pn** **13 42 17.7 +1.4**
comp=E,25nm,0.9s
LPG La Plagne 9.70 296 *e*Pn **Pn** **13 42 14.9 -1.7**
SNR=1.0
LPG *e*Sn Sn 13 43 55.4 -10
comp=E,173nm,0.6s
LPG La Plagne 9.70 296 *e*P **Pn** **13 42 14.9 -1.7**
LPG La Plagne 9.70 296 *e*Pn **Pn** **13 42 14.9 -1.7**
LPG *e*Sn Sn 13 43 55.4 -10
LPL La Plagne 9.72 296 *e*Pn **Pn** **13 42 13.9 -2.9**
SNR=1.0
LPL *e*Sn Sn 13 43 56.3 -9.4
comp=E,116nm,0.4s,SNR=1.0
LPL La Plagne 9.72 296 *e*P **Pn** **13 42 13.9 -2.9**
LPL *e* 13 43 56.3
LPL La Plagne 9.72 296 *e*Pn **Pn** **13 42 13.9 -2.9**
LPL *e*Sn Sn 13 43 56.3 -9.4
KEST Kesra 9.81 235 P **Pn** **13 42 20.5 +2.5**
KEST Kesra 9.81 235 P **Pn** **13 42 20.5 +2.5**
comp=E,0.3nm,0.3s,baz=22,slow=8.2,SNR=5.2
KEST LR LR 13 46 14.7
comp=E,268nm,19.5s,baz=31,slow=38
KEST Kesra 9.81 235 P **Pn** **13 42 20.5 +2.5**
STU Stuttgart 9.84 318 *e*P **Pn** **13 42 18.0 -0.3**
STU Stuttgart 9.84 318 *e*Pn **Pn** **13 42 18.0 -0.3**
STU Stuttgart 9.84 318 *e*P **Pn** **13 42 18.0 -0.3**
KORT Korkueli 9.92 116 *i*P Pn 13 42 24.9 +5.4
BFO Black Forest 10.02 314 *e*P **Pn** **13 42 20.7 0.0**
BFO *e* 13 44 06.7
BFO Black Forest 10.02 314 *e*Pn **Pn** **13 42 20.1 -0.6**
BFO Black Forest 10.02 314 *e*Pn **Pn** **13 42 20.1 -0.6**
BFO Black Forest 10.02 314 *e*P **Pn** **13 42 20.7 0.0**
OG01 Vacheresse 10.03 301 *e*P **Pn** **13 42 22.2 +1.3**
GDM Grand'Maison 10.05 294 *e*P **Pn** **13 42 22.7 +1.4**
LMSR Misrath 10.10 201 ⇑*i*P Pn 13 42 16.1 -5.8
SNR=22
LMSR *e*S Sn 13 44 07.6 -7.3
SNR=22
SUTC Sutluce-Ispart 10.12 112 *e*P **Pn** **13 42 23.2 +0.9**
ORIF Oris-en-Rattie 10.14 292 *e*Pn **Pn** **13 42 21.7 -0.8**
SNR=1.0
ORIF Oris-en-Rattie 10.14 292 *e*P **Pn** **13 42 21.7 -0.8**
ORIF Oris-en-Rattie 10.14 292 *e*Pn **Pn** **13 42 21.7 -0.8**
ORIF Oris-en-Rattie 10.14 292 *e*Pn **Pn** **13 42 21.7 -0.8**
SNR=1.0
KIZT Kizilcal 10.15 103 *e*P Pn 13 42 26.4 +3.8
SMRF Simiane la Rot 10.19 286 *e*P **Pn** **13 42 25.9 +2.7**
SNR=1.0
SMRF Simiane la Rot 10.19 286 *e*P **Pn** **13 42 25.9 +2.7**
SMRF Simiane la Rot 10.19 286 *e*P **Pn** **13 42 25.9 +2.7**
SNR=1.0
MOX Moxa 10.21 332 *e*P **Pn** **13 42 24.3 +0.9**
MOX *e* 13 44 15.5
MOX Moxa 10.21 332 *e*P **Pn** **13 42 24.3 +0.9**
GRN Grenoble 10.31 294 *e*P **Pn** **13 42 24.5 -0.3**
CLL Collm 10.35 338 *e*P **Pn** **13 42 26.0 +0.8**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 10.35 338 *e*Pn **Pn** **13 42 26.0 +0.8**
comp=Z,13nm,1.1s
CLL *e* 13 42 39.0
CLL *e*Pg 13 43 16.0
CLL *e*Sn Sn 13 44 01.0 -20
CLL *e* 13 44 40.0
CLL *e*Sb 13 45 00.0
CLL *e*Sg 13 45 27.0
CLL *e*Sglp 13 45 34.0
comp=N,2μm,18.3s
CLL *e*Sglp 13 45 34.0
comp=E,4μm,18.4s
CLL Lmax 13 46 00.0
CLL Collm 10.35 338 *e*P **Pn** **13 42 26.0 +0.8**
comp=E,13nm,1.1s
LOMF Lomont 10.36 306 *e*P **Pn** **13 42 25.9 +0.4**
MOF Molkenrain 10.42 309 *e*Pn **Pn** **13 42 26.8 +0.4**
LTBQ Tobruq 10.51 157 *i*P Pn 13 42 23.0 -4.5
SNR=22
LTBQ *e*S Sn 13 44 16.4 -8.4
comp=E,240nm,0.4s,SNR=22
CMAH Djebel Manchou 10.51 244 P **Pn** **13 42 30.4 +2.9**
CMAH Djebel Manchou 10.51 244 P **Pn** **13 42 30.4 +2.9**
ANTO Ankara 10.51 96 *e*P **Pn** **13 42 26.9 -0.7**
ANTO Ankara 10.51 96 *e*Pn **Pn** **13 42 26.9 -0.7**
ANTO Ankara 10.51 96 *e*P **Pn** **13 42 26.9 -0.7**
CABF La Chapelle 10.51 301 *e*Pn **Pn** **13 42 26.8 -0.8**
SNR=1.0
CABF *e*Sn Sn 13 44 15.1 -10
comp=E,66nm,0.7s
CABF La Chapelle 10.51 301 *e*P **Pn** **13 42 26.8 -0.8**
CABF La Chapelle 10.51 301 *e*Pn **Pn** **13 42 26.8 -0.8**
CABF *e*Sn Sn 13 44 15.1 -10
CABF La Chapelle 10.51 301 *e*Pn **Pn** **13 42 26.8 -0.8**
SNR=1.0
HINF Hinteralfeld 10.57 308 *e*Pn **Pn** **13 42 28.8 +0.5**

SNR=1.0
HINF *e*Sn Sn 13 44 16.5 -10
comp=E,46nm,0.6s
HINF Hinteralfeld 10.57 308 *e*P **Pn** **13 42 28.8 +0.5**
HINF Hinteralfeld 10.57 308 *e*Pn **Pn** **13 42 28.8 +0.5**
HINF *e*Sn Sn 13 44 16.5 -10
HINF Hinteralfeld 10.57 308 *e*Pn **Pn** **13 42 28.8 +0.5**
SNR=1.0
ECH Echery 10.60 311 *e*P **Pn** **13 42 28.2 -0.5**
ECH pmax pmax
comp=Z,11nm,0.6s
ECH Echery 10.60 311 *e*Pn **Pn** **13 42 28.2 -0.5**
comp=Z,11nm,0.6s
ECH Echery 10.60 311 *e*P **Pn** **13 42 29.1 +0.4**
ECH Echery 10.60 311 *e*P **Pn** **13 42 28.2 -0.5**
comp=Z,11nm,0.6s
CDF Champ du Feu 10.64 312 *e*Pn **Pn** **13 42 28.6 -0.7**
SNR=1.0
CDF Champ du Feu 10.64 312 *e*P **Pn** **13 42 28.6 -0.7**
CDF Champ du Feu 10.64 312 *e*Pn **Pn** **13 42 28.6 -0.7**
CDF Champ du Feu 10.64 312 *e*Pn **Pn** **13 42 28.6 -0.7**
SNR=1.0
LADK Ladik-KONYA 10.76 106 *e*P **Pn** **13 42 31.3 +0.2**
KONT Konya--Tatoy 10.86 107 *e*P **Pn** **13 42 35.0 +2.6**
HAU Haudompre 10.96 308 *e*Pn **Pn** **13 42 33.8 +0.2**
SNR=1.0
HAU *e*Sn Sn 13 44 25.6 -10
comp=Z,89nm,0.6s
HAU Haudompre 10.96 308 *e*P **Pn** **13 42 33.8 +0.2**
HAU Haudompre 10.96 308 *e*Pn **Pn** **13 42 33.8 +0.2**
HAU *e*Sn Sn 13 44 25.6 -10
HAU Haudompre 10.96 308 *e*Pn **Pn** **13 42 33.8 +0.2**
SNR=1.0
LJBD Adjabya 10.97 175 *e*S Sn 13 44 28.4 -7.7
SNR=22
VIVF Saint-Julien-I 10.97 291 *e*Pn **Pn** **13 42 32.0 -1.8**
SNR=1.0
VIVF Saint-Julien-I 10.97 291 *e*P **Pn** **13 42 32.0 -1.8**
VIVF Saint-Julien-I 10.97 291 *e*Pn **Pn** **13 42 32.0 -1.8**
CKFL Kef-Lekhel 11.10 245 P **Pn** **13 42 38.0 +2.3**
CKFL Kef-Lekhel 11.10 245 P **Pn** **13 42 38.0 +2.3**
SSB Saint Sauveur 11.15 293 *e*P **Pn** **13 42 35.0 -1.2**
SSB *e* 13 44 32.5
SSB pmax pmax
comp=Z,7.0nm,0.4s
SSB Saint Sauveur 11.15 293 *e*Pn **Pn** **13 42 35.0 -1.2**
comp=Z,7.4nm,0.4s
SSB *e*Sn Sn 13 44 32.5 -8.0
SSB Saint Sauveur 11.15 293 *e*P **Pn** **13 42 34.5 -1.7**
SSB Saint Sauveur 11.15 293 *e*P **Pn** **13 42 35.0 -1.2**
comp=Z,7.0nm,0.4s
BR131 Keskin Array S 11.18 96 *e*Pn **Pn** **13 42 37.4 +0.6**
comp=Z,6.8nm,0.6s
BR131 Keskin Array S 11.18 96 *e*Pn **Pn** **13 42 37.4 +0.6**
comp=Z,6.8nm,0.6s
BRTR Keskin Array B 11.18 96 P **Pn** **13 42 39.5 +2.7**
BRTR Keskin Array B 11.18 96 P **Pn** **13 42 39.5 +2.7**
comp=Z,0.7nm,0.3s,baz=282,slow=12,SNR=14
BRTR Keskin Array B 11.18 96 P **Pn** **13 42 39.5 +2.7**
comp=Z,1.0nm,0.3s
TNS Taunus Mts 11.18 322 *e*P **Pn** **13 42 37.5 +0.8**
TNS Taunus Mts 11.18 322 *e*P **Pn** **13 42 37.5 +0.8**
KIEV Kiev 11.22 35 *e*P **Pn** **13 42 37.9 +0.8**
KIEV Kiev 11.22 35 *e*Pn **Pn** **13 42 37.9 +0.8**
KIEV Kiev 11.22 35 *e*P **Pn** **13 42 37.9 +0.8**
AKASG Malin Array Be 11.23 35 P **Pn** **13 42 39.4 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 11.23 35 P **Pn** **13 42 39.4 +2.1**
AKASG Malin Array Be 11.23 35 P **Pn** **13 42 39.4 +2.1**
comp=Z,1.4nm,0.3s,baz=224,slow=13,SNR=32
AKASG Malin Array Be 11.23 35 P **Pn** **13 42 39.4 +2.1**
comp=Z,1.0nm,0.3s
THEF They Montfort 11.28 309 *e*P **Pn** **13 42 38.9 +0.9**
SIM Simferopol' 11.30 69 *e*P **Pn** **13 42 38.7 +0.4**
SIM S **Sn** **13 44 42.0 -2.2**
SIM S **Sn** **13 44 45.0 +0.8**
SIM pmax pmax
comp=Z,38nm,0.9s
SIM MLR MLR
comp=Z,2μm,13.0s
SIM Simferopol' 11.30 69 *e*P **Pn** **13 42 38.7 +0.4**
comp=Z,38nm,0.9s
CASM Ain Smara 11.33 245 P **Pn** **13 42 41.4 +2.6**
CASM Ain Smara 11.33 245 P **Pn** **13 42 41.4 +2.6**
LASF Ste Croix 11.44 286 *e*Pn **Pn** **13 42 39.6 -0.6**
LASF Ste Croix 11.44 286 *e*Pn **Pn** **13 42 39.6 -0.6**
LASF Ste Croix 11.44 286 *e*Pn **Pn** **13 42 39.6 -0.6**
PAGF Fort de Pagny 11.59 310 *e*P **Pn** **13 42 44.7 +2.4**
baz=119
PAGF Fort de Pagny 11.59 310 *e*P **Pn** **13 42 44.7 +2.4**
PAGF Fort de Pagny 11.59 310 *e*P **Pn** **13 42 44.7 +2.4**
baz=119
SULT Sultanhani-AKS 11.59 104 *e*P **Pn** **13 42 44.1 +1.7**
DFRA Djebel Bou Aff 11.60 247 P **Pn** **13 42 44.4 +1.9**
DFRA Djebel Bou Aff 11.60 247 P **Pn** **13 42 44.4 +1.9**
CORM Corum 11.80 93 *e*P Pn 13 42 41.9 -3.4
SFTF Sexfontaines 11.83 307 *e*P **Pn** **13 42 47.7 +2.2**
baz=131
SFTF Sexfontaines 11.83 307 *e*P **Pn** **13 42 47.7 +2.2**
SFTF Sexfontaines 11.83 307 *e*P **Pn** **13 42 47.7 +2.2**
baz=131
MEZF Maizieres J'vi 11.96 308 *e*P **Pn** **13 42 49.0 +1.8**
baz=132,SNR=1.0
MEZF Maizieres J'vi 11.96 308 *e*P **Pn** **13 42 49.0 +1.8**
MEZF Maizieres J'vi 11.96 308 *e*P **Pn** **13 42 49.0 +1.8**
baz=132,SNR=1.0
SMF Signal de Mont 11.98 299 *e*Pn **Pn** **13 42 46.0 -1.6**
SNR=1.0
SMF *e*Sn Sn 13 44 50.3 -11
comp=Z,66nm,0.6s
SMF Signal de Mont 11.98 299 *e*P **Pn** **13 42 46.0 -1.6**
SMF Signal de Mont 11.98 299 *e*Pn **Pn** **13 42 46.0 -1.6**
SMF *e*Sn Sn 13 44 50.3 -11
LBL Lubilhac 12.03 292 *e*P **Pn** **13 42 47.1 -1.3**
SET Setif 12.11 247 P Pn 13 42 45.0 -4.5
LOR Lormes 12.17 301 *e*Pn **Pn** **13 42 49.2 -1.0**
baz=120,SNR=1.0
LOR *e*Sn Sn 13 44 55.0 -11
comp=Z,31nm,0.3s
LOR Lormes 12.17 301 *e*Pn **Pn** **13 42 49.2 -1.0**
LOR *e*Sn Sn 13 44 55.0 -11
LOR Lormes 12.17 301 *e*Pn **Pn** **13 42 49.2 -1.0**
baz=120,SNR=1.0
AGO Saint Agoulin 12.29 295 *e*P **Pn** **13 42 50.3 -1.5**
SSF Saint Saulge 12.33 300 *e*Pn **Pn** **13 42 51.0 -1.3**
SNR=1.0
SSF *e*Sn Sn 13 44 58.5 -11
comp=Z,34nm,0.6s
SSF Saint Saulge 12.33 300 *e*P **Pn** **13 42 51.0 -1.3**
SSF Saint Saulge 12.33 300 *e*Pn **Pn** **13 42 51.0 -1.3**
SSF *e*Sn Sn 13 44 58.5 -11
SSF Saint Saulge 12.33 300 *e*Pn **Pn** **13 42 51.0 -1.3**
SNR=1.0
AVF Avril sur Loir 12.34 299 *e*Pn **Pn** **13 42 51.1 -1.4**
SNR=1.0
AVF Avril sur Loir 12.34 299 *e*P **Pn** **13 42 51.1 -1.4**
AVF Avril sur Loir 12.34 299 *e*Pn **Pn** **13 42 51.1 -1.4**
AVF Avril sur Loir 12.34 299 *e*Pn **Pn** **13 42 51.1 -1.4**
SNR=1.0
MTLF Montolieu 12.58 282 *e*P **Pn** **13 42 58.4 +2.6**
MTLF Montolieu 12.58 282 *e*P **Pn** **13 42 58.4 +2.6**
MTLF Montolieu 12.58 282 *e*P **Pn** **13 42 58.4 +2.6**
MTLF Montolieu 12.58 282 *e*P **Pn** **13 42 58.4 +2.6**
BGF Bois d'Agland 12.61 297 *e*Pn **Pn** **13 42 54.2 -2.0**
SNR=1.0
BGF Bois d'Agland 12.61 297 *e*P **Pn** **13 42 54.2 -2.0**
BGF Bois d'Agland 12.61 297 *e*Pn **Pn** **13 42 54.2 -2.0**
LUJL Ujela 12.84 172 *i*P Pn 13 42 52.4 -7.0
SNR=22
LUJL *e*S Sn 13 45 09.8 -12
comp=Z,82nm,0.3s,SNR=22
GIVF Givet 12.92 314 *e*Pn **Pn** **13 42 58.3 -2.0**
GIVF Givet 12.92 314 *e*P **Pn** **13 42 58.3 -2.0**
GIVF Givet 12.92 314 *e*Pn **Pn** **13 42 58.3 -2.0**
LJFR Jufra 13.03 193 *i*P Pn 13 42 55.5 -6.5
SNR=22
LJFR *e*S Sn 13 45 14.5 -12
comp=Z,44nm,0.5s,SNR=22
DOU Dourbes 13.04 314 P **Pn** **13 43 01.6 -0.4**
CSS Prodhromos 13.06 117 *e*Pn **Pn** **13 43 01.1 -1.3**
CSS Prodhromos 13.06 117 *e*Pn **Pn** **13 43 01.1 -1.3**
KARA Karaisali 13.09 105 *e*P **Pn** **13 43 05.3 +2.5**
LZLA Zalla 13.35 186 *i*P Pn 13 43 02.6 -3.8

SNR=45
CLF Chambon-Foret 13.45 303 eP Pn 13 43 09.9 +2.4
CLF Chambon-Foret 13.45 303 eP Pn 13 43 09.9 +2.4
ANN Anapa 13.61 71 eP Pn 13 43 13.0 +3.2
ANN eS Sn 13 45 48.9 +8.2
ANN pmax pmax
comp=Z,71nm,1.0s
ANN MLR MLR
comp=N,1μm,16.0s
ANN MLR MLR
comp=E,518nm,16.0s
ANN MLR MLR
comp=Z,2μm,16.0s
ANN Anapa 13.61 71 eP Pn 13 43 13.0 +3.2
comp=Z,71nm,1.0s
MNK Minsk 13.88 21⇓eP Pn 13 43 13.0 -0.4
MNK eS Sn 13 45 50.0 +2.9
MNK pmax pmax
comp=N,200nm,1.5s
MNK pmax pmax
comp=Z,80nm,1.5s
MNK MLR MLR
comp=N,9μm,8.0s
MNK MLR MLR
comp=Z,14μm,9.0s
MICGM Minsk 13.89 22⇓eP Pn 13 43 13.0 -0.6
IIGN Ignalina 14.26 17 eP Pn 13 43 20.2 +1.5
IIGN AMB AMB 13 43 27.5
comp=Z,40nm,1.0s
IDID Didziasalis 14.34 18 eP Pn 13 43 20.8 +1.0
IDID AMB AMB 13 43 28.1
comp=Z,20nm,1.0s
ARNB Al Arnab 14.39 109 eP P 13 43 29.9 +2.3
YAYL Yayladag 14.40 108 i P Pn 13 43 23.7 +2.8
ISAL Salakas 14.45 16 eP Pn 13 43 22.9 +1.7
ISAL AMB AMB 13 43 29.6
comp=Z,38nm,1.4s
DRWC Darouich 14.53 105 eP P 13 43 35.6 +6.6
BTCH Batrach 14.65 108 eP P 13 43 30.7 +0.2
GZT Gaziantep 14.87 102 i P P 13 43 30.3 -2.7
KEMA Kemaliye 14.91 94 i P Pn 13 43 29.7 +2.0
LDF La Druitiere 15.14 303 eP Pn 13 43 32.2 +1.6
SNR=1.0
LDF La Druitiere 15.14 303 eP Pn 13 43 32.2 +1.6
LDF La Druitiere 15.14 303 eP Pn 13 43 32.2 +1.6
MALT Malatya 15.16 97⇑i P P 13 43 40.6 +4.5
SOC Sochi 15.20 77 eP Pn 13 43 31.2 -0.2
SOC e 13 46 20.1
SOC pmax pmax
comp=Z,71nm,0.9s
SOC MLR MLR
comp=Z,524nm,14.0s
KELT Kelkit 15.26 90 i P P 13 43 35.7 -1.6
KELT Kelkit 15.26 90 i P P 13 43 35.7 -1.6
FLN La Foliniere 15.42 303 ePn Pn 13 43 33.0 -1.3
baz=116,SNR=1.0
FLN La Foliniere 15.42 303 eP Pn 13 43 33.0 -1.3
FLN La Foliniere 15.42 303 ePn Pn 13 43 33.0 -1.3
FLN La Foliniere 15.42 303 ePn Pn 13 43 33.0 -1.3
baz=116,SNR=1.0
GRR Gorron 15.54 302 eP Pn 13 43 36.7 +0.8
SNR=1.0
GRR Gorron 15.54 302 eP Pn 13 43 36.7 +0.8
GRR Gorron 15.54 302 eP Pn 13 43 36.7 +0.8
MMAI Mount Meron Ar 15.61 119 P Pn 13 43 35.3 -1.7
MMAI Mount Meron Ar 15.61 119 P Pn 13 43 35.3 -1.7
comp=Z,1.1nm,0.3s,baz=316,slow=8.1,SNR=19
SLMH Al Salmeh 15.62 105 eP P 13 43 42.9 +1.8
SLMH Al Salmeh 15.62 105 eP P 13 43 42.9 +1.8
SNR=35
KSDI Kefar Szold 15.67 118 Pn **Pn 13 43 36.2 -1.4**
MARH Ras Al Marh 15.72 114 eP P 13 43 42.4 -0.2
MARH Ras Al Marh 15.72 114 eP P 13 43 42.4 -0.2
SNR=40
QASN Qassioun 15.87 116 eP Pn 13 43 40.2 -0.2
MMLI Mount Malkishu 15.99 121 Pn **Pn 13 43 40.3 -1.6**
TOTH TOTAH 16.08 116 eP P 13 43 46.4 +0.1
TOTH TOTAH 16.08 116 eP P 13 43 46.3 +0.1
SNR=35
ROOS tl_alroos 16.20 112 eP P 13 43 48.7 +1.1
VORD Divnogorie 16.55 50 eP Pn 13 43 49.3 +0.6
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=E,80nm,1.3s
VORD MLR MLR
comp=Z,3μm,12.0s
VORD MLR MLR
comp=N,1μm,11.0s
VORD MLR MLR
comp=E,3μm,13.0s
VSR Storozhevoye 16.58 49 eP Pn 13 43 49.0 -0.2
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,80nm,0.9s
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=N,1μm,16.0s
VSR MLR MLR
comp=E,1μm,16.0s
VSR MLR MLR
comp=Z,3μm,16.0s
SALA Sala 16.68 118 eP P 13 43 53.0 0.0
SALA Sala 16.68 118 eP P 13 43 53.0 0.0
SNR=35
DBAD Bademkaya 16.91 85 i P P 13 43 55.7 +0.3
DBAD Bademkaya 16.91 85 i P P 13 43 55.7 +0.3
ZALF Zalf 16.95 116 eP P 13 43 55.3 -0.6
ZALF Zalf 16.95 116 eP P 13 43 55.3 -0.6
SNR=35
DDEM Demirkent 16.97 86 i P P 13 43 56.4 +0.2
DDEM Demirkent 16.97 86 i P P 13 43 56.4 +0.2
DAGI Agillar 17.06 85 i P P 13 43 57.6 +0.4
ASF Jabal al Asfar 17.12 119 P Pn 13 43 55.6 -0.7
ASF Jabal al Asfar 17.12 119 P Pn 13 43 55.6 -0.7
comp=Z,0.2nm,0.3s,baz=54,slow=0.8,SNR=6.2
MARD Mardin 17.25 98 i P P 13 43 59.5 +0.1
VSU Vasula 17.28 13⇓i P P 13 43 59.6 +0.3
VSU pmax pmax
comp=Z,741nm,1.6s
VSU MLR MLR
comp=Z,6μm,16.0s
VSU Vasula 17.28 13 i P P 13 43 59.6 +0.3
comp=Z,6μm,16.0s
KIV Kislovodsk 17.34 75κeP P 13 44 00.2 0.0
KIV eS S 13 47 17.4 -2.7
KIV pmax pmax
comp=Z,70nm,1.3s
KIV MLR MLR
comp=Z,800nm,17.0s
KIV Kislovodsk 17.34 75 eP P 13 44 00.2 0.0
comp=Z,70nm,1.3s
KIV eS S 13 47 17.4 -2.7
comp=Z,800nm,17.0s
OBN Obninsk 17.50 35⇓eP Pn 13 43 59.8 -0.8
OBN eS Sn 13 47 10.4 -4.5
OBN pmax pmax
comp=Z,65nm,1.2s
OBN MLR MLR
comp=Z,2μm,17.0s
KBZ Khabaz 17.50 76 P **P 13 44 03.9 +2.0**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ Khabaz 17.50 76 P **P 13 44 03.9 +2.0**
KBZ Khabaz 17.50 76 P **P 13 44 03.9 +2.0**
comp=Z,0.8nm,0.3s,baz=282,slow=8.5,SNR=48
KBZ Khabaz 17.50 76 P **P 13 44 03.9 +2.0**
comp=Z,1.0nm,0.3s
EIL Elat 17.64 129 P **Pn 13 43 58.4 -4.1**
EIL Elat 17.64 129 P **Pn 13 43 58.4 -4.1**
comp=Z,0.6nm,0.3s,baz=323,slow=14,SNR=8.7
EIL Elat 17.64 129 P **Pn 13 44 01.1 -1.4**
baz=87,SNR=9.7
ESDC Sonseca Array 17.65 271 P **P 13 44 04.7 +1.0**
ESDC Sonseca Array 17.65 271 P **P 13 44 04.7 +1.0**
comp=Z,0.6nm,0.3s,baz=75,slow=12,SNR=23
ESDC Sonseca Array 17.65 271 P **P 13 44 04.7 +1.0**
ESLA Sonseca Array 17.65 271 ePn Pn 13 44 00.8 -2.0
comp=Z,8.2nm,1.2s
ESLA Sonseca Array 17.65 271 ePn Pn 13 44 00.8 -2.0
comp=Z,8.1nm,1.2s

VRHR Novokhopersk 17.94 51 eP Pn 13 44 06.3 +0.1
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,30nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR MLR MLR
comp=Z,3μm,13.0s
VRHR MLR MLR
comp=N,220nm,9.0s
VRHR MLR MLR
comp=E,2μm,14.0s
VRHR Novokhopersk 17.94 51 eP Pn 13 44 06.3 +0.1
comp=E,220nm,9.0s
PAB San Pablo 17.97 270 eP Pn 13 44 05.8 -0.9
PAB pmax pmax
comp=Z,96nm,1.1s
PAB San Pablo 17.97 270 ePn Pn 13 44 05.8 -0.9
comp=Z,96nm,1.1s
PAB San Pablo 17.97 270 eP Pn 13 44 05.8 -0.9
comp=Z,96nm,1.1s
AKH Akhalkalaki 18.18 83 P **P 13 44 10.9 +1.3**
AKH Akhalkalaki 18.18 83 P **P 13 44 10.9 +1.3**
ZEI Tsey 18.30 79 eP P 13 44 12.6 +1.7
ZEI pmax pmax
comp=Z,48nm,0.8s
ZEI Tsey 18.30 79 eP P 13 44 12.6 +1.7
comp=Z,48nm,0.8s
MOS Moscow 18.36 35 eP P 13 44 09.3 -2.0
MOS eS S 13 47 39.3 -1.2
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,87nm,0.8s
MOS MLR MLR
comp=E,2μm,14.0s
MOS MLR MLR
comp=N,2μm,13.0s
MOS MLR MLR
comp=Z,2μm,10.0s
HFS Hagfors 18.60 351 P **P 13 44 13.2 -0.6**
HFS Hagfors 18.60 351 P **P 13 44 13.2 -0.6**
comp=Z,2.1nm,0.3s,baz=174,slow=12,SNR=42
HFS LR LR 13 52 01.5
comp=Z,824nm,18.1s,baz=172,slow=39
HFS Hagfors 18.60 351 P **P 13 44 13.2 -0.6**
comp=Z,824nm,18.1s
GUDG Gudauri 18.75 80 P **Pn 13 44 17.7 +1.3**
GUDG Gudauri 18.75 80 P **Pn 13 44 17.7 +1.3**
TBLG Delisi 19.05 82 eP Pn 13 44 20.5 +0.7
TBLG Delisi 19.05 82 P **Pn 13 44 20.5 +0.7**
TBLG Delisi 19.05 82 eP Pn 13 44 20.5 +0.7
PUL Pulkovo 19.20 17 eP Pn 13 44 21.1 -0.3
PUL pmax pmax
comp=Z,78nm,0.7s
PUL MLR MLR
comp=Z,2μm,14.0s
PUL Pulkovo 19.20 17 eP Pn 13 44 21.1 -0.3
comp=Z,2μm,14.0s
PBRG Braganca 19.29 278 eP Pn 13 44 24.8 +2.1
comp=Z,20nm,1.5s
GNI Garni 19.36 87 ePn P 13 44 22.1 -0.4
comp=Z,79nm,0.8s
GNI Garni 19.36 87 ePn P 13 44 22.1 -0.4
comp=Z,79nm,0.8s
GNI Garni 19.36 87 i P P 13 44 23.1 +0.6
comp=Z,585nm,22.0s
DGRG David-gareji 19.56 82 P **P 13 44 25.0 +0.4**
DGRG David-gareji 19.56 82 P **P 13 44 25.0 +0.4**
LIJA Lijar 19.60 263 P **Pn 13 44 27.8 +1.3**
MVO Moncorvo 19.61 277 eP Pn 13 44 26.7 +0.1
comp=Z,36nm,1.5s
MVO eLR LR 13 51 12.3
comp=Z,531nm,18.0s
MVO Moncorvo 19.61 277 eP Pn 13 44 26.7 +0.1
comp=Z,36nm,1.5s
NAO01 NORSAR Array S 19.66 348 eP P 13 44 24.4 -1.1
comp=Z,21nm,0.7s
NAO01 NORSAR Array S 19.66 348 eP P 13 44 24.4 -1.1
comp=Z,21nm,0.7s
NB2 NORSAR Subarra 19.80 349 P **P 13 44 26.9 -0.1**
comp=Z,21nm,0.8s,baz=160,slow=9.3
NOA NORSAR Array B 19.80 349 P **P 13 44 26.1 -0.9**
NOA PcP **PcP 13 48 44.4 0.0**
NOA NORSAR Array B 19.80 349 P **P 13 44 26.1 -0.9**
comp=Z,1.5nm,0.3s,baz=161,slow=8.6,SNR=19
NOA PcP **PcP 13 48 44.4 0.0**
baz=135,slow=2.5,SNR=4.3
NOA LR LR 13 53 07.0
comp=Z,978nm,18.6s,baz=170,slow=40
NOA NORSAR Array B 19.80 349 P **P 13 44 26.2 -0.9**
EKA Eskdalemuir Ar 19.87 320 P **P 13 44 27.9 +0.1**
EKA Eskdalemuir Ar 19.87 320 P **P 13 44 27.9 +0.1**
baz=116,slow=11,SNR=24
ESK Eskdalemuir 19.88 320 eP P 13 44 28.1 +0.2
ESK pmax pmax
comp=Z,34nm,0.8s
ESK Eskdalemuir 19.88 320 eP P 13 44 28.1 +0.2
comp=Z,34nm,0.8s
FINES FINESS Array B 20.04 10 P **P 13 44 28.8 -0.8**
FINES PcP **PcP 13 48 44.5 -0.2**
FINES FINESS Array B 20.04 10 P **P 13 44 28.8 -0.8**
comp=Z,2.8nm,0.3s,baz=172,slow=10,SNR=82
FINES PcP **PcP 13 48 44.5 -0.2**
comp=Z,0.3nm,0.3s,baz=186,slow=1.4,SNR=5.5
FINES LR LR 13 51 46.6
comp=Z,387nm,18.7s,baz=196,slow=35
FIA1 FINESS Array S 20.04 10 eP P 13 44 28.8 -0.8
MTE Manteigas 20.15 275 eP Pn 13 44 32.2 -0.8
comp=Z,57nm,1.2s
MTE eLQ LQ 13 48 20.7
MTE eLR LR 13 51 11.6
comp=Z,731nm,16.0s
MTE Manteigas 20.15 275 eP P 13 44 30.3 -0.8
comp=Z,24nm,0.8s
MTE Manteigas 20.15 275 eP Pn 13 44 32.2 -0.8
comp=Z,57nm,1.2s
PCAB Cabril 20.25 279 eP P 13 44 33.2 +1.0
comp=Z,50nm,1.4s
PCAB Cabril 20.25 279 eP P 13 44 33.2 +1.0
comp=Z,50nm,1.4s
PMRV Marv??o 20.28 272 eP P 13 44 32.7 +0.3
comp=Z,40nm,1.7s
PMRV eS S 13 48 11.7 -7.5
PMRV eLR LR 13 52 21.4
comp=Z,718nm,18.0s
PMRV eLQ LQ 13 52 30.1
PMRV Marv??o 20.28 272 eP P 13 44 32.7 +0.3
comp=Z,40nm,1.7s
PVIS Viseu 20.34 276 eP P 13 44 33.8 +0.7
comp=Z,54nm,1.6s
PVIS Viseu 20.34 276 eP P 13 44 33.8 +0.7
comp=Z,54nm,1.6s
PBAR Barrancos 20.38 268 eP Pn 13 44 34.8 -0.8
comp=Z,52nm,0.9s
PBAR Barrancos 20.38 268 eP Pn 13 44 34.8 -0.8
comp=Z,52nm,0.9s
PGAV Gavieira, Arco 20.39 279 eP Pn 13 44 35.8 -0.1
comp=Z,71nm,1.5s
PGAV eS **S 13 48 20.9 -0.7**
PGAV eLQ LQ 13 51 57.4
PGAV A A 13 54 18.9
comp=Z,403nm,18.0s
PGAV Gavieira, Arco 20.39 279 eP Pn 13 44 35.8 -0.1
comp=Z,71nm,1.5s
PGAV eS **S 13 48 20.9 -0.7**
comp=Z,403nm,18.0s
IMRD Marand 20.45 90 eP P 13 44 35.1 +0.6
ISHB Shabestar 20.52 91 eP P 13 44 34.9 -0.4
PESTR Estremoz 20.58 271 eP Pn 13 44 37.3 -0.7
comp=Z,69nm,1.2s
PESTR Estremoz 20.58 271 eP Pn 13 44 37.3 -0.7
comp=Z,69nm,1.2s
KAF Kangasniemi 20.72 10 eP P 13 44 35.3 -1.6
KAF pmax pmax
comp=Z,48nm,0.7s
MDT Midelt 20.91 252 P **P 13 44 39.9 +0.5**
MDT Midelt 20.91 252 P **P 13 44 39.9 +0.5**
comp=Z,9.7nm,0.9s,baz=57,slow=9.0,SNR=12
MDT LR LR 13 52 07.9
comp=Z,375nm,21.9s,baz=57,slow=35
MAK Makhachkala 20.91 77 eP P 13 44 40.1 +0.9
MAK eS **S 13 48 33.7 +2.0**
MAK e 13 48 41.8
MAK eSS **SnSn 13 48 54.4 +2.2**

MAK pmax pmax
comp=Z,388nm,1.2s
MAK MLR MLR
comp=Z,2μm,14.0s
ITBZ Tabriz 20.93 91 eP P 13 44 39.8 +0.1
PCAS Casmilo, Conde 20.94 274 eP Pn 13 44 41.3 -0.9
comp=Z,65nm,1.4s
PCAS Casmilo, Conde 20.94 274 eP Pn 13 44 41.3 -0.9
comp=Z,65nm,1.4s
PTOM Tomar 20.99 273 eP Pn 13 44 41.6 -1.1
comp=Z,122nm,0.9s
PTOM Tomar 20.99 273 eP Pn 13 44 41.6 -1.1
comp=Z,122nm,0.9s
IAZR Azarshahr 20.99 93 eP P 13 44 40.4 0.0
EVO Evora 21.00 270 eP P 13 44 41.3 +1.1
comp=Z,37nm,1.3s
EVO Evora 21.00 270 eP P 13 44 41.3 +1.1
comp=Z,37nm,1.3s
PMTG Montargil 21.00 271 eP P 13 44 41.5 +1.3
comp=Z,81nm,1.4s
PMTG Montargil 21.00 271 eP P 13 44 41.5 +1.3
comp=Z,81nm,1.4s
PBEJ Beja 21.05 268 eP P 13 44 41.5 +0.8
comp=Z,21nm,1.1s
PBEJ Beja 21.05 268 eP P 13 44 41.5 +0.8
comp=Z,21nm,1.1s
PVAQ Vaqueiros 21.14 267 eP P 13 44 42.6 +0.8
comp=Z,47nm,1.4s
PVAQ eLQ LQ 13 48 58.5
PVAQ eLR LR 13 52 40.7
comp=Z,492nm,18.0s
PVAQ Vaqueiros 21.14 267 eP P 13 44 42.6 +0.8
comp=Z,47nm,1.4s
PCVE Castro Verde 21.31 268 eP P 13 44 45.3 +1.8
comp=Z,49nm,1.0s
PCVE Castro Verde 21.31 268 eP P 13 44 45.3 +1.8
comp=Z,49nm,1.0s
PNCL Nicolau / Gran 21.51 269 eP P 13 44 46.8 +1.1
comp=Z,54nm,1.2s
PNCL Nicolau / Gran 21.51 269 eP P 13 44 46.8 +1.1
comp=Z,54nm,1.2s
KSMR Kasumkent 21.57 81 eP P 13 44 47.0 +0.6
BHD Baghdad 21.69 105 i P P 13 44 45.0 -2.6
BHD i PP **PnPn 13 45 11.0 +2.5**
BHD i S **S 13 48 45.0 -2.2**
BHD i LR LR 13 54 03.0
LIS Lisbon 21.79 271 eP P 13 44 49.6 +0.9
MORF Marmelete 21.88 267 eP P 13 44 50.7 +1.0
MORF eS **S 13 48 52.7 +1.8**
TAM Tamanrasset 22.19 215 eP P 13 44 52.8 -0.5
TAM pmax pmax
comp=Z,47nm,1.7s
TAM Tamanrasset 22.19 215 eP P 13 44 52.8 -0.5
comp=Z,47nm,1.7s
JOF Joensuu 22.27 15 eP P 13 44 53.3 -0.3
JOF pmax pmax
comp=Z,34nm,0.6s
JOF Joensuu 22.27 15 eP P 13 44 53.3 -0.3
comp=Z,34nm,0.6s
IDHR Dehrash 22.47 100 eP P 13 44 57.7 +1.4
IDHR Dehrash 22.47 100 eP P 13 44 57.7 +1.4
IGZV Ghazvin 24.62 93 eP P 13 45 17.5 +0.1
IGZV Ghazvin 24.62 93 eP P 13 45 17.5 +0.1
IRAZ Razeghan 24.79 95 eP P 13 45 19.0 0.0
IRAZ Razeghan 24.79 95 eP P 13 45 19.0 0.0
TMCR Tamitsa 24.85 20 eP P 13 45 17.4 -1.5
TMCR e 13 45 52.3
TMCR Tamitsa 24.85 20 eP P 13 45 17.4 -1.5
IR3 Iran Long-Peri 25.58 94 eP P 13 45 24.9 -1.0
IR3 Iran Long-Peri 25.58 94 eP P 13 45 24.9 -1.0
NAY Al-Naaiem 25.95 110 eP P 13 45 28.4 -0.9
NAY AMb AMB 13 45 31.5
comp=Z,9.2nm,1.0s
NAY Al-Naaiem 25.95 110 eP P 13 45 28.4 -0.9
comp=Z,9.2nm,1.0s
UMR Umm Al-Rimmam 26.11 109 eP P 13 45 30.1 -0.5
UMR AMb AMB 13 45 33.9
comp=Z,353nm,1.1s
UMR Umm Al-Rimmam 26.11 109 eP P 13 45 30.1 -0.5
comp=Z,353nm,1.1s
IPRN Peran 26.26 91 eP P 13 45 32.0 -0.1
IDMV Damavand 26.29 93 eP P 13 45 32.6 0.0
IDMV Damavand 26.29 93 eP P 13 45 32.6 0.0
IVRN Varamin 26.30 94 eP P 13 45 32.7 +0.2
IVRN Varamin 26.30 94 eP P 13 45 32.7 +0.2
KBD Kabd 26.31 110 eP P 13 45 31.2 -1.3
KBD AMb AMB 13 45 35.3
comp=Z,131nm,1.1s
KBD Kabd 26.31 110 eP P 13 45 31.2 -1.3
comp=Z,131nm,1.1s
IPIR Pirpir 26.73 100 eP P 13 45 36.5 -0.1
IPIR Pirpir 26.73 100 eP P 13 45 36.5 -0.1
APA Apatity 26.89 12⇓i P P 13 45 39.4 +2.1
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,2μm,14.0s
APA Apatity 26.89 12 i P P 13 45 39.4 +2.1
comp=Z,2μm,14.0s
ISFB Sefidab 26.96 95 eP P 13 45 37.6 -0.8
ISFB Sefidab 26.96 95 eP P 13 45 37.6 -0.8
IZEF Zefreh 27.69 98 eP P 13 45 43.6 -1.6
IZEF Zefreh 27.69 98 eP P 13 45 43.6 -1.6
IANJ Anjilo 27.74 92 eP P 13 45 44.4 -1.2
IANJ Anjilo 27.74 92 eP P 13 45 44.4 -1.2
ARCES ARCESS Array B 27.93 5 P **P 13 45 45.5 -1.1**
ARCES ARCESS Array B 27.93 5 P **P 13 45 45.5 -1.1**
comp=Z,8.9nm,0.8s,baz=185,slow=9.0,SNR=21
ARCES ARCESS Array B 27.93 5 P **P 13 45 45.5 -1.1**
comp=Z,9.0nm,0.8s
AKTK Aktyubinsk 27.97 59 P **P 13 45 46.8 -0.4**
comp=Z,15nm,0.7s
AKTO Aktyubinsk 27.97 59 P **P 13 45 46.8 -0.4**
AKTO pmax pmax
comp=Z,15nm,0.7s
AKTO Aktyubinsk 27.97 59 P **P 13 45 46.8 -0.4**
AKTO Aktyubinsk 27.97 59 P **P 13 45 46.8 -0.4**
comp=Z,14nm,0.8s,baz=269,slow=14,SNR=53
AKTO LR LR 13 58 54.8
comp=Z,668nm,21.0s,baz=109,slow=41
AKTO Aktyubinsk 27.97 59 P **P 13 45 46.8 -0.4**
RAYN Ar Rayn 28.56 122 eP P 13 45 52.4 -0.4
comp=Z,15nm,1.5s
RAYN Ar Rayn 28.56 122 eP P 13 45 52.4 -0.4
comp=Z,15nm,1.5s
ARU Arti 29.12 46c i P P 13 45 56.4 -1.0
ARU 13 46 48.3
ARU S **S 13 50 50.7 +2.2**
ARU pmax pmax
comp=Z,46nm,1.2s
ARU MLR MLR
comp=Z,2μm,15.0s
ARU Arti 29.12 46 i P P 13 45 56.4 -1.0
comp=Z,46nm,1.2s
ISAD Sadrabad 29.17 99 eP P 13 45 56.6 -1.8
ISAD Sadrabad 29.17 99 eP P 13 45 56.6 -1.8
AB31 Akbulak array 29.20 61 i P P 13 45 57.9 -0.2
AB31 pmax pmax
comp=Z,7.0nm,0.5s
AB31 Akbulak array 29.20 61 i P P 13 45 57.9 -0.2
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 29.20 61 eP P 13 45 57.9 -0.3
ABKAR Akbulak array 29.20 61 eP P 13 45 57.9 -0.3
ISRV Sarvestan 30.08 103 eP P 13 46 06.1 -0.4
ISRV Sarvestan 30.08 103 eP P 13 46 06.1 -0.4
IMEH Mehriz 30.11 99 eP P 13 46 05.2 -1.5
IMEH Mehriz 30.11 99 eP P 13 46 05.2 -1.5
SVE Sverdlovsk 30.33 46⇓eP P 13 46 07.8 -0.3
SVE pmax pmax
comp=Z,50nm,1.3s
SVE MLR MLR
comp=Z,2μm,12.0s
SVE Sverdlovsk 30.33 46 eP P 13 46 07.8 -0.3
comp=Z,2μm,12.0s
IEMG Emamgholi 30.54 85 eP P 13 46 10.1 -0.4
IEMG Emamgholi 30.54 85 eP P 13 46 10.1 -0.4
IKRD Kardeh 30.67 86 eP P 13 46 18.2 +6.6
IBAF Bafgh 30.72 98 eP P 13 46 10.9 -1.1
IBAF Bafgh 30.72 98 eP P 13 46 10.9 -1.1
IAKL Akhelmad 30.91 87 eP P 13 46 13.6 -0.2
IPAY Payeh 31.15 87 eP P 13 46 16.0 +0.2
IPAY Payeh 31.15 87 eP P 13 46 16.0 +0.2
IMOG Moghan 31.54 87 eP P 13 46 19.1 -0.2
IMOG Moghan 31.54 87 eP P 13 46 19.1 -0.2

IMYA	**Miami**	**32.01**	**86**	*e*P	**P**	**13 46 23.4**	**0.0**
IMYA	**Miami**	**32.01**	**86**	*e*P	**P**	**13 46 23.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**32.41**	**213**	*e*P	**P**	**13 46 26.7**	**0.0**
TOA0	**Torodi Ar. Sit**	**32.41**	**213**	*e*P	**P**	**13 46 26.7**	**0.0**
TORD	**Torodi Ar. Bea**	**32.41**	**213**	P	**P**	**13 46 28.1**	**+1.3**
TORD				PcP	**PcP**	**13 49 14.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**32.41**	**213**	P	**P**	**13 46 28.1**	**+1.3**
comp=Z,7.4nm,0.6s,baz=21,slow=9.5,SNR=69							
TORD				PcP	**PcP**	**13 49 14.2**	**+0.2**
comp=Z,1.6nm,0.7s,baz=12,slow=2.7,SNR=4.4							
TORD				LR	LR	14 02 11.5	
comp=Z,343nm,19.0s,baz=20,slow=41							
TORD	**Torodi Ar. Bea**	**32.41**	**213**	P	**P**	**13 46 28.0**	**+1.3**
ITEG	**Tejag**	**32.46**	**93**	*e*P	**P**	**13 46 27.1**	**-0.2**
ITEG	**Tejag**	**32.46**	**93**	*e*P	**P**	**13 46 27.1**	**-0.2**
IKOO	**Kooshah**	**32.87**	**94**	*e*P	**P**	**13 46 31.0**	**0.0**
IKOO	**Kooshah**	**32.87**	**94**	*e*P	**P**	**13 46 31.0**	**0.0**
IDAH	**Dahanechah**	**33.37**	**92**	*e*P	**P**	**13 46 35.1**	**-0.3**
IDAH	**Dahanechah**	**33.37**	**92**	*e*P	**P**	**13 46 35.1**	**-0.3**
BRVK	**Borovoye**	**35.59**	**54**	*c i*P	**P**	**13 46 54.4**	**+0.4**
BRVK				MLR	MLR		
comp=Z,985nm,18.0s							
BRVK	**Borovoye**	**35.59**	**54**	*e*P	**P**	**13 46 53.8**	**-0.2**
comp=Z,131nm,0.8s							
BRVK	**Borovoye**	**35.59**	**54**	*i* P	**P**	**13 46 54.4**	**+0.4**
comp=Z,985nm,18.0s							
BVA0	**Borovoye Array**	**35.66**	**54**	*i* P	**P**	**13 46 54.7**	**+0.1**
BVA0				pmax	pmax		
comp=Z,90nm,0.9s							
BVA0	**Borovoye Array**	**35.66**	**54**	*i* P	**P**	**13 46 54.7**	**+0.1**
comp=Z,90nm,0.9s							
BVAR	**Borovoye Array**	**35.66**	**54**	P	**P**	**13 46 55.1**	**+0.5**
BVAR				pmax	pmax		
comp=Z,62nm,0.8s							
BVAR	**Borovoye Array**	**35.66**	**54**	P	**P**	**13 46 55.1**	**+0.5**
BVAR	**Borovoye Array**	**35.66**	**54**	P	**P**	**13 46 55.1**	**+0.5**
comp=Z,62nm,0.8s,baz=273,slow=6.2,SNR=320							
BVAR	**Borovoye Array**	**35.66**	**54**	P	**P**	**13 46 55.1**	**+0.5**
comp=Z,62nm,0.8s							
VOSK	**Vostochnaya**	**36.03**	**54**	P	**P**	**13 46 56.2**	**-1.6**
VOSK				pmax	pmax		
comp=Z,51nm,0.8s							
VOSK	**Vostochnaya**	**36.03**	**54**	P	**P**	**13 46 56.2**	**-1.6**
comp=Z,51nm,0.8s							
KK31	**Karatay Array**	**37.40**	**70**	*i* P	**P**	**13 47 09.9**	**+0.3**
KK31				pmax	pmax		
comp=Z,9.0nm,0.5s							
KK31	**Karatay Array**	**37.40**	**70**	*i* P	**P**	**13 47 09.9**	**+0.3**
comp=Z,9.0nm,0.5s							
KKAR	**Karatay Array**	**37.40**	**70**	*e*P	**P**	**13 47 09.9**	**+0.3**
KKAR	**Karatay Array**	**37.40**	**70**	*e*P	**P**	**13 47 09.9**	**+0.3**
KKAR	**Karatay Array**	**37.40**	**70**	*e*P	**P**	**13 47 09.9**	**+0.3**
KBL	**Kabul**	**39.41**	**84**	*e*P	**P**	**13 47 25.7**	**-1.1**
KBL				pmax	pmax		
comp=Z,10.0nm,0.8s							
KBL	**Kabul**	**39.41**	**84**	*e*P	**P**	**13 47 25.7**	**-1.1**
comp=Z,9.9nm,0.8s							
KBL	**Kabul**	**39.41**	**84**	*e*P	**P**	**13 47 25.7**	**-1.1**
comp=Z,9.9nm,0.8s							
EKS2	**Erkin-Say**	**39.82**	**70**	*e*P	**P**	**13 47 29.5**	**-0.6**
EKS2				pmax	pmax		
comp=Z,114nm,1.0s							
EKS2	**Erkin-Say**	**39.82**	**70**	P	**P**	**13 47 31.2**	**+1.1**
SNR=103							
EKS2	**Erkin-Say**	**39.82**	**70**	*e*P	**P**	**13 47 29.4**	**-0.6**
comp=Z,114nm,1.0s							
EKS2	**Erkin-Say**	**39.82**	**70**	*e*P	**P**	**13 47 29.5**	**-0.6**
comp=Z,114nm,1.0s							
AML	**Almayashu**	**39.93**	**71**	P	**P**	**13 47 33.6**	**+2.3**
SNR=16							
USP	**Ospenovka**	**40.14**	**69**	*i* P	**P**	**13 47 32.6**	**0.0**
USP	**Ospenovka**	**40.14**	**69**	P	**P**	**13 47 32.6**	**0.0**
SNR=25							
USP	**Ospenovka**	**40.14**	**69**	*i* P	**P**	**13 47 32.6**	**0.0**
AAK	**Ala-Archa**	**40.33**	**70**	*i* P	**P**	**13 47 35.0**	**+0.6**
AAK				pmax	pmax		
comp=Z,59nm,1.3s							
AAK	**Ala-Archa**	**40.33**	**70**	P	**P**	**13 47 35.5**	**+1.2**
SNR=16							
AAK	**Ala-Archa**	**40.33**	**70**	*e*P	**P**	**13 47 33.9**	**-0.5**
comp=Z,20nm,0.8s							
AAK	**Ala-Archa**	**40.33**	**70**	P	**P**	**13 47 35.2**	**+0.8**
comp=Z,13nm,0.7s,baz=246,slow=6.1,SNR=30							
AAK	**Ala-Archa**	**40.33**	**70**	*i* P	**P**	**13 47 35.0**	**+0.6**
comp=Z,59nm,1.3s							
FRU	**Bishkek**	**40.35**	**69⇑**	*i* P	**P**	**13 47 34.0**	**-0.4**
FRU				pmax	pmax		
comp=Z,149nm,1.6s							
FRU				MLR	MLR		
comp=Z,1μm,15.0s							
FRU	**Bishkek**	**40.35**	**69**	*i* P	**P**	**13 47 34.0**	**-0.4**
comp=Z,1μm,15.0s							
CHMS	**Chumysh**	**40.40**	**69**	*i* P	**P**	**13 47 35.7**	**+0.9**
CHMS	**Chumysh**	**40.40**	**69**	P	**P**	**13 47 35.7**	**+0.9**
SNR=9.7							
CHMS	**Chumysh**	**40.40**	**69**	*i* P	**P**	**13 47 35.7**	**+0.9**
KURBB	**Kurchatov Arra**	**40.97**	**57**	P	**P**	**13 47 38.9**	**-0.4**
comp=Z,22nm,0.7s,baz=287,slow=9.8,SNR=72							
KURBB				PP	**PP**	**13 49 08.7**	**-5.0**
comp=Z,2.3nm,0.8s,baz=285,slow=11,SNR=2.7							
KURK	**Kurchatov**	**41.01**	**57**	P	**P**	**13 47 38.9**	**-0.7**
KURK				pmax	pmax		
comp=Z,22nm,0.7s							
KURK	**Kurchatov**	**41.01**	**57**	P	**P**	**13 47 38.9**	**-0.7**
KURK				PP	PP	13 49 08.7	-5.4
KURK	**Kurchatov**	**41.01**	**57**	P	**P**	**13 47 38.9**	**-0.7**
comp=Z,22nm,0.7s							
TKM2	**Tokmak 2**	**41.01**	**69**	P	**P**	**13 47 40.3**	**+0.3**
TKM2				pmax	pmax		
comp=Z,15nm,0.9s							
TKM2	**Tokmak 2**	**41.01**	**69**	P	**P**	**13 47 40.5**	**+0.5**
SNR=16							
TKM2	**Tokmak 2**	**41.01**	**69**	*e*P	**P**	**13 47 39.5**	**-0.6**
comp=Z,14nm,0.8s							
TKM2	**Tokmak 2**	**41.01**	**69**	P	**P**	**13 47 40.3**	**+0.3**
comp=Z,15nm,0.9s							
SUMG	**Summit**	**41.01**	**337**	*e*P	**P**	**13 47 39.3**	**-0.6**
SUMG				pmax	pmax		
comp=Z,50nm,1.7s							
SUMG	**Summit**	**41.01**	**337**	*e*P	**P**	**13 47 39.3**	**-0.6**
comp=Z,50nm,1.7s							
SUMG	**Summit**	**41.01**	**337**	*e*P	**P**	**13 47 39.3**	**-0.6**
comp=Z,50nm,1.7s							
DBIC	**Dimbokro**	**41.03**	**218**	P	**P**	**13 47 40.2**	**0.0**
DBIC	**Dimbokro**	**41.03**	**218**	P	**P**	**13 47 40.2**	**0.0**
comp=Z,2.7nm,0.3s,baz=9.1,slow=9.5,SNR=6.6							
DBIC				LR	LR	14 06 53.0	
comp=Z,330nm,19.9s,baz=10,slow=39							
DBIC	**Dimbokro**	**41.03**	**218**	P	**P**	**13 47 40.2**	**0.0**
comp=Z,330nm,19.9s							
KZA	**Kyzart**	**41.04**	**70**	*i* P	**P**	**13 47 41.7**	**+1.2**
KZA	**Kyzart**	**41.04**	**70**	P	**P**	**13 47 41.6**	**+1.2**
SNR=42							
KZA	**Kyzart**	**41.04**	**70**	*i* P	**P**	**13 47 41.7**	**+1.2**
KSH	**Kashi**	**42.46**	**74**	P	**P**	**13 47 51.1**	**-0.7**
KSH				sP	**sP**	**13 47 58.1**	**-0.6**
KSH				PP	**PP**	**13 49 32.1**	**+2.0**
KSH				S	**S**	**13 54 10.3**	**-2.9**
KSH				pmax	pmax		
comp=Z,19nm,0.9s							
KSH				pmax	pmax		
comp=Z,110nm,4.7s							
KSH				LR	LR		
comp=N,280nm,12.2s							
KSH				LR	LR		
comp=E,400nm,13.1s							
KSH				LR	LR		
comp=Z,680nm,15.7s							
NVS	**Novosibirsk**	**43.00**	**50⇑**	*i* P	**P**	**13 47 56.2**	**+0.4**
NVS				pmax	pmax		
comp=Z,72nm,1.5s							
NVS				pmax	pmax		
comp=E,24nm,1.3s							
NVS	**Novosibirsk**	**43.00**	**50**	*i* P	**P**	**13 47 56.2**	**+0.4**
comp=E,72nm,1.5s							
ZAA0	**Zalesovo Array**	**44.08**	**51**	*e*P	**P**	**13 48 02.5**	**-2.1**
ZALV	**Zalesovo Beam**	**44.08**	**51**	*i* P	**P**	**13 48 04.6**	**+0.1**
ZALV				pmax	pmax		
comp=Z,13nm,0.6s							
ZALV	**Zalesovo Beam**	**44.08**	**51**	P	**P**	**13 48 03.9**	**-0.7**
ZALV	**Zalesovo Beam**	**44.08**	**51**	P	**P**	**13 48 03.9**	**-0.7**
comp=Z,13nm,0.6s,baz=281,slow=8.7,SNR=61							
ZALV				LR	LR	14 08 47.9	
comp=Z,1μm,18.1s,baz=250,slow=39							
ZALV	**Zalesovo Beam**	**44.08**	**51**	*i* P	**P**	**13 48 04.6**	**+0.1**
comp=Z,13nm,0.6s							
MK31	**Makanchi Array**	**44.34**	**61**	*i* P	**P**	**13 48 06.8**	**0.0**
MK31				pmax	pmax		
comp=Z,34nm,0.8s							
MK31	**Makanchi Array**	**44.34**	**61**	*e*P	**P**	**13 48 06.7**	**-0.1**
MK31	**Makanchi Array**	**44.34**	**61**	*i* P	**P**	**13 48 06.8**	**0.0**
comp=Z,34nm,0.8s							
MKAR	**Makanchi Array**	**44.34**	**61**	P	**P**	**13 48 06.8**	**-0.1**
MKAR				pmax	pmax		
comp=Z,20nm,0.6s							
MKAR				MLR	MLR		
comp=Z,277nm,19.8s							
MKAR	**Makanchi Array**	**44.34**	**61**	P	**P**	**13 48 06.8**	**-0.1**
MKAR				*e*P	**P**	**13 48 07.0**	**+0.1**
MKAR	**Makanchi Array**	**44.34**	**61**	P	**P**	**13 48 06.8**	**-0.1**
comp=Z,20nm,0.6s,baz=279,slow=7.6,SNR=222							
MKAR				LR	LR	14 08 08.7	
comp=Z,277nm,19.8s,baz=291,slow=38							
MKAR	**Makanchi Array**	**44.34**	**61**	*e*P	**P**	**13 48 06.9**	**+0.1**
KMBO	**Kilima Mbogo**	**45.83**	**154**	P	**P**	**13 48 20.7**	**+1.6**
KMBO	**Kilima Mbogo**	**45.83**	**154**	P	**P**	**13 48 20.7**	**+1.6**
comp=Z,2.0nm,0.7s,baz=61,slow=23,SNR=6.2							
KMBO				LR	LR	14 09 21.9	
comp=Z,217nm,18.4s,baz=282,slow=38							
KMBO	**Kilima Mbogo**	**45.83**	**154**	P	**P**	**13 48 20.7**	**+1.6**
comp=Z,217nm,18.4s							
NDI	**New Delhi**	**48.33**	**86**	*e*P	P	13 48 35.0	-3.4
WMQ	**Urumqi**	**48.95**	**63**	P	**P**	**13 48 43.8**	**+0.8**
WMQ				PcP	**PcP**	**13 50 08.8**	**+1.8**
WMQ				S	**S**	**13 55 46.5**	**+0.1**
WMQ				SS	**SS**	**13 59 12.9**	**-3.9**
WMQ				pmax	pmax		
comp=Z,27nm,1.0s							
WMQ				pmax	pmax		
comp=Z,230nm,5.2s							
WMQ				LR	LR		
comp=N,170nm,16.0s							
WMQ				LR	LR		
comp=E,410nm,17.0s							
WMQ				LR	LR		
comp=Z,400nm,16.0s							
HVS	**Khovu-Aksy**	**50.07**	**52⇓**	*i* P	**P**	**13 48 52.1**	**+0.7**
PYUN	**Piuthan**	**52.94**	**83**	*e*P	**P**	**13 49 12.3**	**-1.1**
comp=Z,78nm,0.8s							
DANN	**Dangsing**	**53.37**	**83**	*e*P	**P**	**13 49 16.1**	**-0.6**
comp=Z,140nm,0.8s							
KOLN	**Koldanda**	**53.57**	**83**	*e*P	**P**	**13 49 16.9**	**-1.1**
comp=Z,23nm,0.6s							
MOY	**Mondy**	**54.10**	**50**	*e*P	**P**	**13 49 22.5**	**+1.0**
MOY				pmax	pmax		
comp=Z,17nm,1.7s							
MOY	**Mondy**	**54.10**	**50**	*e*P	**P**	**13 49 22.5**	**+1.0**
comp=Z,17nm,1.7s							
DMN	**Daman**	**54.77**	**83**	*e*P	**P**	**13 49 25.9**	**-1.0**
comp=Z,82nm,1.0s							
KKN	**Kakani**	**54.80**	**82**	*e*P	**P**	**13 49 25.8**	**-1.3**
comp=Z,26nm,0.6s							
PKIN	**Phulchoki**	**55.01**	**83**	*e*P	**P**	**13 49 27.5**	**-1.1**
comp=Z,20nm,0.6s							
PKI	**Pulchoki**	**55.02**	**83**	*e*P	**P**	**13 49 27.6**	**-1.2**
SCHQ	**Schefferville**	**55.08**	**315**	*e*P	**P**	**13 49 28.8**	**+0.4**
SCHQ	**Schefferville**	**55.08**	**315**	P	**P**	**13 49 28.6**	**+0.2**
comp=Z,13nm,0.7s,baz=63,slow=11,SNR=21							
SCHQ				LR	LR	14 13 31.9	
comp=Z,239nm,18.6s,baz=267,slow=36							
SCHQ	**Schefferville**	**55.08**	**315**	*e*P	**P**	**13 49 28.8**	**+0.4**
GUN	**Gumba**	**55.18**	**82**	*e*P	**P**	**13 49 29.1**	**-0.8**
comp=Z,142nm,1.1s							
JIRN	**Jiri**	**55.55**	**82**	*e*P	**P**	**13 49 31.6**	**-1.0**
TLY	**Talaya**	**55.59**	**49⇑**	*e*P	**P**	**13 49 32.8**	**+0.7**
TLY				pmax	pmax		
comp=Z,28nm,1.1s							
TLY				MLR	MLR		
comp=Z,2μm,20.0s							
TLY	**Talaya**	**55.59**	**49**	*e*P	**P**	**13 49 32.8**	**+0.7**
comp=Z,2μm,20.0s							
IRK	**Irkutsk**	**55.69**	**48**	*e*P	P	13 49 25.2	-7.7
IRK				pmax	pmax		
comp=Z,23nm,1.5s							
RAMN	**Ramite**	**56.24**	**82**	*e*P	**P**	**13 49 36.1**	**-1.4**
comp=Z,52nm,0.6s							
TAPN	**Taplejung**	**56.84**	**81**	*e*P	**P**	**13 49 40.8**	**-1.0**
comp=Z,80nm,1.1s							
ODAN	**Odare**	**56.88**	**82**	*e*P	**P**	**13 49 40.7**	**-1.3**
comp=Z,74nm,0.9s							
LSZ	**Lusaka**	**57.47**	**170**	*e*P	**P**	**13 49 45.1**	**-0.8**
comp=Z,8.4nm,0.8s							
LSZ	**Lusaka**	**57.47**	**170**	*e*P	**P**	**13 49 45.1**	**-0.8**
comp=Z,8.4nm,0.8s							
LSA	**Lhasa**	**58.07**	**77**	P	**P**	**13 49 50.0**	**-0.6**
LSA	**Lhasa**	**58.07**	**77**	*e*P	**P**	**13 49 48.6**	**-2.0**
LSA				pmax	pmax		
comp=Z,19nm,1.0s							
LSA	**Lhasa**	**58.07**	**77**	*e*P	**P**	**13 49 48.6**	**-2.0**
comp=Z,19nm,1.0s							
LSA	**Lhasa**	**58.07**	**77**	*e*P	**P**	**13 49 48.6**	**-2.0**
comp=Z,19nm,1.0s							
SONM	**Songino Array**	**58.95**	**52**	P	**P**	**13 49 56.1**	**+0.1**
SONM	**Songino Array**	**58.95**	**52**	P	**P**	**13 49 56.1**	**+0.1**
comp=Z,25nm,0.9s,baz=294,slow=8.6,SNR=120							
SONM				LR	LR	14 17 21.0	
comp=Z,920nm,18.8s,baz=279,slow=38							
SONM	**Songino Array**	**58.95**	**52**	P	**P**	**13 49 56.2**	**+0.1**
GTA	**Gaotai**	**59.03**	**63**	P	**P**	**13 49 57.0**	**+0.2**
GTA				pP	**pP**	**13 50 01.6**	**-0.2**
GTA				sP	**sP**	**13 50 04.1**	**+0.4**
GTA				PcP	**PcP**	**13 50 46.8**	**+1.2**
GTA				PP	**PP**	**13 52 08.9**	**+1.9**
GTA				S	**S**	**13 58 03.8**	**+0.8**
GTA				sS	**sS**	**13 58 11.8**	**+0.6**
GTA				SS	**SS**	**14 02 00.8**	**+4.4**
GTA				pmax	pmax		
comp=Z,18nm,0.9s							
GTA				pmax	pmax		
comp=Z,82nm,4.3s							
GTA				LR	LR		
comp=N,300nm,18.0s							
GTA				LR	LR		
comp=E,320nm,21.4s							
GTA				LR	LR		
comp=Z,370nm,16.9s							
PQI	**Presque Isle**	**59.51**	**307**	*e*P	**P**	**13 49 58.1**	**-1.7**
comp=Z,13nm,0.8s							
PQI	**Presque Isle**	**59.51**	**307**	*e*P	**P**	**13 49 58.1**	**-1.7**
comp=Z,13nm,0.8s							
LZH	**Lanzhou**	**63.51**	**64**	*e*P	**P**	**13 50 27.5**	**+0.3**
LZH				pP	**pP**	**13 50 32.3**	**+0.1**
LZH				sP	**sP**	**13 50 34.6**	**+0.5**
LZH				pmax	pmax		
comp=Z,69nm,1.3s							
LZH				pmax	pmax		
comp=Z,94nm,4.0s							
LZH				LR	LR		
comp=N,370nm,15.2s							
LZH				LR	LR		
comp=E,320nm,15.3s							
LZH				LR	LR		
comp=Z,300nm,14.5s							
ACCN	**Adirondack Com**	**64.65**	**306**	*e*P	**P**	**13 50 33.6**	**-0.7**
comp=Z,7.9nm,0.9s							
ACCN	**Adirondack Com**	**64.65**	**306**	*e*P	**P**	**13 50 33.6**	**-0.7**
comp=Z,7.9nm,0.9s							
FCC	**Fort Churchill**	**65.55**	**328**	*e*P	**P**	**13 50 39.7**	**-0.2**
FCC	**Fort Churchill**	**65.55**	**328**	*e*P	**P**	**13 50 39.7**	**-0.2**
comp=Z,0.5nm,0.8s							
FCC	**Fort Churchill**	**65.55**	**328**	*e*P	**P**	**13 50 39.7**	**-0.2**
comp=Z,0.5nm,0.8s							
HHC	**Hu-ho-hao-te**	**65.82**	**56**	*e*P	**P**	**13 50 42.8**	**+0.7**
HHC				S	**S**	**13 59 26.0**	**-2.3**
HHC				pmax	pmax		
comp=Z,59nm,0.9s							
HHC				pmax	pmax		
comp=Z,420nm,6.3s							
CD2	**Chengdu**	**66.39**	**69**	P	**P**	**13 50 46.0**	**+0.1**
CD2				pP	**pP**	**13 50 50.8**	**-0.2**
CD2				sP	**sP**	**13 50 53.3**	**+0.4**
CD2				PcP	**PcP**	**13 51 16.3**	**+0.7**
CD2				PP	**PP**	**13 53 14.3**	**+2.5**
CD2				S	**S**	**13 59 33.8**	**-1.6**
CD2				ScS	**SKSac**	**14 00 39.0**	**-2.9**
CD2				pmax	pmax		
comp=Z,50nm,1.1s							
CD2				pmax	pmax		
comp=Z,200nm,8.2s							
CD2				LR	LR		
comp=N,270nm,14.2s							
CD2				LR	LR		
comp=E,420nm,16.6s							
CD2				LR	LR		
comp=Z,340nm,14.2s							
LBTB	**Lobatse**	**66.81**	**174**	*e*P	**P**	**13 50 47.6**	**-0.8**
comp=Z,11nm,0.7s							
LBTB	**Lobatse**	**66.81**	**174**	P	**P**	**13 50 50.4**	**+1.9**
comp=Z,9.8nm,0.7s,baz=357,slow=7.8,SNR=16							
LBTB	**Lobatse**	**66.81**	**174**	*e*P	**P**	**13 50 47.6**	**-0.8**
comp=Z,11nm,0.7s							
XAN	**Xi'an**	**68.09**	**64**	P	**P**	**13 50 56.5**	**-0.1**
XAN				pP	**pP**	**13 51 01.1**	**-0.6**
XAN				PP	**PP**	**13 53 28.0**	**+1.5**
XAN				S	**S**	**13 59 52.6**	**-3.1**
XAN				pmax	pmax		
comp=Z,4.0nm,1.1s							
XAN				pmax	pmax		
comp=Z,20nm,8.3s							
XAN				LR	LR		
comp=N,140nm,17.2s							
XAN				LR	LR		
comp=E,79nm,18.0s							
XAN				LR	LR		
comp=Z,70nm,16.5s							
INK	**Inuvik**	**68.25**	**349**	*e*P	P	13 50 53.6	-3.3
comp=Z,3.5nm,0.9s							
SSPA	**Standing Stone**	**68.81**	**306**	*e*P	**P**	**13 51 00.4**	**-0.5**
SSPA	**Standing Stone**	**68.81**	**306**	*e*P	**P**	**13 51 00.4**	**-0.5**
SEY	**Seymchan**	**69.06**	**21**	*i* P	**P**	**13 51 02.2**	**+0.1**
SEY	**Seymchan**	**69.06**	**21**	*i* P	**P**	**13 51 02.2**	**+0.1**
KMI	**Kunming**	**69.11**	**75**	P	**P**	**13 51 02.3**	**-1.0**
KMI				pP	**pP**	**13 51 06.4**	**-2.0**
KMI				sP	**sP**	**13 51 08.1**	**-2.2**
KMI				PP	**PP**	**13 53 38.8**	**+3.0**
KMI				S	**S**	**14 00 06.5**	**-1.9**
KMI				SS	**SS**	**14 04 34.9**	**+0.7**
KMI				pmax	pmax		
comp=Z,17nm,1.1s							
KMI				pmax	pmax		
comp=Z,110nm,3.1s							
KMI				LR	LR		
comp=N,150nm,12.5s							
KMI				LR	LR		
comp=E,190nm,12.5s							
KMI				LR	LR		
comp=Z,250nm,12.5s							
BJI	**Beijing**	**69.13**	**55**	P	**P**	**13 51 03.1**	**+0.2**
BJI				pmax	pmax		
comp=Z,17nm,1.0s							
BJI				pmax	pmax		
comp=Z,88nm,4.4s							
BJI				LR	LR		
comp=N,540nm,19.6s							
BJI				LR	LR		
comp=E,340nm,20.6s							
BJI				LR	LR		
comp=Z,420nm,22.2s							
YKA	**Yellowknife Ar**	**69.57**	**339**	P	**P**	**13 51 04.9**	**-0.3**
YKA	**Yellowknife Ar**	**69.57**	**339**	P	**P**	**13 51 04.9**	**-0.3**
comp=Z,3.0nm,0.8s,baz=37,slow=6.5,SNR=9.7							
YKA	**Yellowknife Ar**	**69.57**	**339**	P	**P**	**13 51 04.9**	**-0.3**
comp=Z,3.0nm,0.8s							
CHTO	**Chiang Mai**	**70.20**	**82**	*e*P	**P**	**13 51 09.0**	**-0.8**
CHTO	**Chiang Mai**	**70.20**	**82**	*e*P	**P**	**13 51 09.0**	**-0.8**
CHTO	**Chiang Mai**	**70.20**	**82**	P	**P**	**13 51 08.9**	**-0.8**
comp=Z,14nm,1.2s							
CHTO	**Chiang Mai**	**70.20**	**82**	*e*P	**P**	**13 51 09.0**	**-0.8**
CHTO	**Chiang Mai**	**70.20**	**82**	P	**P**	**13 51 09.1**	**-0.8**
comp=Z,14nm,1.2s							
CMMT	**Chiang Mai**	**70.20**	**82**	P	**P**	**13 51 08.4**	**-1.5**
CMMT	**Chiang Mai**	**70.20**	**82**	P	**P**	**13 51 08.6**	**-1.3**
comp=Z,12nm,1.2s							
BOSA	**Boshof**	**70.36**	**174**	P	**P**	**13 51 11.9**	**+1.4**
BOSA	**Boshof**	**70.36**	**174**	P	**P**	**13 51 11.9**	**+1.4**
comp=Z,6.6nm,0.8s,baz=9.3,slow=6.4,SNR=15							
BOSA				LR	LR	14 25 31.8	
comp=Z,616nm,18.4s,baz=1.2,slow=39							
BOSA	**Boshof**	**70.36**	**174**	P	**P**	**13 51 11.9**	**+1.4**
comp=Z,616nm,18.4s							
CM31	**Chiang Mai Arr**	**70.42**	**83**	*e*P	**P**	**13 51 10.6**	**-0.6**
comp=Z,4.3nm,0.6s							
CM31	**Chiang Mai Arr**	**70.42**	**83**	*e*P	**P**	**13 51 10.6**	**-0.6**
comp=Z,4.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**70.42**	**83**	P	**P**	**13 51 09.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**70.42**	**83**	P	**P**	**13 51 09.8**	**-1.4**
comp=Z,5.5nm,0.7s,baz=304,slow=7.4,SNR=38							
CMAR	**Chiang Mai Arr**	**70.42**	**83**	P	**P**	**13 51 09.8**	**-1.4**
comp=Z,6.0nm,0.7s							
COLD	**Coldfoot**	**70.93**	**356**	*e*P	**P**	**13 51 13.9**	**+0.4**
COLD	**Coldfoot**	**70.93**	**356**	*e*P	**P**	**13 51 13.9**	**+0.4**
GYA	**Guiyang**	**71.10**	**71**	P	**P**	**13 51 14.9**	**-0.5**
GYA				PP	**PP**	**13 53 53.8**	**+1.1**
GYA				S	**S**	**14 00 28.9**	**-2.6**
GYA				SKS	**SKSac**	**14 01 13.9**	**-3.9**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
comp=Z,40nm,5.9s							
GYA				LR	LR		
comp=N,150nm,17.1s							
GYA				LR	LR		
comp=E,180nm,14.9s							
GYA				LR	LR		
comp=Z,220nm,14.9s							
CN2	**Changchun**	**72.12**	**47**	*e*P	**P**	**13 51 21.3**	**+0.2**
CN2				*ep*P	**pP**	**13 51 25.9**	**-0.3**
CN2				*es*P	**sP**	**13 51 28.3**	**+0.2**
CN2				*e*S	**S**	**14 00 40.3**	**-2.2**
CN2				pmax	pmax		
comp=Z,50nm,0.8s							
CN2				pmax	pmax		
comp=Z,300nm,4.0s							
CN2				LR	LR		
comp=N,300nm,14.0s							
CN2				LR	LR		
comp=E,700nm,14.0s							
CN2				LR	LR		
comp=Z,900nm,15.0s							
ULM	**Lac du Bonnet**	**72.13**	**322**	*e*P	**P**	**13 51 21.7**	**+0.6**
ULM	**Lac du Bonnet**	**72.13**	**322**	P	**P**	**13 51 21.4**	**+0.3**
comp=Z,12nm,0.8s,baz=48,slow=7.2

A28A Rude Farm, Bot 75.08 324 ⇓P P 13 51 39.3 +0.8
baz=75
USRK Ussuriysk Arra 75.31 43 P P 13 51 39.5 -0.3
comp=Z,8.5nm,0.9s,baz=326,slow=4.4,SNR=12
USRK LR LR 14 28 03.2
comp=Z,597nm,21.5s,baz=130,slow=38
PPLA Purkeypile 75.35 356 *eP* **P 13 51 39.8 -0.1**
comp=Z,15nm,1.1s
PPLA Purkeypile 75.35 356 *eP* **P 13 51 39.8 -0.1**
comp=Z,15nm,1.1s
B28A Dugan Ranch, T 75.46 323 ⇑P P 13 51 41.3 +0.6
baz=75
MDND Maddock 75.56 322 ⇑P P 13 51 41.9 +0.6
baz=75
A26A Wade Farm, Ken 75.86 324 ⇓P P 13 51 43.9 +1.0
baz=76
HYT Haines Junctio 75.90 348 *eP* **P 13 51 43.6 +0.6**
HYT Haines Junctio 75.90 348 *eP* **P 13 51 43.7 +0.6**
VLA Vladivostok 76.01 44 *eP* **P 13 51 43.5 -0.3**
VLA pmax pmax
comp=Z,39nm,1.2s
VLA MLR MLR
comp=Z,607nm,16.0s
VLA Vladivostok 76.01 44 *eP* **P 13 51 43.5 -0.3**
comp=Z,607nm,16.0s
C28A Hausauer Farms 76.02 323 ⇑P P 13 51 44.4 +0.6
baz=76
SML Sawmill 76.18 354 *eP* **P 13 51 45.6 +1.1**
SML pmax pmax
comp=Z,5.0nm,1.0s
SML Sawmill 76.18 354 *eP* **P 13 51 45.6 +1.1**
comp=Z,4.9nm,1.0s
SML Sawmill 76.18 354 *eP* **P 13 51 45.6 +1.1**
comp=Z,4.9nm,1.0s
A25A Svangstu Ranch 76.30 325 ⇑P P 13 51 46.5 +1.1
baz=76
B26A Jensen Ranch, 76.34 324 ⇓P P 13 51 46.9 +1.2
baz=76
PMR Palmer 76.45 354 *eP* **P 13 51 46.3 +0.3**
PMR Palmer 76.45 354 *eP* **P 13 51 46.3 +0.3**
PMR Palmer 76.45 354 *eP* **P 13 51 46.3 +0.3**
BMRM Bremner River 76.66 352 *eP* **P 13 51 46.4 -0.9**
BMRM Bremner River 76.66 352 *eP* **P 13 51 46.4 -0.9**
A24A Westby 76.69 325 ⇑P P 13 51 48.7 +1.1
baz=76,SNR=7.6
C26A Wahner Farm, P 76.70 324 ⇑P P 13 51 49.0 +1.3
baz=76
B25A Knox Farm, Ray 76.83 325 ⇑P P 13 51 49.6 +1.2
baz=76
A23A Redstone 77.03 326 ⇓P P 13 51 50.5 +0.9
baz=77
SPU Mount Spurr 77.05 356 *eP* **P 13 51 47.4 -2.1**
DGMT Dagmar 77.12 325 ⇑P P 13 51 51.3 +1.2
baz=77
ECSD EROS Data Cent 77.14 318 *eP* **P 13 51 48.6 -1.7**
comp=Z,6.7nm,0.8s
ECSD EROS Data Cent 77.14 318 *eP* **P 13 51 48.6 -1.7**
comp=Z,6.7nm,0.8s
SVW2 Sparrevohn 77.30 357 *eP* **P 13 51 48.9 -1.9**
A22A Carney Farms, 77.43 326 ⇑P P 13 51 52.8 +0.9
baz=77
D26A Manning 77.45 323 ⇓P P 13 51 53.1 +1.2
baz=77
B23A Brockton 77.46 326 ⇓P P 13 51 53.1 +1.1
baz=77,SNR=7.5
E27A Carson 77.51 322 ⇑P P 13 51 53.5 +1.2
baz=77
D25A Fairfield 77.75 324 ⇓P P 13 51 54.8 +1.1
baz=77
KSAR Wonju Array Be 77.77 50 P **P 13 51 53.8 -0.1**
KSAR Wonju Array Be 77.77 50 P **P 13 51 53.8 -0.1**
BRSD Miller 77.77 320 *eP* **P 13 51 55.5 +1.7**
BRSD Miller 77.77 320 *eP* **P 13 51 55.5 +1.7**
BRSD Miller 77.77 320 ⇑P P 13 51 54.3 +0.5
baz=77
KSRS Korea Array 77.78 50 P **P 13 51 53.8 -0.1**
comp=Z,12nm,0.8s,baz=319,slow=5.0,SNR=38
KSRS LR LR 14 29 48.6
comp=Z,454nm,18.4s,baz=152,slow=38
KSRS Korea Array 77.78 50 P **P 13 51 53.8 -0.1**
comp=Z,454nm,18.4s
RSO Redoubt South 77.81 356 *eP* **P 13 51 52.0 -1.9**
A21A Bergtoll Ranch 77.85 327 ⇑P P 13 51 54.9 +0.8
baz=78
E26A Carlson Angus 77.89 323 ⇑P P 13 51 55.5 +1.0
baz=78
SDDR Presa de Saban 77.92 285 *eP* **P 13 51 55.9 +0.9**
comp=Z,22nm,0.9s
SDDR Presa de Saban 77.92 285 *eP* **P 13 51 55.9 +0.9**
comp=Z,22nm,0.9s
B22A Reddig Ranch S 78.01 326 ⇓P P 13 51 55.8 +0.8
baz=78
QIZ Qiongzhong 78.04 75 P **P 13 51 54.8 -0.8**
QIZ S **S 14 01 49.5 +0.4**
QIZ pmax pmax
comp=Z,8.0nm,1.0s
QIZ LR LR
comp=N,130nm,11.1s
QIZ LR LR
comp=Z,130nm,13.2s
C23A Lambert 78.05 325 ⇓P P 13 51 56.5 +1.2
baz=78
F27A Lemmon 78.14 322 ⇑P P 13 51 56.8 +0.9
baz=78
D24A Glendive 78.22 324 ⇑P P 13 51 57.2 +0.9
baz=78
G28A Parade 78.23 321 ⇑P P 13 51 57.2 +0.8
baz=78
E25A Miller Ranch, 78.28 324 ⇓P P 13 51 57.5 +0.9
baz=78
A20A Cobblestone Ra 78.34 327 ⇑P P 13 51 57.9 +1.0
baz=78
YSS Yuzh-Sakhalins 78.38 36 *⇓i P* **P 13 51 58.4 +1.4**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,400nm,16.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 78.38 36 *i P* **P 13 51 58.4 +1.4**
comp=Z,60nm,1.0s
C22A Vida 78.39 326 ⇓P P 13 51 58.3 +1.1
baz=78,SNR=5.2
F26A Lodgepole 78.45 323 ⇓P P 13 51 58.4 +0.8
baz=78
D23A Lindsay 78.55 325 ⇑P P 13 51 59.1 +1.0
baz=78
H28A Mission Ridge 78.58 321 ⇑P P 13 51 59.2 +0.9
baz=78
A19A Klindworth Far 78.63 328 ⇓P P 13 51 59.4 +0.9
baz=78
E24A Baker 78.64 324 ⇑P P 13 51 59.7 +1.1
baz=78
B20A Solberg Farm, 78.73 327 ⇑P P 13 51 59.9 +0.8
baz=78,SNR=7.7
F25A Bowman 78.75 323 ⇓P P 13 52 00.4 +1.1
baz=78
C21A Desert Coulee 78.84 326 ⇓P P 13 52 00.5 +0.8
baz=78,SNR=5.3
G26A Maurine 78.84 322 ⇓P P 13 52 00.7 +0.9
baz=78
PETK Petropavlovsk- 78.86 24 P **P 13 51 58.0 -1.6**
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK MLR MLR
comp=Z,528nm,18.4s
PETK Petropavlovsk- 78.86 24 P **P 13 51 58.0 -1.6**
PETK Petropavlovsk- 78.86 24 P **P 13 51 58.0 -1.6**
comp=Z,1.5nm,0.9s,baz=289,slow=4.5,SNR=3.8
PETK LR LR 14 31 40.8
comp=Z,528nm,18.4s,baz=323,slow=39
PETK Petropavlovsk- 78.86 24 P **P 13 51 58.0 -1.6**
comp=Z,528nm,18.4s
D22A Cohagen 78.98 325 ⇓P P 13 52 01.7 +1.2
baz=79,SNR=7.6
A18A Metzger Ranch, 79.07 329 ⇓P P 13 52 01.7 +0.8
baz=79,SNR=14
B19A Brinkman Farms 79.09 328 ⇑P P 13 52 01.9 +0.9
baz=79
H27A Howes 79.11 322 ⇑P P 13 52 02.1 +0.9
baz=79
E23A Ismay 79.12 325 ⇑P P 13 52 02.3 +1.0
baz=79
I28A Midland 79.16 321 ⇑P P 13 52 02.5 +1.1
baz=79

F24A Ekalaka 79.25 324 ⇑P P 13 52 03.0 +1.0
baz=79
LRAL Lakeview Retre 79.28 305 *eP* **P 13 52 01.6 -0.6**
comp=Z,23nm,1.0s
LRAL Lakeview Retre 79.28 305 *eP* **P 13 52 01.6 -0.6**
comp=Z,23nm,1.0s
G25A Newell 79.29 323 ⇑P P 13 52 03.1 +0.9
baz=79
C20A Veseth Ranch, 79.30 327 ⇑P P 13 52 03.2 +1.0
baz=79,SNR=17
D21A La Casta Ranch 79.39 326 ⇓P P 13 52 04.0 +1.3
baz=79,SNR=7.3
H26A Fairpoint 79.44 322 ⇓P P 13 52 04.1 +1.0
baz=79
E22A Miles City 79.44 325 ⇑P P 13 52 04.0 +1.0
baz=79
B18A Beardsley Farm 79.47 328 ⇓P P 13 52 04.0 +0.9
baz=79,SNR=8.5
I27A Quinn 79.52 321 ⇓P P 13 52 04.5 +1.0
baz=79
BGNE Belgrade 79.61 317 ⇓P P 13 52 05.1 +1.1
baz=79
J28A Allard Ranch, 79.63 320 ⇑P P 13 52 05.1 +1.0
baz=79
C19A Slack Wire Ran 79.71 327 ⇓P P 13 52 05.4 +1.0
baz=79,SNR=9.0
EGMT Eagleton 79.75 328 *eP* **P 13 52 05.3 +0.6**
comp=Z,43nm,0.8s
EGMT Eagleton 79.75 328 *eP* **P 13 52 05.3 +0.6**
comp=Z,43nm,0.8s
EGMT Eagleton 79.75 328 ⇓P P 13 52 05.8 +1.1
baz=79,SNR=18
F23A Volborg 79.77 324 ⇑P P 13 52 05.6 +0.8
baz=79,SNR=7.7
H25A Fruitdale 79.81 322 ⇓P P 13 52 05.6 +0.5
baz=80
E21A Keefer Ranch, 79.84 326 ⇑P P 13 52 06.3 +1.1
baz=80
D20A Manuel Ranch, 79.85 326 ⇑P P 13 52 06.1 +0.9
baz=80,SNR=18
B17A L&G Farms, Che 79.95 329 ⇓P P 13 52 06.0 +0.3
baz=80,SNR=8.1
D19A Cripps Ranch, 80.10 327 ⇑P P 13 52 07.2 +0.6
baz=80,SNR=6.1
J27A Elkhorn Farm, 80.12 321 ⇑P P 13 52 07.7 +0.9
baz=80
H24A Dirks Ranch, A 80.15 323 ⇑P P 13 52 07.1 +0.2
baz=80
G23A Biddle 80.17 324 ⇑P P 13 52 07.6 +0.6
baz=80,SNR=9.0
E20A Meyer Farm, Mu 80.32 326 ⇑P P 13 52 08.3 +0.5
baz=80,SNR=6.2
I25A Rochford 80.34 322 ⇓P P 13 52 08.8 +0.7
baz=80
RSSD Black Hills 80.40 322 *eP* **P 13 52 09.9 +1.4**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 80.40 322 *eP* **P 13 52 09.9 +1.4**
comp=Z,6.6nm,1.0s
RSSD Black Hills 80.40 322 *eP* **P 13 52 09.9 +1.4**
comp=Z,6.6nm,1.0s
D18A Linhart Farms, 80.44 327 ⇓P P 13 52 09.5 +1.1
baz=80,SNR=5.1
C17A Wharram Farm, 80.47 328 ⇑P P 13 52 09.0 +0.4
baz=80,SNR=6.3
WALA Waterton Lakes 80.49 331 *eP* **P 13 52 07.4 -1.3**
comp=Z,0.5nm,1.0s
WALA Waterton Lakes 80.49 331 *eP* **P 13 52 07.4 -1.3**
comp=Z,0.5nm,1.0s
PSI Prapat 80.50 95 P **P 13 52 07.6 -1.7**
PSI Prapat 80.50 95 P **P 13 52 07.6 -1.7**
comp=Z,9.2nm,0.8s,baz=315,slow=5.7,SNR=6.6
ASAJ Asahikawa 80.50 38 LR LR 14 28 52.9
comp=Z,206nm,19.7s,baz=338,slow=36
KSU1 Kansas State U 80.51 315 *eP* **P 13 52 08.5 -0.3**
comp=Z,18nm,0.8s
KSU1 Kansas State U 80.51 315 *eP* **P 13 52 08.5 -0.3**
comp=Z,18nm,0.8s
G22A Birney 80.55 324 ⇓P P 13 52 09.9 +0.8
baz=80
J26A Sides Ranch, S 80.58 321 ⇓P P 13 52 10.2 +1.0
baz=80
E19A Rath Farm, Rou 80.62 326 ⇓P P 13 52 10.3 +0.9
baz=80,SNR=12
D17A Six Diamond Ra 80.83 328 ⇑P P 13 52 11.0 +0.4
baz=80,SNR=8.4
J25A Sunshine Ranch 80.86 322 ⇓P P 13 52 11.6 +0.8
baz=80
I24A Kuemmerle Ranc 80.87 322 ⇓P P 13 52 11.9 +1.0
baz=80
G21A Lodge Grass 80.94 325 ⇑P P 13 52 12.1 +0.9
baz=81
E18A Harlowton 81.00 327 ⇓P P 13 52 12.8 +1.3
baz=81,SNR=10
H22A Clearmont 81.07 324 ⇓P P 13 52 12.9 +1.0
baz=81
K26A Motz Farm, Whi 81.10 321 ⇓P P 13 52 13.3 +1.2
baz=81
L27A T5 Ranch, Ells 81.16 320 ⇑P P 13 52 13.5 +1.1
baz=81
F19A Roth Farm, Mol 81.17 326 ⇑P P 13 52 13.5 +1.1
baz=81,SNR=11
H21A Big Horn, Sher 81.34 324 ⇓P P 13 52 14.0 +0.7
baz=81
G20A Bridger 81.38 325 ⇑P P 13 52 14.3 +0.8
baz=81,SNR=13
F18A Big Timber 81.45 327 ⇑P P 13 52 15.0 +1.1
baz=81,SNR=10.0
E17A Martinsdale 81.46 328 ⇑P P 13 52 15.0 +1.0
baz=81,SNR=9.8
O30A MW Ranch, Wils 81.49 317 ⇑P P 13 52 15.3 +1.2
baz=81
YBMT Yellow Bay 81.52 330 *eP* **P 13 52 11.4 -2.8**
comp=Z,8.5nm,1.0s
GCMT Greycliff 81.53 327 *eP* **P 13 52 13.5 -0.8**
comp=Z,10nm,0.8s
GCMT Greycliff 81.53 327 *eP* **P 13 52 13.5 -0.8**
comp=Z,10nm,0.8s
P31A Stockton 81.64 317 ⇑P P 13 52 15.3 +0.4
baz=81
HRY Holter Researc 81.64 328 *eP* **P 13 52 16.1 +1.2**
HRY Holter Researc 81.64 328 *eP* **P 13 52 16.1 +1.2**
I22A 9 Mile Ranch, 81.68 324 ⇑P P 13 52 15.7 +0.6
baz=81,SNR=7.4
JTMT Jette 81.72 330 *eP* **P 13 52 16.7 +1.4**
JTMT Jette 81.72 330 *eP* **P 13 52 16.7 +1.4**
SWMT Swartz Lake 81.81 330 *eP* **P 13 52 16.9 +1.2**
SWMT Swartz Lake 81.81 330 *eP* **P 13 52 16.9 +1.2**
F17A Fitzpatrick Pl 81.84 327 ⇓P P 13 52 17.3 +1.4
baz=82,SNR=10
SLMT Seeley Lake 81.84 330 *eP* **P 13 52 16.7 +0.7**
SLMT Seeley Lake 81.84 330 *eP* **P 13 52 16.7 +0.7**
G18A Lazy EL Ranch, 81.86 326 ⇓P P 13 52 17.0 +0.8
baz=82
H20A Greybull 81.87 325 ⇑P P 13 52 17.1 +0.9
baz=82,SNR=5.4
RLMT Red Lodge 81.90 326 *eP* **P 13 52 14.6 -1.8**
comp=Z,18nm,1.3s
RLMT Red Lodge 81.90 326 *eP* **P 13 52 14.6 -1.8**
comp=Z,18nm,1.3s
O29A 4D Ranch, Culb 81.91 318 ⇑P P 13 52 17.3 +1.0
baz=82
CHMT Chamberlain Mo 82.03 329 *eP* **P 13 52 17.6 +0.6**
CHMT Chamberlain Mo 82.03 329 *eP* **P 13 52 17.6 +0.6**
J22A Midwest 82.06 323 ⇓P P 13 52 16.5 -0.7
baz=82,SNR=5.5
I21A Big Trails, Te 82.10 324 ⇑P P 13 52 17.5 0.0
baz=82,SNR=6.1
MIAR Mount Ida 82.12 310 *eP* **P 13 52 19.2 +1.7**
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MIAR Mount Ida 82.12 310 *eP* **P 13 52 19.2 +1.7**
comp=Z,9.9nm,1.0s
MIAR Mount Ida 82.12 310 *eP* **P 13 52 19.2 +1.7**
comp=Z,9.9nm,1.0s
H19A Powell 82.14 326 ⇑P P 13 52 19.1 +1.5
baz=82
K23A Bowen Ranch, D 82.19 322 ⇑P P 13 52 18.9 +1.0
baz=82
N27A Anderson Farm, 82.25 319 ⇑P P 13 52 19.4 +1.2
baz=82
NEW Newport 82.30 332 *eP* **P 13 52 19.3 +1.0**
comp=Z,9.1nm,0.9s
NEW Newport 82.30 332 *eP* **P 13 52 19.3 +1.0**
comp=Z,9.1nm,0.9s
NEW Newport 82.30 332 ⇓P P 13 52 19.2 +1.0
baz=82
G17A Pierce Place, 82.35 327 ⇑P P 13 52 19.8 +1.1

baz=82,SNR=5.7
I20A Worland 82.36 325 ⇓P P 13 52 19.7 +1.0
baz=82,SNR=9.5
MSO Missoula 82.36 330 *eP* **P 13 52 19.6 +0.9**
comp=Z,8.6nm,1.2s
MSO Missoula 82.36 330 *eP* **P 13 52 19.5 +0.9**
comp=Z,8.6nm,1.2s
MSO Missoula 82.36 330 ⇑P P 13 52 19.4 +0.8
baz=82
LCCM Lewis and Clar 82.38 328 P **P 13 52 20.3 +1.5**
LCCM Lewis and Clar 82.38 328 P **P 13 52 20.3 +1.5**
TUL1 Tulsa 82.39 312 ⇓P P 13 52 20.1 +1.3
baz=82
O28A Krutsinger Ran 82.39 318 ⇑P P 13 52 20.1 +1.2
baz=82
H18A Shoshone NF, C 82.42 326 ⇓P P 13 52 20.1 +0.9
baz=82,SNR=17
BOZ Bozeman (W) 82.44 328 *eP* **P 13 52 17.9 -1.2**
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 82.44 328 *eP* **P 13 52 17.9 -1.2**
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 82.44 328 *eP* **P 13 52 17.9 -1.2**
comp=Z,6.0nm,0.9s
Q30A Quinter 82.48 317 ⇓P P 13 52 20.8 +1.4
baz=82
J21A Lysite 82.54 324 ⇓P P 13 52 20.1 +0.4
baz=82,SNR=11
JNU Nakatsue 82.54 52 P **P 13 52 19.9 +0.1**
JNU Nakatsue 82.54 52 P **P 13 52 19.9 +0.1**
comp=Z,9.0nm,1.0s,baz=321,slow=6.5,SNR=5.0
JNU LR LR 14 32 33.1
comp=Z,424nm,19.0s,baz=142,slow=38
JNU Nakatsue 82.54 52 P **P 13 52 19.9 +0.1**
N26A Koester Ranch, 82.56 320 ⇑P P 13 52 21.0 +1.2
baz=82
LRM Limekiln Ridge 82.62 328 *eP* **P 13 52 21.5 +1.3**
LRM Limekiln Ridge 82.62 328 *eP* **P 13 52 21.5 +1.3**
I19A Meeteetse 82.66 325 ⇑P P 13 52 21.6 +1.2
baz=82,SNR=19
K22A Casper 82.68 323 ⇑P P 13 52 21.2 +0.7
baz=82
L23A Garrett 82.73 322 ⇑P P 13 52 22.0 +1.1
baz=82
P28A Saint Francis 82.80 318 ⇓P P 13 52 22.4 +1.3
baz=82
J20A Shoshoni 82.81 324 ⇑P P 13 52 22.0 +0.9
baz=82,SNR=7.2
LKWY Lake 82.82 326 *eP* **P 13 52 21.3 0.0**
LKWY pmax pmax
comp=Z,15nm,1.0s
LKWY Lake 82.82 326 *eP* **P 13 52 21.3 0.0**
comp=Z,14nm,1.0s
LKWY Lake 82.82 326 *eP* **P 13 52 21.3 0.0**
comp=Z,14nm,1.0s
M24A Cheyenne 82.83 321 ⇓P P 13 52 22.4 +1.1
baz=82
Q29A Oakley 82.93 317 ⇑P P 13 52 22.3 +0.5
baz=83,SNR=9.2
YMR Madison River 82.97 327 *eP* **P 13 52 21.0 -1.0**
comp=Z,42nm,1.5s
YMR Madison River 82.97 327 *eP* **P 13 52 21.0 -1.0**
comp=Z,42nm,1.5s
N25A Grover 82.99 320 ⇑P P 13 52 23.5 +1.4
baz=83,SNR=5.4
K21A Alcova 83.02 323 ⇑P P 13 52 22.4 +0.1
baz=83,SNR=9.1
QLMT Earthquake Lak 83.03 327 *eP* **P 13 52 24.4 +2.1**
QLMT Earthquake Lak 83.03 327 *eP* **P 13 52 24.4 +2.1**
R30A Dighton 83.03 316 ⇑P P 13 52 23.6 +1.4
baz=83
H17A Grant Village 83.03 326 *eP* **P 13 52 21.4 -1.0**
H17A Grant Village 83.03 326 *eP* **P 13 52 21.4 -1.0**
H17A Grant Village 83.03 326 ⇑P P 13 52 25.0 +2.6
baz=83
DLMT Dillon 83.06 328 *eP* **P 13 52 24.0 +1.6**
comp=Z,20nm,1.3s
DLMT Dillon 83.06 328 *eP* **P 13 52 24.0 +1.6**
comp=Z,20nm,1.3s
H16A Russell Place, 83.06 327 ⇑P P 13 52 24.1 +1.6
baz=83,SNR=6.8
O26A Horse Wrangler 83.06 319 ⇑P P 13 52 24.1 +1.6
baz=83
L22A Ellis Ranch, M 83.13 322 ⇑P P 13 52 23.9 +1.1
baz=83,SNR=11
Q28A Sharon Springs 83.23 318 ⇑P P 13 52 24.3 +1.0
baz=83,SNR=7.4
M23A Laramie 83.25 322 ⇑P P 13 52 25.0 +1.5
baz=83
PHWY Pilot Hill 83.25 321 *eP* **P 13 52 25.2 +1.6**
comp=Z,23nm,0.9s
PHWY Pilot Hill 83.25 321 *eP* **P 13 52 25.2 +1.6**
comp=Z,23nm,0.9s
I18A Diamond G Ranc 83.28 325 ⇑P P 13 52 24.9 +1.2
baz=83,SNR=7.3
J19A Crowheart 83.31 325 ⇓P P 13 52 24.2 +0.5
baz=83,SNR=20
FLWY Flagg Ranch 83.34 326 *eP* **P 13 52 26.6 +2.7**
comp=Z,23nm,0.9s
N24A Carr 83.36 321 ⇓P P 13 52 25.9 +1.8
baz=83
R29A Marienthal 83.37 317 ⇑P P 13 52 25.9 +1.9
baz=83
I17A Pilgrim Ck. 83.42 326 ⇓P P 13 52 26.1 +1.7
baz=83
K20A Yellowstone Ra 83.48 324 ⇓P P 13 52 24.8 +0.1
baz=83,SNR=10
O25A Wiggins 83.55 320 ⇓P P 13 52 26.0 +1.0
baz=83
K19A Absolon Red Bu 83.57 324 ⇓P P 13 52 24.9 -0.3
baz=83,SNR=23
IMW Indian Meadow 83.59 326 *eP* **P 13 52 25.1 -0.2**
comp=Z,16nm,0.9s
IMW Indian Meadow 83.59 326 *eP* **P 13 52 25.1 -0.2**
comp=Z,16nm,0.9s
OD2 Odessa Site #2 83.60 333 P **P 13 52 26.1 +1.1**
OD2 Odessa Site #2 83.60 333 P **P 13 52 26.1 +1.1**
MCMT McKenzie Canyo 83.60 328 *eP* **P 13 52 25.2 -0.1**
comp=Z,2.9nm,1.0s
MCMT McKenzie Canyo 83.60 328 *eP* **P 13 52 25.2 -0.1**
comp=Z,2.9nm,1.0s
P26A Davis Ranch, A 83.60 319 ⇓P P 13 52 26.5 +1.2
baz=83
L21A Rawlins 83.61 323 ⇑P P 13 52 25.7 +0.3
baz=83,SNR=5.7
T31A Randall Ranch, 83.61 315 ⇑P P 13 52 26.1 +0.8
baz=83,SNR=5.4
S30A Montezuma 83.61 316 ⇑P P 13 52 26.6 +1.4
baz=83
MOOW Moose Ponds 83.63 326 *eP* **P 13 52 27.1 +1.7**
MOOW Moose Ponds 83.63 326 *eP* **P 13 52 27.1 +1.7**
KSCO Kaye Shedlock' 83.67 318 *eP* **P 13 52 24.3 -1.3**
KSCO Kaye Shedlock' 83.67 318 *eP* **P 13 52 24.3 -1.3**
KSCO Kaye Shedlock' 83.67 318 ⇑P P 13 52 26.9 +1.3
baz=83
LOHW Long Hollow 83.68 326 *eP* **P 13 52 27.7 +2.0**
LOHW Long Hollow 83.68 326 *eP* **P 13 52 27.7 +2.0**
M22A Cedar Creek Ra 83.70 322 ⇑P P 13 52 27.1 +1.2
baz=83
RWWY Rawlins 83.75 323 *eP* **P 13 52 27.2 +1.1**
comp=Z,13nm,0.9s
RWWY Rawlins 83.75 323 *eP* **P 13 52 27.2 +1.1**
comp=Z,13nm,0.9s
R28A Tribune 83.77 317 ⇑P P 13 52 27.0 +0.9
baz=83,SNR=5.7
N23A Red Feather La 83.80 321 ⇑P P 13 52 27.3 +0.9
baz=84,SNR=15
I16A Newdale 83.84 327 ⇓P P 13 52 28.2 +1.8
baz=84,SNR=6.0
M21A Separation Pea 83.89 323 ⇑P P 13 52 27.3 +0.5
baz=84,SNR=6.3
BW06 Boulder Array 83.93 325 *eP* **P 13 52 25.4 -1.6**
comp=Z,9.9nm,1.0s
BW06 Boulder Array 83.93 325 *eP* **P 13 52 25.4 -1.6**
comp=Z,9.9nm,1.0s
PDAR Pinedale Array 83.93 325 P **P 13 52 27.1 +0.1**
PDAR Pinedale Array 83.93 325 P **P 13 52 27.1 +0.1**
comp=Z,8.0nm,0.8s,baz=54,slow=4.6,SNR=64
PDAR LR LR 14 31 13.7
comp=Z,284nm,18.6s,baz=43,slow=37
PDAR Pinedale Array 83.93 325 P **P 13 52 27.1 +0.1**
TPAW Teton Pass 83.93 326 *eP* **P 13 52 29.0 +2.0**
comp=Z,15nm,0.8s
TPAW Teton Pass 83.93 326 *eP* **P 13 52 29.0 +2.0**
comp=Z,15nm,0.8s
S29A Ulysses 83.97 316 ⇑P P 13 52 28.1 +1.0
baz=84

REDW	Red Top Meadow	83.99	326	eP	P	13 52 27.1 -0.2
	comp=Z,20nm,1.3s					
REDW	Red Top Meadow	83.99	326	eP	P	13 52 27.1 -0.2
	comp=Z,20nm,1.3s					
SDV	Santo Domingo	84.00	276	eP	P	13 52 29.9 +2.2
L20A	Wamsutter	84.01	324	⇑P	P	13 52 27.9 +0.6
	baz=84,SNR=12					
PGC	Sidney	84.02	336	eP	P	13 52 24.7 -2.3
	comp=Z,1.3nm,0.9s					
P25A	Willow Gulch B	84.04	319	⇑P	P	13 52 28.6 +1.1
	baz=84,SNR=5.7					
T30A	Plains	84.09	316	⇑P	P	13 52 29.3 +1.6
	baz=84					
N22A	Wattenberg Ran	84.11	322	⇓P	P	13 52 29.1 +1.1
	baz=84,SNR=10					
MJAR	Matsushiro Arr	84.13	45	P	P	13 52 27.5 -0.3
MJAR	Matsushiro Arr	84.13	45	P	P	13 52 27.5 -0.3
	comp=Z,20nm,0.9s,baz=333,slow=4.3,SNR=35					
MJAR				LR	LR	14 33 27.7
	comp=Z,369nm,18.1s,baz=295,slow=38					
MJAR	Matsushiro Arr	84.13	45	P	P	13 52 27.5 -0.3
	comp=Z,369nm,18.1s					
RRI2	Red Ridge	84.20	326	eP	P	13 52 30.1 +1.7
RRI2	Red Ridge	84.20	326	eP	P	13 52 30.1 +1.7
BDFB	Brasilia	84.21	243	P	P	13 52 29.6 +1.1
BDFB	Brasilia	84.21	243	P	P	13 52 29.6 +1.1
	comp=Z,9.4nm,0.8s,baz=18,slow=5.9,SNR=9.4					
BDFB				LR	LR	14 33 59.6
	comp=Z,142nm,18.4s,baz=219,slow=38					
BDFB	Brasilia	84.21	243	P	P	13 52 29.6 +1.1
R27A	Eads	84.31	318	⇓P	P	13 52 30.2 +1.3
	baz=84					
O23A	Lake Granby, G	84.33	321	⇓P	P	13 52 30.3 +1.2
	baz=84					
M20A	Sweetwater, Wa	84.35	323	⇑P	P	13 52 30.1 +0.9
	baz=84,SNR=9.6					
L19A	Farson	84.38	324	⇓P	P	13 52 30.0 +0.8
	baz=84					
S28A	Manter	84.39	317	⇓P	P	13 52 30.2 +1.0
	baz=84,SNR=7.8					
T29A	Hugoton	84.41	316	⇓P	P	13 52 30.8 +1.5
	baz=84					
BLN	Blyn Mountain	84.45	336	P	P	13 52 30.8 +1.5
BLN	Blyn Mountain	84.45	336	P	P	13 52 30.8 +1.5
ISCO	Idaho Springs	84.51	321	eP	P	13 52 31.6 +1.5
ISCO				pmax	pmax	
	comp=Z,6.0nm,0.9s					
ISCO	Idaho Springs	84.51	321	eP	P	13 52 31.6 +1.5
	comp=Z,6.2nm,0.9s					
ISCO	Idaho Springs	84.51	321	eP	P	13 52 31.6 +1.5
	comp=Z,6.2nm,0.9s					
ISCO	Idaho Springs	84.51	321	⇓P	P	13 52 31.1 +1.0
	baz=84,SNR=5.6					
Q25A	Bedland, Calha	84.54	319	⇓P	P	13 52 31.4 +1.3
	baz=84					
U30A	WK&E Inc. Balk	84.55	315	⇑P	P	13 52 31.3 +1.3
	baz=84					
GBB	Gable Butte	84.59	333	P	P	13 52 31.6 +1.7
GBB	Gable Butte	84.59	333	P	P	13 52 31.6 +1.7
R26A	Arlington	84.62	318	⇓P	P	13 52 31.4 +0.9
	baz=84,SNR=14					
N21A	Black Mountain	84.64	322	⇓P	P	13 52 32.0 +1.4
	baz=84					
O22A	Kremmling	84.66	321	⇓P	P	13 52 31.4 +0.6
	baz=84,SNR=7.3					
V31A	Spring Creek L	84.69	314	⇑P	P	13 52 32.4 +1.7
	baz=84					
OBC	Olympics--Boni	84.76	336	P	P	13 52 32.8 +1.9
OBC	Olympics--Boni	84.76	336	P	P	13 52 32.8 +1.9
M19A	Rock Springs	84.77	324	⇓P	P	13 52 33.0 +1.8
	baz=84					
HDW	Hoodsport	84.79	335	P	P	13 52 32.8 +1.7
HDW	Hoodsport	84.79	335	P	P	13 52 32.8 +1.7
L18A	Fontenelle, Gr	84.82	325	⇑P	P	13 52 32.9 +1.4
	baz=84					
S27A	Las Animas	84.83	318	⇓P	P	13 52 33.3 +1.8
	baz=84					
T28A	Walsh	84.86	317	⇓P	P	13 52 33.2 +1.6
	baz=84					
WMOK	Wichita Mounta	84.90	313	eP	P	13 52 30.8 -1.0
WMOK				pmax	pmax	
	comp=Z,16nm,1.2s					
WMOK	Wichita Mounta	84.90	313	eP	P	13 52 30.8 -1.0
	comp=Z,16nm,1.2s					
WMOK	Wichita Mounta	84.90	313	eP	P	13 52 30.8 -1.0
	comp=Z,16nm,1.2s					
N20A	Spence Gulch,	84.91	323	⇓P	P	13 52 33.5 +1.5
	baz=85					
Q24A	Divide	84.94	320	⇓P	P	13 52 34.0 +1.7
	baz=85					
P23A	Jefferson	84.95	320	⇓P	P	13 52 33.2 +0.9
	baz=85,SNR=6.3					
WPW	White Pass	85.15	334	P	P	13 52 33.6 +0.7
WPW	White Pass	85.15	334	P	P	13 52 33.6 +0.7
R25A	Fountain Ranch	85.16	319	⇓P	P	13 52 34.4 +1.3
	baz=85					
S26A	Kim	85.16	318	⇓P	P	13 52 35.1 +1.9
	baz=85					
TRW	Toppenish Ridg	85.18	333	P	P	13 52 34.4 +1.4
TRW	Toppenish Ridg	85.18	333	P	P	13 52 34.4 +1.4
LON	Longmire	85.19	334	eP	P	13 52 34.0 +0.9
LON				pmax	pmax	
	comp=Z,5.0nm,1.0s					
LON	Longmire	85.19	334	eP	P	13 52 34.0 +0.9
	comp=Z,5.1nm,1.0s					
LON	Longmire	85.19	334	eP	P	13 52 34.0 +0.9
	comp=Z,5.1nm,1.0s					
W31A	Holland Ranch,	85.19	314	⇓P	P	13 52 35.1 +1.8
	baz=85					
P22A	Eagle	85.21	321	⇓P	P	13 52 35.0 +1.5
	baz=85					
NLWA	Neilton Lookou	85.27	336	eP	P	13 52 35.0 +1.6
	comp=Z,17nm,1.0s					
NLWA	Neilton Lookou	85.27	336	eP	P	13 52 35.0 +1.6
	comp=Z,17nm,1.0s					
HLID	Hailey	85.28	328	eP	P	13 52 35.2 +1.5
	comp=Z,3.4nm,0.9s					
HLID	Hailey	85.28	328	eP	P	13 52 35.2 +1.5
	comp=Z,3.4nm,0.9s					
HLID	Hailey	85.28	328	⇑P	P	13 52 34.8 +1.0
	baz=85					
BMO	Blue Mountains	85.28	331	eP	P	13 52 32.1 -1.5
	comp=Z,39nm,1.4s					
BMO	Blue Mountains	85.28	331	eP	P	13 52 32.1 -1.5
	comp=Z,39nm,1.4s					
Q23A	Hartsel	85.32	320	⇑P	P	13 52 35.3 +1.2
	baz=85					
M17A	Scullys Gap (B	85.46	325	⇓P	P	13 52 36.0 +1.2
	baz=85					
O20A	White River Ci	85.47	322	⇓P	P	13 52 36.2 +1.4
	baz=85					
U28A	Mallet	85.48	316	⇑P	P	13 52 36.1 +1.3
	baz=85					
R24A	Sanders Place,	85.50	319	⇑P	P	13 52 36.1 +1.2
	baz=85					
T26A	Comanche Natio	85.57	318	⇑P	P	13 52 37.6 +2.3
	baz=85					
S25A	Robets Cordova	85.61	318	⇑P	P	13 52 36.4 +0.8
	baz=85,SNR=5.4					
X31A	McDonald Ranch	85.63	314	⇓P	P	13 52 36.8 +1.3
	baz=85					
O19A	Miners Draw (B	85.73	323	⇓P	P	13 52 37.2 +1.2
	baz=85					
HWUT	Hardware Ranch	85.73	325	eP	P	13 52 33.9 -2.2
	comp=Z,15nm,1.4s					
HWUT	Hardware Ranch	85.73	325	eP	P	13 52 33.8 -2.2
	comp=Z,15nm,1.4s					
U27A	Thompson Grove	85.76	317	⇑P	P	13 52 37.5 +1.3
	baz=85					
Y32A	R-V Farms, Ver	85.81	313	⇓P	P	13 52 37.8 +1.5
	baz=86					
FL2	Flat Top 2	85.86	334	P	P	13 52 37.6 +1.1
FL2	Flat Top 2	85.86	334	P	P	13 52 37.6 +1.1
Q22A	Crested Butte,	85.86	321	⇑P	P	13 52 38.0 +1.2
	baz=86					
R23A	Moffat	85.88	320	⇓P	P	13 52 38.3 +1.3
	baz=86					
MFID	Camas Ranch	85.95	329	⇓P	P	13 52 38.2 +1.2
	baz=86					
T25A	Trinidad	86.01	318	⇑P	P	13 52 38.7 +1.2
	baz=86					
P20A	De Beque	86.04	322	⇓P	P	13 52 38.5 +0.9
	baz=86					
SDCO	Great Sand Dun	86.07	319	eP	P	13 52 36.8 -1.1
	comp=Z,5.3nm,1.2s					
SDCO	Great Sand Dun	86.07	319	eP	P	13 52 36.8 -1.1
	comp=Z,5.3nm,1.2s					
VTHM	Trough	86.15	333	P	P	13 52 39.6 +1.7
VTHM	Trough	86.15	333	P	P	13 52 39.6 +1.7
P19A	Cripple Cowboy	86.20	323	⇑P	P	13 52 39.3 +0.9
	baz=86					
WHTX	Lake Whitney	86.21	310	⇑P	P	13 52 39.7 +1.4
	baz=86					
U26A	Atchley Ranch,	86.25	317	⇓P	P	13 52 39.7 +0.9
	baz=86					
X30A	Coker Ranch, T	86.25	314	⇓P	P	13 52 39.7 +1.2
	baz=86					
Y31A	Rekieta Farm,	86.29	313	⇓P	P	13 52 40.3 +1.6
	baz=86					
Z32A	Haskell	86.36	313	⇓P	P	13 52 40.3 +1.2
	baz=86					
U25A	Circle Dot Ran	86.58	318	⇓P	P	13 52 41.1 +0.7
	baz=86,SNR=6.8					
Z31A	Sharp Cattle R	86.71	313	⇑P	P	13 52 42.4 +1.6
	baz=86					
S22A	4UR Ranch, Cre	86.71	320	⇑P	P	13 52 42.2 +1.2
	baz=86					
V26A	Tequesquite Ra	86.74	317	⇓P	P	13 52 42.1 +1.0
	baz=86					
W27A	Bowe Ranch, En	86.93	316	⇑P	P	13 52 43.2 +1.2
	baz=87					
ABTX	Abilene, Hawle	86.96	312	eP	P	13 52 42.0 0.0
ABTX	Abilene, Hawle	86.96	312	eP	P	13 52 42.0 0.0
ABTX	Abilene, Hawle	86.96	312	⇓P	P	13 52 43.9 +1.8
	baz=87					
R20A	Redvale	87.09	321	⇑P	P	13 52 43.2 +0.4
	baz=87					
V25A	Rancho No Teng	87.13	317	⇑P	P	13 52 43.4 +0.4
	baz=87					
PV04	Paradox Valley	87.17	322	eP	P	13 52 44.2 +1.1
PV04	Paradox Valley	87.17	322	eP	P	13 52 44.2 +1.1
S21A	Coal Bank Pass	87.24	321	⇓P	P	13 52 43.9 +0.2
	baz=87,SNR=6.0					
W26A	Owens Ranch, T	87.28	316	⇓P	P	13 52 44.6 +0.9
	baz=87					
SRU	San Rafael	87.33	323	eP	P	13 52 44.3 +0.4
SRU				pmax	pmax	
	comp=Z,6.0nm,0.8s					
SRU	San Rafael	87.33	323	eP	P	13 52 44.2 +0.4
	comp=Z,6.3nm,0.8s					
SRU	San Rafael	87.33	323	eP	P	13 52 44.2 +0.4
	comp=Z,6.3nm,0.8s					
T22A	Edith	87.33	320	⇑P	P	13 52 44.8 +0.7
	baz=87					
DUG	Dugway	87.43	325	eP	P	13 52 45.4 +1.1
DUG				pmax	pmax	
	comp=Z,7.0nm,0.8s					
DUG	Dugway	87.43	325	eP	P	13 52 45.4 +1.1
	comp=Z,6.9nm,0.8s					
DUG	Dugway	87.43	325	eP	P	13 52 45.4 +1.1
	comp=Z,6.9nm,0.8s					
DUG	Dugway	87.43	325	⇓P	P	13 52 44.9 +0.6
	baz=87					
232A	Coleman	87.52	312	⇓P	P	13 52 46.1 +1.3
	baz=87					
W25A	X Bar L Ranch,	87.53	317	⇑P	P	13 52 45.9 +1.0
	baz=87					
V24A	Rampart Ranch,	87.54	318	⇑P	P	13 52 46.1 +1.0
	baz=87					
Z29A	Hungry Hill Ra	87.60	314	⇓P	P	13 52 45.9 +0.7
	baz=87					
MSTX	Muleshoe	87.62	315	⇓P	P	13 52 46.0 +0.7
	baz=87					
X26A	CR and CF Fran	87.72	316	⇓P	P	13 52 46.7 +0.9
	baz=87					
Q16A	Castle Valley	87.77	323	⇑P	P	13 52 46.5 +0.4
	baz=87					
U22A	Llaves	87.81	319	⇑P	P	13 52 47.5 +1.1
	baz=88					
WVOR	Wild Horse Val	87.86	330	eP	P	13 52 45.7 -0.6
WVOR				pmax	pmax	
	comp=Z,29nm,1.7s					
WVOR	Wild Horse Val	87.86	330	eP	P	13 52 45.7 -0.6
	comp=Z,29nm,1.7s					
WVOR	Wild Horse Val	87.86	330	eP	P	13 52 45.7 -0.6
	comp=Z,29nm,1.7s					
Y27A	Causey	87.90	315	⇑P	P	13 52 47.2 +0.6
	baz=88					
MVCO	Mesa Verde	87.94	321	⇓P	P	13 52 47.7 +0.7
	baz=88					
Z28A	Tucker Farm, M	87.94	314	⇓P	P	13 52 47.9 +1.1
	baz=88					
332A	Millersview	87.95	311	⇓P	P	13 52 48.0 +1.2
	baz=88					
W24A	Lazy 6 Ranch,	88.02	318	⇓P	P	13 52 48.2 +0.9
	baz=88					
U21A	Nageezi	88.16	320	⇓P	P	13 52 48.6 +0.6
	baz=88					
X25A	Clemmons Ranch	88.17	317	⇑P	P	13 52 49.0 +1.0
	baz=88					
V22A	San Miguel Ran	88.21	319	⇓P	P	13 52 49.2 +1.0
	baz=88					
Y26A	Elida	88.21	316	⇑P	P	13 52 49.4 +1.3
	baz=88					
128A	Castleberry Fa	88.51	314	⇓P	P	13 52 50.4 +0.9
	baz=88					
MSU	Marysvale	88.55	324	eP	P	13 52 51.0 +1.2
MSU	Marysvale	88.55	324	eP	P	13 52 51.0 +1.2
MSU	Marysvale	88.55	324	eP	P	13 52 51.0 +1.2
MVU	Marysvale	88.57	324	eP	P	13 52 46.8 -3.1
	comp=Z,4.9nm,0.9s					
Y25A	Mesa, Roswell	88.66	316	⇓P	P	13 52 51.1 +0.8
	baz=88					
330A	Mertzon	88.73	312	⇓P	P	13 52 51.7 +1.2
	baz=88					
Z26A	Caprock	88.80	315	⇓P	P	13 52 51.5 +0.6
	baz=88,SNR=10					
228A	UT Block 9, Go	88.95	314	⇑P	P	13 52 52.7 +1.1
	baz=89					
431A	Sonora	88.96	312	⇓P	P	13 52 53.1 +1.4
	baz=89					
532A	Rocksprings	88.99	311	⇑P	P	13 52 53.5 +1.7
	baz=89					
Y24A	Capitan	89.04	317	⇑P	P	13 52 52.8 +0.6
	baz=89,SNR=5.6					
V20A	Brimhall	89.06	320	⇓P	P	13 52 53.2 +1.0
	baz=89					
329A	Wagon Wheel Ra	89.11	313	⇓P	P	13 52 53.7 +1.4
	baz=89					
Z25A	Roswell	89.18	316	⇓P	P	13 52 53.3 +0.6
	baz=89,SNR=5.2					
430A	Baggett Ranch,	89.23	312	⇑P	P	13 52 53.8 +0.9
	baz=89					
HUMO	Hull Mountain	89.24	333	eP	P	13 52 51.6 -1.0
	comp=Z,5.0nm,0.9s					
HUMO	Hull Mountain	89.24	333	eP	P	13 52 51.7 -1.0
	comp=Z,5.0nm,0.9s					
126A	Clayton Basin,	89.31	315	⇑P	P	13 52 54.1 +0.8
	baz=89					
531A	Rocksprings	89.32	311	⇓P	P	13 52 54.4 +1.1
	baz=89,SNR=9.3					
Y23A	Lovelace Mesa,	89.35	317	⇑P	P	13 52 54.3 +0.7
	baz=89					
X22A	Bernardo	89.38	318	⇑P	P	13 52 54.4 +0.7
	baz=89					
ROSC	El Rosal	89.40	276	LR	LR	14 25 21.9
	comp=Z,54nm,19.8s,baz=14,slow=30					
BNM	Barren Site	89.47	318	eP	P	13 52 53.5 -0.7
	comp=Z,6.8nm,1.3s					
BNM	Barren Site	89.47	318	eP	P	13 52 53.5 -0.7
	comp=Z,6.8nm,1.3s					
Z24A	Sheeppen Canyo	89.47	316	⇑P	P	13 52 54.8 +0.6
	baz=89					
LAZ	Ladron	89.52	318	eP	P	13 52 54.4 -0.1
	comp=Z,1.9nm,1.1s					
LAZ	Ladron	89.52	318	eP	P	13 52 54.3 -0.1
	comp=Z,1.9nm,1.1s					
W20A	Ramah	89.61	320	⇓P	P	13 52 55.2 +0.4
	baz=89					
125A	Gardner Draw,	89.63	316	⇑P	P	13 52 55.1 +0.2
	baz=89,SNR=5.6					
328A	Wristen Ranch,	89.64	313	⇓P	P	13 52 55.5 +0.6
	baz=89					
530A	J-C Ranch, Com	89.78	312	⇑P	P	13 52 56.7 +1.2
	baz=90,SNR=8.3					
Y22A	Socorro	89.81	318	⇓P	P	13 52 56.4 +0.7
	baz=90					
X21A	Alamocita Cree	89.81	319	⇓P	P	13 52 56.4 +0.6
	baz=90,SNR=8.4					
226B	Tecolote Peak,	89.83	315	⇑P	P	13 52 56.4 +0.6
	baz=90,SNR=7.0					
631A	Perdido Creek	89.91	311	⇑P	P	13 52 56.9 +0.9
	baz=90,SNR=12					
Z23A	Rita Site, Whi	89.97	317	⇓P	P	13 52 57.1 +0.6
	baz=90					
124A	Stringfield Ra	90.02	316	⇓P	P	13 52 57.8 +1.0
	baz=90					
X20A	Quemado	90.08	319	⇑P	P	13 52 58.4 +1.4
	baz=90					
Y21A	Point of Rocks	90.10	318	⇓P	P	13 52 58.3 +1.1
	baz=90					
R11A	Troy Canyon, C	90.15	326	⇓P	P	13 52 58.2 +1.0
	baz=90					
326A	Caldwell Ranch	90.32	314	⇑P	P	13 52 59.0 +1.0
	baz=90					
U15A	North Rim	90.33	323	⇓P	P	13 52 58.6 +0.4
	baz=90					
Z22A	Elephant Butte	90.35	317	⇑P	P	13 52 59.3 +1.1
	baz=90					
427A	Hayter Ranch,	90.37	314	⇓P	P	13 52 59.1 +0.8
	baz=90					
PAHR	Pah Rah Range	90.50	329	eP	P	13 52 58.4 -0.5
	comp=Z,4.1nm,1.0s					
PAHR	Pah Rah Range	90.50	329	eP	P	13 52 58.3 -0.5
	comp=Z,4.1nm,1.0s					
Y20A	Horse Springs,	90.53	319	⇓P	P	13 52 59.9 +0.7
	baz=90					
224A	Cornudas Mount	90.54	316	⇑P	P	13 53 00.1 +1.0
	baz=90					
528A	Cox Ranch, San	90.57	313	⇑P	P	13 53 00.1 +0.8
	baz=90,SNR=7.6					
WUAZ	Wupatki	90.66	322	eP	P	13 52 58.6 -1.1
	comp=Z,7.2nm,1.0s					
WUAZ	Wupatki	90.66	322	eP	P	13 52 58.6 -1.1
	comp=Z,7.2nm,1.0s					
WUAZ	Wupatki	90.66	322	⇑P	P	13 53 00.6 +0.9
	baz=90					
Z21A	St. Cloud Mine	90.66	318	⇑P	P	13 53 00.7 +0.9
	baz=90					
MNTX	Cornudas Mount	90.77	315	eP	P	13 52 57.9 -2.1
	comp=Z,4.7nm,1.0s					
MNTX	Cornudas Mount	90.77	315	eP	P	13 52 57.9 -2.1
	comp=Z,4.7nm,1.0s					
426A	McDonald Obser	90.85	314	⇓P	P	13 53 01.1 +0.5
	baz=90,SNR=15					
324A	Moseley Ranch,	91.02	315	⇓P	P	13 53 01.7 +0.3
	baz=91,SNR=12					
527A	Woodward Ranch	91.03	313	⇑P	P	13 53 02.2 +0.8
	baz=91,SNR=6.8					
628A	Black Gap, Mar	91.15	312	⇓P	P	13 53 03.3 +1.4
	baz=91,SNR=8.0					
NVAR	Mina Array Bea	91.19	328	P	P	13 53 02.6 +0.5
NVAR				PKKPbc	PKKPbc	14 10 23.4 0.0
NVAR	Mina Array Bea	91.19	328	P	P	13 53 02.6 +0.5
	comp=Z,1.2nm,0.8s,baz=37,slow=3.6,SNR=11					
NVAR				PKKPbc	PKKPbc	14 10 23.4 0.0
	comp=Z,0.4nm,0.7s,baz=219,slow=5.4,SNR=3.5					
NVAR				LR	LR	14 34 40.3
	comp=Z,248nm,20.9s,baz=347,slow=36					
NVAR	Mina Array Bea	91.19	328	P	P	13 53 02.6 +0.5
425A	Indio Mountain	91.27	315	⇑P	P	13 53 02.9 +0.4
	baz=91					
Z20A	Nine Sixteen R	91.28	318	⇑P	P	13 53 03.5 +0.9
	baz=91					
526A	Mary Lane Ranc	91.36	314	⇓P	P	13 53 03.7 +0.8
	baz=91,SNR=5.2					
627A	Terlingua Ranc	91.45	313	⇓P	P	13 53 04.3 +1.0
	baz=91,SNR=14					
SHPR	Sheep Range	91.53	325	eP	P	13 53 03.6 0.0
	comp=Z,6.5nm,1.3s					
SHPR	Sheep Range	91.53	325	eP	P	13 53 03.6 0.0
	comp=Z,6.5nm,1.3s					
WAKR	Walker	91.56	329	eP	P	13 53 04.5 +0.7
	comp=Z,9.6nm,1.4s					
WAKR	Walker	91.56	329	eP	P	13 53 04.6 +0.7
	comp=Z,9.6nm,1.4s					
X16A	Lo Mia Camp, P	91.59	321	⇑P	P	13 53 05.2 +1.1
	baz=91					
TXAR	Lajitas Array	91.69	313	P	P	13 53 05.6 +1.2
TXAR	Lajitas Array	91.69	313	P	P	13 53 05.6 +1.2
	comp=Z,7.4nm,1.0s,baz=54,slow=4.6,SNR=45					
TXAR				LR	LR	14 32 35.2
	comp=Z,136nm,19.1s,baz=0.0,slow=34					
TXAR	Lajitas Array	91.69	313	P	P	13 53 05.6 +1.2
	comp=Z,136nm,19.1s					
626A	Big Bend Ranch	91.78	313	⇑P	P	13 53 05.7 +0.9
	baz=92,SNR=8.0					
GRAC	Grapevine Rang	92.04	327	⇑P	P	13 53 07.1 +1.3
	baz=92					
FURC	Furnace Creek,	92.28	326	⇑P	P	13 53 08.5 +1.7
	baz=92					
Y14A	Wickenburg	92.71	322	⇑P	P	13 53 10.2 +1.2
	baz=92					
TUQ	Turquoise Moun	92.76	325	⇑P	P	13 53 10.2 +0.9
	baz=92					
MPMC	Manual Prospec	92.89	326	⇑P	P	13 53 11.2 +1.2
	baz=92					
PDMCI	Parker Dam,Lak	92.93	323	⇑P	P	13 53 11.4 +1.5
	baz=93					
GMRC	Granite Mounta	93.20	324	⇓P	P	13 53 12.3 +0.9
	baz=93					
GSC	Goldstone	93.25	325	⇑P	P	13 53 12.9 +1.3
	baz=93					
LRMC	Laurel Mountai	93.47	326	⇑P	P	13 53 14.0 +1.4
	baz=93					
IRM	Iron Mountain	93.50	324	⇑P	P	13 53 14.3 +1.7
	baz=93					
ISA	Isabella	93.64	327	eP	P	13 53 13.2 -0.1
ISA				pmax	pmax	
	comp=Z,6.0nm,1.0s					
ISA	Isabella	93.64	327	eP	P	13 53 13.2 -0.1
	comp=Z,5.5nm,1.0s					
ISA	Isabella	93.64	327	eP	P	13 53 13.2 -0.1
	comp=Z,5.5nm,1.0s					
ISA	Isabella	93.64	327	⇑P	P	13 53 14.9 +1.6
	baz=93					
BELC	Belle Mtn. Jos	94.01	324	⇓P	P	13 53 16.7 +1.6
	baz=94					
PFO	Pinyon Flat Ob	94.54	324	⇓P	P	13 53 18.9 +1.4
	baz=94					
CPUP	Villa Florida	97.87	242	LR	LR	14 43 13.9
	comp=Z,211nm,18.4s,baz=22,slow=39					
LPAZ	La Paz	98.72	256	LR	LR	14 41 28.0
	comp=Z,91nm,18.5s,baz=116,slow=37					
WRA	Warramunga Arr	121.62	89	PKP	PKPdf	13 58 49.6 -1.1
WRA	Warramunga Arr	121.62	89	PKP	PKPdf	13 58 49.6 -1.1
	comp=Z,1.8nm,0.9s,baz=314,slow=1.7,SNR=8.2					
ASAR	Alice Springs	123.50	93	PKP	PKPdf	13 58 53.4 -0.9
ASAR				PKKPbc	PKKPab	14 08 42.6 +0.3
ASAR	Alice Springs	123.50	93	PKP	PKPdf	13 58 53.4 -0.9
	comp=Z,3.0nm,0.7s,baz=313,slow=1.5,SNR=45					
ASAR				PKKPbc	PKKPab	14 08 42.6 +0.3
	comp=Z,0.4nm,0.6s,baz=131,slow=3.6,SNR=6.8					
STKA	Stephens Creek	133.64	97	PKP	PKPdf	13 59 13.5 +0.2
STKA	Stephens Creek	133.64	97	PKP	PKPdf	13 59 13.5 +0.2
	comp=Z,1.9nm,0.6s,baz=284,slow=4.2,SNR=4.0					
DZM	Mont Dzumac	146.23	64	PKPbc	PKPab	13 59 38.3 +0.1
DZM	Mont Dzumac	146.23	64	PKPbc	PKPab	13 59 38.3 +0.1
	comp=Z,15nm,0.8s,baz=49,slow=7.5,SNR=9.7					

TIR 21 13:41:24.4±1.6, 41°.90N×19°.17E, h10km±823km, ML3.7, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PUK	**Puka**	**0.56**	**75**	*i* PG		Pg	13 41 34.4	-1.0
PUK				*i* SG		Sg	13 41 42.5	-0.2
BCI	**Bajram Curri**	**0.81**	**54**	*i* PG

ULC	**Ulcinj**	**0.09**	**55**	⇓*i*Pg	**Pg**	**13 59 54.8**	**-0.2**
ULC				*e*Sg	**Sg**	**13 59 56.6**	**-0.4**
DRME	**Dracevica, Mon**	**0.28**	**6**	⇓*i*Pg	**Pg**	**13 59 57.8**	**-0.2**
DRME				*e*Sg	**Sg**	**14 00 02.4**	**+0.6**
BUM	**Brajici-Budva**	**0.43**	**334**	⇑*i*Pg	**Pg**	**14 00 00.7**	**-0.2**
BUM				*e*Sg	**Sb**	**14 00 08.1**	**-0.4**
PDG	**Podgorica**	**0.52**	**9**	P	**Pg**	**14 00 01.8**	**-0.8**
PDG				S	**Sb**	**14 00 10.6**	**-0.5**
PDG	**Podgorica**	**0.52**	**9**	Pg	**Pg**	**14 00 01.8**	**-0.8**
PDG				Sg	**Sb**	**14 00 10.5**	**-0.5**
PDG	**Podgorica**	**0.52**	**9**	*e*Pg	**Pg**	**14 00 01.6**	**-1.0**
PDG				*e*Sg	**Sb**	**14 00 10.2**	**-0.9**
PDG	**Podgorica**	**0.52**	**9**	P	**Pg**	**14 00 01.8**	**-0.8**
PDG				S	**Sb**	**14 00 10.6**	**-0.5**
TTG	**Podgorica**	**0.52**	**9**	⇓*i*Pg	**Pg**	**14 00 01.7**	**-0.8**
TTG				*e*Sg	**Sb**	**14 00 10.2**	**-0.9**
HCY	**Herceg Novi**	**0.72**	**318**	⇑*i*Pg	**Pg**	**14 00 05.6**	**-0.7**
HCY				*e*Sg	**Sb**	**14 00 17.4**	**+0.6**
HCY	**Herceg Novi**	**0.72**	**318**	⇑*i*Pg	**Pg**	**14 00 05.6**	**-0.7**
HCY				*e*Sg	**Sb**	**14 00 17.4**	**+0.6**
TIR	**Tirane**	**0.78**	**136**	Pg	**Pg**	**14 00 07.8**	**+0.4**
	479nm,0.6s						
TIR	**Tirane**	**0.78**	**136**	*e*Pg	**Pb**	**14 00 08.8**	**+0.9**
TIR				*e*Sg	**Sn**	**14 00 21.2**	**+0.3**
TIR	**Tirane**	**0.78**	**136**	Pg	**Pg**	**14 00 07.8**	**+0.4**
	479nm,0.6s						
TIR				*e*Sg	**Sn**	**14 00 21.2**	**+0.3**
NKME	**Niksic**	**0.87**	**351**	*e*Pg	**Pg**	**14 00 07.9**	**-1.2**
NKME				*e*Sg	**Sn**	**14 00 22.0**	**-1.1**
NKY	**Niksic**	**0.91**	**353**	⇑*i*Pg	**Pg**	**14 00 08.4**	**-1.5**
NKY				*e*Sg	**Sn**	**14 00 23.8**	**-0.4**
PVY	**Plav**	**0.91**	**41**	⇑*i*Pg	**Pg**	**14 00 08.3**	**-1.6**
PVY				*e*Sg	**Sb**	**14 00 23.2**	**+0.9**
PHP	**Peshkopia**	**0.99**	**103**	P	**Pg**	**14 00 09.7**	**-1.8**
PHP				S	**Sg**	**14 00 25.1**	**+0.6**
PHP	**Peshkopia**	**0.99**	**103**	P	**Pg**	**14 00 09.7**	**-1.8**
PHP				S	**Sg**	**14 00 25.1**	**+0.6**
TREB	**Trebinje**	**1.00**	**324**	*e*Pg	**Pg**	**14 00 11.2**	**-0.3**
TREB				*i* Sg	**Sn**	**14 00 27.4**	**+1.1**
TREB	**Trebinje**	**1.00**	**324**	*e*Pg	**Pg**	**14 00 11.2**	**-0.3**
TREB				*i* Sg	**Sn**	**14 00 27.4**	**+1.1**
BRY	**Bratogost**	**1.09**	**336**	⇑*i*Pg	**Pb**	**14 00 12.8**	**-0.4**
BRY				*e*Sg	**Sn**	**14 00 29.6**	**+1.0**
BRY	**Bratogost**	**1.09**	**336**	⇑*i*Pg	**Pb**	**14 00 12.8**	**-0.4**
BRY				*e*Sg	**Sn**	**14 00 29.6**	**+1.0**
BEY	**Berane**	**1.11**	**30**	⇑*i*Pg	**Pb**	**14 00 12.2**	**-1.3**
BEY				*e*Sg	**Sn**	**14 00 29.9**	**+0.8**
IVA	**Berane**	**1.11**	**30**	⇑*i*Pg	**Pb**	**14 00 12.2**	**-1.3**
IVA				*e*Sg	**Sn**	**14 00 29.9**	**+0.8**
UPM	**Unac-Piva**	**1.30**	**352**	⇑*i*Pg	**Pn**	**14 00 16.0**	**-0.6**
UPM				*e*Sg	**Sg**	**14 00 36.8**	**+2.5**
UPM	**Unac-Piva**	**1.30**	**352**	⇑*i*Pg	**Pn**	**14 00 16.0**	**-0.6**
UPM				*e*Sg	**Sg**	**14 00 36.8**	**+2.5**
PLE	**Pljevlja**	**1.43**	**7**	⇑*i*Pg	**Pb**	**14 00 19.2**	**+0.2**
PLE				*e*Sg	**Sg**	**14 00 40.8**	**+2.5**
PLE	**Pljevlja**	**1.43**	**7**	⇑*i*Pg	**Pb**	**14 00 19.2**	**+0.2**
STON	**Ston**	**1.44**	**312**	*i* Pg	**Pg**	**14 00 19.2**	**-0.7**
STON				Sg	**Sg**	**14 00 39.3**	**+0.7**
SJES	**Sjenica**	**1.48**	**24**	*e*Pg	**Pg**	**14 00 20.5**	**-0.3**
SJES				*e*Sg	**Sg**	**14 00 40.4**	**+0.4**
SJES	**Sjenica**	**1.48**	**24**	*e*Pg	**Pg**	**14 00 20.5**	**-0.3**
SJES				*e*Sg	**Sg**	**14 00 40.4**	**+0.4**
MESG	**Mesagne**	**1.64**	**217**	Pg	**Pn**	**14 00 19.4**	**-1.7**
	424nm,0.7s						
MESG	**Mesagne**	**1.64**	**217**	Pg	**Pn**	**14 00 19.4**	**-1.7**
	424nm,0.7s						
PE1	**Pezze di Greco**	**1.71**	**230**	*e*Pn	**Pn**	**14 00 21.2**	**-0.7**
SKO	**Skopje**	**1.71**	**87**	*i* Pn	**Pb**	**14 00 24.5**	**+0.7**
SKO				*i* Sn	**Sb**	**14 00 46.9**	**+1.6**
SKO				*e*Lg	Lg	14 00 48.0	
	comp=E,256nm,0.9s						
SKO				*e*Lg	Lg	14 00 48.3	
	comp=N,178nm,0.4s						
SKO	**Skopje**	**1.71**	**87**	*i* Pn	**Pb**	**14 00 24.5**	**+0.7**
SKO				*i* Sn	**Sb**	**14 00 46.9**	**+1.6**
SKO				*e*Lg	Lg	14 00 48.3	
	comp=N,178nm,0.4s						
BIA	**Bitola**	**1.86**	**118**	*i* Pn	**Pn**	**14 00 25.1**	**+0.9**
BIA	**Bitola**	**1.86**	**118**	*i* Pn	**Pn**	**14 00 25.1**	**+0.9**
BAI	**Bari**	**1.88**	**245**	*e*Pn	**Pn**	**14 00 23.5**	**-0.8**
BAI				*e*Sn	**Sn**	**14 00 47.9**	**-0.1**
NOCI	**Noci**	**1.93**	**235**	Pg	**Pn**	**14 00 24.0**	**-1.0**
	comp=N,191nm,0.4s						
NOCI	**Noci**	**1.93**	**235**	Pg	**Pn**	**14 00 24.0**	**-1.0**
	comp=N,191nm,0.4s						
SELS	**Selova**	**1.96**	**47**	*e*Pn	**Pn**	**14 00 25.8**	**+0.4**
SELS				*e*Sg	**Sb**	**14 00 52.7**	**+0.3**
BBLS	**Lazići**	**1.96**	**5**	*e*Pn	**Pb**	**14 00 26.8**	**-1.3**
BBLS				*e*Sg	**Sg**	**14 00 54.2**	**-1.2**
BBLS	**Lazići**	**1.96**	**5**	*e*Pn	**Pb**	**14 00 26.8**	**-1.3**
BBLS				*e*Sg	**Sg**	**14 00 54.2**	**-1.2**
FNA	**Florina**	**2.02**	**123**	P	**Pn**	**14 00 27.3**	**+0.9**
FNA				S	**Sn**	**14 00 53.9**	**+2.3**
FNA	**Florina**	**2.02**	**123**	P	**Pn**	**14 00 27.3**	**+0.9**
FNA				S	**Sn**	**14 00 53.9**	**+2.3**
AMUR	**Altamura**	**2.16**	**243**	Pg	**Pn**	**14 00 27.2**	**-1.0**
	comp=N,111nm,0.6s						
AMUR	**Altamura**	**2.16**	**243**	Pg	**Pn**	**14 00 27.2**	**-1.0**
	comp=N,111nm,0.6s						
BARS	**Barje**	**2.17**	**65**	*e*Pn	**Pn**	**14 00 28.9**	**+0.5**
BARS				*e*Sn	**Sn**	**14 00 56.8**	**+1.5**
KEK	**Kerkira**	**2.25**	**167**	Pg	**Pn**	**14 00 29.1**	**-0.4**
	comp=N,64nm,0.6s						
KEK	**Kerkira**	**2.25**	**167**	Pg	**Pn**	**14 00 29.1**	**-0.4**
	comp=N,64nm,0.6s						
DIVS	**Divibare**	**2.27**	**16**	P	**Pn**	**14 00 30.6**	**+0.8**
DIVS				S	**Sb**	**14 00 59.6**	**-1.8**
DIVS	**Divibare**	**2.27**	**16**	*e*Pn	**Pn**	**14 00 30.5**	**+0.8**
DIVS				*e*Sn	**Sn**	**14 00 58.4**	**+0.6**
DIVS	**Divibare**	**2.27**	**16**	P	**Pn**	**14 00 30.6**	**+0.8**
DIVS				*e*Sn	**Sn**	**14 00 58.4**	**+0.6**
DIVS				S	**Sb**	**14 00 59.6**	**-1.8**
GRUS	**Gruza**	**2.29**	**30**	*e*Pn	**Pn**	**14 00 30.7**	**+0.8**
GRUS				*e*Sn	**Sn**	**14 00 57.9**	**-0.2**
GRUS	**Gruza**	**2.29**	**30**	*e*Pn	**Pn**	**14 00 30.7**	**+0.8**
GRUS				*e*Sn	**Sn**	**14 00 57.9**	**-0.2**
MRVN	**Minervino Murg**	**2.37**	**250**	Pg	**Pn**	**14 00 30.3**	**-0.9**
	comp=N,70nm,0.7s						
MRVN	**Minervino Murg**	**2.37**	**250**	Pg	**Pn**	**14 00 30.3**	**-0.9**
	comp=N,70nm,0.7s						
MIGL	**Miglionico**	**2.42**	**238**	Pg	**Pn**	**14 00 31.3**	**-0.5**
MIGL	**Miglionico**	**2.42**	**238**	Pg	**Pn**	**14 00 31.3**	**-0.5**
TRUS	**Trudelj**	**2.49**	**21**	*e*Pn	**Pn**	**14 00 32.7**	**0.0**
TRUS				*e*Sn	**Sn**	**14 01 02.8**	**-0.2**
TRUS	**Trudelj**	**2.49**	**21**	*e*Pn	**Pn**	**14 00 32.7**	**0.0**
TRUS				*e*Sn	**Sn**	**14 01 02.8**	**-0.2**
IGT	**Igoumenitsa**	**2.54**	**159**	P	**Pn**	**14 00 33.0**	**-0.5**
IGT	**Igoumenitsa**	**2.54**	**159**	P	**Pn**	**14 00 33.0**	**-0.5**
VAY	**Valandovo**	**2.63**	**102**	*e*Pn	**Pn**	**14 00 34.9**	**+0.1**
VAY				*i* Sn	**Sn**	**14 01 01.4**	**-5.2**
VAY				*e*Lg	Lg	14 01 12.8	
	comp=N,25nm,0.5s						
VAY				*e*Lg	Lg	14 01 14.0	
	comp=E,32nm,0.7s						
VAY	**Valandovo**	**2.63**	**102**	*e*Pn	**Pn**	**14 00 34.8**	**+0.1**
VAY				*i* Sn	**Sn**	**14 01 01.4**	**-5.2**
VAY				*e*Lg	Lg	14 01 13.9	
	comp=E,32nm,0.7s						
TEKS	**Tekeris**	**2.65**	**6**	*e*Pn	**Pn**	**14 00 35.9**	**+0.9**
TEKS	**Tekeris**	**2.65**	**6**	*e*Pn	**Pn**	**14 00 35.9**	**+0.9**
SCHR	**S. Chirico Rap**	**2.88**	**235**	Pg	**Pn**	**14 00 38.3**	**+0.1**
	comp=E,41nm,0.7s						
SCHR	**S. Chirico Rap**	**2.88**	**235**	Pg	**Pn**	**14 00 38.3**	**+0.1**
	comp=E,41nm,0.7s						
ZAPS	**Zavoj**	**2.91**	**61**	*e*Sn	**Sn**	**14 01 13.0**	**-0.5**
ZAPS	**Zavoj**	**2.91**	**61**	*e*Sn	**Sn**	**14 01 13.0**	**-0.5**
VTS	**Vitosha**	**3.09**	**76**	⇑*i*P	**Pn**	**14 00 42.8**	**+1.7**
VTS	**Vitosha**	**3.09**	**76**	S	**Sn**	**14 01 19.6**	**+1.5**
CUC	**Castrocucco**	**3.17**	**234**	Pg	**Pn**	**14 00 41.4**	**-0.7**
	comp=E,41nm,0.6s						
CUC	**Castrocucco**	**3.17**	**234**	Pg	**Pn**	**14 00 41.4**	**-0.7**
	comp=E,41nm,0.6s						
SGO	**Sicignano**	**3.19**	**246**	Pg	**Pn**	**14 00 41.9**	**-0.6**
	comp=E,17nm,0.3s						
SGO	**Sicignano**	**3.19**	**246**	Pg	**Pn**	**14 00 41.9**	**-0.6**
	comp=E,17nm,0.3s						
MCRV	**Calabrutti - M**	**3.20**	**251**	Pg	**Pn**	**14 00 41.6**	**-1.0**
	comp=E,54nm,0.6s						
MCRV	**Calabrutti - M**	**3.20**	**251**	Pg	**Pn**	**14 00 41.6**	**-1.0**
	comp=E,54nm,0.6s						
CDRU	**Civita di Ruta**	**3.23**	**245**	Pg	**Pn**	**14 00 42.6**	**-0.4**
	comp=E,24nm,0.5s						
CDRU	**Civita di Ruta**	**3.23**	**245**	Pg	**Pn**	**14 00 42.6**	**-0.4**
	comp=E,24nm,0.5s						
MGR	**Morigerati**	**3.25**	**238**	Pg	**Pn**	**14 00 43.1**	**0.0**
	comp=E,34nm,0.5s						
MGR	**Morigerati**	**3.25**	**238**	Pg	**Pn**	**14 00 43.1**	**0.0**
	comp=E,34nm,0.5s						
CMPR	**Campora**	**3.31**	**243**	Pg	**Pn**	**14 00 43.5**	**-0.6**
	comp=E,62nm,0.9s						
CMPR	**Campora**	**3.31**	**243**	Pg	**Pn**	**14 00 43.5**	**-0.6**
	comp=E,62nm,0.9s						
LKD2	**Lefkada island**	**3.33**	**159**	P	**Pn**	**14 00 43.3**	**-1.0**
LKD2	**Lefkada island**	**3.33**	**159**	P	**Pn**	**14 00 43.3**	**-1.0**
SERS	**Sersale**	**3.43**	**214**	Pg	**Pn**	**14 00 44.0**	**-1.8**
SERS	**Sersale**	**3.43**	**214**	Pg	**Pn**	**14 00 44.0**	**-1.8**
TRIV	**Trivento**	**3.44**	**269**	Pg	**Pn**	**14 00 46.5**	**+0.7**
	comp=E,41nm,0.8s						
TRIV	**Trivento**	**3.44**	**269**	Pg	**Pn**	**14 00 46.5**	**+0.7**
	comp=E,41nm,0.8s						
UDBI	**Udbina**	**3.60**	**318**	*i* Pn	**Pn**	**14 00 50.0**	**+2.0**
UDBI				Sn	**Sn**	**14 01 32.9**	**+2.4**
UDBI	**Udbina**	**3.60**	**318**	*i* Pn	**Pn**	**14 00 50.0**	**+2.0**
UDBI				Sn	**Sn**	**14 01 32.8**	**+2.4**
SGG	**Gregorio Mates**	**3.61**	**263**	Pg	**Pn**	**14 00 48.9**	**+0.7**
	comp=E,37nm,0.4s						
SGG	**Gregorio Mates**	**3.61**	**263**	Pg	**Pn**	**14 00 48.9**	**+0.7**
	comp=E,37nm,0.4s						
MIDA	**Miranda**	**3.67**	**267**	Pg	**Pn**	**14 00 49.2**	**+0.2**
	comp=E,27nm,0.5s						
MIDA	**Miranda**	**3.67**	**267**	Pg	**Pn**	**14 00 49.2**	**+0.2**
	comp=E,27nm,0.5s						
VAGA	**Valle Agricola**	**3.71**	**264**	Pg	**Pn**	**14 00 50.5**	**+0.9**
	comp=E,46nm,0.6s						
VAGA	**Valle Agricola**	**3.71**	**264**	Pg	**Pn**	**14 00 50.5**	**+0.9**
	comp=E,46nm,0.6s						
CERA	**Filignano**	**3.85**	**267**	Pg	**Pn**	**14 00 52.1**	**+0.6**
	comp=E,42nm,0.6s						
CERA	**Filignano**	**3.85**	**267**	Pg	**Pn**	**14 00 52.1**	**+0.6**
	comp=E,42nm,0.6s						
NVLJ	**Novalja**	**4.10**	**312**	*e*Pn	**Pn**	**14 00 55.2**	**+0.4**
NVLJ				Sn	**Sn**	**14 01 41.7**	**-0.9**
BZS	**Buzias**	**4.11**	**25**	⇑*i*P	**Pn**	**14 00 55.2**	**+0.2**
BZS	**Buzias**	**4.11**	**25**	S	**Sn**	**14 01 42.7**	**-0.4**
TERO	**Teramo**	**4.17**	**282**	Pg	**Pn**	**14 00 56.9**	**+1.0**
	comp=E,25nm,0.5s						
TERO	**Teramo**	**4.17**	**282**	Pg	**Pn**	**14 00 56.9**	**+1.0**
	comp=E,25nm,0.5s						
PKSM	**Moragy**	**4.31**	**355**	S	**Sn**	**14 01 46.1**	**-1.9**
FIAM	**Fiamignano**	**4.50**	**277**	Pg	**Pn**	**14 01 01.6**	**+1.1**
	comp=E,24nm,0.6s						
FIAM	**Fiamignano**	**4.50**	**277**	Pg	**Pn**	**14 01 01.6**	**+1.1**
	comp=E,24nm,0.6s						
BOJS	**Bojanci**	**4.57**	**323**	*i* Pn	**Pn**	**14 01 02.2**	**+0.9**
BOJS				*i* Sn	**Sn**	**14 01 55.0**	**+0.7**
BOJS							
	comp=Z,19nm,0.6s						
BOJS	**Bojanci**	**4.57**	**323**	Pn	**Pn**	**14 01 02.2**	**+0.9**
BOJS				*i* Sn	**Sn**	**14 01 55.0**	**+0.7**
	comp=Z,19nm,0.6s						
LNSS	**Leonessa**	**4.58**	**281**	Pg	**Pn**	**14 01 02.6**	**+1.0**
	comp=Z,40nm,0.4s						
LNSS	**Leonessa**	**4.58**	**281**	Pg	**Pn**	**14 01 02.6**	**+1.0**
	comp=Z,40nm,0.4s						
CERT	**Cerreto**	**4.60**	**273**	Pg	**Pn**	**14 01 02.1**	**+0.3**
	comp=Z,42nm,0.5s						
CERT	**Cerreto**	**4.60**	**273**	Pg	**Pn**	**14 01 02.1**	**+0.3**
	comp=Z,42nm,0.5s						
VISS	**Visnje**	**4.98**	**323**	*e*Pn	**Pn**	**14 01 07.6**	**+0.6**
VISS				*i* Sn	**Sn**	**14 02 04.6**	**+0.1**
VISS	**Visnje**	**4.98**	**323**	*e*Pn	**Pn**	**14 01 07.6**	**+0.6**
VISS				*i* Sn	**Sn**	**14 02 04.6**	**+0.1**
PDKS	**Podkum**	**5.11**	**326**	*i* Pn	**Pn**	**14 01 09.5**	**+0.7**
PDKS	**Podkum**	**5.11**	**326**	*i* Pn	**Pn**	**14 01 09.5**	**+0.7**
DRGR		**5.51**	**26**	⇓*i*P	**Pn**	**14 01 13.8**	**-0.4**
DRGR		**5.51**	**26**	S	**Sn**	**14 02 15.4**	**-2.1**
VOIR		**5.54**	**49**	⇑*i*P	**Pn**	**14 01 15.8**	**+1.0**
VOIR		**5.54**	**49**	S	**Sn**	**14 02 18.5**	**0.0**
VOY	**Vojsko**	**5.60**	**319**	*e*Pn	**Pn**	**14 01 15.9**	**+0.4**
VOY				*e*Sn	**Sn**	**14 02 18.6**	**-1.2**
VOY	**Vojsko**	**5.60**	**319**	*e*Pn	**Pn**	**14 01 15.9**	**+0.4**
VOY				*e*Sn	**Sn**	**14 02 18.6**	**-1.2**
PSZ	**Piszkesteto**	**6.03**	**5**	⇑*i*P	**Pn**	**14 01 22.7**	**+1.3**

---

*KMA **21** 14:02:22.1, 38.°82N×125.°79E, ML3.8*
*BJI **21** 14:02:24.6, 38.°93N×125.°70E, h5km, ML3.6/5*
ISC 21 14:02:23.2±1.0, 38.°81N±0.°05×125.°73E±0.°04, h10km, n9, σ1s56/13, 1C, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSBAR	**Backryungdo**	**1.15**	**224**	P	**Pn**	**14 02 44.9**	**-0.4**
KSBAR				S	**Sb**	**14 03 01.5**	**+1.3**
YNCB	**YEONCHEON**	**1.21**	**129**	P	Pn	14 02 44.8	-1.4
KSMUS	**Musan**	**1.23**	**138**	P	Pn	14 02 45.0	-1.4
KSMUS				S	**Sb**	**14 03 02.7**	**+0.4**
KSGAH	**Ganghwa**	**1.24**	**153**	P	Pn	14 02 45.4	-1.1
KSGAH				S	**Sb**	**14 03 02.8**	**+0.2**
KSDDC	**Dongducheon**	**1.38**	**131**	P	**Pn**	**14 02 48.3**	**-0.3**
KSCWO	**Cheorwon**	**1.58**	**117**	P	**Pn**	**14 02 51.4**	**+0.2**
KSCWO				S	**Sn**	**14 03 12.0**	**+0.3**
DL2	**Dalian**	**3.20**	**273**	Pg	**Pb**	**14 03 20.4**	**+0.3**
DL2				Sg	**Sb**	**14 04 00.8**	**+1.6**
DL2				smax	smax		
	comp=N,220nm,0.7s						
DL2				smax	smax		
	comp=E,140nm,0.5s						
SNY	**Shenyang**	**3.43**	**332**	⇑Pg	**Pb**	**14 03 24.1**	**0.0**
SNY				Sg	**Sg**	**14 04 10.0**	**-3.4**
SNY				smax	smax		
	comp=N,120nm,0.3s						
SNY				smax	smax		
	comp=E,150nm,0.4s						
CN2	**Changchun**	**4.99**	**358**	*e*Pg	**Pb**	**14 03 50.8**	**+0.2**
CN2				*e*Sg	**Sb**	**14 04 53.4**	**+2.7**
CN2				smax	smax		
	comp=N,110nm,0.6s						
CN2				smax	smax		
	comp=E,50nm,0.6s						

IDC 21 14:19:10.4±4.4, 23.°25N×142.°61E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.5/28, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=177.0km s-min=22.7km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.78**	**345**	Pn	Pn	14 22 27.0	-0.1
	0.3nm,0.3s,baz=159,slow=8.6,SNR=4.1						
KSRS	**Korea Array**	**18.96**	**322**	P	Pn	14 23 35.3	+1.5
	0.1nm,0.3s,baz=133,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**43.69**	**191**	P	P	14 27 16.5	-0.7
	0.3nm,0.7s,baz=11,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**47.40**	**191**	P	P	14 27 47.5	+0.8
	0.2nm,0.8s,baz=14,slow=7.0,SNR=3.1						
MKAR	**Makanchi Array**	**53.26**	**312**	P	P	14 28 30.6	-0.3
	0.3nm,0.5s,baz=95,slow=8.8,SNR=6.3						
KURBB	**Kurchatov Arra**	**56.03**	**316**	P	P	14 28 50.0	-0.9
	0.5nm,0.4s,baz=91,slow=8.4,SNR=8.3						
BVAR	**Borovoye Array**	**61.15**	**319**	P	P	14 29 26.6	0.0
	0.7nm,0.4s,baz=80,slow=7.7,SNR=5.3						

---

*IDC **21** 14:25:57.5±0.4, 13.°97N×93.°04E, h0km, mb4.7/26, mb1 4.8/27, mb1mx4.7/32, mbtmp4.7/27, ML4.5/1, MS3.9/15, Ms1 3.9/15, ms1mx3.6/37, Error ellipse: s-maj=15.4km s-min=10.5km az=52.0*
*BJI **21** 14:25:58.4, 13.°70N×93.°07E, h34km, mB4.8/31, mb4.7/41, Ms4.2/35, Ms7 3.9/31*
*ISCJB **21** 14:26:00.7±0.8, 14.°14N±0.°02×93.°00E±0.°02, h27km±6km, mb4.9/154, MS4.0/27, Error ellipse: s-maj=4.4km s-min=3.4km az=30.6*
*MOS **21** 14:26:00.5±1.1, 13.°99N×93.°10E, h33km, mb5.2/41, MS4.1/4, Error ellipse: s-maj=8.1km s-min=4.1km az=122.3*
*TEH **21** 14:26:01.0, 14.°02N×92.°94E, h35km, ML4.9*
*BKK **21** 14:26:02.0±0.3, 14.°N±3.°×9.°3E±.°, h10km, M4.7/25, mB5.1/9, mb4.9/25, MLv5.0/9, Mw(mB)4.5/9*
*SZGRF **21** 14:26:02.3, 13.°74N×93.°08E, h33km, mb5.1, Andaman Islands, India, region*
*NEIC **21** 14:26:02.0±0.2, 14.°04N×92.°99E, h35km, mb4.9/36, Error ellipse: s-maj=7.0km s-min=5.7km az=224.0*
*DJA **21** 14:26:05.2±0.5, 14.°N±3.°×9.°3E±.°, h41km±6km, M4.9/27, mB5.2/6, mb4.9/27, MLv5.2/4, Mw(mB)4.6/6*
ISC 21 14:26:02.7±0.3, 14.°05N±0.°03×93.°02E±0.°04, h38km±1km, h38km:pP-P, n493, σ1s58/555, mb4.9/154, MS4.0/28, 22C-105D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.87**	**186**	*e*P	**Pn**	**14 26 20.5**	**+2.1**
PBA	**Port Blair**	**2.40**	**186**	*e*P	Pn	14 26 41.7	+2.4
PHET	**Kaeng Krachan**	**6.53**	**99**	P	**Pn**	**14 27 37.8**	**+1.6**
	523nm,0.7s,7μm2.1nm						
PHET	**Kaeng Krachan**	**6.53**	**99**	P	**Pn**	**14 27 37.8**	**+1.6**
	523nm,0.7s,7μm2.1nm						
CMBY	**CAMPBELL BAY**	**7.05**	**173**	*e*P	**Pn**	**14 27 44.0**	**+0.6**
CMBY				AMB	AMB	14 27 54.7	
	comp=Z,94nm,0.9s						
CM31	**Chiang Mai Arr**	**7.18**	**52**	*e*Pn	**Pn**	**14 27 44.9**	**-0.3**
	comp=Z,28nm,0.5s						
CM31				*e*Sn	**Sn**	**14 29 02.9**	**-2.7**
CMAR	**Chiang Mai Arr**	**7.18**	**52**	Pn	**Pn**	**14 27 46.0**	**+0.8**
CMAR				Sn	**Sn**	**14 29 01.2**	**-4.3**
CMAR	**Chiang Mai Arr**	**7.18**	**52**	Pn	**Pn**	**14 27 46.0**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=240,slow=15,SNR=57						
CMAR				Sn	**Sn**	**14 29 01.2**	**-4.3**
	comp=Z,5.3nm,0.3s,baz=241,slow=24,SNR=12						
CMAR				LR	LR	14 31 14.5	
	comp=Z,767nm,18.4s,baz=55,slow=44						
CHTO	**Chiang Mai**	**7.40**	**49**	*e*P	**Pn**	**14 27 47.6**	**-0.6**
CHTO	**Chiang Mai**	**7.40**	**49**	*e*Pn	**Pn**	**14 27 47.5**	**-0.6**
CHTO	**Chiang Mai**	**7.40**	**49**	P	**Pn**	**14 27 47.0**	**-1.2**
	comp=Z,48nm,0.9s,comp=Z,1μmcomp=Z,0.5nm						
CHTO	**Chiang Mai**	**7.40**	**49**	P	**Pn**	**14 27 48.5**	**+0.3**
	comp=Z,37nm,0.7s,comp=Z,514nmcomp=Z,0.5nm						
CMMT	**Chiang Mai**	**7.40**	**49**	P	**Pn**	**14 27 46.4**	**-1.8**
	comp=Z,42nm,0.9s,comp=Z,1μmcomp=Z,0.5nm						
CMMT	**Chiang Mai**	**7.40**	**49**	P	**Pn**	**14 27 48.0**	**-0.2**
	comp=Z,40nm,0.7s,comp=Z,1μmcomp=Z,0.5nm						
LAMP	**Lampang**	**7.75**	**54**	P	**Pn**	**14 27 53.5**	**+0.5**
	comp=Z,20nm,0.8s,comp=Z,264nmcomp=Z,0.2nm						
NAYO	**Nakonayok**	**8.06**	**87**	P	**Pn**	**14 27 58.4**	**+1.2**
	comp=Z,53nm,1.0s,comp=Z,0.2nm						
PBKT	**Sadao Pong**	**8.07**	**71**	P	**Pn**	**14 27 58.6**	**+1.2**
	comp=Z,94nm,0.7s,comp=Z,912nmcomp=Z,0.3nm						
PBKT	**Sadao Pong**	**8.07**	**71**	P	**Pn**	**14 27 58.7**	**+1.3**
	comp=Z,94nm,0.7s,comp=Z,912nmcomp=Z,0.3nm						
CMAI	**Chiengmai2**	**8.21**	**44**	P	**Pn**	**14 28 00.2**	**+0.7**
	comp=Z,150nm,0.7s,comp=Z,0.7nm						
LOEI	**Loei**	**8.65**	**66**	P	Pn	14 28 12.0	+6.7
	comp=Z,50nm,0.7s,comp=Z,6μmcomp=Z,0.2nm						
BSI	**Banda Aceh**	**8.79**	**165**	P	**Sn**	**14 29 42.8**	**-2.4**
CHAI	**Chaiyaphum**	**8.86**	**77**	P	Pn	14 28 11.4	+3.2
	comp=Z,15nm,0.7s,comp=Z,147nmcomp=Z,0.1nm						
CHBT	**CHBT**	**9.15**	**97**	P	**Pn**	**14 28 14.3**	**+2.1**
	comp=Z,38nm,0.5s						
CHBT	**CHBT**	**9.15**	**97**	P	**Pn**	**14 28 15.1**	**+2.9**
	comp=Z,39nm,0.5s						
VIS	**Vishakhapatnam**	**10.01**	**293**	*e*P	**Pn**	**14 28 24.1**	**+0.2**
VIS				AMB	AMB	14 28 26.0	
	comp=Z,267nm,1.5s						
VIS				*i* x	x	14 30 09.9	
SKNT	**Sakolnakorn**	**10.96**	**73**	P	Pn	14 28 41.0	+4.0
	comp

comp=Z,500nm,16.9s
BHPL Bhopal 17.36 304 *e*P **Pn 14 30 01.7 -0.5**
BHPL AMB AMB 14 30 15.3
comp=Z,68nm,0.5s
GYA Guiyang 17.76 44 P **Pn 14 30 07.3 +0.1**
GYA pP **pP 14 30 15.1 -2.3**
GYA PP **PnPn 14 30 22.0 +3.6**
GYA S **Sn 14 33 25.1 +0.8**
GYA sS **S 14 33 34.4 +4.2**
GYA SS **SnSn 14 33 44.4 +6.2**
GYA PcP **PcP 14 34 43.3 -0.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,2μm,15.7s
GYA LR LR
comp=E,1μm,16.4s
GYA LR LR
comp=Z,2μm,15.5s
POO Poona 18.93 286 *e*P **P 14 30 20.5 +0.1**
POO ⇓*i*P **Pn 14 30 22.0 +0.7**
comp=Z,40nm,1.0s
POO AMB AMB 14 30 23.7
comp=Z,27nm,0.9s
MASI Maura Aman, Be 19.38 151 P **P 14 30 24.5 -0.9**
comp=Z,168nm,1.2s
CD2 Chengdu 19.47 29 P **Pn 14 30 28.0 +0.2**
CD2 pP **pP 14 30 36.8 +0.7**
CD2 sP **sP 14 30 41.8 +0.9**
CD2 PP **PnPn 14 30 47.0 +5.3**
CD2 S **S 14 34 01.8 -2.6**
CD2 sS sS 14 34 14.8 -5.2
CD2 SS **SnSn 14 34 29.0 +9.0**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,140nm,7.2s
CD2 LR LR
comp=N,290nm,14.2s
CD2 LR LR
comp=E,440nm,14.2s
CD2 LR LR
comp=Z,360nm,17.8s
NDI New Delhi 20.66 317 *e*P **P 14 30 40.0 +0.7**
NDI *ex* x 14 34 19.0
PPBI Pangkal Pinang 20.70 140 P Pn 14 30 41.8 -0.5
comp=Z,36nm,1.3s,comp=Z,2μm
KSM Kuching 21.18 125 *e*P **P 14 30 45.3 +0.4**
comp=Z,13nm,0.9s
KSM Kuching 21.18 125 P **P 14 30 49.0 +4.1**
KSM Kuching 21.18 125 P **P 14 30 47.2 +2.3**
comp=Z,16nm,1.2s
DDI Dehra Dun 21.27 322 *ex* x 14 30 38.6
DDI AMB AMB 14 30 49.6
comp=Z,223nm,1.5s
EGSI Enggano, Bengk 21.36 154 P **P 14 30 46.5 -0.3**
comp=Z,213nm,0.7s
ENH Enshi 22.16 41 *e*P **P 14 30 54.7 -0.7**
comp=Z,17nm,0.7s
SBUM Sibu 22.20 120 P **P 14 30 59.1 +3.2**
SMLA Simla 22.38 322 *e*P **P 14 30 57.7 0.0**
SMLA AMB AMB 14 31 01.9
comp=Z,55nm,0.7s
BTM Bintulu 22.55 117 P **P 14 31 03.2 +3.5**
STKI Sintang 22.96 126 P **P 14 31 05.6 +1.7**
comp=Z,42nm,1.0s
DHRM DHARAMSHALA 23.70 323 *e*P **P 14 31 13.2 +1.9**
DHRM AMB AMB 14 31 14.1
comp=Z,83nm,0.8s
LZH Lanzhou 24.00 22 ⇓P **P 14 31 15.3 +1.3**
LZH pP **pP 14 31 26.1 +1.5**
LZH sP **sP 14 31 29.5 +0.3**
LZH pmax pmax
comp=Z,260nm,1.7s
LZH pmax pmax
comp=Z,180nm,4.0s
LZH LR LR
comp=N,270nm,14.4s
LZH LR LR
comp=E,270nm,14.1s
LZH LR LR
comp=Z,470nm,20.3s
KKM Kota Kinabalu 24.17 107 P **P 14 31 18.6 +2.9**
KDM Kudat 24.45 104 P **P 14 31 21.5 +3.4**
XAN Xi'an 24.57 33 P **P 14 31 18.9 -0.2**
XAN pP **pP 14 31 28.1 -1.7**
XAN sP **sP 14 31 32.3 -2.1**
XAN S S 14 35 29.0 -8.6
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN LR LR
comp=N,160nm,14.7s
XAN LR LR
comp=E,54nm,14.7s
XAN LR LR
comp=Z,54nm,15.5s
SDKM Sandakan 25.22 107 P **P 14 31 27.2 +1.9**
WHN Wuhan 25.59 47 P P 14 31 37.3 +9.0
WHN S S 14 36 13.8 +20
WHN LR LR
comp=N,590nm,13.5s
WHN LR LR
comp=E,240nm,10.6s
WHN LR LR
comp=Z,610nm,13.6s
GTA Gaotai 25.96 12 ⇓P **P 14 31 33.3 +1.5**
GTA pP **pP 14 31 43.1 +0.7**
GTA sP **sP 14 31 47.0 -0.1**
GTA PcP **PcP 14 35 02.3 +2.6**
GTA S **S 14 36 02.8 +3.0**
GTA sS **sS 14 36 17.8 +0.3**
GTA ScP **ScP 14 38 39.8 +3.4**
GTA pmax pmax
comp=Z,18nm,1.5s
GTA pmax pmax
comp=Z,130nm,4.4s
GTA LR LR
comp=N,170nm,17.6s
GTA LR LR
comp=E,170nm,16.6s
GTA LR LR
comp=Z,220nm,16.9s
TSM Tawau 26.35 109 P **P 14 31 37.4 +2.0**
MYLDM Lahad Datu 26.60 107 P **P 14 31 40.3 +2.7**
MYLDM Lahad Datu 26.60 107 P **P 14 31 38.1 +0.5**
comp=Z,24nm,1.1s
BBKI Banjar Baru 27.77 127 P **P 14 31 49.6 +1.5**
comp=Z,74nm,1.0s
SSLB Suanglung 28.10 66 *e*P **P 14 31 49.3 -1.7**
comp=Z,19nm,1.1s
KSH Kashi 29.47 333 P **P 14 32 03.6 +0.4**
KSH sP **sP 14 32 17.6 -0.9**
KSH PP **PnPn 14 32 59.6 +1.3**
KSH S **S 14 36 53.4 -1.7**
KSH sS **sS 14 37 09.4 -3.5**
KSH SS **SnSn 14 38 26.4 +1.9**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH pmax pmax
comp=Z,81nm,5.4s
KSH LR LR
comp=N,190nm,10.2s
KSH LR LR
comp=E,95nm,5.6s
KSH LR LR
comp=Z,120nm,7.9s
KBL Kabul 29.75 317 *e*P **P 14 32 05.8 -0.1**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 29.75 317 *e*P **P 14 32 05.8 -0.1**
comp=Z,5.3nm,0.6s
WMQ Urumqi 30.02 352 *e*P **P 14 32 08.8 +0.9**
WMQ sP **sP 14 32 23.8 +0.6**
WMQ PP **PnPn 14 33 07.3 +1.7**
WMQ S **S 14 37 03.3 -0.1**
WMQ ScS **ScS 14 42 43.0 -1.1**
WMQ pmax pmax
comp=Z,4.0nm,0.8s
WMQ pmax pmax
comp=Z,75nm,4.0s
WMQ LR LR
comp=N,170nm,18.0s
WMQ LR LR
comp=E,150nm,20.0s
WMQ LR LR
comp=Z,150nm,20.0s
HHC Hu-ho-hao-te 31.22 28 *e*P **P 14 32 18.3 -0.3**
HHC pP **pP 14 32 27.8 -1.6**
HHC sP **sP 14 32 31.9 -2.1**
HHC PP **PnPn 14 33 22.0 +0.6**
HHC S **S 14 37 21.8 -0.7**
HHC sS **sS 14 37 37.8 -2.5**
HHC PcS **PcS 14 38 55.3 -1.6**
HHC SS **SnSn 14 39 09.3 +2.2**
HHC ScS **ScS 14 42 47.3 -2.9**
HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,210nm,5.2s
HHC LR LR
comp=N,280nm,11.2s
HHC LR LR
comp=E,410nm,12.8s
HHC LR LR
comp=Z,360nm,12.8s
KZA Kyzart 31.89 335 P **P 14 32 27.6 +2.8**
SNR=5.4
TKM2 Tokmak 2 32.45 336 *i*P **P 14 32 31.2 +1.8**
TKM2 Tokmak 2 32.45 336 P **P 14 32 31.3 +1.8**
SNR=9.4
TKM2 Tokmak 2 32.45 336 *e*P **P 14 32 28.4 -1.1**
comp=Z,8.2nm,0.8s
AML Almayashu 32.60 333 *i*P **P 14 32 33.5 +2.5**
AML Almayashu 32.60 333 P **P 14 32 33.5 +2.5**
SNR=17
AAK Ala-Archa 32.66 334 *i*P **P 14 32 34.0 +2.7**
AAK pmax pmax
comp=Z,43nm,1.2s
AAK Ala-Archa 32.66 334 P **P 14 32 34.1 +2.7**
SNR=6.9
AAK Ala-Archa 32.66 334 *e*P **P 14 32 29.9 -1.4**
comp=Z,14nm,1.0s
CHMS Chumysh 32.85 335 *i*P **P 14 32 35.2 +2.4**
CHMS Chumysh 32.85 335 P **P 14 32 35.2 +2.4**
SNR=9.2
BJI Beijing 32.90 34 P **P 14 32 34.8 +1.6**
BJI pmax pmax
comp=Z,19nm,0.6s
BJI LR LR
comp=N,290nm,21.7s
BJI LR LR
comp=E,270nm,23.4s
BJI LR LR
comp=Z,130nm,20.5s
EKS2 Erkin-Say 32.99 333 *e*P **P 14 32 32.9 -1.2**
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 32.99 333 P **P 14 32 36.7 +2.6**
SNR=17
EKS2 Erkin-Say 32.99 333 *e*P **P 14 32 32.9 -1.2**
comp=Z,15nm,0.8s
USP Ospenovka 33.18 335 *i*P **P 14 32 37.8 +2.1**
USP Ospenovka 33.18 335 P **P 14 32 37.8 +2.1**
SNR=19
MK31 Makanchi Array 33.86 347 *e*P **P 14 32 41.1 -0.4**
MK31 Makanchi Array 33.86 347 *e*P **P 14 32 41.1 -0.4**
MKAR Makanchi Array 33.86 347 *e*P **P 14 32 41.3 -0.2**
MKAR 14 35 20.5
MKAR Makanchi Array 33.86 347 *e*P **P 14 32 41.3 -0.2**
MKAR PcP **PcP 14 35 20.4 +0.7**
MKAR Makanchi Array 33.86 347 P **P 14 32 42.8 +1.3**
comp=Z,23nm,0.7s,baz=159,slow=8.8,SNR=158
MKAR PcP **PcP 14 35 20.4 +0.7**
comp=Z,1.3nm,0.7s,baz=147,slow=3.4,SNR=3.4
MKAR LR LR 14 50 24.0
comp=Z,151nm,20.0s,baz=54,slow=43
LBFI Labuhan Bajo, 34.82 128 P **P 14 32 47.6 -2.5**
comp=Z,57nm,0.7s
KKAR Karatay Array 34.82 331 *e*P **P 14 32 48.4 -1.5**
KKAR Karatay Array 34.82 331 *e*P **P 14 32 48.4 -1.5**
IDAH Dahanechah 35.45 307 *e*P **P 14 32 58.7 +3.0**
SONM Songino Array 35.47 16 P **P 14 32 56.8 +1.2**
SONM PcP **PcP 14 35 25.7 +1.2**
SONM Songino Array 35.47 16 P **P 14 32 56.8 +1.2**
comp=Z,9.6nm,0.9s,baz=202,slow=7.7,SNR=49
SONM PcP **PcP 14 35 25.7 +1.2**
comp=Z,1.9nm,0.7s,baz=204,slow=3.6,SNR=8.0
SONM LR LR 14 49 06.3
comp=Z,118nm,20.5s,baz=26,slow=39
ITEG Tejag 36.38 307 *e*P **P 14 33 06.2 +2.6**
IMYA Miami 36.86 313 *e*P **P 14 33 09.7 +2.0**
IMOG Moghan 37.30 312 *e*P **P 14 33 13.2 +1.7**
IPAY Payeh 37.70 312 *e*P **P 14 33 17.2 +2.4**
IAKL Akhelmad 37.94 313 *e*P **P 14 33 18.5 +1.6**
IKRD Kardeh 38.19 313 *e*P P 14 33 15.9 -3.1
KURBB Kurchatov Arra 38.33 345 P **P 14 33 20.7 +1.1**
comp=Z,26nm,0.7s,baz=164,slow=8.1,SNR=203
KURBB PcP **PcP 14 35 33.7 +0.8**
comp=Z,1.0nm,0.5s,baz=152,slow=2.3,SNR=5.0
IEMG Emamgholi 38.39 314 *e*P **P 14 33 23.2 +2.5**
KURK Kurchatov 38.39 345 P **P 14 33 20.7 +0.6**
KURK 14 35 33.7
KURK Kurchatov 38.39 345 P **P 14 33 20.7 +0.6**
KURK PcP **PcP 14 35 33.7 +0.6**
TLY Talaya 38.50 11 *e*P **P 14 33 24.1 +3.0**
TLY pmax pmax
comp=Z,9.0nm,1.1s
TLY MLR MLR
comp=Z,162nm,19.0s
KSAR Wonju Array Be 38.76 47 P **P 14 33 23.5 +0.1**
KSRS Korea Array 38.79 47 P **P 14 33 23.5 -0.2**
comp=Z,1.1nm,0.6s,baz=242,slow=9.1,SNR=7.6
KSRS LR LR 14 51 45.7
comp=Z,206nm,18.5s,baz=6.6,slow=40
JNU Nakatsue 39.27 54 P **P 14 33 29.1 +1.2**
JNU Nakatsue 39.27 54 P **P 14 33 29.1 +1.2**
comp=Z,1.8nm,0.5s,baz=227,slow=6.0,SNR=5.6
ISRV Sarvestan 39.87 299 *e*P **P 14 33 31.9 -1.3**
ZAA0 Zalesovo Array 40.33 353 *e*P **P 14 33 35.6 -0.7**
ZALV Zalesovo Beam 40.33 353 *i*P **P 14 33 37.4 +1.2**
ZALV pmax pmax
comp=Z,27nm,0.7s
ZALV Zalesovo Beam 40.33 353 P **P 14 33 37.2 +0.9**
ZALV Zalesovo Beam 40.33 353 P **P 14 33 37.2 +0.9**
comp=Z,27nm,0.7s,baz=164,slow=8.5,SNR=120
ZALV LR LR 14 54 29.1
comp=Z,102nm,19.4s,baz=250,slow=42
CN2 Changchun 40.58 37 *e*P **P 14 33 39.4 +0.9**
CN2 *ep*P **pP 14 33 48.9 -0.6**
CN2 PcP **PcP 14 35 41.3 +1.1**
CN2 PcS **PcS 14 39 33.4 +2.6**
CN2 *e*S **S 14 39 46.0 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
NVS Novosibirsk 41.41 351 *e*P **P 14 33 44.4 -0.7**
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.0s
IZEF Zefreh 41.45 304 *e*P **P 14 33 48.9 +2.7**
ISFB Sefidab 41.97 306 *e*P **P 14 33 52.6 +2.4**
IALA Alasht 42.11 309 *e*P P 14 33 55.1 +3.5
IPRN Peran 42.52 309 *e*P **P 14 33 57.5 +2.7**
IPIR Pirpir 42.55 303 *e*P P 14 33 58.6 +3.4
IVRN Varamin 42.57 307 *e*P **P 14 33 57.9 +2.8**
BVAR Borovoye Array 42.83 340 P **P 14 33 57.8 +1.0**
BVAR Borovoye Array 42.83 340 P **P 14 33 57.8 +1.0**
BVAR Borovoye Array 42.83 340 P **P 14 33 57.8 +1.0**
comp=E,6.8nm,0.8s,baz=146,slow=8.0,SNR=36
BRVK Borovoye 42.90 340 ⇓*i*P **P 14 33 58.3 +1.0**
BRVK pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 42.90 340 *e*P **P 14 33 56.6 -0.7**
comp=Z,9.8nm,0.8s
MDJ Mudanjiang 43.49 38 P **P 14 34 02.1 -0.2**
MDJ pmax pmax
comp=Z,130nm,3.9s
IRAZ Razeghan 44.10 307 *e*P **P 14 34 10.3 +2.7**
ABKAR Akbulak array 44.35 329 *e*P **P 14 34 10.4 +1.3**
FITZ Fitzroy Crossi 45.34 134 *e*P **P 14 34 16.6 -0.8**
comp=Z,11nm,0.6s
FITZ Fitzroy Crossi 45.34 134 P **P 14 34 16.5 -0.8**
comp=Z,10nm,0.4s,baz=328,slow=7.3,SNR=94
RAYN Ar Rayn 45.78 289 *e*P **P 14 34 19.3 -1.6**
comp=Z,11nm,1.1s
MJAR Matsushiro Arr 46.07 53 P **P 14 34 24.5 +1.6**
MJAR PcP **PcP 14 35 59.6 +0.7**
MJAR Matsushiro Arr 46.07 53 P **P 14 34 24.5 +1.6**
comp=Z,4.2nm,0.9s,baz=264,slow=9.7,SNR=9.2
MJAR PcP **PcP 14 35 59.6 +0.7**
comp=Z,1.7nm,0.5s,baz=236,slow=2.3,SNR=6.6
MJAR LR LR 14 55 24.0
comp=Z,116nm,18.3s,baz=255,slow=38
ISHB Shabestar 48.26 309 *e*P **P 14 34 42.6 +2.3**
CLNS Chul'man 49.12 23 *e*P **P 14 34 47.4 +1.1**
CLNS pmax pmax
comp=Z,10.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.8s
SVE Sverdlovsk 49.30 337 *c*eP **P 14 34 49.4 +1.7**
SVE pmax pmax
comp=Z,64nm,1.2s
SVE MLR MLR
comp=Z,193nm,20.0s
GNI Garni 49.46 311 *e*P **P 14 34 47.9 -1.4**
comp=Z,42nm,1.0s
ARU Arti 49.82 336 *d i*P **P 14 34 52.8 +1.2**
ARU 14 36 42.7
ARU S **S 14 42 01.6 +3.1**
ARU SS **SS 14 45 26.5 -4.9**
ARU pmax pmax
comp=Z,35nm,1.7s
ZEI Tsey 50.88 314 *e*P **P 14 35 01.9 +1.7**
ZEI pmax pmax
comp=Z,19nm,0.7s
KBZ Khabaz 51.88 315 P **P 14 35 09.5 +2.1**
KBZ Khabaz 51.88 315 P **P 14 35 09.5 +2.1**
KBZ Khabaz 51.88 315 P **P 14 35 09.5 +2.1**
comp=Z,6.4nm,0.7s,baz=116,slow=6.8,SNR=14
KBZ LR LR 15 01 25.2
comp=Z,116nm,18.3s,baz=258,slow=41
KIV Kislovodsk 52.10 315 κ *i*P **P 14 35 10.4 +1.3**
KIV *i* *PP **pP 14 35 20.3 -0.1**
KIV pmax pmax
comp=Z,65nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 52.74 41 *e*P **P 14 35 13.3 -0.4**
YSS *e* 14 35 22.4
WRA Warramunga Arr 52.85 129 P **P 14 35 14.2 -0.7**
WRA PcP **PcP 14 36 24.4 +0.5**
WRA Warramunga Arr 52.85 129 P **P 14 35 14.2 -0.7**
comp=Z,7.8nm,0.8s,baz=309,slow=8.0,SNR=96
WRA PcP **PcP 14 36 24.4 +0.5**
comp=Z,3.5nm,0.5s,baz=316,slow=3.4,SNR=10.0
WRAB Tennant Creek 52.86 129 *e*P **P 14 35 13.5 -1.4**
WRAB pmax pmax
comp=Z,29nm,1.3s
WRAB Tennant Creek 52.86 129 *e*P **P 14 35 13.5 -1.4**
comp=Z,29nm,1.3s
ASAR Alice Springs 54.80 133 P **P 14 35 28.7 -0.5**
ASAR PcP **PcP 14 36 31.8 +0.6**
ASAR Alice Springs 54.80 133 P **P 14 35 28.7 -0.5**
comp=Z,10.0nm,0.6s,baz=305,slow=6.6,SNR=326
ASAR PcP **PcP 14 36 31.8 +0.6**
comp=Z,3.7nm,0.8s,baz=322,slow=4.8,SNR=5.8
ASAR LR LR 15 02 36.9
comp=Z,106nm,18.4s,baz=346,slow=40
AS31 Alice Springs 54.80 133 *e*P **P 14 35 27.2 -2.0**
ANN Anapa 55.95 315 *e*P **P 14 35 36.8 -0.2**
ANN pmax pmax
comp=Z,28nm,0.9s
VSR Storozhevoye 56.80 323 *e*P **P 14 35 43.8 +0.8**
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.4s
KMBO Kilima Mbogo 57.24 259 LR LR 14 58 32.4
comp=N,147nm,18.6s,baz=95,slow=34
BRTR Keskin Array B 57.67 308 P **P 14 35 50.2 +0.6**
BRTR Keskin Array B 57.67 308 P **P 14 35 50.2 +0.6**
comp=N,16nm,0.7s,baz=120,slow=7.8,SNR=82
BRTR LR LR 15 04 01.3
comp=N,89nm,19.4s,baz=106,slow=40
MOS Moscow 59.29 327 *e*P **P 14 35 59.4 -0.9**
OBN Obninsk 59.63 326 κ*e*P **P 14 36 02.9 +0.2**
OBN *e* 14 36 14.3
OBN *e* 14 36 19.5
OBN 14 36 50.0
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
TIXI Tiksi 61.45 12 ⇓*e*P **P 14 36 14.9 +0.1**
TIXI pmax pmax
comp=Z,41nm,1.7s
TIRR Tirgusor 62.20 313 ⇑P **P 14 36 21.8 +1.5**
TIRR Tirgusor 62.20 313 ⇑*i*P **P 14 36 21.8 +1.5**
CTA Charters Tower 62.38 122 P **P 14 36 21.3 -0.7**
CTA Charters Tower 62.38 122 P **P 14 36 21.3 -0.7**
comp=Z,3.4nm,0.8s,baz=293,slow=9.4,SNR=5.2
CTAO Charters Tower 62.38 122 *e*P **P 14 36 20.3 -1.7**
CTAO pmax pmax
comp=Z,9.0nm,1.1s
CTAO Charters Tower 62.38 122 *e*P **P 14 36 20.2 -1.7**
comp=Z,9.2nm,1.1s
TLB Topalu 62.48 313 ⇑P **P 14 36 23.8 +1.6**
TLB Topalu 62.48 313 ⇑*i*P **P 14 36 23.8 +1.6**
CFR Carcaliu 62.49 314 ⇑P **P 14 36 24.0 +1.7**
CFR Carcaliu 62.49 314 ⇑*i*P **P 14 36 24.0 +1.7**
AKASG Malin Array Be 62.69 320 P **P 14 36 23.7 +0.2**
AKASG Malin Array Be 62.69 320 P **P 14 36 23.7 +0.2**
AKASG Malin Array Be 62.69 320 P **P 14 36 23.7 +0.2**
comp=Z,2.8nm,0.5s,baz=84,slow=5.3,SNR=9.8
KIEV Kiev 62.70 320 *e*P **P 14 36 22.5 -1.1**
KIEV pmax pmax
comp=Z,35nm,1.7s
KIEV Kiev 62.70 320 *e*P **P 14 36 22.5 -1.1**
comp=Z,35nm,1.7s
VRI Vrincioaia 63.56 314 ⇑P **P 14 36 31.8 +2.4**
VRI Vrincioaia 63.56 314 ⇑*i*P **P 14 36 31.8 +2.4**
PLOR Plostina 63.61 314 ⇑P **P 14 36 32.3 +2.5**
PLOR Plostina 63.61 314 ⇑*i*P **P 14 36 32.3 +2.5**
TESR Tescani 63.70 315 ⇑*i*P **P 14 36 32.0 +1.7**
PETK Petropavlovsk- 63.72 37 LR LR 15 08 33.9
comp=Z,66nm,19.0s,baz=12,slow=40
SEY Seymchan 63.85 26 ⇓*e*P **P 14 36 29.8 -1.2**
MLR Muntele Rosu 64.06 314 ⇓*i*P **P 14 36 34.9 +2.0**
VOIR 64.68 314 ⇑P **P 14 36 37.8 +0.9**
VOIR 64.68 314 ⇑*i*P **P 14 36 37.8 +0.9**
BURAR Bucovina Array 64.80 316 ⇑P **P 14 36 39.3 +1.6**
BURAR Bucovina Array 64.80 316 ⇑*i*P **P 14 36 39.3 +1.6**
JOF Joensuu 64.85 334 *e*P **P 14 36 38.2 +0.7**
JOF pmax pmax
comp=Z,16nm,0.6s
JOF Joensuu 64.85 334 *ep* **P 14 36 38.2 +0.7**
comp=Z,16nm,0.6s
STKA Stephens Creek 65.20 135 P **P 14 36 40.4 +0.1**
STKA Stephens Creek 65.20 135 P **P 14 36 40.4 +0.1**
comp=Z,5.5nm,0.6s,baz=315,slow=5.4,SNR=24
APA Apatity 65.72 339 ⇓*i*P P 14 36 39.0 -4.1
APA MLR MLR
comp=Z,200nm,11.0s
VTS Vitosha 65.79 311 ⇑P **P 14 36 45.7 +1.5**
VTS Vitosha 65.79 311 ⇑*i*P **P 14 36 45.7 +1.5**
LVV L'vov 65.84 318 *e*P **P 14 36 44.7 +0.5**
VAY Valandovo 66.21 309 *i*P **P 14 36 47.0 +0.3**
TRPA Tarpa 66.65 317 ⇑*i*P **P 14 36 51.3 +1.9**
KWP Kalwaria Pacla 66.68 318 *e*P **P 14 36 51.0 +1.4**
FINES FINESS Array B 66.78 331 P **P 14 36 50.5 +0.5**
FINES FINESS Array B 66.78 331 P **P 14 36 50.5 +0.5**
comp=Z,14nm,0.7s,baz=94,slow=6.0,SNR=63
FINES LR LR 15 09 23.5
comp=Z,131nm,18.4s,baz=287,slow=39
KAF Kangasniemi 66.84 332 *e*P **P 14 36 49.9 -0.4**
KAF pmax pmax
comp=Z,11nm,0.8s
KAF Kangasniemi 66.84 332 *ep* **P 14 36 49.9 -0.4**
comp=Z,11nm,0.8s

UZH Uzhgorod 66.86 317 *eP* **P 14 36 53.0 +2.3**
UZH *e* 14 37 09.3
KOLS Kolonicke sedl 66.89 317 *eP* **P 14 36 50.9 -0.1**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 66.89 317 *eP* **P 14 36 50.9 -0.1**
SUW Suwalki 66.91 323 *eP* **P 14 36 51.8 +0.9**
CRVS Cervenica-Dubn 67.42 317 *eP* **P 14 36 55.9 +1.5**
CRVS pmax pmax
comp=Z,25nm,1.3s
CRVS Cervenica-Dubn 67.42 317 *eP* **P 14 36 55.9 +1.5**
STHS Stebnicka Huta 67.61 318 *eP* **P 14 36 57.0 +1.5**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 67.61 318 *eP* **P 14 36 57.0 +1.5**
KECS Kecovo 68.04 317 *eP* **P 14 36 59.5 +1.3**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 68.04 317 *eP* **P 14 36 59.5 +1.3**
PSZ Piszkesteto 68.41 316 ⇑*P* **P 14 37 00.3 -0.3**
PSZ Piszkesteto 68.41 316 ⇑*iP* **P 14 37 00.3 -0.3**
PSZ Piszkesteto 68.41 316 *eP* **P 14 36 58.4 -2.2**
comp=Z,15nm,1.1s
PSZ Piszkesteto 68.41 316⇓*eP* **P 14 37 01.1 +0.5**
OJC Ojcow 68.60 319 *eP* **P 14 37 01.2 -0.5**
OJC Ojcow 68.60 319 *eP* **P 14 37 01.2 -0.5**
ARCES ARCESS Array B 69.12 340 P **P 14 37 05.8 +1.2**
ARCES ARCESS Array B 69.12 340 P **P 14 37 05.8 +1.2**
comp=Z,4.7nm,0.7s,baz=99,slow=7.0,SNR=26
ARCES LR LR 15 11 00.5
comp=Z,166nm,18.4s,baz=252,slow=39
VYHS Vyhne 69.14 317 *eP* **P 14 37 06.1 +1.0**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 69.14 317 *eP* **P 14 37 06.1 +1.0**
PKSM Moragy 69.20 314 ⇓*P* **P 14 37 06.7 +1.2**
PKSM Moragy 69.20 314⇓*iP* **P 14 37 06.7 +1.2**
PKSM Moragy 69.20 314⇓*eP* **P 14 37 06.6 +1.1**
OKC Ostrava-Krasne 69.64 318 *eP* **P 14 37 09.5 +1.3**
OKC *e* 14 37 19.3
OKC Ostrava-Krasne 69.64 318⇓*eP* **P 14 37 09.5 +1.3**
OKC *epP* **pP 14 37 19.3 -0.5**
MORC Moravsky Berou 70.03 318 *eP* **P 14 37 10.1 -0.5**
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 70.03 318 *eP* **P 14 37 10.1 -0.5**
comp=Z,18nm,1.1s
LSZ Lusaka 70.42 248 *eP* **P 14 37 11.8 -1.8**
comp=Z,21nm,0.9s
DPC Dobruska-Polom 70.83 319⇓*iP* **P 14 37 17.4 +1.9**
DPC *e* 14 37 25.0
DPC Dobruska-Polom 70.83 319⇓*iP* **P 14 37 17.4 +1.9**
DPC *epP* **pP 14 37 25.0 -2.1**
DPC Dobruska-Polom 70.83 319 *eP* **P 14 37 14.5 -1.0**
comp=Z,103nm,1.3s
KOGS Kog 70.86 315 *iP* **P 14 37 17.1 +1.5**
KSP Ksiaz 70.86 319⇓*eP* **P 14 37 17.1 +1.5**
KSP *e**PP **pP 14 37 27.4 +0.2**
KSP Ksiaz 70.86 319 *eP* **P 14 37 17.3 +1.7**
UPC Upice 71.03 319 *eP* **P 14 37 18.3 +1.6**
UPC *e* 14 37 28.7
UPC Upice 71.03 319⇓*eP* **P 14 37 18.3 +1.6**
UPC *epP* **pP 14 37 28.7 +0.4**
CONA Conrad Observa 71.12 316⇓*iP* **P 14 37 18.7 +1.3**
comp=Z,4.4nm,0.8s
TREC Trest 71.36 318 *eP* **P 14 37 19.9 +1.2**
TREC Trest 71.36 318⇓*eP* **P 14 37 19.9 +1.2**
CEL Celeste 71.39 306 *eP* **P 14 37 17.4 -1.7**
comp=Z,44nm,1.1s
BOJS Bojanci 71.57 314 *iP* **P 14 37 21.2 +1.2**
PERS Pernice 71.64 315 *iP* **P 14 37 21.8 +1.4**
SOKA Soboth 71.69 315 *iP* **P 14 37 22.4 +1.5**
comp=Z,14nm,1.1s,SNR=8.3
PRU Pruhonice 71.97 318⇓*iP* **P 14 37 24.0 +1.7**
PRU *e* 14 37 34.5
PRU Pruhonice 71.97 318⇓*iP* **P 14 37 24.0 +1.7**
PRU *epP* **pP 14 37 34.5 +0.5**
OBKA Obir 72.03 315⇓*iP* **P 14 37 24.4 +1.5**
comp=Z,14nm,0.8s,SNR=5.4
LJU Ljubljana 72.06 314 *iP* **P 14 37 24.4 +1.5**
LJU *epP* **pP 14 37 34.7 +0.1**
MOA Molln 72.19 316⇓*iP* **P 14 37 24.7 +1.0**
comp=Z,8.6nm,0.9s
CRNS Crni Vrh 72.25 314 *iP* **P 14 37 25.4 +1.3**
BRG Berggiesshubel 72.35 319⇓*iP* **P 14 37 26.2 +1.6**
comp=Z,13nm,0.9s
BRG pP **pP 14 37 36.3 +0.1**
comp=Z,8.2nm,0.8s
BRG Berggiesshubel 72.35 319 *eP* **P 14 37 26.2 +1.6**
comp=Z,13nm,0.9s
BRG Berggiesshubel 72.35 319⇓*iP* **P 14 37 26.2 +1.6**
BRG *PP **pP 14 37 36.3 +0.1**
BRG pmax pmax
comp=Z,13nm,0.9s
RUE Ruedersdorf 72.44 321 *eP* **P 14 37 26.4 +1.4**
comp=Z,36nm,0.7s
VOY Vojsko 72.50 314 *eP* **P 14 37 26.4 +0.7**
VOY *e* 14 37 36.2
GEC2 GERESS Array S 72.54 317 *eP* **P 14 37 27.3 +1.4**
comp=Z,18nm,0.9s
GEC2 GERESS Array S 72.54 317 *eP* **P 14 37 27.3 +1.4**
GEC2 pmax pmax
comp=Z,18nm,0.9s
GERES GERESS Array B 72.54 317 P **P 14 37 27.1 +1.2**
GERES GERESS Array B 72.54 317 P **P 14 37 27.1 +1.2**
comp=Z,12nm,0.8s,baz=86,slow=5.6,SNR=78
GERES LR LR 15 16 28.3
comp=Z,80nm,19.5s,baz=360,slow=42
CADS Cadrg 72.60 314 *iP* **P 14 37 27.1 +0.9**
CADS *epP* **pP 14 37 37.1 -0.8**
KHC Kasperske Hory 72.62 317 *eP* **P 14 37 27.7 +1.4**
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 72.62 317⇓*iP* **P 14 37 27.5 +1.2**
KHC *epP* **pP 14 37 37.3 -0.6**
KHC Kasperske Hory 72.62 317 *eP* **P 14 37 27.7 +1.4**
comp=Z,7.1nm,0.8s
FBE Freiberg 72.72 319 *eP* **P 14 37 28.7 +1.9**
comp=Z,27nm,1.0s
CLL Collm 72.94 320 *eP* **P 14 37 29.2 +1.2**
comp=Z,17nm,1.4s
CLL Collm 72.94 320 *iP* **P 14 37 29.1 +1.1**
CLL *i* 14 37 38.5
CLL pmax pmax
comp=Z,17nm,1.4s
CLL Collm 72.94 320 *iP* **P 14 37 29.1 +1.1**
comp=Z,17nm,1.4s
CLL *i*pP **pP 14 37 38.5 -1.2**
CLL *e*(sP) **sP 14 37 45.0 +0.9**
CLL *e*PP **PP 14 40 14.0 +3.5**
WET Wettzell 73.08 317 *eP* **P 14 37 30.5 +1.5**
comp=Z,20nm,1.4s
WET Wettzell 73.08 317 *eP* **P 14 37 30.5 +1.5**
WET pmax pmax
comp=Z,20nm,1.4s
RJOB Jochberg 73.19 316 *eP* **P 14 37 30.4 +0.7**
comp=Z,12nm,1.2s
TANN Tannenbergstha 73.30 319 *eP* **P 14 37 31.8 +1.5**
comp=Z,14nm,1.3s
WERN Wernitzgruen 73.36 319 *eP* **P 14 37 32.2 +1.6**
comp=Z,16nm,1.4s
GUNZ Gunzen 73.39 319 *eP* **P 14 37 32.3 +1.5**
comp=Z,20nm,1.3s
WERD Werda 73.40 319 *eP* **P 14 37 32.2 +1.3**
comp=Z,14nm,1.2s
ROTZ Rotzenmuhle 73.49 318 *eP* **P 14 37 33.4 +2.0**
comp=Z,22nm,1.2s
NEUB Neuenburg 73.71 320 *eP* **P 14 37 33.8 +1.2**
comp=Z,41nm,1.7s
MOX Moxa 73.83 319 *eP* **P 14 37 34.8 +1.4**
comp=Z,9.0nm,0.8s
MOX Moxa 73.83 319 *eP* **P 14 37 34.8 +1.4**
MOX pmax pmax
comp=Z,9.0nm,0.8s
NB2 NORSAR Subarra 73.85 330 P **P 14 37 33.7 +0.4**
comp=Z,9.8nm,0.7s,baz=88,slow=5.9
NOA NORSAR Array B 73.85 330 P **P 14 37 33.7 +0.4**
NOA NORSAR Array B 73.85 330 P **P 14 37 33.7 +0.4**
comp=Z,7.9nm,0.7s,baz=89,slow=5.8,SNR=33
NOA LR LR 15 15 13.7
comp=Z,65nm,18.5s,baz=95,slow=40
WTTA Wattenberg 74.00 316 *iP* **P 14 37 35.1 +0.5**
comp=Z,9.0nm,0.5s,SNR=5.1
GRF Grafenberg Arr 74.13 318 *eP* **P 14 37 37.0 +1.9**
comp=Z,28nm,1.3s
GRF Grafenberg Arr 74.13 318 *eP* **P 14 37 37.0 +1.9**
GRF pmax pmax
comp=Z,28nm,1.3s
MOTA Moosalm 74.35 316⇓*iP* **P 14 37 36.8 +0.1**
comp=Z,6.8nm,0.7s,SNR=5.4
BSEG Bad Segeberg 74.48 323 *eP* **P 14 37 38.8 +1.8**
comp=Z,41nm,1.0s
BSEG Bad Segeberg 74.48 323 *eP* **P 14 37 38.8 +1.8**
BSEG pmax pmax
comp=Z,41nm,1.0s
RETA Reutte 74.57 316 *iP* **P 14 37 38.6 +0.8**
comp=Z,18nm,0.9s,SNR=6.0
FETA Feichten 74.63 315⇓*iP* **P 14 37 38.9 +0.6**
comp=Z,11nm,1.0s,SNR=5.6
NRDL Niedersach Rie 74.68 321 *eP* **P 14 37 40.1 +2.0**
comp=Z,26nm,1.5s
FUORN Ofenpass-Fuorn 74.98 315 *eP* **P 14 37 41.9 +1.4**
comp=Z,6.0nm,0.8s
DAVA Damuels 75.19 316 *iP* **P 14 37 42.4 +0.9**
comp=Z,15nm,0.6s,SNR=6.5
TUE Stuetta 75.62 315 *eP* **P 14 37 45.0 +0.9**
comp=Z,49nm,1.8s
TNS Taunus Mts 75.88 319 *eP* **P 14 37 46.5 +1.2**
comp=Z,10.0nm,0.9s
TNS Taunus Mts 75.88 319 *eP* **P 14 37 46.5 +1.2**
TNS pmax pmax
comp=Z,10.0nm,0.9s
IBBN Ibbenburen 76.13 321 *eP* **P 14 37 48.1 +1.5**
comp=Z,23nm,1.0s
PGF Pioggiola 76.27 311⇓*iP* **P 14 37 48.4 +0.7**
comp=Z,21nm,0.9s
PGF Pioggiola 76.27 311⇓*iP* **P 14 37 48.4 +0.7**
PGF Pioggiola 76.27 311⇓*iP* **P 14 37 48.4 +0.7**
LBTB Lobatse 76.31 240 *eP* **P 14 37 47.0 -1.2**
comp=Z,9.2nm,0.8s
BUG Bochum--Univer 76.51 320 *eP* **P 14 37 50.1 +1.4**
comp=Z,16nm,0.9s
CDF Champ du Feu 76.82 317⇓*iP* **P 14 37 51.2 +0.5**
comp=Z,5.7nm,0.6s
CDF Champ du Feu 76.82 317⇓*iP* **P 14 37 51.2 +0.5**
CDF Champ du Feu 76.82 317⇓*iP* **P 14 37 51.2 +0.5**
KEST Kesra 76.86 304 *eP* **P 14 37 50.5 -0.6**
KEST Kesra 76.86 304 P **P 14 37 51.8 +0.6**
comp=Z,5.4nm,0.9s,baz=237,slow=0.3,SNR=12
SENIN Lac Senin/Sane 77.04 315 *eP* **P 14 37 50.3 -1.8**
comp=Z,7.8nm,0.8s
HINF Hinterlalfeld 77.17 316 *eP* **P 14 37 53.2 +0.6**
comp=Z,8.4nm,0.8s
HINF Hinterlalfeld 77.17 316 *eP* **P 14 37 53.2 +0.6**
HINF Hinterlalfeld 77.17 316 *eP* **P 14 37 53.2 +0.6**
SBF Sospel 77.25 312⇓*iP* **P 14 37 53.9 +0.7**
comp=Z,29nm,0.8s
SBF Sospel 77.25 312⇓*iP* **P 14 37 53.9 +0.7**
SBF Sospel 77.25 312⇓*iP* **P 14 37 53.9 +0.7**
WLF Walferdange 77.42 318 *eP* **P 14 37 55.8 +1.9**
comp=Z,15nm,1.0s
HAU Haudompre 77.49 317 *eP* **P 14 37 55.0 +0.6**
HAU *e*R
comp=Z,85nm,21.8s
HAU Haudompre 77.49 317 *eP* **P 14 37 55.0 +0.6**
HAU Haudompre 77.49 317 *eP* **P 14 37 55.0 +0.6**
LPG La Plagne 77.53 314⇓*iP* **P 14 37 56.1 +1.1**
comp=Z,48nm,0.7s
LPG La Plagne 77.53 314⇓*iP* **P 14 37 56.1 +1.1**
LPG La Plagne 77.53 314⇓*iP* **P 14 37 56.1 +1.1**
LPL La Plagne 77.54 314⇓*iP* **P 14 37 56.1 +1.2**
comp=Z,55nm,0.7s
LPL La Plagne 77.54 314⇓*iP* **P 14 37 56.1 +1.2**
LPL La Plagne 77.54 314⇓*iP* **P 14 37 56.1 +1.2**
MBDF Montbardon 77.61 313⇓*iP* **P 14 37 55.5 +0.2**
comp=Z,19nm,0.8s
MBDF Montbardon 77.61 313⇓*iP* **P 14 37 55.5 +0.2**
MBDF Montbardon 77.61 313⇓*iP* **P 14 37 55.5 +0.2**
BNI Bardonecchia 77.64 314 *eP* **P 14 37 53.7 -1.7**
BNI pmax pmax
comp=Z,10.0nm,0.7s
BNI Bardonecchia 77.64 314 *eP* **P 14 37 53.7 -1.7**
comp=Z,9.7nm,0.7s
PAGF Fort de Pagny 77.83 317 *eP* **P 14 37 57.1 +0.9**
comp=Z,3.1nm,0.7s
PAGF Fort de Pagny 77.83 317 *eP* **P 14 37 57.1 +0.9**
CABF La Chapelle 77.84 315⇓*iP* **P 14 37 57.5 +1.1**
comp=Z,23nm,0.8s
CABF La Chapelle 77.84 315⇓*iP* **P 14 37 57.5 +1.1**
CABF La Chapelle 77.84 315⇓*iP* **P 14 37 57.5 +1.1**
FRF La Foret Royal 77.86 312⇓*iP* **P 14 37 57.3 +0.8**
comp=Z,69nm,1.1s
FRF La Foret Royal 77.86 312⇓*iP* **P 14 37 57.3 +0.8**
FRF La Foret Royal 77.86 312⇓*iP* **P 14 37 57.3 +0.8**
BOSA Boshof 78.00 236 *eP* **P 14 37 55.9 -1.7**
comp=Z,153nm,2.3s
BOSA Boshof 78.00 236 P **P 14 37 59.4 +1.8**
comp=Z,10nm,0.7s,baz=48,slow=4.2,SNR=20
GIVF Givet 78.21 319 *eP* **P 14 37 59.4 +1.1**
GIVF Givet 78.21 319 *eP* **P 14 37 59.4 +1.1**
GIVF Givet 78.21 319 *eP* **P 14 37 59.4 +1.1**
ORIF Oris-en-Rattie 78.22 314⇓*iP* **P 14 37 59.0 +0.4**
comp=Z,8.2nm,0.7s
ORIF *e*R
comp=Z,55nm,22.8s
ORIF Oris-en-Rattie 78.22 314⇓*iP* **P 14 37 59.0 +0.4**
ORIF Oris-en-Rattie 78.22 314⇓*iP* **P 14 37 59.0 +0.4**
SFTF Sexfontaines 78.33 317 *eP* **P 14 37 59.8 +0.8**
comp=Z,24nm,0.8s
SFTF Sexfontaines 78.33 317 *eP* **P 14 37 59.8 +0.8**
SMRF Simiane la Rot 78.57 313⇓*iP* **P 14 38 01.8 +1.3**
comp=Z,22nm,0.8s
SMRF Simiane la Rot 78.57 313⇓*iP* **P 14 38 01.8 +1.3**
BAIF Baives 78.61 319⇓*iP* **P 14 38 01.7 +1.2**
comp=Z,17nm,0.8s
BAIF Baives 78.61 319⇓*iP* **P 14 38 01.7 +1.2**
BAIF Baives 78.61 319⇓*iP* **P 14 38 01.7 +1.2**
VIVF Saint-Julien-l 79.07 314⇓*iP* **P 14 38 04.1 +0.9**
comp=Z,31nm,1.1s
VIVF Saint-Julien-l 79.07 314⇓*iP* **P 14 38 04.1 +0.9**
VIVF Saint-Julien-l 79.07 314⇓*iP* **P 14 38 04.1 +0.9**
SSB Saint Sauveur 79.10 314 *eP* **P 14 38 01.3 -2.1**
SSB pmax pmax
comp=Z,4.0nm,0.8s
SSB Saint Sauveur 79.10 314 *eP* **P 14 38 01.3 -2.1**
comp=Z,3.8nm,0.8s
LOR Lormes 79.26 316⇓*iP* **P 14 38 04.7 +0.6**
comp=Z,13nm,0.8s
LOR *e*R
comp=Z,80nm,22.0s
LOR Lormes 79.26 316⇓*iP* **P 14 38 04.7 +0.6**
SMF Signal de Mont 79.37 316⇓*iP* **P 14 38 05.3 +0.5**
comp=Z,24nm,0.7s
SMF Signal de Mont 79.37 316⇓*iP* **P 14 38 05.3 +0.5**
SMF Signal de Mont 79.37 316⇓*iP* **P 14 38 05.3 +0.5**
SSF Saint Saulge 79.53 316⇓*iP* **P 14 38 06.3 +0.7**
comp=Z,12nm,0.7s
SSF Saint Saulge 79.53 316⇓*iP* **P 14 38 06.3 +0.7**
SSF Saint Saulge 79.53 316⇓*iP* **P 14 38 06.3 +0.7**
AVF Avril sur Loir 79.68 316⇓*iP* **P 14 38 07.0 +0.6**
comp=Z,14nm,0.7s
AVF Avril sur Loir 79.68 316⇓*iP* **P 14 38 07.0 +0.6**
AVF Avril sur Loir 79.68 316⇓*iP* **P 14 38 07.0 +0.6**
LASF Ste Croix 79.78 313⇓*iP* **P 14 38 08.3 +1.3**
comp=Z,31nm,1.0s
LASF Ste Croix 79.78 313⇓*iP* **P 14 38 08.3 +1.3**
BGF Bois d'Agland 80.06 316 *eP* **P 14 38 09.7 +1.2**
BGF Bois d'Agland 80.06 316 *eP* **P 14 38 09.7 +1.2**
BGF Bois d'Agland 80.06 316 *eP* **P 14 38 09.7 +1.2**
TCF Toulx Ste Croi 80.54 315⇓*iP* **P 14 38 12.1 +1.0**
comp=Z,31nm,1.1s
TCF Toulx Ste Croi 80.54 315⇓*iP* **P 14 38 12.1 +1.0**
TCF Toulx Ste Croi 80.54 315⇓*iP* **P 14 38 12.1 +1.0**
CAF Calviac 80.89 314⇓*iP* **P 14 38 14.2 +1.2**
comp=Z,9.2nm,0.7s
CAF Calviac 80.89 314⇓*iP* **P 14 38 14.2 +1.2**
CAF Calviac 80.89 314⇓*iP* **P 14 38 14.2 +1.2**
MTLF Montolieu 81.08 312⇓*iP* **P 14 38 15.1 +1.1**
comp=Z,18nm,0.9s
MTLF Montolieu 81.08 312⇓*iP* **P 14 38 15.1 +1.1**
MTLF Montolieu 81.08 312⇓*iP* **P 14 38 15.1 +1.1**
RJF Les Rejaudoux 81.20 314⇓*iP* **P 14 38 16.0 +1.4**
comp=Z,15nm,0.7s
RJF *e*R
comp=Z,90nm,18.8s
RJF Les Rejaudoux 81.20 314⇓*iP* **P 14 38 16.0 +1.4**
RJF Les Rejaudoux 81.20 314⇓*iP* **P 14 38 16.0 +1.4**
LDF La Druitiere 81.65 318⇓*iP* **P 14 38 17.7 +0.8**
comp=Z,22nm,0.7s
LDF La Druitiere 81.65 318⇓*iP* **P 14 38 17.7 +0.8**
LDF La Druitiere 81.65 318⇓*iP* **P 14 38 17.7 +0.8**
LFF La Frestale 81.81 314 *eP* **P 14 38 19.2 +1.4**
LFF La Frestale 81.81 314 *eP* **P 14 38 19.2 +1.4**
LFF La Frestale 81.81 314 *eP* **P 14 38 19.2 +1.4**
FLN La Foliniere 81.85 318 *eP* **P 14 38 18.8 +0.8**
comp=Z,31nm,0.9s
FLN *e*R
comp=Z,101nm,20.8s
FLN La Foliniere 81.85 318 *eP* **P 14 38 18.8 +0.8**
FLN La Foliniere 81.85 318 *eP* **P 14 38 18.8 +0.8**
MFF Saint Martin d 82.08 316⇓*iP* **P 14 38 20.0 +0.8**
comp=Z,27nm,1.0s
MFF Saint Martin d 82.08 316⇓*iP* **P 14 38 20.0 +0.8**
MFF Saint Martin d 82.08 316⇓*iP* **P 14 38 20.0 +0.8**
GRR Gorron 82.18 318 *eP* **P 14 38 20.5 +0.8**
GRR Gorron 82.18 318 *eP* **P 14 38 20.5 +0.8**
GRR Gorron 82.18 318 *eP* **P 14 38 20.5 +0.8**
EPF Esparros 82.48 312 *eP* **P 14 38 21.7 +0.2**
comp=Z,4.3nm,0.7s
EPF Esparros 82.48 312 *eP* **P 14 38 21.7 +0.2**
EPF Esparros 82.48 312 *eP* **P 14 38 21.7 +0.2**
ETSF Etsaut 83.16 312 *eP* **P 14 38 26.3 +1.3**
comp=Z,12nm,0.8s
ETSF Etsaut 83.16 312 *eP* **P 14 38 26.3 +1.3**
ETSF Etsaut 83.16 312 *eP* **P 14 38 26.3 +1.3**
SGMF Saint Gilles 83.31 318⇓*iP* **P 14 38 26.6 +1.0**
comp=Z,8.4nm,0.5s
SGMF Saint Gilles 83.31 318⇓*iP* **P 14 38 26.6 +1.0**
SGMF Saint Gilles 83.31 318⇓*iP* **P 14 38 26.6 +1.0**
SJPF Ste Jean 83.58 313 *eP* **P 14 38 28.4 +1.3**
SJPF Ste Jean 83.58 313 *eP* **P 14 38 28.4 +1.3**
SJPF Ste Jean 83.58 313 *eP* **P 14 38 28.4 +1.3**
ROSF Rostrenen 83.76 318 *eP* **P 14 38 28.9 +1.0**
comp=Z,27nm,1.0s
ROSF Rostrenen 83.76 318 *eP* **P 14 38 28.9 +1.0**
ROSF Rostrenen 83.76 318 *eP* **P 14 38 28.9 +1.0**
QUIF Quistinic 83.79 318⇓*iP* **P 14 38 28.6 +0.6**
comp=Z,12nm,0.6s
QUIF Quistinic 83.79 318⇓*iP* **P 14 38 28.6 +0.6**
QUIF Quistinic 83.79 318⇓*iP* **P 14 38 28.6 +0.6**
MAW Mawson 84.33 191 P **P 14 38 31.4 +1.2**
MAW Mawson 84.33 191 P **P 14 38 31.4 +1.2**
comp=Z,1.7nm,0.6s,baz=16,slow=7.4,SNR=5.7
IMA2 Indian Mountai 86.35 22 *eP* **P 14 38 41.6 +1.0**
IM04 Indian Mountai 86.35 22 *eP* **P 14 38 38.5 -2.1**
ESDC Sonseca Array 86.42 310 P **P 14 38 42.5 +0.9**
ESDC Sonseca Array 86.42 310 P **P 14 38 42.5 +0.9**
comp=Z,2.7nm,0.6s,baz=52,slow=4.7,SNR=12
COLD Coldfoot 87.02 20 *eP* **P 14 38 43.0 -0.8**
comp=Z,31nm,2.1s
SUMG Summit 87.91 347 *eP* **P 14 38 47.3 -1.2**
SUMG Summit 87.91 347 *iP* **P 14 38 49.6 +1.1**
comp=Z,7.8nm,0.8s
SUMG Summit 87.91 347 *eP* **P 14 38 47.3 -1.2**
comp=Z,264nm,3.0s
TOA0 Torodi Ar. Sit 88.12 283 *eP* **P 14 38 50.6 +0.5**
TORD Torodi Ar. Bea 88.12 283 P **P 14 38 51.6 +1.5**
TORD PP **PP 14 42 16.0 -1.3**
TORD Torodi Ar. Bea 88.12 283 P **P 14 38 51.6 +1.5**
comp=Z,10.0nm,0.8s,baz=84,slow=4.4,SNR=59
TORD PP **PP 14 42 16.0 -1.3**
comp=Z,0.8nm,0.8s,baz=71,slow=6.4,SNR=3.4
PPLA Purkeypile 88.39 25 *eP* **P 14 38 49.3 -1.4**
comp=Z,6.3nm,0.8s
TRF Thorofare Moun 88.88 24 *eP* **P 14 38 52.5 -0.4**
comp=Z,18nm,0.8s
MCK McKinley 89.25 23 *eP* **P 14 38 54.1 -0.4**
MCK pmax pmax
comp=Z,12nm,0.8s
MCK McKinley 89.25 23 *eP* **P 14 38 54.1 -0.4**
comp=Z,12nm,0.8s
ILAR Eielson Array 89.46 22 P **P 14 38 55.1 -0.3**
ILAR Eielson Array 89.46 22 P **P 14 38 55.1 -0.3**
comp=Z,3.3nm,0.7s,baz=298,slow=4.2,SNR=30
PMR Palmer 90.28 25 *eP* **P 14 39 00.8 +1.5**
PMR pmax pmax
comp=Z,11nm,0.8s
PMR Palmer 90.28 25 *eP* **P 14 39 00.8 +1.5**
comp=Z,11nm,0.8s
SML Sawmill 90.50 25 *eP* **P 14 39 00.4 +0.1**
SML pmax pmax
comp=Z,3.0nm,1.0s
SML Sawmill 90.50 25 *eP* **P 14 39 00.4 +0.1**
comp=Z,3.4nm,1.0s
INK Inuvik 91.39 16 *eP* **P 14 39 03.8 -0.5**
comp=Z,9.7nm,1.1s
EGAK Eagle 91.45 20 *eP* **P 14 39 04.3 -0.4**
comp=Z,3.8nm,0.8s
BMRM Bremner River 92.46 24 *eP* **P 14 39 08.4 -1.1**
PDAR Pinedale Array 119.78 19 PKP **PKPdf 14 44 49.9 +0.5**
PDAR Pinedale Array 119.78 19 PKP **PKPdf 14 44 49.9 +0.5**
comp=Z,1.1nm,0.7s,baz=66,slow=2.2,SNR=11
NVAR Mina Array Bea 120.12 28 PKP **PKPdf 14 44 52.1 +2.0**
NVAR Mina Array Bea 120.12 28 PKP **PKPdf 14 44 52.1 +2.0**
comp=Z,1.5nm,0.6s,baz=321,slow=2.3,SNR=17
TXAR Lajitas Array 133.96 20 PKP **PKPdf 14 45 17.6 +1.0**
TXAR Lajitas Array 133.96 20 PKP **PKPdf 14 45 17.6 +1.0**
comp=Z,0.7nm,0.5s,baz=198,slow=1.2,SNR=9.2
CPUP Villa Florida 149.69 242 PKPbc **PKPbc 14 45 48.8 -0.2**
CPUP Villa Florida 149.69 242 PKPbc **PKPbc 14 45 48.8 -0.2**
comp=Z,1.6nm,0.6s,baz=304,slow=3.6,SNR=4.7
PLCA Paso Flores 149.79 205 PKPbc **PKPbc 14 45 50.4 +1.4**
PLCA Paso Flores 149.79 205 PKPbc **PKPbc 14 45 50.4 +1.4**
comp=Z,2.2nm,0.7s,baz=90,slow=2.0,SNR=4.8
LPAZ La Paz 161.67 261 PKPab **PKPab 14 46 45.8 -0.7**
LPAZ La Paz 161.67 261 PKPab **PKPab 14 46 45.8 -0.7**
comp=Z,3.3nm,0.9s,baz=200,slow=3.8,SNR=8.0

MAN 21 14:47:42,18.94N×121.09E,h18km,mb4.2,ML3.0,MS2.7, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.76**	**216**	⇑*iP*	Pb	14 47 56.5	-0.2
APYP	**Conner**	**1.08**	**172**	*eP*	Pb	14 48 01.9	-0.3
APYP				*eS*	Sg	14 48 19.1	+1.8
SIPP	**Brgy, Tapao**	**1.18**	**211**	⇑*iP*	Pn	14 47 53.5	-10
ABRA	**Dolores**	**1.33**	**196**	*eP*	Pb	14 48 06.3	-0.2
CAUP	**Cauayan**	**2.10**	**161**	*eP*	Pb	14 48 20.0	+0.3

---

*IDC **21** 14:58:31.3±1.4, 1.48S×99.68E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/25, mbtmp3.7/9, ML4.0/1, Error ellipse: s-maj=57.1km s-min=18.8km az=58.0*
*ISCJB **21** 14:58:32.8±0.9, 1.75S±0.10×99.44E±0.08, h30km, mb3.8/8, Error ellipse: s-maj=14.1km s-min=11.7km az=162.0*
*DJA **21** 14:58:37.4±2.5, 1.S±23.×10.0E±., h10km, M4.2/4, mb4.3/1, MLv4.2/4*
ISC 21 14:58:35.3±1.0, 1.6S±0.1×99.61E±0.09, h30km, n16, σ1§37/17, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.12**	**50**	P	**Pb**	**14 58 56.2**	**+0.2**
PDSI				S	**Sb**	**14 59 12.2**	**+2.0**
PPI	**Padang Panjang**	**1.41**	**34**	P	**Pn**	**14 58 59.0**	**0.0**
BKNI	**Bangkinang**	**2.42**	**36**	P	**Pb**	**14 59 17.8**	**-0.4**
PSI	**Prapat**	**4.46**	**351**	Pn	**Pn**	**14 59 41.7**	**+0.7**
1.3nm,0.3s,baz=163,slow=14,SNR=5.6							
KCSI	**Kotacane, Aceh**	**5.44**	**340**	P	**Pn**	**14 59 57.1**	**+2.6**
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**15 03 03.1**	**-2.3**
0.2nm,0.3s,baz=186,slow=10,SNR=7.5							
WRA	**Warramunga Arr**	**38.51**	**121**	P	**P**	**15 05 54.4**	**-0.9**
0.4nm,0.3s,baz=304,slow=8.8,SNR=9.4							
ASAR	**Alice Springs**	**39.78**	**126**	P	**P**	**15 06 08.0**	**+2.1**
0.4nm,0.6s,baz=297,slow=7.5,SNR=9.7							
KSRS	**Korea Array**	**46.91**	**31**	P	**P**	**15 07 03.1**	**0.0**
0.6nm,0.6s,baz=229,slow=8.1,SNR=3.2							
SONM	**Songino Array**	**49.62**	**6**	P	**P**	**15 07 22.3**	**-1.8**
0.2nm,0.4s,baz=187,slow=8.5,SNR=2.2							
MKAR	**Makanchi Array**	**50.58**	**345**	P	**P**	**15 07 31.1**	**-0.2**
1.3nm,0.6s,baz=157,slow=7.8,SNR=13							
KURBB	**Kurchatov Arra**	**55.09**	**344**	P	**P**	**15 08 04.9**	**+0.4**
1.1nm,0.8s,baz=162,slow=6.9,SNR=4.3							
ZALV	**Zalesovo Beam**	**56.74**	**350**	P	**P**	**15 08 15.6**	**-0.6**
0.9nm,0.5s,baz=181,slow=7.2,SNR=4.2							
FINES	**FINESS Array B**	**83.61**	**332**	P	**P**	**15 11 00.4**	**-0.2**
0.9nm,0.8s,baz=138,slow=5.0,SNR=3.4							
CPUP	**Villa Florida**	**144.38**	**217**	PKP	**PKPdf**	**15 18 09.7**	**+0.3**
0.7nm,0.5s,baz=180,slow=1.0,SNR=6.0							
TXAR	**Lajitas Array**	**144.65**	**37**	PKP	**PKPdf**	**15 18 10.3**	**+0.4**

0.7nm,0.6s,baz=186,slow=0.7,SNR=8.7

*NEIC **21** 15:07:26.9±0.3,22°.56S×171°.41E,h10km,mb5.0/20,Error ellipse: s-maj=10.0km s-min=8.3km az=163.0*
*IDC **21** 15:07:27.9±0.8,22°.63S×171°.20E,h0km,mb4.3/13, mb1 4.5/15,mb1mx4.3/23,mbtmp4.4/15,ML4.2/2,MS4.3/12, Ms1 4.3/12,ms1mx4.1/22,Error ellipse: s-maj=22.8km s-min=19.1km az=157.0*
*ISCJB **21** 15:07:28.2±1.8,22.61S±0°.07×171°.33E±0°.07,h33km±15km, mb4.7/35,MS4.4/20,Error ellipse: s-maj=13.1km s-min=9.8km az=37.4*
*SZGRF **21** 15:07:30.0,23°.38S×172°.64E,h34km,Southeast of Loyalty Islands*
*BJI **21** 15:07:34.9,22°.53S×171°.30E,h80km,mB5.1/18,mb4.6/27, Ms4.9/14,Ms7 4.6/15*
*GCMT **21** 15:07:35.8±0.2,22°.76S×171°.06E,h21km,MW5.1, Moment Tensor Solution. s41,c58; s68,c96; Moment tensor: Scale 10^16^Nm; M_{rr}3.51±.16; $M_{\theta\theta}$-3.27±.12; $M_{\phi\phi}$-0.25±.11; $M_{r\theta}$3.12±.23; $M_{\theta\phi}$1.33±.08; $M_{\phi r}$-1.08±.21; Best double couple: $M_0$4.90000×10^16^ NP1:ϕ_s110.00000°, δ66.00000°,λ89.00000°. NP2:ϕ_s292.00000°,δ24.00000°, λ92.00000°. Principal axes: T 4.7900, Plg69.0000°, Azm18.0000°; N 0.2500, Plg1.0000°, Azm110.0000°; P -5.0500, Plg21.0000°, Azm200.0000°; Data Used: IU II IC G CN.*

ISC 21 15:07:33.3±0.7,22°.62S±0°.07×171°.12E±0°.06,h46km±5km, h46km:pP-P,n148,σ1$80/154,mb4.8/35,MS4.4/20,12C-6D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.37**	**276**	*e*Pn	**Pn**	**15 08 36.5**	**-0.7**
	124nm,0.3s						
DZM				*e*Sn	Sn	15 09 20.6	-6.3
	66nm,0.2s						
DZM				*e*LR	LR	15 09 35.4	
	2μm,24.2s						
DZM	**Mont Dzumac**	**4.37**	**276**	Pn	**Pn**	**15 08 36.8**	**-0.5**
DZM				Sn	**Sn**	**15 09 31.0**	**+4.0**
DZM	**Mont Dzumac**	**4.37**	**276**	Pn	**Pn**	**15 08 36.8**	**-0.5**
	38nm,0.3s,baz=131,slow=16,SNR=90						
DZM				Sn	**Sn**	**15 09 31.0**	**+4.0**
	11nm,0.3s,baz=165,slow=19,SNR=3.9						
NOUC	**Port Laguerre**	**4.49**	**276**	*e*P	**Pn**	**15 08 38.5**	**-0.4**
NOUC				*e*S	**Sn**	**15 09 31.1**	**+1.3**
MSVF	**Nonsavu**	**8.12**	**54**	*e*Pn	**Pn**	**15 09 30.4**	**+1.7**
RAO	**Raoul Island**	**11.86**	**126**	LR	LR	15 13 48.5	
	comp=Z,903nm,21.9s,baz=270,slow=32						
URZ	**Urewera**	**16.42**	**163**	*e*Pn	**Pn**	**15 11 18.1**	**-2.3**
	44nm,1.0s						
URZ	**Urewera**	**16.42**	**163**	Pn	**Pn**	**15 11 20.8**	**+0.4**
	0.4nm,0.3s,baz=343,slow=8.3,SNR=9.5						
URZ				LR	LR	15 16 12.5	
	comp=Z,2μm,20.4s,baz=343,slow=32						
AFI	**Afiamalu**	**18.39**	**65**	LR	LR	15 17 26.4	
	comp=Z,1μm,18.7s,baz=241,slow=33						
EIDS	**Eidsvold**	**18.52**	**257**	*e*Pn	**Pn**	**15 11 46.3**	**-0.2**
	74nm,1.4s						
KHZ	**Kahutara**	**19.85**	**175**	*e*P	**P**	**15 11 58.1**	**-2.2**
	130nm,1.2s						
RPZ	**Rata Peaks**	**21.04**	**180**	*e*P	**P**	**15 12 12.4**	**-0.9**
	38nm,1.0s						
RPZ	**Rata Peaks**	**21.04**	**180**	P	**P**	**15 12 13.7**	**+0.4**
	16nm,0.9s,baz=342,slow=4.2,SNR=4.7						
RPZ				LR	LR	15 19 08.1	
	comp=Z,1μm,20.2s,baz=14,slow=33						
CTA	**Charters Tower**	**23.29**	**272**	P	**P**	**15 12 39.1**	**+1.9**
CTA	**Charters Tower**	**23.29**	**272**	P	**P**	**15 12 39.1**	**+1.9**
	1.6nm,0.2s,baz=96,slow=9.2,SNR=2.2						
CTA				LR	LR	15 20 38.3	
	comp=Z,423nm,19.1s,baz=95,slow=34						
CTAO	**Charters Tower**	**23.29**	**272**	*e*P	**P**	**15 12 36.6**	**-0.7**
	96nm,2.0s						
PMG	**Port Moresby**	**26.46**	**296**	LR	LR	15 22 01.6	
	comp=Z,498nm,18.7s,baz=81,slow=33						
STKA	**Stephens Creek**	**27.75**	**244**	*e*P	**P**	**15 13 16.7**	**-1.1**
	7.1nm,1.4s						
STKA	**Stephens Creek**	**27.75**	**244**	P	**P**	**15 13 19.1**	**+1.3**
	4.0nm,1.0s,baz=93,slow=13,SNR=4.5						
STKA				LR	LR	15 23 40.8	
	comp=Z,881nm,19.3s,baz=73,slow=35						
AS31	**Alice Springs**	**34.18**	**261**	*e*P	**P**	**15 14 15.3**	**+0.8**
ASAR	**Alice Springs**	**34.18**	**261**	P	**P**	**15 14 15.3**	**+0.8**
ASAR	**Alice Springs**	**34.18**	**261**	P	**P**	**15 14 15.3**	**+0.8**
	3.4nm,0.8s,baz=93,slow=9.5,SNR=29						
ASAR				LR	LR	15 28 05.8	
	comp=Z,559nm,20.1s,baz=99,slow=36						
WRA	**Warramunga Arr**	**34.33**	**267**	P	**P**	**15 14 15.7**	**-0.1**
WRA	**Warramunga Arr**	**34.33**	**267**	P	**P**	**15 14 15.7**	**-0.1**
	0.4nm,0.4s,baz=96,slow=8.2,SNR=6.4						
WRA				LR	LR	15 28 25.7	
	comp=Z,710nm,18.5s,baz=100,slow=37						
TBI	**Tubuai**	**36.22**	**99**	*e*LR	LR	15 24 22.9	
	403nm,29.0s,baz=261						
PPT2	**Papeete2**	**37.17**	**90**	*e*S	**S**	**15 20 26.5**	**+2.5**
	270nm,25.2s						
PPT2				*e*LR	LR	15 25 03.2	
	393nm,24.2s,baz=249						
PPT	**Papeete**	**37.17**	**90**	LR	LR	15 25 28.8	
	comp=Z,328nm,20.1s,baz=211,slow=29						
FITZ	**Fitzroy Crossi**	**42.76**	**267**	*e*P	**P**	**15 15 26.4**	**-0.1**
	26nm,1.3s						
FITZ	**Fitzroy Crossi**	**42.76**	**267**	P	**P**	**15 15 28.1**	**+1.5**
	6.5nm,0.8s,baz=109,slow=11,SNR=3.6						
NWAO	**Narrogin (SRO)**	**48.33**	**245**	P	**P**	**15 16 11.2**	**+0.7**
NWAO	**Narrogin (SRO)**	**48.33**	**245**	P	**P**	**15 16 11.2**	**+0.7**
	13nm,0.8s,baz=100,slow=6.1,SNR=4.7						
NWAO				LR	LR	15 35 57.7	
	comp=Z,858nm,18.9s,baz=88,slow=35						
RKT	**Rikitea**	**49.42**	**102**	*e*LR	LR	15 30 26.9	
	202nm,27.0s						
SBA	**Scott Base**	**55.33**	**181**	*e*P	**P**	**15 17 00.4**	**-1.5**
	36nm,1.7s						
KSM	**Kuching**	**63.85**	**284**	*e*P	**P**	**15 18 01.2**	**-0.4**
	16nm,1.1s						
QSPA	**South Pole Qui**	**67.45**	**180**	*e*P	**P**	**15 18 22.6**	**-1.6**
	19nm,0.9s						
KSRS	**Korea Array**	**72.27**	**325**	P	**P**	**15 18 55.3**	**+1.4**
	0.7nm,0.6s,baz=124,slow=6.7,SNR=4.3						
KSRS				LR	LR	15 50 09.3	
	comp=Z,104nm,18.2s,baz=155,slow=35						
KSAR	**Wonju Array Be**	**72.28**	**325**	P	**P**	**15 18 55.3**	**+1.3**
WHN	**Wuhan**	**75.91**	**312**	P	P	15 19 19.6	+4.3
WHN				LR	LR		
	comp=Z,380nm,16.3s						
MAW	**Mawson**	**75.98**	**202**	P	**P**	**15 19 16.1**	**+1.0**
MAW	**Mawson**	**75.98**	**202**	P	**P**	**15 19 16.1**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=90,slow=5.1,SNR=4.6						
CN2	**Changchun**	**78.25**	**328**	*e*P	**P**	**15 19 29.4**	**+1.3**
CN2				*e*S	**S**	**15 29 16.4**	**-3.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
GYA	**Guiyang**	**79.18**	**305**	*e*P	**P**	**15 19 32.6**	**-1.2**
GYA				pP	pP	15 19 55.4	+8.1
GYA				sP	sP	15 20 06.8	+14
GYA				PP	**PP**	**15 22 34.8**	**+0.7**
GYA				S	S	15 29 23.0	-7.6
GYA				SKS	SKSac	15 29 35.3	-11
GYA				sS	ScS	15 30 04.5	+11
GYA				SS	**SS**	**15 34 35.8**	**-2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,480nm,19.7s						
GYA				LR	LR		
	comp=E,460nm,20.4s						
GYA				LR	LR		
	comp=Z,470nm,19.5s						
BJI	**Beijing**	**80.66**	**320**	P	**P**	**15 19 40.4**	**-0.9**
BJI				S	**S**	**15 29 41.8**	**-3.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				LR	LR		
	comp=N,140nm,21.6s						
BJI				LR	LR		
	comp=E,170nm,20.2s						
BJI				LR	LR		
	comp=Z,130nm,22.1s						
CMAR	**Chiang Mai Arr**	**81.49**	**294**	P	P	15 19 49.5	+3.3
CMAR	**Chiang Mai Arr**	**81.49**	**294**	P	P	15 19 49.5	+3.3
	comp=Z,2.3nm,0.7s,baz=135,slow=4.3,SNR=19						
KMI	**Kunming**	**81.54**	**302**	P	**P**	**15 19 45.0**	**-1.7**
KMI				pP	pP	15 20 07.5	+7.3
KMI				S	S	15 29 48.5	-7.1
KMI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMI				LR	LR		
	comp=Z,46nm,14.2s						
CHTO	**Chiang Mai**	**81.65**	**294**	*e*P	**P**	**15 19 46.1**	**-1.0**
	comp=Z,25nm,1.6s						
XAN	**Xi'an**	**81.68**	**312**	P	**P**	**15 19 48.5**	**+1.5**
XAN				pmax	pmax		
	comp=Z,1.0nm,1.2s						
SYO	**Syowa Base**	**82.19**	**196**	⇑*e*PcP	**PcP**	**15 19 53.6**	**-0.7**
CD2	**Chengdu**	**83.67**	**307**	*e*P	**P**	**15 19 55.5**	**-1.9**
CD2				pP	pP	15 20 19.3	+8.3
CD2				sP	sP	15 20 29.3	+13
CD2				PP	**PP**	**15 23 12.3**	**+1.3**
CD2				S	**SKSac**	**15 30 10.3**	**-6.4**
CD2				sS	sS	15 30 51.3	+12
CD2				SS	**SS**	**15 35 42.0**	**-2.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,150nm,5.8s						
CD2				LR	LR		
	comp=N,120nm,15.0s						
CD2				LR	LR		
	comp=E,230nm,21.2s						
CD2				LR	LR		
	comp=Z,130nm,16.6s						
HHC	**Hu-ho-hao-te**	**83.92**	**319**	*e*P	P	15 19 54.3	-4.2
HHC				pP	pP	15 20 19.9	+7.8
HHC				sP	sP	15 20 30.5	+13
HHC				PP	**PP**	**15 23 14.3**	**+1.4**
HHC				SKS	SKSac	15 30 04.5	-13
HHC				S	S	15 30 09.4	-10
HHC				sS	sS	15 30 53.8	+12
HHC				SS	**SS**	**15 35 42.5**	**-5.7**
HHC				pmax	pmax		
	comp=Z,30nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,6.6s						
HHC				LR	LR		
	comp=N,170nm,17.8s						
HHC				LR	LR		
	comp=E,270nm,18.2s						
HHC				LR	LR		
	comp=Z,340nm,18.2s						
SNAA	**Sanae**	**85.87**	**182**	*e*P	**P**	**15 20 08.8**	**+0.9**
SNAA	**Sanae**	**85.87**	**182**	*e*pP	pP	15 20 23.1	+1.6
SNAA	**Sanae**	**85.87**	**182**	*e*sP	sP	15 20 29.8	+3.1
SNAA	**Sanae**	**85.87**	**182**	*e*P	**P**	**15 20 05.5**	**-2.4**
	comp=Z,10nm,1.2s						
LZH	**Lanzhou**	**86.28**	**312**	*e*P	P	15 20 06.3	-4.3
LZH				pP	pP	15 20 30.5	+6.3
LZH				sP	sP	15 20 40.1	+11
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
VNA2	**Neumayer--Watz**	**86.71**	**180**	*e*P	**P**	**15 20 12.1**	**+0.2**
VNA2	**Neumayer--Watz**	**86.71**	**180**	*e*pP	pP	15 20 27.4	+1.8
VNA2	**Neumayer--Watz**	**86.71**	**180**	*e*sP	sP	15 20 35.9	+5.2
CMB	**Columbia Colle**	**88.11**	**47**	*e*P	**P**	**15 20 16.6**	**-2.7**
	comp=Z,10.0nm,1.3s						
ISA	**Isabella**	**88.26**	**50**	*e*P	**P**	**15 20 17.1**	**-2.9**
	comp=Z,16nm,1.3s						
HUMO	**Hull Mountain**	**88.83**	**42**	*e*P	**P**	**15 20 19.9**	**-2.5**
	comp=Z,18nm,1.6s						
WAKR	**Walker**	**89.00**	**47**	*e*P	**P**	**15 20 20.9**	**-2.7**
MTUM	**Tungsten Hills**	**89.02**	**49**	*e*P	**P**	**15 20 22.0**	**-1.7**
BEKR	**Beckworth**	**89.07**	**46**	*e*P	**P**	**15 20 21.9**	**-1.9**
	comp=Z,7.3nm,1.4s						
PAHR	**Pah Rah Range**	**89.63**	**46**	*e*P	**P**	**15 20 23.9**	**-2.5**
	comp=Z,14nm,1.3s						
NVAR	**Mina Array Bea**	**89.73**	**48**	P	**P**	**15 20 28.1**	**+1.1**
NVAR	**Mina Array Bea**	**89.73**	**48**	P	**P**	**15 20 28.1**	**+1.1**
	comp=Z,8.9nm,1.2s,baz=230,slow=7.0,SNR=18						
NV11	**Mina Array Sit**	**89.83**	**48**	*e*P	P	15 20 22.7	-4.7
LDFC	**Landfair**	**90.39**	**52**	*e*P	**P**	**15 20 27.3**	**-2.7**
	comp=Z,25nm,1.3s						
GTA	**Gaotai**	**90.71**	**313**	*e*P	**P**	**15 20 34.0**	**+2.5**
GTA				pP	pP	15 20 57.5	+12
GTA				sP	sP	15 21 06.5	+16
GTA				SKS	**SKSac**	**15 30 57.5**	**-2.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,93nm,5.9s						
GTA				LR	LR		
	comp=N,90nm,17.1s						
GTA				LR	LR		
	comp=E,71nm,16.4s						
GTA				LR	LR		
	comp=Z,99nm,16.1s						
SONM	**Songino Array**	**90.96**	**322**	P	**P**	**15 20 33.7**	**+1.3**
SONM	**Songino Array**	**90.96**	**322**	P	**P**	**15 20 33.7**	**+1.3**
	comp=Z,2.7nm,1.0s,baz=142,slow=4.7,SNR=14						
R11A	**Troy Canyon, C**	**91.57**	**49**	*e*P	**P**	**15 20 32.8**	**-2.7**
	comp=Z,26nm,2.5s						
CCUT	**Cedar City**	**92.77**	**50**	*e*P	P	15 20 37.6	-3.6
	comp=Z,8.4nm,1.4s						
ILAR	**Eielson Array**	**92.93**	**17**	P	**P**	**15 20 42.8**	**+1.9**
ILAR	**Eielson Array**	**92.93**	**17**	P	**P**	**15 20 42.8**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=193,slow=3.7,SNR=4.0						
WMQ	**Urumqi**	**100.80**	**313**	*e*P	**Pdif**	**15 21 15.3**	**-1.9**
WMQ				PP	**PP**	**15 25 27.3**	**+1.7**
WMQ				SKS		15 31 43.8	
WMQ				S	SKKSac	15 32 41.3	+14
WMQ				SS	**SS**	**15 39 46.5**	**-3.8**
WMQ				LR	LR		
	comp=N,42nm,18.0s						
WMQ				LR	LR		
	comp=E,43nm,25.0s						
WMQ				LR	LR		
	comp=Z,74nm,23.0s						
KSH	**Kashi**	**107.85**	**306**	Pdif	**Pdif**	**15 21 47.3**	**-1.4**
ARCES	**ARCESS Array B**	**128.77**	**345**	PKP	**PKPdf**	**15 26 34.9**	**-0.1**
ARCES	**ARCESS Array B**	**128.77**	**345**	PKP	**PKPdf**	**15 26 34.8**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=48,slow=1.3,SNR=5.0						
BURAR	**Bucovina Array**	**143.06**	**321**	⇓*i*P	**PKPdf**	**15 27 05.8**	**+3.6**
KOLS	**Kolonicke sedl**	**143.99**	**325**	*e*PKP	**PKPdf**	**15 27 06.7**	**+3.0**
STHS	**Stebnicka Huta**	**144.25**	**326**	*e*PKP	PKPbc	15 27 03.2	+0.8
STHS				*e*		15 27 27.9	
TRPA	**Tarpa**	**144.31**	**323**	⇓*i*P	**PKPdf**	**15 27 04.8**	**+0.6**
CRVS	**Cervenica-Dubn**	**144.44**	**325**	*e*PKP	**PKPdf**	**15 27 05.6**	**+1.2**
CRVS				*e*		15 27 25.5	
DRGR		**144.95**	**321**	⇓*i*P	**PKPdf**	**15 27 06.5**	**+1.0**
KECS	**Kecovo**	**145.21**	**325**	*e*PKP	**PKPdf**	**15 27 07.3**	**+1.5**
KECS				*e*		15 28 41.4	
BSEG	**Bad Segeberg**	**145.52**	**340**	*e*PKPbc	**PKPab**	**15 27 07.5**	**+1.0**
OKC	**Ostrava-Krasne**	**145.52**	**329**	*e*PKP	**PKPab**	**15 27 08.1**	**+1.4**
OKC				*ex*	x	15 27 12.9	
GZR	**Gura Zlata**	**145.65**	**319**	⇑*i*P	**PKPab**	**15 27 09.2**	**+1.8**
KSP	**Ksiaz**	**145.68**	**331**	*e*PKP	**PKPab**	**15 27 08.5**	**+1.3**
PSZ	**Piszkesteto**	**145.87**	**325**	⇑*i*P	**PKPab**	**15 27 09.7**	**+1.5**
PSZ	**Piszkesteto**	**145.87**	**325**	⇑*e*PKPdf	**PKPab**	**15 27 08.9**	**+0.7**
DPC	**Dobruska-Polom**	**146.02**	**331**	*e*PKP	**PKPab**	**15 27 09.3**	**+0.7**
DPC				*ex*	x	15 28 43.6	
UPC	**Upice**	**146.05**	**331**	*e*PKP	**PKPab**	**15 27 09.2**	**+0.6**
UPC				*ex*	x	15 28 44.0	
VYHS	**Vyhne**	**146.06**	**326**	*e*PKP	**PKPab**	**15 27 10.1**	**+1.3**
VYHS				*e*		15 28 44.3	
PVCC	**Panska Ves**	**146.66**	**332**	*e*PKP	**PKPab**	**15 27 11.7**	**+0.7**
BRG	**Berggiesshubel**	**146.66**	**333**	*i* P	**PKPab**	**15 27 11.2**	**+0.2**
	comp=Z,27nm,1.2s						
BRG				*e*		15 27 21.2	
	comp=Z,26nm,1.2s						
BRG				*e*		15 27 29.2	
	comp=Z,24nm,1.3s						
BRG				SKP		15 28 45.3	
	comp=Z,11nm,1.0s						
BRG	**Berggiesshubel**	**146.66**	**333**	*e*PKPbc	**PKPab**	**15 27 11.2**	**+0.2**
BRG				*ep*PKPbc	pPKPbc	15 27 21.3	-2.6
CLL	**Collm**	**146.71**	**335**	*e*PKPbc	**PKPab**	**15 27 11.0**	**-0.1**
CLL				*ep*PKPbc	pPKPbc	15 27 21.0	-3.0
CLL	**Collm**	**146.71**	**335**	⇑*i*PKPbc	**PKPab**	**15 27 11.0**	**-0.1**
	comp=Z,21nm,1.3s						
CLL				*i* (pPKiKP)		15 27 15.7	
CLL				*i*		15 27 20.7	
CLL				LmV		16 39 00.0	
	comp=Z,100nm,19.1s						
NRDL	**Niedersach Rie**	**146.80**	**339**	*e*PKPbc	**PKPbc**	**15 27 10.9**	**+0.8**
NRDL				*ep*PKPbc	pPKPbc	15 27 21.0	-3.1
FBE	**Freiberg**	**146.87**	**334**	*e*PKPbc	**PKPab**	**15 27 12.0**	**+0.2**
PRA	**Prague**	**147.06**	**332**	PKP	**PKPab**	**15 27 13.0**	**+0.5**
PRU	**Pruhonice**	**147.07**	**332**	*e*PKP	**PKPab**	**15 27 12.4**	**-0.2**
PRU				*ep*PKP	**PKiKP**	**15 27 17.2**	**+3.8**
PRU				*ex*	x	15 27 22.6	
PRU				*ex*	x	15 28 46.5	
PRU				AMS	AMS	16 39 10.0	
	comp=Z,200nm,15.7s						
TREC	**Trest**	**147.15**	**330**	*e*PKP	**PKPab**	**15 27 12.9**	**-0.1**
NEUB	**Neuenburg**	**147.26**	**336**	*e*PKPbc	**PKPab**	**15 27 12.7**	**-0.6**
PKSM	**Moragy**	**147.59**	**323**	⇓*i*P	**PKPab**	**15 27 14.3**	**-0.5**
PKSM	**Moragy**	**147.59**	**323**	⇓*e*PKPdf	**PKPab**	**15 27 13.9**	**-0.9**
TANN	**Tannenbergstha**	**147.62**	**334**	*e*PKPbc	**PKPab**	**15 27 14.0**	**-0.8**
TANN				*ep*PKPbc	**pPKPbc**	**15 27 23.9**	**-2.8**
WERD	**Werda**	**147.66**	**334**	*e*PKPbc	**PKPab**	**15 27 14.1**	**-0.8**
WERD				*ep*PKPbc	**pPKPbc**	**15 27 24.0**	**-2.7**
GUNZ	**Gunzen**	**147.71**	**334**	*e*PKPbc	**PKPbc**	**15 27 14.2**	**+1.4**
GUNZ				*ep*PKPbc	**pPKPbc**	**15 27 24.2**	**-2.7**
IBBN	**Ibbenburen**	**147.72**	**341**	*e*PKPbc	**PKPbc**	**15 27 13.5**	**+0.8**
IBBN				*ep*PKPbc	**pPKPbc**	**15 27 23.8**	**-3.0**
WERN	**Wernitzgruen**	**147.75**	**334**	*e*PKPbc	**PKPab**	**15 27 14.6**	**-0.8**
MOX	**Moxa**	**147.77**	**335**	*e*PKPbc	**PKPbc**	**15 27 14.1**	**+1.2**
MOX				*ep*PKPbc	**pPKPbc**	**15 27 24.2**	**-2.8**
CONA	**Conrad Observa**	**147.93**	**328**	⇑*i*pPKPbc	**PKPbc**	**15 27 15.1**	**+1.5**
	comp=Z,13nm,1.0s,SNR=7.4						
KHC	**Kasperske Hory**	**148.13**	**332**	*e*PKP	**PKPbc**	**15 27 15.6**	**+1.6**
KHC				*ep*PKP	**pPKPdf**	**15 27 20.8**	**-4.1**
KHC				*ex*	x	15 27 25.0	
KHC				*ex*	x	15 28 49.5	
KHC				AMS	AMS	16 39 30.0	
	comp=Z,200nm,19.4s						
ROTZ	**Rotzenmuhle**	**148.23**	**334**	*e*PKPbc	**PKPbc**	**15 27 15.6**	**+1.4**
UBBA	**Unterbreizbach**	**148.23**	**337**	*e*PKPbc	**PKPbc**	**15 27 15.0**	**+1.0**
GEC2	**GERESS Array S**	**148.29**	**331**	*e*PKPbc	**PKPbc**	**15 27 15.4**	**+0.9**
GEC2				*ep*PKPbc	**pPKPbc**	**15 27 25.6**	**-3.0**
GERES	**GERESS Array B**	**148.29**	**331**	PKPbc	**PKPbc**	**15 27 15.6**	**+1.1**
GERES	**GERESS Array B**	**148.29**	**331**	PKPbc	**PKPbc**	**15 27 15.6**	**+1.1**
	comp=Z,6.2nm,0.9s,baz=52,slow=1.6,SNR=31						
WET	**Wettzell**	**148.42**	**332**	*e*PKPbc	**PKPbc**	**15 27 15.9**	**+1.2**
GRF	**Grafenberg Arr**	**148.68**	**335**	*e*PKPbc	**PKPbc**	**15 27 16.5**	**+1.1**
MOA	**Molln**	**148.75**	**329**	⇑*i*PKiKP	**PKiKP**	**15 27 16.7**	**-0.3**
	comp=Z,9.9nm,1.1s						
PERS	**Pernice**	**149.18**	**327**	*e*PKPbc	**PKPbc**	**15 27 17.4**	**+0.6**
PERS				*i*		15 28 51.7	
SOKA	**Soboth**	**149.20**	**327**	⇑*i*PKiKP	**PKiKP**	**15 27 17.8**	**-0.3**
	comp=Z,24nm,1.3s,SNR=11						
TNS	**Taunus Mts**	**149.28**	**338**	*e*PKPbc	**PKPbc**	**15 27 18.0**	**+1.1**
RJOB	**Jochberg**	**149.51**	**331**	*e*PKPbc	**PKPbc**	**15 27 18.4**	**+0.8**
PDKS	**Podkum**	**149.63**	**326**	*e*PKPbc	**PKPbc**	**15 27 18.8**	**+0.9**
BOJS	**Bojanci**	**149.87**	**325**	*e*PKPbc	**PKPbc**	**15 27 19.9**	**+1.5**
BOJS				*e*		15 28 54.1	
LJU	**Ljubljana**	**149.88**	**327**	*e*PKPbc	**PKPbc**	**15 27 19.3**	**+0.8**
LJU				*i*		15 28 54.0	
MYKA	**Terra Mystica**	**149.92**	**328**	⇑*i*PKiKP	**PKPbc**	**15 27 18.9**	**+0.3**
	comp=Z,8.7nm,0.7s,SNR=5.9						
CADS	**Cadrg**	**150.15**	**328**	*e*PKPbc	**PKPbc**	**15 27 19.5**	**+0.4**
STU	**Stuttgart**	**150.21**	**336**	*e*PKPbc	**PKPbc**	**15 27 20.3**	**+1.1**
ABTA	**Abfaltersbach**	**150.37**	**330**	⇑*i*PKiKP	**PKPbc**	**15 27 20.0**	**+0.3**
	comp=Z,26nm,1.4s,SNR=7.0						
WTTA	**Wattenberg**	**150.39**	**331**	*i* pPKPbc	**PKPbc**	**15 27 20.8**	**+0.9**
	comp=Z,43nm,1.5s,SNR=8.5						
WLF	**Walferdange**	**150.52**	**340**	PKPbc	**PKPbc**	**15 27 21.7**	**+1.9**
WLF	**Walferdange**	**150.52**	**340**	*e*PKPbc	**PKPbc**	**15 27 21.4**	**+1.6**
LANF	**Langenberg**	**150.55**	**337**	PKP	**PKPbc**	**15 27 21.0**	**+1.0**
MOTA	**Moosalm**	**150.56**	**332**	⇑*i*pPKPbc	**PKPbc**	**15 27 21.1**	**+0.8**
	comp=Z,11nm,0.8s,SNR=8.8						
DOU	**Dourbes**	**150.60**	**342**	PKPbc	**PKPbc**	**15 27 21.4**	**+1.4**
BFO	**Black Forest**	**150.90**	**336**	*e*PKPbc	**PKPbc**	**15 27 21.3**	**+0.5**
FETA	**Feichten**	**150.97**	**332**	⇓*i*pPKPbc	**PKPbc**	**15 27 22.2**	**+1.0**
	comp=Z,22nm,1.3s,SNR=11						
DAVA	**Damuels**	**151.13**	**333**	⇑*i*pPKPbc	**PKPbc**	**15 27 22.4**	**+0.8**
	comp=Z,15nm,1.3s						
MOF	**Molkenrain**	**151.75**	**337**	PKP	**PKPbc**	**15 27 23.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**166.23**	**229**	PKP	**PKPdf**	**15 27 36.4**	**+2.1**
	comp=Z,1.2nm,0.9s,baz=116,slow=0.3,SNR=5.3						
TORD				PKPab	**PKPab**	**15 28 36.4**	**+1.2**
	comp=Z,5.0nm,1.1s,baz=126,slow=2.7,SNR=3.9						

IDC 21 15:09:03.1±2.1,22°.43S×171°.35E,h0km,mb4.3/3, mb1 4.6/4,mb1mx4.0/18,mbtmp4.3/4,ML4.0/1,Error ellipse: s-maj=116.9km s-min=32.2km az=166.0, Southeast of Loyalty Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m

DZM	**Mont Dzumac**	**19.97 255**	P	P	15 32 56.9	-1.2
	1.0nm,0.3s,baz=91,slow=24,SNR=17					
CTA	**Charters Tower**	**38.77 260**	P	P	15 35 50.9	+0.3
	5.6nm,0.5s,baz=91,slow=12,SNR=13					
STKA	**Stephens Creek**	**43.29 243**	P	P	15 36 27.8	0.0
	1.3nm,0.6s,baz=86,slow=12,SNR=5.5					
WRA	**Warramunga Arr**	**49.93 259**	P	P	15 37 20.3	+0.3
	2.8nm,0.6s,baz=98,slow=8.6,SNR=76					
ASAR	**Alice Springs**	**49.95 254**	P	P	15 37 20.4	+0.3
	2.7nm,0.6s,baz=97,slow=8.1,SNR=45					
CMAR	**Chiang Mai Arr**	**94.15 288**	P	P	15 41 44.1	-1.2
	0.3nm,0.5s,baz=126,slow=4.6,SNR=3.8					

*IDC **21** 15:40:12.2±1.4, 17.°87S×178.°50W, h549km±19km, mb3.5/12, mb1 3.7/13, mb1mx3.5/23, mbtmp3.5/13, Error ellipse: s-maj=24.3km s-min=10.9km az=148.0*

*ISCJB **21** 15:40:13.3±0.5, 17.°8S±0.°1×178.°52W±0.°08, h579km, mb4.0/11, Error ellipse: s-maj=20.3km s-min=7.3km az=156.6*

*AUST **21** 15:40:15.6±0.0, 17.°75S×178.°37W, h602km, Error ellipse: s-maj=2.4km s-min=1.6km az=353.0*

ISC 21 15:40:14.2±0.6, 17.°8S±0.°1×178.°44W±0.°10, h579km, n31, σ1§19/30, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.50**	**60**	P	**P**	**15 42 07.7**	**-0.5**
	2.6nm,0.3s,baz=212,slow=17,SNR=8.1						
AFI				S	**S**	**15 43 37.8**	**-3.7**
	0.4nm,0.3s,baz=225,slow=19,SNR=2.0						
NIUE	**Niue**	**8.17**	**100**	P	**P**	**15 42 15.7**	**+1.2**
	baz=8.1,SNR=3.9						
URZ	**Urewera**	**20.73**	**190**	P	**P**	**15 44 13.1**	**-2.1**
	9.6nm,0.9s,baz=116,slow=12,SNR=3.3						
ARMA	**Armidale**	**29.96**	**240**	P	**P**	**15 45 37.6**	**+0.7**
	baz=30,SNR=4.9						
RMQ	**Roma**	**31.51**	**248**	P	**P**	**15 45 50.9**	**+0.8**
	baz=32,SNR=5.9						
CTA	**Charters Tower**	**33.43**	**260**	P	**P**	**15 46 04.9**	**-1.6**
	2.5nm,0.3s,baz=94,slow=11,SNR=8.4						
CNB	**Canberra Magne**	**33.45**	**232**	P	**P**	**15 46 07.1**	**+0.7**
	baz=34,SNR=11						
PMG	**Port Moresby**	**34.42**	**279**	P	**P**	**15 46 13.9**	**-0.8**
	23nm,0.8s,baz=122,slow=4.2,SNR=3.9						
CMSA	**Cobar Meteorol**	**35.16**	**240**	P	**P**	**15 46 20.8**	**+0.1**
	baz=35,SNR=21						
MTSU	**Mount Surprise**	**35.39**	**264**	P	**P**	**15 46 22.6**	**-0.2**
	baz=35,SNR=6.8						
MANU	**Manus Island**	**37.05**	**291**	S	S	15 51 13.1	-29
	baz=37,SNR=12						
COEN	**Coen**	**37.08**	**270**	P	**P**	**15 46 37.4**	**+0.7**
	baz=37,SNR=6.4						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**15 46 49.5**	**+0.3**
	10nm,0.8s,baz=86,slow=9.3,SNR=24						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**15 46 49.7**	**+0.5**
	baz=39,SNR=18						
MCQ	**Macquarie Isla**	**40.52**	**200**	S	S	15 53 01.0	+29
	baz=41,SNR=5.1						
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**15 47 26.8**	**-0.1**
	baz=44,SNR=7.9						
WRA	**Warramunga Arr**	**44.62**	**259**	P	**P**	**15 47 35.4**	**-0.9**
	2.8nm,0.3s,baz=90,slow=8.1,SNR=306						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**15 47 37.3**	**-0.3**
	25nm,0.4s,baz=87,slow=8.8,SNR=920						
KDU	**Kakadu**	**47.53**	**269**	P	**P**	**15 47 58.1**	**-0.3**
	baz=48,SNR=10.0						
MTN	**Manton Dam**	**48.77**	**268**	P	**P**	**15 48 07.2**	**-0.5**
	baz=49,SNR=6.0						
KNRA	**Kununurra**	**50.47**	**264**	P	**P**	**15 48 19.6**	**-0.4**
	baz=50,SNR=32						
FITZ	**Fitzroy Crossi**	**53.02**	**260**	P	**P**	**15 48 38.2**	**-0.1**
	baz=53,SNR=12						
MEEK	**Meekatharra**	**58.44**	**249**	P	**P**	**15 49 14.7**	**-1.0**
	baz=58,SNR=6.2						
KLBR	**Kellerberrin**	**58.84**	**243**	P	**P**	**15 49 17.4**	**-0.9**
	baz=59,SNR=8.9						
PETK	**Petropavlovsk-**	**73.60**	**345**	P	**P**	**15 50 49.1**	**+0.1**
	2.1nm,0.8s,baz=123,slow=8.3,SNR=5.9						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**15 51 22.7**	**+1.4**
	1.1nm,0.7s,baz=226,slow=8.7,SNR=11						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**15 51 52.5**	**-0.2**
	0.6nm,0.6s,baz=222,slow=5.1,SNR=6.3						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**15 51 56.3**	**+1.9**
	1.1nm,0.7s,baz=218,slow=5.6,SNR=7.4						
PDAR	**Pinedale Array**	**87.31**	**43**	P	**P**	**15 52 01.3**	**+0.8**
	0.9nm,0.7s,baz=210,slow=2.6,SNR=8.4						
CMAR	**Chiang Mai Arr**	**88.83**	**290**	P	**P**	**15 52 09.4**	**+1.5**
	0.4nm,0.5s,baz=141,slow=1.9,SNR=4.6						
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	**PKPbc**	**15 58 54.5**	**+0.5**
	0.3nm,0.6s,baz=11,slow=1.0,SNR=4.4						

*SKHL **21** 15:51:01.8±0.3, 48.°58N×156.°38E, h65km±4km, mb5.0/1, Ms3.5/1, msh4.9/1*

*BJI **21** 15:51:05.6, 49.°09N×155.°60E, h56km, mB4.8/23, mb4.6/26, Ms4.1/16, Ms7 4.1/19*

*ISCJB **21** 15:51:08.1±0.5, 48.°76N±0.°04×155.°09E±0.°06, h51km±4km, mb4.5/51, MS3.9/14, Error ellipse: s-maj=8.2km s-min=2.7km az=44.7*

*KRSC **21** 15:51:08.4±1.3, 48.°72N×156.°42E, h5km±5km, ML4.9*

*MOS **21** 15:51:08.5±1.5, 48.°98N×155.°07E, h46km, mb4.5/20, Error ellipse: s-maj=10.4km s-min=5.5km az=69.1*

*IDC **21** 15:51:09.2±0.6, 48.°83N×154.°95E, h44km±5km, mb3.9/18, mb1 4.1/21, mb1mx4.0/30, mbtmp3.9/21, ML4.0/3, MS3.6/8, Ms1 3.6/8, ms1mx3.2/43, Error ellipse: s-maj=16.9km s-min=10.9km az=139.0*

*NEIC **21** 15:51:10.5±1.1, 48.°94N×154.°91E, h53km±11km, mb4.7/17, Error ellipse: s-maj=13.2km s-min=6.9km az=143.0*

ISC 21 15:51:10.3±0.4, 48.°84N±0.°05×155.°06E±0.°04, h49km±2km, h48km:pP-P,n343, σ1§28/371, mb4.5/50, MS3.8/14, 75C-77D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.97**	**20**	‖ *i* PN	Pn	15 51 34.4	-6.7
SKR				*i* S	Sn	15 51 58.7	-5.8
SKR				pmax	pmax		
	comp=N,290nm,0.4s						
SKR				pmax	pmax		
	comp=E,110nm,0.4s						
SKR				pmax	pmax		
	comp=Z,400nm,0.4s						
SKR				pmax	pmax		
	comp=Z,400nm,2.0s						
SKR				smax	smax		
	comp=N,2μm,2.0s						
SKR				smax	smax		
	comp=E,2μm,2.0s						
SKR				smax	smax		
	comp=N,3μm,0.2s						
SKR				smax	smax		
	comp=E,2μm,0.2s						
SKR	**Severo-Kuril's**	**1.97**	**20**	*e*P	**Pn**	**15 51 40.7**	**-0.4**
SKR				*i* S	**Sn**	**15 52 04.1**	**-0.4**
SKR	**Severo-Kuril's**	**1.97**	**20**	‖ *i* P	Pn	15 51 34.4	-6.7
SKR				AMB	AMB	15 51 36.4	
	comp=E,400nm,2.0s						
SKR				AMB	AMB	15 51 36.4	
	comp=E,290nm,0.4s						
SKR				AMB	AMB	15 51 36.4	
	comp=E,110nm,0.4s						
SKR				AMB	AMB	15 51 36.4	
	comp=E,400nm,0.4s						
SKR				*i* S	Sn	15 51 58.7	-5.8
SKR				A	A	15 52 06.0	
	comp=E,2μm,2.0s						
SKR				A	A	15 52 08.5	
	comp=E,3μm,0.2s						
SKR				A	A	15 52 08.5	
	comp=E,2μm,0.2s						
SKR				A	A	15 52 08.5	
	comp=E,620nm,0.5s						
SKR				AMS	AMS	15 56 18.0	
	comp=E,2μm,12.0s						
SKR				AMS	AMS	15 56 18.0	
	comp=E,2μm,12.0s						
MIPR	**Malaya Ipel'ka**	**3.60**	**17**	*e*P	**Pn**	**15 52 04.4**	**+0.8**
MIPR				*i* S	**Sn**	**15 52 45.2**	**+0.4**
ASAK	**Asacha**	**3.98**	**26**	*e*P	**Pn**	**15 52 09.9**	**+1.1**
ASAK				*i* S	**Sn**	**15 52 55.2**	**+1.0**
MTVR	**Mutnovka**	**4.15**	**27**	*e*P	**Pn**	**15 52 12.2**	**+1.0**
MTVR				*i* S	**Sn**	**15 52 59.4**	**+0.9**
GRL	**Gorelyy**	**4.18**	**26**	*e*P	**Pn**	**15 52 13.4**	**+1.9**
GRL				*i* S	**Sn**	**15 53 01.5**	**+2.4**
RUS	**Russkaya**	**4.21**	**30**	PN	**Pn**	**15 52 11.5**	**-0.4**
RUS				S	**Sn**	**15 52 58.5**	**-1.2**
RUS	**Russkaya**	**4.21**	**30**	*e*P	**Pn**	**15 52 11.5**	**-0.4**
RUS				*i* S	**Sn**	**15 52 58.5**	**-1.2**
APC	**Apacha**	**4.30**	**17**	*e*P	**Pn**	**15 52 15.9**	**+2.9**
APC				*i* S	**Sn**	**15 53 05.3**	**+3.5**
PEA0B	**Petropavlovsk-**	**4.59**	**20**	*e*P	**Pn**	**15 52 18.4**	**+1.4**
PEA0B				*e*Sn	Sn	15 52 57.3	-12
PETK	**Petropavlovsk-**	**4.59**	**20**	PN	**Pn**	**15 52 18.4**	**+1.4**
PETK				pmax	pmax		
	comp=Z,17nm,0.3s						
PETK	**Petropavlovsk-**	**4.59**	**20**	P	**Pn**	**15 52 18.4**	**+1.4**
PETK	**Petropavlovsk-**	**4.59**	**20**	P	**Pn**	**15 52 18.4**	**+1.4**
	comp=Z,17nm,0.3s,baz=184,slow=13,SNR=538						
PET	**Petropavlovsk**	**4.76**	**27**	PN	**Pn**	**15 52 19.9**	**+0.5**
PET				S	**Sn**	**15 53 13.2**	**-0.1**
PET	**Petropavlovsk**	**4.76**	**27**	*e*P	**Pn**	**15 52 19.9**	**+0.5**
PET				*i* S	**Sn**	**15 53 13.2**	**-0.1**
SDLR	**Sedlovina**	**5.05**	**27**	*e*P	**Pn**	**15 52 24.3**	**+0.8**
SDLR				*i* S	**Sn**	**15 53 20.9**	**+0.3**
GNL	**Ganaly**	**5.18**	**19**	*e*P	**Pn**	**15 52 28.0**	**+2.7**
SPN	**Mys Shipunski**	**5.29**	**34**	PN	**Pn**	**15 52 26.4**	**-0.2**
SPN	**Mys Shipunski**	**5.29**	**34**	*e*P	**Pn**	**15 52 26.4**	**-0.2**
KII	**Karymskiy**	**5.88**	**26**	*e*P	**Pn**	**15 52 36.9**	**+2.1**
KII				*i* S	**Sn**	**15 53 41.8**	**+1.0**
KUR	**Kuril'sk**	**6.10**	**236**	*e*PN	**Pn**	**15 52 39.5**	**+1.8**
KUR				*e*S	**Sn**	**15 53 50.8**	**+4.7**
KUR				pmax	pmax		
	comp=Z,380nm,1.0s						
KUR				smax	smax		
	comp=N,430nm,0.9s						
KUR				smax	smax		
	comp=E,250nm,0.9s						
KUR	**Kuril'sk**	**6.10**	**236**	*e*P	**Pn**	**15 52 39.5**	**+1.8**
KUR				AMB	AMB	15 52 40.2	
	comp=E,260nm,1.0s						
KUR				*e*S	Sn	15 53 53.0	+6.9
KUR				A	A	15 54 07.3	
	comp=E,430nm,0.9s						
KUR				A	A	15 54 07.3	
	comp=E,230nm,0.9s						
MKZ	**Mys Kozlova**	**7.06**	**33**	PN	**Pn**	**15 52 49.5**	**-1.4**
MKZ	**Mys Kozlova**	**7.06**	**33**	*e*P	**Pn**	**15 52 49.5**	**-1.4**
MKZ				*i* S	**Sn**	**15 54 05.0**	**-4.7**
TUMR	**Tumrok**	**7.17**	**24**	*e*P	**Pn**	**15 52 54.7**	**+2.2**
ESO	**Esso**	**7.43**	**16**	PN	Pn	15 53 00.0	+4.0
ESO	**Esso**	**7.43**	**16**	P	Pn	15 53 00.0	+4.0
KMNR	**Kamenistaya**	**7.62**	**23**	P	Pn	15 53 01.9	+3.3
BZGR	**Bezymyannyi-Gr**	**7.90**	**24**	P	**Pn**	**15 53 04.0**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**7.96**	**236**	*i* PN	**Pn**	**15 53 03.8**	**+0.5**
YUK				pmax	pmax		
	comp=E,31nm,0.3s						
YUK				pmax	pmax		
	comp=Z,119nm,0.3s						
YUK				pmax	pmax		
	comp=N,19nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**7.96**	**236**	‖ *i* P	**Pn**	**15 53 03.9**	**+0.6**
YUK				AMB	AMB	15 53 04.8	
	comp=N,30nm,0.3s						
YUK				AMB	AMB	15 53 04.8	
	comp=N,120nm,0.3s						
YUK				AMB	AMB	15 53 04.8	
	comp=N,20nm,0.1s						
YUK				AMB	AMB	15 53 04.9	
	comp=N,21μm,0.2s						
YUK				*i* S	**Sn**	**15 54 32.7**	**+0.8**
SRDR	**Sredinnyy**	**8.01**	**19**	P	**Pn**	**15 53 06.9**	**+3.0**
KRSR	**Krestovskiy**	**8.11**	**22**	P	**Pn**	**15 53 07.1**	**+1.7**
JRA	**Rausu**	**8.44**	**238**	P	**Pn**	**15 53 10.2**	**+0.4**
NEM2	**Nemuro 2**	**8.47**	**233**	P	**Pn**	**15 53 07.6**	**-2.7**
NEM2				*e*S	Sn	15 54 37.3	-7.2
YSS	**Yuzh-Sakhalins**	**8.48**	**262**	*e*PN	Pn	15 53 13.8	+3.4
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.48**	**262**	*e*P	Pn	15 53 13.8	+3.4
YSS				AMB	AMB	15 53 17.6	
	comp=Z,40nm,1.0s						
YSS				A	A	15 54 50.4	
	comp=Z,60nm,1.0s						
KBTR	**Krutoberegovo**	**8.76**	**30**	PN	**Pn**	**15 53 13.3**	**-0.8**
KBTR	**Krutoberegovo**	**8.76**	**30**	*e*P	**Pn**	**15 53 13.3**	**-0.8**
JNK	**Nakash**	**8.89**	**238**	P	**Pn**	**15 53 15.4**	**-0.5**
JNK				*e*S	**Sn**	**15 54 52.3**	**-2.3**
JTKR	**Abashiri--Toko**	**9.11**	**242**	P	**Pn**	**15 53 20.3**	**+1.3**
BKI	**Bering**	**9.26**	**42**	PN	Pn	15 53 17.9	-3.0
BKI	**Bering**	**9.26**	**42**	P	Pn	15 53 17.9	-3.0
BKI				*i* S	Sn	15 54 52.7	-11
JSE	**Soyaes**	**9.38**	**250**	P	Pn	15 53 26.0	+3.4
JAR	**Ashorobuto**	**9.60**	**239**	P	**Pn**	**15 53 25.6**	**-0.1**
JAR				*e*S	**Sn**	**15 55 10.9**	**-1.3**
ASAJ	**Asahikawa**	**9.81**	**246**	*e*Pn	**Pn**	**15 53 28.9**	**+0.4**
ASAJ	**Asahikawa**	**9.81**	**246**	P	**Pn**	**15 53 31.4**	**+2.9**
ASAJ	**Asahikawa**	**9.81**	**246**	P	Pn	15 53 32.1	+3.6
ASAJ	**Asahikawa**	**9.81**	**246**	P	**Pn**	**15 53 31.3**	**+2.8**
	comp=Z,4.9nm,0.3s,baz=77,slow=15,SNR=18						
ASAJ				LR	LR	15 56 58.6	
	comp=Z,191nm,19.9s,baz=344,slow=36						
JOB	**Onbets**	**9.82**	**237**	P	**Pn**	**15 53 27.3**	**-1.4**
JOB				*e*S	Sn	15 55 10.2	-7.2
JKK2	**Kamakawa 2**	**9.85**	**244**	P	**Pn**	**15 53 31.1**	**+1.9**
JCH	**Churui**	**10.27**	**237**	P	**Pn**	**15 53 32.6**	**-2.3**
JCH				*e*S	Sn	15 55 21.0	-7.5
JFR	**Furan**	**10.36**	**241**	P	**Pn**	**15 53 36.7**	**+0.6**
JAB	**Ashibetsu**	**10.37**	**244**	P	Pn	15 53 41.4	+5.1
JBT2	**Biratori 2**	**10.73**	**240**	P	**Pn**	**15 53 41.3**	**+0.1**
JEM	**Erimo**	**10.79**	**235**	P	**Pn**	**15 53 39.8**	**-2.1**
JEM	**Erimo**	**10.79**	**235**	P	**Pn**	**15 53 40.0**	**-1.9**
ERM	**Erimo**	**10.79**	**235**	*i* PN	**Pn**	**15 53 45.0**	**+3.1**
JNBK	**Urakawa-nobuka**	**10.83**	**237**	P	Pn	15 53 38.9	-3.6
JNBK				*e*S	Sn	15 55 31.3	-11
JEW	**Eniwo**	**11.22**	**243**	P	Pn	15 53 38.0	-10
JNB	**Noboribetsu**	**11.69**	**242**	P	**Pn**	**15 53 52.8**	**-1.4**
FX1	**Attu Island--F**	**12.13**	**64**	*e*Pn	**Pn**	**15 53 58.1**	**-2.0**
FX1				*e*Sn	Sn	15 56 05.0	-8.8
FX1	**Attu Island--F**	**12.13**	**64**	P	**Pn**	**15 53 58.2**	**-1.9**
	comp=Z,2.8nm,0.3s,baz=248,slow=17,SNR=25						
FX1				S	Sn	15 56 02.8	-11
	comp=Z,12nm,0.3s,baz=36,slow=19,SNR=12						
FX1				LR	LR	15 58 31.6	
	comp=Z,99nm,19.9s,baz=332,slow=36						
JOT	**Ohata**	**12.38**	**238**	P	Pn	15 53 59.7	-4.0
JSR	**Shiriuchi**	**12.64**	**240**	P	Pn	15 54 04.0	-3.2
JTM	**Tenmabayashi**	**12.77**	**236**	P	Pn	15 54 04.1	-4.9
JTM	**Tenmabayashi**	**12.77**	**236**	P	Pn	15 54 04.3	-4.7
JANG	**Nango**	**12.82**	**234**	P	Pn	15 54 03.3	-6.4
JANG				*e*S	Sn	15 56 16.8	-14
JOM	**Ohasama**	**13.60**	**232**	P	Pn	15 54 14.8	-5.5
JRG	**Rokugo**	**14.00**	**233**	P	Pn	15 54 20.3	-5.4
SEY	**Seymchan**	**14.20**	**355**	*e*P	Pn	15 54 23.9	-4.4
KLR	**Kul'dur**	**15.28**	**280**	*e*P	**Pn**	**15 54 43.3**	**+0.7**
JSD	**Sado**	**16.25**	**235**	P	**P**	**15 54 58.4**	**+0.9**
USRK	**Ussuriysk Arra**	**16.52**	**262**	P	**P**	**15 55 00.2**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=65,slow=13,SNR=30						
USRK				LR	LR	16 00 48.7	
	comp=Z,140nm,20.8s,baz=152,slow=35						
MAT	**Matsushiro**	**17.40**	**231**	P	**P**	**15 55 10.9**	**+0.7**
MAT	**Matsushiro**	**17.40**	**231**	P	**Pn**	**15 55 09.4**	**0.0**
MJAR	**Matsushiro Arr**	**17.40**	**231**	P	**Pn**	**15 55 06.7**	**-2.8**
MJAR	**Matsushiro Arr**	**17.40**	**231**	P	**Pn**	**15 55 06.7**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=32,slow=14,SNR=8.3						
JRY	**Ryogami san**	**17.46**	**229**	P	**Pn**	**15 55 10.3**	**+0.1**
MDJ	**Mudanjiang**	**17.93**	**266**	*e*Pn	**Pn**	**15 55 13.3**	**-2.5**
	comp=Z,12nm,0.7s						
ZEA	**Zeya**	**18.01**	**296**	*e*P	P	15 55 27.0	+10
ZEA				AMB	AMB	15 55 27.6	
	comp=Z,14nm,0.9s						
YAK	**Yakutsk**	**19.36**	**322**	*e*P	**Pn**	**15 55 32.8**	**-0.1**
YAK				*e*S	**Sn**	**15 59 09.1**	**+0.2**
YAK				pmax	pmax		
	comp=Z,48nm,1.1s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,19nm,1.0s						
YAK				smax	smax		
	comp=N,20nm,1.6s						
YAK				smax	smax		
	comp=E,145nm,4.0s						
YAK				MLR	MLR		
	comp=Z,116nm,20.0s						
CN2	**Changchun**	**20.99**	**267**	*e*P	**P**	**15 55 47.6**	**-1.6**
CN2				*e*sP	**sP**	**15 56 08.8**	**+2.1**
CN2				*e*S	**S**	**15 59 34.8**	**-5.4**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
KSRS	**Korea Array**	**22.71**	**250**	P	**P**	**15 56 07.3**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=48,slow=10.0,SNR=20						
KSAR	**Wonju Array Be**	**22.74**	**250**	P	**P**	**15 56 07.3**	**-0.8**
BJI	**Beijing**	**28.85**	**267**	P	**P**	**15 57 02.0**	**-1.9**
BJI				pmax	pmax		
	comp=Z,13nm,0.5s						
BJI				LR	LR		
	comp=Z,45nm,17.0s						
IMA2	**Indian Mountai**	**31.34**	**38**	*e*P	**P**	**15 57 25.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**31.49**	**272**	*e*P	**P**	**15 57 26.4**	**-1.0**
HHC				pP	**pP**	**15 57 38.1**	**-2.0**
HHC				sP	**sP**	**15 57 43.5**	**-2.3**
HHC				PP	**PnPn**	**15 58 30.0**	**-1.7**
HHC				S	**S**	**16 02 28.0**	**-4.1**
HHC				PcS	**PcS**	**16 04 03.3**	**-0.5**
HHC				ScS	**ScS**	**16 07 54.0**	**-2.0**
HHC				pmax	pmax		
	comp=Z,36nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,5.1s						
HHC				LR	LR		
	comp=N,320nm,13.0s						
HHC				LR	LR		
	comp=E,250nm,12.2s						
HHC				LR	LR		
	comp=Z,250nm,13.4s						
SONM	**Songino Array**	**31.93**	**287**	LR	LR	16 10 58.9	
	comp=Z,165nm,18.8s,baz=274,slow=37						
TLY	**Talaya**	**32.44**	**295**	*e*P	**P**	**15 57 35.9**	**+0.5**
TLY				*e*S	**S**	**16 02 49.9**	**+3.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,78nm,14.0s						
COLD	**Coldfoot**	**32.87**	**36**	*e*P	**P**	**15 57 38.5**	**-0.5**
	comp=Z,4.7nm,0.5s						
SML	**Sawmill**	**33.56**	**46**	*e*P	**P**	**15 57 44.2**	**-0.9**
SML				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SML	**Sawmill**	**33.56**	**46**	*e*P	**P**	**15 57 44.2**	**-0.9**
	comp=Z,4.5nm,0.9s						
COLA	**College**	**33.69**	**40**	*i* P	**P**	**15 57 45.8**	**-0.3**
ILAR	**Eielson Array**	**34.10**	**40**	P	**P**	**15 57 49.1**	**-0.7**
ILAR				pP	**pP**	**15 58 01.4**	**-1.0**
ILAR	**Eielson Array**	**34.10**	**40**	P	**P**	**15 57 49.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=257,slow=7.8,SNR=9.1						
ILAR				pP	**pP**	**15 58 01.4**	**-1.0**
	comp=Z,4.2nm,0.8s,baz=257,slow=8.4,SNR=17						
WHN	**Wuhan**	**35.74**	**254**	P	**P**	**15 58 06.3**	**+2.1**
GUMO	**Guam**	**36.15**	**197**	*e*P	**P**	**15 58 10.0**	**+2.3**
	comp=Z,108nm,1.1s						
HYT	**Haines Junctio**	**38.87**	**46**	*e*P	**P**	**15 58 28.5**	**-2.0**
LZH	**Lanzhou**	**39.15**	**271**	*e*P	**P**	**15 58 34.1**	**+0.8**
LZH				pP	**pP**	**15 58 47.5**	**+1.3**
LZH				sP	**sP**	**15 58 52.4**	**+0.5**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
INK	**Inuvik**	**39.18**	**34**	*e*P	**P**	**15 58 33.6**	**+0.8**
	comp=Z,7.9nm,0.8s						
INK				pP	**pP**	**15 58 44.7**	**-1.1**
INK	**Inuvik**	**39.18**	**34**	P	**P**	**15 58 32.9**	**0.0**
	comp=Z,1.2nm,0.5s,baz=296,slow=6.8,SNR=6.0						
INK				pP	**pP**	**15 58 44.7**	**-1.1**
	comp=Z,6.1nm,0.7s,baz=287,slow=6.8,SNR=11						
GTA	**Gaotai**	**39.96**	**278**	*e*P	**P**	**15 58 39.5**	**-0.4**
GTA				pP	**pP**	**15 58 51.9**	**-1.0**
GTA				sP	**sP**	**15 58 56.8**	**-1.8**
GTA				S	**S**	**16 04 38.8**	**-3.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,62nm,4.5s						
GTA				LR	LR		
	comp=N,81nm,15.4s						
GTA				LR	LR		
	comp=E,110nm,16.1s						
GTA				LR	LR		
	comp=Z,130nm,16.6s						
CD2	**Chengdu**	**42.37**	**264**	*e*P	**P**	**15 59 00.1**	**+0.4**
CD2				pP	**pP**	**15 59 13.8**	**+1.1**
CD2				sP	**sP**	**15 59 20.1**	**+1.7**
CD2				PP	**PP**	**16 00 41.5**	**+3.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,4.8s						
CD2				LR	LR		
	comp=N,120nm,13.2s						
CD2				LR	LR		
	comp=Z,170nm,13.4s						
ZALV	**Zalesovo Beam**	**42.48**	**305**	LR	LR	16 16 57.4	
	comp=Z,80nm,18.5s,baz=69,slow=36						
GYA	**Guiyang**	**43.45**	**257**	*e*P	**P**	**15 59 07.4**	**-1.2**
GYA				pP	**pP**	**15 59 23.3**	**+1.7**
GYA				sP	**sP**	**15 59 28.6**	**+1.3**
GYA				PP	**PP**	**16 00 51.0**	**+0.8**
GYA				S	**S**	**16 05 31.5**	**-2.1**
GYA				sS	**sS**	**16 05 56.4**	**+0.9**
GYA				ScS	**ScS**	**16 09 01.0**	**-3.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,360nm,19.7s						
GYA				LR	LR		
	comp=

AAK pmax pmax
comp=Z,4.0nm,1.2s
CMAR Chiang Mai Arr 54.14 256 P **P 16 00 30.7 +0.3**
CMAR Chiang Mai Arr 54.14 256 P **P 16 00 30.7 +0.3**
comp=Z,3.5nm,0.8s,baz=35,slow=7.3,SNR=18
ARU Arti 54.36 317 *d iP* **P 16 00 30.2 -1.3**
ARU 16 02 29.9
ARU S **S 16 08 06.3 +0.5**
ARU SS **SKiKP 16 11 40.2 +3.3**
ARU pmax pmax
comp=Z,4.0nm,0.8s
KSH Kashi 55.07 292 *eP* **P 16 00 38.6 +1.5**
APA Apatity 55.93 337⇑ *eP* **P 16 00 43.4 +0.7**
APA MLR MLR
comp=Z,300nm,14.0s
ARCES ARCESS Array B 56.30 341 P **P 16 00 42.7 -2.7**
ARCES ARCESS Array B 56.30 341 P **P 16 00 42.7 -2.7**
comp=Z,1.3nm,0.7s,baz=41,slow=8.4,SNR=6.1
SLMT Seeley Lake 57.45 54 *eP* **P 16 00 54.5 +0.5**
ABKAR Akbulak array 58.09 310 *eP* **P 16 00 56.2 -2.0**
MFID Camas Ranch 58.56 59 ⇓P **P 16 01 02.6 +0.8**
baz=58
B18A Beardsley Farm 58.67 51 ⇓P **P 16 01 03.1 +0.8**
baz=58
A19A Klindworth Far 58.85 50 ⇓P **P 16 01 04.4 +0.7**
baz=59
D17A Six Diamond Ra 58.99 53 ⇓P **P 16 01 05.6 +0.9**
baz=59
B19A Brinkman Farms 59.05 51 ⇑P **P 16 01 06.0 +1.0**
baz=59
HLID Hailey 59.26 58 ⇑P **P 16 01 07.6 +0.9**
baz=59
A20A Cobblestone Ra 59.30 50 ⇑P **P 16 01 07.4 +0.7**
baz=59
E17A Martinsdale 59.34 53 ⇓P **P 16 01 08.3 +1.1**
baz=59
C19A Slack Wire Ran 59.47 51 ⇓P **P 16 01 08.7 +0.8**
baz=59
A21A Bergtoll Ranch 59.73 49 ⇓P **P 16 01 10.6 +0.9**
baz=60
E18A Harlowton 59.77 53 ⇑P **P 16 01 11.4 +1.3**
baz=60
F17A Fitzpatrick Pl 59.81 54 ⇑P **P 16 01 11.6 +1.2**
baz=60
D19A Cripps Ranch, 59.92 52 ⇑P **P 16 01 12.2 +1.2**
baz=60
C20A Veseth Ranch, 60.02 51 ⇓P **P 16 01 12.7 +1.0**
baz=60
H16A Russell Place, 60.27 55 ⇑P **P 16 01 14.5 +0.8**
baz=60
F18A Big Timber 60.31 53 ⇓P **P 16 01 14.7 +0.9**
baz=60,SNR=5.5
NVAR Mina Array Bea 60.32 64 P **P 16 01 14.5 +0.4**
NVAR pP **pP 16 01 26.8 -1.0**
NVAR Mina Array Bea 60.32 64 P **P 16 01 14.5 +0.4**
comp=Z,1.6nm,0.7s,baz=302,slow=7.7,SNR=16
NVAR pP **pP 16 01 26.8 -1.0**
comp=Z,1.1nm,0.7s,baz=297,slow=8.0,SNR=5.9
D20A Manuel Ranch, 60.35 51 ⇓P **P 16 01 15.3 +1.3**
baz=60
E19A Rath Farm, Rou 60.43 52 ⇑P **P 16 01 15.8 +1.2**
baz=60
E20A Meyer Farm, Mu 60.74 52 ⇓P **P 16 01 18.0 +1.3**
baz=60
F19A Roth Farm, Mol 60.75 53 ⇓P **P 16 01 17.7 +0.9**
baz=60
G18A Lazy EL Ranch, 60.77 54 ⇓P **P 16 01 18.2 +1.2**
baz=61
D21A La Casta Ranch 60.96 51 ⇓P **P 16 01 19.1 +1.0**
baz=61
RRI2 Red Ridge 61.12 56 *eP* **P 16 01 19.6 0.0**
comp=Z,5.5nm,0.7s
H18A Shoshone NF, C 61.14 54 ⇓P **P 16 01 20.7 +1.1**
baz=61
MOOW Moose Ponds 61.17 56 *eP* **P 16 01 19.7 -0.1**
comp=Z,9.1nm,1.7s
TPAW Teton Pass 61.23 56 *eP* **P 16 01 22.0 +1.7**
comp=Z,18nm,1.7s
GRAC Grapevine Rang 61.82 65 ⇑P **P 16 01 25.4 +1.3**
baz=62
R11A Troy Canyon, C 61.99 63 *eP* **P 16 01 24.5 -0.9**
comp=Z,2.5nm,0.9s
R11A Troy Canyon, C 61.99 63 ⇑P **P 16 01 25.5 +0.1**
baz=62
F22A Rosebud 62.20 51 ⇑P **P 16 01 27.5 +0.9**
baz=62
D24A Glendive 62.27 49 ⇑P **P 16 01 28.3 +1.3**
baz=62
DUG Dugway 62.37 60 *eP* **P 16 01 27.0 -0.9**
DUG pmax pmax
comp=Z,8.0nm,1.2s
DUG Dugway 62.37 60 *eP* **P 16 01 27.0 -0.9**
comp=Z,7.6nm,1.2s
DUG Dugway 62.37 60 ⇑P **P 16 01 28.2 +0.3**
baz=62
MPMC Manual Prospec 62.37 66 ⇓P **P 16 01 28.3 +0.3**
baz=62
PDAR Pinedale Array 62.47 56 P **P 16 01 28.9 +0.3**
PDAR pP **pP 16 01 42.0 -0.2**
PDAR Pinedale Array 62.47 56 P **P 16 01 28.9 +0.3**
comp=Z,3.4nm,0.8s,baz=297,slow=2.5,SNR=27
PDAR pP **pP 16 01 42.0 -0.2**
comp=Z,2.6nm,0.8s,baz=320,slow=2.7,SNR=11
FURC Furnace Creek, 62.48 65 ⇓P **P 16 01 29.0 +0.7**
baz=62
H21A Big Horn, Sher 62.57 53 ⇓P **P 16 01 29.6 +0.6**
baz=62
FINES FINESS Array B 62.70 335 P **P 16 01 27.6 -1.8**
FINES FINESS Array B 62.70 335 P **P 16 01 27.6 -1.8**
comp=Z,0.8nm,0.5s,baz=28,slow=8.6,SNR=7.6
K19A Absolon Red Bu 62.82 55 ⇓P **P 16 01 31.1 +0.3**
baz=63
J20A Shoshoni 62.87 54 ⇓P **P 16 01 32.2 +1.0**
baz=63
I21A Big Trails, Te 62.98 54 ⇑P **P 16 01 32.1 +0.2**
baz=63,SNR=5.7
J21A Lysite 63.22 54 ⇓P **P 16 01 34.0 +0.4**
baz=63
L20A Wamsutter 63.65 56 ⇓P **P 16 01 36.6 +0.3**
baz=63
J22A Midwest 63.69 54 ⇓P **P 16 01 37.5 +1.0**
baz=64
TUQ Turquoise Moun 63.73 66 ⇓P **P 16 01 37.3 +0.3**
baz=64
K21A Alcova 63.81 55 ⇑P **P 16 01 37.4 -0.1**
baz=64,SNR=6.4
CCUT Cedar City 63.83 62 *eP* **P 16 01 37.2 -0.4**
comp=Z,2.2nm,0.8s
HEC Hector,Ludlow 63.90 66 ⇓P **P 16 01 38.7 +0.7**
baz=64
BBRC Big Bear Solar 63.92 67 ⇓P **P 16 01 38.8 +0.5**
baz=64
L21A Rawlins 64.20 55 ⇑P **P 16 01 40.3 +0.2**
baz=64
SRU San Rafael 64.40 59 *eP* **P 16 01 40.2 -1.1**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael 64.40 59 *eP* **P 16 01 40.2 -1.1**
comp=Z,6.6nm,0.8s
M21A Separation Pea 64.45 55 ⇑P **P 16 01 41.7 0.0**
baz=64
LDFC Landfair 64.47 65 *eP* **P 16 01 39.9 -1.8**
comp=Z,7.0nm,0.9s
N20A Spence Gulch, 64.49 57 ⇓P **P 16 01 42.4 +0.4**
baz=64,SNR=5.9
L22A Ellis Ranch, M 64.66 55 ⇑P **P 16 01 43.6 +0.6**
baz=64
I25A Rochford 64.71 52 ⇑P **P 16 01 43.9 +0.6**
baz=64
P19A Cripple Cowboy 64.92 58 ⇓P **P 16 01 45.4 +0.6**
baz=65
N21A Black Mountain 64.95 56 ⇓P **P 16 01 46.0 +1.0**
baz=65
L23A Garrett 65.00 54 ⇓P **P 16 01 45.7 +0.4**
baz=65
IRM Iron Mountain 65.07 66 ⇓P **P 16 01 45.7 +0.2**
baz=65
W13A Hualapai Mount 65.18 65 ⇑P **P 16 01 46.9 +0.3**
baz=65
U15A North Rim 65.22 63 ⇑P **P 16 01 47.5 +0.7**
baz=65
H28A Mission Ridge 65.63 49 ⇑P **P 16 01 49.7 +0.7**
baz=65
N23A Red Feather La 65.72 55 ⇑P **P 16 01 50.4 +0.4**
baz=66
PV04 Paradox Valley 65.81 59 *eP* **P 16 01 51.3 +0.8**
O22A Kremmling 65.90 56 ⇑P **P 16 01 52.4 +1.2**
baz=66
P22A Eagle 66.18 57 ⇑P **P 16 01 53.7 +0.8**
baz=66
O23A Lake Granby, G 66.21 56 ⇓P **P 16 01 54.6 +1.4**
baz=66
Q21A Lamborn Mesa, 66.26 58 ⇑P **P 16 01 54.2 +0.8**
baz=66
WUAZ Wupatki 66.38 63 ⇓P **P 16 01 55.3 +1.2**
baz=66
K27A Flueckinger Fa 66.41 52 ⇓P **P 16 01 54.8 +0.6**
baz=66
J28A Allard Ranch, 66.41 51 ⇓P **P 16 01 54.9 +0.8**
baz=66
Y14A Wickenburg 66.51 65 ⇑P **P 16 01 55.7 +0.8**
baz=66
S20A Disappointment 66.51 59 ⇓P **P 16 01 55.7 +0.6**
baz=66
R21A Cimarron 66.59 58 ⇓P **P 16 01 56.5 +0.9**
baz=66
Q22A Crested Butte, 66.61 57 ⇓P **P 16 01 56.6 +0.9**
baz=66
NOA NORSAR Array B 66.66 342 P **P 16 01 53.8 -1.6**
NOA NORSAR Array B 66.66 342 P **P 16 01 53.8 -1.6**
comp=Z,0.3nm,0.5s,baz=28,slow=6.6,SNR=4.4
ISCO Idaho Springs 66.66 56 *eP* **P 16 01 57.3 +1.2**
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 66.66 56 *eP* **P 16 01 57.3 +1.2**
comp=Z,4.5nm,0.8s
ISCO Idaho Springs 66.66 56 ⇓P **P 16 01 57.0 +0.9**
baz=66
113A Mohawk Valley, 66.86 66 ⇑P **P 16 01 57.7 +0.6**
baz=67
MVCO Mesa Verde 66.87 60 ⇓P **P 16 01 57.8 +0.5**
baz=67
S21A Coal Bank Pass 66.95 59 ⇓P **P 16 01 58.5 +0.5**
baz=67
X16A Lo Mia Camp, P 67.11 64 ⇓P **P 16 01 59.9 +1.1**
baz=67
R22A Saguache, Gunn 67.14 58 ⇑P **P 16 02 00.3 +1.2**
baz=67
S22A 4UR Ranch, Cre 67.44 58 ⇓P **P 16 02 01.9 +0.8**
baz=67
N27A Anderson Farm, 67.61 53 ⇓P **P 16 02 02.9 +1.1**
baz=67
P25A Willow Gulch B 67.66 55 ⇓P **P 16 02 03.4 +1.2**
baz=67
R23A Moffat 67.68 57 ⇑P **P 16 02 03.8 +1.3**
baz=68
X18A Snowflake 67.91 63 ⇑P **P 16 02 04.5 +0.6**
baz=68
T22A Edith 67.91 59 ⇑P **P 16 02 05.0 +1.1**
baz=68
R24A Sanders Place, 68.05 57 ⇓P **P 16 02 05.5 +0.8**
baz=68
W20A Ramah 68.33 61 ⇑P **P 16 02 06.8 +0.3**
baz=68
S24A Houchin Ranch, 68.41 57 ⇓P **P 16 02 07.8 +0.7**
baz=68
Q26A Hugo 68.43 55 ⇓P **P 16 02 07.9 +0.9**
baz=68
X20A Quemado 68.75 62 ⇑P **P 16 02 09.8 +0.7**
baz=69
R26A Arlington 68.91 56 ⇓P **P 16 02 10.5 +0.4**
baz=69
AFI Afiamalu 69.04 145 *eP* P 16 02 14.4 +3.6
comp=Z,33nm,1.1s
T25A Trinidad 69.22 57 ⇑P **P 16 02 12.6 +0.5**
baz=69
X21A Alamocita Cree 69.23 61 ⇑P **P 16 02 13.0 +0.8**
baz=69,SNR=6.8
Y20A Horse Springs, 69.27 62 ⇑P **P 16 02 13.2 +0.8**
baz=69
W22A Albuquerque 69.31 60 ⇑P **P 16 02 13.4 +0.8**
baz=69
S26A Kim 69.39 56 ⇑P **P 16 02 12.9 -0.2**
baz=69
Y21A Point of Rocks 69.60 62 ⇑P **P 16 02 15.5 +1.0**
baz=69
X22A Bernardo 69.63 61 ⇑P **P 16 02 14.9 +0.3**
baz=69
T26A Comanche Natio 69.64 57 ⇓P **P 16 02 14.3 -0.3**
baz=69
Z20A Nine Sixteen R 69.71 63 ⇑P **P 16 02 15.5 +0.5**
baz=70
U25A Circle Dot Ran 69.75 58 ⇓P **P 16 02 15.8 +0.5**
baz=70
V25A Rancho No Teng 70.04 58 ⇓P **P 16 02 17.6 +0.5**
baz=70
W24A Lazy 6 Ranch, 70.05 59 ⇑P **P 16 02 17.9 +0.7**
baz=70
X23A Hourglass Bar 70.05 60 ⇑P **P 16 02 18.0 +0.7**
baz=70
KBZ Khabaz 70.34 315 LR LR 16 35 32.8
comp=Z,81nm,19.0s,baz=246,slow=38
AKASG Malin Array Be 70.52 327 P **P 16 02 20.2 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 70.52 327 P **P 16 02 20.2 +0.7**
AKASG Malin Array Be 70.52 327 P **P 16 02 20.2 +0.7**
comp=Z,0.6nm,0.4s,baz=32,slow=5.9,SNR=2.8
319A Douglas 70.54 65 ⇑P **P 16 02 20.5 +0.4**
baz=70
Z22A Elephant Butte 70.56 62 ⇑P **P 16 02 20.9 +0.7**
baz=70
W25A X Bar L Ranch, 70.58 59 ⇓P **P 16 02 20.8 +0.5**
baz=70
121A Cookes Peak, D 70.59 63 ⇑P **P 16 02 20.6 +0.1**
baz=70
Y23A Lovelace Mesa, 70.59 61 ⇑P **P 16 02 21.1 +0.5**
baz=70,SNR=5.6
220A Playas Peak, P 70.61 64 ⇓P **P 16 02 21.4 +0.8**
baz=70
WRAB Tennant Creek 70.92 201 *eP* **P 16 02 21.7 -0.5**
WRAB pmax pmax
comp=Z,43nm,2.1s
WRAB Tennant Creek 70.92 201 *eP* **P 16 02 21.7 -0.5**
comp=Z,43nm,2.1s
WRA Warramunga Arr 70.93 201 P **P 16 02 20.6 -1.6**
WRA Warramunga Arr 70.93 201 P **P 16 02 20.6 -1.6**
comp=Z,3.0nm,1.0s,baz=16,slow=6.3,SNR=8.7
Y24A Capitan 70.95 60 ⇓P **P 16 02 23.5 +0.8**
baz=71
W26A Owens Ranch, T 71.06 58 ⇑P **P 16 02 23.4 +0.1**
baz=71
222A Williams Famil 71.30 63 ⇑P **P 16 02 25.4 +0.6**
baz=71
Y25A Mesa, Roswell 71.38 60 ⇑P **P 16 02 25.4 +0.2**
baz=71,SNR=6.8
X26A CR and CF Fran 71.43 59 ⇑P **P 16 02 25.4 -0.1**
baz=71
Z24A Sheeppen Canyo 71.43 61 ⇓P **P 16 02 26.0 +0.4**
baz=71
FITZ Fitzroy Crossi 71.61 209 P **P 16 02 25.2 -1.2**
FITZ Fitzroy Crossi 71.61 209 P **P 16 02 25.2 -1.2**
comp=Z,2.5nm,0.8s,baz=3.4,slow=6.6,SNR=3.6
124A Stringfield Ra 71.83 61 ⇑P **P 16 02 28.2 +0.2**
baz=72
224A Cornudas Mount 72.25 62 ⇑P **P 16 02 30.9 +0.4**
baz=72
Z26A Caprock 72.26 60 ⇑P **P 16 02 30.6 +0.1**
baz=72,SNR=6.4
Y27A Causey 72.28 59 ⇑P **P 16 02 30.9 +0.3**
baz=72
125A Gardner Draw, 72.32 61 ⇓P **P 16 02 31.0 +0.2**
baz=72,SNR=5.1
MSTX Muleshoe 72.44 58 ⇑P **P 16 02 31.8 +0.3**
baz=72
225A Deer Hill, Car 72.63 61 ⇑P **P 16 02 32.9 +0.1**
baz=72
Z27A Tatum 72.67 59 ⇓P **P 16 02 33.4 +0.5**
baz=72
324A Moseley Ranch, 72.73 62 ⇑P **P 16 02 32.8 -0.5**
baz=73
226B Tecolote Peak, 73.03 61 ⇓P **P 16 02 35.1 +0.1**
baz=73
325A Bean Ranch, Si 73.08 62 ⇑P **P 16 02 35.9 +0.4**
baz=73
425A Indio Mountain 73.50 62 ⇓P **P 16 02 37.7 -0.2**
baz=73,SNR=5.5
Z29A Hungry Hill Ra 73.56 58 ⇑P **P 16 02 38.5 +0.3**
baz=73
128A Castleberry Fa 73.59 59 ⇑P **P 16 02 38.6 +0.3**
baz=73
326A Caldwell Ranch 73.70 61 ⇓P **P 16 02 39.5 +0.5**
baz=74
Z30A Sanderson Ranc 73.86 58 ⇓P **P 16 02 40.4 +0.5**
baz=74
426A McDonald Obser 74.14 62 ⇓P **P 16 02 42.0 +0.3**
baz=74
328A Wristen Ranch, 74.32 60 ⇓P **P 16 02 42.7 +0.1**
baz=74
427A Hayter Ranch, 74.37 61 ⇑P **P 16 02 43.1 +0.1**
baz=74
Z31A Sharp Cattle R 74.39 57 ⇑P **P 16 02 42.9 0.0**
baz=74
KOLS Kolonicke sedl 74.43 330 *eP* **P 16 02 43.2 +0.4**
KOLS Kolonicke sedl 74.43 330 *eP* **P 16 02 43.2 +0.4**
526A Mary Lane Ranc 74.56 62 ⇓P **P 16 02 44.2 +0.2**
baz=74,SNR=6.1
ASAR Alice Springs 74.62 200 P **P 16 02 43.4 -0.7**
ASAR pP **pP 16 02 55.6 -2.5**
ASAR Alice Springs 74.62 200 P **P 16 02 43.4 -0.7**
comp=Z,0.9nm,0.5s,baz=15,slow=5.6,SNR=20
ASAR pP **pP 16 02 55.6 -2.5**
comp=Z,0.6nm,0.7s,baz=12,slow=5.7,SNR=3.8
Z32A Haskell 74.77 57 ⇓P **P 16 02 45.1 0.0**
baz=75
527A Woodward Ranch 74.77 62 ⇓P **P 16 02 45.4 +0.1**
baz=75
626A Big Bend Ranch 74.90 62 ⇑P **P 16 02 46.1 +0.1**
baz=75
LPIG La Paz 75.16 70 LR LR 16 30 41.6
comp=Z,43nm,18.4s,baz=192,slow=32
330A Mertzon 75.23 59 ⇑P **P 16 02 47.7 -0.2**
baz=75
528A Cox Ranch, San 75.24 61 ⇑P **P 16 02 48.3 +0.4**
baz=75
231A Bronte 75.33 58 ⇑P **P 16 02 48.4 +0.1**
baz=75
TXAR Lajitas Array 75.34 62 P **P 16 02 48.4 -0.1**
TXAR Lajitas Array 75.34 62 P **P 16 02 48.4 -0.1**
comp=Z,3.7nm,0.6s,baz=301,slow=4.4,SNR=42
KECS Kecovo 75.41 331 *eP* **P 16 02 48.4 -0.1**
KECS Kecovo 75.41 331 *eP* **P 16 02 48.4 -0.1**
429A Davenport Ranc 75.41 60 ⇓P **P 16 02 49.0 +0.1**
baz=75
627A Terlingua Ranc 75.41 62 ⇑P **P 16 02 49.3 +0.3**
baz=75
529A Stev Forest Ra 75.59 61 ⇑P **P 16 02 50.1 +0.2**
baz=75
430A Baggett Ranch, 75.66 60 ⇑P **P 16 02 50.2 -0.1**
baz=76
628A Black Gap, Mar 75.68 62 ⇓P **P 16 02 50.7 +0.2**
baz=76
VYHS Vyhne 75.92 332 *eP* **P 16 02 53.2 +1.8**
VYHS Vyhne 75.92 332 *eP* **P 16 02 53.2 +1.8**
332A Millersview 76.06 58 ⇑P **P 16 02 52.8 +0.2**
baz=76
530A J-C Ranch, Com 76.08 60 ⇑P **P 16 02 52.9 +0.2**
baz=76
431A Sonora 76.10 59 ⇑P **P 16 02 53.3 +0.5**
baz=76
531A Rocksprings 76.52 60 ⇓P **P 16 02 55.3 +0.1**
baz=76
JCT Junction City 76.71 59 ⇓P **P 16 02 56.5 +0.2**
baz=76
KHC Kasperske Hory 76.91 335 *eP* pP 16 03 09.0 -2.1
KHC Kasperske Hory 76.91 335 *epP* pP 16 03 09.0 -2.1
532A Rocksprings 76.91 59 ⇓P **P 16 02 57.4 0.0**
baz=77
631A Perdido Creek 77.07 60 ⇓P **P 16 02 59.0 +0.7**
baz=77
GERES GERESS Array B 77.13 335 P **P 16 02 58.0 -0.3**
GERES GERESS Array B 77.13 335 P **P 16 02 58.0 -0.3**
comp=Z,0.4nm,0.5s,baz=44,slow=5.8,SNR=4.4
RAR Rarotonga 80.53 138 *eP* **P 16 03 20.1 +3.0**
comp=Z,323nm,2.4s
AVF Avril sur Loir 81.62 341 *eP* **P 16 03 23.2 +0.5**
AVF Avril sur Loir 81.62 341 *eP* **P 16 03 23.2 +0.5**
AVF Avril sur Loir 81.62 341 *eP* **P 16 03 23.2 +0.5**
LPL La Plagne 82.04 338 *eP* **P 16 03 25.7 +0.5**
comp=Z,8.8nm,0.8s
LPL La Plagne 82.04 338 *eP* **P 16 03 25.7 +0.5**
LPL La Plagne 82.04 338 *eP* **P 16 03 25.7 +0.5**
LPG La Plagne 82.05 338 *eP* **P 16 03 25.9 +0.5**
comp=Z,5.5nm,0.6s
LPG La Plagne 82.05 338 *eP* **P 16 03 25.9 +0.5**
LPG La Plagne 82.05 338 *eP* **P 16 03 25.9 +0.5**
ORIF Oris-en-Rattie 82.81 338 *eP* **P 16 03 29.6 +0.5**
comp=Z,2.9nm,0.5s
ORIF Oris-en-Rattie 82.81 338 *eP* **P 16 03 29.6 +0.5**
ORIF Oris-en-Rattie 82.81 338 *eP* **P 16 03 29.6 +0.5**
FORT Forrest 82.86 203 *eP* **P 16 03 31.1 +2.0**
comp=Z,269nm,2.4s
QSPA South Pole Qui 138.58 180 PKP **PKPdf 16 10 29.4 +0.2**
QSPA South Pole Qui 138.58 180 PKP **PKPdf 16 10 29.4 +0.2**
comp=Z,0.7nm,0.6s,baz=0.5,slow=4.2,SNR=6.7
CPUP Villa Florida 146.29 60 PKPbc **PKPdf 16 10 44.5 +0.5**
CPUP Villa Florida 146.29 60 PKPbc **PKPdf 16 10 44.5 +0.5**
comp=Z,1.4nm,0.6s,baz=270,slow=2.0,SNR=3.6
PLCA Paso Flores 147.05 93 PKPbc **PKPdf 16 10 46.5 +1.5**
PLCA Paso Flores 147.05 93 PKPbc **PKPdf 16 10 46.5 +1.5**
comp=Z,2.0nm,0.8s,baz=236,slow=3.6,SNR=3.0

NIED ***21*** *15:53:00,23°.30N×123°.40E,h8km,Mw3.8 Best double couple: M≈5.41000×10^14 NP1:φ≈318.00000°,δ81.00000°, λ-23.00000°. NP2:φ≈52.00000°,δ67.00000°, λ-170.00000°.*

JMA 21 15:53:45.7±0.1,23°.28N×123°.44E,h49km±3km,M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.84**	**23**	P	Pn	15 54 01.5	+0.2
HATJ				*eS*	Sn	15 54 12.9	+0.2
IRIF	**Iriomote-Funau**	**1.08**	**14**	P	Pn	15 54 05.0	+0.5
IRIF				*eS*	Sn	15 54 19.0	+0.5
JKRS	**Kuro-shima**	**1.09**	**29**	P	Pn	15 54 05.2	+0.6
JKRS				*eS*	Sn	15 54 19.3	+0.8
YOJ	**Yonaguni jima**	**1.24**	**342**	P	Pn	15 54 07.2	+0.5
YOJ				*eS*	Sn	15 54 22.9	+0.6
JIJ	**Ishigaki jima**	**1.26**	**31**	P	Pn	15 54 07.2	+0.3
JIJ				*eS*	Sn	15 54 22.7	0.0
JTJ	**Tarama**	**1.78**	**40**	P	Pn	15 54 14.8	+0.8
JTJ				*eS*	Sn	15 54 36.9	+1.4
JMJ	**Miyako jima 2**	**2.28**	**48**	P	Pn	15 54 21.8	+0.9
JMJ				*eS*	Sn	15 54 49.0	+1.2
JOGS	**Gusukube**	**2.33**	**50**	P	Pn	15 54 22.4	+0.9
JOGS				*eS*	Sn	15 54 50.6	+1.7

ISCJB ***21*** *15:54:27.1±0.6,32°.51N±0°.07×137°.73E±0°.09,h350km, mb3.3/10,Error ellipse: s-maj=10.5km s-min=8.7km az=26.8*
JMA ***21*** *15:54:28.0±0.2,32°.66N×137°.63E,h368km±3km,M3.4*
IDC ***21*** *15:54:28.0±1.1,32°.72N×137°.68E,h358km±12km, mb3.2/10,mb1 3.3/14,mb1mx3.1/32,mbtmp3.1/14,Error ellipse: s-maj=19.8km s-min=12.7km az=83.0*

ISC 21 15:54:27.9±0.9,32°.69N±0°.10×137°.64E±0°.07,h350km,n28, σ1§68/29,mb3.3/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.82**	**298**	P	**Pn**	**15 55 19.9**	**+1.9**
JIE	**Ise**	**1.86**	**336**	P	**Pn**	**15 55 20.6**	**+2.4**
JHJ2	**Mitsune**	**1.88**	**77**	P	**Pn**	**15 55 20.3**	**+1.9**
JKN2	**Miekihoku**	**1.92**	**324**	P	**Pn**	**15 55 20.7**	**+2.1**
HMMJ	**Hamamatsu 2**	**2.16**	**2**	P	**Pn**	**15 55 22.6**	**+2.3**
JWY	**Kouya**	**2.29**	**312**	P	**Pn**	**15 55 23.7**	**+2.3**
JAO	**Obara**	**2.59**	**353**	P	**Pn**	**15 55 25.8**	**+2.1**
JNY	**Yasuok**	**2.67**	**4**	P	**Pn**	**15 55 26.5**	**+2.1**
JOD2	**Odawara 2**	**2.83**	**25**	P	**Pn**	**15 55 27.8**	**+2.0**
JOD2				*eS*	**S**	**15 56 14.2**	**+1.9**
JAI	**Aioi**	**2.89**	**293**	P	**Pn**	**15 55 28.1**	**+1.9**
JAI				*eS*	**S**	**15 56 14.6**	**+1.5**
JGF	**Kuroka**	**2.91**	**355**	P	**Pn**	**15 55 28.4**	**+1.9**
JWT	**Wachi**	**3.18**	**325**	P	**Pn**	**15 55 30.8**	**+1.9**
MJAR	**Matsushiro Arr**	**3.87**	**7**	P	**Pn**	**15 55 36.3**	**+0.8**
	6.0nm,0.3s,baz=186,slow=10,SNR=57						
MJAR				S	**S**	**15 56 30.0**	**-0.1**
	0.5nm,0.3s,baz=193,slow=19,SNR=6.4						
JHS	**Saijyo**	**4.41**	**303**	P	**Pn**	**15 55 43.1**	**+1.9**
JNU	**Nakatsue**	**5.70**	**276**	P	**Pn**	**15 55 57.1**	**+1.7**
JNU	**Nakatsue**	**5.70**	**276**	P	**Pn**	**15 55 57.0**	**+1.7**
	0.7nm,0.3s,baz=232,slow=17,SNR=9.3						
KSRS	**Korea Array**	**9.27**	**304**	P	**P**	**15 56 38.5**	**-0.6**
	0.2nm,0.3s,baz=114,slow=11,SNR=7.3						
USRK	**Ussuriysk Arra**	**12.31**	**341**	P	**Pn**	**15 57 12.9**	**-0.2**
	0.1nm,0.3s,baz=161,slow=13,SNR=3.8						
SONM	**Songino Array**	**28.00**	**312**	P	**P**	**15 59 47.3**	**-0.5**

0.6nm,0.8s,baz=107,slow=9.3,SNR=3.0
ZALV Zalesovo Beam 42.71 316 P **P 16 01 50.3 -1.2**
0.5nm,0.3s,baz=91,slow=6.4,SNR=3.0
MKAR Makanchi Array 43.94 305 P **P 16 02 00.4 -1.0**
0.4nm,0.4s,baz=85,slow=9.4,SNR=7.4
KURBB Kurchatov Arra 46.36 311 P **P 16 02 19.1 -1.0**
0.6nm,0.3s,baz=95,slow=8.7,SNR=3.3
FITZ Fitzroy Crossi 51.80 195 P P 16 03 00.4 -0.8
1.5nm,0.7s,baz=30,slow=8.1,SNR=3.4
WRA Warramunga Arr 52.43 184 P P 16 03 05.0 -0.9
1.2nm,0.3s,baz=360,slow=7.7,SNR=36
ILAR Eielson Array 54.81 31 P **P 16 03 21.8 -0.5**
0.3nm,0.5s,baz=249,slow=6.0,SNR=3.4
ASAR Alice Springs 56.16 184 P **P 16 03 32.2 -0.2**
0.8nm,0.8s,baz=13,slow=8.7,SNR=7.8
YKA Yellowknife Ar 69.10 28 P **P 16 04 56.0 -0.6**
1.1nm,0.8s,baz=304,slow=6.3,SNR=3.2
FINES FINESS Array B 71.18 332 P **P 16 05 08.6 -0.6**
1.7nm,1.0s,baz=94,slow=4.5,SNR=2.4

IDC 21 15:56:03.8±5.5,3°.52S×67°.72E,h0km,mb3.6/4,mb1 3.9/4, mb1mx3.4/26,mbtmp3.6/4,MS4.0/12,Ms1 4.0/12, ms1mx3.6/38,Error ellipse: s-maj=139.2km s-min=39.3km az=81.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**25.05**	**232**	LR	LR	16 08 44.9	
	comp=Z,439nm,20.1s,baz=359,slow=30						
PSI	**Prapat**	**31.81**	**79**	LR	LR	16 12 17.0	
	comp=Z,236nm,20.5s,baz=43,slow=31						
CMAR	**Chiang Mai Arr**	**37.72**	**54**	P	P	16 03 21.5	-0.1
	0.7nm,0.8s,baz=246,slow=8.8,SNR=6.2						
CMAR				LR	LR	16 16 18.3	
	comp=Z,91nm,18.6s,baz=164,slow=32						
LBTB	**Lobatse**	**45.79**	**238**	LR	LR	16 21 03.9	
	comp=Z,285nm,18.9s,baz=108,slow=33						
BOSA	**Boshof**	**47.44**	**234**	LR	LR	16 22 56.9	
	comp=Z,221nm,21.6s,baz=160,slow=34						
SUR	**Sutherland**	**52.45**	**231**	LR	LR	16 24 04.3	
	comp=Z,368nm,21.4s,baz=69,slow=32						
ZALV	**Zalesovo Beam**	**59.02**	**12**	LR	LR	16 28 44.9	
	comp=Z,64nm,18.2s,baz=340,slow=33						
SONM	**Songino Array**	**61.31**	**29**	P	P	16 06 21.3	0.0
	0.4nm,0.5s,baz=216,slow=7.7,SNR=5.6						
SONM				LR	LR	16 32 24.9	
	comp=Z,170nm,20.7s,baz=22,slow=36						
MAW	**Mawson**	**64.06**	**182**	LR	LR	16 27 04.5	
	comp=Z,143nm,20.0s,baz=183,slow=29						
ASAR	**Alice Springs**	**66.80**	**114**	P	P	16 06 58.2	+0.4
	0.4nm,0.7s,baz=286,slow=6.3,SNR=6.3						
WRA	**Warramunga Arr**	**66.84**	**110**	P	P	16 06 57.8	-0.3
	0.6nm,0.7s,baz=283,slow=6.0,SNR=9.5						
KSRS	**Korea Array**	**69.03**	**48**	LR	LR	16 39 20.7	
	comp=Z,51nm,18.3s,baz=5.0,slow=38						
MJAR	**Matsushiro Arr**	**76.56**	**51**	LR	LR	16 40 01.4	
	comp=Z,55nm,18.8s,baz=355,slow=34						
SNAA	**Sanae**	**80.63**	**198**	LR	LR	16 35 45.7	
	comp=Z,27nm,19.2s,baz=52,slow=30						

---

*ISCJB **21** 16:10:22.7±0.9,48°.68N±0°.09×155°.5E±0°.2,h10km, mb3.4/3,Error ellipse: s-maj=20.0km s-min=5.5km az=36.4*
*MOS **21** 16:10:23.4±1.6,48°.83N×155°.34E,h12km,mb4.1/1,Error ellipse: s-maj=37.8km s-min=9.8km az=69.3*
*KRSC **21** 16:10:23.7±1.2,48°.72N×155°.48E,h5km±5km,ML4.1*
*IDC **21** 16:10:30.9±4.5,48°.89N×155°.09E,h73km±40km,mb3.2/3, mb1 3.5/6,mb1mx3.2/28,mbtmp3.4/6,ML3.3/3,Error ellipse: s-maj=88.6km s-min=19.3km az=149.0*

ISC 21 16:10:24.3±1.2,48°.83N±0°.1×155°.3E±0°.1,h10km,n26, σ1§50/31,mb3.5/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.96**	**15**	*e*PN	Pn	16 10 52.5	-5.1
SKR				pmax	pmax		
	comp=N,40nm,0.4s						
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR	**Severo-Kuril's**	**1.96**	**15**	*e*P	**Pn**	**16 10 57.8**	**+0.2**
SKR				*e*S	**Sn**	**16 11 22.5**	**+0.3**
PAU	**Pauzhetka**	**2.84**	**19**	PN	**Pn**	**16 11 11.1**	**+1.4**
PAU				S	**Sn**	**16 11 46.2**	**+2.3**
PAU	**Pauzhetka**	**2.84**	**19**	P	**Pn**	**16 11 11.1**	**+1.4**
PAU				S	**Sn**	**16 11 46.2**	**+2.3**
MIPR	**Malaya Ipel'ka**	**3.61**	**14**	P	**Pn**	**16 11 20.5**	**+0.3**
ASAK	**Asacha**	**3.95**	**23**	*e*P	**Pn**	**16 11 27.1**	**+2.1**
ASAK				S	**Sn**	**16 12 13.2**	**+1.8**
MTVR	**Mutnovka**	**4.12**	**25**	*e*P	**Pn**	**16 11 28.7**	**+1.4**
MTVR				S	**Sn**	**16 12 16.5**	**+0.9**
RUS	**Russkaya**	**4.17**	**28**	PN	**Pn**	**16 11 29.2**	**+1.3**
RUS				S	**Sn**	**16 12 17.3**	**+0.6**
RUS	**Russkaya**	**4.17**	**28**	*e*P	**Pn**	**16 11 29.2**	**+1.3**
RUS				S	**Sn**	**16 12 17.3**	**+0.6**
APC	**Apacha**	**4.30**	**15**	P	Pn	16 11 32.5	+2.8
PETK	**Petropavlovsk-**	**4.57**	**18**	PN	Pn	16 11 36.9	+3.4
PETK				S	**Sb**	**16 12 37.3**	**-2.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.57**	**18**	P	Pn	16 11 36.9	+3.4
	comp=Z,1.1nm,0.3s,baz=187,slow=14,SNR=28						
PETK				S	**Sb**	**16 12 37.3**	**-2.4**
	baz=169,slow=16,SNR=2.0						
PET	**Petropavlovsk**	**4.73**	**25**	S	**Sn**	**16 12 31.6**	**+1.2**
SDLR	**Sedlovina**	**5.02**	**25**	P	Pn	16 11 42.3	+2.6
GNL	**Ganaly**	**5.18**	**17**	P	**Pn**	**16 11 43.4**	**+1.5**
SPN	**Mys Shipunski**	**5.23**	**33**	PN	**Pn**	**16 11 43.8**	**+1.3**
SPN	**Mys Shipunski**	**5.23**	**33**	P	**Pn**	**16 11 43.8**	**+1.3**
SPN				S	**Sn**	**16 12 42.3**	**-0.5**
MKZ	**Mys Kozlova**	**7.01**	**32**	PN	**Pn**	**16 12 07.6**	**+0.8**
MKZ	**Mys Kozlova**	**7.01**	**32**	P	**Pn**	**16 12 07.6**	**+0.8**
KBTR	**Krutoberegovo**	**8.71**	**29**	PN	**Pn**	**16 12 31.5**	**+1.2**
KBTR	**Krutoberegovo**	**8.71**	**29**	P	**Pn**	**16 12 31.5**	**+1.2**
ASAJ	**Asahikawa**	**9.95**	**247**	P	**Pn**	**16 12 49.4**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=74,slow=19,SNR=11						
USRK	**Ussuriysk Arra**	**16.69**	**263**	P	**P**	**16 14 19.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=73,slow=9.4,SNR=4.9						
KSRS	**Korea Array**	**22.87**	**251**	P	**P**	**16 15 26.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=44,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**54.30**	**257**	P	**P**	**16 19 48.8**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=46,slow=7.7,SNR=3.2						
TXAR	**Lajitas Array**	**75.20**	**62**	P	**P**	**16 22 06.3**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=310,slow=4.2,SNR=3.0						

IDC 21 16:18:13.6±4.8,5°.01S×12°.24W,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.8/26,mbtmp3.9/7,ML3.4/1,MS3.7/5, Ms1 3.7/5,ms1mx3.3/29,Error ellipse: s-maj=162.5km s-min=75.2km az=141.0,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.74**	**33**	Pn	Pn	16 21 32.0	+2.1
	0.2nm,0.3s,baz=218,slow=12,SNR=1.8						
TORD	**Torodi Ar. Bea**	**22.73**	**37**	P	P	16 23 16.7	-0.8
	4.4nm,0.9s,baz=212,slow=10,SNR=25						
TORD				LR	LR	16 31 30.4	
	comp=Z,106nm,19.6s,baz=180,slow=35						
TSUM	**Tsumeb**	**32.31**	**118**	LR	LR	16 34 56.5	
	comp=Z,187nm,19.0s,baz=303,slow=31						
BOSA	**Boshof**	**42.59**	**128**	LR	LR	16 41 15.7	
	comp=Z,101nm,19.6s,baz=84,slow=32						
KEST	**Kesra**	**45.31**	**25**	P	P	16 26 33.0	-0.5
	0.8nm,0.8s,baz=92,slow=5.6,SNR=3.6						
GERES	**GERESS Array B**	**58.22**	**20**	P	P	16 28 09.6	-0.1
	0.2nm,0.3s,baz=198,slow=5.2,SNR=3.3						
BRTR	**Keskin Array B**	**61.33**	**39**	P	P	16 28 31.9	+0.4
	0.5nm,0.7s,baz=222,slow=5.6,SNR=3.7						
ROSC	**El Rosal**	**62.78**	**278**	LR	LR	16 55 20.9	
	comp=Z,71nm,19.5s,baz=31,slow=36						
AKASG	**Malin Array Be**	**65.93**	**27**	P	P	16 29 01.1	-0.4
	2.4nm,0.6s,baz=227,slow=6.4,SNR=6.1						
FINES	**FINESS Array B**	**72.57**	**18**	P	P	16 29 42.8	+0.5
	1.7nm,0.8s,baz=208,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**78.70**	**13**	LR	LR	17 07 43.3	
	comp=Z,27nm,18.1s,baz=64,slow=38						

MEX 21 16:34:17.0±0.6,15°.87N×97°.06W,h23km±20km,MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.60**	**110**	*i* P	Pb	16 34 26.8	-2.1
PANG				*i* S	Sb	16 34 34.5	-2.5
HUIG	**Huatulco**	**0.92**	**96**	*e*P	Pb	16 34 32.1	-2.3
HUIG				*i* S	Sb	16 34 42.7	-3.5
PNIG	**Pinotepa**	**1.15**	**297**	*i* P	Pn	16 34 34.9	-2.8
PNIG				*i* S	Sb	16 34 48.4	-4.3
OXBJ	**Oaxaca**	**1.23**	**15**	*i* P	Pn	16 34 35.8	-3.4
OXBJ				*i* S	Sn	16 34 50.9	-4.3
TPIG	**Tehuac#an**	**2.55**	**354**	*i* P	Pb	16 35 03.9	+1.5
TPIG				*i* S	Sb	16 35 33.4	0.0
PPM	**Popocatepetl**	**3.51**	**335**	*i* P	Pn	16 35 08.5	-2.4
PPM				*i* S	Sn	16 35 49.1	-3.1
PCIG		**3.70**	**92**	*i* P	Pn	16 35 11.4	-1.4
PCIG				*i* S	Sn	16 35 52.1	-3.7
TGIG		**3.89**	**76**	*i* P	Pn	16 35 14.3	-1.2
TGIG				*i* S	Sn	16 35 57.8	-2.7

---

*ISCJB **21** 16:55:04.3±0.6,6°.91S±0°.08×12°.28W±0°.08,h10km, mb4.2/11,MS3.9/15,Error ellipse: s-maj=14.4km s-min=7.8km az=139.0*
*IDC **21** 16:55:04.3±1.4,6°.90S×12°.33W,h0km,mb4.2/10, mb1 4.3/11,mb1mx4.1/28,mbtmp4.2/11,ML3.8/1,MS3.8/16, Ms1 3.8/16,ms1mx3.6/38,Error ellipse: s-maj=39.0km s-min=21.2km az=71.0*
*NEIC **21** 16:55:05.0±0.6,7°.00S×12°.44W,h10km,Error ellipse: s-maj=16.6km s-min=12.0km az=120.0*
*GCMT **21** 16:55:10.8±0.4,6°.92S×12°.35W,h16km±2km,MW4.9, Moment Tensor Solution. s19,c26; s63,c89; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.21±.13; $M_{\theta\theta}$-0.76±.10; $M_{\phi\phi}$0.97±.12; $M_{r\theta}$0.58±.29; $M_{\theta\phi}$2.23±.09; $M_{\phi r}$-1.04±.40; Best double couple: $M_0$2.70000×10^{16} NP1:ϕ_s351.00000°, δ82.00000°,λ-155.00000°. NP2:ϕ_s257.00000°, δ65.00000°,λ-9.00000°. Principal axes: T 2.6100, Plg12.0000°, Azm122.0000°; N 0.1400, Plg64.0000°, Azm7.0000°; P -2.7400, Plg23.0000°, Azm217.0000°; Data Used: II IU IC G CN.*

ISC 21 16:55:05.1±0.6,7°.0S±0°.1×12°.44W±0°.09,h10km,n52, σ1§16/42,mb4.2/11,MS3.9/15,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**2.13**	**244**	*e*Pn	**Pn**	**16 55 38.7**	**-2.1**
ASCN				*e*Sn	**Sb**	**16 56 11.3**	**+1.0**
LIC	**Lamto**	**15.06**	**30**	*e*P	**Pn**	**16 58 37.0**	**-1.1**
	52nm,0.7s						
LIC	**Lamto**	**15.06**	**30**	*e*P	**Pn**	**16 58 38.7**	**+0.6**
	83nm,0.7s						
LIC	**Lamto**	**15.06**	**30**	*e*P	**Pn**	**16 58 37.0**	**-1.1**
	52nm,0.7s						
KIC	**Kosan Boka**	**15.32**	**30**	*e*P	**Pn**	**16 58 39.5**	**-2.1**
	34nm,0.8s						
TIC	**Toumodi**	**15.43**	**29**	*e*P	**Pn**	**16 58 42.1**	**-0.9**
	94nm,0.9s						
DBIC	**Dimbokro**	**15.53**	**29**	Pn	**Pn**	**16 58 43.4**	**-1.0**
DBIC	**Dimbokro**	**15.53**	**29**	Pn	**Pn**	**16 58 43.4**	**-1.0**
	0.3nm,0.3s,baz=193,slow=14,SNR=11						
DBIC				LR	LR	17 03 23.2	
	comp=Z,158nm,18.9s,baz=137,slow=32						
TOA0	**Torodi Ar. Sit**	**24.43**	**35**	*e*P	**P**	**17 00 22.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**24.43**	**35**	P	**P**	**17 00 22.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**24.43**	**35**	P	**P**	**17 00 22.9**	**-1.3**
	12nm,0.5s,baz=214,slow=10,SNR=153						
TORD				LR	LR	17 08 46.4	
	comp=Z,272nm,20.1s,baz=225,slow=34						
LBTB	**Lobatse**	**40.52**	**121**	P	**P**	**17 02 44.2**	**-0.7**
LBTB	**Lobatse**	**40.52**	**121**	P	**P**	**17 02 44.2**	**-0.7**
	1.8nm,0.6s,baz=294,slow=13,SNR=4.1						
LSZ	**Lusaka**	**40.65**	**105**	P	**P**	**17 02 46.6**	**+0.6**
LSZ	**Lusaka**	**40.65**	**105**	P	**P**	**17 02 46.6**	**+0.6**
	1.8nm,0.7s,baz=326,slow=9.8,SNR=9.6						
BOSA	**Boshof**	**41.57**	**126**	P	**P**	**17 02 53.2**	**-0.3**
BOSA	**Boshof**	**41.57**	**126**	P	**P**	**17 02 53.2**	**-0.3**
	9.3nm,1.1s,baz=323,slow=5.4,SNR=6.2						
BOSA				LR	LR	17 17 17.4	
	comp=Z,322nm,19.1s,baz=298,slow=32						
MBAR	**Mbarara**	**43.52**	**84**	LR	LR	17 19 53.1	
	comp=Z,186nm,18.9s,baz=254,slow=34						
CPUP	**Villa Florida**	**46.81**	**240**	LR	LR	17 19 48.2	
	comp=Z,117nm,19.0s,baz=226,slow=32						
KEST	**Kesra**	**47.17**	**24**	*e*P	**P**	**17 03 38.4**	**+0.3**
KEST	**Kesra**	**47.17**	**24**	P	**P**	**17 03 39.5**	**+1.4**
	2.8nm,0.8s,baz=216,slow=3.9,SNR=11						
KEST				LR	LR	17 23 36.0	
	comp=Z,60nm,19.6s,baz=224,slow=36						
KMBO	**Kilima Mbogo**	**49.88**	**86**	LR	LR	17 23 42.7	
	comp=Z,210nm,21.9s,baz=98,slow=34						
ETSF	**Etsaut**	**50.81**	**11**	*e*P	**P**	**17 04 07.1**	**+1.3**
ETSF	**Etsaut**	**50.81**	**11**	*e*P	**P**	**17 04 07.1**	**+1.3**
SJPF	**Ste Jean**	**50.89**	**11**	*e*P	**P**	**17 04 07.3**	**+0.9**
SJPF	**Ste Jean**	**50.89**	**11**	*e*P	**P**	**17 04 07.3**	**+0.9**
TCF	**Toulx Ste Croi**	**54.62**	**12**	*e*P	**P**	**17 04 35.3**	**+1.4**
TCF	**Toulx Ste Croi**	**54.62**	**12**	*e*P	**P**	**17 04 35.3**	**+1.4**
LPG	**La Plagne**	**55.00**	**16**	*e*P	**P**	**17 04 38.6**	**+1.6**
LPG	**La Plagne**	**55.00**	**16**	*e*P	**P**	**17 04 38.6**	**+1.6**
LPL	**La Plagne**	**55.01**	**16**	*e*P	**P**	**17 04 38.6**	**+1.6**
	7.3nm,0.9s						
LPL	**La Plagne**	**55.01**	**16**	*e*P	**P**	**17 04 38.6**	**+1.6**
	7.3nm,0.9s						
LPAZ	**La Paz**	**55.18**	**255**	LR	LR	17 26 47.6	
	comp=Z,65nm,20.5s,baz=165,slow=34						
ATD	**Arta Tunnel**	**57.99**	**72**	LR	LR	17 27 48.3	
	comp=Z,83nm,18.7s,baz=257,slow=34						
OPO	**Ambohidratompo**	**59.05**	**107**	LR	LR	17 27 37.3	
	comp=Z,125nm,21.4s,baz=61,slow=33						
GERES	**GERESS Array B**	**60.13**	**20**	P	**P**	**17 05 11.9**	**-1.0**
GERES	**GERESS Array B**	**60.13**	**20**	P	**P**	**17 05 11.9**	**-1.0**
	1.1nm,0.8s,baz=216,slow=6.6,SNR=7.0						
GERES				LR	LR	17 30 34.7	
	comp=Z,106nm,19.9s,baz=13,slow=36						
ASF	**Jabal al Asfar**	**61.01**	**47**	LR	LR	17 30 06.4	
	comp=Z,55nm,18.9s,baz=197,slow=34						
ROSC	**El Rosal**	**62.88**	**279**	LR	LR	17 29 14.6	
	comp=Z,82nm,21.1s,baz=193,slow=33						
BRTR	**Keskin Array B**	**62.98**	**39**	P	**P**	**17 05 33.5**	**+1.1**
BRTR	**Keskin Array B**	**62.98**	**39**	P	**P**	**17 05 33.5**	**+1.1**
	0.8nm,0.6s,baz=224,slow=5.2,SNR=5.4						
AKASG	**Malin Array Be**	**67.76**	**27**	P	**P**	**17 06 02.2**	**-0.7**
AKASG	**Malin Array Be**	**67.76**	**27**	P	**P**	**17 06 02.2**	**-0.7**
	4.3nm,0.7s,baz=226,slow=6.3,SNR=6.9						
NOA	**NORSAR Array B**	**70.30**	**12**	LR	LR	17 35 12.8	
	comp=Z,50nm,18.2s,baz=200,slow=34						
FINES	**FINESS Array B**	**74.49**	**18**	P	**P**	**17 06 43.0**	**-0.6**
FINES	**FINESS Array B**	**74.49**	**18**	P	**P**	**17 06 43.0**	**-0.6**
	2.3nm,1.0s,baz=288,slow=36,SNR=1.4						
ARCES	**ARCESS Array B**	**80.66**	**13**	LR	LR	17 44 18.2	
	comp=Z,57nm,19.5s,baz=81,slow=37						
BVAR	**Borovoye Array**	**91.22**	**37**	LR	LR	17 53 01.3	
	comp=Z,40nm,18.6s,baz=294,slow=38						
TXAR	**Lajitas Array**	**94.44**	**299**	P	**P**	**17 08 27.0**	**+0.9**
TXAR	**Lajitas Array**	**94.44**	**299**	P	**P**	**17 08 27.0**	**+0.9**
	0.5nm,0.8s,baz=101,slow=6.5,SNR=4.7						
CTA	**Charters Tower**	**145.90**	**142**	PKPbc	**PKPab**	**17 14 47.0**	**+0.8**
CTA	**Charters Tower**	**145.90**	**142**	PKPbc	**PKPab**	**17 14 47.0**	**+0.8**
	2.5nm,0.8s,baz=229,slow=5.8,SNR=5.3						

IDC 21 16:59:00.2±8.9,7°.73S×157°.91E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.4/19,mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=173.7km s-min=26.9km az=16.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.63**	**130**	Pn	Pn	16 59 43.7	-0.3
	14nm,0.3s,baz=55,slow=6.2,SNR=18						
HNR				Sn	Sn	17 00 18.8	+2.2
	84nm,0.3s,baz=8.1,slow=19,SNR=6.3						
DZM	**Mont Dzumac**	**16.46**	**151**	Pn	Pn	17 02 45.9	-6.9
	0.5nm,0.3s,baz=307,slow=18,SNR=39						
WRA	**Warramunga Arr**	**25.86**	**240**	P	P	17 04 34.0	+0.1
	1.0nm,0.8s,baz=68,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**27.95**	**233**	P	P	17 04 53.4	+0.8
	0.2nm,1.0s,baz=57,slow=8.7,SNR=2.0						
STKA	**Stephens Creek**	**28.43**	**210**	P	P	17 04 55.9	-0.9
	1.7nm,0.8s,baz=49,slow=15,SNR=5.0						

IDC 21 17:04:24.6±2.8,22°.26S×171°.09E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.6/19,mbtmp3.7/4,ML4.0/1,Error ellipse: s-maj=130.5km s-min=39.2km az=167.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.31**	**272**	Pn	Pn	17 05 33.1	+1.5
	8.6nm,0.3s,baz=127,slow=16,SNR=43						
DZM				Sn	Sn	17 06 23.6	+0.8
	7.0nm,0.3s,baz=111,slow=20,SNR=8.7						
NOUC	**Port Laguerre**	**4.44**	**271**	*e*P	Pn	17 05 36.7	+3.4
NOUC				*e*S	Sn	17 06 27.4	+1.7
ASAR	**Alice Springs**	**34.21**	**260**	P	P	17 11 11.8	-0.5
	0.4nm,0.7s,baz=91,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**34.32**	**267**	P	P	17 11 11.9	-1.3
	0.2nm,0.4s,baz=97,slow=8.7,SNR=7.7						
FITZ	**Fitzroy Crossi**	**42.75**	**267**	P	P	17 12 25.0	+1.0
	3.8nm,1.1s,baz=144,slow=12,SNR=2.8						
BRG	**Berggiesshubel**	**146.34**	**334**	*i* (P)	PKPbc	17 24 07.3	+0.1
	4.0nm,1.0s						
GERES	**GERESS Array B**	**147.96**	**331**	PKPbc	PKPbc	17 24 11.5	-0.5
	0.7nm,0.6s,baz=48,slow=2.0,SNR=6.5						

---

*IDC **21** 17:06:41.7±1.1,1°.69S×99°.07E,h0km,mb4.2/14, mb1 4.3/15,mb1mx4.1/29,mbtmp4.2/15,ML2.8/1,MS4.0/3, Ms1 4.0/3,ms1mx3.1/36,Error ellipse: s-maj=38.0km s-min=13.6km az=59.0*
*ISCJB **21** 17:06:45.0±0.6,1°.58S±0°.04×99°.24E±0°.06,h30km, mb4.3/13,MS4.1/3,Error ellipse: s-maj=8.5km s-min=5.4km az=160.8*
*BJI **21** 17:06:45.4,1°.50S×99°.50E,h10km,mB4.7/2,mb4.3/6, Ms4.1/2,Ms7 3.7/1*
*AUST **21** 17:06:50.1,1°.40S×99°.49E,h60km*
*DJA **21** 17:06:50.2±0.4,2°.S±3°×10°0E±°,h10km,M4.8/12, mb4.9/12,mB4.8/1,MLv4.8/12,Mw(mB)4.0/1*

ISC 21 17:06:47.4±0.6,1°.51S±0°.07×99°.30E±0°.08,h30km,n49, σ1§10/47,mb4.4/13,MS3.8/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.30**	**63**	P	**Pn**	**17 07 08.1**	**-1.5**
PDSI				S	**Sn**	**17 07 25.8**	**-0.2**
PPI	**Padang Panjang**	**1.52**	**46**	P	**Pn**	**17 07 10.4**	**-2.1**
PPI	**Padang Panjang**	**1.52**	**46**	P	**Pn**	**17 07 10.3**	**-2.1**
	baz=1.3,SNR=81						
PPI				S	**Sn**	**17 07 31.5**	**+0.3**
	baz=1.3,SNR=13						
BKNI	**Bangkinang**	**2.52**	**44**	P	**Pn**	**17 07 27.8**	**+1.5**
BKNI	**Bangkinang**	**2.52**	**44**	P	**Pn**	**17 07 25.8**	**-0.6**
	baz=2.3,SNR=9.6						
RGRI	**Rengat**	**3.24**	**69**	P	Pn	17 07 39.5	+3.2
MASI	**Maura Aman, Be**	**3.35**	**119**	P	**Pn**	**17 07 38.7**	**+0.9**
KSI	**Kapahiang**	**3.91**	**123**	P	**Pn**	**17 07 46.1**	**+0.5**
PSI	**Prapat**	**4.30**	**355**	Pn	**Pn**	**17 07 49.0**	**-2.0**
	0.5nm,0.3s,baz=184,slow=11,SNR=8.0						
PSI	**Prapat**	**4.30**	**355**	P	**Pn**	**17 07 48.7**	**-2.3**
	baz=4.1,SNR=4.8						
MNAI	**Manna**	**4.62**	**128**	P	**Pn**	**17 07 56.0**	**+0.8**
MNAI	**Manna**	**4.62**	**128**	P	**Pn**	**17 07 55.9**	**+0.7**
	baz=4.5,SNR=12						
EGSI	**Enggano, Bengk**	**4.83**	**142**	P	**Pn**	**17 07 57.5**	**-0.7**
TSI	**Tuntungan**	**5.04**	**352**	P	Pb	17 08 09.8	-5.1
	142nm,0.9s,0.5nm						
KCSI	**Kotacane, Aceh**	**5.23**	**343**	P	**Pn**	**17 08 06.2**	**+2.5**
MYKOM	**Kota Tinggi**	**5.61**	**54**	P	Pn	17 08 12.6	+3.8
	36nm,0.8s,0.4nm						
LWLI	**Liwa**	**5.89**	**126**	P	**Pn**	**17 08 13.4**	**+0.6**
	255nm,0.7s,0.8nm						
IPM	**Ipoh**	**6.20**	**16**	P	**Pn**	**17 08 17.9**	**+1.0**
KLSI		**6.27**	**120**	P	**Pn**	**17 08 19.2**	**+1.3**
	66nm,0.7s,0.2nm						
KASI	**Kota Agung**	**6.54**	**128**	P	**Pn**	**17 08 21.4**	**-0.2**
	86nm,0.6s,0.3nm						
LHMI	**Lhok Sumawe**	**7.10**	**341**	P	Pn	17 08 37.5	+8.2
	105nm,1.1s,0.5nm						
TNG	**Tangerang**	**8.66**	**122**	P	**Pn**	**17 08 49.4**	**-1.4**
	624nm,0.5s						
DBJI	**Dramaga**	**8.96**	**124**	P	**Pn**	**17 08 54.4**	**-0.4**
	67nm,0.8s						
LEM	**Lembang**	**9.83**	**123**	P	**Pn**	**17 09 06.9**	**0.0**
	55nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.85**	**359**	P	**P**	**17 11 15.9**	**-0.2**
	1.8nm,0.7s,baz=186,slow=11,SNR=14						
CMAR				LR	LR	17 20 18.7	
	comp=Z,116nm,19.1s,baz=200,slow=41						
CMMT	**Chiang Mai**	**20.20**	**359**	P	Pn	17 11 29.2	+7.2
	5.7nm,1.1s,415nm						
CHTO	**Chiang Mai**	**20.20**	**359**	P	Pn	17 11 29.7	+7.7
KAPI	**Kappang**	**20.70**	**100**	P	**P**	**17 11 26.1**	**+0.6**
	12nm,0.8s,baz=282,slow=4.4,SNR=5.8						
MRSI	**Marisa**	**22.72**	**85**	P	P	17 11 54.7	+7.6
FITZ	**Fit

0.9nm,0.7s,baz=91,slow=2.8,SNR=4.4

*IDC **21** 17:19:10.5±0.9,39°.89N×78°.32E,h0km,mb3.8/10,*
mb1 3.9/16,mb1mx3.7/33,mbtmp3.7/16,ML3.4/6,MS2.9/3,
Ms1 2.9/3,ms1mx2.5/38,Error ellipse: s-maj=18.5km
s-min=13.4km az=48.0
*BJI **21** 17:19:10.4,39°.96N×78°.33E,h9km,mb3.9/6,ML3.8/9,*
Ms3.4/1
*ISCJB **21** 17:19:11.5±1.5,39°.89N±0°.03×78°.66E±0°.05,h28km±14km,*
mb3.8/11,MS3.6/2,Error ellipse: s-maj=6.7km
s-min=4.6km az=163.3
*NNC **21** 17:19:13.6±1.4,40°.16N×78°.34E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=11.3km s-min=7.9km az=167.0
*MOS **21** 17:19:14.2±1.4,40°.12N×78°.46E,h33km,mb4.3/4,Error*
ellipse: s-maj=14.2km s-min=6.9km az=108.9
*NEIC **21** 17:19:17.6±1.5,40°.14N×78°.38E,h51km±13km,mb4.6/1,*
Error ellipse: s-maj=15.8km s-min=9.4km az=175.0

ISC 21 17:19:12.2±0.7,39°.92N±0°.04×78°.53E±0°.04,h17km±4km,
n93,σ1§61/106,mb3.8/11,11C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.01**	**259**	Pn	**Pg**	**17 19 50.6**	**-0.3**
KSH				Sn	**Sg**	**17 20 20.3**	**+3.3**
KSH				smax	smax		
	comp=N,2μm,0.8s						
KSH				smax	smax		
	comp=E,620nm,0.6s						
ULHL	**Ulahol**	**2.89**	**324**	P	**Pn**	**17 19 59.5**	**+1.7**
	SNR=18						
KZA	**Kyzart**	**3.29**	**312**	P	**Pn**	**17 20 04.5**	**+1.1**
	SNR=16						
KNDC	**Almaty**	**3.50**	**341**	⇑Pg	**Pb**	**17 20 11.9**	**-1.8**
KNDC				⇓Lg	Lg	17 20 56.3	
AAA	**Alma-Ata**	**3.55**	**341**	*e*PN	**Pb**	**17 20 13.8**	**-0.9**
AAA				*e*S	**Sb**	**17 20 58.5**	**+1.0**
AAA				pmax	pmax		
	comp=Z,286nm,0.7s						
AAA				smax	smax		
	comp=E,816nm,0.9s						
TKM2	**Tokmak 2**	**3.72**	**325**	⇑Pn	**Pn**	**17 20 09.5**	**+0.4**
	comp=E,49nm,0.6s						
TKM2				⇑Lg	Lg	17 21 03.4	
	comp=E,52nm,0.7s						
TKM2	**Tokmak 2**	**3.72**	**325**	*e*PN	**Pn**	**17 20 10.5**	**+1.4**
TKM2				*e*S	**Sb**	**17 21 01.3**	**-1.2**
TKM2	**Tokmak 2**	**3.72**	**325**	P	**Pn**	**17 20 10.8**	**+1.6**
	SNR=24						
TKM2	**Tokmak 2**	**3.72**	**325**	*e*Pn	**Pn**	**17 20 10.5**	**+1.4**
TKM2				*e*S	**Sb**	**17 21 01.3**	**-1.2**
UCH	**Uchtor**	**3.81**	**309**	P	**Pb**	**17 20 17.8**	**-1.5**
	SNR=7.0						
KBK	**Karagaybulak**	**3.84**	**317**	P	**Pn**	**17 20 12.9**	**+2.1**
	SNR=10						
AAK	**Ala-Archa**	**4.07**	**313**	*e*PN	**Pn**	**17 20 13.3**	**-0.7**
AAK						17 20 23.2	
AAK				*e*S	**Sb**	**17 21 10.2**	**-2.4**
AAK						17 21 14.2	
AAK	**Ala-Archa**	**4.07**	**313**	P	**Pb**	**17 20 23.5**	**-0.1**
	SNR=5.4						
AAK	**Ala-Archa**	**4.07**	**313**	*e*Pn	**Pn**	**17 20 13.2**	**-0.7**
AAK				Pg	**Pb**	**17 20 23.2**	**-0.4**
AAK				*e*		17 20 23.2	
AAK				*e*S	**Sb**	**17 21 10.2**	**-2.4**
AAK				Lg	Lg	17 21 14.2	
AAK	**Ala-Archa**	**4.07**	**313**	Pn	**Pn**	**17 20 15.9**	**+2.0**
	comp=E,2.0nm,0.3s,baz=132,slow=8.9,SNR=6.8						
AAK				Pg	**Pb**	**17 20 23.2**	**-0.4**
	comp=E,8.2nm,0.3s,baz=113,slow=16,SNR=29						
AAK				Lg	Lg	17 21 14.2	
	comp=E,5.8nm,0.3s,baz=329,slow=19,SNR=14						
AAK				LR	LR	17 21 53.1	
	comp=E,155nm,19.4s,baz=227,slow=41						
FRU	**Bishkek**	**4.14**	**316**	*e*PN	**Pn**	**17 20 16.0**	**+1.3**
FRU				*e*S	**Sb**	**17 21 15.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,209nm,1.8s						
FRU				smax	smax		
	comp=N,380nm,1.8s						
CHMS	**Chumysh**	**4.18**	**319**	P	**Pn**	**17 20 16.4**	**+1.0**
	SNR=8.6						
AML	**Almayashu**	**4.27**	**303**	P	**Pn**	**17 20 19.4**	**+2.6**
	SNR=29						
EKS2	**Erkin-Say**	**4.50**	**309**	*e*PN	**Pn**	**17 20 21.3**	**+1.4**
EKS2				*e*		17 20 32.2	
EKS2				*e*S	**Sb**	**17 21 22.7**	**-2.3**
EKS2	**Erkin-Say**	**4.50**	**309**	P	**Pn**	**17 20 21.8**	**+2.0**
	SNR=12						
EKS2	**Erkin-Say**	**4.50**	**309**	*e*Pn	**Pn**	**17 20 21.2**	**+1.4**
EKS2				*e*		17 20 32.2	
EKS2				*e*S	**Sb**	**17 21 22.7**	**-2.3**
USP	**Ospenovka**	**4.50**	**319**	P	**Pb**	**17 20 29.9**	**-1.1**
	SNR=64						
KK31	**Karatay Array**	**6.80**	**300**	⇑Pg	**Pb**	**17 21 12.9**	**+2.8**
	comp=N,12nm,1.1s,baz=124,slow=16,SNR=5.8						
KK31				⇑Lg	Lg	17 22 41.1	
	comp=N,6.8nm,0.6s,baz=118,slow=28,SNR=7.1						
KK31	**Karatay Array**	**6.80**	**300**	*e*PN	Pb	17 21 00.8	-9.2
KKAR	**Karatay Array**	**6.80**	**300**	*e*PN	**Pn**	**17 20 52.0**	**+0.7**
KKAR				*e*		17 21 12.2	
KKAR				*e*		17 22 39.4	
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**6.80**	**300**	*e*Pn	**Pn**	**17 20 52.0**	**+0.7**
	comp=Z,3.6nm,0.6s						
KKAR				*e*Pg	**Pb**	**17 21 12.2**	**+2.2**
KKAR				*e*Sg	Sb	17 22 39.4	+8.4
MK31	**Makanchi Array**	**7.39**	**21**	Pn	**Pn**	**17 21 00.8**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=199,slow=12,SNR=147						
MK31				⇑Pg	Pb	17 21 24.0	+3.9
	comp=Z,5.3nm,0.9s,baz=208,slow=17,SNR=5.3						
MK31				⇑Sn	**Sn**	**17 22 24.4**	**+1.4**
	comp=Z,4.4nm,0.5s						
MK31				⇓Lg	Lg	17 23 03.5	
	comp=Z,18nm,1.1s						
MK31	**Makanchi Array**	**7.39**	**21**	*e*P	**Pn**	**17 21 01.0**	**+1.6**
MK31	**Makanchi Array**	**7.39**	**21**	*e*Pn	**Pn**	**17 21 01.0**	**+1.6**
MKAR	**Makanchi Array**	**7.39**	**21**	PN	**Pn**	**17 21 01.3**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR	**Makanchi Array**	**7.39**	**21**	Pn	**Pn**	**17 21 01.3**	**+1.9**
MKAR	**Makanchi Array**	**7.39**	**21**	Pn	**Pn**	**17 21 01.3**	**+1.9**
	comp=Z,2.7nm,0.3s,baz=196,slow=12,SNR=58						
CHCP	**Chirah Chowk**	**7.54**	**216**	P	**Pn**	**17 21 03.7**	**+2.2**
DLH	**Dalhousie**	**7.65**	**196**	*e*P	**Sn**	**17 22 29.0**	**-0.6**
WMQ	**Urumqi**	**7.87**	**57**	*e*P	**Pn**	**17 21 07.1**	**+1.1**
WMQ				S	**Sn**	**17 22 33.8**	**-1.0**
WMQ				smax	smax		
	comp=N,33nm,1.0s						
WMQ				smax	smax		
	comp=E,26nm,0.8s						
CEP	**Cherat**	**8.07**	**223**	P	**Pn**	**17 21 10.0**	**+1.2**
CEP				S	**Sn**	**17 22 38.0**	**-1.8**
THW	**Thamme Wali**	**8.97**	**220**	P	**Pn**	**17 21 22.0**	**+0.9**
KURBB	**Kurchatov Arra**	**10.70**	**0**	Pn	**Pn**	**17 21 45.2**	**+0.5**
	comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=8.7						
KURBB				Lg	Lg	17 24 46.0	
	comp=E,0.1nm,0.3s,baz=178,slow=30,SNR=6.1						
KURK	**Kurchatov**	**10.79**	**0**	P	**Pn**	**17 21 45.2**	**-0.8**
KURK	**Kurchatov**	**10.79**	**0**	Pn	**Pn**	**17 21 45.2**	**-0.8**
KURK				Lg	Lg	17 24 46.0	
PYUN	**Piuthan**	**12.36**	**161**	*e*P	**Pn**	**17 22 06.0**	**-1.6**
	comp=E,16nm,0.4s						
PYUN				*e*S	**Sn**	**17 24 20.4**	**-4.7**
KOLN	**Koldanda**	**12.83**	**159**	*e*P	**Pn**	**17 22 12.9**	**-1.2**
	comp=E,5.4nm,0.3s						
KKN	**Kakani**	**13.33**	**153**	*e*P	**Pn**	**17 22 20.5**	**-0.5**
	comp=E,8.0nm,0.5s						
DMN	**Daman**	**13.44**	**154**	*e*P	**Pn**	**17 22 21.5**	**-1.0**
GUN	**Gumba**	**13.44**	**151**	*e*P	**Pn**	**17 22 22.3**	**-0.2**
PKIN	**Phulchoki**	**13.57**	**153**	*e*P	**Pn**	**17 22 23.6**	**-0.6**
	comp=E,12nm,0.5s						
PKI	**Pulchoki**	**13.58**	**153**	*e*P	**Pn**	**17 22 23.8**	**-0.6**
	comp=E,18nm,0.6s						
JIRN	**Jiri**	**13.78**	**150**	*e*P	**Pn**	**17 22 27.3**	**+0.1**
	comp=E,11nm,0.3s						
VOSK	**Vostochnaya**	**13.81**	**340**	⇑Pn	**Pn**	**17 22 26.0**	**-1.2**
	comp=E,4.8nm,1.4s						
VOSK				⇑Lg	Lg	17 26 23.6	
	comp=E,14nm,1.0s						
VOSK	**Vostochnaya**	**13.81**	**340**	P	Pn	17 22 23.0	-4.2
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BVA0	**Borovoye Array**	**14.24**	**340**	⇓Pn	**Pn**	**17 22 33.1**	**0.0**
	comp=Z,6.5nm,1.2s,baz=152,slow=12,SNR=9.5						
BVA0				⇑Lg	Lg	17 26 37.2	
	comp=Z,10nm,1.2s,baz=165,slow=28,SNR=5.5						
BVA0	**Borovoye Array**	**14.24**	**340**	*i* P	Pn	17 22 25.9	-7.2
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**14.24**	**340**	P	**Pn**	**17 22 30.6**	**-2.5**
BVAR				MLR	MLR		
	comp=Z,61nm,19.8s						
BVAR	**Borovoye Array**	**14.24**	**340**	Pn	**Pn**	**17 22 30.6**	**-2.5**
BVAR				Lg	Lg	17 26 39.1	
BVAR	**Borovoye Array**	**14.24**	**340**	Pn	**Pn**	**17 22 30.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=150,slow=15,SNR=5.9						
BVAR				Lg	Lg	17 26 39.1	
	comp=Z,0.3nm,0.3s,baz=165,slow=31,SNR=8.5						
BVAR				LR	LR	17 28 09.6	
	comp=Z,61nm,19.8s,baz=289,slow=38						
BRVK	**Borovoye**	**14.30**	**339**	⇓Pn	**Pn**	**17 22 33.4**	**-0.4**
	comp=Z,16nm,1.2s						
BRVK				⇓Lg	Lg	17 26 38.0	
	comp=Z,24nm,1.2s						
BRVK	**Borovoye**	**14.30**	**339**	P	**Pn**	**17 22 34.8**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRVK	**Borovoye**	**14.30**	**339**	Pn	**Pn**	**17 22 34.8**	**+0.9**
	comp=Z,6.5nm,0.9s						
RAMN	**Ramite**	**14.58**	**150**	*e*P	**Pn**	**17 22 36.9**	**-1.1**
ZAA0	**Zalesovo Array**	**14.67**	**15**	Pn	Pn	17 22 35.5	-3.4
ZALV	**Zalesovo Beam**	**14.67**	**15**	P	**Pn**	**17 22 38.0**	**-0.9**
ZALV	**Zalesovo Beam**	**14.67**	**15**	Pn	**Pn**	**17 22 38.0**	**-0.9**
ZALV	**Zalesovo Beam**	**14.67**	**15**	Pn	**Pn**	**17 22 38.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=7.6						
ODAN	**Odare**	**14.97**	**148**	*e*P	**Pn**	**17 22 42.2**	**-1.1**
	comp=Z,7.9nm,0.5s						
NVS	**Novosibirsk**	**15.26**	**10**	*e*P	**Pn**	**17 22 43.6**	**-3.1**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.3s						
AB31	**Akbulak array**	**16.16**	**311**	⇑Pn	**Pn**	**17 22 55.6**	**-2.8**
	comp=N,0.8nm,0.8s,baz=118,slow=13,SNR=4.3						
AB31	**Akbulak array**	**16.16**	**311**	*i* P	**Pn**	**17 22 55.6**	**-2.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GTA	**Gaotai**	**16.40**	**85**	*e*P	**P**	**17 23 04.5**	**0.0**
GTA				pP	**pP**	**17 23 08.3**	**-0.9**
GTA				sP	**sP**	**17 23 10.6**	**-0.7**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
AKTO	**Aktyubinsk**	**17.82**	**313**	P	**P**	**17 23 19.9**	**-0.1**
AKTO	**Aktyubinsk**	**17.82**	**313**	P	**P**	**17 23 19.9**	**-0.1**
AKTO	**Aktyubinsk**	**17.82**	**313**	P	**P**	**17 23 19.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=5.5						
SONM	**Songino Array**	**21.50**	**59**	P	**P**	**17 24 02.9**	**+2.5**
SONM	**Songino Array**	**21.50**	**59**	P	**P**	**17 24 02.9**	**+2.5**
	comp=Z,1.7nm,0.6s,baz=257,slow=10,SNR=5.2						
CMAR	**Chiang Mai Arr**	**27.72**	**135**	P	**P**	**17 25 03.6**	**+3.8**
CMAR	**Chiang Mai Arr**	**27.72**	**135**	P	**P**	**17 25 03.6**	**+3.8**
	comp=Z,0.4nm,0.3s,baz=325,slow=8.9,SNR=2.0						
BRTR	**Keskin Array B**	**34.20**	**284**	P	**P**	**17 25 57.9**	**+0.9**
BRTR	**Keskin Array B**	**34.20**	**284**	P	**P**	**17 25 57.9**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=90,slow=7.9,SNR=5.7						
FINES	**FINESS Array B**	**38.21**	**322**	P	**P**	**17 26 30.4**	**-0.4**
FINES	**FINESS Array B**	**38.21**	**322**	P	**P**	**17 26 30.4**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=103,slow=8.6,SNR=6.5						
NOA	**NORSAR Array B**	**45.35**	**321**	P	**P**	**17 27 28.1**	**-1.2**
NOA	**NORSAR Array B**	**45.35**	**321**	P	**P**	**17 27 28.1**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=87,slow=7.6,SNR=3.6						
NOA				LR	LR	17 49 28.6	
	comp=Z,10.0nm,18.8s,baz=90,slow=40						
GERES	**GERESS Array B**	**45.89**	**304**	P	**P**	**17 27 33.4**	**-0.5**
GERES	**GERESS Array B**	**45.89**	**304**	P	**P**	**17 27 33.4**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=77,slow=7.0,SNR=5.0						
ILAR	**Eielson Array**	**69.75**	**19**	P	**P**	**17 30 21.2**	**+0.3**
ILAR	**Eielson Array**	**69.75**	**19**	P	**P**	**17 30 21.2**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=323,slow=5.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**71.63**	**272**	P	**P**	**17 30 31.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**71.63**	**272**	P	**P**	**17 30 31.9**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=48,slow=5.6,SNR=7.0						
YKA	**Yellowknife Ar**	**77.39**	**6**	P	**P**	**17 31 06.0**	**+0.2**
YKA	**Yellowknife Ar**	**77.39**	**6**	P	**P**	**17 31 06.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=340,slow=5.7,SNR=2.5						
ASAR	**Alice Springs**	**81.64**	**130**	P	**P**	**17 31 30.8**	**+1.2**
ASAR	**Alice Springs**	**81.64**	**130**	P	**P**	**17 31 30.8**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=313,slow=5.0,SNR=6.6						
TSUM	**Tsumeb**	**81.72**	**237**	P	**P**	**17 31 30.2**	**0.0**
	comp=Z,6.7nm,1.0s						
PDAR	**Pinedale Array**	**97.37**	**6**	LR	LR	18 19 04.2	
	comp=Z,150nm,18.9s,baz=261,slow=37						

*BJI **21** 17:24:23.5,35°.45S×179°.93E,h52km,mB5.5/15,mb5.2/20,*
Ms5.1/16,Ms7 4.8/18
*WEL **21** 17:24:28.6±0.6,36°.04S×179°.27E,h141km±9km,ML5.9/21,*
Error ellipse: s-maj=6.4km s-min=6.3km az=0.0
WEL Felt from Bay of Plenty to Gisborne, maximum reported
intensity MM 4.
*AUST **21** 17:24:28.4,36°.20S×179°.27E,h60km*
*ISCJB **21** 17:24:29.0±0.6,36°.12S±0°.04×179°.28E±0°.06,h93km±5km,*
mb4.9/49,Error ellipse: s-maj=8.0km s-min=6.8km
az=137.4
*NEIC **21** 17:24:30.0±1.1,36°.24S×179°.22E,h98km±9km,mb5.0/21,*
Error ellipse: s-maj=14.4km s-min=9.9km az=66.0
*GCMT **21** 17:24:30.8±0.2,35°.82S×179°.26E,h68km±1km,MW5.2,*
Moment Tensor Solution. s77,c110; s83,c146; Moment
tensor: Scale 10^{16}Nm; M_{rr}4.30±.20; $M_{\theta\theta}$-7.59±.18;
$M_{\phi\phi}$3.29±.19; $M_{r\theta}$0.12±.16; $M_{\theta\phi}$4.18±.17; $M_{\phi r}$-4.77±.13;
Best double couple: $M_0$9.20000×10^{16} NP1:ϕ_s145.00000°,
δ67.00000°,λ140.00000°. NP2:ϕ_s253.00000°,δ54.00000°,
λ29.00000°. Principal axes: T 9.0600, Plg44.0000°,
Azm104.0000°; N 0.1800, Plg45.0000°, Azm299.0000°; P
-9.2400, Plg8.0000°, Azm201.0000°; Data Used: II IU IC
G CN.
*MOS **21** 17:24:31.3±1.2,35°.74S×178°.91E,h98km,mb5.3/10 Error*
ellipse: s-maj=13.6km s-min=11.4km az=87.4
*IDC **21** 17:24:32.6±1.6,35°.67S×179°.04E,h103km±12km,*
mb4.5/18,mb1 4.6/18,mb1mx4.6/21,mbtmp4.5/18,
MS4.4/20,Ms1 4.4/20,ms1mx4.3/28,Error ellipse:
s-maj=14.7km s-min=11.4km az=9.0

ISC 21 17:24:27.8±0.3,35°.94S±0°.02×179°.34E±0°.02,h73km±2km,
n459,σ1§64/415,mb5.1/47,13C-47D,Off east coast of
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.82**	**207**	PN	**Pn**	**17 24 57.5**	**+0.3**
MXZ				SN	Sn	17 25 24.4	+5.0
MXZ				AML	AML	17 25 26.6	
MXZ				AML	AML	17 25 31.0	
MXZ				AML	AML	17 25 36.6	
MXZ	**Matakaoa Point**	**1.82**	**207**	Pn	**Pn**	**17 24 57.5**	**+0.3**
MXZ				Sn	Sn	17 25 24.4	+5.0
PUZ	**Puketiti**	**2.30**	**202**	⇓PN	**Pn**	**17 25 05.6**	**+2.0**
PUZ				SN	**Sn**	**17 25 34.5**	**+3.5**
PUZ				AML	AML	17 25 35.0	
PUZ	**Puketiti**	**2.30**	**202**	⇓Pn	**Pn**	**17 25 05.6**	**+2.0**
PUZ				Sn	**Sn**	**17 25 34.5**	**+3.5**
WIZ	**White Island**	**2.34**	**227**	PN	**Pn**	**17 25 04.9**	**+0.8**
WIZ				SN	**Sn**	**17 25 32.9**	**+0.9**
WIZ	**White Island**	**2.34**	**227**	Pn	**Pn**	**17 25 04.9**	**+0.8**
CNGZ	**Carnagh Statio**	**2.70**	**199**	⇓PN	**Pn**	**17 25 10.8**	**+1.8**
CNGZ	**Carnagh Statio**	**2.70**	**199**	⇓Pn	**Pn**	**17 25 10.8**	**+1.8**
MWZ	**Matawai**	**2.80**	**211**	⇓PN	**Pn**	**17 25 11.7**	**+1.3**
MWZ				AML	AML	17 26 05.1	
MWZ				AML	AML	17 26 05.2	
MWZ				AML	AML	17 26 07.3	
MWZ				AML	AML	17 26 07.3	
MWZ	**Matawai**	**2.80**	**211**	⇓Pn	**Pn**	**17 25 11.7**	**+1.3**
MYRZ	**Mayor Island**	**2.83**	**241**	PN	**Pn**	**17 25 11.5**	**+0.7**
URZ	**Urewera**	**2.92**	**217**	PN	**Pn**	**17 25 12.9**	**+0.9**
URZ				SN	**Sn**	**17 25 48.5**	**+2.5**
URZ				AML	AML	17 26 08.5	
URZ	**Urewera**	**2.92**	**217**	⇓*i*Pn	**Pn**	**17 25 12.7**	**+0.7**
URZ				P	**Pn**	**17 25 13.4**	**+1.4**
URZ				*e*Sn	**Sn**	**17 25 44.5**	**-1.5**
URZ				Sn	Sn	17 25 48.5	+2.4
URZ				S	Sn	17 25 54.1	+8.1
URZ	**Urewera**	**2.92**	**217**	P	**Pn**	**17 25 13.4**	**+1.4**
	472nm,0.3s,baz=43,slow=5.9,SNR=233						
URZ				S	Sn	17 25 54.1	+8.1
	639nm,0.3s,baz=137,slow=23,SNR=13						
OPRZ	**Ohinepanea**	**2.93**	**229**	PN	**Pn**	**17 25 13.0**	**+0.8**
OPRZ	**Ohinepanea**	**2.93**	**229**	Pn	**Pn**	**17 25 13.0**	**+0.8**
MARZ	**Manawahe**	**2.96**	**225**	⇓PN	**Pn**	**17 25 13.7**	**+1.2**
MARZ	**Manawahe**	**2.96**	**225**	Pn	**Pn**	**17 25 13.7**	**+1.2**
EDRZ	**Edgecumbe**	**3.00**	**223**	*e*Pn	**Pn**	**17 25 14.4**	**+1.2**
EDRZ	**Edgecumbe**	**3.00**	**223**	*e*Pn	**Pn**	**17 25 14.4**	**+1.2**
KUZ	**Kuaotunu**	**3.03**	**253**	⇓PN	**Pn**	**17 25 14.3**	**+0.8**
KUZ	**Kuaotunu**	**3.03**	**253**	Pn	**Pn**	**17 25 14.3**	**+0.8**
TGRZ	**Tauranga**	**3.05**	**233**	⇓PN	**Pn**	**17 25 15.0**	**+1.3**
TGRZ	**Tauranga**	**3.05**	**233**	⇓Pn	**Pn**	**17 25 15.0**	**+1.3**
LIRZ	**Lichensteins R**	**3.14**	**228**	PN	**Pn**	**17 25 16.6**	**+1.6**
MKRZ	**Makatiti**	**3.18**	**225**	PN	**Pn**	**17 25 17.5**	**+2.0**
PRGZ	**Paritu Road**	**3.20**	**201**	PN	**Pn**	**17 25 15.9**	**+0.1**
PRGZ	**Paritu Road**	**3.20**	**201**	Pn	**Pn**	**17 25 15.9**	**+0.1**
OMRZ	**Omania**	**3.21**	**227**	⇓*e*PN	**Pn**	**17 25 17.4**	**+1.4**
OMRZ	**Omania**	**3.21**	**227**	⇓*e*Pn	**Pn**	**17 25 17.4**	**+1.4**
TARZ	**Mount Tarawera**	**3.22**	**224**	*e*PN	**Pn**	**17 25 17.6**	**+1.4**
TARZ	**Mount Tarawera**	**3.22**	**224**	*e*Pn	**Pn**	**17 25 17.6**	**+1.4**
KARZ	**Kaharoa**	**3.23**	**229**	⇓PN	**Pn**	**17 25 17.7**	**+1.4**
KARZ	**Kaharoa**	**3.23**	**229**	⇓Pn	**Pn**	**17 25 17.7**	**+1.4**
RRRZ	**Republican Roa**	**3.29**	**222**	⇓PN	**Pn**	**17 25 18.2**	**+1.1**
KNZ	**Kokohu**	**3.35**	**203**	PN	**Pn**	**17 25 17.7**	**-0.2**
KNZ	**Kokohu**	**3.35**	**203**	Pn	**Pn**	**17 25 17.7**	**-0.2**
UTU	**Utuhina**	**3.37**	**227**	⇓*e*PN	**Pn**	**17 25 20.0**	**+1.9**
UTU	**Utuhina**	**3.37**	**227**	⇓*e*Pn	**Pn**	**17 25 20.0**	**+1.9**
MHGZ	**Mahia Peninsul**	**3.41**	**199**	⇓PN	**Pn**	**17 25 19.0**	**+0.4**
MHGZ	**Mahia Peninsul**	**3.41**	**199**	⇓Pn	**Pn**	**17 25 19.0**	**+0.4**
HRRZ	**Handcock Road**	**3.46**	**224**	PN	**Pn**	**17 25 20.6**	**+1.3**
HRRZ	**Handcock Road**	**3.46**	**224**	Pn	**Pn**	**17 25 20.6**	**+1.3**
PRRZ	**Plateau Road**	**3.47**	**222**	⇓PN	**Pn**	**17 25 20.4**	**+0.9**
PRRZ	**Plateau Road**	**3.47**	**222**	⇓Pn	**Pn**	**17 25 20.4**	**+0.9**
RAHZ	**Arahi**	**3.47**	**210**	PN	**Pn**	**17 25 20.0**	**+0.5**
ALRZ	**Allen Road**	**3.55**	**221**	⇓PN	**Pn**	**17 25 21.5**	**+1.0**
ALRZ	**Allen Road**	**3.55**	**221**	⇓Pn	**Pn**	**17 25 21.5**	**+1.0**
MKAZ	**Moumakai**	**3.56**	**250**	⇑PN	**Pn**	**17 25 22.2**	**+1.6**
MKAZ	**Moumakai**	**3.56**	**250**	Pn	**Pn**	**17 25 22.2**	**+1.6**
TOZ	**Tahuroa Road**	**3.56**	**239**	⇓PN	**Pn**	**17 25 22.2**	**+1.5**
TOZ	**Tahuroa Road**	**3.56**	**239**	⇓Pn	**Pn**	**17 25 22.2**	**+1.5**
MTAZ	**Motutapu**	**3.67**	**255**	PN	**Pn**	**17 25 23.6**	**+1.4**
MTAZ	**Motutapu**	**3.67**	**255**	Pn	**Pn**	**17 25 23.6**	**+1.4**
ABAZ	**Army Bay**	**3.70**	**258**	⇑PN	**Pn**	**17 25 23.9**	**+1.3**
NMHZ	**Naumai**	**3.74**	**212**	⇓PN	**Pn**	**17 25 23.6**	**+0.4**
NMHZ	**Naumai**	**3.74**	**212**	⇓Pn	**Pn**	**17 25 23.6**	**+0.4**
WHTZ	**Whakaora**	**3.83**	**224**	PN	**Pn**	**17 25 25.8**	**+1.4**
WHTZ	**Whakaora**	**3.83**	**224**	Pn	**Pn**	**17 25 25.8**	**+1.4**
KAAZ	**Kauri Point**	**3.84**	**255**	⇓PN	**Pn**	**17 25 26.6**	**+2.0**
HATZ	**Hinemaiaia**	**3.92**	**220**	PN	**Pn**	**17 25 25.9**	**+0.2**
HATZ	**Hinemaiaia**	**3.92**	**220**	Pn	**Pn**	**17 25 25.9**	**+0.2**
RVAZ	**Riverhead Bore**	**3.93**	**256**	⇑PN	**Pn**	**17 25 27.5**	**+1.8**
BKZ	**Black Stump Fm**	**3.94**	**214**	⇓PN	**Pn**	**17 25 25.6**	**-0.3**
BKZ				AML	AML	17 26 34.8	
BKZ				AML	AML	17 26 37.9	
BKZ	**Black Stump Fm**	**3.94**	**214**	⇓Pn	**Pn**	**17 25 25.6**	**-0.3**
WTAZ	**Waiatarua**	**3.97**	**254**	PN	**Pn**	**17 25 28.5**	**+2.2**
WTAZ	**Waiatarua**	**3.97**	**254**	Pn	**Pn**	**17 25 28.5**	**+2.2**
WATZ	**Wairara**	**3.99**	**225**	PN	**Pn**	**17 25 27.9**	**+1.3**
WATZ	**Wairara**	**3.99**	**225**	Pn	**Pn**	**17 25 27.9**	**+1.3**
WCZ	**Waipu Caves**	**4.05**	**268**	⇑PN	**Pn**	**17 25 28.0**	**+0.7**
WCZ	**Waipu Caves**	**4.05**	**268**	⇑Pn	**Pn**	**17 25 28.0**	**+0.7**
RATZ	**Rangitukua**	**4.08**	**223**

OGWZ	Otaki Gorge	5.87 213	Pn	Pn	17 25 48.9	-3.3	
MTW	Mount Morrison	6.02 209	PN	Pn	17 25 51.0	-3.2	
MTW			AML	AML	17 27 37.2		
MTW			AML	AML	17 27 41.4		
MTW	Mount Morrison	6.02 209	Pn	Pn	17 25 51.0	-3.2	
KIW	Kapiti Island	6.02 214	PN	Pn	17 25 51.3	-3.0	
KIW			AML	AML	17 27 34.2		
KIW			AML	AML	17 27 38.0		
KIW	Kapiti Island	6.02 214	Pn	Pn	17 25 51.3	-3.0	
CAW	Cannon Point	6.15 212	PN	Pn	17 25 52.4	-3.7	
CAW			AML	AML	17 27 32.2		
CAW			AML	AML	17 27 36.0		
CAW	Cannon Point	6.15 212	Pn	Pn	17 25 52.4	-3.7	
TRWZ	Traveller	6.16 207	PN	Pn	17 25 52.5	-3.6	
TRWZ			AML	AML	17 27 49.3		
TRWZ			AML	AML	17 27 59.7		
TRWZ	Traveller	6.16 207	Pn	Pn	17 25 52.5	-3.6	
PAWZ	Paruwai Farm	6.24 208	PN	Pn	17 25 53.7	-3.5	
PAWZ			AML	AML	17 27 46.9		
PAWZ			AML	AML	17 27 50.4		
PAWZ	Paruwai Farm	6.24 208	Pn	Pn	17 25 53.7	-3.5	
MSWZ	Moikau Station	6.34 209	PN	Pn	17 25 54.9	-3.6	
MSWZ			AML	AML	17 27 43.3		
MSWZ			AML	AML	17 28 01.2		
MSWZ	Moikau Station	6.34 209	Pn	Pn	17 25 55.0	-3.6	
WEL	Wellington	6.43 212	PN	Pn	17 25 56.3	-3.5	
WEL	Wellington	6.43 212	P	Pn	17 25 56.3	-3.5	
WEL	Wellington	6.43 212	Pn	Pn	17 25 56.3	-3.5	
DUWZ	D'Urville Isla	6.46 220	PN	Pn	17 25 57.2	-3.0	
DUWZ	D'Urville Isla	6.46 220	Pn	Pn	17 25 57.2	-3.0	
PLWZ	Palliser	6.47 208	PN	Pn	17 25 56.4	-3.9	
PLWZ	Palliser	6.47 208	Pn	Pn	17 25 56.5	-3.9	
SNZO	South Karori	6.47 213	PN	Pn	17 25 56.1	-4.3	
SNZO			AML	AML	17 27 42.3		
SNZO			AML	AML	17 27 47.1		
SNZO	South Karori	6.47 213	Pn	Pn	17 25 56.1	-4.3	
BHW	Baring Head	6.49 211	PN	Pn	17 25 56.9	-3.6	
BHW			AML	AML	17 27 43.9		
BHW			AML	AML	17 27 54.3		
BHW	Baring Head	6.49 211	Pn	Pn	17 25 57.0	-3.6	
TCW	Tory Channel	6.59 215	⇓PN	Pn	17 25 58.2	-3.8	
TCW			AML	AML	17 27 40.3		
TCW			AML	AML	17 27 58.7		
TCW	Tory Channel	6.59 215	Pn	Pn	17 25 58.2	-3.8	
TUWZ	Tuamarina	6.92 216	PN	Pn	17 26 02.1	-4.4	
TUWZ			AML	AML	17 27 34.6		
TUWZ			AML	AML	17 28 09.9		
TUWZ	Tuamarina	6.92 216	Pn	Pn	17 26 02.1	-4.4	
NNZ	Nelson	7.04 220	⇓PN	Pn	17 26 04.8	-3.3	
NNZ	Nelson	7.04 220	Pn	Pn	17 26 04.8	-3.3	
CMWZ	Cape Campbell	7.05 213	PN	Pn	17 26 05.8	-2.4	
CMWZ			AML	AML	17 27 56.8		
CMWZ			AML	AML	17 28 03.1		
CMWZ	Cape Campbell	7.05 213	Pn	Pn	17 26 05.8	-2.4	
RAO	Raoul Island	7.06 20	Pn	Pn	17 26 02.6	-5.8	
RAO	Raoul Island	7.06 20	P	Pn	17 26 04.6	-3.9	
	45nm,0.3s,baz=77,slow=21,SNR=2.0						
RAO			S	Sn	17 27 23.5	-3.7	
	124nm,0.3s,baz=270,slow=23,SNR=3.5						
RAO			LR	LR	17 28 17.0		
	comp=Z,2µm,21.6s,baz=204,slow=32						
BSWZ	Blackbirch Sta	7.17 215	PN	Pn	17 26 06.1	-3.8	
BSWZ			AML	AML	17 28 14.4		
BSWZ			AML	AML	17 28 33.9		
BSWZ	Blackbirch Sta	7.17 215	Pn	Pn	17 26 06.1	-3.8	
QRZ	Quartz Range	7.24 226	⇑PN	Pn	17 26 07.3	-3.6	
QRZ	Quartz Range	7.24 226	Pn	Pn	17 26 07.3	-3.6	
THZ	Tophouse	7.68 219	⇑PN	Pn	17 26 12.7	-4.3	
THZ	Tophouse	7.68 219	Pn	Pn	17 26 12.7	-4.3	
KHZ	Kahutara	7.88 213	PN	Pn	17 26 15.1	-4.5	
KHZ			AML	AML	17 27 58.1		
KHZ			AML	AML	17 28 08.2		
KHZ	Kahutara	7.88 213	ePn	Pn	17 26 14.9	-4.7	
	2µm,1.6s						
KHZ			eSn	Sn	17 27 37.3	-10	
DSZ	Denniston Nort	8.26 223	PN	Pn	17 26 19.8	-5.0	
DSZ	Denniston Nort	8.26 223	Pn	Pn	17 26 19.8	-5.0	
CTZ	Chatham Island	8.39 159	PN	Pn	17 26 26.9	+0.4	
LTZ	Lake Taylor	8.76 217	PN	Pn	17 26 25.8	-5.8	
LTZ	Lake Taylor	8.76 217	Pn	Pn	17 26 25.9	-5.8	
CRLZ	Canterbury Las	9.21 212	Pn	Pn	17 26 33.0	-4.8	
MQZ	McQueen's Vall	9.31 211	Pn	Pn	17 26 33.0	-6.1	
WVZ	Waitaha Valley	9.74 220	Pn	Pn	17 26 40.7	-4.4	
RPZ	Rata Peaks	10.04 217	P	Pn	17 26 44.2	-4.9	
RPZ			S	Sn	17 28 29.2	-11	
RPZ	Rata Peaks	10.04 217	P	Pn	17 26 44.2	-4.9	
	10nm,0.3s,baz=78,slow=4.5,SNR=26						
RPZ			S	Sn	17 28 29.2	-11	
	10nm,0.3s,baz=85,slow=22,SNR=9.2						
FOZ	Fox Glacier	10.63 221	Pn	Pn	17 26 50.2	-6.9	
LBZ	Lake Benmore	10.96 217	Pn	Pn	17 26 56.1	-5.6	
ODZ	Otahua Downs	11.24 213	ePn	Pn	17 26 59.8	-5.7	
	140nm,1.3s						
ODZ			eSn	Sn	17 28 56.6	-13	
JCZ	Jackson Bay	11.47 222	Pn	Pn	17 27 02.6	-6.1	
WKZ	Wanaka	11.86 218	Pn	Pn	17 27 09.5	-4.4	
EAZ	Earnscleugh	12.00 216	Pn	Pn	17 27 12.5	-3.4	
MSZ	Milford Sound	12.32 221	P	Pn	17 27 16.2	-3.9	
MSZ	Milford Sound	12.32 221	Pn	Pn	17 27 16.2	-3.9	
TUZ	Tuapeka	12.40 213	PN	Pn	17 27 17.2	-4.0	
TUZ	Tuapeka	12.40 213	Pn	Pn	17 27 17.2	-4.0	
SYZ	Scrubby Hill	13.07 213	Pn	Pn	17 27 28.4	-1.8	
DZM	Mont Dzumac	17.81 317	eP	Pn	17 28 33.3	+2.4	
	113nm,1.4s						
DZM			eLR	LR	17 32 51.1		
	4µm,25.9s						
DZM	Mont Dzumac	17.81 317	eP	P	17 28 30.5	-0.1	
DZM	Mont Dzumac	17.81 317	ePn	Pn	17 28 33.6	+2.7	
	48nm,1.1s						
DZM	Mont Dzumac	17.81 317	P	Pn	17 28 33.6	+2.7	
	0.2nm,0.3s,baz=123,slow=13,SNR=4.2						
DZM			LR	LR	17 33 45.5		
	comp=Z,3µm,20.5s,baz=148,slow=32						
MSVF	Nonsavu	18.17 356	Pn	Pn	17 28 37.0	+1.8	
	426nm,0.6s,SNR=8.6						
MSVF	Nonsavu	18.17 356	eP	P	17 28 33.8	-0.8	
MSVF			pmax	pmax			
	comp=Z,48nm,0.7s						
MSVF	Nonsavu	18.17 356	eP	P	17 28 33.8	-0.8	
	comp=Z,48nm,0.7s						
NIUE	Niue	19.28 32	P	Pn	17 28 48.7	+0.3	
	baz=20,SNR=4.0						
NIUE			S	S	17 32 06.4	-15	
	baz=20,SNR=4.2						
AFI	Afiamalu	23.34 22	eP	P	17 29 32.0	+2.1	
	comp=Z,25nm,0.6s						
AFI	Afiamalu	23.34 22	P	P	17 29 32.3	+2.4	
	comp=Z,14nm,0.5s,baz=32,slow=9.5,SNR=3.8						
RAR	Rarotonga	23.42 57	P	P	17 29 34.3	+3.8	
RAR			S	S	17 33 37.6	-0.5	
RAR	Rarotonga	23.42 57	S	S	17 33 37.6	-0.5	
	comp=Z,23nm,1.2s,baz=97,slow=0.1,SNR=3.3						
CNB	Canberra Magne	24.33 263	P	P	17 29 46.1	+7.4	
	baz=24,SNR=4.9						
EIDS	Eidsvold	26.41 286	eP	P	17 30 01.0	+3.4	
	comp=Z,50nm,1.3s						
EIDS	Eidsvold	26.41 286	P	P	17 30 01.8	+4.3	
	baz=26,SNR=4.9						
TOO	Toolangi	27.09 256	P	P	17 30 08.0	+4.4	
	baz=27,SNR=4.8						
RMQ	Roma	27.70 281	P	P	17 30 12.5	+3.3	
	baz=28,SNR=12						
CMSA	Cobar Meteorol	28.24 269	P	P	17 30 17.7	+3.8	
	baz=28,SNR=37						
TBI	Tubuai	29.75 74	eLR	LR	17 38 00.5		
	comp=Z,2µm,29.0s,baz=236						
STKA	Stephens Creek	31.45 266	P	P	17 30 43.6	+1.3	
STKA	Stephens Creek	31.45 266	P	P	17 30 43.6	+1.3	
	comp=Z,9.9nm,0.9s,baz=74,slow=9.7,SNR=11						
STKA			LR	LR	17 42 56.2		
	comp=Z,950nm,19.0s,baz=105,slow=35						
STKA	Stephens Creek	31.45 266	P	P	17 30 44.9	+2.5	
	baz=31,SNR=6.8						
HNR	Honiara	31.74 321	LR	LR	17 41 18.6		
	comp=Z,575nm,19.0s,baz=330,slow=32						
PAE	Paea	32.98 65	eP	P	17 30 52.2	-3.6	
	comp=Z,14nm,1.2s						
CTA	Charters Tower	33.01 290	P	P	17 30 58.0	+1.9	
CTA	Charters Tower	33.01 290	P	P	17 30 58.0	+1.9	
	comp=Z,28nm,1.0s,baz=118,slow=9.1,SNR=21						
CTAO	Charters Tower	33.01 290	eP	P	17 30 57.6	+1.6	
CTAO			pmax	pmax			
	comp=Z,33nm,1.0s						
CTAO	Charters Tower	33.01 290	eP	P	17 30 57.6	+1.6	
	comp=Z,33nm,1.0s						
PPT2	Papeete2	33.03 65	eP	P	17 30 53.2	-3.1	
	comp=Z,49nm,1.3s						
PPT2			eS	S	17 36 06.9	-2.9	
	comp=Z,318nm,25.8s						
PPT2			eLR	LR	17 39 38.8		
	comp=Z,3µm,28.2s,baz=227						
PPT	Papeete	33.04 65	LR	LR	17 40 59.9		
	comp=Z,611nm,20.6s,baz=250,slow=30						
MEH	Mehetia	33.97 67	eP	P	17 31 00.0	-4.4	
	comp=Z,141nm,1.3s						
MTSU	Mount Surprise	35.63 290	P	P	17 31 20.7	+1.9	
	baz=36,SNR=25						
BBOO	Buckleboo	35.64 262	P	P	17 31 21.1	+2.3	
	baz=36,SNR=10.0						
COEN	Coen	39.09 295	eP	P	17 31 48.5	+0.4	
	comp=Z,137nm,0.8s						
COEN	Coen	39.09 295	P	P	17 31 50.4	+2.4	
	baz=39,SNR=13						
PMG	Port Moresby	39.41 304	P	P	17 31 53.2	+2.6	
PMG	Port Moresby	39.41 304	P	P	17 31 53.2	+2.6	
	comp=Z,12nm,0.7s,baz=123,slow=9.9,SNR=6.2						
PMG			LR	LR	17 46 38.4		
	comp=Z,722nm,18.7s,baz=130,slow=34						
RABL	Rabaul	40.32 315	P	P	17 31 59.7	+1.5	
	baz=41,SNR=3.9						
AS31	Alice Springs	40.94 275	eP	P	17 32 02.8	-0.6	
ASAR	Alice Springs	40.94 275	P	P	17 32 02.7	-0.7	
ASAR			ScP	ScP	17 37 41.1	-4.5	
ASAR			S	S	17 38 10.3	+0.3	
ASAR	Alice Springs	40.94 275	P	P	17 32 02.7	-0.7	
	comp=Z,6.9nm,0.5s,baz=116,slow=7.7,SNR=48						
ASAR			ScP	ScP	17 37 41.1	-4.5	
	comp=Z,2.8nm,0.9s,baz=120,slow=4.7,SNR=8.8						
ASAR			S	S	17 38 10.3	+0.3	
	comp=Z,2.8nm,0.9s,baz=123,slow=15,SNR=8.4						
ASAR			LR	LR	17 49 15.2		
	comp=Z,937nm,18.1s,baz=121,slow=36						
RKT	Rikitea	41.41 85	eLR	LR	17 43 26.7		
	comp=Z,1µm,30.5s,baz=246						
SBA	Scott Base	42.37 184	eP	P	17 32 19.2	+4.9	
SBA			pmax	pmax			
	comp=Z,48nm,1.8s						
SBA	Scott Base	42.37 184	eP	P	17 32 19.2	+4.9	
	comp=Z,48nm,1.8s						
VNDA	Vanda	42.38 186	eP	P	17 32 16.8	+2.5	
	comp=Z,3.7nm,0.9s						
WRAB	Tennant Creek	42.44 280	P	P	17 32 17.9	+2.3	
	comp=Z,330nm,0.5s,SNR=21						
WRAB	Tennant Creek	42.44 280	eP	P	17 32 13.7	-1.8	
WRAB			pmax	pmax			
	comp=Z,27nm,0.6s						
WRAB	Tennant Creek	42.44 280	eP	P	17 32 13.7	-1.8	
	comp=Z,27nm,0.6s						
WRA	Warramunga Arr	42.44 280	P	P	17 32 13.6	-2.0	
WRA			S	S	17 38 27.2	-4.9	
WRA	Warramunga Arr	42.44 280	P	P	17 32 13.6	-2.0	
	comp=Z,14nm,0.4s,baz=119,slow=7.7,SNR=124						
WRA			S	S	17 38 27.2	-4.9	
	comp=Z,2.7nm,1.2s,baz=125,slow=13,SNR=4.0						
WRA			LR	LR	17 49 03.5		
	comp=Z,945nm,21.5s,baz=110,slow=35						
FORT	Forrest	42.74 262	P	P	17 32 18.5	+0.6	
	baz=43,SNR=7.3						
KDU	Kakadu	48.01 287	P	P	17 33 00.5	+0.8	
	baz=48,SNR=6.2						
MTN	Manton Dam	48.96 285	P	P	17 33 07.8	+0.8	
	baz=49,SNR=8.2						
KNRA	Kununurra	49.20 281	P	P	17 33 09.9	+1.0	
	baz=49,SNR=31						
FITZ	Fitzroy Crossi	50.40 276	eP	P	17 33 18.4	+0.5	
	comp=Z,33nm,1.0s						
FITZ	Fitzroy Crossi	50.40 276	P	P	17 33 19.1	+1.2	
	comp=Z,21nm,0.7s,baz=155,slow=7.7,SNR=67						
FITZ			LR	LR	17 54 45.5		
	comp=Z,496nm,19.4s,baz=127,slow=36						
FITZ	Fitzroy Crossi	50.40 276	P	P	17 33 19.1	+1.2	
	baz=50,SNR=23						
NWAO	Narrogin (SRO)	50.55 254	eP	P	17 33 18.2	-0.7	
NWAO	Narrogin (SRO)	50.55 254	P	P	17 33 18.3	-0.6	
	comp=Z,16nm,0.7s,baz=178,slow=7.6,SNR=9.3						
NWAO			LR	LR	17 53 11.5		
	comp=Z,420nm,21.2s,baz=284,slow=34						
KLBR	Kellerberrin	50.64 256	P	P	17 33 19.4	-0.3	
	baz=50,SNR=22						
MEEK	Meekatharra	51.99 262	P	P	17 33 29.4	-0.4	
	baz=52,SNR=17						
MORW	Morawa	53.01 258	P	P	17 33 37.1	-0.2	
	baz=53,SNR=5.6						
MBWA	Marble Bar	53.64 269	eP	P	17 33 41.4	-0.6	
	comp=Z,30nm,1.0s						
QSPA	South Pole Qui	54.19 180	P	P	17 33 49.7	+4.2	
QSPA	South Pole Qui	54.19 180	P	P	17 33 49.7	+4.2	
	comp=Z,15nm,0.6s,baz=26,slow=1.8,SNR=137						
MIR	Mirnyy	56.20 209	⇓P	P	17 34 03.0	+3.3	
MIR			pmax	pmax			
	comp=Z,66nm,1.2s						
DAV	Davao City (W)	66.13 299	LR	LR	18 02 45.4		
	comp=Z,91nm,19.5s,baz=198,slow=35						
MAW	Mawson	66.35 202	P	P	17 35 10.7	+2.5	
MAW	Mawson	66.35 202	P	P	17 35 10.7	+2.5	
	comp=Z,28nm,1.0s,baz=117,slow=7.9,SNR=29						
MAW			LR	LR	18 06 17.2		
	comp=Z,226nm,18.1s,baz=121,slow=38						
MAW	Mawson	66.35 202	P	P	17 35 10.5	+2.3	
	baz=66,SNR=11						
SYO	Syowa Base	71.22 194	⇓eP	P	17 35 38.4	-0.1	
SYO	Syowa Base	71.22 194	⇓epP	pP	17 35 51.3	-6.6	
SYO	Syowa Base	71.22 194	⇓ePcP	PcP	17 35 58.7	+0.7	
LEM	Lembang	71.23 275	P	P	17 35 40.2	+0.6	
	baz=71,SNR=3.6						
KKM	Kota Kinabalu	72.32 291	P	P	17 35 44.9	-1.1	
KKM	Kota Kinabalu	72.32 291	P	P	17 35 45.9	-0.1	
	baz=72,SNR=3.6						
SNAA	Sanae	72.68 179	eP	P	17 35 49.7	+2.4	
SNAA	Sanae	72.68 179	eP	P	17 35 49.5	+2.2	
	comp=Z,62nm,1.2s						
MAIT	Maitri	73.22 184	eP	P	17 35 50.2	-0.1	
VNA2	Neumayer--Watz	73.33 178	eP	P	17 35 54.1	+3.1	
VNA2	Neumayer--Watz	73.33 178	ePcP	PcP	17 36 04.7	-2.3	
VNA1	Neumayer--Stat	73.57 177	eP	P	17 35 55.6	+3.2	
VNA1	Neumayer--Stat	73.57 177	ePcP	PcP	17 36 07.9	-0.1	
KSM	Kuching	74.01 284	eP	P	17 35 54.8	-1.2	
	comp=Z,24nm,1.1s						
KSM	Kuching	74.01 284	P	P	17 35 55.7	-0.3	
	baz=74,SNR=6.0						
COCO	West Island	76.93 264	eP	P	17 36 18.0	+5.4	
COCO	West Island	76.93 264	eP	P	17 36 18.0	+5.4	
EFI	East Falkland	79.34 148	eP	P	17 36 28.1	+2.8	
EFI	East Falkland	79.34 148	eP	P	17 36 28.1	+2.8	
PLCA	Paso Flores	80.34 134	eP	P	17 36 35.2	+4.0	
	comp=Z,52nm,1.1s						
PLCA	Paso Flores	80.34 134	P	P	17 36 35.4	+4.2	
	comp=Z,12nm,0.5s,baz=240,slow=5.0,SNR=41						
PLCA			LR	LR	18 03 16.6		
	comp=Z,266nm,21.0s,baz=135,slow=29						
TPUB	Ta-pu	80.92 307	eP	P	17 36 31.7	-2.6	
	comp=Z,15nm,1.1s						
SSLB	Suanglung	81.06 308	P	P	17 36 32.4	-2.6	
	comp=Z,6.3nm,0.4s						
MJAR	Matsushiro Arr	81.61 328	P	P	17 36 36.3	-1.3	
MJAR	Matsushiro Arr	81.61 328	P	P	17 36 36.3	-1.3	
	comp=Z,2.4nm,1.1s,baz=38,slow=13,SNR=12						
MAT	Matsushiro	81.61 328	P	P	17 36 36.0	-1.6	
JNU	Nakatsue	82.31 321	eP	P	17 36 39.8	-1.6	
	comp=Z,7.7nm,1.3s						
PSI	Prapat	83.88 278	P	P	17 36 48.3	-1.8	
	baz=84,SNR=5.5						
QIZ	Qiongzhong	85.44 297	P	P	17 36 57.8	+0.2	
QIZ			sP	sP	17 37 18.3	-7.2	
QIZ			S	S	17 47 22.6	-0.5	
QIZ			pmax	pmax			
	comp=Z,5.0nm,1.3s						
QIZ			LR	LR			
	comp=N,140nm,13.3s						
QIZ			LR	LR			
	comp=Z,160nm,19.4s						
TRQA	Tornquist	87.06 136	eP	P	17 37 07.9	+2.5	
	comp=Z,70nm,1.9s						
KSRS	Korea Array	87.19 321	P	P	17 37 06.2	+0.4	
	comp=Z,8.9nm,0.9s,baz=143,slow=5.8,SNR=31						
KSAR	Wonju Array Be	87.20 321	P	P	17 37 06.2	+0.4	
NJ2	Nanjing	88.23 312	eP	P	17 37 11.8	+1.0	
NJ2			pP	pP	17 37 26.4	-4.5	
NJ2			sP	sP	17 37 32.1	-6.7	
NJ2			pmax	pmax			
	comp=Z,8.0nm,0.5s						
NJ2			pmax	pmax			
	comp=Z,21nm,5.2s						
NJ2			LR	LR			
	comp=Z,470nm,20.6s						
WHN	Wuhan	89.97 309	P	P	17 37 19.1	+0.1	
WHN			LR	LR			
	comp=Z,320nm,15.7s						
USRK	Ussuriysk Arra	90.60 328	P	P	17 37 21.7	+0.2	
	comp=Z,6.9nm,0.9s,baz=152,slow=4.7,SNR=7.6						
USRK			LR	LR	18 14 00.7		
	comp=Z,102nm,19.3s,baz=19,slow=33						
PEA0B	Petropavlovsk-	90.65 347	eP	P	17 37 20.8	-0.9	
PETK	Petropavlovsk-	90.65 347	P	P	17 37 21.4	-0.3	
PETK	Petropavlovsk-	90.65 347	P	P	17 37 21.4	-0.3	
PETK	Petropavlovsk-	90.65 347	P	P	17 37 21.4	-0.3	
	comp=Z,12nm,1.1s,baz=130,slow=7.4,SNR=21						
PETK			LR	LR	18 13 14.9		
	comp=Z,110nm,19.2s,baz=151,slow=32						
PFO	Pinyon Flat Ob	91.56 49	P	P	17 37 29.7	+3.2	
PFO	Pinyon Flat Ob	91.56 49	P	P	17 37 29.7	+3.2	
	comp=Z,4.7nm,0.9s,baz=153,slow=0.6,SNR=6.0						
ISA	Isabella	91.77 46	eP	P	17 37 29.4	+2.0	
ISA			pmax	pmax			
	comp=Z,7.0nm,1.1s						
ISA	Isabella	91.77 46	eP	P	17 37 29.4	+2.0	
	comp=Z,6.9nm,1.1s						
MDJ	Mudanjiang	91.98 327	P	P	17 37 28.8	+0.8	
MDJ			pP	pP	17 37 43.1	-5.0	
MDJ			sP	sP	17 37 49.0	-7.0	
MDJ			PP	PP	17 41 07.8	-1.1	
MDJ			S	S	17 48 25.0	+1.5	
MDJ			SS	SS	17 54 35.6	+1.0	
MDJ			pmax	pmax			
	comp=Z,7.0nm,1.0s						
MDJ			pmax	pmax			
	comp=Z,72nm,3.7s						
MDJ			LR	LR			
	comp=N,80nm,29.8s						
MDJ			LR	LR			
	comp=E,32nm,28.3s						
MDJ			LR	LR			
	comp=Z,120nm,26.9s						
GLA	Glamis	92.19 50	eP	P	17 37 31.6	+2.3	
GLA			pmax	pmax			
	comp=Z,18nm,1.0s						
GLA	Glamis	92.19 50	eP	P	17 37 31.6	+2.3	
	comp=Z,18nm,1.0s						
CMB	Columbia Colle	92.34 43	eP	P	17 37 32.0	+2.1	
CMB			pmax	pmax			
	comp=Z,6.0nm,1.0s						
CMB	Columbia Colle	92.34 43	eP	P	17 37 32.0	+2.1	
	comp=Z,5.6nm,1.0s						
GYA	Guiyang	92.42 301	eP	P	17 37 32.0	+1.3	
GYA			pP	pP	17 37 46.6	-4.2	
GYA			sP	sP	17 37 52.9	-5.8	
GYA			PP	PP	17 41 16.0	+3.1	
GYA			SKS	SKSac	17 47 58.3	+0.5	
GYA			S	S	17 48 28.8	+0.2	
GYA			sS	sS	17 48 53.4	-10	
GYA			SS	SS	17 54 43.0	+1.1	
GYA			pmax	pmax			
	comp=Z,20nm,1.0s						
GYA			pmax	pmax			
	comp=Z,120nm,5.2s						
GYA			LR	LR			
	comp=N,560nm,21.5s						
GYA			LR	LR			
	comp=E,460nm,22.0s						
GYA			LR	LR			
	comp=Z,520nm,21.2s						
LVC	Limon Verde	93.12 121	eP	P	17 37 34.5	+0.1	
	comp=Z,122nm,0.9s						
CMAR	Chiang Mai Arr	93.17 290	P	P	17 37 34.4	+0.3	
CMAR	Chiang Mai Arr	93.17 290	P	P	17 37 34.4	+0.3	
	comp=Z,0.7nm,0.7s,baz=146,slow=3.9,SNR=4.3						
CMAR			LR	LR	18 20 56.2		
	comp=Z,472nm,18.8s,baz=170,slow=36						
CN2	Changchun	93.25 324	eP	P	17 37 33.0	-0.9	
CN2			eS	S	17 48 34.1	-0.7	
CN2			pmax	pmax			
	comp=Z,10.0nm,1.1s						
CN2			pmax	pmax			
	comp=Z,200nm,4.0s						
CN2			LR	LR			
	comp=N,200nm,17.0s						
CN2			LR	LR			
	comp=E,200nm,17.0s						
CN2			LR	LR			
	comp=Z,200nm,19.0s						
CHTO	Chiang Mai	93.38 291	eP	P	17 37 35.2	+0.1	
CHTO	Chiang Mai	93.38 291	eP	P	17 37 35.2	+0.1	
NVAR	Mina Array Bea	93.78 44	P	P	17 37 39.5	+2.7	
NVAR	Mina Array Bea	93.78 44	P	P	17 37 39.5	+2.7	
	comp=Z,1.4nm,0.8s,baz=223,slow=7.2,SNR=8.1						
NVAR			LR	LR	18 14 40.4		
	comp=Z,151nm,19.2s,baz=129,slow=32						
NV11	Mina Array Sit	93.87 44	eP	P	17 37 38.8	+1.7	
KMI	Kunming	94.37 298	P	P	17 37 41.3	+1.5	
KMI			S	S	17 48 45.8	-0.2	
KMI			pmax	pmax			
	comp=Z,4.0nm,0.8s						
KMI			pmax	pmax			
	comp=Z,53nm,4.8s						
KMI			LR	LR			
	comp=N,100nm,11.3s						
KMI			LR	LR			
	comp=E,120nm,13.4s						
KMI			LR	LR			
	comp=Z,85nm,12.9s						
BJI	Beijing	95.34 317	P	P	17 37 45.0	+1.4	
BJI			PP	PP	17 41 35.5	+0.2	
BJI			S	S	17 48 58.4	+5.2	
BJI			SS	SS	17 55 23.3	+0.4	
BJI			pmax	pmax			
	comp=Z,10.0nm,0.9s						
BJI			LR	LR			
	comp=N,140nm,17.8s						
BJI			LR	LR			
	comp=E,140nm,19.7s						
BJI			LR	LR			
	comp=Z,98nm,26.2s						
CD2	Chengdu	97.18 303	eP	P	17 37 52.0	-0.2	
CD2			pP	pP	17 38 07.3	-5.1	
CD2			sP	sP	17 38 13.3	-7.0	
CD2			PP	PP	17 41 51.3	+1.5	
CD2			SKS	SKSac	17 48 23.4	+0.5	
CD2			S	S	17 49 07.6	-2.1	
CD2			sS	sS	17 49 34.9	-9.4	
CD2			SS	SS	17 55 49.

comp=N,250nm,16.9s
HHC LR LR
comp=E,240nm,17.5s
HHC LR LR
comp=Z,250nm,17.1s
SONM Songino Array 105.75 318 PKKP PKKPab 17 54 27.7 +7.2
SONM Songino Array 105.75 318 PKKP PKKPab 17 54 27.7 +7.2
comp=Z,1.1nm,1.0s,baz=289,slow=4.5,SNR=6.8
YKA Yellowknife Ar 111.38 27 PKKP PKKPab 17 54 09.7 +15
YKA Yellowknife Ar 111.38 27 PKKP PKKPab 17 54 09.7 +15
comp=Z,0.9nm,0.6s,baz=44,slow=3.6,SNR=6.6
WMQ Urumqi 114.83 307 *e*PKP PKPdf 17 42 59.3 -0.5
WMQ PP **PP 17 44 01.3 +1.6**
WMQ PKS **PKSdf 17 46 34.9 -1.5**
WMQ SKS **SKSdf 17 50 06.4 +1.1**
WMQ SKKS **SKKSac 17 50 51.9 -1.8**
WMQ SS **SS 17 59 49.0 -0.4**
WMQ LR LR
comp=N,61nm,28.0s
WMQ LR LR
comp=E,40nm,32.0s
WMQ LR LR
comp=Z,97nm,32.0s
MK31 Makanchi Array 119.54 308 *e*PKIKP **PKPdf 17 43 07.3 -1.4**
MK31 Makanchi Array 119.54 308 *e*PKPdf **PKPdf 17 43 07.3 -1.4**
MKAR Makanchi Array 119.54 308 PKIKP **PKPdf 17 43 07.1 -1.6**
MKAR Makanchi Array 119.54 308 PKP **PKPdf 17 43 07.0 -1.6**
MKAR SKP 17 46 33.5
MKAR PKKPbc **PKKPbc 17 53 23.5 +3.1**
MKAR Makanchi Array 119.54 308 PKP **PKPdf 17 43 07.0 -1.6**
comp=Z,2.0nm,0.9s,baz=82,slow=1.7,SNR=9.1
MKAR SKP 17 46 33.5
comp=Z,2.1nm,1.2s,baz=151,slow=2.8,SNR=3.8
MKAR PKKPbc **PKKPbc 17 53 23.5 +3.1**
comp=Z,0.6nm,0.7s,baz=324,slow=2.5,SNR=5.7
ZALV Zalesovo Beam 120.60 317 PKIKP **PKPdf 17 43 09.4 -1.0**
ZALV Zalesovo Beam 120.60 317 PKP **PKPdf 17 43 09.4 -1.0**
ZALV Zalesovo Beam 120.60 317 PKP **PKPdf 17 43 09.4 -1.0**
comp=Z,0.4nm,0.3s,baz=318,slow=2.0,SNR=3.6
SSPA Standing Stone 121.04 60 *e*PKPdf **PKPdf 17 43 09.6 -2.1**
KURK Kurchatov 123.16 312 PKIKP **PKPdf 17 43 14.1 -1.3**
KURK Kurchatov 123.16 312 PKP **PKPdf 17 43 14.1 -1.3**
KURK SKP 17 46 42.0
KURK PKKPbc **PKKPbc 17 53 10.4 +3.7**
KURBB Kurchatov Arra 123.19 312 PKP **PKPdf 17 43 14.1 -1.4**
comp=Z,2.2nm,0.6s,baz=118,slow=2.0,SNR=15
KURBB SKP 17 46 42.0
comp=Z,1.4nm,0.9s,baz=99,slow=2.1,SNR=4.7
KURBB PKKPbc **PKKPbc 17 53 10.4 +3.8**
comp=Z,0.5nm,0.5s,baz=291,slow=5.2,SNR=6.0
BVAR Borovoye Array 128.67 313 PKIKP **PKPdf 17 43 25.0 -0.9**
BVAR Borovoye Array 128.67 313 PKP **PKPdf 17 43 25.0 -0.9**
BVAR SKPbc SKiKP 17 46 41.5 -14
BVAR Borovoye Array 128.67 313 PKP **PKPdf 17 43 25.0 -0.9**
comp=Z,0.9nm,0.4s,baz=137,slow=3.3,SNR=11
BVAR SKPbc SKiKP 17 46 41.5 -14
comp=Z,1.5nm,0.8s,baz=116,slow=3.4,SNR=5.5
KMBO Kilima Mbogo 128.95 232 PKP **PKPdf 17 43 29.5 +1.4**
KMBO Kilima Mbogo 128.95 232 PKP **PKPdf 17 43 29.5 +1.4**
comp=Z,1.0nm,0.4s,baz=234,slow=23,SNR=6.6
SCHQ Schefferville 131.78 45 SKPbc **SKPbc 17 46 52.0 +1.0**
SCHQ Schefferville 131.78 45 SKPbc **SKPbc 17 46 52.0 +1.0**
comp=Z,21nm,1.2s,baz=298,slow=2.2,SNR=8.6
ABKAR Akbulak array 134.62 307 *e*PKPdf **PKPdf 17 43 37.2 -0.1**
ABKAR *e*SKP 17 46 55.4
ARCES ARCESS Array B 143.43 345 PKP PKPbc 17 43 50.4 +0.2
ARCES ARCESS Array B 143.43 345 PKP PKPbc 17 43 50.4 +0.2
comp=Z,6.0nm,0.8s,baz=29,slow=0.9,SNR=20
ARE0 ARCESS Array S 143.43 345 *e*PKPdf PKPbc 17 43 50.2 0.0
KBZ Khabaz 145.98 297 PKIKP **PKPdf 17 43 57.7 -0.2**
KBZ Khabaz 145.98 297 PKPbc **PKPdf 17 43 57.7 -0.2**
KBZ Khabaz 145.98 297 PKPbc **PKPdf 17 43 57.7 -0.2**
comp=Z,6.7nm,0.9s,baz=118,slow=1.9,SNR=9.2
KIV Kislovodsk 146.13 297 *i* PKP2 **PKPdf 17 43 59.0 +0.7**
JOF Joensuu 146.57 334 *e*PKP2 **PKPdf 17 43 59.2 +0.9**
JOF pmax pmax
comp=Z,9.0nm,0.4s
JOF Joensuu 146.57 334 *e*p **PKPdf 17 43 59.2 +0.9**
comp=Z,9.2nm,0.4s
MOS Moscow 147.37 319 *e*PKHKP **PKPbc 17 43 58.3 -4.1**
VSR Storozhevoye 147.81 311 *e*PKIKP **PKPdf 17 44 00.4 -0.3**
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,3.0nm,0.4s
OBN Obninsk 148.16 319 ⇓ *i*PKP2 **PKPbc 17 44 03.5 -1.0**
OBN pmax pmax
comp=Z,35nm,1.2s
KAF Kangasniemi 148.84 336 *e*PKIKP **PKPbc 17 44 04.7 -1.4**
KAF pmax pmax
comp=Z,18nm,0.5s
KAF Kangasniemi 148.84 336 *e*p **PKPbc 17 44 04.7 -1.4**
comp=Z,18nm,0.5s
FIA1 FINESS Array S 149.39 335 *e*PKPbc **PKPbc 17 44 06.5 -1.0**
FINES FINESS Array B 149.39 335 PKPbc **PKPbc 17 44 07.0 -0.4**
FINES FINESS Array B 149.39 335 PKPbc **PKPbc 17 44 07.0 -0.4**
comp=Z,8.9nm,0.5s,baz=57,slow=2.9,SNR=52
LIC Lamto 150.16 171 *e*PKP1 **PKPbc 17 44 12.1 +1.3**
comp=Z,88nm,1.1s
KIC Kosan Boka 150.33 172 *e*PKP1 **PKPbc 17 44 12.6 +1.3**
comp=Z,137nm,1.3s
TIC Toumodi 150.57 171 *e*PKP1 **PKPbc 17 44 13.4 +1.5**
comp=Z,102nm,1.2s
DBIC Dimbokro 150.62 171 *e*PKPbc **PKPbc 17 44 13.1 +1.2**
DBIC PKPab **PKPab 17 44 20.9 +2.2**
DBIC Dimbokro 150.62 171 PKPbc **PKPbc 17 44 13.6 +1.7**
comp=Z,7.5nm,0.6s,baz=143,slow=1.6,SNR=11
DBIC PKPab **PKPab 17 44 20.9 +2.2**
comp=Z,6.8nm,0.5s,baz=159,slow=4.9,SNR=5.9
BRTR Keskin Array B 152.74 288 PKPbc **PKPbc 17 44 15.2 -1.0**
BRTR PKPab **PKPab 17 44 26.4 -0.9**
BRTR Keskin Array B 152.74 288 PKPbc **PKPbc 17 44 15.2 -1.0**
comp=Z,2.6nm,0.6s,baz=149,slow=3.7,SNR=15
BRTR PKPab **PKPab 17 44 26.4 -0.9**
comp=Z,1.3nm,0.5s,baz=158,slow=5.0,SNR=5.4
BR131 Keskin Array S 152.75 288 *e*PKPbc **PKPbc 17 44 14.4 -1.8**
NB2 NORSAR Subarra153.76 347 PKP **PKPbc 17 44 16.9 -0.7**
comp=Z,9.2nm,1.0s,baz=27,slow=2.3
NOA NORSAR Array B153.76 347 PKP **PKPdf 17 44 10.1 +0.3**
NOA PKPbc **PKPbc 17 44 17.1 -0.5**
NOA NORSAR Array B153.76 347 PKP **PKPdf 17 44 10.1 +0.3**
comp=Z,3.1nm,1.0s,baz=206,slow=18,SNR=5.7
NOA PKPbc **PKPbc 17 44 17.1 -0.5**
comp=Z,4.7nm,1.0s,baz=33,slow=2.0,SNR=8.9
AKASG Malin Array Be 153.95 314 PKIKP **PKPbc 17 44 17.4 -0.9**
AKASG 17 44 31.8
AKASG Malin Array Be 153.95 314 PKPbc **PKPbc 17 44 17.4 -0.9**
AKASG PKPab **PKPab 17 44 31.8 -0.1**
AKASG Malin Array Be 153.95 314 PKPbc **PKPbc 17 44 17.4 -0.9**
comp=Z,1.2nm,0.4s,baz=61,slow=2.6,SNR=5.2
AKASG PKPab **PKPab 17 44 31.8 -0.1**
comp=Z,1.3nm,0.5s,baz=50,slow=4.0,SNR=9.9
KIEV Kiev 153.96 314 *e*PKP2 **PKPab 17 44 30.2 -1.7**
KIEV Kiev 153.96 314 *e*PKPab **PKPab 17 44 30.2 -1.7**
SUW Suwalki 155.47 325 *e*PKP **PKPab 17 44 37.9 -0.4**
TOA0 Torodi Ar. Sit 157.21 186 *e*PKPdf **PKPdf 17 44 15.9 +0.2**
TOA0 *e*PKPab **PKPab 17 44 47.8 +1.2**
TORD Torodi Ar. Bea 157.21 186 PKP **PKPdf 17 44 16.8 +1.1**
TORD PKPab **PKPab 17 44 47.8 +1.2**
TORD PP PP 17 48 33.7 +9.4
TORD Torodi Ar. Bea 157.21 186 PKP **PKPdf 17 44 16.8 +1.1**
comp=Z,2.8nm,1.1s,baz=297,slow=2.7,SNR=10
TORD PKPab **PKPab 17 44 47.8 +1.2**
comp=Z,14nm,1.1s,baz=175,slow=2.4,SNR=17
TORD PP PP 17 48 33.7 +9.4
comp=Z,3.0nm,1.2s,baz=186,slow=10,SNR=3.8
KWP Kalwaria Pacla 158.17 316 *e*PKP **PKPab 17 44 50.2 +0.1**
KOLS Kolonicke sedl 158.77 315 *e*PKP2 **PKPab 17 44 52.7 0.0**
KOLS Kolonicke sedl 158.77 315 *e*PKP **PKPab 17 44 52.7 0.0**
UZH Uzhgorod 158.90 314 *e*PKP2 **PKPab 17 44 53.5 +0.3**
CRVS Cervenica-Dubn 159.25 315 *e*PKP2 **PKPab 17 44 55.2 +0.4**
CRVS Cervenica-Dubn 159.25 315 *e*PKP **PKPab 17 44 55.2 +0.4**
KECS Kecovo 160.02 315 *e*PKP2 **PKPab 17 44 58.2 +0.1**
KECS Kecovo 160.02 315 *e*PKP **PKPab 17 44 58.2 +0.1**
OKC Ostrava-Krasne 160.51 321 *e*PKP2 **PKPab 17 44 56.6 -3.6**
OKC Ostrava-Krasne 160.51 321 *e*PKPAB **PKPab 17 44 56.6 -3.6**
KSP Ksiaz 160.74 326 *e*PKP2 **PKPab 17 45 00.7 -0.5**
KSP Ksiaz 160.74 326 *e*PKP **PKPab 17 45 00.9 -0.3**
VYHS Vyhne 160.94 317 *e*PKP2 **PKPab 17 45 02.4 +0.2**
VYHS Vyhne 160.94 317 *e*PKP **PKPab 17 45 02.4 +0.2**
DPC Dobruska-Polom 161.06 325 *e*PKP2 **PKPab 17 45 02.3 -0.4**
DPC Dobruska-Polom 161.06 325 *e*PKPAB **PKPab 17 45 02.3 -0.4**
UPC Upice 161.10 326 *e*PKP2 **PKPab 17 45 03.0 +0.2**
UPC Upice 161.10 326 *e*PKPAB **PKPab 17 45 03.0 +0.2**
PVCC Panska Ves 161.73 328 *e*PKP2 **PKPab 17 45 05.2 -0.3**
PVCC Panska Ves 161.73 328 *e*PKPAB **PKPab 17 45 05.2 -0.3**
BRG Berggiesshubel 161.74 329 *e*PKP **PKPab 17 45 04.5 -1.0**
comp=Z,5.1nm,1.2s
BRG Berggiesshubel 161.74 329 *e*PKP2 **PKPab 17 45 04.5 -1.0**
BRG pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 161.78 332 *e*PKIKP **PKPdf 17 44 21.0 +1.2**
CLL *i* 17 45 04.4
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 161.78 332 *e*PKPdf **PKPdf 17 44 21.0 +1.2**
comp=Z,5.0nm,1.0s
CLL *i* PKPab **PKPab 17 45 04.4 -1.2**
comp=Z,12nm,1.3s
PRA Prague 162.12 327 PKPAB **PKPab 17 45 06.0 -1.2**
PRU Pruhonice 162.13 327 *e*PKIKP **PKPdf 17 44 19.3 -0.9**
PRU *e* 17 45 05.8
PRU Pruhonice 162.13 327 *e*PKPDF **PKPdf 17 44 19.3 -0.9**
PRU *e*PKPAB **PKPab 17 45 05.8 -1.5**
TREC Trest 162.18 323 *e*PKP2 **PKPab 17 45 07.3 -0.2**
TREC Trest 162.18 323 *e*PKPAB **PKPab 17 45 07.3 -0.2**
KHC Kasperske Hory 163.19 326 *e*PKIKP **PKPdf 17 44 20.8 -0.6**
KHC *e* 17 45 11.1
KHC Kasperske Hory 163.19 326 *e*PKPDF **PKPdf 17 44 20.8 -0.6**
KHC *e*PKPAB **PKPab 17 45 11.1 -0.9**
GERES GERESS Array B 163.34 325 PKP **PKPdf 17 44 21.7 +0.1**
GERES PKPab **PKPab 17 45 11.9 -0.8**
GERES GERESS Array B 163.34 325 PKP **PKPdf 17 44 21.7 +0.1**
comp=Z,0.6nm,0.8s,baz=165,slow=41,SNR=3.2
GERES PKPab **PKPab 17 45 11.9 -0.8**
comp=Z,3.5nm,1.0s,baz=46,slow=5.8,SNR=14
TUE Stuetta 167.07 328 *e*PKPdf **PKPdf 17 44 24.1 -0.8**
TUE *e*PKPab **PKPab 17 45 28.4 -1.0**
KEST Kesra 171.87 271 PKPdf **PKPdf 17 44 26.5 -1.5**
KEST *e*PKPab **PKPab 17 45 50.3 -0.7**
PAB San Pablo 175.36 38 *e*PKIKP **PKPdf 17 44 30.9 +1.7**
PAB San Pablo 175.36 38 *e*PKPdf **PKPdf 17 44 30.9 +1.7**
ESDC Sonseca Array 175.44 34 PKP **PKPdf 17 44 30.5 +1.3**
ESDC Sonseca Array 175.44 34 PKP **PKPdf 17 44 30.5 +1.3**
comp=Z,0.5nm,0.5s,baz=332,slow=2.5,SNR=12

*IDC **21** 17:39:56.7±0.6,23°.38S×175°.99W,h0km,mb4.3/17,*
mb1 4.5/17,mb1mx4.4/24,mbtmp4.3/17,MS4.1/16,
Ms1 4.1/16,ms1mx3.9/40,Error ellipse: s-maj=21.3km
s-min=16.8km az=125.0
*AUST **21** 17:40:01.3,23°.24S×175°.29W,h60km*
*NEIC **21** 17:40:09.8±1.9,23°.55S×176°.06W,h103km±15km,mb4.6/9,*
Error ellipse: s-maj=15.0km s-min=10.3km az=91.0
ISC 21 17:40:01.9±0.5,**23°.40S**±0.09×**175°.9W**±0°.1,**h33km,n95,**
σ1§**20**/80,**mb4.4**/21,**MS4.2**/14,**5C,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.04**	**53**	P	Pn	17 41 34.4	-8.3
baz=6.5,SNR=8.5							
NIUE				S	Sn	17 42 43.5	-18
baz=6.5,SNR=5.8							
MSVF	**Nonsavu**	**8.00**	**314**	*e*Pn	Pn	17 42 03.4	+7.4
203nm,1.2s							
AFI	**Afiamalu**	**10.22**	**23**	Pn	Pn	17 42 21.3	-5.1
AFI				*e*Sn	Sn	17 44 04.2	-16
AFI				Sn	Sn	17 44 08.4	-12
AFI	**Afiamalu**	**10.22**	**23**	Pn	Pn	17 42 21.3	-5.1
5.9nm,0.3s,baz=38,slow=23,SNR=9.7							
AFI				Sn	Sn	17 44 08.4	-12
4.2nm,0.3s,baz=104,slow=20,SNR=4.5							
RAR	**Rarotonga**	**15.08**	**85**	Pn	Pn	17 43 22.7	-10
RAR	**Rarotonga**	**15.08**	**85**	Pn	Pn	17 43 22.7	-10
3.1nm,0.3s,baz=270,slow=5.6,SNR=11							
URZ	**Urewera**	**15.97**	**200**	*e*Pn	**Pn**	**17 43 44.9**	**+0.8**
17nm,1.0s							
URZ	**Urewera**	**15.97**	**200**	Pn	**Pn**	**17 43 45.6**	**+1.5**
0.8nm,0.3s,baz=155,slow=8.0,SNR=5.8							
URZ				LR	LR	17 48 26.1	
comp=Z,362nm,20.3s,baz=18,slow=32							
DZM	**Mont Dzumac**	**16.34**	**271**	*e*P	**P**	**17 43 55.7**	**+4.0**
73nm,1.6s							
DZM				*e*LR	LR	17 47 42.8	
727nm,22.8s							
DZM	**Mont Dzumac**	**16.34**	**271**	*e*Pn	**P**	**17 43 53.7**	**+2.0**
16nm,0.9s							
DZM	**Mont Dzumac**	**16.34**	**271**	Pn	P	17 43 57.2	+5.5
0.4nm,0.3s,baz=87,slow=16,SNR=9.1							
DZM				LR	LR	17 47 48.5	
comp=Z,202nm,19.9s,baz=355,slow=29							
RPZ	**Rata Peaks**	**22.94**	**205**	P	**P**	**17 45 04.4**	**+1.1**
RPZ	**Rata Peaks**	**22.94**	**205**	P	**P**	**17 45 04.4**	**+1.1**
5.4nm,0.7s,baz=140,slow=18,SNR=1.7							
TBI	**Tubuai**	**24.26**	**95**	*e*LR	LR	17 50 59.2	
659nm,28.8s,baz=271							
PPT2	**Papeete2**	**25.30**	**82**	*e*LR	LR	17 51 41.8	
640nm,25.0s,baz=250							
PPT	**Papeete**	**25.31**	**82**	LR	LR	17 51 57.1	
comp=Z,307nm,20.4s,baz=253,slow=28							
HNR	**Honiara**	**26.95**	**297**	LR	LR	17 54 54.1	
comp=Z,313nm,19.5s,baz=258,slow=33							
CMSA	**Cobar Meteorol**	**34.89**	**248**	P	**P**	**17 46 50.2**	**-0.3**
baz=35,SNR=8.2							
CTA	**Charters Tower**	**35.24**	**268**	P	**P**	**17 46 53.5**	**-0.1**
CTA	**Charters Tower**	**35.24**	**268**	P	**P**	**17 46 53.5**	**-0.1**
6.8nm,0.7s,baz=105,slow=6.4,SNR=5.3							
CTAO	**Charters Tower**	**35.24**	**268**	*e*P	**P**	**17 46 52.8**	**-0.9**
7.4nm,0.7s							
MTSU	**Mount Surprise**	**37.48**	**270**	P	**P**	**17 47 13.2**	**+0.5**
baz=38,SNR=5.9							
RKT	**Rikitea**	**37.51**	**98**	*e*LR	LR	17 57 06.4	
405nm,29.0s							
PMG	**Port Moresby**	**37.94**	**285**	P	P	17 47 13.2	-3.5
PMG	**Port Moresby**	**37.94**	**285**	P	**P**	**17 47 14.4**	**-2.3**
16nm,0.8s,baz=192,slow=4.2,SNR=3.0							
PMG				LR	LR	18 00 01.3	
comp=Z,165nm,21.6s,baz=261,slow=32							
STKA	**Stephens Creek**	**38.39**	**248**	P	**P**	**17 47 18.1**	**-2.2**
STKA	**Stephens Creek**	**38.39**	**248**	P	**P**	**17 47 18.1**	**-2.2**
2.5nm,0.7s,baz=67,slow=8.7,SNR=5.8							
STKA				LR	LR	18 01 32.7	
comp=Z,496nm,19.1s,baz=285,slow=34							
AS31	**Alice Springs**	**45.82**	**259**	*e*P	**P**	**17 48 20.4**	**-0.6**
ASAR	**Alice Springs**	**45.82**	**259**	P	**P**	**17 48 19.4**	**-1.7**
ASAR	**Alice Springs**	**45.82**	**259**	P	**P**	**17 48 19.4**	**-1.7**
4.5nm,0.9s,baz=86,slow=6.6,SNR=28							
ASAR				LR	LR	18 06 10.4	
comp=Z,276nm,19.5s,baz=104,slow=34							
WRAB	**Tennant Creek**	**46.19**	**264**	*e*P	**P**	**17 48 21.7**	**-2.2**
5.6nm,0.9s							
WRA	**Warramunga Arr**	**46.20**	**264**	P	**P**	**17 48 22.1**	**-2.0**
WRA	**Warramunga Arr**	**46.20**	**264**	P	**P**	**17 48 22.1**	**-2.0**
3.9nm,0.8s,baz=104,slow=8.7,SNR=26							
WRA				LR	LR	18 06 02.7	
comp=Z,325nm,19.0s,baz=80,slow=34							
KDU	**Kakadu**	**50.00**	**273**	P	**P**	**17 48 52.9**	**-0.6**
baz=50,SNR=3.8							
MTN	**Manton Dam**	**51.18**	**272**	P	**P**	**17 49 01.2**	**-1.1**
baz=52,SNR=4.8							
TLE	**Tual**	**52.45**	**281**	P	**P**	**17 49 14.4**	**+2.6**
baz=53,SNR=3.6							
KNRA	**Kununurra**	**52.46**	**268**	P	**P**	**17 49 10.7**	**-1.1**
baz=53,SNR=7.4							
FITZ	**Fitzroy Crossi**	**54.62**	**264**	P	**P**	**17 49 27.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**54.62**	**264**	P	**P**	**17 49 27.6**	**-0.1**
2.9nm,0.9s,baz=106,slow=8.7,SNR=7.5							
FITZ	**Fitzroy Crossi**	**54.62**	**264**	P	**P**	**17 49 29.3**	**+1.6**
baz=55,SNR=5.6							
SBA	**Scott Base**	**55.13**	**184**	*e*P	**P**	**17 49 31.1**	**+0.7**
42nm,2.0s							
VNDA	**Vanda**	**55.22**	**186**	*e*P	**P**	**17 49 30.1**	**-1.0**
8.3nm,1.4s							
VNDA	**Vanda**	**55.22**	**186**	P	**P**	**17 49 32.0**	**+0.8**
1.5nm,0.8s,baz=8.0,slow=7.0,SNR=3.2							
NWAO	**Narrogin (SRO)**	**58.85**	**245**	LR	LR	18 12 33.5	
comp=Z,217nm,21.1s,baz=33,slow=33							
CASY	**Casey**	**62.20**	**206**	*e*P	**P**	**17 50 18.6**	**-1.3**
12nm,0.9s							
QSPA	**South Pole Qui**	**66.68**	**180**	*e*P	**P**	**17 50 48.6**	**-0.7**
12nm,1.1s							
QSPA	**South Pole Qui**	**66.68**	**180**	P	**P**	**17 50 48.8**	**-0.6**
6.2nm,1.0s,baz=25,slow=3.1,SNR=16							
MJAR	**Matsushiro Arr**	**73.69**	**323**	LR	LR	18 19 35.1	
comp=Z,126nm,21.0s,baz=200,slow=32							
KSM	**Kuching**	**75.74**	**278**	P	**P**	**17 51 43.9**	**-1.0**
8.3nm,1.0s							
MAW	**Mawson**	**79.50**	**199**	P	**P**	**17 52 05.3**	**+0.5**
MAW	**Mawson**	**79.50**	**199**	P	**P**	**17 52 05.3**	**+0.5**
2.1nm,0.7s,baz=168,slow=5.2,SNR=5.9							
PETK	**Petropavlovsk-**	**79.57**	**344**	P	**P**	**17 52 06.0**	**+0.7**
PETK	**Petropavlovsk-**	**79.57**	**344**	P	**P**	**17 52 06.0**	**+0.7**
7.3nm,0.8s,baz=138,slow=9.8,SNR=24							
PFO	**Pinyon Flat Ob**	**80.09**	**47**	LR	LR	18 22 53.2	
comp=Z,169nm,18.2s,baz=141,slow=32							
KSRS	**Korea Array**	**80.34**	**318**	P	**P**	**17 52 10.9**	**+1.2**
0.9nm,0.7s,baz=130,slow=7.0,SNR=4.7							
KSRS				LR	LR	18 21 52.7	
comp=Z,107nm,21.5s,baz=115,slow=31							
KSAR	**Wonju Array Be**	**80.36**	**318**	P	**P**	**17 52 10.9**	**+1.1**
NVAR	**Mina Array Bea**	**81.83**	**42**	P	**P**	**17 52 18.2**	**+0.2**
NVAR	**Mina Array Bea**	**81.83**	**42**	P	**P**	**17 52 18.2**	**+0.2**
0.8nm,0.8s,baz=224,slow=7.7,SNR=6.1							
USRK	**Ussuriysk Arra**	**82.44**	**325**	P	**P**	**17 52 19.5**	**-1.3**
1.7nm,0.6s,baz=236,slow=48,SNR=6.1							
PLCA	**Paso Flores**	**85.88**	**133**	LR	LR	18 24 14.5	
comp=Z,60nm,18.6s,baz=315,slow=31							
TXAR	**Lajitas Array**	**87.00**	**56**	P	**P**	**17 52 44.1**	**-0.2**
TXAR	**Lajitas Array**	**87.00**	**56**	P	**P**	**17 52 44.1**	**-0.2**
2.4nm,0.9s,baz=215,slow=5.9,SNR=12							
CMIG	**Matias Romero**	**88.75**	**71**	LR	LR	18 25 09.9	
comp=Z,67nm,18.9s,baz=5.1,slow=30							
DLBC	**Dease Lake**	**89.97**	**22**	LR	LR	18 25 32.5	
comp=Z,176nm,18.9s,baz=255,slow=30							
ILAR	**Eielson Array**	**90.72**	**12**	P	**P**	**17 53 00.8**	**-0.1**
ILAR	**Eielson Array**	**90.72**	**12**	P	**P**	**17 53 00.8**	**-0.1**
0.4nm,0.5s,baz=210,slow=5.7,SNR=5.6							
CMAR	**Chiang Mai Arr**	**92.91**	**289**	P	**P**	**17 53 13.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**92.91**	**289**	P	**P**	**17 53 13.5**	**+1.4**
3.3nm,0.8s,baz=134,slow=3.4,SNR=22							
LPAZ	**La Paz**	**99.16**	**112**	LR	LR	18 32 36.3	
comp=Z,71nm,18.1s,baz=123,slow=32							
MKAR	**Makanchi Array**	**114.59**	**312**	PKP	PKPdf	17 58 36.4	-2.3
MKAR	**Makanchi Array**	**114.59**	**312**	PKP	PKPdf	17 58 36.4	-2.3
0.5nm,0.7s,baz=46,slow=3.5,SNR=5.6							
BVAR	**Borovoye Array**	**122.54**	**319**	PKP	**PKPdf**	**17 58 53.2**	**-0.5**
BVAR	**Borovoye Array**	**122.54**	**319**	PKP	**PKPdf**	**17 58 53.2**	**-0.5**
1.5nm,0.8s,baz=286,slow=1.1,SNR=6.6							
FINES	**FINESS Array B**	**139.09**	**344**	PKP	**PKPdf**	**17 59 25.3**	**+0.6**
FINES	**FINESS Array B**	**139.09**	**344**	PKP	**PKPdf**	**17 59 25.3**	**+0.6**
1.2nm,0.8s,baz=121,slow=28,SNR=3.3							
SUW	**Suwalki**	**146.23**	**340**	*e*P	**PKPbc**	**17 59 38.1**	**-0.5**
AKASG	**Malin Array Be**	**146.49**	**331**	PKPbc	**PKPbc**	**17 59 38.9**	**-0.6**
AKASG	**Malin Array Be**	**146.49**	**331**	PKPbc	**PKPbc**	**17 59 38.9**	**-0.6**
5.7nm,0.7s,baz=41,slow=4.0,SNR=11							
KIEV	**Kiev**	**146.50**	**331**	*e*PKPdf	**PKPdf**	**17 59 38.2**	**+0.2**
KWP	**Kalwaria Pacla**	**150.02**	**335**	*e*P	**PKPbc**	**17 59 49.2**	**+0.3**
BR131	**Keskin Array S**	**150.21**	**310**	*e*PKPdf	**PKPdf**	**17 59 42.8**	**-1.9**
BR131				*e*PKPbc	**PKPbc**	**17 59 49.0**	**-0.9**
BRTR	**Keskin Array B**	**150.21**	**310**	PKPbc	**PKPbc**	**17 59 49.5**	**-0.3**
BRTR	**Keskin Array B**	**150.21**	**310**	PKPbc	**PKPbc**	**17 59 49.5**	**-0.3**
2.8nm,0.8s,baz=126,slow=3.5,SNR=15							
KSP	**Ksiaz**	**151.02**	**344**	*e*P	**PKPbc**	**17 59 51.6**	**+0.4**
CLL	**Collm**	**151.30**	**348** ⇑ *i*PKPbc		**PKPbc**	**17 59 51.6**	**-0.2**
comp=Z,9.0nm,0.9s							
CLL				*e*PKPab	**PKPab**	**18 00 01.0**	**+1.1**
UPC	**Upice**	**151.40**	**344** ⇑ *e*PKP		**PKPbc**	**17 59 52.3**	**+0.2**
UPC				*e*PKPAB	**PKPab**	**18 00 03.2**	**+2.9**
OKC	**Ostrava-Krasne**	**151.41**	**341**	*e*PKPDF	**PKPdf**	**17 59 46.0**	**-0.1**
DPC	**Dobruska-Polom**	**151.46**	**344** ⇑ *e*PKP		**PKPbc**	**17 59 52.0**	**-0.3**
DPC				*e*PKPAB	**PKPab**	**18 00 02.7**	**+2.0**
BRG	**Berggiesshubel**	**151.53**	**347**	*i* P	**PKPbc**	**17 59 52.5**	**+0.1**
comp=Z,6.4nm,0.7s							
BRG				*e*		17 59 56.6	
comp=Z,4.5nm,1.0s							
PRU	**Pruhonice**	**152.23**	**345** ⇑ *e*PKP		**PKPbc**	**17 59 54.2**	**+0.2**
KHC	**Kasperske Hory**	**153.25**	**346** ⇑ *e*PKP		**PKPbc**	**17 59 56.4**	**0.0**
KHC				*ex*	x	18 00 00.5	
KHC				*e*PKPAB	**PKPab**	**18 00 08.9**	**+0.7**
GERES	**GERESS Array B**	**153.50**	**346**	PKP	**PKPdf**	**17 59 48.9**	**-0.4**
GERES				PKPbc	**PKiKP**	**17 59 57.1**	**0.0**
GERES	**GERESS Array B**	**153.50**	**346**	PKP	**PKPdf**	**17 59 48.9**	**-0.4**
comp=Z,0.2nm,0.5s,baz=277,slow=36,SNR=2.8							
GERES				PKPbc	**PKiKP**	**17 59 57.1**	**0.0**
comp=Z,0.7nm,0.8s,baz=23,slow=4.4,SNR=4.5							
KEST	**Kesra**	**166.90**	**341**	PKPab	**PKPab**	**18 01 07.4**	**-0.5**
KEST	**Kesra**	**166.90**	**341**	PKPab	**PKPab**	**18 01 07.4**	**-0.5**
comp=Z,0.9nm,0.8s,baz=330,slow=2.5,SNR=4.0							

*BJI **21** 17:52:26.6,7°.60S×128°.90E,h10km,mB4.7/4,mb4.7/10*
*IDC **21** 17:52:40.0±3.5,7°.39S×128°.80E,h89km±34km,mb3.9/8,*
mb1 4.1/11,mb1mx3.9/20,mbtmp3.9/11,MS3.9/1,
Ms1 3.9/1,ms1mx2.7/40,Error ellipse: s-maj=32.9km
s-min=16.5km az=72.0
*ISCJB **21** 17:52:43.1±0.4,7°.63S±0°.04×128°.83E±0°.04,h131km,*
mb4.1/11,Error ellipse: s-maj=6.4km s-min=4.9km
az=32.0
*DJA **21** 17:52:45.6±0.3,8

PETK Petropavlovsk- 65.28 19 P **P** **18 03 11.4 -0.1**
comp=Z,4.1nm,0.6s,baz=190,slow=6.6,SNR=11
MKAR Makanchi Array 68.12 327 P **P** **18 03 28.9 -0.8**
comp=Z,2.3nm,0.8s,baz=119,slow=8.4,SNR=27
MKAR pP **PcP** **18 03 52.4 -2.4**
comp=Z,0.6nm,0.6s,baz=114,slow=5.5,SNR=2.8
MKAR sP sP 18 04 02.8 -13
comp=Z,0.6nm,0.5s,baz=117,slow=7.2,SNR=1.9
ZALV Zalesovo Beam 71.64 334 P **P** **18 03 49.6 -1.4**
comp=Z,2.9nm,0.6s,baz=127,slow=4.8,SNR=15
TORD Torodi Ar. Bea 127.79 281 PKP **PKPdf** **18 11 34.8 -0.2**
comp=Z,0.1nm,0.3s,baz=115,slow=37,SNR=3.2
CPUP Villa Florida 145.72 170 PKPbc **PKPab** **18 12 09.9 +1.3**
comp=Z,1.0nm,0.5s,baz=200,slow=0.6,SNR=4.4
LPAZ La Paz 150.91 145 PKPbc **PKPbc** **18 12 25.0 +2.1**
comp=Z,1.7nm,0.4s,baz=54,slow=2.7,SNR=4.6

IDC ***21*** *18:09:11.3±0.8, 0°.89N×97°.29E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.3/28, mbtmp4.4/18, ML4.3/2, MS3.8/4, Ms1 3.8/4, ms1mx3.3/41, Error ellipse: s-maj=24.6km s-min=14.4km az=47.0*
BJI ***21*** *18:09:12.5, 0°.74N×97°.45E, h30km, mB4.9/28, mb4.7/38, Ms4.5/26, Ms7 4.3/28*
BKK ***21*** *18:09:13.3±2.3, 1°N±17°×9°7E±1°8, h10km, M4.7/11, mB5.1/2, mb4.4/11, MLv4.9/4, Mw(mB)4.5/2*
DJA ***21*** *18:09:15.2±0.8, 1°N±5°×9°7E±°, h113km±14km, M4.9/12, mb4.9/6, mB5.3/3, MLv4.9/12, Mw(mB)4.7/3*
ISCJB ***21*** *18:09:15.2±1.0, 0°.98N±0°.03×97°.42E±0°.04, h33km±7km, mb4.6/49, MS4.0/17, Error ellipse: s-maj=7.3km s-min=4.5km az=140.3*
NEIC ***21*** *18:09:16.0±0.4, 0°.96N×97°.43E, h30km, mb4.6/15, Error ellipse: s-maj=9.4km s-min=6.4km az=223.0*
AUST ***21*** *18:09:16.9±1.6, 1°.01N×97°.24E, h36km, Error ellipse: s-maj=2.6km s-min=1.0km az=240.0*
ISC 21 18:09:16.3±0.5, 0.99N±0°.04×97.35E±0°.05, h31km±2km, h31km:pP-P, n174, σ1°60/224, mb4.7/49, MS4.0/19, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.75**	**324**	P	**Pn**	**18 09 44.4**	**-0.1**
PSI	**Prapat**	**2.39**	**41**	Pn	**Pn**	**18 09 53.1**	**-0.4**
PSI	**Prapat**	**2.39**	**41**	Pn	**Pn**	**18 09 53.1**	**-0.4**
	14nm,0.3s,baz=219,slow=6.5,SNR=26						
PSI	**Prapat**	**2.39**	**41**	P	**Pn**	**18 09 53.3**	**-0.2**
	baz=2.4,SNR=26						
KCSI	**Kotacane, Aceh**	**2.56**	**10**	P	**Pn**	**18 09 55.7**	**0.0**
TSI	**Tuntungan**	**2.78**	**26**	P	**Pn**	**18 10 00.1**	**+1.4**
PPI	**Padang Panjang**	**3.37**	**115**	P	**Pn**	**18 10 07.5**	**+0.7**
PPI	**Padang Panjang**	**3.37**	**115**	P	**Pn**	**18 10 07.7**	**+0.9**
	baz=3.5,SNR=12						
BKNI	**Bangkinang**	**3.75**	**100**	P	**Pn**	**18 10 12.5**	**+0.4**
BKNI	**Bangkinang**	**3.75**	**100**	P	**Pn**	**18 10 13.9**	**+1.8**
	baz=3.9,SNR=5.5						
LHMI	**Lhok Sumawe**	**4.24**	**355**	P	**Pn**	**18 10 19.1**	**+0.3**
LHMI	**Lhok Sumawe**	**4.24**	**355**	P	**Pn**	**18 10 18.8**	**+0.1**
	baz=4.2,SNR=7.7						
FRIM	**Kepong**	**4.82**	**62**	P	**Pn**	**18 10 27.3**	**+0.4**
BSI	**Banda Aceh**	**4.93**	**335**	P	**Pn**	**18 10 26.3**	**-2.0**
BSI				S	**Sn**	**18 11 19.6**	**-4.7**
IPM	**Ipoh**	**5.05**	**47**	*i*Pn	**Pn**	**18 10 30.9**	**+0.8**
	115nm,0.6s						
IPM	**Ipoh**	**5.05**	**47**	P	**Pn**	**18 10 30.3**	**+0.3**
IPM	**Ipoh**	**5.05**	**47**	P	**Pn**	**18 10 31.1**	**+1.1**
	168nm,0.7s,2μm0.7nm						
RGRI	**Rengat**	**5.16**	**105**	P	**Pn**	**18 10 32.2**	**+0.7**
	179nm,0.7s,29μm12nm						
KGM	**Kluang**	**6.06**	**80**	P	**Pn**	**18 10 44.1**	**+0.3**
MASI	**Maura Aman, Be**	**6.38**	**130**	P	**Pn**	**18 10 48.8**	**+0.5**
	151nm,1.4s,1.0nm						
MYKOM	**Kota Tinggi**	**6.55**	**83**	P	**Pn**	**18 10 50.6**	**0.0**
MYKOM	**Kota Tinggi**	**6.55**	**83**	P	**Pn**	**18 10 51.2**	**+0.6**
	29nm,0.6s,0.2nm						
SKLT	**Songkhla**	**6.96**	**28**	P	**Pn**	**18 10 55.6**	**-0.6**
	85nm,0.7s,739nm0.3nm						
SKLT	**Songkhla**	**6.96**	**28**	P	Pb	18 11 06.4	-10
KSI	**Kapahiang**	**6.98**	**131**	P	**Pn**	**18 10 57.0**	**+0.5**
KTGM	**Kuala Trenggan**	**7.21**	**53**	P	**Pn**	**18 10 59.7**	**+0.1**
KRAB	**Krabi**	**7.42**	**14**	P	**Pn**	**18 11 02.2**	**-0.4**
	72nm,0.9s,1μm0.2nm						
MNAI	**Manna**	**7.72**	**134**	P	**Pn**	**18 11 09.1**	**+2.4**
	baz=7.8,SNR=6.8						
MNAI				S	**Sn**	**18 12 32.2**	**-0.9**
	baz=7.8,SNR=4.1						
CHBT	**CHBT**	**12.69**	**23**	P	**P**	**18 12 25.7**	**+0.1**
KSM	**Kuching**	**12.97**	**88**	Pn	Pn	18 12 14.5	-4.1
KSM	**Kuching**	**12.97**	**88**	P	**Pn**	**18 12 18.0**	**-0.6**
NAYO	**Nakonayok**	**13.81**	**16**	P	**P**	**18 12 38.6**	**+0.4**
STKI	**Sintang**	**14.16**	**94**	P	**P**	**18 12 42.9**	**+0.9**
SBUM	**Sibu**	**14.94**	**84**	P	**Pn**	**18 12 44.5**	**-0.9**
CHAI	**Chaiyaphum**	**15.51**	**17**	P	**P**	**18 12 57.3**	**+0.3**
	6.2nm,1.0s						
BTM	**Bintulu**	**15.88**	**82**	P	**Pn**	**18 12 57.7**	**0.0**
PBKT	**Sadao Pong**	**15.89**	**13**	P	**P**	**18 13 00.7**	**-0.5**
PBKT	**Sadao Pong**	**15.89**	**13**	P	**P**	**18 13 00.4**	**-0.8**
	19nm,0.7s						
UBPT	**Khong Chiam**	**16.31**	**29**	P	**P**	**18 13 04.7**	**-1.2**
UBPT	**Khong Chiam**	**16.31**	**29**	P	**P**	**18 13 05.2**	**-0.7**
	25nm,0.9s						
SKNT	**Sakolnakorn**	**17.18**	**22**	P	**P**	**18 13 15.3**	**-0.2**
	15nm,0.8s						
CM31	**Chiang Mai Arr**	**17.43**	**5**	*e*Pn	**Pn**	**18 13 16.0**	**-1.3**
	16nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**Pn**	**18 13 16.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**Pn**	**18 13 16.7**	**-0.6**
	1.1nm,0.3s,baz=194,slow=12,SNR=38						
LAMP	**Lampang**	**17.57**	**7**	P	**P**	**18 13 19.5**	**-0.4**
	5.1nm,1.0s						
PANO	**Nakornpanom**	**17.58**	**24**	P	**Pn**	**18 13 18.8**	**-0.3**
	19nm,1.1s						
CHTO	**Chiang Mai**	**17.79**	**5**	*e*Pn	**Pn**	**18 13 20.2**	**-1.5**
	8.1nm,0.8s						
CHTO	**Chiang Mai**	**17.79**	**5**	P	**Pn**	**18 13 20.7**	**-1.0**
CHTO	**Chiang Mai**	**17.79**	**5**	P	**Pn**	**18 13 20.7**	**-1.0**
	13nm,0.9s						
CMMT	**Chiang Mai**	**17.79**	**5**	P	**Pn**	**18 13 20.2**	**-1.5**
KKM	**Kota Kinabalu**	**19.48**	**75**	*e*P	**P**	**18 13 41.0**	**-0.1**
	53nm,1.0s						
KKM	**Kota Kinabalu**	**19.48**	**75**	P	**Pn**	**18 13 42.0**	**-0.4**
KKM	**Kota Kinabalu**	**19.48**	**75**	P	**Pn**	**18 13 43.0**	**+0.6**
	baz=20,SNR=5.9						
KDM	**Kudat**	**20.30**	**73**	P	**P**	**18 13 50.7**	**+0.8**
SDKM	**Sandakan**	**20.34**	**76**	P	**P**	**18 13 50.8**	**+0.5**
TSM	**Tawau**	**20.76**	**81**	P	**P**	**18 13 55.3**	**+0.4**
MYLDM	**Lahad Datu**	**21.52**	**78**	P	**P**	**18 14 03.4**	**+0.3**
QIZ	**Qiongzhong**	**21.72**	**34**	P	**P**	**18 14 04.8**	**-0.3**
QIZ				sP	**sP**	**18 14 17.1**	**-0.4**
QIZ				S	**S**	**18 18 02.3**	**-1.7**
QIZ				pmax	pmax		
	comp=Z,13nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,41nm,7.0s						
QIZ				LR	LR		
	comp=N,260nm,16.7s						
QIZ				LR	LR		
	comp=E,57nm,19.9s						
QIZ				LR	LR		
	comp=Z,170nm,17.2s						
QIZ	**Qiongzhong**	**21.72**	**34**	*e*P	**P**	**18 14 04.0**	**-1.1**
	comp=Z,20nm,1.2s						
KAPI	**Kappang**	**23.16**	**105**	P	**P**	**18 14 19.6**	**-0.8**
KAPI	**Kappang**	**23.16**	**105**	P	**P**	**18 14 19.6**	**-0.8**
	comp=Z,9.4nm,0.7s,baz=288,slow=9.5,SNR=4.1						
KMI	**Kunming**	**24.56**	**12**	P	**P**	**18 14 34.3**	**+0.5**
KMI				pP	**pP**	**18 14 42.9**	**+0.1**
KMI				sP	**sP**	**18 14 46.0**	**-0.7**
KMI				PP	**PnPn**	**18 15 12.5**	**+6.8**
KMI				S	**S**	**18 18 51.6**	**-1.3**
KMI				sS	**sS**	**18 19 05.9**	**-1.9**
KMI				SS	**SnSn**	**18 19 47.1**	**+7.7**
KMI				pmax	pmax		
	comp=Z,25nm,1.0s						
KMI				pmax	pmax		
	comp=Z,87nm,3.1s						
KMI				LR	LR		
	comp=N,310nm,11.1s						
KMI				LR	LR		
	comp=E,330nm,10.8s						
KMI				LR	LR		
	comp=Z,410nm,12.1s						
HYB	**Hyderabad**	**24.66**	**313**	*i*P	P	18 14 45.0	+10
SHL	**Shillong**	**25.00**	**348**	*e*P	**P**	**18 14 39.0**	**+1.3**
GYA	**Guiyang**	**26.87**	**19**	P	**P**	**18 14 53.8**	**-0.8**
GYA				pP	**pP**	**18 15 03.1**	**-0.5**
GYA				PP	**PnPn**	**18 15 41.3**	**+4.2**
GYA				PcP	**PcP**	**18 18 17.8**	**+1.1**
GYA				S	**S**	**18 19 24.3**	**-5.1**
GYA				sS	**sS**	**18 19 44.0**	**-0.4**
GYA				ScP	**ScP**	**18 21 55.5**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,60nm,4.5s						
GYA				LR	LR		
	comp=N,540nm,12.4s						
GYA				LR	LR		
	comp=E,610nm,15.5s						
GYA				LR	LR		
	comp=Z,780nm,14.9s						
ODAN	**Odare**	**27.45**	**340**	*e*P	**P**	**18 15 00.5**	**+0.6**
	comp=Z,27nm,0.7s						
TAPN	**Taplejung**	**27.80**	**341**	*e*P	**P**	**18 15 03.1**	**0.0**
	comp=Z,47nm,0.9s						
RAMN	**Ramite**	**27.81**	**339**	*e*P	**P**	**18 15 04.7**	**+1.6**
JIRN	**Jiri**	**28.60**	**339**	*e*P	**P**	**18 15 12.1**	**+1.8**
	comp=Z,53nm,0.8s						
GUN	**Gumba**	**28.94**	**339**	*e*P	**P**	**18 15 14.8**	**+1.5**
	comp=Z,36nm,0.6s						
LSA	**Lhasa**	**29.16**	**349**	P	**P**	**18 15 16.6**	**+1.2**
LSA	**Lhasa**	**29.16**	**349**	*e*P	**P**	**18 15 16.7**	**+1.3**
	comp=Z,13nm,0.8s						
CD2	**Chengdu**	**30.38**	**11**	*e*P	**P**	**18 15 28.5**	**+2.8**
CD2				pP	**pP**	**18 15 37.3**	**+2.5**
CD2				sP	**sP**	**18 15 41.0**	**+2.4**
CD2				PP	**PnPn**	**18 16 28.8**	**+4.1**
CD2				S	**S**	**18 20 26.3**	**+1.9**
CD2				sS	**sS**	**18 20 41.0**	**+1.6**
CD2				SS	**ScP**	**18 22 08.0**	**+2.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,50nm,4.2s						
CD2				LR	LR		
	comp=N,470nm,10.6s						
CD2				LR	LR		
	comp=Z,500nm,9.5s						
ENH	**Enshi**	**31.33**	**20**	*e*P	**P**	**18 15 32.7**	**-1.4**
	comp=Z,13nm,0.8s						
TPUB	**Ta-pu**	**31.66**	**44**	*e*P	**P**	**18 15 36.1**	**-1.0**
	comp=Z,16nm,0.9s						
YULB	**Yu-li**	**32.19**	**44**	*e*P	**P**	**18 15 42.1**	**+0.4**
	comp=Z,8.3nm,0.8s						
SSLB	**Suanglung**	**32.21**	**43**	*e*P	**P**	**18 15 42.1**	**+0.2**
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.68**	**126**	P	**P**	**18 15 53.7**	**-1.1**
	baz=34,SNR=3.2						
XAN	**Xi'an**	**34.62**	**17**	P	**P**	**18 16 01.6**	**-1.2**
XAN				pP	**pP**	**18 16 11.3**	**-0.7**
XAN				PP	**PP**	**18 17 22.0**	**+0.3**
XAN				S	**S**	**18 21 34.0**	**+3.6**
XAN				sS	**sS**	**18 21 50.0**	**+4.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,24nm,7.7s						
XAN				LR	LR		
	comp=N,130nm,14.4s						
XAN				LR	LR		
	comp=E,99nm,15.7s						
XAN				LR	LR		
	comp=Z,85nm,14.8s						
LZH	**Lanzhou**	**35.44**	**9**	*e*P	**P**	**18 16 12.0**	**+2.0**
LZH				pP	**pP**	**18 16 23.1**	**+3.9**
LZH				sP	**sP**	**18 16 26.0**	**+3.0**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=N,130nm,5.6s						
LZH				LR	LR		
	comp=E,280nm,12.8s						
LZH				LR	LR		
	comp=Z,230nm,19.8s						
SMLA	**Simla**	**35.55**	**329**	*e*P	**P**	**18 16 10.1**	**-0.8**
SMLA				AMB	AMB	18 16 14.5	
	comp=Z,8.6nm,0.6s						
MTN	**Manton Dam**	**36.22**	**113**	P	P	18 16 20.3	+3.5
	baz=36,SNR=3.1						
MTN				S	S	18 22 24.5	+29
	baz=36,SNR=8.0						
DHRM	**DHARAMSHALA**	**36.89**	**330**	*e*P	**P**	**18 16 22.0**	**-0.5**
DHRM				AMB	AMB	18 16 23.3	
	comp=Z,10nm,0.2s						
NJ2	**Nanjing**	**36.97**	**31**	*e*P	**P**	**18 16 23.8**	**+0.9**
NJ2				pP	**pP**	**18 16 29.3**	**-2.8**
NJ2				sP	**sP**	**18 16 34.3**	**-1.6**
NJ2				S	**S**	**18 22 07.0**	**+0.7**
NJ2				sS	**sS**	**18 22 21.0**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,25nm,4.6s						
NJ2				LR	LR		
	comp=Z,630nm,27.1s						
KDU	**Kakadu**	**37.41**	**112**	S	S	18 22 33.2	+20
	baz=38,SNR=3.5						
GTA	**Gaotai**	**38.31**	**3**	P	**P**	**18 16 34.4**	**+0.1**
GTA				pP	**pP**	**18 16 39.1**	**-4.5**
GTA				S	**S**	**18 22 26.3**	**-0.5**
GTA				pmax	pmax		
	comp=Z,13nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,5.0s						
GTA				LR	LR		
	comp=N,100nm,17.1s						
GTA				LR	LR		
	comp=E,130nm,17.6s						
GTA				LR	LR		
	comp=Z,140nm,17.6s						
HHC	**Hu-ho-hao-te**	**41.72**	**16**	*e*P	**P**	**18 17 02.3**	**-0.3**
HHC				pP	**pP**	**18 17 11.9**	**0.0**
HHC				sP	**sP**	**18 17 15.9**	**+0.2**
HHC				PP	**PnPn**	**18 18 42.5**	**-2.0**
HHC				PcS	**PcS**	**18 22 48.8**	**-1.5**
HHC				S	**S**	**18 23 17.3**	**-0.4**
HHC				sS	**sS**	**18 23 33.5**	**+0.4**
HHC				SS	**SS**	**18 26 18.5**	**-5.7**
HHC				ScS	**ScS**	**18 27 00.3**	**-3.5**
HHC				pmax	pmax		
	comp=Z,43nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,5.2s						
HHC				LR	LR		
	comp=N,300nm,16.7s						
HHC				LR	LR		
	comp=E,450nm,16.1s						
HHC				LR	LR		
	comp=Z,270nm,16.1s						
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**18 17 02.7**	**-0.7**
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**18 17 02.7**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=301,slow=9.0,SNR=21						
WRAB	**Tennant Creek**	**41.80**	**122**	*e*P	**P**	**18 17 02.5**	**-1.0**
	comp=Z,6.9nm,0.8s						
BJI	**Beijing**	**42.48**	**22**	P	**P**	**18 17 09.6**	**+0.9**
BJI				pmax	pmax		
	comp=Z,44nm,0.8s						
BJI				LR	LR		
	comp=Z,47nm,18.6s						
KSH	**Kashi**	**43.03**	**336**	P	**P**	**18 17 12.3**	**-1.0**
KSH				sP	**sP**	**18 17 26.3**	**-0.1**
KSH				PP	**PP**	**18 18 54.3**	**+0.7**
KSH				S	**S**	**18 23 33.5**	**-3.6**
KSH				sS	**sS**	**18 23 50.0**	**-2.4**
KSH				SS	SS	18 26 39.5	-10
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,110nm,4.9s						
KSH				LR	LR		
	comp=N,91nm,4.2s						
KSH				LR	LR		
	comp=E,100nm,4.4s						
KSH				LR	LR		
	comp=Z,120nm,6.9s						
AS31	**Alice Springs**	**43.15**	**127**	*e*P	**P**	**18 17 13.2**	**-1.2**
ASAR	**Alice Springs**	**43.15**	**127**	P	**P**	**18 17 14.1**	**-0.4**
ASAR				S	**S**	**18 23 35.5**	**-3.7**
ASAR	**Alice Springs**	**43.15**	**127**	P	**P**	**18 17 14.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=298,slow=7.7,SNR=34						
ASAR				S	**S**	**18 23 35.5**	**-3.7**
	comp=Z,0.7nm,0.9s,baz=294,slow=12,SNR=5.5						
WMQ	**Urumqi**	**43.51**	**350**	P	**P**	**18 17 18.1**	**+1.1**
WMQ				pP	**pP**	**18 17 27.5**	**+1.1**
WMQ				PP	**PP**	**18 19 01.8**	**+3.2**
WMQ				S	**S**	**18 23 44.1**	**+0.2**
WMQ				sS	**sS**	**18 24 01.6**	**+2.3**
WMQ				pmax	pmax		
	comp=Z,13nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.0s						
WMQ				LR	LR		
	comp=N,51nm,21.0s						
WMQ				LR	LR		
	comp=E,50nm,21.0s						
WMQ				LR	LR		
	comp=Z,110nm,22.0s						
JNU	**Nakatsue**	**44.87**	**41**	LR	LR	18 38 50.4	
	comp=Z,122nm,18.1s,baz=62,slow=40						
KSAR	**Wonju Array Be**	**45.91**	**34**	P	**P**	**18 17 36.4**	**+0.2**
KSRS	**Korea Array**	**45.94**	**34**	P	**P**	**18 17 36.4**	**0.0**
	comp=Z,4.4nm,0.8s,baz=225,slow=9.0,SNR=18						
KSRS				LR	LR	18 39 06.4	
	comp=Z,75nm,18.1s,baz=299,slow=39						
TKM2	**Tokmak 2**	**46.07**	**338**	P	**P**	**18 17 39.0**	**+1.3**
	SNR=6.7						
TKM2	**Tokmak 2**	**46.07**	**338**	*e*P	**P**	**18 17 38.5**	**+0.9**
	comp=Z,5.1nm,0.8s						
KBK	**Karagaybulak**	**46.10**	**337**	P	**P**	**18 17 40.0**	**+2.2**
	SNR=6.3						
AML	**Almayashu**	**46.16**	**336**	P	**P**	**18 17 40.1**	**+1.5**
	SNR=5.1						
EKS2	**Erkin-Say**	**46.57**	**336**	P	**P**	**18 17 42.9**	**+1.4**
	SNR=7.3						
EKS2	**Erkin-Say**	**46.57**	**336**	*e*P	**P**	**18 17 42.6**	**+1.1**
	comp=Z,7.1nm,0.9s						
USP	**Ospenovka**	**46.79**	**337**	P	**P**	**18 17 44.4**	**+1.3**
	SNR=11						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**18 17 47.8**	**+0.6**
SONM				PcP	**PcP**	**18 19 18.2**	**+0.3**
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**18 17 47.8**	**+0.6**
	comp=Z,4.2nm,0.4s,baz=190,slow=9.5,SNR=13						
SONM				PcP	**PcP**	**18 19 18.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=190,slow=4.6,SNR=5.2						
MK31	**Makanchi Array**	**47.48**	**346**	*e*P	**P**	**18 17 48.8**	**+0.4**
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**18 17 49.2**	**+0.8**
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**18 17 49.2**	**+0.8**
	comp=Z,12nm,0.5s,baz=161,slow=8.3,SNR=242						
KKAR	**Karatay Array**	**48.31**	**334**	*e*P	**P**	**18 17 55.4**	**+0.5**
	comp=Z,2.0nm,0.5s						
CN2	**Changchun**	**49.43**	**27**	*e*P	**P**	**18 18 03.3**	**-0.1**
CN2				*e*pP	**pP**	**18 18 13.1**	**+0.2**
CN2				*e*sP	**sP**	**18 18 17.0**	**+0.4**
CN2				*e*S	**S**	**18 25 07.6**	**-0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,11.0s						
CN2				LR	LR		
	comp=E,300nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
MJAR	**Matsushiro Arr**	**51.75**	**42**	P	**P**	**18 18 20.7**	**-0.4**
MJAR	**Matsushiro Arr**	**51.75**	**42**	P	**P**	**18 18 20.7**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=219,slow=6.7,SNR=12						
MDJ	**Mudanjiang**	**51.98**	**29**	P	**P**	**18 18 22.8**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,52nm,4.0s						
USRK	**Ussuriysk Arra**	**52.88**	**31**	P	**P**	**18 18 30.0**	**+0.7**
	comp=Z,4.6nm,0.6s,baz=233,slow=4.3,SNR=11						
STKA	**Stephens Creek**	**53.10**	**132**	P	**P**	**18 18 31.2**	**0.0**
STKA				P	pP	18 18 31.5	-9.2
STKA	**Stephens Creek**	**53.10**	**132**	P	**P**	**18 18 31.2**	**0.0**
	comp=Z,4.7nm,0.9s,baz=304,slow=8.3,SNR=7.0						
STKA	**Stephens Creek**	**53.10**	**132**	P	**P**	**18 18 32.2**	**+1.0**
	baz=53,SNR=5.2						
ZAA0	**Zalesovo Array**	**53.79**	**351**	*e*P	**P**	**18 18 36.0**	**+0.1**
ZALV	**Zalesovo Beam**	**53.79**	**351**	P	**P**	**18 18 36.3**	**+0.5**
ZALV	**Zalesovo Beam**	**53.79**	**351**	P	**P**	**18 18 36.3**	**+0.5**
	comp=Z,14nm,0.4s,baz=179,slow=6.2,SNR=89						
ZALV				LR	LR	18 47 15.4	
	comp=Z,76nm,18.7s,baz=70,slow=42						
CMSA	**Cobar Meteorol**	**56.04**	**130**	P	**P**	**18 18 53.9**	**+1.3**
	baz=56,SNR=8.5						
RMQ	**Roma**	**56.54**	**123**	P	P	18 18 42.6	-14
	baz=57,SNR=4.9						
BRVK	**Borovoye**	**56.56**	**341**	*e*P	**P**	**18 18 55.3**	**-0.6**
	comp=Z,7.3nm,0.9s						
ABKAR	**Akbulak array**	**57.77**	**332**	*e*P	**P**	**18 19 04.0**	**-0.5**
	comp=Z,7.0nm,0.8s						
BRTR	**Keskin Array B**	**69.36**	**312**	P	**P**	**18 20 20.9**	**-0.5**
BRTR	**Keskin Array B**	**69.36**	**312**	P	**P**	**18 20 20.9**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=142,slow=7.9,SNR=6.0						
NFK	**Norfolk Island**	**73.58**	**121**	P	P	18 20 37.7	-9.2
	baz=74,SNR=3.3						
AKASG	**Malin Array Be**	**75.52**	**322**	P	**P**	**18 20 57.2**	**-0.5**
AKASG	**Malin Array Be**	**75.52**	**322**	P	**P**	**18 20 57.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=86,slow=5.0,SNR=5.1						
KOLS	**Kolonicke sedl**	**79.48**	**320**	*e*P	**P**	**18 21 21.7**	**+1.8**
STHS	**Stebnicka Huta**	**80.23**	**320**	*e*P	**P**	**18 21 25.5**	**+1.5**
FINES	**FINESS Array B**	**80.26**	**333**	P	**P**	**18 21 23.7**	**-0.1**
FINES	**FINESS Array B**	**80.26**	**333**	P	**P**	**18 21 23.7**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=112,slow=6.4,SNR=13						
KECS	**Kecovo**	**80.56**	**319**	*e*P	**P**	**18 21 26.1**	**+0.3**
OKC	**Ostrava-Krasne**	**82.28**	**320**	*e*P	**P**	**18 21 35.4**	**+0.6**
OKC				AMS	AMS	18 55 10.0	
	comp=Z,200nm,24.8s						
ARCES	**ARCESS Array B**	**82.79**	**340**	P	**P**	**18 21 37.5**	**+0.5**
ARCES	**ARCESS Array B**	**82.79**	**340**	P	**P**	**18 21 37.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=94,slow=4.9,SNR=11						
DPC	**Dobruska-Polom**	**83.51**	**320**	*e*P	**P**	**18 21 42.5**	**+1.2**
DPC				*e*pP	**pP**	**18 21 50.6**	**-0.7**
PRU	**Pruhonice**	**84.61**	**320**	*e*P	**P**	**18 21 44.5**	**-2.3**
PRU				AMS	AMS	18 55 40.0	
	comp=Z,200nm,20.2s						
GERES	**GERESS Array B**	**85.07**	**319**	P	**P**	**18 21 50.1**	**+0.8**
GERES	**GERESS Array B**	**85.07**	**319**	P	**P**	**18 21 50.1**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=97,slow=5.4,SN

*IDC **21** 18:22:39.6s 1.4, 53°.64N× 163°.55W, h0km, mb3.9/19, mb1 4.0/22, mb1mx3.9/35, mbtmp3.9/22, ML3.6/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/47, Error ellipse: s-maj=34.4km s-min=13.2km az=161.0*

*ISCJB **21** 18:22:40.8s 1.2, 53°.38N± 0°.05× 163°.39W± 0°.05, h31km± 9km, mb4.0/18, MS3.2/3, Error ellipse: s-maj=8.1km s-min=3.7km az=156.7*

*NEIC **21** 18:22:44.1, 53°.52N× 163°.47W, h29km, mb3.8/1, ML3.7(AEIC), After AEIC.*

ISC 21 18:22:42.7±2.5, 53°.54N±0°.08×163°.45W±0°.04, h26km±17km, n86, σ1°.02/97, mb4.0/18, MS3.2/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.13**	**351**	P	**Pn**	**18 23 02.6**	**-0.2**
WESE	**West Dahl East**	**1.16**	**325**	P	**Pn**	**18 23 03.1**	**-0.2**
SSLW	**Shishaldin Wes**	**1.30**	**342**	P	**Pn**	**18 23 05.4**	**+0.1**
SSBA	**Shishaldin**	**1.30**	**342**	P	**Pn**	**18 23 05.2**	**-0.1**
SSBA				S	**Sn**	**18 23 23.7**	**+1.8**
ISNN	**Isanotski Nort**	**1.31**	**352**	P	**Pn**	**18 23 06.3**	**+0.9**
FALS	**False Pass**	**1.32**	**1**	P	**Pn**	**18 23 05.5**	**0.0**
FALS				S	**Sb**	**18 23 24.2**	**+0.8**
AKSA	**Akutan Strait**	**1.46**	**295**	P	**Pn**	**18 23 07.0**	**-0.5**
AKSA				S	**Sn**	**18 23 26.1**	**+0.3**
AKUT	**Akutan**	**1.50**	**294**	P	**Pn**	**18 23 07.7**	**-0.3**
AKUT				S	**Sn**	**18 23 26.9**	**+0.2**
DRIA	**Deer Island**	**1.59**	**25**	P	**Pn**	**18 23 09.0**	**-0.3**
ZRO	**Akutan Zero**	**1.60**	**291**	P	**Pn**	**18 23 09.0**	**-0.3**
AKGG	**Akutan Green G**	**1.65**	**295**	P	**Pn**	**18 23 09.9**	**-0.1**
LVA	**Lava Point**	**1.66**	**293**	P	**Pn**	**18 23 10.0**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.67**	**292**	P	**Pn**	**18 23 10.0**	**-0.2**
DT1	**Dutton Round H**	**1.72**	**23**	P	**Pn**	**18 23 10.7**	**-0.3**
DTNA	**Dutton South F**	**1.76**	**23**	P	**Pn**	**18 23 12.5**	**+1.0**
MTBL	**Makushin Table**	**1.97**	**284**	P	**Pn**	**18 23 14.4**	**0.0**
MREP	**Makushin Rep't**	**1.98**	**279**	P	**Pn**	**18 23 15.0**	**+0.4**
MSW	**Makushin Switc**	**2.02**	**282**	P	**Pn**	**18 23 14.6**	**-0.5**
MSW				S	**Sn**	**18 23 39.5**	**0.0**
PS4A	**Pavlof South-4**	**2.04**	**26**	P	**Pn**	**18 23 16.3**	**+1.0**
MCIR	**Makushin Cirqu**	**2.09**	**283**	P	**Pn**	**18 23 16.0**	**-0.1**
MSOM	**Makushin Julie**	**2.10**	**279**	P	**Pn**	**18 23 16.0**	**-0.2**
SDPT	**Sand Point**	**2.51**	**42**	P	**Pn**	**18 23 22.5**	**+0.7**
SDPT				S	**Sn**	**18 23 52.9**	**+1.3**
OKFG	**Magazine Ridge**	**2.67**	**269**	P	**Pn**	**18 23 23.7**	**-0.4**
OKFG				S	**Sn**	**18 23 54.2**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**2.75**	**269**	P	**Pn**	**18 23 25.6**	**+0.5**
OKCE	**Okmok Cone E**	**2.82**	**270**	P	**Pn**	**18 23 26.5**	**+0.4**
OKSO	**Okmok South**	**2.83**	**268**	P	**Pn**	**18 23 26.1**	**-0.1**
OKSO				S	**Sn**	**18 23 57.6**	**-1.8**
OKSP	**Okmok Steeple**	**2.92**	**266**	P	**Pn**	**18 23 27.5**	**0.0**
NIKH	**Nikolski High**	**3.30**	**262**	P	**Pn**	**18 23 32.5**	**-0.1**
NIKH				S	**Sn**	**18 24 09.0**	**-2.0**
VNHG	**Veniaminof 1**	**3.65**	**41**	P	**Pn**	**18 23 39.1**	**+1.5**
CHGN	**Chignik**	**4.01**	**44**	*e*Pn	**Pn**	**18 23 42.5**	**+0.1**
KABR	**Katmai Barrier**	**6.63**	**43**	P	**Pn**	**18 24 19.2**	**+0.7**
OHAK	**Old Harbor**	**6.87**	**53**	P	**Pn**	**18 24 20.2**	**-1.3**
KDAK	**Kodiak Island**	**7.47**	**51**	Pn	**Pn**	**18 24 28.6**	**-1.2**
KDAK				P	**Pn**	**18 24 29.8**	**-0.1**
KDAK				Sn	**Sn**	**18 25 49.8**	**-3.8**
KDAK	**Kodiak Island**	**7.47**	**51**	Pn	**Pn**	**18 24 28.6**	**-1.2**
	1.0nm,0.3s,baz=234,slow=9.3,SNR=5.3						
KDAK				Sn	**Sn**	**18 25 49.8**	**-3.8**
	0.9nm,0.3s,baz=341,slow=23,SNR=5.8						
GSTD	**Great Sitkin T**	**7.84**	**264**	P	**Pn**	**18 24 35.7**	**+0.6**
GSCK	**Great Sitkin C**	**7.86**	**264**	P	**Pn**	**18 24 34.3**	**-1.0**
ADAG	**Mount Adagdak**	**8.13**	**264**	P	**Pn**	**18 24 38.6**	**-0.4**
ADK	**Adak**	**8.21**	**264**	P	**Pn**	**18 24 40.1**	**+0.1**
KIKV	**Kanaga Island**	**8.50**	**264**	P	**Pn**	**18 24 43.4**	**-0.7**
AMKA	**Amchitka**	**10.75**	**265**	*e*Pn	**Pn**	**18 25 13.9**	**-0.9**
	24nm,0.5s						
PAX	**Paxson**	**13.32**	**38**	Pn	**Pn**	**18 25 48.8**	**-1.3**
	7.5nm,1.0s						
FX1	**Attu Island--F**	**14.02**	**277**	Pn	**Pn**	**18 26 00.8**	**+1.3**
FX1	**Attu Island--F**	**14.02**	**277**	Pn	**Pn**	**18 26 00.8**	**+1.3**
	1.2nm,0.3s,baz=33,slow=6.2,SNR=21						
ILAR	**Eielson Array**	**14.04**	**30**	Pn	**Pn**	**18 25 57.1**	**-2.7**
ILAR	**Eielson Array**	**14.04**	**30**	Pn	**Pn**	**18 25 57.1**	**-2.7**
	0.1nm,0.3s,baz=219,slow=9.9,SNR=3.4						
COLD	**Coldfoot**	**15.16**	**20**	*e*Pn	**Pn**	**18 26 15.6**	**+0.8**
	4.8nm,0.8s						
INK	**Inuvik**	**20.42**	**32**	P	**P**	**18 27 16.2**	**-1.4**
INK	**Inuvik**	**20.42**	**32**	P	**P**	**18 27 16.2**	**-1.4**
	1.4nm,0.6s,baz=221,slow=11,SNR=4.0						
INK				LR	LR	18 36 58.4	
	comp=Z,151nm,18.5s,baz=268,slow=42						
PETK	**Petropavlovsk-**	**23.02**	**285**	P	**P**	**18 27 45.2**	**-0.3**
PETK	**Petropavlovsk-**	**23.02**	**285**	P	**P**	**18 27 45.2**	**-0.3**
	3.1nm,0.6s,baz=80,slow=9.2,SNR=3.6						
PETK				LR	LR	18 36 41.7	
	comp=Z,53nm,18.6s,baz=260,slow=37						
YKA	**Yellowknife Ar**	**26.75**	**51**	P	**P**	**18 28 19.4**	**-0.4**
YKA	**Yellowknife Ar**	**26.75**	**51**	P	**P**	**18 28 19.4**	**-0.4**
	0.3nm,0.4s,baz=270,slow=9.2,SNR=4.5						
ASAJ	**Asahikawa**	**35.95**	**277**	LR	LR	18 42 53.5	
	comp=Z,50nm,21.3s,baz=138,slow=34						
MJAR	**Matsushiro Arr**	**43.29**	**271**	P	**P**	**18 30 42.5**	**+0.5**
MJAR	**Matsushiro Arr**	**43.29**	**271**	P	**P**	**18 30 42.6**	**+0.5**
	1.2nm,0.8s,baz=63,slow=5.6,SNR=5.9						
KSRS	**Korea Array**	**48.78**	**280**	P	**P**	**18 31 25.8**	**+0.6**
	1.9nm,0.8s,baz=49,slow=7.9,SNR=8.3						
KSAR	**Wonju Array Be**	**48.81**	**280**	P	**P**	**18 31 25.8**	**+0.3**
TXAR	**Lajitas Array**	**49.20**	**95**	P	**P**	**18 31 30.0**	**+1.3**
TXAR	**Lajitas Array**	**49.20**	**95**	P	**P**	**18 31 30.0**	**+1.3**
	0.4nm,0.5s,baz=304,slow=5.5,SNR=3.9						
SONM	**Songino Array**	**53.72**	**303**	P	**P**	**18 32 02.5**	**+0.2**
SONM	**Songino Array**	**53.72**	**303**	P	**P**	**18 32 02.5**	**+0.2**
	1.8nm,0.8s,baz=49,slow=7.1,SNR=14						
ARCES	**ARCESS Array B**	**57.06**	**356**	P	**P**	**18 32 24.9**	**-1.0**
ARCES	**ARCESS Array B**	**57.06**	**356**	P	**P**	**18 32 24.9**	**-1.0**
	2.1nm,0.9s,baz=13,slow=8.8,SNR=8.3						
ZALV	**Zalesovo Beam**	**58.90**	**320**	P	**P**	**18 32 39.0**	**0.0**
ZALV	**Zalesovo Beam**	**58.90**	**320**	P	**P**	**18 32 39.0**	**0.0**
	0.7nm,0.5s,baz=38,slow=8.1,SNR=3.6						
KURK	**Kurchatov**	**63.80**	**321**	P	**P**	**18 33 13.0**	**+0.9**
KURBB	**Kurchatov Arra**	**63.91**	**321**	P	**P**	**18 33 13.0**	**+0.2**
	1.5nm,0.8s,baz=41,slow=6.8,SNR=18						
BVAR	**Borovoye Array**	**64.75**	**327**	P	**P**	**18 33 18.7**	**+0.4**
BVAR	**Borovoye Array**	**64.75**	**327**	P	**P**	**18 33 18.7**	**+0.4**
	2.8nm,0.8s,baz=42,slow=7.0,SNR=20						
FINES	**FINESS Array B**	**65.12**	**355**	P	**P**	**18 33 20.5**	**0.0**
FINES	**FINESS Array B**	**65.12**	**355**	P	**P**	**18 33 20.5**	**0.0**
	2.1nm,0.8s,baz=20,slow=6.1,SNR=5.0						
MKAR	**Makanchi Array**	**65.52**	**317**	P	**P**	**18 33 22.8**	**-0.7**
MKAR	**Makanchi Array**	**65.52**	**317**	P	**P**	**18 33 22.8**	**-0.7**
	0.6nm,0.7s,baz=39,slow=6.2,SNR=8.0						
NB2	**NORSAR Subarra**	**65.69**	**3**	P	**P**	**18 33 24.6**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=358,slow=7.4						
NOA	**NORSAR Array B**	**65.69**	**3**	P	**P**	**18 33 24.1**	**-0.3**
NOA	**NORSAR Array B**	**65.69**	**3**	P	**P**	**18 33 24.1**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=358,slow=6.8,SNR=4.0						
AKTO	**Aktyubinsk**	**70.69**	**333**	P	**P**	**18 33 56.7**	**+0.9**
AKTO	**Aktyubinsk**	**70.69**	**333**	P	**P**	**18 33 56.7**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=44,slow=4.2,SNR=12						
AKASG	**Malin Array Be**	**75.59**	**352**	P	**P**	**18 34 24.4**	**-0.3**
AKASG	**Malin Array Be**	**75.59**	**352**	P	**P**	**18 34 24.4**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=7.8,slow=5.5,SNR=3.2						
GERES	**GERESS Array B**	**77.97**	**2**	P	**P**	**18 34 38.4**	**+0.1**
GERES	**GERESS Array B**	**77.97**	**2**	P	**P**	**18 34 38.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=12,slow=6.8,SNR=5.8						
CMAR	**Chiang Mai Arr**	**79.78**	**287**	P	**P**	**18 34 49.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**79.78**	**287**	P	**P**	**18 34 49.5**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=46,slow=5.2,SNR=3.9						
BRTR	**Keskin Array B**	**85.95**	**347**	P	**P**	**18 35 21.0**	**+0.5**
BRTR	**Keskin Array B**	**85.95**	**347**	P	**P**	**18 35 21.0**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=29,slow=2.8,SNR=4.7						

MAN 21 18:31:18, 5°.89N× 126°.00E, h142km, mb3.8, ML2.5, MS2.1, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.07**	**281**	⇓*i*P	Pn	18 31 42.2	-0.6
GSPH				*i* S	Sn	18 31 59.2	-2.3
MATI	**Mati**	**1.08**	**14**	*e*P	Pn	18 31 43.1	+0.3
MATI				*e*S	Sn	18 31 50.1	-12
BUKP	**Musuan**	**2.19**	**335**	*e*P	Pn	18 31 56.2	+1.2
BUKP				*e*S	Sn	18 32 04.2	-19
CGP	**Cagayan de Oro**	**2.86**	**333**	⇑*i*P	Pn	18 32 00.3	-3.0
CGP				*i* S	Sn	18 32 04.2	-34

IDC 21 18:37:03.8±1.8, 0°.88N× 97°.35E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.7/27, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=48.3km s-min=21.4km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.48**	**39**	Pn	Pn	18 37 45.3	-0.3
	2.6nm,0.3s,baz=216,slow=16,SNR=7.2						
CMAR	**Chiang Mai Arr**	**17.54**	**5**	P	Pn	18 41 09.2	-0.8
	0.2nm,0.3s,baz=196,slow=11,SNR=18						
WRA	**Warramunga Arr**	**41.74**	**122**	P	P	18 44 54.4	-0.7
	1.3nm,1.2s,baz=303,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**43.09**	**127**	P	P	18 45 06.5	+0.4
	0.2nm,0.6s,baz=304,slow=7.6,SNR=6.2						
KSRS	**Korea Array**	**46.03**	**34**	P	P	18 45 28.6	-0.7
	0.7nm,0.6s,baz=238,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**47.59**	**346**	P	P	18 45 41.6	+0.2
	2.0nm,0.5s,baz=161,slow=8.7,SNR=37						
ZALV	**Zalesovo Beam**	**53.90**	**351**	P	P	18 46 28.7	-0.1
	3.3nm,0.6s,baz=176,slow=7.6,SNR=17						

*IDC **21** 18:40:03.7±0.8, 0°.92N× 97°.33E, h0km, mb4.2/13, mb1 4.3/15, mb1mx4.1/28, mbtmp4.2/15, ML3.9/2, MS3.8/1, Ms1 4.0/1, ms1mx2.8/45, Error ellipse: s-maj=26.6km s-min=15.7km az=54.0*

*ISCJB **21** 18:40:06.0±0.7, 0°.92N± 0°.09× 97°.31E± 0°.07, h27km, mb4.2/13, Error ellipse: s-maj=13.4km s-min=10.2km az=13.3*

ISC 21 18:40:08.0±0.8, 1°.0N± 0°.1× 97°.3E± 0°.1, h27km, n24, σ0°.84/23, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.43**	**41**	Pn	**Pn**	**18 40 45.3**	**-0.9**
	7.2nm,0.3s,baz=214,slow=7.3,SNR=6.5						
FRIM	**Kepong**	**4.86**	**62**	P	**Pn**	**18 41 20.5**	**+1.0**
IPM	**Ipoh**	**5.09**	**47**	P	**Pn**	**18 41 24.4**	**+1.7**
KGM	**Kluang**	**6.09**	**80**	P	**Pn**	**18 41 37.0**	**+0.6**
MYKOM	**Kota Tinggi**	**6.58**	**83**	P	**Pn**	**18 41 44.4**	**+1.3**
KTGM	**Kuala Trenggan**	**7.25**	**53**	P	**Pn**	**18 41 52.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.46**	**5**	P	**Pn**	**18 44 08.6**	**-1.2**
	0.5nm,0.3s,baz=197,slow=11,SNR=27						
CMAR				LR	LR	18 51 49.0	
	comp=Z,294nm,18.2s,baz=246,slow=40						
SDKM	**Sandakan**	**20.38**	**76**	P	P	18 44 37.5	-5.5
FITZ	**Fitzroy Crossi**	**33.70**	**126**	P	**P**	**18 46 45.8**	**-1.4**
	2.0nm,1.0s,baz=294,slow=10.0,SNR=4.1						
WRA	**Warramunga Arr**	**41.81**	**122**	P	**P**	**18 47 55.3**	**-0.5**
	0.8nm,0.4s,baz=303,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**18 48 06.4**	**-0.4**
	1.0nm,0.7s,baz=298,slow=7.5,SNR=12						
KSRS	**Korea Array**	**45.98**	**34**	P	**P**	**18 48 28.0**	**-1.0**
	2.7nm,0.9s,baz=220,slow=8.8,SNR=9.8						
SONM	**Songino Array**	**47.35**	**8**	P	**P**	**18 48 40.1**	**+0.3**
	2.0nm,0.5s,baz=189,slow=9.8,SNR=14						
MKAR	**Makanchi Array**	**47.50**	**346**	P	**P**	**18 48 41.4**	**+0.6**
	5.6nm,0.5s,baz=162,slow=8.6,SNR=80						
USRK	**Ussuriysk Arra**	**52.92**	**31**	P	**P**	**18 49 21.6**	**-0.2**
	2.6nm,0.6s,baz=225,slow=6.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**53.81**	**351**	P	**P**	**18 49 28.6**	**+0.3**
	10nm,0.6s,baz=179,slow=6.2,SNR=41						
BRTR	**Keskin Array B**	**69.36**	**312**	P	**P**	**18 51 13.6**	**-0.1**
	0.5nm,0.5s,baz=98,slow=8.9,SNR=3.2						
FINES	**FINESS Array B**	**80.26**	**333**	P	**P**	**18 52 15.6**	**-0.6**
	0.6nm,0.5s,baz=120,slow=8.3,SNR=4.0						
ARCES	**ARCESS Array B**	**82.80**	**340**	P	**P**	**18 52 29.7**	**+0.3**
	5.0nm,1.1s,baz=90,slow=4.9,SNR=4.4						
GERES	**GERESS Array B**	**85.07**	**319**	P	**P**	**18 52 42.3**	**+0.7**
	1.3nm,0.9s,baz=77,slow=5.9,SNR=11						
NB2	**NORSAR Subarra**	**87.27**	**331**	P	**P**	**18 52 52.2**	**+0.1**
	comp=Z,3.8nm,1.2s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**87.27**	**331**	P	**P**	**18 52 51.7**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=116,slow=4.0,SNR=4.1						
CPUP	**Villa Florida**	**144.91**	**222**	PKP	**PKPdf**	**18 59 43.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=99,slow=3.6,SNR=2.5						
LPAZ	**La Paz**	**159.08**	**223**	PKP	**PKPdf**	**19 00 06.5**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=218,slow=1.2,SNR=7.7						

IDC 21 18:45:08.6±21.0, 2°.02S× 101°.39E, h163km±176km, mb3.0/6, mb1 3.2/6, mb1mx3.0/25, mbtmp3.0/6, Error ellipse: s-maj=253.2km s-min=13.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.49**	**353**	P	P	18 49 34.6	+0.7
	0.3nm,0.6s,baz=174,slow=8.7,SNR=3.9						
WRA	**Warramunga Arr**	**36.79**	**121**	P	P	18 52 00.5	-0.4
	0.7nm,0.8s,baz=298,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**38.12**	**127**	P	P	18 52 11.8	-0.3
	0.6nm,0.5s,baz=300,slow=8.1,SNR=24						
STKA	**Stephens Creek**	**48.10**	**132**	P	P	18 53 32.5	+0.4
	1.7nm,0.6s,baz=300,slow=6.3,SNR=5.4						
MKAR	**Makanchi Array**	**51.44**	**343**	P	P	18 53 56.7	-0.3
	0.2nm,0.3s,baz=156,slow=9.0,SNR=8.2						
KURBB	**Kurchatov Arra**	**55.98**	**343**	P	P	18 54 29.3	-0.5
	0.1nm,0.4s,baz=163,slow=6.5,SNR=3.4						
TXAR	**Lajitas Array**	**143.86**	**39**	PKP	PKPdf	19 04 26.4	+1.2
	0.5nm,0.5s,baz=340,slow=2.1,SNR=3.9						

GUC 21 18:45:26.9±0.7, 28°.30S× 70°.25W, h76km±8km, MD3.5, ML3.6, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.81**	**209**	⇑*i*P	Pn	18 45 44.6	+0.7
LCO				*i* S	Sn	18 45 57.8	+1.3
LCO				AML	AML	18 45 59.0	
	comp=E,3μm,0.3s						
CPCH	**Copiapo**	**0.94**	**355**	⇓*i*P	Pn	18 45 45.2	+0.1
CPCH				*i* S	Sn	18 45 59.1	+0.6
CDCH	**Caldera**	**1.32**	**337**	*e*P	Pn	18 45 50.3	+0.5
CDCH				*i* S	Sn	18 46 07.3	+0.3
CDCH				AML	AML	18 46 09.8	
	comp=N,830nm,0.3s						
TLL	**Tololo Astrono**	**1.93**	**194**	⇑*i*P	Pn	18 45 58.7	+0.7
TLL				*i* S	Sn	18 46 22.7	+1.0
TLL				AML	AML	18 46 26.0	
	comp=E,453nm,0.4s						
CMCH	**Combarbala**	**2.94**	**193**	*i* P	Pn	18 46 11.0	-0.5
CMCH				*i* S	Sn	18 46 45.3	-0.5
CMCH				AML	AML	18 46 58.7	
	comp=E,592nm,0.8s						

*BJI **21** 18:48:41.1, 2°.14S× 99°.59E, h45km, mB4.8/26, mb4.6/37, Ms4.6/30, Ms7 4.4/29*

*IDC **21** 18:48:42.8±0.4, 1°.40S× 99°.50E, h0km, mb4.6/32, mb1 4.7/33, mb1mx4.7/35, mbtmp4.6/33, ML3.8/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/35, Error ellipse: s-maj=15.5km s-min=9.7km az=50.0*

*NEIC **21** 18:48:42.9±3.9, 1°.53S× 99°.51E, h10km±23km, mb4.8/29, Error ellipse: s-maj=10.2km s-min=6.1km az=222.0*

*DJA **21** 18:48:44.8±0.8, 2°.S±2°.×9°.9E±°, h14km±7km, M4.9/9, mb4.8/9, mB5.1/5, MLv5.2/9, Mw(mB)4.5/5*

*ISCJB **21** 18:48:44.8±1.0, 1°.42S± 0°.03× 99°.50E± 0°.03, h25km±7km, mb4.8/108, MS4.1/17, Error ellipse: s-maj=6.1km s-min=3.8km az=141.3*

*MOS **21** 18:48:46.1±0.9, 1°.36S× 99°.55E, h33km, mb5.1/42, Error ellipse: s-maj=12.3km s-min=5.0km az=119.7*

*AUST **21** 18:48:48.3±0.8, 1°.51S× 99°.46E, h36km, Error ellipse: s-maj=1.6km s-min=0.9km az=237.0*

*SZGRF **21** 18:48:58.8, 0°.05S× 97°.57E, h33km, mb5.0, Southwest of Sumatera, Indonesia*

ISC 21 18:48:44.7±0.8, 1°.45S± 0°.04× 99°.51E± 0°.04, h18km±3km, n385, σ1°.33/380, mb4.9/107, MS4.0/18, 43C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.09**	**61**	P	**Pn**	**18 49 06.2**	**+1.1**
PDSI				S	**Sn**	**18 49 23.6**	**+3.8**
PPI	**Padang Panjang**	**1.33**	**42**	P	**Pg**	**18 49 09.8**	**-0.6**
PPI	**Padang Panjang**	**1.33**	**42**	P	**Pg**	**18 49 09.8**	**-0.6**
	baz=1.4,SNR=183						
PPI				S	**Sg**	**18 49 30.1**	**+2.3**
	baz=1.4,SNR=4.8						
BKNI	**Bangkinang**	**2.34**	**41**	P	**Pb**	**18 49 25.1**	**-1.2**
BKNI				S	**Sg**	**18 49 57.7**	**-2.3**
BKNI	**Bangkinang**	**2.34**	**41**	P	**Pb**	**18 49 24.9**	**-1.4**
	baz=2.4,SNR=12						
RGRI	**Rengat**	**3.03**	**69**	P	Pb	18 49 34.7	-3.4
RGRI				S	**Sg**	**18 50 25.4**	**+3.3**
MASI	**Maura Aman, Be**	**3.20**	**122**	P	Pb	18 49 37.4	-3.7
KSI	**Kapahiang**	**3.78**	**125**	P	Pb	18 49 44.7	-6.2
KSI				S	Sb	18 50 28.8	-7.6
PSI	**Prapat**	**4.26**	**352**	Pn	**Pn**	**18 49 48.7**	**-0.1**
PSI	**Prapat**	**4.26**	**352**	Pn	**Pn**	**18 49 48.7**	**-0.1**
	1.7nm,0.3s,baz=171,slow=12,SNR=12						
PSI	**Prapat**	**4.26**	**352**	P	**Pn**	**18 49 49.2**	**+0.4**
	baz=4.2,SNR=6.5						
MNAI	**Manna**	**4.49**	**130**	P	Pn	18 49 53.9	+2.0
MNAI				S	**Sn**	**18 50 45.7**	**+2.0**
MNAI	**Manna**	**4.49**	**130**	P	Pb	18 49 54.9	-8.2
	baz=4.5,SNR=13						
EGSI	**Enggano, Bengk**	**4.76**	**145**	P	**Pn**	**18 49 55.8**	**+0.3**
EGSI				S	**Sn**	**18 50 49.8**	**-0.5**
SNSI	**Sinabang, Aceh**	**4.98**	**320**	P	**Pn**	**18 49 59.7**	**+1.1**
TSI	**Tuntungan**	**5.01**	**349**	P	**Pn**	**18 50 01.0**	**+2.0**
BTDF	**Bukit Timah Da**	**5.10**	**57**	P	Pb	18 50 06.7	-6.6
	baz=5.2,SNR=9.6						
BTDF				P	Pb	18 50 06.7	-6.6
	baz=5.2,SNR=9.6						
FRIM	**Kepong**	**5.12**	**24**	P	**Pn**	**18 50 01.2**	**+0.8**
KGM	**Kluang**	**5.14**	**48**	P	**Pn**	**18 50 01.0**	**+0.3**
KCSI	**Kotacane, Aceh**	**5.24**	**341**	P	Pn	18 50 05.0	+2.9
MYKOM	**Kota Tinggi**	**5.41**	**53**	P	**Pn**	**18 50 03.8**	**-0.7**
MYKOM	**Kota Tinggi**	**5.41**	**53**	P	Pn	18 50 07.7	+3.3
	80nm,0.8s,2μm1.5nm						
LWLI	**Liwa**	**5.76**	**128**	P	Pn	18 50 12.1	+2.7
	359nm,0.7s,6μm2.2nm						
IPM	**Ipoh**	**6.08**	**14**	*e*Pn	Pn	18 50 17.1	+3.3
IPM	**Ipoh**	**6.08**	**14**	P	**Pn**	**18 50 14.5**	**+0.8**
IPM	**Ipoh**	**6.08**	**14**	P	Pn	18 50 17.0	+3.3
	74nm,1.1s,1μm0.7nm						
KLSI		**6.12**	**122**	P	Pn	18 50 16.2	+1.9
	76nm,0.8s,0.3nm						
KLI	**Kotabumi**	**6.32**	**123**	P	Pg	18 50 37.2	-8.6
KASI	**Kota Agung**	**6.41**	**129**	P	Pn	18 50 19.6	+1.3
KTGM	**Kuala Trenggan**	**7.65**	**28**	P	**Pn**	**18 50 35.6**	**+0.4**
SKLT	**Songkhla**	**8.64**	**7**	P	Pn	18 51 00.1	+11
DBJI	**Dramaga**	**8.82**	**125**	P	Pn	18 51 10.3	+19
LEM	**Lembang**	**9.69**	**124**	P	Pn	18 51 09.8	+6.4
LEM	**Lembang**	**9.69**	**124**	P	Pn	18 51 16.1	+13
	baz=9.7,SNR=3.4						
CISI	**Cisompet, Garu**	**10.26**	**126**	P	**Pn**	**18 51 10.7**	**-0.5**
	baz=10,SNR=4.1						
KSM	**Kuching**	**11.18**	**75**	P	**Pn**	**18 51 22.2**	**-1.6**
STKI	**Sintang**	**12.06**	**83**	P	Pn	18 51 53.5	+18
SBUM	**Sibu**	**13.29**	**73**	P	P	18 52 13.9	+12
KKM	**Kota Kinabalu**	**18.27**	**66**	P	**P**	**18 52 59.0**	**+1.4**
	38nm,1.2s						
KKM	**Kota Kinabalu**	**18.27**	**66**	P	**Pn**	**18 52 55.6**	**-1.9**
SDKM	**Sandakan**	**19.02**	**68**	P	**P**	**18 53 04.8**	**-1.1**
TSM	**Tawau**	**19.22**	**73**	P	**P**	**18 53 06.1**	**-1.9**
MMSI	**Mamuju**	**19.43**	**94**	P	**Pn**	**18 53 11.8**	**+0.3**
CM31	**Chiang Mai Arr**	**19.79**	**358**	*e*P	**Pn**	**18 53 15.1**	**-0.7**
	11nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.79**	**358**	P	**Pn**	**18 53 15.0**	**-0.8**
CMAR				PcP	**PcP**	**18 57 33.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**19.79**	**358**	P	**Pn**	**18 53 15.0**	**-0.8**
	0.3nm,0.3s

comp=Z,14nm,0.9s
POO Poona 32.11 309 *e*P **P 18 55 12.1 +0.8**
KNRA Kununurra 32.12 118 P **P 18 55 10.1 -1.2**
baz=32,SNR=3.0
SSLB Suanglung 32.62 38 *e*P **P 18 55 14.8 -0.9**
comp=Z,6.5nm,0.8s
FAKI Fak Fak 32.75 93 P **P 18 55 17.4 +0.5**
baz=33,SNR=3.2
WHN Wuhan 34.82 23 P P 18 55 39.5 +4.9
WHN S S 19 01 13.0 +8.4
WHN LR LR
comp=N,630nm,12.6s
WHN LR LR
comp=E,470nm,11.2s
WHN LR LR
comp=Z,740nm,9.3s
XAN Xi'an 36.40 13 P **P 18 55 47.3 -0.9**
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,15nm,8.0s
XAN LR LR
comp=N,180nm,11.2s
XAN LR LR
comp=E,58nm,10.6s
XAN LR LR
comp=Z,110nm,13.0s
LZH Lanzhou 37.56 6 *e*P **P 18 55 58.1 -0.1**
LZH pP pP 18 56 10.5 +6.6
LZH sP sP 18 56 15.1 +8.9
LZH pmax pmax
comp=Z,13nm,1.0s
NJ2 Nanjing 38.03 27 *e*P **P 18 56 01.8 -0.2**
NJ2 pP pP 18 56 13.1 +5.4
NJ2 sP sP 18 56 20.4 +10
NJ2 S **S 19 01 52.3 -1.4**
NJ2 sS ScP 19 02 13.3 +8.9
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
NJ2 pmax pmax
comp=Z,13nm,6.0s
NJ2 LR LR
comp=N,5μm,19.0s
NJ2 LR LR
comp=E,3μm,20.1s
NJ2 LR LR
comp=Z,730nm,19.0s
WRA Warramunga Arr 38.69 121 P **P 18 56 08.2 +0.4**
WRA PcP **PcP 18 58 21.2 +1.5**
WRA Warramunga Arr 38.69 121 P **P 18 56 08.2 +0.4**
comp=Z,8.0nm,0.8s,baz=301,slow=8.9,SNR=62
WRA PcP **PcP 18 58 21.2 +1.5**
comp=Z,2.1nm,0.7s,baz=313,slow=2.4,SNR=7.2
WRAB Tennant Creek 38.70 121 *e*P **P 18 56 08.0 +0.1**
WRAB pmax pmax
comp=Z,5.0nm,0.6s
WRAB Tennant Creek 38.70 121 *e*P **P 18 56 08.0 +0.1**
comp=Z,5.2nm,0.6s
SMLA Simla 38.74 329 *e*P **P 18 56 07.9 -0.1**
SMLA AMB AMB 18 56 09.3
comp=Z,21nm,0.8s
ASAR Alice Springs 39.97 126 P **P 18 56 19.4 +0.9**
ASAR PcP **PcP 18 58 25.5 +1.8**
ASAR Alice Springs 39.97 126 P **P 18 56 19.4 +0.9**
comp=Z,7.8nm,0.7s,baz=298,slow=7.7,SNR=103
ASAR PcP **PcP 18 58 25.5 +1.8**
comp=Z,3.3nm,0.8s,baz=299,slow=2.4,SNR=13
AS31 Alice Springs 39.97 126 *e*P **P 18 56 18.7 +0.2**
DHRM DHARAMSHALA 40.08 329 *e*P **P 18 56 19.7 +0.2**
DHRM AMB AMB 18 56 20.4
comp=Z,23nm,0.9s
GTA Gaotai 40.67 0 *e*P **P 18 56 24.6 +0.5**
GTA pP pP 18 56 37.0 +7.2
GTA sP sP 18 56 42.3 +10
GTA PcP **PcP 18 58 27.5 +1.8**
GTA S **S 19 02 32.0 -1.4**
GTA sS sS 19 02 53.4 +11
GTA pmax pmax
comp=Z,4.0nm,1.8s
GTA pmax pmax
comp=Z,57nm,4.7s
GTA LR LR
comp=N,140nm,18.5s
GTA LR LR
comp=E,290nm,19.0s
GTA LR LR
comp=Z,130nm,18.3s
HHC Hu-ho-hao-te 43.51 13 *e*P **P 18 56 48.6 +1.3**
HHC pP pP 18 56 59.4 +6.4
HHC sP sP 18 57 04.8 +10
HHC PP **PcP 18 58 31.3 -3.8**
HHC PcS **PcS 19 02 25.3 -2.5**
HHC S **S 19 03 16.3 +0.9**
HHC sS sS 19 03 34.9 +10
HHC SS SS 19 06 23.0 -7.3
HHC ScS ScS 19 06 39.8 -6.7
HHC pmax pmax
comp=Z,31nm,0.7s
HHC pmax pmax
comp=Z,170nm,6.3s
HHC LR LR
comp=N,640nm,16.3s
HHC LR LR
comp=E,570nm,16.7s
HHC LR LR
comp=Z,470nm,16.8s
BJI Beijing 44.02 18 P **P 18 56 52.3 +1.1**
BJI PP **PcP 18 58 37.9 +1.3**
BJI S **S 19 03 24.4 +1.9**
BJI pmax pmax
comp=Z,13nm,1.1s
BJI LR LR
comp=N,140nm,17.2s
BJI LR LR
comp=E,310nm,18.7s
BJI LR LR
comp=Z,81nm,21.3s
JNU Nakatsue 45.36 38 *e*P **P 18 57 00.7 -1.4**
comp=Z,8.6nm,1.1s
JNU Nakatsue 45.36 38 P **P 18 57 02.5 +0.4**
comp=Z,8.9nm,0.7s,baz=234,slow=3.3,SNR=9.3
KBL Kabul 45.81 324 *e*P **P 18 57 05.8 0.0**
KBL pmax pmax
comp=Z,8.0nm,1.2s
KBL Kabul 45.81 324 *e*P **P 18 57 05.8 0.0**
comp=Z,8.1nm,1.2s
KSH Kashi 46.13 335 P **P 18 57 07.0 -1.2**
KSH PcP **PcP 18 58 42.1 -2.1**
KSH PP **PP 18 58 56.0 -0.7**
KSH S **S 19 03 51.8 -1.7**
KSH ScS **ScS 19 06 57.8 -5.5**
KSH SS SS 19 07 09.8 -9.2
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,55nm,5.7s
KSH LR LR
comp=N,160nm,7.8s
KSH LR LR
comp=E,94nm,6.1s
KSH LR LR
comp=Z,66nm,6.6s
WMQ Urumqi 46.30 348 P **P 18 57 11.3 +1.9**
WMQ pP pP 18 57 24.3 +9.1
WMQ PcP **PcP 18 58 46.1 +1.5**
WMQ PP **PP 18 59 00.6 +2.3**
WMQ S **S 19 03 55.3 -0.3**
WMQ SS SS 19 07 13.5 -8.0
WMQ pmax pmax
comp=Z,35nm,1.2s
WMQ pmax pmax
comp=Z,110nm,4.0s
WMQ LR LR
comp=N,83nm,20.0s
WMQ LR LR
comp=E,52nm,20.0s
WMQ LR LR
comp=Z,57nm,19.5s
KSAR Wonju Array Be 46.78 31 P **P 18 57 13.7 +0.6**
KSRS Korea Array 46.81 31 P **P 18 57 13.7 +0.4**
comp=Z,4.5nm,0.7s,baz=221,slow=7.4,SNR=25
KSRS LR LR 19 17 02.4
comp=Z,48nm,20.3s,baz=1.8,slow=36
MANU Manus Island 47.84 91 P **P 18 57 21.5 -0.3**
baz=48,SNR=3.7

PMG Port Moresby 48.04 101 P **P 18 57 24.4 +1.0**
PMG Port Moresby 48.04 101 P **P 18 57 24.4 +1.0**
comp=Z,16nm,0.9s,baz=271,slow=10,SNR=2.0
TKM2 Tokmak 2 49.14 337 *i* P **P 18 57 33.0 +1.4**
TKM2 Tokmak 2 49.14 337 P **P 18 57 33.1 +1.4**
SNR=16
TKM2 Tokmak 2 49.14 337 *e*P **P 18 57 31.2 -0.4**
comp=Z,19nm,0.9s
KBK Karagaybulak 49.18 336 *i* P **P 18 57 34.1 +2.2**
KBK Karagaybulak 49.18 336 P **P 18 57 34.1 +2.2**
SNR=8.6
AML Almayashu 49.26 335 *i* P **P 18 57 34.3 +1.5**
AML Almayashu 49.26 335 P **P 18 57 34.3 +1.5**
SNR=6.5
CTA Charters Tower 49.27 115 P **P 18 57 33.4 +0.6**
CTA Charters Tower 49.27 115 P **P 18 57 33.4 +0.6**
comp=Z,7.4nm,1.0s,baz=287,slow=12,SNR=5.2
CTAO Charters Tower 49.27 115 *e*P **P 18 57 30.8 -2.0**
CTAO pmax pmax
comp=Z,17nm,1.3s
CTAO Charters Tower 49.27 115 *e*P **P 18 57 30.8 -2.0**
comp=Z,17nm,1.3s
AAK Ala-Archa 49.34 336 P **P 18 57 33.1 0.0**
AAK Ala-Archa 49.34 336 P **P 18 57 33.1 0.0**
AAK Ala-Archa 49.34 336 P **P 18 57 33.1 0.0**
comp=Z,1.6nm,0.3s,baz=144,slow=4.1,SNR=8.1
SONM Songino Array 49.45 6 P **P 18 57 34.9 +1.1**
SONM Songino Array 49.45 6 P **P 18 57 34.9 +1.1**
comp=Z,3.8nm,0.8s,baz=187,slow=9.3,SNR=28
FRU Bishkek 49.46 336 *e*P **P 18 57 35.0 +1.1**
FRU pmax pmax
comp=Z,34nm,1.8s
CHMS Chumysh 49.54 336 *i* P **P 18 57 35.7 +1.2**
CHMS Chumysh 49.54 336 P **P 18 57 35.6 +1.2**
SNR=7.2
EKS2 Erkin-Say 49.66 335 *e*P **P 18 57 35.3 -0.2**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 49.66 335 P **P 18 57 37.4 +1.8**
SNR=13
EKS2 Erkin-Say 49.66 335 *e*P **P 18 57 35.3 -0.2**
comp=Z,16nm,0.8s
USP Ospenovka 49.87 336 *i* P **P 18 57 38.3 +1.3**
USP Ospenovka 49.87 336 P **P 18 57 38.2 +1.3**
SNR=12
STKA Stephens Creek 49.88 132 *e*P **P 18 57 35.2 -2.0**
comp=Z,36nm,2.6s
STKA Stephens Creek 49.88 132 P P 18 57 39.0 +1.8
comp=Z,10nm,0.8s,baz=306,slow=7.7,SNR=17
STKA Stephens Creek 49.88 132 P P 18 57 39.0 +1.8
baz=50,SNR=11
MK31 Makanchi Array 50.37 345 *e*P **P 18 57 41.4 +0.7**
MK31 Makanchi Array 50.37 345 *e*P **P 18 57 41.4 +0.7**
MKAR Makanchi Array 50.37 345 *i* P **P 18 57 41.5 +0.8**
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 50.37 345 *e*P **P 18 57 40.5 -0.2**
MKAR Makanchi Array 50.37 345 P **P 18 57 41.6 +0.8**
comp=Z,11nm,0.8s,baz=150,slow=8.1,SNR=97
CN2 Changchun 50.69 24 *e*P **P 18 57 41.8 -1.3**
CN2 *e*pP pP 18 57 54.1 +5.2
CN2 *e*S **S 19 04 53.5 -3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,300nm,18.0s
KKAR Karatay Array 51.45 333 *e*P **P 18 57 48.3 -0.6**
KKAR Karatay Array 51.45 333 *e*P **P 18 57 48.3 -0.6**
MJAR Matsushiro Arr 52.17 40 P **P 18 57 54.6 +0.3**
MJAR Matsushiro Arr 52.17 40 P **P 18 57 54.6 +0.3**
comp=Z,1.0nm,0.8s,baz=224,slow=8.4,SNR=4.4
MJAR LR LR 19 21 32.9
comp=Z,88nm,19.1s,baz=260,slow=38
CMSA Cobar Meteorol 52.84 129 P P 18 58 01.2 +1.8
baz=53,SNR=6.8
RMQ Roma 53.41 122 P P 18 58 06.4 +2.6
baz=54,SNR=3.8
USRK Ussurisyk Arra 53.91 29 P **P 18 58 07.7 +0.6**
comp=Z,6.9nm,0.7s,baz=236,slow=6.3,SNR=14
USRK LR LR 19 23 33.8
comp=Z,156nm,18.0s,baz=204,slow=39
KURBB Kurchatov Arra 54.89 344 P **P 18 58 14.7 +0.7**
comp=Z,8.1nm,0.9s,baz=164,slow=7.0,SNR=75
KURBB PcP **PcP 18 59 17.4 +1.5**
comp=Z,1.9nm,0.8s,baz=159,slow=3.3,SNR=4.9
KURK Kurchatov 54.95 344 P **P 18 58 14.7 +0.2**
KURK 18 59 17.5
KURK Kurchatov 54.95 344 P **P 18 58 14.7 +0.2**
KURK PcP **PcP 18 59 17.4 +1.2**
YNG Young 56.06 131 P P 18 58 25.1 +2.2
baz=56,SNR=5.0
ZAA0 Zalesovo Array 56.54 350 *e*P **P 18 58 26.3 +0.5**
ZALV Zalesovo Beam 56.54 350 P **P 18 58 26.5 +0.7**
ZALV Zalesovo Beam 56.54 350 P **P 18 58 26.5 +0.7**
ZALV Zalesovo Beam 56.54 350 P **P 18 58 26.5 +0.7**
comp=Z,11nm,0.8s,baz=163,slow=5.7,SNR=59
KRAR Krasnoyarsk 57.53 356 *e*P **P 18 58 33.6 +0.8**
NVS Novosibirsk 57.69 349 *e*P **P 18 58 32.2 -1.7**
NVS *e*S **S 19 06 26.9 -4.6**
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS smax smax
comp=N,12nm,1.9s
RAYN Ar Rayn 58.04 299 *e*P **P 18 58 36.6 -0.5**
comp=N,9.1nm,0.8s
RDF Al-Radifah 58.14 306 *e*P **P 18 58 37.8 +0.2**
RDF AMb AMB 18 58 39.2
comp=Z,74nm,1.0s
UMR Umm Al-Rimmam 58.24 306 *e*P **P 18 58 38.6 +0.3**
UMR AMb AMB 18 58 39.9
comp=Z,58nm,0.9s
NAY Al-Naaiem 58.51 306 *e*P **P 18 58 40.4 +0.2**
NAY AMb AMB 18 58 41.5
comp=Z,1.7nm,1.1s
BVAR Borovoye Array 59.51 340 P **P 18 58 46.8 +0.1**
BVAR Borovoye Array 59.51 340 P **P 18 58 46.8 +0.1**
BVAR Borovoye Array 59.51 340 P **P 18 58 46.8 +0.1**
comp=Z,5.1nm,0.8s,baz=144,slow=8.8,SNR=24
BRVK Borovoye 59.57 340 *e*P **P 18 58 46.6 -0.5**
BRVK Borovoye 59.57 340 *e*P **P 18 58 46.6 -0.5**
ABKAR Akbulak array 60.93 331 *e*P **P 18 58 56.0 -0.5**
KMBO Kilima Mbogo 62.24 269 *e*P **P 18 59 05.2 -1.1**
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 62.24 269 P P 18 59 08.3 +1.9
comp=Z,6.5nm,0.9s,baz=53,slow=10,SNR=18
AKTO Aktyubinsk 62.65 332 P **P 18 59 07.6 -0.4**
AKTO Aktyubinsk 62.65 332 P **P 18 59 07.6 -0.4**
AKTO Aktyubinsk 62.65 332 P **P 18 59 07.6 -0.4**
comp=Z,4.3nm,1.0s,baz=126,slow=7.0,SNR=11
SVE Sverdlovsk 65.99 330‖ *e*P **P 18 59 30.3 +0.5**
SVE pmax pmax
comp=Z,25nm,1.1s
ZEI Tsey 66.50 319 *e*P **P 18 59 33.5 -0.2**
ZEI pmax pmax
comp=Z,12nm,0.9s
ARU Arti 66.51 337*c i*P **P 18 59 33.2 0.0**
ARU 19 00 00.2
ARU 19 01 56.2
ARU S **S 19 08 22.5 -0.4**
ARU SS **SS 19 12 40.6 +0.4**
ARU pmax pmax
comp=Z,12nm,1.0s
YAK Yakutsk 67.34 15 *e*P **P 18 59 36.1 -2.2**
YAK *e* 18 59 45.2
YAK pmax pmax
comp=Z,10.0nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.4s
KBZ Khabaz 67.58 319 P **P 18 59 40.8 +0.6**
KBZ Khabaz 67.58 319 P **P 18 59 40.8 +0.6**
KBZ Khabaz 67.58 319 P **P 18 59 40.8 +0.6**
comp=N,14nm,0.9s,baz=120,slow=4.3,SNR=23
KIV Kislovodsk 67.81 319*c i*P **P 18 59 41.1 -0.7**
KIV 19 00 08.0
KIV pmax pmax

comp=Z,24nm,1.0s
ASF Jabal al Asfar 67.87 306 P **P 18 59 43.5 +1.1**
ASF Jabal al Asfar 67.87 306 P **P 18 59 43.5 +1.1**
comp=Z,9.8nm,1.0s,baz=132,slow=1.1,SNR=9.5
EIL Elat 68.82 303 P **P 18 59 49.6 +1.3**
baz=69,SNR=8.2
MAW Mawson 70.69 194 P P 19 00 00.8 +1.7
comp=Z,0.6nm,0.8s
MAW Mawson 70.69 194 P P 19 00 00.8 +1.7
comp=Z,6.2nm,0.9s,baz=38,slow=4.7,SNR=6.9
CSS Prodhromos 71.50 308 *e*P **P 19 00 04.4 -0.3**
comp=Z,22nm,1.1s
LSZ Lusaka 71.60 254 *e*P **P 19 00 05.3 -0.4**
comp=Z,8.7nm,1.4s
BR131 Keskin Array S 72.59 312 *e*P **P 19 00 10.5 -0.8**
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 72.59 312 P **P 19 00 11.1 -0.2**
BRTR Keskin Array B 72.59 312 P **P 19 00 11.1 -0.2**
comp=Z,4.1nm,0.9s,baz=126,slow=6.3,SNR=18
PETK Petropavlovsk- 72.69 32 LR LR 19 31 03.9
comp=Z,37nm,19.4s,baz=16,slow=35
VSR Storozhevoye 73.05 325 *e*P **P 19 00 12.4 -1.1**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
SEY Seymchan 75.31 22 *e*P **P 19 00 26.2 -0.3**
BOSA Boshof 75.49 241 P **P 19 00 29.1 +0.7**
BOSA Boshof 75.49 241 P **P 19 00 29.1 +0.7**
comp=Z,4.2nm,1.0s,baz=255,slow=5.4,SNR=3.7
BOSA LR LR 19 26 48.6
comp=Z,173nm,21.2s,baz=165,slow=30
RPZ Rata Peaks 75.71 135 P **P 19 00 30.4 +1.1**
RPZ Rata Peaks 75.71 135 P **P 19 00 30.4 +1.1**
comp=Z,9.7nm,0.7s,baz=241,slow=8.8,SNR=4.0
MOS Moscow 75.78 329 *e*P **P 19 00 28.6 -0.7**
MOS *e* 19 00 36.1
MOS pmax pmax
comp=Z,32nm,0.9s
OBN Obninsk 76.07 328k *i*P **P 19 00 31.3 +0.3**
OBN pmax pmax
comp=Z,51nm,1.7s
TIRR Tirgusor 77.62 316 ⇓P **P 19 00 40.3 +0.3**
TIRR Tirgusor 77.62 316 ⇓*i*P **P 19 00 40.3 +0.3**
TLB Topalu 77.91 316 ⇓P **P 19 00 42.1 +0.5**
TLB Topalu 77.91 316 ⇓*i*P **P 19 00 42.1 +0.5**
CFR Carcaliu 77.99 317 ⇓P **P 19 00 42.5 +0.5**
CFR Carcaliu 77.99 317 ⇓*i*P **P 19 00 42.5 +0.5**
SYO Syowa Base 78.23 199‖ *e*P **P 19 00 43.0 +0.2**
AKASG Malin Array Be 78.75 322 *i* P **P 19 00 46.2 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 78.75 322 P **P 19 00 45.9 -0.3**
AKASG Malin Array Be 78.75 322 P **P 19 00 45.9 -0.3**
comp=Z,4.8nm,1.0s,baz=87,slow=4.9,SNR=7.3
KIEV Kiev 78.76 322 *e*P **P 19 00 44.8 -1.4**
KIEV pmax pmax
comp=Z,20nm,1.7s
KIEV Kiev 78.76 322 *e*P **P 19 00 44.8 -1.4**
comp=Z,20nm,1.7s
VRI Vrincioaia 79.12 317 ⇑P **P 19 00 49.6 +1.3**
VRI Vrincioaia 79.12 317 ⇑*i*P **P 19 00 49.6 +1.3**
PLOR Plostina 79.17 317 ⇑P **P 19 00 49.7 +1.1**
PLOR Plostina 79.17 317 ⇑*i*P **P 19 00 49.7 +1.1**
TMCR Tamitsa 79.25 337 *e*P **P 19 00 49.0 +0.5**
TMCR *e* 19 00 55.9
TMCR pmax pmax
comp=Z,30nm,1.0s
TESR Tescani 79.32 318 ⇑*i*P **P 19 00 49.6 +0.2**
VOIR 80.17 316 ⇑P **P 19 00 54.6 +0.5**
VOIR 80.17 316 ⇑*i*P **P 19 00 54.6 +0.5**
BURAR Bucovina Array 80.53 319 ⇑P **P 19 00 57.7 +1.7**
BURAR Bucovina Array 80.53 319 ⇑*i*P **P 19 00 57.7 +1.7**
VTS Vitosha 80.92 313 ⇑P **P 19 00 58.6 +0.3**
VTS Vitosha 80.92 313 ⇑*i*P **P 19 00 58.6 +0.3**
IDID Didziasalis 81.45 326 *e*P **P 19 01 00.7 +0.1**
JOF Joensuu 81.52 335 *e*P **P 19 01 01.5 +0.7**
JOF pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 81.52 335 *ep* **P 19 01 01.5 +0.7**
comp=Z,6.5nm,0.8s
GZR Gura Zlata 81.73 316 ⇑P **P 19 01 03.3 +0.9**
GZR Gura Zlata 81.73 316 ⇑*i*P **P 19 01 03.3 +0.9**
IIGN Ignalina 81.75 326 *e*P **P 19 01 02.2 +0.1**
IIGN AMB AMB 19 01 04.6
comp=Z,10nm,1.2s
ISAL Salakas 81.86 327 *e*P **P 19 01 02.8 +0.1**
ISAL AMB AMB 19 01 05.2
comp=Z,9.5nm,1.0s
DRGR 82.03 318 ⇑P **P 19 01 05.0 +1.0**
DRGR 82.03 318 ⇑*i*P **P 19 01 05.0 +1.0**
TRPA Tarpa 82.40 319 ⇑*i*P **P 19 01 07.4 +1.7**
KWP Kalwaria Pacla 82.57 320 *e*P **P 19 01 07.8 +1.1**
BZS Buzias 82.58 316 ⇑P **P 19 01 06.8 +0.1**
BZS Buzias 82.58 316 ⇑*i*P **P 19 01 06.8 +0.1**
KOLS Kolonicke sedl 82.72 320 *e*P **P 19 01 08.7 +1.3**
KOLS pmax pmax
comp=Z,20nm,0.9s
KOLS Kolonicke sedl 82.72 320 *e*P **P 19 01 08.7 +1.3**
VNDA Vanda 82.79 169 P P 19 01 04.1 -3.1
comp=Z,8.4nm,1.3s
VNDA Vanda 82.79 169 P **P 19 01 08.5 +1.2**
comp=Z,2.9nm,0.8s,baz=307,slow=6.2,SNR=6.2
SUW Suwalki 83.16 325 *e*P **P 19 01 09.4 -0.2**
SUW pmax pmax
comp=Z,54nm,1.0s
SUW Suwalki 83.16 325 *e*P **P 19 01 09.3 -0.2**
comp=Z,54nm,1.0s
SUW Suwalki 83.16 325 *e*P **P 19 01 09.8 +0.3**
CRVS Cervenica-Dubn 83.24 319 *e*P **P 19 01 11.0 +0.8**
CRVS pmax pmax
comp=Z,11nm,1.6s
CRVS Cervenica-Dubn 83.24 319 *e*P **P 19 01 11.0 +0.8**
FINES FINESS Array B 83.40 332 P **P 19 01 11.6 +1.0**
FINES FINESS Array B 83.40 332 P **P 19 01 11.6 +1.0**
comp=Z,4.2nm,0.6s,baz=95,slow=6.1,SNR=13
STHS Stebnicka Huta 83.47 320 *e*P **P 19 01 13.0 +1.7**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 83.47 320 *e*P **P 19 01 13.0 +1.7**
KAF Kangasniemi 83.48 333 *e*P **P 19 01 11.1 +0.1**
KAF pmax pmax
comp=Z,12nm,0.6s
KAF Kangasniemi 83.48 333 *ep* **P 19 01 11.1 +0.1**
comp=Z,12nm,0.6s
KECS Kecovo 83.81 319 *e*P **P 19 01 13.6 +0.5**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 83.81 319 *e*P **P 19 01 13.6 +0.5**
SBA Scott Base 83.89 169 *e*P **P 19 01 11.5 -1.4**
SBA pmax pmax
comp=Z,8.0nm,0.9s
SBA Scott Base 83.89 169 *e*P **P 19 01 11.5 -1.4**
comp=Z,7.8nm,0.9s
OJC Ojcow 84.53 321 *e*P **P 19 01 15.5 -1.2**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 84.53 321 *e*P **P 19 01 15.5 -1.2**
comp=Z,7.0nm,0.9s
PKSM Moragy 84.72 316 ⇑P **P 19 01 18.4 +0.7**
PKSM Moragy 84.72 316 ⇑*i*P **P 19 01 18.4 +0.7**
VYHS Vyhne 84.89 319 *e*P **P 19 01 18.8 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 84.89 319 *e*P **P 19 01 18.8 +0.2**
OKC Ostrava-Krasne 85.53 320 *i* P **P 19 01 22.5 +0.8**
OKC Ostrava-Krasne 85.53 320 *i* P **P 19 01 22.5 +0.8**
ARCES ARCESS Array B 85.80 340 P **P 19 01 23.7 +1.1**
ARCES ARCESS Array B 85.80 340 P **P 19 01 23.7 +1.1**
comp=Z,7.4nm,0.9s,baz=65,slow=9.5,SNR=9.3
CEL Celeste 85.87 308 *e*P **P 19 01 22.5 -1.3**
MORC Moravsky Berou 85.91 320 *e*P **P 19 01 24.4 +0.7**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 85.91 320 *e*P **P 19 01 24.4 +0.7**
comp=Z,5.4nm,0.9s
CUC Castrocucco 86.09 310 *e*P **P 19 01 23.7 -1.1**
comp=Z,5.0nm,0.9s
KOGS Kog 86.39 317 *e*P **P 19 01 26.7 +0.7**
DPC Dobruska-Polom 86.75 320 *e*P **P 19 01 26.0 -1.8**
DPC Dobruska-Polom 86.75 320 *i* P **P 19 01 29.3 +1.5**
DPC *ex* x 19 01 57.3

DPC	Dobruska-Polom	86.75	320	*e*P	P	19 01 26.0	-1.8
GOLS	Golise	86.78	316	*e*P	P	19 01 29.1	+1.1
KSP	Ksiaz	86.82	321	*e*P	P	19 01 29.5	+1.4
KSP	Ksiaz	86.82	321	*e*P	P	19 01 29.9	+1.8
ARSA	Arzberg	86.97	317	⇑*i*PcP	PcP	19 01 29.9	-1.2
	comp=Z,9.1nm,1.1s						
BOJS	Bojanci	86.99	316	*i* P	P	19 01 29.7	+0.7
PERS	Pernice	87.19	317	*i* P	P	19 01 30.9	+0.9
SOKA	Soboth	87.25	317	⇑*i*PcP	PcP	19 01 31.3	-1.2
	comp=Z,10nm,1.0s,SNR=7.1						
LJU	Ljubljana	87.55	316	*i* P	P	19 01 32.8	+1.1
PRU	Pruhonice	87.86	320	*i* P	P	19 01 33.8	+0.7
PRU	Pruhonice	87.86	320	*i* P	P	19 01 33.8	+0.7
PVCC	Panska Ves	87.89	320	*i* P	P	19 01 34.5	+1.3
PVCC	Panska Ves	87.89	320	*i* P	P	19 01 34.5	+1.3
AQU	L'Aquila	88.08	312	*e*P	P	19 01 35.0	+0.6
	comp=Z,16nm,0.9s						
CADS	Cadrg	88.11	316	*i* P	P	19 01 35.0	+0.6
BRG	Berggiesshubel	88.31	321	*i* P	P	19 01 36.2	+1.0
	comp=Z,16nm,1.4s						
BRG	Berggiesshubel	88.31	321	*e*P	P	19 01 36.4	+1.2
	comp=Z,16nm,1.4s						
BRG	Berggiesshubel	88.31	321	*i* P	P	19 01 36.2	+1.0
BRG				pmax	pmax		
	comp=Z,16nm,1.4s						
GEC2	GERESS Array S	88.32	319	*e*P	P	19 01 36.3	+0.9
	comp=Z,23nm,1.5s						
GEC2	GERESS Array S	88.32	319	*e*P	P	19 01 36.3	+0.9
GEC2				pmax	pmax		
	comp=Z,23nm,1.5s						
GERES	GERESS Array B	88.32	319	P	P	19 01 36.7	+1.3
GERES	GERESS Array B	88.32	319	P	P	19 01 36.7	+1.3
	comp=Z,5.5nm,1.0s,baz=102,slow=4.5,SNR=25						
KHC	Kasperske Hory	88.42	319	*i* P	P	19 01 36.5	+0.7
KHC	Kasperske Hory	88.42	319	*i* P	P	19 01 36.5	+0.7
RUE	Ruedersdorf	88.53	322	*e*P	P	19 01 37.5	+1.3
	comp=Z,48nm,1.0s						
FBE	Freiberg	88.69	321	*e*P	P	19 01 38.4	+1.4
	comp=Z,22nm,1.3s						
RJOB	Jochberg	88.85	318	*e*P	P	19 01 38.2	+0.3
	comp=Z,5.0nm,1.0s						
WET	Wettzell	88.88	319	*e*P	P	19 01 39.0	+1.0
	comp=Z,9.0nm,1.1s						
WET	Wettzell	88.88	319	*e*P	P	19 01 39.0	+1.0
WET				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	Collm	88.93	321	*e*P	P	19 01 39.0	+0.9
	comp=Z,9.0nm,1.1s						
CLL	Collm	88.93	321	*i* P	P	19 01 38.7	+0.6
CLL				*i*		19 01 46.2	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	Collm	88.93	321	*i* P	P	19 01 38.7	+0.6
	comp=Z,9.0nm,1.1s						
CLL				*i* (sP)	sP	19 01 43.8	-2.6
CLL				*i*		19 01 46.2	
ABTA	Abfaltersbach	88.98	317	⇑*i*PcP	PcP	19 01 38.9	-1.2
	comp=Z,4.3nm,1.1s						
WERN	Wernitzgruen	89.27	320	*e*P	P	19 01 41.1	+1.3
	comp=Z,7.0nm,1.4s						
GUNZ	Gunzen	89.30	320	*e*P	P	19 01 41.4	+1.4
	comp=Z,10.0nm,1.2s						
WERD	Werda	89.32	320	*e*P	P	19 01 41.2	+1.2
	comp=Z,8.0nm,1.1s						
ROTZ	Rotzenmuhle	89.35	320	*e*P	P	19 01 41.8	+1.6
	comp=Z,6.0nm,0.9s						
WTTA	Wattenberg	89.61	317	⇑*i*PcP	PcP	19 01 41.9	-1.1
	comp=Z,13nm,1.2s						
NEUB	Neuenburg	89.70	321	*e*P	P	19 01 42.9	+1.2
	comp=Z,22nm,1.0s						
MOX	Moxa	89.77	320	*e*P	P	19 01 43.4	+1.3
	comp=Z,17nm,1.6s						
MOX	Moxa	89.77	320	*e*P	P	19 01 43.4	+1.3
MOX				pmax	pmax		
	comp=Z,17nm,1.6s						
MOTA	Moosalm	89.97	317	⇑*i*PcP	PcP	19 01 43.7	-0.8
	comp=Z,6.8nm,0.8s,SNR=5.4						
GRF	Grafenberg Arr	89.98	320	*e*P	P	19 01 44.8	+1.7
	comp=Z,18nm,1.0s						
GRF	Grafenberg Arr	89.98	320	*e*P	P	19 01 44.8	+1.7
GRF				pmax	pmax		
	comp=Z,18nm,1.0s						
BSEG	Bad Segeberg	90.69	324	*e*P	P	19 01 47.9	+1.7
	comp=Z,23nm,1.4s						
BSEG	Bad Segeberg	90.69	324	*e*P	P	19 01 47.9	+1.7
BSEG				pmax	pmax		
	comp=Z,23nm,1.4s						
NRDL	Niedersach Rie	90.78	322	*e*P	P	19 01 48.1	+1.5
	comp=Z,14nm,1.3s						
DAVA	Damuels	90.80	317	*i* PcP	PcP	19 01 48.3	+0.1
	comp=Z,15nm,0.9s,SNR=6.4						
KEST	Kesra	90.97	306	*e*P	P	19 01 49.9	+1.7
KEST	Kesra	90.97	306	P	P	19 01 49.9	+1.7
	comp=Z,6.1nm,0.9s,baz=219,slow=0.4,SNR=18						
TNS	Taunus Mts	91.79	320	*e*P	P	19 01 52.9	+1.3
	comp=Z,11nm,1.0s						
TNS	Taunus Mts	91.79	320	*e*P	P	19 01 52.9	+1.3
TNS				pmax	pmax		
	comp=Z,11nm,1.0s						
SNAA	Sanae	92.51	198	P	P	19 01 56.0	+1.6
CDF	Champ du Feu	92.56	318	*e*P	P	19 01 55.4	+0.2
	comp=Z,21nm,1.4s						
CDF	Champ du Feu	92.56	318	*e*P	P	19 01 55.4	+0.2
CDF	Champ du Feu	92.56	318	*e*P	P	19 01 55.4	+0.2
LPG	La Plagne	92.97	315	*e*P	P	19 01 57.9	+0.5
LPG	La Plagne	92.97	315	*e*P	P	19 01 57.9	+0.5
LPG	La Plagne	92.97	315	*e*P	P	19 01 57.9	+0.5
LPL	La Plagne	92.98	315	⇑*i*P	P	19 01 57.9	+0.5
	comp=Z,11nm,1.0s						
LPL	La Plagne	92.98	315	⇑*i*P	P	19 01 57.9	+0.5
LPL	La Plagne	92.98	315	⇑*i*P	P	19 01 57.9	+0.5
FRF	La Foret Royal	93.07	313	⇑*i*P	P	19 01 58.3	+0.7
	comp=Z,9.3nm,0.8s						
FRF	La Foret Royal	93.07	313	⇑*i*P	P	19 01 58.3	+0.7
FRF	La Foret Royal	93.07	313	⇑*i*P	P	19 01 58.3	+0.7
PAGF	Fort de Pagny	93.59	318	*e*P	P	19 02 00.1	+0.2
PAGF	Fort de Pagny	93.59	318	*e*P	P	19 02 00.1	+0.2
SFTF	Sexfontaines	94.06	318	⇑*i*P	P	19 02 02.6	+0.6
	comp=Z,8.7nm,0.6s						
SFTF	Sexfontaines	94.06	318	⇑*i*P	P	19 02 02.6	+0.6
LOR	Lormes	94.90	317	⇑*i*P	P	19 02 06.4	+0.5
LOR	Lormes	94.90	317	⇑*i*P	P	19 02 06.4	+0.5
SMF	Signal de Mont	94.95	317	⇑*i*P	P	19 02 06.5	+0.3
	comp=Z,14nm,1.1s						
SMF	Signal de Mont	94.95	317	⇑*i*P	P	19 02 06.5	+0.3
SMF	Signal de Mont	94.95	317	⇑*i*P	P	19 02 06.5	+0.3
SSF	Saint Saulge	95.16	317	⇑*i*P	P	19 02 07.5	+0.4
SSF	Saint Saulge	95.16	317	⇑*i*P	P	19 02 07.5	+0.4
SSF	Saint Saulge	95.16	317	⇑*i*P	P	19 02 07.5	+0.4
AVF	Avril sur Loir	95.28	317	*e*P	P	19 02 07.5	-0.1
AVF	Avril sur Loir	95.28	317	*e*P	P	19 02 07.5	-0.1
AVF	Avril sur Loir	95.28	317	*e*P	P	19 02 07.5	-0.1
TORD	Torodi Ar. Sit	97.94	283	P	Pdif	19 02 20.2	-0.2
TORD	Torodi Ar. Bea	97.94	283	P	Pdif	19 02 21.1	+0.7
TORD	Torodi Ar. Bea	97.94	283	P	Pdif	19 02 21.2	+0.7
	comp=Z,0.8nm,0.9s,baz=85,slow=4.7,SNR=4.3						
SCHQ	Schefferville	125.63	350	PKP	PKPdf	19 07 45.7	+0.7
SCHQ	Schefferville	125.63	350	PKP	PKPdf	19 07 45.7	+0.7
	comp=Z,3.6nm,0.9s,baz=356,slow=3.8,SNR=3.7						
CHMT	Chamberlain Mo	126.49	27	*e*PKPdf	PKPdf	19 07 46.8	-0.4
DLMT	Dillon	127.94	28	*e*PKPdf	PKPdf	19 07 51.1	+1.2
NVAR	Mina Array Bea	129.48	39	PKP	PKPdf	19 07 54.5	+1.3
NVAR	Mina Array Bea	129.48	39	PKP	PKPdf	19 07 54.5	+1.3
	comp=Z,0.8nm,0.8s,baz=269,slow=2.5,SNR=5.8						
R11A	Troy Canyon, C	131.20	37	*e*PKPdf	PKPdf	19 07 58.4	+2.0
TUL1	Tulsa	142.89	21	*e*PKPdf	PKPdf	19 08 12.4	-5.4
CPUP	Villa Florida	144.46	217	*e*PKPdf	PKPdf	19 08 20.1	-0.6
CPUP				PKP	PKPdf	19 08 20.7	-0.1
CPUP	Villa Florida	144.46	217	PKP	PKPdf	19 08 20.7	-0.1
	comp=Z,18nm,0.8s,baz=108,slow=3.0,SNR=34						
TXAR	Lajitas Array	144.56	36	PKP	PKPdf	19 08 21.3	+0.3
TXAR	Lajitas Array	144.56	36	PKP	PKPdf	19 08 21.3	+0.3
	comp=Z,6.6nm,0.8s,baz=270,slow=1.6,SNR=62						
WVT	Waverly	144.83	10	*e*PKIKP	PKPdf	19 08 19.7	-1.4
WVT	Waverly	144.83	10	*e*PKPdf	PKPdf	19 08 19.7	-1.4
MIAR	Mount Ida	144.88	19	*e*PKIKP	PKPdf	19 08 20.9	-0.4
MIAR	Mount Ida	144.88	19	*e*PKPdf	PKPdf	19 08 20.9	-0.4
TZTN	Tazewell	144.97	4	*e*PKPdf	PKPdf	19 08 20.6	-0.8
JCT	Junction City	145.81	31	*e*PKP2	PKPab	19 08 24.4	+0.5
JCT	Junction City	145.81	31	*e*PKPbc	PKPab	19 08 24.4	+0.5
TKL	Tuckaleechee C	145.83	5	*e*PKPdf	PKPab	19 08 23.2	-0.5
CPCT	Cooper Cave	145.97	6	*e*PKPbc	PKPab	19 08 23.9	-0.4
OXF	Oxford	146.07	13	*e*PKP2	PKPab	19 08 24.1	-0.5
OXF	Oxford	146.07	13	*e*PKPbc	PKPab	19 08 24.1	-0.5
KMSC	Kings Mountain	146.47	1	*e*PKPbc	PKPbc	19 08 24.7	-0.6
LRAL	Lakeview Retre	147.99	10	*e*PKPbc	PKPbc	19 08 28.6	-1.0
HKT	Hockley	148.13	26	*e*PKP2	PKPbc	19 08 29.3	-0.7
HKT	Hockley	148.13	26	*e*PKPbc	PKPbc	19 08 29.2	-0.7
LPAZ	La Paz	158.56	214	PKP	PKPdf	19 08 44.8	+1.8
LPAZ	La Paz	158.56	214	PKP	PKPdf	19 08 44.8	+1.8
	comp=Z,0.9nm,0.7s,baz=26,slow=1.4,SNR=3.9						

MAN 21 18:50:43, 11°.34N×124°.40E, h31km, mb3.9, ML2.7, MS2.4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.35	145	*e*P	Pn	18 50 52.5	+0.5
OCLP				*e*S	Sn	18 51 00.6	+2.7
RCP	Roxas	1.64	278	⇓*e*P	Pn	18 51 10.6	+0.9
RCP				*e*S	Sn	18 51 30.3	+0.5
GUIM	Jordan	1.92	248	*e*P	Pn	18 51 15.3	+1.7
GUIM				*e*S	Sn	18 51 36.4	-0.3

IDC 21 18:51:24.9±5.8, 1°.55N×98°.27E, h156km±34km, mb3.6/6, mb1 3.6/7, mb1mx3.3/28, mbtmp3.5/7, MS4.0/1, Ms1 4.0/1, ms1mx2.9/34, Error ellipse: s-maj=135.1km s-min=15.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.40	28	P	Pn	18 51 53.1	-1.0
	3.2nm,0.3s,baz=172,slow=15,SNR=2.2						
CMAR	Chiang Mai Arr	16.81	2	P	P	18 55 09.9	-0.9
	0.2nm,0.3s,baz=193,slow=11,SNR=6.1						
WRA	Warramunga Arr	41.32	123	P	P	18 58 55.5	-0.1
	0.9nm,0.7s,baz=302,slow=9.1,SNR=5.2						
ASAR	Alice Springs	42.76	128	P	P	18 59 07.0	-0.2
	0.6nm,0.6s,baz=296,slow=7.6,SNR=3.6						
SONM	Songino Array	46.63	8	LR	LR	19 22 26.3	
	comp=Z,151nm,19.7s,baz=101,slow=40						
MKAR	Makanchi Array	47.17	345	P	P	18 59 41.8	+0.1
	2.7nm,0.6s,baz=160,slow=8.1,SNR=5.6						
KURBB	Kurchatov Arra	51.68	344	P	P	19 00 15.7	0.0
	1.5nm,0.6s,baz=162,slow=7.0,SNR=5.8						
ZALV	Zalesovo Beam	53.39	350	P	P	19 00 28.9	+0.7
	3.2nm,0.5s,baz=172,slow=6.4,SNR=4.2						
BVAR	Borovoye Array	56.28	340	P	P	19 00 48.4	-0.7
	1.6nm,0.7s,baz=148,slow=11,SNR=4.0						

IDC 21 19:36:34.4±53.0, 17°.78S×178°.15W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=977.3km s-min=152.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.91	241	P	P	19 44 02.8	+0.8
	4.7nm,1.2s,baz=69,slow=8.6,SNR=2.8						
WRA	Warramunga Arr	44.90	259	P	P	19 44 50.5	-0.7
	0.2nm,0.3s,baz=97,slow=8.2,SNR=10						
ASAR	Alice Springs	45.07	254	P	P	19 44 52.0	-0.5
	1.2nm,0.6s,baz=90,slow=8.5,SNR=35						

IDC 21 19:52:55.8±18.0, 22°.84S×175°.09W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=336.5km s-min=136.5km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.01	267	P	P	19 59 59.8	+0.9
	2.7nm,0.4s,baz=93,slow=10,SNR=9.4						
STKA	Stephens Creek	39.29	247	P	P	20 00 25.7	-0.9
	0.7nm,0.6s,baz=85,slow=12,SNR=2.3						
ASAR	Alice Springs	46.66	258	P	P	20 01 25.6	-0.9
	0.3nm,0.4s,baz=97,slow=6.7,SNR=8.8						
WRA	Warramunga Arr	46.99	264	P	P	20 01 28.5	-0.5
	1.2nm,0.3s,baz=99,slow=8.3,SNR=42						
FITZ	Fitzroy Crossi	55.42	263	P	P	20 02 33.3	+0.9
	1.8nm,0.9s,baz=95,slow=11,SNR=5.5						

IGQ 21 19:58:37.5, 1°.30S×80°.64W, h43km±171km, Mb4.2, Ms4.0, 4C-1D, Error ellipse: s-maj=5.4km s-min=1.9km az=3.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	Mancha de Ca P	0.78	48	P	Pn	19 58 49.8	-2.4
JAMA	Jama	1.12	23	S	Sn	19 59 12.8	+1.7
JAMA	Jama	1.12	23	P	Pn	19 58 58.1	+1.4
MAG1	Magdalena	1.49	35	S	Sn	19 59 22.3	+2.1
MAG1	Magdalena	1.49	35	P	Pn	19 59 04.4	+2.5
IGUA	Igualata	2.00	95	P	Pn	19 59 10.7	+1.1
GOLV	Golondrinas	2.12	45	S	Sn	19 59 35.8	+0.1
GOLV	Golondrinas	2.12	45	P	Pn	19 59 10.8	+0.4
BIL2	Estacion Bilba	2.14	94	P	Pn	19 59 13.5	+2.4
BBIL	Ulba Tungurahu	2.15	94	P	Pn	19 59 13.8	+2.5
BMAS	Trigal station	2.17	95	P	Pn	19 59 12.9	+1.4
JUI6	Juive	2.17	93	P	Pn	19 59 13.0	+1.5
ARRY	Arrayan	2.19	95	P	Pn	19 59 13.2	+1.3
PAT1	Patacocha	2.21	95	⇑P	Pn	19 59 13.9	+1.7
BPAT	Tungurahua Vol	2.21	95	S	Sn	19 59 39.2	+0.4
BPAT	Tungurahua Vol	2.21	95	P	Pn	19 59 14.0	+1.7
RUN5	Runtun	2.21	93	P	Pn	19 59 13.9	+1.7
CAMI	Rancho Maria	2.22	74	P	Pn	19 59 13.6	+1.2
BRUN	Tungurahua Vol	2.23	93	P	Pn	19 59 13.8	+1.5
BULB	Ulba Tungurahu	2.23	94	P	Pn	19 59 13.5	+1.1
BULB	Ulba Tungurahu	2.23	94	S	Sn	19 59 40.1	+1.0
ULBA	Ulba	2.23	94	P	Pn	19 59 13.7	+1.2
BNAS	Cotopaxi Volca	2.24	74	P	Pn	19 59 13.8	+1.0
BMOR	Cotopaxi Volca	2.25	75	P	Pn	19 59 13.8	+0.9
NAS2	Nasa	2.26	73	P	Pn	19 59 14.0	+0.9
PISA	Pisayambo	2.26	84	P	Pn	19 59 14.6	+1.5
MOV1	Cotopaxi Vol s	2.27	75	⇓P	Pn	19 59 14.2	+0.9
BREF	Cotopaxi Volca	2.28	74	⇑⇑S	Sn	19 59 49.1	+8.2
BREF	Cotopaxi Volca	2.28	74	⇑⇑P	Pn	19 59 14.8	+1.3
JUA2	San Juan 2	2.30	62	⇑⇑P	Pn	19 59 15.1	+1.6
TERV	Terraza Guagua	2.32	61	P	Pn	19 59 16.0	+2.1
BTAM	Cotopaxi Volca	2.32	74	P	Pn	19 59 15.2	+1.2
PITA	Cotopaxi Volc	2.32	72	P	Pn	19 59 15.3	+1.5
PINO	Pino	2.32	61	P	Pn	19 59 14.2	+0.2
VC1	Cotopaxi 1	2.33	74	P	Pn	19 59 15.3	+1.3
GGP	Refugio Guagua	2.33	61	P	Pn	19 59 14.8	+0.6
TAMB	Tambo	2.35	75	P	Pn	19 59 15.3	+1.1
COV1	Cotopaxi Volc	2.38	75	P	Pn	19 59 14.6	-0.2
ANTI	Antisana	2.62	71	P	Pn	19 59 19.8	+1.8
COTA	Cotacachi	2.81	55	P	Pn	19 59 22.4	+1.7
CATE	Catamayo	2.93	155	P	Pn	19 59 25.2	+3.4
CAYR	Refugio Cayamb	2.94	64	P	Pn	19 59 25.8	+3.4
CAYA	Cayambe	2.98	63	P	Pn	19 59 26.2	+3.3

IDC 21 20:02:40.3±48.0, 15°.79S×175°.09W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=909.9km s-min=181.0km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.43	240	P	P	20 10 37.2	+0.2
	1.3nm,0.8s,baz=89,slow=15,SNR=4.2						
WRA	Warramunga Arr	48.17	257	P	P	20 11 22.3	-0.5
	0.2nm,0.3s,baz=92,slow=8.3,SNR=4.6						
ASAR	Alice Springs	48.44	252	P	P	20 11 24.7	-0.2
	2.0nm,0.5s,baz=88,slow=8.1,SNR=24						

*AUST **21** 20:12:01.0±6.5, 3°.20S×129°.33E, h35km±1km, Error ellipse: s-maj=2.3km s-min=1.0km az=267.0*
*IDC **21** 20:13:17.2±7.4, 9°.26S×129°.77E, h81km±85km, mb3.0/1, mb1 3.2/4, mb1mx3.0/18, mbtmp3.0/4, ML3.1/3, Error ellipse: s-maj=55.9km s-min=45.2km az=8.0*

ISC 21 20:13:17.6±4.5, 9°.3S±0°.3×129°.8E±0°.1, h35km, n8, σ1s90/8, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	3.78	159	P	Pn	20 14 19.9	+6.4
	baz=9.8,SNR=10						
KDU	Kakadu	4.31	142	P	Pn	20 14 22.7	+2.0
	baz=10.0,SNR=19						
KNRA	Kununurra	6.42	189	P	Pn	20 14 52.5	+2.7
	baz=12,SNR=8.1						
FITZ	Fitzroy Crossi	9.62	204	P	Pn	20 15 33.1	-0.6
	0.2nm,0.3s,baz=30,slow=12,SNR=11						
FITZ				S	Sn	20 17 21.8	+1.1
	0.3nm,0.3s,baz=176,slow=18,SNR=6.7						
FITZ	Fitzroy Crossi	9.62	204	P	Pn	20 15 34.2	+0.5
	baz=15,SNR=10						
WRA	Warramunga Arr	11.48	158	P	Pn	20 15 58.5	-0.7
	0.1nm,0.3s,baz=331,slow=13,SNR=9.4						
WRA				S	Sn	20 18 05.2	-1.1
	0.2nm,0.3s,baz=336,slow=22,SNR=4.5						
ASAR	Alice Springs	14.84	165	P	Pn	20 16 43.3	-1.7
	0.0nm,0.3s,baz=337,slow=9.0,SNR=3.2						
MKAR	Makanchi Array	70.00	327	P	P	20 24 20.1	-5.7
	0.1nm,0.4s,baz=112,slow=7.8,SNR=4.8						

IDC 21 20:19:41.1±1.6, 3°.24N×126°.57E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=160.1km s-min=19.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.27	162	P	P	20 24 59.7	-0.5
	2.7nm,0.8s,baz=340,slow=11,SNR=18						
ASAR	Alice Springs	27.68	165	P	P	20 25 31.4	+0.3
	0.3nm,0.5s,baz=350,slow=7.3,SNR=9.0						
STKA	Stephens Creek	37.73	159	P	P	20 26 59.4	+0.6
	3.1nm,0.9s,baz=331,slow=11,SNR=4.2						
MKAR	Makanchi Array	57.87	325	P	P	20 29 34.6	-0.2
	0.1nm,0.5s,baz=117,slow=8.8,SNR=2.7						
KURBB	Kurchatov Arra	62.06	328	P	P	20 30 03.4	-0.2
	0.4nm,0.7s,baz=129,slow=7.1,SNR=5.3						

IDC 21 20:24:11.3±1.1, 55°.28S×128°.74W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, MS3.9/7, Ms1 3.8/7, ms1mx3.6/24, Error ellipse: s-maj=36.0km s-min=28.6km az=175.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	Rikitea	32.45	349	*e*LR	LR	20 39 10.6	
	320nm,32.0s						
RKT	Rikitea	32.45	349	*e*T	T	21 04 20.8	
	12nm,0.3s						
USHA	Ushuaia	33.60	115	LR	LR	20 40 15.7	
	comp=Z,247nm,21.4s,baz=243,slow=29						
QSPA	South Pole Qui	34.89	180	P	P	20 31 05.6	+1.3
	1.8nm,0.9s,baz=176,slow=2.7,SNR=2.6						
TBI	Tubuai	35.41	326	*e*LR	LR	20 40 25.9	
	235nm,29.5s,baz=158						
TBI	Tubuai	35.41	326	*e*T	T	21 08 16.7	
	65nm,0.3s						
PLCA	Paso Flores	40.33	94	LR	LR	20 44 29.2	
	comp=Z,88nm,20.5s,baz=102,slow=30						
PPT2	Papeete2	40.85	329	*e*S	S	20 38 03.4	-3.6
	59nm,25.0s						
PPT2				*e*LQ	LQ	20 41 24.4	
	766nm,36.4s						
PPT	Papeete	40.88	329	LR	LR	20 44 45.5	
	comp=Z,205nm,19.1s,baz=174,slow=30						
VNA2	Neumayer--Watz	47.41	158	*e*P	P	20 32 46.9	+0.1
VNA2	Neumayer--Watz	47.41	158	*e*I	P	20 32 50.1	+3.3
SNAA	Sanae	47.79	160	*e*P	P	20 32 49.8	0.0
SNAA	Sanae	47.79	160	*e*I	P	20 32 52.8	+3.0
SNAA	Sanae	47.79	160	P	P	20 32 48.3	-1.5
	0.7nm,1.1s,baz=58,slow=7.7,SNR=5.5						
MAW	Mawson	57.12	185	LR	LR	20 56 10.6	
	comp=Z,70nm,18.8s,baz=184,slow=34						
CPUP	Villa Florida	58.30	91	LR	LR	20 56 51.0	
	comp=Z,76nm,19.7s,baz=25,slow=34						
LPAZ	La Paz	60.12	75	P	P	20 34 21.2	-0.1
	2.1nm,0.9s,baz=203,slow=5.6,SNR=4.0						
ASAR	Alice Springs	74.92	250	P	P	20 35 54.5	+0.5
	0.9nm,0.8s,baz=142,slow=5.7,SNR=5.8						
WRA	Warramunga Arr	77.69	253	P	P	20 36 08.6	-1.3
	0.6nm,0.9s,baz=142,slow=5.1,SNR=3.2						
PFO	Pinyon Flat Ob	89.16	10	LR	LR	21 05 07.1	
	comp=Z,68nm,21.8s,baz=326,slow=28						
YBH	Yreka Blue Hor	96.78	5	LR	LR	21 11 46.4	
	comp=Z,64nm,21.3s,baz=192,slow=30						
SONM	Songino Array	145.73	281	PKPbc	PKPab	20 43 51.6	-0.1
	1.0nm,0.8s,baz=143,slow=3.4,SNR=8.1						

*IDC **21** 20:24:53.4±2.0, 5°.75S×130°.37E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=75.5km s-min=27.4km az=77.0*
*ISCJB **21** 20:25:08.9±0.8, 6°.49S±0°.05×129°.88E±0°.09, h146km, mb3.5/1, Error ellipse: s-maj=12.3km s-min=6.2km az=14.2*
*AUST **21** 20:25:12.0, 6°.48S×130°.54E, h200km*

**ISC 21 20:25:

8.6nm,0.3s
PKI Pulchoki 17.06 335 *e*P **P 20 40 29.0 +0.2**
PKIN Phulchoki 17.07 334 *e*P **P 20 40 29.4 +0.5**
DMN Daman 17.22 334 *e*P **P 20 40 30.6 +0.1**
KOLN Koldanda 18.05 330 *e*P **Pn 20 40 42.1 +1.7**
4.0nm,0.2s
PYUN Piuthan 18.62 329 *e*P **Pn 20 40 49.2 +2.0**
ZALV Zalesovo Beam 42.17 352 P **P 20 44 17.0 -1.6**
0.5nm,0.6s,baz=161,slow=9.2,SNR=2.8
WRA Warramunga Arr 51.31 128 P **P 20 45 30.2 -0.3**
0.4nm,0.9s,baz=309,slow=7.9,SNR=6.5
ASAR Alice Springs 53.19 132 P **P 20 45 44.7 +0.3**
0.2nm,0.4s,baz=310,slow=6.8,SNR=6.8

IDC 21 20:51:34.6±2.1, 8°.68S×129°.83E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.3/18, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=76.2km s-min=28.8km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.21**	**203**	Pn	Pn	20 54 02.4	-0.2
0.1nm,0.3s,baz=24,slow=12,SNR=15							
FITZ				Sn	Sn	20 55 49.3	-8.5
0.3nm,0.3s,baz=153,slow=20,SNR=7.5							
WRA	**Warramunga Arr**	**12.02**	**159**	Pn	Pn	20 54 27.0	-0.3
0.1nm,0.3s,baz=342,slow=12,SNR=10							
WRA				Sn	Sn	20 56 32.9	-9.3
0.1nm,0.3s,baz=336,slow=22,SNR=4.7							
ASAR	**Alice Springs**	**15.40**	**166**	Pn	Pn	20 55 14.1	+0.6
0.1nm,0.3s,baz=340,slow=8.7,SNR=4.9							
MKAR	**Makanchi Array**	**69.54**	**327**	P	P	21 02 45.3	0.0
0.1nm,0.4s,baz=131,slow=6.6,SNR=5.3							

NIED ***21*** *20:57:00, 22°.10N×120°.70E, h8km, Mw5.2 Best double couple: M₀7.59000×10¹⁶ NP1:φs20.00000°, δ74.00000°, λ-109.00000°. NP2:φs251.00000°, δ24.00000°, λ-42.00000°.*
BJI ***21*** *20:57:40.6, 22°.42N×120°.39E, h4km, mB4.9/35, mb4.6/45, ML4.8/8, Ms4.9/58, Ms7 4.7/48*
MOS ***21*** *20:57:43.2±0.9, 22°.29N×120°.58E, h33km, mb5.3/48, MS4.7/13, Error ellipse: s-maj=9.3km s-min=4.9km az=118.1*
ISCJB ***21*** *20:57:44.4±0.2, 22°.28N±0°.02×120°.48E±0°.02, h39km±2km, mb4.8/127, MS4.5/52, Error ellipse: s-maj=3.0km s-min=2.6km az=10.6*
TAP ***21*** *20:57:44.7, 22°.36N×120°.46E, h24km, ML5.1, B*
NEIC ***21*** *20:57:44.5±0.7, 22°.27N×120°.52E, h30km±5km, mb5.3/46, ML5.1(TAP), Error ellipse: s-maj=3.9km s-min=3.0km az=115.0*
NEIC Felt [IV] at Ch'i-shan and [III] at Kao-hsiung. Also felt at Kang-shan, P'ing-tung and T'ai-nan. Recorded [4 TAP] in Kao-hsiung; [3 TAP] in P'ing-tung and T'ai-nan; [2 TAP] in Chia-i, T'ai-tung and Yun-lin; [1 TAP] in Chang-hua, Nan-t'ou and P'eng-hu.
GCMT ***21*** *20:57:45.0±0.2, 22°.24N×120°.46E, h24km±1km, MW5.1, Moment Tensor Solution. s40,c48; s74,c120; Moment tensor: Scale 10¹⁶Nm; Mrr-1.32±.17; Mθθ-1.41±.10; Mφφ2.73±.13; Mrθ1.36±.17; Mθφ3.02±.09; Mφr-2.94±.23; Best double couple: M₀5.00000×10¹⁶ NP1:φs348.00000°, δ79.00000°, λ-137.00000°. NP2:φs248.00000°, δ48.00000°, λ-15.00000°. Principal axes: T 5.0200, Plg20.0000°, Azm111.0000°; N 0.0000, Plg46.0000°, Azm360.0000°; P -5.0200, Plg38.0000°, Azm217.0000°; Data Used: II IU IC G CN.*
IDC ***21*** *20:57:45.1±0.4, 22°.34N×120°.54E, h33km±2km, mb4.1/34, mb1 4.2/36, mb1mx4.2/40, mbtmp4.1/36, ML3.5/2, MS4.4/28, Ms1 4.4/28, ms1mx4.3/38 Error ellipse: s-maj=12.3km s-min=8.2km az=73.0*
JMA ***21*** *20:57:45.0±0.3, 22°.14N×120°.68E, h119km, M4.9*
SZGRF ***21*** *20:57:51.6, 24°.18N×120°.97E, h34km, mb5.1, Taiwan*
BKK ***21*** *20:57:51.1±0.8, 23°N±6°×12°0E±°, h78km±11km, M4.8/19, mB5.2/11, mb4.7/19, MLv5.3/1, Mw(mB)4.5/11, Mwp6.8/1*
DJA ***21*** *20:57:51.8±0.6, 23°N±10°×12°0E±°, h110km±15km, M4.8/15, mB5.2/10, mb4.7/15, MLv5.3/1, Mw(mB)4.6/10, Mwp6.5/1*
ISC 21 20:57:45.1±0.3, 22°.32N±0°.02×120°.49E±0°.02, h29km±1km, h28km:pP-P, n468, σ1°39/601, mb5.0/127, MS4.6/52, 19C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.12**	**281**	⇓*i*P	**Pb**	**20 57 50.1**	**-0.3**
baz=259							
SCZT	**Fangliau**	**0.13**	**69**	⇑*i*P	**Pb**	**20 57 50.1**	**-0.4**
baz=87							
SCZT				S	**Sb**	**20 57 54.9**	**+0.7**
baz=87							
KAU	**Kaohsiung**	**0.29**	**326**	⇓*i*P	**Pb**	**20 57 52.3**	**0.0**
baz=316							
TAW	**Tawu**	**0.38**	**85**	⇓*i*P	**Pn**	**20 57 54.1**	**-0.6**
baz=90							
TAW				*i*S	**Sn**	**20 58 01.3**	**+0.2**
baz=90							
HEN	**Hengchun**	**0.39**	**144**	⇓*i*P	**Pn**	**20 57 54.9**	**0.0**
baz=135							
SGLT	**Jiouru**	**0.40**	**1**	⇑*i*P	**Pn**	**20 57 54.4**	**-0.5**
baz=2.0							
SGLT				*e*S	**Sn**	**20 58 03.0**	**+1.5**
baz=2.0							
TWK1	**Hengchun**	**0.48**	**142**	⇓*i*P	**Pn**	**20 57 56.0**	**0.0**
baz=134							
TWK1				*e*S	**Sn**	**20 58 03.7**	**+0.2**
baz=134							
TWM1	**Shoushan**	**0.50**	**353**	⇑*i*P	**Pn**	**20 57 56.0**	**-0.3**
baz=355							
TSEB	**Hengchuen, Pin**	**0.57**	**138**	⇓*i*P	**Pb**	**20 57 57.0**	**+0.4**
baz=142							
TWG	**Pinlang**	**0.73**	**47**	⇓*i*P	**Pn**	**20 57 59.4**	**-0.1**
baz=43							
TWG				*e*S	**Sn**	**20 58 10.2**	**+0.4**
baz=43							
TWG	**Pinlang**	**0.73**	**47**	*e*Pg	**Pb**	**20 57 59.2**	**-0.2**
TWG				*e*Sg	**Sn**	**20 58 10.4**	**+0.6**
TTN	**Taitung**	**0.75**	**55**	⇓*i*P	**Pb**	**20 58 00.4**	**+0.9**
baz=56							
TTN				*e*S	**Sn**	**20 58 12.7**	**+2.7**
baz=56							
CHN3	**Shinhua**	**0.76**	**352**	*e*P	**Pn**	**20 57 59.5**	**-0.3**
baz=351							
CHN3				*e*S	**Sn**	**20 58 12.0**	**+1.6**
baz=351							
SGST	**Jiashian**	**0.76**	**7**	⇑P	**Pn**	**20 57 59.4**	**-0.5**
baz=6.0							
SGST				*e*S	**Sn**	**20 58 10.9**	**+0.4**
baz=6.0							
CHN1	**Nanshi**	**0.86**	**3**	⇑*i*P	**Pn**	**20 58 00.3**	**-1.0**
baz=360							
SCLT	**Jiali**	**0.89**	**342**	*e*P	**Pn**	**20 58 00.7**	**-1.0**
baz=341							
SCLT				*e*S	**Sb**	**20 58 14.1**	**+0.6**
baz=341							
TPUB	**Ta-pu**	**0.98**	**8**	*e*Pg	**Pn**	**20 58 01.7**	**-1.3**
LAY	**Lan-yu**	**1.03**	**106**	⇓*e*P	**Pn**	**20 58 02.6**	**-1.0**
baz=107							
LAY				*e*S	**Sn**	**20 58 16.6**	**-0.5**
baz=107							
CHKT	**Chengkung**	**1.12**	**46**	⇓*i*P	**Pn**	**20 58 05.1**	**+0.2**
baz=61							
CHKT				*e*S	**Sb**	**20 58 21.9**	**+1.8**
baz=61							
CHY	**Chiayi**	**1.17**	**357**	⇑P	**Pn**	**20 58 04.4**	**-1.1**
baz=355							
CHY				*e*S	**Sn**	**20 58 20.3**	**-0.3**
baz=355							
CHN2	**Minshiung**	**1.20**	**360**	*e*P	**Pn**	**20 58 05.1**	**-0.9**
baz=356							
CHN2				*e*S	**Sb**	**20 58 21.6**	**-0.9**
baz=356							
WDGT	**Dungji**	**1.20**	**321**	*e*P	**Pn**	**20 58 03.3**	**-2.7**
baz=335							
ALS	**Alishan**	**1.22**	**14**	*e*P	**Pn**	**20 58 05.9**	**-0.6**
baz=11							
ALS				*e*S	**Sb**	**20 58 23.9**	**+0.7**
baz=11							
YUS	**Yu-Shan**	**1.24**	**20**	*e*P	**Pn**	**20 58 06.8**	**-0.1**
baz=17							
YUS				*e*S	**Sb**	**20 58 24.4**	**+0.5**
baz=17							
TWF1	**Yuli**	**1.27**	**36**	⇓*e*P	**Pn**	**20 58 06.9**	**0.0**
baz=34							
TWF1				S	**Sb**	**20 58 24.3**	**0.0**
baz=34							
CHN5	**Tsauling**	**1.28**	**8**	⇑P	**Pn**	**20 58 06.0**	**-1.1**
baz=351							
YULB	**Yu-li**	**1.30**	**35**	*e*Pn	**Pn**	**20 58 06.9**	**-0.5**
WSF	**Szhu**	**1.33**	**350**	*e*P	**Pn**	**20 58 06.2**	**-1.5**
baz=347							
WSF				*e*S	**Sn**	**20 58 23.8**	**-0.7**
baz=347							
WGK	**Gukeng**	**1.36**	**3**	*e*P	**Pn**	**20 58 07.0**	**-1.1**
baz=359							
WGK				*e*S	**Sb**	**20 58 26.2**	**-0.7**
baz=359							
EHY	**Hungye**	**1.41**	**33**	⇓*i*P	**Pn**	**20 58 09.0**	**+0.2**
baz=30							
EHY				*e*S	**Sb**	**20 58 28.7**	**+0.4**
baz=30							
SSLB	**Suanglung**	**1.52**	**16**	*e*Pn	**Pn**	**20 58 09.4**	**-1.0**
WTCT	**Ta-ch'eng**	**1.54**	**353**	*e*P	**Pn**	**20 58 10.1**	**-0.6**
baz=2.0							
WTCT				*e*S	**Sn**	**20 58 29.4**	**-0.4**
baz=2.0							
WNT	**Mingjian**	**1.56**	**7**	*e*P	**Pn**	**20 58 09.9**	**-1.0**
baz=1.0							
SMLT	**Sun Moon Lake**	**1.60**	**14**	*e*P	**Pn**	**20 58 11.1**	**-0.4**
baz=8.0							
TYC	**Yuchr**	**1.61**	**12**	⇑P	**Pn**	**20 58 11.1**	**-0.5**
baz=7.0							
ESL	**Shilin**	**1.72**	**30**	*e*P	**Pn**	**20 58 13.0**	**-0.2**
baz=25							
TCU	**Taichung**	**1.82**	**5**	*e*P	**Pn**	**20 58 13.6**	**-0.9**
baz=360							
HWA	**Hwalien**	**1.94**	**32**	*e*P	**Pn**	**20 58 17.2**	**+1.1**
baz=26							
WHF	**Hehuan Shan**	**1.95**	**21**	⇑P	**Pn**	**20 58 16.8**	**+0.1**
baz=1.0							
WHF				*e*S	**Sn**	**20 58 42.0**	**+1.6**
baz=1.0							
TWT	**Tachien**	**2.02**	**18**	*e*P	**Pn**	**20 58 17.0**	**-0.5**
baz=11							
TWD	**Chiawan**	**2.02**	**30**	*e*P	**Pn**	**20 58 17.3**	**0.0**
baz=26							
TWD				*e*S	**Sn**	**20 58 41.8**	**+0.2**
baz=26							
TWQ1	**Liyutan**	**2.03**	**7**	*e*P	**Pn**	**20 58 17.0**	**-0.4**
baz=1.0							
NSY	**Sanyi**	**2.10**	**7**	*e*P	**Pn**	**20 58 17.9**	**-0.5**
NACB	**Ninganchiao**	**2.10**	**29**	*e*Pn	**Pn**	**20 58 17.2**	**-1.2**
NNS	**Nan Shan**	**2.26**	**21**	*e*P	**Pn**	**20 58 21.4**	**+0.7**
NSTT	**Nanjuang**	**2.34**	**12**	*e*P	**Pn**	**20 58 21.6**	**-0.1**
baz=354							
ENA	**Nanau**	**2.39**	**29**	*e*P	**Pn**	**20 58 21.9**	**-0.5**
baz=22							
NSK	**Sanguang**	**2.47**	**19**	*e*P	**Pn**	**20 58 23.6**	**0.0**
baz=11							
YHNB	**Yeheng**	**2.47**	**19**	*e*Pn	**Pn**	**20 58 23.3**	**-0.3**
HSN	**Hsinchu**	**2.51**	**10**	*e*P	**Pb**	**20 58 27.8**	**-1.6**
baz=3.0							
ENTT	**Nioudou**	**2.51**	**23**	⇓*e*P	**Pn**	**20 58 24.9**	**+0.9**
baz=2.0							
TWC	**Suao**	**2.60**	**29**	*e*P	**Pn**	**20 58 25.9**	**+0.7**
baz=24							
TWC				*e*S	**Sb**	**20 58 59.0**	**-3.5**
baz=24							
TWE	**Neicheng**	**2.62**	**24**	*e*P	**Pn**	**20 58 26.2**	**+0.7**
baz=33							
ILA	**Ilan**	**2.69**	**25**	*e*P	**Pn**	**20 58 28.1**	**+1.7**
baz=33							
NCU	**National Centr**	**2.71**	**14**	*e*P	**Pn**	**20 58 28.5**	**+1.8**
baz=355							
TATO	**Taipei**	**2.79**	**19**	*e*Pn	**Pn**	**20 58 27.6**	**-0.4**
TATO				*e*S	**Sb**	**20 59 11.5**	**+3.3**
KNM	**Kinmen**	**2.81**	**318**	*e*P	**Pn**	**20 58 27.2**	**-0.9**
baz=315							
TWA	**Mucha**	**2.83**	**21**	*e*P	**Pn**	**20 58 28.8**	**+0.4**
baz=359							
TAP	**Taipei**	**2.86**	**19**	*e*P	Pb	20 58 31.9	-3.6
baz=357							
TAP1	**Taipei**	**2.87**	**19**	*e*P	**Pn**	**20 58 28.9**	**0.0**
baz=357							
NWF	**Wu-fen Shan**	**2.98**	**23**	*e*P	**Pn**	**20 58 31.4**	**+0.8**
TWB1	**Santiao Chiao**	**3.01**	**27**	⇑*e*P	**Pn**	**20 58 32.7**	**+1.9**
baz=20							
TWY	**Chenhua**	**3.11**	**19**	*e*P	**Pn**	**20 58 31.6**	**-0.6**
baz=358							
QZH	**Quanzhou**	**3.13**	**327**	⇑*i*Pn	Pn	20 58 28.9	-3.6
QZH				Sn	**Sn**	**20 59 06.8**	**-2.2**
QZH				smax	smax		
comp=N,3μm,0.9s							
QZH				smax	smax		
comp=E,5μm,1.0s							
QZH				LR	LR		
comp=N,30μm,17.8s							
QZH				LR	LR		
comp=E,17μm,12.9s							
QZH				LR	LR		
comp=Z,17μm,10.3s							
YOJ	**Yonaguni jima**	**3.15**	**47**	⇑*i*P	**Pn**	**20 58 33.3**	**+0.6**
baz=46							
YOJ				*e*S	**Sn**	**20 59 09.6**	**+0.2**
baz=46							
YOJ	**Yonaguni jima**	**3.15**	**47**	P	**Pn**	**20 58 34.0**	**+1.2**
YOJ				S	**Sn**	**20 59 11.6**	**+2.2**
HATJ	**Hateruma jima**	**3.51**	**60**	P	**Pn**	**20 58 38.0**	**+0.3**
HATJ				*e*S	**Sn**	**20 59 18.7**	**+0.5**
IRIF	**Iriomote-Funau**	**3.59**	**55**	P	**Pn**	**20 58 39.1**	**+0.3**
IRIF				*e*S	**Sn**	**20 59 20.8**	**+0.5**
PCYT	**Pengchaiyu**	**3.60**	**23**	*e*P	**Pn**	**20 58 39.3**	**+0.4**
baz=2.0							
JKRS	**Kuro-shima**	**3.76**	**59**	P	**Pn**	**20 58 41.8**	**+0.7**
JKRS				S	**Sn**	**20 59 25.3**	**+0.9**
JIJ	**Ishigaki jima**	**3.93**	**58**	P	**Pn**	**20 58 43.2**	**-0.3**
JIJ				S	**Sn**	**20 59 28.6**	**0.0**
PIP	**Pasuquin**	**3.98**	**178**	⇓*i*P	**Pn**	**20 58 41.5**	**-2.7**
APYP	**Conner**	**4.50**	**171**	*e*P	**Pn**	**20 58 50.4**	**-1.0**
JTJ	**Tarama**	**4.50**	**58**	P	**Pn**	**20 58 51.3**	**-0.1**
JTJ				*e*S	**Sn**	**20 59 43.2**	**+0.3**
ABRA	**Dolores**	**4.66**	**177**	*e*P	**Pn**	**20 58 52.9**	**-0.6**
JMJ	**Miyako jima 2**	**5.06**	**60**	*e*P	**Pn**	**20 58 58.8**	**-0.3**
baz=58							
JMJ	**Miyako jima 2**	**5.06**	**60**	P	**Pn**	**20 58 59.3**	**+0.3**
JMJ				*e*S	**Sn**	**20 59 55.8**	**-0.7**
JOGS	**Gusukube**	**5.12**	**61**	P	**Pn**	**20 59 00.2**	**+0.3**
JOGS				*e*S	**Sn**	**20 59 56.9**	**-1.3**
CAUP	**Cauayan**	**5.50**	**167**	*e*P	Pn	20 59 10.9	+5.8
PALP	**Palanan**	**5.54**	**160**	*e*P	**Pn**	**20 59 06.1**	**+0.4**
BALP	**Baler**	**6.63**	**171**	*e*P	**Pn**	**20 59 22.4**	**+1.7**
GZH	**Guangzhou**	**6.64**	**278**	Pn	Pn	20 59 16.4	-4.3
GZH				smax	smax		
comp=N,1μm,1.1s							
GZH				smax	smax		
comp=E,830nm,1.3s							
JKE	**Kume jima 2**	**6.99**	**54**	P	**Pn**	**20 59 24.9**	**-0.7**
JKE				*e*S	**Sn**	**21 00 42.2**	**-2.0**
SSE	**Sheshan**	**8.76**	**4**	*e*P	Pn	20 59 45.5	-4.3
SSE				S	**Sn**	**21 01 25.1**	**-2.5**
SSE				pmax	pmax		
comp=Z,18nm,0.7s							
SSE				pmax	pmax		
comp=Z,32nm,5.4s							
SSE				smax	smax		
comp=N,180nm,1.3s							
SSE				smax	smax		
comp=E,200nm,1.2s							
SSE				LR	LR		
comp=N,3μm,15.9s							
SSE				LR	LR		
comp=E,2μm,15.9s							
SSE				LR	LR		
comp=Z,4μm,16.1s							
NJ2	**Nanjing**	**9.80**	**352**	*e*P	Pn	21 00 12.4	+8.3
NJ2				pP		21 00 17.3	
NJ2				sP		21 00 22.4	
NJ2				S	Sn	21 02 06.4	+13
NJ2				pmax	pmax		
comp=Z,17nm,0.7s							
NJ2				smax	smax		
comp=N,360nm,0.9s							
NJ2				smax	smax		
comp=E,280nm,1.4s							
NJ2				LR	LR		
comp=N,4μm,8.1s							
NJ2				LR	LR		
comp=E,4μm,10.3s							
NJ2				LR	LR		
comp=Z,3μm,12.5s							
WHN	**Wuhan**	**9.86**	**327**	⇓P	Pn	21 00 11.3	+6.4
WHN				S	Sn	21 02 15.1	+20
WHN				LR	LR		
comp=N,7μm,5.1s							
WHN				LR	LR		
comp=E,7μm,4.5s							
WHN				LR	LR		
comp=Z,9μm,17.5s							
QIZ	**Qiongzhong**	**10.49**	**254**	P	**Pn**	**21 00 13.0**	**-0.6**
QIZ				S	**Sn**	**21 02 10.8**	**+0.6**
QIZ				pmax	pmax		
comp=Z,97nm,7.4s							
QIZ				LR	LR		
comp=N,7μm,14.8s							
QIZ				LR	LR		
comp=E,1μm,14.8s							
QIZ				LR	LR		
comp=Z,4μm,18.6s							
QIZ	**Qiongzhong**	**10.49**	**254**	*e*Pn	**Pn**	**21 00 11.9**	**-1.7**
comp=Z,28nm,0.8s							
ENH	**Enshi**	**12.64**	**311**	*e*Pn	**Pn**	**21 00 44.0**	**+0.9**
comp=Z,19nm,1.1s							
GYA	**Guiyang**	**13.25**	**291**	P	**Pn**	**21 00 50.3**	**-1.2**
GYA				PP	**P**	**21 01 00.6**	**-0.4**
GYA				S	**Sn**	**21 03 16.8**	**-1.1**
GYA				SS	**SnSn**	**21 03 31.6**	**+1.4**
GYA				pmax	pmax		
comp=Z,20nm,0.8s							
GYA				pmax	pmax		
comp=Z,110nm,4.9s							
GYA				LR	LR		
comp=N,2μm,14.2s							
GYA				LR	LR		
comp=E,4μm,15.6s							
GYA				LR	LR		
comp=Z,6μm,16.3s							
JNU	**Nakatsue**	**14.14**	**38**	Pn	**Pn**	**21 01 04.0**	**+0.4**
JNU	**Nakatsue**	**14.14**	**38**	Pn	**Pn**	**21 01 04.0**	**+0.4**
comp=Z,0.2nm,0.3s,baz=8.2,slow=7.5,SNR=2.5							
TIA	**Tai'an**	**14.14**	**349**	⇑P	P	21 01 17.9	+7.1
TIA				S	**S**	**21 03 59.8**	**-0.1**
TIA				pmax	pmax		
comp=Z,30nm,1.3s							
TIA				LR	LR		
comp=N,2μm,14.2s							
TIA				LR	LR		
comp=E,2μm,6.4s							
TIA				LR	LR		
comp=Z,2μm,7.2s							
XAN	**Xi'an**	**15.48**	**321**	P	**Pn**	**21 01 20.3**	**-1.2**
XAN				S	**Sn**	**21 04 10.3**	**-1.9**
XAN				LR	LR		
comp=N,3μm,20.6s							
XAN				LR	LR		
comp=E,1μm,21.8s							
XAN				LR	LR		
comp=Z,1μm,15.7s							
PANO	**Nakornpanom**	**15.80**	**254**	P	**Pn**	**21 01 27.4**	**+1.7**
comp=Z,344nm,1.6s							
UBPT	**Khong Chiam**	**15.84**	**246**	P	**Pn**	**21 01 27.9**	**+1.7**
comp=Z,29nm,1.9s,comp=Z,932nm							
UBPT	**Khong Chiam**	**15.84**	**246**	P	**P**	**21 01 28.5**	**-1.2**
comp=Z,29nm,1.9s,comp=Z,932nm							
INCN	**Inchon**	**16.01**	**18**	Pn	**P**	**21 01 29.6**	**-1.9**
KSAR	**Wonju Array Be**	**16.36**	**21**	Pn	**Pn**	**21 01 32.6**	**-0.2**
KSRS	**Korea Array**	**16.39**	**21**	Pn	**Pn**	**21 01 32.6**	**-0.4**
comp=Z,0.2nm,0.3s,baz=204,slow=13,SNR=11							
KSRS				LR	LR	21 08 38.1	
comp=Z,2μm,19.4s,baz=205,slow=40							
KMI	**Kunming**	**16.49**	**283**	P	**Pn**	**21 01 34.9**	**+0.2**
KMI				pP	**P**	**21 01 37.0**	**-0.1**
KMI				sP	sP	21 01 38.1	-10
KMI				PP	**pP**	**21 01 49.1**	**+4.3**
KMI				S	**Sn**	**21 04 37.4**	**+0.4**
KMI				sS	S	21 04 40.6	-7.7
KMI				SS	**SnSn**	**21 04 57.3**	**+7.2**
KMI				pmax	pmax		
comp=Z,10.0nm,0.5s							
KMI				pmax	pmax		
comp=Z,88nm,3.1s							
KMI				LR	LR		
comp=N,4μm,11.0s							
KMI				LR	LR		
comp=E,5μm,11.7s							
KMI				LR	LR		
comp=Z,5μm,11.9s							
DL2	**Dalian**	**16.56**	**3**	P	**P**	**21 01 40.5**	**+3.0**
DL2				S	**S**	**21 04 49.3**	**+0.1**
DL2				pmax	pmax		
comp=Z,2μm,1.8s							
DL2				pmax	pmax		
comp=Z,170nm,3.0s							
DL2				LR	LR		
comp=N,2μm,15.6s							
DL2				LR	LR		
comp=E,1μm,12.6s							
DL2				LR	LR		
comp=Z,2μm,15.5s							
KKM	**Kota Kinabalu**	**16.70**	**195**	*e*Pn	**Pn**	**21 01 35.6**	**-1.7**
comp=Z,20nm,0.8s							
MYLDM	**Lahad Datu**	**17.15**	**187**	P	**P**	**21 01 46.7**	**+2.5**
comp=Z,42nm,1.6s,comp=Z,1μm							
CD2	**Chengdu**	**17.21**	**303**	*e*P	**Pn**	**21 01 43.5**	**-0.1**
CD2				pP	**P**	**21 01 47.3**	**+2.4**
CD2				sP	sP	21 01 51.0	-5.3
CD2				PP	**PnPn**	**21 01 58.3**	**+4.6**
CD2				S	**Sn**	**21 04 56.3**	**+2.0**
CD2				sS	**S**	**21 05 01.0**	**-1.8**
CD2				SS	**SnSn**	**21 05 15.3**	**+7.5**
CD2				pmax	pmax		
comp=Z,90nm,1.2s							
CD2				pmax	pmax		
comp=Z,330nm,4.2s							
CD2				LR	LR		
comp=N,8μm,13.2s							
CD2				LR	LR		
comp=E,5μm,13.0s							
CD2				LR	LR		
comp=Z,4μm,10.7s							
BJI	**Beijing**	**18.04**	**349**	P	**P**	**21 01 56.1**	**+2.2**
BJI				pmax	pmax		
comp=Z,17nm,1.0s							
BJI				pmax	pmax		
comp=Z,170nm,5.7s							
BJI				LR	LR		
comp=N,880nm,17.0s							
BJI				LR	LR		
comp=E,3μm,23.6s							
BJI				LR	LR		
comp=Z,540nm,16.3s							
CHAI	**Chaiyaphum**	**18.60**	**253**	P	**Pn**	**21 02 03.1**	**+2.4**
comp=Z,5.7nm,1.4s,comp=Z,106nm							
LOEI	**Loei**	**18.69**	**259**	P	**P**	**21 01 58.4**	**-2.9**
comp=Z,251nm,1.0s,comp=Z,7μm							
PBKT	**Sadao Pong**	**19.27**	**256**	P	**Pn**	**21 02 08.8**	**+0.1**
comp=Z,20nm,2.5s,comp=Z,948nm							
PBKT	**Sadao Pong**	**19.27**	**256**	P	**Pn**	**21 02 10.0**	**+1.3**
comp=Z,54nm,2.1s,comp=Z,952nm							
SNY	**Shenyang**	**19.62**	**7**	⇓P	Pn	21 02 20.3	+7.6
SNY				S	**S**	**21 05 49.4**	**-1.6**
SNY				pmax	pmax		
comp=Z,29nm,2.5s							
SNY				pmax	pmax		
comp=Z,430nm,2.9s							
SNY				LR	LR		
comp=N,1μm,22.2s							
SNY				LR	LR		
comp=E,2μm,18.6s							
SNY				LR	LR		
comp=Z,2μm,15.6s							
CHBT	**CHBT**	**19.74**	**244**	P	**Pn**	**21 02 18.5**	**+4.2**
CHBT	**CHBT**	**19.74**	**244**	P	**Pn**	**21 02 19.0**	**+4.7**
comp=Z,30nm,0.7s							
LAMP	**Lampang**	**19.90**	**263**	P	Pn	21 02 27.6	+11
LZH	**Lanzhou**	**19.94**	**317**	⇑P	**Pn**	**21 02 16.5**	**-0.2**
LZH				pP	**pP**	**21 02 21.3**	**-1.4**
LZH				sP	**sP**	**21 02 23.3**	**-3.1**
LZH				S	**Sn**	**21 05 59.4**	**-0.8**
LZH				sS	**S**	**21 06 02.3**	**+4.4**
LZH				SS	**SnSn**	**21 06 23.8**	**+9.0**
LZH				pmax	pmax		
comp=Z,66nm,1.1s							
LZH				pmax	pmax		
comp=Z,320nm,4.0s							

```
LZH                                LR    LR
      comp=N,7µm,14.3s
LZH                                LR    LR
      comp=E,2µm,13.7s
LZH                                LR    LR
      comp=Z,8µm,15.8s
HHC   Hu-ho-hao-te      19.95 340  eP    Pn      21 02 15.9 -0.9
HHC                                PP    PnPn    21 02 35.3 +4.0
HHC                                S     S       21 05 55.1 -2.9
HHC                                sS    Sn      21 06 01.3 +1.0
HHC                                SS    SnSn    21 06 23.3 +8.2
HHC                                PcP   PcP     21 06 31.6 +0.7
HHC                                ScP   ScP     21 10 06.5 +1.2
HHC                                pmax  pmax
      comp=Z,55nm,1.0s
HHC                                pmax  pmax
      comp=Z,420nm,4.3s
HHC                                LR    LR
      comp=N,5µm,14.9s
HHC                                LR    LR
      comp=E,1µm,15.7s
HHC                                LR    LR
      comp=Z,4µm,14.3s
CMAI  Chiengmai2        20.14 267  P     Pn      21 02 21.3 +2.0
      comp=Z,145nm,0.8s,comp=Z,11µm
BTO   Baotou            20.27 336  eP    Pn      21 02 30.8 +10
CMMT  Chiang Mai        20.46 264  P     P       21 02 21.5 +0.9
      comp=Z,27nm,2.0s,comp=Z,811nmcomp=Z,133µm
CMMT  Chiang Mai        20.46 264  P     P       21 02 21.5 +0.9
      comp=Z,35nm,1.1s,comp=Z,813nm
CHTO  Chiang Mai        20.47 264  eP    P       21 02 21.2 +0.5
CHTO                               pmax  pmax
      comp=Z,42nm,1.4s
CHTO  Chiang Mai        20.47 264  ePn   P       21 02 21.2 +0.5
      comp=Z,42nm,1.4s
CHTO  Chiang Mai        20.47 264  P     Pn      21 02 22.0 -0.9
      comp=Z,30nm,2.0s,comp=Z,681nm
CHTO  Chiang Mai        20.47 264  P     Pn      21 02 21.9 -1.0
      comp=Z,30nm,1.9s,comp=Z,681nm
CM31  Chiang Mai Arr    20.55 263  eP    P       21 02 22.2 +0.6
      comp=Z,4.3nm,0.6s
CMAR  Chiang Mai Arr    20.55 263  P     P       21 02 21.4 -0.2
CMAR                               PcP   PcP     21 06 31.1 -1.3
CMAR  Chiang Mai Arr    20.55 263  P     P       21 02 21.4 -0.2
      comp=Z,3.7nm,0.6s,baz=67,slow=9.0,SNR=24
CMAR                               PcP   PcP     21 06 31.1 -1.3
      comp=Z,0.8nm,0.4s,baz=27,slow=1.4,SNR=6.2
CMAR                               LR    LR      21 11 32.6
      comp=Z,2µm,18.3s,baz=79,slow=40
MAT   Matsushiro        20.90  43  P     P       21 02 25.0 -0.2
MAT                                S     S       21 06 16.4 -0.4
MJAR  Matsushiro Arr    20.90  43  P     P       21 02 25.3 0.0
MJAR  Matsushiro Arr    20.90  43  P     P       21 02 25.3 0.0
      comp=Z,17nm,0.8s,baz=231,slow=9.1,SNR=32
MJAR                               LR    LR      21 11 39.9
      comp=Z,819nm,19.9s,baz=220,slow=40
SBUM  Sibu              21.32 203  P     P       21 02 29.9 0.0
MRSI  Marisa            21.76 176  P     P       21 02 40.1 +5.5
      comp=Z,57nm,1.2s,comp=Z,780nm
CN2   Changchun         21.81  10  eP    P       21 02 45.4 +11
CN2                                PP    PnPn    21 03 09.3 +13
CN2                                eS    Sn      21 06 43.8 -1.0
CN2                                pmax  pmax
      comp=Z,20nm,0.9s
CN2                                pmax  pmax
      comp=Z,200nm,4.0s
CN2                                LR    LR
      comp=N,1µm,15.0s
CN2                                LR    LR
      comp=E,4µm,15.0s
CN2                                LR    LR
      comp=Z,4µm,15.0s
PHET  Kaeng Krachan     21.95 248  P     P       21 02 40.6 +4.0
      comp=Z,66nm,1.2s
TNTI  Ternate           22.45 162  P     P       21 02 48.5 +6.6
KSM   Kuching           22.97 207  eP    P       21 02 45.8 -1.6
      comp=Z,26nm,1.3s
KSM   Kuching           22.97 207  P     P       21 02 46.1 -1.3
LUWI  Luwuk             23.33 174  P     P       21 03 04.1 +13
MDJ   Mudanjiang        23.46  16  P     P       21 02 53.3 +1.1
MDJ                                pP    pP      21 02 56.3 -4.0
MDJ                                sP    sP      21 02 57.6 -6.3
MDJ                                PcP   PcP     21 06 38.5 +0.9
MDJ                                S     S       21 07 07.3 +3.5
MDJ                                ScP   ScP     21 10 16.6 +2.8
MDJ                                PcS   PcS     21 10 18.0 +1.2
MDJ                                ScS   ScS     21 14 03.1 +3.0
MDJ                                pmax  pmax
      comp=Z,6.0nm,1.0s
MDJ                                pmax  pmax
      comp=Z,110nm,4.7s
MDJ                                LR    LR
      comp=N,2µm,16.8s
MDJ                                LR    LR
      comp=E,2µm,15.6s
MDJ                                LR    LR
      comp=Z,3µm,16.0s
MDJ   Mudanjiang        23.46  16  P     P       21 02 51.6 -0.6
USRK  Ussuriysk Arra    23.80  21  P     P       21 02 55.2 -0.1
      comp=Z,2.4nm,0.6s,baz=232,slow=11,SNR=7.1
USRK                               LR    LR      21 12 45.9
      comp=Z,1µm,21.1s,baz=191,slow=38
STKI  Sintang           23.80 203  P     P       21 02 56.7 +1.1
      comp=Z,21nm,1.0s,comp=Z,4µm
LBMI  Labuha            23.83 162  P     P       21 02 57.2 +1.3
      comp=Z,172nm,1.9s,comp=Z,2µm
GTA   Gaotai            24.50 319  ||P   P       21 03 01.9 -0.2
GTA                                S     S       21 07 23.3 +2.4
GTA                                pmax  pmax
      comp=Z,21nm,1.5s
GTA                                pmax  pmax
      comp=Z,220nm,5.5s
GTA                                LR    LR
      comp=N,2µm,19.9s
GTA                                LR    LR
      comp=E,1µm,20.2s
GTA                                LR    LR
      comp=Z,2µm,18.1s
KRAB  Krabi             24.82 239  P     P       21 03 18.4 +13
MMSI  Mamuju            24.91 184  P     P       21 03 08.8 +3.0
      comp=Z,80nm,1.1s,comp=Z,1µm
SWI   Sorong            25.33 154  P     P       21 03 10.3 +0.7
      comp=Z,51nm,0.8s
IPM   Ipoh              25.88 230  eP    P       21 03 13.4 -1.2
      comp=Z,11nm,0.7s
IPM   Ipoh              25.88 230  P     P       21 03 14.1 -0.6
      comp=Z,35nm,1.2s
MYKOM Kota Tinggi       26.04 221  P     P       21 03 16.2 +0.1
      comp=Z,23nm,1.3s
BBKI  Banjar Baru       26.22 193  P     P       21 03 18.1 +0.5
      comp=Z,55nm,1.0s
SHL   Shillong          26.32 283  eP    P       21 03 18.0 -0.8
SHL                                eS    S       21 08 10.0 +20
HIA   Hailar            26.89 359  eP    P       21 03 22.7 -0.8
      comp=Z,19nm,1.3s
KAPI  Kappang           27.18 182  P     P       21 03 25.5 -0.8
KAPI  Kappang           27.18 182  P     P       21 03 25.5 -0.8
      comp=Z,7.1nm,0.6s,baz=23,slow=8.9,SNR=5.1
KAPI                               LR    LR      21 14 26.6
      comp=Z,314nm,21.7s,baz=129,slow=37
LSA   Lhasa             27.32 292  P     P       21 03 28.5 +0.4
LSA                                LR    LR
      comp=N,780nm,18.5s
LSA                                LR    LR
      comp=E,1µm,18.5s
LSA                                LR    LR
      comp=Z,2µm,18.5s
LSA   Lhasa             27.32 292  eP    P       21 03 29.0 +0.9
LSA                                pmax  pmax
      comp=Z,25nm,1.1s
LSA   Lhasa             27.32 292  eP    P       21 03 29.0 +0.9
      comp=Z,25nm,1.1s
SONM  Songino Array     27.85 339  P     P       21 03 31.7 -0.5
SONM                               pP    pP      21 03 41.9 +1.2
SONM  Songino Array     27.85 339  P     P       21 03 31.7 -0.5
      comp=Z,2.9nm,0.5s,baz=159,slow=9.7,SNR=28
SONM                               pP    pP      21 03 41.9 +1.2
      comp=Z,19nm,1.1s,baz=159,slow=8.7,SNR=32
SONM                               LR    LR      21 15 57.7
      comp=Z,707nm,20.7s,baz=150,slow=39
ASAJ  Asahikawa         28.38  35  P     P       21 03 36.4 -0.4
ASAJ  Asahikawa         28.38  35  P     P       21 03 36.4 -0.4
      comp=Z,5.5nm,0.7s,baz=318,slow=12,SNR=7.3
ASAJ                               LR    LR      21 15 59.4
      comp=Z,2µm,19.2s,baz=44,slow=39
PSI   Prapat            28.54 230  P     P       21 03 38.2 -0.5
PSI   Prapat            28.54 230  P     P       21 03 38.2 -0.5
      comp=Z,2.5nm,0.4s,baz=110,slow=12,SNR=3.7
PSI                                LR    LR      21 14 23.0
      comp=Z,1µm,21.3s,baz=24,slow=35
PPI   Padang Panjang    29.93 223  P     P       21 03 57.7 +6.8
YUK   Yuzh-Kuril'sk     30.12  38  P     P       21 03 52.7 +0.5
YUK                                S     S       21 08 53.4 +4.2
YUK                                MLR   MLR
      comp=Z,1µm,18.0s
YSS   Yuzh-Sakhalins    30.44  31  eP    P       21 03 51.0 -4.1
YSS                                e             21 04 05.4
YSS                                MLR   MLR
      comp=Z,700nm,16.0s
YSS                                MLR   MLR
      comp=E,800nm,18.0s
TLY   Talaya            32.08 340  eP    P       21 04 09.5 0.0
TLY                                eS    S       21 09 26.5 +6.7
TLY                                eSS   SS      21 11 38.3 +0.3
TLY                                pmax  pmax
      comp=Z,18nm,1.1s
TLY                                MLR   MLR
      comp=Z,1µm,17.0s
IRK   Irkutsk           32.38 341  eP    P       21 04 19.6 +7.5
IRK                                pmax  pmax
      comp=Z,35nm,1.3s
MOY   Mondy             32.95 338  eP    P       21 04 17.3 0.0
MOY                                pmax  pmax
      comp=Z,40nm,2.9s
WMQ   Urumqi            34.51 316  eP    P       21 04 31.1 +0.2
WMQ                                PP    PP      21 05 47.8 -1.5
WMQ                                S     S       21 09 58.1 +0.3
WMQ                                sS    sS      21 10 03.9 -7.9
WMQ                                SS    SnSn    21 12 08.9 -1.2
WMQ                                ScS   ScS     21 14 51.3 -0.3
WMQ                                pmax  pmax
      comp=Z,8.0nm,1.5s
WMQ                                pmax  pmax
      comp=Z,190nm,4.0s
WMQ                                LR    LR
      comp=N,960nm,15.0s
WMQ                                LR    LR
      comp=E,1µm,13.0s
WMQ                                LR    LR
      comp=Z,570nm,20.0s
MK31  Makanchi Array    39.25 318  eP    P       21 05 10.9 -0.2
MK31  Makanchi Array    39.25 318  eP    P       21 05 10.8 -0.2
MKAR  Makanchi Array    39.25 318  i P   P       21 05 11.0 -0.1
MKAR                               pmax  pmax
      comp=Z,6.0nm,0.6s
MKAR  Makanchi Array    39.25 318  P     P       21 05 11.0 -0.1
MKAR                               PcP   PcP     21 07 19.3 -0.4
MKAR                               pPcP            21 07 29.9
MKAR  Makanchi Array    39.25 318  P     P       21 05 11.0 -0.1
      comp=Z,6.1nm,0.6s,baz=114,slow=9.5,SNR=88
MKAR                               PcP   PcP     21 07 19.3 -0.4
      comp=Z,0.6nm,0.7s,baz=66,slow=4.9,SNR=2.1
MKAR                               pPcP            21 07 29.9
      comp=Z,4.7nm,1.0s,baz=114,slow=5.4,SNR=4.3
MKAR                               LR    LR      21 23 04.7
      comp=Z,907nm,18.6s,baz=214,slow=39
KRAR  Krasnoyarsk       39.35 336  eP    P       21 05 11.9 +0.2
KRAR                               pmax  pmax
      comp=Z,13nm,1.3s
YAK   Yakutsk           40.18   7  eP    P       21 05 16.4 -2.1
YAK                                e*PP  pP      21 05 26.8 -0.3
YAK                                eS    S       21 11 22.0 -1.3
YAK                                e             21 15 24.6
YAK                                pmax  pmax
      comp=Z,6.0nm,0.9s
YAK                                pmax  pmax
      comp=E,2.0nm,1.0s
YAK                                pmax  pmax
      comp=N,3.0nm,1.2s
YAK                                smax  smax
      comp=N,52nm,2.2s
YAK                                smax  smax
      comp=E,60nm,2.5s
YAK                                MLR   MLR
      comp=Z,2µm,20.0s
YAK                                MLR   MLR
      comp=N,2µm,20.0s
YAK                                MLR   MLR
      comp=E,232nm,20.0s
FITZ  Fitzroy Crossi    40.49 172  P     P       21 05 20.9 -0.7
FITZ  Fitzroy Crossi    40.49 172  P     P       21 05 20.9 -0.7
      comp=E,1.7nm,0.5s,baz=4.2,slow=9.6,SNR=13
KSH   Kashi             41.40 305  P     P       21 05 31.9 +2.8
KSH                                sP    sP      21 05 40.9 -0.3
KSH                                PP    PnPn    21 07 11.9 +2.2
KSH                                S     S       21 11 46.9 +4.5
KSH                                sS    sS      21 11 56.8 +0.2
KSH                                SS    SS      21 14 47.9 +1.0
KSH                                pmax  pmax
      comp=Z,8.0nm,0.8s
KSH                                pmax  pmax
      comp=Z,110nm,4.3s
KSH                                LR    LR
      comp=N,430nm,13.4s
KSH                                LR    LR
      comp=E,1µm,19.7s
KSH                                LR    LR
      comp=Z,630nm,17.6s
ZAA0  Zalesovo Array    41.47 329  eP    P       21 05 28.4 -0.9
ZALV  Zalesovo Beam     41.47 329  i P   P       21 05 28.5 -0.8
ZALV                               pmax  pmax
      comp=Z,4.0nm,0.5s
ZALV  Zalesovo Beam     41.47 329  P     P       21 05 28.5 -0.8
ZALV                               pP    pP      21 05 38.4 +0.5
ZALV                               PcP   PcP     21 07 25.8 -0.9
ZALV                               pPcP            21 07 37.1
ZALV  Zalesovo Beam     41.47 329  P     P       21 05 28.5 -0.8
      comp=Z,4.1nm,0.5s,baz=119,slow=7.8,SNR=20
ZALV                               pP    pP      21 05 38.4 +0.5
      comp=Z,22nm,1.0s,baz=111,slow=8.1,SNR=17
ZALV                               PcP   PcP     21 07 25.8 -0.9
      comp=Z,0.9nm,0.5s,baz=72,slow=4.7,SNR=2.5
ZALV                               pPcP            21 07 37.1
      comp=Z,4.6nm,1.0s,baz=123,slow=5.3,SNR=3.5
ZALV                               LR    LR      21 24 22.5
      comp=Z,496nm,18.6s,baz=249,slow=38
PETK  Petropavlovsk-    41.77  33  P     P       21 05 30.7 -1.1
PETK  Petropavlovsk-    41.77  33  P     P       21 05 30.7 -1.1
PETK  Petropavlovsk-    41.77  33  P     P       21 05 30.7 -1.1
      comp=Z,0.9nm,0.4s,baz=234,slow=5.0,SNR=2.1
PETK                               LR    LR      21 23 22.0
      comp=Z,795nm,20.3s,baz=219,slow=37
COEN  Coen              42.37 146  eP    P       21 05 35.4 -1.6
      comp=Z,166nm,0.7s
TKM2  Tokmak 2          42.43 310  eP    P       21 05 37.6 0.0
TKM2                               pmax  pmax
      comp=Z,17nm,0.9s
TKM2  Tokmak 2          42.43 310  eP    P       21 05 37.6 0.0
      comp=Z,17nm,0.9s
NVS   Novosibirsk       42.74 329  eP    P       21 05 39.3 -0.3
NVS                                eS    S       21 12 00.4 -1.1
NVS                                pmax  pmax
      comp=N,14nm,1.5s
NVS                                pmax  pmax
      comp=Z,29nm,1.5s
NVS                                pmax  pmax
      comp=E,19nm,1.4s
NVS                                smax  smax
      comp=E,27nm,2.5s
FRU   Bishkek           43.10 309  eP    P       21 05 51.0 +8.1
FRU                                pmax  pmax
      comp=Z,33nm,1.2s
FRU                                MLR   MLR
      comp=Z,1µm,21.0s
KURK  Kurchatov         43.12 322  P     P       21 05 42.8 0.0
KURK                               *PP   pP      21 05 52.7 +1.3
KURK  Kurchatov         43.12 322  P     P       21 05 42.8 0.0
KURK                               pP    pP      21 05 52.7 +1.3
KURBB Kurchatov Arra    43.13 321  P     P       21 05 42.8 -0.1
      comp=Z,3.4nm,0.8s,baz=122,slow=7.6,SNR=43
KURBB                              pP    pP      21 05 52.7 +1.2
      comp=Z,16nm,1.0s,baz=123,slow=7.2,SNR=26
AAK   Ala-Archa         43.15 309  d iP  P       21 05 43.8 +0.4
AAK                                pmax  pmax
      comp=Z,14nm,1.2s
AAK   Ala-Archa         43.15 309  P     P       21 05 42.6 -0.7
AAK                                pP    pP      21 05 53.5 +1.5
AAK                                e             21 05 53.6
AAK   Ala-Archa         43.15 309  P     P       21 05 42.6 -0.7
      comp=Z,2.0nm,0.6s,baz=198,slow=1.3,SNR=5.7
AAK                                pP    pP      21 05 53.5 +1.5
      comp=Z,4.7nm,0.7s,baz=83,slow=4.7,SNR=5.0
EKS2  Erkin-Say         43.67 309  eP    P       21 05 47.7 +0.2
EKS2                               e             21 05 57.9
EKS2                               pmax  pmax
      comp=Z,4.0nm,1.0s
EKS2  Erkin-Say         43.67 309  eP    P       21 05 47.7 +0.2
      comp=Z,3.6nm,1.0s
EKS2                               e             21 05 57.9
WRAB  Tennant Creek     44.13 161  eP    P       21 05 49.6 -1.6
WRAB                               e             21 05 59.5
WRAB                               pmax  pmax
      comp=Z,27nm,1.0s
WRAB  Tennant Creek     44.13 161  eP    P       21 05 49.5 -1.6
      comp=Z,27nm,1.0s
WRAB                               e             21 05 59.5
WRA   Warramunga Arr    44.13 161  P     P       21 05 49.8 -1.4
WRA                                S     S       21 12 23.1 +0.6
WRA   Warramunga Arr    44.13 161  P     P       21 05 49.8 -1.4
      comp=Z,13nm,0.8s,baz=344,slow=8.8,SNR=95
WRA                                S     S       21 12 23.1 +0.6
      comp=Z,1.2nm,0.8s,baz=346,slow=14,SNR=4.9
SEY   Seymchan          45.94  20  eP    P       21 06 04.4 -0.7
KKAR  Karatay Array     46.11 309  eP    P       21 06 07.0 +0.2
KKAR                               e             21 06 17.3
KKAR                               pmax  pmax
      comp=Z,18nm,0.9s
KKAR  Karatay Array     46.11 309  eP    P       21 06 07.0 +0.2
      comp=Z,18nm,0.9s
KKAR                               e             21 06 17.3
KBL   Kabul             46.40 297  eP    P       21 06 10.0 +0.5
KBL                                pmax  pmax
      comp=Z,13nm,1.1s
KBL   Kabul             46.40 297  eP    P       21 06 09.9 +0.5
      comp=Z,13nm,1.1s
AS31  Alice Springs     47.54 163  eP    P       21 06 17.1 -1.0
ASAR  Alice Springs     47.54 163  P     P       21 06 17.1 -1.0
ASAR                               S     S       21 13 13.1 +1.6
ASAR  Alice Springs     47.54 163  P     P       21 06 17.1 -1.0
      comp=Z,3.3nm,0.4s,baz=349,slow=8.3,SNR=57
ASAR                               S     S       21 13 13.1 +1.6
      comp=Z,0.7nm,0.9s,baz=0.8,slow=27,SNR=5.1
ASAR                               LR    LR      21 28 23.3
      comp=Z,193nm,19.7s,baz=348,slow=39
BVAR  Borovoye Array    48.72 322  P     P       21 06 26.8 -0.1
BVAR                               *PP   pP      21 06 36.9 +1.3
BVAR  Borovoye Array    48.72 322  P     P       21 06 26.8 -0.1
BVAR                               pP    pP      21 06 36.9 +1.3
BVAR                               pPcP            21 08 01.1
BVAR  Borovoye Array    48.72 322  P     P       21 06 26.8 -0.1
      comp=Z,2.1nm,0.5s,baz=103,slow=8.8,SNR=21
BVAR                               pP    pP      21 06 36.9 +1.3
      comp=Z,17nm,1.1s,baz=113,slow=12,SNR=19
BVAR                               pPcP            21 08 01.1
      comp=Z,5.5nm,0.9s,baz=100,slow=4.5,SNR=6.5
BRVK  Borovoye          48.79 322  d iP  P       21 06 27.4 0.0
BRVK                               pmax  pmax
      comp=Z,23nm,1.2s
BRVK  Borovoye          48.79 322  eP    P       21 06 26.9 -0.5
      comp=Z,58nm,1.1s
BRVK                               e             21 06 37.6
CTA   Charters Tower    49.09 147  P     P       21 06 29.1 -1.0
CTA   Charters Tower    49.09 147  P     P       21 06 29.1 -1.0
      comp=Z,2.8nm,0.6s,baz=322,slow=11,SNR=5.3
CTAO  Charters Tower    49.09 147  eP    P       21 06 28.0 -2.1
CTAO  Charters Tower    49.09 147  eP    P       21 06 28.0 -2.1
TIXI  Tiksi             49.58   3  eP    P       21 06 31.5 -1.7
TIXI                               pmax  pmax
      comp=Z,29nm,1.7s
FX1   Attu Island--F    50.16  39  eP    P       21 06 36.5 -1.4
ABKAR Akbulak array     54.29 315  eP    P       21 07 08.6 -0.1
      comp=Z,24nm,1.1s
ABKAR                              e             21 07 18.9
SVE   Sverdlovsk        55.17 325  eP    P       21 07 15.2 +0.3
SVE                                ePPP  PPP     21 10 28.3
SVE                                eS    S       21 15 05.3 +9.2
SVE                                pmax  pmax
      comp=Z,54nm,1.4s
SVE                                MLR   MLR
      comp=Z,691nm,14.0s
AKTO  Aktyubinsk        55.66 317  P     P       21 07 18.4 -0.2
AKTO                               *PP   pP      21 07 28.9 +1.5
AKTO  Aktyubinsk        55.66 317  P     P       21 07 18.4 -0.2
AKTO                               pP    pP      21 07 28.9 +1.5
AKTO  Aktyubinsk        55.66 317  P     P       21 07 18.4 -0.2
      comp=Z,2.3nm,0.5s,baz=94,slow=18,SNR=12
AKTO                               pP    pP      21 07 28.9 +1.5
      comp=Z,14nm,0.9s,baz=86,slow=8.9,SNR=14
AKTO                               LR    LR      21 31 27.5
      comp=Z,568nm,21.1s,baz=100,slow=36
ARU   Arti              56.21 324  d iP  P       21 07 21.9 -0.5
ARU                                            21 08 16.5
ARU                                            21 09 26.0
ARU                                PPP   PPP     21 10 40.7
ARU                                S     S       21 15 12.0 +2.0
ARU                                pmax  pmax
      comp=Z,41nm,1.7s
ARU                                MLR   MLR
      comp=Z,471nm,23.0s
ARU   Arti              56.21 324  P     P       21 07 22.5 +0.1
      comp=Z,79nm,0.8s,SNR=9.5
STKA  Stephens Creek    57.56 159  eP    P       21 07 31.5 -0.6
      comp=Z,2.6nm,1.0s
STKA  Stephens Creek    57.56 159  P     P       21 07 31.5 -0.6
      comp=Z,3.7nm,0.6s,baz=327,slow=6.3,SNR=18
DZM   Mont Dzumac       62.87 131  eLR   LR      21 26 43.9
      comp=Z,535nm,20.9s
MAK   Makhachkala       62.91 308  eP    P       21 08 05.4 -3.4
MAK                                e             21 08 53.9
MAK                                e             21 10 28.3
MAK                                ePPP  PPP     21 12 04.5
MAK                                eS    S       21 16 30.8 -6.0
MAK                                e             21 18 02.2
MAK                                pmax  pmax
      comp=Z,83nm,1.1s
MAK                                MLR   MLR
      comp=Z,761nm,18.0s
ZEI   Tsey              65.56 308  eP    P       21 08 24.6 -1.9
ZEI                                pmax  pmax
      comp=Z,30nm,1.4s
VRHR  Novokhopersk      66.05 317  eP    P       21 08 27.9 -1.3
VRHR                               e*SP  sP      21 08 38.5 -3.1
VRHR                               pmax  pmax
      comp=N,10.0nm,0.7s
VRHR                               pmax  pmax
      comp=E,30nm,0.7s
VRHR                               pmax  pmax
      comp=Z,10.0nm,0.7s
KBZ   Khabaz            66.15 309  P     P       21 08 29.7 -0.2
KBZ                                *PP   pP      21 08 40.0 +1.1
KBZ   Khabaz            66.15 309  P     P       21 08 29.6 -0.2
KBZ                                pP    pP      21 08 40.0 +1.1
KBZ   Khabaz            66.15 309  P     P       21 08 29.6 -0.2
      comp=Z,2.7nm,0.8s,baz=58,slow=11,SNR=4.8
KBZ                                pP    pP      21 08 40.0 +1.1
      comp=Z,16nm,1.0s,baz=132,slow=4.0,SNR=17
KBZ                                LR    LR      21 42 09.0
      comp=Z,440nm,18.1s,baz=249,slow=40
KIV   Kislovodsk        66.26 310  deP   P       21 08 30.1 -0.7
KIV                                i *PP pP      21 08 40.3 +0.5
KIV                                e             21 17 39.6
KIV                                pmax  pmax
      comp=Z,13nm,1.2s
KIV                                MLR   MLR
      comp=Z,300nm,17.0s
TMCR  Tamitsa           66.87 332  eP    P       21 08 33.7 -0.5
TMCR                               e             21 09 01.3
TMCR                               pmax  pmax
      comp=Z,21nm,0.4s
VORD  Divnogorie        67.53 317  eP    P       21 08 36.5 -2.1
VORD                               e*SP  sP      21 08 47.3 -3.7
VORD                               pmax  pmax
      comp=Z,5.0nm,0.4s
VORD                               pmax  pmax
      comp=N,30nm,0.6s
VORD                               pmax  pmax
      comp=E,30nm,0.9s
VSR   Storozhevoye      67.57 318  eP    P       21 08 37.8 -1.1
VSR                                e*SP  sP      21 08 48.4 -2.9
MOS   Moscow            67.88 323  eP    P       21 08 49.6 +8.9
MOS                                e             21 09 01.7
MOS                                pmax  pmax
      comp=Z,67nm,1.4s
IM04  Indian Mountai    68.11  26  eP    P       21 08 42.0 -0.1
IM04                               e             21 08 51.5
IMA2  Indian Mountai    68.14  26  eP    P       21 08 42.2 -0.2
```

IMA2 *e* 21 08 52.0
SOC Sochi 68.45 310 *e*P **P** **21 08 42.4 -2.1**
SOC *e*PPP PPP 21 12 48.8
SOC *e*S **S** **21 17 41.5 -3.0**
SOC pmax pmax
comp=Z,46nm,0.8s
SOC MLR MLR
comp=Z,427nm,20.0s
APA Apatity 68.48 336⇑ *i*P P 21 08 54.2 +10
APA pmax pmax
comp=Z,36nm,1.2s
APA MLR MLR
comp=Z,400nm,23.0s
OBN Obninsk 68.56 322 *c*e*P* **P** **21 08 44.1 -0.9**
OBN *i* *PP **pP** **21 08 53.6 -0.4**
OBN *e* 21 09 02.7
OBN *i* 21 09 06.9
OBN *e* 21 18 12.3
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,200nm,15.0s
PPLA Purkeypile 69.18 29 *e*P **P** **21 08 48.3 -0.6**
comp=Z,12nm,0.6s
COLD Coldfoot 69.38 25 *e*P **P** **21 08 50.0 +0.1**
comp=Z,13nm,1.2s
COLD *e* 21 08 59.4
KDAK Kodiak Island 69.79 35 P **P** **21 08 51.0 -1.5**
KDAK Kodiak Island 69.79 35 P **P** **21 08 51.0 -1.5**
comp=Z,4.8nm,0.6s,baz=183,slow=6.0,SNR=7.4
ANN Anapa 69.82 311 *e*P P 21 08 40.1 -13
ANN pmax pmax
comp=Z,39nm,0.8s
ANN MLR MLR
comp=N,184nm,21.0s
ANN MLR MLR
comp=E,220nm,21.0s
ANN MLR MLR
comp=Z,609nm,21.0s
TRF Thorofare Moun 69.94 29 *e*P **P** **21 08 52.4 -1.3**
comp=Z,8.1nm,0.9s
JOF Joensuu 70.01 331 *e*P **P** **21 08 52.9 -0.9**
JOF pmax pmax
comp=Z,31nm,1.0s
JOF Joensuu 70.01 331 *e*p **P** **21 08 52.9 -0.9**
comp=Z,31nm,1.0s
MCK McKinley 70.48 28 *e*P **P** **21 08 56.1 -0.7**
MCK *e* 21 09 06.0
MCK pmax pmax
comp=Z,5.0nm,0.9s
MCK McKinley 70.48 28 *e*P **P** **21 08 56.1 -0.7**
comp=Z,4.6nm,0.9s
MCK *e* 21 09 06.0
ARCES ARCESS Array B 71.02 338 P **P** **21 08 59.8 -0.1**
ARCES ARCESS Array B 71.02 338 P **P** **21 08 59.8 -0.1**
comp=Z,1.8nm,0.7s,baz=67,slow=7.1,SNR=4.7
ARCES LR LR 21 46 07.8
comp=Z,197nm,19.6s,baz=176,slow=41
SML Sawmill 71.14 30 *e*P **P** **21 08 59.1 -1.7**
SML *e* 21 09 09.4
SML Sawmill 71.14 30 *e*P **P** **21 08 59.1 -1.7**
comp=Z,1.1nm,0.7s
SML *e* 21 09 09.4
ILAR Eielson Array 71.15 27 P **P** **21 08 59.6 -1.2**
ILAR Eielson Array 71.15 27 P **P** **21 08 59.6 -1.2**
comp=Z,1.2nm,0.6s,baz=297,slow=6.8,SNR=14
ILAR LR LR 21 43 59.4
comp=Z,224nm,18.5s,baz=295,slow=39
PAX Paxson 72.17 29 *e*P **P** **21 09 06.6 -0.5**
PAX pmax pmax
comp=Z,13nm,1.3s
PAX Paxson 72.17 29 *e*P **P** **21 09 06.6 -0.5**
comp=Z,13nm,1.3s
DRWC Darouich 72.27 303 *e*P P 21 09 05.0 -3.2
KAF Kangasniemi 72.45 331 *e*P **P** **21 09 06.8 -1.8**
KAF pmax pmax
comp=Z,21nm,0.9s
KAF Kangasniemi 72.45 331 *e*p **P** **21 09 06.8 -1.8**
comp=Z,21nm,0.9s
BTCH Batrach 72.58 302 *e*P **P** **21 09 08.4 -1.6**
ZALF Zalf 72.71 299 *e*P **P** **21 09 10.8 0.0**
FIA1 FINESS Array S 72.72 330 P **P** **21 09 09.7 -0.5**
FIA1 *e* 21 09 19.6
FINES FINESS Array B 72.72 330 P **P** **21 09 09.6 -0.7**
FINES pP **pP** **21 09 20.2 +0.9**
FINES FINESS Array B 72.72 330 P **P** **21 09 09.6 -0.7**
comp=Z,3.9nm,0.8s,baz=69,slow=6.3,SNR=14
FINES pP **pP** **21 09 20.2 +0.9**
comp=Z,21nm,0.8s,baz=92,slow=5.9,SNR=19
FINES LR LR 21 43 38.2
comp=Z,288nm,20.0s,baz=75,slow=38
MENT Mentasta 72.96 28 *e*P **P** **21 09 11.8 +0.2**
MENT *e* 21 09 21.5
HAWK Haweek 73.03 301 *e*P **P** **21 09 12.4 -0.3**
MARH Ras Al Marh 73.10 300 *e*P **P** **21 09 13.6 +0.2**
BR131 Keskin Array S 73.76 307 *e*P **P** **21 09 16.5 -0.5**
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 73.76 307 P **P** **21 09 16.9 -0.1**
BRTR pP **pP** **21 09 26.8 +0.6**
BRTR Keskin Array B 73.76 307 P **P** **21 09 16.9 -0.1**
comp=Z,1.1nm,0.6s,baz=97,slow=4.6,SNR=8.1
BRTR pP **pP** **21 09 26.8 +0.6**
comp=Z,5.1nm,1.0s,baz=104,slow=5.2,SNR=12
BRTR LR LR 21 47 53.6
comp=Z,122nm,19.0s,baz=260,slow=41
AKASG Malin Array Be 73.83 319 *c*e*P* **P** **21 09 15.8 -1.2**
AKASG Malin Array Be 73.83 319 P **P** **21 09 15.9 -1.0**
AKASG pP **pP** **21 09 26.1 +0.1**
AKASG Malin Array Be 73.83 319 P **P** **21 09 15.9 -1.0**
comp=Z,0.7nm,0.4s,baz=72,slow=4.1,SNR=5.9
AKASG pP **pP** **21 09 26.1 +0.1**
comp=Z,7.7nm,0.8s,baz=59,slow=6.2,SNR=6.6
NACGM Naroch 74.11 323 *e* P 21 09 26.0 +7.4
DAWY Dawson 74.48 27 *e*P **P** **21 09 19.8 -0.8**
KIS Kishinev 75.11 315 *e*P **P** **21 09 24.0 -0.5**
KIS LRM MLR 21 44 20.0
comp=Z,300nm,24.0s
INK Inuvik 75.18 22 *e*P **P** **21 09 23.5 -1.0**
comp=Z,4.7nm,1.2s
INK *e* 21 09 32.4
INK pP **pP** **21 09 33.3 -0.3**
INK Inuvik 75.18 22 P **P** **21 09 23.6 -0.9**
comp=Z,3.8nm,0.8s,baz=321,slow=5.6,SNR=5.1
INK pP **pP** **21 09 33.3 -0.3**
comp=Z,13nm,0.9s,baz=286,slow=7.1,SNR=10
AFI Afiamalu 75.50 112 LR LR 21 38 46.2
comp=Z,199nm,20.9s,baz=40,slow=33
SUW Suwalki 76.39 323 P **P** **21 09 30.7 -0.9**
SUW *e* 21 09 41.3
SUW pmax pmax
comp=Z,73nm,0.9s
SUW Suwalki 76.39 323 P **P** **21 09 30.7 -0.9**
comp=Z,74nm,0.9s
SUW *e* 21 09 41.3
SUW Suwalki 76.39 323 *e*P **P** **21 09 31.4 -0.2**
SUW *e*pP **pP** **21 09 41.2 +0.4**
HYT Haines Junctio 76.42 30 *e*P **P** **21 09 31.5 -0.4**
HYT *e* 21 09 42.1
KWP Kalwaria Pacla 78.14 319 *e*P **P** **21 09 41.6 -0.1**
KWP *e* 21 09 51.5
KWP pmax pmax
comp=Z,75nm,1.4s
KWP Kalwaria Pacla 78.14 319 *e*P **P** **21 09 41.6 -0.1**
comp=Z,75nm,1.4s
KWP *e* 21 09 51.5
KWP Kalwaria Pacla 78.14 319 *e*P **P** **21 09 42.0 +0.4**
KWP *e*pP **pP** **21 09 52.0 +1.2**
RAO Raoul Island 78.39 128 LR LR 21 41 08.0
comp=Z,141nm,19.2s,baz=325,slow=33
UZH Uzhgorod 78.75 318 *e*P **P** **21 09 42.4 -2.6**
UZH *i* 21 09 55.4
STHS Stebnicka Huta 79.11 319 *e*P P 21 09 57.2 +10
STHS Stebnicka Huta 79.11 319 *e*pP pP 21 09 57.2 +1.0
CRVS Cervenica-Dubn 79.17 318 *e*P **P** **21 09 47.5 +0.2**
CRVS *e* 21 09 58.5
CRVS Cervenica-Dubn 79.17 318 *e*P **P** **21 09 47.5 +0.2**
CRVS *e*pP **pP** **21 09 58.5 +2.0**
NB2 NORSAR Subarra 79.56 332 P **P** **21 09 48.7 -0.5**
comp=Z,18nm,1.1s,baz=61,slow=5.9
NB2 NORSAR Subarra 79.56 332 P **P** **21 09 48.7 -0.5**
baz=61,slow=5.9
NOA NORSAR Array B 79.56 332 P **P** **21 09 48.0 -1.3**
NOA pP **pP** **21 09 58.7 +0.3**
NOA NORSAR Array B 79.56 332 P **P** **21 09 48.0 -1.3**
comp=Z,1.0nm,0.7s,baz=62,slow=5.3,SNR=3.3
NOA pP **pP** **21 09 58.7 +0.3**
comp=Z,9.5nm,1.0s,baz=61,slow=5.5,SNR=15
NOA LR LR 21 50 38.7
comp=Z,250nm,19.2s,baz=60,slow=40
NIE Niedzica 79.68 319 *e*P **P** **21 09 52.2 +2.1**
OJC Ojcow 79.68 320 *e*P P 21 10 00.4 +10
KECS Kecovo 79.92 318 *e*P **P** **21 09 50.4 -1.0**
KECS *e* 21 10 02.2
KECS Kecovo 79.92 318 *e*P **P** **21 09 50.4 -1.0**
KECS *e*pP **pP** **21 10 02.2 +1.6**
GKP Gorka Klasztor 79.95 324 *e*P **P** **21 09 50.7 -0.7**
GKP *e*pP **pP** **21 10 01.5 +0.9**
URZ Urewera 80.32 138 LR LR 21 42 31.8
comp=Z,234nm,18.1s,baz=312,slow=34
OKC Ostrava-Krasne 80.81 320 *e*P **P** **21 09 56.7 +0.6**
OKC *e**PP **pP** **21 10 06.8 +1.5**
OKC MLR MLR
comp=Z,200nm,21.6s
OKC Ostrava-Krasne 80.81 320 *e*P **P** **21 09 56.7 +0.6**
OKC *e*pP **pP** **21 10 06.8 +1.5**
OKC AMS AMS 21 52 40.0
comp=Z,200nm,21.6s
DLBC Dease Lake 80.87 30 P **P** **21 09 55.5 -0.9**
DLBC pP **pP** **21 10 06.5 +1.0**
DLBC Dease Lake 80.87 30 P **P** **21 09 55.5 -0.9**
comp=Z,0.6nm,0.3s,baz=305,slow=4.3,SNR=3.1
DLBC pP **pP** **21 10 06.5 +1.0**
comp=Z,4.8nm,0.9s,baz=287,slow=10,SNR=4.7
VYHS Vyhne 80.93 319 *e*P **P** **21 09 56.9 +0.1**
VYHS *e* 21 10 07.0
VYHS Vyhne 80.93 319 *e*P **P** **21 09 56.8 0.0**
VYHS *e*pP **pP** **21 10 07.0 +1.0**
MORC Moravsky Berou 81.19 320 *e*P **P** **21 09 57.1 -1.1**
MORC *e* 21 10 07.7
MORC pmax pmax
comp=Z,3.0nm,1.3s
MORC Moravsky Berou 81.19 320 *e*P **P** **21 09 57.1 -1.1**
comp=Z,3.1nm,1.3s
MORC *e* 21 10 07.7
KSP Ksiaz 81.48 322 *e*P **P** **21 09 59.7 0.0**
KSP *e**PP **pP** **21 10 10.1 +1.2**
KSP Ksiaz 81.48 322 *e*P **P** **21 10 00.1 +0.4**
KSP *e*pP **pP** **21 10 10.3 +1.4**
DPC Dobruska-Polom 81.67 321 *e*P **P** **21 10 01.2 +0.4**
DPC *e**PP **pP** **21 10 11.3 +1.3**
DPC Dobruska-Polom 81.67 321 *e*P **P** **21 10 01.2 +0.4**
DPC *e*pP **pP** **21 10 11.3 +1.3**
DPC AMS AMS 21 50 40.0
SMOL Smolenice 81.78 319 *e*P P 21 10 12.8 +11
SMOL Smolenice 81.78 319 *e*pP pP 21 10 12.8 +2.3
UPC Upice 81.79 321 *e*P **P** **21 10 02.3 +1.0**
UPC *e**PP **pP** **21 10 12.3 +1.8**
UPC Upice 81.79 321 *e*P **P** **21 10 02.3 +1.0**
UPC *e*pP **pP** **21 10 12.3 +1.8**
RUE Ruedersdorf 82.18 324 *e*pP pP 21 10 13.6 +1.1
PVCC Panska Ves 82.61 322 *e*P **P** **21 10 07.1 +1.5**
PVCC *e**PP **pP** **21 10 16.4 +1.6**
PVCC Panska Ves 82.61 322 *e*P **P** **21 10 07.1 +1.5**
PVCC *e*pP **pP** **21 10 16.4 +1.6**
TREC Trest 82.61 320 *e*P **P** **21 10 05.3 -0.4**
TREC *e**PP **pP** **21 10 16.3 +1.4**
TREC MLR MLR
comp=Z,300nm,15.8s
TREC Trest 82.61 320 *e*P **P** **21 10 05.3 -0.4**
TREC *e*pP **pP** **21 10 16.3 +1.4**
TREC AMS AMS 21 51 00.0
comp=Z,300nm,15.8s
BRG Berggiesshubel 82.81 322 *i* P **P** **21 10 07.9 +1.3**
comp=Z,25nm,1.9s
BRG *i* 21 10 17.0
comp=Z,49nm,1.9s
BRG
comp=Z,390nm,13.1s
BRG
comp=N,281nm,18.8s
BRG
comp=E,167nm,18.8s
BRG Berggiesshubel 82.81 322 *e*P **P** **21 10 06.8 +0.2**
comp=Z,25nm,1.9s
BRG *e*pP **pP** **21 10 16.8 +0.9**
BRG Berggiesshubel 82.81 322 *i* P **P** **21 10 07.9 +1.3**
BRG *i* 21 10 17.0
BRG pmax pmax
comp=Z,25nm,1.9s
BRG MLR MLR
comp=Z,390nm,13.1s
PRU Pruhonice 82.86 321 *e*P **P** **21 10 07.2 +0.3**
PRU *e**PP **pP** **21 10 17.4 +1.3**
PRU MLR MLR
comp=Z,300nm,21.0s
PRU Pruhonice 82.86 321 *e*P **P** **21 10 07.2 +0.3**
PRU *e*pP **pP** **21 10 17.4 +1.3**
PRU AMS AMS 21 45 20.0
comp=Z,300nm,21.0s
PRA Prague 82.89 321 P **P** **21 10 08.0 +0.9**
FBE Freiberg 83.12 322 *e*P **P** **21 10 08.8 +0.6**
comp=Z,38nm,2.0s
FBE *e*pP **pP** **21 10 18.5 +1.0**
CLL Collm 83.14 323 *e*P **P** **21 10 08.4 +0.1**
comp=Z,11nm,1.5s
CLL *e*pP **pP** **21 10 18.1 +0.5**
CLL Collm 83.14 323 *i* P **P** **21 10 07.8 -0.5**
CLL *i* 21 10 18.1
CLL *e*S **S** **21 20 26.0 -0.3**
CLL pmax pmax
comp=Z,11nm,1.5s
CLL MLR MLR
comp=Z,500nm,16.7s
CLL Collm 83.14 323 *i* P **P** **21 10 07.8 -0.5**
comp=Z,11nm,1.5s
CLL *i* pP **pP** **21 10 18.1 +0.5**
comp=Z,15nm,1.1s
CLL *e*PP PP 21 13 28.0 +8.8
CLL *e*PPPP 21 16 42.0
CLL *e*S **S** **21 20 26.0 -0.3**
CLL *e*PS **PnS** **21 21 24.0 +4.6**
CLL *e*SS SS 21 26 06.0 +16
CLL *e*SSS SSS 21 29 36.0
CLL *e* 21 31 10.0
CLL *e*SSSS 21 32 06.0
CLL Lm MLR 21 52 00.0
comp=N,300nm,18.9s
CLL Lm MLR 21 52 00.0
comp=E,400nm,19.0s
BSEG Bad Segeberg 83.35 326 *e*pP pP 21 10 19.2 +0.7
KHC Kasperske Hory 83.81 321 *e*P **P** **21 10 12.1 +0.2**
KHC *e**PP **pP** **21 10 22.4 +1.3**
KHC MLR MLR
comp=Z,400nm,19.1s
KHC Kasperske Hory 83.81 321 *e*P **P** **21 10 12.1 +0.2**
KHC *e*pP **pP** **21 10 22.4 +1.3**
KHC AMS AMS 21 54 20.0
comp=Z,400nm,19.1s
KHC Kasperske Hory 83.81 321 *e*P **P** **21 10 11.5 -0.4**
comp=Z,28nm,1.6s
KHC *e* 21 10 21.9
TANN Tannenbergstha 83.86 322 *e*P **P** **21 10 12.4 +0.3**
comp=Z,24nm,2.1s
TANN *e*pP **pP** **21 10 22.2 +0.8**
GEC2 GERESS Array S 83.86 320 *e*P **P** **21 10 12.4 +0.1**
comp=Z,33nm,2.0s
GEC2 *e*pP **pP** **21 10 22.3 +0.8**
GEC2 GERESS Array S 83.86 320 *e*P **P** **21 10 12.4 +0.1**
GEC2 *e**PP **pP** **21 10 22.3 +0.8**
GEC2 pmax pmax
comp=Z,33nm,2.0s
GERES GERESS Array B 83.86 320 P **P** **21 10 12.4 +0.1**
GERES pP **pP** **21 10 22.2 +0.8**
GERES GERESS Array B 83.86 320 P **P** **21 10 12.4 +0.1**
comp=Z,1.0nm,0.8s,baz=46,slow=5.8,SNR=11
GERES pP **pP** **21 10 22.2 +0.8**
comp=Z,5.4nm,0.9s,baz=57,slow=4.9,SNR=22
GERES LR LR 21 53 01.8
comp=Z,316nm,18.3s,baz=66,slow=40
NEUB Neuenburg 83.87 323 *e*P **P** **21 10 12.4 +0.3**
comp=Z,10.0nm,1.3s
NEUB *e*pP **pP** **21 10 22.0 +0.7**
WERD Werda 83.93 322 *e*P **P** **21 10 12.8 +0.3**
comp=Z,14nm,1.8s
WERD *e*pP **pP** **21 10 22.5 +0.8**
GUNZ Gunzen 83.96 322 *e*P **P** **21 10 12.8 +0.2**
comp=Z,14nm,1.4s
GUNZ *e*pP **pP** **21 10 22.7 +0.8**
WERN Wernitzgruen 83.97 322 *e*P **P** **21 10 12.8 +0.1**
comp=Z,16nm,1.5s
WERN *e*pP **pP** **21 10 22.9 +1.0**
PERS Pernice 84.00 318 *e*P **P** **21 10 12.8 -0.2**
PERS *e* 21 10 22.7
GCIS Gornji Cirnik 84.02 317 *e*P **P** **21 10 13.3 +0.4**
GCIS *e* 21 10 23.0
CRES Cresnjev 84.14 317 *e*P **P** **21 10 13.8 +0.2**
NRDL Niedersach Rie 84.16 325 *e*P **P** **21 10 13.9 +0.5**
comp=Z,55nm,2.2s
NRDL *e*pP **pP** **21 10 23.9 +1.2**
KMBO Kilima Mbogo 84.16 266 P **P** **21 10 14.6 0.0**
KMBO *e* 21 10 27.4
KMBO Kilima Mbogo 84.16 266 P **P** **21 10 14.6 0.0**
comp=Z,0.6nm,0.3s,baz=216,slow=21,SNR=6.7
KMBO LR LR 21 51 28.4
comp=Z,160nm,19.4s,baz=93,slow=38
WET Wettzell 84.21 321 *e*P **P** **21 10 14.3 +0.4**
comp=Z,22nm,1.8s
WET *e*pP **pP** **21 10 24.3 +1.1**
WET Wettzell 84.21 321 *e*P **P** **21 10 14.3 +0.4**
WET *e**PP **pP** **21 10 24.3 +1.1**
WET pmax pmax
comp=Z,22nm,1.8s
MOX Moxa 84.23 323 *e*P **P** **21 10 14.0 0.0**
comp=Z,10.0nm,1.5s
MOX *e*pP **pP** **21 10 24.0 +0.8**
MOX Moxa 84.23 323 *e*P **P** **21 10 14.0 0.0**
MOX *e**PP **pP** **21 10 24.0 +0.8**
MOX pmax pmax
comp=Z,10.0nm,1.5s
SUMG Summit 84.27 354 P **P** **21 10 16.4 +2.1**
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 84.27 354 P **P** **21 10 16.4 +2.1**
comp=Z,26nm,0.9s
ROTZ Rotzenmuhle 84.31 322 *e*P **P** **21 10 14.9 +0.5**
comp=Z,21nm,1.8s
ROTZ *e*pP **pP** **21 10 24.9 +1.3**
BOJS Bojanci 84.41 317 *e*P **P** **21 10 15.2 +0.2**
BOJS *e* 21 10 25.4
LJU Ljubljana 84.62 318 *e*P **P** **21 10 16.1 0.0**
LJU *e* 21 10 26.1
GRF Grafenberg Arr 84.91 322 *e*P **P** **21 10 17.9 +0.5**
comp=Z,31nm,1.8s
GRF *e*pP **pP** **21 10 27.8 +1.1**
GRF Grafenberg Arr 84.91 322 *e*P **P** **21 10 17.9 +0.5**
GRF *e**PP **pP** **21 10 27.8 +1.1**
GRF pmax pmax
comp=Z,31nm,1.8s
RJOB Jochberg 84.91 320 *e*pP pP 21 10 27.6 +0.8
YKA Yellowknife Ar 84.92 22 P **P** **21 10 16.6 -0.5**
YKA pP **pP** **21 10 26.8 +0.3**
YKA Yellowknife Ar 84.92 22 P **P** **21 10 16.6 -0.5**
comp=Z,1.3nm,0.6s,baz=310,slow=4.9,SNR=12
YKA pP **pP** **21 10 26.7 +0.3**
comp=Z,2.7nm,0.7s,baz=316,slow=4.7,SNR=7.7
UBBA Unterbreizbach 85.04 323 *e*P **P** **21 10 18.0 +0.1**
comp=Z,13nm,1.6s
UBBA *e*pP **pP** **21 10 28.0 +0.9**
IBBN Ibbenburen 85.50 325 *e*P **P** **21 10 20.3 0.0**
comp=Z,63nm,2.2s
ABTA Abfaltersbach 85.54 319‖ *i*pP pP 21 10 30.1 +0.1
comp=Z,17nm,1.2s,SNR=5.1
FUR Furstenfeldbru 85.61 321 *e*pP pP 21 10 31.4 +1.2
WTTA Wattenberg 85.83 320⇑ *i*sP sP 21 10 32.3 -2.6
comp=Z,20nm,1.1s,SNR=5.3
TNS Taunus Mts 86.20 323 *e*pP pP 21 10 33.9 +0.8
BUG Bochum--Univer 86.21 325 *e*pP pP 21 10 33.7 +0.6
FETA Feichten 86.49 320⇑ *i*sP sP 21 10 35.5 -2.6
comp=Z,15nm,1.1s,SNR=5.3
AQU L'Aquila 87.03 315 *e*P **P** **21 10 28.2 +0.1**
AQU *e* 21 10 39.3
CEL Celeste 87.18 310 *e*P **P** **21 10 28.5 -0.4**
comp=Z,32nm,1.4s
CEL *e* 21 10 39.2
BFO Black Forest 87.23 322 *e*pP pP 21 10 38.5 +0.3
TUE Stuetta 87.58 320 P **P** **21 10 30.0 -0.9**
comp=Z,140nm,2.3s
TUE *e* 21 10 40.9
CDF Champ du Feu 87.79 322 *e*P **P** **21 10 30.6 -1.1**
comp=Z,49nm,1.6s
CDF Champ du Feu 87.79 322 *e*P **P** **21 10 30.6 -1.1**
CDF pmax pmax
comp=Z,49nm,1.6s
CDF Champ du Feu 87.79 322 *e*P **P** **21 10 30.6 -1.1**
comp=Z,49nm,1.6s
BAIF Baives 88.59 325 *e*P **P** **21 10 34.5 -0.8**
comp=Z,40nm,1.4s
BAIF Baives 88.59 325 *e*P **P** **21 10 34.5 -0.8**
BAIF pmax pmax
comp=Z,40nm,1.4s
BAIF Baives 88.59 325 *e*P **P** **21 10 34.5 -0.8**
comp=Z,40nm,1.4s
LPG La Plagne 89.64 320 *e*P **P** **21 10 40.1 -0.6**
LPG La Plagne 89.64 320 *e*P **P** **21 10 40.1 -0.6**
LPG La Plagne 89.64 320 *e*P **P** **21 10 40.1 -0.6**
LPL La Plagne 89.64 320 *e*P **P** **21 10 40.0 -0.7**
comp=Z,33nm,1.1s
LPL La Plagne 89.64 320 *e*P **P** **21 10 40.0 -0.7**
LPL pmax pmax
comp=Z,33nm,1.1s
LPL La Plagne 89.64 320 *e*P **P** **21 10 40.0 -0.7**
comp=Z,33nm,1.1s
PGF Pioggiola 89.78 317 *e*P **P** **21 10 40.6 -0.6**
comp=Z,39nm,1.0s
PGF Pioggiola 89.78 317 *e*P **P** **21 10 40.6 -0.6**
PGF pmax pmax
comp=Z,39nm,1.0s
PGF Pioggiola 89.78 317 *e*P **P** **21 10 40.6 -0.6**
comp=Z,39nm,1.0s
BNI Bardonecchia 89.92 320 *e*P **P** **21 10 42.6 +0.8**
BNI *e* 21 10 51.7
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 89.92 320 *e*P **P** **21 10 42.6 +0.8**
comp=Z,5.8nm,0.9s
BNI *e* 21 10 51.7
MBDF Montbardon 90.03 319 *e*P **P** **21 10 40.8 -1.6**
MBDF Montbardon 90.03 319 *e*P **P** **21 10 40.8 -1.6**
MBDF Montbardon 90.03 319 *e*P **P** **21 10 40.8 -1.6**
SBF Sospel 90.08 318 *e*P **P** **21 10 41.3 -1.3**
comp=Z,28nm,0.8s
SBF Sospel 90.08 318 *e*P **P** **21 10 41.3 -1.3**
SBF pmax pmax
comp=Z,28nm,0.8s
SBF Sospel 90.08 318 *e*P **P** **21 10 41.3 -1.3**
comp=Z,28nm,0.8s
LOR Lormes 90.35 322 *e*P **P** **21 10 42.3 -1.4**
comp=Z,25nm,1.2s
LOR *e*R
comp=Z,211nm,19.5s
LOR Lormes 90.35 322 *e*P **P** **21 10 42.3 -1.4**
comp=Z,25nm,1.2s
ORIF Oris-en-Rattie 90.47 320 *e*P **P** **21 10 43.6 -0.8**
comp=Z,19nm,1.1s
ORIF *e*R
comp=Z,271nm,20.0s
ORIF Oris-en-Rattie 90.47 320 *e*P **P** **21 10 43.6 -0.8**
ORIF pmax pmax
comp=Z,19nm,1.1s
ORIF Oris-en-Rattie 90.47 320 *e*P **P** **21 10 43.6 -0.8**
comp=Z,19nm,1.1s
SSF Saint Saulge 90.66 322 *e*P **P** **21 10 43.9 -1.2**
comp=Z,28nm,1.3s
SSF Saint Saulge 90.66 322 *e*P **P** **21 10 43.9 -1.2**
SSF pmax pmax
comp=Z,28nm,1.3s
SSF Saint Saulge 90.66 322 *e*P **P** **21 10 43.9 -1.2**
comp=Z,28nm,1.3s
SMF Signal de Mont 90.71 322 *e*P **P** **21 10 44.2 -1.1**
comp=Z,52nm,1.3s
SMF Signal de Mont 90.71 322 *e*P **P** **21 10 44.2 -1.1**
SMF pmax pmax
comp=Z,52nm,1.3s
SMF Signal de Mont 90.71 322 *e*P **P** **21 10 44.2 -1.1**
comp=Z,52nm,1.3s
FRF La Foret Royal 90.73 318 *e*P **P** **21 10 44.5 -1.0**
comp=Z,30nm,1.2s
FRF La Foret Royal 90.73 318 *e*P **P** **21 10 44.5 -1.0**
FRF pmax pmax
comp=Z,30nm,1.2s
FRF La Foret Royal 90.73 318 *e*P **P** **21 10 44.5 -1.0**
comp=Z,30nm,1.2s
AVF Avril sur Loir 90.90 322 *e*P **P** **21 10 45.0 -1.2**
comp=Z,24nm,1.2s

AVF	**Avril sur Loir**	**90.90**	**322**	*e*P	**P**	**21 10 45.0**	**-1.2**
AVF				pmax	pmax		
	comp=Z,24nm,1.2s						
AVF	**Avril sur Loir**	**90.90**	**322**	*e*P	**P**	**21 10 45.0**	**-1.2**
	comp=Z,24nm,1.2s						
LMR	**La Mourre**	**90.93**	**318**	*e*P	**P**	**21 10 45.6**	**-0.8**
	comp=Z,56nm,1.3s						
LMR	**La Mourre**	**90.93**	**318**	*e*P	**P**	**21 10 45.6**	**-0.8**
LMR				pmax	pmax		
	comp=Z,56nm,1.3s						
LMR	**La Mourre**	**90.93**	**318**	*e*P	**P**	**21 10 45.6**	**-0.8**
	comp=Z,56nm,1.3s						
HYF	**Humbligny**	**91.03**	**323**	*e*P	**P**	**21 10 46.3**	**-0.5**
HYF	**Humbligny**	**91.03**	**323**	*e*P	**P**	**21 10 46.3**	**-0.5**
SMRF	**Simiane la Rot**	**91.16**	**319**	*e*P	**P**	**21 10 47.0**	**-0.5**
	comp=Z,37nm,1.6s						
SMRF	**Simiane la Rot**	**91.16**	**319**	*e*P	**P**	**21 10 47.0**	**-0.5**
	comp=Z,37nm,1.6s						
TCF	**Toulx Ste Croi**	**91.84**	**322**	*e*P	**P**	**21 10 49.8**	**-0.8**
	comp=Z,21nm,1.2s						
TCF	**Toulx Ste Croi**	**91.84**	**322**	*e*P	**P**	**21 10 49.8**	**-0.8**
TCF				pmax	pmax		
	comp=Z,21nm,1.2s						
TCF	**Toulx Ste Croi**	**91.84**	**322**	*e*P	**P**	**21 10 49.8**	**-0.8**
	comp=Z,21nm,1.2s						
LASF	**Ste Croix**	**92.14**	**320**	*e*P	**P**	**21 10 51.5**	**-0.5**
	comp=Z,19nm,1.2s						
LASF	**Ste Croix**	**92.14**	**320**	*e*P	**P**	**21 10 51.5**	**-0.5**
	comp=Z,19nm,1.2s						
CAF	**Calviac**	**92.71**	**321**	*e*P	**P**	**21 10 54.4**	**-0.3**
	comp=Z,56nm,1.6s						
CAF	**Calviac**	**92.71**	**321**	*e*P	**P**	**21 10 54.4**	**-0.3**
CAF				pmax	pmax		
	comp=Z,56nm,1.6s						
CAF	**Calviac**	**92.71**	**321**	*e*P	**P**	**21 10 54.4**	**-0.3**
	comp=Z,56nm,1.6s						
RJF	**Les Rejaudoux**	**92.81**	**322**	*e*P	**P**	**21 10 54.8**	**-0.3**
	comp=Z,46nm,1.2s						
RJF				*e*R			
	comp=Z,298nm,19.5s						
RJF	**Les Rejaudoux**	**92.81**	**322**	*e*P	**P**	**21 10 54.8**	**-0.3**
RJF				pmax	pmax		
	comp=Z,46nm,1.2s						
RJF	**Les Rejaudoux**	**92.81**	**322**	*e*P	**P**	**21 10 54.8**	**-0.3**
	comp=Z,46nm,1.2s						
KEST	**Kesra**	**92.99**	**311**	P	**P**	**21 10 54.7**	**-1.5**
KEST				pP	**pP**	**21 11 05.7**	**+0.2**
KEST				*e*		21 11 06.1	
KEST	**Kesra**	**92.99**	**311**	P	**P**	**21 10 54.7**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=333,slow=2.3,SNR=2.9						
KEST				pP	**pP**	**21 11 05.7**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=279,slow=2.9,SNR=5.0						
KEST				LR	LR	21 58 05.7	
	comp=Z,58nm,19.1s,baz=319,slow=39						
LFF	**La Frestale**	**93.46**	**322**	*e*P	**P**	**21 10 57.8**	**-0.3**
	comp=Z,60nm,1.5s						
LFF	**La Frestale**	**93.46**	**322**	*e*P	**P**	**21 10 57.8**	**-0.3**
LFF				pmax	pmax		
	comp=Z,60nm,1.5s						
LFF	**La Frestale**	**93.46**	**322**	*e*P	**P**	**21 10 57.8**	**-0.3**
	comp=Z,60nm,1.5s						
MTLF	**Montolieu**	**93.53**	**320**	*e*P	**P**	**21 10 57.8**	**-0.7**
MTLF	**Montolieu**	**93.53**	**320**	*e*P	**P**	**21 10 57.8**	**-0.7**
MTLF	**Montolieu**	**93.53**	**320**	*e*P	**P**	**21 10 57.8**	**-0.7**
FRB	**Frobisher Bay**	**93.92**	**4**	P	**P**	**21 10 57.8**	**-2.0**
FRB				pP	**pP**	**21 11 09.2**	**+0.1**
FRB	**Frobisher Bay**	**93.92**	**4**	P	**P**	**21 10 57.8**	**-2.0**
	comp=Z,1.8nm,0.2s,baz=105,slow=6.7,SNR=2.4						
FRB				pP	**pP**	**21 11 09.2**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=57,slow=15,SNR=2.4						
EPF	**Esparros**	**94.83**	**320**	*e*P	**P**	**21 11 03.6**	**-0.9**
EPF	**Esparros**	**94.83**	**320**	*e*P	**P**	**21 11 03.6**	**-0.9**
EPF	**Esparros**	**94.83**	**320**	*e*P	**P**	**21 11 03.6**	**-0.9**
PPT	**Papeete**	**96.45**	**106**	LR	LR	21 50 33.6	
	comp=Z,292nm,20.2s,baz=190,slow=33						
PPT2	**Papeete2**	**96.46**	**106**	*e*S	S	21 22 22.6	-8.8
	comp=Z,78nm,27.2s						
PPT2	**Papeete2**	**96.46**	**106**	*e*LR	LR	21 42 26.9	
	comp=Z,303nm,24.5s						
TBI	**Tubuai**	**98.61**	**112**	*e*LR	LR	21 43 21.6	
	comp=Z,201nm,30.8s						
MAW	**Mawson**	**99.14**	**199**	LR	LR	21 55 11.8	
	comp=Z,66nm,19.0s,baz=150,slow=35						
ESDC	**Sonseca Array**	**99.44**	**320**	LR	LR	21 56 02.3	
	comp=Z,134nm,21.7s,baz=25,slow=35						
SDV	**Santo Domingo**	**147.12**	**21**	*e*PKPdf	**PKPbc**	**21 17 25.3**	**-1.3**

*IDC **21** 21:08:33.9±1.8, 49°.93S×162°.10E, h0km, mb3.9/4, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/24, Error ellipse: s-maj=49.4km s-min=27.4km az=167.0*
*ISCJB **21** 21:08:36.0±2.1, 50°.1S±0°.2×162°.3E±0°.1, h33km, mb3.9/4, Error ellipse: s-maj=34.3km s-min=9.4km az=164.1*
*AUST **21** 21:09:11.2±99.0, 48°.48S×158°.31E, h0km±4km, Error ellipse: s-maj=11.3km s-min=1.4km az=7.0*
ISC 21 21:08:38.8±1.8, 50°.0S±0°.2×162°.1E±0°.1, h33km, n13, σ1§29/13, mb4.0/4, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**8.75**	**48**	Pn	**Pn**	**21 10 41.6**	**-1.4**
	2.7nm,0.3s,baz=69,slow=19,SNR=11						
RPZ				Sn	**Sn**	**21 12 22.0**	**+1.6**
	3.3nm,0.3s,baz=35,slow=20,SNR=7.1						
MOO	**Moorlands**	**12.77**	**300**	P	Pn	21 11 33.8	-4.2
	baz=9.8,SNR=33						
URZ	**Urewera**	**15.87**	**48**	Pn	**Pn**	**21 12 19.4**	**-0.1**
	0.6nm,0.3s,baz=0.8,slow=4.3,SNR=3.0						
URZ				LR	LR	21 18 32.9	
	comp=Z,282nm,19.4s,baz=4.8,slow=38						
MILA	**Mila**	**15.94**	**319**	P	**Pn**	**21 12 20.6**	**0.0**
	baz=13,SNR=7.5						
TOO	**Toolangi**	**17.21**	**310**	P	**P**	**21 12 39.2**	**+1.3**
	baz=14,SNR=17						
CNB	**Canberra Magne**	**17.35**	**323**	P	**P**	**21 12 39.6**	**+0.1**
	baz=15,SNR=6.1						
STKA	**Stephens Creek**	**23.68**	**312**	P	**P**	**21 13 47.8**	**+0.4**
	2.8nm,0.6s,baz=136,slow=9.5,SNR=7.5						
ASAR	**Alice Springs**	**34.26**	**310**	P	**P**	**21 15 20.9**	**-0.8**
	1.7nm,0.7s,baz=145,slow=8.4,SNR=28						
WRA	**Warramunga Arr**	**37.22**	**314**	P	**P**	**21 15 45.6**	**-1.5**
	1.2nm,0.8s,baz=154,slow=10,SNR=7.2						
CMAR	**Chiang Mai Arr**	**87.92**	**302**	P	**P**	**21 21 25.4**	**+0.3**
	0.8nm,0.9s,baz=177,slow=3.3,SNR=2.7						
ARCES	**ARCESS Array B**	**151.62**	**329**	PKPbc	**PKPbc**	**21 28 28.7**	**+0.5**
	3.9nm,1.0s,baz=24,slow=6.9,SNR=3.3						
FINES	**FINESS Array B**	**153.25**	**312**	PKPbc	**PKPbc**	**21 28 30.3**	**-1.6**
	4.5nm,1.1s,baz=36,slow=2.6,SNR=3.2						
GERES	**GERESS Array B**	**159.49**	**279**	PKPab	**PKPab**	**21 29 13.5**	**+2.1**
	0.6nm,0.9s,baz=189,slow=2.6,SNR=3.9						

*ISCJB **21** 21:11:56.0±0.6, 37°.67N±0°.02×26°.78E±0°.03, h1km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=169.0*
*CSEM **21** 21:11:56.2±0.2, 37°.67N×26°.76E, h2km, ML3.5, Error ellipse: s-maj=3.7km s-min=3.1km az=58.0*
*ATH **21** 21:11:56.6, 37°.65N×26°.83E, h22km±3km, MD3.2/5*
*ISK **21** 21:11:56.5, 37°.72N×26°.82E, h9km, MD3.0*
*DDA **21** 21:11:57.0, 37°.72N×26°.89E, h17km, MD3.1, ML3.5*
ISC 21 21:11:57.1±1.0, 37°.70N±0°.02×26°.86E±0°.02, h16km±8km, n53, σ0§86/85, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.30**	**91**	*i*P	**Pg**	**21 12 03.3**	**-0.1**
GCAM				*i*S	**Sb**	**21 12 08.0**	**-0.7**
GCAM	**G?zelcaml?**	**0.30**	**91**	*i*P	**Pg**	**21 12 03.3**	**-0.1**
GCAM				*i*S	**Sb**	**21 12 08.0**	**-0.7**
URLA	**Izmir**	**0.69**	**343**	*i*P	**Pg**	**21 12 10.2**	**-0.4**
URLA				*i*S	**Sb**	**21 12 20.4**	**+0.4**
URLA	**Izmir**	**0.69**	**343**	*i*P	**Pg**	**21 12 10.2**	**-0.4**
URLA				*i*S	**Sb**	**21 12 20.4**	**+0.4**
BODT	**Bodrum**	**0.73**	**151**	*e*PG	**Pg**	**21 12 11.6**	**+0.1**
BODT				*e*SG	**Sn**	**21 12 22.9**	**-0.7**
BODT	**Bodrum**	**0.73**	**151**	*e*Pg	**Pg**	**21 12 11.6**	**+0.1**
BODT				*e*Sg	**Sn**	**21 12 23.0**	**-0.7**
IZM	**Izmir**	**0.76**	**25**	*e*PG	**Pg**	**21 12 11.4**	**-0.6**
IZM				*e*SG	**Sb**	**21 12 22.9**	**+0.8**
IZM	**Izmir**	**0.76**	**25**	*e*Pg	**Pg**	**21 12 11.4**	**-0.6**
IZM				*e*Sg	**Sb**	**21 12 22.9**	**+0.8**
BDRM	**Kayabasi**	**0.79**	**144**	*i*P	**Pb**	**21 12 11.8**	**-0.6**
BDRM				*i*S	**Sg**	**21 12 23.4**	**+0.5**
BDRM	**Kayabasi**	**0.79**	**144**	*i*P	**Pb**	**21 12 11.8**	**-0.6**
BDRM				*i*S	**Sg**	**21 12 23.4**	**+0.5**
AYDN	**Tasoluk**	**0.81**	**93**	*i*P	**Pb**	**21 12 12.3**	**-0.5**
AYDN				*i*S	**Sg**	**21 12 23.5**	**-0.1**
AYDN	**Tasoluk**	**0.81**	**93**	*i*P	**Pb**	**21 12 12.3**	**-0.5**
AYDN				*i*S	**Sg**	**21 12 23.5**	**-0.1**
MLSB	**Milas**	**0.84**	**119**	*e*PG	**Pg**	**21 12 13.5**	**+0.2**
MLSB				*e*SG	**Sg**	**21 12 24.5**	**+0.1**
MLSB	**Milas**	**0.84**	**119**	*e*Pg	**Pg**	**21 12 13.5**	**+0.2**
MLSB				*e*Sg	**Sg**	**21 12 24.5**	**+0.1**
CHOS	**Chios island**	**0.93**	**317**	*e*PN	**Pb**	**21 12 14.5**	**-0.4**
CHOS				*e*SN	**Sn**	**21 12 28.9**	**+0.3**
CHOS	**Chios island**	**0.93**	**317**	*e*Pn	**Pb**	**21 12 14.5**	**-0.4**
CHOS				*e*Sn	**Sn**	**21 12 28.9**	**+0.3**
APE	**Apeiranthos**	**1.23**	**239**	*e*PN	**Pn**	**21 12 20.1**	**+0.4**
APE				*e*SN	**Sb**	**21 12 36.1**	**+0.4**
APE	**Apeiranthos**	**1.23**	**239**	*e*Pn	**Pn**	**21 12 20.1**	**+0.4**
APE				*e*Sn	**Sb**	**21 12 36.1**	**+0.4**
YER	**Yerkesik**	**1.27**	**116**	*e*PN	**Pg**	**21 12 21.3**	**-0.2**
YER	**Yerkesik**	**1.27**	**116**	*e*Pn	**Pg**	**21 12 21.3**	**-0.2**
AKHS	**Akhisar**	**1.39**	**32**	*i*P	**Pb**	**21 12 23.0**	**+0.3**
AKHS				*i*S	**Sg**	**21 12 42.4**	**+0.3**
AKHS	**Akhisar**	**1.39**	**32**	*i*P	**Pb**	**21 12 23.0**	**+0.3**
AKHS				*i*S	**Sg**	**21 12 42.4**	**+0.3**
MANT	**Manisa**	**1.55**	**59**	*i*P	**Pg**	**21 12 27.6**	**+0.6**
MANT				*i*S	**Sb**	**21 12 44.5**	**-0.6**
MANT	**Manisa**	**1.55**	**59**	*i*P	**Pg**	**21 12 27.6**	**+0.6**
PRK	**Paraskevi**	**1.61**	**344**	*e*PN	**Pb**	**21 12 25.9**	**-0.4**
PRK				*e*SB	**Sg**	**21 12 48.9**	**0.0**
PRK	**Paraskevi**	**1.61**	**344**	*e*Pn	**Pb**	**21 12 25.9**	**-0.4**
PRK				*e*Sb	**Sg**	**21 12 48.9**	**0.0**
KULA	**Kula-Manisa**	**1.64**	**60**	*e*PN	**Pb**	**21 12 26.4**	**-0.5**
KULA	**Kula-Manisa**	**1.64**	**60**	*e*Pn	**Pb**	**21 12 26.4**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.68**	**121**	*e*PN	**Pb**	**21 12 27.1**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.68**	**121**	*e*Pn	**Pb**	**21 12 27.1**	**-0.5**
DNZL	**Cakiroluk**	**1.74**	**90**	*e*P	**Pg**	**21 12 30.0**	**-0.4**
DNZL				*e*S	**Sg**	**21 12 57.0**	**+3.9**
DNZL	**Cakiroluk**	**1.74**	**90**	*e*P	**Pg**	**21 12 30.0**	**-0.4**
SANT	**Santorini**	**1.74**	**220**	*e*PB	**Pn**	**21 12 26.2**	**-0.4**
SANT				*e*SN	**Sn**	**21 12 48.6**	**+0.1**
SANT	**Santorini**	**1.74**	**220**	*e*Pb	**Pn**	**21 12 26.2**	**-0.4**
SANT				*e*Sn	**Sn**	**21 12 48.6**	**+0.1**
ARG	**Arkhangelos**	**1.80**	**145**	*e*PN	**Pn**	**21 12 27.8**	**+0.4**
ARG				*e*SN	**Sb**	**21 12 52.0**	**+0.1**
ARG	**Arkhangelos**	**1.80**	**145**	*e*Pn	**Pn**	**21 12 27.8**	**+0.4**
ARG				*e*Sn	**Sb**	**21 12 52.0**	**+0.1**
DEMI	**Demirci**	**1.98**	**47**	*i*P	**Pg**	**21 12 33.9**	**-1.2**
DEMI				*i*S	**Sg**	**21 12 59.1**	**-1.7**
DEMI	**Demirci**	**1.98**	**47**	*i*P	**Pg**	**21 12 33.9**	**-1.2**
DEMI				*i*S	**Sg**	**21 12 59.1**	**-1.7**
BALY	**Balya**	**2.12**	**16**	*i*P	**Pb**	**21 12 33.9**	**-1.2**
BALY				*i*S	**Sg**	**21 13 05.2**	**0.0**
BALY	**Balya**	**2.12**	**16**	*i*P	**Pb**	**21 12 33.9**	**-1.2**
DURS	**Dursunbey**	**2.28**	**33**	*i*P	**Pg**	**21 12 39.4**	**-1.3**
DURS				*i*S	**Sg**	**21 13 09.0**	**-1.4**
DST	**Dursunbey**	**2.34**	**35**	*e*PN	**Pn**	**21 12 36.6**	**+1.6**
DST	**Dursunbey**	**2.34**	**35**	*e*Pn	**Pn**	**21 12 36.6**	**+1.6**
GONE	**Gonen-Balikesi**	**2.43**	**15**	*e*PN	**Pn**	**21 12 37.2**	**+1.2**
GONE	**Gonen-Balikesi**	**2.43**	**15**	*e*Pn	**Pn**	**21 12 37.2**	**+1.2**
LIA	**Limnos Island**	**2.55**	**330**	*e*PN	**Pn**	**21 12 39.2**	**+1.4**
LIA	**Limnos Island**	**2.55**	**330**	*e*Pn	**Pn**	**21 12 39.2**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.71**	**354**	*e*PN	**Pn**	**21 12 41.4**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.71**	**354**	*e*Pn	**Pn**	**21 12 41.4**	**+1.5**
LAST	**Lasithi**	**2.77**	**204**	*e*PN	**Pn**	**21 12 41.2**	**+0.3**
LAST	**Lasithi**	**2.77**	**204**	*e*Pn	**Pn**	**21 12 41.2**	**+0.3**
SMTH	**Samothraki Isl**	**2.95**	**340**	*e*PN	**Pn**	**21 12 43.6**	**+0.3**
SMTH	**Samothraki Isl**	**2.95**	**340**	*e*Pn	**Pn**	**21 12 43.6**	**+0.3**

IDC 21 21:13:29.7±2.4, 7°.21S×128°.01E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=296.7km s-min=31.5km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.06**	**155**	Pn	Pn	21 16 50.1	-0.3
	0.1nm,0.3s,baz=334,slow=13,SNR=9.4						
WRA				Sn	Sn	21 19 11.8	-16
	0.4nm,0.3s,baz=335,slow=22,SNR=9.2						
ASAR	**Alice Springs**	**17.31**	**162**	P	Pn	21 17 33.2	+0.2
	0.1nm,0.3s,baz=337,slow=10,SNR=5.3						
ASAR				S	Sn	21 20 35.4	-11
	0.1nm,0.3s,baz=315,slow=22,SNR=5.3						
MKAR	**Makanchi Array**	**67.34**	**328**	P	P	21 24 26.7	0.0
	0.3nm,0.4s,baz=133,slow=6.1,SNR=8.4						

*ISCJB **21** 21:13:44.8±0.4, 38°.13N±0°.03×21°.63E±0°.03, h20km±4km, Error ellipse: s-maj=5.1km s-min=3.7km az=148.4*
*THE **21** 21:13:44.1, 38°.15N×21°.62E, h24km±1km, ML2.1/4, Error ellipse: s-maj=1.8km s-min=0.6km az=306.0*
*ATH **21** 21:13:44.2, 38°.14N×21°.61E, h22km±1km, MD3.0/16*
*CSEM **21** 21:13:44.1±0.2, 38°.14N×21°.60E, h10km, MD3.0, Error ellipse: s-maj=4.7km s-min=3.7km az=126.0*
ISC 21 21:13:44.5±1.0, 38°.13N±0°.02×21°.64E±0°.02, h18km±2km, n52, σ0§61/77, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.15**	**243**	P	**Pg**	**21 13 48.7**	**-0.1**
RLS				S	**Sg**	**21 13 52.7**	**+1.0**
RLS	**Riolos of Patr**	**0.15**	**243**	*e*PB	**Pg**	**21 13 48.8**	**-0.1**
RLS				*e*SB	**Sg**	**21 13 52.8**	**+1.0**
RLS	**Riolos of Patr**	**0.15**	**243**	S	**Sg**	**21 13 52.7**	**+1.0**
RLS	**Riolos of Patr**	**0.15**	**243**	P	**Pg**	**21 13 48.7**	**-0.1**
AXS	**Araxos**	**0.22**	**289**	P	**Pb**	**21 13 49.5**	**0.0**
AXS				S	**Sg**	**21 13 53.6**	**+0.2**
AXS	**Araxos**	**0.22**	**289**	S	**Sg**	**21 13 53.6**	**+0.2**
AXS	**Araxos**	**0.22**	**289**	P	**Pb**	**21 13 49.5**	**0.0**
PSA1	**Psathopyrgos**	**0.28**	**44**	*e*PB	**Pg**	**21 13 50.6**	**-0.1**
PSA1				*e*SB	**Sg**	**21 13 55.7**	**+0.8**
LAKA	**Lakka**	**0.29**	**67**	P	**Pg**	**21 13 50.8**	**-0.2**
LAKA				S	**Sg**	**21 13 56.0**	**+0.6**
LAKA	**Lakka**	**0.29**	**67**	*e*PB	**Pg**	**21 13 50.9**	**-0.1**
LAKA				*e*SB	**Sg**	**21 13 55.7**	**+0.3**
LAKA	**Lakka**	**0.29**	**67**	P	**Pg**	**21 13 50.8**	**-0.2**
LAKA				*e*Sb	**Sg**	**21 13 55.7**	**+0.3**
LAKA				S	**Sg**	**21 13 56.0**	**+0.6**
EFP	**Efpalio**	**0.37**	**35**	P	**Pg**	**21 13 51.8**	**-0.4**
EFP				S	**Sg**	**21 13 57.9**	**+0.4**
EFP	**Efpalio**	**0.37**	**35**	P	**Pg**	**21 13 51.8**	**-0.4**
EFP				S	**Sg**	**21 13 57.9**	**+0.4**
KLV	**Kalavryta, Ach**	**0.41**	**101**	P	**Pg**	**21 13 52.8**	**-0.3**
KLV				S	**Sg**	**21 13 59.5**	**+0.6**
KLV	**Kalavryta, Ach**	**0.41**	**101**	*e*PB	**Pg**	**21 13 53.0**	**-0.1**
KLV				*e*SB	**Sb**	**21 13 59.9**	**+0.6**
KLV	**Kalavryta, Ach**	**0.41**	**101**	*e*Pb	**Pg**	**21 13 53.0**	**-0.1**
KLV				S	**Sg**	**21 13 59.5**	**+0.6**
TRIZ	**Trizonia**	**0.42**	**55**	P	**Pg**	**21 13 52.5**	**-0.6**
TRIZ				S	**Sb**	**21 13 59.9**	**+0.5**
TRIZ	**Trizonia**	**0.42**	**55**	*e*PB	**Pg**	**21 13 52.8**	**-0.3**
TRIZ				*e*SB	**Sb**	**21 14 00.1**	**+0.7**
TRIZ	**Trizonia**	**0.42**	**55**	P	**Pg**	**21 13 52.5**	**-0.6**
TRIZ	**Trizonia**	**0.42**	**55**	*e*Pb	**Pg**	**21 13 52.8**	**-0.3**
TRIZ				S	**Sb**	**21 13 59.9**	**+0.5**
KALE	**Kalithea**	**0.47**	**56**	P	**Pb**	**21 13 53.5**	**-0.8**
KALE				S	**Sb**	**21 14 01.8**	**+0.7**
KALE	**Kalithea**	**0.47**	**56**	*e*PB	**Pb**	**21 13 53.6**	**-0.8**
KALE	**Kalithea**	**0.47**	**56**	*e*Pb	**Pb**	**21 13 53.6**	**-0.8**
KALE				S	**Sb**	**21 14 01.8**	**+0.7**
GUR	**Goura**	**0.59**	**109**	P	**Pb**	**21 13 55.6**	**-0.6**
GUR				S	**Sg**	**21 14 04.8**	**+0.6**
GUR	**Goura**	**0.59**	**109**	P	**Pb**	**21 13 55.6**	**-0.6**
GUR				S	**Sg**	**21 14 04.8**	**+0.6**
AMT	**Artemida-Makis**	**0.60**	**175**	P	**Pb**	**21 13 56.0**	**-0.3**
AMT				S	**Sn**	**21 14 06.2**	**-1.1**
AMT	**Artemida-Makis**	**0.60**	**175**	*e*PN	**Pb**	**21 13 56.3**	**0.0**
AMT				*e*SN	**Sn**	**21 14 06.0**	**-1.3**
AMT	**Artemida-Makis**	**0.60**	**175**	P	**Pb**	**21 13 56.0**	**-0.3**
AMT	**Artemida-Makis**	**0.60**	**175**	*e*Pn	**Pb**	**21 13 56.3**	**0.0**
AMT				*e*Sn	**Sn**	**21 14 06.0**	**-1.3**
DSF	**Desfina**	**0.76**	**68**	P	**Pb**	**21 13 58.2**	**-0.9**
DSF	**Desfina**	**0.76**	**68**	P	**Pb**	**21 13 58.2**	**-0.9**
EVR	**Evrytania**	**0.80**	**10**	*e*PN	**Pb**	**21 14 00.3**	**+0.4**
EVR	**Evrytania**	**0.80**	**10**	*e*Pn	**Pb**	**21 14 00.3**	**+0.4**
VLS	**Valsamata**	**0.83**	**274**	P	**Pb**	**21 13 59.1**	**-1.2**
VLS				S	**Sn**	**21 14 12.8**	**-0.2**
VLS	**Valsamata**	**0.83**	**274**	*e*PB	**Pb**	**21 13 59.2**	**-1.1**
VLS	**Valsamata**	**0.83**	**274**	P	**Pb**	**21 13 59.1**	**-1.2**
VLS				S	**Sn**	**21 14 12.8**	**-0.2**
ITM	**Ithomi**	**0.97**	**166**	*e*PN	**Pb**	**21 14 02.7**	**-0.1**
ITM	**Ithomi**	**0.97**	**166**	*e*Pn	**Pb**	**21 14 02.7**	**-0.1**
AGG	**Agios Georgios**	**1.05**	**31**	*e*PN	**Pb**	**21 14 04.3**	**+0.2**
AGG	**Agios Georgios**	**1.05**	**31**	*e*Pn	**Pb**	**21 14 04.3**	**+0.2**
LKR	**Lokris**	**1.19**	**64**	*e*PN	**Pb**	**21 14 07.0**	**+0.5**
LKR	**Lokris**	**1.19**	**64**	*e*Pn	**Pb**	**21 14 07.0**	**+0.5**
PYL	**PYLOS**	**1.23**	**176**	*e*PN	**Pb**	**21 14 07.6**	**+0.4**
PYL	**PYLOS**	**1.23**	**176**	*e*Pn	**Pb**	**21 14 07.6**	**+0.4**
DID	**Didima**	**1.41**	**116**	*e*PB	**Pb**	**21 14 10.0**	**-0.3**
DID	**Didima**	**1.41**	**116**	*e*Pb	**Pb**	**21 14 10.0**	**-0.3**
THL	**Klokotos Trika**	**1.47**	**11**	*e*PN	**Pb**	**21 14 11.8**	**+0.6**
THL	**Klokotos Trika**	**1.47**	**11**	*e*Pn	**Pb**	**21 14 11.8**	**+0.6**
DYR	**Agios Nikonas**	**1.47**	**158**	*e*PN	**Pb**	**21 14 12.2**	**+0.9**
DYR	**Agios Nikonas**	**1.47**	**158**	*e*Pn	**Pb**	**21 14 12.2**	**+0.9**
VLI	**Veliai**	**1.75**	**143**	*e*PN	**Pb**	**21 14 16.2**	**+0.2**
VLI	**Veliai**	**1.75**	**143**	*e*Pn	**Pb**	**21 14 16.2**	**+0.2**

*AUST **21** 21:32:23.4±0.0, 16°.29S×179°.37W, h291km, Error ellipse: s-maj=2.8km s-min=1.3km az=329.0*
*ISCJB **21** 21:32:40.0±0.7, 17°.2S±0°.2×179°.2W±0°.1, h500km, mb3.7/8, Error ellipse: s-maj=30.0km s-min=10.7km az=145.9*
*IDC **21** 21:32:41.4±2.2, 17°.24S×179°.16W, h509km±33km, mb3.3/8, mb1 3.5/9, mb1mx3.3/20, mbtmp3.3/9, Error ellipse: s-maj=48.0km s-min=13.9km az=145.0*
ISC 21 21:32:40.9±1.0, 17°.2S±0°.2×179°.2W±0°.2, h500km, n25, σ0§88/21, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.85**	**66**	P	**P**	**21 34 36.5**	**+0.6**
	6.9nm,0.3s,baz=333,slow=4.2,SNR=9.7						
EIDS	**Eidsvold**	**28.83**	**249**	P	**P**	**21 37 58.3**	**+0.1**
	baz=29,SNR=3.8						
ARMA	**Armidale**	**29.67**	**238**	P	**P**	**21 38 06.2**	**+0.7**
	baz=30,SNR=5.9						
RMQ	**Roma**	**31.09**	**247**	P	**P**	**21 38 18.8**	**+1.0**
	baz=31,SNR=8.0						
MGCD	**Mangrove Creek**	**31.10**	**234**	P	**P**	**21 38 18.1**	**+0.4**
	baz=32,SNR=7.6						
PATS	**Pohnpei**	**32.68**	**315**	P	P	21 38 21.4	-10
	baz=32,SNR=3.4						
CTA	**Charters Tower**	**32.86**	**260**	P	**P**	**21 38 33.2**	**+0.3**
	1.3nm,0.3s,baz=72,slow=13,SNR=3.9						
CMSA	**Cobar Meteorol**	**34.86**	**239**	P	**P**	**21 38 49.4**	**-0.3**
	baz=35,SNR=25						
STKA	**Stephens Creek**	**38.33**	**240**	P	**P**	**21 39 18.4**	**+0.1**
	5.6nm,0.4s,baz=92,slow=9.5,SNR=38						
STKA	**Stephens Creek**	**38.33**	**240**	P	**P**	**21 39 18.5**	**+0.1**
	baz=39,SNR=24						
MCQ	**Macquarie Isla**	**40.84**	**199**	P	P	21 39 53.9	+16
	baz=42,SNR=3.2						
BBOO	**Buckleboo**	**43.11**	**240**	P	**P**	**21 39 56.0**	**-0.6**
	baz=43,SNR=15						
WRA	**Warramunga Arr**	**44.05**	**259**	P	**P**	**21 40 03.1**	**-0.9**
	0.9nm,0.4s,baz=93,slow=7.9,SNR=34						
ASAR	**Alice Springs**	**44.29**	**254**	P	**P**	**21 40 05.5**	**-0.3**
	17nm,0.8s,baz=88,slow=8.1,SNR=210						

0.3nm,0.2s,SNR=7.9
EBEN S **Sn** **21 39 40.8 -3.1**
1.8nm,0.2s,SNR=7.9
EMUR La Murta 4.49 284 P **Pn** **21 39 04.9 +0.9**
1.0nm,0.3s,SNR=7.9
EMUR S **Sn** **21 39 51.5 -4.8**
0.7nm,0.2s,SNR=7.9
EMUR La Murta 4.49 284 P **Pn** **21 39 04.9 +0.9**
1.0nm,0.3s,SNR=7.9
ETOB Tobarra 4.93 292 P **Pn** **21 39 11.4 +1.4**
0.9nm,0.2s,SNR=9.7
ETOB S **Sn** **21 40 02.4 -4.7**
0.8nm,0.2s,SNR=5.1
ETOB Tobarra 4.93 292 P **Pn** **21 39 11.4 +1.4**
0.9nm,0.2s,SNR=9.7
EMOS Mosqueruela 5.07 314 P **Pn** **21 39 13.5 +1.4**
0.3nm,0.1s,SNR=7.9
EMOS S **Sn** **21 40 07.3 -3.5**
1.1nm,0.3s,SNR=7.9
EMOS Mosqueruela 5.07 314 P **Pn** **21 39 13.5 +1.4**
0.3nm,0.1s,SNR=7.9
EMOS S **Sn** **21 40 07.3 -3.5**
1.1nm,0.3s,SNR=7.9
EPOB Poblet 5.09 332 P **Pn** **21 39 13.2 +0.9**
0.4nm,0.1s,SNR=7.9
EPOB S **Sn** **21 40 07.4 -3.7**
1.5nm,0.2s,SNR=7.9
EPOB Poblet 5.09 332 P **Pn** **21 39 13.2 +0.9**
0.4nm,0.1s,SNR=7.9
EMIR Miracle 5.44 338 P **Pn** **21 39 19.4 +2.4**
2.9nm,0.1s,SNR=10
EMIR S **Sn** **21 40 17.3 -2.4**
2.2nm,0.2s,SNR=6.6
EMIR Miracle 5.44 338 P **Pn** **21 39 19.4 +2.4**
2.9nm,0.1s,SNR=10
EHUE Huescar 5.54 282 P **Pn** **21 39 21.3 +2.8**
0.3nm,0.2s,SNR=7.9
EHUE S **Sn** **21 40 22.4 +0.1**
0.6nm,0.2s,SNR=4.0
EHUE Huescar 5.54 282 P **Pn** **21 39 21.3 +2.8**
0.3nm,0.2s,SNR=7.9
EHUE S **Sn** **21 40 22.4 +0.1**
0.6nm,0.2s,SNR=4.0
EVIA Vianos 5.64 290 P **Pn** **21 39 22.6 +2.7**
1.4nm,0.2s,SNR=4.0
EVIA Vianos 5.64 290 P **Pn** **21 39 22.6 +2.7**
1.4nm,0.2s,SNR=4.0
EJON La Jonquera 5.64 350 P **Pn** **21 39 21.9 +2.1**
2.5nm,0.1s,SNR=26
EJON S **Sn** **21 40 21.9 -2.8**
0.7nm,0.2s,SNR=7.9
EJON La Jonquera 5.64 350 P **Pn** **21 39 21.9 +2.1**
2.5nm,0.1s,SNR=26
SJAF Saint Jean de 5.68 350 *eP* **Pn** **21 39 22.2 +1.9**
EBER Berja 5.74 272 P **Pn** **21 39 23.1 +1.8**
0.5nm,0.4s,SNR=4.0
EBER Berja 5.74 272 P **Pn** **21 39 23.1 +1.8**
0.5nm,0.4s,SNR=4.0
FILF Fillols 5.80 347 *eP* **Pn** **21 39 24.9 +2.8**
EQES Quesada 5.92 281 P **Pn** **21 39 25.2 +1.5**
0.8nm,0.3s,SNR=7.9
EQES S **Sn** **21 40 31.0 -0.6**
2.3nm,0.3s,SNR=7.9
EQES Quesada 5.92 281 P **Pn** **21 39 25.2 +1.5**
0.8nm,0.3s,SNR=7.9
EBIE Bielsa 6.59 332 P **Pn** **21 39 35.9 +2.8**
0.5nm,0.4s,SNR=6.5
EBIE Bielsa 6.59 332 P **Pn** **21 39 35.9 +2.8**
0.5nm,0.4s,SNR=6.5
MTLF Montolieu 6.62 347 *eP* **Pn** **21 39 35.6 +2.4**
MTLF Montolieu 6.62 347 *eP* **Pn** **21 39 35.6 +2.4**
LMR La Mourre 6.65 14 *ePn* **Pn** **21 39 34.2 +0.6**
LMR *eSn* **Sn** **21 40 45.1 -4.3**
2.4nm,0.3s
LMR La Mourre 6.65 14 P **Pn** **21 39 34.2 +0.6**
PGF Pioggiola 6.71 31 *ePn* **Pn** **21 39 36.0 +1.4**
PGF *eSn* **Sn** **21 40 50.4 -0.8**
2.1nm,0.3s
PGF Pioggiola 6.71 31 P **Pn** **21 39 36.0 +1.4**
PGF S **Sn** **21 40 50.4 -0.8**
0.5nm,0.3s
EPF Esparros 6.82 335 *eP* **Pn** **21 39 38.7 +2.6**
EPF *eSn* Sn 21 40 41.3 -13
1.3nm,0.4s
EPF Esparros 6.82 335 *eP* **Pn** **21 39 38.7 +2.6**
FRF La Foret Royal 6.89 15 *ePn* **Pn** **21 39 37.5 +0.5**
FRF *eSn* **Sn** **21 40 51.7 -3.8**
2.4nm,0.3s
FRF La Foret Royal 6.89 15 P **Pn** **21 39 37.5 +0.5**
ESDC Sonseca Array 7.04 296 P Pn 21 39 43.3 +4.2
0.7nm,0.3s,baz=108,slow=14,SNR=4.0
ETSF Etsaut 7.04 330 *eP* **Pn** **21 39 41.1 +2.0**
ETSF Etsaut 7.04 330 *eP* **Pn** **21 39 41.1 +2.0**
SMRF Simiane la Rot 7.14 8 *ePn* **Pn** **21 39 41.5 +1.1**
SMRF Simiane la Rot 7.14 8 P **Pn** **21 39 41.5 +1.1**
LASF Ste Croix 7.17 358 *ePn* **Pn** **21 39 41.0 +0.2**
LASF Ste Croix 7.17 358 P **Pn** **21 39 41.0 +0.2**
IEPA Eparoz 7.25 326 P **Pn** **21 39 43.7 +1.8**
0.5nm,0.2s,SNR=7.9
IEPA Eparoz 7.25 326 P **Pn** **21 39 43.7 +1.8**
0.5nm,0.2s,SNR=7.9
IELO Elcoad 7.29 326 P **Pn** **21 39 43.7 +1.3**
0.6nm,0.3s,SNR=7.9
IELO Elcoad 7.29 326 P **Pn** **21 39 43.7 +1.3**
0.6nm,0.3s,SNR=7.9
SJPF Ste Jean 7.50 328 *eP* **Pn** **21 39 47.5 +2.2**
SJPF Ste Jean 7.50 328 *eP* **Pn** **21 39 47.5 +2.2**
EALK Alkurruntz 7.71 327 P **Pn** **21 39 50.6 +2.5**
0.7nm,0.2s,SNR=7.9
EALK Alkurruntz 7.71 327 P **Pn** **21 39 50.6 +2.5**
0.7nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 7.95 2 *ePn* **Pn** **21 39 52.1 +0.6**
VIVF Saint-Julien-l 7.95 2 P **Pn** **21 39 52.1 +0.6**
MBDF Montbardon 8.04 13 *ePn* **Pn** **21 39 54.0 +1.1**
MBDF Montbardon 8.04 13 P **Pn** **21 39 54.0 +1.1**
LPG La Plagne 8.79 12 *ePn* **Pn** **21 40 05.5 +2.3**
LPG La Plagne 8.79 12 P **Pn** **21 40 05.5 +2.3**
LPL La Plagne 8.80 11 *ePn* **Pn** **21 40 05.9 +2.5**
LPL La Plagne 8.80 11 P **Pn** **21 40 05.9 +2.5**

BJI 21 21:42:08.6, 36°65N×83°77E, h15km, ML3.4/7, Ms3.4/1, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.78**	**297**	Pn	Pn	21 43 49.1	+1.3
KSH	comp=N,5.0nm,0.5s			smax	smax		
KSH	comp=E,16nm,0.4s			smax	smax		
MK31	**Makanchi Array**	**10.20**	**354**	Pn	Pn	21 44 33.7	-0.7
MK31	comp=E,1.2nm,0.7s,baz=182,slow=11,SNR=13			⇓Sn	Sn	21 46 22.1	-6.4
	comp=E,2.7nm,0.8s,baz=182,slow=22,SNR=7.5						

IDC 21 21:57:57.7±1.8, 1°75N×127°06E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=103.5km s-min=23.9km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.78**	**184**	P	Pn	22 02 31.6	+0.5
	0.1nm,0.3s,baz=17,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**22.71**	**162**	P	P	22 03 01.5	+0.1
	1.0nm,0.4s,baz=337,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.13**	**166**	P	P	22 03 33.3	-0.4
	0.5nm,0.5s,baz=349,slow=7.4,SNR=9.7						
STKA	**Stephens Creek**	**36.18**	**159**	P	P	22 05 01.0	-1.1
	2.3nm,1.0s,baz=328,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**59.36**	**326**	P	P	22 08 02.0	+0.1
	0.2nm,0.4s,baz=114,slow=6.9,SNR=5.2						

IDC 21 22:02:32.6±1.5, 1°56S×99°18E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML3.3/2, Error ellipse: s-maj=66.0km s-min=18.2km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.34**	**357**	Pn	Pn	22 03 39.1	-1.0
	0.2nm,0.3s,baz=127,slow=20,SNR=3.1						
CMAR	**Chiang Mai Arr**	**19.90**	**359**	P	P	22 07 05.7	-0.1
	0.1nm,0.3s,baz=187,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**38.92**	**120**	P	P	22 09 59.7	-0.8
	1.4nm,0.8s,baz=303,slow=9.0,SNR=13						
WRA				PcP	PcP	22 12 11.9	+0.5
	0.3nm,0.5s,baz=310,slow=2.8,SNR=6.0						
ASAR	**Alice Springs**	**40.17**	**126**	P	P	22 10 11.3	+0.4
	0.5nm,0.5s,baz=297,slow=7.5,SNR=8.0						
SONM	**Songino Array**	**49.60**	**6**	P	P	22 11 25.5	-0.3
	0.2nm,0.4s,baz=193,slow=9.6,SNR=2.6						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	22 11 31.8	+0.1
	0.6nm,0.5s,baz=158,slow=8.2,SNR=9.0						
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	P	22 12 17.1	0.0
	1.0nm,0.5s,baz=152,slow=6.7,SNR=6.8						
FINES	**FINESS Array B**	**83.35**	**332**	P	P	22 15 00.6	-0.7
	1.4nm,0.8s,baz=166,slow=32,SNR=4.5						
CPUP	**Villa Florida**	**144.17**	**218**	PKP	PKPdf	22 22 10.7	-0.6
	1.3nm,0.5s,baz=53,slow=5.1,SNR=3.0						
TXAR	**Lajitas Array**	**144.84**	**36**	PKP	PKPdf	22 22 12.1	-0.5
	0.4nm,0.5s,baz=265,slow=0.8,SNR=9.8						

---

*CSEM **21** 22:18:29.2, 46°21N×14°34E, h0km, ML0.3, After LJU*
LJU 21 22:18:29.2, 46°21N×14°34E, h16km, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	**Mozjanca**	**0.11**	**41**	*i* Pg	Pg	22 18 32.9	+0.1
MOZS	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.11**	**41**	*i* Pg	Pg	22 18 32.9	+0.1
	comp=Z,2.0nm,0.1s						
CRNS	**Crni Vrh**	**0.14**	**202**	*i* Pg	Pb	22 18 33.6	0.0
CRNS	comp=Z,3.0nm,0.1s						
LJU	**Ljubljana**	**0.21**	**142**	*i* Sg	Sg	22 18 37.9	+0.5
LJU	**Ljubljana**	**0.21**	**142**	*i* Sg	Sg	22 18 37.9	+0.4
GORS	**Gorjuse**	**0.26**	**294**	*i* Pg	Pg	22 18 35.1	+0.1
GORS				*i* Sg	Sg	22 18 39.1	0.0
GORS	**Gorjuse**	**0.26**	**294**	*i* Pg	Pg	22 18 35.1	0.0
GORS				*i* Sg	Sg	22 18 39.1	0.0
VOJS	**Vojsko**	**0.36**	**241**	*i* Pg	Pg	22 18 36.6	-0.2
VOJS				*i* Sg	Sb	22 18 42.6	-0.4
VOJS	**Vojsko**	**0.36**	**241**	*i* Pg	Pg	22 18 36.7	-0.1
VOJS				*i* Sg	Sb	22 18 42.6	-0.4

---

*CSEM **21** 22:18:52.0±0.1, 45°48N×15°33E, h8km, ML1.8/4, Error ellipse: s-maj=2.8km s-min=2.0km az=117.0*
LJU 21 22:18:52.5, 45°51N×15°29E, h8km, ML1.2, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.03**	**258**	⇑*i* Pg	Pg	22 18 53.9	-0.1
BOJS				*i* Sg	Sg	22 18 55.0	+0.1
BOJS	comp=Z,48nm,0.0s						
BOJS	**Bojanci**	**0.03**	**258**	⇑*i* Pg	Pg	22 18 53.9	-0.1
BOJS				*i* Sg	Sg	22 18 55.0	0.0
BOJS	comp=Z,48nm,0.0s						
CRES	**Cresnjev**	**0.34**	**20**	*i* Pg	Pg	22 18 58.5	-0.6
CRES				*i* Sg	Sg	22 19 04.1	+0.4
CRES	comp=Z,8.0nm,0.1s						
CRES	**Cresnjev**	**0.34**	**20**	*i* Pg	Pg	22 18 58.5	-0.7
CRES				*i* Sg	Sg	22 19 04.1	+0.4
CRES	comp=Z,8.0nm,0.1s						
GBRS	**Gornja Briga**	**0.34**	**274**	*i* Pg	Pg	22 18 59.6	+0.4
GCIS	**Gornji Cirnik**	**0.43**	**33**	*i* Pg	Pg	22 19 00.8	-0.1
GCIS	comp=Z,7.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.43**	**33**	*i* Pg	Pg	22 19 00.8	-0.1
	comp=Z,7.0nm,0.1s						
VISS	**Visnje**	**0.43**	**313**	⇑*i* Pg	Pg	22 19 01.2	+0.3
VISS				*i* Sg	Sg	22 19 07.0	+0.3
VISS	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**0.43**	**313**	⇑*i* Pg	Pg	22 19 01.2	+0.2
VISS				*i* Sg	Sg	22 19 07.0	+0.3
VISS	comp=Z,3.0nm,0.1s						
LEGS	**Legarje**	**0.44**	**2**	*i* Pg	Pg	22 19 01.1	0.0
LEGS				*e*Sg	Sg	22 19 07.5	+0.5
LEGS	**Legarje**	**0.44**	**2**	*i* Pg	Pg	22 19 01.1	0.0
LEGS				*e*Sg	Sg	22 19 07.5	+0.6
GOLS	**Golise**	**0.55**	**25**	*i* Sg	Sb	22 19 11.8	-0.9
GOLS	comp=Z,5.0nm,0.2s						
GOLS	**Golise**	**0.55**	**25**	*i* Sg	Sb	22 19 11.8	-0.9
	comp=Z,5.0nm,0.2s						
PDKS	**Podkum**	**0.59**	**340**	*i* Pg	Pg	22 19 04.3	+0.3
PDKS	**Podkum**	**0.59**	**340**	*i* Pg	Pg	22 19 04.3	+0.3
KNDS	**Knezji Dol**	**0.64**	**272**	*e*Sg	Sb	22 19 14.6	-0.7
KNDS	**Knezji Dol**	**0.64**	**272**	*e*Sg	Sb	22 19 14.6	-0.8
CEY	**Cerknica**	**0.65**	**291**	*i* Pg	Pg	22 19 05.1	0.0
CEY	**Cerknica**	**0.65**	**291**	*i* Pg	Pg	22 19 05.1	0.0
DOBS	**Dobrina**	**0.65**	**11**	*e*Pg	Pg	22 19 05.3	+0.2
DOBS	**Dobrina**	**0.65**	**11**	*e*Pg	Pg	22 19 05.3	+0.2
VNDS	**Vrh nad Dolski**	**0.72**	**325**	*i* Pg	Pg	22 19 06.6	+0.2
MOZS	**Mozjanca**	**0.98**	**323**	*i* Pg	Pg	22 19 11.6	+0.1
MOZS	**Mozjanca**	**0.98**	**323**	*i* Pg	Pg	22 19 11.6	+0.1
NVLJ	**Novalja**	**0.99**	**198**	*e*Pg	Pg	22 19 11.1	-0.4
NVLJ				*e*Sg	Sb	22 19 25.7	+0.6
NVLJ	**Novalja**	**0.99**	**198**	*e*Pg	Pg	22 19 11.1	-0.4
UDBI	**Udbina**	**1.04**	**161**	*i* Pg	Pg	22 19 10.9	-1.7
UDBI				*i* Sg	Sg	22 19 23.8	-2.3
UDBI	**Udbina**	**1.04**	**161**	*i* Sg	Sg	22 19 23.7	-2.4
VOJS	**Vojsko**	**1.12**	**298**	*i* Pg	Pg	22 19 13.8	-0.3
VOJS	**Vojsko**	**1.12**	**298**	*i* Pg	Pg	22 19 13.8	-0.3

IDC 21 22:32:38.2±1.6, 15°17S×165°24E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=37.2km s-min=28.9km az=111.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.96**	**171**	Pn	Pn	22 34 22.2	+0.6
	1.1nm,0.3s,baz=60,slow=20,SNR=11						
DZM	baz=88,slow=24,SNR=7.6			Sn	Sn	22 35 41.3	-0.4
STKA	**Stephens Creek**	**27.23**	**228**	P	P	22 38 23.9	-0.1
	1.6nm,0.6s,baz=72,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**29.82**	**256**	P	P	22 38 47.4	+0.1
	0.2nm,0.3s,baz=84,slow=8.8,SNR=9.2						
ASAR	**Alice Springs**	**30.68**	**249**	P	P	22 38 54.9	-0.1
	1.1nm,0.6s,baz=82,slow=8.9,SNR=16						
ILAR	**Eielson Array**	**87.55**	**19**	P	P	22 45 27.7	-0.1
	0.3nm,0.6s,baz=238,slow=5.2,SNR=2.9						

---

*NIED **21** 22:34:00, 23°40N×123°80E, h32km, Mw3.6 Best double couple: M0=3.13000×10^14 NP1:φs=300.00000°, δ=89.00000°, λ=-5.00000°. NP2:φs=30.00000°, δ=85.00000°, λ=-179.00000°.*
JMA 21 22:34:28.1±0.3, 23°40N×123°82E, h43km±4km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**359**	P	Pn	22 34 40.8	-0.2
HATJ				*e*S	Sn	22 34 50.2	0.0
JKRS	**Kuro-shima**	**0.85**	**12**	P	Pn	22 34 44.3	+0.6
JKRS				*e*S	Sn	22 34 55.5	+0.5
IRIF	**Iriomote-Funau**	**0.93**	**355**	P	Pn	22 34 45.1	+0.3
IRIF				*e*S	Sn	22 34 57.1	+0.1
JIJ	**Ishigaki jima**	**1.00**	**17**	P	Pn	22 34 45.7	-0.1
JIJ				*e*S	Sn	22 34 58.4	-0.3
YOJ	**Yonaguni jima**	**1.29**	**325**	P	Pn	22 34 50.1	+0.4
YOJ				*e*S	Sn	22 35 05.7	-0.1
JTJ	**Tarama**	**1.48**	**33**	P	Pn	22 34 52.8	+0.6
JTJ				*e*S	Sn	22 35 10.7	+0.4
JMJ	**Miyako jima 2**	**1.95**	**43**	P	Pn	22 34 59.1	+0.4
JMJ				*e*S	Sn	22 35 22.9	+0.9
JOGS	**Gusukube**	**1.98**	**47**	P	Pn	22 34 59.8	+0.6
JOGS				*e*S	Sn	22 35 24.5	+1.7
JKE	**Kume jima 2**	**3.97**	**42**	P	Pn	22 35 25.2	-1.2
JKE				*e*S	Sn	22 36 10.9	-0.8

JMA 21 22:36:09.1±0.1, 40°69N×142°24E, h46km±3km, M3.5, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.64**	**240**	⇓P	Pn	22 36 22.0	+0.1
JANG				*e*S	Sn	22 36 30.8	-0.3
JTH	**Tanohata**	**0.80**	**201**	⇑P	Pn	22 36 23.9	-0.2
JTH				*e*S	Sn	22 36 33.8	-1.2
JTM	**Tenmabayashi**	**0.90**	**277**	⇓P	Pn	22 36 25.1	-0.2
JTM				S	Sn	22 36 36.4	-0.8
JKZ	**Kuzumaki**	**0.99**	**225**	⇓P	Pn	22 36 27.1	+0.4
JKZ				S	Sn	22 36 39.4	-0.2
JOT	**Ohata**	**1.14**	**308**	⇓P	Pn	22 36 28.4	-0.2
JOT				*e*S	Sn	22 36 42.6	-0.4
JAH	**Hinai**	**1.32**	**248**	P	Pn	22 36 31.4	+0.3
JAH				*e*S	Sn	22 36 47.5	-0.1
JOM	**Ohasama**	**1.42**	**211**	P	Pn	22 36 32.9	+0.5
JOM				*e*S	Sn	22 36 49.9	0.0
JKB	**Kayabe**	**1.50**	**323**	P	Pn	22 36 33.8	+0.2
JSR	**Shiriuchi**	**1.61**	**302**	P	Pn	22 36 35.5	+0.4
JNBK	**Urakawa-nobuka**	**1.64**	**13**	P	Pn	22 36 37.9	+2.5
JIW	**Iwasaki**	**1.70**	**267**	P	Pn	22 36 36.9	+0.6

---

*ATH **21** 22:56:46.9, 38°37N×21°90E, h14km±1km, MD3.1/18*
*CSEM **21** 22:56:47.0±0.1, 38°38N×21°91E, h8km, ML2.1/4, Error ellipse: s-maj=3.0km s-min=2.5km az=101.0*
THE 21 22:56:47.3, 38°40N×21°92E, h10km±1km, ML2.1/4, Error ellipse: s-maj=1.5km s-min=0.6km az=87.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.03**	**344**	P	Pg	22 56 48.7	-0.4
EFP				S	Sg	22 56 49.9	-0.4
EFP	**Efpalio**	**0.03**	**344**	P	Pg	22 56 48.7	-0.4
EFP				S	Sg	22 56 49.9	-0.4
PSA1	**Psathopyrgos**	**0.08**	**199**	*e*PG	Pg	22 56 49.4	-0.1
TRIZ	**Trizonia**	**0.13**	**105**	P	Pg	22 56 50.3	+0.1
TRIZ				S	Sg	22 56 52.8	+0.5
TRIZ	**Trizonia**	**0.13**	**105**	P	Pg	22 56 50.3	+0.1
TRIZ				S	Sg	22 56 52.8	+0.5
LAKA	**Lakka**	**0.17**	**163**	P	Pg	22 56 50.9	0.0
LAKA				S	Sg	22 56 53.7	+0.3
LAKA	**Lakka**	**0.17**	**163**	*e*PG	Pg	22 56 50.9	0.0
LAKA				*e*SG	Sg	22 56 53.2	-0.2
LAKA	**Lakka**	**0.17**	**163**	P	Pg	22 56 50.9	0.0
LAKA				*e*Sg	Sg	22 56 53.2	-0.2
KALE	**Kalithea**	**0.18**	**92**	P	Pg	22 56 51.1	-0.1
KALE				S	Sg	22 56 54.2	+0.4
KALE	**Kalithea**	**0.18**	**92**	*e*PG	Pg	22 56 51.1	-0.1
KALE				*e*SG	Sg	22 56 54.5	+0.7
KALE	**Kalithea**	**0.18**	**92**	P	Pg	22 56 51.1	-0.1
KALE				S	Sg	22 56 54.2	+0.4
KLV	**Kalavryta, Ach**	**0.40**	**152**	P	Pg	22 56 54.7	-0.6
KLV				S	Sg	22 57 01.7	+1.1
KLV	**Kalavryta, Ach**	**0.40**	**152**	*e*PB	Pg	22 56 54.8	-0.5
KLV				*e*SB	Sg	22 56 59.7	-0.9
KLV	**Kalavryta, Ach**	**0.40**	**152**	*e*Pb	Pg	22 56 54.8	-0.5
KLV				*e*Sb	Sg	22 56 59.7	-0.9
KLV				S	Sb	22 57 01.7	-1.2
AXS	**Araxos**	**0.47**	**245**	P	Pg	22 56 56.0	-0.5
AXS				S	Sb	22 57 03.8	-0.9
AXS	**Araxos**	**0.47**	**245**	P	Pg	22 56 56.0	-0.5
DSF	**Desfina**	**0.48**	**88**	P	Pg	22 56 55.9	-0.9
DSF				S	Sg	22 57 04.0	+0.8
DSF	**Desfina**	**0.48**	**88**	P	Pg	22 56 55.9	-0.9
DSF				S	Sg	22 57 04.0	+0.8
RLS	**Riolos of Patr**	**0.49**	**226**	P	Pg	22 56 56.5	-0.4
RLS				S	Sb	22 57 04.4	-0.9
RLS	**Riolos of Patr**	**0.49**	**226**	*e*PB	Pg	22 56 56.8	-0.1
RLS				*e*SB	Sg	22 57 03.1	-0.2
RLS	**Riolos of Patr**	**0.49**	**226**	P	Pg	22 56 56.5	-0.4
RLS	**Riolos of Patr**	**0.49**	**226**	*e*Pb	Pg	22 56 56.8	-0.1
RLS				*e*Sb	Sg	22 57 03.1	-0.2
RLS				S	Sb	22 57 04.4	-0.9
EVR	**Evrytania**	**0.52**	**351**	P	Pg	22 56 57.0	-0.7
EVR				S	Sb	22 57 06.1	-0.5
EVR	**Evrytania**	**0.52**	**351**	*e*PG	Pg	22 56 57.4	-0.3
EVR				*e*SB	Sg	22 57 05.4	+0.7
EVR	**Evrytania**	**0.52**	**351**	P	Pg	22 56 57.0	-0.7
EVR	**Evrytania**	**0.52**	**351**	*e*Pg	Pg	22 56 57.4	-0.3
EVR				*e*Sb	Sg	22 57 05.4	+0.7
EVR				S	Sb	22 57 06.1	-0.5
GUR	**Goura**	**0.57**	**144**	P	Pg	22 56 57.8	-0.8
GUR				S	Sg	22 57 06.4	+0.2
GUR	**Goura**	**0.57**	**144**	P	Pg	22 56 57.8	-0.8
GUR				S	Sg	22 57 06.4	+0.2
MAKR	**Makrakomi, Fth**	**0.64**	**15**	P	Pg	22 56 59.5	-0.2
MAKR				S	Sb	22 57 09.9	+0.2
MAKR	**Makrakomi, Fth**	**0.64**	**15**	P	Pg	22 56 59.5	-0.2
MAKR				S	Sb	22 57 09.9	+0.2
AXAR	**Agios Charalam**	**0.69**	**58**	P	Pg	22 56 59.7	-1.0
AXAR				S	Sb	22 57 11.9	+0.8
AXAR	**Agios Charalam**	**0.69**	**58**	P	Pg	22 56 59.7	-1.0
AXAR				S	Sb	22 57 11.9	+0.8
AGG	**Agios Georgios**	**0.70**	**27**	P	Pg	22 56 59.9	-1.1
AGG				S	Sb	22 57 11.4	-0.2
AGG	**Agios Georgios**	**0.70**	**27**	*e*PB	Pg	22 57 00.0	-1.0
AGG				*e*SB	Sb	22 57 11.4	-0.2
AGG	**Agios Georgios**	**0.70**	**27**	*e*Pb	Pg	22 57 00.0	-1.0
AGG				S	Sb	22 57 11.4	-0.2
AMT	**Artemida-Makis**	**0.88**	**191**	P	Pg	22 57 03.7	-0.6
AMT	**Artemida-Makis**	**0.88**	**191**	P	Pg	22 57 03.7	-0.6
LKR	**Lokris**	**0.89**	**73**	*e*PG	Pg	22 57 03.6	-0.8
LKR				*e*SB	Sb	22 57 17.1	+0.3
LKR	**Lokris**	**0.89**	**73**	*e*Pg	Pg	22 57 03.6	-0.8
LKR				*e*Sb	Sb	22 57 17.1	+0.3
LKD2	**Lefkada island**	**1.06**	**292**	P	Pg	22 57 07.0	-0.8
LKD2	**Lefkada island**	**1.06**	**292**	*e*PN	Pg	22 57 07.4	-0.4
LKD2	**Lefkada island**	**1.06**	**292**	P	Pg	22 57 07.0	-0.8
LKD2	**Lefkada island**	**1.06**	**292**	*e*Pn	Pg	22 57 07.4	-0.4
VLS	**Valsamata**	**1.07**	**258**	P	Pg	22 57 06.5	-1.4
VLS				S	Sn	22 57 24.0	+0.6
VLS	**Valsamata**	**1.07**	**258**	*e*PG	Pg	22 57 06.7	-1.2
VLS	**Valsamata**	**1.07**	**258**	*e*Pg	Pg	22 57 06.7	-1.2
THL	**Klokotos Trika**	**1.17**	**4**	*e*PB	Pn	22 57 10.3	+0.6
THL	**Klokotos Trika**	**1.17**	**4**	*e*Pb	Pn	22 57 10.3	+0.6
ITM	**Ithomi**	**1.22**	**180**	*e*PB	Pn	22 57 09.8	-0.7
ITM	**Ithomi**	**1.22**	**180**	*e*Pb	Pn	22 57 09.8	-0.7
DID	**Didima**	**1.37**	**130**	*e*PB	Pn	22 57 12.8	+0.2
DID	**Didima**	**1.37**	**130**	*e*Pb	Pn	22 57 12.8	+0.2
PYL	**PYLOS**	**1.51**	**185**	*e*PB	Pn	22 57 14.6	+0.2
PYL	**PYLOS**	**1.51**	**185**	*e*Pb	Pn	22 57 14.6	+0.2
DYR	**Agios Nikonas**	**1.67**	**168**	*e*PG	Pb	22 57 17.5	-0.7

	83nm,0.1s						
STV	**Sant Anna di V**	**0.36**	**173**	Pg	**Pg**	**22 58 31.3**	**+0.3**
STV				S	**Sg**	**22 58 35.9**	**+0.1**
MBDF	**Montbardon**	**0.37**	**290**	*e*Pg	**Pg**	**22 58 31.7**	**+0.4**
MBDF				*e*Sg	**Sg**	**22 58 36.1**	**-0.2**
	40nm,0.2s						
MBDF	**Montbardon**	**0.37**	**290**	*e*Pg	**Pg**	**22 58 31.7**	**+0.4**
MBDF				*e*Sg	**Sg**	**22 58 36.1**	**-0.2**
	20nm,0.2s						
ENR	**Entracque**	**0.39**	**163**	P	**Pg**	**22 58 31.9**	**+0.3**
ENR				S	**Sg**	**22 58 36.8**	**0.0**
RSP	**Reno Superiore**	**0.55**	**0**	Pg	**Pg**	**22 58 34.4**	**-0.1**
RSP				Sg	**Sg**	**22 58 42.5**	**+0.7**
	36nm,0.1s						
RSP	**Reno Superiore**	**0.55**	**0**	Pg	**Pg**	**22 58 34.4**	**-0.1**
RSP				S	**Sg**	**22 58 42.1**	**+0.3**
RSP				Sg	**Sg**	**22 58 42.5**	**+0.7**
	36nm,0.1s						
TOUF	**Mont Tournerai**	**0.59**	**181**	Pg	**Pg**	**22 58 35.3**	**0.0**
BNI	**Bardonecchia**	**0.61**	**318**	Pg	**Pb**	**22 58 36.5**	**+0.1**
BNI				Sg	**Sg**	**22 58 44.5**	**+0.6**
	18nm,0.3s						
BNI	**Bardonecchia**	**0.61**	**318**	Pg	**Pb**	**22 58 36.5**	**+0.1**
BNI				Sg	**Sg**	**22 58 44.5**	**+0.6**
	18nm,0.3s						
AUTN	**L'Aution**	**0.62**	**169**	Pg	**Pg**	**22 58 35.7**	**-0.1**
AUTN				Sg	**Sg**	**22 58 44.1**	**+0.1**
SAOF	**Saorge**	**0.65**	**161**	Pg	**Pg**	**22 58 36.3**	**-0.1**
SAOF				Sg	**Sg**	**22 58 44.5**	**-0.5**
MONC	**Moncucco Torin**	**0.67**	**45**	Pg	**Pb**	**22 58 38.0**	**+0.7**
	59nm,0.3s						
MONC	**Moncucco Torin**	**0.67**	**45**	Pg	**Pb**	**22 58 38.0**	**+0.7**
	59nm,0.3s						
MVIF	**Mont Vial**	**0.71**	**186**	Pg	**Pg**	**22 58 38.0**	**+0.5**
MVIF				Sg	**Sg**	**22 58 46.5**	**-0.4**
LUCF	**Luceram**	**0.71**	**175**	Pg	**Pg**	**22 58 37.3**	**-0.3**
LUCF				Sg	**Sg**	**22 58 46.6**	**-0.3**
SBF	**Sospel**	**0.75**	**170**	*e*Pg	**Pg**	**22 58 38.3**	**+0.1**
SBF				*e*Sg	**Sg**	**22 58 48.4**	**+0.3**
	187nm,0.5s						
SBF	**Sospel**	**0.75**	**170**	*e*Pg	**Pg**	**22 58 38.3**	**+0.1**
SBF				*e*Sg	**Sg**	**22 58 48.4**	**+0.3**
	94nm,0.5s						
RORO	**Rocca Rossa**	**0.76**	**130**	Pg	**Pg**	**22 58 38.5**	**+0.1**
RORO				Sg	**Sg**	**22 58 48.4**	**+0.1**
	32nm,0.2s						
RORO	**Rocca Rossa**	**0.76**	**130**	P	**Pg**	**22 58 38.3**	**-0.1**
RORO				Sg	**Sg**	**22 58 48.4**	**+0.1**
	32nm,0.2s						
ROTM	**Rocchetta Tana**	**0.82**	**72**	P	**Pb**	**22 58 40.6**	**+0.8**
ROTM				S	**Sg**	**22 58 51.7**	**+1.5**
NEGI	**Seborga**	**0.82**	**157**	P	**Pg**	**22 58 39.3**	**-0.3**
NEGI				S	**Sg**	**22 58 50.2**	**-0.1**
QLNO	**Quiliano**	**0.82**	**109**	Pg	**Pg**	**22 58 39.9**	**+0.2**
QLNO	**Quiliano**	**0.82**	**109**	Pg	**Pg**	**22 58 39.9**	**+0.2**
LSD	**Lago del Serru**	**0.86**	**354**	Pg	**Pg**	**22 58 39.9**	**-0.6**
LSD				Sg	**Sg**	**22 58 51.5**	**-0.3**
LSD	**Lago del Serru**	**0.86**	**354**	Pg	**Pg**	**22 58 39.9**	**-0.6**
LSD				Sg	**Sg**	**22 58 51.5**	**-0.3**
FINB	**Finale Ligure**	**0.87**	**119**	Pg	**Pg**	**22 58 40.8**	**+0.2**
FINB				Sg	**Sg**	**22 58 52.8**	**+0.8**
	28nm,0.5s						
FINB	**Finale Ligure**	**0.87**	**119**	Pg	**Pg**	**22 58 40.8**	**+0.2**
FINB				Sg	**Sg**	**22 58 52.8**	**+0.8**
	28nm,0.5s						
PCP	**Piancastagn**	**0.92**	**93**	Pg	**Pg**	**22 58 41.5**	**0.0**
PCP	**Piancastagn**	**0.92**	**93**	Pg	**Pg**	**22 58 41.5**	**0.0**
PCP				S	**Sg**	**22 58 53.3**	**-0.2**
LPG	**La Plagne**	**0.97**	**338**	*e*Pg	**Pg**	**22 58 42.8**	**+0.4**
LPG				*e*Sg	**Sg**	**22 58 54.7**	**-0.4**
	11nm,0.2s						
LPG	**La Plagne**	**0.97**	**338**	*e*Pg	**Pg**	**22 58 42.8**	**+0.4**
LPG				*e*Sg	**Sg**	**22 58 54.7**	**-0.4**
	5.7nm,0.2s						
TRAV	**Traversella**	**0.97**	**20**	P	**Pg**	**22 58 41.3**	**-1.2**
TRAV				S	**Sg**	**22 58 53.6**	**-1.6**
LPL	**La Plagne**	**0.99**	**338**	*e*Pg	**Pg**	**22 58 43.0**	**+0.2**
LPL				*e*Sg	**Sg**	**22 58 55.6**	**-0.2**
	13nm,0.2s						
LPL	**La Plagne**	**0.99**	**338**	*e*Pg	**Pg**	**22 58 43.0**	**+0.2**
LPL				*e*Sg	**Sg**	**22 58 55.6**	**-0.2**
	6.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.03**	**288**	*e*Pg	**Pb**	**22 58 43.9**	**+0.3**
ORIF				*e*Sg	**Sb**	**22 58 57.4**	**+0.3**
	5.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.03**	**288**	*e*Pg	**Pb**	**22 58 43.9**	**+0.3**
ORIF				*e*Sg	**Sb**	**22 58 57.4**	**+0.3**
	2.7nm,0.2s						
FRF	**La Foret Royal**	**1.13**	**203**	*e*Pg	**Pn**	**22 58 45.6**	**+0.3**
FRF				*e*Sg	**Sn**	**22 59 00.6**	**-0.1**
	44nm,0.2s						
FRF	**La Foret Royal**	**1.13**	**203**	*e*Pg	**Pn**	**22 58 45.6**	**+0.3**
FRF				*e*Sg	**Sn**	**22 59 00.6**	**-0.1**
	22nm,0.2s						
SMRF	**Simiane la Rot**	**1.36**	**243**	*e*Pg	**Pg**	**22 58 50.2**	**+0.3**
SMRF				*e*Sg	**Sg**	**22 59 07.7**	**+0.1**
	20nm,0.5s						
SMRF	**Simiane la Rot**	**1.36**	**243**	*e*Pg	**Pg**	**22 58 50.2**	**+0.3**
SMRF				*e*Sg	**Sg**	**22 59 07.7**	**+0.1**
	9.9nm,0.5s						
LMR	**La Mourre**	**1.38**	**203**	*e*Pg	**Pg**	**22 58 50.2**	**0.0**
LMR				*e*Sg	**Sg**	**22 59 07.8**	**-0.3**
	30nm,0.2s						
LMR	**La Mourre**	**1.38**	**203**	*e*Pg	**Pg**	**22 58 50.2**	**0.0**
LMR				*e*Sg	**Sg**	**22 59 07.8**	**-0.3**
	15nm,0.2s						
VIVF	**Saint-Julien-l**	**1.86**	**279**	*e*Pn	**Pn**	**22 58 55.7**	**+0.3**
VIVF				*e*Sg	**Sg**	**22 59 23.3**	**-0.3**
	1.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.86**	**279**	*e*Pn	**Pn**	**22 58 55.7**	**+0.3**
VIVF				*e*Sg	**Sg**	**22 59 23.3**	**-0.3**
	0.9nm,0.2s						
PGF	**Pioggiola**	**2.41**	**148**	*e*Pn	**Pn**	**22 59 02.6**	**-0.4**
PGF				*e*Sn	**Sn**	**22 59 30.8**	**-1.6**
	1.9nm,0.2s						
PGF	**Pioggiola**	**2.41**	**148**	*e*Pn	**Pn**	**22 59 02.6**	**-0.4**
PGF				*e*Sn	**Sn**	**22 59 30.8**	**-1.6**
	0.9nm,0.2s						

*TIR **21** 22:58:56.6±0.5, 41°.86N×19°.10E, h6km±999km*
*CSEM **21** 22:59:00.4±0.4, 42°.00N×19°.18E, h2km, ML1.7, Error ellipse: s-maj=8.3km s-min=5.8km az=43.0*
BEO 21 22:59:02.3±0.4, 42°.02N×19°.24E, h8km±3km, ML1.7/6,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.41**	**2**	*e*Pg	Pg	22 59 08.6	-1.7
PDG				*e*Sg	Sb	22 59 17.0	-1.2
PDG	**Podgorica**	**0.41**	**2**	*e*Sg	Sb	22 59 17.0	-1.2
PDG	**Podgorica**	**0.41**	**2**	*e*Pg	Pg	22 59 08.6	-1.7
PUK	**Puka**	**0.49**	**87**	*i* PG	Pg	22 59 09.4	-2.4
PUK				*i* SG	Sg	22 59 18.4	0.0
PUK	**Puka**	**0.49**	**87**	*i* Pg	Pg	22 59 09.4	-2.5
	SNR=90						
PUK				*i* Sg	Sg	22 59 18.4	0.0
	SNR=90						
BCI	**Bajram Curri**	**0.71**	**60**	*i* PG	Pg	22 59 13.9	-2.1
BCI				*i* SG	Sb	22 59 27.3	+0.5
BCI	**Bajram Curri**	**0.71**	**60**	*i* Pg	Pg	22 59 13.9	-2.1
	SNR=90						
BCI				*i* Sg	Sb	22 59 27.3	+0.5
	SNR=90						
TIR	**Tirane**	**0.82**	**145**	*e*Pg	Pg	22 59 16.9	-1.2
TIR				*e*Sg	Sg	22 59 29.2	+0.5
TIR	**Tirane**	**0.82**	**145**	*e*Pg	Pg	22 59 16.9	-1.2
TIR				*e*Sg	Sg	22 59 29.2	+0.5
PHP	**Peshkopia**	**0.96**	**110**	*i* PG	Pg	22 59 16.8	-4.0
PHP	**Peshkopia**	**0.96**	**110**	*i* Pg	Pg	22 59 16.8	-4.0
	SNR=90						
TREB	**Trebinje**	**0.96**	**317**	*e*Pg	Pg	22 59 18.7	-2.1
TREB				*e*Sg	Sb	22 59 34.0	0.0
TREB	**Trebinje**	**0.96**	**317**	*e*Sg	Sb	22 59 34.0	0.0
TREB	**Trebinje**	**0.96**	**317**	*e*Pg	Pg	22 59 18.7	-2.1
SJES	**Sjenica**	**1.35**	**23**	*e*Pg	Pn	22 59 26.8	-0.8
SJES				*e*Sg	Sg	22 59 46.8	+0.6
SJES	**Sjenica**	**1.35**	**23**	*e*Pg	Pn	22 59 26.8	-0.8
SJES				*e*Sg	Sg	22 59 46.8	+0.6
STON	**Ston**	**1.42**	**307**	*e*Pn	Pn	22 59 25.8	-2.6
STON				Sn	Sn	22 59 46.2	-1.1
STON	**Ston**	**1.42**	**307**	*e*Pn	Pn	22 59 25.7	-2.7
STON				Sn	Sn	22 59 46.1	-1.2
BBLS	**Lazići**	**1.85**	**4**	*e*Pn	Pn	22 59 35.1	+0.7
BBLS				*e*Sg	Sg	23 00 01.5	-0.5
BBLS	**Lazići**	**1.85**	**4**	*e*Pn	Pn	22 59 35.1	+0.7
BBLS				*e*Sg	Sg	23 00 01.5	-0.5
BARS	**Barje**	**2.07**	**66**	*e*Pn	Pn	22 59 36.6	-0.7
BARS				*e*Sn	Sn	23 00 03.4	+0.2
BARS	**Barje**	**2.07**	**66**	*e*Pn	Pn	22 59 36.6	-0.7
BARS				*e*Sn	Sn	23 00 03.4	+0.2
DIVS	**Divibare**	**2.15**	**15**	*e*Pn	Pn	22 59 38.1	-0.4
DIVS				*e*Sg	Sb	23 00 08.8	+0.3
DIVS	**Divibare**	**2.15**	**15**	*e*Pn	Pn	22 59 38.1	-0.4
DIVS				*e*Sg	Sb	23 00 08.8	+0.3

*ISCJB **21** 23:19:48.9±0.8, 34°.61N±0°.02×24°.95E±0°.03, h7km±6km, mb3.7/6, Error ellipse: s-maj=3.9km s-min=3.3km az=163.8*
*IDC **21** 23:19:49.7±1.2, 34°.65N×24°.94E, h0km, mb3.9/6, mb1 3.8/12, mb1mx3.7/34, mbtmp3.7/12, ML3.7/7, Error ellipse: s-maj=21.3km s-min=19.6km az=161.0*
*CSEM **21** 23:19:50.3±0.2, 34°.64N×24°.95E, h2km, MD3.6, Error ellipse: s-maj=4.7km s-min=3.4km az=61.0*
*THE **21** 23:19:51.3, 34°.78N×24°.85E, h0km±2km, Error ellipse: s-maj=5.0km s-min=1.2km az=198.0*
*ATH **21** 23:19:52.8, 34°.87N×24°.88E, h21km±1km, MD3.6/21, ML3.4*
*HLW **21** 23:19:53.0, 34°.86N×24°.88E, h31km±4km, Md3.9, Ml0.0*
*DDA **21** 23:19:56.5, 34°.93N×25°.47E, h5km, MD3.6*
ISC 21 23:19:50.4±1.2, 34°.68N±0°.04×24°.87E±0°.02, h5km±8km,
n127, σ1°37/152, mb3.9/6, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.34**	**352**	P	**Pg**	**23 19 56.8**	**-0.2**
SIVA				S	**Sg**	**23 20 01.1**	**-0.4**
SIVA	**Sivas**	**0.34**	**352**	∥*i*PB	**Pg**	**23 19 57.3**	**+0.3**
SIVA				*e*SB	**Sg**	**23 20 01.5**	**0.0**
SIVA	**Sivas**	**0.34**	**352**	P	**Pg**	**23 19 56.8**	**-0.2**
SIVA	**Sivas**	**0.34**	**352**	∥*i*Pb	**Pg**	**23 19 57.3**	**+0.3**
SIVA				S	**Sg**	**23 20 01.1**	**-0.4**
LAST	**Lasithi**	**0.69**	**46**	P	**Pg**	**23 20 03.8**	**0.0**
LAST				S	**Sg**	**23 20 13.6**	**+0.8**
LAST	**Lasithi**	**0.69**	**46**	*e*PN	**Pg**	**23 20 03.9**	**+0.1**
LAST				*e*SN	**Sg**	**23 20 12.1**	**-0.7**
LAST	**Lasithi**	**0.69**	**46**	*e*Pn	**Pg**	**23 20 03.9**	**+0.1**
LAST				*e*Sn	**Sg**	**23 20 12.1**	**-0.7**
LAST				S	**Sg**	**23 20 13.6**	**+0.8**
NPS	**Neapolis**	**0.84**	**46**	P	**Pg**	**23 20 06.4**	**-0.2**
NPS				S	**Sg**	**23 20 17.9**	**+0.3**
NPS	**Neapolis**	**0.84**	**46**	*e*PN	**Pg**	**23 20 06.5**	**-0.2**
NPS				*e*SN	**Sg**	**23 20 17.1**	**-0.5**
NPS	**Neapolis**	**0.84**	**46**	P	**Pg**	**23 20 06.4**	**-0.2**
NPS				*e*Sn	**Sg**	**23 20 17.1**	**-0.5**
VAM	**Vamos**	**0.91**	**323**	P	**Pg**	**23 20 07.0**	**-0.9**
VAM				S	**Sg**	**23 20 19.6**	**-0.1**
VAM	**Vamos**	**0.91**	**323**	*e*PN	**Pg**	**23 20 07.2**	**-0.7**
VAM				*e*SN	**Sg**	**23 20 19.0**	**-0.7**
VAM	**Vamos**	**0.91**	**323**	*e*Pn	**Pg**	**23 20 07.2**	**-0.7**
VAM				*e*Sn	**Sg**	**23 20 19.0**	**-0.7**
ZKR	**Zakros**	**1.19**	**68**	P	**Pg**	**23 20 13.3**	**0.0**
ZKR				S	**Sn**	**23 20 31.6**	**+1.3**
ZKR	**Zakros**	**1.19**	**68**	*e*PN	**Pb**	**23 20 13.5**	**0.0**
ZKR	**Zakros**	**1.19**	**68**	*e*Pn	**Pb**	**23 20 13.5**	**0.0**
ZKR				S	**Sn**	**23 20 31.6**	**+1.3**
ANKY	**Antikythira Is**	**1.75**	**313**	*e*PN	**Pb**	**23 20 23.4**	**+0.5**
ANKY	**Antikythira Is**	**1.75**	**313**	*e*Pn	**Pb**	**23 20 23.4**	**+0.5**
SANT	**Santorini**	**1.76**	**16**	*e*PB	**Pn**	**23 20 20.8**	**-0.7**
SANT	**Santorini**	**1.76**	**16**	*e*Pb	**Pn**	**23 20 20.8**	**-0.7**
KARP	**Karpathos**	**2.07**	**65**	*e*PN	**Pb**	**23 20 28.7**	**+0.2**
KARP	**Karpathos**	**2.07**	**65**	*e*Pn	**Pb**	**23 20 28.7**	**+0.2**
KYTH	**Kithira**	**2.19**	**317**	*e*PN	**Pb**	**23 20 29.5**	**-1.0**
KYTH	**Kithira**	**2.19**	**317**	*e*Pn	**Pb**	**23 20 29.5**	**-1.0**
APE	**Apeiranthos**	**2.44**	**13**	*e*P	**Pn**	**23 20 32.5**	**+1.5**
APE	**Apeiranthos**	**2.44**	**13**	*e*PB	**Pn**	**23 20 31.1**	**+0.1**
VLI	**Veliai**	**2.57**	**323**	*e*PB	**Pn**	**23 20 33.9**	**+1.2**
LTBQ	**Tobruq**	**2.73**	**197**	*i* P	**Pn**	**23 20 37.3**	**+2.4**
	SNR=37						
LTBQ				*e*S	**Sn**	**23 21 07.0**	**-1.3**
	44nm,0.5s,SNR=37						
DYR	**Agios Nikonas**	**2.93**	**316**	*e*PN	**Pn**	**23 20 39.1**	**+1.5**
DYR	**Agios Nikonas**	**2.93**	**316**	*e*Pn	**Pn**	**23 20 39.1**	**+1.5**
DAT	**Datca**	**3.01**	**46**	*e*P	**Pn**	**23 20 40.7**	**+1.9**
ARG	**Arkhangelos**	**3.07**	**59**	*e*PN	**Pn**	**23 20 41.4**	**+1.9**
ARG	**Arkhangelos**	**3.07**	**59**	*e*Pn	**Pn**	**23 20 41.4**	**+1.9**
BODT	**Bodrum**	**3.10**	**39**	*e*P	**Pn**	**23 20 40.9**	**+1.0**
DID	**Didima**	**3.12**	**335**	*e*PN	**Pn**	**23 20 40.7**	**+0.5**
DID	**Didima**	**3.12**	**335**	*e*Pn	**Pn**	**23 20 40.7**	**+0.5**
BDRM	**Kayabasi**	**3.17**	**41**	*i* P	**Pn**	**23 20 41.6**	**+0.6**
BDRM				*i* S	**Sn**	**23 21 19.4**	**+0.3**
BDRM	**Kayabasi**	**3.17**	**41**	*i* P	**Pn**	**23 20 41.6**	**+0.6**
BDRM				*i* S	**Sn**	**23 21 19.4**	**+0.3**
SLUM		**3.19**	**175**	P	**Pn**	**23 20 41.7**	**+0.5**
SLUM				S	**Sn**	**23 21 18.9**	**-0.7**
NAIG	**Nisos Aigina**	**3.27**	**340**	*e*PN	**Pn**	**23 20 43.1**	**+0.8**
NAIG	**Nisos Aigina**	**3.27**	**340**	*e*Pn	**Pn**	**23 20 43.1**	**+0.8**
VLX	**Vlachokerasia**	**3.36**	**324**	*e*PN	**Pn**	**23 20 45.7**	**+2.1**
VLX	**Vlachokerasia**	**3.36**	**324**	*e*Pn	**Pn**	**23 20 45.7**	**+2.1**
PYL	**PYLOS**	**3.37**	**312**	*e*PN	**Pn**	**23 20 44.5**	**+0.9**
PYL	**PYLOS**	**3.37**	**312**	*e*Pn	**Pn**	**23 20 44.5**	**+0.9**
ATH	**Athens Observa**	**3.42**	**345**	*e*PN	**Pn**	**23 20 44.5**	**+0.2**
ATH	**Athens Observa**	**3.42**	**345**	*e*Pn	**Pn**	**23 20 44.5**	**+0.2**
SMG	**Samos**	**3.42**	**27**	*e*PN	**Pn**	**23 20 45.1**	**+0.8**
SMG	**Samos**	**3.42**	**27**	*e*Pn	**Pn**	**23 20 45.1**	**+0.8**
ITM	**Ithomi**	**3.45**	**317**	*e*PN	**Pn**	**23 20 46.1**	**+1.3**
ITM	**Ithomi**	**3.45**	**317**	*e*Pn	**Pn**	**23 20 46.1**	**+1.3**
PTL	**Penteli**	**3.46**	**347**	*e*PN	**Pn**	**23 20 46.0**	**+1.1**
PTL	**Penteli**	**3.46**	**347**	*e*Pn	**Pn**	**23 20 46.0**	**+1.1**
MLSB	**Milas**	**3.52**	**41**	*e*P	**Pn**	**23 20 46.8**	**+1.0**
YER	**Yerkesik**	**3.70**	**48**	*e*P	**Pn**	**23 20 48.9**	**+0.6**
TURN	**Turunc**	**3.74**	**53**	*i* P	**Pn**	**23 20 45.9**	**-2.9**
TURN				*i* S	Sn	23 21 23.1	-10
TURN	**Turunc**	**3.74**	**53**	*i* P	**Pn**	**23 20 45.9**	**-2.9**
DALY	**Dalyan (Mu¨la**	**3.75**	**54**	*e*P	**Pn**	**23 20 50.3**	**+1.5**
CHOS	**Chios island**	**3.82**	**14**	*e*PN	**Pn**	**23 20 49.1**	**-0.8**
CHOS	**Chios island**	**3.82**	**14**	*e*Pn	**Pn**	**23 20 49.1**	**-0.8**
AYDN	**Tasoluk**	**3.85**	**38**	*i* P	**Pn**	**23 20 52.5**	**+2.2**
AYDN				*i* S	**Sn**	**23 21 32.5**	**-3.4**
AYDN	**Tasoluk**	**3.85**	**38**	*i* P	**Pn**	**23 20 52.5**	**+2.2**
AYDN				*i* S	**Sn**	**23 21 32.5**	**-3.4**
KLV	**Kalavryta, Ach**	**4.01**	**328**	*e*PN	**Pn**	**23 20 54.5**	**+2.0**
KLV	**Kalavryta, Ach**	**4.01**	**328**	*e*Pn	**Pn**	**23 20 54.5**	**+2.0**
HMAT	**Matruh**	**4.04**	**152**	P	**Pn**	**23 20 52.5**	**-0.3**
AKAS	**Kas**	**4.17**	**67**	*i* P	**Pn**	**23 20 55.7**	**+1.0**
AKAS				*i* S	**Sn**	**23 21 41.3**	**-2.6**
AKAS	**Kas**	**4.17**	**67**	*i* P	**Pn**	**23 20 55.7**	**+1.0**
AKAS				*i* S	**Sn**	**23 21 41.3**	**-2.6**
LAKA	**Lakka**	**4.25**	**328**	*e*PN	**Pn**	**23 20 57.4**	**+1.6**
LAKA	**Lakka**	**4.25**	**328**	*e*Pn	**Pn**	**23 20 57.4**	**+1.6**
KALE	**Kalithea**	**4.31**	**330**	*e*PN	**Pn**	**23 20 57.3**	**+0.7**
KALE	**Kalithea**	**4.31**	**330**	*e*Pn	**Pn**	**23 20 57.3**	**+0.7**
DNZL	**Cakiroluk**	**4.52**	**47**	*i* P	**Pn**	**23 21 00.9**	**+1.2**
DNZL				*i* S	**Sn**	**23 21 52.5**	**-0.2**
DNZL	**Cakiroluk**	**4.52**	**47**	*i* P	**Pn**	**23 21 00.9**	**+1.2**
DNZL				*i* S	**Sn**	**23 21 52.5**	**-0.2**
AOS	**Alonnisos**	**4.55**	**350**	*e*PN	**Pn**	**23 21 00.1**	**+0.2**
AOS	**Alonnisos**	**4.55**	**350**	*e*Pn	**Pn**	**23 21 00.1**	**+0.2**
GOLH	**Golhisar**	**4.58**	**55**	*i* P	**Pn**	**23 21 01.9**	**+1.4**
GOLH				*i* S	**Sn**	**23 21 57.2**	**+3.1**
GOLH	**Golhisar**	**4.58**	**55**	*i* P	**Pn**	**23 21 01.9**	**+1.4**
GOLH				*i* S	**Sn**	**23 21 57.2**	**+3.1**
ELL	**Elmali**	**4.59**	**62**	*e*P	**Pn**	**23 21 00.1**	**-0.4**
AGG	**Agios Georgios**	**4.79**	**336**	*e*PN	**Pn**	**23 21 05.1**	**+1.9**
AGG	**Agios Georgios**	**4.79**	**336**	*e*Pn	**Pn**	**23 21 05.1**	**+1.9**
KULA	**Kula-Manisa**	**4.89**	**37**	*e*P	**Pn**	**23 21 05.5**	**+0.8**
KHL	**Karahalli**	**5.22**	**45**	*e*P	**Pn**	**23 21 09.6**	**+0.3**
LKD2	**Lefkada island**	**5.32**	**322**	*e*PN	**Pn**	**23 21 12.5**	**+2.1**
LKD2	**Lefkada island**	**5.32**	**322**	*e*Pn	**Pn**	**23 21 12.5**	**+2.1**
PAIG	**Paliouri**	**5.32**	**350**	*e*PN	**Pn**	**23 21 11.6**	**+1.1**
PAIG	**Paliouri**	**5.32**	**350**	*e*Pn	**Pn**	**23 21 11.6**	**+1.1**
BCK	**Bucak**	**5.40**	**57**	*e*P	**Pn**	**23 21 11.1**	**-0.5**
SWA2		**5.44**	**175**	P	**Pn**	**23 21 11.8**	**-0.3**
SWA2				S	**Sn**	**23 22 12.0**	**-3.1**
SUTC	**Sutluce-Ispart**	**5.70**	**59**	*e*P	**Pn**	**23 21 14.8**	**-1.0**
HDMB	**Hadim**	**6.60**	**68**	*e*P	**Pn**	**23 21 27.3**	**-0.9**
KONT	**Konya--Tatoy**	**6.87**	**60**	*e*P	**Pn**	**23 21 31.2**	**-0.6**
HNAT	**Natroun**	**7.00**	**134**	P	**Pn**	**23 21 32.4**	**-1.2**
KIZT	**Kizilcal**	**7.02**	**51**	*e*P	**Pn**	**23 21 33.6**	**-0.2**
AWBH		**7.21**	**150**	P	**Pn**	**23 21 35.7**	**-0.8**
GLL	**Jalalah**	**7.71**	**129**	P	**Pn**	**23 21 41.9**	**-1.5**
HFRF	**Wahat Farafira**	**8.07**	**158**	P	**Pn**	**23 21 47.1**	**-1.1**
AMAG	**Maghara**	**8.10**	**117**	P	**Pn**	**23 21 46.5**	**-2.2**
RSH		**8.32**	**114**	P	**Pn**	**23 21 49.8**	**-1.9**
BRTR	**Keskin Array B**	**8.62**	**52**	Pn	**Pn**	**23 21 56.5**	**+0.6**
	0.2nm,0.3s,baz=222,slow=13,SNR=12						
MMAI	**Mount Meron Ar**	**8.92**	**98**	Pn	**Pn**	**23 21 59.8**	**-0.2**
	1.0nm,0.3s,baz=283,slow=11,SNR=12						
MMAI				Sn	**Sn**	**23 23 36.2**	**-4.6**
	1.5nm,0.3s,baz=283,slow=26,SNR=4.9						
HNKL	**Nakhl**	**9.05**	**119**	P	**Pn**	**23 21 59.6**	**-2.1**
ARNB	**Al Arnab**	**9.16**	**79**	*e*P	Pn	23 21 58.5	-4.8
ARNB	**Al Arnab**	**9.16**	**79**	*e*P	Pn	23 21 58.5	-4.7
	SNR=34						
BRBR	**Barbar**	**9.28**	**95**	*e*P	**Pn**	**23 22 03.7**	**-1.4**
BRBR	**Barbar**	**9.28**	**95**	*e*P	**Pn**	**23 22 03.7**	**-1.4**
	SNR=34						
GRB	**Gharib**	**9.30**	**131**	P	**Pn**	**23 22 03.7**	**-1.4**
BIDA	**Albida**	**9.42**	**85**	*e*P	**Pn**	**23 22 06.8**	**-0.1**
BIDA	**Albida**	**9.42**	**85**	*e*P	**Pn**	**23 22 06.8**	**0.0**
	SNR=34						
HAWK	**Haweek**	**9.51**	**88**	*e*P	**Pn**	**23 22 06.1**	**-2.1**
HAWK	**Haweek**	**9.51**	**88**	*e*P	**Pn**	**23 22 06.1**	**-2.0**
	SNR=34						
BTCH	**Batrach**	**9.56**	**79**	*e*P	**Pn**	**23 22 08.0**	**-0.8**
BTCH	**Batrach**	**9.56**	**79**	*e*P	**Pn**	**23 22 08.0**	**-0.8**
	SNR=34						
MARH	**Ras Al Marh**	**9.63**	**91**	*e*P	**Pn**	**23 22 10.2**	**+0.3**
MARH	**Ras Al Marh**	**9.63**	**91**	*e*P	**Pn**	**23 22 10.2**	**+0.3**
	SNR=34						
EIL	**Elat**	**9.89**	**118**	Pn	**Pn**	**23 22 12.4**	**-0.8**
	1.2nm,0.3s,baz=200,slow=15,SNR=20						
EIL				Sn	Sn	23 23 56.3	-8.4
	0.8nm,0.3s,baz=89,slow=22,SNR=5.4						
SALA	**Sala**	**10.08**	**98**	*e*P	Pn	23 22 19.9	+4.0
SALA	**Sala**	**10.08**	**98**	*e*P	Pn	23 22 19.9	+3.9
	SNR=33						
MLR	**Muntele Rosu**	**10.83**	**4**	Pn	**Pn**	**23 22 29.2**	**+3.0**
	0.0nm,0.3s,baz=172,slow=4.8,SNR=5.2						
AKASG	**Malin Array Be**	**16.32**	**10**	Pn	**Pn**	**23 23 40.5**	**+0.4**
	1.5nm,0.3s,baz=202,slow=11,SNR=5.8						
GERES	**GERESS Array B**	**16.40**	**333**	Pn	**P**	**23 23 43.5**	**-0.6**
	0.1nm,0.3s,baz=148,slow=12,SNR=14						
KBZ	**Khabaz**	**16.61**	**52**	Pn	**Pn**	**23 23 44.9**	**+0.9**
	0.2nm,0.3s,baz=248,slow=8.1,SNR=24						
HFS	**Hagfors**	**26.49**	**347**	P	**P**	**23 25 27.3**	**-1.0**
	4.8nm,1.2s,baz=152,slow=10,SNR=4.3						
FINES

GAZI	Gazipasa	3.87 75	*i* P		Pn	00 01 36.9	+0.2
GAZI			*i* S		Sn	00 02 17.7	-3.4
GAZI	Gazipasa	3.87 75	*i* P		Pn	00 01 36.9	+0.2
VLI	Veliai	4.09 291	*e*PN		Pn	00 01 40.2	+0.5
VLI	Veliai	4.09 291	*e*Pn		Pn	00 01 40.2	+0.5
DID	Didima	4.20 302	*e*PN		Pn	00 01 43.0	+1.8
DID	Didima	4.20 302	*e*Pn		Pn	00 01 43.0	+1.8
DYR	Agios Nikonas	4.57 290	*e*PN		Pn	00 01 47.6	+1.3
DYR	Agios Nikonas	4.57 290	*e*Pn		Pn	00 01 47.6	+1.3
ITM	Ithomi	5.01 293	*e*PN		Pn	00 01 54.0	+1.6
ITM	Ithomi	5.01 293	*e*Pn		Pn	00 01 54.0	+1.6
GUR	Goura	5.02 303	*e*PN		Pn	00 01 55.3	+2.7
GUR	Goura	5.02 303	*e*Pn		Pn	00 01 55.3	+2.7
PYL	PYLOS	5.06 290	*e*PN		Pn	00 01 54.6	+1.5
PYL	PYLOS	5.06 290	*e*Pn		Pn	00 01 54.6	+1.5
KLV	Kalavryta, Ach	5.21 303	*e*PN		Pn	00 01 56.5	+1.4
KLV	Kalavryta, Ach	5.21 303	*e*Pn		Pn	00 01 56.5	+1.4
KALE	Kalithea	5.39 306	*e*PN		Pn	00 02 00.0	+2.3
KALE	Kalithea	5.39 306	*e*Pn		Pn	00 02 00.0	+2.3
LAKA	Lakka	5.42 304	*e*PN		Pn	00 01 58.7	+0.6
LAKA	Lakka	5.42 304	*e*Pn		Pn	00 01 58.7	+0.6
EFP	Efpalio	5.57 305	*e*PN		Pn	00 02 01.3	+1.3
EFP	Efpalio	5.57 305	*e*Pn		Pn	00 02 01.3	+1.3

*IDC **22** 00:17:00.1±3.4, 6°.49S×154°.45E, h15km±20km, mb4.3/14, mb1 4.4/15, mb1mx4.3/19, mbtmp4.2/15, ML4.5/1, MS3.8/14, Ms1 3.7/14, ms1mx3.5/31, Error ellipse: s-maj=23.4km s-min=14.5km az=84.0*

*ISCJB **22** 00:17:03.7±0.3, 6°.61S±0°.04×154°.47E±0°.04, h48km, mb4.6/35, MS3.9/18, Error ellipse: s-maj=5.8km s-min=5.5km az=173.2*

*NEIC **22** 00:17:03.6±0.4, 6°.50S×154°.43E, h35km, mb4.8/11, Error ellipse: s-maj=10.6km s-min=9.5km az=103.0*

*AUST **22** 00:17:08.4±0.9, 6°.64S×154°.74E, h101km, Error ellipse: s-maj=1.8km s-min=1.1km az=286.0*

*BJI **22** 00:17:13.5, 6°.52S×153°.75E, h99km, mB4.9/12, mb4.7/24*

ISC 22 00:17:05.3±0.3, 6°.52S±0°.05×154°.46E±0°.05, h48km, n116, σ1§83/129, mb4.6/35, MS3.7/18, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.25**	**315**	P		00 18 02.3	+8.4
baz=3.5,SNR=7.4							
HNR	**Honiara**	**6.16**	**118**	Pn	**Pn**	**00 18 35.2**	**+1.4**
HNR				Sn	**Sn**	**00 19 43.2**	**+0.3**
HNR	**Honiara**	**6.16**	**118**	Pn	**Pn**	**00 18 35.2**	**+1.4**
24nm,0.3s,baz=212,slow=15,SNR=3.2							
HNR				Sn	**Sn**	**00 19 43.2**	**+0.3**
44nm,0.3s,baz=68,slow=19,SNR=3.3							
HNR				LR	LR	00 20 42.0	
comp=Z,823nm,19.5s,baz=268,slow=36							
PMG	**Port Moresby**	**7.78**	**248**	*e*Pn	**Pn**	**00 18 55.6**	**-0.3**
PMG				Sn	**Sn**	**00 20 25.8**	**+3.0**
PMG	**Port Moresby**	**7.78**	**248**	Pn	**Pn**	**00 18 57.6**	**+1.6**
7.6nm,0.3s,baz=52,slow=10.0,SNR=14							
PMG				Sn	**Sn**	**00 20 25.8**	**+3.0**
0.9nm,0.3s,baz=58,slow=19,SNR=2.0							
PMG				LR	LR	00 21 56.8	
comp=Z,687nm,19.5s,baz=34,slow=38							
COEN	**Coen**	**13.33**	**235**	*e*Pn	**Pn**	**00 20 11.7**	**-0.4**
COEN	**Coen**	**13.33**	**235**	P	**P**	**00 20 22.3**	**+1.9**
baz=14,SNR=5.1							
PATS	**Pohnpei**	**13.81**	**16**	P	**Pn**	**00 20 21.7**	**+3.1**
baz=14,SNR=3.2							
PATS				S	**Sn**	**00 22 50.0**	**-0.6**
baz=14,SNR=3.9							
MTSU	**Mount Surprise**	**15.20**	**220**	P	**Pn**	**00 20 37.1**	**+0.1**
baz=15,SNR=4.3							
CTA	**Charters Tower**	**15.67**	**210**	Pn	**P**	**00 20 46.0**	**-0.3**
CTA	**Charters Tower**	**15.67**	**210**	Pn	**P**	**00 20 46.0**	**-0.3**
1.4nm,0.3s,baz=35,slow=13,SNR=40							
CTAO	**Charters Tower**	**15.67**	**210**	*e*Pn	**Pn**	**00 20 44.0**	**+1.0**
26nm,0.7s							
EIDS	**Eidsvold**	**19.02**	**189**	*e*P	**P**	**00 21 20.8**	**-2.5**
81nm,1.8s							
EIDS	**Eidsvold**	**19.02**	**189**	P	**P**	**00 21 22.1**	**-1.2**
baz=19,SNR=5.8							
DZM	**Mont Dzumac**	**19.32**	**144**	*e*P	**Pn**	**00 21 29.1**	**+1.0**
34nm,1.1s							
DZM				*e*LR	LR	00 26 10.7	
200nm,24.8s							
DZM	**Mont Dzumac**	**19.32**	**144**	P	**P**	**00 21 25.5**	**-1.2**
DZM	**Mont Dzumac**	**19.32**	**144**	P	**P**	**00 21 25.5**	**-1.2**
1.4nm,0.3s,baz=320,slow=21,SNR=11							
RMQ	**Roma**	**20.59**	**195**	P	**P**	**00 21 39.5**	**-1.0**
baz=21,SNR=4.2							
KDU	**Kakadu**	**22.52**	**253**	P	**P**	**00 21 60.0**	**-1.3**
baz=23,SNR=6.7							
WRAB	**Tennant Creek**	**23.64**	**234**	*e*P	**P**	**00 22 10.7**	**-1.8**
39nm,1.3s							
WRA	**Warramunga Arr**	**23.66**	**234**	P	**P**	**00 22 10.8**	**-1.8**
WRA				PcP	**PcP**	**00 25 53.6**	**-2.7**
WRA				ScP	**ScP**	**00 29 33.4**	**+2.5**
WRA	**Warramunga Arr**	**23.66**	**234**	P	**P**	**00 22 10.8**	**-1.8**
8.5nm,0.6s,baz=54,slow=9.5,SNR=64							
WRA				PcP	**PcP**	**00 25 53.6**	**-2.7**
1.3nm,0.5s,baz=59,slow=2.2,SNR=9.4							
WRA				ScP	**ScP**	**00 29 33.4**	**+2.5**
1.1nm,0.9s,baz=46,slow=2.3,SNR=4.7							
WRA				LR	LR	00 31 08.3	
comp=Z,187nm,18.5s,baz=55,slow=36							
MTN	**Manton Dam**	**23.82**	**253**	P	**P**	**00 22 15.2**	**+1.0**
baz=24,SNR=3.6							
AS31	**Alice Springs**	**26.09**	**227**	*e*P	**P**	**00 22 32.2**	**-2.6**
ASAR	**Alice Springs**	**26.10**	**227**	P	**P**	**00 22 33.0**	**-1.9**
ASAR				ScP	**ScP**	**00 29 41.4**	**+3.7**
ASAR	**Alice Springs**	**26.10**	**227**	P	**P**	**00 22 33.0**	**-1.9**
3.3nm,0.7s,baz=59,slow=8.6,SNR=41							
ASAR				ScP	**ScP**	**00 29 41.4**	**+3.7**
0.9nm,0.9s,baz=35,slow=3.4,SNR=5.1							
ASAR				LR	LR	00 31 55.8	
comp=Z,215nm,21.5s,baz=350,slow=34							
CMSA	**Cobar Meteorol**	**26.21**	**197**	P	**P**	**00 22 35.1**	**-0.5**
baz=26,SNR=11							
KNRA	**Kununurra**	**26.78**	**248**	P	**P**	**00 22 41.5**	**+0.5**
baz=27,SNR=4.8							
STKA	**Stephens Creek**	**27.95**	**204**	*e*P	**P**	**00 22 51.8**	**+0.5**
20nm,2.3s							
STKA	**Stephens Creek**	**27.95**	**204**	P	**P**	**00 22 51.6**	**+0.3**
8.1nm,0.5s,baz=32,slow=14,SNR=20							
STKA				LR	LR	00 34 13.0	
comp=Z,166nm,21.1s,baz=22,slow=37							
STKA	**Stephens Creek**	**27.95**	**204**	P	**P**	**00 22 51.9**	**+0.5**
baz=28,SNR=13							
FITZ	**Fitzroy Crossi**	**30.36**	**245**	*e*P	**P**	**00 23 11.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.36**	**245**	LR	LR	00 36 36.1	
comp=Z,212nm,19.6s,baz=56,slow=39							
FITZ	**Fitzroy Crossi**	**30.36**	**245**	P	**P**	**00 23 11.8**	**-1.1**
baz=31,SNR=17							
DAV	**Davao City (W)**	**31.82**	**295**	LR	LR	00 36 40.8	
comp=Z,138nm,18.1s,baz=228,slow=37							
LUWI	**Luwuk**	**32.07**	**278**	S	S	00 28 46.2	+9.1
baz=32,SNR=4.7							
AFI	**Afiamalu**	**34.00**	**105**	LR	LR	00 33 53.2	
comp=Z,109nm,21.2s,baz=334,slow=30							
URZ	**Urewera**	**37.68**	**150**	P	**P**	**00 24 16.3**	**+0.2**
URZ	**Urewera**	**37.68**	**150**	P	**P**	**00 24 16.3**	**+0.2**
5.6nm,0.8s,baz=288,slow=6.4,SNR=3.0							
MEEK	**Meekatharra**	**39.54**	**235**	P	**P**	**00 24 30.9**	**-1.0**
baz=40,SNR=4.0							
KLBR	**Kellerberrin**	**42.39**	**229**	P	**P**	**00 24 53.6**	**-1.7**
baz=43,SNR=5.7							
NWAO	**Narrogin (SRO)**	**43.41**	**228**	LR	LR	00 44 29.3	
comp=Z,252nm,18.8s,baz=161,slow=38							
YULB	**Yu-li**	**43.97**	**314**	*e*P	**P**	**00 25 08.9**	**+0.8**
8.9nm,0.7s							
TPUB	**Ta-pu**	**44.40**	**313**	*e*P	**P**	**00 25 09.8**	**-1.8**
27nm,0.4s							
SSLB	**Suanglung**	**44.46**	**314**	*e*P	**P**	**00 25 13.1**	**+1.0**
14nm,0.7s							
YHNB	**Yeheng**	**44.71**	**315**	*e*P	**P**	**00 25 13.8**	**-0.3**
10nm,0.7s							
JNU	**Nakatsue**	**45.34**	**332**	*e*P	**P**	**00 25 18.0**	**-0.9**
8.9nm,0.6s							
JNU	**Nakatsue**	**45.34**	**332**	P	**P**	**00 25 18.2**	**-0.7**
5.5nm,0.7s,baz=71,slow=7.0,SNR=4.4							
KSRS	**Korea Array**	**50.27**	**332**	P	**P**	**00 25 56.2**	**-0.8**
1.8nm,0.6s,baz=147,slow=7.8,SNR=8.3							
KSRS				LR	LR	00 46 11.9	
comp=Z,49nm,19.7s,baz=146,slow=35							
KSAR	**Wonju Array Be**	**50.28**	**332**	P	**P**	**00 25 56.2**	**-0.8**
QIZ	**Qiongzhong**	**50.76**	**301**	P	**P**	**00 26 00.6**	**-0.4**
QIZ				sP	sP	00 26 33.8	+14
QIZ				S	S	00 33 05.1	-8.5
QIZ				pmax	pmax		
comp=Z,7.0nm,1.2s							
QIZ				LR	LR		
comp=N,120nm,19.7s							
QIZ				LR	LR		
comp=Z,100nm,18.2s							
NJ2	**Nanjing**	**51.21**	**321**	*e*P	**P**	**00 26 06.3**	**+2.2**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
WHN	**Wuhan**	**53.23**	**316**	⇑P	**P**	**00 26 21.3**	**+2.1**
MDJ	**Mudanjiang**	**55.60**	**339**	P	**P**	**00 26 39.3**	**+3.1**
MDJ				pmax	pmax		
comp=Z,5.0nm,0.8s							
MDJ				pmax	pmax		
comp=Z,64nm,4.1s							
PPT	**Papeete**	**55.64**	**107**	LR	LR	00 46 37.4	
comp=Z,136nm,21.7s,baz=211,slow=32							
PPT2	**Papeete2**	**55.65**	**107**	*e*LR	LR	00 43 05.5	
comp=Z,71nm,21.8s							
TBI	**Tubuai**	**56.36**	**114**	*e*LR	LR	00 43 23.5	
comp=Z,76nm,28.0s							
CN2	**Changchun**	**56.54**	**335**	*e*P	P	00 26 47.0	+4.1
CN2				pmax	pmax		
comp=Z,10.0nm,0.5s							
GYA	**Guiyang**	**56.74**	**307**	*e*P	**P**	**00 26 45.8**	**+1.0**
GYA				pP	pP	00 27 11.0	+13
GYA				sP	sP	00 27 23.6	+20
GYA				PP	**PP**	**00 28 54.3**	**+2.8**
GYA				ScP	**ScP**	**00 31 30.0**	**-6.2**
GYA				PcS	**PcS**	**00 31 42.3**	**+0.8**
GYA				S	S	00 34 28.8	-5.8
GYA				sS	sS	00 35 11.0	+14
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
comp=Z,80nm,5.4s							
BJI	**Beijing**	**58.23**	**326**	P	**P**	**00 26 55.8**	**+1.0**
BJI				pmax	pmax		
comp=Z,11nm,0.6s							
BJI				LR	LR		
comp=Z,46nm,19.5s							
XAN	**Xi'an**	**59.00**	**316**	P	**P**	**00 27 00.4**	**0.0**
XAN				pmax	pmax		
comp=Z,1.0nm,0.6s							
KMI	**Kunming**	**59.31**	**304**	*e*P	**P**	**00 27 05.0**	**+2.0**
KMI				pP	pP	00 27 30.8	+14
KMI				pmax	pmax		
comp=Z,10.0nm,0.9s							
PETK	**Petropavlovsk-**	**59.46**	**2**	P	P	00 27 06.9	+3.7
PETK	**Petropavlovsk-**	**59.46**	**2**	P	P	00 27 06.9	+3.7
comp=Z,5.8nm,0.7s,baz=172,slow=9.0,SNR=8.4							
PETK				LR	LR	00 50 57.9	
comp=Z,41nm,20.1s,baz=124,slow=34							
CMAR	**Chiang Mai Arr**	**60.10**	**296**	P	**P**	**00 27 11.1**	**+2.9**
CMAR	**Chiang Mai Arr**	**60.10**	**296**	P	**P**	**00 27 11.1**	**+2.9**
comp=Z,1.5nm,0.4s,baz=111,slow=5.0,SNR=9.8							
CMAR				LR	LR	00 52 56.8	
comp=Z,34nm,18.1s,baz=180,slow=36							
CD2	**Chengdu**	**61.10**	**311**	*e*P	**P**	**00 27 16.0**	**+1.1**
CD2				pP	pP	00 27 40.4	+12
CD2				sP	sP	00 27 51.5	+18
CD2				PP	**PP**	**00 29 33.5**	**+3.5**
CD2				S	**S**	**00 35 25.3**	**-5.6**
CD2				sS	sS	00 36 07.3	+14
CD2				SS	**SS**	**00 39 27.3**	**-4.3**
CD2				pmax	pmax		
comp=Z,20nm,1.2s							
CD2				pmax	pmax		
comp=Z,140nm,6.2s							
CD2				LR	LR		
comp=N,220nm,14.2s							
CD2				LR	LR		
comp=Z,170nm,13.2s							
FX1	**Attu Island--F**	**61.27**	**13**	*e*P	**P**	**00 27 15.9**	**+0.4**
HHC	**Hu-ho-hao-te**	**61.40**	**324**	*e*P	**P**	**00 27 18.3**	**+1.5**
HHC				pP	pP	00 27 42.4	+12
HHC				sP	sP	00 27 53.5	+18
HHC				PP	**PP**	**00 29 36.6**	**+4.1**
HHC				PcS	**PcS**	**00 32 00.3**	**-1.3**
HHC				S	**S**	**00 35 29.8**	**-4.6**
HHC				sS	sS	00 36 11.6	+15
HHC				ScS	SKKSac	00 36 56.4	-8.0
HHC				SS	**SS**	**00 39 33.4**	**-2.6**
HHC				pmax	pmax		
comp=Z,48nm,1.0s							
HHC				pmax	pmax		
comp=Z,160nm,6.2s							
HHC				LR	LR		
comp=N,190nm,17.3s							
HHC				LR	LR		
comp=E,170nm,16.7s							
HHC				LR	LR		
comp=Z,120nm,16.9s							
LZH	**Lanzhou**	**63.60**	**316**	*e*P	**P**	**00 27 33.3**	**+1.6**
LZH				pP	PcP	00 28 00.5	-7.3
LZH				sP	sP	00 28 13.8	+23
LZH				pmax	pmax		
comp=Z,13nm,1.0s							
LZH				LR	LR		
comp=N,190nm,14.8s							
LZH				LR	LR		
comp=E,280nm,17.8s							
LZH				LR	LR		
comp=Z,150nm,15.2s							
GTA	**Gaotai**	**68.03**	**317**	*e*P	**P**	**00 28 02.1**	**+2.0**
GTA				S	**S**	**00 36 55.8**	**-0.4**
GTA				pmax	pmax		
comp=Z,4.0nm,1.5s							
GTA				pmax	pmax		
comp=Z,54nm,4.3s							
GTA				LR	LR		
comp=N,73nm,17.1s							
GTA				LR	LR		
comp=E,99nm,17.1s							
GTA				LR	LR		
comp=Z,110nm,16.2s							
SONM	**Songino Array**	**68.65**	**327**	P	**P**	**00 28 03.8**	**0.0**
SONM	**Songino Array**	**68.65**	**327**	P	**P**	**00 28 03.8**	**0.0**
comp=Z,1.1nm,0.4s,baz=143,slow=5.4							
LSA	**Lhasa**	**70.56**	**304**	P	**P**	**00 28 17.5**	**+1.1**
LSA	**Lhasa**	**70.56**	**304**	*e*P	**P**	**00 28 17.3**	**+0.9**
comp=Z,9.8nm,0.6s							
VNDA	**Vanda**	**71.07**	**178**	P	**P**	**00 28 17.0**	**-1.0**
VNDA	**Vanda**	**71.07**	**178**	P	**P**	**00 28 17.0**	**-1.0**
comp=Z,0.9nm,0.5s,baz=340,slow=5.2,SNR=3.4							
TAPN	**Taplejung**	**72.70**	**301**	*e*P	**P**	**00 28 29.8**	**+0.7**
comp=Z,22nm,0.7s							
ODAN	**Odare**	**72.83**	**301**	*e*P	**P**	**00 28 30.5**	**+0.7**
comp=Z,49nm,0.7s							
RAMN	**Ramite**	**73.53**	**300**	*e*P	**P**	**00 28 34.7**	**+0.8**
comp=Z,10nm,0.6s							
JIRN	**Jiri**	**74.08**	**301**	*e*P	**P**	**00 28 37.9**	**+0.6**
comp=Z,15nm,0.6s							
GUN	**Gumba**	**74.42**	**301**	*e*P	**P**	**00 28 38.9**	**-0.3**
comp=Z,25nm,0.5s							
PKI	**Pulchoki**	**74.72**	**301**	*e*P	**P**	**00 28 41.3**	**+0.3**
comp=Z,7.9nm,0.6s							
PKIN	**Phulchoki**	**74.74**	**301**	*e*P	**P**	**00 28 41.5**	**+0.5**
comp=Z,12nm,0.8s							
KKN	**Kakani**	**74.89**	**301**	*e*P	**P**	**00 28 43.0**	**+1.2**
comp=Z,27nm,0.7s							
DMN	**Daman**	**74.99**	**301**	*e*P	**P**	**00 28 43.4**	**+0.9**
comp=Z,35nm,0.6s							
KOLN	**Koldanda**	**76.32**	**301**	*e*P	**P**	**00 28 50.0**	**0.0**
comp=Z,31nm,0.7s							
DANN	**Dangsing**	**76.34**	**301**	*e*P	**P**	**00 28 50.3**	**+0.1**
comp=Z,34nm,0.6s							
PYUN	**Piuthan**	**76.93**	**301**	*e*P	**P**	**00 28 53.4**	**0.0**
comp=Z,36nm,0.7s							
WMQ	**Urumqi**	**78.12**	**317**	*e*P	**P**	**00 29 00.3**	**+0.8**
MK31	**Makanchi Array**	**82.70**	**319**	*e*P	**P**	**00 29 23.9**	**-0.1**
MKAR	**Makanchi Array**	**82.70**	**319**	*e*P	**P**	**00 29 24.6**	**+0.5**
MKAR	**Makanchi Array**	**82.70**	**319**	P	**P**	**00 29 23.9**	**-0.1**
comp=Z,2.5nm,0.7s,baz=96,slow=5.9,SNR=28							
ILAR	**Eielson Array**	**83.13**	**22**	P	**P**	**00 29 24.4**	**-1.5**
ILAR	**Eielson Array**	**83.13**	**22**	P	**P**	**00 29 24.4**	**-1.5**
comp=Z,0.6nm,0.7s,baz=236,slow=5.0,SNR=8.1							
QSPA	**South Pole Qui**	**83.45**	**180**	*e*P	**P**	**00 29 26.8**	**-0.9**
comp=Z,12nm,1.0s							
ZALV	**Zalesovo Beam**	**83.49**	**326**	P	**P**	**00 29 25.6**	**-2.2**
ZALV	**Zalesovo Beam**	**83.49**	**326**	P	**P**	**00 29 25.6**	**-2.2**
comp=Z,1.3nm,0.6s,baz=108,slow=4.8,SNR=5.1							
MAW	**Mawson**	**84.63**	**203**	P	**P**	**00 29 33.2**	**-0.3**
MAW	**Mawson**	**84.63**	**203**	P	**P**	**00 29 33.2**	**-0.3**
comp=Z,2.7nm,0.5s,baz=99,slow=5.4,SNR=11							
MAW				LR	LR	01 02 44.5	
comp=Z,48nm,20.9s,baz=353,slow=32							
KSH	**Kashi**	**85.30**	**310**	*e*P	**P**	**00 29 40.3**	**+2.7**
NV11	**Mina Array Sit**	**91.96**	**52**	*e*P	**P**	**00 30 11.7**	**+2.3**
LDFC	**Landfair**	**94.05**	**55**	*e*P	**P**	**00 30 18.8**	**-0.3**
JTMT	**Jette**	**95.62**	**43**	*e*P	P	00 30 35.0	+9.1
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**00 30 27.6**	**-0.2**
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**00 30 27.6**	**-0.2**
comp=Z,0.7nm,0.7s,baz=263,slow=4.7,SNR=4.7							
PDAR	**Pinedale Array**	**98.78**	**48**	P	**P**	**00 30 38.5**	**-2.0**
PDAR	**Pinedale Array**	**98.78**	**48**	P	**P**	**00 30 38.5**	**-2.0**
comp=Z,0.5nm,0.9s,baz=242,slow=1.9,SNR=3.7							
BOSA	**Boshof**	**119.90**	**232**	PKP	**PKPdf**	**00 35 49.5**	**-1.8**
BOSA	**Boshof**	**119.90**	**232**	PKP	**PKPdf**	**00 35 49.5**	**-1.8**
comp=Z,1.1nm,0.6s,baz=90,slow=4.0,SNR=3.5							
GERES	**GERESS Array B**	**126.37**	**329**	PKP	**PKPdf**	**00 36 03.0**	**-0.2**
GERES	**GERESS Array B**	**126.37**	**329**	PKP	**PKPdf**	**00 36 03.0**	**-0.2**
comp=Z,0.6nm,0.5s,baz=80,slow=1.6,SNR=9.2							
BDFB	**Brasilia**	**148.69**	**135**	PKPbc	**PKPdf**	**00 36 46.4**	**+1.7**
BDFB	**Brasilia**	**148.69**	**135**	PKPbc	**PKPdf**	**00 36 46.4**	**+1.7**
comp=Z,2.9nm,0.5s,baz=280,slow=5.3,SNR=6.4							
TORD	**Torodi Ar. Bea**	**152.38**	**286**	PKP	**PKPdf**	**00 36 49.2**	**-1.1**
TORD				PKPbc	**PKPbc**	**00 36 55.7**	**-1.5**
TORD				PKPab	**PKPab**	**00 37 06.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**152.38**	**286**	PKP	**PKPdf**	**00 36 49.2**	**-1.1**
comp=Z,0.6nm,0.7s,baz=109,slow=35,SNR=5.5							
TORD				PKPbc	**PKPbc**	**00 36 55.7**	**-1.5**
comp=Z,6.7nm,0.6s,baz=32,slow=2.1,SNR=76							
TORD				PKPab	**PKPab**	**00 37 06.3**	**-1.1**
comp=Z,2.5nm,0.4s,baz=78,slow=2.9,SNR=11							

IDC 22 00:27:57.6±2.2, 4°.12N×126°.43E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/22, mbtmp3.3/3, Error ellipse: s-maj=189.5km s-min=25.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.15**	**162**	P	P	00 33 25.1	+0.4
1.2nm,1.0s,baz=342,slow=10,SNR=5.3							
ASAR	**Alice Springs**	**28.57**	**166**	P	P	00 33 55.1	-0.4
0.2nm,0.7s,baz=348,slow=8.5,SNR=3.0							
MKAR	**Makanchi Array**	**57.06**	**325**	P	P	00 37 45.6	-0.1
0.1nm,0.5s,baz=135,slow=8.0,SNR=3.1							

IDC 22 00:35:04.8±1.3, 7°.31S×128°.74E, h0km, mb4.2/5, mb1 4.3/8, mb1mx4.0/20, mbtmp4.1/8, ML3.6/3, Error ellipse: s-maj=58.7km s-min=22.9km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.15**	**195**	Pn	Pn	00 37 46.8	+1.1
1.0nm,0.3s,baz=33,slow=8.8,SNR=18							
FITZ				Sn	Sn	00 39 48.1	-3.0
0.4nm,0.3s,baz=53,slow=10,SNR=2.4							
WRA	**Warramunga Arr**	**13.68**	**157**	Pn	Pn	00 38 18.6	-1.7
0.2nm,0.3s,baz=341,slow=12,SNR=5.9							
WRA				Sn	Sn	00 40 45.8	-7.5
0.1nm,0.3s,baz=330,slow=23,SNR=3.7							
ASAR	**Alice Springs**	**17.00**	**164**	P	Pn	00 39 05.2	+0.9
0.1nm,0.3s,baz=335,slow=9.6,SNR=8.5							
CMAR	**Chiang Mai Arr**	**38.98**	**311**	P	P	00 42 34.0	+0.8
3.6nm,0.3s,baz=142,slow=7.4,SNR=7.1							
KSRS	**Korea Array**	**44.53**	**359**	P	P	00 43 19.4	+1.1
1.8nm,0.8s,baz=178,slow=9.4,SNR=9.6							
SONM	**Songino Array**	**58.35**	**342**	P	P	00 45 01.9	-0.1
2.2nm,0.9s,baz=148,slow=6.8							
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	00 46 03.8	-0.9
1.3nm,0.5s,baz=117,slow=6.6,SNR=20							
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	P	00 46 25.6	-0.6
1.3nm,0.6s,baz=123,slow=4.7,SNR=5.8							

DJA 22 00:44:57.9±0.4, 1°.S±3°.×12°.2E±°, h10km, M4.2/6, MLv4.2/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.13**	**95**	P	Pg	00 45 00.1	-0.8
APSI				S	Sg	00 45 04.1	+1.1
LUWI	**Luwuk**	**1.26**	**96**	P	Pn	00 45 20.1	-1.5
LUWI				S	Sn	00 45 38.6	0.0
MRSI	**Marisa**	**1.43**	**17**	P	Pn	00 45 17.1	-6.8
GTOI	**Gorontalo**	**2.13**	**44**	P	Pn	00 45 32.5	-1.1
TOLI	**Toli-Toli**	**2.13**	**340**	P	Pn	00 45 33.7	+0.1
TOLI				S	Sb	00 46 03.9	+0.6
KMSI	**Cibinong**	**2.86**	**59**	P	Pn	00 45 45.8	+2.1
MMSI	**Mamuju**	**3.16**	**236**	P	Pn	00 45 48.1	+0.4
SPSI	**Sidrap Palu**	**3.51**	**210**	P	Pn	00 45 53.5	+0.9
SPSI				S	Sn	00 46 37.4	+3.2

*IDC **22** 00:51:56.7±0.6, 57°.78N×32°.72W, h0km, mb4.1/20, mb1 4.2/24, mb1mx4.0/39, mbtmp4.1/24, ML3.1/4, MS3.7/28, Ms1 3.7/28, ms1mx3.6/47, Error ellipse: s-maj=19.8km s-min=11.8km az=3.0*

*ISCJB **22** 00:51:56.1±2.0, 57°.83N±0°.06×32°.65W±0°.05, h5km±12km, mb4.4/80, MS3.7/34, Error ellipse: s-maj=

GRR Gorron 21.14 103 *e*P **P 00 56 43.2 -0.1**
GRR Gorron 21.14 103 *e*P **P 00 56 43.2 -0.1**
comp=Z,26nm,1.1s
LDF La Druitiere 21.40 102 *e*P **P 00 56 46.1 +0.1**
LDF La Druitiere 21.40 102 *e*P **P 00 56 46.1 +0.1**
LDF La Druitiere 21.40 102 *e*P **P 00 56 46.1 +0.1**
LDF La Druitiere 21.40 102 *e*P **P 00 56 46.1 +0.1**
NOA NORSAR Array B 22.19 63 P **P 00 56 57.0 +2.5**
NOA NORSAR Array B 22.19 63 P **P 00 56 57.0 +2.5**
comp=Z,3.7nm,1.0s,baz=283,slow=9.7,SNR=3.4
NOA LR LR 01 04 09.7
comp=Z,110nm,20.3s,baz=280,slow=33
NOA NORSAR Array B 22.19 63 P **P 00 56 57.0 +2.5**
MFF Saint Martin d 22.66 106 *e*P **P 00 56 58.3 -1.3**
comp=Z,18nm,1.1s
MFF Saint Martin d 22.66 106 *e*P **P 00 56 58.3 -1.3**
MFF Saint Martin d 22.66 106 *e*P **P 00 56 58.3 -1.3**
MFF Saint Martin d 22.66 106 *e*P **P 00 56 58.3 -1.3**
comp=Z,9.2nm,1.1s
BAIF Baives 22.82 94 *e*P **P 00 57 00.7 -0.5**
comp=Z,50nm,1.6s
BAIF Baives 22.82 94 *e*P **P 00 57 00.7 -0.5**
BAIF Baives 22.82 94 *e*P **P 00 57 00.7 -0.5**
BAIF Baives 22.82 94 *e*P **P 00 57 00.7 -0.5**
comp=Z,25nm,1.6s
HFS Hagfors 23.59 65 P **P 00 57 11.1 +2.1**
HFS Hagfors 23.59 65 P **P 00 57 11.0 +2.1**
comp=Z,1.7nm,0.8s,baz=272,slow=3.9,SNR=2.4
HFS LR LR 01 05 02.4
comp=Z,88nm,20.7s,baz=303,slow=33
HFS Hagfors 23.59 65 P **P 00 57 11.1 +2.1**
BGF Bois d'Agland 24.24 102 *e*P **P 00 57 14.1 -1.1**
comp=Z,39nm,1.3s
BGF Bois d'Agland 24.24 102 *e*P **P 00 57 14.1 -1.1**
BGF Bois d'Agland 24.24 102 *e*P **P 00 57 14.1 -1.1**
BGF Bois d'Agland 24.24 102 *e*P **P 00 57 14.1 -1.1**
comp=Z,20nm,1.3s
LFF La Frestale 24.25 108 *e*P **P 00 57 14.3 -1.0**
comp=Z,22nm,1.1s
LFF La Frestale 24.25 108 *e*P **P 00 57 14.3 -1.0**
LFF La Frestale 24.25 108 *e*P **P 00 57 14.3 -1.0**
LFF La Frestale 24.25 108 *e*P **P 00 57 14.3 -1.0**
comp=Z,11nm,1.1s
SSF Saint Saulge 24.26 101 *e*P **P 00 57 13.9 -1.5**
comp=Z,10nm,0.8s
SSF Saint Saulge 24.26 101 *e*P **P 00 57 13.9 -1.5**
SSF Saint Saulge 24.26 101 *e*P **P 00 57 13.9 -1.5**
SSF Saint Saulge 24.26 101 *e*P **P 00 57 13.9 -1.5**
comp=Z,5.2nm,0.8s
LOR Lormes 24.31 100 *e*P **P 00 57 15.0 -0.9**
comp=Z,38nm,1.6s
LOR *e*R
comp=Z,194nm,19.0s
LOR Lormes 24.31 100 *e*P **P 00 57 15.0 -0.9**
LOR Lormes 24.31 100 *e*P **P 00 57 15.0 -0.9**
comp=Z,19nm,1.6s
SFTF Sexfontaines 24.35 97 *e*P **P 00 57 15.3 -0.9**
comp=Z,19nm,1.0s
SFTF Sexfontaines 24.35 97 *e*P **P 00 57 15.3 -0.9**
SFTF Sexfontaines 24.35 97 *e*P **P 00 57 15.3 -0.9**
comp=Z,9.4nm,1.0s
AVF Avril sur Loir 24.36 101 *e*P **P 00 57 15.7 -0.5**
comp=Z,18nm,1.2s
AVF Avril sur Loir 24.36 101 *e*P **P 00 57 15.7 -0.5**
AVF Avril sur Loir 24.36 101 *e*P **P 00 57 15.7 -0.5**
AVF Avril sur Loir 24.36 101 *e*P **P 00 57 15.7 -0.5**
comp=Z,8.8nm,1.2s
RJF Les Rejaudoux 24.40 106 *e*P **P 00 57 16.0 -0.7**
comp=Z,68nm,1.8s
RJF *e*R
comp=Z,625nm,18.0s
RJF Les Rejaudoux 24.40 106 *e*P **P 00 57 16.0 -0.7**
RJF Les Rejaudoux 24.40 106 *e*P **P 00 57 16.0 -0.7**
RJF Les Rejaudoux 24.40 106 *e*P **P 00 57 16.0 -0.7**
comp=Z,34nm,1.8s
SJPF Ste Jean 24.59 113 *e*P **P 00 57 17.3 -1.1**
SJPF Ste Jean 24.59 113 *e*P **P 00 57 17.3 -1.1**
SJPF Ste Jean 24.59 113 *e*P **P 00 57 17.3 -1.1**
SJPF Ste Jean 24.59 113 *e*P **P 00 57 17.3 -1.1**
SMF Signal de Mont 24.70 101 *e*P **P 00 57 18.6 -0.9**
comp=Z,36nm,1.3s
SMF Signal de Mont 24.70 101 *e*P **P 00 57 18.6 -0.9**
SMF Signal de Mont 24.70 101 *e*P **P 00 57 18.6 -0.9**
SMF Signal de Mont 24.70 101 *e*P **P 00 57 18.6 -0.9**
comp=Z,18nm,1.3s
CAF Calviac 24.94 106 *e*P **P 00 57 20.6 -1.0**
CAF Calviac 24.94 106 *e*P **P 00 57 20.6 -1.0**
CAF Calviac 24.94 106 *e*P **P 00 57 20.6 -1.0**
CAF Calviac 24.94 106 *e*P **P 00 57 20.6 -1.0**
ETSF Etsaut 25.07 113 *e*P **P 00 57 21.5 -1.4**
comp=Z,34nm,1.6s
ETSF Etsaut 25.07 113 *e*P **P 00 57 21.5 -1.4**
ETSF Etsaut 25.07 113 *e*P **P 00 57 21.5 -1.4**
ETSF Etsaut 25.07 113 *e*P **P 00 57 21.5 -1.4**
comp=Z,17nm,1.6s
EVOP Sao Brissos 25.12 130 *e*P **P 00 57 19.5 -3.7**
EVOP Sao Brissos 25.12 130 *e*P **P 00 57 19.5 -3.7**
EVO Evora 25.17 130 *e*P **P 00 57 19.5 -4.1**
comp=Z,29nm,1.3s
EVO *e*R
comp=Z,280nm,18.8s
CDF Champ du Feu 25.41 95 *e*P **P 00 57 25.7 -0.2**
CDF Champ du Feu 25.41 95 *e*P **P 00 57 25.7 -0.2**
CDF Champ du Feu 25.41 95 *e*P **P 00 57 25.7 -0.2**
CDF Champ du Feu 25.41 95 *e*P **P 00 57 25.7 -0.2**
EPF Esparros 25.42 111 *e*P **P 00 57 25.3 -0.7**
comp=Z,19nm,1.4s
EPF Esparros 25.42 111 *e*P **P 00 57 25.3 -0.7**
EPF Esparros 25.42 111 *e*P **P 00 57 25.3 -0.7**
EPF Esparros 25.42 111 *e*P **P 00 57 25.3 -0.7**
comp=Z,9.5nm,1.4s
CABF La Chapelle 25.91 99 *e*P **P 00 57 30.3 -0.1**
CABF La Chapelle 25.91 99 *e*P **P 00 57 30.3 -0.1**
CABF La Chapelle 25.91 99 *e*P **P 00 57 30.3 -0.1**
CABF La Chapelle 25.91 99 *e*P **P 00 57 30.3 -0.1**
ESDC Sonseca Array 25.97 122 P **P 00 57 30.7 -0.3**
ESDC Sonseca Array 25.97 122 P **P 00 57 30.7 -0.3**
comp=Z,0.9nm,0.8s,baz=316,slow=7.6,SNR=5.2
ESDC LR LR 01 05 59.7
comp=Z,142nm,19.6s,baz=315,slow=32
ESDC Sonseca Array 25.97 122 P **P 00 57 30.7 -0.3**
MTLF Montolieu 26.14 109 *e*P **P 00 57 32.4 0.0**
MTLF Montolieu 26.14 109 *e*P **P 00 57 32.4 0.0**
MTLF Montolieu 26.14 109 *e*P **P 00 57 32.4 0.0**
MTLF Montolieu 26.14 109 *e*P **P 00 57 32.4 0.0**
CLL Collm 26.83 84 *e*P **P 00 57 39.0 +0.4**
CLL *i* 00 57 41.1
CLL *i* 00 57 44.4
CLL Collm 26.83 84 *e*P **P 00 57 39.0 +0.4**
CLL *i* sP **sP 00 57 41.1 -1.8**
comp=Z,6.0nm,1.3s
CLL *i* sP **sP 00 57 44.4 -0.3**
CLL Lm MLR 01 08 00.0
comp=Z,200nm,18.3s
CLL Collm 26.83 84 *e*P **P 00 57 39.0 +0.4**
ORIF Oris-en-Rattie 26.92 102 *e*P **P 00 57 39.1 -0.5**
comp=Z,9.7nm,1.0s
ORIF *e*R
comp=Z,227nm,20.7s
ORIF Oris-en-Rattie 26.92 102 *e*P **P 00 57 39.1 -0.5**
ORIF Oris-en-Rattie 26.92 102 *e*P **P 00 57 39.1 -0.5**
ORIF Oris-en-Rattie 26.92 102 *e*P **P 00 57 39.1 -0.5**
comp=Z,4.8nm,1.0s
ARCES ARCESS Array B 27.06 41 P **P 00 57 40.4 -0.1**
ARCES ARCESS Array B 27.06 41 P **P 00 57 40.4 -0.1**
comp=Z,2.4nm,0.8s,baz=261,slow=8.0,SNR=8.5
ARCES LR LR 01 06 26.2
comp=Z,76nm,18.1s,baz=116,slow=32
ARCES ARCESS Array B 27.06 41 P **P 00 57 40.4 -0.1**
DAVOX Davos/Dischmat 27.81 95 LR LR 01 08 23.7
comp=Z,209nm,18.7s,baz=306,slow=36
RES Resolute Bay 28.20 330 LR LR 01 07 03.5
comp=Z,122nm,20.3s,baz=45,slow=32
KHC Kasperske Hory 28.35 88 *e*P **P 00 57 51.1 -1.2**
KHC *e* 00 57 59.7
KHC MLR MLR
comp=Z,200nm,18.0s
KHC Kasperske Hory 28.35 88 *e*P **P 00 57 51.1 -1.2**
KHC *e*pP **pP 00 57 59.7 +3.0**
KHC AMS AMS 01 09 10.0
comp=Z,200nm,18.0s
KHC Kasperske Hory 28.35 88 *e*P **P 00 57 51.1 -1.2**
comp=Z,200nm,18.0s
PRU Pruhonice 28.37 86 *e*P **P 00 57 52.9 +0.5**
PRU MLR MLR
comp=Z,300nm,14.0s
PRU Pruhonice 28.37 86 *e*P **P 00 57 52.9 +0.5**
PRU *ex* x 00 58 04.5
PRU AMS AMS 01 09 30.0
comp=Z,300nm,14.0s
PRU Pruhonice 28.37 86 *e*P **P 00 57 52.9 +0.5**
comp=Z,300nm,14.0s
GERES GERESS Array B 28.59 88 LR LR 01 09 03.2
comp=Z,145nm,18.2s,baz=277,slow=36
UPC Upice 28.86 84 *e*P **P 00 57 56.5 -0.3**
UPC Upice 28.86 84 *e*P **P 00 57 56.5 -0.3**
UPC Upice 28.86 84 *e*P **P 00 57 56.5 -0.3**
FINES FINESS Array B 29.00 58 P **P 00 57 58.5 +0.7**
FINES FINESS Array B 29.00 58 P **P 00 57 58.5 +0.7**
comp=Z,2.6nm,1.0s,baz=284,slow=9.4,SNR=5.2
FINES LR LR 01 08 46.3
comp=Z,84nm,18.3s,baz=131,slow=35
FINES FINESS Array B 29.00 58 P **P 00 57 58.5 +0.7**
DPC Dobruska-Polom 29.11 84 *e*P **P 00 58 00.0 +0.9**
DPC Dobruska-Polom 29.11 84 *e*P **P 00 58 00.0 +0.9**
DPC *ex* x 00 58 12.5
DPC *ex* x 00 58 16.4
DPC AMS AMS 01 10 10.0
DPC Dobruska-Polom 29.11 84 *e*P **P 00 57 59.6 +0.5**
comp=Z,196nm,2.1s
DPC Dobruska-Polom 29.11 84 *e*P **P 00 57 59.6 +0.5**
comp=Z,196nm,2.1s
BRYW Bryant College 29.19 254 *e*P **P 00 57 58.0 -1.7**
BRYW Bryant College 29.19 254 *e*P **P 00 57 58.0 -1.7**
TREC Trest 29.27 86 *e*P **P 00 58 01.3 +0.8**
TREC *e* 00 58 08.7
TREC MLR MLR
comp=Z,300nm,16.2s
TREC Trest 29.27 86 *e*P **P 00 58 01.3 +0.8**
TREC *ex* x 00 58 08.7
TREC AMS AMS 01 09 10.0
comp=Z,300nm,16.2s
TREC Trest 29.27 86 *e*P **P 00 58 01.3 +0.8**
comp=Z,300nm,16.2s
VRAC Vranov 29.85 85 LR LR 01 10 06.0
comp=Z,213nm,18.1s,baz=264,slow=36
OKC Ostrava-Krasne 30.37 83 AMS AMS 01 11 10.0
comp=Z,300nm,14.2s
VYHS Vyhne 31.53 85 *e*P **P 00 58 20.5 +0.1**
VYHS pmax pmax
comp=Z,19nm,2.6s
VYHS Vyhne 31.53 85 *e*P **P 00 58 20.5 +0.1**
VYHS Vyhne 31.53 85 *e*P **P 00 58 20.5 +0.1**
comp=Z,19nm,2.6s
STHS Stebnicka Huta 32.26 81 *e*P **P 00 58 27.9 +1.1**
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 32.26 81 *e*P **P 00 58 27.9 +1.1**
STHS Stebnicka Huta 32.26 81 *e*P **P 00 58 27.9 +1.1**
comp=Z,3.0nm,1.2s
CRVS Cervenica-Dubn 32.68 82 *e*P **P 00 58 30.9 +0.5**
CRVS pmax pmax
comp=Z,10.0nm,1.7s
CRVS Cervenica-Dubn 32.68 82 *e*P **P 00 58 30.9 +0.5**
CRVS Cervenica-Dubn 32.68 82 *e*P **P 00 58 30.9 +0.5**
comp=Z,10.0nm,1.7s
KOLS Kolonicke sedl 33.09 81 *e*P **P 00 58 34.1 +0.1**
KOLS Kolonicke sedl 33.09 81 *e*P **P 00 58 34.1 +0.1**
KOLS Kolonicke sedl 33.09 81 *e*P **P 00 58 34.1 +0.1**
KEST Kesra 35.48 110 P **P 00 58 53.4 -1.6**
KEST Kesra 35.48 110 P **P 00 58 53.4 -1.6**
comp=Z,0.9nm,0.9s,baz=339,slow=5.0,SNR=5.4
KEST LR LR 01 12 03.4
comp=Z,44nm,18.9s,baz=192,slow=34
KEST Kesra 35.48 110 P **P 00 58 53.4 -1.6**
KIEV Kiev 35.66 74 *e*P **P 00 58 55.5 -0.7**
KIEV Kiev 35.66 74 *e*P **P 00 58 55.5 -0.7**
KIEV Kiev 35.66 74 *e*P **P 00 58 55.5 -0.7**
AKASG Malin Array Be 35.66 74 P **P 00 58 55.7 -0.5**
AKASG Malin Array Be 35.66 74 P **P 00 58 55.7 -0.5**
AKASG Malin Array Be 35.66 74 P **P 00 58 55.7 -0.5**
comp=Z,6.0nm,0.7s,baz=302,slow=8.5,SNR=13
AKASG Malin Array Be 35.66 74 P **P 00 58 55.7 -0.5**
ULM Lac du Bonnet 36.60 286 *e*P **P 00 59 04.2 -0.1**
comp=Z,37nm,2.0s
ULM Lac du Bonnet 36.60 286 LR LR 01 12 45.0
comp=Z,274nm,18.4s,baz=17,slow=34
ULM Lac du Bonnet 36.60 286 *e*P **P 00 59 04.2 -0.1**
comp=Z,37nm,2.0s
OBN Obninsk 36.79 64↓ *i*P **P 00 59 06.0 +0.2**
OBN *e*S **S 01 04 48.4 -0.7**
OBN *e*SS **SnSn 01 07 21.7 +1.5**
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN Obninsk 36.79 64 *i*P **P 00 59 06.0 +0.2**
comp=Z,7.0nm,1.2s
B30A Myrvik Farm, E 38.97 285 P **P 00 59 25.1 +0.7**
baz=39
ECSD EROS Data Cent 41.19 279 *e*P **P 00 59 44.0 +1.2**
comp=Z,5.8nm,1.1s
ECSD EROS Data Cent 41.19 279 *e*P **P 00 59 44.0 +1.2**
comp=Z,5.8nm,1.1s
INK Inuvik 41.61 327 *e*P **P 00 59 46.6 +0.7**
comp=Z,7.5nm,1.2s
INK Inuvik 41.61 327 *e*P **P 00 59 46.7 +0.7**
comp=Z,8.0nm,1.2s
C23A Lambert 42.88 289 P **P 00 59 58.7 +2.0**
baz=43
C22A Vida 43.28 290 P **P 01 00 01.1 +1.3**
baz=43
E22A Miles City 44.19 288 P **P 01 00 07.5 +0.3**
baz=44
C20A Veseth Ranch, 44.36 291 P **P 01 00 08.8 +0.3**
baz=44
H24A Dirks Ranch, A 44.63 285 P **P 01 00 11.1 +0.2**
baz=44
C19A Slack Wire Ran 44.87 292 P **P 01 00 13.9 +1.3**
baz=45
EGMT Eagleton 45.02 292 *e*P **P 01 00 16.2 +2.4**
comp=Z,20nm,1.4s
EGMT Eagleton 45.02 292 *e*P **P 01 00 16.2 +2.4**
comp=Z,20nm,1.4s
EGMT Eagleton 45.02 292 P **P 01 00 14.8 +1.0**
baz=45
D19A Cripps Ranch, 45.17 291 P **P 01 00 16.1 +1.0**
baz=45
J25A Sunshine Ranch 45.19 284 P **P 01 00 15.9 +0.6**
baz=45
G22A Birney 45.20 287 P **P 01 00 16.1 +0.8**
baz=45
BRTR Keskin Array B 45.28 84 P **P 01 00 17.3 +1.2**
BRTR Keskin Array B 45.28 84 P **P 01 00 17.3 +1.2**
comp=Z,2.0nm,0.8s,baz=320,slow=5.2,SNR=9.9
BRTR LR LR 01 20 06.5
comp=Z,60nm,20.8s,baz=293,slow=37
BRTR Keskin Array B 45.28 84 P **P 01 00 17.3 +1.2**
B17A L&G Farms, Che 45.35 293 P **P 01 00 17.1 +0.7**
baz=45,SNR=5.5
E19A Rath Farm, Rou 45.60 290 P **P 01 00 19.5 +1.0**
baz=45
SOC Sochi 45.71 75 *e*P **P 01 00 18.7 -0.6**
SOC *e*S **S 01 07 04.0 +2.3**
SOC *e*SS ScS 01 10 07.7 -6.8
SOC MLR MLR
comp=Z,136nm,18.0s
SOC Sochi 45.71 75 *e*P **P 01 00 18.7 -0.6**
SOC *e*S **S 01 07 04.0 +2.3**
C17A Wharram Farm, 45.78 293 P **P 01 00 20.3 +0.4**
baz=46,SNR=5.6
ARU Arti 45.84 51*d i*P **P 01 00 20.1 0.0**
ARU 01 02 04.6
ARU PPP PPP 01 02 49.1
ARU S **S 01 07 01.8 -1.3**
ARU SS **SS 01 10 23.1 -3.9**
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 45.84 51 *i*P **P 01 00 20.1 0.0**
comp=Z,19nm,1.7s
D17A Six Diamond Ra 46.08 292 P **P 01 00 23.3 +1.0**
baz=46,SNR=6.5
E18A Harlowton 46.09 291 P **P 01 00 22.8 +0.4**
baz=46
DAWY Dawson 46.22 324 *e*P **P 01 00 23.2 +0.2**
DAWY Dawson 46.22 324 *e*P **P 01 00 23.2 +0.2**
I22A 9 Mile Ranch, 46.23 286 P **P 01 00 24.2 +0.8**
baz=46
MIAR Mount Ida 46.24 267 *e*P **P 01 00 24.3 +0.8**
MIAR pmax pmax
comp=Z,8.0nm,1.0s
MIAR Mount Ida 46.24 267 *e*P **P 01 00 24.3 +0.8**
comp=Z,8.3nm,1.0s
MIAR Mount Ida 46.24 267 *e*P **P 01 00 24.3 +0.8**
comp=Z,8.0nm,1.0s
TUL1 Tulsa 46.39 270 P **P 01 00 24.8 +0.1**
baz=46
SVE Sverdlovsk 46.42 49↓ *e*P **P 01 00 25.4 +0.8**
SVE pmax pmax
comp=Z,13nm,1.3s
SVE Sverdlovsk 46.42 49 *e*P **P 01 00 25.4 +0.8**
comp=Z,13nm,1.3s
J22A Midwest 46.56 285 P **P 01 00 26.2 0.0**
baz=46
H20A Greybull 46.58 288 P **P 01 00 26.8 +0.5**
baz=46
I21A Big Trails, Te 46.70 286 P **P 01 00 27.4 +0.2**
baz=46,SNR=5.1
F17A Fitzpatrick Pl 46.93 291 P **P 01 00 29.7 +0.7**
baz=47
KIV Kislovodsk 46.98 73 *e*P P 01 00 33.3 +4.0
KIV pmax pmax
comp=Z,13nm,1.2s
KIV MLR MLR
comp=Z,100nm,16.0s
I20A Worland 47.03 287 P **P 01 00 30.5 +0.8**
baz=47
M24A Cheyenne 47.09 282 P **P 01 00 30.3 -0.1**
baz=47
KBZ Khabaz 47.24 73 P **P 01 00 32.0 +0.8**
KBZ Khabaz 47.24 73 P **P 01 00 32.0 +0.8**
KBZ Khabaz 47.24 73 P **P 01 00 32.0 +0.8**
comp=Z,3.9nm,0.9s,baz=328,slow=6.3,SNR=5.4
KBZ LR LR 01 20 05.3
comp=Z,57nm,19.2s,baz=228,slow=36
KBZ Khabaz 47.24 73 P **P 01 00 32.0 +0.8**
Q28A Sharon Springs 47.27 278 P **P 01 00 31.7 +0.1**
baz=47
H18A Shoshone NF, C 47.29 289 P **P 01 00 31.6 -0.3**
baz=47
I19A Meeteetse 47.41 288 P **P 01 00 33.2 +0.4**
baz=47
J20A Shoshoni 47.43 287 P **P 01 00 33.7 +0.8**
baz=47,SNR=10
SWMT Swartz Lake 47.45 295 *e*P **P 01 00 33.4 +0.3**
SWMT Swartz Lake 47.45 295 *e*P **P 01 00 33.3 +0.3**
K21A Alcova 47.51 285 P **P 01 00 34.0 +0.3**
baz=47
L22A Ellis Ranch, M 47.52 284 P **P 01 00 34.4 +0.7**
baz=47
LRM Limekiln Ridge 47.88 292 *e*P **P 01 00 36.0 -0.5**
comp=Z,22nm,1.0s
LRM Limekiln Ridge 47.88 292 *e*P **P 01 00 36.0 -0.5**
comp=Z,22nm,1.0s
HYT Haines Junctio 47.92 320 *e*P **P 01 00 38.6 +2.2**
HYT Haines Junctio 47.92 320 *e*P **P 01 00 38.6 +2.2**
ILAR Eielson Array 47.92 328 P **P 01 00 37.5 +1.2**
ILAR PcP **PcP 01 02 04.3 0.0**
ILAR Eielson Array 47.92 328 P **P 01 00 37.5 +1.2**
comp=Z,2.6nm,0.9s,baz=35,slow=6.5,SNR=25
ILAR PcP **PcP 01 02 04.3 0.0**
comp=Z,1.3nm,0.7s,baz=360,slow=2.3,SNR=9.0
ILAR LR LR 01 19 19.1
comp=Z,84nm,20.7s,baz=155,slow=34
ILAR Eielson Array 47.92 328 P **P 01 00 37.5 +1.2**
H17A Grant Village 47.95 289 *e*P **P 01 00 36.6 -0.5**
H17A Grant Village 47.95 289 *e*P **P 01 00 36.6 -0.5**
J19A Crowheart 47.98 287 P **P 01 00 37.3 0.0**
baz=48
K20A Yellowstone Ra 48.06 286 P **P 01 00 37.9 +0.1**
baz=48,SNR=6.4
N23A Red Feather La 48.09 283 P **P 01 00 38.9 +0.6**
baz=48
M21A Separation Pea 48.31 284 P **P 01 00 39.5 -0.4**
baz=48
R27A Eads 48.35 278 P **P 01 00 40.3 +0.2**
baz=48
L20A Wamsutter 48.52 285 P **P 01 00 42.0 +0.6**
baz=48
LOHW Long Hollow 48.52 289 *e*P **P 01 00 42.9 +1.4**
comp=Z,19nm,1.9s
LOHW Long Hollow 48.52 289 *e*P **P 01 00 42.9 +1.4**
comp=Z,19nm,1.9s
BW06 Boulder Array 48.60 287 *e*P **P 01 00 41.1 -0.9**
comp=Z,1.9nm,0.8s
BW06 Boulder Array 48.60 287 *e*P **P 01 00 41.2 -0.9**
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 48.60 287 P **P 01 00 42.0 -0.1**
PDAR Pinedale Array 48.60 287 P **P 01 00 42.0 -0.1**
comp=Z,1.7nm,0.7s,baz=70,slow=7.4,SNR=16
PDAR LR LR 01 19 59.3
comp=Z,129nm,19.4s,baz=143,slow=35
PDAR Pinedale Array 48.60 287 P **P 01 00 42.0 -0.1**
R26A Arlington 48.68 278 P **P 01 00 42.9 +0.3**
baz=48
IMA2 Indian Mountai 48.71 332 *e*P **P 01 00 43.2 +0.7**
IMA2 Indian Mountai 48.71 332 *e*P **P 01 00 43.2 +0.7**
ISCO Idaho Springs 48.72 281 *e*P **P 01 00 44.7 +1.6**
ISCO pmax pmax
comp=Z,18nm,1.8s
ISCO Idaho Springs 48.72 281 *e*P **P 01 00 44.7 +1.6**
comp=Z,18nm,1.8s
ISCO Idaho Springs 48.72 281 *e*P **P 01 00 44.7 +1.6**
comp=Z,18nm,1.8s
ISCO Idaho Springs 48.72 281 P **P 01 00 44.3 +1.2**
baz=48,SNR=6.1
I16A Newdale 48.78 289 P **P 01 00 44.3 +0.9**
baz=49
MCMT McKenzie Canyo 48.78 291 *e*P **P 01 00 44.9 +1.4**
MCMT McKenzie Canyo 48.78 291 *e*P **P 01 00 44.9 +1.4**
TPAW Teton Pass 48.79 289 *e*P **P 01 00 43.7 +0.1**
comp=Z,24nm,1.9s
TPAW Teton Pass 48.79 289 *e*P **P 01 00 43.7 +0.1**
comp=Z,24nm,1.9s
REDW Red Top Meadow 48.83 288 *e*P **P 01 00 44.7 +0.9**
comp=Z,2.9nm,0.8s
REDW Red Top Meadow 48.83 288 *e*P **P 01 00 44.7 +0.9**
comp=Z,2.9nm,0.8s
O22A Kremmling 48.94 282 P **P 01 00 46.1 +1.3**
baz=49,SNR=9.1
L19A Farson 48.98 286 P **P 01 00 44.8 -0.1**
baz=49
N21A Black Mountain 49.01 284 P **P 01 00 45.9 +0.7**
baz=49
RRI2 Red Ridge 49.08 289 *e*P **P 01 00 45.9 +0.1**
comp=Z,3.2nm,0.9s
RRI2 Red Ridge 49.08 289 *e*P **P 01 00 45.9 +0.1**
comp=Z,3.2nm,0.9s
P23A Jefferson 49.15 281 P **P 01 00 48.2 +1.7**
baz=49
MCK McKinley 49.29 328 *e*P **P 01 00 47.2 +0.3**
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 49.29 328 *e*P **P 01 00 47.2 +0.3**
comp=Z,11nm,1.0s
MCK McKinley 49.29 328 *e*P **P 01 00 47.2 +0.3**
comp=Z,11nm,1.0s
N20A Spence Gulch, 49.34 284 P **P 01 00 48.3 +0.6**
baz=49
P22A Eagle 49.47 282 P **P 01 00 50.2 +1.4**
baz=49,SNR=6.4
S25A Robets Cordova 49.68 279 P **P 01 00 51.1 +0.8**
baz=50
AKTO Aktyubinsk 49.76 57 LR LR 01 21 30.0
comp=Z,109nm,18.2s,baz=130,slow=36
O20A White River Ci 49.84 284 P **P 01 00 52.4 +0.8**
baz=50
P21A Newcastle 49.88 283 P **P 01 00 53.3 +1.4**
baz=50,SNR=6.6
SMCO Snowmass 49.88 282 *e*P **P 01 00 53.7 +1.5**
comp=Z,14nm,1.8s
SMCO Snowmass 49.88 282 *e*P **P 01 00 53.7 +1.5**
comp=Z,14nm,1.8s
T25A Trinidad 50.05 278 P **P 01 00 54.8 +1.5**
baz=50,SNR=6.2
MAK Makhachkala 50.13 70 *e*P **P 01 00 56.5 +3.1**
MAK MLR MLR
comp=Z,148nm,15.0s
MAK Makhachkala 50.13 70 *e*P **P 01 00 56.5 +3.1**
comp=Z,148nm,15.0s
O19A Miners Draw (B 50.17 285 P **P 01 00 55.1 +1.0**
baz=50,SNR=6.7
Z32A Haskell 50.34 271 P **P 01 00 55.3 +0.1**
baz=50
P20A De Beque 50.38 283 P **P 01 00 56.2 +0.5**
baz=50
HWUT Hardware Ranch 50.47 287 *e*P **P 01 00 55.7 -0.6**
comp=Z,5.0nm,1.0s

HWUT Hardware Ranch 50.47 287 *eP* **P 01 00 55.7 -0.6**
comp=Z,5.0nm,1.0s
HLID Hailey 50.47 291 *eP* **P 01 00 58.1 +1.9**
comp=Z,3.7nm,1.2s
HLID Hailey 50.47 291 *eP* **P 01 00 58.2 +1.9**
comp=Z,3.7nm,1.2s
HLID Hailey 50.47 291 P **P 01 00 57.3 +1.0**
baz=50
R22A Saguache, Gunn 50.48 281 P **P 01 00 58.3 +1.8**
baz=50,SNR=5.9
P19A Cripple Cowboy 50.59 284 P **P 01 00 57.3 0.0**
baz=50
Q20A Ridgley Place, 50.74 283 P **P 01 00 59.4 +1.0**
baz=51
S22A 4UR Ranch, Cre 50.87 281 P **P 01 01 00.7 +1.1**
baz=51
V25A Rancho No Teng 51.14 277 P **P 01 01 02.1 +0.7**
baz=51,SNR=5.4
MMAI Mount Meron Ar 51.24 88 LR LR 01 23 39.4
comp=Z,58nm,20.9s,baz=50,slow=37
S21A Coal Bank Pass 51.44 281 P **P 01 01 05.2 +1.4**
baz=51,SNR=8.8
T22A Edith 51.46 280 P **P 01 01 05.1 +1.2**
baz=51
ABKAR Akbulak array 51.48 57 *eP* **P 01 01 04.5 +0.9**
ABKAR Akbulak array 51.48 57 *eP* **P 01 01 04.4 +0.9**
TORD Torodi Ar. Bea 51.66 135 P **P 01 01 04.2 -1.1**
TORD PcP **PcP 01 02 17.9 -0.8**
TORD Torodi Ar. Bea 51.66 135 P **P 01 01 04.2 -1.1**
comp=Z,1.8nm,0.7s,baz=330,slow=8.4,SNR=19
TORD PcP **PcP 01 02 17.9 -0.8**
comp=Z,1.6nm,1.2s,baz=259,slow=7.1,SNR=2.1
TORD LR LR 01 19 14.7
comp=Z,116nm,21.0s,baz=335,slow=32
TORD Torodi Ar. Bea 51.66 135 P **P 01 01 04.2 -1.1**
TORD Torodi Ar. Bea 51.66 135 PcP **PcP 01 02 17.9 -0.8**
130A Snyder 51.68 272 P **P 01 01 06.0 +0.6**
baz=52
X26A CR and CF Fran 51.69 276 P **P 01 01 06.0 +0.5**
baz=52
W24A Lazy 6 Ranch, 52.04 277 P **P 01 01 09.3 +1.2**
baz=52
MVCO Mesa Verde 52.15 281 *eP* **P 01 01 10.8 +1.8**
comp=Z,8.9nm,1.1s
MVCO Mesa Verde 52.15 281 *eP* **P 01 01 10.8 +1.8**
comp=Z,8.9nm,1.1s
MVCO Mesa Verde 52.15 281 P **P 01 01 10.1 +1.1**
baz=52
U21A Nageezi 52.30 280 P **P 01 01 11.1 +1.0**
baz=52
Y25A Mesa, Roswell 52.64 276 P **P 01 01 13.0 +0.4**
baz=52
ASF Jabal al Asfar 52.69 88 LR LR 01 24 27.0
comp=Z,49nm,19.9s,baz=294,slow=37
JCT Junction City 52.71 269 *eP* **P 01 01 12.4 -0.6**
JCT pmax pmax
comp=Z,7.0nm,1.0s
JCT Junction City 52.71 269 *eP* **P 01 01 12.4 -0.6**
comp=Z,7.3nm,1.0s
JCT Junction City 52.71 269 *eP* **P 01 01 12.4 -0.6**
comp=Z,7.0nm,1.0s
Z26A Caprock 52.77 275 P **P 01 01 14.5 +1.0**
baz=53,SNR=6.5
431A Sonora 52.98 270 P **P 01 01 15.6 +0.6**
baz=53
BRVK Borovoye 52.99 47 *eP* **P 01 01 15.8 +1.1**
BRVK pmax pmax
comp=Z,14nm,1.5s
BRVK Borovoye 52.99 47 *eP* **P 01 01 15.8 +1.1**
comp=Z,14nm,1.5s
BRVK Borovoye 52.99 47 *eP* **P 01 01 15.8 +1.1**
comp=Z,14nm,1.5s
532A Rocksprings 53.04 269 P **P 01 01 15.6 +0.1**
baz=53
BVAR Borovoye Array 53.06 47 P **P 01 01 16.2 +1.0**
BVAR Borovoye Array 53.06 47 P **P 01 01 16.2 +1.0**
BVAR Borovoye Array 53.06 47 P **P 01 01 16.2 +1.0**
comp=Z,2.6nm,0.7s,baz=318,slow=6.4,SNR=22
BVAR LR LR 01 21 24.4
comp=Z,50nm,19.0s,baz=111,slow=33
BVAR Borovoye Array 53.06 47 P **P 01 01 16.2 +1.0**
MSU Marysvale 53.08 285 *eP* **P 01 01 15.3 -0.6**
MSU pmax pmax
comp=Z,2.0nm,0.9s
MSU Marysvale 53.08 285 *eP* **P 01 01 15.3 -0.6**
comp=Z,2.0nm,0.9s
MSU Marysvale 53.08 285 *eP* **P 01 01 15.3 -0.6**
comp=Z,2.0nm,0.9s
Z25A Roswell 53.15 275 P **P 01 01 16.6 +0.3**
baz=53
V20A Brimhall 53.20 280 P **P 01 01 17.8 +1.0**
baz=53
126A Clayton Basin, 53.27 274 P **P 01 01 17.7 +0.6**
baz=53
531A Rocksprings 53.35 269 P **P 01 01 18.1 +0.4**
baz=53
EIL Elat 53.61 91 LR LR 01 25 57.6
comp=Z,32nm,19.2s,baz=276,slow=38
226B Tecolote Peak, 53.79 274 P **P 01 01 21.1 +0.1**
baz=54
X21A Alamocita Cree 53.88 279 P **P 01 01 23.7 +1.9**
baz=54,SNR=10
124A Stringfield Ra 53.99 275 P **P 01 01 24.0 +1.3**
baz=54
428A Kincaid Ranch, 54.05 272 P **P 01 01 23.6 +0.6**
baz=54
225A Deer Hill, Car 54.11 274 P **P 01 01 23.9 +0.5**
baz=54
427A Hayter Ranch, 54.34 272 P **P 01 01 25.7 +0.7**
baz=54
Z22A Elephant Butte 54.36 277 P **P 01 01 26.0 +0.8**
baz=54
224A Cornudas Mount 54.51 275 P **P 01 01 26.8 +0.5**
baz=54
Y20A Horse Springs, 54.61 279 P **P 01 01 28.5 +1.4**
baz=54
Z21A St. Cloud Mine 54.70 278 P **P 01 01 29.3 +1.6**
baz=54
U15A North Rim 54.72 284 P **P 01 01 27.8 -0.1**
baz=54
MNTX Cornudas Mount 54.73 275 *eP* **P 01 01 28.3 +0.6**
comp=Z,3.7nm,1.4s
MNTX Cornudas Mount 54.73 275 *eP* **P 01 01 28.3 +0.6**
comp=Z,3.7nm,1.4s
426A McDonald Obser 54.81 273 P **P 01 01 29.9 +1.3**
baz=55,SNR=7.2
WUAZ Wupatki 54.94 282 *eP* **P 01 01 29.6 +0.2**
comp=Z,26nm,1.8s
WUAZ Wupatki 54.94 282 *eP* **P 01 01 29.6 +0.2**
comp=Z,26nm,1.8s
WUAZ Wupatki 54.94 282 P **P 01 01 30.4 +1.0**
baz=55
R11A Troy Canyon, C 54.95 288 *eP* **P 01 01 30.1 +0.6**
comp=Z,4.6nm,1.2s
R11A Troy Canyon, C 54.95 288 *eP* **P 01 01 30.1 +0.6**
comp=Z,4.6nm,1.2s
R11A Troy Canyon, C 54.95 288 P **P 01 01 30.1 +0.6**
baz=55,SNR=7.4
527A Woodward Ranch 55.00 272 P **P 01 01 30.4 +0.5**
baz=55
628A Black Gap, Mar 55.13 271 P **P 01 01 31.8 +1.1**
baz=55
425A Indio Mountain 55.23 274 P **P 01 01 32.5 +0.9**
baz=55
526A Mary Lane Ranc 55.32 272 P **P 01 01 33.7 +1.5**
baz=55,SNR=6.8
Z20A Nine Sixteen R 55.33 278 P **P 01 01 33.3 +1.0**
baz=55
121A Cookes Peak, D 55.36 277 P **P 01 01 33.6 +1.2**
baz=55
DBIC Dimbokro 55.49 146 LR LR 01 22 56.9
comp=Z,99nm,18.0s,baz=4.3,slow=34
TXAR Lajitas Array 55.67 271 P **P 01 01 34.7 0.0**
TXAR Lajitas Array 55.67 271 P **P 01 01 34.7 0.0**
comp=Z,1.0nm,0.9s,baz=73,slow=4.2,SNR=7.2
TXAR LR LR 01 24 33.4
comp=Z,71nm,19.2s,baz=10.0,slow=35
TXAR Lajitas Array 55.67 271 P **P 01 01 34.7 0.0**
626A Big Bend Ranch 55.74 272 P **P 01 01 35.7 +0.5**
baz=56,SNR=7.0
X16A Lo Mia Camp, P 55.82 281 P **P 01 01 37.0 +1.2**
baz=56
PAHR Pah Rah Range 55.83 291 *eP* **P 01 01 36.2 +0.5**
comp=Z,8.3nm,1.0s
PAHR Pah Rah Range 55.83 291 *eP* **P 01 01 36.2 +0.5**
comp=Z,8.3nm,1.0s
220A Playas Peak, P 56.24 277 P **P 01 01 39.5 +0.7**
baz=56

NVAR Mina Array Bea 56.26 290 P **P 01 01 39.4 +0.5**
NVAR Mina Array Bea 56.26 290 P **P 01 01 39.4 +0.5**
comp=Z,1.2nm,0.7s,baz=53,slow=6.0,SNR=14
NVAR LR LR 01 25 23.8
comp=Z,198nm,20.5s,baz=284,slow=36
NVAR Mina Array Bea 56.26 290 P **P 01 01 39.4 +0.5**
NVS Novosibirsk 56.30 39 *eP* **P 01 01 36.8 -1.9**
NVS Novosibirsk 56.30 39 *eP* **P 01 01 36.8 -1.9**
GRAC Grapevine Rang 56.89 288 P **P 01 01 44.2 +0.9**
baz=57
TUC Tucson 57.12 279 *eP* **P 01 01 46.5 +1.6**
TUC pmax pmax
comp=Z,4.0nm,1.2s
TUC Tucson 57.12 279 *eP* **P 01 01 46.5 +1.6**
comp=Z,3.9nm,1.2s
TUC Tucson 57.12 279 *eP* **P 01 01 46.5 +1.6**
comp=Z,4.0nm,1.2s
ZALV Zalesovo Beam 57.56 38 LR LR 01 26 41.8
comp=Z,26nm,19.0s,baz=160,slow=36
KURK Kurchatov 58.03 44 P **P 01 01 51.4 +0.4**
KURK Kurchatov 58.03 44 P **P 01 01 51.4 +0.4**
KURK Kurchatov 58.03 44 P **P 01 01 51.3 +0.4**
KURBB Kurchatov Arra 58.07 44 P **P 01 01 51.4 +0.1**
comp=Z,2.6nm,0.6s,baz=324,slow=7.0,SNR=18
EDW2 Edwards Air Fo 58.85 287 P **P 01 01 57.9 +0.9**
baz=59
PFO Pinyon Flat Ob 59.06 285 P **P 01 01 59.5 +0.9**
baz=59
MK31 Makanchi Array 62.64 45 *eP* **P 01 02 22.5 -0.1**
MK31 Makanchi Array 62.64 45 *eP* **P 01 02 22.5 -0.1**
MK31 Makanchi Array 62.64 45 *eP* **P 01 02 22.5 -0.1**
MKAR Makanchi Array 62.64 45 *ceP* **P 01 02 22.7 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 62.64 45 *eP* **P 01 02 23.1 +0.5**
MKAR Makanchi Array 62.64 45 P **P 01 02 22.8 +0.1**
comp=Z,3.1nm,0.9s,baz=334,slow=6.1,SNR=17
MKAR Makanchi Array 62.64 45 *eP* **P 01 02 23.1 +0.5**
EKS2 Erkin-Say 62.65 53 *eP* **P 01 02 24.5 +1.6**
EKS2 pmax pmax
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 62.65 53 *eP* **P 01 02 24.5 +1.6**
comp=Z,8.2nm,1.1s
EKS2 Erkin-Say 62.65 53 *eP* **P 01 02 24.5 +1.6**
comp=Z,8.0nm,1.1s
AAK Ala-Archa 62.98 52 *eP* **P 01 02 26.9 +1.8**
AAK pmax pmax
comp=Z,13nm,1.6s
AAK Ala-Archa 62.98 52 *eP* **P 01 02 26.9 +1.8**
comp=Z,13nm,1.6s
AAK Ala-Archa 62.98 52 P **P 01 02 25.2 +0.1**
comp=Z,1.1nm,0.3s,baz=191,slow=1.8,SNR=4.4
AAK Ala-Archa 62.98 52 *eP* **P 01 02 26.9 +1.8**
comp=Z,13nm,1.6s
TLY Talaya 65.08 28 *eP* P 01 02 43.6 +5.0
TLY pmax pmax
comp=Z,7.0nm,0.6s
KSH Kashi 66.18 53 P **P 01 02 48.8 +2.8**
KSH sP **sP 01 02 55.8 +3.4**
KSH PP PP 01 05 16.8 +5.6
KSH S **S 01 11 35.8 +1.7**
KSH sS **sS 01 11 43.8 +2.0**
KSH SS **SS 01 15 51.5 +2.4**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,38nm,2.7s
KSH LR LR
comp=N,75nm,6.0s
KSH LR LR
comp=E,66nm,4.0s
KSH LR LR
comp=Z,51nm,5.3s
WMQ Urumqi 67.16 43 *eP* P 01 02 55.5 +3.4
SONM Songino Array 69.32 28 P **P 01 03 06.4 +0.7**
SONM Songino Array 69.32 28 P **P 01 03 06.4 +0.7**
comp=Z,3.3nm,1.1s,baz=322,slow=6.1
SONM Songino Array 69.32 28 P **P 01 03 06.4 +0.7**
GTA Gaotai 75.20 36 *eP* **P 01 03 41.5 +0.5**
GTA pP **pP 01 03 45.0 -0.7**
GTA sP **sP 01 03 47.6 +0.2**
GTA pmax pmax
comp=Z,4.0nm,1.0s
MDJ Mudanjiang 76.78 13 P **P 01 03 48.6 -1.0**
MDJ pP **pP 01 03 51.9 -2.5**
MDJ sP **sP 01 03 53.4 -2.7**
MDJ PcP **pwP 01 03 55.3 +0.9**
MDJ S **S 01 13 34.5 -1.5**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,110nm,4.1s
MDJ LR LR
comp=N,67nm,25.6s
MDJ LR LR
comp=E,44nm,25.6s
MDJ LR LR
comp=Z,36nm,25.6s
HHC Hu-ho-hao-te 77.15 27 *eP* **P 01 03 50.3 -1.7**
HHC pP **pP 01 03 54.6 -2.1**
HHC sP **sP 01 03 56.9 -1.6**
HHC PP **PP 01 06 44.3 -0.6**
HHC S **S 01 13 36.1 -4.4**
HHC sS sS 01 13 43.3 -5.0
HHC SKS SKSac 01 13 56.3 -7.7
HHC ScS **SKKSac 01 14 02.5 -2.2**
HHC SS **SS 01 18 34.4 -2.3**
HHC pmax pmax
comp=Z,41nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.3s
HHC LR LR
comp=N,220nm,17.3s
HHC LR LR
comp=E,280nm,17.3s
HHC LR LR
comp=Z,140nm,16.3s
LZH Lanzhou 79.51 35 *eP* **P 01 04 05.5 +0.4**
LZH pP **pP 01 04 09.0 -0.9**
LZH sP **sP 01 04 11.5 -0.1**
LZH pmax pmax
comp=Z,14nm,1.0s
KSRS Korea Array 83.61 15 P **P 01 04 26.6 +0.1**
comp=Z,0.5nm,0.4s,baz=357,slow=5.4,SNR=6.1
KSAR Wonju Array Be 83.61 15 P **P 01 04 26.6 0.0**
KSAR Wonju Array Be 83.61 15 P **P 01 04 26.6 0.0**
CD2 Chengdu 84.27 37 *eP* **P 01 04 30.6 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,20nm,6.2s
ENH Enshi 86.59 32 *eP* **P 01 04 41.9 +0.2**
ENH Enshi 86.59 32 *eP* **P 01 04 41.9 +0.2**
NJ2 Nanjing 87.24 24 *eP* **P 01 04 44.1 -0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KMI Kunming 89.29 40 *eP* **P 01 04 54.9 0.0**
KMI pmax pmax
comp=Z,9.0nm,0.5s
GYA Guiyang 89.33 36 *eP* **P 01 04 55.0 0.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
ASAR Alice Springs 144.45 21 PKP **PKPab 01 11 32.6 -0.1**
ASAR Alice Springs 144.45 21 PKP **PKPab 01 11 32.6 -0.1**
comp=Z,1.1nm,0.6s,baz=345,slow=2.7,SNR=11
ASAR Alice Springs 144.45 21 PKIKP **PKPab 01 11 32.7 -0.1**

AUST ***22*** *00:59:40.2±0.0, 17°.87S×177°.92W, h583km, Error ellipse: s-maj=3.2km s-min=1.6km az=346.0*
IDC ***22*** *00:59:41.9±4.5, 18°.42S×178°.16W, h576km±49km, mb3.4/8, mb1 3.7/8, mb1mx3.4/19, mbtmp3.4/8, Error ellipse: s-maj=37.6km s-min=20.8km az=140.0*
ISC 22 00:59:43.6±0.8, 18°.4S±0°.2×178°.3W±0°.1, h600km, n29, σ0°67/28, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LHI	**Lord Howe Isla**	**24.32**	**233**	P	P	P	01 04 24.9	+9.1
	baz=25,SNR=3.2							
RMQ	**Roma**	**31.47**	**249**	P	P	**P**	**01 05 18.6**	**+0.5**
	baz=32,SNR=5.5							
CNB	**Canberra Magne**	**33.26**	**233**	P	P	**P**	**01 05 33.3**	**+0.2**
	baz=34,SNR=6.3							
PATS	**Pohnpei**	**34.07**	**315**	S	S	**S**	**01 10 24.3**	**-0.4**
	baz=34,SNR=4.2							
CMSA	**Cobar Meteorol**	**35.05**	**241**	P	P	**P**	**01 05 47.9**	**0.0**
	baz=36,SNR=14							
MTSU	**Mount Surprise**	**35.50**	**264**	P	P	**P**	**01 05 52.1**	**+0.2**
	baz=36,SNR=7.5							
TOO	**Toolangi**	**36.99**	**231**	P	P	**P**	**01 06 04.0**	**+0.1**
	baz=38,SNR=4.9							
MANU	**Manus Island**	**37.39**	**292**	S	S	S	01 10 56.8	-17
	baz=38,SNR=5.5							
STKA	**Stephens Creek**	**38.53**	**242**	P	P	**P**	**01 06 16.8**	**+0.4**
	10nm,0.8s,baz=96,slow=9.8,SNR=18							
STKA	**Stephens Creek**	**38.53**	**242**	P	P	**P**	**01 06 16.8**	**+0.4**
	baz=39,SNR=15							
BBOO	**Buckleboo**	**43.31**	**241**	P	P	**P**	**01 06 54.0**	**-0.1**
	baz=44,SNR=15							
WRA	**Warramunga Arr**	**44.69**	**260**	P	P	**P**	**01 07 04.8**	**-0.1**
	4.4nm,0.5s,baz=95,slow=7.5,SNR=34							
ASAR	**Alice Springs**	**44.80**	**255**	P	P	**P**	**01 07 05.8**	**+0.1**
	20nm,0.6s,baz=86,slow=8.7,SNR=189							
ASAR				PcP	PcP	**PcP**	**01 08 35.0**	**+0.4**
	1.1nm,0.5s,baz=101,slow=3.8,SNR=6.2							
KDU	**Kakadu**	**47.69**	**269**	P	P	**P**	**01 07 27.8**	**+0.3**
	baz=48,SNR=5.2							
KNRA	**Kununurra**	**50.58**	**265**	P	P	**P**	**01 07 49.1**	**+0.3**
	baz=51,SNR=4.5							
FITZ	**Fitzroy Crossi**	**53.09**	**261**	P	P	**P**	**01 08 07.4**	**+0.6**
	baz=54,SNR=10.0							
MEEK	**Meekatharra**	**58.40**	**250**	P	P	**P**	**01 08 42.9**	**-0.4**
	baz=59,SNR=5.2							
MJAR	**Matsushiro Arr**	**68.35**	**323**	P	P	**P**	**01 09 47.1**	**+0.7**
	0.7nm,0.4s,baz=148,slow=5.1,SNR=3.5							
PETK	**Petropavlovsk-**	**74.15**	**345**	P	P	**P**	**01 10 20.8**	**+1.0**
	2.0nm,0.6s,baz=159,slow=8.5,SNR=3.2							
NVAR	**Mina Array Bea**	**79.65**	**44**	P	P	**P**	**01 10 50.1**	**-0.2**
	0.6nm,0.7s,baz=223,slow=9.0,SNR=6.9							
TXAR	**Lajitas Array**	**86.12**	**58**	P	P	**P**	**01 11 23.2**	**+0.6**
	0.8nm,0.7s,baz=221,slow=6.7,SNR=9.9							
ILAR	**Eielson Array**	**86.30**	**13**	P	P	**P**	**01 11 21.8**	**-0.7**
	0.8nm,0.8s,baz=231,slow=5.0,SNR=7.1							
MKAR	**Makanchi Array**	**109.55**	**314**	PKiKP	**PKiKP**	**01 17 05.8**	**-1.2**	
	0.2nm,0.5s,baz=195,slow=0.7,SNR=4.4							
KURBB	**Kurchatov Arra**	**112.31**	**318**	PKiKP	**PKiKP**	**01 17 11.2**	**-0.9**	
	0.4nm,0.8s,baz=66,slow=1.8,SNR=5.9							
ARCES	**ARCESS Array B**	**126.78**	**350**	PKP	**PKPdf**	**01 17 39.5**	**+0.1**	
	2.0nm,0.9s,baz=20,slow=3.9,SNR=4.6							
BRTR	**Keskin Array B**	**145.20**	**314**	PKPbc	**PKPab**	**01 18 15.8**	**-0.9**	
	1.1nm,0.6s,baz=140,slow=3.8,SNR=7.4							
MMAI	**Mount Meron Ar**	**146.50**	**302**	PKPbc	**PKPab**	**01 18 20.1**	**-2.0**	
	2.7nm,0.6s,baz=67,slow=6.4,SNR=11							
GERES	**GERESS Array B**	**148.08**	**345**	PKPbc	**PKPbc**	**01 18 23.2**	**+0.4**	
	1.0nm,0.7s,baz=29,slow=3.0,SNR=12							
DAVOX	**Davos/Dischmat**	**150.87**	**348**	PKPbc	**PKPbc**	**01 18 30.1**	**+0.4**	
	2.3nm,0.5s,baz=320,slow=1.7,SNR=8.8							

IDC 22 01:01:24.0±2.1, 57°.74N×32°.50W, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/32, mbtmp3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/43, Error ellipse: s-maj=59.0km s-min=34.0km az=57.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAVOX	**Davos/Dischmat**	**27.70**	**95**	LR	LR	LR	01 18 09.1	
	comp=Z,45nm,18.6s,baz=267,slow=36							
GERES	**GERESS Array B**	**28.49**	**88**	LR	LR	LR	01 18 41.8	
	comp=Z,30nm,20.3s,baz=142,slow=36							
ILAR	**Eielson Array**	**48.12**	**328**	P	P	P	01 10 04.9	-0.1
	0.4nm,0.8s,baz=50,slow=5.5,SNR=4.3							
TORD	**Torodi Ar. Bea**	**51.47**	**136**	P	P	P	01 10 30.9	-0.1
	0.9nm,0.9s,baz=338,slow=7.2,SNR=4.7							
KURBB	**Kurchatov Arra**	**58.13**	**44**	P	P	P	01 11 18.9	0.0
	0.6nm,0.8s,baz=325,slow=7.2,SNR=6.9							
MKAR	**Makanchi Array**	**62.69**	**45**	P	P	P	01 11 50.1	-0.1
	0.5nm,0.8s,baz=332,slow=6.9,SNR=4.3							

CSEM ***22*** *01:06:44.2, 42°.59N×13°.19E, h11km, MD1.7/9, After ROM*
ROM 22 01:06:44.2±0.1, 42°.59N×13°.19E, h11km, Md1.7/9, Ml1.5/6, Error ellipse: s-maj=1.1km s-min=0.9km az=165.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**276**	Pg	Pg	Pg	01 06 47.5	+0.2
LNSS				Sg	Sg	Sg	01 06 49.9	+0.4
LNSS	**Leonessa**	**0.11**	**276**	Pg	Pg	Pg	01 06 47.5	+0.2
LNSS				Sg	Sg	Sg	01 06 49.9	+0.4
CAMP	**Campotosto**	**0.17**	**109**	Pg	Pg	Pg	01 06 48.4	+0.2
CAMP				Sg	Sg	Sg	01 06 51.5	+0.5
CAMP	**Campotosto**	**0.17**	**109**	Pg	Pg	Pg	01 06 48.4	+0.2
CAMP				Sg	Sg	Sg	01 06 51.5	+0.5
NRCA	**Norcia**	**0.25**	**347**	Pg	Pg	Pg	01 06 49.9	+0.4
NRCA				Sg	Sg	Sg	01 06 54.1	+1.0
	75nm,0.1s							
NRCA	**Norcia**	**0.25**	**347**	Pg	Pg	Pg	01 06 49.9	+0.4
NRCA				Sg	Sg	Sg	01 06 54.1	+1.0
	75nm,0.1s							
AQU	**L'Aquila**	**0.28**	**146**	Pg	Pb	Pb	01 06 50.8	-0.6
AQU				Sg	Sb	Sb	01 06 55.5	-0.7
AQU	**L'Aquila**	**0.28**	**146**	Pg	Pb	Pb	01 06 50.8	-0.6
AQU				Sg	Sb	Sb	01 06 55.5	-0.7
TERO	**Teramo**	**0.31**	**84**	Pg	Pg	Pg	01 06 50.9	+0.4
TERO				Sg	Sg	Sg	01 06 55.4	+0.6
	23nm,0.4s							
TERO	**Teramo**	**0.31**	**84**	Pg	Pg	Pg	01 06 50.9	+0.4
TERO				Sg	Sg	Sg	01 06 55.4	+0.6
	23nm,0.4s							
FIAM	**Fiamignano**	**0.33**	**190**	Pg	Pg	Pg	01 06 51.1	+0.1
FIAM				Sg	Sg	Sg	01 06 56.0	+0.5
	23nm,0.6s							
FIAM	**Fiamignano**	**0.33**	**190**	Pg	Pg	Pg	01 06 51.1	+0.1
FIAM				Sg	Sg	Sg	01 06 56.0	+0.5
	23nm,0.6s							
MNS	**Montasola**	**0.43**	**241**	Pg	Pg	Pg	01 06 52.9	+0.1
	10.0nm,0.5s							
MNS	**Montasola**	**0.43**	**241**	Pg	Pg	Pg	01 06 52.9	+0.1
	10.0nm,0.5s							

ISCJB ***22*** *01:14:20.8±0.6, 41°.86N±0°.02×19°.16E±0°.03, h3km±4km, Error ellipse: s-maj=4.6km s-min=3.1km az=43.7*
CSEM ***22*** *01:14:20.9±0.3, 41°.85N×19°.18E, h2km, ML2.2/10, Error ellipse: s-maj=5.0km s-min=3.0km az=35.0*
TIR ***22*** *01:14:21.2±1.8, 41°.89N×19°.08E, h13km±80km, ML3.0*
PDG ***22*** *01:14:22.0±0.3, 41°.92N×19°.22E, h13km, MD2.2/1, ML2.2/10, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
BEO ***22*** *01:14:23.2±0.5, 41°.93N×19°.17E, h7km±2km, ML2.0/7*
ISC 22 01:14:22.0±0.9, 41°.91N±0°.02×19°.18E±0°.02, h11km±5km, n58, σ1°00/101, 14C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.07**	**43**	↓*i*Pg	**Pg**	**Pg**	**01 14 24.4**	**0.0**
ULC				*e*Sg	**Sg**	**Sg**	**01 14 26.1**	**-0.1**
ULC	**Ulcinj**	**0.07**	**43**	↓*i*Pg	**Pg**	**Pg**	**01 14 24.4**	**0.0**
ULC				*e*Sg	**Sg**	**Sg**	**01 14 26.1**	**-0.1**
DRME	**Dracevica, Mon**	**0.28**	**1**	↑*i*Pg	**Pg**	**Pg**	**01 14 27.2**	**-0.4**
DRME				*e*Sg	**Sg**	**Sg**	**01 14 32.2**	**+0.8**
DRME	**Dracevica, Mon**	**0.28**	**1**	↑*i*Pg	**Pg**	**Pg**	**01 14 27.2**	**-0.4**
DRME				*e*Sg	**Sg**	**Sg**	**01 14 32.2**	**+0.8**
BUM	**Brajici-Budva**	**0.44**	**332**	↑*i*Pg	**Pg**	**Pg**	**01 14 30.2**	**-0.5**
BUM				*e*Sg	**Sb**	**Sb**	**01 14 37.5**	**-1.1**
BUM	**Brajici-Budva**	**0.44**	**332**	↑*i*Pg	**Pg**	**Pg**	**01 14 30.2**	**-0.5**
BUM				*e*Sg	**Sb**	**Sb**	**01 14 37.5**	**-1.1**
PDG	**Podgorica**	**0.52**	**6**	*e*Pg	**Pg**	**Pg**	**01 14 31.6**	**-0.6**
PDG				*e*Sg	**Sb**	**Sb**	**01 14 39.8**	**-1.0**
PDG	**Podgorica**	**0.52**	**6**	↓*i*Pg	**Pg**	**Pg**	**01 14 31.6**	**-0.6**
PDG				*e*Sg	**Sb**	**Sb**	**01 14 39.8**	**-1.0**
TTG	**Podgorica**	**0.52**	**6**	↓*i*Pg	**Pg**	**Pg**	**01 14 31.6**	**-0.6**
TTG				*e*Sg	**Sb**	**Sb**	**01 14 40.6**	**-0.2**
PUK	**Puka**	**0.55**	**76**	*i* PG	**Pg**	**Pg**	**01 14 31.4**	**-1.3**
PUK				*i* SG	**Sg**	**Sg**	**01 14 40.5**	**+0.5**
PUK	**Puka**	**0.55**	**76**	*i* Pg	**Pg**	**Pg**	**01 14 31.4**	**-1.3**
	SNR=100							
PUK				*i* Sg	**Sg**	**Sg**	**01 14 40.5**	**+0.5**
	SNR=100							
HCY	**Herceg Novi**	**0.74**	**317**	↓*i*Pg	**Pg**	**Pg**	**01 14 35.8**	**-0.5**
HCY				*e*Sg	**Sb**	**Sb**	**01 14 47.4**	**+0.4**
HCY	**Herceg Novi**	**0.74**	**317**	↓*i*Pg	**Pg**	**Pg**	**01 14 35.8**	**-0.5**
HCY				*e*Sg	**Sb**	**Sb**	**01 14 47.4**	**+0.4**
TIR	**Tirane**	**0.76**	**137**	*i* PG	**Pg**	**Pg**	**01 14 35.3**	**-1.4**
TIR	**Tirane**	**0.76**	**137**	*e*P	**Pg**	**Pg**	**01 14 36.9**	**+0.2**
TIR	**Tirane**	**0.76**	**137**	*e*Pg	**Pb**	**Pb**	**01 14 37.5**	**+0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR				*e*Sg	**Sb**	**01 14 48.4**	**+0.8**
TIR	**Tirane**	**0.76**	**137**	*i* Pg	**Pg**	**01 14 35.3**	**-1.4**
	SNR=96						
TIR				*e*Sg	**Sb**	**01 14 48.4**	**+0.8**
BCI	**Bajram Curri**	**0.80**	**55**	*i* PG	**Pg**	**01 14 36.2**	**-1.3**
BCI				*i* SG	**Sb**	**01 14 49.3**	**+0.4**
BCI	**Bajram Curri**	**0.80**	**55**	*i* Pg	**Pg**	**01 14 36.2**	**-1.3**
	SNR=96						
BCI				*i* Sg	**Sb**	**01 14 49.3**	**+0.4**
	SNR=96						
NKME	**Niksic**	**0.87**	**349**	⇑*i*Pg	**Pg**	**01 14 38.2**	**-0.6**
NKME				*e*Sg	**Sn**	**01 14 52.4**	**-0.6**
NKME	**Niksic**	**0.87**	**349**	⇑*i*Pg	**Pg**	**01 14 38.2**	**-0.6**
NKME				*e*Sg	**Sn**	**01 14 52.4**	**-0.6**
PVY	**Plav**	**0.90**	**40**	⇑*i*Pg	**Pg**	**01 14 38.4**	**-0.9**
PVY				*e*Sg	**Sn**	**01 14 52.8**	**-0.9**
PVY	**Plav**	**0.90**	**40**	⇑*i*Pg	**Pg**	**01 14 38.4**	**-0.9**
PVY				*e*Sg	**Sn**	**01 14 52.8**	**-0.9**
NKY	**Niksic**	**0.91**	**351**	⇑*i*Pg	**Pg**	**01 14 39.6**	**0.0**
NKY				*e*Sg	**Sn**	**01 14 53.5**	**-0.6**
NKY	**Niksic**	**0.91**	**351**	⇑*i*Pg	**Pg**	**01 14 39.6**	**0.0**
NKY				*e*Sg	**Sn**	**01 14 53.5**	**-0.6**
PHP	**Peshkopia**	**0.97**	**103**	*i* PG	**Pb**	**01 14 39.4**	**-1.4**
PHP				*i* SG	**Sb**	**01 14 54.5**	**+0.8**
PHP	**Peshkopia**	**0.97**	**103**	*i* Pg	**Pb**	**01 14 39.4**	**-1.4**
	SNR=95						
PHP				*i* Sg	**Sb**	**01 14 54.5**	**+0.8**
	SNR=95						
TREB	**Trebinje**	**1.01**	**323**	*e*Pg	**Pn**	**01 14 41.7**	**-0.5**
TREB				*e*Sg	**Sn**	**01 14 56.3**	**-0.1**
TREB	**Trebinje**	**1.01**	**323**	*e*Pg	**Pn**	**01 14 41.7**	**-0.5**
TREB				*e*Sg	**Sn**	**01 14 56.3**	**-0.1**
BEY	**Berane**	**1.10**	**29**	⇑*i*Pg	**Pb**	**01 14 41.8**	**-1.3**
BEY				*e*Sg	**Sn**	**01 14 58.4**	**-0.3**
IVA	**Berane**	**1.10**	**29**	⇑*i*Pg	**Pb**	**01 14 41.8**	**-1.3**
IVA				*e*Sg	**Sn**	**01 14 58.4**	**-0.3**
BRY	**Bratogost**	**1.10**	**335**	⇓*i*Pg	**Pg**	**01 14 43.2**	**+0.1**
BRY				*e*Sg	**Sn**	**01 14 59.4**	**+0.7**
BRY	**Bratogost**	**1.10**	**335**	⇓*i*Pg	**Pg**	**01 14 43.2**	**+0.1**
BRY				*e*Sg	**Sn**	**01 14 59.4**	**+0.7**
UPM	**Unac-Piva**	**1.31**	**351**	*e*Pg	**Pb**	**01 14 46.9**	**+0.2**
UPM				*e*Sg	**Sg**	**01 15 06.8**	**+2.7**
UPM	**Unac-Piva**	**1.31**	**351**	*e*Pg	**Pb**	**01 14 46.9**	**+0.2**
UPM				*e*Sg	**Sg**	**01 15 06.8**	**+2.7**
PLE	**Pljevlja**	**1.43**	**6**	⇑*i*Pg	**Pg**	**01 14 49.1**	**-0.3**
PLE				*e*Sg	**Sg**	**01 15 09.7**	**+1.7**
PLE	**Pljevlja**	**1.43**	**6**	⇑*i*Pg	**Pg**	**01 14 49.1**	**-0.3**
PLE				*e*Sg	**Sg**	**01 15 09.7**	**+1.7**
STON	**Ston**	**1.46**	**312**	*e*Pn	**Pb**	**01 14 48.7**	**-0.5**
STON				Sn	**Sg**	**01 15 09.6**	**+0.8**
STON	**Ston**	**1.46**	**312**	*e*Pn	**Pb**	**01 14 48.6**	**-0.5**
STON				Sn	**Sg**	**01 15 09.6**	**+0.8**
SJES	**Sjenica**	**1.47**	**23**	*e*Pg	**Pn**	**01 14 48.7**	**+0.1**
SJES				*e*Sg	**Sg**	**01 15 11.3**	**+1.9**
SJES	**Sjenica**	**1.47**	**23**	*e*Pg	**Pn**	**01 14 48.7**	**+0.1**
SJES				*e*Sg	**Sg**	**01 15 11.3**	**+1.9**
SELS	**Selova**	**1.94**	**47**	*e*Pn	**Pn**	**01 14 55.3**	**+0.3**
BBLS	**Lazići**	**1.96**	**5**	*e*Pn	**Pb**	**01 14 56.6**	**-1.2**
BBLS				*e*Sg	**Sg**	**01 15 23.8**	**-1.3**
BBLS	**Lazići**	**1.96**	**5**	*e*Pn	**Pb**	**01 14 56.6**	**-1.2**
BBLS				*e*Sg	**Sg**	**01 15 23.8**	**-1.3**
FNA	**Florina**	**2.00**	**123**	*e*P	**Pn**	**01 14 56.9**	**+1.1**
BARS	**Barje**	**2.15**	**64**	*e*Pn	**Pn**	**01 14 58.3**	**+0.4**
BARS				*e*Sn	**Sb**	**01 15 27.4**	**-0.4**
BARS	**Barje**	**2.15**	**64**	*e*Pn	**Pn**	**01 14 58.3**	**+0.4**
BARS				*e*Sn	**Sb**	**01 15 27.4**	**-0.4**
KEK	**Kerkira**	**2.24**	**168**	*e*P	**Pn**	**01 14 59.2**	**+0.1**
DIVS	**Divibare**	**2.27**	**15**	*e*Sn	**Sn**	**01 15 27.8**	**+0.3**
DIVS	**Divibare**	**2.27**	**15**	*e*Sn	**Sn**	**01 15 27.8**	**+0.3**
GRUS	**Gruza**	**2.28**	**29**	*e*Pn	**Pn**	**01 15 00.9**	**+1.4**
GRUS	**Gruza**	**2.28**	**29**	*e*Pn	**Pn**	**01 15 00.9**	**+1.4**
GRG	**Griva**	**2.60**	**110**	*e*P	**Pn**	**01 15 04.9**	**+0.8**
ZAPS	**Zavoj**	**2.89**	**61**	*e*Sn	**Sn**	**01 15 45.6**	**+2.7**
ZAPS	**Zavoj**	**2.89**	**61**	*e*Sn	**Sn**	**01 15 45.6**	**+2.7**
LKD2	**Lefkada island**	**3.32**	**160**	*e*P	**Pn**	**01 15 12.6**	**-1.2**
NVR	**Nevrokopi**	**3.56**	**97**	*e*P	**Pn**	**01 15 18.3**	**+1.2**
AGG	**Agios Georgios**	**3.75**	**139**	*e*P	**Pn**	**01 15 19.9**	**0.0**

*IDC **22** 01:16:04.2±4.0, 36°.20N×71°.28E, h75km±34km, mb3.9/18, mb1 4.0/21, mb1mx3.8/33, mbtmp3.9/21, Error ellipse: s-maj=25.4km s-min=14.2km az=12.0*

*BJI **22** 01:16:06.2, 36°.71N×71°.17E, h73km, mB4.2/3, mb4.5/5, Ms3.8/3, Ms7 3.5/2*

*ISCJB **22** 01:16:07.6±0.2, 36°.46N±0°.02×71°.53E±0°.03, h114km, mb4.1/45, Error ellipse: s-maj=4.3km s-min=2.7km az=140.5*

*MOS **22** 01:16:07.2±1.1, 36°.48N×71°.42E, h102km, mb4.4/22, Error ellipse: s-maj=8.6km s-min=4.7km az=94.2*

*NNC **22** 01:16:12.7±6.3, 36°.93N×70°.87E, h160km±62km, mb3.7, mpv4.9, Error ellipse: s-maj=51.7km s-min=30.8km az=16.0*

ISC 22 01:16:09.0±0.4, 36°.41N±0°.05×71°.50E±0°.06, h114km, n165, σ1§43/166, mb4.2/45, 8C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.10**	**152**	P	**Pn**	**01 16 58.1**	**+1.6**
THW	**Thamme Wali**	**3.61**	**177**	P	**Pn**	**01 17 02.7**	**-0.6**
SARP	**Sargodha**	**4.58**	**167**	P	**Pn**	**01 17 15.4**	**-0.8**
KSH	**Kashi**	**4.70**	**47**	P	Pn	01 17 14.4	-3.5
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
DLH	**Dalhousie**	**5.34**	**135**	*e*P	**Pn**	**01 17 28.0**	**+1.4**
DLH				*e*S	**Sn**	**01 18 28.0**	**+1.0**
DHRM	**DHARAMSHALA**	**5.74**	**135**	*e*P	**Pn**	**01 17 33.4**	**+1.3**
DHRM				*e*S	**Sn**	**01 18 36.3**	**-0.6**
DHRM				AML	AML	01 18 46.9	
	comp=E,436nm,0.5s						
DHRM				AML	AML	01 18 47.8	
	comp=N,325nm,1.0s						
AML	**Almayashu**	**5.96**	**16**	*i* PN	**Pn**	**01 17 34.2**	**-1.0**
AML	**Almayashu**	**5.96**	**16**	P	**Pn**	**01 17 34.1**	**-1.0**
	SNR=458						
UCH	**Uchtor**	**6.26**	**21**	*i* PN	**Pn**	**01 17 39.0**	**-0.3**
UCH	**Uchtor**	**6.26**	**21**	P	**Pn**	**01 17 39.0**	**-0.3**
	SNR=22						
KZA	**Kyzart**	**6.36**	**26**	*i* PN	**Pn**	**01 17 40.2**	**-0.4**
KZA	**Kyzart**	**6.36**	**26**	P	**Pn**	**01 17 40.2**	**-0.4**
	SNR=67						
BHK	**Bhakra**	**6.44**	**139**	*e*S	**Sn**	**01 18 51.0**	**-2.5**
EKS2	**Erkin-Say**	**6.49**	**15**	P	**Pn**	**01 17 41.2**	**-0.8**
	SNR=154						
AAK	**Ala-Archa**	**6.63**	**19**	*i* PN	**Pn**	**01 17 43.7**	**-0.3**
AAK	**Ala-Archa**	**6.63**	**19**	P	**Pn**	**01 17 43.8**	**-0.3**
	SNR=127						
AAK	**Ala-Archa**	**6.63**	**19**	P	**Pn**	**01 17 43.8**	**-0.3**
	comp=N,49nm,0.3s,baz=168,slow=5.9,SNR=239						
AAK				S	**Sn**	**01 18 56.9**	**-1.4**
	comp=N,5.6nm,0.3s,baz=130,slow=22,SNR=11						
SDNR	**Sundarnagar**	**6.68**	**136**	*e*P	**Pn**	**01 17 46.0**	**+1.4**
SDNR				*ex*	x	01 18 55.0	
KK31	**Karatay Array**	**6.73**	**354**	⇓P	**Pn**	**01 17 42.4**	**-2.9**
	comp=N,38nm,0.3s,baz=180,slow=13,SNR=1635						
KK31				S	Sn	01 18 52.5	-7.8
	comp=N,19nm,0.4s,baz=182,slow=22,SNR=8.1						
KK31	**Karatay Array**	**6.73**	**354**	PN	**Pn**	**01 17 42.3**	**-2.9**
KK31				pmax	pmax		
	comp=Z,83nm,0.3s						
KBK	**Karagaybulak**	**6.78**	**22**	*i* PN	**Pn**	**01 17 46.0**	**-0.1**
KBK	**Karagaybulak**	**6.78**	**22**	P	**Pn**	**01 17 46.0**	**-0.1**
	SNR=35						
FRU	**Bishkek**	**6.85**	**20**	⇓*i*PN	**Pn**	**01 17 45.0**	**-1.9**
FRU				*i*		01 19 10.0	
FRU				pmax	pmax		
	comp=Z,100nm,1.2s						
FRU				pmax	pmax		
	comp=N,200nm,1.4s						
ULHL	**Ulahol**	**6.89**	**31**	*i* PN	**Pn**	**01 17 47.6**	**0.0**
ULHL	**Ulahol**	**6.89**	**31**	P	**Pn**	**01 17 47.6**	**0.0**
	SNR=34						
CHMS	**Chumysh**	**7.04**	**20**	*i* PN	**Pn**	**01 17 48.9**	**-0.6**
CHMS	**Chumysh**	**7.04**	**20**	P	**Pn**	**01 17 48.9**	**-0.6**
	SNR=81						
SMLA	**Simla**	**7.07**	**137**	*i* P	**Pn**	**01 17 49.5**	**-0.3**
SMLA				*i* S	**Sn**	**01 19 05.7**	**-3.0**
SMLA				*i* S	**Sn**	**01 19 05.9**	**-2.8**
SMLA				AML	AML	01 19 11.0	
	comp=E,3μm,0.3s						
SMLA				AML	AML	01 19 11.4	
	comp=N,4μm,0.3s						
SMLA	**Simla**	**7.07**	**137**	*e*P	**Pn**	**01 17 50.4**	**+0.5**
SMLA				*ex*	x	01 19 05.9	
SMLA				AML	AML	01 19 09.5	
	comp=E,210nm,0.7s						
SMLA				AML	AML	01 19 10.8	
	comp=N,309nm,0.6s						
USP	**Ospenovka**	**7.23**	**18**	*i* PN	**Pn**	**01 17 50.6**	**-1.4**
USP	**Ospenovka**	**7.23**	**18**	P	**Pn**	**01 17 50.6**	**-1.4**
	SNR=124						
TKM2	**Tokmak 2**	**7.23**	**25**	⇓P	**Pn**	**01 17 51.5**	**-0.7**
	comp=N,46nm,0.6s						
TKM2				⇑S	**Sn**	**01 19 11.9**	**-0.9**
	comp=N,36nm,0.8s						
TKM2	**Tokmak 2**	**7.23**	**25**	PN	**Pn**	**01 17 51.4**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,46nm,0.6s						
TKM2	**Tokmak 2**	**7.23**	**25**	P	**Pn**	**01 17 51.7**	**-0.4**
	SNR=120						
DDI	**Dehra Dun**	**8.18**	**136**	*e*S	**Sn**	**01 19 34.0**	**-1.7**
DDI				AML	AML	01 19 37.8	
	comp=N,676nm,0.4s						
DDI				AML	AML	01 19 38.9	
	comp=E,550nm,0.5s						
NDI	**New Delhi**	**9.09**	**146**	*e*P	**Pn**	**01 18 17.0**	**-0.2**
NDI				*e*S	Sn	01 19 50.0	-7.7
PYUN	**Piuthan**	**12.77**	**127**	*e*P	**Pn**	**01 19 04.5**	**-2.1**
PYUN				*e*S	Sn	01 21 18.2	-9.0
DANN	**Dangsing**	**13.10**	**124**	*e*P	**Pn**	**01 19 09.5**	**-1.6**
	comp=E,19nm,0.5s						
MK31	**Makanchi Array**	**13.13**	**34**	P	**Pn**	**01 19 09.7**	**-1.3**
	comp=E,2.3nm,0.5s,baz=225,slow=10,SNR=39						
MK31	**Makanchi Array**	**13.13**	**34**	*i* P	**Pn**	**01 19 09.7**	**-1.3**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**13.13**	**34**	*i* P	**Pn**	**01 19 10.6**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**13.13**	**34**	P	**Pn**	**01 19 09.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=223,slow=14,SNR=26						
KOLN	**Koldanda**	**13.38**	**127**	*e*P	**Pn**	**01 19 12.9**	**-1.7**
	comp=Z,20nm,0.4s						
BHPL	**Bhopal**	**14.09**	**157**	*e*P	**Pn**	**01 19 23.4**	**-0.2**
BHPL				*ex*	x	01 21 50.0	
DMN	**Daman**	**14.49**	**123**	*e*P	**Pn**	**01 19 28.9**	**+0.1**
KKN	**Kakani**	**14.49**	**122**	*e*P	**Pn**	**01 19 28.9**	**+0.1**
PKIN	**Phulchoki**	**14.70**	**123**	*e*P	**Pn**	**01 19 31.4**	**-0.2**
PKIN				*e*S	Sn	01 22 05.4	-8.7
PKI	**Pulchoki**	**14.71**	**123**	*e*P	**Pn**	**01 19 31.7**	**-0.1**
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**14.82**	**121**	*e*P	**Pn**	**01 19 32.9**	**-0.3**
KURBB	**Kurchatov Arra**	**15.08**	**17**	⇑P	Pn	01 19 31.1	-4.8
	comp=Z,7.3nm,0.7s						
KURBB	**Kurchatov Arra**	**15.08**	**17**	P	**Pn**	**01 19 31.4**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=207,slow=9.7,SNR=20						
JBP	**Jabalpur**	**15.10**	**149**	⇑*i*x	x	01 19 46.9	
JBP				*e*4		01 22 15.2	
KURK	**Kurchatov**	**15.19**	**17**	P	Pn	01 19 31.4	-5.9
JIRN	**Jiri**	**15.19**	**121**	*e*P	**Pn**	**01 19 37.8**	**-0.1**
	comp=Z,29nm,0.4s						
AB31	**Akbulak array**	**15.36**	**330**	P	Pn	01 19 34.2	-5.2
	comp=Z,1.0nm,0.2s,baz=146,slow=12,SNR=100						
AB31	**Akbulak array**	**15.36**	**330**	*e*P	Pn	01 19 34.2	-5.2
AB31				pmax	pmax		
	comp=Z,3.0nm,0.2s						
RAMN	**Ramite**	**15.93**	**122**	*e*P	**Pn**	**01 19 46.9**	**0.0**
	comp=Z,23nm,0.5s						
RAMN				*e*S	Sn	01 22 34.0	-10
VOSK	**Vostochnaya**	**16.32**	**359**	⇓P	**Pn**	**01 19 47.1**	**-4.2**
	comp=Z,8.8nm,1.3s						
VOSK	**Vostochnaya**	**16.32**	**359**	P	**Pn**	**01 19 47.0**	**-4.2**
VOSK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TAPN	**Taplejung**	**16.45**	**119**	*e*P	**P**	**01 19 54.2**	**+0.1**
TAPN				*e*S	Sn	01 22 47.4	-8.8
ODAN	**Odare**	**16.53**	**121**	*e*P	**P**	**01 19 54.9**	**0.0**
BVA0	**Borovoye Array**	**16.63**	**358**	P	**Pn**	**01 19 52.9**	**-2.3**
	comp=Z,2.9nm,0.5s,baz=164,slow=13,SNR=36						
BVA0	**Borovoye Array**	**16.63**	**358**	*i* P	**Pn**	**01 19 52.8**	**-2.3**
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**16.63**	**358**	P	**Pn**	**01 19 53.0**	**-2.1**
BVAR				S	Sn	01 22 47.4	-12
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.63**	**358**	P	**Pn**	**01 19 53.0**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=165,slow=12,SNR=30						
BVAR				S	Sn	01 22 47.4	-12
	comp=Z,0.2nm,0.3s,baz=164,slow=26,SNR=3.3						
BRVK	**Borovoye**	**16.67**	**357**	P	**Pn**	**01 19 53.5**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s						
AKTO	**Aktyubinsk**	**17.06**	**329**	P	P	01 19 55.1	-5.3
AKTO				⇓S	Sn	01 22 51.7	-19
	comp=Z,14nm,1.1s						
AKTO	**Aktyubinsk**	**17.06**	**329**	P	**P**	**01 19 57.4**	**-3.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**17.06**	**329**	P	**P**	**01 19 57.4**	**-3.0**
	comp=Z,2.2nm,0.3s,baz=144,slow=8.8,SNR=21						
AKTO				S	Sn	01 22 50.5	-20
	comp=Z,0.1nm,0.3s,baz=86,slow=19,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.83**	**24**	*i* P	**P**	**01 20 30.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,15nm,0.6s						
ZALV	**Zalesovo Beam**	**19.83**	**24**	P	**P**	**01 20 30.4**	**-0.2**
	comp=Z,15nm,0.6s,baz=226,slow=10.0,SNR=32						
NVS	**Novosibirsk**	**20.13**	**20**	*e*P	**P**	**01 20 31.8**	**-1.9**
NVS				*e*PPP	PPP	01 21 01.6	
NVS				*e*S	S	01 24 03.7	-10
NVS				pmax	pmax		
	comp=N,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NVS				smax	smax		
	comp=E,7.0nm,1.0s						
SVE	**Sverdlovsk**	**21.69**	**344**	⇑*e*P	**P**	**01 20 51.7**	**+1.2**
SVE				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**21.85**	**340**	*d i* P	**P**	**01 20 53.3**	**+1.2**
ARU						01 21 25.1	
ARU				S	**S**	**01 24 48.9**	**+2.5**
ARU				SS	**SnSn**	**01 25 30.2**	**+7.2**
ARU				pmax	pmax		
	comp=Z,29nm,1.2s						
ZEI	**Tsey**	**22.14**	**295**	*e*P	**P**	**01 20 58.1**	**+2.5**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GTA	**Gaotai**	**22.50**	**74**	*e*P	P	01 21 07.3	+8.1
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,62nm,5.2s						
GTA				LR	LR		
	comp=N,100nm,20.4s						
GTA				LR	LR		
	comp=E,190nm,20.9s						
GTA				LR	LR		
	comp=Z,70nm,17.8s						
KBZ	**Khabaz**	**23.00**	**297**	P	**P**	**01 21 01.6**	**-2.2**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**23.00**	**297**	P	**P**	**01 21 01.6**	**-2.2**
	comp=Z,2.6nm,0.8s,baz=154,slow=10,SNR=5.3						
KIV	**Kislovodsk**	**23.19**	**298**	*e*P	**P**	**01 21 05.5**	**-0.2**
KIV				*e*		01 24 54.4	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANN	**Anapa**	**27.03**	**299**	*e*P	P	01 21 33.8	-6.5
ANN				*e**PP	pP	01 21 55.7	-9.4
ANN				pmax	pmax		
	comp=Z,24nm,0.9s						
VSR	**Storozhevoye**	**27.36**	**313**	*e*P	**P**	**01 21 42.9**	**-0.3**
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.5s						
BRTR	**Keskin Array B**	**29.85**	**288**	P	**P**	**01 22 05.4**	**-0.2**
	comp=N,0.5nm,0.6s,baz=97,slow=7.9,SNR=3.8						
OBN	**Obninsk**	**30.27**	**319**	*e*P	**P**	**01 22 08.5**	**-0.4**
OBN				*e*		01 25 08.6	
OBN				pmax	pmax		
	comp=Z,37nm,2.5s						
AKASG	**Malin Array Be**	**33.32**	**309**	*c e*P	**P**	**01 22 35.5**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKASG	**Malin Array Be**	**33.32**	**309**	P	**P**	**01 22 34.4**	**-1.3**
	comp=Z,8.8nm,0.7s,baz=81,slow=6.9,SNR=15						
KIEV	**Kiev**	**33.33**	**309**	*i* P	**P**	**01 22 35.3**	**-0.5**
TESR	**Tescani**	**34.68**	**301**	⇑*i*P	**P**	**01 22 47.7**	**+0.2**
MLR	**Muntele Rosu**	**35.18**	**299**	⇓*i*P	**P**	**01 22 53.3**	**+1.3**
MLR	**Muntele Rosu**	**35.18**	**299**	P	**P**	**01 22 53.5**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=123,slow=2.6,SNR=18						
BURAR	**Bucovina Array**	**35.67**	**303**	⇑*i*P	**P**	**01 22 56.7**	**+0.5**
JOF	**Joensuu**	**36.15**	**330**	*e*P	**P**	**01 22 59.9**	**0.0**
JOF	**Joensuu**	**36.15**	**330**	*e*p	**P**	**01 22 59.9**	**0.0**
KWP	**Kalwaria Pacla**	**37.39**	**306**	⇑*i*P	**P**	**01 23 11.9**	**+1.3**
KWP	**Kalwaria Pacla**	**37.39**	**306**	*e*P	**P**	**01 23 11.9**	**+1.3**
SUW	**Suwalki**	**37.47**	**314**	*e*P	**P**	**01 23 10.8**	**-0.4**
KOLS	**Kolonicke sedl**	**37.66**	**305**	*e*P	**P**	**01 23 13.8**	**+0.9**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	**Kolonicke sedl**	**37.66**	**305**	*e*P	**P**	**01 23 13.8**	**+0.9**
FINES	**FINESS Array B**	**37.78**	**326**	P	**P**	**01 23 13.3**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=119,slow=9.2,SNR=39						
KAF	**Kangasniemi**	**37.92**	**327**	*e*P	**P**	**01 23 15.5**	**+0.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**37.92**	**327**	*e*p	**P**	**01 23 15.5**	**+0.6**
	comp=Z,0.7nm,0.4s						
CRVS	**Cervenica-Dubn**	**38.19**	**305**	*e*P	**P**	**01 23 17.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**38.19**	**305**	*e*P	**P**	**01 23 17.9**	**+0.5**
STHS	**Stebnicka Huta**	**38.34**	**306**	*e*P	**P**	**01 23 18.3**	**-0.3**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	**Stebnicka Huta**	**38.34**	**306**	*e*P	**P**	**01 23 18.3**	**-0.3**
KECS	**Kecovo**	**38.84**	**304**	*e*P	**P**	**01 23 23.6**	**+0.8**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KECS	**Kecovo**	**38.84**	**304**	*e*P	**P**	**01 23 23.6**	**+0.8**
VYHS	**Vyhne**	**39.94**	**305**	*e*P	**P**	**01 23 32.9**	**+1.0**
VYHS	**Vyhne**	**39.94**	**305**	*e*P	**P**	**01 23 32.9**	**+1.0**
GKP	**Gorka Klasztor**	**40.93**	**312**	*e*P	**P**	**01 23 40.5**	**+0.5**
VRAC	**Vranov**	**41.38**	**306**	P	**P**	**01 23 45.1**	**+1.4**
	comp=Z,4.6nm,0.8s,baz=89,slow=8.4,SNR=9.9						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**01 23 43.9**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=113,slow=8.1,SNR=56						
DPC	**Dobruska-Polom**	**41.51**	**307**	*e*P	**P**	**01 23 45.5**	**+0.7**
DPC	**Dobruska-Polom**	**41.51**	**307**	*e*P	**P**	**01 23 45.5**	**+0.7**
UPC	**Upice**	**41.70**	**308**	*e*P	**P**	**01 23 47.5**	**+1.2**
UPC	**Upice**	**41.70**	**308**	*e*P	**P**	**01 23 47.5**	**+1.2**
CONA	**Conrad Observa**	**41.96**	**304**	⇓*i*P	**P**	**01 23 48.8**	**+0.2**
	comp=Z,6.9nm,1.0s,SNR=5.9						
PVCC	**Panska Ves**	**42.62**	**308**	*e*P	P	01 23 44.9	-8.9
SOKA	**Soboth**	**42.66**	**302**	⇓*i*P	**P**	**01 23 55.0**	**+0.8**
	comp=Z,3.9nm,0.8s,SNR=6.2						
PRU	**Pruhonice**	**42.67**	**307**	*e*P	**P**	**01 23 54.7**	**+0.5**
PRU	**Pruhonice**	**42.67**	**307**	*e*P	**P**	**01 23 54.7**	**+0.5**
BRG	**Berggiesshubel**	**43.00**	**308**	*i* P	**P**	**01 23 57.6**	**+0.8**
	comp=Z,6.4nm,0.7s						
BRG	**Berggiesshubel**	**43.00**	**308**	*i* P	**P**	**01 23 57.6**	**+0.8**
MOA	**Molln**	**43.04**	**304**	*i* P	**P**	**01 23 57.7**	**+0.5**
	comp=Z,4.4nm,0.9s,SNR=4.0						
GERES	**GERESS Array B**	**43.31**	**305**	P	**P**	**01 23 59.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=76,slow=5.6,SNR=7.7						
KHC	**Kasperske Hory**	**43.36**	**306**	*e*P	**P**	**01 24 00.5**	**+0.7**
KHC	**Kasperske Hory**	**43.36**	**306**	*e*P	**P**	**01 24 00.5**	**+0.7**
KHC				*ex*	x	01 24 15.0	
HFS	**Hagfors**	**43.39**	**322**	P	**P**	**01 23 59.4**	**-0.4**
	comp=Z,10nm,0.5s,baz=106,slow=9.9,SNR=66						
CLL	**Collm**	**43.56**	**309**	*i* P	**P**	**01 24 01.4**	**+0.1**
CLL				*e**PP	**pP**	**01 24 26.0**	**-1.5**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CLL	**Collm**	**43.56**	**309**	*i* P	**P**	**01 24 01.4**	**+0.1**
	comp=Z,6.0nm,1.0s						
C

IADA			S	Sg		01 21 56.1	-1.0
IFAG	**Fagurholsmyri**	**0.87 159**	P	Pg		01 21 45.5	-1.3
IFAG			S	Sg		01 21 57.6	-0.5
IHVE	**Hveravellir**	**0.96 282**	P	Pg		01 21 46.6	-1.9
IHVE			S	Sg		01 21 59.7	-1.3
IREN	**Reynihlio**	**0.98 11**	P	Pg		01 21 47.3	-1.7
IREN			S	Sg		01 22 01.2	-0.6
IGLU	**Glumsstadir**	**1.02 72**	P	Pg		01 21 47.8	-1.9
IGLU			S	Sg		01 22 01.7	-1.2
IGRS	**Grimsstaoir**	**1.09 28**	P	Pg		01 21 49.2	-1.9
IGRS			S	Sg		01 22 04.4	-0.9
ISNB	**Snabyli**	**1.10 211**	P	Pg		01 21 49.3	-1.9
ISNB			S	Sg		01 22 04.5	-1.0
ISKI	**Skildingah^‡ls**	**1.20 7**	P	Pg		01 21 50.8	-2.3
ISKI			S	Sg		01 22 06.8	-1.8
IGRA	**Granastaoir**	**1.24 356**	P	Pg		01 21 51.5	-2.3
IGRA			S	Sg		01 22 08.1	-1.8
IDIM	**Dimmadals^¡s**	**1.29 8**	P	Pg		01 21 52.0	-2.9
IDIM			S	Sg		01 22 10.0	-1.7
IGYG	**Gygjarholskot**	**1.30 253**	P	Pg		01 21 52.3	-2.6
IGYG			S	Sg		01 22 09.8	-1.9
IHVO	**Lagu-Hvolar**	**1.33 210**	P	Pn		01 21 53.4	-2.1
IHVO			S	Sg		01 22 11.0	-1.9
IHLA	**Hella**	**1.33 342**	P	Pn		01 21 53.1	-2.4
IHLA			S	Sg		01 22 10.2	-2.7
IGOD	**Go??abunga**	**1.34 221**	P	Pn		01 21 53.7	-2.0
IHAU	**Haukadalur**	**1.34 239**	P	Pn		01 21 53.2	-2.3
IHAU			S	Sg		01 22 10.7	-2.3
IHED	**Heoinshofoi**	**1.40 1**	P	Pn		01 21 53.8	-2.6
IHED			S	Sb		01 22 12.6	-2.4
IGIL	**Gilhagi**	**1.46 17**	P	Pn		01 21 54.9	-2.4
IGIL			S	Sb		01 22 14.3	-2.5
IESK	**Eystri-Skogar**	**1.48 219**	P	Pn		01 21 55.6	-1.9
IESK			S	Sn		01 22 14.6	-2.6
IFLA	**Flatey**	**1.50 353**	P	Pn		01 21 55.7	-2.0
IFLA			S	Sn		01 22 15.3	-2.3
ISAU	**Saurbar**	**1.50 244**	P	Pn		01 21 55.4	-2.3
ISAU			S	Sn		01 22 15.0	-2.7
IMID	**Miomork**	**1.51 228**	P	Pn		01 21 56.2	-1.7
IMID			S	Sn		01 22 15.8	-2.2
ISIG	**Siglufjorour**	**1.59 337**	P	Pn		01 21 57.0	-2.0
ISIG			S	Sn		01 22 17.4	-2.5
IASM	**Asmuli**	**1.65 240**	P	Pn		01 21 58.4	-1.5
IASM			S	Sn		01 22 19.4	-2.1
IASB	**`sbjarnarst**	**1.70 274**	P	Pn		01 21 58.5	-2.0
IASB			S	Sn		01 22 20.4	-2.2
IKRO	**Krokur**	**1.73 252**	P	Pn		01 21 58.8	-2.1
IKRO			S	Sn		01 22 20.7	-2.8
ISOL	**Solvholt**	**1.73 246**	P	Pn		01 21 59.2	-1.7
ISOL			S	Sn		01 22 21.9	-1.5
IHEI	**Heioarbar**	**1.74 256**	P	Pn		01 21 59.5	-1.6
IHEI			S	Sn		01 22 21.7	-2.1
IVES	**Vestmannaeyjar**	**1.79 227**	P	Pn		01 22 00.7	-1.0
IHRN	**Hraun**	**1.83 322**	P	Pn		01 22 00.7	-1.7
IHRN			S	Sn		01 22 24.7	-1.3
IBJA	**Bjarnastaoir**	**1.87 248**	P	Pn		01 22 01.2	-1.6
IGRI	**Grimsey**	**1.88 352**	P	Pn		01 22 00.7	-2.3
IGRI			S	Sn		01 22 25.6	-1.6
ISAN	**Sandskeio**	**1.93 253**	P	Pn		01 22 01.6	-2.1
ISAN			S	Sn		01 22 27.7	-0.7
IKUD	**Kuludalsa**	**1.98 261**	P	Pn		01 22 02.6	-1.8
IKAS	**Kald??rsel**	**2.06 253**	P	Pn		01 22 03.9	-1.5
IVOS	**Vogsosar**	**2.07 248**	P	Pn		01 22 03.7	-1.8
IVOG	**Vogar**	**2.30 254**	P	Pn		01 22 07.0	-1.7

*AUST **22** 01:26:36.8±7.8,21˚.44S×173˚.78W,h0km, Error ellipse: s-maj=2.4km s-min=1.4km az=357.0*
*IDC **22** 01:26:39.4±0.5,21˚.34S×174˚.48W,h0km,mb4.4/18, mb1 4.6/19,mb1mx4.5/25,mbtmp4.4/19,ML4.4/1,MS4.4/19, Ms1 4.4/19,ms1mx4.3/30,Error ellipse: s-maj=20.2km s-min=15.3km az=113.0*
*ISCJB **22** 01:26:42.7±0.3,21˚.41S±0˚.06×174˚.44W±0˚.06,h33km, mb4.8/51,MS4.6/29,Error ellipse: s-maj=10.5km s-min=6.6km az=140.8*
*BJI **22** 01:26:42.3,21˚.30S×174˚.50W,h25km,mB5.4/22, mb5.1/25,Ms5.0/19,Ms7 4.7/18*
*NEIC **22** 01:26:43.1±5.5,21˚.30S×174˚.49W,h26km±37km,mb4.9/27, Error ellipse: s-maj=10.7km s-min=7.8km az=144.0*
*GCMT **22** 01:26:44.3±0.2,21˚.60S×173˚.80W,h16km,MW5.1, Moment Tensor Solution. s50,c68; s78,c123; Moment tensor: Scale 10^{16}Nm; M_{rr}4.34±.17; $M_{\theta\theta}$0.25±.13; $M_{\phi\phi}$-4.59±.13; $M_{r\theta}$1.83±.40; $M_{\theta\phi}$-1.33±.09; $M_{\phi r}$4.17±.38; Best double couple: $M_0$6.50000×10^{16} NP1:ϕ_s21.00000°, δ67.00000°,λ96.00000°. NP2:ϕ_s186.00000°,δ23.00000°, λ76.00000°. Principal axes: T 6.2400, Plg67.0000°, Azm302.0000°; N 0.5200, Plg6.0000°, Azm199.0000°; P -6.7600, Plg22.0000°, Azm107.0000°; Data Used: II IU IC G CN.*
*MOS **22** 01:26:46.7±1.5,20˚.40S×174˚.40W,h33km,mb5.1/11 Error ellipse: s-maj=21.0km s-min=13.0km az=76.7*
ISC 22 01:26:44.3±0.5,21˚.27S±0˚.07×174˚.47W±0˚.08,h33km±1km, h33km:pP-P,n236,σ1§40/270,mb4.8/51,MS4.6/29,
11C-24D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.80**	**64**	P	Pn	01 27 43.5	-11
baz=4.3,SNR=57							
AFI	**Afiamalu**	**7.76**	**20**	*e*Pn	Pn	01 28 30.5	-4.6
35nm,0.6s							
AFI				Sn	Sn	01 29 47.0	-15
AFI				TT		01 36 37.4	
AFI	**Afiamalu**	**7.76**	**20**	Pn	Pn	01 28 29.7	-5.4
8.4nm,0.3s,baz=214,slow=2.0,SNR=6.8							
AFI				Sn	Sn	01 29 47.0	-15
2.6nm,0.3s,baz=217,slow=20,SNR=1.9							
AFI				T	T	01 36 37.4	
7.6nm,0.3s,baz=88,slow=19,SNR=5.1							
MSVF	**Nonsavu**	**7.88**	**295**	*e*P	Pn	01 28 44.7	+7.9
MSVF	**Nonsavu**	**7.88**	**295**	*e*Pn	Pn	01 28 44.7	+7.9
RAR	**Rarotonga**	**13.71**	**92**	*e*Pn	Pn	01 29 42.4	-14
RAR				Sn	Sn	01 32 01.9	-26
RAR				TT		01 44 14.3	
RAR	**Rarotonga**	**13.71**	**92**	Pn	Pn	01 29 42.9	-14
9.8nm,0.3s,baz=49,slow=0.0,SNR=13							
RAR				Sn	Sn	01 32 01.8	-26
3.0nm,0.3s,baz=38,slow=0.0,SNR=2.9							
RAR				LR	LR	01 34 15.5	
comp=Z,2μm,18.2s,baz=135,slow=33							
RAR				T	T	01 44 14.3	
4.0nm,0.3s,baz=44,slow=0.0,SNR=3.7							
DZM	**Mont Dzumac**	**17.75**	**264**	*e*P	**P**	**01 30 53.1**	**+3.3**
56nm,0.8s							
DZM				*e*LR	LR	01 34 56.4	
1μm,27.9s							
DZM	**Mont Dzumac**	**17.75**	**264**	*e*P	**P**	**01 30 51.9**	**+2.2**
DZM	**Mont Dzumac**	**17.75**	**264**	P	**P**	**01 30 52.9**	**+3.2**
DZM	**Mont Dzumac**	**17.75**	**264**	P	**P**	**01 30 52.9**	**+3.2**
0.5nm,0.3s,baz=76,slow=18,SNR=16							
DZM				LR	LR	01 36 21.8	
comp=Z,782nm,20.7s,baz=51,slow=33							
URZ	**Urewera**	**18.42**	**201**	*e*P	**P**	**01 30 56.5**	**-0.3**
34nm,1.1s							
URZ	**Urewera**	**18.42**	**201**	P	**P**	**01 30 54.3**	**-2.6**
1.3nm,0.3s,baz=58,slow=3.3,SNR=6.4							
TBI	**Tubuai**	**23.23**	**100**	*e*LQ	LQ	01 35 51.5	
316nm,30.5s							
TBI				*e*LR	LR	01 36 51.1	
2μm,32.2s							
PPT2	**Papeete2**	**23.75**	**85**	*e*LQ	LQ	01 36 10.8	
1μm,26.2s							
PPT2				*e*LR	LR	01 37 04.1	
2μm,29.2s,baz=249							
PPT	**Papeete**	**23.76**	**85**	LR	LR	01 39 38.8	
comp=Z,1μm,19.1s,baz=203,slow=33							
RPZ	**Rata Peaks**	**25.41**	**205**	P	**P**	**01 32 08.2**	**-0.7**
RPZ	**Rata Peaks**	**25.41**	**205**	P	**P**	**01 32 08.2**	**-0.7**
15nm,0.9s,baz=217,slow=5.1,SNR=3.4							
RPZ				LR	LR	01 41 48.3	
comp=Z,1μm,18.4s,baz=13,slow=36							
HNR	**Honiara**	**27.28**	**292**	LR	LR	01 41 50.4	
comp=Z,270nm,18.2s,baz=127,slow=33							
RKT	**Rikitea**	**36.55**	**100**	*e*LR	LR	01 42 59.9	
1μm,32.0s,baz=267							
CTAO	**Charters Tower**	**36.70**	**265**	*e*P	**P**	**01 33 47.2**	**-1.3**
CTAO				pmax	pmax		
comp=Z,79nm,2.4s							
CTAO	**Charters Tower**	**36.70**	**265**	*e*P	**P**	**01 33 47.2**	**-1.3**
comp=Z,79nm,2.4s							
CMSA	**Cobar Meteorol**	**36.94**	**246**	P	**P**	**01 33 49.7**	**-0.7**
baz=37,SNR=7.1							
PATS	**Pohnpei**	**38.65**	**313**	S	S	01 39 50.3	-9.4
baz=39,SNR=3.1							
PMG	**Port Moresby**	**38.73**	**282**	*e*P	**P**	**01 34 05.3**	**-0.4**
comp=Z,18nm,0.8s							
PMG	**Port Moresby**	**38.73**	**282**	P	**P**	**01 34 05.5**	**-0.2**
comp=Z,17nm,0.8s,baz=61,slow=11,SNR=2.5							
PMG				LR	LR	01 48 32.2	
comp=Z,568nm,18.2s,baz=33,slow=34							
MTSU	**Mount Surprise**	**38.85**	**267**	P	**P**	**01 34 07.0**	**+0.2**
baz=40,SNR=4.5							
STKA	**Stephens Creek**	**40.45**	**245**	*e*P	**P**	**01 34 19.3**	**-0.6**
comp=Z,32nm,2.5s							
STKA	**Stephens Creek**	**40.45**	**245**	P	**P**	**01 34 18.8**	**-1.1**
comp=Z,8.4nm,0.9s,baz=90,slow=9.4,SNR=8.2							
STKA				LR	LR	01 48 56.1	
comp=Z,350nm,21.1s,baz=62,slow=33							
STKA	**Stephens Creek**	**40.45**	**245**	P	**P**	**01 34 19.4**	**-0.5**
baz=41,SNR=4.8							
COEN	**Coen**	**40.92**	**273**	*e*P	**P**	**01 34 24.9**	**+0.9**
JAY	**Jayapura**	**47.42**	**287**	P	**P**	**01 35 16.0**	**-0.1**
baz=48,SNR=4.3							
AS31	**Alice Springs**	**47.55**	**257**	*e*P	**P**	**01 35 15.9**	**-1.2**
ASAR	**Alice Springs**	**47.55**	**257**	P	**P**	**01 35 16.1**	**-1.0**
ASAR	**Alice Springs**	**47.55**	**257**	P	**P**	**01 35 16.1**	**-1.0**
comp=Z,11nm,0.9s,baz=92,slow=8.1,SNR=73							
ASAR				LR	LR	01 55 21.0	
comp=Z,864nm,18.4s,baz=103,slow=36							
WRAB	**Tennant Creek**	**47.75**	**262**	*e*P	**P**	**01 35 16.8**	**-1.8**
WRAB				pmax	pmax		
comp=Z,13nm,1.0s							
WRAB	**Tennant Creek**	**47.75**	**262**	*e*P	**P**	**01 35 16.8**	**-1.8**
comp=Z,13nm,1.0s							
WRA	**Warramunga Arr**	**47.76**	**262**	P	**P**	**01 35 17.3**	**-1.4**
WRA	**Warramunga Arr**	**47.76**	**262**	P	**P**	**01 35 17.3**	**-1.4**
comp=Z,12nm,1.1s,baz=97,slow=8.2,SNR=28							
FORT	**Forrest**	**52.02**	**247**	*e*P	**P**	**01 35 50.8**	**-0.1**
comp=Z,30nm,0.9s							
FITZ	**Fitzroy Crossi**	**56.19**	**262**	P	**P**	**01 36 20.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**56.19**	**262**	P	**P**	**01 36 20.7**	**-0.8**
comp=Z,4.1nm,1.0s,baz=111,slow=20,SNR=5.1							
FITZ	**Fitzroy Crossi**	**56.19**	**262**	P	**P**	**01 36 21.2**	**-0.3**
baz=57,SNR=5.3							
SBA	**Scott Base**	**57.34**	**185**	*e*P	**P**	**01 36 30.2**	**+1.5**
SBA				pmax	pmax		
comp=Z,211nm,2.8s							
SBA	**Scott Base**	**57.34**	**185**	*e*P	**P**	**01 36 30.2**	**+1.5**
comp=Z,211nm,2.8s							
VNDA	**Vanda**	**57.46**	**186**	*e*P	**P**	**01 36 30.9**	**+1.3**
comp=Z,39nm,2.1s							
VNDA	**Vanda**	**57.46**	**186**	P	**P**	**01 36 30.6**	**+1.0**
comp=Z,1.9nm,0.6s,baz=11,slow=5.7,SNR=6.3							
VNDA				LR	LR	01 59 01.9	
comp=Z,186nm,18.4s,baz=17,slow=34							
MBWA	**Marble Bar**	**60.90**	**257**	*e*P	**P**	**01 36 51.5**	**-2.8**
comp=Z,5.8nm,0.5s							
NWAO	**Narrogin (SRO)**	**60.97**	**243**	LR	LR	02 03 01.2	
comp=Z,410nm,19.9s,baz=180,slow=36							
LUWI	**Luwuk**	**64.31**	**279**	P	P	01 37 23.2	+6.1
baz=65,SNR=3.5							
CASY	**Casey**	**64.68**	**206**	*e*P	**P**	**01 37 17.9**	**-0.8**
comp=Z,7.7nm,0.9s							
QSPA	**South Pole Qui**	**68.80**	**180**	*e*P	**P**	**01 37 44.8**	**-0.4**
comp=Z,11nm,1.1s							
QSPA	**South Pole Qui**	**68.80**	**180**	P	**P**	**01 37 45.1**	**0.0**
comp=Z,3.5nm,0.9s,baz=38,slow=4.3,SNR=9.6							
MJAR	**Matsushiro Arr**	**72.82**	**322**	P	**P**	**01 38 10.4**	**+0.6**
MJAR	**Matsushiro Arr**	**72.82**	**322**	P	**P**	**01 38 10.4**	**+0.6**
comp=Z,4.5nm,0.8s,baz=158,slow=5.7,SNR=14							
MJAR				LR	LR	02 09 45.2	
comp=Z,122nm,18.6s,baz=115,slow=36							
MAT	**Matsushiro**	**72.82**	**322**	P	**P**	**01 38 09.7**	**-0.1**
MAT				S	**S**	**01 47 32.6**	**-1.1**
KSM	**Kuching**	**76.78**	**277**	*e*P	**P**	**01 38 33.2**	**0.0**
comp=Z,11nm,0.8s							
KSM	**Kuching**	**76.78**	**277**	P	**P**	**01 38 35.7**	**+2.5**
baz=78,SNR=3.7							
CMB	**Columbia Colle**	**77.84**	**41**	*e*P	**P**	**01 38 38.4**	**-0.3**
CMB				pmax	pmax		
comp=Z,7.0nm,1.1s							
CMB	**Columbia Colle**	**77.84**	**41**	*e*P	**P**	**01 38 38.4**	**-0.3**
comp=Z,7.1nm,1.1s							
PETK	**Petropavlovsk-**	**77.91**	**343**	P	**P**	**01 38 39.3**	**+0.7**
PETK	**Petropavlovsk-**	**77.91**	**343**	P	**P**	**01 38 39.3**	**+0.7**
PETK	**Petropavlovsk-**	**77.91**	**343**	P	**P**	**01 38 39.3**	**+0.7**
comp=Z,4.1nm,0.7s,baz=137,slow=9.1,SNR=6.2							
PETK				LR	LR	02 07 52.3	
comp=Z,162nm,20.1s,baz=334,slow=32							
WAKR	**Walker**	**78.72**	**41**	*e*P	**P**	**01 38 43.8**	**+0.1**
comp=Z,18nm,1.2s							
NVAR	**Mina Array Bea**	**79.37**	**42**	P	**P**	**01 38 47.2**	**-0.1**
NVAR	**Mina Array Bea**	**79.37**	**42**	P	**P**	**01 38 47.2**	**-0.1**
comp=Z,3.4nm,0.9s,baz=221,slow=7.7,SNR=11							
NV11	**Mina Array Sit**	**79.46**	**42**	*e*P	**P**	**01 38 47.2**	**-0.6**
KSRS	**Korea Array**	**79.67**	**317**	P	**P**	**01 38 51.0**	**+2.3**
comp=Z,4.0nm,0.9s,baz=137,slow=5.6,SNR=16							
KSRS				LR	LR	02 10 33.3	
comp=Z,142nm,19.5s,baz=300,slow=33							
KSAR	**Wonju Array Be**	**79.69**	**317**	P	**P**	**01 38 51.0**	**+2.2**
TUC	**Tucson**	**80.90**	**50**	*e*P	**P**	**01 38 55.8**	**+0.3**
TUC				pmax	pmax		
comp=Z,1.0nm,0.5s							
TUC	**Tucson**	**80.90**	**50**	*e*P	**P**	**01 38 55.8**	**+0.3**
comp=Z,0.9nm,0.5s							
USRK	**Ussuriysk Arra**	**81.48**	**324**	P	**P**	**01 39 00.1**	**+1.9**
comp=Z,1.3nm,0.6s,baz=286,slow=1.4,SNR=4.7							
USRK				LR	LR	02 12 37.8	
comp=Z,382nm,19.3s,baz=307,slow=34							
MAW	**Mawson**	**81.93**	**199**	P	**P**	**01 39 00.8**	**+0.5**
MAW	**Mawson**	**81.93**	**199**	P	**P**	**01 39 00.8**	**+0.5**
comp=Z,3.0nm,0.7s,baz=148,slow=7.4,SNR=11							
MAW				LR	LR	02 14 16.5	
comp=Z,380nm,18.4s,baz=316,slow=35							
MAW	**Mawson**	**81.93**	**199**	P	**P**	**01 39 00.9**	**+0.6**
baz=82,SNR=4.5							
LON	**Longmire**	**82.70**	**33**	*e*P	**P**	**01 39 04.2**	**-0.5**
LON	**Longmire**	**82.70**	**33**	*e*P	**P**	**01 39 04.2**	**-0.5**
NJ2	**Nanjing**	**82.93**	**308**	*e*P	**P**	**01 39 07.1**	**+1.0**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
MDJ	**Mudanjiang**	**83.07**	**323**	P	**P**	**01 39 07.3**	**+0.8**
MDJ				pP	**pP**	**01 39 16.6**	**-0.4**
MDJ				sP	**sP**	**01 39 20.6**	**-0.2**
MDJ				pmax	pmax		
comp=Z,11nm,1.7s							
MDJ				pmax	pmax		
comp=Z,92nm,4.4s							
MDJ				LR	LR		
comp=N,190nm,17.6s							
MDJ				LR	LR		
comp=E,250nm,19.9s							
MDJ				LR	LR		
comp=Z,340nm,25.1s							
MSU	**Marysvale**	**83.31**	**44**	*e*P	**P**	**01 39 08.2**	**0.0**
MSU	**Marysvale**	**83.31**	**44**	*e*P	**P**	**01 39 08.2**	**0.0**
BMO	**Blue Mountains**	**83.91**	**37**	*e*P	**P**	**01 39 11.2**	**+0.2**
comp=Z,12nm,1.5s							
QIZ	**Qiongzhong**	**84.19**	**293**	P	**P**	**01 39 12.8**	**0.0**
QIZ				S	**S**	**01 49 35.4**	**-0.7**
QIZ				pmax	pmax		
comp=Z,7.0nm,1.4s							
QIZ				pmax	pmax		
comp=Z,100nm,6.7s							
QIZ				LR	LR		
comp=N,100nm,19.2s							
QIZ				LR	LR		
comp=E,44nm,15.9s							
MNTX	**Cornudas Mount**	**84.54**	**53**	*e*P	**P**	**01 39 13.6**	**-0.8**
comp=E,17nm,2.0s							
SRU	**San Rafael**	**84.72**	**45**	*e*P	**P**	**01 39 13.8**	**-1.6**
SRU	**San Rafael**	**84.72**	**45**	*e*P	**P**	**01 39 13.8**	**-1.6**
TXAR	**Lajitas Array**	**84.73**	**56**	P	**P**	**01 39 16.6**	**+1.1**
TXAR	**Lajitas Array**	**84.73**	**56**	P	**P**	**01 39 16.6**	**+1.1**
comp=E,0.6nm,0.9s,baz=256,slow=3.6,SNR=3.7							
TXAR				LR	LR	02 13 08.2	
comp=E,216nm,18.8s,baz=330,slow=33							
HLID	**Hailey**	**84.80**	**39**	*e*P	**P**	**01 39 14.0**	**-1.6**
comp=E,20nm,1.9s							
KLR	**Kul'dur**	**84.90**	**328**	*e*P	**P**	**01 39 15.0**	**-0.7**
CN2	**Changchun**	**84.95**	**321**	*e*P	**P**	**01 39 17.3**	**+1.2**
CN2				*e*pP	**pP**	**01 39 27.8**	**+1.2**
CN2				*e*S	**S**	**01 49 42.5**	**-0.1**
CN2				pmax	pmax		
comp=Z,10.0nm,1.0s							
CN2				LR	LR		
comp=N,800nm,19.0s							
CN2				LR	LR		
comp=E,400nm,19.0s							
CN2				LR	LR		
comp=Z,160nm,18.0s							
PMR	**Palmer**	**85.05**	**12**	*e*P	**P**	**01 39 16.6**	**+0.5**
PMR	**Palmer**	**85.05**	**12**	*e*P	**P**	**01 39 16.6**	**+0.5**
ANMO	**Albuquerque**	**85.35**	**50**	*e*P	**P**	**01 39 17.9**	**-0.7**
comp=Z,25nm,1.9s							
HWUT	**Hardware Ranch**	**85.42**	**42**	*e*P	**P**	**01 39 18.4**	**-0.4**
comp=Z,1.3nm,0.7s							
BMRM	**Bremner River**	**85.43**	**14**	*e*P	**P**	**01 39 17.3**	**-0.9**
WHN	**Wuhan**	**85.57**	**305**	P	**P**	**01 39 21.0**	**+1.5**
WHN				S	**S**	**01 49 49.0**	**-0.3**
WHN				LR	LR		
comp=Z,330nm,17.2s							
PLCA	**Paso Flores**	**86.33**	**132**	LR	LR	02 13 07.7	
comp=Z,254nm,18.1s,baz=316,slow=32							
IPM	**Ipoh**	**86.50**	**276**	*e*P	**P**	**01 39 25.2**	**+0.6**
comp=Z,11nm,0.7s							
TRF	**Thorofare Moun**	**86.56**	**11**	*e*P	**P**	**01 39 23.4**	**-0.4**
SYO	**Syowa Base**	**86.67**	**192**	‖*e*X	**PcP**	**01 39 30.8**	**+4.1**
MCK	**McKinley**	**87.05**	**11**	*e*P	**P**	**01 39 26.6**	**+0.5**
MCK				pmax	pmax		
comp=Z,26nm,1.1s							
MCK	**McKinley**	**87.05**	**11**	*e*P	**P**	**01 39 26.6**	**+0.5**
comp=Z,26nm,1.1s							
MOOW	**Moose Ponds**	**87.10**	**41**	*e*P	**P**	**01 39 26.0**	**-1.1**
LOHW	**Long Hollow**	**87.11**	**41**	*e*P	**P**	**01 39 26.4**	**-0.7**
SNAA	**Sanae**	**87.12**	**177**	*e*P	**P**	**01 39 24.4**	**-2.2**
comp=Z,26nm,1.9s							
BW06	**Boulder Array**	**87.30**	**42**	*e*P	**P**	**01 39 28.0**	**-0.1**
comp=Z,1.3nm,0.8s							
PDAR	**Pinedale Array**	**87.30**	**42**	P	**P**	**01 39 27.2**	**-0.8**
PDAR	**Pinedale Array**	**87.30**	**42**	P	**P**	**01 39 27.2**	**-0.8**
comp=Z,0.3nm,0.8s,baz=221,slow=5.4,SNR=2.1							
SDCO	**Great Sand Dun**	**87.40**	**48**	*e*P	**P**	**01 39 29.1**	**+0.4**
comp=Z,0.9nm,0.6s							
SEY	**Seymchan**	**87.91**	**346**	‖*i*P	**P**	**01 39 30.7**	**+0.5**
COLA	**College**	**88.29**	**11**	*e*P	**P**	**01 39 32.0**	**+0.1**
COLA				pmax	pmax		
comp=Z,46nm,1.0s							
COLA	**College**	**88.29**	**11**	*e*P	**P**	**01 39 32.0**	**+0.1**
comp=Z,46nm,1.0s							
ILAR	**Eielson Array**	**88.38**	**11**	P	**P**	**01 39 32.5**	**+0.2**
ILAR	**Eielson Array**	**88.38**	**11**	P	**P**	**01 39 32.5**	**+0.2**
comp=Z,2.8nm,1.0s,baz=214,slow=3.8,SNR=17							
IM04	**Indian Mountai**	**88.39**	**8**	*e*P	**P**	**01 39 32.8**	**+0.3**
BJI	**Beijing**	**88.78**	**314**	P	**P**	**01 39 36.8**	**+2.0**
BJI				S	S	01 50 13.6	-6.2
BJI				pmax	pmax		
comp=Z,19nm,1.8s							
BJI				pmax	pmax		
comp=Z,110nm,3.9s							
BJI				LR	LR		
comp=N,180nm,13.8s							
BJI				LR	LR		
comp=E,210nm,17.0s							
BJI				LR	LR		
comp=Z,99nm,17.1s							
DAWY	**Dawson**	**89.33**	**15**	*e*P	**P**	**01 39 36.9**	**-0.1**
EGAK	**Eagle**	**89.54**	**14**	*e*P	**P**	**01 39 38.1**	**+0.3**
GYA	**Guiyang**	**89.91**	**298**	*e*P	**P**	**01 39 41.8**	**+1.2**
GYA				pP	**pP**	**01 39 51.4**	**+0.2**
GYA				sP	**sP**	**01 39 57.8**	**+2.8**
GYA				PP	**PP**	**01 43 15.6**	**+1.7**
GYA				SKS	**SKSac**	**01 50 05.4**	**-4.0**
GYA				S	**S**	**01 50 28.8**	**-2.5**
GYA				sS	**sS**	**01 50 46.9**	**-1.8**
GYA				SS	**SS**	**01 56 30.3**	**+0.4**
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
GYA				pmax	pmax		
comp=Z,110nm,5.4s							
GYA				LR	LR		
comp=N,520nm,20.4s							
GYA				LR	LR		
comp=E,470nm,21.0s							
GYA				LR	LR		
comp=Z,480nm,20.6s							
XAN	**Xi'an**	**91.24**	**306**	P	**P**	**01 39 48.3**	**+1.7**
XAN				pP	**pP**	**01 39 58.3**	**+1.2**
XAN				pmax	pmax		
comp=Z,4.0nm,1.5s							
XAN				pmax	pmax		
comp=Z,28nm,6.6s							
HHC	**Hu-ho-hao-te**	**92.27**	**313**	*e*P	**P**	**01 39 51.9**	**+0.6**
HHC				pP	**pP**	**01 40 01.1**	**-0.7**
HHC				sP	**sP**	**01 40 05.0**	**-0.6**
HHC				PP	**PP**	**01 43 34.3**	**+2.0**
HHC				SKS	**SKSac**	**01 50 19.5**	**-2.7**
HHC				S	**S**	**01 50 50.6**	**-1.5**
HHC				sS	**sS**	**01 51 06.6**	**-3.1**
HHC				SS	**SS**	**01 57 04.0**	**+0.6**
HHC				pmax	pmax		
comp=Z,35nm,1.0s							
HHC				pmax	pmax		
comp=Z,190nm,6.9s							
HHC				LR	LR		
comp=N,250nm,16.9s							
HHC				LR	LR		
comp=E,280nm,16.9s							
HHC				LR	LR		
comp=Z,250nm,16.3s							
KMI	**Kunming**	**92.64**	**296**	*e*P	**P**	**01 39 52.4**	**-1.1**
KMI				pP	**pP**

BRVK	Borovoye	121.85 320	*i* PKIKP	PKPdf	01 45 32.4	-2.4
BRVK	Borovoye	121.85 320	*e*PKPdf	PKPdf	01 45 34.3	-0.6
ARCES	ARCESS Array B	130.24 351	PKP	PKPdf	01 45 50.2	-0.3
ARCES	ARCESS Array B	130.24 351	PKP	PKPdf	01 45 50.2	-0.3
	comp=Z,3.0nm,1.0s,baz=325,slow=1.9,SNR=5.1					
FINES	FINESS Array B	137.39 346	PKP	PKPdf	01 46 03.7	-0.3
FINES	FINESS Array B	137.39 346	PKP	PKPdf	01 46 03.7	-0.3
	comp=Z,1.3nm,0.8s,baz=45,slow=0.5,SNR=5.2					
LSZ	Lusaka	137.41 213	*e*PKPdf	PKPdf	01 46 05.1	-0.6
OBN	Obninsk	138.97 333	*e*PKIKP	PKPdf	01 46 05.9	-1.2
OBN			*e*		01 53 09.4	
OBN			pmax	pmax		
	comp=Z,2.0nm,0.7s					
NAO01	NORSAR Array S	140.28 356	*e*PKPdf	PKPdf	01 46 08.6	-0.8
SUW	Suwalki	144.66 342	*e*PKIKP	PKPbc	01 46 16.4	+0.2
SUW	Suwalki	144.66 342	*e*PKPdf	PKPbc	01 46 16.4	+0.3
SUW	Suwalki	144.66 342	*e*PKP	**PKPab**	01 46 15.8	-0.2
AKASG	Malin Array Be	145.23 333	PKIKP	**PKPbc**	01 46 17.9	-0.2
AKASG	Malin Array Be	145.23 333	PKPbc	**PKPbc**	01 46 17.9	-0.2
AKASG	Malin Array Be	145.23 333	PKPbc	**PKPbc**	01 46 17.9	-0.2
	comp=Z,2.2nm,0.5s,baz=40,slow=4.6,SNR=15					
KIEV	Kiev	145.25 333	*e*PKPbc	**PKPbc**	01 46 17.0	-1.2
SIM	Simferopol'	146.67 322	*e*PKP2	**PKPab**	01 46 25.0	+1.1
SIM			pmax	pmax		
	comp=Z,8.0nm,0.8s					
GKP	Gorka Klasztor	146.82 347	*e*PKP	**PKPab**	01 46 24.6	+0.5
MALT	Malatya	147.00 308	⇑PKP2	**PKPab**	01 46 28.6	+3.0
MALT	Malatya	147.00 308	⇑*i*P	**PKPab**	01 46 28.6	+3.0
BEL	Belsk	147.26 342	*e*PKP	PKPab	01 46 38.7	+13
LVV	L'vov	147.96 337	*e*PKIKP	**PKPbc**	01 46 25.9	-0.3
KWP	Kalwaria Pacla	148.59 338	*e*PKP2	**PKPbc**	01 46 28.0	+0.2
KWP	Kalwaria Pacla	148.59 338	⇓PKP2	**PKPbc**	01 46 28.6	+0.8
KWP	Kalwaria Pacla	148.59 338	⇓*i*P	**PKPbc**	01 46 28.6	+0.8
KWP	Kalwaria Pacla	148.59 338	*e*PKPbc	**PKPbc**	01 46 28.0	+0.2
KWP			*e*PKPab	**PKPab**	01 46 32.4	+1.0
KWP	Kalwaria Pacla	148.59 338	*e*PKP	**PKPbc**	01 46 28.7	+0.9
DRWC	Darouich	148.92 306	*e*P	**PKPbc**	01 46 27.4	-1.8
ROOS	tl_alroos	149.22 301	*e*P	**PKPbc**	01 46 28.6	-1.4
STHS	Stebnicka Huta	149.26 340	*e*PKP2	**PKPab**	01 46 33.9	-0.2
STHS	Stebnicka Huta	149.26 340	*e*PKP	**PKPab**	01 46 33.9	-0.2
BTCH	Batrach	149.28 305	*e*P	**PKPbc**	01 46 28.7	-1.4
BURAR	Bucovina Array	149.29 333	⇓PKP2	**PKPbc**	01 46 31.8	+2.0
BURAR	Bucovina Array	149.29 333	⇓*i*P	**PKPbc**	01 46 31.8	+2.0
KSP	Ksiaz	149.30 347	*e*PKP2	**PKPbc**	01 46 30.4	+0.8
KSP	Ksiaz	149.30 347	*e*PKP	**PKPbc**	01 46 30.3	+0.7
KOLS	Kolonicke sedl	149.33 338	*e*PKP2	**PKPab**	01 46 34.1	-0.3
KOLS	Kolonicke sedl	149.33 338	*e*PKP	**PKPab**	01 46 34.0	-0.4
KOLS			*e*		02 02 03.4	
CLL	Collm	149.46 351	*e*PKP2	**PKPbc**	01 46 30.0	+0.1
CLL			pmax	pmax		
	comp=Z,11nm,1.0s					
CLL	Collm	149.46 351	*e*PKPbc	**PKPbc**	01 46 30.0	+0.1
CLL			*i* PKPab	**PKPab**	01 46 35.0	+0.2
	comp=Z,11nm,1.0s					
CLL			*i* pPKPbc	**pPKPbc**	01 46 39.4	-1.3
CLL			*i* pPKPab	**pPKPab**	01 46 42.5	-2.9
CLL			*i* sPKPab	**sPKPab**	01 46 46.4	-2.7
ZALF	Zalf	149.51 299	*e*P	**PKPbc**	01 46 30.6	-0.1
UZH	Uzhgorod	149.58 338	*e*PKIKP	**PKPbc**	01 46 29.2	-1.1
UZH			*e*		01 46 32.8	
UZH			*e*		01 46 38.2	
UZH			*e*		01 46 44.6	
CRVS	Cervenica-Dubn	149.63 339	*e*PKP2	**PKPbc**	01 46 31.0	+0.5
CRVS	Cervenica-Dubn	149.63 339	*e*PKP	**PKPbc**	01 46 31.0	+0.5
UPC	Upice	149.68 347	*e*PKP2	**PKPbc**	01 46 32.2	+1.7
UPC	Upice	149.68 347	⇓*e*PKPBC	**PKPbc**	01 46 32.2	+1.7
UPC			*ex*	x	01 47 07.4	
ARNB	Al Arnab	149.72 305	*e*P	**PKPab**	01 46 38.3	+1.8
BRG	Berggiesshubel	149.73 349	*i* PKP	**PKPbc**	01 46 31.2	+0.6
	comp=Z,8.0nm,1.1s					
BRG			*e*		01 46 38.6	
	comp=Z,10nm,1.2s					
BRG	Berggiesshubel	149.73 349	*i* PKP2	**PKPbc**	01 46 31.2	+0.6
BRG			pmax	pmax		
	comp=Z,6.0nm,1.1s					
DPC	Dobruska-Polom	149.76 346	⇓*i*PKP2	**PKPbc**	01 46 32.0	+1.2
DPC	Dobruska-Polom	149.76 346	⇓*i*PKPBC	**PKPbc**	01 46 32.0	+1.2
DPC			*e*PKPab	**PKPab**	01 46 36.0	-0.1
DPC			*ep*PKP	**pPKPdf**	01 46 40.5	+3.6
DPC			*ex*	x	01 47 11.7	
DPC			AMS	AMS	03 02 50.0	
CFR	Carcaliu	149.76 327	⇑PKP2	**PKPbc**	01 46 31.6	+0.7
CFR	Carcaliu	149.76 327	⇑*i*P	**PKPbc**	01 46 31.6	+0.7
BR131	Keskin Array S	149.78 314	*e*PKPbc	**PKPbc**	01 46 31.7	+0.4
BRTR	Keskin Array B	149.78 314	PKPbc	**PKPbc**	01 46 31.5	+0.2
BRTR	Keskin Array B	149.78 314	PKPbc	**PKPbc**	01 46 31.5	+0.2
	comp=Z,3.4nm,0.9s,baz=118,slow=3.6,SNR=11					
OKC	Ostrava-Krasne	149.79 344	*e*PKIKP	**PKPbc**	01 46 30.7	-0.1
OKC			*e*		01 46 35.1	
OKC	Ostrava-Krasne	149.79 344	⇓*e*PKPBC	**PKPbc**	01 46 30.7	-0.1
OKC			*e*PKPAB	**PKPab**	01 46 35.1	-1.1
OKC			*es*PKP		01 46 49.0	
OKC			*ex*	x	01 46 59.6	
HAWK	Haweek	149.82 303	*e*P	**PKPbc**	01 46 31.9	+0.4
MARH	Ras Al Marh	149.90 302	*e*P	**PKPbc**	01 46 31.9	-0.1
PVCC	Panska Ves	149.95 348	*i* PKP2	**PKPbc**	01 46 32.2	+1.0
PVCC	Panska Ves	149.95 348	⇓*i*PKPBC	**PKPbc**	01 46 32.2	+1.0
PVCC			*e*PKPAB	**PKPab**	01 46 36.3	-0.5
PVCC			*ep*PKP	**pPKPdf**	01 46 41.4	+4.3
PVCC			*es*PKP		01 46 48.7	
PVCC			*ex*	x	01 47 01.3	
VRI	Vrincioaia	149.96 330	⇓PKP2	**PKPbc**	01 46 32.1	+0.7
VRI	Vrincioaia	149.96 330	⇓*i*P	**PKPbc**	01 46 32.1	+0.7
MORC	Moravsky Berou	150.00 344	*e*PKP2	**PKPbc**	01 46 31.8	+0.4
MORC	Moravsky Berou	150.00 344	*e*PKPbc	**PKPbc**	01 46 31.8	+0.4
ASF	Jabal al Asfar	150.05 298	PKPbc	**PKPbc**	01 46 33.2	+1.1
ASF	Jabal al Asfar	150.05 298	PKPbc	**PKPbc**	01 46 33.2	+1.1
	comp=Z,1.6nm,0.7s,baz=86,slow=6.5,SNR=4.5					
ARCR	ARCALIA	150.07 334	⇑*i*P	**PKPab**	01 46 41.8	+4.4
ANTO	Ankara	150.27 315	*e*PKPbc	**PKPbc**	01 46 32.2	-0.2
KECS	Kecovo	150.32 340	*e*PKP2	**PKPbc**	01 46 33.4	+1.3
KECS	Kecovo	150.32 340	*e*PKP	**PKPbc**	01 46 33.4	+1.3
KECS			*e*		01 46 37.6	
KECS			*e*		02 01 51.6	
PRU	Pruhonice	150.47 348	⇓*i*PKP2	**PKPbc**	01 46 33.2	+0.8
PRU			MLR	MLR		
	comp=Z,200nm,18.4s					
PRU	Pruhonice	150.47 348	⇓*i*PKPBC	**PKPbc**	01 46 33.2	+0.8
PRU			*e*PKPAB	**PKPab**	01 46 38.7	-0.3
PRU			AMS	AMS	03 02 20.0	
	comp=Z,200nm,18.4s					
BRBR	Barbar	150.50 301	*e*P	**PKPbc**	01 46 33.9	+0.6
MLR	Muntele Rosu	150.60 330	⇓*i*P	**PKPbc**	01 46 33.4	+0.3
VYHS	Vyhne	150.82 342	*e*PKIKP	**PKPbc**	01 46 33.9	+0.6
VYHS	Vyhne	150.82 342	*e*PKP	**PKPbc**	01 46 33.9	+0.6
TREC	Trest	150.94 347	*e*PKIKP	**PKPbc**	01 46 31.7	-1.9
TREC			*e*		01 46 39.6	
TREC			MLR	MLR		
	comp=Z,300nm,17.8s					
TREC	Trest	150.94 347	⇓*e*PKPBC	**PKPbc**	01 46 31.7	-1.9
TREC			*e*PKPAB	**PKPab**	01 46 39.6	-1.3
TREC			AMS	AMS	03 06 00.0	
	comp=Z,300nm,17.8s					
DRGR		150.96 335	⇓PKIKP	**PKPbc**	01 46 34.3	+0.5
DRGR		150.96 335	⇓*i*P	**PKPbc**	01 46 34.3	+0.5
PSZ	Piszkesteto	151.01 340	⇓*i*P	**PKPab**	01 46 41.7	+0.3
PSZ	Piszkesteto	151.01 340	*e*PKPab	**PKPab**	01 46 42.6	+1.2
VOIR		151.05 331	⇑PKIKP	**PKPbc**	01 46 34.7	+0.6
VOIR		151.05 331	⇑*i*P	**PKPbc**	01 46 34.7	+0.6
SULR		151.06 329	⇓*i*P	**PKPab**	01 46 43.8	+2.2
GRF	Grafenberg Arr	151.28 352	*e*PKPdf	**PKPbc**	01 46 35.1	+0.7
GRF	Grafenberg Arr	151.28 352	*e*PKIKP	**PKPbc**	01 46 35.1	+0.7
ARR	Arges	151.29 331	⇓*i*P	**PKPbc**	01 46 36.3	+1.7
KHC	Kasperske Hory	151.47 349	⇓*i*PKIKP	**PKPbc**	01 46 35.6	+0.7
KHC			*e*		01 46 41.0	
KHC			*e*		01 46 48.2	
KHC	Kasperske Hory	151.47 349	⇓*i*PKPBC	**PKPbc**	01 46 35.6	+0.7
KHC			*e*PKPAB	**PKPab**	01 46 41.0	-2.2
KHC			*ep*PKP	pPKPdf	01 46 48.2	+8.6
KHC			*ex*	x	01 47 14.8	
KHC	Kasperske Hory	151.47 349	*e*PKPbc	**PKPbc**	01 46 35.1	+0.2
GERES	GERESS Array B	151.72 349	PKPbc	**PKPbc**	01 46 35.8	+0.2
GERES	GERESS Array B	151.72 349	PKPbc	**PKPbc**	01 46 35.8	+0.2
	comp=Z,1.4nm,0.8s,baz=357,slow=2.7,SNR=11					
CSS	Prodhromos	152.05 305	*e*PKPbc	**PKPbc**	01 46 37.0	+0.4
BZS	Buzias	152.36 335	⇑PKIKP	**PKPbc**	01 46 36.6	-0.3
BZS	Buzias	152.36 335	⇑*i*P	**PKPbc**	01 46 36.6	-0.3
PKSM	Moragy	152.91 340	⇑PKIKP	**PKPbc**	01 46 35.0	-3.1
PKSM	Moragy	152.91 340	⇑*i*P	**PKPbc**	01 46 35.0	-3.1
TORD	Torodi Ar. Bea	171.13 155	PKP	**PKPdf**	01 46 49.1	-1.1
TORD			PKPab	**PKPab**	01 48 09.3	-0.1
TORD	Torodi Ar. Bea	171.13 155	PKP	**PKPdf**	01 46 49.1	-1.1
	comp=Z,0.7nm,0.9s,baz=299,slow=3.0,SNR=2.4					
TORD			PKPab	**PKPab**	01 48 09.4	-0.1
	comp=Z,0.6nm,0.9s,baz=204,slow=3.2,SNR=3.1					

ISCJB ***22*** *01:29:19.9±1.0, 51°.6N±0°.1×174°.59W±0°.08, h56km±7km, mb3.9/6, Error ellipse: s-maj=17.8km s-min=6.4km az=163.5*
NEIC ***22*** *01:29:21.0, 51°.54N×174°.58W, h17km, ML3.5(AEIC), After AEIC.*
IDC ***22*** *01:29:23.2±4.2, 51°.83N×174°.63W, h54km±29km, mb3.6/6, mb1 3.7/9, mb1mx3.4/33, mbtmp3.6/9, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/44, Error ellipse: s-maj=71.2km s-min=18.3km az=178.0*
ISC 22 01:29:20.9±1.8, 51°.6N±0°.1×174°.57W±0°.07, h41km±15km, n29, σ0°.73/37, mb4.0/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.63	21	P	Pn	01 29 33.2	-0.2
ATKA				S	Sn	01 29 43.0	+0.7
GSMY	Great Sitkin M	1.02	296	P	Pn	01 29 38.1	-0.6
GSMY				S	Sn	01 29 51.9	+0.1
GSTR	Great Sitkin T	1.04	298	*e*Pn	Pn	01 29 38.9	-0.1
GSTR				*e*Sn	Sn	01 29 53.4	+1.0
GSCK	Great Sitkin C	1.07	293	P	Pn	01 29 38.7	-0.7
GSTD	Great Sitkin T	1.07	295	P	Pn	01 29 38.9	-0.6
GSTD				S	Sn	01 29 52.3	-1.0
ETKA	Kagalaska Isla	1.17	283	P	Pn	01 29 39.8	-1.0
ETKA				S	Sn	01 29 55.9	+0.4
ADAG	Mount Adagdak	1.32	287	P	Pn	01 29 43.0	+0.2
ADK	Adak	1.34	282	P	Pn	01 29 42.1	-1.0
ADK				S	Sn	01 30 00.2	+0.5
KIRH	Kanaga Island	1.60	281	P	Pn	01 29 46.2	-0.4
KINC	Kanaga Island	1.62	282	P	Pn	01 29 46.5	-0.4
KIKV	Kanaga Island	1.64	280	P	Pn	01 29 46.5	-0.7
KICM	Kanaga Island	1.66	282	P	Pn	01 29 46.8	-0.6
TAPA	Tanaga Point A	2.03	277	P	Pn	01 29 52.0	-0.6
TAFP	Tanaga Falls P	2.14	279	P	Pn	01 29 53.9	-0.2
TASE	Tanaga Southea	2.17	277	P	Pn	01 29 54.4	-0.1
TANO	Tanaga North	2.23	279	P	Pn	01 29 55.6	+0.3
GAEA	Gareloi East	2.61	275	P	Pn	01 30 00.7	+0.2
GALAA	Gareloi Lava P	2.62	275	P	Pn	01 30 00.8	+0.2
GANE	Gareloi Northe	2.63	276	P	Pn	01 30 00.8	0.0
AMKA	Amchitka	3.84	269	*e*Pn	Pn	01 30 16.0	-1.3
AMKA				*e*Sn	Sn	01 31 03.0	+1.8
AMKA				*e*Sg		01 31 19.5	
FX1	Attu Island--F	7.64	284	P	Pn	01 31 10.9	+1.4
FX1				S	Sn	01 32 35.3	+0.6
FX1				LR	LR	01 33 58.6	

comp=Z,1.0nm,0.3s,baz=158,slow=12,SNR=14; FX1 S: 0.7nm,0.3s,baz=265,slow=11,SNR=2.0; FX1 LR: comp=Z,56nm,19.9s,baz=16,slow=36

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	14.09	55	P	Pn	01 32 37.2	-0.4
ILAR	Eielson Array	19.44	37	P	P	01 33 43.5	0.0
PDAR	Pinedale Array	43.70	75	P	P	01 37 22.9	+1.0
KURBB	Kurchatov Arra	60.84	316	P	P	01 39 27.8	-0.8
MKAR	Makanchi Array	61.92	311	P	P	01 39 35.4	-0.6
BVAR	Borovoye Array	62.38	322	P	P	01 39 39.0	+0.1
NOA	NORSAR Array B	67.60	357	P	P	01 40 12.6	-0.1
HFS	Hagfors	68.41	356	P	P	01 40 17.1	-0.7

comp=Z,0.4nm,0.7s,baz=17,slow=2.6,SNR=3.6; HFS: 4.7nm,0.9s,baz=66,slow=1.8,SNR=11

CSEM ***22*** *01:44:03.6, 46°.13N×13°.94E, h0km, ML0.5, After LJU*
LJU 22 01:44:03.6, 46°.13N×13°.94E, h12km, ML0.5, 1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOJS	Vojsko	0.11	201	⇓*i*Pg	Pg	01 44 06.7	+0.1
VOJS				*i* Sg	Sg	01 44 08.8	0.0
VOJS							

comp=Z,9.0nm,0.1s; VOJS: VOJS 0.11 201 Pg Pg 01 44 06.7 +0.1; VOJS *i* Sg Sg 01 44 08.8 0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	Cadrg	0.17	305	*i* Pg	Pg	01 44 07.4	-0.1
CADS				*i* Sg	Sg	01 44 10.6	+0.3
CADS	Cadrg	0.17	305	*i* Pg	Pg	01 44 07.4	-0.1
CADS				*i* Sg	Sg	01 44 10.6	+0.3
GORS	Gorjuse	0.19	12	*i* Pg	Pg	01 44 08.1	+0.1
GORS				*i* Sg	Sg	01 44 11.1	+0.1
GORS	Gorjuse	0.19	12	*i* Pg	Pg	01 44 08.1	+0.1
GORS				*i* Sg	Sg	01 44 11.1	+0.1
JAVS	Javornik	0.25	160	*e*Sg	Sg	01 44 13.1	+0.4
JAVS	Javornik	0.25	160	*e*Sg	Sg	01 44 13.1	+0.4

IDC 22 01:55:02.2±4.2, 57°.64S×149°.03E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.6/12, mbtmp3.4/3, Error ellipse: s-maj=431.0km s-min=30.2km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	20.45	172	P	P	01 59 40.7	-0.1
ASAR	Alice Springs	35.66	336	P	P	02 02 01.3	-0.5
WRA	Warramunga Arr	39.17	338	P	P	02 02 31.9	+0.3

IDC ***22*** *02:02:01.9±1.4, 6°.23S×104°.00E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/23, mbtmp4.0/8, Error ellipse: s-maj=55.9km s-min=17.3km az=56.0*
NEIC ***22*** *02:02:06.9±0.6, 6°.25S×104°.13E, h35km, mb4.4/5, Error ellipse: s-maj=22.4km s-min=8.4km az=46.0*
DJA ***22*** *02:02:08.5±1.1, 6°.S±4°.×10°.4E±°, h7km±8km, M4.1/10, MLv4.1/10*
AUST ***22*** *02:02:29.8, 9°.33S×105°.83E, h10km*
ISC 22 02:02:05.1±1.8, 6°.38S±0°.06×103°.82E±0°.06, h27km±13km, n51, σ1°.49/52, mb4.2/14, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.08	39	P	Pn	02 02 24.3	-0.3
KASI				S	Sn	02 02 37.0	-1.8
LWLI	Liwa	1.37	10	P	Pb	02 02 30.5	+0.3
BLSI	Bandar Lampung	1.74	55	P	Pn	02 02 34.0	+0.4
BLSI				S	Sn	02 02 55.4	+0.5
KLI	Kotabumi	1.83	35	P	Pb	02 02 37.2	-0.7
KLSI		1.91	28	P	Pn	02 02 37.8	+1.9
MNAI	Manna	2.18	337	P	Pb	02 02 44.6	+0.7
SKJI	Sukabumi	2.79	103	P	Pn	02 02 50.3	+2.2
SKJI				S	Sn	02 03 22.7	+1.8
DBJI	Dramaga	2.92	94	P	Pn	02 02 52.6	+2.8
DBJI				S	Sn	02 03 24.9	+0.8
KSI	Kapahiang	2.97	336	P	Pb	02 02 58.3	+0.9
CBJI	Citeko	3.01	91	P	Pn	02 02 54.8	+3.7
LEM	Lembang	3.80	97	P	Pb	02 03 07.3	-4.3
CISI	Cisompet, Garu	4.14	107	P	Pn	02 03 07.1	+0.4
CISI	Cisompet, Garu	4.14	107	P	Pn	02 03 09.1	+2.5
CISI				S	Sn	02 03 47.9	-6.4
XMI	Christmas Isla	4.45	156	S	Pn	02 03 10.3	-0.6
XMIS	Christmas Isla	4.46	156	S	Pn	02 03 07.4	-3.6
UGM	Wanagama	6.83	103	P	Pn	02 03 45.5	+1.9
KAPI	Kappang	15.91	86	*e*Pn	Pn	02 05 44.4	-3.0
LUWI	Luwuk	19.64	75	P	Pn	02 06 44.2	+11
LUWI				S	Sn	02 10 16.4	+3.0
FITZ	Fitzroy Crossi	24.26	121	P	P	02 07 16.7	-3.6
FITZ	Fitzroy Crossi	24.26	121	P	P	02 07 16.7	-3.6
CMAR	Chiang Mai Arr	25.14	349	P	P	02 07 27.9	-0.3
CMAR	Chiang Mai Arr	25.14	349	P	P	02 07 27.9	-0.3
KNRA	Kununurra	26.14	113	P	P	02 07 36.1	-1.3
MTN	Manton Dam	27.67	105	P	P	02 07 58.9	+7.7
SWI	Sorong	27.92	80	S	S	02 12 20.2	-16
WRA	Warramunga Arr	32.55	117	P	P	02 08 33.5	-0.9
WRA				PcP	PcP	02 11 21.6	+0.8
WRA	Warramunga Arr	32.55	117	P	P	02 08 33.5	-0.9
WRAB	Tennant Creek	32.56	117	*e*P	P	02 08 33.5	-0.9
ASAR	Alice Springs	33.64	124	P	P	02 08 43.8	0.0
ASAR	Alice Springs	33.64	124	P	P	02 08 43.8	0.0
AS31	Alice Springs	33.64	124	*e*P	P	02 08 43.6	-0.3
COEN	Coen	39.42	104	*e*P	P	02 09 30.2	-3.1
STKA	Stephens Creek	43.42	131	P	P	02 10 06.4	+0.5
STKA	Stephens Creek	43.42	131	P	P	02 10 06.4	+0.5
KSAR	Wonju Array Be	49.04	25	P	P	02 10 49.1	-0.8
KSRS	Korea Array	49.07	25	P	P	02 10 49.1	-1.0
KBL	Kabul	52.29	323	P	PcP	02 12 27.4	+1.5
TKM2	Tokmak 2	55.36	335	*e*P	P	02 11 37.9	+0.8
EKS2	Erkin-Say	55.94	334	*e*P	P	02 11 42.6	+1.5
MK31	Makanchi Array	56.29	342	*e*P	P	02 11 43.5	+0.1
MKAR	Makanchi Array	56.29	342	P	P	02 11 43.8	+0.4
MKAR	Makanchi Array	56.29	342	P	P	02 11 43.8	+0.4
USRK	Ussuriysk Arra	56.40	24	P	P	02 11 43.0	-1.2
ABKAR	Abkulak array	67.29	331	*e*P	P	02 12 58.0	+0.5
AKTO	Aktyubinsk	69.01	331	P	P	02 13 07.8	-0.4
AKTO	Aktyubinsk	69.01	331	P	P	02 13 07.8	-0.4
VNDA	Vanda	77.16	169	*e*P	P	02 13 56.9	+0.8
TXAR	Lajitas Array	145.46	45	PKPbc	PKPab	02 21 42.5	+0.7
TXAR	Lajitas Array	145.46	45	PKPbc	PKPab	02 21 42.5	+0.7
TKL	Tuckaleechee C	150.04	12	PKPbc	PKPbc	02 21 54.4	+0.5
TKL	Tuckaleechee C	150.04	12	PKPbc	PKPbc	02 21 54.4	+0.5

BJI ***22*** *02:05:33.0, 57°.80N×32°.60W, h7km, mB5.0/13, mb4.9/26, Ms4.7/7, Ms7 4.3/8*
IDC ***22*** *02:05:34.6±0.5, 57°.79N×32°.71W, h0km, mb4.2/30, mb1 4.4/34, mb1mx4.3/41, mbtmp4.3/34, ML3.4/4, MS4.0/31, Ms1 4.0/31, ms1mx3.9/50, Error ellipse: s-maj=14.8km s-min=9.9km az=1.0*
MOS ***22*** *02:05:34.4±0.8, 57°.79N×32°.61W, h10km, mb4.9/43, MS4.1/8, Error ellipse: s-maj=7.1km s-min=6.3km az=14.2*
ISCJB ***22*** *02:05:35.1±1.9, 57°.79N±0°.04×32°.60W±0°.04, h14km±12km, mb4.5/153, MS4.0/38, Error ellipse: s-maj=6.7km s-min=3.0km az=10.0*
NEIC ***22*** *02:05:36.4±0.1, 57°.81N×32°.63W, h10km, mb4.7/67, Error ellipse: s-maj=5.1km s-min=2.5km az=183.0*
GCMT ***22*** *02:05:36.9±0.3, 57°.97N×32°.35W, h12km, MW4.8, Moment Tensor Solution. s13,c13; s61,c88; Moment tensor: Scale 10^16Nm; Mrr~1.44±.07; Mθθ0.16±.07; Mφφ1.28±.05; Mrθ0.79±.34; Mθφ0.37±.06; Mφr~1.09±.24; Best double couple: M0:1.90000×10^16 NP1:φs347.00000°, δ66.00000°, λ-113.00000°. NP2:φs214.00000°, δ32.00000°, λ-48.00000°. Principal axes: T 1.6700, Plg18.0000°, Azm94.0000°; N 0.4800, Plg21.0000°, Azm357.0000°; P -2.1500, Plg62.0000°, Azm222.0000°; Data Used: CN II IU G IC.*
CSEM ***22*** *02:05:37.5±0.1, 57°.81N×32°.59W, h20km, mb4.6/99, Ms3.9, Mw4.8 Error ellipse: s-maj=5.5km s-min=2.3km az=11.0*
ISC 22 02:05:37.2±0.4, 57°.81N±0°.05×32°.62W±0°.04, h17km±2km, h16km: pP-P, n792, σ0°.94/804, mb4.6/153, MS4.1/38, 9C-1D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.82	33	*e*Pn	Pn	02 07 44.6	+0.9
BORG	Borgarnes	8.82	33	Pn	Pn	02 07 45.5	+1.9
	1.5nm,0.3s,baz=249,slow=7.0,SNR=6.5						
BORG				LR	LR	02 10 19.0	
	comp=Z,2μm,18.6s,baz=196,slow=32						
BORG	Borgarnes	8.82	33	*e*P	Pn	02 07 44.6	+0.9
SFJD	Kangerlussuaq	12.37	325	LR	LR	02 12 33.1	
	comp=Z,1μm,18.3s,baz=132,slow=34						
SUMG	Summit	15.02	353	*e*P	Pn	02 09 08.2	-0.5
SUMG				pmax	pmax		
	comp=Z,43nm,1.5s						
SUMG	Summit	15.02	353	*i* P	Pn	02 09 08.2	-0.5
	comp=Z,5.9nm,1.0s						
SUMG	Summit	15.02	353	*e*Pn	Pn	02 09 08.2	-0.5
	comp=Z,43nm,1.5s						
SUMG	Summit	15.02	353	*e*Pn	Pn	02 09 08.2	-0.5
	comp=Z,43nm,1.5s						
ESK	Eskdalemuir	16.34	86	*e*P	Pn	02 09 25.8	+0.3
ESK	Eskdalemuir	16.34	86	*e*Pn	Pn	02 09 25.8	+0.3
ESK	Eskdalemuir	16.34	86	*e*Pn	Pn	02 09 25.8	+0.3
EKA	Eskdalemuir Ar	16.36	86	Pn	P	02 09 27.0	-1.6
EKA	Eskdalemuir Ar	16.36	86	Pn	P	02 09 27.0	-1.6
	baz=296,slow=9.9,SNR=7.8						
EKA	Eskd

NB2	NORSAR Subarra	22.21	63	P		P	02 10 31.6	-0.9
	comp=Z,28nm,1.4s,baz=283,slow=10							
NB2	NORSAR Subarra	22.21	63	P		P	02 10 31.6	-0.9
	comp=Z,28nm,1.4s,SNR=5.5							
NOA	NORSAR Array B	22.21	63	P		P	02 10 32.5	0.0
NOA	NORSAR Array B	22.21	63	P		P	02 10 32.5	0.0
	comp=Z,4.4nm,1.0s,baz=282,slow=10,SNR=6.3							
NOA				LR		LR	02 17 38.3	
	comp=Z,239nm,22.0s,baz=280,slow=32							
NOA	NORSAR Array B	22.21	63	P		P	02 10 32.5	0.0
MFF	Saint Martin d	22.61	106	eP		P	02 10 35.8	-1.0
	comp=Z,63nm,1.3s							
MFF	Saint Martin d	22.61	106	eP		P	02 10 35.8	-1.0
MFF	Saint Martin d	22.61	106	eP		P	02 10 35.8	-1.0
MFF	Saint Martin d	22.61	106	eP		P	02 10 35.8	-1.0
	comp=Z,32nm,1.3s							
BAIF	Baives	22.78	94	eP		P	02 10 37.5	-1.1
BAIF	Baives	22.78	94	eP		P	02 10 37.5	-1.1
BAIF	Baives	22.78	94	eP		P	02 10 37.5	-1.1
BAIF	Baives	22.78	94	eP		P	02 10 37.5	-1.1
DOU	Dourbes	22.97	93	P		P	02 10 45.8	+5.3
GIVF	Givet	23.09	93	eP		P	02 10 40.6	-1.1
	comp=Z,84nm,1.5s							
GIVF	Givet	23.09	93	eP		P	02 10 40.6	-1.1
GIVF	Givet	23.09	93	eP		P	02 10 40.6	-1.1
GIVF	Givet	23.09	93	eP		P	02 10 40.6	-1.1
	comp=Z,42nm,1.5s							
MVO	Moncorvo	23.31	125	eP		P	02 10 44.9	+0.7
	comp=Z,47nm,1.2s							
MVO	Moncorvo	23.31	125	eP		P	02 10 44.9	+0.7
	comp=Z,47nm,1.2s							
MEM	Membach	23.44	91	P		P	02 10 47.1	+1.8
PCAS	Casmilo, Conde	23.59	128	eP		P	02 10 47.7	+0.8
	comp=Z,22nm,1.3s							
PCAS	Casmilo, Conde	23.59	128	eP		P	02 10 47.7	+0.8
	comp=Z,22nm,1.3s							
HFS	Hagfors	23.61	65	P		P	02 10 48.4	+1.5
HFS	Hagfors	23.61	65	P		P	02 10 48.4	+1.5
	comp=Z,3.0nm,0.8s,baz=256,slow=5.8,SNR=4.1							
HFS				LR		LR	02 18 41.5	
	comp=Z,216nm,20.3s,baz=279,slow=33							
HFS	Hagfors	23.61	65	P		P	02 10 48.4	+1.5
TCF	Toulx Ste Croi	24.03	104	eP		P	02 10 49.1	-2.0
	comp=Z,46nm,1.6s							
TCF	Toulx Ste Croi	24.03	104	eP		P	02 10 49.1	-2.0
TCF	Toulx Ste Croi	24.03	104	eP		P	02 10 49.1	-2.0
TCF	Toulx Ste Croi	24.03	104	eP		P	02 10 49.1	-2.0
	comp=Z,23nm,1.6s							
MEZF	Maizieres J'vi	24.14	96	eP		P	02 10 51.3	-0.7
	comp=Z,33nm,1.2s							
MEZF	Maizieres J'vi	24.14	96	eP		P	02 10 51.3	-0.7
MEZF	Maizieres J'vi	24.14	96	eP		P	02 10 51.3	-0.7
	comp=Z,17nm,1.2s							
BGF	Bois d'Agland	24.19	102	eP		P	02 10 51.0	-1.5
	comp=Z,63nm,1.3s							
BGF	Bois d'Agland	24.19	102	eP		P	02 10 51.0	-1.5
BGF	Bois d'Agland	24.19	102	eP		P	02 10 51.0	-1.5
BGF	Bois d'Agland	24.19	102	eP		P	02 10 51.0	-1.5
	comp=Z,31nm,1.3s							
LFF	La Frestale	24.19	108	eP		P	02 10 52.2	-0.3
	comp=Z,25nm,0.9s							
LFF	La Frestale	24.19	108	eP		P	02 10 52.2	-0.3
LFF	La Frestale	24.19	108	eP		P	02 10 52.2	-0.3
LFF	La Frestale	24.19	108	eP		P	02 10 52.2	-0.3
	comp=Z,12nm,0.9s							
SSF	Saint Saulge	24.21	101	eP		P	02 10 52.0	-0.7
	comp=Z,25nm,1.0s							
SSF	Saint Saulge	24.21	101	eP		P	02 10 52.0	-0.7
SSF	Saint Saulge	24.21	101	eP		P	02 10 52.0	-0.7
SSF	Saint Saulge	24.21	101	eP		P	02 10 52.0	-0.7
	comp=Z,12nm,1.0s							
LOR	Lormes	24.26	100	eP		P	02 10 53.1	-0.1
	comp=Z,22nm,1.1s							
LOR				eR				
	comp=Z,406nm,19.2s							
LOR	Lormes	24.26	100	eP		P	02 10 53.1	-0.1
LOR	Lormes	24.26	100	eP		P	02 10 53.1	-0.1
	comp=Z,11nm,1.1s							
AVF	Avril sur Loir	24.30	101	eP		P	02 10 52.9	-0.6
	comp=Z,38nm,1.2s							
AVF	Avril sur Loir	24.30	101	eP		P	02 10 52.9	-0.6
AVF	Avril sur Loir	24.30	101	eP		P	02 10 52.9	-0.6
AVF	Avril sur Loir	24.30	101	eP		P	02 10 52.9	-0.6
	comp=Z,19nm,1.2s							
SFTF	Sexfontaines	24.31	97	eP		P	02 10 52.2	-1.4
	comp=Z,38nm,1.2s							
SFTF	Sexfontaines	24.31	97	eP		P	02 10 52.2	-1.4
SFTF	Sexfontaines	24.31	97	eP		P	02 10 52.2	-1.4
	comp=Z,19nm,1.2s							
RJF	Les Rejaudoux	24.34	106	eP		P	02 10 53.9	0.0
	comp=Z,34nm,1.4s							
RJF				eR				
	comp=Z,1μm,18.2s							
RJF	Les Rejaudoux	24.34	106	eP		P	02 10 53.9	0.0
RJF	Les Rejaudoux	24.34	106	eP		P	02 10 53.9	0.0
RJF	Les Rejaudoux	24.34	106	eP		P	02 10 53.9	0.0
	comp=Z,17nm,1.4s							
SJPF	Ste Jean	24.52	113	eP		P	02 10 55.3	-0.2
SJPF	Ste Jean	24.52	113	eP		P	02 10 55.3	-0.2
SJPF	Ste Jean	24.52	113	eP		P	02 10 55.3	-0.2
SJPF	Ste Jean	24.52	113	eP		P	02 10 55.3	-0.2
PMRV	Marv??o	24.58	127	eP		P	02 10 55.7	-0.4
	comp=Z,22nm,1.2s							
PMRV	Marv??o	24.58	127	eP		P	02 10 55.7	-0.4
	comp=Z,22nm,1.2s							
SMF	Signal de Mont	24.65	101	eP		P	02 10 55.9	-0.8
	comp=Z,58nm,1.4s							
SMF	Signal de Mont	24.65	101	eP		P	02 10 55.9	-0.8
SMF	Signal de Mont	24.65	101	eP		P	02 10 55.9	-0.8
SMF	Signal de Mont	24.65	101	eP		P	02 10 55.9	-0.8
	comp=Z,29nm,1.4s							
CAF	Calviac	24.88	106	eP		P	02 10 57.7	-1.1
	comp=Z,11nm,0.9s							
CAF	Calviac	24.88	106	eP		P	02 10 57.7	-1.1
CAF	Calviac	24.88	106	eP		P	02 10 57.7	-1.1
CAF	Calviac	24.88	106	eP		P	02 10 57.7	-1.1
	comp=Z,5.4nm,0.9s							
PESTR	Estremoz	24.97	129	eP		P	02 10 59.9	+0.3
	comp=Z,28nm,1.2s							
PESTR	Estremoz	24.97	129	eP		P	02 10 59.9	+0.3
	comp=Z,28nm,1.2s							
ETSF	Etsaut	25.00	113	eP		P	02 10 58.2	-1.8
ETSF	Etsaut	25.00	113	eP		P	02 10 58.2	-1.8
ETSF	Etsaut	25.00	113	eP		P	02 10 58.2	-1.8
ETSF	Etsaut	25.00	113	eP		P	02 10 58.2	-1.8
EVOP	Sao Brissos	25.04	130	eP		P	02 10 57.9	-2.3
EVOP	Sao Brissos	25.04	130	eP		P	02 10 57.9	-2.3
EVOP	Sao Brissos	25.04	130	eP		P	02 10 57.9	-2.3
	comp=Z,12nm,1.1s							
EVO	Evora	25.08	130	eP		P	02 10 57.9	-2.7
	comp=Z,24nm,1.1s							
EVO				eR				
	comp=Z,586nm,19.8s							
EPF	Esparros	25.35	111	eP		P	02 11 02.0	-1.1
	comp=Z,14nm,1.1s							
EPF	Esparros	25.35	111	eP		P	02 11 02.0	-1.1
EPF	Esparros	25.35	111	eP		P	02 11 02.0	-1.1
EPF	Esparros	25.35	111	eP		P	02 11 02.0	-1.1
	comp=Z,6.9nm,1.1s							
CDF	Champ du Feu	25.38	94	eP		P	02 11 03.6	+0.3
CDF	Champ du Feu	25.38	94	eP		P	02 11 03.6	+0.3
CDF	Champ du Feu	25.38	94	eP		P	02 11 03.6	+0.3
CDF	Champ du Feu	25.38	94	eP		P	02 11 03.6	+0.3
PAB	San Pablo	25.82	123	eP		P	02 11 07.6	+0.2
PAB				pmax		pmax		
	comp=Z,74nm,1.0s							
PAB	San Pablo	25.82	123	eP		P	02 11 07.5	+0.2
	comp=Z,74nm,1.0s							
PAB	San Pablo	25.82	123	eP		P	02 11 07.6	+0.2
	comp=Z,74nm,1.0s							
CABF	La Chapelle	25.86	99	eP		P	02 11 08.1	+0.3
	comp=Z,43nm,1.3s							
CABF	La Chapelle	25.86	99	eP		P	02 11 08.1	+0.3
CABF	La Chapelle	25.86	99	eP		P	02 11 08.1	+0.3
CABF	La Chapelle	25.86	99	eP		P	02 11 08.1	+0.3
	comp=Z,22nm,1.3s							
ESDC	Sonseca Array	25.89	122	P		P	02 11 08.8	+0.8
ESDC	Sonseca Array	25.89	122	P		P	02 11 08.8	+0.8
	comp=Z,2.2nm,0.7s,baz=320,slow=8.7,SNR=13							
ESDC				LR		LR	02 19 27.2	
	comp=Z,219nm,19.2s,baz=315,slow=32							
ESDC	Sonseca Array	25.89	122	P		P	02 11 08.8	+0.8
MTLF	Montolieu	26.07	109	eP		P	02 11 08.7	-0.9
	comp=Z,31nm,1.5s							
MTLF	Montolieu	26.07	109	eP		P	02 11 08.7	-0.9
MTLF	Montolieu	26.07	109	eP		P	02 11 08.7	-0.9
	comp=Z,16nm,1.5s							
LASF	Ste Croix	26.39	105	eP		P	02 11 13.8	+1.3
	comp=Z,31nm,1.3s							
LASF	Ste Croix	26.39	105	eP		P	02 11 13.8	+1.3
LASF	Ste Croix	26.39	105	eP		P	02 11 13.8	+1.3
LASF	Ste Croix	26.39	105	eP		P	02 11 13.8	+1.3
	comp=Z,16nm,1.3s							
CLL	Collm	26.80	84	eP		P	02 11 16.0	-0.1
CLL				pmax		pmax		
	comp=Z,8.0nm,1.3s							
CLL				MLR		MLR		
	comp=Z,500nm,18.4s							
CLL	Collm	26.80	84	eP		P	02 11 16.0	-0.1
	comp=Z,8.0nm,1.3s							
CLL				esP		sP	02 11 22.0	-1.3
CLL				e			02 11 38.0	
CLL				Lm		MLR	02 21 00.0	
	comp=Z,500nm,18.4s							
CLL	Collm	26.80	84	eP		P	02 11 16.0	-0.1
	comp=Z,500nm,18.4s							
ORIF	Oris-en-Rattie	26.87	102	eP		P	02 11 17.6	+0.7
	comp=Z,40nm,1.5s							
ORIF				eR				
	comp=Z,509nm,23.0s							
ORIF	Oris-en-Rattie	26.87	102	eP		P	02 11 17.6	+0.7
ORIF	Oris-en-Rattie	26.87	102	eP		P	02 11 17.6	+0.7
ORIF	Oris-en-Rattie	26.87	102	eP		P	02 11 17.6	+0.7
	comp=Z,20nm,1.5s							
LPL	La Plagne	26.91	100	eP		P	02 11 16.2	-1.2
	comp=Z,70nm,1.8s							
LPL	La Plagne	26.91	100	eP		P	02 11 16.2	-1.2
LPL	La Plagne	26.91	100	eP		P	02 11 16.2	-1.2
LPL	La Plagne	26.91	100	eP		P	02 11 16.2	-1.2
	comp=Z,35nm,1.8s							
LPG	La Plagne	26.94	100	eP		P	02 11 16.8	-0.9
	comp=Z,26nm,1.4s							
LPG	La Plagne	26.94	100	eP		P	02 11 16.8	-0.9
LPG	La Plagne	26.94	100	eP		P	02 11 16.8	-0.9
LPG	La Plagne	26.94	100	eP		P	02 11 16.8	-0.9
	comp=Z,13nm,1.4s							
ARCES	ARCESS Array B	27.11	41	P		P	02 11 18.1	-0.6
ARCES	ARCESS Array B	27.11	41	P		P	02 11 18.1	-0.6
	comp=Z,2.3nm,0.6s,baz=266,slow=7.3,SNR=15							
ARCES				LR		LR	02 19 55.3	
	comp=Z,182nm,19.5s,baz=261,slow=32							
ARCES	ARCESS Array B	27.11	41	P		P	02 11 18.1	-0.6
BNI	Bardonecchia	27.20	101	eP		P	02 11 20.5	+0.6
BNI				pmax		pmax		
	comp=Z,18nm,1.6s							
BNI	Bardonecchia	27.20	101	eP		P	02 11 20.5	+0.6
	comp=Z,18nm,1.6s							
BNI	Bardonecchia	27.20	101	eP		P	02 11 20.5	+0.6
	comp=Z,18nm,1.6s							
SMRF	Simiane la Rot	27.35	104	eP		P	02 11 21.2	0.0
SMRF	Simiane la Rot	27.35	104	eP		P	02 11 21.2	0.0
SMRF	Simiane la Rot	27.35	104	eP		P	02 11 21.2	0.0
DAVOX	Davos/Dischmat	27.77	95	LR		LR	02 22 02.0	
	comp=Z,457nm,18.6s,baz=290,slow=36							
PVCC	Panska Ves	28.06	84	⇑AMS		AMS	02 23 10.0	
	comp=Z,600nm,15.1s							
FRF	La Foret Royal	28.20	103	eP		P	02 11 28.5	-0.2
	comp=Z,28nm,1.3s							
FRF	La Foret Royal	28.20	103	eP		P	02 11 28.5	-0.2
FRF	La Foret Royal	28.20	103	eP		P	02 11 28.5	-0.2
FRF	La Foret Royal	28.20	103	eP		P	02 11 28.5	-0.2
	comp=Z,14nm,1.3s							
KHC	Kasperske Hory	28.32	88	eP		P	02 11 23.6	-6.2
KHC				MLR		MLR		
	comp=Z,500nm,16.5s							
KHC	Kasperske Hory	28.32	88	⇑eP		P	02 11 23.6	-6.2
KHC				ex		x	02 11 37.7	
KHC				AMS		AMS	02 22 40.0	
	comp=Z,500nm,16.5s							
PRU	Pruhonice	28.35	85	eP		P	02 11 28.6	-1.3
PRU				e			02 11 37.0	
PRU				MLR		MLR		
	comp=Z,600nm,14.9s							
PRU	Pruhonice	28.35	85	⇑eP		P	02 11 28.6	-1.3
PRU				epP		pP	02 11 37.0	+2.0
PRU				ex		x	02 11 47.1	
PRU				AMS		AMS	02 23 00.0	
	comp=Z,600nm,14.9s							
PRU	Pruhonice	28.35	85	eP		P	02 11 28.6	-1.3
GERES	GERESS Array B	28.55	88	P		P	02 11 33.3	+1.4
GERES	GERESS Array B	28.55	88	P		P	02 11 33.3	+1.4
	comp=Z,0.5nm,0.8s,baz=281,slow=7.6,SNR=4.8							
GERES				LR		LR	02 22 41.0	
	comp=Z,335nm,18.6s,baz=282,slow=36							
GERES	GERESS Array B	28.55	88	P		P	02 11 33.3	+1.4
UPC	Upice	28.84	83	eP		P	02 11 35.9	+1.6
UPC	Upice	28.84	83	eP		P	02 11 35.9	+1.6
UPC				ex		x	02 11 47.4	
UPC	Upice	28.84	83	eP		P	02 11 35.9	+1.6
FINES	FINESS Array B	29.02	58	P		P	02 11 36.1	+0.3
FINES	FINESS Array B	29.02	58	P		P	02 11 36.1	+0.3
	comp=Z,3.0nm,0.9s,baz=274,slow=7.5,SNR=6.0							
FINES				LR		LR	02 22 36.0	
	comp=Z,174nm,19.0s,baz=263,slow=35							
FINES	FINESS Array B	29.02	58	P		P	02 11 36.1	+0.3
DPC	Dobruska-Polom	29.09	83	⇑iP		P	02 11 37.2	+0.6
DPC	Dobruska-Polom	29.09	83	eP		P	02 11 37.4	+0.8
DPC				pmax		pmax		
	comp=Z,79nm,1.4s							
DPC	Dobruska-Polom	29.09	83	⇑iP		P	02 11 37.2	+0.6
DPC				ex		x	02 11 57.1	
DPC				AMS		AMS	02 23 40.0	
DPC	Dobruska-Polom	29.09	83	eP		P	02 11 37.4	+0.8
	comp=Z,79nm,1.4s							
DPC	Dobruska-Polom	29.09	83	eP		P	02 11 37.4	+0.8
	comp=Z,79nm,1.4s							
TREC	Trest	29.25	86	eP		P	02 11 38.1	+0.1
TREC				MLR		MLR		
	comp=Z,600nm,14.7s							
TREC	Trest	29.25	86	⇑eP		P	02 11 38.1	+0.1
TREC				ex		x	02 11 56.7	
TREC				AMS		AMS	02 23 20.0	
	comp=Z,600nm,14.7s							
VRAC	Vranov	29.83	85	LR		LR	02 23 53.2	
	comp=Z,462nm,18.1s,baz=301,slow=37							
MORC	Moravsky Berou	30.07	83	eP		P	02 11 45.5	+0.2
MORC				pmax		pmax		
	comp=Z,8.0nm,1.5s							
MORC	Moravsky Berou	30.07	83	eP		P	02 11 45.5	+0.2
	comp=Z,8.2nm,1.5s							
MORC	Moravsky Berou	30.07	83	eP		P	02 11 45.5	+0.2
	comp=Z,8.2nm,1.5s							
PGF	Pioggiola	30.14	102	eP		P	02 11 46.2	+0.2
PGF	Pioggiola	30.14	102	eP		P	02 11 46.2	+0.2
PGF	Pioggiola	30.14	102	eP		P	02 11 46.2	+0.2
OKC	Ostrava-Krasne	30.35	83	eP		P	02 11 45.1	-2.6
OKC				MLR		MLR		
	comp=Z,600nm,14.7s							
OKC	Ostrava-Krasne	30.35	83	⇑eP		P	02 11 45.1	-2.6
OKC				ex		x	02 12 06.9	
OKC				AMS		AMS	02 24 50.0	
	comp=Z,600nm,14.7s							
OJC	Ojcow	31.01	81	eP		P	02 11 54.0	+0.5
OJC	Ojcow	31.01	81	eP		P	02 11 54.0	+0.5
FCC	Fort Churchill	31.34	298	eP		P	02 11 57.0	+0.8
FCC	Fort Churchill	31.34	298	eP		P	02 11 57.0	+0.8
	comp=Z,0.3nm,0.8s							
FCC	Fort Churchill	31.34	298	eP		P	02 11 57.0	+0.8
	comp=Z,0.3nm,0.8s							
MDT	Midelt	31.40	131	LR		LR	02 23 35.4	
	comp=Z,210nm,18.7s,baz=139,slow=34							
VYHS	Vyhne	31.51	85	eP		P	02 11 58.3	+0.3
VYHS				pmax		pmax		
	comp=Z,3.0nm,1.4s							
VYHS	Vyhne	31.51	85	eP		P	02 11 58.2	+0.3
VYHS	Vyhne	31.51	85	eP		P	02 11 58.3	+0.3
	comp=Z,2.9nm,1.4s							
STHS	Stebnicka Huta	32.24	81	eP		P	02 12 04.8	+0.4
STHS				pmax		pmax		
	comp=Z,4.0nm,1.3s							
STHS	Stebnicka Huta	32.24	81	eP		P	02 12 04.8	+0.4
STHS	Stebnicka Huta	32.24	81	eP		P	02 12 04.8	+0.4
	comp=Z,4.0nm,1.3s							
PSZ	Piszkesteto	32.42	85	eP		P	02 12 06.5	+0.5
PSZ				pmax		pmax		
	comp=Z,8.0nm,1.3s							
PSZ	Piszkesteto	32.42	85	eP		P	02 12 06.5	+0.5
	comp=Z,8.4nm,1.3s							
PSZ	Piszkesteto	32.42	85	eP		P	02 12 06.5	+0.5
	comp=Z,8.4nm,1.3s							
AQU	L'Aquila	32.59	98	eP		P	02 12 07.9	+0.3
	comp=Z,4.4nm,0.7s							
AQU	L'Aquila	32.59	98	eP		P	02 12 07.9	+0.3
	comp=Z,4.4nm,0.7s							
CRVS	Cervenica-Dubn	32.66	82	eP		P	02 12 08.8	+0.8
CRVS				pmax		pmax		
	comp=Z,41nm,2.7s							
CRVS	Cervenica-Dubn	32.66	82	eP		P	02 12 08.8	+0.8
CRVS	Cervenica-Dubn	32.66	82	eP		P	02 12 08.8	+0.8
	comp=Z,41nm,2.7s							
KOLS	Kolonicke sedl	33.07	81	eP		P	02 12 12.3	+0.7
KOLS				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KOLS	Kolonicke sedl	33.07	81	eP		P	02 12 12.3	+0.7
KOLS	Kolonicke sedl	33.07	81	eP		P	02 12 12.3	+0.7
	comp=Z,5.8nm,1.1s							
TMCR	Tamitsa	33.18	49	eP		P	02 12 12.3	0.0
TMCR				e			02 13 23.5	
TMCR				e			02 14 57.4	
TMCR				pmax		pmax		
	comp=Z,30nm,1.2s							
UZH	Uzhgorod	33.26	82	eP		P	02 12 13.0	-0.2
KEST	Kesra	35.42	110	eP		P	02 12 32.1	-0.1
KEST	Kesra	35.42	110	P		P	02 12 31.8	-0.3
	comp=Z,0.8nm,0.8s,baz=276,slow=6.4,SNR=6.8							
KEST				LR		LR	02 25 22.0	
	comp=Z,100nm,21.6s,baz=237,slow=34							
KEST	Kesra	35.42	110	eP		P	02 12 32.1	-0.1
KIEV	Kiev	35.65	74	eP		P	02 12 33.6	-0.3
KIEV				pmax		pmax		
	comp=Z,19nm,1.0s							
KIEV	Kiev	35.65	74	eP		P	02 12 33.6	-0.3
	comp=Z,19nm,1.0s							
KIEV	Kiev	35.65	74	eP		P	02 12 33.6	-0.3
	comp=Z,19nm,1.0s							
AKASG	Malin Array Be	35.66	74	P		P	02 12 33.6	-0.4
AKASG	Malin Array Be	35.66	74	P		P	02 12 33.6	-0.4
AKASG	Malin Array Be	35.66	74	P		P	02 12 33.6	-0.4
	comp=Z,9.5nm,0.7s,baz=302,slow=8.4,SNR=19							
AKASG	Malin Array Be	35.66	74	P		P	02 12 33.6	-0.4
ULM	Lac du Bonnet	36.66	286	P		P	02 12 41.8	-0.7
ULM	Lac du Bonnet	36.66	286	P		P	02 12 41.8	-0.7
	comp=Z,2.8nm,0.5s,baz=64,slow=8.7,SNR=3.0							
ULM				LR		LR	02 26 21.5	
	comp=Z,448nm,18.4s,baz=310,slow=34							
ULM	Lac du Bonnet	36.66	286	P		P	02 12 41.8	-0.7
OBN	Obninsk	36.81	64	eP		P	02 12 42.5	-1.2
OBN				e			02 15 03.3	
OBN				pmax		pmax		
	comp=Z,13nm,1.7s							
OBN				MLR		MLR		
	comp=Z,200nm,17.0s							
MOS	Moscow	36.97	62	eP		P	02 12 38.0	-7.1
FFC	Flin Flon	37.11	296	eP		P	02 12 45.9	-0.5
FFC	Flin Flon	37.11	296	eP		P	02 12 45.9	-0.5
FFC	Flin Flon	37.11	296	eP		P	02 12 45.9	-0.5
AGMN	Agassiz Nation	37.85	284	eP		P	02 12 53.0	+0.4
	comp=Z,7.7nm,0.9s							
AGMN	Agassiz Nation	37.85	284	eP		P	02 12 53.0	+0.4
	comp=Z,7.7nm,0.9s							
YKA	Yellowknife Ar	38.49	312	P		P	02 12 57.4	-0.5
YKA	Yellowknife Ar	38.49	312	P		P	02 12 57.3	-0.5
	comp=Z,1.1nm,0.6s,baz=57,slow=9.2,SNR=4.5							
YKA	Yellowknife Ar	38.49	312	P		P	02 12 57.3	-0.5
SFIN	Scholer Farm	38.50	267	P		P	02 12 58.3	+0.1
	baz=38							
B30A	Myrvik Farm, E	39.03	285	P		P	02 13 02.9	+0.3
	baz=39							
B29A	Wagenman Farm,	39.55	286	P		P	02 13 07.0	+0.1
	baz=39							
MDND	Maddock	40.07	286	eP		P	02 13 11.5	+0.2
MDND	Maddock	40.07	286	eP		P	02 13 11.5	+0.2
MDND	Maddock	40.07	286	P		P	02 13 11.7	+0.4
	baz=40							
D30A	Buchanan	40.11	284	P		P	02 13 11.6	0.0
	baz=40							
VSR	Storozhevoye	40.36	67	eP		P	02 13 13.3	-0.3
VSR				pmax		pmax		
	comp=N,10.0nm,1.8s							
VSR				pmax		pmax		
	comp=Z,10.0nm,1.8s							
VSR				pmax		pmax		
	comp=E,10.0nm,0.9s							
VORD	Divnogorie	40.58	68	eP		P	02 13 14.9	-0.5
VORD				pmax		pmax		
	comp=E,60nm,0.6s							
VORD				pmax		pmax		
	comp=Z,20nm,0.6s							
VORD				pmax		pmax		
	comp=N,50nm,0.5s							
A26A	Wade Farm, Ken	40.64	288	P		P	02 13 16.1	+0.1
	baz=40							
CPCT	Cooper Cave	40.77	260	eP		P	02 13 19.1	+1.9
CPCT	Cooper Cave	40.77	260	eP		P	02 13 19.1	+1.9
ECSD	EROS Data Cent	41.24	279	eP		P	02 13 21.4	+0.4
	comp=N,105nm,2.6s							
ECSD	EROS Data Cent	41.24	279	eP		P	02 13 21.4	+0.4
	comp=N,105nm,2.6s							
SIUC	Southern Illin	41.56	266	eP		P	02 13 23.9	+0.2
SIUC	Southern Illin	41.56	266	eP		P	02 13 23.9	+0.2
VRHR	Novokhopersk	41.65	66	eP		P	02 13 24.1	-0.1
VRHR				pmax		pmax		
	comp=Z,6.0nm,0.3s					

TAM pmax pmax
comp=Z,26nm,1.6s
TAM Tamanrasset 44.45 126 *eP* **P 02 13 48.4 +1.0**
comp=Z,26nm,1.6s
TAM Tamanrasset 44.45 126 *eP* **P 02 13 48.3 +1.0**
comp=Z,26nm,1.6s
A18A Metzger Ranch, 44.53 293 P **P 02 13 47.7 +0.1**
baz=44
H24A Dirks Ranch, A 44.69 286 P **P 02 13 48.7 -0.4**
baz=44,SNR=8.7
B18A Beardsley Farm 44.85 293 P **P 02 13 50.6 +0.4**
baz=45
D20A Manuel Ranch, 44.91 290 P **P 02 13 51.4 +0.7**
baz=45
C19A Slack Wire Ran 44.93 292 P **P 02 13 51.9 +1.0**
baz=45,SNR=7.0
EGMT Eagleton 45.09 292 *eP* **P 02 13 52.6 +0.5**
comp=Z,14nm,1.0s
EGMT Eagleton 45.09 292 *eP* **P 02 13 52.6 +0.5**
comp=Z,14nm,1.0s
EGMT Eagleton 45.09 292 P **P 02 13 52.7 +0.5**
baz=45,SNR=6.8
D19A Cripps Ranch, 45.23 291 P **P 02 13 53.6 +0.3**
baz=45,SNR=8.8
J25A Sunshine Ranch 45.25 284 P **P 02 13 53.5 +0.1**
baz=45
BR131 Keskin Array S 45.26 84 *eP* **P 02 13 54.8 +1.2**
comp=Z,2.4nm,0.8s
BR131 Keskin Array S 45.26 84 *eP* **P 02 13 54.8 +1.2**
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 45.26 84 P **P 02 13 55.0 +1.4**
BRTR Keskin Array B 45.26 84 P **P 02 13 55.0 +1.4**
comp=Z,3.1nm,0.8s,baz=328,slow=5.1,SNR=16
BRTR LR LR 02 33 56.2
comp=Z,81nm,21.1s,baz=119,slow=38
BRTR Keskin Array B 45.26 84 P **P 02 13 55.0 +1.4**
G22A Birney 45.26 287 P **P 02 13 54.3 +0.7**
baz=45
E20A Meyer Farm, Mu 45.31 290 P **P 02 13 54.7 +0.8**
baz=45
B17A L&G Farms, Che 45.42 293 P **P 02 13 55.1 +0.3**
baz=45,SNR=9.4
E19A Rath Farm, Rou 45.67 290 P **P 02 13 57.4 +0.7**
baz=46
D18A Linhart Farms, 45.67 292 P **P 02 13 57.5 +0.7**
baz=46
SOC Sochi 45.71 75 *eP* **P 02 13 54.0 -2.9**
SOC *eS* S 02 20 29.8 -9.3
SOC MLR MLR
comp=Z,208nm,19.0s
C17A Wharram Farm, 45.85 293 P **P 02 13 58.6 +0.4**
baz=46,SNR=10.0
ARU Arti 45.88 51*c i* P **P 02 13 58.3 +0.2**
ARU 02 15 47.0
ARU S **S 02 20 42.6 +1.4**
ARU SS **SS 02 23 59.2 -6.0**
ARU pmax pmax
comp=Z,27nm,1.7s
P30A Selden 46.12 277 P **P 02 13 60.0 -0.4**
baz=46
D17A Six Diamond Ra 46.14 292 P **P 02 14 00.8 +0.2**
baz=46,SNR=9.6
G20A Bridger 46.24 289 P **P 02 14 01.3 0.0**
baz=46
MIAR Mount Ida 46.27 267 *eP* **P 02 14 01.6 +0.1**
MIAR *e* 02 15 36.7
MIAR pmax pmax
comp=Z,13nm,1.0s
MIAR Mount Ida 46.27 267 *eP* **P 02 14 01.6 +0.1**
comp=Z,13nm,1.0s
MIAR *e*PcP **PcP 02 15 36.6 0.0**
MIAR Mount Ida 46.27 267 *eP* **P 02 14 01.6 +0.1**
comp=Z,13nm,1.0s
I22A 9 Mile Ranch, 46.28 286 P **P 02 14 02.1 +0.4**
baz=46,SNR=5.9
DAWY Dawson 46.32 324 *eP* **P 02 14 02.0 +0.4**
DAWY Dawson 46.32 324 *eP* **P 02 14 02.0 +0.4**
EGAK Eagle 46.35 326 *eP* **P 02 14 01.7 -0.1**
comp=Z,14nm,1.3s
EGAK Eagle 46.35 326 *eP* **P 02 14 01.7 -0.1**
comp=Z,14nm,1.3s
WALA Waterton Lakes 46.41 296 *eP* **P 02 14 02.7 +0.1**
comp=Z,0.4nm,1.1s
WALA Waterton Lakes 46.41 296 *eP* **P 02 14 02.7 +0.1**
comp=Z,0.4nm,1.1s
TUL1 Tulsa 46.42 270 *eP* **P 02 14 01.6 -1.1**
TUL1 Tulsa 46.42 270 *eP* **P 02 14 01.6 -1.1**
TUL1 Tulsa 46.42 270 P **P 02 14 02.1 -0.6**
baz=46
SVE Sverdlovsk 46.46 49⇓ *eP* **P 02 14 03.5 +0.8**
SVE pmax pmax
comp=Z,8.0nm,1.4s
J22A Midwest 46.62 286 P **P 02 14 04.1 -0.3**
baz=46,SNR=6.1
H20A Greybull 46.64 288 P **P 02 14 04.6 +0.2**
baz=46,SNR=7.4
E17A Martinsdale 46.70 292 P **P 02 14 04.5 -0.5**
baz=46,SNR=5.4
I21A Big Trails, Te 46.76 287 P **P 02 14 05.3 -0.1**
baz=47,SNR=13
RLMT Red Lodge 46.84 289 *eP* **P 02 14 06.8 +0.7**
comp=Z,16nm,1.5s
RLMT Red Lodge 46.84 289 *eP* **P 02 14 06.8 +0.7**
comp=Z,16nm,1.5s
KIV Kislovodsk 46.97 73 *eP* **P 02 14 06.1 -0.9**
KIV *eS* **S 02 20 55.1 -2.4**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
Q29A Oakley 46.99 277 P **P 02 14 06.3 -0.8**
baz=47
F17A Fitzpatrick Pl 46.99 291 P **P 02 14 07.4 +0.2**
baz=47,SNR=6.2
COLD Coldfoot 47.04 332 *eP* **P 02 14 07.8 +0.7**
comp=Z,4.8nm,0.9s
COLD Coldfoot 47.04 332 *eP* **P 02 14 07.8 +0.7**
comp=Z,4.8nm,0.9s
R30A Dighton 47.06 276 P **P 02 14 07.6 -0.1**
baz=47
J21A Lysite 47.16 286 P **P 02 14 08.6 -0.1**
baz=47,SNR=9.6
K22A Casper 47.18 285 P **P 02 14 08.2 -0.6**
baz=47
KBZ Khabaz 47.24 73 P **P 02 14 10.9 +1.9**
KBZ Khabaz 47.24 73 P **P 02 14 10.9 +1.9**
KBZ Khabaz 47.24 73 P **P 02 14 10.9 +1.9**
comp=Z,4.4nm,0.9s,baz=328,slow=8.8,SNR=7.3
KBZ LR LR 02 33 55.9
comp=Z,128nm,20.6s,baz=242,slow=36
KBZ Khabaz 47.24 73 P **P 02 14 10.9 +1.9**
Q28A Sharon Springs 47.31 278 P **P 02 14 09.5 -0.2**
baz=47
H18A Shoshone NF, C 47.35 289 P **P 02 14 10.3 +0.1**
baz=47
G17A Pierce Place, 47.44 290 P **P 02 14 10.4 -0.3**
baz=47
SLMT Seeley Lake 47.46 294 *eP* **P 02 14 10.4 -0.5**
SLMT Seeley Lake 47.46 294 *eP* **P 02 14 10.4 -0.5**
I19A Meeteetse 47.47 288 P **P 02 14 11.5 +0.5**
baz=47,SNR=10
J20A Shoshoni 47.49 287 P **P 02 14 11.7 +0.6**
baz=47,SNR=11
SWMT Swartz Lake 47.52 295 *eP* **P 02 14 11.4 +0.1**
SWMT Swartz Lake 47.52 295 *eP* **P 02 14 11.4 +0.1**
K21A Alcova 47.57 285 P **P 02 14 11.6 -0.2**
baz=47
CHMT Chamberlain Mo 47.57 294 *eP* **P 02 14 12.0 +0.2**
comp=Z,3.3nm,1.3s
CHMT Chamberlain Mo 47.57 294 *eP* **P 02 14 12.0 +0.2**
comp=Z,3.3nm,1.3s
L22A Ellis Ranch, M 47.58 284 P **P 02 14 13.6 +1.7**
baz=47
PHWY Pilot Hill 47.60 283 *eP* **P 02 14 12.5 +0.4**
PHWY Pilot Hill 47.60 283 *eP* **P 02 14 12.5 +0.4**
T31A Randall Ranch, 47.62 275 P **P 02 14 11.6 -0.4**
baz=48
S30A Montezuma 47.63 276 P **P 02 14 12.2 0.0**
baz=48
BOZ Bozeman (W) 47.66 291 *eP* **P 02 14 13.0 +0.6**
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 47.66 291 *eP* **P 02 14 13.0 +0.6**
comp=Z,12nm,1.2s
BOZ Bozeman (W) 47.66 291 *eP* **P 02 14 13.0 +0.6**
comp=Z,12nm,1.2s
R28A Tribune 47.83 277 P **P 02 14 13.4 -0.4**
baz=48
LRM Limekiln Ridge 47.94 292 *eP* **P 02 14 14.7 -0.1**
LRM Limekiln Ridge 47.94 292 *eP* **P 02 14 14.7 -0.1**
MSO Missoula 47.97 294 *eP* **P 02 14 15.0 +0.2**
comp=Z,5.4nm,1.1s
MSO Missoula 47.97 294 *eP* **P 02 14 15.0 +0.2**
comp=Z,5.4nm,1.1s
MSO Missoula 47.97 294 P **P 02 14 14.2 -0.6**
baz=48
S29A Ulysses 47.99 276 P **P 02 14 14.9 -0.1**
baz=48
H17A Grant Village 48.02 289 *eP* **P 02 14 17.8 +2.5**
H17A Grant Village 48.02 289 *eP* **P 02 14 17.8 +2.5**
HYT Haines Junctio 48.02 320 *eP* **P 02 14 16.3 +1.3**
HYT Haines Junctio 48.02 320 *eP* **P 02 14 16.3 +1.3**
ILAR Eielson Array 48.02 328 P **P 02 14 15.2 +0.4**
ILAR PcP **PcP 02 15 42.1 -0.3**
ILAR Eielson Array 48.02 328 P **P 02 14 15.2 +0.4**
comp=Z,5.2nm,0.9s,baz=36,slow=6.1,SNR=45
ILAR PcP **PcP 02 15 42.1 -0.3**
comp=Z,2.3nm,0.8s,baz=0.1,slow=2.4,SNR=17
ILAR LR LR 02 35 10.7
comp=Z,209nm,18.1s,baz=311,slow=37
ILAR Eielson Array 48.02 328 P **P 02 14 15.2 +0.4**
ILAR Eielson Array 48.02 328 PcP **PcP 02 15 42.1 -0.3**
J19A Crowheart 48.05 287 P **P 02 14 15.3 -0.2**
baz=48
L21A Rawlins 48.11 285 P **P 02 14 16.0 -0.1**
baz=48
K20A Yellowstone Ra 48.12 286 P **P 02 14 15.7 -0.3**
baz=48,SNR=10
H16A Russell Place, 48.13 290 P **P 02 14 16.5 +0.3**
baz=48
QLMT Earthquake Lak 48.13 290 *eP* **P 02 14 17.0 +0.8**
comp=Z,0.3nm,0.5s
QLMT Earthquake Lak 48.13 290 *eP* **P 02 14 17.0 +0.8**
comp=Z,0.3nm,0.5s
N23A Red Feather La 48.14 283 P **P 02 14 16.8 +0.4**
baz=48,SNR=6.5
COLA College 48.21 329 *eP* **P 02 14 16.7 +0.5**
COLA pmax pmax
comp=Z,38nm,1.1s
COLA College 48.21 329 *eP* **P 02 14 16.7 +0.5**
comp=Z,38nm,1.1s
COLA College 48.21 329 *eP* **P 02 14 16.7 +0.5**
comp=Z,38nm,1.1s
P25A Willow Gulch B 48.22 280 P **P 02 14 17.7 +0.9**
baz=48
O24A Longmont 48.25 281 P **P 02 14 17.8 +0.7**
baz=48
K19A Absolon Red Bu 48.26 287 P **P 02 14 16.6 -0.5**
baz=48,SNR=6.9
Q26A Hugo 48.31 279 P **P 02 14 18.1 +0.5**
baz=48
M21A Separation Pea 48.37 285 P **P 02 14 18.3 +0.3**
baz=48
R27A Eads 48.40 278 P **P 02 14 18.5 +0.3**
baz=48
S28A Manter 48.43 277 P **P 02 14 18.3 -0.1**
baz=48
N22A Wattenberg Ran 48.48 283 P **P 02 14 19.5 +0.5**
baz=48
NEW Newport 48.50 297 P **P 02 14 18.9 +0.2**
baz=48
L20A Wamsutter 48.58 286 P **P 02 14 20.0 +0.3**
baz=48,SNR=9.8
LOHW Long Hollow 48.59 289 *eP* **P 02 14 20.7 +1.0**
LOHW Long Hollow 48.59 289 *eP* **P 02 14 20.7 +1.0**
CSS Prodhromos 48.62 88 *eP* **P 02 14 20.4 +0.6**
comp=Z,7.3nm,0.9s
CSS Prodhromos 48.62 88 *eP* **P 02 14 20.4 +0.6**
comp=Z,7.3nm,0.9s
BW06 Boulder Array 48.66 287 *eP* **P 02 14 19.3 -1.0**
comp=Z,5.0nm,0.8s
BW06 Boulder Array 48.66 287 *eP* **P 02 14 19.3 -1.0**
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 48.66 287 P **P 02 14 19.7 -0.6**
PDAR Pinedale Array 48.66 287 P **P 02 14 19.7 -0.6**
comp=Z,4.8nm,0.9s,baz=66,slow=6.9,SNR=28
PDAR LR LR 02 33 16.2
comp=Z,350nm,18.6s,baz=50,slow=34
PDAR Pinedale Array 48.66 287 P **P 02 14 19.7 -0.6**
Q25A Bedland, Calha 48.70 280 P **P 02 14 20.9 +0.2**
baz=48
R26A Arlington 48.73 279 P **P 02 14 21.3 +0.5**
baz=49,SNR=8.3
ISCO Idaho Springs 48.77 282 *eP* **P 02 14 22.5 +1.3**
ISCO pmax pmax
comp=Z,15nm,1.4s
ISCO Idaho Springs 48.77 282 *eP* **P 02 14 22.5 +1.3**
comp=Z,15nm,1.4s
ISCO Idaho Springs 48.77 282 *eP* **P 02 14 22.5 +1.3**
comp=Z,15nm,1.4s
ISCO Idaho Springs 48.77 282 P **P 02 14 22.4 +1.1**
baz=49,SNR=10
IMA2 Indian Mountai 48.81 332 *eP* **P 02 14 20.9 -0.1**
IMA2 Indian Mountai 48.81 332 *eP* **P 02 14 20.9 -0.1**
I16A Newdale 48.84 290 P **P 02 14 22.9 +1.3**
baz=49,SNR=5.9
MCMT McKenzie Canyo 48.85 291 *eP* **P 02 14 22.6 +0.9**
comp=Z,5.2nm,1.1s
MCMT McKenzie Canyo 48.85 291 *eP* **P 02 14 22.6 +0.9**
comp=Z,5.2nm,1.1s
M20A Sweetwater, Wa 48.88 285 P **P 02 14 21.9 -0.1**
baz=49
WMOK Wichita Mounta 48.91 272 *eP* **P 02 14 22.2 +0.2**
WMOK pmax pmax
comp=Z,15nm,1.3s
WMOK Wichita Mounta 48.91 272 *eP* **P 02 14 22.2 +0.2**
comp=Z,15nm,1.3s
WMOK Wichita Mounta 48.91 272 *eP* **P 02 14 22.2 +0.2**
comp=Z,15nm,1.3s
IM04 Indian Mountai 48.91 332 *eP* **P 02 14 21.9 +0.3**
IM04 Indian Mountai 48.91 332 *eP* **P 02 14 22.0 +0.3**
PAX Paxson 48.98 326 *eP* **P 02 14 23.2 +0.9**
PAX pmax pmax
comp=Z,4.0nm,0.9s
PAX Paxson 48.98 326 *eP* **P 02 14 23.2 +0.9**
comp=Z,3.9nm,0.9s
PAX Paxson 48.98 326 *eP* **P 02 14 23.2 +0.9**
comp=Z,3.9nm,0.9s
O22A Kremmling 48.99 283 P **P 02 14 23.8 +0.8**
baz=49,SNR=14
L19A Farson 49.04 286 P **P 02 14 23.0 -0.2**
baz=49
N21A Black Mountain 49.06 284 P **P 02 14 24.2 +0.8**
baz=49
Q24A Divide 49.14 280 P **P 02 14 24.6 +0.5**
baz=49
P23A Jefferson 49.20 281 P **P 02 14 26.3 +1.7**
baz=49,SNR=10
S26A Kim 49.24 278 P **P 02 14 25.0 +0.3**
baz=49
T27A Campo 49.26 277 P **P 02 14 25.3 +0.5**
baz=49
R25A Fountain Ranch 49.28 279 P **P 02 14 25.5 +0.5**
baz=49
N20A Spence Gulch, 49.39 284 P **P 02 14 26.3 +0.4**
baz=49,SNR=6.1
MCK McKinley 49.40 328 *eP* **P 02 14 25.7 +0.3**
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 49.40 328 *eP* **P 02 14 25.7 +0.3**
comp=Z,8.1nm,0.9s
MCK McKinley 49.40 328 *eP* **P 02 14 25.7 +0.3**
comp=Z,8.1nm,0.9s
O21A Pagoda 49.44 283 P **P 02 14 27.4 +1.1**
baz=49
L18A Fontenelle, Gr 49.51 287 P **P 02 14 26.1 -0.7**
baz=49
P22A Eagle 49.52 282 P **P 02 14 27.9 +1.0**
baz=49,SNR=13
X31A McDonald Ranch 49.63 273 P **P 02 14 27.7 +0.1**
baz=50
T26A Comanche Natio 49.64 278 P **P 02 14 28.4 +0.5**
baz=50
S25A Robets Cordova 49.73 279 P **P 02 14 28.8 +0.4**
baz=50,SNR=6.1
AKTO Aktyubinsk 49.79 57 P **P 02 14 29.1 +0.6**
AKTO Aktyubinsk 49.79 57 P **P 02 14 29.1 +0.6**
AKTO Aktyubinsk 49.79 57 P **P 02 14 29.1 +0.6**
comp=Z,7.4nm,0.8s,baz=319,slow=7.9,SNR=26
AKTO LR LR 02 35 17.8
comp=Z,225nm,18.3s,baz=170,slow=36
AKTO Aktyubinsk 49.79 57 P **P 02 14 29.1 +0.6**
U27A Thompson Grove 49.80 276 P **P 02 14 29.1 +0.2**
baz=50
Y32A R-V Farms, Ver 49.82 272 P **P 02 14 29.4 +0.4**
baz=50
O20A White River Ci 49.89 284 *eP* **P 02 14 30.3 +0.6**
O20A White River Ci 49.89 284 *eP* **P 02 14 30.3 +0.6**
O20A White River Ci 49.89 284 P **P 02 14 30.3 +0.6**
baz=50,SNR=6.0
P21A Newcastle 49.93 283 P **P 02 14 31.5 +1.5**
baz=50,SNR=17
TRF Thorofare Moun 49.99 329 *eP* **P 02 14 29.5 -0.6**
comp=Z,12nm,1.2s
TRF Thorofare Moun 49.99 329 *eP* **P 02 14 29.5 -0.6**
comp=Z,12nm,1.2s
R23A Moffat 50.07 280 P **P 02 14 32.2 +1.1**
baz=50
T25A Trinidad 50.10 278 P **P 02 14 32.4 +1.0**
baz=50,SNR=10
Q22A Crested Butte, 50.14 282 P **P 02 14 32.6 +0.9**
baz=50
M17A Scullys Gap (B 50.17 287 P **P 02 14 31.6 -0.2**
baz=50
O19A Miners Draw (B 50.23 285 P **P 02 14 32.8 +0.6**
baz=50,SNR=11
X30A Coker Ranch, T 50.25 273 P **P 02 14 33.2 +0.9**
baz=50
Y31A Rekieta Farm, 50.29 272 P **P 02 14 33.2 +0.6**
baz=50
WHTX Lake Whitney 50.30 268 P **P 02 14 32.1 -0.5**
baz=50
U26A Atchley Ranch, 50.31 277 P **P 02 14 33.5 +0.6**
baz=50
AMTX Amarillo 50.35 274 *eP* **P 02 14 34.1 +1.0**
comp=Z,19nm,1.2s
AMTX Amarillo 50.35 274 *eP* **P 02 14 34.1 +1.0**
comp=Z,19nm,1.2s
Z32A Haskell 50.37 271 P **P 02 14 33.5 +0.3**
baz=50,SNR=5.6
P20A De Beque 50.44 283 P **P 02 14 33.9 0.0**
baz=50
Q21A Lamborn Mesa, 50.51 282 P **P 02 14 35.5 +1.2**
baz=50,SNR=6.2
HWUT Hardware Ranch 50.53 288 *eP* **P 02 14 34.0 -0.5**
comp=Z,8.3nm,0.8s
HWUT *e*PcP **PcP 02 15 52.0 -0.2**
HWUT Hardware Ranch 50.53 288 *eP* **P 02 14 34.0 -0.5**
comp=Z,8.3nm,0.8s
HWUT Hardware Ranch 50.53 288 *e*PcP **PcP 02 15 52.0 -0.2**
HLID Hailey 50.54 291 *eP* **P 02 14 34.8 +0.3**
comp=Z,7.5nm,1.4s
HLID Hailey 50.54 291 *eP* **P 02 14 34.8 +0.3**
comp=Z,7.5nm,1.4s
HLID Hailey 50.54 291 P **P 02 14 35.5 +1.0**
baz=50,SNR=6.1
P19A Cripple Cowboy 50.65 284 P **P 02 14 35.7 +0.3**
baz=50
U25A Circle Dot Ran 50.65 278 P **P 02 14 36.7 +1.2**
baz=50,SNR=9.0
Y30A Stafford Cattl 50.70 273 P **P 02 14 36.6 +0.9**
baz=50
Z31A Sharp Cattle R 50.72 272 P **P 02 14 36.2 +0.4**
baz=51
SML Sawmill 50.73 326 *eP* **P 02 14 34.4 -1.1**
SML pmax pmax
comp=Z,4.0nm,1.1s
SML Sawmill 50.73 326 *eP* **P 02 14 34.4 -1.1**
comp=Z,4.0nm,1.1s
SML Sawmill 50.73 326 *eP* **P 02 14 34.4 -1.1**
comp=Z,4.0nm,1.1s
V26A Tequesquite Ra 50.78 277 P **P 02 14 36.4 +0.1**
baz=51
GNI Garni 50.78 75 *eP* **P 02 14 37.4 +1.1**
comp=Z,55nm,1.5s
GNI Garni 50.78 75 *eP* **P 02 14 37.4 +1.1**
comp=Z,55nm,1.5s
Q20A Ridgley Place, 50.79 283 P **P 02 14 37.0 +0.5**
baz=51,SNR=5.2
R21A Cimarron 50.84 282 P **P 02 14 38.5 +1.6**
baz=51,SNR=9.3
S22A 4UR Ranch, Cre 50.92 281 P **P 02 14 37.5 -0.2**
baz=51,SNR=7.6
ABTX Abilene, Hawle 50.99 271 *eP* **P 02 14 37.9 0.0**
ABTX Abilene, Hawle 50.99 271 *eP* **P 02 14 37.9 0.0**
ABTX Abilene, Hawle 50.99 271 P **P 02 14 37.8 0.0**
baz=51
BMO Blue Mountains 51.03 294 *eP* **P 02 14 37.1 -0.9**
comp=Z,3.9nm,0.9s
BMO Blue Mountains 51.03 294 *eP* **P 02 14 37.2 -0.9**
comp=Z,3.9nm,0.9s
HKT Hockley 51.03 265 *eP* **P 02 14 38.4 +0.4**
HKT Hockley 51.03 265 *eP* **P 02 14 38.4 +0.4**
HKT Hockley 51.03 265 *eP* **P 02 14 38.4 +0.4**
V25A Rancho No Teng 51.19 277 P **P 02 14 40.2 +0.7**
baz=51,SNR=9.3
SPUT South Promonto 51.20 288 *eP* **P 02 14 37.9 -1.6**
comp=Z,25nm,1.4s
SPUT South Promonto 51.20 288 *eP* **P 02 14 37.9 -1.6**
comp=Z,25nm,1.4s
JLU Jordanelle 51.21 287 *eP* **P 02 14 40.1 +0.4**
JLU Jordanelle 51.21 287 *eP* **P 02 14 40.1 +0.4**
DAU Daniels Canyon 51.25 286 *eP* **P 02 14 40.8 +0.7**
DAU Daniels Canyon 51.25 286 *eP* **P 02 14 40.8 +0.7**
DAU Daniels Canyon 51.25 286 *eP* **P 02 14 40.8 +0.7**
Z30A Sanderson Ranc 51.27 272 P **P 02 14 39.8 -0.2**
baz=51
131A Roby 51.35 271 P **P 02 14 40.9 +0.3**
baz=51
R20A Redvale 51.41 282 P **P 02 14 41.0 -0.2**
baz=51
S21A Coal Bank Pass 51.49 281 P **P 02 14 43.1 +1.1**
baz=51,SNR=17
AB31 Akbulak array 51.50 57 *i* P **P 02 14 42.0 +0.5**
AB31 pmax pmax
comp=Z,14nm,1.1s
ABKAR Akbulak array 51.50 57 *eP* **P 02 14 41.8 +0.4**
comp=Z,9.9nm,1.0s
ABKAR Akbulak array 51.50 57 *eP* **P 02 14 41.8 +0.4**
comp=Z,9.9nm,1.0s
T22A Edith 51.51 280 P **P 02 14 43.0 +1.0**
baz=51
PV04 Paradox Valley 51.53 283 *eP* **P 02 14 44.1 +2.1**
PV04 Paradox Valley 51.53 283 *eP* **P 02 14 44.1 +2.1**
PV01 Paradox Valley 51.55 282 *eP* **P 02 14 42.2 -0.1**
PV01 Paradox Valley 51.55 282 *eP* **P 02 14 42.2 -0.1**
TOA0 Torodi Ar. Sit 51.56 135 *eP* **P 02 14 41.4 -0.9**
TOA0 Torodi Ar. Sit 51.56 135 *eP* **P 02 14 41.4 -0.9**
TORD Torodi Ar. Bea 51.56 135 P **P 02 14 41.7 -0.6**
TORD PcP **PcP 02 15 55.3 -0.8**
TORD Torodi Ar. Bea 51.56 135 P **P 02 14 41.7 -0.6**
comp=Z,6.4nm,0.8s,baz=340,slow=7.3,SNR=39
TORD PcP **PcP 02 15 55.3 -0.8**
comp=Z,0.6nm,0.9s,baz=333,slow=1.6,SNR=2.8
TORD LR LR 02 32 41.1
comp=Z,172nm,20.7s,baz=320,slow=32
TORD Torodi Ar. Bea 51.56 135 P **P 02 14 41.7 -0.6**
TORD Torodi Ar. Bea 51.56 135 PcP **PcP 02 15 55.3 -0.8**
W25A X Bar L Ranch, 51.58 277 P **P 02 14 43.2 +0.9**
baz=51
Z29A Hungry Hill Ra 51.60 273 P **P 02 14 42.4 -0.1**
baz=51,SNR=5.2
V24A Rampart Ranch, 51.62 278 P **P 02 14 44.1 +1.3**
baz=52
MSTX Muleshoe 51.63 274 P **P 02 14 43.0 +0.2**
baz=52
130A Snyder 51.72 272 P **P 02 14 43.7 +0.4**
baz=52
MPU Maple Canyon 51.74 286 *eP* **P 02 14 44.7 +1.1**
MPU Maple Canyon 51.74 286 *eP* **P 02 14 44.7 +1.1**
BGU Big Grassy Mou 51.78 288 *eP* **P 02 14 44.0 +0.2**
BGU Big Grassy Mou 51.78 288 *eP* **P 02 14 44.0 +0.2**
SRU San Rafael 51.84 285 *eP* **P 02 14 44.4 +0.1**
SRU San Rafael 51.84 285 *eP* **P 02 14 44.4 +0.1**
SRU San Rafael 51.84 285 *eP* **P 02 14 44.4 +0.1**
231A Bronte 51.88 271 P **P 02 14 44.1 -0.5**
baz=52
Y27A Causey 51.90 275 P **P 02 14 45.0 +0.2**
baz=52
332A Millersview 52.00 270 P **P 02 14 45.0 -0.4**
baz=52
NLU North Lily Min 52.01 286 *eP* **P 02 14 46.6 +1.0**
NLU North Lily Min 52.01 286 *eP* **P 02 14 46.6 +1.0**
W24A Lazy 6 Ranch, 52.08 277 P **P 02 14 47.5 +1.3**
baz=52,SNR=6.3
MVCO Mesa Verde 52.20 282 *eP* **P 02 14 48.7 +1.5**
comp=Z,20nm,1.2s
MVCO Mesa Verde 52.20 282 *eP* **P 02 14 48.7 +1.5**
comp=Z,20nm,1.2s
MVCO Mesa Verde 52.20 282 P **P 02 14 48.6 +1.5**

baz=52,SNR=7.2
DUG Dugway 52.21 287 *e*P **P 02 14 46.9 -0.1**
DUG pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway 52.21 287 *e*P **P 02 14 46.9 -0.1**
comp=Z,2.3nm,0.8s
DUG Dugway 52.21 287 *e*P **P 02 14 46.9 -0.1**
comp=Z,2.2nm,0.8s
DUG Dugway 52.21 287 P **P 02 14 47.2 +0.2**
baz=52
Y26A Elida 52.22 275 P **P 02 14 48.4 +1.2**
baz=52
Q16A Castle Valley 52.32 285 P **P 02 14 48.7 +0.8**
baz=52
230A Sterling City 52.34 271 P **P 02 14 48.7 +0.7**
baz=52
V22A San Miguel Ran 52.35 279 P **P 02 14 49.6 +1.4**
baz=52
U21A Nageezi 52.35 280 P **P 02 14 49.1 +0.8**
baz=52
Z27A Tatum 52.36 274 P **P 02 14 48.3 +0.1**
baz=52
432A Menard 52.42 269 P **P 02 14 48.2 -0.4**
baz=52
331A San Angelo 52.42 270 P **P 02 14 48.2 -0.5**
baz=52
W23A Werner Place, 52.52 278 P **P 02 14 50.7 +1.3**
baz=52
ASF Jabal al Asfar 52.66 88 P **P 02 14 51.7 +1.2**
ASF Jabal al Asfar 52.66 88 P **P 02 14 51.7 +1.2**
comp=Z,1.6nm,0.8s,baz=236,slow=5.5,SNR=4.6
ASF LR LR 02 38 36.6
comp=Z,55nm,20.5s,baz=326,slow=38
Y25A Mesa, Roswell 52.69 276 P **P 02 14 51.5 +0.8**
baz=52
JCT Junction City 52.74 269 *e*P **P 02 14 51.1 +0.2**
JCT pmax pmax
comp=Z,16nm,1.1s
JCT Junction City 52.74 269 *e*P **P 02 14 51.1 +0.2**
comp=Z,16nm,1.1s
JCT Junction City 52.74 269 *e*P **P 02 14 51.1 +0.2**
comp=Z,16nm,1.1s
JCT Junction City 52.74 269 P **P 02 14 50.7 -0.3**
baz=53,SNR=5.5
330A Mertzon 52.75 271 P **P 02 14 51.0 0.0**
baz=53,SNR=6.0
Z26A Caprock 52.81 275 P **P 02 14 51.9 +0.4**
baz=53,SNR=12
ANMO Albuquerque 52.84 278 *e*P **P 02 14 52.9 +1.1**
comp=Z,5.1nm,1.1s
ANMO Albuquerque 52.84 278 *e*P **P 02 14 52.9 +1.1**
comp=Z,5.1nm,1.1s
U20A Newcomb 52.84 281 P **P 02 14 51.9 +0.1**
baz=53
127A Arkansas Junct 52.93 274 P **P 02 14 52.6 +0.2**
baz=53
X23A Hourglass Bar 52.98 278 P **P 02 14 53.9 +1.0**
baz=53,SNR=7.8
431A Sonora 53.01 270 P **P 02 14 53.2 +0.2**
baz=53,SNR=6.9
BRVK Borovoye 53.03 47 *e*P **P 02 14 53.1 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 53.03 47 *e*P **P 02 14 51.2 -1.6**
comp=Z,19nm,1.5s
BRVK Borovoye 53.03 47 *e*P **P 02 14 51.2 -1.6**
comp=Z,19nm,1.5s
532A Rocksprings 53.07 269 P **P 02 14 53.5 +0.1**
baz=53,SNR=6.0
Y24A Capitan 53.08 276 P **P 02 14 54.2 +0.6**
baz=53,SNR=6.2
BVA0 Borovoye Array 53.10 47 *i*P **P 02 14 53.8 +0.5**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s
BVAR Borovoye Array 53.10 47 LR LR 02 37 45.1
comp=Z,181nm,19.3s,baz=106,slow=36
329A Wagon Wheel Ra 53.12 272 P **P 02 14 53.7 -0.1**
baz=53
Z25A Roswell 53.19 275 P **P 02 14 54.5 +0.1**
baz=53
V20A Brimhall 53.25 280 P **P 02 14 55.7 +0.8**
baz=53
430A Baggett Ranch, 53.26 271 P **P 02 14 55.0 +0.2**
baz=53
126A Clayton Basin, 53.31 274 P **P 02 14 55.8 +0.6**
baz=53
531A Rocksprings 53.38 269 P **P 02 14 55.9 +0.2**
baz=53,SNR=5.3
Y23A Lovelace Mesa, 53.40 277 P **P 02 14 56.8 +0.8**
baz=53,SNR=5.4
632A Uvalde 53.49 268 P **P 02 14 56.5 +0.1**
baz=53
BNM Barren Site 53.54 278 *e*P **P 02 14 57.9 +0.9**
comp=Z,4.7nm,1.1s
BNM Barren Site 53.54 278 *e*P **P 02 14 57.9 +0.9**
comp=Z,4.7nm,1.1s
VOSK Vostochnaya 53.56 47 P **P 02 14 56.6 -0.1**
VOSK pmax pmax
comp=Z,7.0nm,0.8s
EIL Elat 53.57 91 P **P 02 14 56.0 -1.1**
EIL Elat 53.57 91 P **P 02 14 56.0 -1.1**
comp=Z,5.7nm,0.8s,baz=24,slow=12,SNR=5.1
EIL Elat 53.57 91 P **P 02 14 56.0 -1.1**
LAZ Ladron 53.62 278 *e*P **P 02 14 58.5 +0.9**
comp=Z,5.3nm,1.4s
LAZ Ladron 53.62 278 *e*P **P 02 14 58.5 +0.9**
comp=Z,5.3nm,1.4s
429A Davenport Ranc 53.74 271 P **P 02 14 58.4 0.0**
baz=54
W20A Ramah 53.78 280 P **P 02 14 59.0 +0.2**
baz=54
226B Tecolote Peak, 53.83 274 P **P 02 14 59.6 +0.6**
baz=54,SNR=8.6
Y22A Socorro 53.88 278 P **P 02 15 00.7 +1.2**
baz=54,SNR=6.3
X21A Alamocita Cree 53.93 279 P **P 02 15 01.6 +1.7**
baz=54,SNR=13
Z23A Rita Site, Whi 54.01 277 P **P 02 15 01.6 +1.2**
baz=54
124A Stringfield Ra 54.03 276 P **P 02 15 01.6 +1.0**
baz=54,SNR=7.4
428A Kincaid Ranch, 54.09 272 P **P 02 15 01.3 +0.4**
baz=54
225A Deer Hill, Car 54.15 275 P **P 02 15 02.0 +0.6**
baz=54,SNR=8.5
732A Laxson Ranch, 54.20 268 P **P 02 15 00.8 -0.8**
baz=54
Y21A Point of Rocks 54.20 278 P **P 02 15 03.3 +1.4**
baz=54,SNR=7.7
X20A Quemado 54.23 279 P **P 02 15 03.9 +1.8**
baz=54,SNR=5.6
529A Stev Forest Ra 54.31 271 P **P 02 15 02.6 +0.1**
baz=54,SNR=6.9
326A Caldwell Ranch 54.32 273 P **P 02 15 03.2 +0.6**
baz=54
427A Hayter Ranch, 54.37 272 P **P 02 15 03.0 0.0**
baz=54,SNR=6.7
Z22A Elephant Butte 54.41 277 P **P 02 15 04.2 +1.0**
baz=54,SNR=11
224A Cornudas Mount 54.55 275 P **P 02 15 04.5 +0.2**
baz=54,SNR=6.1
Y20A Horse Springs, 54.65 279 P **P 02 15 06.8 +1.6**
baz=54,SNR=7.2
Z21A St. Cloud Mine 54.74 278 P **P 02 15 07.0 +1.2**
baz=55
MNTX Cornudas Mount 54.77 275 *e*P **P 02 15 05.5 -0.3**
comp=Z,8.7nm,1.5s
MNTX Cornudas Mount 54.77 275 *e*P **P 02 15 05.5 -0.3**
comp=Z,8.7nm,1.5s
U15A North Rim 54.78 284 P **P 02 15 05.8 -0.3**
baz=55,SNR=5.2
426A McDonald Obser 54.85 273 P **P 02 15 07.5 +0.9**
baz=55,SNR=11
WUAZ Wupatki 54.99 282 *e*P **P 02 15 08.1 +0.6**
comp=Z,20nm,1.5s
WUAZ Wupatki 54.99 282 *e*P **P 02 15 08.1 +0.6**
comp=Z,20nm,1.5s
WUAZ Wupatki 54.99 282 P **P 02 15 08.1 +0.6**
baz=55,SNR=5.7
R11A Troy Canyon, C 55.01 288 *e*P **P 02 15 07.9 +0.2**
R11A Troy Canyon, C 55.01 288 *e*P **P 02 15 07.9 +0.2**
R11A Troy Canyon, C 55.01 288 P **P 02 15 08.0 +0.4**
baz=55,SNR=9.4
324A Moseley Ranch, 55.02 275 P **P 02 15 07.1 -0.7**
baz=55
527A Woodward Ranch 55.04 272 P **P 02 15 07.3 -0.6**
baz=55
628A Black Gap, Mar 55.17 271 P **P 02 15 08.6 -0.1**
baz=55
526A Mary Lane Ranc 55.36 272 P **P 02 15 11.2 +1.0**
baz=55,SNR=12
TIC Toumodi 55.37 146 *e*P **P 02 15 08.9 -1.3**
comp=Z,4.4nm,0.2s
Z20A Nine Sixteen R 55.38 278 P **P 02 15 11.4 +1.0**
baz=55
DBIC Dimbokro 55.39 146 LR LR 02 36 08.0
comp=Z,184nm,19.1s,baz=286,slow=33
121A Cookes Peak, D 55.40 277 P **P 02 15 10.5 -0.1**
baz=55,SNR=6.5
627A Terlingua Ranc 55.46 271 P **P 02 15 11.2 +0.3**
baz=55,SNR=7.4
TXAR Lajitas Array 55.70 271 P **P 02 15 12.8 +0.1**
TXAR Lajitas Array 55.70 271 P **P 02 15 12.8 +0.1**
comp=Z,1.3nm,0.9s,baz=46,slow=3.6,SNR=8.5
TXAR LR LR 02 37 22.2
comp=Z,199nm,18.5s,baz=5.0,slow=34
TXAR Lajitas Array 55.70 271 P **P 02 15 12.8 +0.1**
KIC Kosan Boka 55.72 146 *e*P **P 02 15 10.6 -2.1**
comp=Z,50nm,1.5s
LIC Lamto 55.76 146 *e*P **P 02 15 11.0 -2.0**
comp=Z,16nm,0.8s
LIC *e*R
comp=Z,447nm,22.6s
LIC Lamto 55.76 146 *e*P **P 02 15 12.1 -0.9**
comp=Z,48nm,1.4s
LIC Lamto 55.76 146 *e*P **P 02 15 11.0 -2.0**
626A Big Bend Ranch 55.78 272 P **P 02 15 13.8 +0.7**
baz=56,SNR=15
120A U Bar Ranch, L 55.84 278 P **P 02 15 14.1 +0.5**
baz=56
X16A Lo Mia Camp, P 55.88 282 P **P 02 15 14.3 +0.4**
baz=56
PAHR Pah Rah Range 55.89 292 *e*P **P 02 15 14.5 +0.6**
comp=Z,16nm,1.1s
PAHR Pah Rah Range 55.89 292 *e*P **P 02 15 14.5 +0.6**
comp=Z,16nm,1.1s
SHPR Sheep Range 56.20 286 *e*P **P 02 15 16.5 +0.3**
comp=Z,2.6nm,0.9s
SHPR Sheep Range 56.20 286 *e*P **P 02 15 16.5 +0.3**
comp=Z,2.6nm,0.9s
BEKR Beckworth 56.25 292 *e*P **P 02 15 16.4 -0.2**
comp=Z,2.1nm,1.0s
BEKR Beckworth 56.25 292 *e*P **P 02 15 16.4 -0.2**
comp=Z,2.1nm,1.0s
220A Playas Peak, P 56.28 277 P **P 02 15 17.5 +0.7**
baz=56
NVAR Mina Array Bea 56.33 290 P **P 02 15 17.1 0.0**
NVAR Mina Array Bea 56.33 290 P **P 02 15 17.1 0.0**
comp=Z,2.8nm,0.8s,baz=47,slow=5.3,SNR=11
NVAR LR LR 02 38 04.4
comp=Z,190nm,20.4s,baz=99,slow=35
NVAR Mina Array Bea 56.33 290 P **P 02 15 17.1 0.0**
NVS Novosibirsk 56.36 39 *e*P **P 02 15 15.3 -1.5**
NVS pmax pmax
comp=Z,21nm,1.5s
NVS pmax pmax
comp=N,8.0nm,1.6s
W13A Hualapai Mount 56.63 284 P **P 02 15 19.9 +0.6**
baz=56
320A Kipp Ranch, An 56.73 277 P **P 02 15 20.9 +0.9**
baz=57
GRAC Grapevine Rang 56.95 288 P **P 02 15 22.1 +0.7**
baz=57
319A Douglas 57.10 278 P **P 02 15 23.1 +0.5**
baz=57
TUC Tucson 57.16 279 *e*P **P 02 15 24.0 +1.0**
TUC pmax pmax
comp=Z,11nm,1.6s
TUC Tucson 57.16 279 *e*P **P 02 15 24.0 +1.0**
comp=Z,11nm,1.6s
TUC Tucson 57.16 279 *e*P **P 02 15 24.0 +1.0**
comp=Z,11nm,1.6s
TUQ Turquoise Moun 57.42 286 P **P 02 15 24.7 -0.1**
baz=57
ZALV Zalesovo Beam 57.62 38 P **P 02 15 25.6 -0.2**
ZALV Zalesovo Beam 57.62 38 P **P 02 15 25.6 -0.2**
ZALV Zalesovo Beam 57.62 38 P **P 02 15 25.6 -0.2**
comp=Z,0.7nm,0.3s,baz=311,slow=9.4,SNR=2.5
ZALV Zalesovo Beam 57.62 38 P **P 02 15 25.6 -0.2**
MPMC Manual Prospec 57.74 287 P **P 02 15 27.9 +0.8**
baz=58
GMRC Granite Mounta 57.79 285 P **P 02 15 27.5 +0.1**
baz=58
GSC Goldstone 57.98 286 *e*P **P 02 15 28.6 -0.1**
GSC pmax pmax
comp=Z,4.0nm,0.5s
GSC Goldstone 57.98 286 *e*P **P 02 15 28.6 -0.1**
comp=Z,3.7nm,0.5s
GSC Goldstone 57.98 286 *e*P **P 02 15 28.5 -0.1**
comp=Z,3.7nm,0.5s
LRMC Laurel Mountai 58.29 287 P **P 02 15 31.6 +0.6**
baz=58
113A Mohawk Valley, 58.37 282 P **P 02 15 32.1 +0.7**
baz=58
214A Organ Pipe Nat 58.51 281 P **P 02 15 33.2 +0.8**
baz=58
ISA Isabella 58.55 288 P **P 02 15 33.6 +0.9**
baz=58
BELC Belle Mtn. Jos 58.57 285 P **P 02 15 33.8 +0.9**
baz=58,SNR=6.0
GLA Glamis 58.71 283 *e*P **P 02 15 34.7 +1.0**
GLA pmax pmax
comp=Z,40nm,1.7s
GLA Glamis 58.71 283 *e*P **P 02 15 34.7 +1.0**
comp=Z,40nm,1.7s
GLA Glamis 58.71 283 *e*P **P 02 15 34.7 +1.0**
comp=Z,40nm,1.7s
EDW2 Edwards Air Fo 58.91 287 P **P 02 15 36.1 +0.9**
baz=59
PFO Pinyon Flat Ob 59.12 285 *e*P **P 02 15 37.4 +0.7**
comp=Z,7.2nm,0.9s
PFO Pinyon Flat Ob 59.12 285 *e*P **P 02 15 37.4 +0.7**
comp=Z,7.2nm,0.9s
PFO Pinyon Flat Ob 59.12 285 P **P 02 15 37.5 +0.7**
baz=59
ROSC El Rosal 62.02 229 *e*P **P 02 15 56.9 0.0**
ROSC El Rosal 62.02 229 LR LR 02 38 01.9
comp=Z,94nm,19.5s,baz=349,slow=31
ROSC El Rosal 62.02 229 *e*P **P 02 15 56.9 0.0**
EKS2 Erkin-Say 62.69 53 *e*P **P 02 16 02.2 +1.4**
EKS2 pmax pmax
comp=Z,28nm,1.5s
EKS2 Erkin-Say 62.69 53 *e*P **P 02 16 02.2 +1.4**
comp=Z,28nm,1.5s
EKS2 Erkin-Say 62.69 53 *e*P **P 02 16 02.2 +1.4**
comp=Z,28nm,1.5s
MK31 Makanchi Array 62.69 45 *e*P **P 02 16 00.4 -0.2**
MK31 Makanchi Array 62.69 45 *e*P **P 02 16 00.4 -0.2**
MK31 Makanchi Array 62.69 45 *e*P **P 02 16 00.4 -0.2**
MKAR Makanchi Array 62.69 45 P **P 02 16 00.7 0.0**
MKAR Makanchi Array 62.69 45 P **P 02 16 00.7 0.0**
MKAR Makanchi Array 62.69 45 P **P 02 16 00.7 0.0**
comp=Z,4.2nm,0.9s,baz=336,slow=6.0,SNR=25
MKAR Makanchi Array 62.69 45 P **P 02 16 00.6 0.0**
AAK Ala-Archa 63.01 52 *e*P **P 02 16 04.4 +1.3**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 63.01 52 *e*P **P 02 16 04.4 +1.3**
comp=Z,5.9nm,1.0s
AAK Ala-Archa 63.01 52 P **P 02 16 03.8 +0.8**
comp=Z,1.3nm,0.4s,baz=280,slow=9.1,SNR=6.6
AAK Ala-Archa 63.01 52 *e*P **P 02 16 04.4 +1.3**
comp=Z,5.9nm,1.0s
TKM2 Tokmak 2 63.24 51 *e*P **P 02 16 06.0 +1.4**
TKM2 pmax pmax
comp=Z,13nm,1.4s
TKM2 Tokmak 2 63.24 51 *e*P **P 02 16 06.0 +1.4**
comp=Z,13nm,1.4s
TKM2 Tokmak 2 63.24 51 *e*P **P 02 16 06.0 +1.4**
comp=Z,13nm,1.4s
KSH Kashi 66.21 53 P **P 02 16 26.6 +2.7**
KSH sP **sP 02 16 33.6 +2.2**
KSH PP PP 02 18 54.6 +5.4
KSH S **S 02 25 14.3 +2.2**
KSH sS **sS 02 25 22.3 +1.4**
KSH SS **SS 02 29 30.3 +3.1**
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,61nm,2.9s
KSH LR LR
comp=N,62nm,6.4s
KSH LR LR
comp=E,71nm,5.3s
KSH LR LR
comp=Z,110nm,8.5s
KBL Kabul 67.20 61 *e*P **P 02 16 30.8 +0.3**
KBL Kabul 67.20 61 *e*P **P 02 16 30.8 +0.3**
KBL Kabul 67.20 61 *e*P **P 02 16 30.8 +0.3**
WMQ Urumqi 67.22 43 *e*P **P 02 16 31.8 +1.6**
WMQ pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 69.39 28 P **P 02 16 44.3 +0.5**
SONM Songino Array 69.39 28 P **P 02 16 44.3 +0.5**
comp=Z,5.8nm,1.1s,baz=324,slow=5.8
SONM Songino Array 69.39 28 P **P 02 16 44.3 +0.5**
SAML Samuel 71.05 212 *e*P **P 02 16 53.0 -1.1**
comp=Z,4.0nm,1.1s
SAML Samuel 71.05 212 *e*P **P 02 16 53.0 -1.1**
comp=Z,4.0nm,1.1s
BDFB Brasilia 74.28 195 P **P 02 17 13.6 +0.2**
BDFB Brasilia 74.28 195 P **P 02 17 13.6 +0.2**
comp=Z,4.1nm,0.8s,baz=20,slow=9.5,SNR=4.4
BDFB LR LR 02 44 25.6
comp=Z,125nm,18.4s,baz=331,slow=31
BDFB Brasilia 74.28 195 P **P 02 17 13.6 +0.2**
GTA Gaotai 75.27 36 P **P 02 17 19.5 +0.5**
GTA pP **pP 02 17 23.9 -0.6**
GTA sP **sP 02 17 26.6 +0.1**
GTA S **S 02 26 58.0 +0.6**
GTA sS **sS 02 27 06.3 -0.1**
GTA SS **SS 02 31 50.3 +4.4**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,46nm,5.5s
GTA LR LR
comp=N,160nm,17.6s
GTA LR LR
comp=E,130nm,19.2s
GTA LR LR
comp=Z,110nm,18.5s
HHC Hu-ho-hao-te 77.23 27 *e*P **P 02 17 29.5 -0.6**
HHC pP **pP 02 17 34.3 -1.3**
HHC sP **sP 02 17 36.5 -1.1**
HHC PP **PP 02 20 24.0 +0.7**
HHC S **S 02 27 15.6 -3.2**
HHC SKS **SKSac 02 27 36.1 -5.9**
HHC ScS **SKKSac 02 27 42.3 -0.4**
HHC SS **SS 02 32 15.0 -0.3**
HHC pmax pmax
comp=Z,36nm,1.1s
HHC pmax pmax
comp=Z,180nm,6.2s
HHC LR LR
comp=N,220nm,17.3s
HHC LR LR
comp=E,270nm,17.7s
HHC LR LR
comp=Z,110nm,16.5s
LPAZ La Paz 79.45 215 *e*P **P 02 17 42.9 -0.3**
comp=Z,2.6nm,0.8s
LPAZ La Paz 79.45 215 P **P 02 17 43.1 0.0**
comp=Z,0.8nm,0.7s,baz=12,slow=7.3,SNR=4.2
LPAZ La Paz 79.45 215 *e*P **P 02 17 42.9 -0.3**
comp=Z,2.6nm,0.8s
LZH Lanzhou 79.57 35 *e*P **P 02 17 43.4 +0.2**
LZH pP **pP 02 17 47.5 -1.2**
LZH sP **sP 02 17 50.0 -0.7**
LZH pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 82.96 31 P **P 02 18 00.8 -0.3**
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,13nm,5.6s
KSRS Korea Array 83.69 15 P **P 02 18 05.5 +0.8**
comp=Z,1.5nm,0.8s,baz=346,slow=5.9,SNR=11
KSAR Wonju Array Be 83.70 16 P **P 02 18 05.5 +0.7**
KSAR Wonju Array Be 83.70 16 P **P 02 18 05.5 +0.7**
CD2 Chengdu 84.33 37 *e*P **P 02 18 07.8 -0.4**
CD2 pP **PcP 02 18 12.5 +0.6**
CD2 sP **sP 02 18 15.0 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,120nm,5.8s
LVC Limon Verde 85.66 213 *e*P **P 02 18 15.6 +0.7**
comp=Z,20nm,1.2s
LVC Limon Verde 85.66 213 *e*P **P 02 18 15.6 +0.7**
comp=Z,20nm,1.2s
CPUP Villa Florida 86.34 202 *e*P **P 02 18 17.4 -0.5**
comp=Z,14nm,0.9s
CPUP Villa Florida 86.34 202 P **P 02 18 17.4 -0.5**
comp=Z,2.9nm,0.9s,baz=62,slow=4.4,SNR=3.3
CPUP LR LR 02 51 25.8
comp=Z,74nm,19.1s,baz=168,slow=32
CPUP Villa Florida 86.34 202 *e*P **P 02 18 17.4 -0.5**
comp=Z,14nm,0.9s
NJ2 Nanjing 87.32 24 *e*P **P 02 18 20.9 -2.0**
NJ2 pmax pmax
comp=Z,15nm,0.5s
KMI Kunming 89.35 40 P **P 02 18 32.4 -0.5**
KMI pP **PcP 02 18 36.3 +2.0**
KMI sP **sP 02 18 38.1 -2.3**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI LR LR
comp=Z,46nm,32.5s
GYA Guiyang 89.39 36 *e*P **P 02 18 32.0 -1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 94.09 45 P **P 02 18 53.6 -1.1**
CMAR Chiang Mai Arr 94.09 45 P **P 02 18 53.6 -1.1**
comp=Z,0.5nm,0.3s,baz=335,slow=6.0,SNR=3.9
CMAR Chiang Mai Arr 94.09 45 P **P 02 18 53.6 -1.1**
LBTB Lobatse 95.70 129 *e*P **P 02 19 02.5 +0.7**
comp=Z,7.4nm,1.1s
LBTB Lobatse 95.70 129 *e*P **P 02 19 02.5 +0.7**
comp=Z,7.4nm,1.1s
PALK Pallekele 95.97 66 *e*P **P 02 19 03.1 -0.3**
comp=Z,27nm,1.2s
PALK Pallekele 95.97 66 *e*P **P 02 19 03.1 -0.3**
comp=Z,27nm,1.2s
BOSA Boshof 98.75 131 LR LR 03 02 53.3
comp=Z,223nm,19.5s,baz=334,slow=35
PPT2 Papeete2 119.03 284 *e*LR LR 03 00 50.4
comp=Z,99nm,24.8s
TBI Tubuai 123.71 280 *e*LR LR 03 02 59.5
comp=Z,92nm,27.5s
SNAA Sanae 130.87 168 *e*PKPdf **PKPdf 02 24 45.5 -0.3**
SNAA Sanae 130.87 168 *e*PKIKP **PKPdf 02 24 45.5 -0.3**
MBWA Marble Bar 138.22 41 *e*PKPdf **PKPdf 02 25 01.3 +0.2**
MBWA Marble Bar 138.22 41 *e*PKIKP **PKPdf 02 25 01.3 +0.2**
WRA Warramunga Arr 140.99 20 PKP **PKPdf 02 25 04.7 -1.5**
WRA Warramunga Arr 140.99 20 PKP **PKPdf 02 25 04.7 -1.5**
comp=Z,2.2nm,1.0s,baz=341,slow=2.3,SNR=6.4
WRA Warramunga Arr 140.99 20 PKIKP **PKPdf 02 25 04.7 -1.5**
AS31 Alice Springs 144.53 22 *e*PKPdf PKPbc 02 25 11.2 +0.2
AS31 Alice Springs 144.53 22 *e*PKIKP PKPbc 02 25 11.2 +0.2
ASAR Alice Springs 144.53 22 PKP **PKPab 02 25 10.6 -0.2**
ASAR Alice Springs 144.53 22 PKP **PKPab 02 25 10.6 -0.2**
comp=Z,2.3nm,0.9s,baz=345,slow=2.6,SNR=17
ASAR Alice Springs 144.53 22 PKIKP **PKPab 02 25 10.6 -0.2**
QSPA South Pole Qui 147.71 180 *e*PKPdf **PKPdf 02 25 16.2 -0.2**
QSPA *e*PKPbc **PKPbc 02 25 19.1 -0.2**
QSPA South Pole Qui 147.71 180 *e*PKIKP **PKPdf 02 25 16.2 -0.2**
FORT Forrest 149.86 35 *e*PKPbc **PKPbc 02 25 26.4 +0.5**
FORT Forrest 149.86 35 *e*PKPbc **PKPbc 02 25 26.4 +0.5**
VNDA Vanda 159.59 189 PKPab **PKPab 02 26 13.1 +1.6**
VNDA Vanda 159.59 189 PKPab **PKPab 02 26 13.1 +1.6**
comp=Z,4.2nm,1.1s,baz=192,slow=5.4,SNR=4.6

CASC 22 02:08:02.8±4.3, 6°.69N×82°.62W, h32^{km}±102^{km}, MD3.7,1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.02**	**345**	*e*P	Pn	02 08 35.0	+0.3
ACR				*e*S	Sn	02 08 59.5	+0.5
BRU2	**Volcan**	**2.09**	**358**	*e*P	Pn	02 08 37.0	+1.2
BRU2				*e*S	Sn	02 09 02.3	+1.4
BRU	**Baru**	**2.10**	**2**	*e*S	Sb	02 09 05.4	-1.6
CTCR	**Cotoan**	**2.19**	**356**	*e*P	Pn	02 08 38.6	+1.2
CTCR				*e*S	Sn	02 09 04.2	+0.6
BUS	**Buena Vista**	**3.06**	**339**	*e*P	Pn	02 08 51.4	+1.9
BUS				⇓*e*S	Sn	02 09 27.9	+2.4
URSC	**Urasca**	**3.33**	**340**	*e*P	Pn	02 08 55.2	+2.3
URSC				*e*S	Sn	02 09 31.9	+0.4

ZANG	**Zanguenga, Cho**	**3.54**	**50**	*eP*	Pn	02 08 53.8	-1.8
ZANG				*eS*	Sn	02 09 34.8	-1.5
BCIP	**Isla Barro Col**	**3.70**	**48**	*eP*	Pn	02 08 56.8	-1.0
BCIP				*eS*	Sn	02 09 41.6	+1.4
UPA	**Univ. de Panam**	**3.81**	**53**	*eS*	Sn	02 09 44.0	+0.9

*IDC **22** 02:26:01.9±2.1,39.°94N×78.°18E,h0km,mb3.8/2, mb1 3.6/5,mb1mx3.3/29,mbtmp3.5/5,ML3.1/3,Error ellipse: s-maj=26.1km s-min=22.1km az=137.0*
*NNC **22** 02:26:05.3±4.5,40.°13N×78.°42E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=34.9km s-min=20.5km az=165.0*

ISC 22 02:26:03.4±2.1,39.°8N±0.°1×78.°57E±0.°09,h22km,n18, σ1§67/19,5C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**3.00**	**325**	P	**Pn**	**02 26 50.9**	**+1.1**
	SNR=14						
KZA	**Kyzart**	**3.38**	**313**	P	**Pb**	**02 26 59.8**	**-3.1**
	SNR=18						
KNDC	**Almaty**	**3.60**	**341**	⇑Pg	**Pb**	**02 27 04.4**	**-2.0**
	20nm,0.4s						
KNDC				⇓Lg	Lg	02 27 48.8	
	216nm,0.7s						
TKM2	**Tokmak 2**	**3.82**	**325**	⇑Pn	**Pn**	**02 27 02.3**	**+1.2**
	12nm,0.5s						
TKM2				⇑Lg	Lg	02 27 53.9	
	20nm,0.5s						
TKM2	**Tokmak 2**	**3.82**	**325**	P	**Pn**	**02 27 02.3**	**+1.2**
	SNR=16						
KBK	**Karagaybulak**	**3.94**	**317**	P	**Pb**	**02 27 12.3**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**4.17**	**314**	P	**Pb**	**02 27 14.6**	**-1.5**
	SNR=10						
AAK	**Ala-Archa**	**4.17**	**314**	Pn	**Pn**	**02 27 05.6**	**-0.2**
	0.5nm,0.3s,baz=90,slow=1.0,SNR=3.0						
AAK				Pg	**Pb**	**02 27 13.2**	**-2.9**
	5.3nm,0.3s,baz=132,slow=13,SNR=19						
AAK				Lg	Lg	02 28 03.5	
	3.7nm,0.3s,baz=322,slow=20,SNR=10						
CHMS	**Chumysh**	**4.28**	**319**	P	**Pb**	**02 27 16.2**	**-1.8**
	SNR=8.4						
AML	**Almayashu**	**4.35**	**304**	P	Pn	02 27 11.0	+2.3
	SNR=8.4						
EKS2	**Erkin-Say**	**4.59**	**310**	P	**Pb**	**02 27 24.1**	**+0.7**
	SNR=9.9						
USP	**Ospenovka**	**4.60**	**320**	P	**Pb**	**02 27 21.8**	**-1.7**
	SNR=8.3						
KK31	**Karatay Array**	**6.88**	**301**	⇓Pg	Pb	02 28 04.2	+1.9
	1.1nm,0.5s,baz=125,slow=15,SNR=9.1						
KK31				⇓Sn	**Sn**	**02 29 02.9**	**+2.2**
	2.0nm,0.6s,baz=125,slow=20						
KK31				⇓Lg	Lg	02 29 33.2	
	2.7nm,0.5s,baz=118,slow=27,SNR=6.6						
MK31	**Makanchi Array**	**7.48**	**20**	Pn	**Pn**	**02 27 52.0**	**+0.8**
	0.4nm,0.4s,baz=198,slow=12,SNR=43						
MK31				⇑Sn	**Sn**	**02 29 16.5**	**+1.1**
	1.7nm,0.7s,baz=198,slow=19						
MK31				⇑Lg	Lg	02 29 53.4	
	2.2nm,0.7s,baz=183,slow=28						
MKAR	**Makanchi Array**	**7.48**	**20**	Pn	**Pn**	**02 27 52.5**	**+1.3**
	0.8nm,0.3s,baz=204,slow=13,SNR=42						
MKAR				Lg	Lg	02 29 59.8	
	0.3nm,0.3s,baz=210,slow=31,SNR=5.8						
KURBB	**Kurchatov Arra**	**10.80**	**360**	Pn	**Pn**	**02 28 35.9**	**-0.8**
	0.0nm,0.3s,baz=188,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**38.31**	**322**	P	**P**	**02 33 21.9**	**-0.2**
	2.5nm,1.0s,baz=112,slow=8.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**71.67**	**272**	P	**P**	**02 37 23.7**	**-0.1**
	0.3nm,0.6s,baz=53,slow=6.0,SNR=6.4						

*IDC **22** 02:36:16.5±1.2,72.°13N×0.°82E,h0km,mb3.6/4,mb1 3.8/8, mb1mx3.5/31,mbtmp3.7/8,ML3.3/4,MS3.2/1,Ms1 3.2/1, ms1mx2.5/46,Error ellipse: s-maj=25.6km s-min=21.4km az=46.0*

ISC 22 02:36:18.3±1.1,72.°21N±0.°09×1.°1E±0.°1,h11km,n20, σ1§42/19,mb3.8/5,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.89**	**128**	*eP*	**Pn**	**02 37 45.4**	**+0.1**
LOF				*e*		02 42 45.2	
TRO	**Tromso**	**6.39**	**105**	*eP*	**Pn**	**02 37 51.3**	**-0.9**
SPA0	**Spitsbergen Ar**	**7.13**	**26**	*e*	**Pn**	**02 38 03.0**	**+0.7**
SPA0				*e*		02 38 47.6	
SPITS	**Spitsbergen Ar**	**7.13**	**26**	Pn	**Pn**	**02 38 03.5**	**+1.2**
	baz=197,slow=14,SNR=11						
MOR8	**Moi Rana**	**7.69**	**135**	*eP*	**Pn**	**02 38 10.4**	**+0.3**
ARCES	**ARCESS Array B**	**8.43**	**97**	Pn	**Pn**	**02 38 18.9**	**-1.3**
	1.0nm,0.3s,baz=298,slow=12,SNR=44						
ARE0	**ARCESS Array S**	**8.43**	**97**	*eP*	**Pn**	**02 38 19.6**	**-0.5**
HFS	**Hagfors**	**13.11**	**151**	Pn	**Pn**	**02 39 23.6**	**-0.5**
	0.1nm,0.3s,baz=335,slow=10,SNR=6.0						
HFS				LR	LR	02 43 49.3	
	comp=Z,98nm,18.4s,baz=355,slow=35						
FINES	**FINESS Array B**	**14.45**	**125**	Pn	**Pn**	**02 39 40.7**	**-1.7**
	0.2nm,0.3s,baz=339,slow=10,SNR=7.0						
BRG	**Berggiesshubel**	**22.17**	**158**	*eP*	P	02 41 28.1	+14
	13nm,1.4s						
UPC	**Upice**	**22.78**	**155**	*eP*	**P**	**02 41 21.9**	**+1.5**
UPC				*ex*	x	02 41 33.4	
DPC	**Dobruska-Polom**	**22.98**	**154**	*eP*	**P**	**02 41 22.6**	**+0.1**
DPC				*ex*	x	02 41 34.5	
PRU	**Pruhonice**	**23.11**	**157**	*eP*	**P**	**02 41 26.8**	**+3.0**
PRU				*ex*	x	02 41 46.4	
OKC	**Ostrava-Krasne**	**23.73**	**152**	*eP*	**P**	**02 41 29.9**	**-0.1**
KHC	**Kasperske Hory**	**23.85**	**159**	*eP*	**P**	**02 41 32.9**	**+1.8**
KHC				*ex*	x	02 41 47.3	
TREC	**Trest**	**23.91**	**156**	*eP*	**P**	**02 41 34.2**	**+2.5**
GERES	**GERESS Array B**	**24.14**	**159**	P	**P**	**02 41 35.4**	**+1.4**
	1.1nm,0.7s,baz=359,slow=9.3,SNR=14						
AKASG	**Malin Array Be**	**24.95**	**135**	P	**P**	**02 41 40.6**	**-0.5**
	0.9nm,0.4s,baz=339,slow=9.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**59.03**	**179**	P	**P**	**02 46 17.3**	**-0.6**
	0.6nm,0.7s,baz=360,slow=6.3,SNR=8.2						
TXAR	**Lajitas Array**	**66.70**	**293**	P	**P**	**02 47 07.7**	**-1.2**
	0.7nm,1.1s,baz=17,slow=9.6,SNR=3.9						

IDC 22 02:39:01.3±4.2,1.°29S×139.°81E,h0km,mb3.6/3, mb1 3.6/4,mb1mx3.4/19,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=178.8km s-min=25.3km az=87.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.29**	**196**	P	P	02 43 27.7	-0.3
	0.1nm,0.3s,baz=19,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**22.97**	**194**	P	P	02 44 07.7	+0.1
	0.2nm,0.4s,baz=11,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**69.35**	**322**	P	P	02 50 11.3	+0.4
	0.7nm,0.7s,baz=104,slow=8.2,SNR=8.2						
BVAR	**Borovoye Array**	**78.79**	**325**	P	P	02 51 05.6	-0.3
	0.6nm,0.6s,baz=106,slow=11,SNR=3.4						

*IDC **22** 02:49:54.7±0.7,72.°21N×1.°19E,h0km,mb3.8/13, mb1 4.0/18,mb1mx3.8/35,mbtmp3.8/18,ML3.5/5,MS3.5/11, Ms1 3.5/11,ms1mx3.2/43,Error ellipse: s-maj=18.8km s-min=12.7km az=50.0*
*MOS **22** 02:49:54.9±1.2,72.°31N×1.°53E,h10km,mb4.5/36,Error ellipse: s-maj=24.2km s-min=4.8km az=99.6*
*BJI **22** 02:49:54.0,72.°30N×1.°20E,h10km,mB4.9/4,mb4.7/6*
*ISCJB **22** 02:49:54.5±0.2,72.°33N±0.°03×1.°5E±0.°1,h10km,mb4.3/75, MS3.6/8,Error ellipse: s-maj=5.8km s-min=3.4km az=140.6*
*CSEM **22** 02:49:55.8±0.1,72.°26N×1.°28E,h10km,mb4.5/54,Error ellipse: s-maj=5.4km s-min=3.1km az=51.0*
*NEIC **22** 02:49:56.2±0.2,72.°25N×1.°18E,h10km,mb4.4/24,Error ellipse: s-maj=8.1km s-min=4.2km az=48.0*
*NAO **22** 02:49:58.4±11.0,72.°07N×1.°52E,h16km±119km,ML3.8*
*BER **22** 02:49:58.4±3.1,72.°21N×1.°37E,h2km±69km,MD2.6,ML2.6, ML3.8(NAO)*
*SZGRF **22** 02:50:06.5,71.°69N×2.°53E,h33km,mb4.6,Norwegian Sea*

ISC 22 02:49:56.6±0.4,72.°26N±0.°05×1.°57E±0.°05,h10km,n324, σ1§18/347,mb4.4/75,MS3.6/8,3C-4D,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.80**	**130**	*eP*	**Pn**	**02 51 22.7**	**+0.2**
LOF				*eSn*	**Sn**	**02 52 27.4**	**-1.6**
LOF	**Lofoten**	**5.80**	**130**	*eP*	**Pn**	**02 51 22.7**	**+0.2**
	SNR=49						
LOF				*eSn*	**Sn**	**02 52 27.4**	**-1.6**
	SNR=50						
TRO	**Tromso**	**6.25**	**106**	*eP*	**Pn**	**02 51 28.4**	**-0.2**
TRO				*eSn*	**Sn**	**02 52 36.3**	**-3.8**
TRO				AML	AML	02 52 42.2	
	comp=Z,8.3nm,0.6s						
TRO	**Tromso**	**6.25**	**106**	*eP*	**Pn**	**02 51 28.5**	**-0.2**
	SNR=49						
TRO				*eSn*	**Sn**	**02 52 36.3**	**-3.8**
	comp=Z,15nm,0.5s,SNR=50						
STEI	**Steigen**	**6.37**	**126**	*eP*	**Pn**	**02 51 30.8**	**+0.6**
STEI				*eSn*	**Sn**	**02 52 40.4**	**-2.4**
STEI				AML	AML	02 52 42.5	
	comp=Z,15nm,0.5s						
SPA0	**Spitsbergen Ar**	**7.02**	**26**	Pn	**Pn**	**02 51 41.1**	**+2.0**
	baz=212,slow=14						
SPA0	**Spitsbergen Ar**	**7.02**	**26**	Pn	**Pn**	**02 51 41.1**	**+2.0**
	baz=212,slow=14						
SPA0	**Spitsbergen Ar**	**7.02**	**26**	Pn	**Pn**	**02 51 41.2**	**+2.0**
	SNR=3.4						
SPITS	**Spitsbergen Ar**	**7.02**	**26**	Pn	**Pn**	**02 51 41.0**	**+1.8**
SPITS	**Spitsbergen Ar**	**7.02**	**26**	Pn	**Pn**	**02 51 41.0**	**+1.8**
	baz=208,slow=16,SNR=25						
SPITS	**Spitsbergen Ar**	**7.02**	**26**	Pn	**Pn**	**02 51 41.0**	**+1.8**
KONS	**Konsvik**	**7.06**	**139**	*eP*	**Pn**	**02 51 40.7**	**+0.9**
MOR8	**Moi Rana**	**7.62**	**137**	*eP*	**Pn**	**02 51 48.0**	**+0.5**
MOR8				AML	AML	02 53 12.9	
	comp=Z,8.5nm,0.5s						
MOR8	**Moi Rana**	**7.62**	**137**	*eP*	**Pn**	**02 51 48.0**	**+0.5**
	SNR=47						
KTK1	**Kautokeino**	**7.87**	**104**	*eP*	**Pn**	**02 51 52.2**	**+1.2**
KTK1				*eSn*	**Sn**	**02 53 19.3**	**-0.6**
KTK1	**Kautokeino**	**7.87**	**104**	*eP*	**Pn**	**02 51 52.2**	**+1.2**
	SNR=47						
KTK1				*eSn*	**Sn**	**02 53 19.3**	**-0.6**
	SNR=50						
ARA0	**ARCESS Array S**	**8.28**	**98**	Pn	**Pn**	**02 51 56.9**	**+0.4**
	baz=297,slow=11						
ARA0				Sn	**Sn**	**02 53 27.5**	**-2.4**
	baz=308,slow=22						
ARA0	**ARCESS Array S**	**8.28**	**98**	P	**Pn**	**02 51 56.9**	**+0.4**
	baz=297,slow=11						
ARA0				Sn	**Sn**	**02 53 27.5**	**-2.4**
	baz=308,slow=22						
ARA0	**ARCESS Array S**	**8.28**	**98**	P	**Pn**	**02 51 56.9**	**+0.4**
	baz=297,slow=10,SNR=47						
ARA0				Sn	**Sn**	**02 53 27.5**	**-2.4**
	baz=308,slow=20,SNR=50						
ARCES	**ARCESS Array B**	**8.28**	**98**	Pn	**Pn**	**02 51 56.7**	**+0.2**
ARCES				Sn	**Sn**	**02 53 28.2**	**-1.6**
ARCES	**ARCESS Array B**	**8.28**	**98**	Pn	**Pn**	**02 51 56.7**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=304,slow=12,SNR=58						
ARCES				Sn	**Sn**	**02 53 28.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=316,slow=21,SNR=2.4						
ARCES				LR	LR	02 55 02.5	
	comp=Z,160nm,21.7s,baz=278,slow=37						
ARCES	**ARCESS Array B**	**8.28**	**98**	Pn	**Pn**	**02 51 56.7**	**+0.2**
NOA	**NORSAR Array B**	**11.87**	**157**	Pn	**Pn**	**02 52 45.5**	**-0.2**
NOA	**NORSAR Array B**	**11.87**	**157**	Pn	**Pn**	**02 52 45.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=3.8						
NOA				LR	LR	02 57 06.6	
	comp=Z,117nm,20.0s,baz=350,slow=36						
NOA	**NORSAR Array B**	**11.87**	**157**	Pn	**Pn**	**02 52 45.5**	**-0.2**
SUMG	**Summit**	**11.94**	**291**	*eP*	Pn	02 52 42.5	-4.4
SUMG	**Summit**	**11.94**	**291**	*i P*	Pn	02 52 42.3	-4.6
	comp=Z,4.2nm,0.9s						
SUMG	**Summit**	**11.94**	**291**	*ePn*	Pn	02 52 42.5	-4.4
LVZ	**Lovozero**	**11.97**	**95**	⇓*eP*	**Pn**	**02 52 47.1**	**+0.1**
LVZ				pmax	pmax		
	comp=Z,25nm,1.4s						
LVZ	**Lovozero**	**11.97**	**95**	*eP*	**Pn**	**02 52 47.1**	**+0.1**
	comp=Z,25nm,1.4s						
HFS	**Hagfors**	**13.08**	**152**	Pn	**Pn**	**02 53 01.9**	**-0.2**
	baz=334,slow=18						
HFS	**Hagfors**	**13.08**	**152**	Pn	**Pn**	**02 53 01.9**	**-0.2**
	baz=334,slow=18						
HFS	**Hagfors**	**13.08**	**152**	Pn	**Pn**	**02 53 01.4**	**-0.7**
HFS	**Hagfors**	**13.08**	**152**	Pn	**Pn**	**02 53 01.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=354,slow=12,SNR=7.0						
HFS				LR	LR	02 57 54.4	
	comp=Z,163nm,18.1s,baz=354,slow=37						
HFS	**Hagfors**	**13.08**	**152**	P	**Pn**	**02 53 01.4**	**-0.7**
HFS	**Hagfors**	**13.08**	**152**	Pn	**Pn**	**02 53 01.9**	**-0.2**
	baz=334,slow=18,SNR=50						
KAF	**Kangasniemi**	**13.84**	**125**	*eP*	**Pn**	**02 53 11.4**	**-1.0**
KAF	**Kangasniemi**	**13.84**	**125**	*ep*	**Pn**	**02 53 11.4**	**-1.0**
KAF	**Kangasniemi**	**13.84**	**125**	*eP*	**Pn**	**02 53 11.4**	**-1.0**
FIA0	**FINESS Array S**	**14.35**	**126**	Pn	**Pn**	**02 53 18.7**	**-0.7**
	baz=336,slow=14						
FIA0	**FINESS Array S**	**14.35**	**126**	Pn	**Pn**	**02 53 18.7**	**-0.7**
	baz=336,slow=14						
FIA0	**FINESS Array S**	**14.35**	**126**	Pn	**Pn**	**02 53 18.7**	**-0.7**
	baz=336,slow=14,SNR=50						
FINES	**FINESS Array B**	**14.35**	**126**	Pn	**Pn**	**02 53 18.7**	**-0.7**
FINES	**FINESS Array B**	**14.35**	**126**	Pn	**Pn**	**02 53 18.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=348,slow=13,SNR=9.6						
FINES				LR	LR	02 58 27.5	
	comp=Z,311nm,19.1s,baz=30,slow=36						
FINES	**FINESS Array B**	**14.35**	**126**	Pn	**Pn**	**02 53 18.7**	**-0.7**
JOF	**Joensuu**	**14.51**	**115**	*eP*	**Pn**	**02 53 20.2**	**-1.3**
JOF	**Joensuu**	**14.51**	**115**	*ep*	**Pn**	**02 53 20.2**	**-1.3**
EKA	**Eskdalemuir Ar**	**17.11**	**189**	P	**Pn**	**02 53 55.6**	**+0.2**
EKA	**Eskdalemuir Ar**	**17.11**	**189**	P	**Pn**	**02 53 55.6**	**+0.2**
	baz=6.1,slow=11,SNR=5.7						
EKA	**Eskdalemuir Ar**	**17.11**	**189**	P	**Pn**	**02 53 55.7**	**+0.2**
VSU	**Vasula**	**17.14**	**131**	*i P*	**P**	**02 53 58.2**	**+0.8**
VSU				pmax	pmax		
	comp=Z,61nm,1.1s						
VSU				MLR	MLR		
	comp=Z,597nm,18.0s						
VSU	**Vasula**	**17.14**	**131**	*i P*	**P**	**02 53 58.2**	**+0.8**
	comp=Z,597nm,18.0s						
SFJD	**Kangerlussuaq**	**18.36**	**280**	LR	LR	03 00 08.3	
	comp=Z,186nm,18.7s,baz=14,slow=34						
NRDL	**Niedersach Rie**	**20.19**	**165**	*eP*	**P**	**02 54 31.1**	**+0.3**
	comp=Z,48nm,1.8s						
NRDL	**Niedersach Rie**	**20.19**	**165**	*eP*	**P**	**02 54 31.1**	**+0.3**
	comp=Z,48nm,1.8s						
IBBN	**Ibbenburen**	**20.21**	**169**	*eP*	**P**	**02 54 30.8**	**-0.3**
	comp=Z,74nm,2.2s						
IBBN	**Ibbenburen**	**20.21**	**169**	*eP*	**P**	**02 54 30.8**	**-0.3**
	comp=Z,74nm,2.2s						
SUW	**Suwalki**	**20.51**	**142**	*eP*	P	02 54 29.4	-5.0
SUW				pmax	pmax		
	comp=Z,77nm,1.4s						
SUW	**Suwalki**	**20.51**	**142**	*eP*	P	02 54 29.4	-5.0
	comp=Z,76nm,1.4s						
SUW	**Suwalki**	**20.51**	**142**	*eP*	**P**	**02 54 34.6**	**+0.2**
MNK	**Minsk**	**21.01**	**134**	*eP*	**P**	**02 54 37.0**	**-2.8**
MICGM	**Minsk**	**21.02**	**134**	*e*	**P**	**02 54 37.0**	**-2.9**
BUG	**Bochum--Univer**	**21.05**	**170**	*eP*	**P**	**02 54 40.1**	**-0.1**
	comp=Z,32nm,1.3s						
BUG	**Bochum--Univer**	**21.05**	**170**	*eP*	**P**	**02 54 40.1**	**-0.1**
	comp=Z,32nm,1.3s						
NEUB	**Neuenburg**	**21.61**	**162**	*eP*	**P**	**02 54 46.4**	**+0.2**
	comp=Z,60nm,1.5s						
NEUB	**Neuenburg**	**21.61**	**162**	*eP*	**P**	**02 54 46.4**	**+0.2**
	comp=Z,60nm,1.5s						
CLL	**Collm**	**21.63**	**160**	*eP*	**P**	**02 54 45.9**	**-0.6**
	comp=Z,41nm,1.8s						
CLL	**Collm**	**21.63**	**160**	*i P*	**P**	**02 54 46.2**	**-0.3**
CLL				*i*		02 54 53.0	
CLL				pmax	pmax		
	comp=Z,43nm,1.8s						
CLL	**Collm**	**21.63**	**160**	*i P*	**P**	**02 54 46.2**	**-0.3**
	comp=Z,43nm,1.8s						
CLL				*i* (sP)	**sP**	**02 54 53.0**	**+2.4**
CLL	**Collm**	**21.63**	**160**	*eP*	**P**	**02 54 45.9**	**-0.6**
	comp=Z,41nm,1.8s						
UBBA	**Unterbreizbach**	**21.84**	**166**	*eP*	**P**	**02 54 49.1**	**+0.4**
	comp=Z,32nm,1.7s						
UBBA	**Unterbreizbach**	**21.84**	**166**	*eP*	**P**	**02 54 49.1**	**+0.4**
	comp=Z,32nm,1.7s						
FBE	**Freiberg**	**22.05**	**160**	*eP*	**P**	**02 54 50.9**	**-0.1**
	comp=Z,75nm,1.8s						
FBE	**Freiberg**	**22.05**	**160**	*eP*	**P**	**02 54 50.9**	**-0.1**
	comp=Z,75nm,1.8s						
MOX	**Moxa**	**22.15**	**163**	*eP*	**P**	**02 54 52.1**	**0.0**
	comp=Z,56nm,1.8s						
MOX	**Moxa**	**22.15**	**163**	*eP*	**P**	**02 54 52.1**	**0.0**
MOX				pmax	pmax		
	comp=Z,56nm,1.8s						
MOX	**Moxa**	**22.15**	**163**	*eP*	**P**	**02 54 52.1**	**0.0**
	comp=Z,56nm,1.8s						
BRG	**Berggiesshubel**	**22.16**	**159**	*eP*	**P**	**02 54 51.3**	**-0.8**
	comp=Z,112nm,2.6s						
BRG				*e*		02 55 06.0	
	comp=Z,51nm,1.9s						
BRG	**Berggiesshubel**	**22.16**	**159**	*eP*	**P**	**02 54 51.8**	**-0.4**
	comp=Z,112nm,2.6s						
BRG	**Berggiesshubel**	**22.16**	**159**	*eP*	**P**	**02 54 51.3**	**-0.8**
BRG	**Berggiesshubel**	**22.16**	**159**	*eP*	**P**	**02 54 51.8**	**-0.4**
	comp=Z,112nm,2.6s						
BEL	**Belsk**	**22.17**	**147**	*eP*	**P**	**02 54 53.0**	**+0.8**
MOS	**Moscow**	**22.31**	**119**	⇑*i P*	**P**	**02 54 52.7**	**-1.0**
MOS				*e*		02 55 15.9	
MOS				*eS*	**S**	**02 58 58.3**	**-0.3**
MOS				pmax	pmax		
	comp=Z,100nm,1.5s						
MOS				pmax	pmax		
	comp=Z,86nm,1.5s						
MOS	**Moscow**	**22.31**	**119**	*i P*	**P**	**02 54 52.7**	**-1.0**
	comp=Z,86nm,1.5s						
MOS				*eS*	**S**	**02 58 58.3**	**-0.3**
TNS	**Taunus Mts**	**22.33**	**168**	*eP*	**P**	**02 54 53.9**	**-0.2**
	comp=Z,23nm,1.6s						
TNS	**Taunus Mts**	**22.33**	**168**	*eP*	**P**	**02 54 53.9**	**-0.2**
TNS				pmax	pmax		
	comp=Z,23nm,1.6s						
TNS	**Taunus Mts**	**22.33**	**168**	*eP*	**P**	**02 54 53.9**	**-0.2**
	comp=Z,23nm,1.6s						
TANN	**Tannenbergstha**	**22.46**	**162**	*eP*	**P**	**02 54 55.3**	**-0.1**
	comp=Z,41nm,1.6s						
TANN	**Tannenbergstha**	**22.46**	**162**	*eP*	**P**	**02 54 55.3**	**-0.1**
	comp=Z,41nm,1.6s						
KSP	**Ksiaz**	**22.47**	**155**	⇓*eP*	**P**	**02 54 54.8**	**-0.7**
KSP	**Ksiaz**	**22.47**	**155**	*eP*	**P**	**02 54 54.9**	**-0.6**
KSP	**Ksiaz**	**22.47**	**155**	*eP*	**P**	**02 54 54.8**	**-0.7**
GUNZ	**Gunzen**	**22.50**	**162**	*eP*	**P**	**02 54 55.8**	**0.0**
	comp=Z,30nm,1.5s						
GUNZ	**Gunzen**	**22.50**	**162**	*eP*	**P**	**02 54 55.8**	**0.0**
	comp=Z,30nm,1.5s						
PVCC	**Panska Ves**	**22.57**	**158**	*eP*	**P**	**02 54 56.9**	**+0.3**
PVCC				*e*		02 55 01.2	
PVCC	**Panska Ves**	**22.57**	**158**	*eP*	**P**	**02 54 56.9**	**+0.3**
PVCC				*epP*	**pP**	**02 55 01.2**	**+1.8**
PVCC	**Panska Ves**	**22.57**	**158**	*eP*	**P**	**02 54 56.9**	**+0.3**
WERN	**Wernitzgruen**	**22.57**	**162**	*eP*	**P**	**02 54 56.8**	**+0.1**
	comp=Z,48nm,1.6s						
WERN	**Wernitzgruen**	**22.57**	**162**	*eP*	**P**	**02 54 56.8**	**+0.1**
	comp=Z,48nm,1.6s						
OBN	**Obninsk**	**22.58**	**121**	⇓*eP*	**P**	**02 54 57.6**	**+1.0**
OBN				pmax	pmax		
	comp=Z,54nm,1.3s						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s						
OBN	**Obninsk**	**22.58**	**121**	*eP*	**P**	**02 54 57.6**	**+1.0**
	comp=Z,300nm,17.0s						
UPC	**Upice**	**22.76**	**156**	*eP*	**P**	**02 54 58.3**	**-0.3**
UPC				*e*		02 55 05.8	
UPC	**Upice**	**22.76**	**156**	*eP*	**P**	**02 54 58.3**	**-0.3**
UPC				*epP*	**pP**	**02 55 05.8**	**+4.3**
UPC	**Upice**	**22.76**	**156**	*eP*	**P**	**02 54 58.3**	**-0.3**
WLF	**Walferdange**	**22.77**	**172**	*eP*	**P**	**02 54 58.5**	**-0.2**
	comp=Z,16nm,1.4s						
WLF	**Walferdange**	**22.77**	**172**	*eP*	**P**	**02 54 58.5**	**-0.2**
	comp=Z,16nm,1.4s						
DPC	**Dobruska-Polom**	**22.96**	**155**	*eP*	**P**	**02 55 00.5**	**-0.2**
DPC				*e*		02 55 05.8	
DPC	**Dobruska-Polom**	**22.96**	**155**	*eP*	**P**	**02 55 00.5**	**-0.2**
DPC				*epP*	**pP**	**02 55 05.8**	**+2.2**
DPC	**Dobruska-Polom**	**22.96**	**155**	*eP*	**P**	**02 55 00.5**	**-0.2**
GRA1	**Grafenberg Arr**	**23.06**	**164**	*eP*	**P**	**02 55 02.9**	**+1.2**
	comp=Z,16nm,1.2s						
GRF	**Grafenberg Arr**	**23.06**	**164**	*eP*	**P**	**02 55 02.9**	**+1.2**
	comp=Z,16nm,1.2s						
GRF	**Grafenberg Arr**	**23.06**	**164**	*eP*	**P**	**02 55 02.9**	**+1.2**
GRF				pmax	pmax		
	comp=Z,16nm,1.2s						
ROTZ	**Rotzenmuhle**	**23.07**	**162**	*eP*	**P**	**02 55 03.1**	**+1.2**
	comp=Z,27nm,1.7s						
ROTZ	**Rotzenmuhle**	**23.07**	**162**	*eP*	**P**	**02 55 03.1**	**+1.2**
	comp=Z,27nm,1.7s						
PRU	**Pruhonice**	**23.10**	**158**	*eP*	**P**	**02 55 01.4**	**-0.7**
PRU				*e*		02 55 04.8	
PRU	**Pruhonice**	**23.10**	**158**	*eP*	**P**	**02 55 01.4**	**-0.7**
PRU				*epP*	**pP**	**02 55 04.8**	**-0.2**
PRU				*ex*	x	02 55 17.3	
PRU	**Pruhonice**	**23.10**	**158**	*eP*	**P**	**02 55 01.4**	**-0.7**
OJC	**Ojcow**	**23.58**	**150**	*eP*	**P**	**02 55 07.1**	**+0.2**
OJC	**Ojcow**	**23.58**	**150**	*eP*	**P**	**02 55 07.1**	**+0.2**
**MORC

AKASG **Malin Array Be** 24.87 135 P **P** 02 55 18.6 -0.2
KIEV **Kiev** 24.87 135 *e*P **P** 02 55 18.0 -0.9
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV **Kiev** 24.87 135 *e*P **P** 02 55 18.0 -0.9
comp=Z,7.3nm,0.9s
KIEV **Kiev** 24.87 135 *e*P **P** 02 55 18.0 -0.9
comp=Z,7.3nm,0.9s
VYHS **Vyhne** 25.11 152 *e*P **P** 02 55 21.3 +0.2
VYHS pmax pmax
comp=Z,6.0nm,1.8s
VYHS **Vyhne** 25.11 152 *e*P **P** 02 55 21.3 +0.2
VYHS **Vyhne** 25.11 152 *e*P **P** 02 55 21.3 +0.2
comp=Z,6.0nm,1.8s
CRVS **Cervenica-Dubn** 25.12 148 *e*P **P** 02 55 23.0 +1.8
CRVS pmax pmax
comp=Z,23nm,1.8s
CRVS **Cervenica-Dubn** 25.12 148 *e*P **P** 02 55 23.0 +1.8
CRVS **Cervenica-Dubn** 25.12 148 *e*P **P** 02 55 23.0 +1.8
comp=Z,23nm,1.8s
RJOB **Jochberg** 25.14 162 *e*P **P** 02 55 22.0 +0.6
RJOB **Jochberg** 25.14 162 *e*P **P** 02 55 22.0 +0.6
ZST **Bratislava** 25.17 155 *e*P **P** 02 55 22.8 +1.2
ZST **Bratislava** 25.17 155 *e*P **P** 02 55 22.8 +1.2
ZST **Bratislava** 25.17 155 *e*P **P** 02 55 22.8 +1.2
MOA **Molln** 25.18 160 *i* P **P** 02 55 23.0 +1.2
comp=Z,21nm,1.6s,SNR=9.5
KOLS **Kolonicke sedl** 25.22 147 *e*P **P** 02 55 23.1 +1.0
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS **Kolonicke sedl** 25.22 147 *e*P **P** 02 55 23.1 +1.0
KOLS **Kolonicke sedl** 25.22 147 *e*P **P** 02 55 23.1 +1.0
comp=Z,7.0nm,1.1s
CONA **Conrad Observa** 25.28 157⇑ *i*P **P** 02 55 22.5 -0.3
comp=Z,16nm,1.5s,SNR=8.5
KECS **Kecovo** 25.37 150 *e*P **P** 02 55 23.6 +0.2
KECS pmax pmax
comp=Z,8.0nm,1.7s
KECS **Kecovo** 25.37 150 *e*P **P** 02 55 23.6 +0.2
KECS **Kecovo** 25.37 150 *e*P **P** 02 55 23.6 +0.2
comp=Z,8.0nm,1.7s
MOTA **Moosalm** 25.38 165 **P** 02 55 24.0 +0.3
comp=Z,8.1nm,1.2s
WTTA **Wattenberg** 25.51 164 *i* P **P** 02 55 25.7 +0.8
comp=Z,18nm,1.3s,SNR=7.0
UZH **Uzhgorod** 25.52 147 *e*P **P** 02 55 24.6 -0.1
UZH **Uzhgorod** 25.52 147 *e*P **P** 02 55 24.6 -0.1
PSZ **Piszkesteto** 25.83 151 *e*P **P** 02 55 28.1 +0.4
PSZ pmax pmax
comp=Z,46nm,1.9s
PSZ **Piszkesteto** 25.83 151 *e*P **P** 02 55 28.1 +0.4
comp=Z,46nm,1.9s
PSZ **Piszkesteto** 25.83 151 *e*P **P** 02 55 28.1 +0.4
comp=Z,46nm,1.9s
DAVOX **Davos/Dischmat** 25.85 167 LR LR 03 05 49.6
comp=Z,117nm,18.2s,baz=319,slow=37
ABTA **Abfaltersbach** 26.09 163⇑ *i*P **P** 02 55 32.2 +2.1
comp=Z,8.4nm,1.5s
TUE **Stuetta** 26.12 168 *e*P **P** 02 55 32.0 +1.5
comp=Z,10nm,1.2s
TUE **Stuetta** 26.12 168 *e*P **P** 02 55 32.0 +1.5
comp=Z,10nm,1.2s
VSR **Storozhevoye** 26.77 122 *e*P **P** 02 55 36.8 +0.7
VSR pmax pmax
comp=N,40nm,1.5s
VSR pmax pmax
comp=E,20nm,1.5s
VSR pmax pmax
comp=Z,20nm,1.5s
VSR **Storozhevoye** 26.77 122 *e*P **P** 02 55 36.8 +0.7
VORD **Divnogorie** 27.04 122 *e*P **P** 02 55 38.6 +0.2
VORD pmax pmax
comp=Z,20nm,1.5s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD **Divnogorie** 27.04 122 *e*P **P** 02 55 38.6 +0.2
comp=E,20nm,1.5s
ARU **Arti** 27.84 94*d* *i*P **P** 02 55 47.3 +1.6
ARU 02 56 29.9
ARU S **S** 03 00 31.8 +3.4
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU **Arti** 27.84 94 *i* P **P** 02 55 47.3 +1.6
comp=Z,9.0nm,1.7s
AQU **L'Aquila** 30.53 163 *e*P **P** 02 56 10.7 +1.0
comp=Z,3.5nm,0.6s
AQU **L'Aquila** 30.53 163 *e*P **P** 02 56 10.7 +1.0
comp=Z,3.5nm,0.6s
ANN **Anapa** 32.30 129 *e*P **P** 02 56 23.6 -1.5
ANN *e**PP **pP** 02 56 26.7 -1.4
ANN *e*S **S** 03 01 37.6 -0.7
ANN pmax pmax
comp=Z,9.0nm,0.7s
ANN **Anapa** 32.30 129 *e*P **P** 02 56 23.6 -1.5
comp=Z,9.0nm,0.7s
AKTK **Aktyubinsk** 32.85 101 P **P** 02 56 30.7 +0.8
comp=Z,1.0nm,0.5s
AKTO **Aktyubinsk** 32.85 101 P **P** 02 56 30.7 +0.8
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO **Aktyubinsk** 32.85 101 P **P** 02 56 30.7 +0.8
AKTO **Aktyubinsk** 32.85 101 P **P** 02 56 30.7 +0.8
comp=Z,0.6nm,0.5s,baz=334,slow=11,SNR=6.5
AKTO **Aktyubinsk** 32.85 101 P **P** 02 56 30.7 +0.8
BVAR **Borovoye Array** 34.36 86 PcP **PcP** 02 59 19.6 +1.1
BVAR **Borovoye Array** 34.36 86 PcP **PcP** 02 59 19.6 +1.1
comp=Z,0.6nm,0.5s,baz=291,slow=1.2,SNR=3.8
BVAR **Borovoye Array** 34.36 86 PcP **PcP** 02 59 19.6 +1.1
KIV **Kislovodsk** 34.39 123 *e*P **P** 02 56 45.1 +1.6
KIV *e*SS SS 03 04 25.9 -14
KIV pmax pmax
comp=Z,28nm,2.8s
KIV MLR MLR
comp=Z,100nm,15.0s
KIV **Kislovodsk** 34.39 123 *e*P **P** 02 56 45.1 +1.6
comp=Z,28nm,2.8s
ABKAR **Akbulak array** 34.47 100 *e*P **P** 02 56 43.7 -0.4
ABKAR **Akbulak array** 34.47 100 *e*P **P** 02 56 43.7 -0.4
KBZ **Khabaz** 34.66 123 P **P** 02 56 47.4 +1.7
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ MLR MLR
comp=Z,112nm,19.4s
KBZ **Khabaz** 34.66 123 P **P** 02 56 47.4 +1.7
KBZ **Khabaz** 34.66 123 P **P** 02 56 47.4 +1.7
comp=Z,1.3nm,0.6s,baz=19,slow=5.6,SNR=4.4
KBZ LR LR 03 10 47.5
comp=Z,112nm,19.4s,baz=2.2,slow=36
KBZ **Khabaz** 34.66 123 P **P** 02 56 47.4 +1.7
BRTR **Keskin Array B** 36.27 136 P **P** 02 57 01.0 +1.2
BRTR **Keskin Array B** 36.27 136 P **P** 02 57 01.0 +1.2
comp=Z,1.0nm,1.0s,baz=350,slow=4.8,SNR=3.6
BRTR **Keskin Array B** 36.27 136 P **P** 02 57 01.0 +1.2
INK **Inuvik** 36.59 334 *e*P **P** 02 57 02.0 0.0
comp=Z,4.0nm,1.0s
INK **Inuvik** 36.59 334 P **P** 02 57 02.2 +0.2
comp=Z,2.0nm,0.9s,baz=21,slow=7.0,SNR=3.2
INK LR LR 03 13 15.4
comp=Z,104nm,18.5s,baz=342,slow=38
INK **Inuvik** 36.59 334 P **P** 02 57 02.2 +0.2
comp=Z,104nm,18.5s
KEST **Kesra** 36.82 169 *e*P **P** 02 57 04.4 0.0
KEST **Kesra** 36.82 169 *e*P **P** 02 57 04.4 0.0
ZALV **Zalesovo Beam** 37.90 73 LR LR 03 16 21.2
comp=Z,42nm,18.2s,baz=71,slow=42
EGAK **Eagle** 40.93 337 *e*P **P** 02 57 37.9 -0.5
comp=Z,9.3nm,1.6s
EGAK **Eagle** 40.93 337 *e*P **P** 02 57 37.9 -0.5
comp=Z,9.3nm,1.6s
DAWY **Dawson** 41.39 335 *e*P **P** 02 57 41.7 -0.6
DAWY **Dawson** 41.39 335 *e*P **P** 02 57 41.7 -0.6
ILAR **Eielson Array** 41.58 340 P **P** 02 57 44.0 +0.3
ILAR **Eielson Array** 41.58 340 P **P** 02 57 44.0 +0.3
comp=Z,1.4nm,1.1s,baz=1.6,slow=6.5,SNR=9.7
ILAR **Eielson Array** 41.58 340 P **P** 02 57 44.0 +0.3
FFC **Flin Flon** 42.80 304 *e*P **P** 02 57 54.3 +0.4
FFC **Flin Flon** 42.80 304 *e*P **P** 02 57 54.3 +0.4
FFC **Flin Flon** 42.80 304 *e*P **P** 02 57 54.3 +0.4
PAX **Paxson** 43.18 339 *e*P **P** 02 57 57.1 +0.2
PAX **Paxson** 43.18 339 *e*P **P** 02 57 57.1 +0.2
PAX **Paxson** 43.18 339 *e*P **P** 02 57 57.1 +0.2
MK31 **Makanchi Array** 43.48 80 *e*P **P** 02 57 59.0 -0.5
MK31 **Makanchi Array** 43.48 80 *e*P **P** 02 57 59.0 -0.5
MK31 **Makanchi Array** 43.48 80 *e*P **P** 02 57 59.0 -0.5
MKAR **Makanchi Array** 43.48 80 P **P** 02 57 59.3 -0.2
MKAR 02 59 46.6
MKAR **Makanchi Array** 43.48 80 P **P** 02 57 59.3 -0.2
MKAR PcP **PcP** 02 59 46.6 -0.6
MKAR **Makanchi Array** 43.48 80 P **P** 02 57 59.3 -0.2
comp=Z,0.2nm,0.5s,baz=326,slow=5.9,SNR=4.4
MKAR PcP **PcP** 02 59 46.6 -0.6
comp=Z,0.5nm,0.7s,baz=0.0,slow=4.6,SNR=4.6
MKAR **Makanchi Array** 43.48 80 P **P** 02 57 59.3 -0.2
AAK **Ala-Archa** 44.87 90 *i* P **P** 02 58 10.6 -0.2
AAK pmax pmax
comp=Z,15nm,2.0s
AAK **Ala-Archa** 44.87 90 *i* P **P** 02 58 10.6 -0.2
comp=Z,15nm,2.0s
ULM **Lac du Bonnet** 45.23 296 LR LR 03 16 25.3
comp=Z,138nm,18.1s,baz=306,slow=35
EDM **Edmonton** 46.93 312 *e*P **P** 02 58 25.1 -1.7
EDM **Edmonton** 46.93 312 *e*P **P** 02 58 25.1 -1.7
EDM **Edmonton** 46.93 312 *e*P **P** 02 58 25.1 -1.7
WMQ **Urumqi** 47.80 77 *e*P **P** 02 58 36.3 +2.6
SONM **Songino Array** 49.42 59 P **P** 02 58 47.7 +1.5
SONM **Songino Array** 49.42 59 P **P** 02 58 47.7 +1.5
comp=Z,0.5nm,0.7s,baz=338,slow=11,SNR=3.9
SONM **Songino Array** 49.42 59 P **P** 02 58 47.7 +1.5
TAM **Tamanrasset** 49.54 175 *e*P **P** 02 58 47.8 +0.4
TAM pmax pmax
comp=Z,4.0nm,1.3s
TAM **Tamanrasset** 49.54 175 *e*P **P** 02 58 47.8 +0.4
comp=Z,4.0nm,1.3s
TAM **Tamanrasset** 49.54 175 *e*P **P** 02 58 47.8 +0.4
comp=Z,4.0nm,1.3s
WALA **Waterton Lakes** 50.94 310 *e*P **P** 02 58 56.8 -0.9
comp=Z,0.1nm,0.7s
WALA **Waterton Lakes** 50.94 310 *e*P **P** 02 58 56.8 -0.9
comp=Z,0.1nm,0.7s
SWMT **Swartz Lake** 52.41 309 *e*P **P** 02 59 07.3 -1.3
SWMT **Swartz Lake** 52.41 309 *e*P **P** 02 59 07.3 -1.3
SLMT **Seeley Lake** 52.54 309 *e*P **P** 02 59 09.0 -0.7
SLMT **Seeley Lake** 52.54 309 *e*P **P** 02 59 09.0 -0.7
CHMT **Chamberlain Mo** 52.79 309 *e*P **P** 02 59 09.9 -1.7
comp=Z,4.3nm,1.4s
CHMT **Chamberlain Mo** 52.79 309 *e*P **P** 02 59 09.9 -1.7
comp=Z,4.2nm,1.4s
BMO **Blue Mountains** 55.68 311 *e*P **P** 02 59 32.5 -0.1
comp=Z,4.8nm,1.4s
BMO **Blue Mountains** 55.68 311 *e*P **P** 02 59 32.5 -0.1
comp=Z,4.8nm,1.4s
PDAR **Pinedale Array** 55.76 304 P **P** 02 59 31.4 -1.9
PDAR **Pinedale Array** 55.76 304 P **P** 02 59 31.4 -1.9
comp=Z,0.3nm,0.6s,baz=38,slow=7.5,SNR=5.5
PDAR **Pinedale Array** 55.76 304 P **P** 02 59 31.4 -1.9
HLID **Hailey** 56.22 308 *e*P **P** 02 59 34.6 -1.9
comp=Z,2.0nm,1.0s
HLID **Hailey** 56.22 308 *e*P **P** 02 59 34.6 -1.9
comp=Z,2.0nm,1.0s
HWUT **Hardware Ranch** 57.36 305 *e*P **P** 02 59 44.0 -0.6
comp=Z,1.6nm,0.8s
HWUT **Hardware Ranch** 57.36 305 *e*P **P** 02 59 44.0 -0.6
comp=Z,1.6nm,0.8s
ISCO **Idaho Springs** 57.51 299 *e*P **P** 02 59 45.2 -0.7
ISCO pmax pmax
comp=Z,1.0nm,0.6s
ISCO **Idaho Springs** 57.51 299 *e*P **P** 02 59 45.2 -0.7
comp=Z,0.9nm,0.6s
ISCO **Idaho Springs** 57.51 299 *e*P **P** 02 59 45.2 -0.7
comp=Z,0.9nm,0.6s
SPUT **South Promonto** 57.86 306 *e*P **P** 02 59 46.3 -1.8
comp=Z,3.9nm,1.0s
SPUT **South Promonto** 57.86 306 *e*P **P** 02 59 46.3 -1.8
comp=Z,3.8nm,1.0s
MDJ **Mudanjiang** 57.90 42 P **P** 02 59 46.6 -1.5
MDJ PcP **PcP** 03 00 38.9 -1.4
MDJ S **S** 03 07 45.9 -1.6
MDJ ScS **ScS** 03 09 36.3 -0.9
MDJ SS **SS** 03 11 37.5 +0.1
MDJ pmax pmax
comp=Z,5.0nm,1.4s
MDJ pmax pmax
comp=Z,88nm,4.2s
JLU **Jordanelle** 58.28 305 *e*P **P** 02 59 49.6 -1.6
JLU **Jordanelle** 58.28 305 *e*P **P** 02 59 49.6 -1.6
MPU **Maple Canyon** 58.88 304 *e*P **P** 02 59 56.8 +1.5
comp=Z,4.8nm,1.0s
MPU **Maple Canyon** 58.88 304 *e*P **P** 02 59 56.8 +1.5
comp=Z,4.8nm,1.0s
DUG **Dugway** 59.01 306 *e*P **P** 02 59 55.5 -0.6
DUG pmax pmax
comp=Z,4.0nm,1.3s
DUG **Dugway** 59.01 306 *e*P **P** 02 59 55.5 -0.6
comp=Z,4.1nm,1.3s
DUG **Dugway** 59.01 306 *e*P **P** 02 59 55.5 -0.6
comp=Z,4.1nm,1.3s
MIAR **Mount Ida** 59.03 286 *e*P **P** 02 59 55.8 -0.3
MIAR pmax pmax
comp=Z,5.0nm,1.2s
MIAR **Mount Ida** 59.03 286 *e*P **P** 02 59 55.8 -0.3
comp=Z,4.9nm,1.2s
MIAR **Mount Ida** 59.03 286 *e*P **P** 02 59 55.8 -0.3
comp=Z,4.8nm,1.2s
TOA0 **Torodi Ar. Sit** 59.08 180 *e*P **P** 02 59 55.2 -1.5
TOA0 **Torodi Ar. Sit** 59.08 180 *e*P **P** 02 59 55.2 -1.5
TORD **Torodi Ar. Bea** 59.08 180 P **P** 02 59 55.2 -1.4
TORD PcP **PcP** 03 00 44.1 -1.2
TORD **Torodi Ar. Bea** 59.08 180 P **P** 02 59 55.2 -1.4
comp=Z,1.4nm,0.7s,baz=343,slow=6.9,SNR=9.8
TORD PcP **PcP** 03 00 44.1 -1.2
comp=Z,0.6nm,0.7s,baz=352,slow=3.7,SNR=2.7
TORD **Torodi Ar. Bea** 59.08 180 P **P** 02 59 55.2 -1.4
TORD **Torodi Ar. Bea** 59.08 180 PcP **PcP** 03 00 44.1 -1.2
SRU **San Rafael** 59.45 303 *e*P **P** 02 59 58.4 -0.8
SRU pmax pmax
comp=Z,3.0nm,1.0s
SRU **San Rafael** 59.45 303 *e*P **P** 02 59 58.4 -0.8
comp=Z,3.0nm,1.0s
SRU **San Rafael** 59.45 303 *e*P **P** 02 59 58.4 -0.8
comp=Z,3.0nm,1.0s
LZH **Lanzhou** 59.64 67 *e*P **P** 03 00 00.3 -0.3
LZH pP **pP** 03 00 04.3 +0.5
LZH sP **sP** 03 00 07.5 +2.5
LZH pmax pmax
comp=Z,16nm,1.0s
PV01 **Paradox Valley** 59.86 301 *e*P **P** 03 00 00.8 -1.4
PV01 **Paradox Valley** 59.86 301 *e*P **P** 03 00 00.8 -1.4
WMOK **Wichita Mounta** 60.36 291 *e*P **P** 03 00 03.0 -2.3
WMOK pmax pmax
comp=Z,4.0nm,1.2s
WMOK **Wichita Mounta** 60.36 291 *e*P **P** 03 00 03.0 -2.3
comp=Z,4.1nm,1.2s
WMOK **Wichita Mounta** 60.36 291 *e*P **P** 03 00 03.0 -2.3
comp=Z,4.1nm,1.2s
MVCO **Mesa Verde** 60.71 301 *e*P **P** 03 00 06.3 -1.7
comp=Z,6.3nm,1.1s
MVCO **Mesa Verde** 60.71 301 *e*P **P** 03 00 06.3 -1.7
comp=Z,6.3nm,1.1s
PAHR **Pah Rah Range** 61.05 311 *e*P **P** 03 00 07.5 -2.7
comp=Z,7.4nm,1.3s
PAHR **Pah Rah Range** 61.05 311 *e*P **P** 03 00 07.5 -2.7
comp=Z,7.4nm,1.3s
LAZ **Ladron** 63.00 298 *e*P **P** 03 00 22.4 -1.0
LAZ **Ladron** 63.00 298 *e*P **P** 03 00 22.4 -1.0
TXAR **Lajitas Array** 66.82 294 LR LR 03 32 26.7
comp=Z,39nm,21.9s,baz=180,slow=38
GYA **Guiyang** 69.50 68 *e*P **P** 03 01 06.5 +1.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMAR **Chiang Mai Arr** 74.80 77 P **P** 03 01 36.2 -0.4
CMAR **Chiang Mai Arr** 74.80 77 P **P** 03 01 36.2 -0.4
comp=Z,0.8nm,0.3s,baz=328,slow=6.7,SNR=3.9
CMAR **Chiang Mai Arr** 74.80 77 P **P** 03 01 36.3 -0.4
comp=Z,1.0nm,0.3s
ASAR **Alice Springs** 124.70 56 PKP **PKPdf** 03 08 54.5 -1.2
ASAR **Alice Springs** 124.70 56 PKP **PKPdf** 03 08 54.5 -1.2
comp=Z,0.6nm,0.7s,baz=322,slow=2.0,SNR=7.6
MAW **Mawson** 145.36 144 PKPbc **PKPab** 03 09 32.6 0.0
MAW **Mawson** 145.36 144 PKPbc **PKPab** 03 09 32.6 0.0
comp=Z,2.1nm,0.7s,baz=3.3,slow=5.3,SNR=5.1
MAW **Mawson** 145.36 144 PKPbc **PKPab** 03 09 32.6 0.0

*IDC **22** 02:52:52.0±6.6, 1°.60S×99°.42E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=357.8km s-min=29.2km az=52.0*
*ISCJB **22** 02:52:54.4±1.3, 1°.6S±0°.1×99°.3E±0°.1, h30km, mb3.4/3, Error ellipse: s-maj=21.2km s-min=11.7km az=41.0*
*DJA **22** 02:52:58.4±1.3, 1°.S±10°.×9°.9E±1°.0, h23km, M4.1/4, MLv4.1/4*
ISC 22 02:52:56.4±1.4, 1°.5S±0°.1×99°.5E±0°.1, h30km, n8, σ0.86/10, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	1.14	58	P	**Pb**	02 53 16.7	-0.9
PDSI				S	**Sb**	02 53 33.8	+1.8
PPI	**Padang Panjang**	1.39	41	P	**Pn**	02 53 19.5	-0.2
PPI				S	**Sb**	02 53 38.8	-0.2
SDSI	**Sungai Dareh**	2.02	73	P	**Pb**	02 53 31.8	-0.7
BKNI	**Bangkinang**	2.39	40	P	**Pb**	02 53 38.3	-0.6
WRA	**Warramunga Arr**	38.68	121	P	**P**	03 00 17.9	0.0
	0.5nm,0.6s,baz=294,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	39.95	126	P	**P**	03 00 28.5	+0.1
	0.2nm,0.5s,baz=298,slow=8.0,SNR=3.1						
MKAR	**Makanchi Array**	50.43	345	P	**P**	03 01 51.8	+0.6
	0.4nm,0.6s,baz=155,slow=9.3,SNR=4.2						
TXAR	**Lajitas Array**	144.62	36	PKP	**PKPdf**	03 12 30.9	-0.1
	0.2nm,0.5s,baz=201,slow=3.4,SNR=4.0						

IDC 22 03:09:16.5±3.0, 56°.89S×25°.11W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/16, mbtmp4.1/3, Error ellipse: s-maj=100.9km s-min=43.3km az=1.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	38.23	309	P	P	03 16 37.5	-0.5
	1.7nm,0.7s,baz=152,slow=12,SNR=5.2						
LPAZ	**La Paz**	51.80	304	P	P	03 18 27.1	+0.2
	6.8nm,0.7s,baz=112,slow=4.4,SNR=45						
TORD	**Torodi Ar. Bea**	73.25	27	P	P	03 20 49.4	+0.1
	0.4nm,0.7s,baz=212,slow=5.7,SNR=5.0						
ILAR	**Eielson Array**	151.54	310	PKPbc	PKPbc	03 29 10.6	-0.3
	1.7nm,0.9s,baz=138,slow=1.8,SNR=16						

*IDC **22** 03:11:16.4±2.0, 5°.73N×125°.21E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, Error ellipse: s-maj=129.0km s-min=23.8km az=68.0*
*ISCJB **22** 03:11:31.9±0.8, 5°.76N±0°.08×126°.2E±0°.1, h150km, mb3.4/4, Error ellipse: s-maj=16.9km s-min=8.8km az=153.3*
*MAN **22** 03:11:35, 5°.95N×125°.89E, h172km, mb4.4, ML3.3, MS3.1*
ISC 22 03:11:33.2±1.3, 5°.8N±0°.1×126°.1E±0°.1, h150km, n9, σ1.97/11, mb3.4/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	1.14	287⇑	*e*P	**Pn**	03 12 00.5	+1.1
GSPH				*e*S	**Sn**	03 12 20.7	+1.4
MATI	**Mati**	1.20	10	*e*P	**Pn**	03 12 02.9	+3.1
MATI				*e*S	**Sn**	03 12 18.3	-1.8
KCP	**Kidapawan**	1.57	323⇓	*e*P	**Pn**	03 12 05.3	+1.7
KCP				*i* S	**Sn**	03 12 28.8	+2.0
BUKP	**Musuan**	2.32	335	*e*P	**Pn**	03 12 12.8	+0.5
PAGZ	**Pagadian**	3.37	308	*e*P	**Pn**	03 12 25.7	+0.4
FITZ	**Fitzroy Crossi**	23.71	181	P	**P**	03 16 31.9	+0.3
	1.2nm,0.5s,baz=0.7,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	26.81	162	P	**P**	03 16 59.4	-0.2
	0.4nm,0.6s,baz=335,slow=10,SNR=7.8						
ASAR	**Alice Springs**	30.23	166	P	P	03 17 30.3	+0.3
	0.5nm,0.4s,baz=337,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	55.52	325	P	**P**	03 20 50.0	-2.8
	0.1nm,0.4s,baz=111,slow=7.2,SNR=2.9						

*ISCJB **22** 03:24:48.7±0.2, 24°.73N±0°.02×122°.63E±0°.02, h120km±2km, mb3.9/16, Error ellipse: s-maj=4.2km s-min=2.3km az=161.5*
*NEIC **22** 03:24:49.4±0.5, 24°.71N×122°.66E, h113km±5km, mb4.3/6, Error ellipse: s-maj=10.0km s-min=8.6km az=130.0*
NEIC Recorded [2 TAP] in I-Ian and [1 TAP] in Hua-lien.
*JMA **22** 03:24:50.9±0.2, 24°.70N×122°.62E, h107km±2km, M3.5*
*TAP **22** 03:24:50.4, 24°.69N×122°.61E, h111km, ML4.7, C*
*IDC **22** 03:24:50.1±4.3, 24°.79N×122°.55E, h119km±40km, mb3.5/13, mb1 3.7/15, mb1mx3.5/29, mbtmp3.5/15, Error ellipse: s-maj=24.3km s-min=13.5km az=76.0*
ISC 22 03:24:49.4±0.6, 24°.72N±0°.04×122°.61E±0°.02, h116km±5km, n99, σ1.15/166, mb3.9/16, 2C-22D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	0.44	125⇑	*i*P	**Pn**	03 25 07.0	+0.4
	baz=128						
YOJ				*i* S	**Sn**	03 25 19.5	-0.1
	baz=128						
YOJ	**Yonaguni jima**	0.44	125	P	**Pn**	03 25 07.0	+0.4
YOJ				S	**Sn**	03 25 19.4	-0.1
TWB1	**Santiao Chiao**	0.64	297	*i*P	**Pn**	03 25 08.7	+0.8
	baz=300						
TWB1				*i* S	**Sn**	03 25 21.8	-0.1
	baz=300						
TWC	**Suao**	0.70	261	*i*P	**Pn**	03 25 08.7	+0.2
	baz=260						
TWC				S	**Sn**	03 25 21.6	-1.2
	baz=260						
ILA	**Ilan**	0.79	274	⇓P	**Pn**	03 25 09.9	+0.8
	baz=274						
ILA				S	**Sn**	03 25 24.2	+0.2
	baz=274						
NWF	**Wu-fen Shan**	0.83	295	⇓*i*P	**Pn**	03 25 10.7	+1.0
	baz=292						
NWF				S	**Sn**	03 25 25.1	+0.2
	baz=292						
ENA	**Nanau**	0.84	250	⇓*i*P	**Pn**	03 25 10.3	+0.6
	baz=252						
ENA				*e*S	**Sn**	03 25 24.8	-0.1
	baz=252						
TWE	**Neicheng**	0.86	271	⇓*i*P	**Pn**	03 25 10.6	+0.8
	baz=271						
TWE				*e*S	**Sn**	03 25 24.5	-0.7
	baz=271						
EHP	**Heping Village**	0.89	243	*e*P	**Pn**	03 25 10.4	+0.3
	baz=241						
ENTT	**Nioudou**	0.96	266	⇓*i*P	**Pn**	03 25 11.8	+1.0
	baz=272						
TWA	**Mucha**	0.97	286	⇓*i*P	**Pn**	03 25 11.6	+0.7
	baz=280						
TWA				*e*S	**Sn**	03 25 26.2	-0.9
	baz=280						
TAP1	**Taipei**	1.04	288	*e*P	**Pn**	03 25 11.7	+0.2
	baz=289						
TAP1				S	**Sn**	03 25 27.6	-0.7
	baz=289						
TATO	**Taipei**	1.05	284	*e*Pn	**Pn**	03 25 12.0	+0.3
TATO				*e*Sn	**Sn**	03 25 27.6	-0.9
TAP	**Taipei**	1.06	288	*e*P	**Pn**	03 25 11.8	+0.1
	baz=289						
TAP				*e*S	**Sn**	03 25 27.9	-0.7
	baz=289						
NACB	**Ninganchiao**	1.07	240	*e*Pn	**Pn**	03 25 11.3	-0.6
NACB				*e*Sn	**Sn**	03 25 26.9	-2.0
TWY	**Chenhua**	1.08	301	*e*P	**Pn**	03 25 12.6	+0.7
	baz=296						
TWY				*e*S	**Sn**	03 25 29.3	+0.4
	baz=296						
IRIF	**Iriomote-Funau**	1.08	110	P	**Pn**	03 25 12.6	+0.6
IRIF				S	**Sn**	03 25 29.2	+0.1
TWD	**Chiawan**	1.12	236	⇓P	**Pn**	03 25 12.4	0.0
	baz=233						
TWD				S	**Sn**	03 25 29.2	-0.6
	baz=233						
YHNB	**Yeheng**	1.13	268	*e*Pn	**Pn**	03 25 13.1	+0.6
YHNB				*e*Sn	**Sn**	03 25 29.3	-0.8
NSK	**Sanguang**	1.14	268	⇓*i*P	**Pn**	03 25 13.7	+1.0
	baz=276						
NSK				S	**Sn**	03 25 30.1	-0.2
	baz=276						
NNS	**Nan Shan**	1.16	257	⇓*i*P	**Pn**	03 25 13.7	+0.7
	baz=253						
NNS				*e*S	**Sn**	03 25 30.3	-0.4
	baz=253						
HWA	**Hwalien**	1.18	232	⇓*i*P	**Pn**	03 25 13.3	+0.3
	baz=228						
HWA				*e*S	**Sn**	03 25 30.8	-0.1
	baz=228						
HATJ	**Hateruma jima**	1.27	121	P	**Pn**	03 25 15.0	+1.0
HATJ				S	**Sn**	03 25 32.4	-0.2
NCU	**National Centr**	1.32	281	*e*P	**Pn**	03 25 15.5	+1.0

	baz=289								
NCU					eS		Sn	03 25 34.6	+1.0
	baz=289								
WHF	**Hehuan Shan**	**1.35**	**245**	⇓	*i*P		**Pn**	**03 25 16.1**	**+0.7**
	baz=242								
WHF					S		**Sn**	**03 25 34.2**	**-0.9**
	baz=242								
JKRS	**Kuro-shima**	**1.36**	**110**		P		**Pn**	**03 25 16.1**	**+1.1**
JKRS					S		**Sn**	**03 25 34.9**	**+0.6**
TWT	**Tachien**	**1.39**	**251**	⇓	*i*P		**Pn**	**03 25 16.9**	**+1.4**
	baz=246								
TWT					S		**Sn**	**03 25 35.7**	**+0.4**
	baz=246								
ESL	**Shilin**	**1.40**	**230**	⇓	*i*P		**Pn**	**03 25 15.5**	**-0.1**
	baz=227								
ESL					eS		**Sn**	**03 25 33.5**	**-1.8**
	baz=227								
JIJ	**Ishigaki jima**	**1.44**	**104**		P		**Pn**	**03 25 16.6**	**+0.7**
JIJ					S		**Sn**	**03 25 35.5**	**-0.4**
NSTT	**Nanjuang**	**1.47**	**267**	⇓	*i*P		**Pn**	**03 25 17.2**	**+0.9**
	baz=268								
NSTT					eS		**Sn**	**03 25 36.5**	**-0.1**
	baz=268								
EHY	**Hungye**	**1.69**	**225**	⇓	*i*P		**Pn**	**03 25 18.6**	**-0.3**
	baz=225								
EHY					eS		**Sn**	**03 25 38.8**	**-2.5**
	baz=225								
NSY	**Sanyi**	**1.71**	**260**		*i*P		**Pn**	**03 25 20.5**	**+1.3**
	baz=261								
NSY					S		**Sn**	**03 25 42.7**	**+0.8**
	baz=261								
TWQ1	**Liyutan**	**1.72**	**258**	⇓	*i*P		**Pn**	**03 25 20.4**	**+1.1**
	baz=259								
TWQ1					eS		**Sn**	**03 25 41.9**	**-0.1**
	baz=259								
SMLT	**Sun Moon Lake**	**1.77**	**242**	⇓	*i*P		**Pn**	**03 25 21.2**	**+1.2**
	baz=238								
SMLT					eS		**Sn**	**03 25 44.9**	**+1.6**
	baz=238								
SSLB	**Suanglung**	**1.77**	**239**		*e*Pn		**Pn**	**03 25 20.2**	**+0.2**
SSLB					eSn		**Sn**	**03 25 42.9**	**-0.3**
YULB	**Yu-li**	**1.79**	**223**		*e*Pn		**Pn**	**03 25 19.4**	**-0.7**
YULB					eSn		**Sn**	**03 25 39.8**	**-3.7**
TYC	**Yuchr**	**1.80**	**244**	⇓	*i*P		**Pn**	**03 25 21.5**	**+1.3**
	baz=241								
TYC					eS		**Sn**	**03 25 44.3**	**+0.7**
	baz=241								
TWF1	**Yuli**	**1.81**	**222**		*e*P		**Pn**	**03 25 20.3**	**-0.1**
	baz=229								
TWF1					eS		**Sn**	**03 25 42.0**	**-2.1**
	baz=229								
TCU	**Taichung**	**1.85**	**253**		*e*P		**Pn**	**03 25 21.8**	**+0.9**
	baz=254								
TCU					eS		**Sn**	**03 25 45.5**	**+0.6**
	baz=254								
JTJ	**Tarama**	**1.90**	**92**		P		**Pn**	**03 25 22.9**	**+1.5**
JTJ					S		**Sn**	**03 25 46.9**	**+1.0**
WNT	**Mingjian**	**1.95**	**245**		*e*P		**Pn**	**03 25 23.5**	**+1.4**
	baz=246								
WNT					eS		**Sn**	**03 25 48.4**	**+1.4**
	baz=246								
YUS	**Yu-Shan**	**1.95**	**232**		P		**Pn**	**03 25 23.6**	**+1.1**
	baz=228								
YUS					eS		**Sn**	**03 25 47.1**	**-0.7**
	baz=228								
CHKT	**Chengkung**	**1.97**	**216**	⇓	P		**Pn**	**03 25 22.2**	**-0.2**
	baz=211								
CHKT					eS		**Sn**	**03 25 45.4**	**-2.1**
	baz=211								
ALS	**Alishan**	**2.04**	**234**	⇓	P		**Pn**	**03 25 25.1**	**+1.5**
	baz=230								
ALS					eS		**Sn**	**03 25 49.3**	**-0.3**
	baz=230								
CHN5	**Tsauling**	**2.09**	**238**		P		**Pn**	**03 25 25.5**	**+1.6**
	baz=249								
CHN5					eS		**Sn**	**03 25 51.9**	**+1.6**
	baz=249								
WGK	**Gukeng**	**2.14**	**242**		*e*P		**Pn**	**03 25 25.8**	**+1.4**
	baz=243								
WGK					eS		**Sn**	**03 25 52.4**	**+1.2**
	baz=243								
CHN2	**Minshiung**	**2.28**	**239**		*e*P		**Pn**	**03 25 27.8**	**+1.5**
	baz=250								
CHN2					eS		**Sn**	**03 25 55.9**	**+1.4**
	baz=250								
WTCT	**Ta-ch'eng**	**2.29**	**249**		*e*P		**Pn**	**03 25 27.2**	**+0.8**
	baz=256								
WTCT					eS		**Sn**	**03 25 54.8**	**+0.1**
	baz=256								
TPUB	**Ta-pu**	**2.30**	**233**		*e*Pn		**Pn**	**03 25 27.6**	**+1.1**
TPUB					eSn		**Sn**	**03 25 54.2**	**-0.8**
CHY	**Chiayi**	**2.34**	**239**		*e*P		**Pn**	**03 25 27.9**	**+0.9**
	baz=250								
CHY					eS		**Sn**	**03 25 56.7**	**+0.9**
	baz=250								
TWG	**Pinlang**	**2.36**	**217**		*e*P		**Pn**	**03 25 27.2**	**-0.1**
	baz=223								
TWG					eS		**Sn**	**03 25 54.2**	**-2.0**
	baz=223								
TWG	**Pinlang**	**2.36**	**217**		*e*Pn		**Pn**	**03 25 26.7**	**-0.6**
TWG					eSn		**Sn**	**03 25 54.3**	**-2.0**
TTN	**Taitung**	**2.37**	**215**		*e*P		**Pn**	**03 25 28.9**	**+1.5**
	baz=222								
WSF	**Szhu**	**2.43**	**244**		*e*P		**Pn**	**03 25 28.7**	**+0.5**
	baz=245								
WSF					eS		**Sn**	**03 25 58.5**	**+0.5**
	baz=245								
JMJ	**Miyako jima 2**	**2.44**	**87**		*e*S		**Sn**	**03 25 59.0**	**+0.9**
CHN1	**Nanshi**	**2.44**	**232**		*e*P		**Pn**	**03 25 30.0**	**+1.6**
	baz=233								
CHN1					eS		**Sn**	**03 25 59.0**	**+0.7**
	baz=233								
SGST	**Jiashian**	**2.47**	**229**		*e*P		**Pn**	**03 25 30.6**	**+1.8**
	baz=230								
SGST					eS		**Sn**	**03 26 00.1**	**+1.2**
	baz=230								
JOGS	**Gusukube**	**2.54**	**88**		P		**Pn**	**03 25 31.8**	**+2.2**
JOGS					S		**Sn**	**03 26 02.0**	**+1.6**
SCLT	**Jiali**	**2.69**	**236**		*e*P		**Pn**	**03 25 32.8**	**+1.2**
	baz=229								
SCLT					eS		**Sn**	**03 26 04.0**	**0.0**
	baz=229								
TWM1	**Shoushan**	**2.75**	**227**		*e*P		Pn	03 25 36.2	+3.8
	baz=228								
LAY	**Lan-yu**	**2.84**	**200**		*e*P		**Pn**	**03 25 33.2**	**-0.4**
	baz=201								
SCZT	**Fangliau**	**2.96**	**219**		*e*P		**Pn**	**03 25 37.2**	**+2.0**
	baz=230								
SCZT					eS		**Sn**	**03 26 09.9**	**-0.5**
	baz=230								
WDGT	**Dungji**	**3.07**	**242**		*e*P		**Pn**	**03 25 36.5**	**0.0**
	baz=243								
WDGT					eS		**Sn**	**03 26 10.6**	**-2.1**
	baz=243								
TSEB	**Hengchuen, Pin**	**3.22**	**210**		*e*S		**Sn**	**03 26 16.4**	**+0.1**
	baz=211								
TWK1	**Hengchun**	**3.22**	**211**		*e*P		**Pn**	**03 25 40.0**	**+1.4**
	baz=212								
TWK1					eS		**Sn**	**03 26 15.8**	**-0.7**
	baz=212								
QZH	**Quanzhou**	**3.66**	**274**	⇑	*i*Pn		**Pn**	**03 25 43.0**	**-1.4**
QZH					Sn		Sn	03 26 20.4	-6.5
QZH					smax		smax		
	comp=N,190nm,0.6s								
QZH					smax		smax		
	comp=E,140nm,0.8s								
KNM	**Kinmen**	**3.82**	**266**		*e*P		**Pn**	**03 25 48.2**	**+1.7**
	baz=259								
JKE	**Kume jima 2**	**4.10**	**66**		P		**Pn**	**03 25 51.4**	**+1.2**
JKE					eS		**Sn**	**03 26 37.0**	**-0.3**
JAGN	**Aguni-jima**	**4.57**	**65**		P		**Pn**	**03 25 57.2**	**+0.6**
JAGN					eS		**Sn**	**03 26 48.5**	**-0.3**
JOW	**Kunigami**	**5.52**	**66**		*e*Pn		**Pn**	**03 26 08.9**	**-0.5**
	comp=E,12nm,0.3s								
JOW					eSn		**Sn**	**03 27 09.6**	**-2.1**
JOW	**Kunigami**	**5.52**	**66**		P		**Pn**	**03 26 09.2**	**-0.2**
JOW					eS		**Sn**	**03 27 10.0**	**-1.6**
JTK	**Tokunoshima**	**6.46**	**60**		P		**Pn**	**03 26 21.0**	**-1.0**
JTK					eS		**Sn**	**03 27 32.0**	**-2.3**
JAMN	**Amaminishikomi**	**6.85**	**58**		P		**Pn**	**03 26 25.7**	**-1.6**
JAMN					eS		**Sn**	**03 27 40.4**	**-3.3**
JAM	**Amami Oshima**	**7.26**	**58**		P		**Pn**	**03 26 31.1**	**-1.8**
JAM					eS		**Sn**	**03 27 49.8**	**-4.0**
JZK	**Kikaishima**	**7.50**	**60**		P		**Pn**	**03 26 35.4**	**-0.7**
JZK					eS		**Sn**	**03 27 57.9**	**-1.7**
JMZ	**Minamidaito 2**	**7.87**	**80**		P		**Pn**	**03 26 40.4**	**-0.7**
JMZ					eS		Sn	03 28 00.9	-7.6
JNU	**Nakatsue**	**11.06**	**39**		P		**Pn**	**03 27 25.8**	**+1.4**
	comp=E,0.4nm,0.3s,baz=152,slow=3.5,SNR=3.9								
KSRS	**Korea Array**	**13.48**	**18**		P		**P**	**03 27 59.2**	**-1.8**
	comp=E,1.1nm,0.3s,baz=200,slow=13,SNR=13								
MJAR	**Matsushiro Arr**	**17.83**	**45**		P		**P**	**03 28 48.6**	**-0.7**
	comp=E,0.1nm,0.3s,baz=234,slow=8.1,SNR=4.1								
KKM	**Kota Kinabalu**	**19.55**	**199**		*e*P		**P**	**03 29 08.4**	**+0.1**
	comp=E,24nm,1.0s								
USRK	**Ussuriysk Arra**	**20.89**	**19**		P		**P**	**03 29 22.9**	**+0.6**
	comp=E,3.1nm,0.6s,baz=193,slow=9.6,SNR=6.9								
ASAJ	**Asahikawa**	**25.30**	**35**		P		**P**	**03 30 03.9**	**-1.2**
	comp=E,10nm,1.0s,baz=279,slow=13,SNR=4.9								
MK31	**Makanchi Array**	**38.88**	**315**		*e*P		**P**	**03 32 03.4**	**-0.1**
MKAR	**Makanchi Array**	**38.88**	**315**		P		**P**	**03 32 03.4**	**-0.1**
	comp=E,0.4nm,0.4s,baz=99,slow=11,SNR=6.0								
MKAR					PcP		**PcP**	**03 34 12.1**	**0.0**
	comp=E,1.0nm,0.7s,baz=85,slow=5.1,SNR=9.1								
ZALV	**Zalesovo Beam**	**40.52**	**326**		P		**P**	**03 32 16.4**	**-0.5**
	comp=E,1.8nm,0.8s,baz=109,slow=8.8,SNR=5.2								
TKM2	**Tokmak 2**	**42.47**	**307**		*e*P		**P**	**03 32 34.0**	**+0.8**
	comp=E,1.2nm,0.6s								
KURBB	**Kurchatov Arra**	**42.55**	**319**		P		**P**	**03 32 33.2**	**-0.3**
	comp=E,0.6nm,0.5s,baz=114,slow=9.7,SNR=8.1								
KURBB					PcP		**PcP**	**03 34 23.2**	**-0.6**
	comp=E,0.4nm,0.6s,baz=110,slow=3.5,SNR=4.1								
FITZ	**Fitzroy Crossi**	**42.66**	**176**		P		**P**	**03 32 34.9**	**+0.3**
	comp=E,2.0nm,0.8s,baz=61,slow=5.2,SNR=6.6								
EKS2	**Erkin-Say**	**43.76**	**307**		*e*P		**P**	**03 32 44.5**	**+1.0**
	comp=E,2.5nm,0.8s								
WRAB	**Tennant Creek**	**45.83**	**165**		*e*P		**P**	**03 33 00.6**	**+0.7**
	comp=E,3.2nm,0.8s								
WRA	**Warramunga Arr**	**45.83**	**165**		P		**P**	**03 33 00.9**	**+0.9**
	comp=E,0.7nm,0.8s,baz=347,slow=8.7,SNR=9.6								
ASAR	**Alice Springs**	**49.33**	**166**		P		**P**	**03 33 28.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=342,slow=6.9,SNR=4.3								
ABKAR	**Akbulak array**	**54.01**	**314**		*e*P		**P**	**03 34 01.4**	**-0.1**
ILAR	**Eielson Array**	**68.14**	**28**		P		**P**	**03 35 37.8**	**+1.1**
	comp=E,0.2nm,0.5s,baz=278,slow=6.7,SNR=5.5								
ARCES	**ARCESS Array B**	**69.53**	**338**		P		**P**	**03 35 44.5**	**-0.8**
	comp=E,2.1nm,0.8s,baz=71,slow=7.8,SNR=4.7								
FINES	**FINESS Array B**	**71.64**	**330**		P		**P**	**03 35 58.1**	**0.0**
	comp=E,1.0nm,0.5s,baz=55,slow=4.8,SNR=17								
NOA	**NORSAR Array B**	**78.36**	**332**		P		**P**	**03 36 35.9**	**-0.9**
	comp=E,0.4nm,0.5s,baz=54,slow=5.9,SNR=3.7								
FFC	**Flin Flon**	**92.12**	**24**		*e*P		**P**	**03 37 45.8**	**+0.2**
	comp=E,8.7nm,1.0s								
NVAR	**Mina Array Bea**	**95.15**	**44**		P		**P**	**03 38 01.1**	**+1.0**
	comp=E,1.2nm,0.7s,baz=270,slow=5.9,SNR=6.6								

*ISK **22** 03:47:24.3, 40°.62N×36°.76E, h12km, MD3.0*
*CSEM **22** 03:47:25.5±0.2, 40°.59N×36°.75E, h20km, MD2.8, Error ellipse: s-maj=5.0km s-min=3.3km az=28.0*

DDA 22 03:47:24.4, 40°.63N×36°.77E, h13km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ERBA	**Erbaa**	**0.06**	**348**	*i*P		Pg	03 47 27.3	+0.2
ERBA				*i*S		Sg	03 47 28.7	-0.3
TOKT	**Tokat**	**0.35**	**209**	*e*PG		Pg	03 47 32.0	+0.3
TOKT				*e*SG		Sg	03 47 37.0	+0.5
TOKT	**Tokat**	**0.35**	**209**	*e*Pg		Pg	03 47 32.0	+0.4
TOKT				*e*Sg		Sg	03 47 37.0	+0.6
TOKA	**Tokat**	**0.38**	**216**	*i*P		Pg	03 47 32.3	+0.2
TOKA				*i*S		Sg	03 47 37.7	+0.5
TOKA	**Tokat**	**0.38**	**216**	*i*P		Pg	03 47 32.3	+0.2
TOKA				*i*S		Sg	03 47 37.7	+0.5
RSDY	**Resadiye-TOKAT**	**0.48**	**118**	*e*PG		Pg	03 47 34.1	+0.1
RSDY				*e*SG		Sb	03 47 41.8	-0.1
RSDY	**Resadiye-TOKAT**	**0.48**	**118**	*e*Pg		Pg	03 47 34.1	+0.1
RSDY				*e*Sg		Sb	03 47 41.8	-0.1
KVT	**Kavak**	**0.71**	**310**	*e*PG		Pg	03 47 38.5	+0.1
KVT				*e*SG		Sb	03 47 49.1	+0.6
KVT	**Kavak**	**0.71**	**310**	*e*Pg		Pg	03 47 38.5	+0.1
KVT				*e*Sg		Sb	03 47 49.2	+0.6
SVSK	**Karacayir**	**0.73**	**166**	*e*PG		Pg	03 47 38.5	-0.1
SVSK				*e*SG		Sn	03 47 50.2	-1.2
SVSK	**Karacayir**	**0.73**	**166**	*e*Pg		Pg	03 47 38.5	-0.1
SVSK				*e*Sg		Sn	03 47 50.2	-1.2
SCER	**sogukcermik**	**0.81**	**160**	*i*P		Pg	03 47 40.4	0.0
SCER				*i*S		Sb	03 47 51.8	+0.2
SCER	**sogukcermik**	**0.81**	**160**	*i*P		Pg	03 47 40.4	0.0
SCER				*i*S		Sb	03 47 51.8	+0.2
HAVZ	**Havza**	**0.92**	**300**	*i*P		Pb	03 47 42.5	+0.2
HAVZ				*i*S		Sb	03 47 55.2	+0.8
HAVZ	**Havza**	**0.92**	**300**	*i*P		Pb	03 47 42.5	+0.2
HAVZ				*i*S		Sb	03 47 55.2	+0.8
SUSE	**Susehri**	**1.17**	**110**	*i*P		Pg	03 47 47.0	-0.2
SUSE				*i*S		Sg	03 48 02.5	-0.2
SUSE	**Susehri**	**1.17**	**110**	*i*P		Pg	03 47 47.0	-0.2
SUSE				*i*S		Sg	03 48 02.5	-0.1
YOZ	**Yozgat**	**1.48**	**229**	*e*PN		Pn	03 47 51.1	0.0
YOZ	**Yozgat**	**1.48**	**229**	*e*Pn		Pn	03 47 51.1	0.0
CTKT	**Corum**	**1.51**	**271**	*i*P		Pb	03 47 52.5	0.0
CTKT				*i*S		Sg	03 48 14.4	+0.9
CTKT	**Corum**	**1.51**	**271**	*i*P		Pb	03 47 52.5	0.0
ESPY	**Espiye-Giresun**	**1.51**	**78**	*e*PN		Pb	03 47 52.2	-0.2
ESPY	**Espiye-Giresun**	**1.51**	**78**	*e*Pn		Pb	03 47 52.2	-0.2
DIKM	**Dikmen**	**1.53**	**312**	*e*PN		Pn	03 47 51.9	+0.4
DIKM	**Dikmen**	**1.53**	**312**	*e*Pn		Pn	03 47 51.9	+0.4
CORM	**Corum**	**1.69**	**255**	*e*PN		Pn	03 47 54.2	+0.3
CORM	**Corum**	**1.69**	**255**	*e*Pn		Pn	03 47 54.2	+0.3
KELT	**Kelkit**	**1.96**	**103**	*i*P		Pb	03 48 00.7	+0.4
KELT				*i*S		Sb	03 48 25.5	+0.7
BAYT	**Ayd¨–ntepe-Bay**	**2.58**	**94**	*e*PN		Pn	03 48 07.5	+1.4
BAYT	**Ayd¨–ntepe-Bay**	**2.58**	**94**	*e*Pn		Pn	03 48 07.5	+1.3

*ISK **22** 03:48:45.2, 39°.08N×28°.95E, h9km, MD3.2*
*CSEM **22** 03:48:45.3±0.1, 39°.10N×29°.00E, h2km, ML3.2, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0*

DDA 22 03:48:44.1, 39°.12N×29°.01E, h7km, MD3.1, ML3.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
DEMI	**Demirci**	**0.24**	**251**	*i*P		Pg	03 48 50.3	+1.3
DEMI				*i*S		Sg	03 48 53.7	+1.4
DEMI	**Demirci**	**0.24**	**251**	*i*P		Pg	03 48 50.3	+1.3
DEMI				*i*S		Sg	03 48 53.7	+1.3
DURS	**Dursunbey**	**0.63**	**319**	*i*P		Pb	03 48 57.5	-0.2
DURS				*i*S		Sb	03 49 06.1	-0.8
DURS	**Dursunbey**	**0.63**	**319**	*i*P		Pb	03 48 57.5	-0.2
DURS				*i*S		Sb	03 49 06.1	-0.8
KULA	**Kula-Manisa**	**0.66**	**204**	*e*PG		Pb	03 48 57.8	-0.4
KULA				*e*SG		Sg	03 49 05.9	+0.1
KULA	**Kula-Manisa**	**0.66**	**204**	*e*Pg		Pb	03 48 57.8	-0.4
KULA				*e*Sg		Sg	03 49 05.9	+0.1
MANT	**Manisa**	**0.72**	**209**	*i*P		Pg	03 48 58.8	+0.4
MANT				*i*S		Sg	03 49 08.0	0.0
MANT	**Manisa**	**0.72**	**209**	*i*P		Pg	03 48 58.8	+0.5
MANT				*i*S		Sg	03 49 08.0	+0.1
KHAL	**Karahalli**	**0.84**	**153**	*i*P		Pb	03 49 00.9	-0.3
KHAL				*i*S		Sg	03 49 11.7	+0.3
KHAL	**Karahalli**	**0.84**	**153**	*i*P		Pb	03 49 00.9	-0.3
KHAL				*i*S		Sg	03 49 11.7	+0.2
KHL	**Karahalli**	**0.89**	**153**	*e*PG		Pb	03 49 02.4	+0.3
KHL	**Karahalli**	**0.89**	**153**	*e*Pg		Pb	03 49 02.4	+0.3
AKHS	**Akhisar**	**0.96**	**256**	*i*P		Pn	03 49 04.0	-0.1
AKHS				*i*S		Sb	03 49 16.8	+0.6
AKHS	**Akhisar**	**0.96**	**256**	*i*P		Pn	03 49 04.0	-0.1
AKHS				*i*S		Sb	03 49 16.8	+0.7
BALB	**Balikesir**	**1.02**	**301**	*e*PG		Pn	03 49 05.5	+0.6
BALB				*e*SG		Sn	03 49 19.4	0.0
BALB	**Balikesir**	**1.02**	**301**	*e*Pg		Pn	03 49 05.5	+0.7
ULDT	**Uludag**	**1.02**	**5**	*i*P		Pg	03 49 04.3	+0.2
ULDT				*i*S		Sg	03 49 17.6	0.0
ULDT	**Uludag**	**1.02**	**5**	*i*P		Pg	03 49 04.3	+0.2
ULDT				*i*S		Sg	03 49 17.6	-0.1
BALY	**Balya**	**1.24**	**300**	*i*P		Pg	03 49 09.2	+1.2
BALY				*i*S		Sn	03 49 24.8	-0.3
BALY	**Balya**	**1.24**	**300**	*i*P		Pg	03 49 09.2	+1.1
BALY				*i*S		Sn	03 49 24.8	-0.3
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN		Pg	03 49 09.1	+0.9
KCTX				*e*SN		Sn	03 49 26.8	+1.5
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn		Pg	03 49 09.1	+0.9
KCTX				*e*Sn		Sn	03 49 26.8	+1.6
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN		Pg	03 49 09.4	+1.2
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn		Pg	03 49 09.4	+1.2
CAVI	**Cavuskoy**	**1.26**	**31**	*e*PN		Pg	03 49 09.7	+1.3
CAVI	**Cavuskoy**	**1.26**	**31**	*e*Pn		Pg	03 49 09.7	+1.3
GEMT	**Gemlik**	**1.32**	**6**	*e*PN		Pg	03 49 10.9	+1.4
GEMT	**Gemlik**	**1.32**	**6**	*e*Pn		Pg	03 49 10.9	+1.4
BORA	**Eskisehir**	**1.35**	**55**	*i*P		Pb	03 49 10.1	+0.1
BORA				*i*S		Sn	03 49 28.4	+0.5
BORA	**Eskisehir**	**1.35**	**55**	*i*P		Pg	03 49 10.1	-0.1
BORA				*i*S		Sn	03 49 28.4	+0.5
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*PN		Pg	03 49 11.2	+0.6
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*Pn		Pg	03 49 11.3	+0.7
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN		Pg	03 49 12.6	+1.1
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn		Pg	03 49 12.6	+1.1
DNZL	**Cakiroluk**	**1.43**	**179**	*i*P		Pg	03 49 11.7	-0.1
DNZL				*i*S		Sg	03 49 31.3	+0.7
DNZL	**Cakiroluk**	**1.43**	**179**	*i*P		Pg	03 49 11.7	-0.1
DNZL				*i*S		Sg	03 49 31.3	+0.7
ARMT	**Armutlu**	**1.45**	**356**	*e*PN		Pg	03 49 12.5	+0.5
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn		Pg	03 49 12.5	+0.5
YLV	**Yalova**	**1.47**	**11**	*e*PN		Pg	03 49 13.4	+0.9
YLV	**Yalova**	**1.47**	**11**	*e*Pn		Pg	03 49 13.5	+1.0
ESKT	**Eskisehir**	**1.48**	**74**	*e*PN		Pg	03 49 13.4	+0.6
ESKT	**Eskisehir**	**1.48**	**74**	*e*Pn		Pg	03 49 13.5	+0.7
SEYT	**Eskypehyr**	**1.48**	**74**	*i*P		Pb	03 49 12.0	-0.3
SEYT				*i*S		Sn	03 49 30.3	-0.9
SEYT	**Eskypehyr**	**1.48**	**74**	*i*P		Pb	03 49 12.0	-0.2
BNT	**Bandirma**	**1.49**	**326**	*e*PN		Pg	03 49 13.3	+0.5
BNT	**Bandirma**	**1.49**	**326**	*e*Pn		Pg	03 49 13.4	+0.6
GPA	**Golpazari**	**1.54**	**40**	*e*PN		Pg	03 49 14.4	+0.6
GPA	**Golpazari**	**1.54**	**40**	*e*Pn		Pg	03 49 14.4	+0.6
IZM	**Izmir**	**1.54**	**243**	*e*PN		Pn	03 49 12.5	+0.3
IZM	**Izmir**	**1.54**	**243**	*e*Pn		Pn	03 49 12.5	+0.3
BOLV	**Bolvadin**	**1.57**	**104**	*i*P		Pb	03 49 13.6	-0.1
BOLV				*i*S		Sg	03 49 35.7	+0.8
BOLV	**Bolvadin**	**1.57**	**104**	*i*P		Pb	03 49 13.6	-0.1
BOLV				*i*S		Sg	03 49 35.7	+0.8
AYDN	**Tasoluk**	**1.71**	**212**	*i*P		Pb	03 49 15.3	-0.7
AYDN				*i*S		Sg	03 49 38.4	-0.7
AYDN	**Tasoluk**	**1.71**	**212**	*i*P		Pb	03 49 15.3	-0.6
AYDN				*i*S		Sb	03 49 38.4	+0.7
BUY	**Buyukada**	**1.73**	**3**	*e*PN		Pb	03 49 16.8	+0.5
BUY	**Buyukada**	**1.73**	**3**	*e*Pn		Pb	03 49 16.8	+0.5
GULT	**Gulveren**	**1.75**	**41**	*e*PN		Pb	03 49 17.1	+0.4
GULT	**Gulveren**	**1.75**	**41**	*e*Pn		Pb	03 49 17.1	+0.3
ISP	**Isparta**	**1.76**	**137**	*e*PN		Pb	03 49 17.4	+0.5
ISP	**Isparta**	**1.76**	**137**	*e*Pn		Pb	03 49 17.4	+0.5
HRT	**Hereke**	**1.77**	**16**	*e*PN		Pb	03 49 17.6	+0.5
HRT	**Hereke**	**1.77**	**16**	*e*Pn		Pb	03 49 17.6	+0.5
AYVA	**Ayvalik**	**1.81**	**277**	*i*P		Pg	03 49 19.9	+1.0
AYVA				*i*S		Sg	03 49 42.8	+0.4
AYVA	**Ayvalik**	**1.81**	**277**	*i*P		Pg	03 49 19.9	+1.0
AYVA				*i*S		Sg	03 49 42.8	+0.5
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*PN		Pb	03 49 17.8	-0.2
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*Pn		Pb	03 49 17.8	-0.2
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*PN		Pb	03 49 18.8	+0.3
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*Pn		Pb	03 49 18.8	+0.4
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*PN		Pb	03 49 20.1	+0.2
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*Pn		Pb

CMAR Chiang Mai Arr 29.51 294 P P 04 08 20.1 -0.1
0.7nm,0.3s,baz=116,slow=8.1,SNR=4.1
CMAR LR LR 04 20 56.0
comp=Z,100nm,18.2s,baz=331,slow=38
KSAR Wonju Array Be 29.86 1 P P 04 08 22.8 -0.2
KSRS Korea Array 29.87 1 P P 04 08 22.8 -0.3
3.0nm,0.9s,baz=179,slow=11,SNR=15
AS31 Alice Springs 31.64 168 *e*P **P 04 08 40.0 +1.1**
ASAR Alice Springs 31.64 168 P **P 04 08 40.1 +1.3**
ASAR PcP **PcP 04 11 30.9 +0.8**
ASAR ScP **ScP 04 15 08.9 -0.4**
ASAR Alice Springs 31.64 168 P **P 04 08 40.1 +1.3**
0.7nm,0.5s,baz=346,slow=8.8,SNR=7.8
ASAR PcP **PcP 04 11 30.9 +0.8**
0.8nm,0.6s,baz=343,slow=2.4,SNR=7.9
ASAR ScP **ScP 04 15 08.9 -0.4**
0.9nm,1.0s,baz=350,slow=3.8,SNR=3.7
CTA Charters Tower 33.22 146 P **P 04 08 54.8 +2.0**
CTA Charters Tower 33.22 146 P **P 04 08 54.8 +2.0**
5.0nm,0.8s,baz=320,slow=9.5,SNR=7.7
CTAO Charters Tower 33.22 146 *e*P **P 04 08 54.2 +1.5**
10nm,1.0s
USRK Ussuriysk Arra 36.85 6 P **P 04 09 24.9 +1.3**
6.5nm,0.9s,baz=191,slow=7.4,SNR=11
MDJ Mudanjiang 37.08 3 P **P 04 09 27.3 +1.6**
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,80nm,4.9s
FORT Forrest 38.03 179 *e*P **P 04 09 34.7 +0.8**
comp=Z,18nm,0.7s
NWAO Narrogin (SRO) 41.25 193 P **P 04 10 00.7 +0.1**
NWAO Narrogin (SRO) 41.25 193 P **P 04 10 00.7 +0.1**
comp=Z,11nm,0.7s,baz=336,slow=10.0,SNR=4.2
STKA Stephens Creek 41.48 161 P P 04 10 07.9 +5.3
STKA Stephens Creek 41.48 161 P P 04 10 07.9 +5.3
comp=Z,4.6nm,0.8s,baz=315,slow=14,SNR=4.0
PALK Pallekele 46.02 273 *e*P **P 04 10 38.1 -1.3**
comp=Z,18nm,1.1s
PETK Petropavlovsk- 51.86 23 P **P 04 11 25.4 +1.9**
PETK Petropavlovsk- 51.86 23 P **P 04 11 25.4 +1.9**
comp=Z,1.9nm,0.7s,baz=199,slow=6.5,SNR=2.7
MK31 Makanchi Array 54.77 324 *e*P **P 04 11 43.6 -1.4**
MKAR Makanchi Array 54.77 324 P **P 04 11 43.6 -1.4**
MKAR PcP **PcP 04 12 46.2 -0.8**
MKAR Makanchi Array 54.77 324 P **P 04 11 43.6 -1.4**
comp=Z,1.2nm,0.5s,baz=117,slow=7.5,SNR=20
MKAR PcP **PcP 04 12 46.2 -0.8**
comp=Z,1.4nm,0.7s,baz=105,slow=3.5,SNR=5.2
TKM2 Tokmak 2 57.27 317 *e*P **P 04 12 02.3 -0.9**
comp=Z,1.2nm,0.7s
ZALV Zalesovo Beam 57.48 332 P **P 04 12 02.5 -1.7**
ZALV Zalesovo Beam 57.48 332 P **P 04 12 02.5 -1.7**
comp=Z,0.9nm,0.5s,baz=134,slow=6.2,SNR=3.7
EKS2 Erkin-Say 58.42 316 *e*P **P 04 12 10.0 -1.1**
comp=Z,1.7nm,0.7s
KURK Kurchatov 58.85 326 P **P 04 12 12.3 -1.5**
KURBB Kurchatov Arra 58.86 326 P **P 04 12 12.3 -1.5**
comp=Z,1.3nm,0.5s,baz=126,slow=6.3,SNR=13
KKAR Karatay Array 60.83 316 *e*P **P 04 12 26.0 -1.6**
comp=Z,1.6nm,0.7s
KKAR *e*pP **pP 04 12 38.3 -3.6**
BVAR Borovoye Array 64.45 326 P **P 04 12 49.0 -2.5**
BVAR Borovoye Array 64.45 326 P **P 04 12 49.0 -2.5**
comp=Z,0.8nm,0.5s,baz=106,slow=11,SNR=5.9
MCK McKinley 80.67 27 *e*P **P 04 14 28.3 +0.6**
comp=Z,9.7nm,1.1s
KBZ Khabaz 80.73 313 P **P 04 14 27.5 -0.9**
KBZ Khabaz 80.73 313 P **P 04 14 27.5 -0.9**
comp=Z,2.2nm,0.9s,baz=63,slow=2.3,SNR=3.4
COLA College 81.18 25 *e*P **P 04 14 31.8 +1.5**
comp=Z,11nm,0.7s
ILAR Eielson Array 81.59 26 P **P 04 14 34.4 +1.8**
ILAR Eielson Array 81.59 26 P **P 04 14 34.4 +1.8**
comp=Z,0.4nm,0.6s,baz=242,slow=6.0,SNR=5.7
VNDA Vanda 87.05 173 LR LR 04 49 41.9
comp=Z,41nm,20.0s,baz=14,slow=33
ARCES ARCESS Array B 87.11 340 P **P 04 15 00.5 +0.1**
ARCES ARCESS Array B 87.11 340 P **P 04 15 00.5 +0.1**
comp=Z,1.4nm,0.7s,baz=93,slow=7.3,SNR=4.8
BR131 Keskin Array S 87.96 310 *e*P **P 04 15 03.3 -2.1**
comp=Z,1.4nm,0.6s
BRTR Keskin Array B 87.96 310 P **P 04 15 03.9 -1.5**
BRTR Keskin Array B 87.96 310 P **P 04 15 03.9 -1.5**
comp=Z,1.7nm,0.7s,baz=102,slow=4.6,SNR=8.0
FINES FINESS Array B 88.75 332 P **P 04 15 08.2 -0.2**
FINES FINESS Array B 88.75 332 P **P 04 15 08.2 -0.2**
comp=Z,0.8nm,0.5s,baz=106,slow=4.2,SNR=12
YKW3 Yellowknife Ar 95.92 24 *e*P **P 04 15 40.4 -1.1**
GERES GERESS Array B 99.42 322 P **Pdif 04 15 57.5 -0.3**
GERES GERESS Array B 99.42 322 P **Pdif 04 15 57.5 -0.3**
comp=Z,0.4nm,0.7s,baz=69,slow=7.3,SNR=4.3
TOAO Torodi Ar. Sit 122.06 291 *e*PKPdf **PKPdf 04 21 10.3 0.0**
TORD Torodi Ar. Bea 122.06 291 PKP **PKPdf 04 21 09.8 -0.6**
TORD Torodi Ar. Bea 122.06 291 PKP **PKPdf 04 21 09.8 -0.6**
comp=Z,1.0nm,0.7s,baz=43,slow=2.0,SNR=7.2

*IDC **22** 04:07:59.6±0.9,27°.53N×54°.85E, h0km, mb4.0/16, mb1 4.0/18, mb1mx3.9/34, mbtmp3.9/18, ML3.8/2, MS2.7/2, Ms1 2.7/2, ms1mx2.2/43, Error ellipse: s-maj=21.7km s-min=17.3km az=155.0*
*TEH **22** 04:08:02.9,27°.73N×54°.73E, h22km, ML3.7*
*CSEM **22** 04:08:05.1±0.6,27°.68N×54°.73E, h20km, ML3.6, Error ellipse: s-maj=14.4km s-min=8.5km az=172.0*
*THR **22** 04:08:06.7±0.6,28°.08N×54°.76E, h14km±5km, ML3.6*
ISC 22 04:08:03.4±0.7,27°.75N±0°.06×54°.74E±0°.03, h10km, n60, σ1§43/62, **mb4.0**/16, **2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.63**	**100**	*e*Pn	**Pn**	**04 08 32.8**	**+0.7**
IBND				*e*Sg	**Sg**	**04 08 57.8**	**+2.0**
IBND				*e*		04 09 08.0	
comp=Z,25μm,0.5s							
IBND	**Bandar-abas**	**1.63**	**100**	*e*Pn	**Pn**	**04 08 32.8**	**+0.7**
IBND				*e*Sg	**Sg**	**04 08 57.8**	**+2.0**
GHIR	**Ghir-Karzin**	**1.64**	**290**	*e*Pg	**Pg**	**04 08 35.6**	**+0.8**
GHIR				AML	AML	04 09 04.6	
comp=E,717nm,0.5s							
GHIR				AML	AML	04 09 07.5	
comp=N,898nm,0.4s							
GHIR	**Ghir-Karzin**	**1.64**	**290**	*e*Pg	**Pg**	**04 08 35.6**	**+0.8**
IPAR	**Pars**	**2.56**	**325**	*e*Pn	**Pn**	**04 08 46.9**	**+1.7**
IPAR				*e*	**Sg**	**04 09 23.2**	**-2.4**
comp=Z,3μm,0.4s							
IPAR	**Pars**	**2.56**	**325**	*e*Pn	**Pn**	**04 08 46.9**	**+1.7**
KRBR	**Kerman**	**2.85**	**38**	*e*Pn	**Pn**	**04 08 50.5**	**+1.3**
KRBR				*e*Sg	**Sb**	**04 09 27.6**	**-1.9**
KRBR				AML	AML	04 09 51.8	
comp=N,216nm,0.6s							
KRBR	**Kerman**	**2.85**	**38**	*e*Pn	**Pn**	**04 08 50.5**	**+1.3**
KRBR				*e*Sg	**Sb**	**04 09 27.6**	**-1.9**
IMEH	**Mehriz**	**3.63**	**358**	*e*Pn	**Pn**	**04 09 00.6**	**+0.7**
IMEH				*e*	Pg	04 09 16.5	+3.5
comp=Z,895nm,0.2s							
IMEH	**Mehriz**	**3.63**	**358**	*e*Pn	**Pn**	**04 09 00.6**	**+0.7**
IBAF	**Bafgh**	**3.90**	**10**	*e*Pn	**Pn**	**04 09 04.7**	**+1.2**
IBAF				*e*	**Pg**	**04 09 17.7**	**-0.4**
comp=N,647nm,0.3s							
ISAD	**Sadrabad**	**4.25**	**348**	*e*Pn	**Pn**	**04 09 10.1**	**+1.7**
ISAD				*e*	S	04 10 06.3	
comp=Z,1μm,0.3s							
ISAD	**Sadrabad**	**4.25**	**348**	*e*Pn	**Pn**	**04 09 10.1**	**+1.7**
ICHK	**Chekchek**	**4.49**	**356**	*e*Pn	**Pn**	**04 09 13.5**	**+1.8**
ICHK				*e*	Pg	04 09 33.2	+3.8
comp=Z,562nm,0.2s							
ICHK	**Chekchek**	**4.49**	**356**	*e*Pn	**Pn**	**04 09 13.5**	**+1.8**
IGAR	**Gharneh**	**5.19**	**334**	*e*Pn	**Pn**	**04 09 22.7**	**+1.3**
IGAR				*e*		04 09 25.3	
comp=Z,668nm,0.1s							
NASN	**Na'in**	**5.30**	**342**	*e*Pn	**Pn**	**04 09 24.1**	**+1.1**
NASN				AML	AML	04 10 30.6	
comp=N,30nm,0.5s							
NASN	**Na'in**	**5.30**	**342**	*e*Pn	**Pn**	**04 09 24.0**	**+1.1**
IZEF	**Zefreh**	**5.54**	**339**	‖*e*Pn	**Pn**	**04 09 26.9**	**+0.8**
IZEF				*e*		04 09 29.6	
comp=Z,251nm,0.2s							
IZEF	**Zefreh**	**5.54**	**339**	‖*e*Pn	**Pn**	**04 09 26.9**	**+0.8**
IPIR	**Pirpir**	**5.94**	**327**	*e*Pn	**Pn**	**04 09 33.2**	**+1.5**
IPIR				*e*		04 10 43.7	
comp=N,2μm,0.2s							
IPIR	**Pirpir**	**5.94**	**327**	*e*Pn	**Pn**	**04 09 33.2**	**+1.5**
IKOO	**Kooshah**	**5.95**	**37**	*e*Pn	**Pn**	**04 09 33.3**	**+1.5**
IKOO				*e*		04 10 11.4	
comp=Z,174nm,0.3s							
IKOO	**Kooshah**	**5.95**	**37**	*e*Pn	**Pn**	**04 09 33.3**	**+1.5**
IKLH	**Kolahrood**	**6.18**	**335**	*e*Pn	**Pn**	**04 09 36.2**	**+1.2**
IKLH				*e*		04 11 05.2	
comp=Z,239nm,0.2s							
IKLH	**Kolahrood**	**6.18**	**335**	*e*Pn	**Pn**	**04 09 36.2**	**+1.2**
UMR	**Umm Al-Rimmam**	**6.42**	**288**	*e*P	**Pn**	**04 09 38.7**	**+0.6**
UMR				AML	AML	04 10 53.7	
comp=Z,20nm,0.3s							
UMR	**Umm Al-Rimmam**	**6.42**	**288**	*e*P	**Pn**	**04 09 38.7**	**+0.6**
RDF	**Al-Radifah**	**6.44**	**282**	*e*P	**Pn**	**04 09 38.6**	**+0.3**
RDF				AML	AML	04 10 51.4	
comp=Z,11nm,0.4s							
RDF	**Al-Radifah**	**6.44**	**282**	*e*P	**Pn**	**04 09 38.6**	**+0.3**
NAY	**Al-Naaiem**	**6.76**	**285**	*e*P	**Pn**	**04 09 43.2**	**+0.5**
NAY				AML	AML	04 11 02.6	
comp=Z,0.6nm,0.4s							
NAY	**Al-Naaiem**	**6.76**	**285**	*e*P	**Pn**	**04 09 43.2**	**+0.5**
KHMZ	**Khomeyn**	**7.25**	**327**	*e*Pn	**Pn**	**04 09 51.5**	**+1.9**
KHMZ	**Khomeyn**	**7.25**	**327**	*e*Pn	**Pn**	**04 09 51.5**	**+1.9**
GHVR	**GHOM**	**7.33**	**337**	*e*Pn	**Pn**	**04 09 52.1**	**+1.6**
GHVR	**GHOM**	**7.33**	**337**	*e*Pn	**Pn**	**04 09 52.1**	**+1.6**
ASAO	**Ashtian**	**7.89**	**330**	*e*Pn	**Pn**	**04 09 59.5**	**+1.1**
ASAO	**Ashtian**	**7.89**	**330**	*e*Pn	**Pn**	**04 09 59.5**	**+1.1**
ASF	**Jabal al Asfar**	**16.07**	**290**	LR	LR	04 19 11.1	
comp=Z,24nm,20.2s,baz=241,slow=41							
MMAI	**Mount Meron Ar**	**17.48**	**292**	P	**Pn**	**04 12 06.2**	**-1.2**
comp=Z,0.3nm,0.3s,baz=98,slow=15,SNR=2.6							
KBZ	**Khabaz**	**18.59**	**332**	P	**Pn**	**04 12 22.8**	**+2.1**
comp=Z,0.1nm,0.3s,baz=133,slow=19,SNR=2.3							
ATD	**Arta Tunnel**	**19.61**	**217**	LR	LR	04 20 33.2	
comp=Z,20nm,19.5s,baz=356,slow=39							
BRTR	**Keskin Array B**	**21.17**	**310**	P	**P**	**04 12 49.1**	**+0.2**
comp=Z,3.7nm,0.7s,baz=133,slow=13,SNR=20							
AAK	**Ala-Archa**	**21.86**	**42**	P	**P**	**04 12 56.0**	**-0.4**
comp=Z,1.7nm,0.3s,baz=187,slow=8.1,SNR=4.0							
AKTO	**Aktyubinsk**	**22.79**	**5**	P	**P**	**04 13 05.7**	**-0.4**
comp=Z,1.7nm,0.5s,baz=167,slow=15,SNR=3.2							
BVAR	**Borovoye Array**	**27.80**	**20**	P	**P**	**04 13 50.3**	**-2.2**
comp=Z,1.0nm,0.4s,baz=194,slow=7.3,SNR=3.9							
MKAR	**Makanchi Array**	**28.79**	**41**	P	**P**	**04 14 00.4**	**-1.1**
comp=Z,0.5nm,0.6s,baz=230,slow=9.1,SNR=4.6							
KURBB	**Kurchatov Arra**	**29.12**	**32**	P	**P**	**04 14 04.0**	**-0.3**
comp=Z,0.6nm,0.2s,baz=232,slow=8.7,SNR=5.5							
ZALV	**Zalesovo Beam**	**34.22**	**32**	P	**P**	**04 14 47.9**	**-1.2**
comp=Z,2.6nm,0.6s,baz=243,slow=9.6,SNR=8.6							
FINES	**FINESS Array B**	**38.75**	**338**	P	**P**	**04 15 27.9**	**+0.4**
comp=Z,2.8nm,0.8s,baz=144,slow=10,SNR=7.5							
NB2	**NORSAR Subarra**	**44.16**	**331**	P	**P**	**04 16 10.2**	**-1.9**
comp=Z,1.0nm,0.6s,baz=118,slow=8.6							
NB2	**NORSAR Subarra**	**44.16**	**331**	P	**P**	**04 16 10.2**	**-1.9**
comp=Z,1.0nm,0.6s,SNR=5.0							
NOA	**NORSAR Array B**	**44.16**	**331**	P	**P**	**04 16 10.5**	**-1.5**
comp=Z,1.1nm,0.6s,baz=118,slow=7.7,SNR=7.0							
ARCES	**ARCESS Array B**	**45.12**	**346**	P	**P**	**04 16 20.2**	**+0.6**
comp=Z,2.2nm,0.9s,baz=157,slow=9.3,SNR=2.8							
EKA	**Eskdalemuir Ar**	**49.52**	**320**	P	**P**	**04 16 53.0**	**-0.9**
comp=Z,1.2nm,0.6s,baz=99,slow=7.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**51.41**	**265**	P	**P**	**04 17 06.9**	**-2.0**
comp=Z,1.7nm,0.5s,baz=60,slow=8.2,SNR=39							
KSRS	**Korea Array**	**61.02**	**61**	P	P	04 18 14.6	-2.7
comp=Z,1.1nm,0.7s,baz=271,slow=6.7,SNR=5.6							
BOSA	**Boshof**	**62.76**	**209**	P	**P**	**04 18 26.6**	**-2.4**
comp=Z,0.8nm,0.4s,baz=12,slow=4.3,SNR=3.7							
ILAR	**Eielson Array**	**86.25**	**9**	P	**P**	**04 20 42.6**	**-2.3**
comp=Z,0.6nm,0.8s,baz=325,slow=3.7,SNR=5.8							
WRA	**Warramunga Arr**	**90.38**	**112**	P	P	04 21 02.5	-2.8
comp=Z,0.2nm,0.5s,baz=314,slow=3.9,SNR=5.1							

*MAN **22** 04:10:57, 7°.17N×127°.55E, h84km, mb4.8, ML3.7, MS3.7*
*ISCJB **22** 04:11:00.0±1.0, 7°.58N±0°.10×127°.52E±0°.07, h41km, mb3.6/4, Error ellipse: s-maj=13.8km s-min=9.7km az=8.1*
*IDC **22** 04:11:05.3±10.0, 7°.53N×127°.15E, h59km±86km, mb3.3/4, mb1 3.4/4, mb1mx3.3/24, mbtmp3.3/4, Error ellipse: s-maj=126.1km s-min=20.2km az=62.0*
ISC 22 04:11:02.9±1.2, 7°.5N±0°.1×127°.4E±0°.1, h41km, n10, σ1§51/13, **mb3.6/4, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.30**	**243**	*e*P	Pn	04 11 20.6	-4.0
MATI				*e*S	**Sn**	**04 11 38.8**	**-2.0**
DAV	**Davao City (W)**	**1.89**	**256**	P	**Pn**	**04 11 32.0**	**-0.7**
55nm,0.3s,baz=273,slow=4.0,SNR=13							
DAV				S	**Sn**	**04 11 57.6**	**+2.3**
93nm,0.3s,baz=253,slow=23,SNR=20							
BUKP	**Musuan**	**2.37**	**278**	*e*P	**Pn**	**04 11 38.6**	**-0.6**
CGP	**Cagayan de Oro**	**2.85**	**289**	‖*e*P	**Pn**	**04 11 44.9**	**-1.1**
CGP				*i* S	**Sn**	**04 12 21.4**	**+2.3**
PAGZ	**Pagadian**	**4.02**	**275**	*e*P	**Pn**	**04 12 01.2**	**-0.8**
WRA	**Warramunga Arr**	**28.14**	**166**	P	**P**	**04 16 51.5**	**+0.1**
0.6nm,0.7s,baz=344,slow=10,SNR=8.6							
ASAR	**Alice Springs**	**31.65**	**169**	P	**P**	**04 17 23.9**	**+1.4**
0.3nm,0.3s,baz=342,slow=7.4,SNR=7.1							
ASAR				PcP	**PcP**	**04 20 15.2**	**+1.2**
0.2nm,0.5s,baz=352,slow=3.0,SNR=4.5							
MKAR	**Makanchi Array**	**54.88**	**323**	P	**P**	**04 20 28.1**	**-1.2**
0.3nm,0.5s,baz=112,slow=7.0,SNR=4.7							
KURBB	**Kurchatov Arra**	**58.96**	**326**	P	**P**	**04 20 57.1**	**-1.0**
0.3nm,0.3s,baz=122,slow=6.5,SNR=5.6							
TORD	**Torodi Ar. Bea**	**122.31**	**291**	PKP	**PKPdf**	**04 29 54.7**	**+0.1**
0.4nm,0.8s,baz=46,slow=1.3,SNR=2.7							

IDC 22 04:11:56.8±7.0, 13°.85N×93°.96E, h160km±64km, mb3.3/8, mb1 3.5/9, mb1mx3.2/29, mbtmp3.3/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=65.3km s-min=13.0km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.62**	**46**	P	Pn	04 13 32.6	+0.8
0.5nm,0.3s,baz=237,slow=15,SNR=9.4							
MKAR	**Makanchi Array**	**34.27**	**346**	P	P	04 18 26.7	-0.8
0.7nm,0.7s,baz=159,slow=7.8,SNR=6.3							
KURBB	**Kurchatov Arra**	**38.76**	**344**	P	P	04 19 05.6	+0.1
0.2nm,0.3s,baz=145,slow=6.7,SNR=4.3							
ZALV	**Zalesovo Beam**	**40.65**	**352**	LR	LR	04 37 23.1	
comp=Z,24nm,18.1s,baz=257,slow=38							
FITZ	**Fitzroy Crossi**	**44.55**	**135**	P	P	04 19 52.5	-0.4
1.5nm,0.4s,baz=321,slow=5.5,SNR=15							
WRA	**Warramunga Arr**	**52.02**	**129**	P	P	04 20 49.8	-0.3
0.7nm,0.7s,baz=313,slow=8.0,SNR=12							
WRA				PcP	PcP	04 22 00.2	-0.1
0.3nm,0.5s,baz=325,slow=3.3,SNR=5.4							
ASAR	**Alice Springs**	**54.00**	**133**	P	P	04 21 04.7	0.0
0.7nm,0.5s,baz=309,slow=6.6,SNR=11							
BRTR	**Keskin Array B**	**58.51**	**308**	P	P	04 21 35.5	-1.1
0.5nm,0.6s,baz=111,slow=6.8,SNR=2.9							
GERES	**GERESS Array B**	**73.31**	**317**	P	P	04 23 12.1	+1.2
0.5nm,0.5s,baz=76,slow=5.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**89.06**	**283**	P	P	04 24 35.4	+1.0
0.5nm,0.8s,baz=72,slow=4.7,SNR=3.0							

*IDC **22** 04:35:21.1±1.4, 8°.01S×110°.16E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/20, mbtmp3.9/6, ML4.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/38, Error ellipse: s-maj=80.4km s-min=17.7km az=49.0*
*ISCJB **22** 04:35:24.3±0.6, 8°.03S±0°.06×110°.37E±0°.03, h22km±4km, mb4.0/11, MS3.1/1, Error ellipse: s-maj=10.2km s-min=4.6km az=21.9*
*AUST **22** 04:35:24.4, 8°.42S×110°.40E, h0km*
*DJA **22** 04:35:24.9±0.3, 8°.S±3°.×11°.0E±°, h10km, M4.6/10, MLv4.6/10*
*NEIC **22** 04:35:26.9±1.5, 8°.08S×110°.28E, h36km±13km, mb4.2/4, Error ellipse: s-maj=19.4km s-min=7.3km az=52.0*
NEIC Felt [III] at Yogyakarta.
ISC 22 04:35:24.0±1.3, 8°.09S±0°.07×110°.37E±0°.03, h13km±8km, n60, σ1§41/62, **mb4.1**/11, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.23**	**42**	P	**Pg**	**04 35 28.9**	**-0.2**
UGM				S	**Sg**	**04 35 32.1**	**-0.3**
UGM	**Wanagama**	**0.23**	**42**	P	**Pg**	**04 35 28.8**	**-0.2**
baz=0.5,SNR=1000							
YOGI	**Yogyakarta**	**0.28**	**345**	P	**Pg**	**04 35 29.9**	**+0.1**
YOGI				S	**Sg**	**04 35 34.0**	**+0.3**
PCJI	**Pacitan**	**0.81**	**98**	P	**Pg**	**04 35 39.2**	**-0.5**
PCJI				S	**Sb**	**04 35 50.8**	**0.0**
BJII	**Banjamegara**	**0.99**	**319**	P	**Pg**	**04 35 42.6**	**-0.6**
NGJI	**Ngawi**	**1.30**	**57**	S	**Sg**	**04 36 08.5**	**+2.6**
CLJI	**Cilicap**	**1.39**	**285**	P	**Pn**	**04 35 47.4**	**-1.7**
PWJI	**Pagerwojo**	**1.42**	**87**	P	**Pn**	**04 35 49.1**	**-0.5**
PWJI				S	**Sn**	**04 36 08.0**	**-0.3**
SJI	**Sawahan**	**1.43**	**76**	P	**Pn**	**04 35 48.9**	**-0.9**
KRKI	**Karangkates**	**2.07**	**92**	P	**Pb**	**04 36 01.4**	**0.0**
KRKI				S	**Sg**	**04 36 29.5**	**-1.0**
CISI	**Cisompet, Garu**	**2.58**	**282**	P	**Pn**	**04 36 06.5**	**+0.9**
CISI				S	**Sn**	**04 36 39.3**	**+2.3**
CISI	**Cisompet, Garu**	**2.58**	**282**	P	**Pn**	**04 36 06.8**	**+1.2**
baz=2.7,SNR=13							
LEM	**Lembang**	**3.00**	**294**	P	**Pn**	**04 36 14.2**	**+2.7**
LEM				S	**Sb**	**04 36 51.9**	**-2.2**
LEM	**Lembang**	**3.00**	**294**	P	**Pb**	**04 36 17.3**	**-0.2**
baz=3.2,SNR=7.2							
GMJI	**Gumukmas**	**3.05**	**94**	P	**Pb**	**04 36 15.6**	**-2.6**
GMJI				S	**Sb**	**04 36 55.3**	**-0.1**
BLJI	**Banyuglugur**	**3.22**	**84**	P	**Pb**	**04 36 19.4**	**-1.6**
IGBI	**Denpasar**	**4.78**	**99**	P	**Pn**	**04 36 38.4**	**+2.6**
SRBI	**Singaraja**	**4.80**	**90**	P	Pn	04 36 40.8	+4.7
XMIS	**Christmas Isla**	**5.23**	**243**	P	**Pn**	**04 36 43.7**	**+1.7**
baz=5.1,SNR=3.3							
KAPI	**Kappang**	**9.81**	**72**	*e*Pn	**Pn**	**04 37 47.0**	**+2.1**
KAPI	**Kappang**	**9.81**	**72**	LR	LR	04 43 03.4	
comp=Z,44nm,18.6s,baz=154,slow=46							
WSI	**Waingapu**	**9.94**	**100**	S	Sn	04 39 19.4	-19
baz=9.9,SNR=3.1							
KKM	**Kota Kinabalu**	**15.20**	**23**	*e*Pn	**Pn**	**04 38 59.0**	**+0.3**
IPM	**Ipoh**	**15.58**	**323**	*e*Pn	**Pn**	**04 39 04.5**	**+0.9**
MBWA	**Marble Bar**	**15.83**	**146**	*e*Pn	**Pn**	**04 39 06.6**	**-0.2**
KULM	**Kulim**	**16.45**	**324**	*e*Pn	**Pn**	**04 39 14.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.88**	**125**	P	**Pn**	**04 39 33.3**	**+0.6**
FITZ				S	Sn	04 42 40.7	-11
FITZ	**Fitzroy Crossi**	**17.88**	**125**	P	**Pn**	**04 39 33.3**	**+0.6**
0.4nm,0.3s,baz=231,slow=5.0,SNR=16							
FITZ				S	Sn	04 42 40.7	-11
0.2nm,0.3s,baz=210,slow=20,SNR=4.3							
FITZ				LR	LR	04 45 39.8	
comp=Z,63nm,19.3s,baz=314,slow=34							
FITZ	**Fitzroy Crossi**	**17.88**	**125**	P	**P**	**04 39 33.9**	**+0.6**
baz=18,SNR=12							
KNRA	**Kununurra**	**19.51**	**114**	P	**Pn**	**04 39 52.4**	**-0.1**
baz=19,SNR=6.8							
MEEK	**Meekatharra**	**20.04**	**158**	P	Pn	04 39 59.6	+0.8
baz=20,SNR=3.9							
MEEK				S	S	04 43 23.9	-18
baz=20,SNR=30							
MTN	**Manton Dam**	**20.95**	**105**	P	Pn	04 40 11.7	+2.1
baz=21,SNR=3.7							
MORW	**Morawa**	**21.54**	**166**	S	S	04 43 55.7	-16
baz=21,SNR=4.7							
WRA	**Warramunga Arr**	**26.03**	**119**	P	**P**	**04 40 57.3**	**+0.1**
WRA	**Warramunga Arr**	**26.03**	**119**	P	**P**	**04 40 57.3**	**+0.1**
1.6nm,0.9s,baz=294,slow=11,SNR=19							
WRA				LR	LR	04 50 18.2	
comp=Z,61nm,20.1s,baz=325,slow=34							
WRAB	**Tennant Creek**	**26.04**	**119**	*e*P	**P**	**04 40 58.6**	**+1.3**
6.9nm,0.9s							
AS31	**Alice Springs**	**27.36**	**127**	*e*P	**P**	**04 41 09.9**	**+0.6**
ASAR	**Alice Springs**	**27.36**	**127**	P	**P**	**04 41 10.1**	**+0.9**
ASAR	**Alice Springs**	**27.36**	**127**	P	**P**	**04 41 10.1**	**+0.9**
5.2nm,1.0s,baz=302,slow=8.5,SNR=21							
CMAR	**Chiang Mai Arr**	**28.68**	**337**	P	**P**	**04 41 22.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**28.68**	**337**	P	**P**	**04 41 22.9**	**+1.9**
0.9nm,0.5s,baz=171,slow=8.1,SNR=4.9							
STKA	**Stephens Creek**	**37.46**	**134**	P	**P**	**04 42 39.2**	**+1.8**
STKA	**Stephens Creek**	**37.46**	**134**	P	**P**	**04 42 39.2**	**+1.8**
23nm,0.6s,baz=304,slow=8.6,SNR=34							
STKA	**Stephens Creek**	**37.46**	**134**	P	**P**	**04 42 39.3**	**+1.8**
baz=37,SNR=16							
YNG	**Young**	**43.60**	**132**	P	**P**	**04 43 30.4**	**+2.1**
baz=43,SNR=5.7							
SONM	**Songino Array**	**55.79**	**357**	P	**P**	**04 45 00.2**	**-0.8**
SONM	**Songino Array**	**55.79**	**357**	P	**P**	**04 45 00.2**	**-0.8**
0.3nm,0.3s,baz=177,slow=7.2							
TKM2	**Tokmak 2**	**59.82**	**331**	*e*P	**P**	**04 45 28.9**	**-0.6**
1.4nm,0.8s							
MK31	**Makanchi Array**	**60.09**	**338**	*e*P	**P**	**04 45 31.2**	**+0.3**
MKAR	**Makanchi Array**	**60.09**	**338**	P	**P**	**04 45 28.4**	**-2.6**
MKAR	**Makanchi Array**	**60.09**	**338**	P	**P**	**04 45 28.4**	**-2.6**
0.4nm,0.5s,baz=

MEX 22 05:08:43.0±0.7, 15°.33N×93°.05W, h115km±6km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.41**	**336**	*eP*	Pn	05 08 58.6	-1.2
PCIG				*i* S	Sn	05 09 10.9	-1.5
THIG		**0.86**	**119**	*eP*	Pn	05 09 01.5	-1.7
THIG				*i* S	Sn	05 09 16.0	-2.6
CCIG	**Comitan**	**1.29**	**43**	*i* P	Pn	05 09 07.0	-1.0
CCIG				*i* S	Sn	05 09 25.1	-1.7
TGIG		**1.44**	**357**	*eP*	Pn	05 09 08.4	-1.1
TGIG				*i* S	Sn	05 09 27.1	-2.5
CMIG	**Matias Romero**	**2.48**	**315**	*eP*	Pn	05 09 21.8	-0.7
CMIG				*i* S	Sn	05 09 51.9	-0.8
HUIG	**Huatulco**	**2.98**	**279**	*i* P	Pn	05 09 28.1	-0.8
HUIG				*i* S	Sn	05 10 01.6	-2.7
PNIG	**Pinotepa**	**5.00**	**283**	*i* P	Pn	05 09 55.2	-0.8
PNIG				*i* S	Sn	05 10 50.8	-2.0
TEIG	**Tepich**	**6.66**	**42**	*i* P	Pn	05 10 15.3	-3.0

*ISCJB **22** 05:11:53.2±0.4, 14°.83S±0°.04×167°.30E±0°.06, h170km, mb4.4/27, Error ellipse: s-maj=8.1km s-min=5.5km az=4.7*
*IDC **22** 05:11:53.7±0.8, 14°.85S×167°.19E, h156km±6km, mb4.2/18, mb1 4.3/19, mb1mx4.3/22, mbtmp4.2/19, MS3.5/6, Ms1 3.6/6, ms1mx3.1/36, Error ellipse: s-maj=13.5km s-min=10.1km az=118.0*
*NEIC **22** 05:11:53.2±0.8, 14°.82S×167°.36E, h157km±6km, mb4.7/14, Error ellipse: s-maj=10.6km s-min=9.5km az=125.0*
*AUST **22** 05:12:03.5, 15°.47S×166°.91E, h200km*

ISC 22 05:11:54.5±0.4, 14°.86S±0°.05×167°.31E±0°.07, h170km, n108, σ1°52/128, mb4.4/26, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.22**	**186**	*ePn*	**Pn**	**05 13 36.3**	**-1.3**
106nm,0.9s							
DZM				S	**Sn**	**05 14 59.1**	**+0.1**
DZM	**Mont Dzumac**	**7.22**	**186**	P	**Pn**	**05 13 36.9**	**-0.8**
7.2nm,0.3s,baz=46,slow=19,SNR=89							
DZM				S	**Sn**	**05 14 59.1**	**+0.1**
4.9nm,0.3s,baz=330,slow=23,SNR=3.6							
NOUC	**Port Laguerre**	**7.27**	**187**	*eP*	**Pn**	**05 13 38.8**	**+0.7**
NOUC				*eS*	**Sn**	**05 14 58.7**	**-1.2**
NORM	**Noumea**	**7.37**	**186**	*eP*	**Pn**	**05 13 39.2**	**-0.4**
HNR	**Honiara**	**8.99**	**306**	P	**Pn**	**05 14 03.0**	**+1.9**
HNR	**Honiara**	**8.99**	**306**	P	**Pn**	**05 14 02.9**	**+1.9**
49nm,0.3s,baz=187,slow=5.6,SNR=6.4							
MSVF	**Nonsavu**	**10.70**	**107**	*ePn*	**Pn**	**05 14 24.3**	**+0.8**
EIDS	**Eidsvold**	**18.46**	**233**	*eP*	**Pn**	**05 15 59.7**	**+0.1**
47nm,0.7s							
EIDS	**Eidsvold**	**18.46**	**233**	P	**Pn**	**05 15 59.8**	**+0.1**
baz=18,SNR=17							
AFI	**Afiamalu**	**20.28**	**90**	LR	LR	05 22 27.3	
comp=Z,106nm,19.7s,baz=277,slow=31							
CTA	**Charters Tower**	**20.74**	**252**	P	**P**	**05 16 23.0**	**+1.0**
CTA	**Charters Tower**	**20.74**	**252**	P	**P**	**05 16 23.0**	**+1.0**
17nm,0.7s,baz=80,slow=12,SNR=15							
RMQ	**Roma**	**20.83**	**233**	P	**P**	**05 16 24.9**	**+2.0**
baz=20,SNR=15							
ARMA	**Armidale**	**21.16**	**220**	*eP*	**P**	**05 16 28.2**	**+1.7**
26nm,1.0s							
ARMA	**Armidale**	**21.16**	**220**	P	**P**	**05 16 28.3**	**+1.7**
baz=20,SNR=15							
MTSU	**Mount Surprise**	**22.28**	**258**	P	**P**	**05 16 38.8**	**+0.7**
baz=22,SNR=17							
COEN	**Coen**	**23.39**	**269**	*eP*	**P**	**05 16 48.9**	**+0.6**
41nm,0.6s							
MANU	**Manus Island**	**23.44**	**301**	P	P	05 16 55.0	+6.3
baz=24,SNR=3.4							
MGCD	**Mangrove Creek**	**23.45**	**216**	P	**P**	**05 16 50.9**	**+2.3**
baz=23,SNR=8.4							
URZ	**Urewera**	**24.87**	**161**	LR	LR	05 24 12.9	
comp=Z,110nm,18.8s,baz=346,slow=30							
CMSA	**Cobar Meteorol**	**25.81**	**226**	P	**P**	**05 17 11.1**	**+1.0**
baz=25,SNR=34							
STKA	**Stephens Creek**	**28.94**	**230**	*eP*	**P**	**05 17 39.1**	**+1.2**
2.8nm,0.4s							
STKA				PcP	**PcP**	**05 20 43.6**	**+1.0**
STKA	**Stephens Creek**	**28.94**	**230**	P	**P**	**05 17 39.5**	**+1.6**
13nm,0.3s,baz=58,slow=8.9,SNR=74							
STKA				PcP	**PcP**	**05 20 43.6**	**+1.0**
5.8nm,0.8s,baz=312,slow=1.4,SNR=4.7							
STKA	**Stephens Creek**	**28.94**	**230**	P	**P**	**05 17 39.4**	**+1.6**
baz=28,SNR=62							
WRAB	**Tennant Creek**	**31.82**	**256**	*eP*	**P**	**05 18 01.7**	**-1.7**
4.4nm,0.8s							
WRA	**Warramunga Arr**	**31.83**	**256**	P	**P**	**05 18 02.6**	**-0.9**
WRA				PcP	**PcP**	**05 20 51.0**	**+0.5**
WRA				S	**S**	**05 22 59.8**	**-1.8**
WRA	**Warramunga Arr**	**31.83**	**256**	P	**P**	**05 18 02.6**	**-0.9**
2.7nm,0.3s,baz=85,slow=8.6,SNR=86							
WRA				PcP	**PcP**	**05 20 51.0**	**+0.5**
2.1nm,0.8s,baz=87,slow=2.9,SNR=8.0							
WRA				S	**S**	**05 22 59.8**	**-1.8**
0.9nm,1.0s,baz=95,slow=12,SNR=3.9							
WRA				LR	LR	05 30 26.5	
comp=Z,70nm,18.5s,baz=115,slow=35							
AS31	**Alice Springs**	**32.66**	**249**	*eP*	**P**	**05 18 10.0**	**-0.8**
ASAR	**Alice Springs**	**32.66**	**249**	P	**P**	**05 18 10.1**	**-0.7**
ASAR				PcP	**PcP**	**05 20 52.7**	**0.0**
ASAR				S	**S**	**05 23 12.7**	**-1.8**
ASAR				ScP	**ScP**	**05 24 23.1**	**+2.3**
ASAR	**Alice Springs**	**32.66**	**249**	P	**P**	**05 18 10.1**	**-0.7**
6.7nm,0.3s,baz=78,slow=9.5,SNR=197							
ASAR				PcP	**PcP**	**05 20 52.7**	**0.0**
2.6nm,0.9s,baz=86,slow=2.4,SNR=9.4							
ASAR				S	**S**	**05 23 12.7**	**-1.8**
2.6nm,1.1s,baz=72,slow=18,SNR=9.5							
ASAR				ScP	**ScP**	**05 24 23.1**	**+2.3**
2.5nm,1.1s,baz=93,slow=3.9,SNR=7.5							
ASAR				LR	LR	05 32 05.4	
comp=Z,67nm,18.1s,baz=352,slow=37							
BBOO	**Buckleboo**	**33.53**	**232**	P	**P**	**05 18 19.2**	**+1.1**
baz=33,SNR=30							
KDU	**Kakadu**	**33.88**	**269**	P	**P**	**05 18 21.5**	**+0.1**
baz=34,SNR=3.9							
KNRA	**Kununurra**	**37.16**	**264**	P	**P**	**05 18 48.7**	**-0.6**
baz=37,SNR=11							
FITZ	**Fitzroy Crossi**	**40.03**	**259**	P	**P**	**05 19 13.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**40.03**	**259**	P	**P**	**05 19 13.5**	**+0.2**
10nm,0.3s,baz=78,slow=7.8,SNR=141							
MEEK	**Meekatharra**	**46.77**	**247**	P	**P**	**05 20 07.1**	**0.0**
baz=46,SNR=23							
KLBR	**Kellerberrin**	**48.07**	**241**	P	**P**	**05 20 16.9**	**-0.2**
baz=47,SNR=6.5							
MORW	**Morawa**	**49.24**	**244**	P	**P**	**05 20 26.7**	**+0.6**
baz=49,SNR=3.5							
MORW				S	S	05 27 08.0	-11
baz=49,SNR=3.3							
MJAR	**Matsushiro Arr**	**58.03**	**333**	P	**P**	**05 21 29.4**	**-0.4**
MJAR				pP	**pP**	**05 22 04.2**	**-4.8**
MJAR	**Matsushiro Arr**	**58.03**	**333**	P	**P**	**05 21 29.4**	**-0.4**
1.0nm,0.5s,baz=166,slow=9.1,SNR=5.5							
MJAR				pP	**pP**	**05 22 04.2**	**-4.8**
2.0nm,0.8s,baz=156,slow=6.5,SNR=3.4							
YHNB	**Yeheng**	**59.59**	**311**	*eP*	**P**	**05 21 40.7**	**-0.1**
20nm,1.0s							
VNDA	**Vanda**	**62.73**	**181**	*eP*	**P**	**05 22 01.3**	**+0.3**
6.6nm,1.0s							
VNDA	**Vanda**	**62.73**	**181**	P	**P**	**05 22 01.3**	**+0.3**
4.6nm,0.9s,baz=0.8,slow=5.8,SNR=6.5							
SBA	**Scott Base**	**63.01**	**180**	*eP*	**P**	**05 22 03.8**	**+1.0**
19nm,1.0s							
CASY	**Casey**	**63.42**	**202**	*eP*	**P**	**05 22 06.0**	**+0.3**
5.1nm,0.5s							
KSRS	**Korea Array**	**63.87**	**326**	P	**P**	**05 22 09.2**	**+0.2**
1.6nm,0.8s,baz=135,slow=7.0,SNR=7.2							
KSRS				LR	LR	05 47 25.1	
comp=Z,15nm,19.0s,baz=55,slow=33							
KSAR	**Wonju Array Be**	**63.88**	**326**	P	**P**	**05 22 09.2**	**+0.1**
USRK	**Ussuriysk Arra**	**67.02**	**333**	P	**P**	**05 22 29.9**	**+0.8**
1.7nm,0.7s,baz=123,slow=7.0,SNR=4.5							
USRK				pP	**pP**	**05 23 06.2**	**-3.3**
3.5nm,0.9s,baz=108,slow=6.2,SNR=3.8							
PETK	**Petropavlovsk-**	**68.19**	**354**	P	**P**	**05 22 36.6**	**+0.3**
PETK	**Petropavlovsk-**	**68.19**	**354**	P	**P**	**05 22 36.6**	**+0.3**
6.2nm,0.8s,baz=143,slow=11,SNR=8.3							
PSI	**Prapat**	**69.91**	**279**	P	**P**	**05 22 48.1**	**+0.2**
PSI	**Prapat**	**69.91**	**279**	P	**P**	**05 22 48.1**	**+0.2**
6.4nm,0.6s,baz=114,slow=5.2,SNR=7.1							
CMAR	**Chiang Mai Arr**	**75.03**	**294**	P	**P**	**05 23 19.8**	**+1.9**
CMAR				pP	**pP**	**05 23 55.9**	**-3.3**
CMAR	**Chiang Mai Arr**	**75.03**	**294**	P	**P**	**05 23 19.8**	**+1.9**
3.4nm,0.8s,baz=121,slow=4.4,SNR=16							
CMAR				pP	**pP**	**05 23 55.9**	**-3.3**
1.2nm,0.3s,baz=124,slow=3.2,SNR=2.6							
QSPA	**South Pole Qui**	**75.17**	**180**	*eP*	**P**	**05 23 17.6**	**-0.4**
16nm,1.1s							
QSPA	**South Pole Qui**	**75.17**	**180**	P	**P**	**05 23 17.9**	**-0.1**
13nm,1.0s,baz=18,slow=1.2,SNR=27							
MAW	**Mawson**	**81.78**	**202**	*eP*	**P**	**05 23 54.6**	**+0.7**
1.1nm,1.0s							
MAW	**Mawson**	**81.78**	**202**	P	**P**	**05 23 54.9**	**+1.0**
5.2nm,1.0s,baz=117,slow=9.3,SNR=7.1							
MAW	**Mawson**	**81.78**	**202**	P	**P**	**05 23 55.1**	**+1.1**
baz=81,SNR=5.5							
SONM	**Songino Array**	**82.62**	**324**	pP	pP	05 24 36.6	-4.2
SONM	**Songino Array**	**82.62**	**324**	pP	pP	05 24 36.6	-4.2
1.2nm,1.0s,baz=151,slow=3.4,SNR=2.4							
PMR	**Palmer**	**83.61**	**19**	*eP*	**P**	**05 24 03.0**	**-0.4**
7.7nm,1.1s							
SHL	**Shillong**	**83.66**	**298**	*ex*	**P**	**05 24 05.0**	**+0.3**
TRF	**Thorofare Moun**	**84.65**	**18**	*eP*	**P**	**05 24 06.8**	**-2.0**
3.5nm,0.7s							
IMA2	**Indian Mountai**	**85.76**	**15**	*eP*	**P**	**05 24 14.1**	**-0.1**
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	**05 24 16.8**	**-1.6**
ILAR				pP	**pP**	**05 24 59.5**	**-1.2**
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	**05 24 16.8**	**-1.6**
2.7nm,0.8s,baz=234,slow=6.0,SNR=38							
ILAR				pP	**pP**	**05 24 59.5**	**-1.2**
1.2nm,0.7s,baz=232,slow=5.8,SNR=4.1							
NVAR	**Mina Array Bea**	**87.33**	**49**	P	**P**	**05 24 23.1**	**+0.4**
NVAR	**Mina Array Bea**	**87.33**	**49**	P	**P**	**05 24 23.1**	**+0.4**
1.2nm,1.0s,baz=225,slow=6.9,SNR=4.0							
NVAR				LR	LR	05 55 51.7	
comp=Z,109nm,19.7s,baz=266,slow=30							
SNAA	**Sanae**	**93.42**	**183**	*eP*	**P**	**05 24 48.4**	**-1.8**
16nm,1.4s							
TXAR	**Lajitas Array**	**96.31**	**61**	P	**P**	**05 25 05.0**	**+0.8**
TXAR	**Lajitas Array**	**96.31**	**61**	P	**P**	**05 25 05.0**	**+0.8**
0.2nm,0.7s,baz=204,slow=2.7,SNR=4.0							
MKAR	**Makanchi Array**	**97.32**	**316**	P	Pdif	05 25 09.0	+0.6
MKAR	**Makanchi Array**	**97.32**	**316**	P	Pdif	05 25 09.0	+0.6
3.1nm,0.7s,baz=101,slow=6.3,SNR=13							
ZALV	**Zalesovo Beam**	**97.52**	**324**	P	**P**	**05 25 08.3**	**-0.6**
ZALV	**Zalesovo Beam**	**97.52**	**324**	P	**P**	**05 25 08.3**	**-0.6**
2.2nm,0.7s,baz=112,slow=4.7,SNR=7.8							
ARCES	**ARCESS Array B**	**120.38**	**345**	PKP	**PKPdf**	**05 30 24.6**	**-0.4**
ARCES				PKKPab	**PKKPab**	**05 40 29.2**	**-3.9**
ARCES	**ARCESS Array B**	**120.38**	**345**	PKP	**PKPdf**	**05 30 24.6**	**-0.4**
1.6nm,0.4s,baz=66,slow=1.9,SNR=56							
ARCES				PKKPab	**PKKPab**	**05 40 29.2**	**-3.9**
2.5nm,0.9s,baz=241,slow=2.5,SNR=5.4							
FINES	**FINESS Array B**	**125.86**	**338**	PKP	**PKPdf**	**05 30 35.3**	**-0.4**
FINES	**FINESS Array B**	**125.86**	**338**	PKP	**PKPdf**	**05 30 35.3**	**-0.4**
0.6nm,0.3s,baz=84,slow=1.4,SNR=10							
NB2	**NORSAR Subarra**	**130.76**	**345**	SKPb	**SKPab**	**05 33 56.9**	**+3.3**
comp=Z,2.3nm,0.8s,baz=32,slow=3.2							
NOA	**NORSAR Array B**	**130.76**	**345**	PKP	**PKPdf**	**05 30 45.3**	**+0.2**
NOA				SKPab	**SKPab**	**05 33 56.9**	**+3.3**
NOA	**NORSAR Array B**	**130.76**	**345**	PKP	**PKPdf**	**05 30 45.3**	**+0.2**
comp=Z,1.3nm,0.9s,baz=29,slow=2.0,SNR=3.6							
NOA				SKPab	**SKPab**	**05 33 56.9**	**+3.3**
comp=Z,2.1nm,0.8s,baz=30,slow=3.1,SNR=7.0							
AKASG	**Malin Array Be**	**130.86**	**326**	SKPbc	**SKPab**	**05 33 57.7**	**+3.4**
AKASG	**Malin Array Be**	**130.86**	**326**	SKPbc	**SKPab**	**05 33 57.7**	**+3.4**
comp=Z,1.3nm,0.6s,baz=40,slow=6.1,SNR=3.8							
GERES	**GERESS Array B**	**139.77**	**333**	PKPpre	PKPpre	05 30 59.0	
GERES	**GERESS Array B**	**139.77**	**333**	PKhKP	PKPpre	05 30 59.0	
comp=Z,0.6nm,0.8s,baz=52,slow=2.2,SNR=5.7							
TUE	**Stuetta**	**143.48**	**334**	*e*PKPdf	PKPbc	05 31 07.5	+0.5
AQU	**L'Aquila**	**144.56**	**326**	*e*PKPdf	**PKPdf**	**05 31 11.2**	**+0.1**
OG01	**Vacheresse**	**144.67**	**337**	PKP	**PKPdf**	**05 31 11.0**	**-0.1**
RSL	**Roselend**	**145.22**	**336**	PKP	**PKPab**	**05 31 12.7**	**+0.2**
OG35	**Corcelles**	**145.33**	**337**	PKP	**PKPab**	**05 31 12.9**	**+0.2**
BNI	**Bardonecchia**	**145.73**	**335**	*e*PKPdf	**PKPab**	**05 31 14.6**	**+0.2**
AGO	**Saint Agoulin**	**146.18**	**340**	PKP	**PKPab**	**05 31 15.2**	**-0.7**
SAOF	**Saorge**	**146.22**	**333**	PKP	**PKPab**	**05 31 15.1**	**-1.0**
AUTN	**L'Aution**	**146.27**	**333**	PKP	**PKPab**	**05 31 15.6**	**-1.0**
TOUF	**Mont Tournerai**	**146.34**	**334**	PKP	**PKPbc**	**05 31 15.1**	**-0.6**
SSB	**Saint Sauveur**	**146.36**	**338**	*e*PKPdf	**PKPbc**	**05 31 14.9**	**-0.6**
SSB	**Saint Sauveur**	**146.36**	**338**	PKP	**PKPab**	**05 31 16.2**	**-0.4**
LUCF	**Luceram**	**146.39**	**333**	PKP	**PKPbc**	**05 31 15.6**	**-0.1**
PYM	**Petit Puy Mans**	**146.48**	**340**	PKP	**PKPab**	**05 31 16.5**	**-0.7**
LBL	**Lubilhac**	**146.86**	**339**	PKP	**PKPab**	**05 31 18.0**	**-0.6**
KEST	**Kesra**	**151.33**	**320**	*e*PKPbc	**PKPbc**	**05 31 28.8**	**+0.3**
KEST	**Kesra**	**151.33**	**320**	PKPbc	**PKPbc**	**05 31 29.0**	**+0.5**
comp=Z,1.5nm,0.4s,baz=140,slow=1.0,SNR=12							
ESDC	**Sonseca Array**	**154.12**	**344**	PKPbc	**PKPbc**	**05 31 37.0**	**+2.4**
ESDC				PKPab	**PKPab**	**05 31 49.0**	**+0.3**
ESDC	**Sonseca Array**	**154.12**	**344**	PKPbc	**PKPbc**	**05 31 37.0**	**+2.4**
comp=Z,0.3nm,0.5s,baz=12,slow=4.4,SNR=4.4							
ESDC				PKPab	**PKPab**	**05 31 49.0**	**+0.3**
comp=Z,1.6nm,0.9s,baz=23,slow=3.4,SNR=7.0							
TORD	**Torodi Ar. Bea**	**165.93**	**265**	PKP	**PKPdf**	**05 31 40.0**	**0.0**
TORD				PKPab	**PKPab**	**05 32 41.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.93**	**265**	PKP	**PKPdf**	**05 31 40.0**	**0.0**
comp=Z,1.7nm,1.1s,baz=24,slow=2.7,SNR=6.2							
TORD				PKPab	**PKPab**	**05 32 41.0**	**+0.1**
comp=Z,2.8nm,0.9s,baz=96,slow=3.8,SNR=13							

IDC 22 05:16:17.3±4.5, 30°.96S×179°.60W, h333km±41km, mb3.4/6, mb1 3.5/7, mb1mx3.4/21, mbtmp3.5/7, Error ellipse: s-maj=39.0km s-min=20.6km az=31.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.77**	**200**	P	Pn	05 18 09.4	+1.0
18nm,0.3s,baz=252,slow=3.2,SNR=50							
URZ				S	S	05 19 35.7	-3.0
24nm,0.3s,baz=85,slow=21,SNR=18							
CTA	**Charters Tower**	**32.54**	**281**	P	P	05 22 19.5	+1.2
1.2nm,0.4s,baz=94,slow=12,SNR=4.1							
STKA	**Stephens Creek**	**33.01**	**258**	P	P	05 22 23.1	+0.9
2.0nm,0.4s,baz=149,slow=21,SNR=5.1							
ASAR	**Alice Springs**	**41.71**	**268**	P	P	05 23 34.1	-0.6
0.8nm,0.5s,baz=103,slow=7.3,SNR=9.0							
WRA	**Warramunga Arr**	**42.75**	**274**	P	P	05 23 42.5	-0.6
1.3nm,0.3s,baz=111,slow=8.1,SNR=48							
FITZ	**Fitzroy Crossi**	**50.99**	**271**	P	P	05 24 45.8	-0.5
1.4nm,0.8s,baz=143,slow=10,SNR=3.4							
QSPA	**South Pole Qui**	**59.15**	**180**	P	P	05 25 44.5	+0.9
1.0nm,0.6s,baz=30,slow=5.5,SNR=5.3							
FINES	**FINESS Array B**	**145.18**	**339**	PKPbc	PKPdf	05 35 14.4	-0.2
3.3nm,0.6s,baz=48,slow=4.1,SNR=38							
NB2	**NORSAR Subarra**	**149.07**	**350**	PKP	PKPbc	05 35 24.9	-0.8
comp=Z,0.7nm,0.5s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**149.07**	**350**	PKPbc	PKPbc	05 35 25.0	-0.7
comp=Z,0.9nm,0.5s,baz=17,slow=4.2,SNR=5.0							
HFS	**Hagfors**	**149.50**	**347**	PKPbc	PKPbc	05 35 25.7	-0.9
comp=Z,1.0nm,0.4s,baz=90,slow=1.5,SNR=9.3							
BRTR	**Keskin Array B**	**151.64**	**297**	PKPbc	PKPbc	05 35 31.6	-1.0
comp=Z,0.5nm,0.6s,baz=145,slow=3.0,SNR=2.5							

IDC 22 05:22:42.9±6.6, 0°.08S×100°.27E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=355.4km s-min=30.1km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.77**	**123**	P	P	05 30 09.5	0.0
0.3nm,0.6s,baz=301,slow=8.9,SNR=4.5							
ASAR	**Alice Springs**	**40.19**	**128**	P	P	05 30 21.2	-0.2
0.3nm,0.6s,baz=301,slow=7.6,SNR=5.0							
MKAR	**Makanchi Array**	**49.27**	**344**	P	P	05 31 33.4	-0.1
0.3nm,0.4s,baz=149,slow=9.1,SNR=4.3							

*ISCJB **22** 05:46:13.8±0.2, 62°.89N±0°.02×148°.06W±0°.05, h85km±3km, mb3.7/8, Error ellipse: s-maj=3.7km s-min=3.2km az=141.7*
*PGC **22** 05:46:13.8±23.0, 62°.91N×148°.18W, h15km, ML3.7/1, 208km northeast of Anchorage, Ak Central Alaska*
*IDC **22** 05:46:14.7±2.0, 62°.96N×148°.42W, h71km±15km, mb3.6/8, mb1 3.7/10, mb1mx3.4/28, mbtmp3.5/10, Error ellipse: s-maj=27.6km s-min=15.3km az=98.0*
*NEIC **22** 05:46:14.2, 62°.88N×148°.16W, h79km, MG3.6(AEIC), After AEIC.*

ISC 22 05:46:14.8±0.8, 62°.87N±0°.03×148°.11W±0°.03, h76km±6km, n95, σ1°18/110, mb4.1/8, 1D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHY	**Denali Highway**	**0.39**	**59**	P	**Pn**	**05 46 26.8**	**-0.8**
DHY				S	**Sn**	**05 46 36.6**	**-0.3**
RND	**Reindeer**	**0.63**	**328**	P	**Pn**	**05 46 29.3**	**-0.3**
MCK	**McKinley**	**0.94**	**337**	P	**Pn**	**05 46 33.0**	**0.0**
MCK				S	**Sn**	**05 46 46.7**	**+0.3**
SML	**Sawmill**	**1.07**	**186**	P	**Pn**	**05 46 34.0**	**-0.6**
SML				S	**Sn**	**05 46 49.5**	**+0.1**
SCM	**Sheep Creek Mo**	**1.11**	**160**	P	**Pn**	**05 46 34.8**	**-0.2**
SCM				S	**Sn**	**05 46 51.2**	**+1.0**
TRF	**Thorofare Moun**	**1.14**	**301**	P	**Pn**	**05 46 34.8**	**-0.8**
TRF				S	**Sn**	**05 46 50.4**	**-0.7**
PAX	**Paxson**	**1.21**	**84**	P	**Pn**	**05 46 36.5**	**+0.2**
PAX				S	**Sn**	**05 46 53.3**	**+0.8**
PMR	**Palmer**	**1.37**	**201**	P	**Pn**	**05 46 38.1**	**-0.1**
HARP	**HAARP**	**1.44**	**108**	P	**Pn**	**05 46 40.0**	**+0.7**
HARP				S	**Sn**	**05 46 59.8**	**+2.1**
KTH	**Kantishna Hill**	**1.44**	**299**	P	**Pn**	**05 46 39.5**	**+0.2**
WRH	**Wood River Hil**	**1.60**	**0**	P	**Pn**	**05 46 41.0**	**-0.3**
HDA	**Harding Lake**	**1.62**	**18**	P	**Pn**	**05 46 41.9**	**+0.3**
KLU	**Klutina**	**1.73**	**142**	P	**Pn**	**05 46 43.0**	**-0.1**
NEA	**Nenana**	**1.76**	**346**	P	**Pn**	**05 46 42.9**	**-0.5**
CCB	**Clear Creek Bu**	**1.79**	**4**	P	**Pn**	**05 46 43.5**	**-0.2**
SKT	**Skwentna**	**1.82**	**242**	P	**Pn**	**05 46 44.6**	**+0.4**
PPLA	**Purkeypile**	**1.87**	**273**	P	**Pn**	**05 46 44.9**	**0.0**
SUA	**Susitna One**	**1.88**	**222**	P	**Pn**	**05 46 45.7**	**+0.7**
CAST	**Castle Rocks**	**1.88**	**289**	P	**Pn**	**05 46 44.5**	**-0.6**
JPK	**Jack Peak**	**1.96**	**158**	P	**Pn**	**05 46 45.7**	**-0.4**
ILAR	**Eielson Array**	**1.98**	**15**	P	**Pn**	**05 46 46.2**	**-0.1**
ILAR				S	**Sn**	**05 47 09.4**	**-0.9**
ILAR	**Eielson Array**	**1.98**	**15**	P	**Pn**	**05 46 46.2**	**-0.1**
21nm,0.3s,baz=197,slow=14,SNR=918							
ILAR				S	**Sn**	**05 47 09.4**	**-0.9**
43nm,0.3s,baz=201,slow=14,SNR=17							
COLA	**College**	**2.01**	**3**	P	**Pn**	**05 46 46.6**	**-0.1**
MENT	**Mentasta**	**2.01**	**86**	*ePn*	**Pn**	**05 46 48.8**	**+0.1**
MENT				*e*Sn	**Sn**	**05 47 05.6**	**-5.5**
GLI	**Glacier Island**	**2.06**	**166**	P	**Pn**	**05 46 48.8**	**-0.5**
DIV	**Divide**	**2.07**	**147**	P	**Pn**	**05 46 48.8**	**-0.7**
MDM	**Murphy Dome**	**2.09**	**359**	P	**Pn**	**05 46 47.9**	**0.0**
CHUM	**Lake Minchumin**	**2.15**	**300**	P	**Pn**	**05 46 48.2**	**-0.2**
GLM	**Gilmore Dome**	**2.15**	**8**	P	**Pn**	**05 46 48.5**	**0.0**
SCRK	**Sand Creek**	**2.16**	**57**	P	**Pn**	**05 46 49.0**	**+0.1**
STLK	**Strandline Lak**	**2.22**	**233**	P	**Pn**	**05 46 50.8**	**+1.2**
MLY	**Manley**	**2.46**	**333**	P	**Pn**	**05 46 52.6**	**-0.1**
SPU	**Mount Spurr**	**2.52**	**229**	P	**Pn**	**05 46 54.4**	**+0.8**
BMRM	**Bremner River**	**2.53**	**137**	P	**Pn**	**05 46 53.2**	**-0.6**
SPBG	**Spurr Blockage**	**2.58**	**233**	P	**Pn**	**05 46 56.8**	**+2.4**
SLKM	**Skilak Lake**	**2.58**	**204**	P	**Pn**	**05 46 56.2**	**+1.8**
BGL	**Barrier Glacie**	**2.58**	**233**	P	**Pn**	**05 46 56.8**	**+2.3**
EYAK	**Cordova Ski Ar**	**2.59**	**153**	P	**Pn**	**05 46 54.3**	**-0.2**
CKL	**Chakachamna La**	**2.61**	**232**	P	**Pn**	**05 46 56.7**	**+1.9**
VRDI	**Verde Repeater**	**2.75**	**125**	P	**Pn**	**05 46 56.7**	**-0.1**
GOAT	**Goat Mountain**	**2.81**	**143**	P	**Pn**	**05 46 57.0**	**-0.6**
MCARA	**McCarthy VSAT**	**2.82**	**120**	P	**Pn**	**05 46 58.4**	**+0.8**
RAGM	**Ragged Mountai**	**2.99**	**145**	P	**Pn**	**05 46

JHK	Hiroka	1.29 329	⇓P		Pn	05 47 58.4	+0.1
MJAR	Matsushiro Arr	1.38 287	Pn		Pn	05 47 59.4	-0.1
	16nm,0.3s,baz=82,slow=10,SNR=200						
MAT	Matsushiro	1.38 287	P		Pn	05 47 59.9	+0.3
MAT			S		Sn	05 48 17.2	+0.5
MAT	Matsushiro	1.38 287	P		Pn	05 47 59.9	+0.3
MAT			eS		Sn	05 48 17.3	+0.5
JFT	Otama	1.43 16	⇓P		Pn	05 48 01.0	+0.8
JFT			eS		Sn	05 48 18.8	+0.9
BSO3	Boso 3	1.45 158	P		Pn	05 48 00.2	0.0
KSRS	Korea Array	9.65 281	Pn		Pn	05 49 56.6	+3.8
	0.3nm,0.3s,baz=94,slow=14,SNR=3.1						
PETK	Petropavlovsk-	21.09 31	LR		LR	06 01 06.1	
	comp=Z,18nm,19.1s,baz=163,slow=40						
MKAR	Makanchi Array	43.53 303	P		P	05 55 35.5	+0.5
	0.2nm,0.6s,baz=86,slow=9.1,SNR=2.4						
KURBB	Kurchatov Arra	45.56 308	P		P	05 55 49.9	-1.1
	0.4nm,0.5s,baz=86,slow=7.9,SNR=5.5						
WRA	Warramunga Arr	56.02 186	P		P	05 57 09.2	-0.8
	0.2nm,0.4s,baz=2.4,slow=7.7,SNR=9.5						

*IDC **22** 05:50:05.7±5.0, 1°.46S×99°.49E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=259.9km s-min=27.5km az=53.0*
*DJA **22** 05:50:09.1±1.9, 1°.5S±29°.×10°.0E±3°.6, h153km±8km, M3.7/3, MLv3.7/3*
ISC 22 05:50:06.9±1.5, 1°.5S±0°.1×99°.5E±0°.2, h10km, n7, σ0s22/6, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.17	60	P	Pn	05 50 31.1	+1.7
PDSI				S	Sn	05 50 49.0	+3.6
PPI	Padang Panjang	1.41	43	P	Pg	05 50 33.7	-0.2
PPI				S	Sg	05 50 52.4	+0.2
BKNI	Bangkinang	2.41	41	P	Pn	05 50 42.1	-4.4
WRA	Warramunga Arr	38.72	121	P	P	05 57 31.8	+0.2
	0.6nm,0.7s,baz=296,slow=8.0,SNR=7.8						
ASAR	Alice Springs	39.99	126	P	P	05 57 42.0	-0.1
	0.2nm,0.3s,baz=312,slow=7.3,SNR=5.0						
MKAR	Makanchi Array	50.40	345	P	P	05 59 04.5	+0.1
	0.2nm,0.4s,baz=157,slow=7.8,SNR=3.0						
TXAR	Lajitas Array	144.63	36	PKP	PKPdf	06 09 44.8	0.0
	0.2nm,0.5s,baz=266,slow=1.5,SNR=4.9						

WEL 22 06:05:05.3±0.5, 38°.29S×175°.99E, h156km±4km, ML3.6/18, 9C-3D, Error ellipse: s-maj=3.7km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.88	89	⇓PN	Pn	06 05 29.6	-0.1
URZ				SN	Sn	06 05 47.5	-0.9
URZ				AML	AML	06 05 49.2	
WTVZ	West Tongariro	0.89	201	PN	Pn	06 05 30.1	+0.1
OTVZ	Oturere	0.91	196	PN	Pn	06 05 30.4	+0.2
BKZ	Black Stump Fm	0.96	156	⇑PN	Pn	06 05 30.4	-0.1
BKZ				SN	Sn	06 05 48.5	-1.4
BKZ				AML	AML	06 05 50.4	
WPVZ	Whakapapa	0.98	201	⇑PN	Pn	06 05 30.8	+0.1
FWVZ	Far West T-bar	1.03	199	PN	Pn	06 05 31.2	0.0
NMHZ	Naumai	1.03	142	PN	Pn	06 05 31.8	+0.8
NMHZ				SN	Sn	06 05 51.7	+0.9
WNVZ	Wahianoa	1.08	196	⇑PN	Pn	06 05 31.6	-0.1
PKVZ	Pokaka	1.12	206	⇑PN	Pn	06 05 31.8	-0.1
MOVZ	Moawhango	1.14	189	⇑PN	Pn	06 05 31.5	-0.4
BHHZ	Black Hill Sta	1.20	177	PN	Pn	06 05 32.1	-0.4
MWZ	Matawai	1.21	93	PN	Pn	06 05 32.6	0.0
MWZ				SN	Sn	06 05 52.5	-1.0
MWZ				AML	AML	06 05 54.1	
MCHZ	McNeill Hill	1.28	155	PN	Pn	06 05 33.7	+0.5
KNZ	Kokohu	1.51	120	PN	Pn	06 05 35.5	+0.1
PNHZ	Pukenui	1.63	174	PN	Pn	06 05 36.0	-0.8
KAHZ	Kahuranaki	1.66	156	PN	Pn	06 05 36.9	-0.1
KAHZ				SN	Sn	06 06 00.6	-1.0
WAZ	Wanganui	1.66	208	⇑PN	Pn	06 05 36.6	-0.5
MHGZ	Mahia Peninsul	1.73	121	PN	Pn	06 05 37.8	-0.1
CNGZ	Carnagh Statio	1.75	97	PN	Pn	06 05 38.5	+0.5
TSZ	Takapari Road	1.77	181	⇑PN	Pn	06 05 37.4	-0.9
PUZ	Puketiti	1.80	84	PN	Pn	06 05 38.1	-0.5
PXZ	Pawanui	1.87	159	PN	Pn	06 05 38.4	-0.9
MXZ	Matakaoa Point	1.97	69	PN	Pn	06 05 40.5	+0.1
DVHZ	Dannevirke	2.02	176	⇑PN	Pn	06 05 39.6	-1.4
PRHZ	Porangahau	2.04	166	PN	Pn	06 05 40.4	-0.9
POWZ	Post Office Ro	2.11	185	PN	Pn	06 05 40.6	-1.5
MRZ	Mangatainoka R	2.39	188	⇑PN	Pn	06 05 43.5	-2.0
MRZ				AML	AML	06 06 14.9	
BFZ	Birch Farm	2.40	175	⇓PN	Pn	06 05 43.7	-1.8
TIWZ	Tintock	2.49	182	PN	Pn	06 05 44.6	-2.0
OGWZ	Otaki Gorge	2.61	194	PN	Pn	06 05 45.9	-2.1
HOWZ	Holdsworth Sta	2.63	188	PN	Pn	06 05 45.8	-2.6
KIW	Kapiti Island	2.71	198	PN	Pn	06 05 46.6	-2.6
TMWZ	Te Maipa	2.82	182	PN	Pn	06 05 48.2	-2.5
MTW	Mount Morrison	2.89	187	PN	Pn	06 05 48.6	-2.9
CAW	Cannon Point	2.91	194	PN	Pn	06 05 49.0	-2.7
DUWZ	D'Urville Isla	2.98	212	PN	Pn	06 05 50.2	-2.5
TRWZ	Traveller	3.12	184	PN	Pn	06 05 51.6	-2.8
PAWZ	Paruwai Farm	3.12	188	PN	Pn	06 05 51.4	-3.0
MSWZ	Moikau Station	3.18	190	⇓PN	Pn	06 05 52.0	-3.1
SNZO	South Karori	3.18	198	PN	Pn	06 05 51.8	-3.3
TCW	Tory Channel	3.21	204	PN	Pn	06 05 52.6	-2.9
PLWZ	Palliser	3.33	190	PN	Pn	06 05 53.6	-3.5
TUWZ	Tuamarina	3.51	206	PN	Pn	06 05 56.0	-3.3
NNZ	Nelson	3.55	214	PN	Pn	06 05 56.6	-3.3
QRZ	Quartz Range	3.69	225	PN	Pn	06 05 58.1	-3.6
THZ	Tophouse	4.20	213	PN	Pn	06 06 04.8	-3.7
KHZ	Kahutara	4.53	204	PN	Pn	06 06 03.8	-8.8

OTT 22 06:06:15.1±0.2, 66°.19N×94°.25W, h18km, MN3.9/21, 225km northeast from Baker Lake, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULN	Bullion Camp,	0.50	65	PG	Pg	06 06 24.0	-1.2
BULN				SG	Sg	06 06 31.0	-0.9
BULN				Trac		06 06 31.6	
	comp=Z,521nm,0.1s						
NUNN	Nunuq Camp, NU	1.64	125	PN	Pb	06 06 43.9	-0.8
NUNN				SG	Sg	06 07 06.5	-1.4
NUNN				Trac		06 07 11.1	
	comp=Z,781nm,0.2s						
WAGN	Wager Bay	1.99	97	PN	Pn	06 06 48.5	+0.8
WAGN				SG	Sg	06 07 17.1	-1.9
WAGN				Trac		06 07 18.2	
	comp=Z,328nm,0.1s						
YBKN	Baker Lake, Hu	2.02	202	PN	Pn	06 06 47.5	-0.8
YBKN				PG	Pb	06 06 50.2	-1.0
YBKN				SN	Sn	06 07 13.0	+0.1
YBKN				LG	Lg	06 07 16.1	
YBKN				Trac		06 07 18.0	
	comp=Z,195nm,0.1s						
KUGN	Kugaaruk Camp,	2.51	39	PN	Pn	06 06 55.0	0.0
KUGN				PG	Pb	06 06 57.6	-2.0
KUGN				SG	Sb	06 07 29.0	-1.1
KUGN				Trac		06 07 31.9	
	comp=Z,472nm,0.3s						
QILN	Qililugaq Expl	3.20	78	PN	Pn	06 07 03.4	-1.0
QILN				SN	Sn	06 07 40.4	-1.6
QILN				LG	Lg	06 07 50.6	
QILN				Trac		06 07 59.3	
	comp=Z,195nm,0.3s						
SEDN	First Sedna Si	3.23	155	PN	Pn	06 07 05.1	+0.3
SEDN				PG	Pb	06 07 13.4	+1.6
SEDN				SN	Sn	06 07 42.9	+0.2
SEDN				LG	Lg	06 07 53.9	
SEDN				Trac		06 07 57.5	
	comp=Z,179nm,0.3s						
JOSN	Second Sedna S	3.26	158	PN	Pn	06 07 05.3	+0.1
JOSN				SN	Sn	06 07 45.3	+1.8
JOSN				LG	Lg	06 07 53.6	
JOSN				Trac		06 07 59.4	
	comp=Z,93nm,0.2s						
LAIN	Lailor River,	5.03	50	PN	Pn	06 07 29.2	-0.3
LAIN				SN	Sn	06 08 27.6	+0.5
LAIN				LG	Lg	06 08 46.4	
LAIN				Trac		06 08 55.0	
	comp=Z,81nm,0.4s						
ARVN	Arviat, NU	5.12	179	PN	Pn	06 07 29.1	-1.7
ARVN				SN	Sn	06 08 31.4	+2.0
ARVN				LG	Lg	06 08 50.6	
ARVN				Trac		06 08 55.2	
	comp=Z,100nm,0.3s						
ILON	Igloolik, Nuna	5.69	50	PN	Pn	06 07 39.4	+0.8
ILON				SN	Sn	06 08 40.1	-3.2
ILON				LG	Lg	06 09 08.5	
ILON				Trac		06 09 11.2	
	comp=Z,70nm,0.5s						
GIFN	Gifford Fjord,	6.06	45	PN	Pn	06 07 41.4	-2.3
GIFN				SN	Sn	06 08 48.4	-4.1
GIFN				LG	Lg	06 09 19.6	
GIFN				Trac		06 09 21.8	
	comp=Z,65nm,0.3s						
GDLN	Gardenia Lake,	6.63	236	PN	Pn	06 07 51.8	+0.3
GDLN				SN	Sn	06 09 00.5	-6.0
WHFN	White Fish Lak	6.65	243	PN	Pn	06 07 52.1	+0.3
WHFN				SN	Sn	06 09 00.3	-6.7
SNLN	Sandy Lake, NW	6.68	246	PN	Pn	06 07 50.5	-1.5
SNLN				SN	Sn	06 09 01.1	-6.4
JERN	Jeri Cho Mine,	6.99	276	PN	Pn	06 07 54.7	-1.9
JERN				SN	Sn	06 09 09.6	-5.9
JERN				LG	Lg	06 09 42.9	
JERN				Trac		06 09 49.5	
	comp=Z,108nm,0.3s						
FCC	Fort Churchill	7.46	179	PN	Pn	06 08 01.7	-1.2
FCC				SN	Sn	06 09 21.0	-5.9
FCC				LG	Lg	06 10 02.6	
FCC				Trac		06 10 12.7	
	comp=Z,32nm,0.3s						
HPLN	Hepburn Lake,	8.49	281	PN	Pn	06 08 17.3	+0.3
HPLN				SN	Sn	06 09 42.8	-9.4
HPLN				LG	Lg	06 10 28.2	
HPLN				Trac		06 10 38.6	
	comp=Z,73nm,0.5s						
RES	Resolute Bay	8.54	359	PN	Pn	06 08 17.6	0.0
RES				SN	Sn	06 09 47.9	-5.4
RES				LG	Lg	06 10 31.6	
RES				Trac		06 10 38.2	
	comp=Z,126nm,1.1s						
AKVQ	Akulivik	8.96	120	PN	Pn	06 08 21.9	-1.5
AKVQ				Trac		06 10 53.9	
	comp=Z,55nm,0.7s						
CTLN	Castor Lake	9.27	269	PN	Pn	06 08 24.4	-3.2
CTLN				SN	Sn	06 10 01.2	-10
CTLN				LG	Lg	06 10 50.6	
CTLN				Trac		06 11 05.3	
	comp=Z,78nm,0.8s						
YKW3	Yellowknife Ar	9.52	257	PN	Pn	06 08 27.2	-3.9
YKW3				SN	Sn	06 10 06.1	-11
YKW3				LG	Lg	06 11 01.8	
YKW3				Trac		06 11 10.8	
	comp=Z,37nm,0.5s						
GALN	Gameti Lake	9.90	269	PN	Pn	06 08 32.1	-4.2
GALN				SN	Sn	06 10 15.2	-12
GALN				LG	Lg	06 11 11.3	
GALN				Trac		06 11 23.5	
	comp=Z,41nm,0.5s						
DHRN	Dharma Camp	10.05	286	PN	Pn	06 08 34.5	-3.9
DHRN				SN	Sn	06 10 19.1	-11
DHRN				LG	Lg	06 11 15.3	
DHRN				Trac		06 11 22.7	
	comp=Z,53nm,0.8s						
ROMN	Roman Lake	10.12	270	PN	Pn	06 08 35.3	-4.0
ROMN				SN	Sn	06 10 22.2	-10
ROMN				LG	Lg	06 11 19.6	
FRB	Frobisher Bay	11.12	91	PN	Pn	06 08 49.6	-3.3
FRB				SN	Sn	06 10 47.9	-8.7
FRB				LG	Lg	06 11 54.0	
FRB				Trac		06 11 58.6	
	comp=Z,47nm,0.9s						
CDKN	Chidliak Camp	11.82	87	PN	Pn	06 08 59.9	-2.6
CDKN				SN	Sn	06 11 04.7	-9.1
CDKN				LG	Lg	06 12 15.1	
CDKN				Trac		06 12 22.6	
	comp=Z,42nm,0.6s						
FFC	Flin Flon	12.11	202	PN	Pn	06 09 05.0	-1.5
FFC				SN	Sn	06 11 11.6	-9.3
CMBN	Cumberland Cam	12.11	79	PN	Pn	06 09 05.2	-1.3
CMBN				SN	Sn	06 11 07.6	-13
CMBN				LG	Lg	06 12 22.9	
CMBN				Trac		06 12 39.9	
	comp=Z,49nm,0.6s						
SILO	Sutton Inlier	12.60	154	PN	Pn	06 09 10.2	-3.0
SILO				SN	Sn	06 11 22.4	-11
SILO				LG	Lg	06 12 41.5	
SILO				Trac		06 12 45.5	
	comp=Z,30nm,0.9s						
VIMO	Victor Mine	14.40	154	PN	Pn	06 09 33.4	-4.4
VIMO				SN	Sn	06 12 05.0	-12
KUQ	Kuujjuuaa	14.43	112	PN	Pn	06 09 33.8	-4.3
KUQ				SN	Sn	06 11 59.8	-18
KUQ				LG	Lg	06 13 30.4	
KUQ				Trac		06 13 43.2	
	comp=Z,22nm,0.5s						

IDC 22 06:22:04.4±3.2, 19°.03S×169°.50E, h263km±33km, mb3.4/7, mb1 3.6/8, mb1mx3.4/19, mbtmp3.4/8, Error ellipse: s-maj=62.3km s-min=22.2km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.17	223	eP	Pn	06 23 10.1	-0.7
DZM	Mont Dzumac	4.17	223	P	Pn	06 23 10.8	0.0
	2.6nm,0.3s,baz=272,slow=23,SNR=39						
NOUC	Port Laguerre	4.28	224	eP	Pn	06 23 14.2	+2.2
CTA	Charters Tower	21.93	263	P	P	06 26 37.5	+0.6
	1.0nm,0.3s,baz=73,slow=8.5,SNR=3.4						
STKA	Stephens Creek	28.16	238	P	P	06 27 33.4	+0.6
	4.0nm,0.7s,baz=57,slow=8.3,SNR=8.8						
WRA	Warramunga Arr	33.12	262	P	P	06 28 15.5	-0.9
	1.0nm,0.6s,baz=93,slow=8.8,SNR=26						
ASAR	Alice Springs	33.42	256	P	P	06 28 18.6	-0.4
	7.7nm,0.5s,baz=83,slow=9.0,SNR=142						
SONM	Songino Array	87.20	323	P	P	06 34 22.6	+1.4
	0.7nm,0.7s,baz=134,slow=4.2,SNR=4.5						
NVAR	Mina Array Bea	88.48	48	P	P	06 34 27.5	0.0
	0.6nm,0.9s,baz=258,slow=7.4,SNR=3.7						
ILAR	Eielson Array	89.96	17	P	P	06 34 32.5	-1.0
	0.3nm,0.7s,baz=229,slow=5.1,SNR=5.0						
ARCES	ARCESS Array B	124.93	345	PKP	PKPdf	06 40 32.1	-0.4
	2.3nm,0.9s,baz=63,slow=3.3,SNR=5.2						
GERES	GERESS Array B	144.42	332	PKP	PKPbc	06 41 08.7	+0.1
	0.5nm,0.6s,baz=26,slow=3.4,SNR=4.2						

*ISCJB **22** 06:34:53.0±0.8, 36°.94N±0°.04×59°.46E±0°.05, h3km±8km, Error ellipse: s-maj=7.8km s-min=5.7km az=43.1*
*TEH **22** 06:34:54.9, 36°.89N×59°.47E, h3km, ML3.7*
*CSEM **22** 06:34:54.2±0.3, 36°.91N×59°.42E, h2km, ML3.7, Error ellipse: s-maj=7.1km s-min=5.1km az=54.0*
*NNC **22** 06:35:00.7±12.0, 37°.59N×59°.77E, h0km, mb3.6, Error ellipse: s-maj=108.3km s-min=59.3km az=23.0*
ISC 22 06:34:52.5±1.6, 37°.00N±0°.05×59°.50E±0°.05, h4km±15km, n27, σ1s36/29, 6C-6D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPAY	Payeh	0.68	217	eSg	Sg	06 35 13.3	-1.2
IPAY				⇑ePg	Pg	06 35 05.6	0.0
IPAY				e		06 35 14.0	
	comp=Z,84μm,0.1s						
ISRO	Mashad	0.69	182	eSg	Sg	06 35 13.1	-1.6
ISRO				ePg	Pg	06 35 05.5	-0.3
ISRO	Mashad	0.69	182	ePg	Pg	06 35 05.5	-0.3
ISRO				eSg	Sg	06 35 13.1	-1.6
IAKL	Akhelmad	0.72	237	eSg	Sg	06 35 15.1	-0.5
IAKL				ePg	Pg	06 35 06.4	+0.1
IAKL				e		06 35 15.8	
	comp=Z,16μm,0.1s						
IQHU	Qucahn	0.77	276	e		06 35 24.2	
	comp=Z,92μm,0.1s						
IQHU				ePg	Pb	06 35 08.8	+0.2
IEMG	Emamgholi	0.80	302	e		06 35 11.7	
	comp=Z,20μm,0.1s						
IEMG				ePg	Pn	06 35 09.9	-0.9
IMYA	Miami	0.81	143	eSg	Sg	06 35 19.4	+0.7
IMYA				ePg	Pg	06 35 08.3	+0.1
IMYA				e		06 35 28.6	
	comp=Z,30μm,0.2s						
IKRD	Kardeh	0.82	255	⇓ePg	Pg	06 34 56.8	-12
IKRD				eSg	Sg	06 34 58.6	-21
IKRD				e		06 35 00.3	
	comp=Z,54μm,0.1s						
IKRD	Kardeh	0.82	255	⇓ePg	Pg	06 34 56.8	-12
IKRD				eSg	Sg	06 34 58.6	-21
IMOG	Moghan	0.90	188	e		06 35 10.2	
	comp=Z,49μm,0.0s						
IMOG				⇓ePg	Pg	06 35 09.8	0.0
ISFR	Sfrayin	1.20	273	⇑ePg	Pg	06 35 16.0	+0.4
ISFR				e		06 35 21.5	
	comp=Z,19μm,0.1s						
ISFR	Sfrayin	1.20	273	⇑ePg	Pg	06 35 16.0	+0.4
BJRD	Bojnurd	1.81	293	ePg	Pg	06 35 28.8	+1.6
SHRT	Shahrakht	3.41	169	ePn	Pn	06 35 48.8	+2.3
SHRT				eSg	Sg	06 36 39.5	-2.5
IMON	Monand	3.80	178	ePn	Pn	06 35 52.7	+0.7
IMON				e		06 36 04.2	
	comp=Z,915nm,0.1s						
IMON	Monand	3.80	178	ePn	Pn	06 35 52.7	+0.7
TABS	Tabas	3.87	211	ePn	Pn	06 35 54.5	+1.6
ITEG	Tejag	4.14	189	ePn	Pn	06 35 58.2	+1.5
ITEG				e		06 36 32.5	
	comp=E,352nm,0.1s						
ITEG	Tejag	4.14	189	ePn	Pn	06 35 58.2	+1.5
IDAH	Dahanechah	4.26	176	e		06 37 23.2	
	comp=Z,361nm,0.3s						
IVRN	Varamin	6.61	255	ePn	Pn	06 36 31.5	+1.0
IVRN	Varamin	6.61	255	ePn	Pn	06 36 31.5	+1.0
KK31	Karatay Array	10.41	51	⇑Pn	Pn	06 37 27.9	+5.4
	comp=Z,0.4nm,0.4s,baz=218,slow=16,SNR=3.5						
KK31				⇓Sn	Sn	06 39 14.2	-5.3
	comp=Z,1.8nm,0.6s,baz=237,slow=24,SNR=4.2						
KK31	Karatay Array	10.41	51	Pn	Pn	06 37 27.9	+5.4
	comp=Z,0.4nm,0.4s,SNR=3.5						
AB31	Akbulak array	12.26	1	⇓Pn	Pn	06 37 48.6	+0.9
	comp=Z,0.5nm,0.5s,baz=184,slow=13,SNR=2.7						
AB31				⇑Sn	Sn	06 40 03.2	-1.5
	comp=Z,1.5nm,0.5s,baz=194,slow=27,SNR=8.2						
AB31	Akbulak array	12.26	1	Pn	Pn	06 37 48.6	+0.9
	comp=Z,0.5nm,0.5s,baz=184,SNR=2.7						
AKTO	Aktyubinsk	13.47	356	⇓Pn	Pn	06 38 00.5	-3.9
	comp=Z,0.9nm,0.4s						
AKTO				⇑Sn	Sn	06 40 31.4	-3.1
	comp=Z,3.3nm,0.8s						

IDC 22 06:38:32.0±1.8, 0°.68S×125°.28E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=177.6km s-min=26.5km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.10	156	P	P	06 43 18.2	-0.1
	0.7nm,0.9s,baz=334,slow=11,SNR=5.7						
ASAR	Alice Springs	24.34	160	P	P	06 43 51.7	0.0
	0.9nm,0.9s,baz=344,slow=12,SNR=4.4						
MKAR	Makanchi Array	60.40	327	P	P	06 48 43.2	0.0
	0.2nm,0.3s,baz=124,slow=7.7,SNR=5.7						

IDC 22 06:43:36.1±5.8, 23°.45S×179°.92W, h470km±61km, mb3.3/6, mb1 3.5/7, mb1mx3.2/22, mbtmp3.4/7, Error ellipse: s-maj=41.1km s-min=21.7km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.98	189	P	P	06 46 44.4	-1.9
	0.6nm,0.3s,baz=107,slow=9.4,SNR=5.0						
URZ				S	S	06 49 15.2	-8.3
	0.4nm,0.3s,baz=209,slow=19,SNR=5.2						
RPZ	Rata Peaks	21.54	198	P	P	06 47 51.8	+1.8
	6.3nm,0.7s,baz=48,slow=12,SNR=3.6						
CTA	Charters Tower	31.55	270	P	P	06 49 19.8	+1.0
	4.2nm,0.4s,baz=95,slow=11,SNR=10						
ASAR	Alice Springs	42.18	260	P	P	06 50 46.0	-0.6
	1.5nm,0.6s,baz=96,slow=7.4,SNR=28						
WRA	Warramunga Arr	42.51	266	P	P	06 50 48.2	-1.0
	1.3nm,0.3s,baz=90,slow=5.9,SNR=77						
FITZ	Fitzroy Crossi	50.93	265	P	P	06 51 52.4	-0.8
	1.1nm,0.5s,baz=136,slow=11,SNR=7.8						
TXAR	Lajitas Array	90.14	58	P	P	06 55 44.6	-0.9
	0.3nm,0.7s,baz=212,slow=3.2,SNR=6.3						
ARCES	ARCESS Array B	131.47	348	PKP	PKPdf	07 01 51.6	-2.0
	1.0nm,0.8s,baz=64,slow=3.1,SNR=3.8						
BRTR	Keskin Array B	147.36	308	PKPbc	PKPab	07 02 28.3	-1.7
	0.4nm,0.5s,baz=90,slow=4.3,SNR=2.7						
TORD	Torodi Ar. Bea	169.64	189	PKPab	PKPab	07 04 04.1	-2.2
	0.3nm,0.6s,baz=191,slow=3.1,SNR=3.6						

IDC 22 07:06:36.1±6.2, 19°.40S×177°.30W, h511km±66km, mb3.3/6, mb1 3.5/7, mb1mx3.2/21, mbtmp3.3/7, Error ellipse: s-maj=34.5km s-min=29.3km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.41	193	P	P	07 10 28.8	+0.2
	0.9nm,0.3s,baz=273,slow=8.6,SNR=6.1						
STKA	Stephens Creek	38.86	243	P	P	07 13 17.5	+0.4
	2.7nm,0.8s,baz=84,slow=9.2,SNR=5.0						
WRA	Warramunga Arr	45.41	261	P	P	07 14 08.4	-0.6
	2.0nm,0.3s,baz=97,slow=7.7,SNR=94						
WRA				PcP	PcP	07 15 36.9	-0.7
	0.5nm,0.7s,baz=97,slow=3.2,SNR=3.3						
ASAR	Alice Springs	45.42	256	P	P	07 14 08.7	-0.3
	4.5nm,0.7s,baz=87,slow=8.2,SNR=60						
ASAR				PcP	PcP	07 15 37.1	-0.5
	0.8nm,0.7s,baz=106,slow=4.1,SNR=5.2						
FITZ	Fitzroy Crossi	53.83	261	P	P	07 15 11.0	0.0
	2.6nm,0.6s,baz=96,slow=3.7,SNR=21						
MJAR	Matsushiro Arr	69.72	323	P	P	07 16 55.1	+0.7
	0.8nm,0.5s,baz=157,slow=7.2,SNR=4.6						
ILAR	Eielson Array	87.10	13	P	P	07 18 25.4	-1.3
	0.3nm,0.7s,baz=226,slow=5.2,SNR=6.4						
ARCES	ARCESS Array B	127.96	350	PKP	PKPdf	07 24 42.9	0.0
	1.3nm,0.7s,baz=29,slow=2.8,SNR=7.6						
BRTR	Keskin Array B	146.57	314	PKPbc	PKPbc	07 25 20.0	-0.4
	1.1nm,0.5s,baz=143,slow=4.1,SNR=6.0						
GERES	GERESS Array B	149.31	346	PKPbc	PKPbc	07 25 26.9	-0.1
	0.9nm,0.6s,baz=18,slow=1.7,SNR=9.7						

*ISCJB

SNAA	Sanae	55.43 160	*e*P		P	07 30 58.0 +0.8
	8.3nm,1.0s					
SNAA			*e*		pP	07 31 29.4 +1.6
SNAA	Sanae	55.43 160	P		P	07 30 58.5 +1.3
	1.6nm,0.6s,baz=275,slow=9.8,SNR=53					
BRAL	Brewton	61.90 341	*e*P		P	07 31 44.2 +2.0
	37nm,0.6s					
KMSC	Kings Mountain	64.47 347	P		P	07 31 59.4 +0.3
	baz=65					
732A	Laxson Ranch,	64.72 328	P		P	07 32 01.3 +0.3
	baz=65					
632A	Uvalde	65.30 329	P		P	07 32 05.4 +0.7
	baz=66					
532A	Rocksprings	65.88 329	P		P	07 32 09.0 +0.6
	baz=66					
JCT	Junction City	66.13 330	P		P	07 32 10.7 +0.6
	baz=66					
WHTX	Lake Whitney	66.44 332	P		P	07 32 12.1 +0.2
	baz=67					
432A	Menard	66.47 330	P		P	07 32 12.3 +0.2
	baz=67					
530A	J-C Ranch, Com	66.55 328	P		P	07 32 13.5 +0.8
	baz=67					
628A	Black Gap, Mar	66.73 327	P		P	07 32 14.9 +1.0
	baz=67					
332A	Millersview	66.88 330	P		P	07 32 14.9 +0.2
	baz=67					
WVT	Waverly	66.92 342	*e*P		P	07 32 14.2 -0.7
	17nm,0.7s					
627A	Terlingua Ranc	66.95 326	P		P	07 32 15.9 +0.5
	baz=67					
TXAR	Lajitas Array	66.99 326	P		P	07 32 16.2 +0.6
TXAR	Lajitas Array	66.99 326	P		P	07 32 16.2 +0.6
	0.7nm,0.7s,baz=148,slow=7.8,SNR=10.0					
430A	Baggett Ranch,	67.04 329	P		P	07 32 16.0 +0.2
	baz=67					
331A	San Angelo	67.12 330	P		P	07 32 16.3 0.0
	baz=67					
429A	Davenport Ranc	67.21 328	P		P	07 32 17.6 +0.7
	baz=68					
MIAR	Mount Ida	67.24 337	*e*P		P	07 32 17.4 +0.5
	1.6nm,0.6s					
528A	Cox Ranch, San	67.25 327	P		P	07 32 17.5 +0.3
	baz=68					
232A	Coleman	67.27 331	P		P	07 32 17.5 +0.3
	baz=68					
626A	Big Bend Ranch	67.40 326	P		P	07 32 19.4 +1.2
	baz=68,SNR=7.9					
527A	Woodward Ranch	67.63 326	P		P	07 32 20.3 +0.6
	baz=68					
526A	Mary Lane Ranc	67.80 326	P		P	07 32 22.0 +1.3
	baz=68,SNR=5.3					
329A	Wagon Wheel Ra	67.97 328	P		P	07 32 21.9 +0.2
	baz=68					
427A	Hayter Ranch,	68.11 327	P		P	07 32 22.6 0.0
	baz=68					
426A	McDonald Obser	68.26 326	P		P	07 32 24.2 +0.4
	baz=68					
Z31A	Sharp Cattle R	68.71 331	P		P	07 32 26.4 +0.3
	baz=69					
SIUC	Southern Illin	68.79 342	*e*P		P	07 32 26.1 -0.4
	7.8nm,0.5s					
425A	Indio Mountain	68.83 326	P		P	07 32 27.2 +0.1
	baz=69					
227A	Bennet, Jal	69.02 328	P		P	07 32 28.9 +0.7
	baz=69					
TUL1	Tulsa	69.25 336	*e*P		P	07 32 29.7 +0.3
325A	Bean Ranch, Si	69.30 326	P		P	07 32 30.4 +0.3
	baz=70					
Y31A	Rekieta Farm,	69.31 331	P		P	07 32 30.5 +0.7
	baz=70					
WMOK	Wichita Mounta	69.37 333	*e*P		P	07 32 30.6 +0.4
	1.2nm,0.6s					
226B	Tecolote Peak,	69.49 327	P		P	07 32 32.4 +1.3
	baz=70					
DBIC	Dimbokro	69.57 70	P		P	07 32 33.0 +1.1
DBIC	Dimbokro	69.57 70	P		P	07 32 33.0 +1.1
	5.9nm,0.6s,baz=210,slow=8.1,SNR=10					
324A	Moseley Ranch,	69.61 326	P		P	07 32 31.5 -0.4
	baz=70					
SYO	Syowa Base	69.68 158	‖*e*X		P	07 32 27.6 -4.1
SYO	Syowa Base	69.68 158	‖*e*PcP		PcP	07 32 52.5 -1.2
SYO	Syowa Base	69.68 158	‖*e*PcP		P	07 32 27.6 -4.1
225A	Deer Hill, Car	69.83 327	P		P	07 32 33.7 +0.3
	baz=70					
Y29A	Porterfield Fa	69.83 330	P		P	07 32 33.4 +0.2
	baz=70					
126A	Clayton Basin,	69.89 328	P		P	07 32 34.1 +0.6
	baz=70					
224A	Cornudas Mount	70.14 326	P		P	07 32 35.1 -0.1
	baz=70					
125A	Gardner Draw,	70.20 327	P		P	07 32 35.5 0.0
	baz=70					
Z26A	Caprock	70.39 328	P		P	07 32 37.0 +0.4
	baz=71					
MSTX	Muleshoe	70.42 329	*e*P		P	07 32 37.0 +0.3
MSTX	Muleshoe	70.42 329	P		P	07 32 37.1 +0.3
	baz=71					
Y27A	Causey	70.52 329	P		P	07 32 38.0 +0.6
	baz=71					
124A	Stringfield Ra	70.62 327	P		P	07 32 38.7 +0.6
	baz=71					
Z24A	Sheeppen Canyo	71.09 327	P		P	07 32 41.5 +0.6
	baz=71,SNR=6.2					
X26A	CR and CF Fran	71.37 329	P		P	07 32 43.0 +0.5
	baz=72					
Z23A	Rita Site, Whi	71.46 326	P		P	07 32 44.4 +1.3
	baz=72					
220A	Playas Peak, P	71.53 324	P		P	07 32 44.3 +0.8
	baz=72					
121A	Cookes Peak, D	71.64 325	P		P	07 32 45.8 +1.5
	baz=72					
V28A	Channing	71.67 331	P		P	07 32 45.2 +0.9
	baz=72					
W26A	Owens Ranch, T	71.80 329	P		P	07 32 45.7 +0.6
	baz=72					
Z22A	Elephant Butte	71.81 326	P		P	07 32 46.5 +1.3
	baz=72					
U28A	Mallet	72.21 331	P		P	07 32 47.7 +0.2
	baz=72					
W25A	X Bar L Ranch,	72.22 329	P		P	07 32 47.9 +0.3
	baz=72					
X23A	Hourglass Bar	72.50 327	P		P	07 32 50.7 +1.3
	baz=73					
Z20A	Nine Sixteen R	72.52 325	P		P	07 32 50.6 +1.2
	baz=73					
W24A	Lazy 6 Ranch,	72.65 328	P		P	07 32 51.1 +0.8
	baz=73					
R31A	Burdett	72.75 334	P		P	07 32 51.2 +0.6
	baz=73					
U26A	Atchley Ranch,	72.88 330	P		P	07 32 52.7 +1.1
	baz=73					
ANMO	Albuquerque	72.93 327	*e*P		P	07 32 52.6 +0.7
	1.5nm,0.8s					
W23A	Werner Place,	72.96 328	P		P	07 32 53.3 +1.2
	baz=73					
Y20A	Horse Springs,	73.04 325	P		P	07 32 53.7 +1.1
	baz=73					
S28A	Manter	73.10 332	P		P	07 32 53.5 +0.8
	baz=73					
U25A	Circle Dot Ran	73.18 330	P		P	07 32 54.3 +1.0
	baz=74					
V23A	Ortiz Mt. (NFS	73.45 328	P		P	07 32 56.6 +1.7
	baz=74					
X20A	Quemado	73.60 326	P		P	07 32 57.2 +1.3
	baz=74					
W21A	San Fidel	73.64 327	P		P	07 32 57.5 +1.4
	baz=74					
P31A	Stockton	73.77 335	P		P	07 32 57.5 +1.0
	baz=74					
S26A	Kim	73.79 331	P		P	07 32 58.1 +1.3
	baz=74					
T25A	Trinidad	73.79 330	P		P	07 32 58.5 +1.5
	baz=74					
V22A	San Miguel Ran	73.93 328	P		P	07 32 59.5 +1.7
	baz=74					
W20A	Ramah	74.07 326	P		P	07 33 00.1 +1.5
	baz=74					
T24B	San Luis	74.16 329	P		P	07 33 00.7 +1.5
	baz=74					
S25A	Robets Cordova	74.24 330	P		P	07 33 00.6 +1.1
	baz=74					
S24A	Houchin Ranch,	74.56 330	P		P	07 33 03.1 +1.6
	baz=75					
U21A	Nageezi	74.70 327	P		P	07 33 03.6 +1.4
	baz=75					
SDCO	Great Sand Dun	74.78 330	*e*P		P	07 33 03.6 +0.9
	1.4nm,0.8s					
T22A	Edith	74.82 328	P		P	07 33 04.6 +1.7
	baz=75					
R24A	Sanders Place,	75.01 330	P		P	07 33 05.6 +1.7
	baz=75					
X16A	Lo Mia Camp, P	75.01 324	P		P	07 33 05.7 +1.7
	baz=75					
R23A	Moffat	75.29 330	P		P	07 33 07.0 +1.4
	baz=76					
Q24A	Divide	75.63 331	P		P	07 33 09.1 +1.5
	baz=76					
S21A	Coal Bank Pass	75.76 328	P		P	07 33 09.7 +1.3
	baz=76					
O26A	Horse Wrangler	75.93 332	P		P	07 33 10.7 +1.6
	baz=76					
S20A	Disappointment	76.16 328	P		P	07 33 12.2 +1.6
	baz=76					
Q22A	Crested Butte,	76.33 329	P		P	07 33 13.0 +1.4
	baz=77					
R20A	Redvale	76.46 328	P		P	07 33 13.9 +1.7
	baz=77					
PV01	Paradox Valley	76.50 328	*e*P		P	07 33 13.7 +1.2
	224nm,1.2s					
ISCO	Idaho Springs	76.53 331	*e*P		P	07 33 14.0 +1.3
	2.6nm,0.8s					
ISCO	Idaho Springs	76.53 331	P		P	07 33 14.1 +1.5
	baz=77					
ECSD	EROS Data Cent	76.53 339	*e*P		P	07 33 12.2 0.0
	3.7nm,1.0s					
W13A	Hualapai Mount	76.83 322	P		P	07 33 15.8 +1.4
	baz=77					
P22A	Eagle	76.86 330	P		P	07 33 16.0 +1.5
	baz=77					
O23A	Lake Granby, G	77.00 331	P		P	07 33 16.8 +1.5
	baz=77					
U15A	North Rim	77.00 324	P		P	07 33 16.9 +1.5
	baz=77					
P20A	De Beque	77.52 329	P		P	07 33 19.4 +1.4
	baz=78					
GMRC	Granite Mounta	77.56 321	P		P	07 33 19.4 +1.0
	baz=78					
M24A	Cheyenne	77.58 332	P		P	07 33 20.0 +1.7
	baz=78					
P19A	Cripple Cowboy	77.90 328	P		P	07 33 21.7 +1.5
	baz=78,SNR=7.3					
O20A	White River Ci	77.96 329	P		P	07 33 21.1 +0.5
	baz=78,SNR=5.5					
J27A	Elkhorn Farm,	77.98 335	P		P	07 33 21.7 +1.3
	baz=78					
SRU	San Rafael	78.21 327	*e*P		P	07 33 22.9 +1.0
	5.9nm,1.1s					
CCUT	Cedar City	78.41 324	*e*P		P	07 33 24.5 +1.5
	3.5nm,0.8s					
O19A	Miners Draw (B	78.49 329	P		P	07 33 24.7 +1.3
	baz=79					
TOA0	Torodi Ar. Sit	78.49 68	*e*P		P	07 33 25.1 +1.4
TORD	Torodi Ar. Bea	78.49 68	P		P	07 33 25.1 +1.3
TORD	Torodi Ar. Bea	78.49 68	P		P	07 33 25.1 +1.3
	9.3nm,0.5s,baz=271,slow=6.0,SNR=128					
N20A	Spence Gulch,	78.53 330	P		P	07 33 25.0 +1.2
	baz=79					
MSU	Marysvale	78.55 326	*e*P		P	07 33 25.2 +1.4
	2.5nm,0.9s					
MVU	Marysvale	78.56 326	*e*P		P	07 33 25.1 +1.2
	2.1nm,0.8s					
GSC	Goldstone	78.58 321	P		P	07 33 25.1 +1.2
	baz=79					
ARUT	Antelope Range	78.63 324	*e*P		P	07 33 25.9 +1.6
	3.2nm,0.8s					
M21A	Separation Pea	78.77 331	P		P	07 33 26.0 +1.1
	baz=79					
K23A	Bowen Ranch, D	78.98 332	P		P	07 33 27.2 +1.2
	baz=79					
M20A	Sweetwater, Wa	79.03 330	P		P	07 33 27.4 +1.0
	baz=79					
L21A	Rawlins	79.06 331	P		P	07 33 27.3 +0.8
	baz=79,SNR=5.4					
BOSA	Boshof	79.13 117	P		P	07 33 28.0 +0.7
BOSA	Boshof	79.13 117	P		P	07 33 28.0 +0.7
	3.6nm,0.8s,baz=244,slow=16,SNR=6.0					
H27A	Howes	79.20 336	P		P	07 33 27.6 +0.6
	baz=80					
K22A	Casper	79.27 332	P		P	07 33 28.5 +0.9
	baz=80					
I25A	Rochford	79.29 334	P		P	07 33 28.5 +0.8
	baz=80					
FURC	Furnace Creek,	79.46 321	P		P	07 33 29.9 +1.3
	baz=80					
L20A	Wamsutter	79.52 330	P		P	07 33 29.8 +0.8
	baz=80					
K21A	Alcova	79.56 331	P		P	07 33 29.7 +0.5
	baz=80,SNR=6.2					
JLU	Jordanelle	79.82 327	*e*P		P	07 33 32.0 +1.2
	2.9nm,0.7s					
J22A	Midwest	79.88 332	P		P	07 33 31.1 +0.3
	baz=80					
L19A	Farson	80.04 330	P		P	07 33 32.9 +1.1
	baz=80,SNR=6.9					
R11A	Troy Canyon, C	80.16 324	*e*P		P	07 33 33.6 +1.0
R11A	Troy Canyon, C	80.16 324	P		P	07 33 34.0 +1.5
	baz=80					
L18A	Fontenelle, Gr	80.21 329	P		P	07 33 33.8 +1.1
	baz=80					
H24A	Dirks Ranch, A	80.22 334	P		P	07 33 33.0 +0.4
	baz=80					
D30A	Buchanan	80.23 339	P		P	07 33 33.0 +0.6
	baz=80					
F27A	Lemmon	80.24 336	P		P	07 33 33.1 +0.5
	baz=80					
VES	Vestal, Richgr	80.25 320	P		P	07 33 33.8 +1.0
	baz=80					
I22A	9 Mile Ranch,	80.28 332	P		P	07 33 33.5 +0.6
	baz=81,SNR=5.1					
K19A	Absolon Red Bu	80.40 330	P		P	07 33 34.4 +0.6
	baz=81					
F26A	Lodgepole	80.46 336	P		P	07 33 34.4 +0.7
	baz=81					
J20A	Shoshoni	80.50 331	P		P	07 33 35.6 +1.5
	baz=81,SNR=5.3					
I21A	Big Trails, Te	80.54 332	P		P	07 33 35.0 +0.7
	baz=81,SNR=5.1					
HWUT	Hardware Ranch	80.66 328	*e*P		P	07 33 35.6 +0.4
	5.6nm,0.8s					
BW06	Boulder Array	80.66 330	*e*P		P	07 33 35.4 +0.2
	4.3nm,1.0s					
PDAR	Pinedale Array	80.66 330	P		P	07 33 35.5 +0.3
PDAR	Pinedale Array	80.66 330	P		P	07 33 35.5 +0.3
	1.9nm,0.8s,baz=129,slow=8.5,SNR=17					
BGU	Big Grassy Mou	80.83 327	*e*P		P	07 33 36.2 +0.2
	5.2nm,1.5s					
J19A	Cowheart	80.84 331	P		P	07 33 36.8 +0.8
	baz=81,SNR=5.1					
G23A	Biddle	80.93 334	P		P	07 33 36.9 +0.6
	baz=81					
I20A	Worland	81.00 332	P		P	07 33 37.6 +0.8
	baz=81,SNR=5.4					
H21A	Big Horn, Sher	81.11 333	P		P	07 33 37.9 +0.6
	baz=81					
B30A	Myrvik Farm, E	81.28 340	P		P	07 33 38.4 +0.3
	baz=82					
F23A	Volborg	81.37 334	P		P	07 33 39.0 +0.4
	baz=82					
H20A	Greybull	81.39 332	P		P	07 33 39.3 +0.5
	baz=82,SNR=7.5					
MLAC	Mammoth Lakes	81.39 321	P		P	07 33 40.0 +0.9
	baz=82					
I19A	Meeteetse	81.44 331	P		P	07 33 40.5 +1.3
	baz=82					
I18A	Diamond G Ranc	81.53 330	P		P	07 33 40.7 +1.0
	baz=82,SNR=5.6					
B29A	Wagenman Farm,	81.61 339	P		P	07 33 40.5 +0.7
	baz=82					
NVAR	Mina Array Bea	81.67 322	P		P	07 33 41.7 +1.1
NVAR	Mina Array Bea	81.67 322	P		P	07 33 41.7 +1.1
	0.8nm,0.8s,baz=153,slow=6.1,SNR=11					
REDW	Red Top Meadow	81.71 330	*e*P		P	07 33 41.6 +0.9
	7.0nm,1.4s					
LOHW	Long Hollow	81.80 330	*e*P		P	07 33 42.1 +0.9
	1.9nm,0.6s					
D25A	Fairfield	81.80 336	P		P	07 33 42.0 +1.1
	baz=82					
TPAW	Teton Pass	81.86 330	*e*P		P	07 33 42.2 +0.6
A29A	Manning Farm,	81.98 339	P		P	07 33 42.2 +0.5
	baz=82					
I17A	Pilgrim Ck.	82.03 330	P		P	07 33 43.8 +1.4
	baz=82					
G20A	Bridger	82.07 332	P		P	07 33 42.6 +0.2
	baz=82,SNR=7.5					
IMW	Indian Meadow	82.17 330	*e*P		P	07 33 44.2 +1.0
	4.6nm,0.9s					
H18A	Shoshone NF, C	82.24 331	P		P	07 33 44.0 +0.5
	baz=82,SNR=8.1					
D23A	Lindsay	82.51 335	P		P	07 33 45.6 +1.1
	baz=83					
C24A	Savage	82.52 336	P		P	07 33 45.8 +1.2
	baz=83					
G18A	Lazy EL Ranch,	82.71 331	P		P	07 33 46.4 +0.7
	baz=83					
F19A	Roth Farm, Mol	82.89 332	P		P	07 33 46.7 +0.1
	baz=83					
H16A	Russell Place,	82.95 330	P		P	07 33 48.2 +1.1
	baz=83					
C23A	Lambert	83.03 335	P		P	07 33 47.9 +0.7
	baz=83					
E20A	Meyer Farm, Mu	83.08 333	P		P	07 33 48.1 +0.6
	baz=83					
D21A	La Casta Ranch	83.10 334	P		P	07 33 48.3 +0.7
	baz=83					
F18A	Big Timber	83.25 332	P		P	07 33 49.2 +0.7
	baz=84,SNR=6.4					
E19A	Rath Farm, Rou	83.31 333	P		P	07 33 49.3 +0.6
	baz=84,SNR=11					
HLID	Hailey	83.50 328	*e*P		P	07 33 51.3 +1.4
	5.0nm,1.1s					
HLID	Hailey	83.50 328	P		P	07 33 51.3 +1.4
	baz=84					
F17A	Fitzpatrick Pl	83.64 331	P		P	07 33 51.4 +0.9
	baz=84					
B22A	Reddig Ranch S	83.74 335	P		P	07 33 51.4 +0.5
	baz=84					
C21A	Desert Coulee	83.76 334	P		P	07 33 51.4 +0.4
	baz=84					
D19A	Cripps Ranch,	83.92 333	P		P	07 33 52.1 +0.3
	baz=84					
D17A	Six Diamond Ra	84.65 332	P		P	07 33 56.2 +0.7
	baz=85					
A20A	Cobblestone Ra	84.94 335	P		P	07 33 57.4 +0.5
	baz=85					
C17A	Wharram Farm,	85.06 332	P		P	07 33 57.9 +0.4
	baz=85					
ASAR	Alice Springs	124.38 204	PKP		PKPdf	07 40 20.4 -0.4
ASAR	Alice Springs	124.38 204	PKP		PKPdf	07 40 20.4 -0.4
	2.5nm,0.6s,baz=135,slow=1.8,SNR=26					
WRA	Warramunga Arr	127.61 206	PKP		PKPdf	07 40 27.0 -0.1
WRA	Warramunga Arr	127.61 206	PKP		PKPdf	07 40 27.0 -0.1
	4.3nm,0.7s,baz=167,slow=1.7,SNR=30					
EKS2	Erkin-Say	145.64 55	*e*PKPdf		PKPab	07 41 01.6 +0.9
AAK	Ala-Archa	146.16 55	*e*PKPbc		PKPab	07 41 02.8 +0.1
AAK	Ala-Archa	146.16 55	PKPbc		PKPab	07 41 03.0 +0.3
	3.6nm,0.3s,baz=99,slow=3.0,SNR=8.5					
MKAR	Makanchi Array	149.99 44	PKPbc		PKPbc	07 41 12.4 +0.9
MKAR	Makanchi Array	149.99 44	PKPbc		PKPbc	07 41 12.4 +0.9
	6.8nm,0.7s,baz=318,slow=2.4,SNR=20					

IDC 22 07:26:42.2±2.0, 1°.74S×99°.02E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/25, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=85.0km s-min=18.0km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.51	359	Pn	Pn	07 27 51.9	-0.1
	0.8nm,0.3s,baz=168,slow=12,SNR=5.1						
CMAR	Chiang Mai Arr	20.07	360	P	P	07 31 17.2	-0.1
	1.7nm,0.4s,baz=186,slow=7.3,SNR=2.4						
WRA	Warramunga Arr	38.97	120	P	P	07 34 09.8	-0.7
	3.2nm,0.8s,baz=296,slow=9.4,SNR=14						
ASAR	Alice Springs	40.19	126	P	P	07 34 20.6	-0.1
	0.8nm,0.7s,baz=301,slow=7.6,SNR=10						
STKA	Stephens Creek	50.05	131	P	P	07 35 39.3	+0.3
	2.9nm,0.8s,baz=304,slow=15,SNR=3.7						
MKAR	Makanchi Array	50.52	345	P	P	07 35 42.0	-0.3
	1.4nm,0.9s,baz=165,slow=7.4,SNR=9.0						
ZALV	Zalesovo Beam	56.74	350	P	P	07 36 26.9	-0.8
	1.9nm,0.6s,baz=156,slow=7.6,SNR=7.0						
CPUP	Villa Florida	143.94	218	PKP	PKPdf	07 46 20.6	+0.1
	1.4nm,0.7s,baz=144,slow=5.8,SNR=3.9						
TXAR	Lajitas Array	145.08	36	PKPbc	PKPbc	07 46 21.8	-0.1
	1.4nm,0.8s,baz=292,slow=2.5,SNR=14						

*ISCJB **22** 07:26:45.6±2.1, 31°.33S±0°.03×72°.18W±0°.10, h24km±17km, mb3.6/5, MS3.6/1, Error ellipse: s-maj=13.9km s-min=4.8km az=174.5*

*GUC **22** 07:26:46.1±0.9, 31°.30S×72°.25W, h50km±522km, MD4.0, ML4.0*

*IDC **22** 07:26:54.9±4.2, 31°.23S×71°.88W, h86km±37km, mb3.4/5, mb1 3.6/8, mb1mx3.5/19, mbtmp3.4/8, MS3.4/3, Ms1 3.4/3, ms1mx3.0/9, Error ellipse: s-maj=38.0km s-min=23.8km az=70.0*

ISC 22 07:26:46.6±2.8, 31°.31S±0°.04×72°.3W±0°.2, h42km±30km, n19, σ0°.79/20, mb3.5/5, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.70	49	*e*P	Pn	07 27 13.8	-0.3
TLL				*i* S	Sn	07 27 35.7	+1.0
TLL				AML	AML	07 27 44.5	
	comp=N,3μm,0.4s						
ROCH	El Roble	1.98	147	*e*P	Pn	07 27 17.4	-0.4
ROCH				*i* S	Sn	07 27 41.5	0.0
ROCH				AML	AML	07 27 51.5	
	comp=N,1μm,0.5s						
PEL	Peldehue	2.27	144	*e*P	Pn	07 27 21.8	0.0
PEL				*i* S	Sn	07 27 48.9	+0.3
PEL				AML	AML	07 27 59.5	
	comp=N,1μm,0.3s						
TACH	Talagante	2.60	155	*i* P	Pn	07 27 26.4	+0.2
TACH				*i* S	Sn	07 27 56.5	-0.1
FCH	Farellones	2.62	141	‖*i*P	Pn	07 27 25.9	-1.0
FCH				*i* S	Sn	07 27 56.5	-1.1
FCH				AML	AML	07 28 03.8	
	comp=E,287nm,0.6s						
ANTU	Antumapu	2.65	149	AML	AML	07 28 22.3	
	comp=E,525nm,0.6s						
LCO	Las Campanas	2.67	31	‖*i*P	Pn	07 27 27.1	-0.2
LCO				*i* S	Sn	07 27 59.0	+0.5
LCO				AML	AML	07 28 12.1	
	comp=E,910nm,0.5s						
PCH	Pirque	2.75	148	*i* P	Pn	07 27 28.5	+0.2
PCH				*i* S	Sn	07 28 00.1	-0.2
LMEL	Las Melosas	3.08	146	*e*P	Pn	07 27 33.1	+0.2
LMEL				AML	AML	07 28 27.1	
	comp=N,375nm,0.3s						
CACH	El Canelo	3.14	154	*e*P	Pn	07 27 34.6	+0.9
CACH				*i* S	Sn	07 28 10.9	+0.9
CFAA	Coronel Fontan	3.46	96	P	Pn	07 27 43.2	+5.1
	comp=N,4.2nm,0.3s,baz=308,slow=6.6,SNR=19						
CFAA				S	Sn	07 28 26.9	+8.9
	comp=N,3.2nm,0.3s,baz=1.9,slow=17,SNR=8.6						
CPUP	Villa Florida	14.01	73	LR	LR	07 35 43.9	
	comp=N,104nm,20.6s,baz=173,slow=39						
LPAZ	La Paz	15.42	15	P	P	07 30 24.2	-1.7
	comp=N,0.1nm,0.3s,baz=177,slow=9.7,SNR=9.2						
SIV	San Ignacio	18.36	36	P	Pn	07 30 58.5	+0.4
	comp=N,0.2nm,0.3s,baz=257,slow=14,SNR=3.8						
SIV				LR	LR	07 39 24.3	
	comp=N,94nm,20.9s,slow=41						
BDFB	Brasilia	27.08	60	P	P	07 32 26.7	+1.1
	comp=N,3.9nm,0.8s,baz=204,slow=10.0,SNR=4.2						
BDFB				LR	LR	07 44 28.5	
	comp=N,182nm,19.1s,baz=147,slow=39						
SNAA	Sanae	54.15	159	P	P	07 36 09.7	+2.4
	comp=N,0.3nm,1.1s,baz=270,slow=15,SNR=2.5						
TXAR	Lajitas Array	67.30	330	P	P	07 37 40.9	+3.7
	comp=N,0.3nm,0.7s,baz=152,slow=10,SNR=5.0						
NVAR	Mina Array Bea	81.56	325	P	P	07 39 04.7	+4.6
	comp=N,0.4nm,0.8s,baz=141,slow=5.8,SNR=3.5						
TORD	Torodi Ar. Bea	83.49	70	P	P	07 39 12.4	+2.0
	comp=N,1.0nm,0.8s,baz=254,slow=4.8,SNR=4.6						

IDC 22 07:26:54.1±59.0, 13°.16S×170°.39E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, 1C, Error ellipse: s-maj=1020.0km s-min=122.6km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	32.31	230	P	P	07 33 24.6	-0.5
	1.0nm,0.3s,baz=70,slow=11,SNR=8.7						
WRA	Warramunga Arr	35.16	254	P	P	07 33 50.7	+0.8
	0.2nm,0.5s,baz=85,slow=8.9,SNR=5.2						

ASAR	Alice Springs	36.06	248	P	P	07 33 57.2	-0.5
	0.2nm,0.4s,baz=72,slow=9.2,SNR=5.8						
SYO	Syowa Base	91.05	196⇑	eP	P	07 40 23.0	+23

IDC 22 07:28:47.7±5.3,0°.38S×100°.69E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/24,mbtmp3.4/3,Error ellipse: s-maj=293.2km s-min=27.2km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.25	123	P	P	07 36 09.9	-0.1
	1.0nm,0.7s,baz=301,slow=9.0,SNR=6.0						
ASAR	Alice Springs	39.67	128	P	P	07 36 21.8	-0.1
	0.3nm,0.6s,baz=298,slow=7.5,SNR=4.2						
MKAR	Makanchi Array	49.68	343	P	P	07 37 41.4	0.0
	0.2nm,0.5s,baz=166,slow=6.7,SNR=2.5						
TXAR	Lajitas Array	143.01	37	PKP	PKPdf	07 48 22.9	-1.6
	0.7nm,1.2s,baz=279,slow=1.8,SNR=3.5						

IDC 22 07:30:55.8±0.8,1°.57S×99°.36E,h0km,mb4.2/15, mb1 4.3/17,mb1mx4.2/27,mbtmp4.2/17,ML3.9/2,MS3.6/8, Ms1 3.6/8,ms1mx3.1/41,Error ellipse: s-maj=31.0km s-min=14.1km az=54.0
ISCJB 22 07:30:58.7±0.6,1°.48S±0°.08×99°.5E±0°.1,h30km,mb4.3/18, MS3.7/7,Error ellipse: s-maj=18.5km s-min=8.1km az=152.0
NEIC 22 07:31:00.4±3.8,1°.54S×99°.39E,h29km±25km,mb4.6/5, Error ellipse: s-maj=20.6km s-min=6.1km az=54.0

ISC 22 07:31:00.5±0.7,1°.5S±0°.1×99°.3E±0°.2,h30km,n53, σ0°85/50,mb4.4/18,MS3.6/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.33	354	Pn	Pn	07 32 02.6	-1.9
PSI	Prapat	4.33	354	Pn	Pn	07 32 02.6	-1.9
	1.3nm,0.3s,baz=158,slow=16,SNR=3.9						
PSI				LR	LR	07 34 07.3	
	comp=Z,406nm,19.6s,baz=164,slow=45						
IPM	Ipoh	6.21	16	ePn	Pn	07 32 32.0	+1.7
	24nm,0.7s						
KULM	Kulim	6.91	11	ePn	Pn	07 32 39.2	-0.6
CMAR	Chiang Mai Arr	19.88	359	P	P	07 35 29.5	0.0
CMAR	Chiang Mai Arr	19.88	359	P	P	07 35 29.5	0.0
	0.5nm,0.3s,baz=188,slow=9.7,SNR=7.7						
FITZ	Fitzroy Crossi	30.61	124	eP	P	07 37 11.2	-1.0
	9.2nm,1.0s						
WRA	Warramunga Arr	38.79	121	P	P	07 38 22.4	-0.5
WRA	Warramunga Arr	38.79	121	P	P	07 38 22.4	-0.5
	9.8nm,0.9s,baz=297,slow=9.2,SNR=34						
WRAB	Tennant Creek	38.80	121	eP	P	07 38 22.2	-0.7
	10nm,0.8s						
ASAR	Alice Springs	40.05	126	P	P	07 38 33.0	-0.4
ASAR	Alice Springs	40.05	126	P	P	07 38 33.0	-0.4
	2.7nm,0.8s,baz=292,slow=7.3,SNR=16						
AS31	Alice Springs	40.05	126	eP	P	07 38 32.7	-0.7
JNU	Nakatsue	45.53	38	P	P	07 39 17.2	-0.5
JNU	Nakatsue	45.53	38	P	P	07 39 17.2	-0.5
	5.9nm,0.9s,baz=153,slow=6.8,SNR=3.1						
JNU				LR	LR	07 58 57.3	
	comp=Z,46nm,20.2s,baz=233,slow=37						
KSAR	Wonju Array Be	46.94	31	P	P	07 39 27.6	-1.0
KSRS	Korea Array	46.97	31	P	P	07 39 27.6	-1.2
	1.0nm,0.5s,baz=223,slow=8.4,SNR=6.6						
KSRS				LR	LR	08 01 53.6	
	comp=Z,47nm,18.2s,baz=124,slow=40						
CTA	Charters Tower	49.38	115	P	P	07 39 47.9	+0.1
CTA	Charters Tower	49.38	115	P	P	07 39 47.9	+0.1
	5.5nm,0.9s,baz=290,slow=9.6,SNR=7.1						
CTAO	Charters Tower	49.38	115	eP	P	07 39 47.5	-0.3
	6.0nm,0.8s						
SONM	Songino Array	49.56	6	P	P	07 39 48.8	0.0
SONM				PcP	PcP	07 41 11.0	+0.7
SONM	Songino Array	49.56	6	P	P	07 39 48.8	0.0
	0.6nm,0.4s,baz=189,slow=9.7,SNR=6.3						
SONM				PcP	PcP	07 41 11.0	+0.7
	0.9nm,0.7s,baz=181,slow=4.1,SNR=3.7						
EKS2	Erkin-Say	49.67	335	eP	P	07 39 50.9	+1.0
	3.8nm,0.7s						
STKA	Stephens Creek	49.94	132	eP	P	07 39 53.0	+1.1
	2.2nm,1.0s						
STKA	Stephens Creek	49.94	132	P	P	07 39 50.7	-1.2
	8.6nm,0.9s,baz=305,slow=8.4,SNR=8.8						
STKA				LR	LR	08 01 52.0	
	comp=Z,109nm,20.7s,baz=296,slow=37						
MK31	Makanchi Array	50.41	345	eP	P	07 39 55.1	-0.1
MKAR	Makanchi Array	50.41	345	P	P	07 39 55.3	+0.1
MKAR	Makanchi Array	50.41	345	P	P	07 39 55.3	+0.1
	1.5nm,0.4s,baz=149,slow=8.2,SNR=21						
USRK	Ussuriysk Arra	54.07	29	P	P	07 40 22.0	-0.4
	2.7nm,0.7s,baz=234,slow=5.2,SNR=7.3						
ZAA0	Zalesovo Array	56.60	350	eP	P	07 40 40.2	-0.3
ZALV	Zalesovo Beam	56.60	350	P	P	07 40 40.4	-0.1
ZALV	Zalesovo Beam	56.60	350	P	P	07 40 40.4	-0.1
	3.1nm,0.6s,baz=183,slow=6.5,SNR=8.8						
KBZ	Khabaz	67.53	319	P	P	07 41 53.8	-0.2
KBZ	Khabaz	67.53	319	P	P	07 41 53.8	-0.2
	0.7nm,0.4s,baz=45,slow=1.4,SNR=2.7						
EIL	Elat	68.72	303	LR	LR	08 12 16.6	
	comp=Z,44nm,19.5s,baz=283,slow=36						
BRTR	Keskin Array B	72.53	313	P	P	07 42 24.6	-0.4
BRTR	Keskin Array B	72.53	313	P	P	07 42 24.6	-0.4
	0.5nm,0.7s,baz=123,slow=5.3,SNR=2.6						
BRTR				LR	LR	08 17 24.5	
	comp=Z,37nm,20.4s,baz=102,slow=38						
PETK	Petropavlovsk-	72.85	32	LR	LR	08 17 11.3	
	comp=Z,23nm,19.2s,baz=39,slow=38						
URZ	Urewera	79.44	129	LR	LR	08 20 20.7	
	comp=Z,74nm,19.0s,baz=72,slow=37						
FINES	FINESS Array B	83.40	332	P	P	07 43 25.1	+0.3
FINES	FINESS Array B	83.40	332	P	P	07 43 25.1	+0.3
	2.5nm,1.0s,baz=108,slow=4.2,SNR=4.2						
ARCES	ARCESS Array B	85.82	340	P	P	07 43 39.0	+2.2
ARCES	ARCESS Array B	85.82	340	P	P	07 43 39.0	+2.2
	1.9nm,0.9s,baz=79,slow=6.3,SNR=3.8						
GERES	GERESS Array B	88.27	319	P	P	07 43 50.0	+0.7
GERES	GERESS Array B	88.27	319	P	P	07 43 50.0	+0.7
	0.5nm,0.7s,baz=156,slow=7.0,SNR=3.6						
CPUP	Villa Florida	144.29	218	PKP	PKPbc	07 50 33.1	+0.4
CPUP	Villa Florida	144.29	218	PKP	PKPbc	07 50 33.1	+0.4
	2.6nm,0.7s,baz=126,slow=2.8,SNR=7.8						
TXAR	Lajitas Array	144.73	36	PKP	PKPdf	07 50 35.1	-0.2
TXAR	Lajitas Array	144.73	36	PKP	PKPdf	07 50 35.1	-0.2
	2.6nm,0.7s,baz=280,slow=1.5,SNR=40						
MIAR	Mount Ida	145.02	19	ePKPdf	PKPab	07 50 35.0	+0.1
TZTN	Tazewell	145.07	4	ePKPdf	PKPbc	07 50 34.4	-0.5
JCT	Junction City	145.97	30	ePKPbc	PKPbc	07 50 38.2	+0.1
CPCT	Cooper Cave	146.07	6	ePKPdf	PKPdf	07 50 37.6	+0.3

IDC 22 07:38:07.9±4.8,1°.26S×99°.67E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.3/23,mbtmp3.3/3,Error ellipse: s-maj=252.2km s-min=28.8km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.65	121	P	P	07 45 33.0	-0.6
	0.3nm,0.7s,baz=298,slow=8.4,SNR=5.6						
ASAR	Alice Springs	39.95	127	P	P	07 45 44.8	+0.4
	0.2nm,0.5s,baz=293,slow=7.5,SNR=3.7						
MKAR	Makanchi Array	50.23	345	P	P	07 47 06.1	+0.2
	0.3nm,0.4s,baz=161,slow=9.1,SNR=4.8						
TXAR	Lajitas Array	144.31	36	PKP	PKPbc	07 57 45.3	+0.1
	0.2nm,0.6s,baz=290,slow=0.8,SNR=3.5						

IDC 22 08:28:11.1±1.2,35°.73N×140°.97E,h0km,mb3.7/7, mb1 3.8/9,mb1mx3.6/29,mbtmp3.7/9,ML3.6/2,MS2.9/2, Ms1 2.9/2,ms1mx2.3/51,Error ellipse: s-maj=30.6km s-min=21.0km az=71.0
ISCJB 22 08:28:15.6±0.8,35°.98N±0°.06×140°.98E±0°.08,h31km, mb3.7/7,Error ellipse: s-maj=9.5km s-min=7.8km az=156.1
JMA 22 08:28:17.1±0.1,35°.89N×140°.83E,h41km±1km,M3.2

ISC 22 08:28:16.5±0.9,35°.92N±0°.05×140°.91E±0°.08,h31km,n15, σ1°10/17,mb3.8/7,1C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.22	191	⇑P	Pn	08 28 24.1	+0.5
CHOJ				eS	Sn	08 28 29.7	+1.6
JYT	Yasato	0.66	298	⇓P	Pb	08 28 29.3	-0.3
JYT				eS	Sb	08 28 37.3	-1.2
JHO	Hitachi	0.74	338	⇓P	Pb	08 28 31.1	+0.1
JHO				eS	Sn	08 28 41.7	+0.6
MJAR	Matsushiro Arr	2.27	287	Pn	Pn	08 28 53.0	+1.1
	9.3nm,0.3s,baz=94,slow=9.4,SNR=67						
MAT	Matsushiro	2.27	287	P	Pn	08 28 52.7	+0.8
MAT				S	Sn	08 29 19.0	+0.1
ASAJ	Asahikawa	8.29	8	Pn	Pn	08 30 14.5	0.0
	0.8nm,0.3s,baz=15,slow=5.7,SNR=5.6						
KSRS	Korea Array	10.54	282	LR	LR	08 34 28.8	
	comp=Z,72nm,18.6s,baz=142,slow=35						
USRK	Ussuriysk Arra	10.72	323	LR	LR	08 34 50.4	
	comp=Z,51nm,19.4s,baz=214,slow=37						
SONM	Songino Array	28.09	306	P	P	08 34 05.6	+0.2
	0.9nm,0.6s,baz=107,slow=10,SNR=4.2						
MKAR	Makanchi Array	44.38	303	P	P	08 36 23.8	-0.2
	1.2nm,0.6s,baz=89,slow=8.4,SNR=19						
KURBB	Kurchatov Arra	46.38	309	P	P	08 36 39.0	-0.7
	1.3nm,0.4s,baz=83,slow=7.5,SNR=14						
ILAR	Eielson Array	50.65	32	P	P	08 37 13.3	+0.9
	0.4nm,0.9s,baz=263,slow=6.1,SNR=4.7						
BVAR	Borovoye Array	51.03	313	P	P	08 37 16.5	+1.1
	0.8nm,0.5s,baz=81,slow=8.9,SNR=4.2						
WRA	Warramunga Arr	55.90	187	P	P	08 37 49.6	-1.9
	0.6nm,0.6s,baz=3.2,slow=7.4,SNR=8.2						
ASAR	Alice Springs	59.63	187	P	P	08 38 15.4	-2.2
	0.3nm,0.8s,baz=353,slow=6.5,SNR=2.9						

IDC 22 08:28:49.5±1.7,4°.09S×126°.06E,h0km,mb3.8/3, mb1 3.9/5,mb1mx3.6/23,mbtmp3.7/5,ML3.1/2,Error ellipse: s-maj=58.5km s-min=24.8km az=54.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	6.36	261	Pn	Pn	08 30 24.8	+0.3
	0.7nm,0.3s,baz=78,slow=9.3,SNR=3.9						
WRA	Warramunga Arr	17.71	15	P	Pn	08 32 55.8	-1.9
	0.1nm,0.3s,baz=324,slow=14,SNR=6.4						
ASAR	Alice Springs	20.89	159	P	P	08 33 34.1	+0.6
	3.5nm,0.8s,baz=343,slow=11,SNR=17						
STKA	Stephens Creek	31.26	154	P	P	08 35 11.6	+0.5
	3.4nm,0.8s,baz=343,slow=14,SNR=3.5						
MKAR	Makanchi Array	63.67	328	P	P	08 39 22.4	-0.3
	0.4nm,0.6s,baz=120,slow=7.5,SNR=3.9						

DDA 22 08:54:49.2,35°.59N×36°.78E,h7km,MD2.7,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COBT	Iskenderun	1.02	336	i P	Pg	08 55 08.8	-0.4
COBT				i S	Sb	08 55 24.2	+0.7
KUZU	Kuzuini	1.21	11	i P	Pg	08 55 12.0	-0.6
KUZU				i S	Sn	08 55 30.2	+0.8

ISCJB 22 08:54:59.3±1.3,22°.2S±0°.3×171°.67E±0°.09,h105km, mb3.9/8,Error ellipse: s-maj=45.7km s-min=8.9km az=169.0
NOU 22 08:55:01.6±0.8,23°.78S×170°.79E,h10km±201km,MD3.5, ML4.3
IDC 22 08:55:01.2±5.5,22°.25S×171°.63E,h110km±39km,mb3.7/8, mb1 3.9/9,mb1mx3.7/19,mbtmp3.7/9,MS2.9/2,Ms1 2.9/2, ms1mx2.3/28,Error ellipse: s-maj=59.1km s-min=25.9km az=147.0

ISC 22 08:55:00.7±1.6,22°.2S±0°.4×171°.7E±0°.1,h105km,n14, σ1°10/16,mb3.9/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	Noumea	4.82	268	eP	Pn	08 56 11.3	+0.3
DZM	Mont Dzumac	4.86	270	eP	Pn	08 56 12.2	+0.6
DZM				eS	Sn	08 57 05.5	-1.3
DZM				AMP		08 57 10.3	
	comp=Z,1μm,3.3s						
DZM	Mont Dzumac	4.86	270	P	Pn	08 56 12.4	+0.8
	comp=Z,4.4nm,0.3s,baz=76,slow=19,SNR=38						
DZM				LR	LR	08 57 03.9	
	comp=Z,70nm,18.5s,baz=107,slow=26						
DZM				S	Sn	08 57 06.1	-0.7
	comp=Z,20nm,0.3s,baz=272,slow=23,SNR=19						
NOUC	Port Laguerre	4.99	270	eP	Pn	08 56 15.7	+2.4
NOUC				eS	Sn	08 57 09.5	-0.3
NOUC				AMP		08 57 13.5	
	comp=Z,58nm,8.8s						
AFI	Afiamalu	17.73	65	LR	LR	09 03 52.9	
	comp=Z,71nm,18.4s,baz=300,slow=30						
ASAR	Alice Springs	34.76	260	P	P	09 01 40.9	-0.4
	comp=Z,2.5nm,0.8s,baz=82,slow=9.7,SNR=26						
WRA	Warramunga Arr	34.86	267	P	P	09 01 40.7	-1.5
	comp=Z,0.6nm,0.4s,baz=96,slow=8.5,SNR=19						
FITZ	Fitzroy Crossi	43.29	267	P	P	09 02 52.5	+0.2
	comp=Z,5.6nm,0.7s,baz=97,slow=4.7						
KSRS	Korea Array	72.20	325	P	P	09 06 14.7	+0.4
	comp=Z,1.3nm,0.7s,baz=143,slow=6.6,SNR=7.3						
PETK	Petropavlovsk-	75.93	351	P	P	09 06 36.8	+1.2
	comp=Z,2.5nm,0.8s,baz=139,slow=7.4,SNR=3.6						
NVAR	Mina Array Bea	89.05	48	P	P	09 07 44.6	+0.2
	comp=Z,0.5nm,0.7s,baz=212,slow=4.6,SNR=5.4						
SONM	Songino Array	90.92	322	P	P	09 07 52.1	-0.6
	comp=Z,0.8nm,1.0s,baz=145,slow=5.3,SNR=4.0						
ILAR	Eielson Array	92.35	16	P	P	09 07 57.3	-1.5
	comp=Z,0.3nm,0.7s,baz=225,slow=5.2,SNR=4.0						
GERES	GERESS Array B	148.13	332	PKPbc	PKPbc	09 14 33.9	-0.3
	comp=Z,0.4nm,0.6s,baz=46,slow=5.9,SNR=3.4						

IDC 22 09:02:58.4±5.0,10°.52S×151°.67E,h0km,mb3.6/3, mb1 3.8/5,mb1mx3.6/18,mbtmp3.7/5,ML3.5/2,MS3.4/2, Ms1 3.3/2,ms1mx2.8/21,Error ellipse: s-maj=122.2km s-min=33.4km az=110.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	10.85	208	Pn	Pn	09 05 34.6	-0.5
	0.4nm,0.3s,baz=26,slow=15,SNR=4.5						
CTA				Sn	Sn	09 07 37.6	+0.2
	0.5nm,0.3s,baz=310,slow=16,SNR=3.8						
WRA	Warramunga Arr	19.15	239	P	P	09 07 23.7	+0.2
	0.1nm,0.3s,baz=63,slow=10,SNR=7.6						
ASAR	Alice Springs	21.39	230	P	P	09 07 49.4	+1.4
	1.1nm,0.9s,baz=63,slow=9.1,SNR=8.4						
STKA	Stephens Creek	23.20	202	LR	LR	09 16 03.1	
	comp=Z,82nm,20.6s,baz=25,slow=34						
FITZ	Fitzroy Crossi	26.30	250	P	P	09 08 35.0	-1.0
	1.5nm,0.9s,baz=90,slow=7.1,SNR=2.9						
FITZ				LR	LR	09 18 49.0	
	comp=Z,87nm,21.3s,baz=295,slow=36						
MKAR	Makanchi Array	83.91	320	P	P	09 15 30.6	+0.2
	0.4nm,0.9s,baz=116,slow=6.6,SNR=3.5						

IDC 22 09:03:57.2±14.0,18°.70S×177°.36W,h580km±112km, mb3.3/6,mb1 3.4/7,mb1mx3.0/23,mbtmp3.3/7,Error ellipse: s-maj=150.4km s-min=28.4km az=43.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.55	255	P	P	09 07 12.0	+0.6
	0.2nm,0.3s,baz=22,slow=19,SNR=3.7						
URZ	Urewera	20.07	193	P	P	09 07 52.1	-0.3
	3.8nm,0.3s,baz=45,slow=1.4,SNR=12						
CTA	Charters Tower	34.31	262	P	P	09 09 56.9	+0.1
	2.5nm,0.4s,baz=89,slow=10,SNR=8.0						
STKA	Stephens Creek	39.14	242	P	P	09 10 36.8	+0.8
	2.6nm,0.8s,baz=63,slow=6.8,SNR=3.6						
WRA	Warramunga Arr	45.48	260	P	P	09 11 25.0	-0.8
	2.4nm,0.3s,baz=97,slow=6.5,SNR=128						
WRA				PcP	PcP	09 12 52.4	0.0
	0.5nm,0.8s,baz=98,slow=3.0,SNR=3.2						
ASAR	Alice Springs	45.55	255	P	P	09 11 26.0	-0.3
	2.8nm,0.5s,baz=86,slow=8.2,SNR=69						
ASAR				PcP	PcP	09 12 52.8	+0.1
	0.3nm,0.5s,baz=97,slow=3.8,SNR=4.6						
FITZ	Fitzroy Crossi	53.89	261	P	P	09 12 27.2	-0.2
	0.7nm,0.3s,baz=106,slow=6.2,SNR=7.8						

IDC 22 09:32:09.9±1.6,39°.23N×72°.76E,h0km,mb3.7/4, mb1 3.8/9,mb1mx3.6/32,mbtmp3.8/9,ML3.8/5,MS2.9/2, Ms1 2.9/2,ms1mx2.3/46,Error ellipse: s-maj=29.0km s-min=14.9km az=141.0
NNC 22 09:32:14.1±3.9,39°.51N×72°.74E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=33.9km s-min=20.3km az=6.0

ISC 22 09:32:11.9±1.4,39°.26N±0°.10×72°.75E±0°.09,h10km,n27, σ2°01/29,mb3.8/4,8C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.96	14	P	Pn	09 33 01.5	+2.2
	SNR=117						
UCH	Uchtor	3.25	24	P	Pn	09 33 05.5	+2.0
	SNR=22						
KZA	Kyzart	3.40	33	P	Pn	09 33 07.7	+2.3
	SNR=43						
EKS2	Erkin-Say	3.49	13	P	Pn	09 33 08.6	+2.3
	SNR=28						
AAK	Ala-Archa	3.62	21	P	Pn	09 33 10.8	+2.6
	SNR=99						
AAK	Ala-Archa	3.62	21	Pn	Pn	09 33 10.7	+2.6
	32nm,0.3s,baz=179,slow=6.1,SNR=186						
AAK				Pg	Pb	09 33 16.1	-0.1
	34nm,0.3s,baz=198,slow=3.2,SNR=41						
AAK				Sn	Sb	09 33 55.9	-4.3
	13nm,0.3s,baz=312,slow=22,SNR=9.2						
KBK	Karagaybulak	3.78	25	P	Pn	09 33 13.9	+3.5
	SNR=28						
ULHL	Ulahol	3.99	41	P	Pn	09 33 16.0	+2.6
	SNR=48						
CHMS	Chumysh	4.03	21	P	Pn	09 33 16.0	+2.3
	SNR=65						
KK31	Karatay Array	4.20	337	⇑Pn	Pn	09 33 16.9	+0.9
	12nm,0.5s,baz=155,slow=15,SNR=124						
KK31				⇑Sn	Sn	09 34 04.9	-0.2
	64nm,0.5s,baz=149,slow=23,SNR=12						
USP	Ospenovka	4.22	18	P	Pn	09 33 18.1	+1.8
	SNR=42						
TKM2	Tokmak 2	4.25	30	⇑Pn	Pn	09 33 18.7	+1.9
	25nm,0.5s						
TKM2				⇑Lg	Lg	09 34 21.3	
	67nm,0.8s						
TKM2	Tokmak 2	4.25	30	P	Pn	09 33 19.1	+2.3
	SNR=21						
MK31	Makanchi Array	10.27	40	⇑Pn	Pn	09 34 41.4	+2.1
	1.0nm,0.6s,baz=221,slow=12,SNR=19						
MK31				⇑Lg	Lg	09 37 33.6	
	2.7nm,0.8s						
MKAR	Makanchi Array	10.27	40	Pn	Pn	09 34 40.7	+1.4
	0.3nm,0.3s,baz=217,slow=14,SNR=15						
MKAR				Lg	Lg	09 37 29.0	
	baz=239,slow=24,SNR=2.8						
KURBB	Kurchatov Arra	12.07	18	⇓Pn	Pn	09 35 02.0	-2.0
	2.1nm,0.7s						
KURBB				⇑Sn	Sn	09 37 19.9	+1.4
	2.0nm,0.8s						
KURBB				⇑Lg	Lg	09 38 33.0	
	9.9nm,0.8s						
KURBB	Kurchatov Arra	12.07	18	Pn	Pn	09 35 02.2	-1.7
	0.1nm,0.3s,baz=210,slow=13,SNR=4.0						
AB31	Akbulak array	13.55	322	P	Pn	09 35 20.3	-3.7
	2.9nm,0.5s,baz=124,slow=13,SNR=42						
BVA0	Borovoye Array	13.87	354	P	Pn	09 35 22.4	-6.0
	1.7nm,0.5s,baz=152,slow=10.0,SNR=7.6						
BVAR	Borovoye Array	13.87	354	Pn	Pn	09 35 29.2	+0.8
	0.3nm,0.3s,baz=155,slow=11,SNR=3.4						
BVAR				Lg	Lg	09 39 22.6	
	0.2nm,0.3s,baz=160,slow=22,SNR=3.7						
AKTO	Aktyubinsk	15.27	322	⇓P	Pn	09 35 46.6	-0.9
	5.1nm,0.7s						
AKTO				⇓S	Sn	09 38 39.3	+2.8
	3.8nm,1.0s						
AKTO	Aktyubinsk	15.27	322	Pn	Pn	09 35 46.4	-1.0
	0.3nm,0.3s,baz=110,slow=16,SNR=3.7						
AKTO				Sn	Sn	09 38 24.6	-12
	0.2nm,0.3s,baz=192,slow=19,SNR=3.1						
ZALV	Zalesovo Beam	16.84	25	Pn	Pn	09 36 06.6	-1.0
	0.6nm,0.3s,baz=218,slow=11,SNR=11						
ZALV				LR	LR	09 42 51.5	
	comp=Z,45nm,19.3s,baz=245,slow=38						
SONM	Songino Array	25.68	59	P	P	09 37 42.1	-0.1
	1.5nm,0.8s,baz=272,slow=9.3,SNR=10.0						
SONM				LR	LR	09 49 32.3	
	comp=Z,24nm,18.2s,baz=284,slow=41						
FINES	FINESS Array B	36.03	324	P	P	09 39 13.2	+0.2
	0.9nm,0.6s,baz=112,slow=8.8,SNR=5.4						
ARCES	ARCESS Array B	39.16	336	P	P	09 39 38.6	-0.8
	0.5nm,0.5s,baz=103,slow=10,SNR=5.9						
TORD	Torodi Ar. Bea	67.17	269	P	P	09 43 05.2	-1.2
	0.6nm,0.5s,baz=53,slow=6.1,SNR=9.4						

IDC 22 09:36:08.4±1.9,5°.60S×142°.27E,h0km,mb3.4/1, mb1 3.6/4,mb1mx3.4/16,mbtmp3.5/4,ML3.1/3,Error ellipse: s-maj=37.3km s-min=28.5km az=70.0
ISCJB 22 09:36:10.9±1.1,5°.80S±0°.09×142°.20E±0°.07,h33km,Error ellipse: s-maj=12.6km s-min=9.2km az=14.5
AUST 22 09:36:22.8,2°.45S×138°.01E,h100km

ISC 22 09:36:13.0±1.2,5°.78S±0°.10×142°.13E±0°.08,h35km,n9, σ2°77/10,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.54	336	P	Pn	09 37 04.2	-1.4
	baz=2.7,SNR=7.7						
PMG	Port Moresby	6.15	126	Pn	Pn	09 37 40.9	-0.6
	0.9nm,0.3s,baz=320,slow=16,SNR=2.5						
PMG				Sn	Sn	09 38 50.0	-0.6
	1.1nm,0.3s,baz=165,slow=20,SNR=2.7						
MANU	Manus Island	6.40	55	P	Sn	09 38 38.8	-18
	baz=9.4,SNR=4.6						
KDU	Kakadu	11.75	234	P	Pn	09 38 59.8	+1.6
	baz=12,SNR=6.2						
MTN	Manton Dam	12.93	236	P	Pn	09 39 16.7	+2.4
	baz=12,SNR=4.4						
MTN				S	Sn	09 41 31.9	-5.1
	baz=12,SNR=5.3						
CTA	Charters Tower	14.78	165	Lg	Lg	09 44 06.6	
	0.0nm,0.3s,baz=259,slow=16,SNR=2.5						
WRA	Warramunga Arr	15.99	208	Pn	Pn	09 39 55.6	+0.2
	0.1nm,0.3s,baz=30,sl

*DJA **22** 09:51:49.3±0.8, 12°N±11°×14°5E±1°9, h61km±15km, M4.7/7, mB5.2/1, mb5.0/7, MLv4.6/1, Mw(mB)4.5/1*
ISC 22 09:51:47.2±0.4, 12°40N±0°06×144°48E±0°07, h30km, n116, σ1§50/158, mb4.7/61, MS3.8/16, 1C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.24**	**18**	*e*Pn	**Pn**	**09 52 09.0**	**+0.5**
GUMO				*e*Sn	**Sb**	**09 52 26.8**	**+1.1**
JOW	**Kunigami**	**20.92**	**316**	*e*P	**P**	**09 56 28.4**	**+0.9**
	36nm,0.6s						
PMG	**Port Moresby**	**21.83**	**173**	*e*P	**P**	**09 56 36.6**	**-0.6**
	14nm,0.7s						
PMG	**Port Moresby**	**21.83**	**173**	LR	LR	10 04 34.7	
	comp=Z,123nm,18.8s,baz=38,slow=35						
JNU	**Nakatsue**	**24.09**	**331**	*e*P	**P**	**09 56 59.7**	**-0.6**
JNU	**Nakatsue**	**24.09**	**331**	P	**P**	**09 56 59.1**	**-1.2**
	9.1nm,0.7s,baz=112,slow=4.5,SNR=13						
TWG	**Pinlang**	**24.57**	**298**	*e*P	**P**	**09 57 03.8**	**-1.0**
	17nm,0.3s						
YULB	**Yu-li**	**24.59**	**300**	*e*P	**P**	**09 57 03.9**	**-1.0**
	19nm,0.8s						
NACB	**Ninganchiao**	**24.64**	**302**	*e*P	**P**	**09 57 04.4**	**-1.0**
	11nm,0.5s						
MJAR	**Matsushiro Arr**	**24.69**	**348**	P	**P**	**09 57 03.1**	**-2.6**
MJAR	**Matsushiro Arr**	**24.69**	**348**	P	**P**	**09 57 03.1**	**-2.6**
	3.6nm,0.8s,baz=169,slow=9.6,SNR=15						
MJAR				LR	LR	10 06 19.8	
	comp=Z,221nm,18.5s,baz=195,slow=36						
SSLB	**Suanglung**	**25.03**	**300**	*e*P	**P**	**09 57 08.2**	**-0.7**
	128nm,1.7s						
YHNB	**Yeheng**	**25.03**	**302**	*e*P	**P**	**09 57 08.1**	**-0.9**
	12nm,0.8s						
TPUB	**Ta-pu**	**25.12**	**299**	*e*P	**P**	**09 57 08.3**	**-1.4**
	12nm,0.8s						
MRSI	**Marisa**	**25.30**	**244**	P	**P**	**09 57 13.0**	**+1.6**
	33nm,1.2s,544nm						
COEN	**Coen**	**26.22**	**183**	*e*P	**P**	**09 57 19.5**	**-0.1**
	90nm,0.8s						
KSRS	**Korea Array**	**29.02**	**332**	P	**P**	**09 57 43.7**	**-0.9**
	1.1nm,0.6s,baz=137,slow=8.6,SNR=5.8						
KSRS				ScP	**ScP**	**10 04 33.9**	**+1.7**
	1.4nm,1.0s,baz=144,slow=2.3,SNR=5.7						
KSAR	**Wonju Array Be**	**29.03**	**332**	P	**P**	**09 57 43.7**	**-0.9**
KSAR				ScP	**ScP**	**10 04 33.9**	**+1.7**
CTA	**Charters Tower**	**32.33**	**177**	P	**P**	**09 58 13.9**	**0.0**
CTA	**Charters Tower**	**32.33**	**177**	P	**P**	**09 58 13.9**	**0.0**
	4.5nm,0.8s,baz=343,slow=9.2,SNR=9.4						
CTAO	**Charters Tower**	**32.33**	**177**	*e*P	**P**	**09 58 13.8**	**-0.2**
	6.3nm,0.9s						
WHN	**Wuhan**	**33.19**	**308**	P	**P**	**09 58 21.6**	**+0.2**
WHN				LR	LR		
	comp=Z,370nm,20.2s						
USRK	**Ussuriysk Arra**	**33.46**	**344**	P	**P**	**09 58 23.5**	**0.0**
	comp=Z,1.1nm,0.6s,baz=152,slow=8.9,SNR=4.8						
USRK				LR	LR	10 11 30.2	
	comp=Z,63nm,18.8s,baz=111,slow=36						
WRAB	**Tennant Creek**	**33.64**	**197**	*e*P	**P**	**09 58 25.4**	**-0.1**
	comp=Z,19nm,0.7s						
WRA	**Warramunga Arr**	**33.66**	**197**	P	**P**	**09 58 25.4**	**-0.2**
WRA	**Warramunga Arr**	**33.66**	**197**	P	**P**	**09 58 25.4**	**-0.2**
	comp=Z,13nm,0.7s,baz=21,slow=9.9,SNR=69						
QIZ	**Qiongzhong**	**33.95**	**286**	P	**P**	**09 58 27.8**	**-0.4**
MDJ	**Mudanjiang**	**34.55**	**341**	P	**P**	**09 58 34.0**	**+1.0**
MDJ				pP	**pP**	**09 58 43.1**	**+1.2**
MDJ				sP	**sP**	**09 58 47.0**	**+1.5**
MDJ				S	**S**	**10 04 02.3**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,76nm,4.2s						
MDJ				LR	LR		
	comp=N,66nm,18.6s						
MDJ				LR	LR		
	comp=E,11nm,14.9s						
MDJ				LR	LR		
	comp=Z,95nm,20.5s						
CN2	**Changchun**	**35.33**	**336**	*e*P	P	09 58 52.8	+13
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ENH	**Enshi**	**36.93**	**304**	*e*P	**P**	**09 58 53.8**	**+0.1**
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**37.15**	**323**	P	**P**	**09 58 55.1**	**-0.3**
BJI				S	**S**	**10 04 39.4**	**-0.7**
BJI				pmax	pmax		
	comp=Z,23nm,0.6s						
BJI				pmax	pmax		
	comp=Z,37nm,3.8s						
BJI				LR	LR		
	comp=N,170nm,12.4s						
BJI				LR	LR		
	comp=E,110nm,14.5s						
BJI				LR	LR		
	comp=Z,64nm,23.3s						
AS31	**Alice Springs**	**37.31**	**196**	*e*P	**P**	**09 58 57.2**	**+0.3**
ASAR	**Alice Springs**	**37.31**	**196**	P	**P**	**09 58 57.1**	**+0.2**
ASAR				PcP	**PcP**	**10 01 17.1**	**+1.1**
ASAR	**Alice Springs**	**37.31**	**196**	P	**P**	**09 58 57.1**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=21,slow=9.9,SNR=73						
ASAR				PcP	**PcP**	**10 01 17.1**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=24,slow=3.2,SNR=4.8						
GYA	**Guiyang**	**38.15**	**297**	*e*P	**P**	**09 59 04.9**	**+0.7**
GYA				pP	**pP**	**09 59 13.3**	**+0.2**
GYA				sP	**sP**	**09 59 19.6**	**+2.8**
GYA				PP	**PnPn**	**10 00 34.6**	**+1.2**
GYA				PcP	**PcP**	**10 01 19.0**	**+0.2**
GYA				S	**S**	**10 04 53.1**	**-2.8**
GYA				ScP	**ScP**	**10 05 02.4**	**-2.2**
GYA				ScS	**ScS**	**10 09 11.9**	**-2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.7s						
XAN	**Xi'an**	**38.85**	**310**	P	**P**	**09 59 09.4**	**-0.5**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,15nm,7.7s						
HHC	**Hu-ho-hao-te**	**40.43**	**321**	*e*P	**P**	**09 59 22.5**	**-0.6**
HHC				pP	**pP**	**09 59 32.3**	**+0.3**
HHC				sP	**sP**	**09 59 36.3**	**+0.6**
HHC				PP	**PnPn**	**10 00 59.9**	**-0.5**
HHC				PcS	**PcS**	**10 05 15.3**	**-1.0**
HHC				S	**S**	**10 05 28.3**	**-1.5**
HHC				ScS	**ScS**	**10 09 23.8**	**-3.5**
HHC				pmax	pmax		
	comp=Z,36nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.2s						
HHC				LR	LR		
	comp=N,310nm,15.3s						
HHC				LR	LR		
	comp=E,370nm,14.9s						
HHC				LR	LR		
	comp=Z,300nm,15.1s						
DZM	**Mont Dzumac**	**40.47**	**148**	*e*LR	LR	10 10 37.3	
	comp=Z,131nm,28.9s						
KMI	**Kunming**	**41.33**	**294**	P	**P**	**09 59 31.9**	**+1.0**
KMI				pP	**pP**	**09 59 42.8**	**+3.0**
KMI				sP	**sP**	**09 59 46.5**	**+3.1**
KMI				PP	**PnPn**	**10 01 09.8**	**-1.5**
KMI				S	**S**	**10 05 44.0**	**+0.1**
KMI				sS	**sS**	**10 06 00.1**	**+1.5**
KMI				pmax	pmax		
	comp=Z,19nm,0.7s						
KMI				pmax	pmax		
	comp=Z,57nm,5.8s						
KMI				LR	LR		
	comp=N,110nm,16.3s						
KMI				LR	LR		
	comp=E,96nm,14.5s						
KMI				LR	LR		
	comp=Z,110nm,18.8s						
CD2	**Chengdu**	**41.80**	**303**	*e*P	**P**	**09 59 34.8**	**+0.3**
CD2				pP	**pP**	**09 59 45.0**	**+1.6**
CD2				sP	**sP**	**09 59 49.3**	**+2.3**
CD2				PP	**PnPn**	**10 01 15.3**	**-1.2**
CD2				S	**S**	**10 05 49.1**	**-1.3**
CD2				SS	**SS**	**10 08 50.3**	**-6.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,50nm,5.2s						
CD2				LR	LR		
	comp=N,210nm,10.2s						
CD2				LR	LR		
	comp=Z,160nm,12.0s						
PBKT	**Sadao Pong**	**42.27**	**281**	P	**P**	**09 59 39.8**	**+1.4**
	comp=Z,17nm,1.1s						
LZH	**Lanzhou**	**43.48**	**310**	⇑P	**P**	**09 59 48.9**	**+0.8**
LZH				pP	**pP**	**09 59 59.9**	**+2.8**
LZH				sP	**sP**	**10 00 03.1**	**+2.4**
LZH				pmax	pmax		
	comp=Z,92nm,1.7s						
LZH				pmax	pmax		
	comp=Z,73nm,4.6s						
LZH				LR	LR		
	comp=N,100nm,15.1s						
LZH				LR	LR		
	comp=E,230nm,16.4s						
LZH				LR	LR		
	comp=Z,200nm,17.0s						
SKLT	**Songkhla**	**43.50**	**267**	P	**P**	**09 59 50.4**	**+2.1**
	comp=Z,46nm,0.8s						
IPM	**Ipoh**	**43.65**	**263**	*e*P	**P**	**09 59 50.2**	**+0.6**
KULM	**Kulim**	**43.84**	**265**	*e*P	**P**	**09 59 52.4**	**+1.3**
KULM	**Kulim**	**43.84**	**265**	P	**P**	**09 59 52.6**	**+1.5**
	comp=Z,40nm,0.9s						
STKA	**Stephens Creek**	**44.11**	**184**	P	**P**	**09 59 51.5**	**-1.4**
STKA	**Stephens Creek**	**44.11**	**184**	P	**P**	**09 59 51.6**	**-1.4**
	comp=Z,3.7nm,1.0s,baz=299,slow=19,SNR=4.9						
STKA				LR	LR	10 19 53.4	
	comp=Z,118nm,20.4s,baz=205,slow=38						
CM31	**Chiang Mai Arr**	**44.22**	**284**	*e*P	**P**	**09 59 55.2**	**+1.1**
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.22**	**284**	P	**P**	**09 59 55.2**	**+1.1**
CMAR				PcP	**PcP**	**10 01 39.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**44.22**	**284**	P	**P**	**09 59 55.2**	**+1.1**
	comp=Z,6.0nm,0.8s,baz=85,slow=6.2,SNR=26						
CMAR				PcP	**PcP**	**10 01 39.8**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=84,slow=2.6,SNR=5.1						
CMAR				LR	LR	10 16 33.9	
	comp=Z,94nm,18.0s,baz=351,slow=34						
PSI	**Prapat**	**46.09**	**262**	P	**P**	**10 00 09.7**	**+0.5**
PSI	**Prapat**	**46.09**	**262**	P	**P**	**10 00 09.7**	**+0.5**
	comp=Z,13nm,0.8s,baz=90,slow=5.8,SNR=11						
SONM	**Songino Array**	**47.49**	**326**	P	**P**	**10 00 19.3**	**-0.3**
SONM				PcP	**PcP**	**10 01 49.6**	**0.0**
SONM	**Songino Array**	**47.49**	**326**	P	**P**	**10 00 19.3**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=148,slow=8.6,SNR=27						
SONM				PcP	**PcP**	**10 01 49.6**	**0.0**
	comp=Z,1.5nm,0.7s,baz=148,slow=3.3,SNR=6.0						
SONM				LR	LR	10 20 33.7	
	comp=Z,148nm,18.9s,baz=51,slow=36						
GTA	**Gaotai**	**47.69**	**313**	⇓P	**P**	**10 00 21.8**	**+0.5**
GTA				pP	**pP**	**10 00 31.8**	**+1.4**
GTA				sP	**sP**	**10 00 35.3**	**+1.3**
GTA				S	**S**	**10 07 13.8**	**-1.8**
GTA				sS	**sS**	**10 07 30.3**	**-0.2**
GTA				SS	SS	10 10 36.3	-7.8
GTA				pmax	pmax		
	comp=Z,14nm,0.6s						
GTA				pmax	pmax		
	comp=Z,80nm,5.7s						
GTA				LR	LR		
	comp=N,62nm,15.2s						
GTA				LR	LR		
	comp=E,110nm,17.3s						
GTA				LR	LR		
	comp=Z,150nm,17.6s						
SHL	**Shillong**	**51.13**	**293**	*ex*	**P**	**10 00 47.0**	**-0.9**
TAPN	**Taplejung**	**54.99**	**295**	*e*P	**P**	**10 01 16.4**	**-0.1**
	comp=Z,31nm,0.7s						
ODAN	**Odare**	**55.25**	**294**	*e*P	**P**	**10 01 17.1**	**-1.2**
RAMN	**Ramite**	**55.96**	**294**	*e*P	**P**	**10 01 23.0**	**-0.4**
	comp=Z,32nm,0.8s						
JIRN	**Jiri**	**56.36**	**295**	*e*P	**P**	**10 01 26.4**	**0.0**
	comp=Z,32nm,0.7s						
GUN	**Gumba**	**56.65**	**295**	*e*P	**P**	**10 01 28.2**	**-0.2**
	comp=Z,34nm,0.5s						
PKI	**Pulchoki**	**57.05**	**295**	*e*P	**P**	**10 01 30.4**	**-0.9**
	comp=Z,11nm,0.5s						
PKIN	**Phulchoki**	**57.06**	**295**	*e*P	**P**	**10 01 30.8**	**-0.5**
	comp=Z,5.6nm,0.5s						
KKN	**Kakani**	**57.17**	**295**	*e*P	**P**	**10 01 31.5**	**-0.5**
	comp=Z,18nm,0.7s						
DMN	**Daman**	**57.32**	**295**	*e*P	**P**	**10 01 32.7**	**-0.4**
	comp=Z,25nm,0.7s						
WMQ	**Urumqi**	**57.69**	**314**	P	**P**	**10 01 35.4**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,87nm,5.2s						
WMQ				LR	LR		
	comp=Z,30nm,23.0s						
DANN	**Dangsing**	**58.54**	**296**	*e*P	**P**	**10 01 41.3**	**-0.4**
	comp=Z,85nm,0.6s						
KOLN	**Koldanda**	**58.66**	**295**	*e*P	**P**	**10 01 42.2**	**-0.2**
	comp=Z,34nm,0.7s						
MK31	**Makanchi Array**	**62.09**	**317**	*e*P	**P**	**10 02 05.2**	**-0.1**
MKAR	**Makanchi Array**	**62.09**	**317**	P	**P**	**10 02 05.2**	**-0.1**
MKAR	**Makanchi Array**	**62.09**	**317**	P	**P**	**10 02 05.2**	**-0.1**
	comp=Z,5.2nm,0.5s,baz=90,slow=8.4,SNR=81						
ZALV	**Zalesovo Beam**	**62.37**	**325**	P	**P**	**10 02 05.5**	**-1.5**
ZALV				PcP	**PcP**	**10 02 44.9**	**-1.5**
ZALV	**Zalesovo Beam**	**62.37**	**325**	P	**P**	**10 02 05.5**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=110,slow=9.0,SNR=4.9						
ZALV				PcP	**PcP**	**10 02 44.8**	**-1.5**
	comp=Z,3.5nm,0.5s,baz=120,slow=3.8,SNR=8.9						
HYB	**Hyderabad**	**63.65**	**283**	*i* P	**P**	**10 02 15.5**	**-0.7**
KURK	**Kurchatov**	**65.25**	**320**	P	**P**	**10 02 25.1**	**-0.9**
KURBB	**Kurchatov Arra**	**65.29**	**320**	P	**P**	**10 02 25.1**	**-1.1**
	comp=Z,6.5nm,0.6s,baz=105,slow=6.8,SNR=46						
KSH	**Kashi**	**65.67**	**308**	P	**P**	**10 02 31.9**	**+2.8**
KSH				sP	**sP**	**10 02 45.9**	**+3.9**
KSH				PP	**PP**	**10 04 58.8**	**+5.0**
KSH				S	**S**	**10 11 13.3**	**0.0**
KSH				SS	**SS**	**10 15 29.3**	**+1.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,99nm,4.0s						
KSH				LR	LR		
	comp=N,150nm,7.4s						
KSH				LR	LR		
	comp=E,140nm,9.4s						
KSH				LR	LR		
	comp=Z,69nm,6.7s						
EKS2	**Erkin-Say**	**67.53**	**311**	*e*P	**P**	**10 02 41.1**	**+0.1**
	comp=Z,1.9nm,0.3s						
ILAR	**Eielson Array**	**69.80**	**25**	P	**P**	**10 02 52.4**	**-2.1**
ILAR	**Eielson Array**	**69.80**	**25**	P	**P**	**10 02 52.4**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=248,slow=5.8,SNR=20						
KKAR	**Karatay Array**	**69.95**	**311**	*e*P	**P**	**10 02 55.5**	**-0.4**
	comp=Z,2.9nm,0.6s						
BVAR	**Borovoye Array**	**70.62**	**322**	P	**P**	**10 02 59.2**	**-0.7**
BVAR	**Borovoye Array**	**70.62**	**322**	P	**P**	**10 02 59.2**	**-0.7**
	comp=Z,5.6nm,0.4s,baz=105,slow=8.4,SNR=29						
BRVK	**Borovoye**	**70.69**	**322**	*e*P	**P**	**10 02 59.5**	**-0.7**
	comp=Z,4.1nm,0.4s						
KBL	**Kabul**	**71.15**	**302**	*e*P	**P**	**10 03 02.9**	**-0.7**
	comp=Z,18nm,1.0s						
PPT	**Papeete**	**71.58**	**113**	LR	LR	10 26 29.4	
	comp=Z,89nm,21.2s,baz=308,slow=29						
PPT2	**Papeete2**	**71.59**	**113**	*e*LR	LR	10 25 03.7	
	comp=Z,67nm,23.5s						
ABKAR	**Akbulak array**	**77.17**	**318**	*e*P	**P**	**10 03 37.3**	**-0.9**
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**78.31**	**319**	P	**P**	**10 03 43.4**	**-1.2**
AKTO	**Aktyubinsk**	**78.31**	**319**	P	**P**	**10 03 43.4**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=102,slow=9.3,SNR=6.3						
YKA	**Yellowknife Ar**	**84.08**	**27**	P	**P**	**10 04 14.9**	**-0.1**
YKA	**Yellowknife Ar**	**84.08**	**27**	P	**P**	**10 04 14.9**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=285,slow=5.0,SNR=3.0						
NEW	**Newport**	**86.36**	**41**	*e*P	**P**	**10 04 27.5**	**+0.8**
	comp=Z,6.4nm,1.0s						
BMO	**Blue Mountains**	**87.09**	**45**	*e*P	**P**	**10 04 32.4**	**+2.0**
	comp=Z,4.6nm,0.9s						
NVAR	**Mina Array Bea**	**87.95**	**51**	P	**P**	**10 04 36.0**	**+1.1**
NVAR	**Mina Array Bea**	**87.95**	**51**	P	**P**	**10 04 36.0**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=268,slow=6.1,SNR=10.0						
BSMT	**Bassoo Peak**	**87.98**	**41**	P	P	10 04 32.6	-2.2
	comp=Z,5.2nm,1.1s						
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**10 04 32.8**	**-1.8**
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**10 04 32.8**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=47,slow=5.3,SNR=5.6						
HLID	**Hailey**	**89.44**	**46**	*e*P	**P**	**10 04 44.2**	**+2.4**
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**89.73**	**315**	P	**P**	**10 04 41.7**	**-1.1**
KBZ	**Khabaz**	**89.73**	**315**	P	**P**	**10 04 41.7**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=186,slow=4.4,SNR=5.3						
GSC	**Goldstone**	**89.90**	**54**	P	**P**	**10 04 45.3**	**+1.3**
	comp=Z,4.2nm,1.0s						
FINES	**FINESS Array B**	**92.08**	**335**	P	**P**	**10 04 51.0**	**-2.3**
FINES	**FINESS Array B**	**92.08**	**335**	P	**P**	**10 04 51.0**	**-2.3**
	comp=Z,1.5nm,0.5s,baz=65,slow=4.3,SNR=20						
PDAR	**Pinedale Array**	**93.06**	**45**	P	**P**	**10 04 58.1**	**-0.6**
PDAR	**Pinedale Array**	**93.06**	**45**	P	**P**	**10 04 58.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=223,slow=2.0,SNR=2.6						
BRTR	**Keskin Array B**	**97.60**	**313**	P	**P**	**10 05 16.9**	**-2.5**
BRTR	**Keskin Array B**	**97.60**	**313**	P	**P**	**10 05 16.9**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=68,slow=4.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**135.21**	**303**	PKP	**PKPdf**	**10 11 04.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**135.21**	**303**	PKP	**PKPdf**	**10 11 04.2**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=30,slow=1.8,SNR=5.9						
DBIC	**Dimbokro**	**144.11**	**300**	PKP	**PKPab**	**10 11 19.1**	**+0.4**
DBIC	**Dimbokro**	**144.11**	**300**	PKP	**PKPab**	**10 11 19.1**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=51,slow=3.3,SNR=11						
LPAZ	**La Paz**	**148.19**	**101**	PKPbc	**PKPbc**	**10 11 32.6**	**+0.7**
LPAZ	**La Paz**	**148.19**	**101**	PKPbc	**PKPbc**	**10 11 32.7**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=311,slow=1.2,SNR=6.6						

IDC 22 10:05:10.1±1.5, 6°90S×120°95E, h392km±19km, mb2.9/3, mb1 3.0/5, mb1mx2.8/23, mbtmp2.9/5, Error ellipse: s-maj=165.6km s-min=18.8km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.22**	**328**	P	Pn	10 06 06.8	0.0
	4.0nm,0.3s,baz=164,slow=6.1,SNR=20						
WRA	**Warramunga Arr**	**18.36**	**136**	P	P	10 08 58.3	-0.5
	0.2nm,0.3s,baz=316,slow=11,SNR=16						
ASAR	**Alice Springs**	**20.80**	**145**	P	P	10 09 23.6	+1.0
	1.1nm,0.5s,baz=319,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**31.44**	**145**	P	P	10 10 55.4	-1.6
	1.9nm,0.8s,baz=346,slow=4.2,SNR=4.4						
MKAR	**Makanchi Array**	**63.52**	**331**	P	P	10 15 00.2	+0.1
	0.2nm,0.5s,baz=130,slow=6.4,SNR=3.1						

MEX 22 10:06:57.9±0.6, 15°77N×96°63W, h24km±37km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**91**	*e*P	Pb	10 07 06.5	-1.5
HUIG				*i* S	Sb	10 07 12.5	-2.5
VHO	**Vista Hermosa**	**1.29**	**355**	*i* P	Pn	10 07 17.9	-2.9
VHO				*i* S	Sn	10 07 33.5	-4.1
PNIG	**Pinotepa**	**1.57**	**293**	*i* P	Pn	10 07 21.2	-3.1
PNIG				*i* S	Sn	10 07 39.9	-4.0
CMIG	**Matias Romero**	**2.12**	**52**	*i* P	Pn	10 07 30.1	-1.9
CMIG				*i* S	Sn	10 07 55.0	-2.6

GUC 22 10:17:21.3±0.5, 34°45S×72°48W, h42km±2km, MD3.9, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.01**	**61**	⇓*i* P	Pn	10 17 39.4	+0.4
LNV				*i* S	Sn	10 17 53.7	+1.7
NICH	**Los Niches**	**1.17**	**119**	*i* P	Pn	10 17 40.8	-0.4
NICH				*i* S	Sn	10 17 56.3	+0.4
NICH				AML	AML	10 17 59.0	
	comp=E,5μm,0.4s						
TALC	**Talca**	**1.17**	**144**	*e*P	Pn	10 17 36.9	-4.4
TALC				*i* S	Sn	10 17 52.6	-3.4
CACH	**El Canelo**	**1.59**	**79**	⇑*i* P	Pn	10 17 48.6	+1.5
CACH				*i* S	Sn	10 18 09.3	+2.7
CHCH	**Chadas Angostu**	**1.59**	**72**	⇓*i* P	Pn	10 17 48.3	+1.2
CHCH				*i* S	Sn	10 18 08.5	+1.9
ANTU	**Antumapu**	**1.76**	**61**	AML	AML	10 18 19.4	
	comp=E,731nm,0.4s						
PCH	**Pirque**	**1.82**	**64**	*i* P	Pn	10 17 51.4	+1.1
PCH				*i* S	Sn	10 18 14.3	+1.9
ROCH	**El Roble**	**1.91**	**40**	*i* P	Pn	10 17 52.7	+1.0
ROCH				*i* S	Sn	10 18 17.1	+2.3
ROCH				AML	AML	10 18 31.2	
	comp=E,718nm,0.4s						
CLCH	**Cerro Calan**	**1.92**	**58**	⇑*i* P	Pn	10 17 52.7	+1.1
CLCH				*i* S	Sn	10 18 16.5	+1.8
CLCH				AML	AML	10 18 26.4	
	comp=E,706nm,0.5s						
CLCH				AML	AML	10 18 27.0	
	comp=E,746nm,0.5s						
LMEL	**Las Melosas**	**1.98**	**73**	*e*P	Pn	10 17 53.7	+1.2
LMEL				*i* S	Sn	10 18 18.1	+1.8
LMEL				AML	AML	10 18 25.1	
	comp=N,634nm,0.2s						
PEL	**Peldehue**	**1.98**	**49**	*e*P	Pn	10 17 53.5	+1.1
PEL				*i* S	Sn	10 18 17.6	+1.6
PEL				AML	AML	10 18 29.2	
	comp=N,869nm,0.7s						
FCH	**Farellones**	**2.13**	**59**	⇑*e*P	Pn	10 17 54.6	-0.2
FCH				*i* S	Sn	10 18 21.1	+0.7
FCH				AML	AML	10 18 30.7	
	comp=N,374nm,0.3s						
CCHI	**Chillan**	**2.17**	**172**	AML	AML	10 18 29.2	
	comp=N,489nm,0.6s						
TLL	**Tololo Astrono**	**4.50**	**19**	*i* P	Pn	10 18 28.3	+1.0
TLL				*i* S	Sn	10 19 19.4	+0.8
LCO	**Las Campanas**	**5.63**	**16**	⇑*i* P	Pn	10 18 43.0	+0.2
LCO				*e*S	Sn	10 19 45.8	-0.7

*SZGRF **22** 10:26:36.8, 51°73N×145°11E, h33km, mb5.2, Sea of Okhotsk*
*IDC **22** 10:26:38.8±0.4, 52°74N×143°87E, h0km, mb4.4/28, mb1 4.5/34, mb1mx4.5/38, mbtmp4.4/34, ML4.0/5, MS3.9/26, Ms1 3.9/26, ms1mx3.7/46, Error ellipse: s-maj=13.1km s-min=9.8km az=144.0*
*BJI **22** 10:26:38.1, 52°97N×144°09E, h17km, mB4.8/27, mb4.6/40, Ms4.9/39, Ms7 4.7/38*
*SKHL **22** 10:26:38.0±1.0, 52°60N×143°43E, h10km, mb5.3/1, mbh6.3/1, Ms4.8/2, msh5.6/1*
SKHL Felt (III) at Tungor, (II) at Okha, Vostochnoye.
*MOS **22**

UGL				smax	smax		
	comp=N,2μm,1.0s						
UGL				smax	smax		
	comp=E,2μm,0.9s						
UGL	**Uglegorsk**	**3.87**	**198**	*e*P	Pn	10 27 35.0	-5.4
UGL				AMB	AMB	10 27 44.5	
	comp=E,110nm,0.7s						
UGL				*e*Pg	**Pb**	**10 27 50.0**	**+0.3**
UGL				AMB	AMB	10 27 53.0	
	comp=E,310nm,0.5s						
UGL				*e*Sg	**Sb**	**10 28 39.8**	**+3.7**
UGL				A	A	10 29 02.0	
	comp=E,2μm,3.0s						
UGL				A	A	10 29 02.0	
	comp=E,10μm,3.0s						
UGL				A	A	10 29 05.5	
	comp=E,2μm,1.0s						
GRNR	**Gornyy**	**5.04**	**249**	*e*P	Pn	10 27 50.6	-5.9
GRNR				AMB	AMB	10 27 59.1	
	comp=E,80nm,1.0s						
GRNR				*e*Pg	**Pb**	**10 28 12.2**	**+2.7**
GRNR				AMB	AMB	10 28 23.0	
	comp=E,95nm,0.5s						
GRNR				*e*S	Sn	10 28 44.3	-10
GRNR				*e*Sg	Sg	10 29 17.0	-6.7
GRNR				A	A	10 29 27.2	
	comp=E,800nm,1.0s						
GRNR				A	A	10 29 27.2	
	comp=E,300nm,1.0s						
GRNR				A	A	10 29 27.2	
	comp=E,4μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.87**	**187**	*e*PN	**Pn**	**10 28 07.3**	**-0.6**
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**5.87**	**187**	*e*P	**Pn**	**10 28 07.3**	**-0.6**
YSS				*e*Pg	Pg	10 28 30.5	-3.9
YSS				AMB	AMB	10 28 37.0	
	comp=E,62nm,0.9s						
YSS				*e*S	**Sn**	**10 29 10.5**	**-4.1**
YSS				*e*Sg	**Sg**	**10 29 50.0**	**-0.4**
YSS				A	A	10 29 54.5	
	comp=E,108nm,0.9s						
YSS				AMS	AMS	10 31 02.0	
	comp=E,3μm,14.0s						
YSS				AMS	AMS	10 31 02.0	
	comp=E,2μm,14.0s						
YSS				AMS	AMS	10 31 02.0	
	comp=E,3μm,14.0s						
EKMR	**Ekimchan**	**6.61**	**277**	*e*P	**Pn**	**10 28 14.9**	**-3.1**
EKMR				*e*Pg	Pg	10 28 44.5	-3.9
EKMR				AMB	AMB	10 28 49.6	
	comp=E,30nm,0.5s						
EKMR				AMB	AMB	10 28 49.6	
	comp=E,50nm,0.5s						
EKMR				AMB	AMB	10 28 49.6	
	comp=E,70nm,0.5s						
EKMR				*e*S	Sn	10 29 26.5	-6.3
EKMR				*e*Sg	**Sg**	**10 30 10.9**	**-3.0**
EKMR				A	A	10 30 26.0	
	comp=E,800nm,0.9s						
EKMR				A	A	10 30 26.0	
	comp=E,570nm,0.9s						
EKMR				A	A	10 30 26.0	
	comp=E,550nm,0.9s						
HABR	**Khabarovsk**	**7.07**	**236**	*e*PN	Pn	10 28 28.0	+3.7
HABR				MLR	MLR		
	comp=Z,1μm,16.0s						
SKR	**Severo-Kuril's**	**7.89**	**101**	*e*PN	Pn	10 28 46.0	+10
KUR	**Kuril'sk**	**7.99**	**159**	*e*P	**Pn**	**10 28 35.0**	**-2.0**
KUR				*e*S	**Sn**	**10 30 02.5**	**-4.3**
KUR				A	A	10 30 03.7	
	comp=Z,170nm,0.8s						
KUR				A	A	10 30 03.7	
	comp=Z,80nm,0.8s						
PEA0B	**Petropavlovsk-**	**8.37**	**82**	*e*Pn	**Pn**	**10 28 39.9**	**-2.2**
PEA0B				Sn	Sn	10 30 10.3	-5.6
PETK	**Petropavlovsk-**	**8.37**	**82**	PN	**Pn**	**10 28 39.9**	**-2.2**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.37**	**82**	Pn	**Pn**	**10 28 39.9**	**-2.2**
PETK	**Petropavlovsk-**	**8.37**	**82**	Pn	**Pn**	**10 28 39.9**	**-2.2**
	comp=Z,2.7nm,0.3s,baz=298,slow=9.0,SNR=76						
PETK				LR	LR	10 32 02.1	
	comp=Z,174nm,19.6s,baz=266,slow=39						
KLR	**Kul'dur**	**8.42**	**250**	*e*PN	**Pn**	**10 28 41.0**	**-1.9**
KLR				*e*		10 30 30.0	
KLR				MLR	MLR		
	comp=N,2μm,9.0s						
KLR				MLR	MLR		
	comp=E,2μm,9.0s						
KLR				MLR	MLR		
	comp=Z,6μm,9.0s						
KLR	**Kul'dur**	**8.42**	**250**	*e*P	**Pn**	**10 28 41.0**	**-1.9**
ASAJ	**Asahikawa**	**8.71**	**186**	Pn	**Pn**	**10 28 46.2**	**-0.6**
ASAJ				*e*Sn	**Sn**	**10 30 24.1**	**-0.3**
ASAJ	**Asahikawa**	**8.71**	**186**	Pn	**Pn**	**10 28 46.2**	**-0.6**
	comp=Z,4.9nm,0.3s,baz=16,slow=13,SNR=39						
ASAJ				LR	LR	10 32 44.4	
	comp=Z,814nm,19.9s,baz=13,slow=42						
PET	**Petropavlovsk**	**8.95**	**83**	*e*PN	**Pn**	**10 28 48.9**	**-1.1**
PET				pmax	pmax		
	comp=Z,200nm,2.6s						
PET				pmax	pmax		
	comp=Z,100nm,0.6s						
PET				MLR	MLR		
	comp=Z,800nm,15.0s						
PET				MLR	MLR		
	comp=Z,900nm,14.0s						
PET	**Petropavlovsk**	**8.95**	**83**	*e*P	**Pn**	**10 28 48.9**	**-1.1**
PET				AMB	AMB	10 28 49.2	
	comp=Z,2μm,2.6s						
PET				AMB	AMB	10 28 49.2	
	comp=Z,3μm,2.6s						
PET				AMB	AMB	10 28 49.2	
	comp=Z,230nm,2.6s						
PET				AMB	AMB	10 28 50.7	
	comp=Z,100nm,0.6s						
PET				*e*S	**Sn**	**10 30 28.4**	**-1.7**
PET				A	A	10 30 33.5	
	comp=Z,70nm,0.6s						
PET				A	A	10 30 33.5	
	comp=Z,100nm,0.6s						
BMKR	**Bomnak**	**9.11**	**288**	*e*Pg	**Pn**	**10 28 50.2**	**-2.1**
BMKR				AMB	AMB	10 28 55.9	
	comp=Z,10.0nm,0.5s						
BMKR				*e*Sg	Sn	10 31 29.7	+55
BMKR				A	A	10 31 41.9	
	comp=Z,80nm,0.7s						
ZEA	**Zeya**	**10.01**	**282**	*e*Pg	Pn	10 29 11.5	+7.0
ZEA				AMB	AMB	10 29 19.5	
	comp=Z,40nm,1.0s						
ZEA				*e*Sg	Sn	10 31 08.5	+12
ZEA				A	A	10 31 09.6	
	comp=Z,60nm,1.0s						
ZEA				AMS	AMS	10 31 18.0	
	comp=Z,2μm,11.0s						
ZEA				AMS	AMS	10 31 18.0	
	comp=Z,3μm,11.0s						
ZEA				AMS	AMS	10 31 18.0	
	comp=Z,4μm,11.0s						
SEY	**Seymchan**	**11.13**	**21**	*e*PN	**Pn**	**10 29 21.5**	**+1.6**
USRK	**Ussuriysk Arra**	**11.64**	**227**	Pn	**Pn**	**10 29 27.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=42,slow=14,SNR=8.1						
USRK				Lg	Lg	10 32 48.7	
	comp=Z,0.2nm,0.3s,baz=41,slow=23,SNR=3.8						
USRK				LR	LR	10 34 04.4	
	comp=Z,448nm,19.8s,baz=197,slow=38						
CLNS	**Chul'man**	**11.67**	**298**	*e*PN	Pn	10 29 30.7	+3.4
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s						
CLNS				pmax	pmax		
	comp=N,21nm,1.0s						
CLNS				pmax	pmax		
	comp=E,22nm,1.0s						
CLNS				MLR	MLR		
	comp=N,789nm,10.0s						
CLNS				MLR	MLR		
	comp=E,1μm,11.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,10.0s						
YAK	**Yakutsk**	**11.99**	**326**	*e*PN	**Pn**	**10 29 34.1**	**+2.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,23nm,0.7s						
YAK				pmax	pmax		
	comp=N,27nm,1.3s						
YAK				pmax	pmax		
	comp=E,28nm,1.1s						
YAK				MLR	MLR		
	comp=Z,2μm,12.0s						
YAK				MLR	MLR		
	comp=N,1μm,12.0s						
YAK				MLR	MLR		
	comp=E,1μm,12.0s						
MDJ	**Mudanjiang**	**12.46**	**235**	P	**Pn**	**10 29 38.1**	**0.0**
MDJ				S	**Sn**	**10 31 56.6**	**+0.4**
MDJ				PcP	**PcP**	**10 35 19.8**	**+2.5**
MDJ				PcS	**PcS**	**10 38 54.6**	**+3.2**
MDJ				ScS	**ScS**	**10 42 25.4**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.4s						
MDJ				LR	LR		
	comp=N,2μm,11.9s						
MDJ				LR	LR		
	comp=E,2μm,9.9s						
MDJ				LR	LR		
	comp=Z,3μm,9.9s						
CN2	**Changchun**	**15.16**	**241**	*e*P	**Pn**	**10 30 15.1**	**+0.2**
CN2				*e*S	**Sn**	**10 33 01.3**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,990nm,10.0s						
CN2				LR	LR		
	comp=E,760nm,10.0s						
CN2				LR	LR		
	comp=Z,1μm,11.0s						
HIA	**Hailar**	**15.56**	**267**	*e*Pn	**Pn**	**10 30 21.6**	**+1.5**
	comp=Z,4.7nm,0.4s						
MJAR	**Matsushiro Arr**	**16.71**	**196**	Pn	**Pn**	**10 30 34.2**	**-0.8**
MJAR	**Matsushiro Arr**	**16.71**	**196**	Pn	**Pn**	**10 30 34.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=8.7,slow=11,SNR=8.3						
MJAR				LR	LR	10 37 23.1	
	comp=Z,241nm,18.3s,baz=10.0,slow=39						
SNY	**Shenyang**	**17.52**	**239**	⇓P	**P**	**10 30 49.1**	**+3.1**
SNY				S	**S**	**10 34 10.8**	**+3.7**
SNY				pmax	pmax		
	comp=Z,17nm,1.5s						
SNY				pmax	pmax		
	comp=Z,290nm,10.3s						
SNY				LR	LR		
	comp=N,1μm,9.7s						
SNY				LR	LR		
	comp=E,1μm,11.1s						
FX1	**Attu Island--F**	**17.66**	**78**	P	**P**	**10 30 47.7**	**+0.3**
FX1	**Attu Island--F**	**17.66**	**78**	P	**P**	**10 30 47.7**	**+0.3**
	comp=E,0.9nm,0.3s,baz=330,slow=6.9,SNR=11						
FX1				LR	LR	10 37 12.1	
	comp=E,137nm,19.7s,baz=284,slow=36						
KSRS	**Korea Array**	**18.94**	**222**	P	**Pn**	**10 31 01.8**	**-0.5**
	comp=E,0.3nm,0.3s,baz=34,slow=10,SNR=21						
KSRS				LR	LR	10 38 08.4	
	comp=E,293nm,18.1s,baz=38,slow=36						
KSAR	**Wonju Array Be**	**18.97**	**222**	P	**P**	**10 31 01.8**	**-0.1**
TIXI	**Tiksi**	**20.07**	**346**	⇓*i*P	**P**	**10 31 13.9**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,31nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,607nm,19.0s						
JNU	**Nakatsue**	**21.76**	**211**	P	**P**	**10 31 32.1**	**-0.2**
	comp=Z,16nm,0.8s						
JNU	**Nakatsue**	**21.76**	**211**	P	**P**	**10 31 32.1**	**-0.2**
	comp=Z,15nm,1.2s,baz=2.5,slow=8.1,SNR=6.6						
JNU				LR	LR	10 39 24.4	
	comp=Z,251nm,19.4s,baz=227,slow=35						
BJI	**Beijing**	**22.79**	**247**	P	**P**	**10 31 42.9**	**-0.3**
BJI				S	**S**	**10 35 50.6**	**-0.4**
BJI				sS	**sS**	**10 36 00.5**	**-0.1**
BJI				pmax	pmax		
	comp=Z,13nm,1.0s						
BJI				LR	LR		
	comp=N,1μm,10.7s						
BJI				LR	LR		
	comp=E,1μm,9.7s						
BJI				LR	LR		
	comp=Z,300nm,12.7s						
IRK	**Irkutsk**	**23.90**	**285**	*e*P	P	10 31 49.2	-5.0
IRK				pmax	pmax		
	comp=Z,55nm,1.4s						
SONM	**Songino Array**	**24.24**	**273**	P	**P**	**10 31 58.0**	**+0.4**
SONM	**Songino Array**	**24.24**	**273**	P	**P**	**10 31 58.0**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=59,slow=8.4,SNR=9.5						
SONM				LR	LR	10 42 36.6	
	comp=Z,232nm,19.2s,baz=160,slow=40						
TLY	**Talaya**	**24.44**	**284**	*e*P	**P**	**10 31 59.6**	**+0.3**
TLY				*e*		10 32 36.5	
TLY				pmax	pmax		
	comp=Z,23nm,0.9s						
TLY				MLR	MLR		
	comp=Z,616nm,13.0s						
HHC	**Hu-ho-hao-te**	**24.89**	**254**	*e*P	**P**	**10 32 03.1**	**-0.4**
HHC				pP	**pP**	**10 32 08.8**	**-0.7**
HHC				sP	**sP**	**10 32 11.9**	**0.0**
HHC				PP	**PnPn**	**10 32 40.0**	**+3.7**
HHC				S	**S**	**10 36 21.9**	**-3.8**
HHC				sS	**sS**	**10 36 31.3**	**-4.1**
HHC				SS	**SnSn**	**10 37 19.4**	**+5.8**
HHC				PcS	**PcS**	**10 39 19.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
HHC				pmax	pmax		
	comp=Z,260nm,5.1s						
HHC				LR	LR		
	comp=N,1μm,10.4s						
HHC				LR	LR		
	comp=E,1μm,11.8s						
HHC				LR	LR		
	comp=Z,1μm,12.2s						
ZAK	**Zakamensk**	**25.10**	**281**	*e*P	**P**	**10 32 05.5**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s						
MOY	**Mondy**	**26.01**	**285**	*e*P	**P**	**10 32 15.0**	**+1.5**
KRAR	**Krasnoyarsk**	**29.31**	**297**	⇓*e*P	P	10 32 46.0	+3.1
KRAR				pmax	pmax		
	comp=Z,21nm,0.5s						
KRAR				MLR	MLR		
	comp=Z,333nm,16.0s						
XAN	**Xi'an**	**31.12**	**247**	P	**P**	**10 32 59.9**	**+0.7**
XAN				pP	**pP**	**10 33 05.9**	**+0.8**
XAN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,11nm,4.6s						
XAN				LR	LR		
	comp=N,480nm,10.4s						
XAN				LR	LR		
	comp=E,190nm,11.6s						
XAN				LR	LR		
	comp=Z,200nm,12.7s						
LZH	**Lanzhou**	**32.58**	**255**	*e*P	**P**	**10 33 12.6**	**+0.5**
LZH				pP	**pP**	**10 33 19.0**	**+0.9**
LZH				sP	**sP**	**10 33 21.3**	**+0.8**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=N,540nm,15.0s						
LZH				LR	LR		
	comp=E,780nm,17.4s						
LZH				LR	LR		
	comp=Z,280nm,17.6s						
GTA	**Gaotai**	**32.80**	**264**	*e*P	**P**	**10 33 14.9**	**+0.9**
GTA				pP	**pP**	**10 33 20.8**	**+0.8**
GTA				sP	**sP**	**10 33 23.8**	**+1.4**
GTA				S	**S**	**10 38 28.8**	**-1.3**
GTA				sS	**sS**	**10 38 38.3**	**-1.6**
GTA				SS	**SnSn**	**10 40 25.6**	**-0.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.9s						
GTA				pmax	pmax		
	comp=Z,80nm,4.7s						
GTA				LR	LR		
	comp=N,610nm,15.0s						
GTA				LR	LR		
	comp=E,630nm,14.5s						
GTA				LR	LR		
	comp=Z,2μm,11.6s						
IM04	**Indian Mountai**	**32.85**	**42**	*e*P	**P**	**10 33 14.2**	**+0.2**
IMA2	**Indian Mountai**	**32.88**	**42**	*e*P	**P**	**10 33 14.7**	**+0.4**
SVW2	**Sparrevohn**	**32.93**	**51**	*e*P	**P**	**10 33 16.3**	**+1.6**
	comp=Z,20nm,1.0s						
PPLA	**Purkeypile**	**34.08**	**47**	*e*P	**P**	**10 33 26.4**	**+1.6**
	comp=Z,35nm,1.2s						
COLD	**Coldfoot**	**34.10**	**39**	*e*P	**P**	**10 33 25.3**	**+0.5**
	comp=Z,12nm,1.0s						
ZAA0	**Zalesovo Array**	**34.37**	**296**	*e*P	**P**	**10 33 27.2**	**-0.1**
ZALV	**Zalesovo Beam**	**34.37**	**296**	P	**P**	**10 33 27.5**	**+0.2**
ZALV						10 36 02.0	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,96nm,21.3s						
ZALV	**Zalesovo Beam**	**34.37**	**296**	P	**P**	**10 33 27.5**	**+0.2**
ZALV				PcP	**PcP**	**10 36 02.0**	**-0.6**
ZALV	**Zalesovo Beam**	**34.37**	**296**	P	**P**	**10 33 27.5**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=64,slow=6.9,SNR=14						
ZALV				PcP	**PcP**	**10 36 02.0**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=69,slow=4.8,SNR=2.9						
ZALV				LR	LR	10 48 19.1	
	comp=Z,96nm,21.3s,baz=250,slow=38						
SPU	**Mount Spurr**	**34.56**	**50**	*e*P	**P**	**10 33 30.1**	**+1.1**
TRF	**Thorofare Moun**	**34.78**	**46**	*e*P	**P**	**10 33 31.4**	**+0.4**
	comp=Z,28nm,1.0s						
NVS	**Novosibirsk**	**34.89**	**298**	⇑*i*P	**P**	**10 33 31.8**	**+0.1**
NVS				*e*S	S	10 38 54.8	-6.8
NVS				pmax	pmax		
	comp=E,32nm,1.8s						
NVS				pmax	pmax		
	comp=Z,39nm,1.8s						
NVS				pmax	pmax		
	comp=N,18nm,2.0s						
NVS				smax	smax		
	comp=E,40nm,3.4s						
MCK	**McKinley**	**35.30**	**45**	*e*P	**P**	**10 33 35.9**	**+0.6**
MCK				pmax	pmax		
	comp=Z,34nm,0.9s						
MCK	**McKinley**	**35.30**	**45**	*e*P	**P**	**10 33 35.9**	**+0.6**
	comp=Z,34nm,0.9s						
KDAK	**Kodiak Island**	**35.35**	**56**	P	**P**	**10 33 35.1**	**-0.6**
KDAK	**Kodiak Island**	**35.35**	**56**	P	**P**	**10 33 35.1**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=241,slow=10,SNR=3.3						
COLA	**College**	**35.49**	**43**	*e*P	**P**	**10 33 37.6**	**+0.8**
COLA				pmax	pmax		
	comp=Z,14nm,0.9s						
COLA	**College**	**35.49**	**43**	*e*P	**P**	**10 33 37.5**	**+0.8**
	comp=Z,14nm,0.9s						
PMR	**Palmer**	**35.80**	**49**	*e*P	**P**	**10 33 40.5**	**+1.0**
PMR				pmax	pmax		
	comp=Z,57nm,1.8s						
PMR	**Palmer**	**35.80**	**49**	*e*P	**P**	**10 33 40.5**	**+1.0**
	comp=Z,57nm,1.8s						
ILAR	**Eielson Array**	**35.91**	**43**	P	**P**	**10 33 40.2**	**-0.3**
ILAR	**Eielson Array**	**35.91**	**43**	P	**P**	**10 33 40.2**	**-0.3**
	comp=Z,8.4nm,0.7s,baz=291,slow=6.3,SNR=103						
ILAR				LR	LR	10 50 12.6	
	comp=Z,87nm,18.1s,baz=311,slow=39						
SML	**Sawmill**	**36.10**	**48**	*e*P	**P**	**10 33 42.9**	**+0.8**
SML				pmax	pmax		
	comp=Z,13nm,0.9s						
SML	**Sawmill**	**36.10**	**48**	*e*P	**P**	**10 33 42.9**	**+0.8**
	comp=Z,12nm,0.9s						
CD2	**Chengdu**	**36.35**	**249**	*e*P	**P**	**10 33 44.8**	**+0.1**
CD2				pP	**pP**	**10 33 51.0**	**+0.3**
CD2				sP	**sP**	**10 33 55.1**	**+2.0**
CD2				PP	**PP**	**10 35 08.0**	**+0.6**
CD2				S	**S**	**10 39 23.3**	**-1.4**
CD2				sS	**sS**	**10 39 34.8**	**+0.2**
CD2				SS	**SnSn**	**10 41 47.5**	**-5.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,600nm,11.2s						
CD2				LR	LR		
	comp=Z,720nm,10.2s						
PAX	**Paxson**	**37.02**	**46**	*e*P	**P**	**10 33 49.9**	**-0.2**
PAX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PAX	**Paxson**	**37.02**	**46**	*e*P	**P**	**10 33 49.9**	**-0.2**
	comp=Z,9.9nm,1.0s						
WMQ	**Urumqi**	**37.55**	**279**	*e*P	**P**	**10 33 56.9**	**+2.2**
WMQ				sP	**sP**	**10 34 06.8**	**+3.6**
WMQ				PP	**PnPn**	**10 35 25.4**	**+4.2**
WMQ				S	**S**	**10 39 44.3**	**+1.6**
WMQ				sS	**sS**	**10 39 54.5**	**+1.9**
WMQ				SS	**SnSn**	**10 42 17.5**	**-3.4**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,60nm,5.6s						
WMQ				LR	LR		
	comp=N,750nm,11.0s						
WMQ				LR	LR		
	comp=E,660nm,10.5s						
WMQ				LR	LR		
	comp=Z,190nm,13.0s						
MENT	**Mentasta**	**37.79**	**45**	*e*P	**P**	**10 33 56.9**	**+0.4**
BMRM	**Bremner River**	**38.07**	**49**	*e*P	**P**	**10 33 59.2**	**+0.3**
	comp=Z,43nm,1.3s						
GYA	**Guiyang**	**38.21**	**241**	P	**P**	**10 34 00.3**	**-0.2**
GYA				pP	**pP**	**10 34 07.9**	**+1.4**
GYA				PP	**PnPn**	**10 35 31.3**	**+1.8**
GYA				PcP	**PcP**	**10 36 16.0**	**+1.3**
GYA				S	**S**	**10 39 52.4**	**-0.7**
GYA				PcS	**PcS**	**10 40 04.3**	**+0.3**
GYA				SS	**SnSn**	**10 42 31.0**	**-6.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,560nm,17.4s						
GYA				LR	LR		
	comp=E,490nm,18.0s						
GYA				LR	LR		
	comp=Z,510nm,17.8s						
RAGM	**Ragged Mountai**	**38.25**	**50**	*e*P	**P**	**10 34 00.7**	**+0.3**
	comp=Z,63nm,1.6s						
EGAK	**Eagle**	**38.26**	**42**	*e*P	**P**	**10 34 00.4**	**0.0**
	comp=Z,34nm,0.8s						
MK31	**Makanchi Array**	**39.12**	**287**	P	**P**	**10 34 07.8**	**0.0**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MK31	**Makanchi Array**	**39.12**	**287**	*e*P	**P**	**10 34 07.9**	**0.0**
MKAR	**Makanchi Array**	**39.12**	**287**	P	**P**	**10 34 07.4**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,197nm,20.1s						
MKAR	**Makanchi Array**	**39.12**	**287**	*e*P	**P**	**10 34 08.1**	**+0.2**
MKAR	**Makanchi Array**	**39.12**	**287**	P	**P**	**10 34 07.4**	**-0.5**
	comp=Z,6.2nm,0.6s,baz=64,slow=8.1,SNR=84						
MKAR				LR	LR	10 51 35.7	
	comp=Z,197nm,20.1s,baz=46,slow=38						
KURK	**Kurchatov**	**39.21**	**294**	P	**P**	**10 34 09.4**	**+0.9**
KURK	**Kurchatov**	**39.21**	**294**	P	**P**	**10 34 09.4**	**+0.9**
DAWY	**Dawson**	**39.23**	**43**	*e*P	**P**	**10 34 08.8**	**+0.2**
KURBB	**Kurchatov Arra**	**39.30**	**294**	P	**P**	**10 34 09.4**	**+0.1**
	comp=Z,31nm,0.6s,baz=67,slow=9.0,SNR=167						
INK	**Inuvik**	**39.97**	**35**	*e*P	**P**	**10 34 15.0**	**+0.4**
	comp=Z,10nm,0.7s						
INK				*e*PcP	**PcP**	**10 36 19.4**	**+0.1**
INK	**Inuvik**	**39.97**	**35**	P	**P**	**10 34 15.0**	**+0.4**
	comp=Z,8.1nm,0.6s,baz=308,slow=7.4,SNR=42						
INK				PcP	**PcP**	**10 36 19.4**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=138,slow=0.6,SNR=3.3						
HYT	**Haines Junctio**	**41.31**	**47**	*e*P	**P**	**10 34 27.5**	**+1.5**
KMI	**Kunming**	**41.39**	**244**	*e*P	**P**	**10 34 26.5**	**-0.6**
KMI				S	**S**	**10 40 40.5**	**-0.5**
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				LR	LR		
	comp=N,490nm,10.7s						
KMI				LR	LR		
	comp=E,170nm,11.1s						
KMI				LR	LR		
	comp=Z,480nm,10.1s						
VOSK	**Vostochnaya**	**42.33**	**300**	P	**P**	**10 34 33.8**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,11nm,0.7s						
BVA0	**Borovoye Array**	**42.49**	**301**	*i* P	**P**	**10 34 35.3**	**-0.2**

BVA0 pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 42.49 301 P **P 10 34 35.6 0.0**
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR MLR MLR
comp=Z,164nm,18.6s
BVAR Borovoye Array 42.49 301 P **P 10 34 35.6 0.0**
BVAR PP **PP 10 36 09.6 -4.3**
BVAR Borovoye Array 42.49 301 P **P 10 34 35.6 0.0**
comp=Z,4.7nm,0.8s,baz=68,slow=9.7,SNR=18
BVAR PP **PP 10 36 09.6 -4.3**
comp=Z,1.2nm,0.5s,baz=55,slow=12,SNR=2.7
BVAR LR LR 10 52 36.0
comp=Z,164nm,18.6s,baz=236,slow=37
BRVK Borovoye 42.53 301 *c iP* **P 10 34 35.7 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK MLR MLR
comp=Z,378nm,15.0s
BRVK Borovoye 42.53 301 *eP* **P 10 34 35.9 0.0**
comp=Z,16nm,1.3s
TGY Tagaytay City 42.68 214 P **P 10 34 35.2 -2.2**
TGY Tagaytay City 42.68 214 P **P 10 34 35.2 -2.2**
baz=180,slow=13,SNR=2.5
QIZ Qiongzhong 42.80 231 P **P 10 34 37.6 -0.8**
QIZ S **S 10 41 02.5 +1.1**
QIZ pmax pmax
comp=Z,8.0nm,1.8s
QIZ LR LR
comp=N,330nm,14.5s
QIZ LR LR
comp=Z,500nm,13.5s
TKM2 Tokmak 2 45.23 286 *eP* **P 10 34 58.1 +0.1**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 45.23 286 *eP* **P 10 34 58.1 +0.1**
comp=Z,3.2nm,0.8s
SVE Sverdlovsk 45.34 310⇑ *eP* **P 10 34 59.0 +0.7**
SVE pmax pmax
comp=Z,13nm,1.0s
SVE MLR MLR
comp=Z,287nm,14.0s
DLBC Dease Lake 45.79 47 P **P 10 35 02.7 +0.7**
DLBC Dease Lake 45.79 47 P **P 10 35 02.7 +0.7**
comp=Z,2.7nm,0.8s,baz=298,slow=7.8,SNR=5.1
AAK Ala-Archa 46.05 286⇑ *eP* **P 10 35 04.8 +0.4**
AAK pmax pmax
comp=Z,15nm,1.2s
AAK MLR MLR
comp=Z,463nm,15.0s
AAK Ala-Archa 46.05 286 *eP* **P 10 35 04.8 +0.4**
comp=Z,7.8nm,1.2s
AAK Ala-Archa 46.05 286 LR LR 10 53 42.9
comp=Z,181nm,18.6s,baz=27,slow=35
EKS2 Erkin-Say 46.45 287 *eP* **P 10 35 08.4 +0.9**
EKS2 pmax pmax
comp=Z,7.0nm,1.1s
EKS2 Erkin-Say 46.45 287 *eP* **P 10 35 08.4 +0.9**
comp=Z,6.7nm,1.1s
ARU Arti 46.52 310 *c iP* **P 10 35 07.3 -0.4**
ARU 10 36 54.1
ARU S **S 10 41 56.0 +1.3**
ARU SS SS 10 45 11.6 -8.5
ARU pmax pmax
comp=Z,19nm,1.7s
ARU MLR MLR
comp=Z,207nm,15.0s
KSH Kashi 47.14 282 P P 10 35 18.3 +5.4
KSH sP sP 10 35 27.3 +5.9
KSH PP PP 10 37 09.3 +5.8
KSH S S 10 42 10.4 +6.2
KSH sS sS 10 42 20.3 +6.0
KSH SS **SS 10 45 31.3 +0.4**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,65nm,4.9s
KSH LR LR
comp=N,500nm,14.5s
KSH LR LR
comp=E,310nm,12.1s
KSH LR LR
comp=Z,470nm,13.2s
KK31 Karatay Array 48.06 289 P **P 10 35 19.7 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 48.06 289 *eP* **P 10 35 19.9 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 48.06 289 *eP* **P 10 35 19.9 0.0**
comp=Z,2.9nm,0.8s
TAPN Taplejung 48.40 261 *eP* **P 10 35 23.3 +0.3**
comp=Z,27nm,0.5s
CHTO Chiang Mai 48.54 243 *eP* **P 10 35 24.2 +0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 48.54 243 *eP* **P 10 35 24.2 +0.4**
comp=Z,3.9nm,0.9s
CMAR Chiang Mai Arr 48.83 243 LR LR 10 57 11.0
comp=Z,104nm,18.0s,baz=149,slow=38
ODAN Odare 48.95 261 *eP* **P 10 35 28.0 +0.8**
comp=Z,22nm,0.5s
JIRN Jiri 49.09 263 *eP* **P 10 35 28.7 +0.4**
GUN Gumba 49.09 263 *eP* **P 10 35 28.5 +0.1**
RAMN Ramite 49.36 262 *eP* **P 10 35 30.4 +0.1**
comp=Z,24nm,0.6s
KKN Kakani 49.54 264 *eP* **P 10 35 31.4 -0.2**
YKA Yellowknife Ar 49.67 37 P **P 10 35 32.1 +0.2**
YKA Yellowknife Ar 49.67 37 P **P 10 35 32.1 +0.2**
comp=Z,2.1nm,0.7s,baz=308,slow=7.8,SNR=4.4
DMN Daman 49.78 264 *eP* **P 10 35 33.4 -0.1**
AB31 Akbulak array 50.04 302 *i P* **P 10 35 34.8 -0.1**
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 50.04 302 *eP* **P 10 35 35.0 +0.1**
comp=Z,6.8nm,0.6s
DANN Dangsing 50.05 265 *eP* **P 10 35 36.3 +0.7**
comp=Z,73nm,1.0s
ARCES ARCESS Array B 50.05 336 P **P 10 35 34.3 -0.4**
ARCES ARCESS Array B 50.05 336 P **P 10 35 34.3 -0.4**
comp=Z,0.9nm,0.6s,baz=43,slow=8.0,SNR=3.1
ARCES LR LR 11 00 53.4
comp=Z,93nm,18.8s,baz=64,slow=41
AKTO Aktyubinsk 50.30 304 P **P 10 35 36.9 0.0**
AKTO pmax pmax
comp=Z,6.0nm,0.6s
AKTO MLR MLR
comp=Z,179nm,18.1s
AKTO Aktyubinsk 50.30 304 P **P 10 35 36.9 0.0**
AKTO Aktyubinsk 50.30 304 P **P 10 35 36.9 0.0**
comp=Z,5.8nm,0.6s,baz=69,slow=8.2,SNR=27
AKTO LR LR 10 57 51.3
comp=Z,179nm,18.1s,baz=226,slow=37
KOLN Koldanda 50.57 265 *eP* **P 10 35 40.0 +0.6**
comp=Z,26nm,0.8s
PYUN Piuthan 50.70 266 *eP* **P 10 35 41.3 +0.9**
comp=Z,172nm,0.9s
JOF Joensuu 53.16 328 *eP* **P 10 35 57.8 -0.2**
JOF Joensuu 53.16 328 *ep* **P 10 35 57.8 -0.2**
SUMG Summit 54.93 1 *eP* **P 10 36 12.2 +0.9**
SUMG Summit 54.93 1 *eP* **P 10 36 12.2 +0.9**
comp=Z,24nm,0.7s
KAF Kangasniemi 55.33 330 *eP* **P 10 36 13.9 +0.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 55.33 330 *ep* **P 10 36 13.9 +0.1**
comp=Z,0.8nm,0.4s
FINES FINESS Array B 55.91 329 P **P 10 36 17.9 0.0**
FINES PcP **PcP 10 37 15.7 -0.7**
FINES FINESS Array B 55.91 329 P **P 10 36 17.9 0.0**
comp=Z,4.8nm,0.7s,baz=30,slow=8.8,SNR=15
FINES PcP **PcP 10 37 15.7 -0.7**
comp=Z,2.5nm,0.8s,baz=106,slow=3.5,SNR=4.9
FINES LR LR 11 02 19.5
comp=Z,148nm,19.1s,baz=338,slow=38
EDM Edmonton 56.37 45 *eP* **P 10 36 21.4 -0.1**
EDM Edmonton 56.37 45 *eP* **P 10 36 21.4 -0.1**
RVC Mount Rainier- 56.75 55 P **P 10 36 25.4 +1.0**
OBN Obninsk 56.88 319 *eP* **P 10 36 25.4 +0.4**
OBN *e**PP **pP 10 36 30.9 -0.3**
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,15.0s
LON Longmire 56.96 55 *eP* **P 10 36 26.4 +0.6**
LON Longmire 56.96 55 *eP* **P 10 36 26.4 +0.6**
WPW White Pass 57.13 55 P **P 10 36 27.2 +0.2**
WTV Waterville 57.21 53 P **P 10 36 28.1 +0.5**
VRHR Novokhopersk 57.64 313 *eP* **P 10 36 28.6 -1.8**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,1.4s
BHPL Bhopal 57.66 266 *ex* x 10 36 29.6
TRW Toppenish Ridg 57.91 55 P **P 10 36 33.3 +0.8**
NEW Newport 58.17 51 *eP* **P 10 36 34.5 +0.2**
NEW Newport 58.17 51 P **P 10 36 32.0 -2.3**
baz=58
H2OWA Water 58.39 54 P **P 10 36 36.3 +0.6**
REDWA Red Mountain 58.45 54 P **P 10 36 36.9 +0.7**
FRIS Frissel Point 58.58 57 P **P 10 36 38.5 +1.1**
VSR Storozhevoye 58.63 315 *eP* **P 10 36 36.9 -0.4**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 58.75 314 *eP* **P 10 36 37.7 -0.5**
VORD pmax pmax
comp=Z,9.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,3.0nm,0.6s
WALA Waterton Lakes 59.09 49 *eP* **P 10 36 41.3 +0.5**
comp=E,0.5nm,0.9s
BSMT Bassoo Peak 59.56 50 *eP* **P 10 36 44.9 +0.8**
FFC Flin Flon 59.81 38 *eP* **P 10 36 45.6 +0.1**
FFC Flin Flon 59.81 38 *eP* **P 10 36 45.6 +0.1**
comp=E,58nm,0.8s
JTMT Jette 59.87 50 *eP* **P 10 36 46.7 +0.5**
YBH Yreka Blue Hor 60.03 60 *eP* **P 10 36 48.5 +1.3**
comp=E,6.3nm,0.8s
SWMT Swartz Lake 60.18 50 *eP* **P 10 36 48.6 +0.4**
NB2 NORSAR Subarra 60.42 336 P **P 10 36 49.3 -0.3**
comp=Z,3.1nm,0.8s,baz=30,slow=6.9
NOA NORSAR Array B 60.42 336 P **P 10 36 49.6 -0.1**
NOA NORSAR Array B 60.42 336 P **P 10 36 49.6 -0.1**
comp=Z,2.6nm,0.7s,baz=32,slow=6.7,SNR=7.6
NOA LR LR 11 06 00.8
comp=Z,153nm,20.9s,baz=20,slow=39
BMO Blue Mountains 60.53 54 *eP* **P 10 36 51.2 +0.5**
comp=Z,7.5nm,0.9s
SLMT Seeley Lake 60.61 50 *eP* **P 10 36 51.8 +0.5**
MAK Makhachkala 60.66 303 *eP* P 10 37 03.7 +12
MSO Missoula 60.70 50 *eP* **P 10 36 52.0 +0.2**
MSO Missoula 60.70 50 P **P 10 36 51.6 -0.2**
baz=60,SNR=8.6
CHMT Chamberlain Mo 60.96 50 *eP* **P 10 36 54.0 +0.3**
A18A Metzger Ranch, 61.01 46 P **P 10 36 53.2 -0.7**
baz=61,SNR=6.1
B17A L&G Farms, Che 61.06 47 P **P 10 36 53.6 -0.6**
baz=61
LTIM Timbered Crate 61.06 59 P **P 10 36 55.8 +1.4**
KAPI Kappang 61.09 208 P **P 10 36 53.6 -0.9**
KAPI Kappang 61.09 208 P **P 10 36 53.7 -0.9**
comp=Z,3.8nm,0.5s,baz=120,slow=8.1,SNR=3.0
B18A Beardsley Farm 61.44 47 P **P 10 36 57.0 +0.3**
baz=61,SNR=11
A19A Klindworth Far 61.49 46 P **P 10 36 57.4 +0.3**
baz=61,SNR=16
C17A Wharram Farm, 61.56 48 P **P 10 36 57.5 -0.2**
baz=61,SNR=10
WVOR Wild Horse Val 61.62 57 *eP* **P 10 36 59.0 +0.8**
WVOR Wild Horse Val 61.62 57 *eP* **P 10 36 59.0 +0.8**
EGMT Eagleton 61.72 47 *eP* **P 10 36 59.1 +0.4**
comp=Z,10nm,1.0s
EGMT Eagleton 61.72 47 P **P 10 36 58.4 -0.3**
baz=62
B19A Brinkman Farms 61.76 46 P **P 10 36 59.2 +0.3**
baz=62,SNR=14
HRY Holter Researc 61.77 49 *eP* **P 10 37 00.1 +1.0**
A20A Cobblestone Ra 61.88 45 P **P 10 37 00.0 +0.3**
baz=62
D17A Six Diamond Ra 61.96 48 P **P 10 37 00.3 -0.1**
baz=62,SNR=8.2
PSI Prapat 62.09 233 LR LR 11 03 41.5
comp=Z,145nm,18.5s,baz=197,slow=36
LRM Limekiln Ridge 62.14 50 *eP* **P 10 37 02.5 +0.7**
A21A Bergtoll Ranch 62.23 45 P **P 10 37 02.4 +0.4**
baz=62,SNR=10
C19A Slack Wire Ran 62.26 47 P **P 10 37 02.6 +0.4**
baz=62,SNR=12
MFID Camas Ranch 62.30 54 P **P 10 37 03.3 +0.5**
baz=62
D18A Linhart Farms, 62.32 48 P **P 10 37 03.0 +0.2**
baz=62
KIV Kislovodsk 62.33 307 *d iP* **P 10 37 04.1 +1.2**
KIV pmax pmax
comp=Z,27nm,1.2s
KIV MLR MLR
comp=Z,100nm,16.0s
KBZ Khabaz 62.40 307 P **P 10 37 03.9 +0.8**
KBZ pmax pmax
comp=Z,2.0nm,0.5s
KBZ MLR MLR
comp=Z,87nm,20.1s
KBZ Khabaz 62.40 307 P **P 10 37 03.9 +0.8**
KBZ Khabaz 62.40 307 P **P 10 37 03.9 +0.8**
comp=Z,2.5nm,0.9s,baz=238,slow=2.4,SNR=4.7
KBZ LR LR 11 06 31.5
comp=Z,87nm,20.1s,baz=207,slow=38
E17A Martinsdale 62.40 49 P **P 10 37 04.7 +1.3**
baz=62,SNR=15
DLMT Dillon 62.41 51 *eP* **P 10 37 04.2 +0.8**
comp=Z,28nm,0.9s
BEKR Beckworth 62.61 60 *eP* **P 10 37 07.0 +2.1**
B21A Ellsworth Farm 62.62 45 P **P 10 37 05.3 +0.6**
baz=62,SNR=7.2
A22A Carney Farms, 62.65 44 P **P 10 37 05.3 +0.5**
baz=62,SNR=11
BOZ Bozeman (W) 62.65 50 *eP* **P 10 37 06.1 +1.0**
BOZ pmax pmax
comp=Z,8.0nm,0.8s
BOZ Bozeman (W) 62.65 50 *eP* **P 10 37 06.1 +1.0**
comp=Z,8.1nm,0.8s
MCMT McKenzie Canyo 62.70 51 *eP* **P 10 37 06.0 +0.5**
C20A Veseth Ranch, 62.73 46 P **P 10 37 05.7 +0.2**
baz=62,SNR=16
E18A Harlowton 62.75 48 P **P 10 37 05.7 0.0**
baz=62
D19A Cripps Ranch, 62.76 47 P **P 10 37 05.5 -0.1**
baz=62,SNR=9.6
HLID Hailey 62.89 53 *eP* **P 10 37 06.9 +0.2**
comp=Z,4.5nm,0.8s
HLID Hailey 62.89 53 P **P 10 37 07.0 +0.2**
baz=63,SNR=11
F17A Fitzpatrick Pl 62.91 49 P **P 10 37 06.9 +0.1**
baz=63,SNR=9.8
D20A Manuel Ranch, 63.15 47 P **P 10 37 08.8 +0.6**
baz=63,SNR=12
B22A Reddig Ranch S 63.15 45 P **P 10 37 08.4 +0.2**
baz=63
PAHR Pah Rah Range 63.23 59 *eP* **P 10 37 10.2 +1.2**
G17A Pierce Place, 63.31 50 P **P 10 37 10.0 +0.6**
baz=63
E19A Rath Farm, Rou 63.34 48 P **P 10 37 10.1 +0.6**
baz=63,SNR=10
F18A Big Timber 63.34 49 P **P 10 37 10.2 +0.6**
baz=63,SNR=12
QLMT Earthquake Lak 63.36 50 *eP* **P 10 37 10.8 +0.9**
GCMT Greycliff 63.45 49 P **P 10 37 09.9 -0.4**
B23A Brockton 63.45 44 P **P 10 37 10.1 -0.1**
baz=63
A24A Westby 63.51 43 P **P 10 37 10.7 +0.1**
baz=63
H16A Russell Place, 63.54 50 P **P 10 37 11.5 +0.4**
baz=63,SNR=17
E20A Meyer Farm, Mu 63.60 47 P **P 10 37 11.0 -0.3**
baz=63
C22A Vida 63.63 45 P **P 10 37 11.2 -0.1**
baz=63
D21A La Casta Ranch 63.67 46 P **P 10 37 11.8 +0.1**
baz=63
YMR Madison River 63.70 50 *eP* **P 10 37 12.9 +0.8**
comp=Z,5.1nm,0.6s
F19A Roth Farm, Mol 63.73 48 P **P 10 37 12.8 +0.6**
baz=64,SNR=14
DGMT Dagmar 63.78 43 P **P 10 37 12.6 +0.2**
baz=64
G18A Lazy EL Ranch, 63.86 49 P **P 10 37 13.0 0.0**
baz=64
A25A Svangstu Ranch 63.86 43 P **P 10 37 13.1 +0.3**
baz=64
C23A Lambert 63.88 45 P **P 10 37 13.4 +0.3**
baz=64
YFT Old Faithful 63.92 50 *eP* **P 10 37 15.8 +2.1**
CMB Columbia Colle 63.94 61 *eP* **P 10 37 14.3 +0.7**
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 63.94 61 *eP* **P 10 37 14.3 +0.7**
comp=Z,3.5nm,0.8s
D22A Cohagen 63.96 46 P **P 10 37 13.9 +0.3**
baz=64
E21A Keefer Ranch, 64.04 47 P **P 10 37 15.0 +0.9**
baz=64
LKWY Lake 64.04 50 *eP* **P 10 37 15.1 +0.7**
LKWY pmax pmax
comp=Z,7.0nm,0.8s
LKWY Lake 64.04 50 *eP* **P 10 37 15.1 +0.7**
comp=Z,7.3nm,0.8s
H17A Grant Village 64.09 50 *eP* **P 10 37 17.1 +2.4**
H17A Grant Village 64.09 50 P **P 10 37 16.8 +2.1**
baz=64,SNR=11
WAKR Walker 64.09 60 *eP* **P 10 37 15.7 +0.9**
F20A Billings 64.13 48 P **P 10 37 15.4 +0.6**
baz=64
RLMT Red Lodge 64.14 49 *eP* **P 10 37 15.9 +0.9**
comp=Z,22nm,1.0s
ANN Anapa 64.19 311 *eP* P 10 37 06.3 -8.7
ANN *e**PP pP 10 37 12.0 -9.3
ANN pmax pmax
comp=Z,17nm,1.1s
FLWY Flagg Ranch 64.27 50 *eP* **P 10 37 17.4 +1.6**
comp=Z,13nm,1.2s
H18A Shoshone NF, C 64.30 49 P **P 10 37 16.7 +0.6**
baz=64
IMW Indian Meadow 64.30 51 *eP* **P 10 37 17.5 +1.3**
A26A Wade Farm, Ken 64.33 42 P **P 10 37 14.7 -1.3**
baz=64
D23A Lindsay 64.36 45 P **P 10 37 16.4 +0.2**
baz=64,SNR=7.6
C24A Savage 64.42 44 P **P 10 37 16.4 -0.1**
baz=64
I17A Pilgrim Ck. 64.45 50 P **P 10 37 16.3 -0.8**
baz=64
MOOW Moose Ponds 64.50 51 *eP* **P 10 37 17.8 +0.4**
comp=Z,4.9nm,0.9s
G20A Bridger 64.54 48 P **P 10 37 17.0 -0.6**
baz=64
TPAW Teton Pass 64.60 51 *eP* **P 10 37 19.7 +1.6**
E22A Miles City 64.61 46 P **P 10 37 17.6 -0.2**
baz=64
B26A Jensen Ranch, 64.67 42 P **P 10 37 17.8 -0.3**
baz=64
LOHW Long Hollow 64.67 51 *eP* **P 10 37 19.8 +1.3**
SNOW Snow King Moun 64.71 51 *eP* **P 10 37 20.5 +1.7**
NVAR Mina Array Bea 64.74 59 P **P 10 37 19.9 +0.8**
NVAR Mina Array Bea 64.74 59 P **P 10 37 19.9 +0.8**
comp=Z,2.3nm,0.9s,baz=302,slow=6.1,SNR=19
REDW Red Top Meadow 64.74 51 *eP* **P 10 37 20.2 +1.2**
comp=Z,22nm,1.6s
C25A Freed Ranch, W 64.77 43 P **P 10 37 19.2 +0.4**
baz=64
D24A Glendive 64.78 44 P **P 10 37 19.6 +0.6**
baz=64,SNR=9.0
E23A Ismay 64.84 46 P **P 10 37 19.9 +0.6**
baz=65
I18A Diamond G Ranc 64.97 50 P **P 10 37 21.5 +1.1**
baz=65
F22A Rosebud 64.99 47 P **P 10 37 20.8 +0.5**
baz=65
A28A Rude Farm, Bot 65.04 41 P **P 10 37 21.0 +0.5**
baz=65
B27A Peters Farms, 65.04 42 P **P 10 37 20.9 +0.4**
baz=65
I19A Meeteetse 65.10 49 P **P 10 37 22.0 +0.8**
baz=65
C26A Wahner Farm, P 65.16 43 P **P 10 37 21.8 +0.5**
baz=65
D25A Fairfield 65.18 44 P **P 10 37 22.0 +0.5**
baz=65
H20A Greybull 65.21 49 P **P 10 37 21.8 -0.1**
baz=65,SNR=7.5
F23A Volborg 65.41 46 P **P 10 37 22.9 -0.2**
baz=65,SNR=6.2
G22A Birney 65.41 47 P **P 10 37 23.2 +0.1**
baz=65
A29A Manning Farm, 65.44 40 P **P 10 37 23.0 -0.1**
baz=65
H21A Big Horn, Sher 65.53 48 P **P 10 37 23.6 -0.3**
baz=65
BGU Big Grassy Mou 65.55 54 *eP* **P 10 37 24.5 +0.4**
comp=Z,2.3nm,0.8s
I20A Worland 65.56 49 P **P 10 37 24.6 +0.5**
baz=65,SNR=9.3
ULM Lac du Bonnet 65.64 37 P **P 10 37 23.9 -0.5**
comp=Z,8.3nm,0.7s
ULM Lac du Bonnet 65.64 37 P **P 10 37 23.9 -0.5**
comp=Z,15nm,0.5s,baz=325,slow=6.6,SNR=13
ULM LR LR 11 11 40.0
comp=Z,63nm,18.5s,baz=302,slow=41
D26A Manning 65.65 43 P **P 10 37 24.4 -0.1**
baz=65
E25A Miller Ranch, 65.66 44 P **P 10 37 24.8 +0.1**
baz=65
J19A Crowheart 65.66 50 P **P 10 37 24.9 0.0**
baz=65
F24A Ekalaka 65.73 45 P **P 10 37 25.3 +0.2**
baz=66,SNR=5.2
HWUT Hardware Ranch 65.74 53 *eP* **P 10 37 26.3 +0.9**
comp=Z,11nm,0.8s
B29A Wagenman Farm, 65.75 41 P **P 10 37 25.3 +0.2**
baz=66
A30A Hoffart Farm, 65.78 40 P **P 10 37 25.4 0.0**
baz=66
BW06 Boulder Array 65.81 51 *eP* **P 10 37 26.2 +0.2**
comp=Z,8.4nm,0.9s
PDAR Pinedale Array 65.81 51 P **P 10 37 26.2 +0.3**
PDAR Pinedale Array 65.81 51 P **P 10 37 26.2 +0.3**
comp=Z,3.4nm,0.8s,baz=7.7,slow=1.7,SNR=29
PDAR LR LR 11 11 38.8
comp=Z,81nm,18.8s,baz=163,slow=41
G23A Biddle 65.82 46 P **P 10 37 25.8 +0.1**
baz=66
C28A Hausauer Farms 65.94 42 P **P 10 37 26.8 +0.4**
baz=66
J20A Shoshoni 66.04 49 P **P 10 37 27.4 +0.1**
baz=66
I21A Big Trails, Te 66.05 49 P **P 10 37 27.6 +0.2**
baz=66,SNR=13
E26A Carlson Angus 66.08 44 P **P 10 37 27.6 +0.2**
baz=66
F25A Bowman 66.09 45 P **P 10 37 27.5 +0.1**
baz=66
K19A Absolon Red Bu 66.10 50 P **P 10 37 27.5 -0.3**
baz=66
G24A Alzada 66.15 46 P **P 10 37 27.7 -0.1**
baz=66,SNR=5.3
MDND Maddock 66.15 41 P **P 10 37 27.6 -0.2**
baz=66
B30A Myrvik Farm, E 66.17 40 P **P 10 37 27.8 -0.1**
baz=66,SNR=13
DUG Dugway 66.21 55 *eP* **P 10 37 29.8 +1.4**
DUG Dugway 66.21 55 *eP* **P 10 37 29.8 +1.4**
DUG Dugway 66.21 55 P **P 10 37 28.5 +0.1**
baz=66
R11A Troy Canyon, C 66.21 58 P **P 10 37 28.3 -0.2**
baz=66
KIS Kishinev 66.23 317 *e* 10 38 32.0
KIS LRM MLR 11 08 44.0
comp=Z,500nm,16.0s
M17A Scullys Gap (B 66.28 52 P **P 10 37 29.0 +0.1**
baz=66
J21A Lysite 66.34 49 P **P 10 37 30.2 +0.9**
baz=66,SNR=8.9
CWC Cottonwood Cre 66.35 61 P **P 10 37 29.9 +0.5**
baz=66
L19A Farson 66.42 51 P **P 10 37 29.6 -0.2**
baz=66
K20A Yellowstone Ra 66.46 50 P **P 10 37 29.3 -0.7**
baz=66
F26A Lodgepole 66.48 44 P **P 10 37 29.8 -0.2**
baz=66,SNR=10
E27A Carson 66.49 43 P **P 10 37 29.6 -0.4**
baz=66,SNR=12

H24A	Dirks Ranch, A	66.54	46	P	P	10 37 30.5	+0.1
	baz=66						
JLU	Jordanelle	66.57	53	eP	P	10 37 30.9	+0.1
	comp=Z,2.9nm,0.7s						
G25A	Newell	66.69	45	P	P	10 37 31.2	-0.1
	baz=66						
J22A	Midwest	66.73	48	P	P	10 37 31.5	-0.2
	baz=66						
E28A	Huff	66.73	43	P	P	10 37 30.7	-0.8
	baz=66						
NLU	North Lily Min	66.76	54	eP	P	10 37 32.5	+0.5
	comp=Z,4.9nm,0.8s						
D29A	Pettibone, Tap	66.79	42	P	P	10 37 31.2	-0.7
	baz=66						
DAU	Daniels Canyon	66.81	53	eP	P	10 37 33.2	+0.8
DAU	Daniels Canyon	66.81	53	eP	P	10 37 33.2	+0.8
MPMC	Manual Prospec	66.95	61	P	P	10 37 33.1	-0.1
	baz=67						
G26A	Maurine	66.96	45	P	P	10 37 32.7	-0.2
	baz=67,SNR=11						
L20A	Wamsutter	66.97	50	P	P	10 37 33.3	0.0
	baz=67,SNR=13						
K21A	Alcova	66.99	49	P	P	10 37 32.9	-0.5
	baz=67						
H25A	Fruitdale	67.06	46	P	P	10 37 33.2	-0.5
	baz=67						
D30A	Buchanan	67.09	41	P	P	10 37 33.3	-0.4
	baz=67						
G27A	Dupree	67.17	44	P	P	10 37 33.8	-0.6
	baz=67,SNR=10						
KOLS	Kolonicke sedl	67.22	322	eP	P	10 37 33.3	-1.2
KOLS	Kolonicke sedl	67.22	322	eP	P	10 37 33.3	-1.2
RSSD	Black Hills	67.27	46	eP	P	10 37 35.1	-0.1
RSSD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
RSSD	Black Hills	67.27	46	eP	P	10 37 35.1	-0.1
	comp=Z,7.7nm,0.8s						
F28A	McLaughlin	67.27	43	P	P	10 37 34.7	-0.2
	baz=67						
K22A	Casper	67.31	49	P	P	10 37 35.1	-0.3
	baz=67						
H26A	Fairpoint	67.42	45	P	P	10 37 35.7	-0.2
	baz=67						
L21A	Rawlins	67.45	50	P	P	10 37 35.8	-0.6
	baz=67						
I25A	Rochford	67.48	46	P	P	10 37 36.2	-0.3
	baz=67						
E30A	Jud	67.52	42	P	P	10 37 36.1	-0.4
	baz=67						
CRVS	Cervenica-Dubn	67.54	323	eP	P	10 37 36.0	-0.6
CRVS	Cervenica-Dubn	67.54	323	eP	P	10 37 36.0	-0.6
EDW2	Edwards Air Fo	67.58	62	P	P	10 37 37.0	-0.1
	baz=67						
TMUT	Trail Mountain	67.69	54	eP	P	10 37 38.0	-0.1
	comp=Z,7.1nm,0.7s						
H27A	Howes	67.71	45	P	P	10 37 37.4	-0.3
	baz=68,SNR=16						
ARUT	Antelope Range	67.73	57	eP	P	10 37 37.9	-0.3
ARUT	Antelope Range	67.73	57	eP	P	10 37 37.9	-0.3
M21A	Separation Pea	67.74	50	P	P	10 37 38.2	-0.1
	baz=68						
RWWY	Rawlins	67.75	50	eP	P	10 37 38.2	-0.1
	comp=Z,7.6nm,0.8s						
MVU	Marysvale	67.80	55	eP	P	10 37 39.7	+1.0
	comp=Z,3.9nm,0.8s						
MSU	Marysvale	67.81	55	eP	P	10 37 39.0	+0.3
MSU	Marysvale	67.81	55	eP	P	10 37 39.0	+0.3
SHPR	Sheep Range	67.83	59	eP	P	10 37 39.0	+0.2
	comp=Z,9.5nm,1.6s						
L22A	Ellis Ranch, M	67.83	49	P	P	10 37 39.5	+0.7
	baz=68						
N20A	Spence Gulch,	67.92	51	P	P	10 37 39.8	+0.4
	baz=68,SNR=11						
O19A	Miners Draw (B	67.93	52	P	P	10 37 39.3	-0.1
	baz=68						
OKC	Ostrava-Krasne	67.93	325	eP	P	10 37 38.7	-0.3
OKC				MLR	MLR		
	comp=Z,200nm,17.6s						
OKC	Ostrava-Krasne	67.93	325	eP	P	10 37 38.7	-0.3
OKC				AMS	AMS	11 12 30.0	
	comp=Z,200nm,17.6s						
CCUT	Cedar City	67.96	57	eP	P	10 37 40.4	+0.8
	comp=Z,4.6nm,0.9s						
Q16A	Castle Valley	68.00	54	P	P	10 37 40.6	+0.7
	baz=68						
UPC	Upice	68.08	327	eP	P	10 37 40.4	+0.5
UPC				e		10 37 46.2	
UPC	Upice	68.08	327	eP	P	10 37 40.4	+0.5
UPC				epP	pP	10 37 46.2	-0.1
L23A	Garrett	68.11	49	P	P	10 37 40.1	-0.4
	baz=68						
DPC	Dobruska-Polom	68.11	327	eP	P	10 37 40.6	+0.4
DPC				e		10 37 46.1	
DPC				e		10 37 52.2	
DPC	Dobruska-Polom	68.11	327	eP	P	10 37 40.6	+0.4
DPC				epP	pP	10 37 46.1	-0.4
DPC				ex	x	10 37 52.2	
DPC				AMS	AMS	11 15 00.0	
DPC	Dobruska-Polom	68.11	327	eP	P	10 37 41.1	+0.9
I27A	Quinn	68.17	45	P	P	10 37 40.6	-0.1
	baz=68,SNR=8.7						
SRU	San Rafael	68.17	54	eP	P	10 37 41.0	+0.1
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	San Rafael	68.17	54	eP	P	10 37 41.0	+0.1
	comp=Z,3.9nm,0.8s						
MORC	Moravsky Berou	68.19	326	eP	P	10 37 41.3	+0.6
MORC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MORC	Moravsky Berou	68.19	326	eP	P	10 37 41.3	+0.6
	comp=Z,4.0nm,0.7s						
M22A	Cedar Creek Ra	68.25	50	P	P	10 37 40.5	-1.0
	baz=68						
N21A	Black Mountain	68.33	51	P	P	10 37 41.9	-0.1
	baz=68						
J26A	Sides Ranch, S	68.33	46	P	P	10 37 41.4	-0.4
	baz=68						
CLL	Collm	68.35	329	i P	P	10 37 41.3	-0.3
CLL				e*PP	pP	10 37 47.0	-1.0
CLL				pmax	pmax		
	comp=Z,11nm,0.8s						
CLL	Collm	68.35	329	i P	P	10 37 41.3	-0.3
	comp=Z,11nm,0.8s						
CLL				epP	pP	10 37 47.0	-1.0
CLL				esP	sP	10 37 48.0	-2.3
CLL				Lm	MLR	11 11 00.0	
	comp=Z,200nm,18.1s						
BRG	Berggiesshubel	68.44	329	i P	P	10 37 42.1	0.0
	comp=Z,3.9nm,0.8s						
BRG	Berggiesshubel	68.44	329	i P	P	10 37 42.1	0.0
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
O20A	White River Ci	68.48	52	eP	P	10 37 43.0	+0.2
O20A	White River Ci	68.48	52	P	P	10 37 43.0	+0.2
	baz=68,SNR=24						
HEC	Hector,Ludlow	68.50	61	P	P	10 37 43.7	+0.8
	baz=68						
P19A	Cripple Cowboy	68.51	52	P	P	10 37 43.2	+0.1
	baz=68						
PVCC	Panska Ves	68.53	328	eP	P	10 37 43.4	+0.6
PVCC	Panska Ves	68.53	328	eP	P	10 37 43.4	+0.6
BBRC	Big Bear Solar	68.62	61	P	P	10 37 43.9	+0.1
	baz=68						
N22A	Wattenberg Ran	68.79	50	P	P	10 37 45.1	+0.2
	baz=69						
VYHS	Vyhne	68.83	324	eP	P	10 37 44.8	+0.1
VYHS	Vyhne	68.83	324	eP	P	10 37 44.8	+0.1
J27A	Elkhorn Farm,	68.84	46	P	P	10 37 44.7	-0.3
	baz=69						
GMRC	Granite Mounta	68.89	60	P	P	10 37 44.9	-0.5
	baz=69						
P20A	De Beque	68.90	52	P	P	10 37 44.8	-0.7
	baz=69						
N23A	Red Feather La	68.96	50	P	P	10 37 44.8	-1.1
	baz=69						
PRU	Pruhonice	69.01	328	eP	P	10 37 46.0	+0.3
PRU				MLR	MLR		
	comp=Z,200nm,13.2s						
PRU	Pruhonice	69.01	328	eP	P	10 37 46.0	+0.3
PRU				AMS	AMS	11 11 20.0	
	comp=Z,200nm,13.2s						
M24A	Cheyenne	69.02	49	P	P	10 37 46.2	0.0
	baz=69						
J28A	Allard Ranch,	69.04	45	P	P	10 37 46.1	0.0
	baz=69,SNR=15						
EYMN	Ely	69.15	36	eP	P	10 37 45.8	-0.9
BRSD	Miller	69.17	43	eP	P	10 37 46.4	-0.5
BRSD	Miller	69.17	43	P	P	10 37 46.7	-0.2
	baz=69						
O22A	Kremmling	69.26	51	P	P	10 37 47.6	-0.3
	baz=69						
TREC	Trest	69.30	327	eP	P	10 37 47.9	+0.3
TREC				MLR	MLR		
	comp=Z,200nm,16.4s						
TREC	Trest	69.30	327	eP	P	10 37 47.9	+0.3
TREC				AMS	AMS	11 11 30.0	
	comp=Z,200nm,16.4s						
P21A	Newcastle	69.33	52	P	P	10 37 47.8	-0.4
	baz=69						
U15A	North Rim	69.37	57	P	P	10 37 49.0	+0.5
	baz=69,SNR=15						
PV10	Paradox Valley	69.47	53	eP	P	10 37 49.8	+0.7
N24A	Carr	69.50	49	P	P	10 37 49.9	+0.7
	baz=69						
O23A	Lake Granby, G	69.51	50	P	P	10 37 49.6	+0.2
	baz=69						
PV04	Paradox Valley	69.52	53	eP	P	10 37 49.7	+0.4
K28A	Ten Mile Ranch	69.56	46	P	P	10 37 49.4	+0.1
	baz=69,SNR=9.0						
W13A	Hualapai Mount	69.58	59	P	P	10 37 49.6	-0.2
	baz=69						
P22A	Eagle	69.60	51	P	P	10 37 49.9	0.0
	baz=69,SNR=11						
SCHQ	Schefferville	69.78	18	P	P	10 37 49.7	-0.7
SCHQ	Schefferville	69.78	18	P	P	10 37 49.7	-0.7
	comp=Z,4.7nm,0.7s,baz=8.0,slow=8.5,SNR=6.6						
SCHQ				LR	LR	11 11 56.1	
	comp=Z,137nm,18.9s,baz=351,slow=39						
Q21A	Lamborn Mesa,	69.82	52	P	P	10 37 50.5	-0.7
	baz=70						
SMCO	Snowmass	69.83	51	eP	P	10 37 51.9	+0.4
	comp=Z,8.1nm,0.8s						
BC3	Big Chuckawall	69.86	61	P	P	10 37 51.5	+0.1
	baz=70						
PV01	Paradox Valley	69.89	53	eP	P	10 37 52.0	+0.3
BR131	Keskin Array S	69.90	310	eP	P	10 37 51.9	+0.4
	comp=Z,1.1nm,0.6s						
BRTR	Keskin Array B	69.90	310	P	P	10 37 51.8	+0.2
BRTR	Keskin Array B	69.90	310	P	P	10 37 51.8	+0.2
	comp=Z,1.8nm,0.6s,baz=52,slow=4.6,SNR=12						
R20A	Redvale	69.94	53	P	P	10 37 52.1	+0.1
	baz=70,SNR=7.1						
K29A	Lazy Trails An	69.97	45	P	P	10 37 52.2	+0.4
	baz=70						
ISCO	Idaho Springs	69.98	50	eP	P	10 37 52.9	+0.6
ISCO	Idaho Springs	69.98	50	eP	P	10 37 52.9	+0.6
ISCO	Idaho Springs	69.98	50	P	P	10 37 52.0	-0.3
	baz=70						
KHC	Kasperske Hory	70.07	328	eP	P	10 37 52.3	0.0
KHC				e		10 37 56.6	
KHC				e		10 38 03.8	
KHC				MLR	MLR		
	comp=Z,200nm,16.4s						
KHC	Kasperske Hory	70.07	328	eP	P	10 37 52.3	0.0
KHC				epP	pP	10 37 56.6	-2.1
KHC				ex	x	10 38 03.8	
KHC				AMS	AMS	11 12 10.0	
	comp=Z,200nm,16.4s						
KHC	Kasperske Hory	70.07	328	eP	P	10 37 53.0	+0.7
	comp=Z,4.0nm,0.8s						
Q22A	Crested Butte,	70.11	52	P	P	10 37 53.5	+0.4
	baz=70,SNR=6.6						
R21A	Cimarron	70.19	52	P	P	10 37 54.1	+0.6
	baz=70,SNR=13						
S20A	Disappointment	70.23	53	P	P	10 37 52.8	-1.0
	baz=70						
GERES	GERESS Array B	70.28	328	P	P	10 37 53.8	+0.1
GERES	GERESS Array B	70.28	328	P	P	10 37 53.8	+0.1
	comp=Z,1.2nm,0.6s,baz=56,slow=5.0,SNR=14						
GERES				LR	LR	11 12 21.1	
	comp=Z,143nm,19.9s,baz=211,slow=39						
Y12C	Blythe	70.28	60	P	P	10 37 53.9	0.0
	baz=70						
GRF	Grafenberg Arr	70.32	330	eP	P	10 37 53.4	-0.4
	comp=Z,30nm,1.6s						
GRF	Grafenberg Arr	70.32	330	eP	P	10 37 53.4	-0.4
GRF				pmax	pmax		
	comp=Z,30nm,1.6s						
CONA	Conrad Observa	70.35	326	⇓ipP	P	10 37 54.9	+0.7
	comp=Z,16nm,2.2s,SNR=5.8						
WUAZ	Wupatki	70.54	57	eP	P	10 37 56.6	+1.0
	comp=Z,3.9nm,0.9s						
WUAZ	Wupatki	70.54	57	P	P	10 37 56.3	+0.7
	baz=70						
MIB	Mutribah	70.56	294	eP	P	10 37 54.6	-1.0
MIB				AMb	AMB	10 37 55.7	
	comp=Z,25nm,0.7s						
N27A	Anderson Farm,	70.58	48	P	P	10 37 55.1	-0.6
	baz=70						
S21A	Coal Bank Pass	70.64	53	P	P	10 37 56.9	+0.6
	baz=70,SNR=14						
MVCO	Mesa Verde	70.65	54	eP	P	10 37 56.4	+0.1
	comp=Z,4.7nm,0.8s						
MVCO	Mesa Verde	70.65	54	P	P	10 37 55.8	-0.6
	baz=70						
R22A	Saguache, Gunn	70.69	52	P	P	10 37 57.1	+0.5
	baz=70						
OGNE	Ogallala	70.69	47	eP	P	10 37 56.7	+0.3
	comp=Z,29nm,0.8s						
OGNE	Ogallala	70.69	47	P	P	10 37 56.0	-0.3
	baz=70						
ECSD	EROS Data Cent	70.72	42	eP	P	10 37 55.9	-0.5
Y14A	Wickenburg	70.93	59	P	P	10 37 58.5	+0.6
	baz=71						
SPMN	St. Paul	70.97	39	eP	P	10 37 57.1	-0.8
SPMN	St. Paul	70.97	39	P	P	10 37 57.1	-0.8
	baz=71						
MEM	Membach	71.02	333	P	P	10 37 58.1	+0.1
S22A	4UR Ranch, Cre	71.03	52	P	P	10 37 59.7	+0.9
	baz=71,SNR=7.1						
NAY	Al-Naaiem	71.04	293	eP	P	10 37 57.5	-1.0
NAY				AMb	AMB	10 37 59.2	
	comp=Z,0.6nm,0.9s						
O27A	Beecher Island	71.10	48	P	P	10 37 58.0	-0.9
	baz=71						
RDF	Al-Radifah	71.12	293	eP	P	10 37 58.0	-1.0
RDF				AMb	AMB	10 38 08.1	
	comp=Z,48nm,1.5s						
N28A	Pribbeno Ranch	71.12	47	P	P	10 37 58.3	-0.7
	baz=71						
R23A	Moffat	71.16	51	P	P	10 37 59.2	-0.3
	baz=71						
T21A	Navajo Lake	71.29	53	P	P	10 38 00.4	+0.1
	baz=71						
Q25A	Bedland, Calha	71.32	50	P	P	10 37 59.7	-0.7
	baz=71						
X16A	Lo Mia Camp, P	71.37	58	P	P	10 38 01.3	+0.6
	baz=71,SNR=13						
BCLA	Clavier	71.39	333	P	P	10 38 00.0	-0.2
113A	Mohawk Valley,	71.44	60	P	P	10 38 00.5	-0.4
	baz=71						
R24A	Sanders Place,	71.47	51	P	P	10 38 01.4	+0.1
	baz=71,SNR=9.4						
T22A	Edith	71.58	53	P	P	10 38 02.4	+0.4
	baz=71,SNR=6.1						
Q26A	Hugo	71.65	49	P	P	10 38 01.7	-0.6
	baz=71						
SDCO	Great Sand Dun	71.67	51	eP	P	10 38 02.6	0.0
	comp=Z,3.6nm,0.8s						
U21A	Nageezi	71.68	54	P	P	10 38 02.0	-0.6
	baz=72						
V20A	Brimhall	71.78	55	P	P	10 38 02.6	-0.5
	baz=72						
GIVF	Givet	71.80	334	eP	P	10 38 02.3	-0.5
GIVF	Givet	71.80	334	eP	P	10 38 02.3	-0.5
GIVF	Givet	71.80	334	eP	P	10 38 02.3	-0.5
DOU	Dourbes	71.87	334	P	P	10 38 03.0	-0.2
S24A	Houchin Ranch,	71.89	51	P	P	10 38 04.1	+0.1
	baz=72						
O29A	4D Ranch, Culb	71.91	47	P	P	10 38 03.3	-0.4
	baz=72						
R25A	Fountain Ranch	71.92	50	P	P	10 38 03.4	-0.5
	baz=72						
P28A	Saint Francis	71.93	48	P	P	10 38 03.5	-0.3
	baz=72						
KBA	Konbreinsper	71.94	327	⇓ipP	P	10 38 04.7	+0.8
	comp=Z,11nm,0.7s,SNR=7.6						
T23A	Casias Ranch,	71.98	52	P	P	10 38 04.0	-0.4
	baz=72						
BGNE	Belgrade	72.00	44	eP	P	10 38 03.8	-0.4
BAIF	Baives	72.01	334	eP	P	10 38 03.7	-0.3
	comp=Z,3.2nm,0.7s						
BAIF	Baives	72.01	334	eP	P	10 38 03.7	-0.3
BAIF	Baives	72.01	334	eP	P	10 38 03.7	-0.3
X18A	Snowflake	72.04	56	P	P	10 38 04.4	-0.4
	baz=72						
U22A	Llaves	72.11	53	P	P	10 38 04.7	-0.5
	baz=72						
R26A	Arlington	72.19	50	P	P	10 38 05.1	-0.4
	baz=72,SNR=11						
O30A	MW Ranch, Wils	72.19	46	P	P	10 38 04.9	-0.4
	baz=72,SNR=8.9						
S25A	Robets Cordova	72.24	51	P	P	10 38 05.0	-0.9
	baz=72						
T24B	San Luis	72.27	52	P	P	10 38 05.8	-0.4
	baz=72						
P29A	Atwood	72.28	47	P	P	10 38 05.1	-0.8
	baz=72						
W20A	Ramah	72.30	55	P	P	10 38 05.9	-0.4
	baz=72						
FITZ	Fitzroy Crossi	72.33	198	P	P	10 38 05.5	-0.7
FITZ	Fitzroy Crossi	72.33	198	P	P	10 38 05.5	-0.7
	comp=Z,2.7nm,0.7s,baz=32,slow=9.5,SNR=3.1						
V22A	San Miguel Ran	72.45	54	P	P	10 38 06.9	-0.3
	baz=72						
U23A	El Rito	72.47	53	P	P	10 38 07.9	+0.5
	baz=72,SNR=10.0						
R27A	Eads	72.50	49	P	P	10 38 06.8	-0.6
	baz=72,SNR=12						
P30A	Selden	72.63	47	P	P	10 38 07.3	-0.6
	baz=72						
CDF	Champ du Feu	72.64	331	eP	P	10 38 07.6	-0.4
	comp=Z,13nm,0.8s						
CDF	Champ du Feu	72.64	331	eP	P	10 38 07.6	-0.4
CDF	Champ du Feu	72.64	331	eP	P	10 38 07.6	-0.4
T25A	Trinidad	72.67	51	P	P	10 38 08.6	+0.1
	baz=72,SNR=5.4						
S26A	Kim	72.72	50	P	P	10 38 08.1	-0.6
	baz=72						
X20A	Quemado	72.76	55	P	P	10 38 09.7	+0.7
	baz=72,SNR=14						
Q29A	Oakley	72.83	48	P	P	10 38 08.7	-0.5
	baz=73						
DAVA	Damuels	72.87	329	⇑iP	P	10 38 09.5	+0.1
	comp=Z,7.5nm,1.1s						
WRA	Warramunga Arr	72.88	189	P	P	10 38 08.7	-0.8
WRA	Warramunga Arr	72.88	189	P	P	10 38 08.7	-0.8
	comp=Z,3.0nm,0.7s,baz=6.7,slow=6.8,SNR=3.7						
R28A	Tribune	72.91	49	P	P	10 38 09.0	-0.7
	baz=73						
V23A	Ortiz Mt. (NFS	72.94	53	P	P	10 38 11.1	+1.0
	baz=73,SNR=11						
PAGF	Fort de Pagny	72.96	332	eP	P	10 38 09.6	-0.1
PAGF	Fort de Pagny	72.96	332	eP	P	10 38 09.6	-0.1
P31A	Stockton	73.03	46	P	P	10 38 09.8	-0.5
	baz=73						
T26A	Comanche Natio	73.03	50	P	P	10 38 09.8	-0.8
	baz=73						
Q30A	Quinter	73.10	47	P	P	10 38 10.6	-0.3
	baz=73,SNR=14						
X21A	Alamocita Cree	73.19	55	P	P	10 38 11.9	+0.2
	baz=73,SNR=12						
MEZF	Maizieres J'vi	73.20	333	eP	P	10 38 11.1	0.0
MEZF	Maizieres J'vi	73.20	333	eP	P	10 38 11.1	0.0
U25A	Circle Dot Ran	73.27	52	P	P	10 38 11.6	-0.4
	baz=73						
HAU	Haudompre	73.28	332	eP	P	10 38 11.2	-0.5
	comp=Z,4.2nm,0.5s						
HAU				eR			
	comp=Z,193nm,18.5s						
HAU	Haudompre	73.28	332	eP	P	10 38 11.2	-0.5
HAU	Haudompre	73.28	332	eP	P	10 38 11.2	-0.5
HINF	Hinteralfeld	73.30	331	eP	P	10 38 11.1	-0.7
	comp=Z,5.3nm,0.6s						
HINF	Hinteralfeld	73.30	331	eP	P	10 38 11.1	-0.7
HINF	Hinteralfeld	73.30	331	eP	P	10 38 11.1	-0.7
Y20A	Horse Springs,	73.32	56	P	P	10 38 12.8	+0.4
	baz=73						
TUC	Tucson	73.36	58	eP	P	10 38 13.3	+0.9
TUC				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TUC	Tucson	73.36	58	eP	P	10 38 13.3	+0.9
	comp=Z,1.8nm,1.2s						
V24A	Rampart Ranch,	73.40	53	P	P	10 38 12.7	-0.1
	baz=73						
ANMO	Albuquerque	73.45	54	eP	P	10 38 12.5	-0.6
	comp=Z,1.4nm,0.8s						
SFTF	Sexfontaines	73.47	333	eP	P	10 38 12.3	-0.4
	comp=Z,14nm,0.7s						
SFTF	Sexfontaines	73.47	333	eP	P	10 38 12.3	-0.4
S28A	Manter	73.48	49	P	P	10 38 12.9	-0.2
	baz=73						
LAZ	Ladron	73.55	55	eP	P	10 38 14.5	+0.8
	comp=Z,2.0nm,0.7s						
U26A	Atchley Ranch,	73.59	51	P	P	10 38 13.4	-0.5
	baz=73						
Y21A	Point of Rocks	73.59	55	P	P	10 38 13.5	-0.5
	baz=73						
V25A	Rancho No Teng	73.62	52	P	P	10 38 13.6	-0.5
	baz=73						
R30A	Dighton	73.64	48	P	P	10 38 13.6	-0.4
	baz=73						
W24A	Lazy 6 Ranch,	73.75	53	P	P	10 38 14.7	-0.2
	baz=74						
TUE	Stuetta	73.76	329	eP	P	10 38 15.0	+0.2
	comp=Z,4.5nm,0.6s						
Z20A	Nine Sixteen R	73.85	56	P	P	10 38 15.7	+0.3
	baz=74						
R31A	Burdett	73.98	47	P	P	10 38 14.7	-1.3
	baz=74						
U27A	Thompson Grove	74.00	50	P	P	10 38 15.6	-0.6
	baz=74,SNR=9.2						
V26A	Tequesquite Ra	74.05	51	P	P	10 38 15.6	-0.9
	baz=74						
S30A	Montezuma	74.09	48	P	P	10 38 15.5	-1.2
	baz=74						
Z21A	St. Cloud Mine	74.16	56	P	P	10 38 17.6	+0.3
	baz=74						
W25A	X Bar L Ranch,	74.20	52	P	P	10 38 17.6	+0.1
	baz=74						
X24A	Lazy VL Ranch,	74.25	53	P	P	10 38 17.8	0.0
	baz=74						
120A	U Bar Ranch, L	74.28	57	P	P	10 38 18.7	+0.8
	baz=74,SNR=12						
FLN	La Foliniere	74.40	336	eP	P	10 38 17.6	-0.5
	comp=Z,15nm,0.8s						
FLN				eR			
	comp=Z,127nm,20.0s						
FLN	La Foliniere	74.40	336	eP	P	10 38 17.6	-0.5
FLN	La Foliniere	74.40	336	eP	P	10 38 17.6	-0.5
Y23A	Lovelace Mesa,	74.46	54	P	P	10 38 19.2	+0.2
	baz=74						
LDF	La Druitiere	74.47	336	eP	P	10 38 17.9	-0.7
	comp=Z,14nm,0.8s						
LDF	La Druitiere	74.47	336	eP	P	10 38 17.9	-0.7
LDF	La Druitiere	74.47	336	eP	P	10 38 17.9	-0.7
Z22A	Elephant Butte	74.55	55	P	P	10 38 19.5	0.0
	baz=74,SNR=8.1						
KSU1	Kansas State U	74.57	45	eP	P	10 38 18.4	-1.0
	comp=Z,18nm,0.7s						
W26A	Owens Ranch, T	74.64	52	P	P	10 38 20.0	0.0
	baz=74						
LOR	Lormes	74.65	333	eP	P	10 38 19.0	-0.7
	comp=Z,13nm,0.6s						
LOR				eR			
	comp=Z,225nm,18.8s						
LOR	Lormes	74.65	333	eP	P	10 38 19.0	-0.7
X25A	Clemmons Ranch	74.66	53	P	P	10 38 20.4	+0.3
	baz=74						
121A	Cookes Peak, D	74.72	56	P	P	10 38 20.8	+0.3
	baz=74						
Y24A	Capitan	74.77	54	P	P	10 38 20.9	+0.1
	baz=75						
GRR	Gorron	74.84	336	eP	P	10 38 20.4	-0.3
	com

SMF	Signal de Mont	75.23	333	eP		P	10 38 22.4	-0.6
AVF	Avril sur Loir	75.23	333	eP		P	10 38 22.5	-0.5
	comp=Z,8.7nm,0.7s							
AVF	Avril sur Loir	75.23	333	eP		P	10 38 22.5	-0.5
AVF	Avril sur Loir	75.23	333	eP		P	10 38 22.5	-0.5
Z24A	Sheeppen Canyo	75.28	54	P		P	10 38 23.9	+0.1
	baz=75							
X27A	F and S Farms,	75.31	52	P		P	10 38 23.6	-0.3
	baz=75							
SGMF	Saint Gilles	75.37	338	eP		P	10 38 23.8	+0.1
	comp=Z,9.3nm,0.7s							
SGMF	Saint Gilles	75.37	338	eP		P	10 38 23.8	+0.1
SGMF	Saint Gilles	75.37	338	eP		P	10 38 23.8	+0.1
LPL	La Plagne	75.42	330	eP		P	10 38 24.6	+0.2
	comp=Z,5.5nm,0.6s							
LPL	La Plagne	75.42	330	eP		P	10 38 24.6	+0.2
LPL	La Plagne	75.42	330	eP		P	10 38 24.6	+0.2
LPG	La Plagne	75.43	330	eP		P	10 38 24.7	+0.2
	comp=Z,9.3nm,0.8s							
LPG	La Plagne	75.43	330	eP		P	10 38 24.7	+0.2
LPG	La Plagne	75.43	330	eP		P	10 38 24.7	+0.2
ROSF	Rostrenen	75.45	338	eP		P	10 38 23.7	-0.6
ROSF	Rostrenen	75.45	338	eP		P	10 38 23.7	-0.6
ROSF	Rostrenen	75.45	338	eP		P	10 38 23.7	-0.6
BGF	Bois d'Agland	75.58	333	eP		P	10 38 24.5	-0.5
BGF	Bois d'Agland	75.58	333	eP		P	10 38 24.5	-0.5
BGF	Bois d'Agland	75.58	333	eP		P	10 38 24.5	-0.5
Z25A	Roswell	75.64	54	P		P	10 38 25.7	0.0
	baz=75							
AMTX	Amarillo	75.79	51	eP		P	10 38 26.3	-0.2
	comp=Z,9.7nm,0.8s							
QUIF	Quistinic	75.83	338	eP		P	10 38 26.4	0.0
QUIF	Quistinic	75.83	338	eP		P	10 38 26.4	0.0
QUIF	Quistinic	75.83	338	eP		P	10 38 26.4	0.0
Y27A	Causey	75.90	52	P		P	10 38 27.1	-0.2
	baz=76							
V31A	Spring Creek L	75.91	49	P		P	10 38 27.3	+0.1
	baz=76							
TCF	Toulx Ste Croi	76.00	334	eP		P	10 38 27.3	-0.2
	comp=Z,11nm,0.8s							
TCF	Toulx Ste Croi	76.00	334	eP		P	10 38 27.3	-0.2
TCF	Toulx Ste Croi	76.00	334	eP		P	10 38 27.3	-0.2
Z26A	Caprock	76.01	53	P		P	10 38 27.4	-0.5
	baz=76,SNR=14							
MBDF	Montbardon	76.12	330	eP		P	10 38 27.8	-0.5
	comp=Z,8.8nm,0.8s							
MBDF	Montbardon	76.12	330	eP		P	10 38 27.8	-0.5
MBDF	Montbardon	76.12	330	eP		P	10 38 27.8	-0.5
X29A	Tulia	76.14	51	P		P	10 38 28.0	-0.6
	baz=76							
125A	Gardner Draw,	76.17	54	P		P	10 38 28.8	0.0
	baz=76,SNR=5.7							
ORIF	Oris-en-Rattie	76.21	331	eP		P	10 38 28.8	0.0
	comp=Z,14nm,0.8s							
ORIF				eR				
	comp=Z,139nm,22.0s							
ORIF	Oris-en-Rattie	76.21	331	eP		P	10 38 28.8	0.0
ORIF	Oris-en-Rattie	76.21	331	eP		P	10 38 28.8	0.0
224A	Cornudas Mount	76.22	55	P		P	10 38 28.8	-0.3
	baz=76							
MFF	Saint Martin d	76.33	335	eP		P	10 38 29.4	+0.1
	comp=Z,12nm,0.8s							
MFF	Saint Martin d	76.33	335	eP		P	10 38 29.4	+0.1
MFF	Saint Martin d	76.33	335	eP		P	10 38 29.4	+0.1
Z27A	Tatum	76.34	53	P		P	10 38 29.4	-0.4
	baz=76							
225A	Deer Hill, Car	76.54	54	P		P	10 38 31.0	0.0
	baz=76							
MNTX	Cornudas Mount	76.59	55	eP		P	10 38 31.6	+0.5
	comp=Z,4.5nm,0.9s							
ASAR	Alice Springs	76.61	189	P		P	10 38 31.1	+0.1
ASAR	Alice Springs	76.61	189	P		P	10 38 31.1	+0.1
	comp=Z,1.5nm,0.5s,baz=4.5,slow=6.0,SNR=8.1							
VIVF	Saint-Julien-l	76.62	331	eP		P	10 38 31.0	0.0
	comp=Z,20nm,1.1s							
VIVF	Saint-Julien-l	76.62	331	eP		P	10 38 31.0	0.0
VIVF	Saint-Julien-l	76.62	331	eP		P	10 38 31.0	0.0
324A	Moseley Ranch,	76.75	55	P		P	10 38 32.2	+0.1
	baz=76							
X31A	McDonald Ranch	76.79	49	P		P	10 38 32.0	-0.1
	baz=77,SNR=11							
226B	Tecolote Peak,	76.89	54	P		P	10 38 33.0	+0.2
	baz=77							
325A	Bean Ranch, Si	77.06	55	P		P	10 38 34.0	+0.1
	baz=77							
RJF	Les Rejaudoux	77.10	334	eP		P	10 38 33.6	-0.1
	comp=Z,13nm,1.0s							
RJF				eR				
	comp=Z,238nm,19.8s							
RJF	Les Rejaudoux	77.10	334	eP		P	10 38 33.6	-0.1
RJF	Les Rejaudoux	77.10	334	eP		P	10 38 33.6	-0.1
Z29A	Hungry Hill Ra	77.11	51	P		P	10 38 33.7	-0.3
	baz=77							
Y31A	Rekieta Farm,	77.21	50	P		P	10 38 33.9	-0.6
	baz=77							
WMOK	Wichita Mounta	77.25	49	eP		P	10 38 34.5	-0.2
WMOK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
WMOK	Wichita Mounta	77.25	49	eP		P	10 38 34.5	-0.2
	comp=Z,9.1nm,0.8s							
CAF	Calviac	77.30	333	eP		P	10 38 34.5	-0.3
CAF	Calviac	77.30	333	eP		P	10 38 34.5	-0.3
CAF	Calviac	77.30	333	eP		P	10 38 34.5	-0.3
EIL	Elat	77.30	302	P		P	10 38 35.4	+0.3
EIL	Elat	77.30	302	P		P	10 38 35.4	+0.3
	baz=342,slow=22,SNR=5.5							
Z30A	Sanderson Ranc	77.36	51	P		P	10 38 35.0	-0.4
	baz=77							
425A	Indio Mountain	77.53	55	P		P	10 38 36.3	-0.2
	baz=77,SNR=9.9							
Y32A	R-V Farms, Ver	77.56	49	P		P	10 38 35.6	-0.8
	baz=77							
326A	Caldwell Ranch	77.60	54	P		P	10 38 36.3	-0.5
	baz=77							
TUL1	Tulsa	77.60	46	eP		P	10 38 36.6	0.0
TUL1	Tulsa	77.60	46	P		P	10 38 35.9	-0.7
	baz=77							
LFF	La Frestale	77.64	334	eP		P	10 38 36.3	-0.4
LFF	La Frestale	77.64	334	eP		P	10 38 36.3	-0.4
LFF	La Frestale	77.64	334	eP		P	10 38 36.3	-0.4
Z31A	Sharp Cattle R	77.80	50	P		P	10 38 36.9	-1.0
	baz=78							
130A	Snyder	78.01	51	P		P	10 38 38.6	-0.4
	baz=78							
426A	McDonald Obser	78.10	55	P		P	10 38 39.0	-0.8
	baz=78							
328A	Wristen Ranch,	78.12	53	P		P	10 38 38.8	-0.8
	baz=78							
Z32A	Haskell	78.12	50	P		P	10 38 39.2	-0.4
	baz=78							
131A	Roby	78.22	51	P		P	10 38 40.4	+0.2
	baz=78							
427A	Hayter Ranch,	78.26	54	P		P	10 38 40.4	-0.1
	baz=78,SNR=9.0							
329A	Wagon Wheel Ra	78.44	53	P		P	10 38 40.8	-0.6
	baz=78							
526A	Mary Lane Ranc	78.57	55	P		P	10 38 42.5	+0.3
	baz=78,SNR=13							
428A	Kincaid Ranch,	78.72	54	P		P	10 38 42.8	-0.2
	baz=78							
MTLF	Montolieu	78.72	333	eP		P	10 38 42.9	+0.2
	comp=Z,9.7nm,1.0s							
MTLF	Montolieu	78.72	333	eP		P	10 38 42.9	+0.2
MTLF	Montolieu	78.72	333	eP		P	10 38 42.9	+0.2
527A	Woodward Ranch	78.74	55	P		P	10 38 43.3	+0.1
	baz=78							
330A	Mertzon	78.89	52	P		P	10 38 43.3	-0.6
	baz=79							
626A	Big Bend Ranch	78.96	55	P		P	10 38 44.8	+0.4
	baz=79,SNR=10							
528A	Cox Ranch, San	79.13	54	P		P	10 38 45.8	+0.5
	baz=79							
429A	Davenport Ranc	79.19	53	P		P	10 38 44.8	-0.7
	baz=79							
331A	San Angelo	79.33	52	P		P	10 38 45.2	-1.1
	baz=79							
430A	Baggett Ranch,	79.37	53	P		P	10 38 45.6	-1.0
	baz=79							
TXAR	Lajitas Array	79.37	55	P		P	10 38 47.0	+0.4
TXAR	Lajitas Array	79.37	55	P		P	10 38 47.0	+0.4
	comp=Z,1.8nm,0.8s,baz=299,slow=4.9,SNR=28							
TXAR				LR		LR	11 13 17.6	
	comp=Z,38nm,19.3s,baz=60,slow=35							
627A	Terlingua Ranc	79.41	55	P		P	10 38 47.0	+0.1
	baz=79,SNR=18							
529A	Stev Forest Ra	79.44	54	P		P	10 38 46.8	-0.1
	baz=79							
WCI	Wyandotte Cave	79.46	38	eP		P	10 38 46.6	-0.3
WCI				pmax		pmax		
	comp=Z,11nm,0.8s							
WCI	Wyandotte Cave	79.46	38	eP		P	10 38 46.6	-0.3
	comp=Z,11nm,0.8s							
332A	Millersview	79.59	51	P		P	10 38 47.1	-0.6
	baz=79							
628A	Black Gap, Mar	79.63	55	P		P	10 38 48.2	+0.2
	baz=79,SNR=8.4							
MIAR	Mount Ida	79.72	45	eP		P	10 38 47.7	-0.6
MIAR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MIAR	Mount Ida	79.72	45	eP		P	10 38 47.7	-0.6
	comp=Z,6.1nm,0.9s							
431A	Sonora	79.76	52	P		P	10 38 48.1	-0.6
	baz=80							
530A	J-C Ranch, Com	79.85	53	P		P	10 38 48.9	-0.2
	baz=80							
432A	Menard	79.99	51	P		P	10 38 49.2	-0.7
	baz=80							
WHTX	Lake Whitney	80.15	49	P		P	10 38 50.5	-0.2
	baz=80							
531A	Rocksprings	80.22	52	P		P	10 38 51.0	-0.1
	baz=80							
532A	Rocksprings	80.56	52	P		P	10 38 52.6	-0.4
	baz=80							
WVT	Waverly	80.71	40	eP		P	10 38 53.2	-0.4
WVT				pmax		pmax		
	comp=Z,10.0nm,0.8s							
WVT	Waverly	80.71	40	eP		P	10 38 53.2	-0.4
	comp=Z,9.6nm,0.8s							
631A	Perdido Creek	80.83	53	P		P	10 38 54.2	-0.2
	baz=81							
632A	Uvalde	81.13	52	P		P	10 38 55.8	-0.2
	baz=81							
732A	Laxson Ranch,	81.69	53	P		P	10 38 58.8	-0.1
	baz=82							
CPCT	Cooper Cave	82.57	38	eP		P	10 39 02.9	-0.6
TKL	Tuckaleechee C	82.67	37	eP		P	10 39 03.5	-0.5
TKL				ePP		PP	10 42 12.4	-0.6
KEST	Kesra	83.38	324	LR		LR	11 21 04.3	
	comp=Z,60nm,18.8s,baz=234,slow=39							
LRAL	Lakeview Retre	83.75	41	eP		P	10 39 08.6	-0.9
	comp=Z,2.4nm,0.5s							
ESDC	Sonseca Array	83.79	336	P		P	10 39 10.2	+0.5
ESDC	Sonseca Array	83.79	336	P		P	10 39 10.2	+0.5
	comp=Z,0.3nm,0.3s,baz=12,slow=4.5,SNR=7.5							
KMSC	Kings Mountain	84.01	36	eP		P	10 39 10.4	-0.4
KMSC	Kings Mountain	84.01	36	P		P	10 39 10.5	-0.4
	baz=84							
TIGA	Tifton	86.49	39	eP		P	10 39 23.8	+0.5
TIGA	Tifton	86.49	39	P		P	10 39 23.5	+0.1
	baz=86							
TORD	Torodi Ar. Bea	106.73	321	PP		PP	10 45 16.9	-3.6
TORD	Torodi Ar. Bea	106.73	321	PP		PP	10 45 17.0	-3.6
	comp=Z,0.5nm,0.9s,baz=25,slow=10,SNR=2.6							
LPAZ	La Paz	135.74	47	PKP		PKPdf	10 46 02.3	+0.4
LPAZ	La Paz	135.74	47	PKP		PKPdf	10 46 02.3	+0.4
	comp=Z,0.6nm,0.6s,baz=9.5,slow=12,SNR=3.2							
LCO	Las Campanas	145.23	61	ePKPbc		PKPbc	10 46 18.1	+0.1
CPUP	Villa Florida	149.18	39	ePKPbc		PKPbc	10 46 28.5	-0.3
CPUP				ePKPab		PKPab	10 46 33.1	0.0
CPUP	Villa Florida	149.18	39	PKPbc		PKPbc	10 46 28.5	-0.3
	comp=Z,3.6nm,0.6s,baz=328,slow=3.2,SNR=8.2							

BJI ***22*** *10:29:53.8,3˙.95S×100˙.65E,h51km,mB5.0/21,mb4.8/28, Ms4.8/18,Ms7 4.4/18*

IDC ***22*** *10:29:55.9±0.6,2˙.90S×101˙.06E,h0km,mb4.7/24, mb1 4.8/25,mb1mx4.6/31,mbtmp4.7/25,ML4.9/1,MS3.7/11, Ms1 3.7/11,ms1mx3.4/41,Error ellipse: s-maj=21.6km s-min=11.0km az=46.0*

MOS ***22*** *10:29:59.8±1.1,2˙.79S×101˙.18E,h33km,mb5.0/29,Error ellipse: s-maj=13.5km s-min=6.4km az=116.5*

TEH ***22*** *10:30:01.0,3˙.10S×100˙.91E,h35km,ML4.7*

ISCJB ***22*** *10:30:03.3±0.6,2˙.99S±0˙.04×101˙.02E±0˙.04,h71km±5km, mb4.6/70,Error ellipse: s-maj=8.9km s-min=3.7km az=140.8*

DJA ***22*** *10:30:03.6±0.5,3˚S±3˚×10˚1E±˚,h30km,M4.7/13,mB5.0/6, mb4.9/13,MLv4.9/12,Mw(mB)4.4/6*

NEIC ***22*** *10:30:03.9±1.0,2˙.92S×101˙.08E,h60km±8km,mb4.7/16, Error ellipse: s-maj=10.9km s-min=4.6km az=221.0*

AUST ***22*** *10:30:04.3±1.2,2˙.95S×101˙.04E,h59km,Error ellipse: s-maj=2.5km s-min=0.7km az=236.0*

ISC 22 10:30:02.7±0.5,**3˙.09S**±0˙.04×**100˙.91E**±0˙.05,**h52**km±2km, **h52**km:**pP-P,n241**,σ1§**55**/286,**mb4.8**/70,**MS3.9**/20,**6C-3D**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	Kerinci	1.14	29	P	Pn	10 30 20.7	-1.7
KRJI				S	Sn	10 30 34.8	-2.3
MASI	Maura Aman, Be	1.33	92	P	Pn	10 30 24.0	-1.0
MASI				S	Sn	10 30 43.2	+1.6
KSI	Kapahiang	1.77	108	P	Pn	10 30 32.4	+1.4
KSI				S	Sn	10 30 54.6	+2.2
MNAI	Manna	2.40	122	P	Pn	10 30 42.9	+3.3
MNAI				S	Sn	10 31 09.8	+2.0
MNAI	Manna	2.40	122	P	Pn	10 30 41.0	+1.4
	baz=2.4,SNR=44						
PPI	Padang Panjang	2.67	349	P	Pn	10 30 43.2	0.0
PPI	Padang Panjang	2.67	349	P	Pn	10 30 43.0	-0.3
	baz=2.6,SNR=45						
RGRI	Rengat	3.08	28	P	Pn	10 30 49.3	+0.5
RGRI				S	Sn	10 31 33.6	+9.2
BKNI	Bangkinang	3.40	2	P	Pn	10 30 54.3	+1.0
BKNI	Bangkinang	3.40	2	P	Pn	10 30 54.3	+1.0
	baz=3.3,SNR=9.8						
LWLI	Liwa	3.68	121	P	Pn	10 30 55.1	-2.1
LWLI				S	Sn	10 31 47.9	+8.5
KLSI		4.13	113	P	Pn	10 31 06.0	+2.7
KLI	Kotabumi	4.31	114	P	Pn	10 31 07.6	+1.8
KASI	Kota Agung	4.32	124	P	Pn	10 31 08.7	+2.8
KASI				S	Sn	10 31 56.4	+1.4
BTDF	Bukit Timah Da	5.27	33	P	Pn	10 31 17.9	-1.0
	baz=5.1,SNR=25						
BTDF				P	Pn	10 31 17.9	-1.0
	baz=5.1,SNR=25						
KGM	Kluang	5.62	25	P	Pn	10 31 21.5	-2.3
MYKOM	Kota Tinggi	5.67	31	P	Pn	10 31 22.7	-1.8
MYKOM	Kota Tinggi	5.67	31	P	Pn	10 31 23.9	-0.6
	127nm,0.8s,1μm0.4nm						
PSI	Prapat	6.18	341	Pn	Pn	10 31 30.3	-1.3
PSI	Prapat	6.18	341	Pn	Pn	10 31 30.3	-1.3
	2.9nm,0.3s,baz=141,slow=6.2,SNR=5.1						
PSI				LR	LR	10 34 14.3	
	comp=Z,638nm,21.3s,baz=147,slow=43						
PSI	Prapat	6.18	341	P	Pn	10 31 32.9	+1.3
	baz=6.0,SNR=4.2						
IPM	Ipoh	7.52	1	ePn	Pn	10 31 50.9	+1.0
IPM				eSn	Sn	10 33 16.6	+2.7
IPM	Ipoh	7.52	1	P	Pn	10 31 45.0	-4.9
IPM	Ipoh	7.52	1	P	Pn	10 31 52.0	+2.1
	97nm,0.5s,1μm0.4nm						
CISI	Cisompet, Garu	8.18	123	P	Pn	10 31 58.5	-0.5
	baz=8.2,SNR=6.0						
KULM	Kulim	8.33	358	Pn	Pn	10 31 59.3	-1.6
KULM	Kulim	8.33	358	P	Pn	10 31 56.2	-4.7
KULM	Kulim	8.33	358	P	Pn	10 31 59.9	-1.0
	44nm,1.0s						
KTGM	Kuala Trenggan	8.65	15	P	Pn	10 32 02.4	-3.0
XMI	Christmas Isla	8.71	147	S	Sn	10 33 41.8	-1.4
	baz=8.8,SNR=3.0						
XMIS	Christmas Isla	8.72	148	S	Sn	10 33 30.4	-13
	baz=8.8,SNR=4.8						
SKLT	Songkhla	10.20	358	P	Pn	10 32 31.9	+5.4
KSM	Kuching	10.43	64	Pn	Pn	10 32 27.2	-2.5
KSM	Kuching	10.43	64	P	Pn	10 32 29.6	-0.1
UGM	Wanagama	10.70	117	P	Pn	10 32 35.9	+2.5
	baz=11,SNR=8.1						
SJI	Sawahan	11.75	114	P	Pn	10 32 48.8	+1.0
	46nm,0.6s						
SBUM	Sibu	12.58	64	P	Pn	10 32 58.9	-0.1
SBUM	Sibu	12.58	64	P	Pn	10 33 01.1	+2.1
	17nm,1.3s						
BBKI	Banjar Baru	13.91	92	P	P	10 33 24.1	+0.1
CHBT	CHBT	15.80	5	P	Pn	10 33 43.1	+1.1
	59nm,0.2s,9μm						
KKM	Kota Kinabalu	17.78	59	eP	Pn	10 34 05.8	-1.0
	3.8nm,0.4s						
KKM	Kota Kinabalu	17.78	59	P	Pn	10 34 06.6	-0.1
SDKM	Sandakan	18.44	62	P	Pn	10 34 14.5	-0.2
TSM	Tawau	18.47	67	P	P	10 34 14.6	+0.1
KDM	Kudat	18.75	58	P	P	10 34 17.6	0.0
KAPI	Kappang	18.89	96	eP	P	10 34 19.0	-0.1
KAPI	Kappang	18.89	96	P	Pn	10 34 21.2	+1.0
	70nm,0.9s						
KAPI	Kappang	18.89	96	P	P	10 34 17.5	-1.7
	3.4nm,0.3s,baz=272,slow=10,SNR=19						
BKSI	Bulukumba	19.29	97	P	Pn	10 34 24.5	-0.4
	50nm,0.5s,591nm						
MYLDM	Lahad Datu	19.40	65	P	Pn	10 34 25.7	-0.5
LBFI	Labuhan Bajo,	19.62	107	P	Pn	10 34 28.3	-0.6
	56nm,0.6s						
KKSI	Kolaka, Sulawe	20.73	94	P	Pn	10 34 43.9	+1.9
	84nm,0.9s						
MRSI	Marisa	21.32	81	P	P	10 34 45.8	+0.3
	32nm,0.7s,395nm						
CMAR	Chiang Mai Arr	21.50	355	P	P	10 34 43.6	-3.7
CMAR	Chiang Mai Arr	21.50	355	P	P	10 34 43.6	-3.7
	5.7nm,0.8s,baz=184,slow=10,SNR=19						
CMAR				LR	LR	10 43 48.5	
	comp=Z,120nm,18.0s,baz=43,slow=39						
CMMT	Chiang Mai	21.85	355	P	P	10 34 50.8	-0.3
	7.2nm,0.8s,457nm						
CHTO	Chiang Mai	21.85	355	eP	P	10 34 50.2	-0.9
CHTO				pmax	pmax		
	comp=Z,34nm,2.0s						
CHTO	Chiang Mai	21.85	355	eP	P	10 34 50.1	-0.9
	comp=Z,34nm,2.0s						
CHTO	Chiang Mai	21.85	355	P	P	10 34 51.2	+0.1
PALK	Pallekele	22.64	297	eP	P	10 34 59.4	-0.3
	comp=Z,1.9nm,0.4s						
QIZ	Qiongzhong	23.68	21	P	P	10 35 10.8	+1.0
TGY	Tagaytay City	26.20	49	P	P	10 35 30.4	-2.5
TGY	Tagaytay City	26.20	49	P	P	10 35 30.4	-2.5
	baz=135,slow=8.5,SNR=3.2						
KMI	Kunming	28.10	4	P	P	10 35 52.6	+2.6
KMI				pP	pP	10 36 07.0	+3.7
KMI				sP	sP	10 36 12.8	+3.4
KMI				PP	PnPn	10 36 45.0	+5.1
KMI				S	S	10 40 33.4	+1.7
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMI				pmax	pmax		
	comp=Z,54nm,4.0s						
KMI				LR	LR		
	comp=N,150nm,18.1s						
KMI				LR	LR		
	comp=E,130nm,17.5s						
KMI				LR	LR		
	comp=Z,190nm,16.8s						
FITZ	Fitzroy Crossi	28.45	123	eP	P	10 35 52.7	-0.2
	comp=Z,7.1nm,0.8s						
FITZ	Fitzroy Crossi	28.45	123	P	P	10 35 52.8	-0.2
	comp=Z,5.4nm,0.6s,baz=319,slow=7.3,SNR=11						
FITZ				LR	LR	10 45 58.7	
	comp=Z,101nm,21.9s,baz=290,slow=34						
FITZ	Fitzroy Crossi	28.45	123	P	P	10 35 53.0	0.0
	baz=28,SNR=13						
GYA	Guiyang	29.90	10	P	P	10 36 07.8	+2.0
GYA				pP	pP	10 36 21.4	+2.3
GYA				PP	PnPn	10 37 06.5	+2.6
GYA				S	S	10 41 01.0	+1.3
GYA				sS	sS	10 41 23.6	+1.4
GYA				ScS	ScS	10 46 39.6	-1.8
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,520nm,17.8s						
GYA				LR	LR		
	comp=E,470nm,18.2s						
GYA				LR	LR		
	comp=Z,540nm,17.6s						
KNRA	Kununurra	30.14	116	P	P	10 36 07.0	-0.9
	baz=30,SNR=8.6						
BOK	Bokaro	30.47	332	eP	P	10 36 11.9	+1.1
MTN	Manton Dam	31.42	110	P	P	10 36 18.0	-1.3
	baz=31,SNR=3.7						
ODAN	Odare	32.52	337	eP	P	10 36 29.7	+0.7
	comp=Z,88nm,0.6s						
KDU	Kakadu	32.65	109	P	P	10 36 27.7	-2.4
	baz=33,SNR=3.8						
TAPN	Taplejung	32.83	338	eP	P	10 36 32.7	+0.8
	comp=Z,186nm,0.9s						
RAMN	Ramite	32.91	336	eP	P	10 36 33.3	+0.8
	comp=Z,32nm,0.4s						
NWAO	Narrogin (SRO)	33.39	155	LR	LR	10 48 45.8	
	comp=Z,147nm,18.5s,baz=184,slow=34						
JIRN	Jiri	33.70	336	eP	P	10 36 40.4	+0.8
CD2	Chengdu	33.92	4	eP	P	10 36 42.5	+1.5
CD2				pP	pP	10 36 56.0	+1.6
CD2				sP	sP	10 37 01.3	+0.8
CD2				PP	PnPn	10 37 56.8	+1.4
CD2				S	S	10 42 03.4	+1.2
CD2				sS	sS	10 42 28.0	+3.2
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,100nm,5.8s						
CD2				LR	LR		
	comp=N,600nm,12.0s						
CD2				LR	LR		
	comp=Z,720nm,10.8s						
PKIN	Phulchoki	33.96	335	eP	P	10 36 42.6	+0.9
GUN	Gumba	34.05	336	eP	P	10 36 43.3	+0.8
	comp=Z,160nm,0.4s						
DMN	Daman	34.11	334	eP	P	10 36 44.0	+1.0
KKN	Kakani	34.20	335	eP	P	10 36 44.2	+0.6
	comp=Z,63nm,0.4s						
KOLN	Koldanda	34.92	333	eP	P	10 36 50.8	+0.9
	comp=Z,36nm,0.6s						
DANN	Dangsing	35.34	333	eP	P	10 36 54.3	+0.7
	comp=Z,106nm,0.4s						
PYUN	Piuthan	35.48	332	eP	P	10 36 56.4	+1.6
	comp=Z,77nm,0.7s						
WRA	Warramunga Arr	36.66	120	P	P	10 37 04.0	-0.7
WRA				PcP	PcP	10 39 27.5	+0.6
WRA				S	S	10 42 41.3	-3.3
WRA	Warramunga Arr	36.66	120	P	P	10 37 04.0	-0.7
	comp=Z,7.6nm,0.4s,baz=302,slow=8.9,SNR=180						

baz=44,SNR=5.9
HHC Hu-ho-hao-te 44.80 11 *e*P **P 10 38 13.0 +1.4**
HHC pP **pP 10 38 22.9 -2.5**
HHC sP **sP 10 38 26.8 -4.6**
HHC PP **PP 10 39 59.0 +1.9**
HHC PcS **PcS 10 43 46.6 0.0**
HHC S **S 10 44 48.8 +3.5**
HHC SS **ScS 10 48 02.0 -2.7**
HHC ScS **SS 10 48 05.0 -3.0**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,220nm,5.4s
HHC LR LR
comp=N,230nm,16.7s
HHC LR LR
comp=E,310nm,16.9s
HHC LR LR
comp=Z,130nm,16.3s
MTSU Mount Surprise 45.06 113 P **P 10 38 13.2 -0.8**
baz=45,SNR=6.7
JNU Nakatsue 45.83 36 P **P 10 38 18.9 -0.9**
JNU *e*PcP **PcP 10 39 56.8 +0.2**
JNU Nakatsue 45.83 36 P **P 10 38 18.9 -0.9**
comp=Z,10nm,0.8s,baz=130,slow=4.2,SNR=9.5
MANU Manus Island 46.42 90 P **P 10 38 23.2 -1.5**
baz=46,SNR=18
CTA Charters Tower 47.32 115 P **P 10 38 31.0 -0.6**
CTA Charters Tower 47.32 115 P **P 10 38 31.0 -0.6**
comp=Z,9.1nm,0.7s,baz=293,slow=9.6,SNR=19
CTAO Charters Tower 47.32 115 *e*P **P 10 38 30.8 -0.9**
CTAO pmax pmax
comp=Z,11nm,0.7s
CTAO Charters Tower 47.32 115 *e*P **P 10 38 30.8 -0.9**
comp=Z,11nm,0.7s
KSAR Wonju Array Be 47.48 29 P **P 10 38 31.4 -1.2**
KSRS Korea Array 47.51 29 P **P 10 38 31.4 -1.4**
comp=Z,2.3nm,0.7s,baz=224,slow=7.7,SNR=12
KSRS LR LR 11 01 54.3
comp=Z,43nm,18.1s,baz=319,slow=41
STKA Stephens Creek 47.75 131 *e*P **P 10 38 35.1 +0.3**
comp=Z,2.4nm,0.8s
STKA Stephens Creek 47.75 131 P **P 10 38 36.1 +1.3**
comp=Z,6.4nm,0.6s,baz=311,slow=6.4,SNR=7.7
STKA LR LR 11 00 33.8
comp=Z,69nm,18.0s,baz=24,slow=38
STKA Stephens Creek 47.75 131 P **P 10 38 36.3 +1.5**
baz=48,SNR=6.1
WMQ Urumqi 48.19 347 P **P 10 38 38.3 +0.2**
WMQ pP **pP 10 38 48.3 -3.7**
WMQ PcP **PcP 10 40 06.0 +1.3**
WMQ ScS ScS 10 48 25.4 -1.2
WMQ pmax pmax
comp=Z,49nm,1.0s
WMQ pmax pmax
comp=Z,86nm,4.7s
WMQ LR LR
comp=N,44nm,18.0s
WMQ LR LR
comp=E,90nm,17.0s
WMQ LR LR
comp=Z,43nm,16.0s
KSH Kashi 48.20 334 P **P 10 38 37.5 -0.8**
KSH PP **PP 10 40 30.5 -0.7**
KSH S **S 10 45 28.8 -5.3**
KSH sS **sS 10 45 55.8 -1.7**
KSH SS SS 10 48 53.8 -10
KSH pmax pmax
comp=Z,11nm,0.6s
KSH pmax pmax
comp=Z,69nm,3.8s
KSH LR LR
comp=N,500nm,14.5s
KSH LR LR
comp=E,310nm,12.1s
KSH LR LR
comp=Z,350nm,15.1s
CMSA Cobar Meteorol 50.72 129 P **P 10 38 59.1 +1.5**
baz=51,SNR=21
SONM Songino Array 50.94 5 P **P 10 38 58.6 -0.5**
SONM PcP **PcP 10 40 14.5 -0.2**
SONM Songino Array 50.94 5 P **P 10 38 58.6 -0.5**
comp=Z,22nm,0.9s,baz=182,slow=9.2,SNR=90
SONM PcP **PcP 10 40 14.5 -0.2**
comp=Z,2.3nm,0.4s,baz=198,slow=4.4,SNR=8.1
ULN Ulaanbaatar 51.03 5 *e*P **P 10 38 59.1 -0.7**
comp=Z,10nm,0.9s
TKM2 Tokmak 2 51.19 336 *e*P **P 10 39 01.3 +0.2**
TKM2 pmax pmax
comp=Z,13nm,0.6s
TKM2 Tokmak 2 51.19 336 *e*P **P 10 39 01.3 +0.2**
comp=Z,13nm,0.6s
AAK Ala-Archa 51.40 335 *e*P **P 10 39 03.2 +0.6**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 51.40 335 *e*P **P 10 39 03.2 +0.6**
comp=Z,4.3nm,0.9s
AAK Ala-Archa 51.40 335 P **P 10 39 03.2 +0.6**
comp=Z,1.4nm,0.3s,baz=164,slow=5.1,SNR=5.6
CN2 Changchun 51.63 23 *e*P **P 10 39 06.3 +2.2**
EKS2 Erkin-Say 51.73 335 *e*P **P 10 39 05.8 +0.8**
EKS2 pmax pmax
comp=Z,30nm,0.9s
EKS2 Erkin-Say 51.73 335 *e*P **P 10 39 05.8 +0.8**
comp=Z,30nm,0.9s
MK31 Makanchi Array 52.32 344 *e*P **P 10 39 08.7 -0.5**
MK31 Makanchi Array 52.32 344 *e*P **P 10 39 08.7 -0.5**
MKAR Makanchi Array 52.32 344 *ce*P **P 10 39 08.6 -0.6**
MKAR pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 52.32 344 *e*P **P 10 39 08.7 -0.6**
MKAR Makanchi Array 52.32 344 P **P 10 39 08.7 -0.6**
comp=Z,17nm,0.6s,baz=159,slow=8.9,SNR=130
MJAR Matsushiro Arr 52.56 38 P **P 10 39 08.7 -2.5**
MJAR Matsushiro Arr 52.56 38 P **P 10 39 08.7 -2.5**
comp=Z,2.9nm,0.8s,baz=208,slow=7.0,SNR=15
EIDS Eidsvold 53.03 120 *e*P **P 10 39 15.4 +0.6**
comp=Z,12nm,0.8s
EIDS Eidsvold 53.03 120 P **P 10 39 15.5 +0.6**
baz=53,SNR=4.3
IKOO Kooshah 53.13 315 *e*P **P 10 39 14.6 -1.2**
KK31 Karatay Array 53.53 333 P **P 10 39 18.1 -0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 53.53 333 *e*P **P 10 39 18.0 -0.2**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 53.53 333 *e*P **P 10 39 18.0 -0.2**
comp=Z,2.0nm,0.4s
MDJ Mudanjiang 53.98 25 P **P 10 39 22.0 +0.6**
MDJ pP **pP 10 39 35.5 0.0**
MDJ sP **sP 10 39 41.6 +0.2**
MDJ PP **PP 10 41 24.3 +1.0**
MDJ ScP **ScP 10 44 20.3 +0.3**
MDJ S **S 10 46 56.9 +3.5**
MDJ sS **sS 10 47 18.6 +1.5**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,120nm,4.9s
MDJ LR LR
comp=Z,56nm,24.0s
USRK Ussuriysk Arra 54.70 27 P **P 10 39 25.5 -1.2**
comp=Z,10nm,0.6s,baz=221,slow=5.9,SNR=23
OPO Ambohidratompo 54.73 249 LR LR 10 59 08.7
comp=Z,149nm,18.2s,baz=333,slow=32
IBAF Bafgh 55.18 312 *e*P **P 10 39 28.9 -1.7**
KURBB Kurchatov Arra 56.85 343 P **P 10 39 41.1 -0.8**
comp=Z,4.2nm,0.6s,baz=164,slow=7.1,SNR=30
KURK Kurchatov 56.91 343 P **P 10 39 41.2 -1.1**
KURK Kurchatov 56.91 343 P **P 10 39 41.1 -1.1**
IANJ Anjilo 58.33 315 *e*P **P 10 39 52.6 -0.4**
ZAA0 Zalesovo Array 58.41 349 *e*P **P 10 39 51.9 -0.9**
ZALV Zalesovo Beam 58.41 349 P **P 10 39 52.0 -0.8**
ZALV Zalesovo Beam 58.41 349 P **P 10 39 52.0 -0.8**
ZALV Zalesovo Beam 58.41 349 P **P 10 39 52.0 -0.8**
comp=Z,51nm,0.8s,baz=168,slow=5.2,SNR=122
HNR Honiara 58.96 99 LR LR 11 06 08.3
comp=Z,55nm,20.4s,baz=323,slow=37
KRAR Krasnoyarsk 59.27 355 *e*P **P 10 39 59.8 +1.0**
RDF Al-Radifah 60.22 306 *e*P **P 10 40 06.6 +0.7**
RDF AMb AMB 10 40 08.7
comp=Z,20nm,1.3s
NAY Al-Naaiem 60.59 306 *e*P **P 10 40 09.0 +0.6**
NAY AMb AMB 10 40 10.1
comp=Z,0.5nm,0.6s
MIB Mutribah 60.73 307 *e*P **P 10 40 10.2 +0.9**
MIB AMb AMB 10 40 11.6
comp=Z,21nm,1.2s
VOSK Vostochnaya 61.06 340 P **P 10 40 10.1 -1.0**
VOSK pmax pmax
comp=Z,8.0nm,0.8s
BVA0 Borovoye Array 61.52 340 *i* P **P 10 40 13.0 -1.2**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 61.52 340 P **P 10 40 13.2 -1.0**
BVAR Borovoye Array 61.52 340 P **P 10 40 13.2 -1.0**
BVAR Borovoye Array 61.52 340 P **P 10 40 13.2 -1.0**
comp=Z,5.8nm,0.5s,baz=140,slow=7.7,SNR=26
BRVK Borovoye 61.58 340 *c i* P **P 10 40 13.5 -1.1**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 61.58 340 *e*P **P 10 40 13.4 -1.2**
comp=Z,5.6nm,0.7s
AB31 Akbulak array 63.03 331 *i* P **P 10 40 23.8 -0.6**
AB31 pmax pmax
comp=Z,11nm,0.4s
ABKAR Akbulak array 63.03 331 *e*P **P 10 40 24.0 -0.4**
comp=Z,12nm,0.4s
AKTO Aktyubinsk 64.74 331 P **P 10 40 35.2 -0.5**
AKTO Aktyubinsk 64.74 331 P **P 10 40 35.1 -0.5**
AKTO Aktyubinsk 64.74 331 P **P 10 40 35.1 -0.5**
comp=Z,3.1nm,0.4s,baz=112,slow=5.1,SNR=12
SVE Sverdlovsk 68.03 337 ⇑ *i* P **P 10 40 56.6 +0.1**
SVE pmax pmax
comp=Z,20nm,0.9s
ARU Arti 68.56 336 *c i* P **P 10 40 59.1 -0.7**
ARU S **S 10 50 01.0 +2.7**
ARU SS **SS 10 54 20.4 -3.0**
ARU pmax pmax
comp=Z,12nm,1.0s
ZEI Tsey 68.65 318 *e*P **P 10 41 01.4 +0.4**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 69.72 319 P **P 10 41 08.2 +0.9**
KBZ Khabaz 69.72 319 P **P 10 41 08.2 +0.9**
KBZ Khabaz 69.72 319 P **P 10 41 08.2 +0.9**
comp=Z,5.5nm,0.7s,baz=118,slow=5.9,SNR=12
KIV Kislovodsk 69.96 319 ⇑ *i*P **P 10 41 09.3 +0.4**
KIV *e* 10 41 24.2
KIV *e* 10 41 28.8
KIV *e*S **S 10 50 18.6 +3.2**
KIV pmax pmax
comp=Z,13nm,1.7s
KIV MLR MLR
comp=Z,100nm,16.0s
ASF Jabal al Asfar 69.96 306 LR LR 11 10 28.2
comp=Z,53nm,18.4s,baz=142,slow=35
EIL Elat 70.87 303 P **P 10 41 16.7 +2.1**
EIL Elat 70.87 303 P **P 10 41 16.7 +2.1**
baz=40,slow=5.9,SNR=4.6
PETK Petropavlovsk- 73.32 32 P **P 10 41 26.9 -1.9**
PETK Petropavlovsk- 73.32 32 P **P 10 41 26.9 -1.9**
PETK Petropavlovsk- 73.32 32 P **P 10 41 26.9 -1.9**
comp=Z,3.8nm,0.6s,baz=197,slow=4.6,SNR=3.7
VRHR Novokhopersk 73.74 326 *e*P **P 10 41 30.9 -0.3**
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.2s
ANN Anapa 73.75 318 *e*P P 10 41 35.0 +3.6
ANN *e**PP pP 10 41 45.8 -0.3
ANN *e* 10 44 26.0
ANN pmax pmax
comp=Z,23nm,0.9s
BR131 Keskin Array S 74.72 312 *e*P **P 10 41 37.8 +0.3**
comp=Z,1.3nm,0.5s
BRTR Keskin Array B 74.72 312 P **P 10 41 37.8 +0.3**
BRTR Keskin Array B 74.72 312 P **P 10 41 37.8 +0.3**
comp=Z,3.1nm,0.5s,baz=136,slow=7.1,SNR=15
VORD Divnogorie 75.01 325 *e*P **P 10 41 37.5 -1.1**
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,5.0nm,0.6s
VSR Storozhevoye 75.19 325 *e*P **P 10 41 39.1 -0.6**
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.3s
BOSA Boshof 75.93 241 LR LR 11 10 25.0
comp=E,105nm,19.0s,baz=267,slow=32
SEY Seymchan 76.30 22 ‖ *e*P **P 10 41 45.3 -0.5**
TIXI Tiksi 76.79 9 ‖ *e*P **P 10 41 46.1 -2.3**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI MLR MLR
comp=Z,186nm,24.0s
MOS Moscow 77.89 329 *e*P **P 10 41 54.0 -0.9**
MOS pmax pmax
comp=Z,47nm,1.0s
OBN Obninsk 78.19 328 ‖ *e*P **P 10 41 57.1 +0.6**
OBN *e*SS SS 10 56 51.5 +1.3
OBN pmax pmax
comp=Z,6.0nm,0.5s
VNDA Vanda 80.92 169 LR LR 11 12 38.5
comp=Z,72nm,18.3s,baz=347,slow=32
TMCR Tamitsa 81.30 337 *e*P **P 10 42 13.6 +0.5**
TMCR *e* 10 45 18.2
TMCR pmax pmax
comp=Z,18nm,1.0s
BUR08 Bucovina Ar. S 82.69 319 *e*P **P 10 42 22.7 +1.7**
JOF Joensuu 83.59 334 *e*P **P 10 42 25.5 +0.4**
JOF Joensuu 83.59 334 *ep* **P 10 42 25.5 +0.4**
KOLS Kolonicke sedl 84.87 320 *e*P **P 10 42 33.7 +1.7**
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 84.87 320 *e*P **P 10 42 33.7 +1.7**
CRVS Cervenica-Dubn 85.39 319 *e*P **P 10 42 37.0 +2.4**
CRVS pmax pmax
comp=Z,5.0nm,1.3s
CRVS Cervenica-Dubn 85.39 319 *e*P **P 10 42 37.0 +2.4**
FINES FINESS Array B 85.49 332 P **P 10 42 35.2 +0.4**
FINES FINESS Array B 85.49 332 P **P 10 42 35.2 +0.4**
comp=Z,1.8nm,0.4s,baz=120,slow=5.5,SNR=24
KAF Kangasniemi 85.56 333 *e*P **P 10 42 35.7 +0.6**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 85.56 333 *ep* **P 10 42 35.7 +0.6**
comp=Z,1.2nm,0.4s
STHS Stebnicka Huta 85.62 320 *e*P **P 10 42 37.6 +1.9**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 85.62 320 *e*P **P 10 42 37.6 +1.9**
VYHS Vyhne 87.04 319 *e*P **P 10 42 44.4 +1.6**
VYHS Vyhne 87.04 319 *e*P **P 10 42 44.4 +1.6**
ARCES ARCESS Array B 87.80 340 P **P 10 42 46.2 +0.3**
ARCES ARCESS Array B 87.80 340 P **P 10 42 46.2 +0.3**
comp=Z,5.7nm,0.8s,baz=98,slow=5.5,SNR=21
DPC Dobruska-Polom 88.90 320 *e*P **P 10 42 53.2 +1.6**
DPC Dobruska-Polom 88.90 320 *e*P **P 10 42 53.2 +1.6**
GERES GERESS Array B 90.46 319 P **P 10 42 59.8 +0.8**
GERES GERESS Array B 90.46 319 P **P 10 42 59.8 +0.8**
comp=Z,1.2nm,0.6s,baz=90,slow=4.0,SNR=7.9
KHC Kasperske Hory 90.56 319 *e*P **P 10 42 59.6 +0.2**
KHC *e* 10 43 14.2
KHC Kasperske Hory 90.56 319 *e*P **P 10 42 59.6 +0.2**
KHC *ep*P **pP 10 43 14.2 -0.3**
NB2 NORSAR Subarra 92.53 331 P **P 10 43 08.1 -0.2**
comp=Z,0.2nm,0.6s,baz=95,slow=5.3
NOA NORSAR Array B 92.53 331 P **P 10 43 08.4 +0.1**
NOA NORSAR Array B 92.53 331 P **P 10 43 08.4 +0.1**
comp=Z,1.5nm,0.8s,baz=94,slow=5.1,SNR=3.9
NVAR Mina Array Bea 129.85 40 PKP **PKPdf 10 49 07.8 +0.6**
NVAR Mina Array Bea 129.85 40 PKP **PKPdf 10 49 07.8 +0.6**
comp=Z,0.6nm,0.6s,baz=285,slow=2.2,SNR=6.0
PDAR Pinedale Array 132.07 30 PKP **PKPdf 10 49 11.1 -0.2**
PDAR SKPbc **SKPab 10 52 37.5 +3.1**
PDAR Pinedale Array 132.07 30 PKP **PKPdf 10 49 11.1 -0.2**
comp=Z,0.4nm,0.6s,baz=180,slow=2.5,SNR=4.2
PDAR SKPbc **SKPab 10 52 37.5 +3.1**
comp=Z,0.3nm,0.7s,baz=282,slow=4.5,SNR=3.9
SMCO Snowmass 136.03 32 *e*PKPdf **PKPdf 10 49 18.4 -0.7**
WMOK Wichita Mounta 143.58 28 *e*PKPdf PKPab 10 49 26.0 -2.9
CPUP Villa Florida 143.96 214 PKP PKPbc 10 49 32.0 +0.9
CPUP *e*PKPdf **PKPdf 10 49 33.8 +0.5**
CPUP Villa Florida 143.96 214 PKP PKPbc 10 49 32.0 +0.9
comp=Z,1.4nm,0.7s,baz=260,slow=2.1,SNR=3.4
TXAR Lajitas Array 144.99 39 PKP **PKPab 10 49 34.5 0.0**
TXAR SKP 10 53 10.0
TXAR Lajitas Array 144.99 39 PKP **PKPab 10 49 34.5 0.0**
comp=Z,5.4nm,0.5s,baz=256,slow=0.7,SNR=154
TXAR SKP 10 53 10.0
comp=Z,0.5nm,0.7s,baz=353,slow=0.6,SNR=4.7
MIAR Mount Ida 145.93 22 *e*PKP2 **PKPdf 10 49 36.6 +0.2**
MIAR Mount Ida 145.93 22 *e*PKPbc **PKPdf 10 49 36.6 +0.2**
WVT Waverly 146.15 13 *e*PKP2 **PKPdf 10 49 37.0 +0.3**
WVT Waverly 146.15 13 *e*PKPbc **PKPdf 10 49 37.0 +0.3**
JCT Junction City 146.45 34 *e*PKP2 **PKPdf 10 49 37.4 -0.1**
JCT Junction City 146.45 34 *e*PKPdf **PKPdf 10 49 37.4 -0.1**
JCT *e*PKPbc **PKPbc 10 49 38.7 -0.1**
TZTN Tazewell 146.46 7 *e*PKPdf **PKPdf 10 49 37.4 +0.1**
TKL Tuckaleechee C 147.31 7 *e*PKPbc **PKPbc 10 49 40.1 -1.0**
CPCT Cooper Cave 147.41 8 *e*PKPbc **PKPbc 10 49 40.6 -0.7**
KMSC Kings Mountain 148.04 3 *e*PKPbc **PKPbc 10 49 42.1 -0.9**

IDC 22 10:33:51.3±2.2, 1°.57S×99°.44E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML4.3/1, Error ellipse: s-maj=107.5km s-min=20.1km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.90**	**359**	P	P	10 38 24.9	+0.3
	0.4nm,0.3s,baz=180,slow=9.9,SNR=3.2						
WRA	**Warramunga Arr**	**38.69**	**121**	P	P	10 41 16.5	-0.8
	1.3nm,0.6s,baz=300,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**39.96**	**126**	P	P	10 41 28.4	+0.5
	0.5nm,0.7s,baz=297,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**50.47**	**345**	P	P	10 42 51.3	+0.3
	1.4nm,0.7s,baz=152,slow=8.8,SNR=4.4						
KURBB	**Kurchatov Arra**	**54.98**	**344**	P	P	10 43 24.4	+0.1
	0.3nm,0.4s,baz=172,slow=6.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	P	10 43 35.5	-0.6
	0.7nm,0.3s,baz=145,slow=5.3,SNR=3.8						
FINES	**FINESS Array B**	**83.47**	**332**	P	P	10 46 20.4	-0.3
	1.8nm,1.0s,baz=98,slow=6.7,SNR=3.5						
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	PKPdf	10 53 30.5	-0.5
	1.0nm,0.6s,baz=206,slow=0.9,SNR=10						

IDC 22 11:00:13.5±4.4, 20°.62S×176°.01W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=134.9km s-min=43.0km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.31**	**257**	P	P	11 08 41.9	+0.4
	1.9nm,0.8s,baz=92,slow=8.5,SNR=16						
WRA	**Warramunga Arr**	**46.43**	**262**	P	P	11 08 40.4	-2.0
	1.4nm,0.9s,baz=96,slow=8.2,SNR=16						
FITZ	**Fitzroy Crossi**	**54.86**	**262**	P	P	11 09 47.1	+1.0
	1.8nm,1.0s,baz=160,slow=18,SNR=3.6						
MJAR	**Matsushiro Arr**	**71.43**	**322**	P	P	11 11 35.8	+0.1
	1.0nm,0.8s,baz=130,slow=5.9,SNR=5.4						
CMAR	**Chiang Mai Arr**	**91.92**	**289**	P	P	11 13 25.4	+1.0
	0.5nm,0.5s,baz=118,slow=3.0,SNR=4.8						
BRTR	**Keskin Array B**	**148.29**	**313**	PKPbc	PKPbc	11 20 00.5	-1.5
	0.7nm,0.8s,baz=42,slow=2.3,SNR=3.6						

MAN 22 11:54:45, 5°.53N×125°.42E, h36km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.72**	**320**	⇑ *i*P	Pn	11 54 58.6	-0.3
GSPH				*i* S	Sn	11 55 09.0	+0.1
MATI	**Mati**	**1.63**	**31**	*e*P	Pn	11 55 11.7	+0.5
CTBH	**Cotabato--PC H**	**2.04**	**325**	*e*P	Pn	11 55 18.2	+1.3
CTBH				*i* S	Sn	11 55 42.3	+1.1
BUKP	**Musuan**	**2.36**	**351**	*e*P	Pn	11 55 23.9	+2.6
PAGZ	**Pagadian**	**3.06**	**319**	*e*P	Pn	11 55 32.9	+1.9

BKK ***22*** *12:19:29.3±1.7, 2°.S±15°.×12°.6E±2°.4, h10km, M5.1/13, mB6.0/3, mb5.0/13, Mw(mB)5.6/3*
BJI ***22*** *12:20:06.4, 0°.16S×124°.00E, h165km, mB4.7/4, mb4.6/9*
ISCJB ***22*** *12:20:08.6±0.2, 0°.11N±0°.03×123°.51E±0°.03, h157km, mb4.3/30, Error ellipse: s-maj=4.9km s-min=3.6km az=40.3*
IDC ***22*** *12:20:10.4±1.8, 0°.14N×123°.46E, h166km±16km, mb3.8/17, mb1 3.9/19, mb1mx3.8/27, mbtmp3.8/19, Error ellipse: s-maj=16.9km s-min=9.1km az=75.0*
AUST ***22*** *12:20:11.4±0.6, 0°.22S×123°.53E, h146km, Error ellipse: s-maj=1.8km s-min=0.9km az=32.0*
DJA ***22*** *12:20:11.5±0.4, 0°.S±3°.×12°.4E±°, h124km±5km, M4.6/10, mb4.8/6, mB4.8/3, MLv4.5/10, Mw(mB)4.0/3*
NEIC ***22*** *12:20:13.9±0.9, 0°.05N×123°.41E, h204km±9km, mb4.6/4, Error ellipse: s-maj=11.7km s-min=6.7km az=75.0*

ISC 22 12:20:09.6±0.4, 0°.03N±0°.04×123°.46E±0°.04, h157km, n107, σ1§49/112, mb4.3/30, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.75**	**44**	P	**Pn**	**12 20 32.9**	**-0.2**
KMSI				S	**Sn**	**12 20 52.5**	**+1.3**
GTOI	**Gorontalo**	**0.75**	**323**	P	**Pn**	**12 20 33.8**	**+0.6**
LUWI	**Luwuk**	**1.27**	**213**	P	**Pn**	**12 20 36.4**	**-1.1**
LUWI				S	**Sn**	**12 20 56.4**	**-2.4**
LUWI	**Luwuk**	**1.27**	**213**	P	**Pn**	**12 20 36.5**	**-0.9**
	baz=1.1,SNR=59						
LUWI				S	**Sn**	**12 20 56.5**	**-2.4**
	baz=1.1,SNR=16						
MRSI	**Marisa**	**1.58**	**286**	P	**Pn**	**12 20 38.9**	**-1.7**
TOLI	**Toli-Toli**	**2.88**	**292**	P	**Pn**	**12 20 54.7**	**-1.0**
SKSI	**Soroako, Sulaw**	**3.32**	**220**	P	**Pn**	**12 21 01.6**	**+0.2**
TNTI	**Ternate**	**3.97**	**79**	P	**Pn**	**12 21 09.0**	**-0.7**
TNTI				S	**Sn**	**12 21 53.4**	**-3.0**
LBMI	**Labuha**	**4.09**	**99**	P	**Pn**	**12 21 10.8**	**-0.5**
MMSI	**Mamuju**	**5.29**	**239**	P	**Pn**	**12 21 28.2**	**+1.1**
	41nm,0.6s,0.2nm						
SPSI	**Sidrap Palu**	**5.42**	**223**	P	**Pn**	**12 21 30.9**	**+2.2**
	25nm,0.7s,627nm0.2nm						
AAI	**Ambon**	**6.00**	**128**	P	**Pn**	**12 21 38.1**	**+1.7**
	55nm,0.5s						
KAPI	**Kappang**	**6.24**	**216**	P	**Pn**	**12 21 42.7**	**+3.1**
KAPI				S	**Sn**	**12 22 50.0**	**0.0**
KAPI	**Kappang**	**6.24**	**216**	P	**Pn**	**12 21 42.7**	**+3.1**
	1.4nm,0.3s,baz=68,slow=11,SNR=3.6						
KAPI				S	**Sn**	**12 22 50.0**	**0.0**
	1.0nm,0.3s,baz=74,slow=19,SNR=3.0						
TSM	**Tawau**	**7.01**	**307**	P	**Pn**	**12 21 51.2**	**+1.4**
MYLDM	**Lahad Datu**	**7.12**	**316**	P	Pn	12 21 55.8	+4.5
MYLDM	**Lahad Datu**	**7.12**	**316**	P	Pn	12 21 55.8	+4.5
	120nm,0.8s,1μm						
DAV	**Davao City (W)**	**7.30**	**17**	*e*Pn	Pn	12 21 58.5	+4.8
DAV				*e*Sn	**Sn**	**12 23 20.6**	**+5.0**
SDKM	**Sandakan**	**8.38**	**312**	P	Pn	12 22 12.3	+4.2
FAKI	**Fak Fak**	**9.26**	**109**	P	**Pn**	**12 22 19.8**	**0.0**
	baz=9.1,SNR=3.8						
FAKI				S	**Sn**	**12 24 00.3**	**-2.4**
	baz=9.1,SNR=3.4						
KKM	**Kota Kinabalu**	**9.38**	**310**	*e*Pn	Pn	12 22 25.6	+4.2
	54nm,0.6s						
KKM				*e*Sn	**Sn**	**12 24 05.2**	**-0.5**
KKM	**Kota Kinabalu**	**9.38**	**310**	P	Pn	12 22 25.5	+4.0
KKM	**Kota Kinabalu**	**9.38**	**310**	P	Pn	12 22 25.7	+4.2
KKM	**Kota Kinabalu**	**9.38**	**310**	P	Pn	12 22 26.4	+4.9
	baz=9.6,SNR=24						
KDM	**Kudat**	**9.51**	**316**	P	Pn	12 22 27.1	+4.0
SBUM	**Sibu**	**11.49**	**282**	P	**Pn**	**12 22 52.2**	**+3.0**
KSM	**Kuching**	**13.23**	**276**	P	**P**	**12 23 15.2**	**-0.6**
KSM	**Kuching**	**13.23**	**276**	P	**P**	**12 23 17.6**	**+1.8**
	baz=13,SNR=5.7						
MTN	**Manton Dam**	**14.88**	**150**	P	**P**	**12 23 34.3**	**+0.2**
	baz=15,SNR=18						
UGM	**Wanagama**	**15.12**	**238**	S	Sn	12 25 52.9	-31
	baz=15,SNR=12						
KDU	**Kakadu**	**15.48**	**145**	P	**Pn**	**12 23 40.2**	**+0.5**
	baz=15,SNR=31						
KNRA	**Kununurra**	**16.46**	**162**	P	**Pn**	**12 23 53.2**	**+1.5**
	baz=16,SNR=20						
FITZ	**Fitzroy Crossi**	**18.15**	**173**	P	**Pn**	**12 24 11.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.15**	**173**	P	**Pn**	**12 24 11.1**	**-0.7**

0.9nm,0.3s,baz=5.7,slow=9.4,SNR=53
FITZ Fitzroy Crossi 18.15 173 P Pn 12 24 11.2 -0.6
baz=18,SNR=14
WRAB Tennant Creek 22.53 152 eP P 12 24 56.4 -0.2
11nm,0.5s
WRA Warramunga Arr 22.53 152 P P 12 24 56.8 +0.2
WRA S S 12 28 49.9 -2.2
WRA ScP ScP 12 32 07.4 -0.5
WRA Warramunga Arr 22.53 152 P P 12 24 56.8 +0.2
9.6nm,0.5s,baz=336,slow=9.7,SNR=199
WRA S S 12 28 49.9 -2.2
1.0nm,0.7s,baz=332,slow=16,SNR=4.3
WRA ScP ScP 12 32 07.4 -0.5
1.2nm,0.7s,baz=331,slow=2.8,SNR=12
IPM Ipoh 22.84 281 P P 12 25 00.8 +1.3
COEN Coen 23.96 126 P P 12 25 10.8 +1.1
baz=24,SNR=9.5
CHBT CHBT 24.47 302 P P 12 25 17.1 +2.8
26nm,1.2s
PSI Prapat 24.68 277 P P 12 25 15.5 -0.9
PSI Prapat 24.68 277 P P 12 25 15.5 -0.9
3.6nm,0.7s,baz=166,slow=4.2,SNR=3.6
PANO Nakornpanom 25.18 313 P P 12 25 22.9 +2.2
40nm,1.0s
SKNT Sakolnakorn 25.53 312 P P 12 25 26.3 +2.4
21nm,0.9s
AS31 Alice Springs 25.65 157 eP P 12 25 25.7 +0.8
ASAR Alice Springs 25.65 157 P P 12 25 25.4 +0.5
ASAR PcP PcP 12 28 51.9 +0.3
ASAR ScP ScP 12 32 15.8 -0.7
ASAR Alice Springs 25.65 157 P P 12 25 25.4 +0.5
3.0nm,0.6s,baz=344,slow=15,SNR=38
ASAR PcP PcP 12 28 51.9 +0.3
0.4nm,0.4s,baz=341,slow=1.9,SNR=4.6
ASAR ScP ScP 12 32 15.8 -0.7
0.8nm,0.4s,baz=340,slow=2.9,SNR=20
NAYO Nakonayok 26.10 304 P P 12 25 34.2 +5.1
12nm,1.1s
MEEK Meekatharra 26.93 190 P P 12 25 36.4 0.0
baz=27,SNR=6.3
LOEI Loei 27.91 310 P P 12 25 43.5 -1.7
17nm,0.8s
UTHA Uthaitani 28.29 304 P P 12 25 50.8 +2.2
6.2nm,0.7s
LAMP Lampang 29.76 309 P P 12 26 03.7 +2.1
3.7nm,0.8s
CTA Charters Tower 29.97 133 P P 12 26 04.7 +1.3
CTA Charters Tower 29.97 133 P P 12 26 04.7 +1.3
1.2nm,0.6s,baz=314,slow=13,SNR=4.0
CMAR Chiang Mai Arr 30.26 309 P P 12 26 06.9 +0.9
CMAR Chiang Mai Arr 30.26 309 P P 12 26 06.9 +0.9
4.1nm,0.7s,baz=132,slow=6.9,SNR=25
CMMT Chiang Mai 30.45 309 P P 12 26 08.7 +1.0
CHTO Chiang Mai 30.46 309 eP P 12 26 08.2 +0.5
8.0nm,0.8s
CHTO Chiang Mai 30.46 309 P P 12 26 09.2 +1.4
12nm,0.8s
FORT Forrest 30.95 172 P P 12 26 12.6 +0.7
baz=31,SNR=11
KLBR Kellerberrin 31.92 189 P P 12 26 20.4 +0.1
baz=32,SNR=5.9
BBOO Buckleboo 34.76 161 P P 12 26 45.8 +0.8
baz=35,SNR=5.8
STKA Stephens Creek 36.08 153 P P 12 26 57.2 +0.9
STKA Stephens Creek 36.08 153 P P 12 26 57.2 +0.9
6.6nm,0.4s,baz=333,slow=7.8,SNR=12
KSAR Wonju Array Be 37.45 6 P P 12 27 07.2 -0.5
KSRS Korea Array 37.46 6 P P 12 27 07.2 -0.6
0.9nm,0.5s,baz=188,slow=7.6,SNR=3.9
CMSA Cobar Meteorol 37.81 148 P P 12 27 13.2 +2.3
baz=38,SNR=5.4
MJAR Matsushiro Arr 38.82 19 P P 12 27 17.6 -1.7
MJAR Matsushiro Arr 38.82 19 P P 12 27 17.6 -1.7
4.1nm,0.8s,baz=191,slow=8.8,SNR=16
MAT Matsushiro 38.82 19 P P 12 27 17.3 -2.0
ARMA Armidale 40.43 141 P P 12 27 35.4 +2.6
baz=40,SNR=17
YNG Young 41.38 148 P P 12 27 42.8 +2.4
baz=41,SNR=10
HHC Hu-ho-hao-te 42.04 346 eP P 12 27 49.9 +4.1
HHC S S 12 33 59.9 +6.7
HHC pmax pmax
comp=Z,53nm,0.8s
HHC pmax pmax
comp=Z,330nm,4.9s
CNB Canberra Magne 42.66 148 P P 12 27 53.8 +2.9
baz=43,SNR=5.6
ODAN Odare 43.75 310 eP P 12 28 00.4 +0.4
TAPN Taplejung 43.77 311 eP P 12 27 59.8 -0.4
RAMN Ramite 44.40 310 eP P 12 28 05.5 +0.3
comp=Z,26nm,0.8s
USRK Usuriysk Arra 44.63 9 P P 12 28 05.2 -1.1
comp=Z,2.5nm,0.6s,baz=198,slow=6.1,SNR=6.4
GTA Gaotai 44.76 334 eP P 12 28 08.9 +1.2
GTA pmax pmax
comp=Z,10.0nm,0.7s
JIRN Jiri 45.08 311 eP P 12 28 10.1 -0.6
GUN Gumba 45.45 311 eP P 12 28 13.5 0.0
ASAJ Asahikawa 47.09 19 P P 12 28 25.1 -0.5
ASAJ Asahikawa 47.09 19 P P 12 28 25.1 -0.5
comp=Z,6.0nm,0.7s,baz=202,slow=8.4,SNR=5.9
KOLN Koldanda 47.12 309 eP P 12 28 26.4 -0.1
comp=Z,43nm,0.7s
DANN Dangsing 47.28 310 eP P 12 28 27.6 -0.2
comp=Z,40nm,0.7s
SONM Songino Array 49.87 345 P P 12 28 46.2 -0.8
SONM Songino Array 49.87 345 P P 12 28 46.2 -0.8
comp=Z,3.8nm,0.7s,baz=161,slow=9.0,SNR=27
MKAR Makanchi Array 58.83 328 P P 12 29 50.9 -0.7
MKAR PcP PcP 12 30 38.0 -1.4
MKAR Makanchi Array 58.83 328 P P 12 29 50.9 -0.7
comp=Z,3.4nm,0.5s,baz=120,slow=9.0,SNR=8.8
MKAR PcP PcP 12 30 38.0 -1.4
comp=Z,1.0nm,0.4s,baz=135,slow=4.0,SNR=3.8
ZALV Zalesovo Beam 62.47 335 P P 12 30 14.3 -1.8
ZALV Zalesovo Beam 62.47 335 P P 12 30 14.3 -1.8
comp=Z,2.3nm,0.4s,baz=132,slow=6.5,SNR=10
FX1 Attu Island--F 66.89 30 P P 12 30 44.9 +0.1
FX1 Attu Island--F 66.89 30 P P 12 30 44.9 +0.1
comp=Z,1.9nm,0.5s,baz=349,slow=5.2,SNR=7.1
MAW Mawson 79.19 200 P P 12 31 57.1 +0.4
MAW Mawson 79.19 200 P P 12 31 57.1 +0.4
comp=Z,0.7nm,0.6s,baz=59,slow=5.9,SNR=3.5
COLD Coldfoot 88.54 23 eP P 12 32 44.2 +0.1
comp=Z,1.2nm,0.4s
ILAR Eielson Array 89.82 25 P P 12 32 48.4 -1.8
ILAR Eielson Array 89.82 25 P P 12 32 48.4 -1.8
comp=Z,0.4nm,0.6s,baz=248,slow=5.0,SNR=9.7
BRTR Keskin Array B 89.84 310 P P 12 32 48.5 -2.5
BRTR Keskin Array B 89.84 310 P P 12 32 48.5 -2.5
comp=Z,0.3nm,0.4s,baz=123,slow=5.3,SNR=3.7
ARCES ARCESS Array B 92.76 340 P P 12 33 00.3 -3.4
ARCES ARCESS Array B 92.76 340 P P 12 33 00.3 -3.4
comp=Z,1.0nm,0.7s,baz=86,slow=5.5,SNR=3.3
TORD Torodi Ar. Bea 120.84 285 PKP PKPdf 12 38 42.9 -1.4
TORD Torodi Ar. Bea 120.84 285 PKP PKPdf 12 38 42.9 -1.4
comp=Z,0.4nm,0.5s,baz=85,slow=2.1,SNR=7.8
TXAR Lajitas Array 126.42 53 PKP PKPdf 12 38 54.2 -0.5
TXAR Lajitas Array 126.42 53 PKP PKPdf 12 38 54.2 -0.5
comp=Z,0.2nm,0.8s,baz=240,slow=5.1,SNR=3.2

MOS ***22*** *12:34:48.9±0.8, 0.96N×28.52W, h10km, mb5.3/50, MS4.8/14, Error ellipse: s-maj=9.3km s-min=3.8km az=59.4*
ISCJB ***22*** *12:34:48.3±0.2, 0.91N±0.04×28.49W±0.03, h7km, mb5.0/214, MS4.9/52, Error ellipse: s-maj=6.3km s-min=3.5km az=154.1*
IDC ***22*** *12:34:48.9±0.3, 0.93N×28.51W, h0km, mb4.7/31, mb1 4.8/32, mb1mx4.8/33, mbtmp4.7/32, ML4.9/1, MS4.8/30, Ms1 4.8/30, ms1mx4.8/30, Error ellipse: s-maj=13.9km s-min=9.6km az=141.0*
BJI ***22*** *12:34:49.7, 1.31N×29.09W, h11km, mB5.5/10, Ms5.4/11, Ms7 4.9/13*
NEIC ***22*** *12:34:50.5±0.1, 0.91N×28.54W, h10km, mb5.3/42, Error ellipse: s-maj=4.0km s-min=3.0km az=160.0*
GCMT ***22*** *12:34:54.1±0.1, 1.01N×28.40W, h12km, MW5.3, Moment Tensor Solution. s66,c101; s95,c178; Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.02; $M_{\theta\theta}$0.16±.02; $M_{\phi\phi}$-0.23±.02; $M_{r\theta}$-0.13±.04; $M_{\theta\phi}$-1.05±.01; $M_{\phi r}$0.04±.04; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s264.00000°,δ87.00000°, λ173.00000°. NP2:ϕ_s355.00000°,δ83.00000°,λ3.00000°.*

Principal axes: T 1.0500, Plg7.0000°, Azm220.0000°; N 0.0500, Plg82.0000°, Azm60.0000°; P -1.1000, Plg3.0000°, Azm310.0000°; Data Used: II IU IC G CN.
SZGRF ***22*** *12:34:54.6, 0.62N×27.74W, h33km, mb5.3, MS4.6, Central Mid-Atlantic Ridge*
ISC 22 12:34:49.9±0.3, 0.87N±0.06×28.54W±0.06, h7km, n835, σ0.85/857, mb5.1/214, MS4.8/52, 168C-9D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.91**	**228**	*e*Pn	**Pn**	**12 37 11.9**	**-1.1**
RCBR				eSn	Sn	12 38 54.4	-10
BBTS	**Babate**	**18.13**	**40**	P	**Pn**	**12 39 01.9**	**-0.6**
BBTS	**Babate**	**18.13**	**40**	P	**Pn**	**12 39 01.9**	**-0.6**
4.4nm,0.3s,baz=257,slow=2.1,SNR=12							
BBTS				LR	LR	12 44 16.9	
comp=Z,4μm,20.7s,baz=31,slow=31							
LIC	**Lamto**	**24.06**	**77**	⇑*i*P	**P**	**12 40 04.6**	**-1.5**
140nm,0.8s,baz=259							
LIC				*e*R			
2μm,19.2s							
LIC	**Lamto**	**24.06**	**77**	*e*P	**P**	**12 40 04.6**	**-1.5**
216nm,0.8s							
LIC	**Lamto**	**24.06**	**77**	⇑*i*P	**P**	**12 40 04.6**	**-1.5**
TIC	**Toumodi**	**24.15**	**76**	*e*P	**P**	**12 40 05.0**	**-2.0**
277nm,1.4s							
DBIC	**Dimbokro**	**24.32**	**76**	*e*P	**P**	**12 40 07.1**	**-1.4**
74nm,0.8s							
DBIC	**Dimbokro**	**24.32**	**76**	P	**P**	**12 40 07.2**	**-1.4**
56nm,0.7s,baz=241,slow=12,SNR=61							
DBIC				LR	LR	12 47 44.6	
comp=Z,2μm,18.3s,baz=339,slow=32							
KIC	**Kosan Boka**	**24.36**	**76**	*e*P	**P**	**12 40 06.5**	**-2.5**
456nm,1.6s							
BDFB	**Brasilia**	**25.28**	**229**	P	**P**	**12 40 17.7**	**+0.3**
BDFB	**Brasilia**	**25.28**	**229**	P	**P**	**12 40 17.7**	**+0.3**
15nm,0.9s,baz=46,slow=10,SNR=14							
BDFB				LR	LR	12 49 19.1	
comp=Z,7μm,19.0s,baz=226,slow=34							
TOA0	**Torodi Ar. Sit**	**32.34**	**66**	*e*P	**P**	**12 41 18.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**32.34**	**66**	P	**P**	**12 41 18.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**32.34**	**66**	P	**P**	**12 41 18.9**	**-1.3**
34nm,0.9s,baz=254,slow=9.3,SNR=130							
TORD				LR	LR	12 52 24.7	
comp=Z,2μm,21.6s,baz=265,slow=33							
PMOZ	**Porto Moniz, M**	**33.53**	**17**	*e*LR	LR	12 50 17.0	
2μm,20.0s							
SAML	**Samuel**	**35.86**	**253**	P	**P**	**12 41 52.9**	**+2.0**
97nm,1.2s							
SIV	**San Ignacio**	**36.23**	**241**	P	**P**	**12 41 55.1**	**+1.2**
SIV	**San Ignacio**	**36.23**	**241**	P	**P**	**12 41 55.1**	**+1.2**
18nm,1.0s,baz=89,slow=9.5,SNR=33							
SIV				LR	LR	12 56 33.4	
comp=Z,4μm,18.3s,slow=36							
CPUP	**Villa Florida**	**38.76**	**224**	*e*P	**P**	**12 42 16.2**	**+0.9**
87nm,1.3s							
CPUP	**Villa Florida**	**38.76**	**224**	P	**P**	**12 42 16.1**	**+0.9**
12nm,0.9s,baz=33,slow=8.5,SNR=18							
CPUP				LR	LR	12 58 06.2	
comp=Z,8μm,18.1s,baz=38,slow=36							
TAM	**Tamanrasset**	**39.63**	**54**	*e*P	**P**	**12 42 22.9**	**+0.1**
TAM				pmax	pmax		
comp=Z,169nm,2.0s							
TAM	**Tamanrasset**	**39.63**	**54**	*e*P	**P**	**12 42 22.9**	**+0.1**
comp=Z,169nm,2.0s							
MORF	**Marmelete**	**40.64**	**25**	*e*P	**P**	**12 42 30.8**	**-0.1**
comp=Z,87nm,1.6s							
MORF	**Marmelete**	**40.64**	**25**	*e*P	**P**	**12 42 31.0**	**+0.1**
MORF				*e*S	**S**	**12 48 40.8**	**-0.4**
PTEO	**Sao Teotonio**	**40.82**	**24**	*e*P	**P**	**12 42 33.1**	**+0.9**
PBDV	**Barranco-do-Ve**	**40.90**	**25**	*e*P	**P**	**12 42 34.7**	**+1.8**
PVAQ	**Vaqueiros**	**41.12**	**25**	*e*P	**P**	**12 42 35.0**	**+0.3**
PVAQ				*e*LQ	LQ	12 52 02.6	
PVAQ				*e*LR	LR	12 54 05.8	
comp=Z,1μm,18.0s							
PCVE	**Castro Verde**	**41.18**	**25**	*e*P	**P**	**12 42 34.6**	**-0.6**
EVOP	**Sao Brissos**	**41.90**	**24**	⇑*i*P	**P**	**12 42 41.3**	**+0.2**
EVOP	**Sao Brissos**	**41.90**	**24**	⇑*i*P	**P**	**12 42 41.3**	**+0.2**
EVO	**Evora**	**41.95**	**24**	⇑*i*P	**P**	**12 42 41.3**	**-0.2**
comp=Z,31nm,0.9s							
EVO				*e*R			
comp=Z,2μm,20.5s							
EVO	**Evora**	**41.95**	**24**	*e*P	**P**	**12 42 41.4**	**-0.1**
PMTG	**Montargil**	**42.32**	**24**	*e*P	**P**	**12 42 44.8**	**+0.3**
comp=Z,59nm,1.8s							
LPAZ	**La Paz**	**42.62**	**245**	*e*P	**P**	**12 42 48.2**	**+0.1**
comp=Z,81nm,1.3s							
LPAZ	**La Paz**	**42.62**	**245**	P	**P**	**12 42 48.7**	**+0.7**
comp=Z,31nm,1.0s,baz=64,slow=7.7,SNR=54							
LPAZ				LR	LR	13 00 01.2	
comp=Z,2μm,20.4s,baz=110,slow=35							
SDV	**Santo Domingo**	**42.65**	**282**	*e*P	**P**	**12 42 48.1**	**+0.3**
comp=Z,28nm,1.0s							
PTOM	**Tomar**	**42.72**	**23**	*e*P	**P**	**12 42 48.8**	**+1.0**
comp=Z,88nm,1.6s							
PMRV	**Marv??o**	**42.97**	**24**	*e*P	**P**	**12 42 50.5**	**+0.7**
comp=Z,90nm,1.7s							
PMRV				*e*S	**S**	**12 49 20.6**	**+5.2**
PMRV				*e*LR	LR	12 54 38.4	
comp=Z,931nm,20.0s							
PCBR	**Castelo Branco**	**43.28**	**24**	*e*P	**P**	**12 42 52.5**	**+0.2**
MTE	**Manteigas**	**43.73**	**23**	*e*P	**P**	**12 42 55.9**	**-0.1**
comp=Z,43nm,1.3s							
MTE				*e*S	S	12 49 36.5	+10
MTE				*e*LQ	LQ	12 52 48.0	
MTE				*e*LR	LR	12 54 59.9	
comp=Z,939nm,20.0s							
PVIS	**Viseu**	**43.87**	**23**	*e*P	**P**	**12 42 57.2**	**+0.1**
comp=Z,68nm,1.9s							
PAB	**San Pablo**	**44.38**	**27**	*e*P	**P**	**12 43 00.9**	**-0.4**
PAB				pmax	pmax		
comp=Z,143nm,1.2s							
PAB	**San Pablo**	**44.38**	**27**	*e*P	**P**	**12 43 00.9**	**-0.4**
comp=Z,143nm,1.2s							
MVO	**Moncorvo**	**44.59**	**23**	*e*P	**P**	**12 43 03.0**	**+0.1**
comp=Z,46nm,1.7s							
MVO				*e*S	S	12 49 48.6	+9.4
MVO				*e*LQ	LQ	12 53 10.5	
MVO				*e*LR	LR	12 55 40.1	
comp=Z,951nm,22.0s							
ESDC	**Sonseca Array**	**44.66**	**27**	P	**P**	**12 43 03.3**	**-0.1**
ESDC	**Sonseca Array**	**44.66**	**27**	P	**P**	**12 43 03.3**	**-0.1**
comp=Z,8.4nm,0.9s,baz=222,slow=8.7,SNR=28							
ESDC				LR	LR	12 58 50.6	
comp=Z,791nm,20.4s,baz=210,slow=32							
ESLA	**Sonseca Array**	**44.66**	**27**	*e*P	**P**	**12 43 02.9**	**-0.6**
comp=Z,10nm,1.3s							
PCAB	**Cabril**	**44.67**	**22**	*e*P	**P**	**12 43 03.5**	**0.0**
comp=Z,66nm,1.9s							
PGAV	**Gavieira, Arco**	**44.80**	**22**	*e*P	**P**	**12 43 04.7**	**0.0**
comp=Z,81nm,2.1s							
PGAV				*e*S	S	12 49 50.1	+7.7
PGAV				*e*LQ	LQ	12 53 12.7	
PGAV				*e*LR	LR	12 55 48.7	
comp=Z,1μm,20.0s							
PBRG	**Braganca**	**45.25**	**23**	*e*P	**P**	**12 43 08.3**	**+0.2**
comp=Z,37nm,1.6s							
SDDR	**Presa de Saban**	**45.60**	**296**	*e*P	**P**	**12 43 11.2**	**0.0**
comp=Z,39nm,1.1s							
LVC	**Limon Verde**	**45.72**	**237**	*e*P	**P**	**12 43 12.6**	**+0.2**
comp=Z,67nm,1.5s							
ROSC	**El Rosal**	**45.89**	**276**	*e*P	**P**	**12 43 14.7**	**+0.7**
ROSC	**El Rosal**	**45.89**	**276**	P	**P**	**12 43 14.9**	**+0.8**
comp=Z,21nm,0.7s,baz=79,slow=8.2,SNR=15							
ROSC				LR	LR	13 01 12.9	
comp=Z,1μm,20.0s,baz=4.5,slow=34							
DFRA	**Djebel Bou Aff**	**47.69**	**38**	P	**P**	**12 43 28.6**	**+1.1**
CASM	**Ain Smara**	**47.89**	**39**	P	**P**	**12 43 29.2**	**+0.2**
CKFL	**Kef-Lekhel**	**48.12**	**39**	P	**P**	**12 43 31.0**	**+0.1**
SJPF	**Ste Jean**	**48.64**	**27**	⇑*i*P	**P**	**12 43 35.4**	**+0.8**
comp=Z,64nm,1.4s							
SJPF	**Ste Jean**	**48.64**	**27**	⇑*i*P	**P**	**12 43 35.4**	**+0.8**
SJPF	**Ste Jean**	**48.64**	**27**	⇑*i*P	**P**	**12 43 35.4**	**+0.8**
CMAH	**Djebel Manchou**	**48.70**	**39**	P	**P**	**12 43 35.5**	**+0.2**
ETSF	**Etsaut**	**48.77**	**27**	⇑*i*P	**P**	**12 43 36.5**	**+0.8**
comp=Z,54nm,1.2s							
ETSF	**Etsaut**	**48.77**	**27**	⇑*i*P	**P**	**12 43 36.5**	**+0.8**
ETSF	**Etsaut**	**48.77**	**27**	⇑*i*P	**P**	**12 43 36.5**	**+0.8**
ATE	**Arette**	**48.86**	**27**	*e*P	**P**	**12 43 37.1**	**+0.8**
REYF	**Montagne du Re**	**48.98**	**27**	*e*P	**P**	**12 43 38.0**	**+0.7**
LABF	**Labassere**	**49.18**	**28**	*e*P	**P**	**12 43 39.5**	**+0.7**
EPF	**Esparros**	**49.29**	**28**	⇑*i*P	**P**	**12 43 40.5**	**+0.8**
comp=Z,184nm,1.9s							
EPF	**Esparros**	**49.29**	**28**	⇑*i*P	**P**	**12 43 40.5**	**+0.8**
EPF	**Esparros**	**49.29**	**28**	⇑*i*P	**P**	**12 43 40.5**	**+0.8**
MELF	**Melles**	**49.37**	**28**	*e*P	**P**	**12 43 41.0**	**+0.7**
KEST	**Kesra**	**49.40**	**41**	*e*P	**P**	**12 43 40.6**	**0.0**
KEST	**Kesra**	**49.40**	**41**	P	**P**	**12 43 40.1**	**-0.6**
comp=Z,6.4nm,0.9s,baz=236,slow=7.1,SNR=12							
KEST				LR	LR	13 04 02.1	
comp=Z,764nm,20.9s,baz=201,slow=36							
TSUM	**Tsumeb**	**49.46**	**116**	P	**P**	**12 43 42.5**	**+1.1**
TSUM	**Tsumeb**	**49.46**	**116**	P	**P**	**12 43 42.5**	**+1.1**
comp=Z,28nm,1.2s,baz=268,slow=7.7,SNR=16							
TRQA	**Tornquist**	**49.50**	**215**	*e*P	**P**	**12 43 41.4**	**+0.1**
CFAA	**Coronel Fontan**	**49.56**	**226**	P	**P**	**12 43 42.0**	**+0.1**
CFAA	**Coronel Fontan**	**49.56**	**226**	P	**P**	**12 43 42.0**	**+0.1**
comp=Z,1.4nm,0.9s,baz=63,slow=8.5,SNR=16							
MLS	**Moulis**	**49.59**	**28**	*e*P	**P**	**12 43 42.5**	**+0.6**
NNA	**Nana**	**49.63**	**254**	LR	LR	13 02 54.5	
comp=Z,308nm,19.9s,baz=336,slow=34							
LCO	**Las Campanas**	**50.06**	**230**	*e*P	**P**	**12 43 47.5**	**+1.5**
MTLF	**Montolieu**	**50.42**	**29**	⇑*i*P	**P**	**12 43 47.8**	**-0.4**
comp=Z,41nm,1.4s							
MTLF	**Montolieu**	**50.42**	**29**	⇑*i*P	**P**	**12 43 47.8**	**-0.4**
MTLF	**Montolieu**	**50.42**	**29**	⇑*i*P	**P**	**12 43 47.8**	**-0.4**
LFF	**La Frestale**	**50.95**	**27**	⇑*i*P	**P**	**12 43 52.5**	**+0.4**
comp=Z,40nm,1.0s							
LFF	**La Frestale**	**50.95**	**27**	⇑*i*P	**P**	**12 43 52.5**	**+0.4**
LFF	**La Frestale**	**50.95**	**27**	⇑*i*P	**P**	**12 43 52.5**	**+0.4**
CAF	**Calviac**	**51.54**	**28**	⇑*i*P	**P**	**12 43 56.8**	**+0.2**
comp=Z,46nm,1.4s							
CAF	**Calviac**	**51.54**	**28**	⇑*i*P	**P**	**12 43 56.8**	**+0.2**
CAF	**Calviac**	**51.54**	**28**	⇑*i*P	**P**	**12 43 56.8**	**+0.2**
RJF	**Les Rejaudoux**	**51.58**	**27**	⇑*i*P	**P**	**12 43 56.6**	**-0.3**
comp=Z,88nm,1.8s							
RJF				*e*R			
comp=Z,1μm,21.8s							
RJF	**Les Rejaudoux**	**51.58**	**27**	⇑*i*P	**P**	**12 43 56.6**	**-0.3**
RJF	**Les Rejaudoux**	**51.58**	**27**	⇑*i*P	**P**	**12 43 56.6**	**-0.3**
LASF	**Ste Croix**	**51.77**	**29**	⇑*i*P	**P**	**12 43 58.4**	**+0.1**
comp=Z,64nm,1.4s							
LASF	**Ste Croix**	**51.77**	**29**	⇑*i*P	**P**	**12 43 58.4**	**+0.1**
QUIF	**Quistinic**	**51.77**	**22**	⇑*i*P	**P**	**12 43 58.0**	**-0.2**
comp=Z,146nm,1.6s							
QUIF	**Quistinic**	**51.77**	**22**	⇑*i*P	**P**	**12 43 58.0**	**-0.2**
QUIF	**Quistinic**	**51.77**	**22**	⇑*i*P	**P**	**12 43 58.0**	**-0.2**
MFF	**Saint Martin d**	**51.88**	**25**	⇑*i*P	**P**	**12 43 59.1**	**0.0**
comp=Z,88nm,1.5s							
MFF	**Saint Martin d**	**51.88**	**25**	⇑*i*P	**P**	**12 43 59.1**	**0.0**
MFF	**Saint Martin d**	**51.88**	**25**	⇑*i*P	**P**	**12 43 59.1**	**0.0**
ROSF	**Rostrenen**	**52.08**	**21**	⇑*i*P	**P**	**12 43 59.8**	**-0.7**
comp=Z,112nm,1.6s							
ROSF	**Rostrenen**	**52.08**	**21**	⇑*i*P	**P**	**12 43 59.8**	**-0.7**
ROSF	**Rostrenen**	**52.08**	**21**	⇑*i*P	**P**	**12 43 59.8**	**-0.7**
SGMF	**Saint Gilles**	**52.28**	**22**	⇑*i*P	**P**	**12 44 02.0**	**0.0**
comp=Z,179nm,1.7s							
SGMF	**Saint Gilles**	**52.28**	**22**	⇑*i*P	**P**	**12 44 02.0**	**0.0**
SGMF	**Saint Gilles**	**52.28**	**22**	⇑*i*P	**P**	**12 44 02.0**	**0.0**
LBL	**Lubilhac**	**52.33**	**28**	*e*P	**P**	**12 44 03.3**	**+0.8**
SMRF	**Simiane la Rot**	**52.55**	**31**	⇑*i*P	**P**	**12 44 04.6**	**+0.4**
comp=Z,90nm,1.7s							
SMRF	**Simiane la Rot**	**52.55**	**31**	⇑*i*P	**P**	**12 44 04.6**	**+0.4**
LMR	**La Mourre**	**52.59**	**32**	⇑*i*P	**P**	**12 44 04.0**	**-0.4**
comp=Z,65nm,1.3s							
LMR	**La Mourre**	**52.59**	**32**	⇑*i*P	**P**	**12 44 04.0**	**-0.4**
LMR	**La Mourre**	**52.59**	**32**	⇑*i*P	**P**	**12 44 04.0**	**-0.4**
PYM	**Petit Puy Mans**	**52.60**	**27**	*e*P	**P**	**12 44 05.3**	**+0.7**
TCF	**Toulx Ste Croi**	**52.65**	**26**	⇑*i*P	**P**	**12 44 04.9**	**+0.1**
TCF	**Toulx Ste Croi**	**52.65**	**26**	⇑*i*P	**P**	**12 44 04.9**	**+0.1**
TCF	**Toulx Ste Croi**	**52.65**	**26**	⇑*i*P	**P**	**12 44 04.9**	**+0.1**
VIVF	**Saint-Julien-l**	**52.73**	**29**	⇑*i*P	**P**	**12 44 05.7**	**+0.2**
comp=Z,47nm,1.3s							
VIVF	**Saint-Julien-l**	**52.73**	**29**	⇑*i*P	**P**	**12 44 05.7**	**+0.2**
VIVF	**Saint-Julien-l**	**52.73**	**29**	⇑*i*P	**P**	**12 44 05.7**	**+0.2**
FRF	**La Foret Royal**	**52.82**	**32**	⇑*i*P	**P**	**12 44 06.0**	**-0.1**
comp=Z,143nm,1.8s							
FRF	**La Foret Royal**	**52.82**	**32**	⇑*i*P	**P**	**12 44 06.0**	**-0.1**
FRF	**La Foret Royal**	**52.82**	**32**	⇑*i*P	**P**	**12 44 06.0**	**-0.1**
AGO	**Saint Agoulin**	**52.89**	**27**	*e*P	**P**	**12 44 06.6**	**0.0**
SSB	**Saint Sauveur**	**52.98**	**29**	*e*P	**P**	**12 44 07.6**	**+0.3**
SSB				pmax	pmax		
comp=Z,5.0nm,0.9s							
SSB	**Saint Sauveur**	**52.98**	**29**	*e*P	**P**	**12 44 07.6**	**+0.3**
comp=Z,5.2nm,0.9s							
GRR	**Gorron**	**53.03**	**23**	⇑*i*P	**P**	**12 44 07.5**	**-0.1**
comp=Z,116nm,1.5s							
GRR	**Gorron**	**53.03**	**23**	⇑*i*P	**P**	**12 44 07.5**	**-0.1**
GRR	**Gorron**	**53.03**	**23**	⇑*i*P	**P**	**12 44 07.5**	**-0.1**
BGF	**Bois d'Agland**	**53.14**	**27**	*e*P	**P**	**12 44 08.7**	**+0.3**
BGF	**Bois d'Agland**	**53.14**	**27**	*e*P	**P**	**12 44 08.7**	**+0.3**
BGF	**Bois d'Agland**	**53.14**	**27**	*e*P	**P**	**12 44 08.7**	**+0.3**
ORIF	**Oris-en-Rattie**	**53.38**	**30**	⇑*i*P	**P**	**12 44 11.0**	**+0.7**
ORIF				*e*R			
comp=Z,1μm,19.8s							
ORIF	**Oris-en-Rattie**	**53.38**	**30**	⇑*i*P	**P**	**12 44 11.0**	**+0.7**
ORIF	**Oris-en-Rattie**	**53.38**	**30**	⇑*i*P	**P**	**12 44 11.0**	**+0.7**
LUCF	**Luceram**	**53.41**	**32**	*e*P	**P**	**12 44 10.5**	**-0.1**
PGF	**Pioggiola**	**53.42**	**34**	⇑*i*P	**P**	**12 44 11.4**	**+0.7**
comp=Z,142nm,1.6s							
PGF	**Pioggiola**	**53.42**	**34**	⇑*i*P	**P**	**12 44 11.4**	**+0.7**
PGF	**Pioggiola**	**53.42**	**34**	⇑*i*P	**P**	**12 44 11.4**	**+0.7**
SBF	**Sospel**	**53.44**	**32**	⇑*i*P	**P**	**12 44 10.8**	**0.0**
comp=Z,102nm,1.2s							
SBF	**Sospel**	**53.44**	**32**	⇑*i*P	**P**	**12 44 10.8**	**0.0**
SBF	**Sospel**	**53.44**	**32**	⇑*i*P	**P**	**12 44 10.8**	**0.0**
FLN	**La Foliniere**	**53.

MOF Molkenrain 56.07 28 eP P 12 44 29.6 -0.2
TUE Stuetta 56.20 31 eP P 12 44 32.5 +1.5
BRYW Bryant College 56.23 322 eP P 12 44 30.9 0.0
comp=Z,45nm,1.0s
PLCA Paso Flores 56.30 218 P P 12 44 32.1 +0.5
PLCA Paso Flores 56.30 218 P P 12 44 32.1 +0.5
comp=Z,4.4nm,0.7s,baz=32,slow=6.3,SNR=5.8
PLCA LR LR 13 08 44.8
comp=Z,2µm,18.8s,baz=135,slow=36
ECH Echery 56.34 28 eP P 12 44 31.8 +0.1
ECH pmax pmax
comp=Z,10.0nm,1.0s
ECH Echery 56.34 28 eP P 12 44 31.8 +0.1
comp=Z,10nm,1.0s
ECH Echery 56.34 28 eP P 12 44 31.3 -0.4
BAIF Baives 56.39 25⇑iP P 12 44 31.5 -0.4
comp=Z,57nm,1.3s
BAIF Baives 56.39 25⇑iP P 12 44 31.5 -0.4
BAIF Baives 56.39 25⇑iP P 12 44 31.5 -0.4
CDF Champ du Feu 56.54 28⇑iP P 12 44 32.8 -0.3
comp=Z,68nm,1.5s
CDF Champ du Feu 56.54 28⇑iP P 12 44 32.8 -0.3
CDF Champ du Feu 56.54 28⇑iP P 12 44 32.8 -0.3
DOU Dourbes 56.58 25 P P 12 44 33.0 -0.3
comp=Z,9.4nm,1.7s
HRV Adam Dziewonsk 56.58 323 eP P 12 44 33.5 0.0
HRV pmax pmax
comp=Z,22nm,1.0s
HRV Adam Dziewonsk 56.58 323 eP P 12 44 33.5 0.0
comp=Z,22nm,1.0s
GIVF Givet 56.69 25 eP P 12 44 33.3 -0.7
GIVF Givet 56.69 25 eP P 12 44 33.3 -0.7
GIVF Givet 56.69 25 eP P 12 44 33.3 -0.7
FUORN Ofenpass-Fuorn 56.77 31 eP P 12 44 34.8 -0.3
BFO Black Forest 56.98 29 eP P 12 44 36.1 -0.1
comp=Z,91nm,2.1s
BFO Black Forest 56.98 29 eP P 12 44 36.1 -0.1
BFO pmax pmax
comp=Z,91nm,2.1s
BFO Black Forest 56.98 29 eP P 12 44 36.1 -0.1
comp=Z,25nm,1.5s
DAVA Damuels 57.02 30⇑iP P 12 44 36.0 -0.7
comp=Z,26nm,1.3s,SNR=9.0
LANF Langenberg 57.19 28 eP P 12 44 37.6 -0.1
PAL Palisades 57.21 320 eP P 12 44 38.0 +0.1
PAL Palisades 57.21 320 eP P 12 44 38.0 +0.1
FETA Feichten 57.28 31⇑iP P 12 44 37.6 -0.9
comp=Z,17nm,1.0s,SNR=8.5
MEM Membach 57.57 25 P P 12 44 40.8 +0.5
comp=Z,16nm,2.1s
RETA Reutte 57.60 31⇑iP P 12 44 39.7 -1.0
comp=Z,32nm,1.9s,SNR=8.5
MOTA Moosalm 57.68 31⇓iP P 12 44 40.1 -1.2
comp=Z,10nm,1.0s,SNR=6.7
STU Stuttgart 57.70 29 eP P 12 44 40.9 -0.3
comp=Z,111nm,2.3s
HNH Hanover 57.71 324 eP P 12 44 41.3 -0.1
comp=Z,28nm,1.0s
WTTA Wattenberg 57.91 31⇑iP P 12 44 42.0 -1.0
comp=Z,23nm,1.8s,SNR=7.3
LUPA Lehigh Univers 57.95 319 eP P 12 44 43.7 +0.6
URVA University of 57.97 315 eP P 12 44 44.1 +0.8
NVLJ Novalja 58.02 35 P P 12 44 42.9 -0.6
ABTA Abfaltersbach 58.03 32 iP P 12 44 43.7 -0.1
comp=Z,27nm,1.0s,SNR=21
JSRW J. Sargeant Re 58.26 315 eP P 12 44 45.5 +0.1
MVL Millersville 58.30 318 eP P 12 44 45.6 +0.1
LSZ Lusaka 58.30 108 eP P 12 44 46.9 +0.6
comp=Z,46nm,1.5s
FUR Furstenfeldbru 58.31 30 eP P 12 44 45.2 -0.4
comp=Z,263nm,2.4s
FUR Furstenfeldbru 58.31 30 eP P 12 44 45.2 -0.4
FUR pmax pmax
comp=Z,263nm,2.4s
LBTB Lobatse 58.32 120 eP P 12 44 46.5 +0.3
VOY Vojsko 58.34 34 eP P 12 44 45.7 -0.2
VOY e 12 44 52.3
SDMD Soldier's Deli 58.34 317 eP P 12 44 46.1 +0.1
JAVS Javornik 58.35 34 iP P 12 44 45.9 -0.1
JAVS i 12 45 00.8
JAVS eS S 12 52 58.0 +8.9
TNS Taunus Mts 58.36 27 eP P 12 44 45.8 -0.1
comp=Z,31nm,1.4s
TNS Taunus Mts 58.36 27 eP P 12 44 45.8 -0.1
TNS pmax pmax
comp=Z,31nm,1.4s
UDBI Udbina 58.51 36 P P 12 44 47.4 +0.3
MYKA Terra Mystica 58.57 33⇑iP P 12 44 47.4 -0.1
comp=Z,47nm,1.8s,SNR=12
KBA Koelnbreinsper 58.69 32⇑iP P 12 44 47.5 -0.9
comp=Z,18nm,1.1s,SNR=10
LJU Ljubljana 58.70 34 iP P 12 44 48.4 +0.1
LJU i 12 45 00.3
LJU iS S 12 52 58.1 +4.7
BUG Bochum--Univer 58.72 25 eP P 12 44 48.4 +0.1
comp=Z,100nm,2.1s
BOJS Bojanci 58.78 35 iP P 12 44 49.1 +0.2
BOJS e 12 45 03.8
BOJS eS S 12 52 57.2 +2.6
RJOB Jochberg 58.81 31 eP P 12 44 48.2 -0.9
comp=Z,17nm,1.1s
BINY Binghamton 59.17 320 eP P 12 44 51.7 0.0
BOSA Boshof 59.20 124 P P 12 44 51.7 -0.5
BOSA Boshof 59.20 124 P P 12 44 51.7 -0.5
comp=Z,10nm,0.8s,baz=287,slow=8.6,SNR=17
BOSA LR LR 13 04 53.5
comp=Z,1µm,21.1s,baz=281,slow=30
GRFO Grafenberg 59.30 29 eP P 12 44 52.6 +0.2
GRFO pmax pmax
comp=Z,8.0nm,0.5s
GRFO Grafenberg 59.30 29 eP P 12 44 52.6 +0.2
comp=Z,7.6nm,0.5s
GRF Grafenberg Arr 59.30 29 eP P 12 44 52.2 -0.2
comp=Z,147nm,2.0s
GRF eL L 13 07 26.7
comp=N,524nm,21.6s
GRF Grafenberg Arr 59.30 29 eP P 12 44 52.2 -0.2
GRF pmax pmax
comp=Z,147nm,2.0s
SOKA Soboth 59.36 33 iP P 12 44 52.8 -0.2
comp=Z,21nm,1.0s,SNR=21
TIR Tirane 59.36 41 eP P 12 44 52.1 -0.9
TIR pmax pmax
comp=Z,13nm,0.6s
TIR Tirane 59.36 41 eP P 12 44 52.1 -0.9
comp=Z,13nm,0.6s
PERS Pernice 59.38 34 iP P 12 44 53.0 -0.1
UBBA Unterbreizbach 59.49 27 eP P 12 44 53.8 +0.3
comp=Z,56nm,2.0s
IBBN Ibbenburen 59.56 25 eP P 12 44 54.2 +0.1
comp=Z,59nm,1.7s
SSPA Standing Stone 59.63 318 eP P 12 44 54.4 -0.5
MOA Molln 59.66 32⇑iP P 12 44 53.9 -1.0
comp=Z,18nm,1.0s,SNR=8.8
KMSC Kings Mountain 59.72 311 P P 12 44 55.6 0.0
baz=60
WET Wettzell 59.76 30 eP P 12 44 55.1 -0.5
comp=Z,91nm,2.1s
WET Wettzell 59.76 30 eP P 12 44 55.1 -0.5
WET pmax pmax
comp=Z,91nm,2.1s
ROTZ Rotzenmuhle 59.83 29 eP P 12 44 55.7 -0.3
comp=Z,36nm,1.3s
BLA Blacksburg 59.88 313 eP P 12 44 56.8 +0.1
BLA pmax pmax
comp=Z,35nm,1.3s
BLA Blacksburg 59.88 313 eP P 12 44 56.8 +0.1
comp=Z,34nm,1.3s
ARSA Arzberg 59.97 33⇑iP P 12 44 56.3 -0.8
comp=Z,20nm,2.3s,SNR=7.6
GEC2 GERESS Array S 59.98 31 eP P 12 44 56.7 -0.6
comp=Z,100nm,2.1s
GEC2 GERESS Array S 59.98 31 eP P 12 44 56.7 -0.6
GEC2 pmax pmax
comp=Z,100nm,2.1s
GERES GERESS Array B 59.98 31 P P 12 44 56.9 -0.4
GERES GERESS Array B 59.98 31 P P 12 44 56.9 -0.4
comp=Z,6.3nm,0.8s,baz=229,slow=6.2,SNR=60
GERES LR LR 13 07 42.2
comp=Z,656nm,21.7s,baz=236,slow=33
KHC Kasperske Hory 60.10 31 eP P 12 44 57.5 -0.5
KHC e 12 47 09.7
KHC pmax pmax
comp=Z,65nm,1.7s
KHC Kasperske Hory 60.10 31⇑iP P 12 44 57.4 -0.5
KHC epP pP 12 45 02.7 +2.5
KHC ex x 12 45 11.6
KHC eS S 12 53 10.2 -1.3
KHC AMS AMS 13 10 20.0
comp=Z,700nm,15.7s
KHC Kasperske Hory 60.10 31 eP P 12 44 57.5 -0.5
comp=Z,65nm,1.7s
KHC ePP PP 12 47 09.7 -0.9
MOX Moxa 60.12 28 eP P 12 44 58.2 +0.1
comp=Z,102nm,2.2s
MOX Moxa 60.12 28 eP P 12 44 58.2 +0.1
MOX pmax pmax
comp=Z,102nm,2.2s
TIGA Tifton 60.17 306 P P 12 44 58.6 -0.1
baz=60
WERN Wernitzgruen 60.25 29 eP P 12 44 58.9 -0.1
comp=Z,36nm,1.6s
GUNZ Gunzen 60.28 29 eP P 12 44 59.0 -0.2
comp=Z,25nm,1.4s
WERD Werda 60.32 29 eP P 12 44 59.3 -0.2
comp=Z,55nm,1.9s
TANN Tannenbergstha 60.38 29 eP P 12 44 59.8 -0.1
comp=Z,31nm,1.2s
CONA Conrad Observa 60.56 33 iP P 12 45 00.7 -0.5
comp=Z,25nm,1.4s,SNR=15
NEUB Neuenburg 60.58 28 eP P 12 45 01.1 0.0
comp=Z,23nm,1.0s
NRDL Niedersach Rie 60.70 26 eP P 12 45 02.6 +0.7
comp=Z,59nm,1.8s
SOP Sopron 60.79 33⇑e P 12 45 02.4 -0.3
PRA Prague 61.13 30⇑P P 12 45 05.0 +0.1
PRA AMS AMS 13 09 00.0
PRU Pruhonice 61.13 30 eP P 12 45 04.4 -0.5
PRU e 12 45 10.8
PRU eS S 12 53 24.1 -0.4
PRU MLR MLR
comp=Z,700nm,18.0s
PRU Pruhonice 61.13 30⇑eP P 12 45 04.4 -0.5
PRU epP pP 12 45 10.8 +3.6
PRU eS S 12 53 24.1 -0.4
PRU AMS AMS 13 08 50.0
comp=Z,700nm,18.0s
PKSM Moragy 61.14 36⇑P P 12 45 04.8 -0.2
PKSM Moragy 61.14 36⇑iP P 12 45 04.8 -0.2
PKSM Moragy 61.14 36⇑eP P 12 45 04.8 -0.2
FBE Freiberg 61.14 29 eP P 12 45 05.1 +0.1
comp=Z,29nm,1.1s
TREC Trest 61.18 31⇑iP P 12 45 05.0 -0.3
TREC e 12 45 12.7
TREC eS S 12 53 23.5 -1.8
TREC MLR MLR
comp=Z,400nm,15.8s
TREC Trest 61.18 31⇑iP P 12 45 05.0 -0.3
TREC ex x 12 45 12.7
TREC ex x 12 45 20.8
TREC eS S 12 53 23.5 -1.8
TREC AMS AMS 13 11 10.0
comp=Z,400nm,15.8s
CLL Collm 61.22 28 eP P 12 45 05.5 0.0
comp=Z,35nm,1.7s
CLL Collm 61.22 28 eP P 12 45 05.0 -0.5
CLL eS S 12 53 34.0 +8.4
CLL pmax pmax
comp=Z,35nm,1.7s
PKST T"s 61.37 34⇑eP P 12 45 06.3 -0.3
ZST Bratislava 61.39 33 eP P 12 45 05.8 -0.9
ZST Bratislava 61.39 33 eP P 12 45 05.8 -0.9
BRG Berggiesshubel 61.39 29⇑iP P 12 45 06.6 -0.1
comp=Z,18nm,1.2s
BRG e 12 45 33.9
comp=Z,13nm,1.2s
BRG S S 12 53 35.0 +7.1
BRG
comp=Z,533nm,17.2s
BRG
comp=N,529nm,15.3s
BRG
comp=E,451nm,15.3s
BRG Berggiesshubel 61.39 29 eP P 12 45 06.4 -0.3
comp=Z,18nm,1.2s
BRG Berggiesshubel 61.39 29⇑iP P 12 45 06.6 -0.1
BRG S S 12 53 35.0 +7.1
BRG pmax pmax
comp=Z,4.0nm,1.2s
PVCC Panska Ves 61.48 30⇑iP P 12 45 07.2 -0.1
PVCC e 12 45 14.8
PVCC MLR MLR
comp=Z,800nm,16.9s
PVCC Panska Ves 61.48 30⇑iP P 12 45 07.2 -0.1
PVCC ex x 12 45 14.8
PVCC AMS AMS 13 08 50.0
comp=Z,800nm,16.9s
ALLY Alegheny Colle 61.62 318 eP P 12 45 08.5 +0.1
comp=Z,50nm,1.2s
BSEG Bad Segeberg 61.80 25 eP P 12 45 09.2 -0.2
comp=Z,146nm,2.0s
BSEG Bad Segeberg 61.80 25 eP P 12 45 09.2 -0.2
BSEG pmax pmax
comp=Z,146nm,2.0s
TZTN Tazewell 61.92 312 eP P 12 45 10.5 0.0
comp=Z,5.2nm,1.0s
VTS Vitosha 62.15 41 ⇑P P 12 45 12.9 +0.8
VTS Vitosha 62.15 41 P P 12 45 12.6 +0.5
VTS Vitosha 62.15 41⇑iP P 12 45 12.9 +0.8
UPC Upice 62.19 30 eP P 12 45 12.0 -0.1
UPC e 12 45 15.5
UPC e 12 45 18.8
UPC Upice 62.19 30⇑eP P 12 45 12.0 -0.1
UPC epP pP 12 45 15.5 +1.1
UPC esP sP 12 45 18.8 +3.6
UPC ex x 12 45 29.5
SCHQ Schefferville 62.20 336 eP P 12 45 11.9 -0.2
comp=Z,24nm,1.1s
SCHQ Schefferville 62.20 336 P P 12 45 11.9 -0.2
comp=Z,12nm,0.8s,baz=153,slow=8.5,SNR=8.0
SCHQ LR LR 13 07 30.6
comp=Z,434nm,21.3s,baz=317,slow=32
DPC Dobruska-Polom 62.25 31⇑iP P 12 45 12.4 -0.2
DPC e 12 45 20.2
DPC eS S 12 53 41.0 +2.1
DPC Dobruska-Polom 62.25 31⇑iP P 12 45 12.4 -0.2
DPC ex x 12 45 20.2
DPC ex x 12 45 30.0
DPC eS S 12 53 41.0 +2.1
DPC AMS AMS 13 09 50.0
CPCT Cooper Cave 62.26 310 eP P 12 45 12.8 -0.1
RUE Ruedersdorf 62.35 28 eP P 12 45 13.4 +0.3
comp=Z,281nm,2.4s
VYHS Vyhne 62.51 33 eP P 12 45 14.0 -0.3
VYHS pmax pmax
comp=Z,14nm,1.3s
VYHS Vyhne 62.51 33 eP P 12 45 14.0 -0.3
KSP Ksiaz 62.54 30⇑eP P 12 45 14.3 -0.1
KSP eS S 12 53 45.0 +2.6
KSP Ksiaz 62.54 30 eP P 12 45 15.1 +0.7
MORC Moravsky Berou 62.55 32 eP P 12 45 14.3 -0.3
MORC pmax pmax
comp=Z,61nm,1.7s
MORC Moravsky Berou 62.55 32 eP P 12 45 14.3 -0.3
comp=Z,60nm,1.7s
BZS Buzias 62.59 37 ⇑P P 12 45 15.1 +0.2
BZS Buzias 62.59 37⇑iP P 12 45 15.1 +0.2
PGB Panagyurishte 62.76 41 P P 12 45 16.2 +0.1
PSZ Piszkesteto 62.78 34 ⇑P P 12 45 16.6 +0.4
PSZ Piszkesteto 62.78 34⇑iP P 12 45 16.6 +0.4
PSZ Piszkesteto 62.78 34 eP P 12 45 16.4 +0.2
comp=Z,52nm,1.0s
PSZ Piszkesteto 62.78 34⇑eP P 12 45 16.7 +0.5
MPEP Malo Peshtene 62.84 40 P P 12 45 16.6 0.0
OKC Ostrava-Krasne 62.90 32 eP P 12 45 16.0 -0.8
OKC e 12 45 23.8
OKC eS S 12 53 45.3 -1.6
OKC MLR MLR
comp=Z,400nm,17.8s
OKC Ostrava-Krasne 62.90 32⇑eP P 12 45 16.0 -0.8
OKC ex x 12 45 23.8
OKC eS S 12 53 45.3 -1.6
OKC AMS AMS 13 08 20.0
comp=Z,400nm,17.8s
GZR Gura Zlata 63.19 38 ⇑P P 12 45 19.1 +0.1
GZR Gura Zlata 63.19 38⇑iP P 12 45 19.1 +0.1
LRAL Lakeview Retre 63.41 307 eP P 12 45 20.0 -0.6
comp=Z,8.1nm,0.9s
KECS Kecovo 63.42 34 eP P 12 45 20.5 +0.2
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 63.42 34 eP P 12 45 20.5 +0.2
NIE Niedzica 63.83 33 eP P 12 45 25.7 +2.6
DRGR 63.84 37 ⇑P P 12 45 23.3 +0.1
DRGR 63.84 37⇑iP P 12 45 23.3 +0.1
OJC Ojcow 63.99 32 eP P 12 45 24.2 +0.1
OJC e*PP pP 12 45 26.8 +0.4
CRVS Cervenica-Dubn 64.19 34 eP P 12 45 25.6 +0.2
CRVS pmax pmax
comp=Z,31nm,1.7s
CRVS Cervenica-Dubn 64.19 34 eP P 12 45 25.6 +0.2
SZH Strazhica 64.24 41 P P 12 45 25.7 -0.1
ARR Arges 64.33 39⇑iP P 12 45 26.8 +0.3
STHS Stebnicka Huta 64.34 34 eP P 12 45 27.5 +1.1
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 64.34 34 eP P 12 45 27.5 +1.1
TRPA Tarpa 64.41 35⇑iP P 12 45 26.7 -0.1
UZH Uzhgorod 64.52 35 eP P 12 45 27.2 -0.3
UZH e 12 45 34.6
UZH e 12 45 57.6
VOIR 64.63 39 ⇑P P 12 45 28.4 0.0
VOIR 64.63 39⇓iP P 12 45 28.3 -0.1
KOLS Kolonicke sedl 64.67 34 eP P 12 45 28.3 -0.2
KOLS pmax pmax
comp=Z,18nm,1.7s
KOLS Kolonicke sedl 64.67 34 eP P 12 45 28.3 -0.2
WVT Waverly 65.02 310 eP P 12 45 30.1 -1.0
WVT pmax pmax
comp=Z,8.0nm,1.0s
WVT Waverly 65.02 310 eP P 12 45 30.1 -1.0
comp=Z,7.8nm,1.0s
MLR Muntele Rosu 65.21 39⇓iP P 12 45 31.9 -0.4
ISR Istrita 65.43 40 ⇓P P 12 45 33.5 -0.1
ISR Istrita 65.43 40⇓iP P 12 45 33.5 -0.1
BURAR Bucovina Array 65.73 37 ⇓P P 12 45 35.4 -0.2
BURAR Bucovina Array 65.73 37⇓iP P 12 45 35.4 -0.2
PLOR Plostina 65.82 39 ⇑P P 12 45 35.7 -0.4
PLOR Plostina 65.82 39⇑iP P 12 45 35.7 -0.4
KMBO Kilima Mbogo 65.82 92 eP P 12 45 37.7 +0.7
comp=Z,50nm,1.8s
KMBO Kilima Mbogo 65.82 92 P P 12 45 37.9 +0.9
comp=Z,4.2nm,0.9s,baz=255,slow=9.3,SNR=9.7
KMBO LR LR 13 10 54.4
comp=Z,682nm,18.8s,baz=94,slow=33
VRI Vrincioaia 65.87 39 ⇓P P 12 45 36.7 +0.3
VRI Vrincioaia 65.87 39⇑iP P 12 45 36.2 -0.2
SFIN Scholer Farm 65.91 314 eP P 12 45 36.3 -0.5
SFIN Scholer Farm 65.91 314 P P 12 45 36.3 -0.5
baz=66
TESR Tescani 66.11 38⇑iP P 12 45 38.0 +0.1
LVV L'vov 66.11 34 eP P 12 45 37.1 -0.7
TLB Topalu 66.17 41 ⇑P P 12 45 37.9 -0.4
TLB Topalu 66.17 41⇑iP P 12 45 37.6 -0.7
TIRR Tirgusor 66.36 41 ⇑P P 12 45 39.0 -0.6
TIRR Tirgusor 66.36 41⇑iP P 12 45 38.6 -1.0
CFR Carcaliu 66.48 40 ⇑P P 12 45 39.4 -0.9
CFR Carcaliu 66.48 40⇑iP P 12 45 39.2 -1.1
EIL Elat 66.69 58 P P 12 45 41.4 -0.6
EIL Elat 66.69 58 P P 12 45 41.4 -0.6
comp=Z,5.4nm,1.0s,baz=283,slow=6.8,SNR=4.6
EIL LR LR 13 15 42.6
comp=Z,2µm,18.1s,baz=280,slow=37
TLCR 66.92 40 ⇑P P 12 45 43.2 +0.1
NB2 NORSAR Subarra 67.22 20 P P 12 45 44.2 -0.6
comp=Z,80nm,2.0s,baz=224,slow=6.5
NB2 NORSAR Subarra 67.22 20 P P 12 45 44.2 -0.6
baz=224,slow=6.5
NOA NORSAR Array B 67.22 20 P P 12 45 44.5 -0.2
NOA NORSAR Array B 67.22 20 P P 12 45 44.5 -0.2
comp=Z,4.1nm,0.9s,baz=224,slow=6.4,SNR=7.6
NOA LR LR 13 12 26.1
comp=Z,496nm,19.1s,baz=225,slow=34
KIS Kishinev 67.66 39 eP P 12 45 45.0 -2.8
KIS LRM MLR 13 17 20.0
comp=Z,800nm,18.0s
KIS Kishinev 67.66 39 eP P 12 45 45.0 -2.8
KIS e 12 54 50.0
KIS MLR MLR
comp=Z,700nm,17.0s
KIS MLR MLR
comp=Z,800nm,18.0s
SUW Suwalki 67.81 30 eP P 12 45 48.4 -0.1
SUW pmax pmax
comp=Z,23nm,0.3s
SUW Suwalki 67.81 30 eP P 12 45 48.4 -0.1
comp=Z,23nm,0.3s
SUW Suwalki 67.81 30 eP P 12 45 48.4 -0.1
BR131 Keskin Array S 68.32 47 eP P 12 45 51.8 -0.5
comp=Z,3.5nm,0.7s
BRTR Keskin Array B 68.32 47 P P 12 45 52.0 -0.3
BRTR Keskin Array B 68.32 47 P P 12 45 52.0 -0.3
comp=Z,5.6nm,0.8s,baz=231,slow=5.3,SNR=30
BRTR LR LR 13 17 25.4
comp=Z,588nm,19.6s,baz=86,slow=38
ASF Jabal al Asfar 68.88 56 P P 12 45 55.5 -0.3
ASF Jabal al Asfar 68.88 56 P P 12 45 55.5 -0.3
comp=Z,3.8nm,0.9s,baz=188,slow=3.5,SNR=9.5
ASF LR LR 13 17 27.5
comp=Z,498nm,18.3s,baz=22,slow=37
KIEV Kiev 69.46 35 eP P 12 45 58.5 -0.4
KIEV pmax pmax
comp=Z,30nm,0.8s
KIEV Kiev 69.46 35 eP P 12 45 58.5 -0.4
comp=Z,30nm,0.8s
AKASG Malin Array Be 69.47 35ceP P 12 45 58.5 -0.5
AKASG pmax pmax
comp=Z,24nm,0.7s
AKASG Malin Array Be 69.47 35 P P 12 45 58.8 -0.2
AKASG Malin Array Be 69.47 35 P P 12 45 58.8 -0.2
comp=Z,24nm,0.7s,baz=243,slow=6.3,SNR=17
AKASG LR LR 13 15 50.6
comp=Z,318nm,21.9s,baz=195,slow=36
NACGM Naroch 70.07 30 e P 12 46 01.0 -1.6
MNK Minsk 70.42 31 eP P 12 46 02.0 -2.7
MICGM Minsk 70.44 31 e P 12 46 02.0 -2.9
TUL1 Tulsa 71.17 308 eP P 12 46 08.8 -1.0
TUL1 Tulsa 71.17 308 P P 12 46 08.8 -1.0
baz=71
SPMN St. Paul 71.49 318 eP P 12 46 09.9 -1.5
SPMN St. Paul 71.49 318 P P 12 46 10.2 -1.2
baz=72
MALT Malatya 71.52 50 ⇑P P 12 46 15.6 +3.6
MALT Malatya 71.52 50⇑iP P 12 46 15.6 +3.6
WHTX Lake Whitney 71.72 303 P P 12 46 12.5 -0.7
baz=72
VSU Vasula 71.81 27 iP P 12 46 12.8 -0.3
VSU pmax pmax
comp=Z,97nm,1.5s
VSU MLR MLR
comp=Z,705nm,17.0s
SUMG Summit 71.88 357 eP P 12 46 13.4 -0.4
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 71.88 357 eP P 12 46 13.4 -0.4
comp=Z,15nm,0.9s
ANN Anapa 72.52 43 eP P 12 46 23.4 +5.8
ANN e*PP pP 12 46 26.2 +6.3
ANN e 12 46 37.6
ANN pmax pmax
comp=Z,46nm,1.2s
FINES FINESS Array B 73.06 24 P P 12 46 20.4 -0.1
FINES FINESS Array B 73.06 24 P P 12 46 20.4 -0.1
comp=Z,20nm,0.8s,baz=224,slow=3.8,SNR=24
FINES LR LR 13 15 16.7
comp=Z,1µm,19.9s,baz=231,slow=33
FIA1 FINESS Array S 73.06 24 eP P 12 46 20.9 +0.4
JCT Junction City 73.45 301 eP P 12 46 23.1 -0.4
JCT pmax pmax
comp=Z,17nm,0.8s
JCT Junction City 73.45 301 eP P 12 46 23.1 -0.4
comp=Z,17nm,0.8s
JCT Junction City 73.45 301 P P 12 46 23.1 -0.4
baz=73
532A Rocksprings 73.48 301 P P 12 46 23.2 -0.5
baz=74
432A Menard 73.50 302 P P 12 46 23.1 -0.8
baz=74,SNR=6.4
KAF Kangasniemi 73.50 24 eP P 12 46 22.8 -0.3
KAF pmax pmax
comp=Z,23nm,0.9s
KAF Kangasniemi 73.50 24 ep P 12 46 22.8 -0.3
comp=Z,23nm,0.9s

332A	Millersview	73.54	302	P	P	12 46 23.2 -0.8
	baz=74					
232A	Coleman	73.54	303	P	P	12 46 23.3 -0.8
	baz=74					
Z32A	Haskell	73.64	304	P	P	12 46 23.3 -1.3
	baz=74					
ABTX	Abilene, Hawle	73.66	304	P	P	12 46 23.9 -0.8
	baz=74					
ECSD	EROS Data Cent	73.68	316	eP	P	12 46 22.6 -2.0
	comp=Z,9.3nm,0.9s					
Y32A	R-V Farms, Ver	73.73	305	P	P	12 46 24.3 -0.8
	baz=74					
PUL	Pulkovo	74.06	27	i P	P	12 46 30.6 +4.2
PUL				pmax	pmax	
	comp=Z,68nm,0.9s					
331A	San Angelo	74.10	302	P	P	12 46 26.7 -0.7
	baz=74					
231A	Bronte	74.11	303	P	P	12 46 26.3 -1.1
	baz=74					
431A	Sonora	74.16	302	P	P	12 46 26.9 -0.8
	baz=74					
Z31A	Sharp Cattle R	74.19	304	P	P	12 46 26.9 -0.9
	baz=74					
BGNE	Belgrade	74.22	313	eP	P	12 46 26.9 -0.9
X31A	McDonald Ranch	74.28	306	P	P	12 46 27.0 -1.3
	baz=74					
131A	Roby	74.29	304	P	P	12 46 27.9 -0.6
	baz=74					
SNAA	Sanae	74.29	172	P	P	12 46 27.8 +0.2
SNAA	Sanae	74.29	172	P	P	12 46 27.8 +0.2
	comp=Z,4.9nm,1.0s,baz=332,slow=7.5,SNR=30					
W31A	Holland Ranch,	74.34	306	P	P	12 46 27.8 -0.9
	baz=74					
V31A	Spring Creek L	74.37	307	P	P	12 46 28.3 -0.6
	baz=74					
Y31A	Rekieta Farm,	74.39	305	P	P	12 46 28.3 -0.7
	baz=74					
AGMN	Agassiz Nation	74.42	320	eP	P	12 46 27.4 -1.4
	comp=Z,18nm,0.8s					
S31A	Mullinville	74.43	309	P	P	12 46 28.4 -0.8
	baz=74					
T31A	Randall Ranch,	74.48	308	P	P	12 46 28.6 -0.9
	baz=74					
R31A	Burdett	74.59	309	P	P	12 46 28.8 -1.3
	baz=75					
530A	J-C Ranch, Com	74.71	301	P	P	12 46 30.8 -0.2
	baz=75,SNR=8.1					
430A	Baggett Ranch,	74.71	302	P	P	12 46 30.4 -0.6
	baz=75					
P31A	Stockton	74.73	311	P	P	12 46 30.4 -0.5
	baz=75					
330A	Mertzon	74.75	302	P	P	12 46 30.6 -0.5
	baz=75					
130A	Snyder	74.75	303	P	P	12 46 30.7 -0.5
	baz=75					
230A	Sterling City	74.77	303	P	P	12 46 30.7 -0.6
	baz=75					
Y30A	Stafford Cattl	74.90	305	P	P	12 46 31.5 -0.5
	baz=75					
ULM	Lac du Bonnet	75.00	322	eP	P	12 46 30.7 -1.3
	comp=Z,13nm,1.0s					
ULM	Lac du Bonnet	75.00	322	P	P	12 46 30.8 -1.3
	comp=Z,7.9nm,0.7s,baz=109,slow=6.6,SNR=5.8					
ULM				LR	LR	13 15 18.6
	comp=Z,332nm,18.3s,baz=95,slow=32					
Z30A	Sanderson Ranc	75.00	304	P	P	12 46 32.3 -0.3
	baz=75,SNR=7.7					
RAYN	Ar Rayn	75.03	66	P	P	12 46 33.5 +0.6
	comp=Z,80nm,0.8s,SNR=10.0					
U30A	WK&E Inc. Balk	75.15	308	P	P	12 46 32.9 -0.4
	baz=75					
R30A	Dighton	75.17	309	P	P	12 46 33.1 -0.4
	baz=75					
429A	Davenport Ranc	75.25	301	P	P	12 46 33.4 -0.7
	baz=75,SNR=8.9					
OBN	Obninsk	75.28	33	eP	P	12 46 33.6 0.0
OBN				e		12 46 47.0
OBN				pmax	pmax	
	comp=Z,11nm,1.0s					
OBN				MLR	MLR	
	comp=Z,500nm,18.0s					
229A	Bryant Ranch,	75.37	303	P	P	12 46 34.3 -0.5
	baz=75					
O30A	MW Ranch, Wils	75.37	311	P	P	12 46 34.0 -0.6
	baz=75					
P30A	Selden	75.39	311	P	P	12 46 34.7 0.0
	baz=75					
329A	Wagon Wheel Ra	75.44	302	P	P	12 46 34.6 -0.6
	baz=75					
Z29A	Hungry Hill Ra	75.47	304	P	P	12 46 34.8 -0.5
	baz=76					
BRSD	Miller	75.49	316	eP	P	12 46 33.9 -1.2
BRSD	Miller	75.49	316	P	P	12 46 34.1 -0.9
	baz=76					
VSR	Storozhevoye	75.51	37	eP	P	12 46 34.4 -0.6
VSR				pmax	pmax	
	comp=N,10.0nm,1.0s					
VSR				pmax	pmax	
	comp=E,10.0nm,1.0s					
VSR				pmax	pmax	
	comp=Z,20nm,1.0s					
VSR				MLR	MLR	
	comp=N,560nm,24.0s					
VSR				MLR	MLR	
	comp=E,370nm,24.0s					
VSR				MLR	MLR	
	comp=Z,800nm,24.0s					
VORD	Divnogorie	75.51	37	eP	P	12 46 34.4 -0.6
VORD				pmax	pmax	
	comp=E,20nm,0.9s					
VORD				pmax	pmax	
	comp=Z,20nm,0.9s					
VORD				pmax	pmax	
	comp=N,6.0nm,0.6s					
VORD				MLR	MLR	
	comp=E,290nm,25.0s					
VORD				MLR	MLR	
	comp=Z,530nm,25.0s					
VORD				MLR	MLR	
	comp=N,230nm,17.0s					
Y29A	Porterfield Fa	75.53	305	P	P	12 46 35.6 -0.1
	baz=76,SNR=9.2					
W29A	Amarillo	75.71	306	P	P	12 46 36.4 -0.3
	baz=76					
Q29A	Oakley	75.83	310	P	P	12 46 36.5 -0.7
	baz=76					
R29A	Marienthal	75.86	309	P	P	12 46 37.0 -0.5
	baz=76					
P29A	Atwood	75.92	311	P	P	12 46 37.2 -0.5
	baz=76					
JOF	Joensuu	75.93	24	eP	P	12 46 36.6 -0.5
JOF	Joensuu	75.93	24	ep	P	12 46 36.6 -0.5
E30A	Jud	75.94	318	P	P	12 46 37.0 -0.7
	baz=76					
428A	Kincaid Ranch,	75.94	301	P	P	12 46 38.1 0.0
	baz=76,SNR=14					
C30A	Mose, Pekin	75.95	319	P	P	12 46 37.0 -0.6
	baz=76					
KIV	Kislovodsk	75.95	45c	iP	P	12 46 38.1 +0.3
KIV				pmax	pmax	
	comp=Z,24nm,1.3s					
KIV				MLR	MLR	
	comp=Z,400nm,22.0s					
Y28A	McKinney Farm,	76.02	305	P	P	12 46 38.5 0.0
	baz=76,SNR=6.1					
128A	Castleberry Fa	76.03	303	P	P	12 46 38.5 -0.1
	baz=76					
Z28A	Tucker Farm, M	76.04	304	P	P	12 46 37.8 -0.8
	baz=76					
B30A	Myrvik Farm, E	76.04	320	P	P	12 46 37.0 -1.2
	baz=76,SNR=12					
KBZ	Khabaz	76.05	45	P	P	12 46 38.6 +0.4
KBZ	Khabaz	76.05	45	P	P	12 46 38.6 +0.4
KBZ	Khabaz	76.05	45	P	P	12 46 38.6 +0.4
	comp=Z,6.8nm,1.0s,baz=268,slow=7.9,SNR=9.5					
KBZ				LR	LR	13 22 27.4
	comp=Z,462nm,20.2s,baz=309,slow=38					
MOS	Moscow	76.06	32	eP	P	12 46 37.4 -0.7
MOS				e		12 46 45.4
MOS				pmax	pmax	
	comp=Z,85nm,1.5s					
A30A	Hoffart Farm,	76.15	320	P	P	12 46 37.5 -1.2
	baz=76,SNR=6.0					
MAIT	Maitri	76.20	167	eP	P	12 46 38.0 -0.6
S28A	Manter	76.31	308	P	P	12 46 39.8 -0.2
	baz=76					
R28A	Tribune	76.37	309	P	P	12 46 40.1 -0.2
	baz=76,SNR=6.2					
627A	Terlingua Ranc	76.39	300	P	P	12 46 40.1 -0.5
	baz=76					
T28A	Walsh	76.40	308	P	P	12 46 40.3 -0.3
	baz=76					
E29A	Napoleon	76.45	318	P	P	12 46 39.6 -0.9
	baz=76					
MSTX	Muleshoe	76.45	305	eP	P	12 46 40.8 -0.1
MSTX	Muleshoe	76.45	305	P	P	12 46 40.6 -0.4
	baz=76					
427A	Hayter Ranch,	76.57	301	P	P	12 46 40.8 -0.8
	baz=77					
ZEI	Tsey	76.57	46	eP	P	12 46 39.5 -2.1
ZEI				pmax	pmax	
	comp=Z,29nm,1.6s					
TXAR	Lajitas Array	76.62	300	P	P	12 46 41.8 -0.1
TXAR	Lajitas Array	76.62	300	P	P	12 46 41.8 -0.1
	comp=Z,1.8nm,0.8s,baz=120,slow=7.4,SNR=21					
TXAR				LR	LR	13 16 43.1
	comp=Z,388nm,21.8s,baz=25,slow=33					
O28A	Krutsinger Ran	76.65	311	P	P	12 46 41.3 -0.6
	baz=77					
527A	Woodward Ranch	76.66	301	P	P	12 46 42.2 -0.1
	baz=77					
B29A	Wagenman Farm,	76.70	320	P	P	12 46 40.4 -1.5
	baz=77					
MDND	Maddock	76.72	319	eP	P	12 46 41.3 -0.8
MDND	Maddock	76.72	319	P	P	12 46 41.6 -0.5
	baz=77,SNR=9.5					
Z27A	Tatum	76.73	304	P	P	12 46 42.3 -0.3
	baz=77,SNR=12					
A29A	Manning Farm,	76.74	320	P	P	12 46 41.0 -1.1
	baz=77					
Y27A	Causey	76.77	305	P	P	12 46 42.8 0.0
	baz=77,SNR=12					
FCC	Fort Churchill	76.79	331	eP	P	12 46 41.1 -1.0
FCC				pmax	pmax	
	comp=Z,1.0nm,0.9s					
FCC	Fort Churchill	76.79	331	eP	P	12 46 41.1 -1.0
	comp=Z,0.6nm,0.9s					
W27A	Bowe Ranch, En	76.85	306	P	P	12 46 42.9 -0.3
	baz=77,SNR=5.3					
U27A	Thompson Grove	76.86	307	P	P	12 46 42.5 -0.8
	baz=77					
J28A	Allard Ranch,	76.88	314	P	P	12 46 42.8 -0.3
	baz=77					
VRHR	Novokhopersk	76.96	38	eP	P	12 46 44.7 +1.4
VRHR				pmax	pmax	
	comp=Z,9.0nm,0.8s					
VRHR				pmax	pmax	
	comp=N,10.0nm,0.9s					
VRHR				pmax	pmax	
	comp=E,10.0nm,1.3s					
VRHR				MLR	MLR	
	comp=Z,360nm,17.0s					
VRHR				MLR	MLR	
	comp=N,140nm,19.0s					
VRHR				MLR	MLR	
	comp=E,430nm,25.0s					
626A	Big Bend Ranch	77.05	300	P	P	12 46 44.3 -0.1
	baz=77					
526A	Mary Lane Ranc	77.06	301	P	P	12 46 45.1 +0.6
	baz=77,SNR=6.4					
426A	McDonald Obser	77.08	301	P	P	12 46 45.3 +0.6
	baz=77,SNR=14					
KSCO	Kaye Shedlock'	77.11	310	eP	P	12 46 44.8 +0.2
KSCO	Kaye Shedlock'	77.11	310	P	P	12 46 44.7 +0.1
	baz=77					
326A	Caldwell Ranch	77.12	302	P	P	12 46 45.9 +1.1
	baz=77,SNR=6.1					
R27A	Eads	77.13	309	P	P	12 46 44.8 +0.1
	baz=77,SNR=7.2					
E28A	Huff	77.16	318	P	P	12 46 44.1 -0.4
	baz=77					
C28A	Hausauer Farms	77.20	319	P	P	12 46 44.2 -0.5
	baz=77					
D28A	Regan	77.21	318	P	P	12 46 44.6 -0.2
	baz=77					
ARCES	ARCESS Array B	77.26	17	P	P	12 46 45.5 +0.9
ARCES	ARCESS Array B	77.26	17	P	P	12 46 45.6 +0.9
	comp=E,5.7nm,1.0s,baz=230,slow=6.7,SNR=3.5					
ARCES				LR	LR	13 15 37.6
	comp=E,515nm,20.2s,baz=237,slow=32					
Y26A	Elida	77.31	304	P	P	12 46 45.7 -0.2
	baz=77					
Z26A	Caprock	77.36	304	P	P	12 46 45.3 -0.7
	baz=77					
226B	Tecolote Peak,	77.37	303	P	P	12 46 45.7 -0.4
	baz=77,SNR=7.4					
X26A	CR and CF Fran	77.39	305	P	P	12 46 45.8 -0.5
	baz=77					
A28A	Rude Farm, Bot	77.40	320	P	P	12 46 45.5 -0.3
	baz=77					
S26A	Kim	77.55	308	P	P	12 46 46.8 -0.2
	baz=78,SNR=8.0					
T26A	Comanche Natio	77.58	308	P	P	12 46 46.9 -0.4
	baz=78,SNR=6.8					
U26A	Atchley Ranch,	77.59	307	P	P	12 46 47.0 -0.4
	baz=78,SNR=10					
R26A	Arlington	77.63	309	P	P	12 46 46.9 -0.6
	baz=78					
H27A	Howes	77.71	316	P	P	12 46 47.5 -0.2
	baz=78					
E27A	Carson	77.71	317	P	P	12 46 47.4 -0.3
	baz=78					
P26A	Davis Ranch, A	77.75	310	P	P	12 46 48.3 +0.1
	baz=78					
G27A	Dupree	77.75	316	P	P	12 46 47.7 -0.2
	baz=78,SNR=11					
D27A	Center	77.83	318	P	P	12 46 47.8 -0.5
	baz=78					
125A	Gardner Draw,	77.85	303	P	P	12 46 48.6 -0.3
	baz=78,SNR=26					
F27A	Lemmon	77.91	317	P	P	12 46 48.6 -0.2
	baz=78,SNR=10					
425A	Indio Mountain	77.92	301	P	P	12 46 49.8 +0.6
	baz=78,SNR=15					
C27A	Sayler Ranch,	77.94	319	P	P	12 46 48.0 -0.9
	baz=78					
325A	Bean Ranch, Si	77.97	302	P	P	12 46 49.0 -0.6
	baz=78,SNR=20					
Z25A	Roswell	77.97	304	P	P	12 46 49.0 -0.5
	baz=78,SNR=5.2					
Y25A	Mesa, Roswell	78.03	304	P	P	12 46 49.6 -0.2
	baz=78					
U25A	Circle Dot Ran	78.12	307	P	P	12 46 50.3 -0.1
	baz=78,SNR=6.2					
I26A	New Underwood	78.15	315	P	P	12 46 50.0 -0.2
	baz=78					
J26A	Sides Ranch, S	78.17	314	P	P	12 46 49.9 -0.5
	baz=78,SNR=5.9					
G26A	Maurine	78.20	316	P	P	12 46 50.4 0.0
	baz=78					
V25A	Rancho No Teng	78.21	306	P	P	12 46 50.9 +0.1
	baz=78					
T25A	Trinidad	78.22	308	P	P	12 46 50.7 -0.2
	baz=78					
R25A	Fountain Ranch	78.26	309	P	P	12 46 50.9 -0.1
	baz=78					
S25A	Robets Cordova	78.31	308	P	P	12 46 51.2 -0.2
	baz=78					
E26A	Carlson Angus	78.33	317	P	P	12 46 50.9 -0.2
	baz=78					
Q25A	Bedland, Calha	78.34	309	P	P	12 46 52.0 +0.4
	baz=78					
MNTX	Cornudas Mount	78.35	302	eP	P	12 46 50.5 -1.0
	comp=E,5.7nm,1.1s					
F26A	Lodgepole	78.35	317	P	P	12 46 51.1 -0.1
	baz=78,SNR=5.6					
324A	Moseley Ranch,	78.41	302	P	P	12 46 50.8 -1.2
	baz=78					
D26A	Manning	78.42	318	P	P	12 46 50.8 -0.8
	baz=78					
O25A	Wiggins	78.43	311	P	P	12 46 51.5 -0.4
	baz=78					
224A	Cornudas Mount	78.51	302	P	P	12 46 52.0 -0.6
	baz=78,SNR=14					
A26A	Wade Farm, Ken	78.54	320	P	P	12 46 51.8 -0.3
	baz=78					
K25A	Mack Ranch, Ha	78.63	313	P	P	12 46 52.8 -0.2
	baz=79					
Y24A	Capitan	78.64	304	P	P	12 46 52.8 -0.5
	baz=79					
J25A	Sunshine Ranch	78.71	314	P	P	12 46 51.6 -1.7
	baz=79					
G25A	Newell	78.75	316	P	P	12 46 53.3 -0.2
	baz=79					
I25A	Rochford	78.77	315	P	P	12 46 53.3 -0.4
	baz=79,SNR=7.1					
W24A	Lazy 6 Ranch,	78.77	306	P	P	12 46 54.3 +0.3
	baz=79,SNR=11					
H25A	Fruitdale	78.78	315	P	P	12 46 53.6 0.0
	baz=79,SNR=6.8					
APA	Apatity	78.80	20⇑	iP	P	12 46 54.0 +0.9
R24A	Sanders Place,	78.92	309	P	P	12 46 54.3 -0.5
	baz=79					
S24A	Houchin Ranch,	78.92	308	P	P	12 46 54.6 -0.3
	baz=79					
E25A	Miller Ranch,	78.97	317	P	P	12 46 54.5 -0.2
	baz=79					
T24B	San Luis	78.98	307	P	P	12 46 55.7 +0.4
	baz=79					
RSSD	Black Hills	79.00	315	eP	P	12 46 54.8 -0.3
RSSD				pmax	pmax	
	comp=Z,3.0nm,0.8s					
RSSD	Black Hills	79.00	315	eP	P	12 46 54.8 -0.3
	comp=Z,2.9nm,0.8s					
D25A	Fairfield	79.04	318	P	P	12 46 55.1 +0.1
	baz=79					
Q24A	Divide	79.05	309	P	P	12 46 55.8 +0.2
	baz=79					
C25A	Freed Ranch, W	79.10	318	P	P	12 46 55.6 +0.2
	baz=79					
N24A	Carr	79.11	311	P	P	12 46 55.7 0.0
	baz=79					
M24A	Cheyenne	79.16	312	P	P	12 46 56.0 0.0
	baz=79,SNR=8.2					
Y23A	Lovelace Mesa,	79.16	304	P	P	12 46 56.3 +0.1
	baz=79					
SDCO	Great Sand Dun	79.16	308	eP	P	12 46 56.3 +0.1
	comp=Z,5.9nm,1.1s					
TMCR	Tamitsa	79.18	24	eP	P	12 46 56.5 +1.2
TMCR				e		12 47 04.3
TMCR				e		12 49 59.8
TMCR				pmax	pmax	
	comp=Z,14nm,0.9s					
Z23A	Rita Site, Whi	79.23	304	P	P	12 46 56.6 +0.1
	baz=79					
A25A	Svangstu Ranch	79.24	320	P	P	12 46 55.7 -0.4
	baz=79					
J24A	Dixon Ranch, L	79.32	314	P	P	12 46 56.2 -0.5
	baz=79					
L24A	Wheatland	79.32	313	P	P	12 46 57.0 +0.2
	baz=79					
LVZ	Lovozero	79.36	20⇓	eP	P	12 46 59.7 +3.4
LVZ				pmax	pmax	
	comp=Z,19nm,1.0s					
LVZ				MLR	MLR	
	comp=Z,424nm,16.0s					
W23A	Werner Place,	79.37	305	P	P	12 46 57.5 +0.2
	baz=79					
V23A	Ortiz Mt. (NFS	79.47	306	P	P	12 46 58.5 +0.7
	baz=80					
H24A	Dirks Ranch, A	79.47	315	P	P	12 46 56.8 -0.6
	baz=80					
R23A	Moffat	79.47	309	P	P	12 46 58.5 +0.6
	baz=80,SNR=9.2					
ISCO	Idaho Springs	79.52	310	eP	P	12 46 58.7 +0.6
ISCO				pmax	pmax	
	comp=Z,6.0nm,1.2s					
ISCO	Idaho Springs	79.52	310	eP	P	12 46 58.7 +0.6
	comp=Z,6.3nm,1.2s					
ISCO	Idaho Springs	79.52	310	P	P	12 46 58.2 0.0
	baz=80					
U23A	El Rito	79.54	307	P	P	12 46 58.5 +0.3
	baz=80					
F24A	Ekalaka	79.57	316	P	P	12 46 57.8 -0.2
	baz=80					
ANMO	Albuquerque	79.60	305	eP	P	12 46 57.1 -1.4
	comp=Z,7.4nm,1.3s					
PHWY	Pilot Hill	79.61	312	eP	P	12 46 57.8 -0.7
	comp=Z,6.1nm,1.0s					
P23A	Jefferson	79.63	310	P	P	12 46 59.5 +0.7
	baz=80					
BNM	Barren Site	79.65	304	P	P	12 46 59.0 +0.1
	comp=Z,3.8nm,1.2s					
FFC	Flin Flon	79.77	326	eP	P	12 46 57.6 -1.2
FFC				pmax	pmax	
	comp=Z,30nm,1.1s					
FFC	Flin Flon	79.77	326	eP	P	12 46 57.5 -1.2
	comp=Z,30nm,1.1s					
O23A	Lake Granby, G	79.80	311	P	P	12 46 59.8 +0.1
	baz=80					
A24A	Westby	79.81	320	P	P	12 46 59.4 +0.2
	baz=80					
Z22A	Elephant Butte	79.84	303	P	P	12 47 00.5 +0.7
	baz=80,SNR=11					
C24A	Savage	79.84	318	P	P	12 46 59.3 -0.1
	baz=80					
DGMT	Dagmar	79.86	319	eP	P	12 46 59.9 +0.4
	comp=Z,57nm,1.2s					
DGMT	Dagmar	79.86	319	P	P	12 46 59.5 0.0
	baz=80					
L23A	Garrett	79.90	313	P	P	12 46 59.9 -0.2
	baz=80					
Y22A	Socorro	79.91	304	P	P	12 47 00.3 +0.1
	baz=80					
N23A	Red Feather La	79.91	311	P	P	12 47 00.8 +0.6
	baz=80,SNR=7.5					
K23A	Bowen Ranch, D	79.93	313	P	P	12 46 59.8 -0.3
	baz=80					
H23A	Clabaugh Cattl	80.04	315	P	P	12 47 01.3 +0.8
	baz=80					
V22A	San Miguel Ran	80.07	306	P	P	12 47 01.9 +0.7
	baz=80,SNR=8.5					
U22A	Llaves	80.08	307	P	P	12 47 01.9 +0.8
	baz=80					
LAZ	Ladron	80.10	305	eP	P	12 47 01.8 +0.5
	comp=Z,5.7nm,1.4s					
G23A	Biddle	80.13	316	P	P	12 47 01.3 +0.2
	baz=80					
T22A	Edith	80.18	307	P	P	12 47 02.3 +0.6
	baz=80					
S22A	4UR Ranch, Cre	80.21	308	P	P	12 47 02.5 +0.6
	baz=80,SNR=8.3					
F23A	Volborg	80.22	316	P	P	12 47 01.0 -0.5
	baz=80,SNR=6.6					
E23A	Ismay	80.27	317	P	P	12 47 01.6 -0.1
	baz=80					
O22A	Kremmling	80.28	310	P	P	12 47 01.8 -0.5
	baz=80					
N22A	Wattenberg Ran	80.28	311	P	P	12 47 02.5 +0.2
	baz=80					
D23A	Lindsay	80.31	318	P	P	12 47 02.1 +0.2
	baz=80,SNR=8.0					
P22A	Eagle	80.37	310	P	P	12 47 03.0 +0.4
	baz=80,SNR=6.8					
B23A	Brockton	80.38	319	P	P	12 47 02.3 +0.1
	baz=80					
A23A	Redstone	80.39	319	P	P	12 47 02.4 +0.1
	baz=80					
C23A	Lambert	80.40	318	P	P	12 47 02.6 +0.3
	baz=80					
Q22A	Crested Butte,	80.40	309	P	P	12 47 03.3 +0.4
	baz=80					
L22A	Ellis Ranch, M	80.43	312	P	P	12 47 03.0 +0.1
	baz=80					
121A	Cookes Peak, D	80.46	303	P	P	12 47 03.2 0.0
	baz=80					
SMCO	Snowmass	80.48	309	eP	P	12 47 02.9 -0.6
	comp=Z,15nm,1.3s					
Y21A	Point of Rocks	80.50	304	P	P	12 47 03.8 +0.3
	baz=80					
X21A	Alamocita Cree	80.64	305	P	P	12 47 04.6 +0.4
	baz=81,SNR=9.0					
J22A	Midwest	80.64	314	P	P	12 47 03.1 -0.8
	baz=81					
E22A	Miles City	80.70	317	P	P	12 47 03.5 -0.6
	baz=81					
I22A	9 Mile Ranch,	80.71	314	P	P	12 47 03.6 -0.7
	baz=81					
U21A	Nageezi	80.72	307	P	P	12 47 05.3 +0.7
	baz=81,SNR=8.4					
G22A	Birney	80.76	316	P	P	12 47 04.2 -0.2
	baz=81					
R21A	Cimarron	80.84	309	P	P	12 47 05.9 +0.6
	baz=81					
C22A	Vida	80.85	318	P	P	12 47 04.4 -0.4
	baz=81					
P21A	Newcastle	80.89	310	P	P	12 47 06.6 +1.2
	baz=81					
Q21A	Lamborn Mesa,	80.91	309	P	P	12 47 06.0 +0.5
	baz=81,SNR=11					
LAO	LASA Array	80.92	317	eP	P	12 47 05.0 -0.2
	comp=Z,24nm,1.1s					
S21A	Coal Bank Pass	80.96	308	P	P	12 47 06.2 +0.2
	baz=81,SNR=11					

D22A	**Cohagen**	80.96	318	P	P	12 47 05.7	+0.3
	baz=81,SNR=8.5						
320A	**Kipp Ranch, An**	80.99	301	P	P	12 47 06.4	+0.3
	baz=81						
220A	**Playas Peak, P**	81.04	302	P	P	12 47 06.5	+0.3
	baz=81						
A22A	**Carney Farms,**	81.07	319	P	P	12 47 05.7	-0.2
	baz=81						
N21A	**Black Mountain**	81.08	311	P	P	12 47 06.5	+0.1
	baz=81,SNR=8.0						
K21A	**Alcova**	81.11	313	P	P	12 47 06.2	-0.3
	baz=81						
L21A	**Rawlins**	81.11	312	P	P	12 47 06.2	-0.3
	baz=81,SNR=5.6						
120A	**U Bar Ranch, L**	81.18	303	P	P	12 47 07.8	+0.8
	baz=81						
Z20A	**Nine Sixteen R**	81.19	303	P	P	12 47 07.4	+0.3
	baz=81						
I21A	**Big Trails, Te**	81.28	314	P	P	12 47 06.3	-1.0
	baz=81,SNR=14						
W20A	**Ramah**	81.28	305	P	P	12 47 07.7	+0.1
	baz=81,SNR=7.4						
V20A	**Brimhall**	81.32	306	P	P	12 47 07.4	-0.4
	baz=81						
J21A	**Lysite**	81.33	314	P	P	12 47 07.3	-0.3
	baz=81,SNR=11						
G21A	**Lodge Grass**	81.40	316	P	P	12 47 07.7	-0.2
	baz=81						
S20A	**Disappointment**	81.42	308	P	P	12 47 08.8	+0.4
	baz=81						
R20A	**Redvale**	81.47	308	P	P	12 47 09.3	+0.8
	baz=82,SNR=11						
MVCO	**Mesa Verde**	81.47	307	*e*P	P	12 47 09.2	+0.6
	comp=Z,7.5nm,1.1s						
MVCO	**Mesa Verde**	81.47	307	P	P	12 47 08.8	+0.2
	baz=82						
Q20A	**Ridgley Place,**	81.48	309	P	P	12 47 08.5	0.0
	baz=82						
D21A	**La Casta Ranch**	81.50	317	P	P	12 47 08.7	+0.4
	baz=82						
O20A	**White River Ci**	81.56	310	*e*P	P	12 47 09.0	+0.1
O20A	**White River Ci**	81.56	310	P	P	12 47 09.3	+0.4
	baz=82,SNR=8.2						
P20A	**De Beque**	81.61	310	P	P	12 47 09.5	+0.3
	baz=82,SNR=6.0						
PV01	**Paradox Valley**	81.62	308	*e*P	P	12 47 09.9	+0.6
	comp=Z,731nm,1.1s						
319A	**Douglas**	81.64	301	P	P	12 47 09.9	+0.4
	baz=82						
N20A	**Spence Gulch,**	81.65	311	P	P	12 47 09.1	-0.3
	baz=82						
M20A	**Sweetwater, Wa**	81.67	312	P	P	12 47 09.5	0.0
	baz=82						
B21A	**Ellsworth Farm**	81.70	319	P	P	12 47 09.9	+0.6
	baz=82,SNR=5.1						
J20A	**Shoshoni**	81.80	314	P	P	12 47 10.1	0.0
	baz=82,SNR=11						
L20A	**Wamsutter**	81.83	312	P	P	12 47 10.3	-0.1
	baz=82						
H20A	**Greybull**	81.87	315	P	P	12 47 09.9	-0.4
	baz=82						
I20A	**Worland**	81.90	314	P	P	12 47 10.1	-0.5
	baz=82						
K20A	**Yellowstone Ra**	81.91	313	P	P	12 47 10.1	-0.6
	baz=82						
P19A	**Cripple Cowboy**	82.08	310	P	P	12 47 11.5	-0.3
	baz=82						
O19A	**Miners Draw (B**	82.25	310	P	P	12 47 12.9	+0.3
	baz=82,SNR=7.2						
C20A	**Veseth Ranch,**	82.27	318	P	P	12 47 12.0	-0.3
	baz=82,SNR=7.4						
D20A	**Manuel Ranch,**	82.28	317	P	P	12 47 12.3	0.0
	baz=82,SNR=8.8						
K19A	**Absolon Red Bu**	82.30	313	P	P	12 47 11.9	-0.8
	baz=82						
A20A	**Cobblestone Ra**	82.36	319	P	P	12 47 12.9	+0.1
	baz=82,SNR=7.1						
X18A	**Snowflake**	82.42	305	P	P	12 47 14.1	+0.5
	baz=82						
J19A	**Crowheart**	82.49	313	P	P	12 47 13.0	-0.8
	baz=82						
I19A	**Meeteetse**	82.53	314	P	P	12 47 13.2	-0.8
	baz=82						
H19A	**Powell**	82.59	315	P	P	12 47 13.7	-0.5
	baz=83						
L19A	**Farson**	82.60	312	P	P	12 47 14.6	+0.2
	baz=83,SNR=5.4						
E19A	**Rath Farm, Rou**	82.65	317	P	P	12 47 13.9	-0.4
	baz=83,SNR=11						
F19A	**Roth Farm, Mol**	82.69	316	P	P	12 47 14.5	-0.1
	baz=83,SNR=6.2						
D19A	**Cripps Ranch,**	82.79	317	P	P	12 47 14.8	-0.3
	baz=83,SNR=7.5						
BW06	**Boulder Array**	82.81	313	*e*P	P	12 47 14.6	-0.9
	comp=Z,2.4nm,0.8s						
PDAR	**Pinedale Array**	82.81	313	P	P	12 47 15.1	-0.4
PDAR	**Pinedale Array**	82.81	313	P	P	12 47 15.1	-0.4
	comp=Z,4.7nm,1.2s,baz=93,slow=6.5,SNR=8.5						
PDAR				LR	LR	13 20 10.9	
	comp=Z,556nm,19.1s,baz=125,slow=33						
RLMT	**Red Lodge**	82.84	315	*e*P	P	12 47 15.1	-0.4
	comp=Z,13nm,1.3s						
A19A	**Klindworth Far**	82.90	319	P	P	12 47 15.6	0.0
	baz=83,SNR=6.6						
C19A	**Slack Wire Ran**	82.97	318	P	P	12 47 15.9	-0.1
	baz=83,SNR=8.1						
TUC	**Tucson**	82.98	302	*e*P	P	12 47 16.4	0.0
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TUC	**Tucson**	82.98	302	*e*P	P	12 47 16.4	0.0
	comp=Z,4.8nm,1.1s						
B19A	**Brinkman Farms**	82.98	319	P	P	12 47 16.6	+0.6
	baz=83						
G18A	**Lazy EL Ranch,**	83.06	315	P	P	12 47 15.9	-0.8
	baz=83						
H18A	**Shoshone NF, C**	83.07	315	P	P	12 47 15.8	-1.0
	baz=83						
L18A	**Fontenelle, Gr**	83.09	312	P	P	12 47 16.2	-0.7
	baz=83						
I18A	**Diamond G Ranc**	83.09	314	P	P	12 47 16.2	-0.7
	baz=83						
SYO	**Syowa Base**	83.10	160⇑	*e*P	P	12 47 14.7	-1.4
GCMT	**Greycliff**	83.18	316	*e*P	P	12 47 17.0	-0.3
	comp=Z,7.5nm,1.2s						
SRU	**San Rafael**	83.23	309	*e*P	P	12 47 17.5	-0.2
SRU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SRU	**San Rafael**	83.23	309	*e*P	P	12 47 17.5	-0.2
	comp=Z,10nm,1.2s						
F18A	**Big Timber**	83.23	316	P	P	12 47 17.1	-0.3
	baz=83,SNR=11						
D18A	**Linhart Farms,**	83.42	317	P	P	12 47 18.1	-0.3
	baz=83,SNR=8.4						
E18A	**Harlowton**	83.43	317	P	P	12 47 18.1	-0.4
	baz=83						
EGMT	**Eagleton**	83.47	318	*e*P	P	12 47 18.1	-0.5
	comp=Z,11nm,1.1s						
EGMT	**Eagleton**	83.47	318	P	P	12 47 18.3	-0.3
	baz=84						
M17A	**Scullys Gap (B**	83.52	311	P	P	12 47 19.2	0.0
	baz=84,SNR=5.5						
A18A	**Metzger Ranch,**	83.63	319	P	P	12 47 18.6	-0.7
	baz=84						
X16A	**Lo Mia Camp, P**	83.65	304	P	P	12 47 20.5	+0.6
	baz=84						
LOHW	**Long Hollow**	83.65	314	*e*P	P	12 47 19.4	-0.4
	comp=Z,5.4nm,1.0s						
I17A	**Pilgrim Ck.**	83.65	314	P	P	12 47 20.5	+0.7
	baz=84						
WUAZ	**Wupatki**	83.66	305	*e*P	P	12 47 20.1	+0.2
	comp=Z,9.9nm,1.0s						
WUAZ	**Wupatki**	83.66	305	P	P	12 47 20.1	+0.2
	baz=84						
Q16A	**Castle Valley**	83.72	309	*e*P	P	12 47 20.3	+0.1
Q16A	**Castle Valley**	83.72	309	P	P	12 47 19.9	-0.3
	baz=84						
MOOW	**Moose Ponds**	83.76	314	*e*P	P	12 47 20.0	-0.4
	comp=Z,2.5nm,0.9s						
REDW	**Red Top Meadow**	83.81	313	*e*P	P	12 47 20.1	-0.5
	comp=Z,14nm,1.3s						
F17A	**Fitzpatrick Pl**	83.89	316	P	P	12 47 20.7	-0.2
	baz=84						
TPAW	**Teton Pass**	83.89	313	*e*P	P	12 47 20.8	-0.3
	comp=Z,3.7nm,0.7s						
IMW	**Indian Meadow**	83.91	314	*e*P	P	12 47 21.1	-0.2
	comp=Z,9.9nm,1.4s						
D17A	**Six Diamond Ra**	84.02	317	P	P	12 47 21.4	-0.1
	baz=84,SNR=6.7						

JLU	**Jordanelle**	84.05	311	*e*P	P	12 47 17.4	-4.6
	comp=Z,5.3nm,0.8s						
E17A	**Martinsdale**	84.07	316	P	P	12 47 21.4	-0.4
	baz=84,SNR=13						
C17A	**Wharram Farm,**	84.11	318	P	P	12 47 21.5	-0.4
	baz=84						
RRI2	**Red Ridge**	84.15	313	*e*P	P	12 47 22.2	-0.3
	comp=Z,5.3nm,1.0s						
B17A	**L&G Farms, Che**	84.19	318	P	P	12 47 21.9	-0.4
	baz=84						
HWUT	**Hardware Ranch**	84.20	312	*e*P	P	12 47 22.1	-0.5
	comp=Z,6.7nm,0.8s						
QLMT	**Earthquake Lak**	84.34	315	*e*P	P	12 47 23.8	+0.5
	comp=Z,1.1nm,0.9s						
U15A	**North Rim**	84.45	306	P	P	12 47 24.4	+0.2
	baz=84						
MSU	**Marysvale**	84.47	308	*e*P	P	12 47 24.7	+0.6
MSU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MSU	**Marysvale**	84.47	308	*e*P	P	12 47 24.6	+0.6
	comp=Z,6.8nm,1.0s						
MVU	**Marysvale**	84.50	308	*e*P	P	12 47 24.8	+0.6
	comp=Z,10nm,1.2s						
214A	**Organ Pipe Nat**	84.68	302	P	P	12 47 25.9	+0.9
	baz=85						
HRY	**Holter Researc**	84.76	317	*e*P	P	12 47 25.4	+0.1
	comp=Z,10nm,1.0s						
UOSS	**Wadi Hilu**	84.87	65	P	P	12 47 25.2	-0.9
	comp=Z,178nm,0.8s,SNR=8.3						
Y14A	**Wickenburg**	84.92	304	P	P	12 47 27.1	+0.9
	baz=85						
DUG	**Dugway**	85.06	310	*e*P	P	12 47 26.9	0.0
DUG				pmax	pmax		
	comp=Z,13nm,1.4s						
DUG	**Dugway**	85.06	310	*e*P	P	12 47 26.9	0.0
	comp=Z,13nm,1.4s						
DUG	**Dugway**	85.06	310	P	P	12 47 27.2	+0.3
	baz=85						
LRM	**Limekiln Ridge**	85.13	316	*e*P	P	12 47 27.6	+0.4
	comp=Z,88nm,1.1s						
DLMT	**Dillon**	85.20	315	*e*P	P	12 47 26.5	-1.1
	comp=Z,24nm,1.4s						
BGU	**Big Grassy Mou**	85.26	311	*e*P	P	12 47 27.6	-0.4
	comp=Z,16nm,1.5s						
MCMT	**McKenzie Canyo**	85.34	315	*e*P	P	12 47 28.7	+0.3
	comp=Z,3.9nm,1.2s						
113A	**Mohawk Valley,**	85.51	303	P	P	12 47 29.4	+0.3
	baz=86						
CHMT	**Chamberlain Mo**	85.75	317	*e*P	P	12 47 30.2	-0.1
	comp=Z,4.9nm,1.2s						
SLMT	**Seeley Lake**	85.93	317	*e*P	P	12 47 31.9	+0.7
	comp=Z,11nm,1.3s						
Y12C	**Blythe**	86.17	304	P	P	12 47 32.9	+0.5
	baz=86						
EDM	**Edmonton**	86.19	323	*e*P	P	12 47 31.8	-0.3
EDM	**Edmonton**	86.19	323	*e*P	P	12 47 31.8	-0.3
MSO	**Missoula**	86.22	317	P	P	12 47 32.4	-0.1
	baz=86						
SWMT	**Swartz Lake**	86.29	317	*e*P	P	12 47 32.8	-0.1
	comp=Z,10nm,1.2s						
WALA	**Waterton Lakes**	86.31	319	*e*P	P	12 47 32.7	-0.2
	comp=Z,0.9nm,1.4s						
HLID	**Hailey**	86.41	313	*e*P	P	12 47 34.0	+0.3
	comp=Z,3.8nm,0.8s						
HLID	**Hailey**	86.41	313	P	P	12 47 33.9	+0.3
	baz=86						
JTMT	**Jette**	86.49	318	*e*P	P	12 47 33.6	-0.3
	comp=Z,4.2nm,1.2s						
IRM	**Iron Mountain**	86.70	304	P	P	12 47 35.2	+0.2
	baz=87						
BSMT	**Bassoo Peak**	86.83	318	*e*P	P	12 47 35.5	-0.1
	comp=Z,9.4nm,1.3s						
GMRC	**Granite Mounta**	87.14	305	P	P	12 47 37.8	+0.5
	baz=87						
R11A	**Troy Canyon, C**	87.14	308	*e*P	P	12 47 37.3	0.0
R11A	**Troy Canyon, C**	87.14	308	P	P	12 47 37.6	+0.3
	baz=87						
TUQ	**Turquoise Moun**	87.36	305	P	P	12 47 38.6	+0.2
	baz=87						
YKA	**Yellowknife Ar**	87.41	332	P	P	12 47 38.1	+0.3
YKA	**Yellowknife Ar**	87.41	332	P	P	12 47 38.1	+0.3
	comp=Z,1.7nm,0.8s,baz=114,slow=7.6,SNR=2.9						
ARU	**Arti**	87.68	34*c*	*i*P	P	12 47 39.7	+0.5
ARU						12 50 59.9	
ARU				S	S	12 58 07.6	-14
ARU				pmax	pmax		
	comp=Z,22nm,2.5s						
ARU				MLR	MLR		
	comp=Z,495nm,20.0s						
GSC	**Goldstone**	88.08	305	P	P	12 47 42.7	+0.9
	baz=88						
FURC	**Furnace Creek,**	88.13	306	P	P	12 47 42.7	+0.9
	baz=88						
ABKAR	**Akbulak array**	88.36	41	*e*P	P	12 47 43.0	+0.4
	comp=Z,8.3nm,1.2s						
BMO	**Blue Mountains**	88.52	315	*e*P	P	12 47 43.1	-0.5
BMO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BMO	**Blue Mountains**	88.52	315	*e*P	P	12 47 43.1	-0.5
	comp=Z,8.9nm,1.2s						
MPMC	**Manual Prospec**	88.64	306	P	P	12 47 44.7	+0.2
	baz=89						
SVE	**Sverdlovsk**	88.83	33⇑	*e*P	P	12 47 45.9	+1.2
SVE				pmax	pmax		
	comp=Z,18nm,1.6s						
SVE				MLR	MLR		
	comp=Z,695nm,22.0s						
NVAR	**Mina Array Bea**	89.28	308	P	P	12 47 47.4	-0.1
NVAR	**Mina Array Bea**	89.28	308	P	P	12 47 47.4	-0.1
	comp=Z,3.6nm,1.1s,baz=102,slow=5.5,SNR=16						
NVAR				LR	LR	13 22 51.3	
	comp=Z,454nm,21.0s,baz=88,slow=32						
ISA	**Isabella**	89.44	305	*e*P	P	12 47 48.3	+0.1
ISA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ISA	**Isabella**	89.44	305	*e*P	P	12 47 48.2	+0.1
	comp=Z,5.1nm,1.0s						
ISA	**Isabella**	89.44	305	P	P	12 47 48.3	+0.1
	baz=89						
QSPA	**South Pole Qui**	90.93	180	P	P	12 47 55.6	+1.1
QSPA	**South Pole Qui**	90.93	180	P	P	12 47 55.6	+1.1
	comp=Z,4.9nm,0.9s,baz=191,slow=3.8,SNR=33						
MAW	**Mawson**	91.34	157	*e*P	P	12 47 57.4	+1.2
	comp=Z,1.7nm,1.1s						
MAW	**Mawson**	91.34	157	LR	LR	13 20 16.4	
	comp=Z,303nm,21.6s,baz=277,slow=30						
BRVK	**Borovoye**	94.62	37	*i*P	P	12 48 13.3	+1.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	94.69	37	LR	LR	13 30 26.2	
	comp=Z,504nm,21.0s,baz=284,slow=35						
KSH	**Kashi**	100.62	50	*e*P	**Pdif**	12 48 39.8	+0.6
ILAR	**Eielson Array**	100.94	337	P	**Pdif**	12 48 39.6	-0.3
ILAR				PP	PP	12 52 38.6	-9.0
ILAR	**Eielson Array**	100.94	337	P	**Pdif**	12 48 39.6	-0.3
	comp=Z,0.4nm,0.9s,baz=60,slow=5.3,SNR=6.2						
ILAR				PP	PP	12 52 38.6	-9.0
	comp=Z,0.6nm,1.1s,baz=55,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	103.50	41	PP	PP	12 53 01.2	-6.2
MKAR	**Makanchi Array**	103.50	41	PP	PP	12 53 01.2	-6.2
	comp=Z,0.2nm,0.4s,baz=271,slow=6.6,SNR=4.4						
RKT	**Rikitea**	105.44	246	*e*LR	LR	13 23 53.7	
	comp=Z,285nm,22.5s						
WMQ	**Urumqi**	108.03	43	*e*Pdif	**Pdif**	12 49 12.3	+0.3
WMQ				PP	**PP**	12 53 44.6	+3.6
WMQ				S	**Sdif**	13 01 15.0	-3.7
WMQ				SS	**SS**	13 08 55.5	+1.0
WMQ				AMB	AMB		
	comp=Z,100nm,8.0s						
WMQ				LR	LR		
	comp=N,310nm,23.0s						
WMQ				LR	LR		
	comp=E,210nm,24.0s						
WMQ				LR	LR		
	comp=Z,320nm,35.0s						
SONM	**Songino Array**	117.69	33	PKP	**PKPdf**	12 53 37.9	+0.6
SONM	**Songino Array**	117.69	33	PKP	**PKPdf**	12 53 37.9	+0.6
	comp=Z,1.7nm,0.9s,baz=311,slow=1.5,SNR=8.0						
GTA	**Gaotai**	118.11	44	*e*PKP	**PKPdf**	12 53 39.9	+1.5
TBI	**Tubuai**	118.56	244	*e*LR	LR	13 29 35.3	
	comp=Z,325nm,22.8s						
PPT2	**Papeete2**	119.75	250	*e*SS	SS	13 11 38.0	+7.0
	comp=Z,107nm,27.2s						
PPT2	**Papeete2**	119.75	250	*e*LR	LR	13 30 15.3	
	comp=Z,154nm,21.2s						
LZH	**Lanzhou**	122.49	45	*e*PKP	**PKPdf**	12 53 48.8	+1.8
LZH				sPKP		12 53 54.9	
LZH				LR	LR		
	comp=N,510nm,18.7s						
LZH				LR	LR		
	comp=E,360nm,18.4s						
LZH				LR	LR		
	comp=Z,490nm,20.3s						
CD2	**Chengdu**	124.80	51	*e*PKP	**PKPdf**	12 53 51.3	-0.1
CD2				PP	**PP**	12 55 41.8	+3.1
CD2				SKS	**SKSdf**	13 00 59.9	-4.3
CD2				SKKS	**SKKSac**	13 02 33.3	-5.1
CD2				SS	**SS**	13 12 33.0	-1.1
CD2				AMB	AMB		
	comp=Z,230nm,10.2s						
CD2				LR	LR		
	comp=N,330nm,19.0s						
CD2				LR	LR		
	comp=Z,230nm,19.0s						
HHC	**Hu-ho-hao-te**	124.90	36	*e*PKP	**PKPdf**	12 53 49.6	-1.8
HHC				PP	**PP**	12 55 41.4	+2.6
HHC				PKS	**PKSdf**	12 57 24.8	-3.3
HHC				SKS	**SKSdf**	13 01 00.0	-4.1
HHC				SKKS	**SKKSac**	13 02 33.4	-5.3
HHC				SS	**SS**	13 12 34.3	-0.1
HHC				AMB	AMB		
	comp=Z,92nm,8.6s						
HHC				LR	LR		
	comp=N,420nm,20.6s						
HHC				LR	LR		
	comp=E,550nm,20.7s						
HHC				LR	LR		
	comp=Z,390nm,20.6s						
CMAR	**Chiang Mai Arr**	124.95	67	PKP	**PKPdf**	12 53 51.8	-0.1
CMAR	**Chiang Mai Arr**	124.95	67	PKP	**PKPdf**	12 53 51.8	-0.1
	comp=Z,2.3nm,0.8s,baz=281,slow=4.0,SNR=12						
KMI	**Kunming**	126.28	58	*e*PKP	**PKPdf**	12 53 56.3	+1.7
KMI				PP	PP	12 55 54.5	+5.5
KMI				SS	SS	13 12 53.1	-0.4
KMI				LR	LR		
	comp=Z,190nm,21.3s						
XAN	**Xi'an**	127.12	45	PKP	**PKPdf**	12 53 55.1	-0.6
BJI	**Beijing**	128.10	34	PKP	**PKPdf**	12 53 56.8	-0.5
BJI				SS	SS	13 13 14.3	+0.4
BJI				LR	LR		
	comp=N,310nm,18.2s						
BJI				LR	LR		
	comp=E,280nm,19.0s						
BJI				LR	LR		
	comp=Z,250nm,29.1s						
GYA	**Guiyang**	129.01	54	Pdif	**Pdif**	12 50 43.8	-1.9
GYA				PKP	**PKiKP**	12 54 00.5	+0.2
GYA				PP	**PP**	12 56 09.8	+3.0
GYA				PKS	**PKSdf**	12 57 33.6	-2.9
GYA				SKKS		13 03 01.3	
GYA				SS	**SS**	13 13 25.9	-1.1
GYA				AMB	AMB		
	comp=Z,140nm,8.0s						
GYA				LR	LR		
	comp=N,160nm,23.8s						
GYA				LR	LR		
	comp=E,140nm,24.2s						
GYA				LR	LR		
	comp=Z,170nm,22.6s						
QIZ	**Qiongzhong**	134.61	62	PKP	**PKPdf**	12 54 08.8	-1.4
QIZ				SS	SS	13 14 35.1	-0.6
QIZ				LR	LR		
	comp=Z,200nm,25.8s						
MJAR	**Matsushiro Arr**	140.80	17	PKP	**PKPdf**	12 54 20.6	-0.6
MJAR	**Matsushiro Arr**	140.80	17	PKP	**PKPdf**	12 54 20.6	-0.6
	comp=Z,1.2nm,0.9s,baz=341,slow=1.6,SNR=3.4						
BBOO	**Buckleboo**	145.07	157	*e*PKPbc	**PKPdf**	12 54 28.7	-0.2
STKA	**Stephens Creek**	147.78	164	PKPbc	**PKPbc**	12 54 36.5	+0.2
STKA	**Stephens Creek**	147.78	164	PKPbc	**PKPbc**	12 54 36.5	+0.2
	comp=Z,6.5nm,0.9s,baz=206,slow=3.1,SNR=5.1						
FITZ	**Fitzroy Crossi**	149.40	126	PKPbc	**PKPbc**	12 54 40.4	-0.4
FITZ	**Fitzroy Crossi**	149.40	126	PKPbc	**PKPbc**	12 54 40.4	-0.4
	comp=Z,5.3nm,0.8s,baz=230,slow=1.0,SNR=10.0						
ASAR	**Alice Springs**	151.65	144	PKPbc	**PKPbc**	12 54 44.8	-1.3
ASAR	**Alice Springs**	151.65	144	PKPbc	**PKPbc**	12 54 44.8	-1.3
	comp=Z,4.3nm,0.8s,baz=204,slow=1.6,SNR=32						
AS31	**Alice Springs**	151.66	144	*e*PKPbc	**PKPbc**	12 54 46.5	+0.3
AS31				*e*PKPab	**PKPab**	12 54 55.7	+1.0
DZM	**Mont Dzumac**	154.36	214	*e*LR	LR	13 46 28.7	
	comp=Z,814nm,23.4s						
WRA	**Warramunga Arr**	154.70	140	PKPbc	**PKPbc**	12 54 51.6	-1.3
WRA				PKPab	**PKPab**	12 55 07.8	+0.3
WRA	**Warramunga Arr**	154.70	140	PKPbc	**PKPbc**	12 54 51.6	-1.3
	comp=Z,0.9nm,0.8s,baz=242,slow=2.2,SNR=5.7						
WRA				PKPab	**PKPab**	12 55 07.8	+0.3
	comp=Z,4.2nm,0.8s,baz=226,slow=3.2,SNR=5.8						

IDC 22 12:35:33.9±0.9, 32°.13S×179°.92E, h292km±11km, mb3.6/5, mb1 3.8/7, mb1mx3.5/20, mbtmp3.8/7, Error ellipse: s-maj=18.3km s-min=12.8km az=106.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	3.42	34	P	Pn	12 36 34.0	+0.6
	21nm,0.3s,baz=139,slow=36,SNR=2.4						
RAO				S	S	12 37 21.2	+0.2
	63nm,0.3s,baz=253,slow=19,SNR=2.5						
URZ	**Urewera**	6.54	200	P	Pn	12 37 09.4	0.0
	9.9nm,0.3s,baz=344,slow=4.1,SNR=37						
URZ				S	S	12 38 25.3	-1.0
	6.0nm,0.3s,baz=292,slow=21,SNR=13						
RPZ	**Rata Peaks**	13.51	209	P	Pn	12 38 31.4	-3.3
	1.6nm,0.3s,baz=112,slow=11,SNR=3.9						
RPZ				S	S	12 40 49.2	-15
	0.6nm,0.3s,baz=43,slow=19,SNR=2.3						
CTA	**Charters Tower**	32.39	283	P	P	12 41 38.0	+1.1
	1.4nm,0.5s,baz=120,slow=12,SNR=4.8						
STKA	**Stephens Creek**	32.39	260	P	P	12 41 37.3	+0.5
	3.9nm,0.9s,baz=103,slow=14,SNR=8.4						
ASAR	**Alice Springs**	41.28	270	P	P	12 42 50.9	-0.5
	1.1nm,0.6s,baz=110,slow=7.6,SNR=24						
WRA	**Warramunga Arr**	42.43	275	P	P	12 43 00.0	-0.6
	3.7nm,0.3s,baz=115,slow=7.7,SNR=272						
QSPA	**South Pole Qui**	57.99	180	P	P	12 44 56.8	+0.6
	1.8nm,0.5s,baz=35,slow=0.5,SNR=28						
FINES	**FINESS Array B**	146.11	338	PKPbc	PKPdf	12 54 37.4	0.0
	2.4nm,1.0s,baz=40,slow=2.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	161.04	185	PKPab	PKPab	12 55 42.8	-1.5
	0.7nm,0.8s,baz=159,slow=3.9,SNR=6.0						

**IDC 22 12:47:50.7±2.1, 1°.18N×125°.78E, h0km, mb3.3/3, mb1

BGS **22** *13:18:36.9±1.3, 46.°98N×152.°81E, h179km, mb5.5*
GCMT **22** *13:18:37.2±0.3, 46.°33N×150.°21E, h163km±2km, MW5.1, Moment Tensor Solution. s32, c35; s78, c116; Moment tensor: Scale 10^16Nm; Mr0.91±.18; Mθθ2.68±.20; Mφφ-3.59±.17; Mrθ3.95±.14; Mrφ-0.43±.18; Mθφ2.52±.13; Best double couple: M0 5.70000×10^16 NP1:φs48.00000°, δ84.00000°, λ125.00000°. NP2:φs146.00000°, δ35.00000°, λ10.00000°. Principal axes: T 6.0100, Plg40.0000°, Azm350.0000°; N -0.6700, Plg34.0000°, Azm224.0000°; P -5.3500, Plg31.0000°, Azm110.0000°; Data Used: II IU IC G CN.*
JMA **22** *13:18:37.8±0.5, 45.°54N×150.°12E, h184km, M5.2*
JMA Felt I J1.
DJA **22** *13:18:45.9±7.8, 46°N±13°×15°0E±2°6, h248km±71km, M5.0/9, mB5.4/7, mb5.2/9, Mw(mB)4.9/7*
NIED **22** *13:19:00, 45.°50N×150.°10E, h125km, Mw5.2 Best double couple: M0 7.45000×10^16 NP1:φs60.00000°, δ87.00000°, λ104.00000°. NP2:φs160.00000°, δ14.00000°, λ10.00000°.*

ISC 22 13:18:35.1±0.3, 46.°32N±0.°03×150.°10E±0.°03, h171km±1km, h171km:pP-P, n1489, σ1§16/1649, mb5.2/361, 227C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.90**	**236**	⇓*i*PN	**Pn**	**13 19 10.5**	**0.0**
KUR				*e*S	**Sn**	**13 19 37.2**	**-0.6**
KUR				pmax	pmax		
	comp=N,580nm,0.8s						
KUR				pmax	pmax		
	comp=E,970nm,0.8s						
KUR				pmax	pmax		
	comp=Z,3μm,0.8s						
KUR				pmax	pmax		
	comp=Z,5μm,2.0s						
KUR				smax	smax		
	comp=N,26μm,1.0s						
KUR				smax	smax		
	comp=E,12μm,1.0s						
KUR				smax	smax		
	comp=N,175μm,2.0s						
KUR				smax	smax		
	comp=E,65μm,2.0s						
KUR	**Kuril'sk**	**1.90**	**236**	⇓*i*P	**Pn**	**13 19 10.3**	**-0.2**
KUR				AMB	AMB	13 19 14.2	
	comp=E,8μm,1.0s						
KUR				AMB	AMB	13 19 15.2	
	comp=E,1μm,0.4s						
KUR				AMB	AMB	13 19 15.2	
	comp=E,5μm,0.8s						
KUR				AMB	AMB	13 19 15.2	
	comp=E,2μm,0.9s						
KUR				*e*S	**Sn**	**13 19 36.0**	**-1.8**
KUR				A	A	13 19 42.0	
	comp=E,80μm,2.0s						
KUR				A	A	13 19 42.0	
	comp=E,32μm,2.0s						
KUR				A	A	13 19 42.4	
	comp=E,176μm,2.0s						
KUR				A	A	13 19 42.4	
	comp=E,64μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**3.77**	**234**	*i* PN	**Pn**	**13 19 32.4**	**-0.5**
YUK				*i* S	**Sn**	**13 20 15.7**	**-2.4**
YUK				pmax	pmax		
	comp=E,85nm,0.3s						
YUK				pmax	pmax		
	comp=N,63nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax	smax		
	comp=N,5μm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.77**	**234**	⇑*i*P	**Pn**	**13 19 32.5**	**-0.5**
YUK				AMB	AMB	13 19 32.9	
	comp=E,63nm,0.3s						
YUK				AMB	AMB	13 19 32.9	
	comp=E,85nm,0.3s						
YUK				AMB	AMB	13 19 32.9	
	comp=E,1μm,0.3s						
YUK				*i* S	**Sn**	**13 20 15.7**	**-2.4**
YUK				A	A	13 20 19.9	
	comp=E,5μm,0.4s						
YUK				A	A	13 20 19.9	
	comp=E,2μm,0.4s						
JRA	**Rausu**	**4.25**	**238**	P	**Pn**	**13 19 38.7**	**-0.4**
JRA				*e*S	**Sn**	**13 20 24.9**	**-4.3**
NEM2	**Nemuro 2**	**4.28**	**228**	P	**Pn**	**13 19 36.6**	**-2.9**
NEM2				*e*S	Sn	13 20 22.8	-7.1
JNK	**Nakash**	**4.70**	**236**	P	**Pn**	**13 19 44.0**	**-0.9**
JTKR	**Abashiri--Toko**	**4.97**	**244**	P	**Pn**	**13 19 48.4**	**0.0**
JTKR				*e*S	**Sn**	**13 20 44.5**	**-1.4**
JAK	**Akkeshi**	**5.09**	**231**	P	**Pn**	**13 19 47.6**	**-2.4**
JAK				*e*S	Sn	13 20 41.0	-7.7
YSS	**Yuzh-Sakhalins**	**5.10**	**280**	κ *i*PN	**Pn**	**13 19 52.5**	**+2.5**
YSS				pmax	pmax		
	comp=E,350nm,1.0s						
YSS				pmax	pmax		
	comp=Z,840nm,1.0s						
YSS				pmax	pmax		
	comp=N,160nm,0.9s						
YSS				MLR	MLR		
	comp=Z,800nm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.10**	**280**	⇓*i*P	**Pn**	**13 19 52.5**	**+2.5**
YSS				⇓*i*P	**Pn**	**13 19 52.5**	**+2.5**
YSS				AMB	AMB	13 19 53.8	
	comp=Z,350nm,1.0s						
YSS				AMB	AMB	13 19 53.8	
	comp=Z,160nm,0.9s						
YSS				AMB	AMB	13 19 53.8	
	comp=Z,840nm,1.0s						
YSS				AMB	AMB	13 19 54.4	
	comp=Z,1μm,4.0s						
YSS				*i* S	**Sn**	**13 20 52.8**	**+4.0**
YSS				A	A	13 20 57.0	
	comp=Z,540nm,1.1s						
YSS				A	A	13 20 57.0	
	comp=Z,720nm,1.3s						
YSS				A	A	13 20 58.0	
	comp=Z,2μm,4.0s						
YSS				AMS	AMS	13 22 34.0	
	comp=Z,800nm,14.0s						
JMP	**Maruseppu**	**5.30**	**246**	P	**Pn**	**13 19 53.0**	**+0.2**
JAR	**Ashorobuto**	**5.42**	**238**	P	**Pn**	**13 19 54.0**	**-0.4**
JSE	**Soyaes**	**5.44**	**258**	P	**Pn**	**13 19 55.8**	**+1.2**
JOB	**Onbets**	**5.63**	**235**	P	**Pn**	**13 19 55.4**	**-1.6**
JOB				*e*S	**Sn**	**13 20 55.5**	**-5.9**
ASAJ	**Asahikawa**	**5.74**	**250**	*e*Pn	**Pn**	**13 19 59.9**	**+1.4**
ASAJ				S	**Sn**	**13 21 04.3**	**+0.3**
ASAJ				*e*Sn	Sn	13 21 04.9	+0.8
ASAJ	**Asahikawa**	**5.74**	**250**	P	**Pn**	**13 19 59.7**	**+1.2**
ASAJ				*e*S	**Sn**	**13 21 04.6**	**+0.6**
ASAJ	**Asahikawa**	**5.74**	**250**	P	**Pn**	**13 19 59.0**	**+0.5**
	comp=Z,156nm,0.3s,baz=75,slow=14,SNR=1781						
ASAJ				S	**Sn**	**13 21 04.3**	**+0.3**
	comp=Z,17nm,0.3s,baz=114,slow=28,SNR=5.7						
JKK2	**Kamakawa 2**	**5.75**	**247**	P	**Pn**	**13 19 59.4**	**+0.7**
JKK2				*e*S	**Sn**	**13 21 03.6**	**-0.7**
JWK2	**Keihoku**	**5.82**	**263**	P	**Pn**	**13 20 02.3**	**+2.8**
SKR	**Severo-Kuril's**	**5.92**	**40**	*e*P	Pn	13 19 53.0	-7.7
SKR				AMB	AMB	13 19 58.8	
	comp=Z,190nm,0.5s						
SKR				AMB	AMB	13 19 58.8	
	comp=Z,150nm,0.5s						
SKR				AMB	AMB	13 19 58.8	
	comp=Z,240nm,0.6s						
SKR				*e*S	Sn	13 20 59.9	-8.2
SKR				A	A	13 21 07.7	
	comp=Z,280nm,0.5s						
SKR				A	A	13 21 07.7	
	comp=Z,360nm,0.5s						
SKR				A	A	13 21 07.7	
	comp=Z,120nm,0.5s						
SKR				A	A	13 21 20.0	
	comp=Z,2μm,10.0s						
SKR				AMS	AMS	13 22 54.0	
	comp=Z,1μm,14.0s						
JCH	**Churui**	**6.08**	**235**	P	**Pn**	**13 20 00.6**	**-2.4**
JCH				*e*S	Sn	13 21 04.3	-7.8
UGL	**Uglegorsk**	**6.08**	**300**	*e*PN	**Pn**	**13 20 05.0**	**+2.1**
UGL				pmax	pmax		
	comp=Z,83nm,0.7s						
UGL	**Uglegorsk**	**6.08**	**300**	*e*P	**Pn**	**13 20 05.0**	**+2.1**
UGL				AMB	AMB	13 20 05.5	
	comp=Z,83nm,0.7s						
UGL				*e*S	**Sn**	**13 21 16.0**	**+4.0**
UGL				A	A	13 21 20.0	
	comp=Z,247nm,1.0s						
UGL				A	A	13 21 20.0	
	comp=Z,5μm,5.0s						
UGL				A	A	13 21 20.0	
	comp=Z,6μm,5.0s						
UGL				A	A	13 21 20.0	
	comp=Z,157nm,0.8s						
JSS	**Shosan**	**6.12**	**255**	P	**Pn**	**13 20 05.8**	**+2.3**
JFR	**Furan**	**6.21**	**242**	P	**Pn**	**13 20 04.3**	**-0.4**
JFR				*e*S	**Sn**	**13 21 11.4**	**-3.7**
JAB	**Ashibetsu**	**6.26**	**246**	P	**Pn**	**13 20 06.2**	**+0.8**
JHR	**Hokuryu**	**6.47**	**250**	P	**Pn**	**13 20 09.3**	**+1.2**
JBT2	**Biratori 2**	**6.56**	**240**	P	**Pn**	**13 20 07.7**	**-1.7**
JEM	**Erimo**	**6.59**	**232**	P	**Pn**	**13 20 07.9**	**-1.8**
JEM				*e*S	**Sn**	**13 21 18.7**	**-5.5**
ERM	**Erimo**	**6.59**	**232**	Pn	**Pn**	**13 20 09.7**	**0.0**
	comp=Z,5μm,0.4s,SNR=62						
ERM	**Erimo**	**6.59**	**232**	*e*PN	**Pn**	**13 20 08.6**	**-1.1**
ERM				*e*		13 21 19.4	
ERM	**Erimo**	**6.59**	**232**	*e*Pn	**Pn**	**13 20 08.6**	**-1.1**
ERM				*e*Sn	**Sn**	**13 21 19.4**	**-4.8**
JNBK	**Urakawa-nobuka**	**6.64**	**235**	P	Pn	13 20 07.0	-3.4
JNBK				*e*S	Sn	13 21 17.6	-7.8
TYV	**Tymovskoe**	**6.71**	**315**	*e*P	**Pn**	**13 20 11.8**	**+0.6**
TYV				AMB	AMB	13 20 14.5	
	comp=Z,66nm,1.0s						
TYV				AMB	AMB	13 20 14.5	
	comp=Z,240nm,1.2s						
TYV				*e*S	**Sn**	**13 21 26.0**	**-0.8**
TYV				A	A	13 21 42.0	
	comp=Z,6μm,12.0s						
JEW	**Eniwo**	**7.09**	**244**	P	**Pn**	**13 20 15.7**	**-0.6**
JEW				*e*S	**Sn**	**13 21 32.1**	**-4.0**
JSK	**Shakotan**	**7.46**	**250**	P	**Pn**	**13 20 20.9**	**-0.2**
JNB	**Noboribetsu**	**7.54**	**243**	P	**Pn**	**13 20 20.0**	**-2.3**
JNB				*e*S	**Sn**	**13 21 41.3**	**-5.7**
JKB	**Kayabe**	**7.89**	**239**	P	Pn	13 20 23.5	-3.3
JKB				*e*S	Sn	13 21 45.7	-9.4
JSH	**Shimam**	**8.07**	**246**	P	**Pn**	**13 20 28.4**	**-0.9**
JYM2	**Yakumo 2**	**8.15**	**242**	P	**Pn**	**13 20 27.9**	**-2.5**
JYM2				*e*S	Sn	13 21 54.4	-7.1
PEA0B	**Petropavlovsk-**	**8.38**	**33**	*e*Pn	**Pn**	**13 20 32.7**	**-0.6**
PEA0B				*e*Sn	**Sn**	**13 22 07.4**	**+0.5**
PETK	**Petropavlovsk-**	**8.38**	**33**	PN	**Pn**	**13 20 32.5**	**-0.9**
PETK				S	**Sn**	**13 22 04.3**	**-2.6**
PETK				pmax	pmax		
	comp=Z,12nm,0.3s						
PETK	**Petropavlovsk-**	**8.38**	**33**	P	**Pn**	**13 20 32.5**	**-0.9**
PETK				S	**Sn**	**13 22 04.3**	**-2.6**
PETK	**Petropavlovsk-**	**8.38**	**33**	P	**Pn**	**13 20 32.5**	**-0.9**
	comp=Z,12nm,0.3s,baz=199,slow=11,SNR=200						
PETK				S	**Sn**	**13 22 04.3**	**-2.6**
	baz=267,slow=11,SNR=2.0						
JSR	**Shiriuchi**	**8.47**	**239**	P	**Pn**	**13 20 31.4**	**-3.1**
JSR				*e*S	Sn	13 22 00.1	-9.0
JTM	**Tenmabayashi**	**8.58**	**233**	P	Pn	13 20 31.4	-4.6
JTM				*e*S	Sn	13 21 59.1	-13
JANG	**Nango**	**8.63**	**229**	P	Pn	13 20 31.7	-4.9
JANG				*e*S	Sn	13 22 00.0	-13
PET	**Petropavlovsk**	**8.70**	**36**	*e*PN	**Pn**	**13 20 35.5**	**-1.9**
PET				*e*S	**Sn**	**13 22 09.7**	**-4.6**
PET				pmax	pmax		
	comp=Z,200nm,12.5s						
PET				pmax	pmax		
	comp=Z,54nm,0.6s						
PET				smax	smax		
	comp=E,91nm,0.7s						
PET				smax	smax		
	comp=N,113nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,17.0s						
JOSM	**Okushiri--Mats**	**8.73**	**245**	P	**Pn**	**13 20 35.6**	**-2.3**
JTH	**Tanohata**	**8.77**	**226**	P	Pn	13 20 32.6	-5.9
JTH				*e*S	Sn	13 22 03.6	-13
NKL	**Nikolayevsk**	**9.15**	**322**	*e*P	**Pn**	**13 20 43.0**	**-0.4**
NKL				AMB	AMB	13 20 44.0	
	comp=Z,130nm,1.5s						
NKL				AMB	AMB	13 20 46.0	
	comp=Z,500nm,6.0s						
NKL				*e*L	L	13 22 26.0	
NKL				AMS	AMS	13 23 40.0	
	comp=Z,600nm,8.0s						
NKL				AMS	AMS	13 23 40.0	
	comp=Z,1μm,8.0s						
OFUJ	**Ofunato**	**9.53**	**224**	P	Pn	13 20 43.7	-4.8
OFUJ				*e*S	Sn	13 22 22.4	-12
JRG	**Rokugo**	**9.80**	**228**	P	Pn	13 20 48.1	-4.0
JRG				*e*S	Sn	13 22 29.3	-12
JOG2	**Oga 2**	**9.88**	**233**	P	Pn	13 20 49.5	-3.7
JIO	**Ouri**	**10.18**	**223**	P	Pn	13 20 52.2	-4.8
JIO				*e*S	Sn	13 22 37.3	-13
HABR	**Khabarovsk**	**10.43**	**287**	*ce*PN	**Pn**	**13 20 58.4**	**-1.8**
HABR				*e*S	**Sn**	**13 22 54.8**	**-1.1**
HABR				pmax	pmax		
	comp=N,41nm,2.3s						
HABR				pmax	pmax		
	comp=E,81nm,1.9s						
HABR				pmax	pmax		
	comp=Z,82nm,1.6s						
HABR				MLR	MLR		
	comp=Z,128nm,15.0s						
JYA	**Atsumi**	**10.88**	**228**	P	Pn	13 21 02.5	-3.7
JYA				*e*S	Sn	13 22 55.5	-11
JFK	**Kawauchi**	**11.28**	**221**	P	Pn	13 21 07.3	-4.1
JFK				*e*S	Sn	13 23 03.1	-14
JFY	**Yanaizu**	**11.80**	**225**	P	**Pn**	**13 21 15.1**	**-3.0**
JFY				*e*S	Sn	13 23 17.6	-11
KLR	**Kul'dur**	**12.68**	**290**	*e*PN	**Pn**	**13 21 27.4**	**-1.9**
KLR				*e*S	**Sn**	**13 23 46.5**	**-3.3**
USRK	**Ussuriysk Arra**	**12.94**	**267**	P	**Pn**	**13 21 32.8**	**+0.2**
	comp=Z,5.8nm,0.3s,baz=72,slow=13,SNR=61						
MAT	**Matsushiro**	**13.22**	**227**	P	Pn	13 21 32.9	-3.3
MAT				*e*S	**Sn**	**13 24 00.2**	**-2.8**
MJAR	**Matsushiro Arr**	**13.22**	**227**	P	**Pn**	**13 21 34.1**	**-2.2**
MJAR				S	**Sn**	**13 24 05.9**	**+3.0**
MJAR				ScP	**ScP**	**13 30 09.4**	**+0.1**
MJAR	**Matsushiro Arr**	**13.22**	**227**	P	**Pn**	**13 21 34.1**	**-2.2**
	comp=Z,2.8nm,0.3s,baz=28,slow=14,SNR=41						
MJAR				S	**Sn**	**13 24 05.9**	**+3.0**
	comp=Z,3.8nm,0.3s,baz=95,slow=25,SNR=4.6						
MJAR				LR	LR	13 26 47.9	
	comp=Z,120nm,18.3s,baz=55,slow=37						
MJAR				ScP	**ScP**	**13 30 09.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=78,slow=2.4,SNR=10						
MDJ	**Mudanjiang**	**14.49**	**271**	P	**P**	**13 21 54.0**	**0.0**
MDJ				S	**Sn**	**13 24 33.4**	**+0.1**
MDJ				PcP	**PcP**	**13 26 52.4**	**-1.5**
MDJ				ScS	**ScS**	**13 33 49.4**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,36nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.2s						
MDJ				LR	LR		
	comp=N,400nm,21.1s						
MDJ				LR	LR		
	comp=E,140nm,30.8s						
MDJ				LR	LR		
	comp=Z,180nm,19.2s						
MDJ	**Mudanjiang**	**14.49**	**271**	*e*Pn	**Pn**	**13 21 51.2**	**-0.8**
	comp=Z,75nm,1.2s						
FX1	**Attu Island--F**	**16.29**	**58**	*e*P	**Pn**	**13 22 14.8**	**+0.8**
FX1				S	S	13 25 06.2	-7.9
FX1				*e*S	**Sn**	**13 25 09.9**	**-6.1**
FX1	**Attu Island--F**	**16.29**	**58**	P	**Pn**	**13 22 14.1**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=243,slow=14,SNR=21						
FX1				S	S	13 25 06.2	-7.9
	comp=Z,29nm,0.3s,baz=66,slow=23,SNR=16						
ZEA	**Zeya**	**16.40**	**305**	⇑*e*P	**Pn**	**13 22 16.1**	**+0.8**
ZEA				⇑*e*P	**Pn**	**13 22 16.1**	**+0.8**
ZEA				AMB	AMB	13 22 17.4	
	comp=Z,180nm,1.2s						
ZEA				AMB	AMB	13 22 17.4	
	comp=Z,160nm,1.2s						
ZEA				AMB	AMB	13 22 17.4	
	comp=Z,250nm,1.2s						
ZEA				AMB	AMB	13 22 18.0	
	comp=Z,600nm,2.0s						
SEY	**Seymchan**	**16.70**	**4**	⇑*e*P	**P**	**13 22 17.9**	**-0.3**
SMY	**Shemya**	**16.80**	**59**	*e*P	**Pn**	**13 22 20.6**	**+0.4**
SMY				*e*S	**S**	**13 25 23.5**	**-2.0**
SMY				pmax	pmax		
	comp=Z,112nm,0.9s						
SMY	**Shemya**	**16.80**	**59**	*e*P	**Pn**	**13 22 20.6**	**+0.4**
	comp=Z,112nm,0.9s						
SMY				*e*S	**S**	**13 25 23.5**	**-2.0**
JGT	**Gotsu**	**17.53**	**236**	P	**Pn**	**13 22 29.3**	**+0.3**
CN2	**Changchun**	**17.58**	**271**	*e*P	**P**	**13 22 27.5**	**-0.6**
CN2				*e*S	S	13 25 32.9	-8.9
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
CN2				LR	LR		
	comp=N,490nm,12.0s						
CN2				LR	LR		
	comp=E,220nm,12.0s						
CN2				LR	LR		
	comp=Z,320nm,11.0s						
JHIK	**Hikimi**	**18.12**	**236**	P	**Pn**	**13 22 35.4**	**-0.6**
KSRS	**Korea Array**	**18.69**	**250**	P	**P**	**13 22 39.8**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=55,slow=10,SNR=52						
KSRS				S	**S**	**13 26 04.7**	**+0.9**
	baz=57,slow=20,SNR=2.5						
KSRS				PcP	**PcP**	**13 27 00.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=359,slow=1.8,SNR=6.3						
KSRS				ScP	**ScP**	**13 30 20.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=199,slow=0.5,SNR=8.8						
KSAR	**Wonju Array Be**	**18.72**	**250**	P	**P**	**13 22 39.8**	**-0.8**
KSAR				S	**S**	**13 26 04.7**	**+0.2**
KSAR				PcP	**PcP**	**13 27 00.8**	**+0.2**
KSAR				ScP	**ScP**	**13 30 20.1**	**+0.2**
INCN	**Inchon**	**19.52**	**251**	*e*P	**P**	**13 22 47.9**	**-1.3**
	comp=Z,70nm,0.5s						
SNY	**Shenyang**	**19.54**	**266**	⇓P	**P**	**13 22 50.4**	**+1.1**
SNY				sP	sP	13 23 45.8	+5.7
SNY				S	**S**	**13 26 25.6**	**+5.1**
SNY				pmax	pmax		
	comp=Z,48nm,0.7s						
SNY				pmax	pmax		
	comp=Z,150nm,3.5s						
SNY				LR	LR		
	comp=N,170nm,18.9s						
SNY				LR	LR		
	comp=E,220nm,19.8s						
SNY				LR	LR		
	comp=Z,250nm,22.5s						
YAK	**Yakutsk**	**19.61**	**331**	*e*P	**P**	**13 22 48.4**	**-1.5**
YAK				*e*S	**S**	**13 26 17.1**	**-4.5**
YAK				pmax	pmax		
	comp=N,123nm,1.1s						
YAK				pmax	pmax		
	comp=E,100nm,1.0s						
YAK				pmax	pmax		
	comp=Z,340nm,0.9s						
YAK				smax	smax		
	comp=E,489nm,2.4s						
YAK				smax	smax		
	comp=N,332nm,2.0s						
JNU	**Nakatsue**	**19.74**	**235**	*e*P	**P**	**13 22 52.3**	**+0.6**
JNU				S	**S**	**13 26 25.4**	**+0.6**
JNU	**Nakatsue**	**19.74**	**235**	P	**P**	**13 22 51.0**	**-0.6**
	comp=N,1.6nm,0.3s,baz=2.0,slow=7.7,SNR=25						
JNU				S	**S**	**13 26 25.4**	**+0.6**
	comp=N,0.1nm,0.3s,baz=215,slow=12,SNR=2.0						
AMKA	**Amchitka**	**19.80**	**65**	*e*P	**P**	**13 22 52.8**	**+0.8**
AMKA				*e*S	**S**	**13 26 27.6**	**+2.1**
HIA	**Hailar**	**20.54**	**289**	*e*P	**P**	**13 22 57.4**	**-2.6**
	comp=N,8.6nm,0.6s						
DL2	**Dalian**	**22.14**	**261**	P	**P**	**13 23 15.8**	**-1.0**
DL2				S	**S**	**13 27 07.5**	**-0.6**
DL2				pmax	pmax		
	comp=Z,120nm,4.0s						
CIT	**Chita**	**24.38**	**297**	*e*P	**P**	**13 23 36.3**	**-0.9**
CIT				*e*		13 24 09.2	
BJT	**Baijiatuau**	**25.40**	**268**	*e*P	**P**	**13 23 45.5**	**-1.0**
	comp=Z,52nm,0.7s						
SSE	**Sheshan**	**27.01**	**246**	*e*P	**P**	**13 24 02.3**	**+1.3**
SSE				pP	**pP**	**13 24 37.3**	**+1.0**
SSE				sP	**sP**	**13 24 56.9**	**+0.8**
SSE				S	**S**	**13 28 26.0**	**+0.2**
SSE				sS	**sS**	**13 29 28.8**	**+0.3**
SSE				pmax	pmax		
	comp=Z,24nm,0.6s						
SSE				pmax	pmax		
	comp=Z,25nm,3.8s						
SSE				LR	LR		
	comp=N,240nm,19.6s						
SSE				LR	LR		
	comp=E,86nm,19.5s						
SSE				LR	LR		
	comp=Z,280nm,21.5s						
NJ2	**Nanjing**	**27.89**	**250**	*e*P	**P**	**13 24 08.9**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC	**Hu-ho-hao-te**	**28.24**	**273**	*e*P	**P**	**13 24 12.9**	**+0.9**
HHC				pP	**pP**	**13 24 49.3**	**+1.8**
HHC				sP	**sP**	**13 25 09.8**	**+2.6**
HHC				PP	**PnPn**	**13 25 11.4**	**+1.3**
HHC				S	**S**	**13 28 49.0**	**+3.8**
HHC				sS	**sS**	**13 29 47.3**	**-0.7**
HHC				SS	**SnSn**	**13 30 22.5**	**-0.6**
HHC				PcS	**PcS**	**13 31 03.3**	**0.0**
HHC				ScS	**ScS**	**13 34 37.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,240nm,0.9s						
HHC				pmax	pmax		
	comp=Z,280nm,5.1s						
HHC				LR	LR		
	comp=N,910nm,12.7s						
HHC				LR	LR		
	comp=E,620nm,13.3s						
HHC				LR	LR		
	comp=Z,990nm,13.2s						
SONM	**Songino Array**	**29.51**	**289**	P	**P**	**13 24 22.0**	**-1.2**
SONM				pP	**pP**	**13 24 59.5**	**+0.7**
SONM				ScP	**ScP**	**13 30 49.7**	**+0.3**
SONM	**Songino Array**	**29.51**	**289**	P	**P**	**13 24 22.0**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=77,slow=8.5,SNR=17						
SONM				pP	**pP**	**13 24 59.5**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=70,slow=9.9,SNR=7.1						
SONM				ScP	**ScP**	**13 30 49.7**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=96,slow=1.5,SNR=4.7						
TNA	**Tin City**	**29.55**	**34**	*e*P	**P**	**13 24 22.8**	**-0.4**
TLY	**Talaya**	**30.52**	**297**	*e*P	**P**	**13 24 32.3**	**+0.3**
TLY				*e*		13 25 13.1	
TLY				pmax	pmax		
	comp=Z,21nm,0.9s						
TLY				MLR	MLR		
	comp=Z,510nm,29.0s						
ZAK	**Zakamensk**	**30.97**	**295**	⇑*i*P	**P**	**13 24 35.0**	**-1.0**
ZAK				*i*		13 25 15.9	
ZAK				*e*		13 27 23.9	
ZAK				pmax	pmax		
	comp=Z,18nm,1.3s						
YHNB	**Yeheng**	**31.55**	**237**	*e*PP	PP	13 25 55.9	-0.2
MOY	**Mondy**	**32.16**	**298**	*e*P	**P**	**13 24 46.0**	**-0.4**
TPUB	**Ta-pu**	**33.04**	**236**	*e*P	**P**	**13 24 55.0**	**+0.8**
TPUB				*e*pP	**pP**	**13 25 32.5**	**+2.4**
TPUB				*e*ScP	**ScP**	**13 31 02.6**	**+1.1**
XAN	**Xi'an**	**33.40**	**263**	P	**P**	**13 24 57.8**	**+0.5**
XAN				pP	**pP**	**13 25 34.8**	**+1.6**
XAN				sP	**sP**	**13 25 55.0**	**+2.1**
XAN				PP	**PP**	**13 26 15.8**	**-0.5**
XAN				S	**S**	**13 30 04.0**	**-1.6**
XAN				sS	**sS**	**13 31 09.3**	**+0.3**
XAN				SS	**SnSn**	**13 32 23.0**	**-5.4**
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
XAN				pmax	pmax		
	comp=Z,25nm,4.4s						
XAN				LR	LR		
	comp=N,250nm,20.3s						
XAN				LR	LR		
	comp=E,83nm,18.9s						
XAN				LR	LR		
	comp=Z,98nm,19.6s						
SVW2	**Sparrevohn**	**34.26**	**45**	*e*P	**P**	**13 25 05.9**	**+1.5**
	comp=Z,36nm,0.9s						
ENH	**Enshi**	**35.24**	**257**	*e*P	**P**	**13 25 12.1**	**-1.1**
	comp=

LZH				sP	**sP**	**13 26 12.1**	**-1.8**
LZH				S	**S**	**13 30 42.0**	**-0.8**
LZH				SS	SS	13 33 13.3	-12
LZH				pmax	pmax		
	comp=Z,39nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.2s						
LZH				LR	LR		
	comp=N,510nm,14.0s						
LZH				LR	LR		
	comp=E,470nm,14.4s						
LZH				LR	LR		
	comp=Z,600nm,15.6s						
PPLA	**Purkeypile**	**35.87**	**41**	*eP*	**P**	**13 25 18.6**	**+0.4**
	comp=Z,180nm,1.5s						
SPU	**Mount Spurr**	**35.97**	**44**	*eP*	**P**	**13 25 19.3**	**+0.3**
KDAK	**Kodiak Island**	**35.98**	**50**	P	**P**	**13 25 19.0**	**0.0**
	comp=Z,254nm,1.0s,SNR=14						
KDAK	**Kodiak Island**	**35.98**	**50**	*eP*	**P**	**13 25 18.4**	**-0.6**
	comp=Z,41nm,0.9s						
KDAK				PcP	**PcP**	**13 27 41.7**	**+0.1**
KDAK	**Kodiak Island**	**35.98**	**50**	P	**P**	**13 25 18.8**	**-0.2**
	comp=Z,29nm,0.8s,baz=266,slow=3.9,SNR=28						
KDAK				PcP	**PcP**	**13 27 41.7**	**+0.1**
	comp=Z,8.8nm,0.8s,baz=266,slow=3.2,SNR=3.7						
TRF	**Thorofare Moun**	**36.72**	**40**	*eP*	**P**	**13 25 25.2**	**-0.3**
	comp=Z,28nm,0.9s						
COLD	**Coldfoot**	**36.85**	**34**	*eP*	**P**	**13 25 27.6**	**+1.3**
	comp=Z,66nm,0.6s						
COLD				*e*ScP	**ScP**	**13 31 16.0**	**+1.5**
GTA	**Gaotai**	**36.97**	**278**	⇑P	**P**	**13 25 29.0**	**+1.1**
GTA				pP	**pP**	**13 26 06.6**	**+2.3**
GTA				sP	**sP**	**13 26 26.8**	**+3.0**
GTA				PcP	**PcP**	**13 27 46.8**	**+1.6**
GTA				S	**S**	**13 31 00.6**	**+0.3**
GTA				ScP	**ScP**	**13 31 16.8**	**+1.1**
GTA				sS	**sS**	**13 32 06.6**	**+2.3**
GTA				SS	**SS**	**13 33 42.3**	**-7.1**
GTA				ScS	**ScS**	**13 35 24.8**	**+1.2**
GTA				pmax	pmax		
	comp=Z,77nm,1.0s						
GTA				pmax	pmax		
	comp=Z,260nm,5.0s						
GTA				LR	LR		
	comp=N,240nm,20.0s						
GTA				LR	LR		
	comp=E,230nm,20.4s						
GTA				LR	LR		
	comp=Z,350nm,19.5s						
MCK	**McKinley**	**37.32**	**40**	*eP*	**P**	**13 25 31.1**	**+0.8**
MCK				pmax	pmax		
	comp=Z,55nm,0.9s						
MCK	**McKinley**	**37.32**	**40**	*eP*	**P**	**13 25 31.1**	**+0.8**
	comp=Z,55nm,0.9s						
PMR	**Palmer**	**37.35**	**43**	*eP*	**P**	**13 25 30.3**	**-0.2**
PMR				pmax	pmax		
	comp=Z,31nm,1.0s						
PMR	**Palmer**	**37.35**	**43**	*eP*	**P**	**13 25 30.3**	**-0.2**
	comp=Z,31nm,1.0s						
SML	**Sawmill**	**37.71**	**43**	*eP*	**P**	**13 25 34.4**	**+0.7**
SML				pmax	pmax		
	comp=Z,39nm,0.9s						
SML	**Sawmill**	**37.71**	**43**	*eP*	**P**	**13 25 34.4**	**+0.7**
	comp=Z,39nm,0.9s						
COLA	**College**	**37.76**	**38**	*eP*	**P**	**13 25 33.8**	**-0.1**
COLA				pmax	pmax		
	comp=Z,165nm,0.6s						
COLA	**College**	**37.76**	**38**	*eP*	**P**	**13 25 33.8**	**-0.1**
	comp=Z,165nm,0.6s						
ILAR	**Eielson Array**	**38.17**	**38**	P	**P**	**13 25 37.6**	**+0.1**
ILAR				PcP	**PcP**	**13 27 47.5**	**-0.8**
ILAR				ScP	**ScP**	**13 31 19.1**	**-0.4**
ILAR	**Eielson Array**	**38.17**	**38**	P	**P**	**13 25 37.6**	**+0.1**
	comp=Z,44nm,0.9s,baz=267,slow=7.7,SNR=264						
ILAR				PcP	**PcP**	**13 27 47.5**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=296,slow=3.8,SNR=4.8						
ILAR				ScP	**ScP**	**13 31 19.1**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=287,slow=4.6,SNR=6.3						
CD2	**Chengdu**	**38.77**	**263**	*eP*	**P**	**13 25 43.3**	**+0.4**
CD2				pP	**pP**	**13 26 20.1**	**+0.5**
CD2				sP	**sP**	**13 26 39.4**	**+0.4**
CD2				PP	**PnPn**	**13 27 20.0**	**+0.7**
CD2				PcP	**PcP**	**13 27 52.3**	**+1.6**
CD2				S	**S**	**13 31 26.6**	**-0.7**
CD2				sS	**sS**	**13 32 32.6**	**+0.9**
CD2				SS	**SS**	**13 34 17.6**	**-7.7**
CD2				ScS	**ScS**	**13 35 32.4**	**-1.5**
CD2				pmax	pmax		
	comp=Z,230nm,0.6s						
CD2				pmax	pmax		
	comp=Z,560nm,5.8s						
CD2				LR	LR		
	comp=N,320nm,17.8s						
CD2				LR	LR		
	comp=Z,200nm,14.2s						
PAX	**Paxson**	**38.93**	**41**	*eP*	**P**	**13 25 44.0**	**+0.1**
PAX				pmax	pmax		
	comp=Z,20nm,1.0s						
PAX	**Paxson**	**38.93**	**41**	*eP*	**P**	**13 25 44.0**	**+0.1**
	comp=Z,20nm,1.0s						
DIV	**Divide**	**39.01**	**44**	*eP*	**P**	**13 25 45.1**	**+0.6**
	comp=Z,92nm,1.2s						
GYA	**Guiyang**	**39.59**	**255**	⇑*iP*	**P**	**13 25 49.9**	**+0.1**
GYA				pP	**pP**	**13 26 27.8**	**+1.1**
GYA				sP	**sP**	**13 26 47.8**	**+1.8**
GYA				PP	**PnPn**	**13 27 27.9**	**-1.2**
GYA				PcP	**PcP**	**13 27 54.1**	**+0.6**
GYA				ScP	**ScP**	**13 31 26.0**	**+0.2**
GYA				S	**S**	**13 31 37.9**	**-1.9**
GYA				PcS	**PcS**	**13 31 44.6**	**+0.6**
GYA				sS	**sS**	**13 32 44.3**	**-0.1**
GYA				SS	**SS**	**13 34 33.0**	**-8.9**
GYA				ScS	**ScS**	**13 35 36.8**	**-2.2**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,180nm,5.9s						
BMRM	**Bremner River**	**39.59**	**44**	*eP*	**P**	**13 25 50.2**	**+0.8**
	comp=Z,54nm,0.8s						
RAGM	**Ragged Mountai**	**39.65**	**45**	*eP*	**P**	**13 25 51.2**	**+1.4**
	comp=Z,223nm,1.8s						
MENT	**Mentasta**	**39.73**	**41**	*eP*	**P**	**13 25 51.4**	**+1.0**
KWAJ	**Kwajalein Atol**	**40.29**	**153**	*eP*	**P**	**13 25 56.0**	**+0.5**
KWAJ				pmax	pmax		
	comp=Z,52nm,0.8s						
KWAJ	**Kwajalein Atol**	**40.29**	**153**	*eP*	**P**	**13 25 56.0**	**+0.5**
	comp=Z,52nm,0.8s						
EGAK	**Eagle**	**40.62**	**38**	*eP*	**P**	**13 25 57.5**	**-0.1**
	comp=Z,104nm,1.0s						
ZAA0	**Zalesovo Array**	**41.16**	**305**	*eP*	**P**	**13 25 60.0**	**-2.3**
ZALV	**Zalesovo Beam**	**41.16**	**305**	P	**P**	**13 26 00.5**	**-1.7**
ZALV						13 27 58.1	
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.16**	**305**	P	**P**	**13 26 00.5**	**-1.7**
ZALV				PcP	**PcP**	**13 27 58.1**	**+0.1**
ZALV				ScP	**ScP**	**13 31 30.6**	**-0.8**
ZALV	**Zalesovo Beam**	**41.16**	**305**	P	**P**	**13 26 00.5**	**-1.7**
	comp=Z,8.1nm,0.8s,baz=64,slow=6.8,SNR=24						
ZALV				PcP	**PcP**	**13 27 58.1**	**+0.1**
	comp=Z,18nm,0.7s,baz=67,slow=2.9,SNR=17						
ZALV				ScP	**ScP**	**13 31 30.6**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=92,slow=4.5,SNR=4.4						
DAWY	**Dawson**	**41.48**	**39**	*eP*	**P**	**13 26 04.5**	**-0.3**
NVS	**Novosibirsk**	**41.79**	**307**	⇑*iP*	**P**	**13 26 05.4**	**-1.9**
NVS				*e*		13 26 42.5	
NVS				pmax	pmax		
	comp=Z,36nm,1.4s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,25nm,1.3s						
QIZ	**Qiongzhong**	**42.78**	**244**	P	**P**	**13 26 16.4**	**+0.7**
QIZ				pP	**pP**	**13 26 51.3**	**-1.8**
QIZ				S	**S**	**13 32 27.9**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HYT	**Haines Junctio**	**43.02**	**43**	*eP*	**P**	**13 26 19.2**	**+1.9**
KMI	**Kunming**	**43.12**	**257**	P	**P**	**13 26 19.5**	**+0.8**
KMI				pP	**pP**	**13 26 56.0**	**-0.1**
KMI				PP	**PcP**	**13 28 04.0**	**-1.3**
KMI				S	**S**	**13 32 30.9**	**-1.1**
KMI				sS	**sS**	**13 33 34.9**	**-2.5**
KMI				SS	SS	13 35 38.6	-13
KMI				pmax	pmax		
	comp=Z,36nm,1.2s						
KMI				LR	LR		
	comp=N,190nm,19.1s						
KMI				LR	LR		
	comp=E,170nm,19.9s						
KMI				LR	LR		
	comp=Z,230nm,19.9s						
INK	**Inuvik**	**43.12**	**32**	*eP*	**P**	**13 26 18.9**	**+1.1**
	comp=Z,113nm,1.1s						
INK				*e*ScP	**ScP**	**13 31 39.6**	**+0.7**
WMQ	**Urumqi**	**43.13**	**290**	P	**P**	**13 26 18.6**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,96nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,12nm,3.6s						
SKAG	**Skagway**	**44.44**	**45**	*eP*	**P**	**13 26 30.4**	**+1.9**
	comp=Z,38nm,1.4s						
MK31	**Makanchi Array**	**45.28**	**296**	P	**P**	**13 26 34.9**	**-0.4**
MK31				pmax	pmax		
	comp=Z,23nm,0.7s						
MK31	**Makanchi Array**	**45.28**	**296**	*eP*	**P**	**13 26 34.9**	**-0.4**
MKAR	**Makanchi Array**	**45.28**	**296**	P	**P**	**13 26 34.6**	**-0.7**
MKAR				*PP	**pP**	**13 27 12.5**	**-0.6**
MKAR						13 28 11.9	
MKAR				pmax	pmax		
	comp=Z,20nm,0.7s						
MKAR	**Makanchi Array**	**45.28**	**296**	*eP*	**P**	**13 26 34.6**	**-0.7**
MKAR				pP	**pP**	**13 27 12.5**	**-0.6**
MKAR				PcP	**PcP**	**13 28 11.9**	**-0.2**
MKAR				ScP	**ScP**	**13 31 47.8**	**-0.5**
MKAR	**Makanchi Array**	**45.28**	**296**	P	**P**	**13 26 34.6**	**-0.7**
	comp=Z,20nm,0.7s,baz=68,slow=7.8,SNR=213						
MKAR				pP	**pP**	**13 27 12.5**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=84,slow=11,SNR=1.9						
MKAR				PcP	**PcP**	**13 28 11.9**	**-0.2**
	comp=Z,11nm,0.7s,baz=72,slow=4.0,SNR=6.5						
MKAR				ScP	**ScP**	**13 31 47.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=59,slow=5.8,SNR=3.7						
KURK	**Kurchatov**	**45.86**	**303**	P	**P**	**13 26 39.1**	**-0.6**
KURK				*PP	**pP**	**13 27 18.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,64nm,0.9s						
KURK	**Kurchatov**	**45.86**	**303**	P	**P**	**13 26 39.1**	**-0.6**
KURK				pP	**pP**	**13 27 18.3**	**+0.8**
KURK				ScP	**ScP**	**13 31 50.8**	**+0.3**
KURBB	**Kurchatov Arra**	**45.95**	**303**	P	**P**	**13 26 39.1**	**-1.3**
	comp=Z,64nm,0.9s,baz=69,slow=8.5,SNR=143						
KURBB				pP	**pP**	**13 27 18.3**	**+0.1**
	comp=Z,30nm,0.9s,baz=67,slow=8.3,SNR=5.6						
KURBB				ScP	**ScP**	**13 31 50.8**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=71,slow=3.5,SNR=6.1						
WRAK	**Wrangell Islan**	**46.97**	**48**	*eP*	**P**	**13 26 50.1**	**+1.8**
	comp=Z,14nm,0.8s						
DLBC	**Dease Lake**	**47.37**	**45**	*eP*	**P**	**13 26 52.7**	**+1.2**
SKNT	**Sakolnakorn**	**48.02**	**248**	P	**P**	**13 26 58.2**	**+1.3**
	comp=Z,34nm,0.9s						
LSA	**Lhasa**	**48.21**	**271**	P	**P**	**13 27 00.8**	**+2.0**
LSA	**Lhasa**	**48.21**	**271**	*eP*	**P**	**13 26 58.3**	**-0.5**
LSA				pmax	pmax		
	comp=Z,97nm,0.7s						
LSA	**Lhasa**	**48.21**	**271**	*eP*	**P**	**13 26 58.3**	**-0.5**
	comp=Z,98nm,0.7s						
CMAI	**Chiengmai2**	**49.14**	**255**	P	**P**	**13 27 06.8**	**+1.1**
	comp=Z,31nm,0.9s						
VOSK	**Vostochnaya**	**49.32**	**308**	P	**P**	**13 27 04.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,54nm,0.9s						
BVA0	**Borovoye Array**	**49.51**	**309**	*iP*	**P**	**13 27 06.4**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,44nm,1.3s						
BVAR	**Borovoye Array**	**49.51**	**309**	P	**P**	**13 27 06.7**	**-1.2**
BVAR						13 28 26.8	
BVAR				pmax	pmax		
	comp=Z,14nm,0.8s						
BVAR	**Borovoye Array**	**49.51**	**309**	P	**P**	**13 27 06.7**	**-1.2**
BVAR				PcP	**PcP**	**13 28 26.8**	**-0.2**
BVAR				ScP	**ScP**	**13 32 06.3**	**+0.3**
BVAR	**Borovoye Array**	**49.51**	**309**	P	**P**	**13 27 06.7**	**-1.2**
	comp=Z,14nm,0.8s,baz=60,slow=8.8,SNR=82						
BVAR				PcP	**PcP**	**13 28 26.8**	**-0.2**
	comp=Z,11nm,0.7s,baz=70,slow=4.2,SNR=8.2						
BVAR				ScP	**ScP**	**13 32 06.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=67,slow=4.8,SNR=4.1						
BRVK	**Borovoye**	**49.55**	**309**	P	**P**	**13 27 07.4**	**-0.8**
	comp=Z,192nm,0.8s,SNR=16						
BRVK	**Borovoye**	**49.55**	**309**	*cP*	**P**	**13 27 07.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,50nm,1.3s						
BRVK	**Borovoye**	**49.55**	**309**	*eP*	**P**	**13 27 06.4**	**-1.7**
	comp=Z,31nm,0.9s						
CMMT	**Chiang Mai**	**49.99**	**254**	P	**P**	**13 27 12.0**	**0.0**
	comp=Z,63nm,0.8s,comp=Z,634nm						
CMMT	**Chiang Mai**	**49.99**	**254**	P	**P**	**13 27 12.4**	**+0.4**
	comp=Z,65nm,0.8s,comp=Z,634nm						
CHTO	**Chiang Mai**	**50.00**	**254**	*eP*	**P**	**13 27 12.9**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,41nm,0.6s						
CHTO	**Chiang Mai**	**50.00**	**254**	*eP*	**P**	**13 27 12.8**	**+0.9**
	comp=Z,41nm,0.6s						
CHTO	**Chiang Mai**	**50.00**	**254**	P	**P**	**13 27 12.9**	**+0.9**
	comp=Z,69nm,0.8s,comp=Z,577nm						
CHTO	**Chiang Mai**	**50.00**	**254**	P	**P**	**13 27 12.9**	**+0.9**
	comp=Z,69nm,0.8s,comp=Z,577nm						
CM31	**Chiang Mai Arr**	**50.25**	**254**	*eP*	**P**	**13 27 12.9**	**-1.0**
	comp=Z,16nm,0.6s						
CMAR	**Chiang Mai Arr**	**50.25**	**254**	P	**P**	**13 27 15.2**	**+1.3**
CMAR				PcP	**PcP**	**13 28 31.3**	**+1.0**
CMAR				ScP	**ScP**	**13 32 11.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**50.25**	**254**	P	**P**	**13 27 15.2**	**+1.3**
	comp=Z,20nm,0.8s,baz=38,slow=7.2,SNR=118						
CMAR				PcP	**PcP**	**13 28 31.3**	**+1.0**
	comp=Z,3.4nm,0.9s,baz=358,slow=3.1,SNR=4.0						
CMAR				ScP	**ScP**	**13 32 11.2**	**+1.5**
	comp=Z,2.6nm,1.0s,baz=21,slow=3.3,SNR=9.1						
PBKT	**Sadao Pong**	**50.27**	**251**	P	**P**	**13 27 14.0**	**+0.1**
	comp=Z,22nm,0.8s						
PBKT	**Sadao Pong**	**50.27**	**251**	P	**P**	**13 27 15.0**	**+1.1**
	comp=Z,22nm,0.8s						
SHL	**Shillong**	**50.27**	**267**	⇑*iP*	**P**	**13 27 15.0**	**+0.8**
ALE	**Alert**	**50.37**	**5**	P	**P**	**13 27 13.2**	**-0.7**
	comp=Z,203nm,0.7s,SNR=6.3						
ULHL	**Ulahol**	**51.25**	**294**	*iP*	**P**	**13 27 22.4**	**+1.1**
ULHL	**Ulahol**	**51.25**	**294**	P	**P**	**13 27 22.4**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**51.30**	**295**	*iP*	**P**	**13 27 21.8**	**+0.1**
TKM2	**Tokmak 2**	**51.30**	**295**	P	**P**	**13 27 21.9**	**+0.1**
	SNR=25						
TKM2	**Tokmak 2**	**51.30**	**295**	*eP*	**P**	**13 27 21.5**	**-0.2**
	comp=Z,85nm,1.6s						
NAYO	**Nakonayok**	**51.70**	**248**	P	**P**	**13 27 26.5**	**+1.9**
	comp=Z,23nm,0.9s						
CHMS	**Chumysh**	**51.79**	**295**	*iP*	**P**	**13 27 25.6**	**+0.5**
CHMS	**Chumysh**	**51.79**	**295**	P	**P**	**13 27 25.6**	**+0.5**
	SNR=8.5						
USP	**Ospenovka**	**51.81**	**296**	*iP*	**P**	**13 27 25.5**	**+0.2**
USP	**Ospenovka**	**51.81**	**296**	P	**P**	**13 27 25.5**	**+0.2**
	SNR=50						
KBK	**Karagaybulak**	**51.85**	**295**	*iP*	**P**	**13 27 26.1**	**+0.4**
KBK	**Karagaybulak**	**51.85**	**295**	P	**P**	**13 27 26.1**	**+0.4**
	SNR=17						
RES	**Resolute Bay**	**51.89**	**18**	P	**P**	**13 27 25.4**	**+0.1**
RES	**Resolute Bay**	**51.89**	**18**	P	**P**	**13 27 25.4**	**+0.1**
	comp=Z,174nm,0.8s,baz=324,slow=8.7,SNR=20						
KZA	**Kyzart**	**51.96**	**294**	*iP*	**P**	**13 27 27.9**	**+1.0**
KZA	**Kyzart**	**51.96**	**294**	P	**P**	**13 27 27.9**	**+1.0**
	SNR=25						
FRU	**Bishkek**	**51.96**	**295**	*eP*	**P**	**13 27 25.0**	**-1.4**
FRU				*e*		13 28 08.0	
FRU				pmax	pmax		
	comp=Z,80nm,1.6s						
TAPN	**Taplejung**	**52.04**	**271**	*eP*	**P**	**13 27 28.8**	**+1.4**
	comp=Z,96nm,0.5s						
AAK	**Ala-Archa**	**52.15**	**295**	P	**P**	**13 27 27.8**	**-0.1**
	comp=Z,166nm,1.0s,SNR=8.0						
AAK	**Ala-Archa**	**52.15**	**295**	*cP*	**P**	**13 27 27.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,83nm,1.1s						
AAK	**Ala-Archa**	**52.15**	**295**	P	**P**	**13 27 28.5**	**+0.6**
	SNR=15						
AAK	**Ala-Archa**	**52.15**	**295**	*eP*	**P**	**13 27 27.6**	**-0.2**
	comp=Z,25nm,0.9s						
AAK	**Ala-Archa**	**52.15**	**295**	LR	LR	13 50 58.6	
	comp=Z,142nm,19.6s,baz=256,slow=37						
YKA	**Yellowknife Ar**	**52.50**	**36**	P	**P**	**13 27 30.8**	**+0.8**
YKA				PcP	**PcP**	**13 28 38.1**	**+0.2**
YKA	**Yellowknife Ar**	**52.50**	**36**	P	**P**	**13 27 30.7**	**+0.8**
	comp=Z,31nm,0.8s,baz=302,slow=7.4,SNR=22						
YKA				PcP	**PcP**	**13 28 38.2**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=301,slow=5.0,SNR=3.1						
ODAN	**Odare**	**52.56**	**271**	*eP*	**P**	**13 27 32.2**	**+0.9**
	comp=Z,59nm,0.6s						
EKS2	**Erkin-Say**	**52.58**	**296**	*eP*	**P**	**13 27 30.0**	**-1.0**
EKS2				pmax	pmax		
	comp=Z,29nm,0.8s						
EKS2	**Erkin-Say**	**52.58**	**296**	P	**P**	**13 27 31.1**	**+0.1**
	SNR=23						
EKS2	**Erkin-Say**	**52.58**	**296**	*eP*	**P**	**13 27 30.0**	**-1.0**
	comp=Z,29nm,0.8s						
KBS	**Kingsbay**	**52.59**	**351**	⇑*eP*	**P**	**13 27 29.9**	**-0.5**
KBS				pmax	pmax		
	comp=Z,77nm,1.0s						
KBS	**Kingsbay**	**52.59**	**351**	*eP*	**P**	**13 27 29.1**	**-1.3**
	comp=Z,57nm,0.8s						
SVE	**Sverdlovsk**	**52.71**	**316**	*diP*	**P**	**13 27 30.8**	**-0.8**
KSH	**Kashi**	**52.88**	**291**	P	**P**	13 27 37.6	+4.3
KSH				sP	sP	13 28 36.6	+5.6
KSH				PP	PP	13 29 40.5	+6.2
KSH				S	**S**	**13 34 51.8**	**+3.0**
KSH				sS	sS	13 36 01.8	+5.5
KSH				SS	**SKiKP**	**13 38 32.8**	**-0.7**
KSH				pmax	pmax		
	comp=Z,46nm,1.0s						
KSH				LR	LR		
	comp=N,86nm,7.3s						
KSH				LR	LR		
	comp=E,190nm,7.8s						
KSH				LR	LR		
	comp=Z,160nm,11.2s						
JIRN	**Jiri**	**52.90**	**273**	*eP*	**P**	**13 27 35.1**	**+1.3**
	comp=Z,302nm,0.5s						
AML	**Almayashu**	**52.91**	**295**	*iP*	**P**	**13 27 34.4**	**+0.6**
AML	**Almayashu**	**52.91**	**295**	P	**P**	**13 27 34.4**	**+0.6**
	SNR=17						
GUN	**Gumba**	**52.95**	**273**	*eP*	**P**	**13 27 35.2**	**+1.0**
RAMN	**Ramite**	**53.06**	**272**	*eP*	**P**	**13 27 35.7**	**+0.8**
	comp=Z,286nm,0.5s						
KKN	**Kakani**	**53.45**	**274**	*eP*	**P**	**13 27 38.7**	**+1.0**
PKI	**Pulchoki**	**53.49**	**273**	*eP*	**P**	**13 27 39.0**	**+0.9**
PKIN	**Phulchoki**	**53.50**	**273**	*eP*	**P**	**13 27 39.4**	**+1.3**
	comp=Z,50nm,0.6s						
DMN	**Daman**	**53.68**	**273**	*eP*	**P**	**13 27 40.5**	**+1.1**
ARU	**Arti**	**53.91**	**317**	*ciP*	**P**	**13 27 38.9**	**-1.4**
ARU				*PP	**pP**	**13 28 22.4**	**+3.2**
ARU						13 28 42.8	
ARU						13 29 40.0	
ARU				S	**S**	**13 35 01.5**	**-0.4**
ARU				pmax	pmax		
	comp=Z,246nm,1.2s						
ARU	**Arti**	**53.91**	**317**	P	**P**	**13 27 39.6**	**-0.7**
	comp=Z,972nm,1.0s,SNR=59						
DANN	**Dangsing**	**54.15**	**275**	*eP*	**P**	**13 27 44.3**	**+1.4**
	comp=Z,389nm,0.7s						
KK31	**Karatay Array**	**54.37**	**298**	P	**P**	**13 27 43.4**	**-0.5**
KK31				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KKAR	**Karatay Array**	**54.37**	**298**	*eP*	**P**	**13 27 42.2**	**-1.7**
KKAR	**Karatay Array**	**54.37**	**298**	*eP*	**P**	**13 27 42.2**	**-1.7**
KOLN	**Koldanda**	**54.62**	**275**	*eP*	**P**	**13 27 47.4**	**+1.3**
PYUN	**Piuthan**	**54.83**	**275**	*eP*	**P**	**13 27 48.9**	**+1.2**
	comp=Z,785nm,1.0s						
NLWA	**Neilton Lookou**	**55.84**	**55**	*eP*	**P**	**13 27 53.8**	**-0.6**
	comp=Z,13nm,1.0s						
LVZ	**Lovozero**	**56.31**	**336**	⇑*eP*	**P**	**13 27 56.6**	**-0.8**
LVZ				pmax	pmax		
	comp=Z,45nm,0.8s						
APA	**Apatity**	**56.89**	**336**	⇓*iP*	**P**	**13 28 04.4**	**+3.0**
APA				MLR	MLR		
	comp=Z,200nm,20.0s						
DLH	**Dalhousie**	**56.91**	**284**	*ex*	**P**	**13 28 04.0**	**+1.6**
DAG	**Danmarks Havn**	**56.97**	**357**	*iP*	**P**	**13 28 01.7**	**-0.2**
DAG				pmax	pmax		
	comp=Z,25nm,1.0s						
DAG	**Danmarks Havn**	**56.97**	**357**	*iP*	**P**	**13 28 01.7**	**-0.2**
	comp=Z,25nm,1.0s						
AB31	**Akbulak array**	**57.08**	**309**	P	**P**	**13 28 02.2**	**-0.9**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ABKAR	**Akbulak array**	**57.08**	**309**	*eP*	**P**	**13 28 02.2**	**-0.9**
AKTO	**Aktyubinsk**	**57.44**	**311**	P	**P**	**13 28 04.2**	**-1.4**
AKTO				pmax	pmax		
	comp=Z,52nm,1.5s						
ARCES	**ARCESS Array B**	**57.55**	**340**	P	**P**	**13 28 04.7**	**-1.4**
ARCES	**ARCESS Array B**	**57.55**	**340**	P	**P**	**13 28 04.7**	**-1.4**
	comp=Z,35nm,0.9s,baz=51,slow=7.9,SNR=44						
ARE0	**ARCESS Array S**	**57.55**	**340**	*eP*	**P**	**13 28 04.6**	**-1.5**
KRAB	**Krabi**	**57.65**	**245**	P	**P**	**13 28 09.3**	**+1.8**
	comp=Z,73nm,0.6s						
TMCR	**Tamitsa**	**57.73**	**331**	*eP*	**P**	**13 28 06.3**	**-1.0**
TMCR				*e*		13 28 54.8	
TMCR				pmax	pmax		
	comp=Z,46nm,1.2s						
EDM	**Edmonton**	**58.10**	**45**	*eP*	**P**	**13 28 10.1**	**0.0**
EDM	**Edmonton**	**58.10**	**45**	*eP*	**P**	**13 28 10.1**	**0.0**
NDI	**New Delhi**	**58.44**	**280**	*ex*	**P**	**13 28 12.0**	**-0.8**
KTK1	**Kautokeino**	**58.48**	**340**	*eP*	**P**	**13 28 11.6**	**-1.0**
KTK1				AMB	AMB	13 28 14.1	
	comp=Z,424nm,1.0s						
TRO	**Tromso**	**58.96**	**342**	*eP*	**P**	**13 28 14.2**	**-1.6**
TRO				AMB	AMB	13 28 17.4	
	comp=Z,94nm,1.1s						
NEW	**Newport**	**59.08**	**51**	*eP*	**P**	**13 28 16.8**	**-0.2**
	comp=Z,10nm,0.8s						
NEW	**Newport**	**59.08**	**51**	P	**P**	**13 28 17.6**	**+0.6**
	baz=59,SNR=10						
KBL	**Kabul**	**60.27**	**290**	*eP*	**P**	**13 28 24.5**	**-1.1**
KBL				pmax	pmax		

B18A **Beardsley Farm** 62.85 48 P P 13 28 43.2 +0.7
baz=63,SNR=14
HRY **Holter Researc** 62.86 50 *e*P P 13 28 43.8 +1.2
KAF **Kangasniemi** 62.93 334 *e*P P 13 28 41.1 -1.6
KAF pmax pmax
comp=Z,73nm,0.7s
KAF **Kangasniemi** 62.93 334 *e*p P 13 28 41.1 -1.6
comp=Z,73nm,0.7s
PAHR **Pah Rah Range** 63.01 60 *e*P P 13 28 44.7 +0.9
comp=Z,12nm,1.0s
A19A **Klindworth Far** 63.03 47 P P 13 28 44.7 +1.0
baz=63,SNR=11
LRM **Limekiln Ridge** 63.10 51 *e*P P 13 28 45.2 +0.9
LRM *e*pP pP 13 29 27.9 +3.4
EGMT **Eagleton** 63.10 48 *e*P P 13 28 44.9 +0.8
comp=Z,43nm,1.2s
EGMT **Eagleton** 63.10 48 P P 13 28 45.1 +0.9
baz=63,SNR=13
D17A **Six Diamond Ra** 63.18 49 P P 13 28 45.6 +0.9
baz=63,SNR=13
B19A **Brinkman Farms** 63.24 47 P P 13 28 45.9 +0.9
baz=63
DLMT **Dillon** 63.31 52 *e*P P 13 28 47.3 +1.6
comp=Z,31nm,1.5s
SCO **Scoresbysund** 63.36 357 *i* P P 13 28 46.1 +0.8
comp=Z,38nm,0.8s
PUL **Pulkovo** 63.41 331 *i* P P 13 28 45.2 -0.6
PUL pmax pmax
comp=Z,99nm,0.6s
XMAS **Kiritimati** 63.41 118 *e*P P 13 28 47.0 +0.6
comp=Z,130nm,1.6s
CMB **Columbia Colle** 63.45 62 *e*P P 13 28 46.7 +0.1
CMB pmax pmax
comp=Z,13nm,1.4s
CMB **Columbia Colle** 63.45 62 *e*P P 13 28 46.7 +0.1
comp=Z,13nm,1.4s
HLID **Hailey** 63.46 54 *e*P P 13 28 46.9 +0.2
comp=Z,3.8nm,0.8s
HLID **Hailey** 63.46 54 P P 13 28 47.8 +1.2
baz=63,SNR=8.2
A20A **Cobblestone Ra** 63.48 46 P P 13 28 47.4 +0.8
baz=63
FIA1 **FINESS Array S** 63.52 334 *e*P P 13 28 44.8 -1.7
FIA1 *e*PcP PcP 13 29 19.0 -2.5
MCMT **McKenzie Canyo** 63.52 52 *e*P P 13 28 47.1 0.0
FINES **FINESS Array B** 63.52 334 P P 13 28 45.1 -1.4
FINES **FINESS Array B** 63.52 334 P P 13 28 45.1 -1.4
comp=Z,102nm,0.6s,baz=34,slow=8.1,SNR=277
FINES LR LR 14 00 49.4
comp=Z,105nm,20.7s,baz=183,slow=40
E17A **Martinsdale** 63.54 50 P P 13 28 48.7 +1.5
baz=63,SNR=24
MOS **Moscow** 63.59 324 *e*P P 13 28 45.1 -2.0
MOS *e* 13 29 17.8
MOS pmax pmax
comp=Z,83nm,1.5s
D18A **Linhart Farms,** 63.61 49 P P 13 28 48.7 +1.2
baz=63
BOZ **Bozeman (W)** 63.65 51 *e*P P 13 28 47.9 0.0
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ **Bozeman (W)** 63.65 51 *e*P P 13 28 47.9 0.0
comp=Z,11nm,0.8s
C19A **Slack Wire Ran** 63.65 48 P P 13 28 49.2 +1.4
baz=63,SNR=16
B20A **Solberg Farm,** 63.72 47 P P 13 28 49.2 +1.1
baz=64
WAKR **Walker** 63.73 61 *e*P P 13 28 49.1 +0.5
BMN **Battle Mountai** 63.83 58 *e*P P 13 28 49.9 +0.7
BMN *e**PP pP 13 29 32.3 +2.9
BMN **Battle Mountai** 63.83 58 *e*P P 13 28 49.9 +0.7
BMN *e*pP pP 13 29 32.3 +2.9
A21A **Bergtoll Ranch** 63.90 46 P P 13 28 50.9 +1.6
baz=64,SNR=11
E18A **Harlowton** 63.97 49 P P 13 28 51.0 +1.1
baz=64
F17A **Fitzpatrick Pl** 64.00 50 P P 13 28 51.4 +1.2
baz=64,SNR=8.6
D19A **Cripps Ranch,** 64.11 48 P P 13 28 51.8 +1.0
baz=64,SNR=7.7
C20A **Veseth Ranch,** 64.20 47 P P 13 28 52.6 +1.3
baz=64,SNR=28
QLMT **Earthquake Lak** 64.28 51 *e*P P 13 28 52.5 +0.4
G17A **Pierce Place,** 64.34 51 P P 13 28 53.9 +1.5
baz=64,SNR=11
A22A **Carney Farms,** 64.40 45 P P 13 28 53.5 +0.9
baz=64,SNR=18
OBN **Obninsk** 64.46 324*c* *i*P P 13 28 51.4 -1.3
OBN *e* 13 29 23.8
OBN *e**PP pP 13 29 33.6 +0.6
OBN *e* 13 29 50.4
OBN *e*SS SS 13 41 30.5 +0.7
OBN pmax pmax
comp=Z,77nm,1.2s
NVAR **Mina Array Bea** 64.47 60 P P 13 28 54.5 +1.1
NVAR **Mina Array Bea** 64.47 60 P P 13 28 54.5 +1.1
comp=Z,8.4nm,0.7s,baz=291,slow=7.1,SNR=81
H16A **Russell Place,** 64.47 51 P P 13 28 54.5 +1.3
baz=64,SNR=10
F18A **Big Timber** 64.50 50 P P 13 28 54.8 +1.4
baz=64,SNR=18
D20A **Manuel Ranch,** 64.54 48 P P 13 28 55.0 +1.4
baz=64,SNR=27
NV11 **Mina Array Sit** 64.55 60 *e*P P 13 28 54.7 +0.8
C21A **Desert Coulee** 64.59 47 P P 13 28 54.9 +1.1
baz=64
GCMT **Greycliff** 64.60 50 *e*P P 13 28 54.9 +0.8
E19A **Rath Farm, Rou** 64.62 49 P P 13 28 55.2 +1.1
baz=64,SNR=15
YMR **Madison River** 64.64 51 *e*P P 13 28 53.9 -0.5
comp=Z,8.7nm,0.4s
YNR **Norris Junctio** 64.77 51 *e*P P 13 28 57.1 +1.9
comp=Z,9.8nm,0.9s
B22A **Reddig Ranch S** 64.82 46 P P 13 28 56.3 +1.0
baz=65
IMYA **Miami** 64.82 297 *e*P P 13 28 55.9 +0.2
YFT **Old Faithful** 64.85 51 *e*P P 13 28 58.0 +2.1
comp=Z,14nm,1.0s
I16A **Newdale** 64.88 52 P P 13 28 57.5 +1.6
baz=65,SNR=6.1
HYB **Hyderabad** 64.92 269 *i* P P 13 28 57.0 +0.7
F19A **Roth Farm, Mol** 64.94 49 P P 13 28 57.5 +1.2
baz=65,SNR=16
G18A **Lazy EL Ranch,** 64.97 50 P P 13 28 57.2 +0.7
baz=65
IEMG **Emamgholi** 65.02 299 *e*P P 13 28 58.0 +0.9
H17A **Grant Village** 65.03 51 P P 13 28 59.8 +2.8
baz=65,SNR=8.5
VRHR **Novokhopersk** 65.10 319 *e*P P 13 28 54.7 -2.2
VRHR pmax pmax
comp=Z,90nm,0.7s
VRHR pmax pmax
comp=N,50nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
D21A **La Casta Ranch** 65.14 47 P P 13 28 58.3 +0.8
baz=65,SNR=14
IMW **Indian Meadow** 65.16 52 *e*P P 13 28 59.2 +1.4
comp=E,11nm,1.0s
B23A **Brockton** 65.21 45 P P 13 28 58.7 +0.9
baz=65,SNR=17
C22A **Vida** 65.25 46 P P 13 28 58.6 +0.5
baz=65
RLMT **Red Lodge** 65.25 50 *e*P P 13 28 58.1 -0.3
comp=E,15nm,1.0s
RRI2 **Red Ridge** 65.31 53 *e*P P 13 29 00.1 +1.2
comp=E,21nm,0.8s
MOOW **Moose Ponds** 65.36 52 *e*P P 13 28 59.7 +0.6
comp=E,21nm,1.4s
A24A **Westby** 65.38 44 P P 13 28 59.6 +0.8
baz=65,SNR=5.8
TPAW **Teton Pass** 65.42 52 *e*P P 13 29 01.1 +1.5
comp=E,16nm,0.9s
IMOG **Moghan** 65.44 297 *e*P P 13 29 00.4 +0.6
E21A **Keefer Ranch,** 65.45 48 P P 13 29 00.7 +1.3
baz=65
IAKL **Akhelmad** 65.48 298 *e*P P 13 29 01.0 +0.9
D22A **Cohagen** 65.50 47 P P 13 29 00.7 +1.0
baz=65,SNR=7.3
IKRD **Kardeh** 65.52 298 *e*P P 13 28 56.9 -3.4
HVU **Hansel Valley** 65.53 55 *e*P P 13 29 01.0 +0.9
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU **Hansel Valley** 65.53 55 *e*P P 13 29 01.0 +0.9
comp=Z,6.0nm,0.8s
LOHW **Long Hollow** 65.53 52 *e*P P 13 29 01.4 +1.2
comp=Z,32nm,1.6s
SNOW **Snow King Moun** 65.55 52 *e*P P 13 29 01.7 +1.4
comp=Z,22nm,1.3s
C23A **Lambert** 65.56 46 P P 13 29 01.1 +1.0
baz=65,SNR=11
REDW **Red Top Meadow** 65.56 52 *e*P P 13 29 01.0 +0.6
comp=Z,30nm,1.4s
DGMT **Dagmar** 65.59 45 *e*P P 13 29 00.8 +0.6
comp=Z,82nm,1.1s
DGMT **Dagmar** 65.59 45 P P 13 29 01.2 +1.0
baz=65,SNR=11
VSU **Vasula** 65.61 331*c* *i*P P 13 28 59.0 -1.1
VSU pmax pmax
comp=Z,136nm,0.7s
ISFR **Sfrayin** 65.65 299 *e*P P 13 29 02.0 +0.9
H19A **Powell** 65.70 50 P P 13 29 02.0 +0.9
baz=66
G20A **Bridger** 65.75 49 P P 13 29 02.0 +0.6
baz=66,SNR=12
A25A **Svangstu Ranch** 65.79 44 P P 13 29 02.9 +1.4
baz=66
PKM **Peak Mountain** 65.81 64 P P 13 29 03.3 +1.2
baz=66
CWC **Cottonwood Cre** 65.88 62 P P 13 29 02.9 +0.4
baz=66
I18A **Diamond G Ranc** 65.90 51 P P 13 29 03.8 +1.2
baz=66
F21A **Absaloka Mine,** 65.91 48 P P 13 29 03.4 +1.0
baz=66
SFJD **Kangerlussuaq** 65.91 9⇑ *i*P P 13 29 01.7 -0.2
comp=Z,69nm,0.9s
SFJD **Kangerlussuaq** 65.91 9 *e*P P 13 29 01.8 -0.2
comp=Z,101nm,0.9s
GRAC **Grapevine Rang** 65.95 61 P P 13 29 04.2 +1.5
baz=66,SNR=19
D23A **Lindsay** 65.97 46 P P 13 29 04.0 +1.2
baz=66,SNR=10
E22A **Miles City** 66.10 47 P P 13 29 04.1 +0.5
baz=66
I19A **Meeteetse** 66.12 51 P P 13 29 05.3 +1.4
baz=66,SNR=6.2
VSR **Storozhevoye** 66.12 320 *e*P P 13 29 02.6 -0.9
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,20nm,0.6s
VSR pmax pmax
comp=Z,50nm,0.6s
R11A **Troy Canyon, C** 66.14 59 *e*P P 13 29 03.8 -0.3
R11A **Troy Canyon, C** 66.14 59 P P 13 29 04.9 +0.7
baz=66,SNR=18
ISA **Isabella** 66.15 63 *e*P P 13 29 03.9 -0.1
ISA **Isabella** 66.15 63 *e*P P 13 29 03.9 -0.1
comp=Z,2.6nm,0.9s
ISA **Isabella** 66.15 63 P P 13 29 04.0 -0.1
baz=66
CTA **Charters Tower** 66.19 184 P P 13 29 04.5 +0.2
CTA **Charters Tower** 66.19 184 P P 13 29 04.5 +0.2
comp=Z,4.3nm,0.8s,baz=342,slow=5.6,SNR=7.2
TBLU **Trondheim** 66.22 341 *e*P P 13 29 01.6 -2.4
TBLU AMB AMB 13 29 05.1
comp=Z,46nm,0.9s
VORD **Divnogorie** 66.24 320 *e*P P 13 29 02.9 -1.4
VORD pmax pmax
comp=Z,50nm,0.8s
VORD pmax pmax
comp=N,50nm,1.3s
VORD pmax pmax
comp=E,30nm,0.9s
G21A **Lodge Grass** 66.27 49 P P 13 29 04.9 +0.2
baz=66
HWUT **Hardware Ranch** 66.33 54 *e*P P 13 29 04.7 -0.6
comp=E,3.9nm,0.6s
A26A **Wade Farm, Ken** 66.34 43 P P 13 29 05.6 +0.6
baz=66
H20A **Greybull** 66.35 50 P P 13 29 05.5 +0.2
baz=66
E23A **Ismay** 66.38 47 P P 13 29 06.2 +0.8
baz=66,SNR=7.0
F22A **Rosebud** 66.39 48 P P 13 29 06.2 +0.8
baz=66,SNR=12
D24A **Glendive** 66.45 46 P P 13 29 07.0 +1.2
baz=66,SNR=17
MPMC **Manual Prospec** 66.49 62 P P 13 29 06.9 +0.5
baz=66,SNR=12
DUG **Dugway** 66.55 56 *e*P P 13 29 07.7 +1.1
DUG pmax pmax
comp=Z,94nm,2.3s
DUG **Dugway** 66.55 56 *e*P P 13 29 07.7 +1.1
comp=Z,94nm,2.3s
DUG **Dugway** 66.55 56 P P 13 29 07.8 +1.1
baz=66,SNR=17
C25A **Freed Ranch, W** 66.57 45 P P 13 29 07.4 +0.9
baz=66
J19A **Crowheart** 66.61 51 P P 13 29 08.2 +1.3
baz=66,SNR=14
FURC **Furnace Creek,** 66.61 61 P P 13 29 08.1 +1.3
baz=66,SNR=17
I20A **Worland** 66.64 50 P P 13 29 08.6 +1.4
baz=66,SNR=9.5
PDAR **Pinedale Array** 66.67 52 P P 13 29 08.0 +0.6
PDAR **Pinedale Array** 66.67 52 P P 13 29 08.0 +0.6
comp=Z,10nm,0.7s,baz=274,slow=1.4,SNR=92
G22A **Birney** 66.75 48 P P 13 29 08.6 +0.8
baz=66,SNR=9.9
H21A **Big Horn, Sher** 66.76 49 P P 13 29 08.9 +1.0
baz=66,SNR=21
BLG **Laguna Peak** 66.80 65 P P 13 29 08.1 0.0
baz=67
F23A **Volborg** 66.86 48 P P 13 29 09.2 +0.8
baz=67,SNR=16
M17A **Scullys Gap (B** 66.92 54 P P 13 29 09.6 +0.6
baz=67
D25A **Fairfield** 66.93 45 P P 13 29 09.8 +1.1
baz=67
EDW2 **Edwards Air Fo** 66.96 63 P P 13 29 10.4 +1.2
baz=67,SNR=6.1
L18A **Fontenelle, Gr** 66.97 53 P P 13 29 10.4 +1.1
baz=67,SNR=6.8
K19A **Absolon Red Bu** 67.01 52 P P 13 29 09.8 +0.3
baz=67,SNR=7.9
B27A **Peters Farms,** 67.05 43 P P 13 29 10.6 +1.2
baz=67
JLU **Jordanelle** 67.06 55 *e*P P 13 29 10.8 +0.8
comp=Z,3.0nm,0.6s
J20A **Shoshoni** 67.07 51 P P 13 29 11.0 +1.1
baz=67,SNR=15
NLU **North Lily Min** 67.13 56 *e*P P 13 29 10.5 +0.1
comp=Z,8.2nm,0.8s
H22A **Clearmont** 67.14 49 P P 13 29 11.1 +0.8
baz=67
A28A **Rude Farm, Bot** 67.16 42 P P 13 29 11.2 +1.0
baz=67,SNR=5.9
I21A **Big Trails, Te** 67.18 50 P P 13 29 11.3 +0.7
baz=67,SNR=43
L19A **Farson** 67.22 53 P P 13 29 11.8 +0.8
baz=67
G23A **Biddle** 67.23 48 P P 13 29 11.4 +0.7
baz=67,SNR=9.5
F24A **Ekalaka** 67.27 47 P P 13 29 11.8 +0.8
baz=67,SNR=15
SHOC **Shoshone** 67.34 61 P P 13 29 12.5 +1.0
baz=67
E25A **Miller Ranch,** 67.34 46 P P 13 29 12.4 +1.1
baz=67
K20A **Yellowstone Ra** 67.40 52 P P 13 29 12.0 0.0
baz=67
MOL **Molde** 67.41 342 *e*P P 13 29 11.1 -0.4
MOL AMB AMB 13 29 14.1
comp=Z,33nm,1.1s
GSC **Goldstone** 67.41 62 *e*P P 13 29 13.0 +0.9
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC **Goldstone** 67.41 62 *e*P P 13 29 13.0 +0.9
comp=Z,5.4nm,0.8s
GSC **Goldstone** 67.41 62 P P 13 29 12.7 +0.6
baz=67,SNR=5.4
J21A **Lysite** 67.42 50 P P 13 29 12.8 +0.7
baz=67,SNR=11
C27A **Sayler Ranch,** 67.42 44 P P 13 29 13.0 +1.2
baz=67
B28A **Dugan Ranch, T** 67.44 43 P P 13 29 12.9 +1.0
baz=67
D26A **Manning** 67.44 45 P P 13 29 12.8 +0.7
baz=67,SNR=5.5
WRAB **Tennant Creek** 67.47 196 P P 13 29 11.0 -1.3
comp=Z,71nm,0.9s,SNR=5.5
WRAB **Tennant Creek** 67.47 196 *e*P P 13 29 11.9 -0.4
WRAB pmax pmax
comp=Z,11nm,0.9s
WRAB **Tennant Creek** 67.47 196 *e*P P 13 29 11.8 -0.4
comp=Z,12nm,0.9s
WRA **Warramunga Arr** 67.48 196 P P 13 29 11.7 -0.7
WRA ⇑*e* 13 57 34.7
WRA **Warramunga Arr** 67.48 196 P P 13 29 11.7 -0.7
comp=Z,10nm,0.9s,baz=18,slow=6.7,SNR=38
WRA PKP2bc 13 57 34.7
comp=Z,2.5nm,0.9s,baz=200,slow=3.0,SNR=7.8
I22A **9 Mile Ranch,** 67.55 50 P P 13 29 14.0 +1.1
baz=67,SNR=12
BFSC **Mount Baldy Ra** 67.59 64 P P 13 29 14.0 +0.8
baz=68
SHPR **Sheep Range** 67.61 60 *e*P P 13 29 13.2 -0.2
SHPR *e*pP pP 13 29 56.6 +2.5
A29A **Manning Farm,** 67.63 42 P P 13 29 13.9 +0.7
baz=67
M19A **Rock Springs** 67.73 53 P P 13 29 14.4 +0.2
baz=68
E26A **Carlson Angus** 67.82 45 P P 13 29 15.1 +0.7
baz=68,SNR=7.1
FITZ **Fitzroy Crossi** 67.83 205 P P 13 29 14.9 +0.3
FITZ **Fitzroy Crossi** 67.83 205 P P 13 29 14.9 +0.3
comp=Z,6.7nm,0.8s,baz=21,slow=8.6,SNR=16
D27A **Center** 67.83 44 P P 13 29 15.4 +1.0
baz=68
L20A **Wamsutter** 67.84 52 P P 13 29 15.6 +0.8
baz=68,SNR=7.6
TUQ **Turquoise Moun** 67.86 62 P P 13 29 15.8 +0.8
baz=68
J22A **Midwest** 67.89 50 P P 13 29 15.6 +0.6
baz=68,SNR=18
B29A **Wagenman Farm,** 67.90 42 P P 13 29 15.6 +0.8
baz=68
NB2 **NORSAR Subarra** 67.93 340 P P 13 29 13.8 -1.0
comp=Z,63nm,0.8s,baz=28,slow=6.5
NB2 **NORSAR Subarra** 67.93 340 P P 13 29 13.8 -1.0
baz=28,slow=6.5
NOA **NORSAR Array B** 67.93 340 P P 13 29 14.0 -0.8
NOA **NORSAR Array B** 67.93 340 P P 13 29 14.0 -0.8
comp=Z,74nm,0.7s,baz=30,slow=6.3,SNR=139
NOA LR LR 14 01 30.8
comp=Z,30nm,18.1s,baz=45,slow=38
C28A **Hausauer Farms** 67.95 43 P P 13 29 16.2 +1.1
baz=68,SNR=5.7
H24A **Dirks Ranch, A** 67.97 48 P P 13 29 15.7 +0.3
baz=68,SNR=14
CCUT **Cedar City** 67.99 58 *e*P P 13 29 16.6 +0.8
comp=Z,3.8nm,0.9s
K21A **Alcova** 68.01 51 P P 13 29 16.3 +0.5
baz=68,SNR=14
HEC **Hector,Ludlow** 68.02 62 P P 13 29 16.7 +0.9
baz=68,SNR=11
MVU **Marysvale** 68.02 57 *e*P P 13 29 16.4 +0.3
comp=Z,3.7nm,0.9s
MSU **Marysvale** 68.04 57 *e*P P 13 29 17.1 +1.0
MSU **Marysvale** 68.04 57 *e*P P 13 29 17.1 +1.0
A30A **Hoffart Farm,** 68.05 41 P P 13 29 16.8 +1.1
baz=68,SNR=6.5
TMUT **Trail Mountain** 68.07 56 *e*P P 13 29 16.8 +0.4
comp=Z,7.1nm,0.8s
NC602 **NORSAR Array S** 68.12 339 *e*P P 13 29 14.6 -1.3
F26A **Lodgepole** 68.15 46 P P 13 29 17.5 +1.0
baz=68,SNR=6.4
NAO01 **NORSAR Array S** 68.18 340 *e*P P 13 29 15.2 -1.2
comp=Z,52nm,0.8s
ULM **Lac du Bonnet** 68.19 39 *e*P P 13 29 15.4 -1.1
comp=Z,15nm,0.7s
ULM **Lac du Bonnet** 68.19 39 P P 13 29 16.4 -0.1
comp=Z,16nm,0.6s,baz=312,slow=6.1,SNR=20
MDND **Maddock** 68.23 43 *e*P P 13 29 17.2 +0.4
MDND **Maddock** 68.23 43 P P 13 29 18.1 +1.3
baz=68,SNR=9.0
G25A **Newell** 68.24 47 P P 13 29 17.5 +0.4
baz=68
M20A **Sweetwater, Wa** 68.28 52 P P 13 29 18.9 +1.3
baz=68,SNR=5.3
MICGM **Minsk** 68.28 328 *e* P 13 29 14.0 -3.0
E27A **Carson** 68.29 45 P P 13 29 18.2 +0.9
baz=68,SNR=6.6
MNK **Minsk** 68.30 328 *e*P P 13 29 14.0 -3.1
Q16A **Castle Valley** 68.35 56 *e*P P 13 29 18.2 +0.2
Q16A **Castle Valley** 68.35 56 P P 13 29 18.5 +0.5
baz=68
NACGM **Naroch** 68.37 329 *e* P 13 29 13.0 -4.6
K22A **Casper** 68.39 51 P P 13 29 18.5 +0.4
baz=68,SNR=9.7
B30A **Myrvik Farm, E** 68.39 42 P P 13 29 18.7 +0.9
baz=68,SNR=44
L21A **Rawlins** 68.40 52 P P 13 29 18.9 +0.5
baz=68,SNR=8.0
GMRC **Granite Mounta** 68.46 62 P P 13 29 19.4 +0.7
baz=68,SNR=7.1
F27A **Lemmon** 68.46 46 P P 13 29 18.5 +0.1
baz=68
IGLO **Ghaloghah** 68.53 301 *e*P P 13 29 20.1 +0.9
H25A **Fruitdale** 68.55 47 P P 13 29 19.3 +0.3
baz=68
I24A **Kuemmerle Ranc** 68.55 49 P P 13 29 18.9 -0.2
baz=68
G26A **Maurine** 68.58 46 P P 13 29 19.6 +0.4
baz=68
SRU **San Rafael** 68.59 56 *e*P P 13 29 20.0 +0.5
SRU pmax pmax
comp=Z,15nm,0.8s
SRU **San Rafael** 68.59 56 *e*P P 13 29 20.0 +0.5
comp=Z,15nm,0.8s
E28A **Huff** 68.61 44 P P 13 29 20.1 +0.8
baz=68
M21A **Separation Pea** 68.65 52 P P 13 29 20.3 +0.4
baz=68,SNR=6.1
RSSD **Black Hills** 68.67 48 *e*P P 13 29 19.5 -0.5
RSSD pmax pmax
comp=Z,21nm,0.9s
RSSD **Black Hills** 68.67 48 *e*P P 13 29 19.5 -0.5
comp=Z,21nm,0.9s
RWWY **Rawlins** 68.68 52 *e*P P 13 29 19.7 -0.3
comp=Z,7.1nm,0.8s
N20A **Spence Gulch,** 68.69 53 P P 13 29 21.2 +1.1
baz=68,SNR=15
BELC **Belle Mtn. Jos** 68.77 63 P P 13 29 21.0 +0.4
baz=69
K23A **Bowen Ranch, D** 68.79 50 P P 13 29 20.4 -0.2
baz=69
IKIA **Kiasar** 68.81 300 *e*P P 13 29 21.2 +0.2
G27A **Dupree** 68.86 46 P P 13 29 21.2 +0.4
baz=69,SNR=10
C30A **Mose, Pekin** 68.86 42 P P 13 29 20.8 0.0
baz=69
L22A **Ellis Ranch, M** 68.86 51 P P 13 29 22.4 +1.3
baz=69,SNR=5.9
I25A **Rochford** 68.90 48 P P 13 29 21.5 +0.2
baz=69,SNR=9.4
HYA **Hoyanger** 68.96 342 *e*P P 13 29 20.3 -0.8
HYA AMB AMB 13 29 23.4
comp=Z,121nm,1.3s
H26A **Fairpoint** 68.97 47 P P 13 29 21.5 -0.1
baz=69
OSL **Oslo** 69.02 339 *e*P P 13 29 21.5 0.0
BORG **Borgarnes** 69.07 356 P P 13 29 23.0 +1.3
comp=Z,1μm,0.8s,SNR=19
BORG **Borgarnes** 69.07 356 *e*P P 13 29 22.9 +1.3
comp=Z,152nm,0.8s
AFI **Afiamalu** 69.07 140 P P 13 29 22.5 0.0
AFI **Afiamalu** 69.07 140 P P 13 29 22.5 0.0
comp=Z,15nm,0.8s,baz=190,slow=7.6,SNR=4.0
F28A **McLaughlin** 69.08 45 P P 13 29 22.6 +0.4
baz=69
P19A **Cripple Cowboy** 69.11 54 P P 13 29 23.3 +0.6
baz=69,SNR=10
E29A **Napoleon** 69.13 44 P P 13 29 22.9 +0.4
baz=69
D30A **Buchanan** 69.16 43 P P 13 29 22.9 +0.3
baz=69
O20A **White River Ci** 69.18 53 *e*P P 13 29 22.9 -0.2
O20A **White River Ci** 69.18 53 P P 13 29 23.6 +0.5
baz=69,SNR=6.8
IRM **Iron Mountain** 69.19 62 P P 13 29 24.0 +1.0
baz=69,SNR=7.5
L23A **Garrett** 69.20 50 P P 13 29 23.3 +0.1
baz=69,SNR=6.3
M22A **Cedar Creek Ra** 69.21 52 P P 13 29 23.7 +0.4
baz=69,SNR=5.9
J25A **Sunshine Ranch** 69.31 48 P P 13 29 23.3 -0.5
baz=69
H27A **Howes** 69.31 47 P P 13 29 24.4 +0.7

baz=69,SNR=5.2
W13A Hualapai Mount 69.32 61 P P 13 29 25.0 +0.9
baz=69,SNR=5.8
BC3 Big Chuckawall 69.34 63 P P 13 29 24.5 +0.4
baz=69
I26A New Underwood 69.34 47 P P 13 29 24.3 +0.4
baz=69
SUE Sulen 69.35 343 eP P 13 29 22.8 -0.7
U15A North Rim 69.38 59 P P 13 29 26.1 +1.6
baz=69,SNR=16
E30A Jud 69.53 44 P P 13 29 25.0 +0.1
baz=69
P20A De Beque 69.53 54 P P 13 29 25.4 +0.2
baz=69
KONO Kongsberg 69.54 340 eP P 13 29 24.1 -0.6
KONO AMB AMB 13 29 26.6
comp=Z,46nm,1.2s
KONO Kongsberg 69.54 340 eP P 13 29 24.3 -0.5
KONO pmax pmax
comp=Z,35nm,0.9s
KONO Kongsberg 69.54 340 eP P 13 29 24.2 -0.5
comp=Z,35nm,0.9s
F29A Eureka 69.56 44 P P 13 29 25.3 +0.1
baz=69
G28A Parade 69.58 46 P P 13 29 25.5 +0.2
baz=69
KIV Kislovodsk 69.58 313c iP P 13 29 26.1 +0.7
KIV pmax pmax
comp=Z,180nm,1.1s
KIV Kislovodsk 69.58 313 P P 13 29 25.2 -0.2
comp=Z,958nm,0.7s,SNR=15
AGMN Agassiz Nation 69.63 41 eP P 13 29 25.3 -0.2
comp=Z,29nm,1.0s
KBZ Khabaz 69.63 312 P P 13 29 25.3 -0.3
KBZ pmax pmax
comp=Z,63nm,0.9s
KBZ MLR MLR
comp=Z,126nm,18.1s
KBZ Khabaz 69.63 312 P P 13 29 25.3 -0.3
KBZ Khabaz 69.63 312 P P 13 29 25.3 -0.3
comp=Z,63nm,0.9s,baz=59,slow=4.7,SNR=103
KBZ LR LR 14 04 58.1
comp=Z,126nm,18.1s,baz=38,slow=40
M23A Laramie 69.63 51 P P 13 29 26.4 +0.5
baz=69,SNR=5.5
DZM Mont Dzumac 69.67 164 P P 13 29 26.9 +1.0
DZM Mont Dzumac 69.67 164 P P 13 29 26.9 +1.0
comp=Z,13nm,0.9s,baz=34,slow=7.3,SNR=10
DZM LR LR 13 55 05.9
comp=Z,443nm,21.6s,baz=189,slow=31
N22A Wattenberg Ran 69.70 52 P P 13 29 27.6 +1.2
baz=70,SNR=5.9
GUDG Gudauri 69.70 311 P P 13 29 25.9 -0.4
PDMCI Parker Dam,Lak 69.71 61 P P 13 29 27.2 +1.0
baz=70
I27A Quinn 69.72 47 P P 13 29 26.8 +0.6
baz=70,SNR=9.8
ZEI Tsey 69.78 311 eP P 13 29 25.2 -1.6
ZEI pmax pmax
comp=Z,51nm,0.8s
ASK Askoy 69.78 342 eP P 13 29 24.9 -1.3
ASK AMB AMB 13 29 28.2
comp=Z,155nm,1.0s
H28A Mission Ridge 69.81 46 P P 13 29 27.4 +0.7
baz=70,SNR=12
RUND Rundenannen 69.81 342 eP P 13 29 25.1 -1.3
RUND AMB AMB 13 29 27.1
comp=Z,142nm,0.8s
BER Bergen 69.84 342 eP P 13 29 25.5 -1.0
BER AMB AMB 13 29 27.1
comp=Z,132nm,1.1s
Y12C Blythe 69.85 62 P P 13 29 28.1 +1.1
baz=70,SNR=5.4
PHWY Pilot Hill 69.89 51 eP P 13 29 27.0 -0.6
comp=Z,4.1nm,0.9s
N23A Red Feather La 69.91 52 P P 13 29 28.7 +1.0
baz=70,SNR=8.3
PV10 Paradox Valley 69.94 55 eP P 13 29 29.0 +1.1
DGRG David-gareji 69.94 309 P P 13 29 28.5 +0.9
Q20A Ridgley Place, 69.96 54 P P 13 29 28.4 +0.5
baz=70
PV04 Paradox Valley 70.00 55 eP P 13 29 28.5 +0.4
P21A Newcastle 70.04 53 P P 13 29 29.4 +0.9
baz=70,SNR=9.7
TBLG Delisi 70.08 310 P P 13 29 29.1 +0.7
TBLG Delisi 70.08 310 P P 13 29 29.1 +0.7
L25A Engebretsen Ra 70.09 50 P P 13 29 29.2 +0.7
baz=70
O22A Kremmling 70.09 52 P P 13 29 29.2 +0.3
baz=70,SNR=6.5
M24A Cheyenne 70.12 51 P P 13 29 30.1 +1.3
baz=70,SNR=6.1
GLA Glamis 70.13 63 eP P 13 29 28.3 -0.6
GLA pmax pmax
comp=Z,8.0nm,0.8s
GLA Glamis 70.13 63 eP P 13 29 28.3 -0.6
comp=Z,8.4nm,0.8s
GLA Glamis 70.13 63 P P 13 29 29.8 +0.9
baz=70
ONI Oni 70.15 311 P P 13 29 29.4 +0.6
I28A Midland 70.22 47 P P 13 29 29.7 +0.5
baz=70,SNR=7.6
IDMV Damavand 70.23 301 eP P 13 29 30.6 +0.9
J27A Elkhorn Farm, 70.33 48 P P 13 29 30.3 +0.4
baz=70
SUW Suwalki 70.35 330 eP P 13 29 28.5 -1.2
SUW pmax pmax
comp=Z,79nm,1.0s
SUW Suwalki 70.35 330 eP P 13 29 28.5 -1.2
comp=Z,79nm,1.0s
PV01 Paradox Valley 70.37 55 eP P 13 29 31.4 +0.9
P22A Eagle 70.37 53 P P 13 29 31.3 +0.8
baz=70,SNR=6.2
O23A Lake Granby, G 70.41 52 P P 13 29 31.9 +1.2
baz=70,SNR=12
R20A Redvale 70.44 55 P P 13 29 31.6 +0.8
baz=70,SNR=9.7
Q21A Lamborn Mesa, 70.45 54 P P 13 29 31.8 +0.9
baz=70
BLS5 Blasjo 70.47 341 eP P 13 29 31.0 +0.6
KZR Kazreti 70.50 310 P P 13 29 32.1 +1.1
N24A Carr 70.53 51 P P 13 29 32.6 +1.2
baz=70
WUAZ Wupatki 70.54 59 eP P 13 29 32.8 +1.4
comp=Z,7.1nm,1.0s
WUAZ Wupatki 70.54 59 P P 13 29 32.7 +1.2
baz=70
SMCO Snowmass 70.54 53 eP P 13 29 31.7 0.0
comp=Z,6.9nm,0.7s
M25A Palm-Egli Farm 70.55 50 P P 13 29 32.6 +1.2
baz=70
J28A Allard Ranch, 70.60 47 P P 13 29 32.4 +0.9
baz=70,SNR=12
Y14A Wickenburg 70.64 61 P P 13 29 32.8 +0.9
baz=70,SNR=6.7
S20A Disappointment 70.70 55 P P 13 29 33.1 +0.6
baz=70,SNR=6.8
AKASG Malin Array Be 70.72 325ceP P 13 29 30.8 -1.2
AKASG pmax pmax
comp=Z,37nm,0.6s
AKASG Malin Array Be 70.72 325 P P 13 29 30.9 -1.2
AKASG Malin Array Be 70.72 325 P P 13 29 30.9 -1.2
comp=Z,35nm,0.7s,baz=34,slow=6.2,SNR=82
KIEV Kiev 70.73 325 eP P 13 29 30.9 -1.2
KIEV pmax pmax
comp=Z,45nm,0.8s
KIEV Kiev 70.73 325 eP P 13 29 30.9 -1.2
comp=Z,45nm,0.8s
IGZV Ghazvin 70.74 303 eP P 13 29 34.1 +1.4
R21A Cimarron 70.78 54 P P 13 29 34.3 +1.3
baz=71,SNR=9.3
Q22A Crested Butte, 70.80 54 P P 13 29 34.2 +1.0
baz=71,SNR=5.3
IVRN Varamin 70.81 301 eP P 13 29 34.1 +1.1
ISCO Idaho Springs 70.86 52 eP P 13 29 34.5 +1.0
ISCO pmax pmax
comp=Z,37nm,1.8s
ISCO Idaho Springs 70.86 52 eP P 13 29 34.5 +1.0
comp=Z,37nm,1.8s
ISCO Idaho Springs 70.86 52 P P 13 29 34.6 +1.0
baz=71,SNR=8.9
IR3 Iran Long-Peri 70.89 301 eP P 13 29 34.7 +1.2
ISFB Sefidab 70.94 300 eP P 13 29 34.3 +0.5
IMHD Mahdasht 70.96 302 eP P 13 29 35.3 +1.4
AKH Akhalkalaki 70.97 310 P P 13 29 34.9 +1.0
113A Mohawk Valley, 70.98 62 P P 13 29 34.2 +0.3
baz=71

BRSD Miller 71.00 45 P P 13 29 34.0 +0.1
baz=71
P23A Jefferson 71.04 53 P P 13 29 35.9 +1.2
baz=71
K28A Ten Mile Ranch 71.04 48 P P 13 29 34.6 +0.3
baz=71
MVCO Mesa Verde 71.05 56 eP P 13 29 35.2 +0.6
comp=Z,9.0nm,0.6s
MVCO Mesa Verde 71.05 56 P P 13 29 35.4 +0.8
baz=71,SNR=11
Z14A Wintersburg 71.07 61 P P 13 29 35.3 +0.8
baz=71
S21A Coal Bank Pass 71.14 55 P P 13 29 36.5 +1.3
baz=71,SNR=14
AS31 Alice Springs 71.19 196 eP P 13 29 35.8 +0.7
ASAR Alice Springs 71.19 196 P P 13 29 35.8 +0.7
ASAR pP pP 13 30 14.6 -1.6
ASAR Alice Springs 71.19 196 P P 13 29 35.8 +0.7
comp=Z,12nm,0.8s,baz=10,slow=6.0,SNR=78
ASAR pP pP 13 30 14.6 -1.6
comp=Z,4.5nm,0.7s,baz=12,slow=5.7,SNR=4.7
GNI Garni 71.19 309 eP P 13 29 36.8 +1.5
comp=Z,94nm,1.0s
IHRS Heris 71.22 306 eP P 13 29 36.4 +0.8
X16A Lo Mia Camp, P 71.26 60 P P 13 29 37.2 +1.4
baz=71,SNR=16
R22A Saguache, Gunn 71.33 54 P P 13 29 37.4 +1.0
baz=71
SOC Sochi 71.34 314 eP P 13 29 35.4 -0.5
SOC eS S 13 38 43.6 +4.0
SOC pmax pmax
comp=Z,76nm,0.6s
EIDS Eidsvold 71.36 179 eP P 13 29 37.7 +1.6
comp=Z,8.9nm,0.7s
Q23A Hartsel 71.37 53 P P 13 29 37.6 +1.0
baz=71
K29A Lazy Trails An 71.54 47 P P 13 29 37.9 +0.7
baz=71
ANN Anapa 71.57 316 eP P 13 29 35.9 -1.3
ANN e 13 29 53.8
ANN e*PP pP 13 30 14.9 -3.4
ANN e 13 32 17.8
ANN eS S 13 38 42.5 +0.4
ANN eSS SS 13 43 19.5 -0.3
ANN pmax pmax
comp=Z,92nm,0.9s
S22A 4UR Ranch, Cre 71.63 54 P P 13 29 39.4 +1.3
baz=71,SNR=13
IMRD Marand 71.68 307 eP P 13 29 38.5 +0.2
Q24A Divide 71.70 53 P P 13 29 39.4 +0.8
baz=72
T21A Navajo Lake 71.75 55 P P 13 29 39.9 +1.1
baz=72
N27A Anderson Farm, 71.80 50 P P 13 29 39.8 +0.9
baz=72,SNR=5.4
EYMN Ely 71.82 38 eP P 13 29 38.6 -0.1
comp=Z,47nm,0.9s
P25A Willow Gulch B 71.85 52 P P 13 29 40.4 +1.1
baz=72,SNR=5.9
R23A Moffat 71.88 54 P P 13 29 40.8 +1.2
baz=72,SNR=12
M28A Bar X Bar Ranc 71.99 49 P P 13 29 40.8 +0.8
baz=72
ISHB Shabestar 72.03 307 eP P 13 29 41.0 +0.5
V20A Brimhall 72.05 57 P P 13 29 41.3 +0.7
baz=72
X18A Snowflake 72.07 59 P P 13 29 41.3 +0.7
baz=72
U21A Nageezi 72.08 56 P P 13 29 41.7 +1.0
baz=72,SNR=8.1
BSD Bornholm Skovb 72.08 335 iP P 13 29 39.3 -0.8
BSD pmax pmax
comp=Z,72nm,0.9s
BSD Bornholm Skovb 72.08 335 iP P 13 29 39.3 -0.8
comp=Z,72nm,0.8s
T22A Edith 72.10 55 P P 13 29 42.1 +1.2
baz=72,SNR=14
214A Organ Pipe Nat 72.12 62 P P 13 29 41.6 +0.8
baz=72
R24A Sanders Place, 72.25 53 P P 13 29 42.7 +1.0
baz=72,SNR=12
IAZR Azarshahr 72.26 306 eP P 13 29 43.5 +1.7
P26A Davis Ranch, A 72.26 51 P P 13 29 42.3 +0.6
baz=72
O27A Beecher Island 72.28 50 P P 13 29 41.8 +0.1
baz=72
COP Copenhagen 72.30 336 iP P 13 29 41.3 -0.1
COP pmax pmax
comp=Z,35nm,0.8s
COP Copenhagen 72.30 336 iP P 13 29 41.3 -0.1
comp=Z,35nm,0.8s
SDCO Great Sand Dun 72.37 54 eP P 13 29 43.3 +0.8
comp=Z,34nm,2.0s
MUD Monsted U'grnd 72.49 338 iP P 13 29 42.4 0.0
MUD pmax pmax
comp=Z,28nm,0.8s
MUD Monsted U'grnd 72.49 338 iP P 13 29 42.4 0.0
comp=Z,28nm,0.8s
W20A Ramah 72.50 57 P P 13 29 43.9 +0.6
baz=72
V21A Milan 72.53 56 P P 13 29 44.1 +0.7
baz=72
T23A Casias Ranch, 72.57 55 P P 13 29 44.8 +1.1
baz=72
U22A Llaves 72.58 55 P P 13 29 44.8 +1.1
baz=72,SNR=5.7
S24A Houchin Ranch, 72.61 54 P P 13 29 45.0 +1.1
baz=72,SNR=5.7
Q26A Hugo 72.62 52 P P 13 29 44.3 +0.4
baz=72
ECSD EROS Data Cent 72.66 44 eP P 13 29 43.8 0.0
comp=Z,32nm,1.1s
LLD Lille Linde 72.67 336 iP P 13 29 43.9 +0.4
comp=Z,61nm,0.8s
R25A Fountain Ranch 72.76 53 P P 13 29 45.0 +0.4
baz=73,SNR=10
V22A San Miguel Ran 72.87 56 P P 13 29 46.3 +0.8
baz=73,SNR=5.6
X20A Quemado 72.91 58 P P 13 29 47.2 +1.5
baz=73,SNR=13
T24B San Luis 72.92 54 P P 13 29 47.1 +1.3
baz=73
GKP Gorka Klasztor 72.95 333 eP P 13 29 44.6 -0.6
BEL Belsk 72.96 330 eP P 13 29 45.2 -0.2
U23A El Rito 72.99 55 P P 13 29 47.4 +1.3
baz=73,SNR=9.5
SIM Simferopol' 73.02 318 eP P 13 29 45.0 -0.9
SIM pmax pmax
comp=Z,55nm,0.6s
S25A Robets Cordova 73.03 53 P P 13 29 46.6 +0.3
baz=73,SNR=7.0
RGN Rugen 73.04 335 eP P 13 29 45.8 +0.1
comp=Z,105nm,0.8s
R26A Arlington 73.11 52 P P 13 29 47.1 +0.4
baz=73,SNR=12
TUC Tucson 73.11 61 eP P 13 29 47.5 +0.7
TUC pmax pmax
comp=Z,65nm,2.7s
TUC Tucson 73.11 61 eP P 13 29 47.5 +0.7
comp=Z,65nm,2.7s
O29A 4D Ranch, Culb 73.21 49 P P 13 29 47.1 0.0
baz=73
SPMN St. Paul 73.32 41 eP P 13 29 48.0 +0.3
SPMN St. Paul 73.32 41 P P 13 29 47.6 0.0
baz=73
X21A Alamocita Cree 73.40 57 P P 13 29 50.3 +1.7
baz=73,SNR=9.2
V23A Ortiz Mt. (NFS 73.41 56 P P 13 29 50.6 +2.1
baz=73,SNR=6.1
T25A Trinidad 73.41 53 P P 13 29 49.3 +0.7
baz=73,SNR=10
Y20A Horse Springs, 73.43 58 P P 13 29 50.3 +1.5
baz=73,SNR=7.1
LVV L'vov 73.44 327 eP P 13 29 48.5 +0.3
S26A Kim 73.59 53 P P 13 29 49.3 -0.2
baz=73
Y21A Point of Rocks 73.77 58 P P 13 29 52.6 +1.8
baz=74,SNR=5.3
KIS Kishinev 73.78 322 eP P 13 29 48.0 -2.3
KIS Kishinev 73.78 322 eP P 13 29 48.0 -2.3
KIS e 13 30 30.0
LAZ Ladron 73.81 57 eP P 13 29 52.1 +1.2
ANMO Albuquerque 73.82 56 eP P 13 29 50.1 -0.8
comp=Z,3.5nm,0.7s
T26A Comanche Natio 73.84 53 P P 13 29 51.2 +0.1
baz=74,SNR=13
W23A Werner Place, 73.84 56 P P 13 29 52.0 +0.8

baz=74,SNR=5.7
Z20A Nine Sixteen R 73.86 59 P P 13 29 51.9 +0.7
baz=74
V24A Rampart Ranch, 73.94 55 P P 13 29 53.1 +1.4
baz=74,SNR=5.5
U25A Circle Dot Ran 73.94 54 P P 13 29 52.2 +0.6
baz=74,SNR=6.3
MVH1 Achvaich 73.94 346 eP P 13 29 50.5 -0.5
Q29A Oakley 74.02 50 P P 13 29 51.3 -0.6
baz=74
KWP Kalwaria Pacla 74.09 328 ⇊P P 13 29 49.8 -2.2
KWP Kalwaria Pacla 74.09 328 ⇊iP P 13 29 49.8 -2.2
KWP Kalwaria Pacla 74.09 328 eP P 13 29 49.5 -2.6
comp=Z,197nm,1.0s
KWP Kalwaria Pacla 74.09 328 eP P 13 29 53.0 +1.0
MCD Coleburn Disti 74.11 345⇑eP P 13 29 51.3 -0.6
IDHR Dehrash 74.14 304 eP P 13 29 53.1 +0.2
BANOM Banah 74.21 291 P P 13 29 54.3 +1.1
SNR=7.1
V25A Rancho No Teng 74.23 55 P P 13 29 54.4 +1.0
baz=74,SNR=5.3
W24A Lazy 6 Ranch, 74.23 55 P P 13 29 54.8 +1.4
baz=74,SNR=9.3
X23A Hourglass Bar 74.23 56 P P 13 29 54.8 +1.4
baz=74,SNR=7.6
120A U Bar Ranch, L 74.24 59 P P 13 29 54.7 +1.3
baz=74,SNR=14
Y22A Socorro 74.24 57 P P 13 29 54.5 +1.1
baz=74
R29A Marienthal 74.27 51 P P 13 29 53.4 0.0
baz=74
Z21A St. Cloud Mine 74.27 58 P P 13 29 55.1 +1.5
baz=74
BNM Barren Site 74.28 57 eP P 13 29 55.0 +1.3
MME1 Meikle Cairn 74.31 345⇑eP P 13 29 52.8 -0.4
P31A Stockton 74.39 49 P P 13 29 53.8 -0.2
baz=74
BSEG Bad Segeberg 74.42 337 eP P 13 29 53.8 0.0
comp=Z,108nm,1.0s
BSEG Bad Segeberg 74.42 337 eP P 13 29 53.8 0.0
BSEG pmax pmax
comp=Z,108nm,1.0s
MDO Dochfour 74.44 346⇑eP P 13 29 53.3 -0.6
S28A Manter 74.47 52 P P 13 29 54.9 +0.3
baz=74,SNR=5.9
SCHQ Schefferville 74.48 21 eP P 13 29 54.6 +0.4
comp=Z,52nm,1.0s
SCHQ Schefferville 74.48 21 P P 13 29 54.5 +0.4
comp=Z,34nm,0.8s,baz=355,slow=6.1,SNR=25
KAC Achnashellach 74.53 347⇑eP P 13 29 54.0 -0.5
DRUM Mains of Drumt 74.61 345⇑eP P 13 29 54.7 -0.1
DRUM AMB AMB 13 29 55.7
comp=Z,54nm,0.9s
OJC Ojcow 74.66 329 eP P 13 29 55.1 -0.2
OJC pmax pmax
comp=Z,107nm,1.0s
OJC Ojcow 74.66 329 eP P 13 29 55.0 -0.2
comp=Z,107nm,1.0s
319A Douglas 74.68 61 P P 13 29 57.1 +1.2
baz=74,SNR=11
X24A Lazy VL Ranch, 74.68 56 P P 13 29 56.9 +1.0
baz=74
RUE Ruedersdorf 74.70 334 eP P 13 29 55.3 -0.1
comp=Z,127nm,1.0s
Z22A Elephant Butte 74.72 58 P P 13 29 57.2 +1.1
baz=75,SNR=23
V26A Tequesquite Ra 74.73 54 P P 13 29 56.1 -0.1
baz=74
KPL Plockton 74.74 347⇑eP P 13 29 55.3 -0.3
KPL AMB AMB 13 29 56.8
comp=Z,105nm,0.8s
WBK Wadi Bani Khal 74.75 287 P P 13 29 58.4 +2.0
SNR=5.3
121A Cookes Peak, D 74.75 59 P P 13 29 58.0 +1.7
baz=75,SNR=5.2
220A Playas Peak, P 74.76 60 P P 13 29 57.4 +1.0
baz=75,SNR=5.9
W25A X Bar L Ranch, 74.76 55 P P 13 29 57.4 +1.0
baz=75,SNR=5.2
BURAR Bucovina Array 74.77 325 ⇑P P 13 29 55.7 -0.4
BURAR Bucovina Array 74.77 325 ⇑iP P 13 29 55.7 -0.4
Y23A Lovelace Mesa, 74.77 57 P P 13 29 57.6 +1.1
baz=75,SNR=14
STHS Stebnicka Huta 74.81 328 eP P 13 29 56.9 +0.7
STHS pmax pmax
comp=Z,47nm,1.0s
STHS Stebnicka Huta 74.81 328 eP P 13 29 56.9 +0.7
U27A Thompson Grove 74.81 53 P P 13 29 56.6 0.0
baz=75
KOLS Kolonicke sedl 74.83 327 eP P 13 29 56.0 -0.3
KOLS pmax pmax
comp=Z,51nm,1.1s
KOLS Kolonicke sedl 74.83 327 eP P 13 29 56.0 -0.3
KSB Sheil Bridge 74.83 346⇑eP P 13 29 55.8 -0.3
R30A Dighton 74.83 50 P P 13 29 56.6 0.0
baz=75
UOSS Wadi Hilu 74.95 290 P P 13 29 57.2 -0.2
comp=Z,414nm,0.8s,SNR=14
UZH Uzhgorod 75.07 327 eP P 13 29 56.2 -1.4
UZH e 13 30 07.0
UZH e 13 30 40.6
UZH eS S 13 39 17.2 -4.1
UZH i 13 47 32.0
Y24A Capitan 75.13 56 P P 13 29 59.5 +0.9
baz=75,SNR=12
NIE Niedzica 75.14 329⇑iP P 13 30 00.4 +2.3
X25A Clemmons Ranch 75.15 56 P P 13 29 59.9 +1.4
baz=75,SNR=5.3
Z23A Rita Site, Whi 75.15 57 P P 13 29 59.9 +1.3
baz=75
CRVS Cervenica-Dubn 75.16 328 eP P 13 29 58.0 -0.2
CRVS pmax pmax
comp=Z,36nm,1.1s
CRVS Cervenica-Dubn 75.16 328 eP P 13 29 58.0 -0.2
HOQ Hoqain 75.17 289 P P 13 29 59.7 +1.0
SNR=8.3
TLCR 75.21 321 ⇊P P 13 29 58.5 0.0
TLCR 75.21 321 ⇊iP P 13 29 58.5 0.0
ASHO Ashiyiah 75.23 290 P P 13 30 00.1 +1.1
SNR=8.9
ELO Logie Almond 75.25 345⇑eP P 13 29 58.5 -0.1
V27A Dan Oppiter Fa 75.29 54 P P 13 29 59.5 +0.2
baz=75
KSP Ksiaz 75.32 332 eP P 13 29 58.8 -0.3
KSP Ksiaz 75.32 332 eP P 13 29 58.8 -0.3
TRPA Tarpa 75.39 327 ⇊iP P 13 29 59.6 +0.1
JMDO Jabal Madar 75.49 287 P P 13 30 01.9 +1.4
SNR=6.1
CFR Carcaliu 75.51 322 ⇑P P 13 29 59.9 -0.3
CFR Carcaliu 75.51 322 ⇑iP P 13 29 59.9 -0.3
OKC Ostrava-Krasne 75.56 330 eP P 13 30 00.2 -0.2
OKC Ostrava-Krasne 75.56 330⇑eP P 13 30 00.2 -0.2
VRI Vrincioaia 75.56 323 ⇑P P 13 30 01.1 +0.6
VRI Vrincioaia 75.56 323 ⇑iP P 13 30 01.1 +0.6
Y25A Mesa, Roswell 75.56 56 P P 13 30 01.1 +0.2
baz=75
ESY Stoneypath 75.58 345⇑eP P 13 30 00.5 +0.1
PLOR Plostina 75.60 323 ⇑P P 13 30 00.9 +0.1
PLOR Plostina 75.60 323 ⇑iP P 13 30 00.9 +0.1
Z24A Sheeppen Canyo 75.60 57 P P 13 30 02.2 +0.9
baz=75,SNR=7.7
X26A CR and CF Fran 75.61 55 P P 13 30 02.4 +1.1
baz=75,SNR=5.0
EAB Aberfoyle 75.63 346⇑eP P 13 30 00.3 -0.3
UPC Upice 75.70 332 eP P 13 30 01.3 0.0
UPC e 13 30 07.4
UPC Upice 75.70 332⇑eP P 13 30 01.3 0.0
UPC ex x 13 30 07.4
DPC Dobruska-Polom 75.73 331 ⇑iP P 13 30 01.6 +0.1
DPC Dobruska-Polom 75.73 331 ⇑iP P 13 30 01.6 +0.1
DPC Dobruska-Polom 75.73 331 eP P 13 30 01.6 +0.1
comp=Z,403nm,1.1s
NRDL Niedersach Rie 75.76 336 eP P 13 30 01.3 -0.1
comp=Z,45nm,1.0s
MORC Moravsky Berou 75.81 330 eP P 13 30 01.9 -0.1
MORC pmax pmax
comp=Z,106nm,1.0s
MORC Moravsky Berou 75.81 330 eP P 13 30 01.9 -0.1
comp=Z,106nm,1.0s
BSY Bisya 75.83 288 P P 13 30 03.5 +1.0
SNR=7.1
ARQ Aragi 75.86 289 P P 13 30 03.5 +0.9
SNR=7.2
KECS Kecovo 75.86 328 eP P 13 30 01.9 -0.3
KECS pmax pmax

comp=Z,22nm,0.9s
KECS Kecovo 75.86 328 *e*P P 13 30 01.9 -0.3
MALT Malatya 75.89 311 ⇑*i*P P 13 30 07.4 +4.7
MALT Malatya 75.89 311 ⇑*i*P P 13 30 07.3 +4.6
X27A F and S Farms, 75.95 54 P P 13 30 04.0 +0.9
baz=76
CLL Collm 75.96 334 *e*P P 13 30 02.1 -0.6
comp=Z,117nm,0.8s
CLL Collm 75.96 334 ⇑*i*P P 13 30 02.0 -0.6
CLL pmax pmax
comp=Z,117nm,0.8s
CLL Collm 75.96 334 ⇑*i*P P 13 30 02.0 -0.6
comp=Z,117nm,0.8s
CLL *e*PcP **PcP 13 30 15.0 +0.7**
CLL *e* 13 30 50.0
TIRR Tirgusor 75.96 321 *e*P P 13 30 02.5 -0.3
TIRR pmax pmax
comp=Z,44nm,1.0s
TIRR Tirgusor 75.96 321 *e*P P 13 30 02.5 -0.3
comp=Z,44nm,1.0s
124A Stringfield Ra 76.00 57 P P 13 30 04.2 +0.6
baz=76,SNR=8.6
PGBU Glenifferbraes 76.01 346⇑*e*P P 13 30 02.5 -0.3
PGBU AMB AMB 13 30 04.2
comp=Z,154nm,0.9s
Z25A Roswell 76.02 56 P P 13 30 04.0 +0.5
baz=76
T31A Randall Ranch, 76.03 51 P P 13 30 03.3 -0.1
baz=76
BRG Berggiesshubel 76.05 333 ⇑*i*P P 13 30 02.7 -0.5
comp=Z,56nm,1.3s
BRG *e* 13 30 11.8
comp=Z,22nm,1.0s
BRG Berggiesshubel 76.05 333 *e*P P 13 30 02.8 -0.4
comp=Z,55nm,1.3s
BRG Berggiesshubel 76.05 333 ⇑*i*P P 13 30 02.7 -0.5
BRG *e* 13 30 11.8
Y26A Elida 76.06 55 P P 13 30 04.6 +0.8
baz=76,SNR=8.3
KSU1 Kansas State U 76.14 47 *e*P P 13 30 03.4 -0.5
comp=Z,43nm,1.5s
PVCC Panska Ves 76.15 333 *e*P P 13 30 03.6 -0.2
PVCC *e* 13 30 42.9
PVCC Panska Ves 76.15 333⇑*e*P P 13 30 03.6 -0.2
PVCC *e*pP **pP 13 30 42.9 -2.4**
MLR Muntele Rosu 76.19 323 ⇑*i*P P 13 30 04.2 -0.1
FBE Freiberg 76.19 333 *e*P P 13 30 04.0 0.0
comp=Z,80nm,1.0s
ISR Istrita 76.24 323 ⇓⇓P P 13 30 04.8 +0.4
ISR Istrita 76.24 323 ⇓*i*P P 13 30 04.8 +0.4
ESK Eskdalemuir 76.25 345 P P 13 30 04.0 -0.2
comp=Z,390nm,0.7s,SNR=6.1
ESK Eskdalemuir 76.25 345⇑*e*P P 13 30 04.0 -0.2
ESK AMB AMB 13 30 05.8
comp=Z,52nm,0.8s
ESK Eskdalemuir 76.25 345 *e*P P 13 30 04.1 -0.2
ESK pmax pmax
comp=Z,50nm,0.8s
ESK Eskdalemuir 76.25 345 *e*P P 13 30 04.1 -0.1
comp=Z,50nm,0.8s
ECK Cauldkaine Hil 76.37 345⇑*e*P P 13 30 04.5 -0.4
ARMA Armidale 76.39 179 *e*P P 13 30 07.4 +2.1
comp=Z,146nm,2.2s
224A Cornudas Mount 76.42 58 P P 13 30 06.1 +0.3
baz=76
NEUB Neuenburg 76.42 335 *e*P P 13 30 05.0 -0.3
comp=Z,102nm,1.0s
DRGR 76.43 326 ⇑P P 13 30 05.4 -0.1
DRGR 76.43 326 ⇑*i*P P 13 30 05.4 -0.1
Z26A Caprock 76.44 56 P P 13 30 06.7 +0.8
baz=76,SNR=38
VYHS Vyhne 76.45 329 *e*P P 13 30 05.8 +0.3
VYHS pmax pmax
comp=Z,34nm,1.0s
VYHS Vyhne 76.45 329 *e*P P 13 30 05.8 +0.3
Y27A Causey 76.47 55 P P 13 30 06.6 +0.6
baz=76,SNR=14
125A Gardner Draw, 76.50 57 P P 13 30 06.9 +0.7
baz=76,SNR=9.2
X28A Dimmitt 76.55 54 P P 13 30 07.0 +0.5
baz=76
PSZ Piszkesteto 76.55 328 ⇑P P 13 30 06.4 +0.2
PSZ Piszkesteto 76.55 328 ⇑*i*P P 13 30 06.4 +0.2
PSZ Piszkesteto 76.55 328 *e*P P 13 30 06.3 +0.1
comp=Z,85nm,1.2s
PSZ Piszkesteto 76.55 328⇑*e*P P 13 30 06.4 +0.2
IBBN Ibbenburen 76.58 337 *e*P P 13 30 05.8 -0.3
comp=Z,96nm,0.8s
PRA Prague 76.59 332 ⇑P P 13 30 07.0 +0.8
VOIR 76.60 324 ⇓P P 13 30 06.9 +0.4
VOIR 76.60 324 ⇓⇓*i*P P 13 30 06.9 +0.4
MSTX Muleshoe 76.62 55 *e*P P 13 30 03.8 -3.1
MSTX Muleshoe 76.62 55 P P 13 30 07.5 +0.6
baz=76
PRU Pruhonice 76.63 332 ⇑*i*P P 13 30 06.4 -0.1
PRU *e* 13 30 12.7
PRU Pruhonice 76.63 332 ⇑*i*P P 13 30 06.4 -0.1
PRU *ex* x 13 30 12.7
PSN Preselentsi 76.68 321 P P 13 30 07.2 +0.3
MNTX Cornudas Mount 76.77 58 *e*P P 13 30 08.3 +0.7
comp=Z,4.0nm,0.8s
225A Deer Hill, Car 76.80 57 P P 13 30 09.1 +1.1
baz=77,SNR=5.3
ARR Arges 76.83 324 ⇑*i*P P 13 30 09.1 +1.3
Z27A Tatum 76.85 55 P P 13 30 08.8 +0.6
baz=77,SNR=17
126A Clayton Basin, 76.88 56 P P 13 30 08.8 +0.4
baz=77
X29A Tulia 76.88 54 P P 13 30 08.9 +0.7
baz=77
324A Moseley Ranch, 76.89 58 P P 13 30 08.8 +0.3
baz=77
TANN Tannenbergstha 76.91 334 *e*P P 13 30 07.9 -0.2
comp=Z,50nm,1.6s
TREC Trest 76.92 331 ⇑*i*P P 13 30 08.2 0.0
TREC Trest 76.92 331 ⇑*i*P P 13 30 08.2 0.0
V31A Spring Creek L 76.92 52 P P 13 30 09.1 +0.7
baz=77
KESW Keswick, Cumbr 76.93 344⇑*e*P P 13 30 08.0 -0.1
KESW AMB AMB 13 30 09.6
comp=Z,182nm,0.9s
WERD Werda 76.93 334 *e*P P 13 30 08.1 -0.1
comp=Z,46nm,1.2s
SMOL Smolenice 76.93 330 *e*P P 13 30 09.5 +1.3
SMOL Smolenice 76.93 330 *e*P P 13 30 09.5 +1.3
MOX Moxa 76.96 334 *e*P P 13 30 08.2 -0.2
comp=Z,52nm,1.1s
MOX Moxa 76.96 334 *e*P P 13 30 08.2 -0.2
MOX pmax pmax
comp=Z,52nm,1.1s
GUNZ Gunzen 76.99 334 *e*P P 13 30 08.5 -0.1
comp=Z,59nm,1.2s
UMR Umm Al-Rimmam 77.04 299 *e*P P 13 30 09.4 +0.3
UMR AMb AMB 13 30 10.4
comp=Z,457nm,0.7s
WERN Wernitzgruen 77.05 334 *e*P P 13 30 08.9 0.0
comp=Z,67nm,1.2s
WTSB Winterswijk 77.14 338 *e*P P 13 30 08.8 -0.5
226B Tecolote Peak, 77.20 57 P P 13 30 10.8 +0.7
baz=77,SNR=17
BUD Budapest 77.24 328⇑*e*P P 13 30 10.2 +0.3
HPK Haverah Park 77.24 343⇑*e*P P 13 30 09.9 +0.1
HPK AMB AMB 13 30 11.3
comp=Z,196nm,0.7s
BR131 Keskin Array S 77.25 315 *e*P P 13 30 10.1 -0.2
comp=Z,28nm,0.9s
BRTR Keskin Array B 77.25 315 P P 13 30 10.6 +0.2
BRTR PP **PP 13 33 05.6 -0.4**
BRTR Keskin Array B 77.25 315 P P 13 30 10.6 +0.2
comp=Z,26nm,0.9s,baz=72,slow=4.0,SNR=114
BRTR PP **PP 13 33 05.6 -0.4**
comp=Z,4.4nm,1.1s,baz=55,slow=6.5,SNR=4.4
325A Bean Ranch, Si 77.25 58 P P 13 30 11.3 +0.8
baz=77,SNR=5.3
UBBA Unterbreizbach 77.28 335 *e*P P 13 30 09.8 -0.2
comp=Z,124nm,1.9s
ZST Bratislava 77.31 330 *e*P P 13 30 10.9 +0.6
ZST Bratislava 77.31 330 *e*P P 13 30 10.9 +0.6
KBD Kabd 77.32 299 *e*P P 13 30 11.2 +0.5
KBD AMb AMB 13 30 12.5
comp=Z,236nm,1.0s
BUG Bochum--Univer 77.49 337 *e*P P 13 30 10.9 -0.3
comp=Z,94nm,1.1s
QRN Al-Qurain 77.50 298 *e*P P 13 30 12.1 +0.4
QRN AMb AMB 13 30 13.0
comp=Z,510nm,0.7s
NAY Al-Naaiem 77.54 299 *e*P P 13 30 12.1 +0.1
NAY AMb AMB 13 30 13.6
comp=Z,14nm,1.0s
ANTO Ankara 77.55 316 ⇑P P 13 30 12.6 +0.7
ANTO Ankara 77.55 316 ⇑*i*P P 13 30 12.6 +0.7
ANTO Ankara 77.55 316 *e*P P 13 30 12.6 +0.7
comp=Z,69nm,1.0s
GZR Gura Zlata 77.56 325 ⇑*i*P P 13 30 11.5 -0.3
ROTZ Rotzenmuhle 77.56 334 *e*P P 13 30 12.0 +0.3
comp=Z,51nm,0.9s
RDF Al-Radifah 77.59 299 *e*P P 13 30 12.6 +0.4
RDF AMb AMB 13 30 14.0
comp=Z,532nm,1.2s
425A Indio Mountain 77.66 58 P P 13 30 13.7 +0.9
baz=78,SNR=15
KHC Kasperske Hory 77.68 332 ⇑*i*P P 13 30 12.5 +0.1
KHC *e* 13 30 23.0
KHC *e* 13 30 50.2
KHC *e* 13 31 09.5
KHC Kasperske Hory 77.68 332 ⇑*i*P P 13 30 12.5 +0.1
KHC *e*PCP **PcP 13 30 23.0 +1.1**
KHC *e*pP **pP 13 30 50.2 -3.9**
KHC *e*sP **sP 13 31 09.5 -2.9**
KHC Kasperske Hory 77.68 332 *e*P P 13 30 11.7 -0.7
comp=Z,71nm,1.0s
Y30A Stafford Cattl 77.75 54 P P 13 30 13.8 +0.7
baz=78
Z29A Hungry Hill Ra 77.75 55 P P 13 30 13.8 +0.7
baz=78
GMM Mts of Mourne 77.77 346⇑*e*P P 13 30 12.1 -0.6
128A Castleberry Fa 77.78 55 P P 13 30 14.0 +0.7
baz=78,SNR=12
PKST T^s 77.78 329⇑*e* P 13 30 13.0 0.0
BZS Buzias 77.83 326 ⇑P P 13 30 12.7 -0.5
BZS Buzias 77.83 326 ⇑*i*P P 13 30 12.7 -0.5
326A Caldwell Ranch 77.87 57 P P 13 30 14.5 +0.7
baz=78,SNR=9.4
KBI1 Birley Grange 77.88 343⇑*e*P P 13 30 13.3 -0.1
GEC2 GERESS Array S 77.89 332 *e*P P 13 30 13.4 -0.3
comp=Z,55nm,1.4s
GEC2 GERESS Array S 77.89 332 *e*P P 13 30 13.4 -0.3
GEC2 pmax pmax
comp=Z,55nm,1.4s
GEC2 GERESS Array S 77.89 332 *e*P P 13 30 13.3 -0.3
GERES GERESS Array B 77.89 332 P P 13 30 13.3 -0.4
GERES GERESS Array B 77.89 332 P P 13 30 13.3 -0.4
comp=Z,19nm,0.6s,baz=36,slow=5.6,SNR=240
GERES LR LR 14 12 11.8
comp=Z,69nm,19.0s,baz=94,slow=41
WET Wettzell 77.89 333 *e*P P 13 30 13.9 +0.3
comp=Z,83nm,1.1s
WET Wettzell 77.89 333 *e*P P 13 30 13.9 +0.3
WET pmax pmax
comp=Z,83nm,1.1s
GRF Grafenberg Arr 77.92 334 *e*P P 13 30 14.0 +0.3
comp=Z,139nm,1.2s
GRF Grafenberg Arr 77.92 334 *e*P P 13 30 14.0 +0.3
GRF pmax pmax
comp=Z,139nm,1.2s
GRFO Grafenberg 77.93 334 *e*P P 13 30 13.9 +0.2
GRFO pmax pmax
comp=Z,102nm,1.1s
GRFO Grafenberg 77.93 334 *e*P P 13 30 13.8 +0.2
comp=Z,102nm,1.1s
SOP Sopron 77.94 330⇑*e* P 13 30 14.4 +0.6
CONA Conrad Observa 77.97 330 *i*P P 13 30 14.6 +0.5
comp=Z,38nm,0.6s,SNR=43
SZH Strazhica 77.99 322 P P 13 30 13.9 -0.3
Y31A Rekieta Farm, 78.04 53 P P 13 30 14.9 +0.2
baz=78
Z30A Sanderson Ranc 78.05 54 P P 13 30 15.2 +0.4
baz=78,SNR=9.4
228A UT Block 9, Go 78.08 56 P P 13 30 15.5 +0.5
baz=78
129A Stewart Farms, 78.12 55 P P 13 30 15.0 -0.2
baz=78
STNC Stoke 78.17 343 *e*P P 13 30 15.6 +0.6
STNC AMB AMB 13 30 16.6
comp=Z,90nm,1.9s
STKA Stephens Creek 78.22 187 P P 13 30 15.9 +0.6
STKA Stephens Creek 78.22 187 P P 13 30 15.9 +0.6
comp=Z,14nm,0.9s,baz=355,slow=7.2,SNR=17
TNS Taunus Mts 78.26 336 *e*P P 13 30 15.5 -0.1
comp=Z,109nm,1.5s
TNS Taunus Mts 78.26 336 *e*P P 13 30 15.5 -0.1
TNS pmax pmax
comp=Z,109nm,1.5s
WMOK Wichita Mounta 78.27 52 *e*P P 13 30 16.1 +0.2
WMOK pmax pmax
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 78.27 52 *e*P P 13 30 16.1 +0.2
comp=Z,8.9nm,0.9s
WME Myndd Eilian 78.28 345⇑*e*P P 13 30 15.5 0.0
426A McDonald Obser 78.31 58 P P 13 30 16.9 +0.4
baz=78,SNR=7.3
WPM1 Penmaenmawr 78.34 344⇑*e*P P 13 30 16.1 +0.2
WLF1 Llynfaes 78.40 345 *e*P P 13 30 15.7 -0.5
WLF1 AMB AMB 13 30 16.6
comp=Z,67nm,1.5s
PKSM Moragy 78.45 328 ⇑P P 13 30 15.9 -0.7
PKSM Moragy 78.45 328 ⇑*i*P P 13 30 15.9 -0.7
HGN Heimansgroeve 78.46 338 *e*P P 13 30 16.0 -0.6
comp=Z,68nm,0.7s
Y32A R-V Farms, Ver 78.46 53 P P 13 30 16.9 0.0
baz=78
YRC Rhoscolyn 78.47 345 *e*P P 13 30 16.7 +0.1
BEBN Eben Emael 78.50 338 P P 13 30 16.4 -0.3
comp=Z,30nm,0.8s
328A Wristen Ranch, 78.50 57 P P 13 30 17.9 +0.7
baz=78,SNR=14
YLL Llanberis 78.50 345⇑*e*P P 13 30 16.7 -0.1
427A Hayter Ranch, 78.55 57 P P 13 30 17.9 +0.3
baz=78
FOEL Foel Wylfa 78.56 344⇑*e*P P 13 30 17.3 +0.2
FOEL AMB AMB 13 30 19.1
comp=Z,114nm,1.0s
HDIL Hopedale 78.58 42 *e*P P 13 30 17.4 0.0
comp=Z,44nm,0.7s
MOA Molln 78.58 331 ⇑*i*P P 13 30 17.4 0.0
comp=Z,15nm,0.8s,SNR=12
MEM Membach 78.58 338 P P 13 30 16.0 -1.2
comp=Z,54nm,1.1s
Z31A Sharp Cattle R 78.58 54 P P 13 30 17.9 +0.3
baz=78,SNR=10
130A Snyder 78.66 55 P P 13 30 18.5 +0.4
baz=78
ARSA Arzberg 78.67 330 *i*P P 13 30 18.2 +0.3
comp=Z,40nm,1.5s,SNR=24
YRE Yr Eifl 78.70 345⇑*e*P P 13 30 17.4 -0.5
526A Mary Lane Ranc 78.72 58 P P 13 30 19.4 +0.8
baz=79,SNR=13
MPEP Malo Peshtene 78.84 323 P P 13 30 19.0 +0.2
HLM1 Long Mynd 78.85 344⇑*e*P P 13 30 18.7 0.0
HLM1 AMB AMB 13 30 20.8
comp=Z,68nm,1.2s
329A Wagon Wheel Ra 78.90 56 P P 13 30 20.1 +0.6
baz=79,SNR=9.4
131A Roby 78.92 54 P P 13 30 19.9 +0.3
baz=79
BCLA Clavier 78.94 338 P P 13 30 19.0 -0.2
comp=Z,26nm,0.7s
527A Woodward Ranch 78.94 58 P P 13 30 20.3 +0.5
baz=79,SNR=6.8
Z32A Haskell 78.96 53 P P 13 30 19.9 +0.3
baz=79,SNR=5.8
TUL1 Tulsa 78.98 49 *e*P P 13 30 19.9 +0.2
TUL1 Tulsa 78.98 49 P P 13 30 20.1 +0.3
baz=79,SNR=5.3
428A Kincaid Ranch, 79.05 57 P P 13 30 21.6 +1.2
baz=79,SNR=7.1
626A Big Bend Ranch 79.06 59 P P 13 30 21.1 +0.6
baz=79,SNR=8.1
230A Sterling City 79.10 55 P P 13 30 21.1 +0.5
baz=79,SNR=8.1
SNF Seneffe 79.12 339 P P 13 30 20.8 +0.6
DIM Dimitrovgrad 79.15 321 P P 13 30 21.4 +0.9
RJOB Jochberg 79.16 332 *e*P P 13 30 20.8 +0.2
comp=Z,159nm,2.2s
SSW Stow on the Wo 79.16 343⇑*e*P P 13 30 21.2 +0.8
FUR Furstenfeldbru 79.26 333 *e*P P 13 30 21.2 +0.1
comp=Z,85nm,0.9s
FUR Furstenfeldbru 79.26 333 *e*P P 13 30 21.2 +0.1
FUR pmax pmax
comp=Z,85nm,0.9s
ELSH Elham, Standar 79.28 341 *e*P P 13 30 21.7 +0.7
ELSH AMB AMB 13 30 22.7
comp=Z,204nm,1.0s
SOKA Soboth 79.34 330 *i*P P 13 30 21.6 0.0
comp=Z,54nm,0.8s,SNR=50
PERS Pernice 79.34 330 *i*P P 13 30 21.4 -0.1
STU Stuttgart 79.35 335 *e*P P 13 30 21.3 -0.2
comp=Z,78nm,1.3s
STU Stuttgart 79.35 335 *e*P P 13 30 21.3 -0.2
STU pmax pmax
comp=Z,58nm,0.9s
STU Stuttgart 79.35 335 *e*P P 13 30 21.3 -0.2
comp=Z,58nm,0.9s
GIVF Givet 79.35 338 ⇑*i*P P 13 30 21.2 -0.3
comp=Z,37nm,0.6s
GIVF Givet 79.35 338 ⇑*i*P P 13 30 21.2 -0.3
GIVF Givet 79.35 338 ⇑*i*P P 13 30 21.2 -0.3
MCH1 Michaelchurch 79.37 343⇑*e*P P 13 30 20.6 -0.9
MCH1 AMB AMB 13 30 21.0
comp=Z,123nm,1.0s
ABTX Abilene, Hawle 79.38 54 *e*P P 13 30 22.1 +0.1
ABTX Abilene, Hawle 79.38 54 P P 13 30 22.3 +0.4
baz=79
WLF Walferdange 79.40 337 P P 13 30 22.6 +0.8
comp=Z,43nm,1.6s
WLF Walferdange 79.40 337 *e*P P 13 30 22.5 +0.8
WLF pmax pmax
comp=Z,50nm,1.0s
WLF Walferdange 79.40 337 *e*P P 13 30 22.5 +0.8
comp=Z,50nm,1.0s
528A Cox Ranch, San 79.41 57 P P 13 30 23.3 +1.0
baz=79,SNR=8.3
DOU Dourbes 79.42 338 P P 13 30 21.4 -0.4
330A Mertzon 79.42 55 P P 13 30 22.7 +0.4
baz=79,SNR=7.8
LPW Lampeter 79.46 344⇑*e*P P 13 30 22.3 +0.3
PLD Plovdiv 79.46 322 P P 13 30 22.8 +0.6
PLD Plovdiv 79.46 322 P P 13 30 22.8 +0.6
PLD Plovdiv 79.46 322 P P 13 30 22.4 +0.2
PLD Plovdiv 79.46 322 P P 13 30 22.8 +0.6
TXAR Lajitas Array 79.50 58 P P 13 30 23.4 +0.6
TXAR pP **pP 13 31 04.3 -0.4**
TXAR Lajitas Array 79.50 58 P P 13 30 23.4 +0.6
comp=Z,8.9nm,0.5s,baz=296,slow=4.1,SNR=116
TXAR pP **pP 13 31 04.3 -0.4**
comp=Z,3.7nm,0.5s,baz=298,slow=4.2,SNR=3.3
231A Bronte 79.52 55 P P 13 30 22.8 +0.1
baz=79
KDZ Kurdzhali 79.53 321 P P 13 30 23.1 +0.5
BAIF Baives 79.55 338 ⇑*i*P P 13 30 22.3 -0.2
comp=Z,40nm,0.6s
BAIF Baives 79.55 338 ⇑*i*P P 13 30 22.3 -0.2
BAIF Baives 79.55 338 ⇑*i*P P 13 30 22.3 -0.2
KBA Koelnbreinsper 79.56 332 ⇑*i*P P 13 30 23.0 +0.1
comp=Z,102nm,0.8s,SNR=60
LANF Langenberg 79.56 336 *e*P P 13 30 22.4 -0.3
627A Terlingua Ranc 79.58 58 P P 13 30 23.9 +0.6
baz=79,SNR=5.6
SWN1 Swindon 79.58 343⇑*e*P P 13 30 23.1 +0.4
SWN1 AMB AMB 13 30 24.4
comp=Z,299nm,0.9s
429A Davenport Ranc 79.59 56 P P 13 30 23.3 +0.1
baz=79,SNR=5.3
OBKA Obir 79.65 331 ⇓*i*P P 13 30 23.0 -0.3
comp=Z,29nm,0.7s,SNR=20
WOL Wolverton 79.65 342⇑*e*P P 13 30 22.9 -0.1
WOL AMB AMB 13 30 24.2
comp=Z,191nm,0.7s
VTS Vitosha 79.69 323 P P 13 30 23.7 +0.1
VTS Vitosha 79.69 323 ⇑P P 13 30 23.8 +0.1
VTS Vitosha 79.69 323 P P 13 30 22.9 -0.8
VTS Vitosha 79.69 323 ⇑*i*P P 13 30 23.8 +0.1
VTS Vitosha 79.69 323 P P 13 30 23.7 +0.1
SFIN Scholer Farm 79.72 41 *e*P P 13 30 23.8 +0.2
comp=Z,32nm,1.1s
SFIN Scholer Farm 79.72 41 P P 13 30 23.3 -0.3
baz=79
HMNX Herstmonceux 79.73 341 *e*P P 13 30 24.1 +0.7
HMNX AMB AMB 13 30 25.5
comp=Z,273nm,1.2s
DIVS Divibare 79.73 326 P P 13 30 23.2 -0.5
529A Stev Forest Ra 79.77 57 P P 13 30 24.8 +0.6
baz=80,SNR=9.1
RZN Rozhen 79.80 322 P P 13 30 24.9 +0.6
430A Baggett Ranch, 79.85 56 P P 13 30 25.0 +0.4
baz=80,SNR=9.4
628A Black Gap, Mar 79.85 58 P P 13 30 25.2 +0.6
baz=80,SNR=6.8
MYKA Terra Mystica 79.85 331 ⇑*i*P P 13 30 23.7 -0.6
comp=Z,45nm,1.1s,SNR=16
ALN Alexandroupoli 79.86 320 P P 13 30 25.0 +0.6
ALN Alexandroupoli 79.86 320 P P 13 30 25.0 +0.6
ALN Alexandroupoli 79.86 320 P P 13 30 25.0 +0.6
RDO Rodhopi 79.88 321 P P 13 30 25.1 +0.6
RDO Rodhopi 79.88 321 P P 13 30 25.1 +0.6
WATA Walderalm 79.90 333 ⇑*i*P P 13 30 24.9 +0.2
comp=Z,56nm,0.5s,SNR=40
331A San Angelo 79.92 55 P P 13 30 25.3 +0.3
baz=80,SNR=5.5
232A Coleman 79.93 54 P P 13 30 25.4 +0.4
baz=80,SNR=11
WTTA Wattenberg 79.95 333 ⇑*i*P P 13 30 25.4 +0.5
comp=Z,83nm,0.5s,SNR=43
BFO Black Forest 80.00 335 P P 13 30 24.5 -0.5
comp=Z,337nm,0.8s,SNR=20
BFO Black Forest 80.00 335 *e*P P 13 30 24.7 -0.4
comp=Z,56nm,1.1s
BFO Black Forest 80.00 335 *e*P P 13 30 24.7 -0.4
BFO pmax pmax
comp=Z,56nm,1.1s
BFO Black Forest 80.00 335 *e*P P 13 30 24.7 -0.4
comp=Z,50nm,0.9s
RETA Reutte 80.02 333 *i*P P 13 30 25.3 +0.1
comp=Z,55nm,1.1s,SNR=21
MOTA Moosalm 80.04 333 ⇑*i*P P 13 30 25.5 0.0
comp=Z,59nm,0.7s,SNR=64
LJU Ljubljana 80.06 330 *i*P P 13 30 24.6 -0.8
LJU *i*PcP **PcP 13 30 30.2 -2.1**
ABTA Abfaltersbach 80.12 332 *i*P P 13 30 25.3 -0.5
comp=Z,37nm,1.1s,SNR=12
CDF Champ du Feu 80.23 336 ⇑*i*P P 13 30 26.1 -0.2
comp=Z,134nm,0.9s
CDF Champ du Feu 80.23 336 ⇑*i*P P 13 30 26.1 -0.2
CDF Champ du Feu 80.23 336 ⇑*i*P P 13 30 26.1 -0.2
ISP Isparta 80.25 316 P P 13 30 26.8 +0.2
ISP Isparta 80.25 316 *e*P P 13 30 26.9 +0.2
ISP Isparta 80.25 316 ⇓⇓*i*P P 13 30 26.3 -0.4
ISP Isparta 80.25 316 *e*P P 13 30 26.9 +0.2
332A Millersview 80.25 55 P P 13 30 27.2 +0.5
baz=80,SNR=6.8
530A J-C Ranch, Com 80.26 56 P P 13 30 27.5 +0.7
baz=80,SNR=7.6
BOJS Bojanci 80.28 330 *i*P P 13 30 26.1 -0.5
431A Sonora 80.28 56 P P 13 30 27.2 +0.3
baz=80,SNR=13
VOY Vojsko 80.29 331 *e*P P 13 30 25.7 -1.0
VOY *e* 13 30 29.2
MMB Musomiste 80.30 322 P PcP 13 30 37.2 +3.8
KKB Krupnik 80.34 323 P P 13 30 27.5 +0.5
JAVS Javornik 80.35 331 *i*P P 13 30 25.8 -1.2
SMTH Samothraki Isl 80.44 320 *e*P P 13 30 27.6 +0.1
ECH Echery 80.44 336 *e*P P 13 30 27.0 -0.4
ECH pmax pmax
comp=Z,35nm,0.7s
ECH Echery 80.44 336 *e*P P 13 30 27.0 -0.4
comp=Z,34nm,0.7s
ECH Echery 80.44 336⇑*e*P P 13 30 27.0 -0.4
NVR Nevrokopi 80.44 322 P P 13 30 27.7 +0.2
NVR Nevrokopi 80.44 322 *e*P P 13 30 28.1 +0.6
NVR Nevrokopi 80.44 322 P P 13 30 27.7 +0.2
FETA Feichten 80.45 333 ⇑*i*P P 13 30 27.7 +0.1
comp=Z,43nm,0.9s,SNR=23
KAVA Kavala 80.45 321 P P 13 30 26.8 -0.7
KAVA Kavala 80.45 321 P P 13 30 26.8 -0.7
DAVA Damuels 80.47 334 *i*P P 13 30 27.7 0.0
comp=Z,55nm,0.8s,SNR=22
PAGF Fort de Pagny 80.53 337 *e*P P 13 30 28.1 +0.3
comp=Z,78nm,0.7s
PAGF Fort de Pagny 80.53 337 *e*P P 13 30 28.1 +0.3
432A Menard 80.60 55 P P 13 30 29.0 +0.4
baz=80,SNR=7.9
HTL Hartland 80.61 344 *e*P P 13 30 28.2 0.0
HTL AMB AMB 13 30 29.7
comp=Z,151nm,1.1s
PLE Pljevlja 80.61 326 ⇑*i*P P 13 30 28.7 +0.2
TRI Trieste 80.61 331 *e*P P 13 30 27.8 -0.5

TRI pmax pmax
comp=Z,49nm,0.9s
TRI Trieste 80.61 331 *eP* **P 13 30 27.8 -0.5**
comp=Z,48nm,0.9s
VAL Valentia 80.67 348 ⇓*iP* **P 13 30 29.3 +0.9**
531A Rocksprings 80.70 56 P **P 13 30 29.5 +0.4**
baz=80,SNR=12
SRS Serrai 80.75 322 P **P 13 30 27.7 -1.4**
SRS Serrai 80.75 322 P **P 13 30 27.7 -1.4**
SRS Serrai 80.75 322 P **P 13 30 27.7 -1.4**
THEF They Montfort 80.76 337 *eP* **P 13 30 28.7 -0.4**
MEZF Maizieres J'vi 80.76 337⇑*iP* **P 13 30 29.2 +0.2**
comp=Z,220nm,0.8s
MEZF Maizieres J'vi 80.76 337⇑*iP* **P 13 30 29.2 +0.2**
MOF Molkenrain 80.78 336⇑*eP* **P 13 30 28.7 -0.6**
IVA Berane 80.80 325⇑*iP* **P 13 30 29.5 0.0**
HAU Haudompre 80.86 336⇑*iP* **P 13 30 29.2 -0.4**
comp=Z,76nm,0.8s
HAU *eR*
comp=Z,79nm,19.5s
HAU Haudompre 80.86 336⇑*iP* **P 13 30 29.2 -0.4**
HAU Haudompre 80.86 336⇑*iP* **P 13 30 29.2 -0.4**
SIUC Southern Illin 80.87 44 *eP* **P 13 30 30.1 +0.3**
comp=Z,58nm,1.1s
HINF Hinteralfeld 80.89 336⇑*iP* **P 13 30 29.2 -0.6**
comp=Z,65nm,1.0s
HINF Hinteralfeld 80.89 336⇑*iP* **P 13 30 29.2 -0.6**
HINF Hinteralfeld 80.89 336⇑*iP* **P 13 30 29.2 -0.6**
JCT Junction City 80.89 55 *eP* **P 13 30 30.4 +0.3**
JCT pmax pmax
comp=Z,12nm,0.6s
JCT Junction City 80.89 55 *eP* **P 13 30 30.4 +0.3**
comp=Z,12nm,0.6s
JCT Junction City 80.89 55 P **P 13 30 30.5 +0.4**
baz=81,SNR=6.3
UPM Unac-Piva 80.91 326⇑*iP* **P 13 30 29.5 -0.7**
SKO Skopje 80.94 324 P **P 13 30 31.4 +1.3**
SKO Skopje 80.94 324 P **P 13 30 31.4 +1.3**
SKO Skopje 80.94 324⇑*iP* **P 13 30 31.5 +1.4**
SKO Skopje 80.94 324 P **P 13 30 31.4 +1.3**
UDBI Udbina 80.94 329 *iP* **P 13 30 29.2 -0.9**
FUORN Ofenpass-Fuorn 80.95 333 *eP* **P 13 30 30.9 +0.4**
comp=Z,68nm,1.0s
KNT Kendrikon 81.00 322 P **P 13 30 29.8 -0.7**
KNT Kendrikon 81.00 322 P **P 13 30 29.8 -0.7**
KNT Kendrikon 81.00 322 P **P 13 30 29.8 -0.7**
VAY Valandovo 81.01 323 P **P 13 30 29.6 -0.9**
VAY Valandovo 81.01 323 P **P 13 30 29.6 -0.9**
VAY Valandovo 81.01 323⇑*iP* **P 13 30 30.2 -0.3**
VAY Valandovo 81.01 323 P **P 13 30 29.6 -0.9**
SFTF Sexfontaines 81.03 337⇑*iP* **P 13 30 30.5 0.0**
comp=Z,261nm,0.7s
SFTF Sexfontaines 81.03 337⇑*iP* **P 13 30 30.5 0.0**
DYA Yadsworthy 81.03 344 *eP* **P 13 30 30.4 0.0**
DYA AMB AMB 13 30 31.8
comp=Z,196nm,1.1s
LIA Limnos Island 81.06 320 P **P 13 30 30.8 0.0**
LIA Limnos Island 81.06 320 *eP* **P 13 30 31.0 +0.2**
LIA Limnos Island 81.06 320 P **P 13 30 30.8 0.0**
WHTX Lake Whitney 81.07 53 *eP* **P 13 30 31.1 +0.1**
CSS Prodhromos 81.09 312 P **P 13 30 31.1 0.0**
CSS Prodhromos 81.09 312 *eP* **P 13 30 31.4 +0.3**
comp=Z,88nm,0.8s
532A Rocksprings 81.10 55 P **P 13 30 31.6 +0.3**
baz=81,SNR=16
PRK Paraskevi 81.10 319 P **P 13 30 31.0 0.0**
PRK Paraskevi 81.10 319 P **P 13 30 31.0 0.0**
PRK Paraskevi 81.10 319 P **P 13 30 31.0 0.0**
PTN Potsdam (NY) 81.11 31 *eP* **P 13 30 30.6 -0.4**
PTN pmax pmax
comp=Z,37nm,0.9s
PTN Potsdam (NY) 81.11 31 *eP* **P 13 30 30.6 -0.4**
comp=Z,37nm,0.9s
MIAR Mount Ida 81.19 48 *eP* **P 13 30 31.8 +0.2**
MIAR pmax pmax
comp=Z,28nm,1.3s
MIAR Mount Ida 81.19 48 *eP* **P 13 30 31.8 +0.2**
comp=Z,28nm,1.3s
NKY Niksic 81.20 326⇑*iP* **P 13 30 31.0 -0.7**
LONY Lake Ozonia 81.21 31 *eP* **P 13 30 31.2 -0.4**
comp=Z,8.1nm,0.8s
OUR Ouranopolis 81.22 321 P **P 13 30 31.0 -0.6**
OUR Ouranopolis 81.22 321 P **P 13 30 31.0 -0.6**
OUR Ouranopolis 81.22 321 P **P 13 30 31.0 -0.6**
NVLJ Novalja 81.23 329 *iP* **P 13 30 30.2 -1.3**
631A Perdido Creek 81.25 56 P **P 13 30 32.5 +0.5**
baz=81,SNR=24
NKME Niksic 81.26 326⇑*iP* **P 13 30 31.1 -0.8**
LOMF Lomont 81.32 336⇑*eP* **P 13 30 31.9 -0.2**
ASF Jabal al Asfar 81.34 308 P **P 13 30 33.5 +1.0**
ASF Jabal al Asfar 81.34 308 P **P 13 30 33.5 +1.0**
comp=Z,40nm,0.8s,baz=359,slow=3.6,SNR=62
TUE Stuetta 81.37 334 *eP* **P 13 30 32.1 -0.5**
comp=Z,50nm,0.8s
GRG Griva 81.38 323 P **P 13 30 31.8 -0.7**
GRG Griva 81.38 323 P **P 13 30 31.8 -0.7**
GRG Griva 81.38 323 P **P 13 30 31.8 -0.7**
HORT Hortiatis 81.39 322 P **P 13 30 31.0 -1.6**
HORT Hortiatis 81.39 322 P **P 13 30 31.0 -1.6**
USIN University of 81.40 43 *eP* **P 13 30 32.7 0.0**
comp=Z,33nm,0.8s
PLG Polygyros 81.42 322 P **P 13 30 31.7 -1.1**
PLG Polygyros 81.42 322 P **P 13 30 31.7 -1.1**
PLG Polygyros 81.42 322 *eP* **P 13 30 32.8 0.0**
PLG Polygyros 81.42 322 P **P 13 30 31.7 -1.1**
PDG Podgorica 81.43 325 P **P 13 30 32.2 -0.5**
TTG Podgorica 81.43 325⇑*iP* **P 13 30 32.0 -0.7**
TTG Podgorica 81.43 325 P **P 13 30 32.2 -0.5**
TTG Podgorica 81.43 325 P **P 13 30 32.2 -0.5**
CCA1 Carnmenellis 81.52 344⇑*eP* **P 13 30 33.0 0.0**
CCA1 AMB AMB 13 30 33.9
comp=Z,158nm,1.0s
PHP Peshkopia 81.58 324 P **P 13 30 32.2 -1.4**
PHP Peshkopia 81.58 324 P **P 13 30 32.2 -1.4**
PHP Peshkopia 81.58 324 P **P 13 30 32.2 -1.4**
632A Uvalde 81.63 56 P **P 13 30 34.5 +0.4**
baz=82
STON Ston 81.65 327 *iP* **P 13 30 31.9 -1.9**
ALLY Alegheny Colle 81.65 36 *eP* **P 13 30 34.1 +0.2**
comp=Z,47nm,0.8s
DRME Dracevica, Mon 81.66 325⇑*iP* **P 13 30 33.4 -0.5**
BUM Brajici-Budva 81.68 326⇓*iP* **P 13 30 33.2 -0.9**
PAIG Paliouri 81.69 321 P **P 13 30 33.1 -1.0**
PAIG Paliouri 81.69 321 P **P 13 30 33.1 -1.0**
PAIG Paliouri 81.69 321 P **P 13 30 33.1 -1.0**
HCY Herceg Novi 81.71 326⇑*iP* **P 13 30 33.1 -1.1**
BIA Bitola 81.78 323 *iP* **P 13 30 33.6 -1.0**
ULC Ulcinj 81.83 325⇑*iP* **P 13 30 34.0 -0.8**
WCI Wyandotte Cave 81.83 42 *eP* **P 13 30 35.1 +0.2**
WCI pmax pmax
comp=Z,39nm,1.2s
WCI Wyandotte Cave 81.83 42 *eP* **P 13 30 35.1 +0.2**
comp=Z,39nm,1.2s
JSA Saint Aubin 81.86 342⇑*eP* **P 13 30 34.9 +0.2**
JSA AMB AMB 13 30 36.2
comp=Z,152nm,1.0s
FLN La Foliniere 81.89 341⇑*iP* **P 13 30 34.8 -0.2**
comp=Z,145nm,0.7s
FLN *eR*
comp=Z,74nm,19.2s
FLN La Foliniere 81.89 341⇑*iP* **P 13 30 34.8 -0.2**
FLN La Foliniere 81.89 341⇑*iP* **P 13 30 34.8 -0.2**
CHOS Chios island 81.90 319 P **P 13 30 35.1 -0.2**
CHOS Chios island 81.90 319 P **P 13 30 35.1 -0.2**
NCB Newcomb 81.91 31 *eP* **P 13 30 35.2 0.0**
comp=Z,32nm,1.5s
FNA Florina 81.96 323 P **P 13 30 34.7 -0.9**
FNA Florina 81.96 323 P **P 13 30 34.7 -0.9**
FNA Florina 81.96 323 P **P 13 30 34.7 -0.9**
LDF La Druitiere 81.96 341⇑*iP* **P 13 30 35.1 -0.3**
comp=Z,54nm,0.6s
LDF La Druitiere 81.96 341⇑*iP* **P 13 30 35.1 -0.3**
LDF La Druitiere 81.96 341⇑*iP* **P 13 30 35.1 -0.3**
LIT Litokhoron 82.06 322 P **P 13 30 34.6 -1.5**
LIT Litokhoron 82.06 322 P **P 13 30 34.6 -1.5**
LIT Litokhoron 82.06 322 P **P 13 30 34.6 -1.5**
SENIN Lac Senin/Sane 82.08 335 *eP* **P 13 30 36.8 +0.5**
comp=Z,55nm,0.8s
TIR Tirane 82.10 325 *eP* **P 13 30 36.2 0.0**
TIR pmax pmax
comp=Z,153nm,0.8s
TIR Tirane 82.10 325 *eP* **P 13 30 36.2 0.0**
comp=Z,153nm,0.8s

732A Laxson Ranch, 82.11 56 P **P 13 30 37.4 +0.9**
baz=82
KZN Kozani 82.19 323 P **P 13 30 36.0 -0.8**
KZN Kozani 82.19 323 P **P 13 30 36.0 -0.8**
KZN Kozani 82.19 323 *eP* **P 13 30 36.2 -0.6**
KZN Kozani 82.19 323 P **P 13 30 36.0 -0.8**
CABF La Chapelle 82.20 336⇑*iP* **P 13 30 36.6 -0.2**
comp=Z,61nm,0.8s
CABF La Chapelle 82.20 336⇑*iP* **P 13 30 36.6 -0.2**
CABF La Chapelle 82.20 336⇑*iP* **P 13 30 36.6 -0.2**
LOR Lormes 82.21 338⇑*iP* **P 13 30 36.5 -0.2**
comp=Z,205nm,0.8s
LOR *eR*
comp=Z,114nm,20.5s
LOR Lormes 82.21 338⇑*iP* **P 13 30 36.5 -0.2**
AOS Alonnisos 82.23 321 P **P 13 30 35.0 -1.9**
AOS Alonnisos 82.23 321 P **P 13 30 35.0 -1.9**
OG01 Vacheresse 82.29 335 *eP* **P 13 30 38.9 +1.7**
GRR Gorron 82.32 341⇑*iP* **P 13 30 37.3 +0.1**
comp=Z,256nm,0.7s
GRR Gorron 82.32 341⇑*iP* **P 13 30 37.3 +0.1**
GRR Gorron 82.32 341⇑*iP* **P 13 30 37.3 +0.1**
KBN Korca 82.33 324 P **P 13 30 37.1 -0.5**
KBN Korca 82.33 324 P **P 13 30 37.1 -0.5**
KBN Korca 82.33 324 P **P 13 30 37.1 -0.5**
XOR Xorichti 82.37 321 P **P 13 30 36.3 -1.4**
XOR Xorichti 82.37 321 P **P 13 30 36.3 -1.4**
NEST Nestorio 82.40 323 P **P 13 30 36.7 -1.2**
SKIA Skiathos 82.41 321 P **P 13 30 36.8 -1.1**
SSF Saint Saulge 82.49 338⇑*iP* **P 13 30 38.0 -0.2**
comp=Z,141nm,0.8s
SSF Saint Saulge 82.49 338⇑*iP* **P 13 30 38.0 -0.2**
SSF Saint Saulge 82.49 338⇑*iP* **P 13 30 38.0 -0.2**
HYF Humbligny 82.53 338 *eP* **P 13 30 38.7 +0.3**
HYF Humbligny 82.53 338 *eP* **P 13 30 38.7 +0.3**
ACCN Adirondack Com 82.61 31 *eP* **P 13 30 38.9 0.0**
comp=Z,20nm,0.9s
ARG Arkhangelos 82.68 316 P **P 13 30 38.0 -1.3**
ARG Arkhangelos 82.68 316 P **P 13 30 38.0 -1.3**
ARG Arkhangelos 82.68 316 *eP* **P 13 30 39.6 +0.3**
ARG Arkhangelos 82.68 316 P **P 13 30 38.0 -1.3**
THL Klokotos Trika 82.71 322 P **P 13 30 36.7 -2.7**
THL Klokotos Trika 82.71 322 *eP* **P 13 30 38.3 -1.1**
MRKA Markates 82.74 321 P **P 13 30 39.2 -0.4**
SMIA Simia 82.76 321 P **P 13 30 39.2 -0.5**
RAYN Ar Rayn 82.77 296 P **P 13 30 40.5 +0.4**
comp=Z,203nm,1.3s,SNR=17
RAYN Ar Rayn 82.77 296 *eP* **P 13 30 40.7 +0.6**
comp=Z,50nm,1.2s
AVF Avril sur Loir 82.78 338⇑*iP* **P 13 30 39.7 0.0**
comp=Z,133nm,0.7s
AVF Avril sur Loir 82.78 338⇑*iP* **P 13 30 39.7 0.0**
AVF Avril sur Loir 82.78 338⇑*iP* **P 13 30 39.7 0.0**
SMF Signal de Mont 82.79 337⇑*iP* **P 13 30 39.7 0.0**
comp=Z,360nm,0.9s
SMF Signal de Mont 82.79 337⇑*iP* **P 13 30 39.7 0.0**
SMF Signal de Mont 82.79 337⇑*iP* **P 13 30 39.7 0.0**
WVT Waverly 82.80 44 *eP* **P 13 30 40.1 +0.1**
WVT pmax pmax
comp=Z,16nm,0.8s
WVT Waverly 82.80 44 *eP* **P 13 30 40.1 +0.1**
comp=Z,16nm,0.8s
HNH Hanover 82.81 30 *eP* **P 13 30 40.5 +0.6**
SGMF Saint Gilles 82.83 342⇑*iP* **P 13 30 40.0 +0.2**
comp=Z,386nm,0.8s
SGMF Saint Gilles 82.83 342⇑*iP* **P 13 30 40.0 +0.2**
SGMF Saint Gilles 82.83 342⇑*iP* **P 13 30 40.0 +0.2**
ERET Eretria 82.86 320 P **P 13 30 39.1 -1.2**
RSL Roselend 82.89 335⇑*eP* **P 13 30 40.5 +0.1**
ROSF Rostrenen 82.90 342⇑*iP* **P 13 30 40.4 +0.2**
comp=Z,466nm,1.0s
ROSF Rostrenen 82.90 342⇑*iP* **P 13 30 40.4 +0.2**
ROSF Rostrenen 82.90 342⇑*iP* **P 13 30 40.4 +0.2**
ATAL Atalanti 83.00 321 P **P 13 30 38.0 -2.9**
ATAL Atalanti 83.00 321 P **P 13 30 38.0 -2.9**
LPL La Plagne 83.01 335⇑*iP* **P 13 30 41.5 +0.3**
comp=Z,178nm,1.1s
LPL La Plagne 83.01 335⇑*iP* **P 13 30 41.5 +0.3**
LPL La Plagne 83.01 335⇑*iP* **P 13 30 41.5 +0.3**
AGG Agios Georgios 83.02 322 P **P 13 30 38.9 -2.2**
AGG Agios Georgios 83.02 322 P **P 13 30 38.9 -2.2**
AGG Agios Georgios 83.02 322 P **P 13 30 38.9 -2.2**
LPG La Plagne 83.02 335⇑*iP* **P 13 30 41.7 +0.4**
comp=Z,241nm,1.1s
LPG La Plagne 83.02 335⇑*iP* **P 13 30 41.7 +0.4**
LPG La Plagne 83.02 335⇑*iP* **P 13 30 41.7 +0.4**
LKR Lokris 83.04 321 *eP* **P 13 30 40.1 -1.0**
AXAR Agios Charalam 83.09 321 P **P 13 30 40.4 -1.0**
AXAR Agios Charalam 83.09 321 P **P 13 30 40.4 -1.0**
VLC Villacollemand 83.11 332 *eP* **P 13 30 41.7 +0.2**
comp=Z,80nm,0.9s
MAKR Makrakomi, Fth 83.12 322 P **P 13 30 40.4 -1.2**
MAKR Makrakomi, Fth 83.12 322 P **P 13 30 40.4 -1.2**
JAN Janina 83.12 323 P **P 13 30 41.7 +0.1**
JAN Janina 83.12 323 P **P 13 30 41.7 +0.1**
JAN Janina 83.12 323 *eP* **P 13 30 41.9 +0.3**
JAN Janina 83.12 323 P **P 13 30 41.7 +0.1**
BGF Bois d'Agland 83.13 338 *eP* **P 13 30 42.1 +0.6**
comp=Z,77nm,0.7s
BGF Bois d'Agland 83.13 338 *eP* **P 13 30 42.1 +0.6**
BGF Bois d'Agland 83.13 338 *eP* **P 13 30 42.1 +0.6**
PTL Penteli 83.16 320 P **P 13 30 40.6 -1.2**
PTL Penteli 83.16 320 *eP* **P 13 30 40.7 -1.1**
PTL Penteli 83.16 320 P **P 13 30 40.6 -1.2**
APE Apeiranthos 83.21 318⇑**P 13 30 40.6 -1.5**
APE Apeiranthos 83.21 318⇑*iP* **P 13 30 40.6 -1.5**
ATHU Athens Univers 83.26 320 P **P 13 30 39.9 -2.4**
ATHU Athens Univers 83.26 320 P **P 13 30 39.9 -2.4**
QUIF Quistinic 83.28 342⇑*iP* **P 13 30 42.1 0.0**
comp=Z,197nm,0.9s
QUIF Quistinic 83.28 342⇑*iP* **P 13 30 42.1 0.0**
QUIF Quistinic 83.28 342⇑*iP* **P 13 30 42.1 0.0**
SRN Sarande 83.28 324 P **P 13 30 40.6 -1.7**
SRN Sarande 83.28 324 P **P 13 30 40.6 -1.7**
ATH Athens Observa 83.29 320 P **P 13 30 41.3 -1.1**
ATH Athens Observa 83.29 320 P **P 13 30 41.3 -1.1**
ATH Athens Observa 83.29 320 P **P 13 30 41.3 -1.1**
OXF Oxford 83.33 46 *eP* **P 13 30 43.1 +0.4**
OXF pmax pmax
comp=Z,55nm,1.1s
OXF Oxford 83.33 46 *eP* **P 13 30 43.1 +0.4**
comp=Z,55nm,1.1s
EVR Evrytania 83.34 322 P **P 13 30 41.6 -1.2**
EVR Evrytania 83.34 322 *eP* **P 13 30 42.0 -0.8**
EVR Evrytania 83.34 322 P **P 13 30 41.6 -1.2**
SSPA Standing Stone 83.41 35 *eP* **P 13 30 43.0 0.0**
comp=Z,18nm,0.9s
IGT Igoumenitsa 83.44 323 P **P 13 30 41.5 -1.7**
IGT Igoumenitsa 83.44 323 P **P 13 30 41.5 -1.7**
IGT Igoumenitsa 83.44 323 P **P 13 30 41.5 -1.7**
DSF Desfina 83.45 321 P **P 13 30 41.5 -1.8**
DSF Desfina 83.45 321 P **P 13 30 41.5 -1.8**
BNI Bardonecchia 83.45 335 *eP* **P 13 30 43.8 +0.5**
BNI pmax pmax
comp=Z,51nm,0.9s
BNI Bardonecchia 83.45 335 *eP* **P 13 30 43.8 +0.5**
comp=Z,51nm,0.9s
GDM Grand'Maison 83.48 335⇑*eP* **P 13 30 44.0 +0.5**
KEK Kerkira 83.51 324 P **P 13 30 42.2 -1.3**
KEK Kerkira 83.51 324 *eP* **P 13 30 42.8 -0.7**
KEK Kerkira 83.51 324 P **P 13 30 42.2 -1.3**
AGO Saint Agoulin 83.53 338⇑*eP* **P 13 30 44.2 +0.7**
TCF Toulx Ste Croi 83.55 338⇑*iP* **P 13 30 43.8 +0.2**
comp=Z,157nm,1.0s
TCF Toulx Ste Croi 83.55 338⇑*iP* **P 13 30 43.8 +0.2**
TCF Toulx Ste Croi 83.55 338⇑*iP* **P 13 30 43.8 +0.2**
PLAL Pickwick Lake 83.61 45 *eP* **P 13 30 43.9 -0.1**
comp=Z,13nm,0.7s
PPT Papeete 83.63 123 LR LR 14 08 01.3
comp=Z,152nm,18.9s,baz=359,slow=35
KALE Kalithea 83.63 321 P **P 13 30 42.5 -1.8**
KALE Kalithea 83.63 321 P **P 13 30 42.5 -1.8**
AQU L'Aquila 83.68 329 *eP* **P 13 30 44.6 +0.2**
comp=Z,77nm,0.9s
TRIZ Trizonia 83.68 321 P **P 13 30 42.2 -2.2**
KARP Karpathos 83.69 316 P **P 13 30 44.0 -0.5**
KARP Karpathos 83.69 316 *eP* **P 13 30 44.1 -0.5**
KARP Karpathos 83.69 316 P **P 13 30 44.0 -0.5**
EFP Efpalio 83.70 322 P **P 13 30 41.9 -2.6**
MBDF Montbardon 83.72 335⇑*iP* **P 13 30 44.4 -0.3**
comp=Z,102nm,0.9s
MBDF Montbardon 83.72 335⇑*iP* **P 13 30 44.4 -0.3**

MBDF Montbardon 83.72 335⇑*iP* **P 13 30 44.4 -0.3**
ACOR Acrocorinthos 83.73 321 P **P 13 30 42.2 -2.5**
ORIF Oris-en-Rattie 83.81 335⇑*iP* **P 13 30 45.4 +0.3**
comp=Z,195nm,0.8s
ORIF *eR*
comp=Z,116nm,22.8s
ORIF Oris-en-Rattie 83.81 335⇑*iP* **P 13 30 45.4 +0.3**
ORIF Oris-en-Rattie 83.81 335⇑*iP* **P 13 30 45.4 +0.3**
LAKA Lakka 83.83 321 P **P 13 30 43.3 -1.9**
LAKA Lakka 83.83 321 P **P 13 30 43.3 -1.9**
PYM Petit Puy Mans 83.84 338⇑*eP* **P 13 30 45.5 +0.3**
MFF Saint Martin d 83.84 340⇑*iP* **P 13 30 45.4 +0.4**
comp=Z,310nm,0.9s
MFF Saint Martin d 83.84 340⇑*iP* **P 13 30 45.4 +0.4**
MFF Saint Martin d 83.84 340⇑*iP* **P 13 30 45.4 +0.4**
SSB Saint Sauveur 83.86 336 *eP* **P 13 30 45.6 +0.3**
SSB pmax pmax
comp=Z,52nm,0.8s
SSB Saint Sauveur 83.86 336 *eP* **P 13 30 45.6 +0.3**
comp=Z,52nm,0.8s
SSB Saint Sauveur 83.86 336⇑*eP* **P 13 30 45.7 +0.5**
DID Didima 83.89 320 P **P 13 30 42.5 -3.0**
DID Didima 83.89 320 P **P 13 30 42.5 -3.0**
KLV Kalavryta, Ach 83.92 321 P **P 13 30 43.8 -1.9**
KLV Kalavryta, Ach 83.92 321 *eP* **P 13 30 44.5 -1.2**
KLV Kalavryta, Ach 83.92 321 P **P 13 30 43.8 -1.9**
DIDY Didyma 83.92 320 P **P 13 30 43.2 -2.6**
GUR Goura 83.92 321 P **P 13 30 43.8 -2.0**
GUR Goura 83.92 321 P **P 13 30 43.8 -2.0**
SURF Saint Ours 83.93 335⇑*eP* **P 13 30 46.2 +0.4**
LKD2 Lefkada island 83.93 323 P **P 13 30 44.4 -1.3**
LKD2 Lefkada island 83.93 323 P **P 13 30 44.4 -1.3**
HRV Adam Dziewonsk 84.12 30 *eP* **P 13 30 47.0 +0.5**
HRV pmax pmax
comp=Z,24nm,0.9s
HRV Adam Dziewonsk 84.12 30 *eP* **P 13 30 47.0 +0.5**
comp=Z,24nm,0.9s
AXS Araxos 84.12 322 P **P 13 30 45.3 -1.3**
SAOF Saorge 84.16 334⇑*eP* **P 13 30 46.4 -0.4**
AUTN L'Aution 84.19 334⇑*eP* **P 13 30 46.7 -0.5**
RLS Riolos of Patr 84.20 322 P **P 13 30 46.8 -0.2**
RLS Riolos of Patr 84.20 322 *eP* **P 13 30 46.9 -0.1**
RLS Riolos of Patr 84.20 322 P **P 13 30 46.8 -0.2**
VIVF Saint-Julien-I 84.21 336⇑*iP* **P 13 30 47.4 +0.4**
comp=Z,71nm,0.7s
VIVF Saint-Julien-I 84.21 336⇑*iP* **P 13 30 47.4 +0.4**
VIVF Saint-Julien-I 84.21 336⇑*iP* **P 13 30 47.4 +0.4**
TOUF Mont Tournerai 84.22 334⇑*eP* **P 13 30 46.9 -0.4**
LBL Lubilhac 84.25 337 *eP* **P 13 30 47.6 +0.3**
OG26 St.-Nazaire-De 84.28 336⇑*eP* **P 13 30 48.4 +1.0**
LUCF Luceram 84.30 334 *eP* **P 13 30 47.4 -0.2**
SBF Sospel 84.30 334 *eP* **P 13 30 46.9 -0.7**
comp=Z,163nm,0.8s
SBF Sospel 84.30 334 *eP* **P 13 30 46.9 -0.7**
SBF Sospel 84.30 334 *eP* **P 13 30 46.9 -0.7**
WES Weston 84.31 30 *eP* **P 13 30 48.1 +0.6**
WES Weston 84.31 30 *eP* **P 13 30 48.1 +0.6**
EIL Elat 84.33 308 P **P 13 30 47.8 0.0**
EIL Elat 84.33 308 P **P 13 30 47.8 0.0**
comp=Z,110nm,1.1s,baz=12,slow=4.1,SNR=45
MVIF Mont Vial 84.36 334⇑*eP* **P 13 30 47.9 0.0**
VLX Vlachokerasia 84.38 321 P **P 13 30 46.1 -2.0**
VLX Vlachokerasia 84.38 321 P **P 13 30 46.1 -2.0**
LUPA Lehigh Univers 84.42 33 *eP* **P 13 30 48.0 -0.1**
comp=Z,48nm,1.8s
REVF Revere 84.44 334⇑*eP* **P 13 30 46.9 -1.3**
KFL Anninata 84.45 322 P **P 13 30 47.9 -0.4**
TZTN Tazewell 84.46 41 *eP* **P 13 30 49.0 +0.6**
comp=Z,18nm,0.9s
VLS Valsamata 84.47 322 P **P 13 30 47.7 -0.7**
VLS Valsamata 84.47 322 P **P 13 30 47.7 -0.7**
VLS Valsamata 84.47 322 *eP* **P 13 30 47.7 -0.7**
VLS Valsamata 84.47 322 P **P 13 30 47.7 -0.7**
ZKR Zakros 84.48 317 P **P 13 30 48.2 -0.3**
ZKR Zakros 84.48 317 P **P 13 30 48.2 -0.3**
AMT Artemida-Makis 84.54 321 P **P 13 30 46.7 -2.1**
MVL Millersville 84.56 34 *eP* **P 13 30 48.8 0.0**
comp=Z,15nm,0.8s
CALN Calern 84.57 334⇑*eP* **P 13 30 48.6 -0.4**
RJF Les Rejaudoux 84.64 338 *eP* **P 13 30 49.6 +0.5**
comp=Z,291nm,1.0s
RJF *eR*
comp=Z,84nm,23.0s
RJF Les Rejaudoux 84.64 338 *eP* **P 13 30 49.6 +0.5**
RJF Les Rejaudoux 84.64 338 *eP* **P 13 30 49.6 +0.5**
NPS Neapolis 84.65 317 P **P 13 30 47.9 -1.5**
NPS Neapolis 84.65 317 P **P 13 30 47.9 -1.5**
NPS Neapolis 84.65 317 *eP* **P 13 30 48.3 -1.1**
NPS Neapolis 84.65 317 P **P 13 30 47.9 -1.5**
VLI Veliai 84.67 320 P P 13 30 45.9 -3.6
VLI Veliai 84.67 320 *eP* **P 13 30 47.8 -1.7**
VLI Veliai 84.67 320 P P 13 30 45.9 -3.6
ITM Ithomi 84.74 321 P **P 13 30 48.5 -1.3**
ITM Ithomi 84.74 321 *eP* **P 13 30 48.8 -1.0**
ITM Ithomi 84.74 321 P **P 13 30 48.5 -1.3**
SMRF Simiane la Rot 84.76 335 *eP* **P 13 30 49.6 -0.2**
comp=Z,25nm,0.7s
SMRF Simiane la Rot 84.76 335 *eP* **P 13 30 49.6 -0.2**
LAST Lasithi 84.80 317 P **P 13 30 49.9 -0.3**
LAST Lasithi 84.80 317 P **P 13 30 49.9 -0.3**
FRF La Foret Royal 84.82 334 *eP* **P 13 30 49.9 -0.1**
comp=Z,211nm,1.3s
FRF La Foret Royal 84.82 334 *eP* **P 13 30 49.9 -0.1**
FRF La Foret Royal 84.82 334 *eP* **P 13 30 49.9 -0.1**
CUC Castrocucco 84.85 326 *eP* **P 13 30 49.0 -1.3**
comp=Z,34nm,0.8s
CAF Calviac 84.85 338⇑*iP* **P 13 30 51.1 +0.9**
comp=Z,366nm,0.9s
CAF Calviac 84.85 338⇑*iP* **P 13 30 51.1 +0.9**
CAF Calviac 84.85 338⇑*iP* **P 13 30 51.1 +0.9**
DYR Agios Nikonas 84.91 320 P **P 13 30 48.8 -1.8**
CPCT Cooper Cave 84.91 42 *eP* **P 13 30 51.1 +0.5**
IDI Anoyia 84.97 318 P **P 13 30 49.8 -1.2**
IDI Anoyia 84.97 318 *eP* **P 13 30 49.9 -1.1**
comp=Z,134nm,1.0s
PGF Pioggiola 85.00 332 *eP* **P 13 30 50.5 -0.6**
comp=Z,29nm,0.6s
PGF Pioggiola 85.00 332 *eP* **P 13 30 50.5 -0.6**
PGF Pioggiola 85.00 332 *eP* **P 13 30 50.5 -0.6**
PYL PYLOS 85.05 321 P **P 13 30 49.1 -2.2**
PYL PYLOS 85.05 321 P **P 13 30 49.1 -2.2**
LMR La Mourre 85.06 334⇑*iP* **P 13 30 51.1 -0.2**
comp=Z,255nm,1.3s
LMR La Mourre 85.06 334⇑*iP* **P 13 30 51.1 -0.2**
LMR La Mourre 85.06 334⇑*iP* **P 13 30 51.1 -0.2**
TKL Tuckaleechee C 85.09 41 *eP* **P 13 30 51.7 +0.1**
LASF Ste Croix 85.15 336⇑*iP* **P 13 30 52.4 +0.7**
comp=Z,149nm,1.1s
LASF Ste Croix 85.15 336⇑*iP* **P 13 30 52.4 +0.7**
LFF La Frestale 85.18 339 *eP* **P 13 30 52.5 +0.7**
comp=Z,350nm,0.8s
LFF La Frestale 85.18 339 *eP* **P 13 30 52.5 +0.7**
LFF La Frestale 85.18 339 *eP* **P 13 30 52.5 +0.7**
VAM Vamos 85.19 318 P **P 13 30 50.4 -1.6**
VAM Vamos 85.19 318 P **P 13 30 50.4 -1.6**
VAM Vamos 85.19 318 *eP* **P 13 30 51.9 -0.1**
VAM Vamos 85.19 318 P **P 13 30 50.4 -1.6**
ANKY Antikythira Is 85.22 319 P **P 13 30 51.3 -0.9**
ANKY Antikythira Is 85.22 319 *eP* **P 13 30 51.3 -0.9**
ANKY Antikythira Is 85.22 319 P **P 13 30 51.3 -0.9**
SIVA Sivas 85.22 318 P **P 13 30 52.0 -0.2**
SIVA Sivas 85.22 318 P **P 13 30 52.0 -0.2**
BLA Blacksburg 85.28 38 *eP* **P 13 30 52.7 +0.2**
BLA pmax pmax
comp=Z,23nm,0.9s
BLA Blacksburg 85.28 38 *eP* **P 13 30 52.7 +0.2**
comp=Z,23nm,0.9s
LRAL Lakeview Retre 85.70 45 *eP* **P 13 30 54.3 -0.3**
comp=Z,10nm,1.1s
OSPF L'Ospedale 85.73 332⇑*eP* **P 13 30 54.6 -0.1**
JSRW J. Sargeant Re 85.93 36 *eP* **P 13 30 55.9 +0.2**
URVA University of 86.18 36 *eP* **P 13 30 57.4 +0.5**
MTLF Montolieu 86.28 337⇑*iP* **P 13 30 58.1 +0.8**
comp=Z,128nm,0.9s
MTLF Montolieu 86.28 337⇑*iP* **P 13 30 58.1 +0.8**
MTLF Montolieu 86.28 337⇑*iP* **P 13 30 58.1 +0.8**
CEL Celeste 86.32 326 *eP* **P 13 30 56.1 -1.5**
comp=Z,55nm,0.8s
LRDF Laroque-de-Fa 86.57 337⇑*eP* **P 13 31 00.1 +1.4**
KMSC Kings Mountain 86.62 40 *eP* **P 13 30 59.1 +0.1**
comp=Z,16nm,0.9s
KMSC Kings Mountain 86.62 40 P **P 13 30 59.2 +0.1**
baz=86,SNR=6.8

CARF	**Carcanieres**	**86.89**	**337**	*eP*	**P**	**13 31 01.4**	**+1.0**
SJAF	**Saint Jean de**	**86.90**	**336**	*eP*	**P**	**13 31 00.9**	**+0.6**
FILF	**Fillols**	**86.91**	**337**	*eP*	**P**	**13 31 01.7**	**+1.2**
MLS	**Moulis**	**86.94**	**338**	*eP*	**P**	**13 31 00.6**	**+0.1**
EPF	**Esparros**	**87.07**	**338**	*eP*	**P**	**13 31 00.0**	**-1.2**
	comp=Z,84nm,0.9s						
EPF	**Esparros**	**87.07**	**338**	*eP*	**P**	**13 31 00.0**	**-1.2**
EPF	**Esparros**	**87.07**	**338**	*eP*	**P**	**13 31 00.0**	**-1.2**
LABF	**Labassere**	**87.12**	**338⇑**	*eP*	**P**	**13 31 01.6**	**+0.2**
RESF	**Ens**	**87.28**	**338**	*eP*	**P**	**13 31 02.8**	**+0.5**
VIEF	**Viey**	**87.28**	**338**	*eP*	**P**	**13 31 02.4**	**+0.1**
SJPF	**Ste Jean**	**87.38**	**339⇑**	*iP*	**P**	**13 31 03.2**	**+0.6**
	comp=Z,47nm,1.0s						
SJPF	**Ste Jean**	**87.38**	**339⇑**	*iP*	**P**	**13 31 03.2**	**+0.6**
SJPF	**Ste Jean**	**87.38**	**339⇑**	*iP*	**P**	**13 31 03.2**	**+0.6**
ETSF	**Etsaut**	**87.42**	**339⇑**	*iP*	**P**	**13 31 02.8**	**-0.1**
	comp=Z,77nm,0.7s						
ETSF	**Etsaut**	**87.42**	**339⇑**	*iP*	**P**	**13 31 02.8**	**-0.1**
ETSF	**Etsaut**	**87.42**	**339⇑**	*iP*	**P**	**13 31 02.8**	**-0.1**
VSL	**Villasalto**	**87.61**	**331**	*eP*	**P**	**13 31 02.3**	**-1.5**
	comp=Z,56nm,1.1s						
TIGA	**Tifton**	**88.66**	**44**	P	**P**	**13 31 09.8**	**+1.0**
	baz=88						
WDD	**Wield Dalam**	**88.94**	**325**	*eP*	**P**	**13 31 10.0**	**0.0**
	comp=Z,52nm,0.7s						
PBRG	**Braganca**	**89.86**	**343**	*eP*	**P**	**13 31 14.7**	**+0.4**
	comp=Z,22nm,1.6s						
PGAV	**Gavieira, Arco**	**90.01**	**344**	*eP*	**P**	**13 31 13.7**	**-1.4**
	comp=Z,47nm,1.6s						
MVO	**Moncorvo**	**90.54**	**343**	*eP*	**P**	**13 31 16.0**	**-1.5**
	comp=Z,31nm,1.1s						
CMAH	**Djebel Manchou**	**90.87**	**331**	P	**P**	**13 31 18.7**	**-0.4**
KEST	**Kesra**	**91.00**	**329**	P	**P**	**13 31 19.6**	**-0.2**
KEST	**Kesra**	**91.00**	**329**	P	**P**	**13 31 19.6**	**-0.2**
	comp=Z,18nm,0.9s,baz=10,slow=2.0,SNR=43						
ESDC	**Sonseca Array**	**91.29**	**340**	P	**P**	**13 31 19.9**	**-1.1**
ESDC	**Sonseca Array**	**91.29**	**340**	P	**P**	**13 31 19.9**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=15,slow=3.8,SNR=18						
CKFL	**Kef-Lekhel**	**91.31**	**331**	P	**P**	**13 31 21.7**	**+0.5**
DFRA	**Djebel Bou Aff**	**91.45**	**332**	P	**P**	**13 31 24.1**	**+2.2**
CASM	**Ain Smara**	**91.51**	**331**	P	**P**	**13 31 21.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**114.33**	**326**	PKiKP	**PKiKP**	**13 36 53.6**	**-1.0**
TORD				PP	PP	13 37 46.0	-5.9
TORD				PKKPbc	**PKKPbc**	**13 47 32.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**114.33**	**326**	PKiKP	**PKiKP**	**13 36 53.6**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=16,slow=2.2,SNR=19						
TORD				PP	PP	13 37 46.0	-5.9
	comp=Z,2.2nm,0.9s,baz=3.9,slow=7.2,SNR=7.7						
TORD				PKKPbc	**PKKPbc**	**13 47 32.3**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=209,slow=2.9,SNR=3.4						
DBIC	**Dimbokro**	**122.72**	**330**	PKP	**PKPdf**	**13 37 10.1**	**-0.7**
DBIC	**Dimbokro**	**122.72**	**330**	PKP	**PKPdf**	**13 37 10.1**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=6.5,slow=3.0,SNR=10						
LIC	**Lamto**	**123.19**	**330**	*e*PKIKP	**PKPdf**	**13 37 09.9**	**-1.8**
	comp=Z,17nm,0.8s						
LIC	**Lamto**	**123.19**	**330**	*e*PKPdf	**PKPdf**	**13 37 09.9**	**-1.8**
VNDA	**Vanda**	**123.78**	**177**	PKP	**PKPdf**	**13 37 11.5**	**+0.7**
VNDA	**Vanda**	**123.78**	**177**	PKP	**PKPdf**	**13 37 11.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=272,slow=2.5,SNR=3.9						
MAW	**Mawson**	**130.77**	**210**	PKP	**PKPdf**	**13 37 25.1**	**+0.8**
MAW				SKPbc	**SKPab**	**13 40 33.6**	**+1.1**
MAW	**Mawson**	**130.77**	**210**	PKP	**PKPdf**	**13 37 25.1**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=75,slow=6.9,SNR=4.0						
MAW				SKPbc	**SKPab**	**13 40 33.6**	**+1.1**
	comp=Z,14nm,1.1s,baz=50,slow=4.8,SNR=18						
QSPA	**South Pole Qui**	**136.06**	**180**	PKP	**PKPdf**	**13 37 35.9**	**+1.4**
QSPA				SKPbc	**SKPbc**	**13 40 49.4**	**-0.6**
QSPA	**South Pole Qui**	**136.06**	**180**	PKP	**PKPdf**	**13 37 35.8**	**+1.4**
	comp=Z,1.5nm,0.4s,baz=340,slow=0.6,SNR=25						
QSPA				SKPbc	**SKPbc**	**13 40 49.4**	**-0.6**
	comp=Z,30nm,1.0s,baz=345,slow=1.3,SNR=32						
LPAZ	**La Paz**	**136.37**	**59**	PKP	**PKPdf**	**13 37 38.0**	**+0.7**
LPAZ				SKPbc	**SKPbc**	**13 40 52.6**	**-0.7**
LPAZ	**La Paz**	**136.37**	**59**	PKP	**PKPdf**	**13 37 38.0**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=42,slow=1.4,SNR=6.1						
LPAZ				SKPbc	**SKPbc**	**13 40 52.6**	**-0.7**
	comp=Z,4.3nm,1.0s,baz=340,slow=4.5,SNR=8.9						
SYO	**Syowa Base**	**139.46**	**211⇑**	*eX*	pPKPdf	13 38 20.0	-5.4
BDFB	**Brasilia**	**145.87**	**32**	PKPbc	**PKPbc**	**13 37 54.2**	**-0.3**
BDFB	**Brasilia**	**145.87**	**32**	PKPbc	**PKPbc**	**13 37 54.2**	**-0.3**
	comp=Z,21nm,0.7s,baz=274,slow=2.5,SNR=22						
MAIT	**Maitri**	**148.41**	**205**	*eP*	**PKPdf**	**13 37 57.6**	**+1.6**
MAIT				*e*		13 38 41.2	
PLCA	**Paso Flores**	**150.25**	**94**	PKPbc	**PKPbc**	**13 38 05.9**	**+0.5**
PLCA				pPKPbc	**pPKPbc**	**13 38 49.4**	**-0.6**
PLCA	**Paso Flores**	**150.25**	**94**	PKPbc	**PKPbc**	**13 38 05.9**	**+0.5**
	comp=Z,12nm,0.8s,baz=268,slow=4.0,SNR=18						
PLCA				pPKPbc	**pPKPbc**	**13 38 49.4**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=275,slow=3.5,SNR=2.2						
CPUP	**Villa Florida**	**150.47**	**57**	*e*PKPbc	**PKPbc**	**13 38 06.5**	**+0.3**
CPUP				pPKPbc	**pPKPbc**	**13 38 50.6**	**-0.2**
CPUP	**Villa Florida**	**150.47**	**57**	PKPbc	**PKPbc**	**13 38 06.3**	**+0.1**
	comp=Z,9.9nm,0.8s,baz=313,slow=1.8,SNR=19						
CPUP				pPKPbc	**pPKPbc**	**13 38 50.6**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=290,slow=2.1,SNR=3.2						
SNAA	**Sanae**	**151.54**	**198**	*e*PKPbc	**PKPbc**	**13 38 07.5**	**0.0**

IDC 22 13:34:07.7±2.0, 17°29S×178°80W, h574km±29km, mb3.1/8, mb1 3.3/9, mb1mx3.1/22, mbtmp3.1/9, Error ellipse: s-maj=80.3km s-min=14.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**65**	P	P	13 36 02.0	0.0
	0.6nm,0.3s,baz=218,slow=17,SNR=3.3						
CTA	**Charters Tower**	**33.19**	**260**	P	P	13 39 58.5	+0.3
	0.9nm,0.3s,baz=88,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**38.61**	**240**	P	P	13 40 42.2	-0.4
	1.6nm,0.5s,baz=90,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**44.38**	**259**	P	P	13 41 28.0	-0.4
	1.7nm,0.5s,baz=94,slow=6.9,SNR=83						
ASAR	**Alice Springs**	**44.61**	**254**	P	P	13 41 29.8	-0.2
	11nm,0.6s,baz=88,slow=8.5,SNR=249						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	P	13 42 30.5	+0.1
	2.7nm,1.0s,baz=98,slow=7.1,SNR=10						
ILAR	**Eielson Array**	**85.37**	**13**	P	P	13 45 44.0	-0.5
	0.2nm,0.7s,baz=201,slow=4.7,SNR=4.0						
TXAR	**Lajitas Array**	**85.98**	**58**	P	P	13 45 48.4	+0.1
	0.4nm,0.8s,baz=208,slow=7.0,SNR=4.5						
PDAR	**Pinedale Array**	**87.16**	**44**	P	P	13 45 53.9	+0.2
	0.3nm,0.6s,baz=233,slow=5.4,SNR=2.7						

IDC 22 13:40:22.2±3.5, 4°80S×153°41E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=115.7km s-min=34.4km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.90**	**229**	P	P	13 45 37.8	-0.1
	0.3nm,0.5s,baz=53,slow=9.4,SNR=4.9						
ASAR	**Alice Springs**	**26.56**	**223**	P	P	13 46 02.3	+0.2
	0.2nm,0.7s,baz=58,slow=9.4,SNR=3.6						
FITZ	**Fitzroy Crossi**	**30.19**	**242**	P	P	13 46 34.3	-0.3
	1.9nm,1.0s,baz=62,slow=15,SNR=4.4						
MKAR	**Makanchi Array**	**80.72**	**319**	P	P	13 52 38.0	+0.5
	0.3nm,0.4s,baz=95,slow=6.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.88**	**280**	PKPbc	PKPbc	14 00 17.3	-0.6
	0.2nm,0.4s,baz=70,slow=2.7,SNR=4.8						

IDC 22 13:41:46.7±1.6, 0°62S×128°08E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=130.7km s-min=21.7km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.16**	**163**	P	P	13 46 22.9	+0.1
	0.6nm,0.3s,baz=342,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.60**	**167**	P	P	13 46 59.5	0.0
	1.1nm,0.8s,baz=348,slow=11,SNR=19						
MKAR	**Makanchi Array**	**61.88**	**326**	P	P	13 52 08.1	+0.1
	0.3nm,0.5s,baz=135,slow=7.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**66.11**	**328**	P	P	13 52 35.6	-0.1
	0.4nm,0.5s,baz=137,slow=5.5,SNR=2.9						

*ROM **22** 14:04:24.9±0.2, 46°59N×9°33E, h7km±2km, Md2.7/10, Ml2.0/5, Error ellipse: s-maj=2.3km s-min=1.3km az=8.0*
*ZUR **22** 14:04:25.5, 46°55N×9°33E, h6km±2km, ML2.4/11*
*CSEM **22** 14:04:25.5±0.1, 46°58N×9°36E, h2km, ML2.9/19, Error ellipse: s-maj=4.2km s-min=2.4km az=159.0*

*GEN **22** 14:04:25.0, 46°56N×9°30E, h1km, ML2.3*
*VIE **22** 14:04:25.9±0.3, 46°58N×9°39E, h6km±3km, mb2.2/5, ML2.6/7, Error ellipse: s-maj=1.8km s-min=1.1km az=52.0*
17 km WSW of Tiefencastel
*ISCJB **22** 14:04:25.0±0.2, 46°61N±0°02×9°32E±0°02, h7km±2km, Error ellipse: s-maj=2.9km s-min=2.0km az=168.4*
*LDG **22** 14:04:26.9±0.2, 46°63N×9°38E, h5km, Ml2.8/10, Error ellipse: s-maj=4.0km s-min=3.8km az=65.0*
*PRU **22** 14:04:28.5, 46°69N×9°33E, h3km*
*STR **22** 14:04:28.3±0.5, 46°62N×9°06E, h10km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 22 14:04:25.8±0.9, 46°60N±0°02×9°32E±0°01, h6km±7km, n114, σ1§25/181, 7C-13D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUE	**Stuetta**	**0.13**	**172**	Pg	**Pg**	**14 04 27.9**	**-0.6**
TUE				Sg	**Sg**	**14 04 29.4**	**-0.9**
TUE	**Stuetta**	**0.13**	**172**	Pg	**Pg**	**14 04 27.9**	**-0.6**
TUE				Sg	**Sg**	**14 04 29.4**	**-0.9**
VDL	**Val di Lei**	**0.14**	**142⇓**	*i*Pg	**Pg**	**14 04 28.4**	**-0.4**
	2μm,0.7s						
LLS	**Linth-Limmern**	**0.33**	**319⇓**	*i*Pg	**Pg**	**14 04 32.8**	**+0.5**
	402nm,0.5s						
LLS				*i* Sg	**Sg**	**14 04 37.9**	**+1.2**
	402nm,0.5s						
DAVOX	**Davos/Dischmat**	**0.42**	**64⇓**	*i*Pg	**Pg**	**14 04 34.2**	**+0.1**
	593nm,0.3s						
DAVOX				*e*Sg	**Sg**	**14 04 40.3**	**+0.6**
	593nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.42**	**64**	Pg	**Pg**	**14 04 34.2**	**+0.1**
DAVOX				Sg	**Sg**	**14 04 40.4**	**+0.7**
DAVOX	**Davos/Dischmat**	**0.42**	**64**	Pg	**Pg**	**14 04 34.2**	**+0.1**
DAVOX				Sg	**Sg**	**14 04 40.4**	**+0.7**
PLONS	**Plons/SG**	**0.45**	**5⇓**	*i*Pg	**Pg**	**14 04 35.1**	**+0.5**
	540nm,0.7s						
PLONS				*i* Sg	**Sg**	**14 04 41.8**	**+1.2**
	540nm,0.7s						
PLONS	**Plons/SG**	**0.45**	**5**	Pg	**Pg**	**14 04 35.1**	**+0.5**
PLONS				Sg	**Sg**	**14 04 41.6**	**+1.0**
	129nm,0.4s						
FUSIO	**Fusio**	**0.48**	**253⇓**	*i*Pg	**Pg**	**14 04 34.8**	**-0.2**
	317nm,0.6s						
FUSIO	**Fusio**	**0.48**	**253**	Pg	**Pg**	**14 04 35.1**	**+0.1**
FUSIO				Sg	**Sg**	**14 04 41.7**	**+0.5**
FUSIO	**Fusio**	**0.48**	**253**	Pg	**Pg**	**14 04 35.1**	**+0.1**
FUSIO				Sg	**Sg**	**14 04 41.7**	**+0.5**
BERNI	**Berninapass**	**0.52**	**111⇓**	*i*Pg	**Pg**	**14 04 35.2**	**-0.5**
	303nm,0.5s						
BERNI	**Berninapass**	**0.52**	**111**	Pg	**Pg**	**14 04 35.3**	**-0.5**
BERNI				Sg	**Sg**	**14 04 43.4**	**+0.8**
BERNI	**Berninapass**	**0.52**	**111**	Pg	**Pg**	**14 04 35.3**	**-0.5**
BERNI				Sg	**Sg**	**14 04 43.4**	**+0.8**
MUO	**Muotathal**	**0.60**	**308**	*e*Pg	**Pg**	**14 04 38.0**	**+0.6**
	772nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**0.65**	**88⇓**	*i*Pg	**Pg**	**14 04 38.0**	**-0.3**
	344nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**0.65**	**88**	Pg	**Pg**	**14 04 38.0**	**-0.3**
FUORN				Sg	**Sg**	**14 04 47.8**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**0.65**	**88**	Pg	**Pg**	**14 04 38.0**	**-0.3**
FUORN				Sg	**Sg**	**14 04 47.8**	**+1.0**
BNALP	**Bannalp**	**0.68**	**294**	*e*Pg	**Pg**	**14 04 39.1**	**+0.3**
	178nm,0.5s						
BNALP	**Bannalp**	**0.68**	**294**	Pg	**Pg**	**14 04 39.1**	**+0.3**
BNALP				Sg	**Sg**	**14 04 48.4**	**+0.8**
	46nm,0.4s						
BNALP	**Bannalp**	**0.68**	**294**	Pg	**Pg**	**14 04 39.1**	**+0.3**
BNALP				Sg	**Sg**	**14 04 48.4**	**+0.8**
	46nm,0.4s						
BRMO	**Bormio**	**0.74**	**99**	Pg	**Pg**	**14 04 39.2**	**-0.7**
BRMO				Sg	**Sg**	**14 04 49.5**	**0.0**
	52nm,0.7s						
BRMO	**Bormio**	**0.74**	**99**	Pg	**Pg**	**14 04 39.2**	**-0.7**
BRMO				Sg	**Sg**	**14 04 49.5**	**0.0**
	52nm,0.7s						
DAVA	**Damuels**	**0.79**	**29**	*e*Pg	**Pg**	**14 04 41.5**	**+0.5**
	SNR=11						
DAVA				⇓*i*Sg	**Sg**	**14 04 51.9**	**+0.7**
	63nm,0.3s						
DAVA	**Damuels**	**0.79**	**29**	Pg	**Pg**	**14 04 41.5**	**+0.5**
	SNR=11						
DAVA				Sg	**Sg**	**14 04 51.9**	**+0.7**
	63nm,0.3s						
HASLI	**Hasliberg/Brie**	**0.82**	**282**	*e*Pg	**Pg**	**14 04 41.6**	**0.0**
	241nm,0.6s						
MDI	**Monti di Nese**	**0.86**	**162**	Pg	**Pg**	**14 04 42.3**	**-0.1**
	85nm,0.5s						
MDI	**Monti di Nese**	**0.86**	**162**	Pg	**Pg**	**14 04 42.3**	**-0.1**
	85nm,0.5s						
WILA	**Wila**	**0.87**	**341⇓**	*i*Pg	**Pb**	**14 04 43.7**	**+0.4**
	2μm,0.3s						
MABI	**Malga Bissina**	**0.99**	**123**	Pg	**Pg**	**14 04 43.9**	**-0.9**
	52nm,0.8s						
MABI	**Malga Bissina**	**0.99**	**123**	Pg	**Pg**	**14 04 43.9**	**-0.9**
	52nm,0.8s						
FETA	**Feichten**	**1.06**	**66**	*e*Pg	**Pg**	**14 04 45.4**	**-0.7**
	SNR=40						
FETA				⇑*i*Sg	**Sg**	**14 04 59.9**	**+0.2**
	55nm,0.7s						
FETA	**Feichten**	**1.06**	**66**	Pg	**Pg**	**14 04 45.4**	**-0.7**
	SNR=40						
FETA				Sg	**Sg**	**14 04 59.9**	**+0.2**
	55nm,0.7s						
MMK	**Mattmark**	**1.09**	**240**	Pg	**Pg**	**14 04 46.0**	**-0.7**
MMK	**Mattmark**	**1.09**	**240**	Pg	**Pg**	**14 04 46.0**	**-0.7**
KOSI	**Kohlern**	**1.43**	**95⇓**	*e*Pg	**Pn**	**14 04 52.6**	**+0.2**
KOSI				*e*Sg	**Sg**	**14 05 13.9**	**+2.3**
MOTA	**Moosalm**	**1.43**	**58⇑**	*e*Pg	**Pn**	**14 04 52.4**	**-0.1**
	SNR=31						
MOTA				⇓*i*Sg	**Sg**	**14 05 12.8**	**+1.0**
	27nm,0.4s						
MOTA	**Moosalm**	**1.43**	**58**	Pg	**Pn**	**14 04 52.4**	**-0.1**
	SNR=31						
MOTA				Sg	**Sg**	**14 05 12.8**	**+1.0**
	27nm,0.4s						
ROSI	**Rosskopf**	**1.47**	**76⇑**	*e*Pg	**Pn**	**14 04 53.1**	**0.0**
PANI	**Panarotta**	**1.48**	**111⇑**	*e*Pg	**Pg**	**14 04 56.4**	**+2.2**
PANI				*e*Sg	**Sg**	**14 05 15.1**	**+1.6**
PANI	**Panarotta**	**1.48**	**111**	*e*Pg	**Pg**	**14 04 56.4**	**+2.2**
PANI				*e*Sg	**Sg**	**14 05 15.0**	**+1.6**
TRAV	**Traversella**	**1.54**	**226**	P	**Pn**	**14 04 51.6**	**-2.3**
WATA	**Walderalm**	**1.71**	**64⇑**	*e*Pg	**Pb**	**14 04 58.2**	**+0.4**
	SNR=8.3						
WATA				⇑*i*Sg	**Sg**	**14 05 21.2**	**+0.4**
	10nm,0.3s						
WATA	**Walderalm**	**1.71**	**64**	Pg	**Pb**	**14 04 58.2**	**+0.4**
	SNR=8.3						
WATA				Sg	**Sg**	**14 05 21.2**	**+0.4**
	10nm,0.3s						
WTTA	**Wattenberg**	**1.72**	**66⇓**	*e*Pg	**Pb**	**14 04 58.0**	**+0.1**
	SNR=8.3						
WTTA				⇓*i*Sg	**Sg**	**14 05 22.3**	**+1.2**
	55nm,0.7s						
WTTA	**Wattenberg**	**1.72**	**66**	Pg	**Pb**	**14 04 58.0**	**+0.1**
	SNR=8.3						
WTTA				Sg	**Sg**	**14 05 22.3**	**+1.2**
	55nm,0.7s						
CGRP	**Cima Grappa**	**1.86**	**112**	*e*Pn	**Pg**	**14 05 01.7**	**+0.2**
CGRP	**Cima Grappa**	**1.86**	**112**	*e*Pn	**Pg**	**14 05 01.7**	**+0.2**
LOMF	**Lomont**	**1.87**	**295**	Pg	**Pb**	**14 05 00.0**	**-0.4**
LOMF				Sg	**Sb**	**14 05 23.5**	**-0.5**
AGOR	**Agordo**	**1.91**	**98**	*e*Pn	**Pg**	**14 05 03.1**	**+0.7**
AGOR				*e*Sn	**Sb**	**14 05 26.2**	**+1.0**
AGOR	**Agordo**	**1.91**	**98**	*e*Pn	**Pg**	**14 05 03.1**	**+0.7**
AGOR				*e*Sn	**Sb**	**14 05 26.2**	**+1.0**
RSP	**Reno Superiore**	**2.04**	**226**	P	**Pn**	**14 04 59.1**	**-1.7**
HINF	**Hinteralfeld**	**2.08**	**307**	*e*Pn	**Pn**	**14 05 01.9**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**14 05 25.1**	**-2.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**14 05 32.8**	**+0.2**
	11nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**2.08**	**307**	*e*Pn	**Pn**	**14 05 01.9**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**14 05 25.1**	**-2.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**14 05 32.8**	**+0.2**
	5.5nm,0.3s,SNR=1.0						
RSL	**Roselend**	**2.08**	**245**	Pg	**Pb**	**14 05 04.8**	**+0.7**
LPG	**La Plagne**	**2.10**	**239**	*e*Pn	**Pn**	**14 05 02.9**	**+1.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**14 05 34.9**	**+1.6**
	14nm,0.6s,SNR=1.0						
LPG	**La Plagne**	**2.10**	**239**	*e*Pn	**Pn**	**14 05 02.9**	**+1.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**14 05 34.9**	**+1.6**
	6.9nm,0.6s,SNR=1.0						
LPL	**La Plagne**	**2.10**	**240**	*e*Pn	**Pb**	**14 05 03.9**	**-0.6**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**14 05 36.0**	**+2.7**
	14nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**2.10**	**240**	*e*Pn	**Pb**	**14 05 03.9**	**-0.6**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**14 05 36.0**	**+2.7**
	6.8nm,0.5s,SNR=1.0						
PCP	**Piancastagn**	**2.13**	**195**	P	**Pn**	**14 05 00.8**	**-1.2**
PCP				S	**Sn**	**14 05 24.3**	**-4.4**
CIMO	**Cimolais**	**2.17**	**96**	*e*Pn	**Pb**	**14 05 06.2**	**+0.6**
CIMO	**Cimolais**	**2.17**	**96**	*e*Pn	**Pb**	**14 05 06.2**	**+0.6**
ABTA	**Abfaltersbach**	**2.20**	**85⇑**	*e*Pg	**Pb**	**14 05 07.1**	**+1.0**
	SNR=5.2						
ABTA	**Abfaltersbach**	**2.20**	**85**	Pg	**Pb**	**14 05 07.1**	**+1.0**
	SNR=5.2						
CABF	**La Chapelle**	**2.23**	**272**	*e*Pn	**Pn**	**14 05 04.9**	**+1.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**14 05 38.5**	**+1.1**
	39nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**2.23**	**272**	*e*Pn	**Pn**	**14 05 04.9**	**+1.5**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**14 05 38.5**	**+1.1**
	19nm,0.7s,SNR=1.0						
CDF	**Champ du Feu**	**2.29**	**323**	*e*Pn	**Pn**	**14 05 03.9**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**14 05 30.0**	**-2.7**
	33nm,0.6s,SNR=1.0						
CDF	**Champ du Feu**	**2.29**	**323**	*e*Pn	**Pn**	**14 05 03.9**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**14 05 30.0**	**-2.7**
	17nm,0.6s,SNR=1.0						
HAU	**Haudompre**	**2.47**	**306**	*e*P	**Pn**	**14 05 08.0**	**+1.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 05 36.0**	**-1.1**
	14nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.47**	**306**	*e*P	**Pn**	**14 05 08.0**	**+1.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 05 36.0**	**-1.1**
	7.2nm,0.3s,SNR=1.0						
FUSE	**Fusea**	**2.55**	**93**	*e*Pn	**Pb**	**14 05 13.3**	**+1.3**
MBDF	**Montbardon**	**2.59**	**225**	*e*Pn	**Pn**	**14 05 08.9**	**+0.5**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**14 05 42.1**	**+1.9**
	17nm,0.6s,SNR=1.0						
MBDF	**Montbardon**	**2.59**	**225**	*e*Pn	**Pn**	**14 05 08.9**	**+0.5**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**14 05 42.1**	**+1.9**
	8.4nm,0.6s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.94**	**236**	*e*P	**Pn**	**14 05 16.0**	**+2.9**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.94**	**236**	*e*Pg	**Pg**	**14 05 22.3**	**+0.2**
ORIF	**Oris-en-Rattie**	**2.94**	**236**	*e*P	**Pn**	**14 05 16.0**	**+2.9**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.94**	**236**	*e*Pg	**Pg**	**14 05 22.3**	**+0.2**
SBF	**Sospel**	**3.04**	**207**	*e*Pn	**Pn**	**14 05 15.5**	**+1.0**
	SNR=1.0						
SBF	**Sospel**	**3.04**	**207**	*e*Pn	**Pn**	**14 05 15.5**	**+1.0**
	SNR=1.0						
FRF	**La Foret Royal**	**3.58**	**213**	*e*Pn	**Pn**	**14 05 23.1**	**+1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**14 06 03.6**	**-0.9**
	12nm,0.7s,SNR=1.0						
FRF	**La Foret Royal**	**3.58**	**213**	*e*Pn	**Pn**	**14 05 23.1**	**+1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**14 06 03.6**	**-0.9**
	6.2nm,0.7s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.69**	**244**	*e*Pn	**Pn**	**14 05 22.7**	**-0.8**
	SNR=1.0						
**VI

*IDC **22** 14:06:01.1±0.6,31°.62N×142°.55E,h0km,mb4.1/19, mb1 4.3/22,mb1mx4.2/31,mbtmp4.1/22,ML2.9/3,MS2.8/1, Ms1 2.8/1,ms1mx2.2/33,Error ellipse: s-maj=16.5km s-min=15.5km az=79.0*
*JMA **22** 14:06:04.2±0.4,32°.00N×142°.36E,h0km,M4.3*
*NEIC **22** 14:06:05.8±3.2,31°.64N×142°.51E,h31km±21km,mb4.8/2, Error ellipse: s-maj=10.5km s-min=9.2km az=103.0*
ISC 22 14:06:02.9±4.3,31°.71N±0°.06×142°.50E±0°.08,h12km±26km, n67,σ1°.9±10°.82,mb4.2/21,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.66**	**301**	P	**Pn**	**14 06 46.0**	**+0.3**
JHCJ				S	**Sn**	**14 07 15.6**	**-2.3**
JHJ2	**Mitsune**	**2.67**	**302**	P	**Pn**	**14 06 45.7**	**-0.1**
JHJ2				S	**Sn**	**14 07 16.2**	**-1.9**
BSO1	**Boso 1**	**3.20**	**337**	P	**Pn**	**14 06 52.7**	**+0.1**
BSO1				S	**Sn**	**14 07 28.8**	**-1.7**
BSO3	**Boso 3**	**3.51**	**332**	P	**Pn**	**14 06 57.7**	**+0.6**
BSO4	**Boso 4**	**3.74**	**332**	P	**Pn**	**14 07 01.2**	**+0.8**
BSO4				*e*S	**Sn**	**14 07 44.8**	**+0.4**
JKO	**Kozu shima**	**3.76**	**312**	P	**Pn**	**14 07 01.7**	**+0.9**
JOD2	**Odawara 2**	**4.55**	**322**	P	**Pn**	**14 07 11.1**	**-0.6**
JOD2				S	**Sn**	**14 08 02.6**	**-2.0**
CBIJ	**Chichi jima**	**4.60**	**184**	P	**Pn**	**14 07 10.7**	**-1.7**
JRY	**Ryogami san**	**5.24**	**326**	P	**Pn**	**14 07 21.9**	**+0.8**
JRY				*e*S	**Sn**	**14 08 19.0**	**-2.5**
MJAR	**Matsushiro Arr**	**5.99**	**325**	Pn	**Pn**	**14 07 32.1**	**+0.6**
MJAR				Sn	**Sn**	**14 08 38.4**	**-1.7**
MJAR	**Matsushiro Arr**	**5.99**	**325**	Pn	**Pn**	**14 07 32.1**	**+0.6**
	2.9nm,0.3s,baz=155,slow=12,SNR=39						
MJAR				Sn	**Sn**	**14 08 38.4**	**-1.7**
	2.6nm,0.3s,baz=151,slow=16,SNR=6.4						
MAT	**Matsushiro**	**6.00**	**325**	P	**Pn**	**14 07 32.9**	**+1.4**
MAT				*e*S	**Sn**	**14 08 38.6**	**-1.5**
JMK	**Ichinoseki**	**7.30**	**352**	P	**Pn**	**14 07 48.1**	**-1.3**
JMK				*e*S	Sn	14 09 05.4	-6.9
JNU	**Nakatsue**	**9.93**	**281**	Pn	**Pn**	**14 08 27.5**	**+2.0**
JNU	**Nakatsue**	**9.93**	**281**	Pn	**Pn**	**14 08 27.5**	**+2.0**
	0.1nm,0.3s,baz=144,slow=10,SNR=3.7						
ASAJ	**Asahikawa**	**12.39**	**0**	Pn	**Pn**	**14 08 56.6**	**-2.5**
ASAJ				Sn	Sn	14 11 07.4	-10
ASAJ	**Asahikawa**	**12.39**	**0**	Pn	**Pn**	**14 08 56.6**	**-2.5**
	1.0nm,0.3s,baz=206,slow=15,SNR=13						
ASAJ				Sn	Sn	14 11 07.4	-10
	0.3nm,0.3s,baz=233,slow=20,SNR=3.4						
KSRS	**Korea Array**	**13.31**	**299**	Pn	**Pn**	**14 09 14.3**	**+2.7**
	0.0nm,0.3s,baz=110,slow=12,SNR=2.8						
KSRS				LR	LR	14 13 15.0	
	comp=Z,40nm,21.9s,baz=250,slow=32						
KSAR	**Wonju Array Be**	**13.33**	**299**	Pn	**Pn**	**14 09 14.3**	**+2.3**
SONM	**Songino Array**	**31.74**	**311**	P	**P**	**14 12 27.9**	**+1.0**
SONM	**Songino Array**	**31.74**	**311**	P	**P**	**14 12 27.9**	**+1.0**
	0.4nm,0.5s,baz=115,slow=9.7,SNR=2.8						
CMAR	**Chiang Mai Arr**	**41.34**	**262**	P	**P**	**14 13 47.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**41.34**	**262**	P	**P**	**14 13 47.8**	**-1.1**
	0.3nm,0.3s,baz=59,slow=11,SNR=3.2						
ZALV	**Zalesovo Beam**	**46.27**	**316**	P	**P**	**14 14 28.4**	**+0.2**
ZALV				PcP	**PcP**	**14 16 03.7**	**+0.3**
ZALV	**Zalesovo Beam**	**46.27**	**316**	P	**P**	**14 14 28.4**	**+0.2**
	0.5nm,0.4s,baz=100,slow=5.9,SNR=4.2						
ZALV				PcP	**PcP**	**14 16 03.7**	**+0.3**
	1.0nm,0.4s,baz=112,slow=3.0,SNR=3.6						
MK31	**Makanchi Array**	**47.86**	**306**	*e*P	**P**	**14 14 40.4**	**-0.3**
MKAR	**Makanchi Array**	**47.86**	**306**	P	**P**	**14 14 41.3**	**+0.6**
MKAR				PcP	**PcP**	**14 16 09.7**	**+0.4**
MKAR	**Makanchi Array**	**47.86**	**306**	P	**P**	**14 14 41.3**	**+0.6**
	1.5nm,0.6s,baz=85,slow=9.0,SNR=22						
MKAR				PcP	**PcP**	**14 16 09.7**	**+0.4**
	0.6nm,0.8s,baz=64,slow=5.0,SNR=2.8						
KURK	**Kurchatov**	**50.04**	**312**	P	**P**	**14 14 58.5**	**+1.2**
KURBB	**Kurchatov Arra**	**50.10**	**312**	P	**P**	**14 14 58.5**	**+0.7**
	4.0nm,0.6s,baz=88,slow=7.6,SNR=60						
KDAK	**Kodiak Island**	**50.56**	**39**	P	**P**	**14 15 00.6**	**-0.5**
KDAK	**Kodiak Island**	**50.56**	**39**	P	**P**	**14 15 00.6**	**-0.5**
	5.2nm,0.8s,baz=243,slow=9.0,SNR=4.7						
WRA	**Warramunga Arr**	**51.95**	**190**	P	**P**	**14 15 10.8**	**-1.1**
WRA	**Warramunga Arr**	**51.95**	**190**	P	**P**	**14 15 10.8**	**-1.1**
	1.8nm,0.6s,baz=7.4,slow=7.7,SNR=16						
FITZ	**Fitzroy Crossi**	**52.10**	**200**	P	**P**	**14 15 12.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.10**	**200**	P	**P**	**14 15 12.8**	**-0.2**
	3.3nm,0.7s,baz=24,slow=9.1,SNR=8.3						
ILAR	**Eielson Array**	**53.57**	**30**	P	**P**	**14 15 23.5**	**+0.1**
ILAR	**Eielson Array**	**53.57**	**30**	P	**P**	**14 15 23.5**	**+0.1**
	1.7nm,0.6s,baz=258,slow=6.4,SNR=33						
BVAR	**Borovoye Array**	**54.91**	**315**	P	**P**	**14 15 34.0**	**+0.6**
BVAR				PcP	**PcP**	**14 16 35.7**	**+0.4**
BVAR	**Borovoye Array**	**54.91**	**315**	P	**P**	**14 15 34.0**	**+0.6**
	1.5nm,0.7s,baz=90,slow=7.4,SNR=8.5						
BVAR				PcP	**PcP**	**14 16 35.7**	**+0.4**
	0.8nm,0.6s,baz=107,slow=3.9,SNR=2.4						
ASAR	**Alice Springs**	**55.67**	**190**	P	**P**	**14 15 38.7**	**-0.5**
ASAR	**Alice Springs**	**55.67**	**190**	P	**P**	**14 15 38.7**	**-0.5**
	0.4nm,0.5s,baz=4.2,slow=5.6,SNR=15						
KKAR	**Karatay Array**	**56.70**	**304**	*e*P	**P**	**14 15 46.4**	**0.0**
ABKAR	**Akbulak array**	**62.13**	**313**	*e*P	**P**	**14 16 22.7**	**-1.1**
	2.2nm,0.6s						
KAF	**Kangasniemi**	**73.46**	**334**	*e*p	**P**	**14 17 35.1**	**+0.2**
FINES	**FINESS Array B**	**73.95**	**333**	P	**P**	**14 17 38.4**	**+0.5**
FINES	**FINESS Array B**	**73.95**	**333**	P	**P**	**14 17 38.4**	**+0.5**
	3.2nm,0.7s,baz=54,slow=5.6,SNR=19						
KBZ	**Khabaz**	**75.10**	**312**	P	**P**	**14 17 45.7**	**+0.9**
KBZ	**Khabaz**	**75.10**	**312**	P	**P**	**14 17 45.7**	**+0.9**
	1.7nm,0.7s,baz=42,slow=4.4,SNR=4.5						
LRM	**Limekiln Ridge**	**77.34**	**44**	*e*P	**P**	**14 17 58.7**	**+0.8**
	16nm,0.7s						
NVAR	**Mina Array Bea**	**77.48**	**53**	P	**P**	**14 17 59.0**	**+0.3**
NVAR	**Mina Array Bea**	**77.48**	**53**	P	**P**	**14 17 59.0**	**+0.3**
	1.8nm,0.6s,baz=287,slow=6.0,SNR=21						
AKASG	**Malin Array Be**	**79.08**	**323**	P	**P**	**14 18 07.3**	**+0.2**
AKASG	**Malin Array Be**	**79.08**	**323**	P	**P**	**14 18 07.3**	**+0.2**
	0.8nm,0.4s,baz=44,slow=6.7,SNR=3.4						
NB2	**NORSAR Subarra**	**79.44**	**338**	P	**P**	**14 18 09.1**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**79.44**	**338**	P	**P**	**14 18 09.3**	**+0.4**
NOA	**NORSAR Array B**	**79.44**	**338**	P	**P**	**14 18 09.3**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=40,slow=5.5,SNR=10						
PDAR	**Pinedale Array**	**80.76**	**45**	P	**P**	**14 18 17.1**	**+0.4**
PDAR	**Pinedale Array**	**80.76**	**45**	P	**P**	**14 18 17.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=270,slow=2.1,SNR=8.9						
BRTR	**Keskin Array B**	**83.08**	**313**	P	**P**	**14 18 29.7**	**+0.8**
BRTR	**Keskin Array B**	**83.08**	**313**	P	**P**	**14 18 29.7**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=93,slow=3.2,SNR=7.3						
TXAR	**Lajitas Array**	**92.62**	**53**	P	**P**	**14 19 15.8**	**+0.8**
TXAR	**Lajitas Array**	**92.62**	**53**	P	**P**	**14 19 15.8**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=306,slow=3.0,SNR=9.7						
TORD	**Torodi Ar. Bea**	**121.69**	**314**	PKP	**PKPdf**	**14 24 57.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**121.69**	**314**	PKP	**PKPdf**	**14 24 57.2**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=26,slow=1.9,SNR=4.6						
LPAZ	**La Paz**	**148.22**	**68**	PKPbc	**PKPbc**	**14 25 51.0**	**+0.7**
LPAZ	**La Paz**	**148.22**	**68**	PKPbc	**PKPbc**	**14 25 51.0**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=275,slow=2.4,SNR=4.9						

WEL 22 14:47:47.4±0.3,41°.16S×172°.86E,h145km±2km,ML3.5/12, 9C-1D,Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.40**	**98**	PN	Pn	14 48 07.5	-0.2
NNZ				SN	Sn	14 48 22.0	-1.1
QRZ	**Quartz Range**	**0.42**	**323**	⇓PN	Pn	14 48 07.8	0.0
QRZ				SN	Sn	14 48 21.8	-1.4
THZ	**Tophouse**	**0.60**	**177**	⇑PN	Pn	14 48 08.7	-0.1
THZ				SN	Sn	14 48 23.8	-1.4
TUWZ	**Tuamarina**	**0.86**	**109**	PN	Pn	14 48 10.6	+0.1
TUWZ				AML	AML	14 48 28.3	
TUWZ				AML	AML	14 48 28.4	
DUWZ	**D'Urville Isla**	**0.88**	**66**	PN	Pn	14 48 11.0	+0.3
DUWZ				SN	Sn	14 48 28.5	+0.1
BSWZ	**Blackbirch Sta**	**0.94**	**126**	PN	Pn	14 48 11.4	+0.2
DSZ	**Denniston Nort**	**0.99**	**233**	PN	Pn	14 48 11.3	-0.3
TCW	**Tory Channel**	**1.07**	**93**	PN	Pn	14 48 12.5	+0.2
TCW				AML	AML	14 48 31.7	
TCW				AML	AML	14 48 32.2	
CMWZ	**Cape Campbell**	**1.18**	**120**	PN	Pn	14 48 13.6	+0.4
KHZ	**Kahutara**	**1.35**	**158**	⇑PN	Pn	14 48 14.9	-0.1
KHZ				AML	AML	14 48 35.6	
SNZO	**South Karori**	**1.40**	**97**	⇑PN	Pn	14 48 15.1	-0.4
SNZO				AML	AML	14 48 37.3	
SNZO				AML	AML	14 48 37.5	
WEL	**Wellington**	**1.45**	**96**	PN	Pn	14 48 15.6	-0.3
BHW	**Baring Head**	**1.54**	**100**	⇑PN	Pn	14 48 16.4	-0.5
BHW				AML	AML	14 48 39.3	
BHW				AML	AML	14 48 39.5	
KIW	**Kapiti Island**	**1.58**	**80**	PN	Pn	14 48 17.1	-0.3
KIW				AML	AML	14 48 40.3	
KIW				AML	AML	14 48 40.6	
CAW	**Cannon Point**	**1.67**	**89**	PN	Pn	14 48 17.8	-0.6
CAW				AML	AML	14 48 42.8	
CAW				AML	AML	14 48 43.0	
LTZ	**Lake Taylor**	**1.68**	**195**	⇑PN	Pn	14 48 18.2	-0.4
OGWZ	**Otaki Gorge**	**1.78**	**80**	⇑PN	Pn	14 48 19.3	-0.3
MSWZ	**Moikau Station**	**1.82**	**99**	PN	Pn	14 48 19.4	-0.7
MSWZ				AML	AML	14 48 44.7	
PLWZ	**Palliser**	**1.85**	**104**	⇑PN	Pn	14 48 19.8	-0.6
PAWZ	**Paruwai Farm**	**1.95**	**97**	PN	Pn	14 48 20.9	-0.7
PAWZ				AML	AML	14 48 47.2	
PAWZ				AML	AML	14 48 47.4	
MTW	**Mount Morrison**	**2.00**	**91**	PN	Pn	14 48 21.3	-0.8
MTW				AML	AML	14 48 47.2	
MTW				AML	AML	14 48 47.3	
HOWZ	**Holdsworth Sta**	**2.03**	**83**	PN	Pn	14 48 21.8	-0.7
MRZ	**Mangatainoka R**	**2.12**	**77**	PN	Pn	14 48 22.7	-0.9
MRZ				AML	AML	14 48 50.7	
TRWZ	**Traveller**	**2.15**	**97**	PN	Pn	14 48 23.6	-0.3
TRWZ				AML	AML	14 48 50.2	
WAZ	**Wanganui**	**2.15**	**50**	⇑PN	Pn	14 48 24.6	+0.6
TIWZ	**Tintock**	**2.32**	**81**	PN	Pn	14 48 25.2	-0.9
POWZ	**Post Office Ro**	**2.34**	**72**	PN	Pn	14 48 25.4	-0.9
CRLZ	**Canterbury Las**	**2.42**	**184**	PN	Pn	14 48 26.1	-1.1
WVZ	**Waitaha Valley**	**2.48**	**219**	PN	Pn	14 48 27.2	-0.7
VRZ	**Vera Road**	**2.50**	**36**	PN	Pn	14 48 28.2	-0.1
MOZ	**McQueen's Vall**	**2.55**	**183**	⇑PN	Pn	14 48 27.5	-1.3
MOZ				SN	Sn	14 48 56.0	-4.8
TSZ	**Takapari Road**	**2.60**	**66**	PN	Pn	14 48 28.6	-1.0
BFZ	**Birch Farm**	**2.61**	**81**	PN	Pn	14 48 28.7	-1.0
DVHZ	**Dannevirke**	**2.66**	**72**	PN	Pn	14 48 29.0	-1.2
PNHZ	**Pukenui**	**2.83**	**65**	PN	Pn	14 48 31.3	-1.2
WPHZ	**Waipukurau**	**2.94**	**69**	PN	Pn	14 48 32.3	-1.5
HIZ	**Hauiti**	**3.06**	**31**	PN	Pn	14 48 34.8	-0.5
KAHZ	**Kahuranaki**	**3.35**	**67**	PN	Pn	14 48 38.1	-1.0
ODZ	**Otahua Downs**	**4.21**	**202**	PN	Pn	14 48 48.9	-1.3

*NIED **22** 14:48:00,38°.00N×142°.60E,h26km,Mw4.3 Best double couple: M0:2.87000×10^15 NP1:φ=208.00000°,δ46.00000°, λ101.00000°. NP2:φ=12.00000°,δ45.00000°,λ79.00000°.*
*JMA **22** 14:48:14.7±0.1,38°.02N×142°.65E,h30km±2km,M4.3*
JMA Felt I J1.
*ISCJB **22** 14:48:15.2±1.3,38°.01N±0°.04×142°.58E±0°.05,h26km±8km, mb4.3/37,MS3.6/8,Error ellipse: s-maj=8.3km s-min=5.0km az=44.6*
*MOS **22** 14:48:16.6±0.9,38°.00N×142°.41E,h33km,mb4.6/25,Error ellipse: s-maj=10.1km s-min=6.9km az=99.8*
*NEIC **22** 14:48:18.4±2.0,38°.04N×142°.44E,h34km±13km,mb4.5/5, MW4.2(NIED),Error ellipse: s-maj=7.9km s-min=5.4km az=139.0,1*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
*IDC **22** 14:48:18.3±0.7,38°.02N×142°.48E,h32km±4km,mb3.9/22, mb1 4.1/28,mb1mx4.0/36,mbtmp3.9/28,ML3.4/5,MS3.4/12, Ms1 3.5/12,ms1mx3.3/38,Error ellipse: s-maj=13.9km s-min=12.0km az=147.0*
ISC 22 14:48:18.1±0.7,38°.05N±0°.05×142°.50E±0°.05,h31km±4km, n113,σ0°.98/135,mb4.4/37,MS3.7/8,4C-14D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.99**	**294**	⇓P	**Pn**	**14 48 34.4**	**-1.4**
JIO				*e*S	**Sb**	**14 48 49.0**	**-0.5**
OFUJ	**Ofunato**	**1.22**	**328**	⇓P	**Pn**	**14 48 37.5**	**-1.5**
JMK	**Ichinoseki**	**1.35**	**312**	⇓P	**Pn**	**14 48 39.7**	**-1.1**
JMM	**Marumori**	**1.36**	**263**	⇓P	**Pn**	**14 48 39.7**	**-1.2**
JMM				*e*S	**Sn**	**14 48 58.3**	**+0.4**
JFK	**Kawauchi**	**1.46**	**243**	⇓P	**Pn**	**14 48 40.7**	**-1.6**
JFK				*e*S	**Sn**	**14 48 59.6**	**-0.7**
JOU	**Okura**	**1.48**	**283**	⇓P	**Pn**	**14 48 42.0**	**-0.6**
JOM	**Ohasama**	**1.71**	**327**	⇓P	**Pn**	**14 48 45.0**	**-0.7**
JOM				S	**Sn**	**14 49 06.8**	**+0.3**
JFT	**Otama**	**1.79**	**254**	⇓P	**Pn**	**14 48 46.8**	**-0.1**
JFT				*e*S	**Sb**	**14 49 10.6**	**-1.8**
JYK	**Kaneyama**	**1.89**	**298**	⇓P	**Pn**	**14 48 47.8**	**-0.4**
JYS	**Shirataka**	**1.93**	**276**	P	**Pn**	**14 48 48.2**	**-0.5**
JRG	**Rokugo**	**1.99**	**313**	⇓P	**Pn**	**14 48 49.2**	**-0.3**
JANG	**Nango**	**2.44**	**342**	P	**Pn**	**14 48 55.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.74**	**248**	Pn	**Pn**	**14 49 13.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.74**	**248**	Pn	**Pn**	**14 49 13.3**	**-0.3**
	1.8nm,0.3s,baz=69,slow=13,SNR=41						
MJAR				LR	LR	14 50 50.7	
	comp=Z,658nm,18.5s,baz=65,slow=41						
MAT	**Matsushiro**	**3.74**	**248**	P	**Pn**	**14 49 14.3**	**+0.7**
MAT				S	**Sn**	**14 50 00.6**	**+4.0**
ERM	**Erimo**	**3.99**	**7**	*i* P	**Pn**	**14 49 16.7**	**-0.4**
ASAJ	**Asahikawa**	**6.06**	**1**	Pn	**Pn**	**14 49 45.9**	**+0.4**
ASAJ				Sn	**Sn**	**14 50 54.0**	**+0.1**
ASAJ	**Asahikawa**	**6.06**	**1**	Pn	**Pn**	**14 49 45.9**	**+0.4**
	1.9nm,0.3s,baz=207,slow=13,SNR=36						
ASAJ				Sn	**Sn**	**14 50 54.0**	**+0.1**
	1.4nm,0.3s,baz=252,slow=20,SNR=3.0						
ASAJ				LR	LR	14 52 38.7	
	comp=Z,378nm,21.8s,baz=163,slow=43						
KUR	**Kuril'sk**	**8.22**	**28**	P	Pn	14 50 19.8	+4.6
KUR				*e*S	**Sn**	**14 51 41.2**	**-5.7**
KUR				smax	smax		
	comp=N,120nm,0.7s						
KUR				smax	smax		
	comp=E,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.90**	**1**	*e*P	**Pn**	**14 50 27.0**	**+2.5**
VLA	**Vladivostok**	**9.52**	**305**	*i* P	Pn	14 50 37.5	+4.5
VLA				pmax	pmax		
	comp=Z,87nm,1.3s						
USRK	**Ussuriysk Arra**	**10.02**	**311**	Pn	**Pn**	**14 50 40.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=4.0						
USRK				LR	LR	14 54 25.9	
	comp=Z,277nm,19.2s,baz=353,slow=37						
JNU	**Nakatsue**	**10.66**	**246**	Pn	**Pn**	**14 50 47.9**	**-0.7**
JNU	**Nakatsue**	**10.66**	**246**	Pn	**Pn**	**14 50 47.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=29,slow=4.5,SNR=6.7						
JNU				LR	LR	14 55 21.9	
	comp=Z,320nm,19.2s,baz=53,slow=40						
KSRS	**Korea Array**	**11.56**	**272**	Pn	**Pn**	**14 51 00.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=81,slow=14,SNR=3.1						
KSRS				LR	LR	14 55 11.8	
	comp=Z,165nm,20.0s,baz=80,slow=36						
KSAR	**Wonju Array Be**	**11.59**	**271**	Pn	**Pn**	**14 51 00.7**	**-0.7**
PETK	**Petropavlovsk-**	**18.38**	**30**	P	**P**	**14 52 30.2**	**0.0**
PETK				MLR	MLR		
	comp=Z,51nm,20.1s						
PETK	**Petropavlovsk-**	**18.38**	**30**	P	**P**	**14 52 30.2**	**0.0**
PETK	**Petropavlovsk-**	**18.38**	**30**	P	**P**	**14 52 30.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=203,slow=10,SNR=5.1						
PETK				LR	LR	14 59 48.7	
	comp=Z,51nm,20.1s,baz=45,slow=38						
YAK	**Yakutsk**	**25.29**	**346**	*e*P	**P**	**14 53 41.7**	**+0.4**
YAK				*e*		14 58 08.2	
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
SEY	**Seymchan**	**25.63**	**10**	⇓*e*P	**P**	**14 53 46.1**	**+1.6**
FX1	**Attu Island--F**	**25.87**	**45**	LR	LR	15 04 01.7	
	comp=E,32nm,19.8s,baz=119,slow=36						
SONM	**Songino Array**	**27.96**	**302**	P	**P**	**14 54 06.1**	**+0.3**
SONM	**Songino Array**	**27.96**	**302**	P	**P**	**14 54 06.1**	**+0.3**
	comp=E,1.6nm,0.8s,baz=101,slow=8.6,SNR=8.3						
ENH	**Enshi**	**28.29**	**264**	*e*P	**P**	**14 54 08.0**	**-0.7**
	comp=E,23nm,0.7s						
ZAK	**Zakamensk**	**30.34**	**307**	*e*P	**P**	**14 54 27.3**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**34.39**	**352**	*i* P	P	14 55 06.0	+4.1
TIXI				pmax	pmax		
	comp=Z,17nm,1.5s						
ZAA0	**Zalesovo Array**	**41.88**	**312**	*e*P	**P**	**14 56 03.0**	**-2.2**
ZALV	**Zalesovo Beam**	**41.88**	**312**	*i* P	**P**	**14 56 05.5**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**14 56 05.2**	**0.0**
ZALV				PcP	**PcP**	**14 58 00.5**	**+0.1**
ZALV				pScP		14 58 10.4	
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**14 56 05.2**	**0.0**
	comp=Z,3.8nm,0.8s,baz=89,slow=7.3,SNR=13						
ZALV				PcP	**PcP**	**14 58 00.5**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=110,slow=3.1,SNR=4.6						
ZALV				pScP		14 58 10.4	
	comp=Z,2.4nm,0.6s,baz=92,slow=2.9,SNR=5.9						
ZALV				LR	LR	15 14 16.2	
	comp=Z,91nm,18.8s,baz=68,slow=37						
CMAR	**Chiang Mai Arr**	**42.59**	**255**	P	**P**	**14 56 11.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**42.59**	**255**	P	**P**	**14 56 11.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=48,slow=7.5,SNR=3.3						
CMAR				LR	LR	15 15 19.2	
	comp=Z,22nm,18.8s,baz=75,slow=38						
NVS	**Novosibirsk**	**42.77**	**313**	*e*P	**P**	**14 56 12.5**	**+0.1**
MK31	**Makanchi Array**	**44.32**	**301**	*e*P	**P**	**14 56 24.2**	**-0.9**
MK31	**Makanchi Array**	**44.32**	**301**	*e*P	**P**	**14 56 24.2**	**-0.9**
MKAR	**Makanchi Array**	**44.32**	**301**	*c e*P	**P**	**14 56 25.2**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.32**	**301**	P	**P**	**14 56 24.9**	**-0.1**
MKAR	**Makanchi Array**	**44.32**	**301**	P	**P**	**14 56 24.9**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=87,slow=9.1,SNR=17						
KDAK	**Kodiak Island**	**45.77**	**43**	P	**P**	**14 56 36.0**	**-0.3**
KDAK				pP	**pP**	**14 56 46.7**	**+1.0**
KDAK	**Kodiak Island**	**45.77**	**43**	P	**P**	**14 56 36.0**	**-0.3**
	comp=Z,9.1nm,0.8s,baz=290,slow=6.3,SNR=9.2						
KDAK				pP	**pP**	**14 56 46.7**	**+1.0**
	comp=Z,7.2nm,0.7s,baz=290,slow=6.9,SNR=4.0						
KURK	**Kurchatov**	**45.99**	**307**	P	**P**	**14 56 38.7**	**+0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KURK	**Kurchatov**	**45.99**	**307**	P	**P**	**14 56 38.8**	**+0.5**
KURBB	**Kurchatov Arra**	**46.07**	**307**	P	**P**	**14 56 38.7**	**0.0**
	comp=Z,6.6nm,0.6s,baz=82,slow=7.9,SNR=78						
ILAR	**Eielson Array**	**48.18**	**33**	P	**P**	**14 56 55.2**	**+0.1**
ILAR				pP	**pP**	**14 57 05.2**	**+0.7**
ILAR	**Eielson Array**	**48.18**	**33**	P	**P**	**14 56 55.2**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=266,slow=6.6,SNR=21						
ILAR				pP	**pP**	**14 57 05.2**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=267,slow=6.8,SNR=14						
TKM2	**Tokmak 2**	**49.91**	**298**	*e*P	**P**	**14 57 07.3**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TKM2	**Tokmak 2**	**49.91**	**298**	*e*P	**P**	**14 57 07.3**	**-1.6**
	comp=Z,4.1nm,0.8s						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**14 57 13.2**	**0.0**
BVAR						14 58 31.1	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**14 57 13.2**	**0.0**
BVAR				PcP	**PcP**	**14 58 31.1**	**+0.3**
BVAR				pPcP		14 58 41.6	
BVAR	**Borovoye Array**	**50.53**	**312**	P	**P**	**14 57 13.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=81,slow=8.9,SNR=5.5						
BVAR				PcP	**PcP**	**14 58 31.1**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=72,slow=4.7,SNR=3.9						
BVAR				pPcP		14 58 41.6	
	comp=Z,2.3nm,0.6s,baz=94,slow=3.6,SNR=6.0						
BRVK	**Borovoye**	**50.59**	**312**	⇓*e*P	**P**	**14 57 14.3**	**+0.7**
BRVK				pmax	pmax

CLL	**Collm**	**80.64**	**331**	⇓*i*P	**P**	**15 00 27.7**	**+0.1**
CLL				pmax	pmax		
comp=Z,10.0nm,1.6s							
CLL	**Collm**	**80.64**	**331**	⇓*i*P	**P**	**15 00 27.7**	**+0.1**
comp=Z,10.0nm,1.6s							
KHC	**Kasperske Hory**	**82.13**	**329**	*e*P	**P**	**15 00 35.5**	**-0.1**
KHC	**Kasperske Hory**	**82.13**	**329**	*e*P	**P**	**15 00 35.5**	**-0.1**
GERES	**GERESS Array B**	**82.30**	**329**	P	**P**	**15 00 36.5**	**0.0**
GERES				pP	**pP**	**15 00 46.1**	**-0.4**
GERES	**GERESS Array B**	**82.30**	**329**	P	**P**	**15 00 36.5**	**0.0**
comp=Z,0.3nm,0.5s,baz=38,slow=6.8,SNR=5.0							
GERES				pP	**pP**	**15 00 46.1**	**-0.4**
comp=Z,0.3nm,0.5s,baz=66,slow=2.5,SNR=2.4							
GERES				LR	LR	15 42 18.0	
comp=Z,48nm,18.2s,baz=292,slow=39							
TXAR	**Lajitas Array**	**88.82**	**53**	P	**P**	**15 01 09.4**	**+0.1**
TXAR	**Lajitas Array**	**88.82**	**53**	P	**P**	**15 01 09.4**	**+0.1**
comp=Z,0.3nm,0.6s,baz=306,slow=2.2,SNR=4.0							
LPAZ	**La Paz**	**145.44**	**60**	PKPbc	**PKPbc**	**15 07 54.1**	**+0.1**
LPAZ				*e*PKPdf	**PKPbc**	**15 07 54.1**	**+0.1**
LPAZ	**La Paz**	**145.44**	**60**	PKPbc	**PKPbc**	**15 07 54.1**	**+0.1**
comp=Z,1.9nm,0.6s,baz=9.6,slow=4.8,SNR=10.0							

*IDC **22** 14:56:44.2±1.4, 38°.39N×90°.34E, h0km, mb3.3/2, mb1 3.5/6, mb1mx3.3/31, mbtmp3.4/6, ML3.5/4, Error ellipse: s-maj=41.7km s-min=17.7km az=59.0*
*ISCJB **22** 14:56:46.3±1.0, 38°.67N±0°.10×90°.1E±0°.1, h33km, mb3.2/2, Error ellipse: s-maj=16.9km s-min=8.3km az=39.3*

ISC 22 14:56:47.8±1.3, 38°.7N±0°.1×90°.3E±0°.1, h35km, n8, σ1§21/11, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**10.02**	**327**	⇓Pn	**Pn**	**14 59 09.1**	**0.0**
0.5nm,0.4s,baz=142,slow=13							
MK31				⇑Sn	**Sn**	**15 00 59.9**	**-0.3**
2.2nm,0.6s,baz=146,slow=20							
MKAR	**Makanchi Array**	**10.02**	**327**	Pn	**Pn**	**14 59 09.7**	**+0.6**
0.6nm,0.3s,baz=143,slow=13,SNR=18							
MKAR				Sn	**Sn**	**15 00 59.9**	**-0.4**
0.2nm,0.3s,baz=141,slow=24,SNR=3.7							
MKAR				Lg	Lg	15 02 09.2	
0.2nm,0.3s,baz=130,slow=27,SNR=5.2							
TKM2	**Tokmak 2**	**11.93**	**295**	⇑Pn	**Pn**	**14 59 35.6**	**+0.1**
4.6nm,0.9s,baz=146,slow=20							
TKM2				⇓Sn	**Sn**	**15 01 45.8**	**-1.6**
1.5nm,0.8s,baz=146,slow=20							
KURBB	**Kurchatov Arra**	**14.56**	**329**	Pn	**Pn**	**15 00 12.6**	**+1.6**
0.0nm,0.3s,baz=135,slow=12,SNR=3.9							
KURBB				Lg	Lg	15 04 38.1	
0.0nm,0.3s,baz=143,slow=36,SNR=3.6							
SONM	**Songino Array**	**14.83**	**47**	Pn	**P**	**15 00 18.4**	**-1.9**
0.2nm,0.3s,baz=240,slow=12,SNR=3.7							
SONM				Lg	Lg	15 04 40.8	
0.1nm,0.3s,baz=241,slow=26,SNR=4.4							
ZALV	**Zalesovo Beam**	**15.72**	**348**	Pn	**P**	**15 00 31.4**	**+1.5**
0.2nm,0.3s,baz=168,slow=9.9,SNR=4.0							
WRA	**Warramunga Arr**	**71.44**	**136**	P	**P**	**15 08 05.0**	**+0.3**
0.3nm,0.8s,baz=332,slow=5.6,SNR=5.8							
ASAR	**Alice Springs**	**74.26**	**139**	P	**P**	**15 08 22.0**	**+0.7**
0.2nm,0.8s,baz=330,slow=5.6,SNR=3.3							

*ISK **22** 15:11:37.2, 39°.45N×33°.15E, h5km, MD2.8*
*CSEM **22** 15:11:38.2±0.1, 39°.43N×33°.10E, h2km, MD2.8, Error ellipse: s-maj=3.9km s-min=3.0km az=14.0*
*DDA **22** 15:11:39.3, 39°.54N×33°.22E, h7km, MD2.8*

ISC 22 15:11:37.5±0.8, 39°.44N±0°.03×33°.12E±0°.03, h5km±6km, n28, σ1§04/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.04**	**281**	PG	**Pg**	**15 11 38.3**	**-0.5**
AFSR				*e*SG	**Sg**	**15 11 39.8**	**+0.2**
AFSR	**Af¯ar-Bala (A**	**0.04**	**281**	*i* Pg	**Pg**	**15 11 38.3**	**-0.5**
AFSR				*e*Sg	**Sg**	**15 11 39.8**	**+0.1**
BBAL	**Bala**	**0.10**	**0**	*i* P	**Pg**	**15 11 41.0**	**+1.2**
BBAL				*i* S	**Sg**	**15 11 43.4**	**+2.1**
BBAL	**Bala**	**0.10**	**0**	*i* P	**Pg**	**15 11 41.0**	**+1.2**
BBAL				*i* S	**Sg**	**15 11 43.4**	**+2.1**
KAMT	**Kaman**	**0.46**	**99**	*e*PG	**Pb**	**15 11 47.0**	**-1.3**
KAMT				*e*SG	**Sb**	**15 11 54.9**	**-0.6**
KAMT	**Kaman**	**0.46**	**99**	*e*Pg	**Pb**	**15 11 47.0**	**-1.3**
KAMT				*e*Sg	**Sb**	**15 11 54.9**	**-0.6**
ANTO	**Ankara**	**0.50**	**330**	*e*PG	**Pb**	**15 11 48.0**	**-0.9**
ANTO				*e*SG	**Sb**	**15 11 56.9**	**+0.3**
ANTO	**Ankara**	**0.50**	**330**	*e*Pg	**Pb**	**15 11 48.0**	**-0.9**
LOD	**Lodumlu**	**0.53**	**329**	*e*PG	**Pb**	**15 11 48.3**	**-1.1**
LOD				*e*SG	**Sb**	**15 11 57.2**	**-0.2**
LOD	**Lodumlu**	**0.53**	**329**	*e*Pg	**Pb**	**15 11 48.3**	**-1.1**
LOD				*e*Sg	**Sb**	**15 11 57.2**	**-0.2**
CDAG	**Cicekdag**	**0.98**	**79**	*i* P	**Pn**	**15 11 57.1**	**-1.1**
CDAG				*i* S	**Sn**	**15 12 11.2**	**-1.4**
CDAG	**Cicekdag**	**0.98**	**79**	*i* P	**Pn**	**15 11 57.1**	**-1.1**
CDAG				*i* S	**Sn**	**15 12 11.2**	**-1.4**
KIZT	**Kizilcal**	**1.11**	**240**	*e*PN	**Pn**	**15 12 00.5**	**+0.5**
KIZT	**Kizilcal**	**1.11**	**240**	*e*Pn	**Pn**	**15 12 00.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.24**	**271**	*e*PN	**Pn**	**15 12 02.1**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.24**	**271**	*e*Pn	**Pn**	**15 12 02.1**	**+0.4**
SULT	**Sultanhani-AKS**	**1.28**	**166**	*e*PN	**Pb**	**15 12 02.9**	**+0.7**
SULT	**Sultanhani-AKS**	**1.28**	**166**	*e*Pn	**Pb**	**15 12 02.9**	**+0.7**
LADK	**Ladik-KONYA**	**1.37**	**206**	*e*PN	**Pg**	**15 12 04.7**	**+0.8**
LADK	**Ladik-KONYA**	**1.37**	**206**	*e*Pn	**Pg**	**15 12 04.7**	**+0.8**
CORM	**Corum**	**1.38**	**57**	*e*PN	**Pg**	**15 12 04.7**	**+0.7**
CORM	**Corum**	**1.38**	**57**	*e*Pn	**Pg**	**15 12 04.7**	**+0.7**
AVNT	**Avonos**	**1.50**	**115**	*i* P	**Pg**	**15 12 06.8**	**+0.5**
AVNT				*i* S	**Sg**	**15 12 28.3**	**+2.6**
AVNT	**Avonos**	**1.50**	**115**	*i* P	**Pg**	**15 12 06.8**	**+0.5**
KONT	**Konya--Tatoy**	**1.61**	**202**	*e*PN	**Pg**	**15 12 08.0**	**-0.3**
KONT	**Konya--Tatoy**	**1.61**	**202**	*e*Pn	**Pg**	**15 12 08.0**	**-0.3**
YOZ	**Yozgat**	**1.71**	**83**	*e*PN	**Pb**	**15 12 09.1**	**-0.5**
YOZ	**Yozgat**	**1.71**	**83**	*e*Pn	**Pb**	**15 12 09.1**	**-0.5**

*NOU **22** 15:26:49.2±0.4, 20°.68S×168°.02E, h10km±189km, MD2.8, ML3.7*
*IDC **22** 15:26:53.1±6.9, 19°.73S×168°.83E, h101km±50km, mb3.8/5, mb1 3.9/7, mb1mx3.6/21, mbtmp3.8/7, MS3.9/2, Ms1 3.9/2, ms1mx2.9/33, Error ellipse: s-maj=57.6km s-min=27.4km az=26.0*

ISC 22 15:26:45.3±1.8, 19°.3S±0°.1×169°.0E±0°.2, h35km, n13, σ1§60/16, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.62**	**221**	*e*P	**Pn**	**15 27 40.3**	**+1.2**
DZM				*e*S	**Sn**	**15 28 19.3**	**-1.4**
DZM	**Mont Dzumac**	**3.62**	**221**	P	**Pn**	**15 27 41.6**	**+2.5**
89nm,0.3s,baz=43,slow=19,SNR=1018							
DZM				S	**Sn**	**15 28 20.3**	**-0.4**
128nm,0.3s,baz=88,slow=22,SNR=11							
PLUM	**Mont Dore**	**3.66**	**217**	*e*P	**Pn**	**15 27 41.6**	**+2.0**
PLUM				*e*S	**Sn**	**15 28 20.6**	**-0.9**
PLUM				AMP		15 28 22.4	
comp=Z,638nm,2.5s							
NORM	**Noumea**	**3.72**	**219**	*e*P	**Pn**	**15 27 42.2**	**+1.9**
NORM				*e*S	**Sn**	**15 28 21.4**	**-1.5**
NORM				AMP		15 28 23.8	
comp=Z,625nm,3.4s							
NOUC	**Port Laguerre**	**3.73**	**222**	*e*P	**Pn**	**15 27 43.1**	**+2.6**
NOUC				*e*S	**Sn**	**15 28 22.7**	**-0.6**
NOUC				AMP		15 28 28.5	
comp=Z,210nm,1.7s							
AFI	**Afiamalu**	**19.19**	**77**	LR	LR	15 37 33.0	
comp=Z,75nm,21.0s,baz=321,slow=33							
URZ	**Urewera**	**20.14**	**161**	P	**P**	**15 31 15.8**	**-0.5**
comp=Z,0.9nm,0.3s,baz=319,slow=11,SNR=11							
CTA	**Charters Tower**	**21.42**	**264**	P	**P**	**15 31 31.2**	**+0.8**
comp=Z,3.0nm,0.7s,baz=86,slow=14,SNR=4.4							
STKA	**Stephens Creek**	**27.60**	**238**	P	**P**	**15 32 27.8**	**-1.7**
comp=Z,1.1nm,0.6s,baz=70,slow=11,SNR=5.5							
WRA	**Warramunga Arr**	**32.62**	**263**	P	**P**	**15 33 12.9**	**-1.0**
comp=Z,0.8nm,0.5s,baz=97,slow=8.8,SNR=17							
ASAR	**Alice Springs**	**32.88**	**256**	P	**P**	**15 33 15.6**	**-0.7**
comp=Z,3.9nm,0.6s,baz=85,slow=8.9,SNR=98							
FITZ	**Fitzroy Crossi**	**41.01**	**264**	P	**P**	**15 34 25.6**	**+0.3**
comp=Z,2.7nm,0.6s,baz=92,slow=6.5,SNR=14							
JNU	**Nakatsue**	**63.61**	**325**	LR	LR	15 59 18.0	
comp=Z,411nm,21.8s,baz=293,slow=30							

*IDC **22** 15:48:51.7±1.0, 44°.98N×106°.44W, h0km, mb1 4.0/3, mb1mx3.5/29, mbtmp3.7/3, ML2.9/2, Error ellipse: s-maj=55.2km s-min=8.9km az=139.0*
*NEIC **22** 15:48:52.0, 45°.14N×106°.45W, h14km, ML4.0(BUT), After BUT.*

ISC 22 15:48:52.7±0.8, 45°.14N±0°.01×106°.47W±0°.01, h14km±6km, n206, σ1§07/292, 104C-85D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G22A	**Birney**	**0.15**	**59**	⇑P	**Pg**	**15 48 56.2**	**-0.3**
baz=0.1,SNR=1000							
G22A				⇑S	**Sg**	**15 48 59.1**	**-0.1**
baz=0.1							
G22A				⇑S	**Sg**	**15 48 59.1**	**-0.1**
baz=0.1							
G21A	**Lodge Grass**	**0.53**	**279**	⇑P	**Pg**	**15 49 03.2**	**+0.1**
baz=0.5							
G21A				⇑S	**Sg**	**15 49 10.7**	**+0.6**
baz=0.5							
G21A				⇑S	**Sg**	**15 49 10.7**	**+0.6**
baz=0.5							
H22A	**Clearmont**	**0.56**	**171**	P	**Pg**	**15 49 03.6**	**0.0**
baz=0.6,SNR=610							
H22A				⇑S	**Sg**	**15 49 11.3**	**+0.3**
baz=0.6							
H22A				⇑S	**Sg**	**15 49 11.3**	**+0.3**
baz=0.6							
F22A	**Rosebud**	**0.65**	**13**	⇓P	**Pg**	**15 49 05.1**	**-0.3**
baz=0.7,SNR=843							
F22A				⇑S	**Sg**	**15 49 14.1**	**0.0**
baz=0.7							
F22A				⇑S	**Sg**	**15 49 14.1**	**0.0**
baz=0.7							
H21A	**Big Horn, Sher**	**0.66**	**218**	⇑P	**Pg**	**15 49 05.6**	**+0.1**
baz=0.7,SNR=1000							
H21A				⇓S	**Sb**	**15 49 15.0**	**0.0**
baz=0.7							
H21A				⇓S	**Sb**	**15 49 15.0**	**0.0**
baz=0.7							
G23A	**Biddle**	**0.77**	**85**	P	**Pg**	**15 49 07.3**	**-0.3**
baz=0.8,SNR=1000							
G23A				⇓S	**Sg**	**15 49 17.6**	**-0.1**
baz=0.8							
G23A				⇓S	**Sg**	**15 49 17.6**	**-0.1**
baz=0.8							
F21A	**Absaloka Mine,**	**0.82**	**326**	P	**Pg**	**15 49 08.5**	**-0.1**
baz=0.8,SNR=193							
F21A				⇑S	**Sg**	**15 49 19.8**	**+0.4**
baz=0.8							
F21A				⇑S	**Sg**	**15 49 19.8**	**+0.4**
baz=0.8							
F23A	**Volborg**	**0.95**	**52**	P	**Pg**	**15 49 10.3**	**-0.7**
baz=0.9,SNR=477							
F23A				⇓S	**Sg**	**15 49 23.0**	**-0.4**
baz=0.9							
F23A				⇓S	**Sg**	**15 49 23.0**	**-0.4**
baz=0.9							
H23A	**Clabaugh Cattl**	**0.96**	**127**	P	**Pg**	**15 49 10.1**	**-1.1**
baz=0.9,SNR=240							
H23A				⇓S	**Sg**	**15 49 23.6**	**-0.1**
baz=0.9							
H23A				⇓S	**Sg**	**15 49 23.6**	**-0.1**
baz=0.9							
G20A	**Bridger**	**1.24**	**274**	P	**Pn**	**15 49 15.8**	**+0.2**
baz=1.2,SNR=1000							
I22A	**9 Mile Ranch,**	**1.25**	**180**	⇓P	**Pn**	**15 49 16.3**	**+0.4**
baz=1.3,SNR=1000							
I22A				⇑S	**Sb**	**15 49 32.7**	**+0.5**
baz=1.3							
I22A				⇑S	**Sb**	**15 49 32.7**	**+0.5**
baz=1.3							
H20A	**Greybull**	**1.27**	**239**	⇑P	**Pn**	**15 49 16.1**	**0.0**
baz=1.3							
E22A	**Miles City**	**1.35**	**16**	Pn	**Pn**	**15 49 17.0**	**-0.1**
baz=1.3,SNR=333							
E22A				⇓S	**Sb**	**15 49 34.9**	**0.0**
baz=1.3							
E22A				⇓S	**Sb**	**15 49 34.9**	**0.0**
baz=1.3							
E22A	**Miles City**	**1.35**	**16**	Pn	**Pn**	**15 49 17.0**	**-0.1**
baz=1.3,SNR=333							
E22A				⇓S	**Sb**	**15 49 34.9**	**0.0**
baz=1.3							
F20A	**Billings**	**1.35**	**300**	⇓Pb	**Pn**	**15 49 17.7**	**+0.4**
baz=1.4,SNR=458							
F20A	**Billings**	**1.35**	**300**	⇓Pb	**Pn**	**15 49 17.7**	**+0.4**
baz=1.4,SNR=458							
I23A	**Meade Ranch, G**	**1.38**	**148**	⇓Pb	**Pn**	**15 49 18.3**	**+0.6**
baz=1.4,SNR=154							
I23A	**Meade Ranch, G**	**1.38**	**148**	⇓Pb	**Pn**	**15 49 18.3**	**+0.6**
baz=1.4,SNR=154							
H24A	**Dirks Ranch, A**	**1.42**	**106**	⇓Pb	**Pn**	**15 49 18.4**	**+0.2**
baz=1.4							
H24A	**Dirks Ranch, A**	**1.42**	**106**	⇓Pb	**Pn**	**15 49 18.4**	**+0.2**
baz=1.4							
I21A	**Big Trails, Te**	**1.46**	**204**	Pb	**Pn**	**15 49 19.1**	**+0.4**
baz=1.5,SNR=1000							
I21A	**Big Trails, Te**	**1.46**	**204**	Pb	**Pn**	**15 49 19.1**	**+0.4**
baz=1.5,SNR=1000							
E21A	**Keefer Ranch,**	**1.46**	**343**	Pb	**Pn**	**15 49 19.4**	**+0.7**
baz=1.5,SNR=458							
E21A	**Keefer Ranch,**	**1.46**	**343**	Pb	**Pn**	**15 49 19.4**	**+0.7**
baz=1.5,SNR=458							
G24A	**Alzada**	**1.46**	**82**	Pb	**Pn**	**15 49 19.1**	**+0.3**
baz=1.4,SNR=86							
G24A	**Alzada**	**1.46**	**82**	Pb	**Pn**	**15 49 19.1**	**+0.3**
baz=1.4,SNR=86							
E23A	**Ismay**	**1.58**	**31**	Pb	**Pn**	**15 49 21.3**	**+0.9**
baz=1.6,SNR=534							
E23A				⇓Sb	**Sb**	**15 49 42.0**	**+0.4**
baz=1.6							
E23A				⇓Sb	**Sb**	**15 49 42.0**	**+0.4**
baz=1.6							
E23A	**Ismay**	**1.58**	**31**	Pb	**Pn**	**15 49 21.3**	**+0.9**
baz=1.6,SNR=534							
E23A				⇓Sb	**Sb**	**15 49 42.0**	**+0.4**
baz=1.6							
F24A	**Ekalaka**	**1.59**	**63**	⇑Pb	**Pn**	**15 49 21.4**	**+0.9**
baz=1.6,SNR=28							
F24A				⇓Sb	**Sb**	**15 49 42.4**	**+0.5**
baz=1.6							
F24A				⇓Sb	**Sb**	**15 49 42.4**	**+0.5**
baz=1.6							
F24A	**Ekalaka**	**1.59**	**63**	⇑Pb	**Pn**	**15 49 21.4**	**+0.9**
baz=1.6,SNR=28							
F24A				⇓Sb	**Sb**	**15 49 42.4**	**+0.5**
baz=1.6							
I20A	**Worland**	**1.68**	**225**	⇑Pb	**Pb**	**15 49 23.5**	**+0.1**
baz=1.7							
I20A	**Worland**	**1.68**	**225**	⇑Pb	**Pb**	**15 49 23.5**	**+0.1**
baz=1.7							
J22A	**Midwest**	**1.73**	**180**	Pb	**Pb**	**15 49 23.8**	**-0.5**
baz=1.7,SNR=534							
J22A				Sn	**Sn**	**15 49 44.6**	**+0.1**
baz=1.7							
J22A				Sn	**Sn**	**15 49 44.6**	**+0.1**
baz=1.7							
J22A	**Midwest**	**1.73**	**180**	Pb	**Pb**	**15 49 23.8**	**-0.5**
baz=1.7,SNR=534							
J22A				Sn	**Sn**	**15 49 44.6**	**+0.1**
baz=1.7							
E20A	**Meyer Farm, Mu**	**1.79**	**320**	⇑Pb	**Pb**	**15 49 24.8**	**-0.5**
baz=1.8,SNR=263							
E20A	**Meyer Farm, Mu**	**1.79**	**320**	⇑Pb	**Pb**	**15 49 24.8**	**-0.5**
baz=1.8,SNR=263							
I24A	**Kuemmerle Ranc**	**1.84**	**134**	⇑Pb	**Pb**	**15 49 25.8**	**-0.4**
baz=1.8,SNR=509							
I24A				⇑Sb	**Sb**	**15 49 49.9**	**+0.8**
baz=1.8							
I24A				⇑Sb	**Sb**	**15 49 49.9**	**+0.8**
baz=1.8							
I24A	**Kuemmerle Ranc**	**1.84**	**134**	⇑Pb	**Pb**	**15 49 25.8**	**-0.4**
baz=1.8,SNR=509							
I24A				⇑Sb	**Sb**	**15 49 49.9**	**+0.8**
baz=1.8							
H19A	**Powell**	**1.85**	**256**	⇓Pb	**Pb**	**15 49 26.7**	**+0.3**
baz=1.9,SNR=238							
H19A	**Powell**	**1.85**	**256**	⇓Pb	**Pb**	**15 49 26.7**	**+0.3**
baz=1.9,SNR=238							
J23A	**Dilts Ranch, B**	**1.86**	**159**	⇓Pb	**Pb**	**15 49 26.1**	**-0.4**
baz=1.9,SNR=255							
J23A				⇓Sb	**Sb**	**15 49 50.8**	**+1.1**
baz=1.9							
J23A				⇓Sb	**Sb**	**15 49 50.8**	**+1.1**
baz=1.9							
J23A	**Dilts Ranch, B**	**1.86**	**159**	⇓Pb	**Pb**	**15 49 26.1**	**-0.4**
baz=1.9,SNR=255							
J23A				⇓Sb	**Sb**	**15 49 50.8**	**+1.1**
baz=1.9							
F19A	**Roth Farm, Mol**	**1.88**	**293**	Pb	**Pb**	**15 49 26.8**	**0.0**
baz=1.9,SNR=432							
F19A				Sb	**Sb**	**15 49 51.4**	**+1.2**
baz=1.9							
F19A				Sb	**Sb**	**15 49 51.4**	**+1.2**
baz=1.9							
F19A	**Roth Farm, Mol**	**1.88**	**293**	Pb	**Pb**	**15 49 26.8**	**0.0**
baz=1.9,SNR=432							
F19A				Sb	**Sb**	**15 49 51.4**	**+1.2**
baz=1.9							
J21A	**Lysite**	**1.93**	**202**	⇑Pb	**Pb**	**15 49 27.1**	**-0.6**
baz=1.9,SNR=1000							
J21A				Sb	**Sb**	**15 49 52.4**	**+0.6**
baz=1.9							
J21A				Sb	**Sb**	**15 49 52.4**	**+0.6**
baz=1.9							
J21A	**Lysite**	**1.93**	**202**	⇑Pb	**Pb**	**15 49 27.1**	**-0.6**
baz=1.9,SNR=1000							
J21A				Sb	**Sb**	**15 49 52.4**	**+0.6**
baz=1.9							
D21A	**La Casta Ranch**	**1.96**	**349**	⇓Pb	**Pb**	**15 49 27.7**	**-0.5**
baz=2.0,SNR=136							
D21A				⇓Sb	**Sb**	**15 49 53.8**	**+1.3**
baz=2.0							
D21A				⇓Sb	**Sb**	**15 49 53.8**	**+1.3**
baz=2.0							
D21A	**La Casta Ranch**	**1.96**	**349**	⇓Pb	**Pb**	**15 49 27.7**	**-0.5**
baz=2.0,SNR=136							
D21A				⇓Sb	**Sb**	**15 49 53.8**	**+1.3**
baz=2.0							
RSSD	**Black Hills**	**2.02**	**120**	*e*Pn	**Pn**	**15 49 26.4**	**-0.1**
RSSD				*e*Sn	**Sn**	**15 49 50.3**	**-1.3**
D22A	**Cohagen**	**2.02**	**6**	⇑P	**Pn**	**15 49 27.5**	**+1.1**
baz=2.0							
E24A	**Baker**	**2.07**	**46**	⇑Pb	**Pb**	**15 49 29.4**	**-0.7**
baz=2.1							
E24A				Sb	**Sb**	**15 49 56.6**	**+0.8**
baz=2.1							
E24A				Sb	**Sb**	**15 49 56.6**	**+0.8**
baz=2.1							
E24A	**Baker**	**2.07**	**46**	⇑Pb	**Pb**	**15 49 29.4**	**-0.7**
baz=2.1							
E24A				Sb	**Sb**	**15 49 56.6**	**+0.8**
baz=2.1							
E19A	**Rath Farm, Rou**	**2.09**	**310**	⇓P	**Pn**	**15 49 28.0**	**+0.6**
baz=2.1							
H25A	**Fruitdale**	**2.11**	**103**	⇑Pb	**Pb**	**15 49 30.1**	**-0.6**
baz=2.1,SNR=129							
H25A				⇑Sb	**Sb**	**15 49 56.8**	**+0.1**
baz=2.1							
H25A				⇑Sb	**Sb**	**15 49 56.8**	**+0.1**
baz=2.1							
H25A	**Fruitdale**	**2.11**	**103**	⇑Pb	**Pb**	**15 49 30.1**	**-0.6**
baz=2.1,SNR=129							
H25A				⇑Sb	**Sb**	**15 49 56.8**	**+0.1**
baz=2.1							
I19A	**Meeteetse**	**2.12**	**239**	⇑P	**Pn**	**15 49 28.2**	**+0.3**
baz=2.1,SNR=104							
J20A	**Shoshoni**	**2.13**	**214**	⇓Pb	**Pb**	**15 49 31.1**	**-0.1**
baz=2.1							
J20A				⇓Sb	**Sb**	**15 49 58.1**	**+0.6**
baz=2.1							
J20A				⇓Sb	**Sb**	**15 49 58.1**	**+0.6**
baz=2.1							
J20A	**Shoshoni**	**2.13**	**214**	⇓Pb	**Pb**	**15 49 31.1**	**-0.1**
baz=2.1							
J20A				⇓Sb	**Sb**	**15 49 58.1**	**+0.6**
baz=2.1							
G25A	**Newell**	**2.16**	**88**	⇓Pb	**Pb**	**15 49 31.3**	**-0.3**
baz=2.1							
G25A				Sb	**Sb**	**15 49 59.0**	**+0.8**
baz=2.1							
G25A				Sb	**Sb**	**15 49 59.0**	**+0.8**
baz=2.1							
G25A	**Newell**	**2.16**	**88**	⇓Pb	**Pb**	**15 49 31.3**	**-0.3**
baz=2.1							
G25A				Sb	**Sb**	**15 49 59.0**	**+0.8**
baz=2.1							
G18A	**Lazy EL Ranch,**	**2.19**	**276**	⇑Pb	**Pb**	**15 49 32.0**	**-0.2**
baz=2.2							
G18A	**Lazy EL Ranch,**	**2.19**	**276**	⇑Pb	**Pb**	**15 49 32.0**	**-0.2**
baz=2.2							
D23A	**Lindsay**	**2.21**	**23**	⇓Pb	**Pb**	**15 49 31.7**	**-0.8**
baz=2.2							
D23A	**Lindsay**	**2.21**	**23**	⇓Pb	**Pb**	**15 49 31.7**	**-0.8**
baz=2.2							
J24A	**Dixon Ranch, L**	**2.23**	**144**	⇓P	**Pn**	**15 49 30.0**	**+0.7**
baz=2.2							
J24A				⇓Sb	**Sb**	**15 50 01.7**	**+1.3**
baz=2.2							
J24A				⇓Sb	**Sb**	**15 50 01.7**	**+1.3**
baz=2.2							
I25A	**Rochford**	**2.26**	**119**	⇓P	**Pn**	**15 49 30.1**	**+0.3**
baz=2.2							
I25A				⇑Sb	**Sb**	**15 50 01.2**	**+0.1**
baz=2.2							
I25A				⇑Sb	**Sb**	**15 50 01.2**	**+0.1**
baz=2.2							
F25A	**Bowman**	**2.26**	**69**	⇑Pb	**Pb**	**15 49 32.9**	**-0.3**
baz=2.2							
F25A	**Bowman**	**2.26**	**69**	⇑Pb	**Pb**	**15 49 32.9**	**-0.3**
baz=2.2							
D20A	**Manuel Ranch,**	**2.27**	**330**	⇑P	**Pn**	**15 49 31.0**	**+1.2**
baz=2.3							
H18A	**Shoshone NF, C**	**2.32**	**260**	⇑Pb	**Pb**	**15 49 33.9**	**-0.5**
baz=2.3							
H18A				⇑Sb	**Sb**	**15 50 03.6**	**+0.7**
baz=2.3							
H18A				⇑Sb	**Sb**	**15 50 03.6**	**+0.7**

	baz=2.8						
I18A	Diamond G Ranc	2.80	240	⇑Pb	Pb	15 49 41.8	-0.8
	baz=2.8						
I18A	Diamond G Ranc	2.80	240	⇑Pb	Pb	15 49 41.8	-0.8
	baz=2.8						
C23A	Lambert	2.81	18	⇑P	Pn	15 49 38.9	+1.7
	baz=2.8						
I26A	New Underwood	2.81	112	P	Pn	15 49 39.3	+2.1
	baz=2.8						
K20A	Yellowstone Ra	2.83	209	⇑Pb	Pb	15 49 42.1	-0.9
	baz=2.8						
K20A	Yellowstone Ra	2.83	209	⇑Pb	Pb	15 49 42.1	-0.9
	baz=2.8						
LKWY	Lake	2.85	260	*e*Pn	Pn	15 49 37.6	-0.4
LKWY				*e*Sn	Sn	15 50 11.8	-0.5
K19A	Absolon Red Bu	2.88	217	⇑Pb	Pb	15 49 43.2	-0.8
	baz=2.9						
K19A	Absolon Red Bu	2.88	217	⇑Pb	Pb	15 49 43.2	-0.8
	baz=2.9						
D25A	Fairfield	2.97	46	⇓P	Pn	15 49 41.2	+1.7
	baz=3.0						
H17A	Grant Village	3.02	257	*e*P	Pn	15 49 39.6	-0.7
H17A				*e*Sn	Sn	15 50 14.3	-2.1
YNR	Norris Junctio	3.02	263	*e*Pn	Pn	15 49 38.0	-2.3
YNR				*e*Sn	Sn	15 50 12.3	-4.2
G17A	Pierce Place,	3.02	275	⇓P	Pn	15 49 42.0	+1.8
	baz=3.0						
F17A	Fitzpatrick Pl	3.04	286	⇑P	Pn	15 49 42.1	+1.5
	baz=3.0						
J26A	Sides Ranch, S	3.05	126	⇑Pb	Pb	15 49 45.5	-1.3
	baz=3.0						
J26A	Sides Ranch, S	3.05	126	⇑Pb	Pb	15 49 45.5	-1.3
	baz=3.0						
L23A	Garrett	3.08	169	⇑P	Pn	15 49 41.6	+0.5
	baz=3.1						
D18A	Linhart Farms,	3.09	313	⇓P	Pn	15 49 42.2	+1.0
	baz=3.1						
E26A	Carlson Angus	3.10	63	⇓P	Pn	15 49 42.2	+1.0
	baz=3.1						
L22A	Ellis Ranch, M	3.11	179	⇓P	Pn	15 49 42.4	+0.8
	baz=3.1						
C19A	Slack Wire Ran	3.15	326	⇑Pb	Pb	15 49 48.1	-0.3
	baz=3.1						
C19A	Slack Wire Ran	3.15	326	⇑Pb	Pb	15 49 48.1	-0.3
	baz=3.1						
K25A	Mack Ranch, Ha	3.15	142	⇓P	Pn	15 49 42.7	+0.6
	baz=3.1						
H27A	Howes	3.16	98	P	Pn	15 49 44.7	+2.6
	baz=3.1						
B22A	Reddig Ranch S	3.18	6	⇓P	Pn	15 49 43.2	+0.9
	baz=3.2						
YFT	Old Faithful	3.18	259	*e*Pn	Pn	15 49 40.9	-1.7
YFT				*e*Sn	Sg	15 50 33.4	-1.5
FLWY	Flagg Ranch	3.20	252	*e*Pn	Pn	15 49 41.9	-0.9
FLWY				*e*Sg	Sg	15 50 34.7	-0.8
F27A	Lemmon	3.21	75	⇓P	Pn	15 49 43.5	+0.7
	baz=3.2						
G27A	Dupree	3.21	84	⇑P	Pn	15 49 43.5	+0.7
	baz=3.2						
L21A	Rawlins	3.24	192	Pb	Pb	15 49 50.1	0.0
	baz=3.2						
L21A	Rawlins	3.24	192	Pb	Pb	15 49 50.1	0.0
	baz=3.2						
PDAR	Pinedale Array	3.26	224	Pn	Pn	15 49 46.3	+2.7
PDAR				Pg	Pb	15 49 50.9	+0.5
PDAR				Sn	Sb	15 50 26.6	-3.5
PDAR	Pinedale Array	3.26	224	Pn	Pn	15 49 46.3	+2.7
	17nm,0.3s,baz=55,slow=18,SNR=70						
PDAR				Pg	Pb	15 49 50.9	+0.5
	17nm,0.3s,baz=52,slow=19,SNR=112						
PDAR				Sn	Sb	15 50 26.5	-3.5
	13nm,0.3s,baz=46,slow=29,SNR=5.2						
B21A	Ellsworth Farm	3.31	354	⇑P	Pn	15 49 45.7	+1.7
	baz=3.3						
LOHW	Long Hollow	3.33	244	*e*Pn	Pn	15 49 45.3	+0.7
LOHW				*e*Sn	Sn	15 50 23.4	-0.8
E17A	Martinsdale	3.34	295	⇑Pb	Pb	15 49 51.3	-0.5
	baz=3.3						
E17A	Martinsdale	3.34	295	⇑Pb	Pb	15 49 51.3	-0.5
	baz=3.3						
MOOW	Moose Ponds	3.36	247	*e*Pn	Pn	15 49 44.2	-0.8
MOOW				*e*Sn	Sn	15 50 26.0	+1.2
D26A	Manning	3.38	55	⇑P	Pn	15 49 46.0	+0.9
	baz=3.4						
C25A	Freed Ranch, W	3.40	40	⇓P	Pn	15 49 46.9	+1.6
	baz=3.4						
K26A	Motz Farm, Whi	3.41	135	⇓P	Pn	15 49 46.0	+0.5
	baz=3.4						
L20A	Wamsutter	3.42	204	⇑P	Pn	15 49 47.9	+2.1
	baz=3.4						
IMW	Indian Meadow	3.43	250	*e*Pn	Pn	15 49 48.1	+2.1
B20A	Solberg Farm,	3.46	343	⇓P	Pn	15 49 48.4	+2.2
	baz=3.5						
B23A	Brockton	3.48	16	⇓P	Pn	15 49 47.8	+1.5
	baz=3.5						
RWWY	Rawlins	3.49	189	P	Pn	15 49 47.9	+1.1
RWWY				*e*Sn	Sn	15 50 29.3	+1.2
L25A	Engebretsen Ra	3.50	148	⇓P	Pn	15 49 47.5	+0.8
	baz=3.5						
SNOW	Snow King Moun	3.50	243	P	Pn	15 49 46.6	-0.4
D17A	Six Diamond Ra	3.55	306	⇑P	Pn	15 49 48.0	+0.5
	baz=3.6						
M21A	Separation Pea	3.59	191	⇑P	Pn	15 49 50.3	+2.1
	baz=3.6						
TPAW	Teton Pass	3.62	244	P	Pn	15 49 49.6	+1.0
TPAW				S	Sn	15 50 33.8	+2.7
REDW	Red Top Meadow	3.62	242	P	Pn	15 49 50.5	+2.0
E27A	Carson	3.67	68	⇓P	Pn	15 49 49.0	0.0
	baz=3.6						
EGMT	Eagleton	3.67	323	⇓P	Pn	15 49 50.4	+1.4
	baz=3.7						
BOZ	Bozeman (W)	3.67	280	P	Pn	15 49 50.1	+0.9
BOZ				*e*Sn	Sn	15 50 31.6	-0.7
DGMT	Dagmar	3.68	24	⇓P	Pn	15 49 50.8	+1.7
	baz=3.7						
L19A	Farson	3.69	216	⇑P	Pn	15 49 51.3	+1.8
	baz=3.7						
M23A	Laramie	3.71	171	⇑P	Pn	15 49 51.3	+1.4
	baz=3.7						
M22A	Cedar Creek Ra	3.74	181	⇓P	Pn	15 49 52.2	+2.0
	baz=3.7						
M20A	Sweetwater, Wa	3.86	200	⇑P	Pn	15 49 53.6	+1.8
	baz=3.9						
A21A	Bergtoll Ranch	3.86	356	⇑P	Pn	15 49 52.8	+1.1
	baz=3.9						
M24A	Cheyenne	3.87	161	⇑P	Pn	15 49 53.6	+1.8
	baz=3.9						
A22A	Carney Farms,	3.87	5	⇓P	Pn	15 49 52.7	+0.8
	baz=3.9						
B25A	Knox Farm, Ray	3.87	35	⇓P	Pn	15 49 53.5	+1.8
	baz=3.9						
C17A	Wharram Farm,	3.88	312	⇓P	Pn	15 49 52.2	+0.3
	baz=3.9						
PHWY	Pilot Hill	3.91	169	*e*Pn	Pn	15 49 51.7	-0.9
RRI2	Red Ridge	3.92	244	*e*Pn	Pn	15 49 52.1	-0.6
B18A	Beardsley Farm	3.97	326	⇑P	Pn	15 49 55.1	+1.9
	baz=4.0						
A23A	Redstone	3.97	15	⇑P	Pn	15 49 54.0	+0.8
	baz=4.0						
C26A	Wahner Farm, P	4.04	47	⇑P	Pn	15 49 55.1	+1.0
	baz=4.0						
HRY	Holter Researc	4.06	295	P	Pn	15 49 56.0	+1.6
A19A	Klindworth Far	4.09	339	⇑P	Pn	15 49 55.8	+0.9
	baz=4.1						
AHID	Auburn Hatcher	4.10	236	P	Pn	15 49 57.3	+2.2
M19A	Rock Springs	4.13	209	⇓P	Pn	15 49 55.8	+0.3
	baz=4.1						
A24A	Westby	4.14	23	⇓P	Pn	15 49 56.6	+1.1
	baz=4.1						
LRM	Limekiln Ridge	4.26	281	P	Pn	15 49 56.4	-1.0
DLMT	Dillon	4.33	275	*e*Pn	Pn	15 49 58.5	+0.3
A18A	Metzger Ranch,	4.43	330	⇑P	Pn	15 50 00.5	+1.0
	baz=4.4						
N21A	Black Mountain	4.45	190	⇓P	Pn	15 50 01.3	+1.4
	baz=4.5						
N24A	Carr	4.47	164	⇑P	Pn	15 50 01.0	+0.8
	baz=4.5						
N20A	Spence Gulch,	4.50	198	⇑P	Pn	15 50 02.2	+1.5
	baz=4.5						
MCMT	McKenzie Canyo	4.54	268	P	Pn	15 50 01.5	+0.4
M17A	Scullys Gap (B	4.78	221	⇑P	Pn	15 50 05.9	+1.4
	baz=4.8						
A26A	Wade Farm, Ken	4.83	37	⇓P	Pn	15 50 05.0	+0.1
	baz=4.8						
B27A	Peters Farms,	4.84	46	⇑P	Pn	15 50 04.5	-0.6
	baz=4.8						
CHMT	Chamberlain Mo	5.04	293	*e*Pn	Pn	15 50 07.2	-0.9
	7.7nm,0.6s						
HWUT	Hardware Ranch	5.13	228	*e*Pn	Pn	15 50 10.9	+1.7
	22nm,0.6s						
O20A	White River Ci	5.17	195	P	Pn	15 50 09.9	+0.1
O20A	White River Ci	5.17	195	⇓P	Pn	15 50 11.5	+1.7
	baz=5.2						
N27A	Anderson Farm,	5.21	145	⇓P	Pn	15 50 10.8	+0.6
	baz=5.2						
SLMT	Seeley Lake	5.31	296	P	Pn	15 50 11.6	-0.1
	12nm,0.6s						
HVU	Hansel Valley	5.69	236	*e*Pn	Pn	15 50 16.2	-0.7
	10nm,0.8s						
SWMT	Swartz Lake	5.73	297	*e*Pn	Pn	15 50 17.1	-0.2
	7.7nm,0.5s						
SPUT	South Promonto	5.81	231	*e*Pn	Pn	15 50 17.9	-0.7
	17nm,0.8s						
JLU	Jordanelle	5.83	221	*e*Pn	Pn	15 50 17.5	-1.4
	15nm,0.8s						
DAU	Daniels Canyon	5.89	218	P	Pn	15 50 21.4	+1.5
	19nm,0.4s						
SMCO	Snowmass	5.97	184	P	Pn	15 50 19.2	-1.8
	6.0nm,0.6s						
BSMT	Bassoo Peak	6.35	298	P	Pn	15 50 28.1	+2.1
	6.0nm,0.7s						
MPU	Maple Canyon	6.38	218	*e*Pn	Pn	15 50 26.1	-0.5
	8.9nm,0.7s						
BGU	Big Grassy Mou	6.39	231	*e*Pn	Pn	15 50 26.1	-0.5
	7.2nm,0.8s						
WALA	Waterton Lakes	6.41	310	P	Pn	15 50 26.9	+0.1
	0.3nm,0.9s						
SRU	San Rafael	6.74	208	P	Pn	15 50 30.2	-1.1
	13nm,0.6s						
KSCO	Kaye Shedlock'	6.76	154	P	Pn	15 50 30.4	-1.3
DUG	Dugway	6.80	226	*e*Pn	Pn	15 50 31.8	-0.4
	6.7nm,0.7s						
TMUT	Trail Mountain	6.82	213	P	Pn	15 50 30.0	-2.5
	17nm,0.6s						
PV04	Paradox Valley	6.99	196	*e*Pn	Pn	15 50 34.4	-0.4
Q16A	Castle Valley	7.14	211	*e*Pn	Pn	15 50 35.1	-1.7
PV01	Paradox Valley	7.18	193	*e*Pn	Pn	15 50 37.1	-0.3
	335nm,0.3s						
MSU	Marysvale	7.88	215	*e*Pn	Pn	15 50 45.8	-1.2
	5.1nm,0.7s						
MVU	Marysvale	7.90	215	P	Pn	15 50 47.6	+0.4
	3.1nm,0.6s						
ULM	Lac du Bonnet	8.78	51	Pn	Pn	15 50 58.8	-0.3
ULM				Pg	Pg	15 51 22.9	-18
ULM				Sn	Sn	15 52 29.1	-8.8
ULM				Lg	Lg	15 53 19.4	
ULM	Lac du Bonnet	8.78	51	Pn	Pn	15 50 58.8	-0.3
	2.6nm,0.3s,baz=242,slow=14,SNR=22						
ULM				Pg	Pg	15 51 22.9	-18
	0.9nm,0.3s,baz=223,slow=16,SNR=2.7						
ULM				Sn	Sn	15 52 29.1	-8.8
	1.7nm,0.3s,baz=333,slow=16,SNR=2.5						
ULM				Lg	Lg	15 53 19.4	
	1.5nm,0.3s,baz=323,slow=20,SNR=2.5						
NVAR	Mina Array Bea	11.09	237	Pn	Pn	15 51 33.9	+3.0
	0.1nm,0.3s,baz=57,slow=13,SNR=3.0						

DJA ***22*** *15:58:51.8±2.2, 1°S±17″×9°9E±1°1, h11km±23km, M4.2/4, MLv4.2/4*
IDC ***22*** *15:58:51.9±5.6, 0°88S×100°55E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=292.4km s-min=23.3km az=54.0*
ISC 22 15:58:51.9±1.9, 1°6S±0°1×99°4E±0°2, h30km, n9, σ1s21/8, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.21	58	P	Pn	15 59 13.2	+0.4
PDSI				S	Sb	15 59 30.7	+1.2
PPI	Padang Panjang	1.46	41	P	Pb	15 59 16.7	-1.7
SDSI	Sungai Dareh	2.09	73	P	Pb	15 59 28.0	-1.1
BKNI	Bangkinang	2.46	41	P	Pn	15 59 31.0	+1.0
WRA	Warramunga Arr	38.70	121	P	P	16 06 12.9	-0.5
	0.4nm,0.9s,baz=302,slow=8.9,SNR=5.0						
ASAR	Alice Springs	39.97	126	P	P	16 06 24.2	+0.2
	0.2nm,0.7s,baz=301,slow=7.4,SNR=3.6						
MKAR	Makanchi Array	50.45	345	P	P	16 07 48.0	+1.1
	0.4nm,0.7s,baz=153,slow=8.2,SNR=5.0						
ZALV	Zalesovo Beam	56.63	350	P	P	16 08 34.2	+2.2
	0.2nm,0.3s,baz=152,slow=6.5,SNR=2.7						
TXAR	Lajitas Array	144.69	36	PKP	PKPdf	16 18 27.4	+0.8
	0.4nm,0.6s,baz=343,slow=0.9,SNR=5.9						

IDC 22 16:00:43.7±5.4, 0°58S×100°97E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, Error ellipse: s-maj=287.3km s-min=22.9km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.90	123	P	P	16 08 03.5	+0.6
	0.5nm,0.9s,baz=303,slow=9.2,SNR=4.6						
ASAR	Alice Springs	39.33	128	P	P	16 08 14.4	-0.6
	0.2nm,0.6s,baz=299,slow=7.6,SNR=3.9						
MKAR	Makanchi Array	49.95	343	P	P	16 09 39.1	-0.3
	0.2nm,0.7s,baz=138,slow=8.5,SNR=3.2						
ZALV	Zalesovo Beam	55.97	349	P	P	16 10 24.1	+0.4
	0.5nm,0.5s,baz=133,slow=6.3,SNR=3.2						
TXAR	Lajitas Array	142.99	37	PKP	PKPdf	16 20 17.7	-2.7
	0.3nm,0.5s,baz=244,slow=1.7,SNR=3.7						

MEX 22 16:05:13.5±0.8, 18°34N×102°85W, h7km±6km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.48	263	*i* P	Pg	16 05 22.3	-0.5
MMIG				*i* S	Sg	16 05 29.8	+0.7
EZ5V		1.34	328	*e*P	Pn	16 05 34.8	-4.1
EZ5V				*i* S	Sb	16 05 52.8	-4.1
R15V		1.36	307	*e*P	Pn	16 05 34.8	-4.1
R15V				*i* S	Sb	16 05 52.6	-4.4
ZIIG	Zihuatanejo	1.50	119	*i* P	Pn	16 05 36.7	-4.1
ZIIG				*i* S	Sn	16 05 55.9	-4.8
MOIG	Morelia	2.05	49	*i* P	Pn	16 05 45.3	-3.5
MOIG				*i* S	Sn	16 06 10.3	-4.6
ARIG	Puente Sto Nin	2.37	91	*e*P	Pn	16 05 50.5	-2.4
ARIG				*i* S	Sn	16 06 18.1	-4.2
CJM	Chamela	2.38	299	*e*P	Pn	16 05 49.3	-3.6
CJM				*i* S	Sn	16 06 17.7	-4.6
CAIG	El Cayaco	2.77	117	*i* P	Pn	16 05 56.1	-2.3
CAIG				*i* S	Sn	16 06 28.5	-3.6
MEIG	Mezcala	3.10	97	*i* P	Pn	16 05 59.4	-3.5
MEIG				*e*S	Sn	16 06 35.5	-4.7
ACX	Acapulco	3.20	117	*e*P	Pn	16 06 05.8	+1.4
ACX				*i* S	Sn	16 06 42.3	-0.5
YAIG	Yautepec	3.62	81	*i* P	Pn	16 06 09.3	-0.9
YAIG				*i* S	Sn	16 06 48.1	-5.3
UTMO	Huajuapan	4.82	95	*i* P	Pn	16 06 24.9	-1.9
UTMO				*i* S	Sn	16 07 19.1	-4.1

IDC 22 16:22:26.2±1.9, 0°23S×125°90E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=118.4km s-min=26.2km az=67.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.76	181	P	Pn	16 26 34.7	-0.4
	0.0nm,0.3s,baz=14,slow=12,SNR=2.4						
WRA	Warramunga Arr	21.27	158	P	P	16 27 14.4	+0.1
	0.6nm,0.6s,baz=336,slow=11,SNR=6.4						
ASAR	Alice Springs	24.56	162	P	P	16 27 48.0	0.0
	0.3nm,0.5s,baz=343,slow=8.3,SNR=9.4						
MKAR	Makanchi Array	60.36	327	P	P	16 32 37.1	0.0
	0.3nm,0.6s,baz=132,slow=6.6,SNR=4.1						

MAN 22 16:29:42, 17°88N×122°44E, h16km, mb4.4, ML3.3, MS3.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.52	314	*e*P	Pb	16 29 52.8	+0.1
SGCP				*e*S	Sg	16 29 57.0	-2.4
PALP	Palanan	0.81	181	⇓*i*P	Pn	16 29 58.4	-0.4
CAUP	Cauayan	1.10	212	*e*P	Pg	16 30 04.7	+1.4
APYP	Conner	1.14	269	*e*P	Pn	16 30 03.0	-0.3
APYP				*e*S	Sg	16 30 19.4	+0.5
ABRA	Dolores	1.66	262	*e*P	Pn	16 30 11.1	+0.7
PIP	Pasuquin	1.79	285	⇑*i*P	Pb	16 30 13.4	-1.0
BALP	Baler	2.28	201	*e*P	Pn	16 30 20.4	+1.4

IDC ***22*** *16:40:34.2±1.4, 23°22N×122°39E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.3/4, Error ellipse: s-maj=48.5km s-min=26.3km az=74.0*
ISCJB ***22*** *16:40:43.4±1.5, 22°91N±0°08×124°00E±0°08, h39km±21km, mb3.2/3, Error ellipse: s-maj=14.8km s-min=11.0km az=153.7*
JMA ***22*** *16:40:44.0±0.3, 22°96N×124°01E, h55km, M3.2*
ISC 22 16:40:42.9±2.3, 22°96N±0°09×123°9E±0°1, h26km±19km, n13, σ1s09/20, mb3.4/3, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.09	357	P	Pb	16 41 03.5	+0.3
HATJ				S	Sb	16 41 17.7	+0.7
JKRS	Kuro-shima	1.28	6	P	Pb	16 41 06.3	0.0
JKRS				S	Sb	16 41 22.8	+0.5
IRIF	Iriomote-Funau	1.37	355	P	Pb	16 41 07.7	-0.3
IRIF				S	Sb	16 41 25.1	0.0
JIJ	Ishigaki jima	1.42	10	P	Pb	16 41 07.5	-1.2
JIJ				S	Sn	16 41 24.5	-0.4
YOJ	Yonaguni jima	1.69	332	P	Pb	16 41 12.7	-0.7
YOJ				S	Sb	16 41 33.6	-0.6
JTJ	Tarama	1.84	24	P	Pn	16 41 13.1	+0.3
JTJ				S	Sn	16 41 35.6	+0.3
JMJ	Miyako jima 2	2.26	35	*e*S	Sn	16 41 45.3	-0.4
JOGS	Gusukube	2.28	38	P	Pn	16 41 18.9	0.0
JOGS				S	Sn	16 41 45.8	-0.3
JKE	Kume jima 2	4.27	38	P	Pn	16 41 45.9	-0.4
JKE				*e*S	Sn	16 42 32.6	-2.8
MJAR	Matsushiro Arr	18.36	39	P	Pn	16 44 58.4	+2.6
	0.1nm,0.3s,baz=232,slow=10,SNR=4.2						
MKAR	Makanchi Array	40.93	316	P	P	16 48 08.8	-14
	0.2nm,0.5s,baz=130,slow=7.7,SNR=4.6						
WRA	Warramunga Arr	43.85	166	P	P	16 48 46.8	-0.4
	0.6nm,0.7s,baz=346,slow=8.8,SNR=8.0						
ASAR	Alice Springs	47.36	167	P	P	16 49 14.9	-0.1
	0.2nm,0.5s,baz=358,slow=7.2,SNR=7.1						

CSEM ***22*** *16:46:48.0±0.5, 41°84N×19°16E, h2km, ML2.0/7, Error ellipse: s-maj=7.3km s-min=4.4km az=173.0*
BEO ***22*** *16:46:51.1±0.6, 41°93N×19°16E, h4km±3km, ML1.8/5*
PDG 22 16:46:50.0±0.4, 41°95N×19°21E, h6km±1km, MD2.1/1, ML2.0/7, 4C-11D, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.04	56	⇓*i*Pg	Pg	16 46 50.9	-0.4
ULC				*e*Sg	Sg	16 46 52.5	+0.2
ULC	Ulcinj	0.04	56	⇓*i*Pg	Pg	16 46 50.9	-0.4
ULC				*e*Sg	Sg	16 46 52.5	+0.2
DRME	Dracevica, Mon	0.24	356	⇑*i*Pg	Pg	16 46 54.4	-0.4
DRME				*e*Sg	Sg	16 46 59.3	+1.2
DRME	Dracevica, Mon	0.24	356	⇑*i*Pg	Pg	16 46 54.4	-0.4
DRME				*e*Sg	Sg	16 46 59.3	+1.2
BUM	Brajici-Budva	0.42	327	⇓*i*Pg	Pg	16 46 58.0	-0.4
BUM				*e*Sg	Sg	16 47 03.9	-0.1
BUM	Brajici-Budva	0.42	327	⇓*i*Pg	Pg	16 46 58.0	-0.4
BUM				*e*Sg	Sg	16 47 03.9	-0.1
PDG	Podgorica	0.49	4	*e*Pg	Pg	16 46 59.4	0.0
PDG				*e*Sg	Sb	16 47 07.4	-0.9
PDG	Podgorica	0.49	4	*e*Pg	Pg	16 46 59.4	0.0
PDG				*e*Sg	Sb	16 47 07.4	-0.9
TTG	Podgorica	0.49	4	⇓*i*Pg	Pg	16 46 58.5	-0.9
TTG				*e*Sg	Sg	16 47 06.8	+1.0
HCY	Herceg Novi	0.73	314	⇑*i*Pg	Pg	16 47 02.8	-1.3
HCY				*e*Sg	Sg	16 47 14.4	+0.8
HCY	Herceg Novi	0.73	314	⇑*i*Pg	Pg	16 47 02.8	-1.3
HCY				*e*Sg	Sg	16 47 14.4	+0.8
TIR	Tirane	0.77	140	*e*Sg	Sb	16 47 16.8	+0.2
TIR	Tirane	0.77	140	*e*Sg	Sb	16 47 16.8	+0.2
NKME	Niksic	0.84	347	⇓*i*Pg	Pg	16 47 05.8	-0.5
NKME				*e*Sg	Sb	16 47 18.2	-0.6
NKME	Niksic	0.84	347	⇓*i*Pg	Pg	16 47 05.8	-0.5
NKME				*e*Sg	Sb	16 47 18.2	-0.6
TREB	Trebinje	1.00	321	*e*Pg	Pg	16 47 08.2	-1.0
TREB				*e*Sg	Sb	16 47 23.6	+0.5
TREB	Trebinje	1.00	321	*e*Pg	Pg	16 47 08.2	-1.0
TREB				*e*Sg	Sb	16 47 23.6	+0.5
BEY	Berane	1.06	29	⇓*i*Pg	Pg	16 47 09.3	-1.1
BEY				*e*Sg	Sn	16 47 26.4	-0.2
IVA	Berane	1.06	29	⇓*i*Pg	Pg	16 47 09.3	-1.1
IVA				*e*Sg	Sn	16 47 26.4	-0.2
BRY	Bratogost	1.08	333	*e*Pg	Pg	16 47 10.2	-0.7
BRY				*e*Sg	Sn	16 47 27.1	-0.1
BRY	Bratogost	1.08	333	*e*Pg	Pg	16 47 10.2	-0.7
BRY				*e*Sg	Sn	16 47 27.1	-0.1
UPM	Unac-Piva	1.28	350	⇓*i*Pg	Pn	16 47 14.0	-0.6
UPM				*e*Sg	Sn	16 47 34.0	+1.8
UPM	Unac-Piva	1.28	350	⇓*i*Pg	Pn	16 47 14.0	-0.6
UPM				*e*Sg	Sn	16 47 34.0	+1.8
SJES	Sjenica	1.43	23	*e*Pg	Pn	16 47 16.3	-0.3
SJES				*e*Sg	Sg	16 47 38.2	+1.8
SJES	Sjenica	1.43	23	*e*Pg	Pn	16 47 16.3	-0.3
SJES				*e*Sg	Sg	16 47 38.2	+1.8
STON	Ston	1.45	310	*e*Pn	Pn	16 47 15.2	-1.5
STON				Sn	Sb	16 47 36.1	+0.1
STON	Ston	1.45	310	*e*Pn	Pn	16 47 15.2	-1.5
STON				Sn	Sb	16 47 36.0	0.0
SELS	Selova	1.90	47	*e*Pn	Pb	16 47 24.4	-0.7
SELS				*e*Sn	Sb	16 47 49.9

AQU	**L'Aquila**	**0.27 144**	Pg	Pg	16 48 02.5	+0.6
AQU			Sg	Sb	16 48 07.5	-0.6
	807nm,0.6s					
AQU	**L'Aquila**	**0.27 144**	Pg	Pg	16 48 02.5	+0.6
AQU			Sg	Sb	16 48 07.5	-0.6
	807nm,0.6s					
FIAM	**Fiamignano**	**0.31 189**	Pg	Pg	16 48 03.0	+0.4
FIAM			Sg	Sg	16 48 07.9	+1.0
	688nm,0.8s					
FIAM	**Fiamignano**	**0.31 189**	Pg	Pg	16 48 03.0	+0.4
FIAM			Sg	Sg	16 48 07.9	+1.0
	688nm,0.8s					
TERO	**Teramo**	**0.31 81**	Pg	Pg	16 48 02.7	+0.1
TERO			Sg	Sg	16 48 07.3	+0.4
	662nm,0.4s					
TERO	**Teramo**	**0.31 81**	Pg	Pg	16 48 02.7	+0.1
TERO			Sg	Sg	16 48 07.3	+0.4
	662nm,0.4s					
MNS	**Montasola**	**0.42 243**	Pg	Pg	16 48 04.8	+0.3
MNS			Sg	Sb	16 48 11.4	-0.8
	222nm,0.5s					
MNS	**Montasola**	**0.42 243**	Pg	Pg	16 48 04.8	+0.3
MNS			Sg	Sb	16 48 11.4	-0.8
	222nm,0.5s					
CESX	**Cesi**	**0.45 275**	Pg	Pg	16 48 05.4	+0.4
CESX			Sg	Sb	16 48 12.1	-0.9
	190nm,0.6s					
CESX	**Cesi**	**0.45 275**	Pg	Pg	16 48 05.4	+0.4
CESX			Sg	Sb	16 48 12.1	-0.9
	190nm,0.6s					
FDMO	**Fiordimonte**	**0.47 351**	Pg	Pg	16 48 05.3	-0.1
FDMO			Sg	Sb	16 48 12.7	-0.9
	206nm,0.3s					
FDMO	**Fiordimonte**	**0.47 351**	Pg	Pg	16 48 05.3	-0.1
FDMO			Sg	Sb	16 48 12.7	-0.9
	206nm,0.3s					
CESI	**CESI - Serrava**	**0.47 334**	Pg	Pg	16 48 05.7	+0.1
CESI			Sg	Sb	16 48 13.2	-0.8
	88nm,0.4s					
CESI	**CESI - Serrava**	**0.47 334**	Pg	Pg	16 48 05.7	+0.1
CESI			Sg	Sb	16 48 13.2	-0.8
	88nm,0.4s					
OFFI	**Offida**	**0.52 46**	Pg	Pb	16 48 07.2	-0.2
	843nm,0.6s					
OFFI	**Offida**	**0.52 46**	Pg	Pb	16 48 07.2	-0.2
	843nm,0.6s					
VCEL	**Villa Celiera**	**0.52 110**	Pg	Pg	16 48 07.0	+0.5
	524nm,0.6s					
VCEL	**Villa Celiera**	**0.52 110**	Pg	Pg	16 48 07.0	+0.5
	524nm,0.6s					
MTCE	**Montecelio**	**0.64 211**	Pg	Pg	16 48 08.5	-0.2
	134nm,0.8s					
MTCE	**Montecelio**	**0.64 211**	Pg	Pg	16 48 08.5	-0.2
	134nm,0.8s					
CERT	**Cerreto**	**0.64 194**	Pg	Pg	16 48 08.6	-0.2
	304nm,0.5s					
CERT	**Cerreto**	**0.64 194**	Pg	Pg	16 48 08.6	-0.2
	304nm,0.5s					
GUMA	**Gualdo di Mace**	**0.74 48**	Pg	Pg	16 48 06.4	-4.1
GUMA			Sg	Sg	16 48 14.7	-5.5
GUMA	**Gualdo di Mace**	**0.74 48**	Pg	Pg	16 48 06.4	-4.1
VVLD	**Villa Vallelon**	**0.78 155**	Pg	Pn	16 48 12.7	-0.6
	68nm,0.5s					
VVLD	**Villa Vallelon**	**0.78 155**	Pg	Pn	16 48 12.7	-0.6
	68nm,0.5s					
INTR	**Introdacqua**	**0.78 136**	Pg	Pg	16 48 11.1	-0.2
	181nm,0.9s					
INTR	**Introdacqua**	**0.78 136**	Pg	Pg	16 48 11.1	-0.2
	181nm,0.9s					
GUAR	**Guarcino**	**0.79 173**	Pg	Pn	16 48 13.0	-0.4
	104nm,0.7s					
GUAR	**Guarcino**	**0.79 173**	Pg	Pn	16 48 13.0	-0.4
	104nm,0.7s					
CING	**Cingoli**	**0.80 1**	Pg	Pg	16 48 11.5	-0.2
	89nm,0.3s					
CING	**Cingoli**	**0.80 1**	Pg	Pg	16 48 11.5	-0.2
	89nm,0.3s					
MURB	**Monte Urbino**	**0.84 325**	Pg	Pb	16 48 13.0	0.0
	195nm,0.4s					
MURB	**Monte Urbino**	**0.84 325**	Pg	Pb	16 48 13.0	0.0
	195nm,0.4s					
MGAB	**Montegabbione**	**0.86 293**	Pg	Pb	16 48 13.1	-0.2
	92nm,0.5s					
MGAB	**Montegabbione**	**0.86 293**	Pg	Pb	16 48 13.1	-0.2
	92nm,0.5s					
ARVD	**Arcevia**	**0.94 349**	Pg	Pg	16 48 13.9	-0.4
	160nm,1.0s					
ARVD	**Arcevia**	**0.94 349**	Pg	Pg	16 48 13.9	-0.4
	160nm,1.0s					
AOI	**Ancona**	**1.02 17**	Pg	Pg	16 48 15.9	0.0
	57nm,0.3s					
AOI	**Ancona**	**1.02 17**	Pg	Pg	16 48 15.9	0.0
	57nm,0.3s					
NVLJ	**Novalja**	**2.33 31**	*e*Pn	Pn	16 48 36.1	+1.5
NVLJ			Sn	Sn	16 49 04.7	+1.3
NVLJ	**Novalja**	**2.33 31**	*e*Pn	Pn	16 48 36.1	+1.5
NVLJ			Sn	Sn	16 49 04.6	+1.3
UDBI	**Udbina**	**2.71 43**	*e*Pn	Pn	16 48 39.6	-0.3
UDBI			Sn	Sb	16 49 15.6	-2.5

IDC 22 16:51:41.5±2.1, 6°94S×128°83E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=97.2km s-min=27.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**195**	Pn	Pn	16 54 27.7	+0.2
	3.0nm,0.3s,baz=15,slow=9.8,SNR=18						
FITZ				Sn	Sn	16 56 23.4	-14
	3.0nm,0.3s,baz=150,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**13.99**	**158**	Pn	Pn	16 55 01.4	+0.2
	0.2nm,0.3s,baz=332,slow=14,SNR=16						
WRA				Sn	Sn	16 57 22.0	-15
	0.3nm,0.3s,baz=330,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**17.34**	**164**	P	Pn	16 55 44.7	-0.4
	0.2nm,0.3s,baz=336,slow=9.2,SNR=21						
ASAR				S	Sn	16 58 45.2	-14
	0.1nm,0.3s,baz=344,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**67.54**	**327**	P	P	17 02 39.8	0.0
	0.2nm,0.5s,baz=121,slow=7.1,SNR=3.8						

*IDC **22** 17:10:44.0±1.2, 23°20N×123°38E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=51.3km s-min=21.6km az=71.0*
*ISCJB **22** 17:10:46.4±1.6, 23°20N±0°05×123°48E±0°07, h30km±11km, mb3.4/4, Error ellipse: s-maj=11.6km s-min=8.4km az=21.5*
*JMA **22** 17:10:46.9±0.2, 23°23N×123°48E, h59km±4km, M2.8*
ISC 22 17:10:47.3±2.4, 23°27N±0°09×123°47E±0°08, h23km±16km, n14, σ0s59/21, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.85**	**21**	P	**Pb**	**17 11 03.4**	**0.0**
HATJ				S	**Sn**	**17 11 15.2**	**-0.3**
JKRS	**Kuro-shima**	**1.09**	**27**	P	**Pn**	**17 11 06.9**	**-0.2**
JKRS				S	**Sb**	**17 11 21.4**	**+0.2**
IRIF	**Iriomote-Funau**	**1.09**	**13**	P	**Pn**	**17 11 06.7**	**-0.5**
IRIF				S	**Sn**	**17 11 21.8**	**+0.2**
JIJ	**Ishigaki jima**	**1.25**	**29**	P	**Pn**	**17 11 08.6**	**-0.9**
JIJ				S	**Sn**	**17 11 24.8**	**-0.8**
YOJ	**Yonaguni jima**	**1.26**	**341**	P	**Pn**	**17 11 09.2**	**-0.4**
YOJ				S	**Sn**	**17 11 25.7**	**-0.1**
JTJ	**Tarama**	**1.77**	**39**	P	**Pn**	**17 11 16.1**	**-0.5**
JTJ				S	**Sn**	**17 11 38.5**	**+0.1**
JMJ	**Miyako jima 2**	**2.27**	**47**	P	**Pn**	**17 11 23.2**	**-0.2**
JOGS	**Gusukube**	**2.31**	**50**	P	**Pn**	**17 11 23.7**	**-0.3**
JOGS				*e*S	**Sn**	**17 11 52.1**	**+0.4**
JKE	**Kume jima 2**	**4.29**	**44**	P	**Pn**	**17 11 50.5**	**-0.6**
MJAR	**Matsushiro Arr**	**18.36**	**41**	P	**Pn**	**17 15 01.8**	**+1.3**
	0.1nm,0.3s,baz=229,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**28.05**	**335**	P	**P**	**17 16 36.5**	**-0.5**
	0.9nm,0.8s,baz=142,slow=7.3,SNR=6.4						
MKAR	**Makanchi Array**	**40.45**	**316**	P	**P**	**17 18 24.9**	**+0.8**
	0.4nm,0.8s,baz=112,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**44.23**	**165**	P	**P**	**17 18 54.7**	**-0.3**
	0.8nm,0.8s,baz=346,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**47.74**	**167**	P	**P**	**17 19 22.4**	**-0.2**
	0.3nm,0.6s,baz=352,slow=8.6,SNR=6.8						

*ISCJB **22** 17:22:04.0±0.2, 44°74N±0°01×6°68E±0°02, h13km±1km, Error ellipse: s-maj=2.2km s-min=1.7km az=156.2*
*CSEM **22** 17:22:04.4±0.1, 44°74N×6°68E, h5km, ML3.2/30, Error ellipse: s-maj=1.8km s-min=1.4km az=48.0*
*ROM **22** 17:22:04.5±0.4, 44°74N×6°71E, h4km±3km, Md2.8/18, Ml2.6/13, Error ellipse: s-maj=6.2km s-min=2.2km az=72.0*
*STR **22** 17:22:05.3±0.1, 44°72N×6°70E, h5km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **22** 17:22:05.5±0.1, 44°72N×6°70E, h2km, Md3.2/3, Ml3.2/25, Error ellipse: s-maj=2.2km s-min=1.6km az=63.0*
*GEN **22** 17:22:05.5, 44°73N×6°71E, h12km, ML2.7*
ISC 22 17:22:05.0±0.8, 44°73N±0°01×6°69E±0°01, h13km±4km, n138, σ1s23/226, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.06**	**97**	*e*Pg	**Pg**	**17 22 07.0**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 22 08.3**	**-1.3**
	3μm,0.3s						
MBDF	**Montbardon**	**0.06**	**97**	*e*Pg	**Pg**	**17 22 07.0**	**-0.7**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**17 22 08.3**	**-1.3**
	2μm,0.3s						
OG22	**Abries**	**0.20**	**64**	Pg	**Pg**	**17 22 09.5**	**-0.1**
OG22				Sg	**Sg**	**17 22 13.0**	**+0.2**
SURF	**Saint Ours**	**0.27**	**161**	Pg	**Pg**	**17 22 10.3**	**-0.4**
SURF				Sg	**Sg**	**17 22 14.5**	**0.0**
BNI	**Bardonecchia**	**0.32**	**359**	Pg	**Pg**	**17 22 11.1**	**-0.5**
BNI				Sg	**Sg**	**17 22 15.7**	**-0.3**
	236nm,0.4s						
BNI	**Bardonecchia**	**0.32**	**359**	Pg	**Pg**	**17 22 11.1**	**-0.5**
BNI				Sg	**Sg**	**17 22 15.7**	**-0.3**
	236nm,0.4s						
DOI	**San Damiano**	**0.46**	**120**	Pg	**Pg**	**17 22 14.2**	**+0.1**
DOI				Sg	**Sg**	**17 22 21.4**	**+1.1**
	2μm,0.2s						
DOI	**San Damiano**	**0.46**	**120**	Pg	**Pg**	**17 22 14.2**	**+0.1**
DOI				Sg	**Sg**	**17 22 21.4**	**+1.1**
	2μm,0.2s						
OG25	**Le Caire**	**0.57**	**231**	Pg	**Pg**	**17 22 15.9**	**-0.3**
OG25				Sg	**Sg**	**17 22 23.4**	**-0.4**
RSP	**Reno Superiore**	**0.58**	**44**	Pg	**Pg**	**17 22 16.6**	**+0.2**
	156nm,0.1s						
RSP	**Reno Superiore**	**0.58**	**44**	Pg	**Pg**	**17 22 16.6**	**+0.2**
	156nm,0.1s						
RSP				S	**Sg**	**17 22 23.9**	**-0.3**
ORIF	**Oris-en-Rattie**	**0.60**	**288**	*e*Pg	**Pg**	**17 22 15.8**	**-1.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**17 22 23.1**	**-1.8**
	362nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.60**	**288**	*e*Pg	**Pg**	**17 22 15.8**	**-1.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**17 22 23.1**	**-1.8**
	181nm,0.2s,SNR=1.0						
GDM	**Grand'Maison**	**0.62**	**319**	Pg	**Pg**	**17 22 16.4**	**-0.8**
STV	**Sant Anna di V**	**0.67**	**137**	Pg	**Pg**	**17 22 17.8**	**-0.2**
STV				Sg	**Sg**	**17 22 27.6**	**+0.8**
	188nm,0.3s						
STV	**Sant Anna di V**	**0.67**	**137**	Pg	**Pg**	**17 22 17.8**	**-0.2**
STV				S	**Sg**	**17 22 26.2**	**-0.6**
STV				Sg	**Sg**	**17 22 27.6**	**+0.8**
	188nm,0.3s						
ENR	**Entracque**	**0.73**	**134**	P	**Pg**	**17 22 18.8**	**-0.4**
ENR				S	**Sg**	**17 22 27.9**	**-0.8**
LPG	**La Plagne**	**0.77**	**3**	*e*Pg	**Pg**	**17 22 19.4**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**17 22 30.1**	**+0.1**
	194nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.77**	**3**	*e*Pg	**Pg**	**17 22 19.4**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**17 22 30.1**	**+0.1**
	97nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**0.78**	**2**	*e*Pg	**Pg**	**17 22 19.7**	**-0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**17 22 30.7**	**+0.1**
	247nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**0.78**	**2**	*e*Pg	**Pg**	**17 22 19.7**	**-0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**17 22 30.7**	**+0.1**
	123nm,0.5s,SNR=1.0						
LSD	**Lago del Serru**	**0.79**	**23**	Pg	**Pg**	**17 22 20.0**	**-0.3**
LSD				Sg	**Sg**	**17 22 30.3**	**-0.5**
	161nm,0.3s						
LSD	**Lago del Serru**	**0.79**	**23**	P	**Pg**	**17 22 20.1**	**-0.3**
LSD				S	**Sg**	**17 22 30.1**	**-0.7**
TOUF	**Mont Tournerai**	**0.82**	**151**	Pg	**Pg**	**17 22 20.6**	**-0.4**
TOUF				Sg	**Sb**	**17 22 33.1**	**+0.7**
GRN	**Grenoble**	**0.84**	**308**	Pg	**Pg**	**17 22 20.8**	**-0.5**
MVIF	**Mont Vial**	**0.90**	**158**	Pg	**Pg**	**17 22 22.2**	**-0.2**
AUTN	**L'Aution**	**0.91**	**144**	Pg	**Pg**	**17 22 22.2**	**-0.4**
AUTN				Sg	**Sg**	**17 22 34.9**	**+0.4**
MONC	**Moncucco Torin**	**0.94**	**68**	Pg	**Pb**	**17 22 24.1**	**+0.8**
	191nm,0.4s						
MONC	**Moncucco Torin**	**0.94**	**68**	Pg	**Pb**	**17 22 24.1**	**+0.8**
	191nm,0.4s						
RSL	**Roselend**	**0.96**	**357**	Pg	**Pg**	**17 22 22.9**	**-0.6**
RSL				Sg	**Sg**	**17 22 36.0**	**0.0**
LUCF	**Luceram**	**0.96**	**150**	Pg	**Pg**	**17 22 23.4**	**-0.2**
LUCF				Sg	**Sg**	**17 22 36.5**	**+0.3**
SAOF	**Saorge**	**0.97**	**140**	Pg	**Pg**	**17 22 23.5**	**-0.3**
SAOF				Sg	**Sg**	**17 22 36.5**	**+0.1**
CALN	**Calern**	**0.99**	**172**	Pg	**Pg**	**17 22 23.9**	**-0.3**
OG26	**St.-Nazaire-De**	**1.00**	**262**	Pg	**Pg**	**17 22 24.7**	**+0.4**
SBF	**Sospel**	**1.02**	**148**	*e*Pg	**Pg**	**17 22 24.5**	**-0.2**
	SNR=1.0						
SBF				*e*Sn	**Sb**	**17 22 39.0**	**+1.0**
	274nm,0.4s,SNR=1.0						
SBF	**Sospel**	**1.02**	**148**	*e*Pg	**Pg**	**17 22 24.5**	**-0.2**
	SNR=1.0						
SBF				*e*Sn	**Sb**	**17 22 39.0**	**+1.0**
	137nm,0.4s,SNR=1.0						
MRGE	**Morge**	**1.07**	**14**	Pg	**Pg**	**17 22 25.0**	**-0.6**
	77nm,0.6s						
MRGE	**Morge**	**1.07**	**14**	Pg	**Pg**	**17 22 25.0**	**-0.6**
	77nm,0.6s						
TRAV	**Traversella**	**1.08**	**44**	Pg	**Pg**	**17 22 25.2**	**-0.6**
TRAV				Sg	**Sg**	**17 22 39.5**	**-0.4**
	76nm,0.3s						
TRAV	**Traversella**	**1.08**	**44**	Pg	**Pg**	**17 22 25.2**	**-0.6**
TRAV				S	**Sg**	**17 22 37.3**	**-2.6**
TRAV				Sg	**Sg**	**17 22 39.5**	**-0.4**
	76nm,0.3s						
SMRF	**Simiane la Rot**	**1.10**	**227**	*e*Pn	**Pg**	**17 22 26.4**	**+0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 22 40.6**	**0.0**
	134nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.10**	**227**	*e*Pn	**Pg**	**17 22 26.4**	**+0.2**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**17 22 40.6**	**0.0**
	67nm,0.3s,SNR=1.0						
REVF	**Revere**	**1.11**	**154**	Pg	**Pg**	**17 22 25.8**	**-0.5**
NEGI	**Seborga**	**1.15**	**140**	P	**Pg**	**17 22 26.6**	**-0.5**
NEGI				S	**Sg**	**17 22 38.7**	**-3.3**
RORO	**Rocca Rossa**	**1.17**	**122**	Pg	**Pg**	**17 22 26.9**	**-0.5**
	124nm,0.2s						
RORO	**Rocca Rossa**	**1.17**	**122**	P	**Pg**	**17 22 26.2**	**-1.2**
RORO	**Rocca Rossa**	**1.17**	**122**	Pg	**Pg**	**17 22 26.9**	**-0.5**
	124nm,0.2s						
RORO				S	**Sg**	**17 22 38.6**	**-4.0**
FRF	**La Foret Royal**	**1.17**	**182**	*e*Pg	**Pg**	**17 22 27.1**	**-0.5**
FRF				*e*Sg	**Sg**	**17 22 42.5**	**-0.3**
	125nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.17**	**182**	*e*Pg	**Pg**	**17 22 27.1**	**-0.5**
FRF				*e*Sg	**Sg**	**17 22 42.5**	**-0.3**
	62nm,0.2s,SNR=1.0						
ROTM	**Rocchetta Tana**	**1.19**	**84**	P	**Pg**	**17 22 26.9**	**-1.0**
ROTM				S	**Sg**	**17 22 40.5**	**-2.9**
QLNO	**Quiliano**	**1.25**	**108**	Pg	**Pg**	**17 22 28.5**	**-0.6**
	108nm,0.5s						
QLNO	**Quiliano**	**1.25**	**108**	Pg	**Pg**	**17 22 28.5**	**-0.6**
	108nm,0.5s						
ORO	**Oropa**	**1.28**	**45**	Pg	**Pg**	**17 22 29.1**	**-0.5**
	38nm,0.2s						
ORO	**Oropa**	**1.28**	**45**	Pg	**Pg**	**17 22 29.1**	**-0.5**
	38nm,0.2s						
FINB	**Finale Ligure**	**1.30**	**115**	Pg	**Pn**	**17 22 29.1**	**+0.3**
	406nm,0.4s						
FINB	**Finale Ligure**	**1.30**	**115**	Pg	**Pn**	**17 22 29.1**	**+0.3**
	406nm,0.4s						
EMV	**Vieux Emosson**	**1.34**	**6**	Pg	**Pn**	**17 22 30.4**	**+0.7**
EMV	**Vieux Emosson**	**1.34**	**6**	Pg	**Pn**	**17 22 30.4**	**+0.7**
PCP	**Piancastagn**	**1.34**	**98**	Pg	**Pn**	**17 22 29.9**	**+0.4**
	82nm,0.5s						
PCP	**Piancastagn**	**1.34**	**98**	P	**Pn**	**17 22 29.6**	**+0.1**
PCP	**Piancastagn**	**1.34**	**98**	Pg	**Pn**	**17 22 29.9**	**+0.4**
	82nm,0.5s						
PCP				S	**Sg**	**17 22 44.3**	**-3.9**
LMR	**La Mourre**	**1.41**	**185**	*e*Pn	**Pn**	**17 22 30.3**	**-0.1**
	SNR=1.0						
LMR	**La Mourre**	**1.41**	**185**	*e*Pg	**Pn**	**17 22 31.6**	**+1.2**
LMR				*e*Sg	**Sb**	**17 22 49.8**	**+0.8**
	195nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**1.41**	**185**	*e*Pn	**Pn**	**17 22 30.3**	**-0.1**
	SNR=1.0						
LMR	**La Mourre**	**1.41**	**185**	*e*Pg	**Pn**	**17 22 31.6**	**+1.2**
LMR				*e*Sg	**Sb**	**17 22 49.8**	**+0.8**
	98nm,0.4s,SNR=1.0						
DIX	**Grande Dixence**	**1.44**	**20**	Pg	**Pn**	**17 22 32.1**	**+1.0**
DIX	**Grande Dixence**	**1.44**	**20**	Pg	**Pn**	**17 22 32.1**	**+1.0**
VIVF	**Saint-Julien-I**	**1.44**	**276**	*e*Pn	**Pn**	**17 22 31.4**	**+0.5**
	SNR=1.0						
VIVF	**Saint-Julien-I**	**1.44**	**276**	*e*Pg	**Pb**	**17 22 32.6**	**+0.8**
VIVF				*e*Sn	**Sb**	**17 22 49.6**	**-0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**17 22 51.6**	**+1.9**
	51nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-I**	**1.44**	**276**	*e*Pn	**Pn**	**17 22 31.4**	**+0.5**
	SNR=1.0						
VIVF	**Saint-Julien-I**	**1.44**	**276**	*e*Pg	**Pb**	**17 22 32.6**	**+0.8**
VIVF				*e*Sn	**Sb**	**17 22 49.6**	**-0.4**
	SNR=1.0						
VIVF				*e*Sg	**Sn**	**17 22 51.6**	**+1.9**
	26nm,0.2s,SNR=1.0						
MMK	**Mattmark**	**1.59**	**34**	Pg	**Pn**	**17 22 34.6**	**+1.4**
MMK	**Mattmark**	**1.59**	**34**	Pg	**Pn**	**17 22 34.6**	**+1.4**
OG01	**Vacheresse**	**1.60**	**360**	Pg	**Pg**	**17 22 35.8**	**+0.1**
OG01				Sg	**Sg**	**17 22 58.5**	**+2.1**
SSB	**Saint Sauveur**	**1.62**	**290**	Pn	**Pn**	**17 22 33.8**	**+0.5**
GIMEL	**St. Georges /**	**1.82**	**351**	Pg	**Pn**	**17 22 38.1**	**+1.9**
GIMEL	**St. Georges /**	**1.82**	**351**	Pg	**Pn**	**17 22 38.1**	**+1.9**
CABF	**La Chapelle**	**1.92**	**348**	*e*Pn	**Pn**	**17 22 39.0**	**+1.4**
	SNR=1.0						
CABF	**La Chapelle**	**1.92**	**348**	*e*Pg	**Pb**	**17 22 41.4**	**+1.4**
CABF				*e*Sn	**Sn**	**17 23 01.1**	**-0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**17 23 06.7**	**-0.2**
	54nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**1.92**	**348**	*e*Pn	**Pn**	**17 22 39.0**	**+1.4**
	SNR=1.0						
CABF	**La Chapelle**	**1.92**	**348**	*e*Pg	**Pb**	**17 22 41.4**	**+1.4**
CABF				*e*Sn	**Sn**	**17 23 01.1**	**-0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**17 23 06.7**	**-0.2**
	27nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**2.13**	**253**	*e*Pn	**Pn**	**17 22 40.5**	**+0.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**17 23 05.6**	**-1.2**
	9.3nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.13**	**253**	*e*Pn	**Pn**	**17 22 40.5**	**+0.1**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**17 23 05.6**	**-1.2**
	4.7nm,0.2s,SNR=1.0						
PLDF	**La Plantade**	**2.49**	**301**	Pn	**Pn**	**17 22 46.0**	**+0.6**
LBL	**Lubilhac**	**2.49**	**283**	Pn	**Pn**	**17 22 46.0**	**+0.6**
PGF	**Pioggiola**	**2.75**	**142**	*e*Pn	**Pn**	**17 22 49.5**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**17 23 20.4**	**-1.8**
	12nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**2.75**	**142**	*e*Pn	**Pn**	**17 22 49.5**	**+0.5**
	SNR=1.0						
SMF	**Signal de Mont**	**2.76**	**315**	*e*Pn	**Pn**	**17 22 49.6**	**+0.5**
	SNR=1.0						
SMF	**Signal de Mont**	**2.76**	**315**	*e*Pg	**Pb**	**17 22 56.8**	**+2.5**
SMF				*e*Sn	**Sn**	**17 23 20.5**	**-1.8**
	14nm,0.2s,SNR=1.0						
SMF				*e*Sg	**Sb**	**17 23 31.9**	**+3.8**
	32nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.76**	**315**	*e*Pn	**Pn**	**17 22 49.6**	**+0.5**
	SNR=1.0						
SMF	**Signal de Mont**	**2.76**	**315**	*e*Pg	**Pb**	**17 22 56.8**	**+2.5**
SMF				*e*Sn	**Sn**	**17 23 20.5**	**-1.8**
	7.1nm,0.2s,SNR=1.0						
SMF				*e*Sg	**Sb**	**17 23 31.9**	**+3.8**
	16nm,0.3s,SNR=1.0						
PYM	**Petit Puy Mans**	**2.79**	**293**	Pn	**Pn**	**17 22 49.8**	**+0.3**
AGO	**Saint Agoulin**	**2.83**	**299**	Pn	**Pn**	**17 22 50.4**	**+0.4**
HINF	**Hinteralfeld**	**3.09**	**2**	*e*Pn	**Pn**	**17 22 54.1**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**17 23 28.5**	**-1.8**
	12nm,0.3s,SNR=1.0						
HINF				*e*Sg	**Sg**	**17 23 42.6**	**-1.5**
	11nm,0.3s						
HINF	**Hinteralfeld**	**3.09**	**2**	*e*Pn	**Pn**	**17 22 54.1**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**17 23 28.5**	**-1.8**
	5.8nm,0.3s,SNR=1.0						
HINF				*e*Sg	**Sg**	**17 23 42.6**	**-1.5**
	5.3nm,0.3s						
AVF	**Avril sur Loir**	**3.11**	**313**	*e*Pn	**Pn**	**17 22 54.5**	**+0.7**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.11**	**313**	*e*Pg	**Pg**	**17 23 03.4**	**-1.2**
AVF				*e*Sg	**Sb**	**17 23

SFTF *e*Sg **Sg** **17 24 00.6 -1.7**
11nm,0.3s
SFTF Sexfontaines 3.66 342 *e*Pn **Pn** **17 23 02.8 +1.5**
baz=148
SFTF *e*Sg **Sg** **17 24 00.6 -1.7**
5.3nm,0.3s
CDF Champ du Feu 3.70 6 *e*Pn **Pn** **17 23 02.5 +0.5**
SNR=1.0
CDF *e*Sn **Sn** **17 23 42.2 -3.4**
SNR=1.0
CDF *e*Sg **Sg** **17 24 02.4 -1.4**
6.9nm,0.4s,SNR=1.0
CDF Champ du Feu 3.70 6 *e*Pn **Pn** **17 23 02.5 +0.5**
SNR=1.0
CDF *e*Sg **Sg** **17 24 02.4 -1.4**
3.5nm,0.4s,SNR=1.0
RJF Les Rejaudoux 3.71 281 *e*Pn **Pn** **17 23 03.1 +1.0**
SNR=1.0
RJF Les Rejaudoux 3.71 281 *e*Pn **Pn** **17 23 03.1 +1.0**
SNR=1.0
PAGF Fort de Pagny 3.88 350 *e*Pn **Pn** **17 23 05.2 +0.8**
PAGF *e*Sg **Sg** **17 24 07.6 -1.9**
2.8nm,0.4s
PAGF Fort de Pagny 3.88 350 *e*Pn **Pn** **17 23 05.2 +0.8**
PAGF *e*Sg **Sg** **17 24 07.6 -1.9**
1.4nm,0.4s
MEZF Maizieres J'vi 3.93 344 *e*Pn **Pn** **17 23 05.6 +0.5**
SNR=1.0
MEZF *e*Sg **Sg** **17 24 09.3 -2.0**
14nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 3.93 344 *e*Pn **Pn** **17 23 05.6 +0.5**
SNR=1.0
MEZF *e*Sg **Sg** **17 24 09.3 -2.0**
6.8nm,0.4s,SNR=1.0
LFF La Frestale 4.24 275 *e*Pn **Pn** **17 23 09.8 +0.5**
SNR=1.0
LFF La Frestale 4.24 275 *e*Pn **Pn** **17 23 09.8 +0.5**
SNR=1.0
MFF Saint Martin d 5.14 294 *e*Pn **Pn** **17 23 21.6 -0.1**
SNR=1.0
MFF Saint Martin d 5.14 294 *e*Pn **Pn** **17 23 21.6 -0.1**
SNR=1.0
GIVF Givet 5.52 347 *e*Pn **Pn** **17 23 28.6 +1.7**
SNR=1.0
GIVF Givet 5.52 347 *e*Pn **Pn** **17 23 28.6 +1.7**
SNR=1.0
ETSF Etsaut 5.56 253 *e*P Pn 17 23 30.9 +3.4
SNR=1.0
BAIF Baives 5.59 343 *e*Pn **Pn** **17 23 29.1 +1.3**
SNR=1.0
BAIF Baives 5.59 343 *e*Pn **Pn** **17 23 29.1 +1.3**
SNR=1.0
LDF La Druitiere 6.07 312 *e*Pn **Pn** **17 23 35.2 +0.7**
SNR=1.0
LDF La Druitiere 6.07 312 *e*Pn **Pn** **17 23 35.2 +0.7**
SNR=1.0
FLN La Foliniere 6.36 312 *e*Pn **Pn** **17 23 38.1 -0.4**
SNR=1.0
FLN La Foliniere 6.36 312 *e*Pn **Pn** **17 23 38.1 -0.4**
SNR=1.0
SGMF Saint Gilles 7.29 302 *e*Pn **Pn** **17 23 51.9 +0.8**
SNR=1.0
SGMF Saint Gilles 7.29 302 *e*Pn **Pn** **17 23 51.9 +0.8**
SNR=1.0

---

*ISCJB **22** 17:27:24.5±0.7, 36°.54N±0°.04×70°.56E±0°.09, h188km, mb3.5/7, Error ellipse: s-maj=10.9km s-min=4.5km az=163.9*
*IDC **22** 17:27:24.2±4.0, 36°.34N×70°.90E, h185km±34km, mb3.2/8, mb1 3.3/12, mb1mx3.1/31, mbtmp3.2/12, Error ellipse: s-maj=26.4km s-min=20.9km az=6.0*
ISC 22 17:27:25.8±0.8, 36°.59N±0°.06×70.77E±0°.10, h188km, n35, σ1º83/36, mb3.3/7, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.82**	**134**	*e*P	Pn	17 29 02.0	+12
THN				*e*S	Sn	17 30 05.4	+8.1
DLH	**Dalhousie**	**5.89**	**132**	*e*S	**Sn**	**17 30 00.0**	**+0.7**
AML	**Almayashu**	**5.98**	**21**	P	**Pn**	**17 28 54.9**	**+2.0**
SNR=46							
KZA	**Kyzart**	**6.49**	**31**	P	**Pn**	**17 29 00.6**	**+1.1**
SNR=18							
EKS2	**Erkin-Say**	**6.49**	**20**	P	**Pn**	**17 29 02.0**	**+2.6**
SNR=13							
KK31	**Karatay Array**	**6.51**	**358**	⇓P	**Pn**	**17 29 00.8**	**+1.4**
0.7nm,0.2s,baz=178,slow=13							
KK31				⇓S	**Sn**	**17 30 12.2**	**-1.4**
7.6nm,0.4s,baz=177,slow=22							
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**17 29 04.2**	**+2.3**
SNR=12							
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**17 29 04.1**	**+2.3**
3.2nm,0.3s,baz=172,slow=4.8,SNR=28							
AAK				S	**Sn**	**17 30 17.5**	**-0.4**
1.1nm,0.3s,baz=303,slow=24,SNR=19							
KBK	**Karagaybulak**	**6.86**	**27**	P	**Pn**	**17 29 06.4**	**+2.2**
SNR=8.5							
ULHL	**Ulahol**	**7.06**	**35**	P	**Pn**	**17 29 08.0**	**+1.2**
SNR=20							
CHMS	**Chumysh**	**7.09**	**24**	P	**Pn**	**17 29 08.7**	**+1.6**
SNR=5.4							
SDNR	**Sundarnagar**	**7.22**	**133**	*e*P	Pn	17 29 14.0	+5.1
SDNR				*e*S	**Sn**	**17 30 32.0**	**+1.4**
TKM2	**Tokmak 2**	**7.33**	**29**	⇑Pn	**Pn**	**17 29 10.8**	**+0.4**
9.9nm,0.5s							
TKM2				⇑Sn	**Sn**	**17 30 29.5**	**-3.8**
6.9nm,0.8s							
TKM2	**Tokmak 2**	**7.33**	**29**	P	**Pn**	**17 29 12.1**	**+1.7**
SNR=20							
KHET	**Khetri**	**9.50**	**152**	*e*S	**Sn**	**17 31 21.5**	**-3.2**
KHET				AML	AML	17 31 57.6	
comp=N,116nm,0.1s							
KHET				AML	AML	17 31 57.7	
comp=E,144nm,0.1s							
AYAN	**Aya Nagar**	**9.70**	**145**	*e*P	**Pn**	**17 29 43.2**	**+1.9**
BISR	**Bishrakh**	**9.77**	**143**	*e*x	x	17 29 31.6	
SONA	**Sohna**	**9.88**	**146**	*e*x	x	17 29 36.5	
MKAR	**Makanchi Array**	**13.33**	**37**	P	**Pn**	**17 30 27.9**	**+0.3**
comp=E,0.2nm,0.3s,baz=222,slow=13,SNR=9.8							
MKAR				S	**Sn**	**17 32 55.0**	**-1.0**
comp=E,0.0nm,0.3s,baz=220,slow=22,SNR=3.8							
DMN	**Daman**	**15.08**	**122**	*e*P	**P**	**17 30 53.8**	**+3.2**
KURBB	**Kurchatov Arra**	**15.10**	**19**	P	**P**	**17 30 50.8**	**+0.5**
comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=5.0							
PKIN	**Phulchoki**	**15.29**	**122**	*e*P	**P**	**17 30 55.3**	**+2.3**
JIRN	**Jiri**	**15.79**	**120**	*e*P	**Pn**	**17 31 00.6**	**+2.1**
comp=E,16nm,0.5s							
BVAR	**Borovoye Array**	**16.44**	**359**	P	**Pn**	**17 31 06.6**	**+0.9**
comp=E,0.2nm,0.3s,baz=155,slow=11,SNR=3.7							
RAMN	**Ramite**	**16.52**	**121**	*e*P	**P**	**17 31 06.7**	**+0.2**
TAPN	**Taplejung**	**17.05**	**118**	*e*P	**P**	**17 31 11.1**	**-1.3**
ODAN	**Odare**	**17.12**	**120**	*e*P	**P**	**17 31 12.2**	**-0.9**
ZALV	**Zalesovo Beam**	**19.91**	**25**	P	**P**	**17 31 42.1**	**-0.6**
comp=E,1.8nm,0.3s,baz=214,slow=11,SNR=11							
SONM	**Songino Array**	**28.43**	**56**	P	**P**	**17 33 01.4**	**-1.6**
comp=E,0.3nm,0.5s,baz=255,slow=8.5,SNR=3.2							
ARCES	**ARCESS Array B**	**40.99**	**338**	P	**P**	**17 34 50.2**	**+0.4**
comp=E,0.9nm,0.6s,baz=117,slow=5.4,SNR=6.0							
PETK	**Petropavlovsk-**	**60.03**	**44**	P	**P**	**17 37 13.3**	**+0.8**
comp=E,6.1nm,1.1s,baz=269,slow=11,SNR=8.7							
TORD	**Torodi Ar. Bea**	**65.54**	**268**	P	**P**	**17 37 48.8**	**-0.6**
comp=E,0.4nm,0.5s,baz=48,slow=6.0,SNR=6.0							
ILAR	**Eielson Array**	**74.74**	**16**	P	**P**	**17 38 44.6**	**+0.1**
comp=E,0.2nm,0.6s,baz=345,slow=2.8,SNR=2.7							
WRA	**Warramunga Arr**	**82.19**	**122**	P	**P**	**17 39 23.2**	**-2.7**
comp=E,0.5nm,0.8s,baz=309,slow=7.2,SNR=4.8							
ASAR	**Alice Springs**	**84.46**	**125**	P	**P**	**17 39 35.0**	**-2.4**
comp=E,0.4nm,0.6s,baz=314,slow=5.1,SNR=8.8							

IDC 22 17:38:09.0±0.8, 13°.91N×92°.86E, h33km±5km, mb3.6/13, mb1 3.6/14, mb1mx3.5/28, mbtmp3.6/14, ML3.1/1, Error ellipse: s-maj=25.4km s-min=13.8km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.39**	**51**	Pn	Pn	17 39 55.5	+0.9
0.1nm,0.3s,baz=237,slow=14,SNR=3.0							
CMAR				Sn	Sn	17 41 10.3	-7.1
0.4nm,0.3s,baz=136,slow=18,SNR=7.2							
MKAR	**Makanchi Array**	**33.96**	**347**	P	P	17 44 49.4	+0.1
0.7nm,0.6s,baz=155,slow=9.1,SNR=9.8							
MKAR				pP	pP	17 45 00.2	+1.2
0.7nm,0.7s,baz=167,slow=7.5,SNR=5.9							

SONM Songino Array 35.65 16 P P 17 45 03.9 -0.1
0.4nm,0.6s,baz=188,slow=9.0,SNR=3.7
KURBB Kurchatov Arra 38.42 345 P P 17 45 27.6 +0.2
0.8nm,0.3s,baz=160,slow=8.0,SNR=6.7
ZALV Zalesovo Beam 40.44 353 P P 17 45 43.6 -0.5
0.8nm,0.6s,baz=187,slow=10,SNR=5.1
WRA Warramunga Arr 52.89 129 P P 17 47 21.7 -0.4
0.4nm,0.9s,baz=297,slow=11,SNR=3.2
WRA pP pP 17 47 32.3 +0.1
0.3nm,0.9s,baz=302,slow=9.6,SNR=1.5
ASAR Alice Springs 54.82 133 P P 17 47 35.9 -0.4
0.1nm,0.3s,baz=310,slow=7.4,SNR=12
ASAR pP pP 17 47 45.5 -0.9
0.5nm,0.6s,baz=308,slow=7.1,SNR=3.7
BRTR Keskin Array B 57.63 308 P P 17 47 55.6 -0.7
0.7nm,0.7s,baz=125,slow=6.5,SNR=5.3
BRTR pP pP 17 48 05.8 -0.6
0.7nm,0.8s,baz=142,slow=4.7,SNR=3.9
PETK Petropavlovsk- 63.93 37 P P 17 48 39.0 +0.3
2.7nm,0.8s,baz=232,slow=7.1,SNR=2.5
STKA Stephens Creek 65.21 135 P P 17 48 47.7 +0.4
1.6nm,0.7s,baz=274,slow=13,SNR=2.2
FINES FINESS Array B 66.83 331 P P 17 48 56.6 -0.7
0.7nm,0.6s,baz=106,slow=6.7,SNR=4.3
ARCES ARCESS Array B 69.20 340 P P 17 49 11.1 -0.9
1.0nm,0.8s,baz=95,slow=11,SNR=3.3
GERES GERESS Array B 72.54 317 P P 17 49 32.9 0.0
0.3nm,0.5s,baz=60,slow=5.8,SNR=3.9
BOSA Boshof 77.79 236 P P 17 50 04.8 +1.4
1.4nm,0.7s,baz=339,slow=3.8,SNR=4.5

---

*IDC **22** 17:49:05.7±8.2, 1°.02S×100°.16E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=433.9km s-min=28.7km az=53.0*
*DJA **22** 17:49:12.8±1.3, 1°.5±10°×10°.0E±°, h10km, M4.0/3, MLv4.0/3*
ISC 22 17:49:08.5±1.6, 1°.36S±0°.09×99°.4E±0°.1, h30km, n8, σ1º34/8, mb3.4/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**68**	P	**Pn**	**17 49 29.0**	**-0.1**
PDSI				S	**Sb**	**17 49 45.0**	**-0.6**
PPI	**Padang Panjang**	**1.38**	**49**	P	**Pn**	**17 49 31.6**	**0.0**
SDSI	**Sungai Dareh**	**2.12**	**78**	P	**Pn**	**17 49 43.8**	**+2.0**
BKNI	**Bangkinang**	**2.38**	**45**	P	**Pb**	**17 49 50.8**	**+0.2**
KSI	**Kapahiang**	**3.95**	**125**	P	**Pb**	**17 50 18.0**	**+0.5**
WRA	**Warramunga Arr**	**38.87**	**121**	P	P	17 56 28.7	-2.8
0.6nm,0.9s,baz=296,slow=7.6,SNR=6.9							
ASAR	**Alice Springs**	**40.15**	**126**	P	**P**	**17 56 40.2**	**-1.9**
0.3nm,0.8s,baz=299,slow=8.0,SNR=6.1							
MKAR	**Makanchi Array**	**50.25**	**345**	P	**P**	**17 58 02.8**	**+0.9**
0.4nm,0.6s,baz=158,slow=9.2,SNR=5.6							

IDC 22 18:00:24.0±2.6, 14°.35N×119°.85E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/25, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/17, Error ellipse: s-maj=299.8km s-min=24.7km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.94**	**157**	P	P	18 07 36.1	+1.0
0.4nm,0.5s,baz=338,slow=9.3,SNR=9.7							
WRA				LR	LR	18 23 56.6	
comp=Z,121nm,18.8s,baz=210,slow=38							
ASAR	**Alice Springs**	**40.21**	**160**	P	P	18 08 01.2	-1.3
0.2nm,0.4s,baz=337,slow=9.7,SNR=7.2							
MKAR	**Makanchi Array**	**45.02**	**324**	P	P	18 08 41.3	-0.1
0.3nm,0.4s,baz=114,slow=8.2,SNR=11							

---

*ISCJB **22** 18:18:43.7±0.5, 31°.24S±0°.04×68°.33W±0°.06, h109km±5km, mb4.1/7, Error ellipse: s-maj=8.1km s-min=5.9km az=8.0*
*IDC **22** 18:18:43.8±1.1, 31°.18S×68°.32W, h98km±4km, mb3.8/6, mb1 3.6/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=38.7km s-min=15.7km az=106.0*
*GUC **22** 18:18:45.0±0.6, 31°.24S×68°.49W, h125km±37km, ML3.9*
ISC 22 18:18:44.7±0.8, 31°.20S±0°.05×68°.32W±0°.06, h106km±7km, n27, σ1º27/35, mb3.9/7, 4C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.41**	**171**	P	**Pn**	**18 19 00.6**	**0.0**
27nm,0.3s,baz=17,slow=1.6,SNR=5599							
CFAA				S	**Sn**	**18 19 12.0**	**-0.5**
404nm,0.3s,baz=324,slow=19,SNR=543							
CMCH	**Combarbala**	**2.30**	**270**	⇓*i*P	**Pn**	**18 19 21.1**	**-0.3**
CMCH				⇓*i*S	**Sn**	**18 19 48.8**	**-0.8**
TLL	**Tololo Astrono**	**2.38**	**295**	⇑*i*P	**Pn**	**18 19 22.9**	**+0.4**
TLL				*i* S	**Sn**	**18 19 51.5**	**0.0**
TLL				AML	AML	18 19 53.8	
comp=E,2μm,0.4s							
FCH	**Farellones**	**2.71**	**218**	⇑*i*P	Pn	18 19 32.7	+5.7
FCH				*i* S	**Sn**	**18 20 04.8**	**+5.4**
FCH				AML	AML	18 20 18.3	
comp=N,246nm,0.3s							
PEL	**Peldehue**	**2.79**	**225**	⇓*e*P	**Pn**	**18 19 27.8**	**0.0**
PEL				*e*S	**Sn**	**18 19 59.8**	**-1.3**
PEL				AML	AML	18 20 03.7	
comp=E,422nm,0.5s							
CLCH	**Cerro Calan**	**2.89**	**220**	*i* P	**Pn**	**18 19 29.1**	**-0.1**
CLCH				*i* S	**Sn**	**18 20 02.2**	**-1.2**
CLCH				AML	AML	18 20 08.1	
comp=E,320nm,0.3s							
ROCH	**El Roble**	**2.89**	**232**	AML	AML	18 20 07.0	
comp=E,418nm,0.4s							
LCO	**Las Campanas**	**3.00**	**316**	⇑*i*P	**Pn**	**18 19 30.8**	**-0.1**
LCO				*i* S	**Sn**	**18 20 06.3**	**0.0**
LCO				AML	AML	18 20 10.8	
comp=E,762nm,0.0s							
SAN	**Santiago**	**3.00**	**221**	AML	AML	18 20 13.9	
comp=N,189nm,0.5s							
LMEL	**Las Melosas**	**3.09**	**211**	⇓*i*P	**Pn**	**18 19 32.4**	**+0.6**
LMEL				*i* S	**Sn**	**18 20 08.2**	**0.0**
LMEL				AML	AML	18 20 23.4	
comp=N,142nm,0.4s							
RCDM	**Rinconada Maip**	**3.11**	**222**	⇓*i*P	**Pn**	**18 19 31.8**	**-0.3**
RCDM				*e*S	**Sn**	**18 20 07.5**	**-1.1**
RCDM				AML	AML	18 20 12.3	
comp=E,340nm,0.1s							
TACH	**Talagante**	**3.30**	**221**	⇑*i*P	**Pn**	**18 19 34.1**	**-0.5**
TACH				*i* S	**Sn**	**18 20 11.5**	**-1.7**
PLCA	**Paso Flores**	**9.69**	**190**	P	**Pn**	**18 20 59.3**	**-1.8**
comp=E,0.1nm,0.3s,baz=352,slow=14,SNR=2.7							
CPUP	**Villa Florida**	**10.79**	**66**	P	**Pn**	**18 21 15.5**	**-0.5**
comp=E,0.6nm,0.3s,baz=232,slow=13,SNR=3.6							
LPAZ	**La Paz**	**14.84**	**1**	P	**Pn**	**18 22 10.8**	**+1.1**
comp=E,0.3nm,0.3s,baz=178,slow=7.4,SNR=13							
SIV	**San Ignacio**	**16.52**	**25**	P	**Pn**	**18 22 29.7**	**-0.5**
comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=2.7							
USHA	**Ushuaia**	**23.63**	**180**	P	**P**	**18 23 47.1**	**+1.1**
comp=E,9.6nm,0.9s,baz=327,slow=11,SNR=4.8							
PMSA	**Palmer Station**	**33.71**	**177**	P	**P**	**18 25 16.3**	**+1.0**
comp=E,39nm,1.2s,baz=356,slow=16,SNR=2.5							
SNAA	**Sanae**	**53.03**	**159**	P	**P**	**18 27 50.4**	**0.0**
comp=E,0.7nm,0.6s,baz=258,slow=7.5,SNR=6.9							
QSPA	**South Pole Qui**	**59.04**	**180**	P	**P**	**18 28 33.9**	**+0.6**
comp=E,2.1nm,0.6s,baz=119,slow=3.9,SNR=22							
MAW	**Mawson**	**74.94**	**163**	P	**P**	**18 30 14.0**	**+0.4**
comp=E,1.5nm,0.9s,baz=212,slow=9.5,SNR=4.5							
BOSA	**Boshof**	**78.55**	**116**	P	**P**	**18 30 34.0**	**-0.9**
comp=E,2.1nm,1.0s,baz=276,slow=10,SNR=2.6							
TORD	**Torodi Ar. Bea**	**80.28**	**68**	P	**P**	**18 30 44.3**	**+0.1**
comp=E,1.1nm,0.6s,baz=276,slow=6.5,SNR=13							
ASAR	**Alice Springs**	**121.44**	**204**	PKP	**PKPdf**	**18 37 24.7**	**-1.5**
comp=E,0.3nm,0.5s,baz=140,slow=1.8,SNR=6.3							
WRA	**Warramunga Arr**	**124.70**	**206**	PKP	**PKPdf**	**18 37 31.5**	**-1.0**
comp=E,0.6nm,0.5s,baz=163,slow=1.6,SNR=23							
ZALV	**Zalesovo Beam**	**150.18**	**32**	PKPbc	**PKPbc**	**18 38 22.0**	**-0.7**
comp=E,1.2nm,0.4s,baz=304,slow=3.9,SNR=5.8							
MKAR	**Makanchi Array**	**152.56**	**47**	PKPbc	**PKPbc**	**18 38 28.3**	**-0.2**
comp=E,0.4nm,0.6s,baz=310,slow=2.1,SNR=6.2							
MKAR				PKPab	**PKPab**	**18 38 39.5**	**+0.2**
comp=E,0.5nm,0.5s,baz=293,slow=3.7,SNR=8.0							

---

*IDC **22** 18:42:02.3±5.6, 18°.71S×168°.21E, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/16, mbtmp3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=212.1km s-min=85.6km az=155.0*
*NOU **22** 18:42:03.6±0.4, 20°.46S×169°.12E, h10km, MD2.9, ML3.4, MS1.8*

ISC 22 18:42:04.3±3.7, 20°.4S±0°.5×169°.0E±0°.6, h35km, n7, σ1º11/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	**Noumea**	**2.96**	**231**	*e*P	**Pn**	**18 42 48.6**	**-0.2**
NORM				*e*S	**Sn**	**18 43 22.2**	**-0.9**
NORM				AMP		18 43 25.7	
comp=Z,319nm,2.4s							
MVNO	**Noumea**	**3.02**	**231**	*e*S	**Sn**	**18 43 23.8**	**-0.7**
NOUC	**Port Laguerre**	**3.02**	**235**	*e*P	**Pn**	**18 42 51.0**	**+1.4**
NOUC				*e*S	**Sn**	**18 43 25.7**	**+1.1**
NOUC				AMP		18 43 31.7	
comp=Z,54nm,10.4s							
AFI	**Afiamalu**	**19.49**	**74**	LR	LR	18 52 41.5	
comp=Z,52nm,19.6s,baz=242,slow=32							
WRA	**Warramunga Arr**	**32.47**	**265**	P	**P**	**18 48 30.5**	**-1.2**
comp=Z,0.2nm,0.5s,baz=90,slow=8.5,SNR=9.3							
ASAR	**Alice Springs**	**32.61**	**258**	P	**P**	**18 48 33.0**	**0.0**
comp=Z,1.5nm,0.6s,baz=87,slow=9.0,SNR=44							
GERES	**GERESS Array B**	**145.35**	**331**	PKP	**PKPab**	**19 01 39.0**	**+0.4**
comp=Z,0.2nm,0.5s,baz=20,slow=3.4,SNR=3.9							

---

*ISCJB **22** 18:42:25.3±1.0, 3°.7S±0°.2×80°.8W±0°.2, h39km, mb3.9/5, Error ellipse: s-maj=40.9km s-min=9.1km az=148.8*
*NEIC **22** 18:42:26.0±0.7, 3°.69S×80°.88W, h35km, ML4.2(ARE), Error ellipse: s-maj=35.0km s-min=11.4km az=55.0*
NEIC Felt [II] at Mancora, Peru.
*IDC **22** 18:42:29.8±3.5, 3°.98S×80°.93W, h72km±36km, mb3.6/5, mb1 3.9/8, mb1mx3.6/23, mbtmp3.7/8, ML4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=57.0km s-min=21.1km az=42.0*
ISC 22 18:42:26.3±0.9, 3°.8S±0°.1×80°.9W±0°.2, h39km, n26, σ1º08/30, mb3.8/5, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.16**	**143**	P	**Pn**	**18 43 28.4**	**+0.7**
ATAH				S	**Sn**	**18 44 16.6**	**+1.3**
ATAH	**Atahualpa**	**4.16**	**143**	P	**Pn**	**18 43 28.4**	**+0.7**
8.5nm,0.3s,baz=339,slow=7.4,SNR=26							
ATAH				S	**Sn**	**18 44 16.6**	**+1.3**
40nm,0.3s,baz=172,slow=19,SNR=8.9							
ATAH				LR	LR	18 45 18.1	
comp=Z,296nm,21.5s,baz=161,slow=42							
NNA	**Nana**	**9.08**	**154**	P	**Pn**	**18 44 37.1**	**+2.1**
NNA				S	**Sn**	**18 46 14.2**	**-1.8**
NNA	**Nana**	**9.08**	**154**	P	**Pn**	**18 44 37.1**	**+2.1**
1.0nm,0.3s,baz=275,slow=11,SNR=3.8							
NNA				S	**Sn**	**18 46 14.2**	**-1.8**
2.5nm,0.3s,baz=225,slow=20,SNR=2.1							
LPAZ	**La Paz**	**17.67**	**135**	P	**Pn**	**18 46 29.3**	**-0.9**
LPAZ	**La Paz**	**17.67**	**135**	P	**Pn**	**18 46 29.3**	**-0.9**
0.3nm,0.3s,baz=337,slow=16,SNR=4.9							
SIV	**San Ignacio**	**22.98**	**123**	P	**P**	**18 47 27.6**	**-0.2**
SIV	**San Ignacio**	**22.98**	**123**	P	**P**	**18 47 27.6**	**-0.2**
2.5nm,0.6s,baz=309,slow=10,SNR=8.4							
PDAR	**Pinedale Array**	**53.10**	**334**	P	**P**	**18 51 41.1**	**+0.8**
PDAR	**Pinedale Array**	**53.10**	**334**	P	**P**	**18 51 41.1**	**+0.8**
0.8nm,0.7s,baz=134,slow=8.5,SNR=6.1							
NVAR	**Mina Array Bea**	**54.41**	**324**	P	**P**	**18 51 51.1**	**+1.1**
NVAR	**Mina Array Bea**	**54.41**	**324**	P	**P**	**18 51 51.1**	**+1.1**
0.5nm,0.6s,baz=134,slow=7.3,SNR=4.8							
DBIC	**Dimbokro**	**76.65**	**82**	P	**P**	**18 54 13.9**	**+0.1**
DBIC	**Dimbokro**	**76.65**	**82**	P	**P**	**18 54 13.9**	**+0.1**
3.8nm,0.8s,baz=238,slow=5.0,SNR=4.6							
TORD	**Torodi Ar. Bea**	**83.69**	**76**	P	**P**	**18 54 51.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**83.69**	**76**	P	**P**	**18 54 51.5**	**-0.3**
0.9nm,0.8s,baz=285,slow=4.0,SNR=4.7							
ZALV	**Zalesovo Beam**	**128.67**	**11**	PKP	**PKPdf**	**19 01 28.6**	**-0.7**
ZALV	**Zalesovo Beam**	**128.67**	**11**	PKP	**PKPdf**	**19 01 28.6**	**-0.7**
0.4nm,0.4s,baz=197,slow=1.5,SNR=4.5							
KURK	**Kurchatov**	**130.19**	**17**	PKP	**PKPdf**	**19 01 32.1**	**-0.2**
KURBB	**Kurchatov Arra**	**130.24**	**17**	PKP	**PKPdf**	**19 01 32.1**	**-0.3**
0.5nm,0.4s,baz=336,slow=2.6,SNR=5.8							
MKAR	**Makanchi Array**	**134.78**	**16**	PKP	**PKPdf**	**19 01 40.7**	**-0.5**
MKAR	**Makanchi Array**	**134.78**	**16**	PKP	**PKPdf**	**19 01 40.7**	**-0.5**
0.3nm,0.7s,baz=7.9,slow=3.2,SNR=3.7							
ASAR	**Alice Springs**	**136.44**	**229**	PKP	**PKPdf**	**19 01 43.8**	**-1.2**
ASAR	**Alice Springs**	**136.44**	**229**	PKP	**PKPdf**	**19 01 43.7**	**-1.2**
0.4nm,0.9s,baz=123,slow=3.4,SNR=4.0							
WRA	**Warramunga Arr**	**138.07**	**234**	PKP	**PKPdf**	**19 01 47.2**	**-0.9**
WRA	**Warramunga Arr**	**138.07**	**234**	PKP	**PKPdf**	**19 01 47.2**	**-0.9**
0.3nm,0.8s,baz=128,slow=1.5,SNR=2.7							

---

*ISCJB **22** 18:46:49.1±0.3, 3°.97S±0°.06×81°.03W±0°.08, h39km, mb4.6/53, MS4.0/19, Error ellipse: s-maj=13.8km s-min=5.0km az=145.8*
*NEIC **22** 18:46:50.3±0.3, 3°.85S×80°.74W, h35km, mb4.5/27, ML4.5(ARE), Error ellipse: s-maj=17.5km s-min=5.6km az=56.0*
NEIC Felt [IV] at Mancora, Peru. Also felt at Tumbes.
*IDC **22** 18:46:53.1±2.4, 3°.88S×80°.82W, h58km±23km, mb4.2/11, mb1 4.3/14, mb1mx4.1/23, mbtmp4.2/14, ML4.3/3, MS3.9/18, Ms1 3.9/18, ms1mx3.8/32, Error ellipse: s-maj=31.7km s-min=12.6km az=52.0*
*BJI **22** 18:46:56.0, 3°.80S×80°.60W, h71km, mB5.3/2, Ms4.9/1, Ms7 4.6/2*
ISC 22 18:46:50.4±0.4, 4°.00S±0°.07×81°.1W±0°.1, h39km, n152, σ1º03/146, mb4.5/53, MS4.0/19, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.12**	**139**	P	**Pn**	**18 47 52.1**	**+0.9**
ATAH				S	**Sn**	**18 48 41.1**	**+2.6**
ATAH	**Atahualpa**	**4.12**	**139**	P	**Pn**	**18 47 52.1**	**+0.9**
20nm,0.3s,baz=329,slow=8.7,SNR=45							
ATAH				S	**Sn**	**18 48 41.1**	**+2.6**
107nm,0.3s,baz=355,slow=16,SNR=6.6							
NNA	**Nana**	**8.99**	**152**	*e*Pn	**Pn**	**18 48 59.6**	**+

TXAR PcP **PcP** **18 56 26.3 +1.2**
0.6nm,0.7s,baz=144,slow=4.7,SNR=5.0
TXAR LR LR 19 11 00.6
comp=Z,76nm,18.2s,baz=185,slow=36
MIAR Mount Ida 40.10 344 *e*P **P** **18 54 22.0 -0.3**
8.0nm,1.0s
WVT Waverly 40.41 352 P P 18 54 23.3 -1.6
2.3nm,0.6s
TUL1 Tulsa 42.02 342 *e*P **P** **18 54 39.1 +1.0**
MSTX Muleshoe 42.95 333 *e*P **P** **18 54 46.4 +0.6**
6.6nm,1.0s
KSU1 Kansas State U 45.21 343 *e*P **P** **18 55 04.4 +0.6**
17nm,0.7s
ANMO Albuquerque 45.48 330 *e*P **P** **18 55 08.1 +1.9**
5.0nm,1.0s
SDCO Great Sand Dun 47.31 334 *e*P **P** **18 55 22.2 +1.5**
2.1nm,0.7s
PV01 Paradox Valley 49.05 331 *e*P **P** **18 55 35.8 +1.8**
2μm,1.9s
CCUT Cedar City 51.06 327 *e*P **P** **18 55 50.3 +1.0**
3.8nm,0.9s
MVU Marysvale 51.16 329 *e*P **P** **18 55 50.9 +0.9**
3.5nm,1.0s
RSSD Black Hills 52.15 339 *e*P **P** **18 55 58.5 +1.2**
4.0nm,0.7s
HWUT Hardware Ranch 53.20 332 *e*P **P** **18 56 05.8 +0.8**
6.8nm,0.7s
PDAR Pinedale Array 53.20 334 P **P** **18 56 05.8 +0.8**
PDAR Pinedale Array 53.20 334 P **P** **18 56 05.8 +0.8**
2.1nm,0.7s,baz=125,slow=8.5,SNR=19
BGU Big Grassy Mou 53.39 330 *e*P **P** **18 56 07.1 +0.7**
35nm,2.4s
AGMN Agassiz Nation 53.66 348 *e*P **P** **18 56 07.9 -0.1**
7.4nm,0.8s
AGMN *e* 18 56 21.6
REDW Red Top Meadow 54.25 334 *e*P **P** **18 56 11.7 -1.0**
19nm,1.7s
TPAW Teton Pass 54.39 334 *e*P **P** **18 56 13.6 -0.3**
7.3nm,1.3s
RRI2 Red Ridge 54.44 333 *e*P **P** **18 56 15.2 +1.0**
5.6nm,0.8s
NVAR Mina Array Bea 54.46 324 P **P** **18 56 16.4 +2.0**
NVAR Mina Array Bea 54.46 324 P **P** **18 56 16.4 +2.0**
1.0nm,0.6s,baz=132,slow=7.1,SNR=9.7
RKT Rikitea 55.34 245 *e*LR LR 19 12 24.2
147nm,26.0s
ULM Lac du Bonnet 55.52 349 *e*P P 18 56 19.5 -2.0
7.3nm,0.9s
ULM Lac du Bonnet 55.52 349 P **P** **18 56 20.5 -1.0**
4.6nm,0.7s,baz=156,slow=7.9,SNR=4.4
HLID Hailey 56.05 331 *e*P **P** **18 56 27.3 +1.6**
3.3nm,1.0s
MCMT McKenzie Canyo 56.29 333 *e*P **P** **18 56 28.9 +1.5**
0.5nm,0.6s
WVOR Wild Horse Val 57.38 328 *e*P **P** **18 56 36.0 +0.9**
4.1nm,0.9s
MSO Missoula 58.32 334 *e*P **P** **18 56 41.2 -0.3**
25nm,1.9s
SCHQ Schefferville 59.81 10 *e*P P 18 56 48.6 -3.0
SCHQ Schefferville 59.81 10 P P 18 56 49.9 -1.7
5.8nm,0.8s,baz=144,slow=8.7,SNR=4.6
NEW Newport 60.82 333 P **P** **18 56 59.3 +0.7**
PPT2 Papeete2 68.28 253 *e*S **S** **19 06 45.3 -1.3**
51nm,25.0s
PPT2 Papeete2 68.28 253 *e*LR LR 19 18 30.5
136nm,27.0s
TBI Tubuai 68.56 247 *e*LR LR 19 18 38.4
76nm,25.8s
LIC Lamto 76.64 83 *e*P **P** **18 58 37.4 -0.5**
26nm,0.8s,baz=264
LIC *e*R
150nm,19.2s
LIC Lamto 76.64 83 *e*P **P** **18 58 37.3 -0.6**
51nm,1.0s
LIC Lamto 76.64 83 *e*P **P** **18 58 37.4 -0.5**
TIC Toumodi 76.69 82 *e*P **P** **18 58 37.6 -0.6**
35nm,0.9s
DBIC Dimbokro 76.85 82 *e*P P 18 58 35.3 -3.8
16nm,0.8s
DBIC Dimbokro 76.85 82 P **P** **18 58 38.8 -0.2**
13nm,0.7s,baz=244,slow=5.9,SNR=17
DBIC LR LR 19 33 10.0
comp=Z,77nm,18.1s,baz=198,slow=36
KIC Kosan Boka 76.93 83 *e*P **P** **18 58 39.2 -0.4**
48nm,0.9s
SUMG Summit 81.08 12 *e*P **P** **18 59 01.4 -0.2**
2.6nm,0.6s
PAX Paxson 82.21 335 *e*P **P** **18 59 07.5 +0.2**
3.8nm,1.0s
SNAA Sanae 82.54 162 *e*P **P** **18 59 08.5 -0.3**
5.3nm,0.9s
ESDC Sonseca Array 82.69 49 P **P** **18 59 09.6 -0.7**
ESDC Sonseca Array 82.69 49 P **P** **18 59 09.6 -0.7**
1.7nm,0.7s,baz=261,slow=4.4,SNR=9.1
ILAR Eielson Array 83.52 337 LR LR 19 41 24.5
comp=Z,53nm,18.2s,baz=192,slow=39
TOA0 Torodi Ar. Sit 83.91 76 *e*P **P** **18 59 15.7 -1.3**
TORD Torodi Ar. Bea 83.91 76 P **P** **18 59 16.1 -0.9**
TORD Torodi Ar. Bea 83.91 76 P **P** **18 59 16.1 -0.9**
2.3nm,0.6s,baz=276,slow=5.8,SNR=21
TORD LR LR 19 36 36.0
comp=Z,141nm,19.8s,baz=270,slow=36
ROSF Rostrenen 84.91 41 *e*P **P** **18 59 21.6 +0.2**
ROSF Rostrenen 84.91 41 *e*P **P** **18 59 21.6 +0.2**
SJPF Ste Jean 85.35 46 *e*P **P** **18 59 23.2 -0.5**
10nm,0.9s
SJPF Ste Jean 85.35 46 *e*P **P** **18 59 23.2 -0.5**
QSPA South Pole Qui 86.08 180 *e*P **P** **18 59 27.5 +0.5**
16nm,1.1s
EPF Esparros 86.47 47 *e*P **P** **18 59 29.2 -0.1**
3.4nm,0.7s
EPF Esparros 86.47 47 *e*P **P** **18 59 29.2 -0.1**
GRR Gorron 86.50 41 *e*P **P** **18 59 29.2 -0.1**
GRR Gorron 86.50 41 *e*P **P** **18 59 29.2 -0.1**
MFF Saint Martin d 86.68 43 *e*P **P** **18 59 29.7 -0.5**
5.4nm,0.7s
MFF Saint Martin d 86.68 43 *e*P **P** **18 59 29.7 -0.5**
FLN La Foliniere 86.81 41 *e*P **P** **18 59 31.0 +0.2**
FLN *e*R
84nm,19.0s
FLN La Foliniere 86.81 41 *e*P **P** **18 59 31.0 +0.2**
LDF La Druitiere 87.02 41 *e*P **P** **18 59 31.8 0.0**
14nm,0.9s
LDF La Druitiere 87.02 41 *e*P **P** **18 59 31.8 0.0**
RJF Les Rejaudoux 87.63 44 *e*P **P** **18 59 34.3 -0.6**
4.1nm,0.7s
RJF *e*R
75nm,21.0s
RJF Les Rejaudoux 87.63 44 *e*P **P** **18 59 34.3 -0.6**
MTLF Montolieu 87.87 46 *e*P **P** **18 59 35.3 -0.7**
MTLF Montolieu 87.87 46 *e*P **P** **18 59 35.3 -0.7**
CAF Calviac 87.97 45 *e*P **P** **18 59 36.0 -0.5**
5.1nm,0.9s
CAF Calviac 87.97 45 *e*P **P** **18 59 36.0 -0.5**
TCF Toulx Ste Croi 88.25 44 *e*P **P** **18 59 37.6 -0.2**
TCF Toulx Ste Croi 88.25 44 *e*P **P** **18 59 37.6 -0.2**
BGF Bois d'Agland 88.72 43 *e*P **P** **18 59 39.6 -0.4**
BGF Bois d'Agland 88.72 43 *e*P **P** **18 59 39.6 -0.4**
AVF Avril sur Loir 89.09 43 *e*P **P** **18 59 40.9 -0.8**
3.2nm,0.6s
AVF Avril sur Loir 89.09 43 *e*P **P** **18 59 40.9 -0.8**
SMF Signal de Mont 89.41 43 *e*P **P** **18 59 42.5 -0.7**
SMF Signal de Mont 89.41 43 *e*P **P** **18 59 42.5 -0.7**
LOR Lormes 89.49 43 *e*P **P** **18 59 42.9 -0.7**
4.9nm,0.9s
LOR *e*R
71nm,21.5s
LOR Lormes 89.49 43 *e*P **P** **18 59 42.9 -0.7**
AFI Afiamalu 89.70 256 LR LR 19 30 04.8
comp=Z,96nm,18.3s,baz=112,slow=29
VIVF Saint-Julien-l 89.80 45 *e*P **P** **18 59 45.2 +0.1**
VIVF Saint-Julien-l 89.80 45 *e*P **P** **18 59 45.2 +0.1**
SFTF Sexfontaines 90.38 42 *e*P **P** **18 59 47.5 -0.2**
SFTF Sexfontaines 90.38 42 *e*P **P** **18 59 47.5 -0.2**
MEZF Maizieres J'vi 90.42 42 *e*P **P** **18 59 47.7 -0.2**
8.6nm,0.7s
MEZF Maizieres J'vi 90.42 42 *e*P **P** **18 59 47.7 -0.2**
ORIF Oris-en-Rattie 90.66 45 *e*P **P** **18 59 48.8 -0.4**
6.3nm,0.7s
ORIF *e*R
76nm,22.2s
ORIF Oris-en-Rattie 90.66 45 *e*P **P** **18 59 48.8 -0.4**
PAGF Fort de Pagny 90.87 42 *e*P **P** **18 59 50.1 +0.1**
PAGF Fort de Pagny 90.87 42 *e*P **P** **18 59 50.1 +0.1**
CABF La Chapelle 90.95 44 *e*P **P** **18 59 49.0 -1.5**
7.9nm,0.8s
CABF La Chapelle 90.95 44 *e*P **P** **18 59 49.0 -1.5**
VNDA Vanda 91.78 191 LR LR 19 31 15.6
comp=Z,52nm,21.4s,baz=276,slow=29
CDF Champ du Feu 91.89 42 *e*P **P** **18 59 54.6 -0.2**
CDF Champ du Feu 91.89 42 *e*P **P** **18 59 54.6 -0.2**
RAO Raoul Island 94.00 240 LR LR 19 35 10.7
comp=Z,179nm,19.4s,baz=155,slow=31
NOA NORSAR Array B 94.60 29 LR LR 19 37 19.3
comp=Z,64nm,20.0s,baz=270,slow=32
GERES GERESS Array B 96.16 41 LR LR 19 35 45.7
comp=Z,49nm,21.6s,baz=46,slow=31
URZ Urewera 96.75 231 LR LR 19 38 28.9
comp=Z,148nm,18.4s,baz=191,slow=32
CRVS Cervenica-Dubn 101.26 41 PDIF **Pdif** **19 00 37.0 -0.2**
AKTO Aktyubinsk 122.39 30 PKP **PKPdf** **19 05 41.5 -0.1**
AKTO Aktyubinsk 122.39 30 PKP **PKPdf** **19 05 41.5 -0.1**
1.1nm,0.7s,baz=270,slow=6.1,SNR=4.7
ABKAR Akbulak array 124.10 30 *e*PKPdf **PKPdf** **19 05 44.7 -0.1**
BVAR Borovoye Array 125.79 21 PKP **PKPdf** **19 05 48.2 +0.3**
BVAR Borovoye Array 125.79 21 PKP **PKPdf** **19 05 48.2 +0.3**
1.0nm,0.7s,baz=207,slow=3.0,SNR=5.4
ZAA0 Zalesovo Array 128.89 11 *e*PKPdf **PKPdf** **19 05 53.2 -0.6**
ZALV Zalesovo Beam 128.89 11 PKP **PKPdf** **19 05 53.6 -0.2**
ZALV Zalesovo Beam 128.89 11 PKP **PKPdf** **19 05 53.6 -0.2**
2.2nm,0.6s,baz=264,slow=3.0,SNR=12
MK31 Makanchi Array 135.01 16 *e*PKPdf **PKPdf** **19 06 04.8 -0.8**
MKAR Makanchi Array 135.01 16 PKP **PKPdf** **19 06 05.2 -0.5**
MKAR Makanchi Array 135.01 16 PKP **PKPdf** **19 06 05.2 -0.5**
1.1nm,0.7s,baz=1.4,slow=2.6,SNR=13
SONM Songino Array 135.85 353 PKP **PKPdf** **19 06 07.1 -0.3**
SONM Songino Array 135.85 353 PKP **PKPdf** **19 06 07.1 -0.3**
0.6nm,0.6s,baz=321,slow=2.3,SNR=4.9
ASAR Alice Springs 136.18 229 PKP **PKPdf** **19 06 08.6 0.0**
ASAR Alice Springs 136.18 229 PKP **PKPdf** **19 06 08.6 0.0**
1.2nm,0.9s,baz=120,slow=2.2,SNR=8.5
KSRS Korea Array 137.40 325 PKP **PKPdf** **19 06 10.2 -0.2**
0.8nm,0.7s,baz=12,slow=1.2,SNR=4.2
KSAR Wonju Array Be 137.43 325 PKP **PKPdf** **19 06 10.2 -0.2**
WRA Warramunga Arr 137.82 234 PKP **PKPdf** **19 06 11.7 +0.1**
WRA Warramunga Arr 137.82 234 PKP **PKPdf** **19 06 11.7 +0.1**
1.0nm,0.7s,baz=116,slow=1.9,SNR=8.2
HHC Hu-ho-hao-te 141.58 344 *e*PKP PKPdf 19 06 14.4 -3.6
HHC PKS PKSdf 19 09 48.8 -5.2
HHC SKS SKSdf 19 13 19.1 -6.2
HHC SKKS SKKSac 19 16 05.9 -6.2
HHC SS **SS** **19 27 46.8 -1.1**
HHC AMB AMB
comp=Z,160nm,9.3s
HHC LR LR
comp=Z,190nm,21.1s
GTA Gaotai 144.74 359 *e*PKP **PKPab** **19 06 22.5 0.0**
GTA PP **PP** **19 09 42.1 +2.8**
GTA SKS **SKSdf** **19 13 27.1 -3.2**
GTA SKKS **SKKSac** **19 16 28.0 -2.3**
GTA SS **SS** **19 28 25.0 +0.9**
GTA AMB AMB
comp=Z,75nm,4.5s
GTA LR LR
comp=N,49nm,15.4s
GTA LR LR
comp=E,63nm,14.7s
GTA LR LR
comp=Z,54nm,16.2s
LZH Lanzhou 147.74 352 *e*PKPbc **PKPdf** **19 06 26.5 -2.4**
ENH Enshi 152.01 340 *e*PKPbc **PKPbc** **19 06 41.4 -0.7**
CD2 Chengdu 152.84 351 *e*PKPbc **PKPdf** **19 06 34.9 -2.0**
LSA Lhasa 153.41 15 *e*PKPbc **PKPbc** **19 06 45.6 -0.3**
CMAR Chiang Mai Arr 165.63 360 PKP **PKPdf** **19 06 52.0 +0.1**
CMAR PKPab **PKPab** **19 07 49.5 -1.0**
CMAR Chiang Mai Arr 165.63 360 PKP **PKPdf** **19 06 52.0 +0.1**
comp=Z,0.8nm,0.9s,baz=254,slow=1.1,SNR=5.2
CMAR PKPab **PKPab** **19 07 49.5 -1.0**
comp=Z,0.8nm,0.8s,baz=339,slow=5.4,SNR=5.0

IDC 22 18:57:42.0±3.0, 1°.82S×99°.27E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=166.3km s-min=24.2km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.72**	**120**	P	P	19 05 07.5	-0.8
0.4nm,0.5s,baz=303,slow=9.2,SNR=10							
ASAR	**Alice Springs**	**39.95**	**126**	P	P	19 05 18.7	+0.1
0.4nm,0.6s,baz=297,slow=7.8,SNR=9.5							
MKAR	**Makanchi Array**	**50.66**	**345**	P	P	19 06 42.6	-0.6
0.5nm,0.7s,baz=171,slow=9.8,SNR=4.6							
FINES	**FINESS Array B**	**83.61**	**332**	P	P	19 10 12.4	+0.3
2.0nm,1.0s,baz=112,slow=6.2,SNR=5.1							
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPbc	19 17 21.6	+0.1
0.7nm,0.7s,baz=240,slow=1.3,SNR=8.1							

IDC 22 19:14:37.9±1.0, 22°.78S×175°.12W, h60km±8km, mb3.7/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.7/7, Error ellipse: s-maj=37.8km s-min=17.8km az=156.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.38**	**20**	P	Pn	19 16 46.6	-3.9
3.3nm,0.3s,baz=266,slow=19,SNR=4.4							
AFI				S	Sn	19 18 20.5	-14
1.5nm,0.3s,baz=325,slow=18,SNR=2.6							
URZ	**Urewera**	**16.80**	**202**	P	Pn	19 18 26.1	-3.0
0.4nm,0.3s,baz=58,slow=19,SNR=3.1							
URZ				S	Sn	19 21 16.0	-19
0.4nm,0.3s,baz=133,slow=19,SNR=3.9							
CTA	**Charters Tower**	**35.98**	**267**	P	P	19 21 33.3	+0.1
1.7nm,0.4s,baz=92,slow=13,SNR=9.7							
ASAR	**Alice Springs**	**46.64**	**258**	P	P	19 23 00.2	-0.5
1.8nm,0.9s,baz=92,slow=6.3,SNR=13							
WRA	**Warramunga Arr**	**46.97**	**264**	P	P	19 23 02.3	-0.9
1.3nm,0.7s,baz=103,slow=8.9,SNR=23							
WRA				pP	pP	19 23 19.5	+0.7
1.2nm,0.7s,baz=101,slow=8.4,SNR=5.0							
MAW	**Mawson**	**80.32**	**199**	P	P	19 26 43.0	+0.9
2.9nm,0.8s,baz=145,slow=10,SNR=6.2							
NVAR	**Mina Array Bea**	**80.89**	**42**	P	P	19 26 46.1	+0.3
1.1nm,0.8s,baz=223,slow=7.1,SNR=7.8							
NVAR				pP	pP	19 27 01.7	-1.0
0.7nm,0.7s,baz=224,slow=9.2,SNR=4.6							
TXAR	**Lajitas Array**	**86.06**	**56**	P	P	19 27 12.1	-0.3
0.6nm,0.9s,baz=201,slow=10,SNR=5.3							
ILAR	**Eielson Array**	**89.97**	**12**	P	P	19 27 30.7	+0.6
0.3nm,0.7s,baz=198,slow=4.7,SNR=3.8							
ILAR				pP	pP	19 27 47.6	+0.5
0.1nm,0.4s,baz=204,slow=6.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**169.95**	**162**	PKPab	PKPab	19 35 53.3	-1.1
0.5nm,0.9s,baz=184,slow=2.2,SNR=3.6							

THR ***22*** *19:17:18.9±0.8, 28°.28N×57°.20E, h14km, ML3.5*
TEH ***22*** *19:17:19.3, 28°.31N×57°.12E, h14km, ML3.6*
ISCJB ***22*** *19:17:19.3±0.3, 28°.24N±0°.03×57°.22E±0°.05, h31km, mb3.9/23, MS2.9/2, Error ellipse: s-maj=6.7km s-min=4.9km az=3.7*
CSEM ***22*** *19:17:20.0±0.4, 28°.24N×57°.11E, h15km, mb4.4/7, Error ellipse: s-maj=17.3km s-min=9.5km az=91.0*
IDC ***22*** *19:17:21.6±1.5, 28°.27N×57°.13E, h41km±9km, mb3.6/15, mb1 3.7/16, mb1mx3.5/31, mbtmp3.6/16, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/39, Error ellipse: s-maj=26.2km s-min=14.2km az=174.0*
OMAN ***22*** *19:17:31.6±99.0, 27°.33N×57°.20E, h15km, Error ellipse: s-maj=97.0km s-min=9.7km az=6.0*
ISC 22 19:17:20.9±0.5, 28°.26N±0°.04×57°.20E±0°.05, h31km, n84, σ1§60/90, mb3.9/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.99**	**216**	*e*Pg	**Pb**	**19 17 39.4**	**-0.2**
IBND				*e*Sg	**Sb**	**19 17 54.0**	**+1.7**
IBND				*e*		19 18 13.7	
comp=Z,29μm,0.2s							
IBND	**Bandar-abas**	**0.99**	**216**	*e*Pg	**Pb**	**19 17 39.4**	**-0.2**
IBND				*e*Sg	**Sb**	**19 17 54.0**	**+1.7**
KRBR	**Kerman**	**1.76**	**348**	*e*Pg	**Pn**	**19 17 50.6**	**+1.1**
KRBR				*e*Sg	**Sb**	**19 18 14.5**	**0.0**
KRBR				AML	AML	19 18 17.6	
comp=E,628nm,0.6s							
KRBR				AML	AML	19 18 17.8	
comp=N,655nm,0.4s							
KRBR	**Kerman**	**1.76**	**348**	*e*Pg	**Pn**	**19 17 50.6**	**+1.1**
KRBR				*e*Sg	**Sb**	**19 18 14.5**	**0.0**
BANOM	**Banah**	**2.46**	**199**	P	**Pn**	**19 17 59.2**	**+0.3**
SNR=76							
BANOM				P	Pb	19 17 59.5	-5.0
SNR=16							
BANOM	**Banah**	**2.46**	**199**	P	**Pn**	**19 17 59.2**	**+0.3**
SNR=76							
IBAF	**Bafgh**	**3.61**	**337**	*e*Pn	**Pn**	**19 18 17.0**	**+2.2**
IBAF				*e*		19 19 31.8	
comp=Z,703nm,0.4s							
IBAF	**Bafgh**	**3.61**	**337**	*e*Pn	**Pn**	**19 18 17.0**	**+2.2**
ASHO	**Ashiyiah**	**3.71**	**196**	P	**Pn**	**19 18 18.0**	**+2.0**
SNR=18							
ASHO	**Ashiyiah**	**3.71**	**196**	P	**Pn**	**19 18 18.0**	**+2.0**
SNR=18							
GHIR	**Ghir-Karzin**	**3.71**	**271**	*e*Pn	**Pn**	**19 18 18.1**	**+1.9**
GHIR				AML	AML	19 19 22.1	
comp=N,44nm,1.1s							
GHIR	**Ghir-Karzin**	**3.71**	**271**	*e*Pn	**Pn**	**19 18 18.1**	**+1.9**
ISRV	**Sarvestan**	**3.75**	**288**	*e*Pn	**Pn**	**19 18 19.3**	**+2.4**
ISRV				*e*		19 19 42.1	
comp=Z,1μm,0.5s							
ISRV	**Sarvestan**	**3.75**	**288**	*e*Pn	**Pn**	**19 18 19.3**	**+2.4**
IMEH	**Mehriz**	**3.84**	**325**	*e*Pn	**Pn**	**19 18 20.1**	**+2.0**
IMEH				*e*		19 19 44.8	
comp=Z,638nm,0.3s							
IMEH	**Mehriz**	**3.84**	**325**	*e*Pn	**Pn**	**19 18 20.1**	**+2.0**
IPAR	**Pars**	**3.96**	**294**	*e*Pn	**Pn**	**19 18 21.9**	**+2.2**
IPAR				*e*		19 19 54.1	
comp=Z,893nm,0.4s							
IPAR	**Pars**	**3.96**	**294**	*e*Pn	**Pn**	**19 18 21.9**	**+2.2**
IKOO	**Kooshah**	**4.43**	**20**	*e*Pn	**Pn**	**19 18 29.0**	**+2.7**
IKOO				*e*		19 19 46.3	
comp=N,1μm,0.2s							
IKOO	**Kooshah**	**4.43**	**20**	*e*Pn	**Pn**	**19 18 29.0**	**+2.7**
HOQ	**Hoqain**	**4.66**	**179**	P	**Pn**	**19 18 28.8**	**-0.4**
SNR=17							
HOQ	**Hoqain**	**4.66**	**179**	P	**Pn**	**19 18 28.8**	**-0.4**
SNR=17							
ITEG	**Tejag**	**4.81**	**16**	*e*Pn	**Pn**	**19 18 34.0**	**+2.6**
ITEG				*e*		19 19 57.5	
comp=Z,660nm,0.3s							
ITEG	**Tejag**	**4.81**	**16**	*e*Pn	**Pn**	**19 18 34.0**	**+2.6**
ARQ	**Araqi**	**4.94**	**187**	P	**Pn**	**19 18 34.5**	**+1.5**
SNR=8.2							
ARQ	**Araqi**	**4.94**	**187**	P	**Pn**	**19 18 34.5**	**+1.5**
SNR=8.2							
IDAH	**Dahanechah**	**5.02**	**27**	*e*Pn	**Pn**	**19 18 37.3**	**+2.9**
IDAH				*e*		19 19 02.8	
comp=Z,445nm,0.3s							
IDAH	**Dahanechah**	**5.02**	**27**	*e*Pn	**Pn**	**19 18 37.3**	**+2.9**
SMDO	**Samad**	**5.24**	**171**	P	**Pn**	**19 18 37.0**	**-0.2**
SNR=8.9							
SMDO	**Samad**	**5.24**	**171**	P	**Pn**	**19 18 37.0**	**-0.2**
SNR=8.9							
IMON	**Monand**	**5.36**	**23**	*e*Pn	**Pn**	**19 18 41.7**	**+2.8**
IMON				*e*		19 20 26.3	
comp=E,1μm,0.3s							
IMON	**Monand**	**5.36**	**23**	*e*Pn	**Pn**	**19 18 41.7**	**+2.8**
TABS	**Tabas**	**5.37**	**359**	*e*Pn	**Pn**	**19 18 40.9**	**+1.9**
TABS				AML	AML	19 20 26.4	
comp=N,24nm,0.1s							
TABS	**Tabas**	**5.37**	**359**	*e*Pn	**Pn**	**19 18 40.9**	**+1.9**
WBK	**Wadi Bani Khal**	**5.85**	**164**	P	**Pn**	**19 18 45.8**	**+0.3**
SNR=5.6							
WBK	**Wadi Bani Khal**	**5.85**	**164**	P	**Pn**	**19 18 45.8**	**+0.3**
SNR=5.6							
IGAR	**Gharneh**	**6.07**	**314**	*e*Pn	**Pn**	**19 18 50.5**	**+1.8**
IGAR				*e*		19 18 51.6	
comp=Z,222nm,0.1s							
IZEF	**Zefreh**	**6.24**	**319**	*e*Pn	**Pn**	**19 18 52.6**	**+1.5**
IZEF				*e*		19 18 53.1	
comp=Z,78nm,0.2s							
IZEF	**Zefreh**	**6.24**	**319**	*e*Pn	**Pn**	**19 18 52.6**	**+1.5**
IPIR	**Pirpir**	**7.00**	**311**	*e*Pn	**Pn**	**19 19 03.7**	**+2.1**
IPIR				*e*		19 20 24.8	
comp=Z,121nm,0.3s							
IPIR	**Pirpir**	**7.00**	**311**	*e*Pn	**Pn**	**19 19 03.7**	**+2.1**
IPAY	**Payeh**	**8.31**	**10**	*e*Pn	**Pn**	**19 19 22.1**	**+2.7**
IPAY				*e*		19 19 26.3	
comp=Z,51nm,0.2s							
IPAY	**Payeh**	**8.31**	**10**	*e*Pn	**Pn**	**19 19 22.1**	**+2.7**
ASF	**Jabal al Asfar**	**17.97**	**288**	LR	LR	19 29 54.9	
comp=Z,39nm,19.6s,baz=135,slow=42							
EIL	**Elat**	**19.51**	**279**	P	**P**	**19 21 45.6**	**-0.1**
comp=Z,0.1nm,0.3s,baz=28,slow=15,SNR=2.5							
AAK	**Ala-Archa**	**20.05**	**40**	P	**P**	**19 21 52.3**	**+0.7**
comp=Z,2.0nm,0.5s,baz=209,slow=5.7,SNR=3.9							
AKTO	**Aktyubinsk**	**22.15**	**1**	P	**P**	**19 22 14.3**	**+0.3**
comp=Z,5.7nm,0.7s,baz=172,slow=10,SNR=22							
AKTO				LR	LR	19 32 38.5	
comp=Z,45nm,19.2s,baz=127,slow=41							
BRTR	**Keskin Array B**	**22.56**	**307**	P	**P**	**19 22 18.9**	**+0.2**
comp=Z,3.3nm,0.9s,baz=123,slow=11,SNR=18							
BRTR				pP	**pP**	**19 22 29.4**	**+2.3**
comp=Z,1.9nm,0.7s,baz=126,slow=13,SNR=7.2							
BVAR	**Borovoye Array**	**26.60**	**18**	P	**P**	**19 22 56.3**	**+0.1**
comp=Z,1.6nm,0.8s,baz=212,slow=10,SNR=8.2							
BVAR				LR	LR	19 34 55.6	
comp=Z,41nm,19.6s,baz=29,slow=40							
MKAR	**Makanchi Array**	**26.99**	**40**	P	**P**	**19 22 59.5**	**-0.3**
comp=Z,0.6nm,0.6s,baz=221,slow=8.5,SNR=11							
KURBB	**Kurchatov Arra**	**27.57**	**30**	P	**P**	**19 23 04.8**	**-0.1**
comp=Z,0.8nm,0.7s,baz=230,slow=8.5,SNR=11							
KURBB				pP	**pP**	**19 23 15.6**	**+1.7**
comp=Z,0.4nm,0.8s,baz=229,slow=9.0,SNR=4.3							
AKASG	**Malin Array Be**	**30.80**	**324**	P	**P**	**19 23 31.9**	**-1.7**
comp=Z,0.6nm,0.4s,baz=129,slow=8.5,SNR=3.7							
ZALV	**Zalesovo Beam**	**32.66**	**31**	P	**P**	**19 23 48.9**	**-1.0**
comp=Z,2.6nm,0.7s,baz=240,slow=9.6,SNR=10							
GERES	**GERESS Array B**	**39.07**	**314**	P	**P**	**19 24 43.8**	**-1.3**
comp=Z,0.7nm,0.7s,baz=107,slow=8.9,SNR=9.6							
FINES	**FINESS Array B**	**39.11**	**337**	P	**P**	**19 24 44.0**	**-1.0**
comp=Z,0.6nm,0.5s,baz=141,slow=9.3,SNR=7.8							
SBF	**Sospel**	**42.49**	**305**	*e*P	**P**	**19 25 12.1**	**-1.2**
comp=Z,19nm,0.8s							
SBF	**Sospel**	**42.49**	**305**	*e*P	**P**	**19 25 12.1**	**-1.2**
comp=Z,9.7nm,0.8s							
SONM	**Songino Array**	**42.57**	**49**	P	**P**	**19 25 13.6**	**-0.4**
comp=Z,0.5nm,0.8s,baz=257,slow=8.0,SNR=5.5							
SONM				pP	**pP**	**19 25 24.4**	**+1.2**
comp=Z,0.4nm,0.8s,baz=249,slow=10,SNR=2.4							
MBDF	**Montbardon**	**43.03**	**306**	*e*P	**P**	**19 25 16.9**	**-0.9**
comp=Z,7.7nm,0.7s							
MBDF	**Montbardon**	**43.03**	**306**	*e*P	**P**	**19 25 16.9**	**-0.9**
comp=Z,3.8nm,0.7s							
LPG	**La Plagne**	**43.12**	**308**	*e*P	**P**	**19 25 17.7**	**-0.9**
comp=Z,12nm,0.9s							
LPG	**La Plagne**	**43.12**	**308**	*e*P	**P**	**19 25 17.7**	**-0.9**
comp=Z,6.2nm,0.9s							
LPL	**La Plagne**	**43.13**	**308**	*e*P	**P**	**19 25 17.7**	**-1.0**
comp=Z,13nm,1.2s							
LPL	**La Plagne**	**43.13**	**308**	*e*P	**P**	**19 25 17.7**	**-1.0**
comp=Z,6.7nm,1.2s							
LASF	**Ste Croix**	**45.08**	**305**	*e*P	**P**	**19 25 32.9**	**-1.2**
comp=Z,11nm,0.9s							
LASF	**Ste Croix**	**45.08**	**305**	*e*P	**P**	**19 25 32.9**	**-1.2**
comp=Z,5.3nm,0.9s							
SMF	**Signal de Mont**	**45.24**	**309**	*e*P	**P**	**19 25 33.8**	**-1.5**
comp=Z,8.9nm,0.9s							
SMF	**Signal de Mont**	**45.24**	**309**	*e*P	**P**	**19 25 33.8**	**-1.5**
comp=Z,4.4nm,0.9s							
LOR	**Lormes**	**45.28**	**310**	*e*P	**P**

ASAR	**Alice Springs**	**90.12**	**117**	P	**P**	**19 30 18.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=302,slow=5.3,SNR=4.0						

*DDA **22** 19:21:28.4, 38°.41N×27°.09E, h7km, MD3.5, ML3.6*
*ATH **22** 19:21:28.1, 38°.44N×27°.23E, h11km±7km, MD2.9/4*
*CSEM **22** 19:21:29.9±0.2, 38°.34N×27°.11E, h2km, MD3.4, Error ellipse: s-maj=4.3km s-min=3.5km az=88.0*
*THE **22** 19:21:29.3, 38°.40N×27°.10E, h10km±5km, ML2.9/2, Error ellipse: s-maj=6.2km s-min=0.8km az=179.0*
*ISK **22** 19:21:30.2, 38°.35N×27°.21E, h5km, MD3.4*

ISC 22 19:21:29.4±1.0, 38°.40N±0°.02×27°.11E±0°.02, h8km±8km, n105, σ1°26/129, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.12**	**91**	PG	**Pg**	**19 21 32.4**	**+0.2**
IZM	**Izmir**	**0.12**	**91**	*i* Pg	**Pg**	**19 21 32.4**	**+0.2**
URLA	**Izmir**	**0.40**	**265**	*i* Pg	**Pg**	**19 21 36.7**	**-0.6**
URLA				*i* Sg	**Sg**	**19 21 41.8**	**-0.9**
GCAM	**G?zelcaml?**	**0.70**	**172**	*i* Pg	**Pg**	**19 21 42.9**	**-0.2**
GCAM				*i* Sg	**Sg**	**19 21 52.5**	**+0.3**
SMG	**Samos**	**0.72**	**197**	P	**Pg**	**19 21 43.0**	**-0.3**
SMG				S	**Sb**	**19 21 54.1**	**-0.2**
SMG	**Samos**	**0.72**	**197**	*e*PG	**Pg**	**19 21 43.1**	**-0.3**
SMG				*e*SB	**Sb**	**19 21 54.1**	**-0.2**
SMG	**Samos**	**0.72**	**197**	P	**Pg**	**19 21 43.0**	**-0.3**
SMG				S	**Sb**	**19 21 54.1**	**-0.2**
AKHS	**Akhisar**	**0.73**	**49**	*i* Pg	**Pg**	**19 21 43.2**	**-0.4**
AKHS				*i* Sg	**Sg**	**19 21 53.0**	**-0.1**
CHOS	**Chios island**	**0.83**	**269**	P	**Pg**	**19 21 44.6**	**-0.7**
CHOS				S	**Sb**	**19 21 57.2**	**-0.2**
CHOS	**Chios island**	**0.83**	**269**	P	**Pg**	**19 21 44.6**	**-0.7**
CHOS				S	**Sb**	**19 21 57.2**	**-0.2**
AYVA	**Ayvalik**	**0.96**	**340**	*e*P	**Pg**	**19 21 47.2**	**-0.7**
AYVA				*e*S	**Sb**	**19 22 01.5**	**+0.2**
AYVA	**Ayvalik**	**0.96**	**340**	*e*P	**Pg**	**19 21 47.2**	**-0.7**
AYVA				*e*S	**Sb**	**19 22 01.5**	**+0.2**
PRK	**Paraskevi**	**1.07**	**323**	*e*PN	**Pg**	**19 21 49.3**	**-0.6**
PRK				S	**Sg**	**19 22 03.8**	**0.0**
PRK	**Paraskevi**	**1.07**	**323**	*e*PN	**Pg**	**19 21 49.8**	**-0.1**
PRK				*e*SB	**Sg**	**19 22 03.6**	**-0.2**
PRK	**Paraskevi**	**1.07**	**323**	P	**Pg**	**19 21 49.3**	**-0.6**
PRK	**Paraskevi**	**1.07**	**323**	*e*Pn	**Pg**	**19 21 49.8**	**-0.1**
PRK				S	**Sg**	**19 22 03.8**	**0.0**
MANT	**Manisa**	**1.14**	**85**	*e*P	**Pg**	**19 21 51.1**	**-0.3**
MANT				*e*S	**Sg**	**19 22 05.8**	**-0.5**
MANT	**Manisa**	**1.14**	**85**	*e*P	**Pg**	**19 21 51.1**	**-0.3**
MANT				*e*S	**Sg**	**19 22 05.8**	**-0.5**
MLSB	**Milas**	**1.22**	**154**	*e*PN	**Pb**	**19 21 52.4**	**-0.4**
MLSB				*e*SN	**Sb**	**19 22 08.8**	**0.0**
MLSB	**Milas**	**1.22**	**154**	*e*Pn	**Pb**	**19 21 52.4**	**-0.4**
MLSB				*e*Sn	**Sb**	**19 22 08.8**	**0.0**
KULA	**Kula-Manisa**	**1.23**	**84**	*e*PN	**Pb**	**19 21 52.5**	**-0.4**
KULA				*e*SN	**Sb**	**19 22 08.8**	**-0.1**
KULA	**Kula-Manisa**	**1.23**	**84**	*e*Pn	**Pb**	**19 21 52.5**	**-0.4**
BODT	**Bodrum**	**1.34**	**173**	*e*PN	**Pb**	**19 21 55.0**	**+0.1**
BODT	**Bodrum**	**1.34**	**173**	*e*Pn	**Pb**	**19 21 55.0**	**+0.1**
BDRM	**Kayabasi**	**1.36**	**169**	*e*P	**Pn**	**19 21 53.7**	**-1.0**
BDRM				*e*S	**Sb**	**19 22 12.0**	**-0.6**
BDRM	**Kayabasi**	**1.36**	**169**	*e*P	**Pn**	**19 21 53.7**	**-1.0**
BDRM				*e*S	**Sb**	**19 22 12.0**	**-0.6**
BALY	**Balya**	**1.40**	**16**	*e*P	**Pn**	**19 21 54.6**	**-0.7**
BALY				*e*S	**Sb**	**19 22 13.0**	**-0.8**
BALY	**Balya**	**1.40**	**16**	*e*P	**Pn**	**19 21 54.6**	**-0.7**
BALY				*e*S	**Sb**	**19 22 13.0**	**-0.8**
DEMI	**Demirci**	**1.41**	**62**	*i* P	**Pn**	**19 21 54.9**	**-0.7**
DEMI				*i* S	**Sb**	**19 22 13.9**	**-0.4**
DEMI	**Demirci**	**1.41**	**62**	*i* P	**Pn**	**19 21 54.9**	**-0.7**
DEMI				*i* S	**Sb**	**19 22 13.9**	**-0.4**
EZN	**Ezine**	**1.55**	**337**	*e*PN	**Pg**	**19 21 59.2**	**+0.1**
EZN	**Ezine**	**1.55**	**337**	*e*Pn	**Pg**	**19 21 59.2**	**+0.1**
YER	**Yerkesik**	**1.57**	**143**	*e*PN	**Pn**	**19 21 58.0**	**+0.3**
YER	**Yerkesik**	**1.57**	**143**	*e*Pn	**Pn**	**19 21 58.0**	**+0.3**
DURS	**Dursunbey**	**1.60**	**41**	*i* P	**Pn**	**19 21 57.4**	**-0.8**
DURS				*i* S	**Sn**	**19 22 18.6**	**-0.5**
DURS	**Dursunbey**	**1.60**	**41**	*i* P	**Pn**	**19 21 57.4**	**-0.8**
DURS				*i* S	**Sn**	**19 22 18.6**	**-0.5**
DST	**Dursunbey**	**1.68**	**44**	*e*PN	**Pb**	**19 22 00.7**	**0.0**
DST	**Dursunbey**	**1.68**	**44**	*e*Pn	**Pb**	**19 22 00.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.71**	**15**	*e*PN	**Pb**	**19 22 00.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.71**	**15**	*e*Pn	**Pb**	**19 22 00.8**	**-0.2**
DAT	**Datca**	**1.71**	**167**	*e*PN	**Pn**	**19 22 00.2**	**+0.6**
DAT	**Datca**	**1.71**	**167**	*e*Pn	**Pn**	**19 22 00.2**	**+0.6**
APE	**Apeiranthos**	**1.82**	**224**	*e*PN	**Pb**	**19 22 03.6**	**+0.5**
APE	**Apeiranthos**	**1.82**	**224**	*e*PG	**Pb**	**19 22 03.9**	**+0.8**
APE	**Apeiranthos**	**1.82**	**224**	*e*Pn	**Pb**	**19 22 03.6**	**+0.5**
APE	**Apeiranthos**	**1.82**	**224**	*e*Pg	**Pb**	**19 22 03.9**	**+0.8**
KHL	**Karahalli**	**1.90**	**92**	*e*PN	**Pn**	**19 22 03.4**	**+1.1**
KHL	**Karahalli**	**1.90**	**92**	*e*Pn	**Pn**	**19 22 03.4**	**+1.1**
LPK	**Lapseki**	**1.99**	**352**	*e*PN	**Pb**	**19 22 06.2**	**+0.3**
LPK	**Lapseki**	**1.99**	**352**	*e*Pn	**Pb**	**19 22 06.2**	**+0.3**
KRBG	**Karabiga-Canak**	**2.00**	**4**	*e*PN	**Pb**	**19 22 06.2**	**+0.2**
KRBG	**Karabiga-Canak**	**2.00**	**4**	*e*Pn	**Pb**	**19 22 06.2**	**+0.2**
DALY	**Dalyan (Mu¨la**	**2.00**	**142**	*e*PN	**Pn**	**19 22 04.3**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.00**	**142**	*e*Pn	**Pn**	**19 22 04.3**	**+0.8**
BNT	**Bandirma**	**2.05**	**18**	*e*PN	**Pb**	**19 22 06.1**	**-0.9**
BNT	**Bandirma**	**2.05**	**18**	*e*Pn	**Pb**	**19 22 06.1**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.06**	**346**	*e*PN	**Pb**	**19 22 07.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.06**	**346**	*e*Pn	**Pb**	**19 22 07.1**	**+0.1**
KCTX	**Karacabey (Bur**	**2.10**	**27**	*e*PN	**Pb**	**19 22 07.1**	**-0.7**
KCTX	**Karacabey (Bur**	**2.10**	**27**	*e*Pn	**Pb**	**19 22 07.1**	**-0.7**
LIA	**Limnos Island**	**2.12**	**316**	*e*PN	**Pn**	**19 22 05.6**	**+0.5**
LIA	**Limnos Island**	**2.12**	**316**	*e*Pn	**Pn**	**19 22 05.6**	**+0.5**
ORLT	**Orhaneli**	**2.15**	**40**	*e*PN	**Pb**	**19 22 07.7**	**-1.0**
ORLT	**Orhaneli**	**2.15**	**40**	*e*Pn	**Pb**	**19 22 07.7**	**-1.0**
RKY	**Sarkoy-Tekirda**	**2.29**	**1**	*e*PN	**Pb**	**19 22 10.4**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.29**	**1**	*e*Pn	**Pb**	**19 22 10.4**	**-0.6**
MFT	**Murefte**	**2.39**	**3**	*e*PN	**Pb**	**19 22 12.2**	**-0.5**
MFT	**Murefte**	**2.39**	**3**	*e*Pn	**Pb**	**19 22 12.2**	**-0.5**
SMTH	**Samothraki Isl**	**2.40**	**330**	*e*PB	**Pn**	**19 22 09.2**	**+0.1**
ARMT	**Armutlu**	**2.56**	**32**	*e*PN	**Pn**	**19 22 13.4**	**+2.3**
ARMT	**Armutlu**	**2.56**	**32**	*e*Pn	**Pn**	**19 22 13.5**	**+2.3**
GEMT	**Gemlik**	**2.59**	**38**	*e*PN	**Pb**	**19 22 14.2**	**-2.0**
GEMT	**Gemlik**	**2.59**	**38**	*e*Pn	**Pb**	**19 22 14.2**	**-2.0**
ELL	**Elmali**	**2.77**	**126**	*e*PN	**Pn**	**19 22 15.4**	**+1.2**
ELL	**Elmali**	**2.77**	**126**	*e*Pn	**Pn**	**19 22 15.4**	**+1.2**
YLV	**Yalova**	**2.79**	**38**	*e*PN	**Pn**	**19 22 16.7**	**+2.3**
YLV	**Yalova**	**2.79**	**38**	*e*Pn	**Pn**	**19 22 16.7**	**+2.3**
ADVT	**Abdulvahap**	**2.88**	**44**	*e*PN	**Pn**	**19 22 18.0**	**+2.4**
ADVT	**Abdulvahap**	**2.88**	**44**	*e*Pn	**Pn**	**19 22 18.0**	**+2.4**
BUY	**Buyukada**	**2.90**	**32**	*e*PN	**Pn**	**19 22 18.6**	**+2.8**
BUY	**Buyukada**	**2.90**	**32**	*e*Pn	**Pn**	**19 22 18.7**	**+2.8**
BCK	**Bucak**	**2.91**	**108**	*e*PN	**Pn**	**19 22 17.2**	**+1.1**
BCK	**Bucak**	**2.91**	**108**	*e*Pn	**Pn**	**19 22 17.2**	**+1.1**
SLVT	**Silivri**	**2.95**	**16**	*e*PN	**Pn**	**19 22 18.6**	**+2.0**
SLVT	**Silivri**	**2.95**	**16**	*e*Pn	**Pn**	**19 22 18.6**	**+2.0**
CTKS	**Kestanelik-??a**	**3.03**	**20**	*e*PN	**Pn**	**19 22 20.7**	**+3.0**
CTKS	**Kestanelik-??a**	**3.03**	**20**	*e*Pn	**Pn**	**19 22 20.7**	**+3.0**
ISK	**Istanbul-Kandi**	**3.06**	**29**	*e*PN	**Pn**	**19 22 20.9**	**+2.8**
ISK	**Istanbul-Kandi**	**3.06**	**29**	*e*Pn	**Pn**	**19 22 20.9**	**+2.8**
BGKT	**Bogazkoy**	**3.06**	**24**	*e*PN	**Pn**	**19 22 20.9**	**+2.8**
BGKT	**Bogazkoy**	**3.06**	**24**	*e*Pn	**Pn**	**19 22 20.9**	**+2.8**
HRT	**Hereke**	**3.12**	**38**	*e*PN	**Pn**	**19 22 21.0**	**+1.9**
HRT	**Hereke**	**3.12**	**38**	*e*Pn	**Pn**	**19 22 21.0**	**+1.9**
ESKT	**Eskisehir**	**3.13**	**68**	*e*PN	**Pn**	**19 22 21.0**	**+1.9**
ESKT	**Eskisehir**	**3.13**	**68**	*e*Pn	**Pn**	**19 22 21.0**	**+1.9**
SUTC	**Sutluce-Ispart**	**3.21**	**105**	*e*PN	**Pn**	**19 22 21.3**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.21**	**105**	*e*Pn	**Pn**	**19 22 21.3**	**+1.0**
KLYT	**Kilyos**	**3.22**	**27**	*e*PN	**Pn**	**19 22 22.9**	**+2.8**
KLYT	**Kilyos**	**3.22**	**27**	*e*Pn	**Pn**	**19 22 23.0**	**+2.8**
GULT	**Gulveren**	**3.33**	**51**	*e*PN	**Pn**	**19 22 24.2**	**+2.3**
GULT	**Gulveren**	**3.33**	**51**	*e*Pn	**Pn**	**19 22 24.2**	**+2.3**
EDRB	**Edirne**	**3.46**	**356**	*e*PN	Pn	19 22 26.9	+3.4
EDRB	**Edirne**	**3.46**	**356**	*e*Pn	Pn	19 22 26.9	+3.4
SVRH	**Sivrihisar-ESK**	**3.60**	**72**	*e*PN	**Pn**	**19 22 27.4**	**+1.8**
SVRH	**Sivrihisar-ESK**	**3.60**	**72**	*e*Pn	**Pn**	**19 22 27.4**	**+1.8**

IDC 22 19:34:38.9±1.9, 16°.26S×174°.96W, h287km±18km, mb3.5/10, mb1 3.6/12, mb1mx3.5/22, mbtmp3.4/12, Error ellipse: s-maj=19.8km s-min=12.4km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.86**	**53**	P	Pn	19 35 44.4	+1.3
	12nm,0.3s,baz=11,slow=1.7,SNR=5.9						
AFI				S	S	19 36 33.1	-1.2
	69nm,0.3s,baz=63,slow=22,SNR=16						

DZM	**Mont Dzumac**	**18.49**	**249**	P	P	19 38 34.2	-0.6
	0.1nm,0.3s,baz=73,slow=19,SNR=2.2						
URZ	**Urewera**	**23.00**	**196**	P	P	19 39 17.5	-1.5
	5.5nm,0.8s,baz=348,slow=15,SNR=2.6						
STKA	**Stephens Creek**	**42.31**	**240**	P	P	19 42 04.1	-1.2
	2.4nm,0.7s,baz=100,slow=9.3,SNR=4.8						
WRA	**Warramunga Arr**	**48.19**	**258**	P	P	19 42 51.0	-0.4
	3.4nm,0.7s,baz=92,slow=8.0,SNR=27						
ASAR	**Alice Springs**	**48.42**	**253**	P	P	19 42 53.1	0.0
	11nm,0.7s,baz=87,slow=8.0,SNR=164						
FITZ	**Fitzroy Crossi**	**56.57**	**259**	P	P	19 43 53.1	+0.5
	baz=102,slow=14						
QSPA	**South Pole Qui**	**73.79**	**180**	P	P	19 45 42.9	+0.8
	3.0nm,0.7s,baz=70,slow=1.4,SNR=24						
NVAR	**Mina Array Bea**	**75.97**	**43**	P	P	19 45 54.2	-0.7
	0.4nm,0.7s,baz=258,slow=4.3,SNR=2.3						
ILAR	**Eielson Array**	**83.58**	**12**	P	P	19 46 33.0	-1.8
	0.3nm,0.6s,baz=225,slow=4.8,SNR=4.5						
PDAR	**Pinedale Array**	**83.90**	**42**	P	P	19 46 36.8	-0.4
	0.3nm,0.4s,baz=210,slow=3.1,SNR=2.7						
MAW	**Mawson**	**86.50**	**199**	P	P	19 46 49.7	+0.4
	1.0nm,0.6s,baz=146,slow=10,SNR=7.0						
CMAR	**Chiang Mai Arr**	**91.46**	**289**	P	P	19 47 14.9	+1.4
	0.5nm,0.8s,baz=72,slow=3.9,SNR=3.4						
BRTR	**Keskin Array B**	**145.85**	**319**	PKPbc	PKPbc	19 53 45.2	+0.1
	0.4nm,0.6s,baz=130,slow=2.3,SNR=4.3						
GERES	**GERESS Array B**	**146.74**	**350**	PKPbc	PKPbc	19 53 46.9	-0.4
	0.2nm,0.6s,baz=350,slow=4.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**175.52**	**133**	PKPab	PKPab	19 55 54.4	-0.1
	0.4nm,0.7s,baz=232,slow=4.9,SNR=2.3						

IDC 22 19:43:39.7±3.0, 1°.55S×99°.33E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/23, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=122.9km s-min=20.4km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.88**	**359**	P	P	19 48 12.9	+0.1
	0.0nm,0.3s,baz=192,slow=9.7,SNR=3.3						
WRA	**Warramunga Arr**	**38.80**	**121**	P	P	19 51 06.1	-0.5
	0.9nm,0.8s,baz=297,slow=8.3,SNR=8.2						
ASAR	**Alice Springs**	**40.06**	**126**	P	P	19 51 17.4	+0.3
	0.3nm,0.7s,baz=296,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**49.56**	**6**	P	P	19 52 32.6	-0.1
	0.1nm,0.3s,baz=198,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**50.41**	**345**	P	P	19 52 38.9	-0.1
	0.2nm,0.5s,baz=151,slow=7.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**56.60**	**350**	P	P	19 53 24.0	-0.2
	0.4nm,0.5s,baz=167,slow=7.0,SNR=2.9						
TXAR	**Lajitas Array**	**144.75**	**36**	PKP	PKPbc	20 03 18.9	+0.5
	0.3nm,0.5s,baz=267,slow=1.8,SNR=4.4						

*ISCJB **22** 20:20:38.2±0.3, 42°.58N±0°.02×13°.18E±0°.03, h10km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=151.7*
*ROM **22** 20:20:38.1±0.1, 42°.58N×13°.18E, h10km, Ml3.1/24, Error ellipse: s-maj=1.1km s-min=0.8km az=66.0*
*CSEM **22** 20:20:38.5±0.1, 42°.58N×13°.18E, h5km, ML3.5/7, Error ellipse: s-maj=2.6km s-min=1.9km az=73.0*
*PRU **22** 20:20:39.5, 42°.60N×13°.35E, h0km*

ISC 22 20:20:38.7±0.8, 42°.59N±0°.02×13°.19E±0°.02, h11km±6km, n74, σ1°24/113, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**280**	Pg	**Pg**	**20 20 41.2**	**-0.4**
LNSS				Sg	**Sg**	**20 20 43.7**	**0.0**
LNSS	**Leonessa**	**0.11**	**280**	Pg	**Pg**	**20 20 41.2**	**-0.4**
LNSS				Sg	**Sg**	**20 20 43.7**	**0.0**
NRCA	**Norcia**	**0.26**	**348**	Pg	**Pg**	**20 20 43.7**	**-0.2**
NRCA				Sg	**Sg**	**20 20 48.0**	**+0.5**
	3μm,0.1s						
NRCA	**Norcia**	**0.26**	**348**	Pg	**Pg**	**20 20 43.7**	**-0.2**
NRCA				Sg	**Sg**	**20 20 48.0**	**+0.5**
	3μm,0.1s						
AQU	**L'Aquila**	**0.28**	**145**	Pg	**Pg**	**20 20 44.3**	**-0.1**
AQU				Sg	**Sb**	**20 20 49.5**	**-1.0**
	4μm,0.7s						
AQU	**L'Aquila**	**0.28**	**145**	Pg	**Pg**	**20 20 44.3**	**-0.1**
AQU				Sg	**Sb**	**20 20 49.5**	**-1.0**
	4μm,0.7s						
TERO	**Teramo**	**0.31**	**83**	Pg	**Pg**	**20 20 44.6**	**-0.3**
TERO				Sg	**Sg**	**20 20 49.2**	**+0.1**
	3μm,0.6s						
TERO	**Teramo**	**0.31**	**83**	Pg	**Pg**	**20 20 44.6**	**-0.3**
TERO				Sg	**Sg**	**20 20 49.2**	**+0.1**
	3μm,0.6s						
FIAM	**Fiamignano**	**0.32**	**189**	Pg	**Pg**	**20 20 44.9**	**-0.2**
FIAM				Sg	**Sg**	**20 20 49.8**	**+0.4**
	3μm,0.8s						
FIAM	**Fiamignano**	**0.32**	**189**	Pg	**Pg**	**20 20 44.9**	**-0.2**
FIAM				Sg	**Sg**	**20 20 49.8**	**+0.4**
	3μm,0.8s						
MNS	**Montasola**	**0.42**	**242**	Pg	**Pg**	**20 20 46.7**	**-0.3**
MNS				Sg	**Sb**	**20 20 53.3**	**-1.4**
MNS	**Montasola**	**0.42**	**242**	Pg	**Pg**	**20 20 46.7**	**-0.3**
MNS				Sg	**Sb**	**20 20 53.3**	**-1.4**
FAGN	**Fagnano**	**0.43**	**137**	Pg	**Pg**	**20 20 46.8**	**-0.4**
FAGN				Sg	**Sb**	**20 20 54.8**	**-0.1**
	3μm,0.4s						
FAGN	**Fagnano**	**0.43**	**137**	Pg	**Pg**	**20 20 46.8**	**-0.4**
FAGN				Sg	**Sb**	**20 20 54.8**	**-0.1**
	3μm,0.4s						
CESX	**Cesi**	**0.45**	**273**	Pg	**Pg**	**20 20 46.9**	**-0.6**
CESX				Sg	**Sb**	**20 20 54.1**	**-1.3**
	574nm,0.3s						
CESX	**Cesi**	**0.45**	**273**	Pg	**Pg**	**20 20 46.9**	**-0.6**
CESX				Sg	**Sb**	**20 20 54.1**	**-1.3**
	574nm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**351**	Pg	**Pg**	**20 20 47.2**	**-0.4**
FDMO				Sg	**Sb**	**20 20 54.7**	**-1.0**
FDMO	**Fiordimonte**	**0.46**	**351**	Pg	**Pg**	**20 20 47.2**	**-0.4**
FDMO				Sg	**Sb**	**20 20 54.7**	**-1.0**
CESI	**CESI - Serrava**	**0.47**	**334**	Pg	**Pg**	**20 20 47.6**	**-0.3**
CESI				Sg	**Sb**	**20 20 55.1**	**-0.9**
	315nm,0.7s						
CESI	**CESI - Serrava**	**0.47**	**334**	Pg	**Pg**	**20 20 47.6**	**-0.3**
CESI				Sg	**Sb**	**20 20 55.1**	**-0.9**
	315nm,0.7s						
OFFI	**Offida**	**0.51**	**46**	Pg	**Pb**	**20 20 49.1**	**-0.5**
	3μm,0.5s						
OFFI	**Offida**	**0.51**	**46**	Pg	**Pb**	**20 20 49.1**	**-0.5**
	3μm,0.5s						
VCEL	**Villa Celiera**	**0.52**	**111**	Pg	**Pg**	**20 20 48.6**	**-0.2**
	2μm,0.4s						
VCEL	**Villa Celiera**	**0.52**	**111**	Pg	**Pg**	**20 20 48.6**	**-0.2**
	2μm,0.4s						
TRTR	**Tortoreto Alta**	**0.58**	**67**	Pg	**Pb**	**20 20 50.7**	**-0.2**
TRTR	**Tortoreto Alta**	**0.58**	**67**	Pg	**Pb**	**20 20 50.7**	**-0.2**
PTQR	**Pietraquaria**	**0.58**	**164**	Pg	**Pg**	**20 20 49.5**	**-0.5**
	70nm,0.3s						
PTQR	**Pietraquaria**	**0.58**	**164**	Pg	**Pg**	**20 20 49.5**	**-0.5**
	70nm,0.3s						
MTCE	**Montecelio**	**0.65**	**211**	Pg	**Pg**	**20 20 50.3**	**-1.0**
	424nm,0.5s						
MTCE	**Montecelio**	**0.65**	**211**	Pg	**Pg**	**20 20 50.3**	**-1.0**
	424nm,0.5s						
CERT	**Cerreto**	**0.65**	**194**	Pg	**Pg**	**20 20 50.4**	**-0.9**
	1μm,0.5s						
CERT	**Cerreto**	**0.65**	**194**	Pg	**Pg**	**20 20 50.4**	**-0.9**
	1μm,0.5s						
SNTG	**Esanatoglia**	**0.69**	**345**	Pg	**Pg**	**20 20 51.4**	**-0.7**
	169nm,0.6s						
SNTG	**Esanatoglia**	**0.69**	**345**	Pg	**Pg**	**20 20 51.4**	**-0.7**
	169nm,0.6s						
GUMA	**Gualdo di Mace**	**0.73**	**49**	Pg	Pg	20 20 48.3	-4.4
GUMA				Sg	**Sg**	**20 20 56.5**	**-5.8**
	3μm,0.6s						
INTR	**Introdacqua**	**0.78**	**137**	Pg	**Pg**	**20 20 52.8**	**-0.9**
	771nm,0.8s						
INTR	**Introdacqua**	**0.78**	**137**	Pg	**Pg**	**20 20 52.8**	**-0.9**
	771nm,0.8s						
VVLD	**Villa Vallelon**	**0.78**	**156**	Pg	**Pg**	**20 20 53.6**	**-0.2**
	302nm,0.5s						
VVLD	**Villa Vallelon**	**0.78**	**156**	Pg	**Pg**	**20 20 53.6**	**-0.2**
	302nm,0.5s						
CING	**Cingoli**	**0.79**	**0**	Pg	**Pg**	**20 20 53.1**	**-0.8**
	329nm,0.6s						
CING	**Cingoli**	**0.79**	**0**	Pg	**Pg**	**20 20 53.1**	**-0.8**
	329nm,0.6s						
GUAR	**Guarcino**	**0.80**	**173**	Pg	**Pb**	**20 20 53.9**	**-0.7**
	345nm,0.5s						
GUAR	**Guarcino**	**0.80**	**173**	Pg	**Pb**	**20 20 53.9**	**-0.7**
	345nm,0.5s						

MURB	**Monte Urbino**	**0.83**	**325**	Pg	**Pg**	**20 20 54.5**	**-0.3**
	594nm,0.4s						
MURB	**Monte Urbino**	**0.83**	**325**	Pg	**Pg**	**20 20 54.5**	**-0.3**
	594nm,0.4s						
MGAB	**Montegabbione**	**0.86**	**293**	Pg	**Pg**	**20 20 54.6**	**-0.6**
	370nm,0.6s						
MGAB	**Montegabbione**	**0.86**	**293**	Pg	**Pg**	**20 20 54.6**	**-0.6**
	370nm,0.6s						
LPEL	**Lama dei Pelig**	**0.91**	**126**	Pg	**Pg**	**20 20 54.8**	**-1.4**
	329nm,0.6s						
LPEL	**Lama dei Pelig**	**0.91**	**126**	Pg	**Pg**	**20 20 54.8**	**-1.4**
	329nm,0.6s						
ARVD	**Arcevia**	**0.93**	**349**	Pg	**Pg**	**20 20 55.6**	**-1.0**
	450nm,0.8s						
ARVD	**Arcevia**	**0.93**	**349**	Pg	**Pg**	**20 20 55.6**	**-1.0**
	450nm,0.8s						
POFI	**Posta Fibreno**	**0.95**	**156**	Pg	**Pb**	**20 20 57.1**	**-0.1**
	210nm,0.6s						
POFI	**Posta Fibreno**	**0.95**	**156**	Pg	**Pb**	**20 20 57.1**	**-0.1**
	210nm,0.6s						
AOI	**Ancona**	**1.01**	**17**	Pg	**Pg**	**20 20 57.3**	**-0.8**
	190nm,0.5s						
AOI	**Ancona**	**1.01**	**17**	Pg	**Pg**	**20 20 57.3**	**-0.8**
	190nm,0.5s						
NVLJ	**Novalja**	**2.33**	**31**	*e*Pn	**Pn**	**20 21 17.6**	**+0.7**
NVLJ				Sn	**Sn**	**20 21 45.7**	**+0.2**
NVLJ	**Novalja**	**2.33**	**31**	*e*Pn	**Pn**	**20 21 17.5**	**+0.7**
NVLJ				Sn	**Sn**	**20 21 45.7**	**+0.2**
UDBI	**Udbina**	**2.70**	**43**	*i* Pn	**Pn**	**20 21 23.7**	**+1.6**
UDBI				Sn	**Sn**	**20 21 58.1**	**+3.3**
SKDS	**Skadanscina**	**3.02**	**11**	*i* Pn	**Pn**	**20 21 28.7**	**+2.2**
SKDS				*i* Sn	**Sn**	**20 22 04.3**	**+1.6**
STON	**Ston**	**3.34**	**84**	*e*Pn	**Pn**	**20 21 30.8**	**0.0**
STON				Sn	**Sn**	**20 22 11.4**	**+1.0**
STON	**Ston**	**3.34**	**84**	*e*Pn	**Pn**	**20 21 30.8**	**0.0**
STON				Sn	**Sn**	**20 22 11.4**	**+1.0**
VOY	**Vojsko**	**3.48**	**8**	*e*Pn	**Pn**	**20 21 33.5**	**+0.6**
VOY				*e*Sn	**Sn**	**20 22 16.6**	**+2.4**
VOY	**Vojsko**	**3.48**	**8**	*e*Pn	**Pn**	**20 21 33.5**	**+0.6**
VOY				*e*Sn	**Sn**	**20 22 16.6**	**+2.4**
PERS	**Pernice**	**4.28**	**18**	*i* Pn	**Pn**	**20 21 46.2**	**+2.4**
PERS				*i* Sn	**Sn**	**20 22 35.5**	**+1.7**
PERS	**Pernice**	**4.28**	**18**	*i* Pn	**Pn**	**20 21 46.2**	**+2.4**
PERS				*i* Sn

RBDL **Robledal** 2.62 320 eP Pn 21 23 57.8 -1.4
IXG **Ixpaco** 3.20 311 eP Pn 21 24 06.9 -0.2
IXG eS Sn 21 24 42.3 -1.9
MRL **Marmol** 3.41 330 eP Pn 21 24 14.8 +4.8
FUG **Fuego 3** 3.66 310 eP Pn 21 24 15.3 +1.8
TEIG **Tepich** 8.10 358 ePn Pn 21 25 16.4 +2.3
TEIG Sn Sn 21 26 42.7 -1.4
TEIG **Tepich** 8.10 358 Pn Pn 21 25 16.6 +2.5
comp=Z,1.7nm,0.3s,baz=172,slow=12,SNR=12
TEIG Sn Sn 21 26 42.7 -1.4
baz=221,slow=20,SNR=1.4
TEIG LR LR 21 29 02.5
comp=Z,1µm,19.5s,baz=212,slow=44
CMIG **Matias Romero** 8.35 307 Pn Pn 21 25 16.1 -1.5
CMIG Sn Sn 21 26 47.6 -2.8
CMIG **Matias Romero** 8.35 307 Pn Pn 21 25 16.1 -1.5
comp=Z,2.5nm,0.3s,baz=109,slow=9.0,SNR=14
CMIG Sn Sn 21 26 47.6 -2.8
comp=Z,0.6nm,0.3s,baz=87,slow=18,SNR=2.1
BCIP **Isla Barro Col** 8.49 109 ePn Pn 21 25 19.4 0.0
ROSC **El Rosal** 15.26 117 ePn Pn 21 26 52.4 +0.9
ROSC **El Rosal** 15.26 117 Pn Pn 21 26 52.2 +0.7
comp=Z,0.8nm,0.3s,baz=105,slow=20,SNR=3.5
ROSC LR LR 21 33 10.0
comp=Z,187nm,18.0s,baz=156,slow=40
SDV **Santo Domingo** 17.32 99 Pn Pn 21 27 16.3 -1.0
comp=Z,21nm,1.1s
SDDR **Presa de Saban** 17.45 65 eP Pn 21 27 16.8 -1.8
comp=Z,224nm,2.9s
KVTX **Kingsville** 17.98 330 eP Pn 21 27 26.7 +1.7
comp=Z,100nm,0.8s
HKT **Hockley** 19.22 339 eP P 21 27 40.2 +1.9
comp=Z,26nm,1.2s
TIGA **Tifton** 19.67 11 ePn Pn 21 27 45.9 +0.7
TIGA **Tifton** 19.67 11 P Pn 21 27 46.0 +0.8
baz=20,SNR=17
732A **Laxson Ranch,** 20.00 328 P P 21 27 47.5 +0.6
baz=20,SNR=33
VBMS **Vicksburg** 20.17 354 ePn Pn 21 27 51.8 +0.7
comp=Z,86nm,0.7s
NATX **Nacogdoches** 20.53 344 eP P 21 27 54.9 +2.3
comp=Z,81nm,0.8s
632A **Uvalde** 20.53 329 P P 21 27 53.2 +0.5
baz=21,SNR=42
631A **Perdido Creek** 20.86 328 P P 21 27 56.6 +0.4
baz=21,SNR=11
LRAL **Lakeview Retre** 20.86 2 eP P 21 27 57.9 +1.7
comp=Z,36nm,0.9s
532A **Rockspring**s 21.10 330 P P 21 27 59.9 +1.0
baz=21,SNR=85
ATAH **Atahualpa** 21.34 153 P P 21 28 01.1 -0.7
ATAH **Atahualpa** 21.34 153 P P 21 28 01.1 -0.7
comp=Z,6.5nm,0.8s,baz=314,slow=17,SNR=2.5
ATAH LR LR 21 35 32.4
comp=Z,285nm,18.4s,baz=167,slow=35
JCT **Junction City** 21.34 331 eP P 21 28 02.0 +0.6
comp=Z,50nm,0.7s
JCT **Junction City** 21.34 331 P P 21 28 02.0 +0.6
baz=22,SNR=19
531A **Rockspring**s 21.45 329 P P 21 28 02.8 +0.2
baz=22,SNR=21
WHTX **Lake Whitney** 21.65 338 eP P 21 28 04.8 +0.1
WHTX **Lake Whitney** 21.65 338 P P 21 28 04.7 +0.1
baz=22
432A **Menard** 21.67 331 P P 21 28 04.9 0.0
baz=22,SNR=24
530A **J-C Ranch, Com** 21.84 327 P P 21 28 07.6 +0.8
baz=22,SNR=18
431A **Sonora** 21.90 330 P P 21 28 07.9 +0.5
baz=22,SNR=19
332A **Millersview** 22.07 332 P P 21 28 09.5 +0.3
baz=22,SNR=72
CPD **Cerro la Pandu** 22.07 72 eP P 21 28 08.8 -0.5
comp=Z,103nm,0.6s
628A **Black Gap, Mar** 22.20 323 P P 21 28 11.8 +1.2
baz=22,SNR=56
430A **Baggett Ranch,** 22.30 329 P P 21 28 11.8 0.0
baz=22,SNR=38
529A **Stev Forest Ra** 22.30 326 P P 21 28 11.7 0.0
baz=22,SNR=22
331A **San Angelo** 22.32 331 P P 21 28 11.8 -0.1
baz=22,SNR=27
OXF **Oxford** 22.36 357 eP P 21 28 12.0 -0.2
comp=Z,126nm,1.5s
232A **Coleman** 22.45 333 P P 21 28 12.9 -0.4
baz=23,SNR=85
627A **Terlingua Ranc** 22.46 323 P P 21 28 14.6 +1.0
baz=23,SNR=57
429A **Davenport Ranc** 22.51 327 P P 21 28 13.7 -0.3
baz=23,SNR=45
TXAR **Lajitas Array** 22.55 322 P P 21 28 15.0 +0.6
TXAR PcP PcP 21 32 08.1 +1.8
TXAR **Lajitas Array** 22.55 322 P P 21 28 15.0 +0.6
comp=Z,13nm,0.5s,baz=138,slow=9.6,SNR=160
TXAR PcP PcP 21 32 08.1 +1.8
comp=Z,1.2nm,0.9s,baz=132,slow=3.5,SNR=4.1
528A **Cox Ranch, San** 22.64 325 P P 21 28 15.3 -0.2
baz=23,SNR=15
330A **Mertzon** 22.77 330 P P 21 28 16.2 -0.6
baz=23,SNR=22
PLAL **Pickwick Lake** 22.79 360 eP P 21 28 15.7 -1.1
comp=Z,21nm,1.1s
231A **Bronte** 22.80 332 P P 21 28 16.5 -0.5
baz=23,SNR=12
MIAR **Mount Ida** 22.93 348 eP P 21 28 18.9 +0.7
comp=Z,129nm,0.8s
UALR **University of** 22.93 351 eP P 21 28 19.1 +0.8
comp=Z,53nm,1.0s
626A **Big Bend Ranch** 22.99 322 P P 21 28 20.2 +1.2
baz=23,SNR=22
428A **Kincaid Ranch,** 23.02 326 P P 21 28 19.2 -0.1
baz=23,SNR=16
ABTX **Abilene, Hawle** 23.08 334 eP P 21 28 19.4 -0.5
ABTX **Abilene, Hawle** 23.08 334 P P 21 28 19.4 -0.5
baz=23,SNR=35
527A **Woodward Ranch** 23.10 323 P P 21 28 20.5 +0.2
baz=23,SNR=16
230A **Sterling City** 23.13 330 P P 21 28 19.4 -0.9
baz=23,SNR=23
329A **Wagon Wheel Ra** 23.24 328 P P 21 28 20.7 -0.7
baz=23,SNR=35
526A **Mary Lane Ranc** 23.32 323 P P 21 28 22.5 +0.1
baz=24,SNR=26
131A **Roby** 23.45 333 P P 21 28 23.1 -0.3
baz=24,SNR=9.0
CPCT **Cooper Cave** 23.46 7 eP P 21 28 22.9 -0.5
HBAR **Harrisburg** 23.49 354 eP P 21 28 22.9 -0.7
427A **Hayter Ranch,** 23.51 325 P P 21 28 23.9 -0.1
baz=24
229A **Bryant Ranch,** 23.54 329 P P 21 28 23.9 -0.4
baz=24,SNR=15
328A **Wristen Ranch,** 23.59 327 P P 21 28 24.9 +0.2
baz=24,SNR=42
Z32A **Haskell** 23.61 335 P P 21 28 24.6 -0.2
baz=24,SNR=44
130A **Snyder** 23.65 332 P P 21 28 25.1 -0.2
baz=24,SNR=16
KMSC **Kings Mountain** 23.72 14 eP P 21 28 27.0 +1.2
KMSC **Kings Mountain** 23.72 14 P P 21 28 26.0 +0.3
baz=24,SNR=12
426A **McDonald Obser** 23.73 324 P P 21 28 27.2 +1.0
baz=24,SNR=9.4
TKL **Tuckaleechee C** 23.77 8 eP P 21 28 27.5 +1.3
TKL **Tuckaleechee C** 23.77 8 P P 21 28 26.7 +0.5
comp=Z,51nm,0.9s,baz=186,slow=10,SNR=48
TKL LR LR 21 38 41.1
comp=Z,178nm,19.1s,baz=351,slow=39
Z31A **Sharp Cattle R** 23.89 334 P P 21 28 27.5 +0.1
baz=24,SNR=34
WVT **Waverly** 23.93 0 eP P 21 28 25.7 -2.0
comp=Z,9.3nm,0.9s
228A **UT Block 9, Go** 24.05 328 P P 21 28 29.0 +0.1
baz=24,SNR=19
129A **Stewart Farms,** 24.11 330 P P 21 28 29.5 +0.1
baz=24,SNR=50
326A **Caldwell Ranch** 24.18 325 P P 21 28 30.4 +0.2
baz=24,SNR=33
Y32A **R-V Farms, Ver** 24.20 336 P P 21 28 30.5 +0.3
baz=24,SNR=9.3
Z30A **Sanderson Ranc** 24.30 332 P P 21 28 31.3 +0.2
baz=24,SNR=45
LPIG **La Paz** 24.33 302 LR LR 21 39 40.6
comp=Z,473nm,18.4s,baz=67,slow=40
227A **Bennet, Jal** 24.34 327 P P 21 28 32.5 +1.0
baz=24,SNR=13
425A **Indio Mountain** 24.38 322 P P 21 28 32.8 +0.7
baz=24,SNR=14
128A **Castleberry Fa** 24.40 329 P P 21 28 32.7 +0.6
baz=24,SNR=46
Y31A **Rekieta Farm,** 24.50 335 P P 21 28 33.7 +0.8
baz=25,SNR=15
PARMO **Parma** 24.52 357 eP P 21 28 33.0 -0.1
Z29A **Hungry Hill Ra** 24.54 331 P P 21 28 34.0 +0.6
baz=25,SNR=72
WMOK **Wichita Mounta** 24.60 338 eP P 21 28 34.1 +0.3
comp=Z,47nm,1.2s
TZTN **Tazewell** 24.67 9 eP P 21 28 34.2 -0.2
comp=Z,24nm,0.8s
Y30A **Stafford Cattl** 24.70 334 P P 21 28 35.9 +1.1
baz=25,SNR=25
TUL1 **Tulsa** 24.75 345 eP P 21 28 35.5 +0.3
TUL1 **Tulsa** 24.75 345 P P 21 28 35.5 +0.3
baz=25,SNR=21
325A **Bean Ranch, Si** 24.80 323 P P 21 28 35.8 0.0
baz=25,SNR=33
CLNB **Carlsbad** 24.85 326 eP P 21 28 38.3 +2.1
226B **Tecolote Peak,** 24.86 326 P P 21 28 37.2 +0.9
baz=25,SNR=23
127A **Arkansas Junct** 24.89 328 P P 21 28 37.0 +0.4
baz=25,SNR=12
Z28A **Tucker Farm, M** 24.89 330 P P 21 28 37.6 +1.0
baz=25,SNR=8.9
X31A **McDonald Ranch** 24.96 336 P P 21 28 38.2 +1.1
baz=25,SNR=16
Y29A **Porterfield Fa** 25.03 332 P P 21 28 38.9 +1.1
baz=25,SNR=17
324A **Moseley Ranch,** 25.15 323 P P 21 28 39.6 +0.6
baz=25,SNR=33
X30A **Coker Ranch, T** 25.17 334 P P 21 28 40.3 +1.2
baz=25,SNR=102
126A **Clayton Basin,** 25.22 327 P P 21 28 40.5 +0.9
baz=25,SNR=8.2
225A **Deer Hill, Car** 25.25 325 P P 21 28 42.2 +2.2
baz=25,SNR=24
MNTX **Cornudas Mount** 25.27 323 eP P 21 28 40.6 +0.6
comp=Z,15nm,1.0s
Z27A **Tatum** 25.32 329 P P 21 28 40.8 +0.2
baz=26,SNR=37
Y28A **McKinney Farm,** 25.33 331 P P 21 28 42.3 +1.7
baz=26,SNR=12
X29A **Tulia** 25.53 333 P P 21 28 44.1 +1.7
baz=26,SNR=10.0
SIUC **Southern Illin** 25.54 358 eP P 21 28 42.0 -0.3
comp=Z,37nm,0.8s
125A **Gardner Draw,** 25.57 326 P P 21 28 44.9 +2.1
baz=26,SNR=39
224A **Cornudas Mount** 25.63 324 P P 21 28 44.2 +0.8
baz=26,SNR=22
MSTX **Muleshoe** 25.63 331 eP P 21 28 43.8 +0.5
MSTX **Muleshoe** 25.63 331 P P 21 28 43.9 +0.5
baz=26,SNR=38
W30A **Crocket Farms** 25.68 336 P P 21 28 44.9 +1.2
baz=26
Z26A **Caprock** 25.68 328 P P 21 28 44.9 +1.1
baz=26,SNR=24
Y27A **Causey** 25.75 330 P P 21 28 45.3 +0.9
baz=26,SNR=45
USIN **University of** 25.77 1 eP P 21 28 43.4 -0.9
comp=Z,24nm,0.6s
X28A **Dimmitt** 25.82 332 P P 21 28 46.4 +1.4
baz=26
BLA **Blacksburg** 25.91 14 eP P 21 28 45.0 -0.8
comp=Z,15nm,0.8s
V31A **Spring Creek L** 25.91 337 P P 21 28 47.4 +1.6
baz=26,SNR=15
124A **Stringfield Ra** 26.05 325 P P 21 28 49.6 +2.4
baz=26,SNR=21
WCI **Wyandotte Cave** 26.07 3 eP P 21 28 46.6 -0.6
W29A **Amraillo** 26.08 334 P P 21 28 48.4 +1.1
baz=26,SNR=8.7
Z25A **Roswell** 26.08 327 P P 21 28 48.8 +1.4
baz=26,SNR=26
Y26A **Elida** 26.11 329 P P 21 28 49.3 +1.6
baz=26,SNR=20
X27A **F and S Farms,** 26.34 331 P P 21 28 51.4 +1.6
baz=26,SNR=14
W28A **Vega** 26.44 333 P P 21 28 51.8 +1.2
baz=27
Z24A **Sheeppen Canyo** 26.47 326 P P 21 28 53.9 +2.9
baz=27,SNR=20
Y25A **Mesa, Roswell** 26.56 328 P P 21 28 54.2 +2.4
baz=27,SNR=35
X26A **CR and CF Fran** 26.61 330 P P 21 28 54.0 +1.8
baz=27,SNR=22
W27A **Bowe Ranch, En** 26.66 332 P P 21 28 54.3 +1.7
baz=27,SNR=48
V28A **Channing** 26.86 334 P P 21 28 55.6 +1.2
baz=27,SNR=5.2
U30A **WK&E Inc. Balk** 26.89 337 P P 21 28 56.2 +1.7
baz=27,SNR=7.9
Y24A **Capitan** 26.96 327 P P 21 28 57.9 +2.4
baz=27,SNR=26
BLO **Bloomington** 27.00 2 eP P 21 28 54.4 -1.0
comp=Z,16nm,0.6s
X25A **Clemmons Ranch** 27.02 328 P P 21 28 57.9 +2.0
baz=27,SNR=6.5
W26A **Owens Ranch, T** 27.02 331 P P 21 28 57.3 +1.5
baz=27,SNR=6.0
T31A **Randall Ranch,** 27.04 339 P P 21 28 56.6 +0.8
baz=27,SNR=8.3
JSRW **J. Sargeant Re** 27.04 18 eP P 21 28 52.8 -3.1
V27A **Dan Oppiter Fa** 27.14 333 P P 21 28 58.1 +1.2
baz=27,SNR=5.6
Y23A **Lovelace Mesa,** 27.30 326 P P 21 29 00.5 +2.0
baz=27,SNR=24
220A **Playas Peak, P** 27.34 319 P P 21 29 00.8 +2.1
baz=28,SNR=6.7
W25A **X Bar L Ranch,** 27.46 330 P P 21 29 02.4 +2.5
baz=28,SNR=18
V26A **Tequesquite Ra** 27.60 331 P P 21 29 03.1 +2.1
baz=28,SNR=37
U27A **Thompson Grove** 27.68 334 P P 21 29 03.3 +1.5
baz=28,SNR=22
BNM **Barren Site** 27.78 325 eP P 21 29 06.2 +3.4
Y22A **Socorro** 27.81 325 P P 21 29 05.0 +2.0
baz=28,SNR=10
LPM **Los Pinos Moun** 27.90 325 eP P 21 29 08.4 +4.6
W24A **Lazy 6 Ranch,** 27.93 328 P P 21 29 05.8 +1.7
baz=28
KSU1 **Kansas State U** 27.98 346 eP P 21 29 04.5 +0.3
comp=Z,26nm,1.0s
LENM **Lemitar** 27.98 325 eP P 21 29 07.8 +3.2
V25A **Rancho No Teng** 28.03 330 P P 21 29 06.6 +1.6
baz=28,SNR=30
R31A **Burdett** 28.06 340 P P 21 29 06.0 +0.9
baz=28,SNR=6.7
U26A **Atchley Ranch,** 28.07 332 P P 21 29 06.6 +1.3
baz=28,SNR=16
Z20A **Nine Sixteen R** 28.19 321 P P 21 29 08.5 +2.1
baz=28,SNR=8.5
LAZ **Ladron** 28.25 325 eP P 21 29 09.2 +2.2
V24A **Rampart Ranch,** 28.27 329 P P 21 29 08.7 +1.6
baz=28,SNR=11
Y21A **Point of Rocks** 28.27 324 P P 21 29 09.7 +2.5
baz=28
W23A **Werner Place,** 28.28 327 P P 21 29 09.2 +2.0
baz=28,SNR=5.8
ANMO **Albuquerque** 28.28 327 eP P 21 29 09.4 +2.2
ANMO **Albuquerque** 28.28 327 P P 21 29 10.1 +2.9
comp=Z,1.1nm,0.6s,baz=135,slow=9.6,SNR=4.3
S28A **Manter** 28.30 336 P P 21 29 08.0 +0.8
baz=28
R30A **Dighton** 28.31 339 P P 21 29 08.3 +1.1
baz=28
U25A **Circle Dot Ran** 28.39 331 P P 21 29 09.7 +1.6
baz=28,SNR=14
Q30A **Quinter** 28.91 340 P P 21 29 13.3 +0.7
baz=29
R28A **Tribune** 28.92 337 P P 21 29 13.5 +0.8
baz=29
S26A **Kim** 28.97 334 P P 21 29 14.9 +1.7
baz=29,SNR=10
T25A **Trinidad** 28.99 332 P P 21 29 15.6 +2.1
baz=29,SNR=14
TUC **Tucson** 29.07 317 eP P 21 29 18.9 +4.8
comp=Z,3.3nm,0.8s
Q29A **Oakley** 29.10 339 P P 21 29 14.9 +0.6
baz=29
R27A **Eads** 29.26 336 P P 21 29 17.1 +1.3
baz=29
S25A **Robets Cordova** 29.43 333 P P 21 29 18.8 +1.4
baz=30
P30A **Selden** 29.43 340 P P 21 29 18.7 +1.5
baz=30
R26A **Arlington** 29.54 335 P P 21 29 19.6 +1.4
baz=30
Q28A **Sharon Springs** 29.56 338 P P 21 29 19.5 +1.2
baz=30
MVL **Millersville** 29.63 18 eP P 21 29 20.3 +1.4
comp=Z,48nm,1.6s
P29A **Atwood** 29.71 340 P P 21 29 20.9 +1.2
baz=30
R25A **Fountain Ranch** 29.76 333 P P 21 29 22.1 +1.9
baz=30,SNR=11
S24A **Houchin Ranch,** 29.77 332 P P 21 29 22.4 +1.9
baz=30,SNR=6.0
SSPA **Standing Stone** 29.78 16 eP P 21 29 19.6 -0.6
comp=Z,7.1nm,0.9s
KSCO **Kaye Shedlock'** 29.81 337 eP P 21 29 22.6 +1.9
KSCO **Kaye Shedlock'** 29.81 337 P P 21 29 22.0 +1.3
baz=30
O30A **MW Ranch, Wils** 29.95 341 P P 21 29 23.1 +1.4
baz=30
P28A **Saint Francis** 29.98 338 P P 21 29 23.5 +1.4
baz=30
SDCO **Great Sand Dun** 29.99 331 eP P 21 29 24.4 +2.0
comp=Z,5.9nm,0.8s
Q26A **Hugo** 30.09 335 P P 21 29 24.6 +1.4
baz=30
R24A **Sanders Place,** 30.20 332 P P 21 29 26.0 +1.8
baz=30,SNR=5.2
W18A **Petrified Fore** 30.26 323 eP P 21 29 24.4 -0.4
comp=Z,7.5nm,0.9s
Q25A **Bedland, Calha** 30.39 334 P P 21 29 27.3 +1.4
baz=30,SNR=5.6
R23A **Moffat** 30.50 332 P P 21 29 28.0 +1.1
baz=31,SNR=9.1
BGNE **Belgrade** 30.54 345 eP P 21 29 26.5 -0.5
S22A **4UR Ranch, Cre** 30.62 330 P P 21 29 29.2 +1.2
baz=31
O27A **Beecher Island** 30.79 338 P P 21 29 30.6 +1.4
baz=31
X16A **Lo Mia Camp, P** 30.83 320 P P 21 29 31.3 +1.6
baz=31
P25A **Willow Gulch B** 30.86 335 P P 21 29 31.3 +1.3
baz=31
S21A **Coal Bank Pass** 31.04 329 P P 21 29 33.4 +1.6
baz=31
MVCO **Mesa Verde** 31.07 327 eP P 21 29 34.2 +2.3
comp=Z,12nm,1.3s
Q23A **Hartsel** 31.08 332 P P 21 29 33.9 +1.9
baz=31
O26A **Horse Wrangler** 31.14 337 P P 21 29 33.7 +1.3
baz=31
M29A **Burnside Ranch** 31.30 341 P P 21 29 34.9 +1.3
baz=31
P23A **Jefferson** 31.46 333 P P 21 29 37.0 +1.5
baz=32,SNR=11
Q22A **Crested Butte,** 31.54 331 P P 21 29 37.8 +1.7
baz=32,SNR=6.7
ISCO **Idaho Springs** 31.71 334 eP P 21 29 39.2 +1.5
comp=Z,6.1nm,1.0s
ISCO **Idaho Springs** 31.71 334 P P 21 29 39.2 +1.5
baz=32
SMCO **Snowmass** 31.82 331 eP P 21 29 40.5 +1.8
comp=Z,7.2nm,0.9s
PV04 **Paradox Valley** 32.17 328 eP P 21 29 42.6 +1.0
PV10 **Paradox Valley** 32.23 328 eP P 21 29 40.5 -1.6
SAML **Samuel** 32.30 129 eP P 21 29 41.3 -1.3
comp=Z,9.5nm,0.8s
K29A **Lazy Trails An** 32.39 343 P P 21 29 44.5 +1.3
baz=32
ECSD **EROS Data Cent** 32.40 348 eP P 21 29 42.7 -0.6
comp=Z,28nm,0.9s
O22A **Kremmling** 32.42 333 P P 21 29 44.5 +0.7
baz=32,SNR=12
K28A **Ten Mile Ranch** 32.66 342 P P 21 29 47.5 +1.8
baz=33
U15A **North Rim** 32.67 322 P P 21 29 47.8 +1.7
baz=33
P20A **De Beque** 32.76 330 P P 21 29 48.7 +2.1
baz=33
N23A **Red Feather La** 32.76 334 P P 21 29 48.4 +1.6
baz=33
M24A **Cheyenne** 32.78 336 P P 21 29 48.1 +1.2
baz=33
W13A **Hualapai Mount** 32.82 319 P P 21 29 49.3 +2.0
baz=33
PHWY **Pilot Hill** 32.90 335 eP P 21 29 48.5 +0.5
comp=Z,7.4nm,0.9s
M23A **Laramie** 33.14 335 P P 21 29 51.4 +1.3
baz=33
O20A **White River Ci** 33.18 331 eP P 21 29 51.0 +0.6
O20A **White River Ci** 33.18 331 P P 21 29 52.4 +2.1
baz=33,SNR=13
J28A **Allard Ranch,** 33.27 342 P P 21 29 52.2 +1.3
baz=33
SPMN **St. Paul** 33.28 354 eP P 21 29 50.1 -0.8
SPMN **St. Paul** 33.28 354 P P 21 29 50.3 -0.6
baz=33,SNR=13
N21A **Black Mountain** 33.34 332 P P 21 29 54.1 +2.3
baz=34
J27A **Elkhorn Farm,** 33.35 341 P P 21 29 53.3 +1.7
baz=34
SRU **San Rafael** 33.55 327 eP P 21 29 54.1 +0.5
comp=Z,16nm,1.6s
BRSD **Miller** 33.60 346 eP P 21 29 53.7 0.0
BRSD **Miller** 33.60 346 P P 21 29 53.8 0.0
baz=34,SNR=6.2
LDFC **Landfair** 33.61 317 eP P 21 29 58.0 +4.0
comp=Z,10nm,0.8s
L23A **Garrett** 33.68 336 P P 21 29 55.7 +1.0
baz=34,SNR=11
N20A **Spence Gulch,** 33.74 332 P P 21 29 56.6 +1.3
baz=34,SNR=12
J26A **Sides Ranch, S** 33.75 340 P P 21 29 56.4 +1.3
baz=34,SNR=6.8
I28A **Midland** 33.77 343 P P 21 29 56.3 +1.1
baz=34,SNR=6.6
L22A **Ellis Ranch, M** 33.91 335 P P 21 29 58.1 +1.5
baz=34,SNR=5.7
COWI **Conover** 33.91 359 eP P 21 29 55.6 -0.8
comp=Z,19nm,0.9s
M21A **Separation Pea** 33.95 333 P P 21 29 58.5 +1.4
baz=34
RWWY **Rawlins** 33.95 334 eP P 21 29 58.6 +1.5
comp=Z,34nm,1.4s
J25A **Sunshine Ranch** 34.07 339 P P 21 29 59.0 +1.1
baz=34
I27A **Quinn** 34.10 342 P P 21 29 59.2 +1.1
baz=34
K23A **Bowen Ranch, D** 34.19 337 P P 21 30 00.3 +1.3
baz=34
M20A **Sweetwater, Wa** 34.23 332 P P 21 30 00.3 +0.9
baz=34,SNR=5.1
PTN **Potsdam (NY)** 34.23 17 eP P 21 29 59.4 +0.3
comp=Z,44nm,0.8s
L21A **Rawlins** 34.25 334 P P 21 30 00.9 +1.3
baz=34,SNR=8.8
ARUT **Antelope Range** 34.26 323 eP P 21 30 00.7 +1.0
LPAZ **La Paz** 34.34 145 P P 21 30 00.5 -0.6
LPAZ **La Paz** 34.34 145 P P 21 30 00.5 -0.6
comp=Z,0.8nm,0.6s,baz=355,slow=9.7,SNR=3.4
LPAZ LR LR 21 43 53.7
comp=Z,101nm,20.4s,baz=218,slow=36
H28A **Mission Ridge** 34.35 343 P P 21 30 01.2 +0.9
baz=34
LONY **Lake Ozonia** 34.38 17 eP P 21 30 00.8 +0.2
comp=Z,23nm,0.9s
K22A **Casper** 34.46 335 P P 21 30 02.6 +1.2
baz=35,SNR=5.5
I25A **Rochford** 34.60 340 P P 21 30 04.0 +1.4
baz=35,SNR=7.9
H27A **Howes** 34.62 342 P P 21 30 03.9 +1.3
baz=35,SNR=15
L20A **Wamsutter** 34.71 333 P P 21 30 04.9 +1.3
baz=35,SNR=7.6
RSSD **Black Hills** 34.79 340 eP P 21 30 05.0 +0.7
J22A **Midwest** 35.08 336 P P 21 30 08.2 +1.4
baz=35,SNR=6.2
K20A **Yellowstone Ra** 35.23 334 P P 21 30 09.0 +1.0
baz=35
G27A **Dupree** 35.25 343 P P 21 30 08.9 +0.8
baz=35,SNR=6.1
G26A **Maurine** 35.37 342 P P 21 30 10.0 +0.9
baz=36,SNR=9.4
M17A **Scullys Gap (B** 35.38 330 P P 21 30 11.1 +1.6
baz=36
J21A **Lysite** 35.41 335 P P 21 30 11.1 +1.5
baz=36,SNR=12
L18A **Fontenelle, Gr** 35.42 331 P P 21 30 11.1 +1.3
baz=36,SNR=6.1
I22A **9 Mile Ranch,** 35.49 337 P P 21 30 11.8 +1.6

baz=36,SNR=8.2
H24A Dirks Ranch, A 35.52 339 P **P 21 30 11.6 +1.2**
baz=36,SNR=15
G25A Newell 35.54 341 P **P 21 30 11.6 +1.1**
baz=36
K19A Absolon Red Bu 35.59 333 P **P 21 30 12.1 +0.9**
baz=36,SNR=8.9
F27A Lemmon 35.73 343 P **P 21 30 12.9 +0.8**
baz=36,SNR=9.4
I21A Big Trails, Te 35.74 336 P **P 21 30 13.7 +1.3**
baz=36,SNR=7.4
BW06 Boulder Array 35.86 332 *eP* **P 21 30 13.5 0.0**
comp=Z,5.3nm,1.0s
PDAR Pinedale Array 35.86 332 P **P 21 30 13.8 +0.3**
PDAR Pinedale Array 35.86 332 P **P 21 30 13.8 +0.3**
comp=Z,2.4nm,0.7s,baz=131,slow=8.4,SNR=11
EYMN Ely 35.87 356 *eP* **P 21 30 12.2 -1.0**
comp=Z,14nm,0.7s
F26A Lodgepole 35.90 342 P **P 21 30 14.7 +1.1**
baz=36
HWUT Hardware Ranch 35.93 329 *eP* **P 21 30 14.8 +0.8**
comp=Z,11nm,0.8s
J19A Crowheart 36.03 333 P **P 21 30 15.8 +0.9**
baz=36,SNR=8.2
H22A Clearmont 36.03 337 P **P 21 30 16.1 +1.3**
baz=36
D30A Buchanan 36.07 347 P **P 21 30 15.1 +0.1**
baz=36
E27A Carson 36.12 344 P **P 21 30 15.9 +0.5**
baz=36
SPUT South Promonto 36.16 328 *eP* **P 21 30 16.5 +0.5**
comp=Z,6.5nm,0.9s
BGU Big Grassy Mou 36.19 327 *eP* **P 21 30 16.3 0.0**
comp=Z,4.7nm,1.0s
I20A Worland 36.19 335 P **P 21 30 17.6 +1.4**
baz=36,SNR=9.9
G23A Biddle 36.20 339 P **P 21 30 17.1 +0.9**
baz=36,SNR=7.2
F25A Bowman 36.20 342 P **P 21 30 17.6 +1.3**
baz=36,SNR=7.3
H21A Big Horn, Sher 36.32 337 P **P 21 30 18.0 +0.7**
baz=36,SNR=9.0
F24A Ekalaka 36.45 340 P **P 21 30 19.4 +1.0**
baz=37
G22A Birney 36.54 338 P **P 21 30 20.3 +1.2**
baz=37
C30A Mose, Pekin 36.58 348 P **P 21 30 19.4 +0.1**
baz=37
H20A Greybull 36.58 336 P **P 21 30 20.3 +0.8**
baz=37
F23A Volborg 36.66 339 P **P 21 30 21.3 +1.2**
baz=37,SNR=9.3
HVU Hansel Valley 36.67 328 *eP* **P 21 30 22.0 +1.7**
comp=Z,5.8nm,0.8s
AGMN Agassiz Nation 36.69 351 *eP* **P 21 30 19.7 -0.6**
comp=Z,32nm,0.8s
PKME Peaks-Kenny Pk 36.70 22 *eP* **P 21 30 19.7 -0.6**
comp=Z,12nm,0.7s
E25A Miller Ranch, 36.70 342 P **P 21 30 21.7 +1.2**
baz=37,SNR=6.4
I18A Diamond G Ranc 36.71 333 P **P 21 30 21.9 +1.1**
baz=37
D27A Center 36.73 344 P **P 21 30 21.6 +1.0**
baz=37
G21A Lodge Grass 36.89 337 P **P 21 30 23.1 +1.0**
baz=37
D26A Manning 36.91 343 P **P 21 30 22.7 +0.6**
baz=37
REDW Red Top Meadow 36.91 332 *eP* **P 21 30 24.0 +1.5**
comp=Z,127nm,1.8s
SNOW Snow King Moun 36.95 332 *eP* **P 21 30 24.6 +1.7**
comp=Z,23nm,0.7s
MDND Maddock 36.96 347 *eP* **P 21 30 23.1 +0.6**
MDND Maddock 36.96 347 P **P 21 30 23.1 +0.6**
baz=37
LOHW Long Hollow 36.99 332 *eP* **P 21 30 22.9 -0.3**
comp=Z,33nm,1.6s
F22A Rosebud 37.01 339 P **P 21 30 24.1 +1.1**
baz=37
E24A Baker 37.04 341 P **P 21 30 24.7 +1.4**
baz=37,SNR=13
TPAW Teton Pass 37.06 332 *eP* **P 21 30 25.3 +1.5**
comp=Z,22nm,0.9s
RRI2 Red Ridge 37.12 331 *eP* **P 21 30 25.8 +1.5**
comp=Z,19nm,1.0s
H19A Powell 37.13 335 P **P 21 30 25.2 +1.0**
baz=37
MOOW Moose Ponds 37.17 332 *eP* **P 21 30 25.4 +0.8**
comp=Z,6.5nm,0.8s
B30A Myrvik Farm, E 37.27 349 P **P 21 30 25.3 +0.2**
baz=37,SNR=9.9
D25A Fairfield 37.27 343 P **P 21 30 26.2 +1.0**
baz=37
G20A Bridger 37.27 336 P **P 21 30 25.6 +0.2**
baz=37,SNR=6.7
E23A Ismay 37.31 340 P **P 21 30 26.6 +1.1**
baz=37
IMW Indian Meadow 37.37 332 *eP* **P 21 30 27.6 +1.2**
comp=Z,5.8nm,0.6s
FLWY Flagg Ranch 37.41 333 *eP* **P 21 30 28.2 +1.5**
comp=Z,16nm,1.1s
H18A Shoshone NF, C 37.42 334 P **P 21 30 27.6 +0.8**
baz=38,SNR=18
E22A Miles City 37.47 339 P **P 21 30 27.8 +0.9**
baz=38,SNR=6.0
B29A Wagenman Farm, 37.49 348 P **P 21 30 27.6 +0.6**
baz=38
D24A Glendive 37.54 342 P **P 21 30 28.8 +1.3**
baz=38,SNR=8.0
C26A Wahner Farm, P 37.54 344 P **P 21 30 28.1 +0.6**
baz=38
RLMT Red Lodge 37.62 335 *eP* **P 21 30 28.3 -0.1**
comp=Z,13nm,1.0s
NVAR Mina Array Bea 37.65 319 P **P 21 30 30.2 +1.4**
NVAR PcP **PcP 21 32 47.8 +2.4**
NVAR Mina Array Bea 37.65 319 P **P 21 30 30.2 +1.4**
comp=Z,1.4nm,0.9s,baz=134,slow=8.6,SNR=8.4
NVAR PcP **PcP 21 32 47.8 +2.4**
comp=Z,1.8nm,0.8s,baz=128,slow=4.0,SNR=7.3
B28A Dugan Ranch, T 37.70 346 P **P 21 30 29.4 +0.7**
baz=38,SNR=5.8
A30A Hoffart Farm, 37.73 349 P **P 21 30 29.3 +0.3**
baz=38
F20A Billings 37.73 337 P **P 21 30 30.2 +1.0**
baz=38
YFT Old Faithful 37.76 333 *eP* **P 21 30 31.9 +2.2**
comp=Z,15nm,0.9s
C25A Freed Ranch, W 37.76 343 P **P 21 30 30.2 +0.8**
baz=38
LAO LASA Array 37.78 339 *eP* **P 21 30 29.3 -0.3**
comp=Z,20nm,1.2s
A29A Manning Farm, 37.90 348 P **P 21 30 30.8 +0.3**
baz=38
G18A Lazy EL Ranch, 37.90 335 P **P 21 30 31.5 +0.7**
baz=38,SNR=7.5
C24A Savage 37.94 342 P **P 21 30 31.9 +1.0**
baz=38,SNR=6.0
E21A Keefer Ranch, 37.95 338 P **P 21 30 32.3 +1.3**
baz=38
YMR Madison River 37.98 333 *eP* **P 21 30 32.0 +0.5**
comp=Z,24nm,1.1s
F19A Roth Farm, Mol 38.09 336 P **P 21 30 33.0 +0.8**
baz=38,SNR=6.4
D22A Cohagen 38.17 340 P **P 21 30 34.0 +1.2**
baz=38,SNR=12
B25A Knox Farm, Ray 38.24 344 P **P 21 30 34.7 +1.4**
baz=38
E20A Meyer Farm, Mu 38.31 337 P **P 21 30 35.1 +1.0**
baz=38,SNR=22
GCMT Greycliff 38.33 335 *eP* **P 21 30 35.3 +1.0**
GCMT *eS* S 21 36 19.2 -5.4
D21A La Casta Ranch 38.38 339 P **P 21 30 36.0 +1.4**
baz=38
G17A Pierce Place, 38.40 334 P **P 21 30 37.7 +2.8**
baz=38,SNR=7.3
C23A Lambert 38.42 341 P **P 21 30 36.0 +1.1**
baz=38,SNR=8.5
F18A Big Timber 38.44 335 P **P 21 30 36.5 +1.3**
baz=39,SNR=13
A26A Wade Farm, Ken 38.52 345 P **P 21 30 36.2 +0.5**
baz=39
E19A Rath Farm, Rou 38.53 337 P **P 21 30 36.8 +0.9**
baz=39,SNR=11
C22A Vida 38.59 341 P **P 21 30 37.9 +1.6**
baz=39,SNR=15
ULM Lac du Bonnet 38.60 352 *eP* **P 21 30 35.5 -0.8**
comp=Z,28nm,0.7s
ULM Lac du Bonnet 38.60 352 P **P 21 30 35.0 -1.4**
comp=Z,35nm,0.8s,baz=167,slow=8.8,SNR=24
ULM LR LR 21 47 04.7
comp=Z,212nm,20.9s,baz=2.8,slow=37
DGMT Dagmar 38.71 343 *eP* **P 21 30 38.5 +1.2**
comp=Z,56nm,0.7s
DGMT Dagmar 38.71 343 P **P 21 30 38.6 +1.2**
baz=39,SNR=16
HLID Hailey 38.79 329 *eP* **P 21 30 38.8 +0.5**
comp=Z,13nm,1.5s
HLID Hailey 38.79 329 P **P 21 30 40.6 +2.3**
baz=39,SNR=7.1
F17A Fitzpatrick Pl 38.83 335 P **P 21 30 40.5 +1.9**
baz=39,SNR=12
A25A Svangstu Ranch 38.83 344 P **P 21 30 39.2 +0.9**
baz=39
B23A Brockton 38.94 342 P **P 21 30 40.7 +1.4**
baz=39,SNR=16
MCMT McKenzie Canyo 38.96 332 *eP* **P 21 30 42.1 +2.4**
BOZ Bozeman (W) 39.04 333 *eP* **P 21 30 40.5 +0.2**
comp=Z,14nm,1.2s
E18A Harlowton 39.06 336 P **P 21 30 41.5 +1.1**
baz=39
C21A Desert Coulee 39.06 339 P **P 21 30 41.4 +1.0**
baz=39
A24A Westby 39.07 343 P **P 21 30 41.8 +1.5**
baz=39,SNR=11
B22A Reddig Ranch S 39.11 341 P **P 21 30 42.1 +1.4**
baz=39
D19A Cripps Ranch, 39.15 337 P **P 21 30 42.4 +1.3**
baz=39,SNR=14
DLMT Dillon 39.25 332 *eP* **P 21 30 42.5 +0.5**
comp=Z,33nm,1.6s
C20A Veseth Ranch, 39.29 339 P **P 21 30 43.6 +1.5**
baz=39,SNR=7.4
A23A Redstone 39.35 342 P **P 21 30 44.1 +1.4**
baz=40
E17A Martinsdale 39.36 335 P **P 21 30 44.1 +1.1**
baz=40
D18A Linhart Farms, 39.53 336 P **P 21 30 45.8 +1.5**
baz=40
LRM Limekiln Ridge 39.54 333 *eP* **P 21 30 46.2 +1.7**
C19A Slack Wire Ran 39.69 338 P **P 21 30 46.8 +1.3**
baz=40,SNR=17
A22A Carney Farms, 39.70 341 P **P 21 30 47.3 +1.7**
baz=40,SNR=5.2
D17A Six Diamond Ra 39.84 336 P **P 21 30 48.3 +1.4**
baz=40,SNR=22
HRY Holter Researc 39.96 334 *eP* **P 21 30 47.4 -0.5**
A21A Bergtoll Ranch 40.02 341 P **P 21 30 49.8 +1.6**
baz=40,SNR=6.5
EGMT Eagleton 40.19 337 *eP* **P 21 30 49.3 -0.5**
comp=Z,22nm,1.1s
EGMT Eagleton 40.19 337 P **P 21 30 50.6 +0.9**
baz=40,SNR=9.9
B19A Brinkman Farms 40.25 338 P **P 21 30 51.2 +1.0**
baz=40,SNR=6.1
A20A Cobblestone Ra 40.25 340 P **P 21 30 51.4 +1.2**
baz=40,SNR=7.0
C17A Wharram Farm, 40.26 336 P **P 21 30 51.8 +1.4**
baz=40,SNR=6.9
WVOR Wild Horse Val 40.30 324 *eP* **P 21 30 51.4 +0.6**
comp=Z,45nm,2.3s
B18A Beardsley Farm 40.51 338 P **P 21 30 53.4 +1.1**
baz=41
CHMT Chamberlain Mo 40.73 333 *eP* **P 21 30 55.5 +1.1**
A18A Metzger Ranch, 40.97 338 P **P 21 30 57.2 +1.2**
baz=41,SNR=8.0
MSO Missoula 40.98 333 *eP* **P 21 30 57.3 +1.0**
comp=Z,41nm,1.6s
MSO Missoula 40.98 333 P **P 21 30 57.5 +1.2**
baz=41,SNR=9.0
SWMT Swartz Lake 41.52 333 *eP* **P 21 31 00.5 -0.2**
WALA Waterton Lakes 42.67 335 *eP* **P 21 31 11.4 +1.3**
NEW Newport 43.49 332 *eP* P 21 31 21.1 +4.4
comp=Z,55nm,2.5s
FFC Flin Flon 43.95 348 *eP* **P 21 31 19.4 -0.7**
comp=Z,38nm,1.2s
RPN Rapa Nui 44.17 208 P **P 21 31 22.1 -0.1**
RPN Rapa Nui 44.17 208 P **P 21 31 22.1 -0.1**
comp=Z,0.7nm,0.3s,baz=334,slow=14,SNR=5.2
SCHQ Schefferville 45.76 17 *eP* **P 21 31 34.0 -0.6**
comp=Z,27nm,0.8s
SCHQ Schefferville 45.76 17 P **P 21 31 33.5 -1.0**
comp=Z,26nm,0.8s,baz=216,slow=5.9,SNR=17
SCHQ LR LR 21 52 35.7
comp=Z,375nm,19.0s,baz=258,slow=39
EDM Edmonton 45.77 339 *eP* **P 21 31 35.2 +0.5**
BDFB Brasilia 48.18 124 P **P 21 31 53.4 -0.6**
BDFB Brasilia 48.18 124 P **P 21 31 53.4 -0.6**
comp=Z,8.9nm,0.8s,baz=290,slow=9.8,SNR=10
BDFB LR LR 21 53 52.0
comp=Z,185nm,21.2s,baz=143,slow=38
CPUP Villa Florida 48.43 142 P **P 21 31 55.2 -0.5**
CPUP Villa Florida 48.43 142 P **P 21 31 55.2 -0.5**
comp=Z,0.5nm,0.4s,baz=299,slow=10,SNR=3.3
CPUP LR LR 21 53 23.9
comp=Z,142nm,18.4s,baz=163,slow=38
YKA Yellowknife Ar 53.83 345 P **P 21 32 35.5 -0.2**
YKA Yellowknife Ar 53.83 345 P **P 21 32 35.5 -0.2**
comp=Z,5.2nm,0.8s,baz=137,slow=7.3,SNR=8.3
PLCA Paso Flores 54.97 164 LR LR 21 52 53.4
comp=Z,158nm,19.9s,baz=316,slow=32
DLBC Dease Lake 56.02 335 *eP* **P 21 32 51.4 -0.3**
INK Inuvik 63.40 343 *eP* **P 21 33 42.7 +0.6**
comp=Z,11nm,1.1s
ILAR Eielson Array 66.15 336 P **P 21 33 59.8 -0.3**
ILAR PP **PP 21 36 30.1 +3.9**
ILAR Eielson Array 66.15 336 P **P 21 33 59.8 -0.3**
comp=Z,2.8nm,0.9s,baz=114,slow=5.2,SNR=23
ILAR PP **PP 21 36 30.1 +3.9**
comp=Z,0.7nm,0.8s,baz=114,slow=7.3,SNR=6.5
ILAR LR LR 22 08 44.0
comp=Z,129nm,18.3s,baz=125,slow=41
MCK McKinley 66.58 335 *eP* **P 21 34 03.8 +0.9**
comp=Z,28nm,1.8s
TRF Thorofare Moun 67.05 334 *eP* **P 21 34 05.7 -0.3**
comp=Z,60nm,2.4s
PPT Papeete 67.61 245 LR LR 21 56 20.9
comp=Z,138nm,18.8s,baz=20,slow=29
PPT2 Papeete2 67.61 245 *eLR* LR 21 54 18.0
comp=Z,63nm,25.2s
ESDC Sonseca Array 77.80 52 P **P 21 35 09.2 -1.1**
ESDC Sonseca Array 77.80 52 P **P 21 35 09.2 -1.1**
comp=Z,2.1nm,1.1s,baz=290,slow=6.1,SNR=5.4
ESDC LR LR 22 06 08.7
comp=Z,85nm,18.8s,baz=280,slow=33
DBIC Dimbokro 81.91 85 LR LR 22 08 58.9
comp=Z,60nm,19.4s,baz=305,slow=34
NOA NORSAR Array B 83.92 29 LR LR 22 08 46.1
comp=Z,45nm,20.6s,baz=275,slow=33
ARCES ARCESS Array B 86.68 19 P **P 21 35 55.3 -0.8**
ARCES ARCESS Array B 86.68 19 P **P 21 35 55.3 -0.8**
comp=Z,1.1nm,0.7s,baz=29,slow=2.8,SNR=3.7
ARCES LR LR 22 11 57.9
comp=Z,65nm,21.1s,baz=122,slow=34
GERES GERESS Array B 88.53 40 LR LR 22 12 54.7
comp=Z,90nm,18.5s,baz=280,slow=34
FINES FINESS Array B 90.51 26 LR LR 22 21 25.7
comp=Z,72nm,18.8s,baz=25,slow=39
KURK Kurchatov 116.37 9 PKP **PKPdf 21 41 56.8 +0.6**
KURBB Kurchatov Arra 116.44 10 PKP **PKPdf 21 41 56.8 +0.5**
comp=Z,0.3nm,0.7s,baz=344,slow=1.5,SNR=5.8
SONM Songino Array 118.99 349 PKP **PKPdf 21 42 02.6 +1.2**
SONM Songino Array 118.99 349 PKP **PKPdf 21 42 02.6 +1.2**
comp=Z,0.8nm,1.0s,baz=355,slow=1.7,SNR=4.1
KSRS Korea Array 120.31 327 PKP **PKPdf 21 42 05.3 +1.2**
comp=Z,0.7nm,0.6s,baz=21,slow=1.9,SNR=7.1
KSAR Wonju Array Be 120.34 327 PKP **PKPdf 21 42 05.3 +1.2**
MKAR Makanchi Array 120.73 8 PKP **PKPdf 21 42 03.2 -1.5**
MKAR Makanchi Array 120.73 8 PKP **PKPdf 21 42 03.2 -1.5**
comp=Z,0.4nm,0.7s,baz=29,slow=3.3,SNR=4.5
HHC Hu-ho-hao-te 124.31 342 *ePKP* PKPdf 21 42 08.1 -3.8
HHC sPKP 21 42 45.5
HHC PP **PP 21 43 58.0 +1.5**
HHC PKS PKSdf 21 45 43.5 -5.1
HHC SKS SKSdf 21 49 08.6 -10
HHC SKKS SKKSac 21 50 39.1 -12
HHC AMB AMB
comp=Z,920nm,9.7s
HHC LR LR
comp=N,140nm,19.4s
HHC LR LR
comp=E,180nm,19.2s
HHC LR LR
comp=Z,160nm,18.4s
GTA Gaotai 128.26 352 *ePKP* **PKPdf 21 42 21.5 +2.0**
GTA PP PP 21 44 30.1 +7.6
GTA SKS **SKSdf 21 49 21.6 -4.9**
GTA SKKS **SKKSac 21 51 11.1 -5.2**
GTA SS **SS 22 01 32.0 -0.2**
GTA AMB AMB
comp=Z,70nm,4.8s
GTA LR LR
comp=N,69nm,15.2s
GTA LR LR
comp=E,91nm,15.4s
GTA LR LR
comp=Z,71nm,16.9s
LZH Lanzhou 130.80 347 *e*PKP **PKPdf 21 42 23.8 -0.7**
LZH sPKP 21 43 01.5
ENH Enshi 134.66 339 *e*PKPdf **PKPdf 21 42 33.4 +1.7**
CD2 Chengdu 135.79 346 *e*PKP **PKPdf 21 42 31.0 -2.8**
CD2 sPKP 21 43 11.6
CD2 PP **PP 21 45 13.8 +2.9**
CD2 SKS SKSdf 21 49 29.3 -11
CD2 SKKS SKKSac 21 51 52.8 -10
CD2 SS **SS 22 02 59.8 -4.2**
CD2 AMB AMB
comp=Z,150nm,10.2s
CD2 LR LR
comp=N,180nm,21.2s
CD2 LR LR
comp=Z,140nm,15.0s
ASAR Alice Springs 138.68 248 PKPpre PKPpre 21 42 36.7
ASAR Alice Springs 138.68 248 PKhKP PKPpre 21 42 36.7
comp=Z,0.5nm,0.8s,baz=100,slow=2.7,SNR=5.0
WRA Warramunga Arr 138.70 254 PKPpre PKPpre 21 42 30.3
WRA PKP **PKPdf 21 42 39.2 -0.2**
WRA Warramunga Arr 138.70 254 PKhKP PKPpre 21 42 30.3
comp=Z,0.3nm,0.8s,baz=94,slow=2.7,SNR=2.7
WRA PKP **PKPdf 21 42 39.2 -0.2**
comp=Z,0.4nm,0.6s,baz=91,slow=3.3,SNR=5.2
GYA Guiyang 139.13 340 *e*Pdif **Pdif 21 39 49.8 -2.8**
GYA PKP **PKPdf 21 42 38.5 -1.7**
GYA sPKP 21 43 12.0
GYA PP **PP 21 45 34.3 +2.3**
GYA AMB AMB
comp=Z,110nm,7.8s
FITZ Fitzroy Crossi 147.06 255 PKPbc **PKPbc 21 42 57.2 +0.9**
FITZ Fitzroy Crossi 147.06 255 PKPbc **PKPbc 21 42 57.2 +0.9**
comp=Z,1.9nm,0.8s,baz=202,slow=5.4,SNR=2.7
CMAR Chiang Mai Arr 148.89 347 PKP **PKPdf 21 42 56.6 -0.5**
CMAR PKPbc **PKPbc 21 43 02.4 +1.2**
CMAR Chiang Mai Arr 148.89 347 PKP **PKPdf 21 42 56.6 -0.5**
comp=Z,1.0nm,0.7s,baz=338,slow=3.5,SNR=4.4
CMAR PKPbc **PKPbc 21 43 02.4 +1.2**
comp=Z,7.8nm,0.9s,baz=334,slow=3.2,SNR=24

IDC ***22*** *21:55:51.6±0.8, 8°.14S×123°.00E, h0km, mb4.0/5, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML3.9/3, MS3.4/5, Ms1 3.4/5, ms1mx3.1/27, Error ellipse: s-maj=52.9km s-min=17.2km az=61.0*
ISCJB ***22*** *21:55:54.1±0.4, 8°.07S±0°.04×123°.31E±0°.05, h33km, mb3.9/5, MS3.5/3, Error ellipse: s-maj=7.8km s-min=4.5km az=142.6*
DJA ***22*** *21:55:55.7±1.4, 8°S±3°×12°3E±°, h27km±16km, M4.1/8, mb3.8/1, MLv4.2/8*
AUST ***22*** *21:55:58.1±0.0, 7°.95S×123°.45E, h80km, Error ellipse: s-maj=2.4km s-min=0.8km az=243.0*
ISC 22 21:55:56.8±0.7,**8°.05**±0°.06×**123°.27E**±0°.08,**h35**km,**n30,**
σ1§**59**/23,**mb4.0/5,MS3.5**/3,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.18**	**240**	P	Pn	21 56 15.0	-1.8
MMRI				S	**Sn**	**21 56 31.9**	**+0.2**
SOEI	**Soe**	**1.96**	**150**	P	**Pn**	**21 56 29.1**	**+1.4**
SOEI	**Soe**	**1.96**	**150**	P	**Pn**	**21 56 29.9**	**+2.2**
baz=2.0,SNR=11							
SOEI				S	Sn	21 57 00.8	+10
baz=2.0,SNR=4.9							
BBSI	**Bau Bau**	**2.64**	**345**	P	**Pn**	**21 56 36.4**	**-0.6**
BBSI				S	**Sn**	**21 57 08.2**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.35**	**304**	P	**Pn**	**21 56 46.6**	**-0.1**
WSI	**Waingapu**	**3.35**	**241**	P	Pn	21 56 55.1	+8.4
LBFI	**Labuhan Bajo,**	**3.38**	**262**	P	Pn	21 56 45.4	-1.7
BKSI	**Bulukumba**	**4.14**	**311**	P	Pn	21 56 56.3	-1.3
KKSI	**Kolaka, Sulawe**	**4.18**	**337**	P	**Pn**	**21 56 58.5**	**+0.4**
KAPI	**Kappang**	**4.62**	**311**	P	Pn	21 57 02.2	-2.0
KAPI	**Kappang**	**4.62**	**311**	Pn	Pn	21 57 02.5	-1.7
2.2nm,0.3s,baz=219,slow=4.5,SNR=5.8							
KAPI				Sn	**Sn**	**21 57 56.6**	**0.0**
3.1nm,0.3s,baz=98,slow=19,SNR=3.6							
KAPI				LR	LR	21 58 57.3	
comp=Z,314nm,18.6s,baz=88,slow=42							
LUWI	**Luwuk**	**6.98**	**356**	P	**Pn**	**21 57 37.2**	**+0.6**
baz=6.9,SNR=3.6							
MTN	**Manton Dam**	**9.08**	**122**	S	**Sn**	**21 59 47.7**	**+1.2**
baz=9.0,SNR=5.2							
KNRA	**Kununurra**	**9.29**	**145**	P	**Pn**	**21 58 07.7**	**-0.6**
baz=9.3,SNR=8.7							
KNRA				S	**Sn**	**21 59 47.4**	**-4.2**
baz=9.3,SNR=5.1							
FITZ	**Fitzroy Crossi**	**10.25**	**167**	Pn	Pn	21 58 19.6	-2.0
1.7nm,0.3s,baz=3.0,slow=10,SNR=30							
FITZ				Sn	Sn	22 00 09.8	-5.5
0.7nm,0.3s,baz=224,slow=2.6,SNR=5.7							
FITZ				LR	LR	22 02 26.8	
comp=Z,94nm,19.1s,baz=81,slow=39							
FITZ	**Fitzroy Crossi**	**10.25**	**167**	P	Pn	21 58 19.9	-1.7
baz=10,SNR=8.1							
WRA	**Warramunga Arr**	**15.96**	**139**	Pn	**Pn**	**21 59 35.4**	**-3.4**
0.3nm,0.3s,baz=318,slow=13,SNR=13							
WRA				Sn	Sn	22 02 26.0	-8.7
0.1nm,0.3s,baz=311,slow=24,SNR=11							
ASAR	**Alice Springs**	**18.57**	**148**	P	**P**	**22 00 11.0**	**0.0**
0.4nm,0.3s,baz=328,slow=12,SNR=40							
ASAR				S	Sn	22 03 29.5	-8.7
0.1nm,0.3s,baz=323,slow=24,SNR=7.3							
MEEK	**Meekatharra**	**19.01**	**193**	P	**Pn**	**22 00 18.9**	**+2.3**
baz=19,SNR=3.6							
CTA	**Charters Tower**	**25.26**	**121**	P	**P**	**22 01 21.9**	**+1.9**
2.4nm,0.6s,baz=282,slow=15,SNR=5.1							
PSI	**Prapat**	**26.57**	**293**	LR	LR	22 13 16.4	
comp=Z,118nm,18.1s,baz=346,slow=40							
CMAR	**Chiang Mai Arr**	**35.64**	**318**	LR	LR	22 21 27.9	
comp=Z,55nm,18.1s,baz=334,slow=43							
SONM	**Songino Array**	**57.61**	**347**	P	**P**	**22 05 43.7**	**+0.3**
0.6nm,0.8s,baz=163,slow=7.0,SNR=4.6							
MKAR	**Makanchi Array**	**65.64**	**330**	P	**P**	**22 06 37.3**	**-0.1**
1.1nm,0.8s,baz=138,slow=7.8,SNR=13							
ZALV	**Zalesovo Beam**	**69.75**	**337**	P	**P**	**22 07 02.7**	**-0.5**
1.0nm,0.9s,baz=112,slow=6.6,SNR=3.6							
AKTO	**Aktyubinsk**	**80.90**	**324**	LR	LR	22 45 21.7	
comp=Z,32nm,18.1s,baz=115,slow=37							
QSPA	**South Pole Qui**	**81.94**	**180**	P	**P**	**22 08 13.1**	**+0.3**
3.1nm,1.1s,baz=316,slow=3.1							
TORD	**Torodi Ar. Bea**	**122.45**	**280**	PKP	**PKPdf**	**22 14 48.2**	**-1.3**
0.4nm,0.8s,baz=134,slow=2.4,SNR=2.7							
CPUP	**Villa Florida**	**145.82**	**179**	PKPbc	**PKPdf**	**22 15 32.8**	**+0.1**
0.3nm,0.3s,baz=85,slow=5.9,SNR=3.6							
LPAZ	**La Paz**	**153.31**	**155**	PKPab	**PKPab**	**22 16 04.7**	**-0.2**
1.1nm,0.6s,baz=232,slow=5.3,SNR=3.9							

ISCJB ***22*** *22:00:26.1±0.2, 7°.61S±0°.03×127°.77E±0°.03, h142km, mb4.2/22, Error ellipse: s-maj=4.7km s-min=3.5km az=143.7*
BJI ***22*** *22:00:26.8, 8°.37S×127°.89E, h189km, mB4.7/6, mb4.5/10*
AUST ***22*** *22:00:29.5, 7°.99S×128°.04E, h100km*
IDC ***22*** *22:00:29.8±3.6, 7°.50S×127°.84E, h159km±34km, mb3.8/14, mb1 4.0/16, mb1mx3.9/23, mbtmp3.9/16, Error ellipse: s-maj=18.1km s-min=10.3km az=59.0*
NEIC ***22*** *22:00:29.4±1.4, 7°.71S×127°.85E, h156km±14km, mb4.6/11, Error ellipse: s-maj=14.2km s-min=7.5km az=223.0*
ISC 22 22:00:27.7±0.3,**7°.70S**±0°.04×**127°.85E**±0°.04,**h142**km,**n104,**
σ1§**80**/118,**mb4.2**/22,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.09**	**240**	P	Pn	22 01 33.7	+4.6
baz=4.1,SNR=50							
SOEI				S	**Sn**	**22 02 21.8**	**+5.1**
baz=4.1,SNR=12							
TLE	**Tual**	**5.27**	**67**	P	**Pn**	**22 01 46.0**	**+1.5**
baz=5.2,SNR=12							
TLE				S	**Sn**	**22 02 45.9**	**+1.4**
baz=5.2,SNR=6.6							
MTN	**Manton Dam**	**6.05**	**148**	P	**Pn**	**22 01 56.5**	**+1.5**

baz=5.7,SNR=110
MTN S **Sn** **22 03 04.3 +1.1**
baz=5.7,SNR=9.3
FAKI Fak Fak 6.46 43 P **Pn** **22 01 59.2 -1.4**
baz=6.6,SNR=65
FAKI S **Sn** **22 03 09.9 -3.2**
baz=6.6,SNR=9.3
KDU Kakadu 6.73 138 P **Pn** **22 02 05.4 +1.3**
baz=6.4,SNR=302
KDU S **Sn** **22 03 16.0 -3.6**
baz=6.4,SNR=24
SWI Sorong 7.59 27 P **Pn** **22 02 15.9 +0.2**
baz=7.8,SNR=15
WSI Waingapu 7.72 255 P **Pn** **22 02 14.7 -2.8**
baz=7.8,SNR=4.2
WSI S **Sn** **22 03 43.8 +0.2**
baz=7.8,SNR=9.5
KNRA Kununurra 7.98 174 P **Pn** **22 02 22.5 +1.6**
baz=7.7,SNR=138
KNRA S **Sn** **22 03 46.0 -3.7**
baz=7.7,SNR=8.1
KAPI Kappang 8.48 288 *e*Pn Pn 22 02 31.3 +3.6
FITZ Fitzroy Crossi 10.56 192 *e*Pn **Pn** **22 02 55.3 -0.1**
FITZ S **Sn** **22 04 48.1 -4.0**
FITZ Fitzroy Crossi 10.56 192 P **Pn** **22 02 55.1 -0.3**
2.8nm,0.3s,baz=26,slow=10.0,SNR=34
FITZ S **Sn** **22 04 48.1 -4.0**
7.8nm,0.3s,baz=222,slow=12,SNR=3.6
FITZ Fitzroy Crossi 10.56 192 P **Pn** **22 02 55.3 -0.1**
baz=10,SNR=13
WRAB Tennant Creek 13.70 153 *e*Pn **Pn** **22 03 35.3 -0.9**
WRAB *e*S Sn 22 05 57.2 -11
WRA Warramunga Arr 13.70 153 P **Pn** **22 03 35.2 -1.0**
WRA S Sn 22 05 58.0 -10
WRA Warramunga Arr 13.70 153 P **Pn** **22 03 35.2 -1.0**
5.4nm,0.3s,baz=325,slow=14,SNR=78
WRA S Sn 22 05 58.0 -10
10nm,0.3s,baz=327,slow=24,SNR=13
MBWA Marble Bar 15.51 210 *e*Pn **Pn** **22 03 58.5 -0.4**
54nm,1.6s
COEN Coen 16.28 114 *e*Pn **P** **22 04 08.8 +0.1**
76nm,0.7s
COEN *e*S Sn 22 06 56.2 -14
COEN Coen 16.28 114 P **P** **22 04 09.9 +1.1**
baz=16,SNR=12
AS31 Alice Springs 16.91 161 *e*P **P** **22 04 14.5 -1.1**
AS31 *e*S S 22 07 17.1 -7.5
ASAR Alice Springs 16.91 161 P **Pn** **22 04 18.6 +2.5**
ASAR S **S** **22 07 19.6 -5.0**
ASAR Alice Springs 16.91 161 P **Pn** **22 04 18.6 +2.5**
3.5nm,0.3s,baz=339,slow=10,SNR=218
ASAR S **S** **22 07 19.6 -5.0**
2.9nm,0.3s,baz=322,slow=18,SNR=11
SDKM Sandakan 16.99 321 P **P** **22 04 12.8 -3.9**
UGM Wanagama 17.17 268 *e*P **P** **22 04 18.2 -0.5**
291nm,1.6s
UGM Wanagama 17.17 268 P **Pn** **22 04 19.5 +0.2**
baz=17,SNR=4.7
KKM Kota Kinabalu 17.92 319 *e*P **Pn** **22 04 29.6 +1.4**
11nm,0.7s
BTM Bintulu 18.29 306 P **P** **22 04 30.4 -0.5**
SBUM Sibu 18.57 302 P **P** **22 04 34.5 +0.6**
MTSU Mount Surprise 19.09 125 P **Pn** **22 04 41.5 -0.5**
baz=19,SNR=49
MTSU S **S** **22 08 08.8 0.0**
baz=19,SNR=4.5
PMG Port Moresby 19.17 96 *e*P **Pn** **22 04 42.3 -0.5**
65nm,0.8s
PMG Port Moresby 19.17 96 P **Pn** **22 04 43.1 +0.2**
4.7nm,0.3s,baz=277,slow=5.3,SNR=18
KSM Kuching 19.73 297 *e*P **Pn** **22 04 49.0 -0.5**
28nm,0.8s
KSM Kuching 19.73 297 P **P** **22 04 47.3 +0.7**
KSM Kuching 19.73 297 P **Pn** **22 04 50.5 +1.1**
baz=20,SNR=8.3
CISI Cisompet, Garu 19.86 269 P **P** **22 04 45.9 -2.1**
baz=20,SNR=3.9
MEEK Meekatharra 20.78 204 P Pn 22 04 59.9 -1.9
baz=21,SNR=9.3
CTA Charters Tower 21.67 127 P **P** **22 05 08.8 +1.6**
CTA Charters Tower 21.67 127 P **P** **22 05 08.8 +1.6**
4.4nm,0.5s,baz=307,slow=13,SNR=12
CTAO Charters Tower 21.67 127 *e*P **P** **22 05 08.9 +1.6**
14nm,1.1s
MORW Morawa 23.99 206 P **P** **22 05 32.4 +3.0**
baz=24,SNR=5.1
MYKOM Kota Tinggi 25.73 291 P **P** **22 05 42.9 -2.4**
KGM Kluang 26.31 291 P **P** **22 05 48.0 -2.4**
STKA Stephens Creek 27.25 154 P **P** **22 06 00.1 +1.4**
STKA Stephens Creek 27.25 154 P **P** **22 06 00.1 +1.4**
3.6nm,0.5s,baz=310,slow=7.1,SNR=4.6
KTGM Kuala Trenggan 27.85 297 P P 22 05 58.4 -5.8
PPI Padang Panjang 28.30 283 P P 22 06 19.7 +12
baz=29,SNR=5.4
CMSA Cobar Meteorol 28.97 147 P **P** **22 06 15.9 +1.9**
baz=29,SNR=15
IPM Ipoh 29.37 293 P P 22 06 13.4 -4.4
PSI Prapat 30.69 289 P **P** **22 06 29.0 -0.5**
PSI Prapat 30.69 289 P **P** **22 06 29.0 -0.5**
30nm,0.8s,baz=94,slow=5.1,SNR=21
PSI Prapat 30.69 289 P **P** **22 06 29.4 -0.1**
baz=31,SNR=12
ARPS Mount Arapiles 31.62 158 P **P** **22 06 40.0 +2.8**
baz=31,SNR=8.8
CMAR Chiang Mai Arr 38.59 313 P **P** **22 07 36.9 -0.3**
CMAR Chiang Mai Arr 38.59 313 P **P** **22 07 36.9 -0.3**
1.8nm,0.6s,baz=138,slow=7.1,SNR=16
CHTO Chiang Mai 38.82 313 *e*P **P** **22 07 40.2 +1.1**
44nm,2.6s
GYA Guiyang 39.70 330 *e*P **P** **22 07 48.8 +2.4**
GYA pP pP 22 08 30.8 +13
GYA sP sP 22 08 53.3 +19
GYA PcP **PcP** **22 09 49.8 -0.6**
GYA ScP ScP 22 13 18.4 -7.7
GYA S **S** **22 13 38.8 -0.8**
GYA PcS **PcS** **22 13 40.0 -0.9**
GYA ScS ScS 22 17 30.5 -8.9
GYA pmax pmax
comp=Z,10.0nm,0.8s
DZM Mont Dzumac 39.80 115 P **P** **22 07 48.3 +1.0**
DZM Mont Dzumac 39.80 115 P **P** **22 07 48.3 +1.0**
comp=Z,4.6nm,0.7s,baz=89,slow=24,SNR=4.3
KSAR Wonju Array Be 44.90 0 P **P** **22 08 27.4 -0.8**
KSRS Korea Array 44.91 0 P **P** **22 08 27.4 -0.9**
comp=Z,1.2nm,0.7s,baz=175,slow=9.8,SNR=5.4
HHC Hu-ho-hao-te 50.58 344 *e*P **P** **22 09 14.3 +2.2**
HHC S **S** **22 16 13.8 -1.9**
HHC pmax pmax
comp=Z,49nm,0.8s
HHC pmax pmax
comp=Z,220nm,6.0s
LSA Lhasa 51.26 318 *e*P P 22 09 13.9 -3.9
comp=Z,6.7nm,0.5s
USRK Ussuriysk Arra 51.79 4 P **P** **22 09 19.0 -1.8**
comp=Z,0.7nm,0.5s,baz=203,slow=3.8,SNR=2.5
MDJ Mudanjiang 52.09 2 P **P** **22 09 25.9 +2.8**
MDJ pP pP 22 10 08.3 +12
MDJ sP sP 22 10 29.0 +17
MDJ PP **PP** **22 11 26.5 +3.6**
MDJ S **S** **22 16 36.8 +0.7**
MDJ sS sS 22 17 51.8 +19
MDJ pmax pmax
comp=Z,11nm,1.0s
ODAN Odare 52.13 313 *e*P **P** **22 09 22.9 -1.1**
comp=Z,17nm,0.5s
TAPN Taplejung 52.19 313 *e*P **P** **22 09 23.4 -1.1**
comp=Z,17nm,0.4s
RAMN Ramite 52.76 312 *e*P **P** **22 09 28.1 -0.6**
comp=Z,42nm,0.6s
JIRN Jiri 53.47 313 *e*P **P** **22 09 32.1 -1.9**
GTA Gaotai 53.59 333 *e*P **P** **22 09 33.8 -0.6**
GTA pP pP 22 10 19.4 +12
GTA sP sP 22 10 40.6 +18
GTA S **S** **22 16 53.4 -3.5**
GTA sS sS 22 18 10.5 +17
GTA SS **SKiKP** **22 20 36.9 +2.2**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,62nm,4.5s
GTA LR LR
comp=N,50nm,14.0s
GTA LR LR
comp=E,50nm,15.0s
GTA LR LR
comp=Z,70nm,16.6s

GUN Gumba 53.83 313 *e*P **P** **22 09 35.5 -1.1**
comp=Z,32nm,0.5s
PKI Pulchoki 53.99 312 *e*P **P** **22 09 36.3 -1.4**
comp=Z,14nm,0.5s
PKIN Phulchoki 54.00 312 *e*P **P** **22 09 36.4 -1.3**
comp=Z,5.8nm,0.5s
KKN Kakani 54.20 312 *e*P **P** **22 09 37.8 -1.3**
comp=Z,12nm,0.5s
DMN Daman 54.23 312 *e*P **P** **22 09 38.1 -1.3**
comp=Z,6.9nm,0.4s
KOLN Koldanda 55.43 311 *e*P **P** **22 09 46.9 -1.1**
DANN Dangsing 55.63 312 *e*P **P** **22 09 47.7 -1.8**
SONM Songino Array 58.46 343 P **P** **22 10 08.6 -0.2**
SONM Songino Array 58.46 343 P **P** **22 10 08.6 -0.2**
comp=Z,1.0nm,0.6s,baz=166,slow=6.8,SNR=8.6
WMQ Urumqi 62.84 328 *e*P **P** **22 10 40.0 +1.5**
WMQ pmax pmax
comp=Z,80nm,4.0s
WMQ LR LR
comp=N,110nm,29.0s
WMQ LR LR
comp=E,43nm,22.0s
WMQ LR LR
comp=Z,62nm,19.0s
PETK Petropavlovsk- 65.66 19 P **P** **22 10 55.6 -1.0**
PETK Petropavlovsk- 65.66 19 P **P** **22 10 55.6 -1.0**
comp=Z,3.3nm,0.8s,baz=169,slow=8.2,SNR=7.0
KSH Kashi 67.11 319 *e*P **P** **22 11 06.6 +0.3**
MK31 Makanchi Array 67.66 328 *e*P **P** **22 11 08.0 -1.5**
MKAR Makanchi Array 67.66 328 *e*P **P** **22 11 08.6 -0.9**
MKAR Makanchi Array 67.66 328 P **P** **22 11 08.3 -1.2**
comp=Z,1.2nm,0.3s,baz=117,slow=8.3,SNR=50
KBL Kabul 69.60 311 *e*P **P** **22 11 21.6 -0.4**
comp=Z,5.2nm,1.2s
ZALV Zalesovo Beam 71.28 335 P **P** **22 11 29.9 -1.6**
ZALV Zalesovo Beam 71.28 335 P **P** **22 11 29.9 -1.6**
comp=Z,0.8nm,0.3s,baz=155,slow=6.6,SNR=6.8
MAW Mawson 73.53 201 P **P** **22 11 46.5 +1.9**
MAW Mawson 73.53 201 P **P** **22 11 46.5 +1.9**
comp=Z,2.2nm,0.4s,baz=72,slow=9.6,SNR=12
ABKAR Akbulak array 81.74 322 *e*P P 22 12 26.8 -3.7
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 82.28 180 P **P** **22 12 33.9 +0.7**
QSPA South Pole Qui 82.28 180 P **P** **22 12 33.9 +0.7**
comp=Z,1.1nm,0.5s,baz=26,slow=0.9,SNR=13
SNAA Sanae 94.49 194 P **P** **22 13 32.7 +1.2**
SNAA Sanae 94.49 194 P **P** **22 13 32.7 +1.2**
comp=Z,0.6nm,0.8s,baz=97,slow=3.0,SNR=5.5
PDAR Pinedale Array 118.89 45 PKP **PKPdf** **22 18 58.9 -1.1**
PDAR Pinedale Array 118.89 45 PKP **PKPdf** **22 18 58.9 -1.1**
comp=Z,0.3nm,0.6s,baz=126,slow=1.6,SNR=2.9
TORD Torodi Ar. Bea 126.85 281 PKP **PKPdf** **22 19 14.8 -0.9**
TORD Torodi Ar. Bea 126.85 281 PKP **PKPdf** **22 19 14.8 -0.9**
comp=Z,0.9nm,0.8s,baz=74,slow=1.6,SNR=5.6
TXAR Lajitas Array 127.11 59 PKP **PKPdf** **22 19 15.8 -0.1**
TXAR Lajitas Array 127.11 59 PKP **PKPdf** **22 19 15.8 -0.1**
comp=Z,0.1nm,0.4s,baz=186,slow=2.6,SNR=4.2
CPUP Villa Florida 145.80 172 PKPbc **PKPab** **22 19 51.4 -0.1**
CPUP Villa Florida 145.80 172 PKPbc **PKPab** **22 19 51.4 -0.1**
comp=Z,1.5nm,0.4s,baz=95,slow=1.4,SNR=6.3
LPAZ La Paz 151.40 146 PKPbc **PKPbc** **22 20 07.0 +0.5**
LPAZ PKPab PKPab **22 20 16.7 +1.6**
LPAZ La Paz 151.40 146 PKPbc **PKPbc** **22 20 07.0 +0.5**
comp=Z,0.6nm,0.5s,baz=108,slow=3.2,SNR=2.4
LPAZ PKPab **PKPab** **22 20 16.7 +1.6**
comp=Z,1.0nm,0.5s,baz=50,slow=13,SNR=4.0

ISCJB ***22*** *22:07:45.1±0.2, 63°.22N±0°.02×150°.65W±0°.04, h135km±2km, mb3.6/14, Error ellipse: s-maj=3.4km s-min=3.1km az=27.5*
IDC ***22*** *22:07:45.4±1.7, 63°.33N×150°.94W, h118km±16km, mb3.4/14, mb1 3.7/19, mb1mx3.6/29, mbtmp3.5/19, Error ellipse: s-maj=16.7km s-min=14.7km az=44.0*
NEIC ***22*** *22:07:46.5, 63°.20N×150°.63W, h134km, mb4.6/3, After AEIC.*
ISC 22 22:07:46.7±0.6, 63°.20N±0°.03×150°.71W±0°.03, h134km±5km, n130, σ18°27/150, mb3.8/14, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.32**	**37**	P	**Pn**	**22 08 04.2**	**-1.4**
TRF				S	**Sn**	**22 08 18.6**	**-1.3**
KTH	**Kantishna Hill**	**0.37**	**345**	P	**Pn**	**22 08 05.2**	**-0.5**
KTH				S	**Sn**	**22 08 18.8**	**-1.3**
CAST	**Castle Rocks**	**0.66**	**290**	P	**Pn**	**22 08 06.6**	**-0.6**
CAST				S	**Sn**	**22 08 20.9**	**-1.8**
PPLA	**Purkeypile**	**0.74**	**246**	P	**Pn**	**22 08 07.7**	**-0.3**
PPLA				S	**Sn**	**22 08 23.4**	**-0.6**
RND	**Reindeer**	**0.87**	**75**	P	**Pn**	**22 08 08.2**	**-0.6**
MCK	**McKinley**	**0.96**	**55**	P	**Pn**	**22 08 09.2**	**-0.4**
MCK				S	**Sn**	**22 08 25.4**	**-1.6**
CHUM	**Lake Minchumin**	**0.99**	**314**	P	**Pn**	**22 08 09.4**	**-0.4**
CHUM				S	**Sn**	**22 08 26.2**	**-1.2**
SKT	**Skwentna**	**1.28**	**198**	P	**Pn**	**22 08 12.2**	**-0.5**
DHY	**Denali Highway**	**1.52**	**93**	P	**Pn**	**22 08 14.9**	**-0.5**
DHY				S	**Sn**	**22 08 37.0**	**-0.3**
NEA	**Nenana**	**1.56**	**27**	P	**Pn**	**22 08 14.9**	**-0.8**
NEA				S	**Sn**	**22 08 35.4**	**-2.5**
WRH	**Wood River Hil**	**1.73**	**41**	P	**Pn**	**22 08 16.9**	**-0.7**
SUA	**Susitna One**	**1.74**	**180**	P	**Pn**	**22 08 17.5**	**-0.4**
PMR	**Palmer**	**1.77**	**155**	P	**Pn**	**22 08 17.3**	**-0.8**
PMR				S	**Sn**	**22 08 41.0**	**-1.2**
SML	**Sawmill**	**1.78**	**141**	P	**Pn**	**22 08 17.5**	**-0.8**
SML				S	**Sn**	**22 08 41.8**	**-0.6**
STLK	**Strandline Lak**	**1.79**	**198**	P	**Pn**	**22 08 17.9**	**-0.5**
MLY	**Manley**	**1.84**	**360**	P	**Pn**	**22 08 18.2**	**-0.7**
CCB	**Clear Creek Bu**	**1.94**	**40**	P	**Pn**	**22 08 19.4**	**-0.7**
CCB				S	**Sn**	**22 08 43.3**	**-2.4**
HDA	**Harding Lake**	**2.06**	**52**	P	**Pn**	**22 08 20.8**	**-0.8**
MDM	**Murphy Dome**	**2.08**	**31**	P	**Pn**	**22 08 21.1**	**-0.6**
SCM	**Sheep Creek Mo**	**2.08**	**130**	P	**Pn**	**22 08 20.9**	**-1.0**
BGL	**Barrier Glacie**	**2.10**	**203**	P	**Pn**	**22 08 22.4**	**+0.2**
SPBG	**Spurr Blockage**	**2.10**	**202**	P	**Pn**	**22 08 22.3**	**+0.2**
COLA	**College**	**2.10**	**36**	P	**Pn**	**22 08 21.5**	**-0.5**
SPU	**Mount Spurr**	**2.12**	**198**	P	**Pn**	**22 08 22.0**	**-0.4**
CKL	**Chakachamna La**	**2.15**	**201**	P	**Pn**	**22 08 22.4**	**-0.3**
ILAR	**Eielson Array**	**2.31**	**45**	P	**Pn**	**22 08 23.5**	**-1.1**
ILAR				S	**Sn**	**22 08 52.2**	**-1.6**
ILAR	**Eielson Array**	**2.31**	**45**	P	**Pn**	**22 08 23.5**	**-1.1**
	43nm,0.3s,baz=227,slow=12,SNR=1309						
ILAR				S	**Sn**	**22 08 52.2**	**-1.6**
	28nm,0.3s,baz=222,slow=21,SNR=17						
GLM	**Gilmore Dome**	**2.31**	**38**	P	**Pn**	**22 08 24.3**	**-0.3**
PAX	**Paxson**	**2.40**	**93**	P	**Pn**	**22 08 25.3**	**-0.5**
TT01	**Tatalina**	**2.44**	**265**	P	**Pn**	**22 08 24.9**	**-1.3**
HARP	**HAARP**	**2.67**	**105**	P	**Pn**	**22 08 28.7**	**-0.5**
SLKM	**Skilak Lake**	**2.71**	**175**	P	**Pn**	**22 08 29.4**	**-0.3**
RDT	**Redoubt**	**2.75**	**198**	P	**Pn**	**22 08 30.1**	**-0.2**
DFR	**Drift River**	**2.78**	**201**	P	**Pn**	**22 08 30.3**	**-0.3**
KLU	**Klutina**	**2.82**	**125**	P	**Pn**	**22 08 29.8**	**-1.3**
NCT	**North Crescent**	**2.85**	**203**	P	**Pn**	**22 08 31.6**	**0.0**
GLI	**Glacier Island**	**2.89**	**142**	P	**Pn**	**22 08 30.7**	**-1.2**
JPK	**Jack Peak**	**2.89**	**136**	P	**Pn**	**22 08 30.6**	**-1.4**
JPK				S	**Sn**	**22 09 05.5**	**-1.5**
RSO	**Redoubt South**	**2.91**	**200**	*e*Pn	**Pn**	**22 08 32.2**	**-0.2**
VLZ	**Valdez**	**2.92**	**133**	P	**Pn**	**22 08 30.7**	**-1.6**
IM04	**Indian Mountai**	**3.08**	**336**	*e*Pn	**Pn**	**22 08 33.6**	**-0.8**
IM04				*e*Sn	**Sn**	**22 09 07.9**	**-3.5**
IM3	**Indian Mountai**	**3.09**	**336**	P	**Pn**	**22 08 33.8**	**-0.6**
SCRK	**Sand Creek**	**3.11**	**72**	P	**Pn**	**22 08 33.9**	**-0.9**
SCRK				S	**Sn**	**22 09 09.5**	**-2.5**
SVW2	**Sparrevohn**	**3.11**	**229**	P	**Pn**	**22 08 34.2**	**-0.6**
DIV	**Divide**	**3.11**	**130**	*e*Pn	**Pn**	**22 08 33.3**	**-1.6**
DIV				*e*Sn	Sn	22 09 03.8	-8.4
IMA2	**Indian Mountai**	**3.15**	**337**	P	**Pn**	**22 08 34.9**	**-0.5**
MENT	**Mentasta**	**3.19**	**92**	*e*Pn	**Pn**	**22 08 35.1**	**-0.8**
MENT				*e*Sn	**Sn**	**22 09 10.1**	**-3.8**
ILIM	**Iliamna**	**3.31**	**200**	P	**Pn**	**22 08 37.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.55**	**136**	P	**Pn**	**22 08 39.6**	**-0.8**
BMRM	**Bremner River**	**3.64**	**125**	P	**Pn**	**22 08 39.9**	**-1.8**
OPT	**Oil Point**	**3.76**	**200**	P	**Pn**	**22 08 43.5**	**+0.2**
GOAT	**Goat Mountain**	**3.86**	**130**	P	**Pn**	**22 08 43.3**	**-1.4**
VRDI	**Verde Repeater**	**3.93**	**117**	P	**Pn**	**22 08 44.6**	**-1.1**
RAGM	**Ragged Mountai**	**4.02**	**132**	P	**Pn**	**22 08 45.6**	**-1.1**
MCARA	**McCarthy VSAT**	**4.03**	**113**	P	**Pn**	**22 08 46.5**	**-0.3**
COLD	**Coldfoot**	**4.05**	**3**	P	**Pn**	**22 08 46.6**	**-0.4**
BCA3	**Beaver Creek A**	**4.06**	**88**	P	**Pn**	**22 08 46.1**	**-1.1**
AUW	**Augustine West**	**4.07**	**200**	P	**Pn**	**22 08 47.3**	**0.0**
AUI	**Augustine Isla**	**4.09**	**200**	P	**Pn**	**22 08 47.6**	**0.0**
MID	**Middleton Isla**	**4.33**	**149**	*e*Pn	**Pn**	**22 08 50.3**	**-0.5**
PTPK	**Patty Peak**	**4.36**	**114**	P	**Pn**	**22 08 50.8**	**-0.6**
NICHA	**Nichawak Mount**	**4.37**	**130**	P	**Pn**	**22 08 50.2**	**-1.2**
BALM	**Baldy**	**4.49**	**115**	P	**Pn**	**22 08 51.9**	**-1.1**
EGAK	**Eagle**	**4.50**	**65**	P	**Pn**	**22 08 52.0**	**-0.9**
KIAG	**Kiagna River**	**4.54**	**116**	P	**Pn**	**22 08 52.4**	**-1.4**
GRIN	**Grindle Hills**	**4.57**	**126**	P	**Pn**	**22 08 53.5**	**-0.6**
ISLE	**Juniper Island**	**4.74**	**120**	P	**Pn**	**22 08 55.0**	**-1.4**
BARK	**Barkley Ridge**	**4.80**	**122**	P	**Pn**	**22 08 56.2**	**-1.0**
GRNC	**Granite Creek**	**4.90**	**116**	P	**Pn**	**22 08 57.4**	**-1.2**
BAGL	**Bagley Icefiel**	**4.91**	**120**	P	**Pn**	**22 08 57.2**	**-1.2**
KAPH	**Katmai Pasha**	**4.95**	**203**	P	**Pn**	**22 08 59.2**	**+0.1**
BM3	**Burnt Mountain**	**4.95**	**28**	P	**Pn**	**22 08 58.3**	**-0.7**
YAH	**Yahtse**	**5.12**	**120**	P	**Pn**	**22 09 00.6**	**-0.9**
DAWY	**Dawson**	**5.12**	**75**	P	**Pn**	**22 09 00.7**	**-0.7**
TABL	**Table Mountain**	**5.31**	**117**	P	**Pn**	**22 09 02.9**	**-1.2**
KELA	**Mount Kelaz**	**5.37**	**209**	P	**Pn**	**22 09 04.7**	**-0.1**
KABR	**Katmai Barrier**	**5.50**	**204**	P	**Pn**	**22 09 06.1**	**-0.4**
KDAK	**Kodiak Island**	**5.51**	**190**	P	**Pn**	**22 09 04.8**	**-1.8**
KDAK				S	**Sn**	**22 10 03.8**	**-5.1**
KDAK	**Kodiak Island**	**5.51**	**190**	P	**Pn**	**22 09 04.8**	**-1.8**
	11nm,0.3s,baz=34,slow=8.2,SNR=113						
KDAK				S	**Sn**	**22 10 03.8**	**-5.1**
	19nm,0.3s,baz=297,slow=21,SNR=11						
CAHL	**Cahill**	**5.63**	**206**	P	**Pn**	**22 09 08.5**	**+0.2**
OHAK	**Old Harbor**	**6.13**	**193**	P	**Pn**	**22 09 12.4**	**-2.4**
PNL	**Peninsula**	**6.48**	**118**	P	**Pn**	**22 09 18.4**	**-1.1**
HYT	**Haines Junctio**	**6.66**	**105**	P	**Pn**	**22 09 21.1**	**-1.0**
TNA	**Tin City**	**7.82**	**295**	*e*Pn	**Pn**	**22 09 38.1**	**+0.7**
CHGN	**Chignik**	**7.93**	**213**	*e*Pn	**Pn**	**22 09 38.4**	**-0.6**
CHGN				*e*Sn	**Sn**	**22 11 07.2**	**+0.1**
SKAG	**Skagway**	**8.29**	**110**	*e*Pn	**Pn**	**22 09 42.6**	**-1.1**
INK	**Inuvik**	**8.71**	**47**	*e*Pn	**Pn**	**22 09 48.9**	**-0.4**
INK	**Inuvik**	**8.71**	**47**	P	**Pn**	**22 09 47.4**	**-1.9**
	1.0nm,0.3s,baz=239,slow=14,SNR=15						
SDPT	**Sand Point**	**9.31**	**217**	Pn	**Pn**	**22 09 59.2**	**+1.6**
SIT	**Sitka**	**9.82**	**122**	*e*Pn	**Pn**	**22 10 03.8**	**-0.5**
DLBC	**Dease Lake**	**11.14**	**106**	P	**Pn**	**22 10 22.4**	**+0.5**
DLBC	**Dease Lake**	**11.14**	**106**	P	**Pn**	**22 10 22.4**	**+0.5**
	0.2nm,0.3s,baz=287,slow=11,SNR=3.2						
WRAK	**Wrangell Islan**	**11.44**	**118**	*e*Pn	**Pn**	**22 10 26.4**	**+0.6**
CRAG	**Craig**	**11.82**	**123**	*e*Pn	**Pn**	**22 10 30.1**	**-0.7**
YKA	**Yellowknife Ar**	**16.36**	**76**	P	**P**	**22 11 29.4**	**+0.8**
YKA	**Yellowknife Ar**	**16.36**	**76**	P	**P**	**22 11 29.4**	**+0.8**
	0.5nm,0.3s,baz=285,slow=9.5,SNR=8.4						
ATKA	**Atka Island**	**16.58**	**239**	*e*Pn	**P**	**22 11 31.2**	**+0.2**
	31nm,1.0s						
ADK	**Adak**	**17.81**	**243**	*e*P	**Pn**	**22 11 48.0**	**+2.2**
	35nm,0.5s						
AMKA	**Amchitka**	**19.84**	**247**	*e*P	**P**	**22 12 06.2**	**-0.4**
	8.5nm,0.6s						
FX1	**Attu Island--F**	**21.42**	**258**	*e*P	**P**	**22 12 24.7**	**+1.1**
FX1	**Attu Island--F**	**21.42**	**258**	P	**P**	**22 12 23.2**	**-0.4**
	1.6nm,0.3s,baz=38,slow=19,SNR=8.0						
PDAR	**Pinedale Array**	**31.31**	**111**	P	**P**	**22 13 55.8**	**+1.7**
PDAR	**Pinedale Array**	**31.31**	**111**	P	**P**	**22 13 55.8**	**+1.7**
	0.4nm,0.6s,baz=309,slow=10,SNR=3.9						
NVAR	**Mina Array Bea**	**31.54**	**126**	P	**P**	**22 13 58.1**	**+2.0**
NVAR	**Mina Array Bea**	**31.54**	**126**	P	**P**	**22 13 58.1**	**+2.0**
	0.6nm,0.7s,baz=317,slow=9.1,SNR=5.5						
TXAR	**Lajitas Array**	**45.24**	**116**	P	**P**	**22 15 52.0**	**+1.7**
TXAR	**Lajitas Array**	**45.24**	**116**	P	**P**	**22 15 52.0**	**+1.7**
	0.2nm,0.5s,baz=327,slow=7.3,SNR=5.0						
ARCES	**ARCESS Array B**	**47.52**	**2**	P	**P**	**22 16 07.2**	**-0.3**
ARCES	**ARCESS Array B**	**47.52**	**2**	P	**P**	**22 16 07.2**	**-0.3**
	2.4nm,0.7s,baz=4.4,slow=8.8,SNR=14						
SONM	**Songino Array**	**53.80**	**306**	P	**P**	**22 16 55.8**	**+0.7**
SONM	**Songino Array**	**53.80**	**306**	P	**P**	**22 16 55.8**	**+0.7**
	0.5nm,0.7s,baz=17,slow=5.9,SNR=5.0						
JOF	**Joensuu**	**54.18**	**359**	*e*p	**P**	**22 16 57.9**	**+0.5**
KAF	**Kangasniemi**	**54.98**	**2**	*e*p	**P**	**22 17 02.7**	**-0.5**
NB2	**NORSAR Subarra**	**55.32**	**11**	P	**P**	**22 17 04.7**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=350,slow=7.4						
NOA	**NORSAR Array B**	**55.32**	**11**	P	**P**	**22 17 04.7**	**-1.0**
NOA	**NORSAR Array B**	**55.32**	**11**	P	**P**	**22 17 04.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=349,slow=7.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.44**	**324**	P	**P**	**22 17 06.0**	**-0.6**
ZALV	**Zalesovo Beam**	**55.44**	**324**	P	**P**	**22 17 06.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=9.8,slow=7.4,SNR=5.1						
FINES	**FINESS Array B**	**55.65**	**2**	P	**P**	**22 17 07.0**	**-0.9**
FINES	**FINESS Array B**	**55.65**	**2**	P	**P**	**22 17 07.0**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=9.9,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**62.60**	**322**	P	**P**	**22 17 54.9**	**-1.2**
MKAR	**Makanchi Array**	**62.60**	**322**	P	**P**	**22 17 54.9**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=45,slow=7.8,SNR=9.7						
AKASG	**Malin Array Be**	**66.44**	**0**	P	**P**	**22 18 19.9**	**-0.9**
AKASG	**Malin Array Be**	**66.44**	**0**	P	**P**	**22 18 19.9**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=360,slow=6.0,SNR=7.6						
GERES	**GERESS Array B**	**67.62**	**11**	P	**P**	**22 18 28.2**	**-0.3**
GERES	**GERESS Array B**	**67.62**	**11**	P	**P**	**22 18 28.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=9.0,slow=8.1,SNR=3.8						
KBZ	**Khabaz**	**72.87**	**350**	P	**P**	**22 19 00.3**	**0.0**
KBZ	**Khabaz**	**72.87**	**350**	P	**P**	**22 19 00.3**	**0.0**
	comp=Z,1.3nm,0.7s,baz=328,slow=8.5,SNR=3.7						
BRTR	**Keskin Array B**	**77.36**	**357**	P	**P**	**22 19 26.0**	**-0.4**
BRTR	**Keskin Array B**	**77.36**	**357**	P	**P**	**22 19 26.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=350,slow=4.7,SNR=5.6						

ISCJB ***22*** *22:15:53.6±0.6, 22°.27N±0°.03×120°.40E±0°.04, h41km±6km, Error ellipse: s-maj=6.3km s-min=3.9km az=144.4*
JMA ***22*** *22:15:53.8±0.4, 22°.17N×120°.66E, h139km, M2.6*
TAP ***22*** *22:15:53.8, 22°.36N×120°.46E, h25km, ML3.7, B*
ISC 22 22:15:54.0±1.1, 22°.30N±0°.03×120°.41E±0°.04, h30km±6km, n45, σ0°94/80, 1C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWP	**Hsiaoliuchiu**	**0.06**	**320**	⇓*i*P	**Pb**	**22 15 59.2**	**-0.1**
	baz=258						
TWP				S	**Sb**	**22 16 04.3**	**+1.5**
	baz=258						
SCZT	**Fangliau**	**0.21**	**69**	⇑*i*P	**Pb**	**22 15 59.2

	baz=335								
WDGT					*e*S		**Sn**	**22 16 27.2**	**-2.3**
	baz=335								
CHKT	**Chengkung**	**1.19**	**48**	*e*P			**Pn**	**22 16 14.6**	**0.0**
	baz=62								
CHKT					*e*S		**Sn**	**22 16 30.8**	**+1.0**
	baz=62								
CHY	**Chiayi**	**1.20**	**1**	*e*P			**Pn**	**22 16 15.7**	**+1.0**
	baz=356								
CHY					*e*S		**Sn**	**22 16 30.2**	**+0.4**
	baz=356								
CHN2	**Minshiung**	**1.23**	**3**	*e*P			**Pn**	**22 16 15.6**	**+0.4**
	baz=358								
ALS	**Alishan**	**1.26**	**17**	*e*P			**Pn**	**22 16 16.0**	**+0.1**
	baz=13								
ALS					*e*S		**Sn**	**22 16 32.8**	**+0.8**
	baz=13								
YUS	**Yu-Shan**	**1.29**	**23**	*e*P			**Pn**	**22 16 15.9**	**-0.6**
	baz=19								
YUS					*e*S		**Sn**	**22 16 33.6**	**+0.7**
	baz=19								
CHN5	**Tsauling**	**1.32**	**11**	*e*P			**Pn**	**22 16 15.2**	**-1.3**
	baz=6.0								
CHN5					*e*S		**Sn**	**22 16 34.0**	**+0.9**
	baz=6.0								
TWF1	**Yuli**	**1.33**	**38**	*e*P			**Pn**	**22 16 16.2**	**-0.4**
	baz=22								
TWF1					*e*S		**Sn**	**22 16 33.6**	**+0.2**
	baz=22								
WSF	**Szhu**	**1.35**	**353**	*e*P			**Pn**	**22 16 15.8**	**-1.0**
	baz=349								
WSF					*e*S		**Sn**	**22 16 33.1**	**-0.5**
	baz=349								
WGK	**Gukeng**	**1.39**	**6**	*e*P			**Pn**	**22 16 17.1**	**-0.3**
	baz=2.0								
WGK					*e*S		**Sn**	**22 16 36.0**	**+1.3**
	baz=2.0								
EHY	**Hungye**	**1.47**	**35**	*e*P			**Pn**	**22 16 18.4**	**-0.1**
	baz=33								
EHY					*e*S		**Sn**	**22 16 38.0**	**+1.3**
	baz=33								
WNT	**Mingjian**	**1.59**	**9**	*e*P			**Pn**	**22 16 19.9**	**-0.3**
	baz=3.0								
SMLT	**Sun Moon Lake**	**1.64**	**16**	*e*P			**Pn**	**22 16 20.4**	**-0.6**
	baz=12								
SMLT					*e*S		**Sn**	**22 16 41.3**	**+0.1**
	baz=12								
TYC	**Yuchr**	**1.65**	**14**	*e*P			**Pn**	**22 16 20.6**	**-0.4**
	baz=11								
TYC					*e*S		**Sn**	**22 16 41.7**	**+0.5**
	baz=11								
WHF	**Hehuan Shan**	**2.00**	**23**	*e*P			**Pn**	**22 16 26.7**	**+0.5**
	baz=4.0								
WHF					*e*S		**Sn**	**22 16 50.7**	**+0.3**
	baz=4.0								
TWQ1	**Liyutan**	**2.07**	**9**	*e*P			**Pn**	**22 16 27.1**	**+0.3**
	baz=3.0								
TWT	**Tachien**	**2.07**	**20**	*e*P			**Pn**	**22 16 27.4**	**+0.5**
	baz=13								
TWD	**Chiawan**	**2.08**	**31**	*e*P			**Pn**	**22 16 26.6**	**-0.3**
	baz=28								
TWD					*e*S		**Sn**	**22 16 53.1**	**+1.2**
	baz=28								
NSY	**Sanyi**	**2.13**	**9**	*e*P			**Pn**	**22 16 28.5**	**+0.9**
	baz=3.0								
NNS	**Nan Shan**	**2.31**	**22**	*e*P			**Pn**	**22 16 29.6**	**-0.6**
	baz=3.0								
ENA	**Nanau**	**2.45**	**30**	*e*P			**Pn**	**22 16 33.6**	**+1.6**
	baz=24								
NSK	**Sanguang**	**2.52**	**20**	*e*P			**Pn**	**22 16 34.1**	**+1.0**
	baz=16								
NSK					*e*S		**Sn**	**22 17 04.9**	**+2.1**
	baz=16								
ENTT	**Nioudou**	**2.56**	**24**	*e*P			**Pn**	**22 16 35.1**	**+1.6**
	baz=5.0								
TWE	**Neicheng**	**2.68**	**25**	*e*P			**Pn**	**22 16 37.2**	**+2.2**
	baz=5.0								
YOJ	**Yonaguni jima**	**3.22**	**47**	P			**Pn**	**22 16 43.1**	**+0.6**
YOJ				S			**Sn**	**22 17 21.0**	**+1.1**
HATJ	**Hateruma jima**	**3.58**	**60**	P			**Pn**	**22 16 47.1**	**-0.4**
HATJ				S			**Sn**	**22 17 28.3**	**-0.5**
IRIF	**Iriomote-Funau**	**3.67**	**56**	P			**Pn**	**22 16 48.7**	**0.0**
IRIF				S			**Sn**	**22 17 31.6**	**+0.7**
JKRS	**Kuro-shima**	**3.83**	**59**	P			**Pn**	**22 16 50.7**	**-0.3**
JKRS				S			**Sn**	**22 17 34.3**	**-0.7**
JIJ	**Ishigaki jima**	**4.00**	**58**	P			**Pn**	**22 16 52.4**	**-0.9**
JIJ				S			**Sn**	**22 17 37.5**	**-1.7**
JTJ	**Tarama**	**4.58**	**59**	P			**Pn**	**22 17 00.9**	**-0.4**
JTJ				S			**Sn**	**22 17 51.8**	**-1.7**

IDC 22 22:27:24.5±2.5, 3°.99N×128°.06E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.7/3, Error ellipse: s-maj=193.4km s-min=25.4km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**166**	P	P	22 32 44.4	-1.9
	0.7nm,0.5s,baz=345,slow=10.0,SNR=8.1						
ASAR	**Alice Springs**	**28.07**	**169**	P	P	22 33 19.7	+1.7
	0.6nm,0.5s,baz=354,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**58.11**	**325**	P	P	22 37 19.7	-0.2
	0.3nm,0.4s,baz=122,slow=7.9,SNR=7.5						

*CSEM **22** 22:39:09.8, 14°.00N×44°.04E, h8km, ML4.0, After DHMR*
DHMR 22 22:39:09.8±1.0, 14°.00N×44°.04E, h8km±5km, ML4.0, 4C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**0.08**	**241**	⇓*i*P	Pg	22 39 11.2	-0.9
UDYN				*i* S	Sg	22 39 12.6	-1.2
UDYN				AML	AML	22 39 12.8	
	comp=E,35μm,0.3s						
DHBB	**Dhamar BB**	**0.66**	**31**	⇑*i*P	Pg	22 39 22.7	-0.3
DHBB				*i* S	Sg	22 39 32.0	+0.1
DHBB	**Dhamar BB**	**0.66**	**31**	⇑*i*P	Pg	22 39 22.7	-0.3
DHBB				*i* S	Sg	22 39 32.0	+0.1
TRBA	**At Turbah**	**0.77**	**174**	*i* P	Pg	22 39 24.5	-0.5
TRBA				*i* S	Sg	22 39 35.3	0.0
SANA	**San'a**	**1.39**	**7**	*i* P	Pn	22 39 35.6	-0.2
SANA				*i* S	Sg	22 39 55.0	0.0
SANA				AML	AML	22 39 59.4	
	comp=E,2μm,0.3s						
BDHA	**Al Bayda'**	**1.49**	**91**	⇑*i*P	Pb	22 39 37.7	-0.3
BDHA				*i* S	Sg	22 39 58.0	-0.3
BDHA				AML	AML	22 40 00.7	
	comp=N,5μm,0.3s						
BDHA	**Al Bayda'**	**1.49**	**91**	⇑*i*P	Pb	22 39 37.7	-0.3
BDHA				*i* S	Sg	22 39 58.0	-0.2
	comp=N,2μm,0.3s						
MUKL	**Al Mukalla**	**4.87**	**84**	*i* S	Sn	22 41 24.5	+4.5

MAN 22 22:40:12, 10°.23N×125°.19E, h32km, mb3.9, ML2.7, MS2.4, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.34**	**254**	*e*P	Pn	22 40 21.9	+1.2
MSLP				*e*S	Sn	22 40 28.5	+2.0
PLP	**Palo**	**0.95**	**347**	⇑*i*P	Pn	22 40 28.7	-0.4
PLP				*i* S	Sn	22 40 40.7	-0.9
OCLP	**Ormoc**	**0.99**	**325**	*e*P	Pn	22 40 30.1	+0.3
OCLP				*e*S	Sn	22 40 42.7	-0.1

*STR **22** 22:40:27.6±1.6, 53°.75N×14°.40E, h5km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **22** 22:40:31.3±0.4, 51°.47N±0°.02×16°.09E±0°.02, h0km, mb3.0/1, Error ellipse: s-maj=3.2km s-min=2.0km az=7.1*
*IPEC **22** 22:40:31.3±0.2, 51°.61N×16°.23E, h0km, ML3.2/4, Error ellipse: s-maj=1.6km s-min=1.5km az=146.0*
*BGR **22** 22:40:33.0±0.5, 51°.55N×16°.11E, h1km, ML3.3/13, Error ellipse: s-maj=5.6km s-min=2.2km az=21.0*
*LDG **22** 22:40:32.0±0.2, 51°.51N×16°.08E, h1km, Ml3.7/2, Error ellipse: s-maj=5.5km s-min=2.2km az=17.0, Suspected Mining induced.*
*PRU **22** 22:40:33.4, 51°.51N×16°.09E, h0km*
*WAR **22** 22:40:33.5, 51°.53N×16°.10E*
*IDC **22** 22:40:33.5±0.7, 51°.51N×15°.85E, h0km, mb3.2/1, mb1 3.4/9, mb1mx3.3/29, mbtmp3.3/9, ML3.1/8, Error ellipse: s-maj=14.4km s-min=6.6km az=103.0*
*CSEM **22** 22:40:33.0±0.2, 51°.50N×16°.08E, h2km, ML3.7/16, Ms3.5, Error ellipse: s-maj=3.2km s-min=2.0km az=5.0*
*VIE **22** 22:40:35.2±0.5, 51°.30N×16°.08E, h0km, mb2.9/9, ML2.9/10, Ms3.5/1, Error ellipse: s-maj=2.9km s-min=2.0km az=173.0*
69 km WNW of Wroclaw Suspected Mining induced.
ISC 22 22:40:30.9±0.6, 51°.56N±0°.02×16°.11E±0°.02, h0km, n130, σ1§46/201, 15C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pb**	**22 40 46.6**	**+0.2**
KSP				*e*Sg	**Sb**	**22 40 56.3**	**-0.6**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pb**	**22 40 46.6**	**+0.2**
KSP				*e*Sg	**Sg**	**22 40 56.2**	**+2.0**
KSP	**Ksiaz**	**0.73**	**171**	Pg	**Pb**	**22 40 46.7**	**+0.2**
KSP				Sg	**Sb**	**22 40 56.3**	**-0.6**
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pb**	**22 40 52.6**	**+0.6**
UPC				*e*SG	**Sg**	**22 41 05.9**	**+1.1**
	comp=Z,193nm,0.3s						
UPC	**Upice**	**1.05**	**183**	Pg	**Pb**	**22 40 52.6**	**+0.6**
UPC				Sg	**Sg**	**22 41 05.9**	**+1.1**
	193nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pb**	**22 40 55.4**	**+0.5**
DPC				*e*Sg	**Sb**	**22 41 11.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.22**	**174**	*i* PG	**Pb**	**22 40 55.4**	**+0.5**
DPC				*e*SG	**Sg**	**22 41 10.7**	**+0.7**
DPC	**Dobruska-Polom**	**1.22**	**174**	Pg	**Pb**	**22 40 55.4**	**+0.5**
DPC				Sg	**Sg**	**22 41 10.7**	**+0.7**
PVCC	**Panska Ves**	**1.42**	**224**	*e*PG	**Pb**	**22 40 58.9**	**+0.7**
PVCC				*e*SG	**Sn**	**22 41 17.7**	**+0.4**
	comp=Z,234nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**224**	Pg	**Pb**	**22 40 58.9**	**+0.7**
PVCC				Sg	**Sn**	**22 41 17.7**	**+0.4**
	234nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**244**	PN	**Pn**	**22 41 00.0**	**+0.6**
BRG				PG	**Pg**	**22 41 01.4**	**+1.2**
BRG				SG	**Sn**	**22 41 21.8**	**+1.8**
	185nm,0.6s						
BRG	**Berggiesshubel**	**1.53**	**244**	*e*Pn	**Pn**	**22 41 00.1**	**+0.7**
BRG				*e*Pg	**Pg**	**22 41 01.3**	**+1.2**
BRG				*e*Sg	**Sn**	**22 41 21.8**	**+1.8**
BRG	**Berggiesshubel**	**1.53**	**244**	Pn	**Pn**	**22 41 00.1**	**+0.7**
PRA	**Prague**	**1.83**	**216**	PG	**Pb**	**22 41 06.0**	**+0.7**
PRA				SG	**Sg**	**22 41 30.0**	**+0.3**
FBE	**Freiberg**	**1.85**	**251**	*e*Pn	**Pn**	**22 41 04.7**	**+0.9**
FBE				*e*Pg	**Pg**	**22 41 07.3**	**+1.1**
FBE				*e*Sg	**Sg**	**22 41 31.8**	**+1.6**
FBE	**Freiberg**	**1.85**	**251**	Pn	**Pn**	**22 41 04.7**	**+0.9**
GKP	**Gorka Klasztor**	**1.85**	**22**	*e*Pn	**Pg**	**22 41 08.4**	**+2.1**
GKP				*e*Pg	Pb	22 41 12.9	+7.4
GKP				*e*Sn	Sg	22 41 41.8	+12
GKP	**Gorka Klasztor**	**1.85**	**22**	*e*Pn	**Pg**	**22 41 08.5**	**+2.1**
PRU	**Pruhonice**	**1.86**	**213**	*e*PN	**Pn**	**22 41 04.8**	**+0.8**
PRU				*e*PG	**Pg**	**22 41 07.0**	**+0.4**
PRU				*e*SG	**Sg**	**22 41 31.0**	**+0.3**
	comp=Z,55nm,0.3s						
PRU	**Pruhonice**	**1.86**	**213**	Pn	**Pn**	**22 41 04.8**	**+0.8**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**22 41 06.0**	**+0.6**
CLL				*e*Sg	**Sg**	**22 41 34.7**	**+0.8**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**22 41 06.0**	**+0.6**
CLL				*e*Pg	**Pg**	**22 41 09.0**	**+0.5**
CLL				*i*		22 41 13.0	
CLL				*i* Sg	**Sg**	**22 41 35.3**	**+1.4**
	comp=Z,121nm,0.7s						
CLL	**Collm**	**1.96**	**264**	Pn	**Pn**	**22 41 06.0**	**+0.6**
CLL				Sg	**Sg**	**22 41 34.7**	**+0.8**
RAC	**Raciborz**	**1.98**	**137**	*e*Pg	**Pg**	**22 41 09.9**	**+1.0**
RAC				*e*Sg	**Sg**	**22 41 36.3**	**+1.7**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**22 41 07.0**	**+1.0**
MORC				*e*Sg	**Sg**	**22 41 35.4**	**+0.2**
MORC	**Moravsky Berou**	**2.00**	**152**	Pn	**Pn**	**22 41 07.0**	**+1.0**
MORC				Sg	**Sg**	**22 41 35.4**	**+0.2**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*Pn	**Pn**	**22 41 08.5**	**+0.5**
OKC				*e*Pg	**Pg**	**22 41 13.5**	**+1.3**
OKC				*e*Sg	**Sg**	**22 41 41.9**	**+1.7**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PN	**Pn**	**22 41 08.7**	**+0.6**
OKC				*e*PG	**Pg**	**22 41 12.2**	**0.0**
OKC				*e*SG	**Sg**	**22 41 40.7**	**+0.5**
	comp=Z,148nm,0.6s						
OKC	**Ostrava-Krasne**	**2.16**	**142**	Pn	**Pn**	**22 41 08.7**	**+0.6**
OKC	**Ostrava-Krasne**	**2.16**	**142**	Pg	**Pg**	**22 41 13.5**	**+1.3**
OKC				Sg	**Sg**	**22 41 40.7**	**+0.5**
	comp=Z,148nm,0.6s						
VRAC	**Vranov**	**2.27**	**172**	Pn	**Pn**	**22 41 11.0**	**+1.3**
	comp=Z,3.3nm,0.3s,baz=336,slow=14,SNR=43						
VRAC				Lg	Lg	22 41 44.3	
	comp=Z,8.7nm,0.3s,baz=61,slow=19,SNR=9.1						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**22 41 10.8**	**+1.1**
	baz=354						
VRAC				*e*Sg	**Sg**	**22 41 43.6**	**-0.4**
	comp=Z,125nm,0.8s,baz=354						
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**22 41 11.3**	**+1.2**
TREC				*e*PG	**Pg**	**22 41 15.1**	**+0.1**
TREC				*e*SG	**Sg**	**22 41 44.7**	**-0.1**
	comp=Z,53nm,0.5s						
TREC	**Trest**	**2.30**	**190**	Pn	**Pn**	**22 41 11.3**	**+1.2**
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**22 41 14.4**	**+1.5**
	baz=358						
KRUC				*e*Sg	**Sg**	**22 41 51.7**	**+0.3**
	comp=Z,94nm,0.7s,baz=358						
TANN	**Tannenbergstha**	**2.58**	**245**	*e*Pn	**Pn**	**22 41 15.2**	**+1.3**
TANN				*e*Sg	**Sg**	**22 41 54.7**	**+1.1**
TANN	**Tannenbergstha**	**2.58**	**245**	Pn	**Pn**	**22 41 15.2**	**+1.3**
TANN				Sg	**Sg**	**22 41 54.7**	**+1.1**
WERD	**Werda**	**2.65**	**247**	*e*Pn	**Pn**	**22 41 16.0**	**+1.1**
WERD				*e*Sg	**Sg**	**22 41 55.9**	**0.0**
WERD	**Werda**	**2.65**	**247**	Pn	**Pn**	**22 41 16.0**	**+1.1**
WERD				Sg	**Sg**	**22 41 55.9**	**0.0**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**22 41 15.3**	**-0.2**
OJC	**Ojcow**	**2.69**	**118**	Pn	**Pn**	**22 41 15.3**	**-0.2**
OJC	**Ojcow**	**2.69**	**118**	*e*Pg	**Pg**	**22 41 24.4**	**+1.9**
OJC				*e*Sg	**Sg**	**22 41 59.5**	**+2.1**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Sg	**Sg**	**22 42 05.7**	**+2.2**
	comp=Z,76nm,0.8s						
KHC	**Kasperske Hory**	**2.92**	**215**	*i* PN	**Pn**	**22 41 19.8**	**+1.1**
KHC				*e*PG	**Pb**	**22 41 25.9**	**+2.0**
KHC				*e*SN	**Sn**	**22 41 54.1**	**-0.4**
KHC				*e*SG	**Sg**	**22 42 05.1**	**+0.3**
	comp=Z,35nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**215**	Pn	**Pn**	**22 41 19.8**	**+1.1**
KHC	**Kasperske Hory**	**2.92**	**215**	Pg	**Pb**	**22 41 25.9**	**+2.0**
KHC				Sn	**Sn**	**22 41 54.1**	**-0.4**
KHC				Sg	**Sg**	**22 42 05.1**	**+0.3**
	comp=Z,35nm,0.4s						
MOX	**Moxa**	**2.98**	**254**	*e*Pn	**Pn**	**22 41 20.6**	**+1.2**
MOX	**Moxa**	**2.98**	**254**	Pn	**Pn**	**22 41 20.6**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn	**Pn**	**22 41 22.0**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	Pn	**Pn**	**22 41 22.0**	**+1.4**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**22 41 22.7**	**+1.1**
GEC2	**GERESS Array S**	**3.13**	**211**	Pn	**Pn**	**22 41 22.7**	**+1.1**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**22 41 22.6**	**+1.1**
	comp=Z,4.0nm,0.3s,baz=30,slow=12,SNR=171						
GERES				Pg	**Pb**	**22 41 28.9**	**+1.5**
	comp=Z,6.4nm,0.3s,baz=31,slow=17,SNR=48						
GERES				Sn	**Sn**	**22 41 57.4**	**-2.2**
	comp=Z,4.3nm,0.3s,baz=24,slow=27,SNR=6.2						
GERES				Lg	Lg	22 42 10.3	
	comp=Z,4.1nm,0.3s,baz=22,slow=26,SNR=4.4						
SMOL	**Smolenice**	**3.17**	**164**	*e*	**Pg**	**22 41 32.7**	**+1.1**
SMOL	**Smolenice**	**3.17**	**164**	*e*SG	**Sg**	**22 42 14.7**	**+2.1**
SMOL	**Smolenice**	**3.17**	**164**	*e*Sg	**Sg**	**22 42 14.7**	**+2.1**
WET	**Wettzell**	**3.18**	**222**	*e*Pn	**Pn**	**22 41 23.3**	**+1.1**
WET	**Wettzell**	**3.18**	**222**	Pn	**Pn**	**22 41 23.3**	**+1.1**
ZST	**Bratislava**	**3.43**	**169**	*e*	**Pg**	**22 41 36.5**	**-0.1**
ZST	**Bratislava**	**3.43**	**169**	*e*SG	**Sg**	**22 42 21.5**	**+0.5**
ZST	**Bratislava**	**3.43**	**169**	*e*Sg	**Sg**	**22 42 21.5**	**+0.5**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**22 41 28.1**	**+1.0**
VYHS				*e*		22 41 40.6	
VYHS	**Vyhne**	**3.54**	**149**	*e*SG	**Sg**	**22 42 24.9**	**+0.4**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pn	**Pn**	**22 41 28.1**	**+1.0**
VYHS				*e*Sg	**Sg**	**22 42 24.9**	**+0.4**
GRA1	**Grafenberg Arr**	**3.63**	**241**	Pn	**Pn**	**22 41 29.9**	**+1.5**
GRF	**Grafenberg Arr**	**3.63**	**241**	*e*Pn	**Pn**	**22 41 29.9**	**+1.5**
CONA	**Conrad Observa**	**3.64**	**183**	⇑*i*Pn	**Pn**	**22 41 29.7**	**+1.1**
	SNR=9.6						
CONA				⇑*i*Sg	**Sg**	**22 42 26.6**	**-1.1**
	comp=Z,43nm,0.6s						
CONA	**Conrad Observa**	**3.64**	**183**	Pn	**Pn**	**22 41 29.7**	**+1.1**
	SNR=9.6						
CONA				Sg	**Sg**	**22 42 26.6**	**-1.1**
	comp=Z,43nm,0.6s						
MOA	**Molln**	**3.90**	**199**	*i* Pn	**Pn**	**22 41 33.6**	**+1.5**
	SNR=17						
MOA				⇑*i*Sg	**Sg**	**22 42 36.6**	**+0.4**
	comp=Z,28nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**22 41 34.5**	**+2.2**
STHS				*e*		22 41 49.7	
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*SG	**Sg**	**22 42 36.4**	**-0.3**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pn	**Pn**	**22 41 34.5**	**+2.2**
STHS				*e*Sg	**Sg**	**22 42 36.4**	**-0.3**
KECS	**Kecovo**	**4.18**	**136**	*e*PN	**Pn**	**22 41 37.0**	**+1.1**
KECS				*e*		22 41 53.0	
KECS	**Kecovo**	**4.18**	**136**	*e*SG	**Sg**	**22 42 45.8**	**+0.8**
KECS	**Kecovo**	**4.18**	**136**	*e*Pn	**Pn**	**22 41 37.0**	**+1.1**
KECS				*e*Sg	**Sg**	**22 42 45.8**	**+0.8**
ARSA	**Arzberg**	**4.33**	**185**	⇑*i*Pn	**Pn**	**22 41 38.5**	**+0.5**
ARSA				⇑*i*Sg	**Sg**	**22 42 49.5**	**-0.5**
	comp=Z,21nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PN	**Pn**	**22 41 40.2**	**+2.0**
CRVS				*e*		22 41 56.1	
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*SG	**Sg**	**22 42 51.9**	**+1.5**
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*Pn	**Pn**	**22 41 40.2**	**+2.0**
CRVS				*e*Sg	**Sg**	**22 42 51.9**	**+1.5**
PSZ	**Piszkesteto**	**4.39**	**145**	⇓*i*P	**Pn**	**22 41 40.8**	**+1.9**
PSZ	**Piszkesteto**	**4.39**	**145**	⇓*e*	**Pn**	**22 41 41.1**	**+2.2**
PSZ	**Piszkesteto**	**4.39**	**145**	⇓*e*Pn	**Pn**	**22 41 41.1**	**+2.2**
PKSG		**4.43**	**160**	⇑*e*pn	**Pn**	**22 41 40.8**	**+1.5**
PKSG		**4.43**	**160**	*e*Pn	**Pn**	**22 41 40.8**	**+1.5**
PKST	**T^'s**	**4.48**	**163**	⇓*e*	**Pn**	**22 41 41.6**	**+1.5**
PKST	**T^'s**	**4.48**	**163**	⇓*e*Pn	**Pn**	**22 41 41.6**	**+1.5**
KWP	**Kalwaria Pacla**	**4.62**	**112**	⇑*i*P	**Pg**	**22 41 58.6**	**-0.9**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*Pn	**Pn**	**22 41 43.9**	**+1.9**
KWP				*e*Pg	**Pg**	**22 42 02.3**	**+2.8**
KWP				*e*Sn	**Sn**	**22 42 38.7**	**+2.3**
KWP				*e*Sg	**Sg**	**22 43 01.5**	**+2.1**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*Pn	**Pn**	**22 41 44.0**	**+1.9**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PN	**Pn**	**22 41 44.8**	**+1.1**
KOLS				*e*		22 42 03.7	
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*SG	**Sg**	**22 43 03.5**	**+0.1**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*Pn	**Pn**	**22 41 44.8**	**+1.1**
KOLS				*e*Sg	**Sg**	**22 43 03.5**	**+0.1**
KBA	**Koelnbreinsper**	**4.84**	**203**	⇑*i*Pn	**Pn**	**22 41 47.0**	**+1.9**
	SNR=5.9						
KBA				⇑*i*Sg	**Sg**	**22 43 06.8**	**+0.6**
	comp=Z,19nm,0.6s						
KBA	**Koelnbreinsper**	**4.84**	**203**	Pn	**Pn**	**22 41 47.0**	**+1.9**
	SNR=5.9						
KBA				Sg	**Sg**	**22 43 06.8**	**+0.6**
	comp=Z,19nm,0.6s						
PERS	**Pernice**	**4.97**	**188**	*i* Pn	**Pn**	**22 41 48.7**	**+1.9**
PERS	**Pernice**	**4.97**	**188**	Pn	**Pn**	**22 41 48.7**	**+1.9**
KOGS	**Kog**	**5.12**	**179**	*i* Pn	**Pn**	**22 41 51.2**	**+2.4**
KOGS	**Kog**	**5.12**	**179**	*i* Pn	**Pn**	**22 41 51.2**	**+2.4**
WATA	**Walderalm**	**5.16**	**217**	⇓*i*Pn	**Pn**	**22 41 51.5**	**+2.0**
	SNR=13						
WATA				⇓*i*Sg	**Sg**	**22 43 17.8**	**+1.3**
	comp=Z,10nm,0.5s						
WATA	**Walderalm**	**5.16**	**217**	Pn	**Pn**	**22 41 51.5**	**+2.0**
	SNR=13						
WATA				Sg	**Sg**	**22 43 17.8**	**+1.3**
	comp=Z,10nm,0.5s						
WTTA	**Wattenberg**	**5.20**	**216**	⇓*i*Pn	**Pn**	**22 41 51.4**	**+1.4**
WTTA				⇑*i*Sg	**Sg**	**22 43 19.5**	**+1.7**
	comp=Z,20nm,0.7s						
WTTA	**Wattenberg**	**5.20**	**216**	Pn	**Pn**	**22 41 51.4**	**+1.4**
WTTA				Sg	**Sg**	**22 43 19.5**	**+1.7**
	comp=Z,20nm,0.7s						
MOTA	**Moosalm**	**5.33**	**220**	⇑*i*Pn	**Pn**	**22 41 53.2**	**+1.3**
	SNR=7.6						
MOTA				⇓*i*Sg	**Sg**	**22 43 24.1**	**+1.9**
	comp=Z,11nm,0.4s						
MOTA	**Moosalm**	**5.33**	**220**	Pn	**Pn**	**22 41 53.2**	**+1.3**
	SNR=7.6						
MOTA				Sg	**Sg**	**22 43 24.1**	**+1.9**
	comp=Z,11nm,0.4s						
RETA	**Reutte**	**5.36**	**223**	⇓*i*Pn	**Pn**	**22 41 53.2**	**+1.0**
	SNR=7.6						
RETA	**Reutte**	**5.36**	**223**	Pn	**Pn**	**22 41 53.2**	**+1.0**
	SNR=7.6						

*IDC **22** 22:54:32.2±13.0, 14.°40N×86.°68W, h0km, mb3.2/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.3/3, Error ellipse: s-maj=631.7km s-min=33.5km az=27.0*
*CASC **22** 22:54:45.7±1.7, 13.°12N×90.°11W, h13km±15km, MD3.6, ML3.7*
*ISCJB **22** 22:54:47.4±1.2, 13.°2N±0.°1×90.°07W±0.°05, h58km, mb3.6/1, Error ellipse: s-maj=15.5km s-min=6.2km az=16.3*
ISC 22 22:54:48.5±2.1, 13.°3N±0.°1×90.°06W±0.°07, h58km, n20, σ1§14/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.71**	**37**	*eP*	**Pn**	**22 55 01.7**	**-1.4**
SNJE	**San Jose**	**0.75**	**36**	*eP*	**Pn**	**22 55 02.3**	**-1.2**
RTR	**El Retiro**	**0.75**	**33**	*eP*	**Pn**	**22 55 02.5**	**-1.0**
BOQS	**Boqueron**	**0.89**	**58**	*eP*	**Pn**	**22 55 04.1**	**-1.2**
BOQS				*eS*	**Sn**	**22 55 18.6**	**+0.9**
SNET	**Serv Nac Est T**	**0.91**	**62**	AML	AML	22 55 22.1	
	comp=Z,2μm,0.4s						
RBDL	**Robledal**	**0.92**	**23**	*eP*	**Pn**	**22 55 04.6**	**-1.0**
IXG	**Ixpaco**	**0.98**	**337**	*eP*	**Pn**	**22 55 05.5**	**-0.9**
IXG				*eS*	**Sn**	**22 55 19.5**	**-0.1**
LFRS	**El Faro**	**1.04**	**70**	*eP*	**Pn**	**22 55 05.6**	**-1.5**
LFU	**La Fuente**	**1.04**	**62**	*eP*	**Pn**	**22 55 06.2**	**-0.9**
LBRS	**Las Brisas**	**1.10**	**64**	*eP*	**Pn**	**22 55 06.8**	**-1.0**
SNVI	**San Vicente**	**1.24**	**74**	*eS*	**Sn**	**22 55 27.9**	**+2.3**
NBG	**Las Nubes**	**1.35**	**348**	*eP*	**Pn**	**22 55 12.4**	**+1.1**
FUG	**Fuego 3**	**1.40**	**327**	*eP*	**Pn**	**22 55 11.7**	**-0.3**
VSM	**San Miguel**	**1.75**	**84**	*eP*	**Pn**	**22 55 16.6**	**-0.2**
MRL	**Marmol**	**1.83**	**11**	*eP*	Pn	22 55 20.8	+3.0
JAT	**Jato**	**1.86**	**305**	*eP*	**Pn**	**22 55 17.4**	**-0.6**
CAHU	**Cacacuatique**	**1.87**	**74**	*eP*	**Pn**	**22 55 18.1**	**-0.2**
CNCH	**Conchagua**	**2.17**	**89**	*eP*	**Pn**	**22 55 21.8**	**-0.5**
TXAR	**Lajitas Array**	**20.38**	**324**	P	Pn	22 59 23.7	+0.6
	comp=Z,0.2nm,0.5s,baz=139,slow=12,SNR=5.8						
NVAR	**Mina Array Bea**	**35.43**	**320**	P	P	23 01 42.3	+2.8
	comp=Z,0.6nm,0.8s,baz=134,slow=8.9,SNR=5.7						

*IDC **22** 22:59:05.4±4.0, 19.°99S×167.°90E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML3.0/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/23, Error ellipse: s-maj=81.9km s-min=37.8km az=108.0*
ISC 22 22:59:08.5±2.6, 20.°2S±0.°2×168.°0E±0.°4, h27km, n7, σ1§62/9, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.41**	**217**	*eP*	**Pn**	**22 59 47.2**	**+0.8**
DZM				*eS*	**Sb**	**23 00 21.2**	**+0.4**
DZM	**Mont Dzumac**	**2.41**	**217**	**Pn**	**Pn**	**22 59 46.8**	**+0.5**
	3.4nm,0.3s,baz=257,slow=23,SNR=147						
DZM				Sn	**Sb**	**23 00 20.7**	**0.0**
	11nm,0.3s,baz=105,slow=23,SNR=10						
NOUC	**Port Laguerre**	**2.52**	**219**	*eP*	**Pb**	**22 59 50.7**	**-2.4**
NOUC				*eS*	**Sb**	**23 00 26.4**	**+2.7**
URZ	**Urewera**	**19.70**	**158**	LR	LR	23 10 14.0	
	comp=Z,80nm,18.2s,baz=243,slow=34						
WRA	**Warramunga Arr**	**31.61**	**264**	P	**P**	**23 05 28.8**	**-0.6**
	0.5nm,0.8s,baz=99,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**31.80**	**257**	P	**P**	**23 05 31.5**	**+0.4**
	2.5nm,0.6s,baz=86,slow=8.9,SNR=40						
ASAR				LR	LR	23 16 26.9	
	comp=Z,95nm,19.1s,baz=199,slow=33						
GERES	**GERESS Array B**	**144.72**	**330**	PKP	**PKPdf**	**23 18 43.9**	**+1.0**
	0.3nm,0.7s,baz=48,slow=2.9,SNR=3.8						

*IDC **22** 23:03:17.9±1.6, 38.°74N×90.°46E, h0km, mb3.6/2, mb1 3.5/7, mb1mx3.3/31, mbtmp3.4/7, ML3.4/5, Error ellipse: s-maj=51.9km s-min=21.4km az=54.0*
*ISCJB **22** 23:03:19.8±1.1, 38.°8N±0.°1×89.°9E±0.°1, h33km, mb3.5/2, Error ellipse: s-maj=19.4km s-min=9.5km az=39.1*
ISC 22 23:03:21.3±1.3, 38.°7N±0.°1×89.°98E±0.°10, h35km, n9, σ1§27/12, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**9.86**	**328**	⇑Pn	**Pn**	**23 05 41.3**	**+0.9**
	0.5nm,0.3s,baz=140,slow=14						
MK31				⇑Sn	**Sn**	**23 07 30.9**	**+1.0**
	4.6nm,0.7s,baz=144,slow=22						
MKAR	**Makanchi Array**	**9.86**	**328**	Pn	**Pn**	**23 05 41.7**	**+1.2**
	0.5nm,0.3s,baz=142,slow=14,SNR=21						
MKAR				Sn	**Sn**	**23 07 30.6**	**+0.7**
	0.3nm,0.3s,baz=144,slow=24,SNR=4.6						
MKAR				Lg	Lg	23 08 30.7	
	0.0nm,0.3s,baz=141,slow=26,SNR=2.9						
TKM2	**Tokmak 2**	**11.68**	**296**	⇓Pn	**Pn**	**23 06 05.6**	**0.0**
	5.4nm,0.8s						
TKM2				⇑Sn	**Sn**	**23 08 12.4**	**-2.4**
	3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**14.41**	**329**	Pn	**Pn**	**23 06 42.8**	**+0.2**
	0.0nm,0.3s,baz=136,slow=12,SNR=4.1						
KURBB				Lg	Lg	23 11 05.3	
	baz=155,slow=29,SNR=3.1						
SONM	**Songino Array**	**15.02**	**47**	Pn	**Pn**	**23 06 49.3**	**-1.6**
	0.1nm,0.3s,baz=238,slow=14,SNR=6.3						
SONM				Lg	Lg	23 11 06.1	
	0.1nm,0.3s,baz=248,slow=34,SNR=7.7						
ZALV	**Zalesovo Beam**	**15.65**	**349**	Pn	**P**	**23 07 02.1**	**-0.6**
	0.2nm,0.3s,baz=161,slow=14,SNR=4.4						
BVAR	**Borovoye Array**	**19.68**	**323**	P	**Pn**	**23 07 49.4**	**+0.6**
	0.1nm,0.3s,baz=116,slow=9.8,SNR=2.6						
ILAR	**Eielson Array**	**67.71**	**23**	P	**P**	**23 14 14.2**	**-0.4**
	0.4nm,0.8s,baz=316,slow=5.0,SNR=4.7						
ASAR	**Alice Springs**	**74.45**	**139**	P	**P**	**23 14 57.3**	**+1.3**
	0.4nm,0.7s,baz=330,slow=6.6,SNR=4.2						

IDC 22 23:07:53.7±1.3, 3.°84N×126.°66E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/24, mbtmp3.4/6, Error ellipse: s-maj=99.4km s-min=17.9km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	P	23 12 47.1	-0.7
	1.0nm,0.8s,baz=352,slow=7.1,SNR=1.8						
WRA	**Warramunga Arr**	**24.81**	**163**	P	P	23 13 16.9	-0.8
	0.8nm,0.7s,baz=343,slow=10.0,SNR=7.9						
ASAR	**Alice Springs**	**28.24**	**166**	P	P	23 13 49.9	+1.2
	0.1nm,0.5s,baz=352,slow=12,SNR=2.8						
SONM	**Songino Array**	**47.17**	**341**	P	P	23 16 27.9	-0.3
	0.2nm,0.6s,baz=162,slow=9.2,SNR=2.9						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	23 17 44.1	-0.2
	0.2nm,0.4s,baz=116,slow=6.5,SNR=8.3						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	P	23 18 13.2	+0.2
	0.4nm,0.6s,baz=120,slow=5.5,SNR=4.6						

*NIED **22** 23:19:00, 46.°80N×152.°90E, h20km, Mw4.0 Best double couple: M=9.92000×10^14 NP1:φ=127.00000°, δ=88.00000°, λ=-48.00000°. NP2:φ=219.00000°, δ=42.00000°, λ=-177.00000°.*
*ISCJB **22** 23:19:16.9±0.4, 46.°73N±0.°06×152.°82E±0.°08, h40km, mb4.1/30, MS3.3/7, Error ellipse: s-maj=11.5km s-min=3.7km az=138.9*
*JMA **22** 23:19:17.8±0.9, 46.°81N×152.°94E, h30km, M4.6*
*MOS **22** 23:19:22.1±1.2, 46.°70N×152.°66E, h89km, mb4.0/19, Error ellipse: s-maj=11.7km s-min=8.0km az=100.0*
*IDC **22** 23:19:22.7±2.6, 46.°87N×152.°67E, h75km±23km, mb3.6/21, mb1 3.9/24, mb1mx3.8/31, mbtmp3.7/24, MS3.3/8, Ms1 3.3/8, ms1mx3.1/35, Error ellipse: s-maj=16.9km s-min=12.1km az=139.0*
ISC 22 23:19:18.6±0.6, 46.°69N±0.°08×152.°79E±0.°07, h40km, n120, σ1§63/117, mb4.0/30, MS3.3/7, 20C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**249**	*e*PN	**Pn**	**23 20 16.6**	**+3.0**
KUR				S	**Sn**	**23 21 00.5**	**+4.2**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax	smax		
	comp=N,640nm,0.8s						
KUR				smax	smax		
	comp=E,540nm,0.8s						
SKR	**Severo-Kuril's**	**4.56**	**28**	*e*PN	Pn	23 20 19.5	-5.6
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
NEM2	**Nemuro 2**	**6.00**	**239**	P	**Pn**	**23 20 45.5**	**+0.7**
NEM2				*e*S	**Sn**	**23 21 50.4**	**-1.8**
JRA	**Rausu**	**6.07**	**246**	P	Pn	23 20 49.5	+3.8
JNK	**Nakash**	**6.50**	**244**	P	**Pn**	**23 20 54.6**	**+2.9**
JNK				*e*S	**Sn**	**23 22 06.7**	**+2.2**
JTKR	**Abashiri--Toko**	**6.83**	**250**	P	Pn	23 20 59.8	+3.7
JAK	**Akkeshi**	**6.83**	**240**	P	**Pn**	**23 20 57.3**	**+1.0**
JAK				*e*S	**Sn**	**23 22 11.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**6.89**	**276**	*e*PN	Pn	23 21 01.3	+4.3
PETK	**Petropavlovsk-**	**7.16**	**24**	*e*PN	Pn	23 21 06.9	+6.1
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.16**	**24**	P	**Pn**	**23 21 02.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=180,slow=14,SNR=4.2						
PETK				S	**Sn**	**23 22 25.2**	**+4.4**
	baz=172,slow=23,SNR=2.3						
JMP	**Maruseppu**	**7.17**	**251**	P	Pn	23 21 04.9	+4.1
JAR	**Ashorobuto**	**7.24**	**245**	P	**Pn**	**23 21 04.9**	**+3.1**
JAR				*e*S	**Sn**	**23 22 24.4**	**+1.7**
JOB	**Onbets**	**7.41**	**243**	P	**Pn**	**23 21 06.8**	**+2.7**
JOB				*e*S	**Sn**	**23 22 27.2**	**+0.3**
ASAJ	**Asahikawa**	**7.62**	**254**	P	Pn	23 21 12.5	+5.4
ASAJ	**Asahikawa**	**7.62**	**254**	P	Pn	23 21 11.9	+4.9
	comp=Z,2.6nm,0.3s,baz=84,slow=13,SNR=29						
ASAJ				S	Sn	23 22 49.6	+18
	comp=Z,0.6nm,0.3s,baz=103,slow=18,SNR=3.0						
ASAJ				LR	LR	23 23 48.9	
	comp=Z,98nm,21.8s,baz=259,slow=35						
JKK2	**Kamakawa 2**	**7.62**	**252**	P	Pn	23 21 11.2	+4.1
JCH	**Churui**	**7.86**	**242**	P	**Pn**	**23 21 11.9**	**+1.6**
JCH				*e*S	**Sn**	**23 22 35.8**	**-2.1**
JFR	**Furan**	**8.05**	**248**	P	Pn	23 21 17.4	+4.5
ERM	**Erimo**	**8.33**	**239**	*i* PN	**Pn**	**23 21 19.6**	**+2.8**
JEM	**Erimo**	**8.33**	**239**	P	**Pn**	**23 21 19.4**	**+2.6**
JBT2	**Biratori 2**	**8.39**	**246**	P	**Pn**	**23 21 19.9**	**+2.3**
JNBK	**Urakawa-nobuka**	**8.42**	**242**	P	**Pn**	**23 21 18.9**	**+0.9**
JNBK				*e*S	**Sn**	**23 22 49.2**	**-2.5**
JKB	**Kayabe**	**9.70**	**245**	P	**Pn**	**23 21 36.4**	**+0.9**
JKB				*e*S	**Sn**	**23 23 18.5**	**-4.6**
JSH	**Shimam**	**9.94**	**251**	P	**Pn**	**23 21 41.9**	**+3.1**
JYM2	**Yakumo 2**	**9.99**	**247**	P	**Pn**	**23 21 41.1**	**+1.6**
JTM	**Tenmabayashi**	**10.33**	**239**	*e*S	Sn	23 23 31.0	-7.5
JANG	**Nango**	**10.33**	**236**	P	**Pn**	**23 21 42.6**	**-1.6**
JANG				*e*S	Sn	23 23 30.1	-8.6
JTH	**Tanohata**	**10.43**	**234**	*e*S	Sn	23 23 33.1	-7.9
JOSM	**Okushiri--Mats**	**10.58**	**249**	P	**Pn**	**23 21 49.4**	**+1.8**
OFUJ	**Ofunato**	**11.14**	**231**	*e*S	Sn	23 23 51.0	-7.5
JRG	**Rokugo**	**11.49**	**235**	P	**Pn**	**23 21 59.3**	**-0.8**
JRG				*e*S	Sn	23 23 58.5	-8.5
JIO	**Ouri**	**11.77**	**230**	P	**Pn**	**23 22 02.7**	**-1.2**
JIO				*e*S	Sn	23 24 03.7	-10
FX1	**Attu Island--F**	**14.52**	**57**	P	**Pn**	**23 22 40.5**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=247,slow=22,SNR=8.1						
FX1				S	Sn	23 25 08.4	-12
	comp=Z,0.7nm,0.3s,baz=35,slow=18,SNR=5.4						
USRK	**Ussuriysk Arra**	**14.81**	**268**	P	**Pn**	**23 22 47.2**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=68,slow=11,SNR=8.0						
MAT	**Matsushiro**	**14.87**	**232**	P	**P**	**23 22 53.4**	**+2.3**
SEY	**Seymchan**	**16.28**	**359**	*i* P	**P**	**23 23 08.0**	**+1.4**
YAK	**Yakutsk**	**20.25**	**328**	*i* P	Pn	23 23 53.7	+1.3
KSRS	**Korea Array**	**20.57**	**252**	P	**P**	**23 23 55.5**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=56,slow=10,SNR=9.8						
KSRS				LR	LR	23 31 44.2	
	comp=Z,26nm,19.2s,baz=60,slow=36						
JNU	**Nakatsue**	**21.50**	**239**	P	**P**	**23 24 05.3**	**+1.4**
	comp=Z,6.1nm,0.9s,baz=13,slow=14,SNR=5.1						
JNU				LR	LR	23 32 28.0	
	comp=Z,37nm,20.7s,baz=22,slow=36						
HHC	**Hu-ho-hao-te**	**30.08**	**274**	*e*P	**P**	**23 25 26.5**	**+2.4**
HHC				S	**S**	**23 30 16.5**	**-3.3**
HHC				pmax	pmax		
	comp=Z,45nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
SONM	**Songino Array**	**31.14**	**289**	P	**P**	**23 25 33.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=81,slow=9.5,SNR=2.7						
SONM				LR	LR	23 39 06.8	
	comp=Z,57nm,18.9s,baz=118,slow=38						
XAN	**Xi'an**	**35.29**	**265**	P	**P**	**23 26 09.9**	**+0.2**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,12nm,4.8s						
ILAR	**Eielson Array**	**36.73**	**39**	P	**P**	**23 26 21.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=271,slow=8.6,SNR=6.7						
INK	**Inuvik**	**41.82**	**32**	P	**P**	**23 27 04.2**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=299,slow=5.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**42.47**	**306**	*e*P	**P**	**23 27 07.7**	**-1.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.47**	**306**	P	**P**	**23 27 07.0**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=70,slow=6.5,SNR=3.6						
ZALV				PcP	**PcP**	**23 29 01.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=56,slow=5.4,SNR=3.2						
ZALV				LR	LR	23 45 57.7	
	comp=Z,40nm,19.7s,baz=70,slow=38						
MKAR	**Makanchi Array**	**46.77**	**297**	*e*P	**P**	**23 27 42.5**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**46.77**	**297**	P	**P**	**23 27 41.4**	**-2.5**
	comp=Z,1.2nm,0.8s,baz=67,slow=8.0,SNR=10						
MKAR				PcP	**PcP**	**23 29 16.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=69,slow=1.3,SNR=6.6						
MKAR				LR	LR	23 48 40.0	
	comp=Z,60nm,18.1s,baz=229,slow=38						
CMAR	**Chiang Mai Arr**	**52.14**	**256**	P	**P**	**23 28 26.4**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=35,slow=7.3,SNR=14						
AAK	**Ala-Archa**	**53.66**	**296**	*i* P	**P**	**23 28 37.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JIRN	**Jiri**	**54.73**	**274**	*e*P	**P**	**23 28 45.2**	**+0.8**
	comp=Z,23nm,0.7s						
RAMN	**Ramite**	**54.90**	**273**	*e*P	**P**	**23 28 46.0**	**+0.5**
ARU	**Arti**	**54.91**	**317**	*d i*P	**P**	**23 28 44.3**	**-0.6**
ARU						23 30 48.0	
ARU				S	**S**	**23 36 21.4**	**-1.8**
ARU				SS	**SS**	**23 40 02.1**	**-4.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KKN	**Kakani**	**55.27**	**275**	*e*P	**P**	**23 28 49.3**	**+1.1**
	comp=Z,14nm,0.6s						
PKIN	**Phulchoki**	**55.33**	**275**	*e*P	**P**	**23 28 49.3**	**+0.7**
DMN	**Daman**	**55.51**	**275**	*e*P	**P**	**23 28 50.5**	**+0.6**
	comp=Z,13nm,0.7s						
DANN	**Dangsing**	**55.96**	**277**	*e*P	**P**	**23 28 54.1**	**+0.9**
KOLN	**Koldanda**	**56.44**	**276**	*e*P	**P**	**23 28 57.0**	**+0.5**
PYUN	**Piuthan**	**56.64**	**277**	*e*P	**P**	**23 28 58.6**	**+0.6**
ARCES	**ARCESS Array B**	**57.84**	**341**	P	**P**	**23 29 03.7**	**-1.8**
	comp=Z,3.2nm,1.0s,baz=34,slow=7.3,SNR=5.0						
ARCES				LR	LR	23 57 38.9	
	comp=Z,61nm,19.0s,baz=84,slow=40						
AKTO	**Aktyubinsk**	**58.60**	**312**	P	**P**	**23 29 09.9**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**58.60**	**312**	P	**P**	**23 29 09.9**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=45,slow=4.3,SNR=2.9						
SUMG	**Summit**	**60.78**	**4**	*i* P	**P**	**23 29 26.2**	**-0.1**
	comp=Z,5.8nm,0.9s						
JOF	**Joensuu**	**61.29**	**334**	*e*P	**P**	**23 29 28.5**	**-0.9**
JOF	**Joensuu**	**61.29**	**334**	*ep*	**P**	**23 29 28.5**	**-0.9**
NVAR	**Mina Array Bea**	**62.66**	**62**	P	**P**	**23 29 39.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=291,slow=7.3,SNR=4.5						
KAF	**Kangasniemi**	**63.40**	**335**	*e*P	**P**	**23 29 42.2**	**-1.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**63.40**	**335**	*ep*	**P**	**23 29 42.2**	**-1.3**
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**64.00**	**335**	P	**P**	**23 29 46.1**	**-1.3**
	comp=Z,3.2nm,0.4s,baz=34,slow=7.3,SNR=74						
FINES				LR	LR	23 59 24.1	
	comp=Z,63nm,18.5s,baz=205,slow=38						
PDAR	**Pinedale Array**	**64.96**	**54**	P	**P**	**23 29 54.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=289,slow=2.8,SNR=3.2						
NB2	**NORSAR Subarra**	**68.21**	**341**	P	**P**	**23 30 13.4**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.21**	**341**	P	**P**	**23 30 13.6**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=27,slow=6.3,SNR=18						
WRA	**Warramunga Arr**	**68.38**	**199**	P	**P**	**23 30 15.8**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=20,slow=6.9,SNR=12						
KIV	**Kislovodsk**	**70.68**	**314**	P	**P**	**23 30 30.8**	**+0.6**
KIV				*e*		23 30 48.0	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**70.74**	**314**	P	**P**	**23 30 30.8**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**70.74**	**314**	P	**P**	**23 30 30.8**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=38,slow=4.1,SNR=4.1						
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**23 30 33.3**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**23 30 33.3**	**-1.4**
	comp=Z,2.4nm,0.3s,baz=32,slow=6.3,SNR=7.8						
ASAR	**Alice Springs**	**72.08**	**198**	P	**P**	**23 30 39.8**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=11,slow=5.5,SNR=16						
KWP	**Kalwaria Pacla**	**74.76**	**329**	⇑P	**P**	**23 30 53.7**	**-0.5**
KWP	**Kalwaria Pacla**	**74.76**	**329**	⇑*i*P	**P**	**23 30 53.7**	**-0.5**
KOLS	**Kolonicke sedl**	**75.50**	**329**	*e*P	**P**	**23 30 56.0**	**-2.4**
KOLS				pmax	pmax		
	comp=Z,32nm,2.5s						
KOLS	**Kolonicke sedl**	**75.50**	**329**	*e*P	**P**	**23 30 56.0**	**-2.4**
BURAR	**Bucovina Array**	**75.52**	**326**	⇑P	**P**	**23 30 58.0**	**-0.7**
BURAR	**Bucovina Array**	**75.52**	**326**	⇑*i*P	**P**	**23 30 58.0**	**-0.7**
TESR	**Tescani**	**75.87**	**325**	⇑*i*P	**P**	**23 30 59.8**	**-0.8**
OKC	**Ostrava-Krasne**	**76.14**	**332**	*e*P	**P**	**23 30 59.7**	**-2.3**
OKC	**Ostrava-Krasne**	**76.14**	**332**	*e*P	**P**	**23 30 59.7**	**-2.3**
DPC	**Dobruska-Polom**	**76.28**	**333**	*e*P	**P**	**23 31 02.7**	**-0.2**
DPC	**Dobruska-Polom**	**76.28**	**333**	*e*P	**P**	**23 31 02.7**	**-0.2**
CFR	**Carcaliu**	**76.36**	**323**	⇑P	**P**	**23 31 02.7**	**-0.6**
CFR	**Carcaliu**	**76.36**	**323**	⇑*i*P	**P**	**23 31 02.7**	**-0.6**
VRI	**Vrincioaia**	**76.36**	**324**	⇓P	**P**	**23 31 02.7**	**-0.7**
VRI	**Vrincioaia**	**76.36**	**324**	⇓*i*P	**P**	**23 31 02.7**	**-0.7**
CLL	**Collm**	**76.43**	**335**	*i* P	**P**	**23 31 02.4**	**-1.2**
CLL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**76.43**	**335**	*i* P	**P**	**23 31 02.4**	**-1.2**
	comp=Z,2.0nm,0.8s						
TLB	**Topalu**	**76.88**	**323**	⇑P	**P**	**23 31 05.8**	**-0.5**
TLB	**Topalu**	**76.88**	**323**	⇑*i*P	**P**	**23 31 05.8**	**-0.5**
MLR	**Muntele Rosu**	**76.99**	**325**	⇑*i*P	**P**	**23 31 07.5**	**+0.4**
MALT	**Malatya**	**77.03**	**313**	⇓*i*P	**P**	23 31 11.9	+4.5
VYHS	**Vyhne**	**77.07**	**331**	*e*P	**P**	**23 31 06.9**	**-0.5**
VYHS				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VYHS	**Vyhne**	**77.07**	**331**	*e*P	**P**	**23 31 06.9**	**-0.5**
DRGR		**77.15**	**327**	⇑P	**P**	**23 31 07.7**	**-0.2**
DRGR		**77.15**	**327**	⇑*i*P	**P**	**23 31 07.7**	**-0.2**
VOIR		**77.38**	**325**	⇑P	**P**	**23 31 09.5**	**+0.2**
VOIR		**77.38**	**325**	⇑*i*P	**P**	**23 31 09.5**	**+0.2**
TREC	**Trest**	**77.46**	**333**	*e*P	P	23 31 03.1	-6.5
TREC	**Trest**	**77.46**	**333**	*e*P	P	23 31 03.1	-6.5
TXAR	**Lajitas Array**	**77.72**	**60**	P	**P**	**23 31 11.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=301,slow=5.0,SNR=6.3						
KHC	**Kasperske Hory**	**78.19**	**334**	*e*P	**P**	**23 31 13.8**	**+0.1**
KHC	**Kasperske Hory**	**78.19**	**334**	*e*P	**P**	**23 31 13.8**	**+0.1**
BRTR	**Keskin Array B**	**78.28**	**317**	P	**P**	**23 31 14.4**	**0.0**
	comp=Z,0.8nm,0.8s,baz=78,slow=3.5,SNR=6.5						
GZR	**Gura Zlata**	**78.30**	**327**	⇑P	**P**	**23 31 13.4**	**-0.9**
GZR	**Gura Zlata**	**78.30**	**327**	⇑*i*P	**P**	**23 31 13.4**	**-0.9**
GERES	**GERESS Array B**	**78.41**	**334**	P	**P**	**23 31 13.8**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=20,slow=4.3,SNR=6.5						
BZS	**Buzias**	**78.55**	**327**	⇑P	**P**	**23 31 14.2**	**-1.4**
BZS	**Buzias**	**78.55**	**327**	⇑*i*P	**P**	**23 31 14.1**	**-1.5**
VTS	**Vitosha**	**80.49**	**325**	⇑P	**P**	**23 31 25.7**	**-0.7**
VTS	**Vitosha**	**80.49**	**325**	⇑*i*P	**P**	**23 31 25.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**115.03**	**329**	PKP	PKPdf	23 37 53.9	-1.7
	comp=Z,0.2nm,0.7s,baz=18,slow=2.6,SNR=4.0						

IDC 22 23:53:50.3±15.0, 0.°60N×126.°93E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=248.4km s-min=164.1km az=158.0, Northern Molucca Sea

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

PETK	**Petropavlovsk-**	**9.37**	**32**	*e*PN	Pn	23 57 54.5	-4.6
PETK				pmax	pmax		
comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**9.37**	**32**	P	Pn	23 57 53.9	-5.3
comp=Z,0.9nm,0.3s,baz=201,slow=14,SNR=7.0							
PETK				LR	LR	00 01 27.0	
comp=Z,29nm,18.6s,baz=307,slow=38							
FX1	**Attu Island--F**	**17.12**	**56**	P	**P**	**23 59 35.7**	**-0.2**
comp=Z,1.4nm,0.3s,baz=349,slow=5.9,SNR=6.6							
SEY	**Seymchan**	**17.64**	**4⇑**	*e*P	**P**	**23 59 38.4**	**-3.1**
KSRS	**Korea Array**	**18.01**	**251**	P	**Pn**	**23 59 49.6**	**+2.1**
comp=Z,0.1nm,0.3s,baz=62,slow=12,SNR=3.0							
YAK	**Yakutsk**	**20.24**	**332**	*i* P	**P**	**00 00 06.8**	**-2.7**
SONM	**Songino Array**	**29.45**	**290**	P	**P**	**00 01 37.7**	**+2.0**
comp=Z,0.2nm,0.3s,baz=68,slow=8.0,SNR=3.5							
COLA	**College**	**38.73**	**37**	*i* P	**P**	**00 02 54.0**	**-1.0**
ILAR	**Eielson Array**	**39.14**	**37**	P	**P**	**00 02 57.6**	**-0.9**
comp=Z,0.6nm,0.6s,baz=266,slow=7.5,SNR=11							
INK	**Inuvik**	**44.11**	**31**	P	**P**	**00 03 38.6**	**-0.1**
comp=Z,2.1nm,0.7s,baz=270,slow=4.0,SNR=6.0							
MKAR	**Makanchi Array**	**45.34**	**297**	P	**P**	**00 03 48.9**	**0.0**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**45.34**	**297**	P	**P**	**00 03 48.9**	**0.0**
comp=Z,0.5nm,0.5s,baz=85,slow=7.1,SNR=11							
KURK	**Kurchatov**	**46.03**	**303**	P	**P**	**00 03 53.7**	**-0.5**
KURK				pmax	pmax		
comp=Z,3.0nm,0.2s							
KURBB	**Kurchatov Arra**	**46.12**	**303**	P	**P**	**00 03 53.7**	**-1.1**
comp=Z,2.6nm,0.2s,baz=70,slow=8.6,SNR=4.1							
AAK	**Ala-Archa**	**52.19**	**296**	*i* P	**P**	**00 04 41.3**	**+0.1**
AAK				pmax	pmax		
comp=Z,3.0nm,0.8s							
SVE	**Sverdlovsk**	**53.11**	**317⇑**	*e*P	**P**	**00 04 46.7**	**-0.9**
SVE				pmax	pmax		
comp=Z,9.0nm,0.8s							
ARU	**Arti**	**54.31**	**317**	*d i* P	**P**	**00 04 55.0**	**-1.3**
ARU						00 06 55.8	
ARU				S	**S**	**00 12 19.2**	**-1.4**
ARU				SS	**SS**	**00 16 04.5**	**+0.2**
ARU				pmax	pmax		
comp=Z,7.0nm,0.6s							
ARCES	**ARCESS Array B**	**58.29**	**340**	P	**P**	**00 05 22.4**	**-1.8**
comp=Z,3.1nm,1.0s,baz=32,slow=12,SNR=4.2							
JOF	**Joensuu**	**61.41**	**333**	*e*P	**P**	**00 05 44.7**	**-0.9**
JOF				pmax	pmax		
comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**61.41**	**333**	*e*p	**P**	**00 05 44.7**	**-0.9**
comp=Z,2.4nm,0.5s							
KAF	**Kangasniemi**	**63.59**	**334**	*e*P	**P**	**00 05 58.3**	**-1.7**
KAF	**Kangasniemi**	**63.59**	**334**	*e*p	**P**	**00 05 58.3**	**-1.7**
FINES	**FINESS Array B**	**64.17**	**334**	P	**P**	**00 06 02.1**	**-1.7**
comp=Z,2.9nm,0.4s,baz=33,slow=8.1,SNR=56							
NVAR	**Mina Array Bea**	**65.26**	**60**	P	**P**	**00 06 12.8**	**+1.3**
comp=Z,1.0nm,0.6s,baz=289,slow=7.2,SNR=8.1							
WRA	**Warramunga Arr**	**66.48**	**196**	P	P	00 06 23.2	+4.1
comp=Z,0.3nm,0.6s,baz=9.7,slow=6.7,SNR=3.6							
PDAR	**Pinedale Array**	**67.54**	**51**	P	**P**	**00 06 26.7**	**+0.7**
comp=Z,0.9nm,0.7s,baz=248,slow=2.0,SNR=9.7							
NB2	**NORSAR Subarra**	**68.66**	**340**	P	**P**	**00 06 30.8**	**-1.6**
comp=Z,1.4nm,0.5s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.66**	**340**	P	**P**	**00 06 31.2**	**-1.2**
comp=Z,2.6nm,0.5s,baz=28,slow=6.5,SNR=15							
KIV	**Kislovodsk**	**69.92**	**313**	*e*P	**P**	**00 06 41.9**	**+1.4**
KIV				*e*		00 09 18.2	
KIV				pmax	pmax		
comp=Z,4.0nm,0.9s							
KBZ	**Khabaz**	**69.97**	**312**	P	**P**	**00 06 41.9**	**+1.3**
KBZ				pmax	pmax		
comp=Z,1.0nm,0.4s							
KBZ	**Khabaz**	**69.97**	**312**	P	**P**	**00 06 41.9**	**+1.3**
comp=Z,0.9nm,0.4s,baz=45,slow=1.4,SNR=3.8							
ASAR	**Alice Springs**	**70.20**	**195**	P	P	00 06 47.4	+5.2
comp=Z,0.4nm,0.6s,baz=9.9,slow=5.4,SNR=6.2							
AKASG	**Malin Array Be**	**71.24**	**325**	*e*P	**P**	**00 06 47.9**	**-0.3**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**71.24**	**325**	P	**P**	**00 06 47.3**	**-0.9**
comp=Z,1.3nm,0.4s,baz=38,slow=6.7,SNR=4.7							
CLL	**Collm**	**76.62**	**334**	*i* P	**P**	**00 07 19.1**	**-0.3**
CLL				pmax	pmax		
comp=Z,4.0nm,0.4s							
CLL	**Collm**	**76.62**	**334**	*i* P	**P**	**00 07 19.1**	**-0.3**
comp=Z,4.0nm,0.4s							
BRTR	**Keskin Array B**	**77.62**	**315**	P	**P**	**00 07 26.9**	**+1.4**
comp=Z,0.7nm,0.8s,baz=74,slow=4.5,SNR=4.4							
KHC	**Kasperske Hory**	**78.32**	**332**	*i* P	**P**	**00 07 29.5**	**+0.5**
KHC	**Kasperske Hory**	**78.32**	**332**	*i* P	**P**	**00 07 29.5**	**+0.5**
GERES	**GERESS Array B**	**78.53**	**332**	P	**P**	**00 07 30.2**	**0.0**
comp=Z,0.8nm,0.4s,baz=39,slow=5.0,SNR=22							
TXAR	**Lajitas Array**	**80.32**	**58**	P	**P**	**00 07 41.6**	**+1.3**
comp=Z,1.9nm,0.5s,baz=298,slow=4.6,SNR=33							
QSPA	**South Pole Qui**	**135.14**	**180**	PKP	**PKPdf**	**00 14 49.7**	**+3.9**
comp=Z,0.8nm,1.0s,baz=328,slow=2.6,SNR=3.2							
PLCA	**Paso Flores**	**150.56**	**95**	PKPbc	**PKPbc**	**00 15 21.4**	**+2.2**
comp=Z,2.1nm,0.8s,baz=226,slow=5.7,SNR=3.4							

*CSEM **23** 00:06:12.8±0.7, 37.°85N×17.°75E, h30km, ML4.3/5, Error ellipse: s-maj=15.2km s-min=5.4km az=132.0*
*ROM **23** 00:06:13.1±0.6, 37.°85N×17.°68E, h32km±2km, Ml2.9/17, Error ellipse: s-maj=7.3km s-min=3.7km az=145.0*

ISC 23 00:06:11.7±1.5, 37.°84N±0.°05×17.°75E±0.°04, h30km±14km, n71, σ1°04/73, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAC	**Placanica**	**1.20**	**301**	Pg	**Pb**	**00 06 34.6**	**+0.7**
PLAC	**Placanica**	**1.20**	**301**	Pg	**Pb**	**00 06 34.6**	**+0.7**
SOI	**Samo**	**1.36**	**280**	Pg	**Pb**	**00 06 36.9**	**+0.3**
SOI				Sg	**Sb**	**00 06 52.9**	**-0.7**
SOI	**Samo**	**1.36**	**280**	Pg	**Pb**	**00 06 36.9**	**+0.3**
SOI				Sg	**Sb**	**00 06 52.9**	**-0.7**
GRI	**Girifalco**	**1.43**	**314**	Pg	**Pb**	**00 06 37.7**	**-0.1**
GRI	**Girifalco**	**1.43**	**314**	Pg	**Pb**	**00 06 37.7**	**-0.1**
SERS	**Sersale**	**1.46**	**325**	Pg	**Pn**	**00 06 37.3**	**+1.2**
144nm,1.1s							
SERS	**Sersale**	**1.46**	**325**	Pg	**Pn**	**00 06 37.3**	**+1.2**
144nm,1.1s							
CEL	**Celeste**	**1.52**	**287**	Pg	**Pb**	**00 06 39.1**	**-0.3**
CEL				Sg	**Sn**	**00 06 56.3**	**+0.5**
CEL	**Celeste**	**1.52**	**287**	Pg	**Pb**	**00 06 39.1**	**-0.3**
CEL				Sg	**Sn**	**00 06 56.3**	**+0.5**
JOPP	**Joppolo**	**1.66**	**298**	Pg	**Pb**	**00 06 40.6**	**-1.0**
JOPP	**Joppolo**	**1.66**	**298**	Pg	**Pb**	**00 06 40.6**	**-1.0**
MSRU	**Castanea**	**1.82**	**284**	Pg	**Pn**	**00 06 42.9**	**+1.9**
MSRU				Sg	**Sn**	**00 07 02.7**	**-0.3**
146nm,0.4s							
MSRU	**Castanea**	**1.82**	**284**	Pg	**Pn**	**00 06 42.9**	**+1.9**
MSRU				Sg	**Sn**	**00 07 02.7**	**-0.3**
146nm,0.4s							
MILZ	**Milazzo**	**2.03**	**283**	Pg	**Pn**	**00 06 45.4**	**+1.5**
MILZ				Sg	**Sn**	**00 07 06.8**	**-1.5**
77nm,0.4s							
MILZ	**Milazzo**	**2.03**	**283**	Pg	**Pn**	**00 06 45.4**	**+1.5**
MILZ				Sg	**Sn**	**00 07 06.8**	**-1.5**
77nm,0.4s							
TDS	**Terranova Siba**	**2.12**	**329**	Pg	**Pn**	**00 06 47.0**	**+1.8**
5.0nm,0.4s							
TDS	**Terranova Siba**	**2.12**	**329**	Pg	**Pn**	**00 06 47.0**	**+1.8**
5.0nm,0.4s							
HCRL	**Carlentini**	**2.23**	**256**	Pg	**Pn**	**00 06 47.5**	**+0.9**
HCRL				Sg	**Sn**	**00 07 12.1**	**-1.0**
257nm,0.2s							
HCRL	**Carlentini**	**2.23**	**256**	Pg	**Pn**	**00 06 47.5**	**+0.9**
HCRL				Sg	**Sn**	**00 07 12.1**	**-1.0**
257nm,0.2s							
SSY	**Sortino**	**2.24**	**253**	Pg	**Pn**	**00 06 47.5**	**+0.7**
SSY				Sg	**Sn**	**00 07 12.5**	**-0.9**
139nm,0.2s							
SSY	**Sortino**	**2.24**	**253**	Pg	**Pn**	**00 06 47.5**	**+0.7**
SSY				Sg	**Sn**	**00 07 12.5**	**-0.9**
139nm,0.2s							
HAVL	**Avola**	**2.27**	**248**	Pg	**Pn**	**00 06 48.3**	**+1.1**
HAVL				Sg	**Sn**	**00 07 13.4**	**-0.7**
374nm,0.3s							
HAVL	**Avola**	**2.27**	**248**	Pg	**Pn**	**00 06 48.3**	**+1.1**
HAVL				Sg	**Sn**	**00 07 13.4**	**-0.7**
374nm,0.3s							
VLS	**Valsamata**	**2.27**	**81**	*e*P	**Pb**	**00 06 52.0**	**0.0**
SCTE	**Santa Cesarea**	**2.30**	**14**	Pg	**Pn**	**00 06 49.1**	**+1.5**
SCTE	**Santa Cesarea**	**2.30**	**14**	Pg	**Pn**	**00 06 49.1**	**+1.5**
LKD2	**Lefkada island**	**2.48**	**67**	*e*P	Pn	00 06 54.5	+4.4
CUC	**Castrocucco**	**2.63**	**326**	Pg	**Pn**	**00 06 53.0**	**+0.9**
16nm,0.5s							
CUC	**Castrocucco**	**2.63**	**326**	Pg	**Pn**	**00 06 53.0**	**+0.9**
16nm,0.5s							
SCHR	**S. Chirico Rap**	**2.69**	**332**	Pg	**Pn**	**00 06 55.1**	**+2.0**
8.0nm,0.4s							
SCHR	**S. Chirico Rap**	**2.69**	**332**	Pg	**Pn**	**00 06 55.1**	**+2.0**
8.0nm,0.4s							
CRAC	**Craco**	**2.72**	**338**	Pg	**Pn**	**00 06 55.2**	**+1.8**
49nm,0.9s							
CRAC	**Craco**	**2.72**	**338**	Pg	**Pn**	**00 06 55.2**	**+1.8**
49nm,0.9s							
SIRI	**Monte Sirino -**	**2.76**	**329**	Pg	**Pn**	**00 06 55.5**	**+1.5**
SIRI	**Monte Sirino -**	**2.76**	**329**	Pg	**Pn**	**00 06 55.5**	**+1.5**
MGR	**Morigerati**	**2.86**	**324**	Pg	**Pn**	**00 06 55.8**	**+0.5**
14nm,0.3s							
MGR	**Morigerati**	**2.86**	**324**	Pg	**Pn**	**00 06 55.8**	**+0.5**
14nm,0.3s							
MTSN	**Montesano sull**	**2.88**	**328**	Pg	**Pn**	**00 06 56.6**	**+0.9**
12nm,0.3s							
MTSN	**Montesano sull**	**2.88**	**328**	Pg	**Pn**	**00 06 56.6**	**+0.9**
12nm,0.3s							
RLS	**Riolos of Patr**	**2.95**	**85**	*e*P	Pn	00 07 02.0	+5.5
NOCI	**Noci**	**2.99**	**350**	Pg	**Pn**	**00 06 57.4**	**+0.3**
52nm,0.2s							
NOCI	**Noci**	**2.99**	**350**	Pg	**Pn**	**00 06 57.4**	**+0.3**
52nm,0.2s							
AMT	**Artemida-Makis**	**3.16**	**94**	*e*P	Pn	00 07 04.5	+5.1
AMUR	**Altamura**	**3.19**	**344**	Pg	**Pn**	**00 07 00.2**	**+0.4**
45nm,0.2s							
AMUR	**Altamura**	**3.19**	**344**	Pg	**Pn**	**00 07 00.2**	**+0.4**
45nm,0.2s							
CDRU	**Civita di Ruta**	**3.26**	**325**	Pg	**Pn**	**00 07 01.5**	**+0.7**
7.0nm,0.3s							
CDRU	**Civita di Ruta**	**3.26**	**325**	Pg	**Pn**	**00 07 01.5**	**+0.7**
7.0nm,0.3s							
SGO	**Sicignano**	**3.31**	**326**	Pg	**Pn**	**00 07 02.5**	**+0.9**
5.0nm,0.2s							
SGO	**Sicignano**	**3.31**	**326**	Pg	**Pn**	**00 07 02.5**	**+0.9**
5.0nm,0.2s							
PYL	**PYLOS**	**3.32**	**105**	*e*P	Pn	00 07 07.5	+5.9
LAKA	**Lakka**	**3.36**	**82**	*e*P	Pn	00 07 07.5	+5.3
MRVN	**Minervino Murg**	**3.43**	**340**	Pg	**Pn**	**00 07 03.4**	**+0.2**
19nm,0.2s							
MRVN	**Minervino Murg**	**3.43**	**340**	Pg	**Pn**	**00 07 03.4**	**+0.2**
19nm,0.2s							
KLV	**Kalavryta, Ach**	**3.49**	**85**	*e*P	Pn	00 07 09.5	+5.5
THL	**Klokotos Trika**	**3.75**	**61**	*e*P	Pn	00 07 13.0	+5.4
DYR	**Agios Nikonas**	**3.81**	**105**	*e*P	Pn	00 07 14.5	+6.1
MSAG	**Monte S. Angel**	**4.12**	**340**	Pg	**Pn**	**00 07 12.7**	**0.0**
31nm,0.2s							
MSAG	**Monte S. Angel**	**4.12**	**340**	Pg	**Pn**	**00 07 12.7**	**0.0**
31nm,0.2s							
SGRT	**San Giovanni R**	**4.20**	**339**	Pg	**Pn**	**00 07 14.0**	**+0.2**
10.0nm,0.2s							
SGRT	**San Giovanni R**	**4.20**	**339**	Pg	**Pn**	**00 07 14.0**	**+0.2**
10.0nm,0.2s							
VLI	**Veliai**	**4.29**	**104**	*e*P	Pn	00 07 22.0	+7.1
DID	**Didima**	**4.37**	**93**	*e*P	Pn	00 07 22.5	+6.5
KYTH	**Kithira**	**4.51**	**109**	*e*P	Pn	00 07 25.0	+7.0
ANKY	**Antikythira Is**	**4.87**	**112**	*e*P	Pn	00 07 28.5	+5.6
STON	**Ston**	**5.03**	**360**	*e*Pn	**Pn**	**00 07 24.5**	**-0.6**
STON				Sn	Sn	00 08 15.5	-6.6
STON	**Ston**	**5.03**	**360**	*e*Pn	**Pn**	**00 07 24.4**	**-0.6**
UDBI	**Udbina**	**6.85**	**348**	*e*Pn	**Pn**	**00 07 51.5**	**+1.3**
UDBI	**Udbina**	**6.85**	**348**	*e*Pn	**Pn**	**00 07 51.4**	**+1.3**
NVLJ	**Novalja**	**7.06**	**343**	*e*Pn	**Pn**	**00 07 53.0**	**0.0**
NVLJ				Sn	Sn	00 09 03.6	-8.5
NVLJ	**Novalja**	**7.06**	**343**	*e*Pn	**Pn**	**00 07 52.9**	**0.0**

*IDC **23** 00:08:47.3±1.5, 4.°44S×138.°43E, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/17, mbtmp3.9/9, ML4.1/3, Error ellipse: s-maj=52.1km s-min=21.5km az=98.0*
*AUST **23** 00:08:50.3, 4.°43S×138.°04E, h0km*
*ISCJB **23** 00:08:51.6±0.5, 4.°52S±0.°06×138.°03E±0.°07, h33km, mb3.8/6, Error ellipse: s-maj=11.7km s-min=7.0km az=31.0*

ISC 23 00:08:52.3±0.6, 4.°73S±0.°07×138.°00E±0.°09, h35km, n17, σ2°73/18, mb3.8/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.48**	**51**	P	**Pn**	**00 09 45.5**	**+1.5**
baz=3.3,SNR=6.6							
JAY				S	**Sn**	**00 10 21.4**	**-2.7**
baz=3.3,SNR=3.2							
MMPI	**Merauke**	**4.41**	**148**	S	Sn	00 11 03.9	+17
baz=4.7,SNR=13							
KDU	**Kakadu**	**9.61**	**214**	P	Pn	00 11 15.3	+7.1
baz=9.9,SNR=41							
COEN	**Coen**	**10.50**	**151**	P	**Pn**	**00 11 23.6**	**+3.2**
baz=11,SNR=6.1							
MTN	**Manton Dam**	**10.54**	**220**	P	Pn	00 11 27.7	+6.8
baz=11,SNR=39							
KNRA	**Kununurra**	**14.17**	**219**	P	**P**	**00 12 16.1**	**-1.5**
baz=14,SNR=18							
MTSU	**Mount Surprise**	**14.69**	**156**	P	**P**	**00 12 21.7**	**-1.7**
baz=15,SNR=19							
WRA	**Warramunga Arr**	**15.54**	**193**	Pn	**P**	**00 12 31.1**	**-1.8**
0.7nm,0.3s,baz=12,slow=13,SNR=29							
WRA				Sn	**Sn**	**00 15 18.5**	**-1.5**
0.8nm,0.3s,baz=2.2,slow=23,SNR=5.5							
FITZ	**Fitzroy Crossi**	**17.97**	**221**	P	**P**	**00 13 03.5**	**+3.8**
0.4nm,0.3s,baz=43,slow=11,SNR=20							
FITZ				S	**Sn**	**00 16 15.9**	**-3.0**
1.1nm,0.3s,baz=195,slow=13,SNR=7.5							
ASAR	**Alice Springs**	**19.24**	**191**	P	**Pn**	**00 13 18.9**	**+4.0**
1.2nm,0.3s,baz=14,slow=11,SNR=44							
ASAR				S	**Sn**	**00 16 44.8**	**-5.0**
0.1nm,0.3s,baz=5.9,slow=28,SNR=3.7							
JNU	**Nakatsue**	**38.24**	**350**	P	**P**	**00 16 07.7**	**-1.4**
2.9nm,0.7s,baz=109,slow=5.3,SNR=3.7							
KSRS	**Korea Array**	**43.00**	**348**	P	**P**	**00 16 47.7**	**-0.6**
0.7nm,0.5s,baz=170,slow=7.4,SNR=3.0							
CMAR	**Chiang Mai Arr**	**44.86**	**302**	P	**P**	**00 17 05.3**	**+1.8**
1.0nm,0.3s,baz=114,slow=4.4,SNR=3.6							
SONM	**Songino Array**	**59.24**	**336**	P	**P**	**00 18 49.9**	**-0.4**
0.1nm,0.3s,baz=147,slow=8.2,SNR=2.4							
MKAR	**Makanchi Array**	**70.95**	**323**	P	**P**	**00 20 06.5**	**+0.2**
0.6nm,0.8s,baz=113,slow=7.9,SNR=4.2							
ILAR	**Eielson Array**	**87.95**	**24**	P	**P**	**00 21 35.8**	**-2.5**
0.5nm,0.6s,baz=246,slow=4.6,SNR=5.7							
TORD	**Torodi Ar. Bea**	**136.09**	**284**	PKP	**PKPdf**	**00 28 13.2**	**+2.3**
0.3nm,0.7s,baz=61,slow=2.4,SNR=3.3							

MEX 23 00:21:49.9±0.6, 18.°31N×103.°13W, h63km±5km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.20**	**265**	*e*P	Pn	00 21 58.3	-1.5
MMIG				*i* S	Sn	00 22 05.4	-1.5
R15V		**1.18**	**317**	*e*P	Pn	00 22 08.9	-1.5
R15V				*i* S	Sn	00 22 23.7	-2.1
EZ5V		**1.25**	**339**	*e*P	Pn	00 22 10.4	-1.3
EZ5V				*i* S	Sn	00 22 25.8	-2.1
ZIIG	**Zihuatanejo**	**1.73**	**113**	*i* P	Pn	00 22 16.2	-1.6
ZIIG				*i* S	Sn	00 22 36.8	-2.2
MOIG	**Morelia**	**2.29**	**53**	*e*P	Pn	00 22 24.0	-1.7
MOIG				*i* S	Sn	00 22 50.0	-3.0
ARIG	**Puente Sto Nin**	**2.65**	**90**	*i* P	Pn	00 22 29.7	-0.5
ARIG				*i* S	Sn	00 22 59.3	-2.0
CAIG	**El Cayaco**	**3.00**	**114**	*i* P	Pn	00 22 34.0	-1.2
CAIG				*i* S	Sn	00 23 09.0	-1.0
MEIG	**Mezcala**	**3.36**	**96**	*i* S	Sn	00 23 17.8	-1.2
ACX	**Acapulco**	**3.44**	**114**	*i* P	Pn	00 22 36.0	-5.1
YAIG	**Yautepec**	**3.90**	**81**	*i* P	Pn	00 22 46.1	-1.4
YAIG				*i* S	Sn	00 23 30.5	-1.7
PPM	**Popocatepetl**	**4.34**	**79**	*i* P	Pn	00 22 52.6	-1.4
PPM				*i* S	Sn	00 23 43.8	0.0
UTMO	**Huajuapan**	**5.09**	**95**	*i* P	Pn	00 23 02.4	-1.6
UTMO				*i* S	Sn	00 23 59.6	-2.0
PNIG	**Pinotepa**	**5.14**	**111**	*i* P	Pn	00 23 04.9	+0.5
PNIG				*i* S	Sn	00 23 59.4	-3.2

*MDD **23** 00:22:56.5±1.3, 36.°34N×9.°77W, h53km±34km, mb3.6/18, Error ellipse: s-maj=12.7km s-min=9.8km az=45.0, PRXIMO*
*CSEM **23** 00:22:57.8±0.3, 36.°50N×9.°62W, h30km, ML3.5/5, Error ellipse: s-maj=5.6km s-min=4.4km az=49.0*
*INMG **23** 00:22:57.0±0.9, 36.°40N×9.°67W, h15km±3km, ML2.3, Error ellipse: s-maj=3.6km s-min=3.0km az=48.0*

ISC 23 00:22:58.5±3.4, 36.°52N±0.°10×9.°64W±0.°09, h32km±16km, n100, σ0°58/147, 2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.89**	**46**	*e*P	**Pn**	**00 23 15.0**	**+0.2**
PFVI				*e*S	**Sn**	**00 23 28.2**	**+1.6**
PFVI				A	A	00 23 29.5	
32nm,0.1s							
PFVI	**Vila Bisbo**	**0.89**	**46**	⇑P	**Pn**	**00 23 15.0**	**+0.2**
18nm,0.1s,SNR=18							
PFVI				S	**Sn**	**00 23 27.9**	**+1.3**
45nm,0.1s,SNR=22							
MORF	**Marmelete**	**1.11**	**45**	*e*P	**Pn**	**00 23 18.0**	**+0.1**
MORF				*e*S	**Sb**	**00 23 33.9**	**+0.4**
MORF				A	A	00 23 35.2	
42nm,0.1s							
MORF	**Marmelete**	**1.11**	**45**	P	**Pn**	**00 23 18.0**	**+0.1**
MORF				S	**Sb**	**00 23 33.9**	**+0.4**
42nm,0.1s							
MORF	**Marmelete**	**1.11**	**45**	*e*P	**Pn**	**00 23 18.0**	**+0.1**
MORF				S	**Sb**	**00 23 33.9**	**+0.4**
42nm,0.1s							
PTEO	**Sao Teotonio**	**1.26**	**35**	*e*P	**Pn**	**00 23 20.0**	**+0.2**
PTEO				*e*S	**Sb**	**00 23 37.3**	**-0.3**
PTEO				A	A	00 23 38.2	
26nm,0.2s							
PTEO	**Sao Teotonio**	**1.26**	**35**	P	**Pn**	**00 23 20.0**	**+0.2**
PTEO				S	**Sb**	**00 23 37.3**	**-0.3**
13nm,0.2s							
PTEO	**Sao Teotonio**	**1.26**	**35**	*e*P	**Pn**	**00 23 20.0**	**+0.2**
PTEO				S	**Sb**	**00 23 37.3**	**-0.3**
13nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.55**	**62**	*e*Pn	**Pn**	**00 23 23.8**	**0.0**
PBDV				*e*Sn	**Sn**	**00 23 43.6**	**+0.8**
PBDV				A	A	00 23 45.8	
12nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.55**	**62**	P	**Pn**	**00 23 23.8**	**0.0**
PBDV				S	**Sn**	**00 23 43.6**	**+0.8**
12nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.55**	**62**	P	**Pn**	**00 23 23.8**	**0.0**
PBDV				S	**Sn**	**00 23 43.6**	**+0.8**
12nm,0.2s							
PCVE	**Castro Verde**	**1.69**	**48**	*e*Pn	**Pn**	**00 23 26.1**	**+0.3**
PCVE				*e*Sn	**Sn**	**00 23 47.3**	**+0.9**
PCVE				A	A	00 23 48.7	
5.7nm,0.1s							
PCVE	**Castro Verde**	**1.69**	**48**	P	**Pn**	**00 23 26.1**	**+0.3**
PCVE				S	**Sn**	**00 23 47.3**	**+0.9**
5.7nm,0.1s							
PCVE	**Castro Verde**	**1.69**	**48**	P	**Pn**	**00 23 26.1**	**+0.3**
PCVE				S	**Sn**	**00 23 47.3**	**+0.9**
5.7nm,0.1s							
PVAQ	**Vaqueiros**	**1.77**	**60**	*e*Pn	**Pn**	**00 23 26.8**	**-0.1**
PVAQ				*e*Sn	**Sn**	**00 23 48.7**	**+0.3**
PVAQ				A	A	00 23 50.0	
16nm,0.1s							
PVAQ	**Vaqueiros**	**1.77**	**60**	P	**Pn**	**00 23 26.8**	**-0.1**
PVAQ				S	**Sn**	**00 23 48.7**	**+0.3**
16nm,0.1s							
PVAQ	**Vaqueiros**	**1.77**	**60**	P	**Pn**	**00 23 26.8**	**-0.1**
PVAQ				S	**Sn**	**00 23 48.7**	**+0.3**
16nm,0.1s							
PNCL	**Nicolau / Gran**	**1.82**	**29**	*e*Pn	**Pn**	**00 23 27.5**	**-0.1**
PNCL				*e*Sn	**Sn**	**00 23 50.7**	**+1.2**
PNCL				A	A	00 23 53.3	
18nm,0.1s							
PNCL	**Nicolau / Gran**	**1.82**	**29**	*e*Pn	**Pn**	**00 23 27.5**	**-0.1**
PNCL				*e*Sn	**Sn**	**00 23 50.7**	**+1.2**
18nm,0.1s							
EGRO	**El Granado**	**2.00**	**59**	⇑P	**Pn**	**00 23 29.8**	**-0.2**
1.0nm,0.0s,SNR=18							
EGRO				S	**Sn**	**00 23 54.0**	**+0.1**
5.3nm,0.1s							
EGRO	**El Granado**	**2.00**	**59**	P	**Pn**	**00 23 29.8**	**-0.2**
1.0nm,0.0s,SNR=18							
EGRO				S	**Sn**	**00 23 54.0**	**+0.1**
5.3nm,0.1s							
PBEJ	**Beja**	**2.06**	**43**	*e*Pn	**Pn**	**00 23 30.8**	**-0.1**
PBEJ				*e*Sn	**Sn**	**00 23 56.1**	**+0.6**
PBEJ				A	A	00 23 58.3	
6.6nm,0.1s							
PBEJ	**Beja**	**2.06**	**43**	P	**Pn**	**00 23

PMRV	**Marv??o**	**3.40**	**31**	*e*Pn	**Pn**	**00 23 49.3**	**-0.1**
PMRV				*e*Sn	**Sn**	**00 24 28.4**	**-0.2**
PMRV				A	A	00 24 29.1	
5.5nm,0.2s							
PMRV	**Marv??o**	**3.40**	**31**	P	**Pn**	**00 23 49.3**	**-0.1**
PMRV				S	**Sn**	**00 24 28.4**	**-0.2**
5.5nm,0.2s							
PMRV	**Marv??o**	**3.40**	**31**	P	**Pn**	**00 23 49.3**	**-0.1**
PMRV				S	**Sn**	**00 24 28.4**	**-0.2**
5.5nm,0.2s							
PCAS	**Casmilo, Conde**	**3.64**	**14**	*e*Pn	**Pn**	**00 23 52.1**	**-0.5**
PCAS				*e*Sn	**Sn**	**00 24 34.2**	**-0.2**
PCAS	**Casmilo, Conde**	**3.64**	**14**	*e*Pn	**Pn**	**00 23 52.1**	**-0.5**
PCAS				*e*Sn	**Sn**	**00 24 34.2**	**-0.2**
ECAB	**El Cabril**	**3.70**	**64**	P	**Pn**	**00 23 52.8**	**-0.7**
0.6nm,0.1s,SNR=15							
ECAB				S	Sn	00 24 33.8	-2.3
1.0nm,0.1s							
ECAB	**El Cabril**	**3.70**	**64**	P	**Pn**	**00 23 52.8**	**-0.7**
0.6nm,0.1s,SNR=15							
ECAB				S	Sn	00 24 33.8	-2.3
1.0nm,0.1s							
PCBR	**Castelo Branco**	**3.73**	**26**	*e*Pn	**Pn**	**00 23 53.9**	**+0.1**
PCBR				*e*Sn	**Sn**	**00 24 36.0**	**-0.6**
PCBR				A	A	00 24 38.7	
3.4nm,0.1s							
PCBR	**Castelo Branco**	**3.73**	**26**	P	**Pn**	**00 23 53.9**	**+0.1**
PCBR				S	**Sn**	**00 24 36.0**	**-0.6**
1.7nm,0.1s							
PCBR	**Castelo Branco**	**3.73**	**26**	P	**Pn**	**00 23 53.9**	**+0.1**
PCBR				S	**Sn**	**00 24 36.0**	**-0.6**
1.7nm,0.1s							
EMIJ	**Mijas**	**3.92**	**88**	P	**Pn**	**00 23 58.2**	**+1.8**
0.1nm,0.1s,SNR=4.0							
EMIJ				S	Sn	00 24 37.7	-3.6
1.1nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**3.92**	**88**	P	**Pn**	**00 23 58.2**	**+1.8**
0.1nm,0.1s,SNR=4.0							
EMIJ				S	Sn	00 24 37.7	-3.6
1.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.35**	**66**	P	**Pn**	**00 24 02.0**	**-0.4**
0.6nm,0.1s,SNR=11							
EADA				S	Sn	00 24 49.8	-2.3
2.5nm,0.1s							
EADA	**Adamuz**	**4.35**	**66**	P	**Pn**	**00 24 02.0**	**-0.4**
0.6nm,0.1s,SNR=11							
EADA				S	Sn	00 24 49.8	-2.3
2.5nm,0.1s							
PVIS	**Viseu**	**4.41**	**17**	*e*Pn	**Pn**	**00 24 03.0**	**-0.2**
PVIS				*e*Sn	**Sn**	**00 24 53.0**	**-0.4**
PVIS				A	A	00 24 55.3	
4.4nm,0.1s							
PVIS	**Viseu**	**4.41**	**17**	P	**Pn**	**00 24 03.0**	**-0.2**
PVIS				S	**Sn**	**00 24 53.0**	**-0.4**
2.2nm,0.1s							
PVIS	**Viseu**	**4.41**	**17**	P	**Pn**	**00 24 03.0**	**-0.2**
PVIS				S	**Sn**	**00 24 53.0**	**-0.4**
2.2nm,0.1s							
ELUQ	**Luque**	**4.42**	**75**	S	**Sn**	**00 24 53.2**	**-0.6**
1.2nm,0.1s,SNR=4.0							
ELUQ	**Luque**	**4.42**	**75**	S	**Sn**	**00 24 53.2**	**-0.6**
1.2nm,0.1s,SNR=4.0							
EPLA	**Plasencia**	**4.51**	**37**	P	**Pn**	**00 24 04.9**	**+0.3**
0.2nm,0.1s,SNR=7.9							
EPLA				S	Sn	00 24 54.5	-1.5
1.4nm,0.1s,SNR=11							
EPLA	**Plasencia**	**4.51**	**37**	P	**Pn**	**00 24 04.9**	**+0.3**
0.2nm,0.1s,SNR=7.9							
EPLA				S	Sn	00 24 54.5	-1.5
1.4nm,0.1s,SNR=11							
ERON	**Agron**	**4.71**	**82**	P	**Pn**	**00 24 07.3**	**-0.1**
0.1nm,0.1s,SNR=7.9							
ERON				S	Sn	00 24 56.5	-4.4
1.2nm,0.2s,SNR=7.9							
ERON	**Agron**	**4.71**	**82**	P	**Pn**	**00 24 07.3**	**-0.1**
0.1nm,0.1s,SNR=7.9							
ERON				S	Sn	00 24 56.5	-4.4
1.2nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**5.07**	**23**	*e*Pn	Pn	00 24 11.3	-1.0
MVO				*e*Sn	Sn	00 25 08.4	-1.3
MVO				A	A	00 25 09.4	
2.6nm,0.3s							
MVO	**Moncorvo**	**5.07**	**23**	P	Pn	00 24 11.3	-1.0
0.4nm,0.1s,SNR=6.5							
MVO				S	Sn	00 25 07.7	-2.0
1.5nm,0.1s							
MVO	**Moncorvo**	**5.07**	**23**	P	Pn	00 24 11.3	-1.0
0.4nm,0.1s,SNR=6.5							
MVO				S	Sn	00 25 07.7	-2.0
1.5nm,0.1s							
MVO				*e*Sn	Sb	00 25 08.4	-19
2.6nm,0.3s							
EQES	**Quesada**	**5.40**	**74**	P	**Pn**	**00 24 15.6**	**-1.3**
0.2nm,0.2s,SNR=4.0							
EQES				S	Sn	00 25 14.6	-3.3
1.3nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.40**	**74**	P	**Pn**	**00 24 15.6**	**-1.3**
0.2nm,0.2s,SNR=4.0							
EQES				S	Sn	00 25 14.6	-3.3
1.3nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**5.47**	**53**	P	**Pn**	**00 24 17.4**	**-0.4**
1.5nm,0.1s,baz=239,slow=13,SNR=14							
ESDC				S	Sn	00 25 17.9	-1.8
1.6nm,0.2s,baz=239,slow=23,SNR=15							
ESDC	**Sonseca Array**	**5.47**	**53**	P	**Pn**	**00 24 17.4**	**-0.4**
1.5nm,0.1s,slow=13,SNR=14							
ESDC				S	Sn	00 25 17.9	-1.8
1.6nm,0.2s,slow=23,SNR=15							
ELOB	**Lobios**	**5.48**	**12**	P	**Pn**	**00 24 17.2**	**-0.7**
0.3nm,0.1s,SNR=6.1							
ELOB				S	Sn	00 25 16.1	-3.8
1.6nm,0.1s,SNR=10							
ELOB	**Lobios**	**5.48**	**12**	P	**Pn**	**00 24 17.2**	**-0.7**
0.3nm,0.1s,SNR=6.1							
PGAV	**Gavieira, Arco**	**5.54**	**11**	*e*Pn	**Pn**	**00 24 18.3**	**-0.5**
PGAV				*e*Sn	Sn	00 25 17.2	-4.2
PGAV				A	A	00 25 22.7	
2.5nm,0.2s							
PGAV	**Gavieira, Arco**	**5.54**	**11**	*e*Pn	**Pn**	**00 24 18.3**	**-0.5**
PBRG	**Braganca**	**5.74**	**22**	*e*Sn	Sn	00 25 25.0	-1.2
PBRG				A	A	00 25 27.4	
1.4nm,0.2s							
PBRG	**Braganca**	**5.74**	**22**	S	Sn	00 25 25.0	-1.2
0.7nm,0.2s							
PBRG	**Braganca**	**5.74**	**22**	S	Sn	00 25 25.0	-1.2
0.7nm,0.2s							
EHUE	**Huescar**	**5.77**	**75**	S	Sn	00 25 21.3	-5.8
0.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.86**	**22**	P	**Pn**	**00 24 23.4**	**+0.2**
0.4nm,0.3s,SNR=4.0							
ECAL				S	Sn	00 25 27.5	-1.9
1.3nm,0.1s,SNR=5.1							
ECAL	**Calabor**	**5.86**	**22**	P	**Pn**	**00 24 23.4**	**+0.2**
0.4nm,0.3s,SNR=4.0							
ECAL				S	Sn	00 25 27.5	-1.9
1.3nm,0.1s,SNR=5.1							
GUD	**Guadarrama**	**5.95**	**45**	P	**Pn**	**00 24 23.8**	**-0.6**
0.4nm,0.2s,SNR=7.9							
GUD				S	Sn	00 25 29.3	-2.2
1.4nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**5.95**	**45**	P	**Pn**	**00 24 23.8**	**-0.6**
0.4nm,0.2s,SNR=7.9							
GUD				S	Sn	00 25 29.3	-2.2
1.4nm,0.3s,SNR=7.9							
EMAZ	**Mazaricos**	**6.44**	**4**	P	Pn	00 24 29.7	-1.4
2.1nm,0.2s,SNR=7.9							
EMAZ				S	Sn	00 25 38.1	-5.4
3.6nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.44**	**4**	P	Pn	00 24 29.7	-1.4
2.1nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.76**	**69**	P	**Pn**	**00 24 34.8**	**-0.8**
0.2nm,0.2s,SNR=7.9							
ETOB				S	Sn	00 25 47.2	-4.3
0.4nm,0.1s,SNR=5.9							
ETOB	**Tobarra**	**6.76**	**69**	P	**Pn**	**00 24 34.8**	**-0.8**
0.2nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.15**	**59**	S	**Sn**	**00 26 25.8**	**0.0**
1.0nm,0.3s,SNR=4.0							
EMOS	**Mosqueruela**	**8.15**	**59**	S	**Sn**	**00 26 25.8**	**0.0**
1.0nm,0.3s,SNR=4.0							

*ISCJB **23** 00:24:00.4±0.5, 41°.89N×0°.02×19°.14E±0°.03, h5km±3km, Error ellipse: s-maj=4.2km s-min=3.3km az=149.0*
*CSEM **23** 00:24:00.7±0.2, 41°.90N×19°.12E, h2km, ML2.4/10, Error ellipse: s-maj=4.6km s-min=3.1km az=70.0*

*PDG **23** 00:24:00.1±0.3, 41°.89N×19°.15E, h19km, MD2.5, ML2.4/10, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*ATH **23** 00:24:01.4, 41°.90N×19°.12E, h31km, MD3.6/7*
*BEO **23** 00:24:03.9±0.4, 42°.00N×19°.19E, h8km±2km, ML2.3/9*

ISC 23 00:24:01.6±0.9, 41°.94N±0°.03×19°.17E±0°.02, h12km±4km, n78, σ1°.14/127, 19C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.06**	**64**	↑*i*Pg	**Pg**	**00 24 03.6**	**-0.5**
ULC				*e*Sg	**Sg**	**00 24 06.1**	**+0.2**
ULC	**Ulcinj**	**0.06**	**64**	↑*i*Pg	**Pg**	**00 24 03.6**	**-0.5**
ULC				*e*Sg	**Sg**	**00 24 06.1**	**+0.2**
DRME	**Dracevica, Mon**	**0.25**	**2**	*e*Pg	**Pg**	**00 24 06.5**	**-0.3**
DRME				*e*Sg	**Sb**	**00 24 11.8**	**+1.4**
DRME	**Dracevica, Mon**	**0.25**	**2**	*e*Pg	**Pg**	**00 24 06.5**	**-0.3**
DRME				*e*Sg	**Sb**	**00 24 11.8**	**+1.4**
BUM	**Brajici-Budva**	**0.42**	**331**	↓*i*Pg	**Pg**	**00 24 08.8**	**-1.1**
BUM				*e*Sg	**Sg**	**00 24 16.3**	**+0.8**
BUM	**Brajici-Budva**	**0.42**	**331**	↓*i*Pg	**Pg**	**00 24 08.8**	**-1.1**
BUM				*e*Sg	**Sg**	**00 24 16.3**	**+0.8**
PDG	**Podgorica**	**0.50**	**7**	↑*i*Pg	**Pg**	**00 24 10.5**	**-0.8**
PDG	**Podgorica**	**0.50**	**7**	↑*i*Pg	**Pg**	**00 24 10.5**	**-0.8**
PDG				*e*Sg	**Sb**	**00 24 19.9**	**+0.5**
TTG	**Podgorica**	**0.50**	**7**	↓*i*Pg	**Pg**	**00 24 10.2**	**-1.1**
TTG				*e*Sg	**Sb**	**00 24 19.9**	**+0.5**
HCY	**Herceg Novi**	**0.72**	**316**	↑*i*Pg	**Pg**	**00 24 14.4**	**-1.1**
HCY				*e*Sg	**Sb**	**00 24 26.6**	**+0.5**
HCY	**Herceg Novi**	**0.72**	**316**	↑*i*Pg	**Pg**	**00 24 14.4**	**-1.1**
TIR	**Tirane**	**0.79**	**138**	*e*Pg	**Pn**	**00 24 18.5**	**+0.1**
TIR				*e*Sg	**Sn**	**00 24 31.8**	**+1.7**
TIR	**Tirane**	**0.79**	**138**	*e*Pg	**Pn**	**00 24 18.5**	**+0.1**
NKME	**Niksic**	**0.84**	**349**	↑*i*Pg	**Pg**	**00 24 16.9**	**-1.0**
NKME				*e*Sg	**Sb**	**00 24 30.4**	**+0.9**
NKME	**Niksic**	**0.84**	**349**	↑*i*Pg	**Pg**	**00 24 16.9**	**-1.0**
NKME				*e*Sg	**Sb**	**00 24 30.4**	**+0.9**
PVY	**Plav**	**0.88**	**41**	↓*i*Pg	**Pg**	**00 24 17.2**	**-1.4**
PVY				*e*Sg	**Sn**	**00 24 32.6**	**-0.1**
NKY	**Niksic**	**0.89**	**352**	↓*i*Pg	**Pg**	**00 24 17.7**	**-1.0**
NKY				*e*Sg	**Sn**	**00 24 32.6**	**-0.2**
NKY	**Niksic**	**0.89**	**352**	↓*i*Pg	**Pg**	**00 24 17.7**	**-1.0**
TREB	**Trebinje**	**0.99**	**322**	*e*Pg	**Pn**	**00 24 21.4**	**+0.2**
TREB				*e*Sg	**Sn**	**00 24 35.4**	**+0.3**
TREB	**Trebinje**	**0.99**	**322**	*e*Pg	**Pn**	**00 24 21.4**	**+0.2**
TREB				*e*Sg	**Sn**	**00 24 35.4**	**+0.3**
BRY	**Bratogost**	**1.07**	**334**	↓*i*Pg	**Pb**	**00 24 21.5**	**-0.6**
BRY				*e*Sg	**Sn**	**00 24 38.4**	**+1.0**
BRY	**Bratogost**	**1.07**	**334**	↓*i*Pg	**Pb**	**00 24 21.5**	**-0.6**
BEY	**Berane**	**1.08**	**30**	↑*i*Pg	**Pb**	**00 24 21.0**	**-1.2**
BEY				*e*Sg	**Sn**	**00 24 37.9**	**+0.5**
IVA	**Berane**	**1.08**	**30**	↑*i*Pg	**Pb**	**00 24 21.0**	**-1.2**
IVA				*e*Sg	**Sn**	**00 24 37.9**	**+0.5**
UPM	**Unac-Piva**	**1.28**	**351**	*e*Pg	**Pn**	**00 24 25.1**	**-0.3**
UPM				*e*Sg	**Sg**	**00 24 43.9**	**+1.0**
UPM	**Unac-Piva**	**1.28**	**351**	*e*Pg	**Pn**	**00 24 25.1**	**-0.3**
UPM				*e*Sg	**Sg**	**00 24 43.9**	**+1.0**
PLE	**Pljevlja**	**1.40**	**7**	↑*i*Pg	**Pn**	**00 24 26.4**	**-0.6**
PLE				*e*Sg	**Sg**	**00 24 46.6**	**-0.1**
PLE	**Pljevlja**	**1.40**	**7**	↑*i*Pg	**Pn**	**00 24 26.4**	**-0.6**
PLE				*e*Sg	**Sg**	**00 24 46.6**	**-0.1**
STON	**Ston**	**1.43**	**311**	*e*Pn	**Pn**	**00 24 27.3**	**0.0**
STON				Sn	**Sb**	**00 24 47.6**	**+1.2**
SJES	**Sjenica**	**1.45**	**24**	*e*Pg	**Pn**	**00 24 27.3**	**-0.4**
SJES				*i* Sg	**Sg**	**00 24 49.3**	**+1.0**
SJES	**Sjenica**	**1.45**	**24**	*e*Pg	**Pn**	**00 24 27.3**	**-0.4**
SJES				*i* Sg	**Sg**	**00 24 49.3**	**+1.0**
SELS	**Selova**	**1.93**	**48**	↑*i*Pn	**Pn**	**00 24 34.9**	**+0.7**
SELS				*e*Sn	**Sb**	**00 25 01.0**	**+0.4**
SELS	**Selova**	**1.93**	**48**	↑*i*Pn	**Pn**	**00 24 34.9**	**+0.7**
SELS				*e*Sn	**Sb**	**00 25 01.0**	**+0.4**
BBLS	**Lazići**	**1.94**	**5**	*e*Pn	**Pb**	**00 24 36.2**	**-0.6**
BBLS				*e*Sg	**Sg**	**00 25 03.1**	**-0.7**
BBLS	**Lazići**	**1.94**	**5**	*e*Pn	**Pb**	**00 24 36.2**	**-0.6**
BBLS				*e*Sg	**Sg**	**00 25 03.1**	**-0.7**
FNA	**Florina**	**2.02**	**124**	*e*PN	**Pn**	**00 24 35.8**	**+0.3**
FNA	**Florina**	**2.02**	**124**	*e*Pn	**Pn**	**00 24 35.8**	**+0.3**
BARS	**Barje**	**2.15**	**65**	*e*Pn	**Pn**	**00 24 38.2**	**+1.0**
BARS				*e*Sn	**Sb**	**00 25 05.5**	**-1.5**
BARS	**Barje**	**2.15**	**65**	*e*Pn	**Pn**	**00 24 38.2**	**+1.0**
BARS				*e*Sn	**Sb**	**00 25 05.5**	**-1.5**
DIVS	**Divibare**	**2.24**	**15**	↑*i*Pn	**Pn**	**00 24 39.9**	**+1.3**
DIVS				*e*Sn	**Sb**	**00 25 08.1**	**-1.7**
DIVS	**Divibare**	**2.24**	**15**	↑*i*Pn	**Pn**	**00 24 39.9**	**+1.3**
DIVS				*e*Sn	**Sb**	**00 25 08.1**	**-1.7**
GRUS	**Gruza**	**2.26**	**30**	*e*Pn	**Pb**	**00 24 40.6**	**-1.6**
GRUS				*e*Sn	**Sb**	**00 25 09.3**	**-0.8**
GRUS	**Gruza**	**2.26**	**30**	*e*Pn	**Pb**	**00 24 40.6**	**-1.6**
GRUS				*e*Sn	**Sb**	**00 25 09.3**	**-0.8**
KEK	**Kerkira**	**2.27**	**168**	*e*PN	**Pn**	**00 24 38.7**	**-0.2**
KEK	**Kerkira**	**2.27**	**168**	*e*Pn	**Pn**	**00 24 38.7**	**-0.2**
TRUS	**Trudelj**	**2.46**	**21**	*e*Pn	**Pn**	**00 24 43.5**	**+2.1**
TRUS				*e*Sn	**Sn**	**00 25 12.9**	**+1.5**
TRUS	**Trudelj**	**2.46**	**21**	*e*Pn	**Pn**	**00 24 43.5**	**+2.1**
TRUS				*e*Sn	**Sn**	**00 25 12.9**	**+1.5**
ZAPS	**Zavoj**	**2.88**	**61**	*e*Pn	**Pn**	**00 24 50.0**	**+2.7**
ZAPS				*e*Sn	**Sn**	**00 25 24.6**	**+2.6**
ZAPS	**Zavoj**	**2.88**	**61**	*e*Pn	**Pn**	**00 24 50.0**	**+2.7**
ZAPS				*e*Sn	**Sn**	**00 25 24.6**	**+2.6**
VTS	**Vitosha**	**3.07**	**76**	↑*i*P	**Pn**	**00 24 51.5**	**+1.5**
THL	**Klokotos Trika**	**3.21**	**137**	*e*PN	**Pn**	**00 24 52.0**	**+0.3**
THL	**Klokotos Trika**	**3.21**	**137**	*e*Pn	**Pn**	**00 24 52.0**	**+0.3**
LKD2	**Lefkada island**	**3.34**	**160**	*e*PN	**Pn**	**00 24 53.4**	**-0.2**
LKD2	**Lefkada island**	**3.34**	**160**	*e*Pn	**Pn**	**00 24 53.4**	**-0.2**
NVR	**Nevrokopi**	**3.56**	**98**	*e*PN	**Pn**	**00 24 57.3**	**+0.6**
NVR	**Nevrokopi**	**3.56**	**98**	*e*Pn	**Pn**	**00 24 57.3**	**+0.6**
UDBI	**Udbina**	**3.59**	**317**	*e*Pn	**Pn**	**00 24 58.5**	**+1.4**
UDBI				Sn	**Sn**	**00 25 42.2**	**+2.8**
EVR	**Evrytania**	**3.63**	**145**	*e*PN	**Pn**	**00 24 58.3**	**+0.7**
EVR	**Evrytania**	**3.63**	**145**	*e*Pn	**Pn**	**00 24 58.3**	**+0.7**
AGG	**Agios Georgios**	**3.78**	**139**	*e*PN	**Pn**	**00 24 59.6**	**0.0**
AGG	**Agios Georgios**	**3.78**	**139**	*e*Pn	**Pn**	**00 24 59.6**	**0.0**
VLS	**Valsamata**	**3.91**	**163**	*e*PN	**Pn**	**00 25 01.9**	**+0.5**
VLS	**Valsamata**	**3.91**	**163**	*e*Pn	**Pn**	**00 25 01.9**	**+0.5**
BZS	**Buzias**	**4.08**	**25**	↓*i*P	**Pn**	**00 25 03.6**	**-0.2**
NVLJ	**Novalja**	**4.09**	**311**	*e*Pn	**Pn**	**00 25 03.2**	**-0.6**
NVLJ				Sn	**Sn**	**00 25 50.6**	**-1.1**
NVLJ	**Novalja**	**4.09**	**311**	*e*Pn	**Pn**	**00 25 03.2**	**-0.6**
NVLJ				Sn	**Sn**	**00 25 50.6**	**-1.1**
KLV	**Kalavryta, Ach**	**4.51**	**149**	*e*PN	**Pn**	**00 25 10.2**	**+0.5**
KLV	**Kalavryta, Ach**	**4.51**	**149**	*e*Pn	**Pn**	**00 25 10.2**	**+0.5**
DRGR		**5.48**	**26**	↑*i*P	Pn	00 25 28.4	+5.4
MLR	**Muntele Rosu**	**6.06**	**52**	↑*i*P	Pn	00 25 25.9	-5.1

IDC 23 00:41:04.9±0.9, 30°.24S×75°.71E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, MS3.8/2, Ms1 3.8/2, ms1mx3.2/27, Error ellipse: s-maj=32.0km s-min=24.8km az=78.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**35.32**	**105**	LR	LR	00 57 51.8	
comp=Z,117nm,19.3s,baz=355,slow=28							
BOSA	**Boshof**	**43.68**	**259**	LR	LR	01 02 58.8	
comp=Z,135nm,18.3s,baz=159,slow=30							
ASAR	**Alice Springs**	**51.82**	**98**	P	P	00 50 14.1	-0.9
0.8nm,0.9s,baz=257,slow=6.9,SNR=4.3							
CMAR	**Chiang Mai Arr**	**53.34**	**28**	P	P	00 50 25.6	-0.5
1.1nm,0.4s,baz=211,slow=6.4,SNR=5.6							
WRA	**Warramunga Arr**	**53.58**	**93**	P	P	00 50 29.1	+1.0
1.2nm,0.9s,baz=251,slow=6.6,SNR=3.4							
QSPA	**South Pole Qui**	**59.90**	**180**	P	P	00 51 12.3	-0.1
1.3nm,0.6s,baz=288,slow=1.1,SNR=14							
MKAR	**Makanchi Array**	**76.91**	**5**	P	P	00 52 57.9	-0.9
1.0nm,1.0s,baz=168,slow=6.2,SNR=5.1							
BRTR	**Keskin Array B**	**79.84**	**328**	P	P	00 53 15.4	+0.1
0.5nm,0.8s,baz=217,slow=5.7,SNR=4.3							
SONM	**Songino Array**	**82.47**	**20**	P	P	00 53 29.3	+0.2
0.4nm,0.6s,baz=197,slow=4.6,SNR=5.1							
TORD	**Torodi Ar. Bea**	**83.17**	**289**	P	P	00 53 33.4	0.0
0.8nm,1.1s,baz=135,slow=5.0,SNR=2.8							
ZALV	**Zalesovo Beam**	**84.21**	**5**	P	P	00 53 39.0	+1.2
0.6nm,0.4s,baz=177,slow=5.5,SNR=5.8							

IDC 23 00:47:30.1±4.5, 4°.87S×153°.47E, h96km±38km, mb3.7/8, mb1 3.9/9, mb1mx3.6/21, mbtmp3.7/9, MS3.5/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=26.3km s-min=24.1km az=18.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.71**	**234**	P	Pn	00 49 19.9	+0.2
1.9nm,0.3s,baz=18,slow=6.4,SNR=4.7							
PMG				S	Sn	00 50 46.7	+1.2
9.7nm,0.3s,baz=46,slow=15,SNR=14							
HNR	**Honiara**	**7.87**	**126**	S	Sn	00 50 49.0	-0.3
8.4nm,0.3s,baz=30,slow=19,SNR=3.6							
DZM	**Mont Dzumac**	**21.22**	**145**	P	P	00 52 08.1	-0.4
2.1nm,0.5s,baz=93,slow=23,SNR=8.7							
WRA	**Warramunga Arr**	**23.90**	**230**	P	P	00 52 34.5	-0.7
3.0nm,0.6s,baz=54,slow=9.4,SNR=46							
WRA				LR	LR	01 01 58.4	
comp=Z,112nm,20.8s,baz=235,slow=36							
ASAR	**Alice Springs**	**26.55**	**223**	P	P	00 52 59.5	+0.3
2.0nm,0.5s,baz=56,slow=9.2,SNR=35							
STKA	**Stephens Creek**	**29.08**	**201**	P	P	00 53 22.1	+0.5
6.8nm,1.2s,baz=157,slow=18,SNR=4.7							
FITZ	**Fitzroy Crossi**	**30.21**	**242**	P	P	00 53 31.6	-0.2
2.7nm,0.5s,baz=67,slow=7.5,SNR=22							
MKAR	**Makanchi Array**	**80.82**	**319**	P	P	00 59 33.3	-0.1
0.3nm,0.4s,baz=95,slow=8.6,SNR=6.8							
ILAR	**Eielson Array**	**81.98**	**22**	P	P	00 59 39.5	+0.3
0.3nm,0.6s,baz=260,slow=5.3,SNR=4.4							
QSPA	**South Pole Qui**	**85.09**	**180**	P	P	00 59 55.4	+0.1
1.3nm,0.7s,baz=256,slow=4.0,SNR=8.1							
TORD	**Torodi Ar. Bea**	**150.96**	**288**	PKPbc	PKPbc	01 07 12.5	-0.4
0.5nm,0.4s,baz=72,slow=2.2,SNR=34							
TORD				PKPab	PKPab	01 07 20.2	-0.3
0.5nm,0.5s,baz=78,slow=2.1,SNR=7.3							

*NNC **23** 00:52:08.1±5.8, 36°.46N×69°.00E, h65km±84km, mb3.6, mpv3.9, Error ellipse: s-maj=49.7km s-min=33.7km az=54.0*
*IDC **23** 00:52:14.0±1.6, 38°.21N×68°.50E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/28, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=55.7km s-min=25.5km az=143.0*

ISC 23 00:52:19.2±1.3, 37°.9N±0°.1×68°.8E±0°.1, h35km, n21, σ1°.79/20, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.39**	**14**	↓P	Pn	00 53 45.4	+8.3
1.6nm,0.2s,baz=200,slow=15,SNR=128							
KK31				↑S	Sn	00 55 00.7	+23
1.5nm,0.3s,baz=192,slow=24,SNR=4.1							
AML	**Almayashu**	**5.69**	**40**	P	**Pn**	**00 53 43.3**	**+1.7**
SNR=35							
EKS2	**Erkin-Say**	**6.13**	**37**	P	**Pn**	**00 53 50.2**	**+2.8**
SNR=8.2							
AAK	**Ala-Archa**	**6.46**	**41**	P	**Pn**	**00 53 53.7**	**+1.7**
SNR=7.2							
KZA	**Kyzart**	**6.51**	**48**	P	**Pn**	**00 53 51.9**	**-1.1**
SNR=14							
KBK	**Karagaybulak**	**6.72**	**43**	P	**Pn**	**00 53 56.7**	**+1.1**
SNR=5.1							
CHMS	**Chumysh**	**6.86**	**40**	P	**Pn**	**00 53 58.8**	**+1.5**
SNR=7.9							
USP	**Ospenovka**	**6.93**	**37**	P	**Pn**	**00 54 00.2**	**+1.9**
SNR=14							
ULHL	**Ulahol**	**7.21**	**50**	P	**Pn**	**00 54 00.1**	**-2.1**
SNR=7.6							
TKM2	**Tokmak 2**	**7.25**	**44**	↓P	**Pn**	**00 54 02.6**	**-0.2**
6.0nm,0.6s							
TKM2	**Tokmak 2**	**7.25**	**44**	P	**Pn**	**00 54 02.7**	**-0.2**
SNR=7.1							
AB31	**Akbulak array**	**13.04**	**334**	P	**P**	**00 55 29.4**	**-2.3**
0.2nm,0.3s,baz=156,slow=14,SNR=15							
AB31				↑S	Sn	00 58 06.9	+21
0.5nm,0.5s

0.3nm,0.7s,baz=288,slow=4.9,SNR=4.1

*NEIC **23** 01:19:37.1, 18°.83N×65°.53W, h35km, MD2.7(RSPR), After RSPR.*

RSPR 23 01:19:37.1, 18°.83N×65°.53W, h35km±6km, MD2.7/4, 6C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.64**	**210⇑**	*e*P	Pn	01 19 48.3	-1.5
CBYP	**Canovanas**	**0.64**	**210**	*e*S	Sn	01 19 57.5	-1.3
CBYP	**Canovanas**	**0.64**	**210⇑**	*e*P	Pn	01 19 48.3	-1.5
CBYP				*e*S	Sn	01 19 57.5	-1.3
CBYP	**Canovanas**	**0.64**	**210⇑**	*e*P	Pn	01 19 48.3	-1.5
CBYP				*e*S	Sn	01 19 57.5	-1.3
STVI	**Saint Thomas**	**0.72**	**131⇓**	*e*P	Pn	01 19 49.7	-1.1
STVI	**Saint Thomas**	**0.72**	**131**	*e*S	Sn	01 19 59.4	-1.2
STVI	**Saint Thomas**	**0.72**	**131⇓**	*e*P	Pn	01 19 49.7	-1.1
STVI				*e*S	Sn	01 19 59.4	-1.2
STVI	**Saint Thomas**	**0.72**	**131⇓**	*e*P	Pn	01 19 49.7	-1.1
STVI				*e*S	Sn	01 19 59.4	-1.2
MTP	**Monte Pirata**	**0.73**	**182⇓**	*e*P	Pn	01 19 49.8	-1.1
MTP	**Monte Pirata**	**0.73**	**182**	*e*S	Sn	01 19 59.3	-1.5
MTP	**Monte Pirata**	**0.73**	**182⇓**	*e*P	Pn	01 19 49.8	-1.1
MTP				*e*S	Sn	01 19 59.3	-1.5
MTP	**Monte Pirata**	**0.73**	**182⇓**	*e*P	Pn	01 19 49.8	-1.1
MTP				*e*S	Sn	01 19 59.3	-1.5
HUMP	**Col San Antoni**	**0.75**	**204⇑**	*e*P	Pn	01 19 50.0	-1.2
HUMP	**Col San Antoni**	**0.75**	**204**	*e*S	Sn	01 19 60.0	-1.3
HUMP	**Col San Antoni**	**0.75**	**204⇑**	*e*P	Pn	01 19 50.0	-1.2
HUMP				*e*S	Sn	01 19 60.0	-1.3
HUMP	**Col San Antoni**	**0.75**	**204⇑**	*e*P	Pn	01 19 50.0	-1.2
HUMP				*e*S	Sn	01 19 60.0	-1.3
CPD	**Cerro la Pandu**	**0.87**	**205**	*e*S	Sn	01 20 03.2	-1.2
CPD	**Cerro la Pandu**	**0.87**	**205**	*e*S	Sn	01 20 03.2	-1.2

WEL 23 01:24:10.8±0.4, 46°.15S×165°.78E, h33km, ML3.5/12, 2C-1D, Error ellipse: s-maj=4.6km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.17**	**56**	⇑PN	Pn	01 24 30.6	-0.3
DCZ				SN	Sn	01 24 45.7	-0.1
DCZ				AML	AML	01 24 47.9	
DCZ				AML	AML	01 24 47.9	
DCZ				AML	AML	01 24 48.1	
WHZ	**Wether Hill Ro**	**1.53**	**81**	⇓PN	Pn	01 24 36.1	+0.2
WHZ				SN	Sn	01 24 55.5	+0.9
WHZ				AML	AML	01 24 58.2	
APZ	**The Paps**	**1.67**	**115**	PN	Pn	01 24 37.1	-0.8
MLZ	**Mavora Lakes**	**1.86**	**65**	PN	Pn	01 24 41.5	+1.1
MLZ				AML	AML	01 25 09.4	
MLZ				AML	AML	01 25 12.5	
SYZ	**Scrubby Hill**	**2.36**	**101**	*e*PN	Pn	01 24 47.0	-0.1
WKZ	**Wanaka**	**2.63**	**61**	*e*PN	Pn	01 24 54.0	+3.0
EAZ	**Earnscleugh**	**2.64**	**71**	PN	Pn	01 24 52.8	+1.7
EAZ				AML	AML	01 25 35.5	
TUZ	**Tuapeka**	**2.69**	**87**	*e*PN	Pn	01 24 52.8	+1.0
TUZ				AML	AML	01 25 54.3	
JCZ	**Jackson Bay**	**2.96**	**47**	*e*PN	Pn	01 24 57.9	+2.3
JCZ				AML	AML	01 25 51.5	
ODZ	**Otahua Downs**	**3.59**	**74**	⇑PN	Pn	01 25 04.0	-0.1

IDC 23 01:31:49.4±22.0, 8°.31S×129°.41E, h299km±112km, mb3.5/1, mb1 2.8/4, mb1mx2.6/19, mbtmp2.7/4, Error ellipse: s-maj=252.1km s-min=81.0km az=176.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.40**	**200**	P	Pn	01 34 12.5	-0.1
	0.1nm,0.3s,baz=32,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**12.52**	**158**	P	P	01 34 39.2	0.0
	0.1nm,0.3s,baz=341,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**15.87**	**165**	P	P	01 35 15.4	-0.8
	baz=345,slow=9.3,SNR=2.7						
STKA	**Stephens Creek**	**26.05**	**156**	P	P	01 36 56.0	0.0
	2.4nm,0.7s,baz=352,slow=7.1,SNR=3.6						

MEX 23 02:02:34.9±0.9, 17°.19N×95°.01W, h134km±6km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.16**	**130**	*i* P	Pn	02 02 52.0	-1.1
CMIG				*i* S	Sn	02 03 05.0	-2.0
OXX	**Oaxaca**	**1.64**	**266**	*e*P	Pn	02 03 05.8	+0.6
OXX				*i* S	Sn	02 03 29.0	+0.8
TGIG		**1.85**	**103**	*e*P	Pn	02 03 06.0	-1.4
TGIG				*i* S	Sn	02 03 29.5	-2.7
PCIG		**2.27**	**130**	*e*P	Pn	02 03 11.5	-0.9
PCIG				*i* S	Sn	02 03 39.5	-1.7
TPIG	**Tehuac#an**	**2.55**	**299**	*i* P	Pn	02 03 15.3	-0.8
TPIG				*i* S	Sn	02 03 45.5	-2.4
UTMO	**Huajuapan**	**2.74**	**284**	*e*P	Pn	02 03 17.9	-0.7
UTMO				*i* S	Sn	02 03 50.0	-2.2
CCIG	**Comitan**	**2.90**	**108**	*i* P	Pn	02 03 19.6	-1.0
CCIG				*i* S	Sn	02 03 53.4	-2.4
PNIG	**Pinotepa**	**3.09**	**256**	*e*P	Pn	02 03 20.8	-2.1
PNIG				*i* S	Sn	02 03 58.1	-1.8

IDC 23 02:12:37.2±2.3, 1°.41S×99°.50E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/25, mbtmp3.7/9, ML4.6/1, Error ellipse: s-maj=104.9km s-min=17.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.22**	**352**	Pn	Pn	02 13 41.4	-1.6
	0.3nm,0.3s,baz=158,slow=19,SNR=2.0						
CMAR	**Chiang Mai Arr**	**19.75**	**358**	P	Pn	02 17 10.2	-0.1
	0.8nm,0.3s,baz=180,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**38.72**	**121**	P	P	02 20 03.3	-0.2
	2.1nm,0.9s,baz=302,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**40.00**	**126**	P	P	02 20 14.3	+0.2
	0.6nm,0.8s,baz=299,slow=8.2,SNR=7.0						
SONM	**Songino Array**	**49.41**	**6**	P	P	02 21 27.9	-1.1
	0.2nm,0.3s,baz=180,slow=7.1,SNR=2.3						
SONM				PcP	PcP	02 22 50.3	-1.0
	0.4nm,0.8s,baz=174,slow=2.9,SNR=2.2						
STKA	**Stephens Creek**	**49.91**	**132**	P	P	02 21 33.0	0.0
	2.8nm,0.9s,baz=279,slow=16,SNR=3.3						
MKAR	**Makanchi Array**	**50.33**	**345**	P	P	02 21 36.1	+0.2
	0.7nm,0.7s,baz=151,slow=8.3,SNR=6.0						
KURBB	**Kurchatov Arra**	**54.85**	**344**	P	P	02 22 09.0	-0.2
	0.2nm,0.5s,baz=156,slow=7.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.50**	**350**	P	P	02 22 21.2	+0.1
	1.7nm,0.7s,baz=184,slow=5.8,SNR=6.8						
TXAR	**Lajitas Array**	**144.54**	**36**	PKP	PKPbc	02 32 15.9	+0.7
	0.8nm,0.7s,baz=266,slow=1.1,SNR=11						

IDC 23 02:24:19.0±3.0, 35°.11S×179°.38W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=71.8km s-min=35.7km az=125.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.22**	**221**	Pn	Pn	02 25 24.7	+0.1
	2.3nm,0.3s,baz=113,slow=13,SNR=13						
URZ				Sn	Sn	02 26 15.0	+0.4
	3.0nm,0.3s,baz=168,slow=22,SNR=11						
ASAR	**Alice Springs**	**41.93**	**273**	P	P	02 32 11.9	+0.3
	1.0nm,0.4s,baz=117,slow=7.3,SNR=38						
WRA	**Warramunga Arr**	**43.35**	**278**	P	P	02 32 22.6	-0.6
	0.4nm,0.3s,baz=119,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**149.07**	**336**	PKPbc	PKPbc	02 44 07.8	-0.5
	1.4nm,0.9s,baz=47,slow=4.2,SNR=7.4						

IDC 23 02:26:38.3±2.4, 1°.87S×99°.41E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/23, mbtmp3.5/7, Error ellipse: s-maj=86.9km s-min=21.7km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.21**	**359**	P	P	02 31 13.4	-1.5
	0.4nm,0.4s,baz=188,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**38.56**	**120**	P	P	02 34 02.2	-1.0
	0.5nm,0.5s,baz=302,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**39.80**	**126**	P	P	02 34 14.2	+0.6
	0.3nm,0.5s,baz=298,slow=7.9,SNR=6.0						
KSRS	**Korea Array**	**47.22**	**31**	P	P	02 35 13.7	+0.7
	1.2nm,0.8s,baz=220,slow=8.6,SNR=2.9						
SONM	**Songino Array**	**49.88**	**6**	P	P	02 35 33.1	-0.5
	0.2nm,0.4s,baz=182,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**50.75**	**345**	P	P	02 35 40.7	+0.6
	0.4nm,0.5s,baz=142,slow=7.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**56.94**	**350**	P	P	02 36 25.1	-0.1
	0.4nm,0.3s,baz=168,slow=7.4,SNR=2.8						
TXAR	**Lajitas Array**	**144.96**	**37**	PKP	PKPab	02 46 17.3	-0.2
	0.3nm,0.6s,baz=166,slow=1.0,SNR=7.4						

IDC 23 02:57:53.8±4.7, 29°.50S×135°.87E, h0km, mb1 3.0/3, mb1mx3.0/15, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=83.4km s-min=24.0km az=51.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.48**	**117**	Pn	Pn	02 59 16.8	+0.1
	0.1nm,0.3s,baz=298,slow=8.3,SNR=2.6						
STKA				Sn	Sn	03 00 20.4	0.0
	0.6nm,0.3s,baz=198,slow=4.8,SNR=5.2						
ASAR	**Alice Springs**	**6.07**	**343**	Pn	Pn	02 59 23.8	-1.1
	0.0nm,0.3s,baz=171,slow=8.0,SNR=2.8						
ASAR				Sn	Sn	03 00 36.3	+1.2
	0.1nm,0.3s,baz=161,slow=22,SNR=4.7						
WRA	**Warramunga Arr**	**9.61**	**351**	Pn	Pn	03 00 15.4	+1.8
	0.1nm,0.3s,baz=170,slow=13,SNR=5.4						
WRA				Sn	Sn	03 02 01.5	-0.9
	0.1nm,0.3s,baz=175,slow=24,SNR=6.2						

*ISCJB **23** 03:00:26.8±0.3, 18°.76N±0°.03×69°.33W±0°.02, h93km±3km, mb4.4/109, Error ellipse: s-maj=5.4km s-min=3.1km az=20.1*

*LDG **23** 03:00:26.2±0.2, 18°.66N×69°.42W, h100km, Mb4.6/35, Error ellipse: s-maj=8.5km s-min=5.6km az=62.0*

*IDC **23** 03:00:27.9±0.4, 18°.66N×69°.28W, h92km±3km, mb4.1/21, mb1 4.2/23, mb1mx4.2/28, mbtmp4.1/23, MS3.3/5, Ms1 3.4/5, ms1mx3.1/30, Error ellipse: s-maj=10.7km s-min=9.2km az=68.0*

*NEIC **23** 03:00:28.0, 18°.91N×69°.29W, h82km, mb4.6/54, MD4.2(SDD), After SDD.*

NEIC Felt [V] at Hato Mayor and [II] at Santo Domingo. Also felt at Higuey, Las Terrenas and Otra Banda.

ISC 23 03:00:27.9±0.3, 18°.79N±0°.04×69°.31W±0°.03, h93km±2km, h93km:pP-P, n500, σ1°30/585, mb4.5/109, 55C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.89**	**276**	*e*Pn	**Pn**	**03 01 00.5**	**+1.7**
SDDR				*e*Sn	**Sn**	**03 01 24.5**	**+2.2**
AGP	**Aguadilla**	**2.09**	**100**	*e*Pn	**Pn**	**03 01 02.2**	**+0.8**
AGPR	**Aguadilla, PR**	**2.11**	**98**	*e*Pn	**Pn**	**03 01 01.9**	**+0.3**
AGPR				*e*Sn	**Sn**	**03 01 29.1**	**+1.8**
MPR	**Mayaguez**	**2.13**	**105**	*e*Pn	**Pn**	**03 01 02.6**	**+0.7**
LSP	**Las Mesas**	**2.19**	**106**	*e*Pn	**Pn**	**03 01 03.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.23**	**110**	*e*Pn	**Pn**	**03 01 04.9**	**+1.7**
CRPR				*e*Sn	**Sn**	**03 01 29.3**	**-0.8**
LRS	**Lares**	**2.39**	**102**	*e*Pn	**Pn**	**03 01 06.0**	**+0.6**
AOPR	**Arecibo Observ**	**2.46**	**100**	*e*Pn	**Pn**	**03 01 07.9**	**+1.6**
OBIP	**Obispado Ponce**	**2.67**	**106**	*e*Pn	**Pn**	**03 01 09.7**	**+0.7**
OBIP				*e*Sn	**Sn**	**03 01 35.0**	**-5.7**
CELP	**Cerrillos**	**2.68**	**105**	*e*Pn	**Pn**	**03 01 10.3**	**+1.0**
GRTK	**Grand Turk**	**3.21**	**328**	*e*Pn	**Pn**	**03 01 14.6**	**-1.6**
GRTK				*e*Sn	**Sn**	**03 01 50.0**	**-3.5**
CBYP	**Canovanas**	**3.31**	**98**	*e*Pn	**Pn**	**03 01 16.9**	**-0.9**
CBYP				*e*Sn	**Sn**	**03 01 54.4**	**-1.9**
HUMP	**Col San Antoni**	**3.34**	**101**	*e*Pn	**Pn**	**03 01 18.3**	**+0.2**
STVI	**Saint Thomas**	**4.15**	**95**	*e*Pn	**Pn**	**03 01 28.1**	**-0.9**
STVI				*e*Sn	**Sn**	**03 02 15.9**	**-0.5**
CDVI	**St. Croix**	**4.43**	**103**	*e*Pn	**Pn**	**03 01 32.7**	**-0.2**
CDVI				*e*Sn	Sn	03 02 17.2	-6.2
MASC	**Masc**	**4.85**	**287**	*e*P	**Pn**	**03 01 36.3**	**-2.2**
MASC				*e*S	**Sn**	**03 02 31.0**	**-2.4**
GTBY	**Guantanamo Bay**	**5.60**	**283**	*e*Pn	Pn	03 01 45.9	-2.8
	82nm,0.6s						
MOAC	**Moa**	**5.64**	**290**	*e*P	**Pn**	**03 01 46.8**	**-2.5**
MOAC				*e*S	Sn	03 02 47.4	-5.3
	comp=N,167nm,0.5s						
MOAC				*e*			
	comp=E,211nm,0.6s						
RCC	**Rio Carpintero**	**6.15**	**282**	*e*P	**Pn**	**03 01 54.3**	**-1.9**
RCC				*e*S	Sn	03 02 58.8	-6.3
	comp=N,73nm,0.6s						
RCC				*e*			
	comp=E,84nm,0.6s						
ANWB	**Willy Bob**	**7.23**	**98**	*e*Pn	**Pn**	**03 02 09.5**	**-1.4**
ANWB	**Willy Bob**	**7.23**	**98**	*e*P	**Pn**	**03 02 08.3**	**-2.6**
LMGC	**Las Mercedes**	**7.38**	**281**	*e*P	**Pn**	**03 02 10.6**	**-2.3**
LMGC				*e*S	Sn	03 03 26.9	-8.1
	comp=N,87nm,1.1s						
LMGC				*e*			
	comp=E,131nm,0.9s						
LZG	**Guadaloupe-1**	**7.65**	**109**	*e*P	**Pn**	**03 02 17.8**	**+1.1**
MLG	**Mont-d'or**	**7.74**	**109**	*e*P	**Pn**	**03 02 18.7**	**+0.7**
SCG	**Saint Claude**	**7.78**	**110**	*e*P	**Pn**	**03 02 20.4**	**+1.9**
HMG	**Houelmont**	**7.78**	**110**	*e*P	**Pn**	**03 02 19.8**	**+1.3**
PHG	**Guadaloupe-2**	**7.82**	**110**	*e*P	**Pn**	**03 02 20.8**	**+1.7**
DOG	**Dongo Capester**	**7.83**	**109**	*e*P	**Pn**	**03 02 20.8**	**+1.6**
MGG	**Marie-Galante**	**8.15**	**109**	*e*P	**Pn**	**03 02 24.6**	**+1.2**
DEG	**La Desirade**	**8.24**	**106**	*e*P	**Pn**	**03 02 25.8**	**+1.0**
SVB	**Belmont**	**9.49**	**124**	*e*P	**Pn**	**03 02 41.9**	**+0.2**
GRW	**Mount Saint Ca**	**9.88**	**131**	*e*	Pn	03 02 51.8	+4.6
SDV	**Santo Domingo**	**9.93**	**188**	*e*Pn	**Pn**	**03 02 46.5**	**-1.4**
TRN	**Trinidad (W)**	**11.13**	**136**	*e*	**Pn**	**03 03 06.9**	**+2.8**
TPP	**Pointe-a-Pierr**	**11.34**	**137**	*e*	Pn	03 03 14.6	+7.6
TBH	**Brigand Hill**	**11.47**	**135**	*e*	Pn	03 03 16.4	+7.6
BCIP	**Isla Barro Col**	**13.99**	**228**	*e*Pn	**Pn**	**03 03 40.9**	**-1.2**
ROSC	**El Rosal**	**14.69**	**200**	*e*Pn	**P**	**03 03 57.7**	**+2.5**
ROSC				S	**Sn**	**03 06 34.1**	**+0.4**
ROSC	**El Rosal**	**14.69**	**200**	P	**Pn**	**03 03 51.5**	**0.0**
	comp=E,0.8nm,0.3s,baz=270,slow=20,SNR=2.1						
ROSC				S	**Sn**	**03 06 34.1**	**+0.4**
	baz=276,slow=19,SNR=2.1						
ROSC				LR	LR	03 08 39.2	
	comp=E,38nm,19.6s,baz=28,slow=34						
TEIG	**Tepich**	**17.94**	**278**	P	**P**	**03 04 31.5**	**+0.8**
TEIG				*e*Pn	**Pn**	**03 04 33.3**	**+1.9**
TEIG	**Tepich**	**17.94**	**278**	P	**P**	**03 04 31.5**	**+0.8**
	comp=E,0.9nm,0.3s,baz=73,slow=9.4,SNR=13						
TIGA	**Tifton**	**18.03**	**317**	*e*P	**Pn**	**03 04 32.9**	**+0.5**
TIGA				*e*S	S	03 07 38.3	-15
TIGA	**Tifton**	**18.03**	**317**	P	**P**	**03 04 31.8**	**+0.2**
	baz=18						
CNNC	**Cliffs of the**	**18.07**	**337**	*e*P	**Pn**	**03 04 33.3**	**+0.6**
	comp=E,24nm,0.6s						
CNNC				*e*S	S	03 07 35.4	-18
GOGA	**Godfrey**	**19.30**	**322**	*e*P	**P**	**03 04 45.5**	**+0.1**
	comp=E,65nm,1.3s						
KMSC	**Kings Mountain**	**19.47**	**329**	*e*P	**P**	**03 04 48.2**	**+0.9**
KMSC				*e*S	**S**	**03 08 16.6**	**-5.8**
KMSC	**Kings Mountain**	**19.47**	**329**	P	**P**	**03 04 48.0**	**+0.7**
	baz=19,SNR=16						
JSRW	**J. Sargeant Re**	**20.27**	**340**	*e*P	Pn	03 04 59.5	+0.7
JSRW				*e*S	S	03 08 31.0	-7.1
OTAV	**Otavalo**	**20.51**	**207**	*e*P	**P**	**03 04 59.6**	**+0.4**
CBN	**Corbin**	**20.58**	**342**	*e*P	**P**	**03 05 00.6**	**+1.3**
	comp=E,32nm,0.5s						
CBN				*e*S	S	03 08 35.7	-8.6
VWCC	**Virginia Weste**	**20.63**	**335**	*e*P	**P**	**03 05 00.5**	**+0.7**
VWCC				*e*S	S	03 08 37.0	-8.3
BLA	**Blacksburg**	**20.78**	**334**	*e*P	**P**	**03 05 02.6**	**+1.1**
	comp=E,40nm,0.7s						
BLA				*e*S	**S**	**03 08 41.9**	**-6.4**
TKL	**Tuckaleechee C**	**21.12**	**326**	*e*P	**P**	**03 05 06.5**	**+1.4**
TKL				S	**S**	**03 08 51.9**	**-3.0**
TKL				*e*S	Sn	03 08 52.0	-15
TKL	**Tuckaleechee C**	**21.12**	**326**	P	**P**	**03 05 06.5**	**+1.4**
	comp=E,16nm,0.6s,baz=164,slow=9.3,SNR=38						
TKL				S	**S**	**03 08 51.9**	**-3.0**
	comp=E,7.4nm,0.3s,baz=62,slow=17,SNR=6.0						
LRAL	**Lakeview Retre**	**21.27**	**315**	*e*P	**P**	**03 05 07.7**	**+1.0**
	comp=E,21nm,0.9s						
CPCT	**Cooper Cave**	**21.37**	**324**	*e*P	**P**	**03 05 09.1**	**+1.2**
CPCT				*e*S	**S**	**03 08 55.3**	**-4.6**
SDMD	**Soldier's Deli**	**21.56**	**344**	*e*P	**P**	**03 05 10.5**	**+0.7**
	comp=E,22nm,0.7s						
SDMD				*e*S	**S**	**03 08 59.5**	**-3.9**
TZTN	**Tazewell**	**21.68**	**328**	*e*P	**P**	**03 05 12.3**	**+1.2**
	comp=E,31nm,0.9s						
TZTN				*e*S	**S**	**03 09 02.5**	**-3.2**
PLAL	**Pickwick Lake**	**23.18**	**318**	*e*P	**P**	**03 05 27.3**	**+0.8**
	comp=E,14nm,0.9s						
OXF	**Oxford**	**23.76**	**315**	*e*P	**P**	**03 05 33.1**	**+1.2**
	comp=E,46nm,1.0s						
WVT	**Waverly**	**23.77**	**320**	*e*P	**P**	**03 05 32.3**	**+0.4**
	comp=E,5.8nm,0.6s						
USIN	**University of**	**24.93**	**324**	*e*P	**P**	**03 05 45.3**	**+2.9**
	comp=E,50nm,0.8s						
SIUC	**Southern Illin**	**25.65**	**321**	*e*P	**P**	**03 05 50.6**	**+1.7**
	comp=E,32nm,1.1s						
SIUC				*e*pP	**pP**	**03 06 10.8**	**+1.0**
UALR	**University of**	**25.91**	**313**	*e*P	**P**	**03 05 53.5**	**+2.1**
UALR				*e*pP	pP	03 06 18.2	+6.0
SFIN	**Scholer Farm**	**26.40**	**328**	*e*P	**P**	**03 05 56.8**	**+1.2**
SFIN	**Scholer Farm**	**26.40**	**328**	P	**P**	**03 05 56.9**	**+1.2**
	baz=26						
HKT	**Hockley**	**26.53**	**300**	*e*P	**P**	**03 05 58.4**	**+1.6**
	comp=E,9.4nm,1.3s						
HKT				*e*pP	**pP**	**03 06 19.2**	**+1.5**
MIAR	**Mount Ida**	**26.67**	**311**	*e*pP	pP	03 06 22.4	+3.3
ATAH	**Atahualpa**	**27.28**	**200**	P	**P**	**03 06 04.3**	**+0.1**
ATAH				sP	**sP**	**03 06 35.9**	**-0.1**
ATAH	**Atahualpa**	**27.28**	**200**	P	**P**	**03 06 04.3**	**+0.1**
	comp=E,5.2nm,0.7s,baz=5.8,slow=8.1,SNR=3.2						
ATAH				sP	**sP**	**03 06 35.9**	**-0.1**
	comp=E,8.2nm,0.7s,baz=69,slow=6.0,SNR=3.9						
SAML	**Samuel**	**28.22**	**167**	*e*P	**P**	**03 06 11.1**	**-1.0**
	comp=E,11nm,0.6s						
SAML				*e*PcP	**PcP**	**03 09 23.5**	**-0.2**
TUL1	**Tulsa**	**28.92**	**312**	*e*P	**P**	**03 06 19.1**	**+0.9**
TUL1				*e*pP	**pP**	**03 06 40.5**	**+1.2**
TUL1	**Tulsa**	**28.92**	**312**	P	**P**	**03 06 19.4**	**+1.3**
	baz=29,SNR=7.4						
732A	**Laxson Ranch,**	**29.68**	**295**	P	**P**	**03 06 25.7**	**+0.6**
	baz=30						
632A	**Uvalde**	**29.70**	**297**	P	**P**	**03 06 26.6**	**+1.3**
	baz=30						
JFWS	**Jewell Farm**	**29.86**	**328**	*e*P	**P**	**03 06 27.2**	**+0.8**
	comp=E,9.3nm,0.6s						
532A	**Rocksprings**	**29.96**	**298**	P	**P**	**03 06 28.7**	**+1.2**
	baz=30						
JCT	**Junction City**	**29.97**	**299**	*e*P	**P**	**03 06 29.0**	**+1.3**
	comp=E,14nm,1.4s						
JCT	**Junction City**	**29.97**	**299**	P	**P**	**03 06 28.6**	**+1.0**
	baz=30						
432A	**Menard**	**30.07**	**299**	P	**P**	**03 06 29.6**	**+1.1**
	baz=30,SNR=7.6						
332A	**Millersview**	**30.18**	**300**	P	**P**	**03 06 30.3**	**+0.9**
	baz=30,SNR=6.4						
232A	**Coleman**	**30.25**	**301**	P	**P**	**03 06 30.8**	**+0.7**
	baz=30,SNR=5.6						
ABTX	**Abilene, Hawle**	**30.48**	**303**	*e*P	**P**	**03 06 33.1**	**+1.0**
ABTX	**Abilene, Hawle**	**30.48**	**303**	P	**P**	**03 06 33.4**	**+1.3**
	baz=30,SNR=7.0						
531A	**Rocksprings**	**30.51**	**298**	P	**P**	**03 06 33.2**	**+0.8**
	baz=30						
Z32A	**Haskell**	**30.59**	**304**	P	**P**	**03 06 34.4**	**+1.4**
	baz=30,SNR=6.2						
WMOK	**Wichita Mounta**	**30.59**	**307**	*e*P	**P**	**03 06 33.4**	**+0.4**
	comp=E,7.2nm,0.7s						
WMOK				*e*pP	**pP**	**03 06 53.9**	**-0.2**
431A	**Sonora**	**30.69**	**299**	P	**P**	**03 06 35.2**	**+1.1**
	baz=31,SNR=10						
331A	**San Angelo**	**30.71**	**300**	P	**P**	**03 06 35.1**	**+1.0**
	baz=31						
231A	**Bronte**	**30.81**	**301**	P	**P**	**03 06 35.4**	**+0.4**
	baz=31						
Y32A	**R-V Farms, Ver**	**30.81**	**305**	P	**P**	**03 06 35.8**	**+0.8**
	baz=31						
131A	**Roby**	**31.10**	**303**	P	**P**	**03 06 38.3**	**+0.8**
	baz=31						
Z31A	**Sharp Cattle R**	**31.11**	**304**	P	**P**	**03 06 38.6**	**+0.9**
	baz=31						
530A	**J-C Ranch, Com**	**31.17**	**297**	P	**P**	**03 06 39.2**	**+0.9**
	baz=31,SNR=9.1						
430A	**Baggett Ranch,**	**31.24**	**299**	P	**P**	**03 06 39.4**	**+0.5**
	baz=31						
330A	**Mertzon**	**31.36**	**300**	P	**P**	**03 06 40.5**	**+0.6**
	baz=31,SNR=11						
Y31A	**Rekieta Farm,**	**31.43**	**305**	P	**P**	**03 06 41.5**	**+1.0**
	baz=31						
230A	**Sterling City**	**31.44**	**301**	P	**P**	**03 06 41.2**	**+0.7**
	baz=31						
NNA	**Nana**	**31.47**	**194**	*e*P	**P**	**03 06 41.2**	**+0.2**
	comp=E,12nm,0.7s						
130A	**Snyder**	**31.53**	**302**	P	**P**	**03 06 42.3**	**+0.9**
	baz=32						
W31A	**Holland Ranch,**	**31.64**	**307**	P	**P**	**03 06 42.7**	**+0.4**
	baz=32						
429A	**Davenport Ran

427A	Hayter Ranch,	33.06 298	P	P	03 06 56.1 +1.2
	baz=33,SNR=8.0				
527A	Woodward Ranch	33.09 297	P	P	03 06 56.5 +1.4
	baz=33,SNR=32				
P31A	Stockton	33.17 315	P	P	03 06 56.4 +0.8
	baz=33				
R30A	Dighton	33.20 312	P	P	03 06 57.5 +1.6
	baz=33,SNR=7.1				
227A	Bennet, Jal	33.26 300	P	P	03 06 57.2 +0.7
	baz=33				
MSTX	Muleshoe	33.40 304	P	P	03 06 58.4 +0.6
	baz=33,SNR=8.8				
626A	Big Bend Ranch	33.41 295	P	P	03 06 59.1 +1.2
	baz=33,SNR=9.6				
526A	Mary Lane Ranc	33.48 296	P	P	03 07 00.2 +1.7
	baz=33,SNR=20				
Q30A	Quinter	33.48 313	P	P	03 06 59.7 +1.4
	baz=33,SNR=5.4				
127A	Arkansas Junct	33.49 301	P	P	03 06 58.9 +0.4
	baz=33,SNR=5.9				
S29A	Ulysses	33.50 311	P	P	03 06 59.7 +1.1
	baz=33				
426A	McDonald Obser	33.55 297	P	P	03 07 00.6 +1.4
	baz=34,SNR=17				
Z27A	Tatum	33.55 302	P	P	03 06 59.7 +0.6
	baz=34				
Y27A	Causey	33.68 303	P	P	03 07 01.0 +0.7
	baz=34,SNR=5.9				
P30A	Selden	33.77 314	P	P	03 07 01.5 +0.7
	baz=34				
U28A	Mallet	33.81 308	P	P	03 07 02.0 +0.7
	baz=34				
ECSD	EROS Data Cent	33.82 323	eP	P	03 07 01.8 +0.6
	comp=E,61nm,2.1s				
Q29A	Oakley	33.96 313	P	P	03 07 03.6 +1.0
	baz=34				
W27A	Bowe Ranch, En	33.98 305	P	P	03 07 03.9 +1.1
	baz=34				
226B	Tecolote Peak,	33.99 300	P	P	03 07 03.8 +0.9
	baz=34				
126A	Clayton Basin,	34.02 301	P	P	03 07 03.9 +0.8
	baz=34,SNR=7.9				
T28A	Walsh	34.02 309	P	P	03 07 03.9 +0.8
	baz=34				
V27A	Dan Oppiter Fa	34.05 307	P	P	03 07 03.8 +0.5
	baz=34				
Z26A	Caprock	34.15 302	P	P	03 07 04.6 +0.3
	baz=34				
EYMN	Ely	34.23 333	eP	P	03 07 05.2 +0.6
	comp=E,4.4nm,0.7s				
U27A	Thompson Grove	34.28 308	P	P	03 07 06.2 +0.8
	baz=34,SNR=8.0				
R28A	Tribune	34.30 311	P	P	03 07 06.4 +0.9
	baz=34,SNR=11				
425A	Indio Mountain	34.38 297	P	P	03 07 08.1 +1.7
	baz=34,SNR=16				
X26A	CR and CF Fran	34.40 304	P	P	03 07 06.8 +0.4
	baz=34				
O29A	4D Ranch, Culb	34.42 315	P	P	03 07 07.6 +1.2
	baz=34				
325A	Bean Ranch, Si	34.49 298	P	P	03 07 08.9 +1.6
	baz=34,SNR=17				
125A	Gardner Draw,	34.54 301	P	P	03 07 08.3 +0.7
	baz=34,SNR=6.1				
225A	Deer Hill, Car	34.54 300	P	P	03 07 09.2 +1.5
	baz=34,SNR=10				
Q28A	Sharon Springs	34.63 313	P	P	03 07 08.9 +0.5
	baz=35				
Z25A	Roswell	34.75 302	P	P	03 07 10.8 +1.3
	baz=35,SNR=6.7				
V26A	Tequesquite Ra	34.78 306	P	P	03 07 10.9 +1.2
	baz=35				
P28A	Saint Francis	34.81 313	P	P	03 07 10.9 +1.0
	baz=35				
LPAZ	La Paz	34.88 178	eP	P	03 07 10.2 -1.0
	comp=E,35nm,2.3s				
LPAZ	La Paz	34.88 178	P	P	03 07 10.3 -0.8
	comp=E,1.6nm,0.6s,baz=268,slow=1.7,SNR=12				
LPAZ			LR	LR	03 23 52.1
	comp=E,50nm,20.1s,baz=71,slow=40				
MNTX	Cornudas Mount	34.91 299	eP	P	03 07 11.9 +1.2
	comp=E,12nm,0.9s				
324A	Moseley Ranch,	34.93 298	P	P	03 07 12.4 +1.3
	baz=35,SNR=8.8				
U26A	Atchley Ranch,	34.96 307	P	P	03 07 12.2 +0.9
	baz=35,SNR=6.3				
R27A	Eads	34.99 311	P	P	03 07 12.0 +0.5
	baz=35				
224A	Cornudas Mount	35.11 299	P	P	03 07 13.8 +1.2
	baz=35,SNR=12				
W25A	X Bar L Ranch,	35.11 305	P	P	03 07 13.5 +0.9
	baz=35				
124A	Stringfield Ra	35.20 300	P	P	03 07 14.7 +1.2
	baz=35,SNR=7.1				
Z24A	Sheeppen Canyo	35.29 301	P	P	03 07 15.8 +1.6
	baz=35,SNR=9.4				
V25A	Rancho No Teng	35.43 306	P	P	03 07 17.1 +1.7
	baz=35,SNR=5.4				
U25A	Circle Dot Ran	35.46 307	P	P	03 07 16.5 +0.8
	baz=35				
SIV	San Ignacio	35.50 166	P	P	03 07 14.8 -1.1
SIV	San Ignacio	35.50 166	P	P	03 07 14.8 -1.1
	comp=E,4.7nm,0.7s,baz=14,slow=9.7,SNR=20				
Y24A	Capitan	35.50 302	P	P	03 07 17.3 +1.3
	baz=35				
Q26A	Hugo	35.76 311	P	P	03 07 19.6 +1.4
	baz=36				
W24A	Lazy 6 Ranch,	35.85 305	P	P	03 07 20.8 +1.8
	baz=36				
N27A	Anderson Farm,	35.91 315	P	P	03 07 19.9 +0.6
	baz=36				
S25A	Robets Cordova	35.93 309	P	P	03 07 20.9 +1.3
	baz=36				
Z23A	Rita Site, Whi	35.97 301	P	P	03 07 21.3 +1.3
	baz=36				
Y23A	Lovelace Mesa,	36.00 302	P	P	03 07 21.6 +1.3
	baz=36				
R25A	Fountain Ranch	36.01 310	P	P	03 07 21.2 +0.9
	baz=36				
W23A	Werner Place,	36.41 304	P	P	03 07 25.4 +1.6
	baz=36				
T24B	San Luis	36.42 308	P	P	03 07 25.3 +1.3
	baz=36				
P25A	Willow Gulch B	36.46 312	P	P	03 07 25.1 +0.9
	baz=36				
122A	Conniff Cattle	36.47 300	P	P	03 07 26.2 +2.0
	baz=36				
ANMO	Albuquerque	36.59 304	eP	P	03 07 26.6 +1.3
	comp=E,7.5nm,1.4s				
ANMO			epP	pP	03 07 48.5 +1.6
I28A	Midland	36.65 320	P	P	03 07 26.1 +0.6
	baz=37				
Y22A	Socorro	36.73 302	P	P	03 07 28.1 +1.7
	baz=37				
SDCO	Great Sand Dun	36.75 309	eP	P	03 07 27.7 +1.0
	comp=E,3.1nm,0.8s				
SDCO			epP	pP	03 07 49.0 +0.8
SDCO			esP	sP	03 07 59.1 +0.1
U23A	El Rito	36.80 306	P	P	03 07 28.6 +1.5
	baz=37				
T23A	Casias Ranch,	36.91 307	P	P	03 07 29.4 +1.3
	baz=37				
Q24A	Divide	36.95 311	P	P	03 07 28.5 +0.1
	baz=37				
G28A	Parade	37.10 322	P	P	03 07 30.0 +0.8
	baz=37				
R23A	Moffat	37.15 309	P	P	03 07 31.3 +1.2
	baz=37				
Z21A	St. Cloud Mine	37.15 301	P	P	03 07 31.4 +1.3
	baz=37				
V22A	San Miguel Ran	37.23 305	P	P	03 07 32.5 +1.7
	baz=37				
Y21A	Point of Rocks	37.32 302	P	P	03 07 33.1 +1.6
	baz=37				
U22A	Llaves	37.32 306	P	P	03 07 33.1 +1.5
	baz=37				
N24A	Carr	37.51 314	P	P	03 07 34.3 +1.3
	baz=37				
X21A	Alamocita Cree	37.52 302	P	P	03 07 34.9 +1.7
	baz=38,SNR=7.2				
220A	Playas Peak, P	37.57 298	P	P	03 07 35.0 +1.4
	baz=38				
P23A	Jefferson	37.60 311	P	P	03 07 35.2 +1.3
	baz=38				
ISCO	Idaho Springs	37.60 312	eP	P	03 07 34.9 +1.0
	comp=E,6.8nm,0.9s				
ISCO			epP	pP	03 07 56.4 +0.9
ISCO			esP	sP	03 08 06.3 +0.1
ISCO	Idaho Springs	37.60 312	P	P	03 07 35.6 +1.7
	baz=38,SNR=9.9				
S22A	4UR Ranch, Cre	37.74 308	P	P	03 07 36.3 +1.2
	baz=38				
M24A	Cheyenne	37.75 315	P	P	03 07 36.3 +1.3
	baz=38				
G27A	Dupree	37.86 322	P	P	03 07 37.0 +1.3
	baz=38,SNR=11				
Y20A	Horse Springs,	37.86 301	P	P	03 07 37.7 +1.6
	baz=38				
Z20A	Nine Sixteen R	37.86 300	P	P	03 07 37.8 +1.8
	baz=38				
ULM	Lac du Bonnet	37.87 332	P	P	03 07 34.8 -0.8
ULM			pP	pP	03 07 56.4 -0.8
ULM	Lac du Bonnet	37.87 332	P	P	03 07 34.8 -0.8
	comp=E,5.6nm,0.9s,baz=141,slow=7.3,SNR=4.0				
ULM			pP	pP	03 07 56.4 -0.8
	comp=E,2.8nm,0.5s,baz=135,slow=15,SNR=2.1				
U21A	Nageezi	37.96 306	P	P	03 07 38.0 +1.1
	baz=38				
O23A	Lake Granby, G	37.98 312	P	P	03 07 38.4 +1.4
	baz=38				
319A	Douglas	38.11 297	P	P	03 07 40.3 +2.2
	baz=38,SNR=5.7				
X20A	Quemado	38.11 302	P	P	03 07 39.8 +1.6
	baz=38				
Q22A	Crested Butte,	38.18 310	P	P	03 07 40.2 +1.3
	baz=38				
G26A	Maurine	38.21 321	P	P	03 07 39.3 +0.7
	baz=38				
I25A	Rochford	38.24 319	P	P	03 07 39.7 +0.6
	baz=38				
E27A	Carson	38.25 323	P	P	03 07 40.2 +1.3
	baz=38				
B29A	Wagenman Farm,	38.30 327	P	P	03 07 40.1 +0.8
	baz=38				
M23A	Laramie	38.36 314	P	P	03 07 40.7 +0.6
	baz=38				
O22A	Kremmling	38.40 312	P	P	03 07 41.4 +0.7
	baz=38				
S21A	Coal Bank Pass	38.44 307	P	P	03 07 42.1 +1.1
	baz=38				
A29A	Manning Farm,	38.54 328	P	P	03 07 42.0 +0.7
	baz=38				
F26A	Lodgepole	38.56 322	P	P	03 07 42.4 +0.9
	baz=38				
N22A	Wattenberg Ran	38.59 313	P	P	03 07 42.9 +0.8
	baz=38				
L23A	Garrett	38.62 315	P	P	03 07 43.5 +1.1
	baz=38,SNR=5.1				
E26A	Carlson Angus	38.78 323	P	P	03 07 44.2 +0.7
	baz=39				
Q20A	Ridgley Place,	39.23 309	P	P	03 07 49.3 +1.9
	baz=39,SNR=11				
X18A	Snowflake	39.27 302	P	P	03 07 49.7 +1.9
	baz=39				
N21A	Black Mountain	39.32 312	P	P	03 07 49.6 +1.4
	baz=39				
K22A	Casper	39.40 315	P	P	03 07 49.8 +1.0
	baz=39				
P20A	De Beque	39.48 310	P	P	03 07 51.2 +1.7
	baz=39,SNR=7.0				
TUC	Tucson	39.53 298	eP	P	03 07 52.1 +2.2
M21A	Separation Pea	39.54 313	P	P	03 07 50.5 +0.5
	baz=40				
L21A	Rawlins	39.69 314	P	P	03 07 51.2 0.0
	baz=40,SNR=5.2				
J22A	Midwest	39.70 316	P	P	03 07 52.1 +0.8
	baz=40,SNR=7.6				
K21A	Alcova	39.88 315	P	P	03 07 54.1 +1.3
	baz=40,SNR=18				
BDFB	Brasilia	40.13 147	P	P	03 07 53.1 -1.8
BDFB	Brasilia	40.13 147	P	P	03 07 53.1 -1.8
	comp=E,2.3nm,0.8s,baz=342,slow=17,SNR=4.7				
BDFB			LR	LR	03 25 12.4
	comp=E,67nm,18.1s,baz=266,slow=37				
J21A	Lysite	40.31 316	P	P	03 07 57.3 +1.0
	baz=40,SNR=6.5				
L20A	Wamsutter	40.37 314	P	P	03 07 57.8 +1.0
	baz=40				
I21A	Big Trails, Te	40.41 317	P	P	03 07 57.2 +0.1
	baz=40				
G22A	Birney	40.42 319	P	P	03 07 57.3 +0.2
	baz=40				
K20A	Yellowstone Ra	40.62 314	P	P	03 07 59.5 +0.6
	baz=40				
F22A	Rosebud	40.66 320	P	P	03 08 00.0 +1.0
	baz=41,SNR=7.8				
E22A	Miles City	40.80 321	P	P	03 08 01.0 +0.8
	baz=41				
DGMT	Dagmar	40.88 324	P	P	03 08 01.6 +0.9
	baz=41				
SRU	San Rafael	40.92 309	eP	P	03 08 03.1 +1.7
K19A	Absolon Red Bu	41.03 314	P	P	03 08 02.4 +0.1
	baz=41				
L19A	Farson	41.10 313	P	P	03 08 03.6 +0.7
	baz=41				
LVC	Limon Verde	41.15 179	eP	P	03 08 01.2 -2.2
	comp=E,5.3nm,0.6s				
H20A	Greybull	41.16 317	P	P	03 08 03.3 +0.1
	baz=41				
J19A	Crowheart	41.34 315	P	P	03 08 06.0 +1.1
	baz=41,SNR=6.2				
TMUT	Trail Mountain	41.49 309	eP	P	03 08 07.7 +1.5
	comp=E,6.5nm,0.9s				
TMUT			epP	pP	03 08 28.8 +0.7
BW06	Boulder Array	41.49 314	eP	P	03 08 06.1 0.0
	comp=E,5.4nm,1.3s				
BW06			epP	pP	03 08 27.6 -0.4
BW06			esP	sP	03 08 38.1 -0.6
PDAR	Pinedale Array	41.49 314	P	P	03 08 06.8 +0.6
PDAR			pP	pP	03 08 28.4 +0.5
PDAR			PcP	PcP	03 10 02.4 +0.3
PDAR	Pinedale Array	41.49 314	P	P	03 08 06.8 +0.6
	comp=E,1.8nm,0.9s,baz=120,slow=5.3,SNR=11				
PDAR			pP	pP	03 08 28.4 +0.5
	comp=E,0.7nm,0.5s,baz=117,slow=8.0,SNR=3.3				
PDAR			PcP	PcP	03 10 02.4 +0.3
	comp=E,0.9nm,0.9s,baz=115,slow=6.5,SNR=3.4				
L18A	Fontenelle, Gr	41.51 313	P	P	03 08 07.1 +0.9
	baz=41				
U15A	North Rim	41.56 304	P	P	03 08 08.8 +2.0
	baz=42				
I19A	Meeteetse	41.62 316	P	P	03 08 07.8 +0.7
	baz=42				
G20A	Bridger	41.62 318	P	P	03 08 07.4 +0.4
	baz=42				
D21A	La Casta Ranch	41.74 321	P	P	03 08 09.5 +1.7
	baz=42				
H19A	Powell	41.88 317	P	P	03 08 10.0 +0.9
	baz=42				
I18A	Diamond G Ranc	42.03 315	P	P	03 08 11.9 +1.4
	baz=42,SNR=6.6				
A22A	Carney Farms,	42.12 324	P	P	03 08 12.7 +1.8
	baz=42				
E20A	Meyer Farm, Mu	42.16 320	P	P	03 08 12.4 +1.1
	baz=42				
C21A	Desert Coulee	42.18 322	P	P	03 08 12.6 +1.2
	baz=42				
RLMT	Red Lodge	42.25 317	eP	P	03 08 12.7 +0.4
	comp=E,4.6nm,0.6s				
H18A	Shoshone NF, C	42.32 317	P	P	03 08 13.2 +0.3
	baz=42,SNR=8.2				
F19A	Roth Farm, Mol	42.36 319	P	P	03 08 13.6 +0.6
	baz=42				
HWUT	Hardware Ranch	42.47 312	eP	P	03 08 13.9 -0.2
	comp=E,2.3nm,0.8s				
HWUT			epP	pP	03 08 36.1 +0.1
HWUT			esP	sP	03 08 46.2 -0.5
LOHW	Long Hollow	42.52 315	eP	P	03 08 14.9 +0.5
	comp=E,8.4nm,1.0s				
LOHW			epP	pP	03 08 36.4 0.0
LOHW			esP	sP	03 08 45.3 -1.8
G18A	Lazy EL Ranch,	42.52 318	P	P	03 08 15.1 +0.7
	baz=42				
E19A	Rath Farm, Rou	42.54 319	P	P	03 08 15.9 +1.5
	baz=42,SNR=9.7				
W13A	Hualapai Mount	42.56 302	P	P	03 08 16.5 +1.6
	baz=42				
REDW	Red Top Meadow	42.59 314	eP	P	03 08 15.4 +0.3
	comp=E,10nm,1.1s				
REDW			epP	pP	03 08 37.4 +0.4
REDW			esP	sP	03 08 47.8 +0.1
MOOW	Moose Ponds	42.67 315	eP	P	03 08 16.7 +1.0
	comp=E,4.0nm,0.8s				
ARUT	Antelope Range	42.77 306	eP	P	03 08 17.8 +1.3
	comp=E,1.7nm,0.4s				
F18A	Big Timber	42.87 318	P	P	03 08 18.3 +1.2
	baz=43,SNR=5.9				
RRI2	Red Ridge	42.91 314	eP	P	03 08 17.9 +0.3
	comp=E,4.1nm,0.8s				
RRI2			epP	pP	03 08 39.8 +0.1
D19A	Cripps Ranch,	42.92 320	P	P	03 08 18.6 +1.2
	baz=43				
DUG	Dugway	42.93 309	eP	P	03 08 19.0 +1.3
	comp=E,37nm,2.2s				
DUG			epP	pP	03 08 40.5 +0.8
DUG			esP	sP	03 08 50.9 +0.5
DUG	Dugway	42.93 309	P	P	03 08 18.9 +1.2
	baz=43,SNR=5.4				
A20A	Cobblestone Ra	43.19 323	P	P	03 08 21.2 +1.7
	baz=43				
E18A	Harlowton	43.28 319	P	P	03 08 21.5 +1.0
	baz=43				
IRM	Iron Mountain	43.43 300	P	P	03 08 23.7 +2.0
	baz=43,SNR=8.0				
F17A	Fitzpatrick Pl	43.47 318	P	P	03 08 23.8 +1.8
	baz=43,SNR=6.1				
LDFC	Landfair	43.55 301	eP	P	03 08 25.2 +2.5
	comp=E,8.9nm,1.0s				
FFC	Flin Flon	43.66 333	eP	P	03 08 23.3 +0.1
	comp=E,9.0nm,0.8s				
FCC	Fort Churchill	43.82 342	eP	P	03 08 23.9 -0.5
	comp=E,1.0nm,1.0s				
E17A	Martinsdale	43.83 319	P	P	03 08 26.6 +1.8
	baz=44,SNR=5.9				
EGMT	Eagleton	43.84 321	P	P	03 08 26.6 +1.8
	baz=44				
SHPR	Sheep Range	43.84 303	eP	P	03 08 27.5 +2.4
	comp=E,1.8nm,0.8s				
GMRC	Granite Mounta	43.94 301	P	P	03 08 27.8 +1.8
	baz=44				
BOZ	Bozeman (W)	43.98 317	eP	P	03 08 26.9 +0.8
	comp=E,2.1nm,0.7s				
BOZ			epP	pP	03 08 48.4 +0.2
BOZ			esP	sP	03 08 59.0 +0.1
D17A	Six Diamond Ra	44.02 320	P	P	03 08 27.8 +1.5
	baz=44				
B18A	Beardsley Farm	44.03 322	P	P	03 08 28.3 +2.0
	baz=44				
TUQ	Turquoise Moun	44.26 302	P	P	03 08 30.8 +2.3
	baz=44,SNR=7.0				
MONP	Monument Peak	44.32 298	P	P	03 08 31.2 +2.2
	baz=44				
MCMT	McKenzie Canyo	44.47 316	eP	P	03 08 30.9 +0.8
	comp=E,1.2nm,0.9s				
MCMT			epP	pP	03 08 52.7 +0.4
MCMT			esP	sP	03 09 03.4 +0.5
HEC	Hector,Ludlow	44.50 301	P	P	03 08 32.6 +2.3
	baz=44				
R11A	Troy Canyon, C	44.55 306	P	P	03 08 31.6 +0.8
	baz=44				
SHOC	Shoshone	44.62 302	P	P	03 08 32.6 +1.4
	baz=44				
GSC	Goldstone	44.95 301	P	P	03 08 35.6 +1.7
	baz=45				
MURC	Murrieta	45.05 299	P	P	03 08 36.5 +1.9
	baz=45				
HLID	Hailey	45.10 313	P	P	03 08 36.1 +1.1
	baz=45				
FURC	Furnace Creek,	45.18 303	P	P	03 08 37.8 +2.2
	baz=45				
MPMC	Manual Prospec	45.62 302	P	P	03 08 41.2 +1.9
	baz=46				
GRAC	Grapevine Rang	45.68 304	P	P	03 08 41.9 +2.4
	baz=46				
LRMC	Laurel Mountai	45.69 301	P	P	03 08 41.7 +1.9
	baz=46				
EDW2	Edwards Air Fo	45.85 301	P	P	03 08 43.0 +2.0
	baz=46				
MFID	Camas Ranch	46.03 313	P	P	03 08 43.3 +1.0
	baz=46				
SWMT	Swartz Lake	46.22 319	eP	P	03 08 44.4 +0.7
SWMT			epP	pP	03 09 06.6 +0.6
SWMT			esP	sP	03 09 16.9 +0.3
CPUP	Villa Florida	46.34 165	eP	P	03 08 42.5 -2.2
	comp=E,11nm,0.5s				
CPUP			epP	pP	03 09 05.0 -1.9
CPUP			esP	sP	03 09 15.0 -2.5
CPUP			ePcP	PcP	03 10 17.8 -0.6
CPUP	Villa Florida	46.34 165	P	P	03 08 42.3 -2.3
	comp=E,0.9nm,0.3s,baz=334,slow=7.4,SNR=12				
CPUP			PcP	PcP	03 10 18.6 +0.2
	comp=E,1.8nm,0.6s,baz=344,slow=2.1,SNR=3.6				
CPUP			LR	LR	03 27 53.9
	comp=E,70nm,18.8s,baz=192,slow=36				
NV11	Mina Array Sit	46.54 305	eP	P	03 08 47.8 +1.4
NVAR	Mina Array Bea	46.66 305	P	P	03 08 49.2 +1.8
NVAR			pP	pP	03 09 10.9 +1.2
NVAR			sP	sP	03 09 21.6 +1.3
NVAR	Mina Array Bea	46.66 305	P	P	03 08 49.2 +1.8
	comp=E,4.2nm,0.8s,baz=116,slow=8.1,SNR=26				
NVAR			pP	pP	03 09 10.9 +1.2
	comp=E,3.6nm,0.8s,baz=107,slow=6.0,SNR=7.1				
NVAR			sP	sP	03 09 21.6 +1.3
	comp=E,3.4nm,0.8s,baz=105,slow=6.7,SNR=4.5				
LCO	Las Campanas	47.54 182	eP	P	03 08 52.9 -1.4
	comp=E,12nm,0.9s				
EDM	Edmonton	48.30 326	eP	P	03 08 59.4 -0.2
NEW	Newport	48.45 319	P	P	03 09 01.6 +0.7
	baz=48,SNR=5.8				
YKA	Yellowknife Ar	53.63 336	P	P	03 09 39.6 +0.2
YKA			pP	pP	03 10 02.0 -0.2
YKA	Yellowknife Ar	53.63 336	P	P	03 09 39.6 +0.2
	comp=E,3.3nm,1.0s,baz=110,slow=6.8,SNR=4.0				
YKA			pP	pP	03 10 02.0 -0.2
	comp=E,3.6nm,0.7s,baz=109,slow=7.2,SNR=4.8				
SUMG	Summit	56.61 11	*i P*	pP	03 10 21.4 -2.8
SUMG	Summit	56.61 11	eP	P	03 10 01.2 0.0
	comp=E,6.9nm,0.6s				
SUMG			epP	pP	03 10 24.1 -0.1
PLCA	Paso Flores	59.23 181	eP	P	03 10 18.1 -1.3
	comp=E,4.6nm,0.8s				
PLCA	Paso Flores	59.23 181	P	P	03 10 17.4 -2.0
	comp=E,5.0nm,0.8s,baz=14,slow=8.6,SNR=7.0				
ESDC	Sonseca Array	59.43 55	P	P	03 10 22.1 +1.1
ESDC			pP	pP	03 10 44.4 +0.1
ESDC	Sonseca Array	59.43 55	P	P	03 10 22.1 +1.1
	comp=E,3.7nm,0.7s,baz=275,slow=7.2,SNR=29				
ESDC			pP	pP	03 10 44.4 +0.1
	comp=E,1.2nm,0.7s,baz=274,slow=7.3,SNR=3.7				
ROSF	Rostrenen	60.31 45⇑	*i P*	P	03 10 27.9 +1.1
	comp=E,3.6nm,0.6s				
ROSF	Rostrenen	60.31 45⇑	*i P*	P	03 10 27.9 +1.1
QUIF	Quistinic	60.35 45	eP	P	03 10 28.1 +1.0
QUIF	Quistinic	60.35 45	eP	P	03 10 28.1 +1.0
SGMF	Saint Gilles	60.78 45	eP	P	03 10 30.9 +0.9
SGMF	Saint Gilles	60.78 45	eP	P	03 10 30.9 +0.9
SJPF	Ste Jean	61.51 51⇑	*i P*	P	03 10 36.5 +1.4
	comp=E,28nm,1.0s				
SJPF	Ste Jean	61.51 51⇑	*i P*	P	03 10 36.5 +1.4
GRR	Gorron	61.92 45⇑	*i P*	P	03 10 38.7 +1.0
	comp=E,14nm,0.7s				
GRR	Gorron	61.92 45⇑	*i P*	P	03 10 38.7 +1.0
ETSF	Etsaut	62.00 51	eP	P	03 10 39.5 +1.1
ETSF	Etsaut	62.00 51	eP	P	03 10 39.5 +1.1
FLN	La Foliniere	62.19 44⇑	*i P*	P	03 10 40.5 +1.0
	comp=E,21nm,0.8s				
FLN	La Foliniere	62.19 44⇑	*i P*	P	03 10 40.5 +1.0
MFF	Saint Martin d	62.34 47⇑	*i P*	P	03 10 41.6 +1.1
	comp=E,23nm,0.6s				
MFF	Saint Martin d	62.34 47⇑	*i P*	P	03 10 41.6 +1.1
LDF	La Druitiere	62.42 44⇑	*i P*	P	03 10 42.1 +1.0
	comp=E,17nm,0.7s				
LDF	La Druitiere	62.42 44⇑	*i P*	P	03 10 42.1 +1.0
EPF	Esparros	62.66 51⇑	*i P*	P	03 10 44.2 +1.4
	comp=E,16nm,0.7s				
EPF	Esparros	62.66 51⇑	*i P*	P	03 10 44.2 +1.4
LFF	La Frestale	62.93 49⇑	*i P*	P	03 10 45.4 +0.9
	comp=E,12nm,0.6s				
LFF	La Frestale	62.93 49⇑	*i P*	P	03 10 45.4 +0.9
RJF	Les Rejaudoux	63.48 48⇑	*i P*	P	03 10 48.9 +0.7
	comp=E,17nm,0.9s				
RJF	Les Rejaudoux	63.48 48⇑	*i P*	P	03 10 48.9 +0.7
TIC	Toumodi	63.57 92	eP	P	03 10 48.9 -0.3
	comp=E,5.1nm,0.2s				
LIC	Lamto	63.69 92⇑	*i P*	P	03 10 49.9 -0.1
	comp=E,14nm,0.7s,baz=276				
LIC	Lamto	63.69 92	eP	P	03 10 49.6 -0.4
	comp=E,23nm,0.7s				
LIC	Lamto	63.69 92⇑	*i P*	P	03 10 49.9 -0.1
DBIC	Dimbokro	63.72 92	eP	P	03 10 49.7 -0.5
	comp=E,7.9nm,0.6s				

DBIC	Dimbokro	63.72	92	P		P	03 10 50.1	-0.1
	comp=E,6.7nm,0.6s,baz=286,slow=7.2,SNR=18							
CAF	Calviac	63.88	49	⇑	*i* P	P	03 10 51.6	+0.8
	comp=E,13nm,0.7s							
CAF	Calviac	63.88	49	⇑	*i* P	P	03 10 51.6	+0.8
KIC	Kosan Boka	63.92	92	*e* P		P	03 10 51.5	0.0
	comp=E,48nm,1.0s							
TCF	Toulx Ste Croi	63.96	47	⇑	*i* P	P	03 10 52.0	+0.7
	comp=E,19nm,1.0s							
TCF	Toulx Ste Croi	63.96	47	⇑	*i* P	P	03 10 52.0	+0.7
MTLF	Montolieu	64.02	50	⇑	*i* P	P	03 10 52.6	+0.9
	comp=E,17nm,1.0s							
MTLF	Montolieu	64.02	50	⇑	*i* P	P	03 10 52.6	+0.9
HYF	Humbligny	64.25	46	*e* P		P	03 10 54.1	+0.9
HYF	Humbligny	64.25	46	*e* P		P	03 10 54.1	+0.9
BGF	Bois d'Agland	64.40	47	⇑	*i* P	P	03 10 54.7	+0.6
	comp=E,11nm,0.6s							
BGF	Bois d'Agland	64.40	47	⇑	*i* P	P	03 10 54.7	+0.6
AVF	Avril sur Loir	64.75	46	⇑	*i* P	P	03 10 56.8	+0.4
	comp=E,11nm,0.8s							
AVF	Avril sur Loir	64.75	46	⇑	*i* P	P	03 10 56.8	+0.4
SSF	Saint Saulge	64.84	46	⇑	*i* P	P	03 10 57.4	+0.4
	comp=E,14nm,1.2s							
SSF	Saint Saulge	64.84	46	⇑	*i* P	P	03 10 57.4	+0.4
LOR	Lormes	65.08	46	⇑	*i* P	P	03 10 59.0	+0.4
	comp=E,17nm,0.6s							
LOR	Lormes	65.08	46	⇑	*i* P	P	03 10 59.0	+0.4
SMF	Signal de Mont	65.08	47	⇑	*i* P	P	03 10 59.1	+0.5
	comp=E,16nm,0.8s							
SMF	Signal de Mont	65.08	47	⇑	*i* P	P	03 10 59.1	+0.5
LASF	Ste Croix	65.18	49	*e* P		P	03 11 00.4	+1.1
	comp=E,26nm,1.3s							
LASF	Ste Croix	65.18	49	*e* P		P	03 11 00.4	+1.1
BAIF	Baives	65.29	43	*e* P		P	03 11 00.4	+0.6
	comp=E,6.9nm,0.8s							
BAIF	Baives	65.29	43	*e* P		P	03 11 00.4	+0.6
DOU	Dourbes	65.54	43	P		P	03 11 02.0	+0.6
GIVF	Givet	65.68	43	⇑	*i* P	P	03 11 03.1	+0.7
	comp=E,16nm,0.7s							
GIVF	Givet	65.68	43	⇑	*i* P	P	03 11 03.1	+0.7
VIVF	Saint-Julien-l	65.73	49	*e* P		P	03 11 04.3	+1.5
	comp=E,24nm,1.0s							
VIVF	Saint-Julien-l	65.73	49	*e* P		P	03 11 04.3	+1.5
SFTF	Sexfontaines	65.86	45	*e* P		P	03 11 03.5	0.0
	comp=E,15nm,0.7s							
SFTF	Sexfontaines	65.86	45	*e* P		P	03 11 03.5	0.0
MEZF	Maizieres J'vi	65.86	45	⇑	*i* P	P	03 11 04.4	+0.9
	comp=E,32nm,0.7s							
MEZF	Maizieres J'vi	65.86	45	⇑	*i* P	P	03 11 04.4	+0.9
PAGF	Fort de Pagny	66.30	45	⇑	*i* P	P	03 11 07.2	+0.8
	comp=E,2.9nm,0.7s							
PAGF	Fort de Pagny	66.30	45	⇑	*i* P	P	03 11 07.2	+0.8
MEM	Membach	66.43	42	P		P	03 11 08.4	+1.2
	comp=Z,5.6nm,1.2s							
WLF	Walferdange	66.55	43	P		P	03 11 09.3	+1.4
	comp=Z,9.6nm,2.0s							
WLF	Walferdange	66.55	43	*e* P		P	03 11 08.8	+0.9
	comp=Z,6.5nm,0.8s							
ORIF	Oris-en-Rattie	66.58	48	*e* P		P	03 11 09.9	+1.5
	comp=Z,14nm,1.0s							
ORIF	Oris-en-Rattie	66.58	48	*e* P		P	03 11 09.9	+1.5
CABF	La Chapelle	66.63	47	*e* P		P	03 11 09.2	+0.6
CABF	La Chapelle	66.63	47	*e* P		P	03 11 09.2	+0.6
HAU	Haudompre	66.74	45	*e* P		P	03 11 09.6	+0.4
	comp=Z,7.1nm,0.6s							
HAU	Haudompre	66.74	45	*e* P		P	03 11 09.6	+0.4
HINF	Hinteralfeld	67.09	45	⇑	*i* P	P	03 11 11.5	0.0
	comp=Z,3.5nm,0.7s							
HINF	Hinteralfeld	67.09	45	⇑	*i* P	P	03 11 11.5	0.0
LPL	La Plagne	67.15	48	⇑	*i* P	P	03 11 13.3	+1.2
	comp=Z,14nm,0.8s							
LPL	La Plagne	67.15	48	⇑	*i* P	P	03 11 13.3	+1.2
LPG	La Plagne	67.16	48	*e* P		P	03 11 13.5	+1.2
	comp=Z,14nm,0.9s							
LPG	La Plagne	67.16	48	*e* P		P	03 11 13.5	+1.2
MBDF	Montbardon	67.23	49	*e* P		P	03 11 13.0	+0.5
	comp=Z,8.0nm,0.9s							
MBDF	Montbardon	67.23	49	*e* P		P	03 11 13.0	+0.5
CDF	Champ du Feu	67.34	45	⇑	*i* P	P	03 11 13.5	+0.4
CDF	Champ du Feu	67.34	45	⇑	*i* P	P	03 11 13.5	+0.4
ILAR	Eielson Array	67.88	333	P		P	03 11 16.1	0.0
ILAR				pP		pP	03 11 38.9	-0.8
ILAR	Eielson Array	67.88	333	P		P	03 11 16.1	0.0
	comp=Z,0.2nm,0.6s,baz=81,slow=5.5,SNR=4.3							
ILAR				pP		pP	03 11 38.9	-0.8
	comp=Z,1.2nm,0.9s,baz=99,slow=5.4,SNR=8.7							
TOA0	Torodi Ar. Sit	68.11	83	*e* P		P	03 11 18.0	-0.4
TOA0				*e*pP		pP	03 11 41.7	-0.4
TOA0				*e*sP		sP	03 11 52.2	-0.1
TORD	Torodi Ar. Bea	68.11	83	P		P	03 11 17.8	-0.6
TORD				pP		pP	03 11 41.6	-0.5
TORD	Torodi Ar. Bea	68.11	83	P		P	03 11 17.8	-0.6
	comp=Z,8.1nm,1.0s,baz=290,slow=6.5,SNR=31							
TORD				pP		pP	03 11 41.6	-0.5
	comp=Z,1.3nm,0.6s,baz=298,slow=7.0,SNR=4.1							
NAO01	NORSAR Array S	69.01	31	*e* P		P	03 11 23.7	+0.5
	comp=Z,12nm,1.1s							
NB2	NORSAR Subarra	69.17	31	P		P	03 11 25.6	+1.4
	comp=Z,0.9nm,0.7s,baz=272,slow=6.9							
NOA	NORSAR Array B	69.17	31	P		P	03 11 25.9	+1.8
NOA				pP		pP	03 11 49.2	+1.2
NOA	NORSAR Array B	69.17	31	P		P	03 11 25.9	+1.8
	comp=Z,2.4nm,0.8s,baz=272,slow=6.4,SNR=6.5							
NOA				pP		pP	03 11 49.2	+1.2
	comp=Z,1.2nm,0.7s,baz=272,slow=6.5,SNR=3.2							
DAVA	Damuels	69.17	46	⇑	*i* P	P	03 11 25.7	+1.0
	comp=Z,4.5nm,0.9s,SNR=4.3							
TAM	Tamanrasset	69.38	72	*e* P		P	03 11 27.9	+1.6
	comp=Z,3.9nm,0.9s							
TAM				*es*P		sP	03 12 01.1	+0.7
RETA	Reutte	69.75	45	⇑	*i* P	P	03 11 29.0	+0.9
	comp=Z,6.4nm,0.7s,SNR=7.1							
MOTA	Moosalm	70.00	46	⇑	*i* P	P	03 11 28.9	-0.8
	comp=Z,4.0nm,0.7s,SNR=7.8							
KEST	Kesra	70.26	58	*e* P		P	03 11 32.1	+0.7
KEST	Kesra	70.26	58	P		P	03 11 32.6	+1.2
	comp=Z,2.9nm,0.8s,baz=268,slow=1.9,SNR=12							
IMA2	Indian Mountai	70.72	335	*e* P		P	03 11 32.8	-1.0
IMA2				*e*pP		PcP	03 11 56.1	+2.1
CLL	Collm	70.80	41	*e* P		P	03 11 34.0	-0.3
	comp=Z,3.0nm,1.0s							
ABTA	Abfaltersbach	71.02	46	⇓	*i* P	P	03 11 36.2	+0.4
	comp=Z,4.8nm,0.8s,SNR=5.0							
KHC	Kasperske Hory	71.43	43	*i* P		P	03 11 39.1	+0.9
KHC				*e*pP		pP	03 12 02.7	+0.6
BRG	Berggiesshubel	71.44	42	*i* P		P	03 11 39.2	+1.0
	comp=Z,5.7nm,0.8s							
GERES	GERESS Array B	71.55	44	P		P	03 11 39.9	+0.9
GERES	GERESS Array B	71.55	44	P		P	03 11 39.9	+0.9
	comp=Z,3.1nm,0.9s,baz=298,slow=2.9,SNR=20							
PRU	Pruhonice	71.94	42	*i* P		P	03 11 42.3	+1.1
PRU				AMS		AMS	03 51 20.0	
	comp=Z,100nm,16.3s							
TREC	Trest	72.64	43	*i* P		P	03 11 46.4	+0.9
UPC	Upice	72.80	42	*e* P		P	03 11 47.9	+1.6
DPC	Dobruska-Polom	73.02	42	*i* P		P	03 11 48.9	+1.2
DPC				*e*pP		pP	03 12 11.8	+0.2
DPC				AMS		AMS	03 51 50.0	
MORC	Moravsky Berou	73.89	42	*e* P		P	03 11 52.8	0.0
	comp=Z,3.1nm,0.8s							
ARCES	ARCESS Array B	74.23	21	P		P	03 11 55.0	+0.7
ARCES	ARCESS Array B	74.23	21	P		P	03 11 55.0	+0.7
	comp=Z,4.0nm,0.8s,baz=280,slow=3.9,SNR=18							
OKC	Ostrava-Krasne	74.26	42	*e* P		P	03 11 56.2	+1.3
VYHS	Vyhne	74.96	44	*e* P		P	03 12 00.4	+1.4
PSZ	Piszkesteto	75.77	44	*e* P		P	03 12 05.0	+1.3
	comp=Z,16nm,1.6s							
KECS	Kecovo	76.03	43	*e* P		P	03 12 06.9	+1.8
KAF	Kangasniemi	76.17	29	*ep* P		P	03 12 06.8	+1.2
	comp=Z,2.2nm,0.5s							
FINES	FINESS Array B	76.23	30	P		P	03 12 07.2	+1.3
FINES	FINESS Array B	76.23	30	P		P	03 12 07.2	+1.3
	comp=Z,4.9nm,0.5s,baz=268,slow=4.2,SNR=58							
STHS	Stebnicka Huta	76.32	42	*e* P		P	03 12 09.4	+2.7
CRVS	Cervenica-Dubn	76.57	43	*e* P		P	03 12 10.9	+2.7
KOLS	Kolonicke sedl	77.09	43	*e* P		P	03 12 13.1	+2.1
KWP	Kalwaria Pacla	77.20	42	⇑	*i* P	P	03 12 13.8	+2.1
KWP	Kalwaria Pacla	77.20	42	*e* P		P	03 12 13.7	+2.1
	comp=Z,13nm,1.0s							
BZS	Buzias	77.44	46	⇓	*i* P	P	03 12 14.6	+1.5
JOF	Joensuu	78.18	27	*ep* P		P	03 12 18.7	+1.9
	comp=Z,3.9nm,0.6s							
GZR	Gura Zlata	78.29	46	⇑	*i* P	P	03 12 19.2	+1.3
BURAR	Bucovina Array	79.33	43	⇓	*i* P	P	03 12 25.6	+2.0
MLR	Muntele Rosu	80.41	45	⇑	*i* P	P	03 12 31.6	+2.1
VRI	Vrincioaia	80.82	45	⇑	*i* P	P	03 12 26.0	-5.5
KIEV	Kiev	80.92	40	*e* P		P	03 12 32.8	+0.9
PMSA	Palmer Station	83.40	178	*e* P		P	03 12 42.8	-1.5
BR131	Keskin Array S	87.70	49	*e* P		P	03 13 07.6	+0.9
	comp=Z,1.7nm,0.6s							
BRTR	Keskin Array B	87.70	49	P		P	03 13 07.5	+0.9
BRTR				pP		pP	03 13 30.9	-0.5
BRTR	Keskin Array B	87.70	49	P		P	03 13 07.5	+0.9
	comp=Z,3.7nm,0.8s,baz=269,slow=3.6,SNR=26							
BRTR				pP		pP	03 13 30.9	-0.5
	comp=Z,1.2nm,0.9s,baz=270,slow=4.6,SNR=3.2							
ABKAR	Akbulak array	98.67	31	*e* P		P	03 13 57.3	+0.6
EKS2	Erkin-Say	110.03	28	*e*PKP		PKiKP	03 18 49.2	+0.2
TKM2	Tokmak 2	110.62	27	*e*PKP		PKiKP	03 18 50.0	-0.1
KSH	Kashi	113.54	29	*e*PKP		PKiKP	03 18 55.6	-0.1
CN2	Changchun	116.26	348	*e*PKP		PKPdf	03 18 47.3	-13
CN2				*e*PP		PP	03 19 57.5	-8.6
HHC	Hu-ho-hao-te	120.66	359	*e*PKP		PKPdf	03 19 07.3	-2.1
HHC				sPKP			03 19 44.5	
HHC				PP		PP	03 20 38.5	+1.9
HHC				SKS		SKSdf	03 26 07.0	-6.3
HHC				SKKS		SKKSac	03 27 19.5	-10
HHC	Hu-ho-hao-te	120.66	359	SS		SS	03 36 59.8	+1.1
HHC				AMB		AMB		
	comp=Z,130nm,9.2s							
HHC				LR		LR		
	comp=N,220nm,20.7s							
HHC				LR		LR		
	comp=E,180nm,21.9s							
HHC				LR		LR		
	comp=Z,270nm,20.0s							
MAW	Mawson	122.65	160	PKP		PKPdf	03 19 11.7	-0.3
MAW	Mawson	122.65	160	PKP		PKPdf	03 19 11.7	-0.3
	comp=Z,2.7nm,0.7s,baz=253,slow=5.0,SNR=10							
LZH	Lanzhou	125.04	7	*e*PKP		PKPdf	03 19 31.3	+13
LZH				pPKP		pPKPdf	03 19 41.8	-2.0
LZH				sPKP			03 19 45.6	
LZH				LR		LR		
	comp=N,210nm,17.6s							
LZH				LR		LR		
	comp=E,160nm,18.9s							
LZH				LR		LR		
	comp=Z,230nm,20.1s							
DZM	Mont Dzumac	127.89	256	PKP		PKPdf	03 19 23.8	+0.2
DZM	Mont Dzumac	127.89	256	PKP		PKPdf	03 19 23.8	+0.2
	comp=Z,3.8nm,0.8s,baz=58,slow=20,SNR=4.0							
CD2	Chengdu	130.14	8	*e* P		PKPdf	03 19 26.4	-1.3
CMAR	Chiang Mai Arr	141.23	18	PKP		PKPdf	03 19 48.2	-0.3
CMAR	Chiang Mai Arr	141.23	18	PKP		PKPdf	03 19 48.2	-0.3
	comp=Z,0.6nm,0.3s,baz=342,slow=5.7,SNR=3.3							
PMG	Port Moresby	143.49	280	*e*PKPdf		PKPdf	03 19 52.7	+0.1
CTA	Charters Tower	146.48	262	PKPbc		PKPdf	03 19 57.8	+0.2
CTA				pPKPbc		pPKPbc	03 20 25.0	+0.3
CTA	Charters Tower	146.48	262	PKPbc		PKPdf	03 19 57.8	+0.2
	comp=Z,3.5nm,0.6s,baz=79,slow=4.8,SNR=9.3							
CTA				pPKPbc		pPKPbc	03 20 25.0	+0.3
	comp=Z,2.0nm,0.6s,baz=98,slow=22,SNR=2.3							
CTAO	Charters Tower	146.48	262	*e*PKPbc		PKPdf	03 19 58.2	+0.6
COEN	Coen	148.50	274	*e*PKPbc		PKPbc	03 20 04.7	0.0
STKA	Stephens Creek	149.30	239	PKPbc		PKPbc	03 20 05.1	-1.2
STKA				pPKPbc		pPKPbc	03 20 31.4	-0.7
STKA	Stephens Creek	149.30	239	PKPbc		PKPbc	03 20 05.1	-1.2
	comp=Z,7.3nm,0.7s,baz=121,slow=12,SNR=13							
STKA				pPKPbc		pPKPbc	03 20 31.4	-0.7
	comp=Z,4.3nm,0.8s,baz=122,slow=6.0,SNR=2.7							
KKM	Kota Kinabalu	154.73	347	*e*PKPdf		PKPdf	03 20 11.7	+1.0
WRAB	Tennant Creek	157.66	263	*e*PKPdf		PKPdf	03 20 14.1	-0.1
WRAB				*e*PKPab		PKPab	03 20 47.1	+0.2
WRA	Warramunga Arr	157.67	263	PKP		PKPdf	03 20 13.8	-0.4
WRA	Warramunga Arr	157.67	263	PKP		PKPdf	03 20 13.8	-0.4
	comp=Z,3.0nm,0.9s,baz=88,slow=1.0,SNR=18							
ASAR	Alice Springs	157.84	253	PKP		PKPdf	03 20 14.2	-0.2
ASAR				PKPab		PKPab	03 20 47.4	-0.2
ASAR	Alice Springs	157.84	253	PKP		PKPdf	03 20 14.2	-0.2
	comp=Z,1.1nm,0.7s,baz=100,slow=1.4,SNR=12							
ASAR				PKPab		PKPab	03 20 47.4	-0.2
	comp=Z,1.9nm,0.7s,baz=108,slow=4.1,SNR=9.1							

IDC 23 03:22:26.1±2.4, 2°.59N×128°.82E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, Error ellipse: s-maj=159.1km s-min=27.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.04	167	P	P	03 27 33.3	+0.1
	0.3nm,0.5s,baz=346,slow=11,SNR=12						
ASAR	Alice Springs	26.56	170	P	P	03 28 05.6	-0.5
	0.2nm,0.5s,baz=348,slow=13,SNR=3.0						
MKAR	Makanchi Array	59.68	325	P	P	03 32 32.7	+0.2
	0.1nm,0.4s,baz=116,slow=7.0,SNR=4.2						

IDC 23 03:27:06.3±2.9, 17°.01S×174°.19W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/19, mbtmp3.7/5, MS3.7/8, Ms1 3.7/8, ms1mx3.4/34, Error ellipse: s-maj=170.3km s-min=24.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.86	37	LR	LR	03 29 34.6	
	comp=Z,273nm,19.2s,baz=111,slow=38						
DZM	Mont Dzumac	18.93	251	*e*LR	LR	03 35 59.2	
	428nm,25.7s						
DZM	Mont Dzumac	18.93	251	LR	LR	03 37 21.6	
	comp=Z,327nm,19.2s,baz=211,slow=32						
PPT2	Papeete2	23.50	95	*e*LQ	LQ	03 36 57.9	
	442nm,25.5s						
PPT2				*e*LR	LR	03 37 56.0	
	72nm,23.5s						
TBI	Tubuai	24.03	109	*e*LQ	LQ	03 37 13.2	
	516nm,29.5s						
TBI				*e*LR	LR	03 38 15.0	
	46nm,22.8s						
HNR	Honiara	26.26	283	LR	LR	03 40 42.2	
	comp=Z,204nm,20.8s,baz=111,slow=31						
WRA	Warramunga Arr	48.76	258	P	P	03 35 53.2	-0.1
	0.5nm,1.1s,baz=85,slow=6.7,SNR=2.7						
ASAR	Alice Springs	48.91	253	P	P	03 35 54.6	+0.1
	0.5nm,0.6s,baz=83,slow=8.0,SNR=9.2						
ASAR				LR	LR	03 54 54.3	
	comp=Z,128nm,19.6s,baz=265,slow=34						
FX1	Attu Island--F	70.46	352	LR	LR	04 02 12.8	
	comp=Z,65nm,21.2s,baz=159,slow=30						
PETK	Petropavlovsk-	73.93	343	LR	LR	04 06 39.4	
	comp=Z,45nm,19.5s,baz=49,slow=32						
NVAR	Mina Array Bea	76.03	42	P	P	03 38 56.6	+0.7
	1.9nm,0.8s,baz=224,slow=8.5,SNR=4.8						
KSRS	Korea Array	76.78	316	LR	LR	04 10 01.4	
	comp=Z,50nm,18.6s,baz=339,slow=34						
TXAR	Lajitas Array	82.14	56	LR	LR	04 09 15.8	
	comp=Z,58nm,18.2s,baz=65,slow=31						
PDAR	Pinedale Array	83.97	42	P	P	03 39 38.0	-0.7
	0.6nm,0.7s,baz=248,slow=4.8,SNR=3.5						
ILAR	Eielson Array	84.17	11	P	P	03 39 39.2	+0.3
	0.6nm,1.0s,baz=224,slow=6.2,SNR=5.4						
BRTR	Keskin Array B	146.90	319	PKPbc	PKPdf	03 46 49.5	+0.1
	1.3nm,0.8s,baz=48,slow=2.1,SNR=7.7						
GERES	GERESS Array B	147.61	350	PKPbc	PKPbc	03 46 52.3	-0.5
	0.3nm,0.6s,baz=1.4,slow=3.9,SNR=3.8						

MOS ***23*** *03:28:13.7±2.1, 47°.66N×153°.04E, h95km, mb3.8/4, Error ellipse: s-maj=31.0km s-min=11.4km az=52.3*
IDC ***23*** *03:28:16.4±2.6, 47°.72N×153°.02E, h105km±24km, mb3.3/5, mb1 3.5/8, mb1mx3.2/28, mbtmp3.4/8, Error ellipse: s-maj=39.1km s-min=16.9km az=157.0*
ISC 23 03:28:13.0±0.9, 47°.7N±0°.1×153°.2E±0°.1, h66km, n14, σ1§98/16, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.58	31	*e*PN	Pn	03 29 04.7	-1.4
SKR				*e*S	Sn	03 29 46.9	-0.2
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				smax	smax		
	comp=N,90nm,0.3s						
SKR				smax	smax		
	comp=E,90nm,0.3s						
KUR	Kuril'sk	4.40	238	*e*PN	Pn	03 29 19.5	+2.2
KUR				S	Sn	03 30 06.5	-0.7
KUR				pmax	pmax		
	comp=Z,40nm,0.4s						
KUR				pmax	pmax		
	comp=N,13nm,0.4s						
KUR				pmax	pmax		
	comp=E,7.0nm,0.2s						
KUR				smax	smax		
	comp=N,36nm,0.5s						
KUR				smax	smax		
	comp=E,21nm,0.5s						
PETK	Petropavlovsk-	6.17	26	*e*PN	Pn	03 29 48.0	+6.6
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	6.17	26	P	Pn	03 29 44.3	+2.9
	comp=Z,0.5nm,0.3s,baz=183,slow=14,SNR=7.2						
YUK	Yuzh-Kuril'sk	6.27	237	*i* PN	Pn	03 29 43.4	+0.6
ASAJ	Asahikawa	8.19	248	P	Pn	03 30 11.8	+2.7
	comp=Z,1.2nm,0.3s,baz=70,slow=13,SNR=15						
ERM	Erimo	9.08	235	*i* PN	Pn	03 30 20.8	-0.5
FX1	Attu Island--F	13.79	60	P	Pn	03 31 27.7	+2.5
	comp=Z,1.3nm,0.3s,baz=219,slow=20,SNR=11						
FX1				S	Sn	03 33 53.4	-3.2
	comp=Z,1.5nm,0.3s,baz=19,slow=18,SNR=7.0						
KSRS	Korea Array	21.13	250	P	P	03 32 52.2	0.0
	comp=Z,1.9nm,0.8s,baz=52,slow=11,SNR=8.1						
ILAR	Eielson Array	35.81	39	P	P	03 35 06.3	+0.8
	comp=Z,0.2nm,0.6s,baz=266,slow=9.6,SNR=3.8						
ZALV	Zalesovo Beam	42.11	305	P	P	03 35 56.4	-1.9
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	42.11	305	P	P	03 35 56.4	-1.9
	comp=Z,0.7nm,0.5s,baz=66,slow=6.9,SNR=2.8						
FINES	FINESS Array B	63.23	335	P	P	03 38 32.6	-1.4
	comp=Z,1.5nm,1.0s,baz=44,slow=8.4,SNR=8.9						
TXAR	Lajitas Array	77.01	61	P	P	03 39 57.9	-0.9
	comp=Z,1.0nm,0.5s,baz=300,slow=5.2,SNR=20						

NIED ***23*** *03:31:00.25±40.40N×127°.70E, h17km, Mw3.8 Best double couple: M0:6.43000×10^14 NP1:φs=40.00000°, δ=67.00000°, λ=80.00000°. NP2:φs=245.00000°, δ=25.00000°, λ=113.00000°.*
ISCJB ***23*** *03:31:42.6±0.8, 25°.46N±0°.05×127°.78E±0°.04, h38km±8km, mb3.6/8, Error ellipse: s-maj=8.9km s-min=6.2km az=155.1*
JMA ***23*** *03:31:42.2±0.1, 25°.44N×127°.67E, h45km±2km, M3.6*
IDC ***23*** *03:31:42.0±1.2, 25°.83N×127°.30E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/25, mbtmp3.7/9, ML4.0/1, Error ellipse: s-maj=52.3km s-min=22.0km az=73.0*
ISC 23 03:31:42.8±1.9, 25°.45N±0°.07×127°.72E±0°.05, h27km±12km, n22, σ1§10/30, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.69	2	P	Pb	03 31 55.9	-0.3
JJT2				*e*S	Sb	03 32 05.9	+0.6
JKE	Kume jima 2	1.21	316	P	Pn	03 32 02.9	-1.0
JKE				*e*S	Sn	03 32 17.8	-1.6
JAGN	Aguni-jima	1.21	339	P	Pn	03 32 03.2	-0.7
JAGN				*e*S	Sn	03 32 18.9	-0.5
JOW	Kunigami	1.46	20	P	Pn	03 32 07.3	-0.1
JIH	Iheya	1.59	8	P	Pn	03 32 09.1	-0.1
JIH				*e*S	Sn	03 32 29.1	+0.2
JTK	Tokunoshima	2.57	25	P	Pn	03 32 23.0	+0.3
JTK				*e*S	Sn	03 32 52.8	-0.3
JTJ	Tarama	2.85	254	P	Pn	03 32 27.2	+0.7
JAMN	Amaminishikimi	3.07	25	P	Pn	03 32 30.0	+0.5
JAMN				*e*S	Sn	03 33 05.0	-0.3
JMZ	Minamidaito 2	3.18	83	P	Pn	03 32 31.0	0.0
JMZ				*e*S	Sn	03 33 05.4	-2.7
JAM	Amami Oshima	3.40	29	P	Pn	03 32 34.6	+0.6
JAM				*e*S	Sn	03 33 10.5	-2.8
JIJ	Ishigaki jima	3.42	252	P	Pn	03 32 36.1	+1.8
JZK	Kikaishima	3.49	35	P	Pn	03 32 36.4	+1.1
JZK				*e*S	Sn	03 33 14.4	-1.3
JNN	Nakanoshima	4.77	23	P	Pn	03 32 52.9	0.0
JNN				*e*S	Sn	03 33 48.4	+1.0
JNU	Nakatsue	8.13	19	Pn	Pn	03 33 39.2	+0.2
	2.0nm,0.3s,baz=221,slow=4.5,SNR=20						
MKAR	Makanchi Array	41.72	313	P	P	03 39 28.7	-0.6
	0.6nm,0.7s,baz=97,slow=9.6,S

ASAJ	Asahikawa	30.38	273	P		P	03 48 53.2	-0.9
	8.5nm,1.0s,baz=90,slow=7.1,SNR=3.2							
YKA	Yellowknife Ar	32.32	48	P		P	03 49 11.8	+0.8
	1.4nm,0.8s,baz=274,slow=9.2,SNR=3.1							
NEW	Newport	35.30	73	eP		P	03 49 36.9	-0.3
	2.9nm,1.0s							
MCMT	McKenzie Canyo	39.56	76	eP		P	03 50 12.6	-0.9
	1.0nm,0.6s							
BOZ	Bozeman (W)	39.86	74	eP		P	03 50 14.8	-1.0
	0.9nm,0.7s							
NVAR	Mina Array Bea	39.86	87	P		P	03 50 18.2	+2.2
	0.2nm,0.4s,baz=297,slow=8.0,SNR=3.0							
NVAR				pP		pP	03 50 30.5	+3.8
	1.3nm,0.8s,baz=282,slow=8.3,SNR=6.8							
BW06	Boulder Array	42.68	76	eP		P	03 50 38.7	-0.5
	3.0nm,1.1s							
PDAR	Pinedale Array	42.68	76	P		P	03 50 40.1	+1.0
	0.9nm,0.7s,baz=305,slow=4.5,SNR=11							
GSC	Goldstone	42.76	90	eP		P	03 50 38.8	-0.9
	5.2nm,1.0s							
KSRS	Korea Array	43.30	275	P		P	03 50 44.1	+0.3
	1.3nm,0.7s,baz=54,slow=7.6,SNR=4.8							
KSRS				pP		pP	03 50 57.0	+2.4
	2.0nm,0.7s,baz=54,slow=7.5,SNR=6.6							
JNU	Nakatsue	44.26	268	P		P	03 50 52.2	+0.4
	2.4nm,0.5s,baz=63,slow=11,SNR=2.6							
PV01	Paradox Valley	46.06	81	eP		P	03 51 06.5	+0.3
TUC	Tucson	48.49	88	eP		P	03 51 24.7	-0.2
	1.0nm,0.8s							
SONM	Songino Array	49.75	299	P		P	03 51 34.3	-0.2
	0.6nm,0.4s,baz=46,slow=8.6,SNR=4.7							
SONM				pP		pP	03 51 46.9	+1.5
	1.2nm,0.5s,baz=45,slow=7.4,SNR=5.6							
TXAR	Lajitas Array	54.96	86	P		P	03 52 13.1	-0.2
	0.4nm,0.6s,baz=303,slow=5.4,SNR=10.0							
TXAR				pP		pP	03 52 24.8	+0.5
	1.2nm,0.7s,baz=297,slow=5.2,SNR=12							
ARCES	ARCESS Array B	58.33	352	P		P	03 52 36.0	-0.6
	3.0nm,0.9s,baz=17,slow=7.2,SNR=5.9							
NATX	Nacogdoches	58.80	77	eP		P	03 52 39.2	-1.1
	31nm,0.5s							
MKAR	Makanchi Array	62.65	312	P		P	03 53 05.2	-1.1
	0.6nm,0.5s,baz=50,slow=4.7,SNR=11							
FINES	FINESS Array B	66.19	350	P		P	03 53 28.3	-1.0
	1.6nm,1.0s,baz=41,slow=6.1,SNR=4.0							
TKM2	Tokmak 2	68.68	313	eP		P	03 53 45.8	+0.2
	2.2nm,0.9s							
AAK	Ala-Archa	69.41	313	eP		P	03 53 50.2	+0.2
	2.0nm,0.4s							
EKS2	Erkin-Say	69.71	314	eP		P	03 53 52.2	+0.4
	4.5nm,0.8s							
ABKAR	Akbulak array	69.82	326	eP		P	03 53 52.0	-0.2
	1.4nm,0.6s							
KKAR	Karatay Array	70.80	316	eP		P	03 53 58.2	-0.1
	0.4nm,0.3s							
CMAR	Chiang Mai Arr	74.61	280	P		P	03 54 20.8	-0.6
	0.5nm,0.3s,baz=17,slow=6.6,SNR=2.3							
GERES	GERESS Array B	79.68	356	P		P	03 54 49.0	-0.4
	0.2nm,0.6s,baz=23,slow=7.2,SNR=4.1							
WRA	Warramunga Arr	84.89	229	P		P	03 55 14.9	-1.9
	0.2nm,0.6s,baz=34,slow=5.7,SNR=4.1							
BRTR	Keskin Array B	86.05	340	P		P	03 55 22.5	-0.2
	0.5nm,0.9s,baz=116,slow=6.6,SNR=2.9							
BRTR				pP		pP	03 55 35.8	+1.5
	0.9nm,0.8s,baz=54,slow=2.1,SNR=5.1							
ASAR	Alice Springs	88.31	227	P		P	03 55 32.1	-1.3
	0.7nm,0.6s,baz=31,slow=4.6,SNR=9.2							
ASAR				pP		pP	03 55 46.4	+1.4
	1.3nm,0.8s,baz=36,slow=5.1,SNR=6.4							

*KRSC **23** 03:48:41.5±0.1, 49°.54N×157°.01E, h5km±5km, ML4.3*
*MOS **23** 03:48:42.3±2.0, 49°.70N×155°.72E, h89km, mb3.9/2, Error ellipse: s-maj=36.5km s-min=8.9km az=65.7*
*ISCJB **23** 03:48:43.1±1.1, 49°.6N±0°.1×156°.1E±0°.1, h97km±12km, mb3.4/7, Error ellipse: s-maj=21.3km s-min=7.5km az=138.3*
*IDC **23** 03:48:45.9±2.6, 49°.87N×155°.50E, h112km±27km, mb3.2/7, mb1 3.6/10, mb1mx3.4/27, mbtmp3.3/10, MS3.3/2, Ms1 3.3/2, ms1mx2.6/16, Error ellipse: s-maj=55.8km s-min=15.1km az=140.0*

ISC 23 03:48:43.1±1.6, 49°.5N±0°.1×156°.2E±0°.1, h81km±17km, n39, σ1$20/52, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	1.22	358	ePN	Pn	03 48 57.8	-6.9
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,180nm,0.5s						
SKR	**Severo-Kuril's**	1.22	358	P	Pn	03 49 05.0	+0.3
SKR				S	Sn	03 49 21.1	+0.1
PAU	Pauzhetka	2.04	11	PN	Pn	03 49 15.5	0.0
PAU				S	Sn	03 49 39.8	-0.4
PAU	Pauzhetka	2.04	11	P	Pn	03 49 15.5	0.0
PAU				S	Sn	03 49 39.8	-0.4
ASAK	Asacha	3.11	20	P	Pn	03 49 31.3	+1.3
ASAK				S	Sn	03 50 07.5	+1.3
MTVR	Mutnovka	3.27	22	P	Pn	03 49 33.4	+1.2
MTVR				S	Sn	03 50 10.8	+0.7
RUS	Russkaya	3.31	26	PN	Pn	03 49 33.0	+0.4
RUS				S	Sn	03 50 09.9	-1.0
RUS	Russkaya	3.31	26	P	Pn	03 49 33.0	+0.4
RUS				S	Sn	03 50 09.9	-1.0
PETK	Petropavlovsk-	3.77	14	PN	Pn	03 49 38.9	+0.1
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	Petropavlovsk-	3.77	14	P	Pn	03 49 38.9	+0.1
	comp=Z,4.7nm,0.3s,baz=180,slow=13,SNR=49						
PET	Petropavlovsk	3.88	23	ePN	Pn	03 49 41.8	+1.5
PET				eS	Sn	03 50 26.1	+1.4
PET				smax	smax		
	comp=N,65nm,0.4s						
PET	Petropavlovsk	3.88	23	P	Pn	03 49 41.9	+1.6
PET				S	Sn	03 50 25.4	+0.7
UGLR	Uglovaya	4.10	23	S	Sn	03 50 30.8	+0.7
AVH	Avacha	4.12	22	P	Pn	03 49 45.4	+1.7
AVH				S	Sn	03 50 31.3	+0.6
KOK	Koryaka	4.13	21	P	Pn	03 49 45.7	+2.0
SMAR	Somma	4.14	22	P	Pn	03 49 46.0	+2.0
KRER	Koryakskii	4.16	22	P	Pn	03 49 45.5	+1.2
KRER				S	Sn	03 50 31.6	-0.2
SDLR	Sedlovina	4.17	23	P	Pn	03 49 45.2	+0.8
SDLR				S	Sn	03 50 30.9	-1.1
SPN	Mys Shipunski	4.36	32	PN	Pn	03 49 47.6	+0.8
SPN				S	Sn	03 50 35.7	-0.7
SPN	Mys Shipunski	4.36	32	P	Pn	03 49 47.6	+0.8
SPN				S	Sn	03 50 35.7	-0.7
GNL	Ganaly	4.37	14	P	Pn	03 49 47.5	+0.4
GNL				S	Sn	03 50 37.5	+0.7
MKZ	Mys Kozlova	6.14	32	PN	Pn	03 50 10.3	-0.7
MKZ	Mys Kozlova	6.14	32	P	Pn	03 50 10.3	-0.7
MKZ				S	Sn	03 51 15.9	-3.8
TUMR	Tumrok	6.31	21	P	Pn	03 50 14.7	+1.2
KMNR	Kamenistaya	6.76	20	P	Pn	03 50 20.4	+0.7
KBTR	Krutoberegovo	7.85	28	PN	Pn	03 50 34.0	-0.4
KBTR	Krutoberegovo	7.85	28	P	Pn	03 50 34.0	-0.4
KBTR				S	Sn	03 51 59.3	-2.3
BKI	Bering	8.30	42	S	Sn	03 52 05.3	-7.1
ASAJ	Asahikawa	10.74	245	P	Pn	03 51 14.3	+0.5
	comp=N,1.2nm,0.3s,baz=84,slow=12,SNR=11						
FX1	Attu Island--F	11.19	66	P	Pn	03 51 25.3	+5.4
	comp=N,2.0nm,0.3s,baz=303,slow=7.2,SNR=10						
FX1				S	Sn	03 53 24.5	+1.4
	comp=N,6.0nm,0.3s,baz=22,slow=21,SNR=13						
KSRS	Korea Array	23.62	250	P	P	03 53 44.3	-2.4
	comp=N,1.0nm,0.8s,baz=47,slow=11,SNR=3.5						
JNU	Nakatsue	24.89	238	LR	LR	04 02 18.9	
	comp=N,57nm,21.3s,baz=227,slow=33						
ILAR	Eielson Array	33.14	41	P	P	03 55 09.7	-1.5
	comp=N,0.2nm,0.4s,baz=260,slow=5.8,SNR=6.9						
ILAR				LR	LR	04 08 27.0	
	comp=N,51nm,18.7s,baz=253,slow=36						
MKAR	Makanchi Array	47.54	297	pP	pP	03 57 31.7	+1.9
	comp=N,0.4nm,0.6s,baz=66,slow=8.3,SNR=3.8						
NVAR	Mina Array Bea	59.39	65	P	P	03 58 38.0	+0.8
	comp=N,0.3nm,0.3s,baz=303,slow=8.3,SNR=2.7						
PDAR	Pinedale Array	61.51	57	P	P	03 58 52.5	+1.0
	comp=N,0.5nm,0.6s,baz=321,slow=3.1,SNR=5.8						
WRA	Warramunga Arr	71.78	202	P	P	03 59 56.7	0.0
	comp=N,0.6nm,1.1s,baz=20,slow=6.4,SNR=3.4						
TXAR	Lajitas Array	74.40	63	P	P	04 00 13.5	+1.2
	comp=N,0.6nm,0.6s,baz=298,slow=5.1,SNR=18						
ASAR	Alice Springs	75.46 201		P	P	04 00 18.7	+0.5
	comp=N,0.2nm,0.5s,baz=14,slow=6.1,SNR=4.1						

IDC 23 04:07:38.2±3.0, 30°.17S×177°.43W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=58.0km s-min=29.5km az=107.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.01	335	Pn	Pn	04 07 59.8	+0.2
	556nm,0.3s,baz=90,slow=20,SNR=39						
RAO				Sn	Sb	04 08 11.6	-0.8
	1μm,0.3s,baz=87,slow=21,SNR=20						
CTA	**Charters Tower**	34.25	278	P	P	04 14 26.9	+0.8
	2.2nm,0.6s,baz=106,slow=11,SNR=4.5						
STKA	**Stephens Creek**	35.01	257	P	P	04 14 33.9	+1.4
	3.0nm,0.9s,baz=92,slow=13,SNR=3.3						
ASAR	**Alice Springs**	43.62	266	P	P	04 15 43.1	-1.4
	0.2nm,0.3s,baz=104,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	44.58	272	P	P	04 15 51.3	-1.0
	0.8nm,0.3s,baz=110,slow=8.1,SNR=65						
FINES	**FINESS Array B**	145.10	340	PKPbc	PKPbc	04 27 15.6	-0.8
	1.3nm,0.5s,baz=49,slow=4.2,SNR=20						

*IDC **23** 04:11:14.9±0.5, 6°.55S×154°.52E, h0km, mb4.5/19, mb1 4.7/22, mb1mx4.7/25, mbtmp4.5/22, ML4.1/3, MS3.8/8, Ms1 3.8/8, ms1mx3.6/24, Error ellipse: s-maj=18.7km s-min=12.9km az=89.0*
*ISCJB **23** 04:11:18.1±1.5, 6°.60S±0°.05×154°.55E±0°.04, h28km±11km, mb4.7/57, MS4.0/14, Error ellipse: s-maj=7.8km s-min=6.7km az=171.6*
*NEIC **23** 04:11:20.3±0.2, 6°.61S×154°.56E, h35km, mb4.8/31, Error ellipse: s-maj=5.9km s-min=4.9km az=126.0*
*DJA **23** 04:11:20.9±4.2, 6°S±18°×15°5E±2°8, h57km±24km, M5.0/7, mB6.0/1, mb5.0/7, Mw(mB)5.6/1*
*AUST **23** 04:11:23.1, 6°.55S×154°.67E, h60km*
*BJI **23** 04:11:25.1, 6°.02S×154°.11E, h45km, mB5.0/19, mb4.8/32, Ms4.7/15, Ms7 4.3/17*

ISC 23 04:11:21.4±0.4, 6°63S±0°05×154°60E±0°05, h43km±2km, h43km:pP-P, n171, σ1$52/220, mb4.8/57, MS4.0/14, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	3.42	315	P	Pn	04 11 59.7	-13
	baz=3.4,SNR=88						
HNR	**Honiara**	5.99	118	Pn	Pn	04 12 49.4	+1.8
HNR	**Honiara**	5.99	118	Pn	Pn	04 12 49.4	+1.8
	7.3nm,0.3s,baz=281,slow=5.2,SNR=2.4						
HNR				LR	LR	04 14 45.5	
	comp=Z,355nm,20.4s,baz=306,slow=35						
PMG	**Port Moresby**	7.87	249	ePn	Pn	04 13 11.7	-1.7
PMG				eSn	Sn	04 14 38.1	-3.1
PMG				Sn	Sn	04 14 45.4	+4.3
PMG	**Port Moresby**	7.87	249	P	Pn	04 13 16.1	+2.7
	153nm,0.9s						
PMG	**Port Moresby**	7.87	249	Pn	Pn	04 13 11.6	-1.7
	5.3nm,0.3s,baz=76,slow=4.2,SNR=12						
PMG				Sn	Sn	04 14 45.4	+4.3
	2.6nm,0.3s,baz=54,slow=18,SNR=3.1						
COEN	**Coen**	13.39	236	ePn	Pn	04 14 28.5	-0.4
COEN	**Coen**	13.39	236	P	P	04 14 39.0	+1.5
	baz=14,SNR=9.2						
JAY	**Jayapura**	14.44	286	P	P	04 15 03.2	+14
MTSU	**Mount Surprise**	15.21	220	P	Pn	04 14 54.2	+0.8
	baz=15,SNR=7.7						
CTA	**Charters Tower**	15.64	210	Pn	Pn	04 14 59.0	0.0
CTA	**Charters Tower**	15.64	210	Pn	Pn	04 14 59.0	0.0
	1.2nm,0.3s,baz=34,slow=13,SNR=48						
CTAO	**Charters Tower**	15.64	210	ePn	Pn	04 14 59.0	0.0
	43nm,0.8s						
CTAO				eP	P	04 15 02.7	+0.2
EIDS	**Eidsvold**	18.94	190	eP	P	04 15 39.0	0.0
	12nm,0.9s						
EIDS	**Eidsvold**	18.94	190	P	Pn	04 15 39.6	-0.2
	baz=19,SNR=3.8						
DZM	**Mont Dzumac**	19.15	145	eLR	LR	04 20 15.5	
	310nm,27.2s						
DZM	**Mont Dzumac**	19.15	145	eP	P	04 15 38.9	-2.4
DZM	**Mont Dzumac**	19.15	145	P	Pn	04 15 42.3	-0.2
DZM	**Mont Dzumac**	19.15	145	P	Pn	04 15 42.3	-0.2
	0.6nm,0.3s,baz=342,slow=9.7,SNR=35						
DZM				LR	LR	04 22 08.5	
	comp=Z,141nm,18.8s,baz=0.7,slow=34						
TARA	**Tarawa**	19.94	67	eP	P	04 15 50.9	+1.0
RMQ	**Roma**	20.52	195	P	P	04 15 56.9	+0.7
	baz=21,SNR=27						
RKPI	**Ransiki, Papua**	20.99	283	P	P	04 16 02.3	+1.0
	114nm,1.1s,6μm						
TLE	**Tual**	21.76	271	P	P	04 16 11.1	+1.5
	179nm,1.2s						
TLE	**Tual**	21.76	271	P	P	04 16 11.6	+2.0
	baz=22,SNR=5.7						
KDU	**Kakadu**	22.62	253	P	P	04 16 17.6	-1.2
	baz=23,SNR=3.5						
WRAB	**Tennant Creek**	23.69	234	eP	P	04 16 28.1	-1.4
	80nm,1.2s						
WRA	**Warramunga Arr**	23.71	234	P	P	04 16 28.4	-1.2
WRA				PcP	PcP	04 20 13.9	+0.8
WRA				ScP	ScP	04 23 52.1	+4.0
WRA	**Warramunga Arr**	23.71	234	P	P	04 16 28.4	-1.2
	43nm,0.9s,baz=55,slow=9.2,SNR=99						
WRA				PcP	PcP	04 20 13.9	+0.8
	1.4nm,0.4s,baz=62,slow=2.2,SNR=8.3						
WRA				ScP	ScP	04 23 52.1	+4.0
	4.3nm,0.9s,baz=62,slow=2.8,SNR=13						
WRA				LR	LR	04 25 03.6	
	comp=Z,204nm,21.8s,baz=55,slow=35						
ARMA	**Armidale**	23.83	186	eP	P	04 16 31.7	+0.9
	41nm,1.3s						
ARMA	**Armidale**	23.83	186	P	P	04 16 31.4	+0.6
	baz=24,SNR=4.3						
MTN	**Manton Dam**	23.93	253	P	P	04 16 32.7	+1.0
	baz=24,SNR=10.0						
SWI	**Sorong**	23.97	283	P	P	04 16 32.5	+0.4
	baz=24,SNR=3.1						
MSVF	**Nonsavu**	25.41	118	eP	P	04 16 44.0	-1.2
	26nm,1.0s						
AS31	**Alice Springs**	26.12	227	eP	P	04 16 50.5	-1.2
ASAR	**Alice Springs**	26.12	227	P	P	04 16 50.6	-1.0
ASAR				ScP	ScP	04 23 59.1	+4.2
ASAR	**Alice Springs**	26.12	227	P	P	04 16 50.6	-1.0
	7.7nm,0.9s,baz=58,slow=9.0,SNR=65						
ASAR				ScP	ScP	04 23 59.1	+4.2
	3.7nm,0.9s,baz=50,slow=3.4,SNR=15						
CMSA	**Cobar Meteorol**	26.15	197	P	P	04 16 52.6	+0.9
	baz=26,SNR=9.9						
KNRA	**Kununurra**	26.87	248	P	P	04 16 58.2	-0.1
	baz=27,SNR=15						
STKA	**Stephens Creek**	27.90	204	eP	P	04 17 06.1	-1.4
	1.5nm,0.6s						
STKA				ScP	ScP	04 24 02.9	+2.9
STKA	**Stephens Creek**	27.90	204	P	P	04 17 06.3	-1.1
	5.9nm,0.5s,baz=36,slow=14,SNR=18						
STKA				ScP	ScP	04 24 02.9	+2.9
	2.9nm,0.7s,baz=132,slow=14,SNR=3.3						
STKA	**Stephens Creek**	27.90	204	P	P	04 17 09.4	+1.9
	baz=28,SNR=11						
AFI	**Afiamalu**	33.84	105	LR	LR	04 28 45.2	
	comp=Z,444nm,19.2s,baz=14,slow=31						
FORT	**Forrest**	34.59	223	eP	P	04 18 04.9	-1.4
	51nm,0.8s						
KAPI	**Kappang**	34.70	271	eP	P	04 18 06.6	-0.9
	41nm,1.1s						
MBWA	**Marble Bar**	36.69	243	eP	P	04 18 23.1	-1.4
	10nm,0.9s						
MYLDM	**Lahad Datu**	37.89	287	P	P	04 18 33.7	-1.1
TSM	**Tawau**	38.23	286	P	P	04 18 36.0	-1.7
MEEK	**Meekatharra**	39.59	236	P	P	04 18 48.3	-0.6
	baz=40,SNR=8.8						
RPZ	**Rata Peaks**	39.67	161	eP	P	04 18 50.2	+0.9
	37nm,1.1s						
RPZ	**Rata Peaks**	39.67	161	P	P	04 18 49.2	-0.1
	20nm,0.7s,baz=67,slow=1.8,SNR=8.7						
KDM	**Kudat**	40.01	289	P	P	04 18 50.7	-1.8
KKM	**Kota Kinabalu**	40.32	287	eP	P	04 18 55.1	-0.2
	18nm,0.9s						
KKM	**Kota Kinabalu**	40.32	287	P	P	04 18 53.0	-2.2
KLBR	**Kellerberrin**	42.42	229	P	P	04 19 10.9	-1.2
	baz=43,SNR=6.1						
BTM	**Bintulu**	42.58	282	P	P	04 19 12.5	-1.1
SBUM	**Sibu**	43.25	281	P	P	04 19 18.1	-1.0
YULB	**Yu-li**	44.14	314	eP	P	04 19 26.2	+0.1
	11nm,0.8s						
TPUB	**Ta-pu**	44.57	313	eP	P	04 19 29.4	-0.1
	18nm,0.9s						
SSLB	**Suanglung**	44.63	314	eP	P	04 19 29.8	-0.3
	34nm,1.4s						
YHNB	**Yeheng**	44.89	315	eP	P	04 19 32.4	+0.2
	31nm,0.9s						
KSM	**Kuching**	44.93	279	eP	P	04 19 32.7	+0.1
	15nm,0.8s						
KSM	**Kuching**	44.93	279	P	P	04 19 31.4	-1.1
KSM	**Kuching**	44.93	279	P	P	04 19 32.8	+0.2
	baz=45,SNR=5.6						
JNU	**Nakatsue**	45.50	332	P	P	04 19 35.4	-1.4
JNU	**Nakatsue**	45.50	332	P	P	04 19 35.4	-1.4
	4.1nm,0.6s,baz=170,slow=21,SNR=7.3						
KSRS	**Korea Array**	50.43	332	P	P	04 20 13.8	-1.0
	1.6nm,0.8s,baz=153,slow=8.4,SNR=7.4						
KSRS				LR	LR	04 38 46.4	
	comp=Z,79nm,18.0s,baz=344,slow=33						
KSAR	**Wonju Array Be**	50.44	332	P	P	04 20 13.8	-1.1
QIZ	**Qiongzhong**	50.93	301	P	P	04 20 17.9	-1.0
QIZ				S	S	04 27 33.1	+0.1
QIZ				LR	LR		
	comp=Z,110nm,23.1s						
NJ2	**Nanjing**	51.38	321	eP	P	04 20 22.1	+0.1
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
IPM	**Ipoh**	54.60	280	eP	P	04 20 45.9	-0.3
	comp=Z,11nm,0.9s						
PPT	**Papeete**	55.48	107	LR	LR	04 39 41.4	
	comp=Z,139nm,18.1s,baz=289,slow=31						
PPT2	**Papeete2**	55.48	107	eLR	LR	04 37 06.1	
	comp=Z,73nm,23.0s						
MDJ	**Mudanjiang**	55.76	339	P	P	04 20 54.4	+0.5
MDJ				pP	pP	04 21 04.6	-1.6
MDJ				sP	sP	04 21 11.3	+0.1
MDJ				PcP	PcP	04 21 52.8	+0.1
MDJ				S	S	04 28 39.8	+2.2
MDJ				sS	sS	04 28 57.4	-0.7
MDJ				ScS	ScS	04 30 37.6	-1.9
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,74nm,4.2s						
MDJ				LR	LR		
	comp=N,4.0nm,13.2s						
MDJ				LR	LR		
	comp=E,36nm,16.5s						
MDJ				LR	LR		
	comp=Z,31nm,18.1s						
TBI	**Tubuai**	56.19	114	eLR	LR	04 37 21.1	
	comp=Z,68nm,23.2s						
CN2	**Changchun**	56.69	335	eP	P	04 21 00.0	-0.6
CN2				ePP	PP	04 23 08.1	+0.9
CN2				eS	S	04 28 48.3	-1.8
CN2				LR	LR		
	comp=N,400nm,23.0s						
CN2				LR	LR		
	comp=E,200nm,23.0s						
CN2				LR	LR		
	comp=Z,180nm,24.0s						
ENH	**Enshi**	56.70	313	eP	P	04 21 00.9	-0.1
	comp=Z,8.6nm,0.7s						
GYA	**Guiyang**	56.92	307	eP	P	04 21 04.0	+1.3
GYA				pP	pP	04 21 16.8	+1.8
GYA				sP	sP	04 21 22.4	+2.4
GYA				PcP	PcP	04 21 58.0	+0.2
GYA				PP	PP	04 23 12.3	+2.7
GYA				ScP	ScP	04 25 53.0	-1.1
GYA				S	S	04 28 52.4	-1.5
GYA				ScS	ScS	04 30 43.3	-5.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
BJI	**Beijing**	58.40	326	P	P	04 21 12.1	-0.5
BJI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
XAN	**Xi'an**	59.17	316	P	P	04 21 18.3	+0.1
XAN				pP	pP	04 21 26.3	-4.3
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMI	**Kunming**	59.48	304	P	P	04 21 22.4	+1.6
KMI				pP	pP	04 21 34.1	+0.9
KMI				sP	sP	04 21 39.3	+1.1
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				LR	LR		
	comp=Z,58nm,25.2s						
PETK	**Petropavlovsk-**	59.56	2	P	P	04 21 19.4	-1.1
PETK	**Petropavlovsk-**	59.56	2	P	P	04 21 19.4	-1.1
	comp=Z,2.3nm,0.8s,baz=157,slow=7.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	60.27	296	P	P	04 21 25.1	-0.9
CMAR	**Chiang Mai Arr**	60.27	296	P	P	04 21 25.1	-0.9
	comp=Z,1.5nm,0.3s,baz=119,slow=5.6,SNR=10						
CMAR				LR	LR	04 45 39.7	
	comp=Z,59nm,19.0s,baz=150,slow=34						
CHTO	**Chiang Mai**	60.39	296	eP	P	04 21 28.0	+1.2
	comp=Z,7.5nm,1.1s						
CD2	**Chengdu**	61.28	311	eP	P	04 21 33.8	+1.1
CD2				pP	pP	04 21 45.8	+0.6
CD2				sP	sP	04 21 51.8	+1.7
CD2				PP	PP	04 23 51.3	+3.2
CD2				S	S	04 29 49.8	-0.3
CD2				sS	sS	04 30 10.3	-0.6
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=N,170nm,13.2s						
CD2				LR	LR		
	comp=Z,160nm,13.4s						
HHC	**Hu-ho-hao-te**	61.56	324	eP	P	04 21 35.4	+0.9
HHC				pP	pP	04 21 48.0	+1.0
HHC				sP	sP	04 21 53.9	+1.9
HHC				PcS	PcS	04 26 17.6	-1.4
HHC

SONM	Songino Array	68.81 327	P	P	04 22 21.3	-0.1
SONM	Songino Array	68.81 327	P	P	04 22 21.3	-0.1
	comp=Z,1.4nm,0.8s,baz=163,slow=11,SNR=11					
LSA	Lhasa	70.74 304	P	P	04 22 35.1	+1.0
LSA	Lhasa	70.74 304	eP	P	04 22 35.0	+0.9
	comp=Z,11nm,0.6s					
VNDA	Vanda	70.96 178	eP	P	04 22 34.3	+0.3
	comp=Z,3.9nm,0.8s					
VNDA			epP	pP	04 22 44.3	-2.4
VNDA	Vanda	70.96 178	P	P	04 22 34.8	+0.8
	comp=Z,2.9nm,0.7s,baz=330,slow=6.8,SNR=12					
TAPN	Taplejung	72.88 301	eP	P	04 22 47.7	+0.9
	comp=Z,46nm,1.0s					
ODAN	Odare	73.01 301	eP	P	04 22 48.3	+0.8
	comp=Z,52nm,0.7s					
RAMN	Ramite	73.71 300	eP	P	04 22 52.3	+0.7
	comp=Z,32nm,1.1s					
JIRN	Jiri	74.26 301	eP	P	04 22 55.3	+0.3
	comp=Z,20nm,0.6s					
GUN	Gumba	74.59 301	eP	P	04 22 57.8	+0.9
	comp=Z,46nm,0.7s					
PKI	Pulchoki	74.90 301	eP	P	04 22 58.7	+0.1
	comp=Z,26nm,0.7s					
PKIN	Phulchoki	74.91 301	eP	P	04 22 59.0	+0.4
KKN	Kakani	75.07 301	eP	P	04 23 00.1	+0.6
	comp=Z,24nm,0.5s					
DMN	Daman	75.17 301	eP	P	04 23 01.1	+1.0
	comp=Z,56nm,0.8s					
KOLN	Koldanda	76.50 300	eP	P	04 23 07.6	0.0
	comp=Z,48nm,0.7s					
DANN	Dangsing	76.51 301	eP	P	04 23 08.0	+0.2
	comp=Z,40nm,0.7s					
PYUN	Piuthan	77.10 301	eP	P	04 23 10.8	-0.3
	comp=Z,94nm,1.0s					
WMQ	Urumqi	78.29 317	eP	P	04 23 18.8	+1.7
WMQ			pmax	pmax		
	comp=Z,7.0nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,140nm,4.0s					
IMA2	Indian Mountai	81.58 19	eP	P	04 23 34.5	0.0
MCK	McKinley	81.86 22	eP	P	04 23 35.3	-0.7
MK31	Makanchi Array	82.87 319	eP	P	04 23 42.4	+0.8
MKAR	Makanchi Array	82.87 319	P	P	04 23 42.2	+0.6
MKAR	Makanchi Array	82.87 319	P	P	04 23 42.2	+0.6
	comp=Z,3.3nm,0.7s,baz=98,slow=5.7,SNR=28					
COLA	College	82.88 21	eP	P	04 23 40.6	-0.6
	comp=Z,24nm,1.1s					
ILAR	Eielson Array	83.18 22	P	P	04 23 42.0	-0.8
ILAR	Eielson Array	83.18 22	P	P	04 23 42.0	-0.8
	comp=Z,1.3nm,0.8s,baz=250,slow=5.3,SNR=7.4					
QSPA	South Pole Qui	83.35 180	eP	P	04 23 44.0	+0.2
	comp=Z,26nm,1.0s					
ZALV	Zalesovo Beam	83.66 326	P	P	04 23 42.9	-2.5
ZALV	Zalesovo Beam	83.66 326	P	P	04 23 42.9	-2.5
	comp=Z,1.5nm,0.5s,baz=112,slow=6.6,SNR=6.2					
MAW	Mawson	84.58 203	eP	P	04 23 49.9	0.0
	comp=Z,2.2nm,0.7s					
MAW			epP	pP	04 24 00.2	-2.6
MAW	Mawson	84.58 203	P	P	04 23 50.2	+0.3
	comp=Z,3.9nm,0.6s,baz=94,slow=6.0,SNR=16					
MAW			LR	LR	04 57 46.6	
	comp=Z,63nm,20.6s,baz=199,slow=33					
MAW	Mawson	84.58 203	P	P	04 23 50.5	+0.6
	baz=85,SNR=20					
KSH	Kashi	85.47 310	P	P	04 23 57.1	+2.0
KSH			sP	sP	04 24 12.0	-0.9
KSH			PP	PP	04 27 18.0	+4.0
KSH			S	S	04 34 23.3	-0.4
KSH			sS	sS	04 34 41.3	-4.0
KSH			pmax	pmax		
	comp=Z,12nm,1.2s					
KSH			pmax	pmax		
	comp=Z,71nm,5.1s					
KSH			LR	LR		
	comp=N,100nm,5.2s					
KSH			LR	LR		
	comp=E,65nm,4.9s					
KSH			LR	LR		
	comp=Z,54nm,6.4s					
KURK	Kurchatov	86.30 322	P	P	04 23 57.6	-1.1
KURBB	Kurchatov Arra	86.33 322	P	P	04 23 57.6	-1.3
	comp=Z,0.8nm,0.6s,baz=105,slow=4.7,SNR=9.0					
TKM2	Tokmak 2	86.48 314	eP	P	04 24 00.3	+0.2
	comp=Z,1.5nm,0.5s					
AAK	Ala-Archa	87.21 313	eP	P	04 24 04.2	+0.6
MWC	Mount Wilson	91.49 56	eP	P	04 24 25.2	+1.2
	comp=Z,14nm,1.1s					
BVAR	Borovoye Array	91.77 323	P	P	04 24 23.1	-1.5
BVAR	Borovoye Array	91.77 323	P	P	04 24 23.1	-1.5
	comp=Z,1.3nm,0.6s,baz=101,slow=6.2,SNR=6.4					
NVAR	Mina Array Bea	91.80 52	P	P	04 24 26.1	+0.7
NVAR	Mina Array Bea	91.80 52	P	P	04 24 26.1	+0.7
	comp=Z,3.7nm,0.8s,baz=249,slow=6.7,SNR=19					
NV11	Mina Array Sit	91.92 52	eP	P	04 24 25.9	0.0
WVOR	Wild Horse Val	92.04 48	eP	P	04 24 26.0	-0.3
	comp=Z,2.9nm,1.1s					
PFO	Pinyon Flat Ob	92.75 57	P	P	04 24 31.1	+1.4
PFO	Pinyon Flat Ob	92.75 57	P	P	04 24 31.1	+1.4
	comp=Z,2.6nm,0.8s,baz=204,slow=12,SNR=3.3					
NEW	Newport	93.75 42	eP	P	04 24 32.9	-1.0
	comp=Z,2.0nm,0.9s					
SHPR	Sheep Range	94.09 54	eP	P	04 24 36.8	+0.9
	comp=Z,3.1nm,0.8s					
HLID	Hailey	95.23 47	eP	P	04 24 41.2	+0.2
DUG	Dugway	96.20 50	eP	P	04 24 45.7	+0.2
	comp=Z,1.0nm,0.7s					
HWUT	Hardware Ranch	97.22 49	eP	P	04 24 49.1	-1.0
	comp=Z,1.7nm,0.8s					
PDAR	Pinedale Array	98.75 48	P	P	04 24 56.2	-0.7
PDAR	Pinedale Array	98.75 48	P	P	04 24 56.2	-0.7
	comp=Z,0.7nm,0.9s,baz=251,slow=4.5,SNR=4.5					
WCI	Wyandotte Cave	116.82 50	ePKPdf	PKPdf	04 30 01.5	-0.2
BRTR	Keskin Array B	117.84 312	PKKPbc	PKKPbc	04 40 25.2	-0.4
BRTR	Keskin Array B	117.84 312	PKKPbc	PKKPbc	04 40 25.2	-0.4
	comp=Z,0.5nm,0.7s,baz=178,slow=0.8,SNR=4.1					
NOA	NORSAR Array B	119.22 341	PKP	PKPdf	04 30 05.1	-0.6
NOA	NORSAR Array B	119.22 341	PKP	PKPdf	04 30 05.1	-0.6
	comp=Z,0.5nm,0.6s,baz=48,slow=2.0,SNR=2.8					
BOSA	Boshof	119.94 232	PKP	PKPdf	04 30 08.5	+0.4
BOSA	Boshof	119.94 232	PKP	PKPdf	04 30 08.5	+0.4
	comp=Z,1.3nm,0.8s,baz=143,slow=5.1,SNR=2.6					
CFAA	Coronel Fontan	124.18 135	PKP	PKPdf	04 30 14.8	-1.4
CFAA	Coronel Fontan	124.18 135	PKP	PKPdf	04 30 14.8	-1.4
	comp=Z,0.3nm,0.8s,baz=243,slow=4.6,SNR=6.3					
GERES	GERESS Array B	126.53 329	PKP	PKPdf	04 30 20.6	+0.5
GERES	GERESS Array B	126.53 329	PKP	PKPdf	04 30 20.6	+0.5
	comp=Z,0.5nm,0.6s,baz=88,slow=1.2,SNR=7.7					
WLF	Walferdange	129.58 334	ePKPdf	PKPdf	04 30 22.7	-3.1
DAVOX	Davos/Dischmat	129.84 329	PKP	PKPdf	04 30 26.3	-0.3
DAVOX	Davos/Dischmat	129.84 329	PKP	PKPdf	04 30 26.3	-0.3
	comp=Z,1.1nm,0.6s,baz=29,slow=15,SNR=4.6					
ROSC	El Rosal	131.30 89	ePKPdf	PKPdf	04 30 30.3	-0.3
LPAZ	La Paz	131.98 119	PKP	PKPdf	04 30 31.1	-1.0
LPAZ			ePKPdf	PKiKP	04 30 32.5	-0.6
LPAZ	La Paz	131.98 119	PKP	PKPdf	04 30 31.1	-1.0
	comp=Z,0.8nm,0.6s,baz=274,slow=6.7,SNR=3.9					
BNI	Bardonecchia	132.65 329	ePKPdf	PKPdf	04 30 32.4	+0.4
CPUP	Villa Florida	134.92 138	ePKPdf	PKPdf	04 30 36.5	-0.1
CPUP	Villa Florida	134.92 138	PKP	PKPdf	04 30 36.5	-0.1
	comp=Z,2.1nm,0.8s,baz=185,slow=3.6,SNR=5.0					
SAML	Samuel	139.29 112	ePKPdf	PKPdf	04 30 44.6	-0.4
BDFB	Brasilia	148.52 135	PKPbc	PKPbc	04 31 04.3	-0.5
BDFB	Brasilia	148.52 135	PKPbc	PKPbc	04 31 04.3	-0.5
	comp=Z,14nm,0.8s,baz=176,slow=2.5,SNR=12					
TOA0	Torodi Ar. Sit	152.55 286	ePKPbc	PKPbc	04 31 13.8	-0.5
TORD	Torodi Ar. Bea	152.55 286	PKP	PKPdf	04 31 07.4	+0.1
TORD			PKPbc	PKPbc	04 31 13.8	-0.4
TORD	Torodi Ar. Bea	152.55 286	PKP	PKPdf	04 31 07.4	+0.1
	comp=Z,1.3nm,0.8s,baz=29,slow=1.8,SNR=8.3					
TORD			PKPbc	PKPbc	04 31 13.8	-0.4
	comp=Z,12nm,0.8s,baz=91,slow=2.6,SNR=62					
DBIC	Dimbokro	159.59 271	ePKPab	PKPab	04 31 56.1	+1.1

*IDC **23** 04:30:37.6±0.7,6°.46S×154°.48E,h0km,mb4.2/10,*
mb1 4.4/13,mb1mx4.2/21,mbtmp4.3/13,ML3.7/3,MS3.5/4,
Ms1 3.5/4,ms1mx3.1/28,Error ellipse: s-maj=26.3km
s-min=17.7km az=107.0
*NEIC **23** 04:30:41.6±0.3,2,6°.50S×154°.49E,h26km±22km,mb4.5/8,*
Error ellipse: s-maj=11.1km s-min=8.5km az=78.0
*ISCJB **23** 04:30:42.6±0.4,6°.59S±0°.06×154°.54E±0°.07,h48km,*
mb4.2/16,MS3.6/3,Error ellipse: s-maj=11.1km
s-min=7.9km az=38.6
ISC 23 04:30:44.2±0.5,6°.54S±0°.09×154°.55E±0°.08,h48km,n57,
σ0°.98/62,mb4.3/16,MS3.5/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.07 119		LR	LR	04 34 22.5	
	comp=Z,240nm,20.4s,baz=244,slow=36						
PMG	Port Moresby	7.86 248		Pn	Pn	04 32 34.0	-1.9
PMG				Sn	Sn	04 34 05.9	+2.3
PMG	Port Moresby	7.86 248		Pn	Pn	04 32 34.0	-1.9
	2.4nm,0.3s,baz=3.8,slow=15,SNR=3.4						
PMG				Sn	Sn	04 34 05.9	+2.3
	baz=75,slow=19,SNR=2.2						
COEN	Coen	13.40 236		ePn	Pn	04 33 49.4	-2.4
CTA	Charters Tower	15.69 210		Pn	Pn	04 34 21.7	-0.5
CTA	Charters Tower	15.69 210		Pn	Pn	04 34 21.7	-0.5
	0.3nm,0.3s,baz=55,slow=17,SNR=2.1						
CTAO	Charters Tower	15.69 210		ePn	P	04 34 25.4	-0.1
	22nm,0.9s						
DZM	Mont Dzumac	19.24 145		eP	P	04 35 04.5	-0.3
	18nm,1.0s						
DZM	Mont Dzumac	19.24 145		P	Pn	04 35 04.7	-1.4
	0.5nm,0.3s,baz=301,slow=18,SNR=7.8						
WRAB	Tennant Creek	23.71 234		eP	P	04 35 50.9	-1.1
	22nm,1.1s						
WRA	Warramunga Arr	23.72 234		P	P	04 35 50.9	-1.2
WRA				PcP	PcP	04 39 36.0	+0.7
WRA	Warramunga Arr	23.72 234		P	P	04 35 50.9	-1.2
	16nm,1.0s,baz=60,slow=9.7,SNR=24						
WRA				PcP	PcP	04 39 36.0	+0.7
	1.2nm,0.9s,baz=60,slow=2.1,SNR=5.4						
AS31	Alice Springs	26.15 227		eP	P	04 36 12.9	-1.3
ASAR	Alice Springs	26.15 227		P	P	04 36 13.3	-0.9
ASAR				PcP	PcP	04 39 41.6	+1.0
ASAR	Alice Springs	26.15 227		P	P	04 36 13.3	-0.9
	2.4nm,0.9s,baz=62,slow=8.8,SNR=15						
ASAR				PcP	PcP	04 39 41.7	+1.0
	0.3nm,0.5s,baz=57,slow=3.4,SNR=3.9						
STKA	Stephens Creek	27.96 204		P	P	04 36 30.4	+0.1
STKA	Stephens Creek	27.96 204		P	P	04 36 30.4	+0.1
	2.3nm,0.4s,baz=44,slow=15,SNR=3.7						
FITZ	Fitzroy Crossi	30.44 245		LR	LR	04 48 36.9	
	comp=Z,112nm,20.7s,baz=223,slow=36						
DAV	Davao City (W)	31.91 295		LR	LR	04 50 19.4	
	comp=Z,46nm,18.4s,baz=84,slow=37						
JNU	Nakatsue	45.41 332		P	P	04 38 58.0	-0.3
JNU	Nakatsue	45.41 332		P	P	04 38 58.0	-0.3
	2.4nm,0.7s,baz=96,slow=10,SNR=3.6						
KSRS	Korea Array	50.34 332		P	P	04 39 36.1	-0.2
	1.0nm,0.7s,baz=148,slow=8.4,SNR=5.0						
KSAR	Wonju Array Be	50.34 332		P	P	04 39 36.1	-0.3
PPT	Papeete	55.55 107		LR	LR	05 00 11.3	
	comp=Z,131nm,20.0s,baz=207,slow=32						
VNDA	Vanda	71.04 178		eP	P	04 41 57.4	+0.7
	2.1nm,0.8s						
TAPN	Taplejung	72.79 301		eP	P	04 42 08.1	-0.4
	22nm,0.8s						
ODAN	Odare	72.92 301		eP	P	04 42 09.7	+0.5
	26nm,0.7s						
GUN	Gumba	74.51 301		eP	P	04 42 19.3	+0.7
	21nm,0.6s						
PKIN	Phulchoki	74.83 301		eP	P	04 42 20.3	-0.1
KKN	Kakani	74.99 301		eP	P	04 42 22.5	+1.3
	9.4nm,0.7s						
DMN	Daman	75.08 301		eP	P	04 42 22.0	+0.1
	34nm,0.9s						
KOLN	Koldanda	76.42 300		eP	P	04 42 30.2	+0.8
	16nm,0.7s						
DANN	Dangsing	76.43 301		eP	P	04 42 30.9	+1.3
	12nm,0.7s						
KDAK	Kodiak Island	76.95 26		eP	P	04 42 31.5	+0.1
	25nm,1.4s						
PYUN	Piuthan	77.02 301		eP	P	04 42 33.8	+1.0
	38nm,0.9s						
MCK	McKinley	81.80 22		eP	P	04 42 57.1	-0.7
	6.7nm,1.1s						
MK31	Makanchi Array	82.78 319		eP	P	04 43 04.1	+0.8
MKAR	Makanchi Array	82.78 319		P	P	04 43 03.1	-0.2
MKAR	Makanchi Array	82.78 319		P	P	04 43 03.1	-0.2
	1.5nm,0.7s,baz=101,slow=5.2,SNR=16						
ILAR	Eielson Array	83.12 22		P	P	04 43 04.0	-0.6
ILAR	Eielson Array	83.12 22		P	P	04 43 04.0	-0.6
	0.4nm,0.6s,baz=264,slow=5.3,SNR=5.8						
QSPA	South Pole Qui	83.43 180		eP	P	04 43 06.9	+0.5
	7.4nm,0.9s						
ZALV	Zalesovo Beam	83.56 326		P	P	04 43 05.8	-1.4
ZALV	Zalesovo Beam	83.56 326		P	P	04 43 05.8	-1.4
	0.6nm,0.5s,baz=102,slow=4.7,SNR=3.9						
MAW	Mawson	84.64 203		P	P	04 43 13.0	+0.6
MAW	Mawson	84.64 203		P	P	04 43 13.0	+0.6
	3.4nm,1.1s,baz=79,slow=10,SNR=4.7						
EKS2	Erkin-Say	87.65 313		eP	P	04 43 27.5	-0.4
	2.4nm,0.9s						
NVAR	Mina Array Bea	91.79 52		P	P	04 43 48.3	+0.8
NVAR	Mina Array Bea	91.79 52		P	P	04 43 48.3	+0.8
	1.7nm,0.8s,baz=252,slow=5.2,SNR=9.8						
LPAZ	La Paz	132.06 119		ePKPbc	PKPdf	04 49 55.5	+1.1
CPUP	Villa Florida	135.01 138		ePKPdf	PKPdf	04 49 58.4	-0.5
TAM	Tamanrasset	146.08 302		ePKPbc	PKPab	04 50 21.4	0.7
BDFB	Brasilia	148.61 135		PKPbc	PKPbc	04 50 28.3	+1.2
BDFB	Brasilia	148.61 135		PKPbc	PKPbc	04 50 28.3	+1.2
	5.9nm,0.8s,baz=231,slow=6.5,SNR=2.6						
TOA0	Torodi Ar. Sit	152.48 286		ePKPbc	PKPbc	04 50 36.2	-0.1
TOA0				ePKPab	PKPab	04 50 46.6	-0.1
TORD	Torodi Ar. Bea	152.48 286		PKP	PKPdf	04 50 29.6	+0.3
TORD				PKPbc	PKiKP	04 50 36.4	-0.2
TORD	Torodi Ar. Bea	152.48 286		PKP	PKPdf	04 50 29.6	+0.3
	0.7nm,0.9s,baz=4.9,slow=2.1,SNR=5.4						
TORD				PKPbc	PKiKP	04 50 36.4	-0.2
	4.7nm,0.7s,baz=80,slow=1.8,SNR=32						

IDC 23 04:35:36.8±3.1,19°.97N×146°.26E,h0km,mb3.8/10,
mb1 4.0/10,mb1mx3.9/25,mbtmp3.8/10,Error ellipse:
s-maj=96.2km s-min=32.4km az=10.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	23.63 321		P	P	04 40 49.9	+0.3
	0.6nm,0.6s,baz=140,slow=11,SNR=3.3						
ZALV	Zalesovo Beam	57.34 322		P	P	04 45 24.7	-1.8
	0.9nm,0.5s,baz=90,slow=7.2,SNR=2.6						
MKAR	Makanchi Array	57.97 313		P	P	04 45 30.4	-0.8
	0.2nm,0.6s,baz=98,slow=9.6,SNR=2.3						
ILAR	Eielson Array	62.27 26		P	P	04 46 00.8	+0.4
	0.6nm,0.7s,baz=262,slow=6.0,SNR=6.7						
ARCES	ARCESS Array B	81.45 342		P	P	04 47 55.9	+0.4
	2.0nm,0.8s,baz=51,slow=6.4,SNR=3.8						
NVAR	Mina Array Bea	81.94 52		P	P	04 47 58.1	-0.9
	0.1nm,0.4s,baz=270,slow=6.1,SNR=3.6						
FINES	FINESS Array B	85.95 335		P	P	04 48 19.6	+1.0
	2.2nm,0.7s,baz=73,slow=5.0,SNR=18						
NB2	NORSAR Subarra	91.56 340		P	P	04 48 47.0	+1.6
	comp=Z,2.0nm,0.9s,baz=42,slow=5.1						
NOA	NORSAR Array B	91.56 340		P	P	04 48 46.9	+1.5
	comp=Z,0.5nm,0.6s,baz=40,slow=4.9,SNR=2.7						
BRTR	Keskin Array B	93.60 314		P	P	04 48 56.1	+0.7
	comp=Z,0.7nm,0.8s,baz=70,slow=9.3,SNR=3.2						
TXAR	Lajitas Array	96.69 56		P	P	04 49 08.7	-1.0
	comp=Z,0.5nm,1.0s,baz=48,slow=1.3,SNR=3.8						

*BJI **23** 04:37:55.5,5°.48S×152°.27E,h163km,mB4.9/13,mb4.6/23*
*ISCJB **23** 04:37:59.5±1.3,4°.98S±0°.05×151°.63E±0°.07,h148km±12km,*
mb4.5/48,Error ellipse: s-maj=10.8km s-min=8.5km
az=1.8
*IDC **23** 04:38:00.6±1.6,4°.99S×151°.60E,h145km±13km,mb4.1/20,*
mb1 4.2/22,mb1mx4.2/25,mbtmp4.1/22,MS3.0/1,
Ms1 3.0/1,ms1mx2.3/25,Error ellipse: s-maj=15.2km
s-min=9.7km az=105.0
*NEIC **23** 04:38:02.0±1.3,4°.98S×151°.66E,h161km±11km,mb4.6/22,*
Error ellipse: s-maj=9.0km s-min=6.4km az=71.0
*AUST **23** 04:38:26.2,6°.18S×150°.63E,h300km*
ISC 23 04:38:02.7±0.5,5°.07S±0°.04×151°.62E±0°.07,h164km±2km,
n173,σ1°.27/220,mb4.5/47,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.17 226		ePn	Pn	04 39 32.0	+0.1
PMG				eSg	Sn	04 40 40.1	-1.8
PMG	Port Moresby	6.17 226		P	Pn	04 39 30.0	-1.9
	5.8nm,0.3s,baz=37,slow=7.3,SNR=12						
PMG				S	Sn	04 40 39.8	-2.0
	24nm,0.3s,baz=182,slow=21,SNR=13						
PMG				LR	LR	04 41 17.6	
	comp=Z,128nm,18.7s,baz=85,slow=32						
COEN	Coen	12.13 223		ePn	Pn	04 40 50.8	+0.4
PATS	Pohnpei	13.59 30		P	P	04 41 24.5	+12
	baz=15,SNR=4.1						
MTSU	Mount Surprise	14.81 208		P	P	04 41 28.9	+2.9
	baz=14,SNR=7.9						
CTA	Charters Tower	15.81 199		P	P	04 41 37.2	+0.2
CTA	Charters Tower	15.81 199		P	P	04 41 37.2	+0.2
	0.4nm,0.3s,baz=19,slow=13,SNR=5.0						
CTAO	Charters Tower	15.81 199		eP	P	04 41 38.8	+1.8
	4.1nm,0.6s						
EIDS	Eidsvold	20.19 181		P	Pn	04 42 30.8	+2.3
	baz=19,SNR=3.5						
KDU	Kakadu	20.36 247		P	P	04 42 26.1	-0.5
	baz=19,SNR=39						
KDU				S	S	04 46 04.1	-1.9
	baz=19,SNR=5.8						
RMQ	Roma	21.47 187		P	P	04 42 40.2	+1.9
	baz=20,SNR=7.9						
MTN	Manton Dam	21.64 248		P	P	04 42 41.4	+1.0
	baz=20,SNR=6.6						
DZM	Mont Dzumac	22.17 141		eP	P	04 42 45.9	+0.1
DZM	Mont Dzumac	22.17 141		P	P	04 42 46.3	+0.6
DZM	Mont Dzumac	22.17 141		P	P	04 42 46.3	+0.6
	6.8nm,0.5s,baz=291,slow=7.0,SNR=24						
WRAB	Tennant Creek	22.38 227		eP	P	04 42 47.3	-0.3
	34nm,0.4s						
WRA	Warramunga Arr	22.39 227		P	P	04 42 47.4	-0.3
WRA				PcP	PcP	04 46 36.6	-0.1
WRA				S	S	04 46 42.8	+1.2
WRA				ScP	ScP	04 50 01.6	+2.5
WRA	Warramunga Arr	22.39 227		P	P	04 42 47.4	-0.3
	30nm,0.4s,baz=50,slow=10.0,SNR=161						
WRA				PcP	PcP	04 46 36.6	-0.1
	2.7nm,0.5s,baz=45,slow=2.1,SNR=8.0						
WRA				S	S	04 46 42.8	+1.2
	5.3nm,1.1s,baz=47,slow=18,SNR=6.1						
WRA				ScP	ScP	04 50 01.6	+2.5
	0.5nm,0.9s,baz=48,slow=2.5,SNR=4.7						
KNRA	Kununurra	24.80 243		P	P	04 43 10.0	+0.3
	baz=23,SNR=65						
AS31	Alice Springs	25.16 221		eP	P	04 43 13.4	+0.4
ASAR	Alice Springs	25.16 221		P	P	04 43 13.3	+0.3
ASAR				PcP	PcP	04 46 43.7	+1.0
ASAR				ScP	ScP	04 50 09.0	+2.4
ASAR	Alice Springs	25.16 221		P	P	04 43 13.3	+0.3
	8.7nm,0.4s,baz=54,slow=8.7,SNR=109						
ASAR				PcP	PcP	04 46 43.7	+1.0
	1.9nm,0.6s,baz=66,slow=2.5,SNR=7.0						
ASAR				ScP	ScP	04 50 09.0	+2.4
	0.6nm,0.7s,baz=26,slow=3.4,SNR=4.3						
CMSA	Cobar Meteorol	26.91 191		P	P	04 43 29.7	+1.2
	baz=26,SNR=5.6						
STKA	Stephens Creek	28.27 198		P	P	04 43 40.9	+0.2
STKA	Stephens Creek	28.27 198		P	P	04 43 40.9	+0.2
	2.7nm,0.4s,baz=21,slow=9.0,SNR=4.1						
FITZ	Fitzroy Crossi	28.50 241		eP	P	04 43 42.5	-0.4
	18nm,0.9s						
FITZ	Fitzroy Crossi	28.50 241		P	P	04 43 42.4	-0.4
	14nm,0.6s,baz=73,slow=7.1,SNR=48						
FITZ	Fitzroy Crossi	28.50 241		P	P	04 43 42.4	-0.4
	baz=27,SNR=20						
LUWI	Luwuk	29.07 277		P	P	04 43 55.5	+7.4
	baz=28,SNR=4.6						
BBOO	Buckleboo	31.19 206		P	P	04 44 06.8	+0.4
	baz=30,SNR=16						
WSI	Waingapu	31.38 260		S	S	04 49 14.4	+11
	baz=30,SNR=5.5						
MILA	Mila	31.91 184		S	S	04 48 49.3	-22
	baz=31,SNR=6.6						
FORT	Forrest	33.84 218		eP	P	04 44 29.3	-0.2
	24nm,0.7s						
MBWA	Marble Bar	34.81 240		eP	P	04 44 37.7	-0.4
	18nm,0.7s						
KKM	Kota Kinabalu	37.03 287		eP	P	04 44 56.7	-0.5
	7.6nm,0.6s						
MEEK	Meekatharra	38.10 232		P	P	04 45 06.0	+0.1
	baz=37,SNR=58						
JOW	Kunigami	38.94 326		eP	P	04 45 13.1	+0.3
	11nm,0.9s						
MORW	Morawa	41.26 231		P	P	04 45 31.9	-0.1
	baz=40,SNR=8.1						
KLBR	Kellerberrin	41.27 226		P	P	04 45 31.2	-0.7
	baz=40,SNR=7.0						
BLDU	Balliduu	41.52 228		P	P	04 45 33.7	-0.3
	baz=40,SNR=11						
KSM	Kuching	41.77 278		eP	P	04 45 37.6	+1.2
	8.9nm,0.7s						
JNU	Nakatsue	42.78 334		P	P	04 45 43.0	-1.2
JNU	Nakatsue	42.78 334		P	P	04 45 43.0	-1.2
	5.7nm,0.7s,baz=188,slow=2.7,SNR=5.2						
CISI	Cisompet, Garu	43.59 264		S	PcS	04 51 27.4	-1.8
	baz=42,SNR=3.5						
QIZ	Qiongzhong	47.60 301		eP	P	04 46 23.0	+0.7
	7.7nm,0.9s						
KSRS	Korea Array	47.72 334		P	P	04 46 22.2	-0.7
	1.7nm,0.8s,baz=144,slow=8.7,SNR=6.4						
KSAR	Wonju Array Be	47.73 334		P	P	04 46 22.2	-0.8
NJ2	Nanjing	48.32 322		eP	P	04 46 28.3	+0.6
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
MCQ	Macquarie Isla	49.64 174		S	S	04 53 20.0	-13
	baz=49,SNR=3.5

CD2				sP	**sP**	**04 48 34.9**	**+0.1**
CD2				PP	**PP**	**04 49 51.8**	**+2.6**
CD2				sS	**sS**	**04 56 31.9**	**-0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,80nm,4.8s						
HHC	**Hu-ho-hao-te**	**58.59**	**325**	*e*P	**P**	**04 47 43.5**	**+1.0**
HHC				pP	**pP**	**04 48 20.4**	**-0.3**
HHC				PP	**PP**	**04 49 57.4**	**+3.3**
HHC				S	**S**	**04 55 33.8**	**0.0**
HHC				sS	**sS**	**04 56 38.3**	**-1.7**
HHC				ScS	**ScS**	**04 57 09.9**	**-6.3**
HHC				SS	SS	04 59 38.4	+8.9
HHC				pmax	pmax		
	comp=Z,42nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,6.2s						
HHC				LR	LR		
	comp=N,290nm,16.5s						
HHC				LR	LR		
	comp=E,260nm,16.7s						
HHC				LR	LR		
	comp=Z,230nm,15.9s						
LZH	**Lanzhou**	**60.61**	**316**	*e*P	**P**	**04 47 56.6**	**+0.1**
LZH				pP	**pP**	**04 48 34.1**	**-0.8**
LZH				sP	**sP**	**04 48 53.5**	**+0.7**
LZH				PP	**PP**	**04 50 15.3**	**+3.1**
LZH				*e*S	S	04 55 53.8	-6.2
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				pmax	pmax		
	comp=Z,85nm,4.6s						
LZH				LR	LR		
	comp=N,310nm,12.6s						
LZH				LR	LR		
	comp=E,350nm,14.0s						
LZH				LR	LR		
	comp=Z,460nm,15.3s						
GTA	**Gaotai**	**65.06**	**318**	P	**P**	**04 48 26.4**	**+0.6**
GTA				pP	**pP**	**04 49 04.6**	**-0.2**
GTA				sP	**sP**	**04 49 22.3**	**-0.2**
GTA				S	**S**	**04 56 55.9**	**+0.7**
GTA				sS	**sS**	**04 58 02.9**	**+0.2**
GTA				SS	**SS**	**05 01 13.9**	**+3.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,99nm,7.1s						
GTA				LR	LR		
	comp=N,92nm,16.9s						
GTA				LR	LR		
	comp=E,93nm,15.9s						
GTA				LR	LR		
	comp=Z,87nm,15.7s						
SONM	**Songino Array**	**65.93**	**328**	P	**P**	**04 48 31.5**	**+0.2**
SONM	**Songino Array**	**65.93**	**328**	P	**P**	**04 48 31.5**	**+0.2**
	comp=Z,7.2nm,0.6s,baz=146,slow=4.9,SNR=16						
LSA	**Lhasa**	**67.42**	**305**	*e*P	**P**	**04 48 41.8**	**+0.3**
	comp=Z,9.8nm,0.7s						
TAPN	**Taplejung**	**69.54**	**302**	*e*P	**P**	**04 48 54.4**	**-0.1**
	comp=Z,17nm,0.7s						
ODAN	**Odare**	**69.67**	**301**	*e*P	**P**	**04 48 55.1**	**-0.1**
	comp=Z,27nm,0.7s						
RAMN	**Ramite**	**70.37**	**301**	*e*P	**P**	**04 48 58.9**	**-0.6**
JIRN	**Jiri**	**70.92**	**301**	*e*P	**P**	**04 49 02.7**	**-0.3**
	comp=Z,17nm,0.6s						
GUN	**Gumba**	**71.25**	**302**	*e*P	**P**	**04 49 04.6**	**-0.3**
	comp=Z,38nm,0.7s						
PKI	**Pulchoki**	**71.56**	**301**	*e*P	**P**	**04 49 06.2**	**-0.6**
PKIN	**Phulchoki**	**71.57**	**301**	*e*P	**P**	**04 49 05.6**	**-1.1**
	comp=Z,12nm,0.8s						
KKN	**Kakani**	**71.73**	**301**	*e*P	**P**	**04 49 07.0**	**-0.6**
	comp=Z,20nm,0.6s						
DMN	**Daman**	**71.83**	**301**	*e*P	**P**	**04 49 08.1**	**-0.2**
	comp=Z,36nm,0.8s						
VNDA	**Vanda**	**72.61**	**178**	*e*P	**P**	**04 49 12.3**	**+0.7**
	comp=Z,1.5nm,0.6s						
VNDA	**Vanda**	**72.61**	**178**	P	**P**	**04 49 12.9**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=321,slow=5.5,SNR=6.4						
KOLN	**Koldanda**	**73.16**	**301**	*e*P	**P**	**04 49 15.5**	**-0.6**
	comp=Z,24nm,0.7s						
DANN	**Dangsing**	**73.17**	**301**	*e*P	**P**	**04 49 15.2**	**-1.1**
	comp=Z,26nm,0.7s						
PYUN	**Piuthan**	**73.77**	**301**	*e*P	**P**	**04 49 18.7**	**-0.9**
	comp=Z,47nm,0.8s						
WMQ	**Urumqi**	**75.14**	**318**	*e*P	**P**	**04 49 27.6**	**+0.5**
MK31	**Makanchi Array**	**79.76**	**319**	*e*P	**P**	**04 49 51.8**	**-0.8**
MKAR	**Makanchi Array**	**79.76**	**319**	*e*P	**P**	**04 49 52.2**	**-0.4**
MKAR	**Makanchi Array**	**79.76**	**319**	P	**P**	**04 49 52.1**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=102,slow=6.6,SNR=26						
ZAA0	**Zalesovo Array**	**80.73**	**327**	*e*P	**P**	**04 49 56.0**	**-1.5**
ZALV	**Zalesovo Beam**	**80.73**	**327**	P	**P**	**04 49 56.2**	**-1.3**
ZALV	**Zalesovo Beam**	**80.73**	**327**	P	**P**	**04 49 56.2**	**-1.3**
	comp=Z,3.7nm,0.4s,baz=121,slow=5.7,SNR=11						
MCK	**McKinley**	**81.57**	**23**	*e*P	**P**	**04 50 00.3**	**-1.5**
	comp=Z,5.0nm,0.9s						
KSH	**Kashi**	**82.22**	**311**	P	**P**	**04 50 07.0**	**+1.1**
KSH				sP	**sP**	**04 51 05.1**	**+1.2**
KSH				S	**S**	**05 00 03.4**	**-4.3**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,76nm,5.7s						
KSH				LR	LR		
	comp=N,73nm,5.4s						
KSH				LR	LR		
	comp=E,81nm,4.2s						
KSH				LR	LR		
	comp=Z,77nm,5.3s						
COLA	**College**	**82.54**	**22**	*e*P	**P**	**04 50 05.2**	**-1.5**
	comp=Z,6.2nm,0.5s						
ILAR	**Eielson Array**	**82.86**	**22**	P	**P**	**04 50 06.3**	**-2.1**
ILAR				PKKPbc	**PKKPbc**	**05 08 30.2**	**-4.0**
ILAR	**Eielson Array**	**82.86**	**22**	P	**P**	**04 50 06.3**	**-2.1**
	comp=Z,1.3nm,0.7s,baz=251,slow=5.1,SNR=18						
ILAR				PKKPbc	**PKKPbc**	**05 08 30.2**	**-4.0**
	comp=Z,0.2nm,0.5s,baz=41,slow=1.0,SNR=5.2						
KURK	**Kurchatov**	**83.26**	**322**	P	**P**	**04 50 10.2**	**-0.6**
TKM2	**Tokmak 2**	**83.27**	**314**	P	**P**	**04 50 11.4**	**+0.1**
SNR=9.7							
TKM2	**Tokmak 2**	**83.27**	**314**	*e*P	**P**	**04 50 11.4**	**+0.1**
	comp=Z,6.2nm,0.6s						
KURBB	**Kurchatov Arra**	**83.29**	**322**	P	**P**	**04 50 10.2**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=112,slow=4.1,SNR=38						
KZA	**Kyzart**	**83.33**	**313**	P	**P**	**04 50 12.9**	**+0.9**
SNR=12							
AAK	**Ala-Archa**	**84.00**	**314**	*e*P	**P**	**04 50 15.2**	**+0.2**
	comp=Z,5.1nm,0.7s						
AAK	**Ala-Archa**	**84.00**	**314**	P	**P**	**04 50 15.2**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=121,slow=4.3,SNR=7.7						
USP	**Ospenovka**	**84.13**	**314**	P	**P**	**04 50 15.7**	**+0.2**
SNR=9.8							
AML	**Almayashu**	**84.47**	**313**	P	**P**	**04 50 17.9**	**+0.2**
SNR=14							
EKS2	**Erkin-Say**	**84.52**	**314**	P	**P**	**04 50 17.9**	**+0.3**
SNR=7.8							
EKS2	**Erkin-Say**	**84.52**	**314**	*e*P	**P**	**04 50 17.6**	**0.0**
	comp=Z,10nm,0.9s						
MAW	**Mawson**	**84.87**	**203**	P	**P**	**04 50 19.4**	**+0.8**
MAW	**Mawson**	**84.87**	**203**	P	**P**	**04 50 19.4**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=64,slow=5.3,SNR=9.6						
MAW	**Mawson**	**84.87**	**203**	P	**P**	**04 50 19.4**	**+0.8**
	baz=83,SNR=8.5						
QSPA	**South Pole Qui**	**84.89**	**180**	*e*P	**P**	**04 50 19.9**	**+0.9**
	comp=Z,14nm,1.5s						
KKAR	**Karatay Array**	**86.96**	**314**	*e*P	**P**	**04 50 28.2**	**-1.3**
	comp=Z,4.1nm,1.0s						
BVAR	**Borovoye Array**	**88.75**	**323**	P	**P**	**04 50 36.3**	**-1.4**
BVAR	**Borovoye Array**	**88.75**	**323**	P	**P**	**04 50 36.3**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=116,slow=6.6,SNR=5.2						
NVAR	**Mina Array Bea**	**93.18**	**52**	P	**P**	**04 50 58.8**	**-0.1**
NVAR				pP	pP	04 51 33.8	-6.4
NVAR	**Mina Array Bea**	**93.18**	**52**	P	**P**	**04 50 58.8**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=258,slow=6.1,SNR=10.0						
NVAR				pP	pP	04 51 33.8	-6.4
	comp=Z,0.9nm,0.8s,baz=256,slow=6.0,SNR=3.9						
GLA	**Glamis**	**95.71**	**57**	*e*P	**P**	**04 51 08.9**	**-1.5**
	comp=Z,6.4nm,0.7s						
PDAR	**Pinedale Array**	**99.90**	**48**	P	**Pdif**	**04 51 27.9**	**-1.4**
PDAR	**Pinedale Array**	**99.90**	**48**	P	**Pdif**	**04 51 27.9**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=255,slow=4.0,SNR=3.9						
TXAR	**Lajitas Array**	**105.29**	**61**	PKKP	**PKKPab**	**05 07 50.8**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=101,slow=6.5,SNR=3.8						
ARCES	**ARCESS Array B**	**106.78**	**343**	PKiKP	**PKiKP**	**04 56 06.2**	**-1.9**
ARCES	**ARCESS Array B**	**106.78**	**343**	PKiKP	**PKiKP**	**04 56 06.2**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=76,slow=4.7,SNR=7.1						
FINES	**FINESS Array B**	**110.81**	**335**	PKiKP	**PKiKP**	**04 56 15.3**	**-0.5**
FINES	**FINESS Array B**	**110.81**	**335**	PKiKP	**PKiKP**	**04 56 15.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=82,slow=4.2,SNR=6.2						
BRTR	**Keskin Array B**	**114.60**	**311**	PKP	PKPdf	04 56 24.5	+0.5
BRTR	**Keskin Array B**	**114.60**	**311**	PKP	PKPdf	04 56 24.5	+0.5
	comp=Z,0.3nm,0.5s,baz=23,slow=2.1,SNR=3.3						
NOA	**NORSAR Array B**	**116.76**	**340**	PKP	**PKPdf**	**04 56 27.1**	**-0.3**
NOA	**NORSAR Array B**	**116.76**	**340**	PKP	**PKPdf**	**04 56 27.1**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=49,slow=2.6,SNR=2.7						
BOSA	**Boshof**	**118.52**	**234**	PKP	**PKPdf**	**04 56 31.9**	**+0.1**
BOSA	**Boshof**	**118.52**	**234**	PKP	**PKPdf**	**04 56 31.9**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=153,slow=17,SNR=4.1						
LSZ	**Lusaka**	**120.44**	**249**	*e*PKPdf	**PKPdf**	**04 56 35.9**	**+0.1**
PSZ	**Piszkesteto**	**120.73**	**324**	*e*PKPdf	**PKPdf**	**04 56 34.5**	**-0.9**
MORC	**Moravsky Berou**	**121.07**	**327**	*e*PKPdf	**PKPdf**	**04 56 36.0**	**0.0**
CLL	**Collm**	**122.51**	**331**	*e*PKPdf	**PKPdf**	**04 56 38.0**	**-0.6**
GERES	**GERESS Array B**	**123.66**	**328**	PKP	**PKPdf**	**04 56 40.9**	**-0.2**
GERES	**GERESS Array B**	**123.66**	**328**	PKP	**PKPdf**	**04 56 40.9**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=79,slow=1.4,SNR=38						
CDF	**Champ du Feu**	**127.21**	**331**	*e*PKIKP	**PKPdf**	**04 56 47.6**	**-0.3**
	comp=Z,0.7nm,0.3s						
BAIF	**Baives**	**127.45**	**334**	*e*PKIKP	**PKPdf**	**04 56 48.9**	**+0.8**
HINF	**Hinteralfeld**	**127.82**	**331**	*e*PKIKP	**PKPdf**	**04 56 48.5**	**-0.5**
PAGF	**Fort de Pagny**	**127.85**	**332**	*e*PKIKP	**PKPdf**	**04 56 49.6**	**+0.6**
HAU	**Haudompre**	**127.94**	**331**	*e*PKIKP	**PKPdf**	**04 56 49.5**	**+0.3**
	comp=Z,3.6nm,0.6s						
MEZF	**Maizieres J'vi**	**128.20**	**332**	*e*PKIKP	**PKPdf**	**04 56 50.4**	**+0.8**
	comp=Z,3.4nm,0.5s						
CABF	**La Chapelle**	**129.03**	**330**	*e*PKIKP	**PKPdf**	**04 56 51.4**	**0.0**
	comp=Z,1.9nm,0.5s						
LPL	**La Plagne**	**129.45**	**328**	*e*PKIKP	**PKPdf**	**04 56 52.5**	**+0.1**
	comp=Z,2.0nm,0.4s						
LPG	**La Plagne**	**129.45**	**328**	*e*PKIKP	**PKPdf**	**04 56 52.6**	**+0.1**
	comp=Z,3.6nm,0.5s						
LOR	**Lormes**	**129.65**	**332**	*e*PKIKP	**PKPdf**	**04 56 52.7**	**+0.2**
SSF	**Saint Saulge**	**129.97**	**332**	*e*PKIKP	**PKPdf**	**04 56 53.8**	**+0.8**
PGF	**Pioggiola**	**130.10**	**324**	*e*PKIKP	**PKPdf**	**04 56 53.4**	**-0.2**
AVF	**Avril sur Loir**	**130.24**	**332**	*e*PKIKP	**PKPdf**	**04 56 54.3**	**+0.8**
	comp=Z,1.1nm,0.4s						
ORIF	**Oris-en-Rattie**	**130.29**	**328**	*e*PKIKP	**PKPdf**	**04 56 54.4**	**+0.6**
	comp=Z,4.3nm,0.6s						
FLN	**La Foliniere**	**130.42**	**336**	*e*PKIKP	**PKPdf**	**04 56 53.9**	**+0.1**
	comp=Z,3.3nm,0.5s						
FRF	**La Foret Royal**	**130.79**	**327**	*e*PKIKP	**PKPdf**	**04 56 54.3**	**-0.4**
VIVF	**Saint-Julien-l**	**130.96**	**329**	*e*PKIKP	**PKPdf**	**04 56 55.1**	**+0.1**
LMR	**La Mourre**	**131.01**	**326**	*e*PKIKP	**PKPdf**	**04 56 55.6**	**+0.5**
SMRF	**Simiane la Rot**	**131.09**	**328**	*e*PKIKP	**PKPdf**	**04 56 55.7**	**+0.4**
TCF	**Toulx Ste Croi**	**131.14**	**332**	*e*PKIKP	**PKPdf**	**04 56 55.7**	**+0.4**
	comp=Z,2.4nm,0.5s						
SGMF	**Saint Gilles**	**131.65**	**337**	*e*PKIKP	**PKPdf**	**04 56 56.3**	**+0.1**
LASF	**Ste Croix**	**131.92**	**329**	*e*PKIKP	**PKPdf**	**04 56 56.9**	**0.0**
MFF	**Saint Martin d**	**131.97**	**334**	*e*PKIKP	**PKPdf**	**04 56 57.2**	**+0.4**
LFF	**La Frestale**	**132.83**	**332**	*e*PKIKP	**PKPdf**	**04 56 58.6**	**+0.1**
	comp=Z,8.8nm,0.9s						
MTLF	**Montolieu**	**133.28**	**329**	*e*PKIKP	**PKPdf**	**04 56 59.9**	**+0.5**
KEST	**Kesra**	**133.79**	**316**	PKP	**PKPdf**	**04 56 59.9**	**-0.8**
KEST	**Kesra**	**133.79**	**316**	PKP	**PKPdf**	**04 56 59.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=80,slow=6.8,SNR=4.4						
ROSC	**El Rosal**	**134.23**	**88**	PKP	**PKPdf**	**04 57 03.5**	**+0.9**
ROSC	**El Rosal**	**134.23**	**88**	PKP	**PKPdf**	**04 57 03.5**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=202,slow=16,SNR=4.5						
EPF	**Esparros**	**134.45**	**330**	*e*PKIKP	**PKPdf**	**04 57 01.9**	**+0.2**
ESDC	**Sonseca Array**	**139.10**	**331**	PKP	**PKPdf**	**04 57 12.2**	**+1.7**
ESDC				PP	**PP**	**05 00 01.1**	**-3.0**
ESDC	**Sonseca Array**	**139.10**	**331**	PKP	**PKPdf**	**04 57 12.2**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=5.2,slow=1.5,SNR=3.1						
ESDC				PP	**PP**	**05 00 01.1**	**-3.0**
	comp=Z,0.8nm,0.8s,baz=42,slow=7.3,SNR=5.4						
SAML	**Samuel**	**142.62**	**112**	*e*PKPdf	**PKPdf**	**04 57 17.4**	**+0.1**
TOA0	**Torodi Ar. Sit**	**149.27**	**287**	*e*PKPbc	**PKPbc**	**04 57 32.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.27**	**287**	PKPbc	**PKPbc**	**04 57 32.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**149.27**	**287**	PKPbc	**PKPbc**	**04 57 32.3**	**-0.8**
	comp=Z,8.0nm,0.8s,baz=109,slow=2.7,SNR=73						
BDFB	**Brasilia**	**151.69**	**137**	PKPbc	**PKPbc**	**04 57 38.6**	**-0.3**
BDFB	**Brasilia**	**151.69**	**137**	PKPbc	**PKPbc**	**04 57 38.6**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=205,slow=11,SNR=4.0						

IDC 23 05:19:42.2±1.5, 1°.71S×99°.50E, $h0^{km}$, mb3.7/9, mb1 3.8/10, mb1mx3.7/24, mbtmp3.7/10, ML2.7/1, Error ellipse: s-maj=57.2km s-min=16.9km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.52**	**353**	Pn	Pn	05 20 51.5	-0.6
	0.4nm,0.3s,baz=294,slow=10.0,SNR=1.9						
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	P	05 24 16.9	-0.2
	0.9nm,0.6s,baz=187,slow=9.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**30.39**	**124**	P	P	05 25 56.0	-0.2
	2.0nm,1.0s,baz=311,slow=9.3,SNR=2.3						
WRA	**Warramunga Arr**	**38.57**	**120**	P	P	05 27 06.4	-0.8
	0.5nm,0.6s,baz=304,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**39.83**	**126**	P	P	05 27 18.4	+0.8
	0.5nm,0.5s,baz=302,slow=7.7,SNR=12						
KSRS	**Korea Array**	**47.03**	**31**	P	P	05 28 14.8	-0.8
	0.4nm,0.4s,baz=223,slow=8.7,SNR=2.9						
SONM	**Songino Array**	**49.71**	**6**	P	P	05 28 36.4	+0.2
	0.2nm,0.4s,baz=171,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**50.62**	**345**	P	P	05 28 43.0	0.0
	0.6nm,0.5s,baz=156,slow=8.5,SNR=12						
ZALV	**Zalesovo Beam**	**56.80**	**350**	P	P	05 29 27.7	-0.3
	0.7nm,0.6s,baz=191,slow=6.0,SNR=4.5						
FINES	**FINESS Array B**	**83.63**	**332**	P	P	05 32 12.0	-0.4
	2.4nm,1.1s,baz=101,slow=8.0,SNR=4.9						
CPUP	**Villa Florida**	**144.25**	**217**	PKP	PKPbc	05 39 20.0	+0.9
	0.9nm,0.5s,baz=127,slow=10,SNR=4.9						
TXAR	**Lajitas Array**	**144.78**	**37**	PKP	PKPdf	05 39 22.1	+0.1
	0.5nm,0.5s,baz=247,slow=0.5,SNR=16						

IDC 23 05:25:00.2±3.3, 1°.66S×99°.30E, $h0^{km}$, mb3.4/4, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, ML3.9/1, Error ellipse: s-maj=145.2km s-min=22.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.00**	**359**	P	P	05 29 34.9	+0.3
	0.1nm,0.3s,baz=185,slow=9.1,SNR=2.5						
WRA	**Warramunga Arr**	**38.77**	**120**	P	P	05 32 26.3	-0.5
	0.1nm,0.3s,baz=298,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**40.02**	**126**	P	P	05 32 37.5	+0.3
	0.3nm,0.5s,baz=300,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	05 34 00.3	0.0
	0.3nm,0.5s,baz=154,slow=9.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**56.71**	**350**	P	P	05 34 44.9	-0.6
	0.4nm,0.4s,baz=164,slow=5.7,SNR=2.6						
TXAR	**Lajitas Array**	**144.86**	**36**	PKP	PKPdf	05 44 39.8	-0.4
	0.1nm,0.5s,baz=199,slow=1.7,SNR=4.0						

IDC 23 05:25:25.1±1.8, 1°.97N×124°.43E, $h0^{km}$, mb3.2/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=201.5km s-min=24.6km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.84**	**156**	P	P	05 30 40.0	-0.3
	0.5nm,0.5s,baz=334,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**27.09**	**161**	P	P	05 31 10.4	+0.5
	0.2nm,0.6s,baz=347,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**57.73**	**327**	P	P	05 35 17.5	-0.3
	0.2nm,0.4s,baz=125,slow=7.8,SNR=3.2						

IDC 23 06:15:06.9±8.2, 0°.85N×122°.31E, $h0^{km}$, mb3.9/3, mb1 4.0/4, mb1mx3.5/23, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=142.8km s-min=116.3km az=103.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.12**	**170**	P	Pn	06 19 33.0	+0.7
	0.1nm,0.3s,baz=1.2,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**23.80**	**151**	P	P	06 20 21.5	-0.1
	2.0nm,0.5s,baz=326,slow=11,SNR=40						
ASAR	**Alice Springs**	**26.85**	**156**	P	P	06 20 49.1	-0.3
	0.7nm,0.6s,baz=343,slow=14,SNR=23						
STKA	**Stephens Creek**	**37.33**	**152**	P	P	06 22 20.8	-0.4
	2.5nm,0.7s,baz=332,slow=15,SNR=3.1						

NIED ***23*** *06:49:00,25°.30N×122°.00E, $h20^{km}$, Mw3.9 Best double couple: $M_0$7.18000×10^{14} NP1:ϕ_s287.00000°, δ75.00000°, λ-90.00000°. NP2:ϕ_s105.00000°, δ15.00000°, λ-92.00000°.*
IDC ***23*** *06:49:11.6±0.9, 24°.11N×121°.42E, $h0^{km}$, mb3.6/7, mb1 3.7/9, mb1mx3.6/26, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=35.2km s-min=19.4km az=74.0*
ISCJB ***23*** *06:49:12.8±0.5, 24°.29N±0°.02×121°.88E±0°.02, $h1^{km}$±3^{km}, mb3.6/7, Error ellipse: s-maj=4.0km s-min=2.8km az=28.1*
TAP ***23*** *06:49:13.5, 24°.30N×121°.81E, $h15^{km}$, ML4.2, B*
ISC 23 06:49:13.0±0.8, 24°.28N±0°.02×121°.84E±0°.03, $h14^{km}$±5^{km}, n62, σ1°.09/96, mb3.6/7, 14C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**290**	⇓*i*P	**Pg**	**06 49 16.5**	**+0.5**
	baz=280						
EHP				*i* S	**Sg**	**06 49 18.6**	**+0.5**
	baz=280						
ENA	**Nanau**	**0.17**	**329**	⇑*i*P	**Pb**	**06 49 17.3**	**-0.7**
	baz=338						
ENA				*e*S	**Sg**	**06 49 20.1**	**+0.2**
	baz=338						
TWD	**Chiawan**	**0.30**	**228**	⇑*i*P	**Pb**	**06 49 19.6**	**-0.5**
	baz=226						
TWD				*i* S	**Sb**	**06 49 23.9**	**-1.0**
	baz=226						
TWC	**Suao**	**0.33**	**2**	⇑*i*P	**Pb**	**06 49 20.1**	**-0.6**
	baz=13						
TWC				*i* S	**Sg**	**06 49 24.4**	**+0.1**
	baz=13						
HWA	**Hwalien**	**0.37**	**215**	*e*P	**Pb**	**06 49 21.5**	**+0.1**
	baz=216						
ENTT	**Nioudou**	**0.44**	**326**	⇑*i*P	**Pb**	**06 49 22.1**	**-0.5**
	baz=328						
NNS	**Nan Shan**	**0.45**	**291**	⇑*i*P	**Pb**	**06 49 22.3**	**-0.6**
	baz=290						
NNS				*i* S	**Sg**	**06 49 27.7**	**-0.4**
	baz=290						
TWE	**Neicheng**	**0.47**	**341**	⇑*i*P	**Pb**	**06 49 22.6**	**-0.4**
	baz=344						
TWE				*i* S	**Sg**	**06 49 28.6**	**0.0**
	baz=344						
ILA	**Ilan**	**0.49**	**350**	P	**Pb**	**06 49 23.3**	**-0.2**
	baz=347						
ILA				S	**Sb**	**06 49 30.3**	**-0.3**
	baz=347						
WHF	**Hehuan Shan**	**0.54**	**256**	⇑*i*P	**Pb**	**06 49 24.1**	**-0.5**
	baz=254						
WHF				S	**Sg**	**06 49 31.2**	**+0.2**
	baz=254						
NSK	**Sanguang**	**0.59**	**312**	⇑*i*P	**Pb**	**06 49 24.8**	**-0.4**
	baz=313						
NSK				*i* S	**Sg**	**06 49 32.0**	**-0.4**
	baz=313						
TWT	**Tachien**	**0.60**	**268**	⇑*i*P	**Pb**	**06 49 25.6**	**+0.1**
	baz=266						
TWT				*e*S	**Sb**	**06 49 33.1**	**-0.9**
	baz=266						
TWA	**Mucha**	**0.74**	**342**	⇑P	**Pb**	**06 49 27.8**	**+0.1**
	baz=343						
TWA				S	**Sg**	**06 49 36.8**	**-0.3**
	baz=343						
TWB1	**Santiao Chiao**	**0.74**	**11**	⇑*i*P	**Pb**	**06 49 27.5**	**-0.2**
	baz=13						
NWF	**Wu-fen Shan**	**0.79**	**356**	⇑*i*P	**Pn**	**06 49 29.0**	**-0.9**
	baz=349						
NWF				S	**Sb**	**06 49 38.9**	**-0.4**
	baz=349						
TAP1	**Taipei**	**0.81**	**339**	P	**Pb**	**06 49 28.9**	**0.0**
	baz=339						
TAP1				S	**Sb**	**06 49 39.3**	**-0.4**
	baz=339						
TAP	**Taipei**	**0.82**	**338**	*e*P	**Pn**	**06 49 30.6**	**+0.5**
	baz=339						
TAP				S	**Sb**	**06 49 40.0**	**+0.1**
	baz=339						
NSTT	**Nanjuang**	**0.84**	**295**	P	**Pn**	**06 49 29.6**	**-0.9**
	baz=295						
NSTT				*e*S	**Sb**	**06 49 40.5**	**-0.1**
	baz=295						
EHY	**Hungye**	**0.90**	**212**	*e*P	**Pg**	**06 49 29.6**	**-0.9**
	baz=222						
NCU	**National Centr**	**0.91**	**319**	*e*P	**Pn**	**06 49 31.6**	**+0.2**
	baz=314						
NCU				*e*S	**Sn**	**06 49 44.8**

SCLT				*e*S	Sg	06 50 12.6	-0.4
	baz=239						
TWM1	Shoushan	1.94	222	*e*P	Pg	06 49 49.0	-1.4
	baz=222						
SCZT	Fangliau	2.20	211	*e*P	Pn	06 49 50.4	+1.2
	baz=198						
WDGT	Dungji	2.24	244	*e*P	Pb	06 49 51.1	-2.2
	baz=246						
LAY	Lan-yu	2.25	187	*e*P	Pn	06 49 47.6	-2.2
	baz=190						
TWK1	Hengchun	2.51	202	*e*P	Pb	06 49 56.6	-1.3
	baz=196						
TWK1				*e*S	Sb	06 50 27.6	-1.1
	baz=196						
TSEB	Hengchuen, Pin	2.52	200	*e*P	Pb	06 49 56.6	-1.4
	baz=208						
TSEB				*e*S	Sb	06 50 29.5	+0.5
	baz=208						
QZH	Quanzhou	3.03	283	Pn	Pn	06 49 59.1	-1.5
QZH				Sn	Sn	06 50 33.9	-2.8
QZH				smax	smax		
	comp=N,300nm,0.6s						
QZH				smax	smax		
	comp=E,230nm,0.8s						
KNM	Kinmen	3.11	273	*e*P	Pn	06 50 03.3	+1.7
	baz=273						
JNU	Nakatsue	11.85	40	Pn	Pn	06 52 09.1	+7.4
	comp=E,0.2nm,0.3s,baz=176,slow=16,SNR=4.1						
KSRS	Korea Array	14.13	20	Pn	P	06 52 38.2	-2.2
	comp=E,0.2nm,0.3s,baz=200,slow=11,SNR=3.3						
SONM	Songino Array	26.52	336	P	P	06 54 51.0	+0.7
	comp=E,0.9nm,0.7s,baz=154,slow=11,SNR=4.2						
MKAR	Makanchi Array	38.69	316	P	P	06 56 36.0	-0.5
	comp=E,0.6nm,0.8s,baz=106,slow=9.7,SNR=5.7						
WRA	Warramunga Arr	45.61	163	P	P	06 57 33.0	-0.1
	comp=E,0.5nm,0.7s,baz=344,slow=8.7,SNR=3.3						
ASAR	Alice Springs	49.08	165	P	P	06 58 00.7	+0.6
	comp=E,0.3nm,0.8s,baz=350,slow=7.0,SNR=3.6						
ILAR	Eielson Array	68.86	27	P	P	07 00 18.9	+2.0
	comp=E,0.2nm,0.6s,baz=272,slow=7.8,SNR=3.6						
FINES	FINESS Array B	71.67	330	P	P	07 00 34.0	-0.1
	comp=E,1.1nm,0.8s,baz=66,slow=6.5,SNR=4.6						
BRTR	Keskin Array B	73.60	307	P	P	07 00 46.5	+0.3
	comp=E,0.4nm,0.4s,baz=72,slow=9.2,SNR=3.8						

IDC 23 06:49:16.7±5.0, 1°.06S×99°.89E, $h0^{km}$, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=266.5km s-min=31.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.57	121	P	P	06 56 41.7	0.0
	0.8nm,1.0s,baz=298,slow=8.9,SNR=4.9						
ASAR	Alice Springs	39.90	127	P	P	06 56 52.5	-0.3
	0.3nm,0.8s,baz=292,slow=8.3,SNR=4.4						
MKAR	Makanchi Array	50.09	344	P	P	06 58 13.5	-0.1
	0.2nm,0.7s,baz=164,slow=7.4,SNR=3.2						
TXAR	Lajitas Array	144.02	36	PKP	PKPdf	07 08 54.7	-0.5
	0.2nm,0.5s,baz=321,slow=1.2,SNR=5.8						

*IDC **23** 07:09:35.7±1.2, 34°.92N×26°.03E, $h0^{km}$, mb3.7/4, mb1 3.7/10, mb1mx3.6/30, mbtmp3.6/10, ML3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx2.4/40, Error ellipse: s-maj=24.6km s-min=19.2km az=162.0*

*THE **23** 07:09:35.9, 34°.88N×26°.06E, $h0^{km}\pm2^{km}$, ML3.6/2, Error ellipse: s-maj=4.6km s-min=1.5km az=167.0*

*ISCJB **23** 07:09:36.0±0.9, 34°.86N±0°.04×26°.09E±0°.02, $h12^{km}\pm6^{km}$, mb3.6/4, MS3.2/1, Error ellipse: s-maj=6.4km s-min=3.2km az=4.4*

*ATH **23** 07:09:36.6, 34°.91N×26°.06E, $h15^{km}\pm1^{km}$, MD3.7/23*

*CSEM **23** 07:09:37.2±0.5, 34°.89N×26°.05E, $h2^{km}$, MD3.7, Error ellipse: s-maj=11.5km s-min=4.3km az=174.0*

ISC 23 07:09:37.2±1.1, 34°.93N±0°.05×26°.05E±0°.02, $h10^{km}\pm7^{km}$, n123, σ1§51/143, mb3.8/4, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.23	35	P	Pg	07 09 41.2	-0.7
ZKR				S	Sg	07 09 45.6	+0.5
ZKR	Zakros	0.23	35	||*i*PB	Pg	07 09 41.5	-0.4
ZKR				*e*SB	Sg	07 09 45.9	+0.8
ZKR	Zakros	0.23	35	P	Pg	07 09 41.2	-0.7
ZKR	Zakros	0.23	35	||*i*Pb	Pg	07 09 41.5	-0.4
ZKR				S	Sg	07 09 45.6	+0.5
XRY	Khrisi	0.30	260	*e*PB	Pg	07 09 42.4	-0.8
XRY	Khrisi	0.30	260	*e*Pb	Pg	07 09 42.4	-0.8
NPS	Neapolis	0.49	313	P	Pg	07 09 46.2	-0.5
NPS				S	Sb	07 09 55.5	+0.2
NPS	Neapolis	0.49	313	*e*PN	Pg	07 09 46.3	-0.5
NPS				*e*SN	Sg	07 09 53.4	+0.1
NPS	Neapolis	0.49	313	*e*Pn	Pg	07 09 46.3	-0.5
NPS				*e*Sn	Sg	07 09 53.4	+0.1
NPS				S	Sb	07 09 55.5	+0.2
LAST	Lasithi	0.53	296	P	Pg	07 09 46.5	-0.9
LAST				S	Sg	07 09 55.5	+1.0
LAST	Lasithi	0.53	296	*e*PN	Pg	07 09 46.6	-0.9
LAST				*e*SN	Sg	07 09 55.4	+1.0
LAST	Lasithi	0.53	296	*e*Pn	Pg	07 09 46.6	-0.9
LAST				*e*Sn	Sg	07 09 55.4	+1.0
IDI	Anoyia	1.02	291	P	Pg	07 09 55.2	-1.6
IDI				S	Sb	07 10 11.3	+0.8
IDI	Anoyia	1.02	291	*e*PB	Pg	07 09 55.5	-1.3
IDI				*e*SN	Sb	07 10 11.0	+0.5
IDI	Anoyia	1.02	291	P	Pg	07 09 55.2	-1.6
IDI	Anoyia	1.02	291	*e*Pb	Pg	07 09 55.5	-1.3
IDI				S	Sb	07 10 11.3	+0.8
SIVA	Sivas	1.03	275	P	Pg	07 09 55.6	-1.3
SIVA				S	Sn	07 10 12.7	+0.6
SIVA	Sivas	1.03	275	*e*PN	Pg	07 09 56.4	-0.5
SIVA				*e*SN	Sb	07 10 10.8	+0.2
SIVA	Sivas	1.03	275	P	Pg	07 09 55.6	-1.3
SIVA				S	Sn	07 10 12.7	+0.6
KARP	Karpathos	1.10	55	P	Pg	07 09 56.7	-1.6
KARP				S	Sn	07 10 15.2	+1.2
KARP	Karpathos	1.10	55	*e*PN	Pg	07 09 57.6	-0.7
KARP	Karpathos	1.10	55	P	Pg	07 09 56.7	-1.6
KARP				S	Sn	07 10 15.2	+1.2
SANT	Santorini	1.52	342	P	Pn	07 10 03.5	-1.0
SANT				S	Sn	07 10 26.3	+1.9
SANT	Santorini	1.52	342	*e*PB	Pn	07 10 04.3	-0.2
SANT				*e*SN	Sb	07 10 26.5	+1.6
SANT	Santorini	1.52	342	P	Pn	07 10 03.5	-1.0
SANT				S	Sn	07 10 26.3	+1.9
VAM	Vamos	1.59	288	*e*PN	Pn	07 10 06.0	+0.5
VAM	Vamos	1.59	288	*e*Pn	Pn	07 10 06.0	+0.5
ARG	Arkhangelos	2.12	52	*e*PN	Pn	07 10 14.9	+2.1
ARG	Arkhangelos	2.12	52	*e*Pn	Pn	07 10 14.9	+2.1
APE	Apeiranthos	2.18	349	*e*PN	Pn	07 10 12.6	-1.0
APE	Apeiranthos	2.18	349	*e*PB	Pn	07 10 14.4	+0.8
DAT	Datca	2.18	34	*e*PN	Pn	07 10 12.9	-0.8
BODT	Bodrum	2.36	25	*e*PN	Pn	07 10 15.8	-0.2
BDRM	Kayabasi	2.41	27	*i* P	Pn	07 10 17.1	+0.3
BDRM	Kayabasi	2.41	27	*i* P	Pn	07 10 17.1	+0.3
ANKY	Antikythira Is	2.44	293	*e*PN	Pn	07 10 18.4	+1.3
ANKY	Antikythira Is	2.44	293	*e*Pn	Pn	07 10 18.4	+1.3
MLSB	Milas	2.74	30	*e*PN	Pn	07 10 20.8	-0.6
KYTH	Kithira	2.81	300	*e*PN	Pn	07 10 23.8	+1.6
KYTH	Kithira	2.81	300	*e*Pn	Pn	07 10 23.8	+1.6
DALY	Dalyan (Mu¨la	2.83	47	*e*PN	Pn	07 10 21.9	-0.6
YER	Yerkesik	2.85	39	*e*PN	Pn	07 10 22.5	-0.3
FETY	Fethiye	3.00	54	*e*PN	Pn	07 10 24.3	-0.4
VLI	Veliaí	3.10	306	*e*PN	Pn	07 10 27.1	+0.9
VLI	Veliai	3.10	306	*e*Pn	Pn	07 10 27.1	+0.9
KSL	Kastellorizon	3.13	66	*e*PN	Pn	07 10 27.8	+1.3
AKAS	Kas	3.17	65	*i* P	Pn	07 10 28.4	+1.1
AKAS	Kas	3.17	65	*i* P	Pn	07 10 28.4	+1.1
DID	Didima	3.44	319	*e*PN	Pn	07 10 32.8	+1.9
DID	Didima	3.44	319	*e*Pn	Pn	07 10 32.8	+1.9
CHOS	Chios island	3.45	0	*e*PN	Pn	07 10 31.9	+0.8
CHOS	Chios island	3.45	0	*e*Pn	Pn	07 10 31.9	+0.8
NAIG	Nisos Aigina	3.50	325	*e*PN	Pn	07 10 32.8	+1.1
NAIG	Nisos Aigina	3.50	325	*e*Pn	Pn	07 10 32.8	+1.1
DYR	Agios Nikonas	3.53	302	*e*PN	Pn	07 10 34.1	+1.9
DYR	Agios Nikonas	3.53	302	*e*Pn	Pn	07 10 34.1	+1.9
IZM	Izmir	3.60	15	*e*PN	Pn	07 10 33.0	-0.1
GOLH	Golhisar	3.66	50	*i* P	Pn	07 10 36.2	+2.3
GOLH	Golhisar	3.66	50	*i* P	Pn	07 10 36.2	+2.3
LTK	Loutraki	3.97	322	*e*PN	Pn	07 10 39.6	+1.5
LTK	Loutraki	3.97	322	*e*Pn	Pn	07 10 39.6	+1.5
PYL	PYLOS	4.01	301	*e*PN	Pn	07 10 40.8	+2.0
PYL	PYLOS	4.01	301	*e*Pn	Pn	07 10 40.8	+2.0
ITM	Ithomi	4.03	305	*e*PN	Pn	07 10 40.8	+1.8
ITM	Ithomi	4.03	305	*e*Pn	Pn	07 10 40.8	+1.8
MANT	Manisa	4.09	29	*i* P	Pn	07 10 42.9	+2.9
MANT	Manisa	4.09	29	*i* P	Pn	07 10 42.9	+2.9
GUR	Goura	4.24	316	*e*PN	Pn	07 10 43.5	+1.5
GUR	Goura	4.24	316	*e*Pn	Pn	07 10 43.5	+1.5
AMT	Artemida-Makis	4.37	308	*e*PN	Pn	07 10 46.5	+2.8
AMT	Artemida-Makis	4.37	308	*e*Pn	Pn	07 10 46.5	+2.8
KHL	Karahalli	4.39	38	*e*PN	Pn	07 10 44.0	0.0
KLV	Kalavryta, Ach	4.42	316	*e*PN	Pn	07 10 46.8	+2.3
KLV	Kalavryta, Ach	4.42	316	*e*Pn	Pn	07 10 46.8	+2.3
LKR	Lokris	4.45	327	*e*PN	Pn	07 10 47.3	+2.5
LKR	Lokris	4.45	327	*e*Pn	Pn	07 10 47.3	+2.5
LAKA	Lakka	4.66	316	*e*PN	Pn	07 10 49.9	+2.3
LAKA	Lakka	4.66	316	*e*Pn	Pn	07 10 49.9	+2.3
KALE	Kalithea	4.67	319	*e*PN	Pn	07 10 50.4	+2.5
KALE	Kalithea	4.67	319	*e*Pn	Pn	07 10 50.4	+2.5
TRIZ	Trizonia	4.69	318	*e*PN	Pn	07 10 50.6	+2.5
TRIZ	Trizonia	4.69	318	*e*Pn	Pn	07 10 50.6	+2.5
SUTC	Sutluce-Ispart	4.74	56	*e*PN	Pn	07 10 49.6	+0.8
EFP	Efpalio	4.83	318	*e*PN	Pn	07 10 52.0	+2.1
EFP	Efpalio	4.83	318	*e*Pn	Pn	07 10 52.0	+2.1
RLS	Riolos of Patr	4.84	312	*e*PN	Pn	07 10 52.5	+2.4
RLS	Riolos of Patr	4.84	312	*e*Pn	Pn	07 10 52.5	+2.4
EZN	Ezine	4.89	2	*e*PN	Pn	07 10 49.9	-1.0
AGG	Agios Georgios	5.06	325	*e*PN	Pn	07 10 55.8	+2.6
AGG	Agios Georgios	5.06	325	*e*Pn	Pn	07 10 55.8	+2.6
EVR	Evrytania	5.24	321	*e*PN	Pn	07 10 58.0	+2.3
EVR	Evrytania	5.24	321	*e*Pn	Pn	07 10 58.0	+2.3
GAZI	Gazipasa	5.27	74	*i* P	Pn	07 10 58.1	+2.1
GAZI	Gazipasa	5.27	74	*i* P	Pn	07 10 58.1	+2.1
GONE	Gonen-Balikesi	5.27	14	*e*PN	Pn	07 10 55.9	-0.2
PAIG	Paliouri	5.34	340	*e*PN	Pn	07 10 57.6	+0.7
PAIG	Paliouri	5.34	340	*e*Pn	Pn	07 10 57.6	+0.7
HDMB	Hadim	5.60	67	*e*PN	Pn	07 11 01.0	+0.2
LEF	Lefka	5.61	86	*e*PN	Pn	07 11 00.9	+0.1
CSS	Prodhromos	5.98	88	*e*PN	Pn	07 11 07.7	+1.9
KIZT	Kizilcal	6.11	48	*e*PN	Pn	07 11 08.8	+1.1
LFK	Lefkose	6.14	85	*e*PN	Pn	07 11 08.7	+0.7
IKL	Isikli	6.35	76	*e*P	Pn	07 11 11.8	+0.9
BRTR	Keskin Array B	7.71	49	Pn	Pn	07 11 29.9	+0.3
	0.1nm,0.3s,baz=222,slow=14,SNR=2.1						
MMAI	Mount Meron Ar	8.00	101	Pn	Pn	07 11 33.3	-0.2
	1.7nm,0.3s,baz=261,slow=19,SNR=3.5						
EIL	Elat	9.17	122	Pn	Pn	07 11 48.7	-0.9
	0.5nm,0.3s,baz=291,slow=18,SNR=4.3						
KBZ	Khabaz	15.70	51	Pn	P	07 13 22.0	-0.4
	0.0nm,0.3s,baz=251,slow=14,SNR=3.6						
AKASG	Malin Array Be	15.93	7	Pn	Pn	07 13 20.6	-0.8
	0.3nm,0.3s,baz=194,slow=10,SNR=2.2						
GERES	GERESS Array B	16.64	330	Pn	Pn	07 13 30.9	+0.3
	0.1nm,0.3s,baz=142,slow=15,SNR=4.2						
SBF	Sospel	16.91	307	*e*P	Pn	07 13 30.1	-3.8
FRF	La Foret Royal	17.30	306	*e*P	Pn	07 13 36.8	-2.0
LPG	La Plagne	18.09	312	*e*P	Pn	07 13 48.1	-0.7
CABF	La Chapelle	19.04	314	*e*P	P	07 13 59.2	-0.3
CDF	Champ du Feu	19.38	320	*e*P	P	07 14 03.3	+0.1
SMF	Signal de Mont	20.42	312	*e*P	P	07 14 12.3	-2.1
	4.4nm,0.7s						
LOR	Lormes	20.70	313	*e*P	P	07 14 14.0	-3.5
AVF	Avril sur Loir	20.78	312	*e*P	P	07 14 17.8	-0.5
SSF	Saint Saulge	20.81	312	*e*P	P	07 14 18.3	-0.4
	14nm,1.0s						
ESDC	Sonseca Array	24.28	290	P	P	07 14 54.8	+0.1
	0.4nm,0.5s,baz=77,slow=9.5,SNR=5.8						
MDT	Mideleit	25.50	274	LR	LR	07 26 42.9	
	comp=Z,66nm,18.4s,baz=262,slow=40						
TORD	Torodi Ar. Bea	30.91	231	P	P	07 15 54.2	0.0
	0.9nm,0.5s,baz=31,slow=7.0,SNR=13						
ARCES	ARCESS Array B	34.66	360	P	P	07 16 25.7	-0.8
	1.4nm,0.8s,baz=176,slow=7.3,SNR=3.9						
MKAR	Makanchi Array	43.29	56	P	P	07 17 39.5	+0.4
	0.9nm,0.7s,baz=278,slow=6.6,SNR=8.8						

*ISCJB **23** 07:20:12.9±0.6, 0°.28N±0°.02×97°.01E±0°.02, $h17^{km}\pm4^{km}$, mb5.4/219, MS4.8/174, Error ellipse: s-maj=3.8km s-min=2.9km az=43.2*

*BJI **23** 07:20:12.7, 0°.06S×97°.03E, $h33^{km}$, mB5.4/41, mb5.3/66, Ms5.2/71, MS7 4.9/66*

*MOS **23** 07:20:15.5±0.9, 0°.30N×96°.97E, $h33^{km}$, mb5.5/85, MS4.7/50, Error ellipse: s-maj=8.0km s-min=3.8km az=120.3*

*DJA **23** 07:20:15.5±0.6, 0°N±4°×9°7E±°, $h60^{km}$, M5.6/18, mB5.8/16, mb5.6/18, MLv5.9/15, Mw(mB)5.4/16, Mwp5.6/2*

*GCMT **23** 07:20:16.0±0.2, 0°.21N×96°.92E, $h16^{km}$, MW5.4, Moment Tensor Solution. s58,c96; s87,c164; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.05±.03; $M_{\theta\theta}$0.45±.02; $M_{\phi\phi}$0.60±.02; $M_{r\theta}$0.70±.06; $M_{\theta\phi}$-0.96±.02; $M_{\phi r}$0.07±.06; Best double couple: $M_0$1.50000×10^{17} NP1:ϕ_s291.00000°, δ61.00000°, λ-123.00000°. NP2:ϕ_s164.00000°, δ43.00000°, λ-46.00000°. Principal axes: T 1.5600, Plg10.0000°, Azm44.0000°; N -0.1300, Plg28.0000°, Azm309.0000°; P -1.4300, Plg60.0000°, Azm152.0000°; Data Used: IU II CN IC G.*

*IDC **23** 07:20:17.5±0.4, 0°.23N×96°.99E, $h38^{km}\pm2^{km}$, mb4.9/35, mb1 4.9/37, mb1mx4.9/39, mbtmp4.9/37, ML5.3/2, MS4.6/32, Ms1 4.6/32, ms1mx4.6/38 Error ellipse: s-maj=11.3km s-min=7.9km az=47.0*

*NEIC **23** 07:20:17.0±0.1, 0°.27N×96°.97E, $h35^{km}$, mb5.5/67, MS4.9/102, Error ellipse: s-maj=4.6km s-min=3.5km az=33.0*

*AUST **23** 07:20:18.1±0.4, 0°.25N×97°.12E, $h36^{km}$, Error ellipse: s-maj=1.1km s-min=0.6km az=225.0*

*TEH **23** 07:20:18.0, 0°.33N×97°.13E, $h35^{km}$, ML5.6*

*SZGRF **23** 07:20:21.7, 0°.71N×96°.18E, $h41^{km}$, mb5.3, MS4.6, Off west coast of northern Sumatera, Indonesia*

*BKK **23** 07:20:22.6±0.4, 0°N±3°×9°7E±°, $h72^{km}\pm4^{km}$, M5.3/39, mB5.7/27, mb5.5/39, MLv5.6/8, Mw(mB)5.2/27, Mwp5.3/3*

ISC 23 07:20:17.4±0.2, 0°.28N±0°.03×97°.01E±0°.04, $h39^{km}\pm2^{km}$, h39km:pP-P,n1173,σ1§20/1291, mb5.5/233, MS4.8/174, 42C-115D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	2.22	342	P	Pn	07 20 49.8	-1.9
PSI	Prapat	3.15	37	Pn	Pn	07 21 02.9	-1.8
PSI	Prapat	3.15	37	Pn	Pn	07 21 02.9	-1.8
	148nm,0.3s,baz=185,slow=8.7,SNR=374						
PSI				LR	LR	07 22 04.4	
	comp=Z,9μm,21.5s,baz=228,slow=34						
PSI	Prapat	3.15	37	P	Pn	07 21 02.8	-1.8
	baz=3.0,SNR=187						
KCSI	Kotacane, Aceh	3.31	13	P	Pn	07 21 05.6	-1.1
PPI	Padang Panjang	3.47	102	P	Pn	07 21 08.2	-0.7
PPI	Padang Panjang	3.47	102	P	Pn	07 21 08.3	-0.5
	baz=3.4,SNR=46						
PPI				S	Sn	07 21 47.2	-1.4
	baz=3.4,SNR=9.2						
TSI	Tuntungan	3.56	26	P	Pn	07 21 09.7	-0.4
PDSI	Padang	3.65	109	P	Pn	07 21 10.9	-0.5
BKNI	Bangkinang	4.03	89	P	Pn	07 21 16.0	-0.6
BKNI	Bangkinang	4.03	89	P	Pn	07 21 16.0	-0.6
	baz=3.9,SNR=12						
LHMI	Lhok Sumawe	4.92	359	P	Pn	07 21 28.3	-0.5
LHMI	Lhok Sumawe	4.92	359	P	Pn	07 21 27.9	-0.9
	baz=5.0,SNR=33						
LHMI				S	Sn	07 22 24.6	+0.1
	baz=5.0,SNR=9.4						
RGRI	Rengat	5.36	97	P	Pn	07 21 46.8	+12
BSI	Banda Aceh	5.46	342	P	Pn	07 21 33.3	-3.0
	767nm,0.8s,31μm10nm						
BSI				S	Sn	07 22 31.2	-6.6
	767nm,0.8s,31μm10nm						
FRIM	Kepong	5.47	57	P	Pn	07 21 35.7	-0.7
IPM	Ipoh	5.79	44	*e*Pn	Pn	07 21 40.9	+0.1
IPM	Ipoh	5.79	44	P	Pn	07 21 41.2	+0.3
IPM	Ipoh	5.79	44	P	Pn	07 21 40.9	+0.1
	394nm,1.2s,8μm25μm3.8nm						
KULM	Kulim	6.16	36	*e*Pn	Pn	07 21 44.5	-1.4
KULM	Kulim	6.16	36	P	Pn	07 21 45.1	-0.8
KULM	Kulim	6.16	36	P	Pn	07 21 44.9	-1.0
	2μm,1.1s,14μm5.1nm						
MASI	Maura Aman, Be	6.24	123	P	Pn	07 21 46.0	-1.0
	2μm,1.3s,35μm10nm						
KGM	Kluang	6.54	75	P	Pn	07 21 50.4	-0.7
KSI	Kapahiang	6.81	125	P	Pn	07 21 54.2	-0.7
	2μm,0.7s,25μm8.1nm						
BTDF	Bukit Timah Da	6.85	81	P	Pn	07 21 54.7	-0.6
	baz=6.7,SNR=4.8						
BTDF				P	Pn	07 21 54.7	-0.6
	baz=6.7,SNR=4.8						
MYKOM	Kota Tinggi	7.00	78	P	Pn	07 21 57.4	-0.1
MYKOM	Kota Tinggi	7.00	78	P	Pn	07 21 57.0	-0.5
	147nm,0.7s,2μm16μm1.2nm						
MNAI	Manna	7.52	128	P	Pn	07 22 03.0	-1.6
	3μm,1.1s,40μm11nm						
MNAI	Manna	7.52	128	P	Pn	07 22 02.7	-1.9
	baz=7.4,SNR=127						
MNAI				S	Sn	07 23 22.0	-6.7
	baz=7.4,SNR=24						
PKDT	Phuket	7.67	10	P	Pn	07 22 04.0	-2.7
SKLT	Songkhla	7.73	28	P	Pn	07 22 05.3	-2.2
	349nm,0.9s,4μm1.3nm						
SKLT	Songkhla	7.73	28	P	Pn	07 22 05.4	-2.1
	361nm,0.9s,4μm1.3nm						
KTGM	Kuala Trenggan	7.91	51	P	Pn	07 22 09.4	-0.5
LWLI	Liwa	8.79	127	P	Pn	07 22 21.0	-1.1
	979nm,0.8s,11μm						
KLSI		9.16	123	P	Pn	07 22 25.6	-1.5
	429nm,1.0s,5μm						
KLI	Kotabumi	9.36	123	P	Pn	07 22 29.0	-0.8
	482nm,1.2s,6μm						
KASI	Kota Agung	9.44	128	P	Pn	07 22 28.3	-2.7
	411nm,1.2s,4μm						
PPBI	Pangkal Pinang	9.44	105	P	Pn	07 22 31.3	+0.3
	46nm,1.1s,2μm						
BLSI	Bandar Lampung	9.96	124	P	Pn	07 22 40.6	+2.6
TPI	Tanjungpandan	11.06	106	P	Pn	07 22 53.5	+0.4
	38nm,1.7s,632nm						
DBJI	Dramaga	11.86	125	P	Pn	07 23 02.4	-1.7
	148nm,1.6s						
COCO	West Island	12.39	181	P	P	07 23 23.2	+0.6
LEM	Lembang	12.72	124	P	Pn	07 23 14.9	-1.1
	65nm,0.8s,1μm						
PHET	Kaeng Krachan	12.81	12	P	Pn	07 23 16.0	-1.1
	402nm,1.2s,4μm						
CISI	Cisompet, Garu	13.29	126	P	Pn	07 23 21.6	-2.2
CISI	Cisompet, Garu	13.29	126	P	Pn	07 23 17.8	-6.0
	baz=13,SNR=14						
CISI				S	Sn	07 25 38.4	-12
	baz=13,SNR=4.3						
KSM	Kuching	13.35	85	*e*Pn	Pn	07 23 24.1	-0.4
KSM				*e*Sn	Sn	07 25 59.8	+8.1
KSM	Kuching	13.35	85	P	Pn	07 23 26.2	+1.8
KSM	Kuching	13.35	85	P	Pn	07 23 27.1	+2.6
	baz=13,SNR=4.0						
XMI	Christmas Isla	13.72	141	S	Sn	07 25 51.0	-10
	baz=14,SNR=3.9						
XMIS	Christmas Isla	13.72	141	P	Pn	07 23 23.8	-5.7
	baz=14,SNR=5.4						
XMIS				S	Sn	07 25 42.5	-18
	baz=14,SNR=4.6						
STKI	Sintang	14.47	91	P	P	07 23 47.1	+1.3
NAYO	Nakonayok	14.58	17	P	Pn	07 23 39.2	-2.0
	287nm,1.3s,4μm						
BJII	Banjamegara	14.75	121	P	Pn	07 23 45.3	+1.7
PBKI	Pangkalan Bun	14.95	102	P	P	07 23 52.2	+1.0
SBUM	Sibu	15.36	82	P	Pn	07 23 51.7	+0.2
UTHA	Uthaitani	15.37	9	P	Pn	07 23 51.5	-0.1
	239nm,0.9s,2μm						
UGM	Wanagama	15.74	121	*e*Pn	Pn	07 23 51.4	-5.1
	1μm,2.3s						
UGM	Wanagama	15.74	121	P	P	07 24 00.6	+0.6
UGM	Wanagama	15.74	121	P	Pn	07 23 52.7	-3.8
	baz=16,SNR=6.1						
BTM	Bintulu	16.32	80	P	Pn	07 24 04.4	+0.5
PBKT	Sadao Pong	16.65	13	P	Pn	07 24 06.1	-1.9
	1μm,1.1s,13μm						
UBPT	Khong Chiam	17.09	29	P	Pn	07 24 11.7	-1.8
	406nm,1.3s,5μm						
LOEI	Loei	17.62	14	P	Pn	07 24 19.5	-0.7
	292nm,1.3s,4μm						
PALK	Pallekele	17.68	294	*e*P	P	07 24 23.6	+2.1
	106nm,1.0s						
CM31	Chiang Mai Arr	18.16	6	*e*P	P	07 24 26.2	-0.6
	181nm,0.9s						
CMAR	Chiang Mai Arr	18.16	6	P	P	07 24 25.9	-0.9
CMAR				S	S	07 27 54.1	+1.3
CMAR				ScP	ScP	07 32 33.1	+1.6
CMAR	Chiang Mai Arr	18.16	6	P	P	07 24 25.9	-0.9
	6.3n

comp=Z,79nm,0.8s
SHL *i* 4 07 30 16.0
NGP Nagpur 27.16 321 *e*P **P 07 25 56.4 -1.0**
NGP *e*x x 07 26 25.7
comp=Z,112nm,1.7s
NGP *e*4 07 30 59.8
TGY Tagaytay City 27.37 59 LR LR 07 36 37.2
comp=Z,5.6nm,21.9s,baz=2.4,slow=36
GYA Guiyang 27.64 19⇑*i*P **P 07 26 01.8 +0.1**
GYA pP **pP 07 26 11.3 -1.2**
GYA PP **PnPn 07 26 52.8 +4.5**
GYA PcP **PcP 07 29 19.3 +0.7**
GYA S **S 07 30 43.1 +2.0**
GYA SS SnSn 07 32 07.8 +13
GYA ScP **ScP 07 32 58.0 +1.6**
GYA ScS **ScS 07 36 47.3 -1.2**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,380nm,9.6s
GYA LR LR
comp=N,3μm,13.6s
GYA LR LR
comp=E,3μm,13.6s
GYA LR LR
comp=Z,4μm,15.2s
GZH Guangzhou 27.68 34 P P 07 26 08.3 +6.4
GZH S S 07 30 52.4 +11
GZH LR LR
comp=N,5μm,16.5s
GZH LR LR
comp=E,7μm,16.9s
GZH LR LR
comp=Z,3μm,12.0s
ODAN Odare 28.00 341 *e*P **P 07 26 06.4 +1.4**
comp=Z,329nm,0.7s
JBP Jabalpur 28.13 325 *e*P **P 07 26 08.9 +2.9**
JBP *i* x x 07 26 21.2
comp=Z,140nm,1.6s
JBP *e*x x 07 31 39.4
RAMN Ramite 28.34 340 *e*P **P 07 26 10.1 +2.0**
comp=Z,353nm,1.0s
TAPN Taplejung 28.36 342 *e*P **P 07 26 09.9 +1.6**
comp=Z,550nm,1.0s
POO Poona 29.09 310 *e*P **P 07 26 15.0 +0.4**
JIRN Jiri 29.14 340 *e*P **P 07 26 17.0 +1.7**
comp=Z,356nm,0.7s
DAV Davao City (W) 29.28 76 LR LR 07 38 36.0
comp=Z,1μm,20.6s,baz=265,slow=38
PKI Pulchoki 29.33 339 *e*P **P 07 26 18.2 +1.2**
comp=Z,209nm,1.1s
PKIN Phulchoki 29.34 339 *e*P **P 07 26 18.0 +1.0**
comp=Z,263nm,1.2s
GUN Gumba 29.47 340 *e*P **P 07 26 19.7 +1.4**
comp=Z,374nm,0.8s
DMN Daman 29.48 338 *e*P **P 07 26 19.5 +1.3**
comp=Z,227nm,0.9s
KKN Kakani 29.58 339 *e*P **P 07 26 20.4 +1.4**
comp=Z,307nm,1.0s
LSA Lhasa 29.78 350 *e*P **P 07 26 22.8 +1.7**
LSA pmax pmax
comp=Z,140nm,0.9s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 29.78 350 *e*P **P 07 26 22.8 +1.7**
comp=Z,140nm,0.9s
LSA LR LR
comp=Z,2μm,22.0s
KOLN Koldanda 30.21 336 *e*P **P 07 26 26.3 +1.7**
comp=Z,471nm,0.8s
DANN Dangsing 30.66 337 *e*P **P 07 26 30.0 +1.3**
comp=Z,711nm,1.2s
PYUN Piuthan 30.75 335 *e*P **P 07 26 30.9 +1.5**
comp=Z,596nm,1.3s
MBWA Marble Bar 30.77 135 *e*P **P 07 26 29.6 +0.1**
comp=Z,106nm,1.4s
CD2 Chengdu 31.13 11 *e*P **P 07 26 32.6 +0.1**
CD2 pP **pP 07 26 44.3 +0.9**
CD2 sP **sP 07 26 47.3 -0.8**
CD2 PP **PnPn 07 27 36.1 +1.0**
CD2 PcP **PcP 07 29 26.3 -1.0**
CD2 S **S 07 31 35.1 -0.6**
CD2 sS **sS 07 31 51.8 -2.0**
CD2 SS **SnSn 07 33 22.1 +2.3**
CD2 ScS **ScS 07 37 01.6 -3.0**
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,400nm,9.5s
CD2 LR LR
comp=N,3μm,14.2s
CD2 LR LR
comp=E,5μm,17.8s
CD2 LR LR
comp=Z,3μm,16.6s
ENH Enshi 32.10 21 *e*P **P 07 26 40.9 -0.2**
comp=Z,85nm,0.9s
QZH Quanzhou 32.20 39⇑*i*P **P 07 26 41.3 -0.6**
QZH S **S 07 31 47.0 -5.5**
QZH pmax pmax
comp=Z,130nm,1.0s
QZH LR LR
comp=N,3μm,17.9s
QZH LR LR
comp=E,10μm,19.2s
QZH LR LR
comp=Z,3μm,15.2s
TWG Pinlang 32.40 45 *e*P **P 07 26 45.1 +1.4**
comp=Z,92nm,0.8s
TWG *e*ScP **ScP 07 33 11.4 -0.3**
TPUB Ta-pu 32.41 43 *e*P **P 07 26 44.7 +0.9**
comp=Z,104nm,0.9s
AGRA Agra 32.46 327 *e*P **P 07 26 44.9 +0.7**
AGRA AMB AMB 07 26 57.2
comp=Z,96nm,0.9s
YULB Yu-li 32.93 44 *e*P **P 07 26 48.7 +0.3**
comp=Z,62nm,0.9s
SSLB Suanglung 32.95 43 *e*P **P 07 26 49.1 +0.5**
comp=Z,93nm,0.8s
LGTI Lohaghat 33.12 333 *e*x x 07 26 58.1
FITZ Fitzroy Crossi 33.56 124 *e*P **P 07 26 53.6 -0.3**
comp=Z,9.1nm,1.3s
FITZ ScP **ScP 07 33 17.8 +1.9**
FITZ Fitzroy Crossi 33.56 124 P **P 07 26 53.6 -0.3**
comp=Z,78nm,0.7s,baz=303,slow=6.8,SNR=30
FITZ ScP **ScP 07 33 17.8 +1.9**
comp=Z,3.6nm,1.0s,baz=242,slow=19,SNR=3.2
FITZ LR LR 07 41 45.8
comp=Z,1μm,19.4s,baz=328,slow=38
FITZ Fitzroy Crossi 33.56 124 P **P 07 26 53.6 -0.3**
baz=34,SNR=97
NACB Ninganchiao 33.64 43 *e*P **P 07 26 55.5 +0.9**
comp=Z,80nm,1.0s
SONA Sohna 33.73 327 *e*P **P 07 26 55.8 +0.6**
SONA AMB AMB 07 27 08.4
comp=Z,107nm,1.1s
YHNB Yeheng 33.82 42 *e*P **P 07 26 56.9 +0.6**
comp=Z,35nm,0.5s
YHNB LR LR
comp=Z,1μm,22.0s
AYAN Aya Nagar 33.89 328 *e*P **P 07 26 57.1 +0.5**
AYAN AMB AMB 07 27 09.5
comp=Z,85nm,0.3s
MEEK Meekatharra 33.90 144 P **P 07 26 57.9 +1.0**
baz=34,SNR=13
NDI New Delhi 34.00 328 *e*4 P 07 26 51.0 -6.6
TATO Taipei 34.10 42 PFAKE 07 27 10.0 +11
TATO LR LR
comp=Z,982nm,22.0s
BHGR Bahadurgarh 34.15 328 *e*P **P 07 27 00.1 +1.2**
BHGR AMB AMB 07 27 12.1
comp=Z,82nm,1.6s
KHET Khetri 34.30 325 *e*P **P 07 27 00.1 -0.1**
KHET AMB AMB 07 27 13.1
comp=Z,164nm,1.6s
WHN Wuhan 34.31 27⇑P **P 07 27 01.8 +1.5**
WHN pP **pP 07 27 12.8 +1.6**
WHN S **S 07 32 30.1 +5.0**
WHN pmax pmax
comp=Z,190nm,1.0s
WHN LR LR
comp=N,3μm,12.5s
WHN LR LR
comp=E,4μm,14.1s
WHN LR LR
comp=Z,3μm,12.7s

MORW Morawa 34.39 150 P **P 07 27 02.7 +1.7**
baz=34,SNR=3.3
RTK Rohtak 34.71 327 *e*P **P 07 27 04.0 +0.3**
RTK AMB AMB 07 27 16.9
comp=Z,74nm,1.9s
KNRA Kununurra 35.14 118 P **P 07 27 06.1 -1.6**
baz=35,SNR=14
KKR Kurukshetra 35.22 329 *e*P **P 07 27 08.8 +0.6**
KKR AMB AMB 07 27 20.7
comp=Z,211nm,0.5s
XAN Xi'an 35.39 17 P **P 07 27 09.5 -0.1**
XAN pP **pP 07 27 18.3 -2.3**
XAN sP **sP 07 27 23.1 -2.2**
XAN PP **PnPn 07 28 27.5 -1.5**
XAN S S 07 32 36.0 -5.8
XAN pmax pmax
comp=Z,31nm,1.0s
XAN pmax pmax
comp=Z,96nm,8.9s
XAN LR LR
comp=N,1μm,19.7s
XAN LR LR
comp=E,850nm,15.2s
XAN LR LR
comp=Z,660nm,13.7s
BLDU Ballidu 35.98 150 P **P 07 27 16.1 +1.4**
baz=36,SNR=5.4
SMLA Simla 35.99 330 *i* P **P 07 27 15.6 +0.9**
SMLA Simla 35.99 330 *e*P **P 07 27 15.6 +0.9**
LZH Lanzhou 36.19 9⇑P **P 07 27 17.1 +0.5**
LZH pP **pP 07 27 27.3 -0.2**
LZH sP **sP 07 27 31.9 -0.3**
LZH PP **PP 07 28 43.9 +4.5**
LZH S **S 07 32 53.4 -0.8**
LZH SS **SnSn 07 35 20.8 -1.7**
LZH pmax pmax
comp=Z,54nm,1.1s
LZH pmax pmax
comp=Z,260nm,4.1s
LZH LR LR
comp=N,2μm,13.3s
LZH LR LR
comp=E,2μm,15.2s
LZH LR LR
comp=Z,2μm,15.5s
MTN Manton Dam 36.26 112 P **P 07 27 15.6 -1.8**
baz=36,SNR=3.5
BHK Bhakra 36.60 330 *e*4 pP 07 27 30.0 -1.0
KLBR Kellerberrin 37.30 150 P **P 07 27 27.2 +1.3**
baz=37,SNR=13
KDU Kakadu 37.46 111 P **P 07 27 25.7 -1.8**
baz=37,SNR=5.0
NJ2 Nanjing 37.74 31 *e*P **P 07 27 30.5 +0.8**
NJ2 pP **pP 07 27 41.1 +0.4**
NJ2 sP **sP 07 27 44.8 -0.5**
NJ2 PcP **PcP 07 29 46.8 +0.6**
NJ2 S **S 07 33 21.0 +3.4**
NJ2 sS **sS 07 33 36.0 +0.1**
NJ2 pmax pmax
comp=Z,40nm,1.2s
NJ2 pmax pmax
comp=Z,240nm,5.9s
NJ2 LR LR
comp=N,19μm,19.2s
NJ2 LR LR
comp=E,17μm,16.9s
NJ2 LR LR
comp=Z,20μm,19.7s
NWAO Narrogin (SRO) 38.14 152 LR LR 07 41 06.6
comp=Z,1μm,19.2s,baz=331,slow=33
SSE Sheshan 38.27 35 P **P 07 27 35.5 +1.4**
SSE pP **pP 07 27 44.3 -0.8**
SSE sP **sP 07 27 48.8 -1.0**
SSE PP **PnPn 07 29 08.3 +4.2**
SSE S **S 07 33 27.4 +1.7**
SSE sS **sS 07 33 43.6 -0.3**
SSE pmax pmax
comp=Z,44nm,0.7s
SSE pmax pmax
comp=Z,140nm,3.5s
SSE LR LR
comp=N,1μm,14.8s
SSE LR LR
comp=E,1μm,15.0s
SSE LR LR
comp=Z,950nm,17.5s
GTA Gaotai 39.03 3 P **P 07 27 41.0 +0.5**
GTA pP **pP 07 27 50.8 -0.8**
GTA sP **sP 07 27 54.8 -1.4**
GTA PP **PnPn 07 29 15.1 +1.9**
GTA ScP **S 07 33 36.8 -0.3**
GTA S **ScP 07 33 38.9 +3.2**
GTA sS **sS 07 33 55.1 -0.3**
GTA SS **SS 07 36 24.9 -5.5**
GTA pmax pmax
comp=Z,41nm,1.1s
GTA pmax pmax
comp=Z,430nm,6.4s
GTA LR LR
comp=N,730nm,21.4s
GTA LR LR
comp=E,1μm,22.6s
GTA LR LR
comp=Z,1μm,22.3s
TIY Taiyuan 39.87 19 *e*P **P 07 27 48.3 +0.8**
TIY pP **pP 07 27 58.5 -0.1**
TIY sP **sP 07 28 03.4 +0.2**
TIY PP **PnPn 07 29 24.0 +0.8**
TIY S **S 07 33 49.6 -0.2**
TIY sS **sS 07 34 06.3 -1.8**
TIY LR LR
comp=N,2μm,13.8s
TIY LR LR
comp=E,820nm,13.1s
TIY LR LR
comp=Z,2μm,13.1s
JOW Kunigami 40.01 46 *e*P **P 07 27 49.3 +0.6**
comp=Z,22nm,0.9s
TIA Tai'an 40.34 25⇑P **P 07 27 51.8 +0.5**
TIA S **S 07 33 57.3 +0.7**
TIA pmax pmax
comp=Z,50nm,1.4s
TIA pmax pmax
comp=Z,530nm,11.3s
TIA LR LR
comp=N,1μm,19.6s
TIA LR LR
comp=E,2μm,17.8s
TIA LR LR
comp=Z,610nm,21.4s
WRA Warramunga Arr 41.72 121 P **P 07 28 02.6 -0.4**
WRA S **S 07 34 15.5 -2.1**
WRA Warramunga Arr 41.72 121 P **P 07 28 02.6 -0.4**
comp=Z,112nm,0.7s,baz=303,slow=8.9,SNR=951
WRA S **S 07 34 15.5 -2.1**
comp=Z,3.1nm,1.1s,baz=298,slow=14,SNR=4.6
WRA LR LR 07 44 31.8
comp=Z,636nm,21.7s,baz=0.0,slow=35
WRAB Tennant Creek 41.73 121 P **P 07 28 02.0 -1.0**
comp=Z,1μm,0.7s
WRAB Tennant Creek 41.73 121 *e*P **P 07 28 02.9 -0.1**
WRAB pmax pmax
comp=Z,161nm,0.8s
WRAB MLR MLR
comp=Z,1μm,20.0s
WRAB Tennant Creek 41.73 121 *e*P **P 07 28 02.9 -0.1**
comp=Z,161nm,0.8s
WRAB LR LR
comp=Z,1μm,20.0s
MSEY Mahe Island 41.78 263 PFAKE 07 28 10.0 +6.4
MSEY LR LR
comp=Z,727nm,21.0s
BTO Baotou 41.84 15 *e*P **P 07 28 04.6 +0.8**
HHC Hu-ho-hao-te 42.49 16 *e*P **P 07 28 10.6 +1.6**
HHC pP **pP 07 28 20.9 +0.8**
HHC sP **sP 07 28 25.3 +0.5**
HHC S **S 07 34 26.1 -2.5**
HHC sS **sS 07 34 46.1 -0.9**
HHC SS **SS 07 37 38.5 -0.7**
HHC ScS **ScS 07 38 06.8 -0.9**
HHC pmax pmax
comp=Z,100nm,1.1s
HHC pmax pmax
comp=Z,820nm,5.1s
HHC LR LR

comp=N,2μm,14.7s
HHC LR LR
comp=E,3μm,14.7s
HHC LR LR
comp=Z,1μm,15.1s
FORT Forrest 42.70 139 *e*P **P 07 28 11.7 +0.9**
comp=Z,307nm,1.3s
FORT Forrest 42.70 139 P **P 07 28 12.3 +1.5**
baz=43,SNR=13
KBL Kabul 42.96 325 *e*P **P 07 28 14.5 +1.4**
KBL pmax pmax
comp=Z,36nm,1.3s
KBL Kabul 42.96 325 *e*P **P 07 28 14.5 +1.4**
comp=Z,36nm,1.3s
AS31 Alice Springs 43.00 126 *e*P **P 07 28 13.6 +0.1**
ASAR Alice Springs 43.00 126 P **P 07 28 13.6 +0.2**
ASAR PcP **PcP 07 30 03.8 +0.4**
ASAR S **S 07 34 34.6 -1.9**
ASAR Alice Springs 43.00 126 P **P 07 28 13.6 +0.2**
comp=Z,24nm,0.6s,baz=294,slow=8.1,SNR=324
ASAR PcP **PcP 07 30 03.8 +0.4**
comp=Z,7.3nm,1.0s,baz=303,slow=3.1,SNR=4.9
ASAR S **S 07 34 34.6 -1.9**
comp=Z,0.7nm,0.7s,baz=303,slow=12,SNR=3.4
ASAR LR LR 07 48 46.9
comp=Z,717nm,18.5s,baz=308,slow=40
BJT Baijiatuau 43.24 22 *e*P **P 07 28 16.7 +1.8**
comp=Z,101nm,0.8s
BJT LR LR
comp=Z,738nm,19.0s
BJI Beijing 43.26 22 P **P 07 28 16.8 +1.7**
BJI S **S 07 34 42.3 +2.7**
BJI pmax pmax
comp=Z,160nm,1.2s
BJI pmax pmax
comp=Z,580nm,8.7s
BJI LR LR
comp=N,600nm,25.3s
BJI LR LR
comp=E,1μm,22.8s
BJI LR LR
comp=Z,520nm,26.1s
KSH Kashi 43.53 336 P **P 07 28 16.8 -0.7**
KSH sP **sP 07 28 30.8 -2.4**
KSH PP **PP 07 29 59.6 +0.3**
KSH S **S 07 34 39.8 -4.1**
KSH sS sS 07 34 55.8 -6.6
KSH pmax pmax
comp=Z,31nm,0.9s
KSH pmax pmax
comp=Z,140nm,2.8s
KSH LR LR
comp=N,340nm,13.0s
KSH LR LR
comp=E,660nm,14.3s
KSH LR LR
comp=Z,530nm,19.6s
WMQ Urumqi 44.14 350 P **P 07 28 23.9 +1.6**
WMQ pP **pP 07 28 35.0 +1.6**
WMQ PP **PcP 07 30 08.3 +1.5**
WMQ S **S 07 34 54.1 +1.5**
WMQ sS **sS 07 35 09.8 -1.3**
WMQ SS SS 07 38 03.5 -7.9
WMQ ScS **ScS 07 38 18.3 +0.5**
WMQ pmax pmax
comp=Z,170nm,1.3s
WMQ LR LR
comp=N,650nm,18.0s
WMQ LR LR
comp=E,800nm,20.0s
WMQ LR LR
comp=Z,790nm,21.0s
DL2 Dalian 44.57 28 P **P 07 28 26.8 +1.1**
DL2 S **S 07 34 59.3 +0.4**
DL2 pmax pmax
comp=Z,160nm,0.8s
DL2 pmax pmax
comp=Z,830nm,2.6s
DL2 LR LR
comp=E,1μm,18.4s
DL2 LR LR
comp=Z,390nm,19.0s
JNU Nakatsue 45.62 41 P **P 07 28 34.5 +0.4**
JNU Nakatsue 45.62 41 P **P 07 28 34.5 +0.4**
comp=Z,12nm,0.7s,baz=236,slow=1.1,SNR=15
JNU LR LR 07 47 56.5
comp=Z,1μm,20.2s,baz=230,slow=36
ULHL Ulahol 45.77 338 *i* P **P 07 28 36.7 +1.2**
ULHL Ulahol 45.77 338 P **P 07 28 36.6 +1.2**
SNR=11
KZA Kyzart 46.00 337 P P 07 28 43.8 +6.3
SNR=9.8
INCN Inchon 46.02 33 PFAKE 07 28 50.0 +13
INCN LR LR
comp=Z,908nm,22.0s
UCH Uchtor 46.41 337 *i* P P 07 28 45.6 +4.8
UCH Uchtor 46.41 337 P P 07 28 45.6 +4.8
SNR=7.6
AAA Alma-Ata 46.42 340 *i* P **P 07 28 42.8 +2.5**
AAA *i* S **S 07 35 25.2 -0.3**
AAA pmax pmax
comp=Z,1μm,3.1s
AAA smax smax
comp=N,900nm,5.5s
AAA MLR MLR
comp=Z,500nm,18.0s
TKM2 Tokmak 2 46.59 338 *i* P **P 07 28 43.2 +1.3**
TKM2 Tokmak 2 46.59 338 P **P 07 28 43.3 +1.3**
SNR=16
TKM2 Tokmak 2 46.59 338 *e*P **P 07 28 43.1 +1.3**
comp=Z,97nm,0.9s
TKM2 LR LR
comp=Z,967nm,22.0s
KBK Karagaybulak 46.61 338 *i* P **P 07 28 43.9 +1.9**
KBK Karagaybulak 46.61 338 P **P 07 28 43.9 +1.9**
SNR=12
AML Almayashu 46.66 336 *i* P **P 07 28 44.1 +1.4**
AML Almayashu 46.66 336 P **P 07 28 44.0 +1.4**
SNR=9.5
KSAR Wonju Array Be 46.68 34 P **P 07 28 43.1 +0.7**
KSRS Korea Array 46.71 34 P **P 07 28 43.1 +0.5**
comp=Z,49nm,0.8s,baz=215,slow=9.0,SNR=74
KSRS LR LR 07 48 32.2
comp=Z,552nm,18.9s,baz=220,slow=36
AAK Ala-Archa 46.77 337 P **P 07 28 45.7 +2.5**
comp=Z,370nm,0.7s,SNR=12
AAK Ala-Archa 46.77 337 *i* P **P 07 28 45.3 +2.1**
AAK Ala-Archa 46.77 337 P **P 07 28 45.3 +2.1**
SNR=8.4
AAK Ala-Archa 46.77 337 P **P 07 28 44.6 +1.4**
AAK LR LR
comp=Z,933nm,20.0s
AAK Ala-Archa 46.77 337 P **P 07 28 44.6 +1.4**
comp=Z,5.0nm,0.6s,baz=136,slow=7.7,SNR=17
FRU Bishkek 46.89 337 *e*P **P 07 28 45.0 +1.0**
FRU *e* 07 30 37.0
FRU *e*S **S 07 35 34.0 +1.8**
FRU pmax pmax
comp=Z,910nm,2.0s
FRU smax smax
comp=E,460nm,4.0s
FRU MLR MLR
comp=Z,900nm,17.0s
CHMS Chumysh 46.98 338 *i* P P 07 28 49.1 +4.4
CHMS Chumysh 46.98 338 P P 07 28 49.0 +4.4
SNR=8.4
EKS2 Erkin-Say 47.07 337 *e*P **P 07 28 47.2 +1.6**
EKS2 pmax pmax
comp=Z,167nm,1.1s
EKS2 MLR MLR
comp=Z,523nm,22.0s
EKS2 Erkin-Say 47.07 337 P **P 07 28 47.4 +1.8**
SNR=16
EKS2 Erkin-Say 47.07 337 *e*P **P 07 28 47.2 +1.6**
comp=Z,167nm,1.1s
EKS2 LR LR
comp=Z,523nm,22.0s
USP Ospenovka 47.30 338 *i* P **P 07 28 48.5 +1.3**
USP Ospenovka 47.30 338 P **P 07 28 48.5 +1.3**
SNR=22
IDAH Dahanechah 47.59 316 *e*P **P 07 28 50.6 +0.7**
SNY Shenyang 47.80 27⇑P **P 07 28 50.9 -0.1**
SNY PP **PP 07 30 44.3 +1.1**
SNY S **S 07 35 47.6 +2.5**
SNY pmax pmax
comp=Z,44nm,1.0s

SNY				LR	LR		
	comp=N,990nm,17.0s						
SNY				LR	LR		
	comp=E,1μm,13.5s						
SNY				LR	LR		
	comp=Z,1μm,15.1s						
COEN	**Coen**	**47.84**	**109**	*e*P	**P**	**07 28 50.4**	**-1.4**
	comp=Z,165nm,1.0s						
COEN	**Coen**	**47.84**	**109**	P	**P**	**07 28 51.2**	**-0.6**
	baz=48,SNR=4.3						
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**07 28 54.1**	**+1.0**
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**07 28 54.1**	**+1.0**
	comp=Z,36nm,0.9s,baz=190,slow=9.1,SNR=172						
SONM				LR	LR	07 52 01.9	
	comp=Z,1μm,18.3s,baz=185,slow=40						
MK31	**Makanchi Array**	**48.08**	**346**	*e*P	**P**	**07 28 54.2**	**+1.0**
MK31	**Makanchi Array**	**48.08**	**346**	*e*P	**P**	**07 28 54.2**	**+1.0**
MKAR	**Makanchi Array**	**48.08**	**346**	*ce*P	**P**	**07 28 54.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,22nm,0.7s						
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**07 28 54.1**	**+0.8**
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**07 28 54.1**	**+0.8**
	comp=Z,22nm,0.8s,baz=156,slow=7.9,SNR=190						
MKAR				LR	LR	07 54 49.0	
	comp=Z,527nm,18.2s,baz=156,slow=43						
KK31	**Karatay Array**	**48.79**	**334**	*i* P	**P**	**07 28 59.0**	**+0.3**
KK31				pmax	pmax		
	comp=Z,130nm,0.9s						
KKAR	**Karatay Array**	**48.79**	**334**	*e*P	**P**	**07 28 59.4**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,115nm,0.9s						
KKAR	**Karatay Array**	**48.79**	**334**	*e*P	**P**	**07 28 59.4**	**+0.7**
	comp=Z,115nm,0.9s						
BBOO	**Buckleboo**	**49.36**	**136**	*e*P	**P**	**07 29 03.3**	**+0.1**
	comp=Z,2μm,1.7s						
BBOO	**Buckleboo**	**49.36**	**136**	P	**P**	**07 29 03.6**	**+0.4**
	baz=49,SNR=17						
IMYA	**Miami**	**49.58**	**320**	*e*P	P	07 29 14.8	+10
IMOG	**Moghan**	**49.92**	**320**	*e*P	**P**	**07 29 05.7**	**-2.1**
ISRO	**Mashad**	**49.96**	**320**	*e*P	**P**	**07 29 05.3**	**-2.6**
MTSU	**Mount Surprise**	**49.96**	**114**	P	**P**	**07 29 08.6**	**+0.5**
	baz=50,SNR=25						
ZAK	**Zakamensk**	**50.20**	**5⇓**	*i* P	**P**	**07 29 09.7**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2	**Changchun**	**50.20**	**27**	*e*P	**P**	**07 29 09.4**	**0.0**
CN2				*e*PP	**PP**	**07 31 05.6**	**+0.5**
CN2				*e*S	**S**	**07 36 18.0**	**-0.9**
CN2				*es*S	**sS**	**07 36 34.4**	**-3.2**
CN2				*e*SS	**SS**	**07 39 48.3**	**-4.5**
CN2				pmax	pmax		
	comp=Z,60nm,1.1s						
CN2				LR	LR		
	comp=N,710nm,14.0s						
CN2				LR	LR		
	comp=E,780nm,14.0s						
CN2				LR	LR		
	comp=Z,860nm,15.0s						
IAKL	**Akhelmad**	**50.59**	**320**	*e*P	**P**	**07 29 11.3**	**-1.6**
PMG	**Port Moresby**	**50.84**	**102**	P	**P**	**07 29 15.2**	**+0.5**
	comp=Z,2.3nm,0.8s						
PMG	**Port Moresby**	**50.84**	**102**	P	**P**	**07 29 15.2**	**+0.5**
	comp=Z,42nm,0.7s,baz=314,slow=3.7,SNR=13						
PMG				LR	LR	07 56 03.0	
	comp=Z,613nm,18.7s,baz=75,slow=42						
IKRD	**Kardeh**	**50.85**	**320**	*e*P	P	07 29 19.1	+4.3
MOY	**Mondy**	**51.31**	**3**	*e*P	**P**	**07 29 18.5**	**+0.7**
MOY				pmax	pmax		
	comp=Z,53nm,2.6s						
IRK	**Irkutsk**	**52.14**	**6**	*e*P	**P**	**07 29 24.6**	**+0.8**
IRK				*e*		07 29 36.2	
IRK				pmax	pmax		
	comp=Z,66nm,2.1s						
CTA	**Charters Tower**	**52.27**	**116**	P	**P**	**07 29 25.9**	**+0.6**
CTA	**Charters Tower**	**52.27**	**116**	P	**P**	**07 29 25.9**	**+0.6**
	comp=Z,61nm,1.0s,baz=290,slow=9.5,SNR=64						
CTAO	**Charters Tower**	**52.27**	**116**	*e*P	**P**	**07 29 25.8**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,115nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,1μm,22.0s						
CTAO	**Charters Tower**	**52.27**	**116**	*e*P	**P**	**07 29 25.8**	**+0.4**
	comp=Z,115nm,1.1s						
CTAO				LR	LR		
	comp=Z,1μm,22.0s						
ABPO	**Ambohimpanom**	**52.46**	**246**	PFAKE		07 29 40.0	+13
ABPO				LR	LR		
	comp=Z,1μm,22.0s						
MAT	**Matsushiro**	**52.49**	**42**	P	**P**	**07 29 26.3**	**-0.5**
MAT				S	**S**	**07 36 54.2**	**+3.4**
KURBB	**Kurchatov Arra**	**52.56**	**345**	P	**P**	**07 29 27.7**	**+0.8**
	comp=Z,14nm,0.7s,baz=165,slow=7.1,SNR=129						
KURBB				S	**S**	**07 36 50.6**	**-0.6**
	comp=Z,0.2nm,0.2s,baz=159,slow=16,SNR=3.3						
HIA	**Hailar**	**52.57**	**19**	*e*P	**P**	**07 29 27.5**	**+0.5**
	comp=Z,39nm,1.0s						
HIA				LR	LR		
	comp=Z,2μm,22.0s						
KURK	**Kurchatov**	**52.63**	**345**	P	**P**	**07 29 27.7**	**+0.3**
KURK				S	**S**	**07 36 50.6**	**-1.4**
KURK				pmax	pmax		
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**52.63**	**345**	P	**P**	**07 29 27.7**	**+0.3**
KURK				S	**S**	**07 36 50.6**	**-1.4**
MDJ	**Mudanjiang**	**52.76**	**29**	P	**P**	**07 29 30.1**	**+1.6**
MDJ				pP	**pP**	**07 29 39.3**	**-0.6**
MDJ				sP	**sP**	**07 29 43.3**	**-1.2**
MDJ				PcP	**PcP**	**07 30 39.3**	**+1.6**
MDJ				PP	**PP**	**07 31 33.3**	**+5.1**
MDJ				S	**S**	**07 36 57.9**	**+3.9**
MDJ				sS	**sS**	**07 37 12.8**	**-0.1**
MDJ				ScS	**ScS**	**07 39 17.3**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,16nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,310nm,8.8s						
MDJ				LR	LR		
	comp=N,1μm,19.6s						
MDJ				LR	LR		
	comp=E,2μm,17.6s						
MDJ				LR	LR		
	comp=Z,890nm,21.5s						
MDJ	**Mudanjiang**	**52.76**	**29**	*e*P	**P**	**07 29 29.8**	**+1.2**
	comp=Z,39nm,1.1s						
MDJ				LR	LR		
	comp=Z,780nm,21.0s						
STKA	**Stephens Creek**	**52.89**	**132**	*e*P	**P**	**07 29 30.2**	**+0.5**
	comp=Z,32nm,1.1s						
STKA	**Stephens Creek**	**52.89**	**132**	P	**P**	**07 29 30.6**	**+0.8**
	comp=Z,78nm,0.9s,baz=305,slow=6.9,SNR=87						
STKA				LR	LR	07 52 29.0	
	comp=Z,706nm,20.2s,baz=286,slow=36						
STKA	**Stephens Creek**	**52.89**	**132**	P	**P**	**07 29 30.3**	**+0.6**
	baz=53,SNR=49						
CIT	**Chita**	**53.40**	**13**	*e*P	**P**	**07 29 34.9**	**+1.7**
CIT				*e*		07 29 45.8	
CIT				pmax	pmax		
	comp=Z,133nm,1.5s						
USRK	**Ussuriysk Arra**	**53.65**	**31**	P	**P**	**07 29 35.8**	**+0.7**
	comp=Z,43nm,0.9s,baz=229,slow=5.8,SNR=59						
USRK				pP	**pP**	**07 29 47.5**	**+1.0**
	comp=Z,48nm,0.9s,baz=235,slow=5.6,SNR=12						
USRK				LR	LR	07 52 34.9	
	comp=Z,847nm,21.6s,baz=213,slow=36						
ZAA0	**Zalesovo Array**	**54.43**	**351**	*e*P	**P**	**07 29 41.4**	**+0.8**
ZALV	**Zalesovo Beam**	**54.43**	**351**	P	**P**	**07 29 41.5**	**+0.9**
ZALV				*PP	**pP**	**07 29 53.5**	**+1.5**
ZALV				pmax	pmax		
	comp=Z,29nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,444nm,18.4s						
ZALV	**Zalesovo Beam**	**54.43**	**351**	P	**P**	**07 29 41.5**	**+0.9**
ZALV				pP	**pP**	**07 29 53.5**	**+1.5**
ZALV	**Zalesovo Beam**	**54.43**	**351**	P	**P**	**07 29 41.5**	**+0.9**
	comp=Z,29nm,0.5s,baz=179,slow=5.9,SNR=158						
ZALV				pP	**pP**	**07 29 53.5**	**+1.5**
	comp=Z,218nm,0.8s,baz=176,slow=7.2,SNR=30						
ZALV				LR	LR	07 56 37.8	
	comp=Z,444nm,18.4s,baz=338,slow=40						
RAYN	**Ar Rayn**	**55.02**	**299**	P	**P**	**07 29 45.0**	**-0.6**
	comp=Z,114nm,1.0s,SNR=6.9						
ARPS	**Mount Arapiles**	**55.49**	**137**	P	**P**	**07 29 50.8**	**+2.2**
	baz=56,SNR=6.5						
NVS	**Novosibirsk**	**55.54**	**350⇑**	*i* P	**P**	**07 29 48.8**	**+0.2**
NVS				*i* *PP	**pP**	**07 30 00.2**	**+0.1**
NVS				*i* S	**S**	**07 37 31.6**	**+0.3**
NVS				*e**SS	sS	07 37 41.9	-8.3
NVS				*e*		07 39 32.0	
NVS				pmax	pmax		
	comp=N,29nm,0.9s						
NVS				pmax	pmax		
	comp=Z,46nm,0.9s						
NVS				pmax	pmax		
	comp=E,17nm,0.7s						
NVS				smax	smax		
	comp=N,38nm,2.0s						
NVS				smax	smax		
	comp=E,84nm,2.0s						
CMSA	**Cobar Meteorol**	**55.86**	**129**	P	**P**	**07 29 52.5**	**+1.1**
	baz=56,SNR=72						
RMQ	**Roma**	**56.45**	**122**	P	**P**	**07 29 57.2**	**+1.5**
	baz=56,SNR=38						
VOSK	**Vostochnaya**	**56.60**	**341**	P	**P**	**07 29 55.7**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,97nm,0.9s						
BVA0	**Borovoye Array**	**57.05**	**341**	*i* P	**P**	**07 29 58.7**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,117nm,1.0s						
BVAR	**Borovoye Array**	**57.05**	**341**	P	**P**	**07 29 59.2**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,14nm,1.0s						
BVAR	**Borovoye Array**	**57.05**	**341**	P	**P**	**07 29 59.2**	**-0.2**
BVAR	**Borovoye Array**	**57.05**	**341**	P	**P**	**07 29 59.2**	**-0.2**
	comp=Z,14nm,1.0s,baz=147,slow=8.5,SNR=32						
BRVK	**Borovoye**	**57.11**	**341**	*e*P	**P**	**07 30 00.1**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,53nm,1.7s						
BRVK	**Borovoye**	**57.11**	**341**	*e*P	**P**	**07 29 59.6**	**-0.2**
	comp=Z,52nm,0.8s						
BRVK				LR	LR		
	comp=Z,601nm,19.0s						
KLR	**Kul'dur**	**57.16**	**26**	*e*P	**P**	**07 29 57.5**	**-2.7**
KLR				MLR	MLR		
	comp=N,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
IBDR	**Badra**	**58.00**	**310**	*e*P	P	07 30 15.0	+8.5
IBDR				*e*S	S	07 38 13.0	+8.5
EIDS	**Eidsvold**	**58.08**	**120**	*e*P	**P**	**07 30 07.8**	**+0.6**
	comp=Z,45nm,0.6s						
EIDS	**Eidsvold**	**58.08**	**120**	P	**P**	**07 30 08.1**	**+0.9**
	baz=58,SNR=30						
AB31	**Akbulak array**	**58.23**	**332**	P	**P**	**07 30 06.0**	**-1.8**
AB31				pmax	pmax		
	comp=Z,132nm,0.8s						
ABKAR	**Akbulak array**	**58.23**	**332**	*e*P	**P**	**07 30 07.6**	**-0.2**
	comp=Z,110nm,0.8s						
TOO	**Toolangi**	**58.42**	**136**	P	**P**	**07 30 11.5**	**+2.1**
	baz=58,SNR=7.2						
ERM	**Erimo**	**58.70**	**39**	PFAKE		07 30 20.0	+8.8
ERM				LR	LR		
	comp=Z,412nm,19.0s						
YNG	**Young**	**59.08**	**131**	P	**P**	**07 30 15.1**	**+1.1**
	baz=59,SNR=25						
BHD	**Baghdad**	**59.26**	**309**	*e*P	**P**	**07 30 17.0**	**+1.8**
BHD				*e*S	**S**	**07 38 20.0**	**-0.9**
ASAJ	**Asahikawa**	**59.51**	**37**	*e*P	**P**	**07 30 16.9**	**+0.1**
	comp=Z,16nm,1.0s						
ASAJ	**Asahikawa**	**59.51**	**37**	P	**P**	**07 30 17.4**	**+0.7**
	comp=Z,7.4nm,0.7s,baz=328,slow=12,SNR=6.5						
KMBO	**Kilima Mbogo**	**59.77**	**269**	*e*P	**P**	**07 30 20.2**	**+0.7**
	comp=Z,20nm,1.1s						
KMBO	**Kilima Mbogo**	**59.77**	**269**	P	**P**	**07 30 20.4**	**+0.9**
	comp=Z,12nm,0.9s,baz=57,slow=9.4,SNR=23						
KMBO				LR	LR	07 52 53.6	
	comp=Z,418nm,18.2s,baz=94,slow=33						
KMBO	**Kilima Mbogo**	**59.77**	**269**	P	**P**	**07 30 20.7**	**+1.3**
	baz=60,SNR=4.9						
AKTO	**Aktyubinsk**	**59.95**	**332**	P	**P**	**07 30 18.8**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,16nm,1.0s						
AKTO	**Aktyubinsk**	**59.95**	**332**	P	**P**	**07 30 18.8**	**-0.9**
AKTO	**Aktyubinsk**	**59.95**	**332**	P	**P**	**07 30 18.8**	**-0.9**
	comp=Z,13nm,0.9s,baz=124,slow=9.5,SNR=18						
CAN	**Canberra**	**59.95**	**132**	*e*P	**P**	**07 30 21.3**	**+1.2**
CAN				pmax	pmax		
	comp=Z,65nm,1.3s						
CAN	**Canberra**	**59.95**	**132**	*e*P	**P**	**07 30 21.3**	**+1.2**
	comp=Z,65nm,1.3s						
ARMA	**Armidale**	**60.15**	**126**	*e*P	**P**	**07 30 23.3**	**+1.7**
	comp=Z,95nm,1.3s						
ARMA	**Armidale**	**60.15**	**126**	P	**P**	**07 30 23.7**	**+2.0**
	baz=60,SNR=20						
CNB	**Canberra Magne**	**60.22**	**132**	P	**P**	**07 30 23.0**	**+1.0**
	baz=60,SNR=5.6						
CLNS	**Chul'man**	**60.67**	**17**	*e*P	**P**	**07 30 24.9**	**+0.4**
CLNS				*e**PP	**pP**	**07 30 33.6**	**-2.5**
CLNS				*e*		07 31 08.4	
CLNS				*e*		07 32 37.3	
CLNS				*e*S	**S**	**07 38 38.4**	**+0.1**
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.9s						
CLNS				smax	smax		
	comp=N,106nm,10.3s						
CLNS				smax	smax		
	comp=E,167nm,13.5s						
CLNS				MLR	MLR		
	comp=E,530nm,14.0s						
CLNS				MLR	MLR		
	comp=Z,644nm,15.0s						
CLNS				MLR	MLR		
	comp=N,420nm,13.0s						
MGCD	**Mangrove Creek**	**60.73**	**129**	P	**P**	**07 30 27.0**	**+1.6**
	baz=61,SNR=8.6						
YSS	**Yuzh-Sakhalins**	**61.21**	**34⇑**	*e*P	**P**	**07 30 30.0**	**+1.7**
YSS				*e*		07 30 41.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
MAK	**Makhachkala**	**61.31**	**320**	*e*P	**P**	**07 30 31.2**	**+2.1**
MAK				*e*		07 31 13.6	
MAK				*e*		07 32 42.6	
MAK				*e*PPP	PPP	07 34 10.0	
MAK				*e*S	**S**	**07 38 50.0**	**+3.2**
MAK				*e*SS	**SS**	**07 42 43.5**	**-4.4**
MAK				pmax	pmax		
	comp=Z,38nm,3.0s						
YUK	**Yuzh-Kuril'sk**	**61.45**	**38**	*i* P	P	07 30 35.8	+5.8
YUK				*i* PPP	PPP	07 34 17.2	
YUK				*i* S	**S**	**07 38 47.7**	**-0.8**
YUK				pmax	pmax		
	comp=Z,282nm,1.0s						
YUK				pmax	pmax		
	comp=E,166nm,1.6s						
YUK				pmax	pmax		
	comp=N,248nm,1.7s						
YUK				pmax	pmax		
	comp=Z,286nm,1.3s						
GNI	**Garni**	**61.82**	**317**	*e*P	**P**	**07 30 32.8**	**-0.1**
	comp=Z,102nm,1.3s						
GNI				LR	LR		
	comp=Z,273nm,20.0s						
DGRG	**David-gareji**	**61.98**	**318**	P	**P**	**07 30 34.8**	**+1.1**
TBLG	**Delisi**	**62.53**	**318**	*e*P	**P**	**07 30 37.8**	**+0.4**
TBLG	**Delisi**	**62.53**	**318**	P	**P**	**07 30 37.8**	**+0.4**
DUS	**Dusheti**	**62.72**	**318**	P	P	07 30 51.2	+12
GUDG	**Gudauri**	**63.04**	**319**	P	**P**	**07 30 42.0**	**+1.0**
AKH	**Akhalkalaki**	**63.23**	**317**	P	P	07 30 47.2	+4.9
KUR	**Kuril'sk**	**63.29**	**38**	*e*P	**P**	**07 30 44.3**	**+2.0**
KUR				*e*S	**S**	**07 39 11.8**	**+0.2**
KUR				MLR	MLR		
	comp=E,977nm,20.0s						
KUR				MLR	MLR		
	comp=Z,710nm,20.0s						
KUR				MLR	MLR		
	comp=N,562nm,20.0s						
SVE	**Sverdlovsk**	**63.47**	**339⇑**	*e*P	**P**	**07 30 43.8**	**+0.5**
SVE				*e*S	S	07 39 07.8	-5.7
SVE				*e*SS	**SS**	**07 43 20.4**	**-0.7**
SVE				pmax	pmax		
	comp=Z,73nm,1.2s						
SVE				MLR	MLR		
	comp=Z,798nm,21.0s						
ZEI	**Tsey**	**63.56**	**319**	*e*P	**P**	**07 30 43.8**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,19nm,1.0s						
ONI	**Oni**	**63.77**	**319**	P	**P**	**07 30 44.0**	**-1.7**
ARU	**Arti**	**63.95**	**337**	*c i* P	**P**	**07 30 47.1**	**+0.7**
ARU						07 33 06.0	
ARU				PPP	PPP	07 34 35.2	
ARU				S	**S**	**07 39 21.1**	**+1.6**
ARU				pmax	pmax		
	comp=Z,67nm,1.7s						
ARU				MLR	MLR		
	comp=Z,586nm,20.0s						
KBZ	**Khabaz**	**64.64**	**319**	P	**P**	**07 30 51.4**	**+0.2**
KBZ				*PP	**pP**	**07 31 03.3**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,15nm,1.0s						
KBZ				MLR	MLR		
	comp=Z,254nm,19.4s						
KBZ	**Khabaz**	**64.64**	**319**	P	**P**	**07 30 51.4**	**+0.2**
KBZ				pP	**pP**	**07 31 03.3**	**+0.5**
KBZ	**Khabaz**	**64.64**	**319**	P	**P**	**07 30 51.4**	**+0.2**
	comp=Z,14nm,1.0s,baz=124,slow=6.4,SNR=12						
KBZ				pP	**pP**	**07 31 03.3**	**+0.5**
	comp=Z,36nm,0.9s,baz=132,slow=5.2,SNR=19						
KBZ				LR	LR	08 01 11.4	
	comp=Z,254nm,19.4s,baz=274,slow=38						
ASF	**Jabal al Asfar**	**64.84**	**306**	P	**P**	**07 30 54.1**	**+1.2**
ASF				pP	**pP**	**07 31 05.4**	**+0.9**
ASF	**Jabal al Asfar**	**64.84**	**306**	P	**P**	**07 30 54.1**	**+1.2**
	comp=Z,7.2nm,0.7s,baz=54,slow=5.3,SNR=12						
ASF				pP	**pP**	**07 31 05.4**	**+0.9**
	comp=Z,25nm,0.9s,baz=79,slow=6.0,SNR=13						
ASF				LR	LR	08 00 10.8	
	comp=Z,294nm,18.5s,baz=162,slow=37						
KIV	**Kislovodsk**	**64.88**	**320**	*e*P	**P**	**07 30 53.2**	**+0.3**
KIV				pmax	pmax		
	comp=Z,31nm,1.0s						
KIV				MLR	MLR		
	comp=Z,234nm,18.0s						
MALT	**Malatya**	**65.60**	**313⇑**	P	**P**	**07 31 00.2**	**+2.5**
MALT	**Malatya**	**65.60**	**313⇑**	*i* P	**P**	**07 31 00.2**	**+2.5**
EIL	**Elat**	**65.78**	**303**	P	**P**	**07 30 59.7**	**+0.7**
EIL				pP	**pP**	**07 31 11.6**	**+1.0**
EIL	**Elat**	**65.78**	**303**	P	**P**	**07 30 59.7**	**+0.7**
	comp=Z,22nm,1.0s,baz=64,slow=3.9,SNR=14						
EIL				pP	**pP**	**07 31 11.6**	**+1.0**
	comp=Z,42nm,0.9s,baz=134,slow=1.9,SNR=11						
EIL	**Elat**	**65.78**	**303**	P	**P**	**07 30 59.7**	**+0.7**
	baz=66,SNR=6.8						
YAK	**Yakutsk**	**66.35**	**16**	*c i* P	**P**	**07 31 01.7**	**-0.2**
YAK				*e**PP	**pP**	**07 31 12.8**	**-0.8**
YAK				*e*		07 31 28.7	
YAK				*e*		07 33 24.8	
YAK				*e*PPP	PPP	07 35 05.4	
YAK				*e*S	**S**	**07 39 49.0**	**+0.3**
YAK				*e**SS	**sS**	**07 40 07.1**	**-1.0**
YAK				*e*		07 40 54.9	
YAK				*e*SS	**SS**	**07 44 08.8**	**+3.1**
YAK				pmax	pmax		
	comp=Z,77nm,1.1s						
YAK				pmax	pmax		
	comp=E,24nm,1.5s						
YAK				pmax	pmax		
	comp=N,18nm,1.0s						
YAK				pmax	pmax		
	comp=Z,86nm,2.8s						
YAK				pmax	pmax		
	comp=N,162nm,4.9s						
YAK				pmax	pmax		
	comp=E,65nm,2.8s						
YAK				smax	smax		
	comp=E,175nm,2.7s						
YAK				smax	smax		
	comp=N,298nm,4.0s						
YAK				MLR	MLR		
	comp=Z,689nm,20.0s						
YAK				MLR	MLR		
	comp=N,632nm,21.0s						
YAK				MLR	MLR		
	comp=E,294nm,14.0s						
SOC	**Sochi**	**66.67**	**318**	*e*P	**P**	**07 31 03.2**	**-1.1**
SOC				*e**PP	**pP**	**07 31 13.3**	**-2.7**
SOC				*e*S	**S**	**07 39 49.8**	**-3.5**
SOC				*e**SS	**sS**	**07 40 15.7**	**+3.0**
SOC				pmax	pmax		
	comp=Z,137nm,2.0s						
MIR	**Mirnyy**	**66.75**	**182**	*e*P	**P**	**07 31 07.0**	**+2.7**
MIR				*e*		07 31 19.0	
MIR				*e*		07 31 26.0	
MIR				pmax	pmax		
	comp=Z,44nm,1.2s						
CASY	**Casey**	**67.12**	**174**	PFAKE		07 31 20.0	+13
CASY				LR	LR		
	comp=Z,750nm,20.0s						
CSS	**Prodhromos**	**68.47**	**308**	*e*P	**P**	**07 31 16.4**	**+0.4**
	comp=Z,76nm,1.0s						
CSS				LR	LR		
	comp=Z,391nm,20.0s						
ANN	**Anapa**	**68.66**	**319**	*e*P	**P**	**07 31 15.6**	**-1.2**
ANN				*e*S	**S**	**07 40 16.1**	**-1.0**
ANN				pmax	pmax		
	comp=Z,111nm,7.9s						
ANN				MLR	MLR		
	comp=Z,268nm,19.0s						
VRHR	**Novokhopersk**	**68.78**	**326**	*e*P	**P**	**07 31 19.4**	**+2.0**
VRHR				pmax	pmax		
	comp=E,60nm,1.5s						
VRHR				pmax	pmax		
	comp=Z,70nm,1.5s						
VRHR				pmax	pmax		
	comp=N,5.0nm,0.5s						
BR131	**Keskin Array S**	**69.59**	**313**	*e*P	**P**	**07 31 22.4**	**-0.5**
	comp=N,14nm,0.7s						
BRTR	**Keskin Array B**	**69.59**	**313**	P	**P**	**07 31 22.0**	**-0.9**
BRTR				pP	**pP**	**07 31 33.6**	**-1.1**
BRTR	**Keskin Array B**	**69.59**	**313**	P	**P**	**07 31 22.0**	**-0.9**
	comp=N,8.7nm,0.9s,baz=133,slow=6.7,SNR=18						
BRTR				pP	**pP**	**07 31 33.6**	**-1.1**
	comp=N,31nm,0.8s,baz=125,slow=7.7,SNR=29						
BRTR				LR	LR	08 03 51.0	
	comp=N,241nm,19.2s,baz=1.0,slow=38						
LSZ	**Lusaka**	**69.67**	**254**	*e*P	**P**	**07 31 23.8**	**0.0**
	comp=N,6.0nm,1.0s						
LSZ				LR	LR		
	comp=Z,522nm,19.0s						
VSR	**Storozhevoye**	**70.21**	**326**	*e*P	**P**	**07 31 26.5**	**+0.2**
VSR				*e**SP	sP	07 31 36.9	-5.6
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
ANTO	**Ankara**	**70.25**	**313**	*e*P	**P**	**07 31 26.3**	**-0.6**
ANTO				pmax	pmax		
	comp=Z,50nm,0.9s						
ANTO				MLR	MLR		
	comp=Z,282nm,20.0s						
ANTO	**Ankara**	**70.25**	**313⇑**	*i* P	**P**	**07 31 26.1**	**-0.8**
ANTO	**Ankara**	**70.25**	**313**	*e*P	**P**	**07 31 26.3**	**-0.6**
	comp=Z,50nm,0.9s						
ANTO				LR	LR		
	comp=Z,282nm,20.0s						
SIM	**Simferopol'**	**70.91**	**318**	*e*P	**P**	**07 31 29.7**	**-1.0**
SIM				*e*S	**S**	**07 40 45.8**	**+2.2**
SIM				MLR	MLR		
	comp=Z,80nm,16.0s						
DZM	**Mont Dzumac**	**71.09**	**113**	*e*P	**P**	**07 31 33.2**	**+0.8**
	comp=Z,74nm,1.3s						
DZM	**Mont Dzumac**	**71.09**	**113**	*e*LR	LR	07 53 21.3	
	comp=Z,604nm,23.2s						
DZM	**Mont Dzumac**	**71.09**	**113**	*e*P	**P**	**07 31 31.6**	**-0.8**
DZM	**Mont Dzumac**	**71.09**	**113**	*e*P	**P**	**07 31 33.2**	**+

MAW Mawson 71.78 193 P **P 07 31 35.5 +0.1**
comp=Z,28nm,1.1s,baz=16,slow=6.3,SNR=29
MAW LR LR 07 56 19.9
comp=Z,404nm,18.8s,baz=36,slow=30
MAW Mawson 71.78 193 P **P 07 31 36.6 +1.2**
baz=72,SNR=20
PETK Petropavlovsk- 72.60 33 LR LR 08 05 11.2
comp=Z,337nm,19.1s,baz=243,slow=37
MOS Moscow 73.02 329 *e*P **P 07 31 41.9 -1.2**
MOS *e* 07 31 54.0
MOS pmax pmax
comp=Z,200nm,2.0s
MOS pmax pmax
comp=Z,100nm,1.8s
OBN Obninsk 73.30 329⇑*e*P **P 07 31 45.2 +0.5**
OBN *e* 07 34 29.2
OBN *i* S **S 07 41 05.6 -4.9**
OBN pmax pmax
comp=Z,92nm,1.7s
OBN MLR MLR
comp=Z,400nm,24.0s
KARP Karpathos 73.52 307 P P 07 31 51.9 +5.4
KARP Karpathos 73.52 307 P P 07 31 51.9 +5.4
TIXI Tiksi 74.12 10⇑*i*P **P 07 31 48.9 -0.3**
TIXI pmax pmax
comp=Z,58nm,1.7s
TIXI MLR MLR
comp=Z,715nm,20.0s
BOSA Boshof 74.16 240 P **P 07 31 49.1 -1.5**
BOSA Boshof 74.16 240 P **P 07 31 49.1 -1.5**
comp=Z,7.1nm,0.8s,baz=58,slow=6.9,SNR=12
BOSA LR LR 07 57 09.0
comp=Z,329nm,20.1s,baz=84,slow=30
TLCR 74.57 317 ⇓P **P 07 31 54.5 +2.1**
TLCR 74.57 317⇓*i*P **P 07 31 54.5 +2.1**
SEY Seymchan 74.68 23 *e*P **P 07 31 54.0 +1.3**
NPS Neapolis 74.70 306 P **P 07 31 53.2 -0.2**
NPS Neapolis 74.70 306 P **P 07 31 53.2 -0.2**
NPS Neapolis 74.70 306 *e*P **P 07 31 53.8 +0.3**
NPS Neapolis 74.70 306 P **P 07 31 53.2 -0.2**
LAST Lasithi 74.79 306 P **P 07 31 54.0 -0.1**
LAST Lasithi 74.79 306 *e*P **P 07 31 54.3 +0.2**
LAST Lasithi 74.79 306 P **P 07 31 54.0 -0.1**
TLB Topalu 74.94 316⇓*i*P P 07 31 45.7 -8.9
CFR Carcaliu 75.03 317 ⇑P **P 07 31 57.5 +2.4**
CFR Carcaliu 75.03 317⇑*i*P **P 07 31 57.5 +2.4**
SANT Santorini 75.03 308 PFAKE 07 32 10.0 +15
SANT LR LR
comp=Z,310nm,19.0s
PRD Provadia 75.04 315 *e*P P 07 32 05.3 +10
KIS Kishinev 75.06 319 *e*P **P 07 31 54.0 -1.2**
KIS Kishinev 75.06 319 *e*P **P 07 31 54.0 -1.2**
KIS *i* 07 32 06.0
IDI Anoyia 75.29 306 P **P 07 31 57.1 +0.2**
IDI Anoyia 75.29 306 *e*P **P 07 31 57.0 +0.2**
IDI Anoyia 75.29 306 *e*P **P 07 31 57.1 +0.2**
comp=Z,67nm,0.9s
LEOM Leova 75.29 318⇓*i*P P 07 32 08.8 +12
JMB Yambol 75.45 314 P **P 07 31 58.2 +0.6**
JMB Yambol 75.45 314 P **P 07 31 58.2 +0.6**
JMB Yambol 75.45 314 *e*P P 07 32 09.8 +12
JMB Yambol 75.45 314 P **P 07 31 58.2 +0.6**
VAM Vamos 75.86 306 P **P 07 32 00.9 +0.8**
VAM Vamos 75.86 306 P **P 07 32 00.9 +0.8**
VAM Vamos 75.86 306 *e*P **P 07 32 01.0 +0.8**
VAM Vamos 75.86 306 P **P 07 32 00.9 +0.8**
AKASG Malin Array Be 75.87 323*c e*P **P 07 31 59.0 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 75.87 323 P **P 07 31 58.9 -0.9**
AKASG pP **pP 07 32 10.7 -0.9**
AKASG PP **PP 07 34 49.9 -0.4**
AKASG Malin Array Be 75.87 323 P **P 07 31 58.9 -0.9**
comp=Z,2.4nm,0.4s,baz=86,slow=5.2,SNR=18
AKASG pP **pP 07 32 10.7 -0.9**
comp=Z,48nm,0.7s,baz=85,slow=5.2,SNR=30
AKASG PP **PP 07 34 49.9 -0.4**
comp=Z,0.3nm,0.3s,baz=97,slow=6.5,SNR=4.3
AKASG LR LR 08 10 04.2
comp=Z,359nm,19.1s,baz=95,slow=39
KIEV Kiev 75.87 323 *e*P **P 07 31 58.0 -1.8**
KIEV pmax pmax
comp=Z,55nm,0.8s
KIEV MLR MLR
comp=Z,409nm,20.0s
KIEV Kiev 75.87 323 *e*P **P 07 31 58.0 -1.8**
comp=Z,55nm,0.8s
KIEV LR LR
comp=Z,409nm,20.0s
ISR Istrita 76.10 317⇓*i*P P 07 32 10.0 +8.7
KDZ Kurdzhali 76.12 313 *e*P P 07 32 12.6 +11
VRI Vrincioaia 76.16 317 ⇑P **P 07 32 02.2 +0.6**
VRI Vrincioaia 76.16 317⇑*i*P **P 07 32 02.2 +0.6**
PLOR Plostina 76.21 317 ⇑P **P 07 32 01.5 -0.4**
PLOR Plostina 76.21 317⇑*i*P **P 07 32 01.5 -0.4**
TESR Tescani 76.37 318⇑*i*P **P 07 32 02.7 -0.1**
PTL Penteli 76.59 309 P **P 07 32 03.3 -0.9**
PTL Penteli 76.59 309 P **P 07 32 03.3 -0.9**
MLR Muntele Rosu 76.60 317⇓*i*P **P 07 32 04.4 +0.1**
RZN Rozhen 76.64 313 *e*P **P 07 32 04.0 -0.6**
KAVA Kavala 76.65 312 P **P 07 32 04.3 -0.2**
KAVA Kavala 76.65 312 P **P 07 32 04.3 -0.2**
ANKY Antikythira Is 76.66 307 P **P 07 32 04.5 -0.1**
ANKY Antikythira Is 76.66 307 *e*P **P 07 32 04.7 +0.1**
ANKY Antikythira Is 76.66 307 P **P 07 32 04.5 -0.1**
TMCR Tamitsa 76.69 337 *e*P P 07 32 16.4 +12
TMCR *e* 07 32 23.8
TMCR pmax pmax
comp=Z,72nm,0.7s
DID Didima 76.99 308 *e*P **P 07 32 03.9 -2.6**
PAIG Paliouri 77.07 311 P **P 07 32 06.3 -0.5**
PAIG Paliouri 77.07 311 P **P 07 32 06.3 -0.5**
PAIG Paliouri 77.07 311 P **P 07 32 06.3 -0.5**
VLI Veliai 77.09 308 *e*P **P 07 32 06.5 -0.5**
VOIR 77.20 317 ⇑P **P 07 32 08.0 +0.4**
VOIR 77.20 317⇑*i*P **P 07 32 08.0 +0.4**
NVR Nevrokopi 77.20 312 P **P 07 32 06.8 -0.8**
NVR Nevrokopi 77.20 312 P **P 07 32 06.8 -0.8**
PLG Polygyros 77.33 311 P **P 07 32 07.5 -0.9**
PLG Polygyros 77.33 311 P **P 07 32 07.5 -0.9**
PLG Polygyros 77.33 311 P **P 07 32 07.5 -0.9**
SRS Serrai 77.36 312 P **P 07 32 07.5 -1.0**
SRS Serrai 77.36 312 P **P 07 32 07.5 -1.0**
SRS Serrai 77.36 312 P **P 07 32 07.5 -1.0**
ARR Arges 77.47 317⇑*i*P **P 07 32 07.6 -1.5**
SOH Sokhos 77.48 312 P **P 07 32 08.4 -0.8**
SOH Sokhos 77.48 312 P **P 07 32 08.4 -0.8**
SOH Sokhos 77.48 312 P **P 07 32 08.4 -0.8**
DYR Agios Nikonas 77.58 308 P **P 07 32 09.2 -0.6**
DYR Agios Nikonas 77.58 308 *e*P **P 07 32 09.6 -0.2**
BURAR Bucovina Array 77.58 319 ⇓P **P 07 32 10.5 +0.8**
BURAR Bucovina Array 77.58 319⇓*i*P **P 07 32 10.5 +0.8**
HORT Hortiatis 77.63 311 P **P 07 32 09.1 -1.0**
HORT Hortiatis 77.63 311 P **P 07 32 09.1 -1.0**
MPEP Malo Peshtene 77.68 314 *e*P **P 07 32 10.2 0.0**
THE Thessaloniki 77.74 312 P **P 07 32 09.4 -1.1**
THE Thessaloniki 77.74 312 P **P 07 32 09.4 -1.1**
THE Thessaloniki 77.74 312 P **P 07 32 09.4 -1.1**
GUR Goura 77.76 309 P **P 07 32 09.5 -1.4**
GUR Goura 77.76 309 P **P 07 32 09.5 -1.4**
KKB Krupnik 77.88 313 *e*P **P 07 32 09.9 -1.4**
KNT Kendrikon 77.88 312 P **P 07 32 10.6 -0.8**
KNT Kendrikon 77.88 312 P **P 07 32 10.6 -0.8**
KNT Kendrikon 77.88 312 P **P 07 32 10.6 -0.8**
VTS Vitosha 77.92 314 P **P 07 32 11.2 -0.5**
VTS Vitosha 77.92 314 P **P 07 32 11.2 -0.5**
VTS Vitosha 77.92 314 *e*P **P 07 32 11.0 -0.1**
VTS Vitosha 77.92 314⇑*i*P **P 07 32 11.1 -0.6**
VTS Vitosha 77.92 314 P **P 07 32 11.2 -0.5**
KLV Kalavryta, Ach 77.92 309 P **P 07 32 10.7 -1.0**
KLV Kalavryta, Ach 77.92 309 P **P 07 32 10.7 -1.0**
AGG Agios Georgios 77.94 310 P **P 07 32 10.2 -1.6**
AGG Agios Georgios 77.94 310 P **P 07 32 10.2 -1.6**
AGG Agios Georgios 77.94 310 P **P 07 32 10.2 -1.6**
ITM Ithomi 77.96 308 P P 07 32 08.4 -3.5
ITM Ithomi 77.96 308 *e*P **P 07 32 11.2 -0.7**
ITM Ithomi 77.96 308 P P 07 32 08.4 -3.5
KALE Kalithea 77.99 309 P **P 07 32 10.8 -1.3**
KALE Kalithea 77.99 309 *e*P **P 07 32 10.7 -1.3**
KALE Kalithea 77.99 309 P **P 07 32 10.8 -1.3**
LIT Litokhoron 78.00 311 P **P 07 32 10.9 -1.2**
LIT Litokhoron 78.00 311 P **P 07 32 10.9 -1.2**
LIT Litokhoron 78.00 311 P **P 07 32 10.9 -1.2**
TRIZ Trizonia 78.04 309 *e*P **P 07 32 10.2 -2.0**
PYL PYLOS 78.07 308 *e*P P 07 32 06.1 -6.4
LAKA Lakka 78.09 309 *e*P **P 07 32 11.4 -1.2**
MAKR Makrakomi, Fth 78.09 310 P **P 07 32 11.1 -1.5**
MAKR Makrakomi, Fth 78.09 310 P **P 07 32 11.1 -1.5**
VAY Valandovo 78.16 312 *i* P **P 07 32 11.2 -1.6**
GRG Griva 78.22 312 P **P 07 32 12.4 -0.9**
GRG Griva 78.22 312 P **P 07 32 12.4 -0.9**
GRG Griva 78.22 312 P **P 07 32 12.4 -0.9**
RLS Riolos of Patr 78.46 309 P **P 07 32 14.6 0.0**
RLS Riolos of Patr 78.46 309 P **P 07 32 14.6 0.0**
NACGM Naroch 78.50 326 *e* **P 07 32 12.0 -2.5**
IDID Didziasalis 78.64 327 *e*P **P 07 32 14.9 -0.3**
IDID AMB AMB 07 32 28.8
comp=Z,32nm,1.3s
GZR Gura Zlata 78.76 316⇑P **P 07 32 15.8 -0.4**
GZR Gura Zlata 78.76 316⇑*i*P **P 07 32 15.8 -0.4**
DEV Deva 78.77 317⇑P **P 07 32 17.2 +1.1**
DEV Deva 78.77 317⇑*i*P **P 07 32 17.2 +1.1**
LVV L'vov 78.85 321 *e*P **P 07 32 16.5 0.0**
JOF Joensuu 78.89 335 *e*P **P 07 32 16.9 +0.5**
JOF pmax pmax
comp=Z,25nm,0.9s
JOF Joensuu 78.89 335 *e*p **P 07 32 16.9 +0.5**
comp=Z,25nm,0.9s
IIGN Ignalina 78.93 327 *e*P **P 07 32 16.6 -0.2**
IIGN AMB AMB 07 32 30.5
comp=Z,48nm,1.3s
FNA Florina 78.95 311 P **P 07 32 16.7 -0.7**
FNA Florina 78.95 311 P **P 07 32 16.7 -0.7**
FNA Florina 78.95 311 P **P 07 32 16.7 -0.7**
BIA Bitola 79.03 312 *i* P **P 07 32 16.4 -1.4**
ISAL Salakas 79.05 327 *e*P **P 07 32 17.3 -0.2**
ISAL AMB AMB 07 32 31.1
comp=Z,34nm,1.4s
DRGR 79.08 318 ⇑P **P 07 32 18.2 +0.3**
DRGR 79.08 318⇑*i*P **P 07 32 18.2 +0.3**
SKO Skopje 79.10 313 *i* P **P 07 32 17.8 -0.3**
NEST Nestorio 79.14 311 P **P 07 32 17.0 -1.5**
VLS Valsamata 79.16 309 P **P 07 32 18.0 -0.5**
VLS Valsamata 79.16 309 P **P 07 32 18.0 -0.5**
VLS Valsamata 79.16 309 P **P 07 32 18.0 -0.5**
LKD2 Lefkada island 79.20 309 P **P 07 32 18.1 -0.6**
LKD2 Lefkada island 79.20 309 P **P 07 32 18.1 -0.6**
TRPA Tarpa 79.46 319⇓*i*P **P 07 32 20.1 +0.3**
IGT Igoumenitsa 79.56 310 P **P 07 32 19.8 -0.8**
IGT Igoumenitsa 79.56 310 P **P 07 32 19.8 -0.8**
IGT Igoumenitsa 79.56 310 P **P 07 32 19.8 -0.8**
BZS Buzias 79.60 316 ⇓P **P 07 32 20.4 -0.3**
BZS Buzias 79.60 316⇓*i*P **P 07 32 20.4 -0.3**
LVZ Lovozero 79.63 340 *e*P **P 07 32 20.4 0.0**
LVZ pmax pmax
comp=Z,9.0nm,1.0s
KWP Kalwaria Pacla 79.65 320 *e*P **P 07 32 21.3 +0.4**
KWP pmax pmax
comp=Z,169nm,1.4s
KWP MLR MLR
comp=Z,327nm,19.0s
KWP Kalwaria Pacla 79.65 320⇓*i*P **P 07 32 20.3 -0.6**
KWP Kalwaria Pacla 79.65 320 *e*P **P 07 32 21.3 +0.4**
comp=Z,169nm,1.4s
KWP LR LR
comp=Z,327nm,19.0s
KWP Kalwaria Pacla 79.65 320 *e*P **P 07 32 21.4 +0.5**
KWP *e*pP **pP 07 32 33.1 +0.3**
KWP *e*S **S 07 42 20.7 +0.3**
UZH Uzhgorod 79.72 319 *e*P **P 07 32 21.4 +0.2**
UZH *e* 07 32 32.8
KOLS Kolonicke sedl 79.79 320 *e*P **P 07 32 22.5 +0.8**
KOLS pmax pmax
comp=Z,46nm,1.1s
KOLS Kolonicke sedl 79.79 320 *e*P **P 07 32 22.5 +0.8**
KOLS *e*sP **sP 07 32 34.5 -3.6**
APA Apatity 79.92 340⇑*i*P **P 07 32 25.0 +3.1**
APA *i* 07 32 33.2
APA MLR MLR
comp=Z,600nm,15.0s
KEK Kerkira 79.99 310 P P 07 32 19.4 -3.5
KEK Kerkira 79.99 310 P P 07 32 19.4 -3.5
TIR Tirane 80.17 312 *e*P **P 07 32 24.1 +0.2**
TIR pmax pmax
comp=Z,39nm,1.2s
TIR MLR MLR
comp=Z,278nm,21.0s
TIR Tirane 80.17 312 *e*P **P 07 32 24.1 +0.2**
comp=Z,40nm,1.2s
TIR LR LR
comp=Z,278nm,21.0s
KHZ Kahutara 80.26 133 *e*P **P 07 32 24.5 +0.2**
comp=Z,38nm,1.2s
CRVS Cervenica-Dubn 80.31 320 *e*P **P 07 32 25.2 +0.7**
CRVS pmax pmax
comp=Z,35nm,1.4s
CRVS Cervenica-Dubn 80.31 320 *e*P **P 07 32 25.2 +0.7**
CRVS *e*sP **sP 07 32 38.1 -2.8**
SUW Suwalki 80.31 325 *e*P **P 07 32 24.1 -0.2**
SUW Suwalki 80.31 325 *e*P **P 07 32 24.1 -0.2**
comp=Z,215nm,0.9s
SUW Suwalki 80.31 325 *e*P **P 07 32 23.9 -0.4**
SUW *e*pP **pP 07 32 35.6 -0.7**
IVA Berane 80.37 313⇓*i*P **P 07 32 25.0 -0.1**
DIVS Divibare 80.49 315 P **P 07 32 25.3 -0.4**
STHS Stebnicka Huta 80.55 320 *e*P **P 07 32 26.8 +1.0**
STHS pmax pmax
comp=Z,17nm,1.0s
STHS Stebnicka Huta 80.55 320 *e*P **P 07 32 26.8 +1.0**
STHS *e*sP **sP 07 32 38.9 -3.2**
ULC Ulcinj 80.72 312⇓*i*P **P 07 32 27.1 +0.2**
FIA1 FINESS Array S 80.72 333 *e*P **P 07 32 26.4 +0.1**
FINES FINESS Array B 80.72 333 P **P 07 32 26.5 +0.1**
FINES FINESS Array B 80.72 333 P **P 07 32 26.5 +0.1**
comp=Z,14nm,0.9s,baz=100,slow=5.1,SNR=26
FINES LR LR 08 14 55.6
comp=Z,373nm,19.0s,baz=98,slow=41
PDG Podgorica 80.78 313 P **P 07 32 26.7 -0.4**
TTG Podgorica 80.78 313⇓*i*P **P 07 32 26.6 -0.5**
TTG Podgorica 80.78 313 P **P 07 32 26.7 -0.4**
TTG Podgorica 80.78 313 P **P 07 32 26.7 -0.4**
DRME Dracevica, Mon 80.79 313⇓*i*P **P 07 32 26.7 -0.5**
PLE Pljevlja 80.81 314⇓*i*P **P 07 32 27.6 +0.2**
KAF Kangasniemi 80.81 333 *e*P **P 07 32 27.1 +0.2**
KAF pmax pmax
comp=Z,32nm,0.8s
KAF Kangasniemi 80.81 333 *e*p **P 07 32 27.1 +0.2**
comp=Z,32nm,0.8s
KECS Kecovo 80.87 319 *e*P **P 07 32 27.8 +0.3**
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 80.87 319 *e*P **P 07 32 27.8 +0.3**
KECS *e*sP **sP 07 32 39.6 -4.3**
SNZO South Karori 80.95 132 PFAKE 07 32 40.0 +12
SNZO LR LR
comp=Z,973nm,22.0s
PKSN Nyarlorinc 81.02 317⇓*e*P P 07 32 41.0 +13
BUM Brajici-Budva 81.02 313⇓*i*P **P 07 32 28.1 -0.4**
NKME Niksic 81.04 313⇑*i*P **P 07 32 28.6 0.0**
UPM Unac-Piva 81.14 314⇓*i*P **P 07 32 29.3 0.0**
NIE Niedzica 81.14 320 *e*P **P 07 32 30.7 +1.7**
PSZ Piszkesteto 81.16 318 *e*P **P 07 32 29.2 0.0**
PSZ pmax pmax
comp=Z,52nm,1.1s
PSZ MLR MLR
comp=Z,324nm,19.0s
PSZ Piszkesteto 81.16 318⇓*i*P **P 07 32 28.9 -0.3**
PSZ Piszkesteto 81.16 318 *e*P **P 07 32 29.2 0.0**
comp=Z,52nm,1.1s
PSZ LR LR
comp=Z,324nm,19.0s
PSZ Piszkesteto 81.16 318⇓*e*P **P 07 32 29.2 0.0**
BEL Belsk 81.28 322 *e*P **P 07 32 30.0 +0.4**
BEL *e*pP **pP 07 32 41.5 0.0**
BEL *e*S S 07 42 43.5 +6.2
HCY Herceg Novi 81.34 313⇓*i*P **P 07 32 30.4 +0.3**
BRY Bratogost 81.36 313⇓*i*P **P 07 32 29.8 -0.6**
OJC Ojcow 81.61 321⇓*i*P **P 07 32 31.5 +0.1**
OJC *i* *SP **sP 07 32 43.2 -4.6**
PKSM Moragy 81.75 317 ⇓P **P 07 32 31.3 -0.9**
PKSM Moragy 81.75 317⇓*i*P **P 07 32 31.3 -0.9**
PKSM Moragy 81.75 317⇓*e*P **P 07 32 32.2 0.0**
VYHS Vyhne 81.95 319 *e*P **P 07 32 33.8 +0.5**
VYHS *e*sP **sP 07 32 45.4 -4.3**
PKSG 82.09 318⇑*e*P **P 07 32 34.4 +0.5**
PKST T"s 82.31 318⇓*e*P **P 07 32 35.1 0.0**
FUNA Funafuti 82.31 99 PFAKE 07 32 50.0 +14
FUNA LR LR
comp=Z,7μm,19.0s
URZ Urewera 82.39 129 *e*P **P 07 32 34.6 -1.2**
comp=Z,69nm,1.2s
OKC Ostrava-Krasne 82.60 320 *e*P **P 07 32 37.0 +0.4**
OKC *e* 07 32 48.4
OKC *e* 07 42 49.5
OKC MLR MLR
comp=Z,200nm,16.8s
OKC Ostrava-Krasne 82.60 320⇓*e*P **P 07 32 37.0 +0.4**
OKC *e*PCP **PcP 07 32 42.1 +0.6**
OKC *e*pP **pP 07 32 48.4 -0.1**
OKC *e*S **S 07 42 49.5 -1.5**
OKC AMS AMS 08 17 10.0
comp=Z,200nm,16.8s
RAC Raciborz 82.61 320 *e*P **P 07 32 37.6 +1.0**
CEL Celeste 82.84 308 *e*P **P 07 32 39.0 +0.8**
comp=Z,92nm,1.0s
CEL LR LR
comp=Z,217nm,19.0s
MORC Moravsky Berou 82.98 320 *e*P **P 07 32 38.9 +0.3**
MORC pmax pmax
comp=Z,38nm,1.1s
MORC Moravsky Berou 82.98 320 *e*P **P 07 32 38.9 +0.3**
comp=Z,38nm,1.1s
ZST Bratislava 83.06 318 *e*P **P 07 32 39.4 +0.4**
ZST *e*SP 07 32 53.8
ZST Bratislava 83.06 318 *e*P **P 07 32 39.4 +0.4**
ZST *e*sP **sP 07 32 53.8 -1.6**
CUC Castrocucco 83.07 310 *e*P **P 07 32 39.0 -0.2**
comp=Z,19nm,0.9s
CUC LR LR
comp=Z,243nm,20.0s
ARCES ARCESS Array B 83.33 340 P **P 07 32 40.9 +0.9**
ARCES ARCESS Array B 83.33 340 P **P 07 32 40.9 +0.9**
comp=Z,13nm,1.0s,baz=106,slow=4.5,SNR=26
ARCES LR LR 08 13 26.7
comp=Z,488nm,19.9s,baz=97,slow=38
ARE0 ARCESS Array S 83.33 340 *e*P **P 07 32 40.2 +0.3**
GKP Gorka Klasztor 83.65 324 *e*P **P 07 32 43.7 +1.8**
GKP *e*pP **pP 07 32 53.4 -0.5**
WDD Wield Dalam 83.74 306 PFAKE 07 32 50.0 +7.3
WDD LR LR
comp=Z,256nm,19.0s
GOLS Golise 83.81 316 *i* P **P 07 32 43.2 +0.3**
GOLS *i* pP **pP 07 32 55.0 +0.1**
DPC Dobruska-Polom 83.83 321⇓*i*P **P 07 32 43.9 +0.9**
DPC *e* 07 32 55.3
DPC Dobruska-Polom 83.83 321⇓*i*P **P 07 32 43.9 +0.9**
DPC *e*PCP **PcP 07 32 48.6 +1.6**
DPC *e*pP **pP 07 32 55.3 +0.3**
KSP Ksiaz 83.91 321⇓*e*P **P 07 32 44.0 +0.7**
KSP *e*PP **pP 07 32 55.0 -0.3**
KSP Ksiaz 83.91 321 *e*P **P 07 32 44.1 +0.7**
KSP *e*pP **pP 07 32 55.8 +0.5**
KSP *e*S S 07 43 14.5 +10
ARSA Arzberg 84.01 317⇓*i*P **P 07 32 44.4 +0.5**
comp=Z,37nm,1.0s,SNR=8.4
UPC Upice 84.05 321 *e*P **P 07 32 44.6 +0.6**
UPC *e* 07 32 56.1
UPC Upice 84.05 321⇓*e*P **P 07 32 44.6 +0.6**
UPC *e*PCP **PcP 07 32 49.6 +1.7**
UPC *e*pP **pP 07 32 56.1 +0.1**
PERS Pernice 84.22 317 *i* P **P 07 32 45.4 +0.4**
PERS *e* 07 32 50.0
PERS *i* pP **pP 07 32 57.0 -0.1**
TREC Trest 84.25 319 *e*P **P 07 32 45.3 +0.2**
TREC *e* 07 32 57.0
TREC MLR MLR
comp=Z,300nm,17.0s
TREC Trest 84.25 319⇓*e*P **P 07 32 45.3 +0.2**
TREC *e*PCP **PcP 07 32 50.3 +1.5**
TREC *e*pP **pP 07 32 57.0 -0.1**
TREC AMS AMS 08 17 20.0
comp=Z,300nm,17.0s
SOKA Soboth 84.28 317⇑*i*P **P 07 32 45.7 +0.3**
comp=Z,43nm,1.0s,SNR=6.2
LJU Ljubljana 84.57 316 *i* P **P 07 32 47.2 +0.4**
LJU *e* 07 32 51.8
LJU *i* pP **pP 07 32 59.0 +0.2**
PRU Pruhonice 84.93 320 *e*P **P 07 32 48.8 +0.3**
PRU *e* 07 33 00.3
PRU *e* 07 43 08.5
PRU MLR MLR
comp=Z,200nm,18.1s
PRU Pruhonice 84.93 320⇓*e*P **P 07 32 48.8 +0.3**
PRU *e*PCP **PcP 07 32 53.9 +2.1**
PRU *e*pP **pP 07 33 00.3 -0.2**
PRU *e*SKS S 07 43 08.5 -6.0
PRU AMS AMS 08 22 00.0
comp=Z,200nm,18.1s
AMKA Amchitka 84.96 39 P **P 07 32 49.4 +0.8**
comp=Z,21nm,0.8s
PVCC Panska Ves 84.97 321 *e*P **P 07 32 49.3 +0.6**
PVCC *e* 07 33 00.9
PVCC Panska Ves 84.97 321⇓*e*P **P 07 32 49.3 +0.6**
PVCC *e*x x 07 32 54.7
PVCC *e*pP **pP 07 33 00.9 +0.2**
VNDA Vanda 84.97 169 *e*P **P 07 32 48.2 +0.1**
comp=Z,54nm,1.4s
VNDA Vanda 84.97 169 P **P 07 32 48.5 +0.4**
comp=Z,19nm,1.1s,baz=294,slow=5.6,SNR=26
VNDA LR LR 08 05 01.5
comp=Z,278nm,18.6s,baz=210,slow=32
VOY Vojsko 85.01 316 *e*P **P 07 32 49.0 -0.1**
VOY *e*pP **pP 07 33 00.2 -0.9**
VOY *e* 07 33 07.8
AQU L'Aquila 85.08 312 *e*P **P 07 32 50.1 +0.6**
comp=Z,89nm,1.1s
AQU LR LR
comp=Z,280nm,19.0s
BSD Bornholm Skovb 85.24 325⇑*i*P P 07 33 01.3 +11
BSD pmax pmax
comp=Z,35nm,0.9s
BSD Bornholm Skovb 85.24 325⇑*i*P P 07 33 01.3 +11
comp=Z,35nm,0.8s
GEC2 GERESS Array S 85.38 319 *e*P **P 07 32 51.1 +0.2**
comp=Z,46nm,1.4s
GEC2 *e*pP **pP 07 33 02.9 0.0**
GEC2 GERESS Array S 85.38 319 *e*P **P 07 32 51.1 +0.2**
GEC2 *e*PP **pP 07 33 02.9 0.0**
GEC2 pmax pmax
comp=Z,46nm,1.4s
GERES GERESS Array B 85.38 319 P **P 07 32 50.7 -0.2**
GERES pP **pP 07 33 02.5 -0.4**
GERES GERESS Array B 85.38 319 P **P 07 32 50.7 -0.2**
comp=Z,8.6nm,1.0s,baz=101,slow=5.6,SNR=51
GERES pP **pP 07 33 02.5 -0.4**
comp=Z,22nm,1.0s,baz=98,slow=5.5,SNR=23
GERES LR LR 08 18 36.7
comp=Z,193nm,18.6s,baz=304,slow=41
BRG Berggiesshubel 85.40 321⇓*i*P **P 07 32 51.3 +0.5**
comp=Z,37nm,1.6s
BRG *i* 07 33 03.0
comp=Z,35nm,1.1s
BRG
comp=Z,349nm,16.6s
BRG
comp=N,141nm,20.0s
BRG
comp=E,306nm,20.0s
BRG Berggiesshubel 85.40 321 *e*P **P 07 32 51.1 +0.3**
comp=Z,37nm,1.6s
BRG *e*pP **pP 07 33 02.9 +0.1**
BRG Berggiesshubel 85.40 321⇓*i*P **P 07 32 51.3 +0.5**
BRG *i* 07 33 03.0
BRG MLR MLR
comp=Z,35μm,16.6s
BRG MLR MLR
comp=N,349nm,20.0s
BRG MLR MLR
comp=E,141nm,20.0s
KHC Kasperske Hory 85.48 319 *e*P **P 07 32 50.3 -1.0**
KHC *e* 07 33 02.3
KHC MLR MLR
comp=Z,300nm,18.3s
KHC Kasperske Hory 85.48 319⇓*e*P **P 07 32 50.3 -1.0**
KHC *e*PCP **PcP 07 32 56.3 +2.0**
KHC *e*pP **pP 07 33 02.3 -1.0**

KHC AMS AMS 08 19 10.0
comp=Z,300nm,18.3s
KHC Kasperske Hory 85.48 319 *eP* **P 07 32 50.0 -1.3**
comp=Z,29nm,1.5s
RUE Ruedersdorf 85.64 322 *eP* **P 07 32 52.5 +0.6**
comp=Z,49nm,1.2s
RUE *ep*P **pP 07 33 04.2 +0.2**
RUE Ruedersdorf 85.64 322 *eP* **P 07 32 52.6 +0.6**
comp=Z,110nm,1.1s
FBE Freiberg 85.77 321 *eP* **P 07 32 53.2 +0.5**
comp=Z,36nm,1.5s
FBE *ep*P **pP 07 33 04.8 +0.1**
RJOB Jochberg 85.89 318 *eP* **P 07 32 52.8 -0.6**
comp=Z,19nm,1.3s
RJOB *ep*P **pP 07 33 04.6 -0.9**
WET Wettzell 85.94 319 *eP* **P 07 32 53.9 +0.3**
comp=Z,32nm,1.5s
WET *ep*P **pP 07 33 05.6 0.0**
WET Wettzell 85.94 319 *eP* **P 07 32 53.9 +0.3**
WET *e**PP **pP 07 33 05.6 0.0**
WET pmax pmax
comp=Z,32nm,1.5s
MIDW Midway 86.00 62 PFAKE 07 33 10.0 +16
MIDW LR LR
comp=Z,399nm,20.0s
CLL Collm 86.03 321 *eP* **P 07 32 53.8 -0.1**
comp=Z,16nm,1.2s
CLL *ep*P **pP 07 33 05.6 -0.4**
CLL Collm 86.03 321 *eP* **P 07 32 54.0 +0.1**
CLL *i* 07 33 05.5
CLL *e*S **S 07 43 21.0 -4.2**
CLL pmax pmax
comp=Z,16nm,1.2s
CLL MLR MLR
comp=Z,300nm,18.4s
CLL Collm 86.03 321 *eP* **P 07 32 54.0 +0.1**
comp=Z,16nm,1.2s
CLL *i* 07 32 58.6
comp=Z,16nm,1.1s
CLL *i* pP **pP 07 33 05.5 -0.4**
comp=Z,32nm,1.1s
CLL *i* 07 33 12.5
CLL *i* 07 33 16.8
CLL *e*S **S 07 43 21.0 -4.2**
CLL *e*PS **PnS 07 44 30.0 +3.5**
CLL *e*SSSS 07 55 30.0
CLL LmV 08 20 00.0
comp=Z,300nm,18.4s
SBA Scott Base 86.07 169 *eP* **P 07 32 54.8 +1.2**
SBA pmax pmax
comp=Z,115nm,1.7s
SBA Scott Base 86.07 169 *eP* **P 07 32 54.8 +1.2**
comp=Z,115nm,1.7s
TANN Tannenbergstha 86.30 320 *eP* **P 07 32 55.6 +0.2**
comp=Z,17nm,1.3s
TANN *ep*P **pP 07 33 07.3 -0.1**
WERN Wernitzgruen 86.35 320 *eP* **P 07 32 55.9 +0.3**
comp=Z,7.0nm,1.0s
WERN *ep*P **pP 07 33 07.5 -0.1**
GUNZ Gunzen 86.38 320 *eP* **P 07 32 56.0 +0.3**
comp=Z,17nm,1.2s
GUNZ *ep*P **pP 07 33 07.7 -0.1**
WERD Werda 86.40 320 *eP* **P 07 32 55.9 +0.1**
comp=Z,17nm,1.4s
WERD *ep*P **pP 07 33 07.8 -0.1**
HFS Hagfors 86.42 330 P **P 07 32 55.8 +0.1**
HFS pP **pP 07 33 08.0 +0.3**
HFS Hagfors 86.42 330 P **P 07 32 55.8 +0.1**
comp=Z,21nm,1.0s,baz=107,slow=3.6,SNR=19
HFS pP **pP 07 33 08.0 +0.3**
comp=Z,60nm,0.9s,baz=128,slow=2.4,SNR=23
ROTZ Rotzenmuhle 86.42 320 *eP* **P 07 32 56.6 +0.7**
comp=Z,18nm,1.2s
ROTZ *ep*P **pP 07 33 08.3 +0.3**
COP Copenhagen 86.70 326 *i* P P 07 33 09.4 +12
COP pmax pmax
comp=Z,15nm,0.8s
COP Copenhagen 86.70 326 *i* P P 07 33 09.4 +12
comp=Z,15nm,0.8s
NEUB Neuenburg 86.79 321 *eP* **P 07 32 57.7 +0.1**
comp=Z,25nm,1.1s
NEUB *ep*P **pP 07 33 09.8 +0.1**
MOX Moxa 86.85 321 *eP* **P 07 32 58.2 +0.2**
comp=Z,24nm,1.5s
MOX *ep*P **pP 07 33 10.1 0.0**
MOX Moxa 86.85 321 *eP* **P 07 32 58.2 +0.2**
MOX *e**PP **pP 07 33 10.1 0.0**
MOX pmax pmax
comp=Z,24nm,1.5s
MOTA Moosalm 87.01 317 ⇑*iP* **P 07 32 57.7 -1.3**
comp=Z,18nm,0.9s
GRF Grafenberg Arr 87.05 320 *eL* L 08 19 32.4
comp=E,278nm,21.3s
GRFO Grafenberg 87.05 320 *eP* **P 07 32 59.7 +0.7**
GRFO pmax pmax
comp=Z,16nm,1.0s
GRFO Grafenberg 87.05 320 *eP* **P 07 32 59.7 +0.7**
comp=Z,16nm,1.0s
RETA Reutte 87.25 317 *i* P **P 07 32 59.9 -0.2**
comp=Z,17nm,0.9s,SNR=5.7
FETA Feichten 87.25 317 ⇓*iP* **P 07 33 00.2 -0.1**
comp=Z,24nm,1.3s
VLC Villacollemand 87.38 314 PFAKE 07 33 10.0 +9.3
VLC LR LR
comp=Z,209nm,21.0s
ADK Adak 87.49 38 PFAKE 07 33 10.0 +9.0
ADK LR LR
comp=Z,290nm,19.0s
NB2 NORSAR Subarra 87.71 331 P **P 07 33 01.8 -0.2**
comp=Z,50nm,1.0s,baz=94,slow=4.8
NB2 NORSAR Subarra 87.71 331 P **P 07 33 01.8 -0.2**
baz=94,slow=4.8
NOA NORSAR Array B 87.71 331 P **P 07 33 01.8 -0.2**
NOA PP **PP 07 36 28.1 +0.5**
NOA NORSAR Array B 87.71 331 P **P 07 33 01.8 -0.2**
comp=Z,7.2nm,0.9s,baz=94,slow=4.9,SNR=16
NOA PP **PP 07 36 28.1 +0.5**
comp=Z,2.1nm,0.9s,baz=89,slow=8.8,SNR=3.0
NOA LR LR 08 16 54.0
comp=Z,273nm,19.9s,baz=90,slow=39
BSEG Bad Segeberg 87.82 324 *eP* **P 07 33 03.2 +0.7**
comp=Z,68nm,1.3s
BSEG *ep*P **pP 07 33 15.1 +0.5**
BSEG Bad Segeberg 87.82 324 *eP* **P 07 33 03.2 +0.7**
BSEG *e**PP **pP 07 33 15.1 +0.5**
BSEG pmax pmax
comp=Z,68nm,1.3s
DAVA Damuels 87.84 317 ⇓*iP* **P 07 33 03.1 0.0**
comp=Z,25nm,0.9s,SNR=7.8
NAO01 NORSAR Array S 87.86 331 *eP* **P 07 33 02.7 0.0**
comp=Z,31nm,0.9s
NRDL Niedersach Rie 87.89 322 *eP* **P 07 33 03.5 +0.7**
comp=Z,46nm,1.3s
NRDL *ep*P **pP 07 33 15.3 +0.4**
UBBA Unterbreizbach 87.89 321 *eP* **P 07 33 03.2 +0.4**
comp=Z,35nm,1.8s
KEST Kesra 87.94 306 P **P 07 33 03.9 +0.3**
KEST Kesra 87.94 306 P **P 07 33 03.9 +0.3**
comp=Z,6.4nm,0.9s,baz=294,slow=1.6,SNR=18
KEST LR LR 08 13 05.5
comp=Z,152nm,20.8s,baz=258,slow=36
VSL Villasalto 87.99 309 PFAKE 07 33 10.0 +6.2
VSL LR LR
comp=Z,239nm,20.0s
TUE Stuetta 88.18 316 *eP* **P 07 33 04.9 +0.2**
comp=Z,18nm,1.1s
PGF Pioggiola 88.34 312 *eP* **P 07 33 05.1 -0.4**
comp=Z,74nm,1.2s
PGF Pioggiola 88.34 312 *eP* **P 07 33 05.1 -0.4**
PGF Pioggiola 88.34 312 *eP* **P 07 33 05.1 -0.4**
STU Stuttgart 88.34 319 *eP* **P 07 33 05.4 +0.2**
comp=Z,21nm,1.4s
STU *ep*P **pP 07 33 17.0 -0.3**
KONO Kongsberg 88.44 330 *eP* **P 07 33 05.7 +0.3**
KONO pmax pmax
comp=Z,52nm,1.0s
KONO MLR MLR
comp=Z,359nm,19.0s
KONO Kongsberg 88.44 330 *eP* **P 07 33 05.7 +0.3**
comp=Z,52nm,1.0s
KONO LR LR
comp=Z,359nm,19.0s
MUD Monsted U'grnd 88.57 326 *i* P P 07 33 18.7 +13
MUD pmax pmax
comp=Z,33nm,0.9s
MUD Monsted U'grnd 88.57 326 *i* P P 07 33 18.7 +13
comp=Z,33nm,0.9s
MAIT Maitri 88.70 199 *eP* **P 07 33 06.5 +0.1**
KBS Kingsbay 88.77 349 PFAKE 07 33 20.0 +13
KBS LR LR
comp=Z,745nm,20.0s
TNS Taunus Mts 88.86 320 *eP* **P 07 33 08.2 +0.5**
comp=Z,22nm,1.1s
TNS *ep*P **pP 07 33 20.1 +0.3**
TNS Taunus Mts 88.86 320 *eP* **P 07 33 08.2 +0.5**
BFO Black Forest 88.91 318 *eP* **P 07 33 07.7 -0.2**
comp=Z,24nm,1.6s
BFO *ep*P **pP 07 33 19.6 -0.4**
BFO Black Forest 88.91 318 *eP* **P 07 33 07.9 0.0**
BFO pmax pmax
comp=Z,12nm,1.0s
BFO MLR MLR
comp=Z,454nm,20.0s
BFO Black Forest 88.91 318 *eP* **P 07 33 07.9 0.0**
comp=Z,12nm,1.0s
BFO LR LR
comp=Z,454nm,20.0s
LANF Langenberg 89.27 319 *eP* **P 07 33 09.8 +0.2**
IBBN Ibbenburen 89.32 322 *eP* **P 07 33 10.2 +0.5**
comp=Z,68nm,1.4s
IBBN *ep*P **pP 07 33 22.2 +0.4**
SBF Sospel 89.50 314 *eP* **P 07 33 10.4 -0.4**
comp=Z,184nm,1.2s
SBF Sospel 89.50 314 *eP* **P 07 33 10.4 -0.4**
SBF Sospel 89.50 314 *eP* **P 07 33 10.4 -0.4**
CMAH Djebel Manchou 89.50 306 P **P 07 33 12.0 +1.0**
CDF Champ du Feu 89.61 318 ⇓*iP* **P 07 33 10.7 -0.6**
comp=Z,21nm,1.0s
CDF Champ du Feu 89.61 318 ⇓*iP* **P 07 33 10.7 -0.6**
CDF Champ du Feu 89.61 318 ⇓*iP* **P 07 33 10.7 -0.6**
BUG Bochum--Univer 89.62 321 *eP* **P 07 33 11.6 +0.5**
comp=Z,42nm,1.4s
BUG *ep*P **pP 07 33 23.5 +0.3**
ECH Echery 89.69 318 *eP* **P 07 33 11.7 +0.1**
ECH pmax pmax
comp=Z,23nm,1.6s
ECH MLR MLR
comp=Z,236nm,21.0s
ECH Echery 89.69 318 *eP* **P 07 33 11.7 +0.1**
comp=Z,23nm,1.6s
ECH LR LR
comp=Z,236nm,21.0s
ECH Echery 89.69 318 *eP* **P 07 33 11.0 -0.6**
MOF Molkenrain 89.71 318 *eP* **P 07 33 13.2 +1.4**
MBDF Montbardon 89.97 315 *eP* **P 07 33 12.2 -0.9**
comp=Z,17nm,0.8s
MBDF Montbardon 89.97 315 *eP* **P 07 33 12.2 -0.9**
MBDF Montbardon 89.97 315 *eP* **P 07 33 12.2 -0.9**
LPG La Plagne 89.98 315 ⇓*iP* **P 07 33 13.0 -0.3**
comp=Z,73nm,0.9s
LPG La Plagne 89.98 315 ⇓*iP* **P 07 33 13.0 -0.3**
LPG La Plagne 89.98 315 ⇓*iP* **P 07 33 13.0 -0.3**
LPL La Plagne 90.00 315 ⇓*iP* **P 07 33 13.1 -0.2**
comp=Z,94nm,1.0s
LPL La Plagne 90.00 315 ⇓*iP* **P 07 33 13.1 -0.2**
LPL La Plagne 90.00 315 ⇓*iP* **P 07 33 13.1 -0.2**
OG01 Vacheresse 90.03 316 *eP* **P 07 33 13.2 -0.1**
BNI Bardonecchia 90.04 315 *eP* **P 07 33 13.7 +0.3**
BNI pmax pmax
comp=Z,17nm,0.9s
BNI MLR MLR
comp=Z,310nm,20.0s
BNI Bardonecchia 90.04 315 *eP* **P 07 33 13.7 +0.3**
comp=Z,17nm,0.9s
BNI LR LR
comp=Z,310nm,20.0s
RSL Roselend 90.07 315 *eP* **P 07 33 13.6 0.0**
FRF La Foret Royal 90.07 313 ⇓*iP* **P 07 33 13.3 -0.1**
comp=Z,70nm,1.0s
FRF La Foret Royal 90.07 313 ⇓*iP* **P 07 33 13.3 -0.1**
FRF La Foret Royal 90.07 313 ⇓*iP* **P 07 33 13.3 -0.1**
QSPA South Pole Qui 90.23 180 PFAKE 07 33 30.0 +16
QSPA LR LR
comp=Z,519nm,20.0s
HAU Haudompre 90.24 318 ⇓*iP* **P 07 33 13.6 -0.5**
comp=Z,84nm,1.1s
HAU *e*R
comp=Z,302nm,19.8s
HAU Haudompre 90.24 318 ⇓*iP* **P 07 33 13.6 -0.5**
HAU Haudompre 90.24 318 ⇓*iP* **P 07 33 13.6 -0.5**
CASM Ain Smara 90.26 306 P **P 07 33 15.7 +1.2**
CTEI Djebel Teioual 90.33 306 P **P 07 33 16.7 +1.7**
WLF Walferdange 90.34 319 P **P 07 33 15.9 +1.3**
WLF AP **pP 07 33 27.5 +0.9**
comp=Z,34nm,1.9s
WLF Walferdange 90.34 319 *eP* **P 07 33 15.2 +0.6**
comp=Z,48nm,1.5s
WLF *ep*P **pP 07 33 27.3 +0.7**
WLF Walferdange 90.34 319 *eP* **P 07 33 15.5 +1.0**
WLF pmax pmax
comp=Z,75nm,1.8s
WLF MLR MLR
comp=Z,255nm,20.0s
WLF Walferdange 90.34 319 *eP* **P 07 33 15.5 +1.0**
comp=Z,75nm,1.8s
WLF LR LR
comp=Z,255nm,20.0s
MEM Membach 90.42 320 P **P 07 33 15.7 +0.8**
MEM E 07 33 20.8
MEM AP **pP 07 33 26.9 -0.1**
comp=Z,26nm,1.2s
CABF La Chapelle 90.43 316 ⇓*iP* **P 07 33 15.2 0.0**
comp=Z,65nm,1.0s
CABF La Chapelle 90.43 316 ⇓*iP* **P 07 33 15.2 0.0**
CABF La Chapelle 90.43 316 ⇓*iP* **P 07 33 15.2 0.0**
THEF They Montfort 90.48 318 *eP* **P 07 33 14.9 -0.3**
ORIF Oris-en-Rattie 90.61 315 ⇓*iP* **P 07 33 16.0 0.0**
comp=Z,58nm,1.0s
ORIF *e*R
comp=Z,340nm,22.5s
ORIF Oris-en-Rattie 90.61 315 ⇓*iP* **P 07 33 16.0 0.0**
ORIF Oris-en-Rattie 90.61 315 ⇓*iP* **P 07 33 16.0 0.0**
PAGF Fort de Pagny 90.64 318 *eP* **P 07 33 15.8 -0.2**
PAGF Fort de Pagny 90.64 318 *eP* **P 07 33 15.8 -0.2**
DFRA Djebel Bou Aff 90.75 306 P **P 07 33 18.8 +1.9**
OG35 Corcelles 90.80 316 *eP* **P 07 33 17.1 +0.2**
SMRF Simiane la Rot 90.84 314 ⇓*iP* **P 07 33 17.5 +0.4**
comp=Z,39nm,0.9s
SMRF Simiane la Rot 90.84 314 ⇓*iP* **P 07 33 17.5 +0.4**
BCLA Clavier 90.88 320 P **P 07 33 17.7 +0.7**
BCLA AP **pP 07 33 27.9 -1.2**
comp=Z,28nm,1.5s
MEZF Maizieres J'vi 91.09 318 ⇓*iP* **P 07 33 18.0 -0.1**
comp=Z,66nm,1.0s
MEZF Maizieres J'vi 91.09 318 ⇓*iP* **P 07 33 18.0 -0.1**
SFTF Sexfontaines 91.11 318 ⇓*iP* **P 07 33 18.1 -0.1**
comp=Z,155nm,1.0s
SFTF Sexfontaines 91.11 318 ⇓*iP* **P 07 33 18.1 -0.1**
GIVF Givet 91.19 320 ⇓*iP* **P 07 33 18.5 0.0**
comp=Z,55nm,1.0s
GIVF Givet 91.19 320 ⇓*iP* **P 07 33 18.5 0.0**
GIVF Givet 91.19 320 ⇓*iP* **P 07 33 18.5 0.0**
TAM Tamanrasset 91.26 293 *eP* **P 07 33 21.2 +1.6**
TAM pmax pmax
comp=Z,20nm,1.1s
TAM MLR MLR
comp=Z,293nm,19.0s
TAM Tamanrasset 91.26 293 *eP* **P 07 33 21.2 +1.6**
comp=Z,20nm,1.1s
TAM LR LR
comp=Z,293nm,19.0s
DOU Dourbes 91.34 320 P **P 07 33 19.9 +0.7**
DOU E 07 33 24.5
DOU AP **pP 07 33 30.4 -0.9**
comp=Z,24nm,1.7s
VIVF Saint-Julien-I 91.47 315 ⇓*iP* **P 07 33 19.8 -0.1**
comp=Z,50nm,1.1s
VIVF Saint-Julien-I 91.47 315 ⇓*iP* **P 07 33 19.8 -0.1**
VIVF Saint-Julien-I 91.47 315 ⇓*iP* **P 07 33 19.8 -0.1**
SNF Seneffe 91.53 320 P **P 07 33 21.0 +1.0**
SNF E 07 33 26.1
SNF AP **pP 07 33 32.3 +0.3**
SSB Saint Sauveur 91.54 315 *eP* **P 07 33 20.6 +0.3**
SSB pmax pmax
comp=Z,32nm,1.5s
SSB MLR MLR
comp=Z,131nm,19.0s
SSB Saint Sauveur 91.54 315 *eP* **P 07 33 20.6 +0.3**
comp=Z,32nm,1.5s
SSB LR LR
comp=Z,131nm,19.0s
SSB Saint Sauveur 91.54 315 *eP* **P 07 33 20.6 +0.3**
BAIF Baives 91.59 320 ⇓*iP* **P 07 33 20.7 +0.4**
comp=Z,115nm,1.0s
BAIF Baives 91.59 320 ⇓*iP* **P 07 33 20.7 +0.4**
BAIF Baives 91.59 320 ⇓*iP* **P 07 33 20.7 +0.4**
LOR Lormes 91.94 317 ⇓*iP* **P 07 33 21.9 -0.2**
comp=Z,97nm,1.0s
LOR *e*R
comp=Z,249nm,19.8s
LOR Lormes 91.94 317 ⇓*iP* **P 07 33 21.9 -0.2**
SMF Signal de Mont 91.98 317 ⇓*iP* **P 07 33 22.0 -0.2**
comp=Z,92nm,1.0s
SMF Signal de Mont 91.98 317 ⇓*iP* **P 07 33 22.0 -0.2**
SMF Signal de Mont 91.98 317 ⇓*iP* **P 07 33 22.0 -0.2**
LASF Ste Croix 92.08 314 ⇓*iP* **P 07 33 22.9 +0.1**
comp=Z,37nm,1.1s
LASF Ste Croix 92.08 314 ⇓*iP* **P 07 33 22.9 +0.1**
SSF Saint Saulge 92.19 317 ⇓*iP* **P 07 33 23.2 0.0**
comp=Z,57nm,1.3s
SSF Saint Saulge 92.19 317 ⇓*iP* **P 07 33 23.2 0.0**
SSF Saint Saulge 92.19 317 ⇓*iP* **P 07 33 23.2 0.0**
AVF Avril sur Loir 92.31 317 ⇓*iP* **P 07 33 23.5 -0.2**
comp=Z,66nm,1.1s
AVF Avril sur Loir 92.31 317 ⇓*iP* **P 07 33 23.5 -0.2**
AVF Avril sur Loir 92.31 317 ⇓*iP* **P 07 33 23.5 -0.2**
LBL Lubilhac 92.46 315 *eP* **P 07 33 25.1 +0.5**
AGO Saint Agoulin 92.50 316 *eP* **P 07 33 25.1 +0.4**
PYM Petit Puy Mans 92.60 316 *eP* **P 07 33 25.3 +0.1**
BGF Bois d'Agland 92.67 316 ⇓*iP* **P 07 33 25.7 +0.3**
comp=Z,92nm,1.0s
BGF Bois d'Agland 92.67 316 ⇓*iP* **P 07 33 25.7 +0.3**
BGF Bois d'Agland 92.67 316 ⇓*iP* **P 07 33 25.7 +0.3**
HYF Humbligny 92.77 317 *eP* **P 07 33 26.3 +0.4**
HYF Humbligny 92.77 317 *eP* **P 07 33 26.3 +0.4**
TCF Toulx Ste Croi 93.12 316 ⇓*iP* **P 07 33 27.6 0.0**
comp=Z,24nm,1.1s
TCF Toulx Ste Croi 93.12 316 ⇓*iP* **P 07 33 27.6 0.0**
TCF Toulx Ste Croi 93.12 316 ⇓*iP* **P 07 33 27.6 0.0**
MTLF Montolieu 93.30 313 ⇓*iP* **P 07 33 28.4 0.0**
comp=Z,31nm,1.1s
MTLF Montolieu 93.30 313 ⇓*iP* **P 07 33 28.4 0.0**
MTLF Montolieu 93.30 313 ⇓*iP* **P 07 33 28.4 0.0**
CAF Calviac 93.31 315 ⇓*iP* **P 07 33 28.7 +0.2**
comp=Z,47nm,1.4s
CAF Calviac 93.31 315 ⇓*iP* **P 07 33 28.7 +0.2**
CAF Calviac 93.31 315 ⇓*iP* **P 07 33 28.7 +0.2**
SNAA Sanae 93.37 198 *eP* **P 07 33 29.2 +1.0**
SNAA Sanae 93.37 198 *eP* **P 07 33 28.9 +0.7**
comp=Z,18nm,1.4s
RJF Les Rejaudoux 93.67 315 ⇓*iP* **P 07 33 30.4 +0.3**
comp=Z,29nm,1.1s
RJF *e*R
comp=Z,282nm,22.2s
RJF Les Rejaudoux 93.67 315 ⇓*iP* **P 07 33 30.4 +0.3**
RJF Les Rejaudoux 93.67 315 ⇓*iP* **P 07 33 30.4 +0.3**
LFF La Frestale 94.25 315 *eP* **P 07 33 33.0 +0.3**
comp=Z,77nm,1.5s
LFF La Frestale 94.25 315 *eP* **P 07 33 33.0 +0.3**
LFF La Frestale 94.25 315 *eP* **P 07 33 33.0 +0.3**
LDF La Druitiere 94.52 319 *eP* **P 07 33 33.5 -0.4**
comp=Z,143nm,1.8s
LDF La Druitiere 94.52 319 *eP* **P 07 33 33.5 -0.4**
LDF La Druitiere 94.52 319 *eP* **P 07 33 33.5 -0.4**
MFF Saint Martin d 94.72 317 ⇓*iP* **P 07 33 34.6 -0.3**
comp=Z,38nm,1.3s
MFF Saint Martin d 94.72 317 ⇓*iP* **P 07 33 34.6 -0.3**
MFF Saint Martin d 94.72 317 ⇓*iP* **P 07 33 34.6 -0.3**
FLN La Foliniere 94.74 319 *eP* **P 07 33 34.4 -0.5**
FLN *e*R
comp=Z,293nm,20.0s
FLN La Foliniere 94.74 319 *eP* **P 07 33 34.4 -0.5**
FLN La Foliniere 94.74 319 *eP* **P 07 33 34.4 -0.5**
VNA2 Neumayer--Watz 94.95 199 *eP* **P 07 33 36.6 +1.2**
VNA2 Neumayer--Watz 94.95 199 *ep*P pP 07 33 46.3 -1.2
GRR Gorron 95.03 318 *eP* **P 07 33 36.0 -0.2**
GRR Gorron 95.03 318 *eP* **P 07 33 36.0 -0.2**
GRR Gorron 95.03 318 *eP* **P 07 33 36.0 -0.2**
TOA0 Torodi Ar. Sit 95.11 283 *eP* **P 07 33 37.0 -0.3**
TORD Torodi Ar. Bea 95.11 283 P **P 07 33 37.2 -0.1**
TORD pP **pP 07 33 49.3 -0.1**
TORD PP **PP 07 37 25.9 -1.6**
TORD Torodi Ar. Bea 95.11 283 P **P 07 33 37.2 -0.1**
comp=Z,4.0nm,1.1s,baz=90,slow=5.5,SNR=15
TORD pP **pP 07 33 49.3 -0.1**
comp=Z,5.5nm,1.0s,baz=85,slow=3.7,SNR=11
TORD PP **PP 07 37 25.9 -1.6**
comp=Z,0.8nm,1.1s,baz=90,slow=5.5,SNR=2.5
TORD LR LR 08 15 41.6
comp=Z,277nm,18.2s,baz=40,slow=35
VNA1 Neumayer--Stat 95.30 199 *eP* **P 07 33 39.0 +2.1**
ETSF Etsaut 95.36 313 *eP* **P 07 33 38.0 0.0**
comp=Z,42nm,1.2s
ETSF Etsaut 95.36 313 *eP* **P 07 33 38.0 0.0**
ETSF Etsaut 95.36 313 *eP* **P 07 33 38.0 0.0**
DAG Danmarks Havn 95.45 348 *i* P P 07 33 48.7 +11
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 95.45 348 *i* P P 07 33 48.7 +11
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 95.56 326 P **P 07 33 38.4 -0.1**
EKA pP **pP 07 33 50.4 -0.2**
EKA Eskdalemuir Ar 95.56 326 P **P 07 33 38.4 -0.1**
comp=Z,1.7nm,0.6s,baz=100,slow=4.7,SNR=6.4
EKA pP **pP 07 33 50.4 -0.2**
comp=Z,12nm,1.0s,baz=96,slow=6.8,SNR=9.1
SJPF Ste Jean 95.83 313 ⇓*iP* **P 07 33 40.2 +0.2**
comp=Z,15nm,1.0s
SJPF Ste Jean 95.83 313 ⇓*iP* **P 07 33 40.2 +0.2**
SJPF Ste Jean 95.83 313 ⇓*iP* **P 07 33 40.2 +0.2**
IM04 Indian Mountai 97.48 23 *eP* **P 07 33 46.7 -0.3**
IMA2 Indian Mountai 97.49 23 *eP* Pdif 07 33 47.7 +0.4
ESDC Sonseca Array 98.27 310 LR LR 08 24 43.6
comp=Z,138nm,18.6s,baz=340,slow=39
PAB San Pablo 98.58 310 PFAKE 07 34 00.0 +7.4
PAB LR LR
comp=Z,293nm,20.0s
COLA College 100.19 23 PFAKE 07 34 10.0 +11
COLA LR LR
comp=Z,478nm,19.0s
KDAK Kodiak Island 100.53 31 PFAKE 07 34 10.0 +9.3
KDAK LR LR
comp=Z,364nm,20.0s
ILAR Eielson Array 100.61 23 P **Pdif 07 34 02.4 +1.4**
ILAR PP **PP 07 38 06.7 -1.3**
ILAR PKKPbc **PKKPbc 07 50 15.1 -3.0**
ILAR Eielson Array 100.61 23 P **Pdif 07 34 02.4 +1.4**
comp=Z,0.2nm,0.7s,baz=292,slow=3.5,SNR=2.5
ILAR PP **PP 07 38 06.7 -1.3**
comp=Z,1.8nm,1.0s,baz=280,slow=5.9,SNR=5.6
ILAR PKKPbc **PKKPbc 07 50 15.1 -3.0**
comp=Z,1.7nm,1.0s,baz=155,slow=2.3,SNR=9.3
MTE Manteigas 100.88 311 PFAKE 07 34 10.0 +7.2
MTE LR LR
comp=Z,247nm,20.0s
RTC Rabat Centre 101.33 305 PFAKE 07 34 20.0 +15
RTC LR LR
comp=Z,308nm,20.0s
EGAK Eagle 102.80 22 PFAKE 07 34 20.0 +9.3
EGAK LR LR
comp=Z,557nm,20.0s
SFJD Kangerlussuaq 109.11 347 PFAKE 07 38 50.0
SFJD LR LR
comp=Z,459nm,21.0s
WRAK Wrangell Islan 110.97 27 PFAKE 07 39 00.0
WRAK LR LR
comp=Z,339nm,20.0s
TBI Tubuai 111.64 115 *e*LR LR 08 11 54.9
comp=Z,197nm,23.8s
PPT2 Papeete2 112.36 109 *e*LR LR 08 12 24.9
comp=Z,236nm,23.0s
NLWA Neilton Lookou 120.67 31 PFAKE 07 39 20.0 +15
NLWA LR LR
comp=Z,354nm,20.0s
FFC Flin Flon 122.99 13 PFAKE 07 39 20.0 +10
FFC LR LR
comp=Z,309nm,20.0s
NEW Newport 123.33 27 PFAKE 07 39 20.0 +9.5
NEW LR LR
comp=Z,476nm,19.0s
NEW Newport 123.33 27 P **PKPdf 07 39 10.0 -0.5**
baz=123
SCHQ Schefferville 123.49 349 PKP **PKPdf 07 39 09.5 -1.1**
SCHQ Schefferville 123.49 349 PKP **PKPdf 07 39 09.5 -1.1**
comp=Z,2.5nm,0.6s,baz=90,slow=20,SNR=3.1

USHA Ushuaia 124.33 190 PKP PKPdf 07 39 12.6 +0.4
USHA Ushuaia 124.33 190 PKP PKPdf 07 39 12.6 +0.4
comp=Z,13nm,1.0s,baz=207,slow=2.3,SNR=3.1
BSMT Bassoo Peak 124.67 26 ePKPdf PKPdf 07 39 12.9 -0.4
RKT Rikitea 124.67 118 eLR LR 08 18 10.5
comp=Z,267nm,32.8s
SWMT Swartz Lake 125.27 25 ePKPdf PKPdf 07 39 14.2 -0.2
SLMT Seeley Lake 125.70 25 ePKPdf PKPdf 07 39 15.0 -0.3
BMO Blue Mountains 125.74 30 PFAKE 07 39 30.0 +15
BMO LR LR
comp=Z,344nm,19.0s
A18A Metzger Ranch, 125.79 22 P PKPdf 07 39 14.4 -0.8
baz=126
MSO Missoula 125.82 26 P PKPdf 07 39 14.4 -1.0
baz=126
B17A L&G Farms, Che 125.95 23 P PKPdf 07 39 15.0 -0.6
baz=126
CHMT Chamberlain Mo 126.06 25 ePKPdf PKPdf 07 39 15.8 -0.2
A19A Klindworth Far 126.18 21 P PKPdf 07 39 15.4 -0.6
baz=126
B18A Beardsley Farm 126.25 22 P PKPdf 07 39 15.6 -0.5
baz=126
C17A Wharram Farm, 126.50 23 P PKPdf 07 39 16.4 -0.3
baz=126
B19A Brinkman Farms 126.51 21 P PKPdf 07 39 16.2 -0.4
baz=126
A20A Cobblestone Ra 126.51 20 P PKPdf 07 39 16.3 -0.3
baz=126
EGMT Eagleton 126.57 22 ePKPdf PKPdf 07 39 17.1 +0.3
EGMT LR LR
comp=Z,303nm,19.0s
EGMT Eagleton 126.57 22 P PKPdf 07 39 16.7 -0.1
baz=126
WVOR Wild Horse Val 126.75 33 PFAKE 07 39 30.0 +13
WVOR LR LR
comp=Z,304nm,20.0s
A21A Bergtoll Ranch 126.75 19 P PKPdf 07 39 16.8 -0.2
baz=127
HRY Holter Researc 126.81 24 ePKPdf PKPdf 07 39 17.4 +0.1
D17A Six Diamond Ra 126.92 23 P PKPdf 07 39 17.3 -0.3
baz=127
C19A Slack Wire Ran 127.07 22 P PKPdf 07 39 17.8 +0.1
baz=127
A22A Carney Farms, 127.08 19 P PKPdf 07 39 17.9 +0.2
baz=127
B21A Ellsworth Farm 127.21 20 P PKPdf 07 39 18.2 +0.2
baz=127
D18A Linhart Farms, 127.23 23 P PKPdf 07 39 18.0 -0.1
baz=127
E17A Martinsdale 127.41 24 P PKPdf 07 39 18.9 +0.4
baz=127
C20A Veseth Ranch, 127.47 21 P PKPdf 07 39 18.8 +0.4
baz=127
BEKR Beckworth 127.49 36 ePKPdf PKPdf 07 39 19.5 +0.6
MFID Camas Ranch 127.51 30 P PKPdf 07 39 19.2 +0.5
baz=127
DLMT Dillon 127.55 26 ePKPdf PKPdf 07 39 19.5 +0.6
D19A Cripps Ranch, 127.61 22 P PKPdf 07 39 18.9 +0.1
baz=128
B22A Reddig Ranch S 127.66 19 P PKPdf 07 39 19.4 +0.6
baz=128
C21A Desert Coulee 127.70 20 P PKPdf 07 39 19.0 +0.1
baz=128
E18A Harlowton 127.71 23 P PKPdf 07 39 19.2 +0.1
baz=128
A24A Westby 127.74 17 P PKPdf 07 39 19.1 +0.1
baz=128
BOZ Bozeman (W) 127.75 25 PFAKE 07 39 30.0 +11
BOZ LR LR
comp=Z,316nm,19.0s
B23A Brockton 127.84 18 P PKPdf 07 39 19.3 +0.1
baz=128
MCMT McKenzie Canyo 127.86 27 ePKPdf PKPdf 07 39 20.3 +0.7
F17A Fitzpatrick Pl 127.94 24 P PKPdf 07 39 19.9 +0.4
baz=128
D20A Manuel Ranch, 127.95 22 P PKPdf 07 39 19.5 +0.1
baz=128
A25A Svangstu Ranch 127.98 17 P PKPdf 07 39 19.3 0.0
baz=128
HLID Hailey 128.09 29 ePKPdf PKPdf 07 39 20.8 +0.8
HLID LR LR
comp=Z,468nm,22.0s
HLID Hailey 128.09 29 P PKPdf 07 39 19.5 -0.4
baz=128
C22A Vida 128.18 20 P PKPdf 07 39 20.0 +0.2
baz=128
E19A Rath Farm, Rou 128.23 23 P PKPdf 07 39 19.7 -0.3
baz=128
A26A Wade Farm, Ken 128.32 16 P PKPdf 07 39 20.1 0.0
baz=128
F18A Big Timber 128.33 24 P PKPdf 07 39 20.2 0.0
baz=128
C23A Lambert 128.36 19 P PKPdf 07 39 20.3 +0.2
baz=128
G17A Pierce Place, 128.38 25 P PKPdf 07 39 21.2 +0.8
baz=128
D21A La Casta Ranch 128.38 21 P PKPdf 07 39 20.4 +0.1
baz=128
E20A Meyer Farm, Mu 128.45 22 P PKPdf 07 39 20.5 +0.1
baz=128
ULM Lac du Bonnet 128.47 11 PKP PKPdf 07 39 19.3 -0.9
ULM Lac du Bonnet 128.47 11 PKP PKPdf 07 39 19.3 -0.9
comp=Z,4.8nm,0.7s,baz=9.1,slow=7.3,SNR=3.8
QLMT Earthquake Lak 128.48 26 ePKPdf PKPdf 07 39 21.8 +1.1
B25A Knox Farm, Ray 128.57 17 P PKPdf 07 39 21.3 +0.7
baz=128
D22A Cohagen 128.60 20 P PKPdf 07 39 21.1 +0.5
baz=128
H16A Russell Place, 128.66 26 P PKPdf 07 39 21.3 +0.2
baz=128
F19A Roth Farm, Mol 128.68 23 P PKPdf 07 39 21.3 +0.4
baz=128
A28A Rude Farm, Bot 128.78 15 P PKPdf 07 39 21.5 +0.6
baz=129
E21A Keefer Ranch, 128.80 21 P PKPdf 07 39 21.5 +0.5
baz=129
YMR Madison River 128.81 25 ePKPdf PKPdf 07 39 22.6 +1.2
C24A Savage 128.84 19 P PKPdf 07 39 21.5 +0.4
baz=129
BMN Battle Mountai 128.90 33 PFAKE 07 39 30.0 +8.4
BMN LR LR
comp=Z,229nm,21.0s
D23A Lindsay 128.90 19 P PKPdf 07 39 21.7 +0.5
baz=129
WAKR Walker 128.91 37 ePKPdf PKPdf 07 39 22.4 +0.7
LAO LASA Array 128.98 20 ePKPdf PKPdf 07 39 22.2 +0.8
LAO LR LR
comp=Z,360nm,22.0s
A29A Manning Farm, 129.02 14 P PKPdf 07 39 21.6 +0.2
baz=129
C25A Freed Ranch, W 129.04 18 P PKPdf 07 39 22.5 +1.1
baz=129
LKWY Lake 129.13 25 PFAKE 07 39 30.0 +8.0
LKWY LR LR
comp=Z,722nm,19.0s
RLMT Red Lodge 129.15 24 PFAKE 07 39 30.0 +8.0
RLMT LR LR
comp=Z,246nm,21.0s
I16A Newdale 129.21 26 P PKPdf 07 39 21.9 -0.2
baz=129
D24A Glendive 129.24 19 P PKPdf 07 39 22.4 +0.6
baz=129
C26A Wahner Farm, P 129.28 17 P PKPdf 07 39 22.1 +0.2
baz=129
E22A Miles City 129.29 20 P PKPdf 07 39 22.6 +0.7
baz=129
H18A Shoshone NF, C 129.35 24 P PKPdf 07 39 22.7 +0.3
baz=129
B29A Wagenman Farm, 129.42 14 P PKPdf 07 39 22.6 +0.5
baz=129
E23A Ismay 129.46 20 P PKPdf 07 39 22.5 +0.2
baz=129
G20A Bridger 129.49 23 P PKPdf 07 39 22.8 +0.2
baz=129
NVAR Mina Array Bea 129.63 36 PKP PKPdf 07 39 23.9 +0.8
NVAR SKPbc SKPbc 07 42 43.1 +0.8
NVAR Mina Array Bea 129.63 36 PKP PKPdf 07 39 23.9 +0.8
comp=Z,4.2nm,0.8s,baz=273,slow=2.4,SNR=24
NVAR SKPbc SKPbc 07 42 43.1 +0.8
comp=Z,2.5nm,1.0s,baz=266,slow=6.1,SNR=5.8
H19A Powell 129.64 24 P PKPdf 07 39 23.6 +0.8
baz=130
RRI2 Red Ridge 129.70 27 ePKPdf PKPdf 07 39 23.9 +0.7
E24A Baker 129.74 19 P PKPdf 07 39 23.7 +0.8
baz=130
F22A Rosebud 129.75 21 P PKPdf 07 39 23.1 +0.2
baz=130

TPAW Teton Pass 129.75 26 ePKPdf PKPdf 07 39 24.5 +1.2
SNOW Snow King Moun 129.86 26 ePKPdf PKPdf 07 39 24.2 +0.8
REDW Red Top Meadow 129.90 26 ePKPdf PKPdf 07 39 23.9 +0.5
F23A Volborg 130.10 20 P PKPdf 07 39 23.6 +0.1
baz=130
I19A Meeteetse 130.15 24 P PKPdf 07 39 24.6 +0.7
baz=130
H20A Greybull 130.18 23 P PKPdf 07 39 23.8 0.0
baz=130
G22A Birney 130.22 21 P PKPdf 07 39 23.8 -0.1
baz=130
AHID Auburn Hatcher 130.26 27 PFAKE 07 39 40.0 +16
AHID LR LR
comp=Z,563nm,19.0s
E26A Carlson Angus 130.40 18 P PKPdf 07 39 23.8 -0.3
baz=130
TPH Tonopah 130.50 36 PFAKE 07 39 40.0 +15
TPH LR LR
comp=Z,459nm,19.0s
G23A Biddle 130.56 21 P PKPdf 07 39 24.3 -0.2
baz=130
F25A Bowman 130.57 19 P PKPdf 07 39 24.3 -0.1
baz=130
I20A Worland 130.58 24 P PKPdf 07 39 24.4 -0.2
baz=130
J19A Crowheart 130.76 25 P PKPdf 07 39 25.7 +0.7
baz=131
G24A Alzada 130.78 20 P PKPdf 07 39 24.5 -0.4
baz=131
E28A Huff 130.82 16 P PKPdf 07 39 24.7 -0.2
baz=131
BW06 Boulder Array 130.94 26 PFAKE 07 39 40.0 +15
BW06 LR LR
comp=Z,426nm,20.0s
PDAR Pinedale Array 130.94 26 PKP PKPdf 07 39 24.9 -0.6
PDAR pPKP pPKPdf 07 39 38.1 +0.2
PDAR PP PP 07 41 44.8 +3.7
PDAR SKPbc SKPab 07 42 47.5 +0.4
PDAR Pinedale Array 130.94 26 PKP PKPdf 07 39 24.9 -0.6
comp=Z,1.2nm,0.6s,baz=270,slow=0.3,SNR=11
PDAR pPKP pPKPdf 07 39 38.1 +0.2
comp=Z,5.3nm,1.2s,baz=236,slow=1.6,SNR=6.7
PDAR PP PP 07 41 44.8 +3.7
comp=Z,0.4nm,0.9s,baz=298,slow=6.1,SNR=2.4
PDAR SKPbc SKPab 07 42 47.5 +0.4
comp=Z,1.4nm,0.9s,baz=318,slow=2.0,SNR=4.1
HWUT Hardware Ranch 130.95 28 PFAKE 07 39 40.0 +15
HWUT LR LR
comp=Z,368nm,21.0s
I21A Big Trails, Te 131.03 23 P PKPdf 07 39 25.5 0.0
baz=131
F27A Lemmon 131.07 18 P PKPdf 07 39 25.4 +0.1
baz=131
J20A Shoshoni 131.09 24 P PKPdf 07 39 25.2 -0.4
baz=131
GRAC Grapevine Rang 131.13 37 P PKPdf 07 39 26.6 +0.8
baz=131
K19A Absolon Red Bu 131.21 25 P PKPdf 07 39 26.1 +0.2
baz=131
R11A Troy Canyon, C 131.25 34 ePKPdf PKPdf 07 39 26.8 +0.7
R11A Troy Canyon, C 131.25 34 P PKPdf 07 39 26.9 +0.7
baz=131
ISA Isabella 131.32 39 P PKPdf 07 39 25.6 -0.6
baz=131
EYMN Ely 131.40 8 PFAKE 07 39 40.0 +14
EYMN LR LR
comp=Z,568nm,21.0s
L18A Fontenelle, Gr 131.41 27 P PKPdf 07 39 26.7 +0.3
baz=131
DUG Dugway 131.41 31 ePKIKP PKPdf 07 39 27.4 +1.1
DUG MLR MLR
comp=Z,401nm,22.0s
DUG Dugway 131.41 31 ePKPdf PKPdf 07 39 27.4 +1.1
DUG LR LR
comp=Z,401nm,22.0s
DUG Dugway 131.41 31 P PKPdf 07 39 26.9 +0.5
baz=131
G26A Maurine 131.41 18 P PKPdf 07 39 25.6 -0.4
baz=131
ARVC Arvin 131.43 40 P PKPdf 07 39 25.8 -0.5
baz=131
F28A McLaughlin 131.45 17 P PKPdf 07 39 25.6 -0.5
baz=131
M17A Scullys Gap (B 131.47 28 P PKPdf 07 39 25.9 -0.6
baz=131
G27A Dupree 131.54 18 P PKPdf 07 39 26.0 -0.3
baz=131
K20A Yellowstone Ra 131.56 25 P PKPdf 07 39 26.4 -0.2
baz=131
MPMC Manual Prospec 131.68 38 P PKPdf 07 39 27.6 +0.5
baz=132,SNR=10
J22A Midwest 131.68 23 P PKPdf 07 39 26.0 -0.8
baz=132
LRMC Laurel Mountai 131.93 39 P PKPdf 07 39 27.5 +0.1
baz=132,SNR=6.9
RSSD Black Hills 131.97 20 ePKIKP PKPdf 07 39 27.3 -0.1
RSSD Black Hills 131.97 20 ePKPdf PKPdf 07 39 27.2 -0.1
K21A Alcova 132.03 24 P PKPdf 07 39 27.8 +0.3
baz=132
EDW2 Edwards Air Fo 132.12 39 P PKPdf 07 39 28.2 +0.5
baz=132,SNR=5.1
I25A Rochford 132.17 20 P PKPdf 07 39 27.8 +0.1
baz=132
K22A Casper 132.31 23 P PKPdf 07 39 27.4 -0.6
baz=132
L21A Rawlins 132.53 25 P PKPdf 07 39 28.4 -0.1
baz=132
GSC Goldstone 132.59 38 ePKIKP PKPdf 07 39 31.0 +2.4
GSC Goldstone 132.59 38 ePKPdf PKPdf 07 39 31.0 +2.4
GSC Goldstone 132.59 38 P PKPdf 07 39 29.3 +0.6
baz=132,SNR=6.1
RCBR Riachuelo 132.68 262 PFAKE 07 39 40.0 +11
RCBR LR LR
comp=Z,252nm,20.0s
I27A Quinn 132.68 19 P PKPdf 07 39 28.5 0.0
baz=132
SHPR Sheep Range 132.77 36 ePKPdf PKPdf 07 39 29.7 +0.7
M21A Separation Pea 132.83 25 P PKPdf 07 39 28.8 -0.3
baz=133
MVU Marysvale 132.98 32 PFAKE 07 39 40.0 +11
MVU LR LR
comp=Z,478nm,21.0s
I28A Midland 133.02 18 P PKPdf 07 39 28.5 -0.6
baz=133
CCUT Cedar City 133.06 33 ePKPdf PKPdf 07 39 30.6 +1.0
N20A Spence Gulch, 133.08 26 P PKPdf 07 39 29.4 -0.2
baz=133
L23A Garrett 133.09 23 P PKPdf 07 39 28.9 -0.7
baz=133
O19A Mirs Draw (B 133.12 27 P PKPdf 07 39 28.7 -0.9
baz=133
Q16A Castle Valley 133.20 30 ePKPdf PKPdf 07 39 30.6 +0.8
Q16A Castle Valley 133.20 30 P PKPdf 07 39 30.0 +0.2
baz=133
SRU San Rafael 133.38 30 ePKIKP PKPdf 07 39 30.2 +0.1
SRU San Rafael 133.38 30 ePKPdf PKPdf 07 39 30.2 +0.1
N21A Black Mountain 133.46 26 P PKPdf 07 39 30.4 +0.1
baz=133
J28A Allard Ranch, 133.52 18 P PKPdf 07 39 30.1 0.0
baz=133
GMRC Granite Mounta 133.64 38 P PKPdf 07 39 30.6 -0.1
baz=134,SNR=6.9
O20A White River Ci 133.65 27 P PKPdf 07 39 30.6 0.0
baz=134
LDFC Landfair 133.78 37 ePKPdf PKPdf 07 39 32.4 +1.5
N22A Wattenberg Ran 133.88 25 P PKPdf 07 39 31.5 +0.4
baz=134
PFO Pinyon Flat Ob 133.91 40 ePKPdf PKPdf 07 39 33.0 +1.8
O21A Pagoda 133.93 26 P PKPdf 07 39 31.5 +0.3
baz=134
IRM Iron Mountain 134.37 38 P PKPdf 07 39 32.4 +0.5
baz=134,SNR=5.5
MONP Monument Peak 134.39 40 P PKPdf 07 39 32.4 +0.2
baz=134
U15A North Rim 134.46 34 P PKPdf 07 39 33.0 +0.7
baz=134
W13A Hualapai Mount 134.49 36 P PKPdf 07 39 32.9 +0.6
baz=134
BC3 Big Chuckawall 134.51 39 P PKPdf 07 39 31.2 -1.1
baz=134
ECSD EROS Data Cent 134.52 14 ePKPdf PKPdf 07 39 31.4 -0.5
ECSD LR LR
comp=Z,823nm,19.0s
Q20A Ridgley Place, 134.57 28 P PKPdf 07 39 31.0 -1.3
baz=134
O23A Lake Granby, G 134.60 25 P PKPdf 07 39 32.7 +0.2
baz=134

SWSC Sam W. Stewart 134.76 40 P PKPdf 07 39 33.4 +0.8
baz=135
Y12C Blythe 135.03 38 P PKPdf 07 39 33.5 +0.4
baz=135
ISCO Idaho Springs 135.07 25 P PKPdf 07 39 33.2 -0.2
baz=135
PV01 Paradox Valley 135.09 29 ePKPdf PKPdf 07 39 32.9 -0.5
R20A Redvale 135.14 29 P PKPdf 07 39 33.5 0.0
baz=135
Q22A Crested Butte, 135.28 27 P PKPdf 07 39 33.6 -0.3
baz=135
P23A Jefferson 135.33 25 P PKPdf 07 39 33.3 -0.7
baz=135
S20A Disappointment 135.44 29 P PKPdf 07 39 34.5 +0.4
baz=135
OGNE Ogallala 135.47 21 PFAKE 07 39 50.0 +16
OGNE LR LR
comp=Z,596nm,19.0s
WUAZ Wupatki 135.63 34 ePKPdf PKPdf 07 39 35.7 +1.3
WUAZ LR LR
comp=Z,279nm,19.0s
WUAZ Wupatki 135.63 34 P PKPdf 07 39 35.0 +0.6
baz=136
Y14A Wickenburg 135.82 37 P PKPdf 07 39 34.8 +0.2
baz=136
S21A Coal Bank Pass 135.84 29 P PKPdf 07 39 34.7 -0.2
baz=136
MVCO Mesa Verde 135.86 30 ePKPdf PKPdf 07 39 35.6 +0.7
MVCO LR LR
comp=Z,362nm,22.0s
MVCO Mesa Verde 135.86 30 P PKPdf 07 39 35.0 +0.1
baz=136
N28A Pribbeno Ranch 135.87 20 P PKPdf 07 39 34.8 +0.2
baz=136
R22A Saguache, Gunn 135.87 27 P PKPdf 07 39 34.7 -0.3
baz=136
P25A Willow Gulch B 135.91 24 P PKPdf 07 39 34.8 0.0
baz=136
O27A Beecher Island 135.97 22 P PKPdf 07 39 33.7 -1.2
baz=136
113A Mohawk Valley, 136.16 38 P PKPdf 07 39 35.6 +0.3
baz=136
P26A Davis Ranch, A 136.19 23 P PKPdf 07 39 35.5 +0.2
baz=136
S22A 4UR Ranch, Cre 136.23 28 P PKPdf 07 39 35.6 0.0
baz=136
X16A Lo Mia Camp, P 136.40 35 P PKPdf 07 39 36.2 +0.3
baz=136
JFWS Jewell Farm 136.51 8 PFAKE 07 39 50.0 +14
JFWS LR LR
comp=Z,384nm,19.0s
T22A Edith 136.78 28 P PKPdf 07 39 36.9 +0.3
baz=137
W18A Petrified Fore 136.83 33 ePKPdf PKPdf 07 39 37.9 +1.2
SDCO Great Sand Dun 136.83 26 PFAKE 07 39 50.0 +13
SDCO LR LR
comp=Z,297nm,19.0s
U21A Nageezi 136.89 30 P PKPdf 07 39 37.1 +0.3
baz=137
R25A Fountain Ranch 137.02 25 P PKPdf 07 39 36.9 0.0
baz=137
X18A Snowflake 137.15 33 P PKPdf 07 39 38.1 +0.8
baz=137
T23A Casias Ranch, 137.17 27 P PKPdf 07 39 38.2 +0.8
baz=137
R26A Arlington 137.24 24 P PKPdf 07 39 38.3 +1.0
baz=137
214A Organ Pipe Nat 137.30 39 P PKPdf 07 39 38.4 +0.9
baz=137
U22A Llaves 137.32 29 P PKPdf 07 39 38.3 +0.7
baz=137
S25A Robets Cordova 137.37 25 P PKPdf 07 39 37.8 +0.2
baz=137
T24B San Luis 137.45 27 P PKPdf 07 39 38.0 +0.1
baz=137
W20A Ramah 137.48 31 P PKPdf 07 39 38.2 +0.3
baz=137
R27A Eads 137.51 23 P PKPdf 07 39 38.3 +0.6
baz=137
P31A Stockton 137.64 19 P PKPdf 07 39 38.1 +0.2
baz=138
Q29A Oakley 137.66 21 P PKPdf 07 39 38.0 0.0
baz=138
V22A San Miguel Ran 137.66 29 P PKPdf 07 39 39.1 +0.8
baz=138
S26A Kim 137.81 24 P PKPdf 07 39 38.4 +0.1
baz=138
T25A Trinidad 137.81 26 P PKPdf 07 39 38.8 +0.3
baz=138
R28A Tribune 137.84 22 P PKPdf 07 39 39.0 +0.7
baz=138
X20A Quemado 137.93 32 P PKPdf 07 39 39.2 +0.4
baz=138
V23A Ortiz Mt. (NFS 138.15 29 P PKPdf 07 39 39.5 +0.4
baz=138
PLCA Paso Flores 138.18 194 PKP PKPdf 07 39 38.7 -0.2
PLCA Paso Flores 138.18 194 PKP PKPdf 07 39 38.7 -0.2
comp=Z,8.5nm,1.2s,baz=209,slow=1.5,SNR=3.9
TUC Tucson 138.29 36 ePKIKP PKPdf 07 39 40.0 +0.7
TUC MLR MLR
comp=Z,299nm,19.0s
TUC Tucson 138.29 36 ePKPdf PKPdf 07 39 40.0 +0.7
TUC LR LR
comp=Z,299nm,19.0s
X21A Alamocita Cree 138.37 31 P PKPdf 07 39 39.1 -0.5
baz=138
Y20A Horse Springs, 138.47 33 P PKPdf 07 39 40.2 +0.4
baz=138
V24A Rampart Ranch, 138.60 28 P PKPdf 07 39 40.3 +0.3
baz=138
ANMO Albuquerque 138.66 30 PFAKE 07 39 50.0 +10
ANMO LR LR
comp=Z,334nm,19.0s
LAZ Ladron 138.74 31 ePKPdf PKPdf 07 39 40.8 +0.5
Y21A Point of Rocks 138.77 32 P PKPdf 07 39 38.9 -1.5
baz=139
V25A Rancho No Teng 138.81 27 P PKPdf 07 39 40.5 +0.2
baz=139
KSU1 Kansas State U 138.87 16 ePKPdf PKPdf 07 39 40.4 +0.3
KSU1 LR LR
comp=Z,567nm,19.0s
W24A Lazy 6 Ranch, 138.95 28 P PKPdf 07 39 41.3 +0.7
baz=139
Z20A Nine Sixteen R 138.96 34 P PKPdf 07 39 41.6 +0.9
baz=139
LPM Los Pinos Moun 139.07 30 ePKPdf PKPdf 07 39 43.4 +2.6
T29A Hugoton 139.08 23 P PKPdf 07 39 41.9 +1.3
baz=139
Y22A Socorro 139.19 31 P PKPdf 07 39 39.3 -1.7
baz=139
BNM Barren Site 139.20 31 ePKPdf PKPdf 07 39 41.0 -0.1
Z21A St. Cloud Mine 139.31 32 P PKPdf 07 39 42.2 +0.8
baz=139
120A U Bar Ranch, L 139.36 34 P PKPdf 07 39 42.6 +1.3
baz=139
W25A X Bar L Ranch, 139.39 27 P PKPdf 07 39 42.1 +0.8
baz=139
Y23A Lovelace Mesa, 139.66 30 P PKPdf 07 39 42.4 +0.4
baz=140
Z22A Elephant Butte 139.73 32 P PKPdf 07 39 42.8 +0.8
baz=140
121A Cookes Peak, D 139.84 33 P PKPdf 07 39 40.7 -1.6
baz=140
319A Douglas 139.85 36 P PKPdf 07 39 42.7 +0.4
baz=140,SNR=6.2
220A Playas Peak, P 139.90 35 P PKPdf 07 39 41.9 -0.5
baz=140
Y24A Capitan 139.98 30 P PKPdf 07 39 43.6 +1.1
baz=140
W27A Bowe Ranch, En 140.15 26 P PKPdf 07 39 41.9 -0.8
baz=140
X26A CR and CF Fran 140.24 27 P PKPdf 07 39 42.1 -0.8
baz=140
320A Kipp Ranch, An 140.31 35 P PKPdf 07 39 44.1 +1.0
baz=140
Y25A Mesa, Roswell 140.34 29 P PKPdf 07 39 43.6 +0.5
baz=140
Z24A Sheeppen Canyo 140.49 30 P PKPdf 07 39 41.8 -1.7
baz=140
Z25A Roswell 140.85 29 P PKPdf 07 39 42.6 -1.4
baz=141
124A Stringfield Ra 140.94 31 P PKPdf 07 39 43.1 -1.2
baz=141
Y27A Causey 141.09 27 P PKPdf 07 39 43.0 -1.4
baz=141
MSTX Muleshoe 141.20 27 ePKPdf PKPdf 07 39 44.1 -0.5
224A Cornudas Mount 141.40 31 P PKPdf 07 39 43.5 -1.6
baz=141

Y28A	McKinney Farm,	141.48	26	P		PKPdf	07 39 43.3	-1.8
	baz=141							
MNTX	Cornudas Mount	141.77	32	*e*PKPdf		PKPdf	07 39 44.3	-1.2
MNTX				LR	LR			
	comp=Z,174nm,20.0s							
324A	Moseley Ranch,	141.92	32	P		PKPdf	07 39 46.2	+0.2
	baz=142,SNR=7.0							
226B	Tecolote Peak,	142.09	30	P		PKPdf	07 39 43.0	-3.2
	baz=142							
WMOK	Wichita Mounta	142.16	21	PFAKE			07 40 00.0	+14
WMOK				LR	LR			
	comp=Z,577nm,19.0s							
325A	Bean Ranch, Si	142.25	32	P		PKPdf	07 39 44.5	-2.1
	baz=142,SNR=7.7							
BDFB	Brasilia	142.25	244	PKPpre	PKPpre		07 39 42.6	
BDFB				PKP	PKPdf		07 39 47.5	+0.6
BDFB	Brasilia	142.25	244	PKhKP	PKPpre		07 39 42.6	
	comp=Z,4.1nm,0.9s,baz=187,slow=3.6,SNR=5.8							
BDFB				PKP	PKPdf		07 39 47.5	+0.6
	comp=Z,15nm,1.1s,baz=154,slow=5.1,SNR=7.6							
Z29A	Hungry Hill Ra	142.27	26	P		PKPdf	07 39 42.6	-4.0
	baz=142							
128A	Castleberry Fa	142.46	28	P		PKPdf	07 39 43.9	-3.0
	baz=142							
BLA	Blacksburg	142.62	357	PFAKE			07 40 00.0	+13
BLA				LR	LR			
	comp=Z,389nm,19.0s							
425A	Indio Mountain	142.70	32	P		PKPdf	07 39 44.3	-3.1
	baz=143,SNR=8.3							
326A	Caldwell Ranch	142.80	30	P		PKPdf	07 39 44.4	-3.1
	baz=143							
Z31A	Sharp Cattle R	142.88	24	P		PKPdf	07 39 44.1	-3.5
	baz=143							
Z32A	Haskell	143.16	23	P		PKPbc	07 39 45.1	+0.2
	baz=143							
426A	McDonald Obser	143.29	31	P		PKPbc	07 39 46.1	+0.5
	baz=143							
229A	Bryant Ranch,	143.31	27	P		PKPbc	07 39 45.8	+0.3
	baz=143							
328A	Wristen Ranch,	143.33	29	P		PKPbc	07 39 46.1	+0.6
	baz=143,SNR=5.9							
131A	Roby	143.34	25	P		PKPbc	07 39 46.1	+0.7
	baz=143							
TZTN	Tazewell	143.36	1	*e*PKPpre	PKPpre		07 39 44.2	
TZTN				*e*PKPdf	PKPdf		07 39 48.4	+0.2
427A	Hayter Ranch,	143.47	30	P		PKPbc	07 39 46.6	+0.7
	baz=143,SNR=8.0							
WVT	Waverly	143.50	7	*e*PKIKP		PKPdf	07 39 48.0	-0.4
WVT	Waverly	143.50	7	*e*PKPdf		PKPdf	07 39 48.0	-0.4
329A	Wagon Wheel Ra	143.64	28	P		PKPbc	07 39 46.5	+0.2
	baz=144,SNR=5.7							
ABTX	Abilene, Hawle	143.69	24	*e*PKPpre		PKPbc	07 39 45.6	
ABTX				*e*PKPdf		PKPdf	07 39 49.6	+0.6
ABTX	Abilene, Hawle	143.69	24	P		PKPbc	07 39 46.3	-0.1
	baz=144							
230A	Sterling City	143.70	27	P		PKPbc	07 39 46.7	+0.2
	baz=144,SNR=8.2							
526A	Mary Lane Ranc	143.74	32	P		PKPbc	07 39 47.4	+0.6
	baz=144							
428A	Kincaid Ranch,	143.93	30	P		PKPdf	07 39 48.6	-0.9
	baz=144,SNR=17							
527A	Woodward Ranch	143.93	31	P		PKPbc	07 39 48.2	+0.8
	baz=144,SNR=24							
MIAR	Mount Ida	143.96	15	*e*PKIKP		PKPbc	07 39 47.6	+0.5
MIAR				MLR	MLR			
	comp=Z,494nm,21.0s							
MIAR	Mount Ida	143.96	15	*e*PKPdf		PKPbc	07 39 47.6	+0.4
MIAR				LR	LR			
	comp=Z,494nm,21.0s							
231A	Bronte	144.01	26	P		PKPbc	07 39 47.3	-0.1
	baz=144							
UALR	University of	144.04	13	*e*PKPdf		PKPab	07 39 47.1	+0.2
330A	Mertzon	144.08	27	P		PKPab	07 39 47.4	+0.2
	baz=144,SNR=6.9							
626A	Big Bend Ranch	144.12	32	P		PKPbc	07 39 48.5	+0.6
	baz=144							
CPUP	Villa Florida	144.20	222	*e*PKPdf		PKPbc	07 39 48.3	+0.2
CPUP	Villa Florida	144.20	222	PKP		PKPbc	07 39 48.3	+0.2
	comp=Z,43nm,0.6s,baz=100,slow=2.8,SNR=143							
TKL	Tuckaleechee C	144.24	1	*e*PKPdf		PKPab	07 39 47.6	0.0
232A	Coleman	144.33	25	P		PKPab	07 39 48.4	+0.2
	baz=144,SNR=11							
528A	Cox Ranch, San	144.34	30	P		PKPbc	07 39 49.3	+0.7
	baz=144							
CNNC	Cliffs of the	144.34	353	PFAKE			07 40 00.0	+10
CNNC				LR	LR			
	comp=Z,577nm,19.0s							
429A	Davenport Ranc	144.39	29	P		PKPbc	07 39 48.9	+0.2
	baz=144,SNR=11							
CPCT	Cooper Cave	144.42	2	*e*PKPdf		PKPab	07 39 48.3	+0.1
331A	San Angelo	144.50	26	P		PKPbc	07 39 49.0	+0.1
	baz=144,SNR=8.0							
LMEL	Las Melosas	144.52	199	*i* P		PKPab	07 39 49.0	+0.1
TXAR	Lajitas Array	144.54	32	PKP		PKPbc	07 39 49.9	+0.7
TXAR	Lajitas Array	144.54	32	PKP		PKPbc	07 39 49.9	+0.7
	comp=Z,11nm,0.9s,baz=246,slow=1.3,SNR=108							
430A	Baggett Ranch,	144.57	28	P		PKPbc	07 39 49.3	0.0
	baz=144,SNR=11							
627A	Terlingua Ranc	144.60	32	P		PKPbc	07 39 50.2	+0.7
	baz=144							
529A	Stev Forest Ra	144.65	30	P		PKPbc	07 39 50.1	+0.6
	baz=144,SNR=29							
KMSC	Kings Mountain	144.73	358	*e*PKPdf		PKPab	07 39 49.1	-0.3
KMSC	Kings Mountain	144.73	358	P		PKPab	07 39 49.3	-0.1
	baz=145,SNR=8.4							
332A	Millersview	144.73	25	P		PKPbc	07 39 49.8	+0.1
	baz=145,SNR=33							
628A	Black Gap, Mar	144.83	31	P		PKPdf	07 39 50.8	-0.3
	baz=145							
OXF	Oxford	144.87	9	*e*PKIKP		PKPab	07 39 49.3	-0.6
OXF				MLR	MLR			
	comp=Z,414nm,20.0s							
OXF	Oxford	144.87	9	*e*PKPdf		PKPab	07 39 49.3	-0.6
OXF				LR	LR			
	comp=Z,414nm,20.0s							
431A	Sonora	144.95	27	P		PKPbc	07 39 50.6	+0.2
	baz=145,SNR=14							
CLCH	Cerro Calan	145.04	198	⇓*i* P		PKPab	07 39 51.0	+0.3
530A	J-C Ranch, Com	145.06	28	P		PKPdf	07 39 51.7	+0.2
	baz=145,SNR=68							
WHTX	Lake Whitney	145.10	22	*e*PKPbc		PKPbc	07 39 50.6	-0.2
WHTX				*ep*PKPdf		pPKPdf	07 40 02.6	-1.2
WHTX	Lake Whitney	145.10	22	P		PKPbc	07 39 50.0	-0.9
	baz=145							
432A	Menard	145.14	26	P		PKPbc	07 39 51.0	-0.1
	baz=145,SNR=9.5							
531A	Rocksprings	145.41	27	P		PKPab	07 39 52.4	+0.3
	baz=145,SNR=62							
JCT	Junction City	145.48	26	*e*PKIKP		PKPbc	07 39 52.3	+0.1
JCT				*e*			07 40 04.1	
JCT				MLR	MLR			
	comp=Z,375nm,19.0s							
JCT	Junction City	145.48	26	*e*PKPbc		PKPbc	07 39 52.3	+0.1
JCT				*ep*PKPdf		pPKPdf	07 40 04.0	-0.6
JCT				LR	LR			
	comp=Z,375nm,19.0s							
JCT	Junction City	145.48	26	P		PKPbc	07 39 52.2	+0.1
	baz=145,SNR=58							
532A	Rocksprings	145.74	27	P		PKPbc	07 39 53.1	+0.1
	baz=146,SNR=37							
631A	Perdido Creek	146.03	28	P		PKPbc	07 39 53.7	-0.2
	baz=146,SNR=14							
NATX	Nacogdoches	146.27	18	*e*PKPbc		PKPab	07 39 55.2	0.0
NATX				LR	LR			
	comp=Z,2μm,19.0s							
632A	Uvalde	146.32	27	P		PKPab	07 39 55.5	0.0
	baz=146,SNR=40							
LRAL	Lakeview Retre	146.65	6	*e*PKPbc		PKPdf	07 39 54.7	+0.7
LRAL				LR	LR			
	comp=Z,553nm,19.0s							
732A	Laxson Ranch,	146.89	28	P		PKPbc	07 39 55.7	-0.6
	baz=147							
VBMS	Vicksburg	146.90	12	*e*PKPdf		PKPdf	07 39 54.2	-0.2
VBMS				*e*PKPbc		PKPab	07 39 57.2	-0.4
VBMS				LR	LR			
	comp=Z,612nm,19.0s							
HKT	Hockley	147.54	21	*e*PKIKP		PKPdf	07 39 56.1	+0.6
HKT	Hockley	147.54	21	*e*PKPdf		PKPdf	07 39 56.1	+0.6
BRAL	Brewton	148.64	7	*e*PKPdf		PKPdf	07 39 58.1	+0.8
BRAL				*e*PKPbc		PKPbc	07 40 01.7	+0.6
BRAL				LR	LR			
	comp=Z,496nm,20.0s							
KVTX	Kingsville	148.85	26	PFAKE			07 40 10.0	+4.5
KVTX				LR	LR			
	comp=Z,298nm,19.0s							
LCO	Las Campanas	149.11	201	*e*PKPdf		PKPdf	07 39 58.4	-0.1
LCO				*e*PKPbc		PKPbc	07 40 03.2	+0.5
SIV	San Ignacio	153.33	233	PKP		PKPdf	07 40 04.5	-0.5
SIV				PKPbc		PKPbc	07 40 11.7	-0.8
SIV				PKPab		PKPab	07 40 24.9	+0.5
SIV	San Ignacio	153.33	233	PKP		PKPdf	07 40 04.5	-0.5
	comp=Z,3.2nm,0.8s,baz=104,slow=3.4,SNR=9.0							
SIV				PKPbc		PKPbc	07 40 11.7	-0.8
	comp=Z,8.8nm,0.9s,baz=129,slow=2.8,SNR=18							
SIV				PKPab		PKPab	07 40 24.9	+0.5
	comp=Z,6.9nm,0.8s,baz=136,slow=4.6,SNR=9.9							
LVC	Limon Verde	153.91	211	*e*PKPdf		PKPdf	07 40 06.5	+0.5
LVC				*e*PKPbc		PKiKP	07 40 15.5	+1.5
LVC				*e*PKPab		PKPab	07 40 28.6	+1.6
GRTK	Grand Turk	155.44	333	PFAKE			07 40 20.0	+12
GRTK				LR	LR			
	comp=Z,438nm,20.0s							
SDDR	Presa de Saban	157.67	330	*e*PKPab		PKPab	07 40 43.5	+0.6
SDDR				LR	LR			
	comp=Z,479nm,19.0s							
LPAZ	La Paz	158.37	222	PKP		PKPdf	07 40 12.4	+0.1
LPAZ				*e*PKPdf		PKPdf	07 40 12.6	+0.2
LPAZ				PKPab		PKPab	07 40 46.6	-0.1
LPAZ				*e*PKPab		PKPab	07 40 47.3	+0.6
LPAZ	La Paz	158.37	222	PKP		PKPdf	07 40 12.4	+0.1
	comp=Z,3.9nm,0.9s,baz=81,slow=1.7,SNR=16							
LPAZ				PKPab		PKPab	07 40 46.6	-0.1
	comp=Z,2.6nm,0.8s,baz=124,slow=4.9,SNR=4.9							
SAML	Samuel	158.48	246	*e*PKPdf		PKPdf	07 40 11.7	-0.1
SAML				*e*PKPab		PKPab	07 40 47.2	+0.5
SAML				LR	LR			
	comp=Z,313nm,19.0s							
GTBY	Guantanamo Bay	158.48	339	PFAKE			07 40 20.0	+8.4
GTBY				LR	LR			
	comp=Z,204nm,19.0s							
TEIG	Tepich	158.97	14	PFAKE			07 40 20.0	+7.8
TEIG				LR	LR			
	comp=Z,398nm,19.0s							
ROSC	El Rosal	169.96	301	PKP		PKPdf	07 40 22.5	-0.1
ROSC				*e*PKPdf		PKPdf	07 40 22.7	0.0
ROSC				PKPab		PKPab	07 41 36.7	-0.9
ROSC	El Rosal	169.96	301	PKP		PKPdf	07 40 22.5	-0.1
	comp=Z,4.5nm,0.7s,baz=126,slow=5.9,SNR=7.9							
ROSC				PKPab		PKPab	07 41 36.7	-0.9
	comp=Z,2.2nm,0.8s,baz=70,slow=10,SNR=2.5							
BCIP	Isla Barro Col	170.10	342	PFAKE			07 40 30.0	+7.8
BCIP				LR	LR			
	comp=Z,226nm,19.0s							
OTAV	Otavalo	175.43	276	PFAKE			07 40 40.0	+15
OTAV				LR	LR			
	comp=Z,297nm,20.0s							

CSEM ***23*** *07:28:24.2±0.2, 31°.63N×49°.96E, h2km, ML3.5, Error ellipse: s-maj=7.3km s-min=3.1km az=125.0*
KISR ***23*** *07:28:24.5±0.9, 31°.47N×50°.15E, h34km±910km, ML3.2*
TEH ***23*** *07:28:25.8, 31°.59N×50°.01E, h11km, ML3.5*
ISC 23 07:28:28.0±2.1, 31°.60N±0°.04×49°.99E±0°.05, h29km±21km, n35, σ0°.83/45, 2C-4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	Pirpir	1.33	35	*e*Pg		Pn	07 28 49.5	-1.3
IPIR				*e*Sg		Sn	07 29 07.3	-0.3
IPIR				*e*			07 29 10.4	
	comp=Z,7μm,0.2s							
IPIR	Pirpir	1.33	35	*e*Pg		Pn	07 28 49.5	-1.3
IPIR				*e*Sg		Sn	07 29 07.3	-0.3
IGAR	Gharneh	1.92	65	*e*Pn		Pn	07 28 58.5	-0.3
IGAR				*e*			07 29 30.5	
	comp=Z,3μm,0.2s							
KHMZ	Khomeyn	2.14	359	*e*Pg		Pn	07 29 01.3	-0.6
KHMZ				*e*Sg		Sn	07 29 29.8	+2.3
IKLH	Kolahrood	2.18	38⇓	*e*Pn		Pn	07 29 02.2	-0.3
IKLH				*e*Sg		Sb	07 29 34.2	+0.6
IKLH				*e*			07 29 36.6	
	comp=N,5μm,0.3s							
IKLH	Kolahrood	2.18	38⇓	*e*Pn		Pn	07 29 02.2	-0.3
IKLH				*e*Sg		Sb	07 29 34.2	+0.6
IZEF	Zefreh	2.37	56	*e*			07 29 18.6	
	comp=Z,845nm,0.1s							
IZEF				*e*Pn		Pn	07 29 04.5	-0.5
IZEF				*e*Sg		Sb	07 29 38.7	-0.2
NASN	Na'in	2.67	63	*e*Pn		Pn	07 29 10.5	+1.2
UMR	Umm Al-Rimmam	2.83	225	*e*P		Pn	07 29 10.2	-1.0
UMR				*e*S		Sn	07 29 45.0	+0.7
UMR	Umm Al-Rimmam	2.83	225	*e*P		Pn	07 29 10.1	-1.0
UMR				*e*S		Sn	07 29 45.0	+0.7
ASAO	Ashtian	2.94	0	*e*Pn		Pn	07 29 12.3	-0.7
GHVR	GHOM	3.08	20	*e*Pn		Pn	07 29 14.5	-0.1
GHVR				*e*Sg		Sb	07 29 59.5	+0.3
KBD	Kabd	3.13	220	*e*P		Pn	07 29 14.9	-0.3
KBD				*e*S		Sn	07 29 52.0	+0.4
KBD				AML	AML		07 29 59.5	
	comp=Z,44nm,0.3s							
KBD	Kabd	3.13	220	*e*P		Pn	07 29 14.9	-0.3
KBD				*e*S		Sn	07 29 52.0	+0.4
	comp=Z,44nm,0.3s							
IPAR	Pars	3.16	123	*e*Pn		Pn	07 29 15.3	-0.7
IPAR				*e*			07 29 29.6	
	comp=Z,2μm,0.5s							
IPAR	Pars	3.16	123	*e*Pn		Pn	07 29 15.3	-0.7
ISAD	Sadrabad	3.16	83	*e*Pn		Pn	07 29 15.7	-0.3
ISAD				*e*			07 29 58.4	
	comp=Z,601nm,0.2s							
ISAD	Sadrabad	3.16	83	*e*Pn		Pn	07 29 15.7	-0.3
ISFB	Sefidab	3.33	34⇑	*e*Pn		Pn	07 29 17.5	-0.7
ISFB				*e*			07 29 19.4	
	comp=Z,464nm,0.1s							
ISFB	Sefidab	3.33	34⇑	*e*Pn		Pn	07 29 17.5	-0.7
QRN	Al-Qurain	3.36	213	*e*P		Pn	07 29 17.5	-1.0
QRN				*e*S		Sn	07 29 57.1	-0.3
QRN				AML	AML		07 30 01.8	
	comp=Z,86nm,0.2s							
RDF	Al-Radifah	3.40	219	*e*P		Pn	07 29 18.6	-0.4
RDF				*e*S		Sn	07 29 59.3	+1.0
RDF				AML	AML		07 30 07.8	
	comp=Z,60nm,0.5s							
RDF	Al-Radifah	3.40	219	*e*P		Pn	07 29 18.6	-0.4
RDF				*e*S		Sn	07 29 59.3	+1.0
	comp=Z,60nm,0.5s							
ISRV	Sarvestan	3.48	129	*e*Pn		Pn	07 29 14.7	-5.7
ISRV				*e*			07 29 37.5	
	comp=Z,1μm,0.4s							
ISRV	Sarvestan	3.48	129	*e*Pn		Pn	07 29 14.7	-5.7
IVRN	Varamin	3.69	23	*e*Pn		Pn	07 29 22.1	-0.9
IVRN				*e*			07 29 45.4	
	comp=Z,457nm,0.3s							
IVRN	Varamin	3.69	23	*e*Pn		Pn	07 29 22.1	-0.9
IRAZ	Razeghan	3.80	359	*e*Pn		Pn	07 29 24.0	-0.7
IRAZ				*e*			07 30 05.3	
	comp=Z,1μm,0.4s							
IRAZ	Razeghan	3.80	359	*e*Pn		Pn	07 29 24.0	-0.7
IMEH	Mehriz	3.95	92	*e*Pn		Pn	07 29 22.7	-4.1
IMEH				*e*			07 29 24.8	
	comp=Z,514nm,0.5s							
IMEH	Mehriz	3.95	92	*e*Pn		Pn	07 29 22.7	-4.1
ILAS	Lasjerd	4.52	32	*e*Pn		Pn	07 29 33.6	-1.0
ILAS				*e*			07 29 35.1	
	comp=N,660nm,0.1s							
ILAS	Lasjerd	4.52	32	*e*Pn		Pn	07 29 33.6	-1.0
ISHM	Shahmirzad	5.02	32⇓	*e*Pn		Pn	07 29 40.5	-1.0
ISHM				*e*			07 29 56.9	
	comp=Z,594nm,0.2s							
ISHM	Shahmirzad	5.02	32⇓	*e*Pn		Pn	07 29 40.5	-1.0

IDC 23 07:59:53.3±61.0, 19°.51S×177°.74W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, MS4.4/1, Ms1 4.4/1, ms1mx3.1/35, Error ellipse: s-maj=1119.0km s-min=172.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.44	243	P		P	08 07 17.3	+0.4
	4.6nm,1.1s,baz=102,slow=9.3,SNR=2.5							
WRA	Warramunga Arr	44.98	261	P		P	08 08 10.3	-0.4
	0.1nm,0.5s,baz=96,slow=8.4,SNR=7.8							
ASAR	Alice Springs	44.99	256	P		P	08 08 10.5	-0.2
	0.4nm,0.5s,baz=96,slow=8.2,SNR=11							
NWAO	Narrogin (SRO)	59.03	243	LR		LR	08 35 22.6	
	comp=Z,307nm,19.0s,baz=355,slow=36							

IDC 23 08:22:45.9±1.7, 1°.71S×99°.32E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/24, mbtmp3.5/7, ML3.0/1, Error ellipse: s-maj=75.9km s-min=20.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.50	355	Pn		Pn	08 23 54.5	-1.1
	0.8nm,0.3s,baz=225,slow=11,SNR=3.7							
CMAR	Chiang Mai Arr	20.05	359	P		P	08 27 20.3	-0.5
	0.4nm,0.3s,baz=194,slow=9.2,SNR=3.6							
WRA	Warramunga Arr	38.72	120	P		P	08 30 11.2	-0.9
	0.3nm,0.7s,baz=302,slow=9.2,SNR=4.9							
ASAR	Alice Springs	39.97	126	P		P	08 30 23.2	+0.7
	0.4nm,0.8s,baz=304,slow=8.5,SNR=3.6							
MKAR	Makanchi Array	50.57	345	P		P	08 31 47.0	+0.6
	0.3nm,0.5s,baz=152,slow=8.8,SNR=5.4							
ZALV	Zalesovo Beam	56.77	350	P		P	08 32 31.3	-0.3
	0.4nm,0.3s,baz=155,slow=7.5,SNR=2.2							
FINES	FINESS Array B	83.54	332	P		P	08 35 15.0	-0.7
	0.8nm,0.9s,baz=92,slow=9.5,SNR=3.8							
CPUP	Villa Florida	144.14	217	PKP		PKPdf	08 42 23.8	-0.7
	0.7nm,0.6s,baz=351,slow=17,SNR=3.4							
TXAR	Lajitas Array	144.88	36	PKP		PKPdf	08 42 25.9	0.0
	0.4nm,0.6s,baz=298,slow=1.9,SNR=6.8							

NIED ***23*** *08:25:00, 20°.20N×121°.80E, h17km, Mw4.9 Best double couple: M0 2.50000×10^16 NP1:φs=359.00000°, δ45.00000°, λ86.00000°. NP2:φs=184.00000°, δ45.00000°, λ94.00000°.*
ISCJB ***23*** *08:25:23.9±0.3, 20°.11N±0°.02×121°.49E±0°.02, h34km±3km, mb5.0/166, MS4.5/53, Error ellipse: s-maj=3.6km s-min=2.4km az=18.9*
MOS ***23*** *08:25:23.5±0.8, 20°.08N×121°.51E, h33km, mb5.1/58, MS4.7/12, Error ellipse: s-maj=8.7km s-min=4.4km az=116.6*
MAN ***23*** *08:25:23, 20°.30N×121°.23E, h33km, mb5.6, ML4.7, MS5.1*
JMA ***23*** *08:25:24.0±0.4, 20°.24N×121°.80E, h0km, M5.4*
NEIC ***23*** *08:25:25.5±0.1, 20°.09N×121°.50E, h35km, mb5.0/48, Error ellipse: s-maj=4.2km s-min=2.8km az=87.0*
GCMT ***23*** *08:25:26.2±0.2, 20°.19N×121°.14E, h34km, MW5.2, Moment Tensor Solution. s56,c77; s74,c115; Moment tensor: Scale 10^16Nm; Mrr=5.34±.22; Mθθ=0.84±.15; Mφφ=-6.18±.17; Mrθ=-1.49±.16; Mrφ=-1.90±.10; Mθφ=-3.74±.20; Best double couple: M0 7.20000×10^16 NP1:φs=199.00000°, δ62.00000°, λ96.00000°. NP2:φs=8.00000°, δ28.00000°, λ80.00000°. Principal axes: T 6.5900, Plg72.0000°, Azm123.0000°; N 1.2800, Plg5.0000°, Azm17.0000°; P -7.8700, Plg17.0000°, Azm285.0000°; Data Used: IU II IC G CN.*
IDC ***23*** *08:25:26.5±1.6, 20°.06N×121°.48E, h42km±14km, mb4.5/32, mb1 4.7/35, mb1mx4.6/38, mbtmp4.6/35, ML4.4/3, MS4.4/30, Ms1 4.4/30, ms1mx4.3/38 Error ellipse: s-maj=12.9km s-min=7.4km az=73.0*
TEH ***23*** *08:25:26.0, 20°.09N×121°.46E, h35km, ML5.0*
BJI ***23*** *08:25:27.7, 20°.49N×121°.17E, h34km, mB5.0/47, mb4.8/47, Ms4.7/62, Ms7 4.6/57*
SZGRF ***23*** *08:25:29.3, 20°.70N×121°.66E, h52km, mb5.1, Philippine Islands region*
DJA ***23*** *08:25:32.0±0.7, 20°N±6°×12°2E±°, h121km±14km, M4.9/21, mB5.3/18, mb5.0/21, MLv5.4/1, Mw(mB)4.7/18, Mwp6.3/1*
ISC 23 08:25:25.8±0.2, 20°.12N±0°.03×121°.45E±0°.03, h40km±1km, h40km:pP-P, n561, σ1°.36/695, mb5.0/166, MS4.6/53, 40C-24D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.94	204	⇓*i* P		Pn	08 25 55.5	-0.9
PIP				*e*S		Sn	08 26 17.6	-2.0
SGCP	Mt. Cagua	1.95	163	*e*P		Pn	08 25 58.1	+1.7
SGCP				*e*S		Sn	08 26 28.5	+8.9
APYP	Conner	2.25	185	*e*P		Pn	08 26 01.8	+1.2
CVP	Callao Caves	2.42	172	*i* P		Pn	08 26 05.1	+2.1
ABRA	Dolores	2.55	196	*e*P		Pn	08 26 05.9	+1.2
TWG	Pinlang	2.71	353	*e*Pn		Pn	08 26 04.6	-2.4
CAUP	Cauayan	3.17	173	*e*P		Pn	08 26 16.5	+3.2
PALP	Palanan	3.17	163	*e*P		Pn	08 26 15.5	+2.2
PALP	Palanan	3.17	163	⇓*i* P		Pn	08 26 20.5	+7.2
TPUB	Ta-pu	3.26	347	*e*Pn		Pn	08 26 12.8	-1.7
YULB	Yu-li	3.27	358	*e*Pn		Pn	08 26 14.7	+0.1
YULB				*e*Sn		Sn	08 26 54.6	+2.4
SSLB	Suanglung	3.68	353	*e*Pn		Pn	08 26 19.6	-0.7
BCPH	Baguio City Da	3.80	193	⇑*i* P		Pn	08 26 23.5	+1.3
NACB	Ninganchiao	4.04	2	*e*Pn		Pn	08 26 25.4	+0.2
NACB				*e*Sn		Sn	08 27 15.2	+3.9
HATJ	Hateruma jima	4.49	29	P		Pn	08 26 31.4	0.0
HATJ				S		Sn	08 27 21.4	-1.0
YHNB	Yeheng	4.53	359	*e*Pn		Pn	08 26 33.1	+1.1
YHNB				*e*Sn		Sn	08 27 29.7	+6.2
YOJ	Yonaguni jima	4.56	18	P		Pn	08 26 33.6	+1.2
YOJ				S		Sn	08 27 25.3	+1.2
IRIF	Iriomote-Funau	4.70	26	P		Pn	08 26 34.7	+0.4
IRIF				*e*S		Sn	08 27 28.7	+1.1
JKRS	Kuro-shima	4.74	30	P		Pn	08 26 35.1	+0.3
JKRS				S		Sn	08 27 28.5	0.0
TATO	Taipei	4.84	0	*e*Pn		Pn	08 26 37.8	+1.6
TATO				*e*Sn		Sn	08 27 32.3	+1.3
JIJ	Ishigaki jima	4.91	30	P		Pn	08 26 37.0	-0.2
JIJ				S		Sn	08 27 31

NJ2 sP 08 28 30.5
NJ2 S **Sn** **08 30 34.0 +4.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,110nm,5.2s
NJ2 LR LR
comp=N,3μm,15.4s
NJ2 LR LR
comp=E,2μm,18.7s
NJ2 LR LR
comp=Z,2μm,14.4s
WHN Wuhan 12.20 330 ⇑P **Pn** **08 28 18.4 +1.3**
WHN sP 08 28 30.1
WHN LR LR
comp=N,5μm,15.3s
WHN LR LR
comp=E,4μm,12.3s
WHN LR LR
comp=Z,7μm,15.4s
JNN Nakanoshima 12.33 37 P **Pn** **08 28 18.6 -0.3**
DAV Davao City (W) 13.57 162 LR LR 08 34 16.1
comp=Z,2μm,20.3s,baz=341,slow=39
KDM Kudat 13.86 199 P **Pn** **08 28 39.7 -0.2**
JFU Fukue jima 2 14.09 26 P **P** **08 28 48.4 -1.4**
ENH Enshi 14.80 315 *e*Pn **Pn** **08 28 52.6 +0.1**
comp=Z,55nm,1.3s
KKM Kota Kinabalu 14.88 201 Pn **Pn** **08 28 54.1 +0.4**
KKM Kota Kinabalu 14.88 201 P **Pn** **08 28 53.2 -0.5**
KKM Kota Kinabalu 14.88 201 P **P** **08 29 00.2 +1.4**
comp=Z,77nm,1.3s,comp=Z,887nm
SDKM Sandakan 14.97 197 P **Pn** **08 28 54.8 -0.1**
GYA Guiyang 14.97 298 P **Pn** **08 28 52.5 -2.4**
GYA pP **P** **08 29 00.0 +0.2**
GYA PP **PnPn** **08 29 04.8 +1.6**
GYA S **Sn** **08 31 37.6 -2.0**
GYA sS S 08 31 50.0 -6.1
GYA SS **SnSn** **08 31 55.8 +3.2**
GYA PcP **PcP** **08 34 04.3 +2.0**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,170nm,5.9s
GYA LR LR
comp=N,710nm,14.9s
GYA LR LR
comp=E,2μm,16.1s
GYA LR LR
comp=Z,3μm,15.5s
MYLDM Lahad Datu 15.12 191 P **Pn** **08 28 57.5 +0.8**
MYLDM Lahad Datu 15.12 191 P P 08 29 08.8 +7.5
JNU Nakatsue 15.45 31 *e*P **P** **08 29 04.3 -0.6**
JNU Nakatsue 15.45 31 P **Pn** **08 29 01.8 +0.9**
JNU Nakatsue 15.45 31 P **Pn** **08 29 01.6 +0.6**
comp=Z,0.7nm,0.3s,baz=223,slow=6.2,SNR=17
JNU LR LR 08 35 05.8
comp=Z,909nm,21.2s,baz=342,slow=37
UBPT Khong Chiam 15.96 255 P **Pn** **08 29 08.7 +1.1**
comp=Z,36nm,1.8s,comp=Z,606nm
TSM Tawau 16.11 193 P **Pn** **08 29 10.3 +0.8**
JMN Monobe 17.49 37 P **P** **08 29 31.1 +3.5**
XAN Xi'an 17.77 324 P **Pn** **08 29 29.9 -0.4**
XAN pP **pP** **08 29 37.9 -2.7**
XAN sP **sP** **08 29 42.5 -3.3**
XAN pmax pmax
comp=Z,12nm,1.5s
XAN pmax pmax
comp=Z,140nm,6.3s
XAN LR LR
comp=N,2μm,14.5s
XAN LR LR
comp=E,640nm,15.3s
XAN LR LR
comp=Z,750nm,13.7s
KMI Kunming 17.97 290 P **P** **08 29 33.5 +0.4**
KMI pP **pP** **08 29 41.6 -1.5**
KMI sP **sP** **08 29 45.3 -2.9**
KMI S **Sn** **08 32 50.9 -1.7**
KMI pmax pmax
comp=Z,35nm,1.5s
KMI pmax pmax
comp=Z,400nm,6.7s
KMI LR LR
comp=N,810nm,13.3s
KMI LR LR
comp=E,2μm,16.0s
KMI LR LR
comp=Z,2μm,16.0s
JHS Saijyo 18.06 32 P **P** **08 29 35.3 +1.5**
KSAR Wonju Array Be 18.15 17 P **P** **08 29 35.5 +0.7**
KSRS Korea Array 18.18 17 P **Pn** **08 29 35.5 +0.4**
comp=Z,1.4nm,0.3s,baz=195,slow=11,SNR=38
KSRS LR LR 08 37 42.5
comp=Z,371nm,18.6s,baz=215,slow=40
JAD Aida 18.56 35 P Pn 08 29 47.1 +7.3
BTM Bintulu 18.69 207 P **Pn** **08 29 41.7 +0.2**
DL2 Dalian 18.73 0 *e*P Pn 08 29 51.4 +10
DL2 S S 08 33 30.4 +18
DL2 LR LR
comp=N,470nm,14.6s
DL2 LR LR
comp=E,830nm,20.8s
DL2 LR LR
comp=Z,810nm,14.8s
CD2 Chengdu 19.22 308 *e*P **Pn** **08 29 47.5 -0.3**
CD2 pP **pP** **08 29 55.8 -0.8**
CD2 sP **sP** **08 30 00.8 -0.9**
CD2 PP **PnPn** **08 30 04.8 +3.4**
CD2 S **Sn** **08 33 17.9 -4.5**
CD2 sS S 08 33 30.3 +8.0
CD2 pmax pmax
comp=Z,140nm,1.1s
CD2 pmax pmax
comp=Z,250nm,4.2s
CD2 LR LR
comp=N,3μm,13.2s
CD2 LR LR
comp=E,3μm,17.8s
CD2 LR LR
comp=Z,4μm,15.4s
GTOI Gorontalo 19.42 175 P **P** **08 29 47.3 -1.5**
comp=Z,131nm,0.6s,comp=Z,1μm
JWT Wachi 19.48 36 P **Pn** **08 29 51.8 +0.9**
MRSI Marisa 19.52 179 P **Pn** **08 29 51.6 +0.1**
comp=Z,90nm,0.8s,comp=Z,905nm
JIE Ise 19.62 40 P **Pn** **08 29 54.5 +2.0**
CHBT CHBT 19.73 251 P **Pn** **08 29 55.2 +1.2**
comp=Z,53nm,1.1s,comp=Z,4μm
SBUM Sibu 19.73 208 P **P** **08 29 52.8 +0.5**
SBUM Sibu 19.73 208 P **P** **08 29 53.1 +0.9**
SBUM Sibu 19.73 208 P **P** **08 29 53.2 +0.9**
comp=Z,73nm,1.4s,comp=Z,950nm
PBKT Sadao Pong 19.75 263 P **Pn** **08 29 53.6 -0.6**
comp=Z,35nm,1.0s
CBIJ Chichi jima 20.22 66 P **P** **08 29 58.5 +1.0**
BJT Baijiatuau 20.35 348 *e*P **P** **08 29 59.4 +0.6**
comp=Z,105nm,0.8s
BJI Beijing 20.37 348 P **P** **08 29 59.6 +0.6**
BJI pmax pmax
comp=Z,50nm,0.8s
BJI pmax pmax
comp=Z,170nm,4.8s
BJI LR LR
comp=N,1μm,18.6s
BJI LR LR
comp=E,1μm,18.6s
BJI LR LR
comp=Z,1μm,21.9s
JGF Kuroka 20.83 39 P Pn 08 30 06.1 -0.7
JHJ2 Mitsune 20.87 48 P Pn 08 30 09.1 +1.9
CMMT Chiang Mai 21.25 270 P **P** **08 30 08.5 -0.2**
comp=Z,31nm,1.3s,comp=Z,656nm
CHTO Chiang Mai 21.26 270 *e*P **P** **08 30 09.1 +0.3**
CHTO pmax pmax
comp=Z,26nm,1.0s
CHTO Chiang Mai 21.26 270 *e*P **P** **08 30 09.1 +0.3**
comp=Z,26nm,1.0s
CHTO Chiang Mai 21.26 270 P **P** **08 30 08.9 +0.1**
comp=Z,34nm,1.3s,comp=Z,529nm
CM31 Chiang Mai Arr 21.30 269 *e*P **P** **08 30 09.8 +0.5**
comp=Z,9.2nm,0.7s
CMAR Chiang Mai Arr 21.30 269 P **P** **08 30 09.8 +0.5**
CMAR PcP **PcP** **08 34 14.1 +1.2**
CMAR Chiang Mai Arr 21.30 269 P **P** **08 30 09.8 +0.5**
comp=Z,9.9nm,0.7s,baz=74,slow=9.0,SNR=45
CMAR PcP **PcP** **08 34 14.1 +1.2**
comp=Z,2.7nm,0.6s,baz=76,slow=0.6,SNR=10
CMAR LR LR 08 38 30.4
comp=Z,1μm,20.3s,baz=77,slow=37
KSM Kuching 21.49 212 *e*P **P** **08 30 11.1 -0.2**
comp=Z,36nm,0.5s
KSM Kuching 21.49 212 P **P** **08 30 11.8 +0.6**
KSM Kuching 21.49 212 P **P** **08 30 12.1 +0.8**
KSM Kuching 21.49 212 P **P** **08 30 11.3 0.0**
comp=Z,64nm,1.2s,comp=Z,906nm
JOD2 Odawara 2 21.67 42 P **P** **08 30 14.9 +1.9**
SNY Shenyang 21.72 4 ⇓P **P** **08 30 14.9 +1.4**
SNY S **S** **08 34 05.9 -5.8**
SNY pmax pmax
comp=Z,21nm,1.1s
SNY LR LR
comp=N,540nm,13.9s
SNY LR LR
comp=E,1μm,22.7s
SNY LR LR
comp=Z,790nm,17.3s
MTKI Muara Teweh, K 21.89 198 P **P** **08 30 19.0 +3.5**
comp=Z,172nm,0.8s
MAT Matsushiro 21.98 38 P **P** **08 30 17.5 +1.1**
MAT S **S** **08 34 19.4 +2.6**
MAT Matsushiro 21.98 38 P **P** **08 30 17.5 +1.1**
MAT *e*S **S** **08 34 17.4 +0.6**
JRY Ryogami san 22.04 40 P **P** **08 30 17.8 +0.8**
LZH Lanzhou 22.18 320 ⇓P **P** **08 30 19.8 +1.1**
LZH pP **pP** **08 30 30.1 +1.3**
LZH sP **sP** **08 30 34.8 +0.9**
LZH PP **PnPn** **08 30 45.6 +3.7**
LZH S **S** **08 34 16.1 -4.6**
LZH sS Sn 08 34 26.4 -7.2
LZH pmax pmax
comp=Z,47nm,1.0s
LZH pmax pmax
comp=Z,260nm,4.5s
LZH LR LR
comp=N,1μm,11.8s
LZH LR LR
comp=E,2μm,13.9s
LZH LR LR
comp=Z,3μm,15.6s
STKI Sintang 22.19 207 P **P** **08 30 20.8 +2.0**
comp=Z,51nm,1.3s,comp=Z,18μm
HHC Hu-ho-hao-te 22.32 340 *e*P **P** **08 30 21.9 +1.8**
HHC PP **PnPn** **08 30 49.3 +5.4**
HHC PcP **PcP** **08 34 17.6 +2.9**
HHC S **S** **08 34 21.8 -1.4**
HHC ScP **ScP** **08 37 50.4 +1.3**
HHC PcS **PcS** **08 37 54.5 +1.1**
HHC pmax pmax
comp=Z,96nm,0.7s
HHC pmax pmax
comp=Z,830nm,4.5s
HHC LR LR
comp=N,6μm,11.9s
HHC LR LR
comp=E,3μm,11.9s
HHC LR LR
comp=Z,7μm,11.3s
SKSI Soroako, Sulaw 22.50 180 P **P** **08 30 23.4 +1.2**
comp=Z,97nm,0.8s
BTO Baotou 22.64 337 *e*P P 08 30 30.3 +6.8
MMSI Mamuju 22.80 187 P **P** **08 30 26.0 +0.7**
comp=Z,365nm,0.8s,comp=Z,3μm
SWI Sorong 22.96 154 P **P** **08 30 26.5 -0.4**
comp=Z,114nm,0.7s,comp=Z,1μm
JSD Sado 23.06 36 P **P** **08 30 27.6 -0.2**
KTGM Kuala Trenggan 23.09 233 P **P** **08 30 28.4 +0.2**
KTGM Kuala Trenggan 23.09 233 P **P** **08 30 29.4 +1.2**
CN2 Changchun 23.86 7 *e*P **P** **08 30 34.5 -0.9**
CN2 *es*P **sP** **08 30 47.8 -3.3**
CN2 *e*PP **PnPn** **08 31 08.3 +3.6**
CN2 *e*S **S** **08 34 45.6 -3.0**
CN2 LR LR
comp=N,1μm,14.0s
CN2 LR LR
comp=E,670nm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
NLAI Namlea 23.86 166 P **P** **08 30 35.1 -0.6**
comp=Z,171nm,0.8s,comp=Z,2μm
SPSI Sidrap Palu 23.98 184 P **P** **08 30 37.5 +0.7**
comp=Z,63nm,1.2s,comp=Z,1μm
JYA Atsumi 24.26 37 P **P** **08 30 38.9 -0.3**
BBKI Banjar Baru 24.31 196 P **P** **08 30 41.0 +1.2**
comp=Z,376nm,1.4s,comp=Z,5μm
JMM Marumori 24.39 39 P **P** **08 30 39.7 -0.7**
MSAI Masohi 24.45 162 P **P** **08 30 42.3 +1.3**
comp=Z,28nm,0.6s,comp=Z,910nm
KULM Kulim 25.02 237 *e*P **P** **08 30 47.1 +0.8**
comp=Z,3.9nm,0.6s
KULM Kulim 25.02 237 P **P** **08 30 46.1 -0.3**
KAPI Kappang 25.03 184 P **P** **08 30 45.7 -0.6**
comp=Z,432nm,0.6s,SNR=12
KAPI Kappang 25.03 184 *e*P **P** **08 30 46.0 -0.3**
comp=Z,45nm,0.7s
KAPI Kappang 25.03 184 P **P** **08 30 46.0 -0.3**
comp=Z,70nm,0.8s,comp=Z,1μm
MYKOM Kota Tinggi 25.05 226 P **P** **08 30 46.2 -0.3**
IPM Ipoh 25.24 235 *e*P **P** **08 30 48.2 -0.1**
comp=Z,24nm,0.8s
IPM Ipoh 25.24 235 P **P** **08 30 48.0 -0.2**
KGM Kluang 25.24 227 P **P** **08 30 48.6 +0.3**
BKSI Bulukumba 25.31 183 P **P** **08 30 49.1 +0.3**
MDJ Mudanjiang 25.36 14 P **P** **08 30 51.1 +2.1**
MDJ pP **pP** **08 30 59.8 -0.2**
MDJ sP **sP** **08 31 03.5 -1.4**
MDJ PcP **PcP** **08 34 23.0 +2.1**
MDJ S **S** **08 35 16.3 +3.7**
MDJ ScS **ScS** **08 41 46.6 +0.9**
MDJ pmax pmax
comp=Z,18nm,0.8s
MDJ pmax pmax
comp=Z,74nm,4.0s
MDJ LR LR
comp=N,600nm,19.7s
MDJ LR LR
comp=E,800nm,23.3s
MDJ LR LR
comp=Z,860nm,16.1s
USRK Ussuriysk Arra 25.58 18 P **P** **08 30 51.4 +0.4**
comp=Z,13nm,0.7s,baz=205,slow=8.0,SNR=36
USRK LR LR 08 41 16.9
comp=Z,484nm,21.1s,baz=312,slow=37
FRIM Kepong 25.60 232 P **P** **08 30 51.7 +0.2**
JOM Ohasama 25.76 37 P **P** **08 30 52.6 -0.2**
GTA Gaotai 26.76 321 P **P** **08 31 02.5 +0.5**
GTA pP **pP** **08 31 11.9 -1.1**
GTA sP **sP** **08 31 16.1 -1.7**
GTA PcP **PcP** **08 34 25.6 +1.2**
GTA S **S** **08 35 35.9 +0.7**
GTA sS **sS** **08 35 52.6 -1.0**
GTA ScP **ScP** **08 38 02.8 +1.3**
GTA PcS **PcS** **08 38 05.8 0.0**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,98nm,5.9s
GTA LR LR
comp=N,850nm,15.7s
GTA LR LR
comp=E,770nm,18.8s
GTA LR LR
comp=Z,1μm,16.6s
SHL Shillong 27.75 287 *ex* **P** **08 31 09.5 -1.6**
PSI Prapat 27.91 235 P **P** **08 31 12.8 +0.3**
PSI PcP **PcP** **08 34 27.8 +0.2**
PSI Prapat 27.91 235 P **P** **08 31 12.8 +0.3**
comp=Z,7.0nm,0.7s,baz=77,slow=1.9,SNR=4.4
PSI PcP **PcP** **08 34 27.8 +0.2**
comp=Z,5.8nm,0.6s,baz=192,slow=0.3,SNR=3.6
PSI LR LR 08 41 39.5
comp=Z,408nm,19.2s,baz=324,slow=35
LSA Lhasa 29.02 295 P **P** **08 31 23.8 +1.2**
LSA Lhasa 29.02 295 *e*P **P** **08 31 23.9 +1.2**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 29.02 295 *e*P **P** **08 31 23.9 +1.2**
comp=Z,19nm,0.9s
HIA Hailar 29.12 358 *e*P **P** **08 31 21.3 -1.5**
comp=Z,22nm,0.8s
ASAJ Asahikawa 29.72 32 P **P** **08 31 28.0 -0.2**
comp=Z,14nm,0.7s,baz=226,slow=8.0,SNR=9.6
ASAJ LR LR 08 43 58.0
comp=Z,511nm,20.5s,baz=121,slow=37
JMP Maruseppu 30.03 33 P **P** **08 31 31.8 +0.9**
KLR Kul'dur 30.20 13 *e*P P 08 31 29.3 -3.0
KLR pmax pmax
comp=Z,78nm,1.8s
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s
SONM Songino Array 30.23 340 P **P** **08 31 33.5 +0.8**
SONM PcP **PcP** **08 34 32.1 -0.8**
SONM ScP **ScP** **08 38 12.8 +0.7**
SONM Songino Array 30.23 340 P **P** **08 31 33.5 +0.8**
comp=Z,5.8nm,0.7s,baz=156,slow=9.6,SNR=20
SONM PcP **PcP** **08 34 32.1 -0.8**
comp=Z,6.0nm,1.1s,baz=161,slow=5.5,SNR=4.7
SONM ScP **ScP** **08 38 12.8 +0.7**
comp=Z,0.8nm,0.8s,baz=122,slow=4.4,SNR=3.7
SONM LR LR 08 45 11.9
comp=Z,1μm,19.3s,baz=152,slow=39
TAPN Taplejung 31.64 290 *e*P **P** **08 31 46.7 +1.0**
ODAN Odare 31.88 289 *e*P **P** **08 31 47.8 +0.1**
comp=Z,21nm,0.7s
YSS Yuzh-Sakhalins 31.92 28 *e*P **P** **08 31 49.6 +2.1**
RAMN Ramite 32.59 289 *e*P **P** **08 31 54.9 +0.9**
comp=Z,39nm,0.9s
JIRN Jiri 33.02 290 *e*P **P** **08 31 58.6 +0.8**
comp=Z,29nm,0.8s
GUN Gumba 33.31 290 *e*P **P** **08 32 00.6 +0.2**
comp=Z,48nm,0.8s
ZAK Zakamensk 33.46 339 *e*P **P** **08 32 00.7 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
PKI Pulchoki 33.70 290 *e*P **P** **08 32 03.6 -0.1**
KKN Kakani 33.83 290 *e*P **P** **08 32 04.9 +0.2**
comp=Z,22nm,0.8s
DMN Daman 33.97 290 *e*P **P** **08 32 05.6 -0.4**
comp=Z,24nm,0.8s
KDU Kakadu 34.35 161 P **PcP** **08 34 45.5 +1.0**
baz=50,SNR=5.4
DANN Dangsing 35.22 291 *e*P **P** **08 32 17.1 +0.3**
KOLN Koldanda 35.31 290 *e*P **P** **08 32 17.8 +0.2**
comp=Z,24nm,0.8s
MOY Mondy 35.33 338 *e*P **P** **08 32 18.6 +1.3**
MOY pmax pmax
comp=Z,23nm,2.6s
PYUN Piuthan 35.87 290 *e*P **P** **08 32 21.9 -0.5**
comp=Z,32nm,0.6s
WMQ Urumqi 36.73 318 *e*P **P** **08 32 31.1 +1.8**
WMQ sP **sP** **08 32 45.3 -0.1**
WMQ S **S** **08 38 11.9 +1.6**
WMQ sS **sS** **08 38 27.9 -1.1**
WMQ ScP **ScP** **08 38 34.9 0.0**
WMQ PcS **PcS** **08 38 39.0 -0.2**
WMQ ScS **ScS** **08 42 42.3 +0.5**
WMQ pmax pmax
comp=Z,14nm,1.2s
WMQ pmax pmax
comp=Z,91nm,7.0s
WMQ LR LR
comp=N,1μm,15.5s
WMQ LR LR
comp=E,760nm,14.0s
WMQ LR LR
comp=Z,580nm,17.0s
CLNS Chul'man 36.76 3 *e*P **P** **08 32 28.3 -1.0**
CLNS *e* 08 33 52.9
CLNS *e* 08 34 50.5
CLNS pmax pmax
comp=E,3.0nm,1.2s
CLNS pmax pmax
comp=Z,7.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS pmax pmax
comp=Z,3.0nm,1.1s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,1.1s
FITZ Fitzroy Crossi 38.20 174 P **P** **08 32 40.5 -1.3**
FITZ Fitzroy Crossi 38.20 174 P **P** **08 32 40.5 -1.3**
comp=E,15nm,0.8s,baz=8.9,slow=8.6,SNR=31
PMG Port Moresby 38.74 137 *e*P **P** **08 32 46.2 -0.3**
comp=E,17nm,0.8s
PMG Port Moresby 38.74 137 P **P** **08 32 46.4 -0.1**
comp=E,18nm,0.8s,baz=97,slow=5.0,SNR=4.0
PMG LR LR 08 49 13.3
comp=E,233nm,18.4s,baz=128,slow=37
COEN Coen 40.04 146 *e*P **P** **08 32 55.9 -1.4**
comp=E,61nm,0.7s
HYB Hyderabad 40.62 274 *i* P **P** **08 33 05.0 +2.8**
MBWA Marble Bar 41.05 182 *e*P **P** **08 33 04.9 -0.7**
comp=E,22nm,0.7s
MK31 Makanchi Array 41.49 319 *e*P **P** **08 33 10.0 +1.0**
MK31 *e* 08 35 06.0
MK31 Makanchi Array 41.49 319 *e*P **P** **08 33 10.0 +1.0**
MK31 *e*PcP **PcP** **08 35 06.0 -0.1**
MKAR Makanchi Array 41.49 319 P **P** **08 33 10.2 +1.2**
MKAR 08 35 06.3
MKAR Makanchi Array 41.49 319 P **P** **08 33 10.2 +1.2**
MKAR PcP **PcP** **08 35 06.3 +0.2**
MKAR ScP **ScP** **08 38 54.4 +1.3**
MKAR Makanchi Array 41.49 319 P **P** **08 33 10.2 +1.2**
comp=E,6.8nm,0.6s,baz=110,slow=8.9,SNR=55
MKAR PcP **PcP** **08 35 06.3 +0.2**
comp=E,6.0nm,0.9s,baz=98,slow=5.0,SNR=4.1
MKAR ScP **ScP** **08 38 54.4 +1.3**
comp=E,1.8nm,1.0s,baz=103,slow=5.5,SNR=4.2
MKAR LR LR 08 52 35.7
comp=E,499nm,18.7s,baz=109,slow=39
WRAB Tennant Creek 41.76 162 P **P** **08 33 10.0 -1.4**
comp=E,729nm,0.5s,SNR=57
WRAB Tennant Creek 41.76 162 *e*P **P** **08 33 10.3 -1.1**
WRAB pmax pmax
comp=Z,72nm,0.6s
WRAB Tennant Creek 41.76 162 *e*P **P** **08 33 10.3 -1.1**
comp=Z,72nm,0.6s
WRA Warramunga Arr 41.77 162 P **P** **08 33 10.2 -1.3**
WRA PcP **PcP** **08 35 07.8 +0.4**
WRA S **S** **08 39 22.4 -3.8**
WRA Warramunga Arr 41.77 162 P **P** **08 33 10.2 -1.3**
comp=Z,64nm,0.6s,baz=342,slow=9.0,SNR=34
WRA PcP **PcP** **08 35 07.8 +0.4**
comp=Z,7.8nm,0.9s,baz=342,slow=3.8,SNR=5.7
WRA S **S** **08 39 22.4 -3.8**
comp=Z,8.1nm,1.1s,baz=343,slow=16,SNR=11
WRA LR LR 08 50 33.6
comp=Z,215nm,21.0s,baz=270,slow=36
YAK Yakutsk 42.27 6 *e*P **P** **08 33 13.6 -1.5**
YAK pmax pmax
comp=Z,11nm,0.6s
YAK pmax pmax
comp=N,12nm,1.3s
PETK Petropavlovsk- 43.14 31 P **P** **08 33 22.7 +0.4**
PETK Petropavlovsk- 43.14 31 P **P** **08 33 22.7 +0.4**
PETK Petropavlovsk- 43.14 31 P **P** **08 33 22.7 +0.4**
comp=N,15nm,0.8s,baz=205,slow=6.6,SNR=16
PETK LR LR 08 51 23.4
comp=N,175nm,20.6s,baz=229,slow=36
KSH Kashi 43.41 307 *e*P P 08 33 29.6 +4.7
KSH sP sP 08 33 43.6 +2.5
KSH PP **PcP** **08 35 12.6 -0.2**
KSH S **S** **08 39 56.4 +5.9**
KSH sS sS 08 40 13.3 +3.9
KSH SS **SS** **08 43 04.3 -1.0**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,100nm,4.4s
KSH LR LR
comp=N,410nm,14.0s
KSH LR LR
comp=E,460nm,14.2s
KSH LR LR
comp=Z,400nm,16.6s
PET Petropavlovsk 43.57 32 *e*P **P** **08 33 26.7 +1.0**
PET pmax pmax
comp=Z,68nm,0.8s
PET MLR MLR
comp=Z,200nm,14.0s
ZAA0 Zalesovo Array 43.82 329 *e*P **P** **08 33 28.7 +1.0**
ZALV Zalesovo Beam 43.82 329 *i* P **P** **08 33 28.7 +1.0**

ZALV pmax pmax
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 43.82 329 P **P** **08 33 28.9 +1.2**
ZALV PcP **PcP** **08 35 12.9 -0.8**
ZALV Zalesovo Beam 43.82 329 P **P** **08 33 28.9 +1.2**
comp=Z,8.7nm,0.8s,baz=115,slow=6.9,SNR=20
ZALV PcP **PcP** **08 35 12.9 -0.8**
comp=Z,1.3nm,0.6s,baz=132,slow=2.1,SNR=1.7
ZALV LR LR 08 53 07.8
comp=Z,661nm,18.7s,baz=250,slow=38
TKM2 Tokmak 2 44.54 311 *e*P **P** **08 33 35.7 +1.7**
TKM2 pmax pmax
comp=Z,21nm,1.2s
TKM2 Tokmak 2 44.54 311 *e*P **P** **08 33 35.6 +1.7**
comp=Z,21nm,1.2s
NVS Novosibirsk 45.09 330⇑*i*P **P** **08 33 39.1 +1.2**
NVS *i* 08 35 17.7
NVS *i*S **S** **08 40 12.9 -1.2**
NVS pmax pmax
comp=Z,52nm,2.1s
NVS pmax pmax
comp=N,15nm,1.6s
NVS pmax pmax
comp=E,34nm,2.0s
NVS smax smax
comp=N,18nm,2.0s
NVS smax smax
comp=E,33nm,2.0s
AS31 Alice Springs 45.18 164 *e*P **P** **08 33 38.7 -0.3**
ASAR Alice Springs 45.18 164 P **P** **08 33 38.9 0.0**
ASAR PcP **PcP** **08 35 19.2 +0.4**
ASAR S **S** **08 40 16.3 +0.3**
ASAR Alice Springs 45.18 164 P **P** **08 33 38.9 0.0**
comp=E,66nm,0.7s,baz=345,slow=7.1,SNR=592
ASAR PcP **PcP** **08 35 19.2 +0.4**
comp=E,5.1nm,1.0s,baz=329,slow=3.4,SNR=3.6
ASAR S **S** **08 40 16.3 +0.3**
comp=E,3.4nm,0.9s,baz=354,slow=23,SNR=9.5
ASAR LR LR 08 53 46.3
comp=E,252nm,21.4s,baz=340,slow=38
FRU Bishkek 45.21 311 *e*P P 08 33 44.0 +4.9
FRU MLR MLR
comp=Z,1μm,19.0s
AAK Ala-Archa 45.24 311 *ce*P **P** **08 33 41.2 +1.7**
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 45.24 311 *e*P **P** **08 33 40.4 +0.9**
AAK PcP **PcP** **08 35 19.5 +0.5**
AAK Ala-Archa 45.24 311 P **P** **08 33 39.8 +0.3**
comp=Z,1.5nm,0.4s,baz=135,slow=10,SNR=4.8
AAK PcP **PcP** **08 35 19.5 +0.5**
comp=Z,3.0nm,0.7s,baz=117,slow=2.3,SNR=2.7
AAK LR LR 08 55 15.4
comp=Z,1μm,19.2s,baz=77,slow=40
KURK Kurchatov 45.41 323 P **P** **08 33 41.8 +1.3**
KURK Kurchatov 45.41 323 P **P** **08 33 41.8 +1.3**
KURBB Kurchatov Arra 45.42 322 P **P** **08 33 41.8 +1.2**
comp=Z,5.4nm,0.7s,baz=122,slow=7.4,SNR=48
EKS2 Erkin-Say 45.76 310 *e*P **P** **08 33 45.3 +1.7**
EKS2 *e* 08 35 22.1
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 45.76 310 *e*P **P** **08 33 45.3 +1.7**
comp=Z,9.5nm,1.0s
EKS2 *e*PcP **PcP** **08 35 22.1 +1.3**
CTA Charters Tower 46.76 147 P **P** **08 33 52.0 +0.6**
CTA PcP **PcP** **08 35 25.1 +0.7**
CTA Charters Tower 46.76 147 P **P** **08 33 52.0 +0.6**
comp=Z,25nm,0.8s,baz=332,slow=10,SNR=12
CTA PcP **PcP** **08 35 25.1 +0.7**
comp=Z,10nm,0.8s,baz=327,slow=3.6,SNR=4.5
SEY Seymchan 47.72 19 *ce*P **P** **08 33 59.5 +1.1**
KK31 Karatay Array 48.20 310 *i*P **P** **08 34 03.6 +1.1**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 48.20 310 *e*P **P** **08 34 02.9 +0.4**
KKAR *e* 08 35 29.0
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 48.20 310 *e*P **P** **08 34 02.9 +0.4**
comp=Z,9.9nm,0.9s
KKAR *e*PcP **PcP** **08 35 29.0 -0.3**
VOSK Vostochnaya 50.57 323 P **P** **08 34 20.3 0.0**
VOSK pmax pmax
comp=Z,11nm,1.0s
FORT Forrest 51.00 173 *e*P **P** **08 34 24.0 +0.3**
comp=Z,332nm,0.7s
BVA0 Borovoye Array 51.01 323 *i*P **P** **08 34 24.6 +1.0**
BVA0 pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 51.08 323 P **P** **08 34 25.8 +1.6**
comp=Z,72nm,1.3s,SNR=5.8
BRVK Borovoye 51.08 323 *ce*P **P** **08 34 24.4 +0.2**
BRVK pmax pmax
comp=Z,20nm,1.7s
BRVK Borovoye 51.08 323 *e*P **P** **08 34 24.6 +0.4**
comp=Z,21nm,1.0s
BRVK *e*PcP **PcP** **08 35 38.6 -1.0**
FX1 Attu Island--F 51.34 38 *e*P **P** **08 34 27.1 +1.0**
FX1 *e*PcP **PcP** **08 35 40.9 +0.4**
TIXI Tiksi 51.73 3⇓*i*P **P** **08 34 28.1 -0.6**
TIXI pmax pmax
comp=Z,34nm,1.7s
TIXI MLR MLR
comp=Z,568nm,16.0s
NWAO Narrogin (SRO) 52.90 184 P **P** **08 34 38.1 +0.3**
NWAO Narrogin (SRO) 52.90 184 P **P** **08 34 38.1 +0.3**
comp=Z,47nm,0.6s,baz=6.8,slow=8.6,SNR=32
EIDS Eidsvold 53.61 146 *e*P **P** **08 34 43.5 +0.2**
comp=Z,26nm,0.6s
BBOO Buckleboo 54.45 165 *e*P **P** **08 34 49.7 +0.5**
comp=Z,789nm,0.7s
STKA Stephens Creek 55.19 159 P **P** **08 34 55.1 +0.6**
STKA Stephens Creek 55.19 159 P **P** **08 34 55.1 +0.6**
comp=Z,13nm,0.6s,baz=338,slow=6.5,SNR=17
STKA LR LR 08 56 23.5
comp=Z,215nm,21.4s,baz=236,slow=34
IMYA Miami 55.56 301 *e*P **P** **08 34 59.1 +1.5**
IDAH Dahanechah 55.88 296 *e*P **P** **08 35 01.0 +0.9**
ISRO Mashad 56.07 301 *e*P **P** **08 35 02.2 +1.0**
IMOG Moghan 56.18 301 *e*P **P** **08 35 02.3 +0.1**
AB31 Akbulak array 56.49 316 *i*P **P** **08 35 04.1 +0.3**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 56.49 316 *e*P **P** **08 35 04.7 +0.8**
comp=Z,14nm,0.8s
ABKAR *e*PcP **PcP** **08 35 59.0 -1.3**
SVE Sverdlovsk 57.48 325⇑*e*P **P** **08 35 12.0 +1.3**
SVE *e*S **S** **08 43 04.5 -0.6**
SVE pmax pmax
comp=Z,42nm,1.1s
SVE MLR MLR
comp=Z,553nm,18.0s
AKTO Aktyubinsk 57.88 318 P **P** **08 35 11.9 -1.8**
AKTO pmax pmax
comp=Z,13nm,1.0s
ARU Arti 58.52 325 *d*i*P* **P** **08 35 19.5 +1.5**
ARU 08 37 26.4
ARU S **S** **08 43 22.7 +4.1**
ARU pmax pmax
comp=Z,26nm,1.2s
ARU MLR MLR
comp=Z,715nm,16.0s
IBAF Bafgh 59.61 295 *e*P **P** **08 35 28.2 +2.1**
IGLO Ghaloghah 60.60 301 *e*P **P** **08 35 33.9 +0.9**
IANJ Anjilo 60.62 300 *e*P **P** **08 35 33.6 +0.5**
DZM Mont Dzumac 60.74 131 *e*LR LR 08 53 33.2
comp=Z,727nm,22.9s
IKIA Kiasar 60.74 301 *e*P **P** **08 35 35.6 +1.6**
CAN Canberra 61.02 154 *e*P **P** **08 35 33.9 -1.5**
CAN pmax pmax
comp=Z,36nm,1.3s
CAN Canberra 61.02 154 *e*P **P** **08 35 33.9 -1.5**
comp=Z,36nm,1.3s
ISHM Shahmirzad 61.09 300 *e*P **P** **08 35 38.7 +2.3**
ISAD Sadrabad 61.16 296 *e*P **P** **08 35 36.8 -0.1**
ISFB Sefidab 62.09 299 *e*P **P** **08 35 43.8 +0.9**
IRAZ Razeghan 63.86 300 *e*P **P** **08 35 54.7 -0.1**
MAK Makhachkala 64.98 309 *e*P P 08 36 10.3 +8.6
MAK *e*S **S** **08 44 43.4 +2.6**
MAK MLR MLR
comp=Z,406nm,15.0s
MSVF Nonsavu 67.08 120 P **P** **08 36 17.0 +1.4**
comp=Z,205nm,0.8s,SNR=5.5
GUDG Gudauri 67.25 309 P **P** **08 36 17.6 +1.0**

ZEI Tsey 67.63 309 *e*P **P** **08 36 19.5 +0.5**
ZEI pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 68.24 310 P **P** **08 36 24.3 +1.8**
KBZ Khabaz 68.24 310 P **P** **08 36 24.3 +1.8**
KBZ Khabaz 68.24 310 P **P** **08 36 24.3 +1.8**
comp=Z,4.5nm,0.9s,baz=49,slow=5.9,SNR=6.3
KBZ LR LR 09 10 34.5
comp=Z,323nm,18.1s,baz=277,slow=40
VRHR Novokhopersk 68.28 318 *e*P **P** **08 36 22.2 -0.4**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
KIV Kislovodsk 68.36 310 *e*P **P** **08 36 24.7 +1.3**
KIV *e* 08 36 47.3
KIV *e*S **S** **08 45 24.2 +2.3**
KIV *e*SS **SS** **08 49 48.5 +3.0**
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,345nm,18.0s
TMCR Tamitsa 69.23 332 *e*P **P** **08 36 29.5 +1.2**
TMCR *e* 08 36 51.7
TMCR pmax pmax
comp=Z,25nm,1.0s
IM04 Indian Mountai 69.70 26 *e*P **P** **08 36 31.6 +0.4**
IMA2 Indian Mountai 69.73 26 *e*P **P** **08 36 31.9 +0.4**
VORD Divnogorie 69.76 318 *e*P **P** **08 36 32.4 +0.6**
VORD pmax pmax
comp=N,7.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD pmax pmax
comp=Z,6.0nm,0.5s
VSR Storozhevoye 69.81 318 *e*P **P** **08 36 32.4 +0.3**
VSR *e**SP **sP** **08 36 45.0 -3.7**
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
VSR MLR MLR
comp=N,250nm,17.0s
VSR MLR MLR
comp=E,150nm,17.0s
VSR MLR MLR
comp=Z,320nm,17.0s
PPLA Purkeypile 70.66 29 *e*P **P** **08 36 38.0 +0.7**
comp=Z,21nm,0.9s
RSO Redoubt South 70.67 32 *e*P **P** **08 36 38.2 +0.7**
comp=Z,67nm,0.8s
OHAK Old Harbor 70.79 35 *e*P **P** **08 36 37.9 -0.1**
comp=Z,51nm,1.0s
OBN Obninsk 70.85 323⇑*i*P **P** **08 36 39.2 +0.8**
OBN *e* 08 39 17.0
OBN *e*S **S** **08 45 45.7 -4.8**
OBN pmax pmax
comp=Z,24nm,1.7s
OBN MLR MLR
comp=Z,400nm,22.0s
COLD Coldfoot 71.01 24 *e*P **P** **08 36 40.1 +0.9**
comp=Z,9.6nm,0.9s
KDAK Kodiak Island 71.09 34 P **P** **08 36 40.0 +0.2**
comp=Z,374nm,0.8s,SNR=9.8
KDAK Kodiak Island 71.09 34 P **P** **08 36 39.9 +0.2**
comp=Z,6.1nm,0.8s
KDAK Kodiak Island 71.09 34 P **P** **08 36 39.9 +0.2**
comp=Z,38nm,0.7s,baz=278,slow=2.0,SNR=29
TRF Thorofare Moun 71.45 28 *e*P **P** **08 36 42.2 +0.1**
comp=Z,13nm,0.8s
MCK McKinley 72.00 28 *e*P **P** **08 36 45.4 +0.1**
MCK pmax pmax
comp=Z,30nm,0.9s
MCK McKinley 72.00 28 *e*P **P** **08 36 45.4 +0.1**
comp=Z,30nm,0.9s
PMR Palmer 72.26 30 *e*P **P** **08 36 46.1 -0.6**
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 72.26 30 *e*P **P** **08 36 46.1 -0.6**
comp=Z,20nm,0.8s
JOF Joensuu 72.36 331 *e*P **P** **08 36 47.9 +0.6**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 72.36 331 *e*p **P** **08 36 47.9 +0.6**
comp=Z,4.8nm,0.5s
MALT Malatya 72.49 305⇑*i*P P 08 36 53.6 +4.9
SML Sawmill 72.59 30 *e*P **P** **08 36 48.7 -0.1**
SML pmax pmax
comp=Z,5.0nm,0.8s
SML Sawmill 72.59 30 *e*P **P** **08 36 48.7 -0.1**
comp=Z,5.3nm,0.8s
ILAR Eielson Array 72.71 27 P **P** **08 36 49.1 -0.3**
ILAR Eielson Array 72.71 27 P **P** **08 36 49.1 -0.3**
comp=Z,3.8nm,0.8s,baz=281,slow=6.5,SNR=8.8
ARCES ARCESS Array B 73.39 339 P **P** **08 36 53.1 -0.3**
ARCES ARCESS Array B 73.39 339 P **P** **08 36 53.1 -0.3**
comp=Z,6.0nm,0.7s,baz=73,slow=5.6,SNR=19
ARCES LR LR 09 16 11.8
comp=Z,300nm,18.2s,baz=78,slow=42
PAX Paxson 73.68 28 *e*P **P** **08 36 54.9 -0.4**
PAX pmax pmax
comp=Z,10.0nm,0.9s
PAX Paxson 73.68 28 *e*P **P** **08 36 54.9 -0.4**
comp=Z,9.9nm,0.9s
AFI Afiamalu 73.85 112 LR LR 09 04 05.2
comp=Z,221nm,19.6s,baz=289,slow=31
DIV Divide 73.93 30 *e*P **P** **08 36 57.3 +0.5**
comp=Z,24nm,0.8s
SIM Simferopol' 74.23 313 *e*P **P** **08 36 58.9 +0.2**
SIM *e*S **S** **08 46 30.0 +0.5**
SIM MLR MLR
comp=Z,100nm,18.0s
KIP Kipapa 74.45 73 *ce*P **P** **08 37 00.6 +0.2**
KIP pmax pmax
comp=Z,128nm,1.7s
BMRM Bremner River 74.52 30 *e*P **P** **08 37 00.8 +0.6**
comp=Z,15nm,0.8s
KAF Kangasniemi 74.80 331 *e*P **P** **08 37 02.2 +0.5**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 74.80 331 *e*p **P** **08 37 02.2 +0.5**
comp=Z,3.0nm,0.5s
FIA1 FINESS Array S 75.07 330 *e*P **P** **08 37 03.7 +0.4**
FINES FINESS Array B 75.08 330 P **P** **08 37 03.8 +0.5**
FINES FINESS Array B 75.08 330 P **P** **08 37 03.8 +0.5**
comp=Z,11nm,0.8s,baz=88,slow=6.3,SNR=32
FINES LR LR 09 13 21.6
comp=Z,592nm,18.1s,baz=73,slow=38
ASF Jabal al Asfar 75.12 299 P **P** **08 37 04.8 +0.6**
ASF Jabal al Asfar 75.12 299 P **P** **08 37 04.8 +0.6**
comp=Z,1.3nm,0.4s,baz=146,slow=3.4,SNR=5.0
ASF LR LR 09 13 39.3
comp=Z,128nm,21.1s,baz=154,slow=38
BR131 Keskin Array S 75.80 307 *e*P **P** **08 37 08.4 +0.3**
comp=Z,5.4nm,1.0s
BRTR Keskin Array B 75.80 307 P **P** **08 37 08.2 +0.1**
BRTR Keskin Array B 75.80 307 P **P** **08 37 08.2 +0.1**
comp=Z,1.4nm,0.6s,baz=123,slow=4.6,SNR=10
MICGM Minsk 75.90 323⇓*e*P **P** **08 37 08.0 -0.1**
MNK Minsk 75.93 323⇓*e*P **P** **08 37 08.0 -0.3**
MNK pmax pmax
comp=Z,90nm,1.5s
AKASG Malin Array Be 76.07 319 *i*P **P** **08 37 09.1 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 76.07 319 P **P** **08 37 09.1 -0.1**
AKASG Malin Array Be 76.07 319 P **P** **08 37 09.1 -0.1**
comp=Z,1.2nm,0.4s,baz=62,slow=5.4,SNR=12
AKASG LR LR 09 15 12.6
comp=Z,244nm,18.6s,baz=60,slow=39
KIEV Kiev 76.08 319 *e*P **P** **08 37 08.7 -0.6**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 76.08 319 *e*P **P** **08 37 08.7 -0.6**
comp=Z,9.8nm,0.8s
NACGM Naroch 76.41 324 *e* P 08 37 08.0 -3.0
INK Inuvik 76.89 22 *e*P **P** **08 37 13.4 -0.1**
comp=Z,20nm,1.3s
CSS Prodhromos 77.27 303 *e*P **P** **08 37 16.9 +0.6**
comp=Z,13nm,0.8s
EIL Elat 77.39 297 P **P** **08 37 17.9 +0.9**
EIL Elat 77.39 297 P **P** **08 37 17.9 +0.9**

baz=78,slow=6.1,SNR=4.2
TLCR 77.81 314⇑P **P** **08 37 19.5 +0.4**
TLCR 77.81 314⇑*i*P **P** **08 37 19.5 +0.4**
HYT Haines Junctio 77.89 29 *e*P **P** **08 37 20.3 +0.9**
URZ Urewera 78.08 138 P **P** **08 37 21.2 +0.7**
URZ Urewera 78.08 138 P **P** **08 37 21.2 +0.7**
comp=Z,9.5nm,0.7s,baz=8.1,slow=7.1,SNR=4.9
URZ LR LR 09 06 34.6
comp=Z,166nm,19.3s,baz=306,slow=32
RPZ Rata Peaks 78.10 146 P **P** **08 37 21.2 +0.6**
RPZ Rata Peaks 78.10 146 P **P** **08 37 21.2 +0.6**
comp=Z,12nm,0.8s,baz=336,slow=6.6,SNR=5.9
CFR Carcaliu 78.27 314⇓P **P** **08 37 20.4 -1.2**
CFR Carcaliu 78.27 314⇓*i*P **P** **08 37 20.4 -1.2**
TIRR Tirgusor 78.29 313⇑P P 08 37 25.8 +4.1
TIRR Tirgusor 78.29 313⇑*i*P P 08 37 25.8 +4.1
TLB Topalu 78.50 313⇑P **P** **08 37 23.3 +0.4**
TLB Topalu 78.50 313⇑*i*P **P** **08 37 23.3 +0.4**
HARR Harsova 78.55 313⇑P **P** **08 37 23.9 +0.7**
HARR Harsova 78.55 313⇑*i*P **P** **08 37 23.9 +0.7**
SUW Suwalki 78.68 323 *e*P **P** **08 37 24.0 +0.3**
SUW pmax pmax
comp=Z,100nm,1.0s
SUW Suwalki 78.68 323 *e*P **P** **08 37 24.0 +0.3**
comp=Z,100nm,1.0s
SUW Suwalki 78.68 323 *e*P **P** **08 37 24.0 +0.3**
TESR Tescani 78.87 315⇓*i*P **P** **08 37 24.6 -0.4**
VRI Vrincioaia 79.02 315⇓P **P** **08 37 25.9 +0.1**
VRI Vrincioaia 79.02 315⇓*i*P **P** **08 37 25.9 +0.1**
SKAG Skagway 79.39 30 *e*P **P** **08 37 28.3 +0.8**
comp=Z,17nm,0.8s
BURAR Bucovina Array 79.47 317⇑P **P** **08 37 28.7 +0.4**
BURAR Bucovina Array 79.47 317⇑*i*P **P** **08 37 28.7 +0.4**
LVV L'vov 79.52 319 *e*P P 08 37 43.9 +15
MLR Muntele Rosu 79.65 315⇑*i*P **P** **08 37 30.8 +1.4**
VOIR 80.27 315⇓P **P** **08 37 33.2 +0.5**
VOIR 80.27 315⇓*i*P **P** **08 37 33.2 +0.5**
SIT Sitka 80.28 33 *e*P **P** **08 37 33.3 +1.0**
SIT pmax pmax
comp=Z,18nm,0.6s
SIT Sitka 80.28 33 *e*P **P** **08 37 33.3 +1.0**
comp=Z,18nm,0.6s
KWP Kalwaria Pacla 80.39 319 *e*P **P** **08 37 34.3 +1.1**
KWP pmax pmax
comp=Z,75nm,0.6s
KWP Kalwaria Pacla 80.39 319 *e*P **P** **08 37 34.3 +1.1**
comp=Z,74nm,0.6s
KWP Kalwaria Pacla 80.39 319 *e*P **P** **08 37 34.1 +0.9**
DAG Danmarks Havn 80.41 351⇑*i*P **P** **08 37 32.3 -0.4**
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 80.41 351⇑*i*P **P** **08 37 32.3 -0.4**
comp=Z,12nm,0.9s
ARR Arges 80.57 315⇓*i*P **P** **08 37 34.7 +0.4**
BEL Belsk 80.78 322 *e*P **P** **08 37 35.8 +0.7**
BEL *e* 08 37 51.0
KOLS Kolonicke sedl 80.90 319 *e*P **P** **08 37 37.5 +1.6**
KOLS Kolonicke sedl 80.90 319 *e*P **P** **08 37 37.5 +1.6**
UZH Uzhgorod 80.99 318⇑*i*P **P** **08 37 37.2 +0.9**
UZH *i* 08 37 49.0
DRGR 81.35 317⇓P **P** **08 37 38.1 -0.3**
DRGR 81.35 317⇓*i*P **P** **08 37 38.1 -0.3**
STHS Stebnicka Huta 81.36 319 *e*P **P** **08 37 39.7 +1.3**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 81.36 319 *e*P **P** **08 37 39.7 +1.3**
CRVS Cervenica-Dubn 81.41 319 *e*P **P** **08 37 39.7 +1.1**
CRVS pmax pmax
comp=Z,14nm,1.3s
CRVS Cervenica-Dubn 81.41 319 *e*P **P** **08 37 39.7 +1.1**
CRVS *e*pP **pP** **08 37 55.0 +4.1**
GZR Gura Zlata 81.79 315⇓P **P** **08 37 41.3 +0.5**
GZR Gura Zlata 81.79 315⇓*i*P **P** **08 37 41.3 +0.5**
NB2 NORSAR Subarra 81.92 333 P **P** **08 37 40.7 -0.4**
comp=Z,31nm,1.4s,baz=63,slow=5.6
NB2 NORSAR Subarra 81.92 333 P **P** **08 37 40.7 -0.4**
baz=63,slow=5.6
NOA NORSAR Array B 81.92 333 P **P** **08 37 40.9 -0.2**
NOA NORSAR Array B 81.92 333 P **P** **08 37 40.9 -0.2**
comp=Z,4.4nm,0.7s,baz=62,slow=5.3,SNR=20
NOA LR LR 09 17 29.7
comp=Z,429nm,18.6s,baz=60,slow=38
NIE Niedzica 81.93 320⇑*e*P **P** **08 37 44.4 +3.0**
NIE *e**PP pP 08 37 58.9 +5.3
OJC Ojcow 81.94 321⇑*i*P **P** **08 37 41.9 +0.5**
OJC *i **PP **pP** **08 37 56.1 +2.5**
WRAK Wrangell Islan 82.04 33 *e*P **P** **08 37 42.5 +0.8**
comp=Z,15nm,0.9s
KECS Kecovo 82.16 319 *e*P **P** **08 37 43.9 +1.3**
KECS pmax pmax
comp=Z,6.0nm,1.4s
KECS Kecovo 82.16 319 *e*P **P** **08 37 43.9 +1.3**
KECS *e*pP **pP** **08 37 54.8 0.0**
DLBC Dease Lake 82.32 30 *e*P **P** **08 37 44.0 +0.7**
OPO Ambohidratompo 82.32 247 P **P** **08 37 44.5 +0.5**
OPO Ambohidratompo 82.32 247 P **P** **08 37 44.5 +0.5**
comp=Z,5.8nm,0.7s,baz=141,slow=3.3,SNR=7.2
VTS Vitosha 82.47 313⇑P **P** **08 37 44.0 -0.5**
VTS Vitosha 82.47 313⇑*i*P **P** **08 37 44.0 -0.5**
BZS Buzias 82.48 316⇑P P 08 37 35.8 -8.5
BZS Buzias 82.48 316⇑*i*P P 08 37 35.8 -8.5
BSD Bornholm Skovb 82.75 326⇑*i*P **P** **08 37 45.2 -0.2**
BSD pmax pmax
comp=Z,12nm,1.1s
BSD Bornholm Skovb 82.75 326⇑*i*P **P** **08 37 45.2 -0.2**
comp=Z,12nm,1.0s
OKC Ostrava-Krasne 83.08 321 *e*P **P** **08 37 47.8 +0.5**
OKC *e* 08 38 02.7
OKC MLR MLR
comp=Z,300nm,17.6s
OKC Ostrava-Krasne 83.08 321 *e*P **P** **08 37 47.8 +0.5**
OKC *es*P **sP** **08 38 02.7 -1.4**
OKC AMS AMS 09 18 10.0
comp=Z,300nm,17.6s
VYHS Vyhne 83.18 319 *e*P **P** **08 37 48.7 +0.8**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS Vyhne 83.18 319 *e*P **P** **08 37 48.7 +0.8**
MORC Moravsky Berou 83.46 321 *e*P **P** **08 37 49.8 +0.5**
MORC pmax pmax
comp=Z,17nm,1.3s
MORC Moravsky Berou 83.46 321 *e*P **P** **08 37 49.8 +0.5**
comp=Z,17nm,1.3s
KSP Ksiaz 83.76 322⇑*i*P **P** **08 37 51.7 +0.9**
KSP *e**PP **pP** **08 38 06.6 +3.5**
KSP Ksiaz 83.76 322 *e*P **P** **08 37 51.6 +0.8**
KSP *e* 08 38 07.1
DPC Dobruska-Polom 83.95 322 *i*P **P** **08 37 52.7 +0.9**
DPC *e* 08 38 07.6
DPC Dobruska-Polom 83.95 322 *i*P **P** **08 37 52.7 +0.9**
DPC *es*P **sP** **08 38 07.6 -1.1**
DPC AMS AMS 09 18 50.0
LLD Lille Linde 84.05 327 *e*P P 08 38 02.1 +10
LLD pmax pmax
comp=Z,16nm,1.0s
UPC Upice 84.06 322 *e*P **P** **08 37 52.8 +0.4**
UPC *e* 08 38 07.6
UPC Upice 84.06 322 *e*P **P** **08 37 52.8 +0.4**
UPC *e*PCP **PcP** **08 37 56.8 +0.6**
UPC *es*P **sP** **08 38 07.6 -1.6**
UPC *ex* x 08 38 17.1
PKSM Moragy 84.18 317⇓P **P** **08 37 51.6 -1.4**
PKSM Moragy 84.18 317⇓*i*P **P** **08 37 51.6 -1.4**
PKSM Moragy 84.18 317⇓*e*P **P** **08 37 53.5 +0.5**
RUE Ruedersdorf 84.49 324 *e*P **P** **08 37 55.1 +0.7**
comp=Z,51nm,1.2s
RUE *e*pP **pP** **08 38 09.9 +3.2**
TREC Trest 84.88 321 *e*P **P** **08 37 57.1 +0.6**
TREC *e* 08 38 12.3
TREC MLR MLR
comp=Z,300nm,17.7s
TREC Trest 84.88 321 *e*P **P** **08 37 57.1 +0.6**
TREC *es*P **sP** **08 38 12.3 -1.1**
TREC AMS AMS 09 19 50.0
comp=Z,300nm,17.7s
PVCC Panska Ves 84.89 322 *e*P **P** **08 37 57.3 +0.8**
PVCC *e* 08 38 12.2
PVCC MLR MLR
comp=Z,400nm,18.4s
PVCC Panska Ves 84.89 322 *e*P **P** **08 37 57.3 +0.8**
PVCC *es*P **sP** **08 38 12.2 -1.2**
PVCC *ex* x 08 38 19.5
PVCC AMS AMS 09 19 30.0

comp=Z,400nm,18.4s
KMBO Kilima Mbogo 84.93 267 *e*P **P 08 37 58.9 +1.2**
comp=Z,11nm,1.5s
KMBO Kilima Mbogo 84.93 267 P **P 08 37 59.2 +1.5**
comp=Z,2.2nm,0.7s,baz=70,slow=23,SNR=4.8
KMBO LR LR 09 14 46.3
comp=Z,212nm,18.1s,baz=95,slow=35
BRG Berggiesshubel 85.10 323 *i* P **P 08 37 58.0 +0.4**
comp=Z,18nm,1.2s
BRG *i* 08 38 07.1
comp=Z,12nm,1.2s
BRG *i* 08 38 13.1
comp=Z,29nm,1.2s
BRG Berggiesshubel 85.10 323 *e*P **P 08 37 57.9 +0.4**
comp=Z,18nm,1.2s
BRG *e*pP **pP 08 38 13.0 +3.1**
BRG Berggiesshubel 85.10 323 *i* P **P 08 37 58.0 +0.4**
BRG *i* 08 38 07.1
BRG *i* 08 38 13.1
PRU Pruhonice 85.14 322 *e*P **P 08 37 58.3 +0.5**
PRU *e* 08 38 08.4
PRU *e* 08 38 13.1
PRU *e* 08 48 17.5
PRU MLR MLR
comp=Z,300nm,15.6s
PRU Pruhonice 85.14 322 *e*P **P 08 37 58.3 +0.5**
PRU *e*pP **pP 08 38 08.4 -1.7**
PRU *e*sP **sP 08 38 13.1 -1.6**
PRU *e*SKS **SKSac 08 48 17.5 -1.9**
PRU AMS AMS 09 19 30.0
comp=Z,300nm,15.6s
PRA Prague 85.17 322 P **P 08 37 59.0 +1.1**
CONA Conrad Observa 85.23 319⇑ *i*P **P 08 37 59.1 +0.7**
comp=Z,23nm,1.4s,SNR=10
FBE Freiberg 85.41 323 *e*P **P 08 37 59.7 +0.6**
comp=Z,31nm,1.3s
FBE *e*pP **pP 08 38 14.6 +3.2**
CLL Collm 85.44 323 *e*P **P 08 37 59.3 0.0**
comp=Z,20nm,1.2s
CLL *e*pP **pP 08 38 14.3 +2.8**
CLL Collm 85.44 323⇑ *i*P **P 08 37 59.2 0.0**
CLL *i* *SP **sP 08 38 14.1 -2.0**
CLL *e*S **S 08 48 26.0 -1.5**
CLL pmax pmax
comp=Z,20nm,1.2s
CLL MLR MLR
comp=Z,400nm,19.1s
CLL Collm 85.44 323⇑ *i*P **P 08 37 59.2 0.0**
comp=Z,20nm,1.2s
CLL *i* PcP **PcP 08 38 02.4 +0.2**
CLL *e*pP **pP 08 38 09.0 -2.5**
CLL *i* sP **sP 08 38 14.1 -2.0**
comp=Z,43nm,1.5s
CLL *e*S **S 08 48 26.0 -1.5**
CLL *e*SS SS 08 53 54.0 -8.4
CLL *e* 08 54 44.0
CLL *e*SSSS 09 00 18.0
CLL LmH 09 21 00.0
comp=N,200nm,19.6s
CLL LmH 09 21 00.0
comp=E,300nm,22.0s
CLL LmH 09 21 00.0
comp=Z,400nm,19.1s
BSEG Bad Segeberg 85.68 326 *e*P **P 08 38 00.9 +0.6**
comp=Z,42nm,1.1s
BSEG *e*pP **pP 08 38 15.6 +3.0**
BSEG Bad Segeberg 85.68 326 *e*P **P 08 38 00.9 +0.6**
BSEG *e**PP **pP 08 38 15.6 +3.0**
BSEG pmax pmax
comp=Z,42nm,1.1s
ARSA Arzberg 85.72 319⇓ *i*P **P 08 38 01.2 +0.4**
comp=Z,7.7nm,1.2s,SNR=4.1
SCO Scoresbysund 86.08 348 *i* P **P 08 38 02.1 +0.1**
comp=Z,16nm,1.0s
KHC Kasperske Hory 86.08 321 *e*P **P 08 38 02.2 -0.3**
KHC *e* 08 38 16.0
KHC *e* 08 48 29.2
KHC MLR MLR
comp=Z,300nm,15.7s
KHC Kasperske Hory 86.08 321 *e*P **P 08 38 02.2 -0.3**
KHC *e*pP **pP 08 38 16.0 +1.1**
KHC *e*x x 08 38 24.0
KHC *e*SKS **S 08 48 29.2 -4.8**
KHC AMS AMS 09 20 10.0
comp=Z,300nm,15.7s
KHC Kasperske Hory 86.08 321 *e*P **P 08 38 02.7 +0.2**
comp=Z,4.0nm,1.2s
GEC2 GERESS Array S 86.13 321 *e*P **P 08 38 03.1 +0.2**
comp=Z,14nm,1.4s
GEC2 *e*pP **pP 08 38 18.2 +3.0**
GEC2 GERESS Array S 86.13 321 *e*P **P 08 38 03.1 +0.2**
GEC2 *e**PP **pP 08 38 18.2 +3.0**
GEC2 pmax pmax
comp=Z,14nm,1.4s
GERES GERESS Array B 86.13 321 P **P 08 38 03.1 +0.2**
GERES GERESS Array B 86.13 321 P **P 08 38 03.1 +0.2**
comp=Z,1.1nm,0.6s,baz=46,slow=3.9,SNR=14
GERES LR LR 09 21 34.4
comp=Z,265nm,19.1s,baz=264,slow=39
TANN Tannenbergstha 86.15 323 *e*pP pP 08 38 18.1 +2.9
NEUB Neuenburg 86.17 324 *e*P **P 08 38 03.2 +0.3**
comp=Z,11nm,0.9s
NEUB *e*pP **pP 08 38 17.9 +2.7**
WERD Werda 86.22 323 *e*P **P 08 38 03.2 0.0**
comp=Z,14nm,1.5s
WERD *e*pP **pP 08 38 18.3 +2.8**
MOA Molln 86.23 320⇑ *i*PcP **P 08 38 03.9 +0.6**
comp=Z,13nm,1.1s
GUNZ Gunzen 86.25 323 *e*P **P 08 38 03.6 +0.3**
comp=Z,8.0nm,1.2s
GUNZ *e*pP **pP 08 38 18.7 +3.0**
WERN Wernitzgruen 86.26 323 *e*P **P 08 38 03.7 +0.3**
comp=Z,21nm,1.6s
WERN *e*pP **pP 08 38 18.7 +3.0**
SOKA Soboth 86.27 319⇑ *i*P **P 08 38 03.8 +0.3**
comp=Z,8.9nm,1.2s,SNR=5.5
NRDL Niedersach Rie 86.48 325 *e*P **P 08 38 05.0 +0.8**
comp=Z,22nm,1.6s
NRDL *e*pP **pP 08 38 19.8 +3.2**
WET Wettzell 86.48 321 *e*P **P 08 38 05.2 +0.7**
comp=Z,14nm,1.7s
WET *e*pP **pP 08 38 20.1 +3.3**
WET Wettzell 86.48 321 *e*P **P 08 38 05.2 +0.7**
WET *e**PP **pP 08 38 20.1 +3.3**
WET pmax pmax
comp=Z,14nm,1.7s
MOX Moxa 86.52 323 *e*P **P 08 38 04.9 +0.3**
comp=Z,10.0nm,1.5s
MOX *e*pP **pP 08 38 19.9 +2.9**
MOX Moxa 86.52 323 *e*P **P 08 38 04.9 +0.3**
MOX *e**PP **pP 08 38 19.9 +2.9**
MOX pmax pmax
comp=Z,10.0nm,1.5s
SUMG Summit 86.55 354 *e*P **P 08 38 05.2 +0.3**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 86.55 354⇑ *i*P **P 08 38 05.1 +0.3**
comp=Z,12nm,0.9s
SUMG Summit 86.55 354 *e*P **P 08 38 05.2 +0.3**
comp=Z,14nm,0.8s
ROTZ Rotzenmuhle 86.59 322 *e*P **P 08 38 05.5 +0.5**
comp=Z,10.0nm,1.6s
ROTZ *e*pP **pP 08 38 20.7 +3.4**
YKA Yellowknife Ar 86.61 23 P **P 08 38 04.9 +0.1**
YKA Yellowknife Ar 86.61 23 P **P 08 38 04.9 +0.1**
comp=Z,7.8nm,0.6s,baz=308,slow=4.6,SNR=20
RAR Rarotonga 87.27 114 LR LR 09 10 37.9
comp=Z,196nm,20.0s,baz=135,slow=31
IBBN Ibbenburen 87.82 326 *e*P **P 08 38 10.8 0.0**
comp=Z,82nm,2.2s
IBBN *e*pP **pP 08 38 26.0 +2.8**
TUE Stuetta 89.84 320 *e*P **P 08 38 20.6 -0.2**
comp=Z,392nm,0.4s
WLF Walferdange 90.06 324 P **P 08 38 22.3 +0.8**
comp=Z,14nm,1.7s
WLF Walferdange 90.06 324 *e*P **P 08 38 22.0 +0.6**
comp=Z,22nm,1.1s
WLF *e*pP **pP 08 38 37.2 +3.4**
WLF Walferdange 90.06 324 *e*P **P 08 38 22.2 +0.8**
WLF pmax pmax
comp=Z,9.0nm,0.8s
WLF Walferdange 90.06 324 *e*P **P 08 38 22.2 +0.8**
comp=Z,9.3nm,0.8s
CDF Champ du Feu 90.08 323 *e*P **P 08 38 21.4 -0.3**
comp=Z,38nm,1.4s
CDF Champ du Feu 90.08 323 *e*P **P 08 38 21.4 -0.3**
GIVF Givet 90.55 325 *e*P **P 08 38 23.7 0.0**
GIVF Givet 90.55 325 *e*P **P 08 38 23.7 0.0**
GIVF Givet 90.55 325 *e*P **P 08 38 23.7 0.0**
DOU Dourbes 90.68 325 P **P 08 38 24.8 +0.4**
HAU Haudompre 90.82 323 *e*P **P 08 38 24.6 -0.5**
HAU *e*R
comp=Z,522nm,20.5s
HAU Haudompre 90.82 323 *e*P **P 08 38 24.6 -0.5**
HAU Haudompre 90.82 323 *e*P **P 08 38 24.6 -0.5**
PAGF Fort de Pagny 90.89 323 *e*P **P 08 38 25.4 +0.1**
PAGF Fort de Pagny 90.89 323 *e*P **P 08 38 25.4 +0.1**
MEZF Maizieres J'vi 91.29 323 *e*P **P 08 38 26.4 -0.8**
comp=Z,13nm,0.8s
MEZF Maizieres J'vi 91.29 323 *e*P **P 08 38 26.4 -0.8**
SFTF Sexfontaines 91.46 323 *e*P **P 08 38 27.8 -0.2**
SFTF Sexfontaines 91.46 323 *e*P **P 08 38 27.8 -0.2**
LPG La Plagne 91.90 320 *e*P **P 08 38 30.7 +0.2**
comp=Z,16nm,0.9s
LPG La Plagne 91.90 320 *e*P **P 08 38 30.7 +0.2**
LPG La Plagne 91.90 320 *e*P **P 08 38 30.7 +0.2**
LPL La Plagne 91.90 320 *e*P **P 08 38 30.6 +0.2**
comp=Z,11nm,0.8s
LPL La Plagne 91.90 320 *e*P **P 08 38 30.6 +0.2**
LPL La Plagne 91.90 320 *e*P **P 08 38 30.6 +0.2**
PGF Pioggiola 92.00 317 *e*P **P 08 38 31.0 +0.3**
comp=Z,38nm,0.9s
PGF Pioggiola 92.00 317 *e*P **P 08 38 31.0 +0.3**
PGF Pioggiola 92.00 317 *e*P **P 08 38 31.0 +0.3**
MBDF Montbardon 92.29 320 *e*P **P 08 38 32.6 +0.5**
comp=Z,7.4nm,0.8s
MBDF Montbardon 92.29 320 *e*P **P 08 38 32.6 +0.5**
MBDF Montbardon 92.29 320 *e*P **P 08 38 32.6 +0.5**
SBF Sospel 92.32 319 *e*P **P 08 38 31.9 -0.3**
comp=Z,23nm,0.6s
SBF Sospel 92.32 319 *e*P **P 08 38 31.9 -0.3**
SBF Sospel 92.32 319 *e*P **P 08 38 31.9 -0.3**
LOR Lormes 92.64 323 *e*P **P 08 38 33.0 -0.5**
comp=Z,12nm,1.1s
LOR *e*R
comp=Z,495nm,18.5s
LOR Lormes 92.64 323 *e*P **P 08 38 33.0 -0.5**
ORIF Oris-en-Rattie 92.73 320 *e*P **P 08 38 34.0 -0.1**
ORIF *e*R
comp=Z,325nm,18.2s
ORIF Oris-en-Rattie 92.73 320 *e*P **P 08 38 34.0 -0.1**
ORIF Oris-en-Rattie 92.73 320 *e*P **P 08 38 34.0 -0.1**
SSF Saint Saulge 92.95 323 *e*P **P 08 38 34.5 -0.4**
comp=Z,21nm,1.3s
SSF Saint Saulge 92.95 323 *e*P **P 08 38 34.5 -0.4**
SSF Saint Saulge 92.95 323 *e*P **P 08 38 34.5 -0.4**
FRF La Foret Royal 92.97 319 *e*P **P 08 38 34.8 -0.3**
comp=Z,16nm,0.8s
FRF La Foret Royal 92.97 319 *e*P **P 08 38 34.8 -0.3**
FRF La Foret Royal 92.97 319 *e*P **P 08 38 34.8 -0.3**
SMF Signal de Mont 92.99 322 *e*P **P 08 38 34.8 -0.3**
comp=Z,9.1nm,0.8s
SMF Signal de Mont 92.99 322 *e*P **P 08 38 34.8 -0.3**
SMF Signal de Mont 92.99 322 *e*P **P 08 38 34.8 -0.3**
EDM Edmonton 93.02 29 *e*P **P 08 38 35.6 +0.5**
EDM Edmonton 93.02 29 *e*P **P 08 38 35.6 +0.5**
AVF Avril sur Loir 93.19 323 *e*P **P 08 38 35.7 -0.3**
comp=Z,16nm,0.9s
AVF Avril sur Loir 93.19 323 *e*P **P 08 38 35.7 -0.3**
AVF Avril sur Loir 93.19 323 *e*P **P 08 38 35.7 -0.3**
SMRF Simiane la Rot 93.41 319 *e*P **P 08 38 37.3 +0.1**
comp=Z,18nm,1.0s
SMRF Simiane la Rot 93.41 319 *e*P **P 08 38 37.3 +0.1**
VIVF Saint-Julien-l 93.48 320 *e*P **P 08 38 37.2 -0.3**
comp=Z,8.0nm,0.9s
VIVF Saint-Julien-l 93.48 320 *e*P **P 08 38 37.2 -0.3**
VIVF Saint-Julien-l 93.48 320 *e*P **P 08 38 37.2 -0.3**
TCF Toulx Ste Croi 94.13 323 *e*P **P 08 38 40.3 -0.1**
comp=Z,3.9nm,0.7s
TCF Toulx Ste Croi 94.13 323 *e*P **P 08 38 40.3 -0.1**
TCF Toulx Ste Croi 94.13 323 *e*P **P 08 38 40.3 -0.1**
PPT Papeete 94.97 107 LR LR 09 14 03.3
comp=Z,184nm,20.4s,baz=335,slow=31
PPT2 Papeete2 94.97 107 *e*LR LR 09 09 23.6
comp=Z,344nm,25.5s,baz=287
CAF Calviac 94.99 322 *e*P **P 08 38 44.5 +0.1**
CAF Calviac 94.99 322 *e*P **P 08 38 44.5 +0.1**
CAF Calviac 94.99 322 *e*P **P 08 38 44.5 +0.1**
RJF Les Rejaudoux 95.09 322 *e*P **P 08 38 45.2 +0.4**
comp=Z,14nm,0.9s
RJF *e*R
comp=Z,320nm,18.0s
RJF Les Rejaudoux 95.09 322 *e*P **P 08 38 45.2 +0.4**
RJF Les Rejaudoux 95.09 322 *e*P **P 08 38 45.2 +0.4**
MFF Saint Martin d 95.27 324 *e*P **P 08 38 45.5 -0.1**
comp=Z,14nm,0.9s
MFF Saint Martin d 95.27 324 *e*P **P 08 38 45.5 -0.1**
MFF Saint Martin d 95.27 324 *e*P **P 08 38 45.5 -0.1**
WALA Waterton Lakes 95.39 33 *e*P **P 08 38 47.5 +1.3**
BSMT Bassoo Peak 95.69 34 *e*P **P 08 38 49.1 +1.4**
comp=Z,2.5nm,0.7s
MTLF Montolieu 95.80 320 *e*P **P 08 38 47.8 -0.3**
comp=Z,3.8nm,0.7s
MTLF Montolieu 95.80 320 *e*P **P 08 38 47.8 -0.3**
MTLF Montolieu 95.80 320 *e*P **P 08 38 47.8 -0.3**
SLMT Seeley Lake 96.75 34 P P 08 38 48.5 -4.0
TBI Tubuai 96.95 112 *e*LR LR 09 10 18.0
comp=Z,213nm,28.5s,baz=284
CHMT Chamberlain Mo 97.09 34 *e*P **P 08 38 52.1 -2.0**
comp=Z,1.8nm,0.8s
MAW Mawson 97.36 199 LR LR 09 16 14.9
comp=Z,105nm,21.6s,baz=314,slow=31
NVAR Mina Array Bea 99.22 43 P **Pdif 08 39 05.3 +1.5**
NVAR Mina Array Bea 99.22 43 P **Pdif 08 39 05.3 +1.5**
comp=Z,0.7nm,0.3s,baz=280,slow=5.1,SNR=13
NVAR LR LR 09 21 07.3
comp=Z,177nm,20.4s,baz=305,slow=34
VNDA Vanda 100.25 172 P **Pdif 08 39 08.6 +1.5**
VNDA PKKPbc **PKKPbc 08 55 25.4 -1.8**
VNDA Vanda 100.25 172 P **Pdif 08 39 08.6 +1.5**
comp=Z,0.7nm,0.7s,baz=338,slow=5.3,SNR=2.5
VNDA PKKPbc **PKKPbc 08 55 25.4 -1.8**
comp=Z,0.4nm,0.6s,baz=140,slow=1.7,SNR=4.4
RKT Rikitea 109.67 108 *e*LR LR 09 16 11.7
comp=Z,287nm,43.2s
TORD Torodi Ar. Bea 112.15 294 PKiKP **PKiKP 08 43 57.4 -0.6**
TORD PKKPbc **PKKPab 08 54 56.9 -1.8**
TORD Torodi Ar. Bea 112.15 294 PKiKP **PKiKP 08 43 57.4 -0.6**
comp=Z,1.2nm,0.7s,baz=28,slow=2.4,SNR=7.5
TORD PKKPbc **PKKPab 08 54 56.9 -1.8**
comp=Z,3.4nm,0.8s,baz=251,slow=4.3,SNR=14
TXAR Lajitas Array 114.36 43 PKP PKPdf 08 44 02.1 +0.2
TXAR PP PP 08 45 03.0 +5.6
TXAR PKKPbc **PKKPab 08 54 47.7 -2.0**
TXAR Lajitas Array 114.36 43 PKP PKPdf 08 44 02.1 +0.2
comp=Z,1.0nm,0.8s,baz=237,slow=0.6,SNR=8.8
TXAR PP PP 08 45 03.0 +5.6
comp=Z,1.0nm,0.8s,baz=269,slow=4.9,SNR=4.9
TXAR PKKPbc **PKKPab 08 54 47.7 -2.0**
comp=Z,0.6nm,0.7s,baz=146,slow=8.0,SNR=9.5
SNAA Sanae 119.46 197 *e*P **PKPdf 08 44 10.0 -0.4**
DBIC Dimbokro 120.88 291 PKP **PKPdf 08 44 14.3 -0.4**
DBIC Dimbokro 120.88 291 PKP **PKPdf 08 44 14.3 -0.4**
comp=Z,3.4nm,0.6s,baz=42,slow=4.2,SNR=7.5
KIC Kosan Boka 120.92 291 *e*PKP1 **PKPdf 08 44 14.0 -0.8**
comp=Z,64nm,1.6s
TIC Toumodi 121.03 291 *e*PKP1 **PKPdf 08 44 14.6 -0.5**
comp=Z,5.2nm,0.2s
VNA2 Neumayer--Watz 121.11 197 *e*P **PKPdf 08 44 13.8 +0.3**
LIC Lamto 121.24 291 *e*PKIKP **PKPdf 08 44 14.6 -0.8**
comp=Z,12nm,0.6s
LIC *e*R
comp=Z,235nm,20.2s
LIC Lamto 121.24 291 *e*PKP1 **PKPdf 08 44 15.0 -0.4**
comp=Z,20nm,0.6s
LIC Lamto 121.24 291 *e*PKPdf **PKPdf 08 44 14.6 -0.8**
VNA1 Neumayer--Stat 121.50 198 *e*P **PKPdf 08 44 14.7 +0.5**
USHA Ushuaia 144.54 170 PKP **PKPdf 08 44 57.6 -0.1**
USHA Ushuaia 144.54 170 PKP **PKPdf 08 44 57.6 -0.1**
comp=Z,13nm,0.6s,baz=166,slow=2.4,SNR=12
SDV Santo Domingo 148.82 24 *e*PKPdf **PKPdf 08 45 07.0 +0.7**
ROSC El Rosal 150.74 34 *e*PKPdf **PKPdf 08 45 11.0 +1.3**
ROSC PKPbc **PKPbc 08 45 16.9 +1.7**
ROSC El Rosal 150.74 34 PKPbc **PKPbc 08 45 16.9 +1.7**
comp=Z,16nm,0.6s,baz=85,slow=7.8,SNR=15
PLCA Paso Flores 157.04 156 PKPab **PKPab 08 45 47.7 0.0**
PLCA Paso Flores 157.04 156 PKPab **PKPab 08 45 47.7 0.0**
comp=Z,6.3nm,0.9s,baz=204,slow=6.9,SNR=6.1
CFAA Coronel Fontan 165.63 145 PKP **PKPdf 08 45 26.9 +0.2**
CFAA PKPab **PKPab 08 46 26.2 +0.7**
CFAA Coronel Fontan 165.63 145 PKP **PKPdf 08 45 26.9 +0.2**
comp=Z,0.9nm,1.1s,baz=300,slow=1.5,SNR=7.2
CFAA PKPab **PKPab 08 46 26.2 +0.7**
comp=Z,0.3nm,0.4s,baz=223,slow=3.9,SNR=5.7
SAML Samuel 168.03 23 *e*PKPdf **PKPdf 08 45 29.1 +0.2**
SAML *e*PKPab **PKPab 08 46 34.9 -1.4**
BDFB Brasilia 169.03 292 PKP **PKPdf 08 45 29.7 +0.1**
BDFB Brasilia 169.03 292 PKP **PKPdf 08 45 29.7 +0.1**
comp=Z,3.2nm,0.8s,baz=27,slow=5.9,SNR=3.8
LPAZ La Paz 170.14 69 PKP **PKPdf 08 45 32.2 +1.3**
LPAZ PKPab **PKPab 08 46 47.4 +0.8**
LPAZ La Paz 170.14 69 PKP **PKPdf 08 45 32.2 +1.3**
comp=Z,3.8nm,0.9s,baz=270,slow=4.0,SNR=14
LPAZ PKPab **PKPab 08 46 47.4 +0.8**
comp=Z,1.9nm,0.6s,baz=313,slow=7.9,SNR=6.2
CPUP Villa Florida 173.71 190 PKP **PKPdf 08 45 31.4 -0.2**
CPUP PKPab **PKPab 08 47 01.4 +0.3**
CPUP Villa Florida 173.71 190 PKP **PKPdf 08 45 31.4 -0.2**
comp=Z,2.5nm,0.9s,baz=171,slow=15,SNR=3.6
CPUP PKPab **PKPab 08 47 01.4 +0.3**
comp=Z,1.0nm,0.6s,baz=150,slow=4.0,SNR=5.2
SIV San Ignacio 175.25 31 PKP **PKPdf 08 45 33.5 +1.1**
SIV PKPab **PKPab 08 47 07.1 -1.3**
SIV San Ignacio 175.25 31 PKP **PKPdf 08 45 33.5 +1.1**
comp=Z,6.2nm,0.7s,baz=317,slow=0.6,SNR=8.8
SIV PKPab **PKPab 08 47 07.1 -1.3**
comp=Z,1.6nm,0.9s,baz=341,slow=5.8,SNR=3.3

---

*BJI **23** 08:26:28.8, 19°.42S×174°.89W, h220km, mB5.1/10, mb4.7/17*
*ISCJB **23** 08:26:28.2±0.9, 19°.77S±0°.06×175°.89W±0°.04, h197km±8km, mb4.5/71, Error ellipse: s-maj=9.9km s-min=5.3km az=153.5*
*AUST **23** 08:26:29.1±0.9, 19°.61S×175°.85W, h182km, Error ellipse: s-maj=1.7km s-min=1.1km az=9.0*
*IDC **23** 08:26:29.6±2.0, 19°.72S×175°.92W, h200km±18km, mb4.2/21, mb1 4.4/25, mb1mx4.3/29, mbtmp4.2/25, MS2.9/1, Ms1 2.9/1, ms1mx2.8/25, Error ellipse: s-maj=12.1km s-min=8.1km az=117.0*
*NEIC **23** 08:26:30.7±0.2, 19°.81S×175°.86W, mb4.6/34, Error ellipse: s-maj=7.7km s-min=4.7km az=148.0*
*SZGRF **23** 08:26:31.8, 20°.69S×175°.57W, h240km, Tonga Islands*
ISC 23 08:26:33.8±0.5, 19°.85S±0°.06×175°.90W±0°.06, h239km±3km, h239km; pP-P, n500, o0°99/560, mb4.5/71, 32C-8D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.69**	**83**	P	Pn	08 27 53.8	-4.1
baz=5.6,SNR=26							
NIUE				S	S	08 28 55.4	-9.4
baz=5.6,SNR=11							
MSVF	**Nonsavu**	**6.10**	**289**	*e*Pn	**Pn**	**08 28 04.7**	**+1.6**
AFI	**Afiamalu**	**7.11**	**34**	P	Pn	08 28 08.5	-7.4
AFI				*e*S	S	08 29 19.0	-19
AFI				S	S	08 29 19.8	-18
AFI	**Afiamalu**	**7.11**	**34**	P	Pn	08 28 08.5	-7.4
13nm,0.3s,baz=174,slow=5.4,SNR=27							
AFI				S	S	08 29 19.8	-18
31nm,0.3s,baz=266,slow=16,SNR=12							
AFI				LR	LR	08 30 05.5	
comp=Z,102nm,19.4s,baz=272,slow=31							
FUNA	**Funafuti**	**12.22**	**336**	*e*P	**Pn**	**08 29 19.9**	**-0.6**
RAR	**Rarotonga**	**15.17**	**98**	P	**P**	**08 29 54.2**	**-2.0**
RAR	**Rarotonga**	**15.17**	**98**	P	**P**	**08 29 54.2**	**-2.0**
1.3nm,0.3s,baz=32,slow=0.0,SNR=4.1							
DZM	**Mont Dzumac**	**16.64**	**259**	*e*P	**Pn**	**08 30 14.5**	**+0.5**
DZM	**Mont Dzumac**	**16.64**	**259**	P	**P**	**08 30 12.2**	**-0.2**
DZM	**Mont Dzumac**	**16.64**	**259**	P	**P**	**08 30 12.2**	**-0.2**
5.8nm,0.3s,baz=75,slow=18,SNR=72							
NOUC	**Port Laguerre**	**16.77**	**259**	*e*P	**Pn**	**08 30 15.4**	**-0.1**
URZ	**Urewera**	**19.32**	**197**	P	**P**	**08 30 40.8**	**-0.4**
URZ				*e*Pn	**Pn**	**08 30 41.0**	**-4.3**
URZ				S	**S**	**08 34 09.8**	**+2.9**
URZ				*e*S	S	08 34 10.7	+3.9
URZ	**Urewera**	**19.32**	**197**	P	**P**	**08 30 40.8**	**-0.4**
4.0nm,0.3s,baz=15,slow=12,SNR=25							
URZ				S	**S**	**08 34 09.8**	**+2.9**
2.3nm,0.3s,baz=276,slow=22,SNR=9.2							
SNZO	**South Karori**	**22.84**	**198**	*e*P	**P**	**08 31 15.6**	**-0.6**
21nm,0.9s							
HNR	**Honiara**	**25.52**	**290**	*e*P	**P**	**08 31 40.1**	**-0.8**
6.6nm,1.3s							
RPZ	**Rata Peaks**	**26.18**	**202**	*e*P	**P**	**08 31 45.9**	**-0.5**
6.6nm,0.4s							
RPZ	**Rata Peaks**	**26.18**	**202**	P	**P**	**08 31 45.9**	**-0.5**
4.0nm,0.5s,baz=48,slow=5.2,SNR=14							
EIDS	**Eidsvold**	**30.92**	**254**	*e*P	**P**	**08 32 28.4**	**-0.1**
2.8nm,0.4s							
EIDS	**Eidsvold**	**30.92**	**254**	P	**P**	**08 32 28.5**	**-0.1**
baz=31,SNR=5.9							
ARMA	**Armidale**	**31.12**	**244**	*e*P	**P**	**08 32 29.9**	**-0.6**
ARMA	**Armidale**	**31.12**	**244**	P	**P**	**08 32 31.6**	**+1.2**
baz=31,SNR=11							
RMQ	**Roma**	**33.08**	**252**	P	**P**	**08 32 48.5**	**+1.1**
baz=33,SNR=6.2							
CAN	**Canberra**	**34.50**	**236**	*e*P	**P**	**08 32 59.8**	**+0.2**
3.1nm,0.7s							
CTA	**Charters Tower**	**35.52**	**263**	P	**P**	**08 33 08.0**	**-0.4**
CTA	**Charters Tower**	**35.52**	**263**	P	**P**	**08 33 08.0**	**-0.4**
27nm,0.4s,baz=90,slow=10,SNR=90							
CTAO	**Charters Tower**	**35.52**	**263**	*e*P	**P**	**08 33 07.9**	**-0.4**
35nm,0.5s							
CTAO				*e*pP	**pP**	**08 33 51.9**	**-5.0**
CMSA	**Cobar Meteorol**	**36.34**	**244**	P	**P**	**08 33 14.6**	**-0.5**
baz=36,SNR=16							
COEN	**Coen**	**39.52**	**272**	*e*P	**P**	**08 33 41.0**	**-0.9**
80nm,0.6s							
COEN				*e*pP	**pP**	**08 34 30.1**	**-1.2**
COEN				*e*sP	sP	08 35 03.3	+4.9
COEN	**Coen**	**39.52**	**272**	P	**P**	**08 33 41.5**	**-0.4**
baz=40,SNR=6.5							
STKA	**Stephens Creek**	**39.84**	**244**	P	**P**	**08 33 44.5**	**+0.2**
STKA	**Stephens Creek**	**39.84**	**244**	P	**P**	**08 33 44.5**	**+0.2**
2.9nm,0.5s,baz=112,slow=8.0,SNR=11							
STKA	**Stephens Creek**	**39.84**	**244**	P	**P**	**08 33 44.7**	**+0.3**
baz=40,SNR=10.0							
BBOO	**Buckleboo**	**44.60**	**243**	*e*P	**P**	**08 34 22.0**	**-0.7**
789nm,0.7s							
JAY	**Jayapura**	**45.73**	**287**	P	**P**	**08 34 31.8**	**+0.1**
baz=46,SNR=6.7							
AS31	**Alice Springs**	**46.58**	**256**	*e*P	**P**	**08 34 38.0**	**-0.3**
ASAR	**Alice Springs**	**46.58**	**256**	P	**P**	**08 34 37.9**	**-0.4**
ASAR				S	**S**	**08 41 04.7**	**-4.2**
ASAR	**Alice Springs**	**46.58**	**256**	P	**P**	**08 34 37.9**	**-0.4**
25nm,0.6s,baz=87,slow=8.3,SNR=22							
ASAR				S	**S**	**08 41 04.7**	**-4.2**
4.0nm,1.0s,baz=94,slow=15,SNR=10							
WRAB	**Tennant Creek**	**46.63**	**261**	*e*P	**P**	**08 34 38.2**	**-0.5**
WRA	**Warramunga Arr**	**46.64**	**261**	P	**P**	**08 34 37.5**	**-1.3**
WRA				S	**S**	**08 41 05.4**	**-4.4**
WRA	**Warramunga Arr**	**46.64**	**261**	P	**P**	**08 34 37.5**	**-1.3**
7.7nm,0.5s,baz=97,slow=5.2,SNR=9.2							
WRA				S	**S**	**08 41 05.4**	**-4.4**
2.2nm,0.9s,baz=94,slow=13,SNR=4.8							
MTN	**Manton Dam**	**51.13**	**269**	P	**P**	**08 35 12.1**	**-0.7**
baz=51,SNR=6.4							
KNRA	**Kununurra**	**52.67**	**265**	P	**P**	**08 35 24.0**	**-0.2**
baz=53,SNR=10							
FAKI	**Fak Fak**	**53.28**	**282**	P	**P**	**08 35 28.5**	**-0.2**
baz=53,SNR=3.8							
FITZ	**Fitzroy Crossi**	**55.07**	**261**	*e*P	**P**	**08 35 41.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**55.07**	**261**	P	**P**	**08 35 40.5**	**-0.9**
4.1nm,0.4s,baz=54,slow=6.4,SNR=16							
FITZ	**Fitzroy Crossi**	**55.07**	**261**	P	**P**	**08 35 41.3**	**-0.1**
baz=55,SNR=4.3							
SOEI	**Soe**	**58.46**	**271**	P	**P**	**08 36 07.4**	**+1.9**
baz=58,SNR=3.8							
SBA	**Scott Base**	**58.65**	**184**	*e*P	**P**	**08 36 08.2**	**+2.6**
16nm,0.8s							
VNDA	**Vanda**	**58.73**	**186**	P	**P**	**08 36 07.7**	**+1.5**
VNDA	**Vanda**	**58.73**	**186**	P	**P**	**08 36 07.7**	**+1.5**
7.6nm,0.8s,baz=355,slow=7.8,SNR=32							
MEEK	**Meekatharra**	**59.99**	**250**	P	**P**	**08 36 16.8**	**+1.1**
baz=60,SNR=3.2							
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**08 37 21.9**	**+1.1**
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**08 37 21.8**	**+1.1**
22nm,0.8s,baz=30,slow=1.5,SNR=115							
ASAJ	**Asahikawa**	**74.12**	**330**	P	**P**	**08 37 43.4**	**-0.5**
ASAJ	**Asahikawa**	**74.12**	**330**	P	**P**	**08 37 43.4**	**-0.5**
12nm,1.0s,baz=322,slow=33,SNR=3.9							

KSM	Kuching	75.28	277	P		P	08 37 53.4 +2.2
	baz=75,SNR=3.4						
PKM	Peak Mountain	76.14	45	P		P	08 37 55.7 -0.1
	baz=76						
PETK	Petropavlovsk-	76.17	344	P		P	08 37 54.5 -0.9
PETK	Petropavlovsk-	76.17	344	P		P	08 37 54.5 -0.9
	5.4nm,0.7s,baz=128,slow=8.5,SNR=6.5						
SMMC	Simmler	76.27	44	P		P	08 37 56.8 +0.4
	baz=76						
ARVC	Arvin	76.94	45	P		P	08 38 00.3 +0.2
	baz=77						
MURC	Murrieta	77.16	47	P		P	08 38 01.5 +0.1
	baz=77						
VES	Vestal, Richgr	77.19	44	P		P	08 38 01.3 -0.1
	baz=77						
BFSC	Mount Baldy Ra	77.21	46	P		P	08 38 01.6 -0.2
	baz=77						
MONP	Monument Peak	77.31	48	P		P	08 38 02.4 0.0
	baz=77						
EDW2	Edwards Air Fo	77.35	46	P		P	08 38 02.4 -0.1
	baz=78,SNR=8.0						
RCTC	Rector, Farmer	77.36	44	P		P	08 38 02.1 -0.3
	baz=78						
DVTC	Desert V Tower	77.40	48	P		P	08 38 03.2 +0.4
	baz=78						
ISA	Isabella	77.48	45	eP		P	08 38 03.3 +0.2
	21nm,1.2s						
ISA	Isabella	77.48	45	P		P	08 38 03.4 +0.2
	baz=78,SNR=15						
CMB	Columbia Colle	77.66	42	eP		P	08 38 03.6 -0.4
	9.0nm,1.1s						
PFO	Pinyon Flat Ob	77.68	47	P		P	08 38 05.0 +0.6
	baz=78						
SWSC	Sam W. Stewart	77.77	48	P		P	08 38 04.9 +0.2
	baz=78						
LRMC	Laurel Mountai	77.90	45	P		P	08 38 05.8 +0.3
	baz=78,SNR=7.5						
CWC	Cottonwood Cre	78.19	44	P		P	08 38 07.5 +0.3
	baz=78,SNR=6.0						
BELC	Belle Mtn. Jos	78.22	47	P		P	08 38 07.7 +0.4
	baz=78,SNR=5.5						
MPMC	Manual Prospec	78.37	45	P		P	08 38 08.5 +0.4
	baz=78,SNR=20						
GSC	Goldstone	78.39	46	eP		P	08 38 08.1 -0.1
	17nm,1.3s						
GSC	Goldstone	78.39	46	P		P	08 38 08.5 +0.3
	baz=78,SNR=8.5						
MLAC	Mammoth Lakes	78.40	43	P		P	08 38 08.7 +0.3
	baz=78						
BC3	Big Chuckawall	78.40	48	P		P	08 38 08.8 +0.4
	baz=78						
HEC	Hector,Ludlow	78.45	46	P		P	08 38 08.6 +0.1
	baz=79,SNR=13						
TIN	Tinemaha	78.46	44	P		P	08 38 08.6 0.0
	baz=79						
WAKR	Walker	78.54	42	eP		P	08 38 08.8 -0.3
	14nm,1.1s						
WAKR				epP		pP	08 39 01.3 -4.4
YBH	Yreka Blue Hor	78.56	38	P		P	08 38 09.2 +0.2
YBH	Yreka Blue Hor	78.56	38	P		P	08 38 09.2 +0.2
	3.9nm,0.8s,baz=192,slow=9.9,SNR=6.2						
BEKR	Beckworth	78.79	40	eP		P	08 38 09.7 -0.7
	3.4nm,0.8s						
GMRC	Granite Mounta	78.88	47	P		P	08 38 11.0 +0.1
	baz=79						
IRM	Iron Mountain	78.89	48	P		P	08 38 11.5 +0.6
	baz=79,SNR=9.7						
GRAC	Grapevine Rang	78.98	44	P		P	08 38 11.9 +0.6
	baz=79,SNR=16						
FURC	Furnace Creek,	79.02	45	P		P	08 38 11.7 +0.3
	baz=79,SNR=5.4						
TUQ	Turquoise Moun	79.06	46	P		P	08 38 11.8 -0.1
	baz=79,SNR=7.8						
SHOC	Shoshone	79.08	46	P		P	08 38 11.9 0.0
	baz=79,SNR=5.4						
Y12C	Blythe	79.11	48	P		P	08 38 12.2 +0.2
	baz=79,SNR=5.5						
113A	Mohawk Valley,	79.12	49	P		P	08 38 12.3 +0.3
	baz=79						
NVAR	Mina Array Bea	79.21	42	P		P	08 38 12.8 +0.1
NVAR	Mina Array Bea	79.21	42	P		P	08 38 12.8 +0.1
	9.6nm,0.9s,baz=225,slow=8.6,SNR=43						
PAHR	Pah Rah Range	79.29	41	eP		P	08 38 12.6 -0.5
	10nm,1.0s						
NV11	Mina Array Sit	79.31	43	eP		P	08 38 12.9 -0.2
214A	Organ Pipe Nat	79.38	50	P		P	08 38 14.0 +0.4
	baz=80						
LDFC	Landfair	79.42	47	eP		P	08 38 14.3 +0.5
	49nm,1.4s						
USRK	Ussuriysk Arra	79.55	325	P		P	08 38 14.8 +0.6
	3.0nm,0.9s,baz=120,slow=5.2,SNR=4.4						
PDMCI	Parker Dam,Lak	79.67	48	P		P	08 38 15.5 +0.5
	baz=80						
KDAK	Kodiak Island	79.75	12	P		P	08 38 14.6 -0.3
KDAK	Kodiak Island	79.75	12	P		P	08 38 14.6 -0.3
	8.3nm,0.8s,baz=202,slow=9.8,SNR=3.0						
Z14A	Wintersburg	80.02	49	P		P	08 38 17.4 +0.5
	baz=80						
SHPR	Sheep Range	80.17	46	eP		P	08 38 18.3 +0.4
SHPR				epP		pP	08 39 18.6 +3.8
W13A	Hualapai Mount	80.28	47	P		P	08 38 19.1 +0.6
	baz=80,SNR=5.8						
Y14A	Wickenburg	80.28	49	P		P	08 38 18.9 +0.6
	baz=80,SNR=8.3						
R11A	Troy Canyon, C	80.91	44	eP		P	08 38 21.9 +0.1
	32nm,2.8s						
R11A	Troy Canyon, C	80.91	44	P		P	08 38 21.9 +0.1
	baz=81						
NJ2	Nanjing	81.00	309	eP		P	08 38 23.3 +1.2
NJ2				pmax		pmax	
	comp=Z,30nm,0.6s						
TUC	Tucson	81.04	51	eP		P	08 38 22.3 -0.1
	comp=Z,6.6nm,0.8s						
TUC				epP		pP	08 39 12.5 -6.9
BMN	Battle Mountai	81.06	41	eP		P	08 38 22.2 -0.3
	comp=Z,13nm,1.2s						
MDJ	Mudanjiang	81.14	324	P		P	08 38 23.9 +1.3
MDJ				pP		pP	08 39 13.5 -6.1
MDJ				sP		sP	08 39 37.9 -6.9
MDJ				PP		PP	08 41 32.8 +1.1
MDJ				S		SKSac	08 48 17.8 -0.6
MDJ				pmax		pmax	
	comp=Z,13nm,0.9s						
MDJ				pmax		pmax	
	comp=Z,150nm,6.0s						
MDJ				LR		LR	
	comp=N,57nm,19.8s						
MDJ				LR		LR	
	comp=E,40nm,26.4s						
MDJ				LR		LR	
	comp=Z,76nm,19.8s						
WVOR	Wild Horse Val	81.38	39	eP		P	08 38 23.9 -0.1
	comp=Z,13nm,1.0s						
X16A	Lo Mia Camp, P	81.63	49	P		P	08 38 26.6 +1.0
	baz=82,SNR=21						
319A	Douglas	81.69	53	P		P	08 38 26.5 +0.6
	baz=82,SNR=7.8						
U15A	North Rim	82.08	47	P		P	08 38 28.9 +0.9
	baz=82,SNR=16						
320A	Kipp Ranch, An	82.23	53	P		P	08 38 29.9 +1.1
	baz=82,SNR=9.0						
WUAZ	Wupatki	82.24	48	eP		P	08 38 29.4 +0.7
	comp=Z,19nm,1.3s						
WUAZ	Wupatki	82.24	48	P		P	08 38 29.5 +0.7
	baz=82,SNR=9.9						
220A	Playas Peak, P	82.51	52	P		P	08 38 31.3 +1.1
	baz=83,SNR=17						
120A	U Bar Ranch, L	82.74	52	P		P	08 38 32.5 +1.1
	baz=83,SNR=9.4						
X18A	Snowflake	82.75	49	P		P	08 38 32.4 +1.0
	baz=83,SNR=8.0						
MAW	Mawson	82.83	199	eP		P	08 38 31.6 +0.6
	comp=Z,3.6nm,1.1s						
MAW	Mawson	82.83	199	P		P	08 38 31.6 +0.6
	comp=Z,7.7nm,0.6s,baz=133,slow=6.6,SNR=39						
MAW	Mawson	82.83	199	P		P	08 38 31.7 +0.6
	baz=83,SNR=11						
CN2	Changchun	83.00	321	eP		P	08 38 31.8 -0.5
CN2				eS		S	08 48 28.0 -3.0
Z20A	Nine Sixteen R	83.04	51	P		P	08 38 34.3 +1.3
	baz=83,SNR=18						
221A	Mesquite Ranch	83.11	53	P		P	08 38 34.8 +1.5
	baz=83						
W18A	Petrified Fore	83.20	49	P		P	08 38 34.3 +0.6
	baz=83						
MSU	Marysvale	83.25	45	eP		P	08 38 33.2 -0.8
121A	Cookes Peak, D	83.36	52	P		P	08 38 35.8 +1.2
	baz=84,SNR=8.7						
Y20A	Horse Springs,	83.58	51	P		P	08 38 37.0 +1.2
	baz=84,SNR=23						
BMO	Blue Mountains	83.59	38	eP		P	08 38 35.0 -0.4
	comp=Z,3.5nm,0.8s						
MFID	Camas Ranch	83.63	39	P		P	08 38 35.7 +0.1
	baz=84						
222A	Williams Famil	83.67	53	P		P	08 38 37.1 +1.0
	baz=84,SNR=8.8						
DUG	Dugway	83.72	43	eP		P	08 38 36.0 -0.2
	comp=Z,6.3nm,1.2s						
DUG	Dugway	83.72	43	P		P	08 38 36.1 -0.2
	baz=84						
X20A	Quemado	83.80	50	P		P	08 38 38.0 +1.1
	baz=84,SNR=13						
Z21A	St. Cloud Mine	83.81	51	P		P	08 38 38.3 +1.4
	baz=84,SNR=23						
122A	Conniff Cattle	84.02	52	P		P	08 38 39.5 +1.6
	baz=84,SNR=10						
W20A	Ramah	84.08	50	P		P	08 38 39.1 +0.9
	baz=84,SNR=17						
223A	Chaparral, Ant	84.13	53	P		P	08 38 39.2 +0.7
	baz=84						
Q16A	Castle Valley	84.13	45	eP		P	08 38 38.7 +0.3
Y21A	Point of Rocks	84.14	51	P		P	08 38 39.9 +1.3
	baz=84,SNR=20						
X21A	Alamocita Cree	84.27	50	P		P	08 38 40.2 +0.9
	baz=84,SNR=10						
Z22A	Elephant Butte	84.31	52	P		P	08 38 40.2 +0.8
	baz=84,SNR=13						
V20A	Brimhall	84.43	49	P		P	08 38 39.9 0.0
	baz=84						
HLID	Hailey	84.56	40	eP		P	08 38 40.5 +0.2
	comp=Z,6.0nm,0.8s						
HLID	Hailey	84.56	40	P		P	08 38 40.9 +0.6
	baz=85						
324A	Moseley Ranch,	84.58	54	P		P	08 38 41.3 +0.6
	baz=85,SNR=11						
HVU	Hansel Valley	84.60	42	eP		P	08 38 39.9 -0.7
	comp=Z,15nm,1.4s						
Y22A	Socorro	84.63	51	P		P	08 38 41.5 +0.5
	baz=85,SNR=14						
SRU	San Rafael	84.66	45	eP		P	08 38 41.1 +0.1
	comp=Z,21nm,1.4s						
425A	Indio Mountain	84.67	55	P		P	08 38 42.0 +0.9
	baz=85,SNR=7.1						
LAZ	Ladron	84.72	51	P		P	08 38 42.0 +0.6
	comp=Z,2.9nm,1.1s						
MNTX	Cornudas Mount	84.78	54	eP		P	08 38 42.1 +0.6
	comp=Z,15nm,1.3s						
626A	Big Bend Ranch	84.78	56	P		P	08 38 42.1 +0.4
	baz=85,SNR=12						
JLU	Jordanelle	84.82	44	eP		P	08 38 41.7 -0.1
	comp=Z,1.1nm,0.8s						
224A	Cornudas Mount	84.84	53	P		P	08 38 42.9 +0.9
	baz=85,SNR=12						
Z23A	Rita Site, Whi	84.85	52	P		P	08 38 42.9 +0.8
	baz=85						
X22A	Bernardo	84.86	51	P		P	08 38 42.5 +0.4
	baz=85						
325A	Bean Ranch, Si	84.94	54	P		P	08 38 43.0 +0.5
	baz=85,SNR=10						
BNM	Barren Site	84.97	51	eP		P	08 38 43.3 +0.6
526A	Mary Lane Ranc	85.04	56	P		P	08 38 43.7 +0.6
	baz=85,SNR=12						
LPM	Los Pinos Moun	85.05	51	eP		P	08 38 43.2 +0.1
	comp=Z,11nm,1.1s						
TXAR	Lajitas Array	85.05	57	P		P	08 38 43.3 +0.2
TXAR	Lajitas Array	85.05	57	P		P	08 38 43.3 +0.2
	comp=Z,5.6nm,0.9s,baz=215,slow=7.7,SNR=66						
124A	Stringfield Ra	85.18	53	P		P	08 38 44.6 +0.8
	baz=85,SNR=7.8						
Y23A	Lovelace Mesa,	85.29	52	P		P	08 38 44.8 +0.5
	baz=85,SNR=6.2						
U21A	Nagezi	85.31	49	P		P	08 38 44.9 +0.5
	baz=85,SNR=11						
627A	Terlingua Ranc	85.32	57	P		P	08 38 45.1 +0.7
	baz=85,SNR=17						
426A	McDonald Obser	85.36	55	P		P	08 38 45.2 +0.5
	baz=85,SNR=13						
225A	Deer Hill, Car	85.39	54	P		P	08 38 45.6 +0.9
	baz=86,SNR=10						
TRF	Thorofare Moun	85.42	11	eP		P	08 38 42.3 -1.9
	comp=Z,21nm,0.8s						
527A	Woodward Ranch	85.45	56	P		P	08 38 45.5 +0.4
	baz=86,SNR=9.5						
S20A	Disappointment	85.50	47	P		P	08 38 44.9 -0.3
	baz=86						
PV01	Paradox Valley	85.50	47	eP		P	08 38 44.8 -0.5
	comp=Z,257nm,1.0s						
PV01				epP		pP	08 39 36.8 -6.1
V22A	San Miguel Ran	85.60	49	P		P	08 38 45.5 -0.3
	baz=86						
R20A	Redvale	85.66	47	P		P	08 38 45.7 -0.3
	baz=86						
T21A	Navajo Lake	85.67	48	P		P	08 38 46.4 +0.3
	baz=86						
326A	Caldwell Ranch	85.68	55	P		P	08 38 46.0 -0.1
	baz=86						
NEW	Newport	85.71	35	eP		P	08 38 41.1 -4.7
	comp=Z,7.2nm,1.0s						
628A	Black Gap, Mar	85.73	57	P		P	08 38 46.8 +0.5
	baz=86,SNR=8.0						
Y24A	Capitan	85.75	52	P		P	08 38 47.0 +0.5
	baz=86,SNR=14						
125A	Gardner Draw,	85.76	53	P		P	08 38 47.1 +0.6
	baz=86,SNR=7.0						
W23A	Werner Place,	85.79	50	P		P	08 38 47.2 +0.5
	baz=86						
S21A	Coal Bank Pass	85.81	48	P		P	08 38 47.2 +0.3
	baz=86,SNR=5.7						
226B	Tecolote Peak,	85.87	54	P		P	08 38 47.6 +0.6
	baz=86,SNR=13						
427A	Hayter Ranch,	85.92	55	P		P	08 38 48.0 +0.7
	baz=86,SNR=18						
MCK	McKinley	85.93	12	eP		P	08 38 45.2 -1.3
	comp=Z,28nm,1.0s						
Z25A	Roswell	85.99	53	P		P	08 38 48.4 +0.8
	baz=86,SNR=6.0						
V23A	Ortiz Mt. (NFS	86.04	50	P		P	08 38 48.4 +0.5
	baz=86						
Q20A	Ridgley Place,	86.09	46	P		P	08 38 47.8 -0.2
	baz=86,SNR=7.1						
528A	Cox Ranch, San	86.10	56	P		P	08 38 48.6 +0.3
	baz=86						
T22A	Edith	86.12	49	P		P	08 38 48.0 -0.3
	baz=86						
MCMT	McKenzie Canyo	86.19	39	eP		P	08 38 48.4 -0.2
O19A	Miners Draw (B	86.19	45	P		P	08 38 47.7 -0.8
	baz=86						
126A	Clayton Basin,	86.23	53	P		P	08 38 48.9 +0.1
	baz=86						
P20A	De Beque	86.29	46	P		P	08 38 49.1 +0.1
	baz=86,SNR=6.8						
Y25A	Mesa, Roswell	86.30	52	P		P	08 38 49.3 +0.1
	baz=86,SNR=5.5						
U23A	El Rito	86.30	49	P		P	08 38 49.4 +0.2
	baz=86,SNR=5.3						
R21A	Cimarron	86.31	47	P		P	08 38 49.6 +0.4
	baz=86,SNR=10.0						
W24A	Lazy 6 Ranch,	86.36	51	P		P	08 38 49.2 -0.3
	baz=86						
428A	Kincaid Ranch,	86.42	56	P		P	08 38 50.0 +0.2
	baz=86						
I16A	Newdale	86.51	41	P		P	08 38 50.4 +0.4
	baz=87						
S22A	4UR Ranch, Cre	86.52	48	P		P	08 38 50.6 +0.3
	baz=87,SNR=8.6						
Q21A	Lamborn Mesa,	86.52	47	P		P	08 38 50.2 0.0
	baz=87						
529A	Stev Forest Ra	86.53	56	P		P	08 38 49.9 -0.4
	baz=87						
Z26A	Caprock	86.54	53	P		P	08 38 50.1 -0.2
	baz=87,SNR=6.6						
328A	Wristen Ranch,	86.61	55	P		P	08 38 50.7 +0.1
	baz=87						
V24A	Rampart Ranch,	86.69	50	P		P	08 38 51.2 +0.1
	baz=87						
Q20A	White River Ci	86.70	45	P		P	08 38 50.6 -0.4
	baz=87						
T23A	Casias Ranch,	86.74	49	P		P	08 38 51.1 -0.3
	baz=87						
127A	Arkansas Junct	86.75	54	P		P	08 38 51.1 -0.3
	baz=87						
R22A	Saguache, Gunn	86.80	47	P		P	08 38 52.2 +0.5
	baz=87,SNR=6.8						
BJI	Beijing	86.83	315	P		P	08 38 51.8 +0.5
BJI				pmax		pmax	
	comp=Z,11nm,0.4s						
L19A	Farson	86.94	43	P		P	08 38 51.8 -0.3
	baz=87						
Q22A	Crested Butte,	86.99	47	P		P	08 38 52.6 0.0
	baz=87,SNR=8.5						
429A	Davenport Ranc	87.00	56	P		P	08 38 52.5 0.0
	baz=87,SNR=10.0						
N20A	Spence Gulch,	87.03	45	P		P	08 38 52.1 -0.5
	baz=87						
W25A	X Bar L Ranch,	87.05	51	P		P	08 38 52.1 -0.6
	baz=87						
H16A	Russell Place,	87.09	40	P		P	08 38 53.2 +0.4
	baz=87						
SMCO	Snowmass	87.10	47	eP		P	08 38 52.8 -0.4
	comp=Z,7.2nm,1.1s						
PDAR	Pinedale Array	87.15	42	P		P	08 38 52.1 -1.0
PDAR	Pinedale Array	87.15	42	P		P	08 38 52.1 -1.0
	comp=Z,1.0nm,0.7s,baz=204,slow=3.0,SNR=12						
COLA	College	87.17	12	eP		P	08 38 51.4 -0.9
	comp=Z,17nm,1.0s						
IM04	Indian Mountai	87.19	9	eP		P	08 38 51.6 -0.9
V25A	Rancho No Teng	87.21	50	P		P	08 38 53.6 0.0
	baz=87						
T24B	San Luis	87.22	49	P		P	08 38 53.6 -0.1
	baz=87						
530A	J-C Ranch, Com	87.23	57	P		P	08 38 53.6 0.0
	baz=87						
ILAR	Eielson Array	87.26	12	P		P	08 38 51.4 -1.4
ILAR	Eielson Array	87.26	12	P		P	08 38 51.4 -1.4
	comp=Z,2.1nm,0.5s,baz=233,slow=5.0,SNR=9.7						
329A	Wagon Wheel Ra	87.29	55	P		P	08 38 53.7 -0.2
	baz=87						
BOZ	Bozeman (W)	87.36	39	eP		P	08 38 53.9 -0.1
	comp=Z,6.0nm,1.3s						
128A	Castleberry Fa	87.39	54	P		P	08 38 54.2 -0.1
	baz=88						
M20A	Sweetwater, Wa	87.40	44	P		P	08 38 54.2 -0.1
	baz=88						
Y27A	Causey	87.42	53	P		P	08 38 54.2 -0.3
	baz=88						
R23A	Moffat	87.43	48	P		P	08 38 54.3 -0.3
	baz=88						
P22A	Eagle	87.44	46	P		P	08 38 53.4 -1.2
	baz=88						
SDCO	Great Sand Dun	87.45	48	eP		P	08 38 54.0 -0.8
	comp=Z,18nm,2.1s						
N21A	Black Mountain	87.49	45	P		P	08 38 54.6 -0.2
	baz=88						
S24A	Houchin Ranch,	87.61	49	P		P	08 38 55.5 0.0
	baz=88						
U25A	Circle Dot Ran	87.62	50	P		P	08 38 55.0 -0.5
	baz=88						
J19A	Crowheart	87.72	42	P		P	08 38 55.4 -0.3
	baz=88						
Z28A	Tucker Farm, M	87.75	53	P		P	08 38 55.8 -0.2
	baz=88						
MSTX	Muleshoe	87.75	53	P		P	08 38 55.8 -0.2
	baz=88						
SYO	Syowa Base	87.78	192	iP		P	08 38 54.5 -0.9
SYO	Syowa Base	87.78	192	eX		PcP	08 39 01.0 +3.9
V26A	Tequesquite Ra	87.80	51	P		P	08 38 56.2 -0.1
	baz=88						
O22A	Kremmling	87.85	46	P		P	08 38 56.2 -0.4
	baz=88						
531A	Rocksprings	87.86	57	P		P	08 38 57.2 +0.6
	baz=88						
129A	Stewart Farms,	87.86	54	P		P	08 38 56.3 -0.2
	baz=88						
T25A	Trinidad	87.95	49	P		P	08 38 57.3 +0.2
	baz=88						
R24A	Sanders Place,	87.95	48	P		P	08 38 57.2 +0.2
	baz=88						
P23A	Jefferson	87.97	47	P		P	08 38 57.5 +0.2
	baz=88						
M21A	Separation Pea	88.00	44	P		P	08 38 57.2 0.0
	baz=88						
W27A	Bowe Ranch, En	88.01	52	P		P	08 38 57.0 -0.2
	baz=88						
GYA	Guiyang	88.05	299	eP		P	08 38 58.8 +1.2
GYA				pP		pP	08 39 51.3 -4.3
GYA				sP		sP	08 40 13.0 -7.6
GYA				PP		PP	08 42 31.6 +3.4
GYA				SKS		SKSac	08 49 04.5 +1.0
GYA				S		S	08 49 22.8 +1.6
GYA				pmax		pmax	
	comp=Z,10.0nm,1.0s						
F17A	Fitzpatrick Pl	88.08	39	P		P	08 38 57.2 -0.1
	baz=88						
U26A	Atchley Ranch,	88.09	50	P		P	08 38 57.5 -0.2
	baz=88						
I19A	Meeteetse	88.14	42	P		P	08 38 57.4 -0.4
	baz=88						
S25A	Robets Cordova	88.16	49	P		P	08 38 57.5 -0.5
	baz=88						
N22A	Wattenberg Ran	88.22	45	P		P	08 38 58.3 0.0
	baz=88						
E17A	Martinsdale	88.25	39	P		P	08 38 57.9 -0.2
	baz=88						
Z29A	Hungry Hill Ra	88.25	54	P		P	08 38 58.1 -0.3
	baz=88						
Q24A	Divide	88.25	47	P		P	08 38 58.3 -0.2
	baz=88						
PLCA	Paso Flores	88.28	133	P		P	08 38 59.0 +0.5
PLCA	Paso Flores	88.28	133	P		P	08 38 59.0 +0.5
	comp=Z,3.3nm,0.8s,baz=233,slow=4.1,SNR=5.8						
ISCO	Idaho Springs	88.32	47	P		P	08 38 58.5 -0.3
	baz=88						
532A	Rocksprings	88.35	57	P		P	08 38 58.8 -0.1
	baz=88						
J20A	Shoshoni	88.38	43	P		P	08 38 58.7 -0.1
	baz=88						
M22A	Cedar Creek Ra	88.41	45	P		P	08 38 58.4 -0.7
	baz=88						
X28A	Dimmitt	88.42	52	P		P	08 38 58.7 -0.5
	baz=88						
G18A	Lazy EL Ranch,	88.44	40	P		P	08 38 59.3 +0.2
	baz=89						
Y29A	Porterfield Fa	88.53	53	P		P	08 38 59.6 -0.1
	baz=89						
JCT	Junction City	88.58	57	eP		P	08 38 56.6 -3.3
	comp=Z,7.7nm,1.4s						
SNAA	Sanae	88.59	178	eP		P	08 38 59.0 -0.3
SNAA	Sanae	88.59	178	eP		P	08 38 58.9 -0.5
	comp=Z,7.2nm,0.9s						
N23A	Red Feather La	88.60	45	P		P	08 39 00.2 +0.1
	baz=89						
F18A	Big Timber	88.64	40	P		P	08 39 00.1 +0.1
	baz=89						
I20A	Worland	88.64	42	P		P	08 38 60.0 -0.1
	baz=89						
Z30A	Sanderson Ranc	88.70	54	P		P	08 39 00.3 -0.1
	baz=89						
D17A	Six Diamond Ra	88.71	38	P		P	08 39 00.4 +0.2
	baz=89,SNR=8.9						
432A	Menard	88.74	57	P		P	08 39 00.3 -0.4
	baz=89						
X29A	Tulia	88.76	53	P		P	08 39 00.8 +0.1
	baz=89						
231A	Bronte	88.77	55	P		P	08 39 00.4 -0.4
	baz=89						
U27A	Thompson Grove	88.77	51	P		P	08 39 00.4 -0.4
	baz=89						
S26A	Kim	88.83	49	P		P	08 39 00.8 -0.3
	baz=89						
E18A	Harlowton	88.86	39	P		P	08 39 01.1 +0.1
	baz=89,SNR=6.4						
COLD	Coldfoot	88.90	10	eP		P	08 38 59.5 -1.0
	comp=Z,6.9nm,1.0s						
C17A	Wharram Farm,	88.91	38	P		P	08 39 01.1 0.0
	baz=89,SNR=12						
H20A	Greybull	88.99	42	P		P	08 39 01.4 -0.2
	baz=89						
332A	Millersview	88.99	56	P		P	08 39 01.7 -0.1
	baz=89						
131A	Roby	89.01	55	P		P	08 39 01.6 -0.4
	baz=89						
F19A	Roth Farm, Mol	89.08	40	P		P	08 39

L23A	Garrett	89.33	44	P	P	08 39 03.2	-0.2
	baz=89						
Q26A	Hugo	89.37	48	P	P	08 39 02.8	-0.8
	baz=90						
J22A	Midwest	89.43	43	P	P	08 39 03.6	-0.2
	baz=90						
Z31A	Sharp Cattle R	89.47	54	P	P	08 39 03.3	-0.7
	baz=90						
E19A	Rath Farm, Rou	89.48	40	P	P	08 39 04.0	+0.2
	baz=90						
ABTX	Abilene, Hawle	89.57	55	eP	P	08 39 04.5	0.0
ABTX	Abilene, Hawle	89.57	55	P	P	08 39 04.4	0.0
	baz=90						
Y31A	Rekieta Farm,	89.64	54	P	P	08 39 04.8	0.0
	baz=90						
I22A	9 Mile Ranch,	89.66	43	P	P	08 39 05.0	+0.2
	baz=90						
EGMT	Eagleton	89.69	38	P	P	08 39 04.9	+0.1
	baz=90						
D19A	Cripps Ranch,	89.77	39	P	P	08 39 05.3	+0.1
	baz=90						
B18A	Beardsley Farm	89.87	38	P	P	08 39 05.8	+0.2
	baz=90						
E20A	Meyer Farm, Mu	89.89	40	P	P	08 39 05.9	+0.2
	baz=90						
C19A	Slack Wire Ran	89.96	38	P	P	08 39 06.6	+0.6
	baz=90,SNR=8.5						
Z32A	Haskell	89.97	54	P	P	08 39 06.3	-0.1
	baz=90						
H22A	Clearmont	90.07	42	P	P	08 39 06.0	-0.6
	baz=90						
A18A	Metzger Ranch,	90.10	37	P	P	08 39 06.0	-0.6
	baz=90						
X31A	McDonald Ranch	90.12	53	P	P	08 39 06.6	-0.4
	baz=90						
D20A	Manuel Ranch,	90.18	39	P	P	08 39 07.0	0.0
	baz=90,SNR=6.5						
Y32A	R-V Farms, Ver	90.28	54	P	P	08 39 07.4	-0.4
	baz=90						
HHC	Hu-ho-hao-te	90.32	314	eP	P	08 39 07.8	-0.1
HHC				pP	pP	08 39 58.3	-7.8
HHC				PP	PP	08 42 47.8	+1.9
HHC				SKS	SKSac	08 49 18.6	+2.4
HHC				S	S	08 49 42.1	+0.5
HHC				SS	SS	08 55 52.1	+4.0
HHC				pmax	pmax		
	comp=Z,69nm,0.7s						
HHC				pmax	pmax		
	comp=Z,1μm,6.5s						
HHC				LR	LR		
	comp=N,230nm,17.1s						
HHC				LR	LR		
	comp=E,200nm,17.9s						
HHC				LR	LR		
	comp=Z,220nm,17.7s						
R28A	Tribune	90.33	49	P	P	08 39 07.3	-0.7
	baz=90						
W31A	Holland Ranch,	90.38	53	P	P	08 39 07.9	-0.3
	baz=90						
B19A	Brinkman Farms	90.38	38	P	P	08 39 08.0	+0.1
	baz=90						
E21A	Keefer Ranch,	90.55	40	P	P	08 39 09.5	+0.8
	baz=91						
C20A	Veseth Ranch,	90.56	39	P	P	08 39 09.2	+0.5
	baz=91,SNR=6.2						
J24A	Dixon Ranch, L	90.57	44	P	P	08 39 09.7	+0.7
	baz=91						
O27A	Beecher Island	90.65	47	P	P	08 39 09.7	+0.2
	baz=91						
V31A	Spring Creek L	90.69	52	P	P	08 39 10.4	+0.7
	baz=91						
A19A	Klindworth Far	90.73	37	P	P	08 39 09.4	-0.1
	baz=91						
D21A	La Casta Ranch	90.85	40	P	P	08 39 10.4	+0.3
	baz=91						
A20A	Cobblestone Ra	91.18	38	P	P	08 39 11.8	+0.2
	baz=91,SNR=6.6						
F23A	Volborg	91.19	41	P	P	08 39 11.9	+0.1
	baz=91						
H24A	Dirks Ranch, A	91.28	42	P	P	08 39 11.7	-0.6
	baz=91,SNR=5.8						
RSSD	Black Hills	91.33	43	eP	P	08 39 12.3	-0.3
	comp=Z,8.9nm,1.1s						
T31A	Randall Ranch,	91.35	51	P	P	08 39 12.4	-0.2
	baz=91						
D22A	Cohagen	91.38	40	P	P	08 39 13.1	+0.5
	baz=92						
R30A	Dighton	91.40	50	P	P	08 39 12.7	-0.2
	baz=92						
P29A	Atwood	91.48	48	P	P	08 39 13.3	0.0
	baz=92						
I25A	Rochford	91.48	43	P	P	08 39 12.9	-0.4
	baz=92						
CMAR	Chiang Mai Arr	91.76	289	P	P	08 39 15.4	+0.5
CMAR	Chiang Mai Arr	91.76	289	P	P	08 39 15.4	+0.5
	comp=Z,2.3nm,0.7s,baz=124,slow=2.7,SNR=10						
A21A	Bergtoll Ranch	91.81	38	P	P	08 39 14.9	+0.4
	baz=92						
H25A	Fruitdale	91.83	43	P	P	08 39 15.0	+0.2
	baz=92						
F24A	Ekalaka	91.84	42	P	P	08 39 14.9	+0.1
	baz=92						
CHTO	Chiang Mai	91.88	289	eP	P	08 39 14.9	-0.6
	comp=Z,2.0nm,0.5s						
R31A	Burdett	91.94	50	P	P	08 39 15.3	-0.1
	baz=92						
B22A	Reddig Ranch S	92.03	39	P	P	08 39 16.1	+0.5
	baz=92						
I26A	New Underwood	92.05	44	P	P	08 39 16.1	+0.3
	baz=92						
CD2	Chengdu	92.11	302	eP	P	08 39 15.8	-0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,30nm,6.2s						
G25A	Newell	92.20	42	P	P	08 39 16.3	-0.1
	baz=92						
J27A	Elkhorn Farm,	92.28	45	P	P	08 39 17.4	+0.5
	baz=92						
C23A	Lambert	92.28	40	P	P	08 39 16.9	+0.1
	baz=92						
H26A	Fairpoint	92.36	43	P	P	08 39 16.8	-0.4
	baz=92						
A22A	Carney Farms,	92.40	38	P	P	08 39 17.8	+0.5
	baz=92						
D24A	Glendive	92.49	40	P	P	08 39 18.3	+0.6
	baz=93						
I27A	Quinn	92.59	44	P	P	08 39 18.0	-0.2
	baz=93						
C24A	Savage	92.61	40	P	P	08 39 18.9	+0.7
	baz=93						
B23A	Brockton	92.70	39	P	P	08 39 18.9	+0.3
	baz=93						
G26A	Maurine	92.77	43	P	P	08 39 18.6	-0.5
	baz=93						
H27A	Howes	92.82	43	P	P	08 39 19.1	-0.1
	baz=93						
J28A	Allard Ranch,	92.86	45	P	P	08 39 19.5	0.0
	baz=93						
F26A	Lodgepole	92.96	42	P	P	08 39 19.9	-0.1
	baz=93						
D25A	Fairfield	93.12	41	P	P	08 39 21.0	+0.3
	baz=93						
I28A	Midland	93.14	44	P	P	08 39 20.8	0.0
	baz=93						
INK	Inuvik	93.14	15	eP	P	08 39 19.4	-0.8
	comp=Z,5.2nm,1.0s						
DGMT	Dagmar	93.17	39	P	P	08 39 20.9	+0.1
	baz=93						
G27A	Dupree	93.23	43	P	P	08 39 21.0	-0.2
	baz=93						
E26A	Carlson Angus	93.36	42	P	P	08 39 21.7	0.0
	baz=94						
F27A	Lemmon	93.38	42	P	P	08 39 21.8	-0.1
	baz=94						
A24A	Westby	93.49	39	P	P	08 39 22.8	+0.6
	baz=94						
G28A	Parade	93.75	43	P	P	08 39 23.4	-0.2
	baz=94						
E27A	Carson	93.90	42	P	P	08 39 24.0	-0.2
	baz=94						
LZH	Lanzhou	93.95	307	eP	P	08 39 25.8	+1.0
LZH				pP	pP	08 40 24.8	+1.7
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
A25A	Svangstu Ranch	94.02	39	P	P	08 39 24.7	0.0
	baz=94						
BGNE	Belgrade	94.14	47	P	P	08 39 25.2	-0.2
	baz=94						
F28A	McLaughlin	94.14	43	P	P	08 39 25.2	-0.1
	baz=94						
F29A	Eureka	94.76	43	P	P	08 39 27.7	-0.4
	baz=95						
ECSD	EROS Data Cent	96.07	46	eP	P	08 39 33.3	-0.8
	comp=Z,9.5nm,1.1s						
SONM	Songino Array	96.57	318	P	P	08 39 37.5	+1.1
SONM	Songino Array	96.57	318	P	P	08 39 37.5	+1.1
	comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=3.2						
LPAZ	La Paz	100.48	112	P	Pdif	08 39 56.9	+1.6
LPAZ	La Paz	100.48	112	P	Pdif	08 39 56.9	+1.6
	comp=Z,0.4nm,0.5s,baz=270,slow=3.0,SNR=2.8						
ZALV	Zalesovo Beam	111.22	321	PKiKP	PKiKP	08 44 37.2	-1.6
ZALV	Zalesovo Beam	111.22	321	PKiKP	PKiKP	08 44 37.2	-1.6
	comp=Z,0.9nm,0.5s,baz=147,slow=3.0,SNR=3.6						
MKAR	Makanchi Array	112.18	313	PKiKP	PKiKP	08 44 39.2	-1.7
MKAR				PKKPbc	PKKPbc	08 55 32.5	-1.3
MKAR	Makanchi Array	112.18	313	PKiKP	PKiKP	08 44 39.2	-1.7
	comp=Z,0.7nm,0.5s,baz=90,slow=1.4,SNR=17						
MKAR				PKKPbc	PKKPbc	08 55 32.5	-1.3
	comp=Z,0.6nm,0.8s,baz=261,slow=5.6,SNR=4.7						
KURK	Kurchatov	114.85	318	PKP	PKPdf	08 44 44.2	-1.5
KURBB	Kurchatov Arra	114.91	317	PKP	PKPdf	08 44 44.2	-1.7
	comp=Z,1.5nm,0.7s,baz=87,slow=1.9,SNR=11						
KSH	Kashi	116.13	305	ePKP	PKPdf	08 44 48.4	-0.4
KSH				PP	PP	08 46 03.4	+5.6
KSH				SKS	SKSdf	08 51 37.5	-0.6
KSH				SKKS	SKKSac	08 52 33.1	-0.9
KSH				AMB	AMB		
	comp=Z,55nm,4.7s						
KSH				LR	LR		
	comp=N,440nm,14.8s						
KSH				LR	LR		
	comp=E,290nm,10.5s						
KSH				LR	LR		
	comp=Z,440nm,14.0s						
ABKAR	Akbulak array	126.96	317	ePKPdf	PKPdf	08 45 08.7	-0.5
ARCES	ARCESS Array B	128.62	351	PKP	PKPdf	08 45 11.1	-0.7
ARCES	ARCESS Array B	128.62	351	PKP	PKPdf	08 45 11.1	-0.7
	comp=Z,4.2nm,0.9s,baz=21,slow=0.9,SNR=8.3						
FINES	FINESS Array B	135.68	345	PKP	PKPdf	08 45 25.8	+0.6
FINES	FINESS Array B	135.68	345	PKP	PKPdf	08 45 25.8	+0.6
	comp=Z,1.9nm,0.6s,baz=2.9,slow=3.8,SNR=7.0						
NB2	NORSAR Subarra	138.54	355	PKP	PKPdf	08 45 19.9	-11
	comp=Z,1.9nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	138.54	355	PKP	PKPdf	08 45 31.4	+0.8
NOA	NORSAR Array B	138.54	355	PKP	PKPdf	08 45 31.4	+0.8
	comp=Z,1.4nm,0.7s,baz=13,slow=4.0,SNR=5.3						
AKASG	Malin Array Be	143.37	333	PKPpre	PKPpre	08 45 35.5	
AKASG	Malin Array Be	143.37	333	PKhKP	PKPpre	08 45 35.5	
	comp=Z,3.5nm,0.5s,baz=40,slow=4.0,SNR=14						
MALT	Malatya	145.07	309	⇑iP	PKPab	08 45 45.7	+2.4
BSEG	Bad Segeberg	145.64	353	ePKPbc	PKPbc	08 45 43.7	-0.4
KIS	Kishinev	146.24	329	eP	PKPdf	08 45 44.0	-0.6
RUE	Ruedersdorf	146.57	349	ePKPbc	PKPbc	08 45 46.4	-0.4
NRDL	Niedersach Rie	147.09	353	ePKPbc	PKPbc	08 45 47.6	-0.6
NRDL				epPKPbc	pPKPbc	08 46 48.1	-0.5
BURAR	Bucovina Array	147.42	333	⇑iP	PKPbc	08 45 50.1	+0.6
STHS	Stebnicka Huta	147.46	339	ePKP	PKPbc	08 45 49.3	-0.2
STHS				e		08 45 52.8	
IBBN	Ibbenburen	147.48	356	ePKPbc	PKPbc	08 45 49.1	-0.3
IBBN				epPKPbc	pPKPbc	08 46 49.5	-0.4
TLCR		147.50	327	⇓iP	PKPbc	08 45 48.6	-1.0
KOLS	Kolonicke sedl	147.51	337	ePKP	PKPdf	08 45 47.1	+0.4
TESR	Tescani	147.62	330	⇓iP	PKPbc	08 45 49.1	-0.9
BR131	Keskin Array S	147.83	314	ePKPbc	PKPbc	08 45 50.3	-0.7
BRTR	Keskin Array B	147.83	314	PKPbc	PKPbc	08 45 50.3	-0.7
BRTR	Keskin Array B	147.83	314	PKPbc	PKPbc	08 45 50.3	-0.7
	comp=Z,13nm,0.9s,baz=138,slow=3.5,SNR=44						
CRVS	Cervenica-Dubn	147.83	338	ePKP	PKPbc	08 45 50.1	-0.4
CLL	Collm	147.83	349	ePKPbc	PKPbc	08 45 49.9	-0.5
CLL				epPKPbc	pPKPbc	08 46 50.3	-0.6
CLL	Collm	147.83	349	⇑iPKPbc	PKPbc	08 45 49.7	-0.7
	comp=Z,21nm,0.9s						
CLL				i PKPab	PKiKP	08 45 52.2	+0.1
	comp=Z,22nm,0.9s						
CLL				i pPKPbc	pPKPbc	08 46 50.3	-0.6
CLL				i pPKPab	pPKPab	08 46 53.7	+1.1
CFR	Carcaliu	147.85	327	⇑iP	PKPbc	08 45 50.2	-0.4
UPC	Upice	147.98	346	⇑ePKP	PKPbc	08 45 50.9	+0.1
UPC				ePKPAB	PKPab	08 45 53.6	-0.5
UPC				epPKP	pPKPdf	08 46 51.9	+3.2
OKC	Ostrava-Krasne	148.05	343	⇑ePKP	PKPbc	08 45 50.6	-0.4
OKC				ePKPAB	PKPab	08 45 54.7	+0.3
OKC				epPKP	pPKPdf	08 46 51.1	+2.3
DPC	Dobruska-Polom	148.05	345	ePKPDF	PKPdf	08 45 47.2	-0.4
DPC				⇑iPKPbc	PKPbc	08 45 50.9	-0.2
DPC				ePKPAB	PKPab	08 45 54.4	-0.1
DPC				epPKP	pPKPdf	08 46 51.4	+2.6
VRI	Vrincioaia	148.06	329	⇑iP	PKPbc	08 45 50.5	-0.7
BRG	Berggiesshubel	148.08	348	⇑iPKPbc	PKPbc	08 45 50.6	-0.3
	comp=Z,14nm,1.2s						
BRG				pPKP	pPKPbc	08 46 51.5	0.0
	comp=Z,12nm,1.4s						
BRG							
	comp=Z,422nm,15.8s						
BRG							
	comp=N,275nm,17.6s						
BRG							
	comp=E,362nm,17.6s						
BRG	Berggiesshubel	148.08	348	ePKPbc	PKPbc	08 45 50.7	-0.3
BRG				epPKPbc	pPKPbc	08 46 51.6	0.0
TRPA	Tarpa	148.08	336	⇑iP	PKPbc	08 45 50.6	-0.5
NEUB	Neuenburg	148.13	351	ePKPbc	PKPbc	08 45 50.7	-0.4
NEUB				epPKPbc	pPKPbc	08 46 51.3	-0.4
FBE	Freiberg	148.14	349	ePKPbc	PKPbc	08 45 51.2	0.0
FBE				epPKPbc	pPKPbc	08 46 51.9	+0.2
ASF	Jabal al Asfar	148.20	299	PKPbc	PKPbc	08 45 52.1	0.0
ASF	Jabal al Asfar	148.20	299	PKPbc	PKPbc	08 45 52.1	0.0
	comp=E,10nm,0.8s,baz=72,slow=1.7,SNR=15						
PVCC	Panska Ves	148.28	347	⇑ePKP	PKPbc	08 45 51.2	-0.4
PVCC				ePKPAB	PKPab	08 45 54.3	-1.0
PVCC				epPKP	pPKPdf	08 46 51.9	+2.8
HARR	Harsova	148.29	327	⇓iP	PKPbc	08 45 51.2	-0.6
TLB	Topalu	148.31	326	⇑iP	PKPbc	08 45 51.4	-0.4
ANTO	Ankara	148.32	315	⇑iP	PKPbc	08 45 51.7	-0.4
ANTO	Ankara	148.32	315	ePKPbc	PKPbc	08 45 52.2	0.0
ANTO				ePKPab	PKPab	08 45 55.0	-1.0
BUG	Bochum--Univer	148.38	356	ePKPbc	PKPbc	08 45 51.1	-0.6
BUG				epPKPbc	pPKPbc	08 46 52.0	-0.3
KECS	Kecovo	148.52	339	ePKP	PKPbc	08 45 51.4	-0.8
KECS				e		08 45 56.6	
ISR	Istrita	148.69	329	⇑iP	PKPbc	08 45 51.1	-1.7
MOX	Moxa	148.70	351	ePKPbc	PKPbc	08 45 52.1	-0.5
MOX				epPKPbc	pPKPbc	08 46 53.1	-0.2
MLR	Muntele Rosu	148.70	330	⇑iP	PKPbc	08 45 52.1	-0.9
PRA	Prague	148.74	347	⇑PKP	PKPbc	08 45 53.0	+0.3
PRA				PKPAB	PKPab	08 45 57.0	-0.2
PRA				pPKP	pPKPdf	08 46 53.0	+3.1
UBBA	Unterbreizbach	148.75	353	ePKPbc	PKPbc	08 45 51.8	-0.8
UBBA				epPKPbc	pPKPbc	08 46 53.1	-0.1
WERD	Werda	148.78	350	ePKPbc	PKPbc	08 45 52.5	-0.4
WERD				epPKPbc	pPKPbc	08 46 53.3	-0.2
TANN	Tannenbergstha	148.79	350	ePKPbc	PKPbc	08 45 52.6	-0.3
PRU	Pruhonice	148.80	347	⇑ePKP	PKPbc	08 45 52.5	-0.4
PRU				ePKPAB	PKPab	08 45 56.3	-1.1
PRU				epPKP	pPKPdf	08 46 53.2	+3.2
GUNZ	Gunzen	148.86	350	ePKPbc	PKPbc	08 45 52.9	-0.2
WERN	Wernitzgruen	148.92	350	ePKPbc	PKPbc	08 45 53.1	-0.1
VYHS	Vyhne	149.05	341	ePKP	PKPbc	08 45 53.4	-0.2
DRGR		149.11	335	⇑iP	PKPbc	08 45 52.7	-1.2
VOIR		149.16	331	⇓iP	PKPbc	08 45 54.0	-0.1
PSZ	Piszkesteto	149.21	339	⇑iP	PKPbc	08 45 53.4	-0.7
TREC	Trest	149.24	345	⇑iPKP	PKPbc	08 45 53.6	-0.4
TREC				ePKPAB	PKPab	08 45 59.2	-0.1
MEM	Membach	149.27	358	PKPbc	PKPbc	08 45 53.5	-0.5
ARR	Arges	149.41	331	⇑iP	PKPbc	08 45 54.8	+0.2
ROTZ	Rotzenmuhle	149.46	350	ePKPbc	PKPbc	08 45 54.5	0.0
ROTZ				epPKPbc	pPKPbc	08 46 55.4	+0.2
BCLA	Clavier	149.48	358	PKPbc	PKPbc	08 45 53.6	-1.0
TNS	Taunus Mts	149.50	354	ePKPbc	PKPbc	08 45 54.2	-0.5
GRF	Grafenberg Arr	149.69	351	ePKPbc	PKPbc	08 45 54.7	-0.4
KHC	Kasperske Hory	149.81	348	ePKPDF	PKPdf	08 45 50.1	-0.3
KHC				⇑iPKP	PKPbc	08 45 55.2	-0.3
KHC				ePKPAB	PKPab	08 46 01.0	-0.7
KHC				epPKP	pPKPdf	08 46 54.6	+2.9
KHC	Kasperske Hory	149.81	348	ePKPbc	PKPbc	08 45 55.1	-0.3
DOU	Dourbes	149.82	359	PKPbc	PKPbc	08 45 55.0	-0.4
ZST	Bratislava	149.83	343	ePKP	PKPbc	08 45 55.9	+0.4
WET	Wettzell	149.94	348	ePKPbc	PKPbc	08 45 55.6	-0.1
WET				epPKPbc	pPKPbc	08 46 56.4	-0.1
GEC2	GERESS Array S	150.06	347	ePKPbc	PKPbc	08 45 55.7	-0.4
GEC2				epPKPbc	pPKPbc	08 46 56.7	-0.2
GERES	GERESS Array B	150.06	347	PKP	PKPdf	08 45 49.9	-1.0
GERES				PKPbc	PKPbc	08 45 55.9	-0.3
GERES	GERESS Array B	150.06	347	PKP	PKPdf	08 45 49.9	-1.0
	comp=E,8.3nm,0.8s,baz=204,slow=2.9,SNR=5.0						
GERES				PKPbc	PKPbc	08 45 55.9	-0.3
	comp=E,9.1nm,0.8s,baz=45,slow=2.1,SNR=51						
CSS	Prodhromos	150.14	306	ePKPbc	PKPbc	08 45 56.1	-0.6
WLF	Walferdange	150.21	357	PKPbc	PKPbc	08 45 56.5	+0.2
WLF	Walferdange	150.21	357	ePKPbc	PKPbc	08 45 56.5	+0.2
WLF				epPKPbc	pPKPbc	08 46 57.2	+0.1
WLF	Walferdange	150.21	357	ePKPbc	PKPbc	08 45 56.7	+0.4
GZR	Gura Zlata	150.21	333	⇓iP	PKPbc	08 45 55.6	-1.0
EIL	Elat	150.40	295	PKPbc	PKPbc	08 45 57.4	0.0
EIL	Elat	150.40	295	PKPbc	PKPbc	08 45 57.4	0.0
	comp=E,21nm,0.9s,baz=53,slow=2.9,SNR=11						
CONA	Conrad Observa	150.41	344	⇑iPKPbc	PKPbc	08 45 56.7	-0.3
	comp=E,22nm,1.0s,SNR=16						
BZS	Buzias	150.51	335	⇓iP	PKPbc	08 45 55.7	-1.5
STU	Stuttgart	150.86	353	ePKPbc	PKPbc	08 45 57.5	-0.4
MOA	Molln	150.88	346	⇑iPKPbc	PKPbc	08 45 57.3	-0.7
	comp=E,12nm,1.1s						
PKSM	Moragy	151.12	339	⇓iP	PKPbc	08 45 57.7	-0.8
FUR	Furstenfeldbru	151.16	350	ePKPbc	PKPbc	08 45 58.0	-0.7
FUR				epPKPbc	pPKPbc	08 46 59.4	-0.1
RJOB	Jochberg	151.30	348	ePKPbc	PKPbc	08 45 58.1	-0.9
BFO	Black Forest	151.38	354	ePKPbc	PKPbc	08 45 58.5	-0.7
BFO				epPKPbc	pPKPbc	08 46 59.4	-0.6
BFO	Black Forest	151.38	354	ePKPbc	PKPbc	08 45 58.5	-0.7
BFO				ePKPab	PKPab	08 46 07.2	-1.0
SOKA	Soboth	151.78	344	⇑iPKPbc	PKPbc	08 45 58.9	-1.3
	comp=E,12nm,1.0s						
PERS	Pernice	151.80	344	i PKPbc	PKPbc	08 45 59.0	-1.2
KBA	Koelnbreinsper	151.81	347	⇑iPKPbc	PKPbc	08 45 59.7	-0.7
	comp=E,11nm,0.6s						
WATA	Walderalm	151.91	349	⇑iPKPbc	PKPbc	08 45 59.6	-1.0
	comp=E,8.9nm,0.5s,SNR=10						
WTTA	Wattenberg	151.97	349	⇑iPKPbc	PKPbc	08 46 00.0	-0.7
	comp=E,23nm,0.5s,SNR=9.6						
MOTA	Moosalm	151.99	350	⇑iPKPbc	PKPbc	08 45 59.7	-1.0
	comp=E,22nm,1.1s,SNR=8.9						
MYKA	Terra Mystica	152.17	346	⇑iPKPbc	PKPbc	08 45 59.4	-1.6
	comp=E,6.6nm,0.6s						
DAVA	Damuels	152.23	352	i PKPbc	PKPbc	08 46 01.0	-0.3
	comp=E,20nm,1.0s,SNR=7.9						
ABTA	Abfaltersbach	152.30	347	⇑iPKPbc	PKPbc	08 46 00.0	-1.3
	comp=E,17nm,0.6s,SNR=6.3						
LJU	Ljubljana	152.50	344	i PKPbc	PKPbc	08 46 00.9	-0.8
BOJS	Bojanci	152.80	343	i PKPbc	PKPbc	08 46 01.9	-0.5
ESDC	Sonseca Array	159.06	18	PKPab	PKPab	08 46 41.1	-0.2
ESDC	Sonseca Array	159.06	18	PKPab	PKPab	08 46 41.1	-0.2
	comp=E,2.5nm,0.8s,baz=328,slow=3.4,SNR=15						
TORD	Torodi Ar. Bea	172.95	161	PKP	PKPdf	08 46 13.5	-1.7
TORD				PKPab	PKPab	08 47 43.2	+0.2
TORD	Torodi Ar. Bea	172.95	161	PKP	PKPdf	08 46 13.5	-1.7
	comp=E,2.0nm,1.1s,baz=352,slow=2.6,SNR=4.9						
TORD				PKPab	PKPab	08 47 43.2	+0.2
	comp=E,1.1nm,0.9s,baz=182,slow=2.6,SNR=4.1						

NNC 23 08:41:45.8±1.0, 48°.31N×70°.66E, h0km, mb3.3, mpv3.3, 15C-6D, Error ellipse: s-maj=20.4km s-min=7.3km az=86.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	Vostochnaya	4.43	3	⇑Pn	Pn	08 42 57.0	+2.8
	577nm,0.1s						
VOSK				⇑Sn	Sn	08 43 44.8	-1.6
	1.2nm,0.7s						
VOSK				⇓Lg	Lg	08 44 02.2	
	3.0nm,0.7s						
BVA0	Borovoye Array	4.73	358	⇓Pn	Pn	08 42 59.2	+0.9
	2.5nm,1.0s						
BVA0				⇑Pg	Pb	08 43 11.8	+2.3
	0.8nm,0.5s,baz=42,slow=18,SNR=3.9						
BVA0				⇓Sn	Sn	08 43 54.4	+0.6
	1.3nm,0.6s,baz=164,slow=20,SNR=5.1						
BVA0				⇑Lg	Lg	08 44 14.1	
	3.1nm,0.7s,baz=175,slow=28,SNR=3.6						
BRVK	Borovoye	4.76	357	⇓Pn	Pn	08 42 59.2	+0.5
	3.4nm,1.1s						
BRVK				⇑Pg	Pb	08 43 11.1	+0.9
	1.4nm,0.5s						
BRVK				⇑Sn	Sn	08 43 56.6	+1.9
	2.9nm,0.6s						
BRVK				⇑Lg	Lg	08 44 15.2	
	13nm,1.3s						
KK31	Karatay Array	5.21	181	⇑Pn	Pn	08 43 09.4	+4.4
	0.5nm,0.6s,baz=359,slow=12						
KK31				⇑Sn	Sn	08 44 09.2	+3.5
	1.1nm,0.7s						
KK31				⇑Lg	Lg	08 44 31.8	
	1.6nm,0.6s,baz=2.0,slow=30,SNR=5.9						
TKM2	Tokmak 2	6.40	145	⇓Pn	Pn	08 43 23.3	+1.7
	0.9nm,0.6s						
TKM2				⇑Pg	Pb	08 43 39.9	+1.6
	1.4nm,0.8s						
TKM2	

MYA	**Malataya**	**1.09 253**	*e*PN	**Pb**	**09 35 49.0**	**0.0**
MYA	**Malataya**	**1.09 253**	*e*Pn	**Pb**	**09 35 49.0**	**0.0**
MALT	**Malatya**	**1.09 252**	*e*PN	**Pn**	**09 35 49.5**	**-0.1**
MALT	**Malatya**	**1.09 252**	*e*Pn	**Pn**	**09 35 49.5**	**-0.1**
EZC	**Erzincan**	**1.14 344**	*e*Pg	Pg	09 35 46.2	-3.4
EZC			*e*Sg	**Sg**	**09 35 59.2**	**-5.2**
ILIC	**ilic-Erzincan**	**1.22 311**	*e*PN	**Pn**	**09 35 51.5**	**+0.2**
ILIC	**ilic-Erzincan**	**1.22 311**	*e*Pn	**Pn**	**09 35 51.6**	**+0.2**
MAZI	**Mazidag**	**1.31 155**	*e*PN	**Pn**	**09 35 52.1**	**-0.5**
MAZI	**Mazidag**	**1.31 155**	*e*Pn	**Pn**	**09 35 52.1**	**-0.5**
URFA	**Urfa**	**1.42 211**	*e*PN	**Pb**	**09 35 54.4**	**-0.1**
URFA	**Urfa**	**1.42 211**	*e*Pn	**Pb**	**09 35 54.4**	**-0.1**
BEST	**Besiri**	**1.42 122**	*i* P	**Pn**	**09 35 53.5**	**-0.5**
BEST			*i* S	**Sn**	**09 36 13.3**	**+0.3**
MARD	**Mardin**	**1.57 148**	*i* P	**Pn**	**09 35 55.7**	**-0.4**
MARD			*i* S	**Sn**	**09 36 16.2**	**-0.5**

*ISCJB **23** 09:39:30.1±0.9, 1°.34N±0°.05×65°.78W±0°.04, h10km, Error ellipse: s-maj=7.0km s-min=5.6km az=19.2*
*NEIC **23** 09:39:32.0, 19°.39N×65°.64W, h35km, MD3.6(RSPR), After RSPR.*
*RSPR **23** 09:39:32.0, 19°.39N×65°.64W, h35km±11km, MD3.6/14*
ISC 23 09:39:31.3±1.8, 19°.26N±0°.08×65°.78W±0°.05, h10km, n53, σ0°.54/76, 25C-15D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.98**	**184⇑**	*e*P	**Pg**	**09 39 50.1**	**-0.1**
CBYP	**Canovanas**	**0.98**	**184**	*e*S	**Sb**	**09 40 04.5**	**+1.0**
CBYP	**Canovanas**	**0.98**	**184⇑**	*e*P	**Pg**	**09 39 50.1**	**-0.1**
CBYP				*e*S	**Sb**	**09 40 04.5**	**+1.0**
CBYP	**Canovanas**	**0.98**	**184⇑**	*e*P	**Pg**	**09 39 50.1**	**-0.1**
CBYP				*e*S	**Sb**	**09 40 04.5**	**+1.0**
HUMP	**Col San Antoni**	**1.11**	**183⇓**	*e*P	**Pb**	**09 39 51.9**	**-0.8**
HUMP	**Col San Antoni**	**1.11**	**183**	*e*S	**Sb**	**09 40 07.1**	**0.0**
HUMP	**Col San Antoni**	**1.11**	**183⇓**	*e*P	**Pb**	**09 39 51.9**	**-0.8**
HUMP				*e*S	**Sb**	**09 40 07.1**	**0.0**
HUMP	**Col San Antoni**	**1.11**	**183⇓**	*e*P	**Pb**	**09 39 51.9**	**-0.8**
HUMP				*e*S	**Sb**	**09 40 07.1**	**0.0**
SJG	**San Juan**	**1.19**	**197⇑**	*i* P	**Pn**	**09 39 53.4**	**-0.7**
SJG				*e*S	**Sb**	**09 40 10.3**	**+0.8**
SJG	**San Juan**	**1.19**	**197**	*i* Pu	**Pn**	**09 39 53.4**	**-0.7**
SJG				*e*S	**Sb**	**09 40 10.3**	**+0.8**
SJG	**San Juan**	**1.19**	**197⇑**	*i* P	**Pn**	**09 39 53.4**	**-0.7**
SJG				*e*S	**Sb**	**09 40 10.3**	**+0.8**
STVI	**Saint Thomas**	**1.19**	**139**	*e*Pn	**Pn**	**09 39 53.7**	**-0.4**
STVI				*e*Sn	**Sn**	**09 40 11.7**	**+1.3**
CPD	**Cerro la Pandu**	**1.22**	**186⇓**	*e*P	**Pn**	**09 39 53.6**	**-0.8**
CPD	**Cerro la Pandu**	**1.22**	**186**	*e*S	**Sb**	**09 40 10.3**	**0.0**
CPD	**Cerro la Pandu**	**1.22**	**186⇓**	*e*P	**Pn**	**09 39 53.6**	**-0.8**
CPD				*e*S	**Sb**	**09 40 10.3**	**0.0**
CPD	**Cerro la Pandu**	**1.22**	**186⇓**	*e*P	**Pn**	**09 39 53.6**	**-0.8**
CPD				*e*S	**Sb**	**09 40 10.3**	**0.0**
AOPR	**Arecibo Observ**	**1.29**	**226⇑**	*e*P	**Pn**	**09 39 54.9**	**-0.6**
AOPR	**Arecibo Observ**	**1.29**	**226**	*e*S	**Sb**	**09 40 12.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.29**	**226⇑**	*e*P	**Pn**	**09 39 54.9**	**-0.6**
AOPR				*e*S	**Sb**	**09 40 12.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.29**	**226⇑**	*e*P	**Pn**	**09 39 54.9**	**-0.6**
AOPR				*e*S	**Sb**	**09 40 12.9**	**+0.5**
LRS	**Lares**	**1.39**	**227⇑**	*e*P	**Pn**	**09 39 56.4**	**-0.4**
LRS				*e*S	**Sn**	**09 40 15.5**	**+0.2**
LRS	**Lares**	**1.39**	**227⇑**	*e*P	**Pn**	**09 39 56.4**	**-0.4**
LRS				*e*S	**Sn**	**09 40 15.5**	**+0.2**
LRS	**Lares**	**1.39**	**227⇑**	*e*P	**Pn**	**09 39 56.4**	**-0.4**
LRS				*e*S	**Sn**	**09 40 15.5**	**+0.2**
CELP	**Cerrillos**	**1.40**	**213⇓**	*e*P	**Pn**	**09 39 56.6**	**-0.2**
CELP	**Cerrillos**	**1.40**	**213⇓**	*e*P	**Pn**	**09 39 56.6**	**-0.2**
CELP	**Cerrillos**	**1.40**	**213⇓**	*e*P	**Pn**	**09 39 56.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.44**	**213⇑**	*e*P	**Pn**	**09 39 57.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.44**	**213**	*e*S	**Sn**	**09 40 16.6**	**+0.2**
OBIP	**Obispado Ponce**	**1.44**	**213⇑**	*e*P	**Pn**	**09 39 57.4**	**-0.1**
OBIP				*e*S	**Sn**	**09 40 16.6**	**+0.2**
OBIP	**Obispado Ponce**	**1.44**	**213⇑**	*e*P	**Pn**	**09 39 57.4**	**-0.1**
OBIP				*e*S	**Sn**	**09 40 16.6**	**+0.2**
AGPR	**Aguadilla, PR**	**1.48**	**238⇑**	*e*P	**Pn**	**09 39 57.6**	**-0.4**
AGPR	**Aguadilla, PR**	**1.48**	**238**	*e*S	**Sn**	**09 40 17.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.48**	**238⇑**	*e*P	**Pn**	**09 39 57.6**	**-0.4**
AGPR				*e*S	**Sn**	**09 40 17.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.48**	**238⇑**	*e*P	**Pn**	**09 39 57.6**	**-0.4**
AGPR				*e*S	**Sn**	**09 40 17.7**	**+0.2**
LSP	**Las Mesas**	**1.64**	**229⇑**	*e*P	**Pn**	**09 40 00.0**	**-0.2**
LSP	**Las Mesas**	**1.64**	**229⇑**	*e*P	**Pn**	**09 40 00.0**	**-0.2**
LSP	**Las Mesas**	**1.64**	**229⇑**	*e*P	**Pn**	**09 40 00.0**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.64**	**219⇑**	*e*P	**Pn**	**09 40 00.6**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.64**	**219**	*e*S	**Sn**	**09 40 22.1**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.64**	**219⇑**	*e*P	**Pn**	**09 40 00.6**	**+0.3**
GBPR				*e*S	**Sn**	**09 40 22.1**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.64**	**219⇑**	*e*P	**Pn**	**09 40 00.6**	**+0.3**
GBPR				*e*S	**Sn**	**09 40 22.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.77**	**226⇓**	*e*P	**Pn**	**09 40 02.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.77**	**226**	*e*S	**Sn**	**09 40 25.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.77**	**226⇓**	*e*P	**Pn**	**09 40 02.4**	**+0.4**
CRPR				*e*S	**Sn**	**09 40 25.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.77**	**226⇓**	*e*P	**Pn**	**09 40 02.4**	**+0.4**
CRPR				*e*S	**Sn**	**09 40 25.8**	**+1.2**
CDVI	**St. Croix**	**1.78**	**147**	*e*Pn	**Pn**	**09 40 02.7**	**+0.6**
IDE	**Isla Desecheo**	**1.82**	**242⇑**	*e*P	**Pn**	**09 40 02.9**	**+0.2**
IDE	**Isla Desecheo**	**1.82**	**242⇑**	*e*P	**Pn**	**09 40 02.9**	**+0.2**
IDE	**Isla Desecheo**	**1.82**	**242⇑**	*e*P	**Pn**	**09 40 02.9**	**+0.2**
DR12	**Loma Pena Alta**	**3.44**	**263⇓**	*e*P	**Pn**	**09 40 24.5**	**-0.5**
DR12	**Loma Pena Alta**	**3.44**	**263⇓**	*e*P	**Pn**	**09 40 24.5**	**-0.5**
DR12	**Loma Pena Alta**	**3.44**	**263⇓**	*e*P	**Pn**	**09 40 24.5**	**-0.5**
SDDR	**Presa de Saban**	**5.21**	**268**	*e*Pn	**Pn**	**09 40 49.9**	**+0.5**
	19nm,0.5s						

*IDC **23** 10:07:57.3±0.9, 1°.64S×99°.24E, h0km, mb4.1/13, mb1 4.1/15, mb1mx4.0/26, mbtmp4.0/15, ML3.7/2, Error ellipse: s-maj=36.5km s-min=14.6km az=57.0*
*NEIC **23** 10:07:58.3±0.5, 1°.76S×99°.12E, h10km, mb4.2/3, Error ellipse: s-maj=16.1km s-min=7.6km az=65.0*
*ISCJB **23** 10:07:59.3±0.7, 1°.56S±0°.09×99°.3E±0°.1, h25km, mb4.1/16, Error ellipse: s-maj=21.2km s-min=9.1km az=150.3*
ISC 23 10:08:01.1±0.7, 1°.6S±0°.1×99°.2E±0°.2, h25km, n42, σ0°.73/45, mb4.1/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**356**	Pn	**Pn**	**10 09 04.8**	**-1.4**
PSI	**Prapat**	**4.38**	**356**	Pn	**Pn**	**10 09 04.8**	**-1.4**
	1.4nm,0.3s,baz=174,slow=12,SNR=4.6						
IPM	**Ipoh**	**6.30**	**17**	*e*Pn	Pn	10 09 37.9	+5.4
	20nm,0.7s						
KULM	**Kulim**	**6.99**	**12**	*e*Pn	**Pn**	**10 09 42.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**19.93**	**359**	P	**P**	**10 12 30.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**19.93**	**359**	P	**P**	**10 12 30.9**	**-0.5**
	0.2nm,0.3s,baz=188,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**38.86**	**120**	P	**P**	**10 15 23.8**	**-1.0**
WRA				PcP	**PcP**	**10 17 35.7**	**0.0**
WRA	**Warramunga Arr**	**38.86**	**120**	P	**P**	**10 15 23.8**	**-1.0**
	2.0nm,0.5s,baz=304,slow=9.0,SNR=37						
WRA				PcP	**PcP**	**10 17 35.7**	**0.0**
	0.4nm,0.6s,baz=317,slow=2.2,SNR=4.6						
WRAB	**Tennant Creek**	**38.87**	**120**	*e*P	**P**	**10 15 23.7**	**-1.1**
	3.5nm,0.7s						
AS31	**Alice Springs**	**40.11**	**126**	*e*P	**P**	**10 15 34.4**	**-0.8**
ASAR	**Alice Springs**	**40.11**	**126**	P	**P**	**10 15 34.5**	**-0.7**
ASAR				PcP	**PcP**	**10 17 40.8**	**+1.1**
ASAR	**Alice Springs**	**40.11**	**126**	P	**P**	**10 15 34.5**	**-0.7**
	1.0nm,0.7s,baz=303,slow=7.8,SNR=24						
ASAR				PcP	**PcP**	**10 17 40.8**	**+1.1**
	1.0nm,0.9s,baz=298,slow=2.7,SNR=4.6						
KSAR	**Wonju Array Be**	**47.05**	**31**	P	**P**	**10 16 30.4**	**-0.3**
KSRS	**Korea Array**	**47.08**	**31**	P	**P**	**10 16 30.4**	**-0.5**
	0.8nm,0.6s,baz=225,slow=8.3,SNR=4.6						
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**10 16 51.8**	**+1.1**
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**10 16 51.8**	**+1.1**
	1.0nm,0.5s,baz=195,slow=8.9,SNR=6.4						
EKS2	**Erkin-Say**	**49.68**	**335**	*e*P	**P**	**10 16 52.3**	**+1.2**
	1.6nm,0.6s						
STKA	**Stephens Creek**	**49.99**	**132**	P	**P**	**10 16 53.9**	**+0.3**
STKA	**Stephens Creek**	**49.99**	**132**	P	**P**	**10 16 53.9**	**+0.3**
	3.2nm,0.8s,baz=306,slow=9.1,SNR=3.7						
MK31	**Makanchi Array**	**50.44**	**345**	*e*P	**P**	**10 16 57.2**	**+0.5**
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**10 16 57.4**	**+0.6**
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**10 16 57.4**	**+0.6**
	2.9nm,0.6s,baz=146,slow=8.1,SNR=44						
USRK	**Ussuriysk Arra**	**54.18**	**29**	P	**P**	**10 17 24.4**	**0.0**
	1.1nm,0.6s,baz=205,slow=6.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**54.95**	**344**	P	**P**	**10 17 30.5**	**+0.6**
	3.1nm,0.2s,baz=162,slow=6.8,SNR=5.7						
KURK	**Kurchatov**	**55.01**	**344**	P	**P**	**10 17 30.6**	**+0.2**
ZAA0	**Zalesovo Array**	**56.64**	**350**	*e*P	**P**	**10 17 42.3**	**+0.3**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**10 17 42.1**	**+0.1**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**10 17 42.1**	**+0.1**
	2.2nm,0.4s,baz=178,slow=5.3,SNR=15						
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**10 18 02.1**	**-0.3**
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**10 18 02.1**	**-0.3**
	1.0nm,0.6s,baz=145,slow=7.9,SNR=5.2						
ABKAR	**Akbulak array**	**60.92**	**332**	*e*P	**P**	**10 18 11.3**	**-0.6**
	1.0nm,0.6s						
BRTR	**Keskin Array B**	**72.48**	**313**	P	**P**	**10 19 25.5**	**-0.6**
BRTR	**Keskin Array B**	**72.48**	**313**	P	**P**	**10 19 25.5**	**-0.6**
	0.6nm,0.6s,baz=142,slow=6.2,SNR=3.7						
FINES	**FINESS Array B**	**83.40**	**332**	P	**P**	**10 20 26.6**	**+0.5**
FINES	**FINESS Array B**	**83.40**	**332**	P	**P**	**10 20 26.6**	**+0.5**
	1.4nm,0.6s,baz=102,slow=5.7,SNR=13						
GERES	**GERESS Array B**	**88.24**	**319**	P	**P**	**10 20 51.4**	**+0.9**
GERES	**GERESS Array B**	**88.24**	**319**	P	**P**	**10 20 51.4**	**+0.9**
	0.6nm,0.8s,baz=99,slow=8.5,SNR=4.3						
CPUP	**Villa Florida**	**144.18**	**218**	PKP	**PKPdf**	**10 27 35.5**	**-0.2**
CPUP	**Villa Florida**	**144.18**	**218**	PKP	**PKPdf**	**10 27 35.5**	**-0.2**
	1.5nm,0.5s,baz=132,slow=1.1,SNR=6.5						
TXAR	**Lajitas Array**	**144.84**	**36**	PKP	**PKPdf**	**10 27 36.6**	**-0.3**
TXAR	**Lajitas Array**	**144.84**	**36**	PKP	**PKPdf**	**10 27 36.6**	**-0.3**
	2.2nm,0.6s,baz=224,slow=0.5,SNR=53						
MIAR	**Mount Ida**	**145.11**	**19**	*e*PKPdf	**PKPbc**	**10 27 36.1**	**-0.4**

IDC 23 10:35:43.5±5.8, 47°.67N×153°.89E, h179km±44km, mb3.0/3, mb1 3.0/4, mb1mx2.8/26, mbtmp3.0/4, Error ellipse: s-maj=162.4km s-min=29.6km az=131.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.97**	**23**	P	Pn	10 37 09.9	0.0
	0.1nm,0.3s,baz=183,slow=12,SNR=3.6						
KSRS	**Korea Array**	**21.59**	**251**	P	P	10 40 19.5	+0.5
	0.9nm,0.6s,baz=46,slow=9.7,SNR=5.1						
MKAR	**Makanchi Array**	**46.99**	**297**	P	P	10 43 55.9	-0.5
	0.4nm,0.7s,baz=64,slow=8.2,SNR=5.3						
FINES	**FINESS Array B**	**63.44**	**335**	P	P	10 45 53.8	+0.2
	0.3nm,0.4s,baz=43,slow=8.4,SNR=5.3						

IDC 23 10:40:39.7±5.6, 17°.89S×69°.80W, h124km±38km, mb3.2/5, mb1 3.6/7, mb1mx3.4/20, mbtmp3.3/7, Error ellipse: s-maj=62.7km s-min=23.8km az=22.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.25**	**45**	P	Pn	10 41 17.4	0.0
	2.7nm,0.3s,baz=223,slow=7.1,SNR=140						
LPAZ				S	Sn	10 41 46.5	+0.3
	2.2nm,0.3s,baz=124,slow=3.5,SNR=6.7						
SIV	**San Ignacio**	**8.56**	**79**	P	Pn	10 42 40.6	-0.3
	5.4nm,0.3s,baz=265,slow=12,SNR=59						
SIV				S	Sn	10 44 14.7	-1.2
	0.2nm,0.3s,baz=12,slow=19,SNR=3.0						
TXAR	**Lajitas Array**	**57.21**	**325**	P	P	10 50 13.2	-1.0
	0.1nm,0.6s,baz=150,slow=8.9,SNR=5.0						
PDAR	**Pinedale Array**	**70.58**	**330**	P	P	10 51 41.7	+0.1
	0.2nm,0.4s,baz=126,slow=9.1,SNR=3.4						
NVAR	**Mina Array Bea**	**72.15**	**322**	P	P	10 51 52.0	+0.8
	0.3nm,0.7s,baz=166,slow=6.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P	P	10 52 19.7	+0.4
	0.3nm,0.3s,baz=255,slow=5.5,SNR=8.9						
YKA	**Yellowknife Ar**	**87.52**	**341**	P	P	10 53 12.7	-0.3
	1.4nm,0.6s,baz=134,slow=4.9,SNR=5.5						

IDC 23 10:50:29.6±2.9, 29°.89S×177°.26W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=56.5km s-min=24.7km az=70.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**317**	Pn	Pn	10 50 49.8	+0.8
	229nm,0.3s,baz=104,slow=7.1,SNR=23						
RAO				Sn	Sn	10 51 01.6	-0.7
	586nm,0.3s,baz=120,slow=20,SNR=14						
CTA	**Charters Tower**	**34.36**	**278**	P	P	10 57 18.8	+0.3
	1.1nm,0.5s,baz=101,slow=9.7						
STKA	**Stephens Creek**	**35.23**	**256**	P	P	10 57 26.1	+0.3
	0.6nm,0.4s,baz=103,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**43.78**	**266**	P	P	10 58 36.9	-0.5
	0.4nm,0.5s,baz=103,slow=7.9,SNR=10						
WRA	**Warramunga Arr**	**44.73**	**271**	P	P	10 58 44.4	-0.5
	0.9nm,0.4s,baz=110,slow=8.3,SNR=46						
FINES	**FINESS Array B**	**144.88**	**341**	PKP	PKPab	11 10 06.7	-0.3
	1.2nm,0.5s,baz=31,slow=3.2,SNR=14						

IDC 23 10:55:28.2±25.0, 16°.56S×173°.20W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/21, mbtmp4.3/4, Error ellipse: s-maj=469.9km s-min=164.8km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.59**	**258**	P	P	11 02 54.0	+0.7
	1.6nm,0.6s,baz=83,slow=8.1,SNR=4.5						
STKA	**Stephens Creek**	**43.64**	**241**	P	P	11 03 35.6	+0.9
	5.6nm,1.1s,baz=94,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**49.78**	**258**	P	P	11 04 22.4	-0.7
	1.7nm,0.4s,baz=96,slow=7.5,SNR=87						
ASAR	**Alice Springs**	**49.95**	**253**	P	P	11 04 23.6	-0.8
	2.4nm,0.4s,baz=90,slow=7.9,SNR=91						

*IDC **23** 11:01:46.8±1.2, 31°.05N×103°.45E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/26, mbtmp3.4/6, Error ellipse: s-maj=41.9km s-min=21.6km az=55.0*
*BJI **23** 11:01:48.0, 31°.31N×103°.47E, h11km, ML3.3/12*
ISC 23 11:01:48.7±0.9, 31°.18N±0°.05×103°.73E±0°.09, h16km, n10, σ2°.12/13, mb3.5/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.27**	**175**	Pg	**Pb**	**11 01 55.8**	**+0.6**
CD2				Sg	**Sn**	**11 02 03.0**	**-0.9**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,2μm,0.8s						
LZH	**Lanzhou**	**4.89**	**1**	*e*Pg	Pg	11 03 18.8	-3.7
LZH				Sg	**Sg**	**11 04 21.6**	**-4.3**
LZH				smax	smax		
	comp=N,40nm,0.9s						
LZH				smax	smax		
	comp=E,37nm,0.7s						
LZH				LR	LR		
	comp=N,170nm,5.4s						
LZH				LR	LR		
	comp=E,150nm,5.3s						
LZH				LR	LR		
	comp=Z,190nm,6.1s						
XAN	**Xi'an**	**5.22**	**56**	Pn	**Pn**	**11 03 07.1**	**+0.8**
XAN				Pg	**Pb**	**11 03 21.8**	**+2.1**
XAN				Sn	Sn	11 04 13.9	+7.7
XAN				Sg	**Sg**	**11 04 33.3**	**-3.2**
XAN				smax	smax		
	comp=N,46nm,0.7s						
XAN				smax	smax		
	comp=E,18nm,0.8s						
GYA	**Guiyang**	**5.36**	**151**	*e*Pn	Pn	11 03 00.8	-7.4
GYA				Pg	**Pb**	**11 03 22.8**	**+0.7**
GYA				Sn	Sn	11 04 03.0	-6.7
GYA				Sg	**Sb**	**11 04 24.4**	**-1.9**
GYA				smax	smax		
	comp=N,30nm,0.7s						
GYA				smax	smax		
	comp=E,30nm,0.8s						
SONM	**Songino Array**	**16.76**	**6**	Pn	**P**	**11 05 46.9**	**+1.9**
	baz=175,slow=8.4,SNR=3.5						
KSRS	**Korea Array**	**20.91**	**66**	P	Pn	11 06 33.0	0.0
	comp=E,1.2nm,0.7s,baz=260,slow=10.0,SNR=6.6						
MKAR	**Makanchi Array**	**22.71**	**319**	P	**P**	**11 06 49.8**	**-0.1**
	comp=E,0.4nm,0.6s,baz=116,slow=11,SNR=4.4						
KURBB	**Kurchatov Arra**	**26.99**	**323**	P	**P**	**11 07 29.4**	**-0.3**
	comp=E,0.5nm,0.5s,baz=130,slow=8.9,SNR=5.9						
WRA	**Warramunga Arr**	**58.71**	**146**	P	**P**	**11 11 47.4**	**+1.6**
	comp=E,0.2nm,0.4s,baz=337,slow=7.6,SNR=7.8						
ASAR	**Alice Springs**	**61.72**	**148**	P	**P**	**11 12 06.2**	**-0.2**
	comp=E,0.3nm,0.8s,baz=335,slow=6.6,SNR=3.2						

NNC 23 11:09:53.1±9.8, 37°.59N×71°.49E, h212km±131km, mb2.5, mpv3.7, 2C-2D, Error ellipse: s-maj=97.4km s-min=50.6km az=10.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.55**	**353**	P	Pn	11 11 15.2	+0.4
	8.1nm,0.5s,baz=178,slow=13,SNR=136						
KK31				⇑S	S	11 12 20.2	+0.8
	0.7nm,0.3s,baz=171,slow=23,SNR=5.9						
TKM2	**Tokmak 2**	**6.18**	**29**	⇓P	Pn	11 11 21.5	-1.6
	1.3nm,0.4s						
TKM2				⇓S	S	11 12 35.2	+0.8
	2.1nm,0.8s						
AB31	**Akbulak array**	**14.34**	**328**	P	P	11 13 09.8	+2.1
	0.3nm,0.3s,baz=170,slow=9.2,SNR=20						
AB31				⇑S	S	11 15 43.2	-2.1
	0.2nm,0.4s						

*BKK **23** 11:44:25.0±0.4, 3°.N±4°×12°.8E±°, h10km, M5.3/37, mb5.5/37, mB5.7/31, MLv5.9/3, Mw(mB)5.2/31, Mwp5.6/1*
*MOS **23** 11:44:29.0±1.2, 2°.54N×127°.00E, h33km, mb5.7/79, MS4.7/41, Error ellipse: s-maj=9.0km s-min=4.6km az=114.7*
*IDC **23** 11:44:30.2±1.8, 2°.50N×127°.10E, h32km±12km, mb5.1/30, mb1 5.1/32, mb1mx5.1/33, mbtmp5.1/32, ML5.2/2, MS4.5/17, Ms1 4.5/17, ms1mx4.3/31, Error ellipse: s-maj=14.8km s-min=7.8km az=76.0*
*NEIC **23** 11:44:30.6±0.1, 2°.48N×127°.08E, h35km, mb5.5/80, MS4.9/114, Error ellipse: s-maj=5.2km s-min=3.4km az=71.0*
*ISCJB **23** 11:44:31.3±0.3, 2°.55N±0°.02×127°.06E±0°.02, h57km±3km, mb5.5/176, MS4.8/161, Error ellipse: s-maj=4.2km s-min=2.7km az=158.0*
*BJI **23** 11:44:31.8, 2°.63N×126°.94E, h61km, mB5.4/52, mb5.3/59, Ms4.8/64, Ms7 4.7/61*
*AUST **23** 11:44:32.6±0.1, 2°.52N×127°.24E, h55km, Error ellipse: s-maj=0.7km s-min=0.5km az=32.0*
*TEH **23** 11:44:33.0, 2°.47N×127°.14E, h54km, ML5.5*
*GCMT **23** 11:44:34.5±0.1, 2°.94N×126°.99E, h45km, MW5.5, Moment Tensor Solution. s91,c164; s25,c26; Moment tensor: Scale 10^{17}Nm; M_{rr}1.36±.04; $M_{\theta\theta}$-1.39±.03; $M_{\phi\phi}$0.03±.03; $M_{r\theta}$-0.96±.03; $M_{\theta\phi}$-0.99±.03; $M_{\phi r}$-0.88±.03; Best double couple: $M_0$2.10000×10^{17} NP1:ϕ_s230.00000°, δ65.00000°, λ76.00000°. NP2:ϕ_s80.00000°, δ28.00000°, λ117.00000°. Principal axes: T 1.8700, Plg67.0000°, Azm115.0000°; N 0.4600, Plg12.0000°, Azm236.0000°; P -2.3300, Plg19.0000°, Azm331.0000°; Data Used: II IU IC G CN. Surface waves: sta= 91, comp=164, per= 50.*
*DJA **23** 11:44:36.0±0.4, 3°.N±4°×12°.7E±°, h50km, M5.6/21, mB5.9/21, mb5.8/21, MLv5.7/14, Mw(mB)5.5/21, Mwp5.7/3*
ISC 23 11:44:33.3±0.3, 2°.59N±0°.03×127°.05E±0°.03, h59km±1km, h59km:pP-P, n846, σ1°.49/850, mb5.5/186, MS4.8/164, 35C-19D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.83**	**170**	P	**Pn**	**11 45 00.9**	**-1.6**
LBMI	**Labuha**	**3.23**	**172**	P	**Pn**	**11 45 21.3**	**-0.4**
KMSI	**Cibinong**	**3.66**	**237**	P	**Pn**	**11 45 30.1**	**+2.6**
MATI	**Mati**	**4.40**	**350**	*e*P	**Pn**	**11 45 38.6**	**+0.9**
GTOI	**Gorontalo**	**4.48**	**244**	P	**Pn**	**11 45 41.4**	**+2.7**
DAV	**Davao City (W)**	**4.69**	**342⇓**	*e*P	**Pn**	**11 45 41.7**	**+0.1**
DAV	**Davao City (W)**	**4.69**	**342**	*e*Pn	**Pn**	**11 45 41.5**	**-0.1**
DAV				*e*Sn	**Sn**	**11 46 37.3**	**+2.5**
DAV	**Davao City (W)**	**4.69**	**342**	P	**Pn**	**11 45 43.6**	**+2.0**
DMPH	**Davao City--Mi**	**4.72**	**341⇑**	*e*P	**Pn**	**11 45 43.7**	**+1.6**

baz=13,SNR=24
TGY Tagaytay City 12.94 333 Pn **Pn 11 47 34.6 0.0**
TGY Tagaytay City 12.94 333 Pn **Pn 11 47 34.6 0.0**
31nm,0.3s,baz=175,slow=1.7,SNR=5.4
BTM Bintulu 13.96 273 P **P 11 47 51.4 -3.2**
BALP Baler 14.14 338 *e*P **Pn 11 47 48.1 -2.6**
JAY Jayapura 14.56 110 P **Pn 11 47 56.9 +0.6**
baz=14,SNR=3.8
SBUM Sibu 14.82 270 P P 11 48 08.2 +4.1
SCZP Santa Cruz 14.87 332 *e*P **Pn 11 48 01.7 +1.4**
BCPH Baguio City Da 15.11 335⇑/P **Pn 11 48 01.9 -1.7**
CAUP Cauayan 15.16 341 *e*P **Pn 11 48 01.7 -2.3**
MTN Manton Dam 15.86 165 P **Pn 11 48 10.7 -2.2**
baz=16,SNR=20
KDU Kakadu 16.10 161 P **Pn 11 48 13.6 -2.4**
baz=16,SNR=50
ABRA Dolores 16.21 338 *e*P **Pn 11 48 15.3 -2.1**
APYP Conner 16.22 340 *e*P **Pn 11 48 15.2 -2.2**
KSM Kuching 16.77 267 *e*P **P 11 48 27.0 +1.2**
124nm,0.9s
KSM Kuching 16.77 267 P **P 11 48 27.0 +1.2**
KSM Kuching 16.77 267 P **P 11 48 27.2 +1.4**
baz=17,SNR=24
KNRA Kununurra 18.22 175 P **P 11 48 39.3 -2.5**
baz=18,SNR=351
KNRA S **S 11 52 11.7 +4.6**
baz=18,SNR=4.8
UGM Wanagama 19.51 238 *e*Pn **Pn 11 49 00.2 +2.5**
190nm,0.9s
UGM Wanagama 19.51 238 P **Pn 11 49 00.3 +2.6**
baz=20,SNR=9.8
FITZ Fitzroy Crossi 20.60 184 *e*P **P 11 49 05.2 -2.5**
142nm,0.8s
FITZ Fitzroy Crossi 20.60 184 P **P 11 49 05.4 -2.3**
57nm,0.8s,baz=7.4,slow=12,SNR=80
FITZ Fitzroy Crossi 20.60 184 P **P 11 49 05.4 -2.3**
baz=21,SNR=253
GUMO Guam 20.73 57 *e*P **P 11 49 09.0 -0.2**
163nm,0.8s
GUMO LR LR
comp=Z,2μm,20.0s
TWG Pinlang 20.93 344 *e*P **P 11 49 08.1 -3.2**
comp=Z,419nm,0.7s
YULB Yu-li 21.42 345 *e*P **P 11 49 12.9 -3.6**
comp=Z,78nm,0.7s
YULB *e*S S 11 53 01.7 -9.5
TPUB Ta-pu 21.51 344 *e*P **P 11 49 14.6 -2.9**
comp=Z,192nm,0.8s
LEM Lembang 21.53 244 P P 11 49 24.2 +6.2
baz=22,SNR=7.4
CISI Cisompet, Garu 21.68 242 P P 11 49 24.3 +4.9
baz=22,SNR=3.2
SSLB Suanglung 21.89 345 *e*P **P 11 49 18.8 -2.8**
comp=Z,100nm,0.7s
NACB Ninganchiao 22.10 347 *e*P **P 11 49 22.7 -1.1**
comp=Z,55nm,0.6s
YHNB Yeheng 22.63 346 *e*P **P 11 49 28.8 -0.7**
comp=Z,167nm,0.9s
YHNB LR LR
comp=Z,1μm,22.0s
TATO Taipei 22.90 347 *e*P **P 11 49 32.2 0.0**
comp=Z,99nm,0.7s
TATO LR LR
comp=Z,2μm,21.0s
COEN Coen 22.93 136 *e*P **P 11 49 30.1 -2.5**
comp=Z,546nm,0.8s
COEN Coen 22.93 136 P **P 11 49 30.2 -2.5**
baz=23,SNR=18
MYKOM Kota Tinggi 23.20 269 P **P 11 49 35.8 +0.4**
BTDF Bukit Timah Da 23.30 267 P **P 11 49 38.2 +1.9**
baz=24,SNR=4.9
BTDF P **P 11 49 38.2 +1.9**
baz=24,SNR=4.9
PMG Port Moresby 23.31 121 *e*P **P 11 49 35.2 -1.2**
comp=Z,104nm,1.0s
PMG LR LR
comp=Z,2μm,21.0s
PMG Port Moresby 23.31 121 P **P 11 49 35.2 -1.2**
comp=Z,244nm,0.7s,baz=294,slow=6.8,SNR=6.0
QIZ Qiongzhong 23.47 315 P P 11 49 32.9 -4.9
QIZ sP sP 11 49 58.3 -0.6
QIZ pmax pmax
comp=Z,35nm,1.3s
QIZ pmax pmax
comp=Z,560nm,6.6s
QIZ LR LR
comp=N,2μm,19.0s
QIZ LR LR
comp=E,680nm,21.8s
QIZ LR LR
comp=Z,2μm,27.8s
QIZ Qiongzhong 23.47 315 *e*P **P 11 49 36.4 -1.4**
comp=Z,45nm,0.9s
QIZ LR LR
comp=Z,2μm,21.0s
WRAB Tennant Creek 23.50 163 P **P 11 49 35.0 -3.1**
comp=Z,3μm,1.0s
WRAB Tennant Creek 23.50 163 *e*P **P 11 49 35.6 -2.5**
WRAB pmax pmax
comp=Z,399nm,0.8s
WRAB MLR MLR
comp=Z,5μm,21.0s
WRAB Tennant Creek 23.50 163 *e*P **P 11 49 35.6 -2.5**
comp=Z,399nm,0.8s
WRAB LR LR
comp=Z,5μm,21.0s
WRA Warramunga Arr 23.50 163 P **P 11 49 35.6 -2.6**
WRA S **S 11 53 47.8 0.0**
WRA ScP **ScP 11 56 58.2 +2.3**
WRA Warramunga Arr 23.50 163 P **P 11 49 35.6 -2.6**
comp=Z,338nm,0.8s,baz=343,slow=10,SNR=1085
WRA S **S 11 53 47.7 0.0**
comp=Z,25nm,1.0s,baz=331,slow=19,SNR=5.4
WRA ScP **ScP 11 56 58.2 +2.3**
comp=Z,9.8nm,0.9s,baz=335,slow=3.0,SNR=5.3
QZH Quanzhou 23.68 341⇓*i*P **P 11 49 35.6 -4.1**
QZH S **S 11 53 48.0 -2.3**
QZH pmax pmax
comp=Z,110nm,0.7s
QZH pmax pmax
comp=Z,2μm,8.6s
QZH LR LR
comp=N,1μm,13.4s
QZH LR LR
comp=E,3μm,21.0s
QZH LR LR
comp=Z,8μm,25.2s
KGM Kluang 23.72 269 P **P 11 49 40.9 +0.6**
KTGM Kuala Trenggan 24.01 277 P **P 11 49 43.7 +0.8**
JOW Kunigami 24.14 3 *e*P **P 11 49 44.1 +0.3**
comp=Z,95nm,1.1s
GZH Guangzhou 24.33 328 P **P 11 49 47.3 +1.7**
GZH pmax pmax
comp=Z,1μm,6.5s
GZH LR LR
comp=N,2μm,19.7s
GZH LR LR
comp=E,2μm,18.2s
GZH LR LR
comp=Z,5μm,29.4s
MBWA Marble Bar 24.66 197 *e*P **P 11 49 47.8 -0.9**
comp=Z,440nm,1.1s
UBPT Khong Chiam 24.73 302 P **P 11 49 48.6 -0.8**
comp=Z,153nm,0.9s,comp=Z,2μm
XMI Christmas Isla 24.90 238 P P 11 49 57.7 +6.8
baz=25,SNR=3.9
XMIS Christmas Isla 24.94 238 *e*P **P 11 49 51.4 0.0**
comp=Z,715nm,0.8s
XMIS Christmas Isla 24.94 238 P **P 11 49 52.5 +1.2**
baz=25,SNR=3.9
MNAI Manna 25.05 254 P **P 11 49 55.6 +3.2**
baz=25,SNR=4.6
FRIM Kepong 25.40 272 P **P 11 49 56.1 +0.6**
IPM Ipoh 26.04 275 *e*P **P 11 50 03.1 +1.7**
comp=Z,45nm,1.0s
IPM Ipoh 26.04 275 P **P 11 50 02.4 +1.0**
PANO Nakornpanom 26.37 305 P **P 11 50 04.4 +0.2**
comp=Z,131nm,0.9s,comp=Z,1μm
CHBT CHBT 26.47 294 P **P 11 50 04.5 -0.7**
comp=Z,99nm,0.7s,comp=Z,2μm
MTSU Mount Surprise 26.71 141 P **P 11 50 05.5 -1.8**
baz=27,SNR=57
SKNT Sakolnakorn 26.80 304 P **P 11 50 07.8 -0.4**
comp=Z,170nm,0.9s
AS31 Alice Springs 26.93 166 *e*P **P 11 50 06.9 -2.4**
ASAR Alice Springs 26.93 166 P **P 11 50 07.1 -2.2**
ASAR PcP **PcP 11 53 30.5 +0.3**
ASAR S **S 11 54 43.5 +1.2**
ASAR ScP **ScP 11 57 06.8 +1.2**
ASAR Alice Springs 26.93 166 P **P 11 50 07.1 -2.2**
comp=Z,52nm,0.7s,baz=345,slow=7.5,SNR=612
ASAR PcP **PcP 11 53 30.5 +0.3**
comp=Z,24nm,0.8s,baz=348,slow=2.5,SNR=9.3
ASAR S **S 11 54 43.5 +1.2**
comp=Z,5.3nm,0.8s,baz=345,slow=20,SNR=3.1
ASAR ScP **ScP 11 57 06.8 +1.2**
comp=Z,9.6nm,0.9s,baz=346,slow=2.7,SNR=6.8
PSI Prapat 28.10 271 P **P 11 50 19.6 -0.3**
PSI Prapat 28.10 271 P **P 11 50 19.6 -0.3**
comp=Z,18nm,1.0s,baz=147,slow=10.0,SNR=8.0
PSI Prapat 28.10 271 P **P 11 50 19.5 -0.4**
baz=28,SNR=5.3
PSI S **S 11 55 02.3 +1.2**
baz=28,SNR=8.0
KRAB Krabi 28.28 283 P **P 11 50 23.3 +1.9**
comp=Z,45nm,0.7s,comp=Z,1μm
SSE Sheshan 28.89 350 P **P 11 50 27.6 +1.0**
SSE sP **sP 11 50 47.3 -1.0**
SSE S **S 11 55 15.8 +2.9**
SSE sS **sS 11 55 40.5 +2.6**
SSE pmax pmax
comp=Z,54nm,1.0s
SSE pmax pmax
comp=Z,450nm,6.4s
SSE LR LR
comp=N,380nm,15.6s
SSE LR LR
comp=E,510nm,15.4s
PHET Kaeng Krachan 29.00 292 P **P 11 50 28.8 +0.9**
comp=E,172nm,0.8s
PBKT Sadao Pong 29.17 300 P **P 11 50 28.9 -0.4**
comp=E,60nm,0.8s,comp=E,811nm
LOEI Loei 29.34 302 P P 11 50 27.0 -3.8
comp=E,117nm,0.9s,comp=E,1μm
CTA Charters Tower 29.38 141 P **P 11 50 29.1 -2.1**
CTA ScP **ScP 11 57 14.7 +1.5**
CTA Charters Tower 29.38 141 P **P 11 50 29.1 -2.1**
comp=E,25nm,0.9s,baz=323,slow=11,SNR=34
CTA ScP **ScP 11 57 14.7 +1.5**
comp=E,17nm,0.9s,baz=326,slow=3.0,SNR=6.9
CTA LR LR 12 03 30.3
comp=E,2μm,18.7s,baz=317,slow=39
CTAO Charters Tower 29.38 141 *e*P **P 11 50 29.0 -2.1**
CTAO pmax pmax
comp=Z,43nm,1.0s
CTAO MLR MLR
comp=Z,4μm,20.0s
CTAO Charters Tower 29.38 141 *e*P **P 11 50 29.0 -2.1**
comp=Z,43nm,1.0s
CTAO LR LR
comp=Z,4μm,20.0s
UTHA Uthaitani 30.10 297 P **P 11 50 36.8 -0.7**
comp=Z,16nm,0.7s,comp=Z,162nm
MEEK Meekatharra 30.17 195 P **P 11 50 37.1 -1.0**
baz=30,SNR=164
WHN Wuhan 30.30 338 P **P 11 50 39.1 0.0**
WHN pP **pP 11 50 52.8 -1.0**
WHN S **S 11 55 37.4 +2.4**
WHN pmax pmax
comp=Z,600nm,4.3s
WHN LR LR
comp=Z,8μm,28.2s
NJ2 Nanjing 30.31 346 *e*P **P 11 50 40.0 +0.8**
NJ2 pP **pP 11 50 50.0 -3.9**
NJ2 sP sP 11 51 06.0 +5.1
NJ2 S **S 11 55 40.5 +5.4**
NJ2 sS **sS 11 56 04.0 +3.8**
NJ2 pmax pmax
comp=Z,230nm,0.8s
NJ2 pmax pmax
comp=Z,210nm,5.0s
NJ2 LR LR
comp=N,2μm,20.2s
NJ2 LR LR
comp=E,670nm,20.2s
NJ2 LR LR
comp=Z,1μm,21.0s
NANT Nan 30.41 304 P **P 11 50 40.6 +0.3**
comp=Z,158nm,0.7s,comp=Z,2μm
JNU Nakatsue 30.59 6 *e*P **P 11 50 40.4 -1.3**
comp=Z,43nm,1.0s
JNU Nakatsue 30.59 6 P **P 11 50 40.7 -1.0**
comp=Z,86nm,1.0s,baz=165,slow=4.3,SNR=32
JNU LR LR 12 01 26.8
comp=Z,898nm,20.4s,baz=30,slow=33
GYA Guiyang 30.76 322 P **P 11 50 42.8 -0.6**
GYA pP **pP 11 50 57.5 -0.6**
GYA sP **sP 11 51 07.4 +2.3**
GYA PcP **PcP 11 53 41.8 +1.9**
GYA S **S 11 55 37.3 -5.4**
GYA sS **sS 11 56 04.8 -2.9**
GYA ScP **ScP 11 57 20.1 +2.4**
GYA SS **SnSn 11 57 23.8 -2.4**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,280nm,5.8s
GYA LR LR
comp=N,2μm,15.2s
GYA LR LR
comp=E,2μm,14.8s
GYA LR LR
comp=Z,3μm,15.1s
LAMP Lampang 31.18 302 P **P 11 50 48.4 +1.3**
comp=Z,7.9nm,0.9s,comp=Z,91nm
CM31 Chiang Mai Arr 31.73 302 *e*P **P 11 50 52.8 +0.8**
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 31.73 302 P **P 11 50 51.7 -0.3**
CMAR ScP **ScP 11 57 23.6 +2.7**
CMAR Chiang Mai Arr 31.73 302 P **P 11 50 51.7 -0.3**
comp=Z,9.7nm,0.8s,baz=121,slow=6.9,SNR=29
CMAR ScP **ScP 11 57 23.6 +2.7**
comp=Z,1.1nm,0.8s,baz=129,slow=1.4,SNR=4.3
CMAR LR LR 12 05 15.2
comp=Z,626nm,19.2s,baz=117,slow=39
CMMT Chiang Mai 31.89 302 P **P 11 50 52.6 -0.7**
comp=Z,39nm,0.9s,comp=Z,725nm
CHTO Chiang Mai 31.89 302 *e*P **P 11 50 52.3 -1.0**
CHTO pmax pmax
comp=Z,51nm,1.2s
CHTO MLR MLR
comp=Z,733nm,22.0s
CHTO Chiang Mai 31.89 302 *e*P **P 11 50 52.3 -1.0**
comp=Z,51nm,1.2s
CHTO LR LR
comp=Z,733nm,22.0s
CHTO Chiang Mai 31.89 302 P **P 11 50 53.0 -0.3**
comp=Z,38nm,1.1s,comp=Z,621nm
ENH Enshi 32.17 331 *e*P **P 11 50 54.9 -0.8**
comp=Z,54nm,0.8s
CMAI Chiengmai2 32.33 304 P **P 11 50 57.4 +0.1**
comp=Z,55nm,0.9s,comp=Z,5μm
KMI Kunming 32.41 316 P **P 11 50 58.6 +0.5**
KMI pP **pP 11 51 13.8 +0.9**
KMI sP **sP 11 51 20.6 +0.8**
KMI PP **PnPn 11 52 08.8 +1.9**
KMI S S 11 55 57.9 -11
KMI pmax pmax
comp=Z,68nm,1.1s
KMI pmax pmax
comp=Z,220nm,5.4s
KMI LR LR
comp=N,520nm,25.1s
KMI LR LR
comp=E,970nm,25.9s
KMI LR LR
comp=Z,2μm,26.2s
FORT Forrest 33.19 178 *e*P **P 11 51 02.5 -2.0**
comp=Z,398nm,0.9s
FORT Forrest 33.19 178 P **P 11 51 02.9 -1.6**
baz=33,SNR=58
MORW Morawa 33.20 198 P **P 11 51 03.8 -0.8**
baz=33,SNR=18
COCO West Island 33.42 243 PFAKE 11 51 20.0 +13
COCO LR LR
comp=Z,2μm,21.0s
BLDU Ballidu 34.46 196 P **P 11 51 14.6 -0.9**
baz=35,SNR=52
TIA Tai'an 34.70 346⇓P **P 11 51 17.6 +0.1**
TIA pmax pmax
comp=Z,50nm,1.3s
TIA pmax pmax
comp=Z,690nm,6.7s
KSAR Wonju Array Be 34.70 1 P **P 11 51 17.8 +0.4**
KSAR PcP **PcP 11 53 51.4 +1.0**
KSAR ScP **ScP 11 57 33.1 +2.3**
KSRS Korea Array 34.71 1 P **P 11 51 17.8 +0.3**
comp=Z,13nm,0.5s,baz=178,slow=9.5,SNR=56
KSRS PcP **PcP 11 53 51.4 +1.0**
comp=Z,3.4nm,0.6s,baz=187,slow=2.7,SNR=6.8
KSRS ScP **ScP 11 57 33.1 +2.2**
comp=Z,2.4nm,0.9s,baz=178,slow=5.9,SNR=4.2
INCN Inchon 34.73 359 *e*P **P 11 51 18.2 +0.4**
comp=Z,19nm,0.6s
INCN LR LR
comp=Z,862nm,22.0s
KLBR Kellerberrin 35.12 194 P **P 11 51 20.4 -0.8**
baz=35,SNR=19
XAN Xi'an 35.58 334 P **P 11 51 23.8 -1.4**
XAN pP **pP 11 51 38.5 -1.6**
XAN sP **sP 11 51 45.6 -1.4**
XAN pmax pmax
comp=Z,14nm,1.0s
XAN pmax pmax
comp=Z,77nm,9.9s
XAN LR LR
comp=N,1μm,31.2s
XAN LR LR
comp=E,470nm,29.5s
XAN LR LR
comp=Z,450nm,30.7s
RMQ Roma 35.71 145 P **P 11 51 24.4 -2.1**
baz=36,SNR=10
CD2 Chengdu 35.75 324 *e*P **P 11 51 26.3 -0.4**
CD2 pP **pP 11 51 40.3 -1.3**
CD2 sP **sP 11 51 47.8 -0.8**
CD2 PP **PP 11 52 49.8 +0.8**
CD2 PcP **PcP 11 53 52.6 -1.1**
CD2 S **S 11 57 01.3 +1.5**
CD2 sS **sS 11 57 24.3 -0.8**
CD2 ScS **ScS 12 01 37.0 -3.2**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,460nm,10.8s
CD2 LR LR
comp=N,1μm,19.0s
CD2 LR LR
comp=E,890nm,13.2s
CD2 LR LR
comp=Z,950nm,14.2s
BBOO Buckleboo 36.22 167 *e*P **P 11 51 28.4 -2.2**
comp=Z,2μm,1.0s
BBOO Buckleboo 36.22 167 P **P 11 51 28.8 -1.9**
baz=36,SNR=55
EIDS Eidsvold 36.26 141 *e*P **P 11 51 29.0 -2.1**
comp=Z,121nm,0.8s
EIDS Eidsvold 36.26 141 P **P 11 51 28.8 -2.2**
baz=36,SNR=23
DL2 Dalian 36.49 353 P **P 11 51 32.3 -0.5**
DL2 S **S 11 57 11.8 +1.1**
DL2 pmax pmax
comp=Z,220nm,1.0s
DL2 pmax pmax
comp=Z,540nm,5.7s
DL2 LR LR
comp=E,820nm,20.4s
DL2 LR LR
comp=Z,520nm,20.1s
NWAO Narrogin (SRO) 36.52 194 *e*P **P 11 51 32.7 -0.5**
comp=Z,102nm,0.9s
NWAO Narrogin (SRO) 36.52 194 P **P 11 51 32.6 -0.5**
baz=20,slow=7.6
STKA Stephens Creek 36.95 159 *e*P **P 11 51 35.2 -1.7**
comp=Z,50nm,0.8s
STKA Stephens Creek 36.95 159 P **P 11 51 35.5 -1.4**
comp=Z,248nm,0.9s,baz=334,slow=8.1,SNR=160
STKA Stephens Creek 36.95 159 P **P 11 51 35.1 -1.7**
baz=37,SNR=169
TIY Taiyuan 37.45 341 *e*P **P 11 51 40.8 -0.3**
TIY pP **pP 11 51 55.6 -0.5**
TIY PP **PP 11 53 06.4 -1.2**
TIY S S 11 57 18.3 -7.2
TIY sS **ScP 11 57 44.8 +3.7**
TIY pmax pmax
comp=Z,330nm,5.8s
TIY LR LR
comp=N,360nm,9.6s
TIY LR LR
comp=E,720nm,16.3s
TIY LR LR
comp=Z,2μm,30.3s
RKGY Rocky Gully 38.19 193 P **P 11 51 47.9 +0.6**
baz=38,SNR=26
CMSA Cobar Meteorol 38.29 154 P **P 11 51 47.0 -1.2**
baz=38,SNR=34
BJT Baijiatuau 38.55 347 *e*P **P 11 51 50.8 +0.6**
comp=Z,356nm,1.0s
BJT LR LR
comp=Z,540nm,22.0s
BJI Beijing 38.57 347 P **P 11 51 50.9 +0.5**
BJI PP **PP 11 53 19.3 -0.4**
BJI S **S 11 57 42.0 -0.2**
BJI pmax pmax
comp=Z,380nm,1.0s
BJI pmax pmax
comp=Z,790nm,3.2s
BJI LR LR
comp=N,380nm,28.0s
BJI LR LR
comp=E,530nm,32.3s
BJI LR LR
comp=Z,940nm,29.1s
LZH Lanzhou 39.65 330⇓P **P 11 51 59.8 +0.1**
LZH pP **pP 11 52 16.0 +1.2**
LZH sP **sP 11 52 23.8 +2.1**
LZH PP **PnPn 11 53 34.0 -1.3**
LZH S **ScP 11 57 52.4 +2.7**
LZH sS **sS 11 58 19.5 -4.9**
LZH pmax pmax
comp=Z,120nm,1.2s
LZH pmax pmax
comp=Z,340nm,4.0s
LZH LR LR
comp=N,800nm,13.2s
LZH LR LR
comp=E,970nm,14.0s
LZH LR LR
comp=Z,2μm,15.9s
ARMA Armidale 40.34 146 *e*P **P 11 52 04.4 -1.1**
comp=Z,67nm,0.9s
ARMA Armidale 40.34 146 P **P 11 52 04.3 -1.1**
baz=40,SNR=49
HHC Hu-ho-hao-te 40.58 342 *e*P **P 11 52 07.6 +0.3**
HHC pP **pP 11 52 22.5 +0.1**
HHC sP **sP 11 52 29.9 +0.6**
HHC PcS **PcS 11 57 57.4 -1.9**
HHC S **S 11 58 15.1 +2.5**
HHC sS **sS 11 58 40.4 +2.2**
HHC SS **SS 12 01 11.9 -2.7**
HHC ScS **ScS 12 02 05.8 -1.8**
HHC pmax pmax
comp=Z,170nm,1.1s
HHC pmax pmax
comp=Z,1μm,5.3s
HHC LR LR
comp=N,1μm,15.4s
HHC LR LR
comp=E,1μm,15.4s
HHC LR LR
comp=Z,3μm,16.0s
VLA Vladivostok 40.59 5 *e*P **P 11 52 07.7 +0.6**
VLA pmax pmax
comp=Z,41nm,1.2s
SHL Shillong 40.81 307⇑*i*P **P 11 52 09.5 0.0**
comp=Z,51nm,1.0s
SHL *e*x x 11 58 15.0
CN2 Changchun 41.07 358 *e*P **P 11 52 11.0 -0.1**
CN2 *e*pP **pP 11 52 26.3 +0.1**
CN2 *e*sP **sP 11 52 33.5 +0.4**
CN2 *e*PP **PnPn 11 53 50.8 -0.8**
CN2 *e*S **S 11 58 21.3 +1.8**
CN2 sS **sS 11 58 47.5 +2.4**
CN2 *e*SS **SS 12 01 22.3 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,190nm,4.5s
CN2 LR LR

comp=N,410nm,13.0s
CN2 LR LR
comp=E,390nm,13.0s
CN2 LR LR
comp=Z,440nm,14.0s
ARPS Mount Arapiles 41.51 162 P **P 11 52 13.9 -0.9**
baz=42,SNR=39
USRK Ussuriysk Arra 41.67 5 P **P 11 52 16.3 +0.3**
comp=Z,33nm,0.8s,baz=190,slow=6.9,SNR=43
YNG Young 41.83 153 P **P 11 52 16.5 -1.0**
baz=42,SNR=25
ERM Erimo 41.83 18 *e*P **P 11 52 19.2 +1.8**
ERM pmax pmax
comp=Z,58nm,1.2s
ERM Erimo 41.83 18 PFAKE 11 52 30.0 +13
ERM LR LR
comp=Z,651nm,21.0s
MDJ Mudanjiang 41.92 3 P **P 11 52 19.1 +1.1**
MDJ pP **pP 11 52 28.3 -4.9**
MDJ PP **PP 11 53 56.1 +0.1**
MDJ PcP **PcP 11 54 14.8 +2.1**
MDJ S **S 11 58 35.8 +3.7**
MDJ pmax pmax
comp=Z,71nm,1.0s
MDJ pmax pmax
comp=Z,310nm,7.7s
MDJ LR LR
comp=N,280nm,18.8s
MDJ LR LR
comp=E,690nm,30.1s
MDJ LR LR
comp=Z,760nm,35.8s
MDJ Mudanjiang 41.92 3 *e*P **P 11 52 18.7 +0.6**
comp=Z,71nm,1.0s
MDJ LR LR
comp=Z,451nm,21.0s
MGCD Mangrove Creek 42.24 149 P **P 11 52 22.0 +1.1**
baz=42,SNR=5.6
CAN Canberra 42.95 153 *e*P **P 11 52 25.7 -1.0**
CAN pmax pmax
comp=Z,66nm,0.9s
CAN MLR MLR
comp=Z,2μm,20.0s
CAN Canberra 42.95 153 *e*P **P 11 52 25.7 -1.0**
comp=Z,66nm,0.9s
CAN LR LR
comp=Z,2μm,20.0s
CNB Canberra Magne 43.11 153 P **P 11 52 27.7 -0.3**
baz=43,SNR=10
LSA Lhasa 43.43 312 P **P 11 52 31.6 +0.4**
LSA Lhasa 43.43 312 *e*P **P 11 52 31.6 +0.4**
LSA pmax pmax
comp=Z,89nm,0.8s
LSA MLR MLR
comp=Z,331nm,20.0s
LSA Lhasa 43.43 312 *e*P **P 11 52 31.6 +0.4**
comp=Z,89nm,0.8s
LSA LR LR
comp=Z,331nm,20.0s
TOO Toolangi 43.46 159 P **P 11 52 30.3 -0.4**
baz=44,SNR=5.5
ASAJ Asahikawa 43.59 16 *e*P **P 11 52 32.3 +0.7**
comp=Z,35nm,0.9s
ASAJ Asahikawa 43.59 16 P **P 11 52 32.2 +0.6**
comp=Z,55nm,0.7s,baz=233,slow=12,SNR=64
ASAJ LR LR 12 08 49.9
comp=Z,890nm,20.9s,baz=196,slow=33
GTA Gaotai 44.24 329 P **P 11 52 36.8 -0.3**
GTA pP **pP 11 52 52.1 -0.2**
GTA sP **sP 11 52 59.3 +0.1**
GTA PP **PP 11 54 23.5 +2.3**
GTA ScP **ScP 11 58 05.0 -2.9**
GTA S **S 11 59 06.8 +0.2**
GTA sS **sS 11 59 34.5 +2.1**
GTA SS **SS 12 02 20.3 -6.4**
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA pmax pmax
comp=Z,310nm,6.4s
GTA LR LR
comp=N,880nm,21.4s
GTA LR LR
comp=E,1μm,21.4s
GTA LR LR
comp=Z,2μm,23.8s
MILA Mila 44.47 155 P **P 11 52 38.6 -0.3**
baz=44,SNR=9.3
YUK Yuzh-Kuril'sk 44.51 19 *i* P P 11 52 43.1 +4.1
YUK *i* PPP PPP 11 55 04.4
YUK *i* S **S 11 59 07.0 -3.1**
YUK pmax pmax
comp=Z,487nm,1.1s
YUK pmax pmax
comp=N,138nm,1.2s
YUK pmax pmax
comp=Z,311nm,1.3s
YUK pmax pmax
comp=E,147nm,1.3s
TAPN Taplejung 44.95 307 *e*P **P 11 52 41.9 -1.3**
comp=E,233nm,1.0s
ODAN Odare 44.99 306 *e*P **P 11 52 42.7 -0.7**
comp=E,247nm,0.8s
DZM Mont Dzumac 45.62 125 *e*P **P 11 52 46.5 -1.8**
comp=E,72nm,1.2s
DZM *e*S **S 11 59 31.1 +4.1**
comp=E,1μm,27.3s
DZM *e*LR LR 12 05 36.6
comp=E,3μm,31.8s
DZM Mont Dzumac 45.62 125 *e*P P 11 52 45.0 -3.3
RAMN Ramite 45.67 306 *e*P **P 11 52 48.4 -0.4**
comp=E,265nm,0.8s
KUR Kuril'sk 46.25 20 P **P 11 52 50.0 -2.7**
KUR *i* S S 11 59 27.8 -7.3
KUR pmax pmax
comp=Z,162nm,1.3s
KUR MLR MLR
comp=Z,241nm,19.0s
YSS Yuzh-Sakhalins 46.26 15⇑ *e*P **P 11 52 55.0 +2.3**
YSS *e* 11 53 03.0
YSS *e*S **S 11 59 32.0 -3.1**
YSS *e*SS **ScS 12 02 46.0 +3.4**
YSS pmax pmax
comp=Z,40nm,1.0s
JIRN Jiri 46.30 307 *e*P **P 11 52 53.3 -0.6**
comp=Z,206nm,0.8s
KLR Kul'dur 46.65 4 *e*P P 11 52 51.7 -4.1
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,80nm,1.2s
GUN Gumba 46.66 307 *e*P **P 11 52 56.1 -0.6**
comp=Z,295nm,0.7s
PKI Pulchoki 46.89 306 *e*P **P 11 52 57.4 -1.1**
comp=Z,103nm,0.9s
PKIN Phulchoki 46.91 306 *e*P **P 11 52 57.2 -1.3**
comp=Z,69nm,0.8s
HIA Hailar 46.93 353 *e*P **P 11 52 58.7 +0.7**
comp=Z,61nm,1.0s
HIA LR LR
comp=Z,753nm,21.0s
KKN Kakani 47.09 306 *e*P **P 11 52 59.1 -0.8**
comp=Z,143nm,0.9s
DMN Daman 47.15 306 *e*P **P 11 52 59.6 -0.8**
comp=Z,202nm,0.9s
MOO Moorlands 48.38 160 P **P 11 53 09.0 -0.4**
baz=48,SNR=3.2
KOLN Koldanda 48.44 305 *e*P **P 11 53 09.9 -0.4**
comp=Z,304nm,0.8s
SONM Songino Array 48.48 341 P **P 11 53 10.3 +0.1**
SONM Songino Array 48.48 341 P **P 11 53 10.3 +0.1**
comp=Z,37nm,0.8s,baz=160,slow=7.6,SNR=116
SONM LR LR 12 16 43.2
comp=Z,770nm,21.3s,baz=152,slow=40
DANN Dangsing 48.54 306 *e*P **P 11 53 10.6 -0.6**
comp=Z,339nm,0.8s
PYUN Piuthan 49.06 306 *e*P **P 11 53 14.7 -0.4**
comp=Z,505nm,0.9s
HYB Hyderabad 49.81 291 *i* P **P 11 53 19.0 -1.7**
HYB *e* 11 53 30.0
HYB *e* 11 53 39.0
HYB *e*S **S 12 00 24.0 -2.4**
HYB *e*ScS **ScS 12 03 08.0 +0.5**
CIT Chita 50.54 349 *e*P **P 11 53 26.7 +1.0**
CIT *e* 11 53 37.2
CIT *e* 11 54 43.8
CIT pmax pmax
comp=Z,149nm,1.1s
ZAK Zakamensk 51.70 341 *e*P **P 11 53 34.4 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.2s
AGRA Agra 52.93 302 *e*P **P 11 53 43.0 -0.9**
IRK Irkutsk 53.01 343⇑ *i*P **P 11 53 45.1 +1.0**
IRK pmax pmax
comp=Z,70nm,2.5s
FUNA Funafuti 53.15 103 *e*P **P 11 53 44.8 -1.0**
comp=Z,123nm,1.1s
FUNA LR LR
comp=Z,7μm,20.0s
MOY Mondy 53.56 340 *e*P **P 11 53 49.2 +1.0**
MOY pmax pmax
comp=Z,97nm,1.3s
WMQ Urumqi 53.84 325 P **P 11 53 51.0 +0.6**
WMQ pP **pP 11 54 06.3 +0.2**
WMQ PcP **PcP 11 54 55.8 +0.3**
WMQ PP **PP 11 55 55.0 +2.9**
WMQ S **S 12 01 20.0 -1.1**
WMQ sS **sS 12 01 48.5 +0.9**
WMQ ScS **ScS 12 03 32.1 -2.6**
WMQ SS **SS 12 05 02.8 -0.1**
WMQ pmax pmax
comp=Z,48nm,1.0s
WMQ pmax pmax
comp=Z,170nm,3.1s
WMQ LR LR
comp=N,530nm,21.0s
WMQ LR LR
comp=E,830nm,20.0s
WMQ LR LR
comp=Z,2μm,27.0s
SONA Sohna 53.98 303 *e*P **P 11 53 50.1 -1.5**
NDI New Delhi 54.02 304 *e*4 **P 11 53 49.0 -2.9**
AYAN Aya Nagar 54.02 304 *e*P **P 11 53 49.7 -2.2**
CLNS Chul'man 54.12 359 *e*P **P 11 53 52.7 +0.6**
CLNS *e**PP **pP 11 54 03.5 -4.3**
CLNS *e* 11 54 57.3
CLNS *e*PPP PPP 11 56 59.8
CLNS *e*S **S 12 01 25.9 +1.5**
CLNS pmax pmax
comp=Z,25nm,0.9s
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS smax smax
comp=N,121nm,13.5s
CLNS smax smax
comp=E,238nm,10.8s
CLNS MLR MLR
comp=N,126nm,18.0s
CLNS MLR MLR
comp=Z,230nm,18.0s
CLNS MLR MLR
comp=E,135nm,15.0s
MSVF Nonsavu 54.15 114 P **P 11 53 53.0 -0.1**
comp=E,231nm,1.1s,SNR=5.0
MSVF Nonsavu 54.15 114 *e*P **P 11 53 53.1 -0.1**
MSVF pmax pmax
comp=Z,43nm,0.9s
MSVF MLR MLR
comp=Z,1μm,20.0s
MSVF Nonsavu 54.15 114 *e*P **P 11 53 53.1 0.0**
comp=Z,43nm,0.9s
MSVF LR LR
comp=Z,1μm,20.0s
POO Poona 54.41 291 *e*P **P 11 53 54.0 -1.0**
KKR Kurukshetra 54.77 305 *e*P **P 11 53 57.0 -0.4**
KKR AMB AMB 11 54 00.2
comp=Z,52nm,0.5s
RTK Rohtak 54.80 304 *e*P **P 11 53 55.3 -2.2**
RTK AMB AMB 11 53 57.9
comp=Z,44nm,0.8s
SMLA Simla 54.90 307 *i* P **P 11 53 58.2 0.0**
KHET Khetri 55.00 303 *e*P **P 11 53 57.6 -1.4**
SDNR Sundarnagar 55.19 307 *e*P **P 11 54 01.0 +0.6**
BHK Bhakra 55.60 307 *e*x pP 11 54 17.0 -2.1
DLH Dalhousie 56.35 308 *e*P **P 11 54 10.0 +1.1**
PEA0B Petropavlovsk- 56.37 22 *e*P **P 11 54 09.3 +1.0**
PETK Petropavlovsk- 56.37 22 P **P 11 54 08.4 +0.1**
PETK pmax pmax
comp=Z,36nm,0.7s
PETK MLR MLR
comp=Z,262nm,18.6s
PETK Petropavlovsk- 56.37 22 P **P 11 54 08.4 +0.1**
PETK Petropavlovsk- 56.37 22 P **P 11 54 08.4 +0.1**
comp=Z,35nm,0.7s,baz=198,slow=4.1,SNR=33
PETK LR LR 12 19 10.4
comp=Z,262nm,18.6s,baz=103,slow=37
THN Thein Dam 56.51 308 *e*4 11 54 18.0
PET Petropavlovsk 56.66 22 *e*P **P 11 54 11.2 +0.9**
PET *e*S **S 12 01 59.0 +0.8**
PET pmax pmax
comp=Z,55nm,1.1s
PET pmax pmax
comp=Z,100nm,11.1s
PET MLR MLR
comp=Z,400nm,19.0s
MK31 Makanchi Array 58.67 326 *e*P **P 11 54 24.5 -0.2**
MK31 Makanchi Array 58.67 326 *e*P **P 11 54 24.5 -0.2**
MKAR Makanchi Array 58.67 326 *i* P **P 11 54 24.5 -0.2**
MKAR pmax pmax
comp=Z,11nm,0.4s
MKAR Makanchi Array 58.67 326 P **P 11 54 24.7 0.0**
MKAR ⇑*e* 12 24 08.6
MKAR Makanchi Array 58.67 326 P **P 11 54 24.7 0.0**
comp=Z,11nm,0.5s,baz=122,slow=8.3,SNR=75
MKAR LR LR 12 21 59.7
comp=Z,413nm,19.9s,baz=244,slow=38
MKAR PKP2bc 12 24 08.6
comp=Z,1.6nm,0.8s,baz=278,slow=1.6,SNR=8.7
KSH Kashi 59.08 315 P **P 11 54 29.0 +1.2**
KSH PP **PP 11 56 42.1 +3.2**
KSH S **S 12 02 30.8 +0.1**
KSH SS **SS 12 06 26.0 +0.4**
KSH pmax pmax
comp=Z,12nm,0.5s
KSH pmax pmax
comp=Z,240nm,7.2s
KSH LR LR
comp=N,380nm,16.6s
KSH LR LR
comp=E,140nm,6.5s
KSH LR LR
comp=Z,710nm,31.0s
YAK Yakutsk 59.34 1*d* *i*P **P 11 54 28.9 0.0**
YAK *e* 11 55 11.6
YAK *e* 11 56 37.1
YAK *e*PPP PPP 11 58 04.2
YAK *e*S **S 12 02 32.4 -0.5**
YAK *e* 12 04 10.0
YAK *e*SS **SS 12 06 24.2 -4.3**
YAK pmax pmax
comp=Z,123nm,0.9s
YAK pmax pmax
comp=N,37nm,1.0s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=Z,28nm,1.4s
YAK smax smax
comp=N,268nm,4.3s
YAK smax smax
comp=E,388nm,5.1s
RPZ Rata Peaks 60.65 145 *e*P **P 11 54 37.1 -1.3**
comp=E,50nm,0.8s
KZA Kyzart 60.67 318 P **P 11 54 39.6 +0.5**
SNR=16
TKM2 Tokmak 2 60.81 319 *i* P **P 11 54 39.6 -0.1**
TKM2 Tokmak 2 60.81 319 P **P 11 54 39.7 -0.1**
SNR=17
TKM2 Tokmak 2 60.81 319 *e*P **P 11 54 39.4 -0.3**
comp=E,60nm,0.9s
TKM2 LR LR
comp=Z,439nm,22.0s
AAK Ala-Archa 61.41 318*d* *i*P **P 11 54 43.8 0.0**
AAK pmax pmax
comp=Z,32nm,1.2s
AAK Ala-Archa 61.41 318 *e*P **P 11 54 44.1 +0.4**
comp=Z,29nm,1.0s
AAK LR LR
comp=Z,610nm,22.0s
FRU Bishkek 61.42 318 *e*P **P 11 54 42.0 -1.6**
FRU pmax pmax
comp=Z,70nm,2.2s
SNZO South Karori 61.48 141 PFAKE 11 55 00.0 +16
SNZO LR LR
comp=Z,2μm,19.0s
URZ Urewera 61.49 137 *e*P **P 11 54 41.3 -2.8**
comp=Z,14nm,0.7s
USP Ospenovka 61.69 319 P **P 11 54 45.4 -0.1**
SNR=18
AML Almayashu 61.74 317 P **P 11 54 46.7 +0.5**
SNR=18
ZAA0 Zalesovo Array 61.75 333 *e*P **P 11 54 45.0 -0.6**
ZALV Zalesovo Beam 61.75 333 P **P 11 54 45.0 -0.5**
ZALV pmax pmax
comp=Z,41nm,0.9s
ZALV Zalesovo Beam 61.75 333 P **P 11 54 45.0 -0.5**
ZALV ⇑*e* 12 24 03.4
ZALV Zalesovo Beam 61.75 333 P **P 11 54 45.0 -0.5**
comp=Z,41nm,0.9s,baz=125,slow=5.8,SNR=71
ZALV PKP2bc 12 24 03.4
comp=Z,4.1nm,0.9s,baz=270,slow=3.0,SNR=9.0
ZALV LR LR 12 25 10.8
comp=Z,241nm,21.4s,baz=79,slow=40
EKS2 Erkin-Say 61.91 318 *e*P **P 11 54 47.5 +0.5**
EKS2 pmax pmax
comp=Z,27nm,0.8s
EKS2 MLR MLR
comp=Z,563nm,22.0s
EKS2 Erkin-Say 61.91 318 P **P 11 54 47.3 +0.2**
SNR=16
EKS2 Erkin-Say 61.91 318 *e*P **P 11 54 47.5 +0.5**
comp=Z,27nm,0.8s
EKS2 LR LR
comp=Z,563nm,22.0s
KBL Kabul 62.47 308 *e*P **P 11 54 50.5 -0.6**
KBL pmax pmax
comp=Z,33nm,0.8s
KBL Kabul 62.47 308 *e*P **P 11 54 50.5 -0.6**
comp=Z,33nm,0.8s
KBL Kabul 62.47 308 P **P 11 54 51.6 +0.5**
baz=63,SNR=6.5
KURBB Kurchatov Arra 62.87 328 P **P 11 54 52.9 -0.2**
comp=Z,38nm,0.8s,baz=126,slow=6.2,SNR=12
KURK Kurchatov 62.87 328 P **P 11 54 52.9 -0.2**
KURK pmax pmax
comp=Z,38nm,0.8s
KURK Kurchatov 62.87 328 P **P 11 54 52.9 -0.2**
FX1 Attu Island--F 62.91 29 *e*P **P 11 54 54.7 +1.3**
NVS Novosibirsk 63.03 333⇓ *i*P **P 11 54 52.4 -1.7**
NVS *e*S **S 12 03 18.0 -2.1**
NVS *e* 12 04 42.5
NVS pmax pmax
comp=N,37nm,1.0s
NVS pmax pmax
comp=E,45nm,1.0s
NVS pmax pmax
comp=Z,82nm,1.0s
NVS smax smax
comp=N,35nm,2.6s
NVS smax smax
comp=E,56nm,2.6s
SEY Seymchan 63.07 13 *e*P **P 11 54 54.8 +0.6**
KK31 Karatay Array 64.28 317 *i* P **P 11 55 01.7 -1.0**
KK31 pmax pmax
comp=Z,77nm,1.0s
KKAR Karatay Array 64.28 317 *e*P **P 11 55 02.1 -0.5**
KKAR pmax pmax
comp=Z,64nm,0.9s
KKAR Karatay Array 64.28 317 *e*P **P 11 55 02.1 -0.5**
comp=Z,64nm,0.9s
ADK Adak 67.73 34 *e*P **P 11 55 24.8 +0.3**
ADK pmax pmax
comp=Z,123nm,0.6s
ADK MLR MLR
comp=Z,476nm,20.0s
ADK Adak 67.73 34 *e*P **P 11 55 24.8 +0.3**
comp=Z,123nm,0.6s
ADK LR LR
comp=Z,476nm,20.0s
VOSK Vostochnaya 67.99 327 P **P 11 55 25.1 -1.1**
VOSK pmax pmax
comp=Z,65nm,0.8s
BVA0 Borovoye Array 68.45 327 *i* P **P 11 55 28.6 -0.5**
BVA0 pmax pmax
comp=Z,175nm,1.1s
BVAR Borovoye Array 68.45 327 P **P 11 55 29.3 +0.3**
BVAR pmax pmax
comp=Z,102nm,1.0s
BVAR Borovoye Array 68.45 327 P **P 11 55 29.3 +0.3**
BVAR Borovoye Array 68.45 327 P **P 11 55 29.3 +0.3**
comp=Z,102nm,1.0s,baz=126,slow=7.5,SNR=169
BRVK Borovoye 68.52 327 P **P 11 55 29.7 +0.2**
comp=Z,931nm,1.0s,SNR=53
BRVK Borovoye 68.52 327*d* *i*P **P 11 55 29.6 +0.1**
BRVK pmax pmax
comp=Z,226nm,1.2s
BRVK Borovoye 68.52 327 *e*P **P 11 55 29.6 +0.1**
comp=Z,176nm,1.0s
BRVK LR LR
comp=Z,393nm,21.0s
TIXI Tiksi 68.97 1⇓ *i*P **P 11 55 32.1 +0.2**
TIXI pmax pmax
comp=Z,42nm,1.2s
TIXI MLR MLR
comp=Z,627nm,18.0s
IDAH Dahanechah 69.47 304 *e*P **P 11 55 36.2 0.0**
IMYA Miami 69.98 308 *e*P **P 11 55 39.2 +0.1**
IKOO Kooshah 70.14 303 *e*P **P 11 55 40.2 -0.1**
ISRO Mashad 70.48 308 *e*P **P 11 55 40.2 -1.9**
IMOG Moghan 70.54 307 *e*P **P 11 55 42.7 0.0**
IAKL Akhelmad 71.10 308 *e*P **P 11 55 45.4 -0.7**
IKRD Kardeh 71.32 308 *e*P P 11 55 42.4 -5.0
IEMG Emamgholi 71.34 309 *e*P **P 11 55 47.5 0.0**
MSEY Mahe Island 71.87 264 PFAKE 11 56 00.0 +9.2
MSEY LR LR
comp=Z,384nm,21.0s
IBAF Bafgh 72.90 302 *e*P **P 11 55 55.6 -1.2**
MIR Mirnyy 73.13 194⇑ *i*P **P 11 55 59.0 +1.9**
MIR *i* 11 56 13.0
AB31 Akbulak array 73.23 321 *i* P **P 11 55 57.8 -0.4**
AB31 pmax pmax
comp=Z,69nm,0.7s
ABKAR Akbulak array 73.23 321 *e*P **P 11 55 58.1 -0.1**
comp=Z,66nm,0.8s
IMEH Mehriz 73.68 302 *e*P **P 11 55 59.1 -2.4**
ICHK Chekchek 73.96 303 *e*P P 11 55 58.5 -4.6
ISAD Sadrabad 74.53 302 *e*P **P 11 56 07.6 +1.1**
AKUT Akutan 74.68 34 *e*P **P 11 56 07.2 +0.7**
comp=Z,118nm,0.8s
ISRV Sarvestan 74.74 300 *e*P **P 11 56 06.9 -0.9**
AKTO Aktyubinsk 74.75 322 P **P 11 56 06.6 -0.4**
AKTO pmax pmax
comp=Z,128nm,0.9s
IANJ Anjilo 74.78 306 *e*P **P 11 56 05.7 -2.1**
IPAR Pars 74.85 300 *e*P **P 11 56 07.1 -1.3**
KIP Kipapa 75.04 69 *e*P **P 11 56 09.1 -0.1**
KIP pmax pmax
comp=Z,40nm,1.2s
IKIA Kiasar 75.07 307 *e*P **P 11 56 08.9 -0.6**
SVE Sverdlovsk 75.10 329*c* *i*P **P 11 56 09.1 +0.2**
SVE *e* 11 56 24.1
SVE *e* 11 58 56.5
SVE *e*PPP PPP 12 00 40.5
SVE *e*S **S 12 05 40.5 -2.0**
SVE pmax pmax
comp=Z,137nm,0.9s
XMAS Kiritimati 75.44 89 *e*P **P 11 56 12.2 +0.6**
comp=Z,64nm,0.8s
IALA Alasht 75.75 306 *e*P **P 11 56 13.0 -0.5**
ARU Arti 76.07 328*d* *i*P **P 11 56 14.0 -0.4**
ARU 11 59 01.7
ARU S **S 12 05 55.7 +2.4**
ARU SSS SSS 12 14 02.0
ARU pmax pmax
comp=Z,78nm,0.8s
ARU MLR MLR
comp=Z,473nm,23.0s
ARU Arti 76.07 328 P **P 11 56 14.2 -0.2**
comp=Z,542nm,0.8s,SNR=36
FALS False Pass 76.20 34 *e*P **P 11 56 15.9 +0.7**
comp=Z,112nm,0.8s
IVRN Varamin 76.50 305 *e*P **P 11 56 15.4 -2.1**
IR3 Iran Long-Peri 77.13 306 *e*P P 11 56 16.5 -4.5
IMHD Mahdasht 77.44 306 *e*P **P 11 56 21.1 -1.7**
SDPT Sand Point 77.96 34 *e*P **P 11 56 26.2 +1.1**

comp=Z,89nm,0.9s
IRAZ Razeghan 78.01 305 *e*P **P 11 56 26.0 -0.1**
QRN Al-Qurain 79.23 299 *e*P **P 11 56 33.0 +0.3**
QRN AMb AMB 11 56 34.5
comp=Z,412nm,0.8s
KBD Kabd 79.45 299 *e*P **P 11 56 33.6 -0.2**
KBD AMb AMB 11 56 35.8
comp=Z,132nm,1.0s
UMR Umm Al-Rimmam 79.45 299 *e*P **P 11 56 33.9 0.0**
UMR AMb AMB 11 56 35.7
comp=Z,257nm,0.9s
RDF Al-Radifah 79.56 299 *e*P **P 11 56 33.9 -0.6**
RDF AMb AMB 11 56 36.1
comp=Z,237nm,0.9s
MIB Mutribah 79.79 300 *e*P **P 11 56 35.5 -0.1**
MIB AMb AMB 11 56 37.9
comp=Z,392nm,0.8s
NAY Al-Naaiem 79.85 299 *e*P **P 11 56 35.8 -0.2**
NAY AMb AMB 11 56 37.7
comp=Z,11nm,0.9s
ISRB Sarab 80.03 308 *e*P **P 11 56 37.8 +0.7**
IHRS Heris 80.56 308 *e*P **P 11 56 40.3 +0.3**
MAK Makhachkala 80.59 313 *e*P P 11 56 43.3 +3.6
MAK *e*S **S 12 06 43.1 +0.8**
MAK pmax pmax
comp=Z,36nm,0.9s
MAK MLR MLR
comp=Z,650nm,22.0s
IBDR Badra 81.15 303 *i* P **P 11 56 40.0 -2.9**
IBDR *i* S **S 12 06 45.0 -3.6**
RAYN Ar Rayn 81.22 293 P **P 11 56 44.0 +0.4**
comp=Z,795nm,0.9s,SNR=71
ABPO Ambohimpanom 81.23 250 *e*P **P 11 56 44.9 +1.1**
ABPO pmax pmax
comp=Z,16nm,0.9s
ABPO MLR MLR
comp=Z,521nm,20.0s
ABPO Ambohimpanom 81.23 250 *e*P **P 11 56 44.9 +1.1**
comp=Z,16nm,0.9s
ABPO LR LR
comp=Z,521nm,20.0s
IAZR Azarshahr 81.36 308 *e*P **P 11 56 44.9 +0.7**
IMRD Marand 81.63 309 *e*P **P 11 56 45.6 0.0**
ISHB Shabestar 81.68 308 *e*P **P 11 56 46.7 +0.8**
DGRG David-gareji 82.05 311 P **P 11 56 49.3 +1.8**
OHAK Old Harbor 82.23 33 *e*P **P 11 56 49.2 +1.2**
comp=Z,62nm,0.9s
DAMY Dhamar 82.25 284 P **P 11 56 52.5 +3.1**
baz=82,SNR=5.6
VNDA Vanda 82.26 173 *e*P **P 11 56 47.0 -0.8**
comp=Z,24nm,0.8s
VNDA Vanda 82.26 173 P **P 11 56 47.2 -0.6**
comp=Z,15nm,0.7s,baz=318,slow=5.8,SNR=40
VNDA LR LR 12 34 20.1
comp=Z,471nm,20.3s,baz=329,slow=36
GNI Garni 82.46 310 *e*P **P 11 56 51.4 +1.6**
comp=Z,63nm,0.9s
GNI LR LR
comp=Z,175nm,20.0s
BHD Baghdad 82.46 303 *i* P **P 11 56 52.0 +2.2**
BHD *i* S **S 12 07 02.0 0.0**
TRBA At Turbah 82.54 283 *e*P **P 11 56 51.1 +0.3**
TBLG Delisi 82.55 312 *e*P **P 11 56 51.1 +1.0**
TBLG Delisi 82.55 312 P **P 11 56 51.1 +1.0**
DUS Dusheti 82.59 312 P **P 11 56 51.2 +0.8**
KDAK Kodiak Island 82.68 32 P **P 11 56 51.0 +0.6**
comp=Z,470nm,0.7s,SNR=12
KDAK Kodiak Island 82.68 32 *e*P **P 11 56 51.5 +1.1**
comp=Z,49nm,0.7s
KDAK LR LR
comp=Z,442nm,20.0s
KDAK Kodiak Island 82.68 32 P **P 11 56 51.1 +0.8**
comp=Z,33nm,0.7s,baz=280,slow=3.6,SNR=32
KZR Kazreti 82.77 311 P **P 11 56 53.3 +2.0**
GUDG Gudauri 82.78 312 P **P 11 56 52.0 +0.5**
MAW Mawson 82.80 200 P **P 11 56 50.9 +0.2**
MAW Mawson 82.80 200 P **P 11 56 50.9 +0.2**
comp=Z,22nm,0.9s,baz=74,slow=5.8,SNR=40
MAW Mawson 82.80 200 P **P 11 56 50.9 +0.2**
baz=83,SNR=9.9
RSO Redoubt South 82.92 29 *e*P **P 11 56 51.2 -0.7**
comp=Z,93nm,0.9s
SBA Scott Base 83.17 172 *e*P **P 11 56 52.1 -0.4**
SBA pmax pmax
comp=Z,16nm,0.8s
SBA MLR MLR
comp=Z,741nm,19.0s
SBA Scott Base 83.17 172 *e*P **P 11 56 52.1 -0.4**
comp=Z,16nm,0.8s
SBA LR LR
comp=Z,741nm,19.0s
ZEI Tsey 83.22 313 *e*P **P 11 56 53.1 -0.7**
ZEI pmax pmax
comp=Z,77nm,1.3s
IM04 Indian Mountai 83.24 24 *e*P **P 11 56 54.7 +1.5**
IMA2 Indian Mountai 83.29 24 *e*P **P 11 56 54.9 +1.3**
AKH Akhalkalaki 83.46 311 P **P 11 56 55.4 +0.4**
PPLA Purkeypile 83.50 27 *e*P **P 11 56 55.7 +1.0**
comp=Z,35nm,0.7s
ONI Oni 83.54 312 P **P 11 56 56.7 +1.4**
KBZ Khabaz 83.99 314 P **P 11 56 58.7 +1.2**
KBZ pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 83.99 314 P **P 11 56 58.6 +1.2**
KBZ Khabaz 83.99 314 P **P 11 56 58.6 +1.2**
comp=Z,17nm,1.1s,baz=99,slow=2.8,SNR=15
KBZ LR LR 12 41 39.9
comp=Z,164nm,21.9s,baz=274,slow=41
KIV Kislovodsk 84.15 314 *e*P **P 11 56 58.4 0.0**
KIV *e* 12 07 18.0
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,249nm,19.0s
TRF Thorofare Moun 84.41 27 *e*P **P 11 56 59.3 -0.1**
comp=Z,37nm,0.9s
PPT Papeete 84.46 108 LR LR 12 28 06.9
comp=Z,368nm,20.5s,baz=83,slow=31
PPT2 Papeete2 84.46 108 *e*PP PP 12 00 08.5 -8.0
comp=Z,116nm,28.2s
PPT2 *e*S **S 12 07 25.8 +2.9**
comp=Z,216nm,24.2s
PPT2 Papeete2 84.46 108 *e*LQ LQ 12 20 08.6
comp=Z,849nm,30.8s
PPT2 *e*LR LR 12 23 41.8
comp=Z,1μm,32.2s
PMR Palmer 84.79 29 *e*P **P 11 57 01.7 +0.6**
PMR pmax pmax
comp=Z,64nm,0.8s
PMR Palmer 84.79 29 *e*P **P 11 57 01.7 +0.6**
comp=Z,64nm,0.8s
COLD Coldfoot 84.81 23 *e*P **P 11 57 02.9 +1.7**
comp=Z,41nm,0.7s
MCK McKinley 85.04 26 *e*P **P 11 57 02.5 +0.2**
MCK pmax pmax
comp=Z,49nm,1.0s
MCK McKinley 85.04 26 *e*P **P 11 57 02.5 +0.2**
comp=Z,49nm,1.0s
TBI Tubuai 85.04 114 *e*PP PP 12 00 12.2 -8.7
comp=Z,116nm,32.5s
TBI Tubuai 85.04 114 *e*LR LR 12 23 59.0
comp=Z,946nm,33.5s
VRHR Novokhopersk 85.12 321 *e*P **P 11 57 02.5 -0.5**
VRHR *e**PP pP 11 57 13.0 -6.7
VRHR *e*S **S 12 07 22.7 -5.3**
VRHR pmax pmax
comp=N,40nm,1.5s
VRHR pmax pmax
comp=E,80nm,1.5s
VRHR pmax pmax
comp=Z,150nm,1.5s
VRHR smax smax
comp=E,270nm,3.2s
VRHR smax smax
comp=Z,80nm,3.2s
VRHR smax smax
comp=N,20nm,0.6s
VRHR MLR MLR
comp=N,90nm,26.0s
VRHR MLR MLR
comp=E,720nm,26.0s
VRHR MLR MLR
comp=Z,440nm,26.0s
SML Sawmill 85.19 28 *e*P **P 11 57 04.0 +0.9**
SML pmax pmax
comp=Z,20nm,0.8s
SML Sawmill 85.19 28 *e*P **P 11 57 04.0 +0.9**
comp=Z,20nm,0.8s
COLA College 85.59 25 *e*P **P 11 57 05.4 +0.4**
COLA pmax pmax
comp=Z,29nm,0.7s
COLA MLR MLR
comp=Z,426nm,19.0s
COLA College 85.59 25 *e*P **P 11 57 05.4 +0.4**
comp=Z,29nm,0.7s
COLA LR LR
comp=Z,426nm,19.0s
ILAR Eielson Array 85.99 25 P **P 11 57 06.7 -0.4**
ILAR Eielson Array 85.99 25 P **P 11 57 06.7 -0.4**
comp=Z,1.4nm,0.5s,baz=230,slow=5.0,SNR=28
DIV Divide 86.39 29 *e*P **P 11 57 10.5 +1.3**
comp=Z,80nm,0.8s
PAX Paxson 86.56 27 *e*P **P 11 57 10.7 +0.7**
PAX pmax pmax
comp=Z,23nm,1.1s
PAX Paxson 86.56 27 *e*P **P 11 57 10.7 +0.7**
comp=Z,23nm,1.1s
VORD Divnogorie 86.59 321 *e*P **P 11 57 10.8 +0.6**
VORD *e*S **S 12 07 37.8 -4.6**
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=N,4.0nm,0.5s
VORD smax smax
comp=N,190nm,3.7s
VORD smax smax
comp=E,280nm,3.7s
VORD smax smax
comp=Z,100nm,3.7s
VSR Storozhevoye 86.67 321 *e*P **P 11 57 11.3 +0.7**
VSR *e**SP sP 11 57 25.9 -8.0
VSR *e*S **SKKSac 12 07 39.4 -1.4**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,40nm,1.3s
VSR pmax pmax
comp=Z,70nm,1.3s
VSR smax smax
comp=N,240nm,4.2s
VSR smax smax
comp=E,290nm,4.2s
VSR smax smax
comp=Z,40nm,2.1s
BMRM Bremner River 86.95 29 *e*P **P 11 57 13.0 +1.1**
comp=Z,46nm,1.1s
TMCR Tamitsa 87.26 334 *e*P **P 11 57 12.6 -0.6**
TMCR pmax pmax
comp=Z,30nm,1.0s
MALT Malatya 87.33 308 ⇑P P 11 57 18.9 +4.6
MALT Malatya 87.33 308 ⇑*i*P P 11 57 18.9 +4.6
MENT Mentasta 87.36 27 *e*P **P 11 57 14.4 +0.6**
MOS Moscow 87.56 326 *e*P **P 11 57 14.3 -0.5**
MOS *e* 11 57 31.2
MOS pmax pmax
comp=Z,59nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.2s
ANN Anapa 87.92 315 *e*P **P 11 57 14.4 -2.4**
ANN *e**PP PcP 11 57 25.1 +6.5
ANN *e*S **SKSac 12 07 39.8 -0.5**
ANN pmax pmax
comp=Z,73nm,1.0s
OBN Obninsk 88.17 325 ⇑*i*P **P 11 57 17.6 -0.1**
OBN *i* 11 57 32.9
OBN *i* S **SKSac 12 07 37.8 -3.5**
OBN *e*SS **SS 12 13 43.8 -3.2**
OBN pmax pmax
comp=Z,82nm,1.2s
OBN MLR MLR
comp=Z,300nm,23.0s
EGAK Eagle 88.45 25 *e*P **P 11 57 18.6 -0.3**
comp=Z,10nm,0.8s
EGAK LR LR
comp=Z,399nm,19.0s
ASF Jabal al Asfar 88.77 302 P **P 11 57 23.6 +2.3**
ASF Jabal al Asfar 88.77 302 P **P 11 57 23.6 +2.3**
comp=Z,23nm,1.0s,baz=49,slow=1.8,SNR=21
ASF LR LR 12 43 01.4
comp=Z,132nm,19.9s,baz=227,slow=40
KMBO Kilima Mbogo 89.85 269 *e*P **P 11 57 28.9 +2.1**
comp=Z,24nm,1.1s
KMBO LR LR
comp=Z,261nm,20.0s
KMBO Kilima Mbogo 89.85 269 P **P 11 57 28.2 +1.3**
comp=Z,26nm,1.1s,baz=43,slow=6.2,SNR=16
KMBO Kilima Mbogo 89.85 269 P P 11 57 31.6 +4.7
baz=90,SNR=4.2
SIM Simferopol' 90.27 315 *e*P **P 11 57 27.9 0.0**
SIM *e* 12 07 54.0
SIM *e*S **S 12 08 16.0 -1.5**
SIM MLR MLR
comp=Z,300nm,25.0s
JOF Joensuu 90.34 333 *e*P **P 11 57 27.0 -0.7**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 90.34 333 *e*p **P 11 57 27.0 -0.7**
comp=Z,6.1nm,0.5s
HYT Haines Junctio 90.42 29 *e*P **P 11 57 29.2 +0.8**
EIL Elat 90.56 300 P **P 11 57 31.5 +2.0**
EIL Elat 90.56 300 P **P 11 57 31.5 +2.0**
comp=Z,9.5nm,0.7s,baz=55,slow=2.6,SNR=9.0
BR131 Keskin Array S 90.99 310 *e*P **P 11 57 31.7 +0.2**
comp=Z,7.3nm,0.9s
BRTR Keskin Array B 90.99 310 P **P 11 57 32.8 +1.2**
BRTR PP **PP 12 01 09.7 +1.3**
BRTR Keskin Array B 90.99 310 P **P 11 57 32.8 +1.2**
comp=Z,5.7nm,0.8s,baz=118,slow=6.3,SNR=24
BRTR PP **PP 12 01 09.7 +1.3**
comp=Z,1.6nm,0.8s,baz=128,slow=8.0,SNR=3.9
BRTR LR LR 12 47 08.3
comp=Z,54nm,19.7s,baz=207,slow=41
INK Inuvik 91.10 22 *e*P **P 11 57 31.4 +0.2**
comp=Z,26nm,1.3s
SYO Syowa Base 91.48 201 ⇓*e*P **P 11 57 31.7 -1.2**
CSS Prodhromos 91.58 305 *e*P **P 11 57 34.6 +0.3**
comp=Z,15nm,0.7s
CSS LR LR
comp=Z,171nm,21.0s
ARCES ARCESS Array B 91.62 340 P **P 11 57 33.9 +0.2**
ARCES PKKP **PKKPdf 12 14 51.8 -0.6**
ARCES ARCESS Array B 91.62 340 P **P 11 57 33.9 +0.2**
comp=Z,19nm,0.7s,baz=76,slow=6.4,SNR=44
ARCES PKKP **PKKPdf 12 14 51.8 -0.6**
comp=Z,1.6nm,0.8s,baz=333,slow=1.6,SNR=5.8
ARCES LR LR 12 43 55.6
comp=Z,218nm,18.7s,baz=85,slow=39
ARE0 ARCESS Array S 91.62 340 *e*P **P 11 57 32.9 -0.7**
ANTO Ankara 91.63 310 PFAKE 11 57 50.0 +16
ANTO LR LR
comp=Z,141nm,20.0s
SKAG Skagway 91.67 30 *e*P **P 11 57 35.2 +1.2**
comp=Z,21nm,1.0s
KBS Kingsbay 92.18 350 PFAKE 11 57 50.0 +14
KBS LR LR
comp=Z,639nm,21.0s
QSPA South Pole Qui 92.50 180 P **P 11 57 37.6 -0.3**
QSPA LR LR
comp=Z,728nm,21.0s
QSPA South Pole Qui 92.50 180 P **P 11 57 37.6 -0.3**
comp=Z,12nm,1.0s,baz=320,slow=3.5,SNR=3.7
KAF Kangasniemi 92.75 332 *e*P **P 11 57 40.1 +1.1**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 92.75 332 *e*p **P 11 57 40.1 +1.1**
comp=Z,4.7nm,0.5s
AKASG Malin Array Be 92.98 321 P **P 11 57 39.9 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 92.98 321 P **P 11 57 39.9 -0.3**
AKASG Malin Array Be 92.98 321 P **P 11 57 39.9 -0.3**
comp=Z,3.3nm,0.7s,baz=71,slow=4.6,SNR=7.2
AKASG LR LR 12 46 13.3
comp=Z,142nm,21.9s,baz=60,slow=40
FINES FINESS Array B 92.98 332 P **P 11 57 39.9 -0.1**
FINES FINESS Array B 92.98 332 P **P 11 57 39.9 -0.1**
comp=Z,2.0nm,0.4s,baz=43,slow=3.6,SNR=17
FINES LR LR 12 45 27.8
comp=Z,335nm,20.7s,baz=77,slow=39
KIEV Kiev 92.99 321 *e*P **P 11 57 39.3 -1.0**
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV MLR MLR
comp=Z,311nm,22.0s
KIEV Kiev 92.99 321 *e*P **P 11 57 39.3 -1.0**
comp=Z,15nm,1.0s
KIEV LR LR
comp=Z,311nm,22.0s
MICGM Minsk 93.24 325 *e* **P 11 57 40.0 -1.4**
MNK Minsk 93.26 325 *e*P **P 11 57 40.0 -1.5**
ISP Isparta 93.59 308 *e*P **P 11 57 43.4 -0.1**
ISP pmax pmax
comp=Z,12nm,0.9s
ISP MLR MLR
comp=Z,218nm,22.0s
ISP Isparta 93.59 308 *e*P **P 11 57 43.4 -0.1**
comp=Z,12nm,0.9s
ISP LR LR
comp=Z,218nm,22.0s
WRAK Wrangell Islan 93.72 33 *e*P **P 11 57 44.3 +0.8**
comp=Z,25nm,0.8s
WRAK LR LR
comp=Z,231nm,19.0s
TLCR 93.99 315 ⇑P **P 11 57 43.9 -1.1**
TLCR 93.99 315 ⇑*i*P **P 11 57 43.9 -1.1**
TIRR Tirgusor 94.37 315 ⇓P **P 11 57 47.1 +0.3**
TIRR Tirgusor 94.37 315 ⇓*i*P **P 11 57 47.1 +0.3**
CFR Carcaliu 94.46 316 ⇑P **P 11 57 48.0 +0.8**
CFR Carcaliu 94.46 316 ⇑*i*P **P 11 57 48.0 +0.8**
DLBC Dease Lake 94.55 31 *e*P **P 11 57 48.2 +0.7**
TESR Tescani 95.29 317 ⇑*i*P **P 11 57 51.0 0.0**
VRI Vrincioaia 95.34 316 ⇑P **P 11 57 51.7 +0.4**
VRI Vrincioaia 95.34 316 ⇑*i*P **P 11 57 51.7 +0.4**
PLOR Plostina 95.39 316 ⇑P **P 11 57 51.9 +0.4**
PLOR Plostina 95.39 316 ⇑*i*P **P 11 57 51.9 +0.4**
MLR Muntele Rosu 95.94 316 ⇓*i*P **P 11 57 54.7 +0.5**
SUW Suwalki 96.04 325 *e*P **P 11 57 54.0 -0.2**
SUW pmax pmax
comp=Z,41nm,0.8s
SUW Suwalki 96.04 325 *e*P **P 11 57 54.0 -0.2**
comp=Z,41nm,0.8s
BURAR Bucovina Array 96.06 318 ⇑P **P 11 57 55.8 +1.2**
BURAR Bucovina Array 96.06 318 ⇑*i*P **P 11 57 55.8 +1.2**
MBAR Mbarara 96.33 270 PFAKE 11 58 10.0 +13
MBAR LR LR
comp=Z,952nm,21.0s
VOIR 96.57 316 ⇑P **P 11 57 57.2 +0.2**
VOIR 96.57 316 ⇑*i*P **P 11 57 57.2 +0.2**
KWP Kalwaria Pacla 97.29 321 ⇑P Pdif 11 58 02.0 +1.9
KWP Kalwaria Pacla 97.29 321 ⇑*i*P Pdif 11 58 02.0 +1.9
KWP Kalwaria Pacla 97.29 321 *e*P Pdif 11 58 00.1 0.0
comp=Z,22nm,1.1s
KWP LR LR
comp=Z,389nm,21.0s
LOT Lotru 97.45 316 ⇑*i*P Pdif 11 58 02.1 +1.0
KOLS Kolonicke sedl 97.72 320 *e*P Pdif 11 58 02.5 +0.5
KOLS Kolonicke sedl 97.72 320 PDIF Pdif 11 58 02.5 +0.5
SANT Santorini 97.79 307 PFAKE 11 58 10.0 +7.3
SANT LR LR
comp=Z,171nm,21.0s
DRGR 97.90 318 ⇓P Pdif 11 58 03.7 +0.7
DRGR 97.90 318 ⇓*i*P Pdif 11 58 03.7 +0.7
CRVS Cervenica-Dubn 98.25 320 *e*P Pdif 11 58 05.0 +0.6
CRVS Cervenica-Dubn 98.25 320 *e* Pdif 11 58 05.0 +0.6
STHS Stebnicka Huta 98.27 321 *e*P Pdif 11 58 05.8 +1.3
STHS Stebnicka Huta 98.27 321 PDIF Pdif 11 58 05.8 +1.3
RKT Rikitea 98.34 113 *e*LR LR 12 30 06.2
comp=Z,614nm,37.8s
DAG Danmarks Havn 98.42 352 *i* P **P 11 58 04.2 -0.3**
DAG pmax pmax
comp=Z,8.0nm,0.7s
DAG Danmarks Havn 98.42 352 *i* P **P 11 58 04.2 -0.3**
comp=Z,11nm,0.7s
BZS Buzias 98.90 317 ⇓P Pdif 11 58 07.4 +0.1
BZS Buzias 98.90 317 ⇓*i*P Pdif 11 58 07.4 +0.1
KECS Kecovo 98.98 320 *e*P **P 11 58 07.4 -0.2**
KECS Kecovo 98.98 320 PDIF **P 11 58 07.4 -0.2**
HFS Hagfors 99.17 332 LR LR 12 49 15.0
comp=Z,253nm,19.5s,baz=68,slow=39
LSZ Lusaka 99.22 255 PFAKE 11 58 20.0 +10
LSZ LR LR
comp=Z,273nm,20.0s
PSZ Piszkesteto 99.50 319 ⇑P **Pdif 11 58 08.0 -2.1**
PSZ Piszkesteto 99.50 319 ⇑*i*P **Pdif 11 58 08.0 -2.1**
PSZ Piszkesteto 99.50 319 PFAKE 11 58 20.0 +10
PSZ LR LR
comp=Z,269nm,21.0s
NB2 NORSAR Subarra 99.95 334 P **Pdif 11 58 10.6 -1.1**
comp=Z,1.8nm,0.7s,baz=68,slow=5.3
NOA NORSAR Array B 99.95 334 P **Pdif 11 58 11.0 -0.7**
NOA PP **PP 12 02 16.2 -0.7**
NOA NORSAR Array B 99.95 334 P **Pdif 11 58 11.0 -0.7**
comp=Z,4.0nm,0.8s,baz=65,slow=4.5,SNR=11
NOA PP **PP 12 02 16.2 -0.7**
comp=Z,1.4nm,1.0s,baz=76,slow=8.2,SNR=2.7
VYHS Vyhne 100.03 320 *e*P **Pdif 11 58 13.4 +1.1**
VYHS Vyhne 100.03 320 PDIF **Pdif 11 58 13.4 +1.1**
OKC Ostrava-Krasne 100.10 322 *e*P **Pdif 11 58 13.5 +0.9**
OKC *e* 12 08 48.9
OKC Ostrava-Krasne 100.10 322 *e*PDIFF **Pdif 11 58 13.5 +0.9**
OKC *e*SKS 12 08 48.9
NLWA Neilton Lookou 100.89 41 PFAKE 11 58 30.0 +14
NLWA LR LR
comp=Z,394nm,19.0s
KSP Ksiaz 100.94 323 *e*P **Pdif 11 58 17.0 +0.7**
DPC Dobruska-Polom 101.08 322 *e*P **Pdif 11 58 20.3 +3.3**
DPC Dobruska-Polom 101.08 322 *e*PDIFF **Pdif 11 58 20.3 +3.3**
DPC *e*sP 11 58 32.6
DPC AMS AMS 12 45 00.0
TIR Tirane 101.11 313 PFAKE 11 58 30.0 +13
TIR LR LR
comp=Z,204nm,22.0s
KONO Kongsberg 101.26 333 PFAKE 11 58 30.0 +13
KONO LR LR
comp=Z,438nm,20.0s
TREC Trest 101.92 322 *ex* SP 12 11 18.8 -12
TREC AMS AMS 12 49 40.0
comp=Z,400nm,25.2s
PVCC Panska Ves 102.08 323 *e*P **Pdif 11 58 20.9 -0.5**
PVCC Panska Ves 102.08 323 *e*PDIFF **Pdif 11 58 20.9 -0.5**
PRU Pruhonice 102.28 322 *e*P **Pdif 11 58 23.2 +1.0**
PRU *e* 12 08 56.8
PRU *e* 12 11 32.7
PRU MLR MLR
comp=Z,300nm,19.8s
PRU Pruhonice 102.28 322 *e*PDIFF **Pdif 11 58 23.2 +1.0**
PRU *e*sP 11 58 39.1
PRU *e*SKS **SKSac 12 08 56.8 -0.1**
PRU *e*SP **SP 12 11 32.7 -1.5**
PRU AMS AMS 12 49 10.0
comp=Z,300nm,19.8s
PRA Prague 102.31 322 PDIFF **Pdif 11 58 24.0 +1.6**
PRA SKS 12 08 58.0
PRA AMS AMS 12 50 00.0
BRG Berggiesshubel 102.34 323 *e*P **Pdif 11 58 26.8 +4.3**
comp=Z,5.2nm,1.1s
BRG *e* 11 58 43.5
comp=Z,8.9nm,1.3s
BRG *e* 12 02 53.7
comp=Z,24nm,2.0s
BRG
comp=Z,443nm,24.5s
BRG
comp=N,321nm,28.2s
BRG
comp=E,371nm,28.2s
BRG Berggiesshubel 102.34 323 *e*P **Pdif 11 58 26.8 +4.3**
BRG MLR MLR
comp=N,443nm,28.2s
BRG MLR MLR
comp=E,321nm,28.2s
CLL Collm 102.75 324 *e*P **Pdif 11 58 28.0 +3.7**
CLL *i* 12 02 47.3
CLL MLR MLR
comp=Z,400nm,21.8s
CLL Collm 102.75 324 *e*(Pdif) **Pdif 11 58 28.0 +3.7**
CLL *e* 12 01 49.0
CLL *e* 12 02 14.0
CLL *i* pPP 12 02 47.3
CLL *e*SP SP 12 11 36.0 -3.1
CLL *e*PPS PPS 12 12 38.0
CLL *e*SS **SS 12 17 18.0 +4.3**
CLL *e* 12 23 00.0
CLL Lm MLR 12 49 00.0

comp=Z,400nm,21.8s
KHC Kasperske Hory 103.15 322 *e*P **Pdif** **11 58 26.7 +0.5**
KHC *e* 12 09 00.4
KHC *e* 12 11 42.1
KHC MLR MLR
comp=Z,400nm,19.1s
KHC Kasperske Hory 103.15 322 *e*PDIFF **Pdif** **11 58 26.7 +0.5**
KHC *ex* x 11 58 46.8
KHC *e*SKS 12 09 00.4
KHC *e*SP **SP** **12 11 42.1 -1.4**
KHC AMS AMS 12 49 40.0
comp=Z,400nm,19.1s
GERES GERESS Array B 103.17 321 Pdif **Pdif** **11 58 27.3 +0.9**
GERES PKKPbc **PKKPbc** **12 14 24.1 +0.4**
GERES GERESS Array B 103.17 321 Pdiff **Pdif** **11 58 27.3 +0.9**
comp=Z,0.6nm,0.7s,baz=75,slow=5.7,SNR=6.1
GERES PKKPbc **PKKPbc** **12 14 24.1 +0.4**
comp=Z,0.2nm,0.6s,baz=246,slow=1.3,SNR=3.7
SNAA Sanae 104.19 195 *e*Pdif **Pdif** **11 58 30.2 -0.1**
CUC Castrocucco 104.44 312 PFAKE 11 58 40.0 +7.8
CUC LR LR
comp=Z,207nm,20.0s
CEL Celeste 104.84 311 PFAKE 11 58 50.0 +16
CEL LR LR
comp=Z,157nm,21.0s
NEW Newport 104.92 38 PFAKE 11 58 50.0 +16
NEW LR LR
comp=Z,558nm,21.0s
AQU L'Aquila 105.48 315 PFAKE 12 03 00.0
AQU LR LR
comp=Z,450nm,22.0s
WVOR Wild Horse Val 105.92 45 PFAKE 12 03 00.0
WVOR LR LR
comp=Z,292nm,21.0s
BMO Blue Mountains 106.02 42 PFAKE 12 03 00.0
BMO LR LR
comp=Z,505nm,20.0s
WDD Wield Dalam 106.54 308 PFAKE 12 03 00.0
WDD LR LR
comp=Z,149nm,21.0s
BFO Black Forest 106.68 322 PFAKE 12 03 00.0
BFO LR LR
comp=Z,309nm,20.0s
TUE Stuetta 106.77 320 PFAKE 12 03 00.0
TUE LR LR
comp=Z,274nm,20.0s
VLC Villacollemand 106.95 318 PFAKE 12 03 00.0
VLC LR LR
comp=Z,267nm,21.0s
WLF Walferdange 107.41 324 PFAKE 12 03 10.0
WLF LR LR
comp=Z,317nm,20.0s
NVAR Mina Array Bea 107.42 48 Pdif **Pdif** **11 58 46.5 +0.8**
NVAR PKiKP **PKiKP** **12 02 56.1 +2.1**
NVAR PKKPbc **PKKPbc** **12 14 15.1 +4.6**
NVAR Mina Array Bea 107.42 48 Pdiff **Pdif** **11 58 46.5 +0.8**
comp=Z,0.2nm,0.6s,baz=273,slow=5.9,SNR=2.5
NVAR PKiKP **PKiKP** **12 02 56.1 +2.1**
comp=Z,1.0nm,0.8s,baz=262,slow=4.3,SNR=5.8
NVAR PKKPbc **PKKPbc** **12 14 15.1 +4.6**
comp=Z,0.5nm,0.8s,baz=164,slow=2.9,SNR=3.8
ECH Echery 107.44 323 PFAKE 12 03 10.0
ECH LR LR
comp=Z,343nm,19.0s
MSO Missoula 107.46 39 P 12 02 53.5
baz=107
BMN Battle Mountai 107.58 46 PFAKE 12 03 10.0
BMN LR LR
comp=Z,342nm,19.0s
TPH Tonopah 108.34 49 PFAKE 12 03 10.0
TPH LR LR
comp=Z,328nm,22.0s
HLID Hailey 108.43 42 *e*PKPdf **PKiKP** **12 02 57.4 +1.7**
HLID LR LR
comp=Z,518nm,22.0s
HLID Hailey 108.43 42 P 12 02 56.2
baz=108
LPG La Plagne 108.82 320 *e*P **Pdif** **11 58 52.2 +0.4**
comp=Z,26nm,1.4s
LPG La Plagne 108.82 320 *e*P **Pdif** **11 58 52.2 +0.4**
LPG La Plagne 108.82 320 *e*P **Pdif** **11 58 52.2 +0.4**
LPL La Plagne 108.83 320 *e*P **Pdif** **11 58 52.6 +0.8**
comp=Z,42nm,1.8s
LPL La Plagne 108.83 320 *e*P **Pdif** **11 58 52.6 +0.8**
LPL La Plagne 108.83 320 *e*P **Pdif** **11 58 52.6 +0.8**
BNI Bardonecchia 109.05 320 PFAKE 12 03 10.0
BNI LR LR
comp=Z,505nm,22.0s
VSL Villasalto 109.31 313 PFAKE 12 03 10.0
VSL LR LR
comp=Z,251nm,21.0s
ESK Eskdalemuir 109.41 332 PFAKE 12 03 10.0
ESK LR LR
comp=Z,651nm,22.0s
BOZ Bozeman (W) 109.41 39 PFAKE 12 03 10.0
BOZ LR LR
comp=Z,376nm,20.0s
R11A Troy Canyon, C 109.47 48 P 12 02 58.4
baz=109
EGMT Eagleton 109.51 37 PFAKE 12 03 10.0
EGMT LR LR
comp=Z,264nm,19.0s
FFC Flin Flon 110.09 28 PFAKE 12 03 10.0
FFC LR LR
comp=Z,294nm,20.0s
PFO Pinyon Flat Ob 110.32 53 PFAKE 12 03 10.0
PFO LR LR
comp=Z,367nm,22.0s
PFO Pinyon Flat Ob 110.32 53 P 12 03 00.3
baz=110
SSB Saint Sauveur 110.32 321 PFAKE 12 03 10.0
SSB LR LR
comp=Z,247nm,22.0s
SFJD Kangerlussuaq 110.56 359 PFAKE 12 03 10.0
SFJD LR LR
comp=Z,306nm,21.0s
LKWY Lake 110.66 40 PFAKE 12 03 10.0
LKWY LR LR
comp=Z,560nm,20.0s
DUG Dugway 110.82 45 *e*PKIKP **PKiKP** **12 03 01.2 +0.9**
DUG MLR MLR
comp=Z,393nm,21.0s
DUG Dugway 110.82 45 *e*PKPdf **PKiKP** **12 03 01.2 +0.9**
DUG LR LR
comp=Z,393nm,21.0s
DUG Dugway 110.82 45 P 12 03 00.8
baz=111
REDW Red Top Meadow 110.89 41 *e*PKPdf **PKiKP** **12 03 00.6 +0.1**
AHID Auburn Hatcher 110.97 42 PFAKE 12 03 10.0
AHID LR LR
comp=Z,345nm,19.0s
BC3 Big Chuckawall 111.10 52 P 12 03 01.6
baz=111
HWUT Hardware Ranch 111.13 43 PFAKE 12 03 10.0
HWUT LR LR
comp=Z,388nm,20.0s
RLMT Red Lodge 111.14 39 PFAKE 12 03 10.0
RLMT LR LR
comp=Z,318nm,19.0s
MVU Marysvale 111.89 47 PFAKE 12 03 10.0
MVU LR LR
comp=Z,522nm,19.0s
BW06 Boulder Array 112.00 42 PFAKE 12 03 10.0
BW06 LR LR
comp=Z,544nm,19.0s
PDAR Pinedale Array 112.00 42 PKiKP **PKiKP** **12 03 02.8 +0.2**
PDAR PP **PP** **12 03 45.1 -1.3**
PDAR PKKPbc **PKKPbc** **12 13 59.6 +3.7**
PDAR PKKP **PKKPdf** **12 14 16.1 +1.1**
PDAR Pinedale Array 112.00 42 PKiKP **PKiKP** **12 03 02.8 +0.2**
comp=Z,0.4nm,0.7s,baz=80,slow=2.2,SNR=3.4
PDAR PP **PP** **12 03 45.2 -1.3**
comp=Z,1.0nm,0.9s,baz=280,slow=5.3,SNR=3.2
PDAR PKKPbc **PKKPbc** **12 13 59.6 +3.7**
comp=Z,1.1nm,0.7s,baz=116,slow=6.0,SNR=5.7
PDAR PKKP **PKKPdf** **12 14 16.1 +1.1**
comp=Z,3.2nm,0.8s,baz=123,slow=4.9,SNR=5.3
D22A Cohagen 112.05 36 P 12 03 03.3
baz=112
I20A Worland 112.40 40 P 12 03 03.8
baz=112
K19A Absolon Red Bu 112.44 41 P 12 03 03.9
baz=112
DGMT Dagmar 112.50 34 PFAKE 12 03 20.0
DGMT LR LR
comp=Z,379nm,20.0s
U15A North Rim 112.60 49 P 12 03 04.1
baz=113
D23A Lindsay 112.61 36 P 12 03 03.9
baz=113
J20A Shoshoni 112.70 40 P 12 03 04.2
baz=113
I21A Big Trails, Te 113.00 40 P 12 03 05.8
baz=113
L20A Wamsutter 113.14 42 P 12 03 04.4
baz=113
MSKU Masuku 113.48 269 PFAKE 12 03 20.0
MSKU LR LR
comp=Z,1.0nm,19.0s
K21A Alcova 113.58 41 P 12 03 06.0
baz=114
WUAZ Wupatki 113.63 49 *e*PKPdf **PKiKP** **12 03 07.9 +2.0**
WUAZ LR LR
comp=Z,298nm,19.0s
WUAZ Wupatki 113.63 49 P 12 03 05.2
baz=114
J22A Midwest 113.71 40 P 12 03 05.9
baz=114
X16A Lo Mia Camp, P 113.98 50 P 12 03 06.4
baz=114
O20A White River Ci 114.04 44 P PKPdf 12 03 06.0 -0.5
baz=114
H24A Dirks Ranch, A 114.25 38 P PKPdf 12 03 06.2 -0.4
baz=114
Q20A Ridgley Place, 114.51 45 P PKPdf 12 03 07.3 -0.2
baz=114
PV01 Paradox Valley 114.66 46 *e*PKPdf PKPdf 12 03 08.4 +0.6
RSSD Black Hills 114.89 38 *e*PKIKP PKPdf 12 03 10.8 +2.7
RSSD Black Hills 114.89 38 *e*PKPdf PKPdf 12 03 10.8 +2.7
A29A Manning Farm, 114.94 32 P PKPdf 12 03 07.6 -0.1
baz=115
S20A Disappointment 114.94 46 P PKPdf 12 03 08.2 -0.2
baz=115
N22A Wattenberg Ran 114.95 42 P PKPdf 12 03 09.0 +0.6
baz=115
MVCO Mesa Verde 115.10 47 *e*PKPdf **PKPdf** **12 03 08.8 +0.1**
MVCO LR LR
comp=Z,430nm,20.0s
MVCO Mesa Verde 115.10 47 P **PKPdf** **12 03 08.5 -0.2**
baz=115
I25A Rochford 115.13 38 P **PKPdf** **12 03 08.1 -0.4**
baz=115
TUC Tucson 115.25 52 PFAKE 12 03 20.0 +11
TUC LR LR
comp=Z,298nm,19.0s
N23A Red Feather La 115.25 42 P **PKPdf** **12 03 09.0 +0.1**
baz=115
S21A Coal Bank Pass 115.42 46 P **PKPdf** **12 03 09.7 +0.4**
baz=115,SNR=5.3
Q22A Crested Butte, 115.52 44 P **PKPdf** **12 03 09.8 +0.3**
baz=116
O23A Lake Granby, G 115.59 43 P **PKPdf** **12 03 10.0 +0.3**
baz=116
F28A McLaughlin 115.88 35 P **PKPdf** **12 03 10.1 +0.4**
baz=116
J26A Sides Ranch, S 115.90 39 P **PKPdf** **12 03 10.8 +0.9**
baz=116
W20A Ramah 115.95 49 P **PKPdf** **12 03 11.2 +0.8**
baz=116
ISCO Idaho Springs 115.99 43 PFAKE 12 03 20.0 +10
ISCO LR LR
comp=Z,388nm,21.0s
ISCO Idaho Springs 115.99 43 P **PKPdf** **12 03 10.8 +0.4**
baz=116
U21A Nageezi 116.04 47 P **PKPdf** **12 03 12.1 +1.6**
baz=116
S22A 4UR Ranch, Cre 116.07 45 P **PKPdf** **12 03 10.7 +0.1**
baz=116
I27A Quinn 116.13 37 P **PKPdf** **12 03 10.4 +0.2**
baz=116
X20A Quemado 116.18 49 P **PKPdf** **12 03 11.4 +0.6**
baz=116
D30A Buchanan 116.29 33 P **PKPdf** **12 03 09.6 -0.8**
baz=116
Y20A Horse Springs, 116.52 50 P **PKPdf** **12 03 11.7 +0.1**
baz=116
R23A Moffat 116.58 45 P **PKPdf** **12 03 13.1 +1.5**
baz=116
U22A Llaves 116.65 47 P **PKPdf** **12 03 12.1 +0.4**
baz=117
Z20A Nine Sixteen R 116.67 51 P **PKPdf** **12 03 12.6 +0.9**
baz=117
X21A Alamocita Cree 116.76 49 P **PKPdf** **12 03 12.4 +0.5**
baz=117
319A Douglas 116.78 53 P **PKPdf** **12 03 12.5 +0.6**
baz=117
V22A San Miguel Ran 116.81 47 P **PKPdf** **12 03 13.3 +1.3**
baz=117
120A U Bar Ranch, L 116.85 51 P **PKPdf** **12 03 13.6 +1.5**
baz=117
T23A Casias Ranch, 116.95 46 P **PKPdf** **12 03 14.0 +1.7**
baz=117
J28A Allard Ranch, 116.98 38 P **PKPdf** **12 03 14.0 +2.1**
baz=117
SDCO Great Sand Dun 117.01 45 PFAKE 12 03 20.0 +7.6
SDCO LR LR
comp=Z,396nm,19.0s
Y21A Point of Rocks 117.02 50 P **PKPdf** **12 03 13.8 +1.3**
baz=117
AGMN Agassiz Nation 117.08 31 PFAKE 12 03 20.0 +8.2
AGMN LR LR
comp=Z,622nm,21.0s
P25A Willow Gulch B 117.11 43 P **PKPdf** **12 03 13.1 +0.7**
baz=117
U23A El Rito 117.15 47 P **PKPdf** **12 03 13.8 +1.2**
baz=117
220A Playas Peak, P 117.18 52 P **PKPdf** **12 03 14.0 +1.3**
baz=117
Z21A St. Cloud Mine 117.30 50 P **PKPdf** **12 03 14.1 +1.1**
baz=117
320A Kipp Ranch, An 117.39 53 P **PKPdf** **12 03 14.0 +0.8**
baz=117
V23A Ortiz Mt. (NFS 117.41 47 P **PKPdf** **12 03 14.4 +1.3**
baz=117
121A Cookes Peak, D 117.52 51 P **PKPdf** **12 03 14.5 +1.1**
baz=118
ANMO Albuquerque 117.55 48 *e*PKPdf **PKPdf** **12 03 14.0 +0.6**
ANMO LR LR
comp=Z,290nm,19.0s
Y22A Socorro 117.59 49 P **PKPdf** **12 03 14.6 +1.1**
baz=118
R25A Fountain Ranch 117.68 44 P **PKPdf** **12 03 13.9 +0.3**
baz=118
TAM Tamanrasset 117.70 297 PFAKE 12 03 30.0 +16
TAM LR LR
comp=Z,274nm,20.0s
BNM Barren Site 117.75 49 *e*PKPdf **PKPdf** **12 03 14.3 +0.4**
OGNE Ogallala 117.80 40 PFAKE 12 03 30.0 +16
OGNE LR LR
comp=Z,468nm,21.0s
Z22A Elephant Butte 117.87 50 P **PKPdf** **12 03 14.7 +0.6**
baz=118
X23A Hourglass Bar 117.91 48 P **PKPdf** **12 03 14.9 +0.8**
baz=118
122A Conniff Cattle 118.06 51 P **PKPdf** **12 03 14.9 +0.5**
baz=118
T25A Trinidad 118.06 45 P **PKPdf** **12 03 14.6 +0.2**
baz=118
V24A Rampart Ranch, 118.09 47 P **PKPdf** **12 03 14.8 +0.4**
baz=118,SNR=7.8
P27A Ficken Ranch, 118.15 42 P **PKPdf** **12 03 14.9 +0.5**
baz=118
W24A Lazy 6 Ranch, 118.21 47 P **PKPdf** **12 03 15.6 +0.9**
baz=118
Y23A Lovelace Mesa, 118.28 49 P **PKPdf** **12 03 15.2 +0.4**
baz=118
U25A Circle Dot Ran 118.41 46 P **PKPdf** **12 03 15.4 +0.3**
baz=118
S26A Kim 118.50 44 P **PKPdf** **12 03 15.5 +0.4**
baz=118
V25A Rancho No Teng 118.51 46 P **PKPdf** **12 03 15.7 +0.4**
baz=118,SNR=8.0
T26A Comanche Natio 118.62 45 P **PKPdf** **12 03 15.8 +0.3**
baz=119
R27A Eads 118.64 43 P **PKPdf** **12 03 16.1 +0.8**
baz=119
Y24A Capitan 118.75 49 P **PKPdf** **12 03 16.4 +0.7**
baz=119
PAB San Pablo 118.84 319 PFAKE 12 03 30.0 +14
PAB LR LR
comp=Z,378nm,20.0s
U26A Atchley Ranch, 118.88 46 P **PKPdf** **12 03 16.0 +0.1**
baz=119
W25A X Bar L Ranch, 118.90 47 P **PKPdf** **12 03 16.6 +0.7**
baz=119
Z24A Sheeppen Canyo 119.05 49 P **PKPdf** **12 03 17.2 +0.9**
baz=119
V26A Tequesquite Ra 119.13 46 P **PKPdf** **12 03 16.5 +0.2**
baz=119
PBRG Braganca 119.15 322 *i* P **SP** **12 14 19.4 +1.7**
124A Stringfield Ra 119.25 50 P **PKPdf** **12 03 17.3 +0.5**
baz=119
Y25A Mesa, Roswell 119.31 48 P **PKPdf** **12 03 17.0 +0.2**
baz=119
224A Cornudas Mount 119.46 51 P **PKPdf** **12 03 17.3 +0.2**
baz=119
W26A Owens Ranch, T 119.47 47 P **PKPdf** **12 03 17.4 +0.4**
baz=119
EYMN Ely 119.48 29 PFAKE 12 03 30.0 +14
EYMN LR LR
comp=Z,317nm,19.0s
U27A Thompson Grove 119.52 45 P **PKPdf** **12 03 17.4 +0.3**
baz=120
ECSD EROS Data Cent 119.54 35 *e*PKPdf **PKPdf** **12 03 17.4 +0.6**
S28A Manter 119.60 44 P **PKPdf** **12 03 18.4 +1.2**
baz=120
X26A CR and CF Fran 119.68 47 P **PKPdf** **12 03 17.5 0.0**
baz=120
T28A Walsh 119.68 44 P **PKPdf** **12 03 18.3 +1.0**
baz=120
MVO Moncorvo 119.69 321 *i* P **SP** **12 14 22.6 0.0**
MNTX Cornudas Mount 119.72 51 *e*PKPdf **PKPdf** **12 03 18.2 +0.7**
MNTX LR LR
comp=Z,212nm,19.0s
324A Moseley Ranch, 119.75 51 P **PKPdf** **12 03 18.0 +0.4**
baz=120
125A Gardner Draw, 119.88 50 P **PKPdf** **12 03 18.3 +0.4**
baz=120
225A Deer Hill, Car 119.98 50 P **PKPdf** **12 03 18.7 +0.5**
baz=120
PGAV Gavieira, Arco 119.99 323 *i* P **SP** **12 14 25.9 +0.7**
PGAV Gavieira, Arco 119.99 323 *e*LR LR 12 39 24.1
comp=Z,109nm,17.5s
W27A Bowe Ranch, En 119.99 47 P **PKPdf** **12 03 17.8 -0.2**
baz=120
325A Bean Ranch, Si 120.17 51 P **PKPdf** **12 03 18.4 -0.1**
baz=120
P31A Stockton 120.28 40 P **PKPdf** **12 03 18.2 -0.2**
baz=120
R30A Dighton 120.35 42 P **PKPdf** **12 03 19.0 +0.5**
baz=120
126A Clayton Basin, 120.37 50 P **PKPdf** **12 03 19.0 +0.2**
baz=120
425A Indio Mountain 120.40 52 P **PKPdf** **12 03 18.6 -0.3**
baz=120
MTE Manteigas 120.44 321 *i* P **SP** **12 14 30.0 +0.7**
MTE Manteigas 120.44 321 PFAKE 12 03 30.0 +11
MTE LR LR
comp=Z,336nm,21.0s
Y27A Causey 120.46 48 P **PKPdf** **12 03 18.7 -0.2**
baz=120,SNR=7.2
226B Tecolote Peak, 120.50 50 P **PKPdf** **12 03 18.8 -0.2**
baz=120
Z27A Tatum 120.68 48 P **PKPdf** **12 03 19.1 -0.3**
baz=121,SNR=14
SPMN St. Paul 120.68 32 *e*PKPdf **PKPdf** **12 03 19.1 +0.2**
MSTX Muleshoe 120.71 48 *e*PKPdf **PKPdf** **12 03 20.2 +0.8**
MSTX Muleshoe 120.71 48 P **PKPdf** **12 03 19.8 +0.3**
baz=121
PCBR Castelo Branco 120.72 320 *e*PKPdf **PKPdf** **12 03 22.1 +3.0**
R31A Burdett 120.84 42 P **PKPdf** **12 03 19.3 -0.1**
baz=121
127A Arkansas Junct 120.86 49 P **PKPdf** **12 03 20.0 +0.3**
baz=121
X28A Dimmitt 120.88 47 P **PKPdf** **12 03 20.1 +0.4**
baz=121
PMRV Marv??o 120.89 320 *i* P **SP** **12 14 33.3 0.0**
PMRV Marv??o 120.89 320 *e*LR LR 12 40 16.8
comp=Z,54nm,15.0s
326A Caldwell Ranch 120.97 51 P **PKPdf** **12 03 20.2 +0.2**
baz=121
U30A WK&E Inc. Balk 121.00 44 P **PKPdf** **12 03 20.6 +0.8**
baz=121
Y28A McKinney Farm, 121.13 47 P **PKPdf** **12 03 20.9 +0.7**
baz=121
426A McDonald Obser 121.20 52 P **PKPdf** **12 03 20.5 -0.1**
baz=121
PCAS Casmilo, Conde 121.24 321 *i* P **SP** **12 14 36.0 -0.4**
Z28A Tucker Farm, M 121.31 48 P **PKPdf** **12 03 20.9 +0.3**
baz=121
PESTR Estremoz 121.33 319 *e*PKPdf **PKPdf** **12 03 24.3 +4.0**
PESTR Estremoz 121.33 319 *i* P **SP** **12 14 37.8 +0.5**
PBAR Barrancos 121.35 318 *i* P **SP** **12 14 35.6 -1.9**
526A Mary Lane Ranc 121.40 52 P **PKPdf** **12 03 21.3 +0.4**
baz=121
128A Castleberry Fa 121.54 49 P **PKPdf** **12 03 21.4 +0.4**
baz=122
Y29A Porterfield Fa 121.57 47 P **PKPdf** **12 03 21.7 +0.7**
baz=122
626A Big Bend Ranch 121.58 53 P **PKPdf** **12 03 21.7 +0.6**
baz=122
427A Hayter Ranch, 121.61 51 P **PKPdf** **12 03 21.8 +0.6**
baz=122
PMTG Montargil 121.63 320 *i* P **SP** **12 14 40.3 +0.4**
SCHQ Schefferville 121.64 9 PKP **PKPdf** **12 03 21.1 +0.7**
SCHQ Schefferville 121.64 9 PKP **PKPdf** **12 03 21.1 +0.7**
comp=Z,3.8nm,0.6s,baz=61,slow=6.8,SNR=3.7
527A Woodward Ranch 121.75 52 P **PKPdf** **12 03 21.9 +0.3**
baz=122
EVO Evora 121.79 319 *e*PKIKP **PKPdf** **12 03 18.5 -2.7**
comp=Z,28nm,1.1s
Z29A Hungry Hill Ra 121.83 48 P **PKPdf** **12 03 21.3 -0.3**
baz=122,SNR=11
328A Wristen Ranch, 121.84 50 P **PKPdf** **12 03 22.0 +0.4**
baz=122
EVOP Sao Brissos 121.87 319 *e*PKIKP **PKPdf** **12 03 18.5 -2.8**
EVOP Sao Brissos 121.87 319 *e*PKPdf **PKPdf** **12 03 18.5 -2.8**
X30A Coker Ranch, T 121.87 46 P **PKPdf** **12 03 22.0 +0.4**
baz=122
V31A Spring Creek L 121.94 44 P **PKPdf** **12 03 22.6 +1.0**
baz=122
129A Stewart Farms, 122.00 49 P **PKPdf** **12 03 21.8 -0.1**
baz=122,SNR=10
TXAR Lajitas Array 122.04 53 PKP **PKPdf** **12 03 22.7 +0.6**
TXAR PKKPbc **PKKPbc** **12 13 19.8 -0.1**
TXAR Lajitas Array 122.04 53 PKP **PKPdf** **12 03 22.7 +0.6**
comp=Z,2.9nm,0.8s,baz=241,slow=1.4,SNR=17
TXAR PKKPbc **PKKPbc** **12 13 19.8 -0.1**
comp=Z,0.5nm,0.8s,baz=129,slow=6.2,SNR=4.0
Y30A Stafford Cattl 122.13 47 P **PKPdf** **12 03 22.1 +0.1**
baz=122
W31A Holland Ranch, 122.17 45 P **PKPdf** **12 03 22.5 +0.4**
baz=122
627A Terlingua Ranc 122.21 53 P **PKPdf** **12 03 22.6 +0.2**
baz=122
PVAQ Vaqueiros 122.22 318 *i* P **SP** **12 14 43.4 -1.8**
PVAQ Vaqueiros 122.22 318 *e*LR LR 12 40 07.8
comp=Z,44nm,14.0s
428A Kincaid Ranch, 122.22 51 P **PKPdf** **12 03 23.2 +0.8**
baz=122
Z30A Sanderson Ranc 122.24 48 P **PKPdf** **12 03 22.5 +0.2**
baz=122
KSU1 Kansas State U 122.29 39 *e*PKPdf **PKPdf** **12 03 22.9 +0.7**
KSU1 LR LR
comp=Z,605nm,20.0s
PCVE Castro Verde 122.31 318 *i* P **SP** **12 14 43.3 -2.7**
229A Bryant Ranch, 122.34 49 P **PKPdf** **12 03 22.6 0.0**
baz=122
PNCL Nicolau / Gran 122.36 319 *e*PKPdf **PKPdf** **12 03 22.9 +0.6**
PNCL Nicolau / Gran 122.36 319 *i* P **SP** **12 14 46.2 -0.2**
PMAFR Mafra 122.37 320 *i* P **SP** **12 14 46.6 +0.2**
528A Cox Ranch, San 122.39 52 P **PKPdf** **12 03 22.9 +0.1**
baz=122
X31A McDonald Ranch 122.42 46 P **PKPdf** **12 03 22.9 +0.3**
baz=122
329A Wagon Wheel Ra 122.43 50 P **PKPdf** **12 03 22.6 -0.1**
baz=122
PBDV Barranco-do-Ve 122.45 318 *i* P **SP** **12 14 45.6 -1.7**
628A Black Gap, Mar 122.59 52 P **PKPdf** **12 03 22.9 -0.1**
baz=123
529A Stev Forest Ra 122.84 51 P **PKPdf** **12 03 23.6 +0.1**
baz=123
429A Davenport Ranc 122.88 51 P **PKPdf** **12 03 23.7 +0.1**
baz=123
131A Roby 123.08 48 P **PKPdf** **12 03 24.1 +0.2**
baz=123
330A Mertzon 123.08 50 P **PKPdf** **12 03 24.1 +0.1**
baz=123
PFVI Vila Bisbo 123.11 318 *i* P **SP** **12 14 57.3 +4.2**
WMOK Wichita Mounta 123.22 45 *e*PKIKP **PKPdf** **12 03 24.1 0.0**

WMOK MLR MLR
comp=Z,282nm,21.0s
WMOK Wichita Mounta 123.22 45 *e*PKPdf **PKPdf 12 03 24.1 0.0**
WMOK LR LR
comp=Z,282nm,21.0s
430A Baggett Ranch, 123.31 50 P **PKPdf 12 03 24.4 -0.1**
baz=123,SNR=12
RTC Rabat Centre 123.42 314 PFAKE 12 03 40.0 +16
RTC LR LR
comp=Z,230nm,22.0s
Z32A Haskell 123.44 47 P **PKPdf 12 03 24.7 +0.2**
baz=123
231A Bronte 123.48 49 P **PKPdf 12 03 24.7 0.0**
baz=123
530A J-C Ranch, Com 123.52 51 P **PKPdf 12 03 25.4 +0.6**
baz=124,SNR=13
TOA0 Torodi Ar. Sit 123.57 288 *e*PKPdf **PKPdf 12 03 24.6 -0.6**
TORD Torodi Ar. Bea 123.57 288 PKP **PKPdf 12 03 25.1 -0.1**
TORD PP PP 12 05 01.4 -6.2
TORD PKKPbc **PKKPab 12 13 13.8 +0.2**
TORD Torodi Ar. Bea 123.57 288 PKP **PKPdf 12 03 25.1 -0.1**
comp=Z,4.5nm,0.6s,baz=80,slow=1.5,SNR=27
TORD PP PP 12 05 01.5 -6.2
comp=Z,5.0nm,1.0s,baz=61,slow=6.4,SNR=4.4
TORD PKKPbc **PKKPab 12 13 13.8 +0.2**
comp=Z,0.6nm,0.8s,baz=280,slow=4.2,SNR=3.5
JFWS Jewell Farm 123.60 32 *e*PKIKP **PKPdf 12 03 23.3 -1.3**
JFWS MLR MLR
comp=Z,437nm,19.0s
JFWS Jewell Farm 123.60 32 *e*PKPdf **PKPdf 12 03 23.2 -1.3**
JFWS LR LR
comp=Z,437nm,19.0s
ABTX Abilene, Hawle 123.66 48 *e*PKPdf **PKPdf 12 03 25.9 +0.9**
ABTX Abilene, Hawle 123.66 48 P **PKPdf 12 03 25.0 +0.1**
baz=124
331A San Angelo 123.69 49 P **PKPdf 12 03 25.2 +0.1**
baz=124,SNR=18
431A Sonora 123.84 50 P **PKPdf 12 03 25.3 -0.1**
baz=124,SNR=5.6
232A Coleman 124.01 48 P **PKPdf 12 03 25.6 -0.1**
baz=124
531A Rocksprings 124.13 51 P **PKPdf 12 03 25.7 -0.3**
baz=124,SNR=9.1
332A Millersview 124.18 49 P **PKPdf 12 03 25.9 -0.1**
baz=124,SNR=8.6
432A Menard 124.38 49 P **PKPdf 12 03 26.4 0.0**
baz=124
631A Perdido Creek 124.44 51 P **PKPdf 12 03 26.3 -0.2**
baz=124,SNR=13
JCT Junction City 124.55 50 *e*PKIKP **PKPdf 12 03 27.4 +0.6**
JCT MLR MLR
comp=Z,394nm,19.0s
JCT Junction City 124.55 50 *e*PKPdf **PKPdf 12 03 27.4 +0.6**
JCT LR LR
comp=Z,394nm,19.0s
JCT Junction City 124.55 50 P **PKPdf 12 03 26.7 -0.1**
baz=124,SNR=33
532A Rocksprings 124.64 50 P **PKPdf 12 03 27.1 +0.1**
baz=125,SNR=9.1
632A Uvalde 125.01 51 P **PKPdf 12 03 27.7 +0.1**
baz=125,SNR=9.7
732A Laxson Ranch, 125.22 52 P **PKPdf 12 03 28.7 +0.6**
baz=125
WHTX Lake Whitney 125.58 47 *e*PKPdf **PKPdf 12 03 29.8 +1.2**
WHTX Lake Whitney 125.58 47 P **PKPdf 12 03 29.3 +0.7**
baz=126
MIAR Mount Ida 126.91 42 *e*PKIKP **PKPdf 12 03 32.2 +1.1**
MIAR MLR MLR
comp=Z,658nm,20.0s
MIAR Mount Ida 126.91 42 *e*PKPdf **PKPdf 12 03 32.2 +1.1**
MIAR LR LR
comp=Z,658nm,20.0s
SFIN Scholer Farm 127.06 33 P **PKPdf 12 03 31.3 0.0**
baz=127
SADO Sadowa 127.38 23 PKP **PKPdf 12 03 34.1 +2.4**
SADO Sadowa 127.38 23 PKP **PKPdf 12 03 34.1 +2.4**
comp=Z,4.5nm,0.5s,baz=179,slow=3.6,SNR=3.5
KVTX Kingsville 127.39 52 PFAKE 12 03 40.0 +7.8
KVTX LR LR
comp=Z,312nm,19.0s
NATX Nacogdoches 127.72 46 PFAKE 12 03 40.0 +7.3
NATX LR LR
comp=Z,2μm,21.0s
HKT Hockley 127.81 48 *e*PKIKP **PKPdf 12 03 34.6 +1.7**
HKT Hockley 127.81 48 *e*PKPdf **PKPdf 12 03 34.6 +1.7**
PARMO Parma 128.06 38 *e*PKPdf **PKPdf 12 03 35.9 +2.6**
BLO Bloomington 128.23 33 *e*PKIKP **PKIKP 12 03 34.5 +1.0**
BLO Bloomington 128.23 33 *e*PKPdf **PKPdf 12 03 34.5 +1.0**
WCI Wyandotte Cave 129.02 34 *e*PKIKP **PKPdf 12 03 36.1 +1.0**
WCI Wyandotte Cave 129.02 34 *e*PKPdf **PKPdf 12 03 36.1 +1.0**
WVT Waverly 129.58 37 *e*PKIKP **PKPdf 12 03 36.3 +0.1**
WVT Waverly 129.58 37 *e*PKPdf **PKPdf 12 03 36.3 +0.1**
OXF Oxford 129.66 40 *e*PKIKP **PKPdf 12 03 37.8 +1.4**
OXF MLR MLR
comp=Z,403nm,21.0s
OXF Oxford 129.66 40 *e*PKPdf **PKPdf 12 03 37.8 +1.4**
OXF LR LR
comp=Z,403nm,21.0s
PKME Peaks-Kenny Pk 130.19 15 PFAKE 12 03 50.0 +13
PKME LR LR
comp=Z,1μm,22.0s
VBMS Vicksburg 130.35 43 PFAKE 12 03 50.0 +12
VBMS LR LR
comp=Z,905nm,20.0s
KIC Kosan Boka 131.05 281 *e*P **PKPdf 12 03 39.8 +0.2**
comp=Z,64nm,1.5s
TIC Toumodi 131.28 281 *e*P **PKPdf 12 03 42.3 +2.3**
comp=Z,4.6nm,0.2s
LIC Lamto 131.36 281⇑*i*PKIKP **PKPdf 12 03 37.2 -2.9**
LIC Lamto 131.36 281 *e*P **PKPdf 12 03 40.5 +0.4**
comp=Z,19nm,0.8s
LIC Lamto 131.36 281⇑*i*PKPdf **PKPdf 12 03 37.2 -2.9**
LRAL Lakeview Retre 132.14 39 *e*PKPdf **PKPdf 12 03 40.3 -0.8**
LRAL LR LR
comp=Z,360nm,20.0s
TKL Tuckaleechee C 132.27 34 *e*PKPdf **PKPdf 12 03 42.2 +0.9**
BRAL Brewton 133.41 42 PFAKE 12 04 00.0 +16
BRAL LR LR
comp=Z,551nm,20.0s
CBN Corbin 133.55 27 PFAKE 12 04 00.0 +16
CBN LR LR
comp=Z,489nm,19.0s
CNNC Cliffs of the 135.71 30 PFAKE 12 04 00.0 +12
CNNC LR LR
comp=Z,447nm,19.0s
TEIG Tepich 138.59 55 PFAKE 12 04 10.0 +17
TEIG LR LR
comp=Z,336nm,21.0s
PLCA Paso Flores 138.83 160 PKPpre PKPpre 12 03 46.4
PLCA PKP **PKiKP 12 03 54.7 -0.9**
PLCA Paso Flores 138.83 160 PKhKP PKPpre 12 03 46.4
comp=Z,1.9nm,0.6s,baz=209,slow=6.1,SNR=3.2
PLCA PKP **PKiKP 12 03 54.7 -0.9**
comp=Z,9.8nm,0.8s,baz=207,slow=1.4,SNR=9.7
TRQA Tornquist 143.74 168 *e*PKPdf PKPab 12 03 59.3 +0.2
TRQA LR LR
comp=Z,256nm,22.0s
LCO Las Campanas 148.76 149 *e*PKPbc **PKPbc 12 04 15.5 +0.3**
GTBY Guantanamo Bay 148.79 43 *e*PKPbc **PKPbc 12 04 16.2 +1.1**
GTBY LR LR
comp=Z,219nm,19.0s
BCIP Isla Barro Col 150.77 66 *e*PKPbc **PKPbc 12 04 19.7 -0.5**
BCIP LR LR
comp=Z,312nm,22.0s
SDDR Presa de Saban 151.99 39 PFAKE 12 04 30.0 -2.2
SDDR LR LR
comp=Z,402nm,20.0s
OTAV Otavalo 154.35 84 PFAKE 12 04 30.0 +1.2
OTAV LR LR
comp=Z,359nm,19.0s
NNA Nana 154.55 113 PFAKE 12 04 30.0 +1.4
NNA LR LR
comp=Z,655nm,21.0s
LVC Limon Verde 154.78 143 *e*PKPbc **PKPbc 12 04 29.1 0.0**
CPUP Villa Florida 156.02 170 PKP **PKPdf 12 04 22.1 +0.3**
CPUP *e*PKPdf **PKPdf 12 04 22.7 +1.0**
CPUP PKPbc PKPab 12 04 31.3 -18
CPUP *e*PKPab PKPab 12 04 48.5 -0.5
CPUP Villa Florida 156.02 170 PKP **PKPdf 12 04 22.1 +0.3**
comp=Z,0.8nm,0.5s,baz=354,slow=8.4,SNR=3.0
CPUP PKPbc PKPab 12 04 31.3 -18
comp=Z,9.5nm,0.9s,baz=176,slow=3.2,SNR=3.5
CPUP PKPab PKPab 12 04 48.5 -0.5
comp=Z,27nm,1.1s,baz=191,slow=3.6,SNR=4.5
ROSC El Rosal 157.40 71 *e*PKPdf **PKPdf 12 04 25.7 +1.3**
ROSC PKPab **PKPab 12 04 57.0 +1.0**
ROSC *e*PKPab PKPab 12 04 58.0 +2.0
ROSC El Rosal 157.40 71 PKPab **PKPab 12 04 57.0 +1.0**
comp=Z,13nm,0.7s,baz=91,slow=22,SNR=7.3
SDV Santo Domingo 159.01 57 *e*PKPdf **PKPdf 12 04 26.5 +0.4**
SDV *e*PKPab **PKPab 12 05 03.9 +1.3**
LPAZ La Paz 159.79 133 *e*PKPdf **PKPdf 12 04 27.7 +0.3**
LPAZ PKP **PKPdf 12 04 28.2 +0.8**
LPAZ *e*PKPab **PKPab 12 05 06.1 -0.3**
LPAZ PKPab PKPab 12 05 07.0 +0.5
LPAZ La Paz 159.79 133 PKP **PKPdf 12 04 28.2 +0.8**
comp=Z,6.3nm,1.1s,baz=228,slow=2.3,SNR=13
LPAZ PKPab **PKPab 12 05 07.0 +0.5**
comp=Z,8.0nm,0.8s,baz=271,slow=2.8,SNR=6.4
FDF Fort de France 160.97 25 PFAKE 12 04 40.0 +12
FDF LR LR
comp=Z,484nm,20.0s
RCBR Riachuelo 162.70 259 PFAKE 12 04 40.0 +10
RCBR LR LR
comp=Z,263nm,22.0s
BDFB Brasilia 166.15 200 PKPab **PKPab 12 05 33.6 +0.1**
BDFB Brasilia 166.15 200 PKPab **PKPab 12 05 33.6 +0.1**
comp=Z,7.6nm,1.1s,baz=177,slow=5.8,SNR=3.6
SAML Samuel 168.02 122 *e*PKPdf **PKPdf 12 04 34.2 -0.1**
SAML LR LR
comp=Z,413nm,20.0s

NEIC ***23*** *12:02:57.0, 18°.89N×68°.91W, h77km, MD3.9(RSPR), MD4.0(SDD), After SDD.*

RSPR 23 12:02:55.8, 18°.96N×68°.92W, h104km±1km, MD3.9/15, 20C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.47**	**249**	⇑*i*P	Pn	12 03 11.5	-0.4
DR12				*e*S	Sn	12 03 23.5	-0.5
DR12	**Loma Pena Alta**	**0.47**	**249**	*i* Pu	Pn	12 03 11.5	-0.4
DR12				*e*S	Sn	12 03 23.5	-0.5
IMO	**Isla Mona**	**1.28**	**131**	⇓*e*P	Pn	12 03 18.9	-0.7
IMO	**Isla Mona**	**1.28**	**131**	⇓*e*P	Pn	12 03 18.9	-0.7
IDE	**Isla Desecheo**	**1.48**	**112**	⇓*e*P	Pn	12 03 21.1	-1.0
IDE	**Isla Desecheo**	**1.48**	**112**	⇓*e*P	Pn	12 03 21.1	-1.0
AGPR	**Aguadilla, PR**	**1.78**	**106**	⇓*e*P	Pn	12 03 26.3	+0.5
AGPR	**Aguadilla, PR**	**1.78**	**106**	⇓*e*P	Pn	12 03 26.3	+0.5
AGPR				*e*S	Sn	12 03 48.3	-0.3
LSP	**Las Mesas**	**1.91**	**114**	⇑*e*P	Pn	12 03 27.5	+0.1
LSP	**Las Mesas**	**1.91**	**114**	⇑*e*P	Pn	12 03 27.5	+0.1
CRPR	**Cabo Rojo, PR**	**1.96**	**118**	⇑*e*P	Pn	12 03 27.6	-0.5
CRPR	**Cabo Rojo, PR**	**1.96**	**118**	⇑*e*P	Pn	12 03 27.6	-0.5
LRS	**Lares**	**2.08**	**108**	⇑*e*P	Pn	12 03 29.1	-0.5
LRS	**Lares**	**2.08**	**108**	⇑*e*P	Pn	12 03 29.1	-0.5
AOPR	**Arecibo Observ**	**2.14**	**106**	⇑*e*P	Pn	12 03 30.1	-0.3
AOPR	**Arecibo Observ**	**2.14**	**106**	⇑*e*P	Pn	12 03 30.1	-0.3
AOPR				*e*S	Sn	12 03 56.8	-0.1
GBPR	**Guanica, Bosqu**	**2.17**	**116**	⇑*e*P	Pn	12 03 30.3	-0.4
GBPR	**Guanica, Bosqu**	**2.17**	**116**	⇑*e*P	Pn	12 03 30.3	-0.4
GBPR				*e*S	Sn	12 03 57.6	+0.2
SDDR	**Presa de Saban**	**2.24**	**271**	⇑*e*P	Pn	12 03 31.6	-0.1
SDDR	**Presa de Saban**	**2.24**	**271**	⇑*e*P	Pn	12 03 31.6	-0.1
SDDR				*e*S	Sn	12 03 59.1	-0.2
OBIP	**Obispado Ponce**	**2.38**	**112**	⇓*e*P	Pn	12 03 32.8	-0.7
OBIP	**Obispado Ponce**	**2.38**	**112**	⇓*e*P	Pn	12 03 32.8	-0.7
OBIP				*e*S	Sn	12 04 02.6	+0.3
CELP	**Cerrillos**	**2.39**	**111**	⇑*e*P	Pn	12 03 33.2	-0.5
CELP				*e*S	Sn	12 04 03.0	+0.3
CELP	**Cerrillos**	**2.39**	**111**	⇑*e*P	Pn	12 03 33.2	-0.5
CELP				*e*S	Sn	12 04 03.0	+0.3
SJG	**San Juan**	**2.76**	**107**	⇑*e*P	Pn	12 03 38.6	+0.1
SJG	**San Juan**	**2.76**	**107**	⇑*e*P	Pn	12 03 38.6	+0.1
CBYP	**Canovanas**	**2.98**	**103**	*e*Pn	Pn	12 03 40.2	-1.3
HUMP	**Col San Antoni**	**3.02**	**105**	⇑*e*P	Pn	12 03 41.8	-0.2
HUMP	**Col San Antoni**	**3.02**	**105**	⇑*e*P	Pn	12 03 41.8	-0.2
HUMP				*e*S	Sn	12 04 14.6	-3.0
STVI	**Saint Thomas**	**3.81**	**98**	⇑*e*P	Pn	12 03 52.9	+0.4
STVI	**Saint Thomas**	**3.81**	**98**	⇑*e*P	Pn	12 03 52.9	+0.4
STVI				*e*S	Sn	12 04 34.5	-1.9

IDC ***23*** *12:24:15.2±1.7, 36°.06N×141°.74E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=61.4km s-min=20.2km az=79.0*

ISCJB ***23*** *12:24:17.2±0.9, 36°.12N±0°.07×141°.54E±0°.08, h26km, mb3.6/5, Error ellipse: s-maj=10.9km s-min=8.5km az=151.5*

JMA ***23*** *12:24:19.3±0.1, 36°.03N×141°.35E, h47km±2km, M3.5*

ISC 23 12:24:20.1±1.3, 36°.12N±0°.10×141°.32E±0°.08, h26km, n10, σ1§29/13, mb3.7/5, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.78**	**309**	⇓P	Pb	12 24 35.0	-0.1
JYT	**Yasato**	**0.92**	**277**	⇓P	Pn	12 24 36.5	-0.8
JYT				*e*S	Sb	12 24 48.9	-0.3
JAG	**Ashikaga**	**1.54**	**282**	⇓P	Pn	12 24 45.5	-0.4
MAT	**Matsushiro**	**2.55**	**280**	P	Pn	12 25 01.0	+1.2
MAT				S	Sb	12 25 33.7	-2.4
ASAJ	**Asahikawa**	**8.05**	**7**	Pn	Pn	12 26 14.2	-1.1
0.3nm,0.3s,baz=231,slow=6.5,SNR=4.3							
ASAJ				Sn	Sn	12 27 45.5	+0.1
0.2nm,0.3s,baz=162,slow=20,SNR=2.5							
ZALV	**Zalesovo Beam**	**42.48**	**313**	P	P	12 32 14.3	+1.5
0.8nm,0.5s,baz=93,slow=4.6,SNR=3.7							
MKAR	**Makanchi Array**	**44.55**	**303**	P	P	12 32 30.7	+1.1
0.5nm,0.6s,baz=85,slow=9.4,SNR=5.5							
BVAR	**Borovoye Array**	**51.14**	**313**	P	P	12 33 21.8	+1.3
0.4nm,0.4s,baz=90,slow=4.3,SNR=3.5							
WRA	**Warramunga Arr**	**56.15**	**188**	P	P	12 33 56.1	-1.3
0.4nm,0.5s,baz=7.2,slow=7.7,SNR=10							
ASAR	**Alice Springs**	**59.87**	**188**	P	P	12 34 23.0	-0.6
0.4nm,0.9s,baz=15,slow=9.0,SNR=3.3							

NIED ***23*** *12:33:00, 33°.00N×140°.80E, h53km, Mw4.0 Best double couple: M0=1.20000×10^15 NP1:φ=321.00000°, δ=51.00000°, λ=90.00000°. NP2:φ=140.00000°, δ=39.00000°, λ=89.00000°.*

ISCJB ***23*** *12:33:21.0±0.8, 32°.87N±0°.05×140°.78E±0°.06, h74km±6km, mb3.8/11, Error ellipse: s-maj=9.2km s-min=7.3km az=38.9*

JMA ***23*** *12:33:21.9±0.2, 32°.89N×140°.77E, h56km, M4.0*

JMA Felt I J1.

IDC ***23*** *12:33:27.6±3.7, 32°.79N×140°.48E, h115km±34km, mb3.5/11, mb1 3.7/13, mb1mx3.5/27, mbtmp3.5/13, MS2.8/1, Ms1 2.8/1, ms1mx2.2/33, Error ellipse: s-maj=22.3km s-min=14.8km az=90.0*

ISC 23 12:33:22.5±0.9, 32°.88N±0°.06×140°.76E±0°.06, h67km±7km, n30, σ1§23/44, mb3.9/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.82**	**286**	P	Pn	12 33 37.9	-0.7
JHJ2				S	Sn	12 33 49.4	-1.2
JHCJ	**Hachijojimakas**	**0.83**	**284**	P	Pn	12 33 37.9	-0.8
JHCJ				*e*S	Sn	12 33 48.6	-2.1
JMY	**Miyakejima3**	**1.58**	**319**	P	Pn	12 33 48.3	-0.2
BSO1	**Boso 1**	**1.78**	**6**	P	Pn	12 33 50.2	-0.4
BSO1				*e*S	Sn	12 34 12.5	+0.5
JKO	**Kozu shima**	**1.88**	**314**	P	Pn	12 33 52.5	+0.1
JKO				S	Sn	12 34 14.7	-0.5
BSO3	**Boso 3**	**1.93**	**354**	P	Pn	12 33 52.8	0.0
BSO3				*e*S	Sn	12 34 16.0	0.0
JIM2	**Oshima 3**	**2.14**	**329**	P	Pn	12 33 55.7	-0.3
JIM2				S	Sn	12 34 19.9	-1.6
JIZS	**Izushimoda**	**2.41**	**320**	P	Pn	12 34 00.0	+0.4
JIZS				*e*S	Sn	12 34 27.3	-0.7
TK02	**Tokai 2**	**2.72**	**294**	P	Pn	12 34 04.6	+0.9
TK02				S	Sn	12 34 36.7	+1.3
JOD2	**Odawara 2**	**2.75**	**330**	P	Pn	12 34 04.3	0.0
JOD2				S	Sn	12 34 34.6	-1.8
TK04	**Tokai 4**	**2.83**	**303**	P	Pn	12 34 06.4	+1.1
TK04				*e*S	Sn	12 34 39.9	+1.7
SHZ3	**Shizuoka 3**	**3.04**	**317**	P	Pn	12 34 09.6	+1.4
JYN	**Shimob**	**3.19**	**326**	P	Pn	12 34 11.6	+1.3
TTO2	**TONANKAI O.B.S**	**3.24**	**286**	P	Pn	12 34 11.7	+1.1
TTO2				*e*S	Sn	12 34 49.1	+1.3
TTO1	**TONANKAI O.B.S**	**3.41**	**284**	P	Pn	12 34 14.1	+1.1
TTO1				*e*S	Sn	12 34 53.1	+1.0
MAT	**Matsushiro**	**4.21**	**331**	P	Pn	12 34 25.1	+0.8
MAT				S	Sn	12 35 12.0	-0.2
JNU	**Nakatsue**	**8.30**	**274**	P	Pn	12 35 22.1	+1.8
0.9nm,0.3s,baz=100,slow=6.1,SNR=12							
ASAJ	**Asahikawa**	**11.31**	**7**	P	Pn	12 35 58.3	-2.9
0.7nm,0.3s,baz=182,slow=24,SNR=9.3							
ASAJ				S	Sn	12 37 59.0	-6.8
0.2nm,0.3s,baz=130,slow=9.4,SNR=2.5							
KSRS	**Korea Array**	**11.45**	**297**	P	Pn	12 36 06.2	+3.1
0.2nm,0.3s,baz=111,slow=14,SNR=4.6							
KSRS				LR	LR	12 40 26.5	
comp=Z,52nm,20.6s,baz=120,slow=37							
PETK	**Petropavlovsk-**	**23.60**	**26**	P	P	12 38 30.4	+3.3
8.6nm,1.2s,baz=224,slow=12,SNR=3.4							
SONM	**Songino Array**	**29.86**	**310**	P	P	12 39 23.2	-0.4
0.5nm,0.6s,baz=109,slow=8.8,SNR=6.0							
CMAR	**Chiang Mai Arr**	**40.06**	**259**	P	P	12 40 49.8	-1.7
0.9nm,0.8s,baz=48,slow=6.8,SNR=7.4							
ZALV	**Zalesovo Beam**	**44.41**	**316**	P	P	12 41 25.0	-1.3
0.6nm,0.3s,baz=109,slow=8.0,SNR=3.7							
MKAR	**Makanchi Array**	**45.98**	**305**	P	P	12 41 38.3	-0.6
2.5nm,0.5s,baz=85,slow=9.5,SNR=18							
WRA	**Warramunga Arr**	**52.88**	**188**	P	P	12 42 30.3	-1.4
1.2nm,0.3s,baz=7.6,slow=7.6,SNR=75							
BVAR	**Borovoye Array**	**53.03**	**315**	P	P	12 42 31.6	-0.8
0.4nm,0.3s,baz=92,slow=8.9,SNR=4.7							
ILAR	**Eielson Array**	**53.31**	**31**	P	P	12 42 35.0	+0.6
0.5nm,1.0s,baz=275,slow=6.4,SNR=5.0							
ASAR	**Alice Springs**	**56.61**	**188**	P	P	12 42 57.3	-1.3
0.5nm,0.3s,baz=1.8,slow=6.1,SNR=37							
ASAR				pP	pP	12 43 16.5	+0.5
0.5nm,0.5s,baz=360,slow=6.5,SNR=3.4							
ASAR				PcP	PcP	12 43 55.0	+0.7
0.3nm,0.5s,baz=9.7,slow=3.9,SNR=4.5							
FINES	**FINESS Array B**	**72.24**	**333**	P	P	12 44 39.2	-0.9
0.6nm,0.4s,baz=63,slow=5.9,SNR=9.3							
TXAR	**Lajitas Array**	**93.09**	**52**	P	P	12 46 30.1	+0.7
0.2nm,0.6s,baz=299,slow=3.7,SNR=5.6							
TXAR				pP	pP	12 46 50.0	+2.0
0.3nm,0.6s,baz=320,slow=3.4,SNR=4.0							

ISCJB ***23*** *12:41:45.9±0.7, 77°.65N±0°.06×7°.3E±0°.2, h10km, mb3.5/6, MS3.3/1, Error ellipse: s-maj=9.4km s-min=6.7km az=146.1*

CSEM ***23*** *12:41:48.8±0.2, 77°.66N×7°.01E, h20km, ML2.8, Error ellipse: s-maj=6.8km s-min=5.3km az=159.0*

IDC ***23*** *12:41:49.6±1.2, 77°.67N×7°.45E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/42, Error ellipse: s-maj=23.0km s-min=15.3km az=150.0*

NAO ***23*** *12:41:51.8±3.4, 77°.79N×8°.60E, h25km±36km, ML2.8*

BER ***23*** *12:41:52.8±3.0, 77°.61N×8°.67E, h19km±23km, MD2.4, ML2.5, ML2.8(NAO)*

ISC 23 12:41:49.6±0.8, 77°.76N±0°.08×7°.23E±0°.07, h10km, n23, σ1§82/25, mb3.5/6, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.51**	**37**	Pg	Pn	12 42 16.1	-0.4
KBS				Lg	Lg	12 42 34.0	
KBS	**Kingsbay**	**1.51**	**37**	*e*P	Pn	12 42 16.2	-0.4
KBS				*e*S	Sn	12 42 34.6	-1.8
KBS				AML	AML	12 42 36.8	
comp=Z,92nm,0.3s							
KBS	**Kingsbay**	**1.51**	**37**	*e*P	Pn	12 42 16.2	-0.4
SNR=55							
KBS				Lg	Lg	12 42 34.0	
KBS				*i* S	Sn	12 42 35.2	-1.1
comp=Z,15nm,0.1s,SNR=98							
SPA0	**Spitsbergen Ar**	**1.96**	**73**	Pg	Pn	12 42 22.8	0.0
baz=254,slow=12							
SPA0				Lg	Lg	12 42 45.5	
baz=254,slow=22							
SPA0	**Spitsbergen Ar**	**1.96**	**73**	Pg	Pn	12 42 22.8	0.0
baz=254,slow=12							
SPA0				Lg	Lg	12 42 45.5	
baz=254,slow=22							
SPA0	**Spitsbergen Ar**	**1.96**	**73**	Pg	Pn	12 42 22.8	0.0
baz=254,slow=12,SNR=937							
SPA0				Lg	Lg	12 42 45.5	
baz=254,slow=21,SNR=2.7							
SPITS	**Spitsbergen Ar**	**1.96**	**73**	Pn	Pn	12 42 22.9	0.0
baz=238,slow=14,SNR=410							
SPITS				Sn	Sn	12 42 45.6	-1.8
baz=258,slow=32,SNR=21							
HSP	**Hornsund**	**1.98**	**108**	*e*P	Pn	12 42 20.0	-3.0
HSP				*e*S	Sn	12 42 36.5	-11
DAG	**Danmarks Havn**	**5.78**	**273**	*i* P	Pn	12 43 13.2	-2.0
DAG				*i* S	Sn	12 44 15.2	-6.1
DAG	**Danmarks Havn**	**5.78**	**273**	*i* P	Pn	12 43 13.5	-1.7
comp=Z,35nm,0.7s							
ARA0	**ARCESS Array S**	**9.66**	**139**	Pn	Pn	12 44 05.7	-2.8
baz=320,slow=10							
ARA0				Sn	Sn	12 45 43.3	-14
baz=336,slow=22							
ARA0	**ARCESS Array S**	**9.66**	**139**	Pn	Pn	12 44 05.7	-2.8
baz=320,slow=10							
ARA0				Sn	Sn	12 45 43.3	-14
baz=336,slow=22							
ARA0	**ARCESS Array S**	**9.66**	**139**	Pn	Pn	12 44 05.7	-2.8
baz=320,slow=9.7,SNR=5.6							
ARCES	**ARCESS Array B**	**9.66**	**139**	Pn	Pn	12 44 05.7	-2.7
comp=Z,0.3nm,0.3s,baz=325,slow=11,SNR=8.2							
ARCES				Sn	Sn	12 45 45.3	-12
comp=Z,0.3nm,0.3s,baz=331,slow=20,SNR=5.2							
SUMG	**Summit**	**12.45**	**269**	*i* P	Pn	12 44 45.2	-1.6
comp=Z,18nm,1.0s							
SUMG	**Summit**	**12.45**	**269**	*i* P	Pn	12 44 45.5	-1.3
AKTO	**Aktyubinsk**	**33.14**	**115**	LR	LR	13 04 56.6	
comp=Z,57nm,18.3s,baz=246,slow=42							
KURBB	**Kurchatov Array**	**37.18**	**93**	P	P	12 49 02.2	+2.0
comp=Z,0.4nm,0.6s,baz=340,slow=7.7,SNR=5.1							
BRTR	**Keskin Array B**	**39.71**	**148**	P	P	12 49 23.7	+2.0
comp=Z,1.1nm,1.0s,baz=352,slow=7.6,SNR=3.8							
MKAR	**Makanchi Array**	**41.61**	**92**	P	P	12 49 38.5	+1.3
comp=Z,0.9nm,0.9s,baz=352,slow=7.6,SNR=7.1							
TORD	**Torodi Ar. Bea**	**64.68**	**186**	P	P	12 52 28.0	+0.7
comp=Z,1.1nm,1.1s,baz=0.6,slow=7.1,SNR=4.1							
TXAR	**Lajitas Array**	**65.81**	**297**	P	P	12 52 36.4	+1.7
comp=Z,0.3nm,0.9s,baz=32,slow=5.0,SNR=3.7							
CMAR	**Chiang Mai Arr**	**72.46**	**84**	P	P	12 53 16.9	+1.1
comp=Z,0.4nm,0.4s,baz=355,slow=6.7,SNR=4.2							

GUC 23 12:45:19.0±0.7, 22°.54S×66°.65W, h260km, ML3.8, 3C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.51**	**287**	⇑*i*P	Pn	12 46 09.6	+2.2
PB09				*e*S	S	12 46 47.8	+2.2
PB09				AML	AML	12 46 53.0	
comp=E,99nm,0.3s							
PB04	**Plate Boundary**	**2.64**	**275**	⇓*i*P	Pn	12 46 16.8	+8.4
PB04				*i* S	S	12 47 00.4	+13
PB04				AML	AML	12 47 03.4	
comp=N,86nm,0.2s							
PB01	**Plate Boundary**	**3.03**	**299**	⇑*i*P	Pn	12 46 14.3	+1.7
PB01				*i* S	S	12 46 57.1	+2.1
PB01				AML	AML	12 46 58.3	
comp=E,101nm,0.3s							
PB07	**Plate Bo

*NNC **23** 12:58:58.0±4.2, 37.°34N×83.°99E, h0km, mb4.1, mpv4.8, Error ellipse: s-maj=49.8km s-min=28.5km az=106.0*
ISC 23 12:58:58.1±0.6, 36.°75N±0.°06×83.°87E±0.°07, h35km, n38, σ1§40/41, mb3.7/12, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.81**	**296**	Pn	**Pn**	**13 00 36.0**	**+0.3**
KSH				Sn	**Sn**	**13 01 52.5**	**+0.5**
KSH	comp=N,150nm,0.8s			smax	smax		
KSH	comp=E,150nm,0.8s			smax	smax		
WMQ	**Urumqi**	**7.64**	**21**	Pn	**Pn**	**13 00 48.6**	**+1.6**
WMQ				Sn	**Sn**	**13 02 15.3**	**+2.9**
WMQ	comp=N,50nm,0.6s			smax	smax		
WMQ	comp=E,35nm,1.1s			smax	smax		
DANN	**Dangsing**	**8.38**	**181**	*e*P	**Pn**	**13 00 56.7**	**-0.6**
PYUN	comp=E,16nm,0.5s **Piuthan**	**8.66**	**185**	*e*P	**Pn**	**13 00 59.7**	**-1.4**
TKM2	**Tokmak 2**	**8.86**	**317**	⇑Pn	**Pn**	**13 01 03.7**	**-0.1**
TKM2	comp=E,18nm,0.5s			⇑Sn	**Sn**	**13 02 43.4**	**+0.9**
TKM2	comp=E,8.1nm,0.6s			⇓Lg	Lg	13 03 30.4	
KOLN	comp=E,14nm,0.7s **Koldanda**	**8.96**	**182**	*e*P	**Pn**	**13 01 04.1**	**-1.1**
GUN	comp=E,8.5nm,0.5s **Gumba**	**8.97**	**169**	*e*P	**Pn**	**13 01 05.8**	**+0.2**
KKN	**Kakani**	**9.01**	**172**	*e*P	**Pn**	**13 01 05.8**	**-0.2**
PKIN	comp=E,11nm,0.6s **Phulchoki**	**9.24**	**172**	*e*P	**Pn**	**13 01 09.6**	**+0.5**
PKI	comp=E,13nm,0.6s **Pulchoki**	**9.24**	**171**	*e*P	**Pn**	**13 01 09.4**	**+0.1**
JIRN	comp=E,15nm,0.6s **Jiri**	**9.27**	**167**	*e*P	**Pn**	**13 01 10.5**	**+0.8**
AAK	**Ala-Archa**	**9.31**	**312**	Pn	**Pn**	**13 01 09.8**	**-0.2**
TAPN	comp=E,1.4nm,0.3s,baz=107,slow=9.7,SNR=10 **Taplejung**	**9.92**	**160**	*e*P	**Pn**	**13 01 19.2**	**+0.7**
MK31	comp=E,16nm,0.7s **Makanchi Array**	**10.11**	**354**	⇑Pn	**Pn**	**13 01 20.3**	**-0.4**
MK31	comp=E,1.9nm,0.4s,baz=158,slow=13,SNR=28			⇑Sn	**Sn**	**13 03 09.4**	**-3.3**
MK31	comp=E,9.0nm,0.7s,baz=170,slow=23,SNR=7.9			⇓Lg	Lg	13 03 57.3	
MKAR	comp=E,14nm,0.7s **Makanchi Array**	**10.11**	**354**	Pn	**Pn**	**13 01 20.0**	**-0.7**
MKAR	comp=E,0.9nm,0.3s,baz=187,slow=12,SNR=27			Sn	**Sn**	**13 03 10.2**	**-2.5**
MKAR	comp=E,3.3nm,0.3s,baz=172,slow=20,SNR=9.2			Lg	Lg	13 04 26.8	
GTA	comp=E,0.7nm,0.3s,baz=169,slow=27,SNR=4.0 **Gaotai**	**12.84**	**73**	*e*P	P	13 02 14.8	+6.2
GTA				pP	Pn	13 02 19.5	+21
GTA				sP		13 02 21.8	
GTA	comp=Z,2.0nm,1.2s			pmax	pmax		
KURBB	**Kurchatov Arra**	**14.39**	**346**	⇑Pn	Pn	13 02 13.9	-5.3
KURBB	comp=Z,2.3nm,0.8s **Kurchatov Arra**	**14.39**	**346**	Pn	**Pn**	**13 02 16.9**	**-2.2**
KURBB	comp=Z,0.0nm,0.3s,baz=167,slow=12,SNR=3.5			Lg	Lg	13 06 42.0	
ZALV	baz=160,slow=30,SNR=3.5 **Zalesovo Beam**	**17.21**	**2**	P	**Pn**	**13 02 52.8**	**-2.8**
VOSK	comp=Z,0.4nm,0.3s,baz=186,slow=14,SNR=10 **Vostochnaya**	**18.36**	**334**	⇓Pn	**P**	**13 03 07.9**	**-1.7**
BVA0	comp=Z,5.3nm,1.1s **Borovoye Array**	**18.82**	**334**	⇓P	**Pn**	**13 03 15.1**	**-0.2**
BVAR	comp=Z,4.0nm,1.1s,baz=118,slow=11,SNR=12 **Borovoye Array**	**18.82**	**334**	P	**P**	**13 03 14.3**	**-0.3**
BRVK	comp=Z,0.4nm,0.3s,baz=131,slow=11,SNR=6.9 **Borovoye**	**18.88**	**334**	⇓P	**Pn**	**13 03 18.9**	**+2.8**
SONM	comp=Z,18nm,1.5s **Songino Array**	**19.93**	**49**	P	**Pn**	**13 03 28.0**	**-0.8**
AB31	comp=Z,0.2nm,0.3s,baz=238,slow=11,SNR=9.1 **Akbulak array**	**21.40**	**313**	⇑P	**P**	**13 03 40.9**	**-1.7**
CMAR	comp=Z,4.8nm,0.8s,baz=112,slow=11,SNR=35 **Chiang Mai Arr**	**22.54**	**140**	P	**P**	**13 03 53.7**	**-1.4**
AKTO	comp=Z,1.5nm,0.8s,baz=318,slow=9.6,SNR=9.4 **Aktyubinsk**	**23.04**	**315**	⇓P	**P**	**13 03 58.8**	**-1.3**
AKTO	comp=Z,3.3nm,0.8s **Aktyubinsk**	**23.04**	**315**	**P**	**P**	**13 04 00.6**	**+0.5**
BRTR	comp=Z,0.8nm,0.4s,baz=138,slow=17,SNR=4.5 **Keskin Array B**	**39.15**	**290**	P	**P**	**13 06 22.6**	**+0.1**
FINES	comp=Z,1.1nm,0.8s,baz=86,slow=8.0,SNR=5.6 **FINESS Array B**	**43.27**	**324**	P	**P**	**13 06 55.6**	**-0.3**
ARCES	comp=Z,0.6nm,0.4s,baz=106,slow=8.4,SNR=9.9 **ARCESS Array B**	**45.10**	**335**	P	**P**	**13 07 12.1**	**+1.5**
NB2	comp=Z,3.2nm,1.0s,baz=78,slow=7.8,SNR=6.3 **NORSAR Subarra**	**50.44**	**323**	P	**P**	**13 07 51.0**	**-1.0**
NOA	comp=Z,0.6nm,0.4s,baz=84,slow=7.9 **NORSAR Array B**	**50.44**	**323**	P	**P**	**13 07 51.7**	**-0.3**
GERES	comp=Z,0.6nm,0.4s,baz=84,slow=7.6,SNR=4.5 **GERESS Array B**	**51.15**	**307**	P	**P**	**13 07 57.9**	**+0.3**
ILAR	comp=Z,0.9nm,0.7s,baz=77,slow=7.0,SNR=8.6 **Eielson Array**	**71.31**	**21**	P	**P**	**13 10 14.5**	**+0.8**
WRA	comp=Z,0.3nm,0.6s,baz=317,slow=4.4,SNR=6.2 **Warramunga Arr**	**73.80**	**131**	P	**P**	**13 10 29.0**	**-0.1**
TORD	comp=Z,0.5nm,0.5s,baz=325,slow=5.8,SNR=8.9 **Torodi Ar. Bea**	**76.05**	**276**	P	**P**	**13 10 43.6**	**+1.3**
ASAR	comp=Z,0.4nm,0.6s,baz=45,slow=5.6,SNR=5.6 **Alice Springs**	**76.39**	**134**	P	**P**	**13 10 43.1**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=323,slow=5.7,SNR=5.6						

*IDC **23** 13:08:24.6±0.4, 2.°50N×127.°03E, h0km, mb4.4/22, mb1 4.4/22, mb1mx4.4/27, mbtmp4.4/22, MS3.6/4, Ms1 3.7/4, ms1mx3.2/25, Error ellipse: s-maj=25.0km s-min=9.0km az=77.0*
*BJI **23** 13:08:24.4, 2.°57N×127.°17E, h12km, mB4.9/18, mb4.6/29, Ms4.5/9, Ms7 4.2/8*
*ISCJB **23** 13:08:24.2±0.2, 2.°63N±0.°03×127.°36E±0.°04, h10km, mb4.5/43, MS3.9/7, Error ellipse: s-maj=5.6km s-min=4.0km az=172.4*
*NEIC **23** 13:08:29.3±0.3, 2.°60N×127.°22E, h35km, mb4.6/11, Error ellipse: s-maj=12.7km s-min=6.2km az=78.0*
*AUST **23** 13:08:35.8, 2.°50N×127.°00E, h100km*
*DJA **23** 13:08:35.0±0.7, 2.°N±6.°×12.°7E±.°, h10km, M4.7/10, mb4.9/6, mB5.2/6, MLv4.6/10, Mw(mB)4.6/6*
ISC 23 13:08:28.0±0.3, 2.°65N±0.°04×127.°25E±0.°06, h21km±4km, n133, σ1§57/142, mb4.6/43, MS4.0/7, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.87**	**177**	P	**Pn**	**13 08 59.9**	**+1.1**
TNTI				S	**Sb**	**13 09 25.4**	**+1.0**
LBMI	**Labuha**	**3.28**	**176**	P	**Pn**	**13 09 20.5**	**+2.4**
KMSI	**Cibinong**	**3.87**	**238**	P	Pn	13 09 29.2	+2.9
KMSI				S	**Sn**	**13 10 15.3**	**+4.2**
GTOI	**Gorontalo**	**4.69**	**245**	P	**Pn**	**13 09 40.5**	**+2.9**
SWI	**Sorong**	**5.31**	**131**	P	Pn	13 09 50.9	+4.8
SWI	70nm,1.0s,756nm0.2nm **Sorong**	**5.31**	**131**	P	Pn	13 09 51.8	+5.6
BUKP	baz=5.4,SNR=6.4 **Musuan**	**5.63**	**337**	*e*P	Pn	13 09 54.3	+3.7
MRSI	**Marisa**	**5.73**	**248**	P	Pn	13 09 55.8	+3.9
LUWI	157nm,0.6s,2μm0.6nm **Luwuk**	**5.79**	**231**	P	Pn	13 09 56.6	+3.9
MSAI	baz=5.5,SNR=15 **Masohi**	**6.19**	**164**	P	Pn	13 10 05.0	+6.8
AAI	17nm,0.7s,1μm0.1nm **Ambon**	**6.37**	**172**	P	Pn	13 10 04.6	+4.0
AAI	107nm,1.2s,1μm0.4nm			S	Sn	13 10 35.2	-38
AAI	107nm,1.2s,1μm0.4nm **Ambon**	**6.37**	**172**	P	Pn	13 10 07.8	+7.1
PAGZ	baz=6.3,SNR=3.5 **Pagadian**	**6.44**	**323**	*e*P	**Pn**	**13 10 03.0**	**+1.4**
IPIL	**Ipil**	**6.91**	**318**	⇓*e*P	**Pn**	**13 10 09.5**	**+1.3**
IPIL				*e*S	Sn	13 10 46.9	-39
FAKI	**Fak Fak**	**7.45**	**138**	P	Pn	13 10 20.4	+4.5
SKSI	baz=7.5,SNR=3.9 **Soroako, Sulaw**	**7.84**	**229**	P	Pn	13 10 24.5	+3.5
RKPI	218nm,1.0s,2μm1.0nm **Ransiki, Papua**	**8.06**	**121**	P	Pb	13 10 40.5	-6.5
PALU	**Palau**	**8.57**	**57**	P	Pn	13 10 41.6	+11
PALU	baz=8.9,SNR=3.4			S	**Sn**	**13 12 09.7**	**+2.7**
MYLDM	baz=8.9,SNR=6.3 **Lahad Datu**	**9.09**	**286**	P	Pn	13 10 41.9	+3.9
TSM	**Tawau**	**9.51**	**280**	P	**Pn**	**13 10 44.9**	**+1.2**
TLE	**Tual**	**9.89**	**146**	P	Pn	13 10 56.3	+7.3
	baz=10.0,SNR=5.2						
SDKM	**Sandakan**	**10.46**	**287**	P	**Pn**	**13 10 59.2**	**+2.3**
KAPI	**Kappang**	**10.68**	**225**	*e*P	**Pn**	**13 11 00.2**	**+0.3**
KAPI	**Kappang**	**10.68**	**225**	Pn	**Pn**	**13 10 59.9**	**0.0**
	1.4nm,0.3s,baz=93,slow=9.4,SNR=4.7						
KKM	**Kota Kinabalu**	**11.51**	**287**	*e*P	Pn	13 11 15.1	+3.8
KKM	**Kota Kinabalu**	**11.51**	**287**	P	**Pn**	**13 11 12.2**	**+0.9**
KKM	**Kota Kinabalu**	**11.51**	**287**	P	Pn	13 11 15.6	+4.2
	baz=11,SNR=5.3						
SOEI	**Soe**	**12.68**	**194**	P	P	13 11 44.1	+5.6
	baz=13,SNR=7.3						
BTM	**Bintulu**	**14.16**	**273**	P	**P**	**13 11 52.0**	**-2.9**
SBUM	**Sibu**	**15.02**	**270**	P	**P**	**13 12 05.8**	**+1.4**
MTN	**Manton Dam**	**15.87**	**166**	P	**P**	**13 12 14.7**	**+0.8**
	baz=16,SNR=3.6						
KDU	**Kakadu**	**16.10**	**161**	P	P	13 12 21.7	+5.3
	baz=16,SNR=3.4						
KSM	**Kuching**	**16.98**	**266**	*e*P	**P**	**13 12 25.4**	**-0.7**
KSM	**Kuching**	**16.98**	**266**	P	**P**	**13 12 27.6**	**+1.5**
KNRA	**Kununurra**	**18.27**	**175**	P	**Pn**	**13 12 39.6**	**-0.7**
	baz=18,SNR=15						
UGM	**Wanagama**	**19.71**	**238**	S	S	13 16 21.1	-17
	baz=20,SNR=3.8						
FITZ	**Fitzroy Crossi**	**20.68**	**184**	P	**P**	**13 13 05.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**20.68**	**184**	P	**P**	**13 13 05.8**	**-1.0**
	5.7nm,0.3s,baz=15,slow=7.6,SNR=26						
TWG	**Pinlang**	**20.93**	**344**	*e*P	**P**	**13 13 06.9**	**-2.5**
	65nm,0.4s						
YULB	**Yu-li**	**21.41**	**345**	*e*P	**P**	**13 13 12.2**	**-2.4**
	8.5nm,0.4s						
TPUB	**Ta-pu**	**21.51**	**343**	*e*P	**P**	**13 13 13.9**	**-1.8**
	23nm,0.6s						
SSLB	**Suanglung**	**21.88**	**344**	*e*P	**P**	**13 13 18.3**	**-1.4**
	16nm,0.6s						
YHNB	**Yeheng**	**22.61**	**346**	*e*P	**P**	**13 13 25.6**	**-2.0**
COEN	**Coen**	**22.84**	**137**	P	P	13 13 35.0	+5.0
	baz=23,SNR=4.6						
MYKOM	**Kota Tinggi**	**23.40**	**268**	P	P	13 13 42.4	+6.6
WRAB	**Tennant Creek**	**23.50**	**163**	*e*P	**P**	**13 13 34.8**	**-1.8**
	36nm,0.6s						
WRA	**Warramunga Arr**	**23.51**	**163**	P	**P**	**13 13 35.0**	**-1.7**
WRA				PcP	**PcP**	**13 17 22.0**	**-0.4**
WRA				S	**S**	**13 17 52.1**	**+2.5**
WRA	**Warramunga Arr**	**23.51**	**163**	P	**P**	**13 13 35.0**	**-1.7**
	33nm,0.6s,baz=342,slow=10,SNR=48						
WRA				PcP	**PcP**	**13 17 22.0**	**-0.4**
	1.1nm,0.4s,baz=336,slow=2.3,SNR=6.6						
WRA				S	**S**	**13 17 52.1**	**+2.5**
	1.3nm,0.9s,baz=332,slow=18,SNR=3.2						
KGM	**Kluang**	**23.92**	**269**	P	P	13 13 47.9	+7.0
MBWA	**Marble Bar**	**24.78**	**197**	*e*P	**P**	**13 13 47.5**	**-1.0**
	21nm,0.7s						
MTSU	**Mount Surprise**	**26.63**	**142**	P	**P**	**13 14 05.6**	**+0.2**
	baz=27,SNR=5.0						
AS31	**Alice Springs**	**26.95**	**166**	*e*P	**P**	**13 14 06.4**	**-1.8**
ASAR	**Alice Springs**	**26.95**	**166**	P	**P**	**13 14 06.5**	**-1.7**
ASAR				PcP	**PcP**	**13 17 29.6**	**-0.4**
ASAR	**Alice Springs**	**26.95**	**166**	P	**P**	**13 14 06.5**	**-1.7**
	6.9nm,0.5s,baz=346,slow=7.5,SNR=201						
ASAR				PcP	**PcP**	**13 17 29.6**	**-0.4**
	4.0nm,0.5s,baz=350,slow=2.1,SNR=16						
CTA	**Charters Tower**	**29.30**	**141**	P	**P**	**13 14 29.1**	**-0.2**
CTA	**Charters Tower**	**29.30**	**141**	P	**P**	**13 14 29.1**	**-0.2**
	1.0nm,0.5s,baz=333,slow=14,SNR=3.2						
MEEK	**Meekatharra**	**30.29**	**195**	P	**P**	**13 14 36.5**	**-1.4**
	baz=30,SNR=50						
NJ2	**Nanjing**	**30.30**	**346**	*e*P	**P**	**13 14 37.3**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
JNU	**Nakatsue**	**30.50**	**6**	P	**P**	**13 14 41.5**	**+1.7**
JNU	**Nakatsue**	**30.50**	**6**	P	**P**	**13 14 41.5**	**+1.7**
	comp=Z,9.2nm,1.1s,baz=225,slow=5.7,SNR=4.2						
GYA	**Guiyang**	**30.83**	**322**	*e*P	**P**	**13 14 42.8**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.87**	**302**	P	**P**	**13 14 51.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.87**	**302**	P	**P**	**13 14 51.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=116,slow=6.1,SNR=5.5						
CMAR				LR	LR	13 27 14.9	
	comp=Z,38nm,21.5s,baz=115,slow=36						
KMI	**Kunming**	**32.51**	**316**	P	**P**	**13 14 58.1**	**+0.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FORT	**Forrest**	**33.25**	**179**	P	**P**	**13 15 02.5**	**-1.4**
	baz=33,SNR=10						
MORW	**Morawa**	**33.32**	**198**	P	**P**	**13 15 03.2**	**-1.4**
	baz=33,SNR=16						
BLDU	**Ballidu**	**34.58**	**196**	P	**P**	**13 15 13.9**	**-1.5**
	baz=34,SNR=20						
KSAR	**Wonju Array Be**	**34.63**	**1**	P	**P**	**13 15 17.3**	**+1.5**
KSRS	**Korea Array**	**34.64**	**1**	P	**P**	**13 15 17.3**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=179,slow=9.7,SNR=13						
KLBR	**Kellerberrin**	**35.23**	**194**	P	**P**	**13 15 19.8**	**-1.3**
	baz=35,SNR=6.5						
XAN	**Xi'an**	**35.61**	**333**	P	**P**	**13 15 23.4**	**-1.0**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CD2	**Chengdu**	**35.82**	**324**	*e*P	**P**	**13 15 26.8**	**+0.6**
CD2				pP	**pP**	**13 15 31.3**	**-1.3**
CD2				sP	**sP**	**13 15 33.8**	**-1.4**
CD2	comp=Z,10.0nm,1.0s			pmax	pmax		
CD2	comp=Z,30nm,5.6s			pmax	pmax		
EIDS	**Eidsvold**	**36.19**	**142**	*e*P	**P**	**13 15 28.1**	**-1.2**
	comp=Z,7.7nm,1.0s						
EIDS	**Eidsvold**	**36.19**	**142**	P	**P**	**13 15 28.6**	**-0.8**
	baz=36,SNR=5.1						
BBOO	**Buckleboo**	**36.24**	**167**	P	**P**	**13 15 28.2**	**-1.5**
	baz=36,SNR=16						
NWAO	**Narrogin (SRO)**	**36.63**	**194**	P	**P**	**13 15 32.0**	**-1.0**
NWAO	**Narrogin (SRO)**	**36.63**	**194**	P	**P**	**13 15 32.0**	**-1.0**
	comp=Z,11nm,0.4s,baz=44,slow=11,SNR=11						
STKA	**Stephens Creek**	**36.94**	**159**	*e*P	**P**	**13 15 34.7**	**-1.0**
STKA				PcP	**PcP**	**13 17 56.6**	**-0.3**
STKA	**Stephens Creek**	**36.94**	**159**	P	**P**	**13 15 34.5**	**-1.2**
	comp=Z,14nm,0.7s,baz=323,slow=6.3,SNR=2.9						
STKA				PcP	**PcP**	**13 17 56.6**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=358,slow=3.0,SNR=4.8						
STKA				LR	LR	13 30 03.3	
	comp=Z,142nm,20.1s,baz=210,slow=35						
STKA	**Stephens Creek**	**36.94**	**159**	P	**P**	**13 15 34.9**	**-0.9**
	baz=37,SNR=22						
CMSA	**Cobar Meteorol**	**38.26**	**154**	P	**P**	**13 15 46.6**	**-0.3**
	baz=38,SNR=12						
RKGY	**Rocky Gully**	**38.30**	**194**	P	**P**	**13 15 47.5**	**+0.3**
	baz=38,SNR=7.7						
BJI	**Beijing**	**38.55**	**346**	P	**P**	**13 15 50.3**	**+1.1**
BJI				pmax	pmax		
	comp=Z,25nm,0.9s						
BJI				pmax	pmax		
	comp=Z,110nm,6.0s						
LZH	**Lanzhou**	**39.69**	**330**	*e*P	**P**	**13 16 00.1**	**+1.1**
LZH				pP	**pP**	**13 16 05.8**	**+0.3**
LZH				sP	**sP**	**13 16 09.3**	**+1.2**
LZH				PP	**PP**	**13 17 30.0**	**-0.4**
LZH				*e*S	**S**	**13 22 02.4**	**+0.7**
LZH				sS	**sS**	**13 22 10.4**	**-2.0**
LZH				SS	**SS**	**13 24 51.0**	**-6.6**
LZH				pmax	pmax		
	comp=Z,27nm,1.3s						
LZH				pmax	pmax		
	comp=Z,72nm,4.5s						
LZH				LR	LR		
	comp=N,190nm,12.9s						
LZH				LR	LR		
	comp=E,190nm,13.4s						
LZH				LR	LR		
	comp=Z,290nm,16.0s						
ARMA	**Armidale**	**40.28**	**147**	P	**P**	**13 16 04.0**	**+0.1**
	baz=40,SNR=5.6						
HHC	**Hu-ho-hao-te**	**40.58**	**342**	*e*P	**P**	**13 16 07.3**	**+1.0**
HHC				sP	**sP**	**13 16 14.8**	**-0.5**
HHC				PP	**PnPn**	**13 17 45.0**	**+1.1**
HHC				S	**S**	**13 22 16.5**	**+1.8**
HHC				sS	**sS**	**13 22 23.8**	**-1.6**
HHC				SS	**SS**	**13 25 12.8**	**-2.3**
HHC				ScS	**ScS**	**13 26 10.6**	**-0.6**
HHC				pmax	pmax		
	comp=Z,28nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,6.1s						
HHC				LR	LR		
	comp=N,200nm,15.4s						
HHC				LR	LR		
	comp=E,790nm,16.1s						
HHC				LR	LR		
	comp=Z,160nm,15.5s						
CN2	**Changchun**	**41.01**	**358**	*e*P	P	13 16 03.9	-5.7
CN2				*e*PP	**PP**	**13 17 42.5**	**-1.9**
USRK	**Ussuriysk Arra**	**41.59**	**5**	P	**P**	**13 16 15.8**	**+1.5**
	comp=Z,2.6nm,0.6s,baz=186,slow=5.6,SNR=7.4						
YNG	**Young**	**41.79**	**153**	P	**P**	**13 16 16.7**	**+0.5**
	baz=42,SNR=5.2						
MDJ	**Mudanjiang**	**41.84**	**3**	P	**P**	**13 16 15.5**	**-0.9**
MDJ				pP	**pP**	**13 16 18.6**	**-4.3**
MDJ				PP	**PP**	**13 17 53.8**	**+0.4**
MDJ				S	**S**	**13 22 34.8**	**+1.7**
MDJ				ScS	**ScS**	**13 26 15.3**	**-3.0**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,90nm,5.5s						
ASAJ	**Asahikawa**	**43.47**	**16**	P	**P**	**13 16 31.2**	**+1.5**
ASAJ	**Asahikawa**	**43.47**	**16**	P	**P**	**13 16 31.2**	**+1.5**
	comp=Z,3.2nm,0.5s,baz=122,slow=26,SNR=6.0						
LSA	**Lhasa**	**43.54**	**312**	*e*P	**P**	**13 16 30.0**	**-1.0**
	comp=Z,8.9nm,0.6s						
GTA	**Gaotai**	**44.28**	**329**	*e*P	**P**	**13 16 37.6**	**+1.1**
GTA				pP	**pP**	**13 16 42.1**	**-0.9**
GTA				sP	**sP**	**13 16 44.6**	**-1.0**
GTA				S	**S**	**13 23 15.0**	**+5.5**
GTA				sS	**sS**	**13 23 22.8**	**+2.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,92nm,5.0s						
GTA				LR	LR		
	comp=N,190nm,18.1s						
GTA				LR	LR		
	comp=E,250nm,18.5s						
GTA				LR	LR		
	comp=Z,100nm,18.0s						
SONM	**Songino Array**	**48.48**	**341**	P	**P**	**13 17 10.3**	**+1.0**
SONM	**Songino Array**	**48.48**	**341**	P	**P**	**13 17 10.3**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=158,slow=9.0,SNR=23						
SONM				LR	LR	13 40 31.8	
	comp=Z,65nm,19.2s,baz=120,slow=40						
WMQ	**Urumqi**	**53.90**	**325**	*e*P	**P**	**13 17 50.6**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,76nm,4.0s						
PETK	**Petropavlovsk-**	**56.23**	**22**	P	**P**	**13 18 08.3**	**+1.7**
PETK	**Petropavlovsk-**	**56.23**	**22**	P	**P**	**13 18 08.3**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=159,slow=5.8,SNR=7.3						
MK31	**Makanchi Array**	**58.73**	**325**	*e*P	**P**	**13 18 24.0**	**-0.4**
MKAR	**Makanchi Array**	**58.73**	**325**	P	**P**	**13 18 24.0**	**-0.4**
MKAR	**Makanchi Array**	**58.73**	**325**	P	**P**	**13 18 24.0**	**-0.4**
	comp=Z,2.5nm,0.4s,baz=118,slow=7.3,SNR=25						
KSH	**Kashi**	**59.17**	**315**	*e*P	P	13 18 31.5	+3.8
TKM2	**Tokmak 2**	**60.90**	**319**	*e*P	**P**	**13 18 38.9**	**-0.7**
	comp=Z,3.4nm,0.8s						
ZAA0	**Zalesovo Array**	**61.78**	**333**	*e*P	**P**	**13 18 44.6**	**-0.5**
ZALV	**Zalesovo Beam**	**61.78**	**333**	P	**P**	**13 18 44.5**	**-0.5**
ZALV	**Zalesovo Beam**	**61.78**	**333**	P	**P**	**13 18 44.5**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=130,slow=7.2,SNR=11						
KURBB	**Kurchatov Arra**	**62.92**	**327**	P	**P**	**13 18 52.2**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=130,slow=6.2,SNR=13						
KURK	**Kurchatov**	**62.92**	**328**	P	**P**	**13 18 52.2**	**-0.6**
KKAR	**Karatay Array**	**64.37**	**317**	*e*P	**P**	**13 19 01.8**	**-0.7**
	comp=Z,2.1nm,0.7s						
BVAR	**Borovoye Array**	**68.50**	**327**	P	**P**	**13 19 29.0**	**+0.3**
BVAR	**Borovoye Array**	**68.50**	**327**	P	**P**	**13 19 29.0**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=113,slow=9.8,SNR=17						
BRVK	**Borovoye**	**68.58**	**327**	*e*P	**P**	**13 19 27.6**	**-1.6**
ABKAR	**Akbulak array**	**73.31**	**321**	*e*P	**P**	**13 19 57.7**	**-0.4**
	comp=Z,4.0nm,0.6s						
AKTO	**Aktyubinsk**	**74.82**	**322**	P	**P**	**13 20 06.8**	**-0.1**
AKTO	**Aktyubinsk**	**74.82**	**322**	P	**P**	**13 20 06.8**	**-0.1**
	comp=Z,4.7nm,0.5s,baz=97,slow=7.4,SNR=19						
VNDA	**Vanda**	**82.30**	**173**	P	**P**	**13 20 46.0**	**-1.6**
VNDA	**Vanda**	**82.30**	**173**	P	**P**	**13 20 46.0**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=314,slow=7.2,SNR=7.5						
MAW	**Mawson**	**82.93**	**200**	P	**P**	**13 20 50.1**	**-0.9**
MAW	**Mawson**	**82.93**	**200**	P	**P**	**13 20 50.1**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=57,slow=3.1,SNR=10						
ILAR	**Eielson Array**	**85.85**	**25**	P	**P**	**13 21 07.7**	**+1.8**
ILAR	**Eielson Array**	**85.85**	**25**	P	**P**	**13 21 07.7**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=257,slow=5.0,SNR=6.8						
SYO	**Syowa Base**	**91.61**	**201**	⇑*e*PcP	**PcP**	**13 21 35.6**	**+1.6**
ARCES	**ARCESS Array B**	**91.63**	**340**	P	**P**	**13 21 33.7**	**+0.5**
ARCES	**ARCESS Array B**	**91.63**	**340**	P	**P**	**13 21 33.7**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=88,slow=6.4,SNR=6.4						
FINES	**FINESS Array B**	**93.02**	**332**	P	**P**	**13 21 39.5**	**-0.3**
FINES	**FINESS Array B**	**93.02**	**332**	P	**P**	**13 21 39.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=142,slow=9.6,SNR=6.2						
FINES				LR	LR	14 05 19.8	
	comp=Z,75nm,19.6s,baz=119,slow=37						
TXAR	**Lajitas Array**	**121.83**	**53**	PKP	**PKPdf**	**13 27 21.4**	**0.0**
TXAR	**Lajitas Array**	**121.83**	**53**	PKP	**PKPdf**	**13 27 21.4**	**0.0**

PMG	**Port Moresby**	**7.08 239**	*e*P	**Pn**	**14 04 19.8**	**+0.9**
	39nm,0.6s					
PMG			Sn	**Sn**	**14 05 37.4**	**-1.0**
PMG	**Port Moresby**	**7.08 239**	Pn	**Pn**	**14 04 18.4**	**-0.5**
	7.1nm,0.3s,baz=55,slow=16,SNR=20					
PMG			Sn	**Sn**	**14 05 37.4**	**-1.0**
	1.7nm,0.3s,baz=0.0,slow=20,SNR=4.7					
COEN	**Coen**	**12.87 230**	P	**P**	**14 05 50.3**	**+1.7**
	baz=13,SNR=5.7					
MTSU	**Mount Surprise**	**15.09 215**	P	**P**	**14 06 14.8**	**+1.4**
	baz=15,SNR=17					
CTA	**Charters Tower**	**15.78 205**	Pn	**Pn**	**14 06 18.5**	**+1.1**
CTA	**Charters Tower**	**15.78 205**	Pn	**Pn**	**14 06 18.5**	**+1.1**
	0.3nm,0.3s,baz=35,slow=13,SNR=6.8					
CTAO	**Charters Tower**	**15.78 205**	*e*P	**P**	**14 06 19.8**	**-1.2**
	24nm,1.4s					
EIDS	**Eidsvold**	**19.59 186**	P	**P**	**14 07 03.1**	**+0.2**
	baz=20,SNR=4.9					
DZM	**Mont Dzumac**	**20.57 143**	*e*P	**P**	**14 07 14.4**	**+0.6**
	27nm,1.1s					
DZM	**Mont Dzumac**	**20.57 143**	P	Pn	14 07 16.1	-0.1
	24nm,1.1s,baz=24,slow=10,SNR=8.9					
RMQ	**Roma**	**21.04 191**	P	**P**	**14 07 19.0**	**+0.3**
	baz=21,SNR=7.4					
KDU	**Kakadu**	**21.68 250**	P	**P**	**14 07 24.6**	**-1.0**
	baz=22,SNR=13					
MTN	**Manton Dam**	**22.97 251**	P	**P**	**14 07 41.8**	**+2.3**
	baz=23,SNR=12					
WRAB	**Tennant Creek**	**23.19 231**	*e*P	**P**	**14 07 39.7**	**-1.9**
WRA	**Warramunga Arr**	**23.20 231**	P	**P**	**14 07 39.3**	**-2.5**
WRA	**Warramunga Arr**	**23.20 231**	P	**P**	**14 07 39.3**	**-2.5**
	2.0nm,0.7s,baz=53,slow=10.0,SNR=19					
AS31	**Alice Springs**	**25.79 224**	*e*P	**P**	**14 08 04.5**	**-1.2**
ASAR	**Alice Springs**	**25.79 224**	P	**P**	**14 08 04.7**	**-1.1**
ASAR	**Alice Springs**	**25.79 224**	P	**P**	**14 08 04.7**	**-1.1**
	4.3nm,0.8s,baz=56,slow=9.0,SNR=35					
KNRA	**Kununurra**	**26.02 246**	P	**P**	**14 08 09.0**	**+1.2**
	baz=26,SNR=7.2					
CMSA	**Cobar Meteorol**	**26.59 195**	P	**P**	**14 08 13.9**	**+1.1**
	baz=27,SNR=5.3					
STKA	**Stephens Creek**	**28.18 201**	*e*P	**P**	**14 08 25.3**	**-1.7**
STKA	**Stephens Creek**	**28.18 201**	P	**P**	**14 08 26.9**	**-0.2**
	6.5nm,0.9s,baz=29,slow=12,SNR=6.3					
FITZ	**Fitzroy Crossi**	**29.66 243**	*e*P	**P**	**14 08 39.0**	**-1.4**
	6.9nm,0.7s					
FITZ	**Fitzroy Crossi**	**29.66 243**	P	**P**	**14 08 38.7**	**-1.7**
	3.8nm,0.6s,baz=105,slow=7.6,SNR=21					
FITZ	**Fitzroy Crossi**	**29.66 243**	P	**P**	**14 08 39.1**	**-1.3**
	baz=30,SNR=10					
MEEK	**Meekatharra**	**39.03 234**	S	S	14 15 37.7	-21
	baz=39,SNR=6.8					
RPZ	**Rata Peaks**	**40.87 160**	LR	LR	14 22 50.1	
	comp=Z,198nm,18.7s,baz=213,slow=30					
JNU	**Nakatsue**	**44.18 333**	P	**P**	**14 10 43.5**	**0.0**
JNU	**Nakatsue**	**44.18 333**	P	**P**	**14 10 43.5**	**0.0**
	6.0nm,0.9s,baz=68,slow=22,SNR=4.3					
KSRS	**Korea Array**	**49.11 333**	P	**P**	**14 11 22.1**	**+0.1**
	1.7nm,0.8s,baz=150,slow=9.1,SNR=6.2					
KSAR	**Wonju Array Be**	**49.12 333**	P	**P**	**14 11 22.1**	**0.0**
ASAJ	**Asahikawa**	**50.61 350**	P	**P**	**14 11 34.2**	**+1.0**
ASAJ	**Asahikawa**	**50.61 350**	P	**P**	**14 11 34.2**	**+1.0**
	2.5nm,0.6s,baz=88,slow=6.5,SNR=4.7					
USRK	**Ussuriysk Arra**	**53.34 341**	P	**P**	**14 11 53.0**	**-0.6**
	3.5nm,0.8s,baz=156,slow=9.9,SNR=6.5					
CMAR	**Chiang Mai Arr**	**58.77 296**	P	**P**	**14 12 33.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**58.77 296**	P	**P**	**14 12 33.9**	**+0.9**
	3.1nm,1.0s,baz=119,slow=5.2,SNR=14					
PETK	**Petropavlovsk-**	**58.79 3**	P	**P**	**14 12 31.9**	**-0.5**
PETK	**Petropavlovsk-**	**58.79 3**	P	**P**	**14 12 31.9**	**-0.5**
	7.5nm,0.8s,baz=175,slow=8.1,SNR=14					
SONM	**Songino Array**	**67.43 328**	P	**P**	**14 13 31.0**	**+0.9**
SONM	**Songino Array**	**67.43 328**	P	**P**	**14 13 31.0**	**+0.9**
	2.7nm,0.7s,baz=147,slow=7.3,SNR=16					
LSA	**Lhasa**	**69.22 305**	*e*P	**P**	**14 13 43.0**	**+0.9**
	3.9nm,0.6s					
VNDA	**Vanda**	**71.83 178**	*e*P	**P**	**14 13 56.5**	**-0.1**
VNDA	**Vanda**	**71.83 178**	P	**P**	**14 13 57.1**	**+0.6**
	1.7nm,0.9s,baz=330,slow=4.9,SNR=7.9					
MK31	**Makanchi Array**	**81.41 319**	*e*P	**P**	**14 14 51.4**	**+0.1**
MKAR	**Makanchi Array**	**81.41 319**	P	**P**	**14 14 51.1**	**-0.1**
MKAR	**Makanchi Array**	**81.41 319**	P	**P**	**14 14 51.1**	**-0.1**
	0.9nm,0.6s,baz=98,slow=8.1,SNR=11					
ZAA0	**Zalesovo Array**	**82.26 326**	*e*P	**P**	**14 14 54.7**	**-0.8**
ZALV	**Zalesovo Beam**	**82.26 326**	P	**P**	**14 14 55.0**	**-0.5**
ZALV	**Zalesovo Beam**	**82.26 326**	P	**P**	**14 14 55.0**	**-0.5**
	2.5nm,0.5s,baz=110,slow=5.9,SNR=12					
ILAR	**Eielson Array**	**82.88 22**	P	**P**	**14 14 56.0**	**-2.5**
ILAR	**Eielson Array**	**82.88 22**	P	**P**	**14 14 56.0**	**-2.5**
	1.0nm,0.9s,baz=251,slow=5.0,SNR=13					
QSPA	**South Pole Qui**	**84.17 180**	P	**P**	**14 15 05.2**	**-0.3**
QSPA	**South Pole Qui**	**84.17 180**	P	**P**	**14 15 05.1**	**-0.3**
	4.0nm,0.8s,baz=341,slow=2.6,SNR=23					
MAW	**Mawson**	**84.86 203**	P	**P**	**14 15 08.0**	**-0.6**
MAW	**Mawson**	**84.86 203**	P	**P**	**14 15 08.0**	**-0.6**
	1.8nm,0.9s,baz=106,slow=9.8,SNR=3.9					
BVAR	**Borovoye Array**	**90.34 323**	P	**P**	**14 15 34.6**	**-0.8**
BVAR	**Borovoye Array**	**90.34 323**	P	**P**	**14 15 34.6**	**-0.8**
	3.8nm,0.8s,baz=99,slow=7.7,SNR=14					
GERES	**GERESS Array B**	**125.17 328**	PKP	**PKPdf**	**14 21 35.7**	**+0.8**
GERES	**GERESS Array B**	**125.17 328**	PKP	**PKPdf**	**14 21 35.7**	**+0.8**
	0.5nm,0.6s,baz=77,slow=2.1,SNR=7.3					
LPAZ	**La Paz**	**133.49 119**	PKP	**PKPdf**	**14 21 52.3**	**0.0**
LPAZ	**La Paz**	**133.49 119**	PKP	**PKPdf**	**14 21 52.3**	**0.0**
	0.9nm,0.6s,baz=203,slow=0.9,SNR=4.0					
BDFB	**Brasilia**	**150.00 135**	PKPbc	**PKPbc**	**14 22 25.9**	**0.0**
BDFB	**Brasilia**	**150.00 135**	PKPbc	**PKPbc**	**14 22 25.9**	**0.0**
	3.5nm,0.6s,baz=276,slow=3.7,SNR=5.4					
TORD	**Torodi Ar. Bea**	**151.10 287**	PKPbc	**PKPbc**	**14 22 27.1**	**-1.3**
TORD			PKPab	**PKPab**	**14 22 37.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**151.10 287**	PKPbc	**PKPbc**	**14 22 27.1**	**-1.3**
	4.0nm,0.7s,baz=59,slow=1.9,SNR=22					
TORD			PKPab	**PKPab**	**14 22 37.4**	**+1.3**
	2.2nm,0.7s,baz=53,slow=2.1,SNR=6.2					

IDC 23 14:09:24.8±1.1, 2°66N×127°44E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=106.4km s-min=15.6km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.70**	**185**	P	P	14 14 07.7	+1.0
	2.5nm,0.8s,baz=19,slow=4.7,SNR=9.2						
WRA	**Warramunga Arr**	**23.46**	**163**	P	P	14 14 35.7	-0.4
	3.7nm,0.5s,baz=334,slow=11,SNR=45						
ASAR	**Alice Springs**	**26.91**	**167**	P	P	14 15 07.3	-0.5
	0.6nm,0.4s,baz=346,slow=7.7,SNR=29						
ASAR				PcP	PcP	14 18 30.2	-0.1
	0.2nm,0.3s,baz=354,slow=2.2,SNR=7.3						
STKA	**Stephens Creek**	**36.88**	**160**	P	P	14 16 35.3	+0.1
	3.7nm,0.9s,baz=290,slow=14,SNR=4.2						
SONM	**Songino Array**	**48.53**	**341**	P	P	14 18 10.9	+1.1
	0.8nm,0.8s,baz=160,slow=9.3,SNR=5.1						
MKAR	**Makanchi Array**	**58.83**	**325**	P	P	14 19 24.8	-0.5
	0.3nm,0.4s,baz=121,slow=8.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**61.86**	**333**	P	P	14 19 45.2	-0.5
	0.9nm,0.7s,baz=131,slow=6.1,SNR=3.6						
BVAR	**Borovoye Array**	**68.60**	**327**	P	P	14 20 29.3	-0.2
	3.5nm,1.1s,baz=125,slow=9.9,SNR=6.2						

IDC 23 14:17:17.5±8.3, 14°09N×93°42E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/25, mbtmp3.6/3, Error ellipse: s-maj=494.6km s-min=29.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.91**	**346**	P	P	14 24 02.2	0.0
	0.8nm,1.0s,baz=163,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**52.58**	**129**	P	P	14 26 33.0	-0.3
	0.1nm,0.3s,baz=304,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**54.55**	**133**	P	P	14 26 47.9	0.0
	0.4nm,0.4s,baz=310,slow=7.0,SNR=21						

MAN 23 14:19:16, 17°23N×122°24E, h31km, mb4.5, ML3.3, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.49**	**235**	*e*P	Pn	14 19 28.7	+1.8
APYP	**Conner**	**1.14**	**303**	*e*P	Pn	14 19 35.0	-0.8
APYP				*e*S	Sb	14 19 53.3	+1.6
BALP	**Baler**	**1.61**	**203**	*e*P	Pn	14 19 43.6	+1.2

ISCJB ***23*** *14:20:16.8±0.5, 56°.55S±0°.08×27°.0W±0°.2, h101km, mb4.5/14, Error ellipse: s-maj=17.5km s-min=7.0km az=149.5*

NEIC ***23*** *14:20:16.4±2.3, 56°.55S×26°.96W, h83km±20km, mb4.7/5, Error ellipse: s-maj=12.8km s-min=7.4km az=50.0*

IDC ***23*** *14:20:17.8±5.4, 56°.54S×26°.89W, h92km±48km, mb4.3/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, MS3.6/6, Ms1 3.5/6, ms1mx3.4/19, Error ellipse: s-maj=29.4km s-min=13.5km az=62.0*

ISC 23 14:20:18.6±0.4, 56°.73S±0°.08×27°.1W±0°.1, h101km, n67, σ1§44/78, mb4.4/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.14**	**157**	*e*Pn	**P**	**14 24 02.3**	**+2.0**
VNA1	**Neumayer--Stat**	**16.14**	**157**	*e*P	**ScP**	**14 32 14.7**	**+2.2**
VNA2	**Neumayer--Watz**	**16.53**	**157**	*e*Pn	**Pn**	**14 24 03.0**	**-0.9**
	baz=329,slow=14						
VNA2	**Neumayer--Watz**	**16.53**	**157**	*e*Sn	**Sn**	**14 27 00.4**	**-6.6**
	baz=329,slow=14						
VNA2	**Neumayer--Watz**	**16.53**	**157**	*e*P	**ScP**	**14 32 15.1**	**+1.7**
SNAA	**Sanae**	**18.09**	**155**	*e*Pn	**Pn**	**14 24 22.5**	**-0.3**
SNAA	**Sanae**	**18.09**	**155**	*e*Sn	**S**	**14 27 41.3**	**-2.4**
SNAA	**Sanae**	**18.09**	**155**	*e*P	**ScP**	**14 32 18.2**	**+1.5**
SNAA	**Sanae**	**18.09**	**155**	*e*P	**Pn**	**14 24 22.5**	**-0.3**
SNAA	**Sanae**	**18.09**	**155**	P	**Pn**	**14 24 22.6**	**-0.3**
	1.1nm,0.3s,baz=312,slow=9.8,SNR=66						
TRQA	**Tornquist**	**29.67**	**294**	*e*P	**P**	**14 26 13.1**	**-1.3**
PLCA	**Paso Flores**	**32.20**	**281**	*e*P	**P**	**14 26 35.6**	**-1.2**
PLCA	**Paso Flores**	**32.20**	**281**	LR	LR	14 39 18.6	
	comp=Z,66nm,18.8s,baz=142,slow=35						
QSPA	**South Pole Qui**	**33.52**	**180**	P	**P**	**14 26 50.1**	**+2.0**
QSPA	**South Pole Qui**	**33.52**	**180**	P	**P**	**14 26 50.1**	**+2.0**
	13nm,0.5s,baz=206,slow=2.4,SNR=109						
CPUP	**Villa Florida**	**37.32**	**312**	*e*P	**P**	**14 27 19.6**	**-1.2**
	27nm,0.5s						
CPUP				PcP	**PcP**	**14 29 38.0**	**+0.1**
CPUP	**Villa Florida**	**37.32**	**312**	P	**P**	**14 27 19.6**	**-1.2**
	4.8nm,0.5s,baz=133,slow=6.6,SNR=18						
CPUP				PcP	**PcP**	**14 29 38.0**	**+0.1**
	0.6nm,0.3s,baz=64,slow=3.0,SNR=3.5						
CPUP				LR	LR	14 40 13.4	
	comp=Z,63nm,20.1s,baz=284,slow=32						
MAW	**Mawson**	**39.56**	**143**	P	**P**	**14 27 39.8**	**+0.7**
MAW	**Mawson**	**39.56**	**143**	P	**P**	**14 27 39.8**	**+0.7**
	1.9nm,0.4s,baz=240,slow=7.7,SNR=8.8						
MAW				LR	LR	14 44 04.8	
	comp=Z,72nm,19.8s,baz=294,slow=36						
BDFB	**Brasilia**	**43.99**	**330**	P	**P**	**14 28 15.3**	**-0.6**
BDFB	**Brasilia**	**43.99**	**330**	P	**P**	**14 28 15.3**	**-0.6**
	2.6nm,0.5s,baz=48,slow=4.4,SNR=6.2						
BDFB				LR	LR	14 42 23.1	
	comp=Z,83nm,19.5s,baz=81,slow=30						
LVC	**Limon Verde**	**45.71**	**301**	*e*P	**P**	**14 28 29.3**	**-0.3**
	12nm,0.6s						
VNDA	**Vanda**	**45.90**	**183**	P	**P**	**14 28 32.3**	**+2.1**
VNDA	**Vanda**	**45.90**	**183**	P	**P**	**14 28 32.3**	**+2.1**
	4.0nm,0.6s,baz=186,slow=6.8,SNR=29						
VNDA				LR	LR	14 47 52.5	
	comp=Z,77nm,19.8s,baz=138,slow=36						
BOSA	**Boshof**	**46.07**	**75**	LR	LR	14 43 25.0	
	comp=Z,77nm,20.1s,baz=345,slow=30						
LBTB	**Lobatse**	**49.13**	**72**	P	**P**	**14 28 53.2**	**-2.7**
	3.7nm,0.8s						
LPAZ	**La Paz**	**50.83**	**306**	P	**P**	**14 29 09.3**	**-0.1**
LPAZ				PcP	**PcP**	**14 30 25.1**	**+0.2**
LPAZ	**La Paz**	**50.83**	**306**	P	**P**	**14 29 09.3**	**-0.1**
	26nm,0.5s,baz=115,slow=5.1,SNR=167						
LPAZ				PcP	**PcP**	**14 30 25.1**	**+0.2**
	5.6nm,0.6s,baz=202,slow=7.6,SNR=2.9						
SAML	**Samuel**	**55.34**	**315**	*e*P	**P**	**14 29 40.6**	**-1.2**
	7.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**73.61**	**29**	*e*P	**P**	**14 31 40.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.61**	**29**	P	**P**	**14 31 40.1**	**-0.5**
TORD				pP	**PcP**	**14 32 00.2**	**+4.3**
TORD	**Torodi Ar. Bea**	**73.61**	**29**	P	**P**	**14 31 40.1**	**-0.5**
	1.8nm,0.5s,baz=200,slow=6.0,SNR=40						
TORD				pP	**PcP**	**14 32 00.2**	**+4.3**
	6.6nm,0.8s,baz=198,slow=6.8,SNR=13						
SDV	**Santo Domingo**	**74.55**	**315**	*e*P	**P**	**14 31 45.8**	**-0.6**
	4.6nm,0.7s						
MDT	**Midelt**	**91.21**	**19**	P	**P**	**14 33 13.6**	**+1.7**
MDT	**Midelt**	**91.21**	**19**	P	**P**	**14 33 13.6**	**+1.7**
	1.9nm,0.8s,baz=191,slow=7.5,SNR=4.9						
STKA	**Stephens Creek**	**91.22**	**170**	P	**P**	**14 33 13.6**	**+1.4**
STKA	**Stephens Creek**	**91.22**	**170**	P	**P**	**14 33 13.6**	**+1.4**
	1.1nm,0.6s,baz=147,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**98.32**	**162**	P	**P**	**14 33 44.1**	**-0.6**
ASAR	**Alice Springs**	**98.32**	**162**	P	**P**	**14 33 44.1**	**-0.6**
	0.3nm,0.8s,baz=180,slow=3.6,SNR=6.3						
WRA	**Warramunga Arr**	**102.03**	**162**	P	**Pdif**	**14 34 01.0**	**-0.3**
WRA	**Warramunga Arr**	**102.03**	**162**	P	**Pdif**	**14 34 01.0**	**-0.3**
	0.2nm,0.8s,baz=198,slow=4.5,SNR=2.8						
NVAR	**Mina Array Bea**	**121.73**	**293**	PKP	**PKPdf**	**14 39 00.6**	**+0.6**
NVAR	**Mina Array Bea**	**121.73**	**293**	PKP	**PKPdf**	**14 39 00.6**	**+0.6**
	0.6nm,0.6s,baz=131,slow=3.0,SNR=6.2						
FINES	**FINESS Array B**	**124.95**	**28**	PKP	**PKPdf**	**14 39 04.2**	**-1.0**
FINES	**FINESS Array B**	**124.95**	**28**	PKP	**PKPdf**	**14 39 04.2**	**-1.0**
	1.2nm,0.5s,baz=167,slow=2.0,SNR=18						
ARCES	**ARCESS Array B**	**131.55**	**22**	PKP	**PKPdf**	**14 39 16.9**	**-0.7**
ARCES	**ARCESS Array B**	**131.55**	**22**	PKP	**PKPdf**	**14 39 16.9**	**-0.7**
	1.6nm,0.7s,baz=231,slow=0.8,SNR=12						
YKA	**Yellowknife Ar**	**136.73**	**317**	PKP	**PKPdf**	**14 39 26.9**	**-0.5**
YKA	**Yellowknife Ar**	**136.73**	**317**	PKP	**PKPdf**	**14 39 26.9**	**-0.5**
	1.5nm,0.5s,baz=130,slow=2.4,SNR=8.1						
SKAG	**Skagway**	**143.68**	**305**	*e*PKPpre	PKPpre	14 39 37.9	
HYT	**Haines Junctio**	**145.26**	**306**	*e*PKP	**PKPab**	**14 39 43.4**	**+0.1**
INK	**Inuvik**	**146.38**	**320**	*e*PKPbc	**PKPbc**	**14 39 45.7**	**-0.2**
DAWY	**Dawson**	**147.30**	**311**	*e*PKPbc	**PKPbc**	**14 39 48.1**	**-0.7**
MENT	**Mentasta**	**148.78**	**308**	*e*PKPbc	**PKPbc**	**14 39 52.5**	**-0.2**
PAX	**Paxson**	**149.55**	**308**	*e*PKPbc	**PKPbc**	**14 39 54.6**	**-0.1**
PAX				*e*PKPab	**PKPab**	**14 39 59.5**	**-0.6**
SML	**Sawmill**	**150.49**	**305**	*e*PKPbc	**PKPbc**	**14 39 56.9**	**+0.1**
SML				*e*PKPab	**PKPab**	**14 40 02.9**	**-1.0**
ILAR	**Eielson Array**	**150.62**	**311**	PKPbc	**PKPbc**	**14 39 56.6**	**-0.4**
ILAR	**Eielson Array**	**150.62**	**311**	PKPbc	**PKPbc**	**14 39 56.6**	**-0.4**
	8.7nm,0.8s,baz=136,slow=1.8,SNR=56						
SONM	**Songino Array**	**150.69**	**88**	PKPbc	**PKPbc**	**14 39 57.7**	**-0.2**
SONM	**Songino Array**	**150.69**	**88**	PKPbc	**PKPbc**	**14 39 57.7**	**-0.2**
	1.1nm,0.5s,baz=226,slow=3.7,SNR=13						
PMR	**Palmer**	**150.78**	**304**	*e*PKPbc	**PKPbc**	**14 39 57.6**	**+0.2**
COLA	**College**	**151.05**	**311**	*e*PKPbc	**PKPbc**	**14 39 57.4**	**-0.6**
COLA				*e*PKPab	**PKPab**	**14 40 05.7**	**-0.4**
MCK	**McKinley**	**151.26**	**308**	*e*PKPbc	**PKPbc**	**14 39 58.7**	**+0.1**
MCK				*e*PKPab	**PKPab**	**14 40 06.8**	**-0.3**
TRF	**Thorofare Moun**	**151.78**	**307**	*e*PKPbc	**PKPbc**	**14 39 59.3**	**-0.7**
TRF				*e*PKPab	**PKPab**	**14 40 08.5**	**-1.0**
COLD	**Coldfoot**	**152.36**	**315**	*e*PKPbc	**PKPbc**	**14 40 01.3**	**+0.3**
COLD				*e*PKPab	**PKPab**	**14 40 12.5**	**+0.9**
PPLA	**Purkeypile**	**152.50**	**306**	*e*PKPbc	**PKPbc**	**14 40 01.4**	**-0.2**
PPLA				*e*PKPab	**PKPab**	**14 40 12.3**	**-0.2**
IMA2	**Indian Mountai**	**153.64**	**313**	*e*PKPbc	**PKPbc**	**14 40 03.8**	**-0.1**
IMA2				*e*PKPab	**PKPab**	**14 40 16.8**	**-0.4**

ISCJB ***23*** *14:34:27.1±0.2, 44°.66N±0°.01×6°.83E±0°.02, h13km±1km, Error ellipse: s-maj=2.0km s-min=1.7km az=146.7*

ROM ***23*** *14:34:27.9±0.1, 44°.63N×6°.82E, h11km, Md3.0/17, Ml3.1/12, Error ellipse: s-maj=1.1km s-min=0.7km az=129.0*

CSEM ***23*** *14:34:28.0±0.1, 44°.65N×6°.84E, h5km, ML3.6/39, Error ellipse: s-maj=1.9km s-min=1.7km az=32.0*

BGR ***23*** *14:34:29.2±1.1, 44°.64N×6°.69E, h10km, ML3.3/3, Error ellipse: s-maj=24.5km s-min=20.0km az=27.0*

STR ***23*** *14:34:29.3±0.4, 44°.67N×6°.80E, h5km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

LDG ***23*** *14:34:29.1±0.1, 44°.62N×6°.86E, h2km, Md3.4/4, Ml3.4/41, Error ellipse: s-maj=1.7km s-min=1.2km az=87.0*

GEN ***23*** *14:34:29.1, 44°.64N×6°.96E, h21km, ML3.0*

PRU ***23*** *14:34:30.3, 44°.75N×6°.64E, h10km*

ISC 23 14:34:27.6±0.8, 44°.63N±0°.01×6°.84E±0°.01, h10km±5km, n176, σ1§31/303, 2C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.11**	**332**	*e*Pg	**Pg**	**14 34 30.3**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**14 34 31.7**	**-0.9**
	16μm,0.3s						
MBDF	**Montbardon**	**0.11**	**332**	*e*Pg	**Pg**	**14 34 30.3**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**14 34 31.7**	**-0.9**
	8μm,0.3s						
SURF	**Saint Ours**	**0.15**	**188**	Pg	**Pg**	**14 34 31.6**	**+0.5**
OG22	**Abries**	**0.20**	**21**	Pg	**Pg**	**14 34 32.5**	**+0.5**
OG22				Sg	**Sg**	**14 34 35.4**	**+0.4**
DOI	**San Damiano**	**0.32**	**114**	Pg	**Pb**	**14 34 34.9**	**-0.5**
DOI				Sg	**Sb**	**14 34 39.9**	**-0.7**
	10μm,0.3s						
DOI	**San Damiano**	**0.32**	**114**	Pg	**Pb**	**14 34 34.9**	**-0.5**
DOI				Sg	**Sb**	**14 34 39.9**	**-0.7**
	10μm,0.3s						
BNI	**Bardonecchia**	**0.43**	**345**	Pg	**Pg**	**14 34 36.3**	**+0.1**
BNI				Sg	**Sg**	**14 34 42.4**	**+0.4**
	410nm,0.5s						
BNI	**Bardonecchia**	**0.43**	**345**	Pg	**Pg**	**14 34 36.3**	**+0.1**
STV	**Sant Anna di V**	**0.52**	**138**	Pg	**Pb**	**14 34 38.4**	**-0.4**
STV				Sg	**Sb**	**14 34 46.0**	**-0.4**
	876nm,0.4s						
STV	**Sant Anna di V**	**0.52**	**138**	Pg	**Pb**	**14 34 38.4**	**-0.4**
STV				S	**Sg**	**14 34 44.5**	**-0.1**
ENR	**Entracque**	**0.58**	**134**	P	**Pg**	**14 34 39.3**	**+0.4**
ENR				S	**Sg**	**14 34 45.9**	**-0.6**
RSP	**Reno Superiore**	**0.60**	**30**	Pg	**Pb**	**14 34 39.9**	**-0.3**
RSP				Sg	**Sg**	**14 34 47.9**	**+0.8**
	397nm,0.2s						
RSP	**Reno Superiore**	**0.60**	**30**	P	**Pb**	**14 34 39.8**	**-0.4**
RSP				S	**Sg**	**14 34 46.8**	**-0.3**
RSP				Sg	**Sg**	**14 34 47.9**	**+0.8**
	397nm,0.2s						
OG25	**Le Caire**	**0.61**	**245**	Pg	**Pb**	**14 34 40.3**	**0.0**
ORIF	**Oris-en-Rattie**	**0.74**	**293**	*e*Pg	**Pg**	**14 34 41.7**	**-0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**14 34 50.2**	**-1.4**
	622nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.74**	**293**	*e*Pg	**Pg**	**14 34 41.7**	**-0.2**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**14 34 50.2**	**-1.4**
	311nm,0.2s						
GDM	**Grand'Maison**	**0.77**	**318**	Pg	**Pg**	**14 34 42.3**	**-0.1**
LPG	**La Plagne**	**0.87**	**356**	*e*Pg	**Pg**	**14 34 44.3**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**14 34 56.1**	**+0.4**
	379nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.87**	**356**	*e*Pg	**Pg**	**14 34 44.3**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**14 34 56.1**	**+0.4**
	189nm,0.4s,SNR=1.0						
SBF	**Sospel**	**0.88**	**151**	*e*Pg	**Pb**	**14 34 45.4**	**+0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**14 34 56.4**	**+0.4**
	494nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.88**	**151**	*e*Pg	**Pb**	**14 34 45.4**	**+0.5**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**14 34 56.4**	**+0.4**
	247nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.89**	**355**	*e*Pg	**Pg**	**14 34 44.7**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**14 34 56.5**	**+0.2**
	417nm,0.5s						
LPL	**La Plagne**	**0.89**	**355**	*e*Pg	**Pg**	**14 34 44.7**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**14 34 56.5**	**+0.2**
	208nm,0.5s						
MONC	**Moncucco Torin**	**0.89**	**60**	Pg	**Pn**	**14 34 45.6**	**-0.5**
	867nm,0.4s			

CODM	**Codolo**	**2.17**	**95**	P	**Pn**	**14 35 04.4**	**+0.7**
CODM				S	**Sn**	**14 35 27.3**	**-3.3**
LASF	**Ste Croix**	**2.21**	**256**	*e*Pn	**Pn**	**14 35 04.9**	**+0.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**14 35 31.7**	**0.0**
	50nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.21**	**256**	*e*Pn	**Pn**	**14 35 04.9**	**+0.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**14 35 31.7**	**0.0**
	25nm,0.3s,SNR=1.0						
FUSIO	**Fusio**	**2.23**	**34**	Pg	**Pn**	**14 35 05.8**	**+1.2**
FUSIO	**Fusio**	**2.23**	**34**	Pg	**Pn**	**14 35 05.8**	**+1.2**
MDI	**Monti di Nese**	**2.33**	**60**	Pg	**Pn**	**14 35 06.5**	**+0.5**
	44nm,0.5s						
PGF	**Pioggiola**	**2.61**	**142**	*e*Pn	**Pn**	**14 35 10.0**	**+0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**14 35 40.9**	**-0.7**
	52nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.61**	**142**	*e*Pn	**Pn**	**14 35 10.0**	**+0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**14 35 40.9**	**-0.7**
	26nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**2.62**	**284**	Pn	**Pn**	**14 35 11.2**	**+1.2**
GSCL	**Gusciola**	**2.70**	**95**	Pg	**Pn**	**14 35 11.7**	**+0.7**
LOMF	**Lomont**	**2.72**	**360**	Pn	**Pn**	**14 35 13.3**	**+2.0**
PII	**Pisa**	**2.80**	**108**	Pg	**Pn**	**14 35 13.4**	**+1.0**
	9.0nm,0.2s						
SMF	**Signal de Mont**	**2.91**	**315**	*e*Pn	**Pn**	**14 35 14.9**	**+1.0**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**14 35 48.6**	**-0.3**
SMF				*e*Sg	**Sg**	**14 36 01.8**	**+0.7**
	41nm,0.3s						
SMF	**Signal de Mont**	**2.91**	**315**	*e*Pn	**Pn**	**14 35 14.9**	**+1.0**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**14 35 48.6**	**-0.3**
SMF				*e*Sg	**Sg**	**14 36 01.8**	**+0.7**
	21nm,0.3s						
PZZT	**Monte Pizzetto**	**2.93**	**98**	Pg	**Pn**	**14 35 15.1**	**+0.9**
PYM	**Petit Puy Mans**	**2.93**	**294**	Pn	**Pn**	**14 35 15.0**	**+0.8**
AGO	**Saint Agoulin**	**2.98**	**300**	Pn	**Pn**	**14 35 16.2**	**+1.4**
FUORN	**Ofenpass-Fuorn**	**3.12**	**49**	Pg	**Pn**	**14 35 18.2**	**+1.2**
HINF	**Hinteralfeld**	**3.19**	**0**	*e*Pn	**Pn**	**14 35 18.4**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**14 35 54.9**	**-0.8**
	22nm,0.4s,SNR=1.0						
HINF				*e*Sg	**Sg**	**14 36 09.9**	**+0.1**
	25nm,0.4s						
HINF	**Hinteralfeld**	**3.19**	**0**	*e*Pn	**Pn**	**14 35 18.4**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**14 35 54.9**	**-0.8**
	11nm,0.4s,SNR=1.0						
HINF				*e*Sg	**Sg**	**14 36 09.9**	**+0.1**
	12nm,0.4s						
MOF	**Molkenrain**	**3.23**	**4**	Pn	**Pn**	**14 35 19.5**	**+1.2**
AVF	**Avril sur Loir**	**3.26**	**313**	*e*Pn	**Pn**	**14 35 19.5**	**+0.8**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**14 35 57.1**	**-0.4**
	43nm,0.5s,SNR=1.0						
AVF				*e*Sg	**Sg**	**14 36 12.5**	**+0.3**
	29nm,0.3s						
AVF	**Avril sur Loir**	**3.26**	**313**	*e*Pn	**Pn**	**14 35 19.5**	**+0.8**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**14 35 57.1**	**-0.4**
	22nm,0.5s,SNR=1.0						
AVF				*e*Sg	**Sg**	**14 36 12.5**	**+0.3**
	15nm,0.3s						
SEI	**Scarperia**	**3.29**	**99**	Pg	**Pn**	**14 35 20.9**	**+1.8**
LOR	**Lormes**	**3.36**	**323**	*e*Pn	**Pn**	**14 35 21.3**	**+1.3**
	baz=143,SNR=1.0						
LOR				*e*Sn	**Sn**	**14 35 58.1**	**-1.8**
	29nm,0.4s,SNR=1.0						
LOR				*e*Sg	**Sg**	**14 36 14.8**	**-0.6**
	29nm,0.3s						
LOR	**Lormes**	**3.36**	**323**	*e*Pn	**Pn**	**14 35 21.3**	**+1.3**
	baz=143,SNR=1.0						
LOR				*e*Sg	**Sg**	**14 36 14.8**	**-0.6**
	15nm,0.3s						
SSF	**Saint Saulge**	**3.37**	**317**	*e*Pn	**Pn**	**14 35 21.0**	**+0.9**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**14 35 57.6**	**-2.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**14 36 14.2**	**-1.4**
	40nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.37**	**317**	*e*Pn	**Pn**	**14 35 21.0**	**+0.9**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**14 36 14.2**	**-1.4**
	20nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**3.39**	**354**	*e*Pn	**Pn**	**14 35 21.5**	**+1.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 36 00.4**	**-0.4**
HAU				*e*Sg	**Sg**	**14 36 16.2**	**-0.2**
	27nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.39**	**354**	*e*Pn	**Pn**	**14 35 21.5**	**+1.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 36 00.4**	**-0.4**
HAU				*e*Sg	**Sg**	**14 36 16.2**	**-0.2**
	13nm,0.3s,SNR=1.0						
DAVA	**Damuels**	**3.40**	**38**	*e*Pn	Pb	14 35 24.3	-3.6
DAVA				*e*Sn	**Sb**	**14 36 05.8**	**-3.5**
DAVA	**Damuels**	**3.40**	**38**	Pn	Pb	14 35 24.3	-3.6
DAVA				Sn	**Sb**	**14 36 05.8**	**-3.5**
BGF	**Bois d'Agland**	**3.40**	**306**	*e*Pn	**Pn**	**14 35 22.1**	**+1.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**14 35 59.8**	**-1.2**
BGF				*e*Sg	**Sg**	**14 36 16.3**	**-0.5**
	186nm,0.4s						
BGF	**Bois d'Agland**	**3.40**	**306**	*e*Pn	**Pn**	**14 35 22.1**	**+1.5**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**14 35 59.8**	**-1.2**
BGF				*e*Sg	**Sg**	**14 36 16.3**	**-0.5**
	93nm,0.4s						
CAF	**Calviac**	**3.41**	**277**	*e*Pn	**Pn**	**14 35 22.0**	**+1.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**14 36 16.7**	**-0.5**
	22nm,0.5s						
CAF	**Calviac**	**3.41**	**277**	*e*Pn	**Pn**	**14 35 22.0**	**+1.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**14 36 16.7**	**-0.5**
	11nm,0.5s						
LRDF	**Laroque-de-Fa**	**3.55**	**243**	Pn	**Pn**	**14 35 23.3**	**+0.7**
MTLF	**Montolieu**	**3.58**	**250**	*e*Pn	**Pn**	**14 35 23.9**	**+0.8**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**14 36 04.2**	**-1.1**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**14 36 21.7**	**-0.7**
	7.9nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.58**	**250**	*e*Pn	**Pn**	**14 35 23.9**	**+0.8**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**14 36 04.2**	**-1.1**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**14 36 21.7**	**-0.7**
	4.0nm,0.3s,SNR=1.0						
ECH	**Echery**	**3.59**	**3**	*e*Pn	**Pn**	**14 35 24.5**	**+1.2**
ECH				*e*Sn	**Sn**	**14 36 05.8**	**+0.1**
ECH	**Echery**	**3.59**	**3**	Pn	**Pn**	**14 35 24.5**	**+1.2**
ECH				Sn	**Sn**	**14 36 05.8**	**+0.1**
EJON	**La Jonquera**	**3.61**	**234**	P	**Pn**	**14 35 24.5**	**+1.0**
	4.7nm,0.2s,SNR=20						
EJON				S	**Sn**	**14 36 05.3**	**-0.8**
	SNR=7.9						
THEF	**They Montfort**	**3.64**	**351**	Pn	**Pn**	**14 35 25.6**	**+1.6**
TCF	**Toulx Ste Croi**	**3.66**	**299**	*e*Pn	**Pn**	**14 35 25.4**	**+1.3**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**14 36 06.8**	**-0.5**
TCF				*e*Sg	**Sg**	**14 36 24.6**	**-0.3**
	19nm,0.3s						
TCF	**Toulx Ste Croi**	**3.66**	**299**	*e*Pn	**Pn**	**14 35 25.4**	**+1.3**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**14 36 06.8**	**-0.5**
TCF				*e*Sg	**Sg**	**14 36 24.6**	**-0.3**
	9.4nm,0.3s						
SFTF	**Sexfontaines**	**3.79**	**341**	*e*Pn	**Pn**	**14 35 27.6**	**+1.7**
	baz=154						
SFTF				*e*Sg	**Sg**	**14 36 28.7**	**-0.3**
	21nm,0.4s						
SFTF	**Sexfontaines**	**3.79**	**341**	*e*Pn	**Pn**	**14 35 27.6**	**+1.7**
	baz=154						
SFTF				*e*Sg	**Sg**	**14 36 28.7**	**-0.3**
	11nm,0.4s						
CDF	**Champ du Feu**	**3.79**	**4**	*e*Pn	**Pn**	**14 35 27.5**	**+1.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**14 36 09.3**	**-1.5**
	9.4nm,0.4s,SNR=1.0						
CDF				*e*Sg	**Sg**	**14 36 28.6**	**-0.7**
	6.1nm,0.2s						
CDF	**Champ du Feu**	**3.79**	**4**	*e*Pn	**Pn**	**14 35 27.5**	**+1.4**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**14 36 28.6**	**-0.7**
	3.0nm,0.2s						
RJF	**Les Rejaudoux**	**3.84**	**282**	*e*Pn	**Pn**	**14 35 28.0**	**+1.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**14 36 29.8**	**-1.0**
	23nm,0.4s						
RJF	**Les Rejaudoux**	**3.84**	**282**	*e*Pn	**Pn**	**14 35 28.0**	**+1.4**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**14 36 29.8**	**-1.0**
	11nm,0.4s						
BFO	**Black Forest**	**3.84**	**15**	*e*Pn	**Pn**	**14 35 27.6**	**+0.9**
BFO				*e*Sn	**Sn**	**14 36 11.9**	**+0.1**
BFO	**Black Forest**	**3.84**	**15**	Pn	**Pn**	**14 35 27.6**	**+0.9**
BFO				Sn	**Sn**	**14 36 11.9**	**+0.1**
CARF	**Carcanieres**	**3.93**	**242**	Pn	**Pn**	**14 35 28.9**	**+0.9**
HYF	**Humbligny**	**3.94**	**313**	*e*Pn	**Pn**	**14 35 30.1**	**+2.1**
HYF				*e*Sg	**Sg**	**14 36 33.4**	**-0.7**
HYF	**Humbligny**	**3.94**	**313**	*e*Pn	**Pn**	**14 35 30.1**	**+2.1**
HYF				*e*Sg	**Sg**	**14 36 33.4**	**-0.7**
PAGF	**Fort de Pagny**	**4.00**	**349**	*e*Pn	**Pn**	**14 35 30.7**	**+1.9**
	baz=167						
PAGF				*e*Sn	**Sn**	**14 36 14.2**	**-1.5**
PAGF	**Fort de Pagny**	**4.00**	**349**	*e*Pn	**Pn**	**14 35 30.7**	**+1.9**
	baz=17						
MEZF	**Maizieres J'vi**	**4.06**	**343**	*e*Pn	**Pn**	**14 35 30.7**	**+1.0**
	baz=160,SNR=1.0						
MEZF				*e*Sn	**Sn**	**14 36 15.7**	**-1.5**
	33nm,0.5s,SNR=1.0						
MEZF				*e*Sg	**Sg**	**14 36 37.2**	**-0.7**
	40nm,0.5s						
MEZF	**Maizieres J'vi**	**4.06**	**343**	*e*Pn	**Pn**	**14 35 30.7**	**+1.0**
	baz=160,SNR=1.0						
MEZF				*e*Sg	**Sg**	**14 36 37.2**	**-0.7**
	20nm,0.5s						
WTTA	**Wattenberg**	**4.26**	**50**	*e*Pn	**Pn**	**14 35 35.3**	**+2.8**
WTTA				*e*Sn	**Sn**	**14 36 27.2**	**+4.9**
WTTA	**Wattenberg**	**4.26**	**50**	⇑*i*Pn	**Pn**	**14 35 35.2**	**+2.8**
	SNR=12						
WTTA				⇑*i*Sn	**Sn**	**14 36 25.7**	**+3.4**
WTTA	**Wattenberg**	**4.26**	**50**	Pn	**Pn**	**14 35 35.3**	**+2.8**
WTTA				Sn	**Sn**	**14 36 25.7**	**+3.4**
LFF	**La Frestale**	**4.35**	**276**	*e*Pn	**Pn**	**14 35 34.6**	**+0.9**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**14 36 45.3**	**-2.0**
	37nm,0.6s						
LFF	**La Frestale**	**4.35**	**276**	*e*Pn	**Pn**	**14 35 34.6**	**+0.9**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**14 36 45.3**	**-2.0**
	18nm,0.6s						
EMIR	**Miracle**	**4.74**	**237**	P	**Pn**	**14 35 41.8**	**+2.8**
	SNR=7.9						
EPF	**Esparros**	**4.97**	**253**	*e*Pn	**Pn**	**14 35 42.7**	**+0.5**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**14 36 37.1**	**-2.6**
EPF				*e*Sg	**Sg**	**14 37 04.5**	**-2.5**
	8.0nm,0.4s						
EPF	**Esparros**	**4.97**	**253**	*e*Pn	**Pn**	**14 35 42.7**	**+0.5**
	SNR=1.0						
EBIE	**Bielsa**	**5.23**	**251**	P	**Pn**	**14 35 47.3**	**+1.3**
	4.4nm,0.2s,SNR=7.9						
EBIE				S	**Sn**	**14 36 50.2**	**+3.7**
	SNR=7.9						
MFF	**Saint Martin d**	**5.28**	**294**	*e*Pn	**Pn**	**14 35 48.2**	**+1.8**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**14 36 45.5**	**-1.8**
	6.4nm,0.4s,SNR=1.0						
MFF				*e*Sg	**Sg**	**14 37 14.9**	**-2.2**
	4.5nm,0.3s						
MFF	**Saint Martin d**	**5.28**	**294**	*e*Pn	**Pn**	**14 35 48.2**	**+1.8**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**14 37 14.9**	**-2.2**
	2.2nm,0.3s						
EPOB	**Poblet**	**5.35**	**234**	P	**Pn**	**14 35 49.8**	**+2.4**
	0.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**5.63**	**255**	*e*Pn	**Pn**	**14 35 52.4**	**+1.1**
ETSF				*e*Sn	**Sn**	**14 36 52.6**	**-3.5**
	22nm,1.0s						
ETSF	**Etsaut**	**5.63**	**255**	*e*Pn	**Pn**	**14 35 52.4**	**+1.1**
GIVF	**Givet**	**5.64**	**347**	*e*Pn	**Pn**	**14 35 52.3**	**+0.9**
	SNR=1.0						
GIVF	**Givet**	**5.64**	**347**	*e*Pn	**Pn**	**14 35 52.3**	**+0.9**
	SNR=1.0						
DOU	**Dourbes**	**5.67**	**345**	P	**Pn**	**14 35 53.6**	**+1.8**
DOU	**Dourbes**	**5.67**	**345**	P	**Pn**	**14 35 53.6**	**+1.8**
TNS	**Taunus Mts**	**5.70**	**10**	*e*Pn	**Pn**	**14 35 53.9**	**+1.7**
TNS	**Taunus Mts**	**5.70**	**10**	Pn	**Pn**	**14 35 53.9**	**+1.7**
ETOS	**Mallorca**	**5.71**	**213**	P	**Pn**	**14 35 54.6**	**+2.3**
	1.7nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**14 36 57.0**	**-0.8**
	SNR=7.9						
BAIF	**Baives**	**5.72**	**343**	*e*Pn	**Pn**	**14 35 54.0**	**+1.6**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**14 36 55.6**	**-2.4**
	5.6nm,0.4s,SNR=1.0						
BAIF	**Baives**	**5.72**	**343**	*e*Pn	**Pn**	**14 35 54.0**	**+1.6**
	SNR=1.0						
NVLJ	**Novalja**	**5.74**	**88**	*e*Pn	**Pn**	**14 35 52.2**	**-0.5**
NVLJ				Sn	**Sn**	**14 36 57.4**	**-1.1**
NVLJ	**Novalja**	**5.74**	**88**	*e*Pn	**Pn**	**14 35 52.1**	**-0.5**
GRA1	**Grafenberg Arr**	**5.88**	**29**	Sn	**Sn**	**14 37 01.3**	**-0.7**
GRF	**Grafenberg Arr**	**5.88**	**29**	*e*Sn	**Sn**	**14 37 01.3**	**-0.7**
MEM	**Membach**	**6.01**	**355**	P	**Pn**	**14 35 58.7**	**+2.3**
MEM	**Membach**	**6.01**	**355**	P	**Pn**	**14 35 58.7**	**+2.3**
SJPF	**Ste Jean**	**6.03**	**258**	*e*Pn	**Pn**	**14 35 56.6**	**-0.1**
	SNR=1.0						
SJPF	**Ste Jean**	**6.03**	**258**	*e*Pn	**Pn**	**14 35 56.6**	**-0.1**
	SNR=1.0						
ESAC	**San Caprasio**	**6.08**	**244**	P	**Pn**	**14 35 59.5**	**+2.0**
	3.3nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.12**	**256**	P	**Pn**	**14 36 00.7**	**+2.7**
	2.6nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**6.16**	**255**	P	**Pn**	**14 36 01.1**	**+2.5**
	SNR=7.9						
LDF	**La Druitiere**	**6.22**	**312**	*e*Pn	**Pn**	**14 35 59.2**	**-0.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**14 37 07.1**	**-3.3**
	2.1nm,0.3s						
LDF				*e*Sg	**Sg**	**14 37 44.7**	**-2.4**
	5.7nm,0.4s						
LDF	**La Druitiere**	**6.22**	**312**	*e*Pn	**Pn**	**14 35 59.2**	**-0.1**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**14 37 44.7**	**-2.4**
	2.8nm,0.4s						
IUSE	**Utxeti**	**6.30**	**257**	P	**Pn**	**14 36 02.4**	**+1.9**
	SNR=7.9						
GEC2	**GERESS Array S**	**6.32**	**46**	*e*Pn	**Pn**	**14 36 01.7**	**+0.9**
GEC2				*e*Sn	**Sn**	**14 37 08.9**	**-4.2**
GEC2	**GERESS Array S**	**6.32**	**46**	Pn	**Pn**	**14 36 01.7**	**+0.9**
KHC	**Kasperske Hory**	**6.45**	**43**	*e*PN	**Pn**	**14 36 04.5**	**+2.0**
KHC				*e*SN	**Sn**	**14 37 15.7**	**-0.3**
KHC	**Kasperske Hory**	**6.45**	**43**	Pn	**Pn**	**14 36 04.5**	**+2.0**
KHC				Sn	**Sn**	**14 37 15.7**	**-0.3**
GRR	**Gorron**	**6.51**	**308**	*e*Pn	**Pn**	**14 36 04.8**	**+1.6**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**14 37 14.0**	**-3.4**
	4.6nm,0.3s						
GRR	**Gorron**	**6.51**	**308**	*e*Pn	**Pn**	**14 36 04.8**	**+1.6**
	SNR=1.0						
FLN	**La Foliniere**	**6.51**	**312**	*e*Pn	**Pn**	**14 36 04.7**	**+1.4**
	baz=131,SNR=1.0						
FLN				*e*Sn	**Sn**	**14 37 14.7**	**-2.9**
	7.7nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**6.51**	**312**	*e*Pn	**Pn**	**14 36 04.7**	**+1.4**
	baz=131,SNR=1.0						
EMOS	**Mosqueruela**	**6.88**	**234**	P	**Pn**	**14 36 11.0**	**+2.4**
	SNR=7.9						
SGMF	**Saint Gilles**	**7.43**	**302**	*e*Pn	**Pn**	**14 36 17.3**	**+1.3**
	SNR=1.0						
SGMF	**Saint Gilles**	**7.43**	**302**	*e*Pn	**Pn**	**14 36 17.3**	**+1.3**
	SNR=1.0						
QUIF	**Quistinic**	**7.67**	**299**	*e*Pn	**Pn**	**14 36 20.3**	**+1.1**
	SNR=1.0						
QUIF	**Quistinic**	**7.67**	**299**	*e*Pn	**Pn**	**14 36 20.3**	**+1.1**
	SNR=1.0						
ROSF	**Rostrenen**	**7.90**	**302**	*e*Pn	**Pn**	**14 36 22.7**	**+0.3**
	SNR=1.0						
ROSF	**Rostrenen**	**7.90**	**302**	*e*Pn	**Pn**	**14 36 22.7**	**+0.3**
	SNR=1.0						
EARI	**Arriondas**	**8.79**	**266**	P	**Pn**	**14 36 36.2**	**+1.5**
	SNR=7.9						

*CSEM **23** 14:35:28.6±0.6, 42°.96N×18°.81E, h5km, ML1.6, Error ellipse: s-maj=14.8km s-min=10.0km az=161.0*
BEO 23 14:35:29.9±0.4, **42°.88N×18°.90E, h3**km±2km, **ML1.6**/3,

Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREB	**Trebinje**	**0.44**	**248**	*e*Pg	Pg	14 35 38.7	+0.4
TREB				*i* Sg	Sg	14 35 43.7	-0.3
TREB	**Trebinje**	**0.44**	**248**	*e*Pg	Pg	14 35 38.7	+0.4
TREB				*i* Sg	Sg	14 35 43.7	-0.3
PDG	**Podgorica**	**0.52**	**150**	*e*Pg	Pg	14 35 40.7	+0.8
PDG				*e*Sg	Sg	14 35 46.2	-0.4
PDG	**Podgorica**	**0.52**	**150**	*e*Pg	Pg	14 35 40.7	+0.8
PDG				*e*Sg	Sg	14 35 46.2	-0.4
SJES	**Sjenica**	**0.87**	**64**	*e*Pg	Pg	14 35 44.3	-2.6
SJES				*e*Sg	Sg	14 35 58.6	+0.3
STON	**Ston**	**0.88**	**270**	*i* Pg	Pg	14 35 42.7	-4.1
STON				Sg	Sg	14 35 54.1	-4.2
STON	**Ston**	**0.88**	**270**	*i* Pg	Pg	14 35 42.6	-4.2
STON				Sg	Sg	14 35 54.0	-4.2
BBLS	**Lazići**	**1.05**	**20**	*e*Pn	Pb	14 35 50.7	-0.2
BBLS				*e*Sn	Sb	14 36 05.8	+0.6
BBLS	**Lazići**	**1.05**	**20**	*e*Pn	Pb	14 35 50.7	-0.2
BBLS				*e*Sn	Sb	14 36 05.8	+0.6

*ISK **23** 14:36:31.9, 37°.54N×35°.68E, h10km, MD3.6*
*ISCJB **23** 14:36:32.0±0.5, 37°.56N±0°.02×35°.68E±0°.02, h5km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=0.3*
*DDA **23** 14:36:32.4, 37°.52N×35°.76E, h7km, ML3.7*
*CSEM **23** 14:36:32.4±0.1, 37°.53N×35°.68E, h5km, MD3.6, Error ellipse: s-maj=2.9km s-min=2.5km az=9.0*
ISC 23 14:36:33.1±0.9, **37°.52N**±0°.02×**35°.70E**±0°.02, **h10**km±6km, **n76**, σ0**°74**/93, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.11**	**114**	*e*PG	**Pg**	**14 36 35.6**	**-0.2**
KOZT				*e*SG	**Sg**	**14 36 37.8**	**+0.1**
KOZT	**Kozan**	**0.11**	**114**	*e*Pg	**Pg**	**14 36 35.6**	**-0.2**
KOZT				*e*Sg	**Sg**	**14 36 37.8**	**+0.1**
ANDN	**Andirin**	**0.51**	**84**	*i* P	**Pg**	**14 36 42.0**	**-1.1**
ANDN				*i* S	**Sg**	**14 36 50.0**	**+0.1**
ANDN	**Andirin**	**0.51**	**84**	*i* P	**Pg**	**14 36 42.0**	**-1.1**
ANDN				*i* S	**Sg**	**14 36 50.0**	**+0.1**
CEYT	**Ceyhan**	**0.51**	**176**	*e*PG	**Pg**	**14 36 42.6**	**-0.5**
CEYT				*e*SG	**Sg**	**14 36 50.4**	**+0.6**
CEYT	**Ceyhan**	**0.51**	**176**	*e*Pg	**Pg**	**14 36 42.6**	**-0.5**
CEYT				*e*Sg	**Sg**	**14 36 50.4**	**+0.6**
KARA	**Karaisali**	**0.58**	**243**	*e*PG	**Pg**	**14 36 43.2**	**-1.1**
KARA				*e*SG	**Sg**	**14 36 51.5**	**-0.4**
KARA	**Karaisali**	**0.58**	**243**	*e*Pg	**Pg**	**14 36 43.2**	**-1.1**
KARA				*e*Sg	**Sg**	**14 36 51.5**	**-0.4**
AYKD	**Aykdinkavak**	**0.89**	**97**	*i* P	**Pg**	**14 36 48.6**	**-1.5**
AYKD				*i* S	**Sg**	**14 37 01.3**	**-0.3**
KMRS	**Kahramanmaras**	**0.95**	**91**	*e*PG	**Pg**	**14 36 51.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.95**	**91**	*e*Pg	**Pg**	**14 36 51.3**	**-0.1**
NIG	**Nigde**	**1.04**	**304**	*e*PG	**Pg**	**14 36 52.2**	**-1.0**
NIG	**Nigde**	**1.04**	**304**	*e*Pg	**Pg**	**14 36 52.2**	**-1.0**
SARI	**SarD1z-Kayseri**	**1.05**	**32**	*e*PG	**Pg**	**14 36 52.0**	**-1.2**
COBT	**Iskenderun**	**1.10**	**156**	*i* P	**Pg**	**14 36 53.2**	**-0.9**
COBT				*i* S	**Sg**	**14 37 09.3**	**+0.9**
COBT	**Iskenderun**	**1.10**	**156**	*i* P	**Pg**	**14 36 53.2**	**-0.9**
COBT				*i* S	**Sg**	**14 37 09.3**	**+0.9**
KUZU	**Kuzuini**	**1.33**	**124**	*i* P	**Pn**	**14 36 56.4**	**-1.3**
KUZU				*i* S	**Sb**	**14 37 14.6**	**-0.6**
KUZU	**Kuzuini**	**1.33**	**124**	*i* P	**Pn**	**14 36 56.4**	**-1.3**
KUZU				*i* S	**Sb**	**14 37 14.6**	**-0.6**
BNN	**Bunyan**	**1.33**	**5**	*e*PN	**Pn**	**14 36 56.3**	**-1.5**
BNN	**Bunyan**	**1.33**	**5**	*e*Pn	**Pn**	**14 36 56.3**	**-1.5**
HTY	**Hatay**	**1.44**	**166**	*e*PN	**Pn**	**14 36 58.2**	**-1.0**
HTY	**Hatay**	**1.44**	**166**	*e*Pn	**Pn**	**14 36 58.2**	**-1.0**
GZT	**Gaziantep**	**1.49**	**96**	*i* P	**Pn**	**14 36 58.8**	**-1.2**
GZT				*i* S	**Sg**	**14 37 21.8**	**+0.8**
KIZK	**Mersin**	**1.63**	**231**	*i* P	**Pn**	**14 37 01.9**	**+0.2**
KIZK				*i* S	**Sb**	**14 37 25.1**	**+1.4**
KIZK	**Mersin**	**1.63**	**231**	*i* P	**Pn**	**14 37 01.9**	**+0.2**
KIZK				*i* S	**Sb**	**14 37 25.1**	**+1.4**
DARE	**Darende-Malaty**	**1.75**	**53**	*e*PN	**Pn**	**14 37 03.3**	**-0.3**
SULT	**Sultanhani-AKS**	**1.86**	**292**	*e*PN	**Pn**	**14 37 04.3**	**-0.7**
SULT	**Sultanhani-AKS**	**1.86**	**292**	*e*Pn	**Pn**	**14 37 04.3**	**-0.7**
IKL	**Isikli**	**2.06**	**232**	*e*PN	**Pn**	**14 37 07.7**	**0.0**
IKL	**Isik

HNR	**Honiara**	**25.67 283**	LR	LR	14 56 59.1	
	comp=Z,148nm,20.2s,baz=113,slow=32					
STKA	**Stephens Creek**	**42.44 241**	LR	LR	15 07 03.4	
	comp=Z,297nm,21.9s,baz=23,slow=34					
WRA	**Warramunga Arr**	**48.41 258**	P	P	14 51 48.2	-0.6
	0.4nm,0.9s,baz=90,slow=6.4,SNR=2.2					
ASAR	**Alice Springs**	**48.62 253**	P	P	14 51 50.4	-0.1
	0.7nm,0.8s,baz=87,slow=7.9,SNR=9.4					
ASAR			LR	LR	15 09 19.9	
	comp=Z,247nm,21.0s,baz=172,slow=32					
FITZ	**Fitzroy Crossi**	**56.79 259**	LR	LR	15 13 48.6	
	comp=Z,94nm,21.3s,baz=147,slow=32					
PETK	**Petropavlovsk-**	**73.27 343**	LR	LR	15 21 16.0	
	comp=Z,35nm,20.1s,baz=266,slow=31					
NVAR	**Mina Array Bea**	**75.94 42**	P	P	14 54 53.7	+0.1
	0.9nm,0.9s,baz=224,slow=10,SNR=6.0					
USRK	**Ussuriysk Arra**	**77.49 324**	LR	LR	15 22 02.4	
	comp=Z,123nm,21.2s,baz=265,slow=30					
PDAR	**Pinedale Array**	**83.87 42**	P	P	14 55 36.1	-0.4
	0.5nm,0.8s,baz=204,slow=3.3,SNR=4.1					
BRTR	**Keskin Array B**	**146.17 319**	PKPbc	PKPbc	15 02 47.0	-0.3
	0.7nm,0.8s,baz=90,slow=1.4,SNR=4.0					

WBNET 23 14:51:13.7, 50°.20N×12°.46E, h8km, Ml0.0, 2C-11D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**347**	↓P	Pg	14 51 15.3	-0.1
NKC				S	Sg	14 51 16.4	-0.2
NKC	**Novy Kostel**	**0.03**	**347**	↓P	Pg	14 51 16.3	+0.9
NKC				S	Sg	14 51 17.4	+0.8
KVC	**Kvetna**	**0.04**	**82**	↓P	Pg	14 51 15.1	-0.2
KVC	**Kvetna**	**0.04**	**82**	↓P	Pg	14 51 16.1	+0.8
KVC				S	Sg	14 51 17.1	+0.6
VAC	**Vackov**	**0.06**	**303**	↓P	Pg	14 51 15.6	-0.1
VAC				S	Sg	14 51 16.9	-0.2
VAC	**Vackov**	**0.06**	**303**	↓P	Pg	14 51 16.6	+0.9
VAC				S	Sg	14 51 17.9	+0.8
SKC	**Skalna**	**0.07**	**244**	↓P	Pg	14 51 15.6	-0.1
SKC				S	Sg	14 51 16.9	-0.2
SKC	**Skalna**	**0.07**	**244**	P	Pg	14 51 16.6	+0.9
SKC				S	Sg	14 51 18.0	+0.8
STCW	**Studenec**	**0.07**	**34**	↓P	Pg	14 51 15.6	-0.2
STCW				S	Sg	14 51 16.9	-0.4
STCW	**Studenec**	**0.07**	**34**	↓P	Pg	14 51 16.6	+0.8
STCW				S	Sg	14 51 17.9	+0.6
KRCW	**Kraslice**	**0.14**	**19**	↑P	Pg	14 51 16.7	-0.2
KRCW				S	Sg	14 51 18.7	-0.3
KRCW	**Kraslice**	**0.14**	**19**	↑P	Pg	14 51 17.7	+0.8
KRCW				S	Sg	14 51 19.7	+0.7
KOCW	**Kopaniny**	**0.16**	**294**	↓P	Pg	14 51 17.0	-0.1
KOCW				S	Sg	14 51 19.4	-0.1
KOCW	**Kopaniny**	**0.16**	**294**	↓P	Pg	14 51 18.0	+0.9
KOCW				S	Sg	14 51 20.4	+0.9
ZHC	**Zelena Hora**	**0.16**	**217**	S	Sg	14 51 19.3	-0.2
ZHC	**Zelena Hora**	**0.16**	**217**	S	Sg	14 51 20.3	+0.8
LACW	**Lazy**	**0.18**	**145**	S	Sg	14 51 20.1	-0.2
LACW	**Lazy**	**0.18**	**145**	S	Sg	14 51 21.1	+0.8

IDC 23 15:06:22.2±1.2, 5°.71S×153°.24E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, ML3.0/1, Error ellipse: s-maj=38.1km s-min=20.1km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.06**	**238**	Pn	Pn	15 08 09.0	+2.2
	1.5nm,0.3s,baz=114,slow=2.4,SNR=6.1						
PMG				Sn	Sn	15 09 29.2	+1.3
	0.9nm,0.3s,baz=106,slow=20,SNR=3.0						
CTA	**Charters Tower**	**15.82**	**205**	Pn	P	15 10 11.0	+0.5
	0.1nm,0.3s,baz=44,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**23.19**	**231**	P	P	15 11 30.6	-0.3
	2.0nm,0.9s,baz=57,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**25.79**	**224**	P	P	15 11 55.2	+0.1
	3.0nm,0.8s,baz=54,slow=9.0,SNR=23						
FITZ	**Fitzroy Crossi**	**29.62**	**243**	P	P	15 12 29.1	-0.5
	2.7nm,0.7s,baz=100,slow=7.5,SNR=9.4						
CMAR	**Chiang Mai Arr**	**58.66**	**296**	P	P	15 16 20.6	-1.3
	0.9nm,0.8s,baz=95,slow=4.8,SNR=3.3						
SONM	**Songino Array**	**67.32**	**328**	P	P	15 17 20.6	+1.4
	0.9nm,0.5s,baz=146,slow=4.9,SNR=8.1						
MKAR	**Makanchi Array**	**81.29**	**319**	P	P	15 18 39.0	-1.5
	0.4nm,0.7s,baz=101,slow=6.2,SNR=3.3						
ILAR	**Eielson Array**	**82.83**	**22**	P	P	15 18 48.0	-0.2
	0.2nm,0.7s,baz=239,slow=4.8,SNR=4.3						
BVAR	**Borovoye Array**	**90.22**	**323**	P	P	15 19 25.2	+0.5
	0.7nm,0.6s,baz=110,slow=6.5,SNR=5.4						
BDFB	**Brasilia**	**150.12**	**135**	PKPbc	PKPbc	15 26 15.2	-1.0
	2.0nm,0.6s,baz=288,slow=3.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**150.99**	**287**	PKPbc	PKPbc	15 26 19.5	+1.3
	1.3nm,0.8s,baz=69,slow=2.0,SNR=8.0						

IDC 23 15:07:03.6±3.1, 30°.41S×177°.56W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=65.1km s-min=31.1km az=114.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**345**	Pn	Pn	15 07 27.4	-0.1
	108nm,0.3s,baz=110,slow=23,SNR=16						
RAO				Sn	Sg	15 07 39.0	-3.0
	2μm,0.3s,baz=210,slow=20,SNR=38						
CTA	**Charters Tower**	**34.18**	**279**	P	P	15 13 52.2	+1.4
	1.6nm,0.5s,baz=88,slow=14,SNR=3.9						
ASAR	**Alice Springs**	**43.49**	**267**	P	P	15 15 08.2	-0.7
	0.6nm,0.7s,baz=106,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**44.48**	**272**	P	P	15 15 16.3	-0.6
	1.7nm,0.7s,baz=110,slow=8.1,SNR=84						
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	PKPbc	15 26 41.5	-0.7
	2.3nm,0.5s,baz=64,slow=3.2,SNR=25						

NIED ***23*** *15:08:00, 36°.90N×141°.70E, h35km, Mw3.9 Best double couple: M0=7.96000×10^14 NP1:φs=358.00000°, δ70.00000°, λ74.00000°. NP2:φs=217.00000°, δ26.00000°, λ126.00000°.*
JMA ***23*** *15:08:36.0±0.3, 36°.91N×141°.67E, h49km±4km, M3.8*
IDC ***23*** *15:08:38.3±2.5, 36°.90N×141°.76E, h50km±23km, mb3.6/10, mb1 3.7/13, mb1mx3.6/28, mbtmp3.6/13, ML3.4/3, Error ellipse: s-maj=25.7km s-min=14.0km az=97.0*
ISC 23 15:08:33.4±3.6, 36°.87N±0°.06×141°.77E±0°.07, h12km±22km, n23, σ1°91/27, mb3.8/10, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.81**	**287**	↓P	Pb	15 08 50.0	+0.5
JFK	**Kawauchi**	**0.87**	**305**	↓P	Pb	15 08 50.6	+0.1
JHO	**Hitachi**	**1.00**	**255**	↓P	Pb	15 08 52.5	-0.2
JHO				S	Sb	15 09 05.4	-0.5
JMM	**Marumori**	**1.26**	**322**	↓P	Pn	15 08 56.4	-0.5
JMM				S	Sb	15 09 11.2	-2.1
JFT	**Otama**	**1.31**	**300**	↓P	Pn	15 08 58.0	+0.3
JYT	**Yasato**	**1.42**	**244**	↓P	Pn	15 08 58.9	-0.2
JYT				S	Sn	15 09 16.2	-1.6
JSB	**Shiboa**	**1.49**	**274**	P	Pb	15 09 01.1	+0.1
JSB				S	Sn	15 09 19.5	+0.1
JFY	**Yanaizu**	**1.73**	**288**	P	Pn	15 09 04.1	+0.7
MAT	**Matsushiro**	**2.88**	**264**	P	Pn	15 09 21.1	+1.9
MAT				S	Sn	15 09 56.6	+2.7
ASAJ	**Asahikawa**	**7.26**	**5**	P	Pn	15 10 20.1	+0.7
	0.6nm,0.3s,baz=236,slow=30,SNR=11						
ASAJ				S	Sn	15 11 42.8	+1.0
	0.7nm,0.3s,baz=54,slow=33,SNR=3.2						
JNU	**Nakatsue**	**9.69**	**250**	P	Pn	15 10 56.3	+3.6
	0.4nm,0.3s,baz=84,slow=10.0,SNR=7.1						
KSRS	**Korea Array**	**11.07**	**277**	P	Pn	15 11 14.6	+3.1
	0.1nm,0.3s,baz=88,slow=15,SNR=2.9						
SONM	**Songino Array**	**28.11**	**304**	P	P	15 14 25.6	+0.4
	1.2nm,0.7s,baz=109,slow=8.9,SNR=14						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	P	15 16 25.9	-0.4
	1.3nm,0.6s,baz=104,slow=6.3,SNR=5.5						
MKAR	**Makanchi Array**	**44.45**	**302**	P	P	15 16 43.5	-0.8
	0.7nm,0.7s,baz=87,slow=10,SNR=9.1						
ILAR	**Eielson Array**	**49.48**	**32**	P	P	15 17 23.9	+0.6
	0.4nm,1.0s,baz=247,slow=6.6,SNR=4.1						
FITZ	**Fitzroy Crossi**	**56.76**	**198**	P	P	15 18 17.8	+0.4
	1.7nm,0.8s,baz=5.7,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**56.94**	**188**	P	P	15 18 18.0	-0.6
	0.8nm,0.5s,baz=5.3,slow=6.8,SNR=25						
ASAR	**Alice Springs**	**60.67**	**188**	P	P	15 18 44.3	-0.3
	0.6nm,0.8s,baz=12,slow=12,SNR=8.3						
ARCES	**ARCESS Array B**	**64.25**	**340**	P	P	15 19 07.8	-0.2
	1.4nm,0.8s,baz=37,slow=6.2,SNR=4.5						
FINES	**FINESS Array B**	**69.09**	**332**	P	P	15 19 38.3	-0.6
	1.2nm,0.6s,baz=69,slow=4.8,SNR=5.4						
NB2	**NORSAR Subarra**	**74.44**	**337**	P	P	15 20 11.3	+0.1
	comp=Z,0.1nm,0.7s,baz=43,slow=6.2						
NOA	**NORSAR Array B**	**74.44**	**337**	P	P	15 20 10.7	-0.6
	comp=Z,1.0nm,0.7s,baz=38,slow=5.8,SNR=4.7						

MAN 23 15:19:17, 11°.71N×124°.54E, h32km, mb4.0, ML2.8, MS2.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.66**	**174**	eP	Pb	15 19 31.4	+1.2
OCLP				eS	Sn	15 19 40.7	+1.2
LLP	**Lapu-Lapu**	**1.50**	**202**	eP	Pn	15 19 41.8	+0.1
LLP				eS	Sn	15 20 01.5	+1.3
RCP	**Roxas**	**1.77**	**265**	eP	Pn	15 19 45.4	0.0
GUIM	**Jordan**	**2.20**	**241**	eP	Pn	15 19 52.7	+1.4
GUIM				eS	Sn	15 20 18.4	+1.0

BJI ***23*** *15:24:19.8, 10°.60S×162°.02E, h110km, mB4.9/16, mb4.6/30*
NEIC ***23*** *15:24:21.9±0.3, 10°.36S×161°.41E, mb4.9/23, Error ellipse: s-maj=9.5km s-min=6.3km az=133.0*
IDC ***23*** *15:24:21.4±0.6, 10°.50S×161°.47E, h86km±4km, mb4.2/19, mb1 4.4/19, mb1mx4.3/21, mbtmp4.2/19, MS3.6/11, Ms1 3.7/11, ms1mx3.5/24, Error ellipse: s-maj=12.3km s-min=8.7km az=47.0*
ISCJB ***23*** *15:24:22.4±0.7, 10°.44S±0°.03×161°.39E±0°.04, h102km±6km, mb4.5/45, Error ellipse: s-maj=7.3km s-min=5.6km az=167.2*
DJA ***23*** *15:24:29.7±1.7, 10°S±8°×16°2E±°, h148km±25km, M4.7/9, mb4.7/9*
AUST ***23*** *15:24:32.9±2.4, 10°.22S×161°.58E, h227km, Error ellipse: s-maj=1.5km s-min=1.1km az=301.0*
ISC 23 15:24:23.2±0.4, 10°.48S±0°.05×161°.47E±0°.06, h101km±2km, h100km:pP-P, n165, σ1°62/202, mb4.6/45, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**305**	P	Pn	15 24 52.4	-1.2
HNR				S	Sn	15 25 14.4	-2.2
HNR	**Honiara**	**1.82**	**305**	P	Pn	15 24 52.3	-1.2
	1μm,0.3s,baz=151,slow=6.1,SNR=572						
HNR				S	Sn	15 25 14.4	-2.2
	2μm,0.3s,baz=188,slow=18,SNR=9.5						
RABL	**Rabaul**	**11.14**	**303**	P	Pn	15 27 03.3	+3.9
	baz=11,SNR=5.7						
NOUC	**Port Laguerre**	**12.45**	**159**	eP	Pn	15 27 16.4	-0.5
NOUC				eS	Sn	15 29 32.2	-1.6
DZM	**Mont Dzumac**	**12.47**	**158**	P	Pn	15 27 18.4	+1.1
DZM				S	Sn	15 29 33.0	-1.5
DZM	**Mont Dzumac**	**12.47**	**158**	P	Pn	15 27 18.4	+1.1
	11nm,0.3s,baz=90,slow=24,SNR=18						
DZM				S	Sn	15 29 33.0	-1.5
	6.9nm,0.3s,baz=244,slow=18,SNR=4.8						
NORM	**Noumea**	**12.63**	**158**	eP	Pn	15 27 20.4	+1.1
PMG	**Port Moresby**	**14.13**	**273**	P	P	15 27 45.1	+1.8
PMG	**Port Moresby**	**14.13**	**273**	P	P	15 27 44.1	+0.7
	27nm,1.1s						
PMG	**Port Moresby**	**14.13**	**273**	P	P	15 27 45.1	+1.8
	0.4nm,0.3s,baz=62,slow=13,SNR=3.3						
PMG				LR	LR	15 31 03.6	
	comp=Z,226nm,21.9s,baz=290,slow=28						
TARA	**Tarawa**	**16.38**	**45**	eP	Pn	15 28 08.2	+1.0
	126nm,0.6s						
TARA				S	Sn	15 30 56.8	-12
PATS	**Pohnpei**	**17.49**	**350**	P	P	15 28 14.9	-5.6
	baz=17,SNR=3.6						
PATS				S	Sn	15 31 28.0	-7.6
	baz=17,SNR=3.2						
CTA	**Charters Tower**	**17.50**	**235**	P	Pn	15 28 23.4	+2.6
CTA	**Charters Tower**	**17.50**	**235**	P	Pn	15 28 23.4	+2.6
	2.4nm,0.3s,baz=64,slow=12,SNR=50						
CTAO	**Charters Tower**	**17.50**	**235**	eP	Pn	15 28 23.3	+2.4
	64nm,1.0s						
MSVF	**Nonsavu**	**17.62**	**116**	eP	Pn	15 28 24.1	+1.7
	70nm,1.4s						
EIDS	**Eidsvold**	**17.79**	**212**	eP	Pn	15 28 26.0	+1.7
	21nm,0.8s						
EIDS	**Eidsvold**	**17.79**	**212**	P	Pn	15 28 26.2	+1.8
	baz=18,SNR=12						
COEN	**Coen**	**18.21**	**257**	eP	P	15 28 28.8	+0.3
	320nm,1.2s						
COEN	**Coen**	**18.21**	**257**	P	Pn	15 28 29.4	-0.1
	baz=18,SNR=4.9						
MTSU	**Mount Surprise**	**18.27**	**243**	P	Pn	15 28 32.5	+2.3
	baz=18,SNR=20						
RMQ	**Roma**	**19.94**	**215**	P	Pn	15 28 49.7	-0.1
	baz=20,SNR=34						
KWAJ	**Kwajalein Atol**	**20.11**	**18**	eP	Pn	15 28 56.4	+4.6
	71nm,0.7s						
LHI	**Lord Howe Isla**	**21.06**	**186**	S	S	15 32 33.7	-14
	baz=21,SNR=3.2						
ARMA	**Armidale**	**21.85**	**203**	eP	P	15 29 08.6	+0.8
	23nm,1.1s						
ARMA				epP	pP	15 29 30.6	+3.3
ARMA	**Armidale**	**21.85**	**203**	P	P	15 29 10.6	+2.8
	baz=22,SNR=6.0						
CMSA	**Cobar Meteorol**	**25.55**	**213**	P	P	15 29 45.2	+2.6
	baz=26,SNR=19						
RAO	**Raoul Island**	**26.84**	**137**	LR	LR	15 38 25.5	
	comp=Z,170nm,18.6s,baz=170,slow=32						
WRAB	**Tennant Creek**	**27.77**	**247**	eP	P	15 30 02.7	-0.1
	14nm,0.8s						
WRAB				epP	pP	15 30 25.4	+0.3
WRA	**Warramunga Arr**	**27.78**	**247**	P	P	15 30 02.4	-0.5
WRA				pP	pP	15 30 25.6	+0.3
WRA	**Warramunga Arr**	**27.78**	**247**	P	P	15 30 02.4	-0.5
	4.4nm,0.8s,baz=77,slow=9.0,SNR=76						
WRA				pP	pP	15 30 25.6	+0.3
	6.8nm,0.6s,baz=80,slow=9.6,SNR=8.1						
WRA				LR	LR	15 39 24.0	
	comp=Z,127nm,21.9s,baz=255,slow=32						
STKA	**Stephens Creek**	**28.13**	**218**	P	P	15 30 07.0	+1.2
STKA	**Stephens Creek**	**28.13**	**218**	P	P	15 30 07.0	+1.2
	5.6nm,0.8s,baz=11,slow=6.5,SNR=7.2						
STKA	**Stephens Creek**	**28.13**	**218**	P	P	15 30 07.3	+1.5
	baz=28,SNR=4.6						
KDU	**Kakadu**	**28.48**	**263**	P	P	15 30 09.0	-0.1
	baz=29,SNR=4.7						
AS31	**Alice Springs**	**29.36**	**240**	eP	P	15 30 16.1	-0.8
AS31				epP	pP	15 30 38.6	-0.8
ASAR	**Alice Springs**	**29.36**	**240**	P	P	15 30 16.1	-0.7
ASAR				pP	pP	15 30 38.0	-1.4
ASAR	**Alice Springs**	**29.36**	**240**	P	P	15 30 16.1	-0.7
	1.8nm,0.7s,baz=63,slow=10.0,SNR=33						
ASAR				pP	pP	15 30 38.0	-1.4
	9.6nm,0.9s,baz=62,slow=10,SNR=15						
ASAR				LR	LR	15 40 39.5	
	comp=Z,190nm,21.8s,baz=316,slow=33						
MTN	**Manton Dam**	**29.79**	**262**	P	P	15 30 22.5	+1.8
	baz=30,SNR=4.0						
TOO	**Toolangi**	**30.57**	**205**	P	P	15 30 28.9	+1.6
	baz=31,SNR=9.6						
KNRA	**Kununurra**	**32.25**	**257**	P	P	15 30 42.8	+0.4
	baz=32,SNR=9.7						
FITZ	**Fitzroy Crossi**	**35.49**	**254**	P	P	15 31 09.6	-0.7
FITZ	**Fitzroy Crossi**	**35.49**	**254**	P	P	15 31 09.6	-0.7
	5.9nm,0.9s,baz=77,slow=4.8,SNR=12						
FITZ				LR	LR	15 43 09.9	
	comp=Z,112nm,19.5s,baz=64,slow=32						
FITZ	**Fitzroy Crossi**	**35.49**	**254**	P	P	15 31 10.1	-0.3
	baz=36,SNR=8.8						
MEEK	**Meekatharra**	**43.45**	**242**	P	P	15 32 17.5	+0.9
	baz=44,SNR=3.8						
BLDU	**Ballidu**	**46.08**	**237**	P	P	15 32 37.8	+0.5
	baz=46,SNR=5.2						
PPT	**Papeete**	**47.91**	**104**	LR	LR	15 49 01.3	
	comp=Z,89nm,19.7s,baz=235,slow=31						
MAT	**Matsushiro**	**51.64**	**336**	P	P	15 33 19.3	-0.3
JNU	**Nakatsue**	**52.25**	**327**	P	P	15 33 24.3	0.0
JNU	**Nakatsue**	**52.25**	**327**	P	P	15 33 24.3	0.0
	9.2nm,0.8s,baz=30,slow=1.0,SNR=5.5						
ASAJ	**Asahikawa**	**56.98**	**344**	LR	LR	15 56 25.7	
	comp=Z,48nm,20.9s,baz=173,slow=34						
KSRS	**Korea Array**	**57.12**	**328**	P	P	15 33 59.2	0.0
	4.2nm,0.9s,baz=148,slow=7.6,SNR=11						
KSRS				LR	LR	15 57 00.8	
	comp=Z,34nm,18.0s,baz=130,slow=34						
KSAR	**Wonju Array Be**	**57.13**	**328**	P	P	15 33 59.2	-0.1
NJ2	**Nanjing**	**58.72**	**318**	eP	P	15 34 11.3	+0.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
USRK	**Ussuriysk Arra**	**60.64**	**336**	P	P	15 34 23.8	+0.3
	comp=Z,5.3nm,0.7s,baz=163,slow=5.9,SNR=11						
USRK				pP	pP	15 34 45.3	-3.1
	comp=Z,3.5nm,0.8s,baz=141,slow=7.3,SNR=4.1						
MDJ	**Mudanjiang**	**61.96**	**335**	P	P	15 34 33.6	+1.2
MDJ				pP	pP	15 34 58.4	+1.0
MDJ				sP	sP	15 35 09.8	+1.3
MDJ				PcP	PcP	15 35 13.8	+1.6
MDJ				S	S	15 42 51.3	+2.5
MDJ				sS	sS	15 43 36.6	+5.0
MDJ				SS	SS	15 46 55.5	+2.2
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,67nm,4.5s						
MDJ				LR	LR		
	comp=N,37nm,25.1s						
MDJ				LR	LR		
	comp=E,33nm,20.5s						
MDJ				LR	LR		
	comp=Z,43nm,22.8s						
CN2	**Changchun**	**63.17**	**332**	eP	P	15 34 39.6	-0.9
CN2				epP	pP	15 35 06.8	+1.3
CN2				esP	sP	15 35 19.3	+2.7
CN2				eS	S	15 43 00.5	-3.5
CN2				eSS	SS	15 47 10.4	-1.7
PETK	**Petropavlovsk-**	**63.41**	**357**	P	P	15 34 42.1	+0.2
PETK	**Petropavlovsk-**	**63.41**	**357**	P	P	15 34 42.1	+0.2
	comp=Z,3.2nm,0.9s,baz=127,slow=8.0,SNR=7.3						
FX1	**Attu Island--F**	**63.90**	**8**	P	P	15 34 45.3	+0.3
FX1	**Attu Island--F**	**63.90**	**8**	P	P	15 34 45.3	+0.3
	comp=Z,20nm,0.8s,baz=229,slow=9.3,SNR=4.9						
GYA	**Guiyang**	**64.65**	**306**	eP	P	15 34 51.8	+1.1
GYA				pP	pP	15 35 18.4	+2.5
GYA				sP	sP	15 35 30.0	+3.1
GYA				ScP		15 39 17.3	
GYA				PcS		15 39 27.5	
GYA				S	S	15 43 21.6	-1.6
GYA				SKS	SKSac	15 44 31.8	-4.5
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,80nm,5.0s						
BJI	**Beijing**	**65.45**	**323**	P	P	15 34 55.8	+0.3
BJI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
XAN	**Xi'an**	**66.67**	**314**	P	P	15 35 03.3	-0.2
XAN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**67.03**	**180**	P	P	15 35 04.2	-0.7
VNDA				pP	pP	15 35 26.5	-3.7
VNDA	**Vanda**	**67.03**	**180**	P	P	15 35 04.2	-0.7
	comp=Z,1.6nm,0.8s,baz=346,slow=5.7,SNR=8.3						
VNDA				pP	pP	15 35 26.5	-3.7
	comp=Z,1.3nm,0.7s,baz=328,slow=4.9,SNR=3.9						
VNDA				LR	LR	16 00 38.8	
	comp=Z,88nm,20.8s,baz=143,slow=32						
KMI	**Kunming**	**67.26**	**303**	P	P	15 35 07.4	-0.2
KMI				pP	PcP	15 35 34.1	-0.7
KMI				sP	sP	15 35 44.8	+0.9
KMI				PP	PP	15 37 40.9	+3.7
KMI				S	S	15 43 52.6	-2.6
KMI				sS	sS	15 44 41.3	+2.7
KMI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KMI				LR	LR		
	comp=Z,63nm,18.0s						
CMAR	**Chiang Mai Arr**	**68.05**	**295**	P	P	15 35 11.6	-0.8
CMAR				pP	pP	15 35 34.0	-3.7
CMAR	**Chiang Mai Arr**	**68.05**	**295**	P	P	15 35 11.6	-0.8
	comp=Z,1.2nm,0.6s,baz=121,slow=4.8,SNR=8.6						
CMAR				pP	pP	15 35 34.0	-3.7
	comp=Z,1.4nm,0.6s,baz=128,slow=4.6,SNR=2.7						
CMAR				LR	LR	16 06 59.7	
	comp=Z,28nm,18.5s,baz=100,slow=38						
HHC	**Hu-ho-hao-te**	**68.73**	**321**	eP	P	15 35 17.4	+1.1
HHC				pP	pP	15 35 44.9	+3.2
HHC				sP	sP	15 35 58.3	+5.6
HHC				PcS		15 39 44.8	
HHC				S	S	15 44 10.4	-1.4
HHC				sS	SKiKP	15 44 58.3	-0.7
HHC				ScS	SKSac	15 45 03.3	-3.3
HHC				SS	SS	15 48 39.3	+0.5
HHC				pmax	pmax		
	comp=Z,39nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
HHC				LR	LR		
	comp=N,200nm,17.2s						
HHC				LR	LR		
	comp=E,160nm,17.1s						
HHC				LR	LR		
	comp=Z,190nm,16.7s						
LZH	**Lanzhou**	**71.30**	**314**	eP	P	15 35 34.8	+2.6
LZH				pP	pP	15 35 59.6	+1.8
LZH				sP	sP	15 36 10.6	+1.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**75.67**	**315**	eP	P	15 35 58.5	+0.7
GTA				S	S	15 45 32.3	+1.0
GTA				SKS	SKSac	15 45 56.8	-2.2
GTA				SS	SS	15 50 27.1	+2.0
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,58nm,5.2s						
GTA				LR	LR		
	comp=N,71nm,15.9s						
GTA				LR	LR		
	comp=E,72nm,15.2s						
GTA				LR	LR		
	comp=Z,77nm,16.6s						
SONM	**Songino Array**	**75.77**	**325**	P	P	15 35 58.3	+0.2
SONM				pP	pP	15 36 20.2	-3.7
SONM	**Songino Array**	**75.77**	**325**	P	P	15 35 58.3	+0.2
	comp=Z,6.4nm,0.6s,baz=142,slow=5.6,SNR=60						
SONM				pP	pP	15 36 20.2	-3.7
	comp=Z,7.9nm,0.8s,baz=144,slow=5.9,SNR=10.0	

baz=88
MWC Mount Wilson 88.07 55 eP P 15 37 03.9 +1.0
comp=Z,5.5nm,0.8s
ISA Isabella 88.09 53 P P 15 37 04.0 +1.1
baz=88
EDW2 Edwards Air Fo 88.28 54 P P 15 37 05.0 +1.2
baz=88,SNR=5.4
BFSC Mount Baldy Ra 88.39 55 P P 15 37 05.4 +1.0
baz=88
NVAR Mina Array Bea 88.90 51 P P 15 37 08.2 +1.4
NVAR pP pP 15 37 30.6 -2.7
NVAR Mina Array Bea 88.90 51 P P 15 37 08.2 +1.4
comp=Z,4.0nm,0.7s,baz=236,slow=6.9,SNR=31
NVAR pP pP 15 37 30.6 -2.7
comp=Z,1.9nm,0.9s,baz=242,slow=6.9,SNR=3.5
MPMC Manual Prospec 88.96 53 P P 15 37 08.5 +1.4
baz=89
MONP Monument Peak 89.09 56 P P 15 37 09.0 +1.2
baz=89,SNR=7.9
PFO Pinyon Flat Ob 89.22 56 P P 15 37 09.5 +1.2
baz=89
GRAC Grapevine Rang 89.27 52 P P 15 37 09.8 +1.4
baz=89,SNR=6.0
DVTC Desert V Tower 89.30 57 P P 15 37 10.2 +1.6
baz=89
GSC Goldstone 89.32 54 P P 15 37 10.1 +1.4
baz=89
FURC Furnace Creek, 89.55 53 P P 15 37 10.7 +1.2
baz=90,SNR=12
HEC Hector,Ludlow 89.60 55 P P 15 37 10.9 +1.0
baz=90
SWSC Sam W. Stewart 89.61 57 P P 15 37 11.3 +1.3
baz=90
WVOR Wild Horse Val 89.64 47 eP P 15 37 11.3 +1.3
comp=Z,18nm,1.3s
BELC Belle Mtn. Jos 89.68 55 P P 15 37 11.8 +1.3
baz=90,SNR=9.1
SHOC Shoshone 89.88 54 P P 15 37 12.8 +1.7
baz=90,SNR=5.2
BC3 Big Chuckawall 90.05 56 P P 15 37 13.6 +1.4
baz=90,SNR=5.1
TUQ Turquoise Moun 90.06 54 P P 15 37 13.3 +1.1
baz=90,SNR=8.4
GMRC Granite Mounta 90.12 55 P P 15 37 13.8 +1.4
baz=90,SNR=5.0
MK31 Makanchi Array 90.25 318 eP P 15 37 12.1 -0.6
MKAR Makanchi Array 90.25 318 P P 15 37 12.1 -0.5
MKAR pP pP 15 37 33.9 -5.3
MKAR Makanchi Array 90.25 318 P P 15 37 12.1 -0.5
comp=Z,3.2nm,0.5s,baz=93,slow=6.0,SNR=48
MKAR pP pP 15 37 33.9 -5.3
comp=Z,1.6nm,0.8s,baz=98,slow=7.5,SNR=4.3
IRM Iron Mountain 90.40 55 P P 15 37 15.1 +1.4
baz=90,SNR=7.2
LDFC Landfair 90.63 55 eP P 15 37 16.4 +1.6
comp=Z,23nm,1.3s
ZALV Zalesovo Beam 90.66 325 P P 15 37 12.8 -1.5
ZALV Zalesovo Beam 90.66 325 P P 15 37 12.8 -1.5
comp=Z,0.9nm,0.5s,baz=116,slow=6.2,SNR=4.9
Y12C Blythe 90.83 56 P P 15 37 17.3 +1.7
baz=91
SHPR Sheep Range 90.89 53 eP P 15 37 17.5 +1.4
comp=Z,15nm,1.3s
R11A Troy Canyon, C 90.96 51 P P 15 37 17.8 +1.5
baz=91,SNR=5.4
SYO Syowa Base 91.06 198 ‖ epP pP 15 37 43.2 +0.7
MFID Camas Ranch 91.88 46 P P 15 37 21.7 +1.3
baz=92,SNR=6.2
214A Organ Pipe Nat 91.88 58 P P 15 37 21.7 +1.1
baz=92
NEW Newport 92.08 41 P P 15 37 21.8 +0.7
baz=92
HLID Hailey 92.91 46 eP P 15 37 25.8 +0.6
comp=Z,6.1nm,1.0s
HLID Hailey 92.91 46 P P 15 37 26.4 +1.2
baz=93,SNR=11
KSH Kashi 93.14 309 eP P 15 37 26.5 +0.2
U15A North Rim 93.14 54 P P 15 37 28.1 +1.5
baz=93
DUG Dugway 93.44 50 P P 15 37 29.1 +1.4
baz=94
WUAZ Wupatki 93.71 55 P P 15 37 30.5 +1.4
baz=94
MCMT McKenzie Canyo 94.26 45 P P 15 37 31.5 0.0
comp=Z,1.3nm,1.2s
DLMT Dillon 94.53 45 eP P 15 37 33.9 +1.2
X18A Snowflake 94.70 56 P P 15 37 34.7 +1.0
baz=95
I16A Newdale 95.06 46 P P 15 37 37.0 +1.9
baz=95
H16A Russell Place, 95.36 46 P P 15 37 38.3 +1.7
baz=95
X20A Quemado 95.88 56 P P 15 37 40.2 +1.0
baz=96
E17A Martinsdale 95.91 44 P P 15 37 39.8 +0.9
baz=96
F17A Fitzpatrick Pl 95.96 45 P P 15 37 40.4 +1.3
baz=96
C17A Wharram Farm, 96.16 43 P P 15 37 40.5 +0.6
baz=96
B17A L&G Farms, Che 96.23 42 P P 15 37 40.8 +0.6
baz=96
PDAR Pinedale Array 96.27 48 P P 15 37 41.9 +1.1
PDAR Pinedale Array 96.27 48 P P 15 37 41.9 +1.1
comp=Z,0.8nm,0.7s,baz=232,slow=2.2,SNR=8.3
YKA Yellowknife Ar 96.42 28 P P 15 37 40.0 -0.5
YKA Yellowknife Ar 96.42 28 P P 15 37 40.0 -0.5
comp=Z,2.3nm,0.6s,baz=262,slow=4.6,SNR=5.0
E18A Harlowton 96.57 44 P P 15 37 43.0 +1.1
baz=97
F18A Big Timber 96.61 45 P P 15 37 43.3 +1.3
baz=97
U21A Nageezi 96.83 54 P P 15 37 44.8 +1.4
baz=97
EGMT Eagleton 96.88 43 P P 15 37 44.0 +0.8
baz=97
F19A Roth Farm, Mol 97.14 45 P Pdif 15 37 46.0 +1.4
baz=97
E19A Rath Farm, Rou 97.33 44 P Pdif 15 37 46.6 +1.3
baz=97
D19A Cripps Ranch, 97.36 43 P Pdif 15 37 46.5 +1.1
baz=97
Q22A Crested Butte, 97.74 52 P Pdif 15 37 48.9 +1.3
baz=98
E20A Meyer Farm, Mu 97.78 44 P Pdif 15 37 48.7 +1.4
baz=98
Y23A Lovelace Mesa, 97.80 57 P Pdif 15 37 49.5 +1.7
baz=98
ARCES ARCESS Array B 114.70 344 PKP PKPdf 15 42 50.6 -0.7
ARCES ARCESS Array B 114.70 344 PKP PKPdf 15 42 50.6 -0.7
comp=Z,1.9nm,1.0s,baz=82,slow=2.6,SNR=8.8
ESDC Sonseca Array 148.16 338 PKPbc PKPbc 15 43 57.0 -0.7
ESDC Sonseca Array 148.16 338 PKPbc PKPbc 15 43 57.0 -0.7
comp=Z,0.8nm,0.7s,baz=26,slow=3.9,SNR=4.2
TORD Torodi Ar. Bea 160.03 280 PKP PKPdf 15 44 09.8 -1.7
TORD PKPab PKPab 15 44 50.9 -0.9
TORD Torodi Ar. Bea 160.03 280 PKP PKPdf 15 44 09.8 -1.7
comp=Z,0.7nm,1.0s,baz=132,slow=2.1,SNR=2.9
TORD PKPab PKPab 15 44 50.9 -0.9
comp=Z,0.6nm,0.8s,baz=53,slow=3.1,SNR=3.7

KRSC 23 16:02:20.3±0.0, 52°.28N×159°.32E, h40km±30km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUS	Russkaya	0.52	288	P		Pn		16 02 32.0	+0.7
RUS				i S		Sn		16 02 40.3	+1.3
MTVR	Mutnovka	0.73	287	P		Pn		16 02 35.0	+0.7
MTVR				i S		Sn		16 02 45.7	+1.3
GRL	Gorelyy	0.81	290	eP		Pn		16 02 36.6	+1.2
GRL				i S		Sn		16 02 49.1	+2.7
PET	Petropavlovsk	0.85	332	P		Pn		16 02 36.0	+0.2
PET				i S		Sn		16 02 47.8	+0.8
ASAK	Asacha	0.88	277	eP		Pn		16 02 37.2	+0.9
ASAK				i S		Sn		16 02 49.9	+2.0
SPN	Mys Shipunski	0.92	27	P		Pn		16 02 37.8	+1.0
SPN				i S		Sn		16 02 51.2	+2.3
UGLR	Uglovaya	0.98	342	P		Pn		16 02 38.5	+0.8
UGLR				i S		Sn		16 02 52.1	+1.6
SDLR	Sedlovina	1.03	345	P		Pn		16 02 38.9	+0.4
SDLR				i S		Sn		16 02 53.0	+1.1
SMAR	Somma	1.03	342	P		Pn		16 02 38.9	+0.3
SMAR				i S		Sn		16 02 53.5	+1.4
AVH	Avacha	1.05	341	eP		Pn		16 02 39.7	+1.1
AVH				i S		Sn		16 02 54.3	+2.2

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRER	Koryakskii	1.08	342	P		Pn		16 02 40.0	+0.7
KRER				i S		Sn		16 02 54.6	+1.3
KOK	Koryaka	1.10	338	P		Pn		16 02 40.2	+0.9
KOK				i S		Sn		16 02 55.3	+2.0
APC	Apacha	1.47	297	eP		Pn		16 02 45.6	+1.4
APC				i S		Sn		16 03 05.0	+2.8
MIPR	Malaya Ipel'ka	1.57	271	P		Pn		16 02 46.3	+0.6
MIPR				i S		Sn		16 03 05.5	+0.6
GNL	Ganaly	1.64	330	eP		Pn		16 02 48.2	+1.4
GNL				i S		Sn		16 03 09.4	+2.5
PAU	Pauzhetka	1.76	243	P		Pn		16 02 48.2	0.0
KII	Karymskiy	1.76	2	P		Pn		16 02 48.2	-0.2
SKR	Severo-Kuril's	2.56	233	P		Pn		16 03 00.5	+1.2
SKR				i S		Sn		16 03 28.7	-0.5
MKZ	Mys Kozlova	2.70	31	P		Pn		16 03 03.9	+2.8
KMNR	Kamenistaya	3.52	8	P		Pn		16 03 15.2	+2.6
ESO	Esso	3.67	355	eP		Pn		16 03 16.5	+2.0
KBTR	Krutoberegovo	4.44	26	P		Pn		16 03 26.3	+1.3

DJA 23 16:16:41.9±1.6, 2°.5S±13°.×10°.0E±1°.2, h20km, M3.8/4, MLv3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDSI	Padang	1.00	49	P		Pb		16 16 57.4	-3.2
PDSI				S		Sn		16 17 14.1	-0.4
PPI	Padang Panjang	1.31	32	P		Pn		16 17 01.3	-3.8
SDSI	Sungai Dareh	1.83	69	P		Pn		16 17 12.5	+0.2
BKNI	Bangkinang	2.31	35	P		Pb		16 17 23.5	+0.5

*CSEM **23** 16:28:03.9±0.1, 37°.55N×35°.67E, h2km, MD3.5, Error ellipse: s-maj=2.8km s-min=2.5km az=9.0*
*ISK **23** 16:28:03.3, 37°.55N×35°.66E, h4km, MD3.5*
*DDA **23** 16:28:05.4, 37°.51N×35°.73E, h12km, MD3.2*
ISC 23 16:28:04.7±0.9, 37°.54N±0°.03×35°.67E±0°.02, h8km±8km, n67, σ0§97/82, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOZT	Kozan	0.14	117	ePG			Pg	16 28 07.3	-0.3
KOZT				eSG			Sg	16 28 09.7	+0.1
KOZT	Kozan	0.14	117	ePg			Pg	16 28 07.3	-0.3
KOZT				eSg			Sg	16 28 09.7	+0.1
ANDN	Andirin	0.54	86	i P			Pg	16 28 13.6	-1.4
ANDN				i S			Sg	16 28 22.3	+0.2
ANDN	Andirin	0.54	86	i P			Pg	16 28 13.6	-1.4
ANDN				i S			Sg	16 28 22.3	+0.2
CEYT	Ceyhan	0.54	174	ePG			Pg	16 28 14.3	-0.7
CEYT				eSG			Sg	16 28 22.7	+0.7
CEYT	Ceyhan	0.54	174	ePg			Pg	16 28 14.3	-0.7
CEYT				eSg			Sg	16 28 22.7	+0.7
KARA	Karaisali	0.57	240	ePG			Pg	16 28 14.8	-0.9
KARA				eSG			Sg	16 28 23.2	+0.2
KARA	Karaisali	0.57	240	ePg			Pg	16 28 14.8	-0.9
KARA				eSg			Sg	16 28 23.2	+0.2
KMRS	Kahramanmaras	0.98	92	ePG			Pg	16 28 21.9	-1.5
KMRS	Kahramanmaras	0.98	92	ePg			Pg	16 28 21.9	-1.5
NIG	Nigde	1.01	304	ePG			Pg	16 28 23.0	-1.1
NIG	Nigde	1.01	304	ePg			Pg	16 28 23.0	-1.1
SARI	SarD1z-Kayseri	1.04	34	ePG			Pg	16 28 23.9	-0.8
COBT	Iskenderun	1.12	155	i P			Pg	16 28 24.7	-1.6
COBT				i S			Sn	16 28 42.2	-0.5
COBT	Iskenderun	1.12	155	i P			Pg	16 28 24.7	-1.6
COBT				i S			Sn	16 28 42.2	-0.5
BNN	Bunyan	1.31	6	ePN			Pn	16 28 27.9	-1.6
BNN	Bunyan	1.31	6	ePn			Pn	16 28 27.9	-1.6
KUZU	Kuzuini	1.36	124	i P			Pn	16 28 28.2	-1.8
KUZU				i S			Sb	16 28 47.7	-0.3
KUZU	Kuzuini	1.36	124	i P			Pn	16 28 28.2	-1.8
KUZU				i S			Sb	16 28 47.7	-0.3
HTY	Hatay	1.47	165	ePN			Pn	16 28 31.3	-0.2
HTY	Hatay	1.47	165	ePn			Pn	16 28 31.3	-0.2
GZT	Gaziantep	1.52	97	i P			Pn	16 28 31.6	-0.7
GZT				i S			Sg	16 28 59.1	+5.7
KIZK	Mersin	1.62	230	i P			Pn	16 28 33.8	+0.2
KIZK				i S			Sg	16 28 57.6	+0.9
KIZK	Mersin	1.62	230	i P			Pn	16 28 33.8	+0.2
KIZK				i S			Sg	16 28 57.6	+0.9
DARE	Darende-Malaty	1.76	54	ePN			Pn	16 28 35.6	0.0
SULT	Sultanhani-AKS	1.83	292	ePN			Pn	16 28 36.8	+0.3
SULT	Sultanhani-AKS	1.83	292	ePn			Pn	16 28 36.8	+0.3
IKL	Isikli	2.06	231	ePN			Pn	16 28 39.6	0.0
IKL	Isikli	2.06	231	ePn			Pn	16 28 39.6	0.0
YOZ	Yozgat	2.11	353	ePN			Pn	16 28 40.2	-0.3
YOZ	Yozgat	2.11	353	ePn			Pn	16 28 40.2	-0.3
MALT	Malatya	2.31	70	ePN			Pn	16 28 43.4	+0.2
MALT	Malatya	2.31	70	ePn			Pn	16 28 43.4	+0.2
MYA	Malataya	2.31	69	ePN			Pn	16 28 43.3	+0.1
MYA	Malataya	2.31	69	ePn			Pn	16 28 43.3	+0.1
EREN	Erenkoy	2.35	212	ePN			Pn	16 28 43.4	-0.1
EREN	Erenkoy	2.35	212	ePn			Pn	16 28 43.4	-0.1
ERMK	Ermenek	2.38	249	i P			Pb	16 28 48.7	+0.7
ERMK				i S			Sg	16 29 29.4	+8.2
ERMK	Ermenek	2.38	249	i P			Pb	16 28 48.7	+0.7
KAMT	Kaman	2.38	320	ePN			Pn	16 28 44.2	0.0
KAMT	Kaman	2.38	320	ePn			Pn	16 28 44.2	0.0
URFA	Urfa	2.51	91	ePN			Pn	16 28 46.3	+0.5
URFA	Urfa	2.51	91	ePn			Pn	16 28 46.3	+0.5
SVSK	Karacayir	2.59	23	ePN			Pn	16 28 47.1	+0.3
SVSK	Karacayir	2.59	23	ePn			Pn	16 28 47.1	+0.3
HDMB	Hadim	2.61	258	ePN			Pn	16 28 47.1	-0.2
HDMB	Hadim	2.61	258	ePn			Pn	16 28 47.2	-0.2
KONT	Konya--Tatoy	2.66	280	ePN			Pn	16 28 47.7	-0.2
KONT	Konya--Tatoy	2.66	280	ePn			Pn	16 28 47.7	-0.2
LADK	Ladik-KONYA	2.70	285	ePN			Pn	16 28 48.3	-0.2
LADK	Ladik-KONYA	2.70	285	ePn			Pn	16 28 48.3	-0.2
CORM	Corum	2.75	343	ePN			Pn	16 28 49.5	+0.2
CORM	Corum	2.75	343	ePn			Pn	16 28 49.5	+0.2
LFK	Lefkose	2.84	218	ePN			Pn	16 28 50.8	+0.3
LFK	Lefkose	2.84	218	ePn			Pn	16 28 50.8	+0.3
TOKT	Tokat	2.85	14	ePN			Pn	16 28 50.9	+0.3
TOKT	Tokat	2.85	14	ePn			Pn	16 28 50.9	+0.3
SVRC	Sivrice-ELAZID	2.99	73	ePN			Pn	16 28 53.1	+0.5
SVRC	Sivrice-ELAZID	2.99	73	ePn			Pn	16 28 53.1	+0.5
RSDY	Resadiye-TOKAT	3.13	24	ePN			Pn	16 28 54.8	+0.4
RSDY	Resadiye-TOKAT	3.13	24	ePn			Pn	16 28 54.8	+0.4
CSS	Prodhromos	3.20	217	ePN			Pn	16 28 56.0	+0.7
CSS	Prodhromos	3.20	217	ePn			Pn	16 28 56.0	+0.7
PTK	Pertek	3.22	64	ePN			Pn	16 28 56.4	+0.6
PTK	Pertek	3.22	64	ePn			Pn	16 28 56.4	+0.6
ANTO	Ankara	3.23	317	ePN			Pn	16 28 55.8	0.0
ANTO	Ankara	3.23	317	ePn			Pn	16 28 55.8	0.0

*IDC **23** 16:30:09.9±0.6, 15°.17S×173°.31W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/21, mbtmp4.2/10, MS3.8/12, Ms1 3.8/12, ms1mx3.6/30, Error ellipse: s-maj=31.5km s-min=15.2km az=133.0*
*NEIC **23** 16:30:11.4±0.3, 15°.19S×173°.31W, h10km, mb4.6/7, Error ellipse: s-maj=14.1km s-min=6.2km az=134.0*
ISC 23 16:30:14.0±0.5, 15°.2S±0°.1×173°.1W±0°.1, h29km, n57, σ1§20/55, mb4.5/17, MS3.9/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.80	47	Pn			Pn	16 30 43.3	+0.1
AFI				eS			Sn	16 31 01.4	-3.8
AFI				Sn			Sn	16 31 02.8	-2.4
AFI	Afiamalu	1.80	47	Pn			Pn	16 30 43.3	+0.1
232nm,0.3s,baz=46,slow=1.9,SNR=439
AFI Sn Sn 16 31 02.8 -2.4
871nm,0.3s,baz=215,slow=18,SNR=25
RAO Raoul Island 14.72 197 LR LR 16 37 57.4
comp=Z,188nm,21.3s,baz=344,slow=32
DZM Mont Dzumac 20.53 247 eLR LR 16 39 42.9
492nm,26.9s
DZM Mont Dzumac 20.53 247 LR LR 16 39 56.2
comp=Z,84nm,19.2s,baz=358,slow=29
PPT2 Papeete2 22.73 99 eLQ LQ 16 39 10.9
224nm,29.0s
PPT2 eLR LR 16 40 31.6
148nm,26.5s
TBI Tubuai 23.77 114 eLR LR 16 40 50.9
151nm,29.2s
URZ Urewera 24.58 199 eP P 16 35 30.5 -1.1
URZ Urewera 24.58 199 P P 16 35 30.3 -1.3
7.8nm,0.3s,baz=325,slow=2.8,SNR=18
URZ LR LR 16 42 03.4
comp=Z,29nm,21.6s,baz=31,slow=29

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	26.89	279	LR		LR		16 43 48.3	
comp=Z,91nm,19.5s,baz=140,slow=31
STKA Stephens Creek 44.38 240 eP P 16 38 21.0 -1.2
STKA Stephens Creek 44.38 240 P P 16 38 20.8 -1.4
2.4nm,0.6s,baz=278,slow=16,SNR=8.0
STKA LR LR 16 54 47.8
comp=Z,164nm,21.1s,baz=24,slow=33
WRAB Tennant Creek 50.14 257 eP P 16 39 06.0 -1.3
WRA Warramunga Arr 50.15 257 P P 16 39 05.7 -1.6
WRA PcP PcP 16 40 26.9 +0.3
WRA Warramunga Arr 50.15 257 P P 16 39 05.7 -1.6
2.2nm,0.7s,baz=92,slow=7.0,SNR=20
WRA PcP PcP 16 40 26.9 +0.3
1.7nm,0.8s,baz=91,slow=3.8,SNR=4.7
AS31 Alice Springs 50.43 252 eP P 16 39 08.1 -1.3
ASAR Alice Springs 50.43 252 P P 16 39 07.9 -1.5
ASAR Alice Springs 50.43 252 P P 16 39 07.9 -1.5
6.5nm,0.7s,baz=91,slow=7.3,SNR=76
ASAR LR LR 16 58 47.1
comp=Z,132nm,21.9s,baz=137,slow=34
VNDA Vanda 63.65 186 P P 16 40 42.7 +0.6
VNDA Vanda 63.65 186 P P 16 40 42.7 +0.6
3.5nm,0.8s,baz=8.8,slow=6.1,SNR=20
VNDA LR LR 17 02 07.4
comp=Z,58nm,20.2s,baz=87,slow=30
NVAR Mina Array Bea 73.97 42 P P 16 41 48.5 +1.4
NVAR Mina Array Bea 73.97 42 P P 16 41 48.5 +1.4
0.6nm,0.8s,baz=228,slow=9.4,SNR=5.5
NVAR LR LR 17 07 03.3
comp=Z,137nm,20.9s,baz=266,slow=30
KDAK Kodiak Island 74.62 11 LR LR 17 07 29.7
comp=Z,200nm,20.1s,baz=105,slow=30
QSPA South Pole Qui 74.90 180 eP P 16 41 51.7 -0.3
20nm,1.1s
USRK Ussuriysk Arra 77.33 323 LR LR 17 13 05.7
comp=Z,85nm,21.8s,baz=142,slow=33
BMRM Bremner River 79.21 14 eP P 16 42 17.4 +1.3
17nm,1.0s
HLID Hailey 79.27 39 eP P 16 42 18.8 +1.8
2.2nm,0.7s
TXAR Lajitas Array 80.26 56 P P 16 42 24.2 +1.7
TXAR Lajitas Array 80.26 56 P P 16 42 24.2 +1.7
0.6nm,0.8s,baz=216,slow=7.7,SNR=6.7
TXAR LR LR 17 08 42.3
comp=Z,123nm,20.6s,baz=265,slow=29
TRF Thorofare Moun 80.33 10 eP P 16 42 22.3 +0.1
6.3nm,0.8s
MCK McKinley 80.83 11 eP P 16 42 25.6 +0.9
4.3nm,0.9s
MCMT McKenzie Canyo 80.90 39 eP P 16 42 27.2 +1.4
1.0nm,0.9s
MENT Mentasta 81.15 13 eP P 16 42 27.9 +1.4
PDAR Pinedale Array 81.91 42 P P 16 42 31.9 +0.7
PDAR Pinedale Array 81.91 42 P P 16 42 31.9 +0.7
0.6nm,0.7s,baz=186,slow=1.5,SNR=3.6
ILAR Eielson Array 82.15 11 P P 16 42 31.6 -0.1
ILAR Eielson Array 82.15 11 P P 16 42 31.6 -0.1
0.9nm,0.8s,baz=223,slow=5.7,SNR=9.8
ILAR LR LR 17 13 15.9
comp=Z,87nm,21.0s,baz=111,slow=32
HRY Holter Researc 82.49 38 eP P 16 42 35.1 +1.0
4.4nm,0.8s
MAW Mawson 88.11 199 P P 16 43 01.5 -0.1
MAW Mawson 88.11 199 P P 16 43 01.5 -0.1
7.5nm,0.9s,baz=115,slow=7.3,SNR=5.4
SNAA Sanae 93.14 177 eP P 16 43 24.9 -0.2
VNA2 Neumayer--Watz 93.58 175 eP P 16 43 26.8 -0.3
baz=194,slow=3.0
VNA1 Neumayer--Stat 93.78 175 eP P 16 43 28.5 +0.6
MKAR Makanchi Array 110.83 315 PKiKP PKiKP 16 48 43.6 -0.7
MKAR Makanchi Array 110.83 315 PKiKP PKiKP 16 48 43.6 -0.7
0.5nm,0.7s,baz=109,slow=0.6,SNR=5.9
DPC Dobruska-Polom 144.06 350 ePKP PKPbc 16 49 46.0 +1.1
DPC epPKP PKiKP 16 49 51.0 +0.5
DPC ex x 16 50 05.5
PRU Pruhonice 144.69 351 ePKP PKPab 16 49 46.6 -0.1
PRU ex x 16 50 13.3
KHC Kasperske Hory 145.66 352 i PKP PKPab 16 49 50.8 +0.5
KHC epPKP PKiKP 16 49 55.8 +2.0
KHC ex x 16 50 06.3
KHC ex x 16 50 14.3
KMBO Kilima Mbogo 145.87 244 PKPbc PKPbc 16 49 52.0 0.0
KMBO Kilima Mbogo 145.87 244 PKPbc PKPbc 16 49 52.0 0.0
1.0nm,0.2s,baz=228,slow=24,SNR=4.6
GERES GERESS Array B 145.93 352 PKPbc PKPab 16 49 51.5 0.0
GERES GERESS Array B 145.93 352 PKPbc PKPab 16 49 51.5 0.0
2.1nm,1.0s,baz=48,slow=2.0,SNR=13
BR131 Keskin Array S 146.12 321 ePKPbc PKPab 16 49 52.9 +0.3
BRTR Keskin Array B 146.12 321 PKPbc PKPab 16 49 53.0 +0.4
BRTR Keskin Array B 146.12 321 PKPbc PKPab 16 49 53.0 +0.4
5.1nm,0.7s,baz=112,slow=2.4,SNR=43
EIL Elat 150.38 304 PKPbc PKPbc 16 50 03.9 +0.6
EIL Elat 150.38 304 PKPbc PKPbc 16 50 03.9 +0.6
3.8nm,0.8s,baz=15,slow=3.9,SNR=4.7

*ISCJB **23** 16:35:36.6±1.3, 14°.4S±0°.1×75°.4W±0°.2, h53km, mb4.0/1, Error ellipse: s-maj=28.1km s-min=8.8km az=139.3*
*NEIC **23** 16:35:36.0, 14°.54S×75°.62W, h42km, MG3.9(ARE), After ARE.*
NEIC Felt [II] at Palpa.
*IDC **23** 16:35:38.2±4.0, 14°.53S×75°.58W, h62km±30km, mb3.9/1, mb1 3.8/3, mb1mx3.4/20, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=66.4km s-min=19.0km az=44.0*
ISC 23 16:35:37.1±1.0, 14°.5S±0°.1×75°.5W±0°.1, h53km, n16, σ1§48/18, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	Nana	2.81	332	ePn			Pn	16 36 18.9	-0.7
NNA				eS			Sn	16 36 54.7	+2.4
NNA	Nana	2.81	332	P			Pn	16 36 19.3	-0.3
5.0nm,0.3s,baz=145,slow=9.3,SNR=11
NNA S Sn 16 36 54.3 +2.0
46nm,0.3s,baz=182,slow=16,SNR=8.3
LPAZ La Paz 7.34 105 P Pn 16 37 25.1 +2.8
LPAZ La Paz 7.34 105 P Pn 16 37 25.1 +2.8
0.9nm,0.3s,baz=297,slow=8.4,SNR=20
LVC Limon Verde 10.22 143 Pn Pn 16 38 02.6 +1.3
SAML Samuel 13.27 67 eP Pn 16 38 41.1 -1.7
TORD Torodi Ar. Bea 81.22 74 P P 16 47 47.8 -0.2
TORD Torodi Ar. Bea 81.22 74 P P 16 47 47.8 -0.2
1.9nm,0.9s,baz=263,slow=3.6,SNR=7.2
ASAR Alice Springs 132.40 218 PKP PKPdf 16 54 45.5 -0.9
ASAR Alice Springs 132.40 218 PKP PKPdf 16 54 45.5 -0.9
0.3nm,0.7s,baz=114,slow=1.8,SNR=4.4
WRA Warramunga Arr 134.91 221 PKP PKPdf 16 54 51.0 -0.2
WRA Warramunga Arr 134.91 221 PKP PKPdf 16 54 51.0 -0.2
0.3nm,0.6s,baz=130,slow=1.8,SNR=6.8
ZALV Zalesovo Beam 137.71 17 PKP PKPdf 16 54 54.6 -0.6
ZALV Zalesovo Beam 137.71 17 PKP PKPdf 16 54 54.6 -0.6
0.4nm,0.3s,baz=308,slow=4.7,SNR=3.1
SONM Songino Array 146.72 358 PKPbc PKPbc 16 55 13.6 +0.2
SONM Songino Array 146.72 358 PKPbc PKPbc 16 55 13.6 +0.2
0.7nm,0.6s,baz=314,slow=1.6,SNR=6.7

FUNV 23 16:41:34.7, 6°.91N×72°.99W, h161km, MW3.7,5C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	Capacho	1.16	35	i P			Pn	16 42 01.5	-0.6
CAPV				eS			Sn	16 42 21.4	-1.8
VIGV	El Vigia	2.50	40	i P			Pn	16 42 15.8	-0.7
VIGV				eS			Sn	16 42 45.0	-3.7
SOCV	Socops	2.52	57	eP			Pn	16 42 15.6	-1.0
SOCV				eS			Sn	16 42 45.9	-3.1
ELOV	Elorza	3.48	88	eP			Pn	16 42 27.1	-1.4
ELOV				eS			Sn	16 43 05.7	-4.8
VIRV	Villa del Rosa	3.61	9	i P			Pn	16 42 28.3	-2.0
VIRV				eS			Sn	16 43 08.8	-4.8
QARV	Quebrada Arrib	4.08	36	eP			Pn	16 42 34.6	-1.8
QARV				eS			Sn	16 43 19.8	-4.7
SANV	Sanarito	4.28	53	eP			Pn	16 42 37.4	-1.6
SANV				eS			Sn	16 43 24.0	-5.2
CURV	Curarigua	4.30	44	eP			Pn	16 42 38.0	-1.2
DABV	Dabajuro	4.61	30	eP			Pn	16 42 41.5	-1.8
DABV				eS			Sn	16 43 31.1	-5.7
TEPV	Terepaima	4.83	51	eP			Pn	16 42 44.9	-1.2
SIQV	Siquisique	4.87	40	eP			Pn	16 42 44.5	-2.1
BAUV	El Baul	5.30	67	eP			Pn	16 42 49.6	-2.7
MAPV	Macapo	5.34	57	eP			Pn	16 42 51.1	-1.8
IMOV	Isla Los Monje	5.79	21	eP			Pn	16 42 56.9	-1.9

MONV	Montecano	5.83	30	*e*P	Pn	16 42 57.4	-1.9
TURV	Turiamo	6.18	55	*e*P	Pn	16 43 02.0	-2.0
BIRV	Birongo	7.53	61	*e*P	Pn	16 43 20.0	-1.9
CUPV	Cœpira	7.78	66	*e*P	Pn	16 43 23.0	-2.3

IDC 23 17:02:33.3±0.9, 27°.14N×44°.39W, h0km, mb3.8/13, mb1 4.1/13, mb1mx3.9/29, mbtmp3.8/13, MS3.8/3, Ms1 3.8/3, ms1mx3.1/51, Error ellipse: s-maj=27.9km s-min=16.4km az=175.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	Midelt	34.77	71	LR	LR	17 19 58.2	
	comp=Z,65nm,19.7s,baz=283,slow=30						
ESDC	Sonseca Array	35.70	59	P	P	17 09 33.4	-0.1
	0.5nm,0.8s,baz=243,slow=8.5,SNR=3.2						
DBIC	Dimbokro	42.68	111	LR	LR	17 24 40.3	
	comp=Z,94nm,19.8s,baz=68,slow=31						
TORD	Torodi Ar. Bea	45.20	99	P	P	17 10 51.6	-0.8
	0.9nm,1.1s,baz=294,slow=7.6,SNR=3.5						
KEST	Kesra	46.16	65	P	P	17 11 00.5	+0.6
	1.0nm,0.8s,baz=258,slow=19,SNR=2.9						
DAVOX	Davos/Dischmat	46.59	50	LR	LR	17 26 51.4	
	comp=Z,377nm,21.8s,baz=161,slow=31						
LPAZ	La Paz	48.94	211	P	P	17 11 22.2	-0.1
	1.3nm,0.7s,baz=18,slow=13,SNR=5.5						
GERES	GERESS Array B	49.32	48	P	P	17 11 23.7	-0.6
	0.6nm,0.7s,baz=248,slow=7.1,SNR=5.4						
TXAR	Lajitas Array	51.78	287	P	P	17 11 43.4	+0.2
	0.2nm,0.7s,baz=103,slow=7.8,SNR=3.4						
PDAR	Pinedale Array	54.37	305	P	P	17 12 02.2	-0.1
	2.2nm,0.7s,baz=94,slow=9.3,SNR=17						
FINES	FINESS Array B	57.24	33	P	P	17 12 22.7	+0.5
	2.3nm,1.0s,baz=316,slow=7.8,SNR=4.1						
ARCES	ARCESS Array B	57.83	23	P	P	17 12 26.2	0.0
	2.7nm,0.7s,baz=269,slow=6.1,SNR=8.9						
NVAR	Mina Array Bea	61.66	301	P	P	17 12 53.6	+0.1
	0.2nm,0.6s,baz=107,slow=3.0,SNR=2.9						
BRTR	Keskin Array B	64.44	57	P	P	17 13 12.0	+0.1
	0.7nm,0.7s,baz=233,slow=5.1,SNR=5.7						
INK	Inuvik	64.77	336	P	P	17 13 12.2	-1.0
	2.5nm,1.0s,baz=138,slow=7.9,SNR=3.7						
ILAR	Eielson Array	70.90	334	P	P	17 13 51.9	-0.1
	1.8nm,0.8s,baz=73,slow=4.7,SNR=24						

*ISCJB **23** 17:05:09.8±0.5, 34°.00N±0°.04×25°.68E±0°.07, h17km, mb3.4/4, Error ellipse: s-maj=8.9km s-min=4.8km az=151.6*
*IDC **23** 17:05:10.0±1.2, 33°.97N×25°.69E, h0km, mb3.5/4, mb1 3.5/9, mb1mx3.5/28, mbtmp3.4/9, ML3.4/5, Error ellipse: s-maj=28.8km s-min=19.8km az=163.0*
*ATH **23** 17:05:12.3, 34°.17N×25°.52E, h25km±2km, MD3.4/8*
*CSEM **23** 17:05:12.1±0.2, 34°.04N×25°.61E, h30km, MD3.4, Error ellipse: s-maj=11.2km s-min=5.0km az=66.0*
*HLW **23** 17:05:16.5, 33°.87N×25°.61E, h33km±3km, Md3.9, Ml0.0*

ISC 23 17:05:11.4±0.8, 34°.06N±0°.05×25°.63E±0°.06, h17km, n28, σ1§20/35, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	Lasithi	1.10	353	*e*PN	Pb	17 05 31.2	-0.9
LAST				*e*SN	Sb	17 05 44.8	-1.5
LAST	Lasithi	1.10	353	*e*Pn	Pb	17 05 31.2	-0.9
LAST				*e*Sn	Sb	17 05 44.8	-1.5
ZKR	Zakros	1.16	24	*e*PN	Pg	17 05 33.7	-0.1
ZKR	Zakros	1.16	24	*e*Pn	Pg	17 05 33.7	-0.1
SIVA	Sivas	1.17	325	*e*PN	Pn	17 05 31.9	-1.1
SIVA				*e*SN	Sb	17 05 46.8	-1.3
SIVA	Sivas	1.17	325	*e*Pn	Pn	17 05 31.9	-1.1
SIVA				*e*Sn	Sb	17 05 46.8	-1.3
NPS	Neapolis	1.20	359	*e*PN	Pn	17 05 32.8	-0.7
NPS				*e*SN	Sb	17 05 48.0	-0.9
NPS	Neapolis	1.20	359	*e*Pn	Pn	17 05 32.8	-0.7
NPS				*e*Sn	Sb	17 05 48.0	-0.9
GVD	Gavdhos	1.49	302	*e*PN	Pn	17 05 37.5	0.0
GVD	Gavdhos	1.49	302	*e*Pn	Pn	17 05 37.5	0.0
VAM	Vamos	1.79	319	*e*PN	Pn	17 05 41.9	+0.4
VAM	Vamos	1.79	319	*e*Pn	Pn	17 05 41.9	+0.4
KARP	Karpathos	1.94	40	*e*PN	Pb	17 05 47.0	+0.6
SANT	Santorini	2.31	357	*e*PN	Pn	17 05 49.5	+0.8
SANT	Santorini	2.31	357	*e*Pn	Pn	17 05 49.5	+0.8
SWA2		4.81	182	P	Pn	17 06 21.9	-1.1
HNAT	Natroun	6.12	135	P	Pn	17 06 40.6	-0.5
AWBH		6.37	153	P	Pn	17 06 43.3	-1.3
SUZ		7.42	123	P	Pn	17 06 58.5	-0.5
MMAI	Mount Meron Ar	8.22	95	Pn	Pn	17 07 10.7	+0.6
	0.5nm,0.3s,baz=296,slow=11,SNR=2.7						
BRTR	Keskin Array B	8.55	46	Pn	Pn	17 07 17.3	+2.8
	0.1nm,0.3s,baz=219,slow=15,SNR=7.2						
EIL	Elat	9.05	116	Pn	Pn	17 07 21.1	-0.2
	0.5nm,0.3s,baz=223,slow=6.0,SNR=6.1						
EIL				Sn	Sn	17 08 59.9	-3.0
	0.4nm,0.3s,baz=273,slow=17,SNR=3.5						
AKASG	Malin Array Be	16.84	8	Pn	P	17 09 08.1	-0.2
	0.6nm,0.3s,baz=197,slow=10,SNR=3.2						
GERES	GERESS Array B	17.23	333	P	P	17 09 13.1	+0.3
	0.1nm,0.3s,baz=148,slow=11,SNR=6.2						
ESDC	Sonseca Array	24.27	292	P	P	17 10 30.4	+2.6
	0.4nm,0.6s,baz=87,slow=9.4,SNR=4.4						
TORD	Torodi Ar. Bea	30.10	232	P	P	17 11 21.1	+0.8
	0.3nm,0.7s,baz=27,slow=9.8,SNR=2.7						
MKAR	Makanchi Array	44.06	56	P	P	17 13 19.5	+1.1
	0.9nm,0.6s,baz=279,slow=6.2,SNR=12						
ZALV	Zalesovo Beam	45.49	45	P	P	17 13 29.9	+0.3
	0.9nm,0.7s,baz=268,slow=12,SNR=3.7						

*IDC **23** 17:09:20.6±8.9, 34°.29N×78°.64E, h0km, mb3.8/2, mb1 3.5/3, mb1mx3.1/27, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=212.4km s-min=44.6km az=120.0*
*NNC **23** 17:10:33.2±5.0, 37°.18N×70°.96E, h248km±43km, mb2.5, mpv3.4, Error ellipse: s-maj=46.3km s-min=29.9km az=26.0*

ISC 23 17:10:29.6±2.5, 36°.9N±0°.2×70°.9E±0°.1, h200km, n22, σ1§62/9, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.22	165	⇑P	Pn	17 11 13.0	-9.0
CEP				S	Sn	17 11 49.0	-14
CHCP	Chirah Chowk	3.80	149	P	Pn	17 11 21.1	-7.9
THW	Thamme Wali	4.19	170	⇑P	Pn	17 11 24.0	-10
SARP	Sargodha	5.21	163	P	Pn	17 11 36.6	-10
KK31	Karatay Array	6.17	357	⇓P	Pn	17 11 59.8	+0.9
	1.2nm,0.3s,baz=170,slow=11,SNR=98						
KK31				⇑S	Sn	17 13 10.2	+0.5
	10nm,0.6s,baz=170,slow=15,SNR=22						
TKM2	Tokmak 2	6.98	30	⇓P	Pn	17 12 10.4	+0.7
	3.0nm,0.9s						
TKM2				⇑S	Sn	17 13 30.3	+1.1
	2.0nm,0.6s						
SMLA	Simla	7.79	136	*i* P	Pn	17 12 11.5	-8.5
SMLA				*i* P	Pn	17 12 11.5	-8.5
SMLA				*i* S	Sn	17 13 33.1	-15
SMLA				*i* S	Sn	17 13 34.0	-14
SMLA				AML	AML	17 13 37.6	
	comp=N,373nm,0.3s						
SMLA				AML	AML	17 13 38.4	
	comp=E,344nm,0.3s						
MK31	Makanchi Array	12.99	37	⇑P	Pn	17 13 24.6	-2.2
	comp=E,0.7nm,0.6s,baz=278,slow=5.1,SNR=12						
DANN	Dangsing	13.80	125	*e*P	Pn	17 13 30.6	-6.9
KOLN	Koldanda	14.09	127	*e*P	Pn	17 13 33.8	-7.1
	comp=E,4.6nm,0.4s						
AB31	Akbulak array	14.66	331	⇑P	Pn	17 13 48.8	+1.4
	comp=E,0.7nm,0.5s,baz=151,slow=12,SNR=14						
AB31				⇓S	S	17 16 28.0	-2.2
	comp=E,0.5nm,0.6s,baz=159,slow=23,SNR=2.9						
KKN	Kakani	15.18	123	*e*P	Pn	17 13 47.5	-6.8
	comp=E,8.9nm,0.4s						
DMN	Daman	15.18	124	*e*P	Pn	17 13 47.5	-6.9
PKIN	Phulchoki	15.40	123	*e*P	Pn	17 13 50.3	-6.7
	comp=E,12nm,0.6s						
PKI	Pulchoki	15.41	123	*e*P	Pn	17 13 50.8	-6.5
	comp=E,16nm,0.6s						
JIRN	Jiri	15.88	121	*e*P	P	17 13 56.5	-6.2
	comp=E,23nm,0.4s						
AKTO	Aktyubinsk	16.36	330	⇑P	P	17 14 08.4	+1.2
	comp=E,5.0nm,1.4s						
AKTO				⇑S	S	17 17 00.2	-8.0
	comp=E,0.6nm,0.6s						
RAMN	Ramite	16.62	122	*e*P	P	17 14 04.5	-6.1
TAPN	Taplejung	17.13	119	*e*P	P	17 14 09.9	-6.4
	comp=E,10nm,0.4s						
ODAN	Odare	17.21	121	*e*P	P	17 14 11.4	-5.8
	comp=E,4.7nm,0.4s						
FINES	FINESS Array B	37.07	326	P	P	17 17 19.6	-0.5
	comp=E,1.3nm,0.8s,baz=116,slow=8.9,SNR=4.4						
TORD	Torodi Ar. Bea	65.64	268	P	P	17 20 46.6	-6.0
	comp=E,0.5nm,0.6s,baz=47,slow=5.9,SNR=6.3						

MAN 23 17:14:25, 18°.32N×120°.89E, h26km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.26	272	⇑*i*P	Pn	17 14 33.2	+0.1
APYP	Conner	0.56	143	*e*P	Pn	17 14 37.3	0.0
APYP				*e*S	Sb	17 14 44.0	0.0
ABRA	Dolores	0.69	194	*e*P	Pn	17 14 40.7	+1.7
ABRA				*e*S	Sb	17 14 45.3	-2.2

IDC 23 17:14:28.6±1.9, 8°.23S×124°.47E, h0km, mb3.4/1, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=112.3km s-min=27.3km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.88	173	Pn	Pn	17 16 50.9	-1.1
	0.5nm,0.3s,baz=358,slow=10.0,SNR=23						
FITZ				Sn	Sn	17 18 27.3	-16
	2.4nm,0.3s,baz=266,slow=11,SNR=14						
WRA	Warramunga Arr	15.06	142	Pn	Pn	17 18 03.8	+0.8
	0.4nm,0.3s,baz=321,slow=14,SNR=21						
WRA				Sn	Sn	17 20 37.5	-13
	0.6nm,0.3s,baz=311,slow=24,SNR=9.7						
ASAR	Alice Springs	17.81	151	P	P	17 18 38.7	-0.3
	0.5nm,0.3s,baz=321,slow=12,SNR=30						
ASAR				S	Sn	17 21 42.5	-15
	0.3nm,0.3s,baz=313,slow=20,SNR=9.7						
MKAR	Makanchi Array	66.38	330	P	P	17 25 19.4	0.0
	0.2nm,0.5s,baz=130,slow=6.3,SNR=4.2						

NEIC 23 17:36:13.3, 53°.99N×163°.59W, h16km, ML2.6(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.66	352	P	Pg	17 36 25.4	-1.0
BRPK				S	Sg	17 36 34.2	-1.0
WESN	West Dahl Nort	0.82	315	P	Pb	17 36 28.0	-1.2
SSLW	Shishaldin Wes	0.84	338	P	Pb	17 36 28.3	-1.3
SSBA	Shishaldin	0.84	338	P	Pb	17 36 28.2	-1.5
SSBA				S	Sb	17 36 40.1	-0.7
SSLN	Shishaldin Nor	0.85	344	P	Pb	17 36 28.9	-1.0
FALS	False Pass	0.87	7	P	Pb	17 36 28.5	-1.6
FALS				S	Sb	17 36 40.3	-1.1
AKSA	Akutan Strait	1.25	277	P	Pn	17 36 33.3	-2.8
AHB	Akutan Harbor	1.32	276	P	Pn	17 36 34.6	-2.5
DT1	Dutton Round H	1.35	34	P	Pn	17 36 35.4	-2.1
DTNA	Dutton South F	1.40	33	P	Pn	17 36 36.4	-1.8
AKGG	Akutan Green G	1.43	279	P	Pn	17 36 36.3	-2.3
MTBL	Makushin Table	1.82	271	P	Pn	17 36 42.3	-1.8
MSW	Makushin Switc	1.89	269	P	Pn	17 36 43.0	-1.9
MSOM	Makushin Julie	2.00	266	P	Pn	17 36 44.7	-1.7
SDPT	Sand Point	2.26	52	P	Pn	17 36 48.7	-1.3

*BJI **23** 17:38:18.3, 2°.21S×99°.54E, h21km, mB5.5/40, mb5.1/61, Ms5.6/73, Ms7 5.5/64*
*ISCJB **23** 17:38:23.4±0.6, 1°.65S±0°.02×99°.43E±0°.02, h22km±4km, mb5.5/227, MS5.0/179, Error ellipse: s-maj=3.6km s-min=2.8km az=39.0*
*AUST **23** 17:38:23.7±0.8, 1°.73S×99°.56E, h9km, Error ellipse: s-maj=0.8km s-min=0.5km az=245.0*
*NEIC **23** 17:38:23.9±2.8, 1°.65S×99°.57E, h18km±16km, mb5.6/51, MS5.1/108, MW5.4, Error ellipse: s-maj=7.4km s-min=4.6km az=50.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-0.50; $M_{r\theta}$-1.19; $M_{\theta\phi}$-0.17; $M_{\phi r}$1.18; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s159.00000°, δ10.00000°, λ111.00000°. NP2:ϕ_s317.00000°, δ81.00000°, λ87.00000°. Principal axes: T 2.0500, Plg53.0000°, Azm222.0000°; N -0.5800, Plg3.0000°, Azm317.0000°; P -1.4700, Plg36.0000°, Azm50.0000°;*
NEIC Felt [IV] at Padang and [III] at Padangpanjang, Sumatra.
*BKK **23** 17:38:25.9±0.2, 2°.5±3°×9°9E±°, h10km, MS.4/41, mb5.2/41, mB5.8/31, MLv5.9/7, Mw(mB)5.3/31, Mwp5.6/1*
*DJA **23** 17:38:25.6±0.7, 2°.5±2°×9°9E±°, h14km±5km, M5.6/91, mb5.5/91, mB6.0/66, MLv6.0/18, Mw(mB)5.5/66, Mwp5.9/3*
*MOS **23** 17:38:25.2±0.9, 1°.55S×99°.55E, h33km, mb5.9/57, MS4.8/33, Error ellipse: s-maj=9.1km s-min=4.1km az=119.6*
*GCMT **23** 17:38:26.1±0.1, 1°.62S×99°.50E, h12km, MW5.4, Moment Tensor Solution. s87,c143; s27,c29; Moment tensor: Scale 10^{17}Nm; M_{rr}1.44±.02; $M_{\theta\theta}$-0.45±.02; $M_{\phi\phi}$-0.99±.02; $M_{r\theta}$-0.51±.05; $M_{\theta\phi}$0.58±.01; $M_{\phi r}$0.51±.05; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s322.00000°, δ59.00000°, λ84.00000°. NP2:ϕ_s153.00000°, δ32.00000°, λ99.00000°. Principal axes: T 1.6200, Plg76.0000°, Azm216.0000°; N -0.0900, Plg5.0000°, Azm325.0000°; P -1.5200, Plg13.0000°, Azm56.0000°; Data Used: II IU CN IC G. Surface waves: sta= 95, comp=187, per= 50.*
*IDC **23** 17:38:27.1±1.4, 1°.66S×99°.62E, h35km±10km, mb4.9/42, mb1 4.9/44, mb1mx4.9/45, mbtmp4.9/44, ML4.6/2, MS4.8/34, Ms1 4.8/34, ms1mx4.7/44 Error ellipse: s-maj=11.1km s-min=6.7km az=50.0*
*SZGRF **23** 17:38:27.1, 1°.55S×98°.76E, h22km, mb5.7, MS4.6, Southern Sumatera, Indonesia*

ISC 23 17:38:25.0±0.3, 1°.66S±0°.03×99°.51E±0°.03, h24km±1km, h23km: pP-P, n955, σ1§41/1003, mb5.6/225, MS5.0/180, 58C-33D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.21	52	P	Pn	17 38 45.9	-0.6
PDSI				S	Sb	17 39 03.3	+0.8
PPI	Padang Panjang	1.49	37	P	Pn	17 38 49.9	-0.4
PPI				S	Sb	17 39 11.1	+0.6
PPI	Padang Panjang	1.49	37	P	Pn	17 38 49.8	-0.6
	baz=1.5,SNR=1000						
PPI				S	Sb	17 39 10.9	+0.5
	baz=1.5,SNR=5.9						
KRJI	Kerinci	2.00	102	P	Pb	17 38 59.7	-1.1
KRJI				S	Sb	17 39 26.2	+0.8
BKNI	Bangkinang	2.50	38	P	Pn	17 39 04.9	+0.7
BKNI	Bangkinang	2.50	38	P	Pn	17 39 04.9	+0.7
	baz=2.5,SNR=47						
MASI	Maura Aman, Be	3.10	118	P	Pn	17 39 14.6	+2.0
RGRI	Rengat	3.11	65	P	Pn	17 39 13.9	+1.2
RGRI				S	Sb	17 39 54.4	-2.9
KSI	Kapahiang	3.67	123	P	Pn	17 39 22.8	+2.5
MNAI	Manna	4.37	128	P	Pn	17 39 30.8	+0.9
MNAI	Manna	4.37	128	P	Pn	17 39 30.9	+0.9
	baz=4.3,SNR=88						
PSI	Prapat	4.47	353	Pn	Pn	17 39 30.1	-1.3
PSI	Prapat	4.47	353	Pn	Pn	17 39 30.1	-1.3
	12nm,0.3s,baz=169,slow=8.5,SNR=20						
PSI				LR	LR	17 41 36.1	
	comp=Z,14μm,19.8s,baz=162,slow=43						
PSI	Prapat	4.47	353	P	Pn	17 39 30.8	-0.6
	baz=4.5,SNR=15						
EGSI	Enggano, Bengk	4.60	143	P	Pn	17 39 32.7	-0.4
SNSI	Sinabang, Aceh	5.14	322	P	Pn	17 39 39.9	-0.6
TSI	Tuntungan	5.21	350	P	Pn	17 39 42.6	+1.1
	1μm,1.3s,37μm14nm						
BTDF	Bukit Timah Da	5.21	55	P	Pn	17 39 42.0	+0.4
	baz=5.2,SNR=17						
BTDF				P	Pn	17 39 42.0	+0.4
	baz=5.2,SNR=17						
KGM	Kluang	5.28	46	P	Pn	17 39 44.4	+2.0
FRIM	Kepong	5.30	24	P	Pn	17 39 43.8	+1.0
PMBI	Palembang	5.41	104	P	Pb	17 39 55.7	-3.2
KCSI	Kotacane, Aceh	5.43	341	P	Pn	17 39 44.3	-0.2
	340nm,1.0s,15μm9.1nm						
MYKOM	Kota Tinggi	5.53	52	P	Pn	17 39 48.6	+2.6
MYKOM	Kota Tinggi	5.53	52	P	Pn	17 39 48.4	+2.5
	393nm,0.9s,20μm41μm11nm						
LWLI	Liwa	5.64	126	P	Pn	17 39 48.7	+1.2
	3μm,1.2s,37μm14nm						
KLSI		6.02	120	P	Pn	17 39 55.0	+2.3
	1μm,1.7s,13μm4.6nm						
KLI	Kotabumi	6.22	121	P	Pn	17 39 57.6	+2.2
	1μm,1.3s,21μm10nm						
IPM	Ipoh	6.28	14	*e*Pn	Pn	17 39 58.1	+1.8
IPM	Ipoh	6.28	14	P	Pn	17 39 58.5	+2.2
IPM	Ipoh	6.28	14	P	Pn	17 39 58.1	+1.8
	504nm,1.2s,9μm5.5nm						
KASI	Kota Agung	6.29	128	P	Pn	17 39 56.6	+0.2
	1μm,1.2s,16μm5.8nm						
PPBI	Pangkal Pinang	6.65	94	P	Pn	17 40 03.6	+2.3
	186nm,1.2s,5μm18μm3.8nm						
BLSI	Bandar Lampung	6.81	123	P	Pn	17 40 05.3	+1.7
	541nm,1.6s,7μm2.2nm						
LHMI	Lhok Sumawe	7.30	340	P	Pn	17 40 11.0	+0.7
	248nm,1.2s,8μm6.6nm						
LHMI	Lhok Sumawe	7.30	340	P	Pn	17 40 13.7	+3.4
	baz=7.4,SNR=4.4						
KTGM	Kuala Trenggan	7.83	28	P	Pn	17 40 18.3	+0.8
SBJI	Serang	7.96	124	P	Pn	17 40 20.8	+1.5
	497nm,1.0s,10μm						
TPI	Tanjungpandan	8.22	98	P	Pn	17 40 27.4	+4.6
	103nm,1.4s,1μm						
BSI	Banda Aceh	8.26	329	P	Pn	17 40 22.0	-1.4
	143nm,0.7s,3μm						
DBJI	Dramaga	8.71	124	P	Pn	17 40 30.2	+0.6
	895nm,1.4s,9μm						
SKJI	Sukabumi	8.81	127	P	Pn	17 40 30.7	-0.3
	730nm,0.9s,8μm						
SKLT	Songkhla	8.84	7	P	Pn	17 40 32.1	+0.7
	416nm,1.6s,5μm						
SKLT	Songkhla	8.84	7	P	Pn	17 40 37.0	+5.6
	416nm,1.6s,5μm1.5nm						
LEM	Lembang	9.58	123	P	Pn	17 40 43.6	+1.9
	843nm,1.2s,8μm						
LEM	Lembang	9.58	123	P	Pn	17 40 44.0	+2.3
	baz=9.5,SNR=12						
KRAB	Krabi	9.82	358	P	Pn	17 40 48.7	+3.9
	156nm,1.0s,2μm						
CISI	Cisompet, Garu	10.14	126	P	Pn	17 40 47.4	-1.9
CISI	Cisompet, Garu	10.14	126	P	Pn	17 40 47.2	-2.1
	baz=10,SNR=40						
CISI				S	Sn	17 42 37.4	-5.1
	baz=10,SNR=5.0						
SRIT	Nakonsritamara	10.19	1	P	Pn	17 40 58.7	+8.9
XMI	Christmas Isla	10.68	145	P	Pn	17 40 54.3	-2.4
	baz=11,SNR=3.7						
XMI				S	Sn	17 42 45.8	-10
	baz=11,SNR=5.3						
XMIS	Christmas Isla	10.68	145	*e*Pn	Pn	17 40 50.2	-6.4
	466nm,0.9s						
XMIS	Christmas Isla	10.68	145	P	Pn	17 40 52.1	-4.6
	baz=11,SNR=9.7						
XMIS				S	Sn	17 42 41.1	-15
	baz=11,SNR=4.7						
SURA	Surathani	10.75	1	P	Pn	17 41 09.2	+12
COCO	West Island	10.79	194	P	Pn	17 40 57.7	-0.5
	177nm,1.3s						
TGJI	Tegal	10.89	119	P	Pn	17 41 03.2	+3.6
	290nm,1.1s,3μm						
CLJI	Cilicap	11.23	123	P	Pn	17 41 06.3	+2.2
	102nm,0.9s						
KSM	Kuching	11.24	74	*e*Pn	Pn	17 41 05.4	+1.1
KSM	Kuching	11.24	74	P	Pn	17 41 08.3	+3.9
KSM	Kuching	11.24	74	P	Pn	17 41 07.5	+3.2
	108nm,1.6s,2μm						
KSM	Kuching	11.24	74	P	Pn	17 41 08.2	+3.9
	baz=11,SNR=11						
BJII	Banjamegara	11.63	119	P	Pn	17 41 10.7	+1.0
	191nm,1.9s,3μm						
STKI	Sintang	12.09	82	P	Pn	17 41 21.3	+5.3
	229nm,1.4s,4μm						
PBKI	Pangkalan Bun	12.20	95	P	Pn	17 41 20.4	+2.9
	367nm,1.1s,4μm						
YOGI	Yogyakarta	12.37	120	P	Pn	17 41 21.9	+2.1
	736nm,1.5s,12μm						
UGM	Wanagama	12.61	120	*e*Pn	Pn	17 41 21.7	-1.4
UGM	Wanagama	12.61	120	P	Pn	17 41 24.9	+1.8
	342nm,1.4s,10μm						
UGM	Wanagama	12.61	120	P	Pn	17 41 21.6	-1.6
	baz=12,SNR=25						
UGM				S	Sn	17 43 40.7	-2.3
	baz=12,SNR=3.4						
PCJI	Pacitan	13.31	120	P	Pn	17 41 34.5	+1.8
	196nm,1.5s						
SBUM	Sibu	13.35	72	P	Pn	17 41 36.9	+3.7
SBUM	Sibu	13.35	72	P	Pn	17 41 36.6	+3.4
	218nm,1.6s,4μm						
SJI	Sawahan	13.63	117	P	Pn	17 41 36.4	-0.6
	226nm,1.3s,3μm						
PWJI	Pagerwojo	13.79	118	P	Pn	17 41 41.8	+2.7
	199nm,0.9s,17μm						
BTM	Bintulu	14.40	70	P	Pn	17 41 51.1	+3.4
KRKI	Karangkates	14.42	117	P	Pn	17 41 51.4	+3.6
	257nm,1.2s,5μm						
PHET	Kaeng Krachan	14.47	0	P	P	17 41 56.5	+1.5
PHET	Kaeng Krachan	14.47	0	P	P	17 41 57.8	+2.8
CHBT	CHBT	14.59	11	P	P	17 41 55.7	-0.6
CHBT	CHBT	14.59	11	P	P	17 41 56.6	+0.3
BLJI	Banyuglugur	15.28	114	P	P	17 42 06.3	+2.2
GMJI	Gumukmas	15.36	116	P	P	17 42 06.7	+1.8
KMMI	Kalianget	15.38	111	P	Pn	17 42 01.4	+0.7
	438nm,1.3s,5μm						
MTKI	Muara Teweh, K	15.40	88	P	P	17 42 06.3	+0.9
BBKI	Banjar Baru	15.43	97	P	Pn	17 42 03.6	+2.3
	337nm,1.7s,6μm						
NAYO	Nakonayok	15.97	6	P	P	17 42 11.0	-0.7
	114nm,1.4s,14μm						
SRBI	Singaraja	16.90	113	P	P	17 42 23.8	+1.8
	238nm,1.1s,2μm						
IGBI	Denpasar	17.11	115	P	P	17 42

KAPI	**Kappang**	**20.48 100**	*e*P	**P**	**17 43 00.1**	**-1.3**
	comp=Z,384nm,1.2s					
KAPI	**Kappang**	**20.48 100**	P	**P**	**17 43 00.6**	**-0.8**
	comp=Z,266nm,1.2s,comp=Z,3μm					
KAPI	**Kappang**	**20.48 100**	P	**P**	**17 43 00.2**	**-1.3**
	comp=Z,60nm,0.8s,baz=274,slow=8.3,SNR=21					
KAPI			LR	LR	17 51 33.3	
	comp=Z,6μm,19.1s,baz=286,slow=39					
PALK	**Pallekele**	**20.75 296**	*e*Pn	**P**	**17 43 01.6**	**-2.8**
	comp=Z,214nm,1.4s					
PALK	**Pallekele**	**20.75 296**	P	Pn	17 43 07.0	+0.1
	comp=Z,109nm,1.7s,comp=Z,3μm					
PAYA	**Payao**	**20.89 1**	P	Pn	17 43 09.6	+1.3
	comp=Z,28nm,1.1s,comp=Z,259nm					
BKSI	**Bulukumba**	**20.90 101**	P	**P**	**17 43 06.2**	**+0.3**
	comp=Z,426nm,1.1s,comp=Z,4μm					
BSSI	**Bau Bau, Buton**	**21.40 103**	P	**P**	**17 43 14.1**	**+2.8**
	comp=Z,272nm,1.8s,comp=Z,4μmcomp=Z,81μm					
CMAI	**Chiengmai2**	**21.46 359**	P	**P**	**17 43 12.4**	**+0.4**
	comp=Z,198nm,2.0s,comp=Z,10μm					
TOLI	**Toli-Toli**	**21.47 83**	P	**P**	**17 43 12.7**	**+0.7**
	comp=Z,522nm,1.2s,comp=Z,5μm					
WSI	**Waingapu**	**22.15 112**	P	P	17 43 28.7	+9.3
KKSI	**Kolaka, Sulawe**	**22.26 97**	P	**P**	**17 43 23.3**	**+2.8**
	comp=Z,428nm,1.4s,comp=Z,6μm					
MRSI	**Marisa**	**22.53 85**	P	**P**	**17 43 24.0**	**+0.5**
	comp=Z,265nm,1.4s,comp=Z,3μm					
QIZ	**Qiongzhong**	**22.93 26**	P	**P**	**17 43 28.3**	**+0.7**
QIZ			sP	**sP**	**17 43 36.5**	**-0.8**
QIZ			S	**S**	**17 47 39.8**	**+3.3**
QIZ			pmax	pmax		
	comp=Z,31nm,1.1s					
QIZ			LR	LR		
	comp=N,8μm,11.6s					
QIZ			LR	LR		
	comp=E,4μm,12.9s					
QIZ			LR	LR		
	comp=Z,13μm,12.5s					
QIZ	**Qiongzhong**	**22.93 26**	*e*P	**P**	**17 43 26.1**	**-1.5**
	comp=Z,341nm,1.8s					
QIZ			LR	LR		
	comp=Z,3μm,19.0s					
LUWI	**Luwuk**	**23.27 89**	P	P	17 43 38.5	+7.4
LUWI	**Luwuk**	**23.27 89**	P	**P**	**17 43 31.8**	**+0.7**
	baz=23,SNR=4.1					
BBSI	**Bau Bau**	**23.33 100**	P	**P**	**17 43 32.5**	**+0.8**
	comp=Z,180nm,0.9s,comp=Z,3μm					
GTOI	**Gorontalo**	**23.61 85**	P	**P**	**17 43 34.1**	**-0.4**
	comp=Z,679nm,1.6s,comp=Z,10μm					
MMRI	**Maumere**	**23.66 108**	P	P	17 43 40.2	+5.2
	comp=Z,90nm,1.1s					
BATI	**Baumata**	**25.46 110**	P	**P**	**17 43 48.6**	**-3.0**
BATI	**Baumata**	**25.46 110**	P	**P**	**17 43 51.2**	**-0.4**
	comp=Z,51nm,1.0s					
BATI	**Baumata**	**25.46 110**	P	**P**	**17 43 48.6**	**-3.0**
	comp=Z,33nm,0.6s,baz=324,slow=3.1,SNR=10					
SOEI	**Soe**	**25.90 109**	P	**P**	**17 43 58.3**	**+2.7**
	comp=Z,122nm,1.3s,comp=Z,1μm					
SOEI	**Soe**	**25.90 109**	P	**P**	**17 43 53.7**	**-1.9**
	baz=26,SNR=4.4					
SOEI			S	**S**	**17 48 26.6**	**+1.9**
	baz=26,SNR=3.2					
TGY	**Tagaytay City**	**26.39 53**	P	**P**	**17 44 00.3**	**+0.4**
TGY	**Tagaytay City**	**26.39 53**	P	**P**	**17 44 00.3**	**+0.4**
	comp=Z,62nm,0.4s,baz=136,slow=18,SNR=5.8					
KMI	**Kunming**	**26.81 7**	P	**P**	**17 44 04.5**	**+0.7**
KMI			pP	**pP**	**17 44 11.0**	**+0.1**
KMI			sP	**sP**	**17 44 14.8**	**+1.0**
KMI			PP	**PnPn**	**17 44 50.3**	**+4.5**
KMI			S	**S**	**17 48 39.4**	**+0.5**
KMI			sS	**sS**	**17 48 51.0**	**+0.4**
KMI			SS	**SnSn**	**17 49 53.3**	**+9.2**
KMI			pmax	pmax		
	comp=Z,28nm,1.0s					
KMI			LR	LR		
	comp=N,8μm,10.8s					
KMI			LR	LR		
	comp=E,5μm,9.6s					
KMI			LR	LR		
	comp=Z,9μm,11.1s					
DAV	**Davao City (W)**	**27.43 71**	PFAKE		17 44 20.0	+11
DAV			LR	LR		
	comp=Z,4μm,21.0s					
BCPH	**Baguio City Da**	**27.47 48**⇓	*e*P	**P**	**17 44 09.4**	**-0.4**
DGAR	**Diego Garcia**	**27.55 257**	PFAKE		17 44 20.0	+10
DGAR			LR	LR		
	comp=Z,3μm,22.0s					
MBWA	**Marble Bar**	**27.65 136**	*e*P	**P**	**17 44 08.4**	**-2.8**
	comp=Z,126nm,1.4s					
MBWA			LR	LR		
	comp=Z,3μm,20.0s					
BALP	**Baler**	**27.84 51**	*e*P	**P**	**17 44 12.8**	**-0.1**
TNTI	**Ternate**	**27.96 85**	P	**P**	**17 44 17.7**	**+3.6**
	comp=Z,173nm,1.5s,comp=Z,2μm					
LBMI	**Labuha**	**28.01 88**	P	**P**	**17 44 17.4**	**+2.9**
	comp=Z,368nm,1.8s,comp=Z,5μm					
HYB	**Hyderabad**	**28.03 313**	*i* P	**P**	**17 44 15.0**	**+0.3**
HYB			*e*S	**S**	**17 49 02.0**	**+3.9**
GZH	**Guangzhou**	**28.05 28**	P	P	17 44 21.1	+6.4
GZH			PP	**PP**	**17 45 20.1**	**+1.8**
GZH			S	S	17 49 09.8	+12
GZH			LR	LR		
	comp=N,17μm,11.4s					
GZH			LR	LR		
	comp=E,15μm,11.6s					
GZH			LR	LR		
	comp=Z,31μm,11.8s					
SHL	**Shillong**	**28.05 345**⇓	*i* P	**P**	**17 44 14.0**	**-0.9**
	comp=Z,85nm,1.0s					
SHL			*ex*	x	17 49 03.5	
ABRA	**Dolores**	**28.37 47**	*e*P	**P**	**17 44 18.1**	**+0.5**
CAUP	**Cauayan**	**28.75 49**	*e*P	**P**	**17 44 20.4**	**-0.5**
GYA	**Guiyang**	**28.79 13**⇑	*i* P	**P**	**17 44 24.3**	**+2.9**
GYA			pP	**pP**	**17 44 30.3**	**+1.8**
GYA			PP	**PnPn**	**17 45 18.6**	**+5.8**
GYA			PcP	**PcP**	**17 47 31.8**	**+0.6**
GYA			S	**S**	**17 49 13.3**	**+3.3**
GYA			SS	SnSn	17 50 44.0	+11
GYA			ScP	**ScP**	**17 51 11.0**	**-0.3**
GYA			ScS	**ScS**	**17 55 03.5**	**-1.6**
GYA			pmax	pmax		
	comp=Z,60nm,0.9s					
GYA			pmax	pmax		
	comp=Z,320nm,5.2s					
GYA			LR	LR		
	comp=N,5μm,16.2s					
GYA			LR	LR		
	comp=E,5μm,17.8s					
GYA			LR	LR		
	comp=Z,6μm,16.4s					
APYP	**Conner**	**28.89 47**	*e*P	**P**	**17 44 22.2**	**-0.1**
LATR	**Latur**	**30.13 312**	*e*S	**S**	**17 49 31.8**	**+0.9**
NGP	**Nagpur**	**30.24 320**	*e*P	**P**	**17 44 31.3**	**-2.9**
NGP			*ex*	x	17 44 40.3	
	comp=Z,112nm,1.6s					
NGP			*ex*	x	17 49 57.8	
FITZ	**Fitzroy Crossi**	**30.41 124**	P	**P**	**17 44 35.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**30.41 124**	P	**P**	**17 44 35.2**	**-0.5**
	comp=Z,43nm,1.0s,baz=314,slow=8.6,SNR=35					
FITZ			LR	LR	17 58 03.4	
	comp=Z,1μm,18.9s,baz=313,slow=39					
ODAN	**Odare**	**30.66 338**	*e*P	**P**	**17 44 39.8**	**+1.6**
	comp=Z,556nm,1.4s					
MEEK	**Meekatharra**	**30.89 145**	P	**P**	**17 44 41.7**	**+1.9**
	baz=31,SNR=7.9					
TAPN	**Taplejung**	**31.00 339**	*e*P	**P**	**17 44 42.3**	**+1.2**
	comp=Z,618nm,1.1s					
RAMN	**Ramite**	**31.04 337**	*e*P	**P**	**17 44 42.8**	**+1.3**
	comp=Z,473nm,1.4s					
MORW	**Morawa**	**31.49 152**	P	**P**	**17 44 46.9**	**+1.8**
	baz=32,SNR=3.2					
SWI	**Sorong**	**31.76 89**	P	**P**	**17 44 47.1**	**-0.6**
	comp=Z,369nm,1.2s,comp=Z,4μm					
SWI	**Sorong**	**31.76 89**	P	**P**	**17 44 47.8**	**+0.1**
	baz=32,SNR=6.3					
JIRN	**Jiri**	**31.84 337**	*e*P	**P**	**17 44 50.1**	**+1.4**
	comp=Z,374nm,1.0s					
KNRA	**Kununurra**	**32.03 117**	P	**P**	**17 44 47.9**	**-2.2**
	baz=32,SNR=30					
PKI	**Pulchoki**	**32.07 336**	*e*P	**P**	**17 44 51.6**	**+1.0**
	comp=Z,275nm,1.4s					
PKIN	**Phulchoki**	**32.08 336**	*e*P	**P**	**17 44 51.9**	**+1.2**
	comp=Z,228nm,1.4s					
TWG	**Pinlang**	**32.15 40**	*e*P	**P**	**17 44 51.0**	**-0.1**
	comp=Z,616nm,1.8s					
GUN	**Gumba**	**32.18 337**	*e*P	**P**	**17 44 52.6**	**+0.9**
	comp=Z,234nm,0.7s					
LSA	**Lhasa**	**32.19 346**	P	**P**	**17 44 52.8**	**+1.0**
LSA			S	**S**	**17 50 02.8**	**-1.0**
LSA			LR	LR		
	comp=N,810nm,19.2s					
LSA			LR	LR		
	comp=E,2μm,26.9s					
LSA			LR	LR		
	comp=Z,1μm,21.2s					
LSA	**Lhasa**	**32.19 346**	*e*P	**P**	**17 44 51.7**	**-0.1**
LSA			pmax	pmax		
	comp=Z,227nm,1.1s					
LSA			MLR	MLR		
	comp=Z,2μm,21.0s					
LSA	**Lhasa**	**32.19 346**	*e*P	**P**	**17 44 51.7**	**-0.1**
	comp=Z,227nm,1.1s					
LSA			LR	LR		
	comp=Z,2μm,21.0s					
TPUB	**Ta-pu**	**32.23 38**	*e*P	**P**	**17 44 51.2**	**-0.4**
	comp=Z,182nm,1.1s					
DMN	**Daman**	**32.23 336**	*e*P	**P**	**17 44 53.3**	**+1.4**
	comp=Z,170nm,1.2s					
QZH	**Quanzhou**	**32.27 34**⇓	*i* P	P	17 44 56.6	+4.5
QZH			S	**S**	**17 50 02.5**	**-1.9**
QZH			pmax	pmax		
	comp=Z,150nm,1.0s					
QZH			pmax	pmax		
	comp=Z,1μm,2.6s					
QZH			LR	LR		
	comp=N,5μm,11.2s					
QZH			LR	LR		
	comp=E,7μm,9.7s					
QZH			LR	LR		
	comp=Z,10μm,12.1s					
KKN	**Kakani**	**32.32 336**	*e*P	**P**	**17 44 53.4**	**+0.7**
	comp=Z,406nm,1.3s					
CD2	**Chengdu**	**32.64 7**	P	**P**	**17 44 54.8**	**-0.4**
CD2			pP	**pP**	**17 45 02.8**	**+0.4**
CD2			sP	**sP**	**17 45 05.6**	**+0.3**
CD2			PP	**PP**	**17 46 06.9**	**-2.4**
CD2			PcP	**PcP**	**17 47 39.3**	**-1.8**
CD2			S	**S**	**17 50 11.9**	**+1.9**
CD2			SS	**SnSn**	**17 52 12.3**	**+6.5**
CD2			ScS	**ScS**	**17 55 20.3**	**-3.2**
CD2			pmax	pmax		
	comp=Z,30nm,0.7s					
CD2			pmax	pmax		
	comp=Z,260nm,4.2s					
CD2			LR	LR		
	comp=N,7μm,12.0s					
CD2			LR	LR		
	comp=E,10μm,10.6s					
CD2			LR	LR		
	comp=Z,7μm,12.0s					
YULB	**Yu-li**	**32.71 39**	*e*P	P	17 44 51.6	-4.3
	comp=Z,38nm,0.9s					
FAKI	**Fak Fak**	**32.74 93**	P	**P**	**17 44 59.3**	**+2.9**
	comp=Z,142nm,1.4s,comp=Z,2μm					
FAKI	**Fak Fak**	**32.74 93**	P	**P**	**17 44 55.8**	**-0.6**
	baz=33,SNR=6.6					
SSLB	**Suanglung**	**32.78 38**	*e*P	**P**	**17 44 56.1**	**-0.5**
	comp=Z,142nm,1.2s					
KOLN	**Koldanda**	**33.02 334**	*e*P	**P**	**17 44 59.6**	**+0.8**
	comp=Z,270nm,1.1s					
ENH	**Enshi**	**33.15 16**	*e*P	**P**	**17 44 57.2**	**-2.5**
	comp=Z,58nm,0.9s					
MTN	**Manton Dam**	**33.23 111**	P	**P**	**17 44 58.0**	**-2.6**
	baz=33,SNR=7.3					
TLE	**Tual**	**33.39 98**	P	P	17 44 53.2	-8.8
	baz=33,SNR=3.8					
DANN	**Dangsing**	**33.45 334**	*e*P	**P**	**17 45 04.0**	**+1.4**
	comp=Z,642nm,1.3s					
NACB	**Ninganchiao**	**33.46 39**	*e*P	**P**	**17 45 02.5**	**0.0**
PYUN	**Piuthan**	**33.57 333**	*e*P	**P**	**17 45 05.0**	**+1.4**
YHNB	**Yeheng**	**33.69 38**	*e*P	P	17 45 01.4	-3.2
	comp=Z,159nm,1.4s					
YHNB			LR	LR		
	comp=Z,2μm,19.0s					
TATO	**Taipei**	**33.99 37**	*e*P	**P**	**17 45 06.7**	**-0.3**
	comp=Z,112nm,1.1s					
KLBR	**Kellerberrin**	**34.40 152**	P	**P**	**17 45 13.1**	**+2.5**
	baz=34,SNR=5.2					
KDU	**Kakadu**	**34.44 110**	P	P	17 45 08.1	-3.1
	baz=34,SNR=7.1					
RKPI	**Ransiki, Papua**	**34.66 90**	P	**P**	**17 45 12.8**	**-0.3**
	comp=Z,216nm,1.4s,comp=Z,3μm					
WHN	**Wuhan**	**35.01 23**⇑	P	P	17 45 12.5	-3.3
WHN			pP	pP	17 45 22.3	-0.6
WHN			LR	LR		
	comp=N,17μm,10.5s					
WHN			LR	LR		
	comp=E,6μm,10.2s					
WHN			LR	LR		
	comp=Z,17μm,10.7s					
NWAO	**Narrogin (SRO)**	**35.28 154**	P	**P**	**17 45 18.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.28 154**	P	**P**	**17 45 18.5**	**+0.3**
	comp=Z,45nm,1.1s,baz=326,slow=8.2,SNR=11					
NWAO			LR	LR	17 59 17.0	
	comp=Z,2μm,21.6s,baz=330,slow=36					
AGRA	**Agra**	**35.44 326**	*e*P	**P**	**17 45 19.1**	**-0.5**
LGTI	**Lohaghat**	**36.00 331**	*ex*	P	17 45 27.5	+3.2
BAKI	**Biak**	**36.59 90**	P	**P**	**17 45 28.7**	**-1.0**
	comp=Z,184nm,1.2s,comp=Z,2μm					
XAN	**Xi'an**	**36.60 13**	P	**P**	**17 45 27.8**	**-1.6**
XAN			pP	**pP**	**17 45 33.8**	**-2.8**
XAN			sP	**sP**	**17 45 36.8**	**-2.7**
XAN			pmax	pmax		
	comp=Z,15nm,0.9s					
XAN			LR	LR		
	comp=N,3μm,13.0s					
XAN			LR	LR		
	comp=E,2μm,12.1s					
XAN			LR	LR		
	comp=Z,2μm,12.6s					
SONA	**Sohna**	**36.71 326**	*e*P	**P**	**17 45 29.6**	**-0.8**
AYAN	**Aya Nagar**	**36.87 326**	*e*P	**P**	**17 45 30.7**	**-1.0**
NDI	**New Delhi**	**36.97 326**	*e*P	**P**	**17 45 32.0**	**-0.7**
KHET	**Khetri**	**37.31 324**	*e*P	**P**	**17 45 34.9**	**-0.7**
RTK	**Rohtak**	**37.69 326**	*e*P	**P**	**17 45 37.4**	**-1.3**
LZH	**Lanzhou**	**37.77 6**⇑	P	**P**	**17 45 39.8**	**+0.3**
LZH			pP	**pP**	**17 45 44.1**	**-2.6**
LZH			sP	**sP**	**17 45 46.3**	**-3.3**
LZH			PP	**PnPn**	**17 47 11.9**	**+4.7**
LZH			PcP	**PcP**	**17 47 58.5**	**+2.3**
LZH			S	**S**	**17 51 27.1**	**-1.9**
LZH			SS	**SnSn**	**17 54 11.8**	**+1.7**
LZH			pmax	pmax		
	comp=Z,96nm,1.0s					
LZH			pmax	pmax		
	comp=Z,240nm,4.0s					
LZH			LR	LR		
	comp=N,5μm,10.8s					
LZH			LR	LR		
	comp=E,6μm,11.4s					
LZH			LR	LR		
	comp=Z,7μm,11.7s					
KKR	**Kurukshetra**	**38.18 327**	*e*P	**P**	**17 45 42.4**	**-0.5**
KKR			AMB	AMB	17 45 51.4	
	comp=Z,117nm,1.3s					
SSE	**Sheshan**	**38.55 31**	P	**P**	**17 45 46.3**	**+0.3**
SSE			pP	**pP**	**17 45 52.9**	**-0.3**
SSE			PP	**PnPn**	**17 47 16.4**	**-0.1**
SSE			S	**S**	**17 51 41.4**	**+0.7**
SSE			pmax	pmax		
	comp=Z,30nm,0.7s					
SSE			pmax	pmax		
	comp=Z,220nm,2.9s					
SSE			LR	LR		
	comp=N,4μm,20.3s					
SSE			LR	LR		
	comp=E,3μm,20.7s					
SSE			LR	LR		
	comp=Z,7μm,11.9s					
WRA	**Warramunga Arr**	**38.59 121**	P	**P**	**17 45 45.5**	**-1.0**
WRA			PcP	**PcP**	**17 47 58.8**	**-0.1**
WRA			S	**S**	**17 51 36.9**	**-4.8**
WRA	**Warramunga Arr**	**38.59 121**	P	**P**	**17 45 45.5**	**-1.0**
	comp=Z,38nm,0.6s,baz=303,slow=9.1,SNR=166					
WRA			PcP	**PcP**	**17 47 58.8**	**-0.1**
	comp=Z,13nm,1.0s,baz=315,slow=2.6,SNR=4.9					
WRA			S	**S**	**17 51 36.9**	**-4.8**
	comp=Z,12nm,1.1s,baz=296,slow=16,SNR=7.9					
WRA			LR	LR	18 05 34.9	
	comp=Z,1μm,18.1s,baz=315,slow=42					
WRAB	**Tennant Creek**	**38.60 120**	*e*P	**P**	**17 45 43.9**	**-2.7**
WRAB			pmax	pmax		
	comp=Z,263nm,1.3s					
WRAB			MLR	MLR		
	comp=Z,3μm,20.0s					
WRAB	**Tennant Creek**	**38.60 120**	*e*P	**P**	**17 45 43.9**	**-2.7**
	comp=Z,262nm,1.3s					
WRAB			LR	LR		
	comp=Z,3μm,20.0s					
SDNR	**Sundarnagar**	**39.31 329**	*e*P	**P**	**17 45 54.4**	**+2.0**
BHK	**Bhakra**	**39.53 328**	*ex*	x	17 45 57.0	
FORT	**Forrest**	**39.62 140**	*e*P	**P**	**17 45 52.3**	**-2.6**
	comp=Z,195nm,0.9s					
FORT	**Forrest**	**39.62 140**	P	**P**	**17 45 56.8**	**+1.8**
	baz=40,SNR=12					
JOW	**Kunigami**	**39.64 42**	*e*P	**P**	**17 45 55.5**	**+0.3**
	comp=Z,71nm,1.7s					
AS31	**Alice Springs**	**39.85 126**	*e*P	**P**	**17 45 55.0**	**-2.1**
ASAR	**Alice Springs**	**39.85 126**	P	**P**	**17 45 56.9**	**-0.2**
ASAR			PcP	**PcP**	**17 48 04.2**	**+1.3**
ASAR			S	**S**	**17 51 58.6**	**-2.0**
ASAR	**Alice Springs**	**39.85 126**	P	**P**	**17 45 56.9**	**-0.2**
	comp=Z,36nm,0.8s,baz=302,slow=7.8,SNR=409					
ASAR			PcP	**PcP**	**17 48 04.2**	**+1.3**
	comp=Z,14nm,0.9s,baz=303,slow=3.0,SNR=5.3					
ASAR			S	**S**	**17 51 58.6**	**-2.0**
	comp=Z,14nm,1.0s,baz=296,slow=13,SNR=5.9					
ASAR			LR	LR	18 04 43.1	
	comp=Z,2μm,19.7s,baz=301,slow=40					
THN	**Thein Dam**	**40.70 328**	*ex*	pP	17 46 11.5	+0.4
GTA	**Gaotai**	**40.87 0**⇑	P	**P**	**17 46 05.6**	**+0.3**
GTA			pP	**pP**	**17 46 11.6**	**-0.9**
GTA			sP	**sP**	**17 46 14.6**	**-0.8**
GTA			PcP	**PcP**	**17 48 07.8**	**+1.9**
GTA			ScP	**ScP**	**17 51 53.3**	**-1.0**
GTA			PcS	**PcS**	**17 51 55.3**	**-1.5**
GTA			S	**S**	**17 52 16.9**	**+1.4**
GTA			SS	**SS**	**17 55 14.6**	**-2.9**
GTA			ScS	**ScS**	**17 56 07.3**	**-2.0**
GTA			pmax	pmax		
	comp=Z,22nm,1.8s					
GTA			pmax	pmax		
	comp=Z,230nm,5.7s					
GTA			LR	LR		
	comp=N,3μm,13.3s					
GTA			LR	LR		
	comp=E,3μm,15.4s					
GTA			LR	LR		
	comp=Z,3μm,12.8s					
TIA	**Tai'an**	**41.10 22**⇑	P	**P**	**17 46 07.1**	**0.0**
TIA			S	**S**	**17 52 18.3**	**-0.5**
TIA			LR	LR		
	comp=N,1μm,25.6s					
TIA			LR	LR		
	comp=E,4μm,23.8s					
TIA			LR	LR		
	comp=Z,2μm,25.6s					
JAY	**Jayapura**	**41.18 92**	P	**P**	**17 46 10.9**	**+2.7**
	comp=Z,45nm,1.1s					
JAY	**Jayapura**	**41.18 92**	P	**P**	**17 46 06.2**	**-2.0**
	baz=41,SNR=3.6					
HHC	**Hu-ho-hao-te**	**43.71 13**	*e*P	**P**	**17 46 28.4**	**0.0**
HHC			sP	**sP**	**17 46 39.3**	**+0.7**
HHC			PP	**PcP**	**17 48 14.4**	**-0.8**
HHC			ScP	**ScP**	**17 52 01.8**	**-3.8**
HHC			PcS	**PcS**	**17 52 07.6**	**-0.5**
HHC			S	**S**	**17 52 57.0**	**-0.3**
HHC			sS	**sS**	**17 53 10.8**	**+1.5**
HHC			SS	**SS**	**17 56 10.3**	**-3.1**
HHC			ScS	**ScS**	**17 56 27.4**	**+0.8**
HHC			pmax	pmax		
	comp=Z,36nm,1.1s					
HHC			pmax	pmax		
	comp=Z,440nm,5.6s					
HHC			LR	LR		
	comp=N,2μm,16.4s					
HHC			LR	LR		
	comp=E,6μm,16.5s					
HHC			LR	LR		
	comp=Z,2μm,16.3s					
MSEY	**Mahe Island**	**44.05 265**	PFAKE		17 46 40.0	+8.4
MSEY			LR	LR		
	comp=Z,858nm,19.0s					
BJT	**Baijiatuau**	**44.19 18**	*e*P	**P**	**17 46 30.8**	**-1.4**
	comp=Z,219nm,1.1s					
BJT			LR	LR		
	comp=Z,2μm,20.0s					
BJI	**Beijing**	**44.21 18**	P	**P**	**17 46 32.5**	**+0.2**
BJI			PP	**PcP**	**17 48 21.9**	**+5.1**
BJI			S	**S**	**17 53 04.4**	**0.0**
BJI			pmax	pmax		
	comp=Z,56nm,1.2s					
BJI			pmax	pmax		
	comp=Z,320nm,4.1s					
BJI			LR	LR		
	comp=N,1μm,23.6s					
BJI			LR	LR		
	comp=E,3μm,21.4s					
BJI			LR	LR		
	comp=Z,1μm,21.4s					
DL2	**Dalian**	**45.21 24**	P	**P**	**17 46 42.8**	**+2.5**
DL2			S	**S**	**17 53 20.4**	**+1.5**
DL2			pmax	pmax		
	comp=Z,92nm,1.2s					
DL2			LR	LR		
	comp=N,890nm,20.7s					
DL2			LR	LR		
	comp=E,2μm,20.2s					
DL2			LR	LR		
	comp=Z,3μm,11.6s					
JNU	**Nakatsue**	**45.53 38**	*e*P	**P**	**17 46 43.4**	**+0.4**
	comp=Z,107nm,1.4s					
JNU	**Nakatsue**	**45.53 38**	P	**P**	**17 46 43.0**	**+0.1**
	comp=Z,34nm,1.0s,baz=230,slow=3.3,SNR=14					
KBL	**Kabul**	**45.97 324**	*e*P	**P**	**17 46 45.9**	**-0.8**
KBL			pmax	pmax		
	comp=Z,32nm,1.3s					
KBL	**Kabul**	**45.97 324**	*e*P	**P**	**17 46 45.9**	**-0.8**
	comp=Z,32nm,1.3s					
BBOO	**Buckleboo**	**46.24 136**	*e*P	**P**	**17 46 47.1**	**-1.5**
	comp=Z,2μm,1.4s					
BBOO	**Buckleboo**	**46.24 136**	P	**P**	**17 46 49.4**	**+0.9**
	baz=46,SNR=7.9					
KSH	**Kashi**	**46.31 335**	P	**P**	**17 46 48.1**	**-1.1**
KSH			sP	**sP**	**17 46 59.0**	**-0.4**
KSH			PP	**PP**	**17 48 37.3**	**-0.9**
KSH			S	**S**	**17 53 30.4**	**-4.7**
KSH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
KSH			pmax	pmax		
	comp=Z,250nm,3.3s					
KSH			LR	LR		
	comp=N,880nm,16.7s					
KSH			LR	LR		
	comp=E,870nm,13.3s					
KSH			LR	LR		
	comp=Z,800nm,19.9s					
INCN	**Inchon**	**46.35 30**	PFAKE		17 47 00.0	+11
INCN			LR	LR		
	comp=Z,2μm,22.0s					
WMQ	**Urumqi**	**46.50 348**	P	**P**	**17 46 51.8**	**+1.3**
WMQ			pP	**pP**	**17 46 59.5**	**+1.7**
WMQ			PcS	**PcS**	**17 52 19.5**	**+0.1**
WMQ			S	**S**	**17 53 39.1**	**+1.6**
WMQ			sS	**sS**	**17 53 50.5**	**+1.0**
WMQ			ScS	**ScS**	**17 56 42.5**	**-1.8**
WMQ			SS	**SS**	**17 56 56.8**	**-7.0**
WMQ			pmax	pmax		
	comp=Z,280nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,710nm,2.6s					
WMQ			LR	LR		
	comp=N,990nm,13.0s					
WMQ			LR	LR		
	comp=E,2μm,14.0s					
WMQ			LR	LR		
	comp=Z,940nm,18.0s					
MTSU	**Mount Surprise**	**46.90 113**	P	**P**	**17 46 53.5**	**-0.5**
	baz=47,SNR=17					
KSAR	**Wonju Array Be**	**46.95 31**	P	**P**	**17 46 53.9**	**-0.2**
KSAR			PcP	**PcP**	**17 48 28.9**	**+2.5**
KSRS	**Korea Array**	**46.98 31**	P	**P**	**17 46 53.9**	**-0.4**
	comp=Z,19nm,0.8s,baz=224,slow=8.5,SNR=57					
KSRS			PcP	**PcP**	**17 48 28.9**	**+2.4**
	comp=Z,4.8nm,0.9s,baz=215,slow=3.6,SNR=3.0					
KSRS			LR	LR	18 06 43.4	
	comp=Z,1μm,19.4s,baz=352,slow=36					
GUMO	**Guam**	**47.45 70**	PFAKE		17 47 10.0	+12

GUMO LR LR
comp=Z,833nm,20.0s
PMG Port Moresby 48.01 101 *e*P **P 17 47 00.7 -1.9**
comp=Z,32nm,1.0s
PMG LR LR
comp=Z,1μm,21.0s
PMG Port Moresby 48.01 101 P P 17 47 06.4 +3.7
comp=Z,33nm,1.2s
SNY Shenyang 48.47 24 ⇓P **P 17 47 05.4 -0.3**
SNY S **S 17 54 06.6 +1.2**
SNY pmax pmax
comp=Z,1μm,2.9s
SNY LR LR
comp=N,1μm,22.1s
SNY LR LR
comp=E,780nm,19.8s
SNY LR LR
comp=Z,3μm,16.7s
ULHL Ulahol 48.50 337 *i*P **P 17 47 06.8 +0.5**
ULHL Ulahol 48.50 337 P **P 17 47 06.8 +0.5**
SNR=9.5
KZA Kyzart 48.75 336 *i*P **P 17 47 09.9 +1.5**
KZA Kyzart 48.75 336 P **P 17 47 09.9 +1.5**
SNR=20
AAA Alma-Ata 49.11 338 *i*P **P 17 47 13.1 +2.4**
AAA *i*S **S 17 54 19.0 +4.4**
AAA pmax pmax
comp=Z,1μm,4.2s
AAA smax smax
comp=N,2μm,9.2s
AAA MLR MLR
comp=Z,800nm,20.0s
CTA Charters Tower 49.19 115 P **P 17 47 11.4 -0.3**
CTA Charters Tower 49.19 115 P **P 17 47 11.4 -0.3**
comp=Z,59nm,1.2s,baz=291,slow=9.7,SNR=27
CTAO Charters Tower 49.19 115 *e*P **P 17 47 10.5 -1.2**
CTAO pmax pmax
comp=Z,163nm,1.3s
CTAO MLR MLR
comp=Z,2μm,22.0s
CTAO Charters Tower 49.19 115 *e*P **P 17 47 10.5 -1.2**
comp=Z,162nm,1.3s
CTAO LR LR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 49.32 337 *i*P **P 17 47 13.2 +0.6**
TKM2 Tokmak 2 49.32 337 P **P 17 47 13.3 +0.6**
SNR=42
TKM2 Tokmak 2 49.32 337 *e*P **P 17 47 13.2 +0.6**
comp=Z,190nm,1.4s
TKM2 LR LR
comp=Z,1μm,20.0s
KBK Karagaybulak 49.36 336 *i*P **P 17 47 13.6 +0.8**
KBK Karagaybulak 49.36 336 P **P 17 47 13.6 +0.8**
SNR=23
AML Almayashu 49.45 335 *i*P **P 17 47 14.6 +0.8**
AML Almayashu 49.45 335 P **P 17 47 14.6 +0.8**
SNR=35
AAK Ala-Archa 49.53 336 *i*P **P 17 47 15.0 +1.0**
AAK Ala-Archa 49.53 336 P **P 17 47 15.1 +1.0**
SNR=10
AAK Ala-Archa 49.53 336 *e*P **P 17 47 13.8 -0.3**
comp=Z,122nm,1.6s
AAK Ala-Archa 49.53 336 P **P 17 47 14.7 +0.6**
comp=Z,6.8nm,0.7s,baz=148,slow=6.3,SNR=28
AAK LR LR 18 10 37.0
comp=Z,2μm,21.8s,baz=137,slow=39
UOSS Wadi Hilu 49.58 305 P **P 17 47 14.0 -0.6**
comp=Z,108nm,1.5s,SNR=7.7
FRU Bishkek 49.64 336 *e*P **P 17 47 15.0 +0.2**
FRU *e*S **S 17 54 24.0 +2.0**
FRU *e*S **S 17 54 24.0 +2.0**
FRU pmax pmax
comp=Z,350nm,2.1s
FRU smax smax
comp=Z,350μm,3.6s
FRU MLR MLR
comp=Z,2μm,21.0s
SONM Songino Array 49.66 6 P **P 17 47 15.4 +0.4**
SONM PcP **PcP 17 48 36.9 +0.8**
SONM Songino Array 49.66 6 P **P 17 47 15.4 +0.4**
comp=Z,35nm,1.0s,baz=190,slow=8.5,SNR=86
SONM PcP **PcP 17 48 36.9 +0.8**
comp=Z,14nm,0.7s,baz=187,slow=5.1,SNR=4.6
SONM LR LR 18 10 18.9
comp=Z,1μm,20.6s,baz=190,slow=38
CHMS Chumysh 49.73 336 *i*P **P 17 47 16.4 +1.0**
CHMS Chumysh 49.73 336 P **P 17 47 16.4 +1.0**
SNR=8.9
STKA Stephens Creek 49.75 132 *e*P **P 17 47 13.7 -2.0**
comp=Z,42nm,1.4s
STKA Stephens Creek 49.75 132 P **P 17 47 16.5 +0.8**
comp=Z,38nm,0.9s,baz=302,slow=7.8,SNR=53
STKA LR LR 18 09 34.8
comp=Z,2μm,19.9s,baz=298,slow=38
STKA Stephens Creek 49.75 132 P **P 17 47 16.6 +0.8**
baz=50,SNR=38
EKS2 Erkin-Say 49.85 335 *e*P **P 17 47 17.3 +0.8**
EKS2 pmax pmax
comp=Z,189nm,1.4s
EKS2 MLR MLR
comp=Z,750nm,22.0s
EKS2 Erkin-Say 49.85 335 P **P 17 47 17.5 +1.0**
SNR=66
EKS2 Erkin-Say 49.85 335 *e*P **P 17 47 17.3 +0.8**
comp=Z,188nm,1.4s
EKS2 LR LR
comp=Z,750nm,22.0s
USP Ospenovka 50.05 336 *i*P **P 17 47 18.4 +0.5**
USP Ospenovka 50.05 336 P **P 17 47 18.4 +0.5**
SNR=24
MK31 Makanchi Array 50.57 345 *i*P **P 17 47 21.6 -0.1**
MK31 pmax pmax
comp=Z,106nm,1.0s
MK31 Makanchi Array 50.57 345 *e*P **P 17 47 21.6 -0.1**
MKAR Makanchi Array 50.57 345 *e*P **P 17 47 22.0 +0.2**
MKAR S **S 17 54 38.9 +4.1**
MKAR Makanchi Array 50.57 345 *e*P **P 17 47 22.0 +0.2**
MKAR S **S 17 54 38.9 +4.1**
MKAR Makanchi Array 50.57 345 P **P 17 47 21.9 +0.1**
comp=Z,50nm,0.7s,baz=151,slow=7.4,SNR=216
MKAR S **S 17 54 38.9 +4.1**
comp=Z,4.3nm,1.2s,baz=146,slow=13,SNR=5.1
MKAR LR LR 18 11 57.0
comp=Z,543nm,20.0s,baz=161,slow=40
CN2 Changchun 50.88 24 *e*P **P 17 47 22.9 -1.2**
CN2 *e*pP **pP 17 47 29.3 -2.1**
CN2 *e*PP **PP 17 49 20.6 0.0**
CN2 *e*S **S 17 54 39.5 +0.4**
CN2 *e*SS **SS 17 58 12.3 -1.9**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,160nm,3.0s
CN2 LR LR
comp=N,1μm,18.0s
CN2 LR LR
comp=E,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
KK31 Karatay Array 51.63 333 *i*P **P 17 47 29.2 -0.5**
KK31 pmax pmax
comp=Z,26nm,1.1s
KKAR Karatay Array 51.63 333 *e*P **P 17 47 29.8 +0.1**
KKAR Karatay Array 51.63 333 *e*P **P 17 47 29.8 +0.1**
ZAK Zakamensk 51.94 3 *e*P **P 17 47 32.0 -0.1**
ZAK *e* 17 48 41.0
ZAK pmax pmax
comp=Z,22nm,1.6s
MAT Matsushiro 52.33 40 P **P 17 47 33.6 -1.5**
MAT S **S 17 54 58.6 -0.8**
ARPS Mount Arapiles 52.38 137 P **P 17 47 38.0 +2.5**
baz=52,SNR=6.6
CMSA Cobar Meteorol 52.71 129 P **P 17 47 38.8 +0.8**
baz=53,SNR=85
MOY Mondy 53.14 1 *e*P **P 17 47 41.0 +0.1**
MOY pmax pmax
comp=Z,118nm,2.8s
MDJ Mudanjiang 53.30 27 P **P 17 47 43.1 +1.0**
MDJ pP **pP 17 47 49.5 0.0**
MDJ sP **sP 17 47 52.0 -0.4**
MDJ PcP **PcP 17 48 51.0 +1.4**
MDJ PP **PP 17 49 42.9 +0.3**
MDJ S **S 17 55 15.0 +2.6**
MDJ sS **sS 17 55 24.1 -0.4**
MDJ ScS **ScS 17 57 31.3 +1.0**
MDJ SS **SKiKP 17 58 55.6 -2.5**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ pmax pmax
comp=Z,190nm,5.7s
MDJ LR LR
comp=N,2μm,21.8s
MDJ LR LR
comp=E,3μm,23.0s
MDJ LR LR
comp=Z,4μm,15.8s
MDJ Mudanjiang 53.30 27 *e*P **P 17 47 41.0 -1.2**
comp=Z,24nm,1.0s
MDJ LR LR
comp=Z,2μm,20.0s
RMQ Roma 53.31 122 P **P 17 47 43.1 +0.5**
baz=53,SNR=12
HIA Hailar 53.65 16 PFAKE 17 48 00.0 +15
HIA LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 53.85 4 *e*P **P 17 47 46.9 +0.9**
IRK *e*S **S 17 55 22.3 +2.7**
IRK pmax pmax
comp=Z,168nm,2.0s
OPO Ambohidratompo 53.93 248 P **P 17 47 49.1 +1.7**
OPO Ambohidratompo 53.93 248 P **P 17 47 49.1 +1.7**
comp=Z,17nm,1.0s,baz=68,slow=5.7,SNR=13
OPO LR LR 18 05 22.4
comp=Z,2μm,21.3s,baz=11,slow=30
ABPO Ambohimpanom 53.99 248 PFAKE 17 48 00.0 +12
ABPO LR LR
comp=Z,2μm,19.0s
USRK Ussuriysk Arra 54.10 28 P **P 17 47 48.2 +0.4**
comp=Z,62nm,0.9s,baz=228,slow=6.0,SNR=85
USRK LR LR 18 13 27.0
comp=Z,2μm,18.3s,baz=207,slow=39
CIT Chita 54.79 11 *e*P **P 17 47 53.3 +0.4**
CIT *e* 17 48 05.8
CIT *e* 17 48 52.5
CIT pmax pmax
comp=Z,174nm,2.3s
KURBB Kurchatov Arra 55.08 344 P **P 17 47 54.9 -0.1**
comp=Z,25nm,0.9s,baz=163,slow=7.1,SNR=114
KURBB S **S 17 55 40.3 +4.1**
comp=Z,1.8nm,1.0s,baz=146,slow=14,SNR=5.0
KURK Kurchatov 55.14 344 P **P 17 47 54.9 -0.5**
KURK S **S 17 55 40.3 +3.3**
KURK Kurchatov 55.14 344 P **P 17 47 54.9 -0.5**
KURK S **S 17 55 40.3 +3.3**
TOO Toolangi 55.30 136 P **P 17 47 59.7 +2.8**
baz=55,SNR=4.3
YNG Young 55.93 131 P **P 17 48 02.6 +1.1**
baz=56,SNR=13
ZAA0 Zalesovo Array 56.74 350 *e*P **P 17 48 06.7 -0.1**
ZALV Zalesovo Beam 56.74 350 *i*P **P 17 48 06.8 0.0**
ZALV pmax pmax
comp=Z,109nm,0.8s
ZALV Zalesovo Beam 56.74 350 P **P 17 48 06.8 0.0**
ZALV S **S 17 55 57.3 -0.9**
ZALV Zalesovo Beam 56.74 350 P **P 17 48 06.8 0.0**
comp=Z,109nm,0.8s,baz=178,slow=6.3,SNR=168
ZALV S **S 17 55 57.3 -0.9**
comp=Z,10nm,1.0s,baz=153,slow=13,SNR=14
ZALV LR LR 18 16 50.4
comp=Z,835nm,19.5s,baz=249,slow=41
CAN Canberra 56.81 132 PFAKE 17 48 20.0 +12
CAN LR LR
comp=Z,2μm,19.0s
ARMA Armidale 57.00 126 P **P 17 48 12.1 +2.8**
baz=57,SNR=4.5
CNB Canberra Magne 57.08 132 P **P 17 48 11.4 +1.8**
baz=57,SNR=14
ATD Arta Tunnel 57.81 285 P **P 17 48 17.0 +1.9**
ATD Arta Tunnel 57.81 285 P **P 17 48 17.0 +1.9**
comp=Z,3.1nm,0.3s,baz=276,slow=23,SNR=7.2
ATD LR LR 18 08 09.8
comp=Z,678nm,21.3s,baz=97,slow=31
KLR Kul'dur 57.83 24 *e*P P 17 48 11.2 -3.3
QRN Al-Qurain 57.88 306 *e*P **P 17 48 14.8 -0.6**
QRN AMb AMB 17 48 25.3
comp=Z,216nm,1.7s
NVS Novosibirsk 57.88 349⇑*i*P **P 17 48 13.0 -1.8**
NVS *e* 17 49 12.4
NVS *e* 17 50 25.8
NVS *e*S S 17 56 04.9 -8.2
NVS pmax pmax
comp=N,102nm,1.6s
NVS pmax pmax
comp=E,66nm,1.6s
NVS pmax pmax
comp=Z,176nm,1.6s
NVS pmax pmax
comp=Z,30nm,1.8s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,21nm,1.3s
NVS smax smax
comp=N,75nm,2.5s
NVS smax smax
comp=E,98nm,2.5s
RAYN Ar Rayn 58.14 299 *e*P **P 17 48 15.4 -2.0**
comp=E,35nm,1.1s
KBD Kabd 58.23 306 *e*P **P 17 48 17.3 -0.5**
KBD AMb AMB 17 48 27.0
comp=Z,131nm,1.7s
RDF Al-Radifah 58.25 306 *e*P **P 17 48 17.9 0.0**
RDF AMb AMB 17 48 27.8
comp=Z,238nm,1.8s
UMR Umm Al-Rimmam 58.35 306 *e*P **P 17 48 17.6 -1.0**
UMR AMb AMB 17 48 20.1
comp=Z,95nm,0.8s
NAY Al-Naaiem 58.62 306 *e*P **P 17 48 19.9 -0.7**
NAY AMb AMB 17 48 22.1
comp=Z,2.2nm,0.7s
ERM Erimo 58.68 37 PFAKE 17 48 30.0 +9.3
ERM LR LR
comp=Z,641nm,19.0s
VOSK Vostochnaya 59.24 340 P **P 17 48 22.4 -2.0**
VOSK pmax pmax
comp=Z,76nm,1.2s
PATS Pohnpei 59.29 81 P **P 17 48 28.0 +2.6**
baz=59,SNR=3.6
ASAJ Asahikawa 59.61 35 *e*P **P 17 48 26.0 -1.1**
comp=Z,22nm,1.1s
ASAJ Asahikawa 59.61 35 LR LR 18 14 27.0
comp=Z,818nm,21.7s,baz=204,slow=36
BVA0 Borovoye Array 59.70 340 *i*P **P 17 48 25.6 -1.9**
BVA0 pmax pmax
comp=Z,136nm,1.4s
BRVK Borovoye 59.76 340 *ce*P **P 17 48 27.4 -0.5**
BRVK pmax pmax
comp=Z,69nm,2.5s
BRVK Borovoye 59.76 340 *e*P **P 17 48 27.2 -0.7**
comp=Z,59nm,1.2s
BRVK LR LR
comp=Z,739nm,21.0s
HNR Honiara 60.58 100 P **P 17 48 34.0 -0.3**
HNR Honiara 60.58 100 P **P 17 48 34.0 -0.3**
comp=Z,66nm,0.7s,baz=179,slow=5.9,SNR=5.5
AB31 Akbulak array 61.10 332 *i*P **P 17 48 35.8 -1.4**
AB31 pmax pmax
comp=Z,198nm,1.3s
ABKAR Akbulak array 61.10 332 *e*P **P 17 48 36.4 -0.8**
YSS Yuzh-Sakhalins 61.46 32⇓*i*P **P 17 48 41.0 +1.4**
YSS *e* 17 48 47.5
YSS *e*S **S 17 56 58.0 -1.5**
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=E,1μm,18.0s
YSS MLR MLR
comp=Z,900nm,18.0s
YUK Yuzh-Kuril'sk 61.47 36 *c i*P P 17 48 36.5 -3.2
YUK *e* 17 50 55.5
YUK S **S 17 56 56.7 -3.0**
YUK pmax pmax
comp=Z,858nm,2.5s
YUK pmax pmax
comp=Z,293nm,1.5s
YUK pmax pmax
comp=E,111nm,1.8s
YUK pmax pmax
comp=N,127nm,1.5s
YUK MLR MLR
comp=Z,860nm,20.0s
KMBO Kilima Mbogo 62.23 270 P **P 17 48 46.9 +1.1**
KMBO LR LR
comp=Z,951nm,22.0s
KMBO Kilima Mbogo 62.23 270 P **P 17 48 46.9 +1.1**
comp=Z,14nm,0.8s,baz=59,slow=9.8,SNR=31
KMBO Kilima Mbogo 62.23 270 P **P 17 48 48.5 +2.7**
baz=62,SNR=4.2
AKTO Aktyubinsk 62.82 332 P **P 17 48 46.8 -1.9**
AKTO pmax pmax
comp=Z,111nm,1.4s
AKTO Aktyubinsk 62.82 332 PKP2bc **P'P'bc 18 17 57.5 -0.2**
comp=Z,0.4nm,0.3s,baz=11,slow=3.8,SNR=6.2
AKTO LR LR 18 19 52.9
comp=Z,479nm,20.6s,baz=291,slow=40
KUR Kuril'sk 63.32 36 *e*P **P 17 48 52.7 +0.6**
KUR *i*S **S 17 57 20.3 -2.7**
MAK Makhachkala 64.39 320 *e*P P 17 48 55.3 -3.9
MAK *e* 17 49 35.5
MAK *e* 17 51 19.5
MAK *e*PPP PPP 17 52 49.7
MAK *e*S **S 17 57 31.7 -4.7**
MAK *e*SS **SS 18 01 48.0 +1.3**
MAK pmax pmax
comp=Z,441nm,1.5s
HAKT HAKKARI 64.59 313 *i*P **P 17 48 59.6 -1.3**
GNI Garni 64.94 316 PFAKE 17 49 20.0 +17
GNI LR LR
comp=Z,316nm,21.0s
CASY Casey 64.97 175 PFAKE 17 49 10.0 +7.5
CASY LR LR
comp=Z,1μm,22.0s
DGRG David-gareji 65.08 318 P **P 17 49 04.8 +0.9**
GEVA Gevas 65.36 314 *i*P **P 17 49 05.5 -0.4**
TBLG Delisi 65.63 318 *e*P **P 17 49 07.8 +0.4**
TBLG Delisi 65.63 318 P **P 17 49 07.8 +0.4**
SVE Sverdlovsk 66.18 338⇑*i*P **P 17 49 10.7 +0.2**
SVE *e*S **S 17 57 54.8 -3.1**
SVE *e* 17 58 59.4
SVE pmax pmax
comp=Z,143nm,1.2s
SVE MLR MLR
comp=Z,572nm,22.0s
AKH Akhalkalaki 66.33 317 P P 17 49 16.1 +4.0
MARD Mardin 66.65 312 *i*P **P 17 49 13.9 -0.3**
ZEI Tsey 66.65 319 *e*P **P 17 49 14.2 0.0**
ZEI pmax pmax
comp=Z,24nm,0.6s
ARU Arti 66.70 337 *c i*P **P 17 49 13.0 -0.9**
ARU 17 49 39.9
ARU 17 51 37.3
ARU PPP PPP 17 53 18.8
ARU *e*S **S 17 58 03.7 -0.5**
ARU pmax pmax
comp=Z,51nm,1.2s
ARU MLR MLR
comp=Z,470nm,18.0s
ARU Arti 66.70 337 P **P 17 49 13.9 0.0**
comp=Z,358nm,1.0s,SNR=8.6
ONI Oni 66.87 318 P **P 17 49 16.1 +0.7**
ERZM Erzurum 67.20 315 *i*P **P 17 49 18.8 +1.0**
DAGI Agillar 67.28 316 *i*P **P 17 49 18.2 +0.1**
ARTV Artvin 67.31 316 *i*P **P 17 49 17.2 -1.2**
DDEM Demirkent 67.32 316 *i*P **P 17 49 18.4 +0.1**
DIYA Diyarbakir 67.36 312 *i*P **P 17 49 18.5 -0.1**
YAK Yakutsk 67.54 15 *c i*P **P 17 49 18.0 -1.1**
YAK *e**PP **pP 17 49 24.9 -1.7**
YAK *e* 17 49 46.0
YAK *e*PPP PPP 17 53 21.9
YAK *e*S **S 17 58 10.7 -3.4**
YAK *e* 17 59 12.6
YAK *e*SS **SS 18 02 30.7 -4.2**
YAK *e*SSS SSS 18 05 39.2
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=N,31nm,1.1s
YAK pmax pmax
comp=E,34nm,1.5s
YAK smax smax
comp=N,318nm,4.1s
YAK smax smax
comp=E,265nm,5.2s
YAK MLR MLR
comp=E,1μm,16.0s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,1μm,17.0s
DBOC Borcka 67.56 316 *i*P **P 17 49 19.7 0.0**
KBZ Khabaz 67.73 319 P **P 17 49 20.8 +0.2**
KBZ Khabaz 67.73 319 P **P 17 49 20.8 +0.2**
KBZ ⇑*e* 18 17 48.9
KBZ Khabaz 67.73 319 P **P 17 49 20.8 +0.2**
comp=N,27nm,0.8s,baz=125,slow=6.4,SNR=53
KBZ PKP2bc 18 17 48.9
comp=N,2.8nm,1.1s,baz=248,slow=18,SNR=3.5
KIV Kislovodsk 67.96 319 *e*P **P 17 49 22.2 -0.1**
KIV *e* 17 49 48.4
KIV *e*S **S 17 58 19.3 -0.8**
KIV pmax pmax
comp=Z,118nm,6.1s
KIV pmax pmax
comp=Z,101nm,1.1s
KIV Kislovodsk 67.96 319 P **P 17 49 22.8 +0.5**
comp=Z,466nm,1.4s,SNR=14
ASF Jabal al Asfar 67.99 306 P **P 17 49 23.6 +0.9**
ASF ⇑*e* 18 17 43.7
ASF Jabal al Asfar 67.99 306 P **P 17 49 23.6 +0.9**
comp=Z,7.2nm,0.9s,baz=79,slow=3.1,SNR=14
ASF PKP2bc 18 17 43.7
comp=Z,0.8nm,0.6s,baz=351,slow=8.8,SNR=4.2
ASF LR LR 18 18 25.4
comp=Z,947nm,20.7s,baz=282,slow=35
DZM Mont Dzumac 68.04 113 *e*P **P 17 49 23.8 +0.6**
comp=Z,140nm,1.6s
DZM *e*S S 17 58 15.6 -6.2
comp=Z,612nm,27.3s
DZM Mont Dzumac 68.04 113 *e*LR LR 18 09 40.4
comp=Z,1μm,24.3s
DZM Mont Dzumac 68.04 113 *e*P **P 17 49 22.7 -0.6**
DZM Mont Dzumac 68.04 113 P **P 17 49 23.1 -0.1**
comp=Z,7.5nm,0.8s,baz=300,slow=11,SNR=3.3
ATAB Bozova 68.55 311 *i*P **P 17 49 26.8 +0.7**
MALT Malatya 68.74 312 ⇓P P 17 49 30.5 +3.2
MALT Malatya 68.74 312 ⇓*i*P P 17 49 30.5 +3.2
KELT Kelkit 68.79 314 *i*P **P 17 49 27.7 0.0**
EIL Elat 68.92 303 P **P 17 49 29.0 +0.5**
EIL ⇑*e* 18 17 42.0
EIL Elat 68.92 303 P **P 17 49 29.0 +0.5**
comp=Z,15nm,1.0s,baz=122,slow=3.8,SNR=16
EIL PKP2bc 18 17 42.0
comp=Z,0.6nm,0.3s,baz=16,slow=6.2,SNR=5.0
EIL LR LR 18 17 55.4
comp=Z,1μm,20.9s,baz=104,slow=34
EIL Elat 68.92 303 P **P 17 49 28.9 +0.4**
baz=69,SNR=9.9
GZT Gaziantep 69.06 311 *i*P **P 17 49 30.1 +0.7**
KUZU Kuzuini 69.25 310 *i*P **P 17 49 30.3 -0.1**
MMAI Mount Meron Ar 69.44 306 P **P 17 49 32.7 +1.0**
MMAI Mount Meron Ar 69.44 306 P **P 17 49 32.7 +1.0**
comp=Z,4.8nm,0.6s,baz=90,slow=8.7,SNR=11
SUSE Susehri 69.57 314 *i*P **P 17 49 30.3 -2.1**
SOC Sochi 69.77 318 *e*P **P 17 49 32.1 -1.3**
SOC *e**PP **pP 17 49 38.9 -2.1**
SOC *e* 17 49 49.7
SOC *e* 17 52 05.8
SOC *e*S **S 17 58 38.6 -2.7**
SOC *e* 17 59 29.9
SOC pmax pmax
comp=Z,48nm,0.8s
SOC MLR MLR
comp=Z,370nm,22.0s
ANDN Andirin 70.06 311 *i*P **P 17 49 33.4 -2.1**
SCER sogukcermik 70.22 314 *i*P **P 17 49 36.6 +0.2**
MAW Mawson 70.49 194 P **P 17 49 39.3 +1.9**
MAW ⇑*e* 18 17 38.4
MAW Mawson 70.49 194 P **P 17 49 39.3 +1.9**
comp=Z,17nm,1.0s,baz=39,slow=8.0,SNR=23
MAW LR LR 18 14 33.5
comp=Z,715nm,20.1s,baz=35,slow=31
MAW PKP2bc 18 17 38.4

comp=Z,0.6nm,0.3s,baz=141,slow=2.7,SNR=3.9
MAW Mawson 70.49 194 P **P 17 49 39.3 +1.9**
baz=70,SNR=20
ERBA Erbaa 70.77 314 *i* P P 17 49 30.2 -9.5
DRV Dumont d'Urvil 70.78 164 P P 17 49 32.0 -7.1
DRV S S 17 58 42.0 -10
TOKA Tokat 70.84 314 *i* P **P 17 49 40.0 -0.2**
SKR Severo-Kuril's 70.87 34 *e*P P 17 49 33.5 -6.4
SKR *e* 17 52 18.0
SKR *e*S **S 17 58 52.0 -1.8**
SKR *e* 17 59 16.0
SKR pmax pmax
comp=Z,640nm,1.5s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax smax
comp=N,1μm,12.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,18.0s
LSZ Lusaka 71.55 255 PFAKE 17 50 00.0 +15
LSZ LR LR
comp=Z,1μm,20.0s
CSS Prodhromos 71.62 308 *e*P **P 17 49 42.7 -2.3**
comp=Z,187nm,1.6s
CSS LR LR
comp=Z,676nm,20.0s
HAVZ Havza 71.64 314 *i* P **P 17 49 44.2 -0.8**
ANN Anapa 71.75 319 *e*P **P 17 49 43.0 -2.4**
ANN *e*S **S 17 59 03.1 -1.2**
ANN pmax pmax
comp=Z,163nm,5.5s
VRHR Novokhopersk 71.77 326 *e*P **P 17 49 44.4 -1.0**
VRHR *e**PP **pP 17 49 51.4 -1.6**
VRHR *e*S **S 17 59 04.0 -0.3**
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR pmax pmax
comp=Z,80nm,0.9s
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR smax smax
comp=E,220nm,3.2s
VRHR smax smax
comp=Z,100nm,3.2s
VRHR smax smax
comp=N,60nm,1.6s
VRHR MLR MLR
comp=N,110nm,17.0s
VRHR MLR MLR
comp=E,230nm,17.0s
VRHR MLR MLR
comp=Z,460nm,17.0s
CDAG Cicekdag 72.16 313 *i* P **P 17 49 46.8 -1.3**
ERMK Ermenek 72.40 309 *i* P **P 17 49 48.9 -0.9**
BR131 Keskin Array S 72.73 313 *e*P **P 17 49 49.2 -2.4**
comp=Z,6.9nm,0.7s
BRTR Keskin Array B 72.73 313 P **P 17 49 50.7 -0.9**
BRTR Keskin Array B 72.73 313 P **P 17 49 50.7 -0.9**
comp=Z,8.4nm,0.7s,baz=132,slow=6.4,SNR=54
BRTR LR LR 18 21 02.6
comp=Z,274nm,21.1s,baz=314,slow=35
GAZI Gazipasa 72.76 309 *i* P **P 17 49 50.6 -1.1**
PETK Petropavlovsk- 72.86 32 P **P 17 49 51.5 -0.4**
PETK Petropavlovsk- 72.86 32 P **P 17 49 51.5 -0.4**
PETK Petropavlovsk- 72.86 32 P **P 17 49 51.5 -0.4**
comp=Z,7.6nm,0.9s,baz=191,slow=4.5,SNR=4.7
PETK LR LR 18 23 21.9
comp=Z,460nm,18.0s,baz=155,slow=37
VORD Divnogorie 73.04 325 *e*P **P 17 49 52.0 -1.0**
VORD *e**PP **pP 17 49 59.5 -1.1**
VORD pmax pmax
comp=E,60nm,1.0s
VORD pmax pmax
comp=Z,40nm,1.0s
VORD pmax pmax
comp=N,40nm,0.5s
BBAL Bala 73.06 312 *i* P **P 17 49 52.5 -1.0**
ILGA Ilgaz 73.07 314 *i* P **P 17 49 53.0 -0.7**
VSR Storozhevoye 73.22 325 *e*P **P 17 49 52.8 -1.2**
VSR *e**PP **pP 17 49 59.3 -2.4**
VSR *e*S **S 17 59 20.1 -0.7**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s
VSR smax smax
comp=N,80nm,3.0s
VSR smax smax
comp=E,50nm,3.0s
VSR smax smax
comp=Z,50nm,3.0s
VSR MLR MLR
comp=Z,540nm,23.0s
VSR MLR MLR
comp=N,110nm,11.0s
VSR MLR MLR
comp=E,40nm,11.0s
PET Petropavlovsk 73.34 33 *e*P **P 17 49 55.3 +0.6**
PET *e*S **S 17 59 22.0 -0.1**
PET *e*SP **ScS 18 00 02.4 +0.6**
PET pmax pmax
comp=Z,98nm,1.3s
PET pmax pmax
comp=Z,300nm,12.4s
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,1μm,14.0s
ANTO Ankara 73.39 312 *e*P **P 17 49 53.5 -1.9**
ANTO MLR MLR
comp=Z,260nm,19.0s
ANTO Ankara 73.39 312 *e*P **P 17 49 53.5 -1.9**
ANTO LR LR
comp=Z,260nm,19.0s
VOR Voronezh 73.41 326 *e*P **P 17 49 55.0 -0.2**
VOR pmax pmax
comp=Z,350nm,1.0s
KDHN Kadinhani 73.52 311 *i* P **P 17 49 54.9 -1.4**
KORT Korkueli 74.48 309 *i* P **P 17 50 01.1 -0.8**
ISP Isparta 74.55 310 *e*P **P 17 50 00.0 -2.3**
ISP pmax pmax
comp=Z,73nm,1.4s
ISP MLR MLR
comp=Z,448nm,22.0s
ISP Isparta 74.55 310 *e*P **P 17 50 00.0 -2.3**
comp=Z,73nm,1.4s
ISP LR LR
comp=Z,448nm,22.0s
LBTB Lobatse 74.72 245 *e*P **P 17 50 04.8 +1.2**
comp=Z,19nm,1.0s
SEYT Eskypehyr 74.74 312 *i* P **P 17 50 02.8 -0.6**
AKAS Kas 74.88 308 *i* P P 17 50 09.3 +5.0
BOSA Boshof 75.39 241 P **P 17 50 08.2 +0.8**
BOSA Boshof 75.39 241 P **P 17 50 08.2 +0.8**
comp=Z,11nm,0.7s,baz=78,slow=4.9,SNR=28
BOSA LR LR 18 17 00.6
comp=Z,958nm,21.3s,baz=96,slow=31
SEY Seymchan 75.50 22 ⇓*i*P **P 17 50 07.9 +0.8**
RPZ Rata Peaks 75.57 135 *e*P **P 17 50 05.4 -2.6**
comp=Z,377nm,1.6s
RPZ Rata Peaks 75.57 135 P **P 17 50 08.7 +0.8**
comp=Z,28nm,0.5s,baz=274,slow=3.6,SNR=14
TIXI Tiksi 75.60 9 *d*⇑*i*P **P 17 50 07.3 -0.2**
TIXI pmax pmax
comp=Z,144nm,2.5s
MOS Moscow 75.95 329 *e*P **P 17 50 07.4 -2.4**
MOS *e* 17 50 14.4
MOS *e* 17 52 58.2
MOS *e*S **S 17 59 48.7 -2.5**
MOS pmax pmax
comp=Z,500nm,2.2s
MOS pmax pmax
comp=Z,187nm,1.7s
ULDT Uludag 76.17 312 *i* P **P 17 50 10.2 -1.5**
DEMI Demirci 76.22 311 *i* P **P 17 50 11.0 -0.9**
OBN Obninsk 76.24 328⇑*e*P **P 17 50 11.1 -0.4**
OBN *e* 17 53 00.5
OBN *i* S **S 17 59 51.8 -2.6**
OBN pmax pmax
comp=Z,231nm,2.5s
OBN Obninsk 76.24 328 P **P 17 50 12.7 +1.2**
comp=Z,857nm,1.6s,SNR=16

DURS Dursunbey 76.54 311 *i* P P 17 50 10.2 -3.4
KARP Karpathos 76.67 307 *e*P **P 17 50 14.4 0.0**
AKHS Akhisar 76.87 310 *i* P **P 17 50 15.1 -0.3**
TLCR 77.67 317 ⇓P **P 17 50 19.5 -0.3**
TLCR 77.67 317 ⇓*i*P **P 17 50 19.5 -0.3**
PSN Preselentsi 77.73 315 *e*P **P 17 50 19.8 -0.3**
TIRR Tirgusor 77.77 316 *e*P **P 17 50 19.1 -1.2**
TIRR pmax pmax
comp=Z,74nm,1.5s
TIRR Tirgusor 77.77 316 ⇓*i*P **P 17 50 18.7 -1.6**
TIRR Tirgusor 77.77 316 *e*P **P 17 50 19.1 -1.2**
comp=Z,74nm,1.5s
NPS Neapolis 77.85 306 *e*P **P 17 50 21.4 +0.4**
LAST Lasithi 77.94 306 *e*P **P 17 50 21.9 +0.3**
SYO Syowa Base 78.03 199⇓*e*P **P 17 50 21.2 -0.1**
TLB Topalu 78.05 316⇑P **P 17 50 21.5 -0.4**
TLB Topalu 78.05 316⇑*i*P **P 17 50 21.5 -0.4**
CHOS Chios island 78.11 310 *e*P **P 17 50 23.2 +0.7**
CFR Carcaliu 78.14 317 ⇓P **P 17 50 21.8 -0.5**
CFR Carcaliu 78.14 317 ⇓*i*P **P 17 50 21.8 -0.5**
KIS Kishinev 78.15 319 *e*P **P 17 50 21.0 -1.4**
comp=Z,200nm,1.6s
KIS Kishinev 78.15 319 *e*PP PP 17 53 20.0 +0.9
KIS *e*S **S 18 00 11.0 -4.5**
KIS *e*ScS SKSac 18 00 24.0 -11
KIS Kishinev 78.15 319 *e*PS 18 00 48.0
KIS *e*SSS SSS 18 09 10.0
KIS *e*L L 18 18 40.0
KIS LRM MLR 18 31 20.0
comp=Z,400nm,18.0s
KIS Kishinev 78.15 319 *e*P **P 17 50 21.0 -1.4**
KIS *i* 17 50 28.0
KIS *e* 17 50 32.0
KIS *e* 17 53 20.0
KIS *e*S **S 18 00 11.0 -4.5**
KIS *e* 18 00 24.0
KIS *e*PS PnS 18 00 48.0 -10
KIS pmax pmax
comp=Z,180nm,1.6s
HARR Harsova 78.16 316 ⇓P **P 17 50 21.0 -1.5**
HARR Harsova 78.16 316 ⇓*i*P **P 17 50 21.0 -1.5**
PRD Provadia 78.17 315 *e*P P 17 50 29.2 +6.6
SANT Santorini 78.18 308 PFAKE 17 50 30.0 +7.1
SANT LR LR
comp=Z,471nm,22.0s
MSVF Nonsavu 78.59 108 PFAKE 17 50 40.0 +14
MSVF LR LR
comp=Z,559nm,20.0s
AKASG Malin Array Be 78.91 322 *i* P **P 17 50 26.2 -0.3**
AKASG Malin Array Be 78.91 322 P **P 17 50 26.2 -0.3**
AKASG Malin Array Be 78.91 322 P **P 17 50 26.2 -0.3**
comp=Z,3.5nm,0.6s,baz=83,slow=5.4,SNR=18
KIEV Kiev 78.92 322 *e*P **P 17 50 25.6 -0.9**
KIEV pmax pmax
comp=Z,76nm,1.6s
KIEV MLR MLR
comp=Z,480nm,21.0s
KIEV Kiev 78.92 322 *e*P **P 17 50 25.6 -0.9**
comp=Z,76nm,1.6s
KIEV LR LR
comp=Z,480nm,21.0s
SMTH Samothraki Isl 78.93 312 *e*P **P 17 50 26.2 -0.7**
VAM Vamos 79.01 306 *e*P **P 17 50 28.6 +1.2**
RDO Rodhopi 79.07 312 *e*P **P 17 50 27.1 -0.5**
ISR Istrita 79.22 316⇑P **P 17 50 28.0 -0.4**
ISR Istrita 79.22 316⇑*i*P **P 17 50 28.0 -0.4**
SZH Strazhica 79.23 315 *e*P **P 17 50 28.1 -0.3**
VRI Vrincioaia 79.27 317⇑P **P 17 50 29.0 +0.4**
VRI Vrincioaia 79.27 317⇑*i*P **P 17 50 29.0 +0.4**
PLOR Plostina 79.31 317⇑P **P 17 50 29.1 +0.2**
PLOR Plostina 79.31 317⇑*i*P **P 17 50 29.1 +0.2**
TMCR Tamitsa 79.43 337 *e*P **P 17 50 30.0 +1.0**
TMCR *e* 17 50 37.1
TMCR *e* 17 53 34.4
TMCR pmax pmax
comp=Z,31nm,0.7s
TESR Tescani 79.47 318⇑*i*P **P 17 50 29.7 0.0**
FUNA Funafuti 79.56 98 PFAKE 17 50 40.0 +9.2
FUNA LR LR
comp=Z,13μm,20.0s
SUR Sutherland 79.56 238 LR LR 18 18 26.1
comp=Z,2μm,21.6s,baz=52,slow=30
MLR Muntele Rosu 79.71 317⇑*i*P **P 17 50 31.3 +0.1**
MLR Muntele Rosu 79.71 317 P **P 17 50 31.4 +0.2**
MLR Muntele Rosu 79.71 317 P **P 17 50 31.4 +0.2**
comp=Z,7.7nm,0.9s,baz=56,slow=3.6,SNR=42
PLD Plovdiv 79.87 313 *e*P **P 17 50 31.0 -0.9**
DID Didima 80.14 308 *e*P **P 17 50 32.6 -0.9**
PAIG Paliouri 80.22 311 *e*P P 17 50 26.9 -7.0
VLI Veliai 80.24 308 *e*P **P 17 50 34.1 0.0**
VOIR 80.32 317 ⇓P **P 17 50 34.2 -0.2**
VOIR 80.32 317 ⇓*i*P **P 17 50 34.2 -0.2**
NVR Nevrokopi 80.34 312 *e*P **P 17 50 33.5 -1.1**
NEO Neokhori 80.46 310 *e*P P 17 50 28.7 -6.5
MMB Musomiste 80.49 312 *e*P **P 17 50 34.1 -1.2**
ARR Arges 80.59 316⇑*i*P **P 17 50 36.0 +0.2**
BURAR Bucovina Array 80.68 319⇑P **P 17 50 37.0 +0.7**
BURAR Bucovina Array 80.68 319⇑*i*P **P 17 50 37.0 +0.7**
DYR Agios Nikonas 80.73 307 *e*P **P 17 50 36.6 -0.1**
MICGM Minsk 80.77 326⇓*e*P **P 17 50 35.0 -1.5**
MNK Minsk 80.79 326⇓*e*P **P 17 50 35.0 -1.6**
MNK pmax pmax
comp=Z,110nm,1.5s
MNK pmax pmax
comp=E,190nm,1.5s
MPEP Malo Peshtene 80.81 314 *e*P **P 17 50 36.6 -0.4**
GUR Goura 80.91 309 *e*P P 17 50 29.2 -8.6
KKB Krupnik 81.01 313 *e*P **P 17 50 37.4 -0.7**
VTS Vitosha 81.05 313⇑P **P 17 50 37.9 -0.6**
VTS Vitosha 81.05 313 *e*P **P 17 50 36.8 -1.7**
VTS Vitosha 81.05 313⇑*i*P **P 17 50 37.9 -0.6**
KLV Kalavryta, Ach 81.08 309 *e*P **P 17 50 38.3 -0.3**
AGG Agios Georgios 81.09 310 *e*P **P 17 50 37.4 -1.2**
TRIZ Trizonia 81.19 309 *e*P **P 17 50 38.1 -1.0**
PYL PYLOS 81.22 308 *e*P **P 17 50 38.3 -1.0**
LAKA Lakka 81.24 309 *e*P **P 17 50 38.7 -0.7**
VAY Valandovo 81.30 312 *e*P **P 17 50 37.9 -1.7**
VAY Valandovo 81.30 312 *i* P **P 17 50 38.0 -1.6**
GRG Griva 81.36 312 *e*P **P 17 50 39.3 -0.7**
THL Klokotos Trika 81.42 310 *e*P **P 17 50 38.8 -1.5**
NACGM Naroch 81.49 326 *e* P 17 50 37.0 -3.3
FX1 Attu Island--F 81.51 36 *e*P **P 17 50 40.0 -0.5**
IDID Didziasalis 81.62 327 *e*P **P 17 50 41.3 +0.3**
IDID AMB AMB 17 50 50.0
comp=Z,32nm,1.2s
JOF Joensuu 81.70 335 *e*P **P 17 50 41.7 +0.5**
JOF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 81.70 335 *e*p **P 17 50 41.7 +0.5**
comp=Z,9.4nm,0.8s
GZR Gura Zlata 81.88 316⇑*i*P **P 17 50 42.4 -0.3**
DEV Deva 81.88 317 ⇓*i*P **P 17 50 44.3 +1.7**
IIGN Ignalina 81.92 326 *e*P **P 17 50 42.8 +0.3**
IIGN AMB AMB 17 50 51.3
comp=Z,42nm,1.4s
LVV L'vov 81.92 321 *e*P **P 17 50 42.1 -0.6**
LVV *e* 17 50 50.1
LVV *e*S **S 18 00 50.3 -4.9**
LVV MLR MLR
comp=Z,200nm,18.0s
LVV MLR MLR
comp=N,100nm,19.0s
LVV MLR MLR
comp=E,200nm,20.0s
ISAL Salakas 82.03 327 *e*P **P 17 50 43.5 +0.4**
ISAL AMB AMB 17 50 52.0
comp=Z,31nm,1.4s
DRGR 82.18 318⇑P **P 17 50 45.0 +0.7**
DRGR 82.18 318⇑*i*P **P 17 50 45.0 +0.7**
SKO Skopje 82.24 313 *e*P **P 17 50 43.8 -0.8**
SKO Skopje 82.24 313 *e*P **P 17 50 43.8 -0.8**
LVZ Lovozero 82.29 340 *e*P **P 17 50 44.4 +0.1**
LVZ pmax pmax
comp=Z,18nm,1.2s
LVZ Lovozero 82.29 340 P **P 17 50 44.5 +0.1**
comp=Z,284nm,1.2s,SNR=5.3
LKD2 Lefkada island 82.35 309 *e*P **P 17 50 44.8 -0.4**
TRPA Tarpa 82.55 319⇑*i*P **P 17 50 46.1 +0.1**
VNDA Vanda 82.59 169 *e*P **P 17 50 46.6 +0.9**
comp=Z,137nm,2.1s
VNDA Vanda 82.59 169 P **P 17 50 46.6 +0.9**
comp=Z,3.3nm,0.7s,baz=305,slow=5.5,SNR=21

VNDA LR LR 18 24 50.8
comp=Z,387nm,19.6s,baz=305,slow=34
APA Apatity 82.59 339⇓*i*P **P 17 50 47.6 +1.8**
APA *i* 17 50 54.0
APA MLR MLR
comp=Z,700nm,18.0s
RAO Raoul Island 82.72 119 LR LR 18 32 12.3
comp=Z,831nm,18.2s,baz=231,slow=39
BZS Buzias 82.72 316 ⇓P **P 17 50 46.8 -0.2**
BZS Buzias 82.72 316 ⇓*i*P **P 17 50 46.8 -0.2**
KWP Kalwaria Pacla 82.72 320⇑P **P 17 50 47.3 +0.4**
KWP Kalwaria Pacla 82.72 320⇑*i*P **P 17 50 47.3 +0.4**
KWP Kalwaria Pacla 82.72 320 PFAKE 17 51 00.0 +13
KWP LR LR
comp=Z,402nm,22.0s
KWP Kalwaria Pacla 82.72 320 *e*P **P 17 50 47.1 +0.2**
KWP *e* 17 50 52.3
UZH Uzhgorod 82.80 319 *e*P **P 17 50 47.5 +0.2**
UZH *e* 17 51 06.1
UZH *e*S **S 18 01 02.3 -1.9**
KOLS Kolonicke sedl 82.87 320 *e*P **P 17 50 48.6 +0.8**
KOLS *e* 17 50 54.9
KOLS pmax pmax
comp=Z,115nm,1.4s
KOLS Kolonicke sedl 82.87 320 *e*P **P 17 50 48.5 +0.8**
KOLS *e*pP **pP 17 50 54.9 -0.6**
KEK Kerkira 83.14 310 *e*P **P 17 50 48.9 -0.4**
TIR Tirane 83.31 312 PFAKE 17 51 00.0 +10
TIR LR LR
comp=Z,367nm,21.0s
SUW Suwalki 83.32 325 *e*P **P 17 50 48.1 -1.8**
SUW pmax pmax
comp=Z,250nm,1.2s
SUW Suwalki 83.32 325 *e*P **P 17 50 48.1 -1.8**
comp=Z,250nm,1.2s
SUW Suwalki 83.32 325 *e*P **P 17 50 49.6 -0.3**
SUW *e* 17 50 56.7
CRVS Cervenica-Dubn 83.39 319 *e*P **P 17 50 51.0 +0.6**
CRVS pmax pmax
comp=Z,49nm,1.4s
CRVS Cervenica-Dubn 83.39 319 *e*P **P 17 50 51.0 +0.6**
IVA Berane 83.51 313 ⇓*i*P **P 17 50 50.8 -0.5**
FIA1 FINESS Array S 83.58 332 *e*P **P 17 50 48.8 -2.2**
FINES FINESS Array B 83.58 332 P **P 17 50 51.2 +0.2**
FINES FINESS Array B 83.58 332 P **P 17 50 51.2 +0.2**
comp=Z,13nm,0.7s,baz=106,slow=5.6,SNR=62
FINES LR LR 18 34 57.3
comp=Z,527nm,18.0s,baz=306,slow=40
STHS Stebnicka Huta 83.62 320 *e*P **P 17 50 52.5 +0.9**
STHS pmax pmax
comp=Z,22nm,1.3s
STHS Stebnicka Huta 83.62 320 *e*P **P 17 50 52.5 +0.9**
KAF Kangasniemi 83.66 333 *e*P **P 17 50 51.8 +0.4**
KAF pmax pmax
comp=Z,26nm,0.7s
KAF Kangasniemi 83.66 333 *e*p **P 17 50 51.8 +0.4**
comp=Z,26nm,0.7s
SBA Scott Base 83.69 169 *e*P **P 17 50 53.3 +2.0**
SBA pmax pmax
comp=Z,42nm,1.0s
SBA Scott Base 83.69 169 *e*P **P 17 50 53.3 +2.0**
comp=Z,42nm,1.0s
ULC Ulcinj 83.86 312 *e*P **P 17 50 52.1 -0.9**
TTG Podgorica 83.91 313 ⇓*i*P **P 17 50 52.8 -0.4**
DRME Dracevica, Mon 83.93 313⇑*i*P **P 17 50 53.1 -0.2**
KECS Kecovo 83.96 319 *e*P **P 17 50 54.3 +1.0**
KECS pmax pmax
comp=Z,17nm,1.4s
KECS Kecovo 83.96 319 *e*P **P 17 50 54.3 +1.0**
PKSN Nyarlorinc 84.12 317⇑*e*P **P 17 50 54.9 +0.7**
NKY Niksic 84.16 313⇑*i*P **P 17 50 54.0 -0.6**
BUM Brajici-Budva 84.16 313 *e*P **P 17 50 54.5 -0.1**
NKME Niksic 84.18 313 ⇓*i*P **P 17 50 53.9 -0.7**
NIE Niedzica 84.22 320 *e*P **P 17 50 57.2 +2.5**
NIE *e**PP **pP 17 51 03.6 +1.2**
PSZ Piszkesteto 84.26 318⇑P **P 17 50 54.7 -0.3**
PSZ Piszkesteto 84.26 318⇑*i*P **P 17 50 54.7 -0.3**
PSZ Piszkesteto 84.26 318 *e*P **P 17 50 55.5 +0.5**
comp=Z,136nm,1.7s
PSZ LR LR
comp=Z,317nm,22.0s
PSZ Piszkesteto 84.26 318⇑*e*P **P 17 50 54.9 -0.1**
UPM Unac-Piva 84.27 314 ⇓*i*P **P 17 50 54.2 -1.1**
BEL Belsk 84.33 322 *e*P **P 17 50 55.5 +0.4**
BEL *e* 17 51 02.9
HCY Herceg Novi 84.47 313 ⇓*i*P **P 17 50 56.1 0.0**
BRY Bratogost 84.50 313 *e*P **P 17 50 55.9 -0.5**
OJC Ojcow 84.68 321⇑*i*P **P 17 50 56.7 -0.2**
OJC *e**PP **pP 17 51 05.0 +0.3**
OJC Ojcow 84.68 321 *e*P **P 17 50 56.8 -0.1**
comp=Z,53nm,1.2s
PKSM Moragy 84.86 316⇑P **P 17 50 57.8 -0.1**
PKSM Moragy 84.86 316⇑*i*P **P 17 50 57.8 -0.1**
PKSM Moragy 84.86 316⇑*e*P **P 17 50 58.0 +0.1**
VYHS Vyhne 85.05 319 *e*P **P 17 50 59.0 +0.2**
VYHS pmax pmax
comp=Z,45nm,1.6s
VYHS Vyhne 85.05 319 *e*P **P 17 50 59.0 +0.2**
VYHS Vyhne 85.05 319 *e*S **S 18 01 28.1 +1.2**
PKSG 85.19 318⇑*e*P **P 17 51 00.7 +1.2**
PKST T"s 85.41 317⇑*e*P **P 17 51 00.5 -0.2**
OKC Ostrava-Krasne 85.68 320 *e*P **P 17 51 02.1 +0.2**
OKC *e* 17 51 08.5
OKC *e* 17 51 21.1
OKC *e* 18 01 26.8
OKC MLR MLR
comp=Z,300nm,15.9s
OKC Ostrava-Krasne 85.68 320 *e*P **P 17 51 02.1 +0.2**
OKC *e*pP **pP 17 51 08.5 -1.2**
OKC *e*x x 17 51 21.1
OKC *e*SKS S 18 01 26.8 -6.2
OKC AMS AMS 18 34 30.0
comp=Z,300nm,15.9s
MSKU Masuku 85.85 268 PFAKE 17 51 10.0 +6.4
MSKU LR LR
comp=Z,2.0nm,21.0s
ARCES ARCESS Array B 85.98 340 P **P 17 51 03.7 +0.6**
ARCES ARCESS Array B 85.98 340 P **P 17 51 03.7 +0.6**
comp=Z,14nm,0.7s,baz=89,slow=6.4,SNR=34
ARCES LR LR 18 33 24.6
comp=Z,470nm,20.6s,baz=220,slow=38
ARE0 ARCESS Array S 85.98 340 *e*P **P 17 51 04.4 +1.3**
ARE0 *e*SKS S 18 01 27.1 -8.2
ARE0 ARCESS Array S 85.98 340 *e*P **P 17 51 02.7 -0.4**
CEL Celeste 85.99 308 *e*P **P 17 51 04.5 +0.7**
CEL LR LR
comp=Z,260nm,19.0s
MORC Moravsky Berou 86.06 320 *e*P **P 17 51 03.5 -0.4**
MORC Moravsky Berou 86.06 320 *e*P **P 17 51 03.5 -0.4**
ZST Bratislava 86.15 318 *e*P **P 17 51 04.5 +0.2**
ZST Bratislava 86.15 318 *e*P **P 17 51 04.5 +0.2**
BEHE Becsehely 86.18 317⇑*e*P **P 17 51 03.6 -0.9**
CUC Castrocucco 86.21 310 *e*P **P 17 51 04.8 -0.1**
comp=Z,42nm,1.5s
CUC LR LR
comp=Z,326nm,21.0s
KOGS Kog 86.53 317 *e*P **P 17 51 05.9 -0.3**
KTK1 Kautokeino 86.64 339 *e*P **P 17 51 07.7 +1.4**
KTK1 AMB AMB 17 51 16.3
comp=Z,660nm,1.3s
GKP Gorka Klasztor 86.69 323 *e*P **P 17 51 06.8 0.0**
GKP *e* 17 51 13.8
WDD Wield Dalam 86.89 306 PFAKE 17 51 20.0 +12
WDD LR LR
comp=Z,274nm,20.0s
DPC Dobruska-Polom 86.91 320 *e*P **P 17 51 08.5 +0.5**
DPC *e* 17 51 15.0
DPC *e* 18 01 34.8
DPC Dobruska-Polom 86.91 320 *e*P **P 17 51 08.5 +0.5**
DPC *e*pP **pP 17 51 15.0 -0.8**
DPC *e*x x 17 51 28.5
DPC *e*SKS S 18 01 34.8 -10
DPC AMS AMS 18 38 30.0
DPC Dobruska-Polom 86.91 320 *e*P **P 17 51 08.6 +0.6**
KSP Ksiaz 86.98 321⇑*e*P **P 17 51 08.9 +0.6**
KSP *e**PP **pP 17 51 14.0 -2.1**
KSP *e*S **S 18 01 42.0 -3.7**
KSP Ksiaz 86.98 321 *e*P **P 17 51 08.9 +0.6**
KSP *e* 17 51 16.0
ARSA Arzberg 87.11 317 *i* P **P 17 51 09.5 +0.4**
comp=Z,51nm,1.4s,SNR=9.6
UPC Upice 87.12 321 *e*P **P 17 51 09.6 +0.6**
UPC *e* 17 51 17.1

UPC	**Upice**	**87.12 321**	*e*P	**P**	**17 51 09.6 +0.6**
UPC			*e*pP	**pP**	**17 51 17.1 +0.3**
UPC			*e*x	x	17 51 32.7
BOJS	**Bojanci**	**87.14 316**	*e*P	**P**	**17 51 09.0 -0.2**
BOJS			*i* pP	**pP**	**17 51 16.6 -0.4**
PERS	**Pernice**	**87.33 317**	*e*P	**P**	**17 51 10.4 +0.2**
PERS			*e*pP	**pP**	**17 51 17.7 -0.3**
TREC	**Trest**	**87.33 319**	*e*P	**P**	**17 51 10.2 +0.1**
TREC			*e*		17 51 16.6
TREC			*e*		17 51 26.7
TREC			*e*		18 01 50.6
TREC		MLR	MLR		
comp=Z,300nm,23.8s					
TREC	**Trest**	**87.33 319**	*e*P	**P**	**17 51 10.2 +0.1**
TREC			*e*pP	**pP**	**17 51 16.6 -1.3**
TREC			*e*x	x	17 51 26.7
TREC			*e*S	**S**	**18 01 50.6 +1.4**
TREC		AMS	AMS		18 35 20.0
comp=Z,300nm,23.8s					
SOKA	**Soboth**	**87.39 317** ⇓	*i* P	**P**	**17 51 10.8 +0.3**
comp=Z,64nm,1.5s,SNR=10					
ADK	**Adak**	**87.46 38**	*e*P	**P**	**17 51 11.4 +0.8**
ADK		pmax	pmax		
comp=Z,135nm,1.3s					
ADK		MLR	MLR		
comp=Z,403nm,20.0s					
ADK	**Adak**	**87.46 38**	*e*P	**P**	**17 51 11.4 +0.8**
comp=Z,135nm,1.3s					
ADK		LR	LR		
comp=Z,403nm,20.0s					
LJU	**Ljubljana**	**87.69 316**	*e*P	**P**	**17 51 12.1 +0.2**
LJU			*e*pP	**pP**	**17 51 19.7 0.0**
MAIT	**Maitri**	**87.71 199**	*e*P	**P**	**17 51 11.4 0.0**
PRU	**Pruhonice**	**88.01 320**	*e*P	**P**	**17 51 13.0 -0.3**
PRU			*e*		17 51 20.0
PRU			*e*		17 51 31.7
PRU			*e*		18 01 41.1
PRU		MLR	MLR		
comp=Z,400nm,21.5s					
PRU	**Pruhonice**	**88.01 320**	*e*P	**P**	**17 51 13.0 -0.3**
PRU			*e*pP	**pP**	**17 51 20.0 -1.1**
PRU			*e*x	x	17 51 31.7
PRU			*e*SKS	S	18 01 41.1 -14
PRU		AMS	AMS		18 35 40.0
comp=Z,400nm,21.5s					
MOA	**Molln**	**88.01 318** ⇑	*i* P	**P**	**17 51 12.5 -0.9**
comp=Z,25nm,1.4s					
PVCC	**Panska Ves**	**88.04 320**	*e*P	**P**	**17 51 14.8 +1.4**
PVCC			*e*		17 51 21.1
PVCC	**Panska Ves**	**88.04 320**	*e*P	**P**	**17 51 14.8 +1.4**
PVCC			*e*pP	**pP**	**17 51 21.1 -0.1**
PRA	**Prague**	**88.09 320**	P	**P**	**17 51 14.0 +0.3**
PRA		AMS	AMS		18 36 30.0
AQU	**L'Aquila**	**88.22 312**	*e*P	**P**	**17 51 15.6 +1.1**
AQU		LR	LR		
comp=Z,482nm,20.0s					
BSD	**Bornholm Skovb**	**88.24 325** ⇑	*i* P	**P**	**17 51 14.3 0.0**
BSD		pmax	pmax		
comp=Z,16nm,0.8s					
BSD	**Bornholm Skovb**	**88.24 325** ⇑	*i* P	**P**	**17 51 14.3 0.0**
comp=Z,16nm,0.7s					
TRO	**Tromso**	**88.26 340**	*e*P	**P**	**17 51 13.4 -0.6**
TRO		AMB	AMB		17 51 23.0
comp=Z,137nm,0.7s					
TRO		*e*SKS	**SKSac**		**18 01 40.4 -0.6**
QSPA	**South Pole Qui**	**88.30 180**	P	**P**	**17 51 15.6 +1.1**
QSPA		LR	LR		
comp=Z,645nm,20.0s					
QSPA	**South Pole Qui**	**88.30 180**	P	**P**	**17 51 15.6 +1.1**
comp=Z,8.7nm,0.7s,baz=288,slow=1.7,SNR=58					
MYKA	**Terra Mystica**	**88.34 317** ⇓	*i* PcP	**P**	**17 51 15.7 +0.6**
comp=Z,57nm,1.7s,SNR=6.2					
AFI	**Afiamalu**	**88.36 104**	P	**P**	**17 51 17.0 +1.2**
AFI	**Afiamalu**	**88.36 104**	P	**P**	**17 51 17.0 +1.2**
comp=Z,34nm,1.0s,baz=214,slow=21,SNR=3.8					
BRG	**Berggiesshubel**	**88.47 321**	*i* P	**P**	**17 51 16.0 +0.6**
comp=Z,114nm,2.0s					
BRG			*e*		17 51 23.8
comp=Z,115nm,1.6s					
BRG	**Berggiesshubel**	**88.47 321**	*e*P	**P**	**17 51 16.0 +0.6**
comp=Z,113nm,2.0s					
BRG			*e*pP	**pP**	**17 51 22.4 -0.8**
BRG	**Berggiesshubel**	**88.47 321**	*i* P	**P**	**17 51 16.0 +0.6**
BRG			*e*		17 51 23.8
BRG		pmax	pmax		
comp=Z,114nm,1.6s					
GEC2	**GERESS Array S**	**88.47 319**	*e*P	**P**	**17 51 16.0 +0.4**
comp=Z,136nm,2.0s					
GEC2			*e*pP	**pP**	**17 51 22.4 -1.0**
GEC2	**GERESS Array S**	**88.47 319**	*e*P	**P**	**17 51 16.0 +0.4**
GEC2			*e**PP	**pP**	**17 51 22.4 -1.0**
GEC2		pmax	pmax		
comp=Z,136nm,2.0s					
GERES	**GERESS Array B**	**88.47 319**	P	**P**	**17 51 16.0 +0.4**
GERES	**GERESS Array B**	**88.47 319**	P	**P**	**17 51 16.0 +0.4**
comp=Z,3.1nm,0.7s,baz=96,slow=4.0,SNR=35					
GERES		LR	LR		18 36 51.7
comp=Z,249nm,20.0s,baz=251,slow=40					
KHC	**Kasperske Hory**	**88.57 319**	*e*P	**P**	**17 51 15.2 -0.8**
KHC		pmax	pmax		
comp=Z,32nm,1.6s					
KHC	**Kasperske Hory**	**88.57 319**	*e*P	**P**	**17 51 16.2 +0.2**
KHC			*e*pP	**pP**	**17 51 21.9 -1.9**
KHC			*e*x	x	17 51 34.0
KHC			*e*SKKS	S	18 01 54.8 -6.2
KHC		AMS	AMS		18 38 20.0
comp=Z,400nm,22.7s					
KHC	**Kasperske Hory**	**88.57 319**	*e*P	**P**	**17 51 15.2 -0.8**
comp=Z,32nm,1.6s					
RUE	**Ruedersdorf**	**88.69 322**	*e*P	**P**	**17 51 16.9 +0.5**
comp=Z,302nm,2.0s					
RUE			*e*pP	**pP**	**17 51 23.3 -0.9**
RUE	**Ruedersdorf**	**88.69 322**	*e*P	**P**	**17 51 15.8 -0.6**
comp=Z,207nm,1.4s					
FBE	**Freiberg**	**88.84 321**	*e*P	**P**	**17 51 18.0 +0.8**
comp=Z,171nm,2.0s					
FBE			*e*pP	**pP**	**17 51 24.4 -0.6**
RJOB	**Jochberg**	**89.00 318**	*e*P	**P**	**17 51 17.8 -0.3**
comp=Z,44nm,1.8s					
RJOB			*e*pP	**pP**	**17 51 24.1 -1.8**
WET	**Wettzell**	**89.03 319**	*e*P	**P**	**17 51 18.6 +0.4**
comp=Z,117nm,2.1s					
WET			*e*pP	**pP**	**17 51 25.0 -1.0**
WET	**Wettzell**	**89.03 319**	*e*P	**P**	**17 51 18.6 +0.4**
WET			*e**PP	**pP**	**17 51 25.0 -1.0**
WET		pmax	pmax		
comp=Z,117nm,2.1s					
CLL	**Collm**	**89.09 321**	*e*P	**P**	**17 51 18.5 +0.2**
comp=Z,114nm,2.2s					
CLL			*e*pP	**pP**	**17 51 24.9 -1.2**
CLL	**Collm**	**89.09 321**	*i* P	**P**	**17 51 18.6 +0.2**
CLL			*i*		17 51 24.8
CLL			*e*S	**S**	**18 02 09.0 +3.3**
CLL		pmax	pmax		
comp=Z,113nm,2.2s					
CLL		MLR	MLR		
comp=Z,400nm,21.5s					
CLL	**Collm**	**89.09 321**	*i* P	**P**	**17 51 18.6 +0.2**
comp=Z,113nm,2.2s					
CLL			*i* pP	**pP**	**17 51 24.8 -1.3**
comp=Z,68nm,1.5s					
CLL			*e*		17 54 38.0
CLL			*e*S	**S**	**18 02 09.0 +3.3**
CLL			*e*SS	**SS**	**18 08 00.0 +0.7**
CLL			*e*SSS	SSS	18 11 30.0
CLL			*e*		18 13 18.0
CLL			*e*		18 15 36.0
CLL			LmV		18 36 00.0
comp=Z,400nm,21.5s					
HFS	**Hagfors**	**89.33 330**	P	**P**	**17 51 18.7 -0.6**
HFS	**Hagfors**	**89.33 330**	P	**P**	**17 51 18.7 -0.6**
comp=Z,7.5nm,0.8s,baz=153,slow=1.7,SNR=11					
STEI	**Steigen**	**89.36 338**	*e*P	**P**	**17 51 18.8 -0.4**
STEI		AMB	AMB		17 51 29.1
comp=Z,156nm,1.3s					
TANN	**Tannenbergstha**	**89.38 320**	*e*P	**P**	**17 51 20.2 +0.4**
comp=Z,62nm,1.9s					
TANN			*e*pP	**pP**	**17 51 26.6 -1.0**
WERN	**Wernitzgruen**	**89.42 320**	*e*P	**P**	**17 51 20.5 +0.5**
comp=Z,47nm,2.0s					
WERN			*e*pP	**pP**	**17 51 27.0 -0.8**
GUNZ	**Gunzen**	**89.45 320**	*e*P	**P**	**17 51 20.6 +0.4**
comp=Z,97nm,2.1s					
GUNZ			*e*pP	**pP**	**17 51 27.1 -0.8**
WERD	**Werda**	**89.48 320**	*e*P	**P**	**17 51 20.6 +0.4**
comp=Z,83nm,2.1s					
WERD			*e*pP	**pP**	**17 51 27.0 -1.0**
ROTZ	**Rotzenmuhle**	**89.50 320**	*e*P	**P**	**17 51 21.4 +1.0**
comp=Z,110nm,2.1s					
ROTZ			*e*pP	**pP**	**17 51 27.8 -0.3**
COP	**Copenhagen**	**89.70 326**	*e*P	**P**	**17 51 23.8 +2.7**
COP			pmax	pmax	
comp=Z,14nm,1.0s					
COP	**Copenhagen**	**89.70 326**	*i* P	**P**	**17 51 23.8 +2.7**
comp=Z,14nm,1.0s					
WTTA	**Wattenberg**	**89.75 317** ⇑	*i* P	**P**	**17 51 21.4 -0.4**
comp=Z,52nm,1.4s,SNR=6.5					
NEUB	**Neuenburg**	**89.85 321**	*e*P	**P**	**17 51 22.2 +0.3**
comp=Z,148nm,1.9s					
NEUB			*e*pP	**pP**	**17 51 28.6 -1.1**
MOX	**Moxa**	**89.93 320**	*e*P	**P**	**17 51 22.8 +0.5**
comp=Z,66nm,1.8s					
MOX			*e*pP	**pP**	**17 51 29.2 -0.9**
MOX	**Moxa**	**89.93 320**	*e*P	**P**	**17 51 22.8 +0.5**
MOX			*e**PP	**pP**	**17 51 29.2 -0.9**
MOX		pmax	pmax		
comp=Z,66nm,1.8s					
FUR	**Furstenfeldbru**	**90.04 318**	*e*P	**P**	**17 51 22.8 -0.1**
comp=Z,75nm,1.7s					
FUR			*e*pP	**pP**	**17 51 29.2 -1.5**
FUR	**Furstenfeldbru**	**90.04 318**	*e*P	**P**	**17 51 22.8 -0.1**
FUR			*e**PP	**pP**	**17 51 29.2 -1.5**
FUR		pmax	pmax		
comp=Z,75nm,1.7s					
MOTA	**Moosalm**	**90.12 317** ⇓	*i* P	**P**	**17 51 23.1 -0.4**
comp=Z,33nm,1.3s,SNR=9.5					
GRF	**Grafenberg Arr**	**90.14 320**	*e*P	**P**	**17 51 24.1 +0.8**
comp=Z,183nm,2.1s					
GRF			*e*pP	**pP**	**17 51 30.5 -0.6**
GRF			*e*L	L	18 39 52.3
comp=E,245nm,21.8s					
GRF	**Grafenberg Arr**	**90.14 320**	*e*P	**P**	**17 51 24.1 +0.8**
GRF			*e**PP	**pP**	**17 51 30.5 -0.6**
GRF		pmax	pmax		
comp=Z,183nm,2.1s					
GRF		MLR	MLR		
comp=E,200nm,21.8s					
GRFO	**Grafenberg**	**90.14 320**	*e*P	**P**	**17 51 24.3 +1.0**
GRFO	**Grafenberg**	**90.14 320**	*e*P	**P**	**17 51 24.2 +1.0**
SPA0	**Spitsbergen Ar**	**90.20 348**	*e*P	**P**	**17 51 23.1 0.0**
RETA	**Reutte**	**90.36 317** ⇑	*i* P	**P**	**17 51 24.4 -0.1**
comp=E,57nm,1.4s,SNR=10.0					
FETA	**Feichten**	**90.36 317** ⇑	*i* P	**P**	**17 51 24.6 -0.1**
comp=E,31nm,1.3s,SNR=8.9					
VLC	**Villacollemand**	**90.51 314**	PFAKE		17 51 40.0 +15
VLC			LR	LR	
comp=Z,298nm,21.0s					
NB2	**NORSAR Subarra**	**90.61 331**	P	**P**	**17 51 25.8 +0.5**
comp=Z,1.4nm,0.8s,baz=92,slow=5.3					
NB2	**NORSAR Subarra**	**90.61 331**	P	**P**	**17 51 25.8 +0.5**
baz=92,slow=5.3					
NOA	**NORSAR Array B**	**90.61 331**	P	**P**	**17 51 26.0 +0.7**
NOA	**NORSAR Array B**	**90.61 331**	P	**P**	**17 51 26.0 +0.7**
comp=Z,2.1nm,0.8s,baz=116,slow=3.8,SNR=6.6					
NOA		LR	LR		18 36 26.9
comp=Z,324nm,20.6s,baz=90,slow=38					
FUORN	**Ofenpass-Fuorn**	**90.67 316**	*e*P	**P**	**17 51 27.3 +1.1**
BSEG	**Bad Segeberg**	**90.85 324**	*e*P	**P**	**17 51 27.2 +0.7**
comp=Z,117nm,1.8s					
BSEG			*e*pP	**pP**	**17 51 33.6 -0.7**
BSEG	**Bad Segeberg**	**90.85 324**	*e*P	**P**	**17 51 27.2 +0.7**
BSEG			*e**PP	**pP**	**17 51 33.6 -0.7**
BSEG		pmax	pmax		
comp=Z,117nm,1.8s					
NRDL	**Niedersach Rie**	**90.93 322**	*e*P	**P**	**17 51 27.7 +0.9**
comp=Z,135nm,2.1s					
NRDL			*e*pP	**pP**	**17 51 34.1 -0.5**
DAVA	**Damuels**	**90.95 317** ⇑	*i* PcP	**PcP**	**17 51 27.9 -0.4**
comp=Z,87nm,1.4s,SNR=10					
UBBA	**Unterbreizbach**	**90.96 321**	*e*P	**P**	**17 51 27.6 +0.6**
comp=Z,59nm,2.0s					
UBBA			*e*pP	**pP**	**17 51 33.9 -0.9**
KEST	**Kesra**	**91.09 306**	*e*P	**P**	**17 51 28.0 -0.2**
KEST	**Kesra**	**91.09 306**	P	**P**	**17 51 29.6 +1.4**
comp=Z,5.0nm,0.9s,baz=86,slow=0.8,SNR=14					
KEST		LR	LR		18 38 19.2
comp=Z,222nm,18.0s,baz=312,slow=39					
VSL	**Villasalto**	**91.14 309**	PFAKE		17 51 40.0 +12
VSL			LR	LR	
comp=Z,231nm,19.0s					
KBS	**Kingsbay**	**91.14 349**	PFAKE		17 51 40.0 +13
KBS			LR	LR	
comp=Z,912nm,20.0s					
TUE	**Stuetta**	**91.30 316**	*e*P	**P**	**17 51 29.6 +0.5**
TUE			LR	LR	
comp=Z,482nm,21.0s					
KONO	**Kongsberg**	**91.37 329**	PFAKE		17 51 40.0 +11
KONO			LR	LR	
comp=Z,428nm,20.0s					
STU	**Stuttgart**	**91.44 319**	*e*P	**P**	**17 51 29.7 +0.3**
comp=Z,126nm,2.2s					
STU			*e*pP	**pP**	**17 51 36.0 -1.2**
PGF	**Pioggiola**	**91.48 312**	*e*P	**P**	**17 51 30.0 +0.1**
comp=Z,184nm,1.6s					
PGF	**Pioggiola**	**91.48 312**	*e*P	**P**	**17 51 30.0 +0.1**
PGF	**Pioggiola**	**91.48 312**	*e*P	**P**	**17 51 30.0 +0.1**
TNS	**Taunus Mts**	**91.94 320**	*e*P	**P**	**17 51 32.2 +0.4**
comp=Z,91nm,2.0s					
TNS			*e*pP	**pP**	**17 51 38.6 -1.0**
TNS	**Taunus Mts**	**91.94 320**	*e*P	**P**	**17 51 32.2 +0.4**
TNS			*e**PP	**pP**	**17 51 38.6 -1.0**
TNS		pmax	pmax		
comp=Z,91nm,2.0s					
BFO	**Black Forest**	**92.01 318**	*e*P	**P**	**17 51 32.0 -0.1**
comp=Z,32nm,2.0s					
BFO			*e*pP	**pP**	**17 51 38.3 -1.6**
BFO	**Black Forest**	**92.01 318**	*e*P	**P**	**17 51 31.1 -1.0**
BFO		pmax	pmax		
comp=Z,24nm,1.4s					
BFO		MLR	MLR		
comp=Z,320nm,20.0s					
BFO	**Black Forest**	**92.01 318**	*e*P	**P**	**17 51 31.1 -1.0**
comp=Z,24nm,1.4s					
BFO		LR	LR		
comp=Z,320nm,20.0s					
SNAA	**Sanae**	**92.31 198**	*e*P	**P**	**17 51 34.8 +1.7**
SNAA	**Sanae**	**92.31 198**	*e*P	**P**	**17 51 31.6 -1.5**
comp=Z,79nm,2.1s					
LANF	**Langenberg**	**92.36 319**	*e*P	**P**	**17 51 33.8 +0.1**
IBBN	**Ibbenburen**	**92.37 322**	*e*P	**P**	**17 51 34.2 +0.6**
comp=Z,71nm,2.0s					
IBBN			*e*pP	**pP**	**17 51 40.6 -0.8**
SBF	**Sospel**	**92.63 314**	*e*P	**P**	**17 51 35.0 -0.1**
SBF	**Sospel**	**92.63 314**	*e*P	**P**	**17 51 35.0 -0.1**
SBF	**Sospel**	**92.63 314**	*e*P	**P**	**17 51 35.0 -0.1**
BUG	**Bochum--Univer**	**92.68 321**	*e*P	**P**	**17 51 35.5 +0.5**
comp=Z,125nm,2.6s					
BUG			*e*pP	**pP**	**17 51 41.9 -0.9**
CDF	**Champ du Feu**	**92.71 318**	*e*P	**P**	**17 51 35.3 -0.1**
comp=Z,94nm,1.7s					
CDF	**Champ du Feu**	**92.71 318**	*e*P	**P**	**17 51 35.3 -0.1**
CDF	**Champ du Feu**	**92.71 318**	*e*P	**P**	**17 51 35.3 -0.1**
ECH	**Echery**	**92.79 318**	*e*P	**P**	**17 51 34.5 -1.2**
ECH		pmax	pmax		
comp=Z,33nm,1.5s					
ECH		MLR	MLR		
comp=Z,297nm,20.0s					
ECH	**Echery**	**92.79 318**	*e*P	**P**	**17 51 34.5 -1.2**
comp=Z,33nm,1.5s					
ECH		LR	LR		
comp=Z,297nm,20.0s					
ECH	**Echery**	**92.79 318**	*e*P	**P**	**17 51 37.1 +1.4**
MOF	**Molkenrain**	**92.81 318**	*e*P	**P**	**17 51 35.6 -0.3**
HINF	**Hinteralfeld**	**93.00 318**	*e*P	**P**	**17 51 36.2 -0.5**
comp=Z,59nm,1.7s					
HINF	**Hinteralfeld**	**93.00 318**	*e*P	**P**	**17 51 36.2 -0.5**
HINF	**Hinteralfeld**	**93.00 318**	*e*P	**P**	**17 51 36.2 -0.5**
LOMF	**Lomont**	**93.03 317**	*e*P	**P**	**17 51 36.9 0.0**
MBDF	**Montbardon**	**93.10 315**	*e*P	**P**	**17 51 36.9 -0.5**
comp=Z,42nm,1.5s					
MBDF	**Montbardon**	**93.10 315**	*e*P	**P**	**17 51 36.9 -0.5**
MBDF	**Montbardon**	**93.10 315**	*e*P	**P**	**17 51 36.9 -0.5**
LPG	**La Plagne**	**93.11 315**	*e*P	**P**	**17 51 37.6 0.0**
comp=Z,53nm,1.4s					
LPG	**La Plagne**	**93.11 315**	*e*P	**P**	**17 51 37.6 0.0**
LPG	**La Plagne**	**93.11 315**	*e*P	**P**	**17 51 37.6 0.0**
LPL	**La Plagne**	**93.12 315**	*e*P	**P**	**17 51 37.6 +0.1**
comp=Z,52nm,1.4s					
LPL	**La Plagne**	**93.12 315**	*e*P	**P**	**17 51 37.6 +0.1**
LPL	**La Plagne**	**93.12 315**	*e*P	**P**	**17 51 37.6 +0.1**
BNI	**Bardonecchia**	**93.16 315**	PFAKE		17 51 50.0 +12
BNI			LR	LR	
comp=Z,325nm,19.0s					
FRF	**La Foret Royal**	**93.21 313**	*e*P	**P**	**17 51 37.9 +0.2**
comp=Z,102nm,1.5s					
FRF	**La Foret Royal**	**93.21 313**	*e*P	**P**	**17 51 37.9 +0.2**
FRF	**La Foret Royal**	**93.21 313**	*e*P	**P**	**17 51 37.9 +0.2**
LMR	**La Mourre**	**93.31 313**	*e*P	**P**	**17 51 38.0 -0.2**
comp=Z,60nm,1.4s					
LMR	**La Mourre**	**93.31 313**	*e*P	**P**	**17 51 38.0 -0.2**
LMR	**La Mourre**	**93.31 313**	*e*P	**P**	**17 51 38.0 -0.2**
HAU	**Haudompre**	**93.34 318**	*e*P	**P**	**17 51 38.0 -0.2**
comp=Z,175nm,1.8s					
HAU			*e*R		
comp=Z,357nm,21.8s					
HAU	**Haudompre**	**93.34 318**	*e*P	**P**	**17 51 38.0 -0.2**
HAU	**Haudompre**	**93.34 318**	*e*P	**P**	**17 51 38.0 -0.2**
WLF	**Walferdange**	**93.43 319**	*e*P	**P**	**17 51 39.2 +0.6**
comp=Z,249nm,3.0s					
WLF			*e*pP	**pP**	**17 51 45.6 -0.8**
WLF	**Walferdange**	**93.43 319**	*e*P	**P**	**17 51 38.7 +0.1**
WLF		pmax	pmax		
comp=Z,48nm,1.6s					
WLF		MLR	MLR		
comp=Z,276nm,20.0s					
WLF	**Walferdange**	**93.43 319**	*e*P	**P**	**17 51 38.7 +0.1**
comp=Z,48nm,1.6s					
WLF		LR	LR		
comp=Z,276nm,20.0s					
CABF	**La Chapelle**	**93.55 316**	*e*P	**P**	**17 51 39.2 -0.1**
comp=Z,99nm,1.6s					
CABF	**La Chapelle**	**93.55 316**	*e*P	**P**	**17 51 39.2 -0.1**
CABF	**La Chapelle**	**93.55 316**	*e*P	**P**	**17 51 39.2 -0.1**
ORIF	**Oris-en-Rattie**	**93.73 315**	*e*P	**P**	**17 51 40.4 +0.2**
comp=Z,118nm,1.8s					
ORIF			*e*R		
comp=Z,278nm,22.5s					
ORIF	**Oris-en-Rattie**	**93.73 315**	*e*P	**P**	**17 51 40.4 +0.2**
ORIF	**Oris-en-Rattie**	**93.73 315**	*e*P	**P**	**17 51 40.4 +0.2**
PAGF	**Fort de Pagny**	**93.74 318**	*e*P	**P**	**17 51 40.0 0.0**
comp=Z,17nm,1.6s					
PAGF	**Fort de Pagny**	**93.74 318**	*e*P	**P**	**17 51 40.0 0.0**
VNA2	**Neumayer--Watz**	**93.92 198**	*e*P	**P**	**17 51 41.7 +1.3**
MEZF	**Maizieres J'vi**	**94.19 318**	*e*P	**P**	**17 51 42.2 +0.1**
comp=Z,240nm,1.9s					
MEZF	**Maizieres J'vi**	**94.19 318**	*e*P	**P**	**17 51 42.2 +0.1**
SFTF	**Sexfontaines**	**94.21 318**	*e*P	**P**	**17 51 42.3 +0.1**
comp=Z,225nm,1.8s					
SFTF	**Sexfontaines**	**94.21 318**	*e*P	**P**	**17 51 42.3 +0.1**
GIVF	**Givet**	**94.27 320**	*e*P	**P**	**17 51 42.5 +0.1**
GIVF	**Givet**	**94.27 320**	*e*P	**P**	**17 51 42.5 +0.1**
GIVF	**Givet**	**94.27 320**	*e*P	**P**	**17 51 42.5 +0.1**
TAM	**Tamanrasset**	**94.31 293**	PFAKE		17 51 50.0 +6.6
TAM			LR	LR	
comp=Z,448nm,22.0s					
VIVF	**Saint-Julien-l**	**94.59 315**	*e*P	**P**	**17 51 44.2 +0.1**
VIVF	**Saint-Julien-l**	**94.59 315**	*e*P	**P**	**17 51 44.2 +0.1**
VIVF	**Saint-Julien-l**	**94.59 315**	*e*P	**P**	**17 51 44.2 +0.1**
SSB	**Saint Sauveur**	**94.67 315**	PFAKE		17 52 00.0 +16
SSB			LR	LR	
comp=Z,318nm,19.0s					
BAIF	**Baives**	**94.67 320**	*e*P	**P**	**17 51 44.5 +0.3**
comp=Z,68nm,1.6s					
BAIF	**Baives**	**94.67 320**	*e*P	**P**	**17 51 44.5 +0.3**
BAIF	**Baives**	**94.67 320**	*e*P	**P**	**17 51 44.5 +0.3**
LOR	**Lormes**	**95.05 317**	*e*P	**P**	**17 51 45.9 -0.2**
comp=Z,75nm,1.6s					
LOR			*e*R		
comp=Z,386nm,22.5s					
LOR	**Lormes**	**95.05 317**	*e*P	**P**	**17 51 45.9 -0.2**
SMF	**Signal de Mont**	**95.09 317**	*e*P	**P**	**17 51 46.3 0.0**
comp=Z,61nm,1.6s					
SMF	**Signal de Mont**	**95.09 317**	*e*P	**P**	**17 51 46.3 0.0**
SMF	**Signal de Mont**	**95.09 317**	*e*P	**P**	**17 51 46.3 0.0**
LASF	**Ste Croix**	**95.21 314**	*e*P	**P**	**17 51 47.1 +0.2**
comp=Z,31nm,1.4s					
LASF	**Ste Croix**	**95.21 314**	*e*P	**P**	**17 51 47.1 +0.2**
SSF	**Saint Saulge**	**95.30 317**	*e*P	**P**	**17 51 47.2 0.0**
comp=Z,85nm,1.9s					
SSF	**Saint Saulge**	**95.30 317**	*e*P	**P**	**17 51 47.2 0.0**
SSF	**Saint Saulge**	**95.30 317**	*e*P	**P**	**17 51 47.2 0.0**
AVF	**Avril sur Loir**	**95.42 317**	*e*P	**P**	**17 51 47.7 -0.1**
comp=Z,62nm,1.8s					
AVF	**Avril sur Loir**	**95.42 317**	*e*P	**P**	**17 51 47.7 -0.1**
AVF	**Avril sur Loir**	**95.42 317**	*e*P	**P**	**17 51 47.7 -0.1**
BGF	**Bois d'Agland**	**95.78 316**	*e*P	**P**	**17 51 49.7 +0.3**
BGF	**Bois d'Agland**	**95.78 316**	*e*P	**P**	**17 51 49.7 +0.3**
BGF	**Bois d'Agland**	**95.78 316**	*e*P	**P**	**17 51 49.7 +0.3**
TCF	**Toulx Ste Croi**	**96.24 316**	*e*P	**P**	**17 51 51.7 +0.1**
comp=Z,37nm,1.6s					
TCF	**Toulx Ste Croi**	**96.24 316**	*e*P	**P**	**17 51 51.7 +0.1**
TCF	**Toulx Ste Croi**	**96.24 316**	*e*P	**P**	**17 51 51.7 +0.1**
MTLF	**Montolieu**	**96.44 313**	*e*P	**P**	**17 51 52.8 +0.3**
comp=Z,28nm,1.5s					
MTLF	**Montolieu**	**96.44 313**	*e*P	**P**	**17 51 52.8 +0.3**
MTLF	**Montolieu**	**96.44 313**	*e*P	**P**	**17 51 52.8 +0.3**
RJF	**Les Rejaudoux**	**96.80 315**	*e*P	**P**	**17 51 54.5 +0.4**
comp=Z,30nm,1.5s					
RJF			*e*R		
comp=Z,280nm,21.5s					
RJF	**Les Rejaudoux**	**96.80 315**	*e*P	**P**	**17 51 54.5 +0.4**
RJF	**Les Rejaudoux**	**96.80 315**	*e*P	**P**	**17 51 54.5 +0.4**
LDF	**La Druitiere**	**97.61 319**	*e*P	**P**	**17 51 57.5 -0.2**
LDF	**La Druitiere**	**97.61 319**	*e*P	**P**	**17 51 57.5 -0.2**
LDF	**La Druitiere**	**97.61 319**	*e*P	**P**	**17 51 57.5 -0.2**
FLN	**La Foliniere**	**97.83 319**	*e*P	**P**	**17 51 58.4 -0.2**
comp=Z,26nm,1.2s					
FLN			*e*R		
comp=Z,375nm,18.5s					
FLN	**La Foliniere**	**97.83 319**	*e*P	**P**	**17 51 58.4 -0.2**
FLN	**La Foliniere**	**97.83 319**	*e*P	**P**	**17 51 58.4 -0.2**
MFF	**Saint Martin d**	**97.84 317**	*e*P	**P**	**17 51 58.5 -0.2**
comp=Z,66nm,1.8s					
MFF	**Saint Martin d**	**97.84 317**	*e*P	**P**	**17 51 58.5 -0.2**
MFF	**Saint Martin d**	**97.84 317**	*e*P	**P**	**17 51 58.5 -0.2**
DAG	**Danmarks Havn**	**97.85 348**	*i* P	Pdif	17 51 58.4 +0.2
DAG		pmax	pmax		
comp=Z,11nm,1.0s					
DAG	**Danmarks Havn**	**97.85 348**	*i* P	Pdif	17 51 58.4 +0.2
comp=Z,11nm,1.0s					
TORD	**Torodi Ar. Bea**	**97.98 283**	P	**P**	**17 51 59.7 -0.4**
TORD

MTE	Manteigas	104.03	311	PFAKE			17 52 40.0	+13
MTE				LR	LR			
comp=Z,388nm,20.0s								
RTC	Rabat Centre	104.47	305	PFAKE			17 52 40.0	+11
RTC				LR	LR			
comp=Z,253nm,19.0s								
TBI	Tubuai	108.57	115	eLR	LR		18 28 31.5	
comp=Z,480nm,23.0s								
PPT2	Papeete2	109.38	109	eLR	LR		18 28 53.3	
comp=Z,618nm,24.2s								
NLWA	Neilton Lookou	120.98	33	PFAKE			17 57 30.0	+14
NLWA				LR	LR			
comp=Z,471nm,19.0s								
RKT	Rikitea	121.56	118	eLR	LR		18 34 34.1	
comp=Z,913nm,26.2s								
NEW	Newport	123.88	29	PFAKE			17 57 30.0	+8.6
NEW				LR	LR			
comp=Z,711nm,19.0s								
FFC	Flin Flon	124.26	15	PFAKE			17 57 30.0	+8.2
FFC				LR	LR			
comp=Z,569nm,20.0s								
BSMT	Bassoo Peak	125.27	28	ePKPdf	PKPdf		17 57 24.6	+0.3
BMO	Blue Mountains	126.12	32	PFAKE			17 57 40.0	+14
BMO				LR	LR			
comp=Z,548nm,19.0s								
CHMT	Chamberlain Mo	126.67	28	ePKPdf	PKPdf		17 57 27.4	+0.4
WVOR	Wild Horse Val	126.96	35	ePKIKP	PKPdf		17 57 27.6	0.0
WVOR	Wild Horse Val	126.96	35	ePKPdf	PKPdf		17 57 27.6	0.0
EGMT	Eagleton	127.35	24	ePKPdf	PKPdf		17 57 27.7	-0.4
EGMT				LR	LR			
comp=Z,640nm,22.0s								
BOZ	Bozeman (W)	128.36	28	PFAKE			17 57 40.0	+10
BOZ				LR	LR			
comp=Z,526nm,19.0s								
MCMT	McKenzie Canyo	128.39	29	ePKPdf	PKPdf		17 57 30.7	+0.3
HLID	Hailey	128.51	31	PFAKE			17 57 40.0	+9.4
HLID				LR	LR			
comp=Z,434nm,22.0s								
CMB	Columbia Colle	128.55	40	ePKIKP	PKPdf		17 57 31.4	+0.7
CMB	Columbia Colle	128.55	40	ePKPdf	PKPdf		17 57 31.4	+0.7
BMN	Battle Mountai	129.06	36	PFAKE			17 57 40.0	+8.3
BMN				LR	LR			
comp=Z,377nm,19.0s								
DGMT	Dagmar	129.09	20	PFAKE			17 57 40.0	+8.7
DGMT				LR	LR			
comp=Z,533nm,19.0s								
GCMT	Greycliff	129.14	26	ePKPdf	PKPdf		17 57 31.6	0.0
NVAR	Mina Array Bea	129.65	39	PKP	PKPdf		17 57 34.0	+1.1
NVAR				PP	PP		17 59 43.3	+0.4
NVAR	Mina Array Bea	129.65	39	PKP	PKPdf		17 57 34.0	+1.1
comp=Z,2.0nm,0.7s,baz=268,slow=2.3,SNR=10								
NVAR				PP	PP		17 59 43.3	+0.4
comp=Z,0.8nm,0.8s,baz=291,slow=2.9,SNR=4.2								
LKWY	Lake	129.75	28	PFAKE			17 57 40.0	+7.0
LKWY				LR	LR			
comp=Z,878nm,19.0s								
RLMT	Red Lodge	129.84	26	PFAKE			17 57 40.0	+6.9
RLMT				LR	LR			
comp=Z,525nm,19.0s								
LAO	LASA Array	129.85	23	ePKPdf	PKPdf		17 57 32.1	-0.8
LAO				LR	LR			
comp=Z,474nm,20.0s								
ULM	Lac du Bonnet	129.85	13	PKP	PKPdf		17 57 32.9	+0.3
ULM	Lac du Bonnet	129.85	13	PKP	PKPdf		17 57 32.9	+0.3
comp=Z,5.7nm,0.8s,baz=29,slow=3.3,SNR=4.1								
ELK	Elko	130.00	34	ePKPdf	PKPdf		17 57 33.3	-0.2
IMW	Indian Meadow	130.00	29	ePKPdf	PKPdf		17 57 34.1	+0.6
RRI2	Red Ridge	130.23	29	ePKPdf	PKPdf		17 57 35.3	+1.3
TPAW	Teton Pass	130.30	29	ePKPdf	PKPdf		17 57 35.6	+1.5
LOHW	Long Hollow	130.38	29	ePKPdf	PKPdf		17 57 35.0	+0.9
REDW	Red Top Meadow	130.44	29	ePKPdf	PKPdf		17 57 34.4	+0.1
TPH	Tonopah	130.54	38	PFAKE			17 57 50.0	+15
TPH				LR	LR			
comp=Z,414nm,22.0s								
AHID	Auburn Hatcher	130.77	30	PFAKE			17 57 50.0	+15
AHID				LR	LR			
comp=Z,556nm,19.0s								
BGU	Big Grassy Mou	131.09	33	ePKPdf	PKPdf		17 57 34.4	-1.1
R11A	Troy Canyon, C	131.37	37	ePKPdf	PKPdf		17 57 37.2	+1.1
HWUT	Hardware Ranch	131.38	31	PFAKE			17 57 50.0	+14
HWUT				LR	LR			
comp=Z,458nm,20.0s								
BW06	Boulder Array	131.52	29	ePKPdf	PKPdf		17 57 36.0	-0.3
BW06				LR	LR			
comp=Z,448nm,19.0s								
PDAR	Pinedale Array	131.52	29	PKP	PKPdf		17 57 36.5	+0.2
PDAR				PP	PP		17 59 53.1	-1.5
PDAR	Pinedale Array	131.52	29	PKP	PKPdf		17 57 36.5	+0.2
comp=Z,2.2nm,1.0s,baz=255,slow=0.9,SNR=8.8								
PDAR				PP	PP		17 59 53.1	-1.5
comp=Z,2.1nm,1.0s,baz=225,slow=0.4,SNR=3.4								
AGMN	Agassiz Nation	131.68	14	PFAKE			17 57 50.0	+14
AGMN				LR	LR			
comp=Z,866nm,21.0s								
DUG	Dugway	131.72	33	PFAKE			17 57 50.0	+13
DUG				LR	LR			
comp=Z,404nm,21.0s								
NLU	North Lily Min	132.29	33	ePKPdf	PKPdf		17 57 37.7	-0.2
SHPR	Sheep Range	132.80	39	ePKPdf	PKPdf		17 57 39.5	+0.6
RSSD	Black Hills	132.84	23	ePKIKP	PKPdf		17 57 38.2	-0.6
RSSD	Black Hills	132.84	23	ePKPdf	PKPdf		17 57 38.2	-0.6
EYMN	Ely	132.92	10	ePKPdf	PKPdf		17 57 36.9	-1.7
EYMN				LR	LR			
comp=Z,899nm,19.0s								
MVU	Marysvale	133.23	34	ePKPdf	PKPdf		17 57 39.5	-0.3
MVU				LR	LR			
comp=Z,554nm,19.0s								
PFO	Pinyon Flat Ob	133.71	43	PFAKE			17 57 50.0	+9.4
PFO				LR	LR			
comp=Z,483nm,20.0s								
O20A	White River Ci	134.16	30	ePKPdf	PKPdf		17 57 41.5	+0.2
RCBR	Riachuelo	134.85	260	PFAKE			17 57 50.0	+6.8
RCBR				LR	LR			
comp=Z,347nm,19.0s								
COWI	Conover	135.09	9	PFAKE			17 57 50.0	+7.3
COWI				LR	LR			
comp=Z,637nm,20.0s								
ISCO	Idaho Springs	135.69	28	PFAKE			17 58 00.0	+16
ISCO				LR	LR			
comp=Z,452nm,21.0s								
ECSD	EROS Data Cent	135.72	17	ePKPdf	PKPdf		17 57 43.8	-0.2
ECSD				LR	LR			
comp=Z,717nm,19.0s								
WUAZ	Wupatki	135.76	37	ePKPdf	PKPdf		17 57 45.7	+1.2
MVCO	Mesa Verde	136.21	33	PFAKE			17 58 00.0	+15
MVCO				LR	LR			
comp=Z,596nm,19.0s								
OGNE	Ogallala	136.31	24	PFAKE			17 58 00.0	+15
OGNE				LR	LR			
comp=Z,617nm,20.0s								
SDCO	Great Sand Dun	137.36	30	PFAKE			17 58 00.0	+12
SDCO				LR	LR			
comp=Z,665nm,22.0s								
JFWS	Jewell Farm	138.01	11	PFAKE			17 58 00.0	+12
JFWS				LR	LR			
comp=Z,731nm,19.0s								
ANMO	Albuquerque	139.00	33	PFAKE			17 58 00.0	+10
ANMO				LR	LR			
comp=Z,507nm,19.0s								
KSU1	Kansas State U	139.93	20	ePKPdf	PKPdf		17 57 51.2	-0.7
KSU1				LR	LR			
comp=Z,926nm,20.0s								
HDIL	Hopedale	140.47	11	PFAKE			17 58 00.0	+7.3
HDIL				LR	LR			
comp=Z,742nm,21.0s								
AMTX	Amarillo	141.50	29	PFAKE			17 58 10.0	+15
AMTX				LR	LR			
comp=Z,651nm,19.0s								
MSTX	Muleshoe	141.69	31	ePKPdf	PKPdf		17 57 56.5	+1.2
MNTX	Cornudas Mount	141.99	36	ePKPdf	PKPdf		17 57 53.3	-2.5
MNTX				LR	LR			
comp=Z,520nm,21.0s								
TUL1	Tulsa	143.08	21	ePKPdf	PKPdf		17 57 56.5	-1.0
CBN	Corbin	143.52	356	PFAKE			17 58 10.0	+12
CBN				LR	LR			
comp=Z,1μm,20.0s								
BDFB	Brasilia	143.58	241	PKP	PKPbc		17 57 57.4	+0.9
BDFB	Brasilia	143.58	241	PKP	PKPbc		17 57 57.4	+0.9
comp=Z,4.0nm,0.8s,baz=251,slow=1.5,SNR=3.5								
CPUP	Villa Florida	144.30	217	ePKPdf	PKPbc		17 57 58.5	+0.3
CPUP				PKP	PKPab		17 57 58.8	+1.0
CPUP	Villa Florida	144.30	217	PKP	PKPbc		17 57 58.8	+0.6
comp=Z,34nm,0.7s,baz=115,slow=2.3,SNR=78								
ABTX	Abilene, Hawle	144.32	28	ePKPdf	PKPbc		17 57 58.3	+0.2
GLAT	Glass	144.61	12	ePKPdf	PKPbc		17 57 59.3	+0.5
BLA	Blacksburg	144.62	360	ePKIKP	PKPbc		17 57 59.2	+0.2
BLA				MLR	MLR			
comp=Z,595nm,21.0s								
BLA	Blacksburg	144.62	360	ePKPdf	PKPbc		17 57 59.1	+0.2
BLA				LR	LR			
comp=Z,595nm,21.0s								
TXAR	Lajitas Array	144.73	37	PKP	PKPdf		17 58 00.2	-0.5
TXAR				SKP			18 01 29.6	
TXAR	Lajitas Array	144.73	37	PKP	PKPdf		17 58 00.2	-0.5
comp=Z,22nm,0.6s,baz=226,slow=0.5,SNR=189								
TXAR				SKP			18 01 29.6	
comp=Z,6.4nm,1.2s,baz=304,slow=2.3,SNR=3.9								
GNAR	Gosnell	144.74	13	ePKPdf	PKPdf		17 58 00.0	-0.4
HALT	Halls	144.94	13	ePKPdf	PKPbc		17 58 00.3	+0.4
WVT	Waverly	145.03	10	ePKIKP	PKPbc		17 57 59.6	-0.6
WVT	Waverly	145.03	10	ePKPdf	PKPbc		17 57 59.6	-0.6
MIAR	Mount Ida	145.08	19	PFAKE			17 58 10.0	+8.9
MIAR				LR	LR			
comp=Z,558nm,21.0s								
TZTN	Tazewell	145.17	4	ePKPdf	PKPbc		17 58 00.1	-0.6
UALR	University of	145.25	17	ePKPdf	PKPbc		17 58 00.6	-0.4
WHTX	Lake Whitney	145.85	26	ePKPdf	PKPdf		17 58 02.6	+0.1
JCT	Junction City	145.99	31	PFAKE			17 58 10.0	+6.0
JCT				LR	LR			
comp=Z,452nm,21.0s								
TKL	Tuckaleechee C	146.03	5	ePKPdf	PKPdf		17 58 02.6	-0.1
CPCT	Cooper Cave	146.17	6	ePKPdf	PKPdf		17 58 02.9	0.0
OXF	Oxford	146.27	13	ePKP2	PKPdf		17 58 02.5	-0.6
OXF				MLR	MLR			
comp=Z,705nm,22.0s								
OXF	Oxford	146.27	13	ePKPdf	PKPdf		17 58 02.5	-0.6
OXF				LR	LR			
comp=Z,705nm,22.0s								
CNNC	Cliffs of the	146.50	356	PFAKE			17 58 10.0	+4.3
CNNC				LR	LR			
comp=Z,729nm,20.0s								
KMSC	Kings Mountain	146.68	1	ePKPbc	PKPbc		17 58 04.6	-0.7
NATX	Nacogdoches	147.21	23	ePKPbc	PKPbc		17 58 06.0	-1.0
NATX				LR	LR			
comp=Z,838nm,21.0s								
VBMS	Vicksburg	148.17	16	PFAKE			17 58 20.0	+7.6
VBMS				LR	LR			
comp=Z,777nm,20.0s								
LRAL	Lakeview Retre	148.19	10	ePKPbc	PKPbc		17 58 08.8	-0.9
LRAL				LR	LR			
comp=Z,596nm,20.0s								
KVTX	Kingsville	149.33	31	PFAKE			17 58 20.0	+2.8
KVTX				LR	LR			
comp=Z,701nm,21.0s								
BRAL	Brewton	150.15	11	PFAKE			17 58 20.0	-0.4
BRAL				LR	LR			
comp=Z,586nm,19.0s								
ANWB	Willy Bob	155.69	312	PFAKE			17 58 30.0	+12
ANWB				LR	LR			
comp=Z,244nm,22.0s								
FDF	Fort de France	156.90	305	PFAKE			17 58 30.0	+10
FDF				LR	LR			
comp=Z,347nm,22.0s								
GRTK	Grand Turk	158.26	336	PFAKE			17 58 30.0	+8.9
GRTK				LR	LR			
comp=Z,715nm,19.0s								
LPAZ	La Paz	158.39	214	PKP	PKPdf		17 58 22.7	+0.4
LPAZ	La Paz	158.39	214	PKP	PKPdf		17 58 22.7	+0.4
comp=Z,2.2nm,0.9s,baz=65,slow=2.9,SNR=11								
GRGR	Grenville	158.62	300	PFAKE			17 58 30.0	+8.2
GRGR				LR	LR			
comp=Z,243nm,19.0s								
SAML	Samuel	159.78	238	ePKPdf	PKPdf		17 58 22.7	-0.5
TEIG	Tepich	160.04	22	PKP	PKPdf		17 58 24.8	+1.5
TEIG	Tepich	160.04	22	PKP	PKPdf		17 58 24.8	+1.5
comp=Z,4.7nm,0.9s,baz=261,slow=12,SNR=2.6								
GTBY	Guantanamo Bay	161.09	344	PFAKE			17 58 30.0	+5.6
GTBY				LR	LR			
comp=Z,513nm,19.0s								
JTS	JuntasAbangare	170.35	27	PFAKE			17 58 40.0	+7.8
JTS				LR	LR			
comp=Z,537nm,19.0s								
BCIP	Isla Barro Col	172.51	355	PFAKE			17 58 40.0	+6.8
BCIP				LR	LR			
comp=Z,443nm,22.0s								
ROSC	El Rosal	173.07	297	PKP	PKPdf		17 58 34.2	+0.2
ROSC	El Rosal	173.07	297	PKP	PKPdf		17 58 34.2	+0.2
comp=Z,2.0nm,0.3s,baz=266,slow=22,SNR=6.3								
OTAV	Otavalo	177.52	235	PFAKE			17 58 50.0	+15
OTAV				LR	LR			
comp=Z,880nm,22.0s								

*SZGRF **23** 17:41:49.8, 23.°90S×178.°69W, h33km, South of Fiji Islands*
*AUST **23** 17:42:18.3, 21.°97S×177.°60W, h300km*
*NEIC **23** 17:42:35.7±0.4, 22.°87S×178.°89W, mb5.2/11, Error ellipse: s-maj=13.1km s-min=10.1km az=118.0*
*ISCJB **23** 17:42:36.0±1.2, 22.°71S±0.°06×179.°05W±0.°09, h414km±12km, mb4.6/30, Error ellipse: s-maj=12.5km s-min=9.5km az=2.2*
*IDC **23** 17:42:36.4±0.9, 22.°63S×178.°97W, h398km±8km, mb4.2/15, mb1 4.3/15, mb1mx4.1/21, mbtmp4.2/15, Error ellipse: s-maj=14.0km s-min=11.4km az=130.0*
ISC 23 17:42:36.8±0.4, **22.°71S**±0.°06×**178.°92W**±0.°07, **h407**km±2km, **h407**km:**pP-P, n165,** σ1.5**38**/211, **mb4.8**/30, **9C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MSVF	Nonsavu	5.71	330	P	P	17 44 07.0		+0.5
11μm,0.9s								
MSVF	Nonsavu	5.71	330	eP	P	17 44 05.6		-0.9
baz=15,SNR=4.8								
AFI	Afiamalu	11.07	39	P	P	17 45 00.3		-6.0
AFI				S	S	17 46 54.3		-15
AFI	Afiamalu	11.07	39	P	P	17 45 00.3		-6.0
14nm,0.3s,baz=278,slow=3.3,SNR=22								
AFI				S	S	17 46 54.3		-15
18nm,0.3s,baz=81,slow=16,SNR=7.5								
NFK	Norfolk Island	13.40	239	P	P	17 45 35.8		+4.1
baz=15,SNR=4.8								
DZM	Mont Dzumac	13.55	270	eLR	LR	17 48 04.5		
448nm,23.6s								
DZM	Mont Dzumac	13.55	270	eP	P	17 45 34.1		+0.6
DZM	Mont Dzumac	13.55	270	P	P	17 45 35.5		+2.0
DZM	Mont Dzumac	13.55	270	P	P	17 45 35.5		+2.0
1.0nm,0.3s,baz=83,slow=15,SNR=19								
OUZ	Omahuta	14.08	206	eP	P	17 45 37.3		-1.6
URZ	Urewera	15.88	191	P	P	17 45 57.8		-0.5
29nm,0.7s								
URZ				S	S	17 48 46.1		+1.1
URZ	Urewera	15.88	191	P	P	17 45 57.8		-0.5
11nm,0.3s,baz=16,slow=4.3,SNR=24								
URZ				S	S	17 48 46.1		+1.1
42nm,0.3s,baz=267,slow=22,SNR=13								
SNZO	South Karori	19.31	195	eP	P	17 46 30.4		-3.8
158nm,0.7s								
KHZ	Kahutara	20.64	196	eP	P	17 46 43.6		-2.8
90nm,0.7s								
KHZ				eS	S	17 50 07.0		-3.0
RPZ	Rata Peaks	22.54	199	eP	P	17 46 59.7		-4.0
350nm,1.6s								
RPZ	Rata Peaks	22.54	199	P	P	17 47 04.3		+0.6
80nm,0.6s,baz=319,slow=1.9,SNR=60								
ODZ	Otahua Downs	23.87	199	eP	P	17 47 13.7		-2.0
204nm,2.1s								
TBI	Tubuai	27.10	97	eLR	LR	17 53 53.0		
382nm,28.2s								
ARMA	Armidale	27.38	247	eP	P	17 47 45.9		-1.3
40nm,1.0s								
ARMA	Armidale	27.38	247	P	P	17 47 48.6		+1.4
baz=29,SNR=15								
EIDS	Eidsvold	27.50	258	eP	P	17 47 45.6		-2.5
140nm,1.3s								
EIDS	Eidsvold	27.50	258	P	P	17 47 48.7		+0.5
baz=29,SNR=10								
PPT2	Papeete2	27.99	85	eLR	LR	17 54 23.5		
303nm,25.5s								
MGCD	Mangrove Creek	28.38	242	P	P	17 47 57.7		+1.9
baz=30,SNR=8.8								
CTA	Charters Tower	32.49	268	P	P	17 48 32.1		+0.4
CTA	Charters Tower	32.49	268	P	P	17 48 32.1		+0.4
32nm,0.4s,baz=95,slow=10,SNR=47								
RABL	Rabaul	33.48	299	P	P	17 48 32.3		-8.1
baz=34,SNR=22								
MTSU	Mount Surprise	34.69	271	P	P	17 48 51.0		+0.5
baz=36,SNR=7.9								
STKA	Stephens Creek	36.10	247	P	P	17 49 02.7		+0.5
STKA	Stephens Creek	36.10	247	P	P	17 49 02.7		+0.5
25nm,1.0s,baz=96,slow=10,SNR=3.7								
STKA	Stephens Creek	36.10	247	P	P	17 49 03.5		+1.3
baz=38,SNR=3.6								
COEN	Coen	36.93	277	eP	P	17 49 10.1		+0.8
263nm,1.0s								
COEN	Coen	36.93	277	P	P	17 49 09.8		+0.4
baz=38,SNR=6.9								
ASAR	Alice Springs	43.22	259	P	P	17 49 59.8		-0.5
ASAR	Alice Springs	43.22	259	P	P	17 49 59.8		-0.5
42nm,0.9s,baz=92,slow=8.1,SNR=46								
WRAB	Tennant Creek	43.48	265	P	P	17 50 01.0		-1.3
271nm,1.1s,SNR=5.2								
WRA	Warramunga Arr	43.49	265	P	P	17 50 01.2		-1.2
WRA	Warramunga Arr	43.49	265	P	P	17 50 01.2		-1.2
20nm,0.8s,baz=96,slow=8.4,SNR=48								
KDU	Kakadu	47.19	274	P	P	17 50 29.8		-1.2
baz=48,SNR=17								
FORT	Forrest	47.66	248	eP	P	17 50 32.3		-2.1
91nm,0.8s								
FORT	Forrest	47.66	248	P	P	17 50 34.0		-0.5
baz=49,SNR=8.9								
MTN	Manton Dam	48.37	273	P	P	17 50 38.8		-1.1
baz=50,SNR=7.4								
KNRA	Kununurra	49.70	268	P	P	17 50 48.9		-0.9
baz=51,SNR=9.8								
FITZ	Fitzroy Crossi	51.92	264	eP	P	17 51 05.8		-0.4
49nm,1.2s								
FITZ	Fitzroy Crossi	51.92	264	P	P	17 51 05.9		-0.4
24nm,1.0s,baz=127,slow=8.6,SNR=25								
FITZ	Fitzroy Crossi	51.92	264	P	P	17 51 05.8		-0.4
baz=53,SNR=6.8								
SWI	Sorong	53.02	287	P	P	17 51 13.4		-0.8
baz=54,SNR=3.8								
VNDA	Vanda	55.65	185	P	P	17 51 34.0		+2.1
VNDA	Vanda	55.65	185	P	P	17 51 34.0		+2.1
5.4nm,0.8s,baz=341,slow=6.1,SNR=6.2								
SOEI	Soe	55.75	274	P	P	17 51 34.4		+0.7
baz=57,SNR=3.3								
BATI	Baumata	56.15	273	P	P	17 51 36.6		+0.2
BATI	Baumata	56.15	273	P	P	17 51 36.6		+0.2
11nm,0.4s,baz=268,slow=3.9,SNR=5.2								
KLBR	Kellerberrin	56.37	246	P	P	17 51 37.4		-0.3
baz=58,SNR=5.5								
MBWA	Marble Bar	56.56	259	eP	P	17 51 36.8		-2.4
54nm,1.1s								
BLDU	Ballidu	57.40	247	P	P	17 51 44.3		-0.5
baz=59,SNR=5.0								
MORW	Morawa	58.22	249	P	P	17 51 50.0		-0.5
baz=60,SNR=4.1								
QSPA	South Pole Qui	67.37	180	P	P	17 52 50.6		+1.0
QSPA	South Pole Qui	67.37	180	P	P	17 52 50.6		+1.0
23nm,1.0s,baz=44,slow=3.4,SNR=6.3								
LEM	Lembang	72.16	270	P	P	17 53 14.8		-4.6
baz=73,SNR=3.8								
KSM	Kuching	72.89	279	P	P	17 53 23.3		-0.1
baz=74,SNR=5.7								
MAW	Mawson	79.21	200	eP	P	17 53 53.8		-3.8
MAW	Mawson	79.21	200	P	P	17 53 58.7		+1.1
23nm,1.0s,baz=117,slow=5.9,SNR=22								
MAW	Mawson	79.21	200	P	P	17 53 59.8		+2.2
baz=80,SNR=19								
USRK	Ussuriysk Arra	80.31	327	P	P	17 54 05.5		+1.8
1.7nm,0.9s,baz=151,slow=3.3,SNR=4.1								
USRK				pP	pP	17 55 34.4		-0.8
0.5nm,0.5s,baz=166,slow=27,SNR=2.1								
NJ2	Nanjing	80.64	310	eP	P	17 54 04.3		-1.4
NJ2				pmax	pmax			
comp=Z,30nm,0.6s								
PPI	Padang Panjang	81.23	273	P	P	17 54 05.3		-4.0
baz=82,SNR=4.8								
LPIG	La Paz	81.26	59	P	P	17 54 10.0		+0.8
LPIG	La Paz	81.26	59	P	P	17 54 10.0		+0.8
comp=Z,29nm,0.3s,baz=184,slow=3.6,SNR=4.4								
MDJ	Mudanjiang	81.83	326	P	P	17 54 10.3		-1.4
MDJ				pP	pP	17 55 42.0		-1.6
MDJ				sP	sP	17 56 25.0		-1.1
MDJ				PP	PP	17 57 25.6		-0.5
MDJ				S	S	18 03 50.9		+0.7
MDJ				sS	sS	18 06 36.8		+3.0
MDJ				SS	SS	18 09 23.9		+4.0
MDJ				pmax	pmax			
comp=Z,88nm,4.6s								
NVAR	Mina Array Bea	83.21	44	P	P	17 54 19.0		-0.1
NVAR				pP	pP	17 55 52.8		+1.4
NVAR	Mina Array Bea	83.21	44	P	P	17 54 19.0		-0.1
comp=Z,0.6nm,0.7s,baz=229,slow=8.2,SNR=5.2								
NVAR				pP	pP	17 55 52.8		+1.4
comp=Z,0.1nm,0.2s,baz=139,slow=20,SNR=3.2								
CN2	Changchun	83.53	323	eP	P	17 54 16.4		-3.9
CN2				ePP	PP	17 57 38.8		-1.1
CN2				eS	S	18 04 04.5		-2.6
SYO	Syowa Base	84.40	193	‖ ePcP	P	17 54 22.8		-1.5
VNA2	Neumayer--Watz	86.44	177	eP	P	17 54 34.5		+0.3
LHMI	Lhok Sumawe	86.60	277	P	P	17 54 32.5		-3.5
baz=88,SNR=7.4								
VNA1	Neumayer--Stat	86.67	177	eP	P	17 54 36.9		+1.6
GYA	Guiyang	87.00	300	P	P	17 54 36.0		-1.8
GYA				pP	pP	17 56 11.8		+0.7
GYA				sP	sP	17 56 54.3		+1.0
GYA				PP	PP	17 58 10.4		+2.1
GYA				SKS	SKSac	18 04 21.3		-4.4
GYA				S	S	18 04 40.5		-1.3
GYA				sS	sS	18 07 27.0		-0.6
GYA				pmax	pmax			
comp=Z,20nm,1.0s								
GYA				pmax	pmax			
comp=Z,120nm,6.2s								
TXAR	Lajitas Array	88.96	58	P	P	17 54 48.0		+1.0
TXAR	Lajitas Array	88.96	58	P	P	17 54 48.0		+1.0
comp=Z,0.7nm,0.8s,baz=218,slow=5.9,SNR=9.6								
KMI	Kunming	89.59	297	P	P	17 54 50.4		+0.3
KMI				pmax	pmax			
comp=

comp=Z,1.0nm,0.7s,baz=114,slow=1.6,SNR=14
BVAR Borovoye Array 120.19 319 PKP **PKPdf 18 00 39.4 -0.5**
BVAR Borovoye Array 120.19 319 PKP **PKPdf 18 00 39.4 -0.5**
comp=Z,1.4nm,0.5s,baz=130,slow=1.5,SNR=14
SPITS Spitsbergen Ar 124.00 356 PKP **PKPdf 18 00 46.7 +0.1**
SPITS Spitsbergen Ar 124.00 356 PKP **PKPdf 18 00 46.7 +0.1**
comp=Z,3.7nm,0.7s,baz=81,slow=5.2,SNR=5.4
AKTO Aktyubinsk 128.11 317 PKP **PKPdf 18 00 55.0 -0.1**
AKTO Aktyubinsk 128.11 317 PKP **PKPdf 18 00 55.0 -0.1**
comp=Z,1.9nm,0.7s,baz=58,slow=1.8,SNR=5.1
ARCES ARCESS Array B 130.92 349 PKP **PKPdf 18 00 59.8 -0.1**
ARCES SKPbc **SKPab 18 03 47.8 +1.8**
ARCES ARCESS Array B 130.92 349 PKP **PKPdf 18 00 59.8 -0.1**
comp=Z,1.1nm,0.6s,baz=71,slow=1.7,SNR=11
ARCES SKPbc **SKPab 18 03 47.8 +1.8**
comp=Z,2.0nm,0.8s,baz=44,slow=3.7,SNR=5.6
KMBO Kilima Mbogo 137.54 241 PKP **PKPdf 18 01 15.5 +1.2**
KMBO Kilima Mbogo 137.54 241 PKP **PKPdf 18 01 15.5 +1.2**
comp=Z,0.6nm,0.3s,baz=232,slow=23,SNR=3.3
FINES FINESS Array B 137.62 342 PKP **PKPdf 18 01 12.8 +0.2**
FINES SKPbc **SKPbc 18 04 08.1 +0.8**
FINES FINESS Array B 137.62 342 PKhKP PKPpre 18 01 02.0
comp=Z,0.5nm,0.5s,baz=90,slow=4.0,SNR=4.4
FINES PKP **PKPdf 18 01 12.8 +0.2**
comp=Z,1.1nm,0.6s,baz=64,slow=4.4,SNR=3.6
FINES SKPbc **SKPbc 18 04 08.1 +0.8**
comp=Z,3.6nm,1.1s,baz=39,slow=12,SNR=5.6
AKASG Malin Array Be 144.49 329 PKP PKPbc 18 01 23.8 -1.1
AKASG Malin Array Be 144.49 329 PKP PKPbc 18 01 23.8 -1.1
comp=Z,2.3nm,0.4s,baz=45,slow=4.5,SNR=21
SUW Suwalki 144.56 337 *e*PKP PKPbc 18 01 24.7 -0.3
LLD Lille Linde 146.37 349 *i* P PKPdf 18 01 18.6 -10
comp=Z,44nm,0.9s
ASF Jabal al Asfar 146.97 294 PKPbc **PKPbc 18 01 32.9 +0.1**
ASF Jabal al Asfar 146.97 294 PKPbc **PKPbc 18 01 32.9 +0.1**
comp=Z,5.2nm,0.8s,baz=256,slow=1.6,SNR=7.8
KIS Kishinev 147.06 324 *e*P **PKPdf 18 01 31.0 +1.3**
GKP Gorka Klasztor 147.09 342 *e*PKP **PKPbc 18 01 32.9 +0.5**
BEL Belsk 147.18 337 *e*PKP **PKPbc 18 01 33.3 +0.6**
BRTR Keskin Array B 147.62 309 PKPbc **PKPbc 18 01 34.0 -0.5**
BRTR pPKPbc **pPKPbc 18 03 13.7 +1.1**
BRTR Keskin Array B 147.62 309 PKPbc **PKPbc 18 01 34.0 -0.5**
comp=Z,6.6nm,1.0s,baz=129,slow=3.3,SNR=24
BRTR pPKPbc **pPKPbc 18 03 13.7 +1.1**
comp=Z,0.3nm,0.4s,baz=204,slow=30,SNR=3.2
BSEG Bad Segeberg 148.04 350 *e*PKPbc **PKPbc 18 01 34.9 +0.1**
KWP Kalwaria Pacla 148.18 333 *e*PKP **PKPbc 18 01 35.7 +0.3**
RUE Ruedersdorf 148.71 345 *e*PKPbc **PKPbc 18 01 36.7 +0.2**
KOLS Kolonicke sedl 148.90 333 *e*PKP **PKPbc 18 01 37.4 +0.2**
EIL Elat 148.90 290 PKPbc **PKPbc 18 01 38.4 +0.5**
EIL Elat 148.90 290 PKPbc **PKPbc 18 01 38.4 +0.5**
comp=Z,15nm,1.1s,baz=12,slow=0.4,SNR=13
STHS Stebnicka Huta 148.95 334 *e*PKP **PKPbc 18 01 38.5 +1.2**
CRVS Cervenica-Dubn 149.27 333 *e*PKP **PKPbc 18 01 38.3 +0.2**
NRDL Niedersach Rie 149.46 349 *e*PKPbc **PKPbc 18 01 38.5 +0.2**
KSP Ksiaz 149.51 341 *e*PKP **PKPbc 18 01 38.8 +0.2**
OKC Ostrava-Krasne 149.77 338⇑*e*PKP **PKPbc 18 01 39.3 0.0**
OKC *e*PKPAB **PKPab 18 01 49.8 +3.6**
UPC Upice 149.89 341⇑*e*PKP **PKPbc 18 01 40.4 +0.9**
UPC *e*PKPAB **PKPab 18 01 46.1 -0.6**
UPC *ep*PKP pPKPdf 18 03 23.9 +10
DPC Dobruska-Polom 149.93 340 *e*PKPDF **PKPdf 18 01 34.0 -0.4**
DPC ⇑*i*PKP **PKiKP 18 01 40.1 -0.3**
DPC *ex* x 18 01 53.8
DPC *ep*PKP pPKPdf 18 03 25.4 +11
CLL Collm 149.98 345 *e*PKPdf **PKPdf 18 01 34.0 -0.3**
CLL ⇑*i*PKPbc **PKPbc 18 01 39.6 -0.1**
comp=Z,28nm,0.8s
CLL *e*PKPab **PKPab 18 01 47.0 0.0**
comp=Z,4.0nm,0.9s
CLL *ep*PKPab **pPKPab 18 03 21.0 -1.4**
CLL *e* 18 03 32.0
KECS Kecovo 150.00 334 *e*PKP **PKPbc 18 01 40.5 +0.7**
IBBN Ibbenburen 150.00 352 *e*PKPbc **PKPbc 18 01 39.9 +0.2**
BRG Berggiesshubel 150.15 344 *i* PKP **PKPbc 18 01 40.2 +0.1**
comp=Z,23nm,0.8s
BRG
comp=Z,341nm,18.0s
BRG
comp=N,156nm,27.8s
BRG
comp=E,371nm,27.8s
BRG Berggiesshubel 150.15 344 *e*PKPbc **PKPbc 18 01 40.2 +0.1**
FBE Freiberg 150.25 344 *e*PKPbc **PKPbc 18 01 40.8 +0.5**
PVCC Panska Ves 150.29 343⇑*i*PKP **PKPbc 18 01 41.4 +0.9**
NEUB Neuenburg 150.36 346 *e*PKPbc **PKPbc 18 01 40.7 +0.1**
VYHS Vyhne 150.64 336 *e*PKP **PKPbc 18 01 41.4 0.0**
PRA Prague 150.74 342 ⇑⇑PKP **PKPbc 18 01 42.0 +0.5**
PRA PKPAB **PKPab 18 01 51.0 +0.8**
PRA pPKP pPKPdf 18 03 26.0 +11
PRU Pruhonice 150.78 342⇑*i*PKP **PKPbc 18 01 42.0 +0.4**
PRU *e*PKPAB **PKPab 18 01 50.9 +0.5**
PRU *ep*PKP pPKPdf 18 03 25.8 +11
BUG Bochum--Univer 150.92 352 *e*PKPbc **PKPbc 18 01 41.7 -0.1**
MOX Moxa 150.92 346 *e*PKPbc **PKPbc 18 01 41.9 0.0**
TANN Tannenbergstha 150.94 345 *e*PKPbc **PKPbc 18 01 42.1 0.0**
WERD Werda 150.95 345 *e*PKPbc **PKPbc 18 01 42.1 +0.1**
GUNZ Gunzen 151.02 345 *e*PKPbc **PKPbc 18 01 42.4 +0.2**
WERN Wernitzgruen 151.08 345 *e*PKPbc **PKPbc 18 01 42.7 +0.3**
UBBA Unterbreizbach 151.09 348 *e*PKPbc **PKPbc 18 01 42.2 +0.1**
TREC Trest 151.12 340⇑*i*PKP **PKPbc 18 01 42.8 +0.3**
TREC *e*PKPAB **PKPab 18 01 51.9 0.0**
ROTZ Rotzenmuhle 151.60 345 *e*PKPbc **PKPbc 18 01 43.7 +0.2**
KHC Kasperske Hory 151.83 342 *e*PKPDF **PKPdf 18 01 37.7 +0.4**
KHC ⇑*i*PKP **PKiKP 18 01 44.7 +0.3**
KHC *e*PKPAB **PKPab 18 01 55.4 +0.5**
KHC *ep*PKP pPKPdf 18 03 26.2 +9.2
MEM Membach 151.88 353 PKPbc **PKPbc 18 01 44.4 +0.3**
TNS Taunus Mts 151.93 350 *e*PKPbc **PKPbc 18 01 44.2 -0.1**
WET Wettzell 152.01 343 *e*PKPbc **PKPbc 18 01 44.6 +0.1**
GEC2 GERESS Array S 152.05 342 *e*PKPbc **PKPbc 18 01 44.5 -0.2**
GERES GERESS Array B 152.05 342 PKP **PKPdf 18 01 37.9 +0.1**
GERES PKPbc **PKiKP 18 01 45.0 +0.1**
GERES GERESS Array B 152.05 342 PKP **PKPdf 18 01 37.9 +0.1**
comp=E,0.3nm,0.8s,baz=22,slow=1.4,SNR=4.2
GERES PKPbc **PKiKP 18 01 45.0 +0.1**
comp=E,3.4nm,0.9s,baz=50,slow=2.1,SNR=21
SNF Seneffe 152.13 356 PKPbc **PKPbc 18 01 45.6 +1.0**
DOU Dourbes 152.52 355 PKPbc **PKPdf 18 01 41.3 +3.1**
DOU E 18 01 45.4
WLF Walferdange 152.80 353 PKPbc **PKPbc 18 01 47.1 +0.9**
WLF Walferdange 152.80 353 *e*PKPbc **PKPbc 18 01 46.7 +0.6**
RJOB Jochberg 153.31 342 *e*PKPbc **PKPbc 18 01 46.7 -0.7**
BFO Black Forest 153.78 349 *e*PKPbc **PKPbc 18 01 48.2 -0.2**
TORD Torodi Ar. Bea 170.48 184 PKP **PKPdf 18 01 56.2 -1.4**
TORD PKPab **PKPab 18 03 17.5 +0.6**
TORD PP **PP 18 07 08.8 +2.5**
TORD Torodi Ar. Bea 170.48 184 PKP **PKPdf 18 01 56.2 -1.4**
comp=E,2.4nm,1.2s,baz=280,slow=0.8,SNR=5.8
TORD PKPab **PKPab 18 03 17.5 +0.6**
comp=E,2.9nm,0.9s,baz=173,slow=3.4,SNR=11
TORD PP **PP 18 07 08.8 +2.5**
comp=E,2.2nm,1.1s,baz=151,slow=4.6,SNR=5.1

*ISCJB **23** 17:49:32.8±0.7,24°.68N±0°.04×122°.34E±0°.02,h91km±6km, Error ellipse: s-maj=7.5km s-min=3.1km az=169.9*
*TAP **23** 17:49:32.9,24°.71N×122°.29E,h95km,ML3.1,C*
*JMA **23** 17:49:33.4±0.2,24°.75N×122°.39E,h90km±2km,M2.1*
ISC 23 17:49:33.4±1.6,24°.65N±0°.06×122°.34E±0°.03,h88km±11km, n36,σ0°74/66,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.45**	**265**	*i* P	**Pn**	**17 49 47.6**	**+0.1**
	baz=255						
TWC				*e*S	**Sn**	**17 49 58.2**	**+0.1**
	baz=255						
TWB1	**Santiao Chiao**	**0.48**	**319**⇑	*i*P	**Pn**	**17 49 47.7**	**-0.1**
	baz=311						
TWB1				S	**Sn**	**17 49 58.1**	**-0.4**
	baz=311						
ENA	**Nanau**	**0.58**	**248**⇑	*i*P	**Pn**	**17 49 49.1**	**+0.4**
	baz=240						
ENA				*e*S	**Sn**	**17 50 00.8**	**+0.7**
	baz=240						
TWE	**Neicheng**	**0.61**	**277**	P	**Pn**	**17 49 48.9**	**0.0**
	baz=273						
TWE				S	**Sn**	**17 50 00.7**	**+0.2**
	baz=273						
YOJ	**Yonaguni jima**	**0.64**	**107**	P	**Pn**	**17 49 49.4**	**+0.2**
YOJ				S	**Sn**	**17 50 01.2**	**+0.2**
NWF	**Wu-fen Shan**	**0.66**	**310**	*e*P	**Pn**	**17 49 48.2**	**-1.3**
	baz=299						
NWF				*e*S	**Sn**	**17 50 00.7**	**-0.7**
	baz=299						
ENTT	**Nioudou**	**0.70**	**269**	P	**Pn**	**17 49 50.3**	**+0.5**
	baz=265						
ENTT				*e*S	**Sn**	**17 50 02.6**	**+0.5**
	baz=265						
TWA	**Mucha**	**0.76**	**296**	*e*P	**Pn**	**17 49 50.1**	**-0.3**
	baz=287						
TWA				*e*S	**Sn**	**17 50 02.2**	**-0.9**
	baz=287						
TWD	**Chiawan**	**0.88**	**230**	P	**Pn**	**17 49 51.5**	**-0.2**
	baz=221						
TWD				S	**Sn**	**17 50 05.6**	**+0.3**
	baz=221						
NSK	**Sanguang**	**0.89**	**272**⇓	*i*P	**Pn**	**17 49 52.0**	**+0.2**
	baz=275						
NSK				S	**Sn**	**17 50 05.6**	**0.0**
	baz=275						
NNS	**Nan Shan**	**0.90**	**257**⇓	*i*P	**Pn**	**17 49 52.3**	**+0.3**
	baz=247						
NNS				S	**Sn**	**17 50 06.3**	**+0.3**
	baz=247						
HWA	**Hwalien**	**0.94**	**225**	*e*P	**Pn**	**17 49 52.3**	**-0.1**
	baz=214						
WHF	**Hehuan Shan**	**1.10**	**243**	*i* P	**Pn**	**17 49 54.5**	**-0.1**
	baz=233						
WHF				S	**Sn**	**17 50 09.9**	**-0.5**
	baz=233						
TWT	**Tachien**	**1.13**	**250**	*e*P	**Pn**	**17 49 55.5**	**+0.8**
	baz=239						
TWT				*e*S	**Sn**	**17 50 11.0**	**+0.3**
	baz=239						
NSTT	**Nanjuang**	**1.22**	**269**	*e*P	**Pn**	**17 49 55.3**	**-0.3**
	baz=266						
NSTT				S	**Sn**	**17 50 12.2**	**0.0**
	baz=266						
IRIF	**Iriomote-Funau**	**1.31**	**104**	P	**Pn**	**17 49 56.5**	**-0.2**
IRIF				S	**Sn**	**17 50 14.7**	**+0.5**
TWQ1	**Liyutan**	**1.46**	**258**	*e*P	**Pn**	**17 49 58.3**	**-0.3**
	baz=255						
TWQ1				*e*S	**Sn**	**17 50 17.6**	**+0.1**
	baz=255						
HATJ	**Hateruma jima**	**1.46**	**113**	P	**Pn**	**17 49 59.0**	**+0.4**
HATJ				*e*S	**Sn**	**17 50 18.6**	**+0.9**
EHY	**Hungye**	**1.47**	**219**	*e*P	**Pn**	**17 49 58.0**	**-0.7**
	baz=224						
EHY				*e*S	**Sn**	**17 50 17.0**	**-0.8**
	baz=224						
SMLT	**Sun Moon Lake**	**1.52**	**240**	*e*P	**Pn**	**17 50 00.3**	**+0.9**
	baz=232						
SMLT				*e*S	**Sn**	**17 50 20.3**	**+1.2**
	baz=232						
TYC	**Yuchr**	**1.54**	**242**	*e*P	**Pn**	**17 50 00.4**	**+0.8**
	baz=238						
TYC				*e*S	**Sn**	**17 50 20.3**	**+0.9**
	baz=238						
JKRS	**Kuro-shima**	**1.58**	**105**	P	**Pn**	**17 50 00.4**	**+0.3**
JKRS				*e*S	**Sn**	**17 50 20.2**	**-0.1**
TCU	**Taichung**	**1.59**	**252**	*e*P	**Pn**	**17 50 00.3**	**0.0**
	baz=249						
TWF1	**Yuli**	**1.60**	**217**	*e*P	**Pn**	**17 49 59.3**	**-1.1**
	baz=221						
TWF1				*e*S	**Sn**	**17 50 21.8**	**+0.9**
	baz=221						
JIJ	**Ishigaki jima**	**1.67**	**99**	P	**Pn**	**17 50 01.2**	**-0.1**
JIJ				S	**Sn**	**17 50 21.8**	**-0.6**
WNT	**Mingjian**	**1.69**	**243**	*e*P	**Pn**	**17 50 00.3**	**-1.2**
	baz=249						
YUS	**Yu-Shan**	**1.71**	**228**	*e*P	**Pn**	**17 50 02.7**	**+0.3**
	baz=217						
YUS				*e*S	**Sn**	**17 50 24.3**	**+0.1**
	baz=217						
CHKT	**Chengkung**	**1.78**	**210**	*e*P	**Pn**	**17 49 59.6**	**-3.1**
	baz=201						
CHKT				*e*S	**Sn**	**17 50 23.3**	**-1.7**
	baz=201						
ALS	**Alishan**	**1.80**	**231**	*e*P	**Pn**	**17 50 04.2**	**+1.0**
	baz=221						
ALS				*e*S	**Sn**	**17 50 26.7**	**+0.8**
	baz=221						
CHN5	**Tsauling**	**1.84**	**236**	*e*P	**Pn**	**17 50 04.4**	**+0.8**
	baz=243						
CHN5				*e*S	**Sn**	**17 50 26.7**	**+0.2**
	baz=243						
WGK	**Gukeng**	**1.88**	**240**	*e*P	**Pn**	**17 50 04.4**	**+0.3**
	baz=246						
WGK				*e*S	**Sn**	**17 50 27.8**	**+0.4**
	baz=246						
CHY	**Chiayi**	**2.09**	**237**	*e*P	**Pn**	**17 50 07.0**	**+0.2**
	baz=244						
JTJ	**Tarama**	**2.15**	**90**	P	**Pn**	**17 50 08.0**	**+0.4**
JTJ				*e*S	**Sn**	**17 50 33.7**	**0.0**
CHN1	**Nanshi**	**2.21**	**229**	*e*P	**Pn**	**17 50 08.8**	**+0.4**
	baz=226						
CHN1				*e*S	**Sn**	**17 50 36.2**	**+1.2**
	baz=226						
LAY	**Lan-yu**	**2.70**	**196**	*e*P	**Pn**	**17 50 13.9**	**-1.0**
	baz=188						
JOGS	**Gusukube**	**2.79**	**87**	*e*S	**Sn**	**17 50 48.9**	**-0.1**

DJA 23 17:56:57.4±1.6,2°S±15°×9°9E±°,h16km,M3.8/4,MLv3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.27**	**62**	P	Pn	17 57 18.6	-2.0
PDSI				S	Sb	17 57 36.4	-0.9
PPI	**Padang Panjang**	**1.49**	**45**	P	Pn	17 57 23.0	-0.6
SDSI	**Sungai Dareh**	**2.17**	**74**	P	Pn	17 57 33.0	+0.1
SDSI				S	Sn	17 58 00.7	+1.3
BKNI	**Bangkinang**	**2.50**	**43**	P	Pn	17 57 37.7	+0.2

*IDC **23** 18:04:12.4±3.1,1°.78S×99°.35E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.5/23,mbtmp3.7/5,Error ellipse: s-maj=171.8km s-min=22.1km az=52.0*
*ISCJB **23** 18:04:15.1±1.0,1°.69S±0°.10×99°.33E±0°.08,h30km, mb3.7/5,Error ellipse: s-maj=15.8km s-min=9.5km az=148.2*
*DJA **23** 18:04:19.4±1.3,2°S±9°×10°0E±°,h20km,M4.3/4,MLv4.3/4*
ISC 23 18:04:17.4±1.2,1°.6S±0°.1×99°.45E±0°.10,h30km,n10, σ0°75/13,mb3.8/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.23**	**56**	P	**Pn**	**18 04 37.7**	**-0.9**
PDSI				S	**Sn**	**18 04 54.5**	**+0.4**
PPI	**Padang Panjang**	**1.48**	**40**	P	**Pn**	**18 04 41.9**	**-0.2**
PPI				S	**Sb**	**18 05 02.4**	**-0.4**
SDSI	**Sungai Dareh**	**2.09**	**71**	P	**Pn**	**18 04 51.9**	**+1.5**
SDSI				S	**Sb**	**18 05 20.0**	**-0.2**
BKNI	**Bangkinang**	**2.49**	**40**	P	**Pb**	**18 05 01.7**	**+0.1**
WRA	**Warramunga Arr**	**38.67**	**121**	P	**P**	**18 11 37.7**	**-1.0**
	0.4nm,0.9s,baz=303,slow=9.1,SNR=5.8						
ASAR	**Alice Springs**	**39.93**	**126**	P	**P**	**18 11 48.9**	**-0.4**
	0.3nm,0.7s,baz=304,slow=8.6,SNR=8.1						
MKAR	**Makanchi Array**	**50.50**	**345**	P	**P**	**18 13 13.7**	**+0.9**
	0.9nm,0.7s,baz=152,slow=7.9,SNR=9.6						
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**18 13 58.2**	**+0.3**
	1.4nm,0.5s,baz=163,slow=5.7,SNR=5.3						
FINES	**FINESS Array B**	**83.51**	**332**	P	**P**	**18 16 42.3**	**+0.1**
	1.6nm,0.9s,baz=111,slow=10,SNR=4.4						
TXAR	**Lajitas Array**	**144.72**	**36**	PKP	**PKPdf**	**18 23 51.8**	**-0.4**
	0.3nm,0.4s,baz=249,slow=0.2,SNR=9.7						

*IDC **23** 18:06:53.6±3.1,1°.75S×99°.48E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.5/23,mbtmp3.7/5,Error ellipse: s-maj=172.4km s-min=21.8km az=51.0*
*ISCJB **23** 18:06:56.3±1.0,1°.75S±0°.10×99°.40E±0°.10,h30km, mb3.7/5,Error ellipse: s-maj=17.0km s-min=10.3km az=135.2*
*DJA **23** 18:06:58.2±1.5,2°S±10°×9°9E±°,h18km,M4.2/3,MLv4.2/3*
ISC 23 18:06:58.2±1.2,1°.6S±0°.1×99°.52E±0°.10,h30km,n9, σ1°03/12,mb3.8/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**52**	P	**Pn**	**18 07 18.6**	**-0.3**
PDSI				S	**Sb**	**18 07 35.9**	**+0.6**
PPI	**Padang Panjang**	**1.47**	**37**	P	**Pb**	**18 07 24.1**	**-0.8**
PPI				S	**Sb**	**18 07 42.8**	**-0.4**
SDSI	**Sungai Dareh**	**2.03**	**70**	P	**Pb**	**18 07 33.5**	**-1.1**
SDSI				S	**Sb**	**18 08 01.7**	**+2.2**
WRA	**Warramunga Arr**	**38.59**	**121**	P	**P**	**18 14 18.7**	**-0.2**
	0.7nm,0.4s,baz=302,slow=9.2,SNR=10						
ASAR	**Alice Springs**	**39.85**	**126**	P	**P**	**18 14 28.5**	**-0.9**
	0.6nm,0.7s,baz=297,slow=8.0,SNR=7.9						
MKAR	**Makanchi Array**	**50.56**	**345**	P	**P**	**18 15 54.9**	**+0.8**
	0.6nm,0.7s,baz=144,slow=8.8,SNR=7.1						
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	**P**	**18 16 39.3**	**+0.2**
	0.8nm,0.5s,baz=178,slow=5.3,SNR=5.0						
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**18 19 23.9**	**+0.5**
	0.4nm,0.5s,baz=106,slow=6.8,SNR=4.6						
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	**PKPdf**	**18 26 33.3**	**+0.3**
	0.3nm,0.5s,baz=217,slow=0.2,SNR=7.9						

*IDC **23** 18:14:41.2±1.6,1°.63S×99°.62E,h0km,mb3.9/7,mb1 4.0/9, mb1mx3.7/24,mbtmp3.9/9,ML3.7/2,Error ellipse: s-maj=74.5km s-min=17.3km az=60.0*
*DJA **23** 18:14:43.4±1.0,2°S±4°×9°9E±°,h20km,M4.5/5,MLv4.5/5*
ISC 23 18:14:45.5±0.9,1°.54S±0°.07×99°.54E±0°.08,h30km,n16, σ1°45/18,mb4.2/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.11**	**56**	P	**Pn**	**18 15 04.9**	**-0.2**
PDSI				S	**Sb**	**18 15 22.4**	**+2.0**
PPI	**Padang Panjang**	**1.37**	**39**	P	**Pb**	**18 15 09.2**	**-1.4**
SDSI	**Sungai Dareh**	**1.98**	**72**	P	**Pb**	**18 15 19.2**	**-1.7**
SDSI				S	**Sb**	**18 15 47.5**	**+2.3**
BKNI	**Bangkinang**	**2.38**	**39**	P	**Pb**	**18 15 25.2**	**-2.6**
PSI	**Prapat**	**4.36**	**352**	Pn	**Pn**	**18 15 49.8**	**-0.1**
	1.2nm,0.3s,baz=174,slow=10,SNR=2.8						
MNAI	**Manna**	**4.41**	**129**	P	**Pn**	**18 15 50.3**	**-0.2**
MNAI				S	**Sn**	**18 16 41.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**Pn**	**18 19 15.0**	**-1.3**
	0.2nm,0.3s,baz=188,slow=10,SNR=11						
WRA	**Warramunga Arr**	**38.62**	**121**	P	**P**	**18 22 05.2**	**-1.3**
	0.4nm,0.8s,baz=301,slow=9.6,SNR=6.9						
ASAR	**Alice Springs**	**39.89**	**126**	P	**P**	**18 22 16.2**	**-0.9**
	0.5nm,0.6s,baz=297,slow=7.9,SNR=6.0						
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**18 23 34.1**	**+0.4**
	0.4nm,0.4s,baz=191,slow=10.0,SNR=6.3						
STKA	**Stephens Creek**	**49.80**	**132**	P	**P**	**18 23 35.9**	**+0.1**
	4.5nm,1.0s,baz=30,slow=22,SNR=3.3						
MKAR	**Makanchi Array**	**50.47**	**345**	P	**P**	**18 23 41.6**	**+1.0**
	1.3nm,0.5s,baz=155,slow=8.4,SNR=24						
ZALV	**Zalesovo Beam**	**56.63**	**350**	P	**P**	**18 24 26.2**	**+0.5**
	2.2nm,0.6s,baz=163,slow=6.2,SNR=11						
ARCES	**ARCESS Array B**	**85.89**	**340**	P	**P**	**18 27 24.3**	**+2.1**
	1.8nm,0.8s,baz=73,slow=4.2,SNR=4.9						
CPUP	**Villa Florida**	**144.41**	**217**	PKP	PKPbc	18 34 18.2	+0.1
	2.2nm,0.8s,baz=65,slow=1.4,SNR=3.4						
TXAR	**Lajitas Array**	**144.61**	**36**	PKP	**PKPdf**	**18 34 19.7**	**-0.4**
	0.4nm,0.5s,baz=199,slow=0.5,SNR=11						

DJA 23 18:20:01.6±1.7,2°S±13°×10°0E±°,h15km,M3.8/3, MLv3.8/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.08**	**53**	P	Pb	18 20 17.1	-4.9
PDSI				S	Sb	18 20 34.5	-1.4
PPI	**Padang Panjang**	**1.35**	**36**	P	Pg	18 20 27.4	-0.3
SDSI	**Sungai Dareh**	**1.93**	**71**	P	Pn	18 20 34.2	+0.3
SDSI				S	Sb	18 20 59.8	-0.7

DJA 23 18:21:07.0±1.6,1°N±11°×12°4E±°,h244km±23km,M4.0/4, MLv4.0/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.22**	**252**	P	Pn	18 21 43.7	+1.0
MRSI	**Marisa**	**2.29**	**256**	P	Pn	18 21 51.5	-0.3
MRSI				S	S	18 22 38.3	+11
LUWI	**Luwuk**	**2.48**	**214**	P	Pn	18 21 53.7	+0.1
LUWI				S	S	18 22 30.6	+0.2
APSI	**Ampana**	**3.17**	**233**	P	Pn	18 22 00.9	-0.1
APSI				S	S	18 22 44.9	+1.3
LBMI	**Labuha**	**3.72**	**116**	P	Pn	18 22 07.3	+0.1

*IDC **23** 18:23:56.7±2.0,1°.62S×99°.62E,h0km,mb3.7/6,mb1 3.7/8, mb1mx3.6/24,mbtmp3.6/8,ML3.4/2,Error ellipse: s-maj=86.7km s-min=19.5km az=58.0*
*DJA **23** 18:23:59.7±1.1,2°S±5°×9°9E±°,h20km,M4.4/5,MLv4.4/5*
ISC 23 18:24:01.0±1.0,1°.62S±0°.08×99°.58E±0°.09,h30km,n14, σ1°10/16,mb3.8/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.13**	**51**	P	**Pn**	**18 24 21.1**	**+0.3**
PDSI				S	**Sb**	**18 24 37.6**	**+1.2**
PPI	**Padang Panjang**	**1.42**	**35**	P	**Pn**	**18 24 25.3**	**+0.5**
PPI				S	**Sb**	**18 24 45.2**	**+0.6**
SDSI	**Sungai Dareh**	**1.97**	**70**	P	**Pb**	**18 24 34.8**	**-1.5**
SDSI				S	**Sb**	**18 25 02.2**	**+1.7**
BKNI	**Bangkinang**	**2.43**	**37**	P	**Pb**	**18 24 41.3**	**-2.7**
MASI	**Maura Aman, Be**	**3.06**	**120**	P	**Pn**	**18 24 47.5**	**+0.1**
PSI	**Prapat**	**4.44**	**352**	Pn	Pn	18 25 02.2	-4.2
	1.6nm,0.3s,baz=166,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**18 28 31.2**	**+0.3**
	0.0nm,0.3s,baz=187,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**18 31 20.6**	**-0.7**
	0.3nm,0.5s,baz=301,slow=9.1,SNR=5.5						
ASAR	**Alice Springs**	**39.81**	**126**	P	**P**	**18 31 31.9**	**0.0**
	0.6nm,0.9s,baz=292,slow=7.5,SNR=6.9						
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**18 32 50.2**	**+0.5**
	0.5nm,0.8s,baz=185,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**50.55**	**345**	P	**P**	**18 32 57.2**	**+0.5**
	1.2nm,0.7s,baz=154,slow=7.7,SNR=14						
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	**P**	**18 33 42.0**	**+0.3**
	1.4nm,0.5s,baz=177,slow=5.3,SNR=8.1						
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**18 36 26.5**	**+0.4**
	0.5nm,0.5s,baz=72,slow=13,SNR=4.6						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	**PKPdf**	**18 43 35.5**	**-0.1**
	0.6nm,0.6s,baz

baz=2.8,SNR=49
FAKI Fak Fak 4.00 27 P **Pn 18 35 19.6 +2.2**
baz=4.2,SNR=7.2
FAKI S **Sn 18 36 01.9 -1.3**
baz=4.2,SNR=6.1
SWI Sorong 5.68 8 P **Pn 18 35 40.5 +0.4**
baz=5.7,SNR=23
SWI S **Sn 18 36 39.8 -4.1**
baz=5.7,SNR=5.0
MTN Manton Dam 6.32 174 P Pn 18 35 52.5 +3.6
baz=6.5,SNR=92
KDU Kakadu 6.45 162 P Pn 18 35 54.5 +3.9
baz=6.7,SNR=206
KDU S **Sn 18 37 05.9 +3.1**
baz=6.7,SNR=8.3
SOEI Soe 6.90 242 P **Pn 18 35 58.0 +1.0**
baz=6.6,SNR=7.5
SOEI S **Sn 18 37 15.7 +1.6**
baz=6.6,SNR=4.0
BATI Baumata 7.64 241 Pn **Pn 18 36 07.5 +0.7**
3.8nm,0.3s,baz=71,slow=1.9,SNR=35
BATI Sn Sn 18 37 26.7 -5.2
4.2nm,0.3s,baz=203,slow=15,SNR=4.1
KNRA Kununurra 9.25 190 P **Pn 18 36 29.4 +0.6**
baz=9.3,SNR=82
KNRA S **Sn 18 38 10.5 -0.6**
baz=9.3,SNR=4.0
FITZ Fitzroy Crossi 12.43 202 P **Pn 18 37 09.8 -2.1**
baz=12,SNR=33
WRA Warramunga Arr 13.87 165 Pn **Pn 18 37 30.7 -0.3**
1.2nm,0.3s,baz=344,slow=13,SNR=39
WRA Sn **Sn 18 39 59.9 -3.7**
1.3nm,0.3s,baz=329,slow=21,SNR=8.1
COEN Coen 14.54 122 P **P 18 37 46.6 +2.8**
baz=15,SNR=7.9
COEN S **Sn 18 40 17.5 -2.5**
baz=15,SNR=4.8
ASAR Alice Springs 17.37 169 P **P 18 38 17.2 +2.2**
0.6nm,0.3s,baz=346,slow=9.5,SNR=34
ASAR S **Sn 18 41 22.7 -5.6**
0.2nm,0.3s,baz=358,slow=28,SNR=5.0
PPI Padang Panjang 30.57 280 S **S 18 45 18.3 -1.0**
baz=30,SNR=4.2
MKAR Makanchi Array 68.06 327 P P 18 45 05.0 -3.2
0.1nm,0.4s,baz=127,slow=7.3,SNR=5.8

*IDC **23** 18:45:45.1±3.7,2°.03S×98°.93E,h0km,mb3.3/5,mb1 3.5/5, mb1mx3.4/23,mbtmp3.4/5,Error ellipse: s-maj=153.7km s-min=21.8km az=57.0*
*ISCJB **23** 18:45:49.5±1.1,1°.7S±0°.1×99°.38E±0°.10,h30km,mb3.4/4, Error ellipse: s-maj=16.6km s-min=13.0km az=151.4*
*DJA **23** 18:45:54.8±1.6,1°.5±17°×10°0E±1°.1,h15km,M4.1/4, MLv4.1/4*
ISC 23 18:45:51.9±1.3,1°.5S±0°.1×99°.5E±0°.1,h30km,n10, σ1§23/11,mb3.4/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**58**	P	**Pn**	**18 46 11.8**	**-0.4**
PDSI				S	**Sb**	**18 46 27.9**	**-0.4**
PPI	**Padang Panjang**	**1.41**	**41**	P	**Pn**	**18 46 15.4**	**-0.2**
BKNI	**Bangkinang**	**2.42**	**40**	P	**Pb**	**18 46 34.2**	**-0.6**
RGRI	**Rengat**	**3.10**	**68**	P	**Pn**	**18 46 41.6**	**+2.8**
CMAR	**Chiang Mai Arr**	**19.87**	**359**	P	**Pn**	**18 50 23.4**	**+0.9**
	0.5nm,0.5s,baz=183,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**38.69**	**121**	P	**P**	**18 53 12.8**	**-0.6**
	0.4nm,0.8s,baz=304,slow=8.8,SNR=3.6						
ASAR	**Alice Springs**	**39.96**	**126**	P	**P**	**18 53 22.6**	**-1.4**
	0.2nm,0.5s,baz=306,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**18 54 47.2**	**+0.4**
	0.3nm,0.6s,baz=157,slow=7.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	**P**	**18 55 32.1**	**+0.3**
	0.5nm,0.3s,baz=186,slow=5.8,SNR=3.9						
TXAR	**Lajitas Array**	**144.65**	**36**	PKPbc	**PKPab**	**19 05 25.1**	**-0.1**
	0.2nm,0.4s,baz=162,slow=0.9,SNR=4.4						

*IDC **23** 18:51:19.8±1.2,37°.30N×53°.84E,h0km,mb3.4/7, mb1 3.6/11,mb1mx3.4/31,mbtmp3.5/11,ML3.7/4,MS2.8/1, Ms1 2.8/1,ms1mx2.4/28,Error ellipse: s-maj=19.8km s-min=14.5km az=10.0*
*ISCJB **23** 18:51:20.4±0.2,37°.37N±0°.02×54°.01E±0°.02,h10km, mb3.5/9,MS2.9/2,Error ellipse: s-maj=2.8km s-min=2.4km az=135.5*
*THR **23** 18:51:21.2±0.8,37°.34N×54°.10E,h14km±11km,ML4.0*
*CSEM **23** 18:51:21.7±0.1,37°.31N×54°.09E,h5km,ML3.9,Error ellipse: s-maj=3.9km s-min=3.2km az=11.0*
*TEH **23** 18:51:22.7,37°.28N×54°.04E,h4km,ML3.9*
*MOS **23** 18:51:25.8±2.7,37°.57N×53°.77E,h38km,mb4.3/2,Error ellipse: s-maj=13.5km s-min=8.4km az=117.7*
*AZER **23** 18:51:32.6,37°.74N×52°.78E,h3km*
*NNC **23** 18:51:34.7±15.0,38°.27N×54°.67E,h0km,mb3.7,Error ellipse: s-maj=212.0km s-min=81.8km az=71.0*
ISC 23 18:51:21.6±0.4,37°.31N±0°.03×54°.03E±0°.02,h10km,n158, σ1§40/181,mb3.4/9,20C-16D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.82**	**191⇑**	*e*Pg	**Pg**	**18 51 36.9**	**-0.6**
IGLO				*e*Sg	**Sg**	**18 51 47.4**	**-0.9**
IGLO				*e*		18 51 52.8	
	comp=Z,13μm,0.2s						
IMND	**Minoodasht**	**1.10**	**92**	*e*Pg	**Pn**	**18 51 43.7**	**+0.7**
IMND				*e*Sg	**Sn**	**18 51 58.2**	**0.0**
IMND	**Minoodasht**	**1.10**	**92**	*e*Pg	**Pn**	**18 51 43.7**	**+0.7**
IMND				*e*Sg	**Sn**	**18 51 58.2**	**0.0**
IKIA	**Kiasar**	**1.14**	**194⇑**	*e*Pg	**Pb**	**18 51 42.7**	**-0.8**
IKIA				*e*		18 51 44.3	
	comp=Z,53μm,0.2s						
IKIA				*e*Sg	**Sg**	**18 51 57.9**	**-0.4**
IKIA	**Kiasar**	**1.14**	**194⇑**	*e*Pg	**Pb**	**18 51 42.7**	**-0.8**
IKIA				*e*Sg	**Sg**	**18 51 57.9**	**-0.4**
IALA	**Alasht**	**1.57**	**219**	*e*Pn	**Pn**	**18 51 50.1**	**+0.3**
IALA				*e*Sg	**Sb**	**18 52 11.7**	**+0.7**
IALA				*e*		18 52 14.5	
	comp=Z,2μm,0.2s						
IALA	**Alasht**	**1.57**	**219**	*e*Pn	**Pn**	**18 51 50.1**	**+0.3**
IALA				*e*Sg	**Sb**	**18 52 11.7**	**+0.7**
ISHM	**Shahmirzad**	**1.62**	**202⇓**	*e*Pn	**Pn**	**18 51 50.9**	**+0.5**
ISHM				*e*		18 52 18.7	
	comp=Z,53μm,0.2s						
ISHM	**Shahmirzad**	**1.62**	**202⇓**	*e*Pn	**Pn**	**18 51 50.9**	**+0.5**
MRVT	**Maraveh tapeh**	**1.67**	**77**	*e*Pg	**Pn**	**18 51 50.8**	**-0.2**
MRVT				*e*Sg	**Sn**	**18 52 12.6**	**+0.1**
MRVT	**Maraveh tapeh**	**1.67**	**77**	*e*Pg	**Pn**	**18 51 50.8**	**-0.2**
MRVT				*e*Sg	**Sn**	**18 52 12.6**	**+0.1**
IANJ	**Anjilo**	**1.84**	**183**	*e*Pn	**Pn**	**18 51 54.4**	**+0.9**
IANJ				*e*		18 52 22.9	
	comp=Z,29μm,0.2s						
IANJ	**Anjilo**	**1.84**	**183**	*e*Pn	**Pn**	**18 51 54.4**	**+0.9**
IFIR	**Firoozkooh**	**1.96**	**212**	*e*Pn	**Pn**	**18 51 56.3**	**+1.2**
IFIR				*e*		18 52 25.8	
	comp=Z,26μm,0.1s						
IFIR	**Firoozkooh**	**1.96**	**212**	*e*Pn	**Pn**	**18 51 56.3**	**+1.2**
SHRO	**Shahrood**	**2.07**	**129**	*e*Pg	**Pb**	**18 51 58.1**	**-1.1**
SHRO				*e*Sg	**Sb**	**18 52 25.6**	**+0.6**
SHRO	**Shahrood**	**2.07**	**129**	*e*Pg	**Pb**	**18 51 58.1**	**-1.1**
SHRO				*e*Sg	**Sb**	**18 52 25.6**	**+0.6**
ILAS	**Lasjerd**	**2.11**	**205**	*e*Pn	**Pn**	**18 51 58.5**	**+1.3**
ILAS				*e*		18 52 35.0	
	comp=Z,14μm,0.2s						
ILAS	**Lasjerd**	**2.11**	**205**	*e*Pn	**Pn**	**18 51 58.5**	**+1.3**
DAMV	**Damavand**	**2.36**	**225**	*e*Pn	**Pn**	**18 52 02.4**	**+1.8**
DAMV				AML	AML	18 52 41.7	
	comp=E,703nm,0.4s						
DAMV				AML	AML	18 52 45.0	
	comp=N,696nm,0.5s						
DAMV	**Damavand**	**2.36**	**225**	*e*Pn	**Pn**	**18 52 02.4**	**+1.8**
IDMV	**Damavand**	**2.37**	**224**	*e*		18 52 08.9	
	comp=Z,10μm,0.1s						
IDMV				*e*Pn	**Pn**	**18 52 02.6**	**+1.9**
IDMV				*e*Sg	**Sb**	**18 52 34.2**	**+0.4**
BJRD	**Bojnurd**	**2.71**	**81**	*e*Pn	**Pn**	**18 52 05.7**	**+0.4**
BJRD	**Bojnurd**	**2.71**	**81**	*e*Pn	**Pn**	**18 52 05.7**	**+0.4**
THKV	**Tehran--Karaj**	**2.90**	**242**	*e*Pn	**Pn**	**18 52 09.6**	**+1.7**
THKV				AML	AML	18 53 01.6	
	comp=E,855nm,0.5s						
THKV				AML	AML	18 53 02.8	
	comp=N,1μm,0.5s						
THKV	**Tehran--Karaj**	**2.90**	**242**	*e*Pn	**Pn**	**18 52 09.6**	**+1.7**
IVRN	**Varamin**	**2.97**	**220**	*e*Sg	**Sg**	**18 52 54.3**	**-2.7**
IVRN				*e*Pn	**Pn**	**18 52 09.9**	**+1.1**
IVRN				*e*		18 52 57.6	
	comp=Z,5μm,0.2s						
IR3	**Iran Long-Peri**	**3.04**	**234**	*e*Pn	**Pn**	**18 52 11.8**	**+2.0**
IR3	**Iran Long-Peri**	**3.04**	**234**	*e*Pn	**Pn**	**18 52 11.8**	**+2.0**
IMHD	**Mahdasht**	**3.16**	**240**	*e*Pn	**Pb**	**18 52 15.3**	**-2.6**
IMHD				*e*		18 53 09.0	
	comp=Z,4μm,0.2s						
IMHD	**Mahdasht**	**3.16**	**240**	*e*Pn	**Pb**	**18 52 15.3**	**-2.6**
ISFR	**Sfrayin**	**3.18**	**93**	*e*Pn	**Pn**	**18 52 12.5**	**+0.6**
ISFR				*e*		18 53 06.2	
	comp=Z,3μm,0.3s						
ISFR	**Sfrayin**	**3.18**	**93**	*e*Pn	**Pn**	**18 52 12.5**	**+0.6**
IGZV	**Ghazvin**	**3.20**	**254**	*e*Pn	**Pn**	**18 52 13.1**	**+1.0**
IGZV				*e*		18 53 07.7	
	comp=Z,7μm,0.2s						
IGZV	**Ghazvin**	**3.20**	**254**	*e*Pn	**Pn**	**18 52 13.1**	**+1.0**
ISFB	**Sefidab**	**3.29**	**207**	*e*Pn	**Pn**	**18 52 14.2**	**+0.9**
ISFB				*e*		18 53 09.4	
	comp=Z,3μm,0.2s						
ISFB	**Sefidab**	**3.29**	**207**	*e*Pn	**Pn**	**18 52 14.2**	**+0.9**
IR5	**Iran Long-Peri**	**3.49**	**234**	*e*Pn	**Pn**	**18 52 17.8**	**+1.8**
IR5	**Iran Long-Peri**	**3.49**	**234**	*e*Pn	**Pn**	**18 52 17.8**	**+1.8**
IKRD	**Kardeh**	**3.62**	**97**	*e*Pn	**Pg**	**18 52 29.7**	**-1.3**
IKRD				*e*		18 54 10.7	
	comp=Z,677nm,0.4s						
IKRD	**Kardeh**	**3.62**	**97**	*e*Pn	**Pg**	**18 52 29.7**	**-1.3**
IEMG	**Emamgholi**	**3.68**	**87**	*e*Pn	**Pn**	**18 52 19.2**	**+0.4**
IEMG				*e*		18 53 26.0	
	comp=Z,1μm,0.3s						
IEMG	**Emamgholi**	**3.68**	**87**	*e*Pn	**Pn**	**18 52 19.2**	**+0.4**
IRAZ	**Razeghan**	**3.82**	**241**	*e*Pn	**Pn**	**18 52 23.2**	**+2.5**
IRAZ				*e*		18 53 24.6	
	comp=Z,3μm,0.2s						
IRAZ	**Razeghan**	**3.82**	**241**	*e*Pn	**Pn**	**18 52 23.2**	**+2.5**
IAKL	**Akhelmad**	**3.85**	**99**	*e*Pn	**Pn**	**18 52 22.2**	**+1.1**
IAKL				*e*		18 53 37.2	
	comp=Z,826nm,0.3s						
IPAY	**Payeh**	**4.07**	**101**	*e*Pn	**Pn**	**18 52 24.9**	**+0.8**
IPAY				*e*		18 53 47.1	
	comp=Z,603nm,0.4s						
IPAY	**Payeh**	**4.07**	**101**	*e*Pn	**Pn**	**18 52 24.9**	**+0.8**
ASAO	**Ashtian**	**4.26**	**231**	*e*Pn	**Pn**	**18 52 29.4**	**+2.6**
ASAO				AML	AML	18 53 40.8	
	comp=E,78nm,0.5s						
ASAO				AML	AML	18 53 43.9	
	comp=N,101nm,0.6s						
ASAO	**Ashtian**	**4.26**	**231**	*e*Pn	**Pn**	**18 52 29.4**	**+2.6**
LKRN	**Lenkeran, Azer**	**4.38**	**290**	⇑P	**Pn**	**18 52 28.3**	**+0.3**
	SNR=12						
LKRN				⇑S	**Sn**	**18 53 16.7**	**-2.4**
LKRN	**Lenkeran, Azer**	**4.38**	**290**	P	**Pn**	**18 52 28.3**	**+0.3**
	SNR=12						
LKRN				S	**Sn**	**18 53 16.7**	**-2.4**
IMOG	**Moghan**	**4.43**	**104**	*e*Pn	**Pn**	**18 52 29.7**	**+0.6**
IMOG				*e*		18 52 54.6	
	comp=Z,394nm,0.2s						
IMOG	**Moghan**	**4.43**	**104**	*e*Pn	**Pn**	**18 52 29.7**	**+0.6**
IKLH	**Kolahrood**	**4.46**	**207**	*e*Pn	**Pn**	**18 52 29.9**	**+0.4**
IKLH				*e*		18 54 01.3	
	comp=Z,1μm,0.3s						
IKLH	**Kolahrood**	**4.46**	**207**	*e*Pn	**Pn**	**18 52 29.9**	**+0.4**
ISRO	**Mashad**	**4.48**	**101**	*e*Pn	**Pn**	**18 52 30.7**	**+1.1**
ISRO	**Mashad**	**4.48**	**101**	*e*Pn	**Pn**	**18 52 30.7**	**+1.1**
IZEF	**Zefreh**	**4.62**	**198**	*e*Pn	**Pn**	**18 52 32.1**	**+0.4**
IZEF				*e*		18 53 56.2	
	comp=Z,642nm,0.3s						
IZEF	**Zefreh**	**4.62**	**198**	*e*Pn	**Pn**	**18 52 32.1**	**+0.4**
ALIB	**Äli-Bayra**	**4.74**	**305**	⇑P	Pn	18 52 36.3	+3.2
	SNR=4.7						
ALIB				⇓S	**Sn**	**18 53 31.5**	**+3.5**
ALIB	**Äli-Bayra**	**4.74**	**305**	P	Pn	18 52 36.3	+3.2
	SNR=4.7						
ALIB				S	**Sn**	**18 53 31.5**	**+3.5**
GLBA	**Ciilabad**	**4.84**	**295**	⇓P	**Pn**	**18 52 34.7**	**+0.3**
	SNR=3.5						
GLBA				⇓S	**Sn**	**18 53 29.4**	**-1.1**
GLBA	**Ciilabad**	**4.84**	**295**	P	**Pn**	**18 52 34.7**	**+0.3**
	SNR=3.5						
GLBA				S	**Sn**	**18 53 29.4**	**-1.1**
IMYA	**Miami**	**4.96**	**99**	*e*Pn	**Pn**	**18 52 37.5**	**+1.2**
IMYA				*e*		18 54 31.6	
	comp=Z,498nm,0.4s						
IMYA	**Miami**	**4.96**	**99**	*e*Pn	**Pn**	**18 52 37.5**	**+1.2**
ICHK	**Chekchek**	**5.07**	**176**	*e*Pn	**Pn**	**18 52 38.6**	**+0.8**
ICHK				*e*		18 54 10.1	
	comp=Z,625nm,0.2s						
ICHK	**Chekchek**	**5.07**	**176**	*e*Pn	**Pn**	**18 52 38.6**	**+0.8**
ISRB	**Sarab**	**5.08**	**278**	*e*Pn	**Pn**	**18 52 38.8**	**+0.8**
ISRB				*e*		18 52 40.3	
	comp=Z,2μm,0.2s						
ISRB	**Sarab**	**5.08**	**278**	*e*Pn	**Pn**	**18 52 38.8**	**+0.8**
IGAR	**Gharneh**	**5.16**	**199**	*e*Pn	**Pn**	**18 52 40.0**	**+0.9**
IGAR				*e*		18 52 42.4	
	comp=Z,439nm,0.2s						
IPIR	**Pirpir**	**5.29**	**210**	*e*Pn	Pn	18 52 44.0	+3.1
IPIR				*e*		18 53 08.9	
	comp=Z,423nm,0.2s						
IPIR	**Pirpir**	**5.29**	**210**	*e*Pn	Pn	18 52 44.0	+3.1
ISAD	**Sadrabad**	**5.39**	**183**	*e*Pn	**Pn**	**18 52 42.9**	**+0.6**
ISAD				*e*		18 54 24.0	
	comp=Z,698nm,0.3s						
ISAD	**Sadrabad**	**5.39**	**183**	*e*Pn	**Pn**	**18 52 42.9**	**+0.6**
PQL	**Pirkuli**	**5.47**	**311**	⇑P	**Pn**	**18 52 44.8**	**+1.5**
	SNR=4.6						
PQL				⇓S	**Sn**	**18 53 45.8**	**-0.6**
PQL	**Pirkuli**	**5.47**	**311**	P	**Pn**	**18 52 44.8**	**+1.5**
	SNR=4.6						
PQL				S	**Sn**	**18 53 45.8**	**-0.6**
SIZA	**Siyzn**	**5.48**	**315**	⇓P	Pn	18 52 40.7	-2.6
SIZA				⇑S	**Sn**	**18 53 44.6**	**-1.8**
IML	**Ismayilli**	**5.73**	**309**	⇑P	**Pn**	**18 52 48.3**	**+1.6**
	SNR=5.2						
IML				⇑S	**Sn**	**18 53 50.7**	**-1.8**
IML	**Ismayilli**	**5.73**	**309**	P	**Pn**	**18 52 48.3**	**+1.6**
	SNR=5.2						
IML				S	**Sn**	**18 53 50.7**	**-1.8**
IBAF	**Bafgh**	**5.85**	**167**	*e*Pn	**Pn**	**18 52 49.2**	**+0.7**
IBAF				*e*		18 53 54.4	
	comp=Z,750nm,0.3s						
IBAF	**Bafgh**	**5.85**	**167**	*e*Pn	**Pn**	**18 52 49.2**	**+0.7**
ITEG	**Tejag**	**5.86**	**137**	*e*Pn	**Pn**	**18 52 49.2**	**+0.5**
ITEG				*e*		18 52 57.8	
	comp=Z,916nm,0.2s						
ITEG	**Tejag**	**5.86**	**137**	*e*Pn	**Pn**	**18 52 49.2**	**+0.5**
IMEH	**Mehriz**	**5.93**	**175**	*e*Pn	**Pn**	**18 52 50.2**	**+0.6**
IMEH				*e*		18 54 36.3	
	comp=Z,453nm,0.5s						
IMEH	**Mehriz**	**5.93**	**175**	*e*Pn	**Pn**	**18 52 50.2**	**+0.6**
BRDA	**Brd**	**6.11**	**301**	⇓P	**Pn**	**18 52 52.9**	**+1.0**
	SNR=3.0						
BRDA				⇓S	**Sn**	**18 54 02.8**	**+1.0**
BRDA	**Brd**	**6.11**	**301**	P	**Pn**	**18 52 52.9**	**+1.0**
	SNR=3.0						
BRDA				S	**Sn**	**18 54 02.8**	**+1.0**
IKOO	**Kooshah**	**6.36**	**139**	*e*Pn	**Pn**	**18 52 56.1**	**+0.5**
IKOO	**Kooshah**	**6.36**	**139**	*e*Pn	**Pn**	**18 52 56.1**	**+0.5**
IAZR	**Azarshahr**	**6.41**	**276**	*e*Pn	**Pn**	**18 52 57.6**	**+1.3**
IAZR	**Azarshahr**	**6.41**	**276**	*e*Pn	**Pn**	**18 52 57.6**	**+1.3**
SEKA	**Sheki**	**6.58**	**308**	⇑P	**Pn**	**18 52 59.0**	**+0.7**
	SNR=8.6						
SEKA				⇓S	**Sn**	**18 54 12.7**	**-0.7**
SEKA	**Sheki**	**6.58**	**308**	P	**Pn**	**18 52 59.0**	**+0.7**
	SNR=8.6						
SEKA				S	**Sn**	**18 54 12.7**	**-0.7**
IDAH	**Dahanechah**	**6.61**	**132**	*e*Pn	**Pn**	**18 53 00.0**	**+1.0**
IDAH	**Dahanechah**	**6.61**	**132**	*e*Pn	**Pn**	**18 53 00.0**	**+1.0**
IDHR	**Dehrash**	**6.72**	**249**	*e*Pn	Pn	18 53 04.7	+4.2
IDHR				*e*		18 55 16.7	
	comp=N,211nm,0.3s						
IDHR	**Dehrash**	**6.72**	**249**	*e*Pn	Pn	18 53 04.7	+4.2
ISHB	**Shabestar**	**6.74**	**281**	*e*		18 53 04.1	
	comp=Z,264nm,0.2s						
ISHB				*e*Pn	**Pn**	**18 53 02.5**	**+1.8**
GANJ	**Ganja**	**6.87**	**301**	⇑P	**Pn**	**18 53 01.8**	**-0.5**
	SNR=3.4						
GANJ				⇓S	**Sn**	**18 54 18.6**	**-1.9**
GANJ	**Ganja**	**6.87**	**301**	P	**Pn**	**18 53 01.8**	**-0.5**
	SNR=3.4						
GANJ				S	**Sn**	**18 54 18.6**	**-1.9**
NAX	**Nakhchivan**	**6.97**	**288**	⇓P	**Pn**	**18 53 05.5**	**+1.7**
	SNR=2.9						
NAX				⇑S	**Sn**	**18 54 25.4**	**+2.2**
NAX	**Nakhchivan**	**6.97**	**288**	P	**Pn**	**18 53 05.5**	**+1.7**
	SNR=2.9						
NAX				S	**Sn**	**18 54 25.4**	**+2.2**
IPAR	**Pars**	**7.50**	**187**	*e*Pn	**Pn**	**18 53 10.4**	**-0.8**
IPAR				*e*		18 54 01.9	
	comp=Z,66nm,0.2s						
IPAR	**Pars**	**7.50**	**187**	*e*Pn	**Pn**	**18 53 10.4**	**-0.8**
GNI	**Garni**	**7.79**	**294**	*e*P	Pn	18 53 18.5	+3.3
	comp=Z,9.0nm,1.0s						
DGRG	**David-gareji**	**7.88**	**304**	P	**Pn**	**18 53 17.4**	**+1.2**
DGRG	**David-gareji**	**7.88**	**304**	P	**Pn**	**18 53 17.4**	**+1.2**
ISRV	**Sarvestan**	**7.95**	**186**	*e*Pn	**Pn**	**18 53 18.5**	**+1.1**
ISRV	**Sarvestan**	**7.95**	**186**	*e*Pn	**Pn**	**18 53 18.5**	**+1.1**
KBZ	**Khabaz**	**10.62**	**311**	P	**Pn**	**18 53 52.9**	**-0.8**
KBZ						18 55 48.7	
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**10.62**	**311**	Pn	**Pn**	**18 53 52.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=98,slow=13,SNR=6.3						
KBZ				Sn	**Sn**	**18 55 48.7**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=282,slow=15,SNR=2.4						
KBZ	**Khabaz**	**10.62**	**311**	P	**Pn**	**18 53 52.9**	**-0.8**
	comp=Z,1.0nm,0.3s						
KIV	**Kislovodsk**	**10.87**	**311**	*e*P	**Pn**	**18 53 56.2**	**-1.1**
KIV				*e*S	Sn	18 55 51.2	-7.8
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV	**Kislovodsk**	**10.87**	**311**	*e*P	**Pn**	**18 53 56.2**	**-1.1**
	comp=Z,5.0nm,0.9s						
AB31	**Akbulak array**	**12.68**	**18**	⇑Pn	**Pn**	**18 54 20.7**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=203,slow=14,SNR=14						
AB31				Sn	Sn	18 56 33.2	-10
	comp=Z,0.6nm,0.3s,baz=201,slow=24,SNR=11						
AB31	**Akbulak array**	**12.68**	**18**	Pn	**Pn**	**18 54 20.7**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=203,SNR=14						
AKTK	**Aktyubinsk**	**13.43**	**11**	P	**Pn**	**18 54 30.5**	**-1.5**
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**13.43**	**11**	⇑Pn	**Pn**	**18 54 30.1**	**-2.0**
	comp=Z,2.2nm,0.7s						
AKTO				⇑Sn	Sn	18 56 51.3	-10
	comp=Z,2.7nm,0.6s						
AKTO	**Aktyubinsk**	**13.43**	**11**	P	**Pn**	**18 54 30.5**	**-1.5**
AKTO						18 56 51.3	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**13.43**	**11**	Pn	**Pn**	**18 54 30.5**	**-1.5**
	comp=N,0.5nm,0.3s,baz=201,slow=14,SNR=11						
AKTO				Sn	Sn	18 56 51.3	-10
	comp=N,0.6nm,0.3s,baz=81,slow=24,SNR=7.0						
BRTR	**Keskin Array B**	**16.14**	**285**	Pn	**Pn**	**18 55 05.2**	**-3.4**
	comp=N,0.1nm,0.3s,baz=92,slow=10,SNR=2.7						
VRHR	**Novokhopersk**	**16.37**	**331**	*e*P	**Pn**	**18 55 08.7**	**-2.6**
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
AAK	**Ala-Archa**	**16.55**	**65**	*e*P	P	18 55 21.8	+5.4
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VORD	**Divnogorie**	**17.22**	**327**	*e*P	**Pn**	**18 55 22.6**	**+0.5**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,20nm,0.5s						
VORD				pmax	pmax		
	comp=E,40nm,1.4s						
VORD	**Divnogorie**	**17.22**	**327**	*e*P	**Pn**	**18 55 22.6**	**+0.5**
	comp=E,20nm,0.5s						
VSR	**Storozhevoye**	**17.46**	**327**	*e*P	**Pn**	**18 55 21.6**	**-3.4**
VSR				pmax	pmax		
	comp=N,5.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**19.37**	**8**	*d i*P	**P**	**18 55 48.4**	**+1.2**
ARU				S	**Sn**	**18 59 22.3**	**-3.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	**Arti**	**19.37**	**8**	*i*P	**P**	**18 55 48.4**	**+1.2**
	comp=Z,6.0nm,0.6s						
BRVK	**Borovoye**	**19.39**	**31**	⇑P	**Pn**	**18 55 52.1**	**+3.5**
	comp=Z,4.8nm,0.9s						
BVA0	**Borovoye Array**	**19.41**	**31**	⇓P	**Pn**	**18 55 49.2**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=205,slow=13,SNR=4.7						
BVA0	**Borovoye Array**	**19.41**	**31**	P	**Pn**	**18 55 49.2**	**+0.3**
	comp=Z,2.2nm,0.7s,SNR=4.7						
BVAR	**Borovoye Array**	**19.41**	**31**	P	**P**	**18 55 47.9**	**+0.2**
BVAR	**Borovoye Array**	**19.41**	**31**	P	**P**	**18 55 47.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**19.41**	**31**	P	**P**	**18 55 47.9**	**+0.2**
OBN	**Obninsk**	**21.41**	**332⇑**	*e*P	**P**	**18 56 09.8**	**+0.5**
OBN				*e*		18 56 26.4	
OBN				*e*S	S	18 59 51.9	-15
OBN				pmax	pmax		
	comp=Z,16nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s						
OBN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.69**	**71**	P	Pn	19 10 15.8	+4.0
	baz=2.8,SNR=40						
FAKI	**Fak Fak**	**4.12**	**30**	P	**Pn**	**19 10 29.9**	**-0.4**
	baz=4.2,SNR=8.8						
FAKI				S	**Sn**	**19 11 15.5**	**-2.9**
	baz=4.2,SNR=16						
SWI	**Sorong**	**5.71**	**11**	P	**Pn**	**19 10 50.9**	**-0.5**
	baz=5.7,SNR=6.1						
SWI				S	Sn	19 11 46.9	-9.2
	baz=5.7,SNR=11						
MTN	**Manton Dam**	**6.36**	**172**	P	**Pn**	**19 11 01.8**	**+1.8**
	baz=6.5,SNR=14						
MTN				S	**Sn**	**19 12 10.5**	**-1.1**
	baz=6.5,SNR=7.7						
KDU	**Kakadu**	**6.54**	**160**	P	**Pn**	**19 11 03.7**	**+1.3**
	baz=6.7,SNR=224						
KDU				S	**Sn**	**19 12 14.4**	**-1.5**
	baz=6.7,SNR=12						
SOEI	**Soe**	**6.68**	**241**	P	**Pn**	**19 11 05.3**	**+0.9**
	baz=6.6,SNR=24						
SOEI				S	**Sn**	**19 12 18.6**	**-0.8**
	baz=6.6,SNR=3.2						
BATI	**Baumata**	**7.42**	**240**	Pn	**Pn**	**19 11 14.8**	**+0.7**
	8.5nm,0.3s,baz=149,slow=3.8,SNR=33						
BATI				Sn	**Sn**	**19 12 35.7**	**-1.3**
	3.4nm,0.3s,baz=123,slow=21,SNR=4.2						
BATI				LR	LR	19 13 48.6	
	comp=Z,47nm,20.1s,baz=275,slow=34						
KNRA	**Kununurra**	**9.21**	**189**	P	**Pn**	**19 11 37.9**	**-0.2**
	baz=9.3,SNR=24						
KNRA				S	Sn	19 13 13.9	-6.4
	baz=9.3,SNR=9.4						
FITZ	**Fitzroy Crossi**	**12.34**	**201**	P	**Pn**	**19 12 18.7**	**-0.7**
	baz=12,SNR=9.1						
FITZ				S	Sn	19 14 19.5	-16
	baz=12,SNR=6.8						
WRA	**Warramunga Arr**	**13.95**	**164**	Pn	**Pn**	**19 12 40.2**	**+0.3**
	0.5nm,0.3s,baz=343,slow=12,SNR=35						
WRA				Sn	Sn	19 15 07.6	-6.9
	0.8nm,0.3s,baz=336,slow=21,SNR=11						
ASAR	**Alice Springs**	**17.43**	**169**	P	**Pn**	**19 13 25.8**	**+3.0**
	0.3nm,0.3s,baz=342,slow=9.6,SNR=20						
ASAR				S	**S**	**19 16 34.2**	**-1.7**
	0.2nm,0.3s,baz=332,slow=14,SNR=6.9						
UGM	**Wanagama**	**19.55**	**265**	P	**Pn**	**19 13 49.2**	**+1.3**
	baz=19,SNR=4.1						
PPI	**Padang Panjang**	**30.31**	**280**	P	**P**	**19 15 25.0**	**-1.4**
	baz=30,SNR=3.2						
PPI				S	S	19 20 26.0	+10
	baz=30,SNR=3.8						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	19 20 13.6	+2.2
	0.4nm,0.5s,baz=120,slow=7.8,SNR=9.0						

DJA 23 19:19:04.5±1.0, 8°S±5°×10°E±°, h20km, M3.5/6, MLv3.5/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.04**	**60**	P	Pb	19 19 21.3	-2.6
CISI				S	Sb	19 19 36.7	-0.4
SKJI	**Sukabumi**	**1.12**	**342**	P	Pn	19 19 23.1	-2.0
SKJI				S	Sb	19 19 38.5	-1.0
LEM	**Lembang**	**1.43**	**29**	P	Pn	19 19 29.0	-0.5
LEM				S	Sn	19 19 47.8	-0.1
DBJI	**Dramaga**	**1.52**	**354**	P	Pn	19 19 31.2	+0.5
DBJI				S	Sn	19 19 49.5	-0.4
BJII	**Banjamegara**	**2.87**	**75**	P	Pn	19 19 49.8	+0.5

IDC 23 19:29:14.1±2.0, 7°15S×128°73E, h0km, mb3.1/1, mb1 3.5/3, mb1mx3.2/19, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=118.6km s-min=31.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.84**	**157**	Pn	Pn	19 32 30.5	-1.1
	0.2nm,0.3s,baz=336,slow=13,SNR=20						
WRA				Sn	Sn	19 34 51.7	-14
	0.4nm,0.3s,baz=338,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.16**	**164**	Pn	P	19 33 16.4	-0.8
	0.2nm,0.3s,baz=341,slow=8.9,SNR=14						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	19 40 13.1	0.0
	0.2nm,0.7s,baz=141,slow=4.8,SNR=2.8						

*ISCJB **23** 19:30:16.8±0.6, 19°6S±0°.1×178°.3W±0°.1, h600km, mb3.8/11, Error ellipse: s-maj=18.7km s-min=11.0km az=145.4*
*AUST **23** 19:30:17.7, 19°.49S×177°.82W, h600km*
*IDC **23** 19:30:18.6±1.7, 19°.61S×178°.25W, h607km±21km, mb3.3/11, mb1 3.5/13, mb1mx3.4/20, mbtmp3.3/13, Error ellipse: s-maj=17.0km s-min=12.1km az=140.0*
ISC 23 19:30:17.8±0.6, 19°7S±0°.1×178°2W±0°.1, h600km, n26, σ0§97/27, mb3.8/11, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.37**	**48**	P	**P**	**19 32 20.3**	**-0.6**
	9.3nm,0.3s,baz=89,slow=21,SNR=14						
DZM	**Mont Dzumac**	**14.59**	**258**	P	**P**	**19 33 23.9**	**+1.5**
	0.5nm,0.3s,baz=45,slow=19,SNR=6.1						
URZ	**Urewera**	**18.98**	**192**	P	**P**	**19 33 59.4**	**-2.7**
	1.1nm,0.3s,baz=293,slow=4.4,SNR=6.8						
LHI	**Lord Howe Isla**	**23.64**	**236**	S	S	19 38 31.4	+14
	baz=24,SNR=3.5						
CMSA	**Cobar Meteorol**	**34.53**	**243**	P	**P**	**19 36 18.2**	**+0.4**
	baz=35,SNR=11						
STKA	**Stephens Creek**	**38.02**	**243**	P	**P**	**19 36 46.9**	**+0.5**
	2.7nm,0.6s,baz=12,slow=15,SNR=6.6						
STKA	**Stephens Creek**	**38.02**	**243**	P	**P**	**19 36 47.2**	**+0.8**
	baz=38,SNR=5.1						
ASAR	**Alice Springs**	**44.57**	**256**	P	**P**	**19 37 38.0**	**-0.1**
	2.8nm,0.4s,baz=86,slow=8.5,SNR=50						
ASAR				S	**S**	**19 43 29.6**	**-2.0**
	1.2nm,0.8s,baz=89,slow=16,SNR=8.2						
WRA	**Warramunga Arr**	**44.58**	**261**	P	**P**	**19 37 37.7**	**-0.5**
	1.8nm,0.3s,baz=98,slow=7.5,SNR=29						
KDU	**Kakadu**	**47.79**	**271**	P	**P**	**19 38 02.3**	**-0.1**
	baz=48,SNR=4.2						
KDU				S	S	19 43 58.5	-18
	baz=48,SNR=3.7						
KNRA	**Kununurra**	**50.57**	**266**	P	**P**	**19 38 22.7**	**-0.2**
	baz=51,SNR=4.5						
FITZ	**Fitzroy Crossi**	**52.99**	**262**	P	**P**	**19 38 40.4**	**+0.1**
	baz=53,SNR=5.6						
VNDA	**Vanda**	**58.72**	**185**	P	**P**	**19 39 19.8**	**+1.2**
	0.6nm,0.5s,baz=345,slow=4.2,SNR=5.5						
MJAR	**Matsushiro Arr**	**69.45**	**324**	P	**P**	**19 40 27.0**	**-0.2**
	1.6nm,0.5s,baz=154,slow=6.0,SNR=13						
QSPA	**South Pole Qui**	**70.40**	**180**	P	**P**	**19 40 32.9**	**+0.5**
	3.1nm,0.7s,baz=340,slow=0.9,SNR=27						
PETK	**Petropavlovsk-**	**75.43**	**345**	P	**P**	**19 41 00.4**	**-0.7**
	2.0nm,0.6s,baz=142,slow=7.4,SNR=3.7						
USRK	**Ussuriysk Arra**	**78.19**	**326**	P	**P**	**19 41 17.7**	**+1.5**
	2.0nm,0.8s,baz=150,slow=4.2,SNR=5.2						
TXAR	**Lajitas Array**	**86.73**	**57**	P	**P**	**19 42 00.5**	**+0.8**
	1.0nm,0.8s,baz=218,slow=6.1,SNR=9.5						
ILAR	**Eielson Array**	**87.54**	**13**	P	**P**	**19 42 01.6**	**-0.8**
	1.7nm,0.8s,baz=216,slow=5.1,SNR=20						
PDAR	**Pinedale Array**	**88.46**	**43**	P	**P**	**19 42 08.2**	**+0.6**
	1.0nm,0.7s,baz=222,slow=3.0,SNR=8.5						
ARCES	**ARCESS Array B**	**128.08**	**350**	PKP	**PKPdf**	**19 48 15.0**	**-1.0**
	0.6nm,0.5s,baz=30,slow=1.8,SNR=13						
FINES	**FINESS Array B**	**134.94**	**344**	PKhKP	PKPpre	19 48 15.6	
	0.8nm,0.7s,baz=203,slow=23,SNR=2.4						
FINES				PKP	**PKPdf**	**19 48 28.9**	**-0.1**
	1.1nm,0.9s,baz=100,slow=4.3,SNR=4.5						
BRTR	**Keskin Array B**	**146.17**	**313**	PKPbc	**PKPbc**	**19 48 51.6**	**-0.6**
	0.7nm,0.4s,baz=133,slow=4.7,SNR=6.4						
CLL	**Collm**	**147.22**	**347**	⇑*i*PKPbc	**PKPbc**	**19 48 54.6**	**+0.1**
	comp=Z,8.0nm,1.1s						
CLL				⇑*i*PKPab	**PKPab**	**19 48 57.9**	**-0.4**
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**147.42**	**346**	*i* (P)	**PKPbc**	**19 48 55.1**	**+0.1**
	comp=Z,2.5nm,0.6s						
GERES	**GERESS Array B**	**149.36**	**345**	PKPbc	**PKPbc**	**19 48 59.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=46,slow=3.9,SNR=12						

*ISCJB **23** 19:43:49.4±0.8, 29°.74S±0°.03×71°.76W±0°.08, h53km±7km, mb4.3/10, MS3.7/4, Error ellipse: s-maj=12.4km s-min=5.1km az=7.5*

*GUC **23** 19:43:51.1±0.7, 29°.76S×71°.52W, h45km±6km, ML5.0*
*NEIC **23** 19:43:51.0, 29°.75S×71°.52W, h45km, mb4.6/5, After GUC. NEIC Felt [III] at Coquimbo and La Serena.*
*IDC **23** 19:43:52.5±2.7, 29°.82S×71°.60W, h65km±23km, mb4.0/7, mb1 4.0/12, mb1mx3.9/19, mbtmp3.9/12, MS3.5/7, Ms1 3.5/7, ms1mx3.3/29, Error ellipse: s-maj=28.0km s-min=17.7km az=83.0*
ISC 23 19:43:50.6±1.2, 29°72S±0°.04×71°70W±0°.09, h48km±11km, n56, σ1§17/55, mb4.1/10, MS3.8/4, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.89**	**120**	*e*P	**Pn**	**19 44 07.4**	**+0.2**
TLL				*e*S	**Sn**	**19 44 18.9**	**-0.3**
TLL				AML	AML	19 44 22.3	
	comp=N,37μm,0.6s						
LCO	**Las Campanas**	**1.12**	**51**	*e*Pn	**Pn**	**19 44 10.5**	**+0.3**
LCO	**Las Campanas**	**1.12**	**51**	⇓*i*P	**Pn**	**19 44 10.6**	**+0.3**
LCO				*i* S	**Sn**	**19 44 25.1**	**+0.3**
CMCH	**Combarbala**	**1.57**	**158**	⇓*i*P	**Pn**	**19 44 16.1**	**0.0**
CMCH				*i* S	**Sn**	**19 44 34.9**	**-0.4**
CMCH				AML	AML	19 44 36.4	
	comp=N,55μm,0.6s						
CPCH	**Copiapo**	**2.64**	**27**	⇑*i*P	**Pn**	**19 44 29.6**	**-1.1**
CPCH				*i* S	**Sn**	**19 45 00.1**	**-1.4**
CPCH				AML	AML	19 45 10.0	
	comp=N,7μm,0.1s						
PEL	**Peldehue**	**3.52**	**166**	⇓*i*P	**Pn**	**19 44 43.1**	**+0.3**
PEL				AML	AML	19 45 38.3	
	comp=E,4μm,0.5s						
CFAA	**Coronel Fontan**	**3.52**	**123**	P	Pn	19 44 44.8	+1.8
CFAA				S	**Sn**	**19 45 25.9**	**+2.5**
CFAA	**Coronel Fontan**	**3.52**	**123**	P	Pn	19 44 44.8	+1.8
	comp=E,9.0nm,0.3s,baz=311,slow=12,SNR=889						
CFAA				S	**Sn**	**19 45 25.9**	**+2.5**
	comp=E,22nm,0.3s,baz=206,slow=17,SNR=7.8						
CLCH	**Cerro Calan**	**3.79**	**165**	⇑*i*P	**Pn**	**19 44 47.0**	**+0.3**
CLCH				*i* S	**Sn**	**19 45 29.9**	**-0.2**
SAN	**Santiago**	**3.82**	**167**	⇑*i*P	**Pn**	**19 44 47.5**	**+0.5**
SAN				AML	AML	19 45 51.6	
	comp=N,1μm,0.5s						
ANTU	**Antumapu**	**3.94**	**167**	⇓*i*P	**Pn**	**19 44 49.0**	**+0.4**
ANTU				AML	AML	19 45 49.8	
	comp=N,2μm,0.6s						
TACH	**Talagante**	**3.97**	**171**	⇓*i*P	**Pn**	**19 44 49.2**	**+0.1**
PCH	**Pirque**	**4.01**	**166**	⇓*i*P	**Pn**	**19 44 50.3**	**+0.5**
CHCH	**Chadas Angostu**	**4.29**	**168**	⇓*i*P	**Pn**	**19 44 53.5**	**+0.1**
LVC	**Limon Verde**	**7.51**	**20**	*e*Pn	**Pn**	**19 45 37.2**	**-0.6**
PLCA	**Paso Flores**	**11.03**	**175**	*e*Pn	**Pn**	**19 46 24.5**	**-1.2**
PLCA	**Paso Flores**	**11.03**	**175**	P	**Pn**	**19 46 24.3**	**-1.5**
	comp=N,1.3nm,0.3s,baz=341,slow=10,SNR=24						
PLCA				LR	LR	19 50 02.3	
	comp=N,139nm,20.2s,baz=336,slow=34						
TRQA	**Tornquist**	**11.58**	**138**	*e*Pn	**Pn**	**19 46 31.1**	**-2.2**
CPUP	**Villa Florida**	**13.13**	**79**	*e*Pn	**Pn**	**19 46 53.5**	**-1.0**
CPUP	**Villa Florida**	**13.13**	**79**	P	**Pn**	**19 46 54.0**	**-0.5**
	comp=N,0.5nm,0.3s,baz=214,slow=11,SNR=3.4						
CPUP				LR	LR	19 52 23.5	
	comp=N,192nm,21.1s,baz=253,slow=39						
LPAZ	**La Paz**	**13.77**	**15**	*e*Pn	**Pn**	**19 47 06.2**	**+2.4**
LPAZ	**La Paz**	**13.77**	**15**	P	**Pn**	**19 47 06.4**	**+2.6**
	comp=N,0.2nm,0.3s,baz=188,slow=6.5,SNR=8.8						
LPAZ				LR	LR	19 50 55.3	
	comp=N,96nm,21.8s,baz=122,slow=30						
SIV	**San Ignacio**	**16.80**	**38**	P	**P**	**19 47 44.2**	**+0.1**
SIV	**San Ignacio**	**16.80**	**38**	P	**P**	**19 47 44.2**	**+0.1**
	comp=N,0.5nm,0.3s,baz=228,slow=12,SNR=13						
SAML	**Samuel**	**22.15**	**23**	*e*P	**P**	**19 48 43.8**	**+1.3**
	comp=N,4.2nm,0.9s						
ATAH	**Atahualpa**	**23.34**	**343**	LR	LR	19 56 36.9	
	comp=N,59nm,20.0s,baz=159,slow=33						
USHA	**Ushuaia**	**25.20**	**176**	P	**P**	**19 49 11.2**	**-0.4**
USHA	**Ushuaia**	**25.20**	**176**	P	**P**	**19 49 11.2**	**-0.4**
	comp=N,17nm,1.0s,baz=359,slow=5.0,SNR=5.0						
BDFB	**Brasilia**	**25.89**	**62**	P	**P**	**19 49 21.1**	**+2.9**
BDFB	**Brasilia**	**25.89**	**62**	P	**P**	**19 49 21.1**	**+2.9**
	comp=N,1.6nm,0.3s,baz=306,slow=5.4,SNR=3.5						
BDFB				LR	LR	20 01 12.9	
	comp=N,101nm,20.2s,baz=23,slow=40						
BCIP	**Isla Barro Col**	**39.45**	**347**	P	**P**	**19 51 16.5**	**+0.2**
	comp=N,86nm,1.4s						
VNA1	**Neumayer--Stat**	**53.51**	**158**	*e*P	P	19 53 19.4	+14
VNA2	**Neumayer--Watz**	**53.85**	**158**	*e*P	**P**	**19 53 08.3**	**0.0**
SNAA	**Sanae**	**55.44**	**159**	*e*P	**P**	**19 53 19.5**	**-0.4**
RKT	**Rikitea**	**56.45**	**261**	*e*T	T	20 54 27.1	
	comp=N,2.6nm,0.2s						
TXAR	**Lajitas Array**	**66.18**	**330**	P	**P**	**19 54 34.5**	**+1.1**
TXAR	**Lajitas Array**	**66.18**	**330**	P	**P**	**19 54 34.5**	**+1.1**
	comp=N,0.8nm,0.6s,baz=157,slow=9.6,SNR=11						
TBI	**Tubuai**	**68.66**	**255**	*e*T	T	21 09 37.2	
	comp=N,6.6nm,0.3s						
TIAR	**Tiarei**	**71.01**	**260**	*e*T	T	21 12 38.1	
	comp=N,12nm,0.2s						
PPT2	**Papee2**	**71.19**	**260**	*e*LR	LR	20 16 52.5	
	comp=N,58nm,23.8s						
DBIC	**Dimbokro**	**73.57**	**72**	*e*P	**P**	**19 55 18.2**	**-0.8**
	comp=N,25nm,1.4s						
DBIC				*e*PcP	**PcP**	**19 55 34.6**	**-0.2**
DBIC	**Dimbokro**	**73.57**	**72**	P	**P**	**19 55 18.0**	**-1.0**
	comp=N,2.8nm,0.9s,baz=233,slow=12,SNR=3.9						
MAW	**Mawson**	**77.19**	**164**	*e*P	**P**	**19 55 38.4**	**-0.6**
	comp=N,0.5nm,0.6s						
MAW	**Mawson**	**77.19**	**164**	P	**P**	**19 55 38.7**	**-0.2**
	comp=N,2.2nm,0.6s,baz=205,slow=5.7,SNR=9.8						
PDAR	**Pinedale Array**	**80.10**	**333**	P	**P**	**19 55 56.0**	**+0.6**
PDAR	**Pinedale Array**	**80.10**	**333**	P	**P**	**19 55 56.0**	**+0.6**
	comp=N,0.7nm,0.6s,baz=155,slow=4.9,SNR=5.7						
BOSA	**Boshof**	**81.81**	**118**	*e*P	**P**	**19 56 03.8**	**-1.2**
	comp=N,21nm,1.4s						
BOSA	**Boshof**	**81.81**	**118**	P	**P**	**19 56 04.5**	**-0.5**
	comp=N,1.7nm,0.4s,baz=5.3,slow=9.1,SNR=8.6						
BOSA				LR	LR	20 32 04.8	
	comp=N,122nm,18.0s,baz=346,slow=35						
TOA0	**Torodi Ar. Sit**	**82.49**	**70**	*e*P	**P**	**19 56 08.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**82.49**	**70**	P	**P**	**19 56 08.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.49**	**70**	P	**P**	**19 56 08.0**	**-0.4**
	comp=N,1.6nm,0.8s,baz=261,slow=4.9,SNR=8.5						
URZ	**Urewera**	**86.75**	**227**	LR	LR	20 28 58.5	
	comp=N,88nm,19.2s,baz=137,slow=31						
WRA	**Warramunga Arr**	**124.61**	**210**	PKP	**PKPdf**	**20 02 44.1**	**-1.3**
WRA	**Warramunga Arr**	**124.61**	**210**	PKP	**PKPdf**	**20 02 44.1**	**-1.3**
	comp=N,0.2nm,0.4s,baz=153,slow=1.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**150.40**	**28**	PKPbc	**PKPbc**	**20 03 36.3**	**+0.1**
ZALV	**Zalesovo Beam**	**150.40**	**28**	PKPbc	**PKPbc**	**20 03 36.3**	**+0.1**
	comp=N,1.3nm,0.5s,baz=314,slow=3.9,SNR=6.3						

*ISCJB **23** 19:46:25.8±0.5, 42°.23N±0°.04×142°.46E±0°.04, h43km±6km, mb3.6/4, Error ellipse: s-maj=7.1km s-min=5.2km az=162.6*
*JMA **23** 19:46:26.5±0.1, 42°.29N×142°.50E, h33km±1km, M3.4*
JMA Felt II J1.
*MOS **23** 19:46:27.5±1.4, 42°.24N×142°.60E, h65km, mb4.0/2, Error ellipse: s-maj=32.7km s-min=16.4km az=67.0*
*IDC **23** 19:46:27.9±2.1, 42°.33N×142°.43E, h49km±20km, mb3.3/4, mb1 3.5/5, mb1mx3.2/25, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=37.0km s-min=15.3km az=100.0*
ISC 23 19:46:25.6±1.5, 42°22N±0°.06×142°44E±0°.03, h29km±11km, n19, σ0§92/26, mb3.6/4, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.24**	**76**	⇓P	**Pn**	**19 46 32.6**	**-0.7**
JNBK				*e*S	**Sn**	**19 46 38.2**	**+1.5**
JBT2	**Biratori 2**	**0.56**	**354**	⇓P	**Pb**	**19 46 36.4**	**-0.6**
JBT2				*e*S	**Sb**	**19 46 45.0**	**+0.3**
JEM	**Erimo**	**0.57**	**111**	⇓P	**Pn**	**19 46 37.7**	**-0.1**
JCH	**Churui**	**0.79**	**60**	⇓P	**Pn**	**19 46 40.1**	**-0.7**
JCH				*e*S	**Sn**	**19 46 51.4**	**-0.2**
JFR	**Furan**	**0.95**	**7**	⇓P	**Pn**	**19 46 42.4**	**-0.6**
JFR				*e*S	**Sb**	**19 46 55.6**	**-0.1**
JEW	**Eniwo**	**0.96**	**311**	⇓P	**Pn**	**19 46 43.3**	**+0.2**
JEW				*e*S	**Sb**	**19 46 56.9**	**+1.0**
JNB	**Noboribetsu**	**1.07**	**284**	P	**Pn**	**19 46 44.1**	**-0.5**
JNB				*e*S	**Sn**	**19 46 58.3**	**-0.2**
JKB	**Kayabe**	**1.10**	**253**	⇓P	**Pn**	**19 46 45.4**	**+0.4**
JKB				*e*S	**Sn**	**19 47 00.3**	**+1.1**
JOB	**Onbets**	**1.24**	**56**	⇓P	**Pn**	**19 46 47.4**	**+0.5**
JAB	**Ashibetsu**	**1.29**	**353**	P	**Pn**	**19 46 48.1**	**+0.4**
ASAJ	**Asahikawa**	**1.90**	**3**	P	**Pn**	**19 46 57.2**	**+1.2**
	9.1nm,0.3s,baz=212,slow=12,SNR=101						
ASAJ				S	**Sn**	**19 47 18.0**	**-1.0**
	11nm,0.3s,baz=47,slow=29,SNR=7.5						
YUK	**Yuzh-Kuril'sk**	**3.09**	**53**	*d* iPN	**Pn**	**19 47 14.7**	**+2.3**
YUK				*i* S	**Sn**	**19 47 50.1**	**+1.7**
YUK				pmax	pmax		
	comp=Z,60nm,0.3s						
YUK				pmax	pmax		
	comp=N,25nm,0.3s						
YUK				pmax	pmax		
	comp=E,37nm,0.3s						
YUK				smax	smax		
	comp=N,123nm,0.6s						
YUK				smax	smax		
	comp=E,196nm,0.6s						
MJAR	**Matsushiro Arr**	**6.55**	**211**	P	Pn	19 48 03.4	+3.3
	comp=E,0.4nm,0.3s,baz=23,slow=16,SNR=10						
KSRS	**Korea Array**	**12.13**	**252**	P	Pn	19 49 23.4	+7.0
	comp=E,0.3nm,0.3s,baz=64,slow=14,SNR=4.3						
KURK	**Kurchatov**	**43.52**	**304**	P	**P**	**19 54 26.9**	**+0.6**
KURBB	**Kurchatov Arra**	**43.60**	**304**	P	**P**	**19 54 26.9**	**-0.1**
	comp=E,0.4nm,0.5s,baz=76,slow=9.0,SNR=3.9						
ILAR	**Eielson Array**	**44.74**	**35**	P	**P**	**19 54 35.9**	**-0.1**
	comp=E,0.4nm,0.9s,baz=272,slow=8.3,SNR=4.9						
WRA	**Warramunga Arr**	**62.30**	**189**	P	**P**	**19 56 45.0**	**-0.1**
	comp=E,0.5nm,0.7s,baz=6.8,slow=6.7,SNR=7.8						
FINES	**FINESS Array B**	**64.61**	**332**	P	**P**	**19 56 58.9**	**-1.0**
	comp=E,1.1nm,0.8s,baz=46,slow=8.2,SNR=6.1						

IDC 23 19:47:14.6±1.9, 6°90S×154°76E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, ML2.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/28, Error ellipse: s-maj=51.5km s-min=29.8km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.93**	**251**	Pn	Pn	19 49 11.3	+0.2
	0.5nm,0.3s,baz=29,slow=10,SNR=2.1						
PMG				Sn	Sn	19 50 45.8	+4.2
	1.0nm,0.3s,baz=31,slow=16,SNR=3.1						
CTA	**Charters Tower**	**15.49**	**211**	Pn	P	19 50 59.0	-0.2
	0.1nm,0.3s,baz=60,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**23.68**	**235**	P	P	19 52 27.0	-1.1
	2.1nm,0.8s,baz=58,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**26.06**	**228**	P	P	19 52 49.2	-0.8
	0.8nm,0.9s,baz=63,slow=9.7,SNR=5.4						
STKA	**Stephens Creek**	**27.73**	**205**	P	P	19 53 05.7	+0.9
	4.6nm,1.1s,baz=21,slow=8.6,SNR=2.3						
RAO	**Raoul Island**	**34.02**	**134**	LR	LR	20 04 44.3	
	comp=Z,412nm,21.9s,baz=226,slow=31						
KSRS	**Korea Array**	**50.74**	**332**	LR	LR	20 17 52.0	
	comp=Z,45nm,18.1s,baz=264,slow=36						
MKAR	**Makanchi Array**	**83.18**	**319**	P	P	19 59 43.5	+0.7
	0.4nm,0.7s,baz=102,slow=5.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**152.77**	**285**	PKPbc	PKPbc	20 07 14.3	-0.3
	0.4nm,0.6s,baz=73,slow=2.1,SNR=3.7						

*IDC **23** 20:02:45.3±0.7, 33°65N×82°37E, h0km, mb3.9/14, mb1 4.1/16, mb1mx3.8/31, mbtmp3.9/16, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=22.4km s-min=14.6km az=55.0*
*ISCJB **23** 20:02:48.5±0.6, 33°.86N±0°.07×82°.53E±0°.09, h33km, mb4.0/17, MS3.0/1, Error ellipse: s-maj=11.1km s-min=8.4km az=36.0*
ISC 23 20:02:50.8±0.7, 33°86N±0°.09×82°52E±0°.10, h35km, n24, σ1§28/23, mb4.1/17, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**5.28**	**240**	*i* P	**Pn**	**20 04 08.1**	**+1.0**
SMLA				*i* S	**Sn**	**20 05 08.8**	**+2.0**
SMLA				AML	AML	20 05 12.5	
	comp=E,394nm,0.7s						
SMLA				AML	AML	20 05 14.0	
	comp=N,372nm,0.5s						
AAK	**Ala-Archa**	**10.79**	**327**	LR	LR	20 09 50.7	
	comp=N,63nm,18.1s,baz=314,slow=39						
MKAR	**Makanchi Array**	**12.93**	**359**	Pn	**Pn**	**20 05 52.3**	**+0.4**
	comp=N,0.4nm,0.3s,baz=179,slow=13,SNR=19						
KURBB	**Kurchatov Arra**	**17.01**	**351**	P	**Pn**	**20 06 45.0**	**-0.8**
	comp=N,0.0nm,0.3s,baz=172,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**20.15**	**4**	P	Pn	20 07 23.4	-0.4
	comp=N,2.2nm,0.6s,baz=191,slow=8.9,SNR=11						
BVAR	**Borovoye Array**	**21.04**	**339**	P	**P**	**20 07 31.4**	**0.0**
	comp=N,1.8nm,0.8s,baz=144,slow=11,SNR=10						
CMAR	**Chiang Mai Arr**	**21.22**	**132**	P	**P**	**20 07 34.1**	**+0.4**
	comp=N,3.8nm,0.8s,baz=309,slow=11,SNR=26						
SONM	**Songino Array**	**22.71**	**45**	P	**P**	**20 07 51.8

baz=0.9,SNR=45
H23A Clabaugh Cattl 0.84 353 P **Pg 20 06 08.2 +0.1**
baz=0.9,SNR=45
I22A 9 Mile Ranch, 0.90 281 P **Pg 20 06 09.5 +0.1**
baz=1.0,SNR=807
I22A S **Sg 20 06 21.4 +0.3**
baz=1.0
I22A 9 Mile Ranch, 0.90 281 P **Pg 20 06 09.5 +0.1**
baz=1.0,SNR=807
I22A S **Sg 20 06 21.4 +0.3**
baz=1.0
J22A Midwest 0.94 251 P **Pg 20 06 10.0 -0.2**
baz=1.0,SNR=27
J22A Midwest 0.94 251 P **Pg 20 06 10.0 -0.2**
baz=1.0,SNR=27
RSSD Black Hills 0.96 66 *e*P **Pg 20 06 11.0 +0.4**
K23A Bowen Ranch, D 1.01 196 P **Pb 20 06 11.8 -0.8**
baz=1.0
K23A Bowen Ranch, D 1.01 196 P **Pb 20 06 11.8 -0.8**
baz=1.0
K24A Anderson Ranch 1.06 162 P **Pb 20 06 12.5 -0.9**
baz=1.0,SNR=72
K24A Anderson Ranch 1.06 162 P **Pb 20 06 12.5 -0.9**
baz=1.0,SNR=72
J25A Sunshine Ranch 1.11 107 P **Pb 20 06 14.0 -0.2**
baz=1.0,SNR=196
J25A Sunshine Ranch 1.11 107 P **Pb 20 06 14.0 -0.2**
baz=1.0,SNR=196
H24A Dirks Ranch, A 1.13 26 P **Pg 20 06 13.6 -0.3**
baz=1.1
H24A S **Sg 20 06 28.6 0.0**
baz=1.1
H24A Dirks Ranch, A 1.13 26 P **Pg 20 06 13.6 -0.3**
baz=1.1
H24A S **Sg 20 06 28.6 0.0**
baz=1.1
I25A Rochford 1.14 75 Pb **Pg 20 06 14.1 +0.2**
baz=1.1,SNR=139
I25A Rochford 1.14 75 Pb **Pg 20 06 14.1 +0.2**
baz=1.1,SNR=139
H22A Clearmont 1.17 318 P **Pg 20 06 14.3 -0.1**
baz=1.3,SNR=144
H22A Clearmont 1.17 318 P **Pg 20 06 14.3 -0.1**
baz=1.3,SNR=144
K22A Casper 1.42 221 Pb **Pn 20 06 18.7 -0.7**
baz=1.5,SNR=376
K22A Casper 1.42 221 Pb **Pn 20 06 18.7 -0.7**
baz=1.5,SNR=376
G23A Biddle 1.47 356 Pb **Pn 20 06 19.4 -0.5**
baz=1.5,SNR=213
G23A Biddle 1.47 356 Pb **Pn 20 06 19.4 -0.5**
baz=1.5,SNR=213
I21A Big Trails, Te 1.48 274 Pb **Pn 20 06 19.0 -1.1**
baz=1.6,SNR=181
I21A Big Trails, Te 1.48 274 Pb **Pn 20 06 19.0 -1.1**
baz=1.6,SNR=181
H25A Fruitdale 1.49 53 Pb **Pn 20 06 20.3 +0.2**
baz=1.4,SNR=84
H25A Fruitdale 1.49 53 Pb **Pn 20 06 20.3 +0.2**
baz=1.4,SNR=84
J21A Lysite 1.64 257 Pb **Pn 20 06 21.8 -0.5**
baz=1.7,SNR=71
J21A Lysite 1.64 257 Pb **Pn 20 06 21.8 -0.5**
baz=1.7,SNR=71
L23A Garrett 1.65 192 Pb **Pb 20 06 22.8 -0.7**
baz=1.6,SNR=184
L23A Garrett 1.65 192 Pb **Pb 20 06 22.8 -0.7**
baz=1.6,SNR=184
G24A Alzada 1.71 20 Pb **Pn 20 06 23.6 +0.4**
baz=1.7
G24A Alzada 1.71 20 Pb **Pn 20 06 23.6 +0.4**
baz=1.7
L24A Wheatland 1.71 172 Pb **Pb 20 06 23.9 -0.5**
baz=1.7,SNR=35
L24A Wheatland 1.71 172 Pb **Pb 20 06 23.9 -0.5**
baz=1.7,SNR=35
I26A New Underwood 1.76 79 Pb **Pb 20 06 25.1 -0.1**
baz=1.7,SNR=34
I26A New Underwood 1.76 79 Pb **Pb 20 06 25.1 -0.1**
baz=1.7,SNR=34
K21A Alcova 1.83 234 Pb **Pn 20 06 25.6 +0.6**
baz=1.9,SNR=161
K21A Alcova 1.83 234 Pb **Pn 20 06 25.6 +0.6**
baz=1.9,SNR=161
K26A Motz Farm, Whi 1.84 123 Pb **Pb 20 06 26.0 -0.6**
baz=1.7,SNR=59
K26A Motz Farm, Whi 1.84 123 Pb **Pb 20 06 26.0 -0.6**
baz=1.7,SNR=59
L22A Ellis Ranch, M 1.91 207 Pb **Pb 20 06 27.1 -0.8**
baz=1.9
L22A Ellis Ranch, M 1.91 207 Pb **Pb 20 06 27.1 -0.8**
baz=1.9
G25A Newell 1.97 41 Pb **Pb 20 06 28.2 -0.6**
baz=1.9,SNR=76
G25A Newell 1.97 41 Pb **Pb 20 06 28.2 -0.6**
baz=1.9,SNR=76
F23A Volborg 1.99 357 Pb **Pn 20 06 27.6 +0.5**
baz=2.0,SNR=234
F23A Sb **Sn 20 06 54.0 +1.2**
baz=2.0
F23A Volborg 1.99 357 Pb **Pn 20 06 27.6 +0.5**
baz=2.0,SNR=234
F23A Sb **Sn 20 06 54.0 +1.2**
baz=2.0
G21A Lodge Grass 2.04 318 Pb **Pn 20 06 28.2 +0.4**
baz=2.1,SNR=187
G21A Lodge Grass 2.04 318 Pb **Pn 20 06 28.2 +0.4**
baz=2.1,SNR=187
I20A Worland 2.09 277 Pb **Pn 20 06 29.2 +0.8**
baz=2.2,SNR=386
I20A Sb **Sn 20 06 56.8 +1.5**
baz=2.2
I20A Worland 2.09 277 Pb **Pn 20 06 29.2 +0.8**
baz=2.2,SNR=386
I20A Sb **Sn 20 06 56.8 +1.5**
baz=2.2
H20A Greybull 2.11 292 Pb **Pn 20 06 29.1 +0.3**
baz=2.2,SNR=37
H20A Sb **Sn 20 06 57.6 +1.8**
baz=2.2
H20A Greybull 2.11 292 Pb **Pn 20 06 29.1 +0.3**
baz=2.2,SNR=37
H20A Sb **Sn 20 06 57.6 +1.8**
baz=2.2
F22A Rosebud 2.17 341 Pb **Pn 20 06 29.4 -0.1**
baz=2.2,SNR=295
F22A Rosebud 2.17 341 Pb **Pn 20 06 29.4 -0.1**
baz=2.2,SNR=295
F24A Ekalaka 2.19 15 Pb **Pn 20 06 31.2 +1.3**
baz=2.2
F24A Ekalaka 2.19 15 Pb **Pn 20 06 31.2 +1.3**
baz=2.2
M24A Cheyenne 2.29 172 Pb **Pb 20 06 33.6 -0.8**
baz=2.2
M24A Cheyenne 2.29 172 Pb **Pb 20 06 33.6 -0.8**
baz=2.2
M23A Laramie 2.29 189 Pb **Pb 20 06 33.1 -1.3**
baz=2.3
M23A Laramie 2.29 189 Pb **Pb 20 06 33.1 -1.3**
baz=2.3
L26A Underwood Farm 2.33 136 Pb **Pb 20 06 34.7 -0.3**
baz=2.2
L26A Underwood Farm 2.33 136 Pb **Pb 20 06 34.7 -0.3**
baz=2.2
I27A Quinn 2.34 81 Pb **Pb 20 06 34.3 -0.8**
baz=2.2
I27A Quinn 2.34 81 Pb **Pb 20 06 34.3 -0.8**
baz=2.2
L21A Rawlins 2.35 222 Pb **Pb 20 06 33.7 -1.8**
baz=2.4
L21A Sb **Sb 20 07 04.9 -0.2**
baz=2.4
L21A Rawlins 2.35 222 Pb **Pb 20 06 33.7 -1.8**
baz=2.4
L21A Sb **Sb 20 07 04.9 -0.2**
baz=2.4
J27A Elkhorn Farm, 2.41 100 Pb **Pb 20 06 35.9 -0.5**
baz=2.3
J27A Sb **Sg 20 07 08.5 -1.1**
baz=2.3
J27A Elkhorn Farm, 2.41 100 Pb **Pb 20 06 35.9 -0.5**
baz=2.3
J27A Sb **Sg 20 07 08.5 -1.1**
baz=2.3
PHWY Pilot Hill 2.43 184 *e*P **Pn 20 06 34.5 +1.2**
K27A Flueckinger Fa 2.44 114 Pb **Pb 20 06 36.0 -0.8**
baz=2.3
K27A Flueckinger Fa 2.44 114 Pb **Pb 20 06 36.0 -0.8**
baz=2.3
M25A Palm-Egli Farm 2.46 158 Pb **Pb 20 06 35.9 -1.4**
baz=2.4
M25A Sb **Sb 20 07 08.5 +0.3**
baz=2.4
M25A Palm-Egli Farm 2.46 158 Pb **Pb 20 06 35.9 -1.4**
baz=2.4
M25A Sb **Sb 20 07 08.5 +0.3**
baz=2.4
K20A Yellowstone Ra 2.50 246 Pb **Pb 20 06 36.7 -1.3**
baz=2.6
K20A Sb **Sb 20 07 09.5 +0.1**
baz=2.6
K20A Yellowstone Ra 2.50 246 Pb **Pb 20 06 36.7 -1.3**
baz=2.6
K20A Sb **Sb 20 07 09.5 +0.1**
baz=2.6
RWWY Rawlins 2.50 216 *e*P **Pb 20 06 36.1 -1.9**
M22A Cedar Creek Ra 2.53 203 Pb **Pb 20 06 37.1 -1.4**
baz=2.5
M22A Sb **Sb 20 07 10.4 +0.1**
baz=2.5
M22A Cedar Creek Ra 2.53 203 Pb **Pb 20 06 37.1 -1.4**
baz=2.5
M22A Sb **Sb 20 07 10.4 +0.1**
baz=2.5
M21A Separation Pea 2.63 217 Pb **Pb 20 06 38.4 -1.9**
baz=2.7
M21A Sb **Sb 20 07 12.6 -0.6**
baz=2.7
M21A Separation Pea 2.63 217 Pb **Pb 20 06 38.4 -1.9**
baz=2.7
M21A Sb **Sb 20 07 12.6 -0.6**
baz=2.7
LAO LASA Array 3.03 347 *e*P **Pn 20 06 41.2 -0.2**
PDAR Pinedale Array 3.29 254 Pn **Pn 20 06 46.1 +1.0**
PDAR Lg Lg 20 07 32.5
PDAR Pinedale Array 3.29 254 Pn **Pn 20 06 46.1 +1.0**
4.3nm,0.3s,baz=70,slow=15,SNR=74
PDAR Lg Lg 20 07 32.5
9.4nm,0.3s,baz=78,slow=34,SNR=7.0
BW06 Boulder Array 3.29 254 *e*P **Pn 20 06 46.1 +1.1**
OGNE Ogallala 3.67 138 *e*P **Pn 20 06 50.3 +0.1**
LKWY Lake 3.79 284 *e*P **Pb 20 06 58.1 -2.0**
ISCO Idaho Springs 3.94 184 *e*P **Pn 20 06 55.6 +1.5**
SNOW Snow King Moun 4.00 268 *e*P Pn 20 06 59.1 +4.2
YNR Norris Junctio 4.02 286 *e*P Pn 20 06 59.0 +3.9
O20A White River Ci 4.23 213 *e*P **Pn 20 06 55.8 -2.1**
DGMT Dagmar 4.80 8 *e*P **Pn 20 07 05.6 0.0**
HWUT Hardware Ranch 5.11 248 *e*P **Pn 20 07 08.5 -1.6**
606nm,0.4s
KSCO Kaye Shedlock' 5.12 156 *e*P **Pn 20 07 10.2 +0.1**
EGMT Eagleton 5.32 325 *e*P **Pn 20 07 12.6 -0.2**
36nm,0.6s
MCMT McKenzie Canyo 5.56 284 *e*P Pn 20 07 21.9 +5.6
4.0nm,0.6s
DAU Daniels Canyon 5.56 235 *e*P **Pn 20 07 18.2 +1.8**
17nm,0.7s
HVU Hansel Valley 5.87 253 *e*P **Pn 20 07 22.0 +1.6**
10nm,0.6s
TMUT Trail Mountain 6.29 227 *e*P **Pn 20 07 27.5 +1.1**
14nm,0.5s
DUG Dugway 6.65 240 *e*P **Pn 20 07 31.7 +0.5**
9.3nm,0.9s
YBMT Yellow Bay 7.38 307 *e*P **Pn 20 07 42.4 +1.2**
MVU Marysvale 7.41 227 *e*P **Pn 20 07 41.9 +0.3**
3.4nm,0.5s
CCUT Cedar City 8.72 228 *e*P **Pn 20 08 01.2 +1.6**
2.4nm,0.5s
ULM Lac du Bonnet 9.14 41 Pn **Pn 20 08 05.0 -0.1**
ULM Lac du Bonnet 9.14 41 Pn **Pn 20 08 05.0 -0.1**
2.2nm,0.3s,baz=229,slow=13,SNR=10.0
ULM Lg Lg 20 10 31.9
1.1nm,0.3s,baz=152,slow=17,SNR=2.5
ARCES ARCESS Array B 61.42 18 P **P 20 16 08.5 -1.0**
0.8nm,0.5s,baz=340,slow=6.7,SNR=8.9
FINES FINESS Array B 68.03 23 P **P 20 16 52.7 -0.1**
1.6nm,1.0s,baz=316,slow=7.9,SNR=3.2
ZALV Zalesovo Beam 82.31 354 P **P 20 18 14.6 -0.6**
0.8nm,0.6s,baz=0.0,slow=4.3,SNR=3.2
MKAR Makanchi Array 89.61 355 P **P 20 18 51.0 -0.5**
0.4nm,0.7s,baz=356,slow=3.1,SNR=5.0

IDC 23 20:25:18.3±3.0, 1°.49S×99°.60E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/24, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=127.3km s-min=21.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.83**	**358**	P	P	20 29 50.8	0.0
	0.1nm,0.3s,baz=185,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**38.60**	**121**	P	P	20 32 43.4	-0.1
	0.3nm,0.7s,baz=304,slow=9.1,SNR=6.5						
ASAR	**Alice Springs**	**39.88**	**126**	P	P	20 32 54.3	+0.1
	0.7nm,1.0s,baz=299,slow=8.4,SNR=4.3						
SONM	**Songino Array**	**49.48**	**6**	P	P	20 34 10.0	-0.6
	0.2nm,0.4s,baz=195,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**50.43**	**345**	P	P	20 34 17.1	-0.6
	0.4nm,0.4s,baz=159,slow=9.0,SNR=12						
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	P	20 35 03.7	+1.0
	0.3nm,0.3s,baz=149,slow=3.4,SNR=3.2						
TXAR	**Lajitas Array**	**144.54**	**36**	PKP	PKPab	20 44 56.0	-0.1
	0.3nm,0.5s,baz=207,slow=1.1,SNR=4.0						

WEL 23 20:26:31.3±0.3, 45°.95S×165°.86E, h30km±2km, ML3.7/14, 2C, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.02**	**63**	⇑PN	Pn	20 26 49.2	-0.3
DCZ				SN	Sn	20 27 02.1	-0.7
DCZ				AML	AML	20 27 02.5	
DCZ				SN	Sb	20 27 02.9	-0.5
DCZ				AML	AML	20 27 03.7	
WHZ	**Wether Hill Ro**	**1.46**	**89**	PN	Pn	20 26 56.6	+1.0
WHZ				SN	Sb	20 27 15.5	-0.5
WHZ				AML	AML	20 27 18.2	
APZ	**The Paps**	**1.72**	**122**	PN	Pn	20 27 00.1	+0.9
MLZ	**Mavora Lakes**	**1.73**	**71**	⇑PN	Pn	20 27 00.4	+1.0
MLZ				SN	Sb	20 27 22.4	-1.5
MLZ				AML	AML	20 27 30.3	
MSZ	**Milford Sound**	**1.94**	**50**	PN	Pb	20 27 04.0	-1.8
MSZ				AML	AML	20 27 36.4	
MSZ				AML	AML	20 27 49.1	
MSZ				AML	AML	20 27 49.2	
SYZ	**Scrubby Hill**	**2.35**	**106**	PN	Pn	20 27 09.6	+1.7
WKZ	**Wanaka**	**2.49**	**64**	*e*PN	Pb	20 27 12.6	-2.8
WKZ				AML	AML	20 27 52.9	
WKZ				AML	AML	20 27 54.2	
EAZ	**Earnscleugh**	**2.53**	**75**	PN	Pn	20 27 12.7	+2.5
EAZ				AML	AML	20 27 49.4	
EAZ				AML	AML	20 27 52.8	
TUZ	**Tuapeka**	**2.63**	**92**	PN	Pn	20 27 13.4	+1.7
TUZ				AML	AML	20 27 51.4	
TUZ				AML	AML	20 27 51.7	
JCZ	**Jackson Bay**	**2.78**	**49**	*e*PN	Pn	20 27 14.9	+1.1
JCZ				AML	AML	20 28 06.3	
JCZ				AML	AML	20 28 10.2	
LBZ	**Lake Benmore**	**3.43**	**65**	*e*PN	Pn	20 27 23.7	+1.0
ODZ	**Otahua Downs**	**3.48**	**77**	PN	Pn	20 27 24.3	+0.9

WEL 23 20:44:42.5±0.5, 46°.06S×165°.99E, h27km±2km, ML3.5/14, 1C, Error ellipse: s-maj=4.4km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.00**	**55**	PN	Pn	20 45 00.0	-0.7
DCZ				SN	Sn	20 45 13.0	-1.0
DCZ				AML	AML	20 45 14.4	
DCZ				AML	AML	20 45 16.1	
WHZ	**Wether Hill Ro**	**1.38**	**84**	PN	Pn	20 45 06.0	0.0
WHZ				SN	Sn	20 45 23.8	+0.5
WHZ				AML	AML	20 45 28.5	
APZ	**The Paps**	**1.58**	**120**	⇑PN	Pn	20 45 08.4	-0.5
APZ				SN	Sn	20 45 27.9	-0.6
MLZ	**Mavora Lakes**	**1.69**	**66**	PN	Pn	20 45 11.0	+0.6
MLZ				AML	AML	20 45 37.7	
MLZ				AML	AML	20 45 43.7	
MSZ	**Milford Sound**	**1.95**	**45**	*e*PN	Pn	20 45 14.6	+0.8
MSZ				AML	AML	20 45 53.0	
MSZ				AML	AML	20 46 02.7	
SYZ	**Scrubby Hill**	**2.24**	**103**	PN	Pn	20 45 18.4	+0.7
WKZ	**Wanaka**	**2.46**	**61**	PN	Pn	20 45 23.3	+2.4
WKZ				AML	AML	20 46 03.8	
EAZ	**Earnscleugh**	**2.47**	**72**	PN	Pn	20 45 22.8	+1.7
EAZ				AML	AML	20 46 03.6	
EAZ				AML	AML	20 46 03.7	
TUZ	**Tuapeka**	**2.54**	**89**	PN	Pn	20 45 23.3	+1.4
TUZ				AML	AML	20 45 57.0	
TUZ				AML	AML	20 45 58.4	
JCZ	**Jackson Bay**	**2.79**	**46**	*e*PN	Pn	20 45 27.4	+1.9
JCZ				AML	AML	20 46 20.5	
JCZ				AML	AML	20 46 23.3	
ODZ	**Otahua Downs**	**3.42**	**74**	PN	Pn	20 45 33.9	-0.2

IDC 23 20:44:44.6±4.7, 18°.62S×177°.94W, h642km±58km, mb3.0/6, mb1 3.3/6, mb1mx3.0/19, mbtmp3.0/6, Error ellipse: s-maj=30.7km s-min=24.1km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.68**	**242**	P	P	20 51 16.4	+0.3
	1.6nm,0.5s,baz=104,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**44.94**	**260**	P	P	20 52 04.9	-0.2
	3.3nm,0.3s,baz=98,slow=7.4,SNR=184						
WRA				PcP	PcP	20 53 31.5	-0.7
	1.1nm,0.9s,baz=95,slow=3.1,SNR=3.8						
ASAR	**Alice Springs**	**45.03**	**255**	P	P	20 52 05.9	+0.1
	4.4nm,0.5s,baz=87,slow=8.0,SNR=103						
ASAR				PcP	PcP	20 53 32.4	-0.1
	0.6nm,0.5s,baz=101,slow=3.8,SNR=6.9						
VNDA	**Vanda**	**59.78**	**185**	P	P	20 53 49.5	+0.1
	0.3nm,0.5s,baz=16,slow=6.5,SNR=2.7						
NVAR	**Mina Array Bea**	**79.63**	**44**	P	P	20 55 47.7	+0.1
	0.3nm,0.6s,baz=241,slow=7.1,SNR=3.0						
TXAR	**Lajitas Array**	**86.00**	**57**	P	P	20 56 19.4	0.0
	0.4nm,0.7s,baz=201,slow=6.7,SNR=5.8						
ARCES	**ARCESS Array B**	**127.09**	**350**	PKP	PKPdf	21 02 36.5	-0.3
	2.3nm,0.9s,baz=96,slow=1.2,SNR=5.1						
BRTR	**Keskin Array B**	**145.59**	**314**	PKPbc	PKPbc	21 03 13.5	0.0
	0.6nm,0.6s,baz=149,slow=5.0,SNR=4.0						

*AUST **23** 21:38:14.9±2.8, 5°.28N×126°.96E, h84km, Error ellipse: s-maj=3.8km s-min=1.4km az=29.0*
*NEIC **23** 21:38:15.3±1.6, 4°.79N×126°.08E, h43km±15km, mb4.2/3, Error ellipse: s-maj=21.5km s-min=7.0km az=64.0*
*ISCJB **23** 21:38:16.1±0.3, 4°.79N±0°.03×126°.40E±0°.05, h71km, mb4.0/16, Error ellipse: s-maj=8.0km s-min=4.3km az=164.4*
*IDC **23** 21:38:18.1±5.4, 4°.73N×125°.98E, h65km±49km, mb3.8/13, mb1 3.9/13, mb1mx3.8/26, mbtmp3.8/13, MS3.8/15, Ms1 3.8/15, ms1mx3.6/31, Error ellipse: s-maj=41.1km s-min=12.7km az=66.0*
*DJA **23** 21:38:20.4±3.2, 4°.N±5°×12°.6E±°, h32km±39km, M4.6/8, mb4.7/6, mB5.1/4, MLv4.6/8, Mw(mB)4.4/4*
ISC 23 21:38:18.3±0.5, **4°.78N**±0°.04×**126°.35E**±0°.08, **h71**km, **n71**, σ1°**33**/59, **mb4.1**/16, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.16**	**358**	*e*P	Pn	21 38 48.2	-3.9
MATI				*e*S	**Sn**	**21 39 20.7**	**+2.8**
DAV	**Davao City (W)**	**2.40**	**341**	*e*Pn	Pn	21 38 50.7	-4.7
DAV				*e*Sn	**Sn**	**21 39 23.9**	**0.0**
DAV	**Davao City (W)**	**2.40**	**341**	P	Pn	21 39 03.6	+8.1
CTBH	**Cotabato--PC H**	**3.21**	**319**	*e*P	Pn	21 39 00.6	-5.8
CTBH				*i* S	Sn	21 39 53.6	+10
BUKP	**Musuan**	**3.34**	**338**	*e*P	Pn	21 39 03.0	-5.2
CGP	**Cagayan de Oro**	**4.01**	**336**	‖*e*P	Pn	21 39 21.7	+4.4
TNTI	**Ternate**	**4.11**	**166**	P	**Pn**	**21 39 17.2**	**-1.4**
TNTI				S	**Sn**	**21 40 03.1**	**-2.3**
PAGZ	**Pagadian**	**4.24**	**316**	*e*P	**Pn**	**21 39 20.1**	**-0.5**
GTOI	**Gorontalo**	**5.29**	**219**	P	**Pn**	**21 39 34.8**	**-0.1**
	72nm,1.3s,1μm0.4nm						
LBMI	**Labuha**	**5.50**	**168**	P	**Pn**	**21 39 37.4**	**-0.3**
	158nm,0.9s,2μm0.4nm						
MRSI	**Marisa**	**6.13**	**226**	P	**Pn**	**21 39 47.2**	**+0.8**
	79nm,0.8s,2μm0.4nm						
MRSI				S	**Sn**	**21 40 57.0**	**+1.8**
	79nm,0.8s,2μm0.4nm						
LUWI	**Luwuk**	**6.79**	**212**	P	**Pn**	**21 39 55.1**	**-0.3**
	239nm,1.0s,2μm0.7nm						
LUWI	**Luwuk**	**6.79**	**212**	P	Pn	21 40 03.6	+8.2
	baz=7.6,SNR=3.4						
APSI	**Ampana**	**7.34**	**220**	P	Pn	21 39 57.6	-5.3
SWI	**Sorong**	**7.45**	**139**	P	Pn	21 40 00.7	-3.6
	29nm,0.9s,0.1nm						
MYLDM	**Lahad Datu**	**7.83**	**273**	P	**Pn**	**21 40 10.9**	**+1.3**
FAKI	**Fak Fak**	**9.65**	**142**	P	**Pn**	**21 40 32.4**	**-2.1**
	baz=9.8,SNR=3.6						
KKM	**Kota Kinabalu**	**10.17**	**278**	P	Pn	21 40 45.3	+3.7
	baz=11,SNR=3.3						
KKM				S	Sn	21 42 45.5	+11
	baz=11,SNR=3.0						
KAPI	**Kappang**	**11.75**	**214**	LR	LR	21 44 51.1	
	comp=Z,156nm,19.5s,baz=49,slow=34						
MTN	**Manton Dam**	**18.14**	**165**	P	**P**	**21 42 23.8**	**-1.2**
	baz=19,SNR=3.1						
KDU	**Kakadu**	**18.39**	**161**	P	**P**	**21 42 25.6**	**-2.1**
	baz=19,SNR=4.6						
KNRA	**Kununurra**	**20.46**	**173**	P	Pn	21 42 53.1	+0.1
	baz=21,SNR=5.5						
FITZ	**Fitzroy Crossi**	**22.74**	**182**	P	**P**	**21 43 14.6**	**-0.1**
	8.9nm,0.9s,baz=13,slow=4.8,SNR=11						
FITZ	**Fitzroy Crossi**	**22.74**	**182**	P	**P**	**21 43 15.6**	**+0.8**
	baz=23,SNR=6.1						
WRAB	**Tennant Creek**	**25.78**	**162**	*e*P	**P**	**21 43 43.1**	**+0.3**
	22nm,0.9s						
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**21 43 43.1**	**+0.2**
WRA	**Warramunga Arr**	**25.79**	**163**	P	**P**	**21 43 43.1**	**+0.2**
	8.8nm,0.9s,baz=333,slow=11,SNR=28						
JNU	**Nakatsue**	**28.52**	**8**	LR	LR	21 53 21.2	
	comp=Z,244nm,20.9s,baz=342,slow=32						
AS31	**Alice Springs**	**29.21**	**166**	*e*P	**P**	**21 44 14.5**	**+1.0**
ASAR	**Alice Springs**	**29.21**	**166**	P	**P**	**21 44 13.4**	**0.0**
ASAR	**Alice Springs**	**29.21**	**166**	P	**P**	**21 44 13.4**	**0.0**
	1.5nm,0.5s,baz=351,slow=6.9,SNR=18						
ENH	**Enshi**	**29.94**	**330**	*e*P	**P**	**21 44 18.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**30.02**	**299**	P	**P**	**21 44 19.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.02**	**299**	P	**P**	**21 44 19.6**	**-1.1**
	0.4nm,0.7s,baz=123,slow=9.9,SNR=2.8						
CMAR				LR	LR	21 57 30.0	
	comp=Z,83nm,18.5s,baz=130,slow=39						
CTA	**Charters Tower**	**31.52**	**142**	P	**P**	**21 44 36.2**	**+2.4**
CTA	**Charters Tower**	**31.52**	**142**	P	**P**	**21 44 36.2**	**+2.4**
	3.4nm,0.8s,baz=334,slow=13,SNR=4.7						
MEEK	**Meekatharra**	**32.11**	**193**	P	**P**	**21 44 39.8**	**+0.8**
	baz=33,SNR=5.5						
KSAR	**Wonju Array Be**	**32.54**	**2**	P	**P**	**21 44 44.5**	**+1.9**
KSRS	**Korea Array**	**32.56**	**2**	P	**P**	**21 44 44.5**	**+1.8**
	0.7nm,0.5s,baz=177,slow=9.4,SNR=3.2						
KSRS				LR	LR	21 58 38.2	
	comp=Z,132nm,20.4s,baz=181,slow=37						
MJAR	**Matsushiro Arr**	**33.44**	**17**	LR	LR	21 56 56.7	
	comp=Z,90nm,18.0s,baz=195,slow=33						
EIDS	**Eidsvold**	**38.41**	**142**	*e*P	**P**	**21 45 32.4**	**-0.7**
STKA	**Stephens Creek**	**39.24**	**159**	P	**P**	**21 45 41.2**	**+1.3**
	6.4nm,0.7s,baz=0.0,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**39.24**	**159**	P	**P**	**21 45 41.2**	**+1.3**
	baz=40,SNR=4.8						
ASAJ	**Asahikawa**	**41.71**	**18**	*e*P	**P**	**21 46 00.4**	**+0.2**
	2.7nm,0.7s						
ASAJ	**Asahikawa**	**41.71**	**18**	LR	LR	22 01 39.1	
	comp=Z,128nm,19.4s,baz=189,slow=34						
SONM	**Songino Array**	**46.19**	**341**	LR	LR	22 06 49.1	
	comp=Z,139nm,20.4s,baz=236,slow=37						
DZM	**Mont Dzumac**	**47.45**	**126**	*e*P	**P**	**21 46 47.8**	**+1.5**
PETK	**Petropavlovsk-**	**54.61**	**23**	LR	LR	22 07 32.2	
	comp=Z,67nm,20.2s,baz=22,slow=32						
MK31	**Makanchi Array**	**56.48**	**325**	*e*P	**P**	**21 47 51.6**	**-1.4**
MK31				*e*PcP	**PcP**	**21 48 48.8**	**-0.3**
MKAR	**Makanchi Array**	**56.48**	**325**	P	**P**	**21 47 51.8**	**-1.3**
MKAR				PcP	**PcP**	**21 48 48.8**	**-0.4**
MKAR	**Makanchi Array**	**56.48**	**325**	P	**P**	**21 47 51.8**	**-1.3**
	0.8nm,0.5s,baz=118,slow=7.5,SNR=18						
MKAR				PcP	**PcP**	**21 48 48.8**	**-0.4**
	1.1nm,0.7s,baz=124,slow=4.7,SNR=2.8						
MKAR				LR	LR	22 12 50.1	
	comp=Z,109nm,21.4s,baz=77,slow=37						
AAK	**Ala-Archa**	**59.33**	**318**	*e*P	**P**	**21 48 11.8**	**-1.5**

ZALV	Zalesovo Beam	59.49 333	P	P	21 48 13.3	-0.6
ZALV	Zalesovo Beam	59.49 333	P	P	21 48 13.3	-0.6
	1.0nm,0.5s,baz=112,slow=6.6,SNR=6.4					
ZALV			LR	LR	22 14 41.4	
	comp=Z,82nm,19.8s,baz=70,slow=37					
KKAR	Karatay Array	62.21 317	*e*P	P	21 48 30.4	-2.3
ABKAR	Akbulak array	71.11 321	*e*P	P	21 49 27.5	-1.6
	1.6nm,0.8s					
AKTO	Aktyubinsk	72.61 321	P	P	21 49 37.1	-1.0
AKTO	Aktyubinsk	72.61 321	P	P	21 49 37.1	-1.0
	0.4nm,0.3s,baz=106,slow=11,SNR=4.1					
KBZ	Khabaz	81.99 313	LR	LR	22 32 55.7	
	comp=Z,68nm,18.1s,baz=251,slow=40					
VNDA	Vanda	84.50 173	P	P	21 50 45.0	+2.1
VNDA	Vanda	84.50 173	P	P	21 50 45.0	+2.1
	1.0nm,0.9s,baz=285,slow=6.9,SNR=3.2					
VNDA			LR	LR	22 28 55.2	
	comp=Z,80nm,20.6s,baz=293,slow=36					
ARCES	ARCESS Array B	89.34 340	P	P	21 51 05.4	-1.2
ARCES	ARCESS Array B	89.34 340	P	P	21 51 05.4	-1.2
	1.4nm,0.8s,baz=77,slow=6.4,SNR=7.9					
ARCES			LR	LR	22 33 54.9	
	comp=Z,58nm,19.3s,baz=334,slow=37					
FINES	FINESS Array B	90.74 332	P	P	21 51 12.7	-0.6
FINES	FINESS Array B	90.74 332	P	P	21 51 12.7	-0.6
	0.6nm,0.6s,baz=103,slow=4.1,SNR=4.9					
FINES			LR	LR	22 34 39.4	
	comp=Z,70nm,18.9s,baz=43,slow=37					
NOA	NORSAR Array B	97.69 334	LR	LR	22 38 54.5	
	comp=Z,81nm,21.8s,baz=280,slow=37					
TORD	Torodi Ar. Bea	122.23 289	PKP	PKPdf	21 57 05.4	-0.8
TORD	Torodi Ar. Bea	122.23 289	PKP	PKPdf	21 57 05.4	-0.8
	0.4nm,0.6s,baz=72,slow=1.6,SNR=14					
JTS	JuntasAbangare	145.42 64	*e*PKPdf	PKPab	21 57 50.0	+0.4
CFAA	Coronel Fontan	150.00 155	PKPbc	PKPbc	21 58 02.9	+1.4
CFAA	Coronel Fontan	150.00 155	PKPbc	PKPbc	21 58 02.9	+1.4
	0.1nm,0.4s,baz=214,slow=7.3,SNR=2.7					

IDC 23 21:43:02.5±0.7, 9°.50S×158°.97E, h510km±6km, mb3.2/7, mb1 3.3/9, mb1mx3.1/22, mbtmp3.2/9, Error ellipse: s-maj=25.6km s-min=19.1km az=163.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.96	86	P	P	21 44 05.0	+0.4
	165nm,0.3s,baz=180,slow=3.3,SNR=32						
HNR				S	S	21 44 55.3	+0.3
	30nm,0.3s,baz=23,slow=23,SNR=12						
DZM	Mont Dzumac	14.41	151	P	P	21 46 05.7	-0.8
	0.6nm,0.3s,baz=270,slow=24,SNR=6.3						
CTA	Charters Tower	16.17	228	P	P	21 46 25.0	+0.2
	0.5nm,0.3s,baz=58,slow=12,SNR=4.4						
WRA	Warramunga Arr	25.95	244	P	P	21 47 54.3	+0.3
	5.3nm,0.4s,baz=72,slow=9.0,SNR=66						
WRA				PcP	PcP	21 51 06.2	+0.3
	0.5nm,0.6s,baz=69,slow=2.9,SNR=5.3						
STKA	Stephens Creek	27.49	213	P	P	21 48 07.6	+0.3
	2.9nm,0.6s,baz=30,slow=14,SNR=5.2						
ASAR	Alice Springs	27.78	236	P	P	21 48 09.6	-0.5
	1.6nm,0.6s,baz=63,slow=9.0,SNR=16						
FITZ	Fitzroy Crossi	33.43	252	P	P	21 48 58.6	-0.2
	1.3nm,0.5s,baz=91,slow=8.6,SNR=8.4						
VNDA	Vanda	68.01	179	P	P	21 53 10.6	+0.7
	0.9nm,0.8s,baz=331,slow=4.0,SNR=4.1						
QSPA	South Pole Qui	80.49	180	P	P	21 54 20.0	-0.9
	0.8nm,0.5s,baz=147,slow=3.9,SNR=7.1						
MKAR	Makanchi Array	87.88	318	P	P	21 54 56.7	-0.8
	0.3nm,0.6s,baz=81,slow=7.5,SNR=3.7						
LPAZ	La Paz	126.81	119	PKP	PKPdf	22 01 09.7	0.0
	0.5nm,0.5s,baz=301,slow=5.9,SNR=3.3						
TORD	Torodi Ar. Bea	157.43	281	PKPab	PKPab	22 02 35.6	-0.3
	0.2nm,0.7s,baz=93,slow=5.0,SNR=3.2						

*ATH **23** 21:44:53.2, 41°.81N×19°.01E, h10km, MD3.9/11*
*IDC **23** 21:44:53.4±1.4, 42°.04N×18°.88E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.3/28, mbtmp3.3/6, ML3.1/3, Error ellipse: s-maj=21.5km s-min=14.8km az=158.0*
*ISCJB **23** 21:44:54.6±0.3, 41°.89N±0°.01×19°.13E±0°.02, h11km±2km, mb3.2/2, Error ellipse: s-maj=2.2km s-min=1.9km az=135.7*
*CSEM **23** 21:44:54.8±0.1, 41°.87N×19°.12E, h2km, ML3.1/9, Error ellipse: s-maj=1.9km s-min=1.8km az=65.0*
*LDG **23** 21:44:54.8±0.1, 41°.96N×19°.19E, h10km, Ml3.4/8, Error ellipse: s-maj=2.7km s-min=1.7km az=174.0*
*ROM **23** 21:44:54.7±0.1, 41°.91N×19°.14E, h10km, Ml3.3/31, Error ellipse: s-maj=3.1km s-min=2.0km az=114.0*
*THE **23** 21:44:55.0, 41°.91N×19°.14E, h0km±3km, Error ellipse: s-maj=3.6km s-min=1.0km az=249.0*
*PRU **23** 21:44:55.4, 41°.88N×19°.26E, h3km*
*PDG **23** 21:44:55.2±0.5, 41°.91N×19°.18E, h12km, MD3.3/2, ML3.1/9, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*BEO **23** 21:44:57.5±0.4, 41°.96N×19°.32E, h0km, ML3.0/1*
*TIR **23** 21:44:57.0±5.6, 41°.93N×19°.04E, h27km±31km, ML3.2*

ISC 23 21:44:55.0±0.8, 41°.92N±0°.02×19°.17E±0°.02, h14km±4km, n274, σ1$41/364, 25C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.08	51	⇑*i*Pg	Pg	21 44 58.0	+0.1
ULC				*e*Sg	Sg	21 45 00.0	+0.1
ULC	Ulcinj	0.08	51	⇑*i*Pg	Pg	21 44 58.0	+0.1
ULC				*e*Sg	Sg	21 45 00.0	+0.1
DRME	Dracevica, Mon	0.27	3	⇓*i*Pg	Pg	21 45 01.0	+0.2
DRME				*e*Sg	Sb	21 45 05.8	-0.5
DRME	Dracevica, Mon	0.27	3	⇓*i*Pg	Pg	21 45 01.0	+0.2
DRME				*e*Sg	Sb	21 45 05.8	-0.5
BUM	Brajici-Budva	0.43	332	⇓*i*Pg	Pg	21 45 03.6	-0.1
BUM				*e*Sg	Sb	21 45 10.8	-0.3
BUM	Brajici-Budva	0.43	332	⇓*i*Pg	Pg	21 45 03.6	-0.1
BUM				*e*Sg	Sb	21 45 10.8	-0.3
PDG	Podgorica	0.52	7	P	Pg	21 45 04.8	-0.5
PDG				S	Sb	21 45 13.5	+0.1
PDG	Podgorica	0.52	7	Pn	Pg	21 45 04.9	-0.4
PDG				Sn	Sg	21 45 13.1	+0.9
	663nm,0.5s						
PDG	Podgorica	0.52	7	*e*Pg	Pg	21 45 04.7	-0.5
PDG				*e*Sg	Sg	21 45 12.6	+0.4
PDG	Podgorica	0.52	7	⇑*i*Pg	Pg	21 45 04.7	-0.5
PDG				*e*Sg	Sg	21 45 12.6	+0.4
PDG				Sn	Sg	21 45 13.1	+0.9
	663nm,0.5s						
PDG				S	Sb	21 45 13.5	+0.1
TTG	Podgorica	0.52	7	⇑*i*Pg	Pg	21 45 04.7	-0.5
TTG				*e*Sg	Sb	21 45 13.3	-0.1
PUK	Puka	0.56	77	*e*PG	Pg	21 45 05.4	-0.6
PUK				*e*SG	Sg	21 45 13.4	0.0
PUK	Puka	0.56	77	*e*Pg	Pg	21 45 05.4	-0.6
	SNR=114						
PUK				*e*Sg	Sg	21 45 13.4	0.0
	SNR=114						
HCY	Herceg Novi	0.73	317	⇑*i*Pg	Pg	21 45 08.9	-0.3
HCY				*e*Sg	Sb	21 45 20.5	+1.0
HCY	Herceg Novi	0.73	317	⇑*i*Pg	Pg	21 45 08.9	-0.3
HCY				*e*Sg	Sb	21 45 20.5	+1.0
TIR	Tirane	0.77	137	*e*PG	Pg	21 45 10.2	+0.1
TIR				*e*SG	Sb	21 45 21.4	+0.8
TIR	Tirane	0.77	137	P	Pg	21 45 10.0	0.0
TIR				S	Sb	21 45 22.1	+1.4
TIR	Tirane	0.77	137	Pn	Pb	21 45 10.5	+0.2
	717nm,0.4s						
TIR	Tirane	0.77	137	*e*Pg	Pb	21 45 10.9	+0.6
TIR				*e*Sg	Sb	21 45 21.6	+0.9
TIR	Tirane	0.77	137	P	Pg	21 45 10.0	0.0
TIR	Tirane	0.77	137	Pn	Pb	21 45 10.5	+0.2
	717nm,0.4s						
TIR	Tirane	0.77	137	*e*Pg	Pb	21 45 10.9	+0.6
TIR				*e*Sg	Sb	21 45 21.5	+0.8
	SNR=102						
TIR				S	Sb	21 45 22.1	+1.4
BCI	Bajram Curri	0.81	56	*e*PG	Pg	21 45 09.8	-1.0
BCI				*e*SG	Sb	21 45 22.6	+0.9
BCI	Bajram Curri	0.81	56	*e*Pg	Pg	21 45 09.8	-1.0
	SNR=101						
BCI				*e*Sg	Sb	21 45 22.6	+0.9
	SNR=101						
NKME	Niksic	0.86	350	⇑*i*Pg	Pg	21 45 10.8	-1.0
NKME				*e*Sg	Sn	21 45 25.2	-0.2
NKME	Niksic	0.86	350	⇑*i*Pg	Pg	21 45 10.8	-1.0
NKME				*e*Sg	Sn	21 45 25.2	-0.2
PVY	Plav	0.90	41	⇑*i*Pg	Pg	21 45 11.4	-1.1
PVY				*e*Sg	Sn	21 45 27.2	+0.8
PVY	Plav	0.90	41	⇑*i*Pg	Pg	21 45 11.4	-1.1
PVY				*e*Sg	Sn	21 45 27.2	+0.8
PHP	Peshkopia	0.98	103	*e*PG	Pg	21 45 12.7	-1.3
PHP				*e*SG	Sb	21 45 27.8	+1.1
PHP	Peshkopia	0.98	103	P	Pg	21 45 12.6	-1.3
PHP				S	Sb	21 45 27.9	+1.1
PHP	Peshkopia	0.98	103	*e*Pg	Pg	21 45 12.7	-1.3
	SNR=98						
PHP				*e*Sg	Sb	21 45 27.8	+1.1
	SNR=98						
TREB	Trebinje	1.00	323	*e*Pg	Pn	21 45 16.1	+1.3
TREB				*e*Sg	Sn	21 45 31.5	+2.7
TREB	Trebinje	1.00	323	*e*Pg	Pn	21 45 16.1	+1.3
TREB				*e*Sg	Sn	21 45 31.5	+2.7
BRY	Bratogost	1.09	335	⇑*i*Pg	Pb	21 45 15.9	+0.1
BRY				*e*Sg	Sn	21 45 33.2	+2.1
BRY	Bratogost	1.09	335	⇑*i*Pg	Pb	21 45 15.9	+0.1
BRY				*e*Sg	Sn	21 45 33.2	+2.1
BEY	Berane	1.10	29	⇑*i*Pg	Pb	21 45 15.0	-0.9
BEY				*e*Sg	Sn	21 45 33.1	+1.9
IVA	Berane	1.10	29	⇑*i*Pg	Pb	21 45 15.0	-0.9
IVA				*e*Sg	Sn	21 45 33.1	+1.9
UPM	Unac-Piva	1.30	352	⇓*i*Pg	Pn	21 45 19.2	+0.1
UPM				*e*Sg	Sg	21 45 40.2	+3.1
UPM	Unac-Piva	1.30	352	⇓*i*Pg	Pn	21 45 19.2	+0.1
UPM				*e*Sg	Sg	21 45 40.2	+3.1
PLE	Pljevlja	1.42	7	⇑*i*Pg	Pg	21 45 22.4	0.0
PLE				*e*Sg	Sg	21 45 43.3	+2.4
PLE	Pljevlja	1.42	7	⇑*i*Pg	Pg	21 45 22.4	0.0
PLE				*e*Sg	Sg	21 45 43.3	+2.4
STON	Ston	1.45	312	*e*Pn	Pb	21 45 22.2	+0.4
STON				Sn	Sg	21 45 42.6	+1.0
SJES	Sjenica	1.47	24	*e*Pg	Pn	21 45 21.2	-0.1
SJES				*e*Sg	Sg	21 45 42.5	0.0
SJES	Sjenica	1.47	24	*e*Pg	Pn	21 45 21.2	-0.1
SJES				*e*Sg	Sg	21 45 42.5	0.0
MESG	Mesagne	1.66	217	Pn	Pn	21 45 23.3	-0.4
	467nm,0.5s						
MESG	Mesagne	1.66	217	Pn	Pn	21 45 23.3	-0.4
	467nm,0.5s						
SKO	Skopje	1.70	87	*e*Pn	Pg	21 45 27.3	-0.4
SKO	Skopje	1.70	87	*e*Pn	Pg	21 45 27.2	-0.4
KBN	Korca	1.78	136	*e*PN	Pb	21 45 28.1	+0.6
KBN				*e*SN	Sg	21 45 53.6	+1.3
KBN	Korca	1.78	136	*e*Pn	Pb	21 45 28.1	+0.6
	SNR=63						
BIA	Bitola	1.85	118	P	Pn	21 45 27.8	+1.3
BIA	Bitola	1.85	118	*i* Pn	Pn	21 45 27.7	+1.3
BIA	Bitola	1.85	118	P	Pn	21 45 27.8	+1.3
SCTE	Santa Cesarea	1.92	196	Pn	Pn	21 45 26.2	-1.1
	290nm,0.5s						
SCTE	Santa Cesarea	1.92	196	Pn	Pn	21 45 26.2	-1.1
	290nm,0.5s						
NOCI	Noci	1.94	235	Pn	Pn	21 45 27.3	-0.4
	354nm,0.4s						
NOCI	Noci	1.94	235	Pn	Pn	21 45 27.3	-0.4
	354nm,0.4s						
SELS	Selova	1.94	47	*e*Pn	Pn	21 45 28.9	+1.2
SELS	Selova	1.94	47	*e*Pn	Pn	21 45 28.9	+1.2
BBLS	Lazići	1.96	5	*e*Pn	Pb	21 45 30.0	-0.6
BBLS				*e*Sn	Sb	21 45 56.6	+1.7
BBLS	Lazići	1.96	5	*e*Pn	Pb	21 45 30.0	-0.6
BBLS				*e*Sn	Sb	21 45 56.6	+1.7
FNA	Florina	2.01	123	P	Pn	21 45 30.4	+1.7
FNA				S	Sb	21 45 57.3	+0.9
FNA	Florina	2.01	123	*e*PN	Pn	21 45 30.4	+1.7
FNA				*e*SN	Sb	21 45 56.7	+0.3
FNA	Florina	2.01	123	*e*Pn	Pn	21 45 30.4	+1.7
FNA				*e*Sn	Sb	21 45 56.7	+0.3
FNA				S	Sb	21 45 57.3	+0.9
NEST	Nestorio	2.07	136	P	Pn	21 45 31.3	+1.8
NEST	Nestorio	2.07	136	P	Pn	21 45 31.3	+1.8
SRN	Sarande	2.13	162	*e*PN	Pn	21 45 30.7	+0.5
SRN				*e*SN	Sn	21 45 57.2	+0.7
SRN	Sarande	2.13	162	P	Pn	21 45 30.4	+0.2
SRN	Sarande	2.13	162	P	Pn	21 45 30.4	+0.2
SRN	Sarande	2.13	162	*e*Pn	Pn	21 45 30.7	+0.5
	SNR=63						
SRN				*e*Sn	Sn	21 45 57.2	+0.7
	SNR=63						
BARS	Barje	2.16	64	*e*Pn	Pn	21 45 32.1	+1.4
BARS				*e*Sn	Sn	21 45 59.9	+2.6
AMUR	Altamura	2.17	243	Pn	Pn	21 45 30.8	-0.1
	149nm,0.5s						
AMUR	Altamura	2.17	243	Pn	Pn	21 45 30.8	-0.1
	149nm,0.5s						
KEK	Kerkira	2.25	167	P	Pn	21 45 33.0	+1.1
KEK	Kerkira	2.25	167	Pn	Pn	21 45 33.0	+1.1
	95nm,0.4s						
KEK	Kerkira	2.25	167	*e*PN	Pn	21 45 32.1	+0.2
KEK				*e*SN	Sn	21 45 59.5	0.0
KEK	Kerkira	2.25	167	*e*P	Pn	21 45 33.0	+1.1
KEK	Kerkira	2.25	167	Pn	Pn	21 45 33.0	+1.1
	95nm,0.4s						
KEK				*e*Sn	Sn	21 45 59.5	0.0
DIVS	Divibare	2.26	15	P	Pn	21 45 33.1	+0.9
DIVS				S	Sb	21 46 03.5	-0.2
DIVS	Divibare	2.26	15	*e*Pn	Pn	21 45 33.8	+1.6
DIVS				*e*Sn	Sb	21 46 03.7	0.0
DIVS	Divibare	2.26	15	P	Pn	21 45 33.1	+0.9
DIVS	Divibare	2.26	15	*e*Pn	Pn	21 45 33.8	+1.6
DIVS				S	Sb	21 46 03.5	-0.2
GRUS	Gruza	2.28	29	*e*Pn	Pn	21 45 33.8	+1.5
GRUS				*e*Sn	Sb	21 46 03.1	-0.9
GRUS	Gruza	2.28	29	*e*Pn	Pn	21 45 33.8	+1.5
GRUS				*e*Sn	Sb	21 46 03.1	-0.9
MRVN	Minervino Murg	2.39	250	Pn	Pn	21 45 34.0	+0.2
	104nm,0.5s						
MRVN	Minervino Murg	2.39	250	Pn	Pn	21 45 34.0	+0.2
	104nm,0.5s						
MIGL	Miglionico	2.44	238	Pn	Pn	21 45 35.5	+1.0
MIGL	Miglionico	2.44	238	Pn	Pn	21 45 35.5	+1.0
MSAG	Monte S. Angel	2.44	266	Pn	Pn	21 45 34.8	+0.2
MSAG	Monte S. Angel	2.44	266	Pn	Pn	21 45 34.8	+0.2
TRUS	Trudelj	2.48	21	*e*Pn	Pb	21 45 38.7	-0.7
TRUS				*e*Sn	Sn	21 46 08.2	+3.0
TRUS	Trudelj	2.48	21	*e*Pn	Pb	21 45 38.7	-0.7
TRUS				*e*Sn	Sn	21 46 08.2	+3.0
IGT	Igoumenitsa	2.54	159	P	Pn	21 45 36.1	+0.2
IGT	Igoumenitsa	2.54	159	P	Pn	21 45 36.1	+0.2
KZN	Kozani	2.54	128	*e*P	Pb	21 45 38.9	-1.6
SGRT	San Giovanni R	2.56	268	Pn	Pn	21 45 36.3	0.0
	138nm,0.6s						
SGRT	San Giovanni R	2.56	268	Pn	Pn	21 45 36.3	0.0
	138nm,0.6s						
JAN	Janina	2.59	150	*e*PN	Pn	21 45 37.8	+1.1
JAN	Janina	2.59	150	*e*P	Pn	21 45 38.4	+1.7
JAN	Janina	2.59	150	*e*Pn	Pn	21 45 37.8	+1.1
PALZ	Palazzo San Ge	2.60	249	Pn	Pn	21 45 37.1	+0.4
PALZ	Palazzo San Ge	2.60	249	Pn	Pn	21 45 37.1	+0.4
GRG	Griva	2.62	110	P	Pn	21 45 38.5	+1.5
GRG	Griva	2.62	110	*e*PB	Pn	21 45 38.4	+1.5
GRG	Griva	2.62	110	P	Pn	21 45 38.5	+1.5
VAY	Valandovo	2.62	102	*i* Pn	Pn	21 45 37.7	+0.7
VAY	Valandovo	2.62	102	*i* Pn	Pn	21 45 37.7	+0.7
TEKS	Tekeris	2.65	6	*e*Pn	Pb	21 45 40.4	-1.9
TEKS	Tekeris	2.65	6	*e*Pn	Pb	21 45 40.4	-1.9
ACER	Acerenza	2.67	246	Pn	Pn	21 45 38.0	+0.2
ACER	Acerenza	2.67	246	Pn	Pn	21 45 38.0	+0.2
SCHR	S. Chirico Rap	2.90	235	Pn	Pn	21 45 41.9	+1.0
	57nm,0.6s						
SCHR	S. Chirico Rap	2.90	235	Pn	Pn	21 45 41.9	+1.0
	57nm,0.6s						
ZAPS	Zavoj	2.90	61	*e*Pn	Pn	21 45 43.8	+2.9
ZAPS				*e*Sn	Sn	21 46 17.0	+1.4
ZAPS	Zavoj	2.90	61	*e*Pn	Pn	21 45 43.8	+2.9
ZAPS				*e*Sn	Sn	21 46 17.0	+1.4
KNT	Kendrikon	2.90	104	P	Pn	21 45 42.3	+1.4
KNT	Kendrikon	2.90	104	P	Pn	21 45 42.3	+1.4
KKB	Krupnik	2.93	90	*i* P	Pn	21 45 43.2	+2.0
KKB	Krupnik	2.93	90	*i* P	Pn	21 45 43.2	+2.0
SGTA	Sant Agata di	2.96	256	Pn	Pn	21 45 43.4	+1.7
SGTA	Sant Agata di	2.96	256	Pn	Pn	21 45 43.4	+1.7
MCEL	Monticello	3.00	239	Pn	Pn	21 45 42.8	+0.5
	37nm,0.5s						
MCEL	Monticello	3.00	239	Pn	Pn	21 45 42.8	+0.5
	37nm,0.5s						
MRLC	Muro Lucano	3.00	249	Pn	Pn	21 45 42.8	+0.5
	137nm,0.6s						
MRLC	Muro Lucano	3.00	249	Pn	Pn	21 45 42.8	+0.5
	137nm,0.6s						
MELA	Melanico ??? S	3.03	267	Pn	Pn	21 45 43.0	+0.5
	549nm,1.3s						
MELA	Melanico ??? S	3.03	267	Pn	Pn	21 45 43.0	+0.5
	549nm,1.3s						
SIRI	Monte Sirino -	3.04	236	Pn	Pn	21 45 43.9	+1.1
	102nm,0.8s						
SIRI	Monte Sirino -	3.04	236	Pn	Pn	21 45 43.9	+1.1
	102nm,0.8s						
VTS	Vitosha	3.08	76	*i* P	Pn	21 45 45.0	+1.6
VTS	Vitosha	3.08	76	⇓*i*P	Pn	21 45 45.3	+1.9
VTS	Vitosha	3.08	76	*i* P	Pn	21 45 45.0	+1.6
CAFE	Carife	3.08	255	Pn	Pn	21 45 44.3	+0.9
	100nm,0.7s						
CAFE	Carife	3.08	255	Pn	Pn	21 45 44.3	+0.9
	100nm,0.7s						
BLY	Banja Luka	3.18	334	*e*Pn	Pb	21 45 50.2	-1.1
BLY				*e*Sn	Sb	21 46 29.2	-0.8
BLY	Banja Luka	3.18	334	*e*Pn	Pb	21 45 50.2	-1.1
CUC	Castrocucco	3.18	234	Pn	Pn	21 45 44.7	-0.1
	63nm,0.5s						
CUC	Castrocucco	3.18	234	Pn	Pn	21 45 44.7	-0.1
	63nm,0.5s						
THL	Klokotos Trika	3.19	136	*e*PN	Pn	21 45 46.3	+1.4
THL				*e*SN	Sn	21 46 25.4	+2.7
THL	Klokotos Trika	3.19	136	*e*P	Pn	21 45 47.4	+2.5
THL	Klokotos Trika	3.19	136	*e*Pn	Pn	21 45 46.3	+1.4
THL				*e*Sn	Sn	21 46 25.4	+2.7
SGO	Sicignano	3.21	246	Pn	Pn	21 45 45.2	+0.1
	26nm,0.4s						
SGO	Sicignano	3.21	246	Pn	Pn	21 45 45.2	+0.1
	26nm,0.4s						
MCRV	Calabrutti - M	3.21	251	Pn	Pn	21 45 45.1	-0.2
	74nm,0.3s						
MCRV	Calabrutti - M	3.21	251	Pn	Pn	21 45 45.1	-0.2
	74nm,0.3s						
CDRU	Civita di Ruta	3.24	245	Pn	Pn	21 45 45.5	-0.1
	37nm,0.6s						
CDRU	Civita di Ruta	3.24	245	Pn	Pn	21 45 45.5	-0.1
	37nm,0.6s						
MGR	Morigerati	3.26	238	Pn	Pn	21 45 46.3	+0.5
	57nm,0.5s						
MGR	Morigerati	3.26	238	Pn	Pn	21 45 46.3	+0.5
	57nm,0.5s						
CMPR	Campora	3.33	243	Pn	Pn	21 45 47.1	+0.4
	100nm,0.8s						
CMPR	Campora	3.33	243	Pn	Pn	21 45 47.1	+0.4
	100nm,0.8s						
LKD2	Lefkada island	3.33	159	*e*PN	Pn	21 45 46.5	-0.2
LKD2				*e*SN	Sn	21 46 25.4	-0.6
LKD2	Lefkada island	3.33	159	*e*Pn	Pn	21 45 46.5	-0.2
LKD2				*e*Sn	Sn	21 46 25.4	-0.6
SACR	S. Croce Del S	3.38	263	Pn	Pn	21 45 48.2	+0.7
	70nm,1.0s						
SACR	S. Croce Del S	3.38	263	Pn	Pn	21 45 48.2	+0.7
	70nm,1.0s						
MMB	Musomiste	3.43	94	*i* P	Pn	21 45 49.9	+1.7
MMB	Musomiste	3.43	94	*i* P	Pn	21 45 49.9	+1.7
BSSO	Busso	3.44	265	Pn	Pn	21 45 49.5	+1.1
	48nm,0.5s						
BSSO	Busso	3.44	265	Pn	Pn	21 45 49.5	+1.1
	48nm,0.5s						
SERS	Sersale	3.44	214	Pn	Pn	21 45 47.2	-1.2
SERS	Sersale	3.44	214	Pn	Pn	21 45 47.2	-1.2
PTRJ	Pietraroja	3.52	263	Pn	Pn	21 45 50.4	+1.0
	140nm,0.4s						
PTRJ	Pietraroja	3.52	263	Pn	Pn	21 45 50.4	+1.0
	140nm,0.4s						
NVR	Nevrokopi	3.56	98	*e*P	Pn	21 45 51.9	+1.9
PLG	Polygyros	3.58	114	*e*PN	Pn	21 45 51.5	+1.3
PLG	Polygyros	3.58	114	*e*P	Pn	21 45 51.5	+1.3
PLG	Polygyros	3.58	114	*e*Pn	Pn	21 45 51.5	+1.3
UDBI	Udbina	3.60	318	*i* Pn	Pn	21 45 53.2	+2.6
UDBI				Sn	Sn	21 46 36.2	+3.1
UDBI	Udbina	3.60	318	*i* Pn	Pn	21 45 53.2	+2.6
UDBI				Sn	Sn	21 46 36.1	+3.1
EVR	Evrytania	3.61	145	*e*PB	Pn	21 45 52.7	+2.0
EVR				*e*SN	Sn	21 46 35.3	+2.1
EVR	Evrytania	3.61	145	*e*P	Pn	21 45 52.7	+2.0
EVR	Evrytania	3.61	145	*e*Pb	Pn	21 45 52.7	+2.0
EVR				*e*Sn	Sn	21 46 35.3	+2.1
SGG	Gregorio Mates	3.62	263	Pn	Pn	21 45 51.9	+1.0
	71nm,0.4s						
SGG	Gregorio Mates	3.62	263	Pn	Pn	21 45 51.9	+1.0
	71nm,0.4s						
MIDA	Miranda	3.68	267	Pn	Pn	21 45 52.5	+0.8
	56nm,0.5s						
MIDA

MLR Muntele Rosu 6.08 52 Pn **Pn 21 46 27.5 +2.9**
0.3nm,0.3s,baz=226,slow=14,SNR=33
MLR Sn **Sn 21 47 37.6 +3.7**
0.1nm,0.3s,baz=287,slow=19,SNR=3.2
VYHS Vyhne 6.58 358 *e*PN Pn 21 46 34.9 +3.5
VYHS *e*SN **Sn 21 47 43.4 -2.9**
VYHS Vyhne 6.58 358 *e*PN Pn 21 46 34.9 +3.5
KECS Kecovo 6.63 8 *e*PN **Pn 21 46 34.5 +2.4**
KECS *e*SN **Sn 21 47 47.3 -0.2**
KECS Kecovo 6.63 8 *e*Pn **Pn 21 46 34.6 +2.4**
KECS *e*Sn **Sn 21 47 47.3 -0.2**
PLOR Plostina 6.69 51⇑*i*P **Pn 21 46 34.9 +2.0**
VRI Vrincioaia 6.74 52⇑*i*P **Pn 21 46 31.2 -2.4**
TLB Topalu 7.01 65⇑*i*P **Pn 21 46 39.7 +2.5**
BURAR **Bucovina Array 7.14 35⇑***i*P **Pn 21 46 41.2 +2.0**
CRVS Cervenica-Dubn 7.17 12 *e*PN **Pn 21 46 42.0 +2.5**
CRVS *e*SN **Sn 21 48 03.0 +2.2**
CRVS Cervenica-Dubn 7.17 12 *e*Pn **Pn 21 46 42.0 +2.5**
CRVS *e*Sn **Sn 21 48 03.0 +2.2**
CFR Carcaliu 7.29 60⇓*i*P **Pn 21 46 42.3 +1.2**
KOLS Kolonicke sedl 7.35 16 *e*PN **Pn 21 46 44.5 +2.5**
KOLS *e*SN **Sn 21 48 03.5 -1.7**
KOLS Kolonicke sedl 7.35 16 *e*Pn **Pn 21 46 44.5 +2.5**
PGF Pioggiola 7.57 278 *e*Pn **Pn 21 46 43.4 -1.7**
PGF *e*Sn Sn 21 48 03.5 -7.3
0.9nm,0.4s
PGF Pioggiola 7.57 278 *e*Pn **Pn 21 46 43.4 -1.7**
STHS Stebnicka Huta 7.64 10 *e*PN Pn 21 46 52.4 +6.4
TLCR 7.73 62⇓*i*P **Pn 21 46 49.7 +2.5**
GERES **GERESS Array B 7.92 333** Pn **Pn 21 46 47.7 -2.2**
0.2nm,0.3s,baz=155,slow=14,SNR=2.7
GERES Sn **Sn 21 48 22.4 +3.0**
0.3nm,0.3s,baz=148,slow=22,SNR=4.2
KHC Kasperske Hory 8.21 333 *e*PN **Pn 21 46 54.9 +1.1**
KHC *e*SN **Sn 21 48 25.2 -1.2**
KHC Kasperske Hory 8.21 333 Pn **Pn 21 46 54.9 +1.1**
DAVOX **Davos/Dischmat 8.24 309** Pn **Pn 21 46 53.7 -0.7**
0.4nm,0.3s,baz=158,slow=19,SNR=5.8
DAVOX Sn Sn 21 48 21.3 -6.0
0.2nm,0.3s,baz=137,slow=18,SNR=2.3
FRF La Foret Royal 9.36 284 *e*Pn **Pn 21 47 07.8 -1.7**
FRF *e*Sn Sn 21 48 45.9 -8.6
1.9nm,0.5s
LMR La Mourre 9.44 283 *e*Pn **Pn 21 47 08.6 -2.0**
MBDF Montbardon 9.46 291 *e*Pn **Pn 21 47 08.9 -2.1**
MBDF *e*Sn Sn 21 48 48.4 -8.9
2.3nm,0.5s
LPG La Plagne 9.68 296 *e*Pn **Pn 21 47 12.0 -2.1**
LPG *e*Sn Sn 21 48 54.0 -8.7
4.6nm,0.5s
LPL La Plagne 9.69 296 *e*Sn Sn 21 48 54.5 -8.6
5.9nm,0.6s
CABF La Chapelle 10.49 301 *e*Pn **Pn 21 47 22.8 -2.2**
HINF Hinteralfeld 10.54 308 *e*Pn **Pn 21 47 23.1 -2.6**
HINF *e*Sn Sn 21 49 14.2 -9.3
2.6nm,0.5s
CDF Champ du Feu 10.61 312 *e*Pn **Pn 21 47 24.6 -2.1**
CDF *e*Sn Sn 21 49 16.1 -9.2
0.7nm,0.3s
HAU Haudompre 10.93 308 *e*Sn Sn 21 49 22.8 -10
1.6nm,0.3s
SMF Signal de Mont 11.95 298 *e*Pn **Pn 21 47 42.2 -2.8**
HFS Hagfors 18.55 351 P **P 21 49 10.4 -0.7**
0.2nm,0.3s,baz=166,slow=13,SNR=6.1
FINES FINESS Array B 20.00 10 P **P 21 49 26.8 -0.2**
0.1nm,0.3s,baz=178,slow=9.5,SNR=5.2
TORD Torodi Ar. Bea 32.44 213 P **P 21 51 25.6 +0.7**
0.3nm,0.7s,baz=8.6,slow=8.5,SNR=2.7
MKAR Makanchi Array 44.33 61 P **P 21 53 04.3 -0.2**
0.2nm,0.4s,baz=273,slow=8.0,SNR=6.0

MEX 23 21:46:03.9±0.8, 16°.90N×94°.15W, h160km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.73**	**286**	*e*P		Pn	21 46 26.6	-1.1
CMIG				*i* S		Sn	21 46 43.4	-2.4
TGIG		**0.99**	**97**	*e*P		Pn	21 46 28.4	-1.2
TGIG				*i* S		Sn	21 46 46.8	-2.5
PCIG		**1.49**	**143**	*i* P		Pn	21 46 34.6	+0.6
PCIG				*i* S		Sn	21 46 57.4	+0.1
HUIG	**Huatulco**	**2.19**	**239**	*i* P		Pn	21 46 40.0	-1.8
HUIG				*i* S		Sn	21 47 09.8	-1.3
VHO	**Vista Hermosa**	**2.48**	**274**	*i* P		Pn	21 46 43.8	-1.7
VHO				*i* S		Sn	21 47 15.3	-2.3
TPIG	**Tehuac#an**	**3.41**	**297**	*i* P		Pn	21 46 56.4	-0.7
TPIG				*i* S		Sn	21 47 35.9	-2.6
PNIG	**Pinotepa**	**3.84**	**263**	*i* P		Pn	21 47 00.7	-1.8
PNIG				*i* S		Sn	21 47 45.5	-2.5

IDC 23 21:54:56.5±7.1, 1°.49S×99°.89E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=349.5km s-min=23.1km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.37**	**347**	Pn		Pn	21 56 06.7	+2.4
0.3nm,0.3s,baz=342,slow=20,SNR=1.7								
WRA	**Warramunga Arr**	**38.35**	**121**	P		P	22 02 19.5	-0.1
0.4nm,0.2s,baz=297,slow=9.4,SNR=42								
ASAR	**Alice Springs**	**39.64**	**126**	P		P	22 02 30.2	-0.2
0.5nm,0.7s,baz=298,slow=8.0,SNR=6.2								
MKAR	**Makanchi Array**	**50.51**	**344**	P		P	22 03 56.4	-0.1
0.4nm,0.7s,baz=154,slow=8.9,SNR=6.2								
ZALV	**Zalesovo Beam**	**56.65**	**349**	P		P	22 04 41.2	-0.1
0.4nm,0.3s,baz=157,slow=4.7,SNR=3.7								

MEX 23 22:09:14.1±0.3, 16°.25N×97°.97W, h38km±5km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**312**	*e*P		Pn	22 09 19.9	-3.1
PNIG				*i* S		Sn	22 09 24.5	-6.8
VHO	**Vista Hermosa**	**1.44**	**55**	*i* P		Pn	22 09 35.8	-2.0
VHO				*i* S		Sn	22 09 53.4	-2.3
HUIG	**Huatulco**	**1.85**	**105**	*i* P		Pn	22 09 41.0	-2.3
HUIG				*i* S		Sn	22 10 03.2	-2.3
YAIG	**Yautepec**	**2.80**	**338**	*i* P		Pn	22 09 55.5	-1.0
YAIG				*e*S		Sn	22 10 26.9	-2.3
CMIG	**Matias Romero**	**3.07**	**74**	*i* P		Pn	22 09 58.9	-1.2
CMIG				*i* S		Sn	22 10 34.0	-1.6

IDC 23 22:11:43.7±2.2, 1°.51S×99°.22E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=106.0km s-min=21.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.29**	**356**	Pn		Pn	22 12 48.9	-1.6
baz=170,slow=18,SNR=2.1								
WRA	**Warramunga Arr**	**38.91**	**121**	P		P	22 19 10.6	-1.0
0.1nm,0.4s,baz=299,slow=8.5,SNR=7.5								
ASAR	**Alice Springs**	**40.17**	**126**	P		P	22 19 23.1	+1.1
0.4nm,0.7s,baz=305,slow=8.1,SNR=4.1								
MKAR	**Makanchi Array**	**50.35**	**345**	P		P	22 20 42.9	+0.3
0.7nm,0.5s,baz=157,slow=9.1,SNR=12								
ZALV	**Zalesovo Beam**	**56.55**	**350**	P		P	22 21 27.7	-0.2
0.6nm,0.3s,baz=178,slow=8.5,SNR=4.1								
FINES	**FINESS Array B**	**83.32**	**332**	P		P	22 24 12.0	-0.3
1.5nm,1.0s,baz=178,slow=13,SNR=3.8								
TXAR	**Lajitas Array**	**144.77**	**36**	PKP		PKPbc	22 31 22.5	+0.1
0.4nm,0.6s,baz=328,slow=0.8,SNR=6.3								

*IDC **23** 22:23:29.5±1.1, 11°.09S×119°.27E, h0km, mb4.1/4, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, ML3.5/3, Error ellipse: s-maj=86.2km s-min=20.9km az=47.0*
*ISCJB **23** 22:23:31.9±0.7, 11°.43S±0°.08×119°.17E±0°.07, h33km, mb4.1/4, Error ellipse: s-maj=11.9km s-min=9.0km az=17.5*
*AUST **23** 22:23:39.2, 11°.99S×119°.44E, h35km*
ISC 23 22:23:33.8±0.9, 11°.48S±0°.08×119°.13E±0°.09, h35km, n15, σ19=84/15, mb4.1/4, South of Sumba

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.14**	**33**	P		Pn	22 24 19.0	+12
baz=2.5,SNR=4.4								
BATI	**Baumata**	**4.63**	**75**	Pn		**Pn**	**22 24 41.8 +0.4**	
5.2nm,0.3s,baz=297,slow=15,SNR=4.7								
BATI				Sn		**Sn**	**22 25 31.9 -2.0**	
11nm,0.3s,baz=133,slow=22,SNR=6.2								
SOEI	**Soe**	**5.33**	**72**	P		**Pn**	**22 24 52.4 +1.3**	
baz=5.2,SNR=4.0								
KAPI	**Kappang**	**6.46**	**5**	Pn		**Pn**	**22 25 07.8 +1.3**	
0.8nm,0.3s,baz=79,slow=16,SNR=2.1								
FITZ	**Fitzroy Crossi**	**9.10**	**137**	Pn		**Pn**	**22 25 44.6 +1.8**	
0.4nm,0.3s,baz=310,slow=11,SNR=12								
FITZ				Sn		**Sn**	**22 27 21.2 -2.9**	
1.3nm,0.3s,baz=175,slow=22,SNR=9.8								
MTN	**Manton Dam**	**11.81**	**98**	S		Sn	22 28 22.7	-7.8
baz=11,SNR=4.6								
MEEK	**Meekatharra**	**15.08**	**182**	P		**P**	**22 27 07.4 -1.9**	
baz=15,SNR=13								
MEEK				S		Sn	22 29 39.8	-11
baz=15,SNR=8.9								
WRA	**Warramunga Arr**	**16.87**	**122**	Pn		**Pn**	**22 27 26.6 -0.8**	
0.2nm,0.3s,baz=293,slow=13,SNR=10								
WRA				Sn		Sn	22 30 21.1	-13
0.1nm,0.3s,baz=292,slow=21,SNR=4.4								
MORW	**Morawa**	**17.73**	**189**	P		**P**	**22 27 40.2 +1.5**	
baz=17,SNR=6.1								
ASAR	**Alice Springs**	**18.55**	**133**	P		**Pn**	**22 27 51.2 +3.0**	
0.2nm,0.3s,baz=305,slow=11,SNR=12								
PSI	**Prapat**	**24.60**	**304**	P		**P**	**22 28 50.2 -0.9**	
7.9nm,1.0s,baz=152,slow=6.0,SNR=3.6								
MKAR	**Makanchi Array**	**66.72**	**333**	P		**P**	**22 34 20.7 -0.7**	
0.7nm,0.6s,baz=140,slow=6.6,SNR=9.4								
AAK	**Ala-Archa**	**67.59**	**326**	P		**P**	**22 34 26.6 -0.6**	
2.0nm,0.7s,baz=190,slow=5.8,SNR=3.9								
ZALV	**Zalesovo Beam**	**71.40**	**339**	P		**P**	**22 34 49.3 -0.9**	
0.7nm,0.5s,baz=133,slow=4.0,SNR=4.2								
TORD	**Torodi Ar. Bea**	**118.99**	**279**	PKP		**PKPdf**	**22 42 21.5 +1.7**	
0.3nm,0.9s,baz=96,slow=1.7,SNR=2.6								

MEX 23 22:31:32.4±0.3, 16°.63N×99°.71W, h9km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.67**	**308**	*e*P		Pg	22 31 44.1	-1.3
CAIG				*i* S		Sg	22 31 52.9	-1.4
PNIG	**Pinotepa**	**1.54**	**99**	*e*P		Pn	22 31 56.4	-3.7
PNIG				*i* S		Sn	22 32 15.4	-4.8
ARIG	**Puente Sto Nin**	**1.75**	**340**	*i* P		Pn	22 31 59.4	-3.6
ARIG				*i* S		Sn	22 32 20.6	-4.8
YAIG	**Yautepec**	**2.30**	**15**	*e*P		Pn	22 32 07.4	-3.4
YAIG				*i* S		Sn	22 32 35.5	-3.8
PPM	**Popocatepetl**	**2.63**	**23**	*i* P		Pn	22 32 12.7	-3.0
PPM				*i* S		Sn	22 32 43.3	-5.1

*ISCJB **23** 22:32:50.8±0.6, 7°.08S±0°.09×154°.77E±0°.10, h39km, mb4.2/15, Error ellipse: s-maj=14.6km s-min=11.8km az=154.3*
*IDC **23** 22:32:54.9±5.0, 7°.14S×154°.70E, h57km±42km, mb3.9/10, mb1 4.1/12, mb1mx3.9/20, mbtmp3.9/12, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=28.7km s-min=21.9km az=65.0*
*NEIC **23** 22:32:57.0±2.3, 7°.13S×154°.71E, h79km±19km, mb4.2/6, Error ellipse: s-maj=18.0km s-min=11.0km az=56.0*
ISC 23 22:32:52.8±0.7, 7°.1S±0°.1×154°.7E±0°.1, h39km, n35, σ0978/33, mb4.2/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.80**	**252**	P		Pn	22 34 47.7	+4.0
PMG	**Port Moresby**	**7.80**	**252**	P		Pn	22 34 47.7	+4.0
1.1nm,0.3s,baz=34,slow=12,SNR=5.8								
PMG				LR		LR	22 37 33.5	
comp=Z,121nm,18.6s,baz=128,slow=36								
CTA	**Charters Tower**	**15.28**	**212**	P		**P**	**22 36 29.9 -0.3**	
CTA	**Charters Tower**	**15.28**	**212**	P		**P**	**22 36 29.9 -0.3**	
0.2nm,0.3s,baz=39,slow=14,SNR=5.3								
DZM	**Mont Dzumac**	**18.70**	**144**	*e*P		**P**	**22 37 08.7 +0.6**	
9.2nm,0.9s								
DZM	**Mont Dzumac**	**18.70**	**144**	P		**P**	**22 37 08.7 +0.6**	
0.6nm,0.3s,baz=324,slow=17,SNR=5.8								
WRAB	**Tennant Creek**	**23.49**	**235**	*e*P		**P**	**22 37 58.7 -0.6**	
5.6nm,0.7s								
WRA	**Warramunga Arr**	**23.51**	**235**	P		**P**	**22 37 59.0 -0.4**	
WRA				PcP		**PcP**	**22 41 45.2 +0.7**	
WRA	**Warramunga Arr**	**23.51**	**235**	P		**P**	**22 37 59.0 -0.4**	
6.1nm,0.8s,baz=59,slow=9.4,SNR=45								
WRA				PcP		**PcP**	**22 41 45.2 +0.7**	
0.3nm,0.6s,baz=60,slow=2.3,SNR=6.8								
ASAR	**Alice Springs**	**25.87**	**228**	P		**P**	**22 38 20.9 -0.2**	
ASAR	**Alice Springs**	**25.87**	**228**	P		**P**	**22 38 20.9 -0.2**	
2.2nm,0.7s,baz=62,slow=8.8,SNR=20								
STKA	**Stephens Creek**	**27.51**	**205**	*e*P		**P**	**22 38 35.0 -0.7**	
1.2nm,1.0s								
STKA	**Stephens Creek**	**27.51**	**205**	P		**P**	**22 38 35.0 -0.7**	
3.4nm,0.8s,baz=38,slow=17,SNR=5.0								
FITZ	**Fitzroy Crossi**	**30.33**	**246**	P		**P**	**22 38 59.9 -1.0**	
4.7nm,0.8s,baz=107,slow=6.0,SNR=9.2								
RPZ	**Rata Peaks**	**39.19**	**161**	*e*P		**P**	**22 40 16.6 -0.4**	
NACB	**Ninganchiao**	**44.82**	**315**	*e*P		**P**	**22 41 03.4 +0.2**	
21nm,0.5s								
ENH	**Enshi**	**57.09**	**313**	*e*P		**P**	**22 42 35.5 -0.1**	
4.2nm,1.0s								
PETK	**Petropavlovsk-**	**60.04**	**2**	P		P	22 43 02.2	+6.7
PETK	**Petropavlovsk-**	**60.04**	**2**	P		P	22 43 02.2	+6.7
4.8nm,0.9s,baz=159,slow=12,SNR=3.1								
CMAR	**Chiang Mai Arr**	**60.56**	**296**	P		**P**	**22 43 01.8 +1.9**	
CMAR	**Chiang Mai Arr**	**60.56**	**296**	P		**P**	**22 43 01.8 +1.9**	
1.7nm,0.9s,baz=122,slow=5.1,SNR=4.8								
CHTO	**Chiang Mai**	**60.68**	**296**	*e*P		**P**	**22 43 00.6 0.0**	
1.2nm,0.5s								
VNDA	**Vanda**	**70.48**	**178**	P		**P**	**22 44 03.6 +0.7**	
VNDA	**Vanda**	**70.48**	**178**	P		**P**	**22 44 03.6 +0.7**	
0.8nm,0.9s,baz=333,slow=6.0,SNR=6.7								
MK31	**Makanchi Array**	**83.29**	**319**	*e*P		**P**	**22 45 14.8 -0.8**	
MKAR	**Makanchi Array**	**83.29**	**319**	P		**P**	**22 45 15.6 0.0**	
MKAR	**Makanchi Array**	**83.29**	**319**	P		**P**	**22 45 15.6 0.0**	
1.4nm,0.8s,baz=114,slow=4.7,SNR=14								
ZALV	**Zalesovo Beam**	**84.11**	**326**	P		**P**	**22 45 19.1 -0.4**	
ZALV	**Zalesovo Beam**	**84.11**	**326**	P		**P**	**22 45 19.1 -0.4**	
0.7nm,0.5s,baz=116,slow=3.4,SNR=3.3								
MAW	**Mawson**	**84.18**	**203**	P		**P**	**22 45 20.5 +0.8**	
MAW	**Mawson**	**84.18**	**203**	P		**P**	**22 45 20.5 +0.8**	
1.3nm,0.5s,baz=71,slow=8.6,SNR=6.9								
NVAR	**Mina Array Bea**	**92.03**	**52**	P		**P**	**22 45 57.2 -1.1**	
NVAR	**Mina Array Bea**	**92.03**	**52**	P		**P**	**22 45 57.2 -1.1**	
0.3nm,0.7s,baz=246,slow=4.5,SNR=3.2								
TORD	**Torodi Ar. Bea**	**152.76**	**285**	PKPbc		**PKPbc**	**22 52 46.2 -0.3**	
TORD	**Torodi Ar. Bea**	**152.76**	**285**	PKPbc		**PKPbc**	**22 52 46.2 -0.3**	
2.5nm,0.8s,baz=78,slow=1.9,SNR=17								

*ISCJB **23** 22:57:54.9±0.6, 45°.47N±0°.04×10°.25E±0°.03, h31km±3km, Error ellipse: s-maj=7.0km s-min=3.7km az=162.0*
*ROM **23** 22:57:54.9±0.2, 45°.50N×10°.28E, h32km±1km, Md2.4/14, Ml2.2/8, Error ellipse: s-maj=3.1km s-min=1.7km az=1.0*
*CSEM **23** 22:57:55.6±0.2, 45°.51N×10°.28E, h30km, ML2.9/7, Error ellipse: s-maj=5.0km s-min=2.5km az=169.0*
*LDG **23** 22:57:56.4±0.1, 45°.79N×10°.30E, h20km, Ml2.1/6, Error ellipse: s-maj=4.2km s-min=2.4km az=6.0*
ISC 23 22:57:55.4±1.0, 45°.51N±0°.04×10°.27E±0°.02, h30km±7km, n55, σ0987/91, 4C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALO	**Salr**	**0.21**	**60**	Pg		**Pn**	**22 58 02.3 -0.3**	
SALO				Sg		**Sb**	**22 58 06.0 -0.1**	
175nm,0.5s								
SALO	**Salr**	**0.21**	**60**	Pg		**Pn**	**22 58 02.3 -0.3**	
SALO				Sg		**Sb**	**22 58 06.0 -0.1**	
175nm,0.5s								
MAGA	**Magasa**	**0.37**	**44**	Pg		**Pb**	**22 58 03.8 -0.1**	
MAGA				Sg		**Sb**	**22 58 10.3 +0.6**	
173nm,0.2s								
MAGA	**Magasa**	**0.37**	**44**	Pg		**Pb**	**22 58 03.8 -0.1**	
MAGA				Sg		**Sb**	**22 58 10.3 +0.6**	
173nm,0.2s								
BALD	**Monte Baldo**	**0.42**	**66**⇓	*e*Pg		**Pb**	**22 58 04.9 +0.1**	
BALD				*e*Sg		**Sb**	**22 58 11.2 0.0**	
BALD	**Monte Baldo**	**0.42**	**66**⇓	*e*Pg		**Pb**	**22 58 04.9 +0.1**	
BALD				*e*Sg		**Sb**	**22 58 11.2 0.0**	
MDI	**Monti di Nese**	**0.47**	**304**	Pg		**Pb**	**22 58 04.9 -0.5**	
108nm,0.1s								
MDI	**Monti di Nese**	**0.47**	**304**	Pg		**Pb**	**22 58 04.9 -0.5**	
108nm,0.1s								
RNI	**Roncone**	**0.54**	**29**⇑	*e*Pg		**Pb**	**22 58 06.5 0.0**	
RNI				*e*Sg		**Sb**	**22 58 14.4 +0.2**	
RNI	**Roncone**	**0.54**	**29**⇑	*e*Pg		**Pb**	**22 58 06.6 0.0**	
RNI				*e*Sg		**Sb**	**22 58 14.4 +0.2**	
MABI	**Malga Bissina**	**0.57**	**18**	Pg		**Pb**	**22 58 07.1 0.0**	
MABI				Sg		**Sb**	**22 58 15.3 +0.2**	
86nm,0.1s								
MABI	**Malga Bissina**	**0.57**	**18**	Pg		**Pb**	**22 58 07.1 0.0**	
MABI				Sg		**Sb**	**22 58 15.3 +0.2**	
86nm,0.1s								
ROVR	**Rover¯¤ Verone**	**0.58**	**76**	Pg		**Pb**	**22 58 06.9 -0.3**	
ROVR				Sg		**Sb**	**22 58 15.5 +0.2**	
199nm,0.2s								
ROVR	**Rover¯¤ Verone**	**0.58**	**76**	Pg		**Pb**	**22 58 06.9 -0.3**	
ROVR				Sg		**Sb**	**22 58 15.5 +0.2**	
199nm,0.2s								
PANI	**Panarotta**	**0.91**	**53**	*e*Pg		**Pn**	**22 58 12.5 +0.2**	
PANI				*e*Sg		**Sn**	**22 58 24.0 -0.4**	
PANI	**Panarotta**	**0.91**	**53**	*e*Pg		**Pn**	**22 58 12.5 +0.2**	
PANI				*e*Sg		**Sn**	**22 58 24.0 -0.4**	
BERNI	**Berninapass**	**0.92**	**349**	Pg		**Pn**	**22 58 12.8 +0.3**	
BERNI				Sg		**Sn**	**22 58 24.8 0.0**	
BERNI	**Berninapass**	**0.92**	**349**	Pg		**Pn**	**22 58 12.8 +0.3**	
BERNI				Sg		**Sn**	**22 58 24.8 0.0**	
MUGIO	**Muggio**	**0.95**	**296**	Pg		**Pn**	**22 58 12.7 -0.1**	
MUGIO				Sg		**Sb**	**22 58 26.1 +0.5**	
MUGIO	**Muggio**	**0.95**	**296**	Pg		**Pn**	**22 58 12.7 -0.1**	
MUGIO				Sg		**Sb**	**22 58 26.1 +0.5**	
CTI	**Castel Tesino**	**1.11**	**61**	Pg		**Pn**	**22 58 14.7 -0.3**	
CTI				Sg		**Sn**	**22 58 29.0 -0.3**	
38nm,0.2s								
CTI	**Castel Tesino**	**1.11**	**61**	Pg		**Pn**	**22 58 14.7 -0.3**	
CTI				Sg		**Sn**	**22 58 29.0 -0.3**	
38nm,0.2s								
FUORN	**Ofenpass-Fuorn**	**1.11**	**360**	Pg		**Pn**	**22 58 15.8 +0.7**	
FUORN				Sg		**Sn**	**22 58 30.4 +0.9**	
FUORN	**Ofenpass-Fuorn**	**1.11**	**360**	Pg		**Pn**	**22 58 15.8 +0.7**	
FUORN				Sg		**Sn**	**22 58 30.4 +0.9**	
CGRP	**Cima Grappa**	**1.14**	**71**⇑	*e*Pg		**Pn**	**22 58 15.0 -0.4**	
CGRP				*e*Sg		**Sn**	**22 58 30.1 0.0**	
CGRP	**Cima Grappa**	**1.14**	**71**	Pg		**Pn**	**22 58 15.0 -0.4**	
CGRP				Sg		**Sn**	**22 58 30.1 0.0**	
CGRP	**Cima Grappa**	**1.14**	**71**	Pg		**Pn**	**22 58 15.0 -0.4**	
CGRP				Sg		**Sn**	**22 58 30.1 0.0**	
TUE	**Stuetta**	**1.15**	**327**	Pg		**Pn**	**22 58 15.9 +0.2**	
TUE				Sg		**Sn**	**22 58 31.5 +0.9**	
33nm,0.3s								
TUE	**Stuetta**	**1.15**	**327**	Pg		**Pn**	**22 58 15.9 +0.2**	
TUE				Sg		**Sn**	**22 58 31.5 +0.9**	
33nm,0.3s								
KOSI	**Kohlern**	**1.23**	**39**	Pg		**Pn**	**22 58 17.5 +0.8**	
KOSI				Sg		**Sn**	**22 58 32.5 +0.2**	
KOSI	**Kohlern**	**1.23**	**39**	Pg		**Pn**	**22 58 17.5 +0.8**	
KOSI				Sg		**Sn**	**22 58 32.5 +0.2**	
DAVOX	**Davos/Dischmat**	**1.30**	**348**	Pg		**Pn**	**22 58 18.8 +1.1**	
DAVOX				Sg		**Sn**	**22 58 35.1 +1.0**	
DAVOX	**Davos/Dischmat**	**1.30**	**348**	Pg		**Pn**	**22 58 18.8 +1.1**	
DAVOX				Sg		**Sn**	**22 58 35.1 +1.0**	
ABSI	**Aberstueckl**	**1.42**	**31**	Pg		**Pn**	**22 58 20.1 +0.7**	
ABSI				Sg		**Sn**	**22 58 37.8 +0.7**	
17nm,1.1s								
ABSI	**Aberstueckl**	**1.42**	**31**⇑	*e*Pg		**Pn**	**22 58 19.7 +0.3**	
ABSI				Sg		**Sn**	**22 58 37.8 +0.7**	
17nm,1.1s								
LPG	**La Plagne**	**2.47**	**271**	*e*Pn		**Pn**	**22 58 35.3 +1.4**	
LPG				*e*Sn		**Sn**	**22 59 02.5 -0.7**	
1.2nm,0.2s								
LPG	**La Plagne**	**2.47**	**271**	*e*Pn		**Pn**	**22 58 35.3 +1.4**	
LPG				*e*Sn		**Sn**	**22 59 02.5 -0.7**	
0.6nm,0.2s								
LPL	**La Plagne**	**2.48**	**271**	*e*Pn		**Pn**	**22 58 34.9 +0.9**	
LPL				*e*Sn		**Sn**	**22 59 03.0 -0.4**	
1.6nm,0.3s								
LPL	**La Plagne**	**2.48**	**271**	*e*Pn		**Pn**	**22 58 34.9 +0.9**	
LPL				*e*Sn		**Sn**	**22 59 03.0 -0.4**	
0.8nm,0.3s								
MBDF	**Montbardon**	**2.60**	**254**	*e*Pn		**Pn**	**22 58 37.2 +1.7**	
MBDF				*e*Sn		**Sn**	**22 59 07.1 +1.0**	
0.9nm,0.3s								
MBDF	**Montbardon**	**2.60**	**254**	*e*Pn		**Pn**	**22 58 37.2 +1.7**	
MBDF				*e*Sn		**Sn**	**22 59 07.1 +1.0**	
0.4nm,0.3s								
CABF	**La Chapelle**	**3.11**	**292**	*e*Pn		**Pn**	**22 58 41.5 -1.0**	
CABF	**La Chapelle**	**3.11**	**292**	*e*Pn		**Pn**	**22 58 41.5 -1.0**	
HINF	**Hinteralfeld**	**3.29**	**316**	*e*Pn		Pn	22 58 41.5	-3.4
HINF				*e*Sn		Sn	22 59 17.4	-5.7
1.2nm,0.2s								
HINF	**Hinteralfeld**	**3.29**	**316**	*e*Pn		Pn	22 58 41.5	-3.4
CDF	**Champ du Feu**	**3.55**	**326**	*e*Pn		Pn	22 58 45.1	-3.4
CDF	**Champ du Feu**	**3.55**	**326**	*e*P		**Pn**	**22 58 48.0 -0.5**	
CDF				*e*

ISC 23 23:05:13.4±0.4, 48°54′N±0′.06×157°46′E±0′.04, h38km×2km, h38km:pP-P, n1143, σ1s04/1180, mb5.2/288, MS4.3/64, 62C-110D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.32**	**338**	κ *i*PN		Pn	23 05 42.0	-7.0
SKR	comp=Z,13nm,2.0s				pmax	pmax		
SKR	comp=N,6μm,2.0s				pmax	pmax		
SKR	comp=E,5μm,2.0s				pmax	pmax		
SKR	comp=N,2μm,0.5s				pmax	pmax		
SKR	comp=E,1μm,0.5s				pmax	pmax		
SKR	**Severo-Kuril's**	**2.32**	**338**	⇓*i*P		Pn	23 05 42.0	-7.0
SKR				⇓*i*P		Pn	23 05 42.0	-7.0
SKR	comp=E,13μm,2.0s				AMB	AMB	23 05 43.0	
SKR	comp=E,6μm,2.0s				AMB	AMB	23 05 43.0	
SKR	comp=E,5μm,2.0s				AMB	AMB	23 05 43.0	
SKR	comp=E,2μm,0.5s				AMB	AMB	23 05 43.5	
SKR	comp=E,1μm,0.5s				AMB	AMB	23 05 43.5	
SKR	comp=E,4μm,0.5s				AMB	AMB	23 05 43.5	
SKR				*i*S		Sn	23 06 08.5	-7.7
SKR	comp=E,58μm,2.0s				A	A	23 06 10.0	
SKR	comp=E,26μm,2.0s				A	A	23 06 10.0	
SKR	comp=E,20μm,2.0s				A	A	23 06 10.0	
SKR	comp=E,57μm,2.0s				A	A	23 06 10.0	
SKR	comp=E,26μm,2.0s				A	A	23 06 10.0	
SKR	comp=E,18μm,2.0s				A	A	23 06 10.0	
PET	**Petropavlovsk**	**4.56**	**9**	⇑*i*PN		**Pn**	**23 06 19.6**	**-0.1**
PET	comp=Z,312nm,0.5s				pmax	pmax		
PET	comp=Z,2μm,17.0s				MLR	MLR		
PEA0B	**Petropavlovsk-**	**4.58**	**2**	*e*Pn		**Pn**	**23 06 20.9**	**+0.8**
PEA0B				*e*Sn		**Sn**	**23 07 11.6**	**-0.4**
PETK	**Petropavlovsk-**	**4.58**	**2**	PN		**Pn**	**23 06 20.8**	**+0.8**
PETK	comp=Z,16nm,0.3s				pmax	pmax		
PETK	comp=Z,851nm,19.5s				MLR	MLR		
PETK	**Petropavlovsk-**	**4.58**	**2**	Pn		**Pn**	**23 06 20.8**	**+0.8**
PETK				Sn		Sn	23 07 00.6	-11
PETK	**Petropavlovsk-**	**4.58**	**2**	Pn		**Pn**	**23 06 20.8**	**+0.8**
PETK	comp=Z,16nm,0.3s,baz=167,slow=17,SNR=113				Sn	Sn	23 07 00.6	-11
PETK	comp=Z,23nm,0.3s,baz=180,slow=16,SNR=6.2				LR	LR	23 08 13.0	
	comp=Z,850nm,19.5s,baz=186,slow=39							
KUR	**Kuril'sk**	**7.36**	**247**	*c i*PN		**Pn**	**23 06 59.0**	**+0.9**
KUR	comp=Z,856nm,1.1s				pmax	pmax		
KUR	comp=N,151nm,0.9s				pmax	pmax		
KUR	comp=E,195nm,0.9s				pmax	pmax		
KUR	**Kuril'sk**	**7.36**	**247**	⇑*i*P		**Pn**	**23 06 59.0**	**+0.9**
KUR	comp=E,7μm,1.1s				AMB	AMB	23 07 00.1	
KUR	comp=E,856nm,1.1s				AMB	AMB	23 07 00.4	
KUR	comp=E,151nm,0.9s				AMB	AMB	23 07 00.4	
KUR	comp=E,195nm,0.9s				AMB	AMB	23 07 00.5	
KUR	comp=E,4μm,2.0s				A	A	23 08 19.2	
KUR	comp=E,2μm,2.0s				A	A	23 08 19.2	
KUR	comp=E,1μm,0.8s				A	A	23 08 24.3	
KUR	comp=E,860nm,0.8s				A	A	23 08 24.3	
KUR	comp=E,2μm,14.0s				AMS	AMS	23 09 56.0	
KUR	comp=E,4μm,14.0s				AMS	AMS	23 09 56.0	
YUK	**Yuzh-Kuril'sk**	**9.20**	**245**	*c i*PN		**Pn**	**23 07 22.4**	**-1.1**
YUK	comp=E,62nm,0.5s				pmax	pmax		
YUK	comp=Z,245nm,0.5s				pmax	pmax		
YUK	comp=N,93nm,0.5s				pmax	pmax		
YUK	comp=Z,501nm,15.0s				MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**9.20**	**245**	⇑*i*P		**Pn**	**23 07 22.4**	**-1.1**
YUK	comp=Z,93nm,0.5s				AMB	AMB	23 07 23.4	
YUK	comp=Z,62nm,0.5s				AMB	AMB	23 07 23.4	
YUK	comp=Z,245nm,0.5s				AMB	AMB	23 07 23.4	
YUK	comp=Z,501nm,15.0s				AMS	AMS	23 12 21.3	
TYV	**Tymovskoe**	**9.87**	**289**	*e*P		**Pn**	**23 07 35.0**	**+2.4**
TYV	comp=Z,200nm,1.2s				AMB	AMB	23 07 36.8	
TYV	comp=Z,256nm,1.2s				AMB	AMB	23 07 36.8	
TYV	comp=Z,1μm,8.0s				AMB	AMB	23 07 40.0	
TYV	comp=Z,2μm,8.0s				AMB	AMB	23 07 40.0	
TYV				*e*rx		rx	23 10 36.0	
TYV	comp=Z,2μm,18.0s				AMS	AMS	23 12 08.0	
TYV	comp=Z,5μm,16.0s				AMS	AMS	23 12 08.0	
YSS	**Yuzh-Sakhalins**	**10.03**	**266**	⇑*e*PN		Pn	23 07 38.9	+4.1
YSS	comp=N,120nm,0.8s				pmax	pmax		
YSS	comp=E,220nm,0.8s				pmax	pmax		
YSS	comp=Z,170nm,0.8s				pmax	pmax		
YSS	comp=N,500nm,12.0s				MLR	MLR		
YSS	comp=Z,900nm,12.0s				MLR	MLR		
YSS	comp=E,600nm,13.0s				MLR	MLR		
YSS	**Yuzh-Sakhalins**	**10.03**	**266**	⇑*e*P		Pn	23 07 38.9	+4.1
YSS	comp=E,120nm,0.8s				AMB	AMB	23 07 39.8	
YSS	comp=E,220nm,0.8s				AMB	AMB	23 07 39.8	
YSS	comp=E,170nm,0.8s				AMB	AMB	23 07 39.8	
YSS	comp=E,70nm,0.8s				A	A	23 09 30.5	
YSS	comp=E,130nm,0.6s				A	A	23 09 30.5	
YSS	comp=E,1μm,4.0s				A	A	23 09 32.0	
YSS	comp=E,500nm,4.0s				A	A	23 09 32.0	
YSS				*e*LQ		LQ	23 10 06.0	
YSS	comp=E,600nm,13.0s				AMS	AMS	23 13 14.0	
YSS	comp=E,500nm,12.0s				AMS	AMS	23 13 14.0	
YSS	comp=E,900nm,12.0s				AMS	AMS	23 13 14.0	
UGL	**Uglegorsk**	**10.17**	**279**	PN		Pn	23 07 41.0	+4.3
UGL	comp=Z,100nm,0.7s				pmax	pmax		
UGL	comp=N,900nm,13.0s				MLR	MLR		
UGL	comp=E,1μm,13.0s				MLR	MLR		
UGL	comp=Z,2μm,13.0s				MLR	MLR		
UGL	**Uglegorsk**	**10.17**	**279**	*e*P		Pn	23 07 41.0	+4.3
UGL	comp=Z,100nm,0.7s				AMB	AMB	23 07 42.0	
UGL				*e*L		L	23 09 43.0	
UGL	comp=Z,2μm,13.0s				AMS	AMS	23 12 48.0	
UGL	comp=Z,900nm,13.0s				AMS	AMS	23 12 48.0	
UGL	comp=Z,1μm,13.0s				AMS	AMS	23 12 48.0	
FX1	**Attu Island--F**	**10.86**	**61**	*e*Pn		**Pn**	**23 07 44.8**	**-1.4**
FX1				*e*Sn		Sn	23 09 39.6	-6.7
FX1	**Attu Island--F**	**10.86**	**61**	Pn		**Pn**	**23 07 45.0**	**-1.2**
FX1	comp=Z,35nm,0.3s,baz=39,slow=2.3,SNR=95				Sn	Sn	23 09 32.5	-14
FX1	comp=Z,9.1nm,0.3s,baz=12,slow=19,SNR=3.6				LR	LR	23 11 35.2	
	comp=Z,729nm,18.0s,baz=259,slow=35							
ASAJ	**Asahikawa**	**11.18**	**252**	*e*Pn		**Pn**	**23 07 51.3**	**+0.8**
ASAJ	**Asahikawa**	**11.18**	**252**	Pn		**Pn**	**23 07 51.7**	**+1.1**
ASAJ	comp=Z,6.2nm,0.3s,baz=79,slow=13,SNR=136				LR	LR	23 12 41.5	
	comp=Z,956nm,18.9s,baz=65,slow=40							
SMY	**Shemya**	**11.37**	**62**	*e*PN		**Pn**	**23 07 52.3**	**-0.7**
SMY	**Shemya**	**11.37**	**62**	*e*Pn		**Pn**	**23 07 52.3**	**-0.7**
NKL	**Nikolayevsk**	**11.56**	**300**	⇓*i*P		**Pn**	**23 07 57.0**	**+1.4**
NKL	comp=Z,95nm,1.0s				AMB	AMB	23 07 58.5	
NKL	comp=Z,600nm,5.0s				AMB	AMB	23 07 59.0	
NKL	comp=Z,600nm,5.0s				AMB	AMB	23 07 59.0	
NKL				*e*rx		rx	23 08 19.5	
NKL				*e*L		L	23 10 18.0	
NKL	comp=Z,600nm,17.0s				AMS	AMS	23 13 27.0	
NKL	comp=Z,900nm,17.0s				AMS	AMS	23 13 27.0	
NKL	comp=Z,2μm,17.0s				AMS	AMS	23 13 27.0	
ERM	**Erimo**	**11.99**	**242**	Pn		**Pn**	**23 07 59.9**	**-1.7**
	comp=Z,779nm,0.8s,SNR=19							
ERM	**Erimo**	**11.99**	**242**	*c i*PN		**Pn**	**23 07 59.3**	**-2.3**
ERM	comp=Z,313nm,1.7s				pmax	pmax		
ERM	**Erimo**	**11.99**	**242**	*e*Pn		**Pn**	**23 07 59.0**	**-2.6**
ERM				*e*Sn		Sn	23 10 03.2	-11
AMKA	**Amchitka**	**14.34**	**70**	*e*Pn		**Pn**	**23 08 30.8**	**-2.8**
TEY	**Ternei**	**14.70**	**264**	*e*P		**P**	**23 08 42.3**	**-1.7**
TEY	comp=Z,21nm,0.8s				AMB	AMB	23 08 43.0	
TEY	comp=Z,52nm,1.0s				AMB	AMB	23 08 43.0	
SEY	**Seymchan**	**14.70**	**351**	⇑*i*P		**Pn**	**23 08 38.1**	**-0.3**
HABR	**Khabarovsk**	**14.85**	**278**	*c e*P		**Pn**	**23 08 39.3**	**-1.1**
HABR				*e*S		**Sn**	**23 11 22.6**	**-0.9**
HABR	comp=N,30nm,1.6s				pmax	pmax		
HABR	comp=Z,98nm,1.6s				pmax	pmax		
HABR	comp=E,78nm,1.6s				pmax	pmax		
HABR	comp=Z,555nm,19.0s				MLR	MLR		
ADK	**Adak**	**16.86**	**69**	*e*P		**Pn**	**23 09 04.7**	**-1.5**
ADK	comp=Z,313nm,1.5s				pmax	pmax		
ADK	**Adak**	**16.86**	**69**	*e*Pn		**Pn**	**23 09 04.7**	**-1.5**
KLR	**Kul'dur**	**16.90**	**282**	*e*P		**Pn**	**23 09 04.6**	**-2.2**
KLR				*e*S		**Sn**	**23 12 11.5**	**-1.9**
KLR	comp=E,220nm,1.8s				pmax	pmax		
KLR	comp=Z,220nm,1.8s				pmax	pmax		
KLR	comp=E,1μm,13.0s				MLR	MLR		
KLR	comp=Z,2μm,13.0s				MLR	MLR		
USRK	**Ussuriysk Arra**	**18.07**	**266**	P		**Pn**	**23 09 20.4**	**-0.8**
USRK	comp=Z,0.9nm,0.3s,baz=62,slow=12,SNR=8.8				LR	LR	23 16 19.0	
	comp=Z,151nm,20.1s,baz=66,slow=37							
ATKA	**Atka Island**	**18.40**	**68**	*e*Pn		**Pn**	**23 09 25.2**	**0.0**
	comp=Z,81nm,1.1s							
MJAR	**Matsushiro Arr**	**18.51**	**237**	P		**P**	**23 09 25.2**	**-1.0**
MJAR	**Matsushiro Arr**	**18.51**	**237**	P		**P**	**23 09 25.2**	**-1.0**
MJAR	comp=Z,1.1nm,0.3s,baz=26,slow=12,SNR=112				LR	LR	23 16 32.8	
	comp=Z,442nm,20.8s,baz=45,slow=37							
VLA	**Vladivostok**	**18.58**	**263**	*e*P		**P**	**23 09 25.5**	**-1.5**
VLA	comp=Z,34nm,1.2s				pmax	pmax		
MDJ	**Mudanjiang**	**19.50**	**269**	P		**P**	**23 09 35.8**	**-1.3**
MDJ				S		**S**	**23 13 10.9**	**-4.3**
MDJ				sS		**Sn**	**23 13 21.8**	**+5.5**
MDJ				PcP		**PcP**	**23 13 54.8**	**-1.6**
MDJ				ScP		**ScP**	**23 17 34.3**	**+5.2**
MDJ				ScS		**ScS**	**23 21 10.6**	**-0.4**
MDJ	comp=Z,21nm,0.9s				pmax	pmax		
MDJ	comp=Z,55nm,4.5s				pmax	pmax		
MDJ	comp=N,630nm,18.4s				LR	LR		
MDJ	comp=E,180nm,14.0s				LR	LR		
ZEA	**Zeya**	**19.57**	**297**	*e*P		**P**	**23 09 36.8**	**-0.9**
ZEA	comp=E,200nm,2.0s				AMB	AMB	23 09 40.0	
ZEA	comp=E,300nm,2.0s				AMB	AMB	23 09 40.0	
ZEA	comp=E,180nm,1.6s				AMB	AMB	23 09 40.4	
ZEA	comp=E,200nm,1.8s				AMB	AMB	23 09 40.4	
ZEA				*e*S		**S**	**23 13 14.0**	**-2.3**
ZEA				A		A	23 13 36.0	
ZEA	comp=E,200nm,10.0s				A	A	23 13 36.0	
	comp=E,600nm,10.0s							
YAK	**Yakutsk**	**20.58**	**321**	*d i*P		**P**	**23 09 47.1**	**-1.5**
YAK				*e**PP		pP	23 10 04.8	+6.4
YAK				*e*S		**S**	**23 13 32.2**	**-4.2**
YAK				*e*			23 13 53.2	
YAK				*e**SS		sS	23 14 05.0	+13
YAK	comp=Z,375nm,0.9s				pmax	pmax		
YAK	comp=N,122nm,1.3s				pmax	pmax		
YAK	comp=E,251nm,1.3s				pmax	pmax		
YAK	comp=N,43nm,1.4s				smax	smax		
YAK	comp=E,51nm,1.5s				smax	smax		
CLNS	**Chul'man**	**21.24**	**305**	*e*P		**P**	**23 09 56.2**	**+0.4**
CLNS				*e*			23 10 13.7	
CLNS				*e*PPP		PPP	23 10 37.8	
CLNS				*e*S		**S**	**23 13 49.9**	**+0.3**
CLNS	comp=Z,133nm,1.3s				pmax	pmax		
CLNS	comp=E,83nm,1.1s				pmax	pmax		
CLNS	comp=N,127nm,1.4s				pmax	pmax		
CLNS	comp=E,357nm,16.3s				smax	smax		
CLNS	comp=N,515nm,14.2s				smax	smax		
CLNS	comp=E,648nm,19.0s				MLR	MLR		
CLNS	comp=Z,785nm,17.0s				MLR	MLR		
CLNS	comp=N,445nm,15.0s				MLR	MLR		
CN2	**Changchun**	**22.57**	**270**	*e*P		**P**	**23 10 06.0**	**-4.1**
CN2				*e*pP		**pP**	**23 10 17.4**	**-2.6**
CN2				*e*PP		**PnPn**	**23 10 35.4**	**+1.2**
CN2				*e*S		S	23 14 04.4	-10
CN2				*e*SS		**SnSn**	**23 14 47.3**	**+1.7**
CN2	comp=N,470nm,14.0s				LR	LR		
CN2	comp=E,450nm,14.0s				LR	LR		
CN2					LR	LR		
	comp=Z,370nm,15.0s							
AKUT	**Akutan**	**23.45**	**62**	*e*P		**P**	**23 10 15.0**	**-3.9**
	comp=Z,183nm,1.4s							
AKUT				*e*PcP		**PcP**	**23 14 01.8**	**-2.1**
KSRS	**Korea Array**	**24.13**	**254**	P		**P**	**23 10 27.1**	**+1.6**
	comp=Z,8.0nm,0.7s,baz=52,slow=9.8,SNR=18							
KSRS					LR	LR	23 21 30.4	
	comp=Z,403nm,18.3s,baz=56,slow=40							
KSAR	**Wonju Array Be**	**24.16**	**254**	P		**P**	**23 10 27.1**	**+1.3**
HIA	**Hailar**	**24.64**	**286**	*e*P		**P**	**23 10 28.5**	**-1.6**
	comp=Z,62nm,0.9s							
SNY	**Shenyang**	**24.66**	**267**	⇓P		**P**	**23 10 30.3**	**0.0**
SNY					S	**S**	**23 14 50.3**	**+1.3**
SNY	comp=Z,16nm,1.0s				pmax	pmax		
SNY	comp=N,570nm,17.1s				LR	LR		
SNY	comp=E,490nm,16.3s				LR	LR		
SNY	comp=Z,460nm,22.6s				LR	LR		
INCN	**Inchon**	**24.94**	**255**	*e*P		**P**	**23 10 33.4**	**+0.5**
	comp=Z,46nm,1.1s							
JNU	**Nakatsue**	**25.16**	**242**	*e*P		**P**	**23 10 36.0**	**+1.1**
	comp=Z,47nm,1.1s							
JNU	**Nakatsue**	**25.16**	**242**	P		**P**	**23 10 35.5**	**+0.6**
	comp=Z,12nm,0.8s,baz=65,slow=7.3,SNR=7.4							
JNU					LR	LR	23 22 32.7	
	comp=Z,214nm,18.5s,baz=40,slow=41							
TIXI	**Tiksi**	**26.68**	**340**	*d i*P		**P**	**23 10 47.8**	**-0.4**
TIXI	comp=Z,154nm,1.7s				pmax	pmax		
TIXI	comp=Z,540nm,18.0s				MLR	MLR		
SVW2	**Sparrevohn**	**29.14**	**47**	*e*P		P	23 11 07.0	-3.3
	comp=Z,13nm,1.0s							
BJI	**Beijing**	**30.43**	**269**	P		**P**	**23 11 20.8**	**-1.2**
BJI				S		**S**	**23 16 22.6**	**+2.5**
BJI	comp=Z,11nm,0.7s				pmax	pmax		
BJI	comp=Z,170nm,4.3s				pmax	pmax		
BJI	comp=N,580nm,16.7s				LR	LR		
BJI	comp=E,300nm,21.1s				LR	LR		
BJI	comp=Z,310nm,22.8s				LR	LR		
RSO	**Redoubt South**	**30.50**	**48**	*e*P		**P**	**23 11 21.8**	**-0.8**
IM04	**Indian Mountai**	**30.56**	**37**	*e*P		**P**	**23 11 22.4**	**-0.5**
IMA2	**Indian Mountai**	**30.62**	**37**	*e*P		**P**	**23 11 22.7**	**-0.8**
KDAK	**Kodiak Island**	**30.69**	**53**	P		P	23 11 20.1	-3.9
	comp=Z,204nm,0.7s,SNR=5.4							
KDAK	**Kodiak Island**	**30.69**	**53**	*e*P		**P**	**23 11 23.5**	**-0.5**
	comp=Z,168nm,2.0s							
KDAK	**Kodiak Island**	**30.69**	**53**	P		**P**	**23 11 22.9**	**-1.1**
	comp=Z,19nm,0.6s,baz=264,slow=6.3,SNR=20							
KDAK					LR	LR	23 23 03.3	
	comp=Z,462nm,19.3s,baz=269,slow=35							
SPU	**Mount Spurr**	**30.85**	**47**	*e*P		**P**	**23 11 25.8**	**+0.3**
PPLA	**Purkeypile**	**30.86**	**43**	*e*P		**P**	**23 11 26.9**	**+1.1**
	comp=Z,61nm,1.4s							
JOW	**Kunigami**	**31.36**	**237**	*e*P		**P**	**23 11 29.0**	**-1.2**
	comp=Z,42nm,1.0s							
TRF	**Thorofare Moun**	**31.75**	**42**	*e*P		**P**	**23 11 33.3**	**-0.4**
	comp=Z,90nm,2.0s							
COLD	**Coldfoot**	**32.19**	**35**	*e*P		**P**	**23 11 37.3**	**+0.1**
	comp=Z,6.5nm,0.8s							
PMR	**Palmer**	**32.26**	**46**	*e*P		**P**	**23 11 37.2**	**-0.6**
PMR	comp=Z,11nm,1.0s				pmax	pmax		
PMR	**Palmer**	**32.26**	**46**	*e*P		**P**	**23 11 37.2**	**-0.6**
	comp=Z,11nm,1.0s							
MCK	**McKinley**	**32.37**	**42**	*e*P		**P**	**23 11 38.8**	**-0.1**
MCK	comp=Z,26nm,1.0s				pmax	pmax		
MCK	**McKinley**	**32.37**	**42**	*e*P		**P**	**23 11 38.8**	**-0.1**
	comp=Z,26nm,1.0s							
SML	**Sawmill**	**32.63**	**46**	*e*P		**P**	**23 11 41.1**	**-0.1**
SML	comp=Z,14nm,0.8s				pmax	pmax		
SML	**Sawmill**	**32.63**	**46**	*e*P		**P**	**23 11 41.1**	**-0.1**
	comp=Z,14nm,0.8s							
COLA	**College**	**32.90**	**40**	*e*P		**P**	**23 11 43.5**	**+0.2**
COLA	comp=Z,27nm,0.9s				pmax	pmax		
COLA	**College**	**32.90**	**40**	*e*P		**P**	**23 11 43.5**	**+0.2**
	comp=Z,27nm,0.9s							
HHC	**Hu-ho-hao-te**	**33.10**	**274**	*e*P		**P**	**23 11 45.8**	**+0.2**
HHC				pP		**pP**	**23 11 57.8**	**+1.5**
HHC				PP		**PnPn**	**23 12 57.0**	**+1.2**
HHC				S		**S**	**23 17 01.0**	**-1.0**
HHC				sS		**sS**	**23 17 20.0**	**+0.1**
HHC				SS		**SnSn**	**23 19 02.5**	**0.0**
HHC				ScS		**ScS**	**23 22 06.6**	**-2.9**
HHC	comp=Z,37nm,1.0s				pmax	pmax		
HHC	comp=Z,280nm,4.2s				pmax	pmax		
HHC	comp=N,1μm,13.4s				LR	LR		
HHC	comp=E,670nm,13.4s				LR	LR		
HHC	comp=Z,920nm,14.8s				LR	LR		
ILAR	**Eielson Array**	**33.30**	**40**	P		**P**	**23 11 46.1**	**-0.8**
ILAR	**Eielson Array**	**33.30**	**40**	P		**P**	**23 11 46.1**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=245,slow=7.7,SNR=32							
ILAR					LR	LR	23 24 42.1	
	comp=Z,320nm,18.3s,baz=178,slow=35							
NJ2	**Nanjing**	**33.32**	**255**	*e*P		**P**	**23 11 47.3**	**-0.1**
NJ2	comp=Z,10.0nm,0.5s				pmax	pmax		
NJ2	comp=Z,2μm,19.2s				LR	LR		
IRK	**Irkutsk**	**33.48**	**297**	⇓*i*P		**P**	**23 11 48.3**	**-0.3**
IRK	comp=Z,98nm,1.2s				pmax	pmax		
SONM	**Songino Array**	**33.53**	**288**	P		**P**	**23 11 48.6**	**-0.7**
SONM	**Songino Array**	**33.53**	**288**	P		**P**	**23 11 48.6**	**-0.7**
	comp=Z,5.5nm,1.0s,baz=64,slow=8.9,SNR=17							
SONM					LR	LR	23 26 20.3	
	comp=Z,695nm,18.3s,baz=248,slow=38							
DIV	**Divide**	**33.90**	**47**	*e*P		**P**	**23 11 52.4**	**+0.1**
	comp=Z,17nm,0.8s							
PAX	**Paxson**	**33.93**	**43**	*e*P		**P**	**23 11 51.2**	**-1.4**
PAX	comp=Z,8.0nm,0.6s				pmax	pmax		
PAX	**Paxson**	**33.93**	**43**	*e*P		**P**	**23 11 51.1**	**-1.4**
	comp=Z,7.6nm,0.6s							
BMRM	**Bremner River**	**34.48**	**47**	*e*P		**P**	**23 11 57.6**	**+0.4**
	comp=Z,34nm,1.1s							
ZAK	**Zakamensk**	**34.61**	**294**	⇓*i*P		**P**	**23 11 59.1**	**+0.5**
ZAK	comp=Z,53nm,1.2s				pmax	pmax		
MENT	**Mentasta**	**34.73**	**43**	*e*P		**P**	**23 11 59.4**	**0.0**
MOY	**Mondy**	**35.58**	**297**	*e*P		**P**	**23 12 07.6**	**+0.6**
MOY	comp=Z,96nm,1.9s				pmax	pmax		
EGAK	**Eagle**	**35.76**	**40**	*e*P		**P**	**23 12 08.0**	**-0.2**
	comp=Z,24nm,0.8s							
DAWY	**Dawson**	**36.58**	**41**	*e*P		**P**	**23 12 15.3**	**+0.1**
WHN	**Wuhan**	**37.21**	**257**	P		P	23 12 24.5	+3.6
HYT	**Haines Junctio**	**37.93**	**46**	*e*P		**P**	**23 12 27.7**	**+0.9**
QZH	**Quanzhou**	**38.45**	**246**	⇑*i*P		P	23 12 40.5	+9.1
QZH					S	**S**	**23 18 28.3**	**+4.4**
QZH	comp=Z,530nm,22.7s				LR	LR		
INK	**Inuvik**	**38.55**	**34**	*e*P		**P**	**23 12 32.6**	**+0.8**
	comp=Z,132nm,2.1s							
INK	**Inuvik**	**38.55**	**34**	P		**P**	**23 12 32.4**	**+0.7**
	comp=Z,9.5nm,0.7s,baz=126,slow=28,SNR=20							
XAN	**Xi'an**	**38.58**	**266**	P		**ScS**	**23 22 42.5**	**+2.8**
XAN	comp=Z,1.0nm,0.8s				pmax	pmax		
XAN	comp=Z,8.0nm,7.2s				pmax	pmax		
XAN	**Xi'an**	**38.58**	**266**	P		**P**	**23 12 33.8**	**+1.3**
XAN				pP		**pP**	**23 12 45.8**	**+2.4**
XAN				sP		**sP**	**23 12 51.0**	**+3.0**
XAN				PP		**PnPn**	**23 14 04.8**	**+1.5**
XAN				S		**S**	**23 18 22.0**	**-3.9**
XAN				sS		**sS**	**23 18 43.3**	**-0.7**
XAN	comp=Z,19nm,6.5s				pmax	pmax		
XAN					LR	LR		

comp=N,150nm,15.2s
XAN LR LR
comp=E,92nm,16.8s
SKAG Skagway 39.30 48 *e*P **P 23 12 39.6 +1.5**
comp=E,29nm,1.0s
LZH Lanzhou 40.75 273 ⇑P **P 23 12 52.8 +2.1**
LZH pP **pP 23 12 58.6 -3.1**
LZH sP sP 23 13 01.0 -5.2
LZH PP **PP 23 14 27.0 +2.1**
LZH S **S 23 19 02.0 +3.3**
LZH sS **sS 23 19 13.6 -3.2**
LZH SS **SS 23 21 53.8 -6.2**
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=N,590nm,14.2s
LZH LR LR
comp=E,690nm,14.7s
LZH LR LR
comp=Z,920nm,16.3s
GTA Gaotai 41.58 280 P **P 23 12 58.4 +1.0**
GTA pP **pP 23 13 03.6 -4.8**
GTA sP sP 23 13 06.9 -6.1
GTA PP **PnPn 23 14 37.3 -1.4**
GTA S **S 23 19 13.5 +2.7**
GTA sS sS 23 19 22.5 -6.5
GTA SS **SS 23 22 13.5 -2.8**
GTA pmax pmax
comp=Z,36nm,1.0s
GTA pmax pmax
comp=Z,150nm,4.8s
GTA LR LR
comp=N,400nm,14.7s
GTA LR LR
comp=E,360nm,16.1s
GTA LR LR
comp=Z,520nm,15.2s
WRAK Wrangell Islan 41.73 52 *e*P **P 23 12 59.3 +1.1**
comp=Z,17nm,0.9s
DLBC Dease Lake 42.23 48 *e*P **P 23 13 04.2 +1.8**
DLBC Dease Lake 42.23 48 P **P 23 13 04.2 +1.8**
comp=Z,18nm,0.9s,baz=275,slow=9.2,SNR=10
CD2 Chengdu 43.94 267 P **P 23 13 16.6 +0.1**
CD2 pP **pP 23 13 28.3 +0.8**
CD2 sP **sP 23 13 32.8 +0.7**
CD2 PP **PP 23 15 00.1 +1.0**
CD2 PcP **PcP 23 15 03.6 +1.7**
CD2 S **S 23 19 44.3 -1.1**
CD2 sS **sS 23 20 03.6 -0.1**
CD2 SS SS 23 22 53.3 -9.3
CD2 ScS **ScS 23 23 09.8 -2.4**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,150nm,5.2s
CD2 LR LR
comp=N,340nm,16.5s
CD2 LR LR
comp=E,380nm,19.0s
CD2 LR LR
comp=Z,320nm,16.6s
ZAA0 Zalesovo Array 43.95 306 *e*P **P 23 13 15.8 -0.5**
ZALV Zalesovo Beam 43.95 306 P **P 23 13 16.0 -0.3**
ZALV 23 15 01.9
ZALV pmax pmax
comp=Z,20nm,0.8s
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV MLR MLR
comp=Z,285nm,18.1s
ZALV Zalesovo Beam 43.95 306 P **P 23 13 16.0 -0.3**
ZALV PcP **PcP 23 15 01.9 +0.4**
ZALV Zalesovo Beam 43.95 306 P **P 23 13 16.0 -0.3**
comp=Z,20nm,0.8s,baz=62,slow=7.5,SNR=75
ZALV PcP **PcP 23 15 01.9 +0.4**
comp=Z,7.0nm,0.8s,baz=66,slow=5.0,SNR=6.1
ZALV LR LR 23 33 40.7
comp=Z,285nm,18.1s,baz=249,slow=39
NVS Novosibirsk 44.44 307 ⇓*i*P **P 23 13 18.9 -1.2**
NVS pmax pmax
comp=N,46nm,1.9s
NVS pmax pmax
comp=Z,139nm,1.9s
NVS pmax pmax
comp=E,77nm,1.7s
GYA Guiyang 44.95 259 P **P 23 13 25.6 +0.9**
GYA PP **PP 23 15 11.4 +1.4**
GYA ScP **ScP 23 18 57.9 +3.2**
GYA S **S 23 20 02.0 +1.7**
GYA SS **ScS 23 23 14.5 -4.4**
GYA ScS **SS 23 23 19.8 -2.8**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.4s
GYA LR LR
comp=N,730nm,17.5s
GYA LR LR
comp=E,650nm,18.0s
GYA LR LR
comp=Z,870nm,17.9s
BBB Bella Bella 45.69 56 LR LR 23 30 23.7
comp=Z,188nm,22.0s,baz=158,slow=33
WMQ Urumqi 47.00 292 P **P 23 13 42.0 +1.4**
WMQ pP **pP 23 13 47.8 -4.0**
WMQ PP **PP 23 15 35.1 +3.8**
WMQ S **S 23 20 32.4 +3.0**
WMQ sS sS 23 20 41.6 -6.2
WMQ ScS **ScS 23 23 33.3 +1.7**
WMQ SS **SS 23 23 51.3 -4.8**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,160nm,2.6s
WMQ LR LR
comp=N,1μm,16.0s
WMQ LR LR
comp=E,550nm,17.0s
WMQ LR LR
comp=Z,220nm,29.0s
YKW3 Yellowknife Ar 47.68 39 *e*P **P 23 13 45.4 -0.1**
comp=Z,0.4nm,1.1s
YKA Yellowknife Ar 47.71 39 P **P 23 13 46.0 +0.2**
YKA Yellowknife Ar 47.71 39 P **P 23 13 46.0 +0.2**
comp=Z,17nm,0.9s,baz=296,slow=7.7,SNR=20
QIZ Qiongzhong 48.24 250 P **P 23 13 50.5 +0.1**
QIZ S **S 23 20 45.6 -1.7**
QIZ pmax pmax
comp=Z,7.0nm,1.1s
QIZ LR LR
comp=N,160nm,17.5s
QIZ LR LR
comp=E,110nm,18.6s
KMI Kunming 48.43 261 P **P 23 13 53.4 +1.3**
KMI pP **pP 23 14 04.4 +1.1**
KMI sP **sP 23 14 09.1 +1.3**
KMI PP **PP 23 15 46.4 +1.6**
KMI S **S 23 20 49.8 -0.6**
KMI sS **sS 23 21 09.8 +1.0**
KMI SS **SS 23 24 17.0 -3.2**
KMI pmax pmax
comp=Z,7.0nm,0.9s
KMI pmax pmax
comp=Z,55nm,6.1s
KMI LR LR
comp=N,210nm,19.2s
KMI LR LR
comp=E,150nm,16.6s
KMI LR LR
comp=Z,190nm,18.6s
MK31 Makanchi Array 48.72 298*ce*P **P 23 13 53.8 0.0**
MK31 pmax pmax
comp=Z,113nm,0.8s
MK31 Makanchi Array 48.72 298 *e*P **P 23 13 54.1 +0.3**
MKAR Makanchi Array 48.72 298 P **P 23 13 54.3 +0.5**
MKAR 23 15 18.4
MKAR pmax pmax
comp=Z,75nm,0.8s
MKAR MLR MLR
comp=Z,584nm,19.5s
MKAR Makanchi Array 48.72 298 *e*P **P 23 13 54.3 +0.5**
MKAR PcP **PcP 23 13 54.3 -0.1**
MKAR Makanchi Array 48.72 298 P **P 23 13 54.3 +0.5**
comp=Z,75nm,0.8s,baz=62,slow=7.8,SNR=514
MKAR PcP **PcP 23 15 18.4 -0.1**
comp=Z,2.6nm,0.8s,baz=58,slow=6.0,SNR=2.2
MKAR LR LR 23 35 20.9
comp=Z,584nm,19.4s,baz=47,slow=37
KURK Kurchatov 48.81 304 P **P 23 13 55.6 +1.2**
KURK 23 15 19.2
KURK pmax pmax
comp=Z,123nm,0.9s
KURK Kurchatov 48.81 304 P **P 23 13 55.5 +1.2**
KURK PcP **PcP 23 15 19.1 +0.5**
KURBB Kurchatov Arra 48.91 304 P **P 23 13 55.5 +0.4**
comp=Z,123nm,0.9s,baz=64,slow=7.8,SNR=434
KURBB PcP **PcP 23 15 19.1 +0.2**
comp=Z,6.3nm,0.7s,baz=56,slow=3.6,SNR=6.9
OBC Olympics--Boni 49.98 59 P **P 23 14 04.5 +1.0**
NLWA Neilton Lookou 50.44 60 *e*P **P 23 14 07.8 +0.9**
comp=Z,57nm,1.0s
HDW Hoodsport 50.77 59 P **P 23 14 10.0 +0.5**
MBW Mount Baker 50.81 57 P **P 23 14 09.8 -0.1**
KBS Kingsbay 51.16 352 *e*P **P 23 14 10.8 -1.1**
KBS AMB AMB 23 14 17.4
comp=Z,112nm,1.6s
KBS Kingsbay 51.16 352 *e*P **P 23 14 13.0 +1.1**
KBS pmax pmax
comp=Z,76nm,1.0s
KBS Kingsbay 51.16 352 *e*P **P 23 14 13.0 +1.1**
comp=Z,76nm,1.0s
LON Longmire 51.97 59 *e*P **P 23 14 18.7 +0.3**
LON pmax pmax
comp=Z,27nm,1.7s
LON Longmire 51.97 59 *e*P **P 23 14 18.7 +0.3**
comp=Z,26nm,1.7s
BVAR Borovoye Array 51.98 310 LR LR 23 37 21.1
comp=Z,279nm,19.5s,baz=71,slow=37
BRVK Borovoye 52.01 310 P **P 23 14 19.0 +0.4**
comp=Z,450nm,0.8s,SNR=50
BRVK Borovoye 52.01 310*d i*P **P 23 14 19.0 +0.4**
BRVK pmax pmax
comp=Z,90nm,1.0s
BRVK Borovoye 52.01 310 *e*P **P 23 14 18.9 +0.3**
comp=Z,90nm,1.1s
COR Corvallis 52.31 63 *e*P **P 23 14 22.5 +1.6**
COR pmax pmax
comp=Z,41nm,1.0s
COR Corvallis 52.31 63 *e*P **P 23 14 22.5 +1.6**
comp=Z,41nm,1.0s
EDM Edmonton 52.94 49 *e*P **P 23 14 25.9 +0.4**
EDM Edmonton 52.94 49 *e*P **P 23 14 25.9 +0.4**
TRW Toppenish Ridg 52.95 59 P **P 23 14 26.1 +0.4**
VFP Flag Point 52.97 61 P **P 23 14 26.4 +0.4**
LSA Lhasa 53.08 275 P **P 23 14 28.8 +1.4**
LSA Lhasa 53.08 275 *e*P **P 23 14 28.3 +0.9**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 53.08 275 *e*P **P 23 14 28.3 +0.9**
comp=Z,13nm,0.8s
HUMO Hull Mountain 53.65 64 *e*P **P 23 14 32.4 +1.5**
comp=Z,24nm,1.2s
NEW Newport 53.75 56 *e*P **P 23 14 31.2 -0.3**
comp=Z,35nm,1.4s
NEW *e*ScP **ScP 23 19 36.9 +5.2**
NEW Newport 53.75 56 P **P 23 14 31.0 -0.5**
baz=54,SNR=10.0
KHMM Horse Mountain 54.21 67 *e*P **P 23 14 36.5 +1.4**
comp=Z,43nm,1.1s
YBH Yreka Blue Hor 54.32 65 *e*P **P 23 14 37.1 +1.3**
comp=Z,38nm,1.2s
SVE Sverdlovsk 54.50 318*c i*P **P 23 14 37.4 +0.6**
SVE *e* 23 16 38.8
SVE *e*PPP PPP 23 17 53.6
SVE *e*S **S 23 22 14.5 +1.8**
SVE pmax pmax
comp=Z,66nm,1.4s
SVE MLR MLR
comp=Z,286nm,18.0s
TKM2 Tokmak 2 54.82 297 *i*P **P 23 14 40.7 +1.1**
TKM2 Tokmak 2 54.82 297 P **P 23 14 40.7 +1.1**
SNR=24
TKM2 Tokmak 2 54.82 297 *e*P **P 23 14 40.7 +1.1**
comp=Z,109nm,1.6s
ULHL Ulahol 54.84 296 *i*P **P 23 14 41.5 +1.7**
ULHL Ulahol 54.84 296 P **P 23 14 41.5 +1.7**
SNR=9.9
DAG Danmarks Havn 54.94 359 *i*P **P 23 14 40.4 +0.7**
DAG Danmarks Havn 54.94 359 *i*P **P 23 14 40.4 +0.7**
DAG *i* 23 14 43.9
WALA Waterton Lakes 55.02 53 *e*P **P 23 14 41.0 +0.2**
WDC Whiskeytown Da 55.11 66 *e*P **P 23 14 42.4 +1.0**
WDC pmax pmax
comp=Z,19nm,1.0s
WDC Whiskeytown Da 55.11 66 *e*P **P 23 14 42.4 +1.0**
comp=Z,19nm,1.0s
BSMT Bassoo Peak 55.26 55 *e*P **P 23 14 43.1 +0.4**
USP Ospenovka 55.26 298 *i*P **P 23 14 43.9 +1.3**
USP Ospenovka 55.26 298 P **P 23 14 43.9 +1.3**
SNR=67
CHMS Chumysh 55.27 298 *i*P **P 23 14 43.8 +1.2**
CHMS Chumysh 55.27 298 P **P 23 14 43.9 +1.2**
SNR=24
CMMT Chiang Mai 55.36 259 P **P 23 14 43.7 +0.1**
comp=Z,18nm,0.9s,comp=Z,507nm
KBK Karagaybulak 55.36 297 *i*P **P 23 14 44.7 +1.2**
KBK Karagaybulak 55.36 297 P **P 23 14 44.7 +1.2**
SNR=19
CHTO Chiang Mai 55.37 259 *e*P **P 23 14 43.8 +0.2**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 55.37 259 *e*P **P 23 14 43.8 +0.2**
comp=Z,14nm,0.9s
CHTO Chiang Mai 55.37 259 P **P 23 14 44.1 +0.5**
comp=Z,19nm,0.9s
BLMT Blacktail Moun 55.40 55 *e*P **P 23 14 44.1 +0.4**
FRU Bishkek 55.45 298 ⇓*i*P **P 23 14 45.0 +1.0**
FRU *e*S **S 23 22 30.0 +4.0**
FRU pmax pmax
comp=Z,120nm,1.9s
FRU MLR MLR
comp=Z,600nm,19.0s
KZA Kyzart 55.53 297 *i*P **P 23 14 46.8 +1.8**
KZA Kyzart 55.53 297 P **P 23 14 46.8 +1.8**
SNR=16
JTMT Jette 55.60 55 *e*P **P 23 14 45.3 +0.3**
CM31 Chiang Mai Arr 55.62 259 *e*P **P 23 14 45.7 +0.3**
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 55.62 259 P **P 23 14 46.4 +0.9**
CMAR Chiang Mai Arr 55.62 259 P **P 23 14 46.4 +0.9**
comp=Z,6.2nm,0.8s,baz=33,slow=7.3,SNR=36
CMAR LR LR 23 42 01.9
comp=Z,217nm,18.7s,baz=244,slow=40
BMO Blue Mountains 55.64 59 *e*P **P 23 14 45.1 -0.2**
comp=Z,33nm,1.3s
AAK Ala-Archa 55.65 297 P **P 23 14 46.0 +0.5**
comp=Z,245nm,0.8s,SNR=16
AAK Ala-Archa 55.65 297*ce*P **P 23 14 46.5 +1.0**
AAK pmax pmax
comp=Z,53nm,0.7s
AAK Ala-Archa 55.65 297 P **P 23 14 46.7 +1.2**
SNR=26
AAK Ala-Archa 55.65 297 *e*P **P 23 14 46.5 +1.0**
comp=Z,29nm,0.8s
AAK Ala-Archa 55.65 297 LR LR 23 38 58.2
comp=Z,534nm,19.7s,baz=43,slow=36
ARU Arti 55.66 318*d i*P **P 23 14 45.2 +0.1**
ARU *PP **pP 23 14 57.7 +1.2**
ARU 23 15 42.8
ARU 23 16 46.0
ARU PPP PPP 23 18 08.8
ARU S **S 23 22 30.8 +2.6**
ARU pmax pmax
comp=Z,108nm,1.7s
ARU MLR MLR
comp=Z,274nm,20.0s
ARU Arti 55.66 318 P **P 23 14 45.2 +0.1**
comp=Z,301nm,0.8s,SNR=33
YBMT Yellow Bay 55.68 55 *e*P **P 23 14 46.2 +0.6**
PBKT Sadao Pong 55.69 255 P **P 23 14 46.5 +0.7**
comp=Z,9.1nm,0.9s
SWMT Swartz Lake 55.90 55 *e*P **P 23 14 47.3 +0.2**
EKS2 Erkin-Say 56.05 298 *e*P **P 23 14 49.5 +1.2**
EKS2 pmax pmax
comp=Z,27nm,0.8s
EKS2 Erkin-Say 56.05 298 P **P 23 14 49.6 +1.2**
SNR=41
EKS2 Erkin-Say 56.05 298 *e*P **P 23 14 49.5 +1.2**
comp=Z,27nm,0.8s
LVZ Lovozero 56.27 338 *e*P **P 23 14 49.9 +0.5**
LVZ pmax pmax
comp=Z,50nm,1.0s
LVZ Lovozero 56.27 338 P **P 23 14 50.9 +1.5**
comp=Z,276nm,0.9s,SNR=5.1
WVOR Wild Horse Val 56.32 62 *e*P **P 23 14 51.0 +0.7**
WVOR pmax pmax
comp=Z,31nm,1.0s
WVOR Wild Horse Val 56.32 62 *e*P **P 23 14 51.0 +0.7**
comp=Z,31nm,1.0s
SLMT Seeley Lake 56.33 55 *e*P **P 23 14 50.5 +0.1**
MSO Missoula 56.33 56 *e*P **P 23 14 50.5 +0.2**
comp=Z,41nm,1.2s
MSO Missoula 56.33 56 P **P 23 14 50.5 +0.2**
baz=56,SNR=19
AML Almayashu 56.42 297 *i*P **P 23 14 52.8 +1.5**
AML Almayashu 56.42 297 P **P 23 14 52.8 +1.5**
SNR=16
KSH Kashi 56.66 294 P P 23 14 57.4 +4.7
KSH sP sP 23 15 06.5 -2.1
KSH PP PP 23 17 05.4 +6.8
KSH S S 23 22 49.0 +6.8
KSH sS sS 23 23 00.4 -0.6
KSH SS SS 23 26 38.8 +9.1
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,160nm,2.7s
KSH LR LR
comp=N,650nm,17.4s
KSH LR LR
comp=E,630nm,16.0s
KSH LR LR
comp=Z,260nm,17.7s
CHMT Chamberlain Mo 56.66 55 *e*P **P 23 14 52.6 -0.1**
BEKR Beckworth 56.87 66 *e*P **P 23 14 54.9 +0.7**
comp=Z,10nm,1.0s
TAPN Taplejung 56.90 275 *e*P **P 23 14 56.0 +1.2**
comp=Z,40nm,0.9s
ARCES ARCESS Array B 57.10 342 P **P 23 14 55.5 +0.3**
ARCES ARCESS Array B 57.10 342 P **P 23 14 55.5 +0.3**
comp=Z,30nm,0.8s,baz=38,slow=8.0,SNR=39
ARCES LR LR 23 44 32.3
comp=Z,249nm,18.4s,baz=28,slow=41
ARE0 ARCESS Array S 57.10 342 *e*P **P 23 14 55.7 +0.4**
ARE0 ARCESS Array S 57.10 342 *e*P **P 23 14 54.4 -0.8**
B17A L&G Farms, Che 57.14 53 P **P 23 14 55.3 -0.6**
baz=57,SNR=12
A18A Metzger Ranch, 57.25 52 P **P 23 14 56.0 -0.7**
baz=57,SNR=8.6
MFID Camas Ranch 57.35 60 P **P 23 14 58.0 +0.4**
baz=57,SNR=14
ODAN Odare 57.44 275 *e*P **P 23 14 59.0 +0.5**
comp=Z,16nm,0.7s
FFC Flin Flon 57.46 43 *e*P **P 23 14 58.3 +0.3**
FFC pmax pmax
comp=Z,45nm,1.0s
FFC Flin Flon 57.46 43 *e*P **P 23 14 58.2 +0.3**
comp=Z,45nm,1.0s
FFC Flin Flon 57.46 43 P **P 23 14 58.0 0.0**
comp=Z,106nm,1.0s,SNR=5.3
PAHR Pah Rah Range 57.55 65 *e*P **P 23 14 59.9 +0.8**
comp=Z,30nm,1.2s
HRY Holter Researc 57.56 55 *e*P **P 23 14 58.5 -0.4**
comp=Z,6.9nm,0.5s
C17A Wharram Farm, 57.56 53 P **P 23 14 58.5 -0.4**
baz=57,SNR=22
B18A Beardsley Farm 57.61 52 P **P 23 14 59.2 -0.1**
baz=57,SNR=18
KK31 Karatay Array 57.68 300*ce*P **P 23 15 00.1 +0.4**
KK31 pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 57.68 300 *e*P **P 23 15 00.4 +0.6**
KKAR Karatay Array 57.68 300 *e*P **P 23 15 00.4 +0.6**
JIRN Jiri 57.70 276 *e*P **P 23 15 01.4 +0.9**
comp=Z,61nm,0.8s
GUN Gumba 57.74 277 *e*P **P 23 15 00.6 -0.2**
comp=Z,82nm,0.9s
LRM Limekiln Ridge 57.77 56 *e*P **P 23 15 00.9 +0.3**
A19A Klindworth Far 57.82 51 P **P 23 15 00.7 0.0**
baz=58
EGMT Eagleton 57.85 52 *e*P **P 23 15 01.5 +0.5**
comp=Z,37nm,1.1s
EGMT Eagleton 57.85 52 P **P 23 15 00.9 -0.1**
baz=58
D17A Six Diamond Ra 57.90 54 P **P 23 15 01.8 +0.4**
baz=58,SNR=17
RAMN Ramite 57.90 275 *e*P **P 23 15 02.8 +1.0**
comp=Z,51nm,0.6s
DLMT Dillon 57.97 56 *e*P **P 23 15 02.0 +0.1**
comp=Z,111nm,2.3s
CMB Columbia Colle 57.99 67 *e*P **P 23 15 02.4 +0.4**
CMB pmax pmax
comp=Z,25nm,1.3s
CMB Columbia Colle 57.99 67 *e*P **P 23 15 02.4 +0.4**
comp=Z,25nm,1.3s
KTK1 Kautokeino 57.99 342 *e*P **P 23 14 59.7 -1.8**
KTK1 AMB AMB 23 15 04.5
comp=Z,499nm,1.0s
B19A Brinkman Farms 58.01 52 P **P 23 15 02.0 -0.1**
baz=58,SNR=6.8
HLID Hailey 58.07 59 *e*P **P 23 15 03.3 +0.6**
comp=Z,30nm,1.2s
HLID Hailey 58.07 59 P **P 23 15 03.2 +0.5**
baz=58,SNR=40
TMCR Tamitsa 58.09 333 *e*P **P 23 15 03.0 +0.8**
TMCR *e* 23 15 52.6
TMCR *e* 23 17 12.3
TMCR pmax pmax
comp=Z,119nm,1.1s
MCMT McKenzie Canyo 58.16 57 *e*P **P 23 15 03.4 0.0**
KKN Kakani 58.21 277 *e*P **P 23 15 05.1 +1.2**
comp=Z,46nm,0.8s
E17A Martinsdale 58.24 54 P **P 23 15 03.9 +0.1**
baz=58,SNR=24
A20A Cobblestone Ra 58.27 51 P **P 23 15 03.8 -0.1**
baz=58,SNR=22
PKI Pulchoki 58.27 277 *e*P **P 23 15 05.0 +0.5**
comp=Z,85nm,1.3s
WAKR Walker 58.27 66 *e*P **P 23 15 05.0 +0.8**
PKIN Phulchoki 58.28 277 *e*P **P 23 15 04.9 +0.5**
comp=Z,33nm,1.0s
TRO Tromso 58.30 344 *e*P **P 23 15 02.8 -0.8**
BOZ Bozeman (W) 58.33 56 *e*P **P 23 15 04.9 +0.5**
BOZ pmax pmax
comp=Z,38nm,1.0s
BOZ Bozeman (W) 58.33 56 *e*P **P 23 15 04.9 +0.5**
comp=Z,38nm,1.0s
D18A Linhart Farms, 58.34 53 P **P 23 15 04.9 +0.5**
baz=58
BMN Battle Mountai 58.40 63 *e*P **P 23 15 05.3 +0.3**
BMN pmax pmax
comp=Z,21nm,0.8s
BMN Battle Mountai 58.40 63 *e*P **P 23 15 05.3 +0.3**
comp=Z,20nm,0.8s
C19A Slack Wire Ran 58.41 52 P **P 23 15 05.6 +0.8**
baz=58,SNR=21
DMN Daman 58.45 277 *e*P **P 23 15 06.7 +1.1**
comp=Z,86nm,0.8s
B20A Solberg Farm, 58.50 51 P **P 23 15 05.6 +0.2**
baz=58,SNR=5.3
SUMG Summit 58.67 6 *e*P **P 23 15 08.2 +1.5**
SUMG pmax pmax
comp=Z,56nm,0.9s
SUMG Summit 58.67 6 *i*P **P 23 15 07.9 +1.2**
comp=Z,9.2nm,0.9s
SUMG *i* 23 15 13.3
SUMG Summit 58.67 6 *e*P **P 23 15 08.2 +1.5**
comp=Z,56nm,0.9s
E18A Harlowton 58.68 54 P **P 23 15 07.5 +0.7**
baz=58,SNR=11
F17A Fitzpatrick Pl 58.69 55 P **P 23 15 07.7 +0.7**
baz=58,SNR=22
A21A Bergtoll Ranch 58.71 50 P **P 23 15 07.5 +0.6**
baz=58,SNR=10
DANN Dangsing 58.84 279 *e*P **P 23 15 08.9 +0.5**
comp=Z,71nm,0.8s
D19A Cripps Ranch, 58.85 53 P **P 23 15 08.6 +0.6**
baz=59,SNR=19
QLMT Earthquake Lak 58.95 56 *e*P **P 23 15 09.5 +0.7**
C20A Veseth Ranch, 58.97 52 P **P 23 15 09.3 +0.7**
baz=59,SNR=27
NVAR Mina Array Bea 59.01 66 P **P 23 15 09.8 +0.5**
NVAR Mina Array Bea 59.01 66 P **P 23 15 09.8 +0.5**
comp=Z,9.4nm,0.8s,baz=291,slow=7.5,SNR=85
G17A Pierce Place, 59.02 55 P **P 23 15 10.3 +1.1**
baz=59,SNR=22

NV11	Mina Array Sit	59.10	66	eP		P	23 15 10.1 +0.3
H16A	Russell Place,	59.13	56	P		P	23 15 10.9 +0.9
	baz=59,SNR=39						
F18A	Big Timber	59.20	54	P		P	23 15 11.5 +1.0
	baz=59,SNR=33						
D20A	Manuel Ranch,	59.29	52	P		P	23 15 12.0 +1.0
	baz=59,SNR=14						
GCMT	Greycliff	59.30	54	eP		P	23 15 10.9 -0.2
YMR	Madison River	59.31	56	eP		P	23 15 12.7 +1.4
	comp=Z,58nm,1.1s						
KOLN	Koldanda	59.33	278	eP		P	23 15 12.3 +0.6
	comp=Z,35nm,0.8s						
E19A	Rath Farm, Rou	59.35	53	P		P	23 15 11.7 +0.2
	baz=59,SNR=17						
C21A	Desert Coulee	59.37	51	P		P	23 15 12.2 +0.7
	baz=59,SNR=10						
ELK	Elko	59.37	62	eP		P	23 15 11.4 -0.4
	comp=Z,7.7nm,0.8s						
YNR	Norris Junctio	59.44	56	eP		P	23 15 12.6 +0.4
	comp=Z,44nm,1.2s						
AB31	Akbulak array	59.50	311	ceP		P	23 15 12.3 0.0
AB31				pmax	pmax		
	comp=Z,46nm,0.8s						
ABKAR	Akbulak array	59.50	311	eP		P	23 15 12.7 +0.4
YFT	Old Faithful	59.52	56	eP		P	23 15 15.2 +2.4
	comp=Z,42nm,0.9s						
I16A	Newdale	59.52	57	P		P	23 15 13.8 +1.1
	baz=59,SNR=15						
B22A	Reddig Ranch S	59.63	50	P		P	23 15 13.9 +0.6
	baz=59,SNR=5.9						
F19A	Roth Farm, Mol	59.65	54	P		P	23 15 14.5 +1.0
	baz=59,SNR=14						
G18A	Lazy EL Ranch,	59.66	55	P		P	23 15 13.5 -0.2
	baz=59,SNR=11						
E20A	Meyer Farm, Mu	59.67	53	P		P	23 15 14.0 +0.4
	baz=59,SNR=13						
LKWY	Lake	59.69	56	eP		P	23 15 15.8 +1.8
LKWY				pmax	pmax		
	comp=Z,42nm,1.0s						
LKWY	Lake	59.69	56	eP		P	23 15 15.8 +1.8
	comp=Z,42nm,1.0s						
AKTO	Aktyubinsk	59.69	313	i P		P	23 15 13.8 +0.2
AKTO				pmax	pmax		
	comp=Z,29nm,0.9s						
AKTO	Aktyubinsk	59.69	313	LR		LR	23 44 29.1
	comp=Z,193nm,18.1s,baz=278,slow=40						
H17A	Grant Village	59.70	56	eP		P	23 15 16.3 +2.2
H17A	Grant Village	59.70	56	P		P	23 15 16.1 +2.0
	baz=60,SNR=22						
A23A	Redstone	59.77	49	P		P	23 15 14.7 +0.5
	baz=60						
RCTC	Rector, Farmer	59.79	68	P		P	23 15 15.2 +0.7
	baz=60						
IMW	Indian Meadow	59.81	57	eP		P	23 15 16.1 +1.2
	comp=Z,34nm,1.1s						
FLWY	Flagg Ranch	59.83	56	eP		P	23 15 16.1 +1.2
	comp=Z,29nm,1.0s						
D21A	La Casta Ranch	59.91	52	P		P	23 15 16.1 +0.8
	baz=60,SNR=21						
TIN	Tinemaha	59.94	67	P		P	23 15 16.6 +1.0
	baz=60						
RLMT	Red Lodge	59.95	55	eP		P	23 15 16.1 +0.4
	comp=Z,56nm,1.1s						
RRI2	Red Ridge	59.95	57	eP		P	23 15 17.1 +1.2
	comp=Z,41nm,0.9s						
SMMC	Simmler	59.97	70	P		P	23 15 17.0 +1.2
	baz=60						
I17A	Pilgrim Ck.	60.00	57	P		P	23 15 17.9 +1.8
	baz=60,SNR=6.2						
H18A	Shoshone NF, C	60.02	55	P		P	23 15 16.9 +0.7
	baz=60,SNR=10						
MOOW	Moose Ponds	60.02	57	eP		P	23 15 17.1 +0.9
	comp=Z,22nm,1.1s						
B23A	Brockton	60.03	50	P		P	23 15 16.6 +0.6
	baz=60,SNR=11						
C22A	Vida	60.04	51	P		P	23 15 16.4 +0.3
	baz=60						
TPAW	Teton Pass	60.07	57	eP		P	23 15 17.8 +1.2
	comp=Z,46nm,1.0s						
F20A	Billings	60.11	54	P		P	23 15 17.3 +0.6
	baz=60,SNR=14						
HVU	Hansel Valley	60.13	60	eP		P	23 15 18.2 +1.2
HVU				pmax	pmax		
	comp=Z,14nm,1.0s						
HVU	Hansel Valley	60.13	60	eP		P	23 15 18.2 +1.2
	comp=Z,14nm,1.0s						
LOHW	Long Hollow	60.18	57	eP		P	23 15 18.5 +1.2
	comp=Z,37nm,1.1s						
VES	Vestal, Richgr	60.19	68	P		P	23 15 17.0 -0.2
	baz=60,SNR=5.5						
SNOW	Snow King Moun	60.20	57	eP		P	23 15 18.4 +0.9
	comp=Z,45nm,1.1s						
E21A	Keefer Ranch,	60.20	52	P		P	23 15 17.6 +0.4
	baz=60,SNR=11						
REDW	Red Top Meadow	60.20	57	eP		P	23 15 17.7 +0.2
	comp=Z,53nm,1.1s						
A24A	Westby	60.23	49	P		P	23 15 17.2 -0.1
	baz=60,SNR=5.6						
D22A	Cohagen	60.28	51	P		P	23 15 18.3 +0.6
	baz=60,SNR=24						
PKM	Peak Mountain	60.35	70	P		P	23 15 19.2 +0.6
	baz=60						
JMIC	Jan Mayen	60.36	355	LR		LR	23 43 42.7
	comp=Z,52nm,18.9s,baz=73,slow=38						
C23A	Lambert	60.37	50	P		P	23 15 18.8 +0.5
	baz=60,SNR=11						
H19A	Powell	60.39	55	P		P	23 15 19.3 +0.7
	baz=60,SNR=12						
CWC	Cottonwood Cre	60.42	67	P		P	23 15 19.6 +0.5
	baz=60						
DGMT	Dagmar	60.43	49	eP		P	23 15 18.4 -0.3
	comp=Z,51nm,0.9s						
DGMT	Dagmar	60.43	49	P		P	23 15 19.1 +0.4
	baz=60,SNR=7.2						
G20A	Bridger	60.45	54	P		P	23 15 19.4 +0.3
	baz=60,SNR=23						
GRAC	Grapevine Rang	60.49	66	P		P	23 15 20.1 +0.8
	baz=60						
LAO	LASA Array	60.55	52	eP		P	23 15 20.4 +0.7
	comp=Z,73nm,1.1s						
LOF	Lofoten	60.56	345	eP		P	23 15 16.3 -2.9
I18A	Diamond G Ranc	60.56	56	P		P	23 15 21.4 +1.5
	baz=60,SNR=8.8						
ISA	Isabella	60.69	68	eP		P	23 15 20.5 -0.2
ISA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ISA	Isabella	60.69	68	eP		P	23 15 20.5 -0.2
	comp=Z,7.4nm,1.0s						
ISA	Isabella	60.69	68	P		P	23 15 20.0 -0.7
	baz=60						
R11A	Troy Canyon, C	60.70	64	eP		P	23 15 21.1 +0.2
R11A	Troy Canyon, C	60.70	64	P		P	23 15 21.1 +0.2
	baz=60,SNR=26						
D23A	Lindsay	60.77	51	P		P	23 15 21.9 +0.9
	baz=60						
I19A	Meeteetse	60.80	56	P		P	23 15 22.6 +1.1
	baz=61,SNR=12						
ARVC	Arvin	60.81	69	P		P	23 15 21.0 -0.5
	baz=61						
E22A	Miles City	60.86	52	P		P	23 15 22.5 +0.8
	baz=61						
C24A	Savage	60.93	50	P		P	23 15 22.6 +0.5
	baz=61						
HWUT	Hardware Ranch	60.94	59	eP		P	23 15 22.4 -0.1
	comp=Z,21nm,1.2s						
G21A	Lodge Grass	60.99	54	P		P	23 15 22.3 -0.4
	baz=61,SNR=5.5						
JOF	Joensuu	60.99	335	eP		P	23 15 23.5 +1.2
JOF				pmax	pmax		
	comp=Z,36nm,0.7s						
JOF	Joensuu	60.99	335	ep		P	23 15 23.5 +1.2
	comp=Z,36nm,0.7s						
MPMC	Manual Prospec	61.03	67	P		P	23 15 23.2 0.0
	baz=61,SNR=14						
H20A	Greybull	61.05	55	P		P	23 15 22.9 -0.2
	baz=61						
B25A	Knox Farm, Ray	61.08	49	P		P	23 15 23.8 +0.6
	baz=61						
F22A	Rosebud	61.13	53	P		P	23 15 24.2 +0.6
	baz=61,SNR=19						
DUG	Dugway	61.14	61	eP		P	23 15 24.3 +0.5
DUG				pmax	pmax		
	comp=Z,30nm,1.0s						
DUG	Dugway	61.14	61	eP		P	23 15 24.3 +0.5
	comp=Z,30nm,1.0s						
DUG	Dugway	61.14	61	P		P	23 15 24.5 +0.7
	baz=61,SNR=14						
FURC	Furnace Creek,	61.15	67	P		P	23 15 24.5 +0.8
	baz=61,SNR=5.5						
E23A	Ismay	61.16	51	P		P	23 15 25.0 +1.2
	baz=61						
OSI	Osito Adit	61.22	69	P		P	23 15 25.0 +0.7
	baz=61						
A26A	Wade Farm, Ken	61.22	48	P		P	23 15 24.8 +0.7
	baz=61						
D24A	Glendive	61.26	50	P		P	23 15 25.4 +1.1
	baz=61,SNR=12						
J19A	Crowheart	61.27	56	P		P	23 15 25.9 +1.2
	baz=61,SNR=13						
SCO	Scoresbysund	61.29	360	i P		P	23 15 25.5 +1.4
SCO				i			23 15 35.9
BW06	Boulder Array	61.31	57	eP		P	23 15 25.1 +0.1
	comp=Z,39nm,1.1s						
PDAR	Pinedale Array	61.31	57	P		P	23 15 25.4 +0.3
PDAR	Pinedale Array	61.31	57	P		P	23 15 25.4 +0.3
	comp=Z,25nm,1.0s,baz=299,slow=2.4,SNR=99						
I20A	Worland	61.33	55	P		P	23 15 26.1 +1.1
	baz=61,SNR=10						
C25A	Freed Ranch, W	61.40	49	P		P	23 15 26.5 +1.1
	baz=61						
H21A	Big Horn, Sher	61.47	54	P		P	23 15 26.5 +0.5
	baz=61,SNR=20						
B26A	Jensen Ranch,	61.47	48	P		P	23 15 26.7 +0.9
	baz=61						
G22A	Birney	61.48	53	P		P	23 15 26.0 0.0
	baz=61,SNR=8.3						
EDW2	Edwards Air Fo	61.50	69	P		P	23 15 26.0 -0.2
	baz=61,SNR=12						
M17A	Scullys Gap (B	61.54	59	P		P	23 15 26.9 +0.3
	baz=61,SNR=6.2						
L18A	Fontenelle, Gr	61.60	58	P		P	23 15 27.4 +0.5
	baz=61,SNR=15						
F23A	Volborg	61.62	52	P		P	23 15 27.4 +0.6
	baz=61,SNR=17						
E24A	Baker	61.63	51	P		P	23 15 27.5 +0.5
	baz=61						
JLU	Jordanelle	61.66	60	eP		P	23 15 27.5 0.0
	comp=Z,26nm,1.5s						
K19A	Absolon Red Bu	61.67	57	P		P	23 15 27.3 -0.1
	baz=61,SNR=21						
DECC	Green Verdugo	61.70	69	P		P	23 15 28.0 +0.5
	baz=62						
NLU	North Lily Min	61.72	61	eP		P	23 15 28.1 +0.3
	comp=Z,21nm,1.1s						
J20A	Shoshoni	61.74	56	P		P	23 15 28.6 +0.7
	baz=62,SNR=5.1						
D25A	Fairfield	61.75	50	P		P	23 15 27.8 +0.1
	baz=62						
L19A	Farson	61.86	57	P		P	23 15 28.8 +0.1
	baz=62						
H22A	Clearmont	61.86	54	P		P	23 15 29.0 +0.4
	baz=62						
I21A	Big Trails, Te	61.87	55	P		P	23 15 29.2 +0.5
	baz=62,SNR=28						
SHOC	Shoshone	61.88	67	P		P	23 15 29.3 +0.6
	baz=62						
MWC	Mount Wilson	61.89	69	eP		P	23 15 29.2 +0.2
MWC				pmax	pmax		
	comp=Z,27nm,1.0s						
MWC	Mount Wilson	61.89	69	eP		P	23 15 29.2 +0.2
	comp=Z,26nm,1.0s						
GSC	Goldstone	61.95	68	eP		P	23 15 29.4 +0.1
GSC				pmax	pmax		
	comp=Z,15nm,1.1s						
GSC	Goldstone	61.95	68	eP		P	23 15 29.4 +0.1
	comp=Z,15nm,1.1s						
GSC	Goldstone	61.95	68	P		P	23 15 29.4 +0.1
	baz=62,SNR=7.7						
G23A	Biddle	61.97	53	P		P	23 15 29.7 +0.4
	baz=62,SNR=17						
F24A	Ekalaka	62.04	52	P		P	23 15 30.5 +0.7
	baz=62,SNR=5.7						
K20A	Yellowstone Ra	62.06	56	P		P	23 15 29.9 -0.2
	baz=62,SNR=5.9						
J21A	Lysite	62.10	55	P		P	23 15 30.7 +0.4
	baz=62,SNR=15						
BFSC	Mount Baldy Ra	62.12	69	P		P	23 15 30.7 +0.2
	baz=62						
E25A	Miller Ranch,	62.14	50	P		P	23 15 31.2 +0.8
	baz=62						
SHPR	Sheep Range	62.16	66	eP		P	23 15 31.1 +0.3
I22A	9 Mile Ranch,	62.26	54	P		P	23 15 32.2 +0.9
	baz=62,SNR=15						
ARUT	Antelope Range	62.34	63	eP		P	23 15 32.1 +0.1
ARUT				pmax	pmax		
	comp=Z,14nm,0.9s						
ARUT	Antelope Range	62.34	63	eP		P	23 15 32.1 +0.1
	comp=Z,14nm,0.9s						
B28A	Dugan Ranch, T	62.35	47	P		P	23 15 32.1 +0.5
	baz=62						
M19A	Rock Springs	62.37	58	P		P	23 15 32.3 +0.1
	baz=62						
G24A	Alzada	62.40	52	P		P	23 15 32.2 +0.1
	baz=62						
TUQ	Turquoise Moun	62.40	67	P		P	23 15 32.6 +0.2
	baz=62						
L20A	Wamsutter	62.49	57	P		P	23 15 33.4 +0.4
	baz=62,SNR=11						
F25A	Bowman	62.50	51	P		P	23 15 33.3 +0.6
	baz=62						
CCUT	Cedar City	62.55	64	eP		P	23 15 33.5 +0.1
	comp=Z,18nm,1.1s						
HEC	Hector,Ludlow	62.55	68	P		P	23 15 33.5 +0.2
	baz=62,SNR=8.8						
A29A	Manning Farm,	62.57	46	P		P	23 15 33.5 +0.4
	baz=62						
J22A	Midwest	62.58	55	P		P	23 15 33.8 +0.4
	baz=62,SNR=21						
MVU	Marysvale	62.60	62	eP		P	23 15 34.5 +0.8
	comp=Z,10nm,1.0s						
MSU	Marysvale	62.61	62	eP		P	23 15 34.7 +0.8
MSU	Marysvale	62.61	62	eP		P	23 15 34.7 +0.8
E26A	Carlson Angus	62.64	50	P		P	23 15 33.9 +0.2
	baz=62						
K21A	Alcova	62.68	56	P		P	23 15 34.4 +0.2
	baz=62,SNR=13						
H24A	Dirks Ranch, A	62.72	53	P		P	23 15 34.4 +0.1
	baz=62,SNR=12						
B29A	Wagenman Farm,	62.83	47	P		P	23 15 35.3 +0.5
	baz=63						
C28A	Hausauer Farms	62.83	48	P		P	23 15 35.8 +0.9
	baz=63						
MURC	Murrieta	62.83	69	P		P	23 15 34.8 -0.4
	baz=63,SNR=5.3						
M20A	Sweetwater, Wa	62.92	57	P		P	23 15 36.2 +0.4
	baz=63,SNR=12						
Q16A	Castle Valley	62.93	61	eP		P	23 15 36.4 +0.5
Q16A	Castle Valley	62.93	61	P		P	23 15 36.5 +0.5
	baz=63,SNR=14						
F26A	Lodgepole	62.95	51	P		P	23 15 36.2 +0.4
	baz=63,SNR=8.4						
GMRC	Granite Mounta	63.00	67	P		P	23 15 36.4 +0.1
	baz=63,SNR=14						
G25A	Newell	63.01	52	P		P	23 15 36.5 +0.3
	baz=63,SNR=7.3						
KAF	Kangasniemi	63.01	337	eP		P	23 15 36.1 +0.3
KAF				pmax	pmax		
	comp=Z,29nm,0.8s						
KAF	Kangasniemi	63.01	337	ep		P	23 15 36.1 +0.3
	comp=Z,29nm,0.8s						
L21A	Rawlins	63.06	56	P		P	23 15 36.7 0.0
	baz=63,SNR=13						
K22A	Casper	63.06	55	P		P	23 15 36.8 0.0
	baz=63,SNR=5.7						
J23A	Dilts Ranch, B	63.09	54	P		P	23 15 36.8 0.0
	baz=63						
E27A	Carson	63.12	50	P		P	23 15 36.8 -0.1
	baz=63,SNR=5.1						
SRU	San Rafael	63.18	61	eP		P	23 15 37.4 -0.2
SRU				pmax	pmax		
	comp=Z,27nm,0.9s						
SRU	San Rafael	63.18	61	eP		P	23 15 37.4 -0.2
	comp=Z,27nm,0.9s						
O19A	Miners Draw (B	63.19	59	P		P	23 15 37.5 -0.1
	baz=63,SNR=7.0						
ULM	Lac du Bonnet	63.23	44	P		P	23 15 36.9 -0.5
ULM	Lac du Bonnet	63.23	44	P		P	23 15 36.9 -0.5
	comp=Z,4.2nm,0.6s,baz=314,slow=8.9,SNR=5.2						
ULM				LR	LR		23 44 07.1
	comp=Z,195nm,21.7s,baz=18,slow=37						
I24A	Kuemmerle Ranc	63.28	53	P		P	23 15 38.2 +0.2
	baz=63						
PFO	Pinyon Flat Ob	63.29	69	LR		LR	23 38 35.4
	comp=Z,118nm,18.8s,baz=138,slow=32						
PFO	Pinyon Flat Ob	63.29	69	P		P	23 15 38.4 +0.1
	baz=63						
M21A	Separation Pea	63.30	57	P		P	23 15 38.5 +0.1
	baz=63,SNR=10						
H25A	Fruitdale	63.30	52	P		P	23 15 38.4 +0.2
	baz=63,SNR=8.8						
BELC	Belle Mtn. Jos	63.31	68	P		P	23 15 37.8 -0.7
	baz=63,SNR=5.2						
N20A	Spence Gulch,	63.32	58	P		P	23 15 39.2 +0.7
	baz=63,SNR=13						
B30A	Myrvik Farm, E	63.33	46	P		P	23 15 38.8 +0.6
	baz=63,SNR=9.5						
RWWY	Rawlins	63.33	57	eP		P	23 15 38.7 0.0
	comp=Z,27nm,1.0s						
109C	Camp Elliot, M	63.37	70	P		P	23 15 39.0 +0.4
	baz=63						
G26A	Maurine	63.37	51	P		P	23 15 38.9 +0.3
	baz=63,SNR=7.5						
RSSD	Black Hills	63.41	53	eP		P	23 15 38.7 -0.4
RSSD				pmax	pmax		
	comp=Z,36nm,0.8s						
RSSD	Black Hills	63.41	53	eP		P	23 15 38.7 -0.4
	comp=Z,36nm,0.8s						
E28A	Huff	63.46	49	P		P	23 15 39.3 +0.2
	baz=63						
K23A	Bowen Ranch, D	63.48	55	P		P	23 15 38.9 -0.6
	baz=63,SNR=5.4						
L22A	Ellis Ranch, M	63.53	56	P		P	23 15 40.5 +0.6
	baz=63,SNR=5.7						
FIA1	FINESS Array S	63.63	336	eP		P	23 15 39.0 -0.9
FINES	FINESS Array B	63.63	336	P		P	23 15 40.0 +0.1
FINES	FINESS Array B	63.63	336	P		P	23 15 40.0 +0.1
	comp=Z,46nm,0.8s,baz=42,slow=7.4,SNR=93						
FINES				LR	LR		23 46 20.4
	comp=Z,189nm,20.6s,baz=203,slow=39						
I25A	Rochford	63.64	53	P		P	23 15 40.6 +0.1
	baz=63,SNR=16						
G27A	Dupree	63.65	51	P		P	23 15 40.5 0.0
	baz=63,SNR=11						
P19A	Cripple Cowboy	63.72	59	P		P	23 15 41.4 +0.2
	baz=64,SNR=17						
IRM	Iron Mountain	63.73	67	P		P	23 15 41.3 +0.3
	baz=64,SNR=18						
BAR	Barrett	63.78	70	eP		P	23 15 41.5 +0.1
	comp=Z,10nm,1.1s						
C30A	Mose, Pekin	63.78	47	P		P	23 15 41.0 -0.1
	baz=64						
N21A	Black Mountain	63.78	58	P		P	23 15 41.1 -0.5
	baz=64,SNR=6.7						
MONP	Monument Peak	63.79	69	P		P	23 15 41.9 +0.2
	baz=64						
O20A	White River Ci	63.80	58	eP		P	23 15 42.0 +0.3
O20A	White River Ci	63.80	58	P		P	23 15 41.1 -0.5
	baz=64,SNR=7.1						
M22A	Cedar Creek Ra	63.87	56	P		P	23 15 42.1 -0.1
	baz=64,SNR=16						
W13A	Hualapai Mount	63.87	66	P		P	23 15 42.4 +0.2
	baz=64,SNR=13						
BC3	Big Chuckawall	63.88	68	P		P	23 15 41.7 -0.5
	baz=64,SNR=8.3						
L23A	Garrett	63.88	55	P		P	23 15 42.0 -0.2
	baz=64,SNR=14						
F28A	McLaughlin	63.91	50	P		P	23 15 42.2 +0.1
	baz=64						
U15A	North Rim	63.93	64	P		P	23 15 43.1 +0.4
	baz=64,SNR=18						
J25A	Sunshine Ranch	64.03	53	P		P	23 15 42.4 -0.7
	baz=64						
D30A	Buchanan	64.05	48	P		P	23 15 42.7 -0.3
	baz=64						
KBL	Kabul	64.09	293	eP		P	23 15 43.2 -0.5
KBL				pmax	pmax		
	comp=Z,35nm,0.9s						
KBL	Kabul	64.09	293	eP		P	23 15 43.1 -0.5
	comp=Z,35nm,0.9s						
I26A	New Underwood	64.09	52	P		P	23 15 43.3 0.0
	baz=64,SNR=6.4						
DVTC	Desert V Tower	64.15	69	P		P	23 15 43.7 -0.1
	baz=64						
SWSC	Sam W. Stewart	64.15	69	P		P	23 15 43.7 -0.1
	baz=64						
O21A	Pagoda	64.18	58	P		P	23 15 44.5 +0.3
	baz=64,SNR=8.4						
PDMCI	Parker Dam,Lak	64.25	67	P		P	23 15 44.2 -0.3
	baz=64						
M23A	Laramie	64.30	56	P		P	23 15 45.1 +0.2
	baz=64,SNR=9.7						
N22A	Wattenberg Ran	64.35	57	P		P	23 15 46.0 +0.6
	baz=64,SNR=12						
Y12C	Blythe	64.39	67	P		P	23 15 45.6 +0.3
	baz=64,SNR=6.1						
E30A	Jud	64.40	48	P		P	23 15 44.9 -0.4
	baz=64						
J26A	Sides Ranch, S	64.47	53	P		P	23 15 45.9 +0.1
	baz=64,SNR=6.5						
I27A	Quinn	64.49	52	P		P	23 15 46.3 +0.4
	baz=64,SNR=8.4						
PV10	Paradox Valley	64.53	60	eP		P	23 15 47.4 +0.8
PHWY	Pilot Hill	64.56	56	eP		P	23 15 47.0 +0.2
	comp=Z,6.5nm,0.9s						
Q20A	Ridgley Place,	64.57	59	P		P	23 15 46.7 0.0
	baz=64,SNR=7.7						
N23A	Red Feather La	64.57	56	P		P	23 15 47.5 +0.8
	baz=64,SNR=11						
MOS	Moscow	64.58	327	eP		P	23 15 44.1 -2.1
MOS				e			23 15 55.3
MOS				e			23 18 06.2
MOS				pmax	pmax		
	comp=Z,100nm,1.5s						
MOS				pmax	pmax		
	comp=Z,62nm,1.2s						
PV04	Paradox Valley	64.60	60	eP		P	23 15 45.7 -1.2
H28A	Mission Ridge	64.61	51	P		P	23 15 46.8 +0.1
	baz=64,SNR=11						
AGMN	Agassiz Nation	64.61	45	eP		P	23 15 46.4 -0.2
	comp=Z,25nm,1.1s						
P21A	Newcastle	64.66	58	P		P	23 15 48.0 +0.6
	baz=64,SNR=9.2						
GLA	Glamis	64.67	68	eP		P	23 15 47.8 +0.6
GLA				pmax	pmax		
	comp=Z,20nm,1.1s						
GLA	Glamis	64.67	68	eP		P	23 15 47.8 +0.6
	comp=Z,20nm,1.1s						
GLA	Glamis	64.67	68	P		P	23 15 47.4 +0.1
	baz=64,SNR=5.9						
O22A	Kremmling	64.74	57	P		P	23 15 48.1 +0.1
	baz=64,SNR=5.8						
M24A	Cheyenne	64.80	55	P		P	23 15 48.4 +0.3
	baz=65						
K26A	Motz Farm, Whi	64.84	53	P		P	23 15 48.3 0.0
	baz=65						
PV01	Paradox Valley	64.97	60	eP		P	23 15 49.5 +0.1
I28A	Midland	65.00	51	P		P	23 15 49.4 +0.1
	baz=65						
P22A	Eagle	65.00	58	P		P	23 15 50.1 +0.5
	baz=65,SNR=15						
R20A	Redvale	65.04	60	P		P	23 15 50.0 +0.2
	baz=65,SNR=9.0						
O23A	Lake Granby, G	65.05	57	P		P	23 15 51.0 +1.0
	baz=65,SNR=14						
Q21A	Lamborn Mesa,	65.06	59	P		P	23 15 50.4 +0.5
	baz=65,SNR=14						
J27A	Elkhorn Farm,	65.08	52	P		P	23 15 50.2 +0.4
	baz=65						
WUAZ	Wupatki	65.10	64	eP		P	23 15 51.1 +0.9
	comp=Z,20nm,1.1s						
WUAZ	Wupatki	65.10	64	P		P	23 15 50.9 +0.7
	baz=65,SNR=10.0						
SMCO	Snowmass	65.17	58	eP		P	23 15 51.0 +0.2
	comp=Z,19nm,0.9s						
Y14A	Wickenburg	65.19	66	P		P	23 15 50.9 +0.3
	baz=65,SNR=8.8						
M25A	Palm-Egli Farm	65.24	55	P		P	23 15 51.6 +0.6
	baz=65						
S20A	Disappointment	65.29	60	P		P	23 15 51.6 0.0
	baz=65,SNR=12						
K27A	Flueckinger Fa	65.34	53	P		P	23 15 51.3 -0.2

comp=Z,200nm,18.0s
ISCO Idaho Springs 65.51 57 *e*P **P 23 15 53.5 +0.6**
ISCO pmax pmax
comp=Z,26nm,1.0s
ISCO Idaho Springs 65.51 57 *e*P **P 23 15 53.5 +0.6**
comp=Z,26nm,1.0s
ISCO Idaho Springs 65.51 57 P **P 23 15 53.6 +0.7**
baz=65,SNR=29
113A Mohawk Valley, 65.52 68 P **P 23 15 53.1 +0.4**
baz=65
Z14A Wintersburg 65.61 67 P **P 23 15 53.8 +0.5**
baz=65
MVCO Mesa Verde 65.64 61 *e*P **P 23 15 53.8 +0.1**
comp=Z,19nm,1.0s
MVCO Mesa Verde 65.64 61 P **P 23 15 53.8 +0.1**
baz=65,SNR=7.9
P23A Jefferson 65.67 58 P **P 23 15 54.4 +0.4**
baz=66,SNR=5.3
M26A McRoberts Ranc 65.71 54 P **P 23 15 54.9 +0.9**
baz=66
S21A Coal Bank Pass 65.74 60 P **P 23 15 55.1 +0.6**
baz=66,SNR=20
K28A Ten Mile Ranch 65.79 52 P **P 23 15 54.8 +0.3**
baz=66
X16A Lo Mia Camp, P 65.81 65 P **P 23 15 55.5 +0.8**
baz=66,SNR=14
BRSD Miller 65.82 50 P **P 23 15 54.2 -0.3**
baz=66
VSU Vasula 65.94 334 *d i*P **P 23 15 55.3 +0.4**
R22A Saguache, Gunn 65.94 59 P **P 23 15 56.8 +1.0**
baz=66,SNR=17
Q23A Hartsel 66.00 58 P **P 23 15 57.0 +0.9**
baz=66
M27A Reverse DX Ran 66.08 54 P **P 23 15 56.6 +0.3**
baz=66
P24A Kohler Place, 66.10 57 P **P 23 15 57.3 +0.7**
baz=66
N26A Koester Ranch, 66.11 55 P **P 23 15 57.5 +0.9**
baz=66
U20A Newcomb 66.20 62 P **P 23 15 58.5 +1.2**
baz=66
S22A 4UR Ranch, Cre 66.23 60 P **P 23 15 58.5 +0.9**
baz=66,SNR=17
K29A Lazy Trails An 66.31 52 P **P 23 15 58.2 +0.5**
baz=66
Q24A Divide 66.34 58 P **P 23 15 58.5 +0.2**
baz=66
W18A Petrified Fore 66.35 63 P **P 23 15 59.1 +0.8**
baz=66
T21A Navajo Lake 66.35 61 P **P 23 15 58.7 +0.5**
baz=66
O26A Horse Wrangler 66.47 55 P **P 23 15 59.2 +0.3**
baz=66
R23A Moffat 66.50 59 P **P 23 15 60.0 +0.7**
baz=66,SNR=7.5
N27A Anderson Farm, 66.50 55 P **P 23 15 59.7 +0.6**
baz=66,SNR=8.7
P25A Willow Gulch B 66.51 57 P **P 23 15 59.9 +0.7**
baz=66
VRHR Novokhopersk 66.59 322 *e*P **P 23 15 58.0 -1.3**
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
X18A Snowflake 66.62 64 P **P 23 16 00.7 +0.6**
baz=66,SNR=8.8
214A Organ Pipe Nat 66.66 68 P **P 23 16 00.4 +0.3**
baz=66,SNR=9.7
U21A Nageezi 66.67 61 P **P 23 15 60.0 -0.4**
baz=66,SNR=8.8
OGNE Ogallala 66.68 54 *e*P **P 23 15 59.1 -1.0**
comp=E,108nm,1.0s
OGNE Ogallala 66.68 54 P **P 23 16 00.9 +0.8**
baz=66,SNR=9.8
T22A Edith 66.70 60 P **P 23 16 01.3 +0.8**
baz=66,SNR=10
M28A Bar X Bar Ranc 66.71 53 P **P 23 16 00.7 +0.3**
baz=66,SNR=5.0
R24A Sanders Place, 66.88 58 P **P 23 16 02.0 +0.4**
baz=67,SNR=6.8
EYMN Ely 66.88 43 *e*P **P 23 16 01.0 -0.2**
comp=E,9.1nm,0.9s
Q25A Bedland, Calha 66.88 57 P **P 23 16 02.0 +0.4**
baz=67,SNR=5.1
P26A Davis Ranch, A 66.93 56 P **P 23 16 01.8 -0.1**
baz=67
O27A Beecher Island 66.96 55 P **P 23 16 02.2 +0.2**
baz=67,SNR=11
SDCO Great Sand Dun 66.99 59 *e*P **P 23 16 02.7 +0.3**
comp=E,35nm,1.8s
BORG Borgarnes 67.05 359 LR LR 23 47 12.6
comp=E,79nm,21.2s,baz=22,slow=38
W20A Ramah 67.07 63 P **P 23 16 02.9 0.0**
baz=67,SNR=7.5
N28A Pribbeno Ranch 67.12 54 P **P 23 16 03.1 +0.2**
baz=67
U22A Llaves 67.17 61 P **P 23 16 04.0 +0.5**
baz=67
T23A Casias Ranch, 67.18 60 P **P 23 16 04.1 +0.5**
baz=67
S24A Houchin Ranch, 67.23 59 P **P 23 16 03.5 -0.5**
baz=67,SNR=5.7
Q26A Hugo 67.28 57 P **P 23 16 04.3 +0.2**
baz=67,SNR=5.5
P27A Ficken Ranch, 67.36 56 P **P 23 16 04.5 0.0**
baz=67
O28A Krutsinger Ran 67.39 55 P **P 23 16 04.6 -0.1**
baz=67
R25A Fountain Ranch 67.40 58 P **P 23 16 04.7 -0.2**
baz=67,SNR=5.8
NB2 NORSAR Subarra 67.43 343 P **P 23 16 04.7 +0.1**
comp=Z,36nm,0.9s,baz=23,slow=6.9
NB2 NORSAR Subarra 67.43 343 P **P 23 16 04.7 +0.1**
baz=23,slow=6.9
NOA NORSAR Array B 67.43 343 P **P 23 16 04.7 +0.1**
NOA NORSAR Array B 67.43 343 P **P 23 16 04.7 +0.1**
comp=Z,24nm,0.8s,baz=24,slow=6.5,SNR=34
NOA LR LR 23 50 12.8
comp=Z,120nm,18.7s,baz=45,slow=40
V22A San Miguel Ran 67.46 61 P **P 23 16 05.4 +0.1**
baz=67,SNR=5.3
X20A Quemado 67.48 63 P **P 23 16 05.7 +0.2**
baz=67,SNR=14
VSR Storozhevoye 67.49 323 *e*P **P 23 16 04.8 -0.2**
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,40nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=N,230nm,17.0s
VSR MLR MLR
comp=E,80nm,17.0s
VSR MLR MLR
comp=Z,260nm,17.0s
ECSD EROS Data Cent 67.51 49 *e*P **P 23 16 04.6 -0.7**
comp=Z,27nm,0.8s
T24B San Luis 67.54 59 P **P 23 16 06.6 +0.7**
baz=67
U23A El Rito 67.58 60 P **P 23 16 06.8 +0.7**
baz=67,SNR=21
VORD Divnogorie 67.64 323 *e*P **P 23 16 04.9 -1.0**
VORD pmax pmax
comp=Z,30nm,0.9s
VORD pmax pmax
comp=N,90nm,0.7s
VORD pmax pmax
comp=E,140nm,0.8s
S25A Robets Cordova 67.65 58 P **P 23 16 06.3 -0.2**
baz=67
TUC Tucson 67.66 66 *e*P **P 23 16 06.6 +0.1**
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 67.66 66 *e*P **P 23 16 06.5 +0.1**
comp=Z,10nm,1.2s
NAO01 NORSAR Array S 67.68 343 *e*P **P 23 16 04.5 -1.6**
comp=Z,21nm,1.0s
KSCO Kaye Shedlock' 67.71 56 *e*P **P 23 16 07.2 +0.4**
KSCO Kaye Shedlock' 67.71 56 P **P 23 16 06.7 -0.1**
baz=68
HFS Hagfors 67.76 341 LR LR 23 51 39.4
comp=Z,137nm,18.3s,baz=14,slow=41
R26A Arlington 67.76 57 P **P 23 16 06.8 -0.2**
baz=68,SNR=9.1
X21A Alamocita Cree 67.97 63 P **P 23 16 09.4 +0.8**
baz=68,SNR=20
Y20A Horse Springs, 67.99 63 P **P 23 16 09.6 +0.8**
baz=68,SNR=11
V23A Ortiz Mt. (NFS 68.00 61 P **P 23 16 09.9 +1.2**
baz=68,SNR=6.3
T25A Trinidad 68.03 59 P **P 23 16 09.3 +0.3**
baz=68,SNR=13
R27A Eads 68.13 57 P **P 23 16 09.1 -0.4**
baz=68
S26A Kim 68.22 58 P **P 23 16 09.7 -0.4**
baz=68
O30A MW Ranch, Wils 68.28 54 P **P 23 16 10.0 -0.3**
baz=68
SPMN St. Paul 68.28 46 *e*P **P 23 16 09.3 -0.8**
SPMN St. Paul 68.28 46 P **P 23 16 09.8 -0.3**
baz=68
Y21A Point of Rocks 68.34 63 P **P 23 16 11.4 +0.5**
baz=68
LAZ Ladron 68.38 62 *e*P **P 23 16 12.2 +1.0**
X22A Bernardo 68.38 62 P **P 23 16 11.9 +0.8**
baz=68,SNR=5.4
ANMO Albuquerque 68.40 61 *e*P **P 23 16 11.1 -0.1**
comp=Z,9.3nm,1.1s
ANMO Albuquerque 68.40 61 LR LR 23 42 45.2
comp=Z,170nm,19.6s,baz=113,slow=33
Z20A Nine Sixteen R 68.42 64 P **P 23 16 11.7 +0.3**
baz=68,SNR=6.7
W23A Wener Place, 68.43 61 P **P 23 16 11.9 +0.5**
baz=68
T26A Comanche Natio 68.47 58 P **P 23 16 11.3 -0.4**
baz=68,SNR=7.8
V24A Rampart Ranch, 68.54 60 P **P 23 16 13.0 +0.8**
baz=68,SNR=10
ISAL Salakas 68.55 333 *e*P **P 23 16 12.0 +0.4**
ISAL AMB AMB 23 16 15.5
comp=Z,36nm,1.0s
U25A Circle Dot Ran 68.56 59 P **P 23 16 12.4 +0.2**
baz=68,SNR=9.1
IDID Didziasalis 68.58 332 *e*P **P 23 16 12.2 +0.5**
IDID AMB AMB 23 16 15.7
comp=Z,34nm,0.9s
P30A Selden 68.63 54 P **P 23 16 11.9 -0.5**
baz=68
R28A Tribune 68.64 56 P **P 23 16 12.1 -0.5**
baz=68,SNR=5.0
IIGN Ignalina 68.71 333 *e*P **P 23 16 12.9 +0.4**
IIGN AMB AMB 23 16 16.4
comp=Z,48nm,0.9s
120A U Bar Ranch, L 68.79 65 P **P 23 16 14.3 +0.6**
baz=69,SNR=9.6
Y22A Socorro 68.81 63 P **P 23 16 14.2 +0.4**
baz=69,SNR=6.7
W24A Lazy 6 Ranch, 68.82 61 P **P 23 16 14.7 +0.8**
baz=69,SNR=12
Z21A St. Cloud Mine 68.83 63 P **P 23 16 14.7 +0.7**
baz=69,SNR=8.1
BNM Barren Site 68.86 62 *e*P **P 23 16 14.9 +0.7**
MICGM Minsk 68.91 331⇑ *e*P **P 23 16 13.0 -0.8**
NACGM Naroch 68.92 332 *e* **P 23 16 11.0 -2.9**
MNK Minsk 68.92 331⇑ *e*P **P 23 16 13.0 -0.9**
MNK pmax pmax
comp=Z,90nm,1.0s
U26A Atchley Ranch, 68.94 59 P **P 23 16 14.7 +0.1**
baz=69
R29A Marienthal 68.95 56 P **P 23 16 14.4 -0.1**
baz=69
KONO Kongsberg 69.03 343 *e*P P 23 16 18.5 +4.0
KONO pmax pmax
comp=Z,35nm,1.1s
KONO Kongsberg 69.03 343 *e*P P 23 16 18.5 +4.0
comp=Z,35nm,1.1s
Q30A Quinter 69.05 55 P **P 23 16 14.6 -0.5**
baz=69
P31A Stockton 69.11 54 P **P 23 16 14.7 -0.7**
baz=69
S28A Manter 69.12 57 P **P 23 16 15.3 -0.3**
baz=69
319A Douglas 69.22 66 P **P 23 16 17.1 +0.8**
baz=69,SNR=8.0
X24A Lazy VL Ranch, 69.26 61 P **P 23 16 17.4 +0.7**
baz=69,SNR=10
Z22A Elephant Butte 69.29 63 P **P 23 16 17.3 +0.6**
baz=69,SNR=6.1
220A Playas Peak, P 69.31 65 P **P 23 16 17.2 +0.3**
baz=69,SNR=8.5
121A Cookes Peak, D 69.31 64 P **P 23 16 17.5 +0.5**
baz=69,SNR=6.1
COWI Conover 69.33 43 *e*P **P 23 16 16.0 -0.7**
comp=Z,133nm,2.6s
V26A Tequesquite Ra 69.34 59 P **P 23 16 16.9 -0.1**
baz=69
T28A Walsh 69.34 57 P **P 23 16 16.5 -0.5**
baz=69,SNR=5.9
Y23A Lovelace Mesa, 69.35 62 P **P 23 16 17.7 +0.5**
baz=69,SNR=9.3
W25A X Bar L Ranch, 69.36 60 P **P 23 16 17.6 +0.4**
baz=69,SNR=12
U27A Thompson Grove 69.44 58 P **P 23 16 17.3 -0.3**
baz=69,SNR=5.0
R30A Dighton 69.52 55 P **P 23 16 16.9 -1.1**
baz=69,SNR=5.4
S29A Ulysses 69.53 56 P **P 23 16 18.2 +0.1**
baz=69
122A Conniff Cattle 69.66 64 P **P 23 16 19.9 +0.8**
baz=70
221A Mesquite Ranch 69.68 65 P **P 23 16 19.9 +0.8**
baz=70
320A Kipp Ranch, An 69.70 66 P **P 23 16 19.9 +0.6**
baz=70
Y24A Capitan 69.71 62 P **P 23 16 19.8 +0.3**
baz=70,SNR=8.2
Z23A Rita Site, Whi 69.72 63 P **P 23 16 19.8 +0.4**
baz=70
T29A Hugoton 69.77 57 P **P 23 16 19.6 0.0**
baz=70
W26A Owens Ranch, T 69.85 60 P **P 23 16 20.5 +0.3**
baz=70
HYB Hyderabad 69.86 274 *i* P **P 23 16 19.0 -1.3**
S30A Montezuma 69.88 56 P **P 23 16 19.7 -0.6**
baz=70
V27A Dan Oppiter Fa 69.91 59 P **P 23 16 19.9 -0.6**
baz=70
222A Williams Famil 70.02 64 P **P 23 16 21.2 -0.1**
baz=70
MAK Makhachkala 70.07 313 *e*P **P 23 16 20.5 -0.7**
MAK *e* 23 16 49.8
MAK *e* 23 19 00.4
MAK *e*PPP PPP 23 20 37.6
MAK *e*S **S 23 25 27.7 -1.3**
MAK pmax pmax
comp=Z,204nm,1.2s
MAK MLR MLR
comp=Z,395nm,16.0s
Y25A Mesa, Roswell 70.15 61 P **P 23 16 22.2 +0.2**
baz=70,SNR=17
Z24A Sheeppen Canyo 70.18 62 P **P 23 16 22.9 +0.6**
baz=70,SNR=9.2
X26A CR and CF Fran 70.21 60 P **P 23 16 22.5 +0.1**
baz=70,SNR=8.9
W27A Bowe Ranch, En 70.28 59 P **P 23 16 23.0 +0.3**
baz=70
SCHQ Schefferville 70.48 25 P **P 23 16 23.6 +0.1**
SCHQ Schefferville 70.48 25 P **P 23 16 23.6 +0.1**
comp=Z,4.7nm,0.8s,baz=281,slow=10,SNR=3.3
SCHQ LR LR 23 46 43.8
comp=Z,192nm,20.8s,baz=359,slow=35
124A Stringfield Ra 70.57 63 P **P 23 16 24.8 +0.1**
baz=70,SNR=5.1
U30A WK&E Inc. Balk 70.58 57 P **P 23 16 24.0 -0.5**
baz=70
Z25A Roswell 70.59 62 P **P 23 16 24.9 +0.2**
baz=70,SNR=6.7
Y26A Elida 70.65 61 P **P 23 16 24.8 -0.3**
baz=70
T31A Randall Ranch, 70.70 56 P **P 23 16 24.2 -1.0**
baz=70
SUW Suwalki 70.77 333 *e*P **P 23 16 25.4 +0.1**
SUW pmax pmax
comp=Z,84nm,1.0s
SUW Suwalki 70.77 333 *e*P **P 23 16 25.4 +0.1**
comp=Z,84nm,1.0s
SUW Suwalki 70.77 333 *e*P **P 23 16 25.0 -0.3**
SUW *e* 23 16 28.1
KSU1 Kansas State U 70.89 52 *e*P **P 23 16 25.0 -1.3**
comp=Z,14nm,0.7s
224A Cornudas Mount 70.98 63 P **P 23 16 27.2 0.0**
baz=71,SNR=7.5
Z26A Caprock 71.03 61 P **P 23 16 27.4 0.0**
baz=71,SNR=14
Y27A Causey 71.06 60 P **P 23 16 27.7 +0.1**
baz=71,SNR=12
125A Gardner Draw, 71.07 62 P **P 23 16 27.8 +0.1**
baz=71,SNR=9.0
WRAB Tennant Creek 71.22 203 P **P 23 16 28.0 -0.3**
comp=Z,130nm,0.9s,SNR=5.6
WRAB Tennant Creek 71.22 203 *e*P **P 23 16 28.3 0.0**
WRAB pmax pmax
comp=Z,23nm,1.0s
WRAB Tennant Creek 71.22 203 *e*P **P 23 16 28.3 0.0**
comp=Z,23nm,1.0s
MSTX Muleshoe 71.23 60 *e*P **P 23 16 28.6 0.0**
MSTX Muleshoe 71.23 60 P **P 23 16 28.7 +0.2**
baz=71,SNR=10
WRA Warramunga Arr 71.23 203 P **P 23 16 27.9 -0.4**
WRA Warramunga Arr 71.23 203 P **P 23 16 27.9 -0.4**
comp=Z,14nm,0.9s,baz=20,slow=6.4,SNR=48
MNTX Cornudas Mount 71.33 63 *e*P **P 23 16 29.1 0.0**
comp=Z,13nm,1.4s
225A Deer Hill, Car 71.37 63 P **P 23 16 29.3 -0.2**
baz=71,SNR=6.5
Z27A Tatum 71.44 61 P **P 23 16 29.7 -0.2**
baz=71,SNR=14
126A Clayton Basin, 71.45 62 P **P 23 16 29.6 -0.3**
baz=71
324A Moseley Ranch, 71.46 63 P **P 23 16 29.6 -0.4**
baz=71
X29A Tulia 71.50 59 P **P 23 16 29.9 -0.2**
baz=71
Y28A McKinney Farm, 71.57 60 P **P 23 16 30.2 -0.4**
baz=71
V31A Spring Creek L 71.58 57 P **P 23 16 30.6 +0.1**
baz=71,SNR=5.2
KIV Kislovodsk 71.60 316 *e*P **P 23 16 31.4 +0.8**
KIV *e* 23 16 51.1
KIV *e*S **S 23 25 49.5 +2.5**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,152nm,18.0s
KIV Kislovodsk 71.60 316 P **P 23 16 31.8 +1.2**
comp=Z,203nm,0.8s,SNR=8.7
AKASG Malin Array Be 71.63 328 P **P 23 16 30.0 -0.5**
AKASG pmax pmax
comp=Z,24nm,0.7s
AKASG MLR MLR
comp=Z,259nm,21.6s
AKASG Malin Array Be 71.63 328 P **P 23 16 30.0 -0.5**
AKASG Malin Array Be 71.63 328 P **P 23 16 30.0 -0.5**
comp=Z,24nm,0.7s,baz=33,slow=6.6,SNR=19
AKASG LR LR 23 49 39.7
comp=Z,259nm,21.6s,baz=25,slow=37
KIEV Kiev 71.64 328 *e*P **P 23 16 30.1 -0.5**
KIEV pmax pmax
comp=Z,31nm,0.8s
KIEV Kiev 71.64 328 *e*P **P 23 16 30.1 -0.5**
comp=Z,31nm,0.8s
KBZ Khabaz 71.67 316 P **P 23 16 32.1 +1.2**
KBZ pmax pmax
comp=Z,42nm,0.8s
KBZ MLR MLR
comp=Z,196nm,19.5s
KBZ Khabaz 71.67 316 P **P 23 16 32.0 +1.2**
KBZ Khabaz 71.67 316 P **P 23 16 32.0 +1.2**
comp=Z,42nm,0.8s,baz=73,slow=3.4,SNR=66
KBZ LR LR 23 52 56.2
comp=Z,196nm,19.5s,baz=132,slow=40
226B Tecolote Peak, 71.78 62 P **P 23 16 31.9 0.0**
baz=72,SNR=14
325A Bean Ranch, Si 71.81 63 P **P 23 16 31.7 -0.5**
baz=72,SNR=6.1
127A Arkansas Junct 71.82 61 P **P 23 16 31.0 -1.1**
baz=72
ZEI Tsey 71.93 315 *e*P **P 23 16 29.7 -3.0**
ZEI pmax pmax
comp=Z,31nm,1.0s
Y29A Porterfield Fa 71.94 59 P **P 23 16 32.6 -0.2**
baz=72
Z28A Tucker Farm, M 71.94 60 P **P 23 16 32.1 -0.7**
baz=72
W31A Holland Ranch, 71.95 57 P **P 23 16 32.5 -0.3**
baz=72
X30A Coker Ranch, T 71.97 58 P **P 23 16 32.3 -0.6**
baz=72
BSD Bornholm Skovb 72.03 338 *e*P **P 23 16 31.1 -1.8**
BSD pmax pmax
comp=Z,8.0nm,1.1s
BSD Bornholm Skovb 72.03 338 *i* P **P 23 16 31.1 -1.8**
comp=Z,7.5nm,1.0s
BSD *i* 23 16 36.4
POO Poona 72.17 278⇑ *i*P P 23 16 38.0 +3.7
comp=Z,40nm,1.0s
425A Indio Mountain 72.22 64 P **P 23 16 34.8 +0.2**
baz=72,SNR=10
DGRG David-gareji 72.25 313 P **P 23 16 35.9 +1.4**
ONI Oni 72.29 315 P **P 23 16 36.6 +1.8**
X31A McDonald Ranch 72.33 58 P **P 23 16 34.9 -0.1**
baz=72,SNR=5.6
TBLG Delisi 72.34 314 *e*P **P 23 16 36.7 +1.7**
TBLG Delisi 72.34 314 P **P 23 16 36.7 +1.7**
Z29A Hungry Hill Ra 72.35 60 P **P 23 16 35.4 +0.1**
baz=72,SNR=8.7
Y30A Stafford Cattl 72.37 59 P **P 23 16 35.2 -0.1**
baz=72,SNR=5.6
128A Castleberry Fa 72.37 61 P **P 23 16 35.3 -0.1**
baz=72,SNR=7.1
326A Caldwell Ranch 72.44 63 P **P 23 16 35.7 -0.1**
baz=72,SNR=9.1
Y31A Rekieta Farm, 72.66 58 P **P 23 16 36.6 -0.5**
baz=72
Z30A Sanderson Ranc 72.67 59 P **P 23 16 36.6 -0.5**
baz=72,SNR=11
228A UT Block 9, Go 72.67 61 P **P 23 16 37.5 +0.3**
baz=72
129A Stewart Farms, 72.72 60 P **P 23 16 36.9 -0.6**
baz=72,SNR=5.1
KZR Kazreti 72.76 314 P **P 23 16 38.8 +1.2**
426A McDonald Obser 72.88 63 P **P 23 16 38.2 -0.4**
baz=73
WMOK Wichita Mounta 72.92 57 *e*P **P 23 16 38.2 -0.4**
WMOK pmax pmax
comp=Z,14nm,1.0s
WMOK Wichita Mounta 72.92 57 *e*P **P 23 16 38.2 -0.4**
comp=Z,14nm,1.0s
328A Wristen Ranch, 73.08 62 P **P 23 16 39.5 -0.1**
baz=73,SNR=12
Y32A R-V Farms, Ver 73.10 58 P **P 23 16 39.4 -0.2**
baz=73,SNR=5.7
427A Hayter Ranch, 73.12 63 P **P 23 16 39.4 -0.5**
baz=73
AKH Akhalkalaki 73.18 314 P **P 23 16 42.1 +1.9**
Z31A Sharp Cattle R 73.20 59 P **P 23 16 39.9 -0.4**
baz=73,SNR=15
229A Bryant Ranch, 73.23 61 P **P 23 16 40.4 -0.1**
baz=73
130A Snyder 73.26 60 P **P 23 16 40.5 -0.1**
baz=73
ANN Anapa 73.27 320 *e*P **P 23 16 39.6 -0.7**
ANN *e* 23 19 23.1
ANN pmax pmax
comp=Z,19nm,0.7s
ANN MLR MLR
comp=Z,233nm,21.0s
526A Mary Lane Ranc 73.28 64 P **P 23 16 41.0 +0.1**
baz=73,SNR=7.2
BEL Belsk 73.38 334 *e*P **P 23 16 41.7 +0.8**
BEL *e* 23 17 02.9
329A Wagon Wheel Ra 73.48 61 P **P 23 16 41.9 -0.1**
baz=73,SNR=8.6
HDIL Hopedale 73.50 47 *e*P **P 23 16 41.2 -0.6**
comp=Z,52nm,0.8s
527A Woodward Ranch 73.50 63 P **P 23 16 42.0 -0.2**
baz=73
131A Roby 73.53 59 P **P 23 16 41.9 -0.3**
baz=73
GNI Garni 73.55 313 *e*P **P 23 16 43.6 +1.3**
comp=Z,65nm,1.3s
GNI *e*PP **PP 23 19 26.0 0.0**
Z32A Haskell 73.59 58 P **P 23 16 42.0 -0.5**
baz=73,SNR=9.9
626A Big Bend Ranch 73.62 64 P **P 23 16 42.8 -0.1**
baz=73,SNR=7.6
428A Kincaid Ranch, 73.63 62 P **P 23 16 42.8 0.0**
baz=73,SNR=7.0
TUL1 Tulsa 73.69 54 *e*P **P 23 16 41.5 -1.5**

TUL1	Tulsa	73.69	54	P	P	23 16 42.5	-0.5
	baz=74						
230A	Sterling City	73.69	60	P	P	23 16 42.8	-0.4
	baz=74						
ABTX	Abilene, Hawle	74.00	59	eP	P	23 16 45.1	+0.2
ABTX	Abilene, Hawle	74.00	59	P	P	23 16 44.8	-0.1
	baz=74						
330A	Mertzon	74.01	61	P	P	23 16 44.6	-0.5
	baz=74						
TXAR	Lajitas Array	74.06	64	P	P	23 16 45.3	-0.1
TXAR	Lajitas Array	74.06	64	P	P	23 16 45.3	-0.1
	comp=Z,6.6nm,0.7s,baz=300,slow=4.5,SNR=77						
231A	Bronte	74.12	60	P	P	23 16 45.1	-0.6
	baz=74						
LVV	L'vov	74.14	331	eP	P	23 16 45.1	-0.3
627A	Terlingua Ranc	74.14	64	P	P	23 16 45.7	-0.2
	baz=74,SNR=9.9						
429A	Davenport Ranc	74.17	62	P	P	23 16 45.5	-0.5
	baz=74						
BSEG	Bad Segeberg	74.19	341	eP	P	23 16 46.7	+1.1
	comp=Z,16nm,0.9s						
BSEG				epP	PcP	23 17 07.1	+6.7
BSEG	Bad Segeberg	74.19	341	eP	P	23 16 46.7	+1.1
BSEG				e*PP	PcP	23 17 07.1	+6.7
BSEG				pmax	pmax		
	comp=Z,16nm,0.9s						
529A	Stev Forest Ra	74.34	62	P	P	23 16 47.1	+0.1
	baz=74,SNR=7.8						
628A	Black Gap, Mar	74.41	63	P	P	23 16 46.7	-0.7
	baz=74						
430A	Baggett Ranch,	74.43	61	P	P	23 16 47.2	-0.3
	baz=74,SNR=6.8						
331A	San Angelo	74.52	60	P	P	23 16 47.3	-0.6
	baz=74						
SIM	Simferopol'	74.53	322	eP	P	23 16 47.5	-0.3
SIM				e*PP	PcP	23 17 08.0	+5.9
SIM				pmax	pmax		
	comp=Z,14nm,1.0s						
SIM				MLR	MLR		
	comp=Z,130nm,18.0s						
232A	Coleman	74.54	59	P	P	23 16 47.8	-0.3
	baz=74,SNR=8.7						
SFIN	Scholer Farm	74.69	46	eP	P	23 16 48.3	-0.5
SFIN	Scholer Farm	74.69	46	P	P	23 16 48.0	-0.8
	baz=74						
RUE	Ruedersdorf	74.71	338	epP	pP	23 17 10.0	+10
KWP	Kalwaria Pacla	74.73	331	eP	P	23 16 49.0	+0.1
KWP				pmax	pmax		
	comp=Z,141nm,1.3s						
KWP	Kalwaria Pacla	74.73	331	⇑iP	P	23 16 49.9	+1.0
KWP	Kalwaria Pacla	74.73	331	eP	P	23 16 49.0	+0.1
	comp=Z,141nm,1.3s						
KWP	Kalwaria Pacla	74.73	331	eP	P	23 16 48.8	-0.1
KWP				e		23 17 10.8	
530A	J-C Ranch, Com	74.84	62	P	P	23 16 50.0	+0.1
	baz=75,SNR=9.8						
332A	Millersview	74.86	60	P	P	23 16 49.7	-0.2
	baz=75,SNR=7.4						
431A	Sonora	74.87	61	P	P	23 16 49.6	-0.5
	baz=75,SNR=7.5						
KIS	Kishinev	74.89	326	eP	P	23 16 48.0	-1.8
KIS	Kishinev	74.89	326	ePP	PP	23 19 37.0	+0.1
KIS				eL	L	23 45 12.0	
KIS				LRM	MLR	23 55 14.0	
	comp=Z,300nm,16.0s						
KIS	Kishinev	74.89	326	eP	P	23 16 48.0	-1.8
KIS				e		23 16 58.0	
KIS				i*PP	PcP	23 17 10.0	+6.4
KIS				e		23 19 37.0	
ASAR	Alice Springs	74.91	202	P	P	23 16 50.8	+0.7
ASAR	Alice Springs	74.91	202	P	P	23 16 50.8	+0.7
	comp=Z,7.4nm,1.0s,baz=12,slow=5.5,SNR=32						
ASAR				LR	LR	23 49 06.1	
	comp=Z,74nm,21.7s,baz=278,slow=35						
OJC	Ojcow	75.11	333	⇓iP	P	23 16 51.4	+0.4
OJC				e		23 17 04.8	
OJC	Ojcow	75.11	333	eP	P	23 16 51.6	+0.6
	comp=Z,50nm,1.2s						
432A	Menard	75.20	60	P	P	23 16 51.3	-0.6
	baz=75						
531A	Rocksprings	75.29	61	P	P	23 16 51.9	-0.6
	baz=75,SNR=9.6						
STHS	Stebnicka Huta	75.38	332	eP	P	23 16 53.7	+1.1
STHS				e		23 17 15.0	
STHS				pmax	pmax		
	comp=Z,13nm,0.9s						
STHS	Stebnicka Huta	75.38	332	eP	P	23 16 53.7	+1.1
STHS				e		23 17 15.0	
KOLS	Kolonicke sedl	75.48	331	eP	P	23 16 53.8	+0.6
KOLS				e		23 17 15.2	
KOLS				e		23 19 43.3	
KOLS				pmax	pmax		
	comp=Z,28nm,1.7s						
KOLS	Kolonicke sedl	75.48	331	eP	P	23 16 53.8	+0.6
KOLS				epP	pP	23 16 57.4	-7.5
KOLS				e		23 17 15.2	
KOLS				ePP	PP	23 19 43.3	+1.5
JCT	Junction City	75.49	60	eP	P	23 16 52.4	-1.2
JCT				pmax	pmax		
	comp=Z,22nm,1.2s						
JCT	Junction City	75.49	60	eP	P	23 16 52.4	-1.2
	comp=Z,22nm,1.2s						
JCT	Junction City	75.49	60	P	P	23 16 53.1	-0.5
	baz=75,SNR=5.9						
LEOM	Leova	75.54	326	⇓iP	P	23 16 54.0	+0.4
LEOM	Leova	75.54	326	⇓iP	P	23 16 54.0	+0.4
KSP	Ksiaz	75.55	336	eP	P	23 16 53.7	+0.2
KSP				e		23 17 15.0	
KSP	Ksiaz	75.55	336	eP	P	23 16 54.0	+0.5
KSP				e		23 17 15.3	
NRDL	Niedersach Rie	75.58	340	eP	P	23 16 54.3	+0.7
	comp=Z,8.0nm,1.1s						
NRDL				epP	PcP	23 17 15.0	+8.6
BURAR	Bucovina Array	75.65	329	⇓iP	P	23 16 54.2	-0.1
BURAR	Bucovina Array	75.65	329	⇓iP	P	23 16 54.2	-0.1
NIE	Niedzica	75.66	333	⇓iP	P	23 16 56.9	+2.6
532A	Rocksprings	75.69	61	P	P	23 16 54.2	-0.6
	baz=76,SNR=6.8						
UZH	Uzhgorod	75.73	331	eP	P	23 16 55.0	+0.4
UZH				e		23 17 07.7	
UZH				e		23 17 12.1	
CRVS	Cervenica-Dubn	75.76	332	eP	P	23 16 55.0	+0.2
CRVS				e		23 17 16.3	
CRVS				pmax	pmax		
	comp=Z,22nm,1.7s						
CRVS	Cervenica-Dubn	75.76	332	eP	P	23 16 55.0	+0.2
CRVS				e		23 17 16.3	
631A	Perdido Creek	75.83	62	P	P	23 16 55.5	0.0
	baz=76,SNR=9.4						
MIAR	Mount Ida	75.91	54	eP	P	23 16 55.3	-0.6
MIAR				pmax	pmax		
	comp=Z,12nm,1.0s						
MIAR	Mount Ida	75.91	54	eP	P	23 16 55.3	-0.6
	comp=Z,12nm,1.0s						
UPC	Upice	75.93	336	eP	P	23 16 56.2	+0.5
UPC				e		23 17 17.4	
UPC	Upice	75.93	336	eP	P	23 16 56.2	+0.5
UPC				epP	pP	23 17 00.6	-6.9
UPC				ex	x	23 17 17.4	
OKC	Ostrava-Krasne	75.93	334	iP	P	23 16 56.4	+0.7
OKC				e		23 17 17.4	
OKC				e		23 19 47.0	
OKC	Ostrava-Krasne	75.93	334	iP	P	23 16 56.4	+0.7
OKC				epP	pP	23 17 00.2	-7.3
OKC				ex	x	23 17 17.4	
OKC				ePP	PP	23 19 47.0	+1.4
CLL	Collm	75.98	338	eP	P	23 16 56.4	+0.4
	comp=Z,16nm,1.1s						
CLL				epP	PcP	23 17 16.9	+8.7
CLL	Collm	75.98	338	⇓iP	P	23 16 56.1	+0.1
CLL				pmax	pmax		
	comp=Z,15nm,1.1s						
CLL	Collm	75.98	338	⇓iP	P	23 16 56.1	+0.1
	comp=Z,15nm,1.1s						
CLL				i pP	pP	23 17 00.3	-7.4
CLL				⇓iP(2)		23 17 17.4	
	comp=Z,51nm,1.3s						
CLL				e		23 32 48.0	
CLL				LmH		23 52 00.0	
	comp=N,200nm,20.2s						
CLL				LmH		23 52 00.0	
	comp=E,200nm,21.4s						
CLL				LmV		23 55 00.0	
	comp=Z,200nm,19.2s						
DPC	Dobruska-Polom	75.98	336	iP	P	23 16 56.9	+0.8
DPC				e		23 17 06.4	
DPC				e		23 17 18.1	
DPC	Dobruska-Polom	75.98	336	iP	P	23 16 56.9	+0.8
DPC				epP	pP	23 17 01.0	-6.8
DPC				esP	sP	23 17 06.4	-5.9
DPC				ex	x	23 17 18.1	
DPC				AMS	AMS	23 55 10.0	
DPC	Dobruska-Polom	75.98	336	eP	P	23 16 57.0	+0.8
	comp=Z,207nm,1.2s						
TESR	Tescani	76.09	327	⇑iP	P	23 16 57.1	+0.4
TRPA	Tarpa	76.09	331	⇑iP	P	23 16 57.1	+0.4
BRG	Berggiesshubel	76.14	337	iP	P	23 16 57.2	+0.3
	comp=Z,6.4nm,0.9s						
BRG				e		23 17 02.0	
	comp=Z,20nm,1.6s						
BRG				i		23 17 18.4	
	comp=Z,18nm,1.2s						
BRG	Berggiesshubel	76.14	337	eP	P	23 16 57.4	+0.5
	comp=Z,14nm,1.5s						
BRG				epP	PcP	23 17 18.0	+9.1
BRG	Berggiesshubel	76.14	337	iP	P	23 16 57.2	+0.3
BRG				i		23 17 18.4	
MORC	Moravsky Berou	76.16	335	eP	P	23 16 57.6	+0.5
MORC				pmax	pmax		
	comp=Z,41nm,1.1s						
MORC	Moravsky Berou	76.16	335	eP	P	23 16 57.6	+0.5
	comp=Z,41nm,1.1s						
GHRR		76.20	327	⇑iP	P	23 16 58.5	+1.2
632A	Uvalde	76.22	61	P	P	23 16 57.4	-0.4
	baz=76						
FBE	Freiberg	76.25	338	eP	P	23 16 58.4	+0.9
	comp=Z,10.0nm,1.0s						
FBE				epP	PcP	23 17 19.0	+10
PVCC	Panska Ves	76.29	337	eP	P	23 16 59.5	+1.7
PVCC				e		23 17 04.7	
PVCC				e		23 17 19.8	
PVCC	Panska Ves	76.29	337	eP	P	23 16 59.5	+1.7
PVCC				epP	pP	23 17 04.7	-4.8
PVCC				ex	x	23 17 19.8	
NEUB	Neuenburg	76.38	339	epP	pP	23 17 19.5	+10
ARCR	ARCALIA	76.40	329	⇑iP	P	23 16 59.4	+0.9
TLCR		76.42	325	⇑iP	P	23 16 58.9	+0.3
TLCR		76.42	325	⇑iP	P	23 16 58.8	+0.2
KECS	Kecovo	76.44	332	eP	P	23 16 59.3	+0.7
KECS				e		23 17 20.6	
KECS				e		23 19 52.3	
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KECS	Kecovo	76.44	332	eP	P	23 16 59.3	+0.7
KECS				e		23 17 20.6	
KECS				ePP	PP	23 19 52.3	+2.4
VRI	Vrincioaia	76.61	327	⇑iP	P	23 17 00.3	+0.6
VRI	Vrincioaia	76.61	327	⇑iP	P	23 17 00.3	+0.6
PLOR	Plostina	76.66	327	⇑iP	P	23 17 00.5	+0.5
PLOR	Plostina	76.66	327	⇑iP	P	23 17 00.5	+0.5
CFR	Carcaliu	76.68	326	⇑iP	P	23 17 00.4	+0.3
CFR	Carcaliu	76.68	326	⇑iP	P	23 17 00.4	+0.3
PRA	Prague	76.75	337	P	P	23 17 02.0	+1.6
PRA				AMS	AMS	23 57 30.0	
WCI	Wyandotte Cave	76.77	47	eP	P	23 17 00.4	-0.3
WCI				pmax	pmax		
	comp=Z,34nm,0.9s						
WCI	Wyandotte Cave	76.77	47	eP	P	23 17 00.4	-0.3
	comp=Z,34nm,0.9s						
PRU	Pruhonice	76.79	336	iP	P	23 17 01.6	+1.0
PRU				e		23 17 11.1	
PRU				e		23 17 22.6	
PRU				e		23 19 49.8	
PRU				MLR	MLR		
	comp=Z,300nm,18.3s						
PRU	Pruhonice	76.79	336	iP	P	23 17 01.6	+1.0
PRU				epP	PcP	23 17 05.5	-6.3
PRU				esP	sP	23 17 11.1	-5.7
PRU				ex	x	23 17 22.6	
PRU				ePP	PP	23 19 49.8	-3.1
PRU				AMS	AMS	23 56 40.0	
	comp=Z,300nm,18.3s						
VRAC	Vranov	76.85	335	LR	LR	23 53 15.7	
	comp=Z,277nm,21.6s,baz=121,slow=38						
VYHS	Vyhne	76.93	333	eP	P	23 17 01.9	+0.5
VYHS				e		23 17 22.8	
VYHS				e		23 19 55.7	
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VYHS	Vyhne	76.93	333	eP	P	23 17 01.9	+0.5
VYHS				epP	PcP	23 17 06.9	-5.5
VYHS				e		23 17 22.8	
VYHS				ePP	PP	23 19 55.7	+1.6
MOX	Moxa	76.94	338	eP	P	23 17 02.3	+0.9
	comp=Z,12nm,1.2s						
MOX				epP	pP	23 17 22.9	+10
MOX	Moxa	76.94	338	eP	P	23 17 02.3	+0.9
MOX				e*PP	pP	23 17 22.9	+10
MOX				pmax	pmax		
	comp=Z,12nm,1.2s						
TANN	Tannenbergstha	76.94	338	eP	P	23 17 02.3	+0.8
	comp=Z,10.0nm,1.6s						
TANN				epP	pP	23 17 23.2	+10
WERD	Werda	76.95	338	eP	P	23 17 02.5	+1.0
	comp=Z,9.0nm,1.2s						
WERD				epP	pP	23 17 23.1	+10
GUNZ	Gunzen	77.02	338	eP	P	23 17 03.0	+1.0
	comp=Z,10.0nm,1.0s						
GUNZ				epP	pP	23 17 23.6	+10
WERN	Wernitzgruen	77.08	338	eP	P	23 17 03.3	+1.0
	comp=Z,12nm,1.0s						
WERN				epP	pP	23 17 23.9	+10
PSZ	Piszkesteto	77.12	332	⇑iP	P	23 17 03.0	+0.4
PSZ	Piszkesteto	77.12	332	⇑iP	P	23 17 03.0	+0.4
PSZ	Piszkesteto	77.12	332	eP	P	23 17 03.8	+1.2
	comp=Z,54nm,1.5s						
PSZ	Piszkesteto	77.12	332	⇑eP	P	23 17 07.6	+5.0
PSZ				eP	pP	23 17 24.8	+10
UBBA	Unterbreizbach	77.16	340	eP	P	23 17 03.4	+0.9
	comp=Z,20nm,1.7s						
UBBA				epP	pP	23 17 24.2	+10
TREC	Trest	77.17	336	iP	P	23 17 03.7	+0.9
TREC				e		23 17 12.6	
TREC				e		23 17 24.7	
TREC				e		23 19 56.7	
TREC				MLR	MLR		
	comp=Z,200nm,17.5s						
TREC	Trest	77.17	336	iP	P	23 17 03.7	+0.9
TREC				epP	PcP	23 17 07.6	-5.9
TREC				esP	sP	23 17 12.6	-6.4
TREC				ex	x	23 17 24.7	
TREC				ePP	PP	23 19 56.7	+0.6
TREC				AMS	AMS	23 53 50.0	
	comp=Z,200nm,17.5s						
BUG	Bochum--Univer	77.19	341	epP	pP	23 17 24.3	+10
TIRR	Tirgusor	77.19	325	eP	P	23 17 03.3	+0.4
TIRR				pmax	pmax		
	comp=Z,45nm,1.3s						
TIRR	Tirgusor	77.19	325	⇑iP	P	23 17 03.4	+0.5
TIRR	Tirgusor	77.19	325	eP	P	23 17 03.3	+0.4
	comp=Z,45nm,1.3s						
MLR	Muntele Rosu	77.22	327	⇑iP	P	23 17 03.9	+0.6
MLR	Muntele Rosu	77.22	327	LR	LR	23 57 39.0	
	comp=Z,57nm,18.1s,baz=191,slow=41						
TLB	Topalu	77.22	326	⇓iP	P	23 17 03.5	+0.4
TLB	Topalu	77.22	326	⇓iP	P	23 17 03.5	+0.4
SMOL	Smolenice	77.33	334	eP	P	23 17 04.9	+1.2
SMOL				e		23 17 26.5	
SMOL	Smolenice	77.33	334	eP	P	23 17 04.9	+1.2
SMOL				e		23 17 26.5	
VOIR		77.58	328	⇑iP	P	23 17 06.2	+0.9
VOIR		77.58	328	⇑iP	P	23 17 06.2	+0.9
ROTZ	Rotzenmuhle	77.60	338	eP	P	23 17 06.5	+1.3
	comp=Z,14nm,1.1s						
ROTZ				epP	pP	23 17 27.1	+10
ZST	Bratislava	77.71	334	eP	P	23 17 06.9	+1.1
ZST				e		23 17 28.9	
ZST	Bratislava	77.71	334	eP	P	23 17 06.9	+1.1
ZST				e		23 17 28.9	
BUD	Budapest	77.77	333	⇑eP	P	23 17 11.5	+5.3
BUD				eP	pP	23 17 28.5	+11
ARR	Arges	77.79	328	⇑iP	P	23 17 07.8	+1.4
KHC	Kasperske Hory	77.83	337	iP	P	23 17 07.3	+0.8
KHC				e		23 17 17.5	
KHC				e		23 17 27.8	
KHC				e		23 19 58.9	
KHC				MLR	MLR		
	comp=Z,300nm,13.4s						
KHC	Kasperske Hory	77.83	337	iP	P	23 17 07.3	+0.8
KHC				epP	PcP	23 17 11.5	-4.9
KHC				esP	sP	23 17 17.5	-5.2
KHC				ex	x	23 17 27.8	
KHC				ePP	PP	23 19 58.9	-2.7
KHC				AMS	AMS	23 57 50.0	
	comp=Z,300nm,13.4s						
KHC	Kasperske Hory	77.83	337	eP	P	23 17 06.6	+0.1
	comp=Z,35nm,1.2s						
GRF	Grafenberg Arr	77.92	338	eP	P	23 17 08.3	+1.4
	comp=Z,21nm,1.0s						
GRF				epP	pP	23 17 29.0	+10
GRF	Grafenberg Arr	77.92	338	eP	P	23 17 08.3	+1.4
GRF				e*PP	pP	23 17 29.0	+10
GRF				pmax	pmax		
	comp=Z,21nm,1.0s						
GRFO	Grafenberg	77.92	338	eP	P	23 17 08.2	+1.2
GRFO	Grafenberg	77.92	338	eP	P	23 17 08.2	+1.2
WET	Wettzell	78.00	337	eP	P	23 17 08.8	+1.3
	comp=Z,12nm,1.0s						
WET				epP	pP	23 17 29.5	+10
WET	Wettzell	78.00	337	eP	P	23 17 08.8	+1.3
WET				e*PP	pP	23 17 29.5	+10
WET				pmax	pmax		
	comp=Z,12nm,1.0s						
MALT	Malatya	78.02	315	⇑iP	P	23 17 08.6	+0.8
MALT	Malatya	78.02	315	⇑iP	P	23 17 08.6	+0.8
LOT	Lotru	78.02	329	⇑iP	P	23 17 07.9	+0.2
PKSG		78.05	333	⇑eP	P	23 17 08.8	+1.1
PKSG				eP	pP	23 17 29.9	+10
GEC2	GERESS Array S	78.06	336	eP	P	23 17 08.6	+0.7
	comp=Z,6.0nm,0.9s						
GEC2				epP	pP	23 17 29.5	+10
GEC2	GERESS Array S	78.06	336	eP	P	23 17 08.6	+0.7
GEC2				e*PP	pP	23 17 29.5	+10
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GERES	GERESS Array B	78.06	336	P	P	23 17 08.6	+0.7
GERES	GERESS Array B	78.06	336	P	P	23 17 08.6	+0.7
	comp=Z,2.5nm,0.7s,baz=34,slow=5.0,SNR=21						
GERES				LR	LR	23 58 38.1	
	comp=Z,117nm,18.4s,baz=359,slow=41						
TNS	Taunus Mts	78.07	340	eP	P	23 17 08.8	+0.9
	comp=Z,14nm,0.9s						
TNS				epP	pP	23 17 29.7	+10
TNS	Taunus Mts	78.07	340	eP	P	23 17 08.8	+0.9
TNS				e*PP	pP	23 17 29.7	+10
TNS				pmax	pmax		
	comp=Z,14nm,0.9s						
HGN	Heimansgroeve	78.10	342	eP	P	23 17 08.6	+0.7
	comp=Z,29nm,1.4s						
CSKK	Cs^‡kako	78.11	333	⇑eP	P	23 17 09.1	+1.0
CSKK				eP	pP	23 17 30.4	+11
MEM	Membach	78.23	342	P	P	23 17 08.6	-0.1
	comp=Z,12nm,1.2s						
MEM				E		23 17 30.5	
PKST	T^'s	78.28	333	⇑eP	P	23 17 09.7	+0.7
PKST				eP	pP	23 17 31.2	+10
CONA	Conrad Observa	78.31	335	iP	P	23 17 10.4	+1.2
	comp=Z,18nm,1.6s,SNR=9.7						
SOP	Sopron	78.33	334	⇑eP	P	23 17 10.6	+1.4
SOP				e		23 17 31.8	
GZR	Gura Zlata	78.41	329	⇑iP	P	23 17 10.1	+0.3
GZR	Gura Zlata	78.41	329	⇑iP	P	23 17 10.1	+0.3
PLAL	Pickwick Lake	78.44	50	eP	P	23 17 09.0	-1.0
BCLA	Clavier	78.56	342	P	P	23 17 08.8	-1.6
	comp=Z,6.8nm,1.4s						
BCLA				E		23 17 32.5	
BZS	Buzias	78.60	330	⇑iP	P	23 17 10.6	-0.2
BZS	Buzias	78.60	330	⇑iP	P	23 17 10.6	-0.2
SNF	Seneffe	78.68	343	P	P	23 17 11.8	+0.7
UOSS	Wadi Hilu	78.72	295	P	P	23 17 11.2	-0.6
	comp=Z,235nm,1.0s,SNR=8.4						
GIVF	Givet	78.96	342	eP	P	23 17 12.7	+0.1
GIVF	Givet	78.96	342	eP	P	23 17 12.7	+0.1
GIVF	Givet	78.96	342	eP	P	23 17 12.7	+0.1
DOU	Dourbes	79.01	343	P	P	23 17 12.6	-0.3
	comp=Z,6.5nm,1.8s						
ARSA	Arzberg	79.02	335	⇑iP	P	23 17 13.9	+0.8
	comp=Z,16nm,1.5s,SNR=4.1						
BR131	Keskin Array S	79.03	319	eP	P	23 17 13.6	+0.1
	comp=Z,13nm,0.8s						
BR131				ePP	PP	23 20 08.7	-3.3
BRTR	Keskin Array B	79.03	319	P	P	23 17 13.9	+0.5
BRTR				PP	PP	23 20 11.8	-0.2
BRTR	Keskin Array B	79.03	319	P	P	23 17 13.9	+0.5
	comp=Z,10.0nm,0.8s,baz=60,slow=3.7,SNR=32						
BRTR				PP	PP	23 20 11.8	-0.2
	comp=Z,3.8nm,1.0s,baz=43,slow=3.0,SNR=5.9						
PKSM	Moragy	79.03	332	⇑iP	P	23 17 13.3	+0.2
PKSM	Moragy	79.03	332	⇑iP	P	23 17 13.3	+0.2
PKSM	Moragy	79.03	332	⇑e	P	23 17 12.9	-0.2
PKSM				eP	pP	23 17 34.4	+10
BAIF	Baives	79.12	343	⇓iP	P	23 17 13.6	+0.1
	comp=Z,32nm,1.1s						
BAIF	Baives	79.12	343	⇓iP	P	23 17 13.6	+0.1
BAIF	Baives	79.12	343	⇓iP	P	23 17 13.6	+0.1
STU	Stuttgart	79.26	339	eP	P	23 17 15.3	+1.0
	comp=Z,11nm,1.0s						
STU				epP	pP	23 17 36.1	+10
ANTO	Ankara	79.27	320	⇑iP	P	23 17 15.2	+0.5
ANTO	Ankara	79.27	320	⇑iP	P	23 17 15.2	+0.5
ANTO	Ankara	79.27	320	eP	P	23 17 15.7	+1.1
FUR	Furstenfeldbru	79.32	338	eP	P	23 17 15.9	+1.2
	comp=Z,58nm,1.7s						
FUR				epP	pP	23 17 36.7	+10
FUR	Furstenfeldbru	79.32	338	eP	P	23 17 15.9	+1.2
FUR				e*PP	pP	23 17 36.7	+10
FUR				pmax	pmax		
	comp=Z,58nm,1.7s						
RJOB	Jochberg	79.32	337	eP	P	23 17 16.1	+1.3
	comp=Z,8.0nm,1.1s						
RJOB				epP	pP	23 17 37.0	+10
BEHE	Becsehely	79.36	334	e	pP	23 17 37.4	+11
PMOR	Pomariorio Ree	79.67	127	eT	T	00 44 34.0	
	comp=Z,1.8nm,0.2s						
SOKA	Soboth	79.68	335	iP	P	23 17 17.6	+0.8
	comp=Z,16nm,1.4s,SNR=6.3						
PERS	Pernice	79.69	335	iP	P	23 17 17.4	+0.6
PERS				e		23 17 38.6	
KBA	Koelnbreinsper	79.78	336	iP	P	23 17 19.1	+1.7
	comp=Z,37nm,0.9s,SNR=16						
CPCT	Cooper Cave	79.83	47	eP	P	23 17 17.7	0.0
MPEP	Malo Peshtene	79.86	328	eP	P	23 17 18.0	+0.3
BFO	Black Forest	79.88	340	eP	P	23 17 18.3	+0.6
	comp=Z,20nm,1.6s						
BFO				epP	pP	23 17 39.5	+10
BFO	Black Forest	79.88	340	eP	P	23 17 18.3	+0.6
BFO				e*PP	pP	23 17 39.5	+10
BFO				pmax	pmax		
	comp=Z,20nm,1.6s						
BFO	Black Forest	79.88	340	eP	P	23 17 18.3	+0.6
WATA	Walderalm	80.01	337	⇓iP	P	23 17 19.6	+1.0
	comp=Z,11nm,1.0s,SNR=8.3						
CDF	Champ du Feu	80.04	340	⇓iP	P	23 17 18.7	0.0
	comp=Z,22nm,0.9s						
CDF	Champ du Feu	80.04	340	⇓iP	P	23 17 18.7	0.0
CDF	Champ du Feu	80.04	340	⇓iP	P	23 17 18.7	0.0
WTTA	Wattenberg	80.06	337	⇓iP	P	23 17 19.9	+1.0
	comp=Z,21nm,

THEF They Montfort 80.50 341 *eP* **P 23 17 21.7 +0.6**
MOF Molkenrain 80.60 340 *eP* **P 23 17 21.9 +0.2**
HAU Haudompre 80.63 341 ||*iP* **P 23 17 21.7 -0.1**
comp=Z,21nm,0.9s
HAU *eR*
comp=Z,184nm,19.5s
HAU Haudompre 80.63 341 ||*iP* **P 23 17 21.7 -0.1**
HAU Haudompre 80.63 341 ||*iP* **P 23 17 21.7 -0.1**
NAY Al-Naaiem 80.65 304 *eP* **P 23 17 22.0 -0.2**
NAY AMb AMB 23 17 23.3
comp=Z,3.6nm,0.9s
HINF Hinteralfeld 80.69 340 *eP* **P 23 17 21.9 -0.3**
HINF Hinteralfeld 80.69 340 *eP* **P 23 17 21.9 -0.3**
HINF Hinteralfeld 80.69 340 *eP* **P 23 17 21.9 -0.3**
VTS Vitosha 80.71 328 ||*P* **P 23 17 22.9 +0.4**
VTS Vitosha 80.71 328 *eP* **P 23 17 22.3 -0.2**
VTS Vitosha 80.71 328 ||*iP* **P 23 17 22.9 +0.4**
SFTF Sexfontaines 80.72 342 *eP* **P 23 17 22.4 +0.2**
comp=Z,44nm,0.9s
SFTF Sexfontaines 80.72 342 *eP* **P 23 17 22.4 +0.2**
RDF Al-Radifah 80.73 303 *eP* **P 23 17 23.1 +0.5**
RDF AMb AMB 23 17 25.4
comp=Z,168nm,1.2s
PPT Papeete 80.93 130 LR LR 23 51 39.6
comp=Z,193nm,18.6s,baz=14,slow=34
PPT2 Papeete2 80.94 130 *eLR* LR 23 42 38.0
comp=Z,80nm,22.0s
DAVOX Davos/Dischmat 80.95 338 LR LR 23 59 23.2
comp=Z,177nm,19.2s,baz=14,slow=40
FUORN Ofenpass-Fuorn 81.01 338 *eP* **P 23 17 25.6 +1.5**
RDO Rodhopi 81.12 325 *eP* pP 23 17 46.3 +10
FLN La Foliniere 81.22 345 ||*iP* **P 23 17 25.0 +0.1**
comp=Z,52nm,1.1s
FLN *eR*
comp=Z,191nm,20.8s
FLN La Foliniere 81.22 345 ||*iP* **P 23 17 25.0 +0.1**
FLN La Foliniere 81.22 345 ||*iP* **P 23 17 25.0 +0.1**
LDF La Druitiere 81.32 345 ||*iP* **P 23 17 25.4 0.0**
comp=Z,37nm,1.2s
LDF La Druitiere 81.32 345 ||*iP* **P 23 17 25.4 0.0**
LDF La Druitiere 81.32 345 ||*iP* **P 23 17 25.4 0.0**
TUE Stuetta 81.37 338 *eP* **P 23 17 27.3 +1.3**
KKB Krupnik 81.39 327 *eP* **P 23 17 25.6 -0.4**
MMB Musomiste 81.40 327 *eP* **P 23 17 25.6 -0.4**
NVR Nevrokopi 81.56 327 *eP* **P 23 17 26.8 -0.1**
GRR Gorron 81.64 346 ||*iP* **P 23 17 27.5 +0.4**
comp=Z,66nm,1.0s
GRR Gorron 81.64 346 ||*iP* **P 23 17 27.5 +0.4**
GRR Gorron 81.64 346 ||*iP* **P 23 17 27.5 +0.4**
LOR Lormes 81.85 342 ||*iP* **P 23 17 28.3 0.0**
comp=Z,36nm,1.0s
LOR *eR*
comp=Z,135nm,18.2s
LOR Lormes 81.85 342 ||*iP* **P 23 17 28.3 0.0**
ISP Isparta 81.95 320 *eP* **P 23 17 26.8 -2.3**
ISP Isparta 81.95 320 *eP* **P 23 17 26.8 -2.3**
SENIN Lac Senin/Sane 81.96 340 *eP* **P 23 17 30.1 +0.9**
CABF La Chapelle 82.00 341 ||*iP* **P 23 17 29.3 +0.1**
comp=Z,29nm,1.3s
CABF La Chapelle 82.00 341 ||*iP* **P 23 17 29.3 +0.1**
CABF La Chapelle 82.00 341 ||*iP* **P 23 17 29.3 +0.1**
SGMF Saint Gilles 82.05 347 *eP* **P 23 17 29.6 +0.4**
comp=Z,61nm,1.1s
SGMF Saint Gilles 82.05 347 *eP* **P 23 17 29.6 +0.4**
SGMF Saint Gilles 82.05 347 *eP* **P 23 17 29.6 +0.4**
ROSF Rostrenen 82.07 347 ||*iP* **P 23 17 29.9 +0.5**
comp=Z,60nm,1.2s
ROSF Rostrenen 82.07 347 ||*iP* **P 23 17 29.9 +0.5**
ROSF Rostrenen 82.07 347 ||*iP* **P 23 17 29.9 +0.5**
SSF Saint Saulge 82.12 342 *eP* **P 23 17 29.6 -0.1**
comp=Z,21nm,1.1s
SSF Saint Saulge 82.12 342 *eP* **P 23 17 29.6 -0.1**
SSF Saint Saulge 82.12 342 *eP* **P 23 17 29.6 -0.1**
AVF Avril sur Loir 82.41 342 ||*iP* **P 23 17 31.3 +0.1**
comp=Z,34nm,1.0s
AVF Avril sur Loir 82.41 342 ||*iP* **P 23 17 31.3 +0.1**
AVF Avril sur Loir 82.41 342 ||*iP* **P 23 17 31.3 +0.1**
GRG Griva 82.44 327 *eP* **P 23 17 31.5 0.0**
SMF Signal de Mont 82.45 342 ||*iP* **P 23 17 31.7 +0.3**
comp=Z,94nm,1.5s
SMF Signal de Mont 82.45 342 ||*iP* **P 23 17 31.7 +0.3**
SMF Signal de Mont 82.45 342 ||*iP* **P 23 17 31.7 +0.3**
QUIF Quistinic 82.47 347 ||*iP* **P 23 17 31.7 +0.3**
comp=Z,34nm,1.1s
QUIF Quistinic 82.47 347 ||*iP* **P 23 17 31.7 +0.3**
QUIF Quistinic 82.47 347 ||*iP* **P 23 17 31.7 +0.3**
PLG Polygyros 82.57 326 *eP* **P 23 17 31.0 -1.2**
BGF Bois d'Agland 82.74 343 ||*iP* **P 23 17 33.1 +0.2**
comp=Z,54nm,1.4s
BGF Bois d'Agland 82.74 343 ||*iP* **P 23 17 33.1 +0.2**
BGF Bois d'Agland 82.74 343 ||*iP* **P 23 17 33.1 +0.2**
RSL Roselend 82.76 340 *eP* **P 23 17 33.9 +0.7**
PAIG Paliouri 82.87 326 *eP* **P 23 17 30.8 -2.9**
LPL La Plagne 82.89 340 ||*iP* **P 23 17 34.9 +0.9**
comp=Z,23nm,0.9s
LPL La Plagne 82.89 340 ||*iP* **P 23 17 34.9 +0.9**
LPL La Plagne 82.89 340 ||*iP* **P 23 17 34.9 +0.9**
LPG La Plagne 82.91 340 ||*iP* **P 23 17 35.0 +0.8**
comp=Z,47nm,1.0s
LPG La Plagne 82.91 340 ||*iP* **P 23 17 35.0 +0.8**
LPG La Plagne 82.91 340 ||*iP* **P 23 17 35.0 +0.8**
FNA Florina 82.95 328 *eP* **P 23 17 33.6 -0.6**
TIR Tirane 82.98 329 *eP* **P 23 17 33.5 -0.7**
TIR Tirane 82.98 329 *eP* **P 23 17 34.2 0.0**
TIR Tirane 82.98 329 *eP* **P 23 17 33.5 -0.7**
CSS Prodhromos 83.11 317 *eP* **P 23 17 35.2 +0.2**
CSS Prodhromos 83.11 317 *eP* **P 23 17 35.3 +0.2**
TCF Toulx Ste Croi 83.12 343 ||*iP* **P 23 17 35.2 +0.3**
comp=Z,29nm,1.0s
TCF Toulx Ste Croi 83.12 343 ||*iP* **P 23 17 35.2 +0.3**
TCF Toulx Ste Croi 83.12 343 ||*iP* **P 23 17 35.2 +0.3**
AGO Saint Agoulin 83.16 342 *eP* **P 23 17 36.7 +1.6**
MFF Saint Martin d 83.25 345 ||*iP* **P 23 17 36.0 +0.4**
comp=Z,62nm,1.3s
MFF Saint Martin d 83.25 345 ||*iP* **P 23 17 36.0 +0.4**
MFF Saint Martin d 83.25 345 ||*iP* **P 23 17 36.0 +0.4**
VLC Villacollemand 83.27 337 *epP* pP 23 17 42.2 -5.4
BNI Bardonecchia 83.34 340 *eP* **P 23 17 37.1 +0.8**
BNI Bardonecchia 83.34 340 *eP* **P 23 17 37.1 +0.8**
PYM Petit Puy Mans 83.48 342 *eP* **P 23 17 37.9 +1.1**
NEO Neokhori 83.59 326 *eP* **P 23 17 36.7 -0.8**
SSB Saint Sauveur 83.61 341 *eP* **P 23 17 37.7 +0.2**
SSB pmax pmax
comp=Z,17nm,1.0s
SSB Saint Sauveur 83.61 341 *eP* **P 23 17 37.7 +0.2**
comp=Z,17nm,1.0s
SSB Saint Sauveur 83.61 341 *eP* **P 23 17 38.0 +0.5**
MBDF Montbardon 83.63 339 ||*iP* **P 23 17 38.1 +0.4**
comp=Z,26nm,0.9s
MBDF Montbardon 83.63 339 ||*iP* **P 23 17 38.1 +0.4**
MBDF Montbardon 83.63 339 ||*iP* **P 23 17 38.1 +0.4**
ORIF Oris-en-Rattie 83.66 340 ||*iP* **P 23 17 38.5 +0.7**
comp=Z,31nm,1.0s
ORIF *eR*
comp=Z,140nm,23.0s
ORIF Oris-en-Rattie 83.66 340 ||*iP* **P 23 17 38.5 +0.7**
ORIF Oris-en-Rattie 83.66 340 ||*iP* **P 23 17 38.5 +0.7**
ASF Jabal al Asfar 83.72 313 P **P 23 17 39.3 +0.9**
ASF Jabal al Asfar 83.72 313 P **P 23 17 39.3 +0.9**
comp=Z,7.9nm,1.0s,baz=44,slow=1.1,SNR=13
ASF LR LR 00 00 30.8
comp=Z,99nm,19.1s,baz=5.6,slow=40
VIVF Saint-Julien-l 83.98 341 ||*iP* **P 23 17 39.9 +0.5**
comp=Z,26nm,1.0s
VIVF Saint-Julien-l 83.98 341 ||*iP* **P 23 17 39.9 +0.5**
VIVF Saint-Julien-l 83.98 341 ||*iP* **P 23 17 39.9 +0.5**
JAN Janina 84.14 328 *eP* **P 23 17 40.6 +0.3**
AGG Agios Georgios 84.17 326 *eP* **P 23 17 41.3 +0.9**
AUTN L'Aution 84.17 339 *eP* **P 23 17 40.7 +0.1**
RJF Les Rejaudoux 84.20 343 *eP* **P 23 17 40.8 +0.4**
comp=Z,79nm,1.6s
RJF *eR*
comp=Z,196nm,22.5s
RJF Les Rejaudoux 84.20 343 *eP* **P 23 17 40.8 +0.4**
RJF Les Rejaudoux 84.20 343 *eP* **P 23 17 40.8 +0.4**
LKR Lokris 84.25 326 *eP* **P 23 17 39.2 -1.6**
SBF Sospel 84.29 339 ||*iP* **P 23 17 40.8 -0.2**
comp=Z,54nm,1.0s
SBF Sospel 84.29 339 ||*iP* **P 23 17 40.8 -0.2**
SBF Sospel 84.29 339 ||*iP* **P 23 17 40.8 -0.2**
ARG Arkhangelos 84.33 321 *eP* **P 23 17 40.6 -0.6**
REVF Revere 84.42 339 *eP* **P 23 17 42.1 +0.5**
EVR Evrytania 84.45 327 *eP* P 23 17 46.0 +4.1

CAF Calviac 84.46 343 ||*iP* **P 23 17 42.5 +0.7**
comp=Z,21nm,0.8s
CAF Calviac 84.46 343 ||*iP* **P 23 17 42.5 +0.7**
CAF Calviac 84.46 343 ||*iP* **P 23 17 42.5 +0.7**
SMRF Simiane la Rot 84.62 340 ||*iP* **P 23 17 43.3 +0.7**
comp=Z,43nm,1.4s
SMRF Simiane la Rot 84.62 340 ||*iP* **P 23 17 43.3 +0.7**
LFF La Frestale 84.70 344 *eP* **P 23 17 43.5 +0.6**
comp=Z,41nm,1.0s
LFF La Frestale 84.70 344 *eP* **P 23 17 43.5 +0.6**
LFF La Frestale 84.70 344 *eP* **P 23 17 43.5 +0.6**
FRF La Foret Royal 84.76 339 ||*iP* **P 23 17 43.1 -0.2**
comp=Z,33nm,1.3s
FRF La Foret Royal 84.76 339 ||*iP* **P 23 17 43.1 -0.2**
FRF La Foret Royal 84.76 339 ||*iP* **P 23 17 43.1 -0.2**
KALE Kalithea 84.79 326 *eP* **P 23 17 42.3 -1.3**
TRIZ Trizonia 84.84 326 *eP* **P 23 17 42.7 -1.1**
EFP Efpalio 84.85 326 *eP* **P 23 17 43.1 -0.7**
LASF Ste Croix 84.90 341 ||*iP* **P 23 17 44.7 +0.7**
comp=Z,29nm,1.3s
LASF Ste Croix 84.90 341 ||*iP* **P 23 17 44.7 +0.7**
LAKA Lakka 84.98 326 *eP* **P 23 17 44.0 -0.6**
LMR La Mourre 85.01 339 ||*iP* **P 23 17 44.6 +0.1**
comp=Z,64nm,1.2s
LMR La Mourre 85.01 339 ||*iP* **P 23 17 44.6 +0.1**
LMR La Mourre 85.01 339 ||*iP* **P 23 17 44.6 +0.1**
KLV Kalavryta, Ach 85.09 326 *eP* **P 23 17 44.2 -1.0**
GUR Goura 85.12 326 *eP* **P 23 17 43.9 -1.4**
PGF Pioggiola 85.13 337 ||*iP* **P 23 17 45.1 -0.2**
comp=Z,21nm,0.8s
PGF Pioggiola 85.13 337 ||*iP* **P 23 17 45.1 -0.2**
PGF Pioggiola 85.13 337 ||*iP* **P 23 17 45.1 -0.2**
DID Didima 85.16 325 *eP* P 23 17 42.0 -3.5
RLS Riolos of Patr 85.33 327 *eP* **P 23 17 46.0 -0.2**
CUC Castrocucco 85.53 331 *eP* **P 23 17 47.4 +0.1**
VLS Valsamata 85.55 327 *eP* **P 23 17 45.6 -1.7**
ÁMT Artemida-Makis 85.71 326 *eP* **P 23 17 47.1 -1.1**
TBI Tubuai 85.84 133 *eLR* LR 23 44 54.8
comp=Z,246nm,25.8s,baz=322
ITM Ithomi 85.94 326 *eP* **P 23 17 47.1 -2.2**
MTLF Montolieu 85.95 342 *eP* **P 23 17 49.1 -0.1**
comp=Z,20nm,1.0s
MTLF Montolieu 85.95 342 *eP* **P 23 17 49.1 -0.1**
MTLF Montolieu 85.95 342 *eP* **P 23 17 49.1 -0.1**
ZKR Zakros 86.06 322 *eP* P 23 17 43.4 -6.5
RAYN Ar Rayn 86.08 301 P **P 23 17 50.4 +0.2**
comp=Z,83nm,0.8s,SNR=7.1
RAYN Ar Rayn 86.08 301 *eP* **P 23 17 50.1 -0.1**
DYR Agios Nikonas 86.16 325 *eP* **P 23 17 49.0 -1.4**
PYL PYLOS 86.26 326 *eP* **P 23 17 49.0 -1.9**
LAST Lasithi 86.32 322 *eP* **P 23 17 50.3 -1.0**
IDI Anoyia 86.45 323 *eP* P 23 17 44.0 -7.9
EPF Esparros 86.61 343 *eP* **P 23 17 52.5 -0.1**
comp=Z,11nm,0.8s
EPF Esparros 86.61 343 *eP* **P 23 17 52.5 -0.1**
EPF Esparros 86.61 343 *eP* **P 23 17 52.5 -0.1**
EIL Elat 86.72 313 P P 23 17 58.8 +5.5
EIL Elat 86.72 313 P P 23 17 58.8 +5.5
comp=Z,17nm,0.8s,baz=350,slow=6.2,SNR=14
EIL LR LR 00 02 35.4
comp=Z,133nm,21.5s,baz=293,slow=40
ETSF Etsaut 86.91 344 *eP* **P 23 17 53.9 -0.2**
comp=Z,32nm,1.4s
ETSF Etsaut 86.91 344 *eP* **P 23 17 53.9 -0.2**
ETSF Etsaut 86.91 344 *eP* **P 23 17 53.9 -0.2**
CEL Celeste 87.08 331 *eP* **P 23 17 54.9 0.0**
URZ Urewera 88.17 165 LR LR 23 56 35.4
comp=Z,148nm,18.4s,baz=17,slow=35
ESDC Sonseca Array 90.64 346 P **P 23 18 11.6 -0.1**
ESDC Sonseca Array 90.64 346 P **P 23 18 11.6 -0.1**
comp=Z,2.2nm,0.7s,baz=9.7,slow=4.1,SNR=16
KEST Kesra 91.42 335 *eP* **P 23 18 14.9 -0.6**
KEST Kesra 91.42 335 P **P 23 18 15.2 -0.3**
comp=Z,2.6nm,1.0s,baz=343,slow=2.1,SNR=7.3
KEST LR LR 00 03 13.5
comp=Z,76nm,19.3s,baz=316,slow=38
EVO Evora 92.35 349 *eP* **P 23 18 19.7 +0.1**
comp=Z,62nm,1.6s
EVO *eR*
comp=Z,164nm,18.8s
EVOP Sao Brissos 92.37 349 *eP* **P 23 18 19.7 +0.1**
EVOP Sao Brissos 92.37 349 *eP* **P 23 18 19.7 +0.1**
ATD Arta Tunnel 97.06 296 LR LR 00 09 43.0
comp=Z,113nm,18.5s,baz=349,slow=40
TORD Torodi Ar. Bea 114.93 334 PP PP 23 24 34.9 -13
TORD Torodi Ar. Bea 114.93 334 PP PP 23 24 34.9 -13
comp=Z,1.4nm,1.0s,baz=12,slow=8.6,SNR=5.1
SYO Syowa Base 143.99 213 ||*eX* PKPbc 23 24 39.2 -2.0
CPUP Villa Florida 145.03 63 *e*PKPbc **PKPbc 23 24 44.6 -1.1**
CPUP Villa Florida 145.03 63 PKPbc **PKPbc 23 24 44.6 -1.1**
comp=Z,6.3nm,1.0s,baz=289,slow=2.5,SNR=8.3
PLCA Paso Flores 145.44 95 PKPbc **PKPdf 23 24 46.7 0.0**
PLCA Paso Flores 145.44 95 PKPbc **PKPdf 23 24 46.7 0.0**
comp=Z,7.4nm,0.9s,baz=291,slow=1.3,SNR=8.9
MAIT Maitri 152.49 204 *eP* PKPab 23 25 22.1 +7.7

*GUC **23** 23:08:27.8±1.1, 20°.25S×70°.39W, h42km±3km, ML4.4*
*NEIC **23** 23:08:27.0, 20°.24S×70°.39W, h42km, MG4.4(GUC), After GUC.*
NEIC Felt [III] at Alto Hospicio and Iquique and [II] at Huara and Pozo Almonte.
*IDC **23** 23:08:35.2±2.5, 20°.18S×70°.10W, h88km±22km, mb3.6/6, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, MS3.5/3, Ms1 3.5/3, ms1mx3.0/38, Error ellipse: s-maj=25.3km s-min=19.6km az=93.0*
ISC 23 23:08:27.0±1.9, 20°.25S±0°.04×70°.51W±0°.08, h24km±12km, n30, σ1°36/34, mb3.9/5, 6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.58**	**93**	||*iP*	**Pb**	**23 08 38.6**	**-0.1**
HMBC				*i* S	**Sb**	**23 08 46.1**	**-0.5**
HMBC				AML	AML	23 08 46.8	
comp=N,50μm,0.4s							
PSGC	**Pisagua**	**0.74**	**29**	||*iP*	**Pn**	**23 08 41.6**	**-0.5**
PSGC				*e*S	**Sb**	**23 08 51.2**	**+0.1**
PSGC				AML	AML	23 08 52.1	
comp=N,13μm,0.2s							
PB01	**Plate Boundary**	**1.24**	**130**	||*iP*	**Pn**	**23 08 48.5**	**-0.4**
PB01				*e*S	**Sn**	**23 09 03.0**	**-2.0**
PB01				AML	AML	23 09 06.4	
comp=E,17μm,0.4s							
MNMC	**Minimini**	**1.41**	**38**	||*eP*	**Pn**	**23 08 51.8**	**+0.5**
MNMC				*e*S	**Sn**	**23 09 09.7**	**+0.4**
MNMC				AML	AML	23 09 12.6	
comp=E,29μm,0.5s							
PB07	**Plate Boundary**	**1.58**	**159**	||*iP*	**Pn**	**23 08 54.3**	**+0.6**
PB07				*e*S	**Sn**	**23 09 13.8**	**+0.3**
PB07				AML	AML	23 09 17.4	
comp=E,7μm,0.5s							
MACH	**Maria Elena**	**2.06**	**160**	*eP*	**Pn**	**23 09 01.4**	**+1.1**
MACH				*e*S	**Sn**	**23 09 26.8**	**+1.4**
PB04	**Plate Boundary**	**2.22**	**155**	||*eP*	**Pn**	**23 09 00.7**	**-1.6**
PB04				*e*S	**Sn**	**23 09 27.6**	**-1.4**
PB04				AML	AML	23 09 33.2	
comp=N,6μm,0.6s							
LVC	**Limon Verde**	**2.78**	**148**	*e*Pn	**Pn**	**23 09 11.7**	**+1.4**
LVC				*e*Sn	**Sn**	**23 09 42.5**	**-0.7**
PB10	**Plate Boundary**	**3.25**	**181**	*eP*	**Pn**	**23 09 16.0**	**-0.5**
ANCH	**Antofagasta**	**3.42**	**178**	*eP*	Pn	23 09 13.4	-5.3
LPAZ	**La Paz**	**4.54**	**30**	*e*Pn	Pn	23 09 38.8	+4.0
LPAZ	**La Paz**	**4.54**	**30**	P	Pn	23 09 40.1	+5.3
comp=N,3.9nm,0.3s,baz=213,slow=5.4,SNR=70							
LPAZ				LR	LR	23 11 38.0	
comp=N,546nm,18.3s,baz=73,slow=42							
SIV	**San Ignacio**	**9.92**	**66**	P	**Pn**	**23 10 47.9**	**-0.2**
comp=N,5.4nm,0.3s,baz=276,slow=9.0,SNR=70							
SIV				S	**Sn**	**23 12 42.7**	**+3.8**
baz=228,slow=23,SNR=3.1							
SIV				LR	LR	23 15 22.5	
comp=N,264nm,18.5s,slow=43							
CFAA	**Coronel Fontan**	**11.49**	**170**	P	Pn	23 11 17.2	+7.6
comp=N,0.0nm,0.3s,baz=344,slow=15,SNR=3.3							
CFAA				S	Sn	23 13 36.5	+19
comp=N,0.1nm,0.3s,baz=211,slow=16,SNR=2.8							
SAML	**Samuel**	**13.28**	**33**	*e*Pn	**Pn**	**23 11 33.9**	**-0.2**
comp=N,1.9nm,0.6s							
SAML				*e*Sn	**Sn**	**23 14 01.1**	**+0.1**
CPUP	**Villa Florida**	**13.53**	**119**	*e*Pn	**Pn**	**23 11 38.6**	**+1.0**
CPUP	**Villa Florida**	**13.53**	**119**	P	Pn	23 11 40.7	+3.2
comp=N,0.2nm,0.3s,baz=302,slow=5.8,SNR=3.5							
PLCA	**Paso Flores**	**20.42**	**180**	P	Pn	23 13 05.7	+1.1
comp=N,1.5nm,0.7s,baz=339,slow=8.6,SNR=2.5							
BDFB	**Brasilia**	**21.88**	**82**	P	**P**	**23 13 16.5**	**-2.0**
comp=N,2.0nm,0.4s,baz=252,slow=12,SNR=6.4							
BDFB				LR	LR	23 23 15.1	
comp=N,149nm,19.9s,baz=321,slow=41							
PDAR	**Pinedale Array**	**72.29**	**331**	P	**P**	**23 19 52.8**	**+2.1**
comp=N,0.6nm,0.7s,baz=149,slow=6.0,SNR=4.2							
NVAR	**Mina Array Bea**	**73.59**	**323**	P	**P**	**23 19 59.5**	**+1.0**
comp=N,0.7nm,0.7s,baz=158,slow=7.1,SNR=6.6							
TORD	**Torodi Ar. Bea**	**78.36**	**71**	P	**P**	**23 20 24.3**	**-1.6**
comp=N,3.1nm,0.8s,baz=250,slow=4.0,SNR=23							
YKA	**Yellowknife Ar**	**89.52**	**341**	P	**P**	**23 21 22.1**	**+0.4**
comp=N,1.9nm,0.8s,baz=140,slow=4.9,SNR=4.5							
ASAR	**Alice Springs**	**130.29**	**210**	PKP	**PKPdf**	**23 27 36.1**	**0.0**
comp=N,0.4nm,0.7s,baz=110,slow=1.3,SNR=3.8							
WRA	**Warramunga Arr**	**133.23**	**213**	PKP	**PKPdf**	**23 27 41.8**	**+0.2**
comp=N,0.6nm,0.6s,baz=150,slow=1.8,SNR=10							
BVAR	**Borovoye Array**	**135.59**	**33**	PKP	**PKPdf**	**23 27 44.0**	**-1.0**
comp=N,0.4nm,0.6s,baz=289,slow=4.4,SNR=4.3							
KURBB	**Kurchatov Arra**	**141.09**	**31**	PKP	**PKPdf**	**23 27 51.9**	**-3.2**
comp=N,0.2nm,0.6s,baz=294,slow=2.7,SNR=3.7							
ZALV	**Zalesovo Beam**	**141.43**	**23**	PKP	**PKPdf**	**23 27 56.3**	**+0.7**
comp=N,1.1nm,0.6s,baz=300,slow=2.1,SNR=5.3							
MKAR	**Makanchi Array**	**145.46**	**34**	PKPbc	**PKPab**	**23 28 03.0**	**-0.3**
comp=N,3.2nm,0.7s,baz=324,slow=4.2,SNR=32							
MJAR	**Matsushiro Arr**	**150.13**	**309**	PKPbc	**PKPbc**	**23 28 15.6**	**-0.5**
comp=N,0.9nm,0.6s,baz=102,slow=1.9,SNR=4.3							

*ISCJB **23** 23:12:46.3±0.4, 52°.4N±0°.2×173°.55W±0°.08, h78km±6km, mb3.9/9, Error ellipse: s-maj=27.8km s-min=4.3km az=166.6*
*NEIC **23** 23:12:47.5, 51°.97N×173°.46W, h52km, ML4.1(AEIC), After AEIC.*
*IDC **23** 23:12:48.0±2.7, 52°.35N×173°.49W, h79km±19km, mb3.7/9, mb1 4.0/12, mb1mx3.6/33, mbtmp3.8/12, Error ellipse: s-maj=35.4km s-min=16.3km az=8.0*
ISC 23 23:12:47.0±0.9, 52°.3N±0°.2×173°.55W±0°.05, h73km±7km, n36, σ1°15/44, mb4.0/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.34**	**264**	P	**Pn**	**23 12 58.7**	**0.0**
KOKL	**Mount Kliuchef**	**0.40**	**272**	P	**Pn**	**23 12 59.5**	**+0.3**
ATKA	**Atka Island**	**0.41**	**255**	P	**Pn**	**23 12 57.8**	**-1.4**
ATKA				S	Sn	23 13 06.8	-1.4
GSTR	**Great Sitkin T**	**1.56**	**263**	P	**Pn**	**23 13 13.0**	**+0.2**
GSMY	**Great Sitkin M**	**1.56**	**261**	P	**Pn**	**23 13 12.5**	**-0.4**
GSTD	**Great Sitkin T**	**1.62**	**262**	P	**Pn**	**23 13 13.4**	**-0.2**
GSTD				S	Sn	23 13 35.9	+2.1
GSCK	**Great Sitkin C**	**1.64**	**261**	P	**Pn**	**23 13 13.5**	**-0.3**
ETKA	**Kagalaska Isla**	**1.82**	**257**	P	**Pn**	**23 13 16.1**	**-0.1**
ADAG	**Mount Adagdak**	**1.91**	**261**	P	**Pn**	**23 13 18.2**	**+0.7**
ADK	**Adak**	**1.98**	**259**	P	**Pn**	**23 13 18.1**	**-0.3**
ADK				S	Sn	23 13 44.4	+2.1
KIKV	**Kanaga Island**	**2.27**	**261**	P	**Pn**	**23 13 23.0**	**+0.7**
TAPA	**Tanaga Point A**	**2.68**	**261**	P	**Pn**	**23 13 27.8**	**0.0**
TASE	**Tanaga Southea**	**2.81**	**262**	P	**Pn**	**23 13 30.6**	**+0.9**
NIKH	**Nikolski High**	**2.94**	**75**	P	**Pn**	**23 13 31.1**	**-0.3**
NIKH				S	Sn	23 14 05.5	0.0
OKSP	**Okmok Steeple**	**3.33**	**71**	P	**Pn**	**23 13 37.5**	**+0.8**
OKSO	**Okmok South**	**3.43**	**70**	P	**Pn**	**23 13 38.8**	**+0.7**
OKSO				S	Sn	23 14 19.9	+2.3
OKTU	**Okmok Mt. Tuli**	**3.51**	**70**	P	**Pn**	**23 13 39.8**	**+0.6**
MSOM	**Makushin Julie**	**4.26**	**67**	P	**Pn**	**23 13 50.0**	**+0.7**
MREP	**Makushin Rep't**	**4.37**	**67**	P	**Pn**	**23 13 52.4**	**+1.4**
AKRB	**Akutan Reef Bi**	**4.85**	**65**	P	**Pn**	**23 13 58.0**	**+0.6**
LVA	**Lava Point**	**4.88**	**65**	P	**Pn**	**23 13 59.1**	**+1.2**
AKGG	**Akutan Green G**	**4.92**	**64**	P	**Pn**	**23 13 59.3**	**+1.0**
AKUT	**Akutan**	**5.02**	**66**	P	**Pn**	**23 14 01.0**	**+1.4**
FX1	**Attu Island--F**	**8.11**	**279**	P	**Pn**	**23 14 43.8**	**+1.9**
0.9nm,0.3s,baz=294,slow=20,SNR=3.7							
FX1				S	**Sn**	**23 16 08.8**	**-3.2**
0.2nm,0.3s,baz=311,slow=20,SNR=2.4							
KDAK	**Kodiak Island**	**13.19**	**57**	P	**Pn**	**23 15 49.5**	**-1.3**
1.9nm,0.3s,baz=177,slow=2.2,SNR=8.4							
ILAR	**Eielson Array**	**18.50**	**37**	P	**P**	**23 16 55.9**	**-1.1**
2.0nm,0.3s,baz=248,slow=11,SNR=82							
INK	**Inuvik**	**24.83**	**35**	P	**P**	**23 18 01.9**	**-0.1**
5.1nm,0.6s,baz=254,slow=8.7,SNR=16							
DLBC	**Dease Lake**	**25.11**	**59**	P	**P**	**23 18 05.7**	**+1.0**
1.5nm,0.6s,baz=292,slow=5.4,SNR=3.9							
YKA	**Yellowknife Ar**	**32.21**	**48**	P	**P**	**23 19 08.5**	**+0.9**
0.6nm,0.5s,baz=273,slow=9.8,SNR=4.2							
NVAR	**Mina Array Bea**	**40.23**	**88**	P	**P**	**23 20 16.9**	**+0.3**
0.7nm,0.7s,baz=303,slow=8.6,SNR=4.7							
NVAR				PcP	**PcP**	**23 22 19.7**	**+0.6**
0.3nm,0.6s,baz=327,slow=1.5,SNR=3.6							
NVAR				ScP	**ScP**	**23 26 00.6**	**-1.1**
0.4nm,0.7s,baz=292,slow=4.8,SNR=3.2							
PDAR	**Pinedale Array**	**42.92**	**76**	P	**P**	**23 20 38.1**	**-0.4**
6.1nm,0.8s,baz=307,slow=3.4,SNR=37							
TXAR	**Lajitas Array**	**55.31**	**86**	P	**P**	**23 22 12.4**	**-0.7**
0.8nm,0.5s,baz=306,slow=6.4,SNR=11							
TXAR				ScP	**ScP**	**23 27 03.6**	**-1.3**
0.3nm,0.7s,baz=249,slow=2.5,SNR=3.4							
ARCES	**ARCESS Array B**	**57.67**	**352**	P	**P**	**23 22 29.7**	**+0.5**
2.2nm,0.9s,baz=27,slow=8.1,SNR=4.6							
KURBB	**Kurchatov Arra**	**60.78**	**316**	P	**P**	**23 22 50.5**	**-0.3**
0.5nm,0.8s,baz=43,slow=6.2,SNR=6.2							
BVAR	**Borovoye Array**	**62.22**	**322**	P	**P**	**23 23 00.6**	**+0.1**
0.6nm,0.5s,baz=64,slow=7.2,SNR=8.2							
ASAR	**Alice Springs**	**88.44**	**227**	pP	pP	23 25 47.5	-3.2
0.9nm,0.9s,baz=20,slow=4.9,SNR=4.9							

*ISCJB **23** 23:15:04.2±0.3, 38°.34N±0°.02×22°.12E±0°.03, h8km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=17.7*
*CSEM **23** 23:15:04.0±0.1, 38°.34N×22°.12E, h7km±1km, ML1.6/4, Error ellipse: s-maj=3.5km s-min=2.5km az=103.0*
*THE **23** 23:15:04.3, 38°.33N×22°.13E, h9km±1km, ML1.6/4, Error ellipse: s-maj=1.3km s-min=0.4km az=272.0*
*ATH **23** 23:15:04.4, 38°.33N×22°.13E, h8km±1km, MD2.8/11*
**ISC 23 23:15:04.3±0.8, 38°.34N±0°.02×22°.13E±0°.02, h10km

RLS			*e*SB	**Sb**	**23 15 24.5**	**-0.7**
RLS	**Riolos of Patr**	**0.59 242**	P	**Pg**	**23 15 15.6**	**-0.2**
RLS			*e*Sb	**Sb**	**23 15 24.5**	**-0.7**
AXAR	**Agios Charalam**	**0.60 44**	P	**Pg**	**23 15 15.3**	**-0.6**
AXAR			S	**Sb**	**23 15 25.1**	**-0.3**
AXAR	**Agios Charalam**	**0.60 44**	P	**Pg**	**23 15 15.3**	**-0.6**
AXAR			S	**Sb**	**23 15 25.1**	**-0.3**
EVR	**Evrytania**	**0.63 337**	P	**Pg**	**23 15 15.9**	**-0.6**
EVR			S	**Sb**	**23 15 25.9**	**-0.5**
EVR	**Evrytania**	**0.63 337**	*e*PB	**Pg**	**23 15 16.0**	**-0.6**
EVR			*e*SB	**Sb**	**23 15 25.9**	**-0.5**
EVR	**Evrytania**	**0.63 337**	*e*Pb	**Pg**	**23 15 16.0**	**-0.6**
EVR			S	**Sb**	**23 15 25.9**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.67 0**	P	**Pg**	**23 15 17.3**	**0.0**
MAKR			S	**Sb**	**23 15 27.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.67 0**	P	**Pg**	**23 15 17.3**	**0.0**
MAKR			S	**Sb**	**23 15 27.8**	**+0.2**
AGG	**Agios Georgios**	**0.70 13**	P	**Pg**	**23 15 16.9**	**-1.0**
AGG			S	**Sb**	**23 15 28.6**	**+0.2**
AGG	**Agios Georgios**	**0.70 13**	*e*PB	**Pg**	**23 15 16.8**	**-1.1**
AGG			*e*SB	**Sb**	**23 15 28.6**	**+0.2**
AGG	**Agios Georgios**	**0.70 13**	P	**Pg**	**23 15 16.9**	**-1.0**
AGG			S	**Sb**	**23 15 28.6**	**+0.2**
LTK	**Loutraki**	**0.73 115**	P	**Pg**	**23 15 18.4**	**0.0**
LTK	**Loutraki**	**0.73 115**	P	**Pg**	**23 15 18.4**	**0.0**
LKR	**Lokris**	**0.75 65**	*e*PB	**Pg**	**23 15 18.7**	**-0.1**
LKR			*e*SB	**Sb**	**23 15 29.3**	**-0.5**
LKR	**Lokris**	**0.75 65**	*e*Pb	**Pg**	**23 15 18.7**	**-0.1**
LKR			*e*Sb	**Sb**	**23 15 29.3**	**-0.5**
ITM	**Ithomi**	**1.17 188**	*e*PB	**Pg**	**23 15 25.4**	**-1.4**
ITM			*e*SB	**Sn**	**23 15 43.3**	**+0.5**
ITM	**Ithomi**	**1.17 188**	*e*Pb	**Pg**	**23 15 25.4**	**-1.4**
ITM			*e*Sb	**Sn**	**23 15 43.3**	**+0.5**
DID	**Didima**	**1.21 133**	*e*PB	**Pn**	**23 15 28.0**	**+0.7**
DID			*e*SB	**Sn**	**23 15 44.5**	**+0.7**
DID	**Didima**	**1.21 133**	*e*Pb	**Pn**	**23 15 28.0**	**+0.7**
DID			*e*Sb	**Sn**	**23 15 44.5**	**+0.7**
VLS	**Valsamata**	**1.22 263**	*e*PG	**Pb**	**23 15 27.2**	**-0.4**
VLS	**Valsamata**	**1.22 263**	*e*Pg	**Pb**	**23 15 27.2**	**-0.4**

IDC 23 23:19:04.5±3.3, 12°.97N×87°.65W, h126km±32km, mb3.4/4, mb1 3.6/6, mb1mx3.3/25, mbtmp3.4/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/26, Error ellipse: s-maj=58.3km s-min=22.4km az=51.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**7.24**	**355**	P	Pn	23 20 47.7	0.0
	1.0nm,0.3s,baz=176,slow=15,SNR=6.0						
TEIG				LR	LR	23 24 08.3	
	comp=Z,88nm,21.6s,baz=276,slow=42						
CMIG	**Matias Romero**	**8.10**	**301**	P	Pn	23 21 00.5	+1.1
	0.4nm,0.3s,baz=76,slow=8.3,SNR=3.2						
CMIG				S	Sn	23 22 18.1	-11
	0.3nm,0.3s,baz=307,slow=19,SNR=3.0						
CMIG				LR	LR	23 24 26.8	
	comp=Z,117nm,18.8s,baz=182,slow=40						
TXAR	**Lajitas Array**	**22.05**	**320**	P	P	23 23 47.8	-1.5
	1.9nm,0.6s,baz=142,slow=10,SNR=19						
PDAR	**Pinedale Array**	**35.23**	**332**	P	P	23 25 47.0	-0.2
	0.4nm,0.5s,baz=130,slow=10,SNR=3.7						
NVAR	**Mina Array Bea**	**37.19**	**319**	P	P	23 26 06.5	+2.7
	0.2nm,0.6s,baz=150,slow=8.2,SNR=3.1						
NVAR				PcP	PcP	23 28 22.5	+1.3
	0.6nm,0.6s,baz=141,slow=4.4,SNR=5.6						
SIV	**San Ignacio**	**38.97**	**137**	P	P	23 26 18.4	-0.4
	1.3nm,0.6s,baz=304,slow=7.3,SNR=4.5						
DLBC	**Dease Lake**	**55.36**	**334**	P	P	23 28 26.3	+1.0
	0.9nm,0.5s,baz=156,slow=10.0,SNR=3.8						
WRA	**Warramunga Arr**	**139.23**	**254**	PKP	PKPdf	23 38 17.8	+0.2
	0.4nm,0.6s,baz=90,slow=2.3,SNR=5.7						

IDC 23 23:31:57.8±1.4, 53°.09S×140°.70E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/14, mbtmp3.8/4, MS3.8/2, Ms1 3.8/2, ms1mx3.1/28, Error ellipse: s-maj=148.4km s-min=23.5km az=82.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.21**	**2**	P	P	23 36 45.4	+0.3
	5.3nm,0.9s,baz=180,slow=5.1,SNR=3.4						
VNDA	**Vanda**	**25.72**	**170**	P	P	23 37 29.3	0.0
	1.2nm,0.9s,baz=330,slow=8.3,SNR=6.6						
ASAR	**Alice Springs**	**29.84**	**347**	P	P	23 38 06.8	+0.2
	0.5nm,0.5s,baz=166,slow=10,SNR=8.5						
WRA	**Warramunga Arr**	**33.45**	**349**	P	P	23 38 38.0	-0.4
	1.2nm,0.7s,baz=172,slow=8.0,SNR=5.0						
MAW	**Mawson**	**38.23**	**217**	LR	LR	23 54 00.9	
	comp=Z,80nm,22.0s,baz=270,slow=35						
PLCA	**Paso Flores**	**82.72**	**157**	LR	LR	00 17 58.3	
	comp=Z,106nm,19.8s,baz=136,slow=33						
FINES	**FINESS Array B**	**145.12**	**310**	PKPbc	PKPbc	23 51 34.5	-0.8
	2.1nm,0.9s,baz=45,slow=4.1,SNR=3.5						
ARCES	**ARCESS Array B**	**146.83**	**324**	PKPbc	PKPab	23 51 44.4	+2.7
	1.7nm,0.7s,baz=86,slow=4.6,SNR=6.8						

IDC 23 23:44:07.8±7.3, 0°.72S×100°.54E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/23, mbtmp3.3/2, Error ellipse: s-maj=379.1km s-min=34.1km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.19**	**122**	P	P	23 51 29.4	-0.1
	0.3nm,0.7s,baz=300,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**49.96**	**344**	P	P	23 53 03.6	+0.1
	0.4nm,0.8s,baz=155,slow=7.8,SNR=3.5						
TXAR	**Lajitas Array**	**143.36**	**37**	PKP	PKPdf	00 03 43.7	-1.4
	0.1nm,0.4s,baz=247,slow=0.5,SNR=3.7						

IDC 23 23:48:38.9±2.1, 1°.76S×99°.46E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/26, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=107.6km s-min=19.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.56**	**353**	Pn	Pn	23 49 48.2	-1.2
	0.8nm,0.3s,baz=180,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**38.58**	**120**	P	P	23 56 03.1	-0.8
	0.7nm,0.8s,baz=302,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**39.83**	**126**	P	P	23 56 14.9	+0.6
	0.4nm,0.6s,baz=303,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**50.65**	**345**	P	P	23 57 40.0	+0.1
	1.1nm,0.7s,baz=161,slow=8.3,SNR=12						
KURBB	**Kurchatov Arra**	**55.17**	**344**	P	P	23 58 12.9	-0.3
	0.6nm,0.9s,baz=166,slow=6.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**56.84**	**350**	P	P	23 58 24.9	-0.2
	1.6nm,0.6s,baz=175,slow=5.5,SNR=8.7						
FINES	**FINESS Array B**	**83.65**	**332**	P	P	00 01 09.1	-0.1
	2.5nm,1.1s,baz=104,slow=8.0,SNR=7.1						
TXAR	**Lajitas Array**	**144.84**	**37**	PKP	PKPdf	00 08 18.4	-0.5
	0.7nm,0.7s,baz=212,slow=0.8,SNR=9.9						

IDC 23 23:49:08.7±3.3, 20°.03S×177°.86W, h448km±25km, mb3.0/6, mb1 3.4/7, mb1mx3.2/19, mbtmp3.1/7, 7C-6D, Error ellipse: s-maj=91.1km s-min=15.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.42**	**45**	P	P	23 51 10.4	+1.6
	5.9nm,0.3s,baz=47,slow=18,SNR=8.9						
AFI				S	S	23 52 45.4	-2.0
	2.6nm,0.3s,baz=322,slow=20,SNR=5.6						
DZM	**Mont Dzumac**	**14.79**	**259**	P	P	23 52 21.1	+3.2
	0.2nm,0.3s,baz=81,slow=18,SNR=4.7						
ASAR	**Alice Springs**	**44.75**	**256**	P	P	23 56 40.6	-0.4
	1.1nm,0.7s,baz=97,slow=7.7,SNR=8.7						
WRA	**Warramunga Arr**	**44.80**	**262**	P	P	23 56 40.9	-0.5
	0.3nm,0.3s,baz=96,slow=7.1,SNR=12						
NVAR	**Mina Array Bea**	**80.59**	**43**	P	P	00 00 34.2	+0.4
	0.3nm,0.7s,baz=225,slow=8.6,SNR=3.8						
TXAR	**Lajitas Array**	**86.69**	**57**	P	P	00 01 05.5	+1.2
	0.3nm,0.7s,baz=221,slow=1.3,SNR=4.6						
ILAR	**Eielson Array**	**87.82**	**13**	P	P	00 01 08.5	-0.1
	0.6nm,0.7s,baz=221,slow=6.3,SNR=7.1						
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	P	00 01 22.1	+1.9
	0.4nm,0.3s,baz=95,slow=2.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**110.20**	**321**	PKiKP	PKiKP	00 06 47.0	-1.3
	0.6nm,0.5s,baz=132,slow=2.2,SNR=2.9						
MKAR	**Makanchi Array**	**110.97**	**314**	PKiKP	PKiKP	00 06 48.5	-1.6
	0.5nm,0.6s,baz=316,slow=0.2,SNR=6.8						
AKTO	**Aktyubinsk**	**126.80**	**319**	PKP	PKPdf	00 07 19.8	-0.6
	0.8nm,0.6s,baz=38,slow=6.6,SNR=4.4						
ARCES	**ARCESS Array B**	**128.48**	**350**	PKP	PKPdf	00 07 21.5	-1.5
	1.2nm,0.9s,baz=20,slow=3.9,SNR=3.7						
FINES	**FINESS Array B**	**135.35**	**344**	PKP	PKPdf	00 07 33.6	-2.4
	0.5nm,0.4s,baz=102,slow=4.6,SNR=7.5						
HFS	**Hagfors**	**139.09**	**351**	PKhKP	PKPpre	00 07 33.8	
	1.1nm,0.5s,baz=72,slow=4.8,SNR=12						
AKASG	**Malin Array Be**	**142.66**	**331**	PKhKP	PKPpre	00 07 45.8	
	4.0nm,0.5s,baz=42,slow=4.3,SNR=17						
EKA	**Eskdalemuir Ar**	**144.52**	**5**	PKP	PKPbc	00 07 51.7	-0.9
	2.7nm,0.8s,baz=73,slow=2.8,SNR=3.6						
KWP	**Kalwaria Pacla**	**146.21**	**336**	↓*i*P	PKPbc	00 07 57.7	-0.1
TLCR		**146.60**	**325**	↑*i*P	PKPbc	00 07 59.0	0.0
BRTR	**Keskin Array B**	**146.61**	**313**	PKPbc	PKPbc	00 07 58.8	-0.7
	2.1nm,0.6s,baz=135,slow=5.0,SNR=15						
ASF	**Jabal al Asfar**	**146.67**	**298**	PKPbc	PKPbc	00 07 60.0	+0.2
	1.5nm,0.6s,baz=24,slow=4.3,SNR=5.0						
BURAR	**Bucovina Array**	**146.71**	**331**	↓*i*P	PKPbc	00 07 59.7	+0.3
GHRR		**146.76**	**327**	↑*i*P	PKPbc	00 08 00.0	+0.5
TESR	**Tescani**	**146.83**	**328**	↑*i*P	PKPbc	00 07 58.9	-0.8
CFR	**Carcaliu**	**146.97**	**325**	↓*i*P	PKPbc	00 07 59.8	-0.2
TIRR	**Tirgusor**	**147.28**	**324**	↓*i*P	PKPbc	00 08 00.4	-0.5
TLB	**Topalu**	**147.41**	**325**	↓*i*P	PKPbc	00 08 01.2	0.0
CLL	**Collm**	**147.63**	**347**	↓*i*PKPbc	PKPbc	00 08 01.5	-0.1
	comp=Z,9.0nm,0.7s						
CLL				↑*i*PKPab	PKPab	00 08 05.4	+0.1
	comp=Z,4.0nm,0.9s						
UPC	**Upice**	**147.66**	**343**	*e*P	PKPbc	00 08 02.0	+0.3
MMAI	**Mount Meron Ar**	**147.69**	**300**	PKPbc	PKPbc	00 08 02.6	+0.2
	comp=Z,2.8nm,0.5s,baz=70,slow=7.2,SNR=16						
DPC	**Dobruska-Polom**	**147.71**	**343**	*i* P	PKPbc	00 08 02.4	+0.5
DPC				*i* x	x	00 08 07.1	
BRG	**Berggiesshubel**	**147.83**	**346**	*i* P	PKPbc	00 08 02.1	-0.1
	comp=Z,3.8nm,0.7s						
MLR	**Muntele Rosu**	**147.90**	**328**	PKPbc	PKPbc	00 08 02.5	-0.2
	comp=Z,0.4nm,0.6s,baz=124,slow=7.3,SNR=3.0						
PRU	**Pruhonice**	**148.51**	**345**	*i* P	PKPbc	00 08 03.8	-0.1
ARR	**Arges**	**148.63**	**329**	↑*i*P	PKPbc	00 08 05.1	+0.7
TREC	**Trest**	**148.90**	**343**	*e*P	PKPbc	00 08 04.1	-0.8
TREC				*ex*	x	00 08 11.3	
KHC	**Kasperske Hory**	**149.54**	**345**	*i* P	PKPbc	00 08 06.6	+0.1
KHC				*ex*	x	00 08 14.3	
GERES	**GERESS Array B**	**149.78**	**345**	PKPbc	PKPbc	00 08 05.8	-1.4
	comp=Z,1.4nm,0.7s,baz=48,slow=2.0,SNR=9.7						
BZS	**Buzias**	**149.84**	**332**	↑*i*P	PKPbc	00 08 06.8	-0.5
VTS	**Vitosha**	**151.34**	**326**	↑*i*P	PKPbc	00 08 08.9	-2.1
DAVOX	**Davos/Dischmat**	**152.57**	**348**	PKPbc	PKPbc	00 08 13.1	-0.6
	comp=Z,2.1nm,0.8s,baz=276,slow=9.8,SNR=3.5						

IDC 23 23:50:29.2±0.9, 1°.71S×99°.44E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.0/26, mbtmp4.1/14, ML3.1/1, Error ellipse: s-maj=34.3km s-min=16.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.51**	**353**	Pn	Pn	23 51 36.5	-2.5
	1.0nm,0.3s,baz=202,slow=5.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**20.04**	**359**	P	P	23 55 04.7	+0.6
	1.1nm,0.3s,baz=196,slow=8.9,SNR=4.8						
WRA	**Warramunga Arr**	**38.62**	**120**	P	P	23 57 53.8	-0.8
	1.5nm,0.5s,baz=302,slow=9.1,SNR=9.8						
WRA				PcP	PcP	00 00 07.5	+0.3
	0.7nm,0.7s,baz=316,slow=2.5,SNR=6.4						
ASAR	**Alice Springs**	**39.88**	**126**	P	P	23 58 04.9	-0.2
	0.9nm,0.7s,baz=300,slow=8.0,SNR=5.6						
ASAR				PcP	PcP	00 00 11.8	+0.7
	0.8nm,0.7s,baz=309,slow=2.6,SNR=5.2						
KSRS	**Korea Array**	**47.06**	**31**	P	P	23 59 02.8	0.0
	0.8nm,0.6s,baz=214,slow=8.6,SNR=3.1						
SONM	**Songino Array**	**49.71**	**6**	P	P	23 59 23.4	+0.2
	0.9nm,0.6s,baz=185,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**50.60**	**345**	P	P	23 59 29.9	0.0
	3.0nm,0.7s,baz=148,slow=8.2,SNR=19						
USRK	**Ussuriysk Arra**	**54.17**	**29**	P	P	23 59 55.6	-0.7
	2.0nm,0.6s,baz=227,slow=7.1,SNR=4.8						
KURBB	**Kurchatov Arra**	**55.11**	**344**	P	P	00 00 03.0	-0.1
	1.9nm,0.9s,baz=162,slow=7.2,SNR=9.3						
ZALV	**Zasovo Beam**	**56.78**	**350**	P	P	00 00 14.8	-0.2
	4.8nm,0.5s,baz=175,slow=5.8,SNR=19						
KBZ	**Khabaz**	**67.72**	**319**	P	P	00 01 29.1	+0.5
	3.0nm,0.8s,baz=123,slow=7.6,SNR=5.3						
BRTR	**Keskin Array B**	**72.71**	**313**	P	P	00 01 58.8	-0.8
	0.8nm,0.6s,baz=134,slow=7.1,SNR=5.8						
FINES	**FINESS Array B**	**83.59**	**332**	P	P	00 02 59.2	0.0
	1.7nm,0.6s,baz=103,slow=5.6,SNR=15						
ARCES	**ARCESS Array B**	**86.01**	**340**	P	P	00 03 11.6	+0.3
	2.9nm,0.9s,baz=79,slow=6.3,SNR=3.6						
CPUP	**Villa Florida**	**144.22**	**217**	PKP	PKPbc	00 10 07.0	+0.9
	1.7nm,0.6s,baz=127,slow=6.0,SNR=8.4						
TXAR	**Lajitas Array**	**144.81**	**36**	PKP	PKPbc	00 10 08.4	+0.4
	1.2nm,0.4s,baz=230,slow=0.5,SNR=25						

IDC 24 00:01:47.4±3.1, 4°.21N×94°.77E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.6/27, mbtmp3.9/5, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/42, Error ellipse: s-maj=123.2km s-min=22.8km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**109**	Pn	Pn	00 02 55.9	+0.4
	1.1nm,0.3s,baz=294,slow=20,SNR=6.8						
PSI				LR	LR	00 04 57.5	
	comp=Z,174nm,18.5s,baz=350,slow=43						
MKAR	**Makanchi Array**	**43.78**	**348**	P	P	00 09 54.8	-0.1
	0.7nm,0.6s,baz=159,slow=7.9,SNR=7.8						
WRA	**Warramunga Arr**	**45.70**	**123**	P	P	00 10 10.5	-0.1
	0.6nm,1.0s,baz=301,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**47.15**	**128**	P	P	00 10 21.8	-0.1
	0.6nm,0.5s,baz=296,slow=8.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**50.25**	**352**	P	P	00 10 45.0	-0.2
	0.7nm,0.4s,baz=182,slow=5.5,SNR=4.3						

IDC 24 00:03:05.4±3.0, 21°.69S×178°.12W, h314km±34km, mb3.2/4, mb1 3.6/6, mb1mx3.3/20, mbtmp3.3/6, Error ellipse: s-maj=37.0km s-min=18.6km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.81**	**39**	P	Pn	00 05 21.4	+0.1
	3.0nm,0.3s,baz=275,slow=18,SNR=5.6						
AFI				S	S	00 07 03.0	-9.5
	5.8nm,0.3s,baz=42,slow=20,SNR=6.4						
URZ	**Urewera**	**17.02**	**193**	P	P	00 06 43.5	-0.1
	2.0nm,0.3s,baz=331,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**44.15**	**258**	P	P	00 10 44.6	+0.5
	5.1nm,0.3s,baz=93,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**44.34**	**263**	P	P	00 10 44.4	-1.2
	0.2nm,0.6s,baz=101,slow=7.9,SNR=3.4						
TXAR	**Lajitas Array**	**87.78**	**57**	P	P	00 15 19.6	-0.1
	0.2nm,0.7s,baz=225,slow=7.5,SNR=3.0						
ILAR	**Eielson Array**	**89.49**	**13**	P	P	00 15 26.6	-0.1
	0.4nm,0.4s,baz=213,slow=5.4,SNR=11						

TIR ***24*** *00:03:21.2±3.8, 41°.93N×19°.08E, h21km±14km*
IDC ***24*** *00:03:21.4±1.5, 41°.90N×19°.11E, h0km, mb3.2/3, mb1 3.3/6, mb1mx3.2/28, mbtmp3.2/6, ML2.8/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/27, Error ellipse: s-maj=24.3km s-min=16.5km az=159.0*
ISCJB ***24*** *00:03:22.4±0.34, 41°.85N±0°.01×19°.11E±0°.02, h8km±2km, mb3.2/2, Error ellipse: s-maj=3.1km s-min=2.0km az=153.5*
CSEM ***24*** *00:03:22.9±0.1, 41°.87N×19°.11E, h2km, ML2.9/9, Error ellipse: s-maj=3.0km s-min=1.5km az=73.0*
THE ***24*** *00:03:23.5, 41°.87N×19°.08E, h8km±1km, ML2.8/7, Error ellipse: s-maj=1.8km s-min=0.9km az=291.0*
PDG ***24*** *00:03:23.8±0.6, 41°.91N×19°.17E, h15km, MD3.0/1, ML2.9/9, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
BEO ***24*** *00:03:25.1±0.4, 41°.93N×19°.28E, h5km±2km, ML2.9/1*
PRU ***24*** *00:03:26.6, 42°.08N×19°.47E, h0km*
ISC 24 00:03:23.3±0.8, 41°.86N±0°.01×19°.14E±0°.02, h11km±5km, n204, σ1°.16/309, 13C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.13**	**37**	↓*i*Pg	Pg	00 03 26.5	0.0
ULC				*e*Sg	Sg	00 03 28.8	+0.1
ULC	**Ulcinj**	**0.13**	**37**	↓*i*Pg	Pg	00 03 26.5	0.0
ULC				*e*Sg	Sg	00 03 28.8	+0.1
DRME	**Dracevica, Mon**	**0.33**	**6**	↓*i*Pg	Pg	00 03 29.4	-0.5
DRME				*e*Sg	Sg	00 03 34.2	-0.1
DRME	**Dracevica, Mon**	**0.33**	**6**	↓*i*Pg	Pg	00 03 29.4	-0.5
DRME				*e*Sg	Sg	00 03 34.2	-0.1
BUM	**Brajici-Budva**	**0.48**	**337**	↑*i*Pg	Pg	00 03 32.5	-0.2
BUM				*e*Sg	Sg	00 03 39.8	+0.8
BUM	**Brajici-Budva**	**0.48**	**337**	↑*i*Pg	Pg	00 03 32.5	-0.2
BUM				*e*Sg	Sg	00 03 39.8	+0.8
PDG	**Podgorica**	**0.57**	**8**	P	Pg	00 03 33.7	-0.8
PDG				S	Sg	00 03 42.6	+0.5
PDG	**Podgorica**	**0.57**	**8**	*e*Pg	Pg	00 03 33.5	-1.1
PDG	**Podgorica**	**0.57**	**8**	P	Pg	00 03 33.7	-0.8
PDG				S	Sg	00 03 42.6	+0.5
TTG	**Podgorica**	**0.57**	**8**	↑*i*Pg	Pg	00 03 33.4	-1.1
TTG				*e*Sg	Sb	00 03 42.8	-0.8
PUK	**Puka**	**0.59**	**72**	*e*PG	Pg	00 03 34.1	-0.7
PUK				*e*SG	Sg	00 03 42.2	-0.4
PUK	**Puka**	**0.59**	**72**	*e*Pg	Pg	00 03 34.1	-0.7
	SNR=91						
PUK				*e*Sg	Sg	00 03 42.2	-0.4
	SNR=91						
TIR	**Tirane**	**0.75**	**133**	*e*PG	Pg	00 03 37.9	+0.2
TIR				*e*SG	Sb	00 03 49.7	+1.2
TIR	**Tirane**	**0.75**	**133**	P	Pg	00 03 37.5	-0.2
TIR				S	Sn	00 03 50.7	-0.4
TIR	**Tirane**	**0.75**	**133**	*e*P	Pg	00 03 37.2	-0.5
TIR	**Tirane**	**0.75**	**133**	*e*Pg	Pb	00 03 38.9	+0.6
TIR				*e*Sg	Sb	00 03 48.5	0.0
TIR	**Tirane**	**0.75**	**133**	P	Pg	00 03 37.5	-0.2
TIR	**Tirane**	**0.75**	**133**	*e*Pg	Pg	00 03 37.9	+0.2
	SNR=90						
TIR				*e*Sg	Sb	00 03 48.5	0.0
TIR				S	Sn	00 03 50.7	-0.4
HCY	**Herceg Novi**	**0.76**	**321**	*e*Pg	Pg	00 03 37.1	-0.9
HCY				*e*Sg	Sb	00 03 49.6	+0.7
HCY	**Herceg Novi**	**0.76**	**321**	*e*Pg	Pg	00 03 37.1	-0.9
BCI	**Bajram Curri**	**0.85**	**53**	*e*PG	Pg	00 03 38.6	-1.2
BCI				*e*SG	Sg	00 03 50.5	-0.5
BCI	**Bajram Curri**	**0.85**	**53**	*e*Pg	Pg	00 03 38.6	-1.2
	SNR=90						
BCI				*e*Sg	Sg	00 03 50.5	-0.5
	SNR=90						
NKME	**Niksic**	**0.92**	**351**	*e*Pg	Pg	00 03 39.8	-1.2
NKME				*e*Sg	Sb	00 03 54.1	+0.6
NKME	**Niksic**	**0.92**	**351**	*e*Pg	Pg	00 03 39.8	-1.2
NKME				*e*Sg	Sb	00 03 54.1	+0.6
PVY	**Plav**	**0.95**	**39**	↑*i*Pg	Pg	00 03 40.5	-1.2
PVY				*e*Sg	Sb	00 03 55.1	+0.5
PVY	**Plav**	**0.95**	**39**	↑*i*Pg	Pg	00 03 40.5	-1.2
PVY				*e*Sg	Sb	00 03 55.1	+0.5
NKY	**Niksic**	**0.96**	**353**	↓*i*Pg	Pg	00 03 41.0	-0.8
NKY				*e*Sg	Sn	00 03 55.9	-0.6
NKY	**Niksic**	**0.96**	**353**	↓*i*Pg	Pg	00 03 41.0	-0.8
NKY				*e*Sg	Sn	00 03 55.9	-0.6
PHP	**Peshkopia**	**0.99**	**100**	*e*PG	Pg	00 03 41.4	-1.0
PHP				*e*SG	Sn	00 03 56.8	-0.4
PHP	**Peshkopia**	**0.99**	**100**	P	Pg	00 03 41.3	-1.0
PHP				S	Sn	00 03 56.8	-0.4
PHP	**Peshkopia**	**0.99**	**100**	*e*Pg	Pg	00 03 41.4	-1.0
	SNR=91						
PHP				S	Sn	00 03 56.8	-0.4
TREB	**Trebinje**	**1.04**	**326**	*e*Pg	Pg	00 03 43.1	-0.2
TREB				*i* Sg	Sn	00 03 58.6	+0.3
TREB	**Trebinje**	**1.04**	**326**	*e*Pg	Pg	00 03 43.1	-0.2
TREB				*i* Sg	Sn	00 03 58.6	+0.3
BRY	**Bratogost**	**1.13**	**337**	↑*i*Pg	Pb	00 03 44.9	-0.1
BRY				*e*Sg	Sn	00 04 01.6	+0.7
BRY	**Bratogost**	**1.13**	**337**	↑*i*Pg	Pb	00 03 44.9	-0.1
**BE

TRUS	**Trudelj**	**2.54**	**21**	*e*Pn	**Pn**	**00 04 04.3 -0.1**
TRUS				*e*Sn	**Sn**	**00 04 36.1 +0.8**
JAN	**Janina**	**2.56**	**149**	P	**Pn**	**00 04 05.5 +0.8**
JAN	**Janina**	**2.56**	**149**	*e*P	**Pn**	**00 04 06.7 +2.0**
JAN	**Janina**	**2.56**	**149**	P	**Pn**	**00 04 05.5 +0.8**
GRG	**Griva**	**2.61**	**109**	P	**Pn**	**00 04 06.7 +1.2**
GRG				S	**Sn**	**00 04 40.0 +2.7**
GRG	**Griva**	**2.61**	**109**	*e*P	**Pn**	**00 04 06.8 +1.2**
GRG	**Griva**	**2.61**	**109**	P	**Pn**	**00 04 06.7 +1.2**
GRG				S	**Sn**	**00 04 40.0 +2.7**
VAY	**Valandovo**	**2.63**	**101**	P	**Pn**	**00 04 06.3 +0.6**
VAY	**Valandovo**	**2.63**	**101**	*i* Pn	Pn	00 04 01.0 -4.7
VAY	**Valandovo**	**2.63**	**101**	P	**Pn**	**00 04 06.3 +0.6**
KNT	**Kendrikon**	**2.91**	**103**	P	**Pn**	**00 04 10.5 +1.0**
KNT	**Kendrikon**	**2.91**	**103**	P	**Pn**	**00 04 10.5 +1.0**
ZAPS	**Zavoj**	**2.94**	**60**	*e*Pn	**Pn**	**00 04 11.5 +1.5**
ZAPS				*e*Sn	**Sn**	**00 04 45.0 -0.4**
ZAPS	**Zavoj**	**2.94**	**60**	*e*Pn	**Pn**	**00 04 11.5 +1.5**
ZAPS				*e*Sn	**Sn**	**00 04 45.0 -0.4**
VTS	**Vitosha**	**3.11**	**75**	P	**Pn**	**00 04 13.6 +1.2**
VTS				S	**Sn**	**00 04 51.4 +1.8**
VTS	**Vitosha**	**3.11**	**75**	⇑*i*P	**Pn**	**00 04 13.7 +1.3**
VTS	**Vitosha**	**3.11**	**75**	P	**Pn**	**00 04 13.6 +1.2**
VTS				S	**Sn**	**00 04 51.4 +1.8**
THL	**Klokotos Trika**	**3.17**	**135**	P	**Pn**	**00 04 14.5 +1.4**
THL				S	**Sn**	**00 04 52.7 +1.9**
THL	**Klokotos Trika**	**3.17**	**135**	*e*P	**Pn**	**00 04 15.0 +1.9**
THL	**Klokotos Trika**	**3.17**	**135**	P	**Pn**	**00 04 14.5 +1.4**
THL				S	**Sn**	**00 04 52.7 +1.9**
BLY	**Banja Luka**	**3.22**	**334**	*e*Pn	**Pb**	**00 04 17.4 -3.1**
BLY				*e*Sn	**Sn**	**00 04 54.8 +2.6**
BLY	**Banja Luka**	**3.22**	**334**	*e*Pn	**Pb**	**00 04 17.4 -3.1**
BLY				*e*Sn	**Sn**	**00 04 54.8 +2.6**
HORT	**Hortiatis**	**3.24**	**112**	P	**Pn**	**00 04 14.4 +0.2**
HORT				S	**Sn**	**00 04 56.4 +3.6**
HORT	**Hortiatis**	**3.24**	**112**	P	**Pn**	**00 04 14.4 +0.2**
HORT				S	**Sn**	**00 04 56.4 +3.6**
LKD2	**Lefkada island**	**3.28**	**159**	P	**Pn**	**00 04 14.8 +0.1**
LKD2				S	**Sn**	**00 04 52.8 -0.9**
LKD2	**Lefkada island**	**3.28**	**159**	*e*P	**Pn**	**00 04 14.7 +0.1**
LKD2	**Lefkada island**	**3.28**	**159**	P	**Pn**	**00 04 14.8 +0.1**
LKD2				S	**Sn**	**00 04 52.8 -0.9**
SOH	**Sokhos**	**3.34**	**107**	P	**Pn**	**00 04 16.8 +1.3**
SOH	**Sokhos**	**3.34**	**107**	*e*P	**Pn**	**00 04 16.3 +0.8**
SOH	**Sokhos**	**3.34**	**107**	P	**Pn**	**00 04 16.8 +1.3**
SRS	**Serrai**	**3.42**	**101**	P	**Pn**	**00 04 18.1 +1.4**
SRS	**Serrai**	**3.42**	**101**	P	**Pn**	**00 04 18.1 +1.4**
PLG	**Polygyros**	**3.58**	**113**	*e*P	**Pn**	**00 04 19.5 +0.8**
NVR	**Nevrokopi**	**3.58**	**97**	P	**Pn**	**00 04 20.5 +1.7**
NVR				S	**Sn**	**00 05 02.5 +1.5**
NVR	**Nevrokopi**	**3.58**	**97**	*e*P	**Pn**	**00 04 20.5 +1.5**
NVR	**Nevrokopi**	**3.58**	**97**	P	**Pn**	**00 04 20.5 +1.7**
NVR				S	**Sn**	**00 05 02.5 +1.5**
EVR	**Evrytania**	**3.58**	**144**	P	**Pn**	**00 04 20.8 +2.0**
EVR				S	**Sn**	**00 05 03.4 +2.3**
EVR	**Evrytania**	**3.58**	**144**	*e*P	**Pn**	**00 04 19.8 +1.0**
EVR	**Evrytania**	**3.58**	**144**	P	**Pn**	**00 04 20.8 +2.0**
EVR				S	**Sn**	**00 05 03.4 +2.3**
UDBI	**Udbina**	**3.63**	**318**	*i* Pn	**Pn**	**00 04 21.9 +2.4**
UDBI				Sn	**Sn**	**00 05 04.5 +2.1**
UDBI	**Udbina**	**3.63**	**318**	*i* Pn	**Pn**	**00 04 21.9 +2.4**
UDBI				Sn	**Sn**	**00 05 04.5 +2.1**
MAKR	**Makrakomi, Fth**	**3.65**	**140**	P	**Pn**	**00 04 21.5 +1.8**
MAKR				S	**Sn**	**00 05 04.6 +1.8**
MAKR	**Makrakomi, Fth**	**3.65**	**140**	P	**Pn**	**00 04 21.5 +1.8**
MAKR				S	**Sn**	**00 05 04.6 +1.8**
AGG	**Agios Georgios**	**3.74**	**138**	P	**Pn**	**00 04 22.3 +1.3**
AGG				S	**Sn**	**00 05 05.8 +0.8**
AGG	**Agios Georgios**	**3.74**	**138**	*e*P	**Pn**	**00 04 22.2 +1.3**
AGG	**Agios Georgios**	**3.74**	**138**	P	**Pn**	**00 04 22.3 +1.3**
AGG				S	**Sn**	**00 05 05.8 +0.8**
VLS	**Valsamata**	**3.84**	**163**	P	**Pn**	**00 04 21.8 -0.6**
VLS				S	**Sn**	**00 05 04.2 -3.4**
VLS	**Valsamata**	**3.84**	**163**	*e*P	**Pn**	**00 04 21.5 -0.9**
VLS	**Valsamata**	**3.84**	**163**	P	**Pn**	**00 04 21.8 -0.6**
VLS				S	**Sn**	**00 05 04.2 -3.4**
PAIG	**Paliouri**	**3.94**	**118**	P	**Pn**	**00 04 25.3 +1.5**
PAIG	**Paliouri**	**3.94**	**118**	*e*P	**Pn**	**00 04 24.3 +0.5**
PAIG	**Paliouri**	**3.94**	**118**	P	**Pn**	**00 04 25.3 +1.5**
KFL	**Anninata**	**3.96**	**161**	P	**Pn**	**00 04 23.9 0.0**
KFL				S	**Sn**	**00 05 07.9 -2.4**
KFL	**Anninata**	**3.96**	**161**	P	**Pn**	**00 04 23.9 0.0**
KFL				S	**Sn**	**00 05 07.9 -2.4**
OUR	**Ouranopolis**	**3.96**	**111**	P	**Pn**	**00 04 25.8 +1.8**
OUR	**Ouranopolis**	**3.96**	**111**	P	**Pn**	**00 04 25.8 +1.8**
XOR	**Xorichti**	**3.96**	**128**	P	**Pn**	**00 04 25.3 +1.2**
XOR	**Xorichti**	**3.96**	**128**	P	**Pn**	**00 04 25.3 +1.2**
NEO	**Neokhori**	**4.02**	**128**	*e*P	**Pn**	**00 04 24.1 -0.8**
EFP	**Efpalio**	**4.03**	**147**	P	**Pn**	**00 04 26.6 +1.6**
EFP	**Efpalio**	**4.03**	**147**	*e*P	**Pn**	**00 04 26.8 +1.8**
EFP	**Efpalio**	**4.03**	**147**	P	**Pn**	**00 04 26.6 +1.6**
AXS	**Araxos**	**4.04**	**154**	P	**Pn**	**00 04 25.6 +0.5**
AXS				S	**Sn**	**00 05 12.8 +0.4**
AXS	**Araxos**	**4.04**	**154**	P	**Pn**	**00 04 25.6 +0.5**
AXS				S	**Sn**	**00 05 12.8 +0.4**
AXAR	**Agios Charalam**	**4.10**	**138**	P	**Pn**	**00 04 26.4 +0.5**
AXAR	**Agios Charalam**	**4.10**	**138**	P	**Pn**	**00 04 26.4 +0.5**
NVLJ	**Novalja**	**4.13**	**312**	*e*Pn	**Pn**	**00 04 26.8 +0.6**
NVLJ				Sn	**Sn**	**00 05 14.5 0.0**
KAVA	**Kavala**	**4.13**	**100**	P	**Pn**	**00 04 27.9 +1.6**
KAVA	**Kavala**	**4.13**	**100**	P	**Pn**	**00 04 27.9 +1.6**
TRIZ	**Trizonia**	**4.15**	**146**	P	**Pn**	**00 04 27.6 +1.0**
TRIZ	**Trizonia**	**4.15**	**146**	*e*P	**Pn**	**00 04 27.8 +1.2**
TRIZ	**Trizonia**	**4.15**	**146**	P	**Pn**	**00 04 27.6 +1.0**
KALE	**Kalithea**	**4.16**	**145**	*e*P	**Pn**	**00 04 28.0 +1.2**
BZS	**Buzias**	**4.16**	**25**	⇑*i*P	**Pn**	**00 04 26.8 +0.1**
BZS	**Buzias**	**4.16**	**25**	⇑*i*P	**Pn**	**00 04 26.8 +0.1**
RLS	**Riolos of Patr**	**4.20**	**154**	P	**Pn**	**00 04 28.4 +1.2**
RLS	**Riolos of Patr**	**4.20**	**154**	*e*P	**Pn**	**00 04 25.4 -1.8**
RLS	**Riolos of Patr**	**4.20**	**154**	P	**Pn**	**00 04 28.4 +1.2**
LAKA	**Lakka**	**4.22**	**148**	P	**Pn**	**00 04 29.3 +1.7**
LAKA	**Lakka**	**4.22**	**148**	*e*P	**Pn**	**00 04 27.3 -0.3**
LAKA	**Lakka**	**4.22**	**148**	P	**Pn**	**00 04 29.3 +1.7**
SMIA	**Simia**	**4.30**	**132**	P	**Pn**	**00 04 31.0 +2.3**
SMIA	**Simia**	**4.30**	**132**	P	**Pn**	**00 04 31.0 +2.3**
DSF	**Desfina**	**4.31**	**142**	P	**Pn**	**00 04 29.9 +1.0**
DSF				S	**Sn**	**00 05 20.2 +1.0**
DSF	**Desfina**	**4.31**	**142**	P	**Pn**	**00 04 29.9 +1.0**
DSF				S	**Sn**	**00 05 20.2 +1.0**
LKR	**Lokris**	**4.36**	**136**	*e*P	**Pn**	**00 04 28.9 -0.6**
PKSM	**Moragy**	**4.37**	**355**	⇓*i*P	**Pn**	**00 04 29.9 +0.4**
PKSM	**Moragy**	**4.37**	**355**	⇓*i*P	**Pn**	**00 04 29.9 +0.4**
GZR	**Gura Zlata**	**4.41**	**36**	⇓*i*P	**Pn**	**00 04 30.7 +0.5**
GZR	**Gura Zlata**	**4.41**	**36**	⇓*i*P	**Pn**	**00 04 30.7 +0.5**
KLV	**Kalavryta, Ach**	**4.46**	**148**	P	**Pn**	**00 04 31.4 +0.5**
KLV	**Kalavryta, Ach**	**4.46**	**148**	*e*P	Pn	00 04 27.4 -3.5
KLV	**Kalavryta, Ach**	**4.46**	**148**	P	**Pn**	**00 04 31.4 +0.5**
GUR	**Goura**	**4.63**	**147**	P	**Pn**	**00 04 33.9 +0.6**
GUR	**Goura**	**4.63**	**147**	*e*P	**Pn**	**00 04 34.1 +0.8**
GUR	**Goura**	**4.63**	**147**	P	**Pn**	**00 04 33.9 +0.6**
AMT	**Artemida-Makis**	**4.75**	**155**	P	**Pn**	**00 04 35.5 +0.5**
AMT				S	**Sn**	**00 05 31.2 +1.1**
AMT	**Artemida-Makis**	**4.75**	**155**	P	**Pn**	**00 04 35.5 +0.5**
AMT				S	**Sn**	**00 05 31.2 +1.1**
ITM	**Ithomi**	**5.15**	**154**	P	**Pn**	**00 04 40.5 +0.2**
ITM				S	**Sn**	**00 05 40.3 +0.6**
ITM	**Ithomi**	**5.15**	**154**	*e*P	**Pn**	**00 04 39.9 -0.4**
ITM	**Ithomi**	**5.15**	**154**	P	**Pn**	**00 04 40.5 +0.2**
ITM				S	**Sn**	**00 05 40.3 +0.6**
PYL	**PYLOS**	**5.35**	**157**	P	**Pn**	**00 04 42.4 -0.7**
PYL	**PYLOS**	**5.35**	**157**	P	**Pn**	**00 04 42.4 -0.7**
DID	**Didima**	**5.38**	**143**	P	**Pn**	**00 04 45.5 +2.0**
DID	**Didima**	**5.38**	**143**	P	**Pn**	**00 04 45.5 +2.0**
JMB	**Yambol**	**5.56**	**81**	P	**Pn**	**00 04 47.3 +1.3**
JMB	**Yambol**	**5.56**	**81**	P	**Pn**	**00 04 47.3 +1.3**
SOKA	**Soboth**	**5.65**	**330**	⇓*i*Pn	**Pn**	**00 04 48.0 +0.8**
DYR	**Agios Nikonas**	**5.66**	**153**	P	**Pn**	**00 04 47.6 +0.2**
DYR	**Agios Nikonas**	**5.66**	**153**	*e*P	**Pn**	**00 04 46.5 -0.9**
DYR	**Agios Nikonas**	**5.66**	**153**	P	**Pn**	**00 04 47.6 +0.2**
VLI	**Veliai**	**5.92**	**149**	P	**Pn**	**00 04 51.8 +0.9**
VLI	**Veliai**	**5.92**	**149**	P	**Pn**	**00 04 51.8 +0.9**
PSZ	**Piszkesteto**	**6.08**	**5**	⇑*i*P	Pn	00 04 59.2 +6.0
MLR	**Muntele Rosu**	**6.12**	**51**	Pn	**Pn**	**00 04 55.5 +1.6**
	0.0nm,0.3s,baz=186,slow=16,SNR=1.5					
MLR				Sn	**Sn**	**00 06 05.4 +1.5**
	0.0nm,0.3s,baz=126,slow=19,SNR=3.7					
VRAC	**Vranov**	**7.66**	**347**	LR	LR	00 08 33.0
	comp=Z,70nm,19.5s,baz=165,slow=41					
GERES	**GERESS Array B**	**7.96**	**333**	Pn	**Pn**	**00 05 18.6 -0.4**
	0.2nm,0.3s,baz=155,slow=14,SNR=4.8					
GERES				LR	LR	00 08 32.0
	comp=Z,48nm,18.6s,baz=233,slow=39					
KHC	**Kasperske Hory**	**8.25**	**334**	*e*SN	**Sn**	**00 06 54.7 -1.4**
KHC	**Kasperske Hory**	**8.25**	**334**	Sn	**Sn**	**00 06 54.7 -1.4**
DAVOX	**Davos/Dischmat**	**8.26**	**310**	Pn	**Pn**	**00 05 23.8 +0.6**
	0.3nm,0.3s,baz=144,slow=18,SNR=5.0					
FINES	**FINESS Array B**	**20.06**	**10**	P	**P**	**00 07 54.6 -1.6**
	0.1nm,0.3s,baz=179,slow=12,SNR=4.0					
TORD	**Torodi Ar. Bea**	**32.39**	**213**	P	**P**	**00 09 53.5 +0.4**
	0.3nm,1.0s,baz=15,slow=9.6,SNR=3.4					
MKAR	**Makanchi Array**	**44.37**	**61**	P	**P**	**00 11 32.1 -1.4**
	0.2nm,0.4s,baz=276,slow=7.9,SNR=6.1					

IDC 24 00:12:56.4±1.0, 1°.64S×99°.48E, h0km, mb4.2/11, mb1 4.2/13, mb1mx4.0/25, mbtmp4.1/13, ML3.7/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/39, Error ellipse: s-maj=39.2km s-min=15.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**353**	Pn	Pn	00 14 04.3	-0.9
	0.8nm,0.3s,baz=169,slow=7.2,SNR=2.7						
PSI				LR	LR	00 16 09.1	
	comp=Z,161nm,18.2s,baz=199,slow=44						
CMAR	**Chiang Mai Arr**	**19.98**	**359**	P	P	00 17 29.2	-1.3
	0.2nm,0.3s,baz=188,slow=10,SNR=8.2						
KAPI	**Kappang**	**20.51**	**100**	LR	LR	00 25 59.2	
	comp=Z,105nm,18.6s,baz=119,slow=38						
BATI	**Baumata**	**25.49**	**110**	LR	LR	00 29 57.1	
	comp=Z,220nm,18.4s,baz=230,slow=40						
WRA	**Warramunga Arr**	**38.62**	**121**	P	P	00 20 21.2	-0.5
	2.3nm,0.6s,baz=302,slow=9.0,SNR=28						
WRA				PcP	PcP	00 22 34.1	-0.2
	0.4nm,0.7s,baz=314,slow=2.5,SNR=5.1						
ASAR	**Alice Springs**	**39.88**	**126**	P	P	00 20 32.5	+0.2
	5.7nm,0.3s,baz=298,slow=7.8,SNR=13						
KSRS	**Korea Array**	**46.98**	**31**	P	P	00 21 28.0	-1.2
	1.2nm,0.7s,baz=230,slow=8.9,SNR=3.5						
SONM	**Songino Array**	**49.64**	**6**	P	P	00 21 50.8	+1.0
	1.4nm,0.5s,baz=185,slow=9.7,SNR=6.2						
SONM				PcP	PcP	00 23 10.8	-0.5
	0.6nm,0.4s,baz=158,slow=4.7,SNR=2.4						
STKA	**Stephens Creek**	**49.78**	**132**	P	P	00 21 51.4	+0.3
	2.7nm,0.7s,baz=276,slow=21,SNR=3.8						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	00 21 57.2	+0.6
	1.5nm,0.5s,baz=159,slow=8.0,SNR=15						
USRK	**Ussuriysk Arra**	**54.09**	**29**	P	P	00 22 22.7	-0.3
	3.2nm,0.8s,baz=237,slow=5.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	00 22 42.1	+0.4
	3.1nm,0.5s,baz=176,slow=5.8,SNR=16						
BRTR	**Keskin Array B**	**72.70**	**313**	P	P	00 24 25.9	-0.7
	0.5nm,0.8s,baz=121,slow=7.6,SNR=3.0						
FINES	**FINESS Array B**	**83.55**	**332**	P	P	00 25 26.2	+0.1
	1.0nm,0.5s,baz=107,slow=5.0,SNR=17						
ARCES	**ARCESS Array B**	**85.96**	**340**	P	P	00 25 37.3	-0.9
	1.5nm,0.9s,baz=63,slow=6.0,SNR=6.5						
CPUP	**Villa Florida**	**144.29**	**217**	PKP	PKPdf	00 32 34.5	-0.8
	1.2nm,0.6s,baz=217,slow=4.1,SNR=5.7						
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	PKPdf	00 32 35.8	-0.3
	1.2nm,0.5s,baz=195,slow=0.8,SNR=34						

CASC 24 00:22:28.0±2.0, 8°.21N×82°.91W, h5km±6km, MD3.9, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.51**	**330**	*e*P	Pb	00 22 38.9	-0.6
ACR				*e*S	Sb	00 22 46.6	-0.7
BRU2	**Volcan**	**0.62**	**21**	⇓*i*P	Pg	00 22 40.4	+0.3
BRU2				*e*S	Sb	00 22 51.4	+0.7
TBS2		**0.63**	**24**	*e*P	Pb	00 22 41.4	-0.4
TBS2				*e*S	Sb	00 22 50.5	-0.5
CTCR	**Cotoan**	**0.69**	**12**	⇓*i*P	Pg	00 22 41.8	+0.2
CNI	**Changuinola**	**1.26**	**18**	*e*P	Pg	00 22 50.6	-1.5
CNI				*e*S	Sg	00 23 07.8	-0.7
BUS	**Buena Vista**	**1.57**	**328**	⇑*e*P	Pn	00 22 56.4	-0.8
BUS				*e*S	Sg	00 23 19.3	-0.3
QCR	**Quepos**	**1.73**	**314**	*e*P	Pn	00 22 57.5	-1.3
QCR				*e*S	Sb	00 23 22.3	0.0
URSC	**Urasca**	**1.82**	**332**	*e*P	Pn	00 23 00.1	-0.2
URSC				*e*S	Sb	00 23 25.0	-0.5
SJS	**Escuela Geolog**	**2.05**	**327**	*e*P	Pn	00 23 02.9	-0.5
SJS				*e*S	Sn	00 23 29.9	+0.3
CGA2	**Cerro Gallo 2**	**2.36**	**320**	*e*S	Sn	00 23 38.2	+1.1
CAO	**Cobano**	**2.62**	**304**	⇑*e*P	Pn	00 23 08.7	-2.4
PINA	**Piqa, Costa Ab**	**3.00**	**70**	*e*P	Pn	00 23 17.0	+0.7
ZANG	**Zanguenga, Cho**	**3.10**	**76**	*e*P	Pn	00 23 16.9	-0.8
ZANG				*e*S	Sn	00 23 56.9	+1.8
BCIP	**Isla Barro Col**	**3.18**	**72**	*e*P	Pn	00 23 17.7	-1.1
BCIP				*e*S	Sn	00 23 57.3	+0.1
VCR	**Vista de Mar**	**3.29**	**305**	*e*P	Pn	00 23 19.4	-1.0
VCR				*e*P	Pb	00 23 20.1	-7.0
VCR				*e*S	Sn	00 23 60.0	-0.1
UPA	**Univ. de Panam**	**3.43**	**77**	*e*P	Pn	00 23 22.1	-0.1
UPA				*e*S	Sn	00 24 04.4	+1.2

IDC 24 00:25:33.8±1.0, 16°.73S×173°.64W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/22, mbtmp3.8/8, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=53.2km s-min=20.1km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.33**	**33**	Pn	Pn	00 26 28.9	+1.6
	34nm,0.3s,baz=201,slow=18,SNR=45						
AFI				Sn	Sn	00 27 03.7	-4.0
	41nm,0.3s,baz=46,slow=23,SNR=9.3						
URZ	**Urewera**	**22.94**	**199**	P	P	00 30 40.0	+0.4
	3.8nm,0.4s,baz=39,slow=13,SNR=3.8						
HNR	**Honiara**	**26.71**	**282**	LR	LR	00 40 50.5	
	comp=Z,71nm,18.5s,baz=313,slow=34						
WRA	**Warramunga Arr**	**49.33**	**258**	P	P	00 34 24.9	-0.3
	0.3nm,0.5s,baz=96,slow=7.4,SNR=2.2						
ASAR	**Alice Springs**	**49.49**	**253**	P	P	00 34 26.6	+0.1
	4.0nm,0.6s,baz=87,slow=8.5,SNR=21						
NVAR	**Mina Array Bea**	**75.47**	**42**	P	P	00 37 20.4	+0.2
	0.7nm,0.9s,baz=233,slow=10,SNR=3.7						
TXAR	**Lajitas Array**	**81.54**	**56**	P	P	00 37 53.3	-0.5
	0.2nm,0.8s,baz=223,slow=8.6,SNR=2.8						
PDAR	**Pinedale Array**	**83.40**	**42**	P	P	00 38 03.0	-0.3
	0.7nm,0.8s,baz=226,slow=3.9,SNR=4.6						
ILAR	**Eielson Array**	**83.79**	**11**	P	P	00 38 04.2	-0.4
	0.3nm,0.8s,baz=211,slow=6.7,SNR=4.3						

*ISCJB **24** 00:26:08.1±0.4, 5°.38S±0°.05×154°.36E±0°.05, h118km, mb4.4/18, Error ellipse: s-maj=7.9km s-min=6.5km az=27.9*
*IDC **24** 00:26:10.6±0.6, 5°.46S×154°.36E, h128km±5km, mb4.1/15, mb1 4.2/18, mb1mx4.1/25, mbtmp4.1/18, MS3.5/1, Ms1 3.5/1, ms1mx2.9/21, Error ellipse: s-maj=13.7km s-min=10.7km az=70.0*
*NEIC **24** 00:26:11.4±1.4, 5°.46S×154°.39E, h139km±13km, mb4.6/7, Error ellipse: s-maj=11.1km s-min=10.1km az=220.0*
*AUST **24** 00:26:32.4, 6°.10S×153°.64E, h300km*

ISC 24 00:26:10.0±0.5, 5°.48S±0°.06×154°.36E±0°.06, h118km, n64, σ1°53/77, mb4.4/18, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**126**	P	**Pn**	**00 27 47.0**	**-0.2**
HNR				S	**Sn**	**00 29 05.2**	**+2.2**
HNR	**Honiara**	**6.79**	**126**	P	**Pn**	**00 27 47.0**	**-0.2**
	16nm,0.3s,baz=296,slow=23,SNR=3.8						
HNR				S	**Sn**	**00 29 05.2**	**+2.2**
	baz=283,slow=19,SNR=2.0						
MANU	**Manus Island**	**7.77**	**296**	S	**Sn**	**00 29 29.8**	**+2.9**
	baz=7.5,SNR=11						
PMG	**Port Moresby**	**8.14**	**241**	*e*Pn	**Pn**	**00 28 07.0**	**+1.6**
PMG				*e*Sn	**Sn**	**00 29 36.7**	**+0.8**
PMG				S	**Sn**	**00 29 38.7**	**+2.8**
PMG	**Port Moresby**	**8.14**	**241**	P	**Pn**	**00 28 07.8**	**+2.3**
	4.5nm,0.3s,baz=34,slow=12,SNR=7.0						
PMG				S	**Sn**	**00 29 38.7**	**+2.8**
	5.7nm,0.3s,baz=74,slow=14,SNR=8.6						
COEN	**Coen**	**13.87**	**232**	*e*Pn	**P**	**00 29 24.0**	**-2.0**
COEN	**Coen**	**13.87**	**232**	P	**P**	**00 29 25.4**	**-0.7**
	baz=13,SNR=6.9						
MTSU	**Mount Surprise**	**15.96**	**217**	P	**P**	**00 29 50.6**	**+1.4**
	baz=15,SNR=17						
CTA	**Charters Tower**	**16.53**	**208**	P	**P**	**00 29 56.6**	**+1.1**
CTA	**Charters Tower**	**16.53**	**208**	P	**P**	**00 29 56.6**	**+1.1**
	0.9nm,0.3s,baz=34,slow=14,SNR=28						
CTAO	**Charters Tower**	**16.53**	**208**	*e*Pn	**P**	**00 29 56.5**	**+1.1**
	28nm,0.8s						
EIDS	**Eidsvold**	**20.03**	**189**	*e*P	**P**	**00 30 34.7**	**+0.9**
	16nm,1.1s						
DZM	**Mont Dzumac**	**20.22**	**146**	*e*P	**P**	**00 30 35.8**	**-0.2**
DZM	**Mont Dzumac**	**20.22**	**146**	P	**P**	**00 30 37.3**	**+1.4**
	11nm,0.9s,baz=129,slow=8.7,SNR=7.6						
RMQ	**Roma**	**21.57**	**194**	P	**P**	**00 30 51.5**	**+1.2**
	baz=21,SNR=9.9						
KDU	**Kakadu**	**22.76**	**250**	P	**P**	**00 31 01.3**	**-1.2**
	baz=22,SNR=14						
PALU	**Palau**	**23.58**	**302**	P	P	00 31 17.7	+7.5
	baz=23,SNR=4.3						
MTN	**Manton Dam**	**24.06**	**251**	P	**P**	**00 31 14.7**	**+0.2**
	baz=23,SNR=6.4						
WRAB	**Tennant Creek**	**24.20**	**232**	*e*P	**P**	**00 31 15.2**	**-0.5**
	37nm,0.7s						
WRA	**Warramunga Arr**	**24.21**	**232**	P	**P**	**00 31 15.6**	**-0.3**
WRA	**Warramunga Arr**	**24.21**	**232**	P	**P**	**00 31 15.6**	**-0.3**
	36nm,0.7s,baz=55,slow=9.5,SNR=265						
ARMA	**Armidale**	**24.95**	**186**	P	**P**	**00 31 23.6**	**+1.0**
	baz=24,SNR=4.6						
ASAR	**Alice Springs**	**26.75**	**225**	P	**P**	**00 31 38.1**	**-0.8**
ASAR	**Alice Springs**	**26.75**	**225**	P	**P**	**00 31 38.1**	**-0.8**
	4.1nm,0.5s,baz=55,slow=8.9,SNR=43						
KNRA	**Kununurra**	**27.10**	**246**	P	**P**	**00 31 41.4**	**-0.6**
	baz=26,SNR=3.6						
STKA	**Stephens Creek**	**28.86**	**203**	*e*P	**P**	**00 31 56.5**	**-1.0**
STKA	**Stephens Creek**	**28.86**	**203**	P	**P**	**00 31 56.6**	**-0.9**
	8.3nm,0.7s,baz=39,slow=8.0,SNR=17						
STKA	**Stephens Creek**	**28.86**	**203**	P	**P**	**00 31 56.9**	**-0.6**
	baz=28,SNR=12						
YNG	**Young**	**29.21**	**190**	S	S	00 36 23.0	-22
	baz=23,SNR=6.8						
FITZ	**Fitzroy Crossi**	**30.73**	**243**	*e*P	**P**	**00 32 11.5**	**-2.7**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.73**	**243**	P	**P**	**00 32 12.9**	**-1.3**
	baz=30,SNR=13						
KAPI	**Kappang**	**34.47**	**269**	P	**P**	**00 32 44.5**	**-2.4**
KAPI	**Kappang**	**34.47**	**269**	P	**P**	**00 32 44.5**	**-2.4**
	8.4nm,0.7s,baz=136,slow=11,SNR=4.1						
FORT	**Forrest**	**35.28**	**221**	P	**P**	**00 32 52.9**	**-0.8**
	baz=34,SNR=8.3						
MEEK	**Meekatharra**	**40.06**	**234**	P	**P**	**00 33 32.9**	**-1.1**
	baz=39,SNR=10						
RPZ	**Rata Peaks**	**40.83**	**161**	P	**P**	**00 33 40.6**	**+0.5**
RPZ	**Rata Peaks**	**40.83**	**161**	P	**P**	**00 33 40.6**	**+0.5**
	8.1nm,0.6s,baz=271,slow=3.6,SNR=5.3						
KLBR	**Kellerberrin**	**43.00**	**228**	P	**P**	**00 33 56.2**	**-1.7**
	baz=42,SNR=6.1						
MORW	**Morawa**	**43.16**	**233**	P	**P**	**00 33 57.8**	**-1.4**
	baz=42,SNR=5.4						
JNU

BOSA eS Sn 00 59 16.2 +0.2
BOSA AML AML 00 59 27.1
comp=Z,52nm,0.4s
BOSA Boshof 2.96 221 Pn Pn 00 58 41.4 +1.1
comp=Z,10.0nm,0.3s,baz=50,slow=16,SNR=186
BOSA Pg Pg 00 58 48.6 -1.1
comp=Z,17nm,0.3s,baz=49,slow=14,SNR=23
BOSA Sn Sn 00 59 15.4 -0.6
comp=Z,7.9nm,0.3s,baz=328,slow=21,SNR=9.0
BOSA Lg Lg 00 59 25.8
comp=Z,22nm,0.3s,baz=326,slow=18,SNR=8.1
POGA Pongola 3.81 106 eP Pn 00 58 52.7 +0.8
POGA eS Sn 00 59 37.0 +0.2
POGA AML AML 00 59 54.2
comp=Z,112nm,0.4s
KSD Kokstad 4.46 158 eP Pn 00 59 02.3 +1.4
KSD eS Sn 00 59 52.7 -0.4
KSD AML AML 01 00 15.3
comp=Z,73nm,0.7s
HVD Garlep Dam 4.54 202 eP Pn 00 59 01.8 -0.2
HVD eS Sn 00 59 52.1 -2.9
HVD AML AML 00 59 54.4
comp=Z,33nm,0.6s
UPI Upington 5.88 249 eP Pn 00 59 21.7 +1.4
UPI eS Sn 01 00 25.0 -2.8
UPI AML AML 01 01 02.3
comp=Z,31nm,0.4s
SOE Somerset East 6.51 194 eP Pn 00 59 29.6 +0.6
SOE eS Sn 01 00 41.2 -2.2
SOE AML AML 01 00 45.1
comp=Z,15nm,0.4s
GRM Grahamstown 6.94 187 eS Sn 01 00 48.3 -5.8
GRM AML AML 01 01 40.3
comp=Z,14nm,0.6s
BUFB Buffelsbos 8.08 196 eS Sn 01 01 16.4 -5.6
BUFB AML AML 01 02 11.9
comp=Z,16nm,0.5s
SUR Sutherland 8.33 223 eP Pn 00 59 55.5 +1.5
SUR eS Sn 01 01 24.5 -3.9
SUR AML AML 01 02 17.3
comp=Z,9.7nm,0.5s
SUR Sutherland 8.33 223 Pn Pn 00 59 55.1 +1.0
comp=Z,2.5nm,0.3s,baz=50,slow=14,SNR=25
SUR Sn Sn 01 01 25.7 -2.7
comp=Z,1.8nm,0.3s,baz=2.8,slow=18,SNR=7.6
SUR Lg Lg 01 02 14.6
comp=Z,4.0nm,0.3s,baz=133,slow=23,SNR=6.0
CVNA Calvinia 8.45 231 eP Pn 00 59 56.4 +0.8
CVNA eS Sn 01 01 26.9 -4.4
CVNA AML AML 01 02 23.1
comp=Z,24nm,0.3s
CER Ceres 9.93 224 eS Sn 01 02 05.7 -1.9
CER AML AML 01 03 00.9
comp=Z,13nm,0.7s
WIN Windhoek 10.20 290 eS Sn 01 02 10.6 -3.8
WIN AML AML 01 03 30.4
comp=Z,2.6nm,0.5s
ELIM Elim 10.55 217 eS Sn 01 02 15.9 -6.8
ELIM AML AML 01 03 25.5
comp=Z,16nm,0.5s
LSZ Lusaka 11.09 4 eP Pn 01 00 33.4 +1.5
LSZ eS Sn 01 02 31.8 -4.4
LSZ AML AML 01 02 36.7
comp=Z,91nm,0.3s
LSZ Lusaka 11.09 4 Pn Pn 01 00 32.0 +0.1
comp=Z,1.1nm,0.3s,baz=185,slow=13,SNR=20
LSZ Sn Sn 01 02 31.1 -5.0
comp=Z,0.8nm,0.3s,baz=90,slow=10,SNR=4.4
LSZ Lg Lg 01 03 38.9
comp=Z,0.2nm,0.3s,baz=67,slow=14,SNR=4.7
RUDU RUNDU 11.09 318 eP Pn 01 00 32.2 +0.3
RUDU eS Sn 01 02 33.2 -3.1
RUDU AML AML 01 04 01.5
comp=Z,4.6nm,0.6s
TSUM Tsumeb 11.60 306 eP Pn 01 00 40.2 +1.3
TSUM eS Sn 01 02 47.6 -1.1
TSUM Tsumeb 11.60 306 Pn Pn 01 00 39.8 +0.9
comp=Z,1.4nm,0.3s,baz=124,slow=9.9,SNR=49
TSUM Lg Lg 01 03 59.0
comp=Z,0.6nm,0.3s,baz=62,slow=20,SNR=5.0
TORD Torodi Ar. Bea 46.63 324 P P 01 06 23.0 +1.2
comp=Z,1.3nm,0.8s,baz=139,slow=6.6,SNR=24
QSPA South Pole Qui 63.79 180 P P 01 08 26.4 +1.2
comp=Z,0.3nm,0.4s,baz=77,slow=13,SNR=7.1
ESDC Sonseca Array 71.98 335 P P 01 09 18.7 +1.8
comp=Z,0.1nm,0.3s,baz=141,slow=5.8,SNR=4.2
FINES FINESS Array B 87.54 359 P P 01 10 42.9 +2.2
comp=Z,1.0nm,0.7s,baz=178,slow=6.4,SNR=5.7
MKAR Makanchi Array 88.06 34 P P 01 10 45.3 +1.7
comp=Z,0.2nm,0.6s,baz=222,slow=4.9,SNR=3.2
NOA NORSAR Array B 88.13 352 P P 01 10 45.6 +2.0
comp=Z,0.6nm,0.8s,baz=155,slow=6.6,SNR=3.7

IDC 24 01:01:50.9±2.9, 21°.42S×147°.81E, h0km, mb1 3.3/2, mb1mx3.1/14, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=49.6km s-min=33.7km az=176.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**1.97**	**312**	Pn	Pn	01 02 25.0	-0.6
	1.9nm,0.3s,baz=125,slow=18,SNR=17						
CTA				Lg	Lg	01 02 58.6	
	10nm,0.3s,baz=42,slow=19,SNR=16						
WRA	**Warramunga Arr**	**12.70**	**274**	Pn	Pn	01 04 52.2	-0.7
	0.0nm,0.3s,baz=94,slow=14,SNR=3.1						
WRA				Lg	Lg	01 08 36.7	
	0.1nm,0.3s,baz=105,slow=28,SNR=3.2						
ASAR	**Alice Springs**	**13.04**	**258**	Pn	Pn	01 04 56.0	-1.6
	0.1nm,0.3s,baz=86,slow=13,SNR=3.1						
ASAR				Sn	Sn	01 07 26.1	+2.5
	0.1nm,0.3s,baz=79,slow=26,SNR=2.8						
ASAR				Lg	Lg	01 08 46.5	
	baz=72,slow=28,SNR=2.8						
TORD	**Torodi Ar. Bea**	**146.67**	**261**	PKPbc	PKPbc	01 21 35.3	-0.3
	0.3nm,0.8s,baz=101,slow=2.5,SNR=4.3						

IDC 24 01:05:04.5±5.8, 5°.09S×150°.88E, h233km±37km, mb3.5/3, mb1 3.7/4, mb1mx3.2/19, mbtmp3.5/4, Error ellipse: s-maj=89.8km s-min=45.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.65**	**220**	P	Pn	01 06 28.4	+0.4
	2.7nm,0.3s,baz=14,slow=10,SNR=7.1						
PMG				S	S	01 07 34.9	+0.5
	1.1nm,0.3s,baz=40,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**21.84**	**226**	P	P	01 09 38.5	-0.1
	4.5nm,0.5s,baz=52,slow=9.7,SNR=40						
ASAR	**Alice Springs**	**24.67**	**220**	P	P	01 10 04.5	+0.2
	1.3nm,0.4s,baz=52,slow=9.0,SNR=27						
FITZ	**Fitzroy Crossi**	**27.84**	**240**	P	P	01 10 32.4	-0.3
	1.7nm,1.0s,baz=63,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.56**	**287**	PKPbc	PKPbc	01 24 24.2	-0.7
	0.2nm,0.7s,baz=60,slow=2.7,SNR=2.4						

*IDC **24** 01:17:47.6±7.2, 36°.04N×69°.79E, h112km±68km, mb3.2/3, mb1 3.3/7, mb1mx3.1/31, mbtmp3.2/7, Error ellipse: s-maj=53.3km s-min=28.6km az=7.0*
*NNC **24** 01:17:55.5±7.2, 36°.71N×69°.43E, h112km±93km, mb3.2, mpv3.9, Error ellipse: s-maj=54.7km s-min=32.9km az=16.0*

ISC 24 01:17:44.6±1.5, 36°.2N±0°.1×69°.2E±0°.1, h100km, n23, σ2°.37/21, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**6.67**	**121**	eP	Sn	01 20 33.0	-2.0
AML	**Almayashu**	**6.91**	**29**	P	Pn	01 19 25.8	+2.2
	SNR=42						
KK31	**Karatay Array**	**7.00**	**8**	P	Pn	01 19 28.3	+3.8
	3.0nm,0.4s,baz=183,slow=15,SNR=71						
KK31				⇑S	Sn	01 20 42.1	-0.5
	5.0nm,0.5s,baz=191,slow=25						
EKS2	**Erkin-Say**	**7.39**	**27**	P	Pn	01 19 32.8	+2.9
	SNR=10						
KZA	**Kyzart**	**7.55**	**37**	P	Pn	01 19 34.0	+1.6
	SNR=7.5						
AAK	**Ala-Archa**	**7.65**	**31**	P	Pn	01 19 36.2	+2.7
	SNR=12						
AAK	**Ala-Archa**	**7.65**	**31**	P	Pn	01 19 35.3	+1.8
	4.6nm,0.3s,baz=153,slow=3.3,SNR=17						
CHMS	**Chumysh**	**8.06**	**31**	P	Pn	01 19 41.5	+2.6
	SNR=9.6						
ULHL	**Ulahol**	**8.17**	**40**	P	Pn	01 19 43.1	+2.5
	SNR=5.4						
USP	**Ospenovka**	**8.19**	**28**	P	Pn	01 19 42.5	+1.8
	SNR=22						
TKM2	**Tokmak 2**	**8.37**	**34**	⇓P	Pn	01 19 45.6	+2.3
	6.5nm,0.7s						
TKM2				⇑S	Sn	01 21 11.8	-4.2
	4.6nm,0.9s						
TKM2	**Tokmak 2**	**8.37**	**34**	P	Pn	01 19 45.5	+2.3
	SNR=15						
MK31	**Makanchi Array**	**14.44**	**39**	⇑P	P	01 21 09.4	+1.3
	0.2nm,0.4s,baz=213,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**14.44**	**39**	P	Pn	01 21 04.2	0.0
	0.1nm,0.3s,baz=227,slow=16,SNR=2.9						
AB31	**Akbulak array**	**14.72**	**336**	⇑P	P	01 21 12.4	+1.3
	0.6nm,0.3s,baz=150,slow=12,SNR=58						
AB31				⇓S	Sn	01 23 47.4	-2.5
	1.0nm,0.5s,baz=151,slow=25,SNR=6.9						
AKTO	**Aktyubinsk**	**16.39**	**334**	⇑P	P	01 21 35.6	+6.1
	1.3nm,0.6s						
AKTO				⇑S	S	01 24 32.6	-3.1
	0.2nm,0.2s						
AKTO	**Aktyubinsk**	**16.39**	**334**	P	P	01 21 33.3	+3.8
	0.2nm,0.3s,baz=146,slow=12,SNR=5.7						
AKTO				S	Sn	01 24 28.7	-1.3
	0.1nm,0.3s,baz=210,slow=20,SNR=2.9						
VOSK	**Vostochnaya**	**16.60**	**4**	⇑P	P	01 21 33.4	+1.5
	3.6nm,1.6s						
BVA0	**Borovoye Array**	**16.88**	**3**	⇑P	P	01 21 38.3	+3.4
	0.8nm,0.4s,baz=168,slow=9.5,SNR=11						
BVAR	**Borovoye Array**	**16.88**	**3**	P	P	01 21 37.2	+2.3
	0.7nm,0.3s,baz=171,slow=9.3,SNR=12						
ZALV	**Zalesovo Beam**	**20.85**	**27**	P	Pn	01 22 19.5	-2.0
	1.7nm,0.4s,baz=214,slow=10,SNR=7.9						
TORD	**Torodi Ar. Bea**	**64.24**	**268**	P	P	01 28 14.4	+5.1
	0.1nm,0.4s,baz=61,slow=6.3,SNR=3.7						
WRA	**Warramunga Arr**	**83.07**	**121**	P	P	01 29 58.1	-1.2
	0.6nm,1.0s,baz=314,slow=5.7,SNR=3.4						

IDC 24 01:56:02.9±5.4, 5°.72S×147°.70E, h190km±49km, mb3.2/2, mb1 3.4/4, mb1mx3.1/19, mbtmp3.2/4, Error ellipse: s-maj=82.4km s-min=48.9km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**188**	P	Pn	01 57 01.6	+0.9
	3.8nm,0.3s,baz=355,slow=12,SNR=7.7						
PMG				S	Sn	01 57 46.2	+0.1
	5.2nm,0.3s,baz=260,slow=23,SNR=12						
WRA	**Warramunga Arr**	**19.20**	**221**	P	P	02 00 12.7	0.0
	0.6nm,0.3s,baz=48,slow=12,SNR=42						
ASAR	**Alice Springs**	**22.25**	**215**	P	P	02 00 45.2	+0.7
	0.9nm,0.5s,baz=49,slow=9.1,SNR=10						
FITZ	**Fitzroy Crossi**	**24.81**	**238**	P	P	02 01 07.5	-0.3
	1.7nm,0.7s,baz=68,slow=9.3,SNR=11						
TORD	**Torodi Ar. Bea**	**145.70**	**285**	PKPbc	PKPdf	02 15 19.0	-0.8
	0.4nm,1.0s,baz=60,slow=2.8,SNR=3.8						

IDC 24 01:59:03.3±2.7, 33°.29N×86°.90E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=84.6km s-min=28.8km az=75.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.94**	**347**	Pn	Pn	02 02 22.4	+0.4
	0.0nm,0.3s,baz=163,slow=12,SNR=2.5						
SONM	**Songino Array**	**20.66**	**40**	P	P	02 03 45.1	+0.3
	0.6nm,0.7s,baz=232,slow=7.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**20.70**	**357**	P	P	02 03 43.6	-1.3
	0.9nm,0.4s,baz=170,slow=8.8,SNR=4.1						
WRA	**Warramunga Arr**	**69.65**	**132**	P	P	02 10 14.8	0.0
	0.7nm,0.9s,baz=326,slow=6.7,SNR=8.1						

*NIED **24** 02:10:00, 33°.30N×138°.50E, h320km, Mw4.5 Best double couple: M0 5.44000×10^15 NP1:φs 205.00000°, δ81.00000°, λ58.00000°. NP2:φs 101.00000°, δ33.00000°, λ164.00000°.*
*BJI **24** 02:10:35.9, 33°.19N×138°.53E, h290km, mB4.4/19, mb4.5/34*
*JMA **24** 02:10:38.5±0.1, 33°.27N×138°.50E, h312km, M4.3 Broadband fault plane solution: P waves. NP1: φs 183.00000°, δ76.00000°, λ48.00000°. NP2: φs 78.00000°, δ44.00000°, λ160.00000°. Principal axes: T Plg43.0000°, Azm53.0000°; N Plg40.0000°, Azm195.0000°; P Plg20.0000°, Azm303.0000°;*
*MOS **24** 02:10:38.4±0.9, 33°.19N×138°.29E, h291km, mb4.3/31 Error ellipse: s-maj=11.9km s-min=6.6km az=104.7*
*IDC **24** 02:10:39.6±0.9, 33°.18N×138°.29E, h290km±8km, mb3.8/24, mb1 4.0/30, mb1mx3.9/38, mbtmp3.8/30, Error ellipse: s-maj=11.0km s-min=8.5km az=86.0*
*NEIC **24** 02:10:39.1±0.5, 33°.18N×138°.27E, h284km±4km, mb4.3/15, Error ellipse: s-maj=5.7km s-min=5.6km az=62.0*
*ISCJB **24** 02:10:39.3±0.3, 33°.20N±0°.03×138°.31E±0°.04, h299km±2km, mb4.2/58, Error ellipse: s-maj=5.4km s-min=5.0km az=27.9*

ISC 24 02:10:39.2±0.6, 33°.24N±0°.05×138°.35E±0°.05, h290km±4km, n170, σ1°.48/203, mb4.2/58, 10C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.86**	**325**	P	Pn	02 11 20.0	+2.5
TK03	**Tokai 3**	**0.98**	**341**	P	Pn	02 11 20.9	+2.7
TTO4	**TONANKAI O.B.S**	**1.02**	**319**	⇑P	Pn	02 11 20.5	+2.3
TTO5	**TONANKAI O.B.S**	**1.14**	**333**	⇑P	Pn	02 11 21.4	+2.5
JKO	**Kozu shima**	**1.15**	**35**	P	Pn	02 11 21.9	+2.7
JHCJ	**Hachijojimakas**	**1.23**	**97**	P	Pn	02 11 20.9	+1.2
JHJ2	**Mitsune**	**1.24**	**95**	P	Pn	02 11 20.9	+1.2
TTO1	**TONANKAI O.B.S**	**1.36**	**287**	⇑P	Pn	02 11 22.5	+2.4
JIE	**Ise**	**1.79**	**311**	⇑P	Pn	02 11 25.2	+1.9
JIE				S	S	02 12 01.0	+2.6
JOD2	**Odawara 2**	**2.11**	**17**	P	Pn	02 11 27.4	+1.4
JOD2				S	S	02 12 05.8	+2.6
JWZ	**Kozaga**	**2.22**	**278**	⇑P	Pn	02 11 28.1	+1.2
JWZ				S	S	02 12 05.8	+0.9
JYN	**Shimob**	**2.26**	**4**	⇑P	Pn	02 11 29.2	+1.9
JWY	**Kouya**	**2.50**	**294**	⇑P	Pn	02 11 31.5	+2.1
JWY				S	S	02 12 11.8	+2.4
BSO1	**Boso 1**	**2.60**	**56**	P	Pn	02 11 29.2	-0.5
BSO1				S	S	02 12 09.6	-0.4
JGM	**Miyama**	**2.80**	**332**	P	Pn	02 11 34.3	+2.0
JGM				S	S	02 12 16.9	+2.4
JRY	**Ryogami san**	**2.81**	**9**	P	Pn	02 11 33.9	+1.6
JRY				S	S	02 12 15.6	+0.9
MJAR	**Matsushiro Arr**	**3.30**	**358**	P	Pn	02 11 38.4	+1.2
MJAR				S	S	02 12 24.7	+1.0
MJAR	**Matsushiro Arr**	**3.30**	**358**	P	Pn	02 11 38.4	+1.2
	58nm,0.3s,baz=162,slow=9.7,SNR=395						
MJAR				S	S	02 12 24.7	+1.0
	baz=179,slow=16,SNR=2.7						
MAT	**Matsushiro**	**3.30**	**358**	P	Pn	02 11 38.5	+1.3
MAT				S	S	02 12 24.4	+0.8
MAT	**Matsushiro**	**3.30**	**358**	P	Pn	02 11 38.6	+1.3
MAT				eS	S	02 12 24.9	+1.3
JAG	**Ashikaga**	**3.31**	**16**	P	Pn	02 11 37.3	0.0
JAG				S	S	02 12 21.9	-1.9
JNU	**Nakatsue**	**6.26**	**271**	ePn	Pn	02 12 11.0	-0.5
JNU	**Nakatsue**	**6.26**	**271**	P	Pn	02 12 12.3	+0.8
	1.4nm,0.3s,baz=82,slow=4.8,SNR=12						
CBIJ	**Chichi jima**	**6.96**	**151**	P	Pn	02 12 19.0	-1.1
CBIJ				S	S	02 13 31.9	-10
CBIJ	**Chichi jima**	**6.96**	**151**	P	Pn	02 12 19.0	-1.1
	30nm,0.3s,baz=269,slow=12,SNR=11						
CBIJ				S	S	02 13 31.9	-10
	baz=270,slow=20						
KSRS	**Korea Array**	**9.50**	**299**	P	Pn	02 12 53.0	+1.9
	3.2nm,0.3s,baz=113,slow=12,SNR=106						
KSAR	**Wonju Array Be**	**9.52**	**299**	P	Pn	02 12 53.0	+1.6
ERM	**Erimo**	**9.55**	**22**	eP	Pn	02 12 51.1	-0.6
ERM				pmax	pmax		
	comp=Z,44nm,1.0s						
ERM	**Erimo**	**9.55**	**22**	ePn	Pn	02 12 51.2	-0.5
ERM				eS	S	02 14 33.5	-6.2
INCN	**Inchon**	**10.46**	**297**	ePn	Pn	02 13 02.5	-0.5
VLA	**Vladivostok**	**11.09**	**335**	eP	Pn	02 13 06.2	-4.5
VLA				pmax	pmax		
	comp=Z,16nm,0.7s						
ASAJ	**Asahikawa**	**11.36**	**16**	ePn	Pn	02 13 12.7	-1.2
ASAJ				eS	S	02 15 12.0	-8.6
ASAJ	**Asahikawa**	**11.36**	**16**	P	Pn	02 13 14.0	+0.1
	comp=Z,3.0nm,0.3s,baz=217,slow=14,SNR=11						
ASAJ				S	S	02 15 15.0	-5.7
	comp=Z,1.5nm,0.3s,baz=24,slow=18,SNR=3.1						
USRK	**Ussuriysk Arra**	**12.01**	**338**	P	Pn	02 13 22.0	+0.1
	comp=Z,1.0nm,0.3s,baz=163,slow=12,SNR=15						
YUK	**Yuzh-Kuril'sk**	**12.27**	**26**	*d*iP	Pn	02 13 24.8	-0.2
YUK				eS	S	02 15 38.1	-3.2
YUK				pmax	pmax		
	comp=E,81nm,0.2s						
YUK				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK				pmax	pmax		
	comp=N,53nm,0.2s						
MDJ	**Mudanjiang**	**13.24**	**332**	P	P	02 13 37.1	-0.1
MDJ				S	S	02 16 01.5	-1.8
MDJ				pmax	pmax		
	comp=Z,40nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,61nm,5.0s						
MDJ				LR	LR		
	comp=N,26nm,23.5s						
MDJ				LR	LR		
	comp=Z,30nm,16.6s						
MDJ	**Mudanjiang**	**13.24**	**332**	*e*Pn	P	02 13 37.2	-0.1
	comp=Z,29nm,0.8s						
YSS	**Yuzh-Sakhalins**	**14.11**	**12**	⇑*i*P	Pn	02 13 49.0	+1.9
YSS				eS	S	02 16 20.0	-2.2
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,120nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,1.0s						
CN2	**Changchun**	**14.58**	**320**	⇑P	Pn	02 13 52.8	-0.1
CN2				eS	S	02 16 27.8	-4.4
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,90nm,4.0s						
HABR	**Khabarovsk**	**15.42**	**352**	eP	P	02 14 00.4	-0.8
HABR				eS	S	02 16 49.0	0.0
HABR				pmax	pmax		
	comp=N,40nm,2.0s						
HABR				pmax	pmax		
	comp=Z,56nm,1.5s						
HABR				pmax	pmax		
	comp=E,41nm,1.6s						
KLR	**Kul'dur**	**16.72**	**345**	eP	P	02 14 12.0	-3.4
KLR				eS	S	02 17 10.2	-4.7
KLR				pmax	pmax		
	comp=Z,38nm,1.4s						
BJI	**Beijing**	**19.02**	**297**	P	P	02 14 39.9	-0.4
BJI				pmax	pmax		
	comp=Z,20nm,0.9s						
WHN	**Wuhan**	**20.55**	**269**	P	P	02 14 57.1	+0.7
HIA	**Hailar**	**21.17**	**325**	eP	P	02 15 00.9	-1.4
	comp=Z,18nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.63**	**297**	eP	P	02 15 10.5	-5.3
HHC				S	S	02 18 53.6	-8.1
HHC				PcP	**PcP**	02 18 55.8	-2.7
HHC				ScP	**ScP**	02 22 04.8	-3.4
HHC				PcS	**PcS**	02 22 33.3	-4.4
HHC				ScS	**ScS**	02 25 56.3	+2.3
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.4s						
XAN	**Xi'an**	**24.48**	**280**	P	P	02 15 31.6	-1.0
XAN				S	S	02 19 25.3	-5.8
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ENH	**Enshi**	**24.69**	**271**	eP	P	02 15 33.7	-0.8
	comp=Z,11nm,0.4s						
SONM	**Songino Array**	**28.09**	**311**	P	P	02 16 05.8	+1.1
SONM				PcP	**PcP**	02 19 11.2	+0.4
SONM	**Songino Array**	**28.09**	**311**	P	P	02 16 05.8	+1.1
	comp=Z,19nm,0.9s,baz=111,slow=7.4,SNR=47						
SONM				PcP	**PcP**	02 19 11.2	+0.4
	comp=Z,0.5nm,0.6s,baz=83,slow=3.3,SNR=3.5						
GYA	**Guiyang**	**28.23**	**265**	eP	P	02 16 06.8	+0.7
GYA				pP	**pP**	02 17 01.3	-0.4
GYA				sP	**sP**	02 17 33.0	-2.5
GYA				PcP	**PcP**	02 19 12.5	+0.9
GYA				S	S	02 20 30.8	+0.5
GYA				sS	sS	02 22 05.4	-6.2
GYA				ScP	**ScP**	02 22 26.0	+1.4
GYA				PcS	**PcS**	02 22 54.3	-0.1
GYA				ScS	**ScS**	02 26 19.8	+1.6
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**28.44**	**286**	eP	P	02 16 07.4	-0.5
LZH				pP	**pP**	02 17 00.1	-3.5
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CD2	**Chengdu**	**29.33**	**275**	eP	P	02 16 14.9	-0.8
CD2				pP	**pP**	02 17 08.6	-3.0
CD2				sP	sP	02 17 40.6	-4.6
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				pmax	pmax		
	comp=Z,40nm,5.6s						
YAK	**Yakutsk**	**29.34**	**352**	eP	P	02 16 16.3	+1.0
ZAK	**Zakamensk**	**30.88**	**314**	eP	P	02 16 29.2	+0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
GTA	**Gaotai**	**31.48**	**292**	eP	P	02 16 34.4	-0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JAY	**Jayapura**	**35.63**	**176**	P	pP	02 18 14.0	+6.5
	comp=Z,52nm,0.7s,comp=Z,10μm						
WMQ	**Urumqi**	**40.45**	**300**	P	P	02 17 50.8	+0.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,92nm,3.4s						
ZAA0	**Zalesovo Array**	**42.73**	**316**	eP	P	02 18 08.2	0.0
ZALV	**Zalesovo Beam**	**42.73**	**316**	P	P	02 18 08.3	+0.1
ZALV						02 19 53.6	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**42.73**	**316**	P	P	02 18 08.3	+0.1
ZALV				PcP	**PP**	02 19 53.5	-0.3
ZALV	**Zalesovo Beam**	**42.73**	**316**	P	P	02 18 08.3	+0.1
	comp=Z,3.4nm,0.5s,baz=104,slow=6.3,SNR=13						
ZALV				PcP	**PP**	02 19 53.5	-0.3
	comp=Z,2.3nm,0.6s,baz=123,slow=2.6,SNR=8.0						
NVS	**Novosibirsk**	**43.76**	**317**	eP	P	02 18 14.6	-1.7
NVS				pmax	pmax		
	comp=N,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MK31	**Makanchi Array**	**44.12**	**305**	eP	P	02 18 19.6	+0.2
MK31	**Makanchi Array**	**44.12**	**305**	eP	P	02 18 19.6	+0.2
MKAR	**Makanchi Array**	**44.12**	**305**	eP	P	02 18 19.8	+0.4
MKAR	**Makanchi Array**	**44.12**	**305**	eP	P	02 18 19.8	+0.4
MKAR	**Makanchi Array**	**44.12**	**305**	P	P	02 18 19.6	+0.3
	comp=Z,2.9nm,0.4s,baz=85,slow=9.6,SNR=62						
KDU	**Kakadu**	**46.01**	**188**	P	P	02 18 33.9	-0.4
	baz=21,SNR=3.5						
MTN	**Manton Dam**	**46.34**	**190**	P	P	02 18 36.5	-0.4
	baz=21,SNR=4.9						
AAK	**Ala-Archa**	**50.16**	**300**	⇓*i*P	P	02 19 06.4	+0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**51.40**	**314**	*c*iP	P	02 19 15.1	+0.4
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BRVK	**Borovoye**	**51.40**	**314**	eP	P	02 19 15.3	+0.6
	comp=Z,8.4nm,1.1s						
KDAK	**Kodiak Island**	**51.61**	**40**	P	P	02 19 17.2	+1.0
KDAK	**Kodiak Island**	**51.

comp=Z,8.2nm,0.6s
WRA Warramunga Arr 53.02 185 P **P 02 19 26.4 -0.6**
WRA Warramunga Arr 53.02 185 P **P 02 19 26.4 -0.6**
comp=Z,6.7nm,0.3s,baz=0.0,slow=7.6,SNR=174
ILAR Eielson Array 54.04 31 P **P 02 19 34.3 +0.5**
ILAR Eielson Array 54.04 31 P **P 02 19 34.3 +0.5**
comp=Z,1.8nm,0.8s,baz=277,slow=5.8,SNR=22
SVE Sverdlovsk 56.37 320 *e*P **P 02 19 51.3 +0.8**
SVE pmax pmax
comp=Z,18nm,1.0s
AS31 Alice Springs 56.74 185 *e*P **P 02 19 53.2 -0.3**
ASAR Alice Springs 56.74 185 P **P 02 19 53.1 -0.3**
ASAR Alice Springs 56.74 185 P **P 02 19 53.1 -0.3**
comp=Z,3.4nm,0.5s,baz=14,slow=11,SNR=51
DAWY Dawson 57.34 31 *e*P **P 02 19 58.4 +1.2**
ARU Arti 57.58 320*d i*P **P 02 19 59.1 +0.2**
ARU 02 20 47.3
ARU 02 22 07.6
ARU S **S 02 27 35.5 +2.2**
ARU pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 58.50 311 *e*P **P 02 20 05.3 -0.1**
INK Inuvik 58.90 26 *e*P **P 02 20 09.1 +1.3**
comp=Z,1.8nm,0.7s
STKA Stephens Creek 64.84 177 P **P 02 20 48.1 +0.6**
STKA Stephens Creek 64.84 177 P **P 02 20 48.1 +0.6**
comp=Z,1.9nm,0.4s,baz=330,slow=8.1,SNR=5.3
TMCR Tamitsa 64.87 332 *e*P **P 02 20 47.6 +0.3**
TMCR *e* 02 23 13.2
TMCR pmax pmax
comp=Z,21nm,1.4s
ARCES ARCESS Array B 66.66 339 P **P 02 20 59.3 +0.6**
ARCES ARCESS Array B 66.66 339 P **P 02 20 59.3 +0.6**
comp=Z,0.8nm,0.5s,baz=68,slow=7.9,SNR=9.8
JOF Joensuu 68.12 332 *e*P **P 02 21 09.3 +1.5**
JOF pmax pmax
comp=Z,4.0nm,0.4s
JOF Joensuu 68.12 332 *e*p **P 02 21 09.3 +1.5**
comp=Z,3.8nm,0.4s
YKA Yellowknife Ar 68.34 29 P **P 02 21 09.9 +0.7**
YKA Yellowknife Ar 68.34 29 P **P 02 21 09.9 +0.7**
comp=Z,1.1nm,0.5s,baz=296,slow=6.6,SNR=7.2
OBN Obninsk 69.62 323 *e*P **P 02 21 18.0 +0.8**
OBN *e* 02 21 37.8
OBN *i* 02 23 54.6
OBN pmax pmax
comp=Z,7.0nm,1.2s
VSR Storozhevoye 70.12 319 *e*P **P 02 21 20.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,1.0nm,0.4s
KAF Kangasniemi 70.51 332 *e*P **P 02 21 23.0 +0.5**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 70.51 332 *e*p **P 02 21 23.0 +0.5**
comp=Z,2.2nm,0.3s
FINES FINESS Array B 70.98 332 P **P 02 21 25.5 +0.2**
FINES FINESS Array B 70.98 332 P **P 02 21 25.5 +0.2**
comp=Z,5.6nm,0.8s,baz=91,slow=7.6,SNR=17
KBZ Khabaz 71.45 310 P **P 02 21 29.1 +0.7**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 71.45 310 P **P 02 21 29.1 +0.7**
KBZ Khabaz 71.45 310 P **P 02 21 29.1 +0.7**
comp=Z,3.6nm,0.9s,baz=28,slow=3.6,SNR=6.2
KIV Kislovodsk 71.48 311 *e*P **P 02 21 29.9 +1.2**
KIV pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 74.68 50 P **P 02 21 49.0 +1.6**
YBH Yreka Blue Hor 74.68 50 P **P 02 21 49.0 +1.6**
comp=Z,2.9nm,0.8s,baz=287,slow=5.5,SNR=5.2
AKASG Malin Array Be 75.73 322 P **P 02 21 53.2 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.73 322 P **P 02 21 53.2 +0.1**
AKASG Malin Array Be 75.73 322 P **P 02 21 53.2 +0.1**
comp=Z,1.6nm,0.5s,baz=47,slow=5.7,SNR=6.4
KIEV Kiev 75.75 322 *e*P **P 02 21 53.1 0.0**
BMO Blue Mountains 76.36 45 *e*P **P 02 21 58.3 +1.4**
comp=Z,4.5nm,0.9s
NB2 NORSAR Subarra 76.68 337 P **P 02 21 58.4 +0.1**
comp=Z,5.8nm,0.8s,baz=43,slow=5.6
NOA NORSAR Array B 76.68 337 P **P 02 21 58.6 +0.3**
NOA NORSAR Array B 76.68 337 P **P 02 21 58.6 +0.3**
comp=Z,3.2nm,0.7s,baz=42,slow=5.6,SNR=14
WVOR Wild Horse Val 76.88 48 *e*P **P 02 22 01.3 +1.4**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 76.88 48 *e*P **P 02 22 01.3 +1.4**
comp=Z,3.0nm,0.9s
BEKR Beckworth 77.17 51 *e*P **P 02 22 02.8 +1.2**
comp=Z,4.8nm,0.8s
LRM Limekiln Ridge 78.62 42 *e*P **P 02 22 10.6 +1.1**
DLMT Dillon 78.81 43 *e*P **P 02 22 11.3 +0.9**
comp=Z,7.6nm,1.1s
NVAR Mina Array Bea 79.30 51 P **P 02 22 14.8 +1.5**
NVAR Mina Array Bea 79.30 51 P **P 02 22 14.8 +1.5**
comp=Z,3.8nm,0.8s,baz=292,slow=5.3,SNR=31
BRTR Keskin Array B 79.45 311 P **P 02 22 14.4 +0.5**
BRTR Keskin Array B 79.45 311 P **P 02 22 14.4 +0.5**
comp=Z,2.2nm,0.9s,baz=122,slow=5.3,SNR=11
KWP Kalwaria Pacla 79.71 323 *e*P **P 02 22 15.7 +0.7**
RRI2 Red Ridge 80.75 44 *e*P **P 02 22 23.4 +2.4**
comp=Z,3.7nm,0.9s
HVU Hansel Valley 80.83 46 *e*P **P 02 22 23.5 +2.2**
HVU pmax pmax
comp=Z,142nm,2.8s
HVU Hansel Valley 80.83 46 *e*P **P 02 22 23.5 +2.2**
comp=Z,142nm,2.8s
TPAW Teton Pass 80.88 44 *e*P **P 02 22 23.4 +1.8**
comp=Z,2.5nm,0.9s
R11A Troy Canyon, C 81.10 50 *e*P **P 02 22 24.2 +1.5**
comp=Z,4.7nm,1.1s
HWUT Hardware Ranch 81.66 45 *e*P **P 02 22 27.2 +1.6**
comp=Z,6.1nm,0.9s
OKC Ostrava-Krasne 81.79 326 *e*P P 02 22 30.7 +4.8
OKC Ostrava-Krasne 81.79 326 *e*P P 02 22 30.7 +4.8
KSP Ksiaz 81.96 327 *e*P **P 02 22 27.4 +0.6**
PDAR Pinedale Array 82.13 44 P **P 02 22 29.0 +0.9**
PDAR Pinedale Array 82.13 44 P **P 02 22 29.0 +0.9**
comp=Z,1.7nm,0.8s,baz=282,slow=2.5,SNR=13
DPC Dobruska-Polom 82.29 327 *i*P **P 02 22 29.4 +0.9**
DPC Dobruska-Polom 82.29 327 *i*P **P 02 22 29.4 +0.9**
UPC Upice 82.32 327 *e*P **P 02 22 28.3 -0.4**
UPC Upice 82.32 327 *e*P **P 02 22 28.3 -0.4**
BRG Berggiesshubel 82.99 328 *i*P **P 02 22 32.8 +0.7**
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 82.99 328 *i*P **P 02 22 32.8 +0.7**
BRG pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 83.09 329 *i*P **P 02 22 32.7 +0.2**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 83.09 329 *i*P **P 02 22 32.7 +0.2**
comp=Z,7.0nm,0.9s
MSU Marysvale 83.16 48 *e*P **P 02 22 35.3 +1.8**
MSU Marysvale 83.16 48 *e*P **P 02 22 35.3 +1.8**
PFO Pinyon Flat Ob 83.27 54 P **P 02 22 35.1 +1.1**
PFO Pinyon Flat Ob 83.27 54 P **P 02 22 35.1 +1.1**
comp=Z,4.4nm,0.8s,baz=333,slow=3.5,SNR=6.7
PRU Pruhonice 83.36 327 *e*P **P 02 22 34.6 +0.7**
PRU Pruhonice 83.36 327 *e*P **P 02 22 34.6 +0.7**
EIL Elat 84.28 302 P **P 02 22 39.2 +0.3**
EIL Elat 84.28 302 P **P 02 22 39.2 +0.3**
comp=Z,2.2nm,0.7s,baz=18,slow=14,SNR=3.5
KHC Kasperske Hory 84.41 327 *e*P **P 02 22 39.6 +0.3**
KHC Kasperske Hory 84.41 327 *e*P **P 02 22 39.6 +0.3**
GERES GERESS Array B 84.56 327 P **P 02 22 40.1 0.0**
GERES GERESS Array B 84.56 327 P **P 02 22 40.1 0.0**
comp=Z,0.5nm,0.5s,baz=49,slow=6.1,SNR=4.8
EKA Eskdalemuir Ar 85.82 339 P **P 02 22 46.7 +0.7**
EKA Eskdalemuir Ar 85.82 339 P **P 02 22 46.7 +0.7**
comp=Z,0.6nm,0.5s,baz=37,slow=4.8,SNR=4.2
TXAR Lajitas Array 94.44 51 P **P 02 23 28.3 +1.3**
TXAR Lajitas Array 94.44 51 P **P 02 23 28.3 +1.3**
comp=Z,2.8nm,0.7s,baz=292,slow=3.2,SNR=38
TORD Torodi Ar. Bea 118.06 311 PKP **PKPdf 02 28 51.3 -1.1**
TORD Torodi Ar. Bea 118.06 311 PKP **PKPdf 02 28 51.3 -1.1**
comp=Z,0.3nm,0.6s,baz=11,slow=1.0,SNR=9.7
LPAZ La Paz 150.75 61 *e*PKPbc **PKPbc 02 29 59.3 +0.7**
LPAZ La Paz 150.75 61 PKPbc **PKPbc 02 29 58.7 +0.1**
comp=Z,1.4nm,0.5s,baz=333,slow=3.1,SNR=12
CFAA Coronel Fontan 157.52 93 PKPab **PKPab 02 30 35.3 +0.7**
CFAA Coronel Fontan 157.52 93 PKPab **PKPab 02 30 35.3 +0.7**
comp=Z,0.2nm,0.5s,baz=284,slow=5.4,SNR=7.2

DJA ***24*** *02:13:32.7±2.4, 11°N×31°×12°4E±1°0, h76km±19km, M5.1/7, mB5.3/5, mb5.1/7, MLv5.3/1, Mw(mB)4.7/5*
ISCJB ***24*** *02:13:52.5±0.2, 9°53N±0°03×123°10E±0°04, h156km±2km, mb4.3/54, Error ellipse: s-maj=6.0km s-min=4.0km az=166.9*
MAN ***24*** *02:13:52, 9°56N×122°88E, h129km, mb5.3, ML4.3, MS4.6*
BJI ***24*** *02:13:54.0, 9°58N×123°12E, h165km, mB4.6/24, mb4.5/32*
IDC ***24*** *02:13:55.6±1.7, 9°53N×123°10E, h175km±15km, mb4.0/28, mb1 4.1/30, mb1mx4.0/34, mbtmp4.0/30, MS3.7/1, Ms1 3.7/1, ms1mx2.7/40, Error ellipse: s-maj=14.1km s-min=6.9km az=75.0*
TEH ***24*** *02:13:55.0, 9°45N×123°06E, h168km, ML4.6*
NEIC ***24*** *02:13:56.1±0.9, 9°51N×123°08E, h179km±8km, mb4.5/14, Error ellipse: s-maj=7.8km s-min=4.5km az=76.0*
AUST ***24*** *02:13:59.0±10.0, 6°45N×123°43E, h0km±1km, Error ellipse: s-maj=3.2km s-min=1.7km az=29.0*
ISC 24 02:13:53.0±0.4, 9°53N±0°03×123°05E±0°04, h149km±3km, n176,σ1$31/198, mb4.4/54, 5C-7D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.26**	**136**	⇑*i*	P		Pn	02 13 57.3	-16
SNPH				*i*	S		Sn	02 14 12.1	-17
TBP	**Tagbilaran**	**0.82**	**79**	*e*	P		Pn	02 14 16.4	+0.2
TBP				*e*	S		**Sn**	**02 14 33.7**	**-0.2**
DCPH	**Dipolog City**	**0.99**	**162**	⇑*i*	P		**Pn**	**02 14 16.6**	**-1.0**
DCPH				*i*	S		**Sn**	**02 14 34.9**	**-1.5**
GUIM	**Jordan**	**1.18**	**337**	*e*	P		**Pn**	**02 14 16.7**	**-2.7**
GUIM				*e*	S		**Sn**	**02 14 33.9**	**-5.5**
LLP	**Lapu-Lapu**	**1.19**	**49**	⇓*e*	P		**Pn**	**02 14 19.3**	**-0.1**
LLP				*i*	S		**Sn**	**02 14 39.8**	**+0.2**
PAGZ	**Pagadian**	**1.71**	**169**	*e*	P		Pn	02 14 25.1	+0.3
IPIL	**Ipil**	**1.80**	**195**	*e*	P		**Pn**	**02 14 25.1**	**-0.7**
MSLP	**Maasin**	**1.88**	**71**	*e*	P		Pn	02 14 28.1	+1.4
CGP	**Cagayan de Oro**	**1.94**	**123**	⇑*e*	P		Pn	02 14 28.0	+0.5
CGP				*e*	S		**Sn**	**02 14 54.9**	**+1.0**
RCP	**Roxas**	**2.04**	**352**	⇓*e*	P		**Pn**	**02 14 26.9**	**-1.7**
RCP				*e*	S		**Sn**	**02 14 53.8**	**-2.1**
OCLP	**Ormoc**	**2.15**	**45**	*e*	P		**Pn**	**02 14 30.4**	**+0.5**
BUKP	**Musuan**	**2.58**	**129**	*e*	P		Pn	02 14 37.5	+2.3
CTBH	**Cotabato--PC H**	**2.58**	**153**	⇓*e*	P		Pn	02 14 37.1	+1.9
CTBH				*i*	S		**Sn**	**02 15 08.6**	**+0.9**
BUTP	**Butuan**	**2.60**	**102**	*e*	P		Pn	02 14 37.2	+1.8
MYLDM	**Lahad Datu**	**6.25**	**227**	P			Pn	02 15 26.2	+3.1
MYLDM	**Lahad Datu**	**6.25**	**227**	P			Pn	02 15 25.7	+2.6
	196nm,0.8s,2μm0.6nm								
SDKM	**Sandakan**	**6.97**	**237**	P			**Pn**	**02 15 33.0**	**+0.2**
TSM	**Tawau**	**7.32**	**225**	P			Pn	02 15 39.3	+2.0
KKM	**Kota Kinabalu**	**7.61**	**243**	*e*Pn			Pn	02 15 42.4	+1.1
KKM	**Kota Kinabalu**	**7.61**	**243**	P			Pn	02 15 42.8	+1.5
KKM	**Kota Kinabalu**	**7.61**	**243**	P			**Pn**	**02 15 40.6**	**-0.7**
	121nm,0.9s,1μm								
KKM	**Kota Kinabalu**	**7.61**	**243**	P			Pn	02 15 42.9	+1.5
	baz=7.2,SNR=12								
PALU	**Palau**	**11.51**	**100**	S			Sn	02 18 27.3	-13
	baz=11,SNR=4.7								
SBUM	**Sibu**	**12.86**	**238**	P			**P**	**02 16 52.6**	**-3.0**
SBUM	**Sibu**	**12.86**	**238**	P			**Pn**	**02 16 51.3**	**+0.7**
	22nm,1.1s								
YULB	**Yu-li**	**13.88**	**353**	*e*Pn			**P**	**02 17 04.9**	**-2.1**
TPUB	**Ta-pu**	**13.88**	**351**	*e*Pn			**P**	**02 17 08.4**	**+1.4**
KAPI	**Kappang**	**14.82**	**193**	P			**P**	**02 17 18.8**	**+1.4**
KAPI	**Kappang**	**14.82**	**193**	P			**P**	**02 17 18.8**	**+1.4**
	1.5nm,0.3s,baz=198,slow=18,SNR=4.6								
QIZ	**Qiongzhong**	**15.89**	**308**	P			**P**	**02 17 29.4**	**+0.1**
QIZ				S			**S**	**02 20 29.1**	**+2.9**
QIZ				pmax			pmax		
	comp=Z,9.0nm,1.3s								
QIZ				pmax			pmax		
	comp=Z,140nm,7.8s								
JOW	**Kunigami**	**17.90**	**15**	*e*Pn			**Pn**	**02 17 53.1**	**+0.4**
	comp=Z,19nm,0.8s								
SRBI	**Singaraja**	**19.16**	**204**	P			**Pn**	**02 18 07.4**	**-0.2**
	comp=Z,118nm,1.1s,comp=Z,1μm								
SOEI	**Soe**	**19.20**	**176**	P			Pn	02 18 18.3	+10
ABJI	**Asem Bagus**	**19.32**	**207**	P			**Sn**	**02 21 47.3**	**-0.5**
BATI	**Baumata**	**19.62**	**178**	P			**P**	**02 18 12.1**	**+2.0**
BATI	**Baumata**	**19.62**	**178**	P			**P**	**02 18 10.6**	**+0.5**
	comp=Z,117nm,0.8s,comp=Z,940nm								
BATI	**Baumata**	**19.62**	**178**	P			**P**	**02 18 12.1**	**+2.0**
	comp=Z,16nm,0.3s,baz=249,slow=0.5,SNR=29								
SJI	**Sawahan**	**20.51**	**214**	P			Pn	02 18 23.9	+0.3
WHN	**Wuhan**	**22.43**	**340**	P			**P**	**02 18 40.4**	**+0.9**
NJ2	**Nanjing**	**22.74**	**351**	*e*P			**P**	**02 18 44.3**	**+1.8**
NJ2				pmax			pmax		
	comp=Z,15nm,0.9s								
GYA	**Guiyang**	**22.89**	**319**	*e*P			**P**	**02 18 43.3**	**-0.8**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s								
MTN	**Manton Dam**	**23.64**	**160**	P			**P**	**02 18 53.8**	**+3.0**
	baz=6.5,SNR=3.6								
KDU	**Kakadu**	**23.98**	**157**	S			S	02 22 32.0	-28
	baz=21,SNR=6.3								
ENH	**Enshi**	**24.21**	**330**	*e*P			**P**	**02 18 55.8**	**-0.2**
	comp=Z,7.8nm,0.7s								
JNU	**Nakatsue**	**24.56**	**16**	P			**P**	**02 18 58.8**	**-0.3**
JNU	**Nakatsue**	**24.56**	**16**	P			**P**	**02 18 58.8**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=195,slow=12,SNR=2.5								
KMI	**Kunming**	**24.77**	**311**	P			**P**	**02 19 04.8**	**+3.5**
KMI				S			**S**	**02 23 11.6**	**-1.3**
KMI				pmax			pmax		
	comp=Z,9.0nm,0.7s								
KMI				LR			LR		
	comp=N,200nm,9.7s								
KMI				LR			LR		
	comp=E,210nm,11.1s								
KMI				LR			LR		
	comp=Z,190nm,10.6s								
PSI	**Prapat**	**24.89**	**256**	P			**P**	**02 19 04.5**	**+2.1**
PSI	**Prapat**	**24.89**	**256**	P			**P**	**02 19 04.5**	**+2.1**
	baz=6.5,SNR=3.6								
CMAR	**Chiang Mai Arr**	**24.99**	**293**	P			**P**	**02 19 04.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**24.99**	**293**	P			**P**	**02 19 04.3**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=110,slow=7.8,SNR=4.4								
KNRA	**Kununurra**	**25.68**	**167**	P			P	02 19 00.5	-8.8
	baz=23,SNR=4.7								
FITZ	**Fitzroy Crossi**	**27.58**	**175**	P			**P**	**02 19 25.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.58**	**175**	P			**P**	**02 19 25.7**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=12,slow=7.3,SNR=8.8								
FITZ				LR			LR	02 32 10.2	
	comp=Z,165nm,21.3s,baz=327,slow=40								
FITZ	**Fitzroy Crossi**	**27.58**	**175**	P			**P**	**02 19 26.3**	**+0.1**
	baz=25,SNR=3.8								
CD2	**Chengdu**	**27.84**	**323**	*e*P			**P**	**02 19 29.4**	**+0.8**
CD2				pP			pP	02 20 04.5	+4.5
CD2				sP			sP	02 20 24.0	+6.7
CD2				PP			**PnPn**	**02 20 27.1**	**+3.2**
CD2				S			**S**	**02 24 00.1**	**-0.8**
CD2				sS			sS	02 25 01.8	+5.4
CD2				SS			**SnSn**	**02 25 37.0**	**+4.4**
CD2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
CD2				pmax			pmax		
	comp=Z,80nm,4.8s								
KSAR	**Wonju Array Be**	**28.13**	**8**	P			**P**	**02 19 31.8**	**+0.7**
KSRS	**Korea Array**	**28.14**	**8**	P			**P**	**02 19 31.8**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=184,slow=9.8,SNR=13								
COEN	**Coen**	**30.71**	**139**	P			**P**	**02 19 53.3**	**-0.9**
	baz=28,SNR=16								
BJI	**Beijing**	**30.99**	**350**	P			**P**	**02 19 56.8**	**+0.5**
BJI				pmax			pmax		
	comp=Z,12nm,1.3s								
WRAB	**Tennant Creek**	**31.32**	**159**	*e*P			**P**	**02 19 58.5**	**-1.0**
	comp=Z,52nm,2.0s								
WRA	**Warramunga Arr**	**31.33**	**159**	P			**P**	**02 19 58.0**	**-1.5**
WRA				PcP			**PcP**	**02 22 49.1**	**-1.0**
WRA	**Warramunga Arr**	**31.33**	**159**	P			**P**	**02 19 58.0**	**-1.5**
	comp=Z,4.3nm,0.4s,baz=342,slow=9.2,SNR=31								
WRA				PcP			**PcP**	**02 22 49.1**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=342,slow=3.1,SNR=5.8								
LZH	**Lanzhou**	**31.68**	**330**	*e*P			**P**	**02 20 04.3**	**+1.7**
LZH				pP			pP	02 20 36.4	+2.0
LZH				PP			**PP**	**02 21 16.5**	**-0.7**
LZH				*e*S			**S**	**02 25 00.6**	**-0.6**
LZH				sS			sS	02 26 00.9	+3.9
LZH				SS			**SnSn**	**02 27 04.6**	**-1.5**
LZH				pmax			pmax		
	comp=Z,18nm,1.0s								
LZH				pmax			pmax		
	comp=Z,100nm,5.1s								
LZH				LR			LR		
	comp=N,150nm,10.1s								
LZH				LR			LR		
	comp=E,180nm,11.3s								
LZH				LR			LR		
	comp=Z,290nm,13.0s								
HHC	**Hu-ho-hao-te**	**32.81**	**344**	*e*P			**P**	**02 20 14.8**	**+2.5**
HHC				pP			pP	02 20 51.8	+7.6
HHC				sP			sP	02 21 11.5	+10
HHC				PP			**PP**	**02 21 32.3**	**+2.7**
HHC				PcP			**PcP**	**02 22 54.1**	**+0.2**
HHC				S			**S**	**02 25 19.1**	**+0.6**
HHC				ScP			**ScP**	**02 26 20.8**	**-3.4**
HHC				SS			**SnSn**	**02 27 33.1**	**0.0**
HHC				ScS			**ScS**	**02 30 20.4**	**-4.0**
HHC				pmax			pmax		
	comp=Z,28nm,0.8s								
HHC				pmax			pmax		
	comp=Z,200nm,4.6s								
SHL	**Shillong**	**33.60**	**302**	*e*P			**P**	**02 20 20.0**	**+0.5**
CN2	**Changchun**	**34.20**	**3**	⇓P			**P**	**02 20 25.3**	**+1.1**
CN2				*e*pP			pP	02 21 04.3	+8.1
CN2				*e*S			**S**	**02 25 43.4**	**+3.7**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
CN2				pmax			pmax		
	comp=Z,200nm,3.0s								
MTSU	**Mount Surprise**	**34.59**	**143**	P			**P**	**02 20 27.8**	**-0.2**
	baz=32,SNR=9.9								
AS31	**Alice Springs**	**34.66**	**162**	*e*P			**P**	**02 20 28.2**	**-0.3**
ASAR	**Alice Springs**	**34.66**	**162**	P			**P**	**02 20 28.1**	**-0.3**
ASAR				PcP			**PcP**	**02 22 58.6**	**-0.7**
ASAR				S			**S**	**02 25 45.0**	**-2.2**
ASAR				ScP			**ScP**	**02 26 29.0**	**-1.9**
ASAR	**Alice Springs**	**34.66**	**162**	P			**P**	**02 20 28.1**	**-0.3**
	comp=Z,8.7nm,0.5s,baz=346,slow=7.2,SNR=56								
ASAR				PcP			**PcP**	**02 22 58.6**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=342,slow=2.9,SNR=6.1								
ASAR				S			**S**	**02 25 45.0**	**-2.2**
	comp=Z,1.2nm,0.8s,baz=332,slow=13,SNR=8.0								
ASAR				ScP			**ScP**	**02 26 29.0**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=339,slow=3.0,SNR=4.6								
USRK	**Ussuriysk Arra**	**35.40**	**11**	P			**P**	**02 20 34.9**	**+0.4**
	comp=Z,9.1nm,0.6s,baz=194,slow=7.5,SNR=29								
MDJ	**Mudanjiang**	**35.41**	**8**	P			**P**	**02 20 35.4**	**+0.8**
MDJ				sP			sP	02 21 27.9	+4.1
MDJ				PP			**PnPn**	**02 21 59.0**	**+0.4**
MDJ				S			**S**	**02 25 59.5**	**+1.3**
MDJ				PcS			**PcS**	**02 26 48.3**	**0.0**
MDJ				pmax			pmax		
	comp=Z,8.0nm,1.2s								
MDJ				pmax			pmax		
	comp=Z,49nm,7.1s								
MEEK	**Meekatharra**	**36.21**	**187**	P			**P**	**02 20 41.3**	**-0.4**
	baz=33,SNR=5.9								
GTA	**Gaotai**	**36.27**	**329**	*e*P			**P**	**02 20 43.3**	**+1.1**
GTA				S			**S**	**02 26 11.5**	**-0.3**
GTA				SS			SnSn	02 28 43.5	-13
GTA				pmax			pmax		
	comp=Z,7.0nm,1.0s								
GTA				pmax			pmax		
	comp=Z,64nm,6.2s								
GTA				LR			LR		
	comp=N,54nm,15.7s								
GTA				LR			LR		
	comp=E,67nm,15.9s								
GTA				LR			LR		
	comp=Z,54nm,17.1s								
CTA	**Charters Tower**	**37.26**	**142**	P			**P**	**02 20 50.9**	**+0.3**
CTA	**Charters Tower**	**37.26**	**142**	P			**P**	**02 20 50.9**	**+0.3**
	comp=Z,3.8nm,0.4s,baz=315,slow=9.7,SNR=10								
CTAO	**Charters Tower**	**37.26**	**142**	*e*P			**P**	**02 20 50.4**	**-0.1**
	comp=Z,3.3nm,0.3s								
TAPN	**Taplejung**	**37.73**	**303**	*e*P			**P**	**02 20 55.7**	**+0.8**
	comp=Z,20nm,0.4s								
ODAN	**Odare**	**37.83**	**302**	*e*P			**P**	**02 20 56.3**	**+0.7**
	comp=Z,15nm,0.5s								
ASAJ	**Asahikawa**	**38.41**	**23**	P			**P**	**02 20 59.6**	**-0.2**
ASAJ	**Asahikawa**	**38.41**	**23**	P			**P**	**02 20 59.6**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=283,slow=12,SNR=2.7								
MORW	**Morawa**	**38.97**	**190**	P			**P**	**02 21 05.0**	**+0.2**
	baz=36,SNR=5.1								
JIRN	**Jiri**	**39.10**	**302**	*e*P			**P**	**02 21 07.3**	**+0.9**
	comp=Z,22nm,0.5s								
GUN	**Gumba**	**39.45**	**303**	*e*P			**P**	**02 21 10.1**	**+0.8**
	comp=Z,26nm,0.5s								
PKI	**Pulchoki**	**39.73**	**302**	*e*P			**P**	**02 21 11.7**	**+0.2**
	comp=Z,8.3nm,0.5s								
PKIN	**Phulchoki**	**39.74**	**302**	*e*P			**P**	**02 21 12.4**	**+0.8**
	comp=Z,7.4nm,0.5s								
SONM	**Songino Array**	**40.69**	**343**	P			**P**	**02 21 19.5**	**+0.6**
SONM				PcP			**PcP**	**02 23 17.4**	**-0.2**
SONM				ScP			**ScP**	**02 26 52.6**	**-0.8**
SONM	**Songino Array**	**40.69**	**343**	P			**P**	**02 21 19.5**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=163,slow=9.0,SNR=7.9								
SONM				PcP			**PcP**	**02 23 17.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=162,slow=2.8,SNR=4.8								
SONM				ScP			**ScP**	**02 26 52.6**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=132,slow=2.1,SNR=3.5								
KLBR	**Kellerberrin**	**41.20**	**187**	P			**P**	**02 21 22.9**	**-0.2**
	baz=38,SNR=7.8								
HNR	**Honiara**	**41.28**	**116**	P			**P**	**02 21 24.1**	**0.0**
HNR	**Honiara**	**41.28**	**116**	P			**P**	**02 21 24.1**	**0.0**
	comp=Z,46nm,0.4s,baz=288,slow=3.2,SNR=2.3								
KOLN	**Koldanda**	**41.31**	**301**	*e*P			**P**	**02 21 24.9**	**+0.5**
	comp=Z,17nm,0.5s								
DANN	**Dangsing**	**41.36**	**302**	*e*P			**P**	**02 21 25.2**	**+0.3**
	comp=Z,12nm,0.4s								
NWAO	**Narrogin (SRO)**	**42.59**	**187**	P			**P**	**02 21 34.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**42.59**	**187**	P			**P**	**02 21 34.6**	**+0.3**
	comp=Z,10.0nm,0.6s,baz=24,slow=12								
EIDS	**Eidsvold**	**44.15**	**142**	*e*P			**P**	**02 21 46.4**	**-0.6**

comp=Z,1.6nm,0.4s
ZALV **Zalesovo Beam** 53.79 333 P **P** 02 22 59.7 -0.3
ZALV PcP **PcP** 02 24 02.8 -1.2
ZALV **Zalesovo Beam** 53.79 333 P **P** 02 22 59.7 -0.3
comp=Z,2.8nm,0.3s,baz=128,slow=7.1,SNR=11
ZALV PcP **PcP** 02 24 02.8 -1.2
comp=Z,1.7nm,0.5s,baz=124,slow=2.0,SNR=4.1
USP **Ospenovka** 53.89 317 P **P** 02 23 02.0 +0.9
SNR=8.9
AML **Almayashu** 53.99 316 P **P** 02 23 03.3 +1.1
SNR=17
EKS2 **Erkin-Say** 54.14 316 P **P** 02 23 04.1 +1.2
SNR=8.2
EKS2 **Erkin-Say** 54.14 316 *e*P **P** 02 23 03.9 +1.0
comp=Z,15nm,1.2s
KBL **Kabul** 55.15 306 *e*P **P** 02 23 11.0 +0.5
comp=Z,9.1nm,0.8s
KKAR **Karatay Array** 56.53 316 *e*P **P** 02 23 20.7 +0.7
comp=Z,7.6nm,0.6s
IMYA **Miami** 62.66 306 *e*P **P** 02 24 03.5 +1.3
IPAY **Payeh** 63.56 306 *e*P **P** 02 24 08.6 +0.4
IKRD **Kardeh** 63.99 306 *e*P P 02 24 06.7 -4.3
ISFR **Sfrayin** 64.43 306 *e*P **P** 02 24 14.6 +0.6
ABKAR **Akbulak array** 65.38 320 *e*P **P** 02 24 19.4 -0.1
RAYN **Ar Rayn** 74.90 292 *e*P **P** 02 25 18.1 0.0
comp=Z,12nm,1.7s
IMA2 **Indian Mountai** 78.61 24 *e*P **P** 02 25 38.3 +0.2
COLD **Coldfoot** 80.02 23 *e*P **P** 02 25 46.3 +0.7
comp=Z,4.5nm,0.8s
MCK **McKinley** 80.64 27 *e*P **P** 02 25 48.6 -0.5
comp=Z,8.3nm,0.6s
ILAR **Eielson Array** 81.48 26 P P 02 25 51.6 -1.8
ILAR **Eielson Array** 81.48 26 P P 02 25 51.6 -1.8
comp=Z,0.8nm,0.6s,baz=241,slow=4.7,SNR=18
ASF **Jabal al Asfar** 81.76 301 P **P** 02 25 56.2 +0.5
ASF **Jabal al Asfar** 81.76 301 P **P** 02 25 56.2 +0.5
comp=Z,2.1nm,0.6s,baz=181,slow=2.6,SNR=4.8
BRTR **Keskin Array B** 83.54 309 P **P** 02 26 03.7 -1.1
BRTR **Keskin Array B** 83.54 309 P **P** 02 26 03.7 -1.1
comp=Z,1.0nm,0.6s,baz=125,slow=5.2,SNR=6.7
ARCES **ARCESS Array B** 83.77 339 P **P** 02 26 04.7 -0.5
ARCES **ARCESS Array B** 83.77 339 P **P** 02 26 04.7 -0.5
comp=Z,3.4nm,0.5s,baz=81,slow=6.7,SNR=61
DAWY **Dawson** 84.80 26 *e*P **P** 02 26 11.3 +0.9
FINES **FINESS Array B** 85.02 331 P **P** 02 26 10.9 -0.6
FINES **FINESS Array B** 85.02 331 P **P** 02 26 10.9 -0.6
comp=Z,2.9nm,0.6s,baz=73,slow=4.6,SNR=28
AKASG **Malin Array Be** 85.12 320 P **P** 02 26 11.4 -0.8
AKASG **Malin Array Be** 85.12 320 P **P** 02 26 11.4 -0.8
comp=Z,1.7nm,0.5s,baz=68,slow=4.9,SNR=10
KIEV **Kiev** 85.13 320 *e*P **P** 02 26 11.6 -0.8
comp=Z,9.0nm,1.0s
KMBO **Kilima Mbogo** 86.04 268 P **P** 02 26 17.4 -0.6
KMBO **Kilima Mbogo** 86.04 268 P **P** 02 26 17.4 -0.6
comp=Z,0.6nm,0.3s,baz=56,slow=24,SNR=4.4
INK **Inuvik** 86.12 21 *e*P **P** 02 26 16.6 -0.3
comp=Z,33nm,1.9s
TESR **Tescani** 87.53 317 ⇓*i*P **P** 02 26 23.7 -0.5
VRI **Vrincioaia** 87.60 316 ⇑*i*P **P** 02 26 25.4 +0.8
MAW **Mawson** 87.94 199 P **P** 02 26 25.2 -0.3
MAW **Mawson** 87.94 199 P **P** 02 26 25.2 -0.3
comp=Z,1.5nm,0.7s,baz=125,slow=4.0,SNR=11
MLR **Muntele Rosu** 88.22 316 ⇓*i*P **P** 02 26 27.8 +0.2
BURAR **Bucovina Array** 88.27 318 ⇓*i*P **P** 02 26 27.7 -0.1
KWP **Kalwaria Pacla** 89.44 320 ⇑*i*P **P** 02 26 33.3 +0.2
VNDA **Vanda** 89.62 172 P **P** 02 26 32.1 -1.1
VNDA **Vanda** 89.62 172 P **P** 02 26 32.1 -1.1
comp=Z,0.6nm,0.6s,baz=296,slow=5.5,SNR=5.2
NB2 **NORSAR Subarra** 92.00 333 P **P** 02 26 43.0 -1.8
comp=Z,2.2nm,0.6s,baz=65,slow=4.6
NB2 **NORSAR Subarra** 92.00 333 P **P** 02 26 43.0 -1.8
baz=65,slow=4.6
NOA **NORSAR Array B** 92.00 333 P **P** 02 26 43.7 -1.1
NOA **NORSAR Array B** 92.00 333 P **P** 02 26 43.7 -1.1
comp=Z,2.3nm,0.6s,baz=67,slow=4.6,SNR=9.7
BRG **Berggiesshubel** 94.43 323 *i*P **P** 02 26 56.5 +0.3
comp=Z,3.2nm,0.8s
GERES **GERESS Array B** 95.30 321 P **P** 02 26 59.4 -0.9
GERES **GERESS Array B** 95.30 321 P **P** 02 26 59.4 -0.9
comp=Z,0.5nm,0.7s,baz=20,slow=1.6,SNR=3.4
TORD **Torodi Ar. Bea** 117.57 290 PKP **PKPdf** 02 32 20.8 -1.5
TORD **Torodi Ar. Bea** 117.57 290 PKP **PKPdf** 02 32 20.8 -1.5
comp=Z,2.4nm,0.6s,baz=47,slow=2.4,SNR=38
TXAR **Lajitas Array** 120.68 48 PKP **PKPdf** 02 32 27.5 -0.5
TXAR **Lajitas Array** 120.68 48 PKP **PKPdf** 02 32 27.5 -0.5
comp=Z,0.8nm,0.5s,baz=113,slow=0.2,SNR=17
JCT **Junction City** 122.77 44 *e*PKPdf **PKPdf** 02 32 32.3 +0.3
DBIC **Dimbokro** 125.66 285 PKP **PKPdf** 02 32 37.7 -0.1
DBIC **Dimbokro** 125.66 285 PKP **PKPdf** 02 32 37.7 -0.1
comp=Z,2.4nm,0.6s,baz=86,slow=4.3,SNR=4.1
PLCA **Paso Flores** 146.67 161 PKPbc **PKPdf** 02 33 17.1 +1.3
PLCA **Paso Flores** 146.67 161 PKPbc **PKPdf** 02 33 17.1 +1.3
comp=Z,3.9nm,0.6s,baz=217,slow=2.0,SNR=13
LPAZ **La Paz** 167.20 123 PKP **PKPdf** 02 33 42.0 -0.9
LPAZ **La Paz** 167.20 123 PKP **PKPdf** 02 33 42.0 -0.9
comp=Z,1.3nm,0.9s,baz=273,slow=2.9,SNR=4.2

IDC 24 02:20:14.4±5.5, 13°.12N×92°.21E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/27, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=113.7km s-min=51.6km az=170.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	8.38	50	Pn	Pn	02 22 18.2	+1.0
	0.5nm,0.3s,baz=237,slow=16,SNR=5.6						
MKAR	**Makanchi Array**	34.59	348	P	P	02 27 03.9	-1.2
	0.4nm,0.5s,baz=157,slow=7.8,SNR=4.3						
FINES	**FINESS Array B**	67.22	332	P	P	02 31 11.2	+0.9
	1.5nm,1.0s,baz=102,slow=6.2,SNR=5.4						
ARCES	**ARCESS Array B**	69.72	340	P	P	02 31 25.7	-0.2
	2.1nm,1.0s,baz=92,slow=8.1,SNR=4.2						

*DJA **24** 02:21:55.7±0.3, 8°.S±2°.×11°.9E±°, h10km, M4.9/16, mb5.0/5, mB5.4/3, MLv4.8/16, Mw(mB)4.8/3*
*ISCJB **24** 02:21:56.8±0.3, 7°.84S±0°.03×118°.72E±0°.03, h34km, mb4.4/19, MS3.8/16, Error ellipse: s-maj=5.2km s-min=4.3km az=139.5*
*NEIC **24** 02:21:57.7±2.3, 7°.77S×118°.89E, h28km±17km, mb4.4/4, Error ellipse: s-maj=12.3km s-min=6.0km az=60.0*
*IDC **24** 02:21:59.2±2.4, 7°.75S×118°.96E, h40km±22km, mb4.0/14, mb1 4.2/18, mb1mx4.0/29, mbtmp4.1/18, ML4.0/4, MS3.8/18, Ms1 3.8/18, ms1mx3.6/37, Error ellipse: s-maj=23.2km s-min=9.6km az=59.0*
*BJI **24** 02:22:01.8, 7°.50S×118°.60E, h54km, mB4.9/3, mb4.5/5*
*AUST **24** 02:22:08.0, 8°.49S×118°.97E, h60km*
ISC 24 02:21:58.6±0.4, 7°.81S±0°.03×118°.84E±0°.04, h34km, n92, σ1§70/93, mb4.3/19, MS3.8/16, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	1.24	123	P	**Pn**	02 22 19.6	+0.1
LBFI				S	**Sb**	02 22 37.8	+0.7
BSSI	**Bau Bau, Buton**	2.33	45	P	**Pn**	02 22 34.9	+0.4
WSI	**Waingapu**	2.34	142	P	**Pb**	02 22 39.5	-0.8
WSI				S	**Sb**	02 23 07.1	-1.7
MTNI	**Mataram**	2.77	253	P	**Pn**	02 22 39.4	-1.2
BKSI	**Bulukumba**	2.78	27	P	**Pn**	02 22 41.0	+0.3
BKSI				S	**Sn**	02 23 16.7	+3.6
KAPI	**Kappang**	2.92	18	*e*Pn	**Pn**	02 22 40.8	-1.8
KAPI				*e*S	**Sn**	02 23 20.0	+3.4
KAPI				S	**Sb**	02 23 21.6	-3.7
KAPI	**Kappang**	2.92	18	P	**Pn**	02 22 41.2	-1.5
KAPI	**Kappang**	2.92	18	P	**Pn**	02 22 40.9	-1.8
	14nm,0.3s,baz=210,slow=8.6,SNR=42						
KAPI				S	**Sb**	02 23 21.6	-3.7
	176nm,0.3s,baz=93,slow=22,SNR=21						
MMRI	**Maumere**	3.46	104	P	**Pn**	02 22 51.1	+0.9
IGBI	**Denpasar**	3.79	254	P	**Pn**	02 22 55.2	+0.5
SPSI	**Sidrap Palu**	3.93	14	P	**Pb**	02 23 07.0	-0.2
BBSI	**Bau Bau**	4.36	58	P	Pb	02 23 09.3	-5.3
KKSI	**Kolaka, Sulawe**	4.57	38	P	Pn	02 23 10.8	+5.4
KMMI	**Kalianget**	4.89	279	P	**Pn**	02 23 07.9	-1.9
MMSI	**Mamuju**	5.08	1	P	**Pn**	02 23 10.0	-2.5
	123nm,0.6s,3μm0.9nm						
BATI	**Baumata**	5.33	117	P	**Pn**	02 23 14.4	-1.4
BATI				S	Sn	02 24 22.7	+6.6
BATI	**Baumata**	5.33	117	P	**Pn**	02 23 17.4	+1.6
	63nm,0.6s,0.3nm						
BATI	**Baumata**	5.33	117	P	**Pn**	02 23 14.4	-1.4
	2.4nm,0.3s,baz=284,slow=11,SNR=2.1						
BATI				S	Sn	02 24 22.7	+6.6
	4.4nm,0.3s,baz=106,slow=20,SNR=4.4						
BATI				LR	LR	02 25 35.7	
	comp=Z,2μm,21.5s,baz=281,slow=41						
GMJI	**Gumukmas**	5.36	265	P	**Pn**	02 23 15.3	-1.0
	47nm,0.8s,0.3nm						
SOEI	**Soe**	5.70	110	P	Pn	02 23 26.1	+5.0
BBKI	**Banjar Baru**	5.87	317	P	**Pn**	02 23 21.8	-1.5
	258nm,1.4s,5μm1.6nm						
PCJI	**Pacitan**	7.60	267	P	**Pn**	02 23 45.6	-1.4
LUWI	**Luwuk**	7.78	30	S	**Sb**	02 25 41.4	-3.6
	baz=8.4,SNR=3.6						
FITZ	**Fitzroy Crossi**	12.19	148	*e*Pn	**Pn**	02 24 48.3	-1.6
	4.0nm,0.6s						
FITZ				*e*S	**Sn**	02 27 01.0	-3.7
FITZ				S	**Sn**	02 27 01.6	-3.1
FITZ	**Fitzroy Crossi**	12.19	148	P	**Pn**	02 24 48.3	-1.6
	0.6nm,0.3s,baz=338,slow=11,SNR=16						
FITZ				S	**Sn**	02 27 01.6	-3.1
	1.4nm,0.3s,baz=176,slow=18,SNR=10						
FITZ	**Fitzroy Crossi**	12.19	148	P	**Pn**	02 24 49.3	-0.6
	baz=12,SNR=9.7						
FITZ				S	**Sn**	02 27 02.5	-2.2
	baz=12,SNR=5.6						
KNRA	**Kunounurra**	12.47	130	P	**Pn**	02 24 54.9	+1.2
	baz=12,SNR=3.9						
KNRA				S	**Sn**	02 27 08.4	-3.1
	baz=12,SNR=5.9						
KSM	**Kuching**	12.55	317	*e*Pn	**Pn**	02 24 55.6	+0.8
	4.6nm,0.3s						
MBWA	**Marble Bar**	13.30	176	*e*Pn	**Pn**	02 25 04.4	-0.8
MBWA				*e*S	Sn	02 27 22.4	-9.5
TLE	**Tual**	13.97	82	P	Pn	02 25 06.2	-8.1
	baz=14,SNR=3.2						
KDU	**Kakadu**	14.26	111	P	**Pn**	02 25 19.1	+0.8
	baz=14,SNR=4.8						
PMBI	**Palembang**	14.82	288	P	P	02 25 40.8	+9.5
	baz=15,SNR=4.1						
MEEK	**Meekatharra**	18.73	181	P	**Pn**	02 26 16.1	+1.0
	baz=18,SNR=7.5						
MEEK				S	Sn	02 29 28.4	-15
	baz=18,SNR=6.9						
WRA	**Warramunga Arr**	19.26	130	P	**P**	02 26 20.3	-0.2
WRA				S	Sn	02 29 44.7	-12
WRA	**Warramunga Arr**	19.26	130	P	**P**	02 26 20.3	-0.2
	1.0nm,0.3s,baz=302,slow=12,SNR=48						
WRA				S	Sn	02 29 44.7	-12
	0.1nm,0.3s,baz=309,slow=24,SNR=3.4						
WRA				LR	LR	02 34 41.8	
	comp=Z,180nm,20.6s,baz=310,slow=40						
WRAB	**Tennant Creek**	19.27	130	*e*P	**Pn**	02 26 21.2	-0.4
	18nm,1.1s						
WRAB				*e*S	Sn	02 29 47.0	-10
MORW	**Morawa**	21.31	187	P	**P**	02 26 44.8	+2.2
	baz=21,SNR=5.5						
MORW				S	S	02 30 30.1	-7.5
	baz=21,SNR=5.5						
AS31	**Alice Springs**	21.39	139	*e*P	**P**	02 26 43.7	+0.2
ASAR	**Alice Springs**	21.39	139	P	**P**	02 26 44.4	+0.8
ASAR				S	**S**	02 30 37.9	-1.4
ASAR	**Alice Springs**	21.39	139	P	**P**	02 26 44.3	+0.8
	21nm,0.7s,baz=311,slow=8.7,SNR=50						
ASAR				S	**S**	02 30 37.9	-1.4
	3.5nm,0.9s,baz=315,slow=22,SNR=8.9						
ASAR				LR	LR	02 36 22.6	
	comp=Z,168nm,20.6s,baz=183,slow=40						
PSI	**Prapat**	22.49	297	P	**P**	02 26 56.6	+1.0
PSI	**Prapat**	22.49	297	P	**P**	02 26 56.6	+1.0
	12nm,0.9s,baz=138,slow=11,SNR=6.1						
PSI				LR	LR	02 36 03.3	
	comp=Z,288nm,18.1s,baz=130,slow=38						
COEN	**Coen**	24.65	106	*e*P	**P**	02 27 16.6	+0.2
	282nm,0.9s						
COEN	**Coen**	24.65	106	P	**P**	02 27 17.8	+1.3
	baz=24,SNR=36						
NWAO	**Narrogin (SRO)**	25.04	183	P	**P**	02 27 19.6	-0.2
NWAO	**Narrogin (SRO)**	25.04	183	P	**P**	02 27 19.6	-0.2
	11nm,0.8s,baz=0.0,slow=9.1,SNR=4.8						
MTSU	**Mount Surprise**	26.83	115	P	**P**	02 27 37.3	+1.2
	baz=26,SNR=14						
CTA	**Charters Tower**	29.21	118	P	**P**	02 27 56.8	-0.7
CTA	**Charters Tower**	29.21	118	P	**P**	02 27 56.8	-0.7
	2.0nm,0.6s,baz=277,slow=14,SNR=3.5						
CTA				LR	LR	02 40 53.1	
	comp=Z,412nm,18.2s,baz=245,slow=39						
STKA	**Stephens Creek**	31.97	142	*e*P	**P**	02 28 22.4	+0.8
STKA	**Stephens Creek**	31.97	142	P	**P**	02 28 22.1	+0.5
	7.6nm,0.8s,baz=307,slow=11,SNR=7.6						
STKA				LR	LR	02 43 05.3	
	comp=Z,223nm,19.8s,baz=124,slow=40						
STKA	**Stephens Creek**	31.97	142	P	**P**	02 28 22.5	+0.8
	baz=31,SNR=5.1						
CMAR	**Chiang Mai Arr**	32.66	323	P	**P**	02 28 27.6	-0.2
CMAR	**Chiang Mai Arr**	32.66	323	P	**P**	02 28 27.6	-0.2
	0.9nm,0.3s,baz=156,slow=6.9,SNR=3.0						
CMAR				LR	LR	02 42 40.1	
	comp=Z,150nm,20.7s,baz=146,slow=38						
RMQ	**Roma**	33.95	127	P	**P**	02 28 41.5	+2.5
	baz=34,SNR=4.4						
ARPS	**Mount Arapiles**	35.63	147	S	**S**	02 34 22.9	-4.5
	baz=35,SNR=7.8						
ARMA	**Armidale**	38.04	131	P	**P**	02 29 17.0	+2.9
	baz=38,SNR=9.4						
KSAR	**Wonju Array Be**	45.80	10	P	**P**	02 30 17.5	+0.4
KSRS	**Korea Array**	45.82	10	P	**P**	02 30 17.5	+0.3
	0.7nm,0.3s,baz=188,slow=7.4,SNR=6.6						
KSRS				LR	LR	02 49 36.3	
	comp=Z,66nm,19.1s,baz=340,slow=36						
GTA	**Gaotai**	50.18	341	*e*P	**P**	02 30 53.9	+2.7
GTA				pP	**pP**	02 31 04.0	+2.6
GTA				sP	**sP**	02 31 08.4	+2.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAJ	**Asahikawa**	55.97	20	LR	LR	02 56 39.4	
	comp=Z,59nm,18.6s,baz=272,slow=37						
SONM	**Songino Array**	56.48	350	P	**P**	02 31 37.5	+0.1
SONM	**Songino Array**	56.48	350	P	**P**	02 31 37.5	+0.1
	comp=Z,1.2nm,0.7s,baz=167,slow=8.5,SNR=8.1						
RPZ	**Rata Peaks**	57.78	137	LR	LR	02 55 27.8	
	comp=Z,209nm,19.2s,baz=14,slow=35						
URZ	**Urewera**	60.43	130	LR	LR	02 58 56.2	
	comp=Z,123nm,18.5s,baz=11,slow=37						
KSH	**Kashi**	61.56	323	P	**P**	02 32 12.1	-0.7
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,45nm,4.9s						
MK31	**Makanchi Array**	63.33	333	*e*P	**P**	02 32 23.6	-0.7
MKAR	**Makanchi Array**	63.33	333	*e*P	**P**	02 32 25.3	+0.9
MKAR	**Makanchi Array**	63.33	333	P	**P**	02 32 23.5	-0.8
	comp=Z,1.1nm,0.7s,baz=136,slow=7.6,SNR=8.0						
MKAR				LR	LR	03 03 29.9	
	comp=Z,33nm,18.4s,baz=168,slow=39						
AAK	**Ala-Archa**	64.42	325	P	**P**	02 32 31.1	-0.6
AAK	**Ala-Archa**	64.42	325	P	**P**	02 32 31.1	-0.6
	comp=Z,0.9nm,0.3s,baz=90,slow=4.0,SNR=2.7						
ZALV	**Zalesovo Beam**	67.88	339	P	**P**	02 32 52.0	-1.5
ZALV	**Zalesovo Beam**	67.88	339	P	**P**	02 32 52.0	-1.5
	comp=Z,1.0nm,0.4s,baz=150,slow=4.4,SNR=5.7						
ZALV				LR	LR	03 06 08.0	
	comp=Z,41nm,18.9s,baz=250,slow=39						
PETK	**Petropavlovsk-**	69.05	24	P	**P**	02 33 00.6	-0.3
PETK	**Petropavlovsk-**	69.05	24	P	**P**	02 33 00.6	-0.3
	comp=Z,1.2nm,0.5s,baz=242,slow=3.1,SNR=3.3						
MAW	**Mawson**	70.30	200	P	**P**	02 33 09.6	+1.3
MAW	**Mawson**	70.30	200	P	**P**	02 33 09.6	+1.3
	comp=Z,5.2nm,0.9s,baz=82,slow=6.1,SNR=6.6						
MAW	**Mawson**	70.30	200	P	**P**	02 33 09.6	+1.3
	baz=70,SNR=5.0						
VNDA	**Vanda**	73.18	171	*e*P	**P**	02 33 26.2	+0.7
	comp=Z,2.3nm,1.0s						
VNDA	**Vanda**	73.18	171	P	**P**	02 33 26.2	+0.7
	comp=Z,0.7nm,0.4s,baz=314,slow=6.1,SNR=7.6						
VNDA				LR	LR	03 05 01.0	
	comp=Z,70nm,21.5s,baz=314,slow=35						
ABKAR	**Akbulak array**	76.50	325	*e*P	**P**	02 33 43.3	-1.8
	comp=Z,7.5nm,1.1s						
QSPA	**South Pole Qui**	82.18	180	*e*P	**P**	02 34 16.1	+0.1
	comp=Z,6.3nm,1.2s						
ASF	**Jabal al Asfar**	87.35	303	LR	LR	03 18 18.0	
	comp=Z,36nm,18.8s,baz=237,slow=39						
EIL	**Elat**	88.55	300	LR	LR	03 17 27.5	
	comp=Z,65nm,19.1s,baz=112,slow=38						
BOSA	**Boshof**	89.44	241	LR	LR	03 10 06.6	
	comp=Z,75nm,18.4s,baz=255,slow=32						
BRTR	**Keskin Array B**	91.26	310	LR	LR	03 24 22.4	
	comp=Z,25nm,18.6s,baz=280,slow=41						
TORD	**Torodi Ar. Bea**	118.09	281	PKP	**PKPdf**	02 40 41.2	-1.9
TORD	**Torodi Ar. Bea**	118.09	281	PKP	**PKPdf**	02 40 41.2	-1.9
	comp=Z,0.3nm,0.8s,baz=56,slow=1.6,SNR=2.9						
CPUP	**Villa Florida**	145.86	186	PKPbc	**PKPdf**	02 41 34.1	-0.5
CPUP	**Villa Florida**	145.86	186	PKPbc	**PKPdf**	02 41 34.1	-0.5
	comp=Z,1.5nm,0.6s,baz=162,slow=1.1,SNR=5.8						
LPAZ	**La Paz**	155.09	164	PKPbc	PKPdf	02 42 00.1	+10
LPAZ	**La Paz**	155.09	164	PKPbc	PKPdf	02 42 00.1	+10
	comp=Z,1.1nm,0.7s,baz=98,slow=2.5,SNR=4.6						

IDC 24 02:34:38.1±6.5, 9°.61S×160°.22E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=174.9km s-min=33.7km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	27.01	245	P	P	02 40 21.9	-0.2
	0.6nm,0.5s,baz=73,slow=9.4,SNR=16						
ASAR	**Alice Springs**	28.75	238	P	P	02 40 36.9	-0.8
	0.5nm,0.8s,baz=64,slow=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	34.56	252	P	P	02 41 29.9	+1.0
	1.8nm,0.8s,baz=84,slow=9.2,SNR=5.2						
SONM	**Songino Array**	74.36	326	P	P	02 46 17.9	0.0
	2.1nm,0.5s,baz=138,slow=5.5,SNR=16						

WEL 24 02:50:01.5±0.5, 38°.63S×175°.36E, h221km±3km, ML3.7/9, 6C-2D, Error ellipse: s-maj=3.8km s-min=3.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	0.58	161	PN	Pn	02 50 31.5	0.0
NGZ				SN	S	02 50 54.5	-0.6
OTVZ	**Oturere**	0.59	156	PN	Pn	02 50 31.7	+0.1
OTVZ				SN	S	02 50 54.7	-0.5
WPVZ	**Whakapapa**	0.59	166	PN	Pn	02 50 31.7	+0.1
TUVZ	**Tukino**	0.68	160	PN	Pn	02 50 32.1	+0.1
TUVZ				SN	S	02 50 55.0	-0.8
WNVZ	**Wahianoa**	0.72	165	PN	Pn	02 50 32.2	0.0
MTVZ	**Mangateitei**	0.76	173	⇑PN	Pn	02 50 32.2	0.0
MTVZ				SN	S	02 50 55.0	-1.3
MOVZ	**Moawhango**	0.84	158	⇑PN	Pn	02 50 32.3	-0.3
MOVZ				SN	S	02 50 54.7	-2.3
BHHZ	**Black Hill Sta**	1.02	148	⇑PN	Pn	02 50 33.4	-0.3
BKZ	**Black Stump Fm**	1.04	122	⇑PN	Pn	02 50 33.7	-0.1
BKZ				AML	AML	02 50 58.1	
BKZ				AML	AML	02 50 59.7	
WAZ	**Wanganui**	1.16	194	⇑PN	Pn	02 50 34.4	-0.1
NEZ	**North Egmont**	1.17	236	PN	Pn	02 50 34.4	-0.3
NMHZ	**Naumai**	1.23	113	PN	Pn	02 50 35.8	+0.7
MCHZ	**McNeill Hill**	1.32	128	PN	Pn	02 50 36.4	+0.7
RAHZ	**Arahi**	1.38	103	PN	Pn	02 50 36.5	+0.3
URZ	**Urewera**	1.43	76	PN	Pn	02 50 35.8	-0.7
URZ				AML	AML	02 51 02.9	
URZ				AML	AML	02 51 03.0	
PNHZ	**Pukenui**	1.44	153	PN	Pn	02 50 36.5	-0.2
TSZ	**Takapari Road**	1.50	162	⇑PN	Pn	02 50 36.9	-0.3
KAHZ	**Kahuranaki**	1.66	135	PN	Pn	02 50 38.8	+0.3
WPHZ	**Waipukurau**	1.66	150	⇓PN	Pn	02 50 38.4	-0.1
MWZ	**Matawai**	1.73	81	PN	Pn	02 50 38.8	-0.4
MWZ				SN	S	02 51 06.2	-2.1
MWZ				AML	AML	02 51 07.0	
DVHZ	**Dannevirke**	1.78	160	PN	Pn	02 50 38.9	-0.7
POWZ	**Post Office Ro**	1.79	170	PN	Pn	02 50 39.0	-0.6
PXZ	**Pawanui**	1.82	141	PN	Pn	02 50 39.8	-0.1
PXZ				AML	AML	02 51 11.3	
PXZ				AML	AML	02 51 11.6	
KNZ	**Kokohu**	1.85	103	⇓PN	Pn	02 50 40.2	0.0
PRHZ	**Porangahau**	1.91	149	PN	Pn	02 50 40.5	-0.3
MRZ	**Mangatainoka R**	2.04	175	PN	Pn	02 50 40.9	-1.1
MRZ				AML	AML	02 51 12.9	
MRZ				AML	AML	02 51 13.1	
MHGZ	**Mahia Peninsul**	2.06	106	PN	Pn	02 50 42.2	0.0
BFZ	**Birch Farm**	2.16	162	PN	Pn	02 50 42.2	-1.0
TIWZ	**Tintock**	2.19	169	PN	Pn	02 50 42.3	-1.2
OGWZ	**Otaki Gorge**	2.19	184	PN	Pn	02 50 42.5	-1.0
KIW	**Kapiti Island**	2.26	189	PN	Pn	02 50 42.7	-1.5
HOWZ	**Holdsworth Sta**	2.27	177	PN	Pn	02 50 42.9	-1.5
PUZ	**Puketiti**	2.35	77	PN	Pn	02 50 44.3	-0.9
DUWZ	**D'Urville Isla**	2.44	207	PN	Pn	02 50 44.4	-1.7
CAW	**Cannon Point**	2.49	185	PN	Pn	02 50 45.0	-1.5
CAW				AML	AML	02 51 21.0	
CAW				AML	AML	02 51 21.0	
TMWZ	**Te Maipa**	2.51	171	PN	Pn	02 50 45.3	-1.6
MTW	**Mount Morrison**	2.53	177	PN	Pn	02 50 45.3	-1.7
TCW	**Tory Channel**	2.71	197	PN	Pn	02 50 47.3	-1.7
TCW				AML	AML	02 51 24.3	
TCW				AML	AML	02 51 24.5	
SNZO	**South Karori**	2.72	190	PN	Pn	02 50 47.2	-1.9
SNZO				AML	AML	02 51 24.2	
SNZO				AML	AML	02 51 25.4	
PAWZ	**Paruwai Farm**	2.75	179	PN	Pn	02 50 47.7	-1.8
TRWZ	**Traveller**

JHCJ				*e*S	**Sb**	**03 04 49.9**	**+0.4**
JHO	**Hitachi**	**4.05**	**349**	*e*S	**Sn**	**03 05 47.9**	**-2.0**
MJAR	**Matsushiro Arr**	**4.75**	**326**	Pn	**Pn**	**03 05 13.5**	**+0.2**
	0.4nm,0.3s,baz=148,slow=12,SNR=4.0						
MJAR				Sn	Sb	03 06 14.3	-8.9
	0.3nm,0.3s,baz=284,slow=27,SNR=3.1						
SONM	**Songino Array**	**30.50**	**310**	P	**P**	**03 10 16.3**	**+2.3**
	0.3nm,0.4s,baz=125,slow=9.4,SNR=3.6						
MKAR	**Makanchi Array**	**46.63**	**106**	P	**P**	**03 12 30.5**	**+1.4**
	0.7nm,0.4s,baz=85,slow=9.4,SNR=7.5						
WRA	**Warramunga Arr**	**52.72**	**188**	P	**P**	**03 13 13.8**	**-1.7**
	0.6nm,0.6s,baz=5.5,slow=7.4,SNR=8.5						
ASAR	**Alice Springs**	**56.44**	**188**	P	**P**	**03 13 42.1**	**-0.4**
	0.1nm,0.5s,baz=359,slow=6.8,SNR=2.5						

IDC 24 03:11:56.0±1.2, 1°.83S×99°.29E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/25, mbtmp3.8/11, ML3.0/1, Error ellipse: s-maj=43.2km s-min=18.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.62**	**355**	Pn	Pn	03 13 04.1	-3.2
	0.8nm,0.3s,baz=185,slow=11,SNR=2.1						
CMAR	**Chiang Mai Arr**	**20.16**	**359**	P	P	03 16 30.8	-1.5
	1.6nm,0.6s,baz=182,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**38.69**	**120**	P	P	03 19 20.7	-1.3
	0.6nm,0.7s,baz=295,slow=12,SNR=9.9						
ASAR	**Alice Springs**	**39.92**	**126**	P	P	03 19 32.9	+0.6
	0.6nm,0.8s,baz=302,slow=7.8,SNR=6.5						
KSRS	**Korea Array**	**47.24**	**31**	P	P	03 20 31.2	+0.2
	0.4nm,0.3s,baz=218,slow=9.2,SNR=2.5						
SONM	**Songino Array**	**49.85**	**6**	P	P	03 20 50.9	-0.2
	0.4nm,0.6s,baz=187,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**50.68**	**345**	P	P	03 20 57.6	+0.3
	1.5nm,0.7s,baz=154,slow=8.8,SNR=13						
USRK	**Ussuriysk Arra**	**54.35**	**29**	P	P	03 21 25.2	+0.7
	0.8nm,0.6s,baz=227,slow=7.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**56.88**	**350**	P	P	03 21 42.6	+0.1
	1.9nm,0.5s,baz=165,slow=6.0,SNR=9.1						
BRTR	**Keskin Array B**	**72.69**	**313**	P	P	03 23 25.9	-0.4
	0.4nm,0.6s,baz=68,slow=6.2,SNR=3.1						
FINES	**FINESS Array B**	**83.64**	**332**	P	P	03 24 26.5	+0.2
	1.4nm,0.8s,baz=111,slow=10,SNR=4.6						
CPUP	**Villa Florida**	**144.03**	**217**	PKP	PKPdf	03 31 33.8	-0.7
	1.2nm,0.7s,baz=264,slow=17,SNR=4.1						
TXAR	**Lajitas Array**	**144.99**	**36**	PKP	PKPdf	03 31 35.9	-0.4
	0.4nm,0.4s,baz=222,slow=0.8,SNR=10						

MEX 24 03:17:39.5±0.9, 18°.24N×103°.36W, h48km±7km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.05**	**17**	*i* P	Pn	03 17 44.9	-2.1
MMIG				*e*S	Sn	03 17 51.0	-1.3
ZIIG	**Zihuatanejo**	**1.91**	**109**	*i* P	Pn	03 18 08.1	-1.6
ZIIG				*e*S	Sn	03 18 30.6	-2.0
CJM	**Chamela**	**2.02**	**308**	*e*P	Pn	03 18 09.0	-2.2
CJM				*i* S	Sn	03 18 33.6	-1.7
MOIG	**Morelia**	**2.50**	**55**	*i* P	Pn	03 18 16.0	-2.1
MOIG				*i* S	Sn	03 18 45.3	-2.4
ARIG	**Puente Sto Nin**	**2.86**	**89**	*e*P	Pn	03 18 22.0	-0.7
ARIG				*i* S	Sn	03 18 54.6	-1.4

*ISCJB **24** 03:53:25.8±2.3, 32°.24N±0°.05×142°.1E±0°.1, h30km±20km, mb3.8/3, Error ellipse: s-maj=17.3km s-min=7.0km az=162.7*
*JMA **24** 03:53:26.4±0.2, 32°.22N×141°.97E, h94km, M3.2*
*IDC **24** 03:53:27.8±3.4, 31°.83N×140°.90E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/26, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=134.0km s-min=20.6km az=69.0*

ISC 24 03:53:29.3±1.7, 32°.2N±0°.1×141°.8E±0°.2, h37km±2km, n13, σ1°56/13, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.95**	**299**	P	Pn	03 53 59.4	-0.4
JHJ2	**Mitsune**	**1.96**	**300**	P	Pn	03 53 59.4	-0.5
JHJ2				*e*S	**Sn**	**03 54 24.3**	**+1.1**
BSO1	**Boso 1**	**2.60**	**344**	P	Pn	03 54 06.8	-1.5
BSO1				*e*S	**Sn**	**03 54 38.1**	**-0.2**
BSO3	**Boso 3**	**2.87**	**338**	P	Pn	03 54 10.6	-1.6
BSO3				*e*S	**Sn**	**03 54 45.1**	**-0.3**
BSO4	**Boso 4**	**3.10**	**337**	P	Pn	03 54 14.1	-1.4
BSO4				*e*S	**Sn**	**03 54 51.5**	**+0.3**
JRY	**Ryogami san**	**4.56**	**329**	*e*S	**Sn**	**03 55 27.6**	**0.0**
JHO	**Hitachi**	**4.58**	**347**	P	Pn	03 54 33.7	-2.2
JHO				*e*S	**Sn**	**03 55 24.6**	**-3.2**
JAG	**Ashikaga**	**4.70**	**336**	P	Pn	03 54 36.4	-1.2
CBIJ	**Chichi jima**	**5.04**	**176**	Pn	**Pn**	**03 54 42.5**	**+0.1**
	6.6nm,0.3s,baz=284,slow=21,SNR=10						
CBIJ				Sn	**Sn**	**03 55 37.1**	**-2.2**
	3.6nm,0.3s,baz=288,slow=19,SNR=3.0						
MJAR	**Matsushiro Arr**	**5.31**	**327**	Pn	**Pn**	**03 54 45.6**	**-0.5**
	0.8nm,0.3s,baz=154,slow=12,SNR=8.4						
MJAR				Sn	**Sn**	**03 55 44.1**	**-1.8**
	baz=186,slow=33,SNR=3.1						
MKAR	**Makanchi Array**	**47.14**	**306**	P	**P**	**04 01 58.3**	**+0.3**
	0.9nm,0.8s,baz=90,slow=9.1,SNR=9.2						
WRA	**Warramunga Arr**	**52.29**	**189**	P	**P**	**04 02 37.9**	**+0.7**
	1.3nm,0.5s,baz=5.5,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**56.01**	**189**	P	**P**	**04 03 05.3**	**+0.9**
	0.3nm,0.7s,baz=7.7,slow=7.6,SNR=3.5						

*NEIC **24** 04:02:06.7, 18°.45N×65°.44W, h163km, MD3.5(RSPR), After RSPR.*

RSPR 24 04:02:06.7, 18°.45N×65°.44W, h163km±3km, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.36**	**197**	*e*P	Pn	04 02 28.6	-0.4
MTP	**Monte Pirata**	**0.36**	**197**	*e*S	Sn	04 02 45.7	-0.3
MTP	**Monte Pirata**	**0.36**	**197**	*e*Pg	Pn	04 02 28.5	-0.5
MTP				*e*S	Sn	04 02 42.7	-3.3
MTP	**Monte Pirata**	**0.36**	**197**	*e*P	Pn	04 02 28.6	-0.4
MTP				*e*S	Sn	04 02 45.7	-0.3
CBYP	**Canovanas**	**0.43**	**246**	*e*P	Pn	04 02 28.8	-0.5
CBYP	**Canovanas**	**0.43**	**246**	*e*Pg	Pn	04 02 28.4	-0.9
CBYP				*e*S	Sn	04 02 45.4	-1.1
CBYP	**Canovanas**	**0.43**	**246**	*e*P	Pn	04 02 28.8	-0.5
HUMP	**Col San Antoni**	**0.49**	**232**	*e*P	Pn	04 02 29.5	+0.1
HUMP	**Col San Antoni**	**0.49**	**232**	*e*S	Sn	04 02 47.0	+0.2
HUMP	**Col San Antoni**	**0.49**	**232**	*e*P	Pn	04 02 29.5	+0.1
HUMP				*e*S	Sn	04 02 47.0	+0.2
HUMP	**Col San Antoni**	**0.49**	**232**	*e*P	Pn	04 02 29.5	+0.1
HUMP				*e*S	Sn	04 02 47.1	+0.3
CDVI	**St. Croix**	**0.94**	**137**	*e*P	Pn	04 02 32.1	-0.1
CDVI	**St. Croix**	**0.94**	**137**	*e*S	Sn	04 02 51.9	+0.1
CDVI	**St. Croix**	**0.94**	**137**	*e*P	Pn	04 02 32.1	-0.1
CDVI				*e*S	Sn	04 02 51.9	+0.1
CDVI	**St. Croix**	**0.94**	**137**	*e*P	Pn	04 02 32.1	-0.1
CDVI				*e*S	Sn	04 02 51.9	+0.1

*ISCJB **24** 04:07:43.6±1.6, 46°.21S±0°.07×165°.91E±0°.08, h10km±12km, mb3.4/2, Error ellipse: s-maj=11.6km s-min=9.5km az=9.3*
*IDC **24** 04:07:43.5±1.6, 46°.25S×166°.07E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML4.2/1, Error ellipse: s-maj=58.1km s-min=28.2km az=169.0*
*WEL **24** 04:07:44.6±0.5, 46°.28S×165°.85E, h33km, ML4.4/19, Error ellipse: s-maj=5.1km s-min=3.8km az=90.0*
*NEIC **24** 04:07:45.9, 46°.39S×165°.72E, h33km, ML4.5(WEL), After WEL.*

ISC 24 04:07:45.5±2.6, 46°.25S±0°.05×166°.06E±0°.07, h14km±15km, n49, σ1°12/58, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.08**	**45**	PN	**Pb**	**04 08 05.1**	**-0.9**
DCZ				SN	**Sb**	**04 08 20.3**	**+0.3**
DCZ				AML	AML	04 08 20.5	
DCZ				AML	AML	04 08 20.5	
DCZ	**Deep Cove**	**1.08**	**45**	Pn	**Pb**	**04 08 04.7**	**-1.3**
DCZ				Sn	**Sb**	**04 08 20.3**	**+0.3**
WHZ	**Wether Hill Ro**	**1.36**	**76**	PN	**Pn**	**04 08 10.5**	**+0.4**
WHZ				SN	**Sg**	**04 08 30.2**	**+0.9**
WHZ				AML	AML	04 08 34.0	
WHZ	**Wether Hill Ro**	**1.36**	**76**	Pn	**Pn**	**04 08 10.3**	**+0.2**
APZ	**The Paps**	**1.46**	**115**	PN	**Pn**	**04 08 11.6**	**+0.1**
APZ				SN	**Sb**	**04 08 31.4**	**+0.5**
APZ	**The Paps**	**1.46**	**115**	Pn	**Pn**	**04 08 11.6**	**+0.1**
APZ				Sn	**Sb**	**04 08 31.4**	**+0.5**
MLZ	**Mavora Lakes**	**1.73**	**60**	PN	**Pn**	**04 08 16.1**	**+1.0**
MLZ				SN	**Sb**	**04 08 38.8**	**+0.2**
MLZ				AML	AML	04 08 45.5	
MLZ	**Mavora Lakes**	**1.73**	**60**	Pn	**Pn**	**04 08 16.2**	**+1.0**
MLZ				Sn	**Sg**	**04 08 41.0**	**-0.2**
MSZ	**Milford Sound**	**2.05**	**41**	PN	**Pn**	**04 08 20.0**	**+0.4**
MSZ				AML	AML	04 09 00.2	
MSZ				AML	AML	04 09 00.2	
MSZ				AML	AML	04 09 06.3	
MSZ				AML	AML	04 09 06.3	
MSZ	**Milford Sound**	**2.05**	**41**	Pn	**Pn**	**04 08 20.0**	**+0.4**
SYZ	**Scrubby Hill**	**2.15**	**99**	PN	**Pn**	**04 08 21.7**	**+0.7**
SYZ	**Scrubby Hill**	**2.15**	**99**	Pn	**Pn**	**04 08 21.6**	**+0.7**
EAZ	**Earnscleugh**	**2.49**	**67**	PN	**Pn**	**04 08 27.7**	**+2.1**
EAZ				AML	AML	04 09 04.1	
EAZ				AML	AML	04 09 04.1	
EAZ				AML	AML	04 09 05.2	
EAZ				AML	AML	04 09 05.3	
EAZ	**Earnscleugh**	**2.49**	**67**	Pn	**Pn**	**04 08 27.9**	**+2.2**
EAZ				Sn	**Sb**	**04 09 00.0**	**-0.5**
TUZ	**Tuapeka**	**2.50**	**85**	PN	**Pn**	**04 08 27.0**	**+1.2**
TUZ				AML	AML	04 09 02.4	
TUZ				AML	AML	04 09 14.0	
TUZ	**Tuapeka**	**2.50**	**85**	Pn	**Pn**	**04 08 27.0**	**+1.2**
WKZ	**Wanaka**	**2.52**	**57**	PN	**Pn**	**04 08 28.4**	**+2.4**
WKZ				AML	AML	04 09 05.4	
WKZ				AML	AML	04 09 06.4	
WKZ				AML	AML	04 09 06.5	
WKZ	**Wanaka**	**2.52**	**57**	Pn	**Pn**	**04 08 28.3**	**+2.4**
JCZ	**Jackson Bay**	**2.89**	**42**	PN	**Pn**	**04 08 33.1**	**+1.9**
JCZ				AML	AML	04 09 26.0	
JCZ				AML	AML	04 09 26.0	
JCZ	**Jackson Bay**	**2.89**	**42**	Pn	**Pn**	**04 08 33.1**	**+1.9**
ODZ	**Otahua Downs**	**3.43**	**71**	PN	**Pn**	**04 08 38.8**	**+0.3**
ODZ	**Otahua Downs**	**3.43**	**71**	*e*Pn	**Pn**	**04 08 38.9**	**+0.3**
ODZ				*e*S	**Sn**	**04 09 20.7**	**+1.7**
LBZ	**Lake Benmore**	**3.45**	**59**	PN	**Pn**	**04 08 39.8**	**+0.9**
LBZ				AML	AML	04 09 25.6	
LBZ				AML	AML	04 09 26.8	
LBZ	**Lake Benmore**	**3.45**	**59**	Pn	**Pn**	**04 08 39.8**	**+0.9**
FOZ	**Fox Glacier**	**3.72**	**45**	PN	**Pn**	**04 08 44.4**	**+1.9**
FOZ				AML	AML	04 09 56.6	
FOZ				AML	AML	04 09 58.2	
FOZ	**Fox Glacier**	**3.72**	**45**	Pn	**Pn**	**04 08 44.4**	**+1.9**
RPZ	**Rata Peaks**	**4.35**	**56**	PN	**Pn**	**04 08 51.2**	**-0.1**
RPZ				AML	AML	04 09 52.9	
RPZ				AML	AML	04 09 59.8	
RPZ	**Rata Peaks**	**4.35**	**56**	*e*Pn	**Pn**	**04 08 51.3**	**+0.1**
RPZ				*e*S	**Sn**	**04 09 38.3**	**-3.4**
RPZ	**Rata Peaks**	**4.35**	**56**	Pn	**Pn**	**04 08 51.1**	**-0.2**
	13nm,0.3s,baz=203,slow=7.7,SNR=38						
RPZ				Sn	**Sn**	**04 09 42.1**	**+0.3**
	19nm,0.3s,baz=339,slow=20,SNR=10						
WVZ	**Waitaha Valley**	**4.60**	**48**	PN	**Pn**	**04 08 55.8**	**+1.2**
WVZ	**Waitaha Valley**	**4.60**	**48**	Pn	**Pn**	**04 08 55.5**	**+0.9**
LTZ	**Lake Taylor**	**5.63**	**54**	PN	**Pn**	**04 09 08.6**	**-0.2**
LTZ				AML	AML	04 10 17.6	
LTZ				AML	AML	04 10 18.2	
LTZ	**Lake Taylor**	**5.63**	**54**	Pn	**Pn**	**04 09 08.0**	**-0.8**
DSZ	**Denniston Nort**	**6.11**	**45**	PN	**Pn**	**04 09 15.6**	**+0.2**
THZ	**Tophouse**	**6.66**	**50**	PN	**Pn**	**04 09 22.4**	**-0.6**
THZ				AML	AML	04 10 48.3	
THZ	**Tophouse**	**6.66**	**50**	Pn	**Pn**	**04 09 22.4**	**-0.6**
QRZ	**Quartz Range**	**7.17**	**43**	PN	**Pn**	**04 09 29.8**	**-0.1**
ASAR	**Alice Springs**	**34.30**	**300**	P	**P**	**04 14 31.6**	**+0.2**
ASAR	**Alice Springs**	**34.30**	**300**	P	**P**	**04 14 31.6**	**+0.2**
	0.4nm,0.8s,baz=129,slow=8.9,SNR=3.4						
WRA	**Warramunga Arr**	**36.92**	**305**	P	**P**	**04 14 53.7**	**-0.3**
WRA	**Warramunga Arr**	**36.92**	**305**	P	**P**	**04 14 53.7**	**-0.3**
	0.5nm,0.8s,baz=136,slow=7.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**144.46**	**207**	PKP	PKPbc	04 27 20.2	+0.1
TORD	**Torodi Ar. Bea**	**144.46**	**207**	PKP	PKPbc	04 27 20.2	+0.1
	0.8nm,0.6s,baz=174,slow=2.1,SNR=13						
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPab**	**04 27 21.6**	**+0.1**
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	**PKPab**	**04 27 21.6**	**+0.1**
	1.4nm,0.7s,baz=121,slow=0.8,SNR=9.1						
ARCES	**ARCESS Array B**	**149.59**	**334**	PKPbc	**PKPbc**	**04 27 33.8**	**+0.6**
ARCES	**ARCESS Array B**	**149.59**	**334**	PKPbc	**PKPbc**	**04 27 33.8**	**+0.6**
	3.1nm,0.7s,baz=88,slow=2.9,SNR=13						
AKASG	**Malin Array Be**	**151.35**	**295**	PKPbc	**PKPbc**	**04 27 37.5**	**-0.3**
AKASG	**Malin Array Be**	**151.35**	**295**	PKPbc	**PKPbc**	**04 27 37.6**	**-0.3**
	0.5nm,0.4s,baz=87,slow=2.3,SNR=4.9						

IDC 24 04:08:36.8±2.9, 1°.56S×99°.35E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/25, mbtmp3.7/6, ML2.6/1, Error ellipse: s-maj=120.0km s-min=20.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.35**	**354**	Pn	Pn	04 09 43.0	-1.3
	0.4nm,0.3s,baz=151,slow=13,SNR=2.1						
CMAR	**Chiang Mai Arr**	**19.89**	**359**	P	P	04 13 10.0	0.0
	baz=192,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**38.78**	**121**	P	P	04 16 03.1	-0.4
	0.5nm,0.6s,baz=303,slow=9.0,SNR=7.6						
ASAR	**Alice Springs**	**40.04**	**126**	P	P	04 16 14.2	+0.2
	0.6nm,0.8s,baz=305,slow=8.5,SNR=4.7						
MKAR	**Makanchi Array**	**50.43**	**345**	P	P	04 17 36.2	0.0
	0.8nm,0.7s,baz=154,slow=8.0,SNR=8.2						
ZALV	**Zalesovo Beam**	**56.62**	**350**	P	P	04 18 21.1	-0.3
	0.8nm,0.5s,baz=182,slow=6.7,SNR=3.7						
TXAR	**Lajitas Array**	**144.74**	**36**	PKP	PKPbc	04 28 15.9	+0.5
	0.6nm,0.6s,baz=259,slow=0.9,SNR=8.5						

*DDA **24** 04:28:21.5, 35°.27N×24°.39E, h23km, MD3.7*
*ISCJB **24** 04:28:43.4±0.2, 35°.96N±0°.02×26°.14E±0°.02, h110km±3km, mb3.6/6, Error ellipse: s-maj=3.4km s-min=2.2km az=21.4*
*ISK **24** 04:28:43.0, 35°.86N×26°.06E, h67km, MD4.0*
*IDC **24** 04:28:44.4±2.1, 35°.99N×26°.17E, h96km±22km, mb3.5/6, mb1 3.6/13, mb1mx3.4/33, mbtmp3.5/13, Error ellipse: s-maj=17.5km s-min=17.1km az=156.0*
*CSEM **24** 04:28:45.1±0.1, 35°.95N×26°.17E, h80km, ML3.3/6, Error ellipse: s-maj=3.5km s-min=2.2km az=23.0*
*ATH **24** 04:28:45.3, 36°.08N×26°.11E, h77km±2km*
*THE **24** 04:28:47.2, 36°.04N×26°.09E, h76km±2km, ML3.3/6, Error ellipse: s-maj=3.0km s-min=0.7km az=159.0*
*HLW **24** 04:28:49.5, 35°.81N×26°.37E, h33km±4km, Md3.9, Ml0.0*

ISC 24 04:28:44.2±0.7, 36°.03N±0°.03×26°.15E±0°.03, h91km±6km, n200, σ1°61/268, mb3.7/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.65**	**302**	P	**Pn**	**04 29 00.8**	**+0.5**
SANT				S	**Sn**	**04 29 11.7**	**-0.7**
SANT	**Santorini**	**0.65**	**302**	*e*P	**Pn**	**04 29 01.2**	**+0.9**
SANT				*e*S	**Sn**	**04 29 10.9**	**-1.5**
SANT	**Santorini**	**0.65**	**302**	*e*P	**Pn**	**04 29 01.2**	**+0.9**
SANT				S	**Sn**	**04 29 11.7**	**-0.7**
THR1	**Thera Island**	**0.65**	**302**	P	**Pn**	**04 29 01.3**	**+1.0**
THR1	**Thera Island**	**0.65**	**302**	P	**Pn**	**04 29 01.3**	**+1.0**
THR6	**Thira Island,**	**0.69**	**299**	P	**Pn**	**04 29 01.5**	**+0.9**
THR6	**Thira Island,**	**0.69**	**299**	P	**Pn**	**04 29 01.5**	**+0.9**
THR2	**Thira island,**	**0.71**	**306**	P	**Pn**	**04 29 01.2**	**+0.4**
THR2	**Thira island,**	**0.71**	**306**	P	**Pn**	**04 29 01.2**	**+0.4**
THR3	**Thira Island,**	**0.71**	**303**	P	**Pn**	**04 29 01.9**	**+1.1**
THR3	**Thira Island,**	**0.71**	**303**	P	**Pn**	**04 29 01.9**	**+1.1**
THR5	**Thira Island,**	**0.76**	**301**	P	**Pn**	**04 29 01.6**	**+0.3**
THR5	**Thira Island,**	**0.76**	**301**	P	**Pn**	**04 29 01.6**	**+0.3**
NPS	**Neapolis**	**0.88**	**210**	P	**Pn**	**04 29 04.1**	**+1.5**
NPS				S	**Sn**	**04 29 17.3**	**+1.0**
NPS	**Neapolis**	**0.88**	**210**	*e*P	**Pn**	**04 29 04.0**	**+1.5**
NPS				*e*S	**Sn**	**04 29 17.1**	**+0.8**
NPS	**Neapolis**	**0.88**	**210**	*e*P	**Pn**	**04 29 04.0**	**+1.5**
NPS				*e*S	**Sn**	**04 29 17.1**	**+0.8**
ZKR	**Zakros**	**0.91**	**176**	P	**Pn**	**04 29 05.2**	**+2.3**
ZKR				S	**Sn**	**04 29 18.5**	**+1.6**
ZKR	**Zakros**	**0.91**	**176**	*e*P	**Pn**	**04 29 05.3**	**+2.3**
ZKR				*e*S	**Sn**	**04 29 18.7**	**+1.8**
ZKR	**Zakros**	**0.91**	**176**	P	**Pn**	**04 29 05.2**	**+2.3**
ZKR				S	**Sn**	**04 29 18.5**	**+1.6**
KARP	**Karpathos**	**0.95**	**120**	P	**Pn**	**04 29 05.6**	**+2.2**
KARP				S	**Sn**	**04 29 19.6**	**+1.8**
KARP	**Karpathos**	**0.95**	**120**	*e*P	**Pn**	**04 29 05.7**	**+2.3**
KARP				*e*S	**Sn**	**04 29 19.0**	**+1.2**
KARP	**Karpathos**	**0.95**	**120**	P	**Pn**	**04 29 05.6**	**+2.2**
KARP				S	**Sn**	**04 29 19.6**	**+1.8**
LAST	**Lasithi**	**1.02**	**212**	P	**Pn**	**04 29 05.6**	**+1.4**
LAST				S	**Sn**	**04 29 19.0**	**-0.2**
LAST	**Lasithi**	**1.02**	**212**	*e*P	**Pn**	**04 29 05.6**	**+1.4**
LAST				*e*S	**Sn**	**04 29 20.4**	**+1.2**
LAST	**Lasithi**	**1.02**	**212**	*e*P	**Pn**	**04 29 05.6**	**+1.4**
LAST				*e*S	**Sn**	**04 29 20.4**	**+1.2**
APE	**Apeiranthos**	**1.15**	**335**	*e*PN	**Pn**	**04 29 06.0**	**+0.3**
APE				*e*SN	**Sn**	**04 29 22.6**	**+0.6**
APE	**Apeiranthos**	**1.15**	**335**	P	**Pn**	**04 29 06.3**	**+0.5**
APE	**Apeiranthos**	**1.15**	**335**	*e*P	**Pn**	**04 29 06.5**	**+0.7**
APE				*e*S	**Sn**	**04 29 21.8**	**-0.2**
APE	**Apeiranthos**	**1.15**	**335**	*e*PN	**Pn**	**04 29 06.0**	**+0.3**
APE	**Apeiranthos**	**1.15**	**335**	*e*P	**Pn**	**04 29 06.5**	**+0.7**
APE				*e*S	**Sn**	**04 29 21.8**	**-0.2**
APE				*e*Sn	Sn	04 29 22.6	+0.6
IDI	**Anoyia**	**1.26**	**235**	P	**Pn**	**04 29 08.2**	**+1.2**
IDI				S	**Sn**	**04 29 24.3**	**+0.1**
IDI	**Anoyia**	**1.26**	**235**	*e*P	**Pn**	**04 29 08.2**	**+1.2**
IDI				*e*S	**Sn**	**04 29 25.0**	**+0.8**
IDI	**Anoyia**	**1.26**	**235**	*e*P	**Pn**	**04 29 08.2**	**+1.2**
IDI				*e*S	**Sn**	**04 29 25.0**	**+0.8**
DAT	**Datca**	**1.35**	**58**	*e*PN	**Pn**	**04 29 09.0**	**+0.8**
DAT	**Datca**	**1.35**	**58**	*e*Pn	**Pn**	**04 29 09.0**	**+0.8**
BODT	**Bodrum**	**1.40**	**42**	*e*PN	**Pn**	**04 29 10.0**	**+1.3**
BODT	**Bodrum**	**1.40**	**42**	*e*Pn	**Pn**	**04 29 10.0**	**+1.3**
BDRM	**Kayabasi**	**1.47**	**45**	*i* P	**Pn**	**04 29 11.2**	**+1.6**
BDRM	**Kayabasi**	**1.47**	**45**	*i* P	**Pn**	**04 29 11.2**	**+1.6**
SIVA	**Sivas**	**1.48**	**228**	P	**Pn**	**04 29 11.8**	**+2.1**
SIVA				S	**Sn**	**04 29 30.5**	**+1.5**
SIVA	**Sivas**	**1.48**	**228**	*e*P	**Pn**	**04 29 12.0**	**+2.3**
SIVA				*e*S	**Sn**	**04 29 30.2**	**+1.2**
SIVA	**Sivas**	**1.48**	**228**	P	**Pn**	**04 29 11.8**	**+2.1**
SIVA				*e*S	**Sn**	**04 29 30.2**	**+1.2**
ARG	**Arkhangelos**	**1.61**	**83**	P	**Pn**	**04 29 13.6**	**+2.2**
ARG				S	**Sn**	**04 29 34.1**	**+2.1**
ARG	**Arkhangelos**	**1.61**	**83**	*e*P	**Pn**	**04 29 13.5**	**+2.2**
ARG				*e*S	**Sn**	**04 29 33.9**	**+1.9**
ARG	**Arkhangelos**	**1.61**	**83**	*e*P	**Pn**	**04 29 13.5**	**+2.2**
ARG				*e*S	**Sn**	**04 29 33.9**	**+1.9**
VAM	**Vamos**	**1.70**	**249**	P	**Pn**	**04 29 14.3**	**+1.8**
VAM				S	**Sn**	**04 29 34.1**	**+0.1**
VAM	**Vamos**	**1.70**	**249**	*e*P	**Pn**	**04 29 14.3**	**+1.8**
VAM				*e*S	**Sn**	**04 29 34.6**	**+0.6**
VAM	**Vamos**	**1.70**	**249**	*e*P	**Pn**	**04 29 14.3**	**+1.8**
VAM				*e*S	**Sn**	**04 29 34.6**	**+0.6**
SMG	**Samos**	**1.77**	**18**	P	**Pn**	**04 29 14.4**	**+1.0**
SMG	**Samos**	**1.77**	**18**	*e*P	**Pn**	**04 29 14.6**	**+1.2**
SMG				*e*S	**Sn**	**04 29 36.2**	**+0.6**
SMG	**Samos**	**1.77**	**18**	*e*P	**Pn**	**04 29 14.6**	**+1.2**
SMG				*e*S	**Sn**	**04 29 36.2**	**+0.6**
YER	**Yerkesik**	**2.05**	**57**	*e*PN	**Pn**	**04 29 19.2**	**+2.1**
YER	**Yerkesik**	**2.05**	**57**	*e*Pn	**Pn**	**04 29 19.2**	**+2.1**
DALY	**Dalyan (Mu¨la**	**2.17**	**68**	*e*PN	**Pn**	**04 29 20.5**	**+1.9**
DALY	**Dalyan (Mu¨la**	**2.17**	**68**	*e*Pn	**Pn**	**04 29 20.5**	**+1.9**
ANKY	**Antikythira Is**	**2.31**	**267**	P	**Pn**	**04 29 21.6**	**+1.1**
ANKY				S	**Sn**	**04 29 48.5**	**+0.2**
ANKY	**Antikythira Is**	**2.31**	**267**	P	**Pn**	**04 29 21.6**	**+1.1**
ANKY				S	**Sn**	**04 29 48.5**	**+0.2**
CHOS	**Chios island**	**2.36**	**358**	P	**Pn**	**04 29 22.3**	**+1.1**
CHOS	**Chios island**	**2.36**	**358**	*e*P	**Pn**	**04 29 22.3**	**+1.

AXS	**Araxos**	**4.38 301**	P		**Pn**	**04 29 51.1**	**+2.7**
SLUM		**4.59 190**	P		**Pn**	**04 29 52.0**	**+0.8**
KFL	**Anninata**	**4.76 297**	P		**Pn**	**04 29 54.8**	**+1.3**
KFL	**Anninata**	**4.76 297**	P		**Pn**	**04 29 54.8**	**+1.3**
THL	**Klokotos Trika**	**4.82 318**	P		**Pn**	**04 29 56.3**	**+2.1**
THL			S		**Sn**	**04 30 49.8**	**+1.1**
THL	**Klokotos Trika**	**4.82 318**	P		**Pn**	**04 29 56.3**	**+2.1**
THL			S		**Sn**	**04 30 49.8**	**+1.1**
VLS	**Valsamata**	**4.93 297**	P		**Pn**	**04 29 56.8**	**+0.9**
VLS			S		**Sn**	**04 30 50.8**	**-0.9**
VLS	**Valsamata**	**4.93 297**	P		**Pn**	**04 29 56.8**	**+0.9**
VLS			S		**Sn**	**04 30 50.8**	**-0.9**
GAZI	**Gazipasa**	**5.00 86**	*i* P		**Pn**	**04 29 57.1**	**+0.3**
GAZI			*i* S		**Sn**	**04 30 48.9**	**-4.4**
GAZI	**Gazipasa**	**5.00 86**	*i* P		**Pn**	**04 29 57.1**	**+0.3**
LKD2	**Lefkada island**	**5.17 304**	P		**Pn**	**04 30 00.2**	**+1.1**
LKD2			S		**Sn**	**04 30 56.7**	**-0.7**
LKD2	**Lefkada island**	**5.17 304**	P		**Pn**	**04 30 00.2**	**+1.1**
LKD2			S		**Sn**	**04 30 56.7**	**-0.7**
HDMB	**Hadim**	**5.19 78**	*e*PN		**Pn**	**04 30 02.1**	**+2.5**
HDMB	**Hadim**	**5.19 78**	*e*Pn		**Pn**	**04 30 02.1**	**+2.5**
KONT	**Konya--Tatoy**	**5.33 67**	*e*PN		**Pn**	**04 30 03.6**	**+2.3**
KIZT	**Kizilcal**	**5.38 56**	*e*PN		**Pn**	**04 30 04.2**	**+2.2**
KIZT	**Kizilcal**	**5.38 56**	*e*Pn		**Pn**	**04 30 04.2**	**+2.2**
LADK	**Ladik-KONYA**	**5.42 65**	*e*PN		**Pn**	**04 30 04.8**	**+2.2**
LADK	**Ladik-KONYA**	**5.42 65**	*e*Pn		**Pn**	**04 30 04.8**	**+2.2**
LEF	**Lefka**	**5.57 97**	*e*PN		**Pn**	**04 30 04.6**	**0.0**
LEF	**Lefka**	**5.57 97**	*e*Pn		**Pn**	**04 30 04.6**	**0.0**
NEST	**Nestorio**	**5.94 319**	P		**Pn**	**04 30 11.9**	**+2.2**
NEST			S		**Sn**	**04 31 16.2**	**-0.1**
NEST	**Nestorio**	**5.94 319**	P		**Pn**	**04 30 11.9**	**+2.2**
NEST			S		**Sn**	**04 31 16.2**	**-0.1**
CSS	**Prodhromos**	**5.96 98**	P		**Pn**	**04 30 09.0**	**-0.8**
CSS	**Prodhromos**	**5.96 98**	Pn		**Pn**	**04 30 09.6**	**-0.2**
IKL	**Isikli**	**6.11 86**	*e*PN		**Pn**	**04 30 12.8**	**+1.0**
IKL	**Isikli**	**6.11 86**	*e*Pn		**Pn**	**04 30 12.8**	**+1.0**
SRN	**Sarande**	**6.20 310**	P		**Pn**	**04 30 13.3**	**+0.3**
SRN			S		Sn	04 31 17.3	-5.1
SRN	**Sarande**	**6.20 310**	P		**Pn**	**04 30 13.3**	**+0.3**
KEK	**Kerkira**	**6.23 308**	P		**Pn**	**04 30 14.4**	**+1.0**
KEK			S		Sn	04 31 17.8	-5.3
KEK	**Kerkira**	**6.23 308**	P		**Pn**	**04 30 14.4**	**+1.0**
SWA2		**6.79 185**	P		**Pn**	**04 30 21.6**	**+0.5**
BRTR	**Keskin Array B**	**6.98 56**	P		**Pn**	**04 30 25.5**	**+1.6**
	0.4nm,0.3s,baz=225,slow=14,SNR=21						
BRTR			S		**Sn**	**04 31 43.0**	**+1.1**
	0.3nm,0.3s,baz=216,slow=24,SNR=11						
LJBD	**Adjabya**	**7.12 226**	*i* P		**Pn**	**04 30 25.9**	**+0.3**
	SNR=70						
KOT	**Kottamia**	**7.73 140**	P		**Pn**	**04 30 33.1**	**-0.9**
HSAF	**As Saff**	**7.84 143**	P		**Pn**	**04 30 34.8**	**-0.7**
GLL	**Jalalah**	**7.95 142**	P		**Pn**	**04 30 36.0**	**-1.1**
MMAI	**Mount Meron Ar**	**8.21 109**	P		**Pn**	**04 30 39.1**	**-1.4**
	9.7nm,0.3s,baz=303,slow=12,SNR=26						
MMAI			S		**Sn**	**04 32 09.2**	**-2.5**
	1.8nm,0.3s,baz=308,slow=16,SNR=2.6						
HWQ	**Hawqa**	**8.21 99**	*e*P		**Pn**	**04 30 40.0**	**-0.7**
KSDI	**Kefar Szold**	**8.34 107**	Pn		**Pn**	**04 30 41.0**	**-1.2**
SUZ		**8.34 136**	P		**Pn**	**04 30 41.7**	**-0.6**
RCY	**Rachaya**	**8.36 105**	*e*P		**Pn**	**04 30 41.5**	**-1.3**
MMLI	**Mount Malkishu**	**8.47 112**	Pn		**Pn**	**04 30 43.7**	**-0.4**
KZIT	**Kziot**	**8.57 124**	Pn		**Pn**	**04 30 44.1**	**-1.4**
KZIT			Sn		Sn	04 32 13.6	-7.0
ZAF		**8.62 139**	P		**Pn**	**04 30 45.4**	**-0.7**
HMDT	**Nahal Hemdat**	**8.64 113**	Pn		**Pn**	**04 30 45.6**	**-0.7**
RTMI	**Retamim**	**8.68 122**	Pn		**Pn**	**04 30 46.2**	**-0.8**
RTMI			Sn		Sn	04 32 15.9	-7.3
DSI	**Dead Sea**	**8.88 117**	Pn		**Pn**	**04 30 48.6**	**-1.0**
DSI			Sn		**Sn**	**04 32 22.8**	**-5.0**
HNKL	**Nakhl**	**8.96 131**	P		**Pn**	**04 30 49.7**	**-1.0**
MZDA	**Masada**	**9.01 119**	Pn		**Pn**	**04 30 50.6**	**-0.7**
MZDA			Sn		**Sn**	**04 32 25.3**	**-5.6**
KRMI	**Paran Flat**	**9.30 127**	Pn		**Pn**	**04 30 54.0**	**-1.4**
KRMI			Sn		Sn	04 32 31.6	-6.6
PRNI	**Paran**	**9.33 125**	Pn		**Pn**	**04 30 54.5**	**-1.3**
STON	**Ston**	**9.45 319**	*e*Pn		Pn	04 30 55.1	-2.2
STON			Sn		Sn	04 32 33.2	-8.5
MLR	**Muntele Rosu**	**9.46 359**	P		**Pn**	**04 30 59.5**	**+1.9**
	0.0nm,0.3s,baz=186,slow=10,SNR=2.9						
HRFI	**Mount Harif**	**9.55 126**	Pn		**Pn**	**04 30 57.9**	**-1.0**
MBRI	**Mt Berech**	**9.64 128**	Pn		**Pn**	**04 30 59.3**	**-0.7**
ASF	**Jabal al Asfar**	**9.71 110**	P		**Pn**	**04 31 00.9**	**-0.1**
	0.8nm,0.3s,baz=250,slow=5.3,SNR=7.0						
EIL	**Elat**	**9.74 128**	P		**Pn**	**04 31 00.8**	**-0.6**
	3.3nm,0.3s,baz=319,slow=9.3,SNR=51						
EIL			S		Sn	04 32 41.1	-8.0
	4.2nm,0.3s,baz=86,slow=9.6,SNR=9.1						
EIL	**Elat**	**9.74 128**	Pn		**Pn**	**04 31 00.9**	**-0.5**
TR2		**9.96 138**	P		**Pn**	**04 31 03.1**	**-1.2**
HKAT	**Jabal Katrina**	**10.00 136**	P		**Pn**	**04 31 04.0**	**-1.1**
AKASG	**Malin Array Be**	**14.84 8**	P		**Pn**	**04 32 11.0**	**+1.9**
	2.6nm,0.3s,baz=198,slow=11,SNR=7.8						
GERES	**GERESS Array B**	**15.74 328**	P		**Pn**	**04 32 21.7**	**+1.2**
	0.1nm,0.3s,baz=138,slow=13,SNR=4.1						
EKA	**Eskdalemuir Ar**	**27.82 323**	P		**P**	**04 34 23.4**	**-1.2**
	0.3nm,0.3s,baz=118,slow=9.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**31.66 230**	P		**P**	**04 34 59.3**	**+0.3**
	0.1nm,0.4s,baz=35,slow=10,SNR=9.8						
ARCES	**ARCESS Array B**	**33.57 360**	P		**P**	**04 35 13.2**	**-1.9**
	0.8nm,0.7s,baz=192,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**42.63 57**	P		**P**	**04 36 31.2**	**-0.2**
	1.7nm,0.4s,baz=265,slow=8.4,SNR=32						
ZALV	**Zalesovo Beam**	**43.83 47**	P		**P**	**04 36 40.9**	**0.0**
	1.7nm,0.4s,baz=270,slow=9.7,SNR=4.6						
SONM	**Songino Array**	**58.32 51**	P		**P**	**04 38 30.4**	**+0.7**
	0.5nm,0.7s,baz=290,slow=8.5,SNR=3.6						

NIED ***24*** *04:30:00,37°.50N×138°.60E,h8km,Mw3.6 Best double couple: M₀2.42000×10¹⁴ NP1:*ϕ_s*52.00000°,*δ*49.00000°,* λ*84.00000°. NP2:*ϕ_s*241.00000°,*δ*41.00000°,*λ*97.00000°.*

JMA 24 04:30:39.1,37°.45N×138°.58E,h19km±1km,M3.6,2C-4D Broadband fault plane solution: P waves. NP1: ϕ_s242.00000°,δ59.00000°,λ100.00000°. **NP2:** ϕ_s42.00000°,δ33.00000°,λ73.00000°. **Principal axes:** T Plg74.0000°, Azm179.0000°; N Plg9.0000°, Azm56.0000°; P Plg13.0000°, Azm324.0000°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.13**	**52**	⇑P	Pg	04 30 43.1	-0.1
JIZZ				*e*S	Sg	04 30 46.8	+0.8
JHK	**Hiroka**	**0.40**	**120**	⇓P	Pg	04 30 46.8	-0.7
JHK				*e*S	Sg	04 30 52.3	-0.9
JJN	**Nakama**	**0.48**	**224**	P	Pg	04 30 48.7	-0.2
JJN				S	Sb	04 30 56.3	+0.6
JSD	**Sado**	**0.64**	**337**	⇓P	Pb	04 30 51.2	-0.4
JSD				*e*S	Sb	04 31 00.1	0.0
JNS	**Sasagawa**	**0.69**	**58**	⇑P	Pb	04 30 52.4	-0.1
JNS				*e*S	Sg	04 31 9.9	-0.1
JKT	**Katashina**	**0.87**	**142**	⇓P	Pb	04 30 54.8	-0.9
JKT				*e*S	Sb	04 31 06.4	-0.6
JFY	**Yanaizu**	**0.90**	**92**	P	Pb	04 30 55.4	-0.7
JFY				*e*S	Sb	04 31 07.2	-0.5
MAT	**Matsushiro**	**0.95**	**198**	P	Pb	04 30 56.0	-1.1
MAT				S	Sb	04 31 08.8	-0.5
MAT	**Matsushiro**	**0.95**	**198**	P	Pb	04 30 56.2	-0.9
JSZ	**Suzu**	**0.97**	**270**	⇓P	Pb	04 30 56.5	-0.8
JAW	**Awa shima**	**1.14**	**28**	P	Pn	04 30 59.4	-0.6

IDC ***24*** *04:32:08.0±1.0, 1°.54S×99°.39E,h0km,mb4.0/11, mb1 4.1/13,mb1mx3.9/25,mbtmp4.0/13,ML4.0/2,MS3.2/1, Ms1 3.4/1,ms1mx2.4/40 Error ellipse: s-maj=42.3km s-min=16.5km az=54.0*

NEIC ***24*** *04:32:09.5±0.5, 1°.57S×99°.39E,h10km,mb4.0/3,Error ellipse: s-maj=17.0km s-min=7.5km az=61.0*

ISCJB ***24*** *04:32:11.0±0.7, 1°.4S±0°.1×99°.5E±0°.1,h30km,mb4.0/14, Error ellipse: s-maj=23.2km s-min=10.1km az=149.3*

ISC 24 04:32:12.5±0.8,1°.5S±0°.1×99°.3E±0°.2,h30km,n36, σ0s97/40,mb4.0/14,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.31**	**355**	Pn	**Pn**	**04 33 14.1**	**-2.1**
PSI	**Prapat**	**4.31**	**355**	Pn	**Pn**	**04 33 14.1**	**-2.1**
	2.0nm,0.3s,baz=157,slow=13,SNR=6.1						
IPM	**Ipoh**	**6.20**	**16**	*e*Pn	**Pn**	**04 33 43.7**	**+1.7**
	17nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P	**P**	**04 36 40.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.86**	**359**	P	**P**	**04 36 40.9**	**-0.4**
	0.4nm,0.3s,baz=183,slow=9.0,SNR=3.9						
CMAR				LR	LR	04 45 03.9	
	comp=Z,57nm,18.4s,baz=140,slow=39						
WRA	**Warramunga Arr**	**38.82**	**121**	P	**P**	**04 39 34.0**	**-1.0**
WRA	**Warramunga Arr**	**38.82**	**121**	P	**P**	**04 39 34.0**	**-1.0**
	1.2nm,0.5s,baz=297,slow=9.4,SNR=15						
WRAB	**Tennant Creek**	**38.82**	**121**	*e*P	**P**	**04 39 34.3**	**-0.8**
	1.8nm,0.7s						
ASAR	**Alice Springs**	**40.08**	**126**	P	**P**	**04 39 45.2**	**-0.3**
ASAR	**Alice Springs**	**40.08**	**126**	P	**P**	**04 39 45.2**	**-0.3**
	0.7nm,0.7s,baz=304,slow=8.2,SNR=5.2						
KSAR	**Wonju Array Be**	**46.93**	**31**	P	**P**	**04 40 38.7**	**-1.8**
KSRS	**Korea Array**	**46.96**	**31**	P	**P**	**04 40 38.7**	**-2.0**
	0.4nm,0.4s,baz=225,slow=7.8,SNR=3.7						
TKM2	**Tokmak 2**	**49.13**	**337**	*e*P	**P**	**04 40 58.1**	**+0.4**
	0.9nm,0.5s						
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**04 41 01.6**	**+1.0**
SONM				PcP	**PcP**	**04 42 22.9**	**+0.7**
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**04 41 01.6**	**+1.0**
	0.5nm,0.5s,baz=182,slow=8.7,SNR=4.1						
SONM				PcP	**PcP**	**04 42 22.9**	**+0.7**
	0.9nm,0.6s,baz=181,slow=5.0,SNR=3.0						
EKS2	**Erkin-Say**	**49.65**	**335**	*e*P	**P**	**04 41 03.2**	**+1.7**
	1.5nm,0.8s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**04 41 04.1**	**0.0**
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**04 41 04.1**	**0.0**
	7.7nm,1.2s,baz=293,slow=7.7,SNR=2.9						
MK31	**Makanchi Array**	**50.39**	**345**	*e*P	**P**	**04 41 07.5**	**+0.5**
MKAR	**Makanchi Array**	**50.39**	**345**	P	**P**	**04 41 07.8**	**+0.9**
MKAR				PcP	**PcP**	**04 42 25.3**	**+0.1**
MKAR	**Makanchi Array**	**50.39**	**345**	P	**P**	**04 41 07.8**	**+0.9**
	2.7nm,0.6s,baz=147,slow=8.0,SNR=30						
MKAR				PcP	**PcP**	**04 42 25.3**	**+0.1**
	0.4nm,0.6s,baz=161,slow=5.8,SNR=1.6						
ZAA0	**Zalesovo Array**	**56.58**	**350**	*e*P	**P**	**04 41 52.6**	**+0.4**
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	**P**	**04 41 52.5**	**+0.3**
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	**P**	**04 41 52.5**	**+0.3**
	2.1nm,0.5s,baz=159,slow=6.9,SNR=9.9						
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**04 43 06.5**	**+0.7**
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**04 43 06.5**	**+0.7**
	2.6nm,0.9s,baz=140,slow=7.1,SNR=4.4						
BRTR	**Keskin Array B**	**72.50**	**313**	P	**P**	**04 43 36.4**	**-0.4**
BRTR	**Keskin Array B**	**72.50**	**313**	P	**P**	**04 43 36.4**	**-0.4**
	0.6nm,0.7s,baz=99,slow=7.4,SNR=3.9						
FINES	**FINESS Array B**	**83.38**	**332**	P	**P**	**04 44 37.0**	**+0.4**
FINES	**FINESS Array B**	**83.38**	**332**	P	**P**	**04 44 37.0**	**+0.4**
	1.4nm,0.6s,baz=90,slow=6.0,SNR=7.6						
ARCES	**ARCESS Array B**	**85.80**	**340**	P	**P**	**04 44 49.9**	**+1.2**
ARCES	**ARCESS Array B**	**85.80**	**340**	P	**P**	**04 44 49.9**	**+1.2**
	0.7nm,0.7s,baz=98,slow=5.5,SNR=2.9						
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	**PKPdf**	**04 51 46.9**	**-0.3**
TXAR	**Lajitas Array**	**144.73**	**36**	PKP	**PKPdf**	**04 51 46.9**	**-0.3**
	1.8nm,0.5s,baz=250,slow=1.1,SNR=36						
TZTN	**Tazewell**	**145.05**	**4**	*e*PKPdf	**PKPbc**	**04 51 46.8**	**0.0**
JCT	**Junction City**	**145.96**	**30**	*e*PKPbc	**PKPab**	**04 51 50.6**	**+0.1**

ISCJB ***24*** *05:17:54.7±0.8,54°.3S±0°.2×120°.6W±0°.3,h10km,mb3.8/8, MS3.9/5,Error ellipse: s-maj=29.3km s-min=17.3km az=144.6*

IDC ***24*** *05:17:54.5±0.9,54°.24S×120°.72W,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.9/17,mbtmp3.8/7,MS3.8/5,Ms1 3.8/5, ms1mx3.5/25,Error ellipse: s-maj=38.3km s-min=22.3km az=140.0*

NEIC ***24*** *05:17:56.1±0.6,54°.17S×120°.73W,h10km,mb4.2/1,Error ellipse: s-maj=23.5km s-min=14.0km az=143.0*

ISC 24 05:17:56.1±0.9,54°.2S±0°.2×120°.7W±0°.2,h10km,n25, σ0s70/19,mb4.0/8,MS3.8/5,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.85**	**335**	*e*T	T	05 59 04.1	
	3.3nm,0.3s						
PLCA	**Paso Flores**	**35.69**	**89**	*e*P	**P**	**05 24 55.1**	**+0.5**
	3.9nm,1.0s						
PLCA	**Paso Flores**	**35.69**	**89**	LR	LR	05 36 00.0	
	comp=Z,90nm,19.3s,baz=318,slow=30						
QSPA	**South Pole Qui**	**35.98**	**180**	*e*P	**P**	**05 24 57.8**	**+1.0**
QSPA	**South Pole Qui**	**35.98**	**180**	P	**P**	**05 24 57.3**	**+0.5**
	2.1nm,0.9s,baz=77,slow=4.5,SNR=5.1						
TBI	**Tubuai**	**37.61**	**314**	*e*T	T	06 05 04.9	
	9.6nm,0.3s						
CFAA	**Coronel Fontan**	**43.32**	**80**	P	**P**	**05 25 57.0**	**-1.2**
CFAA	**Coronel Fontan**	**43.32**	**80**	P	**P**	**05 25 57.0**	**-1.2**
	0.2nm,0.8s,baz=232,slow=12,SNR=5.0						
PMOR	**Pomariorio Ree**	**44.52**	**321**	*e*T	T	06 13 42.6	
	8.9nm,0.3s						
CPUP	**Villa Florida**	**53.60**	**85**	LR	LR	05 47 47.6	
	comp=Z,74nm,18.6s,baz=274,slow=33						
LPAZ	**La Paz**	**55.35**	**68**	P	**P**	**05 27 31.2**	**+0.4**
LPAZ	**La Paz**	**55.35**	**68**	P	**P**	**05 27 31.2**	**+0.4**
	3.3nm,1.0s,baz=200,slow=5.0,SNR=7.6						
LPAZ				LR	LR	05 46 41.5	
	comp=Z,69nm,20.1s,baz=302,slow=31						
MAW	**Mawson**	**58.48**	**182**	*e*P	**P**	**05 27 51.8**	**+0.2**
MAW	**Mawson**	**58.48**	**182**	P	**P**	**05 27 50.8**	**-0.8**
	3.3nm,1.2s,baz=142,slow=3.2,SNR=4.0						
BDFB	**Brasilia**	**67.33**	**85**	LR	LR	05 56 44.6	
	comp=Z,64nm,18.5s,baz=360,slow=35						
ASAR	**Alice Springs**	**79.64**	**244**	P	**P**	**05 30 03.5**	**-0.2**
ASAR	**Alice Springs**	**79.64**	**244**	P	**P**	**05 30 03.5**	**-0.2**
	0.7nm,0.9s,baz=154,slow=6.6,SNR=3.7						
ASAR				LR	LR	06 02 07.4	
	comp=Z,186nm,20.3s,baz=16,slow=33						
WRA	**Warramunga Arr**	**82.44**	**246**	P	**P**	**05 30 17.9**	**-0.7**
WRA	**Warramunga Arr**	**82.44**	**246**	P	**P**	**05 30 17.9**	**-0.7**
	1.4nm,0.9s,baz=145,slow=5.0,SNR=7.0						
TXAR	**Lajitas Array**	**84.49**	**15**	P	**P**	**05 30 29.6**	**+0.8**
TXAR	**Lajitas Array**	**84.49**	**15**	P	**P**	**05 30 29.6**	**+0.8**
	0.3nm,0.9s,baz=175,slow=4.2,SNR=4.0						
EKA	**Eskdalemuir Ar**	**145.01**	**62**	PKPbc	**PKPab**	**05 37 31.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**145.01**	**62**	PKPbc	**PKPab**	**05 37 31.4**	**-0.3**
	3.0nm,1.0s,baz=243,slow=3.0,SNR=4.4						
GERES	**GERESS Array B**	**151.52**	**82**	PKPbc	**PKPbc**	**05 37 49.5**	**0.0**
GERES	**GERESS Array B**	**151.52**	**82**	PKPbc	**PKPbc**	**05 37 49.5**	**0.0**
	1.5nm,0.9s,baz=241,slow=4.0,SNR=7.8						

NIED ***24*** *05:26:00,41°.10N×140°.30E,h175km,Mw5.4 Best double couple: M₀1.25000×10¹⁷ NP1:*ϕ_s*325.00000°,*δ*29.00000°,* λ*73.00000°,*λ*-67.00000°. NP2:*ϕ_s*325.00000°,*δ*29.00000°,* λ*-143.00000°.*

DJA ***24*** *05:26:02.1±3.7,41°.N±7°.×14°.0E±°.,h29km±28km,M5.7/29, mB6.1/19,mb5.8/29,Mw(mB)5.7/19*

BKK ***24*** *05:26:04.3±1.0,41°.N±6°.×13°.9E±1°.5,h10km,M5.8/34, mB6.1/24,mb5.8/34,Mw(mB)5.8/24*

BJI ***24*** *05:26:12.1,40°.87N×140°.31E,h166km,mB5.3/37, mb5.7/69*

SZGRF ***24*** *05:26:13.2,40°.58N×141°.62E,h169km,mb5.2,Near east coast of eastern Honshu, Japan*

ISCJB ***24*** *05:26:15.6±0.1,41°.05N±0°.01×140°.12E±0°.02, h173km±1km,mb5.2/336,Error ellipse: s-maj=2.6km s-min=2.0km az=43.7*

MOS ***24*** *05:26:15.3±0.9,41°.07N×140°.11E,h170km,mb5.3/93, MS4.2/21,Error ellipse: s-maj=5.5km s-min=3.9km az=99.6*

IDC ***24*** *05:26:16.3±0.4,41°.03N×140°.11E,h170km±3km,mb4.8/31, mb1 4.9/38,mb1mx4.9/39,mbtmp4.8/38,MS4.0/12, Ms1 4.0/12,ms1mx3.7/48,Error ellipse: s-maj=7.9km s-min=6.0km az=94.0*

TEH ***24*** *05:26:16.0,40°.99N×140°.10E,h164km,ML5.4*

JMA ***24*** *05:26:16.6±0.1,41°.06N×140°.24E,h172km±1km,M5.4 Broadband fault plane solution: P waves. NP1:* ϕ_s*206.00000°,*δ*78.00000°,*λ*-54.00000°. NP2:* ϕ_s*313.00000°,*δ*38.00000°,*λ*-160.00000°. Principal axes: T Plg24.0000°, Azm269.0000°; N Plg35.0000°, Azm18.0000°; P Plg45.0000°, Azm153.0000°;*

JMA Felt III J1.

GCMT ***24*** *05:26:17.4±0.1,41°.05N×140°.18E,h171km±1km,MW5.3, Moment Tensor Solution. s70,c118; s96,c198; Moment tensor: Scale 10¹⁷Nm; M*$_{rr}$*0.00; M*$_{\theta\theta}$*0.00; M*$_{\phi\phi}$*0.00; M*$_{r\theta}$*0.00; M*$_{r\phi}$*0.00; M*$_{\theta\phi}$*0.00; Best double couple: M₀1.30000×10¹⁷ NP1:*ϕ_s*201.00000°,*δ*71.00000°,* λ*-68.00000°. NP2:*ϕ_s*330.00000°,*δ*29.00000°,* λ*-137.00000°. Principal axes: T 1.3000, Plg23.0000°, Azm274.0000°; N -0.0600, Plg21.0000°, Azm13.0000°; P -1.2400, Plg58.0000°, Azm141.0000°; Data Used: II IU IC G CN.*

NEIC ***24*** *05:26:17.1±0.1,41°.02N×140°.07E,mb5.3/176, MW5.3(NIED) Error ellipse: s-maj=3.5km s-min=2.2km az=142.0*

NEIC Felt at Hakodate and Sapporo. Felt [III] at Misawa, Honshu. Also felt at Furukawa, Ichinoseki, Kizukuri and Mutsu. Recorded [3 JMA] in southeastern Hokkaido; [2 JMA] in eastern, southern and southwestern Hokkaido; [1 JMA] in central Hokkaido. Also recorded [3 JMA] in Aomori and Iwate; [2 JMA] in Miyagi; [1 JMA] in Akita and Fukushima, Honshu.

ISC 24 05:26:16.5±0.2,41°.08N±0°.02×140°.07E±0°.02,h171km±1km, h171km:pP-P,n1343,σ1s21/1681,mb5.3/347,298C-295D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.26**	**95**	⇓P	**Pn**	**05 26 39.5**	**0.0**
JSI2				S	**Sn**	**05 26 56.9**	**-0.1**
JIW	**Iwasaki**	**0.49**	**185**	⇓P	**Pn**	**05 26 40.8**	**+0.5**
JIW				*e*S	**Sn**	**05 26 59.1**	**+0.6**
JSR	**Shiriuchi**	**0.52**	**30**	⇓P	**Pn**	**05 26 40.4**	**+0.1**
JSR				S	**Sn**	**05 26 58.0**	**-0.8**
JOT	**Ohata**	**0.80**	**67**	⇓P	**Pn**	**05 26 41.6**	**-0.3**
JOT				S	**Sn**	**05 27 00.6**	**-0.8**
JTM	**Tenmabayashi**	**0.81**	**111**	⇑P	**Pn**	**05 26 41.6**	**-0.4**
JTM				S	**Sn**	**05 27 00.4**	**-1.1**
JAH	**Hinai**	**0.99**	**154**	⇑P	**Pn**	**05 26 43.1**	**-0.2**
JKB	**Kayabe**	**1.09**	**42**	⇓P	**Pn**	**05 26 43.8**	**-0.2**
JKB				S	**Sn**	**05 27 04.6**	**-0.6**
JOSM	**Okushiri--Mats**	**1.10**	**336**	⇓P	**Pn**	**05 26 44.8**	**+0.8**
JOSM				*e*S	**Sn**	**05 27 06.3**	**+0.9**
JOG2	**Oga 2**	**1.18**	**190**	⇓P	**Pn**	**05 26 45.3**	**+0.5**
JANG	**Nango**	**1.31**	**122**	⇑P	**Pn**	**05 26 44.6**	**-1.3**
JANG				*e*S	**Sn**	**05 27 05.9**	**-2.7**
JKZ	**Kuzumaki**	**1.46**	**138**	⇑P	**Pn**	**05 26 46.5**	**-0.9**
JYW	**Yuwa**	**1.54**	**176**	P	**Pn**	**05 26 48.5**	**+0.3**
JSH	**Shimam**	**1.56**	**359**	⇓P	**Pn**	**05 26 49.0**	**+0.7**
JNB	**Noboribetsu**	**1.57**	**27**	⇓P	**Pn**	**05 26 48.3**	**0.0**
JRG	**Rokugo**	**1.74**	**165**	⇑P	**Pn**	**05 26 50.0**	**-0.2**
JOM	**Ohasama**	**1.86**	**149**	⇑P	**Pn**	**05 26 50.1**	**-1.4**
JOM				*e*S	**Sn**	**05 27 16.2**	**-2.2**
JTB	**Tobi-shima**	**1.92**	**192**	⇓P	**Pn**	**05 26 52.7**	**+0.6**
MIYJ	**Miyakonagasawa**	**2.01**	**138**	⇑P	**Pn**	**05 26 51.6**	**-1.5**
JEW	**Eniwo**	**2.04**	**30**	P	**Pn**	**05 26 53.7**	**+0.3**
JYK	**Kaneyama**	**2.17**	**174**	⇑P	**Pn**	**05 26 54.5**	**-0.4**
JYK				*e*S	**Sn**	**05 27 23.6**	**-1.0**
JSK	**Shakotan**	**2.29**	**7**	⇓P	**Pn**	**05 26 56.8**	**+0.6**
JSK				*e*S	**Sn**	**05 27 28.7**	**+0.7**
JMK	**Ichinoseki**	**2.30**	**157**	⇑P	**Pn**	**05 26 55.1**	**-1.3**
JMK				*e*S	**Sn**	**05 27 24.8**	**-2.5**
JNBK	**Urakawa-nobuka**	**2.34**	**58**	⇑P	**Pn**	**05 26 55.7**	**-1.1**
JNBK				*e*S	**Sn**	**05 27 26.1**	**-2.0**
OFUJ	**Ofunato**	**2.34**	**148**	⇑P	**Pn**	**05 26 55.2**	**-1.7**
JBT2	**Biratori 2**	**2.41**	**45**	⇑P	**Pn**	**05 26 57.2**	**-0.4**
JYA	**Atsumi**	**2.50**	**186**	⇓P	**Pn**	**05 26 59.0**	**+0.3**
ERM	**Erimo**	**2.50**	**67**	Pn	**Pn**	**05 26 57.2**	**-1.5**
	56μm,0.4s						
ERM	**Erimo**	**2.50**	**67**	*d*iP	**Pn**	**05 26 57.6**	**-1.1**
ERM				pmax	pmax		
	comp=Z,5μm

KUR				pmax	pmax	
	comp=Z,409nm,0.9s					
KUR				pmax	pmax	
	comp=N,117nm,0.3s					
UGL	**Uglegorsk**	**8.12**	**9**	*e*P	**Pn**	**05 28 11.5 +0.2**
UGL				S	Sn	05 29 36.0 -6.0
UGL				pmax	pmax	
	comp=Z,120nm,0.5s					
UGL				smax	smax	
	comp=N,200nm,0.9s					
UGL				smax	smax	
	comp=E,330nm,0.9s					
HABR	**Khabarovsk**	**8.21**	**336***c*e	P	**Pn**	**05 28 11.6 -0.8**
HABR				*e*S	**Sn**	**05 29 43.4 -0.7**
HABR				pmax	pmax	
	comp=Z,110nm,1.2s					
HABR				pmax	pmax	
	comp=N,51nm,1.2s					
HABR				pmax	pmax	
	comp=E,56nm,1.2s					
HABR				MLR	MLR	
	comp=Z,621nm,14.0s					
MDJ	**Mudanjiang**	**8.47**	**298**	P	**Pn**	**05 28 17.6 +1.7**
MDJ				S	**Sn**	**05 29 53.8 +3.4**
MDJ				PcP	**PcP**	**05 34 29.6 +0.8**
MDJ				ScP	**ScP**	**05 37 45.3 +0.8**
MDJ				ScS	**ScS**	**05 41 19.3 +1.0**
MDJ				pmax	pmax	
	comp=Z,1μm,1.2s					
MDJ				pmax	pmax	
	comp=Z,2μm,4.4s					
MDJ				LR	LR	
	comp=N,5μm,7.7s					
MDJ				LR	LR	
	comp=Z,4μm,5.4s					
MDJ				LR	LR	
	comp=Z,4μm,5.4s					
MDJ	**Mudanjiang**	**8.47**	**298**	*e*Pn	**Pn**	**05 28 17.6 +1.7**
	comp=Z,404nm,0.8s					
KLR	**Kul'dur**	**10.04**	**327**	⇓*i*P	Pn	05 28 32.8 -3.8
KLR				*e*S	**Sn**	**05 30 24.0 -4.0**
KLR				pmax	pmax	
	comp=N,50nm,1.6s					
KLR				pmax	pmax	
	comp=E,100nm,1.6s					
KLR				pmax	pmax	
	comp=Z,160nm,1.6s					
KLR				pmax	pmax	
	comp=Z,700nm,9.0s					
KLR				smax	smax	
	comp=N,2μm,10.5s					
KLR				smax	smax	
	comp=E,2μm,10.5s					
KLR				MLR	MLR	
	comp=N,1μm,10.0s					
KLR				MLR	MLR	
	comp=Z,2μm,10.0s					
JTO	**Tosashimizu**	**10.05**	**218**	P	**Pn**	**05 28 36.6 -0.2**
KSRS	**Korea Array**	**10.09**	**253**	P	**Pn**	**05 28 39.1 +1.8**
	comp=Z,6.6nm,0.3s,baz=68,slow=13,SNR=484					
KSRS				ScP	**ScP**	**05 37 46.2 -0.2**
	comp=Z,0.2nm,0.3s,baz=71,slow=0.6,SNR=16					
KSAR	**Wonju Array Be**	**10.12**	**253**	P	**Pn**	**05 28 39.1 +1.4**
KSAR				ScP	**ScP**	**05 37 46.2 -0.3**
JNU	**Nakatsue**	**10.81**	**226**	*e*Pn	**Pn**	**05 28 47.1 +0.3**
JNU				*e*Sn	**S**	**05 30 50.0 +2.4**
JNU	**Nakatsue**	**10.81**	**226**	P	**Pn**	**05 28 47.4 +0.6**
JNU	**Nakatsue**	**10.81**	**226**	P	**Pn**	**05 28 47.7 +0.9**
	comp=Z,2.8nm,0.3s,baz=50,slow=13,SNR=64					
INCN	**Inchon**	**11.01**	**255**	*e*Pn	**Pn**	**05 28 50.7 +1.3**
CN2	**Changchun**	**11.14**	**289**	⇑P	**Pn**	**05 28 51.5 +0.5**
CN2				*e*sP		05 29 32.0
CN2				*e*S	**Sn**	**05 30 54.3 -0.2**
CN2				pmax	pmax	
	comp=Z,80nm,0.9s					
CN2				pmax	pmax	
	comp=Z,1μm,6.0s					
JZO	**Okuchi**	**11.72**	**223**	P	**Pn**	**05 28 59.1 +0.5**
SNY	**Shenyang**	**12.40**	**279**	⇑P	**Pn**	**05 29 08.8 +1.6**
SNY				S	**Sn**	**05 31 28.1 +3.5**
SNY				pmax	pmax	
	comp=Z,470nm,1.7s					
SNY				pmax	pmax	
	comp=Z,1μm,5.5s					
SNY				LR	LR	
	comp=N,370nm,10.8s					
SNY				LR	LR	
	comp=E,970nm,11.4s					
SNY				LR	LR	
	comp=Z,870nm,11.4s					
CBIJ	**Chichi jima**	**14.06**	**172**	P	**Pn**	**05 29 25.6 -2.7**
CBIJ	**Chichi jima**	**14.06**	**172**	P	**Pn**	**05 29 25.6 -2.7**
	baz=288,slow=6.4					
DL2	**Dalian**	**14.30**	**267**	⇑*i*P	**P**	**05 29 32.6 -0.8**
DL2				S	**S**	**05 32 13.8 -1.1**
DL2				ScS	**ScS**	**05 41 28.8 -1.4**
DL2				pmax	pmax	
	comp=Z,2μm,1.1s					
DL2				pmax	pmax	
	comp=Z,1μm,3.4s					
SKR	**Severo-Kuril's**	**14.71**	**44**	*e*P	Pn	05 29 26.6 -10
SKR				pmax	pmax	
	comp=Z,220nm,1.0s					
SKR				MLR	MLR	
	comp=Z,1μm,12.0s					
SKR				MLR	MLR	
	comp=N,1μm,10.0s					
SKR				MLR	MLR	
	comp=E,2μm,10.0s					
JAMN	**Amaminishikomi**	**15.61**	**218**	P	**Pn**	**05 29 45.9 -1.5**
HIA	**Hailar**	**16.47**	**307**	*e*P	**P**	**05 29 56.4 -1.0**
	comp=E,431nm,0.8s					
PEA0B	**Petropavlovsk-**	**16.94**	**39**	*e*P	**Pn**	**05 30 02.9 -0.4**
PETK	**Petropavlovsk-**	**16.94**	**39**	P	**P**	**05 30 02.8 +0.3**
PETK				pmax	pmax	
	comp=Z,2.0nm,0.3s					
PETK	**Petropavlovsk-**	**16.94**	**39**	P	**P**	**05 30 02.8 +0.3**
PETK	**Petropavlovsk-**	**16.94**	**39**	P	**P**	**05 30 02.8 +0.3**
	comp=Z,1.6nm,0.3s,baz=224,slow=10.0,SNR=7.7					
JOW	**Kunigami**	**17.23**	**218**	*e*P	**P**	**05 30 04.5 -1.3**
JOW				*e*S	**S**	**05 33 15.1 -1.4**
PET	**Petropavlovsk**	**17.35**	**40**	*e*P	**P**	**05 30 07.2 +0.3**
PET				*e*S	**S**	**05 33 15.0 -3.5**
PET				pmax	pmax	
	comp=Z,100nm,13.9s					
PET				MLR	MLR	
	comp=Z,900nm,15.0s					
PET				MLR	MLR	
	comp=N,900nm,14.0s					
BJI	**Beijing**	**18.18**	**275**	P	**P**	**05 30 15.8 -0.3**
BJI				sP	**sP**	**05 31 05.1 -1.5**
BJI				S	**S**	**05 33 33.8 -1.3**
BJI				pmax	pmax	
	comp=Z,410nm,1.5s					
BJT	**Baijiatuau**	**18.18**	**275**	*e*P	**P**	**05 30 15.8 -0.4**
	comp=Z,555nm,1.0s					
SSE	**Sheshan**	**18.19**	**243**	P	**P**	**05 30 15.8 -0.5**
SSE				sP	**sP**	**05 31 04.3 -2.4**
SSE				S	**S**	**05 33 31.0 -4.5**
SSE				PcP	**PcP**	**05 34 42.1 +0.8**
SSE				pmax	pmax	
	comp=Z,590nm,0.8s					
SSE				LR	LR	
	comp=N,310nm,11.9s					
SSE				LR	LR	
	comp=E,220nm,12.1s					
SSE				LR	LR	
	comp=Z,370nm,13.9s					
TIA	**Tai'an**	**18.55**	**262**	⇑P	**P**	**05 30 20.0 -0.2**
TIA				sP	**sP**	**05 31 06.6 -4.2**
TIA				S	**S**	**05 33 40.8 -1.9**
TIA				pmax	pmax	
	comp=Z,470nm,1.0s					
TIA				LR	LR	
	comp=N,210nm,8.6s					
TIA				LR	LR	
	comp=E,800nm,10.8s					
TIA				LR	LR	
	comp=Z,480nm,11.8s					
CLNS	**Chul'man**	**18.58**	**333**	*e*P	**P**	**05 30 20.3 -0.1**
CLNS				*e*S	**S**	**05 33 42.4 -0.6**
CLNS				pmax	pmax	
	comp=Z,165nm,0.8s					
CLNS				pmax	pmax	
	comp=N,168nm,1.0s					
CLNS				pmax	pmax	
	comp=E,64nm,1.1s					
CLNS				smax	smax	
	comp=E,710nm,11.0s					
CLNS				smax	smax	
	comp=N,329nm,11.9s					
CLNS				MLR	MLR	
	comp=Z,413nm,12.0s					
CLNS				MLR	MLR	
	comp=N,411nm,11.0s					
CLNS				MLR	MLR	
	comp=E,291nm,13.0s					
NJ2	**Nanjing**	**19.24**	**249**	*e*P	**P**	**05 30 26.6 -1.0**
NJ2				pP	**pP**	**05 30 55.9 -0.8**
NJ2				sP	sP	05 31 13.0 -5.3
NJ2				S	**S**	**05 33 57.5 +1.2**
NJ2				pmax	pmax	
	comp=Z,410nm,0.8s					
NJ2				pmax	pmax	
	comp=Z,320nm,4.7s					
NJ2				LR	LR	
	comp=N,5μm,14.4s					
NJ2				LR	LR	
	comp=E,1μm,16.3s					
NJ2				LR	LR	
	comp=Z,2μm,19.8s					
CIT	**Chita**	**21.14**	**310**	*e*P	P	05 30 58.5 +11
HHC	**Hu-ho-hao-te**	**21.49**	**279**	⇑P	**P**	**05 30 50.3 -1.5**
HHC				PP	**pP**	**05 31 23.3 +1.7**
HHC				sP	**sP**	**05 31 40.3 -2.7**
HHC				S	**S**	**05 34 34.1 -5.1**
HHC				PcP	**PcP**	**05 34 48.5 +1.1**
HHC				SS	**SnSn**	**05 35 26.6 +4.9**
HHC				ScP	**ScP**	**05 38 08.8 +0.7**
HHC				pmax	pmax	
	comp=Z,230nm,1.4s					
HHC				pmax	pmax	
	comp=Z,2μm,4.3s					
HHC				LR	LR	
	comp=N,1μm,9.3s					
HHC				LR	LR	
	comp=E,1μm,10.1s					
HHC				LR	LR	
	comp=Z,1μm,11.0s					
TIY	**Taiyuan**	**21.58**	**270**	*e*P	**P**	**05 30 51.0 -1.8**
TIY				PP	**pP**	**05 31 27.3 +4.7**
TIY				sP	**sP**	**05 31 42.0 -2.0**
TIY				S	**S**	**05 34 42.0 +1.3**
TIY				LR	LR	
	comp=N,410nm,13.8s					
TIY				LR	LR	
	comp=E,310nm,8.7s					
TIY				LR	LR	
	comp=Z,300nm,14.3s					
YAK	**Yakutsk**	**21.90**	**347***c* *i*P		**P**	**05 30 53.4 -2.2**
YAK				*e**PP	**pP**	**05 31 25.8 +0.2**
YAK				*e*S	**S**	**05 34 41.5 -3.7**
YAK				*e*		05 34 46.3
YAK				*e**SS	sS	05 35 30.7 -7.5
YAK				*e*		05 41 48.5
YAK				pmax	pmax	
	comp=Z,142nm,0.9s					
YAK				pmax	pmax	
	comp=N,78nm,1.0s					
YAK				pmax	pmax	
	comp=E,18nm,1.1s					
YAK				smax	smax	
	comp=N,489nm,1.4s					
YAK				smax	smax	
	comp=E,302nm,1.4s					
TATO	**Taipei**	**22.30**	**230**	*e*P	**P**	**05 30 59.2 -0.7**
	comp=E,434nm,0.8s					
YHNB	**Yeheng**	**22.60**	**229**	*e*P	**P**	**05 31 00.4 -2.4**
	comp=E,262nm,0.7s					
BTO	**Baotou**	**22.69**	**279**	*e*P	**P**	**05 31 01.3 -2.2**
BTO				pmax	pmax	
	comp=Z,45nm,1.5s					
NACB	**Ninganchiao**	**22.86**	**228**	*e*P	**P**	**05 31 03.5 -1.6**
	comp=Z,59nm,0.7s					
SEY	**Seymchan**	**23.08**	**14**	⇓*i*P	**P**	**05 31 06.5 -0.2**
WHN	**Wuhan**	**23.27**	**251**	⇓P	**P**	**05 31 05.4 -3.4**
WHN				pP	**pP**	**05 31 36.3 -4.6**
WHN				S	**S**	**05 35 03.0 -5.1**
WHN				pmax	pmax	
	comp=Z,620nm,7.2s					
WHN				LR	LR	
	comp=N,350nm,11.2s					
WHN				LR	LR	
	comp=E,890nm,8.6s					
WHN				LR	LR	
	comp=Z,1μm,14.1s					
SSLB	**Suanglung**	**23.52**	**229**	*e*P	**P**	**05 31 08.1 -3.1**
	comp=Z,63nm,0.8s					
YULB	**Yu-li**	**23.64**	**227**	*e*P	**P**	**05 31 09.3 -2.9**
	comp=Z,61nm,0.6s					
QZH	**Quanzhou**	**24.05**	**235**	⇑*i*P	**P**	**05 31 15.4 -0.5**
QZH				S	**S**	**05 35 22.3 +1.6**
QZH				pmax	pmax	
	comp=Z,480nm,0.7s					
TPUB	**Ta-pu**	**24.09**	**229**	*e*P	**P**	**05 31 14.1 -2.2**
TWG	**Pinlang**	**24.22**	**227**	*e*P	**P**	**05 31 17.2 -0.2**
ULN	**Ulaanbaatar**	**24.38**	**297**	*e*P	**P**	**05 31 18.1 -0.8**
	comp=Z,78nm,0.8s					
ULN	**Ulaanbaatar**	**24.38**	**297**	P	**P**	**05 31 18.5 -0.4**
	comp=Z,113nm,0.9s,comp=Z,1μm					
SONM	**Songino Array**	**24.82**	**297**	P	**P**	**05 31 22.5 -0.4**
SONM				ScP	**ScP**	**05 38 16.2 -0.8**
SONM	**Songino Array**	**24.82**	**297**	P	**P**	**05 31 22.5 -0.4**
	comp=Z,42nm,0.8s,baz=96,slow=9.5,SNR=18					
SONM				ScP	**ScP**	**05 38 16.2 -0.8**
	comp=Z,26nm,1.0s,baz=116,slow=2.7,SNR=22					
FX1	**Attu Island--F**	**25.25**	**51**	P	**P**	**05 31 25.6 -0.8**
FX1	**Attu Island--F**	**25.25**	**51**	P	**P**	**05 31 25.6 -0.8**
	comp=Z,35nm,0.9s,baz=150,slow=15,SNR=14					
FX1				LR	LR	05 40 41.5
	comp=Z,353nm,20.1s,baz=275,slow=34					
XAN	**Xi'an**	**25.58**	**264**	P	**P**	**05 31 28.4 -1.3**
XAN				pP	**pP**	**05 32 01.0 -3.8**
XAN				sP	**sP**	**05 32 20.0 -4.6**
XAN				S	**S**	**05 35 41.6 -3.2**
XAN				sS	sS	05 36 39.3 -7.9
XAN				SS	**SnSn**	**05 36 59.6 -0.8**
XAN				pmax	pmax	
	comp=Z,16nm,0.7s					
XAN				pmax	pmax	
	comp=Z,85nm,3.9s					
IRK	**Irkutsk**	**26.71**	**307**	*e*P	**P**	**05 31 39.6 -0.1**
IRK				*e*S	**S**	**05 36 07.2 +4.9**
IRK				pmax	pmax	
	comp=Z,222nm,1.4s					
ENH	**Enshi**	**26.95**	**256**	*e*P	**P**	**05 31 40.8 -1.3**
	comp=Z,200nm,0.7s					
ZAK	**Zakamensk**	**27.07**	**303**	*e*P	**P**	**05 31 43.0 0.0**
ZAK				pmax	pmax	
	comp=Z,103nm,1.2s					
LZH	**Lanzhou**	**28.61**	**272**	⇑P	**P**	**05 31 56.9 0.0**
LZH				PP	**PnPn**	**05 32 58.3 +1.8**
LZH				S	**S**	**05 36 29.3 -3.5**
LZH				sS	sS	05 37 29.4 -6.2
LZH				ScP	**ScP**	**05 38 28.8 +0.3**
LZH				pmax	pmax	
	comp=Z,91nm,1.0s					
LZH				pmax	pmax	
	comp=Z,400nm,4.0s					
LZH				LR	LR	
	comp=N,380nm,12.0s					
LZH				LR	LR	
	comp=E,340nm,10.3s					
LZH				LR	LR	
	comp=Z,400nm,13.4s					
MOY	**Mondy**	**28.64**	**305**	*e*P	**P**	**05 31 57.0 +0.1**
MOY				pmax	pmax	
	comp=Z,203nm,2.3s					
GZH	**Guangzhou**	**28.71**	**240**	P	P	05 31 53.6 -4.1
GZH				S	S	05 36 26.4 -7.8
GZH				LR	LR	
	comp=N,940nm,16.7s					
GZH				LR	LR	
	comp=E,940nm,16.3s					
GZH				LR	LR	
	comp=Z,780nm,13.1s					
GTA	**Gaotai**	**30.58**	**280**	⇑P	**P**	**05 32 14.1 -0.2**
GTA				pP	**pP**	**05 32 47.8 -2.1**
GTA				sP	**sP**	**05 33 06.3 -3.3**
GTA				PcP	**PcP**	**05 35 09.8 +1.3**
GTA				S	**S**	**05 37 03.0 -0.5**
GTA				sS	**sS**	**05 38 02.8 -3.6**
GTA				ScP	**ScP**	**05 38 34.9 +0.1**
GTA				PcS	**PcS**	**05 38 52.1 -0.5**
GTA				SS	**SnSn**	**05 38 57.5 -4.7**
GTA				ScS	**ScS**	**05 42 29.8 -1.7**
GTA				pmax	pmax	
	comp=Z,110nm,0.8s					
GTA				pmax	pmax	
	comp=Z,310nm,5.0s					
GTA				LR	LR	
	comp=N,240nm,16.4s					
GTA				LR	LR	
	comp=E,260nm,15.9s					
GTA				LR	LR	
	comp=Z,270nm,16.9s					
CD2	**Chengdu**	**30.88**	**263**	P	**P**	**05 32 15.8 -1.1**
CD2				pP	**pP**	**05 32 50.0 -2.5**
CD2				sP	**sP**	**05 33 09.5 -2.7**
CD2				PP	**PnPn**	**05 33 23.3 -1.9**
CD2				PcP	**PcP**	**05 35 08.3 -1.0**
CD2				S	**S**	**05 37 05.9 -2.3**
CD2				sS	**sS**	**05 38 06.6 -4.6**
CD2				SS	**SnSn**	**05 39 02.8 -6.7**
CD2				ScS	**ScS**	**05 42 30.5 -2.6**
CD2				pmax	pmax	
	comp=Z,120nm,0.8s					
CD2				pmax	pmax	
	comp=Z,480nm,4.8s					
GYA	**Guiyang**	**31.15**	**253**	⇓*i*P	**P**	**05 32 20.8 +1.5**
GYA				pP	**pP**	**05 32 54.3 -0.7**
GYA				sP	**sP**	**05 33 14.5 -0.1**
GYA				PP	**PnPn**	**05 33 29.6 +0.9**
GYA				PcP	**PcP**	**05 35 11.3 +1.1**
GYA				S	**S**	**05 37 13.0 +0.5**
GYA				sS	**sS**	**05 38 15.4 -0.1**
GYA				ScP	**ScP**	**05 38 34.8 -2.0**
GYA				PcS	**PcS**	**05 38 55.0 +0.2**
GYA				ScS	**ScS**	**05 42 33.5 -1.1**
GYA				pmax	pmax	
	comp=Z,50nm,0.8s					
GYA				pmax	pmax	
	comp=Z,180nm,4.9s					
GYA				LR	LR	
	comp=N,780nm,17.9s					
GYA				LR	LR	
	comp=E,610nm,18.2s					
GYA				LR	LR	
	comp=Z,840nm,17.6s					
TIXI	**Tiksi**	**31.15**	**353**	*e*P	**P**	**05 32 20.4 +1.7**
HVS	**Khovu-Aksy**	**33.17**	**304***c* *i*P		**P**	**05 32 37.2 +0.5**
HVS				pmax	pmax	
	comp=Z,1μm,1.0s					
QIZ	**Qiongzhong**	**33.89**	**239**	P	**P**	**05 32 44.6 +1.5**
QIZ				pP	**pP**	**05 33 17.3 -1.8**
QIZ				S	**S**	**05 37 56.0 +1.2**
QIZ				sS	**ScP**	**05 38 50.8 +4.6**
QIZ				pmax	pmax	
	comp=Z,80nm,0.9s					
QIZ	**Qiongzhong**	**33.89**	**239**	*e*P	**P**	**05 32 44.7 +1.6**
	comp=Z,64nm,0.8s					
QIZ				LR	LR	
	comp=Z,225nm,21.0s					
KMI	**Kunming**	**34.78**	**254**	P	**P**	**05 32 50.4 -0.6**
KMI				pP	**pP**	**05 33 27.3 +0.2**
KMI				sP	**sP**	**05 33 47.1 +0.5**
KMI				PP	**PnPn**	**05 34 15.3 +1.7**
KMI				S	**S**	**05 38 06.4 -2.5**
KMI				sS	**sS**	**05 39 11.0 -1.5**
KMI				SS	SnSn	05 40 33.8 -10
KMI				pmax	pmax	
	comp=Z,120nm,0.7s					
KMI				pmax	pmax	
	comp=Z,310nm,3.1s					
KMI				LR	LR	
	comp=N,430nm,17.7s					
KMI				LR	LR	
	comp=E,320nm,17.2s					
KMI				LR	LR	
	comp=Z,310nm,12.7s					
WMQ	**Urumqi**	**38.21**	**292**	P	**P**	**05 33 20.5 +0.9**
WMQ				sP	**sP**	**05 34 15.4 -0.3**
WMQ				PP	**PnPn**	**05 34 56.1 +1.9**
WMQ				PcP	**PcP**	**05 35 31.8 +1.4**
WMQ				S	**S**	**05 39 00.6 +0.3**
WMQ				ScP	**ScP**	**05 39 04.3 +2.4**
WMQ				sS	**sS**	**05 40 03.5 -1.0**
WMQ				SS	**SS**	**05 41 49.1 -6.3**
WMQ				ScS	**ScS**	**05 43 10.1 -1.9**
WMQ				pmax	pmax	
	comp=Z,250nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,720nm,2.8s					
WMQ				LR	LR	
	comp=N,820nm,25.0s					
WMQ				LR	LR	
	comp=E,420nm,24.0s					
WMQ				LR	LR	
	comp=Z,450nm,27.0s					
ZAA0	**Zalesovo Array**	**38.49**	**309**	*e*P	**P**	**05 33 22.2 +0.5**
ZAA0				*e*PcP	**PcP**	**05 35 31.3 +0.4**
ZAA0				*e*ScP	**ScP**	**05 39 02.5 -0.1**
ZALV	**Zalesovo Beam**	**38.49**	**309**	P	**P**	**05 33 22.1 +0.4**
ZALV						05 35 30.7
ZALV						05 39 02.0
ZALV						05 43 12.5
ZALV				pmax	pmax	
	comp=Z,176nm,0.7s					
ZALV	**Zalesovo Beam**	**38.49**	**309**	P	**P**	**05 33 22.1 +0.4**
ZALV				PcP	**PcP**	**05 35 30.7 -0.2**
ZALV				ScP	**ScP**	**05 39 02.0 -0.6**
ZALV				ScS	**ScS**	**05 43 12.5 -0.6**
ZALV	**Zalesovo Beam**	**38.49**	**309**	P	**P**	**05 33 22.1 +0.4**
	comp=Z,176nm,0.7s,baz=87,slow=7.6,SNR=296					
ZALV				PcP	**PcP**	**05 35 30.7 -0.2**
	comp=Z,19nm,0.6s,baz=105,slow=3.3,SNR=5.8					
ZALV				ScP	**ScP**	**05 39 02.0 -0.6**
	comp=Z,34nm,0.8s,baz=90,slow=3.5,SNR=21					
ZALV				ScS	**ScS**	**05 43 12.5 -0.6**
	comp=Z,3.8nm,0.9s,baz=86,slow=5.9,SNR=5.3					
PANO	**Nakornpanom**	**38.69**	**243**	P	**P**	**05 33 25.1 +1.4**
	comp=Z,115nm,1.0s,comp=Z,994nm					
SKNT	**Sakolnakorn**	**39.23**	**243**	P	**P**	**05 33 29.2 +0.9**
	comp=Z,125nm,1.1s					
NVS	**Novosibirsk**	**39.36**	**310**	⇑*i*P	**P**	**05 33 28.4 -0.5**
NVS				*e*		05 34 08.1
NVS				*e*S	**S**	**05 39 12.3 -4.7**
NVS				pmax	pmax	
	comp=E,81nm,0.8s					
NVS				pmax	pmax	
	comp=Z,133nm,0.8s					
NVS				pmax	pmax	
	comp=N,9.0nm,0.6s					
NVS				smax	smax	
	comp=N,27nm,1.7s					
NVS				smax	smax	
	comp=E,62nm,1.7s					
UBPT	**Khong Chiam**	**39.46**	**240**	P	**P**	**05 33 31.2 +1.0**
	comp=E,80nm,0.9s,comp=E,666nm					
UBPT	**Khong Chiam**	**39.46**	**240**	P	**P**	**05 33 31.4 +1.2**
	comp=E,80nm,0.9s,comp=E,666nm					
KWAJ	**Kwajalein Atol**	**40.36**	**135**	*e*P	**P**	**05 33 38.4 +0.8**
KWAJ				pmax	pmax	
	comp=Z,217nm,1.3s					
KWAJ	**Kwajalein Atol**	**40.36**	**135**	*e*P	**P**	**05 33 38.4 +0.8**
	comp=Z,217nm,1.3s					
PAYA	**Payao**	**40.46**	**250**	P	**P**	**05 33 40.6 +2.2**
	comp=Z,100nm,0.8s,comp=Z,726nm					
MYLDM	**Lahad Datu**	**40.63**	**214**	P	P	05 33 43.6 +3.8
MYLDM	**Lahad Datu**	**40.63**	**214**	P	P	05 33 43.5 +3.8
	comp=Z,43nm,1.7s					
CMAI	**Chiengmai2**	**40.67**	**251**	P	**P**	**05 33 41.5 +1.1**
	comp=Z,488nm,1.0s,comp=Z,4μm					
LOEI	**Loei**	**40.72**	**246**	P	**P**	**05 33 39.0 -1.6**
	comp=Z,1μm,1.2s,comp=Z,196μm					
SDKM	**Sandakan**	**40.79**	**216**	P	**P**	**05 33 42.7 +1.5**
KKM	**Kota Kinabalu**	**40.88**	**218**	*e*P	**P**	**05 33 43.4 +1.4**
	comp=Z,58nm,1.3s					
KKM	**Kota Kinabalu**	**40.88**	**218**	P	**P**	**05 33 44.2 +2.3**
KKM	**Kota Kinabalu**	**40.88**	**218**	P	**P**	**05 33 43.5 +1.5**
	comp=Z,39nm,1.1s					
LSA	**Lhasa**	**40.98**	**270**	P	**P**	**05 33 44.5 +1.3**
LSA	**Lhasa**	**40.98**	**270**	*e*P	**P**	**05 33 44.7 +1.6**
LSA				pmax	pmax	
	comp=Z,357nm,1.4s					
LSA	**Lhasa**	**40.98**	**270**	*e*P	**P**	**05 33 44.7 +1.6**

comp=Z,357nm,1.4s
MK31 Makanchi Array 41.19 298 *i* P **P 05 33 44.7 +0.6**
MK31 pmax pmax
comp=Z,409nm,0.8s
MK31 Makanchi Array 41.19 298 *e*P **P 05 33 44.7 +0.6**
MKAR Makanchi Array 41.19 298 P **P 05 33 44.7 +0.6**
MKAR pmax pmax
comp=Z,263nm,0.8s
MKAR pmax pmax
comp=N,10.0nm,0.9s
MKAR Makanchi Array 41.19 298 P **P 05 33 44.7 +0.6**
MKAR ScP **ScP 05 39 12.2 -1.2**
MKAR Makanchi Array 41.19 298 P **P 05 33 44.7 +0.6**
comp=N,260nm,0.8s,baz=84,slow=8.9,SNR=1082
MKAR ScP **ScP 05 39 12.2 -1.2**
comp=N,9.8nm,0.9s,baz=66,slow=3.8,SNR=7.6
CHAI Chaiyaphum 41.34 244 P **P 05 33 46.2 +0.6**
comp=N,34nm,0.8s,comp=N,304nm
CMMT Chiang Mai 41.47 250 P **P 05 33 47.5 +0.8**
comp=N,291nm,0.8s,comp=N,3μm
CMMT Chiang Mai 41.47 250 P **P 05 33 47.1 +0.4**
comp=N,291nm,0.8s,comp=N,3μm
CHTO Chiang Mai 41.47 250 *e*P **P 05 33 47.9 +1.2**
CHTO pmax pmax
comp=Z,223nm,0.8s
CHTO Chiang Mai 41.47 250 *e*P **P 05 33 47.9 +1.2**
comp=Z,223nm,0.8s
CHTO Chiang Mai 41.47 250 P **P 05 33 48.0 +1.2**
comp=Z,317nm,0.8s,comp=Z,3μm
CHTO Chiang Mai 41.47 250 P **P 05 33 47.6 +0.9**
comp=Z,317nm,0.8s,comp=Z,3μm
PBKT Sadao Pong 41.57 246 P **P 05 33 48.6 +1.2**
PBKT Sadao Pong 41.57 246 P **P 05 33 48.4 +1.0**
comp=Z,40nm,0.9s
TSM Tawau 41.69 214 P **P 05 33 49.8 +1.3**
CM31 Chiang Mai Arr 41.71 250 *e*P **P 05 33 50.2 +1.5**
comp=Z,58nm,0.7s
CMAR Chiang Mai Arr 41.71 250 P **P 05 33 50.0 +1.4**
CMAR Chiang Mai Arr 41.71 250 P **P 05 33 50.0 +1.4**
comp=Z,84nm,1.0s,baz=43,slow=7.6,SNR=133
TNTI Ternate 41.74 199 P **P 05 33 49.6 +0.8**
comp=Z,161nm,0.9s
SWI Sorong 42.51 193 P **P 05 33 55.1 +0.1**
comp=Z,197nm,0.9s,comp=Z,2μm
SHL Shillong 42.59 264 *i* PCS **P 05 33 56.5 +0.6**
SHL *e*S **S 05 40 05.0 -0.8**
NAYO Nakonayok 42.91 243 P **P 05 34 01.3 +3.0**
comp=Z,3μm,1.0s,comp=Z,42μm
GTOI Gorontalo 43.12 205 P **P 05 33 59.6 -0.4**
comp=Z,132nm,0.9s,comp=Z,1μm
CHBT CHBT 43.38 240 P **P 05 34 03.4 +1.4**
comp=Z,118nm,1.0s,comp=Z,3μm
CHBT CHBT 43.38 240 P **P 05 34 03.4 +1.4**
comp=Z,118nm,1.0s,comp=Z,3μm
JAY Jayapura 43.39 179 P **P 05 34 02.6 +0.4**
comp=Z,111nm,0.9s,comp=Z,3μm
MRSI Marisa 43.63 207 P **P 05 34 04.4 +0.4**
comp=Z,155nm,1.0s,comp=Z,1μm
IM04 Indian Mountai 43.75 33 *e*P **P 05 34 04.9 +0.4**
IMA2 Indian Mountai 43.79 33 *e*P **P 05 34 05.5 +0.5**
IMA2 *ep*P **pP 05 34 45.4 +3.1**
IMA2 *e*PcP **PP 05 35 49.5 -0.6**
FAKI Fak Fak 44.37 191 P **P 05 34 09.8 -0.1**
comp=Z,484nm,0.9s,comp=Z,4μm
RSO Redoubt South 44.45 41 *e*P **P 05 34 10.9 +0.5**
comp=Z,146nm,0.9s
PPLA Purkeypile 44.52 37 *e*P **P 05 34 11.4 +0.6**
comp=Z,198nm,1.4s
PPLA *e*ScP **ScP 05 39 28.0 +1.3**
OHAK Old Harbor 44.58 45 *e*P **P 05 34 11.0 -0.1**
comp=Z,206nm,1.2s
OHAK *ep*P **pP 05 34 51.8 +3.1**
OHAK *e*PcP **PcP 05 35 51.4 +0.5**
TAPN Taplejung 44.78 269 *e*P **P 05 34 14.9 +1.4**
comp=Z,1μm,1.2s
TAPN Taplejung 44.78 269 *e*P **S 05 40 40.1 +2.3**
comp=Z,97nm,1.2s
KDAK Kodiak Island 44.87 44 P **P 05 34 13.6 +0.2**
comp=Z,702nm,1.1s,SNR=15
KDAK Kodiak Island 44.87 44 *e*P **P 05 34 14.2 +0.8**
comp=Z,139nm,1.1s
KDAK LR LR
comp=Z,334nm,20.0s
PHET Kaeng Krachan 45.06 243 P **P 05 34 17.4 +2.0**
comp=Z,1μm,0.8s,comp=Z,8μm
COLD Coldfoot 45.18 31 *e*P **P 05 34 16.4 +0.7**
comp=Z,67nm,1.0s
COLD *ep*P **pP 05 34 56.5 +3.1**
COLD *e*PcP **PcP 05 35 54.1 +1.2**
ODAN Odare 45.28 269 *e*P **P 05 34 18.6 +1.2**
comp=Z,1μm,1.0s
ODAN Odare 45.28 269 *e*P **S 05 40 45.4 +0.5**
comp=Z,58nm,1.0s
TRF Thorofare Moun 45.34 36 *e*P **P 05 34 17.4 +0.1**
comp=Z,84nm,1.4s
JIRN Jiri 45.77 271 *e*P **P 05 34 22.5 +1.1**
comp=Z,972nm,0.7s
JIRN Jiri 45.77 271 *e*P **S 05 40 52.6 +0.5**
comp=Z,61nm,0.9s
RAMN Ramite 45.83 269 *e*P **P 05 34 22.7 +1.0**
comp=Z,2μm,0.9s
GUN Gumba 45.87 271 *e*P **P 05 34 23.2 +1.1**
comp=Z,2μm,0.9s
GUN Gumba 45.87 271 *e*P **S 05 40 53.9 +0.3**
comp=Z,130nm,0.8s
MCK McKinley 45.91 36 *e*P **P 05 34 22.0 +0.4**
MCK pmax pmax
comp=Z,86nm,1.0s
MCK McKinley 45.91 36 *e*P **P 05 34 22.0 +0.4**
comp=Z,86nm,1.0s
SBUM Sibu 45.92 221 P **P 05 34 23.2 +1.1**
SBUM Sibu 45.92 221 P **P 05 34 23.3 +1.1**
comp=Z,22nm,1.2s
PMR Palmer 46.07 39 *e*P **P 05 34 22.7 -0.1**
PMR pmax pmax
comp=Z,88nm,1.0s
PMR Palmer 46.07 39 *e*P **P 05 34 22.7 -0.1**
comp=Z,88nm,1.0s
COLA College 46.27 34 *e*P **P 05 34 25.4 +1.1**
COLA pmax pmax
comp=Z,56nm,1.1s
COLA MLR MLR
comp=Z,205nm,19.0s
COLA College 46.27 34 *e*P **P 05 34 25.4 +1.1**
comp=Z,56nm,1.1s
COLA LR LR
comp=Z,205nm,19.0s
KKN Kakani 46.39 271 *e*P **P 05 34 27.1 +1.1**
comp=Z,2μm,0.8s
KKN Kakani 46.39 271 *e*P **S 05 40 59.7 -1.0**
comp=Z,40nm,0.8s
PKI Pulchoki 46.40 271 *e*P **P 05 34 27.0 +0.7**
comp=Z,954nm,1.0s
PKI Pulchoki 46.40 271 *e*P **S 05 41 00.5 -0.6**
comp=Z,74nm,1.0s
PKIN Phulchoki 46.41 271 *e*P **P 05 34 27.5 +1.2**
comp=Z,351nm,0.6s
SML Sawmill 46.42 38 *e*P **P 05 34 26.0 +0.4**
SML *e**PP **pP 05 35 07.8 +4.4**
SML pmax pmax
comp=Z,77nm,1.5s
SML Sawmill 46.42 38 *e*P **P 05 34 26.0 +0.4**
comp=Z,76nm,1.5s
SML *ep*P **pP 05 35 07.8 +4.4**
SML *e*ScP **ScP 05 39 35.3 +0.9**
DMN Daman 46.61 271 *e*P **P 05 34 28.8 +1.0**
comp=Z,1μm,1.0s
DMN Daman 46.61 271 *e*P **S 05 41 02.9 -1.1**
comp=Z,208nm,1.6s
ULHL Ulahol 46.68 294 *i* P **P 05 34 29.6 +1.5**
ULHL Ulahol 46.68 294 P **P 05 34 29.6 +1.5**
SNR=8.1
VOSK Vostochnaya 46.87 309 P **P 05 34 29.4 +0.3**
VOSK pmax pmax
comp=Z,292nm,0.9s
TKM2 Tokmak 2 46.88 295 *i* P **P 05 34 31.1 +1.4**
TKM2 Tokmak 2 46.88 295 P **P 05 34 31.1 +1.4**
SNR=528
TKM2 Tokmak 2 46.88 295 *e*P **P 05 34 31.1 +1.4**
comp=Z,543nm,0.8s
TKM2 LR LR
comp=Z,359nm,22.0s
BVA0 Borovoye Array 47.13 309 *i* P **P 05 34 31.8 +0.6**
BVA0 pmax pmax
comp=Z,112nm,0.9s
BVAR Borovoye Array 47.13 309 P **P 05 34 31.9 +0.6**
BVAR S **S 05 41 10.0 -0.3**
BVAR 05 44 06.2
BVAR pmax pmax
comp=Z,101nm,0.8s
BVAR smax smax
comp=N,15nm,1.1s
BVAR MLR MLR
comp=Z,239nm,18.1s
BVAR Borovoye Array 47.13 309 P **P 05 34 31.9 +0.6**
BVAR ScP **ScP 05 39 36.2 -1.3**
BVAR S **S 05 41 10.0 -0.3**
BVAR ScS **ScS 05 44 06.2 -0.8**
BVAR Borovoye Array 47.13 309 P **P 05 34 31.9 +0.6**
comp=Z,93nm,0.8s,baz=81,slow=8.9,SNR=150
BVAR ScP **ScP 05 39 36.2 -1.3**
comp=Z,10nm,0.9s,baz=97,slow=4.8,SNR=5.5
BVAR S **S 05 41 10.0 -0.3**
comp=Z,15nm,1.1s,baz=86,slow=11,SNR=7.5
BVAR ScS **ScS 05 44 06.2 -0.8**
comp=Z,4.0nm,1.0s,baz=159,slow=4.3,SNR=4.3
BVAR LR LR 05 55 01.4
comp=Z,239nm,18.1s,baz=243,slow=37
BRVK Borovoye 47.19 309 P **P 05 34 32.5 +0.8**
comp=Z,739nm,0.9s,SNR=68
BRVK Borovoye 47.19 309 *e*P **P 05 34 32.4 +0.8**
BRVK pmax pmax
comp=Z,128nm,0.9s
BRVK MLR MLR
comp=Z,275nm,19.0s
BRVK Borovoye 47.19 309 *e*P **P 05 34 32.4 +0.8**
comp=Z,128nm,0.9s
BRVK LR LR
comp=Z,275nm,19.0s
DANN Dangsing 47.24 273 *e*P **P 05 34 34.2 +1.4**
comp=Z,1μm,0.7s
DANN Dangsing 47.24 273 *e*P **S 05 41 11.7 -1.3**
comp=Z,130nm,1.1s
KBK Karagaybulak 47.42 295 *i* P **P 05 34 35.0 +1.2**
KBK Karagaybulak 47.42 295 P **P 05 34 35.0 +1.2**
SNR=250
KZA Kyzart 47.43 294 *i* P **P 05 34 35.9 +1.8**
KZA Kyzart 47.43 294 P **P 05 34 35.9 +1.8**
SNR=23
CHMS Chumysh 47.43 295 *i* P **P 05 34 34.5 +0.8**
CHMS Chumysh 47.43 295 P **P 05 34 34.5 +0.8**
SNR=49
USP Ospenovka 47.51 296 *i* P **P 05 34 35.2 +0.9**
USP Ospenovka 47.51 296 P **P 05 34 35.1 +0.9**
SNR=132
PAX Paxson 47.56 37 *e*P **P 05 34 34.8 +0.3**
PAX pmax pmax
comp=Z,25nm,1.1s
PAX Paxson 47.56 37 *e*P **P 05 34 34.8 +0.3**
comp=Z,25nm,1.1s
FRU Bishkek 47.59 295⇑ *i* P **P 05 34 35.0 +0.1**
FRU *i* S **S 05 41 18.0 +1.0**
FRU pmax pmax
comp=Z,390nm,1.6s
FRU pmax pmax
comp=Z,800nm,4.0s
FRU smax smax
comp=E,110nm,2.0s
KOLN Koldanda 47.67 272 *e*P **P 05 34 37.1 +1.2**
KSM Kuching 47.72 222 *e*P **P 05 34 37.0 +0.9**
comp=E,44nm,0.7s
KSM LR LR
comp=Z,125nm,19.0s
KSM Kuching 47.72 222 P **P 05 34 37.8 +1.7**
KSM Kuching 47.72 222 P **P 05 34 37.2 +1.1**
comp=Z,68nm,0.8s,comp=Z,634nm
AAK Ala-Archa 47.74 295 P **P 05 34 37.0 +0.7**
comp=Z,1μm,1.0s,SNR=49
AAK Ala-Archa 47.74 295 *c i* P **P 05 34 37.0 +0.7**
AAK pmax pmax
comp=Z,422nm,1.0s
AAK Ala-Archa 47.74 295 P **P 05 34 37.0 +0.7**
SNR=86
AAK Ala-Archa 47.74 295 *e*P **P 05 34 36.9 +0.6**
comp=Z,130nm,0.8s
AAK *e*ScP **ScP 05 39 39.8 -0.7**
AAK LR LR
comp=Z,327nm,21.0s
DIV Divide 47.74 39 *e*P **P 05 34 36.7 +0.8**
comp=Z,192nm,1.2s
SURA Surathani 47.80 240 P P 05 34 44.0 +7.2
comp=Z,332nm,1.1s,comp=Z,29μm
UCH Uchtor 47.88 294 *i* P **P 05 34 38.9 +1.2**
UCH Uchtor 47.88 294 P **P 05 34 39.0 +1.2**
SNR=18
KSH Kashi 47.91 290⇑ *i* P P 05 34 42.1 +4.6
KSH sP sP 05 35 36.3 +1.6
KSH PP PP 05 36 36.1 +5.3
KSH S **S 05 41 26.8 +5.0**
KSH sS sS 05 42 29.8 +1.7
KSH SS **SS 05 44 53.8 +1.4**
KSH pmax pmax
comp=Z,37nm,0.8s
KSH pmax pmax
comp=Z,400nm,2.7s
KSH LR LR
comp=N,300nm,12.3s
KSH LR LR
comp=E,410nm,11.4s
KSH LR LR
comp=Z,250nm,12.4s
PYUN Piuthan 47.95 273 *e*P **P 05 34 39.3 +1.2**
comp=Z,2μm,0.9s
EKS2 Erkin-Say 48.22 295 *e*P **P 05 34 40.6 +0.7**
EKS2 pmax pmax
comp=Z,155nm,0.8s
EKS2 MLR MLR
comp=Z,431nm,20.0s
EKS2 Erkin-Say 48.22 295 P **P 05 34 40.7 +0.8**
SNR=135
EKS2 Erkin-Say 48.22 295 *e*P **P 05 34 40.6 +0.7**
comp=Z,155nm,0.8s
EKS2 *e*ScP **ScP 05 39 43.2 +0.6**
EKS2 LR LR
comp=Z,431nm,20.0s
BMRM Bremner River 48.33 39 *e*P **P 05 34 41.0 +0.7**
comp=Z,135nm,1.0s
STKI Sintang 48.35 220 P **P 05 34 42.5 +1.5**
comp=Z,51nm,0.9s,comp=Z,15μm
MENT Mentasta 48.36 36 *e*P **P 05 34 41.5 +1.0**
AML Almayashu 48.48 294 *i* P **P 05 34 43.5 +1.3**
AML Almayashu 48.48 294 P **P 05 34 43.5 +1.3**
SNR=206
KTGM Kuala Trenggan 48.54 233 P **P 05 34 45.5 +3.1**
SKLT Songkhla 48.67 237 P P 05 34 48.2 +4.8
comp=Z,84nm,0.8s,comp=Z,968nm
SKLT Songkhla 48.67 237 P P 05 34 49.1 +5.7
comp=Z,84nm,0.8s,comp=Z,968nm
KRAB Krabi 48.79 239 P **P 05 34 46.8 +2.5**
comp=Z,199nm,0.8s,comp=Z,2μm
EGAK Eagle 49.12 34 *e*P **P 05 34 46.2 0.0**
comp=Z,126nm,1.5s
EGAK *ep*P **pP 05 35 26.5 +2.0**
LGTI Lohaghat 49.33 276 *ex* x 05 34 53.2
KAPI Kappang 49.50 207 *e*P **P 05 34 48.9 -0.8**
comp=Z,141nm,1.3s
KAPI *ep*P **pP 05 35 28.4 +0.4**
KAPI LR LR
comp=Z,244nm,22.0s
KAPI Kappang 49.50 207 P **P 05 34 48.9 -0.8**
comp=Z,116nm,1.2s,comp=Z,1μm
KAPI Kappang 49.50 207 P **P 05 34 48.7 -1.0**
comp=Z,52nm,0.8s,baz=8.4,slow=6.6,SNR=22
BKSI Bulukumba 49.66 206 P **P 05 34 50.2 -0.7**
comp=Z,25nm,0.9s
DAWY Dawson 50.02 34 *e*P **P 05 34 53.4 +0.3**
KULM Kulim 50.09 236 *e*P **P 05 34 55.7 +1.6**
comp=Z,66nm,0.8s
KULM LR LR
comp=Z,292nm,21.0s
KULM Kulim 50.09 236 P **P 05 34 55.8 +1.6**
KULM Kulim 50.09 236 P **P 05 34 56.5 +2.3**
comp=Z,91nm,1.0s
KK31 Karatay Array 50.27 297 *i* P **P 05 34 55.6 +0.3**
KK31 pmax pmax
comp=Z,97nm,0.6s
KKAR Karatay Array 50.27 297 *e*P **P 05 34 55.7 +0.4**
KKAR pmax pmax
comp=Z,153nm,0.8s
KKAR Karatay Array 50.27 297 *e*P **P 05 34 55.7 +0.4**
comp=Z,153nm,0.8s
IPM Ipoh 50.49 234 *e*P **P 05 34 58.0 +0.7**
comp=Z,24nm,0.8s
IPM Ipoh 50.49 234 P **P 05 34 59.6 +2.4**
IPM Ipoh 50.49 234 P **P 05 34 58.6 +1.4**
comp=Z,34nm,1.0s
PMG Port Moresby 50.66 171 *e*P **P 05 34 57.9 -0.4**
comp=Z,23nm,0.8s
PMG LR LR
comp=Z,205nm,19.0s
PMG Port Moresby 50.66 171 P **P 05 34 58.1 -0.2**
comp=Z,65nm,1.4s
SDNR Sundarnagar 50.76 280 *e*P **P 05 34 58.6 -0.5**
SMLA Simla 50.80 280 *i* P **P 05 35 00.1 +0.8**
SMLA *i* S **S 05 42 01.8 -0.1**
MYKOM Kota Tinggi 50.95 229 P **P 05 35 03.4 +2.8**
MYKOM Kota Tinggi 50.95 229 P P 05 35 07.0 +6.4
comp=Z,44nm,1.2s
DLH Dalhousie 51.00 282 *e*P **P 05 35 03.0 +1.9**
DLH *e*4 05 35 07.0
KGM Kluang 51.08 230 P **P 05 35 03.7 +2.1**
BHK Bhakra 51.21 281 *ex* **P 05 35 03.6 +1.1**
INK Inuvik 51.30 28 *e*P **P 05 35 03.2 +0.7**
comp=Z,72nm,0.9s
INK *ep*P **pP 05 35 43.0 +1.9**
SVE Sverdlovsk 51.46 316⇓ *e*P **P 05 35 05.1 +1.2**
SVE *e*S **S 05 42 11.4 +1.1**
SVE pmax pmax
comp=Z,133nm,0.9s
SVE MLR MLR
comp=Z,395nm,13.0s
HYT Haines Junctio 51.73 38 *e*P **P 05 35 07.7 +1.7**
HYT *ep*P **pP 05 35 48.4 +3.8**
NDI New Delhi 52.00 277 *e*P **P 05 35 07.0 -1.3**
NDI *ex* x 05 42 15.0
AYAN Aya Nagar 52.17 277 *e*P **P 05 35 09.9 +0.3**
AYAN AMB AMB 05 35 12.4
comp=Z,118nm,0.9s
BHGR Bahadurgarh 52.20 277 *e*P **P 05 35 10.5 +0.7**
SONA Sohna 52.33 277 *e*P **P 05 35 10.5 -0.2**
RTK Rohtak 52.42 278 *e*P **P 05 35 11.6 +0.2**
ARU Arti 52.67 316*c i*P **P 05 35 13.3 +0.4**
ARU *e**PP **pP 05 35 53.5 +1.9**
ARU *SP **sP 05 36 06.9 -3.6**
ARU 05 36 20.6
ARU *e* 05 37 14.3
ARU S **S 05 42 27.9 +1.0**
ARU 05 44 41.7
ARU SSS SSS 05 48 05.5
ARU pmax pmax
comp=Z,159nm,1.7s
ARU MLR MLR
comp=Z,220nm,14.0s
ARU Arti 52.67 316 P **P 05 35 13.8 +0.9**
comp=Z,619nm,0.9s,SNR=22
PSI Prapat 53.10 235 P **P 05 35 17.1 +0.4**
PSI Prapat 53.10 235 P **P 05 35 17.1 +0.4**
comp=Z,12nm,0.6s,baz=36,slow=7.8,SNR=11
SKAG Skagway 53.20 39 *e*P **P 05 35 18.2 +1.5**
comp=Z,73nm,1.1s
SKAG *ep*P **pP 05 35 56.5 +1.1**
BATI Baumata 53.23 200 P **P 05 35 17.0 -0.4**
BATI Baumata 53.23 200 P **P 05 35 17.0 -0.4**
comp=Z,68nm,0.7s,baz=53,slow=5.1,SNR=5.5
KHET Khetri 53.38 277 *e*P **P 05 35 18.0 -0.5**
KHET AMB AMB 05 35 20.9
comp=Z,100nm,1.7s
SIT Sitka 54.05 42 *e*P **P 05 35 24.7 +1.8**
SIT *e**PP **pP 05 36 05.9 +4.1**
SIT pmax pmax
comp=Z,145nm,1.3s
SIT Sitka 54.05 42 *e*P **P 05 35 24.7 +1.8**
comp=Z,145nm,1.3s
SIT *ep*P **pP 05 36 05.9 +4.1**
AB31 Akbulak array 54.59 308 *i* P **P 05 35 27.2 +0.3**
AB31 pmax pmax
comp=Z,55nm,0.5s
ABKAR Akbulak array 54.59 308 *e*P **P 05 35 27.3 +0.4**
comp=Z,54nm,0.6s
ABKAR *ep*P **pP 05 36 07.6 +1.8**
COEN Coen 54.83 176 *e*P **P 05 35 28.7 -0.2**
comp=Z,724nm,1.0s
COEN *ep*P **pP 05 36 11.6 +3.6**
KBL Kabul 55.08 288 *e*P **P 05 35 30.7 -0.2**
KBL pmax pmax
comp=Z,259nm,1.0s
KBL Kabul 55.08 288 *e*P **P 05 35 30.7 -0.2**
comp=Z,259nm,1.0s
AKTO Aktyubinsk 55.24 310 P **P 05 35 31.0 -0.6**
AKTO pmax pmax
comp=Z,53nm,0.8s
KIP Kipapa 55.30 91*ce*P **P 05 35 32.9 +0.5**
KIP pmax pmax
comp=Z,104nm,0.9s
WRAK Wrangell Islan 55.81 42 *e*P **P 05 35 36.8 +1.3**
comp=Z,41nm,1.0s
WRAK *e*PcP **PcP 05 36 33.8 +1.4**
DLBC Dease Lake 56.13 39 *e*P **P 05 35 39.4 +1.6**
DLBC *ep*P **pP 05 36 20.1 +3.0**
ALE Alert 56.14 3 P **P 05 35 38.0 +0.5**
comp=Z,164nm,1.0s,SNR=8.7
KBS Kingsbay 56.49 349*ce*P **P 05 35 38.4 -1.6**
KBS pmax pmax
comp=Z,24nm,1.4s
KBS Kingsbay 56.49 349 *e*P **P 05 35 40.9 +0.8**
comp=Z,25nm,1.4s
HYB Hyderabad 57.38 265 *i* P **P 05 35 47.0 -0.2**
HYB *e*S **S 05 43 34.0 +3.4**
APA Apatity 58.58 334⇑ *i* P P 05 36 02.4 +7.7
APA MLR MLR
comp=Z,400nm,14.0s
TMCR Tamitsa 58.71 330 *e*P P 05 36 06.1 +10
TMCR *e* 05 36 47.9
TMCR pmax pmax
comp=Z,68nm,1.1s
ARCES ARCESS Array B 59.85 338 P **P 05 36 03.5 +0.1**
ARCES ScP **ScP 05 40 32.2 -0.4**
ARCES ARCESS Array B 59.85 338 P **P 05 36 03.5 +0.1**
comp=Z,5.0nm,0.5s,baz=42,slow=7.2,SNR=70
ARCES ScP **ScP 05 40 32.2 -0.4**
comp=Z,9.7nm,1.0s,baz=46,slow=7.8,SNR=6.0
ARCES LR LR 06 08 34.8
comp=Z,85nm,18.8s,baz=312,slow=42
POO Poona 60.26 269 *e*P **P 05 36 06.0 -1.1**
FITZ Fitzroy Crossi 60.38 196 P **P 05 36 07.5 -0.1**
FITZ Fitzroy Crossi 60.38 196 P **P 05 36 07.5 -0.1**
comp=Z,50nm,1.1s,baz=13,slow=8.5,SNR=29
YKW3 Yellowknife Ar 60.82 31 *e*P **P 05 36 10.0 -0.1**
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 60.86 31 P **P 05 36 10.1 -0.3**
YKA PcP **PcP 05 36 52.5 +0.2**
YKA Yellowknife Ar 60.86 31 P **P 05 36 10.1 -0.3**
comp=Z,13nm,0.8s,baz=303,slow=6.9,SNR=36
YKA PcP **PcP 05 36 52.4 +0.2**
comp=Z,14nm,0.8s,baz=305,slow=4.1,SNR=16
WRAB Tennant Creek 60.93 186 P **P 05 36 10.0 -1.3**
comp=Z,848nm,0.7s
WRAB Tennant Creek 60.93 186 *e*P **P 05 36 10.4 -0.9**
WRAB *e* 05 36 53.5
WRAB pmax pmax
comp=Z,121nm,0.8s
WRAB Tennant Creek 60.93 186 *e*P **P 05 36 10.4 -0.9**
comp=Z,121nm,0.8s
WRAB *e*PcP **PcP 05 36 53.5 +0.5**
WRA Warramunga Arr 60.94 186 P **P 05 36 10.2 -1.2**
WRA S **S 05 44 12.3 -3.6**
WRA ⇑*e* 06 05 35.0
WRA Warramunga Arr 60.94 186 P **P 05 36 10.2 -1.2**
comp=Z,99nm,0.7s,baz=2.1,slow=7.6,SNR=407
WRA S **S 05 44 12.3 -3.6**
comp=Z,4.9nm,1.1s,baz=11,slow=13,SNR=7.6
WRA PKP2bc 06 05 35.0
comp=Z,4.9nm,0.9s,baz=193,slow=2.3,SNR=13
CTA Charters Tower 61.12 173 P **P 05 36 11.7 -0.9**
CTA Charters Tower 61.12 173 P **P 05 36 11.7 -0.9**
comp=Z,22nm,0.7s,baz=3.5,slow=7.3,SNR=28
CTAO Charters Tower 61.12 173 *e*P **P 05 36 12.0 -0.6**
CTAO *e* 05 36 54.1
CTAO pmax pmax
comp=Z,41nm,0.9s
CTAO Charters Tower 61.12 173 *e*P **P 05 36 12.0 -0.6**
comp=Z,41nm,0.9s
CTAO *e*PcP **PcP 05 36 54.1 +0.3**
DAG Danmarks Havn 61.66 355 *i* P **P 05 36 15.3 -0.2**
DAG *i **PP **PcP 05 36 54.8 -0.4**
DAG pmax pmax
comp=Z,11nm,1.0s

```
DAG  Danmarks Havn  61.66 355  i P      P    05 36 15.3 -0.2
     comp=Z,11nm,1.0s
DAG                            i pP     PcP  05 36 54.8 -0.4
JOF  Joensuu        61.92 331  eP       P    05 36 18.1 +0.7
JOF                            pmax     pmax
     comp=Z,11nm,0.4s
JOF  Joensuu        61.92 331  ep       P    05 36 18.1 +0.7
     comp=Z,11nm,0.4s
MOS  Moscow         63.40 322  eP       P    05 36 25.3 -2.1
MOS                            e*PP     pP   05 37 06.3 -1.2
MOS                            e        05 38 46.7
MOS                            eS       S    05 44 43.6 -2.4
MOS                            e        05 45 03.0
MOS                            e        05 46 00.7
MOS                            pmax     pmax
     comp=Z,39nm,1.1s
VRHR Novokhopersk   64.02 316  eP       P    05 36 30.8 -0.7
VRHR                           e*PP     PcP  05 37 07.9 +2.6
VRHR                           e*SP     sP   05 37 25.2 -5.0
VRHR                           eS       S    05 44 51.3 -2.5
VRHR                           pmax     pmax
     comp=N,10.0nm,0.6s
VRHR                           pmax     pmax
     comp=E,5.0nm,0.6s
VRHR                           pmax     pmax
     comp=Z,20nm,0.6s
VRHR                           smax     smax
     comp=N,310nm,2.3s
VRHR                           smax     smax
     comp=E,120nm,1.1s
VRHR                           smax     smax
     comp=Z,20nm,1.1s
KAF  Kangasniemi    64.25 331  eP       P    05 36 32.9 +0.1
KAF                            pmax     pmax
     comp=Z,16nm,0.5s
KAF  Kangasniemi    64.25 331  ep       P    05 36 32.9 +0.1
     comp=Z,16nm,0.5s
OBN  Obninsk        64.25 322  eP       P    05 36 33.5 +0.6
OBN                            i        05 37 06.9
OBN                            i *PP    pP   05 37 14.3 +1.2
OBN                            i        05 38 56.5
OBN                            i S      S    05 44 53.7 -2.8
OBN                            pmax     pmax
     comp=Z,19nm,1.1s
OBN                            MLR      MLR
     comp=Z,200nm,14.0s
PGC  Sidney         64.32 47   eP       P    05 36 33.8 +0.4
     comp=Z,4.5nm,1.1s
AS31 Alice Springs  64.67 186  eP       P    05 36 35.5 -0.5
ASAR Alice Springs  64.67 186  P        P    05 36 35.2 -0.7
ASAR                           S        S    05 45 00.4 -1.9
ASAR                           P'P'     06 05 20.7
ASAR Alice Springs  64.67 186  P        P    05 36 35.2 -0.7
     comp=Z,41nm,0.9s,baz=4.8,slow=5.5,SNR=178
ASAR                           S        S    05 45 00.4 -1.9
     comp=Z,1.4nm,0.9s,baz=17,slow=22,SNR=4.3
ASAR                           PKPPKP   P'P'df 06 05 20.7 +2.3
     comp=Z,2.9nm,1.0s,baz=174,slow=1.9,SNR=6.2
MBWA Marble Bar     64.74 201  eP       P    05 36 35.7 -0.8
     comp=Z,87nm,1.3s
FIA1 FINESS Array S 64.76 331  eP       P    05 36 36.3 +0.2
FINES FINESS Array B 64.76 331 P        P    05 36 35.9 -0.2
FINES                          pP       pP   05 37 15.1 -1.3
FINES FINESS Array B 64.76 331 P        P    05 36 35.9 -0.2
     comp=Z,16nm,0.5s,baz=54,slow=7.6,SNR=96
FINES                          pP       pP   05 37 15.1 -1.3
     comp=Z,34nm,0.8s,baz=56,slow=7.6,SNR=4.0
FINES                          LR       LR   06 03 56.5
     comp=Z,156nm,21.3s,baz=209,slow=35
NLWA Neilton Lookou 64.78 48   eP       P    05 36 37.8 +1.1
     comp=Z,148nm,1.1s
NLWA                           LR       LR
     comp=Z,255nm,21.0s
CMW  Cultus Mountai 65.18 47   P        P    05 36 40.1 +0.8
IANJ Anjilo         65.19 296  eP       P    05 36 40.5 +0.8
VSR  Storozhevoye   65.23 317  eP       P    05 36 39.4 +0.1
VSR                            e*PP     pP   05 37 22.0 +2.3
VSR                            e        05 39 03.4
VSR                            eS       S    05 45 07.5 -1.1
VSR                            pmax     pmax
     comp=N,6.0nm,0.6s
VSR                            pmax     pmax
     comp=E,8.0nm,0.6s
VSR                            pmax     pmax
     comp=Z,20nm,0.6s
VSR                            pmax     pmax
     comp=N,30nm,1.1s
VSR                            pmax     pmax
     comp=E,40nm,1.1s
VSR                            pmax     pmax
     comp=Z,30nm,1.1s
VSR                            smax     smax
     comp=N,130nm,1.6s
VSR                            smax     smax
     comp=Z,40nm,1.6s
VSR                            smax     smax
     comp=E,60nm,0.8s
HTW  Haystack Looko 65.73 47   P        P    05 36 43.2 +0.5
PNT  Penticton      66.02 45   P        P    05 36 44.6 +0.1
PNT  Penticton      66.02 45   P        P    05 36 44.6 +0.1
OBSR Observation Ro 66.22 48   P        P    05 36 47.2 +1.1
IBAF Bafgh          66.23 292  eP       P    05 36 46.5 +0.2
LON  Longmire       66.31 48   eP       P    05 36 46.9 +0.4
LON                            pmax     pmax
     comp=Z,33nm,0.9s
LON  Longmire       66.31 48   eP       P    05 36 46.9 +0.4
     comp=Z,34nm,0.9s
TDL  Tradedollar La 66.31 49   P        P    05 36 47.5 +1.0
VSU  Vasula         66.45 328  eP       P    05 36 47.0 0.0
VSU                            pmax     pmax
     comp=Z,41nm,1.2s
SUMG Summit         66.64 360  eP       P    05 36 49.1 +0.6
SUMG                           pmax     pmax
     comp=Z,23nm,0.8s
SUMG Summit         66.64 360  i P      P    05 36 49.3 +0.8
     comp=Z,24nm,0.9s
SUMG                           i pP     pP   05 37 30.7 +1.7
SUMG Summit         66.64 360  eP       P    05 36 49.1 +0.6
     comp=Z,23nm,0.8s
COR  Corvallis      66.70 51   eP       P    05 36 50.1 +1.3
COR                            pmax     pmax
     comp=Z,128nm,1.1s
COR  Corvallis      66.70 51   eP       P    05 36 50.1 +1.3
     comp=Z,128nm,1.1s
EDM  Edmonton       66.84 39   eP       P    05 36 49.6 -0.1
EDM  Edmonton       66.84 39   eP       P    05 36 49.6 -0.1
NAC  Naches         66.87 48   P        P    05 36 50.8 +0.9
EIDS Eidsvold       66.90 169  eP       P    05 36 50.2 +0.1
     comp=Z,100nm,1.3s
IMEH Mehriz         67.01 292  eP       P    05 36 51.4 0.0
VLL  Laurance Lake  67.13 49   P        P    05 36 52.6 +0.9
TRW  Toppenish Ridg 67.29 48   P        P    05 36 53.4 +0.8
VFP  Flag Point     67.34 49   P        P    05 36 53.7 +0.6
DGRG David-gareji   67.34 306  P        P    05 36 58.3 +5.3
ISAD Sadrabad       67.36 293  eP       P    05 36 53.4 -0.2
DUS  Dusheti        67.38 307  P        P    05 36 54.9 +1.6
NOUC Port Laguerre  67.42 154  eP       P    05 36 52.8 -0.7
DZM  Mont Dzumac    67.44 153  eP       P    05 36 54.7 +1.0
     comp=Z,190nm,1.1s
DZM  Mont Dzumac    67.44 153  eP       P    05 36 52.4 -1.3
ZEI  Tsey           67.46 308  eP       P    05 36 52.5 -1.5
ZEI                            pmax     pmax
     comp=Z,32nm,1.7s
KIV  Kislovodsk     67.50 309  eP       P    05 36 55.1 +1.0
KIV                            e*PP     pP   05 37 34.3 -0.3
KIV                            eS       S    05 45 38.3 +1.8
KIV                            eSS      SS   05 50 00.3 +0.8
KIV                            pmax     pmax
     comp=Z,144nm,0.9s
KIV                            MLR      MLR
     comp=Z,173nm,18.0s
KIV  Kislovodsk     67.50 309  P        P    05 36 55.4 +1.3
     comp=Z,917nm,1.0s,SNR=9.4
KBZ  Khabaz         67.51 309  P        P    05 36 54.9 +0.9
KBZ                            pmax     pmax
     comp=Z,9.0nm,0.6s
KBZ  Khabaz         67.51 309  P        P    05 36 54.9 +0.9
KBZ  Khabaz         67.51 309  P        P    05 36 54.9 +0.9
     comp=Z,9.0nm,0.8s,baz=66,slow=6.1,SNR=12
TBLG Delisi         67.57 306  P        P    05 36 55.3 +0.9
OD2  Odessa Site #2 67.65 46   P        P    05 36 54.9 +0.1
IZEF Zefreh         67.73 295  eP       P    05 36 55.9 0.0
WRD  Warden         67.76 47   P        P    05 36 55.3 -0.2
KZR  Kazreti        67.97 306  P        P    05 36 56.3 -0.6
NEW  Newport        67.98 45   eP       P    05 36 56.8 0.0
     comp=Z,140nm,0.3s
NEW  Newport        67.98 45   ⇑P       P    05 36 57.2 +0.3
     baz=68,SNR=40
IKLH Kolahrood      68.00 295  eP       P    05 36 57.4 -0.2
HUMO Hull Mountain  68.06 52   eP       P    05 36 58.4 +0.9
     comp=Z,32nm,1.5s
XMAS Kiritimati     68.15 107  eP       P    05 36 59.1 +0.7
     comp=Z,91nm,1.1s
MSVF Nonsavu        68.30 141  P        P    05 37 01.6 +2.4
     comp=Z,670nm,1.1s,SNR=15
MSVF Nonsavu        68.30 141  eP       P    05 37 00.8 +1.6
MSVF                           pmax     pmax
     comp=Z,177nm,1.2s
MSVF Nonsavu        68.30 141  eP       P    05 37 00.8 +1.6
     comp=Z,177nm,1.2s
GNI  Garni          68.49 305  eP       P    05 37 02.2 +1.8
     comp=Z,35nm,0.9s
GNI                            LR       LR
     comp=Z,137nm,19.0s
AKH  Akhalkalaki    68.52 307  P        P    05 37 01.5 +0.9
IDID Didziasalis    68.53 326  eP       P    05 37 00.7 +0.6
IDID                           AMB      AMB  05 37 15.3
     comp=Z,16nm,0.4s
MICGM Minsk         68.58 325  e        P    05 37 02.0 +1.6
MNK  Minsk          68.60 325  eP       P    05 37 02.0 +1.4
ISAL Salakas        68.62 326  eP       P    05 37 01.3 +0.6
ISAL                           AMB      AMB  05 37 16.8
     comp=Z,19nm,1.0s
YBH  Yreka Blue Hor 68.72 53   eP       P    05 37 02.7 +1.0
     comp=Z,51nm,1.5s
IIGN Ignalina       68.73 326  eP       P    05 37 01.9 +0.6
IIGN                           AMB      AMB  05 37 17.4
     comp=Z,13nm,0.8s
NACGM Naroch        68.79 325  e        P    05 37 01.0 -0.7
IPIR Pirpir         68.84 295  eP       P    05 37 04.4 +1.6
WBK  Wadi Bani Khal 69.00 282  P        P    05 37 05.4 +1.8
     SNR=7.1
IPAR Pars           69.01 292  eP       P    05 37 03.3 -0.6
WALA Waterton Lakes 69.16 43   eP       P    05 37 04.6 +0.3
     comp=Z,2.9nm,1.1s
ISRV Sarvestan      69.23 291  eP       P    05 37 05.6 +0.3
SMDO Samad          69.41 283  P        P    05 37 07.9 +1.6
     SNR=7.9
SOC  Sochi          69.45 310  eP       P    05 37 09.7 +3.7
SOC                            e        05 39 38.1
SOC                            eS       S    05 45 48.6 -11
SOC                            pmax     pmax
     comp=Z,37nm,1.1s
SOC                            MLR      MLR
     comp=Z,153nm,16.0s
BSMT Bassoo Peak    69.46 44   eP       P    05 37 06.9 +0.7
     comp=Z,24nm,0.9s
WDC  Whiskeytown Da 69.51 54   eP       P    05 37 07.0 +0.6
WDC                            pmax     pmax
     comp=Z,76nm,1.6s
WDC  Whiskeytown Da 69.51 54   eP       P    05 37 07.0 +0.6
     comp=Z,76nm,1.6s
BLMT Blacktail Moun 69.58 44   eP       P    05 37 07.7 +0.6
     comp=Z,108nm,1.1s
UOSS Wadi Hilu      69.64 286  P        P    05 37 08.0 +0.5
     comp=Z,451nm,0.7s,SNR=13
HOQ  Hoqain         69.64 284  P        P    05 37 09.0 +1.5
     SNR=10
JMDO Jabal Madar    69.78 282  P        P    05 37 10.0 +1.6
     SNR=6.9
JTMT Jette          69.79 44   eP       P    05 37 08.8 +0.6
     comp=Z,65nm,1.0s
YBMT Yellow Bay     69.86 44   eP       P    05 37 09.3 +0.7
     comp=Z,37nm,1.0s
ASHO Ashiyiah       69.90 286  P        P    05 37 10.8 +1.7
BMO  Blue Mountains 69.97 48   eP       P    05 37 09.8 +0.5
     comp=Z,8µm,0.8s
BMO                            LR       LR
     comp=Z,214nm,20.0s
ANN  Anapa          70.00 312  eP       P    05 37 09.1 -0.2
ANN                            e*PP     pP   05 37 47.9 -2.3
ANN                            eS       S    05 46 05.1 -0.5
ANN                            eSS      SS   05 50 34.5 -3.1
ANN                            pmax     pmax
     comp=Z,55nm,1.4s
NB2  NORSAR Subarra 70.06 336  P        P    05 37 09.4 -0.1
     comp=Z,12nm,0.5s,baz=37,slow=6.5
NB2  NORSAR Subarra 70.06 336  P        P    05 37 09.4 -0.1
     baz=37,slow=6.5
NOA  NORSAR Array B 70.06 336  P        P    05 37 09.3 -0.2
NOA                            pP       pP   05 37 50.4 0.0
NOA                            PP       PP   05 39 48.9 +2.8
NOA  NORSAR Array B 70.06 336  P        P    05 37 09.3 -0.2
     comp=Z,5.9nm,0.5s,baz=39,slow=6.2,SNR=25
NOA                            pP       pP   05 37 50.4 0.0
     comp=Z,22nm,0.8s,baz=38,slow=6.1,SNR=6.7
NOA                            PP       PP   05 39 48.9 +2.8
     comp=Z,1.9nm,0.8s,baz=44,slow=7.6,SNR=3.4
NOA                            LR       LR   06 12 34.5
     comp=Z,64nm,18.6s,baz=35,slow=40
SWMT Swartz Lake    70.09 44   eP       P    05 37 10.6 +0.6
     comp=Z,82nm,1.0s
BSY  Bisya          70.23 283  P        P    05 37 12.9 +1.7
     SNR=8.5
NAO01 NORSAR Array S 70.31 336 eP       P    05 37 10.9 0.0
     comp=Z,9.5nm,0.6s
ARQ  Araqi          70.37 284  P        P    05 37 13.5 +1.5
     SNR=8.1
AKASG Malin Array Be 70.48 321 i P      P    05 37 12.0 -0.2
AKASG                          pmax     pmax
     comp=Z,8.0nm,0.4s
AKASG Malin Array Be 70.48 321 P        P    05 37 11.9 -0.2
AKASG                          pP       pP   05 37 52.5 -0.5
AKASG                          PP       PP   05 39 45.3 -4.6
AKASG Malin Array Be 70.48 321 P        P    05 37 11.9 -0.2
     comp=Z,7.0nm,0.4s,baz=44,slow=6.6,SNR=37
AKASG                          pP       pP   05 37 52.5 -0.5
     comp=Z,34nm,0.9s,baz=44,slow=6.7,SNR=3.8
AKASG                          PP       PP   05 39 45.3 -4.6
     comp=Z,5.1nm,0.8s,baz=41,slow=8.4,SNR=2.7
KIEV Kiev           70.49 321  eP       P    05 37 12.0 -0.2
KIEV                           MLR      MLR
     comp=Z,188nm,20.0s
KIEV Kiev           70.49 321  eP       P    05 37 12.0 -0.2
     comp=Z,920nm,2.3s
KIEV                           LR       LR
     comp=Z,188nm,20.0s
AFI  Afiamalu       70.53 130  LR       LR   06 04 39.9
     comp=Z,110nm,19.5s,baz=150,slow=33
SLMT Seeley Lake    70.53 44   eP       P    05 37 12.8 +0.1
     comp=Z,64nm,0.9s
MSO  Missoula       70.56 44   ⇓P       P    05 37 13.0 +0.1
     baz=70,SNR=37
CHMT Chamberlain Mo 70.86 44   eP       P    05 37 14.7 -0.1
     comp=Z,19nm,1.0s
FFC  Flin Flon      70.88 33   eP       P    05 37 14.5 0.0
FFC                            e*PP     pP   05 37 56.4 +1.0
FFC                            pmax     pmax
     comp=Z,172nm,0.9s
FFC                            MLR      MLR
     comp=Z,225nm,20.0s
FFC  Flin Flon      70.88 33   eP       P    05 37 14.5 0.0
     comp=Z,172nm,0.9s
FFC                            epP      pP   05 37 56.4 +1.0
FFC                            LR       LR
     comp=Z,225nm,20.0s
FFC  Flin Flon      70.88 33   P        P    05 37 14.0 -0.5
     comp=Z,493nm,1.0s,SNR=17
SUW  Suwalki        70.93 326  eP       P    05 37 17.5 +2.7
SUW                            epP      pP   05 37 55.5 -0.3
SUW                            eS       S    05 46 14.8 -1.3
B17A L&G Farms, Che 71.23 42   ⇓P       P    05 37 17.1 +0.3
     baz=71,SNR=54
BEKR Beckworth      71.27 53   eP       P    05 37 17.6 +0.2
     comp=Z,25nm,1.0s
A18A Metzger Ranch, 71.29 41   ⇑P       P    05 37 17.1 -0.1
     baz=71,SNR=56
B18A Beardsley Farm 71.68 41   ⇓P       P    05 37 19.8 +0.3
     baz=72,SNR=47
C17A Wharram Farm,  71.69 42   ⇑P       P    05 37 19.5 -0.1
     baz=72,SNR=48
MFID Camas Ranch    71.70 48   ⇑P       P    05 37 20.2 +0.4
     baz=72,SNR=42
HRY  Holter Researc 71.74 44   eP       P    05 37 20.5 +0.6
     comp=Z,57nm,0.9s
HRY                            epP      pP   05 38 03.4 +2.3
A19A Klindworth Far 71.83 40   ⇓P       P    05 37 20.6 +0.2
     baz=72,SNR=65
EGMT Eagleton       71.93 42   eP       P    05 37 21.3 +0.2
     comp=Z,126nm,1.0s
EGMT                           epP      pP   05 38 04.1 +2.0
EGMT                           LR       LR
     comp=Z,221nm,19.0s
EGMT Eagleton       71.93 42   ⇑P       P    05 37 21.3 +0.2
     baz=72,SNR=65
ARMA Armidale       71.94 170  eP       P    05 37 21.3 +0.2
     comp=Z,131nm,1.1s
SFJD Kangerlussuaq  71.94 4    i P      P    05 37 20.6 0.0
     comp=Z,13nm,0.9s
PAHR Pah Rah Range  71.96 53   eP       P    05 37 21.9 +0.4
     comp=Z,56nm,1.0s
PAHR                           epP      pP   05 38 04.7 +2.2
PAHR                           esP      sP   05 38 21.6 +0.7
LRM  Limekiln Ridge 72.00 45   eP       P    05 37 21.9 +0.3
     comp=Z,800nm,1.1s
LRM                            epP      pP   05 38 04.8 +2.0
D17A Six Diamond Ra 72.04 43   ⇑P       P    05 37 21.8 0.0
     baz=72,SNR=20
B19A Brinkman Farms 72.05 41   ⇑P       P    05 37 22.0 +0.3
     baz=72,SNR=59
DLMT Dillon         72.22 45   eP       P    05 37 23.1 +0.3
     comp=Z,138nm,1.0s
DLMT                           epP      pP   05 38 06.7 +2.7
A20A Cobblestone Ra 72.26 40   ⇓P       P    05 37 23.1 +0.1
     baz=72,SNR=20
FORT Forrest        72.36 191  eP       P    05 37 23.5 +0.1
     comp=Z,90nm,0.7s
CMB  Columbia Colle 72.39 55   eP       P    05 37 24.2 +0.3
CMB                            e*PP     pP   05 38 07.4 +2.4
CMB  Columbia Colle 72.39 55   eP       P    05 37 24.2 +0.3
CMB                            epP      pP   05 38 07.4 +2.4
HLID Hailey         72.39 47   eP       P    05 37 24.5 +0.5
     comp=Z,33nm,0.9s
HLID Hailey         72.39 47   ⇑P       P    05 37 24.5 +0.5
     baz=72,SNR=41
E17A Martinsdale    72.41 43   ⇓P       P    05 37 24.7 +0.7
     baz=72,SNR=58
MCMT McKenzie Canyo 72.43 46   eP       P    05 37 24.6 +0.3
     comp=Z,4.9nm,0.9s
D18A Linhart Farms, 72.46 42   ⇑P       P    05 37 24.7 +0.5
     baz=72,SNR=50
C19A Slack Wire Ran 72.48 41   ⇑P       P    05 37 24.9 +0.6
     baz=72,SNR=95
SAO  San Andreas Ge 72.51 56   eP       P    05 37 25.1 +0.5
SAO                            pmax     pmax
     comp=Z,21nm,1.1s
SAO  San Andreas Ge 72.51 56   eP       P    05 37 25.1 +0.5
     comp=Z,21nm,1.1s
B20A Solberg Farm,  72.51 40   ⇓P       P    05 37 24.5 0.0
     baz=72,SNR=28
BOZ  Bozeman (W)    72.54 44   eP       P    05 37 25.4 +0.6
BOZ  Bozeman (W)    72.54 44   eP       P    05 37 25.4 +0.6
     comp=Z,102nm,0.2s
STKA Stephens Creek 72.61 179  P        P    05 37 25.2 +0.3
STKA Stephens Creek 72.61 179  P        P    05 37 25.2 +0.3
     comp=Z,35nm,0.7s,baz=2.6,slow=7.2,SNR=38
A21A Bergtoll Ranch 72.67 39   ⇓P       P    05 37 25.6 +0.2
     baz=72,SNR=42
WAKR Walker         72.67 54   eP       P    05 37 26.5 +0.7
BMN  Battle Mountai 72.79 51   eP       P    05 37 27.1 +0.7
BMN                            pmax     pmax
     comp=Z,87nm,1.4s
BMN  Battle Mountai 72.79 51   eP       P    05 37 27.1 +0.7
     comp=Z,87nm,1.4s
E18A Harlowton      72.83 43   ⇓P       P    05 37 27.1 +0.6
     baz=73,SNR=37
BHD  Baghdad        72.86 299  eP       P    05 37 23.0 -3.7
BHD                            eS       S    05 46 32.0 -6.8
BHD                            ePS      PnS  05 47 12.0 -23
F17A Fitzpatrick Pl 72.88 44   ⇑P       P    05 37 27.3 +0.5
     baz=73,SNR=31
D19A Cripps Ranch,  72.95 42   ⇓P       P    05 37 27.3 +0.2
     baz=73,SNR=78
MIB  Mutribah       73.00 295  eP       P    05 37 27.1 -0.5
MIB                            AMb      AMB  05 37 37.5
     comp=Z,107nm,0.8s
B21A Ellsworth Farm 73.01 40   ⇓P       P    05 37 27.5 +0.2
     baz=73,SNR=36
C20A Veseth Ranch,  73.02 41   ⇓P       P    05 37 27.7 +0.3
     baz=73,SNR=46
A22A Carney Farms,  73.15 39   ⇓P       P    05 37 28.1 -0.1
     baz=73,SNR=61
KIS  Kishinev       73.16 318  eP       P    05 37 35.0 +6.8
KIS                            LRM      MLR  06 14 04.0
     comp=Z,400nm,15.0s
KIS  Kishinev       73.16 318  eP       P    05 37 35.0 +6.8
KIS                            e        05 37 40.0
KIS                            e        05 46 38.0
KIS                            e        05 47 20.0
KIS                            MLR      MLR
     comp=Z,400nm,15.0s
KIS                            MLR      MLR
     comp=Z,500nm,16.0s
QLMT Earthquake Lak 73.19 45   eP       P    05 37 29.4 +0.6
     comp=Z,9.2nm,1.4s
G17A Pierce Place,  73.23 44   ⇓P       P    05 37 29.6 +0.8
     baz=73,SNR=44
QRN  Al-Qurain      73.24 294  eP       P    05 37 28.8 -0.2
QRN                            AMb      AMB  05 37 39.1
     comp=Z,139nm,0.8s
H16A Russell Place, 73.37 45   ⇑P       P    05 37 30.4 +0.6
     baz=73,SNR=37
F18A Big Timber     73.37 43   ⇓P       P    05 37 30.2 +0.5
     baz=73,SNR=57
D20A Manuel Ranch,  73.37 41   ⇑P       P    05 37 30.0 +0.5
     baz=73,SNR=48
C21A Desert Coulee  73.39 40   ⇑P       P    05 37 29.7 +0.1
     baz=73,SNR=15
BSD  Bornholm Skovb 73.40 331  i P      P    05 37 32.5 +3.1
BSD                            pmax     pmax
     comp=Z,18nm,0.9s
BSD  Bornholm Skovb 73.40 331  i P      P    05 37 32.5 +3.1
     comp=Z,18nm,0.8s
BSD                            i pP     pP   05 38 08.6 -2.0
NAY  Al-Naaiem      73.40 294  eP       P    05 37 29.2 -0.7
NAY                            AMb      AMB  05 37 39.7
     comp=Z,2.3nm,0.8s
NVAR Mina Array Bea 73.41 53   P        P    05 37 30.6 +0.5
NVAR Mina Array Bea 73.41 53   P        P    05 37 30.7 +0.5
     comp=Z,28nm,0.8s,baz=288,slow=5.8,SNR=147
E19A Rath Farm, Rou 73.47 42   ⇓P       P    05 37 30.6 +0.5
     baz=73,SNR=65
GCMT Greycliff      73.47 43   eP       P    05 37 30.9 +0.7
     comp=Z,66nm,1.1s
GCMT                           epP      pP   05 38 13.2 +1.8
MALT Malatya        73.49 307  ⇑P       P    05 37 33.7 +3.3
MALT Malatya        73.49 307  ⇑i P     P    05 37 33.7 +3.3
NV11 Mina Array Sit 73.50 53   eP       P    05 37 31.2 +0.6
NV11                           epP      pP   05 38 16.7 +4.9
BEL  Belsk          73.50 326  eS       S    05 46 48.8 +3.4
B22A Reddig Ranch S 73.59 40   ⇑P       P    05 37 30.8 0.0
     baz=73,SNR=9.1
MLAC Mammoth Lakes  73.59 54   ⇑P       P    05 37 32.1 +0.9
     baz=73,SNR=23
A23A Redstone       73.66 38   ⇑P       P    05 37 31.2 +0.1
     baz=73
YNR  Norris Junctio 73.67 45   eP       P    05 37 33.1 +1.5
     comp=Z,76nm,1.4s
ELK  Elko           73.75 50   eP       P    05 37 32.7 +0.6
     comp=Z,49nm,1.5s
ELK                            epP      pP   05 38 16.5 +3.2
YFT  Old Faithful   73.76 45   eP       P    05 37 34.5 +2.4
     comp=Z,48nm,0.9s
E20A Meyer Farm, Mu 73.78 42   ⇑P       P    05 37 32.4 +0.5
     baz=74,SNR=38
I16A Newdale        73.79 46   ⇑P       P    05 37 33.3 +1.2
     baz=74,SNR=89
F19A Roth Farm, Mol 73.81 43   ⇑P       P    05 37 32.5 +0.3
     baz=74,SNR=60
G18A Lazy EL Ranch, 73.85 44   ⇓P       P    05 37 32.3 -0.1
     baz=74,SNR=7.7
LKWY Lake           73.91 45   eP       P    05 37 35.4 +2.4
LKWY                           pmax     pmax
     comp=Z,34nm,0.9s
LKWY Lake           73.91 45   eP       P    05 37 35.4 +2.4
     comp=Z,34nm,0.9s
H17A Grant Village  73.93 45   eP       P    05 37 35.2 +2.1
H17A                           esP      sP   05 38 35.2 +2.5
H17A Grant Village  73.93 45   ⇑P       P    05 37 35.4 +2.3
     baz=74,SNR=51
B23A Brockton       73.96 39   ⇑P       P    05 37 32.8 -0.1
     baz=74,SNR=40
D21A La Casta Ranch 73.96 41   ⇓P       P    05 37 33.2 +0.2
     baz=74,SNR=28
C22A Vida           74.03 40   ⇑P       P    05 37 33.1 -0.3
     baz=74
```

IMW	**Indian Meadow**	74.07	45	*e*P	P	05 37 35.0 +1.0
	comp=Z,53nm,1.0s					
IMW				*ep*P	pP	05 38 18.1 +2.8
IMW				*es*P	sP	05 38 35.3 +1.8
FLWY	**Flagg Ranch**	74.08	45	*e*P	P	05 37 35.1 +1.2
	comp=Z,137nm,1.5s					
A24A	**Westby**	74.10	38	⇓P	P	05 37 33.8 +0.2
	baz=74,SNR=6.0					
RLMT	**Red Lodge**	74.13	44	*e*P	P	05 37 34.7 +0.5
	comp=Z,52nm,1.1s					
RLMT				*ep*P	pP	05 38 17.6 +2.2
RCTC	**Rector, Farmer**	74.18	56	⇑P	P	05 37 34.3 0.0
	baz=74,SNR=5.5					
H18A	**Shoshone NF, C**	74.23	44	⇓P	P	05 37 35.2 +0.5
	baz=74,SNR=31					
RRI2	**Red Ridge**	74.23	46	*e*P	P	05 37 35.8 +0.9
	comp=Z,96nm,1.2s					
RRI2				*ep*P	pP	05 38 18.9 +2.7
F20A	**Billings**	74.25	42	⇓P	P	05 37 35.0 +0.3
	baz=74,SNR=6.6					
KWP	**Kalwaria Pacla**	74.25	323	⇑P	P	05 37 35.2 +0.7
KWP	**Kalwaria Pacla**	74.25	323	⇑*i*P	P	05 37 35.2 +0.7
KWP	**Kalwaria Pacla**	74.25	323	*e*P	P	05 37 35.9 +1.4
KWP				*e*PcP	PcP	05 37 41.6 -6.9
KWP				*ep*P	pP	05 38 16.2 +0.4
I17A	**Pilgrim Ck.**	74.25	45	⇑P	P	05 37 36.5 +1.6
	baz=74,SNR=39					
MOOW	**Moose Ponds**	74.28	45	*e*P	P	05 37 36.0 +1.0
	comp=Z,77nm,1.3s					
MOOW				*ep*P	pP	05 38 18.8 +2.5
E21A	**Keefer Ranch,**	74.28	41	⇑P	P	05 37 35.3 +0.5
	baz=74					
D22A	**Cohagen**	74.30	40	⇑P	P	05 37 35.1 +0.2
	baz=74,SNR=37					
C23A	**Lambert**	74.33	39	⇓P	P	05 37 35.2 +0.1
	baz=74,SNR=24					
DGMT	**Dagmar**	74.33	39	*e*P	P	05 37 35.1 +0.1
	comp=Z,102nm,0.9s					
DGMT	**Dagmar**	74.33	39	⇓P	P	05 37 35.1 +0.1
	baz=74,SNR=6.0					
TIN	**Tinemaha**	74.33	54	⇓P	P	05 37 35.9 +0.5
	baz=74,SNR=9.6					
SMMC	**Simmler**	74.34	57	⇑P	P	05 37 36.0 +0.7
	baz=74,SNR=12					
TPAW	**Teton Pass**	74.34	46	*e*P	P	05 37 36.4 +0.9
	comp=Z,82nm,1.4s					
TPAW				*ep*P	pP	05 38 19.1 +2.2
LOHW	**Long Hollow**	74.44	45	*e*P	P	05 37 36.7 +0.7
	comp=Z,44nm,1.3s					
LOHW				*ep*P	pP	05 38 20.0 +2.6
SNOW	**Snow King Moun**	74.46	46	*e*P	P	05 37 37.2 +1.0
	comp=Z,44nm,1.1s					
HVU	**Hansel Valley**	74.47	48	*e*P	P	05 37 36.8 +0.6
HVU				pmax	pmax	
	comp=Z,30nm,1.0s					
HVU	**Hansel Valley**	74.47	48	*e*P	P	05 37 36.8 +0.6
	comp=Z,30nm,1.0s					
REDW	**Red Top Meadow**	74.48	46	*e*P	P	05 37 36.8 +0.6
	comp=Z,74nm,1.3s					
A25A	**Svangstu Ranch**	74.50	38	⇑P	P	05 37 36.5 +0.5
	baz=74,SNR=7.7					
BURAR	**Bucovina Array**	74.51	320	⇑P	P	05 37 36.7 +0.5
BURAR	**Bucovina Array**	74.51	320	⇑*i*P	P	05 37 36.7 +0.5
VES	**Vestal, Richgr**	74.58	56	⇑P	P	05 37 36.3 -0.3
	baz=74,SNR=18					
TESR	**Tescani**	74.58	319	⇓*i*P	P	05 37 37.3 +0.8
H19A	**Powell**	74.59	44	⇑P	P	05 37 37.4 +0.7
	baz=74,SNR=22					
LAO	**LASA Array**	74.60	41	*e*P	P	05 37 37.1 +0.4
	comp=Z,104nm,1.2s					
G20A	**Bridger**	74.61	43	⇓P	P	05 37 36.6 -0.3
	baz=74,SNR=20					
PKM	**Peak Mountain**	74.71	57	⇓P	P	05 37 38.5 +0.8
	baz=74,SNR=20					
AHID	**Auburn Hatcher**	74.74	46	*e*P	P	05 37 38.1 +0.3
	comp=Z,68nm,1.6s					
CFR	**Carcaliu**	74.75	317	⇑P	P	05 37 38.2 +0.8
CFR	**Carcaliu**	74.75	317	⇑*i*P	P	05 37 38.2 +0.8
F21A	**Absaloka Mine,**	74.75	42	⇑P	P	05 37 37.7 +0.1
	baz=74,SNR=7.4					
D23A	**Lindsay**	74.76	40	⇑P	P	05 37 38.1 +0.5
	baz=74,SNR=48					
I18A	**Diamond G Ranc**	74.81	45	⇑P	P	05 37 39.0 +0.9
	baz=75,SNR=31					
CWC	**Cottonwood Cre**	74.82	55	⇑P	P	05 37 38.2 0.0
	baz=75,SNR=28					
C24A	**Savage**	74.89	39	⇑P	P	05 37 38.3 0.0
	baz=75,SNR=11					
GRAC	**Grapevine Rang**	74.89	54	⇓P	P	05 37 39.4 +0.9
	baz=75,SNR=40					
BGU	**Big Grassy Mou**	74.89	49	*e*P	P	05 37 39.2 +0.6
	comp=Z,93nm,1.8s					
E22A	**Miles City**	74.91	41	⇓P	P	05 37 38.4 -0.1
	baz=75,SNR=40					
KOLS	**Kolonicke sedl**	74.95	323	*e*P	P	05 37 39.2 +0.6
KOLS	**Kolonicke sedl**	74.95	323	*e*P	P	05 37 39.1 +0.5
B25A	**Knox Farm, Ray**	74.96	38	⇑P	P	05 37 39.2 +0.6
	baz=75,SNR=6.1					
SPUT	**South Promonto**	74.97	48	*e*P	P	05 37 39.5 +0.5
	comp=Z,80nm,1.7s					
SPUT				*es*P	sP	05 38 40.4 +1.7
VRI	**Vrincioaia**	74.99	318	⇑P	P	05 37 40.7 +1.9
VRI	**Vrincioaia**	74.99	318	⇑*i*P	P	05 37 40.7 +1.9
I19A	**Meeteetse**	75.02	44	⇓P	P	05 37 39.9 +0.6
	baz=75,SNR=21					
STHS	**Stebnicka Huta**	75.07	324	*e*P	P	05 37 40.4 +1.2
STHS	**Stebnicka Huta**	75.07	324	*e*P	P	05 37 40.4 +1.2
SBC	**Santa Barbara**	75.07	57	⇓P	P	05 37 40.4 +0.9
	baz=75					
ISA	**Isabella**	75.07	56	*e*P	P	05 37 38.9 -0.7
ISA	**Isabella**	75.07	56	*e*P	P	05 37 38.9 -0.7
ISA	**Isabella**	75.07	56	⇑P	P	05 37 39.0 -0.7
	baz=75,SNR=25					
R11A	**Troy Canyon, C**	75.10	52	*e*P	P	05 37 40.1 +0.3
R11A	**Troy Canyon, C**	75.10	52	⇑P	P	05 37 40.2 +0.3
	baz=75,SNR=60					
OJC	**Ojcow**	75.11	325	*e*P	P	05 37 40.2 +0.7
OJC				*e**PP	pP	05 38 20.8 -0.1
G21A	**Lodge Grass**	75.12	42	⇑P	P	05 37 39.6 -0.2
	baz=75,SNR=24					
UZH	**Uzhgorod**	75.16	323	*e*P	P	05 37 42.3 +2.6
UZH				*e*		05 37 54.9
UZH				*i*		05 38 24.5
UZH				*i* S	S	05 47 05.3 +1.3
UZH				*e*		05 47 46.5
E23A	**Ismay**	75.19	41	⇓P	P	05 37 40.4 +0.4
	baz=75,SNR=23					
ARVC	**Arvin**	75.19	56	⇑P	P	05 37 40.3 +0.1
	baz=75,SNR=5.5					
TLB	**Topalu**	75.20	317	⇑P	P	05 37 41.1 +1.1
TLB	**Topalu**	75.20	317	⇑*i*P	P	05 37 41.1 +1.1
F22A	**Rosebud**	75.22	42	⇑P	P	05 37 40.2 0.0
	baz=75,SNR=28					
D24A	**Glendive**	75.23	40	⇓P	P	05 37 40.8 +0.5
	baz=75,SNR=19					
H20A	**Greybull**	75.23	43	⇑P	P	05 37 40.2 -0.2
	baz=75,SNR=36					
HWUT	**Hardware Ranch**	75.26	47	*e*P	P	05 37 41.3 +0.6
	comp=Z,100nm,1.4s					
HWUT				*ep*P	pP	05 38 21.2 -1.0
B26A	**Jensen Ranch,**	75.31	38	⇓P	P	05 37 41.3 +0.7
	baz=75,SNR=21					
C25A	**Freed Ranch, W**	75.31	39	⇓P	P	05 37 41.2 +0.5
	baz=75,SNR=12					
CRVS	**Cervenica-Dubn**	75.34	323	*e*P	P	05 37 41.7 +0.9
CRVS	**Cervenica-Dubn**	75.34	323	*e*P	P	05 37 41.7 +0.9
TRPA	**Tarpa**	75.41	322	⇑*i*P	P	05 37 42.2 +1.1
BR131	**Keskin Array S**	75.42	310	*e*P	P	05 37 42.2 +0.6
	comp=Z,12nm,0.9s					
BRTR	**Keskin Array B**	75.42	310	P	P	05 37 41.9 +0.3
BRTR				pP	pP	05 38 22.6 -0.4
BRTR				PP	PP	05 40 31.1 -1.3
BRTR	**Keskin Array B**	75.42	310	P	P	05 37 41.9 +0.3
	comp=Z,2.6nm,0.5s,baz=116,slow=3.2,SNR=16					
BRTR				pP	pP	05 38 22.6 -0.4
	comp=Z,7.4nm,0.8s,baz=69,slow=5.3,SNR=4.8					
BRTR				PP	PP	05 40 31.1 -1.3
	comp=Z,13nm,1.0s,baz=69,slow=6.8,SNR=9.3					
MPMC	**Manual Prospec**	75.43	55	⇓P	P	05 37 42.1 +0.3
	baz=75,SNR=69					
NIE	**Niedzica**	75.48	324	*e*P	P	05 37 45.1 +3.5
DUG	**Dugway**	75.50	49	*e*P	P	05 37 42.7 +0.7
DUG				pmax	pmax	
	comp=Z,57nm,1.2s					
DUG	**Dugway**	75.50	49	*e*P	P	05 37 42.7 +0.7
	comp=Z,57nm,1.2s					
DUG	**Dugway**	75.50	49	⇓P	P	05 37 42.7 +0.7
	baz=75,SNR=39					
J19A	**Crowheart**	75.51	45	⇓P	P	05 37 42.7 +0.7
	baz=75,SNR=56					
I20A	**Worland**	75.53	44	⇑P	P	05 37 42.8 +0.7
	baz=75,SNR=55					
FURC	**Furnace Creek,**	75.55	54	⇑P	P	05 37 42.8 +0.6
	baz=75,SNR=105					
BW06	**Boulder Array**	75.58	45	*e*P	P	05 37 42.5 0.0
	comp=Z,130nm,0.4s					
BW06				*ep*P	pP	05 38 24.7 +0.7
PDAR	**Pinedale Array**	75.58	45	P	P	05 37 42.5 -0.1
PDAR				pP	pP	05 38 23.8 -0.2
PDAR	**Pinedale Array**	75.58	45	P	P	05 37 42.5 -0.1
	comp=Z,23nm,0.8s,baz=284,slow=1.4,SNR=167					
PDAR				pP	pP	05 38 23.8 -0.2
	comp=Z,9.2nm,0.8s,baz=291,slow=2.1,SNR=3.6					
PDAR				LR	LR	06 07 32.9
	comp=Z,71nm,21.9s,baz=175,slow=33					
OSI	**Osito Adit**	75.59	57	*e*P	P	05 37 43.2 +0.7
	comp=Z,53nm,0.8s					
OSI	**Osito Adit**	75.59	57	⇑P	P	05 37 43.0 +0.5
	baz=75					
G22A	**Birney**	75.59	42	⇓P	P	05 37 42.5 +0.1
	baz=75,SNR=22					
ISR	**Istrita**	75.60	318	⇓P	P	05 37 43.6 +1.2
ISR	**Istrita**	75.60	318	⇓*i*P	P	05 37 43.6 +1.2
H21A	**Big Horn, Sher**	75.62	43	⇓P	P	05 37 42.9 +0.2
	baz=75,SNR=32					
E24A	**Baker**	75.63	40	⇓P	P	05 37 42.6 0.0
	baz=75,SNR=18					
MLR	**Muntele Rosu**	75.64	318	⇑*i*P	P	05 37 43.5 +0.8
LRMC	**Laurel Mountai**	75.68	55	⇓P	P	05 37 43.4 +0.3
	baz=76,SNR=11					
D25A	**Fairfield**	75.68	39	⇓P	P	05 37 43.2 +0.3
	baz=75,SNR=12					
F23A	**Volborg**	75.69	41	⇑P	P	05 37 42.9 0.0
	baz=76,SNR=75					
BLG	**Laguna Peak**	75.69	57	⇑P	P	05 37 43.1 0.0
	baz=76					
B27A	**Peters Farms,**	75.74	37	⇑P	P	05 37 43.3 +0.3
	baz=76,SNR=5.7					
C26A	**Wahner Farm, P**	75.77	38	⇑P	P	05 37 43.8 +0.5
	baz=76,SNR=5.8					
ANTO	**Ankara**	75.81	311	P	P	05 37 45.1 +1.4
ANTO				pmax	pmax	
	comp=Z,20nm,0.8s					
ANTO	**Ankara**	75.81	311	⇑*i*P	P	05 37 45.0 +1.4
ANTO	**Ankara**	75.81	311	P	P	05 37 45.1 +1.4
	comp=Z,20nm,0.8s					
A28A	**Rude Farm, Bot**	75.82	36	⇑P	P	05 37 43.7 +0.2
	baz=76,SNR=29					
M17A	**Scullys Gap (B**	75.85	47	⇑P	P	05 37 44.3 +0.2
	baz=76,SNR=22					
EDW2	**Edwards Air Fo**	75.88	56	⇓P	P	05 37 44.7 +0.5
	baz=76,SNR=44					
L18A	**Fontenelle, Gr**	75.89	46	⇑P	P	05 37 44.6 +0.3
	baz=76,SNR=30					
K19A	**Absaroka Red Bu**	75.92	45	⇓P	P	05 37 43.9 -0.6
	baz=76,SNR=21					
J20A	**Shoshoni**	75.96	44	⇓P	P	05 37 45.0 +0.4
	baz=76,SNR=44					
H22A	**Clearmont**	76.00	42	⇓P	P	05 37 44.9 +0.1
	baz=76,SNR=14					
JLU	**Jordanelle**	76.00	48	*e*P	P	05 37 45.4 +0.4
	comp=Z,41nm,1.3s					
G23A	**Biddle**	76.06	42	⇓P	P	05 37 44.9 -0.1
	baz=76,SNR=21					
I21A	**Big Trails, Te**	76.06	44	⇓P	P	05 37 45.2 +0.1
	baz=76,SNR=96					
DECC	**Green Verdugo**	76.07	57	⇑P	P	05 37 45.2 0.0
	baz=76,SNR=12					
F24A	**Ekalaka**	76.07	41	⇓P	P	05 37 45.2 +0.1
	baz=76,SNR=24					
NLU	**North Lily Min**	76.08	49	*e*P	P	05 37 45.8 +0.4
	comp=Z,28nm,1.0s					
NLU				*ep*P	pP	05 38 29.9 +2.9
E25A	**Miller Ranch,**	76.11	40	⇑P	P	05 37 45.4 +0.1
	baz=76,SNR=25					
OKC	**Ostrava-Krasne**	76.11	326	*e*P	P	05 37 47.2 +2.1
OKC				*e*		05 37 50.6
OKC				*e**PP	pP	05 38 26.0 -0.6
OKC				*es*	S	05 47 13.9 -0.5
OKC	**Ostrava-Krasne**	76.11	326	⇓*e*P	P	05 37 47.2 +2.1
OKC				*ex*	x	05 37 50.6
OKC				*ep*P	pP	05 38 26.0 -0.6
OKC				*es*	S	05 47 13.9 -0.5
B28A	**Dugan Ranch, T**	76.11	37	⇓P	P	05 37 45.4 +0.2
	baz=76,SNR=23					
KSP	**Ksiaz**	76.13	327	*e*P	P	05 37 46.0 +0.9
KSP				*e**PP	pP	05 38 26.4 -0.3
KSP				*es*	S	05 47 13.0 -1.5
KSP	**Ksiaz**	76.13	327	*e*P	P	05 37 46.1 +0.9
KSP				*ep*P	pP	05 38 26.8 +0.1
KSP				*es*	S	05 47 13.1 -1.5
VOIR		76.13	319	⇑P	P	05 37 47.3 +1.9
VOIR		76.13	319	⇑*i*P	P	05 37 47.3 +1.9
C27A	**Sayler Ranch,**	76.13	38	⇑P	P	05 37 45.7 +0.4
	baz=76,SNR=5.9					
L19A	**Farson**	76.14	46	⇑P	P	05 37 45.9 +0.2
	baz=76,SNR=23					
D26A	**Manning**	76.19	39	⇓P	P	05 37 45.9 +0.2
	baz=76,SNR=18					
PASC	**Pasadena Art C**	76.21	57	*e*P	P	05 37 45.6 -0.4
	comp=Z,61nm,1.2s					
DAU	**Daniels Canyon**	76.24	48	*e*P	P	05 37 47.0 +0.6
DAU				pmax	pmax	
	comp=Z,51nm,1.3s					
DAU	**Daniels Canyon**	76.24	48	*e*P	P	05 37 47.0 +0.6
	comp=Z,51nm,1.3s					
MWC	**Mount Wilson**	76.26	57	*e*P	P	05 37 46.6 +0.1
MWC				pmax	pmax	
	comp=Z,106nm,1.3s					
MWC	**Mount Wilson**	76.26	57	*e*P	P	05 37 46.6 +0.1
	comp=Z,106nm,1.3s					
SHOC	**Shoshone**	76.28	54	⇑P	P	05 37 46.7 +0.4
	baz=76,SNR=32					
MPU	**Maple Canyon**	76.30	49	*e*P	P	05 37 47.1 +0.5
	comp=Z,54nm,1.1s					
J21A	**Lysite**	76.30	44	⇑P	P	05 37 46.6 0.0
	baz=76,SNR=27					
K20A	**Yellowstone Ra**	76.31	45	⇑P	P	05 37 46.2 -0.4
	baz=76,SNR=17					
GSC	**Goldstone**	76.34	55	*e*P	P	05 37 47.0 +0.2
GSC	**Goldstone**	76.34	55	*e*P	P	05 37 47.0 +0.2
GSC	**Goldstone**	76.34	55	⇓P	P	05 37 47.1 +0.2
	baz=76,SNR=45					
ARR	**Arges**	76.38	319	⇑*i*P	P	05 37 48.1 +1.3
MORC	**Moravsky Berou**	76.41	326	*e*P	P	05 37 47.8 +0.9
MORC				*e**PP	pP	05 38 28.7 +0.3
MORC				pmax	pmax	
	comp=Z,12nm,0.8s					
MORC	**Moravsky Berou**	76.41	326	*e*P	P	05 37 47.8 +0.9
	comp=Z,12nm,0.8s					
MORC				*ep*P	pP	05 38 28.7 +0.3
I22A	**9 Mile Ranch,**	76.42	43	⇓P	P	05 37 47.3 +0.1
	baz=76,SNR=21					
FMP	**Fort Macarthur**	76.44	57	⇓P	P	05 37 47.5 +0.2
	baz=76					
G24A	**Alzada**	76.45	41	⇑P	P	05 37 46.7 -0.5
	baz=76,SNR=12					
CAN	**Canberra**	76.47	172	*e*P	P	05 37 48.3 +1.1
CAN				pmax	pmax	
	comp=Z,197nm,1.6s					
CAN	**Canberra**	76.47	172	*e*P	P	05 37 48.3 +1.1
	comp=Z,197nm,1.6s					
DPC	**Dobruska-Polom**	76.49	327	⇓*i*P	P	05 37 48.4 +1.1
DPC				*e*		05 38 04.1
DPC				*e**PP	pP	05 38 29.7 +0.8
DPC				*es*	S	05 47 15.7 -2.9
DPC	**Dobruska-Polom**	76.49	327	⇓*i*P	P	05 37 48.4 +1.1
DPC				*ex*	x	05 37 53.0
DPC				*ex*	x	05 38 04.1
DPC				*ep*P	pP	05 38 29.7 +0.8
DPC				*es*P	sP	05 38 54.8 +7.7
DPC				*es*	S	05 47 15.7 -2.9
DPC				AMS	AMS	06 14 40.0
RRX	**Edison Barstow**	76.50	55	⇓P	P	05 37 48.2 +0.6
	baz=76					
F25A	**Bowman**	76.50	40	⇑P	P	05 37 47.5 0.0
	baz=76					
UPC	**Upice**	76.50	327	*e*P	P	05 37 49.8 +2.5
UPC				*e*		05 38 04.6
UPC				*e**PP	pP	05 38 29.3 +0.5
UPC				*e*		05 38 53.8
UPC	**Upice**	76.50	327	⇓*e*P	P	05 37 49.8 +2.5
UPC				*ex*	x	05 38 04.6
UPC				*ep*P	pP	05 38 29.3 +0.5
UPC				*es*P	sP	05 38 53.8 +6.7
BFSC	**Mount Baldy Ra**	76.50	56	⇓P	P	05 37 47.7 -0.1
	baz=76,SNR=33					
H23A	**Clabaugh Cattl**	76.50	42	⇓P	P	05 37 47.3 -0.3
	baz=76,SNR=5.4					
D27A	**Center**	76.56	38	⇓P	P	05 37 48.2 +0.4
	baz=76,SNR=16					
SHPR	**Sheep Range**	76.56	53	*e*P	P	05 37 49.1 +0.9
	comp=Z,110nm,1.2s					
CIS	**Catalina Islan**	76.57	57	⇓P	P	05 37 48.0 -0.1
	baz=76,SNR=5.1					
E26A	**Carlson Angus**	76.58	39	⇓P	P	05 37 47.6 -0.3
	baz=76					
NWAO	**Narrogin (SRO)**	76.59	200	P	P	05 37 47.9 +0.1
NWAO	**Narrogin (SRO)**	76.59	200	P	P	05 37 47.9 +0.1
	comp=Z,71nm,0.8s,baz=23,slow=7.2,SNR=17					
C28A	**Hausauer Farms**	76.64	37	⇓P	P	05 37 48.6 +0.4
	baz=76,SNR=19					
A30A	**Hoffart Farm,**	76.66	35	⇓P	P	05 37 48.1 -0.1
	baz=76,SNR=30					
M19A	**Rock Springs**	76.66	46	⇑P	P	05 37 48.8 +0.1
	baz=76					
ULM	**Lac du Bonnet**	76.70	33	P	P	05 37 47.9 -0.5
ULM	**Lac du Bonnet**	76.70	33	P	P	05 37 47.9 -0.5
	comp=Z,39nm,0.8s,baz=312,slow=6.3,SNR=26					
ARUT	**Antelope Range**	76.74	51	*e*P	P	05 37 49.3 +0.2
ARUT				pmax	pmax	
	comp=Z,89nm,1.7s					
ARUT	**Antelope Range**	76.74	51	*e*P	P	05 37 49.3 +0.2
	comp=Z,89nm,1.7s					
SCI	**San Clemente I**	76.75	58	⇓P	P	05 37 49.0 0.0
	baz=77					
L20A	**Wamsutter**	76.76	45	⇓P	P	05 37 49.4 +0.2
	baz=76,SNR=32					
J22A	**Midwest**	76.76	43	⇑P	P	05 37 48.9 -0.2
	baz=76,SNR=62					
PSZ	**Piszkesteto**	76.77	323	*e*P	P	05 37 50.4 +1.4
PSZ				pmax	pmax	
	comp=Z,15nm,0.9s					
PSZ	**Piszkesteto**	76.77	323	⇑*i*P	P	05 37 49.7 +0.7
PSZ	**Piszkesteto**	76.77	323	*e*P	P	05 37 50.4 +1.4
	comp=Z,15nm,0.9s					
TUQ	**Turquoise Moun**	76.80	54	⇓P	P	05 37 50.0 +0.5
	baz=77,SNR=89					
H24A	**Dirks Ranch, A**	76.80	41	⇓P	P	05 37 48.8 -0.4
	baz=77,SNR=36					
VYHS	**Vyhne**	76.82	324	*e*P	P	05 37 49.9 +0.8
VYHS	**Vyhne**	76.82	324	*e*P	P	05 37 49.9 +0.8
I23A	**Meade Ranch, G**	76.90	42	⇓P	P	05 37 49.6 -0.3
	baz=77					
MDND	**Maddock**	76.90	37	*e*P	P	05 37 50.0 +0.4
MDND	**Maddock**	76.90	37	⇑P	P	05 37 49.6 0.0
	baz=77,SNR=7.3					
K21A	**Alcova**	76.90	44	⇑P	P	05 37 50.1 +0.1
	baz=77,SNR=64					
F26A	**Lodgepole**	76.93	40	⇑P	P	05 37 49.9 0.0
	baz=77,SNR=8.9					
CCUT	**Cedar City**	76.94	51	*e*P	P	05 37 51.0 +0.6
	comp=Z,62nm,1.5s					
HEC	**Hector,Ludlow**	76.94	55	⇑P	P	05 37 50.6 +0.4
	baz=77,SNR=44					
BBRC	**Big Bear Solar**	76.95	56	⇓P	P	05 37 50.6 +0.2
	baz=77					
MVU	**Marysvale**	76.98	50	*e*P	P	05 37 51.4 +0.9
	comp=Z,35nm,1.2s					
MSU	**Marysvale**	76.99	50	*e*P	P	05 37 51.7 +1.1
MSU				pmax	pmax	
	comp=Z,42nm,1.2s					
MSU	**Marysvale**	76.99	50	*e*P	P	05 37 51.7 +1.1
	comp=Z,42nm,1.2s					
B30A	**Myrvik Farm, E**	77.02	36	⇓P	P	05 37 50.2 0.0
	baz=77,SNR=43					
TMUT	**Trail Mountain**	77.02	49	*e*P	P	05 37 51.2 +0.4
	comp=Z,39nm,1.2s					
E27A	**Carson**	77.04	39	⇓P	P	05 37 50.5 0.0
	baz=77,SNR=24					
G25A	**Newell**	77.04	40	⇑P	P	05 37 50.2 -0.3
	baz=77,SNR=12					
BRG	**Berggiesshubel**	77.05	328	*e*P	P	05 37 50.9 +0.5
	comp=Z,3.8nm,0.7s					
BRG				*e*		05 37 55.9
	comp=Z,9.0nm,1.2s					
BRG				*e*		05 38 06.0
	comp=Z,8.5nm,0.9s					
BRG				pP	pP	05 38 33.7 +1.7
	comp=Z,56nm,1.8s					
BRG				PP	PP	05 40 44.0 -1.5
	comp=Z,11nm,1.3s					
BRG				S	S	05 47 25.0 +0.4
BRG	**Berggiesshubel**	77.05	328	*e*P	P	05 37 50.9 +0.5
BRG				*e*		05 38 06.0
BRG				*PP	pP	05 38 33.7 +1.7
BRG						05 40 44.0
BRG				S	S	05 47 25.0 +0.4
PVCC	**Panska Ves**	77.07	328	*e*P	P	05 37 47.7 -2.8
PVCC				*e*		05 38 07.6
PVCC				*e**PP	pP	05 38 32.9 +0.8
PVCC	**Panska Ves**	77.07	328	⇓*e*P	P	05 37 47.7 -2.8
PVCC				*ex*	x	05 37 52.7
PVCC				*ex*	x	05 38 07.6
PVCC				*ep*P	pP	05 38 32.9 +0.8
CLL	**Collm**	77.08	329	⇓*i*P	P	05 37 50.7 +0.2
CLL				pmax	pmax	
	comp=Z,9.0nm,0.6s					
CLL	**Collm**	77.08	329	⇓*i*P	P	05 37 50.7 +0.2
	comp=Z,9.0nm,0.6s					
CLL				*i* P(2)		05 38 08.6
	comp=Z,28nm,1.1s					
CLL				*i* pP	pP	05 38 32.1 0.0
CLL				*e*PP	PP	05 40 46.0 +0.3
CLL				*e*PPP	PPP	05 42 24.0
CLL				*es*	S	05 47 28.0 +3.1
CLL				*e*		05 57 36.0
CLL				LmH		06 09 00.0
	comp=N,200nm,21.4s					
CLL				LmH		06 09 00.0
	comp=E,200nm,19.3s					
CLL				LmV		06 12 00.0
	comp=Z,100nm,20.3s					
M20A	**Sweetwater, Wa**	77.20	46	⇑P	P

RSSD **Black Hills** 77.51 42 eP P 05 37 52.9 -0.5
comp=Z,62nm,1.2s
RSSD epP pP 05 38 36.5 +1.5
O19A **Miners Draw (B** 77.51 47 ⇑P P 05 37 53.2 -0.1
baz=77,SNR=25
LDFC **Landfair** 77.53 54 eP P 05 37 53.9 +0.3
comp=Z,153nm,1.1s
SRU **San Rafael** 77.54 49 eP P 05 37 53.8 +0.2
SRU pmax pmax
comp=Z,62nm,1.2s
SRU **San Rafael** 77.54 49 eP P 05 37 53.8 +0.2
comp=Z,62nm,1.2s
M21A **Separation Pea** 77.56 45 ⇑P P 05 37 53.5 -0.2
baz=77,SNR=34
RWWY **Rawlins** 77.58 45 eP P 05 37 53.7 -0.2
comp=Z,127nm,1.4s
RWWY epP pP 05 38 36.3 +0.8
N20A **Spence Gulch,** 77.61 46 ⇑P P 05 37 54.6 +0.6
baz=77,SNR=57
G27A **Dupree** 77.63 40 ⇑P P 05 37 53.6 -0.2
baz=77,SNR=24
TREC **Trest** 77.65 327 eP P 05 37 54.7 +0.9
TREC e 05 38 08.8
TREC e*PP pP 05 38 35.9 +0.5
TREC **Trest** 77.65 327⇓eP P 05 37 54.7 +0.9
TREC ex x 05 37 59.4
TREC ex x 05 38 08.8
TREC epP pP 05 38 35.9 +0.5
PFO **Pinyon Flat Ob** 77.67 56 P P 05 37 54.0 -0.3
comp=Z,347nm,1.1s,SNR=34
PFO **Pinyon Flat Ob** 77.67 56 eP P 05 37 54.3 0.0
comp=Z,94nm,1.2s
PFO **Pinyon Flat Ob** 77.67 56 ⇑P P 05 37 54.3 0.0
baz=78,SNR=43
K23A **Bowen Ranch, D** 77.67 43 ⇑P P 05 37 53.5 -0.7
baz=77
BZS **Buzias** 77.67 321 ⇑P P 05 37 54.0 +0.1
BZS **Buzias** 77.67 321 ⇑iP P 05 37 54.0 +0.1
BELC **Belle Mtn. Jos** 77.70 56 ⇓P P 05 37 54.3 -0.2
baz=78,SNR=38
109C **Camp Elliot, M** 77.73 57 ⇓P P 05 37 54.6 +0.1
baz=78,SNR=14
I25A **Rochford** 77.73 41 ⇓P P 05 37 54.3 -0.3
baz=78,SNR=35
J24A **Dixon Ranch, L** 77.76 42 ⇑P P 05 37 54.1 -0.5
baz=78
L22A **Ellis Ranch, M** 77.76 44 ⇓P P 05 37 55.0 +0.2
baz=78,SNR=11
H26A **Fairpoint** 77.78 41 ⇓P P 05 37 54.4 -0.2
baz=78,SNR=22
P19A **Cripple Cowboy** 78.05 47 ⇑P P 05 37 56.5 +0.1
baz=78,SNR=45
N21A **Black Mountain** 78.07 46 ⇑P P 05 37 56.7 +0.2
baz=78,SNR=40
L23A **Garrett** 78.08 44 ⇑P P 05 37 56.0 -0.6
baz=78,SNR=23
O20A **White River Ci** 78.11 47 eP P 05 37 56.6 0.0
O20A **White River Ci** 78.11 47 ⇑P P 05 37 56.7 0.0
baz=78,SNR=23
K24A **Anderson Ranch** 78.11 43 ⇓P P 05 37 55.7 -0.9
baz=78
M22A **Cedar Creek Ra** 78.11 45 ⇓P P 05 37 56.7 -0.1
baz=78,SNR=18
IRM **Iron Mountain** 78.12 55 ⇓P P 05 37 57.2 +0.6
baz=78,SNR=42
BAR **Barrett** 78.14 57 eP P 05 37 56.7 -0.1
comp=Z,46nm,1.0s
BAR epP pP 05 38 40.0 +1.5
I26A **New Underwood** 78.16 41 ⇓P P 05 37 56.9 +0.2
baz=78,SNR=18
MONP **Monument Peak** 78.16 57 ⇑P P 05 37 57.4 +0.2
baz=78,SNR=24
RAYN **Ar Rayn** 78.19 291 P P 05 37 57.9 +0.6
comp=Z,110nm,1.2s,SNR=6.1
AGMN **Agassiz Nation** 78.20 34 eP P 05 37 55.8 -1.0
comp=Z,37nm,1.0s
AGMN epP pP 05 38 38.8 +0.3
BC3 **Big Chuckawall** 78.26 56 ⇑P P 05 37 57.7 +0.2
baz=78,SNR=45
W13A **Hualapai Mount** 78.27 54 ⇑P P 05 37 58.1 +0.4
baz=78,SNR=57
U15A **North Rim** 78.33 52 ⇑P P 05 37 58.9 +0.8
baz=78,SNR=101
G28A **Parade** 78.34 39 ⇑P P 05 37 57.6 -0.1
baz=78,SNR=12
ASF **Jabal al Asfar** 78.42 303 P P 05 37 59.0 +0.6
ASF pP pP 05 38 39.0 -1.1
ASF PP PP 05 40 57.2 -0.4
ASF **Jabal al Asfar** 78.42 303 P P 05 37 59.0 +0.6
comp=Z,5.5nm,0.7s,baz=89,slow=2.4,SNR=6.5
ASF pP pP 05 38 39.0 -1.1
comp=Z,7.1nm,0.9s,baz=314,slow=3.7,SNR=3.0
ASF PP PP 05 40 57.2 -0.4
comp=Z,25nm,1.2s,baz=15,slow=0.8,SNR=14
P20A **De Beque** 78.47 47 ⇑P P 05 37 58.6 -0.1
baz=78,SNR=19
O21A **Pagoda** 78.48 46 ⇓P P 05 37 58.9 +0.1
baz=78,SNR=8.4
DVTC **Desert V Tower** 78.52 57 ⇓P P 05 37 59.2 +0.3
baz=78,SNR=13
SWSC **Sam W. Stewart** 78.52 56 ⇑P P 05 37 58.8 0.0
baz=78,SNR=11
I27A **Quinn** 78.53 41 ⇑P P 05 37 59.1 +0.3
baz=78,SNR=48
M23A **Laramie** 78.53 44 ⇓P P 05 37 59.1 +0.1
baz=78,SNR=7.5
L24A **Wheatland** 78.54 44 ⇓P P 05 37 58.9 0.0
baz=78,SNR=7.7
CONA **Conrad Observa** 78.54 325⇓iP P 05 38 00.3 +1.5
comp=Z,9.7nm,1.0s
KHC **Kasperske Hory** 78.56 327⇓iP P 05 37 59.6 +0.8
KHC e 05 38 04.3
KHC e*PP pP 05 38 41.1 +0.6
KHC e 05 39 02.6
KHC eS S 05 47 39.3 -1.6
KHC MLR MLR
comp=Z,300nm,13.7s
KHC **Kasperske Hory** 78.56 327⇓iP P 05 37 59.6 +0.8
KHC ePCP PcP 05 38 04.3 -3.0
KHC ex x 05 38 17.1
KHC epP pP 05 38 41.1 +0.6
KHC esP sP 05 39 02.6 +3.9
KHC eS S 05 47 39.3 -1.6
KHC AMS AMS 06 16 10.0
comp=Z,300nm,13.7s
KHC **Kasperske Hory** 78.56 327 eP P 05 37 59.6 +0.8
comp=Z,21nm,1.0s
KHC epP pP 05 38 41.1 +0.6
J26A **Sides Ranch, S** 78.57 42 ⇓P P 05 37 59.0 0.0
baz=78,SNR=16
H28A **Mission Ridge** 78.59 40 ⇑P P 05 37 59.2 +0.1
baz=78,SNR=23
N22A **Wattenberg Ran** 78.61 45 ⇑P P 05 38 00.1 +0.5
baz=78,SNR=22
PDMCI **Parker Dam,Lak** 78.65 54 ⇑P P 05 37 59.9 +0.4
baz=78,SNR=16
K25A **Mack Ranch, Ha** 78.68 43 ⇑P P 05 37 59.6 -0.1
baz=78
GERES **GERESS Array B** 78.74 327 P P 05 38 00.0 +0.2
GERES pP pP 05 38 40.8 -0.9
GERES PP PP 05 40 60.0 +0.3
GERES PKKPbc PKKPbc 05 56 51.2 -0.6
GERES **GERESS Array B** 78.74 327 P P 05 38 00.0 +0.2
comp=Z,1.9nm,0.4s,baz=38,slow=6.2,SNR=19
GERES pP pP 05 38 40.8 -0.9
comp=Z,3.6nm,0.8s,baz=35,slow=4.9,SNR=3.2
GERES PP PP 05 40 60.0 +0.3
comp=Z,0.7nm,0.6s,baz=19,slow=6.2,SNR=3.6
GERES PKKPbc PKKPbc 05 56 51.2 -0.6
comp=Z,0.5nm,0.5s,baz=169,slow=0.5,SNR=4.8
GERES LR LR 06 15 04.5
comp=Z,157nm,21.2s,baz=61,slow=37
Y12C **Blythe** 78.78 55 ⇓P P 05 38 00.7 +0.5
baz=79,SNR=35
PHWY **Pilot Hill** 78.79 44 eP P 05 38 00.2 -0.3
comp=Z,39nm,1.1s
PHWY epP pP 05 38 43.8 +1.5
N23A **Red Feather La** 78.82 45 ⇓P P 05 38 01.1 +0.4
baz=79,SNR=21
PV04 **Paradox Valley** 78.95 48 eP P 05 38 02.0 +0.7
L25A **Engebretsen Ra** 78.96 43 ⇑P P 05 38 01.2 0.0
baz=79
K26A **Motz Farm, Whi** 78.96 42 ⇑P P 05 38 01.0 -0.3
baz=79
P21A **Newcastle** 78.97 47 ⇓P P 05 38 01.9 +0.4
baz=79,SNR=41

EKA **Eskdalemuir Ar** 78.98 340 P P 05 38 01.2 +0.3
EKA pP pP 05 38 42.8 +0.2
EKA **Eskdalemuir Ar** 78.98 340 P P 05 38 01.2 +0.3
comp=Z,2.6nm,0.5s,baz=24,slow=4.9,SNR=21
EKA pP pP 05 38 42.8 +0.2
comp=Z,8.5nm,0.9s,baz=19,slow=5.3,SNR=4.6
M24A **Cheyenne** 79.00 44 ⇑P P 05 38 02.2 +0.6
baz=79,SNR=25
I28A **Midland** 79.01 40 ⇓P P 05 38 01.0 -0.4
baz=79,SNR=39
O22A **Kremmling** 79.02 46 ⇓P P 05 38 02.0 +0.2
baz=79,SNR=47
GLA **Glamis** 79.06 56 eP P 05 38 02.3 +0.5
GLA e*PP pP 05 38 45.5 +1.9
GLA pmax pmax
comp=Z,75nm,1.0s
GLA **Glamis** 79.06 56 eP P 05 38 02.3 +0.5
comp=Z,74nm,1.0s
GLA epP pP 05 38 45.5 +1.9
GLA **Glamis** 79.06 56 ⇓P P 05 38 02.4 +0.5
baz=79,SNR=30
GRF **Grafenberg Arr** 79.06 329 eP P 05 38 02.5 +1.0
comp=Z,21nm,0.8s
GRF epP pP 05 38 43.8 +0.5
GRF **Grafenberg Arr** 79.06 329 eP P 05 38 02.5 +1.0
GRF e*PP pP 05 38 43.8 +0.5
GRF pmax pmax
comp=Z,21nm,0.8s
VTS **Vitosha** 79.09 318 ⇑P P 05 38 03.3 +1.3
VTS **Vitosha** 79.09 318⇑iP P 05 38 03.3 +1.3
J27A **Elkhorn Farm,** 79.15 41 ⇑P P 05 38 02.6 +0.4
baz=79,SNR=20
P22A **Eagle** 79.30 46 ⇓P P 05 38 03.7 +0.5
baz=79,SNR=66
PV01 **Paradox Valley** 79.32 48 eP P 05 38 03.7 +0.3
comp=Z,6μm,1.5s
PV01 epP pP 05 38 46.8 +1.6
O23A **Lake Granby, G** 79.32 45 ⇑P P 05 38 04.2 +0.8
baz=79,SNR=38
Q21A **Lamborn Mesa,** 79.39 47 ⇓P P 05 38 04.2 +0.5
baz=79,SNR=8.9
R20A **Redvale** 79.39 48 ⇓P P 05 38 04.1 +0.4
baz=79,SNR=42
J28A **Allard Ranch,** 79.41 41 ⇓P P 05 38 03.7 +0.2
baz=79,SNR=26
N24A **Carr** 79.43 44 ⇑P P 05 38 04.3 +0.4
baz=79
K27A **Flueckinger Fa** 79.44 42 ⇑P P 05 38 03.5 -0.3
baz=79,SNR=12
SMCO **Snowmass** 79.48 47 eP P 05 38 04.8 +0.3
comp=Z,47nm,1.1s
L26A **Underwood Farm** 79.50 43 ⇓P P 05 38 04.0 -0.2
baz=79
WUAZ **Wupatki** 79.50 52 eP P 05 38 05.0 +0.6
comp=Z,110nm,1.4s
WUAZ **Wupatki** 79.50 52 ⇑P P 05 38 05.1 +0.8
baz=79,SNR=41
Y14A **Wickenburg** 79.59 54 ⇓P P 05 38 05.1 +0.4
baz=79,SNR=58
S20A **Disappointment** 79.65 48 ⇑P P 05 38 05.6 +0.3
baz=79,SNR=36
R21A **Cimarron** 79.73 48 ⇓P P 05 38 06.3 +0.7
baz=80,SNR=53
Q22A **Crested Butte,** 79.73 47 ⇓P P 05 38 06.3 +0.6
baz=80,SNR=64
BRSD **Miller** 79.74 39 eP P 05 38 05.1 -0.2
BRSD **Miller** 79.74 39 ⇑P P 05 38 05.0 -0.2
baz=80,SNR=19
ISCO **Idaho Springs** 79.78 46 eP P 05 38 06.3 +0.4
ISCO e*PP pP 05 38 48.8 +1.0
ISCO pmax pmax
comp=Z,36nm,1.1s
ISCO **Idaho Springs** 79.78 46 eP P 05 38 06.3 +0.4
comp=Z,36nm,1.1s
ISCO epP pP 05 38 48.8 +1.0
ISCO **Idaho Springs** 79.78 46 ⇑P P 05 38 06.4 +0.5
baz=80,SNR=35
O24A **Longmont** 79.84 45 ⇑P P 05 38 06.8 +0.8
baz=80,SNR=17
L27A **T5 Ranch, Ells** 79.85 42 ⇑P P 05 38 06.3 +0.2
baz=80
N25A **Grover** 79.86 44 ⇑P P 05 38 06.6 +0.5
baz=80
K28A **Ten Mile Ranch** 79.86 41 ⇓P P 05 38 06.2 +0.2
baz=80,SNR=20
PERS **Pernice** 79.86 325 iP P 05 38 06.5 +0.5
SOKA **Soboth** 79.87 325⇑iP P 05 38 06.9 +0.9
comp=Z,19nm,1.0s
M26A **McRoberts Ranc** 79.88 43 ⇓P P 05 38 06.7 +0.5
baz=80,SNR=7.5
113A **Mohawk Valley,** 79.91 55 ⇑P P 05 38 06.4 +0.1
baz=80,SNR=9.7
P23A **Jefferson** 79.96 46 ⇓P P 05 38 07.9 +0.9
baz=80,SNR=29
MVCO **Mesa Verde** 80.00 49 eP P 05 38 07.4 +0.3
comp=Z,75nm,1.4s
MVCO **Mesa Verde** 80.00 49 ⇓P P 05 38 07.5 +0.4
baz=80,SNR=31
Z14A **Wintersburg** 80.01 54 ⇓P P 05 38 07.2 +0.3
baz=80,SNR=11
S21A **Coal Bank Pass** 80.09 48 ⇑P P 05 38 08.5 +0.9
baz=80,SNR=90
BEBN **Eben Emael** 80.20 333 P P 05 38 07.7 +0.2
comp=Z,4.0nm,0.8s
X16A **Lo Mia Camp, P** 80.21 53 ⇑P P 05 38 09.2 +1.0
baz=80,SNR=99
M27A **Reverse DX Ran** 80.22 42 ⇑P P 05 38 08.2 +0.1
baz=80
MEM **Membach** 80.24 332 P P 05 38 07.9 +0.1
comp=Z,7.7nm,1.2s
MEM AP pP 05 38 50.2 +0.6
R22A **Saguache, Gunn** 80.27 47 ⇑P P 05 38 09.6 +1.0
baz=80,SNR=40
KBA **Koelnbreinsper** 80.28 326⇓iP P 05 38 09.4 +1.1
comp=Z,25nm,1.2s
EYMN **Ely** 80.29 32 eP P 05 38 07.6 -0.6
comp=Z,77nm,1.0s
EYMN epP pP 05 38 50.5 +0.5
Q23A **Hartsel** 80.30 46 ⇓P P 05 38 09.4 +0.7
baz=80,SNR=6.8
N26A **Koester Ranch,** 80.30 43 ⇑P P 05 38 08.3 -0.2
baz=80,SNR=5.3
L28A **Connealy Angus** 80.31 42 ⇓P P 05 38 08.2 -0.3
baz=80
K29A **Lazy Trails An** 80.35 40 ⇑P P 05 38 08.6 0.0
baz=80,SNR=13
O25A **Wiggins** 80.35 44 ⇑P P 05 38 09.0 +0.2
baz=80,SNR=16
P24A **Kohler Place,** 80.36 45 ⇑P P 05 38 09.5 +0.6
baz=80,SNR=20
MYKA **Terra Mystica** 80.50 326 iP P 05 38 09.4 +0.1
comp=Z,14nm,1.0s,SNR=5.0
S22A **4UR Ranch, Cre** 80.57 48 ⇓P P 05 38 10.8 +0.6
baz=80,SNR=38
U20A **Newcomb** 80.57 50 ⇑P P 05 38 10.1 0.0
baz=80,SNR=6.2
Q24A **Divide** 80.63 46 ⇓P P 05 38 10.9 +0.4
baz=80,SNR=12
BCLA **Clavier** 80.64 333 P P 05 38 10.1 +0.2
comp=Z,11nm,1.9s
BCLA AP pP 05 38 51.6 -0.2
N27A **Anderson Farm,** 80.67 43 ⇓P P 05 38 10.5 0.0
baz=80,SNR=18
O26A **Horse Wrangler** 80.68 44 ⇑P P 05 38 10.3 -0.2
baz=80,SNR=5.7
BOJS **Bojanci** 80.69 324 iP P 05 38 05.0 -5.3
T21A **Navajo Lake** 80.70 49 ⇑P P 05 38 11.4 +0.6
baz=80,SNR=8.9
W18A **Petrified Fore** 80.74 51 ⇓P P 05 38 11.6 +0.5
baz=80
P25A **Willow Gulch B** 80.76 45 ⇓P P 05 38 11.3 +0.3
baz=80,SNR=26
L29A **Maesberg Ranch** 80.79 41 ⇑P P 05 38 10.6 -0.4
baz=80
R23A **Moffat** 80.81 47 ⇑P P 05 38 12.1 +0.7
baz=81,SNR=50
OGNE **Ogallala** 80.83 43 eP P 05 38 11.1 -0.1
comp=Z,193nm,1.4s
OGNE **Ogallala** 80.83 43 ⇑P P 05 38 11.1 -0.1
baz=81,SNR=8.0
M28A **Bar X Bar Ranc** 80.83 42 ⇑P P 05 38 10.9 -0.4
baz=81
JAVS **Javornik** 80.90 325 iP P 05 38 10.8 -0.8
RETA **Reutte** 81.01 328⇓iP P 05 38 12.7 +0.6
comp=Z,17nm,1.2s
X18A **Snowflake** 81.02 52 ⇑P P 05 38 13.3 +0.7
baz=81,SNR=31

U21A **Nageezi** 81.03 49 ⇓P P 05 38 13.1 +0.5
baz=81,SNR=36
T22A **Edith** 81.05 48 ⇓P P 05 38 13.5 +0.9
baz=81,SNR=47
214A **Organ Pipe Nat** 81.05 55 ⇑P P 05 38 12.9 +0.4
baz=81,SNR=22
S23A **Nye Farm, Mont** 81.06 47 ⇓P P 05 38 13.8 +1.0
baz=81,SNR=11
Q25A **Bedland, Calha** 81.15 45 ⇓P P 05 38 13.1 0.0
baz=81,SNR=19
O27A **Beecher Island** 81.16 43 ⇑P P 05 38 12.6 -0.4
baz=81,SNR=12
P26A **Davis Ranch, A** 81.16 44 ⇑P P 05 38 13.0 -0.1
baz=81,SNR=11
DOU **Dourbes** 81.16 333 P P 05 38 11.9 -0.8
comp=Z,11nm,1.8s
DOU AP pP 05 38 52.9 -1.8
R24A **Sanders Place,** 81.17 46 ⇓P P 05 38 13.8 +0.5
baz=81,SNR=14
N28A **Pribbeno Ranch** 81.27 43 ⇑P P 05 38 13.0 -0.6
baz=81
BFO **Black Forest** 81.28 330 P P 05 38 14.8 +1.4
comp=Z,87nm,0.8s,SNR=8.3
BFO **Black Forest** 81.28 330 eP P 05 38 13.8 +0.4
BFO pmax pmax
comp=Z,24nm,1.0s
BFO **Black Forest** 81.28 330 eP P 05 38 13.8 +0.4
comp=Z,24nm,1.0s
SDCO **Great Sand Dun** 81.31 47 eP P 05 38 14.3 +0.2
comp=Z,30nm,1.1s
SDCO epP pP 05 38 58.1 +2.0
BAIF **Baives** 81.33 333 eP P 05 38 13.3 -0.2
comp=Z,8.5nm,0.5s
BAIF **Baives** 81.33 333 eP P 05 38 13.3 -0.2
BAIF **Baives** 81.33 333 eP P 05 38 13.3 -0.2
EIL **Elat** 81.33 302 P P 05 38 15.1 +1.1
EIL pP pP 05 38 56.2 +0.2
EIL **Elat** 81.33 302 P P 05 38 15.1 +1.1
comp=Z,8.5nm,0.8s,baz=24,slow=6.7,SNR=6.4
EIL pP pP 05 38 56.2 +0.2
comp=Z,17nm,1.0s,baz=77,slow=5.3,SNR=3.2
ECSD **EROS Data Cent** 81.38 38 eP P 05 38 13.5 -0.5
comp=Z,59nm,1.0s
FETA **Feichten** 81.40 328⇑iP P 05 38 14.7 +0.5
comp=Z,12nm,1.0s
W20A **Ramah** 81.46 50 ⇑P P 05 38 15.2 +0.4
baz=81,SNR=44
M30A **Dale-Ortello V** 81.48 41 ⇓P P 05 38 13.9 -0.7
baz=81,SNR=5.6
V21A **Milan** 81.48 50 ⇑P P 05 38 15.5 +0.6
baz=81,SNR=16
T23A **Casias Ranch,** 81.52 48 ⇓P P 05 38 15.9 +0.7
baz=81,SNR=25
DAVA **Damuels** 81.53 328⇑iP P 05 38 15.3 +0.4
comp=Z,13nm,0.9s,SNR=4.5
U22A **Llaves** 81.53 49 ⇑P P 05 38 16.0 +0.8
baz=81,SNR=19
Q26A **Hugo** 81.53 45 ⇓P P 05 38 14.8 -0.2
baz=81,SNR=17
S24A **Houchin Ranch,** 81.54 47 ⇑P P 05 38 15.8 +0.5
baz=81,SNR=26
O28A **Krutsinger Ran** 81.57 43 ⇓P P 05 38 14.9 -0.3
baz=81,SNR=9.1
P27A **Ficken Ranch,** 81.57 44 ⇓P P 05 38 14.7 -0.5
baz=81,SNR=9.3
CDF **Champ du Feu** 81.61 330 eP P 05 38 15.4 +0.2
comp=Z,29nm,1.0s
CDF epP pP 05 38 57.3 +0.1
CDF **Champ du Feu** 81.61 330 eP P 05 38 15.4 +0.2
CDF e*PP pP 05 38 57.3 +0.1
CDF **Champ du Feu** 81.61 330 eP P 05 38 15.4 +0.2
CDF epP pP 05 38 57.3 +0.1
N29A **Votaw Ranch, W** 81.64 42 ⇑P P 05 38 15.0 -0.5
baz=81,SNR=7.3
R25A **Fountain Ranch** 81.68 46 ⇑P P 05 38 15.7 -0.1
baz=82
SCHQ **Schefferville** 81.73 15 P P 05 38 15.2 -0.4
SCHQ **Schefferville** 81.73 15 P P 05 38 15.2 -0.4
comp=Z,25nm,0.9s,baz=336,slow=6.4,SNR=13
ECH **Echery** 81.81 330 eP P 05 38 16.7 +0.5
ECH pmax pmax
comp=Z,11nm,0.8s
ECH **Echery** 81.81 330 eP P 05 38 16.7 +0.5
comp=Z,11nm,0.8s
ECH **Echery** 81.81 330 eP P 05 38 15.1 -1.1
V22A **San Miguel Ran** 81.82 49 ⇑P P 05 38 17.3 +0.6
baz=82,SNR=32
X20A **Quemado** 81.87 51 ⇓P P 05 38 18.2 +1.2
baz=82,SNR=50
SPMN **St. Paul** 81.92 35 eP P 05 38 15.9 -0.8
SPMN **St. Paul** 81.92 35 ⇑P P 05 38 16.2 -0.5
baz=82,SNR=14
U23A **El Rito** 81.93 48 ⇓P P 05 38 18.3 +1.0
baz=82,SNR=121
KSCO **Kaye Shedlock'** 81.94 44 eP P 05 38 16.8 -0.3
KSCO **Kaye Shedlock'** 81.94 44 ⇓P P 05 38 16.9 -0.3
baz=82,SNR=7.9
S25A **Robets Cordova** 81.95 46 ⇓P P 05 38 17.0 -0.4
baz=82
W21A **San Fidel** 81.96 50 ⇓P P 05 38 18.1 +0.6
baz=82,SNR=8.3
R26A **Arlington** 82.02 45 ⇓P P 05 38 17.4 -0.2
baz=82,SNR=30
TUC **Tucson** 82.06 54 eP P 05 38 18.3 +0.4
TUC pmax pmax
comp=Z,36nm,1.2s
TUC **Tucson** 82.06 54 eP P 05 38 18.3 +0.4
comp=Z,36nm,1.2s
PAGF **Fort de Pagny** 82.06 331⇓iP P 05 38 17.8 +0.4
comp=Z,8.5nm,0.8s
PAGF epP pP 05 38 59.8 +0.3
PAGF **Fort de Pagny** 82.06 331⇓iP P 05 38 17.8 +0.4
PAGF epP pP 05 38 59.8 +0.3
O29A **4D Ranch, Culb** 82.07 43 ⇑P P 05 38 17.3 -0.4
baz=82,SNR=13
MOF **Molkenrain** 82.12 330 eP P 05 38 17.2 -0.7
HINF **Hinteralfeld** 82.26 330 eP P 05 38 18.2 -0.4
comp=Z,8.3nm,0.6s
HINF **Hinteralfeld** 82.26 330 eP P 05 38 18.2 -0.4
HINF **Hinteralfeld** 82.26 330 eP P 05 38 18.2 -0.4
HAU **Haudompre** 82.29 331 eP P 05 38 18.5 -0.2
comp=Z,15nm,0.7s
HAU eR
comp=Z,142nm,20.8s
HAU **Haudompre** 82.29 331 eP P 05 38 18.5 -0.2
HAU **Haudompre** 82.29 331 eP P 05 38 18.5 -0.2
Q28A **Sharon Springs** 82.32 44 ⇓P P 05 38 18.6 -0.6
baz=82,SNR=10
T25A **Trinidad** 82.34 47 ⇑P P 05 38 19.5 +0.1
baz=82,SNR=30
V23A **Ortiz Mt. (NFS** 82.36 49 ⇓P P 05 38 20.9 +1.4
baz=82,SNR=30
X21A **Alamocita Cree** 82.36 51 ⇑P P 05 38 20.6 +1.1
baz=82
R27A **Eads** 82.38 45 ⇑P P 05 38 19.0 -0.5
baz=82,SNR=15
Y20A **Horse Springs,** 82.39 51 ⇑P P 05 38 20.8 +1.1
baz=82,SNR=72
U24A **Moreno Valley** 82.39 48 ⇑P P 05 38 20.7 +0.9
baz=82,SNR=16
TUE **Stuetta** 82.40 328 eP P 05 38 20.1 +0.5
comp=Z,9.4nm,0.7s
O30A **MW Ranch, Wils** 82.41 42 ⇓P P 05 38 19.0 -0.5
baz=82
BGNE **Belgrade** 82.43 40 eP P 05 38 19.0 -0.6
BGNE **Belgrade** 82.43 40 ⇑P P 05 38 18.9 -0.6
baz=82,SNR=17
W22A **Albuquerque** 82.44 50 ⇓P P 05 38 21.1 +1.1
baz=82,SNR=9.6
S26A **Kim** 82.51 46 ⇓P P 05 38 19.7 -0.4
baz=82,SNR=11
SFTF **Sexfontaines** 82.60 332 eP P 05 38 21.1 +0.8
comp=Z,18nm,0.7s
SFTF epP pP 05 39 02.4 0.0
SFTF **Sexfontaines** 82.60 332 eP P 05 38 21.1 +0.8
SFTF epP pP 05 39 02.4 0.0
LOMF **Lomont** 82.66 330 eP P 05 38 18.8 -1.9
Y21A **Point of Rocks** 82.73 51 ⇓P P 05 38 22.8 +1.3
baz=82,SNR=39
COWI **Conover** 82.74 32 eP P 05 38 20.1 -0.9
comp=Z,33nm,0.9s
LAZ **Ladron** 82.76 50 eP P 05 38 22.6 +1.0
comp=Z,51nm,1.6s
X22A **Bernardo** 82.77 50 ⇓P P 05 38 22.8 +1.3
baz=83,SNR=9.9
T26A **Comanche Natio** 82.77 46 ⇑P P 05 38 21.2 -0.4
baz=82,SNR=23

ANMO **Albuquerque** 82.77 49 *e*P P 05 38 22.3 +0.6
comp=Z,71nm,1.2s
S27A **Las Animas** 82.77 45 ⇑P P 05 38 21.2 -0.3
baz=82
P30A **Selden** 82.78 43 ⇓P P 05 38 20.9 -0.5
baz=82,SNR=15
W23A **Werner Place,** 82.79 49 ⇓P P 05 38 22.8 +1.0
baz=83,SNR=21
Z20A **Nine Sixteen R** 82.82 52 ⇑P P 05 38 22.7 +0.9
baz=83,SNR=96
R28A **Tribune** 82.87 44 ⇑P P 05 38 21.4 -0.6
baz=83,SNR=10
U25A **Circle Dot Ran** 82.88 47 ⇓P P 05 38 22.4 +0.2
baz=83,SNR=18
V24A **Rampart Ranch,** 82.89 48 ⇓P P 05 38 23.3 +1.1
baz=83,SNR=26
Y22D **IRIS PASSCAL I** 83.12 50 ⇓P P 05 38 24.1 +0.7
baz=83
R29A **Marienthal** 83.16 44 ⇑P P 05 38 22.9 -0.6
baz=83
V25A **Rancho No Teng** 83.17 48 ⇑P P 05 38 24.3 +0.6
baz=83,SNR=37
W24A **Lazy 6 Ranch,** 83.18 49 ⇑P P 05 38 24.9 +1.1
baz=83,SNR=83
X23A **Hourglass Bar** 83.19 50 ⇓P P 05 38 24.6 +0.8
baz=83
120A **U Bar Ranch, L** 83.19 52 ⇑P P 05 38 24.5 +0.7
baz=83,SNR=34
Y22A **Socorro** 83.19 50 ⇑P P 05 38 24.7 +0.8
baz=83,SNR=36
Q30A **Quinter** 83.22 43 ⇓P P 05 38 23.2 -0.5
baz=83
Z21A **St. Cloud Mine** 83.23 51 ⇓P P 05 38 24.9 +0.9
baz=83,SNR=89
BNM **Barren Site** 83.24 50 *e*P P 05 38 24.7 +0.6
comp=Z,34nm,1.0s
U26A **Atchley Ranch,** 83.25 47 ⇓P P 05 38 24.3 +0.2
baz=83,SNR=16
T27A **Campo** 83.32 46 ⇓P P 05 38 23.9 -0.4
baz=83
S28A **Manter** 83.38 45 ⇑P P 05 38 24.2 -0.4
baz=83,SNR=14
CABF **La Chapelle** 83.55 330 *e*P P 05 38 25.6 +0.3
CABF **La Chapelle** 83.55 330 *e*P P 05 38 25.6 +0.3
CABF **La Chapelle** 83.55 330 *e*P P 05 38 25.6 +0.3
T28A **Walsh** 83.61 45 ⇑P P 05 38 25.2 -0.6
baz=83
319A **Douglas** 83.62 54 ⇑P P 05 38 26.5 +0.5
baz=83,SNR=52
Q31A **Ellis** 83.63 42 ⇓P P 05 38 24.8 -0.9
baz=83
X24A **Lazy VL Ranch,** 83.63 49 ⇑P P 05 38 27.1 +1.0
baz=83
V26A **Tequesquite Ra** 83.67 47 ⇓P P 05 38 26.1 0.0
baz=83,SNR=24
Z22A **Elephant Butte** 83.68 51 ⇑P P 05 38 26.9 +0.7
baz=84,SNR=58
220A **Playas Peak, P** 83.71 53 ⇓P P 05 38 26.9 +0.5
baz=84,SNR=56
121A **Cookes Peak, D** 83.71 52 ⇑P P 05 38 27.3 +0.8
baz=84,SNR=52
W25A **X Bar L Ranch,** 83.71 48 ⇑P P 05 38 26.8 +0.5
baz=84,SNR=70
R30A **Dighton** 83.71 43 ⇑P P 05 38 25.7 -0.5
baz=84,SNR=14
Y23A **Lovelace Mesa,** 83.73 50 ⇓P P 05 38 27.2 +0.6
baz=84,SNR=80
U27A **Thompson Grove** 83.74 46 ⇓P P 05 38 26.4 -0.1
baz=84,SNR=15
S29A **Ulysses** 83.77 44 ⇑P P 05 38 26.2 -0.4
baz=84,SNR=6.0
LOR **Lormes** 83.82 332 ⇓*i*P P 05 38 26.4 -0.1
comp=Z,22nm,0.6s
LOR *ep*P **pP** 05 39 08.5 -0.3
LOR *e*R
comp=Z,137nm,21.0s
LOR **Lormes** 83.82 332 ⇓*i*P P 05 38 26.4 -0.1
LOR *ep*P **pP** 05 39 08.5 -0.3
TAU **Tasmania Unive** 83.86 175 P P 05 38 28.9 +2.5
comp=Z,990nm,1.0s,SNR=7.2
FLN **La Foliniere** 84.00 335 ⇓*i*P P 05 38 27.1 -0.3
comp=Z,15nm,0.7s
FLN *e*R
comp=Z,165nm,22.0s
FLN **La Foliniere** 84.00 335 ⇓*i*P P 05 38 27.1 -0.3
FLN **La Foliniere** 84.00 335 ⇓*i*P P 05 38 27.1 -0.3
T29A **Hugoton** 84.02 45 ⇓P P 05 38 27.5 -0.4
baz=84
LDF **La Druitiere** 84.03 335 ⇓*i*P P 05 38 27.3 -0.2
comp=Z,13nm,0.7s
LDF **La Druitiere** 84.03 335 ⇓*i*P P 05 38 27.3 -0.2
LDF **La Druitiere** 84.03 335 ⇓*i*P P 05 38 27.3 -0.2
122A **Conniff Cattle** 84.06 51 ⇓P P 05 38 29.2 +1.0
baz=84,SNR=8.7
221A **Mesquite Ranch** 84.08 52 ⇑P P 05 38 28.7 +0.4
baz=84
Y24A **Capitan** 84.09 50 ⇓P P 05 38 28.6 +0.2
baz=84,SNR=40
U28A **Mallet** 84.09 46 ⇓P P 05 38 27.7 -0.6
baz=84,SNR=8.5
X25A **Clemmons Ranch** 84.10 49 ⇓P P 05 38 29.1 +0.8
baz=84,SNR=15
R31A **Burdett** 84.10 43 ⇓P P 05 38 27.1 -1.0
baz=84,SNR=8.3
S30A **Montezuma** 84.10 44 ⇑P P 05 38 27.8 -0.4
baz=84,SNR=5.7
Z23A **Rita Site, Whi** 84.10 50 ⇓P P 05 38 28.9 +0.5
baz=84,SNR=22
320A **Kipp Ranch, An** 84.11 53 ⇑P P 05 38 28.9 +0.5
baz=84,SNR=32
RSL **Roselend** 84.12 329 *e*P P 05 38 27.5 -0.8
SSF **Saint Saulge** 84.12 332 ⇓*i*P P 05 38 28.0 0.0
comp=Z,13nm,0.7s
SSF *ep*P **pP** 05 39 10.2 -0.1
SSF **Saint Saulge** 84.12 332 ⇓*i*P P 05 38 28.0 0.0
SSF *e**PP **pP** 05 39 10.2 -0.1
SSF **Saint Saulge** 84.12 332 ⇓*i*P P 05 38 28.0 0.0
SSF *ep*P **pP** 05 39 10.2 -0.1
W26A **Owens Ranch, T** 84.19 48 ⇓P P 05 38 29.5 +0.7
baz=84,SNR=11
V27A **Dan Oppiter Fa** 84.22 47 ⇑P P 05 38 28.9 0.0
baz=84,SNR=20
LPL **La Plagne** 84.22 329 *e*P P 05 38 29.2 +0.3
LPL **La Plagne** 84.22 329 *e*P P 05 38 29.2 +0.3
LPL **La Plagne** 84.22 329 *e*P P 05 38 29.2 +0.3
LPG **La Plagne** 84.23 329 *e*P P 05 38 29.3 +0.3
comp=Z,21nm,0.6s
LPG *ep*P **pP** 05 39 13.1 +1.8
LPG **La Plagne** 84.23 329 *e*P P 05 38 29.3 +0.3
LPG *e**PP **pP** 05 39 13.1 +1.8
LPG **La Plagne** 84.23 329 *e*P P 05 38 29.3 +0.3
LPG *ep*P **pP** 05 39 13.1 +1.8
SMF **Signal de Mont** 84.35 331 *e*P P 05 38 29.4 +0.2
SMF *ep*P **pP** 05 39 11.5 0.0
SMF **Signal de Mont** 84.35 331 *e*P P 05 38 29.4 +0.2
SMF *e**PP **pP** 05 39 11.5 0.0
SMF **Signal de Mont** 84.35 331 *e*P P 05 38 29.4 +0.2
SMF *ep*P **pP** 05 39 11.5 0.0
AVF **Avril sur Loir** 84.41 332 ⇓*i*P P 05 38 29.7 +0.2
comp=Z,38nm,0.6s
AVF *ep*P **pP** 05 39 11.8 0.0
AVF **Avril sur Loir** 84.41 332 ⇓*i*P P 05 38 29.7 +0.2
AVF *e**PP **pP** 05 39 11.8 0.0
AVF **Avril sur Loir** 84.41 332 ⇓*i*P P 05 38 29.7 +0.2
AVF *ep*P **pP** 05 39 11.8 0.0
222A **Williams Famil** 84.42 52 ⇓P P 05 38 30.3 +0.3
baz=84,SNR=17
GRR **Gorron** 84.45 335 *e*P P 05 38 29.7 +0.1
comp=Z,18nm,0.6s
GRR *ep*P **pP** 05 39 11.8 -0.1
GRR **Gorron** 84.45 335 *e*P P 05 38 29.7 +0.1
GRR *e**PP **pP** 05 39 11.8 -0.1
GRR **Gorron** 84.45 335 *e*P P 05 38 29.7 +0.1
GRR *ep*P **pP** 05 39 11.8 -0.1
T30A **Plains** 84.50 44 ⇑P P 05 38 29.8 -0.4
baz=84
Y25A **Mesa, Roswell** 84.52 49 ⇑P P 05 38 30.7 +0.3
baz=84,SNR=48
123A **Bell Site, Whi** 84.54 51 ⇑P P 05 38 31.2 +0.6
baz=84,SNR=14
U29A **Oasis Ranch, S** 84.56 45 ⇑P P 05 38 30.2 -0.4
baz=84
V28A **Channing** 84.56 46 ⇑P P 05 38 30.6 0.0
baz=84
Z24A **Sheeppen Canyo** 84.56 50 ⇓P P 05 38 31.3 +0.5
baz=84,SNR=27

X26A **CR and CF Fran** 84.56 48 ⇑P P 05 38 31.1 +0.5
baz=84,SNR=57
W27A **Bowe Ranch, En** 84.60 47 ⇑P P 05 38 31.3 +0.4
baz=84,SNR=30
S31A **Mullinville** 84.63 43 ⇑P P 05 38 30.1 -0.7
baz=84
BNI **Bardonecchia** 84.63 329 *e*P P 05 38 30.9 +0.1
BNI pmax pmax
comp=Z,28nm,1.3s
BNI **Bardonecchia** 84.63 329 *e*P P 05 38 30.9 +0.1
comp=Z,28nm,1.3s
U30A **WK&E Inc. Balk** 84.83 45 ⇑P P 05 38 31.4 -0.5
baz=85,SNR=11
V29A **Stinnett** 84.85 46 ⇓P P 05 38 31.7 -0.4
baz=85
MBDF **Montbardon** 84.86 329 ⇓*i*P P 05 38 31.5 -0.5
comp=Z,15nm,0.7s
MBDF **Montbardon** 84.86 329 ⇓*i*P P 05 38 31.5 -0.5
MBDF **Montbardon** 84.86 329 ⇓*i*P P 05 38 31.5 -0.5
JFWS **Jewell Farm** 84.87 35 *e*P P 05 38 31.0 -0.9
JFWS pmax pmax
comp=Z,52nm,1.1s
JFWS **Jewell Farm** 84.87 35 *e*P P 05 38 31.0 -0.9
comp=Z,52nm,1.1s
223A **Chaparral, Ant** 84.89 51 ⇓P P 05 38 32.6 +0.3
baz=85,SNR=6.0
X27A **F and S Farms,** 84.89 48 ⇑P P 05 38 32.9 +0.6
baz=85,SNR=9.8
T31A **Randall Ranch,** 84.92 44 ⇓P P 05 38 31.9 -0.4
baz=85,SNR=18
W28A **Vega** 84.93 47 ⇑P P 05 38 32.7 +0.2
baz=85
KSU1 **Kansas State U** 84.95 41 *e*P P 05 38 31.6 -0.8
comp=Z,40nm,0.8s
124A **Stringfield Ra** 84.96 50 ⇓P P 05 38 33.1 +0.3
baz=85,SNR=53
Z25A **Roswell** 84.97 50 ⇑P P 05 38 33.3 +0.6
baz=85,SNR=106
Y26A **Elida** 85.01 49 ⇓P P 05 38 33.3 +0.4
baz=85,SNR=14
ORIF **Oris-en-Rattie** 85.05 329 *e*P P 05 38 33.0 +0.1
comp=Z,14nm,0.6s
ORIF *e*R
comp=Z,110nm,19.5s
ORIF **Oris-en-Rattie** 85.05 329 *e*P P 05 38 33.0 +0.1
ORIF **Oris-en-Rattie** 85.05 329 *e*P P 05 38 33.0 +0.1
SGMF **Saint Gilles** 85.10 336 *e*P P 05 38 33.2 +0.3
comp=Z,28nm,1.0s
SGMF *ep*P **pP** 05 39 15.5 +0.2
SGMF **Saint Gilles** 85.10 336 *e*P P 05 38 33.2 +0.3
SGMF *e**PP **pP** 05 39 15.5 +0.2
SGMF **Saint Gilles** 85.10 336 *e*P P 05 38 33.2 +0.3
SGMF *ep*P **pP** 05 39 15.5 +0.2
AGO **Saint Agoulin** 85.12 331 *e*P P 05 38 33.5 +0.4
TCF **Toulx Ste Croi** 85.24 332 ⇓*i*P P 05 38 34.0 +0.3
comp=Z,24nm,0.9s
TCF **Toulx Ste Croi** 85.24 332 ⇓*i*P P 05 38 34.0 +0.3
TCF **Toulx Ste Croi** 85.24 332 ⇓*i*P P 05 38 34.0 +0.3
ROSF **Rostrenen** 85.24 336 *e*P P 05 38 34.1 +0.5
ROSF **Rostrenen** 85.24 336 *e*P P 05 38 34.1 +0.5
ROSF **Rostrenen** 85.24 336 *e*P P 05 38 34.1 +0.5
TOUF **Mont Tournerai** 85.27 328 *e*P P 05 38 33.7 -0.4
W29A **Amarillo** 85.34 46 ⇑P P 05 38 34.6 +0.1
baz=85
224A **Cornudas Mount** 85.37 51 ⇓P P 05 38 35.1 +0.4
baz=85,SNR=62
U31A **Nine Bar Ranch** 85.38 44 ⇓P P 05 38 34.8 +0.2
baz=85,SNR=5.4
V30A **Spur Ranch, Mi** 85.38 45 ⇑P P 05 38 34.6 -0.1
baz=85
Z26A **Caprock** 85.40 49 ⇑P P 05 38 35.2 +0.4
baz=85,SNR=107
Y27A **Causey** 85.41 48 ⇓P P 05 38 35.0 +0.1
baz=85,SNR=28
PYM **Petit Puy Mans** 85.42 331 *e*P P 05 38 35.2 +0.5
125A **Gardner Draw,** 85.45 50 ⇑P P 05 38 35.5 +0.4
baz=85,SNR=72
X28A **Dimmitt** 85.48 47 ⇓P P 05 38 35.1 -0.1
baz=85,SNR=14
AMTX **Amarillo** 85.50 47 *e*P P 05 38 35.5 +0.2
comp=Z,58nm,0.9s
VIVF **Saint-Julien-I** 85.56 330 ⇓*i*P P 05 38 35.5 +0.2
comp=Z,18nm,0.6s
VIVF *ep*P **pP** 05 39 18.1 +0.4
VIVF **Saint-Julien-I** 85.56 330 ⇓*i*P P 05 38 35.5 +0.2
VIVF *e**PP **pP** 05 39 18.1 +0.4
VIVF **Saint-Julien-I** 85.56 330 ⇓*i*P P 05 38 35.5 +0.2
VIVF *ep*P **pP** 05 39 18.1 +0.4
MSTX **Muleshoe** 85.57 48 *e*P P 05 38 35.5 -0.2
MSTX **Muleshoe** 85.57 48 ⇑P P 05 38 35.3 -0.4
baz=85,SNR=15
QUIF **Quistinic** 85.58 336 ⇓*i*P P 05 38 35.5 +0.2
comp=Z,17nm,0.7s
QUIF **Quistinic** 85.58 336 ⇓*i*P P 05 38 35.5 +0.2
QUIF **Quistinic** 85.58 336 ⇓*i*P P 05 38 35.5 +0.2
MNTX **Cornudas Mount** 85.73 51 *e*P P 05 38 36.6 +0.2
comp=Z,54nm,1.4s
225A **Deer Hill, Car** 85.76 50 ⇓P P 05 38 37.0 +0.3
baz=86,SNR=17
LBL **Lubilhac** 85.78 331 *e*P P 05 38 37.1 +0.7
MFF **Saint Martin d** 85.78 334 ⇓*i*P P 05 38 36.9 +0.6
comp=Z,38nm,0.7s
MFF **Saint Martin d** 85.78 334 ⇓*i*P P 05 38 36.9 +0.6
MFF **Saint Martin d** 85.78 334 ⇓*i*P P 05 38 36.9 +0.6
Z27A **Tatum** 85.80 49 ⇑P P 05 38 36.8 0.0
baz=86,SNR=85
X29A **Tulia** 85.81 47 ⇓P P 05 38 37.1 +0.2
baz=86,SNR=16
V31A **Spring Creek L** 85.83 45 ⇑P P 05 38 37.4 +0.6
baz=86,SNR=16
126A **Clayton Basin,** 85.83 50 ⇑P P 05 38 36.8 -0.2
baz=86,SNR=22
324A **Moseley Ranch,** 85.85 51 ⇑P P 05 38 36.9 -0.2
baz=86,SNR=20
W30A **Crocket Farms** 85.88 46 ⇑P P 05 38 37.4 +0.2
baz=86
FRF **La Foret Royal** 85.88 328 *e*P P 05 38 37.4 +0.5
FRF *ep*P **pP** 05 39 19.0 -0.3
FRF **La Foret Royal** 85.88 328 *e*P P 05 38 37.4 +0.5
FRF *e**PP **pP** 05 39 19.0 -0.3
FRF **La Foret Royal** 85.88 328 *e*P P 05 38 37.4 +0.5
FRF *ep*P **pP** 05 39 19.0 -0.3
Y28A **McKinney Farm,** 85.91 48 ⇑P P 05 38 37.0 -0.3
baz=86,SNR=19
URZ **Urewera** 85.91 152 *e*P P 05 38 35.3 -1.5
comp=Z,49nm,1.0s
SMRF **Simiane la Rot** 85.96 329 *e*P P 05 38 37.3 0.0
SMRF **Simiane la Rot** 85.96 329 *e*P P 05 38 37.3 0.0
226B **Tecolote Peak,** 86.16 50 ⇑P P 05 38 38.7 +0.1
baz=86,SNR=52
127A **Arkansas Junct** 86.19 49 ⇓P P 05 38 38.6 -0.1
baz=86
325A **Bean Ranch, Si** 86.20 51 ⇓P P 05 38 38.9 -0.1
baz=86,SNR=30
W31A **Holland Ranch,** 86.22 45 ⇓P P 05 38 38.9 +0.2
baz=86,SNR=20
Y29A **Porterfield Fa** 86.27 47 ⇓P P 05 38 39.0 -0.1
baz=86,SNR=9.8
X30A **Coker Ranch, T** 86.27 46 ⇑P P 05 38 38.6 -0.4
baz=86,SNR=9.5
Z28A **Tucker Farm, M** 86.29 48 ⇑P P 05 38 39.0 -0.2
baz=86,SNR=16
RJF **Les Rejaudoux** 86.34 332 ⇓*i*P P 05 38 39.6 +0.5
comp=Z,21nm,0.8s
RJF *ep*P **pP** 05 39 22.1 +0.5
RJF *e*R
comp=Z,116nm,19.2s
RJF **Les Rejaudoux** 86.34 332 ⇓*i*P P 05 38 39.6 +0.5
RJF *e**PP **pP** 05 39 22.1 +0.5
RJF **Les Rejaudoux** 86.34 332 ⇓*i*P P 05 38 39.6 +0.5
RJF *ep*P **pP** 05 39 22.1 +0.5
CAF **Calviac** 86.47 332 *e*P P 05 38 40.6 +0.8
comp=Z,52nm,1.1s
CAF *ep*P **pP** 05 39 23.2 +0.9
CAF **Calviac** 86.47 332 *e*P P 05 38 40.6 +0.8
CAF *e**PP **pP** 05 39 23.2 +0.9
CAF **Calviac** 86.47 332 *e*P P 05 38 40.6 +0.8
CAF *ep*P **pP** 05 39 23.2 +0.9
LASF **Ste Croix** 86.53 330 *e*P P 05 38 40.4 +0.3
comp=Z,33nm,1.3s
LASF *ep*P **pP** 05 39 23.2 +0.6
LASF **Ste Croix** 86.53 330 *e*P P 05 38 40.4 +0.3
LASF *ep*P **pP** 05 39 23.2 +0.6
X31A **McDonald Ranch** 86.62 46 ⇑P P 05 38 40.5 -0.2
baz=86,SNR=25

425A **Indio Mountain** 86.62 51 ⇓P P 05 38 41.2 +0.3
baz=86,SNR=28
Y30A **Stafford Cattl** 86.68 47 ⇑P P 05 38 40.9 -0.1
baz=86,SNR=6.6
Z29A **Hungry Hill Ra** 86.69 48 ⇑P P 05 38 41.3 +0.1
baz=86,SNR=64
227A **Bennet, Jal** 86.71 50 ⇑P P 05 38 41.2 0.0
baz=86,SNR=6.4
128A **Castleberry Fa** 86.73 49 ⇓P P 05 38 41.2 -0.2
baz=86,SNR=22
PMOR **Pomariorio Ree** 86.74 113 *e*P P 05 38 42.4 +1.1
comp=Z,92nm,1.1s
326A **Caldwell Ranch** 86.83 50 ⇓P P 05 38 41.9 0.0
baz=87,SNR=51
LFF **La Frestale** 86.93 332 ⇓*i*P P 05 38 42.7 +0.8
comp=Z,41nm,0.9s
LFF **La Frestale** 86.93 332 ⇓*i*P P 05 38 42.7 +0.8
LFF **La Frestale** 86.93 332 ⇓*i*P P 05 38 42.7 +0.8
Y31A **Rekieta Farm,** 86.97 46 ⇑P P 05 38 42.0 -0.4
baz=87,SNR=10
Z30A **Sanderson Ranc** 86.99 47 ⇑P P 05 38 42.2 -0.3
baz=87,SNR=16
228A **UT Block 9, Go** 87.04 49 ⇑P P 05 38 42.8 -0.1
baz=87,SNR=13
129A **Stewart Farms,** 87.07 48 ⇓P P 05 38 42.7 -0.3
baz=87,SNR=8.9
327A **Balmorhea Ranc** 87.07 50 ⇑P P 05 38 43.3 +0.4
baz=87
WMOK **Wichita Mounta** 87.18 45 *e*P P 05 38 43.6 +0.2
WMOK pmax pmax
comp=Z,36nm,1.1s
WMOK **Wichita Mounta** 87.18 45 *e*P P 05 38 43.6 +0.2
comp=Z,36nm,1.1s
426A **McDonald Obser** 87.27 51 ⇑P P 05 38 43.9 -0.2
baz=87,SNR=22
PPT **Papeete** 87.36 116 LR LR 06 11 54.5
comp=Z,123nm,19.9s,baz=176,slow=31
PPT2 **Papeete2** 87.38 116 *e*LR LR 06 06 49.0
comp=Z,178nm,25.2s
PPT2 **Papeete2** 87.38 116 *e*LR LR 05 37 48.9
comp=Z,82nm,24.0s
Y32A **R-V Farms, Ver** 87.38 46 ⇑P P 05 38 44.1 -0.3
baz=87,SNR=20
PAE **Paea** 87.42 116 *e*P P 05 38 45.5 +0.9
comp=Z,13nm,1.2s
328A **Wristen Ranch,** 87.45 50 ⇓P P 05 38 44.9 +0.1
baz=87,SNR=21
427A **Hayter Ranch,** 87.50 50 ⇑P P 05 38 45.1 0.0
baz=87,SNR=20
TIAR **Tiarei** 87.51 116 *e*P P 05 38 46.2 +1.2
comp=Z,117nm,0.9s
Z31A **Sharp Cattle R** 87.51 47 ⇓P P 05 38 44.5 -0.5
baz=87,SNR=18
229A **Bryant Ranch,** 87.59 49 ⇑P P 05 38 45.5 +0.1
baz=87,SNR=18
130A **Snyder** 87.60 48 ⇑P P 05 38 45.0 -0.4
baz=87,SNR=5.7
526A **Mary Lane Ranc** 87.68 51 ⇑P P 05 38 46.3 +0.3
baz=88,SNR=43
MTLF **Montolieu** 87.78 331 *e*P P 05 38 46.4 +0.4
comp=Z,22nm,1.2s
MTLF *ep*P **pP** 05 39 29.3 +0.6
MTLF **Montolieu** 87.78 331 *e*P P 05 38 46.4 +0.4
MTLF *e**PP **pP** 05 39 29.3 +0.6
MTLF **Montolieu** 87.78 331 *e*P P 05 38 46.4 +0.4
MTLF *ep*P **pP** 05 39 29.3 +0.6
TUL1 **Tulsa** 87.83 42 *e*P P 05 38 46.5 0.0
TUL1 **Tulsa** 87.83 42 ⇓P P 05 38 46.5 0.0
baz=88,SNR=14
329A **Wagon Wheel Ra** 87.85 49 ⇓P P 05 38 46.8 +0.1
baz=88
131A **Roby** 87.86 47 ⇑P P 05 38 46.7 0.0
baz=88,SNR=9.2
Z32A **Haskell** 87.89 46 ⇓P P 05 38 46.4 -0.4
baz=88,SNR=32
527A **Woodward Ranch** 87.90 51 ⇑P P 05 38 47.0 0.0
baz=88,SNR=10
428A **Kincaid Ranch,** 88.01 50 ⇑P P 05 38 48.0 +0.5
baz=88,SNR=38
626A **Big Bend Ranch** 88.02 52 ⇑P P 05 38 47.4 -0.2
baz=88,SNR=33
230A **Sterling City** 88.05 48 ⇑P P 05 38 47.5 -0.1
baz=88,SNR=19
LPIG **La Paz** 88.06 59 LR LR 06 14 55.7
comp=Z,55nm,20.2s,baz=250,slow=33
SFIN **Scholer Farm** 88.30 34 *e*P P 05 38 48.3 -0.3
SFIN **Scholer Farm** 88.30 34 ⇓P P 05 38 48.4 -0.1
baz=88,SNR=19
ABTX **Abilene, Hawle** 88.31 47 *e*P P 05 38 49.0 +0.1
ABTX **Abilene, Hawle** 88.31 47 ⇓P P 05 38 48.8 0.0
baz=88,SNR=10
SLM **Saint Louis** 88.35 37 *e*P P 05 38 48.6 -0.2
SLM pmax pmax
comp=Z,128nm,1.2s
SLM **Saint Louis** 88.35 37 *e*P P 05 38 48.6 -0.2
comp=Z,128nm,1.2s
528A **Cox Ranch, San** 88.37 50 ⇓P P 05 38 49.4 +0.2
baz=88,SNR=60
330A **Mertzon** 88.37 49 ⇓P P 05 38 48.8 -0.3
baz=88,SNR=18
231A **Bronte** 88.46 48 ⇑P P 05 38 49.1 -0.4
baz=88,SNR=15
TXAR **Lajitas Array** 88.46 52 P P 05 38 49.6 -0.1
TXAR pP **pP** 05 39 33.0 +0.7
TXAR PKKPbc **PKKPbc** 05 56 30.0 +0.9
TXAR **Lajitas Array** 88.46 52 P P 05 38 49.6 -0.1
comp=Z,21nm,0.9s,baz=287,slow=3.3,SNR=173
TXAR pP **pP** 05 39 33.0 +0.7
comp=Z,5.0nm,0.8s,baz=303,slow=3.5,SNR=3.0
TXAR PKKPbc **PKKPbc** 05 56 30.0 +0.9
comp=Z,0.4nm,0.7s,baz=151,slow=5.8,SNR=5.2
627A **Terlingua Ranc** 88.53 51 ⇑P P 05 38 50.0 0.0
baz=88,SNR=34
429A **Davenport Ranc** 88.54 50 ⇓P P 05 38 49.4 -0.5
baz=88,SNR=14
529A **Stev Forest Ra** 88.72 50 ⇓P P 05 38 50.8 0.0
baz=88,SNR=52
EPF **Esparros** 88.73 332 *ep*P pP 05 39 33.3 0.0
EPF **Esparros** 88.73 332 *ep*P pP 05 39 33.3 0.0
430A **Baggett Ranch,** 88.80 49 ⇓P P 05 38 50.8 -0.3
baz=89,SNR=26
232A **Coleman** 88.87 47 ⇑P P 05 38 51.2 -0.2
baz=89,SNR=25
331A **San Angelo** 88.87 48 ⇓P P 05 38 50.9 -0.5
baz=89,SNR=22
ETSF **Etsaut** 89.17 332 *e*P P 05 38 53.4 +0.7
comp=Z,8.2nm,0.7s
ETSF **Etsaut** 89.17 332 *e*P P 05 38 53.4 +0.7
ETSF **Etsaut** 89.17 332 *e*P P 05 38 53.4 +0.7
332A **Millersview** 89.19 48 ⇓P P 05 38 53.0 0.0
baz=89,SNR=74
530A **J-C Ranch, Com** 89.22 50 ⇓P P 05 38 53.2 +0.1
baz=89,SNR=33
431A **Sonora** 89.23 49 ⇓P P 05 38 52.8 -0.4
baz=89,SNR=19
BLO **Bloomington** 89.55 34 *e*P P 05 38 54.5 +0.1
BLO pmax pmax
comp=Z,61nm,1.4s
BLO **Bloomington** 89.55 34 *e*P P 05 38 54.5 +0.1
comp=Z,61nm,1.4s
432A **Menard** 89.55 48 ⇑P P 05 38 54.3 -0.3
baz=89,SNR=36
SIUC **Southern Illin** 89.56 37 *e*P P 05 38 54.7 +0.2
comp=Z,105nm,0.9s
531A **Rocksprings** 89.66 49 ⇓P P 05 38 55.0 -0.1
baz=89,SNR=28
JCT **Junction City** 89.84 48 *e*P P 05 38 55.9 -0.1
JCT pmax pmax
comp=Z,49nm,0.9s
JCT **Junction City** 89.84 48 *e*P P 05 38 55.9 -0.1
comp=Z,49nm,0.9s
JCT **Junction City** 89.84 48 ⇑P P 05 38 55.8 -0.2
baz=90,SNR=21
ALLY **Alegheny Colle** 89.96 29 *e*P P 05 38 56.9 +0.6
comp=Z,228nm,1.1s
WHTX **Lake Whitney** 89.99 46 *e*P P 05 38 56.7 +0.1
WHTX **Lake Whitney** 89.99 46 ⇑P P 05 38 56.5 -0.1
baz=90,SNR=16
MIAR **Mount Ida** 90.03 42 *e*P P 05 38 56.9 +0.1
MIAR pmax pmax
comp=Z,42nm,0.6s
MIAR **Mount Ida** 90.03 42 *e*P P 05 38 56.9 +0.1
comp=Z,42nm,0.6s
532A **Rocksprings** 90.05 49 ⇑P P 05 38 56.7 -0.3
baz=90,SNR=55
631A **Perdido Creek** 90.20 50 ⇑P P 05 38 57.6 -0.1
baz=90,SNR=61

WCI	**Wyandotte Cave**	**90.43**	**35**	*e*P	**P**	**05 38 58.4**	**-0.2**
WCI				pmax	pmax		
	comp=Z,69nm,1.4s						
WCI	**Wyandotte Cave**	**90.43**	**35**	*e*P	**P**	**05 38 58.4**	**-0.2**
	comp=Z,70nm,1.4s						
UALR	**University of**	**90.46**	**41**	*e*P	**P**	**05 38 58.8**	**0.0**
	comp=Z,47nm,1.6s						
632A	**Uvalde**	**90.58**	**49**	⇑P	**P**	**05 38 59.4**	**-0.1**
	baz=90,SNR=28						
ACCN	**Adirondack Com**	**90.59**	**24**	*e*P	**P**	**05 38 59.6**	**+0.4**
	comp=Z,41nm,1.1s						
GLAT	**Glass**	**90.71**	**38**	*e*P	**P**	**05 39 00.2**	**+0.3**
BINY	**Binghamton**	**90.92**	**26**	*e*P	**P**	**05 39 01.0**	**+0.2**
	comp=Z,45nm,1.2s						
732A	**Laxson Ranch,**	**91.06**	**50**	⇑P	**P**	**05 39 01.9**	**+0.2**
	baz=91,SNR=26						
KEST	**Kesra**	**91.18**	**322**	PP	PP	05 42 40.5	-0.1
KEST	**Kesra**	**91.18**	**322**	PP	PP	05 42 40.5	-0.1
	comp=Z,2.3nm,1.1s,baz=164,slow=4.0,SNR=4.5						
KEST				LR	LR	06 20 39.5	
	comp=Z,36nm,21.7s,baz=351,slow=36						
WVT	**Waverly**	**91.50**	**37**	*e*P	**P**	**05 39 03.2**	**-0.3**
WVT				pmax	pmax		
	comp=Z,26nm,1.1s						
WVT	**Waverly**	**91.50**	**37**	*e*P	**P**	**05 39 03.2**	**-0.3**
	comp=Z,26nm,1.1s						
SSPA	**Standing Stone**	**91.66**	**28**	*e*P	**P**	**05 39 04.5**	**+0.3**
	comp=Z,51nm,1.1s						
MCWV	**Mont Chateau**	**91.81**	**30**	*e*P	**P**	**05 39 05.3**	**+0.4**
	comp=Z,49nm,1.4s						
OXF	**Oxford**	**92.09**	**39**	*e*P	**P**	**05 39 06.0**	**-0.3**
OXF				pmax	pmax		
	comp=Z,99nm,1.2s						
OXF	**Oxford**	**92.09**	**39**	*e*P	**P**	**05 39 06.0**	**-0.3**
	comp=Z,99nm,1.2s						
PBRG	**Braganca**	**92.19**	**336**	*e*P	**P**	**05 39 07.0**	**+0.3**
	comp=Z,39nm,1.2s						
PBRG				*e*pP	**pP**	**05 39 49.4**	**-0.1**
WES	**Weston**	**92.21**	**23**	*e*P	**P**	**05 39 07.3**	**+0.6**
WES				pmax	pmax		
	comp=Z,41nm,0.9s						
WES	**Weston**	**92.21**	**23**	*e*P	**P**	**05 39 07.3**	**+0.6**
	comp=Z,41nm,0.9s						
PGAV	**Gavieira, Arco**	**92.51**	**337**	*e*P	**P**	**05 39 08.4**	**+0.2**
	comp=Z,65nm,1.4s						
PGAV				*e*pP	**pP**	**05 39 51.2**	**+0.2**
MVO	**Moncorvo**	**92.86**	**336**	*e*pP	pP	05 39 52.8	+0.1
TZTN	**Tazewell**	**93.02**	**34**	*e*P	**P**	**05 39 10.8**	**+0.3**
	comp=Z,38nm,1.3s						
TZTN				*e*pP	**pP**	**05 39 54.2**	**+0.8**
ESDC	**Sonseca Array**	**93.21**	**333**	P	**P**	**05 39 09.8**	**-1.7**
ESDC				pP	**pP**	**05 39 54.4**	**+0.1**
ESDC				PP	**PP**	**05 42 56.7**	**+0.5**
ESDC				PKKPbc	**PKKPbc**	**05 56 17.8**	**+0.2**
ESDC	**Sonseca Array**	**93.21**	**333**	P	**P**	**05 39 09.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=25,slow=4.7,SNR=8.7						
ESDC				pP	**pP**	**05 39 54.4**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=21,slow=3.9,SNR=3.6						
ESDC				PP	**PP**	**05 42 56.7**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=28,slow=7.3,SNR=4.0						
ESDC				PKKPbc	**PKKPbc**	**05 56 17.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=158,slow=1.6,SNR=4.9						
PVIS	**Viseu**	**93.54**	**336**	*e*pP	pP	05 39 55.9	+0.1
TKL	**Tuckaleechee C**	**93.68**	**34**	*e*P	**P**	**05 39 13.6**	**0.0**
BLA	**Blacksburg**	**93.72**	**31**	*e*P	**P**	**05 39 13.9**	**+0.1**
BLA				pmax	pmax		
	comp=Z,24nm,1.0s						
BLA	**Blacksburg**	**93.72**	**31**	*e*P	**P**	**05 39 13.9**	**+0.1**
	comp=Z,24nm,1.0s						
MTE	**Manteigas**	**93.72**	**336**	*e*pP	pP	05 39 57.0	+0.4
LRAL	**Lakeview Retre**	**94.44**	**38**	*e*P	**P**	**05 39 16.6**	**-0.6**
	comp=Z,12nm,1.0s						
PMRV	**Marv??o**	**94.56**	**335**	*e*pP	pP	05 40 00.2	-0.2
PESTR	**Estremoz**	**95.14**	**335**	*e*pP	pP	05 40 02.9	-0.2
KMSC	**Kings Mountain**	**95.14**	**33**	⇓P	**P**	**05 39 19.9**	**-0.4**
	baz=95						
PBAR	**Barrancos**	**95.59**	**335**	*e*pP	pP	05 40 05.1	0.0
PBEJ	**Beja**	**95.99**	**335**	*e*pP	pP	05 40 06.3	-0.7
TIGA	**Tifton**	**97.34**	**37**	⇑P	Pdif	05 39 30.4	+0.1
	baz=97						
KMBO	**Kilima Mbogo**	**100.39**	**278**	PP	PP	05 43 53.7	+0.7
KMBO	**Kilima Mbogo**	**100.39**	**278**	PP	PP	05 43 53.7	+0.7
	comp=Z,7.2nm,1.0s,baz=37,slow=12,SNR=9.6						
RKT	**Rikitea**	**101.21**	**111**	*e*LR	LR	06 13 06.3	
	comp=Z,220nm,36.8s						
TORD	**Torodi Ar. Bea**	**113.73**	**315**	PKiKP	**PKiKP**	**05 44 33.5**	**-1.5**
TORD				PP	**PP**	**05 45 27.8**	**-1.6**
TORD				PKKPbc	**PKKPbc**	**05 55 16.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**113.73**	**315**	PKiKP	**PKiKP**	**05 44 33.5**	**-1.5**
	comp=Z,4.5nm,1.1s,baz=16,slow=1.8,SNR=10						
TORD				PP	**PP**	**05 45 27.8**	**-1.6**
	comp=Z,5.8nm,1.1s,baz=53,slow=3.8,SNR=8.0						
TORD				PKKPbc	**PKKPbc**	**05 55 16.1**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=229,slow=2.2,SNR=13						
VNDA	**Vanda**	**119.09**	**175**	PKP	**PKPdf**	**05 44 42.6**	**-0.8**
VNDA				PKKPbc	**PKKPbc**	**05 54 59.2**	**+0.1**
VNDA	**Vanda**	**119.09**	**175**	PKP	**PKPdf**	**05 44 42.6**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=314,slow=4.2,SNR=18						
VNDA				PKKPbc	**PKKPbc**	**05 54 59.2**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=168,slow=4.9,SNR=4.9						
DBIC	**Dimbokro**	**122.62**	**317**	PKP	**PKPdf**	**05 44 51.3**	**-0.9**
DBIC	**Dimbokro**	**122.62**	**317**	PKP	**PKPdf**	**05 44 51.3**	**-0.9**
	comp=Z,7.1nm,0.6s,baz=33,slow=3.1,SNR=8.7						
MAW	**Mawson**	**122.71**	**206**	PKP	**PKPdf**	**05 44 50.5**	**-0.1**
MAW				PKKPbc	**PKKPbc**	**05 54 44.9**	**-0.5**
MAW	**Mawson**	**122.71**	**206**	PKP	**PKPdf**	**05 44 50.5**	**-0.1**
	comp=Z,9.6nm,0.7s,baz=45,slow=1.9,SNR=10						
MAW				PKKPbc	**PKKPbc**	**05 54 44.9**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=267,slow=12,SNR=5.7						
TIC	**Toumodi**	**122.72**	**317**	*e*P	**PKPdf**	**05 44 50.5**	**-1.9**
	comp=Z,22nm,0.7s						
KIC	**Kosan Boka**	**122.82**	**317**	*e*P	**PKPdf**	**05 44 51.9**	**-0.7**
	comp=Z,14nm,0.6s						
LIC	**Lamto**	**123.08**	**317**	⇑*i*PKIKP	**PKPdf**	**05 44 52.4**	**-0.7**
	comp=Z,20nm,0.8s						
LIC	**Lamto**	**123.08**	**317**	*e*P	**PKPdf**	**05 44 52.3**	**-0.8**
	comp=Z,30nm,0.8s						
LIC	**Lamto**	**123.08**	**317**	⇑*i*PKPdf	**PKPdf**	**05 44 52.4**	**-0.7**
ROSC	**El Rosal**	**124.51**	**43**	PKP	**PKPdf**	**05 44 55.9**	**-0.4**
ROSC	**El Rosal**	**124.51**	**43**	PKP	**PKPdf**	**05 44 55.9**	**-0.4**
	comp=Z,15nm,1.1s,baz=93,slow=10,SNR=8.6						
SYO	**Syowa Base**	**131.31**	**208**	⇑*e*X	**PKPdf**	**05 45 02.8**	**-4.2**
ATAH	**Atahualpa**	**131.93**	**56**	PKP	**PKPdf**	**05 45 11.4**	**+1.0**
ATAH	**Atahualpa**	**131.93**	**56**	PKP	**PKPdf**	**05 45 11.4**	**+1.0**
	comp=Z,38nm,1.0s,baz=153,slow=2.3						
MAIT	**Maitri**	**140.62**	**204**	*e*P	PKPdf	05 45 14.9	-9.3
SNAA	**Sanae**	**144.27**	**199**	*e*P	**PKPab**	**05 45 29.2**	**-0.1**
SNAA	**Sanae**	**144.27**	**199**	*e*I	pPKPdf	05 46 13.9	-1.8
SNAA	**Sanae**	**144.27**	**199**	*e*PP	PP	05 48 46.7	-1.5
LPAZ	**La Paz**	**145.32**	**53**	PKPbc	**PKPdf**	**05 45 34.6**	**-0.4**
LPAZ	**La Paz**	**145.32**	**53**	PKPbc	**PKPdf**	**05 45 34.6**	**-0.4**
	comp=Z,61nm,1.1s,baz=329,slow=3.6,SNR=105						
VNA2	**Neumayer--Watz**	**145.87**	**198**	*e*P	**PKPdf**	**05 45 33.2**	**-0.3**
VNA2	**Neumayer--Watz**	**145.87**	**198**	*e*I	pPKPdf	05 46 19.0	+0.6
VNA2	**Neumayer--Watz**	**145.87**	**198**	*e*PP	PP	05 48 56.7	-0.9
VNA1	**Neumayer--Stat**	**146.26**	**198**	*e*P	**PKPbc**	**05 45 35.8**	**+0.2**
VNA1	**Neumayer--Stat**	**146.26**	**198**	*e*I	pPKPdf	05 46 21.0	+2.0
SIV	**San Ignacio**	**149.03**	**42**	PKP	**PKPdf**	**05 45 41.2**	**+0.8**
SIV				PKPbc	**PKPbc**	**05 45 44.9**	**+0.3**
SIV	**San Ignacio**	**149.03**	**42**	PKP	**PKPdf**	**05 45 41.2**	**+0.8**
	comp=Z,50nm,0.9s,baz=307,slow=2.8,SNR=32						
SIV				PKPbc	**PKPbc**	**05 45 44.9**	**+0.3**
	comp=Z,50nm,0.9s,baz=305,slow=3.3,SNR=21						
BDFB	**Brasilia**	**153.70**	**18**	PKP	**PKPdf**	**05 45 48.1**	**+0.5**
BDFB				PKPbc	**PKPbc**	**05 45 55.5**	**0.0**
BDFB	**Brasilia**	**153.70**	**18**	PKP	**PKPdf**	**05 45 48.1**	**+0.5**
	comp=Z,9.7nm,1.0s,baz=223,slow=1.5,SNR=7.8						
BDFB				PKPbc	**PKPbc**	**05 45 55.5**	**0.0**
	comp=Z,9.6nm,0.8s,baz=304,slow=3.6,SNR=8.9						
CFAA	**Coronel Fontan**	**155.41**	**76**	PKP	**PKPdf**	**05 45 49.1**	**-0.4**
CFAA				PKPab	**PKPab**	**05 46 16.1**	**+0.2**
CFAA	**Coronel Fontan**	**155.41**	**76**	PKP	**PKPdf**	**05 45 49.1**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=242,slow=1.7,SNR=7.9						
CFAA				PKPab	**PKPab**	**05 46 16.1**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=305,slow=3.4,SNR=14						
USHA	**Ushuaia**	**156.68**	**136**	PKPab	**PKPab**	**05 46 20.9**	**+0.4**
USHA	**Ushuaia**	**156.68**	**136**	PKPab	**PKPab**	**05 46 20.9**	**+0.4**
	comp=Z,14nm,0.9s,baz=270,slow=2.0,SNR=7.1						
PLCA	**Paso Flores**	**156.91**	**99**	PKPab	**PKPab**	**05 46 22.5**	**+0.3**
PLCA	**Paso Flores**	**156.91**	**99**	PKPab	**PKPab**	**05 46 22.5**	**+0.3**
	comp=Z,19nm,0.9s,baz=295,slow=3.9,SNR=16						
CPUP	**Villa Florida**	**159.42**	**50**	PKP	**PKPdf**	**05 45 53.7**	**-0.9**
CPUP				PKPab	**PKPab**	**05 46 31.8**	**-1.4**
CPUP	**Villa Florida**	**159.42**	**50**	PKP	**PKPdf**	**05 45 53.7**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=4.7,slow=6.0,SNR=5.1						
CPUP				PKPab	**PKPab**	**05 46 31.8**	**-1.4**
	comp=Z,14nm,1.1s,baz=301,slow=5.9,SNR=11						

IDC 24 05:34:41.0±0.9, 1°.73S×99°.42E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/25, mbtmp4.0/12, ML3.2/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/40, Error ellipse: s-maj=37.8km s-min=18.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.53**	**354**	Pn	Pn	05 35 50.8	-0.3
	1.2nm,0.3s,baz=157,slow=15,SNR=2.3						
PSI				LR	LR	05 37 53.9	
	comp=Z,272nm,18.1s,baz=159,slow=44						
CMAR	**Chiang Mai Arr**	**20.07**	**359**	P	P	05 39 15.4	-0.7
	15nm,1.2s,baz=189,slow=9.7,SNR=7.7						
WRA	**Warramunga Arr**	**38.63**	**120**	P	P	05 42 05.9	-0.5
	1.8nm,0.8s,baz=302,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**39.88**	**126**	P	P	05 42 16.9	0.0
	1.0nm,0.6s,baz=303,slow=7.5,SNR=6.1						
SONM	**Songino Array**	**49.74**	**6**	P	P	05 43 35.1	-0.2
	0.5nm,0.4s,baz=190,slow=9.8,SNR=6.7						
MKAR	**Makanchi Array**	**50.62**	**345**	P	P	05 43 41.7	-0.1
	1.0nm,0.4s,baz=156,slow=7.8,SNR=15						
USRK	**Ussuriysk Arra**	**54.20**	**29**	P	P	05 44 08.2	-0.2
	1.0nm,0.5s,baz=236,slow=7.8,SNR=2.2						
ZALV	**Zalesovo Beam**	**56.80**	**350**	P	P	05 44 26.8	-0.2
	2.8nm,0.4s,baz=158,slow=6.3,SNR=9.0						
EIL	**Elat**	**68.89**	**303**	LR	LR	06 14 29.8	
	comp=Z,86nm,19.4s,baz=277,slow=35						
BRTR	**Keskin Array B**	**72.72**	**313**	P	P	05 46 10.5	-0.9
	0.4nm,0.4s,baz=132,slow=5.6,SNR=2.4						
FINES	**FINESS Array B**	**83.61**	**332**	P	P	05 47 11.0	-0.1
	1.4nm,0.6s,baz=104,slow=6.1,SNR=9.4						
ARCES	**ARCESS Array B**	**86.03**	**340**	P	P	05 47 24.3	+1.1
	1.7nm,0.9s,baz=89,slow=4.8,SNR=4.9						
GERES	**GERESS Array B**	**88.47**	**319**	P	P	05 47 35.9	+0.3
	0.3nm,0.2s,baz=94,slow=8.0,SNR=3.5						
CPUP	**Villa Florida**	**144.19**	**217**	PKP	PKPdf	05 54 19.0	-0.7
	2.1nm,0.7s,baz=165,slow=3.4,SNR=5.2						
CFAA	**Coronel Fontan**	**144.84**	**198**	PKP	PKPdf	05 54 21.3	+0.5
	0.4nm,0.5s,baz=215,slow=3.4						
TXAR	**Lajitas Array**	**144.84**	**36**	PKP	PKPdf	05 54 20.5	-0.5
	0.6nm,0.4s,baz=213,slow=0.5,SNR=41						

*CSEM **24** 05:35:02.5, 38°.14N×15°.20E, h6km, MD2.4/13, After ROM*
ROM 24 05:35:02.5±0.2, 38°.14N×15°.20E, h6km±1km, Md2.4/13, Ml2.1/9, Error ellipse: s-maj=1.9km s-min=0.9km az=180.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSRU	**Castanea**	**0.28**	**62**	Pg	Pb	05 35 09.0	-0.9
MSRU				Sg	Sb	05 35 13.6	-1.2
	401nm,0.2s						
MSRU	**Castanea**	**0.28**	**62**	Pg	Pb	05 35 09.0	-0.9
MSRU				Sg	Sb	05 35 13.6	-1.2
	401nm,0.2s						
VPL	**Vulcano Piano**	**0.30**	**325**	Pg	Pg	05 35 09.0	+0.6
VPL				Sg	Sb	05 35 14.2	-1.3
VPL	**Vulcano Piano**	**0.30**	**325**	Pg	Pg	05 35 09.0	+0.6
VPL				Sg	Sb	05 35 14.2	-1.3
LLI	**Lipari**	**0.37**	**327**	Pg	Pb	05 35 11.0	-0.4
LLI				Sg	Sb	05 35 17.8	+0.3
	437nm,0.6s						
LLI	**Lipari**	**0.37**	**327**	Pg	Pb	05 35 11.0	-0.4
LLI				Sg	Sb	05 35 17.8	+0.3
	437nm,0.6s						
MTTG	**Motta San Giov**	**0.41**	**109**	Pg	Pb	05 35 11.5	-0.7
MTTG				Sg	Sb	05 35 18.7	-0.1
	105nm,0.6s						
MTTG	**Motta San Giov**	**0.41**	**109**	Pg	Pb	05 35 11.5	-0.7
MTTG				Sg	Sb	05 35 18.7	-0.1
	105nm,0.6s						
MNO	**Monte Soro**	**0.45**	**243**	Pg	Pg	05 35 11.8	+0.3
MNO				Sg	Sb	05 35 19.3	-0.9
	155nm,0.7s						
MNO	**Monte Soro**	**0.45**	**243**	Pg	Pg	05 35 11.8	+0.3
MNO				Sg	Sb	05 35 19.3	-0.9
	155nm,0.7s						
MSCL	**Scilla**	**0.47**	**78**	Pg	Pb	05 35 12.7	-0.7
MSCL				Sg	Sb	05 35 20.1	-0.6
	96nm,0.4s						
MSCL	**Scilla**	**0.47**	**78**	Pg	Pb	05 35 12.7	-0.7
MSCL				Sg	Sb	05 35 20.1	-0.6
	96nm,0.4s						
CEL	**Celeste**	**0.56**	**77**	Pg	Pg	05 35 13.8	+0.4
CEL				Sg	Sb	05 35 22.0	-1.1
	72nm,0.5s						
CEL	**Celeste**	**0.56**	**77**	Pg	Pg	05 35 13.8	+0.4
CEL				Sg	Sb	05 35 22.0	-1.1
	72nm,0.5s						
GALF	**Gagliano Caste**	**0.66**	**230**	Pg	Pb	05 35 16.5	+0.1
GALF	**Gagliano Caste**	**0.66**	**230**	Pg	Pb	05 35 16.5	+0.1
MPAZ	**Palizzi**	**0.66**	**106**	Pg	Pg	05 35 15.8	+0.5
MPAZ				Sg	Sb	05 35 25.8	-0.2
	53nm,0.5s						
MPAZ	**Palizzi**	**0.66**	**106**	Pg	Pg	05 35 15.8	+0.5
MPAZ				Sg	Sb	05 35 25.8	-0.2
	53nm,0.5s						
SOI	**Samo**	**0.68**	**95**	Pg	Pg	05 35 15.8	+0.2
SOI				Sg	Sb	05 35 26.6	+0.2
	20nm,0.3s						
SOI	**Samo**	**0.68**	**95**	Pg	Pg	05 35 15.8	+0.2
SOI				Sg	Sb	05 35 26.6	+0.2
	20nm,0.3s						
JOPP	**Joppolo**	**0.72**	**49**	Pg	Pb	05 35 17.0	-0.4
JOPP				Sg	Sb	05 35 26.7	-0.8
	53nm,0.5s						
JOPP	**Joppolo**	**0.72**	**49**	Pg	Pb	05 35 17.0	-0.4
JOPP				Sg	Sb	05 35 26.7	-0.8
	53nm,0.5s						
IACL	**Alicudi**	**0.77**	**301**	Pg	Pg	05 35 17.2	-0.2
	125nm,0.4s						
IACL	**Alicudi**	**0.77**	**301**	Pg	Pg	05 35 17.2	-0.2
	125nm,0.4s						
PLLN	**Pollina**	**0.85**	**261**	Pg	Pg	05 35 18.9	0.0
PLLN				Sg	Sb	05 35 31.1	-0.2
	9.0nm,0.1s						
PLLN	**Pollina**	**0.85**	**261**	Pg	Pg	05 35 18.9	0.0
PLLN				Sg	Sb	05 35 31.1	-0.2
	9.0nm,0.1s						

*NIED **24** 05:53:00, 24°.90N×127°.80E, h5km, Mw4.4 Best double couple: M0=4.81000×10^15 NP1:φs=22.00000°, δ=67.00000°, λ=-111.00000°. NP2:φs=246.00000°, δ=31.00000°, λ=-50.00000°.*
*BKK **24** 05:53:35.2±0.7, 25°.N±8°.×13°.0E±1°.0, h10km, M5.5/10, mB7.7/3, mb5.4/10, MLv5.2/1, Mw(mB)7.9/3*
*JMA **24** 05:53:36.2±0.3, 24°.85N×127°.76E, h52km, M4.5*
*BJI **24** 05:53:36.7, 24°.73N×127°.72E, h34km, mB4.7/35, mb4.6/45, Ms4.3/42, Ms7 4.1/41*
*MOS **24** 05:53:36.8±1.0, 24°.83N×127°.76E, h33km, mb5.1/31, MS4.3/5, Error ellipse: s-maj=12.5km s-min=6.1km az=119.3*
*ISCJB **24** 05:53:38.2±0.3, 24°.85N±0°.03×127°.61E±0°.03, h42km, mb4.8/68, MS4.1/28, Error ellipse: s-maj=4.2km s-min=3.0km az=144.1*
*IDC **24** 05:53:39.9±0.6, 24°.82N×127°.73E, h44km±6km, mb4.2/24, mb1 4.3/28, mb1mx4.3/35, mbtmp4.2/28, ML3.7/4, MS3.8/16, Ms1 3.8/16, ms1mx3.6/39, Error ellipse: s-maj=18.4km s-min=9.8km az=75.0*
*NEIC **24** 05:53:40.0±0.4, 24°.79N×127°.60E, mb4.9/14, MW4.4(NIED), Error ellipse: s-maj=9.0km s-min=7.7km az=138.0*

ISC 24 05:53:39.5±0.4, 24°.83N±0°.04×127°.67E±0°.04, h40km±2km, h40km:pP-P, n184, σ1°.98/255, mb4.8/65, MS4.2/31, 10C-4D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.31**	**3**	P	Pn	05 53 58.3	-2.9
JJT2				*e*S	**Sn**	**05 54 14.6**	**-2.9**
JKE	**Kume jima 2**	**1.69**	**332**	P	**Pn**	**05 54 04.5**	**-2.0**
JKE				*e*S	**Sn**	**05 54 24.8**	**-2.2**
JAGN	**Aguni-jima**	**1.80**	**348**	P	**Pn**	**05 54 06.0**	**-1.9**
JAGN				S	**Sn**	**05 54 26.9**	**-2.6**
JOGS	**Gusukube**	**2.06**	**269**	P	**Pn**	**05 54 10.5**	**-1.0**
JOGS				S	**Sn**	**05 54 35.5**	**-0.4**
JOW	**Kunigami**	**2.07**	**15**	*e*Pn	Pn	05 54 08.6	-3.2
JOW				*e*Sn	**Sn**	**05 54 34.1**	**-2.2**
JOW	**Kunigami**	**2.07**	**15**	P	Pn	05 54 08.2	-3.5
JOW				S	Sn	05 54 31.5	-4.8
JMJ	**Miyako jima 2**	**2.16**	**270**	P	**Pn**	**05 54 11.9**	**-1.0**
JMJ				S	**Sn**	**05 54 37.3**	**-1.1**
JIH	**Iheya**	**2.21**	**7**	P	Pn	05 54 11.4	-2.3
JIH				*e*S	**Sn**	**05 54 35.8**	**-4.1**
JTJ	**Tarama**	**2.70**	**267**	P	**Pn**	**05 54 18.9**	**-1.5**
JTJ				S	**Sn**	**05 54 49.6**	**-2.3**
JTK	**Tokunoshima**	**3.16**	**21**	P	Pn	05 54 23.3	-3.5
JTK				S	Sn	05 54 57.3	-6.0
JIJ	**Ishigaki jima**	**3.24**	**263**	P	**Pn**	**05 54 26.2**	**-1.6**
JIJ				S	**Sn**	**05 55 00.9**	**-4.3**
JMZ	**Minamidaito 2**	**3.36**	**72**	P	Pn	05 54 23.4	-6.1
JMZ				*e*S	Sn	05 54 58.8	-9.4
JKRS	**Kuro-shima**	**3.38**	**261**	P	**Pn**	**05 54 28.3**	**-1.5**
JKRS				*e*S	**Sn**	**05 55 06.0**	**-2.7**
HATJ	**Hateruma jima**	**3.60**	**259**	P	Pn	05 54 29.4	-3.4
HATJ				S	**Sn**	**05 55 10.3**	**-3.8**
IRIF	**Iriomote-Funau**	**3.62**	**263**	P	**Pn**	**05 54 32.7**	**-0.3**
IRIF				S	**Sn**	**05 55 12.4**	**-2.1**
JAMN	**Amaminishikomi**	**3.66**	**21**	P	Pn	05 54 31.2	-2.4
JAM	**Amami Oshima**	**3.97**	**25**	P	Pn	05 54 34.9	-2.9
JAM				*e*S	Sn	05 55 16.8	-6.3
JZK	**Kikaishima**	**4.04**	**30**	P	Pn	05 54 36.9	-1.9
YOJ	**Yonaguni jima**	**4.25**	**266**	P	**Pn**	**05 54 39.6**	**-2.1**
JNN	**Nakanoshima**	**5.37**	**21**	P	Pn	05 54 53.7	-3.3
NACB	**Ninganchiao**	**5.57**	**265**	*e*Pn	**Pn**	**05 54 57.4**	**-2.5**
	67nm,0.4s						
NACB				*e*Sn	Sn	05 55 55.1	-7.5
YHNB	**Yeheng**	**5.72**	**270**	*e*Pn	**Pn**	**05 55 01.9**	**-0.1**
	126nm,1.0s						
YHNB				*e*Sn	**Sn**	**05 56 03.7**	**-2.8**
YULB	**Yu-li**	**5.99**	**258**	*e*Pn	Pn	05 55 02.0	-3.7
	54nm,0.4s						
YULB				*e*Sn	Sn	05 56 06.3	-6.7
SSLB	**Suanglung**	**6.21**	**262**	*e*Pn	**Pn**	**05 55 06.7**	**-1.9**
	25nm,0.4s						
SSLB				*e*Sn	**Sn**	**05 56 16.7**	**-1.8**
TWG	**Pinlang**	**6.36**	**253**	*e*Pn	Pn	05 55 07.1	-3.6
	213nm,0.3s						
TWG				*e*Sn	Sn	05 56 11.9	-10
TPUB	**Ta-pu**	**6.61**	**258**	*e*Pn	**Pn**	**05 55 12.7**	**-1.5**
	102nm,0.3s						
TPUB				*e*Sn	**Sn**	**05 56 24.1**	**-4.2**
SSE	**Sheshan**	**8.47**	**319**	P	**Pn**	**05 55 41.8**	**+2.2**
SSE				S	**Sn**	**05 57 14.3**	**+0.3**
SSE				pmax	pmax		
	comp=Z,29nm,0.7s						
SSE				pmax	pmax		
	comp=Z,84nm,6.0s						
SSE				LR	LR		
	comp=N,730nm,13.6s						
SSE				LR	LR		
	comp=E,390nm,13.6s						
SSE				LR	LR		
	comp=Z,920nm,13.3s						
JNU	**Nakatsue**	**8.73**	**18**	*e*Pn	**Pn**	**05 55 41.4**	**-1.8**
	comp=Z,28nm,1.0s						
JNU	**Nakatsue**	**8.73**	**18**	P	**Pn**	**05 55 41.5**	**-1.7**
	comp=Z,1.6nm,0.3s,baz=179,slow=3.9,SNR=23						
JNU				LR	LR	05 59 14.2	
	comp=Z,164nm,20.4s,baz=208,slow=38						
NJ2	**Nanjing**	**10.58**	**315**	*e*P	Pn	05 56 12.5	+4.0
NJ2				pP		05 56 19.3	
NJ2				sP		05 56 24.6	
NJ2				S	**Sn**	**05 58 07.6**	**+2.0**
NJ2				sS		05 58 17.4	
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,270nm,5.7s						
NJ2				LR	LR		
	comp=N,1μm,11.9s						
NJ2				LR	LR		
	comp=E,580nm,11.9s						
NJ2				LR	LR		
	comp=Z,1μm,13.0s						
KSAR	**Wonju Array Be**	**12.58**	**1

CN2 eS **Sn** **06 01 28.0 -2.8**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,90nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,300nm,16.0s
USRK Ussuriysk Arra 19.65 9 P **P** **05 58 05.5 +0.8**
comp=Z,0.3nm,0.3s,baz=198,slow=9.1,SNR=17
USRK LR LR 06 06 01.3
comp=Z,152nm,18.7s,baz=193,slow=38
MDJ Mudanjiang 19.81 4 P **Pn** **05 58 09.6 +1.4**
MDJ sP **sP** **05 58 21.8 +0.3**
MDJ S **S** **06 01 45.1 -2.3**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,61nm,6.2s
MDJ LR LR
comp=N,190nm,19.7s
MDJ LR LR
comp=Z,280nm,18.2s
HHC Hu-ho-hao-te 20.88 324 ⇓P **P** **05 58 19.6 +1.3**
HHC pP **pP** **05 58 29.0 +0.7**
HHC sP **sP** **05 58 33.0 -0.3**
HHC PP **PnPn** **05 58 43.0 +5.3**
HHC S **S** **06 02 06.8 -2.2**
HHC sS Sn 06 02 20.8 +4.8
HHC PcP **PcP** **06 02 25.8 +0.3**
HHC SS **SnSn** **06 02 39.8 +8.6**
HHC ScP **ScP** **06 05 58.5 -0.6**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,240nm,4.0s
HHC LR LR
comp=N,1μm,11.1s
HHC LR LR
comp=E,860nm,12.0s
HHC LR LR
comp=Z,1μm,11.5s
CD2 Chengdu 21.97 291 P **P** **05 58 30.3 +0.3**
CD2 pP **pP** **05 58 39.3 -0.8**
CD2 sP **sP** **05 58 44.0 -1.1**
CD2 PP **PnPn** **05 58 55.8 +3.2**
CD2 S **S** **06 02 24.6 -5.8**
CD2 sS Sn 06 02 40.3 -1.8
CD2 SS **SnSn** **06 03 03.3 +5.5**
CD2 pmax pmax
comp=Z,100nm,0.8s
CD2 pmax pmax
comp=Z,180nm,8.2s
CD2 LR LR
comp=N,670nm,13.2s
CD2 LR LR
comp=E,420nm,8.2s
CD2 LR LR
comp=Z,610nm,8.4s
KMI Kunming 22.59 276 ⇑P **P** **05 58 39.0 +2.0**
KMI pP **pP** **05 58 46.8 -0.2**
KMI sP **sP** **05 58 50.6 -1.4**
KMI PP **PnPn** **05 59 05.8 +4.5**
KMI S **S** **06 02 37.3 -4.9**
KMI sS Sn 06 02 52.8 -4.7
KMI SS **SnSn** **06 03 18.5 +5.1**
KMI pmax pmax
comp=Z,38nm,0.9s
KMI pmax pmax
comp=Z,56nm,3.1s
KMI LR LR
comp=N,400nm,13.2s
KMI LR LR
comp=E,350nm,10.6s
KMI LR LR
comp=Z,280nm,12.4s
ASAJ Asahikawa 22.77 29 P **P** **05 58 38.9 +0.5**
ASAJ Asahikawa 22.77 29 P **P** **05 58 38.9 +0.5**
comp=Z,7.2nm,0.8s,baz=216,slow=13,SNR=4.3
ASAJ LR LR 06 09 17.5
comp=Z,115nm,18.0s,baz=354,slow=41
UBPT Khong Chiam 22.88 250 P pP 05 58 53.9 +4.0
comp=Z,20nm,0.8s
LZH Lanzhou 23.34 304 *e*P **P** **05 58 43.9 -0.5**
LZH pP **pP** **05 58 52.5 -2.3**
LZH sP **sP** **05 58 56.1 -3.6**
LZH PP **PnPn** **05 59 16.3 +4.9**
LZH *e*S **S** **06 02 50.8 -3.7**
LZH sS sS 06 03 02.3 -10
LZH SS **SnSn** **06 03 37.8 +6.3**
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,93nm,4.9s
LZH LR LR
comp=N,500nm,11.7s
LZH LR LR
comp=E,800nm,13.0s
LZH LR LR
comp=Z,970nm,13.8s
HABR Khabarovsk 24.31 12 *e*P P 05 59 05.8 +13
HABR *e* 06 02 30.4
HABR *e*S **S** **06 03 10.7 +1.3**
HABR *e**SS sS 06 03 26.7 -0.8
HABR *e* 06 09 54.3
HABR pmax pmax
comp=E,43nm,1.1s
HABR MLR MLR
comp=Z,219nm,17.0s
KLR Kul'dur 24.57 6 *e*P P 05 58 51.9 -3.6
KLR pmax pmax
comp=Z,57nm,1.6s
YSS Yuzh-Sakhalins 25.15 25⇑*e*P **P** **05 59 02.0 +1.2**
YSS *e**SP **sP** **05 59 15.5 -1.0**
YSS *e*S **S** **06 03 26.0 +3.0**
YSS pmax pmax
comp=N,50nm,1.1s
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=Z,200nm,15.0s
PBKT Sadao Pong 26.25 257 P pP 05 59 29.4 +7.4
comp=Z,11nm,1.1s
PAYA Payao 26.30 264 P pP 05 59 28.9 +6.5
comp=Z,19μm,0.9s,comp=Z,465μm
CMAR Chiang Mai Arr 27.41 262 P **P** **05 59 21.4 -0.2**
CMAR Chiang Mai Arr 27.41 262 P **P** **05 59 21.4 -0.2**
comp=Z,1.5nm,0.3s,baz=57,slow=9.8,SNR=3.5
GTA Gaotai 27.57 309 P **P** **05 59 22.3 -0.7**
GTA pP **pP** **05 59 32.5 -1.4**
GTA sP **sP** **05 59 36.9 -1.8**
GTA S **S** **06 04 00.1 -1.7**
GTA sS **sS** **06 04 15.8 -4.2**
GTA SS **SnSn** **06 05 19.9 +5.0**
GTA pmax pmax
comp=Z,14nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.2s
GTA LR LR
comp=N,380nm,17.1s
GTA LR LR
comp=E,340nm,16.1s
GTA LR LR
comp=Z,460nm,15.2s
ULN Ulaanbaatar 28.19 330 *e*P **P** **05 59 28.4 0.0**
comp=Z,4.7nm,0.8s
SONM Songino Array 28.47 329 P **P** **05 59 29.6 -1.2**
SONM PcP **PcP** **06 02 42.7 +0.7**
SONM Songino Array 28.47 329 P **P** **05 59 29.6 -1.2**
comp=Z,2.2nm,1.1s,baz=141,slow=9.3,SNR=8.8
SONM PcP **PcP** **06 02 42.7 +0.7**
comp=Z,1.3nm,0.9s,baz=124,slow=2.6,SNR=4.9
SONM LR LR 06 12 13.6
comp=Z,217nm,20.9s,baz=162,slow=39
KAPI Kappang 30.64 196 LR LR 06 13 16.0
comp=Z,116nm,19.0s,baz=140,slow=38
SRIT Nakonsritamara 31.25 244 P P 06 00 09.3 +14
comp=Z,3μm,0.8s,comp=Z,48μm
LSA Lhasa 32.73 287 *e*P **P** **06 00 10.8 +1.7**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 32.73 287 *e*P **P** **06 00 10.8 +1.7**
comp=Z,5.4nm,0.6s
PSI Prapat 35.31 236 P **P** **06 00 31.6 +0.4**
PSI Prapat 35.31 236 P **P** **06 00 31.6 +0.4**
comp=Z,3.0nm,0.5s,baz=28,slow=3.3,SNR=4.4
HVS Khovu-Aksy 36.96 324⇑*e*P **P** **06 00 43.9 -0.9**
YAK Yakutsk 37.22 2 *e*P P 06 00 44.8 -1.9
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
WMQ Urumqi 37.61 310 *e*P **P** **06 00 51.8 +1.3**
WMQ PP **PnPn** **06 02 17.6 -0.3**
WMQ S **S** **06 06 38.1 +0.7**
WMQ sS **sS** **06 06 55.0 -0.9**
WMQ SS **SnSn** **06 09 14.0 -4.4**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,81nm,4.6s
WMQ LR LR
comp=N,210nm,17.0s
WMQ LR LR
comp=E,190nm,20.0s
WMQ LR LR
comp=Z,150nm,16.0s
PMG Port Moresby 38.98 148 LR LR 06 16 36.6
comp=Z,102nm,21.4s,baz=75,slow=35
COEN Coen 41.41 157 *e*P **P** **06 01 22.5 +0.3**
comp=Z,155nm,1.2s
SEY Seymchan 41.51 17⇑*e*P **P** **06 01 23.3 +0.8**
MK31 Makanchi Array 42.10 313 *e*P **P** **06 01 27.6 -0.1**
MK31 Makanchi Array 42.10 313 *e*P **P** **06 01 27.6 -0.1**
MKAR Makanchi Array 42.10 313 *ce*P **P** **06 01 27.6 -0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 42.10 313 P **P** **06 01 27.4 -0.3**
MKAR PcP **PcP** **06 03 22.3 +0.5**
MKAR pPcP 06 03 33.6
MKAR Makanchi Array 42.10 313 P **P** **06 01 27.4 -0.3**
comp=Z,6.1nm,0.6s,baz=99,slow=10,SNR=29
MKAR PcP **PcP** **06 03 22.3 +0.5**
comp=Z,1.4nm,0.8s,baz=84,slow=5.2,SNR=3.5
MKAR pPcP 06 03 33.6
comp=Z,1.2nm,0.8s,baz=144,slow=4.3,SNR=3.5
MKAR LR LR 06 20 30.6
comp=Z,84nm,20.1s,baz=258,slow=38
FITZ Fitzroy Crossi 42.72 183 P **P** **06 01 31.7 -1.0**
FITZ Fitzroy Crossi 42.72 183 P **P** **06 01 31.7 -1.0**
comp=Z,8.7nm,1.0s,baz=20,slow=9.2,SNR=7.9
ZALV Zalesovo Beam 43.06 324 *i* P **P** **06 01 34.7 -0.6**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 43.06 324 P **P** **06 01 34.4 -0.9**
ZALV PcP **PcP** **06 03 24.5 -0.3**
ZALV Zalesovo Beam 43.06 324 P **P** **06 01 34.4 -0.9**
comp=Z,5.3nm,0.6s,baz=110,slow=9.0,SNR=7.6
ZALV PcP **PcP** **06 03 24.5 -0.3**
comp=Z,2.4nm,0.8s,baz=121,slow=2.5,SNR=3.6
ZALV LR LR 06 20 52.8
comp=Z,107nm,20.0s,baz=69,slow=38
WRAB Tennant Creek 44.96 171 *e*P **P** **06 01 50.7 -0.2**
WRAB *e**PP **pP** **06 02 03.0 +0.8**
WRAB pmax pmax
comp=Z,20nm,0.7s
WRAB Tennant Creek 44.96 171 *e*P **P** **06 01 50.7 -0.2**
comp=Z,20nm,0.7s
WRAB *e*pP **pP** **06 02 03.0 +0.8**
WRA Warramunga Arr 44.97 171 P **P** **06 01 50.5 -0.4**
WRA pP **pP** **06 02 03.0 +0.7**
WRA PcP **PcP** **06 03 31.1 -0.6**
WRA Warramunga Arr 44.97 171 P **P** **06 01 50.5 -0.4**
comp=Z,12nm,0.7s,baz=352,slow=8.7,SNR=75
WRA pP **pP** **06 02 03.0 +0.7**
comp=Z,22nm,0.7s,baz=351,slow=8.9,SNR=20
WRA PcP **PcP** **06 03 31.1 -0.6**
comp=Z,0.7nm,0.8s,baz=347,slow=3.4,SNR=3.1
WRA LR LR 06 18 18.2
comp=Z,85nm,19.9s,baz=250,slow=33
KURK Kurchatov 45.50 318 P **P** **06 01 54.6 -0.2**
KURK Kurchatov 45.50 318 P **P** **06 01 54.6 -0.2**
KURBB Kurchatov Arra 45.53 318 P **P** **06 01 54.6 -0.5**
comp=Z,3.1nm,0.8s,baz=105,slow=8.7,SNR=22
KSH Kashi 45.55 302 P P 06 01 59.4 +3.8
KSH sP sP 06 02 13.4 +1.8
KSH PP **PP** **06 03 47.4 +4.9**
KSH S **S** **06 08 38.6 +3.5**
KSH sS sS 06 08 55.3 +1.4
KSH pmax pmax
comp=Z,10.0nm,1.0s
KSH pmax pmax
comp=Z,70nm,5.7s
KSH LR LR
comp=N,300nm,12.8s
KSH LR LR
comp=E,98nm,6.2s
KSH LR LR
comp=Z,130nm,5.4s
TKM2 Tokmak 2 46.08 306 *e*P **P** **06 02 01.0 +1.2**
TKM2 pmax pmax
comp=Z,13nm,0.9s
TKM2 Tokmak 2 46.08 306 *e*P **P** **06 02 01.0 +1.2**
comp=Z,14nm,0.9s
AAK Ala-Archa 46.87 306⇓*e*P **P** **06 02 06.9 +1.0**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 46.87 306 P **P** **06 02 06.2 +0.3**
AAK Ala-Archa 46.87 306 P **P** **06 02 06.2 +0.3**
comp=Z,2.0nm,0.5s,baz=106,slow=7.4,SNR=5.3
EKS2 Erkin-Say 47.40 306 *e*P **P** **06 02 11.0 +1.0**
EKS2 *e**PP **pP** **06 02 20.6 -0.8**
EKS2 pmax pmax
comp=Z,2.0nm,0.7s
EKS2 Erkin-Say 47.40 306 *e*P **P** **06 02 11.0 +1.0**
comp=Z,1.6nm,0.7s
EKS2 *e*pP **pP** **06 02 20.6 -0.8**
CTA Charters Tower 48.17 156 P **P** **06 02 15.1 -0.9**
CTA pP **pP** **06 02 27.9 +0.5**
CTA Charters Tower 48.17 156 P **P** **06 02 15.1 -0.9**
comp=Z,1.3nm,0.4s,baz=315,slow=8.6,SNR=3.0
CTA pP **pP** **06 02 27.9 +0.5**
comp=Z,3.0nm,0.5s,baz=332,slow=9.2,SNR=3.3
ASAR Alice Springs 48.58 172 P **P** **06 02 19.4 +0.2**
ASAR pP **pP** **06 02 31.6 +1.1**
ASAR PcP **PcP** **06 03 43.7 -0.7**
ASAR pPcP 06 03 56.5
ASAR Alice Springs 48.58 172 P **P** **06 02 19.4 +0.2**
comp=Z,3.5nm,0.9s,baz=359,slow=7.5,SNR=18
ASAR pP **pP** **06 02 31.6 +1.1**
comp=Z,5.7nm,0.6s,baz=0.6,slow=8.3,SNR=17
ASAR PcP **PcP** **06 03 43.7 -0.7**
comp=Z,0.8nm,0.8s,baz=5.2,slow=4.1,SNR=2.8
ASAR pPcP 06 03 56.5
comp=Z,1.5nm,1.0s,baz=353,slow=2.7,SNR=4.9
KK31 Karatay Array 49.82 306 *i* P **P** **06 02 29.3 +0.8**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 49.82 306 *e*P **P** **06 02 29.3 +0.8**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 49.82 306 *e*P **P** **06 02 29.2 +0.8**
comp=Z,8.0nm,0.8s
VOSK Vostochnaya 50.58 319 P **P** **06 02 32.6 -1.5**
VOSK pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 50.99 319 P **P** **06 02 37.3 +0.2**
BVAR *PP **pP** **06 02 51.1 +2.4**
BVAR 06 03 53.4
BVAR Borovoye Array 50.99 319 P **P** **06 02 37.3 +0.2**
BVAR pP **pP** **06 02 51.1 +2.4**
BVAR PcP **PcP** **06 03 53.4 +0.5**
BVAR Borovoye Array 50.99 319 P **P** **06 02 37.3 +0.2**
comp=Z,2.2nm,0.6s,baz=74,slow=6.4,SNR=19
BVAR pP **pP** **06 02 51.1 +2.4**
comp=Z,1.8nm,0.5s,baz=94,slow=8.7,SNR=4.3
BVAR PcP **PcP** **06 03 53.4 +0.5**
comp=Z,2.1nm,0.9s,baz=98,slow=2.9,SNR=4.1
BVAR LR LR 06 25 54.4
comp=Z,135nm,18.9s,baz=251,slow=38
BRVK Borovoye 51.06 319 *de*P **P** **06 02 37.9 +0.2**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 51.06 319 *e*P **P** **06 02 38.1 +0.5**
comp=Z,22nm,1.3s
BRVK *e*pP **pP** **06 02 50.6 +1.5**
KBL Kabul 51.23 295 *e*P **P** **06 02 41.0 +1.5**
KBL pmax pmax
comp=Z,44nm,1.4s
KBL Kabul 51.23 295 *e*P **P** **06 02 41.0 +1.5**
comp=Z,44nm,1.4s
SVE Sverdlovsk 57.06 323 *e*P **P** **06 03 22.3 +0.9**
SVE pmax pmax
comp=Z,21nm,1.3s
SVE MLR MLR
comp=Z,447nm,18.0s
AB31 Akbulak array 57.24 314 *i* P **P** **06 03 23.3 +0.5**
AB31 pmax pmax
comp=Z,16nm,0.8s
ABKAR Akbulak array 57.24 314 *e*P **P** **06 03 23.5 +0.7**
comp=Z,14nm,0.8s
STKA Stephens Creek 57.94 166 P **P** **06 03 27.4 -0.3**
STKA pP **pP** **06 03 39.8 +0.4**
STKA Stephens Creek 57.94 166 P **P** **06 03 27.4 -0.3**
comp=Z,6.4nm,1.0s,baz=16,slow=12,SNR=2.9
STKA pP **pP** **06 03 39.8 +0.4**
comp=Z,9.5nm,0.9s,baz=64,slow=3.9,SNR=4.4
ARU Arti 58.18 322 *d i* P **P** **06 03 29.2 0.0**
ARU 06 05 36.7
ARU S **S** **06 11 29.9 +2.0**
ARU SS **SS** **06 15 14.2 -5.3**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU MLR MLR
comp=Z,296nm,18.0s
AKTO Aktyubinsk 58.46 315 P **P** **06 03 31.2 -0.1**
AKTO pmax pmax
comp=Z,7.0nm,1.1s
DZM Mont Dzumac 59.93 138 LR LR 06 24 55.7
comp=Z,128nm,20.8s,baz=156,slow=31
IMA2 Indian Mountai 62.99 27 *e*P **P** **06 04 02.9 +0.9**
IMA2 *ep*P **pP** **06 04 14.8 +1.0**
TMCR Tamitsa 67.80 332 *e*P **P** **06 04 33.6 +0.7**
TMCR *e* 06 04 59.2
TMCR pmax pmax
comp=Z,52nm,1.0s
VRHR Novokhopersk 68.68 318 *e*P **P** **06 04 38.0 -0.7**
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,5.0nm,0.4s
APA Apatity 68.92 336⇑*i*P P 06 04 36.0 -3.9
APA MLR MLR
comp=Z,200nm,11.0s
ZEI Tsey 69.20 308 *e*P **P** **06 04 42.2 -0.2**
ZEI pmax pmax
comp=Z,14nm,0.9s
DAWY Dawson 69.24 28 *e*P **P** **06 04 42.6 +0.5**
KBZ Khabaz 69.66 310 P **P** **06 04 46.0 +1.1**
KBZ Khabaz 69.66 310 P **P** **06 04 46.0 +1.1**
KBZ Khabaz 69.66 310 P **P** **06 04 46.0 +1.1**
comp=Z,17nm,0.9s,baz=155,slow=1.9,SNR=27
KIV Kislovodsk 69.74 310 *e*P **P** **06 04 46.5 +0.9**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,69nm,18.0s
VSR Storozhevoye 70.15 318 *e*P **P** **06 04 47.7 -0.1**
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,20nm,1.1s
VSR pmax pmax
comp=N,8.0nm,0.6s
OBN Obninsk 70.62 322 *e*P **P** **06 04 50.8 +0.2**
OBN *i* 06 05 08.8
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,100nm,16.0s
JOF Joensuu 71.02 331 *e*P **P** **06 04 54.0 +1.1**
JOF pmax pmax
comp=Z,16nm,0.8s
JOF Joensuu 71.02 331 *ep* **P** **06 04 54.0 +1.1**
comp=Z,16nm,0.8s
ARCES ARCESS Array B 71.12 339 P **P** **06 04 53.4 0.0**
ARCES ARCESS Array B 71.12 339 P **P** **06 04 53.4 0.0**
comp=Z,3.3nm,0.9s,baz=79,slow=4.9,SNR=5.3
ARCES LR LR 06 43 28.6
comp=Z,80nm,18.3s,baz=168,slow=42
ANN Anapa 73.11 312 *e*P **P** **06 05 07.9 +2.2**
ANN pmax pmax
comp=Z,23nm,1.3s
FINES FINESS Array B 73.83 331 P **P** **06 05 10.4 +0.7**
FINES FINESS Array B 73.83 331 P **P** **06 05 10.4 +0.7**
comp=Z,13nm,0.8s,baz=84,slow=5.9,SNR=29
VSU Vasula 74.65 328 *c i* P **P** **06 05 14.9 +0.4**
VSU pmax pmax
comp=Z,56nm,0.9s
AKASG Malin Array Be 76.27 320 *c i* P **P** **06 05 23.8 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 76.27 320 P **P** **06 05 23.6 -0.3**
AKASG Malin Array Be 76.27 320 P **P** **06 05 23.6 -0.3**
comp=Z,2.7nm,0.6s,baz=54,slow=6.5,SNR=10
KIEV Kiev 76.28 320 *e*P **P** **06 05 24.3 +0.3**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 76.28 320 *e*P **P** **06 05 24.3 +0.3**
comp=Z,3.1nm,0.6s
BR131 Keskin Array S 77.49 308 *e*P **P** **06 05 31.9 +0.7**
comp=Z,5.2nm,0.9s
BRTR Keskin Array B 77.49 308 P **P** **06 05 32.0 +0.7**
BRTR Keskin Array B 77.49 308 P **P** **06 05 32.0 +0.7**
comp=Z,4.8nm,0.9s,baz=92,slow=5.4,SNR=18
ASF Jabal al Asfar 77.83 300 P **P** **06 05 34.6 +1.5**
ASF Jabal al Asfar 77.83 300 P **P** **06 05 34.6 +1.5**
comp=Z,1.9nm,0.5s,baz=248,slow=1.7,SNR=4.4
KIS Kishinev 77.95 316 *e*P **P** **06 05 34.0 +0.5**
KIS Kishinev 77.95 316 *e*P **P** **06 05 34.0 +0.5**
SUW Suwalki 78.29 324 *e*P **P** **06 05 35.7 +0.5**
YKA Yellowknife Ar 80.01 25 P **P** **06 05 43.0 -1.4**
YKA Yellowknife Ar 80.01 25 P **P** **06 05 43.0 -1.4**
comp=Z,2.1nm,1.0s,baz=297,slow=5.5,SNR=3.5
NB2 NORSAR Subarra 80.34 334 P **P** **06 05 46.3 0.0**
comp=Z,7.8nm,0.8s,baz=52,slow=5.3
NOA NORSAR Array B 80.34 334 P **P** **06 05 46.6 +0.3**
NOA NORSAR Array B 80.34 334 P **P** **06 05 46.6 +0.3**
comp=Z,6.2nm,0.8s,baz=51,slow=5.4,SNR=16
NOA LR LR 06 45 40.4
comp=Z,105nm,19.0s,baz=50,slow=39
OKC Ostrava-Krasne 83.01 322 AMS AMS 06 46 10.0
comp=Z,200nm,19.0s
VYHS Vyhne 83.30 321 *e*P **P** **06 06 03.3 +1.2**
VYHS pmax pmax
comp=Z,4.0nm,1.1s
VYHS Vyhne 83.30 321 *e*P **P** **06 06 03.3 +1.2**
DPC Dobruska-Polom 83.76 323 *e*P **P** **06 06 06.7 +2.2**
DPC *e* 06 06 19.3
DPC Dobruska-Polom 83.76 323 *e*P **P** **06 06 06.7 +2.2**
DPC *ep*P **pP** **06 06 19.3 +2.7**
DPC AMS AMS 06 47 30.0
BRG Berggiesshubel 84.75 324 *e*P **P** **06 06 10.4 +1.0**
comp=Z,8.3nm,1.4s
BRG *e* 06 06 22.5
comp=Z,20nm,1.9s
BRG Berggiesshubel 84.75 324 *e*P **P** **06 06 10.4 +1.0**
BRG *e* 06 06 22.5
BRG pmax pmax
comp=Z,11nm,1.4s
TREC Trest 84.78 322 AMS AMS 06 48 10.0
comp=Z,200nm,13.2s
PRU Pruhonice 84.92 323 AMS AMS 06 48 10.0
comp=Z,200nm,19.5s
CLL Collm 85.01 325 *e*P **P** **06 06 12.0 +1.3**
CLL *e* 06 06 23.0
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 85.01 325 *i* P **P** **06 06 11.3 +0.6**
comp=Z,9.0nm,1.2s
CLL *ep*P **pP** **06 06 23.0 +0.1**
CLL Lm MLR 06 47 00.0
comp=Z,200nm,19.6s
KHC Kasperske Hory 85.92 323 *e*P **P** **06 06 14.4 -0.9**
KHC *e* 06 06 27.8
KHC Kasperske Hory 85.92 323 *e*P **P** **06 06 14.4 -0.9**
KHC *ep*P **pP** **06 06 27.8 +0.3**
GERES GERESS Array B 86.01 323 P **P** **06 06 16.4 +0.5**
GERES GERESS Array B 86.01 323 P **P** **06 06 16.4 +0.5**
comp=Z,2.2nm,0.8s,baz=70,slow=4.4,SNR=9.2

GERES				LR	LR	06 47 36.5		
	comp=Z,99nm,18.8s,baz=63,slow=38							
BFO	**Black Forest**	**89.20**	**324**	*eP*	**P**	**06 06 32.0**	**+0.8**	
BFO	**Black Forest**	**89.20**	**324**	*eP*	**P**	**06 06 32.0**	**+0.8**	
PPT	**Papeete**	**90.92**	**109**	LR	LR	06 40 02.0		
	comp=Z,124nm,19.7s,baz=338,slow=31							
NVAR	**Mina Array Bea**	**91.84**	**46**	P	**P**	**06 06 44.6**	**+0.7**	
NVAR	**Mina Array Bea**	**91.84**	**46**	P	**P**	**06 06 44.6**	**+0.7**	
	comp=Z,1.5nm,0.9s,baz=292,slow=4.8,SNR=11							
MVU	**Marysvale**	**95.67**	**43**	*eP*	**P**	**06 07 02.6**	**+1.0**	
	comp=Z,4.1nm,0.4s							
MSU	**Marysvale**	**95.69**	**43**	*eP*	**P**	**06 07 03.3**	**+1.7**	
MSU				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MSU	**Marysvale**	**95.69**	**43**	*eP*	**P**	**06 07 03.3**	**+1.7**	
	comp=Z,3.5nm,0.3s							

GUC 24 06:07:35.4±0.5, 33.°43S×71.°83W, h30km±5km, MD3.6, ML2.8, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.43**	**22**	⇑*iP*	Pb	06 07 44.6	-0.2
IHA				*i* S	Sb	06 07 51.5	+0.3
LNV	**Longovilo**	**0.63**	**146**	⇑*iP*	Pb	06 07 47.6	-0.5
LNV				*i* S	Sb	06 07 56.7	0.0
TACH	**Talagante**	**0.78**	**107**	⇑*iP*	Pn	06 07 50.0	-0.4
TACH				*i* S	Sb	06 08 00.9	+0.1
ROCH	**El Roble**	**0.82**	**57**	⇓*iP*	Pn	06 07 50.8	-0.5
ROCH				*i* S	Sb	06 08 02.5	-0.1
ROCH				AML	AML	06 08 04.1	
	comp=N,769nm,0.6s						
SAN	**Santiago**	**0.98**	**92**	⇑*iP*	Pn	06 07 53.2	+0.1
SAN				*eS*	Sb	06 08 06.4	-0.1
SAN				AML	AML	06 08 09.7	
	comp=N,282nm,0.4s						
PEL	**Peldehue**	**1.00**	**74**	⇑*iP*	Pn	06 07 53.5	0.0
PEL				*i* S	Sb	06 08 07.2	0.0
PEL				AML	AML	06 08 11.6	
	comp=N,563nm,0.3s						
ANTU	**Antumapu**	**1.01**	**98**	*eP*	Pn	06 07 53.7	+0.1
ANTU				*eS*	Sb	06 08 07.5	0.0
ANTU				AML	AML	06 08 11.3	
	comp=E,349nm,0.2s						
CLCH	**Cerro Calan**	**1.08**	**89**	*eP*	Pn	06 07 54.9	+0.3
CLCH				*i* S	Sb	06 08 09.4	-0.2
CLCH				AML	AML	06 08 13.2	
	comp=E,278nm,0.6s						
FSR	**Penalolen**	**1.09**	**93**	⇑*iP*	Pb	06 07 56.3	+0.5
FSR				*i* S	Sb	06 08 11.0	+1.2
CHCH	**Chadas Angostu**	**1.10**	**117**	⇑*iP*	Pn	06 07 55.0	+0.1
CHCH				*i* S	Sb	06 08 09.7	-0.4
PCH	**Pirque**	**1.12**	**100**	*eP*	Pn	06 07 55.3	+0.1
PCH				*i* S	Sb	06 08 10.3	-0.3
CACH	**El Canelo**	**1.23**	**124**	⇓*iP*	Pb	06 07 57.6	-0.7
CACH				*i* S	Sb	06 08 14.9	+0.8
JACH	**Jahuel**	**1.28**	**55**	⇓*iP*	Pn	06 07 57.9	+0.5
JACH				*i* S	Sb	06 08 15.2	-0.1
LMEL	**Las Melosas**	**1.42**	**108**	⇓*iP*	Pn	06 08 00.1	+0.7
LMEL				*i* S	Sb	06 08 19.2	-0.2
LMEL				AML	AML	06 08 24.0	
	comp=N,431nm,0.1s						
NICH	**Los Niches**	**1.65**	**163**	*eP*	Pn	06 08 03.4	+1.1
NICH				*eS*	Sb	06 08 24.9	-0.7
NICH				AML	AML	06 08 33.5	
	comp=N,274nm,0.3s						

IDC 24 06:27:20.3±1.6, 13.°75N×93.°14E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=59.9km s-min=21.8km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**49**	Pn	Pn	06 29 07.3	-0.7
	0.6nm,0.3s,baz=235,slow=16,SNR=4.4						
CMAR				Sn	Sn	06 30 25.1	-6.3
	0.5nm,0.3s,baz=210,slow=38,SNR=3.8						
MKAR	**Makanchi Array**	**34.18**	**347**	P	P	06 34 07.9	+0.6
	0.3nm,0.8s,baz=166,slow=8.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**38.65**	**345**	P	P	06 34 44.5	-0.8
	0.4nm,0.4s,baz=162,slow=8.5,SNR=3.6						
WRA	**Warramunga Arr**	**52.57**	**129**	P	P	06 36 35.7	-0.4
	0.4nm,0.7s,baz=300,slow=9.7,SNR=10						
WRA				PcP	PcP	06 37 46.3	-0.2
	0.2nm,0.4s,baz=321,slow=2.8,SNR=7.1						
ASAR	**Alice Springs**	**54.51**	**133**	P	P	06 36 50.8	+0.5
	0.5nm,0.4s,baz=305,slow=6.6,SNR=12						

NNC 24 06:33:18.9±7.5, 54.°03N×86.°58E, h0km, mb3.5, mpv3.1, 6C-1D, Error ellipse: s-maj=62.9km s-min=42.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**6.00**	**239**	⇑Pn	Pn	06 34 50.2	+1.3
	1.8nm,0.3s,baz=53,slow=13						
KURBB				⇑Sn	Sn	06 36 03.1	+4.9
	1.2nm,0.3s						
KURBB				⇑Lg	Lg	06 36 30.9	
	2.5nm,0.7s						
MK31	**Makanchi Array**	**7.75**	**202**	⇑Pn	Pn	06 35 15.9	+3.0
	0.1nm,0.3s,baz=26,slow=13,SNR=15						
MK31				⇓Sn	Sn	06 36 46.8	+5.5
	0.2nm,0.5s						
VOSK	**Vostochnaya**	**9.42**	**268**	⇑Pn	Pn	06 35 34.7	-1.0
	0.7nm,0.3s						
VOSK				⇑Sn	Sn	06 37 17.2	-5.1
	1.0nm,0.7s						

*CSEM **24** 06:40:41.5±2.3, 50.°11N×18.°62E, h1km, Error ellipse: s-maj=41.4km s-min=23.9km az=93.0*

PRU 24 06:40:41.8, 50.°03N×18.°64E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.37**	**239**	*e*SG	Sg	06 40 53.1	-0.7
	comp=Z,6.4nm,0.4s						
OKC	**Ostrava-Krasne**	**0.37**	**239**	Sg	Sg	06 40 53.1	-0.7
	6.4nm,0.4s						
MORC	**Moravsky Berou**	**0.75**	**251**	*e*Pg	Pg	06 40 57.0	+0.7
MORC				*e*Sg	Sg	06 41 06.4	+0.2
DPC	**Dobruska-Polom**	**1.52**	**283**	*e*PG	Pn	06 41 09.6	-0.8
DPC				*e*SG	Sg	06 41 30.4	-0.5
DPC	**Dobruska-Polom**	**1.52**	**283**	Pg	Pn	06 41 09.6	-0.8
DPC				Sg	Sg	06 41 30.4	-0.5

*CSEM **24** 06:43:52.3±0.2, 45.°28N×27.°43E, h8km, MD3.2/3, Error ellipse: s-maj=6.2km s-min=2.6km az=40.0*

BUC 24 06:43:51.2±0.0, 45.°28N×27.°43E, h1km, MD3.2/3, 23C, Error ellipse: s-maj=0.3km s-min=0.1km az=46.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETR	**Petresti**	**0.46**	**343**	⇑*iP*	Pg	06 44 00.3	+0.2
PETR				S	Sg	06 44 07.8	+1.7
PETR	**Petresti**	**0.46**	**343**	⇑*iP*	Pg	06 44 00.3	+0.2
PETR				*i* S	Sg	06 44 07.8	+1.7
PETR	**Petresti**	**0.46**	**343**	⇑*iP*	Pg	06 44 00.3	+0.2
PETR				*i* S	Sg	06 44 07.8	+1.7
CFR	**Carcaliu**	**0.51**	**102**	⇑*iP*	Pg	06 44 01.6	+0.6
CFR				S	Sg	06 44 08.9	+1.3
CFR	**Carcaliu**	**0.51**	**102**	⇑*iP*	Pg	06 44 01.6	+0.6
CFR				*i* S	Sg	06 44 08.9	+1.3
CFR	**Carcaliu**	**0.51**	**102**	⇑*iP*	Pg	06 44 01.6	+0.6
CFR				*i* S	Sg	06 44 08.9	+1.3
ODBI	**Odobesti**	**0.55**	**332**	⇑*iP*	Pb	06 44 03.2	-0.4
ODBI	**Odobesti**	**0.55**	**332**	S	Sb	06 44 11.9	-0.1
ODBI	**Odobesti**	**0.55**	**332**	⇑*iP*	Pb	06 44 03.2	-0.4
ODBI				S	Sb	06 44 11.9	-0.1
PLOR	**Plostina**	**0.79**	**316**	⇑*iP*	Pb	06 44 07.5	-0.3
PLOR				S	Sb	06 44 18.4	-0.7
PLOR	**Plostina**	**0.79**	**316**	⇑*iP*	Pb	06 44 07.5	-0.3
PLOR				*i* S	Sb	06 44 18.4	-0.7
PLOR	**Plostina**	**0.79**	**316**	⇑*iP*	Pb	06 44 07.5	-0.3
PLOR				*i* S	Sb	06 44 18.4	-0.7
TLB	**Topalu**	**0.82**	**148**	⇑*iP*	Pb	06 44 07.6	-0.6
TLB	**Topalu**	**0.82**	**148**	S	Sb	06 44 20.0	+0.2
TLB	**Topalu**	**0.82**	**148**	⇑*iP*	Pb	06 44 07.6	-0.6
TLB				*i* S	Sb	06 44 20.0	+0.2
TLB	**Topalu**	**0.82**	**148**	⇑*iP*	Pb	06 44 07.6	-0.6
TLB				*i* S	Sb	06 44 20.0	+0.2
TLCR		**0.98**	**95**	⇑*iP*	Pb	06 44 11.3	+0.3
TLCR		**0.98**	**95**	⇑*iP*	Pb	06 44 11.3	+0.3
TLCR				*i* S	Sn	06 44 25.8	-0.9
TLCR		**0.98**	**95**	⇑*iP*	Pb	06 44 11.3	+0.3
TLCR				*i* S	Sn	06 44 25.8	-0.9
MLR	**Muntele Rosu**	**1.07**	**282**	⇑*iP*	Pn	06 44 13.2	-0.3
MLR	**Muntele Rosu**	**1.07**	**282**	⇑*iP*	Pn	06 44 13.2	-0.3
MLR				*i* S	Sb	06 44 27.5	+0.2
MLR	**Muntele Rosu**	**1.07**	**282**	⇑*iP*	Pn	06 44 13.2	-0.3
MLR				*i* S	Sb	06 44 27.5	+0.2
TIRR	**Tirgusor**	**1.08**	**139**	⇑*iP*	Pb	06 44 12.9	+0.2
TIRR	**Tirgusor**	**1.08**	**139**	S	Sb	06 44 27.5	+0.2
TIRR	**Tirgusor**	**1.08**	**139**	⇑*iP*	Pb	06 44 12.9	+0.2
TIRR				*i* S	Sb	06 44 27.5	+0.2
TIRR	**Tirgusor**	**1.08**	**139**	⇑*iP*	Pb	06 44 12.9	+0.2
TIRR				*i* S	Sb	06 44 27.5	+0.2

FUNV 24 06:55:04.2, 6.°91N×73.°06W, h164km, MW3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**38**	⇓*eP*	Pn	06 55 31.7	-0.6
CAPV				*e*S	Sn	06 55 51.8	-2.2
VIGV	**El Vigia**	**2.55**	**41**	*eP*	Pn	06 55 46.2	-0.5
VIGV				*e*S	Sn	06 56 16.0	-3.7
SOCV	**Socops**	**2.58**	**58**	*eP*	Pn	06 55 45.7	-1.3
SOCV				*e*S	Sn	06 56 17.0	-3.2
ELOV	**Elorza**	**3.55**	**88**	*eP*	Pn	06 55 57.7	-1.4
ELOV				*e*S	Sn	06 56 37.8	-4.0
VIRV	**Villa del Rosa**	**3.63**	**10**	*eP*	Pn	06 55 58.3	-1.8
VIRV				*e*S	Sn	06 56 39.4	-4.3
QARV	**Quebrada Arrib**	**4.13**	**37**	*e*S	Sn	06 56 50.3	-5.0
CURV	**Curarigua**	**4.35**	**45**	*eP*	Pn	06 56 07.9	-1.6
DABV	**Dabajuro**	**4.65**	**31**	*eP*	Pn	06 56 12.3	-1.1
TEPV	**Terepaima**	**4.89**	**51**	*eP*	Pn	06 56 15.0	-1.5
SIQV	**Siquisique**	**4.92**	**41**	*eP*	Pn	06 56 15.2	-1.6
SIQV				*e*S	Sn	06 57 07.7	-6.0
BAUV	**El Baul**	**5.37**	**68**	*eP*	Pn	06 56 20.4	-2.3
MAPV	**Macapo**	**5.40**	**57**	*eP*	Pn	06 56 21.2	-2.0
CUPV	**Cepira**	**7.84**	**66**	*eP*	Pn	06 56 53.4	-2.3

*CSEM **24** 07:33:01.3±0.6, 39.°09N×27.°57E, h2km, MD2.7, Error ellipse: s-maj=14.3km s-min=10.1km az=31.0*

DDA 24 07:33:01.1, 39.°12N×27.°54E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.62**	**6**	*i P*	Pg	07 33 13.4	+0.3
BALY				*i* S	Sg	07 33 22.2	+0.9
BALY	**Balya**	**0.62**	**6**	*i P*	Pg	07 33 13.4	+0.3
BALY				*i* S	Sg	07 33 22.2	+0.9
DURS	**Dursunbey**	**0.87**	**56**	*i P*	Pg	07 33 17.6	-0.3
DURS				*i* S	Sb	07 33 30.7	+0.2
DURS	**Dursunbey**	**0.87**	**56**	*i P*	Pg	07 33 17.6	-0.3
DURS				*i* S	Sb	07 33 30.7	+0.2
MANT	**Manisa**	**1.01**	**128**	*i P*	Pg	07 33 20.3	-0.6
MANT				*i* S	Sg	07 33 33.5	-0.8
MANT	**Manisa**	**1.01**	**128**	*i P*	Pg	07 33 20.3	-0.6
MANT				*i* S	Sg	07 33 33.5	-0.8
ULDT	**Uludag**	**1.60**	**50**	*i P*	Pb	07 33 31.2	0.0
ULDT				*i* S	Sn	07 33 50.9	-0.2
ULDT	**Uludag**	**1.60**	**50**	*i P*	Pb	07 33 31.2	0.0
ULDT				*i* S	Sn	07 33 50.9	-0.2

*CSEM **24** 07:33:18.8±0.1, 40.°15N×24.°01E, h12km, ML2.2/8, Error ellipse: s-maj=2.3km s-min=1.7km az=88.0*
*THE **24** 07:33:19.2, 40.°14N×23.°99E, h16km±1km, ML2.2/8, Error ellipse: s-maj=1.1km s-min=0.6km az=287.0*

ATH 24 07:33:18.9, 40.°15N×24.°00E, h5km, MD2.8/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.18**	**356**	P	Pg	07 33 23.9	+1.3
OUR				S	Sg	07 33 26.9	+1.9
OUR	**Ouranopolis**	**0.18**	**356**	P	Pg	07 33 23.9	+1.3
OUR				S	Sg	07 33 26.9	+1.9
PAIG	**Paliouri**	**0.33**	**228**	P	Pg	07 33 25.8	+0.5
PAIG				S	Sg	07 33 30.5	+0.8
PAIG	**Paliouri**	**0.33**	**228**	*e*PB	Pg	07 33 25.8	+0.5
PAIG				*e*SB	Sg	07 33 30.5	+0.8
PAIG	**Paliouri**	**0.33**	**228**	P	Pg	07 33 25.8	+0.5
PAIG				S	Sg	07 33 30.5	+0.8
PLG	**Polygyros**	**0.48**	**298**	P	Pg	07 33 28.9	+0.7
PLG				S	Sg	07 33 35.3	+0.8
PLG	**Polygyros**	**0.48**	**298**	*e*PB	Pg	07 33 29.0	+0.8
PLG	**Polygyros**	**0.48**	**298**	P	Pg	07 33 28.9	+0.7
PLG				S	Sg	07 33 35.3	+0.8
HORT	**Hortiatis**	**0.82**	**303**	P	Pg	07 33 34.8	0.0
HORT				S	Sg	07 33 45.7	+0.1
HORT	**Hortiatis**	**0.82**	**303**	P	Pg	07 33 34.8	0.0
HORT				S	Sg	07 33 45.7	+0.1
SOH	**Sokhos**	**0.83**	**324**	P	Pg	07 33 35.0	0.0
SOH				S	Sg	07 33 46.4	+0.5
SOH	**Sokhos**	**0.83**	**324**	*e*PB	Pg	07 33 35.0	0.0
SOH				*e*SB	Sg	07 33 46.7	+0.8
SOH	**Sokhos**	**0.83**	**324**	P	Pg	07 33 35.0	0.0
SOH				S	Sg	07 33 46.4	+0.5
THE	**Thessaloniki**	**0.93**	**302**	P	Pg	07 33 36.1	-0.6
THE				S	Sb	07 33 49.4	-0.6
THE	**Thessaloniki**	**0.93**	**302**	P	Pg	07 33 36.1	-0.6
THE				S	Sb	07 33 49.4	-0.6
KAVA	**Kavala**	**0.93**	**25**	P	Pg	07 33 37.1	+0.3
KAVA				S	Sg	07 33 49.2	+0.3
KAVA	**Kavala**	**0.93**	**25**	P	Pg	07 33 37.1	+0.3
KAVA				S	Sg	07 33 49.2	+0.3
LIA	**Limnos Island**	**0.94**	**105**	P	Pg	07 33 36.7	-0.3
LIA				S	Sg	07 33 49.5	+0.3
LIA	**Limnos Island**	**0.94**	**105**	*e*PB	Pg	07 33 36.8	-0.2
LIA	**Limnos Island**	**0.94**	**105**	*e*Pb	Pg	07 33 36.8	-0.2
LIA	**Limnos Island**	**0.94**	**105**	P	Pg	07 33 36.7	-0.3
LIA				S	Sg	07 33 49.5	+0.3
AOS	**Alonnisos**	**0.98**	**185**	P	Pg	07 33 37.3	-0.5
AOS				S	Sb	07 33 51.9	+0.2
AOS	**Alonnisos**	**0.98**	**185**	*e*PG	Pg	07 33 37.3	-0.5
AOS				*e*SB	Sb	07 33 52.2	+0.5
AOS	**Alonnisos**	**0.98**	**185**	P	Pg	07 33 37.3	-0.5
AOS				S	Sb	07 33 51.9	+0.2
AOS				*e*Sb	Sn	07 33 52.2	-1.4
XOR	**Xorichti**	**1.00**	**219**	P	Pg	07 33 38.1	-0.1
XOR				S	Sg	07 33 51.2	0.0
XOR	**Xorichti**	**1.00**	**219**	P	Pg	07 33 38.1	-0.1
XOR				S	Sg	07 33 51.2	0.0
SRS	**Serrai**	**1.01**	**342**	P	Pg	07 33 38.7	+0.3
SRS				S	Sg	07 33 52.0	+0.3
SRS	**Serrai**	**1.01**	**342**	P	Pg	07 33 38.7	+0.3
SRS				S	Sg	07 33 52.0	+0.3
NEO	**Neokhori**	**1.03**	**216**	P	Pg	07 33 37.9	-0.9
NEO				S	Sg	07 33 52.7	+0.5
NEO	**Neokhori**	**1.03**	**216**	P	Pg	07 33 37.9	-0.9
NEO				S	Sg	07 33 52.7	+0.5
SKIA	**Skiathos**	**1.06**	**203**	P	Pg	07 33 38.7	-0.7
SKIA				S	Sg	07 33 52.9	-0.3
SKIA	**Skiathos**	**1.06**	**203**	P	Pg	07 33 38.7	-0.7
SKIA				S	Sg	07 33 52.9	-0.3
NVR	**Nevrokopi**	**1.20**	**355**	P	Pg	07 33 41.4	-0.7
NVR				S	Sb	07 33 58.0	-0.2
NVR	**Nevrokopi**	**1.20**	**355**	P	Pg	07 33 41.4	-0.7
NVR				S	Sb	07 33 58.0	-0.2
SMTH	**Samothraki Isl**	**1.21**	**74**	P	Pg	07 33 40.5	-1.7
SMTH				S	Sg	07 33 58.1	+0.1
SMTH	**Samothraki Isl**	**1.21**	**74**	*e*PB	Pg	07 33 42.3	+0.1
SMTH	**Samothraki Isl**	**1.21**	**74**	*e*Pb	Pg	07 33 42.3	+0.1
SMTH	**Samothraki Isl**	**1.21**	**74**	P	Pg	07 33 40.5	-1.7
SMTH				S	Sg	07 33 58.1	+0.1
KNT	**Kendrikon**	**1.31**	**321**	P	Pn	07 33 42.3	-1.6
KNT				S	Sg	07 34 00.8	-0.4
KNT	**Kendrikon**	**1.31**	**321**	P	Pn	07 33 42.3	-1.6
KNT				S	Sg	07 34 00.8	-0.4
SMIA	**Simia**	**1.41**	**206**	P	Pn	07 33 44.3	-1.0
SMIA				S	Sb	07 34 01.4	-2.6
SMIA	**Simia**	**1.41**	**206**	P	Pn	07 33 44.3	-1.0
SMIA				S	Sb	07 34 01.4	-2.6
VAY	**Valandovo**	**1.60**	**318**	*e*Pn	Pg	07 33 51.3	+1.7
VAY	**Valandovo**	**1.60**	**318**	*e*Pn	Pg	07 33 51.2	+1.7

IDC 24 07:41:47.5±1.7, 52.°95S×140.°57E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/14, mbtmp3.5/3, Error ellipse: s-maj=247.1km s-min=28.6km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**25.87**	**170**	P	P	07 47 21.2	+0.9
	0.4nm,0.6s,baz=328,slow=6.9,SNR=2.6						
ASAR	**Alice Springs**	**29.68**	**348**	P	P	07 47 55.9	+1.0
	0.4nm,0.8s,baz=164,slow=10.0,SNR=1.8						
WRA	**Warramunga Arr**	**33.30**	**349**	P	P	07 48 27.3	+0.6
	0.9nm,0.9s,baz=168,slow=7.0,SNR=3.1						
FINES	**FINESS Array B**	**144.96**	**310**	PKP	PKPbc	08 01 24.7	+0.2
	1.5nm,0.8s,baz=165,slow=5.8,SNR=2.6						
ARCES	**ARCESS Array B**	**146.66**	**325**	PKPbc	PKPdf	08 01 26.9	-1.0
	1.6nm,0.9s,baz=72,slow=5.8,SNR=3.0						

IDC 24 07:43:33.6±1.8, 52.°87S×141.°53E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/14, mbtmp3.4/3, Error ellipse: s-maj=202.6km s-min=28.5km az=79.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**25.85**	**170**	P	P	07 49 06.3	+0.1
	0.3nm,0.5s,baz=301,slow=8.7,SNR=1.9						
ASAR	**Alice Springs**	**29.73**	**346**	P	P	07 49 41.4	-0.1
	0.5nm,0.8s,baz=173,slow=9.5,SNR=4.1						
WRA	**Warramunga Arr**	**33.34**	**348**	P	P	07 50 13.3	+0.2
	1.0nm,1.2s,baz=171,slow=7.7,SNR=2.8						
FINES	**FINESS Array B**	**145.35**	**310**	PKPbc	PKPbc	08 03 10.9	-0.9
	1.8nm,1.0s,baz=125,slow=5.8,SNR=2.5						
ARCES	**ARCESS Array B**	**146.94**	**325**	PKPbc	PKPbc	08 03 15.6	-0.8
	2.3nm,0.9s,baz=94,slow=5.4,SNR=3.0						

*IDC **24** 08:20:35.2±0.7, 18.°07N×119.°94E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.2/26, mbtmp4.1/18, ML4.3/1, MS3.7/5, Ms1 3.7/5, ms1mx3.1/36, Error ellipse: s-maj=26.2km s-min=14.2km az=67.0*
*ISCJB **24** 08:20:39.0±0.3, 18.°20N±0.°05×119.°90E±0.°05, h32km, mb4.1/20, MS3.7/4, Error ellipse: s-maj=7.9km s-min=5.2km az=137.1*
*MAN **24** 08:20:39, 18.°12N×119.°94E, h4km*
*NEIC **24** 08:20:40.6±0.4, 18.°04N×119.°84E, h35km, mb4.2/3, Error ellipse: s-maj=13.0km s-min=7.3km az=63.0*

ISC 24 08:20:40.0±0.5, 18.°11N±0.°05×119.°99E±0.°06, h32km, n57, σ0°85/58, mb4.2/20, MS3.7/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.64**	**70**	⇓*iP*	**Pn**	**08 20 52.4**	**-0.5**
PIP				*e*S	**Sb**	**08 20 59.9**	**-1.6**
ABRA	**Dolores**	**0.83**	**123**	*eP*	**Pb**	**08 20 56.6**	**+0.6**
APYP	**Conner**	**1.22**	**101**	*eP*	**Pn**	**08 21 01.9**	**+1.0**
CVP	**Callao Caves**	**1.79**	**103**	*eP*	**Pb**	**08 21 11.8**	**-0.5**
BCPH	**Baguio City Da**	**1.81**	**162**	⇑*iP*	**Pb**	**08 21 11.1**	**-1.6**
BCPH				*e*S	**Sb**	**08 21 36.0**	**+1.0**
CAUP	**Cauayan**	**2.10**	**123**	*eP*	**Pb**	**08 21 17.5**	**0.0**
PALP	**Palanan**	**2.55**	**114**	*eP*	Pb	08 21 28.9	+3.8
BALP	**Baler**	**2.80**	**147**	*eP*	**Pb**	**08 21 26.6**	**-2.9**
TGY	**Tagaytay City**	**4.09**	**167**	Pn	**Pn**	**08 21 41.2**	**+0.7**
TGY	**Tagaytay City**	**4.09**	**167**	Pn	**Pn**	**08 21 41.2**	**+0.7**
	34nm,0.3s,baz=151,slow=13,SNR=1.7						
QIZ	**Qiongzhong**	**9.67**	**277**	*e*Pn	Pn	08 22 52.8	-4.2
	9.7nm,0.6s						
JNU	**Nakatsue**	**17.87**	**31**	LR	LR	08 31 31.3	
	comp=Z,118nm,18.7s,baz=54,slow=37						
CMAR	**Chiang Mai Arr**	**19.99**	**274**	P	**P**	**08 25 09.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.99**	**274**	P	**P**	**08 25 09.8**	**-0.3**
	0.3nm,0.3s,baz=74,slow=9.1,SNR=12						
KSAR	**Wonju Array Be**	**20.47**	**18**	P	**P**	**08 25 15.2**	**+0.1**
KSRS	**Korea Array**	**20.49**	**18**	P	**P**	**08 25 15.2**	**-0.1**
	4.6nm,0.8s,baz=201,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**24.40**	**38**	P	**P**	**08 25 57.2**	**+1.5**
MJAR	**Matsushiro Arr**	**24.40**	**38**	P	**P**	**08 25 57.2**	**+1.5**
	0.4nm,0.3s,baz=332,slow=35,SNR=2.2						
MJAR				LR	LR	08 35 12.6	
	comp=Z,102nm,18.1s,baz=295,slow=36						
USRK	**Ussuriysk Arra**	**27.91**	**19**	P	**P**	**08 26 27.9**	**+0.8**
	1.0nm,0.6s,baz=248,slow=10,SNR=4.6						
SONM	**Songino Array**	**31.66**	**342**	P	**P**	**08 27 00.2**	**-0.3**
SONM	**Songino Array**	**31.66**	**342**	P	**P**	**08 27 00.2**	**-0.3**
	0.9nm,0.6s,baz=164,slow=8.8,SNR=6.2						
SONM				LR	LR	08 40 37.2	
	comp=Z,97nm,18.5s,baz=112,slow=38						
WRAB	**Tennant Creek**	**40.35**	**159**	*eP*	**P**	**08 28 13.9**	**-1.0**
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**40.35**	**159**	P	**P**	**08 28 13.9**	**-1.1**
WRA	**Warramunga Arr**	**40.35**	**159**	P	**P**	**08 28 13.9**	**-1.1**
	1.0nm,0.3s,baz=342,slow=9.1,SNR=37						
MK31	**Makanchi Array**	**42.14**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.92**	**97**	Pn	Pn	08 54 17.5	+1.1
	2.3nm,0.3s,baz=292,slow=10,SNR=14						
ATAH				Lg	Lg	08 54 54.5	
	5.5nm,0.3s,baz=264,slow=22,SNR=4.4						
LPAZ	**La Paz**	**16.00**	**127**	Pn	Pn	08 57 16.4	+0.9
	0.1nm,0.3s,baz=324,slow=13,SNR=4.9						
LPAZ				LR	LR	09 03 48.1	
	comp=Z,144nm,18.6s,baz=312,slow=39						
SIV	**San Ignacio**	**21.84**	**117**	P	P	08 58 22.2	-0.3
	5.5nm,0.8s,baz=305,slow=12,SNR=15						
PDAR	**Pinedale Array**	**55.59**	**335**	P	P	09 03 06.4	+0.5
	0.4nm,0.8s,baz=133,slow=8.8,SNR=3.7						
DBIC	**Dimbokro**	**77.44**	**82**	P	P	09 05 25.3	-0.6
	3.3nm,0.9s,baz=217,slow=8.1,SNR=3.1						
ESDC	**Sonseca Array**	**84.64**	**49**	P	P	09 06 03.5	-0.5
	0.2nm,0.3s,baz=274,slow=4.9,SNR=1.5						
TORD	**Torodi Ar. Bea**	**84.77**	**76**	P	P	09 06 04.9	-0.1
	1.2nm,0.9s,baz=279,slow=4.8,SNR=5.5						

KRSC 24 09:18:41.9±0.8, 49°.80N×156°.89E, h3km±2km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.01**	**331**	*e*P	Pn	09 19 02.6	-0.4
SKR				*i* S	Sn	09 19 17.5	-0.2
PAU	**Pauzhetka**	**1.67**	**358**	*e*P	Pb	09 19 13.2	-0.1
PAU				*i* S	Sg	09 19 36.4	+0.8
MIPR	**Malaya Ipel'ka**	**2.48**	**358**	*e*P	Pn	09 19 24.2	+1.0
ASAK	**Asacha**	**2.66**	**13**	*e*P	Pn	09 19 27.9	+2.1
ASAK				*i* S	Sn	09 20 00.7	+2.0
MTVR	**Mutnovka**	**2.81**	**16**	*e*P	Pn	09 19 29.8	+1.9
MTVR				*i* S	Sn	09 20 04.0	+1.6
RUS	**Russkaya**	**2.83**	**21**	*e*P	Pn	09 19 29.3	+1.4
RUS				*i* S	Sn	09 20 04.8	+2.3
GRL	**Gorelyy**	**2.85**	**15**	*e*P	Pn	09 19 29.8	+1.3
UGLR	**Uglovaya**	**3.62**	**19**	*e*P	Pn	09 19 40.5	+1.5
AVH	**Avacha**	**3.66**	**18**	*e*P	Pn	09 19 40.6	+1.1
KOK	**Koryaka**	**3.66**	**17**	*e*P	Pn	09 19 41.4	+1.8
SDLR	**Sedlovina**	**3.70**	**19**	*e*P	Pn	09 19 41.6	+1.5
SPN	**Mys Shipunski**	**3.84**	**29**	*e*P	Pn	09 19 44.3	+2.5
GNL	**Ganaly**	**3.96**	**9**	*e*P	Pn	09 19 45.0	+1.4
MKZ	**Mys Kozlova**	**5.62**	**30**	*e*P	Pn	09 20 06.8	+0.6

IDC 24 09:25:48.0±2.0, 18°.42N×146°.63E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, Error ellipse: s-maj=91.0km s-min=18.2km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**25.07**	**323**	P	P	09 31 14.6	+0.5
	0.5nm,0.4s,baz=138,slow=9.3,SNR=3.0						
WRA	**Warramunga Arr**	**39.98**	**198**	P	P	09 33 24.4	-0.2
	1.1nm,0.7s,baz=24,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**43.63**	**197**	P	P	09 33 54.0	-0.4
	0.3nm,0.4s,baz=33,slow=7.3,SNR=7.5						
SONM	**Songino Array**	**43.92**	**321**	P	P	09 33 56.4	-0.3
	0.6nm,0.6s,baz=157,slow=7.9,SNR=3.8						
STKA	**Stephens Creek**	**50.24**	**186**	P	P	09 34 46.4	+0.4
	1.9nm,0.6s,baz=129,slow=14,SNR=3.2						
KURBB	**Kurchatov Arra**	**62.12**	**318**	P	P	09 36 10.7	0.0
	0.4nm,0.4s,baz=91,slow=7.6,SNR=3.1						
BVAR	**Borovoye Array**	**67.26**	**320**	P	P	09 36 44.3	0.0
	1.8nm,0.5s,baz=90,slow=7.4,SNR=5.8						
ARCES	**ARCESS Array B**	**83.03**	**342**	P	P	09 38 15.4	+0.5
	3.9nm,0.6s,baz=63,slow=7.4,SNR=22						
FINES	**FINESS Array B**	**87.51**	**336**	P	P	09 38 36.4	-1.1
	1.7nm,0.9s,baz=79,slow=2.9,SNR=6.0						

*TIR **24** 09:38:04.9±1.9, 41°.30N×22°.76E, h22km±10km, ML3.8*
*ATH **24** 09:38:05.4, 41°.32N×22°.71E, h18km±1km, MD3.1/10*
*ISCJB **24** 09:38:05.3±0.3, 41°.29N±0°.01×22°.71E±0°.02, h3km±2km, Error ellipse: s-maj=2.2km s-min=2.0km az=142.6*
*SKO **24** 09:38:05.2, 41°.25N×22°.72E, h15km, M2.2, ML2.8*
*BEO **24** 09:38:05.8±0.7, 41°.22N×22°.65E, h4km±2km, ML3.0/1*
*CSEM **24** 09:38:06.0±0.1, 41°.28N×22°.70E, h2km, ML3.0, Error ellipse: s-maj=1.8km s-min=1.7km az=74.0*
*SOF **24** 09:38:06.2, 41°.32N×22°.73E, h2km, MD3.4*
*THE **24** 09:38:06.5, 41°.26N×22°.73E, h3km±1km, ML3.2/18, Error ellipse: s-maj=1.1km s-min=0.5km az=213.0*

ISC 24 09:38:06.1±0.8, 41°.27N±0°.01×22°.69E±0°.01, h8km±5km, n161, σ0°.79/242, 16C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.10**	**302**	P	**Pg**	**09 38 08.2**	**-0.4**
VAY				S	**Sg**	**09 38 10.6**	**+0.3**
VAY	**Valandovo**	**0.10**	**302**	*i* Pg	Pg	09 38 01.7	-6.9
VAY				*i* Sg	**Sg**	**09 38 10.9**	**+0.6**
VAY				*e*Lg	Lg	09 38 11.0	
	comp=E,3μm,0.5s						
VAY				*e*Lg	Lg	09 38 14.8	
	comp=N,7μm,0.8s						
VAY	**Valandovo**	**0.10**	**302**	*e*Pg	**Pg**	**09 38 08.1**	**-0.5**
VAY				*i* Sg	**Sg**	**09 38 10.5**	**+0.3**
VAY	**Valandovo**	**0.10**	**302**	*e*Pg	**Pg**	**09 38 08.1**	**-0.5**
VAY				S	**Sg**	**09 38 10.6**	**+0.3**
VAY				*e*Lg	Lg	09 38 14.7	
	comp=N,7μm,0.8s						
KNT	**Kendrikon**	**0.19**	**123**	P	**Pg**	**09 38 10.4**	**+0.4**
KNT				S	**Sg**	**09 38 12.9**	**+0.3**
KNT	**Kendrikon**	**0.19**	**123**	P	**Pg**	**09 38 10.4**	**+0.4**
KNT				S	**Sg**	**09 38 12.9**	**+0.3**
GRG	**Griva**	**0.38**	**215**	P	**Pb**	**09 38 14.4**	**-0.7**
GRG				S	**Sb**	**09 38 20.1**	**-1.0**
GRG	**Griva**	**0.38**	**215**	*e*PB	**Pb**	**09 38 14.4**	**-0.7**
GRG				*e*SB	**Sb**	**09 38 19.9**	**-1.2**
GRG	**Griva**	**0.38**	**215**	P	**Pb**	**09 38 14.4**	**-0.7**
GRG				*e*Sb	**Sb**	**09 38 19.9**	**-1.2**
THE	**Thessaloniki**	**0.67**	**162**	P	**Pg**	**09 38 19.1**	**+0.1**
THE				S	**Sg**	**09 38 28.0**	**+0.3**
THE	**Thessaloniki**	**0.67**	**162**	P	**Pg**	**09 38 19.1**	**+0.1**
THE				S	**Sg**	**09 38 28.0**	**+0.3**
KKB	**Krupnik**	**0.67**	**26**	*i* Pg	**Pg**	**09 38 18.4**	**-0.6**
KKB	**Krupnik**	**0.67**	**26**	*i* Pg	**Pg**	**09 38 18.4**	**-0.6**
SOH	**Sokhos**	**0.67**	**131**	P	**Pg**	**09 38 18.6**	**-0.5**
SOH				S	**Sg**	**09 38 27.4**	**-0.4**
SOH	**Sokhos**	**0.67**	**131**	*e*PN	**Pg**	**09 38 18.9**	**-0.2**
SOH				*e*SN	**Sg**	**09 38 28.2**	**+0.4**
SOH	**Sokhos**	**0.67**	**131**	P	**Pg**	**09 38 18.6**	**-0.5**
SOH	**Sokhos**	**0.67**	**131**	*e*Pn	**Pg**	**09 38 18.9**	**-0.2**
SOH				S	**Sg**	**09 38 27.4**	**-0.4**
SOH				*e*Sn	**Sg**	**09 38 28.2**	**+0.4**
SRS	**Serrai**	**0.70**	**102**	P	**Pg**	**09 38 19.1**	**-0.5**
SRS				S	**Sg**	**09 38 28.4**	**-0.3**
SRS	**Serrai**	**0.70**	**102**	P	**Pg**	**09 38 19.1**	**-0.5**
SRS				S	**Sg**	**09 38 28.4**	**-0.3**
HORT	**Hortiatis**	**0.74**	**155**	P	**Pg**	**09 38 20.2**	**-0.1**
HORT				S	**Sg**	**09 38 30.6**	**+0.7**
HORT	**Hortiatis**	**0.74**	**155**	P	**Pg**	**09 38 20.2**	**-0.1**
HORT				S	**Sg**	**09 38 30.6**	**+0.7**
MMB	**Musomiste**	**0.85**	**67**	*i* Pg	**Pg**	**09 38 21.7**	**-0.7**
MMB	**Musomiste**	**0.85**	**67**	*i* Pg	**Pg**	**09 38 21.7**	**-0.7**
NVR	**Nevrokopi**	**0.89**	**84**	P	**Pg**	**09 38 22.5**	**-0.7**
NVR				S	**Sg**	**09 38 34.2**	**-0.6**
NVR	**Nevrokopi**	**0.89**	**84**	*e*PN	**Pg**	**09 38 22.5**	**-0.7**
NVR				*e*SN	**Sg**	**09 38 34.2**	**-0.6**
NVR	**Nevrokopi**	**0.89**	**84**	*e*Pn	**Pg**	**09 38 22.5**	**-0.7**
NVR				S	**Sg**	**09 38 34.2**	**-0.6**
BIA	**Bitola**	**1.06**	**257**	P	**Pg**	**09 38 26.1**	**-0.4**
BIA				S	**Sb**	**09 38 41.4**	**+0.6**
BIA	**Bitola**	**1.06**	**257**	*i* Pg	**Pb**	**09 38 26.7**	**0.0**
BIA				*i* Sg	**Sb**	**09 38 41.0**	**+0.2**
BIA	**Bitola**	**1.06**	**257**	P	**Pb**	**09 38 26.1**	**-0.4**
BIA	**Bitola**	**1.06**	**257**	*i* Pg	**Pb**	**09 38 26.7**	**0.0**
BIA				*i* Sg	**Sb**	**09 38 40.9**	**+0.2**
BIA				S	**Sb**	**09 38 41.4**	**+0.6**
PLG	**Polygyros**	**1.06**	**147**	P	**Pg**	**09 38 25.7**	**-0.8**
PLG				S	**Sb**	**09 38 41.0**	**+0.2**
PLG	**Polygyros**	**1.06**	**147**	*e*PN	**Pg**	**09 38 25.6**	**-0.9**
PLG				*e*SN	**Sn**	**09 38 41.4**	**-0.9**
PLG	**Polygyros**	**1.06**	**147**	P	**Pg**	**09 38 25.7**	**-0.8**
PLG				S	**Sb**	**09 38 41.0**	**+0.2**
FNA	**Florina**	**1.10**	**245**	P	**Pb**	**09 38 27.6**	**+0.1**
FNA				S	**Sn**	**09 38 43.5**	**+0.1**
FNA	**Florina**	**1.10**	**245**	*e*PN	**Pb**	**09 38 27.5**	**+0.1**
FNA				*e*SN	**Sb**	**09 38 42.5**	**+0.5**
FNA	**Florina**	**1.10**	**245**	P	**Pb**	**09 38 27.6**	**+0.1**
FNA				*e*Sn	**Sb**	**09 38 42.5**	**+0.5**
FNA				S	**Sn**	**09 38 43.5**	**+0.1**
SKO	**Skopje**	**1.17**	**307**	P	**Pb**	**09 38 27.9**	**-0.7**
SKO				S	**Sn**	**09 38 44.7**	**-0.3**
SKO	**Skopje**	**1.17**	**307**	*i* Pg	**Pb**	**09 38 28.4**	**-0.2**
SKO				*i* Sg	**Sn**	**09 38 45.3**	**+0.3**
SKO				*e*Lg	Lg	09 38 47.2	
	comp=E,231nm,0.8s						
SKO				*e*Lg	Lg	09 38 47.7	
	comp=N,184nm,0.5s						
SKO	**Skopje**	**1.17**	**307**	*e*Pg	**Pb**	**09 38 26.7**	**-1.9**
SKO				*i* Sg	**Sg**	**09 38 44.0**	**+0.2**
SKO	**Skopje**	**1.17**	**307**	P	**Pb**	**09 38 27.9**	**-0.7**
SKO	**Skopje**	**1.17**	**307**	*i* Pg	**Pb**	**09 38 28.4**	**-0.2**
SKO				*i* Sg	**Sg**	**09 38 44.0**	**+0.2**
SKO				*e*Lg	Lg	09 38 47.6	
	comp=N,184nm,0.5s						
KZN	**Kozani**	**1.19**	**216**	P	**Pn**	**09 38 29.5**	**+0.4**
KZN	**Kozani**	**1.19**	**216**	*e*PN	**Pn**	**09 38 29.7**	**+0.6**
KZN				*e*SN	**Sn**	**09 38 46.7**	**+1.3**
KZN	**Kozani**	**1.19**	**216**	P	**Pn**	**09 38 29.5**	**+0.4**
KZN				*e*Sn	**Sn**	**09 38 46.7**	**+1.3**
OUR	**Ouranopolis**	**1.35**	**133**	P	**Pn**	**09 38 31.2**	**-0.1**
OUR				S	**Sg**	**09 38 49.7**	**+0.1**
OUR	**Ouranopolis**	**1.35**	**133**	P	**Pn**	**09 38 31.2**	**-0.1**
OUR				S	**Sg**	**09 38 49.7**	**+0.1**
VTS	**Vitosha**	**1.38**	**16**	P	**Pn**	**09 38 31.9**	**+0.1**
VTS				S	**Sg**	**09 38 51.1**	**+0.6**
VTS	**Vitosha**	**1.38**	**16**	*e*Pg	**Pg**	**09 38 32.8**	**+0.2**
VTS	**Vitosha**	**1.38**	**16**	⇓*i*P	**Pn**	**09 38 31.5**	**-0.3**
VTS				S	**Sb**	**09 38 49.7**	**-0.4**
VTS	**Vitosha**	**1.38**	**16**	*e*Pg	**Pn**	**09 38 31.8**	**0.0**
VTS				*i* Sg	**Sb**	**09 38 49.9**	**-0.2**
VTS	**Vitosha**	**1.38**	**16**	P	**Pn**	**09 38 31.9**	**+0.1**
VTS				*i* Sg	**Sb**	**09 38 49.9**	**-0.2**
VTS				S	**Sg**	**09 38 51.1**	**+0.6**
KAVA	**Kavala**	**1.41**	**100**	P	**Pn**	**09 38 31.9**	**-0.1**
KAVA				S	**Sg**	**09 38 51.2**	**-0.1**
KAVA	**Kavala**	**1.41**	**100**	P	**Pn**	**09 38 31.9**	**-0.1**
KAVA				S	**Sg**	**09 38 51.2**	**-0.1**
NEST	**Nestorio**	**1.51**	**236**	P	**Pb**	**09 38 34.0**	**-0.4**
NEST	**Nestorio**	**1.51**	**236**	P	**Pb**	**09 38 34.0**	**-0.4**
PAIG	**Paliouri**	**1.54**	**150**	P	**Pb**	**09 38 33.8**	**0.0**
PAIG				S	**Sb**	**09 38 54.2**	**-0.2**
PAIG	**Paliouri**	**1.54**	**150**	*e*PN	**Pn**	**09 38 33.8**	**0.0**
PAIG				*e*SN	**Sg**	**09 38 56.6**	**+1.1**
PAIG	**Paliouri**	**1.54**	**150**	P	**Pn**	**09 38 33.8**	**0.0**
PAIG				S	**Sb**	**09 38 54.2**	**-0.2**
PAIG				*e*Sn	**Sg**	**09 38 56.6**	**+1.1**
KBN	**Korca**	**1.58**	**247**	P	**Pb**	**09 38 35.2**	**-0.4**
KBN	**Korca**	**1.58**	**247**	P	**Pb**	**09 38 35.2**	**-0.4**
RZN	**Rozhen**	**1.58**	**74**	*e*P	**Pn**	**09 38 35.0**	**+0.4**
RZN	**Rozhen**	**1.58**	**74**	*e*P	**Pn**	**09 38 35.0**	**+0.4**
BARS	**Barje**	**1.68**	**338**	*e*Pn	**Pb**	**09 38 36.8**	**-0.5**
BARS				*i* Sg	**Sg**	**09 38 59.6**	**-0.5**
BARS	**Barje**	**1.68**	**338**	*e*Pn	**Pb**	**09 38 36.8**	**-0.5**
BARS				*i* Sg	**Sg**	**09 38 59.6**	**-0.5**
PGB	**Panagyurishte**	**1.69**	**40**	*e*P	**Pn**	**09 38 36.1**	**0.0**
PGB	**Panagyurishte**	**1.69**	**40**	*e*P	**Pn**	**09 38 36.1**	**0.0**
PLD	**Plovdiv**	**1.73**	**60**	P	**Pb**	**09 38 37.4**	**-0.7**
PLD				S	**Sn**	**09 39 59.0**	**+0.3**
PLD	**Plovdiv**	**1.73**	**60**	*e*P	**Pb**	**09 38 38.0**	**-0.1**
PLD	**Plovdiv**	**1.73**	**60**	*e*Pn	**Pb**	**09 38 38.0**	**-0.1**
PLD				*i* Sg	**Sg**	**09 39 02.0**	**+0.4**
PLD	**Plovdiv**	**1.73**	**60**	P	**Pb**	**09 38 37.4**	**-0.7**
PLD	**Plovdiv**	**1.73**	**60**	*e*Pn	**Pb**	**09 38 38.0**	**-0.1**
PLD				S	**Sn**	**09 38 59.0**	**+0.3**
PLD				*i* Sg	**Sg**	**09 39 02.0**	**+0.4**
PHP	**Peshkopia**	**1.74**	**285**	*i* SN	**Sg**	**09 39 01.8**	**-0.3**
PHP				*e*PN	**Pn**	**09 38 37.2**	**+0.5**
PHP	**Peshkopia**	**1.74**	**285**	P	**Pn**	**09 38 37.1**	**+0.4**
PHP				S	**Sb**	**09 39 00.9**	**+0.5**
PHP	**Peshkopia**	**1.74**	**285**	*e*Pn	**Pn**	**09 38 37.2**	**+0.5**
	SNR=40						
PHP				S	**Sb**	**09 39 00.9**	**+0.5**
THL	**Klokotos Trika**	**1.78**	**197**	P	**Pb**	**09 38 38.1**	**-0.8**
THL				S	**Sn**	**09 39 00.2**	**+0.3**
THL	**Klokotos Trika**	**1.78**	**197**	*e*PN	**Pb**	**09 38 38.2**	**-0.7**
THL				*e*SN	**Sg**	**09 39 02.2**	**-1.0**
THL	**Klokotos Trika**	**1.78**	**197**	*e*Pn	**Pb**	**09 38 38.2**	**-0.7**
THL				S	**Sn**	**09 39 00.2**	**+0.3**
THL				*e*Sn	**Sg**	**09 39 02.2**	**-1.0**
XOR	**Xorichti**	**1.94**	**168**	P	**Pn**	**09 38 38.9**	**-0.5**
XOR				S	**Sn**	**09 39 03.5**	**-0.4**
XOR	**Xorichti**	**1.94**	**168**	P	**Pn**	**09 38 38.9**	**-0.5**
XOR				S	**Sn**	**09 39 03.5**	**-0.4**
NEO	**Neokhori**	**2.00**	**168**	P	**Pn**	**09 38 40.3**	**0.0**
NEO	**Neokhori**	**2.00**	**168**	*e*PB	**Pn**	**09 38 40.2**	**0.0**
NEO	**Neokhori**	**2.00**	**168**	P	**Pn**	**09 38 40.3**	**0.0**
ZAPS	**Zavoj**	**2.01**	**359**	*e*Pn	**Pn**	**09 38 41.0**	**+0.6**
KDZ	**Kurdzhali**	**2.09**	**79**	*e*P	**Pn**	**09 38 41.5**	**+0.1**
KDZ	**Kurdzhali**	**2.09**	**79**	*e*P	**Pn**	**09 38 41.5**	**+0.1**
MPEP	**Malo Peshtene**	**2.23**	**29**	*e*P	**Pg**	**09 38 49.7**	**+0.8**
AGG	**Agios Georgios**	**2.26**	**187**	P	**Pn**	**09 38 44.4**	**+0.6**
AGG	**Agios Georgios**	**2.26**	**187**	P	**Pn**	**09 38 44.4**	**+0.6**
DIM	**Dimitrovgrad**	**2.27**	**69**	*e*P	**Pb**	**09 38 46.3**	**-1.1**
DIM	**Dimitrovgrad**	**2.27**	**69**	*e*P	**Pb**	**09 38 46.3**	**-1.1**
SELS	**Selova**	**2.27**	**330**	*e*Pn	**Pn**	**09 38 44.6**	**+0.6**
SELS				*e*Sg	**Sg**	**09 39 18.5**	**-0.7**
AOS	**Alonnisos**	**2.28**	**156**	P	**Pn**	**09 38 43.7**	**-0.4**
AOS	**Alonnisos**	**2.28**	**156**	*e*PB	**Pn**	**09 38 44.7**	**+0.6**
AOS	**Alonnisos**	**2.28**	**156**	P	**Pn**	**09 38 43.7**	**-0.4**
AOS	**Alonnisos**	**2.28**	**156**	*e*Pb	**Pn**	**09 38 44.7**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.29**	**191**	P	**Pn**	**09 38 44.9**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.29**	**191**	P	**Pn**	**09 38 44.9**	**+0.7**
SMTH	**Samothraki Isl**	**2.30**	**109**	P	**Pn**	**09 38 44.0**	**-0.3**
SMTH				S	**Sn**	**09 39 13.1**	**+0.3**
SMTH	**Samothraki Isl**	**2.30**	**109**	P	**Pn**	**09 38 44.0**	**-0.3**
SMTH				S	**Sn**	**09 39 13.1**	**+0.3**
LIA	**Limnos Island**	**2.34**	**125**	P	**Pn**	**09 38 45.5**	**+0.6**
LIA	**Limnos Island**	**2.34**	**125**	P	**Pn**	**09 38 45.5**	**+0.6**
SRN	**Sarande**	**2.47**	**237**	*e*PN	**Pb**	**09 38 48.8**	**-2.0**
SRN				*i* SN	**Sb**	**09 39 21.4**	**+0.1**
SRN	**Sarande**	**2.47**	**237**	P	**Pb**	**09 38 48.7**	**-2.0**
SRN				S	**Sb**	**09 39 19.8**	**-1.5**
SRN	**Sarande**	**2.47**	**237**	P	**Pb**	**09 38 48.7**	**-2.0**
SRN				S	**Sb**	**09 39 19.8**	**-1.5**
SRN				*i* Sn	**Sb**	**09 39 21.4**	**+0.1**
	SNR=40						
ALN	**Alexandroupoli**	**2.56**	**97**	P	**Pn**	**09 38 48.6**	**+0.6**
ALN				S	**Sn**	**09 39 21.0**	**+1.7**
ALN	**Alexandroupoli**	**2.56**	**97**	P	**Pn**	**09 38 48.6**	**+0.6**
ALN				S	**Sn**	**09 39 21.0**	**+1.7**
BOLS	**Boljevac**	**2.62**	**348**	*e*Pn	**Pn**	**09 38 49.4**	**+0.7**
BOLS				*e*Sn	**Sn**	**09 39 21.0**	**+0.3**
BOLS	**Boljevac**	**2.62**	**348**	*e*Pn	**Pn**	**09 38 49.4**	**+0.7**
BOLS				*e*Sn	**Sn**	**09 39 21.0**	**+0.3**
MRKA	**Markates**	**2.65**	**165**	P	**Pn**	**09 38 49.7**	**+0.5**
MRKA	**Markates**	**2.65**	**165**	P	**Pn**	**09 38 49.7**	**+0.5**
KEK	**Kerkira**	**2.69**	**236**	P	**Pn**	**09 38 51.3**	**+1.5**
KEK	**Kerkira**	**2.69**	**236**	P	**Pn**	**09 38 51.3**	**+1.5**
PVL	**Pavlikeni**	**2.77**	**44**	*e*P	**Pn**	**09 38 49.6**	**-1.1**
PVL	**Pavlikeni**	**2.77**	**44**	*e*P	**Pn**	**09 38 49.6**	**-1.1**
EFP	**Efpalio**	**2.90**	**192**	P	**Pn**	**09 38 53.7**	**+1.1**
EFP	**Efpalio**	**2.90**	**192**	P	**Pn**	**09 38 53.7**	**+1.1**
LKD2	**Lefkada island**	**2.92**	**213**	P	**Pn**	**09 38 55.0**	**+2.0**
LKD2	**Lefkada island**	**2.92**	**213**	P	**Pn**	**09 38 55.0**	**+2.0**
GRUS	**Gruza**	**3.00**	**332**	*e*Pn	**Pn**	**09 38 53.8**	**-0.1**
GRUS				*e*Sn	**Sn**	**09 39 31.6**	**+1.5**
GRUS	**Gruza**	**3.00**	**332**	*e*Pn	**Pn**	**09 38 53.8**	**-0.1**
GRUS				*e*Sn	**Sn**	**09 39 31.6**	**+1.5**
LAKA	**Lakka**	**3.07**	**190**	P	**Pn**	**09 38 56.5**	**+1.5**
LAKA	**Lakka**	**3.07**	**190**	P	**Pn**	**09 38 56.5**	**+1.5**
SZH	**Strazhica**	**3.13**	**49**	*e*P	**Pn**	**09 38 56.9**	**+1.1**
SZH	**Strazhica**	**3.13**	**49**	*e*P	**Pn**	**09 38 56.9**	**+1.1**
JMB	**Yambol**	**3.15**	**66**	P	**Pn**	**09 38 56.1**	**+0.1**
JMB	**Yambol**	**3.15**	**66**	*e*P	**Pn**	**09 38 57.0**	**+1.0**
JMB	**Yambol**	**3.15**	**66**	P	**Pn**	**09 38 56.1**	**+0.1**
KLV	**Kalavryta, Ach**	**3.25**	**188**	P	**Pn**	**09 38 58.7**	**+1.3**
KLV	**Kalavryta, Ach**	**3.25**	**188**	P	**Pn**	**09 38 58.7**	**+1.3**
DJES	**Djerdap**	**3.40**	**358**	*e*Sn	**Sn**	**09 39 41.8**	**+1.8**
DIVS	**Divibare**	**3.46**	**326**	P	**Pn**	**09 39 00.4**	**+0.1**
DIVS	**Divibare**	**3.46**	**326**	*e*Pn	**Pn**	**09 38 59.7**	**-0.6**
DIVS				*e*Sn	**Sn**	**09 39 41.1**	**-0.4**
DIVS	**Divibare**	**3.46**	**326**	*e*Pn	**Pn**	**09 38 59.7**	**-0.6**
DIVS	**Divibare**	**3.46**	**326**	P	**Pn**	**09 39 00.4**	**+0.1**
DIVS				*e*Sn	**Sn**	**09 39 41.1**	**-0.4**
BBLS	**Lazići**	**3.55**	**318**	*e*Pn	**Pn**	**09 39 01.0**	**-0.6**
BBLS	**Lazići**	**3.55**	**318**	*e*Pn	**Pn**	**09 39 01.0**	**-0.6**
CHOS	**Chios island**	**3.87**	**137**	P	**Pn**	**09 39 06.8**	**+0.8**
CHOS	**Chios island**	**3.87**	**137**	P	**Pn**	**09 39 06.8**	**+0.8**
PRD	**Provadia**	**4.00**	**60**	*e*P	**Pn**	**09 39 09.8**	**+2.2**
PRD	**Provadia**	**4.00**	**60**	*e*P	**Pn**	**09 39 09.8**	**+2.2**
LOT	**Lotru**	**4.25**	**10** ⇑*i*P	**Pn**	**09 39 10.7**	**-0.6**
LOT	**Lotru**	**4.25**	**10** ⇑*i*P	**Pn**	**09 39 10.7**	**-0.6**
ARR	**Arges**	**4.34**	**18** ⇑*i*P	**Pn**	**09 39 13.1**	**+0.7**
ARR	**Arges**	**4.34**	**18** ⇑*i*P	**Pn**	**09 39 13.1**	**+0.7**
BZS	**Buzias**	**4.42**	**350** ⇑*i*P	**Pn**	**09 39 12.4**	**-1.0**
BZS	**Buzias**	**4.42**	**350** ⇑*i*P	**Pn**	**09 39 12.4**	**-1.0**
VOIR		**4.51**	**22** ⇑*i*P	**Pn**	**09 39 14.8**	**0.0**
VOIR		**4.51**	**22** ⇑*i*P	**Pn**	**09 39 14.8**	**0.0**
MLR	**Muntele Rosu**	**4.84**	**28** ⇑*i*P	**Pn**	**09 39 20.9**	**+1.5**
MLR	**Muntele Rosu**	**4.84**	**28** ⇑*i*P	**Pn**	**09 39 20.9**	**+1.5**
TLB	**Topalu**	**5.14**	**48** ⇑*i*P	**Pn**	**09 39 24.2**	**+0.8**
TLB	**Topalu**	**5.14**	**48** S	**Sg**	**09 40 52.0**	**+0.8**
TLB	**Topalu**	**5.14**	**48** ⇑*i*P	**Pn**	**09 39 24.2**	**+0.8**
TIRR	**Tirgusor**	**5.28**	**51** ⇓*i*P	**Pn**	**09 39 26.2**	**+0.9**
TIRR	**Tirgusor**	**5.28**	**51** ⇓*i*P	**Pn**	**09 39 26.2**	**+0.9**
PLOR	**Plostina**	**5.41**	**31** ⇑*i*P	**Pn**	**09 39 28.8**	**+1.7**
PLOR	**Plostina**	**5.41**	**31** ⇑*i*P	**Pn**	**09 39 28.8**	**+1.7**
VRI	**Vrincioaia**	**5.45**	**31** ⇓*i*P	**Pn**	**09 39 29.2**	**+1.5**
VRI	**Vrincioaia**	**5.45**	**31** ⇓*i*P	**Pn**	**09 39 29.2**	**+1.5**
CFR	**Carcaliu**	**5.58**	**44** ⇑*i*P	**Pn**	**09 39 29.7**	**+0.3**
CFR	**Carcaliu**	**5.58**	**44** ⇑*i*P	**Pn**	**09 39 29.7**	**+0.3**

IDC 24 09:50:02.5±9.3, 14°.00N×92°.95E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=545.1km s-min=29.5km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.89**	**347**	P	P	09 56 47.0	-0.1
	0.8nm,0.9s,baz=156,slow=9.1,SNR=5.8						
WRA	**Warramunga Arr**	**52.87**	**129**	P	P	09 59 20.3	-0.2
	0.5nm,0.8s,baz=307,slow=8.5,SNR=2.6						
ASAR	**Alice Springs**	**54.82**	**133**	P	P	09 59 34.7	0.0
	0.4nm,0.6s,baz=313,slow=7.2,SNR=6.6						

GUC 24 10:16:43.6±0.6, 22°.65S×68°.80W, h109km±8km, ML4.0, 5C-2D, Northern Chile

| Code | Station Name

*ISCJB **24** 10:47:33.6±0.6, 17°.27N±0°.04×100°.57W±0°.03, h28km±5km, mb3.4/4, MS3.0/1, Error ellipse: s-maj=7.4km s-min=4.8km az=26.7.*
*MEX **24** 10:47:35.8±0.7, 17°.25N×100°.57W, h12km±6km, MD4.1*
ISC 24 10:47:33.0±1.3, 17°.30N±0°.04×100°.55W±0°.04, h11km±9km, n30, σ0°82/41, mb3.5/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.37**	**132**	*i* P	**Pb**	**10 47 42.1**	**+0.6**
CAIG				*i* S	**Sb**	**10 47 48.6**	**+1.4**
ACP2	**Acapulco**	**0.76**	**123**	*i* P	**Pb**	**10 47 48.5**	**+0.3**
ACP2				*i* S	**Sg**	**10 47 57.5**	**-0.2**
ZIIG	**Zihuatanejo**	**0.93**	**290**	*i* P	**Pb**	**10 47 51.1**	**0.0**
ZIIG				*i* S	**Sg**	**10 48 01.9**	**-1.0**
ARIG	**Puente Sto Nin**	**1.00**	**11**	*i* P	**Pg**	**10 47 52.0**	**-0.2**
ARIG				*i* S	**Sg**	**10 48 05.2**	**-0.1**
MEIG	**Mezcala**	**1.09**	**55**	*i* P	**Pb**	**10 47 53.5**	**-0.4**
MEIG				*i* S	**Sg**	**10 48 07.9**	**-0.2**
HMTT	**Tlapaneco**	**1.96**	**75**	*eP*	**Pn**	**10 48 06.5**	**+0.2**
HMTT				*i* S	**Sn**	**10 48 30.0**	**-1.1**
YAIG	**Yautepec**	**2.10**	**42**	*i* P	**Pn**	**10 48 07.6**	**-0.7**
YAIG				*eS*	**Sn**	**10 48 33.9**	**-0.6**
TOVM	**TOLUCA**	**2.14**	**23**	*eP*	**Pn**	**10 48 09.3**	**+0.2**
MZVM		**2.26**	**33**	*eP*	**Pn**	**10 48 10.5**	**+0.1**
SZVM	**Salazar**	**2.30**	**29**	*eP*	**Pn**	**10 48 10.8**	**-0.5**
UNM	**Universidad Na**	**2.41**	**33**	*i* P	**Pn**	**10 48 13.8**	**+1.2**
UNM				*i* S	**Sn**	**10 48 42.4**	**+0.2**
PNIG	**Pinotepa**	**2.49**	**111**	*i* P	**Pn**	**10 48 13.3**	**-0.2**
PNIG				*i* S	**Sn**	**10 48 43.3**	**-0.6**
PPM	**Popocatepetl**	**2.54**	**46**	*i* P	**Pn**	**10 48 14.3**	**-0.4**
PPM				*i* S	**Sn**	**10 48 45.4**	**-0.4**
ATVM	**ATLACOMULCO**	**2.54**	**15**	*eP*	**Pn**	**10 48 15.4**	**+0.9**
PBVM	**Pinon**	**2.55**	**33**	*i* P	**Pn**	**10 48 13.9**	**-0.4**
AZVM	**Cuida Lopez Ma**	**2.58**	**28**	*eP*	**Pn**	**10 48 14.6**	**-0.3**
PTVM	**Pico Tres Padr**	**2.66**	**31**	*eP*	**Pn**	**10 48 16.3**	**+0.2**
PHPU	**Puebla**	**2.86**	**52**	*i* P	**Pn**	**10 48 19.5**	**+0.8**
PHPU				*i* S	**Sn**	**10 48 53.1**	**-0.2**
IIO	**Organos**	**2.87**	**37**	*eP*	**Pn**	**10 48 19.3**	**+0.2**
ZUVM	**ZUMPANGO**	**2.88**	**29**	*i* P	**Pn**	**10 48 19.4**	**+0.3**
VTVM	**Tizayuca**	**2.98**	**34**	*eP*	**Pn**	**10 48 21.4**	**+0.8**
CMIG	**Matias Romero**	**5.42**	**91**	Pn	**Pn**	**10 48 52.6**	**-1.2**
	1.0nm,0.3s,baz=262,slow=13,SNR=16						
CMIG				Sn	Sb	10 50 04.7	-8.2
	5.0nm,0.3s,baz=356,slow=8.1,SNR=4.9						
CMIG				LR	LR	10 51 08.0	
	comp=Z,184nm,21.6s,baz=14,slow=40						
TEIG	**Tepich**	**11.99**	**74**	Pn	**Pn**	**10 50 23.6**	**-0.3**
	0.2nm,0.3s,baz=304,slow=17,SNR=3.4						
TXAR	**Lajitas Array**	**12.32**	**347**	Pn	**Pn**	**10 50 30.9**	**+2.4**
	0.0nm,0.3s,baz=165,slow=12,SNR=8.7						
TXAR				Lg	Lg	10 54 11.7	
	0.0nm,0.3s,baz=167,slow=29,SNR=4.8						
ANMO	**Albuquerque**	**18.35**	**344**	P	**Pn**	**10 51 47.8**	**0.0**
	0.1nm,0.3s,baz=151,slow=11,SNR=9.9						
ANMO				LR	LR	10 59 39.4	
	comp=Z,139nm,19.8s,baz=102,slow=39						
PFO	**Pinyon Flat Ob**	**21.64**	**322**	P	**P**	**10 52 22.6**	**-0.9**
	0.9nm,0.8s,baz=100,slow=17,SNR=2.0						
TKL	**Tuckaleechee C**	**23.60**	**36**	P	**P**	**10 52 43.3**	**-0.7**
	1.4nm,0.7s,baz=245,slow=14,SNR=2.3						
TKL				LR	LR	11 04 18.6	
	comp=Z,49nm,19.9s,baz=205,slow=42						
NVAR	**Mina Array Bea**	**26.17**	**327**	P	**P**	**10 53 09.0**	**+1.2**
	1.2nm,0.7s,baz=157,slow=9.8,SNR=15						
PDAR	**Pinedale Array**	**26.52**	**345**	P	**P**	**10 53 11.9**	**+1.0**
	0.4nm,0.6s,baz=155,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**128.10**	**258**	PKP	**PKPdf**	**11 06 38.5**	**-1.7**
	0.7nm,0.7s,baz=80,slow=2.2,SNR=10						

IDC 24 10:55:40.2±2.0, 2°.53N×127°.86E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=141.7km s-min=24.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**164**	P	P	11 00 49.0	-0.1
	0.6nm,0.3s,baz=344,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.69**	**168**	P	P	11 01 21.1	-0.2
	0.6nm,0.6s,baz=353,slow=7.6,SNR=20						
SONM	**Songino Array**	**48.79**	**341**	LR	LR	11 29 22.7	
	comp=Z,32nm,18.6s,baz=246,slow=42						
MKAR	**Makanchi Array**	**59.18**	**325**	P	P	11 05 43.2	+0.2
	0.4nm,0.4s,baz=116,slow=8.2,SNR=7.3						

SKHL 24 10:58:10.7±1.2, 54°.55N×129°.23E, h21km±4km, mb3.7/5, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**0.28**	**306**	*e*Pg	Pb	10 58 16.6	-0.5
BMKR				*e*Sg	Sb	10 58 21.1	-0.5
KROS	**Kirovskiy**	**1.32**	**266**	⇓*i*Pg	Pn	10 58 34.0	0.0
KROS				AMB	AMB	10 58 35.0	
	37nm,0.5s						
KROS				AMB	AMB	10 58 35.0	
	39nm,0.5s						
KROS				*e*Sg	Sb	10 58 51.8	+0.4
KROS				A	A	10 58 53.7	
	260nm,0.3s						
KROS				A	A	10 58 53.7	
	150nm,0.3s						
KROS				A	A	10 58 53.7	
	170nm,0.3s						
ZEA	**Zeya**	**1.42**	**236**	⇓*i*Pg	Pb	10 58 36.3	-0.2
ZEA				AMB	AMB	10 58 36.5	
	59nm,0.5s						
ZEA				AMB	AMB	10 58 36.5	
	78nm,0.5s						
ZEA				AMB	AMB	10 58 36.5	
	99nm,0.5s						
ZEA				AMB	AMB	10 58 37.0	
	100nm,1.0s						
ZEA				*e*Sg	Sb	10 58 54.1	0.0
ZEA				A	A	10 58 54.7	
	120nm,0.3s						
ZEA				A	A	10 58 54.7	
	110nm,0.3s						
EKMR	**Ekimchan**	**2.66**	**122**	*e*rx	rx	10 58 55.4	
EKMR				*e*Pg	Pb	10 58 58.6	+1.0
EKMR				AMB	AMB	10 59 00.7	
	6.0nm,0.4s						
EKMR				AMB	AMB	10 59 00.7	
	5.0nm,0.4s						
EKMR				AMB	AMB	10 59 00.7	
	8.0nm,0.4s						
EKMR				*e*Sg	Sb	10 59 32.1	+2.3
EKMR				A	A	10 59 36.8	
	57nm,0.5s						
EKMR				A	A	10 59 36.8	
	34nm,0.5s						
EKMR				A	A	10 59 36.8	
	27nm,0.5s						
CLNS	**Chul'man**	**3.36**	**315**	*e*Pg	Pb	10 59 13.2	+3.7
CLNS				AMB	AMB	10 59 14.4	
	7.0nm,0.3s						
CLNS				*e*Sg	Sb	10 59 55.0	+5.0
TUP	**Tupik**	**5.41**	**272**	*e*Pn	Pn	10 59 29.4	-0.7
TUP				*e*Pg	Pb	10 59 46.5	+2.0
TUP				AMB	AMB	10 59 54.5	
	5.0nm,0.5s						
TUP				*e*Sn	Sn	11 00 33.4	+1.7
TUP				*e*Sg	Sb	11 01 00.0	+11
CRS	**Chara**	**6.62**	**295**	*e*rx	rx	11 00 27.3	
CRS				*e*Sg	Sb	11 01 37.4	+14
CRS				A	A	11 01 42.3	
	6.0nm,1.2s						

IDC 24 11:23:37.0±4.6, 2°.44S×138°.99E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=183.4km s-min=28.7km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.98**	**194**	P	Pn	11 27 48.5	0.0
	0.5nm,0.3s,baz=17,slow=13,SNR=44						
ASAR	**Alice Springs**	**21.67**	**193**	P	P	11 28 29.8	+0.3
	0.3nm,0.4s,baz=19,slow=11,SNR=15						
MKAR	**Makanchi Array**	**69.75**	**322**	P	P	11 34 48.9	-0.2
	0.3nm,0.6s,baz=113,slow=7.9,SNR=5.4						

*IDC **24** 11:28:50.6±0.5, 1°.40S×99°.50E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.3/29, mbtmp4.3/23, ML3.8/2, Error ellipse: s-maj=19.6km s-min=11.9km az=55.0*
*NEIC **24** 11:28:52.0±0.3, 1°.40S×99°.51E, h10km, mb4.3/4, Error ellipse: s-maj=9.7km s-min=6.1km az=60.0*
NEIC Felt [II] at Padangpanjang, Sumatra.
*ISCJB **24** 11:28:53.2±0.3, 1°.48S±0°.04×99°.36E±0°.04, h30km, mb4.4/26, Error ellipse: s-maj=6.1km s-min=5.1km az=27.4*
*BJI **24** 11:28:53.5, 1°.40S×99°.70E, h10km, mB4.9/2, mb4.4/5*
*AUST **24** 11:28:54.5±2.5, 1°.52S×99°.58E, h0km, Error ellipse: s-maj=2.6km s-min=1.0km az=250.0*
*DJA **24** 11:29:00.3±0.5, 2°S±3°×10°0E±°, h10km, M4.7/9, mb4.5/6, mB4.9/3, MLv4.8/9, Mw(mB)4.2/3*
ISC 24 11:28:55.0±0.4, 1°.41S±0°.05×99°.45E±0°.05, h30km, n103, σ1§12/94, mb4.3/26, 1C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.12**	**64**	P	**Pn**	**11 29 14.6**	**-0.1**
PDSI				S	**Sb**	**11 29 30.6**	**+0.4**
PPI	**Padang Panjang**	**1.34**	**45**	P	**Pn**	**11 29 17.2**	**-0.4**
PPI	**Padang Panjang**	**1.34**	**45**	P	**Pn**	**11 29 17.5**	**-0.1**
	baz=1.3,SNR=434						
PPI				S	**Sb**	**11 29 37.0**	**+0.8**
	baz=1.3,SNR=13						
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pb**	**11 29 37.6**	**+1.0**
BKNI	**Bangkinang**	**2.34**	**43**	P	**Pb**	**11 29 34.3**	**-2.3**
	baz=2.4,SNR=20						
RGRI	**Rengat**	**3.07**	**70**	P	**Pb**	**11 29 49.2**	**+0.3**
RGRI				S	Sb	11 30 33.9	+7.9
MASI	**Maura Aman, Be**	**3.27**	**122**	P	Pn	11 29 47.3	+2.9
KSI	**Kapahiang**	**3.85**	**125**	P	**Pn**	**11 29 54.5**	**+2.2**
PSI	**Prapat**	**4.21**	**353**	Pn	**Pn**	**11 29 54.9**	**-2.4**
PSI	**Prapat**	**4.21**	**353**	Pn	**Pn**	**11 29 54.9**	**-2.4**
	0.9nm,0.3s,baz=190,slow=18,SNR=3.0						
PSI	**Prapat**	**4.21**	**353**	P	Pn	11 30 03.2	+5.8
	baz=4.3,SNR=3.9						
MNAI	**Manna**	**4.57**	**130**	P	**Pn**	**11 30 02.9**	**+0.7**
	baz=4.4,SNR=22						
FRIM	**Kepong**	**5.10**	**25**	P	**Pn**	**11 30 11.9**	**+2.5**
BTDF	**Bukit Timah Da**	**5.12**	**58**	P	Pb	11 30 17.5	-6.5
	baz=5.1,SNR=3.7						
BTDF				P	Pb	11 30 17.5	-6.5
	baz=5.1,SNR=3.7						
KGM	**Kluang**	**5.15**	**49**	P	Pn	11 30 16.6	+6.5
KCSI	**Kotacane, Aceh**	**5.18**	**341**	P	Pb	11 30 31.2	+6.3
MYKOM	**Kota Tinggi**	**5.42**	**54**	P	Pb	11 30 21.9	-7.2
MYKOM	**Kota Tinggi**	**5.42**	**54**	P	Pb	11 30 21.9	-7.2
	76nm,0.7s,1μm0.5nm						
LWLI	**Liwa**	**5.83**	**128**	P	Pb	11 30 30.4	-5.7
IPM	**Ipoh**	**6.05**	**15**	*e*Pn	Pn	11 30 26.4	+3.8
	31nm,0.6s						
IPM	**Ipoh**	**6.05**	**15**	P	Pn	11 30 27.7	+5.1
IPM	**Ipoh**	**6.05**	**15**	P	Pn	11 30 28.2	+5.6
	40nm,0.7s,0.3nm						
KLI	**Kotabumi**	**6.39**	**123**	P	**Pb**	**11 30 44.7**	**-0.9**
KASI	**Kota Agung**	**6.49**	**129**	P	**Pn**	**11 30 29.0**	**+0.5**
	91nm,0.8s,1μm0.3nm						
KULM	**Kulim**	**6.76**	**10**	*e*Pn	**Pn**	**11 30 30.5**	**-1.8**
KTGM	**Kuala Trenggan**	**7.63**	**29**	P	Pn	11 30 48.2	+3.9
CISI	**Cisompet, Garu**	**10.33**	**126**	P	**Pn**	**11 31 21.3**	**-0.1**
	baz=10,SNR=5.8						
KSM	**Kuching**	**11.23**	**75**	P	Pn	11 31 44.1	+11
UGM	**Wanagama**	**12.78**	**121**	P	**Pn**	**11 31 56.8**	**+1.9**
	baz=13,SNR=3.8						
SBUM	**Sibu**	**13.33**	**73**	P	Pn	11 32 06.2	+3.9
SBUM	**Sibu**	**13.33**	**73**	P	P	11 32 14.6	+3.0
KKM	**Kota Kinabalu**	**18.30**	**66**	Pn	**Pn**	**11 33 07.1**	**+0.2**
KKM	**Kota Kinabalu**	**18.30**	**66**	P	**Pn**	**11 33 09.2**	**+2.2**
CMAR	**Chiang Mai Arr**	**19.75**	**359**	P	**P**	**11 33 22.6**	**0.0**
CMAR	**Chiang Mai Arr**	**19.75**	**359**	P	**P**	**11 33 22.6**	**0.0**
	0.4nm,0.3s,baz=186,slow=9.4,SNR=12						
CMMT	**Chiang Mai**	**20.10**	**359**	P	Pn	11 33 38.8	+10
	6.6nm,0.7s,451nm						
CHTO	**Chiang Mai**	**20.10**	**359**	*e*P	**P**	**11 33 25.5**	**-1.0**
	6.9nm,1.1s						
CHTO	**Chiang Mai**	**20.10**	**359**	P	Pn	11 33 39.3	+11
	7.4nm,1.2s						
KAPI	**Kappang**	**20.58**	**100**	P	**P**	**11 33 30.0**	**-1.7**
KAPI	**Kappang**	**20.58**	**100**	P	**P**	**11 33 30.0**	**-1.7**
	5.2nm,0.4s,baz=300,slow=12,SNR=2.7						
BKSI	**Bulukumba**	**20.99**	**101**	P	Pn	11 33 42.8	+3.9
GTOI	**Gorontalo**	**23.64**	**85**	P	P	11 34 12.0	+8.0
FITZ	**Fitzroy Crossi**	**30.60**	**124**	P	**P**	**11 35 05.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.60**	**124**	P	**P**	**11 35 05.7**	**-0.8**
	3.2nm,0.8s,baz=347,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**11 36 15.7**	**-1.4**
WRA				PcP	**PcP**	**11 38 28.5**	**0.0**
WRA				S	**S**	**11 42 10.0**	**-2.9**
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**11 36 15.7**	**-1.4**
	2.8nm,0.7s,baz=302,slow=9.2,SNR=43						
WRA				PcP	**PcP**	**11 38 28.5**	**0.0**
	0.6nm,0.5s,baz=311,slow=2.5,SNR=1.8						
WRA				S	**S**	**11 42 10.0**	**-2.9**
	0.4nm,0.9s,baz=317,slow=18,SNR=4.9						
AS31	**Alice Springs**	**40.04**	**126**	*e*P	**P**	**11 36 27.0**	**-0.8**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**11 36 27.6**	**-0.2**
ASAR				PcP	**PcP**	**11 38 33.3**	**+0.8**
ASAR				S	**S**	**11 42 30.1**	**-2.0**
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**11 36 27.6**	**-0.2**
	2.5nm,0.7s,baz=301,slow=7.9,SNR=41						
ASAR				PcP	**PcP**	**11 38 33.3**	**+0.8**
	0.9nm,0.7s,baz=298,slow=2.8,SNR=2.1						
ASAR				S	**S**	**11 42 30.1**	**-2.0**
	0.9nm,0.8s,baz=298,slow=14,SNR=7.3						
KSAR	**Wonju Array Be**	**46.77**	**31**	P	**P**	**11 37 21.8**	**0.0**
KSRS	**Korea Array**	**46.80**	**31**	P	**P**	**11 37 21.8**	**-0.2**
	2.2nm,0.6s,baz=223,slow=8.1,SNR=8.4						
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**11 37 43.0**	**+0.8**
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**11 37 43.0**	**+0.8**
	0.8nm,0.3s,baz=180,slow=10.0,SNR=7.2						
EKS2	**Erkin-Say**	**49.60**	**335**	*e*P	**P**	**11 37 44.4**	**+0.7**
	4.2nm,0.7s						
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**11 37 46.6**	**+0.2**
STKA	**Stephens Creek**	**49.95**	**132**	P	**P**	**11 37 46.6**	**+0.2**
	5.4nm,0.8s,baz=305,slow=16,SNR=5.0						
MK31	**Makanchi Array**	**50.31**	**345**	*e*P	**P**	**11 37 49.5**	**+0.5**
MKAR	**Makanchi Array**	**50.31**	**345**	P	**P**	**11 37 49.5**	**+0.6**
MKAR	**Makanchi Array**	**50.31**	**345**	P	**P**	**11 37 49.5**	**+0.6**
	3.6nm,0.5s,baz=148,slow=8.2,SNR=47						
KKAR	**Karatay Array**	**51.38**	**333**	*e*P	**P**	**11 37 58.0**	**+1.0**
	3.7nm,1.1s						
USRK	**Ussuriysk Arra**	**53.90**	**29**	P	**P**	**11 38 15.8**	**+0.2**
	3.0nm,0.6s,baz=226,slow=5.7,SNR=9.0						
ZAA0	**Zalesovo Array**	**56.49**	**350**	*e*P	**P**	**11 38 33.6**	**-0.6**
ZALV	**Zalesovo Beam**	**56.49**	**350**	P	**P**	**11 38 34.4**	**+0.2**
ZALV	**Zalesovo Beam**	**56.49**	**350**	P	**P**	**11 38 34.4**	**+0.2**
	2.9nm,0.6s,baz=174,slow=6.8,SNR=9.7						
QRN	**Al-Qurain**	**57.70**	**306**	*e*P	**P**	**11 38 43.1**	**-0.1**
UMR	**Umm Al-Rimmam**	**58.16**	**306**	*e*P	**P**	**11 38 46.0**	**-0.4**
UMR				AMb	AMB	11 38 48.1	
	comp=Z,46nm,0.9s						
NAY	**Al-Naaiem**	**58.43**	**306**	*e*P	**P**	**11 38 47.9**	**-0.5**
NAY				AMb	AMB	11 38 49.0	
	comp=Z,0.9nm,0.5s						
MIB	**Mutribah**	**58.56**	**306**	*e*P	**P**	**11 38 49.4**	**+0.1**
MIB				AMb	AMB	11 38 50.5	
	comp=Z,35nm,0.9s						
BVAR	**Borovoye Array**	**59.44**	**340**	P	**P**	**11 38 54.6**	**-0.3**
BVAR	**Borovoye Array**	**59.44**	**340**	P	**P**	**11 38 54.6**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=189,slow=8.4,SNR=6.5						
ABKAR	**Akbulak array**	**60.86**	**331**	*e*P	**P**	**11 39 03.1**	**-1.6**
	comp=Z,1.5nm,0.6s						
KMBO	**Kilima Mbogo**	**62.18**	**269**	P	**P**	**11 39 15.2**	**+0.6**
KMBO	**Kilima Mbogo**	**62.18**	**269**	P	**P**	**11 39 15.2**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=54,slow=11,SNR=8.0						
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**11 39 47.8**	**-0.5**
KBZ	**Khabaz**	**67.50**	**319**	P	**P**	**11 39 47.8**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=142,slow=6.2,SNR=7.0						
EIL	**Elat**	**68.74**	**303**	P	**P**	**11 39 57.0**	**+0.5**
EIL	**Elat**	**68.74**	**303**	P	**P**	**11 39 57.0**	**+0.5**
	comp=Z,7.8nm,0.8s,baz=18,slow=2.4,SNR=7.5						
MAW	**Mawson**	**70.72**	**194**	P	**P**	**11 40 09.7**	**+1.8**
MAW	**Mawson**	**70.72**	**194**	P	**P**	**11 40 09.7**	**+1.8**
	comp=Z,2.6nm,0.9s,baz=347,slow=10,SNR=4.3						
BRTR	**Keskin Array B**	**72.52**	**312**	P	**P**	**11 40 18.7**	**-0.8**
BRTR	**Keskin Array B**	**72.52**	**312**	P	**P**	**11 40 18.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=132,slow=8.5,SNR=7.0						
VRI	**Vrincioaia**	**79.05**	**317**	⇓*i*P	**P**	**11 40 57.5**	**+1.0**
PLOR	**Plostina**	**79.10**	**317**	⇓*i*P	**P**	**11 40 58.6**	**+1.8**
MLR	**Muntele Rosu**	**79.50**	**317**	⇑*i*P	**P**	**11 40 59.6**	**+0.5**
BURAR	**Bucovina Array**	**80.46**	**319**	⇓*i*P	**P**	**11 41 05.6**	**+1.4**
VNDA	**Vanda**	**82.84**	**169**	P	**P**	**11 41 15.9**	**-0.2**
VNDA	**Vanda**	**82.84**	**169**	P	**P**	**11 41 15.9**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=303,slow=4.8,SNR=5.9						
FINES	**FINESS Array B**	**83.34**	**332**	P	**P**	**11 41 19.6**	**+0.8**
FINES	**FINESS Array B**	**83.34**	**332**	P	**P**	**11 41 19.7**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=208,slow=36,SNR=2.1						
ARCES	**ARCESS Array B**	**85.73**	**340**	P	**P**	**11 41 31.4**	**+0.5**
ARCES	**ARCESS Array B**	**85.73**	**340**	P	**P**	**11 41 31.4**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=116,slow=2.8,SNR=3.5						
GERES	**GERESS Array B**	**88.25**	**319**	P	**P**	**11 41 43.7**	**0.0**
GERES	**GERESS Array B**	**88.25**	**319**	P	**P**	**11 41 43.7**	**0.0**
	comp=Z,0.5nm,0.2s,baz=92,slow=3.2,SNR=5.3						
KEST	**Kesra**	**90.90**	**306**	*e*P	**P**	**11 41 57.9**	**+1.5**
KEST	**Kesra**	**90.90**	**306**	P	**P**	**11 41 57.1**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=234,slow=2.4,SNR=6.3						
CPUP	**Villa Florida**	**144.46**	**217**	PKP	**PKPdf**	**11 48 28.7**	**-0.6**
CPUP	**Villa Florida**	**144.46**	**217**	PKP	**PKPdf**	**11 48 28.7**	**-0.6**
	comp=Z,8.7nm,0.7s,baz=108,slow=2.3,SNR=18						
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	**PKPdf**	**11 48 29.0**	**-0.5**
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	**PKPdf**	**11 48 29.0**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=222,slow=0.7,SNR=15						
MIAR	**Mount Ida**	**144.86**	**19**	*e*PKPdf	**PKPab**	**11 48 28.0**	**-0.8**
CFAA	**Coronel Fontan**	**145.15**	**199**	PKPbc	**PKPdf**	**11 48 30.8**	**+0.4**
CFAA	**Coronel Fontan**	**145.15**	**199**	PKPbc	**PKPdf**	**11 48 30.8**	**+0.4**
	comp=Z,2.1nm,0.5s,baz=161,slow=3.5,SNR=28						
JCT	**Junction City**	**145.80**	**30**	*e*PKPdf	**PKPab**	**11 48 32.4**	**0.0**

*ISCJB **24** 11:36:00.3±0.4, 22°.53S±0°.03×66°.05W±0°.04, h237km±3km, mb4.8/169, Error ellipse: s-maj=6.2km s-min=4.8km az=146.9*
*NEIC **24** 11:36:01.1±0.5, 22°.54S×65°.96W, h233km±4km, mb4.7/102, Error ellipse: s-maj=6.2km s-min=4.6km az=67.0*
*BJI **24** 11:36:02.6, 22°.50S×65°.90W, h224km, mB5.0/12*
*LDG **24** 11:36:02.0±0.3, 22°.15S×65°.69W, h230km, Mb5.0/31, Ms3.1/1, Error ellipse: s-maj=24.6km s-min=14.2km az=112.0*
*IDC **24** 11:36:02.3±1.0, 22°.50S×65°.94W, h238km±7km, mb4.4/15, mb1 4.6/19, mb1mx4.5/20, mbtmp4.4/19, Error ellipse: s-maj=13.4km s-min=9.6km az=57.0*
*GUC **24** 11:36:03.4±0.7, 22°.60S×66°.32W, h225km, mb4.8(NEIC)*
ISC 24 11:36:01.1±0.5, 22°.60S±0°.04×66°.04W±0°.06, h235km±4km, n759, σ1§00/802, mb4.9/165, 258C-188D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.66**	**269**	*e*Pn	**Pn**	**11 36 50.7**	**+1.4**
LVC				*e*S	**S**	**11 37 28.0**	**+1.1**
PB09	**Plate Boundary**	**3.08**	**284**	*e*P	**Pn**	**11 36 54.2**	**+0.4**
PB09				*e*S	**S**	**11 37 34.1**	**-0.9**
PB04	**Plate Boundary**	**3.21**	**275**	⇑*i*P	Pn	11 37 02.4	+7.3
PB04				*e*S	S	11 37 47.2	+10
PB01	**Plate Boundary**	**3.56**	**295**	⇑*i*P	**Pn**	**11 36 59.5**	**+0.3**
PB01				*e*S	**S**	**11 37 42.5**	**-2.4**
PB07	**Plate Boundary**	**3.67**	**283**	⇑*i*P	**Pn**	**11 37 00.9**	**+0.3**
PB07				*e*S	**S**	**11 37 44.4**	**-3.1**
ANCH	**Antofagasta**	**4.17**	**254**	⇑*e*P	**Pn**	**11 37 06.6**	**+0.3**
ANCH				*e*S	**S**	**11 37 54.3**	**-3.5**
PB10	**Plate Boundary**	**4.26**	**257**	⇑*e*P	**Pn**	**11 37 07.4**	**0.0**
PB10				*e*S	S	11 37 55.2	-4.6
HMBC	**Humberstone**	**4.27**	**302**	⇑*e*P	**Pn**	**11 37 07.2**	**-0.4**
MNMC	**Minimini**	**4.79**	**315**	⇓*e*P	**Pn**	**11 37 14.8**	**+0.5**
MNMC				*e*S	**S**	**11 38 09.8**	**-2.3**
PSGC	**Pisagua**	**4.84**	**307**	*e*P	**Pn**	**11 37 13.5**	**-1.2**
CPCH	**Copiapo**	**6.15**	**219**	*e*P	**Pn**	**11 37 28.9**	**-2.0**
CPCH				*e*S	**S**	**11 38 37.5**	**-4.9**
LPAZ	**La Paz**	**6.58**	**342**	*e*Pn	**Pn**	**11 37 38.4**	**+1.3**
	97nm,0.7s						
LPAZ				S	**S**	**11 38 50.9**	**-2.5**
LPAZ				*e*S	S	11 38 53.2	-0.6
LPAZ	**La Paz**	**6.58**	**342**	P	**Pn**	**11 37 38.3**	**+

61nm,0.4s
VNA1 Neumayer--Stat 58.37 161 eP P 11 45 34.1 +2.6
VNA2 Neumayer--Watz 58.74 161 eP P 11 45 36.1 +2.0
VNA2 Neumayer--Watz 58.74 161 ePcP PcP 11 46 15.5 -5.7
LRAL Lakeview Retre 58.83 339 eP P 11 45 33.9 -1.2
34nm,0.6s
KMSC Kings Mountain 59.23 345 eP P 11 45 37.6 -0.3
KMSC Kings Mountain 59.23 345 ⇑P P 11 45 37.8 0.0
baz=60,SNR=23
TKL Tuckaleechee C 60.32 343 eP P 11 45 44.6 -0.7
CPCT Cooper Cave 60.33 343 eP P 11 45 44.4 -0.9
SNAA Sanae 60.38 161 eP P 11 45 46.9 +1.6
SNAA Sanae 60.38 161 eP P 11 45 45.9 +0.6
3.6nm,0.6s
732A Laxson Ranch, 60.61 326 ⇓P P 11 45 47.1 -0.3
baz=61,SNR=10.0
OXF Oxford 60.98 338 eP P 11 45 48.3 -1.4
96nm,0.8s
BLA Blacksburg 61.01 347 eP P 11 45 50.0 0.0
32nm,0.9s
TZTN Tazewell 61.10 344 eP P 11 45 49.7 -0.9
17nm,0.8s
632A Uvalde 61.14 326 ⇑P P 11 45 51.2 +0.2
baz=61
631A Perdido Creek 61.48 326 ⇑P P 11 45 52.7 -0.5
baz=62,SNR=8.8
532A Rocksprings 61.71 327 ⇓P P 11 45 54.7 0.0
baz=62,SNR=12
JCT Junction City 61.94 327 eP P 11 45 56.0 -0.3
14nm,0.7s
JCT Junction City 61.94 327 ⇑P P 11 45 56.4 +0.1
baz=62
WVT Waverly 61.94 340 eP P 11 45 54.8 -1.3
128nm,0.8s
WHTX Lake Whitney 62.05 330 eP P 11 45 56.4 -0.5
WHTX Lake Whitney 62.05 330 P P 11 45 57.0 0.0
baz=62
531A Rocksprings 62.06 326 ⇓P P 11 45 57.2 +0.1
baz=62,SNR=17
432A Menard 62.26 327 ⇓P P 11 45 58.1 -0.3
baz=62,SNR=11
530A J-C Ranch, Com 62.46 326 ⇑P P 11 45 59.7 -0.1
baz=63,SNR=14
431A Sonora 62.51 327 ⇓P P 11 45 59.7 -0.4
baz=63,SNR=8.2
GLAT Glass 62.54 339 eP P 11 45 59.7 -0.4
MIAR Mount Ida 62.56 335 eP P 11 45 59.0 -1.3
22nm,0.9s
332A Millersview 62.64 328 ⇓P P 11 46 00.7 -0.3
baz=63,SNR=18
PVMO Portageville 62.81 339 eP P 11 46 01.4 -0.4
262nm,0.9s
529A Stev Forest Ra 62.91 325 ⇓P P 11 46 02.9 +0.1
baz=63,SNR=19
430A Baggett Ranch, 62.92 326 ⇑P P 11 46 02.4 -0.4
baz=63,SNR=16
331A San Angelo 62.92 327 ⇑P P 11 46 02.5 -0.3
baz=63,SNR=11
232A Coleman 63.01 328 ⇑P P 11 46 03.0 -0.3
baz=63,SNR=26
627A Terlingua Ranc 63.01 324 ⇑P P 11 46 03.3 -0.2
baz=63,SNR=9.7
PARMO Parma 63.05 339 eP P 11 46 03.1 -0.3
TXAR Lajitas Array 63.07 323 P P 11 46 03.8 -0.1
TXAR Lajitas Array 63.07 323 P P 11 46 03.8 -0.1
2.2nm,0.6s,baz=150,slow=8.4,SNR=43
429A Davenport Ranc 63.13 326 ⇑P P 11 46 04.2 0.0
baz=63,SNR=14
528A Cox Ranch, San 63.24 325 ⇓P P 11 46 04.7 -0.3
baz=64,SNR=9.0
231A Bronte 63.38 328 ⇑P P 11 46 05.1 -0.6
baz=64,SNR=5.2
330A Mertzon 63.38 327 ⇓P P 11 46 05.2 -0.6
baz=64,SNR=5.6
WCI Wyandotte Cave 63.42 342 eP P 11 46 04.3 -1.6
60nm,0.8s
626A Big Bend Ranch 63.50 323 ⇑P P 11 46 07.1 +0.5
baz=64,SNR=21
ABTX Abilene, Hawle 63.61 329 ⇓P P 11 46 07.1 -0.2
baz=64
428A Kincaid Ranch, 63.62 325 ⇓P P 11 46 07.6 +0.2
baz=64
527A Woodward Ranch 63.67 324 ⇓P P 11 46 07.7 -0.1
baz=64,SNR=7.9
230A Sterling City 63.73 327 ⇑P P 11 46 08.3 +0.2
baz=64
SIUC Southern Illin 63.83 340 eP P 11 46 06.8 -1.8
45nm,0.9s
329A Wagon Wheel Ra 63.86 326 P P 11 46 08.9 0.0
baz=64
526A Mary Lane Ranc 63.87 323 ⇑P P 11 46 09.5 +0.3
baz=64
131A Roby 64.01 328 ⇑P P 11 46 09.7 -0.2
baz=64,SNR=7.2
Z32A Haskell 64.09 329 ⇓P P 11 46 10.1 -0.3
baz=64,SNR=12
427A Hayter Ranch, 64.10 325 ⇓P P 11 46 10.5 -0.1
baz=64,SNR=10
229A Bryant Ranch, 64.15 326 ⇑P P 11 46 10.7 -0.2
baz=64
328A Wristen Ranch, 64.21 325 ⇓P P 11 46 11.1 -0.1
baz=64,SNR=19
130A Snyder 64.23 328 ⇓P P 11 46 11.0 -0.4
baz=64,SNR=13
426A McDonald Obser 64.30 324 ⇑P P 11 46 12.2 +0.1
baz=64,SNR=11
BLO Bloomington 64.37 342 eP P 11 46 10.6 -1.4
54nm,0.8s
BRYW Bryant College 64.39 355 eP P 11 46 12.0 0.0
103nm,1.1s
Z31A Sharp Cattle R 64.42 329 ⇑P P 11 46 12.4 -0.1
baz=65,SNR=16
Y32A R-V Farms, Ver 64.64 330 ⇓P P 11 46 13.7 -0.2
baz=65,SNR=7.5
TUL1 Tulsa 64.65 334 ⇑P P 11 46 13.8 -0.1
baz=65
228A UT Block 9, Go 64.67 326 ⇑P P 11 46 13.6 -0.6
baz=65,SNR=8.6
129A Stewart Farms, 64.71 327 ⇑P P 11 46 14.0 -0.4
baz=65,SNR=11
326A Caldwell Ranch 64.78 324 ⇑P P 11 46 14.9 0.0
baz=65,SNR=13
Z30A Sanderson Ranc 64.87 328 ⇓P P 11 46 14.9 -0.6
baz=65,SNR=10
425A Indio Mountain 64.92 323 ⇑P P 11 46 15.8 -0.1
baz=65,SNR=30
WMOK Wichita Mounta 64.95 331 eP P 11 46 14.9 -1.0
11nm,1.2s
227A Bennet, Jal 64.95 325 ⇑P P 11 46 16.2 +0.2
baz=65,SNR=9.0
Y31A Rekieta Farm, 65.00 329 ⇓P P 11 46 15.9 -0.3
baz=65,SNR=9.8
128A Castleberry Fa 65.02 326 ⇑P P 11 46 15.8 -0.6
baz=65,SNR=10
BINY Binghamton 65.12 352 eP P 11 46 16.9 +0.1
65nm,1.0s
Z29A Hungry Hill Ra 65.13 327 ⇑P P 11 46 17.0 -0.2
baz=65
Y30A Stafford Cattl 65.23 328 ⇑P P 11 46 17.6 -0.2
baz=66
ALLY Alegheny Colle 65.24 348 eP P 11 46 17.0 -0.6
50nm,0.7s
325A Bean Ranch, Si 65.36 324 ⇓P P 11 46 18.7 -0.1
baz=66,SNR=42
X31A McDonald Ranch 65.41 330 ⇓P P 11 46 18.6 -0.2
baz=66,SNR=25
226B Tecolote Peak, 65.47 325 ⇓P P 11 46 19.7 +0.4
baz=66,SNR=11
Z28A Tucker Farm, M 65.50 327 ⇑P P 11 46 18.8 -0.7
baz=66,SNR=6.8
127A Arkansas Junct 65.51 326 ⇓P P 11 46 19.5 -0.1
baz=66
Y29A Porterfield Fa 65.60 328 ⇑P P 11 46 19.7 -0.5
baz=66
SFIN Scholer Farm 65.65 342 eP P 11 46 18.4 -1.8
SFIN Scholer Farm 65.65 342 ⇑P P 11 46 18.6 -1.6
baz=66,SNR=11
X30A Coker Ranch, T 65.69 329 ⇑P P 11 46 20.3 -0.3
baz=66,SNR=11
324A Moseley Ranch, 65.69 323 ⇑P P 11 46 20.1 -0.8
baz=66,SNR=21
MNTX Cornudas Mount 65.83 324 eP P 11 46 20.7 -0.9
4.4nm,0.8s
126A Clayton Basin, 65.83 325 ⇓P P 11 46 21.7 0.0
baz=66,SNR=10
225A Deer Hill, Car 65.84 324 ⇓P P 11 46 21.7 -0.1
baz=66,SNR=11
W31A Holland Ranch, 65.85 330 ⇓P P 11 46 21.3 -0.3
baz=66
Y28A McKinney Farm, 65.92 327 ⇓P P 11 46 21.5 -0.7
baz=66,SNR=7.9
Z27A Tatum 65.94 326 ⇓P P 11 46 21.8 -0.6
baz=66,SNR=14
X29A Tulia 66.08 328 ⇑P P 11 46 22.8 -0.5
baz=66,SNR=6.3
LIC Lamto 66.16 72⇑iP P 11 46 23.2 -0.8
22nm,0.6s,baz=250
LIC Lamto 66.16 72 eP P 11 46 23.1 -0.9
53nm,0.8s
LIC Lamto 66.16 72⇑iP P 11 46 23.2 -0.8
125A Gardner Draw, 66.18 325 ⇑P P 11 46 23.4 -0.6
baz=66,SNR=15
224A Cornudas Mount 66.20 324 ⇓P P 11 46 23.7 -0.4
baz=66,SNR=31
HNH Hanover 66.22 355 eP P 11 46 24.3 +0.5
32nm,1.0s
MSTX Muleshoe 66.23 327 eP P 11 46 23.7 -0.5
MSTX Muleshoe 66.23 327 ⇓P P 11 46 23.9 -0.3
baz=66,SNR=17
V31A Spring Creek L 66.29 330 ⇑P P 11 46 24.7 +0.3
baz=66,SNR=6.2
Z26A Caprock 66.30 326 ⇑P P 11 46 24.4 -0.2
baz=66,SNR=19
Y27A Causey 66.36 327 ⇓P P 11 46 24.5 -0.6
baz=67,SNR=18
TIC Toumodi 66.36 72 eP P 11 46 24.5 -0.8
31nm,0.8s
X28A Dimmitt 66.39 328 ⇑P P 11 46 24.9 -0.3
baz=67
AMTX Amarillo 66.43 328 eP P 11 46 24.2 -1.2
30nm,1.4s
KIC Kosan Boka 66.48 72 eP P 11 46 25.4 -0.6
77nm,0.8s
DBIC Dimbokro 66.52 72 eP P 11 46 25.4 -0.9
34nm,0.9s
DBIC Dimbokro 66.52 72 P P 11 46 25.7 -0.6
33nm,0.8s,baz=219,slow=6.5,SNR=31
W29A Amraillo 66.60 329 ⇑P P 11 46 26.0 -0.5
baz=67,SNR=6.7
124A Stringfield Ra 66.64 324 ⇓P P 11 46 26.9 0.0
baz=67,SNR=11
NCB Newcomb 66.66 354 eP P 11 46 26.2 -0.4
28nm,1.2s
V30A Spur Ranch, Mi 66.67 330 ⇑P P 11 46 27.9 +1.0
baz=67
Z25A Roswell 66.69 325 ⇑P P 11 46 26.8 -0.4
baz=67,SNR=13
Y26A Elida 66.73 326 ⇑P P 11 46 28.2 +0.8
baz=67
X27A F and S Farms, 66.93 327 ⇑P P 11 46 28.8 +0.2
baz=67
W28A Vega 66.98 328 ⇑P P 11 46 29.3 +0.4
baz=67
Z24A Sheeppen Canyo 67.07 325 ⇓P P 11 46 29.7 0.0
baz=67,SNR=22
222A Williams Famil 67.09 323 P P 11 46 30.7 +1.0
baz=67
Y25A Mesa, Roswell 67.18 326 ⇓P P 11 46 29.8 -0.4
baz=67,SNR=19
X26A CR and CF Fran 67.22 327 ⇓P P 11 46 30.4 0.0
baz=68,SNR=15
W27A Bowe Ranch, En 67.25 328 ⇑P P 11 46 30.4 -0.2
baz=68,SNR=8.8
U30A WK&E Inc. Balk 67.28 330 ⇓P P 11 46 31.5 +0.8
baz=68
T31A Randall Ranch, 67.31 331 ⇓P P 11 46 31.0 +0.2
baz=68,SNR=6.5
320A Kipp Ranch, An 67.33 321 P P 11 46 32.1 +0.8
baz=68
LONY Lake Ozonia 67.34 353 eP P 11 46 30.8 0.0
14nm,0.6s
V28A Channing 67.39 329 ⇓P P 11 46 31.6 +0.2
baz=68,SNR=6.1
221A Mesquite Ranch 67.40 322 ⇓P P 11 46 32.7 +1.1
baz=68
122A Conniff Cattle 67.48 323 ⇑P P 11 46 33.5 +1.4
baz=68
Z23A Rita Site, Whi 67.49 324 ⇑P P 11 46 32.7 +0.6
baz=68,SNR=7.9
U29A Oasis Ranch, S 67.51 330 ⇑P P 11 46 32.8 +0.6
baz=68
Y24A Capitan 67.57 325 ⇓P P 11 46 32.7 0.0
baz=68,SNR=5.4
W26A Owens Ranch, T 67.62 327 ⇑P P 11 46 33.2 +0.2
baz=68,SNR=8.7
X25A Clemmons Ranch 67.63 326 ⇑P P 11 46 33.4 +0.3
baz=68
T30A Plains 67.66 331 ⇑P P 11 46 33.5 +0.5
baz=68
S31A Mullinville 67.66 332 ⇑P P 11 46 33.9 +0.8
baz=68
V27A Dan Oppiter Fa 67.69 328 ⇑P P 11 46 34.0 +0.6
baz=68
KSU1 Kansas State U 67.72 335 eP P 11 46 32.2 -1.1
36nm,0.9s
220A Playas Peak, P 67.75 322 ⇑P P 11 46 34.6 +0.7
baz=68,SNR=7.6
121A Cookes Peak, D 67.79 323 ⇓P P 11 46 35.2 +1.1
baz=68,SNR=12
319A Douglas 67.80 321 ⇑P P 11 46 35.0 +0.9
baz=68,SNR=8.3
Z22A Elephant Butte 67.88 324 ⇓P P 11 46 35.8 +1.2
baz=68,SNR=31
U28A Mallet 67.89 329 ⇓P P 11 46 34.7 +0.1
baz=68,SNR=5.9
Y23A Lovelace Mesa, 67.90 325 ⇑P P 11 46 35.1 +0.3
baz=68,SNR=9.0
X24A Lazy VL Ranch, 68.06 326 ⇓P P 11 46 35.9 +0.1
baz=68,SNR=6.0
W25A X Bar L Ranch, 68.07 327 ⇑P P 11 46 35.8 +0.1
baz=68,SNR=17
T29A Hugoton 68.09 330 ⇑P P 11 46 36.4 +0.7
baz=68
S30A Montezuma 68.11 331 ⇓P P 11 46 36.5 +0.6
baz=68
V26A Tequesquite Ra 68.19 328 ⇑P P 11 46 36.6 +0.1
baz=68,SNR=15
U27A Thompson Grove 68.22 329 ⇓P P 11 46 37.0 +0.3
baz=68
R31A Burdett 68.24 332 ⇓P P 11 46 36.6 0.0
baz=68,SNR=7.9
120A U Bar Ranch, L 68.28 322 ⇑P P 11 46 38.2 +1.0
baz=68,SNR=11
Z21A St. Cloud Mine 68.31 323 ⇑P P 11 46 38.5 +1.1
baz=69,SNR=13
BNM Barren Site 68.38 325 eP P 11 46 38.1 +0.3
6.5nm,0.9s
S29A Ulysses 68.39 331 ⇑P P 11 46 38.0 +0.4
baz=69,SNR=6.0
Y22A Socorro 68.40 324 ⇓P P 11 46 39.1 +1.3
baz=69
T28A Walsh 68.44 330 ⇑P P 11 46 37.8 -0.1
baz=69,SNR=9.3
X23A Hourglass Bar 68.47 325 ⇓P P 11 46 39.2 +0.8
baz=69
W24A Lazy 6 Ranch, 68.55 326 ⇑P P 11 46 39.2 +0.4
baz=69
R30A Dighton 68.56 332 ⇑P P 11 46 38.8 +0.2
baz=69,SNR=5.1
V25A Rancho No Teng 68.64 327 ⇑P P 11 46 39.6 +0.3
baz=69,SNR=15
U26A Atchley Ranch, 68.64 328 ⇓P P 11 46 39.9 +0.5
baz=69,SNR=18
Z20A Nine Sixteen R 68.68 322 ⇓P P 11 46 40.8 +1.2
baz=69,SNR=11
T27A Campo 68.68 329 ⇓P P 11 46 39.7 +0.2
baz=69,SNR=8.6
S28A Manter 68.72 330 ⇑P P 11 46 40.2 +0.5
baz=69
Q31A Ellis 68.78 333 ⇓P P 11 46 40.8 +0.9
baz=69
Y21A Point of Rocks 68.84 324 ⇑P P 11 46 42.1 +1.5
baz=69,SNR=13
LAZ Ladron 68.84 324 eP P 11 46 40.8 +0.2
4.7nm,1.4s
X22A Bernardo 68.85 325 ⇓P P 11 46 42.2 +1.6
baz=69
V24A Rampart Ranch, 68.88 327 ⇑P P 11 46 41.4 +0.5
baz=69,SNR=12
ANMO Albuquerque 68.89 325 eP P 11 46 41.5 +0.6
8.0nm,0.9s
W23A Werner Place, 68.90 326 ⇓P P 11 46 41.7 +0.7
baz=69,SNR=5.8
JFWS Jewell Farm 68.90 341 eP P 11 46 39.9 -0.6
34nm,0.5s
U25A Circle Dot Ran 68.97 328 ⇑P P 11 46 41.9 +0.5
baz=69,SNR=17
R29A Marienthal 69.06 331 ⇑P P 11 46 42.5 +0.8
baz=69
Q30A Quinter 69.11 332 P P 11 46 42.7 +0.7
baz=69
Y20A Horse Springs, 69.15 323 ⇑P P 11 46 43.8 +1.2
baz=69,SNR=6.8
T26A Comanche Natio 69.19 329 ⇓P P 11 46 43.2 +0.6
baz=69,SNR=14
P31A Stockton 69.21 333 P P 11 46 43.0 +0.5
baz=70
W22A Albuquerque 69.21 325 ⇓P P 11 46 44.1 +1.3
baz=70,SNR=6.4
X21A Alamocita Cree 69.23 324 ⇑P P 11 46 44.1 +1.1
baz=70,SNR=16
R28A Tribune 69.30 331 ⇓P P 11 46 43.4 +0.2
baz=70
TUC Tucson 69.36 320 eP P 11 46 43.7 +0.1
7.8nm,1.3s
V23A Ortiz Mt. (NFS 69.36 326 ⇓P P 11 46 44.8 +1.0
baz=70,SNR=9.6
Q29A Oakley 69.37 331 P P 11 46 44.1 +0.5
baz=70
U24A Moreno Valley 69.42 327 ⇓P P 11 46 45.3 +1.1
baz=70
S26A Kim 69.49 329 ⇑P P 11 46 45.3 +0.8
baz=70,SNR=19
T25A Trinidad 69.56 328 ⇓P P 11 46 45.8 +0.8
baz=70,SNR=10
P30A Selden 69.59 332 ⇑P P 11 46 45.6 +0.6
baz=70
W21A San Fidel 69.66 325 ⇑P P 11 46 46.6 +1.0
baz=70
X20A Quemado 69.69 324 ⇑P P 11 46 47.0 +1.2
baz=70,SNR=6.6
R27A Eads 69.70 330 ⇓P P 11 46 46.4 +0.7
baz=70
U23A El Rito 69.82 326 ⇑P P 11 46 47.5 +1.0
baz=70,SNR=6.0
V22A San Miguel Ran 69.87 326 ⇑P P 11 46 47.9 +1.0
baz=70,SNR=11
Q28A Sharon Springs 69.89 331 ⇑P P 11 46 47.0 +0.2
baz=70
P29A Atwood 69.94 332 P P 11 46 47.7 +0.6
baz=70
T24B San Luis 69.98 327 P P 11 46 48.8 +1.2
baz=70
S25A Robets Cordova 69.98 328 ⇓P P 11 46 48.1 +0.7
baz=70,SNR=24
R26A Arlington 70.02 329 ⇓P P 11 46 48.2 +0.6
baz=70,SNR=15
O30A MW Ranch, Wils 70.04 333 ⇑P P 11 46 48.6 +1.0
baz=70
W20A Ramah 70.12 324 ⇑P P 11 46 49.3 +0.9
baz=70,SNR=13
V21A Milan 70.17 325 ⇑P P 11 46 50.0 +1.2
baz=70
U22A Llaves 70.19 326 ⇑P P 11 46 50.2 +1.3
baz=70,SNR=5.7
KSCO Kaye Shedlock' 70.21 330 eP P 11 46 49.3 +0.5
KSCO Kaye Shedlock' 70.21 330 ⇑P P 11 46 49.9 +1.1
baz=70
T23A Casias Ranch, 70.28 327 ⇑P P 11 46 50.2 +0.7
baz=70,SNR=5.7
R25A Fountain Ranch 70.29 329 ⇑P P 11 46 50.0 +0.7
baz=70
BGNE Belgrade 70.30 335 eP P 11 46 49.4 +0.2
BGNE Belgrade 70.30 335 ⇓P P 11 46 49.4 +0.2
baz=71,SNR=5.9
O29A 4D Ranch, Culb 70.31 332 ⇓P P 11 46 50.1 +0.8
baz=71
214A Organ Pipe Nat 70.32 319 ⇓P P 11 46 50.6 +1.2
baz=70
S24A Houchin Ranch, 70.34 328 ⇓P P 11 46 51.1 +1.2
baz=71,SNR=13
X18A Snowflake 70.48 323 ⇑P P 11 46 51.8 +1.2
baz=71
Q26A Hugo 70.55 330 ⇑P P 11 46 51.9 +1.0
baz=71,SNR=8.3
SDCO Great Sand Dun 70.57 328 eP P 11 46 51.8 +0.7
10nm,0.7s
N30A Hueftle Ranch, 70.58 333 P P 11 46 51.5 +0.6
baz=71
P27A Ficken Ranch, 70.63 331 ⇑P P 11 46 52.1 +0.8
baz=71
U21A Nageezi 70.65 325 ⇑P P 11 46 52.7 +1.0
baz=71,SNR=7.4
T22A Edith 70.71 326 ⇑P P 11 46 53.1 +1.1
baz=71,SNR=8.8
O28A Krutsinger Ran 70.74 332 ⇑P P 11 46 52.8 +0.9
baz=71,SNR=5.4
R24A Sanders Place, 70.76 328 ⇓P P 11 46 53.1 +0.9
baz=71,SNR=11
S23A Nye Farm, Mont 70.79 327 ⇑P P 11 46 53.8 +1.4
baz=71
W18A Petrified Fore 70.80 323 ⇓P P 11 46 53.6 +1.1
baz=71
N29A Votaw Ranch, W 70.81 333 ⇑P P 11 46 52.7 +0.4
baz=71,SNR=5.5
Q25A Bedland, Calha 70.88 329 ⇓P P 11 46 53.6 +0.7
baz=71
P26A Davis Ranch, A 70.98 330 ⇓P P 11 46 54.5 +1.1
baz=71
T21A Navajo Lake 71.02 326 ⇓P P 11 46 55.3 +1.5
baz=71
U20A Newcomb 71.07 325 ⇓P P 11 46 54.8 +0.8
baz=71
R23A Moffat 71.08 328 ⇓P P 11 46 55.0 +0.8
baz=71,SNR=12
N28A Pribbeno Ranch 71.10 332 ⇑P P 11 46 54.8 +0.8
baz=71
O27A Beecher Island 71.10 331 ⇓P P 11 46 55.1 +1.0
baz=71,SNR=9.3
S22A 4UR Ranch, Cre 71.23 327 ⇑P P 11 46 56.2 +1.0
baz=72,SNR=8.6
X16A Lo Mia Camp, P 71.25 322 ⇑P P 11 46 56.6 +1.4
baz=72,SNR=10
P25A Willow Gulch B 71.32 330 ⇓P P 11 46 56.5 +1.0
baz=72,SNR=7.7
Q24A Divide 71.35 329 ⇓P P 11 46 56.8 +0.9
baz=72,SNR=9.7
M29A Burnside Ranch 71.36 333 P P 11 46 56.4 +0.9
baz=72
O26A Horse Wrangler 71.52 331 ⇓P P 11 46 57.9 +1.3
baz=72
OGNE Ogallala 71.52 332 eP P 11 46 56.8 +0.2
16nm,0.7s
OGNE Ogallala 71.52 332 ⇑P P 11 46 57.3 +0.8
baz=72,SNR=5.3
R22A Saguache, Gunn 71.57 327 ⇑P P 11 46 58.5 +1.3
baz=72,SNR=8.7
M28A Bar X Bar Ranc 71.61 333 ⇑P P 11 46 58.3 +1.2
baz=72
N27A Anderson Farm, 71.63 332 ⇑P P 11 46 58.1 +0.8
baz=72
Q23A Hartsel 71.64 328 ⇓P P 11 46 58.9 +1.3
baz=72
S21A Coal Bank Pass 71.66 326 ⇓P P 11 46 58.6 +0.8
baz=72,SNR=8.1
P24A Kohler Place, 71.67 329 ⇓P P 11 46 59.2 +1.6
baz=72
MVCO Mesa Verde 71.69 325 eP P 11 46 58.7 +0.8
17nm,1.1s
MVCO Mesa Verde 71.69 325 ⇑P P 11 46 58.8 +1.0
baz=72,SNR=9.9
ECSD EROS Data Cent 71.73 337 eP P 11 46 56.9 -0.7
8.0nm,0.5s
SPMN St. Paul 71.77 340 eP P 11 46 56.9 -0.9
SPMN St. Paul 71.77 340 ⇑P P 11 46 57.0 -0.9
baz=72,SNR=11
O25A Wiggins 71.78 330 ⇑P P 11 47 00.1 +1.9
baz=72
Y14A Wickenburg 71.82 320 ⇓P P 11 46 59.6 +1.2
baz=72
WUAZ Wupatki 72.00 322 eP P 11 46 59.0 -0.6
12nm,1.0s
WUAZ Wupatki 72.00 322 ⇑P P 11 47 01.1 +1.4
baz=72,SNR=12
P23A Jefferson 72.01 329 ⇓P P 11 47 01.0 +1.2
baz=72
R21A Cimarron 72.07 327 ⇓P P 11 47 01.5 +1.3
baz=72
S20A Disappointment 72.08 326 ⇑P P 11 47 01.4 +1.2
baz=72,SNR=9.6
Q22A Crested Butte, 72.13 328 ⇑P P 11 47 01.6 +1.1
baz=72,SNR=6.1
L28A Connealy Angus 72.17 333 ⇓P P 11 47 01.4 +1.0
baz=72,SNR=5.6

O24A Longmont 72.23 330 ⇑P P 11 47 02.1 +1.2
baz=72
ISCO Idaho Springs 72.23 329 eP P 11 47 01.9 +0.8
13nm,1.1s
ISCO Idaho Springs 72.23 329 ⇓P P 11 47 02.1 +1.0
baz=72,SNR=9.0
GLA Glamis 72.31 318 ⇑P P 11 47 02.6 +1.2
baz=72
R20A Redvale 72.36 326 ⇓P P 11 47 03.3 +1.6
baz=73,SNR=15
SMCO Snowmass 72.41 328 eP P 11 47 03.1 +0.8
8.3nm,0.8s
PV01 Paradox Valley 72.42 326 P P 11 47 03.3 +1.1
4µm,0.6s
M26A McRoberts Ranc 72.43 332 ⇓P P 11 47 03.4 +1.4
baz=73
Q21A Lamborn Mesa, 72.44 327 ⇓P P 11 47 03.4 +1.2
baz=73
L27A T5 Ranch, Ells 72.57 333 ⇑P P 11 47 04.3 +1.5
baz=73
Y12C Blythe 72.60 319 ⇓P P 11 47 04.5 +1.5
baz=73
P22A Eagle 72.62 328 ⇓P P 11 47 04.5 +1.2
baz=73,SNR=9.5
K28A Ten Mile Ranch 72.69 333 ⇑P P 11 47 04.8 +1.3
baz=73
O23A Lake Granby, G 72.70 329 ⇑P P 11 47 05.2 +1.4
baz=73
N24A Carr 72.70 330 ⇑P P 11 47 05.0 +1.3
baz=73
SWSC Sam W. Stewart 72.83 318 ⇑P P 11 47 05.7 +1.4
baz=73
L26A Underwood Farm 72.86 332 ⇑P P 11 47 05.9 +1.4
baz=73
Q20A Ridgley Place, 72.90 327 P P 11 47 05.5 +0.7
baz=73
P21A Newcastle 72.91 328 ⇓P P 11 47 06.5 +1.5
baz=73,SNR=10
O22A Kremmling 72.96 329 ⇓P P 11 47 06.2 +0.8
baz=73,SNR=13
K27A Flueckinger Fa 73.05 333 ⇓P P 11 47 06.7 +1.2
baz=73,SNR=10
BC3 Big Chuckawall 73.10 319 ⇑P P 11 47 07.3 +1.2
baz=73,SNR=5.6
W13A Hualapai Mount 73.15 321 ⇑P P 11 47 07.8 +1.3
baz=73,SNR=7.1
U15A North Rim 73.17 323 ⇑P P 11 47 08.2 +1.6
baz=73,SNR=15
M24A Cheyenne 73.18 331 ⇑P P 11 47 07.9 +1.4
baz=73,SNR=23
MONP Monument Peak 73.18 317 ⇑P P 11 47 07.5 +0.8
baz=73
J28A Allard Ranch, 73.23 334 ⇑P P 11 47 07.1 +0.5
baz=74,SNR=8.6
N23A Red Feather La 73.25 329 ⇑P P 11 47 08.1 +1.1
baz=74,SNR=9.7
IRM Iron Mountain 73.26 319 ⇓P P 11 47 08.1 +1.2
baz=74
PHWY Pilot Hill 73.34 330 eP P 11 47 07.7 +0.2
6.5nm,0.7s
P20A De Beque 73.36 327 ⇑P P 11 47 08.7 +1.1
baz=74,SNR=6.5
J27A Elkhorn Farm, 73.41 333 ⇑P P 11 47 08.9 +1.3
baz=74
N22A Wattenberg Ran 73.42 329 ⇑P P 11 47 09.2 +1.3
baz=74,SNR=7.1
K26A Motz Farm, Whi 73.45 332 ⇑P P 11 47 09.6 +1.7
baz=74
O21A Pagoda 73.45 328 ⇑P P 11 47 09.6 +1.5
baz=74
M23A Laramie 73.59 330 ⇓P P 11 47 10.1 +1.1
baz=74
BELC Belle Mtn. Jos 73.67 318 ⇓P P 11 47 10.5 +1.1
baz=74
I28A Midland 73.68 334 ⇓P P 11 47 10.1 +1.0
baz=74
PFO Pinyon Flat Ob 73.69 318 ⇑P P 11 47 10.3 +0.8
baz=74
P19A Cripple Cowboy 73.76 327 ⇑P P 11 47 11.3 +1.4
baz=74,SNR=27
O20A White River Ci 73.77 328 eP P 11 47 10.3 +0.4
O20A White River Ci 73.77 328 ⇓P P 11 47 11.2 +1.2
baz=74,SNR=12
EYMN Ely 73.85 342 eP P 11 47 09.2 -0.8
11nm,0.6s
N21A Black Mountain 73.89 328 ⇑P P 11 47 12.1 +1.4
baz=74
J26A Sides Ranch, S 73.90 333 ⇑P P 11 47 11.8 +1.3
baz=74,SNR=7.4
M22A Cedar Creek Ra 73.95 329 ⇓P P 11 47 12.1 +1.1
baz=74
GMRC Granite Mounta 73.99 319 ⇑P P 11 47 12.7 +1.5
baz=74,SNR=15
L23A Garrett 74.09 330 ⇓P P 11 47 12.4 +0.5
baz=74,SNR=6.3
I27A Quinn 74.10 334 ⇑P P 11 47 12.2 +0.6
baz=74
MURC Murrieta 74.14 317 ⇑P P 11 47 13.4 +1.4
baz=74
SRU San Rafael 74.16 325 eP P 11 47 12.9 +0.7
18nm,0.9s
K24A Anderson Ranch 74.18 331 ⇓P P 11 47 13.8 +1.6
baz=74
H28A Mission Ridge 74.19 335 ⇑P P 11 47 12.5 +0.5
baz=74
N20A Spence Gulch, 74.31 328 ⇑P P 11 47 14.0 +0.9
baz=75,SNR=7.5
O19A Miners Draw (B 74.33 327 ⇑P P 11 47 14.2 +1.0
baz=75,SNR=6.4
Q16A Castle Valley 74.36 325 eP P 11 47 14.4 +1.0
Q16A Castle Valley 74.36 325 ⇑P P 11 47 14.7 +1.3
baz=75
L22A Ellis Ranch, M 74.37 330 ⇓P P 11 47 14.9 +1.6
baz=75
I26A New Underwood 74.40 333 ⇑P P 11 47 13.2 -0.1
baz=75
BBRC Big Bear Solar 74.41 318 ⇑P P 11 47 15.3 +1.5
baz=75
HEC Hector,Ludlow 74.43 319 ⇓P P 11 47 15.1 +1.4
baz=75,SNR=9.0
RWWY Rawlins 74.46 329 eP P 11 47 14.7 +0.7
14nm,0.9s
M21A Separation Pea 74.47 329 ⇑P P 11 47 14.9 +0.9
baz=75,SNR=12
G28A Parade 74.48 335 ⇑P P 11 47 14.2 +0.5
baz=75
SYO Syowa Base 74.53 159⇑eP P 11 47 13.8 +0.1
K23A Bowen Ranch, D 74.57 331 ⇓P P 11 47 15.4 +0.9
baz=75,SNR=8.3
CCUT Cedar City 74.57 323 eP P 11 47 16.0 +1.3
12nm,0.9s
TUQ Turquoise Moun 74.59 320 ⇑P P 11 47 16.0 +1.2
baz=75
J24A Dixon Ranch, L 74.60 332 ⇑P P 11 47 16.0 +1.4
baz=75,SNR=7.5
MSU Marysvale 74.61 324 eP P 11 47 16.0 +1.1
8.5nm,0.8s
MVU Marysvale 74.62 324 eP P 11 47 15.6 +0.7
16nm,1.1s
TMUT Trail Mountain 74.66 325 eP P 11 47 15.9 +0.7
4.7nm,0.6s
F29A Eureka 74.70 336 P P 11 47 15.3 +0.3
baz=75
L21A Rawlins 74.75 329 ⇑P P 11 47 16.5 +0.9
baz=75,SNR=20
I25A Rochford 74.75 333 ⇓P P 11 47 16.5 +1.0
baz=75,SNR=16
M20A Sweetwater, Wa 74.78 328 ⇑P P 11 47 16.6 +0.9
baz=75,SNR=5.3
ARUT Antelope Range 74.78 323 eP P 11 47 17.2 +1.4
11nm,1.0s
H26A Fairpoint 74.84 334 ⇓P P 11 47 17.2 +1.3
baz=75,SNR=6.2
BFSC Mount Baldy Ra 74.85 318 ⇓P P 11 47 17.3 +1.1
baz=75
SHPR Sheep Range 74.87 321 eP P 11 47 17.1 +0.8
3.8nm,0.9s
K22A Casper 74.89 330 ⇑P P 11 47 17.3 +1.0
baz=75,SNR=5.7
RSSD Black Hills 74.96 333 eP P 11 47 16.9 +0.1
11nm,0.8s
I24A Kuemmerle Ranc 75.01 332 ⇓P P 11 47 17.8 +0.9
baz=75
GSC Goldstone 75.03 319 ⇑P P 11 47 18.3 +1.1
baz=75,SNR=7.0
J23A Dilts Ranch, B 75.05 331 ⇓P P 11 47 18.5 +1.4
baz=75
SHOC Shoshone 75.12 320 ⇑P P 11 47 18.5 +1.0
baz=75
G27A Dupree 75.13 335 ⇑P P 11 47 17.7 +0.3
baz=75,SNR=6.3
H25A Fruitdale 75.19 333 ⇑P P 11 47 18.4 +0.6
baz=75
K21A Alcova 75.21 330 ⇓P P 11 47 19.5 +1.3
baz=76,SNR=32
TOA0 Torodi Ar. Sit 75.24 69 eP P 11 47 17.9 -0.7
TORD Torodi Ar. Bea 75.24 69 P P 11 47 18.0 -0.7
TORD pP pP 11 48 18.3 +4.4
TORD Torodi Ar. Bea 75.24 69 P P 11 47 18.0 -0.7
37nm,0.5s,baz=255,slow=5.9,SNR=435
TORD pP pP 11 48 18.3 +4.4
19nm,0.9s,baz=252,slow=5.7,SNR=13
L20A Wamsutter 75.25 329 ⇓P P 11 47 19.3 +0.9
baz=76,SNR=9.1
M19A Rock Springs 75.26 328 ⇓P P 11 47 19.9 +1.4
baz=76
MPU Maple Canyon 75.41 325 eP P 11 47 20.0 +0.6
6.0nm,0.9s
AGMN Agassiz Nation 75.47 340 eP P 11 47 18.5 -0.7
21nm,0.8s
J22A Midwest 75.47 331 ⇓P P 11 47 20.1 +0.5
baz=76,SNR=18
EDW2 Edwards Air Fo 75.48 318 ⇑P P 11 47 20.6 +0.9
baz=76
DAU Daniels Canyon 75.50 326 eP P 11 47 20.9 +0.8
4.0nm,0.4s
F27A Lemmon 75.57 335 ⇓P P 11 47 20.4 +0.5
baz=76,SNR=5.2
G25A Newell 75.58 334 ⇓P P 11 47 20.3 +0.3
baz=76,SNR=8.9
E28A Huff 75.65 336 P P 11 47 21.1 +0.8
baz=76
H24A Dirks Ranch, A 75.69 333 ⇑P P 11 47 21.2 +0.5
baz=76,SNR=21
LRMC Laurel Mountai 75.69 319 ⇑P P 11 47 22.1 +1.2
baz=76,SNR=5.3
JLU Jordanelle 75.74 326 eP P 11 47 21.9 +0.6
6.5nm,0.5s
K20A Yellowstone Ra 75.75 329 ⇓P P 11 47 21.7 +0.6
baz=76,SNR=10.0
L19A Farson 75.81 328 ⇑P P 11 47 22.7 +1.1
baz=76,SNR=9.3
F26A Lodgepole 75.81 335 ⇑P P 11 47 21.8 +0.4
baz=76,SNR=7.4
C30A Mose, Pekin 75.81 338 P P 11 47 21.5 +0.2
baz=76
I22A 9 Mile Ranch, 75.85 331 ⇑P P 11 47 22.4 +0.8
baz=76,SNR=16
FURC Furnace Creek, 75.85 320 ⇓P P 11 47 23.2 +1.6
baz=76,SNR=15
J21A Lysite 75.86 330 ⇑P P 11 47 22.7 +0.9
baz=76,SNR=12
E27A Carson 75.86 336 ⇓P P 11 47 22.4 +0.9
baz=76
H23A Clabaugh Cattl 75.90 332 ⇓P P 11 47 22.6 +0.7
baz=76
MPMC Manual Prospec 75.95 319 ⇑P P 11 47 23.4 +0.9
baz=76,SNR=7.6
M17A Scullys Gap (B 75.99 327 ⇓P P 11 47 23.3 +0.6
baz=76
L18A Fontenelle, Gr 76.01 328 ⇓P P 11 47 23.3 +0.6
baz=76,SNR=7.6
G24A Alzada 76.10 333 ⇓P P 11 47 23.9 +0.9
baz=76
K19A Absolon Red Bu 76.11 329 ⇑P P 11 47 24.1 +0.8
baz=76,SNR=11
I21A Big Trails, Te 76.15 331 ⇓P P 11 47 23.9 +0.5
baz=76,SNR=24
J20A Shoshoni 76.16 330 ⇑P P 11 47 24.6 +1.1
baz=76,SNR=9.4
ARVC Arvin 76.16 318 ⇑P P 11 47 23.9 +0.4
baz=76
DUG Dugway 76.16 325 eP P 11 47 24.3 +0.8
5.8nm,0.9s
DUG Dugway 76.16 325 ⇓P P 11 47 24.9 +1.4
baz=76,SNR=7.2
F25A Bowman 76.19 334 ⇑P P 11 47 24.3 +0.8
baz=76
VNDA Vanda 76.23 190 P P 11 47 25.6 +2.4
VNDA Vanda 76.23 190 P P 11 47 25.6 +2.4
3.8nm,0.9s,baz=133,slow=4.4,SNR=18
E26A Carlson Angus 76.24 335 ⇓P P 11 47 24.4 +0.7
baz=76
ISA Isabella 76.29 318 eP P 11 47 25.2 +0.9
6.9nm,0.8s
ISA Isabella 76.29 318 ⇓P P 11 47 25.6 +1.4
baz=76,SNR=9.3
MDND Maddock 76.33 337 eP P 11 47 24.4 +0.2
MDND Maddock 76.33 337 ⇓P P 11 47 24.8 +0.7
baz=77,SNR=13
H22A Cleamont 76.34 332 ⇑P P 11 47 25.3 +0.9
baz=77
R11A Troy Canyon, C 76.39 322 eP P 11 47 25.9 +1.0
R11A Troy Canyon, C 76.39 322 ⇓P P 11 47 26.2 +1.3
baz=77,SNR=11
B30A Myrvik Farm, E 76.41 339 ⇓P P 11 47 24.7 +0.2
baz=77,SNR=10
G23A Biddle 76.41 333 ⇓P P 11 47 25.3 +0.6
baz=77,SNR=12
BW06 Boulder Array 76.41 329 eP P 11 47 24.9 -0.1
2.5nm,0.6s
PDAR Pinedale Array 76.41 329 P P 11 47 25.3 +0.3
PDAR Pinedale Array 76.41 329 P P 11 47 25.3 +0.3
3.3nm,0.7s,baz=128,slow=8.1,SNR=32
D27A Center 76.41 336 ⇑P P 11 47 25.3 +0.7
baz=77,SNR=6.0
C28A Hausauer Farms 76.50 337 ⇓P P 11 47 25.6 +0.5
baz=77
GRAC Grapevine Rang 76.51 320 ⇑P P 11 47 26.6 +1.1
baz=77
F24A Ekalaka 76.53 333 ⇓P P 11 47 25.8 +0.5
baz=77,SNR=7.4
HWUT Hardware Ranch 76.54 327 eP P 11 47 26.2 +0.6
5.4nm,0.6s
J19A Crowheart 76.55 329 ⇑P P 11 47 26.5 +0.8
baz=77,SNR=20
CWC Cottonwood Cre 76.56 319 ⇓P P 11 47 27.1 +1.2
baz=77
PKM Peak Mountain 76.63 317 ⇓P P 11 47 27.4 +1.0
baz=77
E25A Miller Ranch, 76.64 334 ⇓P P 11 47 26.8 +0.8
baz=77,SNR=5.8
I20A Worland 76.64 330 ⇓P P 11 47 26.8 +0.7
baz=77,SNR=11
H21A Big Horn, Sher 76.67 331 ⇓P P 11 47 26.5 +0.2
baz=77,SNR=9.8
D26A Manning 76.69 335 ⇑P P 11 47 26.9 +0.7
baz=77,SNR=5.7
B29A Wagenman Farm, 76.77 338 P P 11 47 27.1 +0.5
baz=77
VES Vestal, Richgr 76.78 318 ⇑P P 11 47 27.9 +1.0
baz=77
BGU Big Grassy Mou 76.80 325 eP P 11 47 27.6 +0.4
7.8nm,1.1s
G22A Birney 76.81 332 ⇓P P 11 47 27.2 +0.2
baz=77
A30A Hoffart Farm, 76.82 339 ⇓P P 11 47 27.5 +0.7
baz=77
F23A Volborg 76.83 333 ⇓P P 11 47 27.6 +0.6
baz=77,SNR=16
C27A Sayler Ranch, 76.91 336 ⇑P P 11 47 28.3 +0.9
baz=77
H20A Greybull 76.99 331 ⇑P P 11 47 28.5 +0.5
baz=77,SNR=15
SMMC Simmler 77.01 317 ⇓P P 11 47 29.5 +1.3
baz=77
E24A Baker 77.05 334 ⇓P P 11 47 29.2 +0.9
baz=77,SNR=9.2
TIN Tinemaha 77.06 320 ⇑P P 11 47 30.0 +1.5
baz=77
I19A Meeteetse 77.11 330 ⇓P P 11 47 29.7 +0.9
baz=77,SNR=12
B28A Dugan Ranch, T 77.11 337 ⇓P P 11 47 28.8 +0.3
baz=77,SNR=5.6
SCHQ Schefferville 77.11 360 eP P 11 47 27.8 -0.5
20nm,0.6s
SCHQ Schefferville 77.11 360 P P 11 47 28.2 -0.1
22nm,0.6s,baz=181,slow=4.6,SNR=30
A29A Manning Farm, 77.12 338 P P 11 47 28.8 +0.3
baz=77
D25A Fairfield 77.14 335 ⇓P P 11 47 29.8 +1.0
baz=77,SNR=6.4
TSUM Tsumeb 77.18 106 eP P 11 47 29.2 -0.5
20nm,0.9s
ULM Lac du Bonnet 77.19 341 eP P 11 47 28.1 -0.7
16nm,0.5s
ULM Lac du Bonnet 77.19 341 P P 11 47 28.7 -0.2
27nm,0.6s,baz=149,slow=6.1,SNR=24
G21A Lodge Grass 77.21 332 ⇑P P 11 47 29.8 +0.6
baz=78,SNR=5.1
C26A Wahner Farm, P 77.22 336 ⇓P P 11 47 30.0 +0.9
baz=78,SNR=5.1
F22A Rosebud 77.24 332 ⇓P P 11 47 29.9 +0.6
baz=78,SNR=13
I18A Diamond G Ranc 77.24 329 ⇑P P 11 47 30.9 +1.3
baz=78,SNR=18
B27A Peters Farms, 77.40 337 ⇓P P 11 47 30.9 +0.8
baz=78
E23A Ismay 77.41 333 ⇓P P 11 47 30.5 +0.3
baz=78,SNR=6.5
REDW Red Top Meadow 77.48 328 eP P 11 47 31.2 +0.3
7.3nm,0.8s
D24A Glendive 77.51 334 ⇑P P 11 47 31.8 +1.0
baz=78
SNOW Snow King Moun 77.51 328 eP P 11 47 31.4 +0.2
8.6nm,0.9s
LOHW Long Hollow 77.55 329 eP P 11 47 31.4 +0.1
6.6nm,0.6s
C25A Freed Ranch, W 77.57 335 ⇑P P 11 47 32.4 +1.3
baz=78
H19A Powell 77.59 330 ⇓P P 11 47 32.2 +0.8
baz=78,SNR=8.6
TPAW Teton Pass 77.63 328 eP P 11 47 32.2 +0.4
9.0nm,0.9s
G20A Bridger 77.66 331 ⇓P P 11 47 32.1 +0.3
baz=78,SNR=12
RRI2 Red Ridge 77.70 328 eP P 11 47 33.1 +0.9
15nm,1.0s
MOOW Moose Ponds 77.72 329 eP P 11 47 32.5 +0.2
2.0nm,0.5s
B26A Jensen Ranch, 77.73 336 ⇓P P 11 47 32.7 +0.8
baz=78
I17A Pilgrim Ck. 77.77 329 ⇓P P 11 47 34.1 +1.6
baz=78,SNR=6.7
MLAC Mammoth Lakes 77.80 320 ⇑P P 11 47 34.1 +1.3
baz=78,SNR=5.1
ELK Elko 77.86 324 eP P 11 47 33.3 +0.2
5.5nm,0.9s
C24A Savage 77.88 335 ⇓P P 11 47 33.8 +1.0
baz=78,SNR=9.7
H18A Shoshone NF, C 77.91 330 ⇓P P 11 47 34.0 +0.8
baz=78,SNR=22
D23A Lindsay 77.91 334 P P 11 47 34.0 +1.0
baz=78
IMW Indian Meadow 77.92 329 eP P 11 47 34.3 +0.9
16nm,1.0s
NV11 Mina Array Sit 77.93 321 eP P 11 47 33.4 0.0
FLWY Flagg Ranch 77.95 329 eP P 11 47 34.0 +0.6
5.8nm,0.5s
B25A Knox Farm, Ray 78.00 336 ⇑P P 11 47 34.6 +1.2
baz=78
NVAR Mina Array Bea 78.01 321 P P 11 47 34.9 +0.9
NVAR Mina Array Bea 78.01 321 P P 11 47 34.9 +0.9
3.1nm,0.7s,baz=150,slow=5.2,SNR=27
RLMT Red Lodge 78.06 330 eP P 11 47 34.5 +0.5
6.9nm,0.5s
F20A Billings 78.08 331 ⇓P P 11 47 34.8 +0.8
baz=78
A26A Wade Farm, Ken 78.09 337 P P 11 47 34.4 +0.5
baz=78
H17A Grant Village 78.12 329 eP P 11 47 35.9 +1.4
H17A Grant Village 78.12 329 ⇓P P 11 47 36.1 +1.6
baz=78,SNR=6.6
LKWY Lake 78.17 329 eP P 11 47 35.8 +1.1
5.1nm,0.8s
I16A Newdale 78.17 328 ⇑P P 11 47 35.9 +1.2
baz=78,SNR=8.5
E21A Keefer Ranch, 78.19 332 ⇑P P 11 47 35.3 +0.8
baz=78,SNR=5.1
D22A Cohagen 78.29 333 ⇑P P 11 47 36.2 +1.1
baz=78,SNR=11
G18A Lazy EL Ranch, 78.34 330 ⇓P P 11 47 36.3 +0.8
baz=79,SNR=6.9
C23A Lambert 78.41 334 ⇑P P 11 47 36.5 +0.8
baz=79
F19A Roth Farm, Mol 78.47 331 ⇓P P 11 47 36.9 +0.8
baz=79,SNR=13
YMR Madison River 78.51 329 eP P 11 47 37.5 +0.9
12nm,0.7s
A25A Svangstu Ranch 78.53 336 ⇓P P 11 47 37.1 +0.9
baz=79,SNR=9.3
DGMT Dagmar 78.56 335 eP P 11 47 37.0 +0.5
36nm,1.0s
DGMT Dagmar 78.56 335 ⇓P P 11 47 37.5 +1.1
baz=79,SNR=5.2
D21A La Casta Ranch 78.56 333 ⇑P P 11 47 37.5 +1.0
baz=79,SNR=14
E20A Meyer Farm, Mu 78.61 332 ⇑P P 11 47 37.8 +0.9
baz=79,SNR=15
C22A Vida 78.64 334 ⇓P P 11 47 37.8 +0.8
baz=79,SNR=7.2
H16A Russell Place, 78.67 329 ⇓P P 11 47 38.9 +1.5
baz=79,SNR=11
WAKR Walker 78.73 320 eP P 11 47 38.5 +0.7
6.4nm,1.2s
A24A Westby 78.85 336 ⇑P P 11 47 39.3 +1.3
baz=79,SNR=5.2
QLMT Earthquake Lak 78.85 329 eP P 11 47 39.4 +1.0
0.4nm,0.6s
F18A Big Timber 78.86 331 ⇓P P 11 47 39.4 +1.1
baz=79,SNR=15
B23A Brockton 78.86 335 ⇓P P 11 47 39.1 +0.9
baz=79,SNR=6.5
E19A Rath Farm, Rou 78.87 331 ⇑P P 11 47 39.2 +0.9
baz=79,SNR=17
G17A Pierce Place, 78.89 330 ⇓P P 11 47 39.5 +1.0
baz=79
D20A Manuel Ranch, 79.07 332 ⇓P P 11 47 39.8 +0.4
baz=79,SNR=13
B22A Reddig Ranch S 79.13 334 ⇑P P 11 47 40.2 +0.6
baz=79,SNR=5.3
C21A Desert Coulee 79.21 333 ⇑P P 11 47 40.7 +0.7
baz=80
A23A Redstone 79.22 335 ⇓P P 11 47 41.0 +0.9
baz=80
F17A Fitzpatrick Pl 79.29 330 ⇓P P 11 47 42.0 +1.4
baz=80,SNR=18
HLID Hailey 79.41 326 eP P 11 47 42.6 +1.2
15nm,0.8s
HLID Hailey 79.41 326 ⇓P P 11 47 43.0 +1.6
baz=80,SNR=29
D19A Cripps Ranch, 79.45 332 ⇑P P 11 47 41.8 +0.4
baz=80,SNR=9.4
E18A Harlowton 79.45 331 ⇓P P 11 47 42.3 +0.8
baz=80
PAHR Pah Rah Range 79.49 321 eP P 11 47 42.8 +1.0
18nm,0.9s
C20A Veseth Ranch, 79.50 333 ⇓P P 11 47 41.5 -0.1
baz=80,SNR=7.3
MCMT McKenzie Canyo 79.53 328 eP P 11 47 43.4 +1.2
6.6nm,0.7s
BOZ Bozeman (W) 79.55 329 eP P 11 47 42.1 0.0
4.9nm,1.3s
B21A Ellsworth Farm 79.65 334 ⇑P P 11 47 43.0 +0.7
baz=80,SNR=9.5
A22A Carney Farms, 79.65 335 ⇑P P 11 47 43.1 +0.7
baz=80,SNR=8.3
E17A Martinsdale 79.80 330 ⇓P P 11 47 44.4 +0.9
baz=80,SNR=14
DLMT Dillon 79.80 329 eP P 11 47 43.6 +0.2
5.3nm,0.9s
D18A Linhart Farms, 79.88 331 ⇓P P 11 47 44.4 +0.6
baz=80,SNR=6.3
C19A Slack Wire Ran 79.96 332 ⇓P P 11 47 44.6 +0.5
baz=80
MFID Camas Ranch 80.03 326 ⇓P P 11 47 45.9 +1.3
baz=80
A21A Bergtoll Ranch 80.05 334 ⇑P P 11 47 45.1 +0.6
baz=80
B20A Solberg Farm, 80.07 333 ⇑P P 11 47 45.1 +0.4
baz=80,SNR=10
D17A Six Diamond Ra 80.24 331 ⇓P P 11 47 46.3 +0.6
baz=80,SNR=11
A20A Cobblestone Ra 80.38 333 ⇓P P 11 47 46.7 +0.4
baz=81,SNR=21
MORF Marmelete 80.41 43 eP P 11 47 46.6 -0.1
50nm,1.5s
B19A Brinkman Farms 80.47 333 ⇓P P 11 47 47.8 +1.0
baz=81
EGMT Eagleton 80.49 332 ⇓P P 11 47 47.5 +0.6
baz=81,SNR=9.1
PTEO Sao Teotonio 80.51 43 eP P 11 47 48.4 +1.2
62nm,1.0s
BOSA Boshof 80.58 117 P P 11 47 48.2 +0.2

BOSA Boshof 80.58 117 P P 11 47 48.2 +0.2
6.6nm,0.9s,baz=233,slow=4.6,SNR=6.6
C17A Wharram Farm, 80.64 331 ⇓P P 11 47 48.0 +0.2
baz=81,SNR=6.1
A19A Klindworth Far 80.75 333 ⇑P P 11 47 48.9 +0.6
baz=81
B18A Beardsley Farm 80.78 332 ⇑P P 11 47 49.0 +0.6
baz=81,SNR=11
PBDV Barranco-do-Ve 80.83 43 eP P 11 47 50.1 +1.2
65nm,1.4s
PNCL Nicolau / Gran 80.98 42 eP P 11 47 50.4 +0.8
32nm,2.6s
PMAFR Mafra 81.03 41 eP P 11 47 50.5 +0.6
52nm,1.5s
PVAQ Vaqueiros 81.06 43 eP P 11 47 51.0 +0.9
B17A L&G Farms, Che 81.15 332 ⇓P P 11 47 50.5 +0.2
baz=81,SNR=6.0
A18A Metzger Ranch, 81.21 332 ⇑P P 11 47 50.8 +0.1
baz=82,SNR=6.9
CHMT Chamberlain Mo 81.25 329 eP P 11 47 51.0 -0.1
2.1nm,0.9s
PBEJ Beja 81.34 43 eP P 11 47 52.4 +0.8
34nm,1.1s
EVOP Sao Brissos 81.48 42⇑iP P 11 47 52.0 -0.3
MSO Missoula 81.51 329 P P 11 47 53.1 +0.7
baz=82
EVO Evora 81.56 42⇑iP P 11 47 52.0 -0.7
34nm,1.0s
EVO Evora 81.56 42 eP P 11 47 53.4 +0.7
21nm,1.1s
PMTG Montargil 81.75 42 eP P 11 47 54.1 +0.4
40nm,1.2s
BMO Blue Mountains 81.79 326 eP P 11 47 54.3 +0.4
8.3nm,1.2s
PBAR Barrancos 81.95 43 eP P 11 47 55.1 +0.4
24nm,1.7s
PTOM Tomar 81.98 41 eP P 11 47 55.6 +0.8
109nm,1.1s
PESTR Estremoz 82.02 42 eP P 11 47 55.7 +0.6
26nm,1.0s
SWMT Swartz Lake 82.03 329 eP P 11 47 54.8 -0.2
8.6nm,1.2s
PCAS Casmilo, Conde 82.19 41 eP P 11 47 56.6 +0.7
40nm,1.0s
JTMT Jette 82.33 329 eP P 11 47 57.0 +0.3
4.2nm,0.8s
PMRV Marv??o 82.48 42 eP P 11 47 57.5 0.0
17nm,1.0s
MAW Mawson 82.50 162 P P 11 47 58.8 +1.7
MAW Mawson 82.50 162 P P 11 47 58.8 +1.7
4.8nm,0.8s,baz=237,slow=6.8,SNR=9.4
BSMT Bassoo Peak 82.65 329 eP P 11 47 58.4 +0.1
3.4nm,0.8s
TAM Tamanrasset 82.96 62 eP P 11 48 00.5 0.0
41nm,1.4s
PVIS Viseu 82.96 41 eP P 11 48 00.4 +0.4
44nm,1.8s
MTE Manteigas 82.98 41 eP P 11 48 00.5 +0.4
33nm,1.0s
MTE Manteigas 82.98 41 eP P 11 47 59.1 -1.0
22nm,0.7s
PCAB Cabril 83.49 40 eP P 11 48 03.1 +0.5
66nm,1.8s
PGAV Gavieira, Arco 83.51 39 eP P 11 48 02.9 +0.1
64nm,1.5s
MVO Moncorvo 83.75 41 eP P 11 48 04.7 +0.7
68nm,1.2s
PBRG Braganca 84.31 40 eP P 11 48 07.1 +0.3
65nm,1.5s
PAB San Pablo 84.45 43 eP P 11 48 07.7 +0.1
420nm,1.3s
ESDC Sonseca Array 84.77 43 P P 11 48 09.8 +0.6
ESDC Sonseca Array 84.77 43 P P 11 48 09.8 +0.6
23nm,0.8s,baz=240,slow=4.6,SNR=75
ESLA Sonseca Array 84.77 43 eP P 11 48 08.7 -0.5
16nm,1.1s
EDM Edmonton 85.90 334 eP P 11 48 13.3 -1.1
SJPF Ste Jean 88.40 42⇑iP P 11 48 27.3 +0.8
52nm,1.0s
SJPF Ste Jean 88.40 42⇑iP P 11 48 27.3 +0.8
LARF Larrau 88.51 42 eP P 11 48 27.9 +0.8
ETSF Etsaut 88.70 42⇑iP P 11 48 28.8 +0.8
35nm,0.8s
ETSF Etsaut 88.70 42⇑iP P 11 48 28.8 +0.8
REYF Montagne du Re 88.89 42 eP P 11 48 29.7 +0.8
VIEF Viey 89.05 42 eP P 11 48 30.3 +0.6
LABF Labassere 89.17 42 eP P 11 48 30.8 +0.6
EPF Esparros 89.32 42⇑iP P 11 48 31.4 +0.5
28nm,0.8s
EPF Esparros 89.32 42⇑iP P 11 48 31.4 +0.5
MELF Melles 89.50 43 eP P 11 48 32.8 +1.0
MLS Moulis 89.76 43 eP P 11 48 33.4 +0.5
QUIF Quistinic 89.95 37 eP P 11 48 33.2 -0.4
41nm,0.8s
QUIF Quistinic 89.95 37 eP P 11 48 33.2 -0.4
ROSF Rostrenen 90.13 36⇑iP P 11 48 34.2 -0.3
87nm,0.9s
ROSF Rostrenen 90.13 36⇑iP P 11 48 34.2 -0.3
CARF Carcanieres 90.27 43 eP P 11 48 35.8 +0.4
FILF Fillols 90.47 43 eP P 11 48 36.2 -0.1
SGMF Saint Gilles 90.48 37⇑iP P 11 48 35.5 -0.6
20nm,0.7s
SGMF Saint Gilles 90.48 37⇑iP P 11 48 35.5 -0.6
LFF La Frestale 90.58 41⇑iP P 11 48 36.8 +0.2
54nm,0.8s
LFF La Frestale 90.58 41⇑iP P 11 48 36.8 +0.2
MTLF Montolieu 90.66 43⇑iP P 11 48 36.9 -0.1
33nm,0.9s
MTLF Montolieu 90.66 43⇑iP P 11 48 36.9 -0.1
MFF Saint Martin d 90.94 39⇑iP P 11 48 38.3 +0.1
80nm,0.8s
MFF Saint Martin d 90.94 39⇑iP P 11 48 38.3 +0.1
RJF Les Rejaudoux 91.24 41 eP P 11 48 39.5 -0.2
RJF Les Rejaudoux 91.24 41 eP P 11 48 39.5 -0.2
CAF Calviac 91.38 41⇑iP P 11 48 40.4 0.0
26nm,0.9s
CAF Calviac 91.38 41⇑iP P 11 48 40.4 0.0
GRR Gorron 91.50 37⇑iP P 11 48 40.3 -0.5
42nm,0.7s
GRR Gorron 91.50 37⇑iP P 11 48 40.3 -0.5
KEST Kesra 91.85 52 eP P 11 48 43.6 +0.7
KEST Kesra 91.85 52 P P 11 48 43.5 +0.6
6.6nm,0.8s,baz=230,slow=1.9,SNR=26
FLN La Foliniere 91.91 37 eP P 11 48 42.3 -0.4
24nm,0.7s
FLN La Foliniere 91.91 37 eP P 11 48 42.3 -0.4
LDF La Druitiere 92.02 37⇑iP P 11 48 42.8 -0.4
40nm,0.7s
LDF La Druitiere 92.02 37⇑iP P 11 48 42.8 -0.4
LASF Ste Croix 92.05 43⇑iP P 11 48 43.7 +0.2
11nm,0.8s
LASF Ste Croix 92.05 43⇑iP P 11 48 43.7 +0.2
TCF Toulx Ste Croi 92.16 40⇑iP P 11 48 43.6 -0.4
25nm,1.0s
TCF Toulx Ste Croi 92.16 40⇑iP P 11 48 43.6 -0.4
LBL Lubilhac 92.25 41 eP P 11 48 44.7 +0.2
PYM Petit Puy Mans 92.37 41 eP P 11 48 44.7 -0.3
AGO Saint Agoulin 92.59 41 eP P 11 48 46.0 0.0
BGF Bois d'Agland 92.68 40⇑iP P 11 48 46.2 -0.1
38nm,0.9s
BGF Bois d'Agland 92.68 40⇑iP P 11 48 46.2 -0.1
VIVF Saint-Julien-l 92.95 42⇑iP P 11 48 48.1 +0.5
28nm,1.0s
VIVF Saint-Julien-l 92.95 42⇑iP P 11 48 48.1 +0.5
AVF Avril sur Loir 93.10 40⇑iP P 11 48 47.9 -0.3
30nm,1.2s
AVF Avril sur Loir 93.10 40⇑iP P 11 48 47.9 -0.3
YKA Yellowknife Ar 93.12 340 P P 11 48 48.0 +0.1
YKA Yellowknife Ar 93.12 340 P P 11 48 48.0 +0.1
12nm,0.6s,baz=131,slow=4.7,SNR=49
SMF Signal de Mont 93.32 40⇑iP P 11 48 49.2 -0.1
26nm,0.8s
SMF Signal de Mont 93.32 40⇑iP P 11 48 49.2 -0.1
SSF Saint Saulge 93.32 40⇑iP P 11 48 48.7 -0.6
13nm,0.8s
SSF Saint Saulge 93.32 40⇑iP P 11 48 48.7 -0.6
LOR Lormes 93.64 40⇑iP P 11 48 50.1 -0.6
22nm,1.0s
LOR Lormes 93.64 40⇑iP P 11 48 50.1 -0.6
ORIF Oris-en-Rattie 93.73 43⇑iP P 11 48 52.1 +0.8
37nm,0.8s
ORIF Oris-en-Rattie 93.73 43⇑iP P 11 48 52.1 +0.8
EKA Eskdalemuir Ar 94.17 31 P P 11 48 53.4 +0.4
EKA Eskdalemuir Ar 94.17 31 P P 11 48 53.4 +0.4
0.4nm,0.4s,baz=236,slow=3.2,SNR=5.3
MBDF Montbardon 94.20 43⇑iP P 11 48 54.1 +0.6
32nm,1.1s
MBDF Montbardon 94.20 43⇑iP P 11 48 54.1 +0.6
LPL La Plagne 94.54 42 eP P 11 48 55.9 +0.7
LPL La Plagne 94.54 42 eP P 11 48 55.9 +0.7
LPG La Plagne 94.54 42⇑iP P 11 48 56.1 +0.8
22nm,0.7s
LPG La Plagne 94.54 42⇑iP P 11 48 56.1 +0.8
CABF La Chapelle 94.66 41 eP P 11 48 55.5 0.0
19nm,1.0s
CABF La Chapelle 94.66 41 eP P 11 48 55.5 0.0
BAIF Baives 95.21 38 eP P 11 48 57.4 -0.4
BAIF Baives 95.21 38 eP P 11 48 57.4 -0.4
HAU Haudompre 95.47 40⇑iP P 11 48 58.6 -0.5
15nm,0.8s
HAU Haudompre 95.47 40⇑iP P 11 48 58.6 -0.5
GIVF Givet 95.58 38 eP P 11 48 59.1 -0.4
GIVF Givet 95.58 38 eP P 11 48 59.1 -0.4
HINF Hinteralfeld 95.68 40 eP P 11 48 59.5 -0.6
HINF Hinteralfeld 95.68 40 eP P 11 48 59.5 -0.6
MOF Molkenrain 95.86 40 eP P 11 49 00.7 -0.3
CDF Champ du Feu 96.20 40 eP P 11 49 02.1 -0.4
11nm,0.7s
CDF Champ du Feu 96.20 40 eP P 11 49 02.1 -0.4
TUE Stuetta 96.60 42 eP P 11 49 04.2 -0.3
8.1nm,0.8s
DAVA Damuels 97.28 42⇓iPcP Pdif 11 49 07.7 +0.2
13nm,0.8s
FETA Feichten 97.69 42⇑iPdiff Pdif 11 49 09.7 +0.3
15nm,1.1s
RETA Reutte 97.91 42⇓iPdiff Pdif 11 49 10.3 +0.1
15nm,0.9s
MOTA Moosalm 98.06 42⇑iPdiff Pdif 11 49 11.0 0.0
9.2nm,0.7s
WTTA Wattenberg 98.36 42⇑iPdiff Pdif 11 49 12.6 +0.2
28nm,0.9s
ABTA Abfaltersbach 98.70 43⇓iPdiff P 11 49 14.3 +0.6
7.2nm,0.8s
MOA Molln 100.22 42⇑iPdiff Pdif 11 49 20.5 0.0
8.1nm,0.9s
GERES GERESS Array B 100.26 41 P Pdif 11 49 20.6 0.0
GERES GERESS Array B 100.26 41 P Pdif 11 49 20.6 0.0
1.3nm,0.7s,baz=240,slow=4.5,SNR=9.2
KBZ Khabaz 118.72 51 PKP PKPdf 11 54 21.6 +0.3
KBZ Khabaz 118.72 51 PKP PKPdf 11 54 21.6 +0.3
1.5nm,0.6s,baz=343,slow=1.3,SNR=3.9
AKTO Aktyubinsk 128.66 43 PKP PKPdf 11 54 40.7 +0.5
AKTO SKPbc SKiKP 11 57 36.9 -17
AKTO Aktyubinsk 128.66 43 PKP PKPdf 11 54 40.7 +0.5
1.9nm,0.8s,baz=187,slow=0.6,SNR=7.1
AKTO SKPbc SKiKP 11 57 36.9 -17
2.0nm,0.8s,baz=255,slow=5.0,SNR=4.4
ASAR Alice Springs 130.09 204 PKP PKPdf 11 54 44.0 +0.1
ASAR pPKP pPKPdf 11 55 51.1 +7.2
ASAR SKPbc **SKPbc 11 57 43.8 -0.7**
ASAR Alice Springs 130.09 204 PKP PKPdf 11 54 44.0 +0.1
0.8nm,0.4s,baz=129,slow=1.7,SNR=20
ASAR pPKP pPKPdf 11 55 51.1 +7.2
1.0nm,0.9s,baz=156,slow=2.8,SNR=4.7
ASAR SKPbc **SKPbc 11 57 43.8 -0.7**
2.7nm,0.6s,baz=150,slow=3.5,SNR=25
ABKAR Akbulak array 130.12 44 ePKPdf PKPdf 11 54 44.1 +1.2
WRA Warramunga Arr 133.27 207 PKP PKPdf 11 54 49.9 0.0
WRA SKPbc **SKPbc 11 57 54.4 -1.4**
WRA Warramunga Arr 133.27 207 PKP PKPdf 11 54 49.9 0.0
0.7nm,0.3s,baz=153,slow=2.0,SNR=24
WRA SKPbc **SKPbc 11 57 54.4 -1.4**
6.6nm,1.0s,baz=155,slow=3.1,SNR=17
PETK Petropavlovsk- 135.02 324 SKPbc SKPbc 11 57 59.6 -0.8
PETK Petropavlovsk- 135.02 324 SKPbc SKPbc 11 57 59.6 -0.8
7.1nm,0.9s,baz=90,slow=7.4,SNR=8.0
BVAR Borovoye Array 135.14 36 PKP PKPdf 11 54 53.7 +1.4
BVAR SKPbc **SKPbc 11 58 00.8 0.0**
BVAR Borovoye Array 135.14 36 PKP PKPdf 11 54 53.7 +1.4
2.3nm,0.8s,baz=321,slow=1.9,SNR=7.8
BVAR SKPbc **SKPbc 11 58 00.8 0.0**
0.7nm,0.4s,baz=280,slow=38,SNR=2.7
KURK Kurchatov 140.72 36 PKP PKPdf 11 55 02.0 -0.6
KURK SKPbc **SKPbc 11 58 16.0 -0.8**
KURBB Kurchatov Arra 140.73 36 PKP PKPdf 11 55 02.0 -0.6
3.9nm,0.2s,baz=300,slow=2.6,SNR=8.5
KURBB SKPbc **SKPbc 11 58 16.0 -0.8**
2.0nm,0.6s,baz=300,slow=3.1,SNR=11
EKS2 Erkin-Say 141.14 49 ePKPdf PKPdf 11 55 03.4 -0.4
AAK Ala-Archa 141.65 49 PKP PKPdf 11 55 03.8 -1.0
AAK SKPbc **SKPbc 11 58 20.5 +0.9**
AAK Ala-Archa 141.65 49 PKP PKPdf 11 55 03.8 -1.0
2.0nm,0.4s,baz=200,slow=4.1,SNR=3.9
AAK SKPbc **SKPbc 11 58 20.5 +0.9**
6.4nm,0.9s,baz=212,slow=4.5,SNR=11
ZALV Zalesovo Beam 141.74 28 PKP PKPdf 11 55 04.0 -0.3
ZALV SKPbc **SKPbc 11 58 17.9 -1.3**
ZALV Zalesovo Beam 141.74 28 PKP PKPdf 11 55 04.0 -0.3
5.8nm,0.5s,baz=322,slow=3.1,SNR=3.7
ZALV SKPbc **SKPbc 11 58 17.9 -1.3**
7.2nm,0.6s,baz=264,slow=3.0,SNR=16
KSH Kashi 143.66 53 PKP PKPbc 11 55 06.3 -0.3
KSH sPKP 11 56 27.6
KSH PP **PP 11 58 24.3 +0.7**
KSH SKS **SKSdf 12 01 51.8 -3.8**
KSH SKKS **SKKSac 12 04 50.4 -2.2**
KSH SS **SS 12 16 43.8 -3.0**
KSH AMB AMB
comp=Z,87nm,4.4s
KSH LR LR
comp=N,75nm,9.4s
KSH LR LR
comp=E,94nm,5.5s
KSH LR LR
comp=Z,53nm,6.6s
MK31 Makanchi Array 144.88 39 ePKPdf PKPdf 11 55 10.3 +0.1
MKAR Makanchi Array 144.88 39 PKP PKPdf 11 55 10.5 +0.3
MKAR SKPbc **SKPbc 11 58 27.4 +0.3**
MKAR Makanchi Array 144.88 39 PKP PKPdf 11 55 10.5 +0.3
comp=Z,46nm,0.7s,baz=308,slow=3.6,SNR=350
MKAR SKPbc **SKPbc 11 58 27.4 +0.3**
comp=Z,6.3nm,0.8s,baz=326,slow=2.5,SNR=13
HYB Hyderabad 146.38 92 i PKP PKPdf 11 55 13.0 -0.5
NDI New Delhi 146.41 72 eP PKPdf 11 55 14.0 +0.7
USRK Ussuriysk Arra 153.83 330 PKPbc PKPbc 11 55 32.7 +0.3
comp=Z,3.3nm,0.7s,baz=278,slow=0.7,SNR=8.0
SONM Songino Array 154.10 12 PKP PKPdf 11 55 26.0 +1.2
SONM PKPbc **PKiKP 11 55 33.6 +0.5**
SONM PKPab **PKPab 11 55 48.4 +0.8**
SONM Songino Array 154.10 12 PKP PKPdf 11 55 26.0 +1.2
comp=Z,2.7nm,0.8s,baz=242,slow=1.2,SNR=12
SONM PKPbc **PKiKP 11 55 33.6 +0.5**
comp=Z,1.7nm,0.4s,baz=328,slow=1.5,SNR=13
SONM PKPab **PKPab 11 55 48.4 +0.8**
comp=Z,4.6nm,0.7s,baz=319,slow=3.9,SNR=12
MDJ Mudanjiang 154.56 333 PKPbc PKPdf 11 55 24.1 -1.2
MDJ PP **PP 11 59 27.1 +1.7**
MDJ AMB AMB
comp=Z,42nm,7.5s
CN2 Changchun 156.82 339 ePKP PKPdf 11 55 28.5 +0.1
GTA Gaotai 159.36 32 eP PKPab 11 56 10.8 +0.2
GTA pP **PKPab 11 56 15.3 +4.7**
GTA sP 11 56 17.8
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 159.36 32 ePKP PKPdf 11 55 32.8 +1.0
GTA PKPab **PKPab 11 56 12.4 +1.8**
KSRS Korea Array 160.92 324 PKP PKPdf 11 55 34.2 +0.9
comp=Z,0.4nm,0.5s,baz=230,slow=33,SNR=4.1
KSRS PKPab **PKPab 11 56 17.9 +0.7**
comp=Z,2.0nm,1.0s,baz=54,slow=5.4,SNR=5.6
KSAR Wonju Array Be 160.95 324 PKP PKPdf 11 55 34.2 +0.8
KSAR PKPab **PKPab 11 56 17.9 +0.5**
HHC Hu-ho-hao-te 161.69 6 ePKP PKPdf 11 55 34.5 +0.3
HHC pPKP **pPKPdf 11 56 34.5 -0.2**
HHC sPKP 11 56 57.1
HHC PKS **PKSdf 11 59 06.8 -0.7**
HHC PP **PP 12 00 08.3 +4.4**
HHC SKS **SKSdf 12 02 17.0 +0.2**
HHC SKKS **SKKSac 12 06 30.3 +0.5**
HHC SS **SS 12 20 03.3 +2.2**
HHC AMB AMB
comp=Z,120nm,9.1s
LZH Lanzhou 163.94 31 ePKP PKPdf 11 55 35.8 -0.8
LZH pPKP **PKPab 11 56 32.1 +1.4**
LZH sPKP 11 56 54.3
LZH LR LR
comp=N,140nm,16.4s
LZH LR LR
comp=E,180nm,18.6s
LZH LR LR
comp=Z,220nm,20.2s
CMAR Chiang Mai Arr 165.34 104 PKPab PKPab 11 56 37.0 -0.4
CMAR Chiang Mai Arr 165.34 104 PKPab PKPab 11 56 37.0 -0.4
comp=Z,1.1nm,0.5s,baz=262,slow=6.3,SNR=7.8
CD2 Chengdu 167.69 46 ePKP PKPdf 11 55 38.5 -1.2
CD2 sPKP 11 57 00.1
CD2 PP **PP 12 00 37.5 +1.3**
CD2 SKS **SKSdf 12 02 18.3 -3.0**
CD2 SKKS **SKKSac 12 06 59.8 -0.8**
CD2 SS **SS 12 21 02.1 -2.1**
CD2 AMB AMB
comp=Z,150nm,10.2s
CD2 LR LR
comp=N,160nm,24.2s
CD2 LR LR
comp=Z,150nm,18.6s
KMI Kunming 169.42 74 PKP PKPdf 11 55 41.0 -0.2
GYA Guiyang 172.32 58 ePKP PKPdf 11 55 42.0 -0.5
GYA pPKP **pPKPdf 11 56 40.8 -2.3**
GYA sPKP 11 57 03.3
GYA PKPab **PKPab 11 57 08.8 +0.6**
GYA PKS **PKSdf 11 59 12.0 -3.0**
GYA PP **PP 12 01 01.4 +1.5**
GYA AMB AMB
comp=Z,90nm,8.2s

IDC 24 12:10:02.1±2.0, 1°.48S×99°.63E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/39, Error ellipse: s-maj=64.8km s-min=16.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.31**	**351**	Pn	Pn	12 11 08.5	-0.7
	0.7nm,0.3s,baz=155,slow=19,SNR=2.5						
PSI				LR	LR	12 13 06.0	
	comp=Z,136nm,18.8s,baz=260,slow=44						
CMAR	**Chiang Mai Arr**	**19.82**	**358**	P	P	12 14 34.4	-0.2
	0.2nm,0.3s,baz=187,slow=9.6,SNR=5.2						
WRA	**Warramunga Arr**	**38.58**	**121**	P	P	12 17 26.9	-0.3
	0.9nm,0.6s,baz=301,slow=9.3,SNR=14						
ASAR	**Alice Springs**	**39.86**	**126**	P	P	12 17 38.5	+0.6
	0.6nm,0.5s,baz=302,slow=7.7,SNR=16						
KSRS	**Korea Array**	**46.77**	**31**	P	P	12 18 34.0	+0.6
	0.3nm,0.4s,baz=234,slow=7.5,SNR=4.4						
PMG	**Port Moresby**	**47.92**	**101**	P	P	12 18 41.9	-0.9
	19nm,0.8s,baz=299,slow=13,SNR=4.8						
SONM	**Songino Array**	**49.47**	**6**	P	P	12 18 54.5	+0.2
	0.8nm,0.4s,baz=189,slow=10.0,SNR=6.3						
MKAR	**Makanchi Array**	**50.43**	**345**	P	P	12 19 02.7	+1.2
	1.5nm,0.5s,baz=151,slow=8.2,SNR=13						
USRK	**Ussuriysk Arra**	**53.88**	**28**	P	P	12 19 26.7	-0.5
	1.2nm,0.5s,baz=231,slow=6.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**56.59**	**350**	P	P	12 19 44.5	-2.0
	2.0nm,0.6s,baz=163,slow=5.7,SNR=8.4						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	12 29 41.1	-0.4
	0.5nm,0.5s,baz=204,slow=1.1,SNR=11						

---

*ISCJB **24** 12:12:40.2±0.7, 17°.8S±0°.3×178°.7W±0°.2, h579km, mb3.8/7, Error ellipse: s-maj=49.9km s-min=8.4km az=155.6*
*IDC **24** 12:12:41.1±1.6, 17°.36S×178°.78W, h571km±22km, mb3.4/7, mb1 3.6/9, mb1mx3.3/22, mbtmp3.4/9, Error ellipse: s-maj=105.5km s-min=12.1km az=155.0*
*AUST **24** 12:12:45.5, 17°.59S×179°.02W, h600km*
ISC 24 12:12:40.9±0.9, 17°.8S±0°.4×178°.5W±0°.2, h579km, n16, σ0=70/17, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**60**	P	**P**	**12 14 35.8**	**+0.2**
	2.2nm,0.3s,baz=210,slow=8.1,SNR=3.9						
AFI				S	**S**	**12 16 08.7**	**-0.7**
	1.0nm,0.3s,baz=246,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**14.75**	**251**	P	**P**	**12 15 48.4**	**+0.9**
	0.4nm,0.3s,baz=89,slow=17,SNR=5.3						
CNB	**Canberra Magne**	**33.39**	**232**	P	**P**	**12 18 32.9**	**+0.2**
	baz=33,SNR=7.8						
MTSU	**Mount Surprise**	**35.31**	**264**	P	**P**	**12 18 48.8**	**0.0**
	baz=35,SNR=7.3						
COEN	**Coen**	**37.00**	**270**	P	**P**	**12 19 03.5**	**+0.8**
	baz=36,SNR=18						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**12 19 15.7**	**+0.4**
	3.6nm,0.9s,baz=98,slow=8.8,SNR=5.7						
WRA	**Warramunga Arr**	**44.54**	**259**	P	**P**	**12 20 01.5**	**-0.9**
	3.1nm,0.5s,baz=96,slow=7.1,SNR=96						
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**12 20 03.5**	**-0.3**
	20nm,0.7s,baz=87,slow=8.6,SNR=304						
KDU	**Kakadu**	**47.45**	**269**	P	**P**	**12 20 24.1**	**-0.4**
	baz=47,SNR=6.7						
KNRA	**Kununurra**	**50.39**	**264**	P	**P**	**12 20 45.5**	**-0.7**
	baz=50,SNR=9.3						
FITZ	**Fitzroy Crossi**	**52.94**	**260**	P	**P**	**12 21 04.2**	**-0.3**
	1.9nm,0.8s,baz=100,slow=7.5,SNR=10.0						
FITZ	**Fitzroy Crossi**	**52.94**	**260**	P	**P**	**12 21 04.2**	**-0.3**
	baz=52,SNR=6.0						
MEEK	**Meekatharra**	**58.36**	**249**	P	**P**	**12 21 40.6**	**-1.3**
	baz=58,SNR=3.5						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**12 23 48.6**	**+0.3**
	0.9nm,0.7s,baz=227,slow=8.5,SNR=10						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**12 24 22.3**	**+0.9**
	1.2nm,0.7s,baz=219,slow=6.2,SNR=16						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**12 24 27.1**	**-0.4**
	0.7nm,0.6s,baz=218,slow=2.7,SNR=6.6						

GUC 24 12:16:31.4±0.7, 31°.56S×70°.00W, h148km±8km, MD3.5, ML3.3, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.94**	**294**	*e*P	Pn	12 16 56.2	+0.6
CMCH				*i* S	Sn	12 17 14.4	+0.4
CMCH				AML	AML	12 17 16.5	
	comp=E,2μm,0.6s						
TLL	**Tololo Astrono**	**1.55**	**333**	*e*P	Pn	12 17 02.4	+0.6
TLL				*e*S	Sn	12 17 25.4	+0.5
TLL				AML	AML	12 17 27.9	
	comp=E,178nm,0.2s						
PACH	**Papudo**	**1.56**	**231**	*e*P	Pn	12 17 02.3	+0.7
PACH				*i* S	Sn	12 17 25.1	+0.4
ROCH	**El Roble**	**1.65**	**211**	⇓*i*P	Pn	12 17 03.4	+0.6
ROCH				*e*S	Sn	12 17 26.8	0.0
ROCH				AML	AML	12 17 28.7	
	comp=E,197nm,0.8s						
PEL	**Peldehue**	**1.68**	**200**	⇑*e*P	Pn	12 17 03.5	+0.6
PEL				*e*S	Sn	12 17 27.4	+0.3
PEL				AML	AML	12 17 28.7	
	comp=E,315nm,0.3s						
LMEL	**Las Melosas**	**2.29**	**184**	*e*P	Pn	12 17 10.9	+0.9
LMEL				*e*S	Sn	12 17 40.6	+0.7
LMEL				AML	AML	12 17 46.6	
	comp=N,129nm,0.1s						
CHCH	**Chadas Angostu**	**2.43**	**193**	*e*P	Pn	12 17 11.8	+0.2
CHCH				*e*S	Sn	12 17 43.1	+0.4
CACH	**El Canelo**	**2.60**	**191**	*e*P	Pn	12 17 14.6	+0.8
CACH				*i* S	Sn	12 17 48.0	+1.3
LCO	**Las Campanas**	**2.61**	**346**	*e*P	Pn	12 17 15.0	+0.8
LCO				*e*S	Sn	12 17 46.8	-0.4
LCO				AML	AML	12 17 47.6	
	comp=E,170nm,0.3s						
LNV	**Longovilo**	**2.67**	**206**	⇑*i*P	Pn	12 17 14.7	+0.2

IDC 24 12:17:48.5±1.6, 22°.15S×179°.21W, h516km±18km, mb3.4/7, mb1 3.6/9, mb1mx3.3/21, mbtmp3.5/9, Error ellipse: s-maj=21.2km s-min=15.5km az=129.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.82**	**42**	P	P	12 20 15.0	+0.2
	3.8nm,0.3s,baz=221,slow=11,SNR=6.6						
AFI				S	S	12 22 14.9	-0.3
	1.5nm,0.3s,baz=210,slow=20,SNR=3.2						
URZ	**Urewera**	**16.37**	**190**	P	P	12 21 10.3	-2.1
	1.1nm,0.3s,baz=0.0,slow=7.1,SNR=9.1						
STKA	**Stephens Creek**	**36.07**	**246**	P	P	12 24 06.2	-0.1
	3.2nm,0.5s,baz=98,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**43.06**	**259**	P	P	12 25 02.3	-0.5
	5.6nm,0.7s,baz=94,slow=8.4,SNR=57						
ASAR				PcP	PcP	12 26 40.6	-0.8

0.6nm,0.6s,baz=104,slow=3.9,SNR=4.8
ASAR ScP ScP 12 29 42.5 -0.9
0.6nm,0.8s,baz=120,slow=3.5,SNR=4.0
WRA Warramunga Arr 43.28 264 P P 12 25 04.0 -0.5
1.4nm,0.3s,baz=95,slow=8.3,SNR=76
WRA ScP ScP 12 29 43.9 -0.4
0.9nm,0.8s,baz=100,slow=3.7,SNR=5.4
FITZ Fitzroy Crossi 51.71 264 P P 12 26 08.3 +0.4
1.5nm,0.3s,baz=98,slow=6.3,SNR=25
VNDA Vanda 56.18 185 P P 12 26 39.5 +1.0
0.8nm,0.6s,baz=10.0,slow=6.5,SNR=8.3
PETK Petropavlovsk- 77.58 346 P P 12 28 51.0 +0.3
1.7nm,0.5s,baz=141,slow=5.5,SNR=11
CMAR Chiang Mai Arr 89.60 290 P P 12 29 52.2 +0.8
1.4nm,0.9s,baz=144,slow=3.2,SNR=5.7
AKASG Malin Array Be 143.87 329 PKP PKPbc 12 36 22.8 -0.9
1.1nm,0.4s,baz=42,slow=4.2,SNR=8.2
BRTR Keskin Array B 147.06 310 PKPbc PKPbc 12 36 32.4 -1.2
0.6nm,0.6s,baz=94,slow=2.6,SNR=4.6
TORD Torodi Ar. Bea 171.01 186 PKPab PKPab 12 38 19.1 -1.4
0.5nm,0.7s,baz=168,slow=5.3,SNR=4.1

*AUST **24** 12:27:47.4±16.0, 1°.49N×134°.99E, h0km, Error ellipse: s-maj=2.9km s-min=1.4km az=23.0*
*IDC **24** 12:28:21.6±13.0, 0°.73S×133°.12E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/21, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=195.1km s-min=79.4km az=169.0*
ISC 24 12:28:27.2±2.8, 0°.9S±0°.2×132°.9E±0°.2, h32km, n11, σ0°.88/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.66 271**		P	**Pb**	**12 28 56.7**	**-0.4**
	baz=4.4,SNR=93						
FAKI	**Fak Fak**	**2.12 198**		P	**Pb**	**12 29 04.2**	**-0.8**
	baz=5.2,SNR=16						
TLE	**Tual**	**4.72 182**		P	Pn	12 29 40.0	+3.8
	baz=7.5,SNR=8.0						
TLE				S	Sb	12 30 39.1	-6.4
	baz=7.5,SNR=3.7						
LUWI	**Luwuk**	**10.15 269**		P	Pn	12 30 45.0	-5.7
	baz=12,SNR=3.9						
KDU	**Kakadu**	**11.73 182**		P	**Pn**	**12 31 13.5**	**+1.1**
	baz=14,SNR=12						
MTN	**Manton Dam**	**12.01 188**		P	**Pn**	**12 31 16.8**	**+0.6**
	baz=15,SNR=13						
FITZ	**Fitzroy Crossi**	**18.54 202**		P	**Pn**	**12 32 42.5**	**+0.9**
	0.2nm,0.3s,baz=26,slow=11,SNR=8.5						
FITZ				S	Sn	12 35 57.4	-11
	0.1nm,0.3s,baz=196,slow=20,SNR=2.8						
FITZ	**Fitzroy Crossi**	**18.54 202**		P	Pn	12 32 45.4	+3.8
	baz=22,SNR=4.2						
WRA	**Warramunga Arr**	**18.98 176**		P	**Pn**	**12 32 46.5**	**-0.6**
	0.2nm,0.3s,baz=355,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.66 178**		P	**P**	**12 33 26.4**	**+0.5**
	0.8nm,0.4s,baz=357,slow=11,SNR=48						
STKA	**Stephens Creek**	**31.89 166**		P	**P**	**12 34 49.3**	**-0.4**
	2.9nm,0.7s,baz=338,slow=8.1,SNR=4.0						

IDC 24 12:28:46.5±3.8, 0°.00S×101°.27E, h48km±67km, mb3.5/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=257.5km s-min=23.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.64 320**		P	Pn	12 29 39.2	-1.3
	0.4nm,0.3s,baz=269,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**37.96 123**		P	P	12 36 00.4	+0.4
	0.5nm,0.4s,baz=303,slow=8.9,SNR=8.4						
ASAR	**Alice Springs**	**39.45 129**		P	P	12 36 11.8	-0.7
	0.8nm,0.8s,baz=303,slow=8.0,SNR=6.1						
MKAR	**Makanchi Array**	**49.48 343**		P	P	12 37 32.3	+0.1
	0.7nm,0.5s,baz=155,slow=8.8,SNR=7.8						
TXAR	**Lajitas Array**	**142.35 37**		PKP	PKPdf	12 48 13.0	-1.8
	0.3nm,0.6s,baz=319,slow=1.6,SNR=4.2						

*NIED **24** 12:41:00, 43°.70N×147°.30E, h53km, Mw3.7 Best double couple: M0 3.59000×10^14 NP1:φ0=59.00000°, δ73.00000°, λ115.00000°. NP2:φ0=181.00000°, δ29.00000°, λ36.00000°.*
JMA 24 12:41:39.9±0.2, 43°.69N×147°.33E, h22km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.20 255**		P	Pb	12 42 01.6	-0.3
NEM2				eS	Sb	12 42 17.0	+0.1
JRA	**Rausu**	**1.62 280**		P	Pn	12 42 07.6	+0.5
JNK	**Nakash**	**1.90 268**		P	Pn	12 42 11.8	+0.8
JNK				eS	Sn	12 42 35.1	+0.9
JAK	**Akkeshi**	**2.04 251**		P	Pn	12 42 13.5	+0.6
JAK				eS	Sn	12 42 38.9	+1.2
JTKR	**Abashiri--Toko**	**2.49 278**		P	Pn	12 42 20.4	+1.3
JAR	**Ashorobuto**	**2.62 263**		P	Pn	12 42 22.4	+1.5
JAR				eS	Sn	12 42 54.0	+2.0
JOB	**Onbets**	**2.67 254**		P	Pn	12 42 23.0	+1.5
JOB				eS	Sn	12 42 54.9	+1.7
JMP	**Maruseppu**	**2.89 278**		P	Pn	12 42 26.1	+1.5
JCH	**Churui**	**3.10 251**		P	Pn	12 42 28.5	+1.1
JCH				eS	Sn	12 43 04.3	+0.6
JKK2	**Kamakawa 2**	**3.32 275**		P	Pn	12 42 33.1	+2.5
ASAJ	**Asahikawa**	**3.45 279**		P	Pn	12 42 34.4	+2.1
JFR	**Furan**	**3.49 263**		P	Pn	12 42 35.4	+2.5
JFR				eS	Sn	12 43 16.4	+2.9
JSE	**Soyaes**	**3.63 292**		P	Pn	12 42 35.6	+0.8
JNBK	**Urakawa-nobuka**	**3.64 249**		P	Pn	12 42 36.2	+1.3

IDC 24 12:48:23.4±4.7, 1°.49S×99°.47E, h60km±39km, mb3.5/8, mb1 3.5/10, mb1mx3.4/26, mbtmp3.4/10, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=44.8km s-min=17.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.30 353**		P	Pn	12 49 25.4	-1.1
	0.4nm,0.3s,baz=165,slow=12,SNR=2.2						
PSI				LR	LR	12 50 44.7	
	comp=Z,111nm,18.2s,baz=5.1,slow=34						
CMAR	**Chiang Mai Arr**	**19.83 359**		P	P	12 52 49.0	-0.4
	0.1nm,0.3s,baz=190,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**38.71 121**		P	P	12 55 41.0	-0.9
	1.0nm,0.7s,baz=298,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**39.98 126**		P	P	12 55 53.1	+0.6
	0.7nm,0.5s,baz=305,slow=7.9,SNR=7.0						
KSRS	**Korea Array**	**46.86 31**		P	P	12 56 46.9	-0.7
	0.5nm,0.5s,baz=227,slow=8.1,SNR=3.1						
SONM	**Songino Array**	**49.49 6**		P	P	12 57 08.3	+0.3
	0.3nm,0.6s,baz=187,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**50.40 345**		P	P	12 57 14.9	+0.1
	1.6nm,0.6s,baz=148,slow=8.0,SNR=22						
KURBB	**Kurchatov Arra**	**54.91 344**		P	P	12 57 47.6	-0.3
	0.5nm,0.6s,baz=165,slow=6.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**56.57 350**		P	P	12 57 59.7	0.0
	1.2nm,0.5s,baz=176,slow=4.5,SNR=4.6						
BRTR	**Keskin Array B**	**72.59 312**		P	P	12 59 44.4	-0.4
	0.4nm,0.5s,baz=108,slow=7.3,SNR=3.3						
CPUP	**Villa Florida**	**144.41 217**		PKP	PKPdf	13 07 53.7	0.0
	2.5nm,0.6s,baz=115,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**144.61 36**		PKP	PKPdf	13 07 54.0	-0.1
	0.5nm,0.6s,baz=275,slow=1.0,SNR=7.2						

GUC 24 12:54:37.8±0.7, 34°.11S×71°.99W, h39km±3km, MD3.8, ML3.0, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.51**	**73**	↓↓iP	Pn	12 54 49.1	+0.5
LNV				i S	Sn	12 54 56.3	+0.1
TACH	**Talagante**	**0.99**	**63**	eP	Pn	12 54 55.5	+0.3
TACH				i S	Sn	12 55 09.2	+1.2
NICH	**Los Niches**	**1.09**	**145**	eP	Pn	12 54 57.2	+0.5
NICH				i S	Sn	12 55 12.1	+1.6
NICH				AML	AML	12 55 23.0	
	comp=E,818nm,0.7s						
CHCH	**Chadas Angostu**	**1.13**	**82**	eP	Pn	12 54 58.1	+0.9
CHCH				i S	Sn	12 55 15.0	+3.5
CACH	**El Canelo**	**1.16**	**91**	eP	Pn	12 54 59.4	+1.7
PCH	**Pirque**	**1.32**	**69**	eP	Pn	12 55 01.2	+1.3
PCH				eS	Sn	12 55 19.0	+2.6
ROCH	**El Roble**	**1.40**	**36**	eP	Pn	12 55 01.4	+0.3
ROCH				eS	Sn	12 55 18.7	+0.1
ROCH				AML	AML	12 55 25.2	
	comp=E,210nm,0.4s						
PEL	**Peldehue**	**1.45**	**49**	eP	Pn	12 55 02.8	+1.1
PEL				eS	Sn	12 55 22.0	+2.5
PEL				AML	AML	12 55 27.8	
	comp=N,558nm,0.4s						
LMEL	**Las Melosas**	**1.51**	**81**	eP	Pn	12 55 03.7	+1.2
LMEL				eS	Sn	12 55 24.6	+3.4
LMEL				AML	AML	12 55 27.3	
	comp=N,378nm,0.3s						
PACH	**Papudo**	**1.63**	**17**	eP	Pn	12 55 05.2	+1.0
PACH				i S	Sn	12 55 26.1	+2.2

IDC 24 13:07:19.7±2.1, 20°.81S×178°.64W, h562km±27km, mb3.2/10, mb1 3.4/13, mb1mx3.2/24, mbtmp3.2/13, Error ellipse: s-maj=20.3km s-min=14.1km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.49**	**45**	P	P	13 09 32.3	-0.5
	3.4nm,0.3s,baz=238,slow=15,SNR=7.0						
DZM	**Mont Dzumac**	**13.95**	**262**	P	P	13 10 19.7	+1.2
	0.3nm,0.3s,baz=56,slow=11,SNR=8.3						
URZ	**Urewera**	**17.77**	**191**	P	P	13 10 54.0	-0.7
	1.1nm,0.3s,baz=309,slow=5.8,SNR=12						
CTA	**Charters Tower**	**32.86**	**265**	P	P	13 13 08.5	+0.4
	2.3nm,0.5s,baz=88,slow=9.2,SNR=9.1						
PMG	**Port Moresby**	**34.83**	**284**	P	P	13 13 24.8	+0.2
	12nm,0.8s,baz=194,slow=8.3,SNR=3.0						
STKA	**Stephens Creek**	**37.11**	**244**	P	P	13 13 43.9	+0.6
	2.5nm,0.7s,baz=86,slow=4.3,SNR=2.8						
ASAR	**Alice Springs**	**43.86**	**257**	P	P	13 14 36.7	-0.5
	3.1nm,0.8s,baz=96,slow=7.6,SNR=30						
ASAR				S	S	13 20 23.9	-4.2
	1.0nm,0.8s,baz=89,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**43.96**	**262**	P	P	13 14 37.3	-0.6
	0.5nm,0.3s,baz=97,slow=7.3,SNR=50						
WRA				S	S	13 20 24.4	-5.2
	0.3nm,0.8s,baz=99,slow=15,SNR=3.9						
QSPA	**South Pole Qui**	**69.25**	**180**	P	P	13 17 30.7	0.0
	1.3nm,0.6s,baz=9.1,slow=5.0,SNR=20						
NVAR	**Mina Array Bea**	**81.66**	**44**	P	P	13 18 40.8	+0.7
	0.5nm,0.5s,baz=225,slow=7.8,SNR=5.4						
TXAR	**Lajitas Array**	**87.73**	**58**	P	P	13 19 10.8	+1.2
	0.5nm,0.8s,baz=223,slow=8.5,SNR=5.8						
ILAR	**Eielson Array**	**88.75**	**13**	P	P	13 19 11.8	-1.6
	0.3nm,0.5s,baz=214,slow=5.1,SNR=16						
PDAR	**Pinedale Array**	**89.60**	**43**	P	P	13 19 18.0	-0.1
	0.5nm,0.6s,baz=198,slow=3.5,SNR=4.0						

GUC 24 13:09:43.8±0.8, 22°.84S×68°.92W, h109km±12km, ML3.7, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**0.78**	**317**	eP	Pn	13 10 08.4	+5.7
PB04				eS	Sn	13 10 27.2	+10
PB04				AML	AML	13 10 35.2	
	comp=N,540nm,0.2s						
PB09	**Plate Boundary**	**1.08**	**344**	↑iP	Pn	13 10 06.7	+0.6
PB09				eS	Sn	13 10 23.6	+0.9
PB09				AML	AML	13 10 25.1	
	comp=N,3μm,0.4s						
PB07	**Plate Boundary**	**1.42**	**321**	↑iP	Pn	13 10 10.6	+0.7
PB07				eS	Sn	13 10 30.5	+0.9
PB07				AML	AML	13 10 33.6	
	comp=N,2μm,0.3s						
PB10	**Plate Boundary**	**1.65**	**246**	eP	Pn	13 10 13.1	+0.8
PB10				eS	Sn	13 10 34.6	+0.6
PB01	**Plate Boundary**	**1.86**	**344**	eP	Pn	13 10 15.6	+0.4
PB01				eS	Sn	13 10 40.2	+1.1
PB01				AML	AML	13 10 43.1	
	comp=E,1μm,0.2s						
HMBC	**Humberstone**	**2.70**	**340**	eP	Pn	13 10 25.4	-0.7
HMBC				eS	Sn	13 10 58.7	+0.2
HMBC				AML	AML	13 11 07.7	
	comp=E,329nm,0.6s						
PSGC	**Pisagua**	**3.42**	**341**	eP	Pn	13 10 35.2	-0.3
MNMC	**Minimini**	**3.74**	**350**	eP	Pn	13 10 40.3	+0.2

GUC 24 13:14:59.6±0.6, 31°.95S×67°.65W, h150km, ML3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**2.82**	**244**	eP	Pn	13 15 44.9	+0.1
PEL				eS	Sn	13 16 20.3	+0.6
CLCH	**Cerro Calan**	**2.83**	**239**	eP	Pn	13 15 45.5	+0.6
CLCH				eS	Sn	13 16 21.7	+1.8
CLCH				AML	AML	13 16 23.9	
	comp=E,182nm,0.8s						
ROCH	**El Roble**	**3.02**	**249**	eP	Pn	13 15 47.5	0.0
ROCH				eS	Sn	13 16 24.6	+0.1
ROCH				AML	AML	13 16 28.3	
	comp=N,219nm,0.4s						
CHCH	**Chadas Angostu**	**3.21**	**231**	eP	Pn	13 15 50.4	+0.8
TLL	**Tololo Astrono**	**3.24**	**302**	eP	Pn	13 15 52.0	+1.7
TLL				eS	Sn	13 16 31.2	+1.7
TLL				AML	AML	13 16 34.3	
	comp=N,82nm,0.4s						
LCO	**Las Campanas**	**3.94**	**317**	eP	Pn	13 16 00.7	+1.3
LCO				eS	Sn	13 16 46.5	+0.7
LCO				AML	AML	13 16 48.6	
	comp=E,80nm,0.3s						

*ISCJB **24** 13:26:16.5±0.9, 5°.0S±0°.1×151°.8E±0°.2, h70km, mb4.1/8, Error ellipse: s-maj=32.4km s-min=8.6km az=38.5*
*AUST **24** 13:26:18.0, 5°.18S×152°.10E, h60km*
*IDC **24** 13:26:18.1±5.1, 5°.02S×151°.86E, h76km±45km, mb3.6/7, mb1 3.9/8, mb1mx3.6/20, mbtmp3.6/8, ML2.9/1, Error ellipse: s-maj=39.5km s-min=25.9km az=122.0*
ISC 24 13:26:17.8±1.3, 5°.0S±0°.2×151°.9E±0°.3, h70km, n22, σ1°.20/17, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.83**	**18**	P	**Pn**	**13 26 35.6**	**+1.3**
	baz=1.0,SNR=39						
PMG	**Port Moresby**	**6.44**	**227**	P	**Pn**	**13 27 51.4**	**+1.4**
	1.8nm,0.3s,baz=51,slow=14,SNR=7.0						
PMG				S	**Sn**	**13 29 00.5**	**-1.6**
	10nm,0.3s,baz=145,slow=21,SNR=13						
MMPI	**Merauke**	**11.95**	**253**	S	Sn	13 31 05.0	-12
	baz=12,SNR=7.0						
MTSU	**Mount Surprise**	**15.02**	**209**	P	**P**	**13 29 51.2**	**+1.1**
	baz=15,SNR=7.7						
KDU	**Kakadu**	**20.65**	**247**	P	**P**	**13 30 52.9**	**+0.9**
	baz=21,SNR=21						
MTN	**Manton Dam**	**21.94**	**248**	P	**P**	**13 31 08.3**	**+2.6**
	baz=22,SNR=4.7						
MTN				S	S	13 34 50.8	-14
	baz=22,SNR=4.7						
WRA	**Warramunga Arr**	**22.66**	**227**	P	**P**	**13 31 12.8**	**-0.7**
	4.1nm,0.4s,baz=54,slow=10,SNR=33						
KNRA	**Kununurra**	**25.09**	**243**	P	**P**	**13 31 37.2**	**+1.1**
	baz=25,SNR=4.2						
ASAR	**Alice Springs**	**25.41**	**221**	P	**P**	**13 31 38.4**	**-0.7**
	2.6nm,0.8s,baz=54,slow=9.2,SNR=32						
NFK	**Norfolk Island**	**28.34**	**149**	S	S	13 36 30.1	-17
	baz=28,SNR=4.9						
FITZ	**Fitzroy Crossi**	**28.79**	**241**	P	**P**	**13 32 08.1**	**-1.2**
	3.1nm,0.6s,baz=68,slow=9.4,SNR=18						
FITZ	**Fitzroy Crossi**	**28.79**	**241**	P	**P**	**13 32 09.6**	**+0.3**
	baz=29,SNR=10						
WSI	**Waingapu**	**31.68**	**260**	P	P	13 32 24.9	-10
	baz=32,SNR=4.9						
MEEK	**Meekatharra**	**38.38**	**232**	P	**P**	**13 33 32.3**	**-0.2**
	baz=38,SNR=5.3						
XMIS	**Christmas Isla**	**46.12**	**260**	P	P	13 34 47.5	+12
	baz=46,SNR=3.0						
PMBI	**Palembang**	**47.05**	**271**	P	P	13 34 48.3	+5.4
	baz=47,SNR=4.2						
CMAR	**Chiang Mai Arr**	**57.15**	**296**	P	**P**	**13 35 57.2**	**-0.6**
	0.5nm,0.5s,baz=34,slow=6.6,SNR=3.4						
SONM	**Songino Array**	**66.01**	**328**	P	**P**	**13 36 56.3**	**-0.8**
	0.4nm,0.5s,baz=106,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**79.88**	**319**	P	**P**	**13 38 19.2**	**+0.2**
	0.2nm,0.8s,baz=106,slow=6.5,SNR=4.3						
ILAR	**Eielson Array**	**82.67**	**22**	P	**P**	**13 38 32.7**	**-0.6**
	0.8nm,0.6s,baz=245,slow=5.4,SNR=12						
LPIG	**La Paz**	**99.12**	**66**	P	Pdif	13 39 51.1	-0.8
	90nm,0.3s,baz=284,slow=2.6,SNR=8.1						
TORD	**Torodi Ar. Bea**	**149.51**	**287**	PKPbc	**PKPbc**	**13 46 00.1**	**-0.2**
	0.3nm,0.3s,baz=68,slow=2.2,SNR=4.4						

*ISCJB **24** 13:27:29.1±0.4, 22°.36S±0°.06×170°.43E±0°.05, h33km, mb4.3/21, MS3.8/12, Error ellipse: s-maj=9.2km s-min=6.4km az=178.7*
*AUST **24** 13:27:29.6±5.7, 22°.57S×170°.33E, h0km, Error ellipse: s-maj=1.8km s-min=1.3km az=321.0*
*IDC **24** 13:27:30.9±6.3, 22°.31S×170°.46E, h33km±46km, mb4.2/17, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, ML3.7/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/27, Error ellipse: s-maj=20.9km s-min=17.2km az=116.0*
*NEIC **24** 13:27:33.6±1.2, 22°.35S×170°.40E, h56km±10km, mb4.6/5, Error ellipse: s-maj=13.0km s-min=7.9km az=161.0*
ISC 24 13:27:30.7±0.4, 22°.36S±0°.07×170°.45E±0°.06, h33km, n105, σ0°.95/101, mb4.4/21, MS3.8/12, 2C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.72**	**274**	ePn	**Pn**	**13 28 25.7**	**-0.3**
	252nm,0.2s						
DZM				eSn	**Sn**	**13 29 07.7**	**-1.0**
	167nm,0.2s						
DZM				eLR	LR	13 29 16.8	
	1μm,22.8s						
DZM	**Mont Dzumac**	**3.72**	**274**	eP	**Pn**	**13 28 25.3**	**-0.7**
DZM				eS	**Sn**	**13 29 06.9**	**-1.8**
DZM	**Mont Dzumac**	**3.72**	**274**	ePn	**Pn**	**13 28 25.7**	**-0.3**
DZM				eSn	**Sn**	**13 29 06.4**	**-2.4**
DZM	**Mont Dzumac**	**3.72**	**274**	Pn	**Pn**	**13 28 26.1**	**+0.1**
	44nm,0.3s,baz=111,slow=17,SNR=1070						
DZM				Sn	**Sn**	**13 29 08.5**	**-0.2**
	44nm,0.3s,baz=107,slow=19,SNR=8.9						
NOUC	**Port Laguerre**	**3.85**	**273**	eP	**Pn**	**13 28 26.8**	**-0.8**
NFK	**Norfolk Island**	**7.03**	**198**	P	**Pn**	**13 29 11.7**	**+0.4**
	baz=6.8,SNR=20						
NFK				S	**Sn**	**13 30 28.1**	**-2.0**
	baz=6.8,SNR=4.6						
MSVF	**Nonsavu**	**8.50**	**59**	eP	Pn	13 29 36.6	+5.0
	113nm,1.0s						
HNR	**Honiara**	**16.34**	**320**	LR	LR	13 36 26.1	
	comp=Z,141nm,21.2s,baz=288,slow=33						
URZ	**Urewera**	**16.85**	**162**	LR	LR	13 36 44.4	
	comp=Z,356nm,19.4s,baz=141,slow=33						
ARMA	**Armidale**	**18.65**	**241**	eP	Pn	13 31 52.9	+6.3
AFI	**Afiamalu**	**18.86**	**67**	P	**Pn**	**13 31 49.2**	**+0.2**
AFI	**Afiamalu**	**18.86**	**67**	P	**Pn**	**13 31 49.2**	**+0.2**
	1.7nm,0.3s,baz=190,slow=22,SNR=4.1						
AFI				LR	LR	13 37 25.6	
	comp=Z,195nm,18.5s,baz=105,slow=32						
RMQ	**Roma**	**20.17**	**254**	P	Pn	13 32 06.2	+1.6
	baz=20,SNR=5.9						
RPZ	**Rata Peaks**	**21.30**	**179**	LR	LR	13 39 48.8	
	comp=Z,359nm,18.7s,baz=276,slow=35						
CTA	**Charters Tower**	**22.66**	**271**	P	**P**	**13 32 30.2**	**+0.8**
CTA	**Charters Tower**	**22.66**	**271**	P	**P**	**13 32 30.2**	**+0.8**
	3.1nm,0.7s,baz=108,slow=9.6,SNR=4.7						
CTAO	**Charters Tower**	**22.66**	**271**	eP	**P**	**13 32 30.9**	**+1.5**
CMSA	**Cobar Meteorol**	**23.84**	**242**	P	**P**	**13 32 43.5**	**+2.5**
	baz=24,SNR=7.4						
MTSU	**Mount Surprise**	**24.86**	**275**	P	**P**	**13 32 52.8**	**+2.3**
	baz=25,SNR=9.2						
COEN	**Coen**	**27.19**	**283**	eP	**P**	**13 33 12.6**	**+1.0**
STKA	**Stephens Creek**	**27.30**	**244**	eP	**P**	**13 33 14.7**	**+2.2**
STKA	**Stephens Creek**	**27.30**	**244**	P	**P**	**13 33 12.6**	**+0.2**
	6.4nm,1.1s,baz=69,slow=8.6,SNR=2.7						
STKA				LR	LR	13 44 04.3	
	comp=Z,264nm,20.9s,baz=304,slow=36						
MMPI	**Merauke**	**32.02**	**291**	P	P	13 33 48.2	-6.2
	baz=32,SNR=3.0						
MCQ	**Macquarie Isla**	**33.24**	**192**	P	**P**	**13 34 04.4**	**-0.2**
	baz=33,SNR=3.5						
MCQ				S	S	13 39 52.9	+31
	baz=33,SNR=3.6						
AS31	**Alice Springs**	**33.60**	**261**	eP	**P**	**13 34 08.5**	**+0.2**
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**13 34 08.4**	**+0.2**
ASAR	**Alice Springs**	**33.60**	**261**	P	**P**	**13 34 08.4**	**+0.2**
	2.2nm,0.8s,baz=89,slow=9.1,SNR=18						
ASAR				LR	LR	13 46 44.0	
	comp=Z,250nm,22.0s,baz=217,slow=34						
WRAB	**Tennant Creek**	**33.70**	**267**	eP	**P**	13 34 05.3	-3.8
WRA	**Warramunga Arr**	**33.71**	**267**	P	**P**	**13 34 08.9**	**-0.3**
WRA	**Warramunga Arr**	**33.71**	**267**	P	**P**	**13 34 08.9**	**-0.3**
	1.8nm,0.6s,baz=100,slow=8.8,SNR=9.2						
WRA				LR	LR	13 48 08.4	
	comp=Z,196nm,18.0s,baz=100,slow=37						
TBI	**Tubuai**	**36.88**	**99**	eLR	LR	13 44 40.5	
	99nm,27.8s						
KDU	**Kakadu**	**37.38**	**278**	P	**P**	**13 34 40.9**	**+0.2**
	baz=37,SNR=3.2						
PPT2	**Papeete2**	**37.79**	**90**	eLR	LR	13 45 06.6	
	82nm,23.8s						
PPT	**Papeete**	**37.80**	**90**	LR	LR	13 47 38.2	
	comp=Z,102nm,20.1s,baz=194,slow=32						
FITZ	**Fitzroy Crossi**	**42.14**	**267**	P	**P**	**13 35 21.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**42.14**	**267**	P	**P**	**13 35 21.2**	**+0.9**
	4.3nm,0.9s,baz=102,slow=9.4,SNR=4.8						
FITZ				LR	LR	13 53 38.8	
	comp=Z,222nm,21.5s,baz=285,slow=37						
MEEK	**Meekatharra**	**47.10**	**254**	P	**P**	**13 36 00.2**	**+0.3**
	baz=47,SNR=6.3						
VNDA	**Vanda**	**55.37**	**182**	LR	LR	13 58 29.3	
	comp=Z,73nm,20.6s,baz=287,slow=34						
SBA	**Scott Base**	**55.57**	**181**	eP	**P**	**13 37 02.0**	**-0.5**
	1.5nm,0.7s						
MJAR	**Matsushiro Arr**	**66.03**	**332**	P	**P**	**13 38 13.3**	**-0.9**
MJAR	**Matsushiro Arr**	**66.03**	**332**	P	**P**	**13 38 13.3**	**-0.9**
	3.4nm,0.7s,baz=166,slow=6.7,SNR=13						
MAT	**Matsushiro**	**66.03**	**332**	P	**P**	**13 38 12.7**	**-1.5**
PMBI	**Palembang**	**66.42**	**277**	P	P	13 38 26.3	+9.1
	baz=66,SNR=3.8

TXAR	Lajitas Array	97.26	61	LR	LR	14 18 42.7	
	comp=Z,56nm,18.0s,baz=185,slow=32						
PDAR	Pinedale Array	97.90	47	LR	LR	14 21 55.2	
	comp=Z,47nm,18.6s,baz=68,slow=33						
MKAR	Makanchi Array	104.74	315	Pdif	Pdif	13 41 34.6	+1.0
MKAR	Makanchi Array	104.74	315	Pdiff	Pdif	13 41 34.6	+1.0
	0.4nm,0.7s,baz=94,slow=6.3,SNR=5.2						
ARCES	ARCESS Array B	128.36	345	PKP	PKPdf	13 46 33.0	-0.3
ARCES	ARCESS Array B	128.36	345	PKP	PKPdf	13 46 33.0	-0.3
	0.7nm,0.4s,baz=84,slow=2.5,SNR=12						
KECS	Kecovo	144.64	325	*e*PKP	PKPdf	13 47 03.6	-0.3
OKC	Ostrava-Krasne	144.98	328	*e*PKP	PKPbc	13 47 03.8	+0.1
PSZ	Piszkesteto	145.30	324	*e*PKPbc	PKPbc	13 47 04.5	-0.4
MORC	Moravsky Berou	145.31	329	*e*PKP	PKPab	13 47 04.9	-0.1
DPC	Dobruska-Polom	145.49	330	*e*PKP	PKPab	13 47 05.7	0.0
DPC				*ex*	x	13 47 15.5	
VYHS	Vyhne	145.50	326	*e*PKP	PKPab	13 47 05.7	0.0
UPC	Upice	145.52	331	*e*PKP	PKPbc	13 47 05.4	-0.1
UPC				*ex*	x	13 47 09.7	
UPC				*ex*	x	13 47 11.4	
UPC				*e*pPKP	pPKPdf	13 47 17.3	+1.1
PVCC	Panska Ves	146.14	332	*e*PKP	PKPab	13 47 07.6	-0.4
BRG	Berggiesshubel	146.15	333	*i* P	PKPbc	13 47 07.3	-0.1
	15nm,0.8s						
BRG				*i*		13 47 19.7	
	14nm,0.9s						
CLL	Collm	146.21	334	⇓*i*PKPbc	PKPbc	13 47 07.5	0.0
	comp=Z,12nm,0.6s						
CLL				*i* PKPab	PKPab	13 47 08.5	+0.3
CLL				*i* PKiKP	PKiKP	13 47 10.5	-0.2
	comp=Z,13nm,0.7s						
PRU	Pruhonice	146.55	331	*e*PKP	PKPbc	13 47 08.5	-0.1
PRU				*e*pPKP	pPKPdf	13 47 19.3	+1.4
EKA	Eskdalemuir Ar	146.73	353	PKPbc	PKPdf	13 47 07.8	+0.6
EKA	Eskdalemuir Ar	146.73	353	PKPbc	PKPdf	13 47 07.8	+0.6
	comp=Z,6.8nm,0.5s,baz=1.6,slow=2.6,SNR=26						
PKSM	Moragy	147.01	323	*e*PKPdf	PKPbc	13 47 09.8	-0.2
CONA	Conrad Observa	147.38	328	⇑*i*PKPab	PKPab	13 47 12.2	-0.9
	comp=Z,5.8nm,0.7s						
KHC	Kasperske Hory	147.61	331	*e*PKP	PKPbc	13 47 11.3	-0.3
KHC				*ex*	x	13 47 14.9	
KHC				*e*pPKP	pPKPdf	13 47 21.8	+2.0
KHC	Kasperske Hory	147.61	331	*e*PKPbc	PKPbc	13 47 11.9	+0.3
GERES	GERESS Array B	147.76	331	PKPbc	PKPbc	13 47 12.2	+0.1
GERES	GERESS Array B	147.76	331	PKPbc	PKPbc	13 47 12.2	+0.1
	comp=Z,4.3nm,0.7s,baz=39,slow=2.6,SNR=27						
MEM	Membach	149.29	340	PKPbc	PKPbc	13 47 16.0	+0.1
BCLA	Clavier	149.67	341	PKPbc	PKPbc	13 47 16.0	-0.8
MOTA	Moosalm	150.04	331	⇓*i*PKPbc	PKPbc	13 47 17.6	-0.5
	comp=Z,5.0nm,0.6s						
DOU	Dourbes	150.17	342	PKPbc	PKPbc	13 47 17.6	-0.5
FETA	Feichten	150.45	331	⇑*i*PKiKP	PKPbc	13 47 19.2	+0.1
	comp=Z,12nm,1.0s						
TUE	Stuetta	151.48	332	*e*PKPbc	PKPbc	13 47 21.5	-0.1
ESDC	Sonseca Array	162.10	346	PKPab	PKPab	13 48 14.7	-0.8
ESDC	Sonseca Array	162.10	346	PKPab	PKPab	13 48 14.7	-0.8
	comp=Z,0.7nm,0.4s,baz=25,slow=3.4,SNR=6.8						
TORD	Torodi Ar. Bea	165.91	231	PKP	PKPdf	13 47 33.2	+0.1
TORD				PKPab	PKPab	13 48 31.1	-1.8
TORD	Torodi Ar. Bea	165.91	231	PKP	PKPdf	13 47 33.2	+0.1
	comp=Z,1.8nm,1.0s,baz=230,slow=0.8,SNR=5.4						
TORD				PKPab	PKPab	13 48 31.1	-1.8
	comp=Z,0.3nm,0.4s,baz=130,slow=5.3,SNR=3.1						

NIED ***24*** *13:35:00,22.°20N×121.°50E,h65km,Mw3.8 Best double couple: M0 6.39000×10^14 NP1:φs 205.00000°,δ62.00000°, λ-48.00000°. NP2:φs 322.00000°,δ49.00000°, λ-142.00000°.*

ISCJB ***24*** *13:35:34.3±0.5,21.°95N±0.°03×121.°43E±0.°02,h48km±5km, mb3.7/3,Error ellipse: s-maj=4.3km s-min=3.7km az=168.4*

TAP ***24*** *13:35:36.1,22.°07N×121.°30E,h38km,ML3.8,C*

JMA ***24*** *13:35:37.4±0.3,22.°18N×121.°46E,h87km,M3.5*

IDC ***24*** *13:36:42.1±27.0, 13.°39N×123.°66E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.3/24,mbtmp3.7/3,Error ellipse: s-maj=497.5km s-min=256.4km az=151.0*

ISC 24 13:35:35.3±1.1,21.°96N±0.°05×121.°37E±0.°03,h43km±8km, n58,σ1§17/105,mb3.4/3,4C-5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.18	64	⇓*i*P	Pn	13 35 43.3	+0.4
	baz=93						
LAY				S	Sn	13 35 48.8	+0.6
	baz=93						
TSEB	Hengchuen, Pin	0.44	263	⇓*i*P	Pn	13 35 46.1	+0.6
	baz=255						
TSEB				*i* S	Sn	13 35 53.5	+0.9
	baz=255						
TWK1	Hengchun	0.53	269	⇓*i*P	Pn	13 35 46.4	-0.2
	baz=259						
TWK1				*i* S	Sn	13 35 53.6	-0.9
	baz=259						
HEN	Hengchun	0.59	275	⇓*i*P	Pn	13 35 47.4	0.0
	baz=265						
HEN				*i* S	Sn	13 35 55.4	-0.5
	baz=265						
TAW	Tawu	0.59	312	⇑*i*P	Pn	13 35 46.2	-1.3
	baz=314						
TAW				*i* S	Sn	13 35 53.3	-2.8
	baz=314						
SCZT	Fangliau	0.81	301	*i* P	Pn	13 35 49.9	-0.4
	baz=296						
SCZT				S	Sn	13 35 59.8	-1.4
	baz=296						
TTN	Taitung	0.82	345	P	Pn	13 35 50.0	-0.5
	baz=338						
TTN				*e*S	Sn	13 36 00.1	-1.4
	baz=338						
TWG	Pinlang	0.90	342	⇑*i*P	Pn	13 35 49.9	-1.8
	baz=336						
TWG				*e*S	Sn	13 35 59.9	-3.7
	baz=336						
TWP	Hsiaoliuchiu	1.01	293	*e*P	Pn	13 35 53.9	+0.8
	baz=288						
SGLT	Jiouru	1.12	313	*e*P	Pn	13 35 54.7	+0.2
	baz=321						
CHKT	Chengkung	1.14	360	⇑*i*P	Pn	13 35 53.5	-1.3
	baz=354						
CHKT				S	Sn	13 36 08.9	-0.3
	baz=354						
KAU	Kaohsiung	1.16	302	*e*P	Pn	13 35 55.3	+0.3
	baz=284						
KAU				*e*S	Sn	13 36 10.6	+0.9
	baz=284						
TWM1	Shoushan	1.23	315	*e*P	Pn	13 35 57.2	+1.1
	baz=314						
SGST	Jiashian	1.34	327	*e*P	Pn	13 35 58.3	+0.8
	baz=328						
SGST				*e*S	Sn	13 36 13.9	-0.3
	baz=328						
TWF1	Yuli	1.39	357	*e*P	Pn	13 35 56.4	-1.9
	baz=352						
TWF1				*e*S	Sn	13 36 15.7	+0.2
	baz=352						
CHN1	Nanshi	1.45	328	*e*P	Pn	13 35 59.5	+0.4
	baz=328						
CHN1				*e*S	Sn	13 36 18.0	+1.0
	baz=328						
CHN3	Shinhua	1.45	320	*e*P	Pn	13 36 00.1	+1.0
	baz=320						
CHN3				*e*S	Sn	13 36 19.5	+2.5
	baz=320						
EHY	Hungye	1.54	358	*e*P	Pn	13 35 58.7	-1.7
	baz=351						
EHY				*e*S	Sn	13 36 19.2	0.0
	baz=351						
YUS	Yu-Shan	1.57	346	P	Pn	13 36 00.5	-0.7
	baz=358						
YUS				*e*S	Sn	13 36 21.8	+1.1
	baz=358						
ALS	Alishan	1.63	341	P	Pn	13 36 02.0	+0.2
	baz=343						
ALS				*e*S	Sn	13 36 21.1	-0.8
	baz=343						
CHN5	Tsauling	1.75	339	⇓P	Pn	13 36 03.8	+0.5
	baz=340						
CHN5				*e*S	Sn	13 36 26.3	+1.7
	baz=340						
CHY	Chiayi	1.77	330	*e*P	Pn	13 36 03.5	+0.1
	baz=331						
CHY				*e*S	Sn	13 36 24.7	0.0
	baz=331						
CHN2	Minshiung	1.77	332	*e*P	Pn	13 36 03.7	+0.2
	baz=333						
ESL	Shilin	1.85	2	*e*P	Pn	13 36 04.5	-0.1
	baz=5.0						
ESL				*e*S	Sn	13 36 27.0	+0.2
	baz=5.0						
WGK	Gukeng	1.88	337	*e*P	Pn	13 36 05.0	+0.1
	baz=338						
WGK				*e*S	Sn	13 36 27.1	-0.3
	baz=338						
SMLT	Sun Moon Lake	1.97	347	*e*P	Pn	13 36 07.2	+0.9
	baz=349						
SMLT				*e*S	Sn	13 36 29.9	+0.2
	baz=349						
WSF	Szhu	1.98	328	*e*P	Pn	13 36 06.0	-0.4
	baz=329						
WSF				*e*S	Sn	13 36 29.1	-0.8
	baz=329						
TYC	Yuchr	2.00	346	⇑*i*P	Pn	13 36 07.5	+0.9
	baz=349						
TYC				*e*S	Sn	13 36 31.7	+1.3
	baz=349						
WNT	Mingjian	2.02	342	*e*P	Pn	13 36 07.5	+0.7
	baz=344						
WNT				*e*S	Sn	13 36 30.9	0.0
	baz=344						
WDGT	Dungji	2.05	310	*e*P	Pn	13 36 05.6	-1.7
	baz=309						
WDGT				*e*S	Sn	13 36 27.6	-4.0
	baz=309						
TWD	Chiawan	2.12	6	*e*P	Pn	13 36 07.8	-0.5
	baz=360						
TWD				*e*S	Sn	13 36 34.0	+0.5
	baz=360						
WHF	Hehuan Shan	2.18	357	*e*P	Pn	13 36 08.8	-0.7
	baz=9.0						
WHF				*e*S	Sn	13 36 34.7	-0.8
	baz=9.0						
TCU	Taichung	2.27	344	*e*P	Pn	13 36 10.5	+0.1
	baz=334						
TCU				*e*S	Sn	13 36 36.9	-0.2
	baz=334						
TWT	Tachien	2.29	356	*e*P	Pn	13 36 10.7	-0.1
	baz=6.0						
TWT				*e*S	Sn	13 36 37.6	-0.3
	baz=6.0						
TWQ1	Liyutan	2.44	347	*e*P	Pn	13 36 13.6	+0.9
	baz=349						
TWQ1				*e*S	Sn	13 36 43.5	+2.1
	baz=349						
NNS	Nan Shan	2.47	0	*e*P	Pn	13 36 14.7	+1.5
	baz=10.0						
NNS				*e*S	Sn	13 36 42.5	+0.3
	baz=10.0						
ENA	Nanau	2.48	8	*e*P	Pn	13 36 13.4	+0.1
	baz=1.0						
ENA				*e*S	Sn	13 36 42.9	+0.6
	baz=1.0						
NSY	Sanyi	2.51	347	*e*P	Pn	13 36 15.0	+1.3
	baz=349						
NSY				*e*S	Sn	13 36 43.2	+0.1
	baz=349						
TWC	Suao	2.68	9	*e*P	Pn	13 36 16.7	+0.8
	baz=23						
TWC				*e*S	Sn	13 36 47.6	+0.5
	baz=23						
ENTT	Nioudou	2.68	4	*e*P	Pn	13 36 16.1	+0.2
	baz=6.0						
NSTT	Nanjuang	2.68	353	*e*P	Pn	13 36 17.3	+1.3
	baz=342						
NSTT				*e*S	Sn	13 36 49.5	+2.2
	baz=342						
NSK	Sanguang	2.71	360	*e*P	Pn	13 36 16.9	+0.5
	baz=8.0						
NSK				*e*S	Sn	13 36 48.4	+0.4
	baz=8.0						
TWE	Neicheng	2.77	6	*e*P	Pn	13 36 17.8	+0.7
	baz=8.0						
TWE				*e*S	Sn	13 36 49.8	+0.5
	baz=8.0						
YOJ	Yonaguni jima	2.91	31	P	Pn	13 36 19.2	0.0
YOJ				S	Sn	13 36 51.5	-1.5
TWA	Mucha	3.02	4	*e*P	Pn	13 36 22.8	+2.2
	baz=13						
HATJ	Hateruma jima	3.06	47	P	Pn	13 36 21.7	+0.4
HATJ				S	Sn	13 36 54.8	-1.9
TWB1	Santiao Chiao	3.09	10	*e*P	Pn	13 36 23.4	+1.8
	baz=23						
TWB1				*e*S	Sn	13 36 58.3	+1.0
	baz=23						
NWF	Wu-fen Shan	3.12	7	*e*P	Pn	13 36 23.6	+1.4
	baz=9.0						
NWF				*e*S	Sn	13 37 00.1	+1.9
	baz=9.0						
IRIF	Iriomote-Funau	3.21	42	P	Pn	13 36 23.9	+0.6
IRIF				S	Sn	13 36 59.5	-0.8
JKRS	Kuro-shima	3.32	46	P	Pn	13 36 25.5	+0.7
JKRS				S	Sn	13 37 01.4	-1.7
JIJ	Ishigaki jima	3.50	46	P	Pn	13 36 27.3	+0.1
JIJ				S	Sn	13 37 05.0	-2.4
KNM	Kinmen	3.65	313	*e*P	Pn	13 36 28.7	-0.6
	baz=303						
JTJ	Tarama	4.06	48	P	Pn	13 36 35.6	+0.6
JTJ				S	Sn	13 37 20.1	-1.2
JMJ	Miyako jima 2	4.59	51	P	Pn	13 36 43.2	+1.0
JMJ				S	Sn	13 37 33.4	-0.9
JOGS	Gusukube	4.64	52	P	Pn	13 36 43.5	+0.6
JOGS				S	Sn	13 37 34.7	-0.8
WRA	Warramunga Arr	43.53	162	P	P	13 43 34.6	-0.3
	0.5nm,0.9s,baz=343,slow=8.7,SNR=6.0						
ASAR	Alice Springs	46.96	164	P	P	13 44 02.6	+0.5
	0.3nm,0.7s,baz=345,slow=7.9,SNR=8.8						
STKA	Stephens Creek	56.92	159	P	P	13 45 24.9	+8.7
	4.0nm,0.8s,baz=342,slow=9.6,SNR=2.6						

IDC ***24*** *13:44:21.4±2.7,27.°71N×57.°44E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.6/31,mbtmp3.9/7,Error ellipse: s-maj=62.6km s-min=25.3km az=154.0*

CSEM ***24*** *13:44:27.9±0.2,28.°06N×57.°27E,h10km,ML3.5,Error ellipse: s-maj=9.2km s-min=4.0km az=100.0*

TEH ***24*** *13:44:27.2,28.°25N×57.°18E,h6km,ML3.5*

THR ***24*** *13:44:28.5±0.3,28.°27N×57.°04E,h15km,ML3.7*

OMAN ***24*** *13:44:46.0±99.0,26.°79N×56.°85E,h6km,Error ellipse: s-maj=74.3km s-min=16.1km az=338.0*

ISC 24 13:44:26.4±1.8,28.°12N±0.°04×57.°30E±0.°07,h7km±13km, n45,σ1§50/44,mb3.8/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.95	225	*e*Pg	Pb	13 44 46.7	+1.6
IBND				*e*		13 44 47.6	
	comp=Z,60μm,0.1s						
IBND				*e*Sg	Sn	13 45 01.0	+1.1
IBND	Bandar-abas	0.95	225	*e*Pg	Pb	13 44 46.7	+1.6
IBND				*e*Sg	Sn	13 45 01.0	+1.1
BNDS	Bandar-Abbas	1.23	235	*e*Pg	Pg	13 44 50.3	+0.3
BNDS				AML	AML	13 45 09.5	
	comp=E,2μm,0.3s						
BNDS				AML	AML	13 45 11.1	
	comp=N,2μm,0.6s						
BNDS	Bandar-Abbas	1.23	235	*e*Pg	Pg	13 44 50.3	+0.3
KRBR	Kerman	1.92	346	*e*Pg	Pb	13 45 00.2	-1.6
KRBR				AML	AML	13 45 31.5	
	comp=E,508nm,0.2s						
KRBR				AML	AML	13 45 33.2	
	comp=N,807nm,0.3s						
KRBR	Kerman	1.92	346	*e*Pg	Pb	13 45 00.2	-1.6
BANOM	Banah	2.36	202	P	Pn	13 45 05.2	-0.4
	SNR=138						
BANOM	Banah	2.36	202	P	Pn	13 45 05.2	-0.4
	SNR=138						
BANOM				Sn	Sn	13 45 33.2	-1.7
HATD	Hatta, Dubai	3.44	198	Pn	Pn	13 45 19.8	-0.7
ASHO	Ashiyiah	3.60	198	P	Pn	13 45 23.4	+0.8
	SNR=25						
ASHO	Ashiyiah	3.60	198	Pn	Pn	13 45 22.5	-0.1
	SNR=25						
ASHO	Ashiyiah	3.60	198	P	Pn	13 45 23.4	+0.8
	SNR=25						
FAQ	Al Faqa, Dubai	3.69	205	Pn	Pn	13 45 23.6	-0.3
IBAF	Bafgh	3.77	337	*e*Pn	Pn	13 45 26.8	+1.7
IBAF				*e*	Sg	13 46 31.4	+3.8
	comp=Z,622nm,0.3s						
IBAF	Bafgh	3.77	337	*e*Pn	Pn	13 45 26.8	+1.7
ISRV	Sarvestan	3.88	290	*e*Pn	Pn	13 45 28.8	+2.0
ISRV				*e*	Sg	13 46 29.1	-2.1
	comp=Z,797nm,0.1s						
ISRV	Sarvestan	3.88	290	*e*Pn	Pn	13 45 28.8	+2.0
ASUD	Al Ashush, Dub	3.90	207	Pn	Pn	13 45 27.5	+0.8
IMEH	Mehriz	4.01	325	*e*Pn	Pn	13 45 30.0	+1.5
IMEH				*e*		13 45 47.5	
	comp=Z,536nm,0.2s						
IMEH	Mehriz	4.01	325	*e*Pn	Pn	13 45 30.0	+1.5
IPAR	Pars	4.10	296	*e*Pn	Pn	13 45 31.7	+1.9
IPAR				*e*	Sg	13 46 28.2	-10
	comp=Z,333nm,0.2s						
IPAR	Pars	4.10	296	*e*Pn	Pn	13 45 31.7	+1.9
IKOO	Kooshah	4.54	19	*e*Pn	Pn	13 45 38.2	+2.5
IKOO				*e*		13 45 40.8	
	comp=N,856nm,0.1s						
IKOO	Kooshah	4.54	19	*e*Pn	Pn	13 45 38.2	+2.5
ICHK	Chekchek	4.81	329	*e*Pn	Pn	13 45 41.1	+1.6
ICHK				*e*		13 45 58.8	
	comp=Z,410nm,0.2s						
ICHK	Chekchek	4.81	329	*e*Pn	Pn	13 45 41.1	+1.6
ARQ	Araqi	4.81	189	P	Pn	13 45 40.5	+1.2
	SNR=54						
ARQ	Araqi	4.81	189	P	Pn	13 45 40.5	+1.2
	SNR=54						
ISAD	Sadrabad	4.91	321	*e*Pn	Pn	13 45 42.5	+1.6
ISAD				*e*	Sg	13 47 15.4	+11
	comp=E,248nm,0.2s						
ISAD	Sadrabad	4.91	321	*e*Pn	Pn	13 45 42.5	+1.6
ITEG	Tejag	4.92	14	*e*Pn	Pn	13 45 43.4	+2.4
ITEG				*e*		13 45 52.5	
	comp=Z,577nm,0.2s						
ITEG	Tejag	4.92	14	*e*Pn	Pn	13 45 43.4	+2.4
IDAH	Dahanechah	5.11	25	*e*Pn	Pn	13 45 46.6	+3.0
IDAH				*e*		13 46 06.6	
	comp=Z,264nm,0.1s						
IDAH	Dahanechah	5.11	25	*e*Pn	Pn	13 45 46.6	+3.0
TABS	Tabas	5.51	358	*e*Pn	Pn	13 45 50.1	+1.1
TABS	Tabas	5.51	358	*e*Pn	Pn	13 45 50.1	+1.1
IZEF	Zefreh	6.41	319	*e*Pn	Pn	13 46 01.9	+0.5
IZEF	Zefreh	6.41	319	*e*Pn	Pn	13 46 01.9	+0.5
AKTO	Aktyubinsk	22.29	1	P	P	13 49 24.9	+0.7
	comp=Z,3.1nm,0.4s,baz=175,slow=7.7,SNR=12						
BRTR	Keskin Array B	22.72	307	P	P	13 49 28.5	-0.5
	comp=Z,1.0nm,0.7s,baz=128,slow=12,SNR=4.5						
BVAR	Borovoye Array	26.71	18	P	P	13 50 05.0	-1.1
	comp=Z,1.1nm,0.5s,baz=201,slow=7.6,SNR=6.3						
MKAR	Makanchi Array	27.04	40	P	P	13 50 07.9	-1.3
	comp=Z,0.5nm,0.6s,baz=224,slow=7.8,SNR=6.6						
KURBB	Kurchatov Arra	27.64	30	P	P	13 50 13.4	-1.2
	comp=Z,0.6nm,0.4s,baz=229,slow=8.5,SNR=7.5						
ZALV	Zalesovo Beam	32.73	30	P	P	13 50 57.5	-2.1
	comp=Z,1.6nm,0.3s,baz=245,slow=10.0,SNR=10						
TORD	Torodi Ar. Bea	53.70	266	P	P	13 53 46.1	-3.2
	comp=Z,0.6nm,0.6s,baz=60,slow=7.1,SNR=3.8						

IDC ***24*** *14:09:44.9±1.4,15.°90S×167.°78E,h147km±11km, mb4.1/16,mb1 4.2/18,mb1mx4.1/24,mbtmp4.1/18,MS3.4/3, Ms1 3.4/3,ms1mx2.9/31,Error ellipse: s-maj=14.9km s-min=10.9km az=102.0*

NEIC ***24*** *14:09:45.0±1.2,15.°85S×167.°84E,h150km±8km,mb4.7/7, Error ellipse: s-maj=15.1km s-min=10.0km az=69.0*

ISCJB ***24*** *14:09:46.2±0.5,15.°97S±0.°04×167.°84E±0.°09,h177km, mb4.3/19,Error ellipse: s-maj=12.0km s-min=5.9km az=178.7*

AUST ***24*** *14:09:58.5±5.3,15.°94S×168.°06E,h315km±1km,Error ellipse: s-maj=2.4km s-min=1.5km az=253.0*

ISC 24 14:09:48.3±0.6,15.°99S±0.°06×167.°80E±0.°10,h177km,n76, σ1§73/83,mb4.3/19,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.18	192	*e*P	Pn	14 11 15.1	-2.7
	72nm,0.5s						
DZM				*e*S	Sn	14 12 24.6	-3.6
DZM	Mont Dzumac	6.18	192	P	Pn	14 11 15.6	-2.1
	22nm,0.3s,baz=46,slow=18,SNR=136						
DZM				S	Sn	14 12 25.4	-2.7
	3.6nm,0.3s,baz=300,slow=20,SNR=5.6						
NOUC	Port Laguerre	6.24	193	*e*P	Pn	14 11 14.9	-3.5
NOUC	Port Laguerre	6.24	193	*e*S	Sn	14 12 26.0	-3.3
LASL	Noumea	6.32	191	*e*P	Pn	14 11 17.8	-1.6
HNR	Honiara	10.06	309	P	Pn	14 12 06.0	-2.7
HNR	Honiara	10.06	309	P	Pn	14 12 06.0	-2.7
	29nm,0.3s,baz=163,slow=5.4,SNR=12						
HNR				LR	LR	14 15 25.6	
	comp=Z,195nm,18.9s,baz=291,slow=34						
EIDS	Eidsvold	18.20	236	*e*P	Pn	14 13 49.5	-0.3
	39nm,0.8s						
EIDS	Eidsvold	18.20	236	P	Pn	14 13 49.6	-0.3
	baz=18,SNR=16						
RMQ	Roma	20.57	236	P	P	14 14 14.8	+1.4
	baz=21,SNR=7.7						
ARMA	Armidale	20.63	223	P	P	14 14 15.5	+1.4
	baz=21,SNR=8.7						
CTA	Charters Tower	20.88	256	P	P	14 14 17.2	+0.3
CTA	Charters Tower	20.88	256	P	P	14 14 17.2	+0.3
	4.6nm,0.5s,baz=86,slow=12,SNR=11						
CTAO	Charters Tower	20.88	256	*e*P	P	14 14 18.5	+1.6
MTSU	Mount Surprise	22.55	261	P	P	14 14 34.0	+0.3
	baz=23,SNR=8.6						
MGCD	Mangrove Creek	22.84	218	P	P	14 14 38.7	+2.5
	baz=23,SNR=5.2						
URZ	Urewera	23.65	161	*e*P	P	14 14 45.0	+1.5
URZ	Urewera	23.65	161	P	P	14 14 44.5	+1.1
	11nm,0.9s,baz=75,slow=4.9,SNR=4.2						
URZ				LR	LR	14 21 19.6	
	comp=Z,98nm,18.6s,baz=186,slow=29						
PATS	Pohnpei	24.55	337	P	P	14 14 50.6	-1.2
	baz=25,SNR=5.6						
CNB	Canberra Magne	25.34	217	P	P	14 15 00.2	+1.2
	baz=26,SNR=5.1						
CMSA	Cobar Meteorol	25.40	229	P	P	14 14 59.7	+0.3
	baz=26,SNR=8.6						
RPZ	Rata Peaks	27.77	175	*e*P	P	14 15 21.4	+0.8
MMPI	Merauke	27.79	282	P	P	14 15 33.1	+12
	baz=28,SNR=3.3						
STKA	Stephens Creek	28.59	232	*e*P	P	14 15 28.1	+0.1
STKA				ScP	ScP	14 22 03.1	+3.8
STKA	Stephens Creek	28.59	232	P	P	14 15 28.6	+0.7
	15nm,0.6s,baz=50,slow=9.3,SNR=22						
STKA				ScP	ScP	14 22 03.1	+3.8
	3.5nm,1.0s,baz=65,slow=2.7,SNR=3.5						
STKA	Stephens Creek	28.59	232	P	P	14 15 28.6	+0.7
	baz=29,SNR=4.2						
WRAB	Tennant Creek	32.03	258	*e*P	P	14 15 55.8	-2.6
	1.0nm,0.6s						
WRA	Warramunga Arr	32.04	258	P	P	14 15 56.5	-2.0
WRA				S	S	14 21 00.0	+2.6
WRA				ScP	ScP	14 22 14.7	+3.8
WRA	Warramunga Arr	32.04	258	P	P	14 15 56.5	-2.0
	2.3nm,0.7s,baz=83,slow=7.7,SNR=31						
WRA	

MEEK	Meekatharra	46.78	248	P	P	14 18 00.4 +0.1
	baz=47,SNR=9.6					
KLBR	Kellerberrin	47.95	242	P	P	14 18 08.8 -0.3
	baz=48,SNR=5.0					
MORW	Morawa	49.19	245	P	P	14 18 18.6 -0.1
	baz=49,SNR=3.7					
MJAR	Matsushiro Arr	59.26	332	P	P	14 19 29.5 -1.7
MJAR	Matsushiro Arr	59.26	332	P	P	14 19 29.5 -1.7
	9.1nm,0.8s,baz=167,slow=7.8,SNR=34					
MAT	Matsushiro	59.26	332	P	P	14 19 29.5 -1.7
VNDA	Vanda	61.62	181	*e*P	P	14 19 47.2 +0.6
	4.6nm,0.9s					
VNDA	Vanda	61.62	181	P	P	14 19 46.8 +0.2
	2.3nm,0.5s,baz=3.1,slow=6.9,SNR=16					
SBA	Scott Base	61.88	180	*e*P	P	14 19 50.1 +1.7
	13nm,0.9s					
KSRS	Korea Array	65.07	326	P	P	14 20 08.8 -1.0
	2.4nm,0.9s,baz=140,slow=6.7,SNR=12					
KSAR	Wonju Array Be	65.08	326	P	P	14 20 08.8 -1.1
USRK	Ussuriysk Arra	68.23	333	P	P	14 20 29.9 +0.2
	10nm,0.8s,baz=148,slow=6.0,SNR=25					
FX1	Attu Island--F	68.75	3	LR	LR	14 46 01.0
	comp=Z,27nm,20.4s,baz=249,slow=32					
QSPA	South Pole Qui	74.04	180	*e*P	P	14 21 05.2 +0.6
	17nm,0.9s					
CMAR	Chiang Mai Arr	75.93	294	P	P	14 21 16.9 +0.9
CMAR	Chiang Mai Arr	75.93	294	P	P	14 21 17.0 +0.9
	0.5nm,0.5s,baz=136,slow=4.3,SNR=4.6					
MAW	Mawson	80.91	202	P	P	14 21 42.7 +0.4
MAW	Mawson	80.91	202	P	P	14 21 42.7 +0.4
	5.3nm,0.9s,baz=99,slow=7.4,SNR=7.3					
MAW	Mawson	80.91	202	P	P	14 21 36.0 -6.4
	baz=81,SNR=6.9					
ULN	Ulaanbaatar	83.45	324	*e*P	P	14 21 56.5 +0.5
	10nm,0.8s					
SONM	Songino Array	83.81	323	P	P	14 21 57.9 0.0
SONM	Songino Array	83.81	323	P	P	14 21 57.9 0.0
	4.5nm,0.9s,baz=140,slow=5.9,SNR=24					
ILAR	Eielson Array	87.56	18	P	P	14 22 13.7 -2.1
ILAR	Eielson Array	87.56	18	P	P	14 22 13.7 -2.1
	0.5nm,0.6s,baz=236,slow=5.1,SNR=2.0					
MKAR	Makanchi Array	98.47	316	P	P	14 23 06.3 -0.1
MKAR	Makanchi Array	98.47	316	P	P	14 23 06.3 -0.1
	0.5nm,0.8s,baz=92,slow=5.7,SNR=4.7					
ZALV	Zalesovo Beam	98.71	324	P	P	14 23 05.9 -1.3
ZALV	Zalesovo Beam	98.71	324	P	P	14 23 05.9 -1.3
	0.6nm,0.5s,baz=128,slow=5.9,SNR=4.8					
AKASG	Malin Array Be	132.06	325	SKPbc	SKPab	14 31 53.6 +2.0
AKASG	Malin Array Be	132.06	325	SKPbc	SKPab	14 31 53.6 +2.0
	0.6nm,0.4s,baz=38,slow=4.2,SNR=7.0					
BRTR	Keskin Array B	133.71	310	SKPbc	SKPab	14 31 58.6 -0.8
BRTR	Keskin Array B	133.71	310	SKPbc	SKPab	14 31 58.6 -0.8
	0.5nm,0.8s,baz=98,slow=2.2,SNR=2.7					
GERES	GERESS Array B	141.00	333	SKPbc	SKiKP	14 32 20.5 +0.8
GERES	GERESS Array B	141.00	333	SKPbc	SKiKP	14 32 20.5 +0.8
	0.2nm,0.4s,baz=71,slow=3.5,SNR=3.6					
DAVOX	Davos/Dischmat	144.23	334	PKP	PKPbc	14 29 02.5 +0.4
DAVOX	Davos/Dischmat	144.23	334	PKP	PKPbc	14 29 02.5 +0.4
	4.5nm,0.6s,baz=189,slow=9.1,SNR=5.3					
TUE	Stuetta	144.70	334	*e*PKP	PKPbc	14 29 03.9 +0.3

MEX 24 14:32:58.8±0.7, 14°48N×94°63W, h17km±36km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.82	48	*e*P	Pn	14 33 25.6	-3.8
PCIG				*i* S	Sn	14 33 48.0	-4.1
CMIG	Matias Romero	2.61	355	*e*P	Pn	14 33 37.8	-2.4
CMIG				*i* S	Sn	14 34 07.0	-4.4
TGIG		2.71	32	*e*P	Pn	14 33 39.2	-2.4
TGIG				*i* S	Sn	14 34 10.9	-3.1
VHO	Vista Hermosa	3.28	322	*i* P	Pn	14 33 47.4	-2.3
VHO				*i* S	Sn	14 34 24.6	-3.8
PNIG	Pinotepa	3.87	300	*i* P	Pn	14 33 55.5	-2.1
PNIG				*i* S	Sn	14 34 38.4	-4.3
TEIG	Tepich	8.33	46	*i* P	Pn	14 34 57.1	-1.7

*IDC **24** 14:40:57.5±0.8, 33°84N×141°80E, h0km, mb3.8/13, mb1 3.9/17, mb1mx3.8/31, mbtmp3.8/17, ML3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/40, Error ellipse: s-maj=23.4km s-min=14.3km az=73.0*

*ISCJB **24** 14:40:58.6±0.6, 33°81N±0°06×141°85E±0°09, h21km, mb3.8/13, Error ellipse: s-maj=11.6km s-min=6.4km az=150.8*

*JMA **24** 14:41:01.0±0.5, 33°85N×141°76E, h56km, M3.4*

ISC 24 14:41:00.4±0.7, 33°81N±0°06×141°77E±0°09, h21km, n29, σ1°16/32, mb3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.06	322	P	Pb	14 41 19.6	-0.1
BSO3	Boso 3	1.43	314	P	Pn	14 41 25.1	+0.2
BSO4	Boso 4	1.66	315	P	Pn	14 41 28.9	+0.7
JHJ2	Mitsune	1.77	247	P	Pn	14 41 30.7	+0.9
KTR	Katsuura	1.79	318	P	Pn	14 41 30.1	+0.1
JHCJ	Hachijojimakas	1.80	246	P	Pn	14 41 30.6	+0.4
JIM2	Oshima 3	2.13	296	P	Pn	14 41 34.0	-0.8
JIZS	Izushimoda	2.56	291	P	Pn	14 41 40.4	-0.2
JOD2	Odawara 2	2.64	304	P	Pn	14 41 41.1	-0.7
JRY	Ryogami san	3.22	314	P	Pn	14 41 50.1	+0.4
JAG	Ashikaga	3.22	325	P	Pn	14 41 49.9	+0.2
MJAR	Matsushiro Arr	3.99	314	Pn	Pn	14 42 00.7	+0.5
	2.5nm,0.3s,baz=144,slow=11,SNR=24						
MJAR				LR	LR	14 42 42.1	
	comp=Z,115nm,21.9s,baz=140,slow=26						
MJAR				Sn	Sn	14 42 47.1	+0.8
	1.2nm,0.3s,baz=150,slow=18,SNR=5.1						
MAT	Matsushiro	3.99	314	P	Pn	14 42 01.7	+1.4
MAT				S	Sb	14 42 55.8	-1.9
CBIJ	Chichi jima	6.71	177	Pn	Pn	14 42 37.6	0.0
	4.2nm,0.3s,baz=277,slow=19,SNR=18						
CBIJ				Sn	Sn	14 43 49.7	-3.7
	4.2nm,0.3s,baz=288,slow=19,SNR=3.6						
ASAJ	Asahikawa	10.31	3	Pn	Pn	14 43 25.2	-1.8
	0.4nm,0.3s,baz=212,slow=14,SNR=10						
ASAJ				Sn	Sn	14 45 15.4	-6.5
	0.2nm,0.3s,baz=315,slow=20,SNR=2.1						
KSRS	Korea Array	11.83	292	Pn	Pn	14 43 48.5	+0.6
	0.1nm,0.3s,baz=107,slow=14,SNR=2.6						
SONM	Songino Array	29.92	309	P	P	14 47 07.2	+0.4
	0.4nm,0.8s,baz=107,slow=7.7,SNR=4.6						
CMAR	Chiang Mai Arr	41.07	259	P	P	14 48 42.3	-0.4
	0.6nm,0.6s,baz=54,slow=8.1,SNR=4.3						
ZALV	Zalesovo Beam	44.34	315	P	P	14 49 09.2	+0.4
	0.5nm,0.6s,baz=98,slow=6.4,SNR=3.6						
MKAR	Makanchi Array	46.13	305	P	P	14 49 24.0	+0.9
	0.7nm,0.7s,baz=91,slow=9.7,SNR=11						
KURBB	Kurchatov Arra	48.25	310	P	P	14 49 39.6	0.0
	3.5nm,1.0s,baz=85,slow=7.7,SNR=26						
ILAR	Eielson Array	52.08	31	P	P	14 50 09.5	+1.1
	0.7nm,0.7s,baz=270,slow=6.8,SNR=7.5						
BVAR	Borovoye Array	52.98	314	P	P	14 50 15.5	+0.2
	4.2nm,1.2s,baz=78,slow=9.0,SNR=6.1						
FITZ	Fitzroy Crossi	53.87	199	P	P	14 50 22.8	+0.7
	1.1nm,0.6s,baz=25,slow=17,SNR=3.8						
WRA	Warramunga Arr	53.92	189	P	P	14 50 22.7	+0.2
	0.3nm,0.3s,baz=6.1,slow=7.5,SNR=8.1						
ASAR	Alice Springs	57.65	189	P	P	14 50 51.7	+2.6
	0.3nm,0.7s,baz=357,slow=5.3,SNR=7.7						
STKA	Stephens Creek	65.34	180	P	P	14 51 39.8	-1.1
	2.5nm,0.8s,baz=342,slow=6.4,SNR=2.8						
KBZ	Khabaz	73.23	312	P	P	14 52 30.8	+1.0
	2.3nm,0.7s,baz=226,slow=1.1,SNR=3.9						
PDAR	Pinedale Array	79.72	45	P	P	14 53 06.5	-0.5
	0.2nm,0.3s,baz=340,slow=4.1,SNR=4.6						

CASC 24 14:41:49.3±2.8, 8°38N×82°86W, h0km±14km, MD4.2, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.41	312	*e*P	Pg	14 41 58.1	+0.8
ACR				*e*S	Sb	14 42 06.6	+0.2
BRU2	Volcan	0.45	22	⇓*i*P	Pb	14 41 59.6	-0.7
BRU2				*e*P	Pg	14 41 59.8	+1.7
TBS2		0.46	26	*e*P	Pb	14 42 00.6	+0.1
CTCR	Cotoan	0.53	11	⇓*i*P	Pb	14 42 00.8	-0.9
CGA2	Cerro Gallo 2	2.27	316	*e*P	Pn	14 42 29.3	+1.0
BCIP	Isla Barro Col	3.09	75	*e*P	Pn	14 42 41.4	+2.0

*UCR **24** 14:42:02.4, 7°90N×82°64W, h0km, MD3.6*

*UPA **24** 14:42:17.2, 8°49N×82°88W, h0km, MW4.3*

CASC 24 14:42:11.2±5.8, 8°19N×83°04W, h0km±19km, MD3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.47	345	*e*S	Sg	14 42 24.4	-2.3
BRU2	Volcan	0.69	30	*e*P	Pb	14 42 25.6	-0.8
TBS2		0.71	32	*e*P	Pb	14 42 26.9	+0.2
BUS	Buena Vista	1.53	332	*e*P	Pn	14 42 37.4	-3.0
BUS				*e*S	Sg	14 43 03.8	+2.3
QCR	Quepos	1.65	318	*e*P	Pn	14 42 39.8	-1.7
QCR				*e*S	Sg	14 43 06.3	+1.9
SJS	Escuela Geolog	2.00	330	*e*P	Pn	14 42 43.9	-2.6
SJS				*e*S	Sg	14 43 15.7	-0.3
CGA2	Cerro Gallo 2	2.29	322	*e*P	Pb	14 42 54.1	+0.4
CGA2				*e*S	Sb	14 43 22.3	-0.5
BCIP	Isla Barro Col	3.31	73	*e*P	Pb	14 43 08.9	-2.0
BCIP				*e*P	Pb	14 43 08.9	-2.0
UPA	Univ. de Panam	3.56	77	*e*S	Sn	14 43 53.3	+2.8

*IDC **24** 14:57:28.9±0.9, 42°42N×44°83E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.8/32, mbtmp3.9/17, ML3.6/2, MS3.2/6, Ms1 3.2/6, ms1mx2.7/47, Error ellipse: s-maj=20.2km s-min=9.6km az=12.0*

*DDA **24** 14:57:30.6, 42°56N×45°08E, h6km, MD3.5*

*TIF **24** 14:57:30.1, 42°46N×44°94E, h15km±1km*

*ISCJB **24** 14:57:30.4±0.3, 42°54N±0°02×44°97E±0°02, h12km±2km, mb3.8/18, MS3.0/6, Error ellipse: s-maj=2.5km s-min=2.1km az=13.8*

*MOS **24** 14:57:30.7±1.3, 42°44N×44°86E, h18km, mb4.5/9, Error ellipse: s-maj=5.6km s-min=4.1km az=109.1*

*CSEM **24** 14:57:30.5±0.1, 42°50N×44°96E, h2km, mb4.5, Error ellipse: s-maj=3.6km s-min=3.1km az=28.0*

*AZER **24** 14:57:31.3, 42°27N×44°76E, h0km*

*NNC **24** 14:57:40.3±3.6, 42°92N×46°25E, h0km, mb4.2, Error ellipse: s-maj=28.6km s-min=26.6km az=126.0*

ISC 24 14:57:31.1±0.7, 42°48N±0°01×44°92E±0°01, h12km±5km, n199, σ1°33/259, mb4.0/19, MS3.0/6, 27C-22D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	Dusheti	0.42	202	*i* PG	Pg	14 57 35.4	-0.1
DUS				*i* S	Sb	14 57 46.6	-0.4
DUS	Dusheti	0.42	202	P	Pg	14 57 39.3	-0.1
DUS				S	Sg	14 57 46.1	+0.9
DUS	Dusheti	0.42	202	*i* Pg	Pg	14 57 39.4	-0.1
DUS				S	Sg	14 57 46.1	+0.9
LACR	Lac	0.57	307	⇓*i*PG	Pg	14 57 41.0	-1.3
LACR				*e*S	Sg	14 57 49.4	-0.5
LACR	Lac	0.57	307	*i* Pg	Pg	14 57 41.0	-1.3
LACR				*e*Sg	Sg	14 57 49.4	-0.5
SNJR	Sundja	0.59	352	⇓*i*PG	Pb	14 57 44.0	+0.6
SNJR				*e*S	Sb	14 57 53.6	+1.8
SNJR	Sundja	0.59	352	*i* Pg	Pb	14 57 44.0	+0.6
VLKR	Vladikavkaz	0.59	343	⇓*i*PG	Pg	14 57 39.5	-3.1
VLKR				*e*S	Sg	14 57 49.0	-1.4
VLKR	Vladikavkaz	0.59	343	*e*Sg	Sg	14 57 49.0	-1.4
TBLG	Delisi	0.76	190	*i* PG	Pg	14 57 44.8	-1.1
TBLG				*i* S	Sg	14 57 55.7	-0.2
TBLG	Delisi	0.76	190	P	Pg	14 57 44.8	-1.1
TBLG				S	Sg	14 57 55.7	-0.2
TBLG	Delisi	0.76	190	P	Pg	14 57 44.8	-1.1
TBLG				S	Sg	14 57 55.7	-0.2
ZEI	Tsey	0.81	291	*e*PG	Pg	14 57 45.7	-1.0
ZEI				*e*S	Sg	14 57 56.6	-0.7
ZEI	Tsey	0.81	291	*e*Pg	Pg	14 57 45.7	-1.0
ZEI				*e*Sg	Sg	14 57 56.6	-0.7
ARNR	Ardon	0.85	327	⇓*i*PG	Pb	14 57 47.6	-0.2
ARNR				*i* S	Sb	14 57 59.7	+0.5
ARNR	Ardon	0.85	327	*i* Pg	Pb	14 57 47.6	-0.2
ARNR				*i* Sg	Sb	14 57 59.7	+0.5
KORR	Kora	0.87	314	PG	Pg	14 57 47.1	-0.8
KORR	Kora	0.87	314	Pg	Pg	14 57 47.1	-0.8
BTKR	Batakoyurt	0.93	343	*d*PG	Pn	14 57 51.6	+1.5
GRO	Groznyy	1.03	36	⇓*i*PG	Pb	14 57 50.7	-0.3
GRO				*i* S	Sn	14 58 05.8	-0.1
GRO	Groznyy	1.03	36	*i* Pg	Pb	14 57 50.7	-0.3
GRO				*i* Sg	Sn	14 58 05.8	-0.1
DIGR	Digorskoe uzhe	1.07	293	⇓*i*PG	Pg	14 57 50.5	-1.2
DIGR				*e*S	Sg	14 58 04.7	-1.0
DIGR	Digorskoe uzhe	1.07	293	*i* Pg	Pg	14 57 50.5	-1.2
DIGR				*e*Sg	Sg	14 58 04.7	-1.0
DGRG	David-gareji	1.09	162	*i* PG	Pg	14 57 51.2	-0.8
DGRG				*i* S	Sn	14 58 08.5	+1.3
DGRG	David-gareji	1.09	162	P	Pg	14 57 51.2	-0.8
DGRG				S	Sn	14 58 07.5	+0.3
DGRG	David-gareji	1.09	162	P	Pg	14 57 51.2	-0.8
DGRG				S	Sn	14 58 07.5	+0.3
LSNR	Lesken	1.13	315	⇓*i*PG	Pg	14 57 52.3	-0.6
LSNR				*e*S	Sb	14 58 07.9	+0.5
LSNR	Lesken	1.13	315	*i* Pg	Pg	14 57 52.3	-0.6
LSNR				*e*Sg	Sb	14 58 07.9	+0.5
KZR	Kazreti	1.16	199	P	Pg	14 57 51.1	-2.4
KZR				S	Sg	14 58 06.8	-1.8
KZR	Kazreti	1.16	199	P	Pg	14 57 51.1	-2.4
KZR				S	Sg	14 58 06.8	-1.8
TRKR	Terskaya	1.25	354	*c*PG	Pn	14 57 55.7	+1.3
TRKR	Terskaya	1.25	354	*i* Pg	Pn	14 57 55.7	+1.3
XNZR	Khunzakh	1.32	87	*e*PG	Pn	14 57 54.2	-1.4
XNZR				pmax	pmax		
	comp=Z,406nm,0.3s						
XNZR	Khunzakh	1.32	87	*e*Pg	Pn	14 57 54.2	-1.4
	comp=Z,406nm,0.3s						
PRTR	Priterechnaya	1.35	340	⇓*i*PG	Pg	14 57 57.0	0.0
PRTR				*e*S	Sn	14 58 15.9	+2.2
PRTR	Priterechnaya	1.35	340	*i* Pg	Pg	14 57 57.0	0.0
PRTR				*e*Sg	Sn	14 58 15.9	+2.2
DLMR	Dylym	1.39	64	*e*PG	Pn	14 57 56.2	-0.2
DLMR				*e*S	Sn	14 58 15.0	+0.3
DLMR				pmax	pmax		
	comp=Z,929nm,0.4s						
DLMR	Dylym	1.39	64	*e*Pg	Pn	14 57 56.2	-0.2
	comp=Z,929nm,0.4s						
DLMR				*e*Sg	Sn	14 58 15.0	+0.3
NCK	Nalchik	1.40	317	*e*PG	Pg	14 57 58.9	+0.9
NCK	Nalchik	1.40	317	*e*Pg	Pg	14 57 58.9	+0.9
UNCR	Uncukul	1.40	80	⇓*i*PG	Pn	14 57 56.0	-0.6
UNCR				pmax	pmax		
	comp=Z,598nm,0.3s						
UNCR	Uncukul	1.40	80	*i* Pg	Pn	14 57 56.0	-0.6
	comp=Z,598nm,0.3s						
DBC	Dubki	1.51	69	⇑*i*PG	Pn	14 57 58.3	+0.3
DBC				*i* S	Sg	14 58 19.6	0.0
DBC	Dubki	1.51	69	*i* Pg	Pn	14 57 58.3	+0.3
DBC				*i* Sg	Sg	14 58 19.6	0.0
KRNR	Karanay	1.51	76	*e*PG	Pn	14 57 58.0	-0.1
KRNR				*e*S	Sb	14 58 18.0	-0.2
KRNR				pmax	pmax		
	comp=Z,342nm,0.5s						
KRNR	Karanay	1.51	76	*e*Pg	Pn	14 57 58.0	-0.1
	comp=Z,342nm,0.5s						
KRNR				*e*Sg	Sb	14 58 18.0	-0.2
AKH	Akhalkalaki	1.51	225	*i* PG	Pn	14 57 57.7	-0.4
AKH				*i* S	Sn	14 58 19.1	+1.2
AKH	Akhalkalaki	1.51	225	P	Pn	14 57 57.8	-0.4
AKH				S	Sn	14 58 18.5	+0.6
AKH	Akhalkalaki	1.51	225	P	Pn	14 57 57.8	-0.4
AKH				S	Sn	14 58 18.5	+0.6
AKH				*i* Sg	Sn	14 58 19.1	+1.2
GNBR	Gunib	1.52	93	*i* PG	Pn	14 57 57.5	-0.7
GNBR	Gunib	1.52	93	*i* Pg	Pn	14 57 57.5	-0.7
BUJR	Buynaksk	1.65	77	*e*PN	Pb	14 58 01.5	0.0
BUJR				*e*S	Sg	14 58 25.5	+1.3
BUJR				pmax	pmax		
	comp=Z,349nm,0.4s						
BUJR	Buynaksk	1.65	77	*e*Pn	Pb	14 58 01.5	0.0
	comp=Z,349nm,0.4s						
BUJR				*e*Sg	Sg	14 58 25.5	+1.3
KMKR	Kumukh	1.66	102	⇓*i*PN	Pn	14 58 00.0	-0.2
KMKR				*e*S	Sg	14 58 26.0	+1.6
KMKR				pmax	pmax		
	comp=Z,1μm,0.4s						
KMKR	Kumukh	1.66	102	*i* Pn	Pn	14 58 00.0	-0.2
	comp=Z,1μm,0.4s						
KMKR				*e*Sg	Sg	14 58 26.0	+1.6
KBZ	Khabaz	1.93	311	PN	Pb	14 58 05.7	-0.6
KBZ	Khabaz	1.93	311	Pn	Pb	14 58 05.7	-0.6
	comp=Z,41nm,0.3s,baz=136,slow=8.5,SNR=206						
KBZ				Lg	Lg	14 58 32.2	
	comp=Z,29nm,0.3s,baz=120,slow=22,SNR=5.3						
KBZ				LR	LR	14 58 55.8	
	comp=Z,392nm,18.9s,baz=256,slow=45						
KBZ	Khabaz	1.93	311	Pn	Pb	14 58 05.7	-0.6
MAK	Makhachkala	1.96	75	*e*PN	Pg	14 58 07.5	-1.3
MAK				*e*		14 58 36.0	
MAK				pmax	pmax		
	comp=Z,437nm,0.5s						
MAK				smax	smax		
	comp=E,2μm,0.8s						
MAK				smax	smax		
	comp=N,2μm,0.8s						
MAK	Makhachkala	1.96	75	*e*Sg	Sg	14 58 36.0	+1.8
	comp=N,2μm,0.8s						
SGKR	Sergokala	2.03	90	*i* PN	Pg	14 58 09.0	-1.0
SGKR				*i* S	Sg	14 58 38.0	+1.7
SGKR				pmax	pmax		
	comp=Z,924nm,0.3s						
URKR	Urkarakh	2.04	98	*i* PN	Pb	14 58 07.5	-0.7
URKR				S	Sg	14 58 34.5	-2.1
URKR				pmax	pmax		
	comp=Z,2μm,0.3s						
URKR	Urkarakh	2.04	98	*i* Pn	Pb	14 58 07.5	-0.7
	comp=Z,2μm,0.3s						
URKR				Sb	Sg	14 58 34.5	-2.1
GANJ	Ganja	2.12	150	⇓P	Pn	14 58 05.6	-0.8
	SNR=366						
GANJ				⇓S	Sn	14 58 33.2	+0.6
GANJ	Ganja	2.12	150	P	Pn	14 58 05.6	-0.8
	SNR=366						
GANJ				S	Sn	14 58 33.2	+0.6
SEKA	Sheki	2.13	126	⇑P	Pn	14 58 07.2	+0.6
	SNR=42						
SEKA				⇑S	Sb	14 58 35.8	-0.2
SEKA	Sheki	2.13	126	P	Pn	14 58 07.2	+0.6
	SNR=42						
SEKA				S	Sb	14 58 35.8	-0.2
KIV	Kislovodsk	2.20	313	*i* PN	Pb	14 58 09.8	-1.0
KIV	Kislovodsk	2.20	313	*i* Pn	Pb	14 58 09.8	-1.0
KARS	Kars	2.31	217	*e*PN	Pn	14 58 10.3	+1.2
KARS				*e*SN	Sn	14 58 39.8	+2.2
GNI	Garni	2.34	183	*e*PN	Pn	14 58 10.5	+1.0
GNI				*e*SN	Sb	14 58 41.3	-0.8
GNI	Garni	2.34	183	*e*Pn	Pn	14 58 09.3	-0.2
	comp=Z,2μm,1.0s						
DIGO	Kars	2.37	210	*i* P	Pn	14 58 11.3	+1.2
DIGO				*i* S	Sb	14 58 43.2	0.0
DIGO	Kars	2.37	210	*i* P	Pn	14 58 11.3	+1.2
DIGO				*i* S	Sb	14 58 43.2	0.0
ARTV	Artvin	2.58	241	*i* P	Pn	14 58 14.6	+1.6
ARTV				*i* S	Sb	14 58 50.0	+0.7
ARTV	Artvin	2.58	241	*i* P	Pn	14 58 14.6	+1.6
DAGI	Agillar	2.65	239	*i* P	Pn	14 58 15.1	+1.3
DAGI				*i* S	Sb	14 58 52.5	+1.4
BCA	Borcka	2.67	248	*e*PN	Pn	14 58 15.0	+1.0
DBOC	Borcka	2.68	246	*i* P	Pb	14 58 17.4	-1.6
DBOC				*i* S	Sb	14 58 53.3	+1.4
DBOC	Borcka	2.68	246	*i* P	Pb	14 58 17.4	-1.6
BRDA	Brd	2.80	142	⇑P	Pn	14 58 17.0	+1.3
	SNR=25						
BRDA				⇓S	Sn	14 58 50.5	+1.2
BRDA	Brd	2.80	142	P	Pn	14 58 17.0	+1.3
	SNR=25						
BRDA				S	Sn	14 58 50.5	+1.2
DBAD	Bademkaya	2.82	240	*i* P	Pn	14 58 18.0	+1.9
DBAD				*i* S	Sb	14 58 58.4	+2.4
DBAD	Bademkaya	2.82	240	*i* P	Pn	14 58 18.0	+1.9
DDEM	Demirkent	2.86	237	*i* P	Pn	14 58 19.0	+2.4
DDEM				*i* S	Sg	14 59 01.1	-1.7
DDEM	Demirkent	2.86	237	*i* P	Pn	14 58 19.0	+2.4
QUBA	Quba, Azerbaij	2.90	112	⇑P	Pn	14 58 19.8	+2.7
	SNR=8.4						
QUBA				⇓S	Sb	14 58 57.8	-0.4
QUBA	Quba, Azerbaij	2.90	112	P	Pn	14 58 19.8	+2.7
	SNR=8.4						
IML	Ismayilli	2.97	124	⇑P	Pn	14 58 19.9	+1.8
	SNR=4.4						
IML				⇑S	Sb	14 59 00.1	-0.3
IML	Ismayilli	2.97	124	P	Pn	14 58 19.9	+1.8
	SNR=4.4						
DYDN	Diyadin	3.08	198	*i* P	Pn	14 58 21.7	+1.9
DYDN				*i* S	Sb	14 59 06.5	+2.9
DYDN	Diyadin	3.08	198	*i* P	Pn	14 58 21.7	+1.9
PQL	Pirkuli	3.23	120	⇑P	Pn	14 58 23.7	+1.9
	SNR=15						
PQL	Pirkuli	3.23	120	P	Pn	14 58 23.7	+1.9
	SNR=15						
AGRB	Hanur-Agry	3.25	207	*e*PN	Pn	14 58 23.7	+1.5
PZAR	Pazar-Rize	3.27	248	*e*PN	Pn	14 58 23.5	+1.2
SIZA	Siyzn	3.29	114	⇑P	Pn	14 58 25.0	+2.4
	SNR=14						
SIZA	Siyzn	3.29	114	P	Pn	14 58 25.0	+2.4
	SNR=14						
CLDR	Caldiran	3.42	193	*e*PN	Pn	14 58 26.0	+1.5
EZM	Erzurum	3.72	227	*e*PN	Pn	14 58 30.4	+1.8
SOC	Sochi	3.97	288	*

VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.3s
AKTK Aktyubinsk 12.02 44 P **Pn 15 00 20.7 -1.5**
comp=N,1.0nm,0.3s
AKTO Aktyubinsk 12.02 44 ⇑Pn **Pn 15 00 20.5 -1.7**
comp=N,11nm,0.9s
AKTO ⇓Sn Sn 15 02 27.6 -8.5
comp=N,10nm,0.7s
AKTO Aktyubinsk 12.02 44 P **Pn 15 00 20.7 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.02 44 Pn **Pn 15 00 20.7 -1.5**
comp=Z,0.6nm,0.3s,baz=223,slow=12,SNR=10
AKTO Aktyubinsk 12.02 44 Pn **Pn 15 00 20.5 -1.7**
comp=Z,11nm,0.9s
AKTO Sn Sn 15 02 27.6 -8.5
comp=Z,10nm,0.7s
AB31 Akbulak array 12.46 52 ⇓Pn **Pn 15 00 26.7 -1.4**
comp=Z,3.6nm,0.6s,baz=238,slow=11,SNR=59
AB31 ⇑Sn Sn 15 02 39.4 -7.4
comp=Z,14nm,1.1s,baz=242,slow=20,SNR=4.6
AB31 Akbulak array 12.46 52 Pn **Pn 15 00 26.7 -1.4**
comp=Z,3.6nm,0.6s,SNR=59
KIEV Kiev 13.55 313⇑*eP* **Pn 15 00 45.5 +2.5**
KIEV Kiev 13.55 313 *eP* **Pn 15 00 45.5 +2.5**
OBN Obninsk 13.77 339 *eP* P 15 00 51.6 -3.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,17.0s
MLR Muntele Rosu 13.99 289 Pn **Pn 15 00 49.2 +0.1**
comp=Z,0.0nm,0.3s,baz=222,slow=10,SNR=3.9
MLR Muntele Rosu 13.99 289 P **Pn 15 00 49.2 +0.1**
APE Apeiranthos 15.85 257 *eP* **Pn 15 01 11.4 -2.6**
ARU Arti 16.49 27 P **Pn 15 01 19.6 -2.5**
ARU S **Sn 15 04 22.0 -2.9**
SVE Sverdlovsk 17.53 30 *eP* **P 15 01 36.3 0.0**
SVE *e*S Sn 15 04 40.6 -10
SVE pmax pmax
comp=Z,21nm,1.0s
SVE Sverdlovsk 17.53 30 *eP* **P 15 01 36.3 0.0**
comp=Z,21nm,1.0s
KK31 Karatay Array 18.78 79 ⇑Pn **P 15 01 49.8 -0.3**
comp=Z,5.7nm,0.7s,baz=286,slow=11,SNR=84
KK31 ⇑Sn Sn 15 05 12.7 -7.8
comp=Z,1.4nm,0.8s
KK31 Karatay Array 18.78 79 Pn **P 15 01 49.8 -0.3**
comp=Z,5.7nm,0.7s,SNR=84
KK31 Sn Sn 15 05 12.7 -7.8
comp=Z,1.4nm,0.8s
BRVK Borovoye 19.96 49 ⇑Pn **P 15 02 02.4 -0.5**
comp=Z,13nm,0.8s
BRVK Borovoye 19.96 49⇑*eP* **P 15 02 03.6 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK Borovoye 19.96 49 Pn **P 15 02 02.4 -0.5**
comp=Z,13nm,0.8s
BRVK Borovoye 19.96 49 *eP* **P 15 02 03.6 +0.7**
comp=Z,6.0nm,1.2s
BVA0 Borovoye Array 20.00 49 ⇑Pn **P 15 02 04.2 +0.8**
comp=Z,4.7nm,0.9s,baz=244,slow=12,SNR=11
BVA0 ⇑Sn S 15 05 38.2 -10
comp=Z,4.1nm,1.1s,baz=264,slow=26,SNR=4.0
BVA0 Borovoye Array 20.00 49 Pn **P 15 02 04.2 +0.8**
comp=Z,4.7nm,0.9s,SNR=11
BVAR Borovoye Array 20.00 49 P **P 15 02 03.1 -0.3**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 20.00 49 P **P 15 02 03.1 -0.3**
comp=Z,3.5nm,0.8s,baz=258,slow=13,SNR=9.6
BVAR Borovoye Array 20.00 49 P **P 15 02 03.1 -0.3**
comp=Z,4.0nm,0.8s
VOSK Vostochnaya 20.23 51 ⇑Pn **P 15 02 06.3 +0.3**
comp=Z,4.1nm,0.8s
VOSK ⇓Sn S 15 05 39.6 -13
comp=Z,6.2nm,1.2s
VRAC Vranov 20.78 299 LR LR 15 10 51.0
comp=Z,56nm,20.4s,baz=265,slow=39
DPC Dobruska-Polom 21.13 302 *eP* **P 15 02 17.4 +1.7**
DPC *e* 15 02 23.7
DPC Dobruska-Polom 21.13 302 *eP* **P 15 02 17.4 +1.7**
DPC *ep*P pP 15 02 23.7 +4.7
DPC Dobruska-Polom 21.13 302 *eP* **P 15 02 17.4 +1.7**
UPC Upice 21.35 302 *eP* P 15 02 12.8 -5.3
UPC *e* 15 02 18.8
UPC Upice 21.35 302 *eP* P 15 02 12.8 -5.3
UPC *ep*P pP 15 02 18.8 -2.6
SOKA Soboth 21.63 291⇑/*sP* sP 15 02 25.6 -0.4
comp=Z,4.4nm,0.8s
AAK Ala-Archa 21.74 80⇑*eP* **P 15 02 23.1 +0.6**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 21.74 80 P **P 15 02 22.9 +0.4**
comp=Z,2.9nm,0.5s,baz=221,slow=5.9,SNR=5.7
AAK LR LR 15 11 25.8
comp=Z,38nm,18.4s,baz=174,slow=38
FRU Bishkek 21.80 79 *eP* **P 15 02 21.0 -1.9**
JOF Joensuu 21.97 343 *eP* **P 15 02 24.9 +0.3**
JOF Joensuu 21.97 343 *ep* **P 15 02 24.9 +0.3**
JOF Joensuu 21.97 343 *eP* **P 15 02 24.9 +0.3**
TMCR Tamitsa 22.08 352 *eP* **P 15 02 28.2 +2.5**
TMCR *e* 15 02 50.8
TMCR pmax pmax
comp=Z,8.0nm,0.3s
FINES FINESS Array B 22.10 336 P **P 15 02 25.6 -0.4**
comp=Z,3.2nm,0.7s,baz=134,slow=9.9,SNR=9.2
FINES LR LR 15 11 54.0
comp=Z,86nm,20.0s,baz=36,slow=39
PVCC Panska Ves 22.26 302 *eP* **P 15 02 26.2 -1.6**
PVCC *e* 15 02 30.5
PVCC Panska Ves 22.26 302 *eP* **P 15 02 26.2 -1.6**
PVCC *ep*P **pP 15 02 30.5 -0.7**
PVCC Panska Ves 22.26 302 P **P 15 02 26.2 -1.6**
GERES GERESS Array B 22.62 297 P **P 15 02 31.9 +0.1**
comp=Z,0.6nm,0.5s,baz=84,slow=9.1,SNR=5.2
KHC Kasperske Hory 22.72 298 *eP* **P 15 02 34.0 +1.2**
KHC *e* 15 02 39.7
KHC Kasperske Hory 22.72 298 *eP* **P 15 02 34.0 +1.2**
KHC *ep*P **pP 15 02 39.7 +3.6**
KHC Kasperske Hory 22.72 298 P **P 15 02 34.0 +1.2**
CLL Collm 23.37 303 *eP* **P 15 02 41.0 +1.6**
CLL *i* 15 02 42.3
CLL Collm 23.37 303 *ep*P **P 15 02 41.0 +1.6**
comp=Z,4.0nm,0.7s
CLL *e*(PPP) 15 03 17.0
MOTA Moosalm 24.31 293⇓*iP* **P 15 02 49.1 +0.5**
comp=Z,5.8nm,0.9s
MOTA Moosalm 24.31 293 P **P 15 02 49.1 +0.5**
comp=Z,5.8nm,0.9s
KURBB Kurchatov Arra 24.34 59 ⇑Pn **P 15 02 47.6 -0.9**
comp=Z,3.9nm,0.8s
KURBB Kurchatov Arra 24.34 59 P **P 15 02 48.1 -0.5**
comp=Z,1.6nm,0.8s,baz=264,slow=9.3,SNR=18
KURBB Kurchatov Arra 24.34 59 Pn **P 15 02 47.7 -0.9**
comp=Z,3.9nm,0.8s
KURK Kurchatov 24.40 59 P **P 15 02 48.1 -1.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s
FETA Feichten 24.58 292⇑*iP* **P 15 02 52.4 +1.4**
comp=Z,6.7nm,0.8s
FETA Feichten 24.58 292 P **P 15 02 52.4 +1.4**
comp=Z,6.7nm,0.8s
DAVOX Davos/Dischmat 25.17 292 P **P 15 02 55.6 -0.8**
comp=Z,4.9nm,0.6s,baz=24,slow=23,SNR=5.8
HFS Hagfors 25.95 324 P **P 15 03 02.7 -0.4**
comp=Z,4.3nm,0.8s,baz=116,slow=9.8,SNR=8.5
HFS LR LR 15 14 16.8
comp=Z,55nm,18.9s,baz=212,slow=39
MKAR Makanchi Array 26.77 68*cePP* **P 15 03 14.3 +3.6**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 26.77 68 P **P 15 03 10.1 -0.7**
comp=Z,0.7nm,0.6s,baz=258,slow=12,SNR=3.2
NB2 NORSAR Subarra 27.46 324 P **P 15 03 17.5 +0.7**
comp=Z,1.0nm,0.7s,baz=119,slow=8.6
NOA NORSAR Array B 27.46 324 P **P 15 03 14.8 -1.9**
comp=Z,1.3nm,0.8s,baz=119,slow=8.4,SNR=4.7
NOA LR LR 15 15 21.8
comp=Z,37nm,19.8s,baz=110,slow=39
ZALV Zalesovo Beam 28.57 52 P **P 15 03 25.8 -0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 28.57 52 P **P 15 03 25.8 -0.9**
comp=Z,0.9nm,0.5s,baz=256,slow=10,SNR=3.7

ARCES ARCESS Array B 28.92 346 P **P 15 03 30.2 +0.5**
comp=Z,0.3nm,0.4s,baz=144,slow=9.4,SNR=6.2
ARCES LR LR 15 15 43.4
comp=Z,71nm,18.1s,baz=51,slow=38
EKA Eskdalemuir Ar 33.42 309 P **P 15 04 08.4 -1.0**
comp=Z,2.1nm,0.9s,baz=108,slow=8.5,SNR=3.9
SONM Songino Array 42.67 61 P **P 15 05 29.3 +1.7**
comp=Z,0.3nm,0.5s,baz=292,slow=7.6,SNR=2.5
TORD Torodi Ar. Bea 47.38 245 P **P 15 06 04.2 -1.0**
comp=Z,1.0nm,0.6s,baz=34,slow=7.3,SNR=10
CMAR Chiang Mai Arr 51.38 101 P **P 15 06 37.4 +1.5**
comp=Z,1.4nm,0.8s,baz=306,slow=8.0,SNR=6.9

IDC 24 15:00:35.5±3.0, 48°.76N×153°.55E, h174km±26km, mb3.3/14, mb1 3.5/14, mb1mx3.4/30, mbtmp3.3/14, Error ellipse: s-maj=34.0km s-min=16.5km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.09**	**29**	P	Pn	15 01 50.1	-0.2
	0.2nm,0.3s,baz=170,slow=13,SNR=8.2						
KSRS	**Korea Array**	**21.75**	**248**	P	P	15 05 13.8	+0.7
	0.7nm,0.6s,baz=46,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**34.81**	**40**	P	P	15 07 10.1	+0.9
	0.3nm,0.7s,baz=270,slow=4.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**41.70**	**304**	P	P	15 08 06.3	-0.5
	0.7nm,0.4s,baz=75,slow=7.6,SNR=3.3						
MKAR	**Makanchi Array**	**46.30**	**296**	P	P	15 08 42.8	-0.7
	1.0nm,0.8s,baz=67,slow=7.7,SNR=9.9						
KURBB	**Kurchatov Arra**	**46.61**	**302**	P	P	15 08 45.5	-0.3
	1.4nm,0.5s,baz=68,slow=8.4,SNR=8.1						
BVAR	**Borovoye Array**	**49.83**	**308**	P	P	15 09 10.5	+0.1
	1.3nm,0.4s,baz=55,slow=8.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	**53.15**	**255**	P	P	15 09 35.7	+0.3
	0.7nm,0.7s,baz=26,slow=6.5,SNR=3.9						
FINES	**FINESS Array B**	**62.35**	**334**	P	P	15 10 38.6	-0.3
	0.9nm,0.4s,baz=39,slow=9.0,SNR=9.6						
NOA	**NORSAR Array B**	**66.42**	**341**	P	P	15 11 05.6	+0.2
	1.0nm,0.9s,baz=105,slow=16,SNR=2.5						
HFS	**Hagfors**	**66.68**	**339**	P	P	15 11 06.9	-0.1
	1.2nm,0.5s,baz=57,slow=8.8,SNR=8.0						
VRAC	**Vranov**	**75.50**	**333**	P	P	15 12 00.8	+0.6
	2.9nm,0.5s,baz=41,slow=11,SNR=2.6						
MLR	**Muntele Rosu**	**75.59**	**325**	P	P	15 12 01.6	+0.7
	0.3nm,0.3s,baz=342,slow=6.4,SNR=3.2						
TXAR	**Lajitas Array**	**76.26**	**61**	P	P	15 12 03.9	-1.1
	0.1nm,0.4s,baz=328,slow=6.4,SNR=4.3						
GERES	**GERESS Array B**	**76.78**	**334**	P	P	15 12 07.8	+0.3
	0.5nm,0.5s,baz=33,slow=6.2,SNR=3.7						

---

*IDC **24** 15:12:14.7±1.8, 14°.06N×92°.80E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/28, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=57.2km s-min=22.6km az=65.0*
*ISCJB **24** 15:12:17.7±1.1, 14°.3N±0°.1×93°.0E±0°.1, h33km, mb3.4/5, Error ellipse: s-maj=21.9km s-min=11.2km az=135.5*
ISC 24 15:12:20.5±1.4, 14°.3N±0°.1×93°.0E±0°.1, h35km, n12, σ1§83/13, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.03**	**53**	Pn	**Pn**	**15 14 02.6**	**+1.5**
	0.2nm,0.3s,baz=245,slow=15,SNR=3.3						
CMAR				Sn	**Sn**	**15 15 17.1**	**-2.7**
	0.4nm,0.3s,baz=247,slow=21,SNR=5.1						
ODAN	**Odare**	**13.56**	**338**	*eP*	**Pn**	**15 15 30.9**	**+0.2**
	20nm,0.3s						
TAPN	**Taplejung**	**13.90**	**340**	*eP*	**Pn**	**15 15 35.5**	**+0.1**
	13nm,0.3s						
JIRN	**Jiri**	**14.74**	**336**	*eP*	**Pn**	**15 15 45.6**	**-1.3**
	16nm,0.4s						
PKI	**Pulchoki**	**14.99**	**333**	*eP*	**Pn**	**15 15 48.2**	**-2.0**
	20nm,0.4s						
PKIN	**Phulchoki**	**15.00**	**333**	*eP*	**Pn**	**15 15 48.2**	**-2.1**
	25nm,0.4s						
DMN	**Daman**	**15.16**	**332**	*eP*	**Pn**	**15 15 49.4**	**-3.0**
	9.4nm,0.3s						
MKAR	**Makanchi Array**	**33.62**	**347**	P	P	**15 18 58.5**	**+0.9**
	0.2nm,0.5s,baz=169,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**35.24**	**16**	P	P	**15 19 13.5**	**+1.7**
	0.5nm,0.6s,baz=198,slow=8.8,SNR=3.3						
KURBB	**Kurchatov Arra**	**38.09**	**345**	P	P	**15 19 36.2**	**+0.4**
	0.4nm,0.6s,baz=172,slow=7.3,SNR=4.8						
WRA	**Warramunga Arr**	**53.00**	**129**	P	P	**15 21 33.4**	**-0.9**
	0.5nm,1.1s,baz=306,slow=9.8,SNR=4.3						
ASAR	**Alice Springs**	**54.97**	**133**	P	P	**15 21 48.1**	**-0.4**
	0.3nm,0.7s,baz=311,slow=7.3,SNR=5.1						

IDC 24 15:15:44.3±1.4, 13°.22N×144°.78E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.5/26, mbtmp3.4/5, Error ellipse: s-maj=53.5km s-min=23.6km az=92.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.52**	**198**	P	P	15 22 33.6	-0.8
	0.6nm,0.8s,baz=21,slow=9.8,SNR=5.3						
ASAR	**Alice Springs**	**38.17**	**196**	P	P	15 23 06.3	+0.7
	0.2nm,0.5s,baz=17,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**61.70**	**316**	P	P	15 26 04.8	+0.5
	0.1nm,0.3s,baz=93,slow=8.1,SNR=3.9						
KURBB	**Kurchatov Arra**	**64.85**	**320**	P	P	15 26 24.6	-0.6
	0.3nm,0.4s,baz=106,slow=6.9,SNR=3.7						
ILAR	**Eielson Array**	**68.94**	**25**	P	P	15 26 51.0	+0.1
	0.4nm,0.4s,baz=250,slow=5.6,SNR=5.0						

---

*BJI **24** 15:19:55.0, 7°.52S×130°.09E, h179km, mB4.6/21, mb4.5/27*
*NEIC **24** 15:20:02.4±1.3, 6°.92S×129°.42E, h183km±14km, mb4.6/14, Error ellipse: s-maj=11.4km s-min=7.1km az=48.0*
*ISCJB **24** 15:20:02.6±0.2, 6°.95S±0°.03×129°.47E±0°.03, h200km, mb4.3/43, Error ellipse: s-maj=4.9km s-min=3.5km az=167.2*
*IDC **24** 15:20:03.5±1.9, 6°.88S×129°.40E, h192km±18km, mb4.1/18, mb1 4.2/21, mb1mx4.1/26, mbtmp4.1/21, Error ellipse: s-maj=16.2km s-min=9.5km az=74.0*
*AUST **24** 15:20:03.4±0.0, 6°.99S×129°.52E, h188km, Error ellipse: s-maj=0.8km s-min=0.7km az=266.0*
*DJA **24** 15:20:05.2±0.3, 7°.S±3°×13°.0E±°, h147km±10km, M5.3/5, mB5.7/3, mb5.2/5, MLv5.4/2, Mw(mB)5.2/3*
*BKK **24** 15:20:08.0±0.5, 6°.S±6°×13°.0E±°, h231km±6km, M4.1/13, mB5.8/1, mb4.5/13, MLv4.0/1, Mw(mB)5.4/1*
ISC 24 15:20:03.6±0.3, 6°.97S±0°.03×129°.43E±0°.04, h200km, n129, σ1§47/131, mb4.4/43, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.48**	**11**	P	**Pn**	**15 20 47.1**	**-0.1**
BNDI	**Bandanaira**	**2.48**	**11**	P	**Pn**	**15 20 46.9**	**-0.3**
	baz=2.5,SNR=8.2						
TLE	**Tual**	**3.54**	**68**	P	**Pn**	**15 20 59.7**	**0.0**
TLE				S	**Sn**	**15 21 41.3**	**-2.4**
TLE	**Tual**	**3.54**	**68**	P	**Pn**	**15 20 59.7**	**0.0**
	baz=3.5,SNR=45						
TLE				S	Sn	15 21 35.9	-7.8
	baz=3.5,SNR=29						
MSAI	**Masohi**	**3.63**	**352**	P	**Pn**	**15 21 01.3**	**+0.4**
FAKI	**Fak Fak**	**4.91**	**35**	P	Pn	15 21 13.3	-3.5
	baz=4.9,SNR=55						
FAKI				S	Sn	15 22 06.7	-7.8
	baz=4.9,SNR=18						
SOEI	**Soe**	**5.81**	**241**	P	**Pn**	**15 21 29.8**	**+1.3**
SOEI				S	**Sn**	**15 22 33.2**	**-2.5**
SOEI	**Soe**	**5.81**	**241**	P	**Pn**	**15 21 29.0**	**+0.4**
	baz=5.9,SNR=27						
SOEI				S	**Sn**	**15 22 36.8**	**+1.1**
	baz=5.9,SNR=5.5						
MTN	**Manton Dam**	**6.07**	**164**	P	**Pn**	**15 21 31.2**	**-0.6**
	baz=6.1,SNR=346						
MTN				S	Sn	15 22 36.8	-4.9
	baz=6.1,SNR=21						
SWI	**Sorong**	**6.33**	**17**	P	**Pn**	**15 21 32.3**	**-2.9**
	baz=6.4,SNR=16						
SWI				S	Sn	15 22 39.7	-8.1
	baz=6.4,SNR=14						
KDU	**Kakadu**	**6.42**	**152**	P	**Pn**	**15 21 35.6**	**-0.7**
	baz=6.4,SNR=66						
KDU				S	Sn	15 22 44.8	-5.1
	baz=6.4,SNR=7.9						
BATI	**Baumata**	**6.55**	**240**	P	**Pn**	**15 21 36.8**	**-1.2**
BATI				S	Sn	15 22 46.3	-6.5
BATI	**Baumata**	**6.55**	**240**	P	**Pn**	**15 21 39.1**	**+1.1**
BATI	**Baumata**	**6.55**	**240**	P	**Pn**	**15 21 36.8**	**-1.2**
	15nm,0.3s,baz=91,slow=2.4,SNR=29						
BATI				S	Sn	15 22 46.3	-6.5
	10nm,0.3s,baz=90,slow=6.1,SNR=1.9						
LBMI	**Labuha**	**6.58**	**343**	P	**Pn**	**15 21 38.8**	**+0.4**
LBMI				S	**Sn**	**15 22 48.3**	**-5.2**
RKPI	**Ransiki, Papua**	**7.20**	**41**	P	**Pn**	**15 21 44.7**	**-1.7**
RKPI				S	Sn	15 23 00.2	-7.9
KNRA	**Kununurra**	**8.68**	**184**	P	**Pn**	**15 22 04.8**	**-0.9**
	baz=8.7,SNR=154						
KNRA				S	Sn	15 23 34.4	-8.9
	baz=8.7,SNR=14						
BAKI	**Biak**	**8.79**	**50**	P	**Pn**	**15 22 07.9**	**+0.7**
	142nm,0.8s,1μm						
WSI	**Waingapu**	**9.43**	**253**	P	**Pn**	**15 22 17.1**	**+1.6**
	502nm,0.3s,17μm						
MRSI	**Marisa**	**10.52**	**314**	P	P	15 22 31.9	-4.8
MMPI	**Merauke**	**10.96**	**99**	S	**S**	**15 24 38.5**	**+0.7**
	baz=11,SNR=4.9						
MMSI	**Mamuju**	**11.31**	**292**	P	P	15 22 48.3	+2.7
FITZ	**Fitzroy Crossi**	**11.67**	**198**	*eP*	**Pn**	**15 22 42.0**	**-2.2**
	13nm,0.6s						
FITZ				S	Sn	15 24 45.8	-8.6
FITZ	**Fitzroy Crossi**	**11.67**	**198**	P	**Pn**	**15 22 42.1**	**-2.2**
	1.4nm,0.3s,baz=29,slow=13,SNR=54						
FITZ				S	Sn	15 24 45.8	-8.6
	6.5nm,0.3s,baz=102,slow=19,SNR=9.2						
FITZ	**Fitzroy Crossi**	**11.67**	**198**	P	**Pn**	**15 22 42.4**	**-1.9**
	baz=12,SNR=9.4						
FITZ				S	Sn	15 24 47.1	-7.3
	baz=12,SNR=6.9						
JAY	**Jayapura**	**12.07**	**69**	S	Sn	15 24 32.7	-32
	baz=12,SNR=295						
WRAB	**Tennant Creek**	**13.74**	**160**	*eP*	Pn	15 23 07.9	-2.5
	69nm,0.4s						
WRAB				*e*S	S	15 25 34.0	-10
WRA	**Warramunga Arr**	**13.75**	**160**	P	Pn	15 23 08.0	-2.5
WRA				S	S	15 25 35.1	-8.7
WRA				ScP	**ScP**	**15 31 34.1**	**+0.6**
WRA	**Warramunga Arr**	**13.75**	**160**	P	Pn	15 23 08.0	-2.5
	1.2nm,0.3s,baz=338,slow=12,SNR=36						
WRA				S	S	15 25 35.1	-8.7
	4.2nm,0.3s,baz=330,slow=23,SNR=8.6						
WRA				ScP	**ScP**	**15 31 34.1**	**+0.6**
	0.2nm,0.3s,baz=317,slow=2.4,SNR=5.4						
BBKI	**Banjar Baru**	**14.94**	**283**	P	P	15 23 29.8	+3.9
COEN	**Coen**	**15.19**	**118**	*eP*	**Pn**	**15 23 28.7**	**+0.4**
	99nm,0.5s						
COEN	**Coen**	**15.19**	**118**	P	**P**	**15 23 29.1**	**+0.4**
	baz=15,SNR=57						
MBWA	**Marble Bar**	**16.94**	**213**	*eP*	**Pn**	**15 23 49.1**	**-0.1**
AS31	**Alice Springs**	**17.15**	**166**	*eP*	**Pn**	**15 23 52.2**	**+0.5**
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**15 23 52.2**	**+0.5**
ASAR				S	**S**	**15 26 55.1**	**-3.5**
ASAR				ScP	**ScP**	**15 31 40.2**	**+0.4**
ASAR	**Alice Springs**	**17.15**	**166**	P	**Pn**	**15 23 52.2**	**+0.5**
	9.5nm,0.3s,baz=342,slow=9.4,SNR=422						
ASAR				S	**S**	**15 26 55.1**	**-3.5**
	0.6nm,0.3s,baz=345,slow=20,SNR=5.9						
ASAR				ScP	**ScP**	**15 31 40.2**	**+0.4**
	baz=348,slow=1.9,SNR=5.4						
PMG	**Port Moresby**	**17.71**	**99**	P	**Pn**	**15 23 59.2**	**+0.8**
PMG	**Port Moresby**	**17.71**	**99**	P	**Pn**	**15 23 59.2**	**+0.8**
	1.1nm,0.3s,baz=284,slow=4.2,SNR=6.8						
MTSU	**Mount Surprise**	**18.27**	**129**	P	**Pn**	**15 24 04.5**	**-0.4**
	baz=18,SNR=48						
MTSU				S	**S**	**15 27 18.9**	**-2.1**
	baz=18,SNR=4.0						
KKM	**Kota Kinabalu**	**18.47**	**314**	*eP*	**Pn**	**15 24 06.0**	**-1.3**
KSM	**Kuching**	**20.84**	**293**	*eP*	**P**	**15 24 31.2**	**+1.1**
	26nm,1.1s						
KSM	**Kuching**	**20.84**	**293**	P	**P**	**15 24 31.9**	**+1.7**
	baz=21,SNR=3.1						
CTA	**Charters Tower**	**20.89**	**130**	P	**P**	**15 24 31.9**	**+1.4**
CTA	**Charters Tower**	**20.89**	**130**	P	**P**	**15 24 31.9**	**+1.4**
	10nm,0.7s,baz=324,slow=8.7,SNR=17						
CTAO	**Charters Tower**	**20.89**	**130**	*eP*	**P**	**15 24 31.6**	**+1.1**
	26nm,1.1s						
CISI	**Cisompet, Garu**	**21.45**	**267**	P	**P**	**15 24 37.7**	**+1.2**
	baz=22,SNR=3.8						
MEEK	**Meekatharra**	**22.11**	**207**	P	**P**	**15 24 43.7**	**+0.8**
	baz=22,SNR=8.4						
FORT	**Forrest**	**23.72**	**183**	*eP*	**P**	**15 24 58.9**	**+1.4**
	88nm,0.6s						
FORT	**Forrest**	**23.72**	**183**	P	**P**	**15 24 59.1**	**+1.6**
	baz=24,SNR=30						
MORW	**Morawa**	**25.36**	**208**	P	**P**	**15 25 13.5**	**+1.1**
	baz=26,SNR=3.4						
BLDU	**Ballidu**	**26.38**	**205**	P	**P**	**15 25 23.6**	**+2.1**
	baz=26,SNR=8.0						
BBOO	**Buckleboo**	**26.44**	**167**	P	**P**	**15 25 23.3**	**+1.3**
	baz=26,SNR=5.3						
KLBR	**Kellerberrin**	**26.82**	**203**	P	**P**	**15 25 26.9**	**+1.5**
	baz=27,SNR=8.8						
STKA	**Stephens Creek**	**27.26**	**157**	P	**P**	**15 25 30.3**	**+1.0**
STKA	**Stephens Creek**	**27.26**	**157**	P	**P**	**15 25 30.3**	**+1.0**
	11nm,0.6s,baz=332,slow=9.8,SNR=24						
STKA	**Stephens Creek**	**27.26**	**157**	P	**P**	**15 25 30.8**	**+1.5**
	baz=27,SNR=16						
NWAO	**Narrogin (SRO)**	**28.21**	**202**	P	**P**	**15 25 38.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**28.21**	**202**	P	**P**	**15 25 38.8**	**+1.0**
	21nm,1.1s,baz=41,slow=6.3,SNR=5.6						
CMSA	**Cobar Meteorol**	**28.78**	**150**	P	**P**	**15 25 44.9**	**+2.1**
	baz=29,SNR=11						
ARMA	**Armidale**	**31.27**	**141**	P	P	15 26 01.3	-3.7
	baz=31,SNR=3.9						
QIZ	**Qiongzhong**	**32.25**	**324**	P	P	15 26 15.6	+2.1
QIZ				S	S	15 31 17.3	+5.3
QIZ				LR	LR		
	comp=E,84nm,19.2s						
QIZ				LR	LR		
	comp=Z,150nm,16.0s						
YNG	**Young**	**32.35**	**150**	P	**P**	**15 26 16.7**	**+2.5**
	baz=32,SNR=6.9						
SKNT	**Sakolnakorn**	**34.63**	**314**	P	**P**	**15 26 34.0**	**-0.1**
	comp=Z,12nm,1.0s,comp=Z,3μm						
CHAI	**Chaiyaphum**	**35.42**	**310**	P	**P**	**15 26 40.9**	**0.0**
	comp=Z,8.1nm,0.6s						
LOEI	**Loei**	**36.96**	**311**	P	**P**	**15 26 51.4**	**-2.5**
	comp=Z,60nm,0.9s						
LAMP	**Lampang**	**38.80**	**311**	P	**P**	**15 27 09.9**	**+0.6**
	comp=Z,6.9nm,0.7s						
CM31	**Chiang Mai Arr**	**39.28**	**310**	*eP*	**P**	**15 27 13.3**	**+0.1**
	comp=Z,3.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.28**	**310**	P	**P**	**15 27 13.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.28**	**310**	P	**P**	**15 27 13.5**	**+0.3**
	comp=Z,8.4nm,0.6s,baz=136,slow=6.8,SNR=19						
CMMT	**Chiang Mai**	**39.49**	**311**	P	**P**	**15 27 14.8**	**-0.2**
	comp=Z,20nm,0.9s						
CHTO	**Chiang Mai**	**39.49**	**311**	*eP*	**P**	**15 27 15.0**	**0.0**
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**39.49**	**311**	P	**P**	**15 27 15.3**	**+0.3**
	comp=Z,21nm,1.0s						
GYA	**Guiyang**	**39.90**	**327**	*eP*	P	15 27 20.8	+2.4
GYA				pP	pP	15 27 58.5	-2.2
GYA				sP	sP	15 28 20.4	-3.0
GYA				PcP	**PcP**	**15 29 22.6**	**+2.6**
GYA				ScP	**ScP**	**15

comp=Z,30nm,4.2s
XAN Xi'an 45.18 336 P **P 15 27 59.5 -1.1**
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,12nm,7.5s
BJI Beijing 48.35 346 P **P 15 28 24.6 -0.4**
BJI pmax pmax
comp=Z,32nm,0.6s
LZH Lanzhou 49.11 332 *e*P P 15 28 35.9 +4.7
LZH pP pP 15 29 14.3 -0.9
LZH sP sP 15 29 34.3 -3.1
LZH pmax pmax
comp=Z,16nm,1.1s
HHC Hu-ho-hao-te 50.34 342 *e*P P 15 28 43.0 +2.7
HHC S **S 15 35 41.4 +3.7**
HHC pmax pmax
comp=Z,44nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.2s
CN2 Changchun 50.66 356 *e*P P 15 28 46.0 +3.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 50.98 2 P **P 15 28 44.7 -0.1**
comp=Z,5.4nm,0.6s,baz=185,slow=6.8,SNR=16
MDJ Mudanjiang 51.35 0 P **P 15 28 47.9 +0.4**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,44nm,5.0s
LSA Lhasa 51.79 317 *e*P **P 15 28 52.6 +0.9**
comp=Z,3.4nm,0.6s
MCQ Macquarie Isla 53.00 159 P P 15 28 51.2 -8.4
baz=53,SNR=5.8
GTA Gaotai 53.67 332 *e*P **P 15 29 05.5 +0.6**
GTA pP **pP 15 29 44.6 -5.1**
GTA sP sP 15 30 04.8 -7.0
GTA pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 58.06 342 *e*P **P 15 29 36.6 +0.7**
comp=Z,5.9nm,0.7s
SONM Songino Array 58.23 342 P **P 15 29 37.8 +0.7**
SONM Songino Array 58.23 342 P **P 15 29 37.8 +0.7**
comp=Z,2.6nm,0.6s,baz=152,slow=6.8,SNR=14
WMQ Urumqi 63.06 327 *e*P P 15 30 11.8 +2.1
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,41nm,4.0s
PETK Petropavlovsk- 64.47 18 P **P 15 30 19.4 +0.8**
PETK Petropavlovsk- 64.47 18 P **P 15 30 19.4 +0.8**
comp=Z,3.8nm,0.7s,baz=204,slow=6.1,SNR=4.6
MK31 Makanchi Array 67.89 327 *e*P **P 15 30 41.0 +0.4**
MKAR Makanchi Array 67.89 327 P **P 15 30 41.1 +0.6**
MKAR Makanchi Array 67.89 327 P **P 15 30 41.1 +0.6**
comp=Z,12nm,0.5s,baz=119,slow=7.9,SNR=27
TKM2 Tokmak 2 69.60 321 *e*P **P 15 30 52.3 +0.9**
comp=Z,5.2nm,0.7s
AAK Ala-Archa 70.15 320 P **P 15 30 54.9 +0.2**
AAK Ala-Archa 70.15 320 P **P 15 30 54.9 +0.2**
comp=Z,3.4nm,0.6s,baz=102,slow=5.3,SNR=5.2
ZAA0 Zalesovo Array 71.31 334 *e*P **P 15 31 00.7 -0.5**
ZALV Zalesovo Beam 71.31 334 P **P 15 31 00.8 -0.4**
ZALV Zalesovo Beam 71.31 334 P **P 15 31 00.8 -0.4**
comp=Z,6.2nm,0.5s,baz=126,slow=5.3,SNR=32
KURBB Kurchatov Arra 72.19 329 P **P 15 31 06.8 +0.3**
comp=Z,7.3nm,0.6s,baz=126,slow=5.1,SNR=88
KURK Kurchatov 72.20 329 P **P 15 31 06.8 +0.3**
VNDA Vanda 72.55 173 *e*P **P 15 31 09.6 +1.4**
VNDA Vanda 72.55 173 P **P 15 31 09.2 +1.0**
comp=Z,1.1nm,0.7s,baz=296,slow=5.6,SNR=6.4
KKAR Karatay Array 72.94 319 *e*P **P 15 31 11.9 +0.8**
comp=Z,1.1nm,0.4s
MAW Mawson 74.77 201 P **P 15 31 23.3 +2.0**
MAW Mawson 74.77 201 P **P 15 31 23.3 +2.0**
comp=Z,1.5nm,0.6s,baz=67,slow=9.5,SNR=6.3
BVAR Borovoye Array 77.74 328 P **P 15 31 38.5 +0.3**
BVAR Borovoye Array 77.74 328 P **P 15 31 38.5 +0.3**
comp=Z,5.6nm,0.8s,baz=111,slow=7.9,SNR=26
BRVK Borovoye 77.81 328 *e*P **P 15 31 38.9 +0.3**
comp=Z,9.4nm,0.8s
ABKAR Akbulak array 82.13 322 *e*P **P 15 32 02.0 +0.1**
comp=Z,5.9nm,0.5s
AKTO Aktyubinsk 83.70 322 P **P 15 32 10.4 +0.5**
AKTO Aktyubinsk 83.70 322 P **P 15 32 10.4 +0.5**
comp=Z,5.0nm,0.7s,baz=98,slow=8.4,SNR=13
COLD Coldfoot 92.66 23 *e*P **P 15 32 51.9 -0.3**
ILAR Eielson Array 93.56 25 P **P 15 32 55.5 -1.0**
ILAR Eielson Array 93.56 25 P **P 15 32 55.5 -1.0**
comp=Z,1.1nm,0.7s,baz=273,slow=4.3,SNR=5.8
ARCES ARCESS Array B 101.35 340 P **Pdif 15 33 30.9 -0.6**
ARCES ARCESS Array B 101.35 340 P **Pdif 15 33 30.9 -0.6**
comp=Z,1.4nm,0.8s,baz=60,slow=5.5,SNR=5.0
FINES FINESS Array B 102.47 331 P **Pdif 15 33 34.9 -1.7**
FINES FINESS Array B 102.47 331 P **Pdif 15 33 34.9 -1.7**
comp=Z,0.7nm,0.4s,baz=74,slow=5.9,SNR=5.9
TORD Torodi Ar. Bea 128.25 281 PKP **PKPdf 15 38 47.6 +0.5**
TORD Torodi Ar. Bea 128.25 281 PKP **PKPdf 15 38 47.6 +0.5**
comp=Z,0.7nm,0.7s,baz=84,slow=2.1,SNR=5.8

---

*ISCJB **24** 15:22:48.9±1.1, 33°.6N±0°.1×138°.4E±0°.1, h290km±8km, mb3.3/4, Error ellipse: s-maj=22.0km s-min=16.3km az=6.6*
*JMA **24** 15:22:48.2±0.3, 33°.30N×138°.41E, h280km, M3.1*
*IDC **24** 15:22:50.2±6.6, 33°.71N×138°.42E, h286km±30km, mb3.2/4, mb1 3.1/6, mb1mx2.9/30, mbtmp3.1/6, Error ellipse: s-maj=90.6km s-min=48.7km az=158.0*
ISC 24 15:22:49.8±1.5, 33°.6N±0°.2×138°.3E±0°.1, h283km±10km, n14, σ0°80/19, mb3.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**1.77**	**20**	P	**Pn**	**15 23 33.8**	**+0.7**
JOD2				*e*S	**S**	**15 24 09.3**	**+1.7**
JNY	**Yasuok**	**1.79**	**348**	P	**Pn**	**15 23 34.1**	**+0.7**
JKN2	**Miekihoku**	**1.83**	**291**	P	**Pn**	**15 23 33.1**	**-0.4**
JAO	**Obara**	**1.88**	**332**	P	**Pn**	**15 23 33.2**	**-0.8**
BSO4	**Boso 4**	**2.16**	**50**	*e*S	**S**	**15 24 13.4**	**+0.3**
BSO3	**Boso 3**	**2.16**	**56**	P	**Pn**	**15 23 35.7**	**-0.3**
BSO3				*e*S	**S**	**15 24 12.4**	**-0.4**
JHU	**Hanno**	**2.38**	**19**	P	**Pn**	**15 23 38.4**	**+0.2**
JHU				S	**S**	**15 24 15.3**	**-1.5**
MJAR	**Matsushiro Arr**	**2.93**	**358**	P	**Pn**	**15 23 43.4**	**-0.2**
	0.8nm,0.3s,baz=172,slow=10,SNR=8.7						
MJAR				S	**S**	**15 24 25.6**	**-0.9**
	0.4nm,0.3s,baz=64,slow=27,SNR=4.4						
MAT	**Matsushiro**	**2.93**	**358**	P	**Pn**	**15 23 43.9**	**+0.3**
MAT				S	**S**	**15 24 26.3**	**-0.2**
KSRS	**Korea Array**	**9.31**	**297**	P	**Pn**	**15 25 00.2**	**+0.8**
	0.2nm,0.3s,baz=109,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**43.90**	**305**	P	**P**	**15 30 28.7**	**-0.1**
	0.8nm,0.5s,baz=87,slow=9.3,SNR=13						
KURBB	**Kurchatov Arra**	**46.21**	**310**	P	**P**	**15 30 46.3**	**-0.4**
	0.7nm,0.4s,baz=86,slow=6.5,SNR=9.5						
BVAR	**Borovoye Array**	**51.08**	**314**	P	**P**	**15 31 24.2**	**+0.6**
	0.5nm,0.4s,baz=86,slow=8.8,SNR=3.2						
AKASG	**Malin Array Be**	**75.44**	**322**	P	**P**	**15 34 02.4**	**-0.3**
	0.7nm,0.4s,baz=47,slow=6.6,SNR=3.5						

---

*NIED **24** 15:26:00, 46°.70N×155°.10E, h26km, Mw4.0 Best double couple: M0=1.12000×10^15 NP1:φ=50.00000°, δ=88.00000°, λ=51.00000°. NP2:φ=317.00000°, δ=39.00000°, λ=176.00000°.*
*IDC **24** 15:26:05.1±0.8, 46°.42N×155°.15E, h0km, mb4.0/18, mb1 4.1/21, mb1mx4.0/33, mbtmp4.0/21, ML3.4/3, MS3.1/5, Ms1 3.0/5, ms1mx2.7/39, Error ellipse: s-maj=20.1km s-min=17.3km az=150.0*
*SKHL **24** 15:26:08.3±1.2, 46°.96N×155°.29E, h53km±23km, mb5.0/1, mbh4.8/1, msh4.8/1*
*MOS **24** 15:26:09.1±1.9, 46°.66N×155°.26E, h42km, mb4.4/16, Error ellipse: s-maj=11.3km s-min=10.2km az=75.5*
*BJI **24** 15:26:15.6, 46°.50N×154°.38E, h45km, mB4.7/3, mb4.3/5*
ISC 24 15:26:08.6±0.8, 46°.61N±0°.09×155°.09E±0°.09, h18km, n77, σ1°26/47, mb4.2/29, MS3.2/4, 2C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.13**	**9**	*e*PN	Pn	15 27 03.0	-7.7
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR	**Severo-Kuril's**	**4.13**	**9**	*e*P	Pn	15 27 03.0	-7.7
SKR				AMB	AMB	15 27 08.0	
	comp=Z,30nm,0.5s						
SKR				*e*S	Sn	15 27 45.0	-13
KUR	**Kuril'sk**	**5.23**	**257**	*e*PN	**Pn**	**15 27 26.9**	**+1.1**
KUR				pmax	pmax		
	comp=Z,140nm,0.9s						
KUR	**Kuril'sk**	**5.23**	**257**	*e*P	**Pn**	**15 27 26.9**	**+1.1**
KUR				AMB	AMB	15 27 29.7	
	comp=Z,80nm,0.7s						
KUR				*e*S	**Sn**	**15 28 25.0**	**-0.6**
KUR				A	A	15 28 27.0	
	comp=Z,330nm,0.5s						
KUR				A	A	15 28 27.0	
	comp=Z,152nm,0.5s						
PETK	**Petropavlovsk-**	**6.72**	**14**	PN	**Pn**	**15 27 43.8**	**-2.5**
PETK						15 29 04.2	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.72**	**14**	Pn	**Pn**	**15 27 43.8**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=166,slow=18,SNR=7.0						
PETK				Sn	**Sn**	**15 29 04.2**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=150,slow=21,SNR=2.4						
PET	**Petropavlovsk**	**6.82**	**18**	*i* PN	Pn	15 27 43.4	-4.2
YUK	**Yuzh-Kuril'sk**	**7.00**	**252**	*d* iPN	**Pn**	**15 27 50.6**	**+0.4**
YUK				pmax	pmax		
	comp=N,77nm,2.3s						
YUK				pmax	pmax		
	comp=E,64nm,2.3s						
YUK				pmax	pmax		
	comp=Z,102nm,2.3s						
YUK				pmax	pmax		
	comp=N,23nm,0.3s						
YUK				pmax	pmax		
	comp=E,21nm,0.3s						
YUK				pmax	pmax		
	comp=Z,43nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.00**	**252**	‖ *i*P	**Pn**	**15 27 50.7**	**+0.5**
YUK				AMB	AMB	15 27 51.8	
	comp=Z,77nm,2.3s						
YUK				AMB	AMB	15 27 51.8	
	comp=Z,64nm,2.3s						
YUK				AMB	AMB	15 27 51.8	
	comp=Z,102nm,2.3s						
YUK				AMB	AMB	15 27 54.4	
	comp=Z,23nm,0.3s						
YUK				AMB	AMB	15 27 54.4	
	comp=Z,21nm,0.3s						
YUK				AMB	AMB	15 27 54.4	
	comp=Z,43nm,0.3s						
YUK				*i* S	**Sn**	**15 29 07.4**	**-1.8**
YUK				A	A	15 29 08.2	
	comp=Z,315nm,3.1s						
YUK				A	A	15 29 08.2	
	comp=Z,289nm,3.1s						
YUK				A	A	15 29 11.1	
	comp=Z,75nm,0.3s						
YUK				A	A	15 29 11.1	
	comp=Z,83nm,0.3s						
NEM2	**Nemuro 2**	**7.38**	**247**	P	Pn	15 27 53.4	-2.0
NEM2				*e*S	Sn	15 29 11.5	-7.1
JNK	**Nakash**	**7.94**	**251**	P	**Pn**	**15 28 02.5**	**-0.6**
JNK				*e*S	Sn	15 29 28.2	-4.2
JAK	**Akkeshi**	**8.23**	**248**	P	Pn	15 28 04.8	-2.2
JAK				*e*S	Sn	15 29 31.5	-8.0
YSS	**Yuzh-Sakhalins**	**8.48**	**277**	*e*PN	Pn	15 28 15.0	+4.6
YSS	**Yuzh-Sakhalins**	**8.48**	**277**	*e*P	Pn	15 28 15.0	+4.6
JMP	**Maruseppu**	**8.67**	**257**	P	**Pn**	**15 28 14.3**	**+1.2**
JAR	**Ashorobuto**	**8.69**	**252**	P	**Pn**	**15 28 12.9**	**-0.4**
JAR				*e*S	Sn	15 29 47.1	-3.7
JOB	**Onbets**	**8.83**	**249**	P	Pn	15 28 13.3	-1.9
ASAJ	**Asahikawa**	**9.14**	**259**	Pn	**Pn**	**15 28 19.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=94,slow=3.8,SNR=8.2						
ASAJ				LR	LR	15 32 09.8	
	comp=Z,38nm,18.5s,baz=182,slow=40						
JCH	**Churui**	**9.27**	**249**	P	Pn	15 28 19.8	-1.5
JFR	**Furan**	**9.52**	**253**	P	**Pn**	**15 28 25.3**	**+0.6**
ERM	**Erimo**	**9.71**	**246**	*i* PN	**Pn**	**15 28 29.5**	**+2.2**
JNB	**Noboribetsu**	**10.85**	**253**	P	Pn	15 28 39.9	-3.1
JNB				*e*S	Sn	15 30 37.7	-6.2
JKB	**Kayabe**	**11.13**	**250**	P	Pn	15 28 44.4	-2.4
JKB				*e*S	Sn	15 30 40.9	-10
JANG	**Nango**	**11.66**	**243**	P	Pn	15 28 49.8	-4.3
JANG				*e*S	Sn	15 30 49.9	-14
JTM	**Tenmabayashi**	**11.70**	**245**	P	Pn	15 28 51.5	-3.0
JTH	**Tanohata**	**11.72**	**240**	P	Pn	15 28 50.7	-4.1
OFUJ	**Ofunato**	**12.39**	**237**	P	Pn	15 28 59.3	-4.7
JIO	**Ouri**	**12.99**	**236**	P	Pn	15 29 07.3	-5.0
MJA0	**Matsu Arr-Jizo**	**16.10**	**237**	*e*P	**P**	**15 29 58.9**	**+1.7**
MJAR	**Matsushiro Art**	**16.12**	**237**	Pn	**Pn**	**15 29 51.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=4.4						
USRK	**Ussuriysk Arra**	**16.39**	**270**	Pn	**Pn**	**15 29 56.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=4.9						
YAK	**Yakutsk**	**21.18**	**326**	*e*P	P	15 30 45.7	-7.0
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
KSRS	**Korea Array**	**22.07**	**255**	P	**P**	**15 31 02.4**	**0.0**
	comp=Z,1.8nm,0.9s,baz=62,slow=8.9,SNR=4.1						
KSRS				LR	LR	15 38 49.9	
	comp=Z,19nm,20.8s,baz=45,slow=35						
SONM	**Songino Array**	**32.66**	**290**	P	**P**	**15 32 37.7**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=77,slow=7.6,SNR=3.3						
SONM				LR	LR	15 45 38.7	
	comp=Z,36nm,18.8s,baz=55,slow=36						
ZAK	**Zakamensk**	**33.97**	**296**	*e*P	**P**	**15 32 50.9**	**0.0**
ZAK				*e*		15 34 24.5	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**43.79**	**306**	P	**P**	**15 34 11.9**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,38nm,19.8s						
ZALV	**Zalesovo Beam**	**43.79**	**306**	P	**P**	**15 34 11.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=71,slow=6.2,SNR=3.7						
ZALV				LR	LR	15 52 45.5	
	comp=Z,38nm,19.8s,baz=271,slow=36						
MKAR	**Makanchi Array**	**48.21**	**298**	*e*P	**P**	**15 34 49.0**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.21**	**298**	P	**P**	**15 34 47.1**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=65,slow=7.8,SNR=8.8						
KURK	**Kurchatov**	**48.57**	**304**	P	**P**	**15 34 51.5**	**+0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**48.66**	**304**	P	**P**	**15 34 51.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=69,slow=8.3,SNR=15						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**15 35 17.0**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**15 35 17.0**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=64,slow=7.6,SNR=7.4						
BRVK	**Borovoye**	**52.03**	**310**	*e*P	**P**	**15 35 17.8**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**53.67**	**258**	P	**P**	**15 35 29.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=30,slow=7.3,SNR=4.8						
AAK	**Ala-Archa**	**55.11**	**297**	‖ *e*P	**P**	**15 35 41.2**	**+1.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**55.11**	**297**	P	**P**	**15 35 40.7**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=143,slow=1.6,SNR=3.9						
ARU	**Arti**	**56.03**	**318**	*c iP*	**P**	**15 35 46.2**	**+0.4**
ARU						15 37 47.6	
ARU				S	**S**	**15 43 34.5**	**+1.4**
ARU				SS	**SS**	**15 47 16.9**	**-1.6**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**58.42**	**341**	P	**P**	**15 36 02.8**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=32,slow=7.5,SNR=3.7						
AKTO	**Aktyubinsk**	**59.83**	**313**	P	**P**	**15 36 13.3**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**59.83**	**313**	P	**P**	**15 36 13.3**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=49,slow=7.9,SNR=3.8						
PDAR	**Pinedale Array**	**63.72**	**55**	P	**P**	**15 36 39.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=270,slow=1.8,SNR=3.0						
FINES	**FINESS Array B**	**64.74**	**336**	P	**P**	**15 36 46.5**	**+1.3**
	comp=Z,3.2nm,0.5s,baz=32,slow=8.2,SNR=27						
NOA	**NORSAR Array B**	**68.79**	**342**	P	**P**	**15 37 13.1**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=25,slow=6.9,SNR=4.6						
WRA	**Warramunga Arr**	**68.85**	**201**	P	P	15 37 09.4	-2.5
	comp=Z,1.2nm,0.9s,baz=17,slow=6.3,SNR=5.0						
KBZ	**Khabaz**	**71.93**	**315**	LR	LR	16 12 23.3	
	comp=Z,27nm,18.5s,baz=261,slow=38						
AKASG	**Malin Array Be**	**72.41**	**327**	P	**P**	**15 37 33.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**72.41**	**327**	P	**P**	**15 37 33.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=34,slow=5.8,SNR=2.5						
ASAR	**Alice Springs**	**72.53**	**200**	P	**P**	**15 37 33.1**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=20,slow=5.7,SNR=11						
TXAR	**Lajitas Array**	**76.36**	**62**	P	**P**	**15 37 55.7**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=313,slow=5.5,SNR=7.8						
EKA	**Eskdalemuir Ar**	**76.78**	**347**	P	**P**	**15 37 59.1**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=26,slow=5.5,SNR=2.7						
CLL	**Collm**	**77.14**	**337**	*i* P	P	15 38 04.9	+4.2
CLL	**Collm**	**77.14**	**337**	*i* (P)	P	15 38 04.9	+4.2
CDF	**Champ du Feu**	**81.29**	**339**	*e*P	P	15 38 29.5	+5.9
PAGF	**Fort de Pagny**	**81.53**	**340**	*e*P	P	15 38 31.3	+6.6
	comp=Z,3.2nm,0.6s						
SFTF	**Sexfontaines**	**82.02**	**340**	*e*P	P	15 38 33.6	+6.3
	comp=Z,15nm,0.6s						
GRR	**Gorron**	**83.08**	**344**	*e*P	P	15 38 39.7	+6.9
LOR	**Lormes**	**83.17**	**341**	*e*P	P	15 38 39.8	+6.4
	comp=Z,6.9nm,0.7s						
SSF	**Saint Saulge**	**83.44**	**341**	*e*P	P	15 38 41.9	+7.1
SGMF	**Saint Gilles**	**83.52**	**345**	*e*P	P	15 38 42.2	+7.1
	comp=Z,10nm,0.7s						
ROSF	**Rostrenen**	**83.57**	**346**	*e*P	P	15 38 42.5	+7.2
AVF	**Avril sur Loir**	**83.73**	**341**	*e*P	P	15 38 43.0	+6.8
	comp=Z,5.1nm,0.6s						
SMF	**Signal de Mont**	**83.76**	**341**	*e*P	P	15 38 43.0	+6.6
LPG	**La Plagne**	**84.13**	**338**	*e*P	P	15 38 45.3	+6.6
	comp=Z,6.5nm,0.6s						
TCF	**Toulx Ste Croi**	**84.46**	**341**	*e*P	P	15 38 47.6	+7.6
MFF	**Saint Martin d**	**84.66**	**343**	*e*P	P	15 38 48.7	+7.8
ORIF	**Oris-en-Rattie**	**84.89**	**339**	*e*P	P	15 38 49.0	+6.7

---

*DJA **24** 15:34:53.6±1.0, 3°.N±3°×9°.5E±°, h10km, M4.6/7, mb4.6/4, mB5.1/2, MLv4.6/7, Mw(mB)4.5/2*
*IDC **24** 15:34:54.5±1.3, 3°.56N×95°.16E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/31, mbtmp4.0/14, ML3.9/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/38, Error ellipse: s-maj=42.4km s-min=15.5km az=51.0*
*ISCJB **24** 15:34:57.5±0.7, 3°.52N±0°.07×95°.17E±0°.07, h33km, mb4.0/12, MS3.4/3, Error ellipse: s-maj=12.7km s-min=6.6km az=41.3*
ISC 24 15:34:59.1±0.9, 3°.51N±0°.06×95°.16E±0°.08, h33km, n25, σ0°73/28, mb4.1/12, MS3.4/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.60**	**133**	P	**Pn**	**15 35 25.6**	**+0.4**
BSI	**Banda Aceh**	**1.97**	**4**	P	**Pn**	**15 35 30.2**	**-0.1**
BSI				S	**Sb**	**15 35 58.5**	**-0.2**
LHMI	**Lhok Sumawe**	**2.47**	**46**	P	**Pn**	**15 35 37.6**	**+0.5**
LHMI				S	**Sb**	**15 36 14.0**	**+1.1**
KCSI	**Kotacane, Aceh**	**2.61**	**90**	P	**Pn**	**15 35 39.8**	**+0.8**
TSI	**Tuntungan**	**3.40**	**90**	P	**Pn**	**15 35 51.1**	**+1.2**
PSI	**Prapat**	**3.83**	**101**	Pn	**Pn**	**15 35 56.3**	**+0.4**
	4.1nm,0.3s,baz=304,slow=8.5,SNR=16						
PSI				Sn	**Sn**	**15 36 38.2**	**-1.6**
	7.1nm,0.3s,baz=335,slow=19,SNR=3.6						
PSI				LR	LR	15 37 28.6	
	comp=Z,255nm,19.8s,baz=279,slow=40						
KULM	**Kulim**	**5.75**	**72**	P	**Pn**	**15 36 22.0**	**-0.3**
	40nm,0.7s,2μm0.3nm						
IPM	**Ipoh**	**5.93**	**81**	P	**Pn**	**15 36 23.6**	**-1.2**
SKLT	**Songkhla**	**6.54**	**56**	P	**Pn**	**15 36 32.8**	**-0.3**
	35nm,1.4s,948nm0.2nm						
PPI	**Padang Panjang**	**6.56**	**127**	P	**Pn**	**15 36 32.4**	**-0.9**
	42nm,0.9s,0.1nm						
BKNI	**Bangkinang**	**6.68**	**118**	P	**Pn**	**15 36 35.0**	**0.0**
CMAR	**Chiang Mai Arr**	**15.31**	**14**	Pn	**Pn**	**15 38 33.0**	**+0.1**
	0.2nm,0.3s,baz=207,slow=12,SNR=44						
CMAR				LR	LR	15 44 15.5	
	comp=Z,83nm,18.2s,baz=200,slow=37						
KAPI	**Kappang**	**25.99**	**109**	P	**P**	**15 40 30.0**	**+0.8**
	4.9nm,0.4s,baz=346,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**44.54**	**347**	P	**P**	**15 43 07.8**	**+0.1**
	1.0nm,0.5s,baz=164,slow=8.5,SNR=19						
WRA	**Warramunga Arr**	**44.99**	**123**	P	**P**	**15 43 11.8**	**0.0**
	2.3nm,0.7s,baz=301,slow=9.3,SNR=16						
KSRS	**Korea Array**	**45.19**	**37**	P	**P**	**15 43 11.7**	**-1.3**
	0.7nm,0.6s,baz=218,slow=9.1,SNR=5.8						
KSRS				LR	LR	16 05 17.4	
	comp=Z,41nm,18.6s,baz=246,slow=40						
SONM	**Songino Array**	**45.20**	**11**	P	**P**	**15 43 12.7**	**-0.5**
	0.5nm,0.5s,baz=182,slow=8.7,SNR=3.4						
SONM				PcP	**PcP**	**15 44 53.9**	**+1.0**
	0.6nm,0.4s,baz=204,slow=4.2,SNR=3.2						
SONM				LR	LR	16 04 20.8	
	comp=Z,28nm,19.5s,baz=50,slow=39						
ASAR	**Alice Springs**	**46.41**	**128**	P	**P**	**15 43 23.4**	**+0.4**
	0.5nm,0.5s,baz=298,slow=8.2,SNR=21						
KURBB	**Kurchatov Arra**	**48.99**	**346**	P	**P**	**15 43 42.5**	**0.0**
	1.6nm,0.7s,baz=170,slow=6.8,SNR=20						
ZALV	**Zalesovo Beam**	**50.98**	**352**	P	**P**	**15 43 57.5**	**-0.1**
	4.4nm,0.6s,baz=178,slow=7.6,SNR=26						
USRK	**Ussuriysk Arra**	**51.92**	**33**	P	**P**	**15 44 04.6**	**-0.1**
	1.9nm,0.6s,baz=222,slow=7.6,SNR=4.8						
BVAR	**Borovoye Array**	**53.42**	**342**	P	**P**	**15 44 15.6**	**-0.1**
	0.6nm,0.5s,baz=147,slow=8.1,SNR=5.6						
EIL	**Elat**	**62.51**	**302**	LR	LR	16 13 10.7	
	comp=Z,40nm,20.9s,baz=76,slow=37						
FINES	**FINESS Array B**	**77.02**	**333**	P	**P**	**15 46 48.5**	**0.0**
	1.6nm,0.6s,baz=113,slow=6.4,SNR=4.6						
ARCES	**ARCESS Array B**	**79.68**	**340**	P	**P**	**15 47 03.9**	**+0.7**
	1.7nm,1.0s,baz=81,slow=5.6,SNR=4.4						

---

*CRAAG **24** 15:46:19.0, 34°.21N×0°.27E, Ml3.3*
*IDC **24** 15:46:19.3±1.6, 33°.96N×1°.77E, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.4/33, mbtmp3.5/6, ML3.7/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/31, Error ellipse: s-maj=30.0km s-min=27.0km az=85.0*
*CNRM **24** 15:46:22.4, 34°.07N×1°.75E, h30km, MD4.3*
*MDD **24** 15:46:24.9±1.5, 34°.27N×1°.25E, h0km, mb4.2/

11nm,0.5s,SNR=7.9
EMUR La Murta 4.14 331 P **Pn 15 47 28.0 +0.5**
4.1nm,0.2s,SNR=7.9
EMUR S **Sn 15 48 15.6 -0.6**
11nm,0.5s,SNR=7.9
TOU Touzarine 4.21 281 P **Pn 15 47 28.0 -0.5**
TOU S **Sn 15 48 18.0 +0.1**
TOU Touzarine 4.21 281 *i* P **Pn 15 47 28.0 -0.5**
TOU *i* S **Sn 15 48 18.0 +0.1**
EBER Berja 4.31 309 P **Pn 15 47 31.2 +1.2**
4.1nm,0.3s,SNR=13
EBER S **Sn 15 48 19.9 -0.7**
27nm,0.4s,SNR=7.9
EBER Berja 4.31 309 P **Pn 15 47 31.2 +1.2**
4.1nm,0.3s,SNR=13
EBER S **Sn 15 48 19.9 -0.7**
27nm,0.4s,SNR=7.9
TZK Tazeka 4.52 270 P **Pn 15 47 33.0 0.0**
TZK S **Sn 15 48 27.0 +1.1**
TZK Tazeka 4.52 270 *i* P **Pn 15 47 33.0 0.0**
TZK *e*S **Sn 15 48 27.0 +1.1**
EBEN Beniarda 4.62 345 P **Pn 15 47 34.5 +0.3**
1.9nm,0.3s,SNR=7.3
EBEN S **Sn 15 48 28.1 0.0**
18nm,0.4s,SNR=7.9
EBEN Beniarda 4.62 345 P **Pn 15 47 34.5 +0.3**
1.9nm,0.3s,SNR=7.3
EBEN S **Sn 15 48 28.1 0.0**
18nm,0.4s,SNR=7.9
EHUE Huescar 4.75 320 P **Pn 15 47 37.1 +1.1**
3.7nm,0.3s,SNR=7.9
EHUE S **Sn 15 48 36.5 +5.1**
2.5nm,0.3s,SNR=7.9
EHUE Huescar 4.75 320 P **Pn 15 47 37.1 +1.1**
3.7nm,0.3s,SNR=7.9
EHUE S **Sn 15 48 36.5 +5.1**
2.5nm,0.3s,SNR=7.9
EQUE Quentar 4.84 309 P **Pn 15 47 37.8 +0.5**
10nm,0.3s,SNR=4.0
EQUE S **Sn 15 48 37.9 +4.2**
20nm,0.9s,SNR=7.9
EQUE Quentar 4.84 309 P **Pn 15 47 37.8 +0.5**
10nm,0.3s,SNR=4.0
EQUE S **Sn 15 48 37.9 +4.2**
20nm,0.9s,SNR=7.9
ETOB Tobarra 4.96 334 P **Pn 15 47 40.4 +1.6**
4.2nm,0.4s,SNR=7.9
ETOB S **Sn 15 48 34.7 -1.7**
9.6nm,0.2s,SNR=7.9
ETOB Tobarra 4.96 334 P **Pn 15 47 40.4 +1.6**
4.2nm,0.4s,SNR=7.9
ETOB S **Sn 15 48 34.7 -1.7**
9.6nm,0.2s,SNR=7.9
EQES Quesada 5.01 317 P **Pn 15 47 42.7 +3.2**
16nm,0.4s,SNR=17
EQES S Sn 15 48 44.5 +6.8
14nm,0.3s,SNR=7.9
EQES Quesada 5.01 317 P **Pn 15 47 42.7 +3.2**
16nm,0.4s,SNR=17
EQES S Sn 15 48 44.5 +6.8
14nm,0.3s,SNR=7.9
ZFT Errachidia 5.20 247 P **Pn 15 47 42.0 -0.3**
ZFT S **Sn 15 48 40.0 -2.5**
ZFT Errachidia 5.20 247 *i* P **Pn 15 47 42.0 -0.3**
ZFT *i* S **Sn 15 48 40.0 -2.5**
TGT Taghat 5.25 270 P **Pn 15 47 43.0 +0.2**
TGT S **Sn 15 48 44.0 +0.5**
TGT Taghat 5.25 270 *i* P **Pn 15 47 43.0 +0.2**
TGT *i* S **Sn 15 48 44.0 +0.5**
CZD Col de Zad 5.40 259 P **Pn 15 47 47.0 +1.9**
CZD S **Sn 15 48 48.0 +0.4**
CZD Col de Zad 5.40 259 *i* P **Pn 15 47 47.0 +1.9**
CZD *e*S **Sn 15 48 48.0 +0.4**
ETOS Mallorca 5.66 12 P **Pn 15 47 46.9 -1.6**
6.4nm,0.3s,SNR=18
ETOS S **Sn 15 48 50.0 -3.8**
6.8nm,0.3s,SNR=7.9
ETOS Mallorca 5.66 12 P **Pn 15 47 46.9 -1.6**
6.4nm,0.3s,SNR=18
ETOS S **Sn 15 48 50.0 -3.8**
6.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.28 348 P **Pn 15 47 58.6 +1.5**
6.8nm,0.8s,SNR=14
EMOS S **Sn 15 49 05.2 -3.9**
4.1nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.28 348 P **Pn 15 47 58.6 +1.5**
6.8nm,0.8s,SNR=14
EMOS S **Sn 15 49 05.2 -3.9**
4.1nm,0.3s,SNR=7.9
KEST Kesra 6.80 75 Pn Pn 15 47 57.4 -6.7
1.0nm,0.3s,baz=295,slow=1.8,SNR=17
KEST Sn Sn 15 49 12.4 -9.5
0.0nm,0.3s,baz=180,slow=20,SNR=1.9
KEST LR LR 15 50 50.7
comp=Z,64nm,19.3s,baz=22,slow=42
ESDC Sonseca Array 6.86 324 Pn **Pn 15 48 07.8 +2.9**
0.5nm,0.3s,baz=137,slow=17,SNR=3.1
ESDC Sn Sn 15 49 34.8 +11
0.9nm,0.3s,baz=130,slow=20,SNR=4.0
EPOB Poblet 7.11 359 P **Pn 15 48 08.1 -0.3**
1.4nm,0.4s,SNR=7.9
EPOB S **Sn 15 49 26.5 -3.0**
2.2nm,0.2s,SNR=7.9
EPOB Poblet 7.11 359 P **Pn 15 48 08.1 -0.3**
1.4nm,0.4s,SNR=7.9
EPOB S **Sn 15 49 26.5 -3.0**
2.2nm,0.2s,SNR=7.9
OUK Oukaimeden 8.27 251 *i* P **Pn 15 48 25.0 +0.5**
OUK *i* S **Sn 15 49 55.0 -3.3**
GERES GERESS Array B 17.28 29 Pn **Pn 15 50 22.1 -3.6**
0.2nm,0.3s,baz=213,slow=11,SNR=2.9
GERES LR LR 15 57 29.2
comp=Z,35nm,18.3s,baz=313,slow=39
TORD Torodi Ar. Bea 20.99 179 P P 15 51 01.4 -6.5
1.0nm,0.5s,baz=355,slow=11,SNR=7.7
ZALV Zalesovo Beam 59.56 43 P P 15 56 23.6 -4.3
0.3nm,0.3s,baz=262,slow=4.2,SNR=2.8
MKAR Makanchi Array 60.29 51 P P 15 56 28.6 -4.4
0.5nm,0.7s,baz=308,slow=5.3,SNR=6.9

IDC 24 16:01:32.1±24.0, 5°.89S×154°.46E, h416km±207km, mb2.9/4, mb1 3.0/4, mb1mx2.8/18, mbtmp2.9/4, Error ellipse: s-maj=231.8km s-min=41.4km az=93.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**233**	P	P	16 06 12.4	+0.2
0.3nm,0.3s,baz=59,slow=8.6,SNR=35							
ASAR	**Alice Springs**	**26.53**	**226**	P	P	16 06 34.0	-0.3
0.2nm,0.3s,baz=56,slow=9.1,SNR=15							
SONM	**Songino Array**	**68.13**	**327**	P	P	16 11 48.9	-0.2
0.4nm,0.4s,baz=126,slow=7.3,SNR=2.5							
MKAR	**Makanchi Array**	**82.23**	**319**	P	P	16 13 08.7	+0.3
0.5nm,0.7s,baz=90,slow=5.8,SNR=6.0							
TORD	**Torodi Ar. Bea**	**152.21**	**287**	PKPbc	PKPbc	16 20 40.2	-0.2
0.2nm,0.3s,baz=92,slow=1.8,SNR=4.2							

MAN 24 16:13:13, 13°.42N×120°.57E, h29km, mb3.8, ML2.6, MS2.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.45**	**315**	*e*P	Pn	16 13 23.7	+0.3
LUBP				*e*S	Sn	16 13 32.4	+1.8
TGY	**Tagaytay City**	**0.77**	**28**	⇓P	Pb	16 13 27.8	-0.2
TGY				*e*S	Sn	16 13 39.3	+0.5
SJMP	**San Jose**	**1.09**	**150**	*e*P	Pb	16 13 32.8	-0.4
SJMP				*e*S	Sn	16 13 44.2	-2.2
BUSP	**Coron**	**1.45**	**194**	*e*P	Pn	16 13 36.8	-0.5

IDC 24 16:16:36.2±3.1, 11°.58S×165°.93E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/21, Error ellipse: s-maj=67.7km s-min=42.7km az=89.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.25**	**289**	LR	LR	16 20 17.8	
comp=Z,70nm,20.8s,baz=273,slow=35							
DZM	**Mont Dzumac**	**10.45**	**177**	Pn	Pn	16 19 07.7	+0.2
0.1nm,0.3s,baz=295,slow=19,SNR=6.0							
WRA	**Warramunga Arr**	**31.47**	**251**	P	P	16 23 00.5	+0.5
0.7nm,1.2s,baz=84,slow=9.3,SNR=4.6							
ASAR	**Alice Springs**	**32.72**	**244**	P	P	16 23 10.3	-0.5
0.4nm,0.7s,baz=71,slow=10,SNR=8.1							
MKAR	**Makanchi Array**	**94.03**	**317**	P	P	16 29 56.3	-0.2
0.2nm,0.6s,baz=90,slow=3.8,SNR=3.0							

---

*CRAAG **24** 16:35:30.7, 33°.90N×1°.00E, MI3.3*
*MDD **24** 16:35:44.3±1.2, 34°.78N×1°.88E, h0km, mb3.7/5, Error ellipse: s-maj=13.1km s-min=7.8km az=165.0, PRXIMO*
*CSEM **24** 16:35:45.4±0.7, 34°.79N×1°.85E, h20km, mb3.7/5, Error ellipse: s-maj=16.3km s-min=10.1km az=151.0*
*CNRM **24** 16:35:50.3, 34°.10N×1°.77E, h32km, MD3.8*

ISC 24 16:35:30.6±1.5, 33°.90N±0°.08×1°.01E±0°.05, h10km, n54, σ1§49/46, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRT	**Tiaret**	**1.51**	**9**	P	**Pg**	**16 35 59.0**	**-0.6**
ETRT	**Tiaret**	**1.51**	**9**	P	**Pg**	**16 35 59.0**	**-0.6**
ETRT	**Tiaret**	**1.51**	**9**	P	**Pg**	**16 35 59.0**	**-0.6**
OJGS	**Djebel Guires**	**1.62**	**352**	P	**Pg**	**16 36 04.0**	**+2.3**
OJGS	**Djebel Guires**	**1.62**	**352**	P	**Pg**	**16 36 04.0**	**+2.3**
OJGS	**Djebel Guires**	**1.62**	**352**	P	**Pg**	**16 36 04.0**	**+2.3**
ODJA	**Bouhanifia**	**1.72**	**327**	P	**Pg**	**16 36 04.0**	**+0.4**
ODJA	**Bouhanifia**	**1.72**	**327**	P	**Pg**	**16 36 04.0**	**+0.4**
ODJA	**Bouhanifia**	**1.72**	**327**	P	**Pg**	**16 36 04.0**	**+0.4**
EANR	**'Ain N'Sour**	**2.05**	**2**	P	**Pb**	**16 36 08.0**	**0.0**
EANR	**'Ain N'Sour**	**2.05**	**2**	P	**Pb**	**16 36 08.0**	**0.0**
EANR	**'Ain N'Sour**	**2.05**	**2**	P	**Pb**	**16 36 08.0**	**0.0**
USTO	**Oran**	**2.24**	**325**	P	**Sn**	**16 36 35.0**	**-0.4**
USTO	**Oran**	**2.24**	**325**	P	**Sn**	**16 36 35.0**	**-0.4**
USTO	**Oran**	**2.24**	**325**	P	**Sn**	**16 36 35.0**	**-0.4**
ECHA	**Ech Chlef**	**2.27**	**7**	P	**Pb**	**16 36 12.0**	**+0.4**
ECHA	**Ech Chlef**	**2.27**	**7**	P	**Pb**	**16 36 12.0**	**+0.4**
ECHF	**Ech Chlef**	**2.27**	**7**	P	**Pb**	**16 36 12.0**	**+0.3**
ECHF	**Ech Chlef**	**2.27**	**7**	P	**Pb**	**16 36 12.0**	**+0.3**
OLHC	**Oulhaca**	**2.42**	**305**	P	Pn	16 36 05.0	-5.2
OLHC	**Oulhaca**	**2.42**	**305**	P	Pn	16 36 05.0	-5.2
OLHC	**Oulhaca**	**2.42**	**305**	P	Pn	16 36 05.0	-5.2
EBNR	**Beni Rached**	**2.43**	**10**	P	**Pg**	**16 36 19.0**	**+1.9**
EBNR	**Beni Rached**	**2.43**	**10**	P	**Pg**	**16 36 19.0**	**+1.9**
EMHD	**Djebel Mahouad**	**2.80**	**34**	P	**Pb**	**16 36 21.4**	**+0.7**
EMHD	**Djebel Mahouad**	**2.80**	**34**	P	**Pb**	**16 36 21.4**	**+0.7**
EMHD	**Djebel Mahouad**	**2.80**	**34**	P	**Pb**	**16 36 21.4**	**+0.7**
ADJB	**Djebel Djouab**	**3.01**	**41**	P	Pn	16 36 14.7	-3.7
ADJB	**Djebel Djouab**	**3.01**	**41**	P	Pn	16 36 14.7	-3.7
ADJB	**Djebel Djouab**	**3.01**	**41**	P	Pn	16 36 14.7	-3.7
AKET	**Djebel Ketaf**	**3.19**	**47**	P	**Pn**	**16 36 20.2**	**-0.7**
AKET	**Djebel Ketaf**	**3.19**	**47**	P	**Pn**	**16 36 20.2**	**-0.7**
AKET	**Djebel Ketaf**	**3.19**	**47**	P	**Pn**	**16 36 20.2**	**-0.7**
ZAI	**Zaio**	**3.29**	**290**	P	Pg	16 36 46.0	+12
ZAI				S	Sg	16 37 26.0	+10
ZAI	**Zaio**	**3.29**	**290**	*e*P	Pg	16 36 46.0	+12
ZAI				*e*S	Sg	16 37 26.0	+10
ABA	**Alger-Bouzarea**	**3.34**	**29**	P	**Pn**	**16 36 19.7**	**-3.1**
ABA	**Alger-Bouzarea**	**3.34**	**29**	P	**Pn**	**16 36 19.7**	**-3.1**
ABA	**Alger-Bouzarea**	**3.34**	**29**	P	**Pn**	**16 36 19.7**	**-3.1**
TZK	**Tazeka**	**4.32**	**274**	P	Pg	16 37 01.0	+7.7
TZK				S	Sg	16 37 56.0	+6.7
TZK	**Tazeka**	**4.32**	**274**	*e*P	Pg	16 37 01.0	+7.7
TZK				*i* S	Sg	16 37 56.0	+6.7
EBER	**Berja**	**4.37**	**314**	P	**Pb**	**16 36 46.2**	**-1.4**
0.3nm,0.1s,SNR=7.9							
EBER				S	**Sb**	**16 37 40.6**	**+0.1**
3.6nm,0.3s,SNR=7.9							
EBER	**Berja**	**4.37**	**314**	P	**Pb**	**16 36 46.2**	**-1.4**
0.3nm,0.1s,SNR=7.9							
EBER				S	**Sb**	**16 37 40.6**	**+0.1**
3.6nm,0.3s,SNR=7.9							
ZFT	**Errachidia**	**4.87**	**249**	P	Pg	16 37 10.0	+6.0
ZFT				S	**Sg**	**16 38 08.0**	**+0.9**
ZFT	**Errachidia**	**4.87**	**249**	*e*P	Pg	16 37 10.0	+6.0
ZFT				*i* S	**Sg**	**16 38 08.0**	**+0.9**
EBEN	**Beniarda**	**4.90**	**349**	P	Pn	16 36 48.6	+4.2
0.4nm,0.3s,SNR=7.9							
EBEN				S	**Sn**	**16 37 38.0**	**-3.2**
0.6nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**4.90**	**349**	P	Pn	16 36 48.6	+4.2
0.4nm,0.3s,SNR=7.9							
EBEN				S	**Sn**	**16 37 38.0**	**-3.2**
0.6nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.12**	**321**	P	**Pb**	**16 37 00.2**	**-0.1**
9.2nm,0.7s,SNR=9.1							
EQES				S	Sb	16 37 54.4	-7.4
1.4nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.12**	**321**	P	**Pb**	**16 37 00.2**	**-0.1**
9.2nm,0.7s,SNR=9.1							
EQES				S	Sb	16 37 54.4	-7.4
1.4nm,0.3s,SNR=7.9							
CZD	**Col de Zad**	**5.13**	**262**	P	Pg	16 37 15.0	+6.1
CZD				S	**Sg**	**16 38 16.0**	**+0.6**
CZD	**Col de Zad**	**5.13**	**262**	*e*P	Pg	16 37 15.0	+6.1
CZD				*i* S	**Sg**	**16 38 16.0**	**+0.6**
ETOB	**Tobarra**	**5.17**	**337**	P	Pb	16 36 56.2	-4.9
5.1nm,0.4s,SNR=5.2							
ETOB				S	**Sn**	**16 37 50.1**	**+2.3**
2.1nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.17**	**337**	P	Pb	16 36 56.2	-4.9
5.1nm,0.4s,SNR=5.2							
ETOB				S	**Sn**	**16 37 50.1**	**+2.3**
2.1nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**6.04**	**13**	P	**Pn**	**16 37 00.5**	**+0.6**
8.8nm,0.9s,SNR=5.3							
ETOS				S	Sn	16 38 01.9	-7.2
0.0nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**6.04**	**13**	P	**Pn**	**16 37 00.5**	**+0.6**
8.8nm,0.9s,SNR=5.3							
ETOS				S	Sn	16 38 01.9	-7.2
SNR=7.9							

IDC 24 17:02:27.0±0.6, 15°.20S×173°.52W, h0km, mb4.2/12, mb1 4.5/13, mb1mx4.3/23, mbtmp4.3/13, ML3.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/40, Error ellipse: s-maj=31.1km s-min=14.5km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**53**	Pn	Pn	17 03 02.4	-1.5
372nm,0.3s,baz=48,slow=2.2,SNR=266							
AFI				Sn	Sn	17 03 22.2	-8.8
762nm,0.3s,baz=168,slow=23,SNR=18							
DZM	**Mont Dzumac**	**20.16**	**247**	*e*LR	LR	17 12 05.7	
256nm,28.7s							
PPT	**Papeete**	**23.09**	**99**	LR	LR	17 13 46.6	
comp=Z,65nm,21.9s,baz=328,slow=29							
PPT2	**Papeete2**	**23.09**	**99**	*e*LR	LR	17 12 51.9	
84nm,27.0s							
TBI	**Tubuai**	**24.09**	**113**	*e*LR	LR	17 13 23.3	
79nm,30.0s							
URZ	**Urewera**	**24.41**	**198**	P	P	17 07 46.2	-1.0
12nm,0.9s,baz=166,slow=6.7,SNR=10							
URZ				LR	LR	17 16 04.7	
comp=Z,52nm,21.9s,baz=25,slow=34							
STKA	**Stephens Creek**	**44.03**	**240**	P	P	17 10 36.4	-0.3
5.4nm,0.8s,baz=74,slow=9.8,SNR=6.7							
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	17 11 21.3	-0.5
1.3nm,0.6s,baz=84,slow=7.5,SNR=45							
ASAR	**Alice Springs**	**50.06**	**252**	P	P	17 11 23.5	-0.5
2.2nm,0.3s,baz=90,slow=7.7,SNR=68							
ASAR				LR	LR	17 31 54.6	
comp=Z,100nm,21.8s,baz=153,slow=35							
VNDA	**Vanda**	**63.56**	**186**	P	P	17 13 00.1	+1.2
1.0nm,0.8s,baz=22,slow=7.0,SNR=5.5							
PETK	**Petropavlovsk-**	**72.41**	**342**	P	P	17 13 54.9	+0.1
1.6nm,0.7s,baz=156,slow=11,SNR=3.5							
YBH	**Yreka Blue Hor**	**73.51**	**37**	P	P	17 14 02.2	+0.4
3.5nm,0.8s,baz=67,slow=0.6,SNR=6.9							
YBH				LR	LR	17 40 33.7	
comp=Z,44nm,18.4s,baz=208,slow=31							
NVAR	**Mina Array Bea**	**74.26**	**42**	P	P	17 14 06.5	+0.1
1.0nm,0.7s,baz=236,slow=6.4,SNR=6.9							
TXAR	**Lajitas Array**	**80.60**	**56**	P	P	17 14 42.3	+0.3
2.9nm,1.0s,baz=230,slow=4.2,SNR=15							
ANMO	**Albuquerque**	**80.77**	**50**	LR	LR	17 43 06.2	
comp=Z,46nm,18.9s,baz=220,slow=30							
PDAR	**Pinedale Array**	**82.20**	**42**	P	P	17 14 49.8	-0.6
1.3nm,0.8s,baz=212,slow=4.3,SNR=9.9							
ILAR	**Eielson Array**	**82.28**	**11**	P	P	17 14 49.6	-0.4
0.5nm,0.8s,baz=224,slow=6.3,SNR=6.6							
MAW	**Mawson**	**87.94**	**199**	P	P	17 15 18.0	-0.4
1.2nm,0.5s,baz=152,slow=7.9,SNR=6.1							
BRTR	**Keskin Array B**	**145.93**	**321**	PKPbc	PKPab	17 22 09.8	+0.2
1.3nm,0.9s,baz=148,slow=2.2,SNR=6.8							
GERES	**GERESS Array B**	**145.93**	**351**	PKPbc	PKPdf	17 22 08.2	+0.2
1.1nm,0.8s,baz=5.7,slow=3.0,SNR=7.0							

---

*NIED **24** 17:22:00, 42°.10N×142°.80E, h29km, Mw4.5 Best double couple: M0=6.67000×10^15 NP1:φs=159.00000°, δ46.00000°, λ96.00000°. NP2:φs=330.00000°, δ44.00000°, λ84.00000°.*
*BJI **24** 17:22:43.6, 41°.92N×143°.39E, h39km, mB4.6/19, mb4.6/31, Ms4.0/17, Ms7 3.9/17*
*BKK **24** 17:22:47.8±1.4, 42°.N±12°×14°.3E±2°.0, h10km, M4.9/13, mB6.3/2, mb4.9/13, Mw(mB)6.0/2*
*ISCJB **24** 17:22:48.4±0.3, 42°.09N±0°.03×142°.78E±0°.04, h44km±3km, mb4.5/91, MS3.9/28, Error ellipse: s-maj=5.9km s-min=3.9km az=40.9*
*MOS **24** 17:22:48.2±0.9, 42°.11N×142°.81E, h43km, mb4.9/34, Error ellipse: s-maj=7.7km s-min=5.4km az=112.6*
*DJA **24** 17:22:48.7±7.7, 42°.N±13°×14°.3E±2°.2, h28km±54km, M5.0/8, mB5.8/2, mb5.0/8, Mw(mB)5.4/2*
*JMA **24** 17:22:49.3±0.1, 42°.15N×142°.80E, h32km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs=319.00000°, δ57.00000°, λ77.00000°. NP2: φs=163.00000°, δ35.00000°, λ110.00000°. Principal axes: T Plg74.0000°, Azm193.0000°; N Plg11.0000°, Azm327.0000°; P Plg11.0000°, Azm59.0000°;*
JMA Felt III J1.
*NEIC **24** 17:22:50.8±0.7, 42°.14N×142°.75E, h50km±6km, mb4.6/19, MW4.5(NIED) Error ellipse: s-maj=6.7km s-min=5.0km az=122.0*
NEIC Recorded [3 JMA] in southern Hokkaido and [2 JMA] in southwestern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate, Honshu.
*IDC **24** 17:22:51.3±1.5, 42°.14N×142°.77E, h55km±12km, mb4.1/25, mb1 4.3/31, mb1mx4.2/36, mbtmp4.1/31, MS3.8/23, Ms1 3.8/23, ms1mx3.6/53, Error ellipse: s-maj=13.7km s-min=8.6km az=108.0*

ISC 24 17:22:49.6±0.4, 42°.14N±0°.04×142°.81E±0°.04, h36km±1km, h36km:pP-P, n279, σ1§23/291, mb4.6/91, MS4.0/28, 13C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.14**	**343**	⇑P	Pn	17 22 54.9	-3.8
JNBK				*e*S	Sn	17 22 59.7	-7.2
ERM	**Erimo**	**0.29**	**116**	*ce*PN	**Pn**	**17 22 56.5**	**-1.1**
ERM				pmax	pmax		
comp=Z,7μm,0.6s							
JEM	**Erimo**	**0.29**	**116**	⇑P	**Pn**	**17 22 56.5**	**-1.1**
JEM				*e*S	**Sn**	**17 23 02.5**	**-1.4**
JCH	**Churui**	**0.62**	**41**	⇓P	**Pn**	**17 23 01.5**	**-0.6**
JCH				*e*S	**Sn**	**17 23 10.9**	**+0.1**
JBT2	**Biratori 2**	**0.72**	**333**	⇑P	**Pn**	**17 23 02.4**	**-0.8**
JFR	**Furan**	**1.03**	**351**	⇓P	**Pn**	**17 23 06.8**	**-0.8**
JOB	**Onbets**	**1.07**	**45**	⇓P	**Pn**	**17 23 08.8**	**+0.7**
JEW	**Eniwo**	**1.22**	**305**	⇓P	**Pn**	**17 23 11.0**	**+0.8**
ASAJ	**Asahikawa**	**1.98**	**356**	P	**Pn**	**17 23 22.1**	**+1.5**
ASAJ				S	**Sn**	**17 23 47.0**	**+2.8**
ASAJ	**Asahikawa**	**1.98**	**356**	P	**Pn**	**17 23 22.1**	**+1.5**
comp=Z,49nm,0.3s,baz=221,slow=13,SNR=220							
ASAJ				S	**Sn**	**17 23 47.0**	**+2.8**
comp=Z,71nm,0.3s,baz=274,slow=20,SNR=7.3							
ASAJ				LR	LR	17 24 06.5	
comp=Z,710nm,19.3s,baz=205,slow=38							
YUK	**Yuzh-Kuril'sk**	**2.93**	**49**	*ci*PN	**Pn**	**17 23 35.2**	**+1.6**
YUK				*i* S	**Sn**	**17 24 11.6**	**+4.1**
YUK				pmax	pmax		
comp=N,713nm,0.5s							
YUK				pmax	pmax		
comp=E,380nm,0.5s							
YUK				pmax	pmax		
comp=Z,517nm,0.5s							
YUK				smax	smax		
comp=N,1μm,0.6s							
YUK				smax	smax		
comp=E,892nm,0.6s							
KUR	**Kuril'sk**	**4.80**	**48**	*e*PN	**Pn**	**17 24 00.5**	**+1.3**
KUR				*i* S	**Sn**	**17 24 57.6**	**+4.1**
KUR				pmax	pmax		
comp=E,370nm,1.0s							
KUR				pmax	pmax		
comp=Z,750nm,1.0s							
KUR				pmax	pmax		
comp=N,150nm,0.6s							
KUR				smax	smax		
comp=N,1μm,1.0s							
KUR				smax	smax		
comp=E,210nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.81**	**360**	⇓*e*PN	Pn	17 24 04.5	+5.0
YSS				*i* S	Sn	17 25 02.0	+8.1
YSS				pmax	pmax		
comp=N,80nm,0.9s							
YSS				pmax	pmax		
comp=Z,80nm,0.9s							
YSS				smax	smax		
comp=N,120nm,1.0s							
YSS				MLR	MLR		
comp=N,900nm,15.0s							
YSS				MLR	MLR		
comp=Z,900nm,15.0s							
MAT	**Matsushiro**	**6.63**	**214**	P	**Pn**	**17 24 25.8**	**+1.3**
MAT				*e*S	**Sn**	**17 25 40.4**	**+1.6**
MJAR	**Matsushiro Arr**	**6.63**	**214**	P	**Pn**	**17 24 26.2**	**+1.6**
MJAR	**Matsushiro Arr**	**6.63**	**214**	P	**Pn**	**17 24 26.2**	**+1.6**
comp=Z,7.3nm,0.3s,baz=21,slow=15,SNR=109							
MJAR				LR	LR	17 27 27.6	
comp=Z,721nm,21.4s,baz=30,slow=42							
UGL	**Uglegorsk**	**6.96**	**356**	*e*PN	Pn	17 24 33.8	+4.9
UGL				pmax	pmax		
comp=Z,40nm,0.6s							
UGL				MLR	MLR		
comp=N,400nm,14.0s							
UGL				MLR	MLR		
comp=Z,500nm,14.0s							
UGL				MLR	MLR		
comp=E,500nm,17.0s							
VLA	**Vladivostok**	**8.11**	**281**	*ce*PN	**Pn**	**17 24 44.7**	**0.0**
USRK	**Ussuriysk Arra**	**8.16**	**288**	P	**Pn**	**17 24 48.0**	**+2.6**
comp=E,1.3nm,0.3s,baz=96,slow=14,SNR=34							
USRK				LR	LR	17 28 07.1	
comp=E,514nm,19.9s,baz=296,slow=39							
HABR	**Khabarovsk**	**8.36**	**322**	*e*PN	**Pn**	**17 24 46.4**	**-1.7**
HABR				pmax	pmax		
comp=N,29nm,3.4s							
HABR				pmax	pmax		
comp=E,64nm,3.4s							
HABR				pmax	pmax		
comp=Z,61nm,2.3s							
HABR				MLR	MLR		
comp=Z,426nm,18.0s							
MDJ	**Mudanjiang**	**9.94**	**289**	*e*P	Pn	17 25 14.8	+5.1
comp=Z,15nm,0.9s							
KSRS	**Korea Array**	**12.37**	**253**	P	**Pn**	**17 25 45.0**	**+2.0**
comp=Z,2.2nm,0.3s,baz=63,slow=14,SNR=33							
KSRS				S	Sn	17 28 05.4	+5.9
comp=Z,1.2nm,0.3s,baz=67,slow=24,SNR=11							
KSRS				LR	LR	17 30 07.3	
comp=Z,420nm,19.9s,baz=355,slow=35							
KSAR	**Wonju Array Be**	**12.40**	**253**	P	**Pn**	**17 25 45.0**	**+1.5**
KSAR				S	**Sn**	**17 28 05.4**	**+5.1**
SKR	**Severo-Kuril's**	**12.53**	**42**	*e*PN	Pn	17 25 39.0	-6.1
SKR				pmax	pmax		
comp=Z,60nm,0.5s							
SKR				MLR	MLR		
comp=E,1μm,18.0s	

comp=Z,6.5nm,0.8s
YAK Yakutsk 21.41 343 *e*P **P 17 27 32.3 -1.7**
YAK *e**PP pP 17 27 51.5 +8.1
YAK *e*S **S 17 31 26.0 -3.4**
YAK *e* 17 31 30.9
YAK *e**SS sS 17 31 57.8 +14
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,14nm,1.4s
YAK smax smax
comp=E,27nm,1.5s
YAK smax smax
comp=N,12nm,0.9s
NJ2 Nanjing 21.54 250 *e*P **P 17 27 39.1 +3.5**
NJ2 pmax pmax
comp=Z,15nm,0.8s
SEY Seymchan 21.58 12 *de*P **P 17 27 34.1 -1.7**
FX1 Attu Island--F 22.98 52 LR LR 17 36 07.4
comp=Z,172nm,20.3s,baz=91,slow=35
WHN Wuhan 25.56 252 ⇓P **P 17 28 14.3 -0.8**
WHN S **S 17 32 43.1 +2.7**
WHN LR LR
comp=Z,590nm,19.8s
ULN Ulaanbaatar 25.76 295 *e*P **P 17 28 16.3 -0.6**
comp=Z,8.1nm,1.0s
ULN Ulaanbaatar 25.76 295 P **P 17 28 15.8 -1.2**
comp=Z,8.1nm,1.1s
SONM Songino Array 26.20 295 P **P 17 28 20.1 -0.8**
SONM PcP **PcP 17 31 46.4 -0.6**
SONM Songino Array 26.20 295 P **P 17 28 20.1 -0.8**
comp=Z,2.8nm,0.8s,baz=86,slow=7.5,SNR=16
SONM PcP **PcP 17 31 46.4 -0.6**
comp=Z,1.0nm,0.6s,baz=113,slow=2.8,SNR=3.6
SONM LR LR 17 39 41.1
comp=Z,259nm,19.6s,baz=334,slow=39
XAN Xi'an 27.73 264 P **P 17 28 34.1 -0.6**
XAN pmax pmax
comp=Z,3.0nm,1.1s
XAN pmax pmax
comp=Z,19nm,5.3s
ZAK Zakamensk 28.26 301 *e*P **P 17 28 38.1 -1.3**
ZAK *e* 17 29 33.3
ZAK *e* 17 31 50.4
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ENH Enshi 29.20 257 *e*P **P 17 28 45.3 -2.5**
comp=Z,8.5nm,0.6s
MOY Mondy 29.75 303 *e*P **P 17 28 52.7 +0.2**
TIXI Tiksi 30.38 351⇓*e*P **P 17 28 58.2 +0.5**
TIXI pmax pmax
comp=Z,26nm,1.6s
LZH Lanzhou 30.64 272 *e*P **P 17 29 01.3 +0.7**
LZH pP **pP 17 29 12.3 +1.5**
LZH sP **sP 17 29 16.3 +1.2**
LZH pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 32.42 280 P **P 17 29 16.3 +0.1**
GTA pP **pP 17 29 23.4 -3.1**
GTA sP **sP 17 29 28.0 -2.8**
GTA PcP **PcP 17 32 04.1 +1.1**
GTA S **S 17 34 27.8 -0.6**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,42nm,5.5s
GTA LR LR
comp=N,120nm,17.8s
GTA LR LR
comp=E,130nm,18.3s
GTA LR LR
comp=Z,220nm,19.9s
QIZ Qiongzhong 36.20 241 P **P 17 29 46.8 -2.2**
QIZ S **S 17 35 24.4 -2.3**
QIZ pmax pmax
comp=Z,2.0nm,1.4s
QIZ pmax pmax
comp=Z,70nm,6.1s
QIZ LR LR
comp=N,120nm,18.9s
QIZ LR LR
comp=E,69nm,30.5s
QIZ LR LR
comp=Z,180nm,19.5s
KMI Kunming 37.04 256 P **P 17 29 56.3 -0.1**
KMI pP **pP 17 30 10.6 +3.9**
KMI S S 17 35 48.4 +8.4
KMI pmax pmax
comp=Z,14nm,0.9s
KMI LR LR
comp=N,120nm,12.4s
KMI LR LR
comp=E,130nm,12.8s
KMI LR LR
comp=Z,160nm,10.4s
ZAA0 Zalesovo Array 39.45 308 *e*P **P 17 30 15.6 -0.3**
ZALV Zalesovo Beam 39.45 308 *i* P **P 17 30 16.0 0.0**
ZALV pmax pmax
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 39.45 308 P **P 17 30 15.6 -0.4**
ZALV PcP **PcP 17 32 23.6 +0.2**
ZALV Zalesovo Beam 39.45 308 P **P 17 30 15.6 -0.4**
comp=Z,19nm,0.8s,baz=87,slow=7.8,SNR=103
ZALV PcP **PcP 17 32 23.6 +0.2**
comp=Z,5.1nm,0.9s,baz=80,slow=3.4,SNR=6.3
ZALV LR LR 17 47 41.6
comp=Z,164nm,18.1s,baz=69,slow=38
WMQ Urumqi 39.72 292 P **P 17 30 18.8 +0.3**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ pmax pmax
comp=Z,75nm,3.2s
WMQ LR LR
comp=N,68nm,22.0s
WMQ LR LR
comp=E,160nm,18.0s
WMQ LR LR
comp=Z,190nm,18.0s
NVS Novosibirsk 40.26 309 *e*P **P 17 30 20.7 -2.0**
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,0.8s
SKNT Sakolnakorn 41.55 245 P **P 17 30 34.8 +1.1**
comp=Z,19nm,0.8s
MK31 Makanchi Array 42.51 298 *e*P **P 17 30 40.4 -0.9**
MK31 Makanchi Array 42.51 298 *e*P **P 17 30 40.4 -0.9**
MKAR Makanchi Array 42.51 298 *i* P **P 17 30 40.9 -0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 42.51 298 P **P 17 30 40.6 -0.7**
MKAR PcP **PcP 17 32 33.2 -0.3**
MKAR Makanchi Array 42.51 298 P **P 17 30 40.6 -0.7**
comp=Z,7.0nm,0.7s,baz=84,slow=9.5,SNR=77
MKAR PcP **PcP 17 32 33.2 -0.3**
comp=Z,1.7nm,0.7s,baz=62,slow=3.9,SNR=4.1
PAYA Payao 42.75 251 P P 17 30 46.7 +3.1
comp=Z,5.6nm,1.0s
LOEI Loei 43.02 248 P **P 17 30 43.7 -2.1**
comp=Z,30nm,0.7s,comp=Z,4μm
LSA Lhasa 43.03 270 *e*P **P 17 30 47.2 +0.9**
LSA pmax pmax
comp=Z,19nm,1.3s
LSA Lhasa 43.03 270 *e*P **P 17 30 47.1 +0.9**
comp=Z,19nm,1.3s
LAMP Lampang 43.47 251 P **P 17 30 50.5 +1.1**
comp=Z,5.7nm,0.9s
CHAI Chaiyaphum 43.65 246 P **P 17 30 50.9 +0.1**
comp=Z,6.3nm,0.9s
CMMT Chiang Mai 43.76 252 P **P 17 30 51.7 0.0**
comp=Z,12nm,0.9s
CMMT Chiang Mai 43.76 252 P **P 17 30 51.8 0.0**
comp=Z,12nm,0.9s
CHTO Chiang Mai 43.76 252 *e*P **P 17 30 51.8 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 43.76 252 *e*P **P 17 30 51.8 +0.1**
comp=Z,6.6nm,0.7s
CHTO Chiang Mai 43.76 252 P **P 17 30 52.6 +0.9**
comp=Z,14nm,1.0s
CHTO Chiang Mai 43.76 252 P **P 17 30 52.3 +0.6**
comp=Z,14nm,1.0s
CMAR Chiang Mai Arr 44.00 251 P **P 17 30 53.7 0.0**
CMAR PcP **PcP 17 32 39.0 0.0**
CMAR Chiang Mai Arr 44.00 251 P **P 17 30 53.7 0.0**
comp=Z,0.6nm,0.3s,baz=42,slow=7.3,SNR=4.6
CMAR PcP **PcP 17 32 39.0 0.0**
comp=Z,1.5nm,0.8s,baz=11,slow=1.3,SNR=5.5
CMAR LR LR 17 50 45.2
comp=Z,122nm,18.9s,baz=336,slow=38
ILAR Eielson Array 44.65 35 P **P 17 30 58.2 -0.1**
ILAR Eielson Array 44.65 35 P **P 17 30 58.2 -0.1**
comp=Z,4.3nm,0.9s,baz=270,slow=6.9,SNR=15
TAPN Taplejung 46.84 270 *e*P **P 17 31 16.6 +0.1**
ODAN Odare 47.35 270 *e*P **P 17 31 20.4 +0.1**
VOSK Vostochnaya 47.80 309 P **P 17 31 22.6 -0.6**
VOSK pmax pmax
comp=Z,32nm,1.3s
RAMN Ramite 47.89 270 *e*P **P 17 31 23.6 -0.9**
comp=Z,44nm,0.7s
GUN Gumba 47.90 272 *e*P **P 17 31 24.6 -0.1**
comp=Z,38nm,0.4s
BVA0 Borovoye Array 48.05 309 *i* P **P 17 31 24.9 -0.3**
BVA0 pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 48.10 309 *c i*P **P 17 31 25.5 -0.1**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 48.10 309 *e*P **P 17 31 25.5 -0.1**
comp=Z,9.8nm,0.9s
ULHL Ulahol 48.13 294 *i* P **P 17 31 26.2 0.0**
ULHL Ulahol 48.13 294 P **P 17 31 26.2 0.0**
SNR=5.2
TKM2 Tokmak 2 48.30 295 *i* P **P 17 31 27.7 +0.2**
TKM2 Tokmak 2 48.30 295 P **P 17 31 27.7 +0.2**
SNR=32
TKM2 Tokmak 2 48.30 295 *e*P **P 17 31 27.5 0.0**
comp=Z,19nm,0.7s
KKN Kakani 48.41 272 *e*P **P 17 31 28.4 -0.1**
comp=Z,17nm,0.6s
PKI Pulchoki 48.43 272 *e*P **P 17 31 28.3 -0.5**
comp=Z,12nm,0.5s
PKIN Phulchoki 48.44 272 *e*P **P 17 31 28.8 0.0**
comp=Z,13nm,0.6s
DMN Daman 48.64 272 *e*P **P 17 31 30.3 0.0**
comp=Z,23nm,0.7s
KBK Karagaybulak 48.85 295 *i* P **P 17 31 31.8 +0.1**
KBK Karagaybulak 48.85 295 P **P 17 31 31.8 +0.1**
SNR=17
KZA Kyzart 48.88 294 *i* P **P 17 31 33.0 +0.8**
KZA Kyzart 48.88 294 P **P 17 31 33.0 +0.8**
SNR=7.2
USP Ospenovka 48.90 296 *i* P **P 17 31 31.7 -0.2**
USP Ospenovka 48.90 296 P **P 17 31 31.7 -0.2**
SNR=7.1
FRU Bishkek 49.00 295 *e*P **P 17 31 33.0 +0.4**
FRU *e* 17 31 44.0
AAK Ala-Archa 49.16 295 *c i*P **P 17 31 33.6 -0.5**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 49.16 295 *e*P **P 17 31 33.5 -0.5**
comp=Z,2.9nm,0.6s
DANN Dangsing 49.24 274 *e*P **P 17 31 35.2 +0.2**
comp=Z,83nm,0.6s
INK Inuvik 49.38 29 P **P 17 31 32.9 -2.2**
INK Inuvik 49.38 29 P **P 17 31 32.9 -2.2**
comp=Z,2.7nm,0.5s,baz=305,slow=6.7,SNR=9.3
INK LR LR 17 53 51.4
comp=Z,95nm,18.2s,baz=309,slow=38
KSH Kashi 49.46 291 P P 17 31 39.8 +3.5
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,74nm,4.7s
HYT Haines Junctio 49.61 39 *e*P **P 17 31 38.8 +1.6**
EKS2 Erkin-Say 49.63 295 *e*P **P 17 31 37.1 -0.5**
EKS2 pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 49.63 295 P **P 17 31 37.4 -0.2**
SNR=12
EKS2 Erkin-Say 49.63 295 *e*P **P 17 31 37.1 -0.5**
comp=Z,6.3nm,0.6s
KSM Kuching 49.90 225 *e*P **P 17 31 40.3 +0.6**
comp=Z,13nm,1.0s
AML Almayashu 49.91 295 *i* P **P 17 31 40.3 +0.3**
AML Almayashu 49.91 295 P **P 17 31 40.3 +0.3**
SNR=5.1
KK31 Karatay Array 51.63 297 *i* P **P 17 31 51.7 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 51.63 297 *e*P **P 17 31 51.8 -0.7**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 51.63 297 *e*P **P 17 31 51.8 -0.7**
comp=Z,5.7nm,0.6s
SVE Sverdlovsk 52.11 316⇓*e*P **P 17 31 55.9 0.0**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,257nm,19.0s
ARU Arti 53.33 316 *c i*P **P 17 32 04.4 -0.4**
ARU 17 34 02.6
ARU S **S 17 39 36.5 +2.7**
ARU SS **SS 17 43 13.0 -0.3**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU MLR MLR
comp=Z,184nm,17.0s
DLBC Dease Lake 53.99 40 LR LR 17 58 05.2
BATI Baumata 54.98 203 LR LR 17 56 53.4
comp=Z,162nm,18.9s,baz=352,slow=37
AB31 Akbulak array 55.56 308 P **P 17 32 20.6 -0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 55.56 308 *e*P **P 17 32 20.8 -0.3**
comp=Z,3.1nm,0.5s
AKTO Aktyubinsk 56.14 310 P **P 17 32 24.5 -0.8**
AKTO pmax pmax
comp=Z,5.0nm,1.0s
KBL Kabul 56.70 289 *e*P **P 17 32 28.3 -1.5**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 56.70 289 *e*P **P 17 32 28.3 -1.5**
comp=Z,7.2nm,0.6s
YKA Yellowknife Ar 58.88 32 P **P 17 32 44.1 -0.2**
YKA Yellowknife Ar 58.88 32 P **P 17 32 44.1 -0.2**
comp=Z,1.6nm,0.8s,baz=307,slow=6.7,SNR=5.1
HYB Hyderabad 59.52 266 *e*P **P 17 32 48.0 -1.5**
ARCES ARCESS Array B 59.62 339 P **P 17 32 48.1 -1.2**
ARCES ARCESS Array B 59.62 339 P **P 17 32 48.1 -1.2**
comp=Z,1.5nm,0.6s,baz=48,slow=7.2,SNR=7.2
ARCES LR LR 18 03 28.7
comp=Z,92nm,18.0s,baz=62,slow=41
JOF Joensuu 61.99 331 *e*P **P 17 33 04.5 -1.1**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 61.99 331 *ep* **P 17 33 04.5 -1.1**
comp=Z,4.8nm,0.5s
CTA Charters Tower 62.00 176 P **P 17 33 05.3 -0.8**
CTA Charters Tower 62.00 176 P **P 17 33 05.3 -0.8**
comp=Z,2.5nm,0.7s,baz=344,slow=8.3,SNR=3.9
FITZ Fitzroy Crossi 62.01 199 P **P 17 33 05.1 -1.0**
FITZ Fitzroy Crossi 62.01 199 P **P 17 33 05.1 -1.0**
comp=Z,2.8nm,0.7s,baz=48,slow=6.6,SNR=4.3
WRAB Tennant Creek 62.26 189 *e*P **P 17 33 06.6 -1.2**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRAB Tennant Creek 62.26 189 *e*P **P 17 33 06.6 -1.2**
comp=Z,10nm,0.9s
WRA Warramunga Arr 62.27 189 P **P 17 33 06.7 -1.2**
WRA Warramunga Arr 62.27 189 P **P 17 33 06.7 -1.2**
comp=Z,7.7nm,0.8s,baz=6.5,slow=6.8,SNR=69
KAF Kangasniemi 64.28 332 *e*P **P 17 33 20.0 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 64.28 332 *ep* **P 17 33 20.0 -0.8**
comp=Z,4.7nm,0.6s
OBN Obninsk 64.68 322 *e*P **P 17 33 22.8 -0.7**
OBN *i* 17 33 35.9
OBN pmax pmax
comp=Z,18nm,1.4s
OBN MLR MLR
comp=Z,100nm,15.0s
FIA1 FINESS Array S 64.81 332 *e*P **P 17 33 23.3 -1.0**
FINES FINESS Array B 64.82 332 P **P 17 33 23.3 -1.0**
FINES FINESS Array B 64.82 332 P **P 17 33 23.3 -1.0**
comp=Z,9.5nm,0.7s,baz=46,slow=8.0,SNR=49
FINES LR LR 18 03 44.9
comp=Z,121nm,19.0s,baz=4.6,slow=38
VSR Storozhevoye 65.83 318 *e*P **P 17 33 30.2 -0.9**
ASAR Alice Springs 65.99 189 P **P 17 33 31.9 -0.4**
ASAR Alice Springs 65.99 189 P **P 17 33 31.9 -0.4**
comp=Z,3.1nm,0.8s,baz=12,slow=6.3,SNR=26
ASAR LR LR 18 02 57.6
comp=Z,33nm,19.9s,baz=334,slow=36
VSU Vasula 66.62 329 *d i*P **P 17 33 35.2 -0.7**
VSU pmax pmax
comp=Z,36nm,0.8s
KIV Kislovodsk 68.41 310 *e*P **P 17 33 48.6 +0.9**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,111nm,18.0s
KBZ Khabaz 68.43 310 P **P 17 33 47.6 -0.1**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
KBZ MLR MLR
comp=Z,78nm,19.4s
KBZ Khabaz 68.43 310 P **P 17 33 47.5 -0.1**
KBZ Khabaz 68.43 310 P **P 17 33 47.5 -0.1**
comp=Z,3.5nm,0.7s,baz=45,slow=4.3,SNR=11
KBZ LR LR 18 09 35.2
comp=Z,78nm,19.4s,baz=298,slow=41
NB2 NORSAR Subarra 69.90 337 P **P 17 33 55.7 -0.8**
comp=Z,2.7nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 69.90 337 P **P 17 33 55.6 -1.0**
NOA NORSAR Array B 69.90 337 P **P 17 33 55.6 -1.0**
comp=Z,3.8nm,0.7s,baz=38,slow=6.2,SNR=18
NOA LR LR 18 08 13.4
comp=Z,76nm,19.8s,baz=30,slow=39
BOZ Bozeman (W) 70.34 46 *e*P **P 17 34 00.4 +0.8**
BOZ pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 70.34 46 *e*P **P 17 34 00.4 +0.8**
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 70.93 322 *ce*P **P 17 34 02.0 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 70.93 322 P **P 17 34 02.1 -0.9**
AKASG Malin Array Be 70.93 322 P **P 17 34 02.1 -0.9**
comp=Z,3.9nm,0.6s,baz=42,slow=5.9,SNR=13
KIEV Kiev 70.94 322 *e*P **P 17 34 02.1 -0.9**
NVAR Mina Array Bea 71.12 55 P **P 17 34 05.7 +1.0**
NVAR Mina Array Bea 71.12 55 P **P 17 34 05.7 +1.0**
comp=Z,1.4nm,0.7s,baz=297,slow=6.0,SNR=8.0
IMW Indian Meadow 71.86 47 *e*P **P 17 34 10.8 +1.7**
comp=Z,8.3nm,1.4s
RRI2 Red Ridge 72.01 48 *e*P **P 17 34 08.5 -1.5**
comp=Z,8.6nm,1.3s
PDAR Pinedale Array 73.36 47 P **P 17 34 18.3 +0.4**
PDAR Pinedale Array 73.36 47 P **P 17 34 18.3 +0.4**
comp=Z,1.5nm,0.7s,baz=290,slow=3.7,SNR=11
KWP Kalwaria Pacla 74.61 324 *e*P **P 17 34 25.0 +0.1**
KWP pmax pmax
comp=Z,11nm,0.5s
KWP Kalwaria Pacla 74.61 324 *e*P **P 17 34 25.0 +0.1**
comp=Z,11nm,0.5s
KWP Kalwaria Pacla 74.61 324 *e*P **P 17 34 25.0 +0.1**
ULM Lac du Bonnet 74.67 35 LR LR 18 07 03.3
comp=Z,57nm,19.1s,baz=309,slow=36
MLR Muntele Rosu 76.19 320 LR LR 18 11 07.7
comp=Z,23nm,19.5s,baz=210,slow=38
BRTR Keskin Array B 76.28 311 P **P 17 34 34.1 -0.6**
BRTR Keskin Array B 76.28 311 P **P 17 34 34.1 -0.6**
comp=Z,1.2nm,0.6s,baz=65,slow=4.7,SNR=7.9
OKC Ostrava-Krasne 76.37 327 *e*P **P 17 34 35.2 +0.3**
OKC *e* 17 34 50.6
OKC Ostrava-Krasne 76.37 327 *e*P **P 17 34 35.2 +0.3**
OKC *ep*P **PcP 17 34 50.6 +4.0**
DPC Dobruska-Polom 76.70 328 *e*P **P 17 34 36.7 -0.1**
DPC *e* 17 34 52.8
DPC Dobruska-Polom 76.70 328 *e*P **P 17 34 36.7 -0.1**
DPC *ep*P **pP 17 34 52.8 +4.9**
CLL Collm 77.20 330 *i* P **P 17 34 38.0 -1.5**
CLL *i* 17 34 54.5
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 77.20 330 *i* P **P 17 34 38.0 -1.5**
comp=Z,5.0nm,0.8s
CLL *i* pP **pP 17 34 54.5 +3.9**
VRAC Vranov 77.42 327 LR LR 18 13 24.2
comp=Z,66nm,18.2s,baz=40,slow=39
PRU Pruhonice 77.69 329 *e*P **P 17 34 42.3 0.0**
PRU *e* 17 34 56.2
PRU Pruhonice 77.69 329 *e*P **P 17 34 42.3 0.0**
PRU *ep*P **pP 17 34 56.2 +2.8**
TREC Trest 77.87 328 *e*P **P 17 34 43.7 +0.3**
TREC *e* 17 34 57.5
TREC Trest 77.87 328 *e*P **P 17 34 43.7 +0.3**
TREC *ep*P **pP 17 34 57.5 +3.0**
EKA Eskdalemuir Ar 78.67 341 P **P 17 34 46.9 -0.7**
EKA Eskdalemuir Ar 78.67 341 P **P 17 34 46.9 -0.7**
comp=Z,1.3nm,0.7s,baz=36,slow=6.1,SNR=4.6
KHC Kasperske Hory 78.75 329 *e*P **P 17 34 48.3 +0.1**
KHC *e* 17 35 00.0
KHC Kasperske Hory 78.75 329 *e*P **P 17 34 48.3 +0.1**
KHC *ex* x 17 34 52.6
KHC *ep*P **pP 17 35 00.0 +0.6**
KHC Kasperske Hory 78.75 329 *e*P **P 17 34 48.1 -0.1**
comp=Z,2.9nm,0.8s
GERES GERESS Array B 78.93 329 P **P 17 34 48.7 -0.6**
GERES GERESS Array B 78.93 329 P **P 17 34 48.7 -0.6**
comp=Z,1.2nm,0.7s,baz=22,slow=5.5,SNR=5.9
GERES LR LR 18 12 26.5
comp=Z,56nm,18.0s,baz=218,slow=38
ASF Jabal al Asfar 79.55 304 P **P 17 34 52.7 -0.3**
ASF Jabal al Asfar 79.55 304 P **P 17 34 52.7 -0.3**
comp=Z,1.6nm,0.6s,baz=351,slow=2.6,SNR=4.9
KBA Koelnbreinsper 80.51 328⇑*i*P **P 17 34 58.8 +0.8**
comp=Z,3.4nm,0.7s
WATA Walderalm 80.99 329⇑*i*P **P 17 35 00.4 -0.1**
comp=Z,2.6nm,0.5s
MOTA Moosalm 81.16 329⇑*i*P **P 17 35 01.4 -0.1**
comp=Z,8.1nm,0.9s
CDF Champ du Feu 81.67 332 *e*P **P 17 35 03.3 -0.8**
comp=Z,5.5nm,0.8s
CDF Champ du Feu 81.67 332 *e*P **P 17 35 03.3 -0.8**
CDF Champ du Feu 81.67 332 *e*P **P 17 35 03.3 -0.8**
PAGF Fort de Pagny 82.08 333 *e*P **P 17 35 05.6 -0.5**
PAGF Fort de Pagny 82.08 333 *e*P **P 17 35 05.6 -0.5**
DAVOX Davos/Dischmat 82.10 329 LR LR 18 15 01.8
comp=Z,86nm,18.5s,baz=265,slow=38
HINF Hinteralfeld 82.33 332 *e*P **P 17 35 06.4 -1.1**
HINF Hinteralfeld 82.33 332 *e*P **P 17 35 06.4 -1.1**
HINF Hinteralfeld 82.33 332 *e*P **P 17 35 06.4 -1.1**
EIL Elat 82.49 303 P **P 17 35 07.8 -0.8**
EIL Elat 82.49 303 P **P 17 35 07.8 -0.8**
comp=Z,2.5nm,0.7s,baz=79,slow=5.2,SNR=4.0
SFTF Sexfontaines 82.62 333 *e*P **P 17 35 08.1 -0.8**
SFTF Sexfontaines 82.62 333 *e*P **P 17 35 08.1 -0.8**
CABF La Chapelle 83.63 332 *e*P **P 17 35 13.4 -0.9**
CABF La Chapelle 83.63 332 *e*P **P 17 35 13.4 -0.9**
CABF La Chapelle 83.63 332 *e*P **P 17 35 13.4 -0.9**
LOR Lormes 83.83 333 *e*P **P 17 35 14.2 -1.0**
comp=Z,10nm,0.9s
LOR *e*R
comp=Z,94nm,19.8s
LOR Lormes 83.83 333 *e*P **P 17 35 14.2 -1.0**
SSF Saint Saulge 84.12 333 *e*P **P 17 35 15.8 -0.9**
comp=Z,5.1nm,0.7s
SSF Saint Saulge 84.12 333 *e*P **P 17 35 15.8 -0.9**
SSF Saint Saulge 84.12 333 *e*P **P 17 35 15.8 -0.9**
LPL La Plagne 84.33 331 *e*P **P 17 35 17.2 -0.9**
comp=Z,7.5nm,1.0s
LPL La Plagne 84.33 331 *e*P **P 17 35 17.2 -0.9**
LPL La Plagne 84.33 331 *e*P **P 17 35 17.2 -0.9**
LPG La Plagne 84.34 331 *e*P **P 17 35 17.3 -0.9**
comp=Z,8.9nm,0.8s
LPG La Plagne 84.34 331 *e*P **P 17 35 17.3 -0.9**
LPG La Plagne 84.34 331 *e*P **P 17 35 17.3 -0.9**
SMF Signal de Mont 84.38 333 *e*P **P 17 35 17.3 -0.7**
comp=Z,8.2nm,0.7s
SMF Signal de Mont 84.38 333 *e*P **P 17 35 17.3 -0.7**
SMF Signal de Mont 84.38 333 *e*P **P 17 35 17.3 -0.7**
AVF Avril sur Loir 84.41 333 *e*P **P 17 35 17.4 -0.7**
comp=Z,12nm,0.8s
AVF Avril sur Loir 84.41 333 *e*P **P 17 35 17.4 -0.7**
AVF Avril sur Loir 84.41 333 *e*P **P 17 35 17.4 -0.7**
MBDF Montbardon 84.99 330 *e*P **P 17 35 19.9 -1.4**
comp=Z,7.8nm,0.9s
MBDF Montbardon 84.99 330 *e*P **P 17 35 19.9 -1.4**
MBDF Montbardon 84.99 330 *e*P **P 17 35 19.9 -1.4**
ORIF Oris-en-Rattie 85.16 331 *e*P **P 17 35 21.1 -1.0**
comp=Z,7.9nm,0.8s
ORIF *e*R
comp=Z,74nm,18.8s

ORIF	Oris-en-Rattie	85.16 331	*e*P	P	17 35 21.1	-1.0
ORIF	Oris-en-Rattie	85.16 331	*e*P	P	17 35 21.1	-1.0
TCF	Toulx Ste Croi	85.23 334	*e*P	P	17 35 21.9	-0.4
TCF	Toulx Ste Croi	85.23 334	*e*P	P	17 35 21.9	-0.4
TCF	Toulx Ste Croi	85.23 334	*e*P	P	17 35 21.9	-0.4
PMOR	Pomariorio Ree	85.29 115	*e*T	T	19 09 07.2	
	comp=Z,31nm,0.2s					
VIVF	Saint-Julien-l	85.64 332	*e*P	P	17 35 23.4	-1.0
	comp=Z,7.8nm,0.8s					
VIVF	Saint-Julien-l	85.64 332	*e*P	P	17 35 23.4	-1.0
VIVF	Saint-Julien-l	85.64 332	*e*P	P	17 35 23.4	-1.0
MFF	Saint Martin d	85.70 335	*e*P	P	17 35 24.4	-0.2
	comp=Z,21nm,1.0s					
MFF	Saint Martin d	85.70 335	*e*P	P	17 35 24.4	-0.2
MFF	Saint Martin d	85.70 335	*e*P	P	17 35 24.4	-0.2
PPT	Papeete	86.01 118	LR	LR	18 06 31.2	
	comp=Z,111nm,19.6s,baz=320,slow=30					
PPT2	Papeete2	86.02 118	*e*LR	LR	18 02 39.8	
	comp=Z,95nm,24.2s					
FRF	La Foret Royal	86.04 330	*e*P	P	17 35 25.1	-1.2
FRF	La Foret Royal	86.04 330	*e*P	P	17 35 25.1	-1.2
FRF	La Foret Royal	86.04 330	*e*P	P	17 35 25.1	-1.2
SMRF	Simiane la Rot	86.08 331	*e*P	P	17 35 25.5	-1.1
	comp=Z,9.1nm,0.9s					
SMRF	Simiane la Rot	86.08 331	*e*P	P	17 35 25.5	-1.1
TXAR	Lajitas Array	86.18 53	P	P	17 35 27.5	+0.1
TXAR	Lajitas Array	86.18 53	P	P	17 35 27.5	+0.1
	comp=Z,1.9nm,0.6s,baz=299,slow=3.5,SNR=21					
LMR	La Mourre	86.28 330	*e*P	P	17 35 26.7	-0.8
	comp=Z,28nm,1.1s					
LMR	La Mourre	86.28 330	*e*P	P	17 35 26.7	-0.8
LMR	La Mourre	86.28 330	*e*P	P	17 35 26.7	-0.8
ETSF	Etsaut	89.15 334	*e*P	P	17 35 41.5	+0.1
	comp=Z,7.5nm,0.9s					
ETSF	Etsaut	89.15 334	*e*P	P	17 35 41.5	+0.1
ETSF	Etsaut	89.15 334	*e*P	P	17 35 41.5	+0.1
TBI	Tubuai	90.25 122	*e*LR	LR	18 04 30.8	
	comp=Z,60nm,23.2s					
TBI	Tubuai	90.25 122	*e*T	T	19 15 18.5	
	comp=Z,14nm,0.3s					
KEST	Kesra	91.58 324	LR	LR	18 20 28.5	
	comp=Z,33nm,18.4s,baz=270,slow=38					
ESDC	Sonseca Array	93.16 335	P	P	17 35 59.8	-0.2
ESDC	Sonseca Array	93.16 335	P	P	17 35 59.8	-0.2
	comp=Z,0.2nm,0.3s,baz=38,slow=5.5,SNR=4.2					
TORD	Torodi Ar. Bea	114.38 318	PKP	PKPdf	17 41 24.6	-1.3
TORD	Torodi Ar. Bea	114.38 318	PKP	PKPdf	17 41 24.6	-1.3
	comp=Z,0.7nm,0.7s,baz=24,slow=1.9,SNR=4.5					
DBIC	Dimbokro	123.17 321	PKP	**PKPdf**	**17 41 41.6**	**-1.3**
DBIC	Dimbokro	123.17 321	PKP	**PKPdf**	**17 41 41.6**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=0.0,slow=1.0,SNR=5.7					
SNAA	Sanae	145.94 199	*e*PKP	**PKPdf**	**17 42 23.5**	**+0.1**
VNA2	Neumayer--Watz	147.51 198	*e*PKP	**PKPdf**	**17 42 26.7**	**+0.7**
BDFB	Brasilia	151.99 23	PKPbc	**PKPbc**	**17 42 41.5**	**+0.2**
BDFB	Brasilia	151.99 23	PKPbc	**PKPbc**	**17 42 41.5**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=236,slow=2.6,SNR=6.9					

*DDA **24** 17:28:16.1,38°.93N×25°.85E,h41km, MD3.2*
*ATH **24** 17:28:17.0,38°.95N×25°.99E,h23km±1km, MD3.6/25, ML2.9*
*ISCJB **24** 17:28:17.0±0.5,38°.93N±0°.01×25°.93E±0°.02,h6km±4km, Error ellipse: s-maj=2.6km s-min=2.4km az=36.8*
*CSEM **24** 17:28:17.4±0.1,38°.90N×25°.95E,h5km, ML2.8/3, Error ellipse: s-maj=2.4km s-min=2.2km az=169.0*
*ISK **24** 17:28:18.3,38°.88N×26°.04E,h16km, MD3.6*
*THE **24** 17:28:18.2,38°.96N×26°.01E,h11km±1km, ML2.8/3, Error ellipse: s-maj=2.1km s-min=0.7km az=98.0*

ISC 24 17:28:17.8±1.0,38°.93N±0°.01×25°.98E±0°.02,h11km±8km, n184,σ0°85/239,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.39**	**36**	P	**Pg**	**17 28 24.8**	**-0.7**
PRK				S	**Sg**	**17 28 30.0**	**-0.6**
PRK	**Paraskevi**	**0.39**	**36**	*e*PB	**Pg**	**17 28 24.8**	**-0.7**
PRK				*e*SB	**Sg**	**17 28 30.8**	**+0.2**
PRK	**Paraskevi**	**0.39**	**36**	P	**Pg**	**17 28 24.8**	**-0.7**
PRK				*e*Sb	**Sg**	**17 28 30.8**	**+0.2**
CHOS	**Chios island**	**0.55**	**174**	P	**Pg**	**17 28 28.6**	**+0.2**
CHOS				S	**Sg**	**17 28 36.9**	**+1.2**
CHOS	**Chios island**	**0.55**	**174**	*e*PN	**Pg**	**17 28 28.6**	**+0.2**
CHOS				*e*SN	**Sg**	**17 28 36.8**	**+1.1**
CHOS	**Chios island**	**0.55**	**174**	P	**Pg**	**17 28 28.6**	**+0.2**
CHOS				*e*Sn	**Sg**	**17 28 36.8**	**+1.1**
AYVA	**Ayvalik**	**0.67**	**56**	*i* P	**Pg**	**17 28 30.0**	**-0.7**
AYVA				*i* S	**Sn**	**17 28 42.9**	**-0.7**
AYVA	**Ayvalik**	**0.67**	**56**	*i* P	**Pg**	**17 28 30.0**	**-0.7**
AYVA				*i* S	**Sn**	**17 28 42.9**	**-0.7**
URLA	**Izmir**	**0.75**	**140**	*i* P	**Pg**	**17 28 31.3**	**-0.9**
URLA				*i* S	**Sn**	**17 28 44.9**	**-0.7**
URLA	**Izmir**	**0.75**	**140**	*i* P	**Pg**	**17 28 31.3**	**-0.9**
URLA				*i* S	**Sn**	**17 28 44.9**	**-0.7**
BOZC	**Bozcaada**	**0.91**	**4**	*i* P	**Pg**	**17 28 34.5**	**-0.9**
BOZC				*i* S	**Sb**	**17 28 47.7**	**0.0**
IZM	**Izmir**	**1.14**	**118**	*e*PG	**Pb**	**17 28 38.8**	**-0.7**
IZM				*e*SG	**Sg**	**17 28 54.6**	**+0.2**
IZM	**Izmir**	**1.14**	**118**	*e*Pg	**Pb**	**17 28 38.8**	**-0.7**
IZM				*e*Sg	**Sg**	**17 28 54.6**	**+0.2**
LIA	**Limnos Island**	**1.15**	**328**	P	**Pb**	**17 28 39.4**	**-0.2**
LIA				S	**Sg**	**17 28 55.1**	**+0.4**
LIA	**Limnos Island**	**1.15**	**328**	*e*PN	**Pb**	**17 28 39.3**	**-0.3**
LIA	**Limnos Island**	**1.15**	**328**	P	**Pb**	**17 28 39.4**	**-0.2**
LIA				S	**Sg**	**17 28 55.1**	**+0.4**
SMG	**Samos**	**1.40**	**151**	P	**Pn**	**17 28 42.3**	**-0.9**
SMG				S	**Sg**	**17 29 02.7**	**0.0**
SMG	**Samos**	**1.40**	**151**	*e*PB	**Pn**	**17 28 42.5**	**-0.7**
SMG				*e*SN	**Sg**	**17 29 03.3**	**+0.6**
SMG	**Samos**	**1.40**	**151**	*e*Pb	**Pn**	**17 28 42.5**	**-0.7**
SMG				S	**Sg**	**17 29 02.7**	**0.0**
SMG				*e*Sn	**Sg**	**17 29 03.3**	**+0.6**
AKHS	**Akhisar**	**1.43**	**92**	*i* P	**Pn**	**17 28 43.5**	**-0.2**
AKHS				*i* S	**Sg**	**17 29 04.7**	**+0.8**
AKHS	**Akhisar**	**1.43**	**92**	*i* P	**Pn**	**17 28 43.5**	**-0.2**
AKHS				*i* S	**Sg**	**17 29 04.7**	**+0.8**
BALY	**Balya**	**1.51**	**57**	*i* P	**Pn**	**17 28 44.1**	**-0.7**
BALY				*i* S	**Sg**	**17 29 07.1**	**+0.9**
BALY	**Balya**	**1.51**	**57**	*i* P	**Pn**	**17 28 44.1**	**-0.7**
BALY				*i* S	**Sg**	**17 29 07.1**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.51**	**14**	*e*PN	**Pn**	**17 28 45.2**	**+0.4**
GELI				*e*SN	**Sg**	**17 29 06.5**	**0.0**
LPK	**Lapseki**	**1.56**	**22**	*e*PN	**Pb**	**17 28 47.1**	**+0.4**
LPK				*e*SN	**Sb**	**17 29 07.2**	**+0.7**
SMTH	**Samothraki Isl**	**1.58**	**347**	P	**Pn**	**17 28 45.2**	**-0.5**
SMTH				S	**Sn**	**17 29 05.0**	**-1.1**
SMTH	**Samothraki Isl**	**1.58**	**347**	*e*PN	**Pn**	**17 28 45.2**	**-0.5**
SMTH				*e*SN	**Sn**	**17 29 06.5**	**+0.4**
SMTH	**Samothraki Isl**	**1.58**	**347**	P	**Pn**	**17 28 45.2**	**-0.5**
SMTH				S	**Sn**	**17 29 05.0**	**-1.1**
SMTH				*e*Sn	**Sn**	**17 29 06.5**	**+0.4**
BALB	**Balikesir**	**1.64**	**64**	*e*PN	**Pn**	**17 28 46.0**	**-0.5**
BALB				*e*SN	**Sn**	**17 29 07.2**	**-0.3**
BALB	**Balikesir**	**1.64**	**64**	*e*Pn	**Pn**	**17 28 46.0**	**-0.5**
BALB				*e*Sn	**Sn**	**17 29 07.2**	**-0.3**
AOS	**Alonnisos**	**1.65**	**279**	P	**Pn**	**17 28 46.6**	**-0.1**
AOS				S	**Sn**	**17 29 08.2**	**+0.3**
AOS	**Alonnisos**	**1.65**	**279**	*e*PN	**Pn**	**17 28 47.1**	**+0.4**
AOS	**Alonnisos**	**1.65**	**279**	P	**Pn**	**17 28 46.6**	**-0.1**
AOS	**Alonnisos**	**1.65**	**279**	*e*Pn	**Pn**	**17 28 47.1**	**+0.4**
AOS				S	**Sn**	**17 29 08.2**	**+0.3**
GONE	**Gonen-Balikesi**	**1.73**	**49**	*e*PN	**Pn**	**17 28 47.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.73**	**49**	*e*Pn	**Pn**	**17 28 47.6**	**-0.1**
ERET	**Eretria**	**1.77**	**255**	P	**Pn**	**17 28 48.2**	**-0.2**
ERET	**Eretria**	**1.77**	**255**	P	**Pn**	**17 28 48.2**	**-0.2**
KRBG	**Karabiga-Canak**	**1.78**	**34**	*e*PN	**Pn**	**17 28 48.7**	**+0.2**
PTL	**Penteli**	**1.88**	**243**	P	**Pn**	**17 28 49.4**	**-0.5**
PTL				S	**Sb**	**17 29 15.6**	**0.0**
PTL	**Penteli**	**1.88**	**243**	*e*PB	**Pn**	**17 28 49.6**	**-0.3**
PTL	**Penteli**	**1.88**	**243**	*e*Pb	**Pn**	**17 28 49.6**	**-0.3**
PTL				S	**Sb**	**17 29 15.6**	**0.0**
MRKA	**Markates**	**1.88**	**264**	P	**Pn**	**17 28 49.7**	**-0.2**
MRKA	**Markates**	**1.88**	**264**	P	**Pn**	**17 28 49.7**	**-0.2**
APE	**Apeiranthos**	**1.89**	**191**	*e*PN	**Pn**	**17 28 50.0**	**-0.1**
APE	**Apeiranthos**	**1.89**	**191**	P	**Pn**	**17 28 49.3**	**-0.8**
APE				S	**Sn**	**17 29 14.2**	**+0.3**
APE	**Apeiranthos**	**1.89**	**191**	*e*PB	**Pn**	**17 28 49.7**	**-0.4**
APE				*e*SN	**Sb**	**17 29 16.0**	**0.0**
APE	**Apeiranthos**	**1.89**	**191**	P	**Pn**	**17 28 49.3**	**-0.8**
APE	**Apeiranthos**	**1.89**	**191**	*e*Pb	**Pn**	**17 28 49.7**	**-0.4**
APE	**Apeiranthos**	**1.89**	**191**	*e*Pn	**Pn**	**17 28 50.0**	**-0.1**
APE				S	**Sn**	**17 29 14.2**	**+0.3**
APE				*e*Sn	**Sb**	**17 29 16.0**	**0.0**
AYDN	**Tasoluk**	**1.96**	**130**	*i* P	**Pn**	**17 28 50.9**	**-0.1**
AYDN				*i* S	**Sg**	**17 29 22.3**	**+1.5**
AYDN	**Tasoluk**	**1.96**	**130**	*i* P	**Pn**	**17 28 50.9**	**-0.1**
ALN	**Alexandroupoli**	**1.96**	**1**	P	**Pn**	**17 28 50.7**	**-0.3**
ALN				S	**Sn**	**17 29 15.7**	**+0.1**
ALN	**Alexandroupoli**	**1.96**	**1**	P	**Pn**	**17 28 50.7**	**-0.3**
ALN				S	**Sn**	**17 29 15.7**	**+0.1**
SKIA	**Skiathos**	**1.97**	**278**	P	**Pn**	**17 28 51.2**	**+0.1**
SKIA	**Skiathos**	**1.97**	**278**	P	**Pn**	**17 28 51.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.98**	**27**	*e*PN	**Pn**	**17 28 52.7**	**+1.4**
RKY	**Sarkoy-Tekirda**	**1.98**	**27**	*e*Pn	**Pn**	**17 28 52.7**	**+1.4**
ATH	**Athens Observa**	**2.02**	**242**	*e*PN	**Pn**	**17 28 52.8**	**+1.1**
PAIG	**Paliouri**	**2.04**	**300**	P	**Pn**	**17 28 52.2**	**+0.2**
PAIG	**Paliouri**	**2.04**	**300**	*e*PN	**Pn**	**17 28 52.3**	**+0.2**
PAIG	**Paliouri**	**2.04**	**300**	P	**Pn**	**17 28 52.2**	**+0.2**
OUR	**Ouranopolis**	**2.08**	**313**	P	**Pn**	**17 28 53.0**	**+0.4**
OUR				S	**Sn**	**17 29 18.3**	**-0.2**
OUR	**Ouranopolis**	**2.08**	**313**	P	**Pn**	**17 28 53.0**	**+0.4**
OUR				S	**Sn**	**17 29 18.3**	**-0.2**
MFT	**Murefte**	**2.11**	**28**	*e*PN	**Pb**	**17 28 55.0**	**-1.0**
MFT	**Murefte**	**2.11**	**28**	*e*Pn	**Pb**	**17 28 55.0**	**-1.0**
KULA	**Kula-Manisa**	**2.14**	**100**	*e*PN	**Pn**	**17 28 54.0**	**+0.5**
KULA	**Kula-Manisa**	**2.14**	**100**	*e*Pn	**Pn**	**17 28 54.0**	**+0.5**
BODT	**Bodrum**	**2.14**	**150**	*e*PN	**Pn**	**17 28 53.3**	**-0.2**
BODT	**Bodrum**	**2.14**	**150**	*e*Pn	**Pn**	**17 28 53.3**	**-0.2**
DST	**Dursunbey**	**2.16**	**71**	*e*PN	**Pn**	**17 28 54.4**	**+0.7**
DST	**Dursunbey**	**2.16**	**71**	*e*Pn	**Pn**	**17 28 54.4**	**+0.7**
SMIA	**Simia**	**2.16**	**269**	P	**Pn**	**17 28 53.9**	**+0.2**
SMIA	**Simia**	**2.16**	**269**	P	**Pn**	**17 28 53.9**	**+0.2**
MLSB	**Milas**	**2.16**	**138**	*e*PN	**Pn**	**17 28 53.7**	**-0.1**
MLSB	**Milas**	**2.16**	**138**	*e*Pn	**Pn**	**17 28 53.7**	**-0.1**
XOR	**Xorichti**	**2.21**	**282**	P	**Pn**	**17 28 54.1**	**-0.3**
XOR	**Xorichti**	**2.21**	**282**	P	**Pn**	**17 28 54.1**	**-0.3**
RDO	**Rodhopi**	**2.24**	**351**	P	**Pn**	**17 28 54.6**	**-0.1**
RDO	**Rodhopi**	**2.24**	**351**	*e*PN	**Pn**	**17 28 54.7**	**0.0**
RDO	**Rodhopi**	**2.24**	**351**	*e*Pn	**Pn**	**17 28 54.7**	**0.0**
KCTX	**Karacabey (Bur**	**2.27**	**53**	*e*PN	**Pn**	**17 28 55.0**	**-0.2**
KCTX	**Karacabey (Bur**	**2.27**	**53**	*e*Pn	**Pn**	**17 28 55.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.28**	**240**	*e*PB	**Pn**	**17 28 56.7**	**+1.3**
NAIG	**Nisos Aigina**	**2.28**	**240**	*e*Pb	**Pn**	**17 28 56.7**	**+1.3**
KAVA	**Kavala**	**2.35**	**332**	P	**Pn**	**17 28 56.4**	**+0.1**
KAVA				S	**Sn**	**17 29 23.6**	**-1.5**
KAVA	**Kavala**	**2.35**	**332**	P	**Pn**	**17 28 56.4**	**+0.1**
KAVA				S	**Sn**	**17 29 23.6**	**-1.5**
TKR	**Tekirdag**	**2.38**	**30**	*e*PN	**Pn**	**17 28 58.2**	**+1.5**
TKR	**Tekirdag**	**2.38**	**30**	*e*Pn	**Pn**	**17 28 58.2**	**+1.5**
ORLT	**Orhaneli**	**2.52**	**63**	*e*PN	**Pn**	**17 29 00.1**	**+1.5**
ORLT	**Orhaneli**	**2.52**	**63**	*e*Pn	**Pn**	**17 29 00.1**	**+1.5**
LTK	**Loutraki**	**2.53**	**250**	P	**Pn**	**17 28 59.0**	**+0.2**
LTK	**Loutraki**	**2.53**	**250**	P	**Pn**	**17 28 59.0**	**+0.2**
DAT	**Datca**	**2.54**	**150**	*e*PN	**Pn**	**17 28 58.7**	**-0.3**
DAT	**Datca**	**2.54**	**150**	*e*Pn	**Pn**	**17 28 58.7**	**-0.3**
YER	**Yerkesik**	**2.56**	**134**	*e*PN	**Pn**	**17 28 59.3**	**+0.1**
YER	**Yerkesik**	**2.56**	**134**	*e*Pn	**Pn**	**17 28 59.3**	**+0.1**
THR3	**Thira Island,**	**2.56**	**190**	P	**Pn**	**17 28 58.7**	**-0.5**
THR3	**Thira Island,**	**2.56**	**190**	P	**Pn**	**17 28 58.7**	**-0.5**
DID	**Didima**	**2.59**	**237**	P	**Pn**	**17 28 59.4**	**-0.1**
DID	**Didima**	**2.59**	**237**	*e*PN	**Pn**	**17 28 59.5**	**-0.1**
DID	**Didima**	**2.59**	**237**	*e*Pn	**Pn**	**17 28 59.5**	**-0.1**
DNZL	**Cakiroluk**	**2.71**	**116**	*i* P	**Pn**	**17 29 01.8**	**+0.3**
DNZL	**Cakiroluk**	**2.71**	**116**	*i* P	**Pn**	**17 29 01.8**	**+0.3**
DSF	**Desfina**	**2.75**	**260**	P	**Pn**	**17 29 01.7**	**-0.2**
DSF	**Desfina**	**2.75**	**260**	P	**Pn**	**17 29 01.7**	**-0.2**
ARMT	**Armutlu**	**2.76**	**53**	*e*PN	**Pn**	**17 29 03.6**	**+1.7**
HORT	**Hortiatis**	**2.77**	**308**	P	**Pn**	**17 29 02.8**	**+0.6**
HORT				S	**Sn**	**17 29 35.1**	**-0.6**
HORT	**Hortiatis**	**2.77**	**308**	P	**Pn**	**17 29 02.8**	**+0.6**
HORT				S	**Sn**	**17 29 35.1**	**-0.6**
KHL	**Karahalli**	**2.84**	**101**	*e*PN	**Pn**	**17 29 04.3**	**+1.2**
KHL	**Karahalli**	**2.84**	**101**	*e*Pn	**Pn**	**17 29 04.3**	**+1.2**
AGG	**Agios Georgios**	**2.84**	**273**	*e*PN	**Pn**	**17 29 03.7**	**+0.6**
AGG	**Agios Georgios**	**2.84**	**273**	*e*Pn	**Pn**	**17 29 03.7**	**+0.6**
SRS	**Serrai**	**2.85**	**321**	P	**Pn**	**17 29 03.5**	**+0.3**
SRS				S	**Sn**	**17 29 37.0**	**-0.5**
SRS	**Serrai**	**2.85**	**321**	P	**Pn**	**17 29 03.5**	**+0.3**
SRS				S	**Sn**	**17 29 37.0**	**-0.5**
SLVT	**Silivri**	**2.86**	**36**	*e*PN	**Pn**	**17 29 05.2**	**+1.9**
SLVT	**Silivri**	**2.86**	**36**	*e*Pn	**Pn**	**17 29 05.3**	**+1.9**
GEMT	**Gemlik**	**2.90**	**58**	*e*PN	**Pn**	**17 29 05.7**	**+1.9**
NVR	**Nevrokopi**	**2.91**	**327**	P	**Pn**	**17 29 04.4**	**+0.4**
NVR				S	**Sn**	**17 29 37.3**	**-1.7**
NVR	**Nevrokopi**	**2.91**	**327**	*e*PN	**Pn**	**17 29 04.5**	**+0.4**
NVR				*e*SN	**Sn**	**17 29 37.9**	**-1.1**
NVR	**Nevrokopi**	**2.91**	**327**	P	**Pn**	**17 29 04.4**	**+0.4**
NVR				S	**Sn**	**17 29 37.3**	**-1.7**
EDRB	**Edirne**	**2.97**	**11**	*e*PN	**Pn**	**17 29 07.3**	**+2.5**
EDRB	**Edirne**	**2.97**	**11**	*e*Pn	**Pn**	**17 29 07.3**	**+2.5**
MAKR	**Makrakomi, Fth**	**3.00**	**273**	P	**Pn**	**17 29 06.0**	**+0.7**
MAKR	**Makrakomi, Fth**	**3.00**	**273**	P	**Pn**	**17 29 06.0**	**+0.7**
CTKS	**Kestanelik-??a**	**3.01**	**39**	*e*PN	**Pn**	**17 29 07.5**	**+2.2**
CTKS	**Kestanelik-??a**	**3.01**	**39**	*e*Pn	**Pn**	**17 29 07.5**	**+2.2**
GUR	**Goura**	**3.02**	**252**	P	**Pn**	**17 29 06.0**	**+0.3**
GUR	**Goura**	**3.02**	**252**	*e*PN	**Pn**	**17 29 05.8**	**+0.1**
GUR	**Goura**	**3.02**	**252**	*e*Pn	**Pn**	**17 29 05.8**	**+0.1**
KALE	**Kalithea**	**3.05**	**261**	*e*PN	**Pn**	**17 29 06.7**	**+0.7**
KALE	**Kalithea**	**3.05**	**261**	*e*Pn	**Pn**	**17 29 06.7**	**+0.7**
BUY	**Buyukada**	**3.08**	**51**	*e*PN	**Pn**	**17 29 07.8**	**+1.4**
BUY	**Buyukada**	**3.08**	**51**	*e*Pn	**Pn**	**17 29 07.8**	**+1.4**
YLV	**Yalova**	**3.08**	**57**	*e*PN	**Pn**	**17 29 08.6**	**+2.1**
BGKT	**Bogazkoy**	**3.10**	**43**	*e*PN	**Pn**	**17 29 08.4**	**+1.7**
BGKT	**Bogazkoy**	**3.10**	**43**	*e*Pn	**Pn**	**17 29 08.4**	**+1.7**
TRIZ	**Trizonia**	**3.11**	**261**	P	**Pn**	**17 29 07.3**	**+0.6**
TRIZ	**Trizonia**	**3.11**	**261**	*e*PN	**Pn**	**17 29 07.0**	**+0.3**
TRIZ	**Trizonia**	**3.11**	**261**	*e*Pn	**Pn**	**17 29 07.0**	**+0.3**
TRIZ	**Trizonia**	**3.11**	**261**	P	**Pn**	**17 29 07.3**	**+0.6**
KLV	**Kalavryta, Ach**	**3.13**	**255**	P	**Pn**	**17 29 07.2**	**+0.1**
KLV	**Kalavryta, Ach**	**3.13**	**255**	*e*PN	**Pn**	**17 29 07.6**	**+0.5**
KLV	**Kalavryta, Ach**	**3.13**	**255**	P	**Pn**	**17 29 07.2**	**+0.1**
KLV	**Kalavryta, Ach**	**3.13**	**255**	*e*Pn	**Pn**	**17 29 07.6**	**+0.5**
THL	**Klokotos Trika**	**3.14**	**283**	P	**Pn**	**17 29 08.1**	**+0.9**
THL	**Klokotos Trika**	**3.14**	**283**	*e*PN	**Pn**	**17 29 08.5**	**+1.3**
THL	**Klokotos Trika**	**3.14**	**283**	P	**Pn**	**17 29 08.1**	**+0.9**
THL	**Klokotos Trika**	**3.14**	**283**	*e*Pn	**Pn**	**17 29 08.5**	**+1.3**
ISK	**Istanbul-Kandi**	**3.18**	**47**	*e*PN	**Pn**	**17 29 09.7**	**+1.9**
ISK	**Istanbul-Kandi**	**3.18**	**47**	*e*Pn	**Pn**	**17 29 09.7**	**+1.9**
LAKA	**Lakka**	**3.21**	**259**	P	**Pn**	**17 29 08.8**	**+0.6**
LAKA	**Lakka**	**3.21**	**259**	*e*PN	**Pn**	**17 29 09.0**	**+0.8**
LAKA	**Lakka**	**3.21**	**259**	P	**Pn**	**17 29 08.8**	**+0.6**
EFP	**Efpalio**	**3.23**	**262**	P	**Pn**	**17 29 08.8**	**+0.4**
EFP	**Efpalio**	**3.23**	**262**	*e*PN	**Pn**	**17 29 09.1**	**+0.7**
EFP	**Efpalio**	**3.23**	**262**	P	**Pn**	**17 29 08.8**	**+0.4**
EFP	**Efpalio**	**3.23**	**262**	*e*Pn	**Pn**	**17 29 09.1**	**+0.7**
CAVI	**Cavuskoy**	**3.25**	**66**	*e*PN	**Pn**	**17 29 10.1**	**+1.4**
CAVI	**Cavuskoy**	**3.25**	**66**	*e*Pn	**Pn**	**17 29 10.1**	**+1.4**
KNT	**Kendrikon**	**3.25**	**314**	P	**Pn**	**17 29 08.9**	**+0.2**
KNT	**Kendrikon**	**3.25**	**314**	P	**Pn**	**17 29 08.9**	**+0.2**
ADVT	**Abdulvahap**	**3.27**	**61**	*e*PN	**Pn**	**17 29 10.5**	**+1.6**
VLI	**Veliai**	**3.27**	**228**	P	**Pn**	**17 29 08.7**	**-0.2**
VLI	**Veliai**	**3.27**	**228**	*e*PN	**Pn**	**17 29 08.8**	**-0.2**
VLI	**Veliai**	**3.27**	**228**	*e*Pn	**Pn**	**17 29 08.8**	**-0.2**
KLYT	**Kilyos**	**3.30**	**44**	*e*PN	**Pn**	**17 29 11.3**	**+2.0**
KLYT	**Kilyos**	**3.30**	**44**	*e*Pn	**Pn**	**17 29 11.3**	**+2.0**
HRT	**Hereke**	**3.41**	**55**	*e*PN	**Pn**	**17 29 12.4**	**+1.5**
HRT	**Hereke**	**3.41**	**55**	*e*Pn	**Pn**	**17 29 12.4**	**+1.5**
GRG	**Griva**	**3.41**	**307**	P	**Pn**	**17 29 12.2**	**+1.2**
GRG	**Griva**	**3.41**	**307**	P	**Pn**	**17 29 12.2**	**+1.2**
KYTH	**Kithira**	**3.53**	**222**	P	**Pn**	**17 29 12.5**	**-0.1**
KYTH	**Kithira**	**3.53**	**222**	*e*PN	**Pn**	**17 29 12.2**	**-0.4**
KYTH	**Kithira**	**3.53**	**222**	P	**Pn**	**17 29 12.5**	**-0.1**
IDI	**Anoyia**	**3.74**	**194**	P	**Pn**	**17 29 16.2**	**+0.7**
IDI	**Anoyia**	**3.74**	**194**	P	**Pn**	**17 29 16.2**	**+0.7**
LAST	**Lasithi**	**3.79**	**186**	*e*PN	**Pn**	**17 29 16.2**	**+0.1**
LAST	**Lasithi**	**3.79**	**186**	*e*Pn	**Pn**	**17 29 16.2**	**+0.1**
GULT	**Gulveren**	**3.81**	**65**	*e*PN	**Pn**	**17 29 18.2**	**+1.8**
VTS	**Vitosha**	**4.22**	**331**	P	**Pn**	**17 29 22.5**	**+0.4**
VTS				S	**Sn**	**17 30 11.2**	**-0.2**
VTS	**Vitosha**	**4.22**	**331**	P	**Pn**	**17 29 22.5**	**+0.4**
VTS				S	**Sn**	**17 30 11.2**	**-0.2**
BARS	**Barje**	**5.00**	**322**	⇑*i* Pn	**Pn**	**17 29 34.3**	**+1.5**
BOLS	**Boljevac**	**5.75**	**330**	*e*Pn	**Pn**	**17 29 42.9**	**-0.2**

IDC 24 17:34:21.1±3.1,5°.42S×147°.42E,h167km±39km,mb3.4/6, mb1 3.6/8,mb1mx3.4/19,mbtmp3.4/8,MS3.6/1,Ms1 3.6/1, ms1mx2.4/19,Error ellipse: s-maj=54.9km s-min=22.7km az=121.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.97**	**184**	P	Pn	17 35 23.5	+1.9
	6.4nm,0.3s,baz=10,slow=5.2,SNR=40						
PMG				S	Sn	17 36 08.2	-0.5
	11nm,0.3s,baz=220,slow=21,SNR=14						
WRA	**Warramunga Arr**	**19.25**	**220**	P	P	17 38 33.1	+0.2
	1.5nm,0.3s,baz=48,slow=12,SNR=63						
ASAR	**Alice Springs**	**22.33**	**214**	P	P	17 39 05.8	+0.4
	3.0nm,0.6s,baz=46,slow=8.8,SNR=37						
FITZ	**Fitzroy Crossi**	**24.73**	**238**	P	P	17 39 27.2	-0.1
	4.1nm,0.4s,baz=57,slow=8.8,SNR=37						
AFI	**Afiamalu**	**41.04**	**105**	LR	LR	17 55 16.5	
	comp=Z,64nm,18.3s,baz=211,slow=31						
SONM	**Songino Array**	**64.11**	**331**	P	P	17 44 37.9	+0.2
	0.3nm,0.6s,baz=141,slow=9.3,SNR=2.2						
MKAR	**Makanchi Array**	**77.32**	**320**	P	P	17 45 57.6	+0.2
	0.3nm,0.7s,baz=161,slow=5.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**78.75**	**328**	P	P	17 46 04.1	-0.9
	0.5nm,0.4s,baz=126,slow=7.4,SNR=3.2						
ILAR	**Eielson Array**	**84.78**	**23**	P	P	17 46 36.5	+0.1
	0.6nm,0.7s,baz=261,slow=4

FAKI	**Fak Fak**	5.77	49	P	S	18 06 32.2	-9.5
	baz=8.3,SNR=4.3						
MTN	**Manton Dam**	6.89	152	P	Pn	18 05 42.2	-0.5
	baz=2.1,SNR=9.5						
KDU	**Kakadu**	7.47	143	P	Pn	18 05 48.9	-0.7
	baz=2.9,SNR=9.1						
KNRA	**Kununurra**	8.95	174	P	Pn	18 06 07.5	+0.4
	baz=4.9,SNR=9.2						
FITZ	**Fitzroy Crossi**	11.52	191	P	P	18 06 39.1	+1.3
	0.3nm,0.3s,baz=13,slow=8.8,SNR=28						
FITZ				S	S	18 08 48.6	+2.3
	0.1nm,0.3s,baz=66,slow=18,SNR=2.3						
FITZ	**Fitzroy Crossi**	11.52	191	P	P	18 06 39.5	+1.7
	baz=8.3,SNR=6.9						
WRA	**Warramunga Arr**	14.57	155	P	P	18 07 11.9	+0.4
	1.2nm,0.3s,baz=333,slow=10,SNR=74						
WRA				S	S	18 09 45.2	-3.7
	baz=330,slow=20,SNR=2.6						
COEN	**Coen**	16.68	117	P	P	18 07 35.3	+0.9
	baz=13,SNR=14						
ASAR	**Alice Springs**	17.82	162	P	P	18 07 47.9	+1.3
	0.7nm,0.3s,baz=345,slow=11,SNR=95						
MKAR	**Makanchi Array**	66.84	328	P	P	18 14 16.6	+0.1
	0.1nm,0.4s,baz=122,slow=9.4,SNR=2.3						

*IDC **24** 18:08:20.3±2.3, 32°.24N×139°.65E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/26, mbtmp3.4/5, ML2.9/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/25, Error ellipse: s-maj=95.0km s-min=22.4km az=69.0*

*ISCJB **24** 18:08:22.1±0.8, 32°.72N±0°.04×140°.75E±0°.10, h65km±10km, mb3.4/3, Error ellipse: s-maj=13.7km s-min=7.3km az=173.6*

*JMA **24** 18:08:24.5±0.1, 32°.85N×140°.71E, h57km, M3.2*

ISC 24 18:08:23.5±2.0, 32°.74N±0°.09×140°.8E±0°.1, h55km±18km, n18, σ1°.13/23, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	0.86	293	P	Pn	18 08 40.0	+0.4
JHCJ				S	Sn	18 08 50.7	-0.7
JHJ2	**Mitsune**	0.86	296	P	Pn	18 08 40.1	+0.5
JHJ2				S	Sn	18 08 51.2	-0.2
BSO1	**Boso 1**	1.92	6	P	Pn	18 08 53.9	+0.7
JKO	**Kozu shima**	1.97	317	P	Pn	18 08 55.2	+0.7
JKO				eS	Sn	18 09 17.5	-0.6
BSO3	**Boso 3**	2.06	355	P	Pn	18 08 55.6	+0.1
BSO3				eS	Sn	18 09 19.0	-1.0
JIM2	**Oshima 3**	2.25	331	P	Pn	18 08 58.6	+0.2
JIM2				eS	Sn	18 09 23.8	-1.3
BSO4	**Boso 4**	2.27	351	eS	Sn	18 09 25.7	+0.5
JOD2	**Odawara 2**	2.87	332	P	Pn	18 09 07.3	+0.5
JOD2				S	Sn	18 09 37.5	-2.6
JHU	**Hanno**	3.33	339	P	Pn	18 09 13.9	+0.8
JHU				eS	Sn	18 09 49.9	-1.5
JRY	**Ryogami san**	3.61	335	P	Pn	18 09 18.7	+1.8
JAG	**Ashikaga**	3.83	344	P	Pn	18 09 20.7	+0.8
MJAR	**Matsushiro Arr**	4.33	332	Pn	Pn	18 09 29.0	+2.2
	0.6nm,0.3s,baz=147,slow=12,SNR=7.5						
MJAR				Sn	Sn	18 10 16.4	+0.4
	0.3nm,0.3s,baz=164,slow=18,SNR=3.2						
CBIJ	**Chichi jima**	5.76	167	Pn	Pn	18 09 44.9	-1.5
	baz=342,slow=20						
CBIJ				Sn	Sn	18 10 47.8	-3.5
	0.9nm,0.3s,baz=281,slow=18,SNR=2.6						
PMG	**Port Moresby**	42.35	171	LR	LR	18 29 25.4	
	comp=Z,94nm,21.7s,baz=215,slow=30						
MKAR	**Makanchi Array**	46.05	306	P	P	18 16 42.0	+0.3
	0.2nm,0.5s,baz=96,slow=7.6,SNR=3.1						
PSI	**Prapat**	49.20	242	LR	LR	18 35 49.6	
	comp=Z,89nm,19.9s,baz=262,slow=34						
WRA	**Warramunga Arr**	52.74	188	P	P	18 17 32.3	-0.6
	0.3nm,0.3s,baz=5.5,slow=7.5,SNR=10						
ASAR	**Alice Springs**	56.47	188	P	P	18 17 59.5	-0.3
	0.1nm,0.4s,baz=1.9,slow=6.7,SNR=7.9						

IDC 24 18:24:58.8±4.1, 3°.98N×76°.49W, h119km±31km, mb3.3/3, mb1 3.5/5, mb1mx3.2/23, mbtmp3.3/5, Error ellipse: s-maj=49.7km s-min=24.9km az=25.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	2.32	68	P	Pn	18 25 35.7	-1.0
	12nm,0.3s,baz=254,slow=21,SNR=9.6						
ROSC				S	Sn	18 26 06.5	+0.7
	18nm,0.3s,baz=252,slow=24,SNR=11						
TEIG	**Tepich**	19.82	326	P	P	18 29 19.5	-0.6
	0.2nm,0.3s,baz=180,slow=14,SNR=3.0						
YKA	**Yellowknife Ar**	64.82	342	P	P	18 35 24.5	-0.1
	0.8nm,0.5s,baz=137,slow=6.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	77.61	77	P	P	18 36 42.2	-0.5
	0.2nm,0.8s,baz=293,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	78.13	336	P	P	18 36 45.3	+0.8
	0.5nm,0.6s,baz=95,slow=5.5,SNR=4.4						
ASAR	**Alice Springs**	144.74	233	PKP	PKPab	18 44 21.1	-0.5
	0.6nm,0.7s,baz=120,slow=4.0,SNR=13						
WRA	**Warramunga Arr**	146.03	240	PKPbc	PKPbc	18 44 26.0	+0.2
	0.4nm,0.9s,baz=108,slow=3.1,SNR=4.9						

IDC 24 18:26:44.8±2.1, 21°.65N×143°.06E, h300km±20km, mb3.5/17, mb1 3.6/20, mb1mx3.6/29, mbtmp3.5/20, Error ellipse: s-maj=16.3km s-min=9.7km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	5.48	352	P	Pn	18 28 07.4	-0.5
	baz=252,slow=20						
CBIJ				S	S	18 29 12.6	-2.1
	baz=319,slow=19						
MJAR	**Matsushiro Arr**	15.43	345	P	P	18 30 07.1	+0.6
	0.7nm,0.3s,baz=168,slow=11,SNR=11						
MJAR				S	S	18 32 48.1	-5.8
	0.3nm,0.3s,baz=151,slow=18,SNR=3.4						
JNU	**Nakatsue**	15.72	319	P	Pn	18 30 11.2	-0.3
	0.8nm,0.3s,baz=118,slow=7.3,SNR=8.4						
KSRS	**Korea Array**	20.48	324	P	P	18 31 00.7	+0.2
	6.2nm,0.6s,baz=143,slow=9.0,SNR=49						
SONM	**Songino Array**	39.30	321	P	P	18 33 45.6	+0.3
	0.9nm,0.5s,baz=125,slow=7.2,SNR=15						
CMAR	**Chiang Mai Arr**	41.46	274	P	P	18 34 03.9	+0.6
	1.3nm,0.6s,baz=91,slow=6.3,SNR=15						
WRA	**Warramunga Arr**	42.21	192	P	P	18 34 08.8	-0.3
	0.8nm,0.4s,baz=6.9,slow=9.5,SNR=39						
FITZ	**Fitzroy Crossi**	43.03	205	P	P	18 34 15.7	0.0
	0.7nm,0.3s,baz=38,slow=9.9,SNR=7.8						
ASAR	**Alice Springs**	45.92	192	P	P	18 34 37.5	-0.8
	0.7nm,0.7s,baz=10,slow=7.4,SNR=12						
STKA	**Stephens Creek**	53.24	182	P	P	18 35 32.7	-0.4
	1.0nm,0.3s,baz=289,slow=16,SNR=4.0						
ZALV	**Zalesovo Beam**	54.17	322	P	P	18 35 39.0	-0.5
	2.4nm,0.6s,baz=101,slow=6.8,SNR=14						
ZALV				PcP	PcP	18 36 39.2	-0.7
	2.1nm,0.5s,baz=122,slow=3.9,SNR=9.5						
MKAR	**Makanchi Array**	54.64	313	P	P	18 35 43.3	+0.2
	1.0nm,0.3s,baz=90,slow=9.3,SNR=25						
MKAR				PcP	PcP	18 36 41.9	-0.1
	0.9nm,0.6s,baz=72,slow=4.7,SNR=8.2						
ILAR	**Eielson Array**	62.13	27	P	P	18 36 33.2	-1.0
	1.2nm,0.7s,baz=256,slow=4.6,SNR=7.0						
YKA	**Yellowknife Ar**	76.55	28	P	P	18 38 01.9	-0.1
	1.7nm,0.6s,baz=293,slow=5.9,SNR=4.9						
ARCES	**ARCESS Array B**	78.93	341	P	P	18 38 15.1	+0.1
	5.5nm,0.6s,baz=74,slow=8.9,SNR=26						
JOF	**Joensuu**	80.30	334	ep	P	18 38 21.7	-0.7
	4.7nm,0.3s						
KBZ	**Khabaz**	82.31	314	P	P	18 38 33.6	+0.3
	4.7nm,0.7s,baz=80,slow=1.8,SNR=11						
KAF	**Kangasniemi**	82.71	335	ep	P	18 38 33.8	-1.2
FINES	**FINESS Array B**	83.17	334	P	P	18 38 36.3	-1.1
	3.3nm,0.5s,baz=65,slow=4.8,SNR=33						
NVAR	**Mina Array Bea**	83.26	51	P	P	18 38 39.3	+0.7
	1.0nm,0.7s,baz=277,slow=5.3,SNR=7.9						
MIB	**Mutribah**	84.21	300	eP	P	18 38 43.0	-0.3
MIB				AMb	AMB	18 38 44.1	
	comp=Z,18nm,0.7s						
RDF	**Al-Radifah**	84.36	299	eP	P	18 38 44.1	+0.1
RDF				AMb	AMB	18 38 47.0	
	comp=Z,29nm,1.4s						
NAY	**Al-Naaiem**	84.49	299	eP	P	18 38 44.0	-0.7
NAY				AMb	AMB	18 38 47.0	
	comp=Z,0.6nm,1.0s						
AKASG	**Malin Array Be**	87.47	324	P	P	18 38 57.3	-1.4
	comp=Z,0.3nm,0.3s,baz=63,slow=5.0,SNR=2.6						
BRTR	**Keskin Array B**	90.29	313	P	P	18 39 11.1	-1.3
	comp=Z,0.7nm,0.7s,baz=99,slow=4.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	128.68	309	PKP	PKPdf	18 45 17.1	-0.2
	comp=Z,0.3nm,0.6s,baz=7.2,slow=1.7,SNR=7.0						
PLCA	**Paso Flores**	145.82	132	PKPbc	PKPbc	18 45 48.9	-0.3
	comp=Z,2.7nm,0.6s,baz=267,slow=4.2,SNR=5.9						
LPAZ	**La Paz**	150.06	85	PKPbc	PKPbc	18 46 02.4	+0.7
	comp=Z,2.6nm,0.6s,baz=283,slow=2.6,SNR=12						
LPAZ				PKPab	PKPab	18 46 09.3	+0.6
	comp=Z,0.6nm,0.4s,baz=342,slow=5.6,SNR=4.8						

IDC 24 18:30:47.3±2.9, 1°.68S×99°.17E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.5/6, Error ellipse: s-maj=119.2km s-min=20.7km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	20.01	359	P	P	18 35 21.3	-0.6
	0.5nm,0.7s,baz=184,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	38.87	120	P	P	18 38 14.2	-0.6
	0.5nm,0.4s,baz=302,slow=9.1,SNR=7.1						
ASAR	**Alice Springs**	40.12	126	P	P	18 38 25.4	+0.2
	0.4nm,0.6s,baz=302,slow=8.5,SNR=6.6						
SONM	**Songino Array**	49.71	6	P	P	18 39 42.2	+0.8
	0.1nm,0.3s,baz=199,slow=8.9,SNR=2.4						
MKAR	**Makanchi Array**	50.50	345	P	P	18 39 48.0	+0.8
	0.5nm,0.5s,baz=146,slow=8.8,SNR=7.3						
ZALV	**Zalesovo Beam**	56.70	350	P	P	18 40 30.9	-1.7
	0.6nm,0.5s,baz=202,slow=3.2,SNR=6.2						
TXAR	**Lajitas Array**	144.94	36	PKP	PKPdf	18 50 27.6	+0.1
	0.2nm,0.4s,baz=322,slow=0.7,SNR=3.7						

*IDC **24** 18:33:37.7±1.0, 45°.65S×166°.22E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/12, Error ellipse: s-maj=29.0km s-min=26.6km az=15.0*

*ISCJB **24** 18:33:38.9±1.3, 45°.62S±0°.05×166°.33E±0°.07, h19km±8km, mb3.4/3, Error ellipse: s-maj=9.0km s-min=8.0km az=43.2*

*NEIC **24** 18:33:39.7, 45°.65S×166°.40E, h12km, ML4.5(WEL), After WEL.*

*WEL **24** 18:33:40.7±0.3, 45°.64S×166°.43E, h20km±1km, ML4.5/18, Error ellipse: s-maj=2.9km s-min=1.0km az=90.0*

ISC 24 18:33:40.6±1.8, 45°.63S±0°.05×166°.45E±0°.07, h24km±12km, n52, σ1°.53/60, mb3.5/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	0.52	73	P*	Pb	18 33 50.6	-0.4
DCZ				S*	Sb	18 33 57.7	-0.4
DCZ				AML	AML	18 33 57.7	
DCZ				AML	AML	18 33 58.3	
DCZ				AML	AML	18 33 58.4	
DCZ	**Deep Cove**	0.52	73	P*	Pb	18 33 50.4	-0.7
DCZ				S*	Sb	18 33 57.7	-0.4
WHZ	**Wether Hill Ro**	1.08	105	PN	Pn	18 34 00.0	-0.3
WHZ				SN	Sb	18 34 15.3	+1.0
WHZ				AML	AML	18 34 21.7	
WHZ	**Wether Hill Ro**	1.08	105	P*	Pn	18 33 59.8	-0.5
WHZ				S*	Sb	18 34 15.3	+1.0
MLZ	**Mavora Lakes**	1.24	77	PN	Pn	18 34 02.2	-0.4
MLZ				SN	Sn	18 34 18.7	+0.1
MLZ				AML	AML	18 34 27.1	
MLZ	**Mavora Lakes**	1.24	77	P*	Pn	18 34 01.9	-0.7
MSZ	**Milford Sound**	1.42	48	PN	Pn	18 34 05.9	+1.0
MSZ				AML	AML	18 34 32.1	
MSZ				AML	AML	18 34 32.1	
MSZ				AML	AML	18 34 32.8	
MSZ				AML	AML	18 34 32.8	
MSZ	**Milford Sound**	1.42	48	Pn	Pn	18 34 05.1	+0.2
APZ	**The Paps**	1.61	139	PN	Pn	18 34 07.2	-0.4
APZ				SN	Sn	18 34 28.6	+1.0
APZ	**The Paps**	1.61	139	Pn	Pn	18 34 07.1	-0.4
WKZ	**Wanaka**	1.98	67	PN	Pn	18 34 14.6	+1.9
WKZ				AML	AML	18 34 46.7	
WKZ				AML	AML	18 34 46.7	
WKZ				AML	AML	18 34 50.7	
WKZ	**Wanaka**	1.98	67	Pn	Pn	18 34 14.8	+2.0
EAZ	**Earnscleugh**	2.05	80	PN	Pn	18 34 15.7	+2.1
EAZ				AML	AML	18 34 47.4	
EAZ				AML	AML	18 34 47.4	
EAZ				AML	AML	18 34 51.6	
EAZ				AML	AML	18 34 51.6	
EAZ	**Earnscleugh**	2.05	80	Pn	Pn	18 34 15.7	+2.1
SYZ	**Scrubby Hill**	2.08	117	PN	Pn	18 34 15.0	+1.0
SYZ	**Scrubby Hill**	2.08	117	Pn	Pn	18 34 15.3	+1.4
TUZ	**Tuapeka**	2.25	99	PN	Pn	18 34 18.2	+1.9
TUZ				AML	AML	18 34 50.9	
TUZ				AML	AML	18 34 55.1	
TUZ	**Tuapeka**	2.25	99	Pn	Pn	18 34 18.2	+1.9
JCZ	**Jackson Bay**	2.26	47	PN	Pb	18 34 20.3	-0.6
JCZ				AML	AML	18 35 00.1	
JCZ				AML	AML	18 35 00.9	
JCZ	**Jackson Bay**	2.26	47	Pn	Pb	18 34 20.2	-0.6
LBZ	**Lake Benmore**	2.92	66	PN	Pn	18 34 27.0	+1.3
LBZ				AML	AML	18 35 15.4	
LBZ				AML	AML	18 35 18.3	
LBZ	**Lake Benmore**	2.92	66	Pn	Pn	18 34 27.2	+1.5
ODZ	**Otahua Downs**	3.01	80	PN	Pn	18 34 27.6	+0.8
ODZ	**Otahua Downs**	3.01	80	Pn	Pn	18 34 27.6	+0.8
FOZ	**Fox Glacier**	3.10	49	PN	Pn	18 34 31.8	+3.7
FOZ				AML	AML	18 35 21.5	
FOZ				AML	AML	18 35 37.3	
FOZ	**Fox Glacier**	3.10	49	Pn	Pn	18 34 31.8	+3.7
RPZ	**Rata Peaks**	3.80	61	Pn	Pn	18 34 39.8	+2.1
RPZ				Sn	Sn	18 35 24.4	+2.7
RPZ	**Rata Peaks**	3.80	61	Pn	Pn	18 34 39.8	+2.1
	28nm,0.3s,baz=220,slow=4.7,SNR=39						
RPZ				Sn	Sn	18 35 24.4	+2.7
	34nm,0.3s,baz=13,slow=22,SNR=6.7						
RPZ				LR	LR	18 35 48.2	
	comp=Z,142nm,18.2s,baz=133,slow=33						
MQZ	**McQueen's Vall**	4.82	69	PN	Pn	18 34 51.7	+0.1
MQZ	**McQueen's Vall**	4.82	69	Pn	Pn	18 34 51.8	+0.1
LTZ	**Lake Taylor**	5.06	58	PN	Pn	18 34 56.6	+1.5
LTZ				AML	AML	18 35 59.9	
LTZ	**Lake Taylor**	5.06	58	Pn	Pn	18 34 56.6	+1.5
THZ	**Tophouse**	6.07	53	PN	Pn	18 35 09.5	+0.6
THZ				AML	AML	18 36 32.9	
THZ				AML	AML	18 36 36.7	
THZ	**Tophouse**	6.07	53	Pn	Pn	18 35 09.5	+0.6
QRZ	**Quartz Range**	6.54	45	PN	Pn	18 35 17.5	+2.2
QRZ	**Quartz Range**	6.54	45	Pn	Pn	18 35 16.8	+1.5
URZ	**Urewera**	10.82	51	Pn	Pn	18 36 16.0	+2.0
URZ				Sn	Sn	18 38 09.6	-4.7
URZ	**Urewera**	10.82	51	Pn	Pn	18 36 16.0	+2.0
	0.5nm,0.3s,baz=247,slow=7.7,SNR=3.2						
URZ				Sn	Sn	18 38 09.6	-4.7
	0.2nm,0.3s,baz=328,slow=15,SNR=1.8						
ASAR	**Alice Springs**	34.24	299	P	P	18 40 24.3	-0.3
ASAR	**Alice Springs**	34.24	299	P	P	18 40 24.3	-0.3
	0.6nm,1.0s,baz=135,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	36.80	303	P	P	18 40 46.1	-0.5
WRA	**Warramunga Arr**	36.80	303	P	P	18 40 46.1	-0.5
	0.4nm,0.7s,baz=141,slow=7.8,SNR=2.8						
QSPA	**South Pole Qui**	44.49	180	P	P	18 41 50.7	+0.9
QSPA	**South Pole Qui**	44.49	180	P	P	18 41 50.7	+0.9
	0.7nm,0.9s,baz=59,slow=2.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	145.13	207	PKPbc	PKPbc	18 53 15.3	-0.5
TORD	**Torodi Ar. Bea**	145.13	207	PKPbc	PKPbc	18 53 15.3	-0.5
	3.1nm,0.8s,baz=168,slow=2.3,SNR=17						
BRTR	**Keskin Array B**	145.22	277	PKPbc	PKPbc	18 53 15.8	+0.2
BRTR	**Keskin Array B**	145.22	277	PKPbc	PKPbc	18 53 15.8	+0.2
	1.2nm,0.8s,baz=138,slow=5.8,SNR=7.9						
ARCES	**ARCESS Array B**	149.16	334	PKPbc	PKPbc	18 53 26.1	+0.5
ARCES	**ARCESS Array B**	149.16	334	PKPbc	PKPbc	18 53 26.1	+0.5
	2.8nm,0.9s,baz=27,slow=4.2,SNR=3.5						
FINES	**FINESS Array B**	152.20	319	PKPbc	PKPbc	18 53 33.0	+0.1
FINES	**FINESS Array B**	152.20	319	PKPbc	PKPbc	18 53 33.0	+0.1
	1.4nm,0.7s,baz=96,slow=1.9,SNR=5.8						

IDC 24 18:43:50.5±3.4, 3°.51N×124°.30E, h349km±36km, mb3.4/11, mb1 3.4/11, mb1mx3.2/27, mbtmp3.4/11, Error ellipse: s-maj=27.5km s-min=10.5km az=83.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	13.64	183	P	Pn	18 46 53.2	+1.5
	2.8nm,0.3s,baz=97,slow=8.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	21.52	177	P	P	18 48 12.5	+0.1
	1.0nm,0.5s,baz=164,slow=12,SNR=17						
WRA	**Warramunga Arr**	25.31	157	P	P	18 48 46.0	-0.7
	0.3nm,0.4s,baz=338,slow=9.6,SNR=15						
WRA				PcP	PcP	18 52 09.1	-0.2
	0.4nm,0.5s,baz=328,slow=2.2,SNR=5.5						
ASAR	**Alice Springs**	28.59	161	P	P	18 49 15.7	-0.1
	0.2nm,0.5s,baz=338,slow=7.1,SNR=7.2						
ASAR				pP	pP	18 50 20.6	-0.2
	0.4nm,0.8s,baz=323,slow=9.8,SNR=3.2						
ASAR				PcP	PcP	18 52 16.8	-0.4
	0.3nm,0.3s,baz=358,slow=2.7,SNR=4.9						
CBIJ	**Chichi jima**	29.02	34	P	P	18 49 19.4	-0.2
	12nm,0.4s,baz=233,slow=20,SNR=4.2						
MJAR	**Matsushiro Arr**	35.28	20	P	P	18 50 13.2	-0.3
	1.3nm,0.7s,baz=198,slow=8.4,SNR=5.3						
NWAO	**Narrogin (SRO)**	36.85	190	P	P	18 50 26.5	-0.2
	14nm,1.1s,baz=37,slow=5.1,SNR=5.7						
STKA	**Stephens Creek**	38.85	156	P	P	18 50 43.9	+0.6
	5.0nm,1.0s,baz=333,slow=11,SNR=5.4						
STKA				PcP	PcP	18 52 46.1	-0.3
	3.5nm,1.0s,baz=280,slow=6.1,SNR=3.5						
SONM	**Songino Array**	46.77	343	P	P	18 51 46.3	+0.1
	0.2nm,0.5s,baz=154,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	56.37	326	P	P	18 52 56.9	+0.4
	1.2nm,0.4s,baz=122,slow=7.3,SNR=44						
MKAR				PcP	PcP	18 53 48.5	-0.5
	0.6nm,0.7s,baz=130,slow=3.8,SNR=4.8						
FINES	**FINESS Array B**	90.87	332	P	P	18 56 13.1	-1.7
	1.6nm,1.0s,baz=99,slow=8.9,SNR=4.4						
QSPA	**South Pole Qui**	93.42	180	P	P	18 56 26.8	+0.1
	1.5nm,1.1s,baz=318,slow=12,SNR=3.5						
TORD	**Torodi Ar. Bea**	120.68	287	PKP	PKPdf	19 02 01.3	-1.0
	0.2nm,0.4s,baz=45,slow=1.1,SNR=5.9						
TXAR	**Lajitas Array**	123.63	51	PKP	PKPdf	19 02 08.5	+0.7
	0.2nm,0.4s,baz=319,slow=3.7,SNR=3.2						

CASC 24 18:53:02.6±1.4, 13°.01N×89°.09W, h30km±3km, MD3.7, ML3.8, 6C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	0.61	3	↓iP	Pb	18 53 14.8	-0.2
SNVI	**San Vicente**	0.65	22	iP	Pb	18 53 15.4	-0.3
SNVI				eS	Sn	18 53 25.9	+0.6
SNET	**Serv Nac Est T**	0.69	349	↓iP	Pb	18 53 15.7	-0.5
SNET				eS	Sn	18 53 26.0	-0.1
SNET				AML	AML	18 53 28.6	
	comp=Z,3μm,0.2s						
LBRS	**Las Brisas**	0.72	4	↓iP	Pb	18 53 16.7	-0.2
LFU	**La Fuente**	0.73	358	↓iP	Pn	18 53 16.7	-0.3
LFU				eS	Sn	18 53 27.8	+0.5
BOQS	**Boqueron**	0.74	346	↑iP	Pn	18 53 17.0	-0.4
BOQS				eS	Sn	18 53 28.1	+0.2
VSM	**San Miguel**	0.90	62	↑iP	Pn	18 53 19.1	-0.4
BLLM	**Bellamira**	0.94	63	↓iP	Pn	18 53 19.4	-0.4
BLLM				eS	Sb	18 53 33.4	+0.8
SBLS	**San Blas**	0.97	328	↑iP	Pn	18 53 20.4	-0.1
SBLS				eS	Sb	18 53 34.5	+0.6
SNJE	**San Jose**	0.99	330	↑iP	Pn	18 53 20.4	-0.3
RTR	**El Retiro**	1.03	329	iP	Pn	18 53 21.3	0.0
CAHU	**Cacacuatique**	1.14	49	↑iP	Pn	18 53 22.4	-0.4
RBDL	**Robledal**	1.24	332	↓iP	Pn	18 53 23.8	-0.3
CNCH	**Conchagua**	1.25	78	iP	Pn	18 53 23.7	-0.5
IXG	**Ixpaco**	1.76	311	↑eP	Pn	18 53 31.5	+0.2
IXG				eS	Sn	18 53 52.2	-0.6
FUG	**Fuego 3**	2.22	310	eP	Pn	18 53 38.1	+0.5
FUG				eS	Sn	18 54 05.3	+1.1
JAT	**Jato**	2.79	298	eP	Pn	18 53 46.2	+0.9
JAT				eS	Sn	18 54 20.6	+2.6

*ISCJB **24** 18:54:41.1±0.5, 9°.1N±0°.1×58°.28E±0°.08, h10km, mb4.0/17, MS3.5/16, Error ellipse: s-maj=14.8km s-min=11.2km az=4.3*

*IDC **24** 18:54:41.6±0.6, 9°.04N×58°.33E, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.8/25, mbtmp3.8/13, MS3.5/17, Ms1 3.5/17, ms1mx3.4/39, Error ellipse: s-maj=20.3km s-min=16.9km az=155.0*

ISC 24 18:54:43.1±0.6, 9°.1N±0°.1×58°.3E±0°.1, h10km, n31, σ0°.93/21, mb4.0/17, MS3.6/16, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	15.39	280	LR	LR	19 03 32.4	
	comp=Z,47nm,18.5s,baz=34,slow=34						
TRD	**Trivandrum**	18.45	90	↑eP	P	18 58 58.4	-0.8
KMBO	**Kilima Mbogo**	23.29	245	P	P	18 59 52.1	+0.5
	4.5nm,0.9s,baz=39,slow=11,SNR=6.5						
KMBO			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.59**	**121**	P	P	19 48 60.0	-0.2
	0.3nm,0.6s,baz=297,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	**50.50**	**345**	P	P	19 50 34.9	-0.1
	0.2nm,0.6s,baz=162,slow=8.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.67**	**350**	P	P	19 51 19.9	-0.1
	0.3nm,0.4s,baz=170,slow=8.8,SNR=3.3						

IDC 24 19:42:53.5±3.4, 6°.62S×147°.33E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.8/3, ML2.6/1, Error ellipse: s-maj=106.4km s-min=33.1km az=86.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.77**	**183**	Pn	Pn	19 43 39.8	+0.5
	7.9nm,0.3s,baz=2.0,slow=11,SNR=20						
PMG				Sn	Sn	19 44 14.0	+0.5
	14nm,0.3s,baz=212,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**21.30**	**216**	P	P	19 47 41.8	-0.3
	0.6nm,0.4s,baz=52,slow=8.9,SNR=18						
STKA	**Stephens Creek**	**25.69**	**191**	P	P	19 48 25.6	+0.2
	4.2nm,1.0s,baz=13,slow=14,SNR=3.0						
TORD	**Torodi Ar. Bea**	**145.56**	**284**	PKPbc	PKPdf	20 02 34.1	-0.8
	0.3nm,0.7s,baz=60,slow=3.8,SNR=4.0						

*IDC **24** 19:53:44.9±6.5, 9°.33S×116°.61E, h79km±53km, mb3.3/5, mb1 3.6/8, mb1mx3.4/24, mbtmp3.5/8, ML3.8/3, Error ellipse: s-maj=85.3km s-min=19.3km az=63.0*

*ISCJB **24** 19:53:47.5±0.6, 9°.39S±0°.07×117°.03E±0°.05, h87km, mb3.6/4, Error ellipse: s-maj=11.3km s-min=5.8km az=25.4*

*AUST **24** 19:53:48.5±0.0, 9°.32S×117°.01E, h82km, Error ellipse: s-maj=1.2km s-min=1.0km az=353.0*

*DJA **24** 19:53:50.7±2.0, 9°S±17°×11°E±1°2, h86km±174km, M4.1/8, MLv4.1/8*

ISC 24 19:53:48.3±0.9, 9°27S±0°.08×117°.05E±0°.07, h87km, n27, σ1°94/20, mb3.7/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.07**	**306**	P	**Pn**	**19 54 09.7**	**+1.0**
DNP	**Denpasar**	**1.91**	**288**	P	**Pn**	**19 54 19.0**	**-0.3**
SRBI	**Singaraja**	**2.17**	**303**	P	**Pn**	**19 54 21.9**	**-0.7**
LBFI	**Labuhan Bajo,**	**2.91**	**75**	P	Pn	19 54 36.2	+3.6
WSI	**Waingapu**	**3.23**	**97**	P	Pn	19 54 41.9	+5.0
WSI	**Waingapu**	**3.23**	**97**	P	Pn	19 54 40.6	+3.8
	baz=3.3,SNR=5.5						
BSSI	**Bau Bau, Buton**	**4.61**	**48**	P	**Pn**	**19 54 57.9**	**+2.3**
BKSI	**Bulukumba**	**4.96**	**38**	P	**Pn**	**19 55 02.0**	**+1.5**
KAPI	**Kappang**	**5.00**	**33**	P	**Pn**	**19 55 02.0**	**+1.0**
KAPI	**Kappang**	**5.00**	**33**	P	**Pn**	**19 55 02.1**	**+1.0**
	6.2nm,0.3s,baz=212,slow=5.6,SNR=52						
KAPI				S	**Sn**	**19 55 57.0**	**-0.5**
	9.3nm,0.3s,baz=211,slow=22,SNR=20						
BATI	**Baumata**	**6.58**	**99**	P	**Pn**	**19 55 23.5**	**+0.9**
	3.1nm,0.3s,baz=266,slow=16,SNR=5.6						
BATI				S	**Sn**	**19 56 39.0**	**+2.8**
	0.7nm,0.3s,baz=328,slow=19,SNR=2.5						
UGM	**Wanagama**	**6.60**	**281**	P	**Pn**	**19 55 25.0**	**+2.2**
	baz=6.6,SNR=4.8						
SOEI	**Soe**	**7.13**	**95**	P	Pn	19 55 34.5	+4.3
	baz=7.2,SNR=6.0						
FITZ	**Fitzroy Crossi**	**12.11**	**137**	P	**Pn**	**19 56 36.3**	**-1.5**
	0.1nm,0.3s,baz=216,slow=14,SNR=15						
FITZ				S	Sn	19 58 42.3	-8.7
	0.3nm,0.3s,baz=180,slow=19,SNR=5.5						
FITZ	**Fitzroy Crossi**	**12.11**	**137**	P	**Pn**	**19 56 37.1**	**-0.7**
	baz=12,SNR=3.6						
FITZ				S	Sn	19 58 45.6	-5.3
	baz=12,SNR=4.4						
KNRA	**Kununurra**	**13.09**	**120**	P	**Pn**	**19 56 49.8**	**-1.0**
	baz=13,SNR=5.4						
MTN	**Manton Dam**	**14.27**	**106**	P	Pn	19 57 04.6	-1.7
	baz=14,SNR=5.1						
MTN				S	**S**	**19 59 57.4**	**-0.9**
	baz=14,SNR=4.4						
KDU	**Kakadu**	**15.51**	**104**	S	Sn	20 00 03.2	-10
	baz=16,SNR=5.1						
MEEK	**Meekatharra**	**17.34**	**175**	P	**P**	**19 57 48.7**	**+3.6**
	baz=17,SNR=4.4						
MEEK				S	Sn	20 00 43.4	-14
	baz=17,SNR=4.0						
PPI	**Padang Panjang**	**18.75**	**297**	P	P	19 57 46.8	-14
	baz=19,SNR=5.5						
MORW	**Morawa**	**19.72**	**183**	S	S	20 01 35.1	-14
	baz=20,SNR=3.8						
WRA	**Warramunga Arr**	**19.79**	**124**	P	**P**	**19 58 13.3**	**+1.4**
	1.7nm,0.5s,baz=301,slow=12,SNR=43						
WRA				S	S	20 01 44.1	-6.2
	0.1nm,0.3s,baz=293,slow=24,SNR=3.0						
ASAR	**Alice Springs**	**21.55**	**134**	P	**P**	**19 58 32.5**	**+1.6**
	1.2nm,0.7s,baz=313,slow=9.9,SNR=14						
SONM	**Songino Array**	**57.63**	**352**	P	**P**	**20 03 27.6**	**-1.9**
	0.4nm,0.6s,baz=174,slow=8.4,SNR=3.4						
MKAR	**Makanchi Array**	**63.84**	**334**	P	P	20 04 08.6	-3.0
	0.4nm,0.4s,baz=153,slow=6.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**68.62**	**340**	P	P	20 04 38.2	-3.8
	0.6nm,0.5s,baz=147,slow=4.9,SNR=4.1						
NVAR	**Mina Array Bea**	**122.67**	**50**	PKP	**PKPdf**	**20 12 31.1**	**-3.6**
	0.4nm,0.8s,baz=276,slow=4.4,SNR=3.1						

GUC 24 19:57:36.7±0.7, 23°.22S×70°.77W, h18km±16km, MD3.7, ML3.1, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	**Plate Boundary**	**0.35**	**146**	‖ *iP*	Pg	19 57 43.5	-0.7
PB10				*i* S	Sg	19 57 48.5	-0.8
PB10				AML	AML	19 57 49.3	
	comp=E,14μm,0.4s						
CEN1	**Los Morros**	**0.55**	**108**	⇑ *iP*	Pg	19 57 46.8	-1.1
CEN1				*e*S	Sg	19 57 53.7	-1.7
CEN1				AML	AML	19 57 58.4	
	comp=N,226nm,0.4s						
ANCH	**Antofagasta**	**0.57**	**145**	*e*P	Pg	19 57 46.5	-1.5
ANCH				*e*S	Sg	19 57 54.4	-1.2
PB04	**Plate Boundary**	**1.52**	**51**	*e*P	Pn	19 57 55.2	-7.8
PB04				*e*S	Sn	19 58 09.4	-13
PB04				AML	AML	19 58 13.1	
	comp=E,372nm,0.4s						
PB07	**Plate Boundary**	**1.69**	**29**	*e*P	Pn	19 58 04.7	-1.0
PB07				*e*S	Sn	19 58 26.5	-0.6
PB07				AML	AML	19 58 32.4	
	comp=E,346nm,0.4s						
PB09	**Plate Boundary**	**2.00**	**45**	*e*P	Pn	19 58 10.7	+0.8
PB09				*e*S	Sb	19 58 36.8	-0.7
PB09				AML	AML	19 58 41.0	
	comp=N,991nm,0.5s						
HMBC	**Humberstone**	**3.04**	**16**	*e*P	Pn	19 58 27.2	+3.0
MNMC	**Minimini**	**4.21**	**15**	*e*P	Pn	19 58 33.2	-7.3

IDC 24 20:28:33.1±1.4, 25°.67N×109°.87W, h0km, mb3.2/1, mb1 3.6/5, mb1mx3.5/27, mbtmp3.2/5, ML3.5/4, MS3.3/10, Ms1 3.3/10, ms1mx3.2/17, Error ellipse: s-maj=25.1km s-min=15.2km az=120.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.61**	**194**	Pn	Pn	20 29 03.2	+0.4
	7.8nm,0.3s,baz=253,slow=1.9,SNR=18						
LPIG				Sn	Sn	20 29 23.5	-0.9
	36nm,0.3s,baz=20,slow=5.1,SNR=8.1						
TXAR	**Lajitas Array**	**6.61**	**55**	Pn	Pn	20 30 12.5	+0.9
	0.3nm,0.3s,baz=231,slow=13,SNR=9.1						
TXAR				Sn	Sn	20 31 25.4	-2.4
	0.7nm,0.3s,baz=248,slow=24,SNR=3.9						
TXAR				Lg	Lg	20 32 00.3	
	1.3nm,0.3s,baz=230,slow=21,SNR=4.2						
ANMO	**Albuquerque**	**9.70**	**17**	Pn	Pn	20 30 55.8	+1.5
	0.2nm,0.3s,baz=198,slow=9.6,SNR=2.8						
ANMO				Lg	Lg	20 33 35.5	
	0.2nm,0.3s,baz=150,slow=17,SNR=2.7						
ANMO				LR	LR	20 35 11.5	
	comp=Z,131nm,19.7s,baz=67,slow=41						
PFO	**Pinyon Flat Ob**	**9.76**	**326**	LR	LR	20 34 33.3	
	comp=Z,93nm,18.8s,baz=146,slow=37						
NVAR	**Mina Array Bea**	**14.58**	**333**	Pn	Pn	20 32 01.7	+0.6
	0.1nm,0.3s,baz=149,slow=13,SNR=3.3						
CMIG	**Matias Romero**	**16.35**	**119**	LR	LR	20 38 26.4	
	comp=Z,141nm,20.5s,baz=205,slow=36						
PDAR	**Pinedale Array**	**17.05**	**1**	P	Pn	20 32 33.9	+0.6
	0.0nm,0.3s,baz=165,slow=11,SNR=6.9						
YBH	**Yreka Blue Hor**	**19.22**	**330**	LR	LR	20 39 48.7	
	comp=Z,34nm,20.7s,baz=329,slow=35						
TKL	**Tuckaleechee C**	**24.49**	**60**	P	P	20 33 57.9	+3.8
	7.1nm,0.5s,baz=252,slow=9.6,SNR=7.2						
TKL				LR	LR	20 44 41.8	
	comp=Z,82nm,19.0s,baz=248,slow=40						
BBB	**Bella Bella**	**29.87**	**337**	LR	LR	20 46 20.7	
	comp=Z,53nm,18.5s,baz=120,slow=36						
DLBC	**Dease Lake**	**35.70**	**342**	LR	LR	20 49 40.0	
	comp=Z,100nm,20.4s,baz=145,slow=36						
INK	**Inuvik**	**44.98**	**348**	LR	LR	20 57 31.5	
	comp=Z,72nm,19.7s,baz=18,slow=39						
ILAR	**Eielson Array**	**45.73**	**339**	P	P	20 36 56.2	+0.4
	0.4nm,0.8s,baz=156,slow=8.4,SNR=3.6						
ILAR				LR	LR	20 56 21.0	
	comp=Z,34nm,20.3s,baz=187,slow=36						
FRB	**Frobisher Bay**	**46.58**	**24**	LR	LR	20 59 05.8	
	comp=Z,49nm,19.3s,baz=262,slow=39						

MEX 24 20:32:06.4±1.1, 14°.79N×93°.70W, h18km±144km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.02**	**27**	*e*P	Pb	20 32 21.5	-4.0
PCIG				*i* S	Sb	20 32 34.3	-4.3
THIG		**1.39**	**85**	*i* P	Pn	20 32 27.1	-3.9
THIG				*i* S	Sn	20 32 43.9	-5.0
TGIG		**2.05**	**16**	*e*P	Pn	20 32 37.8	-2.3
TGIG				*e*S	Sn	20 33 01.5	-3.9
CCIG	**Comitan**	**2.11**	**45**	*e*P	Pn	20 32 39.0	-2.1
CCIG				*i* S	Sn	20 33 03.0	-4.1
CMIG	**Matias Romero**	**2.55**	**334**	*e*P	Pn	20 32 45.2	-1.7
CMIG				*i* S	Sn	20 33 13.2	-4.4
PNIG	**Pinotepa**	**4.55**	**291**	*e*P	Pn	20 33 12.4	-2.1
PNIG				*i* S	Sn	20 34 03.3	-3.7

*CSEM **24** 20:36:38.9, 41°.15N×20°.22E, h11km, ML2.6, After TIR*

TIR 24 20:36:38.9±2.2, 41°.15N×20°.22E, h11km±36km, ML2.6, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**306**	*i* PG	Pg	20 36 45.3	-0.4
TIR				*i* SG	Sg	20 36 50.5	+0.4
TIR	**Tirane**	**0.33**	**306**	*i* PG	Pg	20 36 44.8	-0.9
TIR				*i* SG	Sg	20 36 50.6	+0.5
TIR	**Tirane**	**0.33**	**306**	*i* Pg	Pg	20 36 44.8	-0.8
	SNR=109						
TIR				*i* Sg	Sg	20 36 50.6	+0.5
	SNR=109						
PHP	**Peshkopia**	**0.56**	**17**	*i* PG	Pg	20 36 49.2	-0.6
PHP				*i* SG	Sb	20 36 58.4	-0.5
PHP	**Peshkopia**	**0.56**	**17**	*i* PG	Pg	20 36 48.9	-0.9
PHP				*i* SG	Sg	20 36 57.4	+0.2
PHP	**Peshkopia**	**0.56**	**17**	*i* Pg	Pg	20 36 48.9	-0.9
	SNR=96						
PHP				*i* Sg	Sg	20 36 57.4	+0.1
	SNR=96						
KBN	**Korca**	**0.68**	**141**	*i* PG	Pg	20 36 51.8	-0.4
KBN				*i* SG	Sn	20 37 05.7	+0.4
KBN	**Korca**	**0.68**	**141**	*i* Pg	Pg	20 36 51.8	-0.4
	SNR=93						
KBN				*i* Sg	Sn	20 37 05.7	+0.4
	SNR=93						
PUK	**Puka**	**0.92**	**344**	*i* PG	Pg	20 36 55.6	-1.3
PUK	**Puka**	**0.92**	**344**	*i* PG	Pg	20 36 56.0	-0.9
PUK				*i* SG	Sb	20 37 09.7	+0.2
PUK	**Puka**	**0.92**	**344**	*i* Pg	Pg	20 36 56.0	-0.8
	SNR=92						
PUK				*i* Sg	Sb	20 37 09.7	+0.2
	SNR=92						
BCI	**Bajram Curri**	**1.22**	**355**	*i* PG	Pn	20 37 01.9	-0.1
BCI				*i* SG	Sn	20 37 19.8	+1.3
BCI	**Bajram Curri**	**1.22**	**355**	*i* Pg	Pn	20 37 01.9	-0.1
	SNR=91						
BCI				*i* Sg	Sn	20 37 19.8	+1.3
	SNR=91						

IDC 24 20:48:53.6±1.1, 6°.67S×143°.50E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.8/16, mbtmp3.8/10, ML2.7/2, MS3.7/6, Ms1 3.7/6, ms1mx3.2/26, Error ellipse: s-maj=31.4km s-min=22.6km az=98.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.53**	**127**	Pn	Pn	20 50 05.5	+2.1
	0.8nm,0.3s,baz=270,slow=3.0,SNR=2.7						
PMG				Sn	Sn	20 50 57.0	+0.1
	0.8nm,0.3s,baz=296,slow=7.6,SNR=4.1						
CTA	**Charters Tower**	**13.60**	**169**	Lg	Lg	20 56 06.5	
	0.2nm,0.3s,baz=303,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**15.91**	**213**	Pn	Pn	20 52 35.1	-4.0
	0.1nm,0.3s,baz=30,slow=13,SNR=19						
WRA				Sn	Sn	20 55 27.1	-9.2
	0.1nm,0.3s,baz=30,slow=23,SNR=3.3						
WRA				Lg	Lg	20 57 13.2	
	0.1nm,0.3s,baz=25,slow=26,SNR=6.7						
ASAR	**Alice Springs**	**19.25**	**208**	P	P	20 53 19.6	-0.3
	0.1nm,0.3s,baz=37,slow=9.8,SNR=21						
ASAR				Lg	Lg	20 58 56.0	
	0.0nm,0.3s,baz=24,slow=30,SNR=3.4						
ASAR				LR	LR	21 00 37.9	
	comp=Z,154nm,21.5s,baz=286,slow=37						
FITZ	**Fitzroy Crossi**	**20.79**	**235**	P	P	20 53 35.9	-0.7
	6.5nm,1.0s,baz=96,slow=12,SNR=6.9						
FITZ				Lg	Lg	20 59 43.9	
	5.0nm,0.8s,baz=253,slow=16,SNR=3.6						
FITZ				LR	LR	21 01 53.0	
	comp=Z,249nm,21.3s,baz=45,slow=38						
STKA	**Stephens Creek**	**25.14**	**184**	LR	LR	21 05 24.0	
	comp=Z,340nm,21.2s,baz=27,slow=39						
MJAR	**Matsushiro Arr**	**43.27**	**354**	P	P	20 56 56.2	-0.8
	0.8nm,0.5s,baz=185,slow=9.5,SNR=4.9						
MJAR				LR	LR	21 12 59.8	
	comp=Z,34nm,19.8s,baz=205,slow=33						
KSRS	**Korea Array**	**46.24**	**343**	P	P	20 57 21.4	+0.7
	0.9nm,0.8s,baz=168,slow=10.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**50.54**	**300**	P	P	20 57 55.8	+1.5
	0.3nm,0.7s,baz=107,slow=7.0,SNR=3.3						
USRK	**Ussuriysk Arra**	**51.69**	**349**	P	P	20 58 03.1	+0.8
	0.8nm,0.7s,baz=153,slow=9.7,SNR=2.4						
MKAR	**Makanchi Array**	**75.83**	**322**	P	P	21 00 41.7	-0.1
	0.9nm,0.9s,baz=109,slow=6.7,SNR=7.1						
ZALV	**Zalesovo Beam**	**77.75**	**329**	P	P	21 00 51.1	-1.3
	0.3nm,0.4s,baz=100,slow=8.1,SNR=3.2						
KDAK	**Kodiak Island**	**82.15**	**29**	LR	LR	21 32 59.3	
	comp=Z,57nm,18.6s,baz=110,slow=32						
ILAR	**Eielson Array**	**87.47**	**24**	P	P	21 01 41.8	-1.1
	0.6nm,1.0s,baz=258,slow=4.5,SNR=4.4						
DLBC	**Dease Lake**	**93.78**	**32**	LR	LR	21 39 44.1	
	comp=Z,45nm,19.8s,baz=282,slow=32						

*IDC **24** 20:51:01.0±1.2, 34°.99N×22°.28E, h0km, mb3.7/6, mb1 3.6/10, mb1mx3.5/32, mbtmp3.6/10, ML3.6/4, Error ellipse: s-maj=25.8km s-min=22.5km az=128.0*

*ISCJB **24** 20:51:11.4±0.7, 35°.43N±0°.05×22°.62E±0°.05, h76km±6km, mb3.5/6, Error ellipse: s-maj=10.2km s-min=3.8km az=38.4*

*ATH **24** 20:51:12.6, 35°.51N×22°.71E, h53km±7km, MD3.8/19*

*CSEM **24** 20:51:12.3±0.4, 35°.40N×22°.60E, h50km, MD3.8, Error ellipse: s-maj=9.7km s-min=3.5km az=35.0*

*THE **24** 20:51:12.7, 35°.43N×22°.63E, h56km±6km, ML3.2/7, Error ellipse: s-maj=6.7km s-min=1.0km az=50.0*

ISC 24 20:51:10.9±1.3, 35°.36N±0°.06×22°.57E±0°.05, h57km±11km, n184, σ1°33/220, mb3.7/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.79**	**49**	P	**Pn**	**20 51 25.5**	**-0.6**
ANKY				S	**Sn**	**20 51 36.8**	**-0.4**
ANKY	**Antikythira Is**	**0.79**	**49**	*e*P	**Pn**	**20 51 25.7**	**-0.4**
ANKY	**Antikythira Is**	**0.79**	**49**	*e*P	**Pn**	**20 51 25.7**	**-0.4**
ANKY				S	**Sn**	**20 51 36.8**	**-0.4**
KYTH	**Kithira**	**1.00**	**22**	P	**Pn**	**20 51 29.1**	**+0.2**
KYTH	**Kithira**	**1.00**	**22**	*e*P	**Pn**	**20 51 29.4**	**+0.5**
KYTH	**Kithira**	**1.00**	**22**	*e*P	**Pn**	**20 51 29.4**	**+0.5**
VAM	**Vamos**	**1.34**	**87**	P	**Pn**	**20 51 34.5**	**+1.2**
VAM	**Vamos**	**1.34**	**87**	*e*P	**Pn**	**20 51 34.6**	**+1.2**
VAM	**Vamos**	**1.34**	**87**	*e*P	**Pn**	**20 51 34.6**	**+1.2**
VLI	**Veliai**	**1.39**	**12**	P	**Pn**	**20 51 35.5**	**+1.4**
VLI	**Veliai**	**1.39**	**12**	*e*P	**Pn**	**20 51 35.7**	**+1.6**
VLI	**Veliai**	**1.39**	**12**	P	**Pn**	**20 51 35.5**	**+1.4**
DYR	**Agios Nikonas**	**1.41**	**352**	P	**Pn**	**20 51 36.0**	**+1.6**
DYR	**Agios Nikonas**	**1.41**	**352**	*e*P	**Pn**	**20 51 36.0**	**+1.6**
DYR	**Agios Nikonas**	**1.41**	**352**	*e*P	**Pn**	**20 51 36.0**	**+1.6**
PYL	**PYLOS**	**1.67**	**337**	P	**Pn**	**20 51 38.4**	**+0.5**
PYL	**PYLOS**	**1.67**	**337**	*e*P	**Pn**	**20 51 38.7**	**+0.8**
PYL	**PYLOS**	**1.67**	**337**	*e*P	**Pn**	**20 51 38.7**	**+0.8**
SIVA	**Sivas**	**1.87**	**100**	P	**Pn**	**20 51 41.6**	**+1.0**
SIVA	**Sivas**	**1.87**	**100**	*e*P	**Pn**	**20 51 42.0**	**+1.4**
SIVA	**Sivas**	**1.87**	**100**	P	**Pn**	**20 51 41.6**	**+1.0**
ITM	**Ithomi**	**1.89**	**344**	P	**Pn**	**20 51 42.1**	**+1.2**
ITM				S	**Sn**	**20 52 03.8**	**+0.2**
ITM	**Ithomi**	**1.89**	**344**	*e*P	**Pn**	**20 51 41.9**	**+1.0**
ITM	**Ithomi**	**1.89**	**344**	P	**Pn**	**20 51 42.1**	**+1.2**
ITM				S	**Sn**	**20 52 03.8**	**+0.2**
IDI	**Anoyia**	**1.90**	**91**	P	**Pn**	**20 51 42.4**	**+1.3**
IDI	**Anoyia**	**1.90**	**91**	P	**Pn**	**20 51 42.4**	**+1.3**
VLX	**Vlachokerasia**	**2.01**	**356**	P	**Pn**	**20 51 45.2**	**+2.6**
VLX	**Vlachokerasia**	**2.01**	**356**	P	**Pn**	**20 51 45.2**	**+2.6**
DIDY	**Didyma**	**2.18**	**14**	P	**Pn**	**20 51 45.8**	**+0.9**
DIDY	**Didyma**	**2.18**	**14**	P	**Pn**	**20 51 45.8**	**+0.9**
DID	**Didima**	**2.21**	**14**	P	**Pn**	**20 51 46.1**	**+0.8**
DID	**Didima**	**2.21**	**14**	*e*P	**Pn**	**20 51 46.1**	**+0.8**
DID	**Didima**	**2.21**	**14**	*e*P	**Pn**	**20 51 46.1**	**+0.8**
AMT	**Artemida-Makis**	**2.28**	**343**	P	**Pn**	**20 51 47.4**	**+1.2**
AMT	**Artemida-Makis**	**2.28**	**343**	P	**Pn**	**20 51 47.4**	**+1.2**
LAST	**Lasithi**	**2.39**	**94**	P	**Pn**	**20 51 49.5**	**+1.7**
LAST	**Lasithi**	**2.39**	**94**	*e*P	**Pn**	**20 51 49.5**	**+1.7**
LAST	**Lasithi**	**2.39**	**94**	*e*P	**Pn**	**20 51 49.5**	**+1.7**
NPS	**Neapolis**	**2.49**	**91**	P	**Pn**	**20 51 49.3**	**+0.2**
NPS				S	**Sn**	**20 52 18.6**	**+0.2**
NPS	**Neapolis**	**2.49**	**91**	*e*P	**Pn**	**20 51 50.8**	**+1.7**
NPS	**Neapolis**	**2.49**	**91**	P	**Pn**	**20 51 49.3**	**+0.2**
NPS				S	**Sn**	**20 52 18.6**	**+0.2**
NAIG	**Nisos Aigina**	**2.51**	**17**	*e*P	**Pn**	**20 51 50.1**	**+0.8**
NAIG	**Nisos Aigina**	**2.51**	**17**	*e*P	**Pn**	**20 51 50.1**	**+0.8**
THR3	**Thira Island,**	**2.53**	**65**	P	**Pn**	**20 51 49.8**	**+0.2**
THR3	**Thira Island,**	**2.53**	**65**	P	**Pn**	**20 51 49.8**	**+0.2**
ACOR	**Acrocorinthos**	**2.54**	**5**	P	**Pn**	**20 51 50.3**	**+0.6**
ACOR	**Acrocorinthos**	**2.54**	**5**	P	**Pn**	**20 51 50.3**	**+0.6**
SANT	**Santorini**	**2.56**	**66**	P	**Pn**	**20 51 50.1**	**+0.1**
SANT				S	**Sn**	**20 52 21.6**	**+1.6**
SANT	**Santorini**	**2.56**	**66**	P	**Pn**	**20 51 50.1**	**+0.1**
SANT				S	**Sn**	**20 52 21.6**	**+1.6**
GUR	**Goura**	**2.58**	**356**	P	**Pn**	**20 51 52.6**	**+2.2**
GUR	**Goura**	**2.58**	**356**	*e*P	**Pn**	**20 51 52.6**	**+2.2**
GUR	**Goura**	**2.58**	**356**	*e*P	**Pn**	**20 51 52.6**	**+2.2**
LTK	**Loutraki**	**2.68**	**7**	P	**Pn**	**20 51 53.0**	**+1.3**
LTK	**Loutraki**	**2.68**	**7**	*e*P	**Pn**	**20 51 52.6**	**+0.9**
LTK	**Loutraki**	**2.68**	**7**	*e*P	**Pn**	**20 51 52.6**	**+0.9**
KLV	**Kalavryta, Ach**	**2.70**	**353**	P	**Pn**	**20 51 54.2**	**+2.2**
KLV	**Kalavryta, Ach**	**2.70**	**353**	*e*P	**Pn**	**20 51 54.0**	**+2.0**
KLV	**Kalavryta, Ach**	**2.70**	**353**	*e*P	**Pn**	**20 51 54.0**	**+2.0**
ATH	**Athens Observa**	**2.77**	**19**	P	**Pn**	**20 51 53.0**	**+0.2**
ATH	**Athens Observa**	**2.77**	**19**	P	**Pn**	**20 51 53.0**	**+0.2**
ATHU	**Athens Univers**	**2.78**	**20**	P	**Pn**	**20 51 53.7**	**+0.7**
ATHU	**Athens Univers**	**2.78**	**20**	P	**Pn**	**20 51 53.7**	**+0.7**
RLS	**Riolos of Patr**	**2.84**	**342**	P	**Pn**	**20 51 55.6**	**+1.9**
RLS	**Riolos of Patr**	**2.84**	**342**	*e*P	**Pn**	**20 51 55.7**	**+2.0**
RLS	**Riolos of Patr**	**2.84**	**342**	P	**Pn**	**20 51 55.6**	**+1.9**
PTL	**Penteli**	**2.88**	**21**	P	**Pn**	**20 51 54.9**	**+0.5**
PTL	**Penteli**	**2.88**	**21**	*e*P	**Pn**	**20 51 54.8**	**+0.4**
PTL	**Penteli**	**2.88**	**21**	P	**Pn**	**20 51 54.9**	**+0.5**
LAKA	**Lakka**	**2.92**	**351**	P	**Pn**	**20 51 56.9**	**+2.0**
LAKA	**Lakka**	**2.92**	**351**	*e*P	**Pn**	**20 51 56.9**	**+2.0**
LAKA	**Lakka**	**2.92**	**351**	*e*P	**Pn**	**20 51 56.9**	**+2.0**
APE	**Apeiranthos**	**2.94**	**54**	P	**Pn**	**20 51 57.5**	**+2.2**
APE	**Apeiranthos**	**2.94**	**54**	P	**Pn**	**20 51 57.5**	**+2.2**
AXS	**Araxos**	**2.99**	**342**	P	**Pn**	**20 51 58.0**	**+2.1**
AXS	**Araxos**	**2.99**	**342**	P	**Pn**	**20 51 58.0**	**+2.1**
ZKR	**Zakros**	**3.00**	**94**	P	**Pn**	**20 51 57.6**	**+1.6**
ZKR	**Zakros**	**3.00**	**94**	P	**Pn**	**20 51 57.6**	**+1.6**
TRIZ	**Trizonia**	**3.03**	**353**	P	**Pn**	**20 51 58.0**	**+1.6**
TRIZ	**Trizonia**	**3.03**	**353**	*e*P	**Pn**	**20 51 57.5**	**+1.1**
TRIZ	**Trizonia**	**3.03**	**353**	*e*P	**Pn**	**20 51 57.5**	**+1.1

KEK	Kerkira	4.87	334	P		Pn	20 52 21.2	-0.4
KEK				S		Sn	20 53 12.5	-4.2
KEK	Kerkira	4.87	334	P		Pn	20 52 21.2	-0.4
SRN	Sarande	4.95	336	P		Pn	20 52 22.1	-0.6
SRN				S		Sn	20 53 14.9	-3.7
SRN	Sarande	4.95	336	P		Pn	20 52 22.1	-0.6
SRN				S		Sn	20 53 14.9	-3.7
KZN	Kozani	4.98	353	P		Pn	20 52 23.8	+0.6
KZN				S		Sn	20 53 19.3	-0.2
KZN	Kozani	4.98	353	P		Pn	20 52 23.8	+0.6
KZN				S		Sn	20 53 19.3	-0.2
PLG	Polygyros	5.06	8	P		Pn	20 52 24.6	+0.4
PLG	Polygyros	5.06	8	P		Pn	20 52 24.6	+0.4
OUR	Ouranopolis	5.09	12	P		Pn	20 52 24.8	+0.2
OUR	Ouranopolis	5.09	12	P		Pn	20 52 24.8	+0.2
NEST	Nestorio	5.19	347	P		Pn	20 52 27.3	+1.2
NEST				S		Sn	20 53 25.5	+0.9
NEST	Nestorio	5.19	347	P		Pn	20 52 27.3	+1.2
NEST				S		Sn	20 53 25.5	+0.9
HORT	Hortiatis	5.25	4	P		Pn	20 52 27.2	+0.3
HORT				S		Sn	20 53 25.8	-0.3
HORT	Hortiatis	5.25	4	P		Pn	20 52 27.2	+0.3
HORT				S		Sn	20 53 25.8	-0.3
SOH	Sokhos	5.49	6	P		Pn	20 52 31.0	+0.8
SOH	Sokhos	5.49	6	P		Pn	20 52 31.0	+0.8
FNA	Florina	5.50	351	P		Pn	20 52 30.7	+0.4
FNA				S		Sn	20 53 29.9	-2.3
FNA	Florina	5.50	351	P		Pn	20 52 30.7	+0.4
FNA				S		Sn	20 53 29.9	-2.3
GRG	Griva	5.59	359	P		Pn	20 52 31.8	+0.3
GRG	Griva	5.59	359	P		Pn	20 52 31.8	+0.3
KNT	Kendrikon	5.80	2	P		Pn	20 52 34.7	+0.3
KNT	Kendrikon	5.80	2	P		Pn	20 52 34.7	+0.3
SRS	Serrai	5.81	8	P		Pn	20 52 34.8	+0.3
SRS	Serrai	5.81	8	P		Pn	20 52 34.8	+0.3
NVR	Nevrokopi	6.07	9	P		Pn	20 52 38.0	-0.1
NVR	Nevrokopi	6.07	9	P		Pn	20 52 38.0	-0.1
RDO	Rodhopi	6.23	21	P		Pn	20 52 40.0	-0.3
RDO	Rodhopi	6.23	21	P		Pn	20 52 40.0	-0.3
PHP	Peshkopia	6.53	346	P		Pn	20 52 44.1	-0.3
PHP				S		Sn	20 53 55.3	-2.3
PHP	Peshkopia	6.53	346	P		Pn	20 52 44.1	-0.3
PHP				S		Sn	20 53 55.3	-2.3
BARS	Barje	7.47	356	*eP*		Pn	20 52 56.9	-0.3
TEKS	Tekeris	9.47	347	*eP*		Pn	20 53 23.3	-1.3
BRTR	Keskin Array B	9.81	60	Pn		Pn	20 53 30.8	+1.4
	0.1nm,0.3s,baz=235,slow=15,SNR=4.0							
MMAI	Mount Meron Ar	10.89	99	Pn		Pn	20 53 40.8	-3.2
	0.6nm,0.3s,baz=295,slow=11,SNR=4.4							
MMAI				Sn		Sn	20 55 36.3	-8.0
	0.5nm,0.3s,baz=267,slow=19,SNR=2.7							
EIL	Elat	11.89	115	Pn		Pn	20 53 52.4	-5.3
	0.5nm,0.3s,baz=217,slow=5.1,SNR=3.1							
AKASG	Malin Array Be	16.08	15	Pn		**P**	**20 54 54.1**	**-1.4**
	0.7nm,0.3s,baz=205,slow=9.1,SNR=2.2							
HFS	Hagfors	25.45	350	P		**P**	**20 56 33.4**	**+0.3**
	0.8nm,0.3s,baz=158,slow=12,SNR=11							
FINES	FINESS Array B	26.20	4	P		**P**	**20 56 39.7**	**-0.2**
	0.3nm,0.3s,baz=163,slow=10,SNR=5.3							
TORD	Torodi Ar. Bea	29.05	226	P		P	20 56 59.6	-6.2
	0.6nm,1.2s,baz=48,slow=6.4,SNR=2.4							
ARCES	ARCESS Array B	34.27	2	P		**P**	**20 57 51.4**	**+0.2**
	1.2nm,0.8s,baz=178,slow=9.0,SNR=5.0							
MKAR	Makanchi Array	45.44	56	P		**P**	**20 59 24.4**	**+0.4**
	0.6nm,0.5s,baz=269,slow=7.9,SNR=8.7							
ZALV	Zalesovo Beam	46.40	46	P		**P**	**20 59 31.7**	**+0.2**
	0.4nm,0.3s,baz=276,slow=7.8,SNR=3.2							

IDC 24 20:52:19.8±15.0, 17°.32S×173°.37W, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/22, mbtmp4.3/5, Error ellipse: s-maj=302.4km s-min=140.1km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.28	259	P	P	20 59 42.8	+0.5
	5.3nm,1.1s,baz=63,slow=12,SNR=2.4						
STKA	Stephens Creek	43.13	242	P	P	21 00 22.6	+0.3
	2.7nm,0.9s,baz=98,slow=11,SNR=8.5						
WRA	Warramunga Arr	49.46	258	P	P	21 01 11.7	-0.5
	2.1nm,0.4s,baz=97,slow=7.5,SNR=60						
ASAR	Alice Springs	49.57	253	P	P	21 01 12.4	-0.6
	2.8nm,0.6s,baz=88,slow=8.3,SNR=30						
FITZ	Fitzroy Crossi	57.86	259	P	P	21 02 13.7	-0.1
	1.5nm,0.4s,baz=123,slow=4.1,SNR=12						

IDC 24 21:04:35.2±1.6, 1°.46S×99°.60E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, ML2.7/1, Error ellipse: s-maj=62.1km s-min=19.1km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.28	351	Pn	Pn	21 05 40.1	-1.8
	0.4nm,0.3s,baz=176,slow=12,SNR=3.5						
CMAR	Chiang Mai Arr	19.80	358	P	P	21 09 07.2	-0.2
	baz=187,slow=10,SNR=5.1						
WRA	Warramunga Arr	38.61	121	P	P	21 12 00.2	-0.4
	0.5nm,0.5s,baz=303,slow=9.0,SNR=11						
ASAR	Alice Springs	39.89	126	P	P	21 12 11.2	0.0
	0.4nm,0.8s,baz=299,slow=7.8,SNR=5.4						
SONM	Songino Array	49.45	6	P	P	21 13 27.0	-0.2
	0.3nm,0.5s,baz=205,slow=6.4,SNR=2.8						
MKAR	Makanchi Array	50.40	345	P	P	21 13 34.5	+0.1
	0.6nm,0.5s,baz=153,slow=9.2,SNR=13						
USRK	Ussuriysk Arra	53.88	28	P	P	21 13 60.0	-0.3
	1.3nm,0.8s,baz=231,slow=4.2,SNR=3.3						
ZALV	Zalesovo Beam	56.57	350	P	P	21 14 19.1	-0.3
	0.4nm,0.3s,baz=186,slow=6.0,SNR=5.7						
PDAR	Pinedale Array	131.30	29	PKP	PKPdf	21 23 51.7	+1.6
	0.5nm,0.9s,baz=299,slow=0.9,SNR=3.4						
TXAR	Lajitas Array	144.51	36	PKP	PKPbc	21 24 13.4	+0.3
	0.4nm,0.6s,baz=213,slow=1.9,SNR=5.5						
CPUP	Villa Florida	144.51	217	PKP	PKPab	21 24 12.4	-0.4
	1.4nm,0.6s,baz=81,slow=2.9,SNR=6.6						

*ISCJB **24** 21:35:57.4±0.5, 13°.71S±0°.05×76°.30W±0°.06, h30km, mb4.1/9, MS3.8/4, Error ellipse: s-maj=9.7km s-min=6.4km az=144.4*
*NEIC **24** 21:36:00.5±1.3, 13°.67S×76°.21W, h41km±12km, mb4.4/2, Error ellipse: s-maj=15.8km s-min=8.0km az=62.0*
NEIC Felt [IV] at Pisco.
*IDC **24** 21:36:02.0±0.8, 13°.56S×76°.15W, h47km±5km, mb3.8/8, mb1 4.0/11, mb1mx3.8/22, mbtmp3.8/11, MS3.6/6, Ms1 3.6/6, ms1mx3.4/29, Error ellipse: s-maj=31.4km s-min=14.4km az=50.0*

ISC 24 21:36:00.1±0.5, 13°.78S±0°.07×76°.26W±0°.08, h30km, n41, σ2§16/48, mb4.1/9, MS3.9/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	6.93	342	P	Pn	21 37 40.2	+0.2
ATAH				S	Sn	21 39 01.2	+3.1
ATAH	Atahualpa	6.93	342	P	Pn	21 37 40.2	+0.2
	1.6nm,0.3s,baz=168,slow=5.9,SNR=8.5						
ATAH				S	Sn	21 39 01.2	+3.1
	5.4nm,0.3s,baz=295,slow=17,SNR=2.2						
LPAZ	La Paz	8.24	109	*e*Pn	Pn	21 37 56.8	-1.5
	21nm,0.5s						
LPAZ				*e*Sn	Sn	21 39 33.6	+2.9
LPAZ	La Paz	8.24	109	P	Pn	21 38 04.3	+6.1
	4.5nm,0.3s,baz=283,slow=9.6,SNR=82						
LPAZ				S	Sn	21 39 38.4	+7.7
	baz=188,slow=19,SNR=3.5						
LPAZ				LR	LR	21 41 44.1	
	comp=Z,239nm,20.2s,baz=91,slow=42						
LVC	Limon Verde	11.22	143	*e*Pn	Pn	21 38 39.0	+0.3
	16nm,0.8s						
LVC				*e*Sn	Sn	21 40 45.7	+2.4
SAML	Samuel	13.69	71	*e*Pn	Pn	21 39 12.0	-0.3
	14nm,0.6s						
SAML				*e*Sn	Sn	21 41 45.4	+1.9
SIV	San Ignacio	14.85	100	P	Pn	21 39 29.0	+0.9
SIV	San Ignacio	14.85	100	P	Pn	21 39 29.0	+0.9
	0.9nm,0.3s,baz=289,slow=13,SNR=7.6						
SIV				LR	LR	21 46 15.0	
	comp=Z,114nm,21.6s,slow=42						
ROSC	El Rosal	18.62	6	*e*P	P	21 40 13.3	-2.4
CFAA	Coronel Fontan	19.21	159	P	Pn	21 40 23.8	+1.0
CFAA	Coronel Fontan	19.21	159	P	Pn	21 40 23.8	+1.0
	0.1nm,0.3s,baz=328,slow=12,SNR=6.1						
CFAA				LR	LR	21 46 46.0	
	comp=Z,7.4nm,19.6s,baz=78,slow=33						
CPUP	Villa Florida	21.69	128	*e*P	P	21 40 47.2	-1.4
	11nm,0.8s						
CPUP	Villa Florida	21.69	128	P	P	21 40 49.5	+0.9
	0.5nm,0.5s,baz=317,slow=19,SNR=2.6						
SDV	Santo Domingo	23.20	14	*e*P	P	21 41 02.7	-2.2
	11nm,0.6s						
PLCA	Paso Flores	27.31	171	*e*P	P	21 41 40.9	-1.3
PLCA	Paso Flores	27.31	171	P	P	21 41 43.9	+1.6
	2.8nm,0.7s,baz=268,slow=10.0,SNR=4.2						
BDFB	Brasilia	27.38	97	LR	LR	21 53 18.2	
	comp=Z,138nm,18.2s,baz=253,slow=38						
RCBR	Riachuelo	40.50	83	*e*P	P	21 43 34.1	-2.7
TXAR	Lajitas Array	50.37	329	P	P	21 44 53.7	-1.1
TXAR				pP	pP	21 45 06.8	+2.9
TXAR	Lajitas Array	50.37	329	P	P	21 44 53.7	-1.1
	0.9nm,0.7s,baz=152,slow=8.0,SNR=9.9						
TXAR				pP	pP	21 45 06.8	+2.9
	0.9nm,0.7s,baz=138,slow=9.6,SNR=7.6						
PDAR	Pinedale Array	64.03	333	P	P	21 46 29.2	-2.0
PDAR	Pinedale Array	64.03	333	P	P	21 46 29.2	-2.0
	0.7nm,0.7s,baz=127,slow=9.1,SNR=6.3						
NVAR	Mina Array Bea	65.15	325	P	P	21 46 38.2	-0.5
NVAR				sP	sP	21 46 56.2	+4.7
NVAR	Mina Array Bea	65.15	325	P	P	21 46 38.2	-0.5
	1.3nm,0.8s,baz=135,slow=7.0,SNR=10						
NVAR				sP	sP	21 46 56.2	+4.7
	1.0nm,0.7s,baz=156,slow=6.8,SNR=4.2						
ULM	Lac du Bonnet	66.04	346	P	P	21 46 41.3	-2.6
ULM	Lac du Bonnet	66.04	346	P	P	21 46 41.3	-2.6
	1.2nm,0.4s,baz=146,slow=9.4,SNR=3.1						
ULM				LR	LR	22 17 22.8	
	comp=Z,53nm,18.1s,baz=332,slow=38						
VNA2	Neumayer--Watz	70.20	161	*e*P	P	21 47 10.8	+1.0
VNA2	Neumayer--Watz	70.20	161	*e*I	PcP	21 47 24.2	-7.3
SNAA	Sanae	71.81	161	*e*P	P	21 47 20.5	+0.9
SNAA	Sanae	71.81	161	*e*I	PcP	21 47 34.6	-3.7
DBIC	Dimbokro	73.72	79	P	P	21 47 30.2	-1.6
DBIC	Dimbokro	73.72	79	P	P	21 47 30.2	-1.6
	1.6nm,0.5s,baz=219,slow=8.1,SNR=8.2						
DBIC				LR	LR	22 17 00.1	
	comp=Z,73nm,19.1s,baz=164,slow=33						
TORD	Torodi Ar. Bea	81.72	74	P	P	21 48 15.4	-1.1
TORD				pP	pP	21 48 29.9	+3.9
TORD	Torodi Ar. Bea	81.72	74	P	P	21 48 15.4	-1.1
	1.9nm,0.7s,baz=260,slow=5.0,SNR=18						
TORD				pP	pP	21 48 29.9	+3.9
	2.8nm,0.9s,baz=265,slow=4.5,SNR=6.9						
TSUM	Tsumeb	89.10	109	LR	LR	22 24 06.5	
	comp=Z,55nm,18.3s,baz=151,slow=32						
WRA	Warramunga Arr	134.95	223	PKP	PKPdf	21 55 16.1	-1.0
WRA	Warramunga Arr	134.95	223	PKP	PKPdf	21 55 16.1	-1.0
	0.6nm,0.6s,baz=125,slow=2.1,SNR=12						
SONM	Songino Array	145.98	357	PKPbc	PKPdf	21 55 36.0	-0.3
SONM				pPKPbc	pPKPbc	21 55 49.4	+2.5
SONM	Songino Array	145.98	357	PKPbc	PKPdf	21 55 36.0	-0.3
	1.9nm,0.7s,baz=340,slow=2.2,SNR=14						
SONM				pPKPbc	pPKPbc	21 55 49.4	+2.5
	3.7nm,0.8s,baz=321,slow=1.4,SNR=13						
KSRS	Korea Array	148.07	322	PKPbc	PKPbc	21 55 43.6	+0.5
	0.7nm,0.7s,baz=34,slow=1.7,SNR=5.9						
KSAR	Wonju Array Be	148.10	322	PKPbc	PKPbc	21 55 43.6	+0.4

*NIED **24** 21:37:00, 35°.50N×141°.20E, h44km, Mw4.3 Best double couple: M0 3.18000×10^15 NP1:φ0=345.00000°, δ69.00000°, λ85.00000°. NP2:φ0=179.00000°, δ21.00000°, λ103.00000°.*
*IDC **24** 21:37:00.7±0.6, 35°.41N×141°.01E, h0km, mb4.0/19, mb1 4.3/20, mb1mx4.2/28, mbtmp4.1/20, MS3.3/8, Ms1 3.4/8, ms1mx3.1/42, Error ellipse: s-maj=19.4km s-min=15.8km az=69.0*
*ISCJB **24** 21:37:03.6±0.3, 35°.43N±0°.03×141°.20E±0°.05, h33km, mb4.2/37, MS3.3/6, Error ellipse: s-maj=6.0km s-min=4.7km az=5.2*
*NEIC **24** 21:37:04.8±2.2, 35°.40N×141°.13E, h30km±15km, mb4.4/8, Error ellipse: s-maj=9.3km s-min=6.6km az=74.0*
*JMA **24** 21:37:04.2±0.1, 35°.47N×141°.21E, h33km±1km, M4.1*

ISC 24 21:37:05.1±0.4, 35°.44N±0°.04×141°.14E±0°.05, h33km, n94, σ1§10/103, mb4.4/37, MS3.3/6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.35	319	‖P	Pb	21 37 12.8	-0.7
CHOJ				S	Sb	21 37 18.5	-0.8
KTR	Katsuura	0.74	247	‖P	Pb	21 37 19.2	-0.3
BSO2	Boso 2	0.75	205	S	Sn	21 37 28.8	-0.4
JCN	Nagara	0.77	269	P	Pb	21 37 20.4	+0.4
BSO1	Boso 1	0.79	190	P	Pb	21 37 19.7	-0.4
BSO4	Boso 4	0.80	236	P	Pb	21 37 20.3	-0.1
BSO4				S	Sn	21 37 30.1	-0.4
BSO3	Boso 3	0.82	220	‖P	Pb	21 37 20.3	-0.4
JYT	Yasato	1.10	316	P	Pn	21 37 23.9	-0.3
MJAR	Matsushiro Arr	2.62	296	Pn	Pn	21 37 46.6	+1.4
MJAR				Sn	Sb	21 38 21.7	-1.5
MJAR	Matsushiro Arr	2.62	296	Pn	Pn	21 37 46.6	+1.4
	14nm,0.3s,baz=110,slow=6.4,SNR=126						
MJAR				Sn	Sb	21 38 21.7	-1.5
	13nm,0.3s,baz=102,slow=24,SNR=8.4						
MAT	Matsushiro	2.63	296	P	Pn	21 37 46.9	+1.8
MAT				*e*S	Sn	21 38 17.1	+1.2
CBIJ	Chichi jima	8.36	174	Pn	Pn	21 39 02.2	-1.7
CBIJ				Sn	Sn	21 40 28.6	-8.6
CBIJ	Chichi jima	8.36	174	Pn	Pn	21 39 02.2	-1.7
	baz=301,slow=17						
CBIJ				Sn	Sn	21 40 28.6	-8.6
	baz=0.0,slow=20						
ASAJ	Asahikawa	8.74	7	*e*Pn	Pn	21 39 07.9	-1.2
ASAJ				Sn	Sn	21 40 48.2	+1.8
ASAJ	Asahikawa	8.74	7	Pn	Pn	21 39 06.3	-2.8
	2.1nm,0.3s,baz=217,slow=8.7,SNR=13						
ASAJ				Sn	Sn	21 40 41.3	-5.2
	0.6nm,0.3s,baz=114,slow=20,SNR=1.8						
JNU	Nakatsue	8.80	258	Pn	Pn	21 39 12.1	+2.1
JNU	Nakatsue	8.80	258	Pn	Pn	21 39 12.1	+2.1
	0.3nm,0.3s,baz=56,slow=18,SNR=3.3						
KSRS	Korea Array	10.84	285	Pn	Pn	21 39 39.9	+2.0
	0.2nm,0.3s,baz=98,slow=14,SNR=8.2						
KSRS				LR	LR	21 43 51.2	
	comp=Z,283nm,20.3s,baz=142,slow=38						
KSAR	Wonju Array Be	10.87	284	Pn	Pn	21 39 39.9	+1.6
USRK	Ussuriysk Arra	11.22	324	Pn	Pn	21 39 44.3	+1.3
	0.1nm,0.3s,baz=146,slow=11,SNR=9.4						
USRK				LR	LR	21 43 52.9	
	comp=Z,155nm,18.8s,baz=23,slow=37						
MDJ	Mudanjiang	12.73	320	*e*Pn	Pn	21 40 03.6	-0.1
PETK	Petropavlovsk-	21.18	28	LR	LR	21 49 49.3	
	comp=Z,46nm,19.3s,baz=101,slow=36						
TPUB	Ta-pu	21.53	241	*e*P	P	21 41 50.8	-0.7
GUMO	Guam	22.01	170	P	P	21 41 56.2	-0.3
ENH	Enshi	27.02	268	*e*P	P	21 42 42.7	-1.5
	4.6nm,0.6s						
FX1	Attu Island--F	28.51	42	LR	LR	21 52 03.7	
	comp=Z,44nm,21.3s,baz=282,slow=32						
SONM	Songino Array	28.53	306	P	P	21 42 57.0	-0.6
SONM	Songino Array	28.53	306	P	P	21 42 57.0	-0.6
	1.2nm,0.7s,baz=108,slow=8.9,SNR=11						
CMAR	Chiang Mai Arr	40.90	257	P	P	21 44 43.9	-0.4
CMAR	Chiang Mai Arr	40.90	257	P	P	21 44 43.9	-0.4
	0.3nm,0.5s,baz=54,slow=7.6,SNR=2.9						
CMAR				LR	LR	22 02 35.7	
	comp=Z,63nm,18.3s,baz=157,slow=38						
LSA	Lhasa	42.16	277	P	P	21 44 54.4	-0.7
ZALV	Zalesovo Beam	42.84	314	P	P	21 45 00.3	+0.5
ZALV				PcP	PcP	21 46 50.0	-0.3
ZALV	Zalesovo Beam	42.84	314	P	P	21 45 00.3	+0.5
	3.2nm,0.5s,baz=98,slow=7.6,SNR=23						
ZALV				PcP	PcP	21 46 50.0	-0.3
	0.9nm,0.7s,baz=64,slow=3.4,SNR=3.6						
ZALV				LR	LR	22 05 21.3	
	comp=Z,16nm,19.3s,baz=68,slow=40						
MK31	Makanchi Array	44.80	303	*e*P	P	21 45 15.1	-0.5
MKAR	Makanchi Array	44.80	303	P	P	21 45 15.7	+0.1
MKAR				PcP	PcP	21 46 58.0	+0.8
MKAR	Makanchi Array	44.80	303	P	P	21 45 15.7	+0.1
	1.8nm,0.7s,baz=90,slow=9.6,SNR=25						
MKAR				PcP	PcP	21 46 58.0	+0.8
	0.6nm,0.7s,baz=64,slow=3.4,SNR=3.1						
KURK	Kurchatov	46.76	309	P	P	21 45 31.6	+0.6
KURBB	Kurchatov Arra	46.83	309	P	P	21 45 31.6	+0.1
	2.7nm,0.6s,baz=84,slow=8.2,SNR=15						
TKM2	Tokmak 2	50.21	300	*e*P	P	21 45 58.6	+0.6
	2.7nm,0.5s						
ILAR	Eielson Array	50.96	32	P	P	21 46 03.7	+0.7
ILAR	Eielson Array	50.96	32	P	P	21 46 03.7	+0.7
	1.0nm,0.9s,baz=281,slow=7.3,SNR=4.9						
AAK	Ala-Archa	51.07	299	*e*P	P	21 46 04.7	+0.3
	1.3nm,0.3s						
EKS2	Erkin-Say	51.57	300	*e*P	P	21 46 07.5	-0.6
	1.0nm,0.5s						
KKAR	Karatay Array	53.75	301	*e*P	P	21 46 23.2	-0.8
	1.6nm,0.8s						
WRAB	Tennant Creek	55.44	188	*e*P	P	21 46 36.8	+0.4
	4.3nm,0.8s						
WRA	Warramunga Arr	55.45	188	P	P	21 46 36.5	0.0
WRA	Warramunga Arr	55.45	188	P	P	21 46 36.5	0.0
	3.1nm,0.5s,baz=2.3,slow=7.6,SNR=38						
ABKAR	Akbulak array	58.81	311	*e*P	P	21 46 59.3	-0.7
	1.6nm,0.5s						
ASAR	Alice Springs	59.18	188	P	P	21 47 03.4	+0.6
ASAR	Alice Springs	59.18	188	P	P	21 47 03.4	+0.6
	0.4nm,0.4s,baz=16,slow=12,SNR=11						
MBWA	Marble Bar	59.84	203	*e*P	P	21 47 06.6	-0.7
ARCES	ARCESS Array B	65.41	340	P	P	21 47 44.5	+0.6
ARCES	ARCESS Array B	65.41	340	P	P	21 47 44.5	+0.6
	1.7nm,0.7s,baz=57,slow=8.8,SNR=6.7						
ARCES				LR	LR	22 19 43.5	
	comp=Z,34nm,19.6s,baz=90,slow=39						
STKA	Stephens Creek	66.96	180	*e*P	P	21 47 54.1	-0.1
JOF	Joensuu	67.27	332	*e*p	P	21 47 55.8	-0.1
	2.6nm,0.4s						
KAF	Kangasniemi	69.63	333	*e*p	P	21 48 11.4	+0.7
	5.1nm,0.6s						
FINES	FINESS Array B	70.13	332	P	P	21 48 14.2	+0.4
FINES	FINESS Array B	70.13	332	P	P	21 48 14.2	+0.4
	3.1nm,0.7s,baz=57,slow=7.0,SNR=12						
KBZ	Khabaz	71.78	311	P	P	21 48 25.0	+0.9
KBZ	Khabaz	71.78	311	P	P	21 48 25.0	+0.9
	3.1nm,0.8s,baz=352,slow=4.7,SNR=7.6						
AKASG	Malin Array Be	75.43	322	P	P	21 48 45.4	0.0
AKASG	Malin Array Be	75.43	322	P	P	21 48 45.4	0.0
	3.0nm,0.5s,baz=47,slow=6.4,SNR=10						
NB2	NORSAR Subarra	75.57	337	P		**P**	**21 48 46.8**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=38,slow=5.9						
NOA	NORSAR Array B	75.57	337	P	P	21 48 46.9	+0.7
NOA	NORSAR Array B	75.57	337	P	P	21 48 46.9	+0.7
	comp=Z,2.0nm,0.7s,baz=40,slow=5.7,SNR=9.7						
NOA				LR	LR	22 25 36.0	
	comp=Z,30nm,18.4s,baz=280,slow=39						
NVAR	Mina Array Bea	76.12	53	P	P	21 48 52.1	+2.2
NVAR	Mina Array Bea	76.12	53	P	P	21 48 52.1	+2.2
	comp=Z,0.5nm,0.7s,baz=272,slow=2.3,SNR=3.3						
PDAR	Pinedale Array	78.94	45	P	P	21 49 06.3	+0.7
PDAR	Pinedale Array	78.94	45	P	P	21 49 06.3	+0.7
	comp=Z,0.4nm,0.7s,baz=291,slow=4.1,SNR=3.4						
KWP	Kalwaria Pacla	79.30	324	*e*P	P	21 49 07.7	+0.5
	comp=Z,5.0nm,1.0s						
BRTR	Keskin Array B	79.75	312	P	P	21 49 11.4	+1.5
BRTR	Keskin Array B	79.75	312	P	P	21 49 11.4	+1.5
	comp=Z,1.3nm,0.9s,baz=120,slow=4.4,SNR=6.1						
CLL	Collm	82.37	330	*i* P	P	21 49 24.2	+0.7
	comp=Z,5.0nm,0.9s						
GERES	GERESS Array B	83.95	328	P	P	21 49 32.3	+0.4
GERES	GERESS Array B	83.95	328	P	P	21 49 32.3	+0.4
	comp=Z,0.9nm,0.6s,baz=36,slow=5.3,SNR=12						
EKA	Eskdalemuir Ar	84.56	340	P	P	21 49 34.6	0.0
EKA	Eskdalemuir Ar	84.56	340	P	P	21 49 34.6	0.0
	comp=Z,0.4nm,0.5s,baz=13,slow=6.7,SNR=3.9						
CDF	Champ du Feu	86.94	331	*e*P	P	21 49 46.9	+0.2
	comp=Z,8.1nm,1.0s						
LOR	Lormes	89.19	332	*e*P	P	21 49 57.9	+0.5
LPL	La Plagne	89.50	330	*e*P	P	21 49 59.8	+0.7
LPG	La Plagne	89.51	330	*e*P	P	21 49 59.4	+0.1
	comp=Z,2.7nm,0.6s						
AVF	Avril sur Loir	89.78	333	*e*P	P	21 50 00.8	+0.7
	comp=Z,5.3nm,0.6s						
MBDF	Montbardon	90.13	329	*e*P	P	21 50 01.5	-0.5
ORIF	Oris-en-Rattie	90.34	330	*e*P	P	21 50 02.9	0.0
SBF	Sospel	90.55	328	*e*P	P	21 50 03.9	0.0
	comp=Z,11nm,0.8s						
VIVF	Saint-Julien-l	90.88	331	*e*P	P	21 50 05.6	+0.3
	comp=Z,7.2nm,0.9s						
FRF	La Foret Royal	91.13	329	*e*P	P	21 50 06.0	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.86**	**269**	PN	**Pn**	**22 04 57.7**	**-0.4**
MXZ				SN	**Sn**	**22 05 20.4**	**-0.1**
MXZ				AML	AML	22 05 21.1	
MXZ				AML	AML	22 05 21.6	
MXZ				AML	AML	22 05 21.6	
MXZ	**Matakaoa Point**	**1.86**	**269**	Pn	**Pn**	**22 04 57.7**	**-0.4**
MXZ				Sn	**Sn**	**22 05 20.4**	**-0.1**
PUZ	**Puketiti**	**1.96**	**254**	PN	**Pn**	**22 04 59.5**	**-0.1**
PUZ				SN	**Sn**	**22 05 24.5**	**+1.4**
PUZ				AML	AML	22 05 30.5	
PUZ	**Puketiti**	**1.96**	**254**	Pn	**Pn**	**22 04 59.5**	**-0.1**
CNGZ	**Carnagh Statio**	**2.13**	**244**	PN	**Pn**	**22 05 02.7**	**+0.8**
CNGZ	**Carnagh Statio**	**2.13**	**244**	Pn	**Pn**	**22 05 02.7**	**+0.8**
PRGZ	**Paritu Road**	**2.57**	**237**	PN	**Pn**	**22 05 08.5**	**+0.6**
PRGZ	**Paritu Road**	**2.57**	**237**	Pn	**Pn**	**22 05 08.5**	**+0.6**
MWZ	**Matawai**	**2.58**	**252**	PN	**Pn**	**22 05 07.8**	**-0.4**
MWZ				SN	**Sn**	**22 05 39.4**	**+0.9**
MWZ				AML	AML	22 05 40.9	
MWZ				AML	AML	22 05 41.2	
MWZ				AML	AML	22 05 41.3	
MWZ	**Matawai**	**2.58**	**252**	Pn	**Pn**	**22 05 07.8**	**-0.4**
MWZ				Sn	**Sn**	**22 05 39.4**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.68**	**233**	PN	**Pn**	**22 05 09.5**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.68**	**233**	Pn	**Pn**	**22 05 09.5**	**+0.1**
KNZ	**Kokohu**	**2.76**	**237**	PN	**Pn**	**22 05 10.4**	**0.0**
KNZ	**Kokohu**	**2.76**	**237**	Pn	**Pn**	**22 05 10.4**	**0.0**
URZ	**Urewera**	**2.88**	**255**	PN	**Pn**	**22 05 12.3**	**+0.2**
URZ				AML	AML	22 05 47.6	
URZ				AML	AML	22 05 48.3	
URZ	**Urewera**	**2.88**	**255**	Pn	**Pn**	**22 05 12.6**	**+0.4**
URZ				Sn	**Sn**	**22 05 46.2**	**+0.5**
URZ	**Urewera**	**2.88**	**255**	Pn	**Pn**	**22 05 12.6**	**+0.4**
	26nm,0.3s,baz=88,slow=3.5,SNR=117						
URZ				Sn	**Sn**	**22 05 46.2**	**+0.5**
	37nm,0.3s,baz=288,slow=20,SNR=7.6						
RAHZ	**Arahi**	**3.11**	**243**	PN	**Pn**	**22 05 15.8**	**+0.4**
RAHZ				SN	**Sn**	**22 05 52.8**	**+1.3**
RAHZ	**Arahi**	**3.11**	**243**	Pn	**Pn**	**22 05 15.8**	**+0.4**
TARZ	**Mount Tarawera**	**3.34**	**257**	PN	**Pn**	**22 05 19.0**	**+0.4**
TARZ	**Mount Tarawera**	**3.34**	**257**	Pn	**Pn**	**22 05 19.1**	**+0.4**
RRRZ	**Republican Roa**	**3.36**	**255**	PN	**Pn**	**22 05 18.6**	**-0.1**
RRRZ	**Republican Roa**	**3.36**	**255**	Pn	**Pn**	**22 05 18.6**	**-0.1**
NMHZ	**Naumai**	**3.39**	**242**	PN	**Pn**	**22 05 19.8**	**+0.6**
NMHZ	**Naumai**	**3.39**	**242**	Pn	**Pn**	**22 05 19.9**	**+0.6**
MCHZ	**McNeill Hill**	**3.62**	**238**	PN	**Pn**	**22 05 22.8**	**+0.4**
MCHZ	**McNeill Hill**	**3.62**	**238**	Pn	**Pn**	**22 05 22.8**	**+0.4**
BKZ	**Black Stump Fm**	**3.64**	**243**	PN	**Pn**	**22 05 22.6**	**-0.1**
BKZ				AML	AML	22 06 08.5	
BKZ				AML	AML	22 06 19.6	
BKZ	**Black Stump Fm**	**3.64**	**243**	Pn	**Pn**	**22 05 22.6**	**-0.1**
KAHZ	**Kahuranaki**	**3.70**	**232**	PN	**Pn**	**22 05 23.8**	**+0.3**
KAHZ	**Kahuranaki**	**3.70**	**232**	Pn	**Pn**	**22 05 23.8**	**+0.3**
PXZ	**Pawanui**	**3.85**	**229**	PN	**Pn**	**22 05 24.6**	**-0.9**
PXZ				AML	AML	22 06 15.6	
PXZ				AML	AML	22 06 15.6	
PXZ				AML	AML	22 06 16.4	
PXZ				AML	AML	22 06 16.5	
PXZ	**Pawanui**	**3.85**	**229**	Pn	**Pn**	**22 05 24.6**	**-0.9**
BHHZ	**Black Hill Sta**	**4.08**	**240**	PN	**Pn**	**22 05 28.6**	**-0.1**
BHHZ	**Black Hill Sta**	**4.08**	**240**	Pn	**Pn**	**22 05 28.6**	**-0.1**
WPHZ	**Waipukurau**	**4.13**	**231**	PN	**Pn**	**22 05 28.3**	**-1.0**
PNHZ	**Pukenui**	**4.20**	**235**	PN	**Pn**	**22 05 29.7**	**-0.6**
PNHZ	**Pukenui**	**4.20**	**235**	Pn	**Pn**	**22 05 29.7**	**-0.6**
KRVZ	**Karewarewa**	**4.22**	**247**	PN	**Pn**	**22 05 30.5**	**-0.2**
KRVZ				AML	AML	22 06 19.5	
KRVZ				AML	AML	22 06 23.4	
KRVZ	**Karewarewa**	**4.22**	**247**	Pn	**Pn**	**22 05 30.7**	**0.0**
MOVZ	**Moawhango**	**4.26**	**243**	PN	**Pn**	**22 05 32.1**	**+0.9**
MOVZ				AML	AML	22 06 21.6	
MOVZ	**Moawhango**	**4.26**	**243**	Pn	**Pn**	**22 05 31.0**	**-0.2**
WNVZ	**Wahianoa**	**4.34**	**244**	PN	**Pn**	**22 05 33.1**	**+0.7**
WNVZ				AML	AML	22 06 22.6	
WNVZ				AML	AML	22 06 26.3	
WNVZ	**Wahianoa**	**4.34**	**244**	Pn	**Pn**	**22 05 33.1**	**+0.7**
FWVZ	**Far West T-bar**	**4.34**	**245**	PN	**Pn**	**22 05 32.5**	**0.0**
FWVZ				AML	AML	22 06 28.4	
FWVZ				AML	AML	22 06 32.8	
FWVZ	**Far West T-bar**	**4.34**	**245**	Pn	**Pn**	**22 05 33.5**	**+1.0**
MKAZ	**Moumakai**	**4.39**	**274**	PN	**Pn**	**22 05 32.1**	**-0.8**
MKAZ				AML	AML	22 06 22.7	
MKAZ	**Moumakai**	**4.39**	**274**	Pn	**Pn**	**22 05 32.6**	**-0.3**
TSZ	**Takapari Road**	**4.43**	**234**	PN	**Pn**	**22 05 32.5**	**-1.0**
TSZ				AML	AML	22 06 27.6	
TSZ				AML	AML	22 06 39.1	
TSZ	**Takapari Road**	**4.43**	**234**	Pn	**Pn**	**22 05 32.7**	**-0.8**
DVHZ	**Dannevirke**	**4.44**	**231**	PN	**Pn**	**22 05 32.8**	**-0.8**
DVHZ	**Dannevirke**	**4.44**	**231**	Pn	**Pn**	**22 05 32.8**	**-0.8**
BFZ	**Birch Farm**	**4.63**	**226**	PN	**Pn**	**22 05 33.9**	**-2.3**
POWZ	**Post Office Ro**	**4.74**	**232**	PN	**Pn**	**22 05 37.0**	**-0.7**
POWZ	**Post Office Ro**	**4.74**	**232**	Pn	**Pn**	**22 05 37.4**	**-0.4**
TIWZ	**Tintock**	**4.90**	**228**	PN	**Pn**	**22 05 38.7**	**-1.2**
MRZ	**Mangatainoka R**	**5.01**	**230**	PN	**Pn**	**22 05 40.0**	**-1.4**
MRZ				AML	AML	22 06 38.9	
MRZ				AML	AML	22 06 39.3	
TMWZ	**Te Maipa**	**5.11**	**225**	PN	**Pn**	**22 05 41.2**	**-1.7**
TMWZ	**Te Maipa**	**5.11**	**225**	Pn	**Pn**	**22 05 41.2**	**-1.7**
HOWZ	**Holdsworth Sta**	**5.19**	**228**	PN	**Pn**	**22 05 41.7**	**-2.3**
HOWZ	**Holdsworth Sta**	**5.19**	**228**	Pn	**Pn**	**22 05 41.7**	**-2.3**
OGWZ	**Otaki Gorge**	**5.35**	**231**	PN	**Pn**	**22 05 44.7**	**-1.5**
MTW	**Mount Morrison**	**5.37**	**226**	PN	Pn	22 05 43.6	-2.7
MTW				AML	AML	22 06 52.8	
TRWZ	**Traveller**	**5.42**	**223**	PN	**Pn**	**22 05 45.5**	**-1.6**
TRWZ				AML	AML	22 07 02.9	
TRWZ	**Traveller**	**5.42**	**223**	Pn	**Pn**	**22 05 45.6**	**-1.6**
TCW	**Tory Channel**	**6.13**	**232**	AML	AML	22 07 07.3	
TCW				AML	AML	22 07 07.7	
CTZ	**Chatham Island**	**6.51**	**162**	PN	**Pn**	**22 06 03.7**	**+1.7**
CTZ	**Chatham Island**	**6.51**	**162**	Pn	**Pn**	**22 06 03.7**	**+1.7**
THZ	**Tophouse**	**7.30**	**232**	PN	**Pn**	**22 06 10.7**	**-2.3**
THZ				AML	AML	22 07 41.0	
THZ				AML	AML	22 07 46.9	
THZ	**Tophouse**	**7.30**	**232**	Pn	**Pn**	**22 06 10.7**	**-2.3**
LTZ	**Lake Taylor**	**8.26**	**228**	AML	AML	22 07 56.2	
RPZ	**Rata Peaks**	**9.53**	**227**	Pn	**Pn**	**22 06 43.8**	**+0.3**
RPZ				Sn	Sn	22 08 22.3	-7.3
RPZ	**Rata Peaks**	**9.53**	**227**	Pn	**Pn**	**22 06 43.8**	**+0.3**
	1.0nm,0.3s,baz=14,slow=4.2,SNR=2.7						
RPZ				Sn	Sn	22 08 22.3	-7.3
	4.1nm,0.3s,baz=177,slow=22,SNR=11						
DZM	**Mont Dzumac**	**19.71**	**318**	Pn	**P**	**22 08 54.7**	**-0.8**
DZM	**Mont Dzumac**	**19.71**	**318**	Pn	**P**	**22 08 54.7**	**-0.8**
	0.3nm,0.3s,baz=119,slow=19,SNR=3.8						
DZM				LR	LR	22 14 52.7	
	comp=Z,168nm,20.6s,baz=205,slow=32						
STKA	**Stephens Creek**	**32.43**	**268**	P	**P**	**22 10 55.8**	**+0.2**
STKA	**Stephens Creek**	**32.43**	**268**	P	**P**	**22 10 55.8**	**+0.2**
	6.0nm,1.1s,baz=122,slow=14,SNR=4.7						
AS31	**Alice Springs**	**42.13**	**275**	*e*P	**P**	**22 12 17.3**	**-0.7**
ASAR	**Alice Springs**	**42.13**	**275**	P	**P**	**22 12 17.6**	**-0.3**
ASAR	**Alice Springs**	**42.13**	**275**	P	**P**	**22 12 17.6**	**-0.3**
	8.9nm,0.6s,baz=121,slow=7.9,SNR=99						
WRAB	**Tennant Creek**	**43.75**	**280**	*e*P	**P**	**22 12 29.7**	**-1.5**
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**43.76**	**280**	P	**P**	**22 12 29.8**	**-1.3**
WRA				PcP	**PcP**	**22 14 18.1**	**+0.5**
WRA	**Warramunga Arr**	**43.76**	**280**	P	**P**	**22 12 29.8**	**-1.3**
	4.7nm,0.5s,baz=120,slow=7.7,SNR=89						
WRA				PcP	**PcP**	**22 14 18.1**	**+0.5**
	0.6nm,1.1s,baz=124,slow=3.3,SNR=5.1						
QSPA	**South Pole Qui**	**52.57**	**180**	P	P	22 13 44.1	+5.4
QSPA	**South Pole Qui**	**52.57**	**180**	P	P	22 13 44.1	+5.4
	2.8nm,0.9s,baz=50,slow=5.4,SNR=6.1						
SYO	**Syowa Base**	**69.91**	**194**	*e*X	P	22 15 30.0	-5.9
KSRS	**Korea Array**	**89.11**	**321**	P	**P**	**22 17 21.3**	**+0.9**
	1.4nm,0.6s,baz=140,slow=5.8,SNR=8.4						
KSAR	**Wonju Array Be**	**89.12**	**321**	P	**P**	**22 17 21.3**	**+0.8**
ILAR	**Eielson Array**	**105.14**	**14**	PP	PP	22 23 00.4	+6.3
ILAR	**Eielson Array**	**105.14**	**14**	PP	PP	22 23 00.4	+6.3
	0.9nm,1.0s,baz=212,slow=5.2,SNR=4.1						
MKAR	**Makanchi Array**	**121.36**	**307**	PKP	**PKPdf**	**22 23 17.7**	**-0.3**
MKAR	**Makanchi Array**	**121.36**	**307**	PKP	**PKPdf**	**22 23 17.7**	**-0.3**
	0.6nm,0.9s,baz=100,slow=0.4,SNR=4.3						
ARCES	**ARCESS Array B**	**145.27**	**345**	PKP	**PKPdf**	**22 24 02.2**	**+0.4**
ARCES	**ARCESS Array B**	**145.27**	**345**	PKP	**PKPdf**	**22 24 02.2**	**+0.4**
	5.3nm,0.6s,baz=36,slow=3.5,SNR=32						
JOF	**Joensuu**	**148.49**	**333**	*ep*	**PKPbc**	**22 24 11.3**	**+0.3**
	2.9nm,0.5s						
DBIC	**Dimbokro**	**148.85**	**169**	PKPbc	**PKPab**	**22 24 15.6**	**-1.6**
DBIC	**Dimbokro**	**148.85**	**169**	PKPbc	**PKPab**	**22 24 15.6**	**-1.6**
	2.7nm,0.7s,baz=176,slow=4.8,SNR=4.2						
KAF	**Kangasniemi**	**150.75**	**335**	*ep*	**PKPbc**	**22 24 17.1**	**+0.5**
	2.1nm,0.4s						
FINES	**FINESS Array B**	**151.31**	**335**	PKPbc	**PKPbc**	**22 24 18.5**	**+0.7**
FINES				PKPab	**PKPab**	**22 24 25.3**	**-0.7**
FINES	**FINESS Array B**	**151.31**	**335**	PKPbc	**PKPbc**	**22 24 18.5**	**+0.7**
	3.1nm,0.7s,baz=27,slow=4.7,SNR=16						
FINES				PKPab	**PKPab**	**22 24 25.3**	**-0.7**
	2.4nm,0.8s,baz=49,slow=8.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**155.67**	**182**	PKP	**PKPdf**	**22 24 21.4**	**+1.8**
TORD				PKPbc	PKPab	22 24 30.6	-15
TORD				PKPab	PKPab	22 24 47.5	+1.8
TORD	**Torodi Ar. Bea**	**155.67**	**182**	PKP	**PKPdf**	**22 24 21.4**	**+1.8**
	0.4nm,1.0s,baz=169,slow=4.2,SNR=2.5						
TORD				PKPbc	PKPab	22 24 30.6	-15
	0.7nm,0.9s,baz=167,slow=3.9,SNR=4.7						
TORD				PKPab	PKPab	22 24 47.5	+1.8
	0.5nm,0.8s,baz=182,slow=3.2,SNR=4.8						
GERES	**GERESS Array B**	**165.26**	**324**	PKPab	**PKPab**	**22 25 26.6**	**-0.2**
GERES	**GERESS Array B**	**165.26**	**324**	PKPab	**PKPab**	**22 25 26.6**	**-0.2**
	0.8nm,0.6s,baz=48,slow=4.3,SNR=11						
DAVOX	**Davos/Dischmat**	**168.53**	**326**	PKPab	**PKPab**	**22 25 41.3**	**-0.1**
DAVOX	**Davos/Dischmat**	**168.53**	**326**	PKPab	**PKPab**	**22 25 41.3**	**-0.1**
	1.1nm,0.7s,baz=329,slow=3.5,SNR=4.5						

GUC 24 22:06:50.4±0.7, 24°.08N×67°.54W, h200km, ML3.7, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.54**	**285**	‖ *e*P	Pn	22 07 38.3	+3.4
CEN1				*e*S	Sn	22 08 13.9	+4.5
CEN1				AML	AML	22 08 16.6	
	comp=N,72nm,0.2s						
PB04	**Plate Boundary**	**2.55**	**315**	*e*P	Pn	22 07 41.7	+6.8
PB04				*e*S	Sn	22 08 20.5	+11
PB04				AML	AML	22 08 25.2	
	comp=N,109nm,0.1s						
ANCH	**Antofagasta**	**2.66**	**278**	*e*P	Pn	22 07 38.4	+2.3
ANCH				*e*S	Sn	22 08 13.8	+2.2
PB09	**Plate Boundary**	**2.77**	**325**	*e*P	Pn	22 07 39.1	+1.5
PB09				*e*S	Sn	22 08 16.6	+2.2
PB09				AML	AML	22 08 18.0	
	comp=E,254nm,0.4s						
PB10	**Plate Boundary**	**2.82**	**281**	*e*P	Pn	22 07 40.0	+2.0
PB07	**Plate Boundary**	**3.19**	**317**	*e*P	Pn	22 07 44.0	+1.4
PB07				*e*S	Sn	22 08 24.7	+1.3
PB07				AML	AML	22 08 26.4	
	comp=N,96nm,0.5s						
PB01	**Plate Boundary**	**3.52**	**329**	*e*P	Pn	22 07 47.5	+1.0
PB01				*e*S	Sn	22 08 30.6	+0.3
PB01				AML	AML	22 08 31.5	
	comp=E,77nm,0.2s						

ISCJB 24 22:09:39.2±0.4, 31°.41S±0°.04×69°.18W±0°.05, h117km±4km, mb4.0/9, Error ellipse: s-maj=7.8km s-min=5.8km az=16.3
GUC 24 22:09:39.3±0.7, 31°.40S×69°.49W, h150km, ML4.4
IDC 24 22:09:40.5±0.6, 31°.46S×69°.00W, h115km±4km, mb3.7/8, mb1 3.7/11, mb1mx3.7/21, mbtmp3.6/11, Error ellipse: s-maj=22.1km s-min=14.0km az=86.0

ISC 24 22:09:40.0±0.6, 31°.38S±0°.05×69°.20W±0°.05, h116km±5km, n35, σ1°.24/49, mb4.0/9, 2C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.85**	**106**	P	**Pn**	**22 09 59.7**	**-0.6**
	51nm,0.3s,baz=284,slow=7.4,SNR=5853						
CFAA				S	**Sn**	**22 10 14.6**	**-1.0**
	212nm,0.3s,baz=120,slow=18,SNR=120						
CMCH	**Combarbala**	**1.56**	**277**	‖ *i*P	**Pn**	**22 10 07.5**	**-0.4**
CMCH				*i* S	**Sn**	**22 10 29.3**	**+0.1**
CMCH				AML	AML	22 10 30.5	
	comp=E,30μm,0.3s						
JACH	**Jahuel**	**1.76**	**222**	*e*P	**Pn**	**22 10 10.3**	**0.0**
TLL	**Tololo Astrono**	**1.84**	**311**	‖ *e*P	**Pn**	**22 10 11.7**	**+0.2**
TLL				*e*S	**Sn**	**22 10 35.7**	**+0.2**
TLL				AML	AML	22 10 42.0	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**2.15**	**205**	*e*P	**Pn**	**22 10 18.3**	**+2.8**
FCH				*e*S	**Sn**	**22 10 45.8**	**+3.2**
FCH				AML	AML	22 10 49.3	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**2.17**	**215**	*e*P	**Pn**	**22 10 15.0**	**-0.4**
PEL				*e*S	**Sn**	**22 10 42.3**	**-0.2**
PEL				AML	AML	22 10 44.6	
	comp=N,3μm,0.6s						
ROCH	**El Roble**	**2.21**	**224**	*e*P	**Pn**	**22 10 15.0**	**-1.1**
ROCH				*e*S	**Sn**	**22 10 42.7**	**-1.1**
ROCH				AML	AML	22 10 46.5	
	comp=N,2μm,0.3s						
PACH	**Papudo**	**2.23**	**238**	*e*P	**Pn**	**22 10 14.9**	**-1.3**
PACH				*i* S	**Sn**	**22 10 42.2**	**-1.6**
CLCH	**Cerro Calan**	**2.31**	**209**	*e*P	**Pn**	**22 10 17.4**	**+0.1**
CLCH				*e*S	**Sn**	**22 10 45.7**	**0.0**
CLCH				AML	AML	22 10 51.8	
	comp=E,1μm,0.3s						
PCH	**Pirque**	**2.50**	**206**	*e*P	**Pn**	**22 10 19.7**	**0.0**
ANTU	**Antumapu**	**2.50**	**209**	*e*P	**Pn**	**22 10 19.6**	**-0.1**
ANTU				*i* S	**Sn**	**22 10 50.2**	**+0.1**
ANTU				AML	AML	22 10 52.2	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**2.60**	**199**	*e*P	**Pn**	**22 10 21.5**	**+0.3**
LMEL				*i* S	**Sn**	**22 10 56.2**	**+3.5**
LMEL				AML	AML	22 11 03.6	
	comp=N,934nm,0.2s						
LCO	**Las Campanas**	**2.70**	**331**	‖ *e*P	**Pn**	**22 10 22.2**	**-0.3**
TACH	**Talagante**	**2.70**	**213**	‖ *i*P	**Pn**	**22 10 21.7**	**-0.5**
CHCH	**Chadas Angostu**	**2.83**	**205**	*e*P	**Pn**	**22 10 23.8**	**-0.1**
CACH	**El Canelo**	**2.98**	**203**	*e*P	**Pn**	**22 10 26.1**	**+0.2**
LNV	**Longovilo**	**3.18**	**215**	*e*P	**Pn**	**22 10 26.5**	**-1.9**
PLCA	**Paso Flores**	**9.40**	**186**	P	**Pn**	**22 11 50.7**	**-1.7**
	comp=N,0.2nm,0.3s,baz=47,slow=21,SNR=3.6						
PLCA				Lg	Lg	22 14 32.2	
	comp=N,0.1nm,0.3s,baz=328,slow=15,SNR=2.7						
CPUP	**Villa Florida**	**11.55**	**67**	P	Pn	22 12 17.1	-4.2
	comp=N,1.2nm,0.3s,baz=228,slow=12,SNR=15						
LPAZ	**La Paz**	**15.05**	**4**	P	**P**	**22 13 08.6**	**-1.3**
	comp=N,0.1nm,0.3s,baz=181,slow=7.0,SNR=8.2						
SIV	**San Ignacio**	**17.02**	**28**	P	**Pn**	**22 13 31.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=194,slow=8.0,SNR=3.5						
USHA	**Ushuaia**	**23.45**	**179**	P	**P**	**22 14 39.1**	**+0.4**
	comp=N,16nm,0.8s,baz=339,slow=5.7,SNR=9.7						
BDFB	**Brasilia**	**24.88**	**56**	P	**P**	**22 14 51.5**	**-0.7**
	comp=N,0.8nm,0.3s,baz=186,slow=10,SNR=3.1						
PMSA	**Palmer Station**	**33.57**	**176**	P	**P**	**22 16 05.5**	**-3.0**
	comp=N,11nm,0.6s,baz=22,slow=19,SNR=4.9						
QSPA	**South Pole Qui**	**58.85**	**180**	P	**P**	**22 19 26.7**	**+0.4**
	comp=N,4.6nm,0.7s,baz=152,slow=2.2,SNR=35						
TXAR	**Lajitas Array**	**68.71**	**328**	P	**P**	**22 20 33.1**	**+1.9**
	comp=N,0.1nm,0.5s,baz=108,slow=4.8,SNR=2.4						
TXAR				pP	**pP**	**22 21 01.2**	**+1.3**
	comp=N,0.6nm,0.7s,baz=148,slow=8.0,SNR=5.3						
MAW	**Mawson**	**74.99**	**163**	P	**P**	**22 21 08.3**	**+0.1**
	comp=N,1.3nm,0.5s,baz=222,slow=14,SNR=4.8						
TORD	**Torodi Ar. Bea**	**81.05**	**69**	P	**P**	**22 21 42.4**	**-0.1**
	comp=N,2.0nm,0.8s,baz=276,slow=5.2,SNR=12						
TORD				pP	**pP**	**22 22 11.9**	**-0.1**
	comp=N,0.8nm,0.7s,baz=286,slow=6.1,SNR=3.3						
LBTB	**Lobatse**	**81.20**	**114**	P	**P**	**22 21 43.0**	**-0.3**
	comp=N,2.0nm,0.6s,baz=194,slow=9.2,SNR=3.0						
PDAR	**Pinedale Array**	**82.57**	**331**	P	**P**	**22 21 51.9**	**+1.8**
	comp=N,0.3nm,0.6s,baz=134,slow=7.8,SNR=3.1						
WRA	**Warramunga Arr**	**124.19**	**207**	PKP	**PKPdf**	**22 28 24.2**	**-1.4**
	comp=N,0.7nm,0.6s,baz=162,slow=1.5,SNR=11						
KURBB	**Kurchatov Arra**	**149.32**	**42**	PKPbc	**PKPbc**	**22 29 15.1**	**+0.4**
	comp=N,0.6nm,0.5s,baz=302,slow=3.2,SNR=14						
KURBB				pPKPbc	**pPKPbc**	**22 29 45.6**	**-0.4**
	comp=N,0.3nm,0.6s,baz=303,slow=3.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**150.74**	**32**	PKPbc	**PKPbc**	**22 29 18.5**	**+0.4**
	comp=N,4.8nm,0.7s,baz=304,slow=3.2,SNR=23						
ZALV				pPKPbc	**pPKPbc**	**22 29 49.0**	**-0.3**
	comp=N,1.7nm,0.4s,baz=314,slow=3.2,SNR=4.5						
MKAR	**Makanchi Array**	**153.23**	**47**	PKPbc	**PKPbc**	**22 29 23.9**	**-0.1**
	comp=N,0.8nm,0.8s,baz=307,slow=1.7,SNR=7.3						
MKAR				PKPab	**PKPab**	**22 29 36.2**	**-0.1**
	comp=N,1.1nm,0.8s,baz=303,slow=4.1,SNR=8.4						
SONM	**Songino Array**	**163.22**	**10**	PKPab	**PKPab**	**22 30 20.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=327,slow=2.5,SNR=4.1						

ISK 24 22:25:55.6, 37°.55N×35°.65E, h8km, MD2.7
ISCJB 24 22:25:56.3±0.5, 37°.55N±0°.03×35°.66E±0°.03, h8km±5km,
Error ellipse: s-maj=5.4km s-min=4.0km az=7.5
CSEM 24 22:25:56.2±0.2, 37°.55N×35°.67E, h10km, MD2.7, Error ellipse: s-maj=5.7km s-min=4.6km az=179.0
DDA 24 22:25:56.3, 37°.55N×35°.73E, h7km, MD2.7

ISC 24 22:25:55.7±0.9, 37°.53N±0°.03×35°.64E±0°.03, h12km±7km, n21, σ0°.52/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.16**	**110**	*e*PG	**Pg**	**22 25 59.5**	**+0.2**
KOZT				*e*SG	**Sg**	**22 26 02.1**	**+0.2**
KOZT	**Kozan**	**0.16**	**110**	*e*Pg	**Pg**	**22 25 59.5**	**+0.2**
KOZT				*e*Sg	**Sg**	**22 26 02.2**	**+0.2**
CEYT	**Ceyhan**	**0.53**	**170**	*e*PG	**Pb**	**22 26 06.8**	**-0.2**
CEYT				*e*SG	**Sb**	**22 26 15.3**	**+0.8**
CEYT	**Ceyhan**	**0.53**	**170**	*e*Pg	**Pb**	**22 26 06.8**	**-0.2**
CEYT				*e*Sg	**Sb**	**22 26 15.3**	**+0.8**
KARA	**Karaisali**	**0.54**	**240**	*e*PG	**Pb**	**22 26 06.5**	**-0.6**
KARA				*e*SG	**Sb**	**22 26 14.8**	**0.0**
KARA	**Karaisali**	**0.54**	**240**	*e*Pg	**Pb**	**22 26 06.5**	**-0.6**
KARA				*e*Sg	**Sb**	**22 26 14.8**	**0.0**
ANDN	**Andirin**	**0.56**	**85**	*i* P	**Pg**	**22 26 06.4**	**-0.3**
ANDN				*i* S	**Sb**	**22 26 15.4**	**-0.3**
ANDN	**Andirin**	**0.56**	**85**	*i* P	**Pg**	**22 26 06.4**	**-0.3**
ANDN				*i* S	**Sb**	**22 26 15.4**	**-0.3**
GULE	**Gulek**	**0.73**	**250**	*i* P	Pn	22 26 11.5	-0.5
GULE				*i* S	**Sn**	**22 26 23.8**	**+0.6**
GULE	**Gulek**	**0.73**	**250**	*i* P	Pn	22 26 11.5	-0.5
GULE				*i* S	**Sn**	**22 26 23.8**	**+0.6**
AYKD	**Aykdinkavak**	**0.94**	**97**	*i* P	**Pn**	**22 26 14.8**	**+0.1**
AYKD				*i* S	**Sg**	**22 26 25.5**	**-0.5**
NIG	**Nigde**	**1.00**	**306**	*e*PG	**Pb**	**22 26 14.6**	**-0.5**
NIG				*e*SG	**Sn**	**22 26 30.1**	**+0.1**
NIG	**Nigde**	**1.00**	**306**	*e*Pg	**Pb**	**22 26 14.6**	**-0.5**
NIG				*e*Sg	**Sn**	**22 26 30.1**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.07**	**35**	*e*PG	**Pn**	**22 26 16.3**	**-0.4**
PINB	**Pinarbasi**	**1.29**	**28**	*i* P	**Pg**	**22 26 21.6**	**+1.1**
PINB				*i* S	**Sn**	**22 26 37.9**	**+0.7**
PINB	**Pinarbasi**	**1.29**	**28**	*i* P	**Pg**	**22 26 21.6**	**+1.1**
PINB				*i* S	**Sn**	**22 26 37.9**	**+0.7**
BNN	**Bunyan**	**1.33**	**7**	*e*PN	**Pb**	**22 26 20.1**	**-0.5**
BNN	**Bunyan**	**1.33**	**7**	*e*Pn	**Pb**	**22 26 20.1**	**-0.5**
KUZU	**Kuzuini**	**1.38**	**123**	*i* P	**Pn**	**22 26 20.7**	**-0.1**
KUZU				*i* S	**Sb**	**22 26 39.0**	**0.0**
KUZU	**Kuzuini**	**1.38**	**123**	*i* P	**Pn**	**22 26 20.7**	**-0.1**
KUZU				*i* S	**Sb**	**22 26 39.0**	**0.0**
DARE	**Darende-Malaty**	**1.79**	**54**	*e*

MLSB	**Milas**	**2.62**	**36**	*e*Pn	**Pn**	**22 26 54.2**	**+1.4**
SMG	**Samos**	**2.65**	**17**	P	**Pn**	**22 26 53.7**	**+0.6**
SMG				S	**Sn**	**22 27 24.7**	**+0.7**
SMG	**Samos**	**2.65**	**17**	*e*P	**Pn**	**22 26 53.9**	**+0.8**
SMG	**Samos**	**2.65**	**17**	P	**Pn**	**22 26 53.7**	**+0.6**
SMG				S	**Sn**	**22 27 24.7**	**+0.7**
GCAM	**G?zelcaml?**	**2.75**	**24**	*i* P	**Pn**	**22 26 57.3**	**+2.8**
GCAM				*i* S	**Sn**	**22 27 26.1**	**-0.5**
YER	**Yerkesik**	**2.77**	**45**	*e*PN	**Pn**	**22 26 56.7**	**+1.8**
YER	**Yerkesik**	**2.77**	**45**	*e*Pn	**Pn**	**22 26 56.7**	**+1.8**
TURN	**Turunc**	**2.80**	**52**	*i* P	**Pn**	**22 26 52.2**	**-2.9**
TURN				*i* S	Sn	22 27 20.9	-6.8
TURN	**Turunc**	**2.80**	**52**	*i* P	**Pn**	**22 26 52.2**	**-2.9**
DALY	**Dalyan (Mu¨la**	**2.80**	**53**	*e*PN	**Pn**	**22 26 56.8**	**+1.7**
DALY	**Dalyan (Mu¨la**	**2.80**	**53**	*e*Pn	**Pn**	**22 26 56.8**	**+1.7**
VLI	**Veliai**	**2.82**	**304**	P	**Pn**	**22 26 55.9**	**+0.5**
VLI				S	**Sn**	**22 27 26.4**	**-1.8**
VLI	**Veliai**	**2.82**	**304**	*e*P	**Pn**	**22 26 56.0**	**+0.5**
VLI	**Veliai**	**2.82**	**304**	*e*P	**Pn**	**22 26 56.0**	**+0.5**
VLI				S	**Sn**	**22 27 26.4**	**-1.8**
AYDN	**Tasoluk**	**2.97**	**33**	*i* P	**Pn**	**22 26 59.1**	**+1.6**
AYDN				*i* S	**Sn**	**22 27 31.9**	**0.0**
AYDN	**Tasoluk**	**2.97**	**33**	*i* P	**Pn**	**22 26 59.1**	**+1.6**
AYDN				*i* S	**Sn**	**22 27 32.0**	**0.0**
FETY	**Fethiye**	**3.00**	**60**	*e*PN	**Pn**	**22 26 58.6**	**+0.7**
FETY	**Fethiye**	**3.00**	**60**	*e*Pn	**Pn**	**22 26 58.6**	**+0.7**
DIDY	**Didyma**	**3.13**	**318**	P	**Pn**	**22 27 00.6**	**+0.8**
DIDY				S	**Sn**	**22 27 36.9**	**+0.9**
DIDY	**Didyma**	**3.13**	**318**	P	**Pn**	**22 27 00.6**	**+0.8**
DIDY				S	**Sn**	**22 27 36.9**	**+0.9**
DID	**Didima**	**3.14**	**319**	P	**Pn**	**22 27 00.6**	**+0.8**
DID				S	**Sn**	**22 27 36.0**	**-0.1**
DID	**Didima**	**3.14**	**319**	*e*P	**Pn**	**22 27 00.7**	**+0.9**
DID	**Didima**	**3.14**	**319**	*e*P	**Pn**	**22 27 00.7**	**+0.9**
DID				S	**Sn**	**22 27 36.0**	**-0.1**
KSL	**Kastellorizon**	**3.19**	**71**	*e*P	**Pn**	**22 27 01.2**	**+0.7**
NAIG	**Nisos Aigina**	**3.20**	**324**	*e*P	**Pn**	**22 27 02.0**	**+1.4**
NAIG	**Nisos Aigina**	**3.20**	**324**	*e*P	**Pn**	**22 27 02.0**	**+1.4**
CHOS	**Chios island**	**3.21**	**3**	P	**Pn**	**22 27 01.9**	**+1.1**
CHOS				S	**Sn**	**22 27 38.0**	**+0.2**
CHOS	**Chios island**	**3.21**	**3**	*e*P	**Pn**	**22 27 01.8**	**+1.0**
CHOS	**Chios island**	**3.21**	**3**	P	**Pn**	**22 27 01.9**	**+1.1**
CHOS				S	**Sn**	**22 27 38.0**	**+0.2**
URLA	**Izmir**	**3.23**	**10**	*i* P	**Pn**	**22 27 02.0**	**+0.9**
AKAS	**Kas**	**3.23**	**70**	*i* P	**Pn**	**22 27 01.7**	**+0.5**
AKAS				*i* S	**Sn**	**22 27 37.4**	**-1.2**
AKAS	**Kas**	**3.23**	**70**	*i* P	**Pn**	**22 27 01.7**	**+0.5**
ATHU	**Athens Univers**	**3.24**	**330**	P	**Pn**	**22 27 02.8**	**+1.6**
ATHU				S	**Sn**	**22 27 40.3**	**+1.7**
ATHU	**Athens Univers**	**3.24**	**330**	P	**Pn**	**22 27 02.8**	**+1.6**
ATHU				S	**Sn**	**22 27 40.3**	**+1.7**
DYR	**Agios Nikonas**	**3.26**	**300**	P	**Pn**	**22 27 03.1**	**+1.6**
DYR	**Agios Nikonas**	**3.26**	**300**	*e*P	**Pn**	**22 27 03.2**	**+1.7**
DYR	**Agios Nikonas**	**3.26**	**300**	P	**Pn**	**22 27 03.1**	**+1.6**
ATH	**Athens Observa**	**3.27**	**329**	P	**Pn**	**22 27 03.3**	**+1.7**
ATH				S	**Sn**	**22 27 39.7**	**+0.4**
ATH	**Athens Observa**	**3.27**	**329**	*e*P	**Pn**	**22 27 03.4**	**+1.8**
ATH	**Athens Observa**	**3.27**	**329**	P	**Pn**	**22 27 03.3**	**+1.7**
ATH				S	**Sn**	**22 27 39.7**	**+0.4**
PTL	**Penteli**	**3.28**	**331**	P	**Pn**	**22 27 03.3**	**+1.6**
PTL				S	**Sn**	**22 27 39.2**	**-0.4**
PTL	**Penteli**	**3.28**	**331**	*e*P	**Pn**	**22 27 03.5**	**+1.8**
PTL	**Penteli**	**3.28**	**331**	P	**Pn**	**22 27 03.3**	**+1.6**
PTL				S	**Sn**	**22 27 39.2**	**-0.4**
IZM	**Izmir**	**3.41**	**19**	*e*PN	**Pn**	**22 27 04.5**	**+1.0**
IZM	**Izmir**	**3.41**	**19**	*e*Pn	**Pn**	**22 27 04.5**	**+1.0**
LTBQ	**Tobruq**	**3.51**	**208**	*i* P	**Pn**	**22 27 05.4**	**+0.6**
	SNR=35						
VLX	**Vlachokerasia**	**3.56**	**309**	P	**Pn**	**22 27 06.4**	**+0.8**
VLX				S	**Sn**	**22 27 46.2**	**-0.2**
VLX	**Vlachokerasia**	**3.56**	**309**	*e*P	**Pn**	**22 27 06.6**	**+1.0**
VLX	**Vlachokerasia**	**3.56**	**309**	P	**Pn**	**22 27 06.4**	**+0.8**
VLX				S	**Sn**	**22 27 46.2**	**-0.2**
DNZL	**Cakiroluk**	**3.59**	**45**	*i* P	**Pn**	**22 27 07.6**	**+1.4**
DNZL	**Cakiroluk**	**3.59**	**45**	*i* P	**Pn**	**22 27 07.6**	**+1.4**
ACOR	**Acrocorinthos**	**3.62**	**319**	P	**Pn**	**22 27 07.1**	**+0.8**
ACOR				S	**Sn**	**22 27 48.2**	**+0.4**
ACOR	**Acrocorinthos**	**3.62**	**319**	P	**Pn**	**22 27 07.1**	**+0.8**
ACOR				S	**Sn**	**22 27 48.2**	**+0.4**
GOLH	**Golhisar**	**3.64**	**55**	*i* P	**Pn**	**22 27 08.3**	**+1.6**
GOLH				*i* S	**Sn**	**22 27 49.0**	**+0.6**
GOLH	**Golhisar**	**3.64**	**55**	*i* P	**Pn**	**22 27 08.3**	**+1.6**
GOLH				*i* S	**Sn**	**22 27 49.0**	**+0.6**
ELL	**Elmali**	**3.65**	**63**	*e*PN	**Pn**	**22 27 08.1**	**+1.3**
ELL	**Elmali**	**3.65**	**63**	*e*Pn	**Pn**	**22 27 08.1**	**+1.3**
ERET	**Eretria**	**3.65**	**334**	P	**Pn**	**22 27 08.8**	**+2.0**
ERET	**Eretria**	**3.65**	**334**	P	**Pn**	**22 27 08.8**	**+2.0**
LTK	**Loutraki**	**3.67**	**322**	P	**Pn**	**22 27 08.2**	**+1.2**
LTK				S	**Sn**	**22 27 50.0**	**+1.0**
LTK	**Loutraki**	**3.67**	**322**	*e*P	**Pn**	**22 27 08.3**	**+1.2**
LTK	**Loutraki**	**3.67**	**322**	P	**Pn**	**22 27 08.2**	**+1.2**
LTK				S	**Sn**	**22 27 50.0**	**+1.0**
PYL	**PYLOS**	**3.74**	**298**	P	**Pn**	**22 27 07.8**	**-0.3**
PYL				S	**Sn**	**22 27 50.6**	**-0.3**
PYL	**PYLOS**	**3.74**	**298**	P	**Pn**	**22 27 07.8**	**-0.3**
PYL				S	**Sn**	**22 27 50.6**	**-0.3**
ITM	**Ithomi**	**3.75**	**303**	P	**Pn**	**22 27 09.1**	**+0.9**
ITM				S	**Sn**	**22 27 50.9**	**-0.2**
ITM	**Ithomi**	**3.75**	**303**	*e*P	**Pn**	**22 27 09.3**	**+1.1**
ITM	**Ithomi**	**3.75**	**303**	P	**Pn**	**22 27 09.1**	**+0.9**
ITM				S	**Sn**	**22 27 50.9**	**-0.2**
GUR	**Goura**	**3.94**	**315**	P	**Pn**	**22 27 11.5**	**+0.6**
GUR				S	**Sn**	**22 27 54.8**	**-1.1**
GUR	**Goura**	**3.94**	**315**	*e*P	**Pn**	**22 27 11.5**	**+0.6**
GUR	**Goura**	**3.94**	**315**	P	**Pn**	**22 27 11.5**	**+0.6**
GUR				S	**Sn**	**22 27 54.8**	**-1.1**
MANT	**Manisa**	**3.96**	**33**	*i* P	**Pn**	**22 27 13.0**	**+1.8**
MANT				*i* S	Sn	22 27 28.9	-28
MANT	**Manisa**	**3.96**	**33**	*i* P	**Pn**	**22 27 13.0**	**+1.8**
MRKA	**Markates**	**3.96**	**333**	P	**Pn**	**22 27 12.7**	**+1.7**
MRKA				S	**Sn**	**22 27 56.2**	**0.0**
MRKA	**Markates**	**3.96**	**333**	P	**Pn**	**22 27 12.7**	**+1.7**
MRKA				S	**Sn**	**22 27 56.2**	**0.0**
MATC	**Matruh**	**3.99**	**163**	P	**Pn**	**22 27 10.2**	**-1.3**
KULA	**Kula-Manisa**	**4.02**	**33**	*e*PN	**Pn**	**22 27 13.6**	**+1.7**
KULA	**Kula-Manisa**	**4.02**	**33**	P	**Pn**	**22 27 13.3**	**+1.4**
KULA	**Kula-Manisa**	**4.02**	**33**	P	**Pn**	**22 27 13.3**	**+1.4**
KULA	**Kula-Manisa**	**4.02**	**33**	*e*Pn	**Pn**	**22 27 13.6**	**+1.7**
KORT	**Korkueli**	**4.07**	**62**	*i* P	**Pn**	**22 27 14.0**	**+1.3**
KORT				*i* S	**Sn**	**22 28 00.4**	**+1.2**
KORT	**Korkueli**	**4.07**	**62**	*i* P	**Pn**	**22 27 14.0**	**+1.3**
KORT				*i* S	**Sn**	**22 28 00.4**	**+1.2**
PRK	**Paraskevi**	**4.07**	**5**	P	**Pn**	**22 27 13.5**	**+1.0**
PRK				S	**Sn**	**22 27 58.4**	**-0.5**
PRK	**Paraskevi**	**4.07**	**5**	*e*P	**Pn**	**22 27 13.6**	**+1.0**
PRK	**Paraskevi**	**4.07**	**5**	P	**Pn**	**22 27 13.5**	**+1.0**
PRK				S	**Sn**	**22 27 58.4**	**-0.5**
AMT	**Artemida-Makis**	**4.08**	**306**	P	**Pn**	**22 27 14.4**	**+1.6**
AMT				S	**Sn**	**22 27 59.2**	**-0.1**
AMT	**Artemida-Makis**	**4.08**	**306**	*e*P	**Pn**	**22 27 14.4**	**+1.6**
AMT	**Artemida-Makis**	**4.08**	**306**	P	**Pn**	**22 27 14.4**	**+1.6**
AMT				S	**Sn**	**22 27 59.2**	**-0.1**
KLV	**Kalavryta, Ach**	**4.13**	**315**	P	**Pn**	**22 27 13.8**	**+0.4**
KLV				S	**Sn**	**22 28 00.7**	**+0.3**
KLV	**Kalavryta, Ach**	**4.13**	**315**	*e*P	**Pn**	**22 27 13.8**	**+0.4**
KLV	**Kalavryta, Ach**	**4.13**	**315**	P	**Pn**	**22 27 13.8**	**+0.4**
KLV				S	**Sn**	**22 28 00.7**	**+0.3**
LKR	**Lokris**	**4.15**	**327**	*e*P	**Pn**	**22 27 15.1**	**+1.5**
LKR	**Lokris**	**4.15**	**327**	*e*P	**Pn**	**22 27 15.1**	**+1.5**
DSF	**Desfina**	**4.18**	**321**	P	**Pn**	**22 27 14.9**	**+0.7**
DSF				S	**Sn**	**22 28 02.6**	**+0.8**
DSF	**Desfina**	**4.18**	**321**	P	**Pn**	**22 27 14.9**	**+0.7**
DSF				S	**Sn**	**22 28 02.6**	**+0.8**
SMIA	**Simia**	**4.25**	**331**	P	**Pn**	**22 27 17.1**	**+2.0**
SMIA	**Simia**	**4.25**	**331**	P	**Pn**	**22 27 17.1**	**+2.0**
AOS	**Alonnisos**	**4.28**	**339**	P	**Pn**	**22 27 17.4**	**+2.0**
AOS	**Alonnisos**	**4.28**	**339**	*e*P	**Pn**	**22 27 17.7**	**+2.3**
AOS	**Alonnisos**	**4.28**	**339**	P	**Pn**	**22 27 17.4**	**+2.0**
KHL	**Karahalli**	**4.31**	**42**	*e*PN	**Pn**	**22 27 16.6**	**+0.8**
KHL	**Karahalli**	**4.31**	**42**	*e*Pn	**Pn**	**22 27 16.7**	**+0.8**
KHAL	**Karahalli**	**4.32**	**41**	*i* P	**Pn**	**22 27 17.2**	**+1.1**
KHAL	**Karahalli**	**4.32**	**41**	*i* P	**Pn**	**22 27 17.2**	**+1.1**
KALE	**Kalithea**	**4.38**	**318**	P	**Pn**	**22 27 17.2**	**+0.4**
KALE				S	**Sn**	**22 28 08.5**	**+2.0**
KALE	**Kalithea**	**4.38**	**318**	*e*P	**Pn**	**22 27 17.4**	**+0.6**
KALE	**Kalithea**	**4.38**	**318**	P	**Pn**	**22 27 17.2**	**+0.4**
KALE				S	**Sn**	**22 28 08.5**	**+2.0**
TRIZ	**Trizonia**	**4.39**	**317**	P	**Pn**	**22 27 17.5**	**+0.6**
TRIZ				S	**Sn**	**22 28 05.8**	**-1.0**
TRIZ	**Trizonia**	**4.39**	**317**	*e*P	**Pn**	**22 27 18.0**	**+1.1**
TRIZ	**Trizonia**	**4.39**	**317**	*e*P	**Pn**	**22 27 18.0**	**+1.1**
TRIZ				S	**Sn**	**22 28 05.8**	**-1.0**
AXAR	**Agios Charalam**	**4.40**	**325**	P	**Pn**	**22 27 18.5**	**+1.5**
AXAR				S	**Sn**	**22 28 08.0**	**+1.0**
AXAR	**Agios Charalam**	**4.40**	**325**	P	**Pn**	**22 27 18.5**	**+1.5**
AXAR				S	**Sn**	**22 28 08.0**	**+1.0**
SKIA	**Skiathos**	**4.41**	**335**	P	**Pn**	**22 27 19.1**	**+1.9**
SKIA	**Skiathos**	**4.41**	**335**	P	**Pn**	**22 27 19.1**	**+1.9**
BCK	**Bucak**	**4.45**	**58**	*e*PN	**Pn**	**22 27 19.0**	**+1.2**
BCK	**Bucak**	**4.45**	**58**	*e*Pn	**Pn**	**22 27 19.0**	**+1.2**
DEMI	**Demirci**	**4.49**	**30**	*i* P	**Pn**	**22 27 20.2**	**+1.9**
DEMI	**Demirci**	**4.49**	**30**	*i* P	**Pn**	**22 27 20.2**	**+1.9**
EFP	**Efpalio**	**4.53**	**317**	P	**Pn**	**22 27 19.7**	**+0.9**
EFP				S	**Sn**	**22 28 11.5**	**+1.4**
EFP	**Efpalio**	**4.53**	**317**	*e*P	**Pn**	**22 27 19.9**	**+1.1**
EFP	**Efpalio**	**4.53**	**317**	P	**Pn**	**22 27 19.7**	**+0.9**
EFP				S	**Sn**	**22 28 11.5**	**+1.4**
RLS	**Riolos of Patr**	**4.55**	**310**	P	**Pn**	**22 27 20.6**	**+1.6**
RLS				S	**Sn**	**22 28 10.8**	**+0.2**
RLS	**Riolos of Patr**	**4.55**	**310**	*e*P	**Pn**	**22 27 20.6**	**+1.6**
RLS	**Riolos of Patr**	**4.55**	**310**	P	**Pn**	**22 27 20.6**	**+1.6**
RLS				S	**Sn**	**22 28 10.8**	**+0.2**
ISP	**Isparta**	**4.60**	**54**	*e*PN	**Pn**	**22 27 20.7**	**+0.9**
ISP	**Isparta**	**4.60**	**54**	P	**Pn**	**22 27 20.1**	**+0.3**
ISP	**Isparta**	**4.60**	**54**	P	**Pn**	**22 27 20.1**	**+0.3**
ISP	**Isparta**	**4.60**	**54**	*e*Pn	**Pn**	**22 27 20.7**	**+0.9**
NEO	**Neokhori**	**4.62**	**334**	P	**Pn**	**22 27 21.6**	**+1.5**
NEO	**Neokhori**	**4.62**	**334**	*e*P	**Pn**	**22 27 21.8**	**+1.7**
NEO	**Neokhori**	**4.62**	**334**	P	**Pn**	**22 27 21.6**	**+1.5**
XOR	**Xorichti**	**4.69**	**334**	P	**Pn**	**22 27 22.4**	**+1.4**
XOR	**Xorichti**	**4.69**	**334**	P	**Pn**	**22 27 22.4**	**+1.4**
AXS	**Araxos**	**4.69**	**311**	P	**Pn**	**22 27 22.7**	**+1.7**
AXS				S	**Sn**	**22 28 15.4**	**+1.3**
AXS	**Araxos**	**4.69**	**311**	P	**Pn**	**22 27 22.7**	**+1.7**
AXS				S	**Sn**	**22 28 15.4**	**+1.3**
LIA	**Limnos Island**	**4.74**	**354**	P	**Pn**	**22 27 23.2**	**+1.5**
LIA				S	**Sn**	**22 28 15.9**	**+0.6**
LIA	**Limnos Island**	**4.74**	**354**	*e*P	**Pn**	**22 27 23.0**	**+1.3**
LIA	**Limnos Island**	**4.74**	**354**	P	**Pn**	**22 27 23.2**	**+1.5**
LIA				S	**Sn**	**22 28 15.9**	**+0.6**
SUTC	**Sutluce-Ispart**	**4.75**	**60**	*e*PN	**Pn**	**22 27 22.2**	**+0.4**
SUTC	**Sutluce-Ispart**	**4.75**	**60**	*e*Pn	**Pn**	**22 27 22.3**	**+0.4**
AGG	**Agios Georgios**	**4.76**	**325**	P	**Pn**	**22 27 23.1**	**+1.2**
AGG				S	**Sn**	**22 28 16.8**	**+1.0**
AGG	**Agios Georgios**	**4.76**	**325**	*e*P	**Pn**	**22 27 23.2**	**+1.3**
AGG	**Agios Georgios**	**4.76**	**325**	*e*P	**Pn**	**22 27 23.2**	**+1.3**
AGG				S	**Sn**	**22 28 16.8**	**+1.0**
BALY	**Balya**	**4.76**	**17**	*i* P	**Pn**	**22 27 24.3**	**+2.2**
BALY	**Balya**	**4.76**	**17**	*i* P	**Pn**	**22 27 24.3**	**+2.2**
MAKR	**Makrakomi, Fth**	**4.84**	**323**	*i* P	**Pn**	**22 27 24.9**	**+1.7**
MAKR				S	**Sn**	**22 28 18.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**4.84**	**323**	P	**Pn**	**22 27 24.9**	**+1.7**
MAKR				S	**Sn**	**22 28 18.5**	**+0.6**
DURS	**Dursunbey**	**4.88**	**25**	*i* P	**Pn**	**22 27 25.1**	**+1.4**
DURS	**Dursunbey**	**4.88**	**25**	*i* P	**Pn**	**22 27 25.1**	**+1.4**
EVR	**Evrytania**	**4.94**	**320**	P	**Pn**	**22 27 24.4**	**-0.1**
EVR				S	**Sn**	**22 28 20.8**	**+0.5**
EVR	**Evrytania**	**4.94**	**320**	*e*P	**Pn**	**22 27 25.9**	**+1.4**
EVR	**Evrytania**	**4.94**	**320**	*e*P	**Pn**	**22 27 25.9**	**+1.4**
EVR				S	**Sn**	**22 28 20.8**	**+0.5**
KFL	**Anninata**	**5.01**	**307**	P	**Pn**	**22 27 26.3**	**+0.9**
KFL				S	**Sn**	**22 28 22.4**	**+0.4**
KFL	**Anninata**	**5.01**	**307**	P	**Pn**	**22 27 26.3**	**+0.9**
KFL				S	**Sn**	**22 28 22.4**	**+0.4**
PAIG	**Paliouri**	**5.04**	**341**	P	**Pn**	**22 27 27.7**	**+1.9**
PAIG	**Paliouri**	**5.04**	**341**	*e*P	**Pn**	**22 27 27.7**	**+1.9**
PAIG	**Paliouri**	**5.04**	**341**	P	**Pn**	**22 27 27.7**	**+1.9**
GONE	**Gonen-Balikesi**	**5.07**	**16**	*e*PN	**Pn**	**22 27 27.5**	**+1.3**
GONE	**Gonen-Balikesi**	**5.07**	**16**	*e*Pn	**Pn**	**22 27 27.5**	**+1.3**
VLS	**Valsamata**	**5.18**	**307**	P	**Pn**	**22 27 26.8**	**-0.9**
VLS				S	**Sn**	**22 28 25.0**	**-1.1**
VLS	**Valsamata**	**5.18**	**307**	P	**Pn**	**22 27 26.8**	**-0.9**
VLS				S	**Sn**	**22 28 25.0**	**-1.1**
GELI	**Tayfur-Gelibol**	**5.23**	**5**	*e*PN	**Pn**	**22 27 29.4**	**+1.0**
GELI	**Tayfur-Gelibol**	**5.23**	**5**	*e*Pn	**Pn**	**22 27 29.4**	**+1.0**
SMTH	**Samothraki Isl**	**5.29**	**357**	P	**Pn**	**22 27 29.9**	**+0.7**
SMTH	**Samothraki Isl**	**5.29**	**357**	P	**Pn**	**22 27 29.9**	**+0.7**
AKMC	**Akamas**	**5.31**	**90**	P	**Pn**	**22 27 27.4**	**-2.2**
AKMC	**Akamas**	**5.31**	**90**	P	**Pn**	**22 27 27.4**	**-2.2**
PPCY	**Paphos**	**5.34**	**91**	P	**Pn**	**22 27 27.6**	**-2.3**
PPCY	**Paphos**	**5.34**	**91**	P	**Pn**	**22 27 27.6**	**-2.3**
THL	**Klokotos Trika**	**5.34**	**326**	P	**Pn**	**22 27 31.2**	**+1.4**
THL				S	**Sn**	**22 28 30.2**	**+0.3**
THL	**Klokotos Trika**	**5.34**	**326**	P	**Pn**	**22 27 31.2**	**+1.4**
THL				S	**Sn**	**22 28 30.2**	**+0.3**
OUR	**Ouranopolis**	**5.36**	**345**	P	**Pn**	**22 27 31.8**	**+1.7**
OUR	**Ouranopolis**	**5.36**	**345**	P	**Pn**	**22 27 31.8**	**+1.7**
GAZI	**Gazipasa**	**5.37**	**77**	*i* P	**Pn**	**22 27 28.8**	**-1.5**
GAZI				*i* S	**Sn**	**22 28 25.0**	**-5.7**
GAZI	**Gazipasa**	**5.37**	**77**	*i* P	**Pn**	**22 27 28.8**	**-1.5**
GAZI				*i* S	**Sn**	**22 28 25.0**	**-5.7**
BOLV	**Bolvadin**	**5.40**	**48**	*i* P	**Pn**	**22 27 32.1**	**+1.2**
BOLV	**Bolvadin**	**5.40**	**48**	*i* P	**Pn**	**22 27 32.1**	**+1.2**
LKD2	**Lefkada island**	**5.50**	**312**	P	**Pn**	**22 27 32.4**	**+0.3**
LKD2				S	**Sn**	**22 28 33.6**	**-0.4**
LKD2	**Lefkada island**	**5.50**	**312**	P	**Pn**	**22 27 32.4**	**+0.3**
LKD2				S	**Sn**	**22 28 33.6**	**-0.4**
PLG	**Polygyros**	**5.52**	**341**	P	**Pn**	**22 27 34.3**	**+1.8**
PLG	**Polygyros**	**5.52**	**341**	*e*P	**Pn**	**22 27 34.6**	**+2.1**
PLG	**Polygyros**	**5.52**	**341**	P	**Pn**	**22 27 34.3**	**+1.8**
ALFC	**Alevga**	**5.53**	**88**	P	**Pn**	**22 27 30.3**	**-2.2**
	10nm,0.2s						
ALFC				S	Sn	22 28 28.1	-6.6
ALFC	**Alevga**	**5.53**	**88**	P	**Pn**	**22 27 30.3**	**-2.2**
	10nm,0.2s						
LIT	**Litokhoron**	**5.59**	**333**	*e*P	**Pn**	**22 27 34.9**	**+1.6**
LIT	**Litokhoron**	**5.59**	**333**	*e*P	**Pn**	**22 27 34.9**	**+1.6**
HDMB	**Hadim**	**5.66**	**70**	*e*PN	**Pn**	**22 27 34.0**	**-0.4**
HDMB	**Hadim**	**5.66**	**70**	*e*Pn	**Pn**	**22 27 34.1**	**-0.4**
LEF	**Lefka**	**5.77**	**89**	*e*PN	**Pn**	**22 27 33.3**	**-2.5**
LEF	**Lefka**	**5.77**	**89**	*e*Pn	**Pn**	**22 27 33.3**	**-2.5**
HORT	**Hortiatis**	**5.83**	**339**	P	**Pn**	**22 27 38.9**	**+2.2**
HORT	**Hortiatis**	**5.83**	**339**	P	**Pn**	**22 27 38.9**	**+2.2**
SEYT	**Eskypehyr**	**5.88**	**41**	*i* P	**Pn**	**22 27 38.8**	**+1.4**
SEYT	**Eskypehyr**	**5.88**	**41**	*i* P	**Pn**	**22 27 38.8**	**+1.4**
ERMK	**Ermenek**	**5.92**	**74**	*i* P	**Pn**	**22 27 38.2**	**+0.3**
ERMK	**Ermenek**	**5.92**	**74**	*i* P	**Pn**	**22 27 38.2**	**+0.3**
KONT	**Konya--Tatoy**	**5.92**	**60**	*e*PN	**Pn**	**22 27 37.8**	**-0.1**
KONT	**Konya--Tatoy**	**5.92**	**60**	*e*Pn	**Pn**	**22 27 37.8**	**-0.1**
BORA	**Eskisehir**	**5.95**	**37**	*i* P	**Pn**	**22 27 39.8**	**+1.5**
BORA	**Eskisehir**	**5.95**	**37**	*i* P	**Pn**	**22 27 39.8**	**+1.5**
RDO	**Rodhopi**	**5.96**	**358**	P	**Pn**	**22 27 39.2**	**+0.8**
RDO	**Rodhopi**	**5.96**	**358**	*e*P	**Pn**	**22 27 39.8**	**+1.4**
RDO	**Rodhopi**	**5.96**	**358**	*e*P	**Pn**	**22 27 39.8**	**+1.4**
SOH	**Sokhos**	**5.97**	**341**	P	**Pn**	**22 27 40.9**	**+2.4**
SOH	**Sokhos**	**5.97**	**341**	P	**Pn**	**22 27 40.9**	**+2.4**
JAN	**Janina**	**5.98**	**320**	P	**Pn**	**22 27 39.2**	**+0.5**
JAN				S	**Sn**	**22 28 44.7**	**-1.2**
JAN	**Janina**	**5.98**	**320**	P	**Pn**	**22 27 39.2**	**+0.5**
JAN				S	**Sn**	**22 28 44.7**	**-1.2**
KDHN	**Kadinhani**	**6.03**	**55**	*i* P	**Pn**	**22 27 40.0**	**+0.6**
KDHN	**Kadinhani**	**6.03**	**55**	*i* P	**Pn**	**22 27 40.0**	**+0.6**
MAMC	**Mammari**	**6.03**	**88**	P	**Pn**	**22 27 37.7**	**-1.7**
MAMC	**Mammari**	**6.03**	**88**	P	**Pn**	**22 27 37.7**	**-1.7**
LADK	**Ladik-KONYA**	**6.04**	**58**	*e*PN	**Pn**	**22 27 39.6**	**0.0**
LADK	**Ladik-KONYA**	**6.04**	**58**	*e*Pn	**Pn**	**22 27 39.6**	**0.0**
KZN	**Kozani**	**6.05**	**329**	P	**Pn**	**22 27 40.2**	**+0.5**
KZN				S	**Sn**	**22 28 47.5**	**-0.1**
KZN	**Kozani**	**6.05**	**329**	P	**Pn**	**22 27 40.2**	**+0.5**
KZN				S	**Sn**	**22 28 47.5**	**-0.1**
KIZT	**Kizilcal**	**6.07**	**51**	*e*PN	**Pn**	**22 27 40.4**	**+0.4**
KIZT	**Kizilcal**	**6.07**	**51**	*e*Pn	**Pn**	**22 27 40.4**	**+0.4**
CSS	**Prodhromos**	**6.14**	**90**	P	**Pn**	**22 27 38.7**	**-2.2**
	1.4nm,0.4s						
CSS				S	Sn	22 28 43.7	-6.0
CSS	**Prodhromos**	**6.14**	**90**	*e*PN	**Pn**	**22 27 38.9**	**-2.0**
CSS	**Prodhromos**	**6.14**	**90**	P	**Pn**	**22 27 38.5**	**-2.4**
CSS				S	Sn	22 28 43.0	-6.7
CSS	**Prodhromos**	**6.14**	**90**	P	**Pn**	**22 27 38.5**	**-2.4**
CSS	**Prodhromos**	**6.14**	**90**	*e*Pn	**Pn**	**22 27 38.9**	**-2.0**
CSS				S	Sn	22 28 43.0	-6.7
IGT	**Igoumenitsa**	**6.18**	**316**	P	**Pn**	**22 27 40.2**	**-1.2**
IGT				S	**Sn**	**22 28 45.7**	**-4.9**
IGT	**Igoumenitsa**	**6.18**	**316**	P	**Pn**	**22 27 40.2**	**-1.2**
IGT				S	**Sn**	**22 28 45.7**	**-4.9**
SRS	**Serrai**	**6.19**	**344**	P	**Pn**	**22 27 43.0**	**+1.5**
SRS				S	**Sn**	**22 28 51.4**	**+0.5**
SRS	**Serrai**	**6.19**	**344**	P	**Pn**	**22 27 43.0**	**+1.5**
SRS				S	**Sn**	**22 28 51.4**	**+0.5**
SVRH	**Sivrihisar-ESK**	**6.21**	**45**	*e*PN	**Pn**	**22 27 42.3**	**+0.4**
SVRH	**Sivrihisar-ESK**	**6.21**	**45**	*e*Pn	**Pn**	**22 27 42.3**	**+0.4**
LFK	**Lefkose**	**6.29**	**87**	*e*PN	**Pn**	**22 27 41.6**	**-1.3**
LFK	**Lefkose**	**6.29**	**87**	*e*Pn	**Pn**	**22 27 41.6**	**-1.3**
NVR	**Nevrokopi**	**6.36**	**346**	P	**Pn**	**22 27 45.7**	**+1.9**
NVR	**Nevrokopi**	**6.36**	**346**	*e*P	**Pn**	**22 27 45.9**	**+2.1**
NVR	**Nevrokopi**	**6.36**	**346**	P	**Pn**	**22 27 45.7**	**+1.9**
GRG	**Griva**	**6.38**	**336**	P	**Pn**	**22 27 44.9**	**+0.8**
GRG	**Griva**	**6.38**	**336**	*e*P	**Pn**	**22 27 45.2**	**+1.1**
GRG	**Griva**	**6.38**	**336**	P	**Pn**	**22 27 44.9**	**+0.8**
GULT	**Gulveren**	**6.41**	**34**	*e*PN	**Pn**	**22 27 45.3**	**+0.7**
GULT	**Gulveren**	**6.41**	**34**	*e*Pn	**Pn**	**22 27 45.3**	**+0.7**
**I

comp=N,4.2nm,0.6s
DPC **Dobruska-Polom** 16.68 338 *e*P P 22 30 03.6 0.0
DPC *ex* x 22 30 07.1
DPC *ep*P **pP** 22 30 17.6 +0.7
DPC **Dobruska-Polom** 16.68 338 P P 22 30 03.6 0.0
DAVOX **Davos/Dischmat** 16.69 319 P Pn 22 30 03.1 +0.6
comp=N,0.1nm,0.3s,baz=134,slow=15,SNR=2.3
MBDF **Montbardon** 17.43 309 *e*P P 22 30 12.2 +0.1
comp=N,8.5nm,0.9s
MBDF **Montbardon** 17.43 309 *e*P P 22 30 12.2 +0.1
comp=N,4.2nm,0.9s
LPG **La Plagne** 17.80 311 *e*P Pn 22 30 16.8 +0.5
comp=N,11nm,1.0s
LPL **La Plagne** 17.82 311 *e*P P 22 30 16.4 -0.1
LPL **La Plagne** 17.82 311 *e*P P 22 30 16.4 -0.1
SMRF **Simiane la Rot** 17.89 305 *e*P P 22 30 14.9 -2.2
SMRF **Simiane la Rot** 17.89 305 *e*P P 22 30 14.9 -2.2
ORIF **Oris-en-Rattie** 18.08 309 *e*P P 22 30 19.4 +0.2
ORIF **Oris-en-Rattie** 18.08 309 *e*P P 22 30 19.4 +0.2
CABF **La Chapelle** 18.75 314 *e*P P 22 30 24.7 -1.8
comp=N,14nm,0.8s
CDF **Champ du Feu** 19.08 320 *e*P P 22 30 30.3 +0.1
comp=N,3.5nm,0.7s
CDF **Champ du Feu** 19.08 320 *e*P P 22 30 30.3 +0.1
comp=N,1.8nm,0.7s
SMF **Signal de Mont** 20.12 311 *e*P P 22 30 40.4 -1.0
comp=N,8.9nm,0.7s
LOR **Lormes** 20.40 313 *e*P P 22 30 44.4 -0.1
comp=N,5.9nm,0.7s
AVF **Avril sur Loir** 20.49 311 *e*P P 22 30 45.2 -0.2
SSF **Saint Saulge** 20.52 312 *e*P P 22 30 44.9 -0.8
comp=N,22nm,1.1s
BGF **Bois d'Agland** 20.70 310 *e*P P 22 30 48.3 +0.6
comp=N,7.9nm,0.8s
BAIF **Baives** 21.68 320 *e*P P 22 30 57.4 -0.7
comp=N,13nm,0.8s
BAIF **Baives** 21.68 320 *e*P P 22 30 57.4 -0.7
comp=N,6.6nm,0.8s
SJPF **Ste Jean** 22.38 299 *e*P P 22 31 05.9 +0.2
SJPF **Ste Jean** 22.38 299 *e*P P 22 31 05.9 +0.2
LDF **La Druitiere** 23.39 313 *e*P P 22 31 14.9 -1.0
LDF **La Druitiere** 23.39 313 *e*P P 22 31 14.9 -1.0
FLN **La Foliniere** 23.68 313 *e*P P 22 31 17.4 -1.1
FLN **La Foliniere** 23.68 313 *e*P P 22 31 17.4 -1.1
GRR **Gorron** 23.75 312 *e*P P 22 31 18.2 -0.9
GRR **Gorron** 23.75 312 *e*P P 22 31 18.2 -0.9
ESDC **Sonseca Array** 24.04 290 P P 22 31 22.2 +0.2
comp=N,0.3nm,0.4s,baz=83,slow=9.5,SNR=6.8
ROSF **Rostrenen** 25.22 310 *e*P P 22 31 33.4 +0.9
ROSF **Rostrenen** 25.22 310 *e*P P 22 31 33.4 +0.9
MDT **Midelt** 25.32 273 P P 22 31 34.7 +0.9
comp=N,0.6nm,0.5s,baz=63,slow=2.3,SNR=2.5
HFS **Hagfors** 26.19 346 P P 22 31 41.8 +0.7
comp=N,1.7nm,0.9s,baz=165,slow=12,SNR=2.6
FINES **FINESS Array B** 26.28 0 P P 22 31 40.6 -1.4
comp=N,0.6nm,0.7s,baz=158,slow=15,SNR=4.0
AKTO **Aktyubinsk** 27.82 47 P P 22 31 57.6 +1.7
comp=N,1.1nm,0.5s,baz=250,slow=11,SNR=4.7
EKA **Eskdalemuir Ar** 28.35 324 P P 22 32 02.8 +2.2
comp=N,0.3nm,0.3s,baz=120,slow=10,SNR=4.1
TORD **Torodi Ar. Bea** 30.94 231 P P 22 32 24.4 +0.6
comp=N,6.8nm,0.3s,baz=32,slow=8.9,SNR=334
ARCES **ARCESS Array B** 34.41 360 P P 22 32 52.3 -1.3
comp=N,2.0nm,1.0s,baz=180,slow=8.7,SNR=4.8
DBIC **Dimbokro** 40.02 232 P P 22 33 42.0 +0.3
comp=N,2.6nm,0.3s,baz=20,slow=8.4,SNR=17
TIC **Toumodi** 40.15 232 *e*P P 22 33 42.8 0.0
comp=N,4.3nm,0.2s
KIC **Kosan Boka** 40.18 232 *e*P P 22 33 43.2 +0.1
comp=N,18nm,0.6s
LIC **Lamto** 40.47 232 *e*P P 22 33 45.7 +0.3
comp=N,6.3nm,0.3s
LIC **Lamto** 40.47 232 *e*P P 22 33 45.6 +0.2
comp=N,12nm,0.3s
KURBB **Kurchatov Arra** 40.67 51 P P 22 33 47.8 +1.1
comp=N,1.8nm,0.4s,baz=272,slow=8.6,SNR=46
KURBB pP **pP** 22 34 02.0 -0.6
comp=N,2.0nm,0.5s,baz=275,slow=8.7,SNR=10
MKAR **Makanchi Array** 43.29 57 P P 22 34 09.4 +1.2
comp=N,1.4nm,0.5s,baz=272,slow=8.1,SNR=32
MKAR pP **pP** 22 34 24.1 -0.1
comp=N,2.1nm,0.5s,baz=270,slow=8.0,SNR=12
MKAR ScP **ScP** 22 39 42.8 +0.9
comp=N,0.2nm,0.8s,baz=284,slow=5.8,SNR=3.1
ZALV **Zalesovo Beam** 44.58 46 P P 22 34 18.5 +0.2
comp=N,0.5nm,0.4s,baz=272,slow=8.4,SNR=3.7
ZALV pP **pP** 22 34 33.7 -0.7
comp=N,1.8nm,0.5s,baz=269,slow=8.7,SNR=8.0
SONM **Songino Array** 59.04 51 P P 22 36 07.0 +0.8
comp=N,0.3nm,0.5s,baz=259,slow=2.9,SNR=3.3
BOSA **Boshof** 63.45 181 P P 22 36 37.4 +1.3
comp=N,1.1nm,0.4s,baz=7.1,slow=8.1,SNR=3.2
SCHQ **Schefferville** 63.54 320 P P 22 36 37.1 +0.7
comp=N,6.1nm,0.4s,baz=79,slow=4.0,SNR=26
INK **Inuvik** 75.67 352 P P 22 37 50.4 -0.3
comp=N,1.2nm,0.6s,baz=0.0,slow=5.1
BDFB **Brasilia** 86.23 248 P P 22 38 49.0 +1.1
comp=N,1.2nm,0.5s,baz=84,slow=9.2,SNR=3.3
WRA **Warramunga Arr** 116.03 97 PKP **PKPdf** 22 44 47.6 -1.4
comp=N,0.3nm,1.0s,baz=336,slow=1.8,SNR=3.1

IDC 24 22:27:19.6±11.0, 24°.34S×179°.30E, h639km±157km, mb2.8/4, mb1 3.1/4, mb1mx2.8/17, mbtmp2.8/4, Error ellipse: s-maj=137.3km s-min=58.9km az=174.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.97**	**249**	P	P	22 33 12.4	-0.4
1.6nm,0.8s,baz=86,slow=13,SNR=3.9							
ASAR	**Alice Springs**	**41.34**	**261**	P	P	22 34 12.7	+0.2
0.4nm,0.3s,baz=91,slow=7.2,SNR=11							
WRA	**Warramunga Arr**	**41.74**	**267**	P	P	22 34 15.7	+0.1
1.6nm,0.3s,baz=104,slow=8.1,SNR=75							
TXAR	**Lajitas Array**	**91.20**	**58**	P	P	22 39 18.8	+0.1
0.1nm,0.6s,baz=218,slow=5.7,SNR=2.8							
HFS	**Hagfors**	**142.84**	**348**	PKP	PKPdf	22 45 40.7	-0.7
0.3nm,0.3s,baz=40,slow=2.5,SNR=5.3							

IDC 24 22:44:56.9±3.8, 3°.98S×150°.22E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/23, Error ellipse: s-maj=135.9km s-min=48.0km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.08**	**120**	LR	LR	22 50 55.0	
comp=Z,29nm,20.0s,baz=317,slow=32							
WRA	**Warramunga Arr**	**22.17**	**223**	P	P	22 49 53.3	-1.4
0.5nm,0.8s,baz=47,slow=10.0,SNR=4.6							
ASAR	**Alice Springs**	**25.12**	**217**	P	P	22 50 23.9	+0.2
0.5nm,0.7s,baz=50,slow=8.2,SNR=5.3							
FITZ	**Fitzroy Crossi**	**27.85**	**238**	P	P	22 50 49.2	+0.8
3.1nm,0.9s,baz=53,slow=10,SNR=5.3							
TORD	**Torodi Ar. Bea**	**147.60**	**288**	PKPbc	PKPbc	23 04 43.5	-0.9
0.4nm,0.8s,baz=53,slow=4.5,SNR=3.6							

IDC 24 22:57:10.8±1.9, 1°.57S×99°.48E, h0km, mb3.5/6, mb1 3.5/7, mb1mx3.4/25, mbtmp3.4/7, ML2.7/1, Error ellipse: s-maj=85.4km s-min=19.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**353**	Pn	Pn	22 58 18.0	-0.8
0.4nm,0.3s,baz=187,slow=15,SNR=1.9							
WRA	**Warramunga Arr**	**38.66**	**121**	P	P	23 04 36.2	-0.3
0.3nm,0.4s,baz=302,slow=9.2,SNR=7.2							
ASAR	**Alice Springs**	**39.92**	**126**	P	P	23 04 47.4	+0.2
0.3nm,0.7s,baz=304,slow=8.4,SNR=2.8							
SONM	**Songino Array**	**49.57**	**6**	P	P	23 06 02.9	-0.9
0.2nm,0.4s,baz=180,slow=5.6,SNR=2.8							
MKAR	**Makanchi Array**	**50.48**	**345**	P	P	23 06 10.2	-0.4
0.3nm,0.3s,baz=157,slow=8.6,SNR=12							
KURBB	**Kurchatov Arra**	**55.00**	**344**	P	P	23 06 44.2	+0.3
0.2nm,0.5s,baz=161,slow=6.9,SNR=3.2							
ZALV	**Zalesovo Beam**	**56.66**	**350**	P	P	23 06 56.1	+0.3
0.5nm,0.4s,baz=153,slow=7.2,SNR=3.2							
CPUP	**Villa Florida**	**144.35**	**217**	PKP	PKPbc	23 16 48.3	+0.2
0.3nm,0.3s,baz=153,slow=4.6,SNR=3.1							
TXAR	**Lajitas Array**	**144.67**	**36**	PKP	PKPdf	23 16 50.4	-0.2
0.1nm,0.5s,baz=25,slow=0.3,SNR=4.8							

IDC 24 23:12:20.3±1.5, 3°.15N×127°.03E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.8/24, mbtmp4.1/6, Error ellipse: s-maj=115.4km s-min=21.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.16**	**184**	P	P	23 17 08.0	+0.7
4.4nm,0.4s,baz=7.3,slow=8.5,SNR=18							
WRA	**Warramunga Arr**	**24.04**	**163**	P	P	23 17 37.8	+0.5
8.3nm,0.4s,baz=338,slow=10,SNR=129							
WRA				S	S	23 21 47.2	-8.5
1.1nm,1.0s,baz=340,slow=19,SNR=4.7							
ASAR	**Alice Springs**	**27.48**	**166**	P	P	23 18 08.2	-0.3
0.9nm,0.4s,baz=340,slow=7.1,SNR=20							
ASAR				PcP	PcP	23 21 27.2	0.0
0.5nm,0.5s,baz=338,slow=2.2,SNR=6.8							
STKA	**Stephens Creek**	**37.48**	**159**	P	P	23 19 37.0	+1.1
1.7nm,0.5s,baz=11,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**58.20**	**325**	P	P	23 22 17.3	+0.9
0.4nm,0.5s,baz=122,slow=7.9,SNR=9.2							
VNDA	**Vanda**	**82.81**	**173**	P	P	23 24 44.7	-1.3
0.8nm,0.6s,baz=316,slow=6.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**123.38**	**288**	PKP	PKPdf	23 31 18.4	-2.2
0.2nm,0.5s,baz=85,slow=1.9,SNR=4.1							

IDC 24 23:31:26.3±1.8, 4°.16S×150°.80E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/19, mbtmp3.9/4, MS3.2/5, Ms1 3.2/5, ms1mx2.8/31, Error ellipse: s-maj=106.9km s-min=25.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.34**	**215**	LR	LR	23 35 09.6	
comp=Z,112nm,21.0s,baz=36,slow=35							
WRA	**Warramunga Arr**	**22.43**	**224**	P	P	23 36 25.8	-1.2
1.4nm,0.7s,baz=51,slow=9.2,SNR=14							
WRA				LR	LR	23 46 04.9	
comp=Z,41nm,18.6s,baz=180,slow=39							
ASAR	**Alice Springs**	**25.34**	**219**	P	P	23 36 56.1	+0.9
1.6nm,0.7s,baz=50,slow=8.1,SNR=20							
FITZ	**Fitzroy Crossi**	**28.25**	**239**	P	P	23 37 21.1	-0.3
5.2nm,0.6s,baz=53,slow=9.2,SNR=24							
FITZ				LR	LR	23 48 18.2	
comp=Z,114nm,20.4s,baz=166,slow=36							
MJAR	**Matsushiro Arr**	**42.17**	**345**	LR	LR	23 52 51.0	
comp=Z,64nm,21.1s,baz=170,slow=30							
PETK	**Petropavlovsk-**	**57.35**	**5**	LR	LR	00 01 47.7	
comp=Z,14nm,20.0s,baz=97,slow=32							
ILAR	**Eielson Array**	**82.33**	**23**	P	P	23 43 49.6	-0.1
0.3nm,0.6s,baz=247,slow=6.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**148.21**	**288**	PKPbc	PKPbc	23 51 15.0	-0.5
1.0nm,0.9s,baz=86,slow=3.1,SNR=4.6							

IDC 24 23:39:52.9±4.2, 1°.97S×99°.16E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/24, mbtmp3.5/4, Error ellipse: s-maj=168.9km s-min=29.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.73**	**120**	P	P	23 47 18.8	-0.5
0.2nm,0.7s,baz=295,slow=8.4,SNR=4.8							
SONM	**Songino Array**	**50.00**	**6**	P	P	23 48 49.0	-0.2
0.2nm,0.3s,baz=183,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**50.78**	**345**	P	P	23 48 55.2	+0.2
0.5nm,0.7s,baz=156,slow=7.3,SNR=5.3							
ZALV	**Zalesovo Beam**	**56.99**	**350**	P	P	23 49 39.4	-0.8
0.6nm,0.4s,baz=163,slow=6.8,SNR=5.1							
TXAR	**Lajitas Array**	**145.18**	**36**	PKPbc	PKPab	23 59 33.0	0.0
0.4nm,0.8s,baz=247,slow=1.5,SNR=5.5							

IDC 24 23:45:23.9±3.0, 19°.05S×174°.26W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=303.0km s-min=34.5km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.29**	**255**	P	P	23 54 06.8	-0.5
0.8nm,0.6s,baz=99,slow=7.3,SNR=8.9							
WRA	**Warramunga Arr**	**48.31**	**260**	P	P	23 54 07.6	+0.2
0.6nm,1.0s,baz=97,slow=7.4,SNR=14							
TXAR	**Lajitas Array**	**83.32**	**56**	P	P	23 57 53.1	0.0
0.4nm,1.0s,baz=212,slow=3.2,SNR=3.5							

IDC 24 23:55:56.3±9.7, 16°.23S×177°.54W, h388km±101km, mb2.9/5, mb1 3.2/5, mb1mx3.0/18, mbtmp2.9/5, Error ellipse: s-maj=89.1km s-min=25.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.18**	**240**	P	P	00 02 56.6	-0.2
2.3nm,0.9s,baz=86,slow=16,SNR=2.7							
WRA	**Warramunga Arr**	**45.78**	**258**	P	P	00 03 41.5	+0.3
0.1nm,0.4s,baz=91,slow=8.4,SNR=11							
WRA				PcP	PcP	00 05 11.2	-0.4
0.4nm,1.1s,baz=90,slow=3.8,SNR=4.5							
ASAR	**Alice Springs**	**46.06**	**253**	P	P	00 03 43.0	-0.5
1.0nm,0.6s,baz=88,slow=7.8,SNR=11							
NVAR	**Mina Array Bea**	**77.64**	**44**	P	P	00 07 11.2	-0.2
0.3nm,0.5s,baz=222,slow=7.9,SNR=2.9							
ILAR	**Eielson Array**	**84.07**	**13**	P	P	00 07 44.0	-0.1
0.2nm,0.4s,baz=222,slow=6.0,SNR=5.6							
TXAR	**Lajitas Array**	**84.40**	**57**	P	P	00 07 47.1	+0.4
0.4nm,0.8s,baz=232,slow=6.2,SNR=3.8							
BRTR	**Keskin Array B**	**144.16**	**317**	PKP	PKPbc	00 14 46.4	+0.3
0.5nm,0.8s,baz=336,slow=3.2,SNR=3.5							

---

*IDC **25** 00:09:53.0±0.4, 18°.98N×121°.25E, h0km, mb4.3/30, mb1 4.4/31, mb1mx4.4/34, mbtmp4.3/31, ML4.0/1, MS3.8/18, Ms1 3.8/18, ms1mx3.6/37, Error ellipse: s-maj=15.5km s-min=10.5km az=75.0*
*NEIC **25** 00:09:57.2±1.9, 19°.00N×121°.08E, h27km±14km, mb4.7/14, Error ellipse: s-maj=7.3km s-min=5.7km az=97.0*
*MOS **25** 00:09:57.5±0.9, 19°.19N×121°.15E, h33km, mb4.9/19, Error ellipse: s-maj=11.6km s-min=6.4km az=111.9*
*BJI **25** 00:09:58.8, 19°.25N×120°.96E, h31km, mB4.6/34, mb4.5/38, Ms4.1/40, Ms7 3.9/37*
*ISCJB **25** 00:09:58.5±0.4, 19°.20N±0°.02×121°.05E±0°.04, h41km±4km, mb4.5/58, MS3.9/22, Error ellipse: s-maj=6.1km s-min=3.2km az=174.1*
*MAN **25** 00:09:59, 19°.08N×121°.07E, h20km, mb4.8, ML3.7, MS3.7*
ISC 25 00:09:58.4±0.4, 19°.07N±0°.03×121°.06E±0°.04, h34km±1km, h34km:pP-P, n206, σ1°.975/273, mb4.5/58, MS3.9/23, 12C-13D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.22**	**172**	*e*P	**Pb**	**00 10 21.1**	**+0.1**
APYP				*e*S	**Sb**	**00 10 38.0**	**+1.7**
SGCP	**Mt. Cagua**	**1.25**	**131**	*e*P	**Pn**	**00 10 20.6**	**+1.1**
SGCP				*e*S	**Sb**	**00 10 41.9**	**+4.7**
ABRA	**Dolores**	**1.45**	**193**	*e*P	**Pb**	**00 10 24.3**	**-0.7**
CVP	**Callao Caves**	**1.54**	**152**	*i* P	**Pb**	**00 10 26.0**	**-0.4**
CVP				*i* S	**Sb**	**00 10 46.5**	**+0.8**
CAUP	**Cauayan**	**2.24**	**161**	*e*P	**Pb**	**00 10 38.3**	**+0.1**
PALP	**Palanan**	**2.38**	**147**	*e*P	**Pb**	**00 10 38.8**	**-1.9**
BCPH	**Baguio City Da**	**2.71**	**190**	*i* P	Pn	00 10 36.4	-3.5
BCPH				*i* S	**Sb**	**00 11 20.3**	**+0.8**
BALP	**Baler**	**3.35**	**171**	*e*P	Pn	00 10 52.0	+3.6
SCZP	**Santa Cruz**	**3.46**	**199**	*e*P	**Pn**	**00 10 52.1**	**+2.2**
TWG	**Pinlang**	**3.73**	**0**	*e*Pn	**Pn**	**00 10 53.2**	**-0.4**
TWG				*e*Sn	**Sn**	**00 11 32.4**	**-4.0**
TPUB	**Ta-pu**	**4.23**	**355**	*e*Pn	**Pn**	**00 11 00.5**	**-0.1**
TPUB				*e*Sn	**Sn**	**00 11 44.7**	**-4.0**
YULB	**Yu-li**	**4.30**	**3**	*e*Pn	**Pn**	**00 11 01.8**	**+0.2**
YULB				*e*Sn	**Sn**	**00 11 50.4**	**-0.2**
SSLB	**Suanglung**	**4.69**	**359**	*e*Pn	**Pn**	**00 11 08.0**	**+1.0**
SSLB				*e*Sn	**Sn**	**00 11 57.8**	**-2.4**
TGY	**Tagaytay City**	**4.94**	**181**	Pn	Pn	00 11 14.5	+4.1
TGY	**Tagaytay City**	**4.94**	**181**	Pn	Pn	00 11 14.5	+4.1
46nm,0.3s,baz=290,slow=6.8,SNR=11							
LQP	**Lukban**	**4.95**	**175**	*e*P	Pn	00 11 15.3	+4.6
NACB	**Ninganchiao**	**5.10**	**5**	*e*Pn	**Pn**	**00 11 13.8**	**+1.3**
NACB				*e*Sn	**Sn**	**00 12 07.3**	**-2.9**
GQP	**Guinayangan**	**5.31**	**165**	*e*P	Pn	00 11 19.8	+4.4
YHNB	**Yeheng**	**5.58**	**3**	*e*Pn	**Pn**	**00 11 20.9**	**+1.7**
YHNB				*e*Sn	**Sn**	**00 12 20.2**	**-2.0**
TATO	**Taipei**	**5.89**	**4**	*e*Pn	**Pn**	**00 11 23.4**	**0.0**
TATO				*e*Sn	**Sn**	**00 12 33.1**	**+3.4**
QZH	**Quanzhou**	**6.28**	**339**	*i*Pn	**Pn**	**00 11 26.8**	**-1.8**
QZH				Sn	**Sn**	**00 12 33.4**	**-5.8**
QZH				LR	LR		
comp=N,950nm,14.8s							
QZH				LR	LR		
comp=E,2μm,14.7s							
QZH				LR	LR		
comp=Z,1μm,17.2s							
JOW	**Kunigami**	**10.19**	**39**	*e*Pn	**Pn**	**00 12 23.6**	**+1.3**
QIZ	**Qiongzhong**	**10.61**	**272**	P	**Pn**	**00 12 27.8**	**-0.4**
QIZ				S	**Sn**	**00 14 23.1**	**-2.8**
QIZ				pmax	pmax		
comp=Z,33nm,0.7s							
QIZ				LR	LR		
comp=E,280nm,18.8s							
QIZ				LR	LR		
comp=Z,650nm,17.2s							
QIZ	**Qiongzhong**	**10.61**	**272**	*e*Pn	**Pn**	**00 12 27.4**	**-0.8**
QIZ				*e*Sn	**Sn**	**00 14 21.6**	**-4.3**
SSE	**Sheshan**	**11.97**	**1**	P	**Pn**	**00 12 47.5**	**+0.8**
SSE				S	**Sn**	**00 15 00.1**	**+1.0**
SSE				pmax	pmax		
comp=Z,41nm,0.6s							
SSE				pmax	pmax		
comp=Z,62nm,9.5s							
SSE				LR	LR		
comp=N,270nm,23.1s							
SSE				LR	LR		
comp=E,100nm,23.1s							
SSE				LR	LR		
comp=Z,330nm,23.1s							
WHN	**Wuhan**	**12.94**	**333**	P	**Pn**	**00 13 02.3**	**+2.3**
WHN				S	**Sn**	**00 15 26.6**	**+3.8**
WHN				LR	LR		
comp=N,1μm,15.8s							
WHN				LR	LR		
comp=E,300nm,10.0s							
WHN				LR	LR		
comp=Z,1μm,19.0s							
NJ2	**Nanjing**	**13.08**	**352**	*e*P	**Pn**	**00 13 02.6**	**+0.8**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
NJ2				LR	LR		
comp=Z,350nm,18.7s							
GYA	**Guiyang**	**15.17**	**302**	P	**Pn**	**00 13 29.6**	**-0.8**
GYA				pP	**P**	**00 13 36.8**	**+1.7**
GYA				S	**Sn**	**00 16 17.3**	**-0.1**
GYA				SS	**S**	**00 16 34.4**	**+0.8**
GYA				PcP	**PcP**	**00 18 37.0**	**+0.9**
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA				pmax	pmax		
comp=Z,90nm,4.8s							
GYA				LR	LR		
comp=N,480nm,15.6s							
GYA				LR	LR		
comp=E,390nm,16.4s							
GYA				LR	LR		
comp=Z,440nm,15.5s							
ENH	**Enshi**	**15.32**	**319**	*e*Pn	**Pn**	**00 13 30.4**	**-1.9**
comp=Z,12nm,1.0s							
JNU	**Nakatsue**	**16.52**	**30**	*e*Pn	**P**	**00 13 49.3**	**-0.7**
JNU	**Nakatsue**	**16.52**	**30**	Pn	**P**	**00 13 49.1**	**-0.9**
comp=Z,0.2nm,0.3s,baz=196,slow=10,SNR=3.4							
JNU				LR	LR	00 20 27.1	
comp=Z,158nm,19.6s,baz=226,slow=38							
KMI	**Kunming**	**18.01**	**293**	P	**Pn**	**00 14 06.4**	**0.0**
KMI				pP	**pP**	**00 14 13.5**	**-2.1**
KMI				PP	**PnPn**	**00 14 22.8**	**+5.1**
KMI				S	**Sn**	**00 17 22.9**	**-3.6**
KMI				sS	**S**	**00 17 34.9**	**+3.2**
KMI				SS	**SnSn**	**00 17 47.1**	**+6.9**
KMI				pmax	pmax		
comp=Z,8.0nm,0.9s							
KMI				pmax	pmax		
comp=Z,140nm,4.9s							
KMI				LR	LR		
comp=N,240nm,12.1s							
KMI				LR	LR		
comp=E,580nm,12.5s							
KMI				LR	LR		
comp=Z,650nm,11.9s							
XAN	**Xi'an**	**18.42**	**326**	P	**Pn**	**00 14 12.3**	**+1.1**
XAN				pP	**pP**	**00 14 20.0**	**+0.2**
XAN				sP	**sP**	**00 14 24.8**	**+0.7**
XAN				S	**S**	**00 17 39.4**	**-0.2**
XAN				pmax	pmax		
comp=Z,25nm,7.0s							
XAN				LR	LR		
comp=N,250nm,15.0s							
XAN				LR	LR		
comp=E,84nm,13.7s							
XAN				LR	LR		
comp=Z,110nm,13.7s							
KSAR	**Wonju Array Be**	**19.25**	**17**	P	**P**	**00 14 20.1**	**+0.1**
KSAR				PcP	**PcP**	**00 18 42.6**	**+0.5**
KSRS	**Korea Array**	**19.27**	**17**	P	**P**	**00 14 20.1**	**-0.1**
comp=Z,0.4nm,0.3s,baz=199,slow=12,SNR=9.4							
KSRS				PcP	**PcP**	**00 18 42.6**	**+0.5**
comp=Z,0.1nm,0.3s,baz=270,slow=0.6,SNR=4.1							
KSRS				LR	LR	00 22 56.9	
comp=Z,179nm,19.0s,baz=190,slow=41							
CD2	**Chengdu**	**19.59**	**310**	P	**P**	**00 14 24.3**	**+0.5**
CD2				pP	**pP**	**00 14 32.8**	**+0.1**
CD2				sP	**sP**	**00 14 37.6**	**+0.6**
CD2				PP	**PnPn**	**00 14 42.5**	**+3.3**
CD2				S	**S**	**00 17 56.6**	**-6.6**
CD2				sS	**Sn**	**00 18 09.8**	**+5.5**
CD2				SS	**SnSn**	**00 18 23.8**	**+5.0**
CD2				pmax	pmax		
comp=Z,30nm,0.8s							
CD2				pmax	pmax		
comp=Z,140nm,4.8s							
CD2				LR	LR		
comp=N,250nm,14.2s							
CD2				LR	LR		
comp=E,310nm,16.2s							
CD2				LR	LR		
comp=Z,210nm,14.8s							
KSM	**Kuching**	**20.42**	**212**	*e*P	**P**	**00 14 32.1**	**-0.8**
comp=Z,24nm,1.0s							
CHTO	**Chiang Mai**	**20.92**	**273**	*e*P	**P**	**00 14 36.2**	**-2.1**
CHTO				pmax	pmax		
comp=Z,8.0nm,0.9s							
CHTO	**Chiang Mai**	**20.92**	**273**	*e*P	**P**	**00 14 36.2**	**-2.1**
comp=Z,8.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**20.95**	**272**	P	Pn	00 14 41.4	0.0
CMAR				PcP	**PcP**	**00 18 47.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**20.95**	**272**	P	Pn	00 14 41.4	0.0
comp=Z,3.9nm,0.9s,baz=74,slow=9.1,SNR=17							
CMAR				PcP	**PcP**	**00 18 47.3**	**+1.6**
comp=Z,2.5nm,0.8s,baz=84,slow=0.8,SNR=11							
CMAR				LR	LR	00 23 37.0	
comp=Z,251nm,18.2s,baz=235,slow=39							
CBIJ	**Chichi jima**	**20.99**	**64**	P	**P**	**00 14 37.6**	**-1.4**
CBIJ	**Chichi jima**	**20.99**	**64**	P	**P**	**00 14 37.6**	**-1.4**
comp=Z,25nm,0.6s,baz=252,slow=16,SNR=2.6							
BJT	**Baijiatuau**	**21.30

comp=E,540nm,14.3s
LZH LR LR
comp=Z,760nm,15.6s
MJAR Matsushiro Arr 23.02 37 P **P 00 14 59.7 -0.9**
MJAR Matsushiro Arr 23.02 37 P **P 00 14 59.7 -0.9**
comp=Z,1.5nm,0.5s,baz=215,slow=7.8,SNR=3.9
MJAR LR LR 00 23 07.8
comp=Z,123nm,20.8s,baz=255,slow=35
HHC Hu-ho-hao-te 23.18 341 *e*P **P 00 15 04.1 +1.8**
HHC PP PnPn 00 15 35.6 +7.2
HHC PcP **PcP 00 18 53.8 +3.9**
HHC S **S 00 19 09.4 -2.4**
HHC ScP **ScP 00 22 27.6 +2.2**
HHC PcS **PcS 00 22 31.5 +2.4**
HHC pmax pmax
comp=Z,53nm,0.6s
HHC pmax pmax
comp=Z,280nm,4.6s
HHC LR LR
comp=N,640nm,11.6s
HHC LR LR
comp=E,370nm,11.1s
HHC LR LR
comp=Z,710nm,12.0s
KAPI Kappang 23.97 183 *e*P **P 00 15 08.8 -1.1**
KAPI Kappang 23.97 183 P **P 00 15 08.4 -1.5**
comp=Z,6.0nm,0.8s,baz=72,slow=3.2,SNR=2.6
KAPI LR LR 00 23 59.0
comp=Z,192nm,21.0s,baz=234,slow=35
KULM Kulim 24.16 238 *e*P **P 00 15 10.2 -1.5**
comp=Z,44nm,1.3s
CN2 Changchun 24.93 8 *e*P **P 00 15 21.3 +2.9**
MDJ Mudanjiang 26.45 14 P **P 00 15 33.4 +1.2**
MDJ pP **pP 00 15 42.1 +0.2**
MDJ sP **sP 00 15 46.0 0.0**
MDJ S **S 00 19 57.6 -6.1**
MDJ ScS **ScS 00 26 20.1 -4.4**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,37nm,5.0s
MDJ LR LR
comp=N,37nm,13.4s
MDJ LR LR
comp=E,210nm,22.3s
MDJ LR LR
comp=Z,190nm,20.8s
USRK Ussuriysk Arra 26.68 18 P **P 00 15 34.5 +0.3**
comp=Z,3.6nm,0.8s,baz=218,slow=9.3,SNR=4.5
PSI Prapat 27.03 236 P **P 00 15 39.9 +2.0**
PSI Prapat 27.03 236 P **P 00 15 39.9 +2.0**
comp=Z,5.4nm,0.8s,baz=25,slow=9.3,SNR=3.9
PSI LR LR 00 24 57.4
comp=Z,220nm,18.6s,baz=252,slow=33
UGM Wanagama 28.76 202 *e*P **P 00 15 53.4 +0.3**
comp=Z,488nm,1.7s
LSA Lhasa 29.15 297 *e*P **P 00 15 54.9 -2.1**
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 29.15 297 *e*P **P 00 15 54.9 -2.1**
comp=Z,4.8nm,0.9s
BATI Baumata 29.21 175 LR LR 00 28 36.1
comp=Z,282nm,18.1s,baz=288,slow=39
ASAJ Asahikawa 30.80 31 LR LR 00 29 07.4
comp=Z,115nm,19.4s,baz=325,slow=38
ULN Ulaanbaatar 30.90 341 *e*P **P 00 16 11.1 -0.9**
comp=Z,4.7nm,0.9s
SONM Songino Array 31.08 341 P **P 00 16 14.9 +1.4**
SONM PcP **PcP 00 19 09.1 +0.6**
SONM Songino Array 31.08 341 P **P 00 16 14.9 +1.4**
comp=Z,2.4nm,0.8s,baz=160,slow=8.2,SNR=15
SONM PcP **PcP 00 19 09.1 +0.6**
comp=Z,0.3nm,0.3s,baz=160,slow=4.6,SNR=4.3
SONM LR LR 00 30 02.2
comp=Z,264nm,18.0s,baz=65,slow=39
KLR Kul'dur 31.29 14 *e*P **P 00 16 14.4 -0.9**
YSS Yuzh-Sakhalins 33.01 28 *e*P **P 00 16 31.3 +1.0**
YSS *e* 00 16 44.0
ZAK Zakamensk 34.30 340 *e*P **P 00 16 42.9 +1.2**
FITZ Fitzroy Crossi 37.21 173 *e*P **P 00 17 05.1 -1.6**
FITZ PcP **PcP 00 19 27.0 +0.7**
FITZ Fitzroy Crossi 37.21 173 P **P 00 17 04.4 -2.4**
comp=Z,2.5nm,0.5s,baz=24,slow=3.6,SNR=11
FITZ PcP **PcP 00 19 27.0 +0.7**
comp=Z,2.3nm,1.0s,baz=315,slow=2.9,SNR=4.4
WMQ Urumqi 37.27 319 *e*P **P 00 17 07.3 +0.2**
WMQ sP **sP 00 17 22.8 +1.7**
WMQ PP **PnPn 00 18 32.8 -0.3**
WMQ S **S 00 22 50.1 -2.2**
WMQ sS **ScP 00 23 10.0 -1.0**
WMQ SS SnSn 00 25 18.8 -11
WMQ ScS **ScS 00 27 17.3 -1.5**
WMQ pmax pmax
comp=Z,6.0nm,0.9s
WMQ pmax pmax
comp=Z,63nm,3.9s
WMQ LR LR
comp=N,120nm,18.0s
WMQ LR LR
comp=E,62nm,16.0s
WMQ LR LR
comp=Z,130nm,19.0s
PMG Port Moresby 38.25 135 P **P 00 17 13.6 -2.1**
PMG Port Moresby 38.25 135 P **P 00 17 13.6 -2.1**
comp=Z,5.7nm,0.5s,baz=304,slow=18,SNR=2.6
PMG LR LR 00 30 40.5
comp=Z,72nm,21.6s,baz=215,slow=33
COCO West Island 39.18 219 *e*P **P 00 17 23.0 -0.4**
COCO pmax pmax
comp=Z,100nm,0.9s
COCO West Island 39.18 219 *e*P **P 00 17 22.9 -0.4**
comp=Z,100nm,0.9s
MBWA Marble Bar 40.00 182 *e*P **P 00 17 29.1 -1.1**
comp=Z,31nm,1.4s
WRAB Tennant Creek 40.90 161 *e*P **P 00 17 34.9 -2.7**
WRAB pmax pmax
comp=Z,48nm,2.0s
WRAB Tennant Creek 40.90 161 *e*P **P 00 17 34.9 -2.7**
comp=Z,48nm,2.0s
WRA Warramunga Arr 40.90 161 P **P 00 17 35.0 -2.6**
WRA PcP **PcP 00 19 38.5 +0.6**
WRA Warramunga Arr 40.90 161 P **P 00 17 35.0 -2.6**
comp=Z,2.7nm,0.5s,baz=341,slow=9.1,SNR=60
WRA PcP **PcP 00 19 38.5 +0.6**
comp=Z,3.4nm,0.6s,baz=348,slow=3.6,SNR=14
MK31 Makanchi Array 42.04 320 *e*P **P 00 17 47.5 +0.6**
MK31 *e* 00 19 40.9
MK31 Makanchi Array 42.04 320 *e*P **P 00 17 47.5 +0.6**
MK31 *e*PcP **PcP 00 19 40.9 -0.5**
MKAR Makanchi Array 42.04 320 *c e*P **P 00 17 49.0 +2.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 42.04 320 *e*P **P 00 17 49.2 +2.4**
MKAR PcP **PcP 00 19 41.8 +0.4**
MKAR Makanchi Array 42.04 320 P **P 00 17 49.1 +2.2**
comp=Z,3.2nm,0.8s,baz=113,slow=9.7,SNR=28
MKAR PcP **PcP 00 19 41.8 +0.4**
comp=Z,2.7nm,0.8s,baz=100,slow=4.2,SNR=7.3
MKAR LR LR 00 36 29.7
comp=Z,78nm,19.7s,baz=281,slow=38
KSH Kashi 43.75 308 P P 00 18 05.8 +4.9
KSH sP sP 00 18 19.8 +4.8
KSH PP **PcP 00 19 49.8 +2.4**
KSH S S 00 24 36.0 +6.8
KSH sS sS 00 24 52.9 +7.2
KSH SS **SS 00 27 44.9 -0.6**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,78nm,4.3s
KSH LR LR
comp=N,100nm,6.0s
KSH LR LR
comp=E,130nm,6.7s
KSH LR LR
comp=Z,260nm,15.0s
PETK Petropavlovsk- 44.22 31 P **P 00 18 04.0 -0.3**
PETK Petropavlovsk- 44.22 31 P **P 00 18 04.0 -0.3**
PETK Petropavlovsk- 44.22 31 P **P 00 18 04.0 -0.3**
comp=Z,1.8nm,0.6s,baz=209,slow=4.8,SNR=3.4
PETK LR LR 00 37 02.8
comp=Z,45nm,18.4s,baz=35,slow=37
AS31 Alice Springs 44.29 163 *e*P **P 00 18 04.6 -0.5**
ASAR Alice Springs 44.29 163 P **P 00 18 03.2 -2.0**
ASAR PcP **PcP 00 19 49.6 +0.4**
ASAR Alice Springs 44.29 163 P **P 00 18 03.2 -2.0**
comp=Z,2.5nm,0.4s,baz=343,slow=6.9,SNR=23
ASAR PcP **PcP 00 19 49.6 +0.4**
comp=Z,1.0nm,0.6s,baz=349,slow=2.3,SNR=4.8
ZAA0 Zalesovo Array 44.53 330 *e*P **P 00 18 05.2 -1.6**
ZALV Zalesovo Beam 44.53 330 P **P 00 18 08.0 +1.2**
ZALV *e* 00 19 49.1
ZALV Zalesovo Beam 44.53 330 P **P 00 18 08.0 +1.2**
ZALV PcP **PcP 00 19 49.1 -0.4**
ZALV Zalesovo Beam 44.53 330 P **P 00 18 08.0 +1.2**
comp=Z,2.8nm,0.7s,baz=112,slow=8.0,SNR=18
ZALV PcP **PcP 00 19 49.1 -0.4**
comp=Z,1.0nm,0.7s,baz=119,slow=1.8,SNR=2.5
ZALV LR LR 00 37 53.0
comp=Z,161nm,19.0s,baz=70,slow=38
AAK Ala-Archa 45.65 311 LR LR 00 39 37.8
comp=Z,168nm,19.6s,baz=90,slow=39
NVS Novosibirsk 45.81 330 *e*P **P 00 18 16.6 -0.2**
KURK Kurchatov 46.02 323 P **P 00 18 20.4 +1.8**
KURK Kurchatov 46.02 323 P **P 00 18 20.4 +1.8**
KURBB Kurchatov Arra 46.03 323 P **P 00 18 20.4 +1.8**
comp=Z,3.7nm,0.6s,baz=120,slow=7.9,SNR=39
KBL Kabul 48.41 300 *e*P **P 00 18 38.5 +0.7**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 48.41 300 *e*P **P 00 18 38.5 +0.7**
comp=Z,7.4nm,0.9s
KKAR Karatay Array 48.60 311 *e*P **P 00 18 38.4 -0.5**
KKAR *e* 00 20 04.0
KKAR Karatay Array 48.60 311 *e*P **P 00 18 38.4 -0.5**
KKAR *e*PcP **PcP 00 20 04.0 -0.1**
SEY Seymchan 48.82 18 ⇑*i*P **P 00 18 41.5 +1.3**
BRVK Borovoye 51.69 323 *c e*P **P 00 19 03.8 +1.7**
BRVK pmax pmax
comp=Z,15nm,1.7s
BRVK Borovoye 51.69 323 *e*P **P 00 19 02.0 -0.1**
comp=Z,7.1nm,0.9s
FX1 Attu Island--F 52.38 37 P **P 00 19 06.8 -0.4**
FX1 Attu Island--F 52.38 37 P **P 00 19 06.8 -0.4**
comp=Z,8.4nm,0.7s,baz=297,slow=14,SNR=2.5
TIXI Tiksi 52.78 3 *d i*P **P 00 19 09.8 0.0**
TIXI pmax pmax
comp=Z,12nm,0.8s
BBOO Buckleboo 53.55 164 *e*P **P 00 19 14.8 -1.2**
comp=Z,2μm,1.5s
STKA Stephens Creek 54.35 158 *e*P **P 00 19 22.4 +0.6**
STKA Stephens Creek 54.35 158 P **P 00 19 19.5 -2.4**
comp=Z,2.8nm,0.8s,baz=349,slow=10,SNR=2.8
ABKAR Akbulak array 57.00 317 *e*P **P 00 19 41.3 +0.6**
ARMA Armidale 57.33 149 *e*P **P 00 19 45.1 +1.7**
comp=Z,285nm,2.6s
SVE Sverdlovsk 58.13 326 ⇑*i*P **P 00 19 50.5 +1.9**
SVE pmax pmax
comp=Z,20nm,1.0s
ARU Arti 59.16 325 *c i*P **P 00 19 56.6 +0.9**
ARU *e* 00 22 03.7
ARU S **S 00 28 04.1 +3.3**
ARU pmax pmax
comp=Z,23nm,1.7s
ZEI Tsey 68.01 309 *e*P **P 00 20 54.7 0.0**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 68.63 310 P **P 00 20 58.7 +0.4**
KBZ Khabaz 68.63 310 P **P 00 20 58.7 +0.4**
KBZ Khabaz 68.63 310 P **P 00 20 58.7 +0.4**
comp=Z,4.0nm,0.9s,baz=90,slow=2.4,SNR=9.5
KBZ LR LR 00 55 08.2
comp=Z,83nm,19.1s,baz=231,slow=39
KIV Kislovodsk 68.76 311 *e*P **P 00 21 00.1 +0.8**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,72nm,17.0s
OBN Obninsk 71.46 323 *c*P **P 00 21 15.5 +0.1**
OBN *e* 00 21 23.1
OBN S **S 00 30 29.0 -2.5**
OBN pmax pmax
comp=Z,4.0nm,0.4s
RSO Redoubt South 71.74 31 *e*P **P 00 21 19.1 +1.8**
ANN Anapa 72.37 312 *e*P **P 00 21 20.9 -0.2**
ANN pmax pmax
comp=Z,28nm,1.4s
MALT Malatya 72.79 305 ⇓*i*P P 00 21 28.2 +4.3
MCK McKinley 73.09 28 *e*P **P 00 21 25.7 +0.6**
MCK pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 73.09 28 *e*P **P 00 21 25.7 +0.6**
comp=Z,17nm,1.2s
JOF Joensuu 73.10 331 *e*P **P 00 21 24.7 -0.4**
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 73.10 331 *e p* **P 00 21 24.7 -0.4**
comp=Z,2.4nm,0.5s
ILAR Eielson Array 73.80 26 P **P 00 21 27.7 -1.5**
ILAR Eielson Array 73.80 26 P **P 00 21 27.7 -1.5**
comp=Z,7.1nm,0.4s,baz=270,slow=5.7,SNR=8.4
ARCES ARCESS Array B 74.23 339 P **P 00 21 32.1 +0.5**
ARCES ARCESS Array B 74.23 339 P **P 00 21 32.1 +0.5**
comp=Z,2.6nm,0.6s,baz=71,slow=8.4,SNR=23
ARCES LR LR 00 58 00.8
comp=Z,79nm,19.8s,baz=231,slow=39
ASF Jabal al Asfar 75.31 299 P **P 00 21 39.4 +0.7**
ASF Jabal al Asfar 75.31 299 P **P 00 21 39.4 +0.7**
comp=Z,0.4nm,0.2s,baz=82,slow=7.3,SNR=4.2
FINES FINESS Array B 75.80 330 P **P 00 21 41.1 +0.4**
FINES FINESS Array B 75.80 330 P **P 00 21 41.1 +0.4**
comp=Z,3.0nm,0.8s,baz=60,slow=7.5,SNR=8.8
FINES LR LR 00 59 36.5
comp=Z,73nm,18.4s,baz=205,slow=39
BRTR Keskin Array B 76.14 307 P **P 00 21 43.5 +0.1**
BRTR Keskin Array B 76.14 307 P **P 00 21 43.5 +0.1**
comp=Z,0.4nm,0.5s,baz=117,slow=3.7,SNR=5.1
AKASG Malin Array Be 76.62 319 P **P 00 21 45.6 -0.1**
AKASG Malin Array Be 76.62 319 P **P 00 21 45.6 -0.1**
AKASG Malin Array Be 76.62 319 P **P 00 21 45.6 -0.1**
comp=Z,0.4nm,0.3s,baz=59,slow=4.6,SNR=5.2
EIL Elat 77.54 297 P **P 00 21 51.2 0.0**
EIL Elat 77.54 297 P **P 00 21 51.2 0.0**
comp=Z,5.1nm,0.9s,baz=90,slow=5.2,SNR=5.9
SUW Suwalki 79.30 323 *e*P **P 00 22 00.7 +0.2**
TESR Tescani 79.36 316 ⇓*i*P **P 00 22 01.6 +0.6**
VRI Vrancioaia 79.49 315 ⇓*i*P **P 00 22 03.3 +1.5**
VRI Vrincioaia 79.49 315 ⇓*i*P **P 00 22 03.3 +1.5**
BURAR Bucovina Array 79.98 317 ⇓*i*P **P 00 22 05.3 +0.8**
BURAR Bucovina Array 79.98 317 ⇓*i*P **P 00 22 05.3 +0.8**
MLR Muntele Rosu 80.12 315 ⇓*i*P **P 00 22 06.5 +1.2**
KWP Kalwaria Pacla 80.94 319 *e*P **P 00 22 09.1 -0.4**
KWP pmax pmax
comp=Z,11nm,1.1s
KWP Kalwaria Pacla 80.94 319 ⇓*i*P **P 00 22 10.2 +0.7**
KWP Kalwaria Pacla 80.94 319 ⇓*i*P **P 00 22 10.2 +0.7**
KWP Kalwaria Pacla 80.94 319 *e*P **P 00 22 09.1 -0.4**
comp=Z,12nm,1.1s
KWP Kalwaria Pacla 80.94 319 *e*P **P 00 22 10.3 +0.7**
NB2 NORSAR Subarra 82.68 333 P **P 00 22 17.7 -0.7**
comp=Z,0.7nm,0.7s,baz=64,slow=5.9
NOA NORSAR Array B 82.68 333 P **P 00 22 17.9 -0.5**
NOA NORSAR Array B 82.68 333 P **P 00 22 17.9 -0.5**
comp=Z,1.1nm,0.8s,baz=63,slow=5.3,SNR=4.7
NOA LR LR 01 02 13.6
comp=Z,142nm,18.9s,baz=60,slow=38
GKP Gorka Klasztor 82.88 324 *e*P **P 00 22 20.8 +1.2**
GKP *e*pP **pP 00 22 30.0 -0.2**
VTS Vitosha 82.90 313 ⇓*i*P **P 00 22 21.2 +1.1**
VTS Vitosha 82.90 313 ⇓*i*P **P 00 22 21.2 +1.1**
OKC Ostrava-Krasne 83.65 321 *e*P **P 00 22 23.5 -0.1**
OKC *e* 00 22 35.1
OKC Ostrava-Krasne 83.65 321 *e*P **P 00 22 23.5 -0.1**
OKC *e*pP **pP 00 22 35.1 +0.8**
KSP Ksiaz 84.36 322 *e*P **P 00 22 28.1 +0.9**
KSP Ksiaz 84.36 322 *e*P **P 00 22 28.2 +1.0**
KMBO Kilima Mbogo 84.51 267 P **P 00 22 30.2 +1.3**
KMBO Kilima Mbogo 84.51 267 P **P 00 22 30.2 +1.3**
comp=Z,2.4nm,0.9s,baz=19,slow=5.8,SNR=6.5
DPC Dobruska-Polom 84.53 322 *e*P **P 00 22 29.3 +1.1**
DPC Dobruska-Polom 84.53 322 *e*P **P 00 22 29.3 +1.1**
PKSM Moragy 84.69 317 ⇑P **P 00 22 29.8 +0.8**
PKSM Moragy 84.69 317 ⇑*i*P **P 00 22 29.8 +0.8**
TREC Trest 85.45 321 *e*P **P 00 22 33.7 +0.9**
TREC Trest 85.45 321 *e*P **P 00 22 33.7 +0.9**
BRG Berggiesshubel 85.70 323 *e*P **P 00 22 34.8 +0.9**
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 85.70 323 *e*P **P 00 22 34.8 +0.9**
BRG pmax pmax
comp=Z,6.0nm,1.2s
PRU Pruhonice 85.73 322 *e*P **P 00 22 35.3 +1.2**
PRU *e* 00 22 47.2
PRU Pruhonice 85.73 322 *e*P **P 00 22 35.3 +1.2**
PRU *es*P **sP 00 22 47.2 -1.5**
CLL Collm 86.06 323 *e*P **P 00 22 36.0 +0.3**
CLL Collm 86.06 323 *e*P **P 00 22 36.0 +0.3**
ARSA Arzberg 86.26 319 ⇑*i*PcP **P 00 22 37.1 +0.3**
comp=Z,3.0nm,1.0s
GERES GERESS Array B 86.71 321 P **P 00 22 39.4 +0.3**
GERES GERESS Array B 86.71 321 P **P 00 22 39.4 +0.3**
comp=Z,0.6nm,0.7s,baz=65,slow=6.3,SNR=7.0
YKA Yellowknife Ar 87.71 23 P **P 00 22 43.9 +0.4**
YKA Yellowknife Ar 87.71 23 P **P 00 22 43.8 +0.4**
comp=Z,5.5nm,0.7s,baz=311,slow=4.6,SNR=26
LPG La Plagne 92.46 320 *e*P **P 00 23 06.9 +0.4**
LPG La Plagne 92.46 320 *e*P **P 00 23 06.9 +0.4**
LPG La Plagne 92.46 320 *e*P **P 00 23 06.9 +0.4**
LPL La Plagne 92.46 320 *e*P **P 00 23 06.8 +0.4**
comp=Z,8.3nm,1.1s
LPL La Plagne 92.46 320 *e*P **P 00 23 06.8 +0.4**
LPL La Plagne 92.46 320 *e*P **P 00 23 06.8 +0.4**
VNDA Vanda 99.28 172 P **Pdif 00 23 35.0 -1.2**
VNDA Vanda 99.28 172 P **Pdif 00 23 35.0 -1.2**
comp=Z,1.3nm,0.8s,baz=286,slow=4.3,SNR=5.1
NVAR Mina Array Bea 100.22 43 P **Pdif 00 23 42.2 +0.4**
NVAR Mina Array Bea 100.22 43 P **Pdif 00 23 42.2 +0.4**
comp=Z,0.1nm,0.3s,baz=294,slow=5.4,SNR=2.9
TORD Torodi Ar. Bea 112.23 293 PKiKP **PKiKP 00 28 31.3 -0.2**
TORD PKKPbc **PKKPbc 00 39 22.9 +1.1**
TORD Torodi Ar. Bea 112.23 293 PKiKP **PKiKP 00 28 31.3 -0.2**
comp=Z,0.4nm,0.7s,baz=88,slow=0.9,SNR=4.7
TORD PKKPbc **PKKPbc 00 39 22.9 +1.1**
comp=Z,0.1nm,0.5s,baz=270,slow=2.0,SNR=4.7
TXAR Lajitas Array 115.37 43 PKP **PKPdf 00 28 37.7 +0.3**
TXAR Lajitas Array 115.37 43 PKP **PKPdf 00 28 37.7 +0.3**
comp=Z,0.6nm,0.5s,baz=185,slow=0.9,SNR=14
DBIC Dimbokro 120.91 290 PKP **PKPdf 00 28 47.0 -1.3**
DBIC Dimbokro 120.91 290 PKP **PKPdf 00 28 47.0 -1.3**
comp=Z,2.9nm,0.9s,baz=156,slow=19,SNR=3.5
SDV Santo Domingo 149.92 24 *e*PKPbc **PKPbc 00 29 46.2 -0.3**
CPUP Villa Florida 172.62 191 PKPab **PKPab 00 31 30.5 +0.8**
CPUP Villa Florida 172.62 191 PKPab **PKPab 00 31 30.5 +0.8**
comp=Z,0.4nm,0.3s,baz=218,slow=3.1,SNR=4.9

WEL 25 00:12:38.0±0.2, 45°.15S×167°.28E, h121km±1km, ML3.8/13, 5C-2D, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.34**	**195**	⇑PN	Pn	00 12 54.9	-0.3
DCZ				SN	Sn	00 13 07.5	-0.7
DCZ				AML	AML	00 13 08.4	
DCZ				AML	AML	00 13 08.4	
DCZ				AML	AML	00 13 08.6	
MLZ	**Mavora Lakes**	**0.66**	**108**	⇑PN	Pn	00 12 56.9	-0.3
MLZ				SN	Sn	00 13 11.1	-0.6
MLZ				AML	AML	00 13 12.0	
MSZ	**Milford Sound**	**0.66**	**44**	PN	Pn	00 12 57.4	+0.2
MSZ				*e*SN	Sn	00 13 10.7	-0.9
MSZ				AML	AML	00 13 12.5	
MSZ				AML	AML	00 13 12.5	
MSZ				AML	AML	00 13 12.5	
WHZ	**Wether Hill Ro**	**0.88**	**148**	⇑PN	Pn	00 12 58.9	-0.1
WHZ				SN	Sn	00 13 14.5	-0.3
WHZ				AML	AML	00 13 15.1	
WKZ	**Wanaka**	**1.27**	**76**	PN	Pn	00 13 02.8	-0.1
WKZ				SN	Sn	00 13 21.1	-0.8
WKZ				AML	AML	00 13 22.9	
WKZ				AML	AML	00 13 22.9	
WKZ				AML	AML	00 13 23.2	
EAZ	**Earnscleugh**	**1.44**	**94**	⇑PN	Pn	00 13 04.3	-0.4
EAZ				AML	AML	00 13 23.9	
EAZ				AML	AML	00 13 23.9	
EAZ				AML	AML	00 13 24.2	
EAZ				AML	AML	00 13 24.2	
JCZ	**Jackson Bay**	**1.51**	**45**	⇓PN	Pn	00 13 05.0	-0.7
JCZ				AML	AML	00 13 25.7	
JCZ				AML	AML	00 13 28.2	
APZ	**The Paps**	**1.75**	**164**	PN	Pn	00 13 08.1	-0.4
TUZ	**Tuapeka**	**1.84**	**117**	⇑PN	Pn	00 13 09.1	-0.3
TUZ				AML	AML	00 13 32.6	
TUZ				AML	AML	00 13 32.9	
SYZ	**Scrubby Hill**	**1.90**	**138**	PN	Pn	00 13 09.8	-0.4
LBZ	**Lake Benmore**	**2.21**	**71**	⇓PN	Pn	00 13 12.1	-1.9
LBZ				AML	AML	00 13 38.5	
LBZ				AML	AML	00 13 39.4	
FOZ	**Fox Glacier**	**2.34**	**48**	AML	AML	00 13 45.7	
ODZ	**Otahua Downs**	**2.38**	**89**	PN	Pn	00 13 14.8	-1.5
RPZ	**Rata Peaks**	**3.06**	**63**	AML	AML	00 14 01.1	
MQZ	**McQueen's Vall**	**4.11**	**71**	PN	Pn	00 13 37.1	-1.8
LTZ	**Lake Taylor**	**4.31**	**58**	AML	AML	00 14 26.4	

NEIC 25 00:14:47.1±1.0, 17°.12S×72°.66W, h74km±17km, mb3.9/2, Error ellipse: s-maj=16.9km s-min=11.0km az=77.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.42**	**80**	*e*Pn	Pn	00 15 53.4	+0.9
LPAZ				Sn	Sn	00 16 38.6	-4.6
LVC	**Limon Verde**	**6.51**	**148**	*e*Pn	Pn	00 16 20.8	+0.3
4.4nm,0.4s							
LVC				*e*Sn	Sn	00 17 30.2	-3.4
NNA	**Nana**	**6.51**	**321**	*e*Pn	Pn	00 16 20.8	+0.4
LCO	**Las Campanas**	**11.98**	**172**	*e*Pn	Pn	00 17 34.1	-1.1
SAML	**Samuel**	**12.29**	**50**	*e*Pn	Pn	00 17 37.9	-1.3
PLCA	**Paso Flores**	**23.61**	**176**	*e*P	P	00 19 51.8	+0.3
1.5nm,0.6s							
MIAR	**Mount Ida**	**55.09**	**339**	*e*P	P	00 24 11.5	-0.1
1.4nm,0.7s							

CSEM ***25*** *00:20:28.4, 48°.34N×6°.65E, h14km, ML1.6/4, After LDG*

LDG 25 00:20:28.4±0.1, 48°.34N×6°.65E, h14km±1km, Md1.8/3, Ml1.6/4, Error ellipse: s-maj=1.8km s-min=1.2km az=7.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.39**	**211**	*e*Pg	Pg	00 20 36.6	+0.3
HAU				*e*Sg	Sg	00 20 41.3	-0.4
2.9nm,0.2s							
HAU	**Haudompre**	**0.39**	**211**	*e*Pg	Pg	00 20 36.6	+0.3
HAU				*e*Sg	Sg	00 20 41.3	-0.4
1.5nm,0.2s							
CDF	**Champ du Feu**	**0.42**	**80**	*e*Pg	Pg	00 20 37.0	0.0
CDF				*e*Sg	Sg	00 20 42.6	-0.3
3.1nm,0.2s							
CDF	**Champ du Feu**	**0.42**	**80**	*e*Pg	Pg	00 20 37.0	0.0
CDF				*e*Sg	Sg	00 20 42.6	-0.3
1.5nm,0.2s							
HINF	**Hinteralfeld**	**0.54**	**165**	*e*Pg	Pg	00 20 39.2	0.0
HINF				*e*Sg	Sg	00 20 45.9	-0.5
2.7nm,0.2s							
HINF				*e*Sn	Sb	00 20 48.7	+1.2
HINF	**Hinteralfeld**	**0.54**	**165**	*e*Pg	Pg	00 20 39.2	0.0
HINF				*e*Sg	Sg	00 20 45.9	-0.5
1.4nm,0.2s							
HINF				*e*Sn	Sb	00 20 48.7	+1.2
PAGF	**Fort de Pagny**	**0.65**	**290**	*e*Pg	Pb	00 20 41.8	+0.2
PAGF				*e*Sg	Sg	00 20 49.9	+0.1
0.3nm,0.2s							
PAGF	**Fort de Pagny**	**0.65**	**290**	*e*Pg	Pb	00 20 41.8	+0.2
PAGF				*e*Sg	Sg	00 20 49.9	+0.1
0.2nm,0.2s							
MEZF	**Maizieres J'vi**	**1.07**	**279**	*e*Pg	Pb	00 20 48.8	0.0
MEZF				*e*Sg	Sb	00 21 02.2	-0.6
1.7nm,0.3s							
MEZF	**Maizieres J'vi**	**1.07**	**279**	*e*Pg	Pb	00 20 48.8	0.0
MEZF				*e*Sg	Sb	00 21 02.2	-0.6
0.9nm,0.3s							
SFTF	**Sexfontaines**	**1.08**	**263**	*e*Pg	Pb	00 20 48.7	-0.3
SFTF				*e*Sg	Sb	00 21 02.6	-0.4
2.8nm,0.3s							
SFTF	**Sexfontaines**	**1.08**	**263**	*e*Pg	Pb	00 20 48.7	-0.3
SFTF				*e*Sg	Sb	00 21 02.6	-0.4
1.4nm,0.3s							
CABF	**La Chapelle**	**1.77**	**193**	*e*Sg	Sg	00 21 24.6	-1.1
0.3nm,0.2s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CABF	**La Chapelle**	**1.77**	**193**	*e*Sg	Sg	00 21 24.6	-1.1
	0.2nm,0.2s						
LOR	**Lormes**	**2.17**	**241**	*e*Pg	Pb	00 21 08.7	+1.3
LOR				*e*Sg	Sg	00 21 36.3	-1.8
	0.6nm,0.2s						
LOR	**Lormes**	**2.17**	**241**	*e*Pg	Pb	00 21 08.7	+1.3
LOR				*e*Sg	Sg	00 21 36.3	-1.8
	0.3nm,0.2s						

IDC ***25*** *00:50:38.7±0.8, 7°.37S×155°.43E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/17, mbtmp4.2/10, MS3.7/4, Ms1 3.7/4, ms1mx3.1/25, Error ellipse: s-maj=31.3km s-min=18.5km az=115.0*
ISCJB ***25*** *00:50:42.0±0.7, 7°.45±0°.1×155°.42E±0°.10, h29km, mb4.2/13, MS3.7/3, Error ellipse: s-maj=20.2km s-min=9.0km az=145.4*
NEIC ***25*** *00:50:47.7±2.8, 7°.47S×155°.33E, h66km±23km, mb4.3/3, Error ellipse: s-maj=24.9km s-min=13.3km az=114.0*
ISC 25 00:50:42.9±0.7, 7°.5S±0°.1×155°.58E±0°.10, h29km, n34, σ0.92/36, mb4.2/13, MS3.8/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.55**	**256**	Pn	**Pn**	**00 52 45.4**	**+0.5**
PMG				Sn	**Sn**	**00 54 20.8**	**+0.4**
PMG	**Port Moresby**	**8.55**	**256**	Pn	**Pn**	**00 52 45.4**	**+0.5**
	1.5nm,0.3s,baz=12,slow=5.3,SNR=3.7						
PMG				Sn	**Sn**	**00 54 20.8**	**+0.4**
	1.0nm,0.3s,baz=147,slow=18,SNR=3.4						
PMG				LR	LR	00 55 36.3	
	comp=Z,176nm,21.6s,baz=32,slow=35						
WRAB	**Tennant Creek**	**24.02**	**237**	*e*P	**P**	**00 55 55.3**	**-0.3**
	13nm,0.9s						
WRA	**Warramunga Arr**	**24.04**	**237**	P	**P**	**00 55 55.0**	**-0.8**
WRA	**Warramunga Arr**	**24.04**	**237**	P	**P**	**00 55 55.0**	**-0.8**
	8.9nm,0.8s,baz=60,slow=9.8,SNR=26						
WRA				LR	LR	01 03 23.9	
	comp=Z,53nm,21.7s,baz=150,slow=32						
ASAR	**Alice Springs**	**26.31**	**230**	P	**P**	**00 56 16.1**	**-0.2**
ASAR	**Alice Springs**	**26.31**	**230**	P	**P**	**00 56 16.1**	**-0.2**
	2.9nm,0.8s,baz=60,slow=8.8,SNR=21						
ASAR				LR	LR	01 05 52.3	
	comp=Z,844nm,19.5s,baz=252,slow=35						
STKA	**Stephens Creek**	**27.57**	**206**	P	**P**	**00 56 29.4**	**+1.9**
	4.3nm,0.8s,baz=359,slow=16,SNR=3.3						
STKA				LR	LR	01 05 44.5	
	comp=Z,246nm,19.1s,baz=26,slow=33						
PETK	**Petropavlovsk-**	**60.36**	**1**	P	**P**	**01 00 49.7**	**+0.5**
PETK	**Petropavlovsk-**	**60.36**	**1**	P	**P**	**01 00 49.7**	**+0.5**
	3.1nm,0.7s,baz=177,slow=5.8,SNR=3.2						
CMAR	**Chiang Mai Arr**	**61.51**	**296**	P	**P**	**01 00 56.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**61.51**	**296**	P	**P**	**01 00 56.8**	**-0.9**
	2.2nm,0.9s,baz=106,slow=5.4,SNR=7.8						
SONM	**Songino Array**	**70.04**	**327**	P	**P**	**01 01 51.3**	**-0.9**
SONM	**Songino Array**	**70.04**	**327**	P	**P**	**01 01 51.3**	**-0.9**
	0.9nm,0.6s,baz=134,slow=7.3,SNR=7.0						
IMA2	**Indian Mountai**	**82.05**	**19**	*e*P	**P**	**01 03 01.6**	**+1.3**
MCK	**McKinley**	**82.27**	**22**	*e*P	**P**	**01 03 04.0**	**+2.6**
	8.9nm,1.1s						
ILAR	**Eielson Array**	**83.59**	**21**	P	**P**	**01 03 08.6**	**+0.4**
ILAR	**Eielson Array**	**83.59**	**21**	P	**P**	**01 03 08.6**	**+0.4**
	1.5nm,0.5s,baz=262,slow=4.7,SNR=18						
MKAR	**Makanchi Array**	**84.13**	**319**	P	**P**	**01 03 11.4**	**0.0**
MKAR	**Makanchi Array**	**84.13**	**319**	P	**P**	**01 03 11.4**	**0.0**
	0.8nm,0.7s,baz=97,slow=6.7,SNR=7.0						
MAW	**Mawson**	**84.19**	**203**	*e*P	**P**	**01 03 10.2**	**-1.0**
	0.3nm,0.7s						
MAW	**Mawson**	**84.19**	**203**	P	**P**	**01 03 10.3**	**-1.0**
	1.4nm,0.7s,baz=96,slow=9.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**84.89**	**326**	P	**P**	**01 03 13.7**	**-1.3**
ZALV	**Zalesovo Beam**	**84.89**	**326**	P	**P**	**01 03 13.6**	**-1.3**
	0.4nm,0.3s,baz=100,slow=6.0,SNR=2.7						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**01 04 10.0**	**+0.7**
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**01 04 10.0**	**+0.7**
	0.7nm,0.7s,baz=267,slow=4.5,SNR=4.6						
SCHQ	**Schefferville**	**121.92**	**27**	PKP	**PKPdf**	**01 09 34.0**	**-0.4**
SCHQ	**Schefferville**	**121.92**	**27**	PKP	**PKPdf**	**01 09 34.0**	**-0.4**
	1.3nm,0.6s,baz=288,slow=13,SNR=1.7						
LPAZ	**La Paz**	**130.73**	**119**	PKP	**PKPdf**	**01 09 52.4**	**-0.7**
LPAZ	**La Paz**	**130.73**	**119**	PKP	**PKPdf**	**01 09 52.4**	**-0.7**
	0.7nm,0.7s,baz=201,slow=17,SNR=2.0						
BDFB	**Brasilia**	**147.24**	**135**	PKPbc	**PKPab**	**01 10 25.9**	**-0.5**
BDFB	**Brasilia**	**147.24**	**135**	PKPbc	**PKPab**	**01 10 25.9**	**-0.5**
	1.9nm,0.6s,baz=228,slow=17,SNR=2.9						
TORD	**Torodi Ar. Bea**	**153.70**	**285**	PKPbc	**PKPbc**	**01 10 41.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**153.70**	**285**	PKPbc	**PKPbc**	**01 10 41.0**	**+0.8**
	1.0nm,0.9s,baz=93,slow=2.5,SNR=5.3						

IDC 25 00:59:59.4±7.1, 18°.20S×174°.75W, h0km, mb4.5/3, mb1 4.8/3, mb1mx3.9/19, mbtmp4.5/3, Error ellipse: s-maj=307.4km s-min=38.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.00**	**259**	P	P	01 08 40.3	-0.3
	0.6nm,0.5s,baz=97,slow=7.9,SNR=9.2						
ASAR	**Alice Springs**	**48.06**	**254**	P	P	01 08 41.1	0.0
	4.8nm,0.7s,baz=89,slow=8.3,SNR=32						
ILAR	**Eielson Array**	**85.43**	**12**	P	P	01 12 38.4	-0.1
	0.5nm,0.9s,baz=220,slow=7.0,SNR=4.6						

FUNV 25 01:08:36.9, 7°.40N×73°.44W, h16km, MW3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**67**	*e*P	Pb	01 08 59.6	-0.1
CAPV				*e*S	Sn	01 09 15.8	+0.2
VIGV	**El Vigia**	**2.50**	**55**	*e*P	Pn	01 09 17.1	+0.1
VIGV				*e*S	Sn	01 09 45.4	-1.9
SOCV	**Socops**	**2.71**	**71**	*e*P	Pn	01 09 18.9	-0.8
SOCV				*e*S	Sn	01 09 50.0	-2.2
VIRV	**Villa del Rosa**	**3.25**	**18**	*e*P	Pn	01 09 25.9	-1.4
VIRV				*e*S	Sn	01 10 03.1	-2.6
ELOV	**Elorza**	**3.94**	**95**	*e*P	Pn	01 09 35.9	-0.9
QARV	**Quebrada Arrib**	**4.01**	**46**	*e*P	Pn	01 09 36.0	-1.8
CURV	**Curarigua**	**4.31**	**53**	*e*P	Pn	01 09 40.3	-1.6
CURV				*e*S	Sn	01 10 27.7	-4.3
SANV	**Sanarito**	**4.39**	**61**	*e*P	Pn	01 09 42.0	-1.1
SANV				*e*S	Sn	01 10 29.1	-5.0
TEPV	**Terepaima**	**4.91**	**58**	*e*P	Pn	01 09 49.0	-1.1
MAPV	**Macapo**	**5.49**	**63**	*e*P	Pn	01 09 56.3	-1.8
MAPV				*e*S	Sn	01 10 54.7	-6.2
BAUV	**El Baul**	**5.56**	**74**	*e*P	Pn	01 09 56.3	-2.6
BAUV				*e*S	Sn	01 10 56.8	-5.8
MONV	**Montecano**	**5.67**	**37**	*e*P	Pn	01 09 58.8	-1.8
TURV	**Turiamo**	**6.31**	**61**	*e*P	Pn	01 10 06.7	-2.6
BIRV	**Birongo**	**7.71**	**66**	*e*P	Pn	01 10 26.1	-2.6
CUPV	**Cœpira**	**8.01**	**70**	*e*P	Pn	01 10 29.6	-3.1

GUC 25 02:13:01.4±0.6, 21°.27S×68°.89W, h132km±4km, ML3.6, 5C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.60**	**291**	⇑*i*P	Pn	02 13 21.9	+0.4
PB01				*i* S	Sn	02 13 37.3	+0.6
PB01				AML	AML	02 13 38.1	
	comp=N,1μm,0.2s						
PB09	**Plate Boundary**	**0.62**	**212**	⇓*i*P	Pn	02 13 22.3	+0.5
PB09				*i* S	Sn	02 13 37.8	+0.6
PB09				AML	AML	02 13 38.9	
	comp=N,3μm,0.7s						
MACH	**Maria Elena**	**1.23**	**221**	⇓*i*P	Pn	02 13 28.0	+0.9
MACH				*i* S	Sn	02 13 47.6	+1.0
HMBC	**Humberstone**	**1.36**	**316**	⇑*i*P	Pn	02 13 29.0	+0.8
HMBC				*i* S	Sn	02 13 49.7	+0.9
HMBC				AML	AML	02 13 51.4	
	comp=E,1μm,0.5s						
PSGC	**Pisagua**	**2.02**	**325**	⇑*i*P	Pn	02 13 36.1	+0.2
PSGC				*e*S	Sn	02 14 03.1	+0.7
PSGC				AML	AML	02 14 06.4	
	comp=N,220nm,0.8s						
MNMC	**Minimini**	**2.22**	**343**	⇑*i*P	Pn	02 13 39.2	+0.6
MNMC				*i* S	Sn	02 14 08.6	+1.3
MNMC				AML	AML	02 14 10.6	
	comp=N,626nm,0.2s						
CEN1	**Los Morros**	**2.44**	**210**	⇑*i*P	Pn	02 13 44.6	+3.5
CEN1				*i* S	Sn	02 14 14.5	+2.9
CEN1				AML	AML	02 14 19.8	
	comp=N,100nm,0.6s						

IDC ***25*** *02:14:45.4±2.5, 40°.32N×142°.48E, h110km±24km, mb3.5/2, mb1 3.5/3, mb1mx3.0/24, mbtmp3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx2.6/38, Error ellipse: s-maj=52.2km s-min=15.0km az=106.0*
ISCJB ***25*** *02:14:47.8±0.7, 41°.03N±0°.03×140°.26E±0°.09, h174km±4km, mb3.6/3, Error ellipse: s-maj=11.1km s-min=5.5km az=5.0*
JMA ***25*** *02:14:49.0±0.1, 41°.05N×140°.25E, h170km±1km, M2.9*
ISC 25 02:14:48.4±1.7, 41°.04N±0°.04×140°.25E±0°.08, h173km±10km, n20, σ0.59/28, mb3.5/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.12**	**80**	P	**Pn**	**02 15 11.7**	**+0.4**
JSI2				S	**Sn**	**02 15 28.6**	**-0.3**
JIW	**Iwasaki**	**0.48**	**203**	P	**Pn**	**02 15 12.9**	**+0.5**
JIW				*e*S	**Sn**	**02 15 31.3**	**+0.6**
JSR	**Shiriuchi**	**0.51**	**14**	P	**Pn**	**02 15 12.5**	**+0.1**
JSR				*e*S	**Sn**	**02 15 30.0**	**-0.9**
JTM	**Tenmabayashi**	**0.67**	**112**	P	**Pn**	**02 15 13.6**	**+0.4**
JTM				S	**Sn**	**02 15 32.2**	**0.0**
JOT	**Ohata**	**0.69**	**60**	P	**Pn**	**02 15 13.7**	**+0.4**
JOT				*e*S	**Sn**	**02 15 32.3**	**-0.2**
JKB	**Kayabe**	**1.03**	**34**	P	**Pn**	**02 15 16.0**	**+0.4**
JANG	**Nango**	**1.17**	**124**	P	**Pn**	**02 15 16.7**	**-0.1**
JANG				*e*S	**Sn**	**02 15 38.2**	**-0.4**
JOSM	**Okushiri--Mats**	**1.20**	**331**	P	**Pn**	**02 15 17.0**	**+0.1**
JOSM				S	**Sn**	**02 15 37.9**	**-1.2**
JOM	**Ohasama**	**1.75**	**153**	P	**Pn**	**02 15 22.6**	**+0.2**
JOM				*e*S	**Sn**	**02 15 48.5**	**-0.1**
JEW	**Eniwo**	**2.01**	**26**	*e*S	**Sn**	**02 15 54.5**	**+0.9**
JYK	**Kaneyama**	**2.12**	**178**	P	**Pn**	**02 15 26.3**	**0.0**
JYK				*e*S	**Sn**	**02 15 55.3**	**-0.4**
JMK	**Ichinoseki**	**2.21**	**160**	P	**Pn**	**02 15 27.0**	**-0.4**
JMK				*e*S	**Sn**	**02 15 56.8**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.25**	**56**	P	**Pn**	**02 15 28.2**	**+0.5**
JNBK				*e*S	**Sn**	**02 15 58.2**	**-0.1**
JSK	**Shakotan**	**2.32**	**4**	P	**Pn**	**02 15 28.9**	**+0.4**
ASAJ	**Asahikawa**	**3.53**	**29**	P	**Pn**	**02 15 43.7**	**+0.4**
	3.7nm,0.3s,baz=222,slow=8.9,SNR=10						
ASAJ				S	**Sn**	**02 16 24.9**	**-1.4**
	2.0nm,0.3s,baz=149,slow=15,SNR=5.5						
MJAR	**Matsushiro Arr**	**4.76**	**200**	P	**Pn**	**02 15 59.9**	**+0.7**
	0.7nm,0.3s,baz=13,slow=12,SNR=7.5						
CBIJ	**Chichi jima**	**14.00**	**173**	LR	LR	02 22 13.5	
	comp=Z,884nm,21.2s,baz=104,slow=34						
ILAR	**Eielson Array**	**46.65**	**34**	P	P	02 22 59.9	+0.9
	0.5nm,0.6s,baz=278,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**60.91**	**186**	P	P	02 24 42.4	-0.5
	0.3nm,0.4s,baz=5.4,slow=6.9,SNR=14						
FINES	**FINESS Array B**	**64.87**	**331**	P	P	02 25 22.1	+14
	1.8nm,0.9s,baz=46,slow=6.0,SNR=4.3						

ISCJB ***25*** *02:16:52.4±0.6, 81°.96N±0°.08×3°.6W±0°.5, h10km, mb3.5/14, MS3.4/5, Error ellipse: s-maj=12.7km s-min=7.3km az=34.9*
IDC ***25*** *02:16:52.9±0.8, 82°.13N×3°.00W, h0km, mb3.5/12, mb1 3.8/14, mb1mx3.7/30, mbtmp3.6/14, ML4.0/2, MS3.2/9, Ms1 3.2/9, ms1mx2.8/41, Error ellipse: s-maj=26.1km s-min=13.6km az=48.0*
CSEM ***25*** *02:16:58.1±1.0, 81°.42N×3°.91W, h10km, ML4.1, Error ellipse: s-maj=28.0km s-min=7.0km az=171.0*
ISC 25 02:16:54.1±0.7, 81°.97N±0°.10×3°.44W±0°.07, h10km, n36, σ1.69/39, mb3.5/14, MS3.5/5, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.97**	**132**	Pn	**Pn**	**02 17 54.8**	**-0.1**
KBS				Sn	**Sn**	**02 18 40.3**	**-1.1**
KBS	**Kingsbay**	**3.97**	**132**	Pn	**Pn**	**02 17 54.8**	**-0.1**
KBS				Sn	**Sn**	**02 18 40.3**	**-1.1**
KBS				AML	AML	02 18 48.7	
	comp=Z,21nm,0.7s						
KBS	**Kingsbay**	**3.97**	**132**	Pn	**Pn**	**02 17 54.8**	**-0.1**
KBS	**Kingsbay**	**3.97**	**132**	*i* P	**Pn**	**02 17 55.3**	**+0.4**
	SNR=49						
KBS				Sn	**Sn**	**02 18 40.3**	**-1.1**
	comp=Z,21nm,0.7s,SNR=55						
SPA0	**Spitsbergen Ar**	**5.08**	**128**	Pn	**Pn**	**02 18 10.2**	**-0.1**
	baz=5.2,slow=10						
SPA0				Sn	**Sn**	**02 19 05.4**	**-3.5**
	baz=345,slow=16						
SPA0	**Spitsbergen Ar**	**5.08**	**128**	Pn	**Pn**	**02 18 10.2**	**-0.1**
	baz=5.2,slow=10						
SPA0				Sn	**Sn**	**02 19 05.4**	**-3.5**
	baz=345,slow=16						
SPA0	**Spitsbergen Ar**	**5.08**	**128**	Pn	**Pn**	**02 18 10.1**	**-0.1**
	baz=5.2,slow=9.9,SNR=888						
SPA0				Sn	**Sn**	**02 19 05.4**	**-3.5**
	baz=345,slow=14						
SPITS	**Spitsbergen Ar**	**5.08**	**128**	Pn	**Pn**	**02 18 10.4**	**+0.2**
	baz=350,slow=9.3,SNR=362						
SPITS				Sn	**Sn**	**02 19 05.3**	**-3.5**
	baz=310,slow=28,SNR=1.6						
SPITS				LR	LR	02 20 08.7	
	comp=Z,280nm,18.6s,baz=315,slow=38						
DAG	**Danmarks Havn**	**5.90**	**216**	*i* P	**Pn**	**02 18 19.5**	**-1.9**
DAG				*e*S	Sn	02 19 20.3	-8.6
HSP	**Hornsund**	**6.02**	**135**	*e*P	**Pn**	**02 18 24.0**	**+0.9**
SUMG	**Summit**	**11.83**	**237**	*i* P	**Pn**	**02 19 39.8**	**-3.1**
SUMG				*e*S	Sn	02 21 40.0	-15
ARA0	**ARCESS Array S**	**14.05**	**135**	P	**Pn**	**02 20 12.9**	**+0.1**
	baz=357,slow=11						
ARA0	**ARCESS Array S**	**14.05**	**135**	P	**Pn**	**02 20 12.9**	**+0.1**
	baz=357,slow=11						
ARA0	**ARCESS Array S**	**14.05**	**135**	P	**Pn**	**02 20 12.9**	**+0.1**
	baz=357,slow=11,SNR=5.6						
ARCES	**ARCESS Array B**	**14.05**	**135**	Pn	**Pn**	**02 20 12.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=357,slow=9.7,SNR=16						
ARCES				LR	LR	02 25 32.9	
	comp=Z,50nm,20.4s,baz=40,slow=37						
RES	**Resolute Bay**	**17.54**	**298**	LR	LR	02 27 55.1	
	comp=Z,38nm,18.3s,baz=335,slow=38						
SFJD	**Kangerlussuaq**	**18.57**	**245**	LR	LR	02 29 20.8	
	comp=Z,39nm,19.9s,baz=353,slow=40						
NB2	**NORSAR Subarra**	**21.39**	**160**	P	**P**	**02 21 43.8**	**+2.3**
	comp=Z,8.7nm,1.7s,baz=357,slow=11						
NOA	**NORSAR Array B**	**21.39**	**160**	P	**P**	**02 21 43.6**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=350,slow=9.3,SNR=6.1						
FIA0	**FINESS Array S**	**22.01**	**141**	P	**P**	**02 21 50.4**	**+2.4**
	baz=0.1,slow=11						
FIA0	**FINESS Array S**	**22.01**	**141**	P	**P**	**02 21 50.4**	**+2.4**
	baz=0.1,slow=11						
FINES	**FINESS Array B**	**22.01**	**141**	P	**P**	**02 21 49.1**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=357,slow=7.6,SNR=7.5						
HFS	**Hagfors**	**22.42**	**157**	P	**P**	**02 21 53.8**	**+1.3**
	comp=Z,3.8nm,0.9s,baz=288,slow=6.1,SNR=5.3						
ILAR	**Eielson Array**	**32.21**	**331**	P	**P**	**02 23 20.1**	**-1.7**
	comp=Z,0.4nm,1.0s,baz=17,slow=9.6,SNR=3.3						
GERES	**GERESS Array B**	**33.69**	**159**	P	**P**	**02 23 37.0**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=9.8,slow=8.7,SNR=8.7						
ZALV	**Zalesovo Beam**	**36.76**	**81**	P	**P**	**02 24 00.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=350,slow=7.7,SNR=1.9						
ZALV				LR	LR	02 41 59.3	
	comp=Z,37nm,18.3s,baz=254,slow=41						
ULM	**Lac du Bonnet**	**40.95**	**282**	LR	LR	02 41 39.5	
	comp=Z,62nm,20.2s,baz=302,slow=36						
ESDC	**Sonseca Array**	**42.43**	**181**	P	**P**	**02 24 48.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=353,slow=8.8,SNR=3.9						
MK31	**Makanchi Array**	**43.40**	**86**	⇑P	**P**	**02 24 56.1**	**-0.3**
	comp=Z,0.5nm,0.2s,baz=158,slow=16,SNR=65						
MKAR	**Makanchi Array**	**43.40**	**86**	LR	LR	02 46 57.7	
	comp=Z,51nm,18.3s,baz=358,slow=42						
BRTR	**Keskin Array B**	**44.21**	**138**	P	**P**	**02 25 03.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=355,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**45.62**	**62**	P	**P**	**02 25 13.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=349,slow=5.9,SNR=2.5						
SONM				LR	LR	02 44 27.9	
	comp=Z,46nm,21.8s,baz=104,slow=36						
PDAR	**Pinedale Array**	**50.13**	**293**	P	**P**	**02 25 49.9**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=46,slow=3.9,SNR=2.7						
NVAR	**Mina Array Bea**	**55.50**	**300**	P	**P**	**02 26 29.7**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=313,slow=1.8,SNR=2.5						
TXAR	**Lajitas Array**	**62.56**	**284**	P	**P**	**02 27 18.9**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=19,slow=5.8,SNR=3.0						
TXAR				LR	LR	02 55 50.6	
	comp=Z,40nm,20.4s,baz=185,slow=37						
TORD	**Torodi Ar. Bea**	**68.89**	**175**	P	**P**	**02 27 59.9**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=356,slow=6.1,SNR=20						

WEL 25 03:19:11.0±0.4, 35°.86S×178°.29E, h158km±5km, ML3.9/5, Error ellipse: s-maj=6.8km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.70**	**180**	PN	Pn	03 19 43.5	+0.3
MXZ				*e*SN	Sn	03 20 07.8	-0.3
PUZ	**Puketiti**	**2.21**	**181**	PN	Pn	03 19 49.5	+0.5
PUZ				SN	Sn	03 20 17.6	-0.8
PUZ				AML	AML	03 20 18.8	
MWZ	**Matawai**	**2.54**	**194**	*e*PN	Pn	03 19 53.5	+0.4
MWZ				SN	Sn	03 20 25.7	0.0
URZ	**Urewera**	**2.57**	**201**	PN	Pn	03 19 54.0	+0.7
URZ				SN	Sn	03 20 26.6	+0.4
KNZ	**Kokohu**	**3.19**	**189**	PN	Pn	03 20 00.6	-0.4
KNZ				SN	Sn	03 20 39.3	-0.6
MHGZ	**Mahia Peninsul**	**3.30**	**185**	PN	Pn	03 20 02.4	-0.1
MHGZ				SN	Sn	03 20 41.8	-0.7
KAHZ	**Kahuranaki**	**4.08**	**196**	PN	Pn	03 20 12.0	-0.5
KAHZ				SN	Sn	03 20 59.5	-1.0
PXZ	**Pawanui**	**4.31**	**195**	SN	Sn	03 21 03.2	-2.6
PXZ				AML	AML	03 21 04.2	
PNHZ	**Pukenui**	**4.37**	**202**	PN	Pn	03 20 14.9	-1.4

IDC 25 03:42:36.5±1.0, 13°.57N×125°.94E, h0km, mb4.1/7, mb1 4.3/9, mb1mx3.9/27, mbtmp4.3/9, ML4.4/2, MS3.2/3, Ms1 3.3/3, ms1mx2.8/29, 1D, Error ellipse: s-maj=41.0km s-min=15.8km az=74.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**3.70**	**238**	⇓*i*P	Pn	03 43 30.2	-4.9
TGY	**Tagaytay City**	**4.89**	**277**	Pn	Pn	03 43 53.6	+2.1
	39nm,0.3s,baz=110,slow=19,SNR=3.4						
TGY				Sn	Sn	03 44 38.2	-11
	35nm,0.3s,baz=39,slow=11,SNR=4.0						
KAPI	**Kappang**	**19.46**	**199**	P	Pn	03 47 06.0	-0.1
	0.5nm,0.3s,baz=29,slow=10,SNR=5.5						
KSRS	**Korea Array**	**23.85**	**4**	P	P	03 47 53.2	+1.7
	2.8nm,0.8s,baz=187,slow=11,SNR=15						
MJAR	**Matsushiro Arr**	**25.38**	**24**	LR	LR	03 57 06.0	
	comp=Z,52nm,20.5s,baz=215,slow=34						
CMAR	**Chiang Mai Arr**	**26.39**	**284**	LR	LR	03 58 20.7	
	comp=Z,31nm,21.5s,baz=95,slow=36						
WRA	**Warramunga Arr**	**34.31**	**166**	P	P	03 49 25.3	+0.4
	0.6nm,0.3s,baz=345,slow=9.2,SNR=29						
ASAR	**Alice Springs**	**37.82**	**168**	P	P	03 49 54.8	-0.3
	2.0nm,0.5s,baz=352,slow=9.2,SNR=26						
SONM	**Songino Array**	**37.84**	**338**	P	P	03 49 54.5	-0.6
	1.2nm,0.8s,baz=134,slow=4.7,SNR=5.6						
STKA	**Stephens Creek**	**47.62**	**162**	P	P	03 51 13.4	-1.0
	3.3nm,0.8s,baz=71,slow=3.7,SNR=3.3						
MKAR	**Makanchi Array**	**49.24**	**321**	P	P	03 51 25.6	-1.3
	0.6nm,0.7s,baz=108,slow=7.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**53.21**	**324**	P	P	03 51 55.8	-0.8
	5.3nm,0.2s,baz=122,slow=7.4,SNR=5.5						
NOA	**NORSAR Array B**	**89.67**	**334**	LR	LR	04 37 04.7	
	comp=Z,21nm,19.0s,baz=85,slow=36						

MEX 25 03:44:43.0±0.6, 16°.94N×100°.35W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.13**	**35**	*e*P	Pg	03 44 45.0	-0.7
CAIG				*i* S	Sg	03 44 46.9	-0.6
ACP2	**Acapulco**	**0.44**	**98**	*e*P	Pg	03 44 51.0	-0.6
ACP2				*i* S	Sg	03 44 57.8	+0.4
ACX	**Acapulco**	**0.47**	**98**	*i* P	Pn	03 44 56.4	0.0
ACX				*i* S	Sb	03 45 02.7	+1.6
MEIG	**Mezcala**	**1.20**	**35**	*e*P	Pg	03 45 02.9	-3.3
MEIG				*i* S	Sg	03 45 17.8	-4.1
ZIIG	**Zihuatanejo**	**1.26**	**302**	*e*P	Pg	03 45 03.2	-4.0
ZIIG				*i* S	Sg	03 45 19.3	-4.2
ARIG	**Puente Sto Nin**	**1.33**	**360**	*e*P	Pn	03 45 04.5	-3.9
ARIG				*i* S	Sb	03 45 21.9	-4.1
PLIG	**Platanillo**	**1.65**	**29**	*e*P	Pn	03 45 09.8	-3.1
PLIG				*i* S	Sn	03 45 29.9	-4.7
PNIG	**Pinotepa**	**2.19**	**104**	*e*P	Pn	03 45 17.6	-2.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**3.10**	**234**	⇓*eP*	Pb	04 27 12.3	-1.4
KSRS	**Korea Array**	**24.07**	**5**	P	P	04 31 35.0	+0.3
	0.3nm,0.3s,baz=188,slow=8.1,SNR=4.8						
WRA	**Warramunga Arr**	**34.30**	**165**	P	P	04 33 05.3	-0.6
	0.4nm,0.6s,baz=344,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**37.78**	**167**	P	P	04 33 36.0	+0.2
	0.6nm,0.5s,baz=346,slow=7.0,SNR=3.6						
SONM	**Songino Array**	**37.78**	**339**	P	P	04 33 34.1	-1.6
	0.2nm,0.4s,baz=147,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**49.00**	**322**	P	P	04 35 05.5	-0.6
	0.2nm,0.7s,baz=111,slow=6.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**52.99**	**324**	P	P	04 35 36.4	+0.3
	0.3nm,0.6s,baz=120,slow=7.7,SNR=6.2						
BVAR	**Borovoye Array**	**58.59**	**325**	P	P	04 36 17.2	+1.0
	0.4nm,0.4s,baz=107,slow=7.7,SNR=3.1						

FUNV 25 04:26:37.5,6°.81N×73°.07W,h175km,MW3.6,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.29**	**36**	⇑*iP*	Pn	04 27 06.5	-0.9
CAPV				*eS*	Sn	04 27 28.0	-2.5
VIGV	**El Vigia**	**2.63**	**40**	*eP*	Pn	04 27 20.9	-0.6
VIGV				*eS*	Sn	04 27 52.8	-3.0
SOCV	**Socops**	**2.64**	**56**	*eP*	Pn	04 27 30.6	-1.1
SOCV				*eS*	Sn	04 27 52.1	-3.8
VIRV	**Villa del Rosa**	**3.73**	**10**	*eP*	Pn	04 27 33.3	-1.7
CURV	**Curarigua**	**4.43**	**44**	*eP*	Pn	04 27 43.1	-1.0
TEPV	**Terepaima**	**4.96**	**51**	*eP*	Pn	04 27 49.7	-1.1
SIQV	**Siquisique**	**5.00**	**40**	*eP*	Pn	04 27 50.2	-1.2
BAUV	**El Baul**	**5.41**	**67**	*eP*	Pn	04 27 54.4	-2.4
BAUV				*eS*	Sn	04 28 52.7	-6.4
MAPV	**Macapo**	**5.46**	**56**	*eP*	Pn	04 27 56.0	-1.5
MAPV				*eS*	Sn	04 28 53.1	-7.2
MONV	**Montecano**	**5.96**	**31**	*eP*	Pn	04 28 01.5	-2.5

IDC 25 04:29:35.0±10.0,3°.22S×97°.94E,h0km,mb3.3/2, mb1 3.5/2,mb1mx3.2/24,mbtmp3.3/2,Error ellipse: s-maj=527.2km s-min=49.3km az=51.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.20**	**118**	P	P	04 37 05.2	-0.1
	1.1nm,1.1s,baz=293,slow=6.7,SNR=7.3						
ASAR	**Alice Springs**	**40.26**	**124**	P	P	04 37 13.9	-0.2
	0.2nm,0.3s,baz=295,slow=7.8,SNR=3.4						
TXAR	**Lajitas Array**	**146.90**	**36**	PKPbc	PKPbc	04 49 19.6	-0.8
	0.1nm,0.6s,baz=270,slow=0.6,SNR=3.0						

*ISCJB **25** 04:40:56.8±1.3,19°.35N±0°.06×65°.75W±0°.03,h18km±8km, Error ellipse: s-maj=10.0km s-min=5.5km az=178.9*
*RSPR **25** 04:41:00.1,19°.32N×65°.73W,h32km±9km,MD3.5/12*
*NEIC **25** 04:41:00.1,19°.32N×65°.73W,h32km,MD3.5(RSPR), After RSPR.*

ISC 25 04:40:58.1±1.7,19°.33N±0°.07×65°.73W±0°.03,h30km±13km, n52,σ0°.66/74,20C-17D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.06**	**187**	⇑*eP*	Pn	04 41 17.1	+0.2
CBYP	**Canovanas**	**1.06**	**187**	*eS*	Sn	04 41 30.2	-0.4
CBYP	**Canovanas**	**1.06**	**187**	⇓*eP*	Pn	04 41 17.1	+0.2
CBYP				*eS*	Sn	04 41 30.2	-0.4
CBYP	**Canovanas**	**1.06**	**187**	⇑*eP*	Pb	04 41 17.6	-0.2
CBYP				*eS*	Sn	04 41 30.2	-0.4
HUMP	**Col San Antoni**	**1.18**	**186**	⇑*eP*	Pn	04 41 18.9	+0.3
HUMP	**Col San Antoni**	**1.18**	**186**	*eS*	Sn	04 41 33.3	-0.3
HUMP	**Col San Antoni**	**1.18**	**186**	⇑*eP*	Pn	04 41 18.9	+0.3
HUMP				*eS*	Sn	04 41 33.3	-0.3
HUMP	**Col San Antoni**	**1.18**	**186**	⇑*eP*	Pn	04 41 18.9	+0.3
HUMP				*eS*	Sn	04 41 33.3	-0.3
STVI	**Saint Thomas**	**1.22**	**143**	⇑*eP*	Pn	04 41 19.3	+0.3
STVI	**Saint Thomas**	**1.22**	**143**	*eS*	Sn	04 41 34.4	0.0
STVI	**Saint Thomas**	**1.22**	**143**	*ePn*	Pb	04 41 19.9	-0.6
STVI				*eS*	Sb	04 41 36.7	+0.8
STVI	**Saint Thomas**	**1.22**	**143**	⇑*eP*	Pn	04 41 19.3	+0.3
STVI				*eS*	Sn	04 41 34.4	0.0
MTP	**Monte Pirata**	**1.23**	**172**	⇓*eP*	Pn	04 41 19.6	+0.4
MTP	**Monte Pirata**	**1.23**	**172**	*eS*	Sn	04 41 34.5	-0.4
MTP	**Monte Pirata**	**1.23**	**172**	*ePn*	Pn	04 41 19.7	+0.4
MTP				*eS*	Sb	04 41 37.6	+1.2
MTP	**Monte Pirata**	**1.23**	**172**	⇓*eP*	Pn	04 41 19.6	+0.4
MTP				*eS*	Sn	04 41 34.5	-0.4
CPD	**Cerro la Pandu**	**1.29**	**188**	⇑*eP*	Pn	04 41 20.4	+0.3
CPD	**Cerro la Pandu**	**1.29**	**188**	⇑*eP*	Pn	04 41 20.4	+0.3
CPD	**Cerro la Pandu**	**1.29**	**188**	⇑*eP*	Pn	04 41 20.4	+0.3
AOPR	**Arecibo Observ**	**1.38**	**225**	⇓*eP*	Pn	04 41 21.5	+0.3
AOPR	**Arecibo Observ**	**1.38**	**225**	*eS*	Sn	04 41 38.5	+0.1
AOPR	**Arecibo Observ**	**1.38**	**225**	⇓*eP*	Pn	04 41 21.5	+0.3
AOPR				*eS*	Sn	04 41 38.5	+0.1
AOPR	**Arecibo Observ**	**1.38**	**225**	⇓*eP*	Pn	04 41 21.5	+0.3
AOPR				*eS*	Sn	04 41 38.5	+0.1
TBVI	**Tortola**	**1.39**	**130**	⇓*eP*	Pn	04 41 21.8	+0.4
TBVI				*eS*	Sn	04 41 38.7	0.0
TBVI	**Tortola**	**1.39**	**130**	⇓*eP*	Pn	04 41 21.8	+0.4
TBVI				*eS*	Sn	04 41 38.7	0.0
TBVI	**Tortola**	**1.39**	**130**	⇓*eP*	Pn	04 41 21.8	+0.4
TBVI				*eS*	Sn	04 41 38.7	0.0
ABV	**Anegada**	**1.45**	**114**	⇓*eP*	Pn	04 41 22.3	+0.1
ABV	**Anegada**	**1.45**	**114**	⇓*eP*	Pn	04 41 22.3	+0.1
ABVI	**Anegada Island**	**1.45**	**114**	⇓*eP*	Pn	04 41 22.3	+0.1
LRS	**Lares**	**1.48**	**226**	⇓*eP*	Pn	04 41 22.6	0.0
LRS	**Lares**	**1.48**	**226**	⇓*eP*	Pn	04 41 22.6	0.0
LRS	**Lares**	**1.48**	**226**	⇓*eP*	Pn	04 41 22.6	0.0
CELP	**Cerrillos**	**1.48**	**213**	⇑*eP*	Pn	04 41 23.2	+0.5
CELP	**Cerrillos**	**1.48**	**213**	*ePn*	Pn	04 41 23.1	+0.5
CELP				*eS*	Sb	04 41 43.1	-0.4
CELP	**Cerrillos**	**1.48**	**213**	⇑*eP*	Pn	04 41 23.2	+0.5
OBIP	**Obispado Ponce**	**1.52**	**213**	⇓*eP*	Pn	04 41 23.8	+0.6
OBIP	**Obispado Ponce**	**1.52**	**213**	*eS*	Sn	04 41 42.1	+0.1
OBIP	**Obispado Ponce**	**1.52**	**213**	⇓*eP*	Pn	04 41 23.8	+0.6
OBIP				*eS*	Sn	04 41 42.1	+0.1
OBIP	**Obispado Ponce**	**1.52**	**213**	⇓*eP*	Pn	04 41 23.8	+0.6
OBIP				*eS*	Sn	04 41 42.1	+0.1
AGPR	**Aguadilla, PR**	**1.56**	**237**	⇑*eP*	Pn	04 41 24.2	+0.4
AGPR	**Aguadilla, PR**	**1.56**	**237**	*eS*	Sn	04 41 43.0	0.0
AGPR	**Aguadilla, PR**	**1.56**	**237**	*ePn*	Pn	04 41 21.6	-2.1
AGPR				*eS*	Sb	04 41 47.4	+1.7
AGPR	**Aguadilla, PR**	**1.56**	**237**	⇑*eP*	Pn	04 41 24.2	+0.4
AGPR				*eS*	Sn	04 41 43.0	0.0
LSP	**Las Mesas**	**1.72**	**229**	⇑*eP*	Pn	04 41 26.4	+0.4
LSP	**Las Mesas**	**1.72**	**229**	⇑*eP*	Pn	04 41 26.4	+0.4
LSP	**Las Mesas**	**1.72**	**229**	⇑*eP*	Pn	04 41 26.4	+0.4
CDVI	**St. Croix**	**1.81**	**150**	*ePn*	Pb	04 41 29.9	-0.8
CDVI				*eS*	Sb	04 41 52.8	-0.1
CRPR	**Cabo Rojo, PR**	**1.85**	**225**	⇑*eP*	Pn	04 41 28.4	+0.6
CRPR	**Cabo Rojo, PR**	**1.85**	**225**	*eS*	Sn	04 41 50.3	+0.1
CRPR	**Cabo Rojo, PR**	**1.85**	**225**	*ePn*	Pn	04 41 28.8	+1.0
CRPR				*eS*	Sb	04 41 52.2	-1.9
CRPR	**Cabo Rojo, PR**	**1.85**	**225**	⇑*eP*	Pn	04 41 28.4	+0.6
CRPR				*eS*	Sn	04 41 50.3	+0.1
SDDR	**Presa de Saban**	**5.26**	**267**	*ePn*	Pn	04 42 16.8	+2.0
SDDR				*eS*	Sn	04 43 12.3	-2.2

IDC 25 04:55:00.7±1.9,1°.89S×99°.28E,h0km,mb3.9/8,mb1 4.0/9, mb1mx3.8/25,mbtmp3.9/9,ML2.8/1,MS2.8/1,Ms1 2.8/1, ms1mx2.3/35,Error ellipse: s-maj=69.8km s-min=18.5km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.67**	**356**	Pn	Pn	04 56 11.1	-1.6
	0.5nm,0.3s,baz=170,slow=12,SNR=2.9						
PSI				LR	LR	04 57 55.4	
	comp=Z,102nm,18.6s,baz=351,slow=38						
CMAR	**Chiang Mai Arr**	**20.22**	**359**	P	P	04 59 36.2	-1.2
	0.7nm,0.3s,baz=183,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**38.67**	**120**	P	P	05 02 25.8	-0.7
	1.0nm,0.6s,baz=303,slow=9.2,SNR=19						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	05 02 36.5	-0.3
	0.7nm,0.5s,baz=301,slow=7.8,SNR=9.0						
KSRS	**Korea Array**	**47.30**	**31**	P	P	05 03 37.7	+1.6
	0.8nm,0.5s,baz=226,slow=8.4,SNR=4.2						
SONM	**Songino Array**	**49.91**	**6**	P	P	05 03 54.9	-1.3
	0.6nm,0.9s,baz=195,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**50.73**	**345**	P	P	05 04 02.1	-0.3
	0.9nm,0.5s,baz=153,slow=8.3,SNR=14						
ZALV	**Zalesovo Beam**	**56.93**	**350**	P	P	05 04 46.8	-0.8
	1.6nm,0.4s,baz=187,slow=7.5,SNR=6.2						
ARCES	**ARCESS Array B**	**86.13**	**340**	P	P	05 07 44.9	+1.6
	2.2nm,1.0s,baz=111,slow=4.9,SNR=3.5						
TXAR	**Lajitas Array**	**145.04**	**36**	PKPbc	PKPbc	05 14 40.1	-0.2
	0.4nm,0.4s,baz=256,slow=0.7,SNR=14						

*IDC **25** 04:57:22.9±0.5,46°.12S×166°.15E,h0km,mb4.6/11, mb1 4.7/13,mb1mx4.6/20,mbtmp4.7/13,ML4.9/2,MS4.5/15, Ms1 4.5/15,ms1mx4.3/22,Error ellipse: s-maj=17.8km s-min=17.0km az=54.0*
*ISCJB **25** 04:57:23.8±0.9,46°.13S±0°.04×166°.14E±0°.04,h17km±6km, mb4.6/17,MS4.5/17,Error ellipse: s-maj=5.9km s-min=5.1km az=1.0*
*NEIC **25** 04:57:24.0±3.3,46°.21S×166°.14E,h10km±20km,mb5.0/7, ML5.4(WEL),Error ellipse: s-maj=9.4km s-min=7.5km az=47.0*
NEIC Felt at Otatara and Invercargill.
*WEL **25** 04:57:24.5±0.5,46°.12S×166°.05E,h26km±2km,ML5.5/24, Error ellipse: s-maj=4.4km s-min=2.4km az=90.0*
WEL Felt between Fiordland, Southland and Otago, maximum reported intensity MM 5.
*GCMT **25** 04:57:31.0±0.4,45°.90S×165°.82E,h25km,MW5.2, Moment Tensor Solution. s35,c39; s61,c81; Moment tensor: Scale 10^{16}Nm; M_{rr}0.93±.21; $M_{\theta\theta}$1.92±.17; $M_{\phi\phi}$-2.84±.15; $M_{r\theta}$0.38±.39; $M_{\theta\phi}$-2.07±.14; $M_{\phi r}$-6.11±.31; Best double couple: $M_0$6.80000×10^{16} NP1:ϕ_s171.00000°, δ84.00000°,λ68.00000°. NP2:ϕ_s67.00000°,δ23.00000°, λ164.00000°. Principal axes: T 6.0300, Plg47.0000°, Azm58.0000°; N 1.5500, Plg22.0000°, Azm174.0000°; P -7.5700, Plg35.0000°, Azm281.0000°; Data Used: IU II IC G CN.*

ISC 25 04:57:23.7±1.0,46°.19S±0°.04×166°.23E±0°.04,h8km±5km, n160,σ1$23/164,mb4.8/17,MS4.5/17,5C-7D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.96**	**43**	⇑PN	Pb	04 57 42.3	-0.3
DCZ				SN	Sb	04 57 55.2	-0.1
DCZ				AML	AML	04 57 58.0	
DCZ				AML	AML	04 57 58.0	
DCZ				AML	AML	04 58 12.7	
DCZ	**Deep Cove**	**0.96**	**43**	P*	Pg	04 57 41.9	-0.2
DCZ				S*	Sb	04 57 55.2	-0.1
WHZ	**Wether Hill Ro**	**1.23**	**77**	PN	Pg	04 57 47.7	+0.4
WHZ				SN	Sn	04 58 05.1	+1.1
WHZ				AML	AML	04 58 08.4	
WHZ	**Wether Hill Ro**	**1.23**	**77**	P*	Pn	04 57 47.1	-0.1
WHZ				S*	Sn	04 58 05.1	+1.1
APZ	**The Paps**	**1.38**	**119**	PN	Pn	04 57 49.3	+0.1
APZ				SN	Sn	04 58 08.1	+0.5
APZ	**The Paps**	**1.38**	**119**	P*	Pn	04 57 49.0	-0.3
APZ				S*	Sb	04 58 07.4	-0.1
MLZ	**Mavora Lakes**	**1.60**	**59**	PN	Pn	04 57 52.9	+0.6
MLZ				AML	AML	04 58 20.9	
MLZ				AML	AML	04 58 22.9	
MLZ	**Mavora Lakes**	**1.60**	**59**	Pn	Pn	04 57 52.9	+0.6
MLZ				Sn	Sg	04 58 18.1	+3.0
MSZ	**Milford Sound**	**1.93**	**39**	PN	Pn	04 57 56.5	-0.3
MSZ				AML	AML	04 58 39.1	
MSZ				AML	AML	04 58 39.2	
MSZ				AML	AML	04 58 43.0	
MSZ				AML	AML	04 58 43.1	
MSZ	**Milford Sound**	**1.93**	**39**	Pn	Pn	04 57 57.1	+0.3
SYZ	**Scrubby Hill**	**2.04**	**101**	PN	Pn	04 57 59.2	+0.9
SYZ				SN	Sn	04 58 25.6	+1.6
SYZ	**Scrubby Hill**	**2.04**	**101**	Pn	Pn	04 57 59.1	+0.7
EAZ	**Earnscleugh**	**2.36**	**67**	PN	Pb	04 58 04.8	-1.6
EAZ				AML	AML	04 58 40.4	
EAZ				AML	AML	04 58 40.4	
EAZ				AML	AML	04 58 40.6	
EAZ				AML	AML	04 58 40.6	
EAZ	**Earnscleugh**	**2.36**	**67**	Pn	Pb	04 58 05.0	-1.5
TUZ	**Tuapeka**	**2.38**	**86**	PN	Pn	04 58 04.6	+1.6
TUZ				AML	AML	04 58 39.2	
TUZ				AML	AML	04 58 42.8	
TUZ	**Tuapeka**	**2.38**	**86**	Pn	Pn	04 58 04.5	+1.5
WKZ	**Wanaka**	**2.38**	**56**	PN	Pb	04 58 05.7	-1.2
WKZ				AML	AML	04 58 43.0	
WKZ				AML	AML	04 58 44.4	
WKZ				AML	AML	04 58 44.4	
WKZ				AML	AML	04 59 02.8	
WKZ	**Wanaka**	**2.38**	**56**	Pn	Pb	04 58 05.6	-1.3
JCZ	**Jackson Bay**	**2.77**	**41**	PN	Pn	04 58 09.9	+1.5
JCZ				AML	AML	04 59 01.6	
JCZ				AML	AML	04 59 01.7	
JCZ	**Jackson Bay**	**2.77**	**41**	Pn	Pn	04 58 10.9	+2.4
ODZ	**Otahua Downs**	**3.30**	**71**	PN	Pn	04 58 16.2	+0.5
ODZ	**Otahua Downs**	**3.30**	**71**	Pn	Pn	04 58 16.2	+0.5
LBZ	**Lake Benmore**	**3.32**	**59**	PN	Pn	04 58 16.9	+0.9
LBZ				AML	AML	04 59 01.3	
LBZ				AML	AML	04 59 26.4	
LBZ				AML	AML	04 59 27.3	
LBZ				AML	AML	04 59 27.3	
LBZ	**Lake Benmore**	**3.32**	**59**	Pn	Pn	04 58 17.2	+1.2
FOZ	**Fox Glacier**	**3.59**	**44**	PN	Pn	04 58 21.9	+2.2
FOZ				AML	AML	04 59 29.1	
FOZ				AML	AML	04 59 29.1	
FOZ				AML	AML	04 59 29.1	
FOZ				AML	AML	04 59 29.2	
FOZ	**Fox Glacier**	**3.59**	**44**	Pn	Pn	04 58 22.0	+2.3
RPZ	**Rata Peaks**	**4.22**	**56**	PN	Pn	04 58 28.3	-0.1
RPZ				AML	AML	04 59 55.9	
RPZ				AML	AML	04 59 57.6	
RPZ	**Rata Peaks**	**4.22**	**56**	*ePn*	Pn	04 58 28.3	-0.1
RPZ				*eS*	Sn	04 59 10.7	-7.1
RPZ				Sn	Sn	04 59 19.6	+1.8
RPZ	**Rata Peaks**	**4.22**	**56**	Pn	Pn	04 58 28.4	+0.1
	98nm,0.3s,baz=226,slow=6.4,SNR=113						
RPZ				Sn	Sn	04 59 19.6	+1.8
	201nm,0.3s,baz=234,slow=23,SNR=9.0						
MQZ	**McQueen's Vall**	**5.19**	**64**	Pn	Pn	04 58 41.6	0.0
LTZ	**Lake Taylor**	**5.50**	**54**	PN	Pn	04 58 45.7	-0.3
LTZ				AML	AML	04 59 52.7	
LTZ				AML	AML	05 00 42.7	
LTZ	**Lake Taylor**	**5.50**	**54**	Pn	Pn	04 58 45.6	-0.4
DSZ	**Denniston Nort**	**5.99**	**44**	PN	Pn	04 58 53.1	+0.4
DSZ				AML	AML	05 00 09.7	
DSZ				AML	AML	05 00 09.9	
DSZ				AML	AML	05 00 09.9	
DSZ				AML	AML	05 00 23.0	
DSZ	**Denniston Nort**	**5.99**	**44**	Pn	Pn	04 58 53.3	+0.7
KHZ	**Kahutara**	**6.46**	**57**	AML	AML	05 00 33.5	
KHZ				AML	AML	05 01 15.5	
KHZ	**Kahutara**	**6.46**	**57**	*ePn*	Pn	04 58 59.0	-0.1
	378nm,1.0s						
KHZ				*eS*	Sn	05 00 10.1	-2.7
THZ	**Tophouse**	**6.54**	**50**	AML	AML	05 00 24.8	
THZ				AML	AML	05 00 32.9	
QRZ	**Quartz Range**	**7.04**	**43**	Pn	Pn	04 59 07.4	+0.3
BSWZ	**Blackbirch Sta**	**7.10**	**54**	AML	AML	05 00 37.1	
BSWZ				AML	AML	05 00 38.3	
BSWZ	**Blackbirch Sta**	**7.10**	**54**	*ePn*	Pn	04 59 09.6	+1.7
NNZ	**Nelson**	**7.17**	**49**	AML	AML	05 00 56.1	
NNZ				AML	AML	05 01 36.7	
NNZ	**Nelson**	**7.17**	**49**	Pn	Pn	04 59 10.5	+1.6
TUWZ	**Tuamarina**	**7.33**	**52**	AML	AML	05 00 44.6	
TUWZ				AML	AML	05 00 49.8	
TCW	**Tory Channel**	**7.66**	**52**	Pn	Pn	04 59 17.8	+2.2
DUWZ	**D'Urville Isla**	**7.76**	**49**	*ePn*	Pn	04 59 19.0	+2.1
SNZO	**South Karori**	**7.83**	**55**	*ePn*	Pn	04 59 21.0	+3.1
	246nm,0.9s						
SNZO				*eS*	Sn	05 00 46.1	-0.6
CAW	**Cannon Point**	**8.17**	**55**	Pn	Pn	04 59 24.2	+1.6
MTW	**Mount Morrison**	**8.39**	**56**	Pn	Pn	04 59 25.5	-0.1
OGWZ	**Otaki Gorge**	**8.42**	**54**	Pn	Pn	04 59 27.1	+1.1
MRZ	**Mangatainoka R**	**8.76**	**54**	Pn	Pn	04 59 30.8	+0.2
VRZ	**Vera Road**	**9.44**	**45**	Pn	Pn	04 59 41.7	+1.7
FWVZ	**Far West T-bar**	**9.74**	**48**	Pn	Pn	04 59 47.0	+2.7
HIZ	**Hauiti**	**9.97**	**43**	Pn	Pn	04 59 48.2	+1.0
MKAZ	**Moumakai**	**11.26**	**39**	Pn	Pn	05 00 06.2	+1.4
URZ	**Urewera**	**11.29**	**49**	*ePn*	Pn	05 00 04.9	-0.4
	74nm,0.9s						
URZ				*eS*	Sn	05 02 09.7	-2.0
URZ	**Urewera**	**11.29**	**49**	Pn	Pn	05 00 04.8	-0.6
	5.2nm,0.3s,baz=224,slow=6.4,SNR=11						
URZ				Sn	Sn	05 02 08.7	-3.0
	7.7nm,0.3s,baz=45,slow=10.0,SNR=6.7						
WCZ	**Waipu Caves**	**11.92**	**34**	Pn	Pn	05 00 13.4	-0.5
OUZ	**Omahuta**	**12.29**	**30**	*ePn*	Pn	05 00 18.6	-0.3
	51nm,0.6s						
OUZ				*eS*	Sn	05 02 27.4	-8.7
TAU	**Tasmania Unive**	**13.88**	**277**	*ePn*	Pn	05 00 36.0	-4.6
	103nm,1.1s						
CAN	**Canberra**	**16.94**	**304**	*ePn*	Pn	05 01 20.1	-1.0
	27nm,0.8s						
STKA	**Stephens Creek**	**23.76**	**298**	P	P	05 02 35.9	-0.6
STKA				*ePn*	pP	05 02 37.5	-1.4
STKA	**Stephens Creek**	**23.76**	**298**	P	P	05 02 35.9	-0.6
	9.0nm,0.8s,baz=126,slow=12,SNR=7.2						
STKA				LR	LR	05 10 25.7	
	comp=Z,1μm,18.9s,baz=123,slow=33						
EIDS	**Eidsvold**	**24.06**	**325**	*eP*	P	05 02 40.3	+1.0
	28nm,0.8s						
DZM	**Mont Dzumac**	**24.06**	**0**	*eP*	P	05 02 40.7	+1.2
DZM	**Mont Dzumac**	**24.06**	**0**	*eP*	P	05 02 41.7	+2.2
	112nm,0.6s						
DZM	**Mont Dzumac**	**24.06**	**0**	P	P	05 02 40.5	+1.0
	22nm,0.8s,baz=169,slow=5.5,SNR=11						
VNDA	**Vanda**	**31.49**	**182**	P	P	05 03 47.2	+1.8
VNDA	**Vanda**	**31.49**	**182**	P	P	05 03 47.2	+1.8
	1.6nm,1.0s,baz=344,slow=9.2,SNR=4.8						
VNDA				LR	LR	05 14 08.0	
	comp=Z,883nm,18.8s,baz=122,slow=32						
ASAR	**Alice Springs**	**34.38**	**300**	P	P	05 04 10.2	-1.0
ASAR	**Alice Springs**	**34.38**	**300**	P	P	05 04 10.2	-1.0
	7.6nm,0.7s,baz=131,slow=9.2,SNR=58						
ASAR				LR	LR	05 17 48.8	
	comp=Z,939nm,18.5s,baz=141,slow=36						
AS31	**Alice Springs**	**34.38**	**300**	*eP*	P	05 04 10.3	-1.0
WRA	**Warramunga Arr**	**36.98**	**304**	P	P	05 04 32.3	-1.4
WRA	**Warramunga Arr**	**36.98**	**304**	P	P	05 04 32.3	-1.4
	14nm,0.8s,baz=142,slow=7.8,SNR=73						
WRA				LR	LR	05 18 58.2	
	comp=Z,781nm,19.6s,baz=140,slow=35						
WRAB	**Tennant Creek**	**36.99**	**304**	P	P	05 04 32.0	-1.7
	133nm,0.7s,SNR=16						
WRAB	**Tennant Creek**	**36.99**	**304**	*eP*	P	05 04 32.3	-1.3
	19nm,0.8s						
RAR	**Rarotonga**	**37.23**	**60**	LR	LR	05 18 04.0	
	comp=Z,1μm,19.7s,baz=270,slow=33						
NWAO	**Narrogin (SRO)**	**39.42**	**272**	P	P	05 04 52.9	-1.2
NWAO	**Narrogin (SRO)**	**39.42**	**272**	P	P	05 04 52.9	-1.2
	16nm,1.1s,baz=122,slow=9.5,SNR=4.6						
NWAO				LR	LR	05 18 12.3	
	comp=Z,449nm,18.2s,baz=68,slow=32						
PMG	**Port Moresby**	**40.12**	**330**	LR	LR	05 19 01.8	
	comp=Z,497nm,19.4s,baz=151,slow=32						
TBI	**Tubuai**	**42.24**	**73**	*eS*	S	05 11 34.8	-3.1
	190nm,28.8s						
TBI				*e*LQ	LQ	05 14 53.7	
	371nm,34.2s						
TBI				*e*LR	LR	05 16 57.4	
	1μm,31.2s						
FITZ	**Fitzroy Crossi**	**43.62**	**296**	LR	LR	05 22 54.3	
	comp=Z,574nm,20.6s,baz=144,slow=35						
QSPA	**South Pole Qui**	**43.94**	**180**	*eP*	P	05 05 31.6	+0.8
	35nm,1.3s						
QSPA	**South Pole Qui**	**43.94**	**180**	P	P	05 05 32.1	+1.3
	16nm,1.0s,baz=22,slow=1.8,SNR=18						
QSPA				LR	LR	05 21 38.9	
	comp=Z,453nm,18.4s,baz=28,slow=33						
MBWA	**Marble Bar**	**45.21**	**287**	*eP*	P	05 05 40.6	-0.8
	22nm,0.8s						
PPT2	**Papeete2**	**46.28**	**67**	*eS*	S	05 12 35.1	-1.9
	180nm,27.5s						
PPT2				*e*LR	LR	05 18 59.8	
	1μm,27.8s,baz=240						
PPT	**Papeete**	**46.29**	**67**	LR	LR	05 22 34.1	
	comp=Z,410nm,19.1s,baz=194,slow=33						
RKT	**Rikitea**	**52.25**	**85**	*e*LR	LR	05 21 44.8	
	1μm,23.8s,baz=227						
MAW	**Mawson**	**52.93**	**208**	LR	LR	05 27 24.5	
	comp=Z,1μm,20.7s,baz=110,slow=34						
SYO	**Syowa Base**	**58.56**	**200**	⇑*eP*	P	05 07 25.8	+5.6
SNAA	**Sanae**	**62.19**	**184**	*eP*	P	05 07 45.2

comp=Z,4.9nm,0.5s,baz=75,slow=2.7,SNR=16
KIEV Kiev 151.44 295 *e*PKPbc **PKPbc 05 17 16.8 -0.5**
TAM Tamanrasset 151.91 220 *e*PKPbc **PKPbc 05 17 20.2 +0.7**
VRI Vrincioaia 152.09 284 ⇓*i*P **PKPbc 05 17 19.1 +0.1**
PLOR Plostina 152.14 284 ⇑*i*P **PKPbc 05 17 20.9 +1.7**
FIA1 FINESS Array S 152.51 318 PKPdf **PKPdf 05 17 11.8 -0.6**
FIA1 *e*PKPbc **PKiKP 05 17 19.8 +0.1**
FIA1 *e*PKPab **PKPab 05 17 30.9 +1.1**
FINES FINESS Array B 152.51 318 PKPbc **PKPbc 05 17 19.8 +0.4**
FINES FINESS Array B 152.51 318 PKPbc **PKPbc 05 17 19.8 +0.4**
comp=Z,3.9nm,0.5s,baz=90,slow=3.8,SNR=20
MLR Muntele Rosu 152.52 283 ⇓*i*P **PKPbc 05 17 20.2 +0.1**
VOIR 153.11 283 ⇓*i*P **PKPab 05 17 28.7 -4.4**
VTS Vitosha 153.49 276 ⇓*i*P **PKPab 05 17 34.9 +0.1**
BURAR Bucovina Array 153.51 287 ⇓*i*P **PKPab 05 17 36.3 +1.6**
DPC Dobruska-Polom 159.62 293 *e*PKPAB **PKPab 05 18 02.2 +1.4**
KEST Kesra 159.73 247 *e*PKPdf **PKPdf 05 17 20.6 -2.3**
KEST PKPab **PKPab 05 18 02.9 +1.2**
KEST *e*PKPab PKPab 05 18 03.1 +1.4
KEST Kesra 159.73 247 PKPab **PKPab 05 18 02.9 +1.2**
comp=Z,2.9nm,0.8s,baz=91,slow=3.6,SNR=6.7
SOKA Soboth 160.19 282 ⇑*i*PKPab **PKPab 05 18 03.3 -0.2**
comp=Z,7.9nm,1.2s
BRG Berggiesshubel 161.11 294 *e*PKP PKPab 05 18 01.2 -6.1
comp=Z,4.3nm,1.2s
BRG *e* 05 18 08.1
comp=Z,6.1nm,1.3s
GERES GERESS Array B 161.29 288 PKPab **PKPab 05 18 08.0 -0.3**
GERES GERESS Array B 161.29 288 PKPab **PKPab 05 18 08.0 -0.3**
comp=Z,1.5nm,0.6s,baz=99,slow=4.3,SNR=10
ESDC Sonseca Array 170.31 231 PKPab **PKPab 05 18 48.6 +0.5**
ESDC Sonseca Array 170.31 231 PKPab **PKPab 05 18 48.6 +0.5**
comp=Z,0.9nm,0.7s,baz=140,slow=4.4,SNR=7.4

IDC ***25*** *05:04:39.0±1.9, 46°.23S×166°.13E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/16, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=59.4km s-min=26.6km az=172.0*
ISCJB ***25*** *05:04:41.0±1.3, 46°.20S±0°.06×166°.11E±0°.06, h20km±9km, mb3.8/3, Error ellipse: s-maj=10.5km s-min=7.2km az=12.0*
WEL ***25*** *05:04:42.0±0.5, 46°.12S×166°.09E, h29km±2km, ML4.3/19, Error ellipse: s-maj=4.6km s-min=2.2km az=90.0*
NEIC ***25*** *05:04:43.8, 46°.08S×166°.24E, h12km, ML4.3(WEL), After WEL.*
ISC 25 05:04:39.7±1.9, 46°.22S±0°.06×166°.18E±0°.06, h5km±11km, n43, σ1§05/49, mb3.7/3, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.01**	**43**	⇑PN	**Pg**	**05 04 59.3**	**+0.2**
DCZ				AML	AML	05 05 00.4	
DCZ				AML	AML	05 05 00.4	
DCZ				AML	AML	05 05 13.8	
DCZ				AML	AML	05 05 25.3	
DCZ	**Deep Cove**	**1.01**	**43**	P*	**Pg**	**05 04 59.3**	**+0.2**
DCZ				S*	**Sg**	**05 05 11.6**	**-0.5**
WHZ	**Wether Hill Ro**	**1.27**	**76**	⇓PN	**Pg**	**05 05 04.7**	**+0.6**
WHZ				SN	**Sb**	**05 05 20.7**	**-0.1**
WHZ				AML	AML	05 05 27.8	
WHZ	**Wether Hill Ro**	**1.27**	**76**	P*	**Pg**	**05 05 04.8**	**+0.6**
WHZ				S*	**Sb**	**05 05 20.7**	**-0.1**
APZ	**The Paps**	**1.39**	**117**	PN	**Pb**	**05 05 06.2**	**0.0**
APZ				SN	**Sn**	**05 05 24.2**	**-0.4**
MLZ	**Mavora Lakes**	**1.65**	**59**	PN	**Pb**	**05 05 10.4**	**-0.1**
MLZ				*e*SN	**Sn**	**05 05 30.6**	**-0.2**
MLZ				AML	AML	05 05 39.1	
MLZ	**Mavora Lakes**	**1.65**	**59**	Pn	**Pb**	**05 05 10.4**	**-0.1**
MSZ	**Milford Sound**	**1.98**	**39**	AML	AML	05 05 50.8	
MSZ				AML	AML	05 05 50.8	
MSZ				AML	AML	05 05 55.6	
MSZ				AML	AML	05 05 55.6	
MSZ	**Milford Sound**	**1.98**	**39**	Pn	**Pn**	**05 05 14.5**	**+0.7**
SYZ	**Scrubby Hill**	**2.08**	**100**	PN	**Pb**	**05 05 16.3**	**-1.5**
SYZ				*e*SN	**Sn**	**05 05 40.5**	**-0.7**
SYZ	**Scrubby Hill**	**2.08**	**100**	Pn	**Pb**	**05 05 16.8**	**-1.0**
EAZ	**Earnscleugh**	**2.41**	**67**	PN	**Pb**	**05 05 22.1**	**-1.3**
EAZ				AML	AML	05 06 01.5	
EAZ				AML	AML	05 06 01.5	
EAZ				AML	AML	05 06 08.0	
EAZ				AML	AML	05 06 08.0	
EAZ	**Earnscleugh**	**2.41**	**67**	Pn	**Pb**	**05 05 22.4**	**-1.0**
TUZ	**Tuapeka**	**2.42**	**85**	PN	**Pb**	**05 05 21.9**	**-1.7**
TUZ				AML	AML	05 05 56.1	
TUZ				AML	AML	05 06 00.6	
TUZ	**Tuapeka**	**2.42**	**85**	Pn	**Pb**	**05 05 22.1**	**-1.5**
TUZ				Sn	**Sb**	**05 05 53.5**	**-0.2**
WKZ	**Wanaka**	**2.43**	**56**	PN	**Pb**	**05 05 23.2**	**-0.7**
WKZ				AML	AML	05 05 31.5	
WKZ				AML	AML	05 06 01.1	
WKZ				AML	AML	05 06 01.3	
WKZ				AML	AML	05 06 05.0	
WKZ	**Wanaka**	**2.43**	**56**	Pn	**Pb**	**05 05 23.2**	**-0.7**
JCZ	**Jackson Bay**	**2.82**	**41**	PN	**Pb**	**05 05 28.3**	**-2.2**
JCZ				AML	AML	05 06 18.6	
JCZ				AML	AML	05 06 19.0	
JCZ	**Jackson Bay**	**2.82**	**41**	Pn	**Pb**	**05 05 28.4**	**-2.1**
ODZ	**Otahua Downs**	**3.35**	**71**	PN	**Pn**	**05 05 33.4**	**+0.8**
ODZ	**Otahua Downs**	**3.35**	**71**	Pn	**Pn**	**05 05 33.4**	**+0.8**
LBZ	**Lake Benmore**	**3.37**	**58**	PN	**Pn**	**05 05 34.4**	**+1.4**
LBZ				AML	AML	05 06 35.5	
LBZ				AML	AML	05 06 37.0	
LBZ	**Lake Benmore**	**3.37**	**58**	Pn	**Pn**	**05 05 34.1**	**+1.2**
FOZ	**Fox Glacier**	**3.64**	**44**	PN	**Pn**	**05 05 39.0**	**+2.4**
FOZ				AML	AML	05 05 50.3	
FOZ				AML	AML	05 06 38.8	
FOZ	**Fox Glacier**	**3.64**	**44**	Pn	**Pn**	**05 05 39.0**	**+2.4**
RPZ	**Rata Peaks**	**4.27**	**56**	PN	**Pn**	**05 05 46.2**	**+0.9**
RPZ				AML	AML	05 07 14.6	
RPZ				AML	AML	05 07 17.0	
RPZ	**Rata Peaks**	**4.27**	**56**	Pn	**Pn**	**05 05 46.3**	**+0.9**
RPZ				Sn	**Sn**	**05 06 36.0**	**+0.5**
RPZ	**Rata Peaks**	**4.27**	**56**	Pn	**Pn**	**05 05 46.3**	**+0.9**
12nm,0.3s,baz=210,slow=7.2,SNR=16							
RPZ				Sn	**Sn**	**05 06 36.0**	**+0.5**
9.8nm,0.3s,baz=150,slow=20,SNR=5.4							
LTZ	**Lake Taylor**	**5.55**	**54**	AML	AML	05 07 09.6	
LTZ				AML	AML	05 07 13.4	
LTZ	**Lake Taylor**	**5.55**	**54**	Pn	**Pn**	**05 06 05.3**	**+2.4**
THZ	**Tophouse**	**6.58**	**50**	AML	AML	05 07 37.4	
THZ				AML	AML	05 07 52.6	
ASAR	**Alice Springs**	**34.36**	**300**	P	**P**	**05 11 27.4**	**-0.1**
ASAR	**Alice Springs**	**34.36**	**300**	P	**P**	**05 11 27.4**	**-0.1**
1.0nm,0.6s,baz=132,slow=8.1,SNR=9.8							
WRA	**Warramunga Arr**	**36.97**	**304**	P	**P**	**05 11 49.4**	**-0.5**
WRA	**Warramunga Arr**	**36.97**	**304**	P	**P**	**05 11 49.4**	**-0.5**
1.3nm,0.8s,baz=136,slow=7.8,SNR=9.6							
FITZ	**Fitzroy Crossi**	**43.60**	**296**	P	**P**	**05 12 44.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**43.60**	**296**	P	**P**	**05 12 44.6**	**-0.3**
0.7nm,0.5s,baz=135,slow=10.0,SNR=5.3							
TORD	**Torodi Ar. Bea**	**144.52**	**207**	PKP	**PKPab**	**05 24 15.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**144.52**	**207**	PKP	**PKPab**	**05 24 15.5**	**-0.2**
0.8nm,0.8s,baz=164,slow=1.6,SNR=8.4							
BRTR	**Keskin Array B**	**145.10**	**277**	PKPbc	**PKPbc**	**05 24 17.1**	**-0.3**
BRTR	**Keskin Array B**	**145.10**	**277**	PKPbc	**PKPbc**	**05 24 17.1**	**-0.3**
1.0nm,0.7s,baz=145,slow=4.5,SNR=5.7							
ARCES	**ARCESS Array B**	**149.61**	**334**	PKPbc	**PKPbc**	**05 24 29.0**	**+0.2**
ARCES	**ARCESS Array B**	**149.61**	**334**	PKPbc	**PKPbc**	**05 24 29.0**	**+0.2**
0.6nm,0.5s,baz=90,slow=2.4,SNR=8.3							

IDC ***25*** *05:31:36.4±1.2, 14°.31N×92°.14W, h0km, mb4.0/10, mb1 4.3/12, mb1mx4.1/26, mbtmp4.0/12, ML3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/40, Error ellipse: s-maj=43.4km s-min=18.0km az=44.0*
ISCJB ***25*** *05:31:37.9±1.4, 13°.92N±0°.04×92°.74W±0°.03, h31km±11km, mb4.3/24, MS3.3/1, Error ellipse: s-maj=7.8km s-min=3.4km az=19.9*
MEX ***25*** *05:31:38.2±0.7, 13°.83N×92°.76W, h11km±19km, MD4.4*
CASC ***25*** *05:31:41.4±2.5, 13°.70N×92°.53W, h36km±999km, MD4.1, ML3.7*
NEIC ***25*** *05:31:52.0±1.4, 14°.56N×92°.12W, h120km±12km, mb4.4/17, Error ellipse: s-maj=18.1km s-min=8.5km az=46.0*
ISC 25 05:31:36.2±1.9, 13°.91N±0°.06×92.71W±0°.04, h10km±11km, n286, σ1§41/307, mb4.4/25, 110C-107D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.08**	**23**	*e*P	**Pg**	**05 31 56.4**	**-0.7**
THIG				*i* S	**Sg**	**05 32 11.3**	**+0.1**
JAT	**Jato**	**1.12**	**68**	⇑*i*P	**Pn**	**05 32 00.0**	**+2.0**
PCIG		**1.85**	**345**	*e*P	**Pn**	**05 32 06.9**	**-1.3**
PCIG				*i* S	**Sn**	**05 32 30.2**	**-1.6**
FUG	**Fuego 3**	**1.89**	**73**	⇑*e*P	**Pn**	**05 32 09.6**	**+0.8**
PCG	**Pacaya**	**2.09**	**76**	*e*P	**Pn**	**05 32 13.3**	**+1.6**
PCG				*e*S	**Sn**	**05 32 38.7**	**+0.7**
NBG	**Las Nubes**	**2.39**	**73**	*e*P	**Pb**	**05 32 18.8**	**-0.7**
CCIG	**Comitan**	**2.42**	**13**	*e*P	**Pn**	**05 32 16.1**	**-0.1**
CCIG				*i* S	**Sn**	**05 32 46.5**	**+0.4**
TGIG		**2.88**	**352**	*e*P	**Pn**	**05 32 23.0**	**+0.6**
TGIG				*i* S	**Sn**	**05 32 56.5**	**-0.7**
RBDL	**Robledal**	**2.94**	**86**	*e*P	**Pn**	**05 32 24.2**	**+1.0**
RBDL				*e*S	**Sn**	**05 32 59.0**	**+0.3**
RTR	**El Retiro**	**2.97**	**90**	*e*P	**Pn**	**05 32 24.9**	**+1.1**
RTR				*e*S	**Sn**	**05 32 58.7**	**-0.9**
SBLS	**San Blas**	**3.00**	**91**	*e*P	**Pn**	**05 32 24.6**	**+0.5**
SBLS				*e*S	**Sn**	**05 32 58.8**	**-1.4**
SNJE	**San Jose**	**3.01**	**90**	*e*P	**Pn**	**05 32 25.2**	**+0.9**
SNJE				*e*S	**Sn**	**05 32 59.6**	**-1.0**
MRL	**Marmol**	**3.14**	**68**	*e*P	**Pn**	**05 32 28.1**	**+2.1**
BOQS	**Boqueron**	**3.33**	**93**	*e*P	**Pn**	**05 32 29.8**	**+1.0**
BOQS				*e*S	**Sn**	**05 33 05.3**	**-3.3**
SNET	**Serv Nac Est T**	**3.38**	**93**	*e*P	**Pn**	**05 32 29.4**	**+0.1**
SNET				*e*S	**Sn**	**05 33 05.3**	**-4.4**
SNET				AML	AML	05 33 18.1	
comp=Z,371nm,0.2s							
HUIG	**Huatulco**	**3.77**	**300**	*e*P	**Pn**	**05 32 33.6**	**-1.0**
HUIG				*i* S	**Sn**	**05 33 16.4**	**-2.7**
CMIG	**Matias Romero**	**3.80**	**327**	*e*P	**Pn**	**05 32 34.6**	**-0.3**
CMIG				*i* S	**Sn**	**05 33 18.7**	**-1.0**
CMIG	**Matias Romero**	**3.80**	**327**	Pn	**Pn**	**05 32 35.1**	**+0.1**
CMIG				Sn	**Sn**	**05 33 23.0**	**+3.2**
CMIG	**Matias Romero**	**3.80**	**327**	Pn	**Pn**	**05 32 35.1**	**+0.1**
comp=Z,6.0nm,0.3s,baz=136,slow=11,SNR=43							
CMIG				Sn	**Sn**	**05 33 23.0**	**+3.2**
comp=Z,23nm,0.3s,baz=124,slow=23,SNR=5.7							
VHO	**Vista Hermosa**	**5.00**	**310**	*i* P	**Pn**	**05 32 50.6**	**-1.0**
VHO				*i* S	**Sn**	**05 33 47.5**	**-2.1**
PNIG	**Pinotepa**	**5.79**	**296**	*i* P	**Pn**	**05 33 02.8**	**+0.5**
PNIG				*i* S	**Sn**	**05 34 07.4**	**-1.5**
UTMO	**Huajuapan**	**6.27**	**309**	*i* P	**Pn**	**05 33 09.8**	**+0.8**
UTMO				*i* S	**Sn**	**05 34 20.8**	**-0.2**
TPIG	**Tehuac#an**	**6.33**	**316**	*i* P	**Pn**	**05 33 11.0**	**+1.1**
TPIG				*i* S	**Sn**	**05 34 22.7**	**+0.1**
TEIG	**Tepich**	**7.58**	**33**	*e*Pn	**Pn**	**05 33 26.7**	**-0.2**
TEIG				Sn	**Sn**	**05 34 51.8**	**-1.2**
TEIG	**Tepich**	**7.58**	**33**	Pn	**Pn**	**05 33 25.8**	**-1.0**
comp=Z,7.4nm,0.3s,baz=224,slow=9.5,SNR=50							
TEIG				Sn	**Sn**	**05 34 51.8**	**-1.2**
baz=70,slow=20,SNR=3.2							
JTS	**JuntasAbangare**	**8.39**	**115**	*e*Pn	Pn	05 33 50.1	+12
732A	**Laxson Ranch,**	**16.22**	**337**	⇓P	**P**	**05 35 28.3**	**+0.8**
baz=16							
632A	**Uvalde**	**16.85**	**338**	⇑P	**P**	**05 35 36.3**	**+1.8**
baz=16							
631A	**Perdido Creek**	**17.06**	**336**	⇓P	**P**	**05 35 38.2**	**+1.3**
baz=17							
532A	**Rocksprings**	**17.46**	**339**	⇓P	**P**	**05 35 42.2**	**+0.9**
baz=17							
531A	**Rocksprings**	**17.73**	**337**	⇓P	**P**	**05 35 44.8**	**+0.6**
baz=17							
JCT	**Junction City**	**17.74**	**340**	*e*Pn	**P**	**05 35 47.0**	**+2.6**
comp=Z,5.7nm,0.9s							
530A	**J-C Ranch, Com**	**18.02**	**335**	⇓P	**P**	**05 35 50.0**	**+2.4**
baz=18							
628A	**Black Gap, Mar**	**18.14**	**330**	⇑P	**P**	**05 35 50.8**	**+1.9**
baz=18							
431A	**Sonora**	**18.21**	**338**	⇑P	**P**	**05 35 52.2**	**+2.6**
baz=18							
627A	**Terlingua Ranc**	**18.36**	**329**	⇑P	**P**	**05 35 53.8**	**+2.5**
baz=18,SNR=13							
529A	**Stev Forest Ra**	**18.38**	**333**	⇓P	**P**	**05 35 52.4**	**+1.0**
baz=18,SNR=11							
TXAR	**Lajitas Array**	**18.41**	**328**	P	**Pn**	**05 35 53.5**	**+1.7**
TXAR	**Lajitas Array**	**18.41**	**328**	P	**Pn**	**05 35 53.5**	**+1.7**
comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=35							
430A	**Baggett Ranch,**	**18.55**	**336**	⇑P	**Pn**	**05 35 55.3**	**+1.9**
baz=18							
332A	**Millersview**	**18.56**	**341**	⇑P	**Pn**	**05 35 55.1**	**+1.6**
baz=18							
528A	**Cox Ranch, San**	**18.66**	**332**	⇑P	**Pn**	**05 35 56.4**	**+1.4**
baz=18							
429A	**Davenport Ranc**	**18.67**	**335**	⇑P	**Pn**	**05 35 57.3**	**+2.4**
baz=18,SNR=9.8							
331A	**San Angelo**	**18.72**	**339**	⇓P	**Pn**	**05 35 57.7**	**+2.2**
baz=18							
626A	**Big Bend Ranch**	**18.82**	**328**	⇓P	**Pn**	**05 35 59.1**	**+2.2**
baz=19,SNR=10							
232A	**Coleman**	**18.99**	**342**	⇓P	**Pn**	**05 36 00.3**	**+1.4**
baz=19,SNR=6.6							
527A	**Woodward Ranch**	**19.04**	**330**	⇑P	**Pn**	**05 36 01.2**	**+1.6**
baz=19							
330A	**Mertzon**	**19.07**	**337**	⇓P	**Pn**	**05 36 00.5**	**+0.6**
baz=19							
428A	**Kincaid Ranch,**	**19.10**	**333**	⇑P	**Pn**	**05 36 01.4**	**+1.2**
baz=19							
526A	**Mary Lane Ranc**	**19.21**	**329**	⇑P	**Pn**	**05 36 03.3**	**+1.7**
baz=19,SNR=9.7							
231A	**Bronte**	**19.25**	**340**	⇓P	**P**	**05 36 01.5**	**+0.5**
baz=19							
329A	**Wagon Wheel Ra**	**19.46**	**336**	⇑P	**Pn**	**05 36 05.7**	**+1.1**
baz=19							
230A	**Sterling City**	**19.48**	**338**	⇑P	**P**	**05 36 04.5**	**+0.9**
baz=19							
427A	**Hayter Ranch,**	**19.53**	**331**	⇓P	**Pn**	**05 36 05.7**	**+0.4**
baz=19							
426A	**McDonald Obser**	**19.67**	**330**	⇑P	**Pn**	**05 36 09.1**	**+1.9**
baz=20							
ABTX	**Abilene, Hawle**	**19.68**	**342**	⇓P	**P**	**05 36 06.8**	**+1.1**
baz=19							
328A	**Wristen Ranch,**	**19.71**	**334**	⇓P	**Pn**	**05 36 08.4**	**+0.9**
baz=20,SNR=8.6							
LRAL	**Lakeview Retre**	**19.74**	**14**	*e*Pn	**P**	**05 36 05.9**	**-0.4**
comp=Z,5.5nm,0.8s							
326A	**Caldwell Ranch**	**20.18**	**331**	⇓P	**P**	**05 36 12.9**	**+1.6**
baz=20,SNR=14							
425A	**Indio Mountain**	**20.25**	**328**	⇓P	**P**	**05 36 13.8**	**+1.7**
baz=20							
228A	**UT Block 9, Go**	**20.26**	**335**	⇑P	**P**	**05 36 13.7**	**+1.6**
baz=20							
Z32A	**Haskell**	**20.27**	**343**	⇓P	**P**	**05 36 12.5**	**+0.3**
baz=20							
129A	**Stewart Farms,**	**20.43**	**337**	⇓P	**P**	**05 36 15.2**	**+1.3**
baz=20,SNR=9.0							
227A	**Bennet, Jal**	**20.46**	**333**	⇓P	Pn	05 36 16.3	-0.2
baz=20							
Z31A	**Sharp Cattle R**	**20.48**	**342**	⇑P	**P**	**05 36 14.6**	**+0.3**
baz=20,SNR=5.8							
MIAR	**Mount Ida**	**20.56**	**358**	*e*Pn	**P**	**05 36 15.3**	**+0.1**
comp=Z,15nm,1.0s							
128A	**Castleberry Fa**	**20.66**	**336**	⇓P	**P**	**05 36 17.3**	**+0.9**
baz=20,SNR=7.1							
325A	**Bean Ranch, Si**	**20.71**	**329**	⇑P	Pn	05 36 19.3	-0.2
baz=20,SNR=7.0							
Z30A	**Sanderson Ranc**	**20.76**	**340**	⇑P	**P**	**05 36 17.6**	**+0.2**
baz=20,SNR=7.8							
226B	**Tecolote Peak,**	**20.91**	**332**	⇑P	Pn	05 36 21.3	-0.4
baz=21,SNR=21							
Y32A	**R-V Farms, Ver**	**20.92**	**344**	⇓P	**P**	**05 36 18.9**	**-0.2**
baz=20							
Z29A	**Hungry Hill Ra**	**20.94**	**338**	⇑P	**P**	**05 36 19.7**	**+0.3**
baz=21,SNR=6.4							
324A	**Moseley Ranch,**	**21.03**	**328**	⇓P	**P**	**05 36 22.0**	**+1.5**
baz=21,SNR=6.3							
127A	**Arkansas Junct**	**21.06**	**334**	⇓P	**P**	**05 36 22.1**	**+1.3**
baz=21							
GDL2	**Guadalupe Moun**	**21.10**	**332**	*e*P	**P**	**05 36 23.2**	**+2.0**
Y31A	**Rekieta Farm,**	**21.11**	**342**	⇓P	**P**	**05 36 21.8**	**+0.6**
baz=21,SNR=9.9							
Z28A	**Tucker Farm, M**	**21.21**	**337**	⇓P	**P**	**05 36 22.6**	**+0.2**
baz=21							
225A	**Deer Hill, Car**	**21.24**	**331**	⇑P	**P**	**05 36 24.6**	**+1.7**
baz=21,SNR=11							
126A	**Clayton Basin,**	**21.32**	**333**	⇑P	**P**	**05 36 24.7**	**+1.1**
baz=21,SNR=7.9							
Y29A	**Porterfield Fa**	**21.47**	**339**	⇑P	**P**	**05 36 25.2**	**+0.1**
baz=21							
Z27A	**Tatum**	**21.56**	**335**	⇓P	**P**	**05 36 26.4**	**+0.2**
baz=21							
125A	**Gardner Draw,**	**21.62**	**332**	⇑P	**P**	**05 36 27.8**	**+0.9**
baz=21,SNR=21							
X31A	**McDonald Ranch**	**21.66**	**344**	⇓P	**P**	**05 36 26.7**	**-0.4**
baz=21,SNR=6.6							
Y28A	**McKinney Farm,**	**21.71**	**338**	⇑P	**P**	**05 36 28.1**	**+0.3**
baz=21,SNR=8.2							
X30A	**Coker Ranch, T**	**21.75**	**342**	⇓P	**P**	**05 36 28.0**	**0.0**
baz=21							
Z26A	**Caprock**	**21.84**	**334**	⇓P	**P**	**05 36 30.4**	**+1.2**
baz=22,SNR=21							
MSTX	**Muleshoe**	**21.96**	**337**	*e*P	**P**	**05 36 32.0**	**+1.5**
MSTX	**Muleshoe**	**21.96**	**337**	⇓P	**P**	**05 36 32.0**	**+1.5**
baz=22							
124A	**Stringfield Ra**	**22.03**	**330**	⇑P	**P**	**05 36 33.4**	**+2.1**
baz=22,SNR=19							
Y27A	**Causey**	**22.04**	**336**	⇑P	**P**	**05 36 32.8**	**+1.5**
baz=22,SNR=7.4							
Z25A	**Roswell**	**22.17**	**332**	⇓P	**P**	**05 36 33.5**	**+0.7**
baz=22,SNR=7.0							
X28A	**Dimmitt**	**22.25**	**339**	⇓P	**P**	**05 36 33.6**	**+0.1**
baz=22							
Y26A	**Elida**	**22.34**	**335**	⇓P	**P**	**05 36 35.0**	**+0.5**
baz=22							
123A	**Bell Site, Whi**	**22.38**	**329**	⇑P	**P**	**05 36 36.6**	**+1.7**
baz=22							
Z24A	**Sheeppen Canyo**	**22.51**	**331**	⇑P	**P**	**05 36 38.1**	**+1.7**
baz=22,SNR=24							
W29A	**Amraillo**	**22.61**	**341**	⇑P	**P**	**05 36 37.5**	**+0.1**
baz=22,SNR=7.5							
320A	**Kipp Ranch, An**	**22.63**	**323**	⇑P	**P**	**05 36 39.9**	**+2.2**
baz=22							
X27A	**F and S Farms,**	**22.69**	**337**	⇑P	**P**	**05 36 38.3**	**+0.1**
baz=22,SNR=6.4							
221A	**Mesquite Ranch**	**22.69**	**325**	⇑P	**P**	**05 36 41.4**	**+3.0**
baz=23							
V31A	**Spring Creek L**	**22.70**	**345**	⇓P	**P**	**05 36 38.5**	**+0.2**
baz=22,SNR=7.2							
Y25A	**Mesa, Roswell**	**22.70**	**333**	⇑P	**P**	**05 36 39.4**	**+1.0**
baz=22,SNR=16							
Z23A	**Rita Site, Whi**	**22.87**	**330**	⇓P	**P**	**05 36 42.1**	**+1.9**
baz=23,SNR=17							
X26A	**CR and CF Fran**	**22.88**	**336**	⇓P	**P**	**05 36 40.2**	**0.0**
baz=23							
W28A	**Vega**	**22.92**	**340**	⇓P	**P**	**05 36 40.3**	**-0.4**
baz=23							
Y24A	**Capitan**	**23.04**	**332**	⇓P	**P**	**05 36 43.2**	**+1.2**
baz=23,SNR=18							
ƨ20A	**Playas Peak, P**	**23.04**	**324**	⇑P	**P**	**05 36 44.2**	**+2.2**
baz=23							
W27A	**Bowe Ranch, En**	**23.05**	**338**	⇓P	**P**	**05 36 42.7**	**+0.7**
baz=23,SNR=15							
121A	**Cookes Peak, D**	**23.09**	**326**	⇑P	**P**	**05 36 45.1**	**+2.5**
baz=23,SNR=11							
TKL	**Tuckaleechee C**	**23.10**	**19**	P	**P**	**05 36 39.6**	**-2.8**
TKL	**Tuckaleechee C**	**23.10**	**19**	P	**P**	**05 36 39.6**	**-2.8**
comp=Z,2.2nm,0.6s,baz=176,slow=9.3,SNR=5.4							
TKL				LR	LR	05 47 11.4	
comp=Z,107nm,18.7s,baz=264,slow=42							
319A	**Douglas**	**23.10**	**322**	⇓P	**P**	**05 36 45.2**	**+2.6**
baz=23							
X25A	**Clemmons Ranch**	**23.21**	**334**	⇑P	**P**	**05 36 44.2**	**+0.6**
baz=23							
Y23A	**Lovelace Mesa,**	**23.33**	**331**	⇓P	**P**	**05 36 47.0**	**+2.1**
baz=23,SNR=7.8							
V28A	**Channing**	**23.38**	**340**	⇑P	**P**	**05 36 45.5**	**+0.2**
baz=23,SNR=8.8							
KMSC	**Kings Mountain**	**23.50**	**24**	*e*P	**P**	**05 36 44.7**	**-1.7**
comp=Z,124nm,3.0s							
120A	**U Bar Ranch, L**	**23.57**	**325**	⇑P	**P**	**05 36 50.2**	**+2.8**
baz=23,SNR=6.4							
V27A	**Dan Oppiter Fa**	**23.59**	**339**	⇑P	**P**	**05 36 47.1**	**-0.4**
baz=23							
U30A	**WK&E Inc. Balk**	**23.63**	**344**	⇓P	**P**	**05 36 47.7**	**0.0**
baz=23,SNR=7.1							
W25A	**X Bar L Ranch,**	**23.72**	**336**	⇓P	**P**	**05 36 49.5**	**+0.8**
baz=24							
U29A	**Oasis Ranch, S**	**23.73**	**343**	⇑P	**P**	**05 36 49.4**	**+0.6**
baz=23							
T31A	**Randall Ranch,**	**23.92**	**346**	⇑P	**P**	**05 36 49.7**	**-0.8**
baz=24							
X23A	**Hourglass Bar**	**23.92**	**332**	⇓P	**P**	**05 36 52.2**	**+1.4**
baz=24							
U28A	**Mallet**	**23.95**	**341**	⇑P	**P**	**05 36 50.8**	**-0.2**
baz=24							
V26A	**Tequesquite Ra**	**23.96**	**337**	⇓P	**P**	**05 36 52.1**	**+1.0**
baz=24,SNR=6.6							
Z20A	**Nine Sixteen R**	**23.98**	**326**	⇑P	**P**	**05 36 54.2**	**+2.9**
baz=24							
T30A	**

P31A	Stockton	26.18	348	⇓P	P	05 37 11.8	+0.7
baz=26							
R25A	Fountain Ranch	26.24	339	⇑P	P	05 37 12.8	+1.0
baz=26							
T22A	Edith	26.27	334	⇓P	P	05 37 14.4	+2.1
baz=26,SNR=6.1							
Q28A	Sharon Springs	26.32	344	⇓P	P	05 37 12.7	+0.2
baz=26							
P30A	Selden	26.39	347	⇓P	P	05 37 13.0	0.0
baz=26							
S23A	Nye Farm, Mont	26.49	336	⇑P	P	05 37 15.5	+1.3
baz=26							
T21A	Navajo Lake	26.53	333	⇑P	P	05 37 16.2	+1.7
baz=26							
X16A	Lo Mia Camp, P	26.54	324	⇓P	P	05 37 17.0	+2.4
baz=26							
P29A	Atwood	26.60	346	⇓P	P	05 37 15.0	+0.1
baz=26							
R24A	Sanders Place,	26.61	338	⇑P	P	05 37 16.4	+1.2
baz=26							
Q26A	Hugo	26.69	341	⇑P	P	05 37 16.3	+0.4
baz=26							
P28A	Saint Francis	26.78	344	⇑P	P	05 37 16.3	-0.3
baz=26							
R23A	Moffat	26.84	337	⇑P	P	05 37 19.0	+1.6
baz=27,SNR=5.4							
S22A	4UR Ranch, Cre	26.86	335	⇓P	P	05 37 19.2	+1.6
baz=27,SNR=9.1							
Q25A	Bedland, Calha	26.92	340	⇓P	P	05 37 18.2	+0.2
baz=27							
O30A	MW Ranch, Wils	26.96	348	⇑P	P	05 37 17.4	-0.8
baz=26							
MVCO	Mesa Verde	27.15	332	eP	P	05 37 22.2	+2.1
comp=Z,13nm,0.9s							
MVCO	Mesa Verde	27.15	332	⇑P	P	05 37 22.8	+2.6
baz=27,SNR=11							
S21A	Coal Bank Pass	27.20	333	⇑P	P	05 37 21.5	+0.8
baz=27							
R22A	Saguache, Gunn	27.24	335	⇓P	P	05 37 21.6	+0.6
baz=27							
WUAZ	Wupatki	27.30	325	⇓P	P	05 37 23.4	+2.0
baz=27							
P25A	Willow Gulch B	27.43	341	⇑P	P	05 37 22.7	+0.1
baz=27							
O27A	Beecher Island	27.55	344	⇓P	P	05 37 23.3	-0.2
baz=27							
S20A	Disappointment	27.59	333	⇑P	P	05 37 25.7	+1.6
baz=27							
Q22A	Crested Butte,	27.85	336	⇑P	P	05 37 27.8	+1.3
baz=28							
P23A	Jefferson	27.89	338	⇑P	P	05 37 28.1	+1.2
baz=28,SNR=6.1							
R20A	Redvale	27.90	333	⇓P	P	05 37 29.0	+2.2
baz=28							
SMCO	Snowmass	28.14	336	eP	P	05 37 31.9	+2.7
comp=Z,3.6nm,1.0s							
ISCO	Idaho Springs	28.18	339	⇓P	P	05 37 30.2	+0.8
baz=28							
PV04	Paradox Valley	28.30	332	eP	P	05 37 32.1	+1.7
U15A	North Rim	28.47	325	⇓P	P	05 37 34.3	+2.3
baz=28							
P21A	Newcastle	28.63	336	⇑P	P	05 37 34.5	+1.2
baz=28							
P20A	De Beque	29.00	334	⇑P	P	05 37 38.1	+1.6
baz=29							
N21A	Black Mountain	29.72	337	⇑P	P	05 37 44.2	+1.2
baz=29							
N20A	Spence Gulch,	30.07	336	⇑P	P	05 37 47.2	+1.1
baz=30							
M21A	Separation Pea	30.40	338	⇑P	P	05 37 50.3	+1.3
baz=30							
M20A	Sweetwater, Wa	30.61	337	⇓P	P	05 37 51.8	+1.0
baz=30							
L21A	Rawlins	30.71	338	⇑P	P	05 37 52.7	+0.9
baz=30							
I27A	Quinn	31.11	347	⇑P	P	05 37 55.2	+0.2
baz=31							
I25A	Rochford	31.46	345	⇑P	P	05 37 58.5	+0.2
baz=31							
L18A	Fontenelle, Gr	31.71	335	⇑P	P	05 38 02.0	+1.5
baz=31							
J21A	Lysite	31.96	339	⇓P	P	05 38 03.4	+0.7
baz=32							
H25A	Fruitdale	31.99	345	⇑P	P	05 38 03.6	+0.8
baz=32							
PDAR	Pinedale Array	32.23	336	P	P	05 38 04.1	-0.9
PDAR				PcP	PcP	05 40 55.1	+1.4
PDAR	Pinedale Array	32.23	336	P	P	05 38 04.1	-0.9
comp=Z,1.0nm,0.9s,baz=149,slow=9.0,SNR=6.8							
PDAR				PcP	PcP	05 40 55.1	+1.4
comp=Z,0.3nm,0.6s,baz=142,slow=6.4,SNR=3.4							
G27A	Dupree	32.33	348	⇑P	P	05 38 05.6	-0.2
baz=32							
H22A	Clearmont	32.72	342	⇓P	P	05 38 09.5	+0.2
baz=32							
I20A	Worland	32.72	339	⇑P	P	05 38 10.5	+1.2
baz=32							
F26A	Lodgepole	32.94	347	⇓P	P	05 38 11.7	+0.6
baz=32							
I19A	Meeteetse	33.10	338	⇑P	P	05 38 13.7	+1.0
baz=33							
I18A	Diamond G Ranc	33.12	337	⇑P	P	05 38 13.6	+0.7
baz=33							
H20A	Greybull	33.15	340	⇓P	P	05 38 13.5	+0.5
baz=33							
REDW	Red Top Meadow	33.24	336	eP	P	05 38 15.3	+1.4
comp=Z,15nm,1.1s							
E27A	Carson	33.27	349	⇓P	P	05 38 14.1	+0.2
baz=33							
SNOW	Snow King Moun	33.28	336	eP	P	05 38 16.1	+1.8
comp=Z,16nm,0.7s							
NVAR	Mina Array Bea	33.32	322	P	P	05 38 17.4	+2.7
NVAR				PcP	PcP	05 40 58.2	+1.5
NVAR	Mina Array Bea	33.32	322	P	P	05 38 17.4	+2.7
comp=Z,2.2nm,0.7s,baz=135,slow=8.5,SNR=21							
NVAR				PcP	PcP	05 40 58.2	+1.5
comp=Z,0.4nm,0.8s,baz=156,slow=4.7,SNR=2.7							
LOHW	Long Hollow	33.35	336	eP	P	05 38 16.4	+1.5
comp=Z,4.6nm,0.8s							
TPAW	Teton Pass	33.38	336	eP	P	05 38 16.2	+1.0
comp=Z,6.8nm,0.9s							
RRI2	Red Ridge	33.42	335	eP	P	05 38 16.7	+1.2
comp=Z,9.7nm,1.2s							
F23A	Volborg	33.48	344	⇑P	P	05 38 15.8	0.0
baz=33							
E26A	Carlson Angus	33.48	348	⇓P	P	05 38 15.7	-0.1
baz=33,SNR=6.1							
MOOW	Moose Ponds	33.52	336	eP	P	05 38 17.3	+0.9
comp=Z,4.5nm,1.1s							
IMW	Indian Meadow	33.72	336	eP	P	05 38 19.5	+1.3
comp=Z,17nm,1.8s							
H18A	Shoshone NF, C	33.90	338	⇑P	P	05 38 20.2	+0.5
baz=34,SNR=6.3							
I16A	Newdale	33.92	335	⇓P	P	05 38 21.1	+1.3
baz=34							
G18A	Lazy EL Ranch,	34.42	339	⇓P	P	05 38 24.6	+0.5
baz=34							
D24A	Glendive	34.51	346	⇓P	P	05 38 24.8	+0.1
baz=34							
F19A	Roth Farm, Mol	34.67	340	⇑P	P	05 38 26.8	+0.6
baz=34							
D23A	Lindsay	34.77	345	⇓P	P	05 38 27.2	+0.2
baz=34							
B29A	Wagenman Farm,	34.89	352	⇓P	P	05 38 27.6	-0.4
baz=34							
HLID	Hailey	34.93	332	eP	P	05 38 30.3	+1.7
comp=Z,57nm,2.6s							
HLID	Hailey	34.93	332	⇑P	P	05 38 30.5	+1.9
baz=35							
F18A	Big Timber	34.98	339	⇓P	P	05 38 29.3	+0.4
baz=35							
E20A	Meyer Farm, Mu	34.99	341	⇓P	P	05 38 29.0	+0.1
baz=35							
D22A	Cohagen	35.01	344	⇑P	P	05 38 29.3	+0.3
baz=35,SNR=8.6							
B28A	Dugan Ranch, T	35.02	351	⇓P	P	05 38 28.8	-0.3
baz=35							
E19A	Rath Farm, Rou	35.16	341	⇑P	P	05 38 30.9	+0.6
baz=35							
F17A	Fitzpatrick Pl	35.31	338	⇑P	P	05 38 33.2	+1.4
baz=35							
A29A	Manning Farm,	35.33	353	⇑P	P	05 38 30.7	-1.0
baz=35							
B25A	Knox Farm, Ray	35.34	348	⇓P	P	05 38 31.8	-0.1
baz=35							
C23A	Lambert	35.35	345	⇓P	P	05 38 32.6	+0.6
baz=35							
C22A	Vida	35.48	345	⇑P	P	05 38 33.3	+0.3
baz=35,SNR=6.4							
D20A	Manuel Ranch,	35.51	342	⇑P	P	05 38 34.0	+0.6
baz=35							
DLMT	Dillon	35.60	336	eP	P	05 38 36.3	+2.1
comp=Z,10nm,1.1s							
E18A	Harlowton	35.62	339	⇓P	P	05 38 35.2	+0.8
baz=35							
A26A	Wade Farm, Ken	35.73	349	⇑P	P	05 38 35.5	+0.3
baz=35							
DGMT	Dagmar	35.75	347	⇓P	P	05 38 35.3	-0.1
baz=35							
D19A	Cripps Ranch,	35.81	341	⇑P	P	05 38 36.8	+0.8
baz=36							
C21A	Desert Coulee	35.88	343	⇓P	P	05 38 37.0	+0.5
baz=36							
B23A	Brockton	35.93	346	⇑P	P	05 38 37.5	+0.6
baz=36							
C20A	Veseth Ranch,	36.03	342	⇑P	P	05 38 38.6	+0.7
baz=36							
A24A	Westby	36.14	347	⇑P	P	05 38 39.0	+0.3
baz=36							
A23A	Redstone	36.37	346	⇓P	P	05 38 41.1	+0.5
baz=36							
D17A	Six Diamond Ra	36.40	339	⇓P	P	05 38 41.9	+0.8
baz=36							
B20A	Solberg Farm,	36.69	343	⇑P	P	05 38 44.3	+0.8
baz=36							
C17A	Wharram Farm,	36.84	340	⇓P	P	05 38 45.5	+0.7
baz=36							
EGMT	Eagleton	36.85	341	⇑P	P	05 38 45.6	+0.7
baz=36							
B19A	Brinkman Farms	36.98	342	⇓P	P	05 38 46.2	+0.3
baz=37							
A20A	Cobblestone Ra	37.06	343	⇓P	P	05 38 46.7	+0.1
baz=37							
MSO	Missoula	37.33	336	eP	P	05 38 50.1	+1.1
comp=Z,5.4nm,1.1s							
MSO	Missoula	37.33	336	⇓P	P	05 38 50.2	+1.1
baz=37							
A18A	Metzger Ranch,	37.67	341	⇓P	P	05 38 52.1	+0.4
baz=37							
NEW	Newport	39.78	334	⇑P	P	05 39 10.8	+1.4
baz=40							
SIV	San Ignacio	43.13	132	P	P	05 39 38.3	+0.9
SIV	San Ignacio	43.13	132	P	P	05 39 38.3	+0.9
comp=Z,1.7nm,0.8s,baz=295,slow=9.6,SNR=5.2							
YKA	Yellowknife Ar	50.96	347	P	P	05 40 37.5	-0.3
YKA	Yellowknife Ar	50.96	347	P	P	05 40 37.5	-0.3
comp=Z,7.0nm,0.7s,baz=150,slow=7.3,SNR=33							
YKW3	Yellowknife Ar	51.02	347	eP	P	05 40 37.9	-0.4
comp=Z,0.1nm,0.9s							
ILAR	Eielson Array	62.66	337	P	P	05 42 01.1	+0.3
ILAR	Eielson Array	62.66	337	P	P	05 42 01.1	+0.3
comp=Z,3.1nm,1.1s,baz=132,slow=5.0,SNR=17							
ESDC	Sonseca Array	80.31	52	P	P	05 43 45.5	-2.4
ESDC	Sonseca Array	80.31	52	P	P	05 43 45.5	-2.4
comp=Z,1.5nm,0.8s,baz=297,slow=7.1,SNR=4.2							
ARCES	ARCESS Array B	86.44	18	P	P	05 44 17.0	-1.9
ARCES	ARCESS Array B	86.44	18	P	P	05 44 17.0	-1.9
comp=Z,1.6nm,0.9s,baz=345,slow=4.3,SNR=3.8							
TORD	Torodi Ar. Bea	91.07	76	P	P	05 44 40.0	-1.9
TORD	Torodi Ar. Bea	91.07	76	P	P	05 44 40.0	-1.9
comp=Z,0.3nm,0.9s,baz=295,slow=5.8,SNR=2.1							
CMAR	Chiang Mai Arr	145.85	340	PKPbc	PKPdf	05 51 17.3	+0.9
CMAR	Chiang Mai Arr	145.85	340	PKPbc	PKPdf	05 51 17.3	+0.9
comp=Z,3.5nm,0.8s,baz=334,slow=3.6,SNR=14							

IDC ***25*** *05:46:23.3±0.7, 57°.78S×25°.10W, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/18, mbtmp4.1/8, ML4.6/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/25, Error ellipse: s-maj=35.1km s-min=18.2km az=67.0*
ISCJB ***25*** *05:46:27.2±0.8, 57°.8S±0°.1×25°.1W±0°.4, h40km, mb3.9/7, MS3.4/1, Error ellipse: s-maj=34.2km s-min=12.6km az=151.9*
ISC 25 05:46:28.7±0.7, 58°.0S±0°.2×25°.2W±0°.2, h40km, n16, σ1°.97/15, mb3.9/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	14.96	157	ePn	Pn	05 49 58.9	+1.9
SNAA	Sanae	16.50	155	ePn	P	05 50 19.9	+0.8
SNAA	Sanae	16.50	155	Pn	P	05 50 19.1	-0.1
2.2nm,0.3s,baz=318,slow=14,SNR=98							
SNAA				Sn	Sn	05 53 13.5	-5.3
0.0nm,0.3s,baz=28,slow=17,SNR=2.1							
SNAA				LR	LR	05 55 40.4	
comp=Z,49nm,18.4s,baz=360,slow=33							
PMSA	Palmer Station	19.50	234	LR	LR	05 57 09.0	
comp=Z,137nm,18.5s,baz=95,slow=33							
QSPA	South Pole Qui	32.23	180	P	P	05 52 53.5	+0.7
2.1nm,0.7s,baz=190,slow=2.8,SNR=15							
PLCA	Paso Flores	33.41	281	LR	LR	06 04 31.3	
comp=Z,72nm,19.1s,baz=128,slow=32							
MAW	Mawson	37.93	141	P	P	05 53 43.3	+1.7
0.7nm,0.4s,baz=244,slow=12,SNR=6.2							
CPUP	Villa Florida	38.91	311	P	P	05 53 49.2	-1.0
0.5nm,0.5s,baz=110,slow=6.3,SNR=3.1							
VNDA	Vanda	44.65	182	P	P	05 54 40.4	+3.8
1.1nm,0.5s,baz=157,slow=7.7,SNR=4.9							
LPAZ	La Paz	52.38	304	P	P	05 55 37.4	-0.1
0.8nm,0.6s,baz=169,slow=5.9,SNR=5.0							
TORD	Torodi Ar. Bea	74.28	27	P	P	05 58 00.7	-0.8
2.0nm,0.6s,baz=200,slow=6.3,SNR=26							
ASAR	Alice Springs	96.78	161	P	P	05 59 55.1	0.0
0.3nm,0.4s,baz=177,slow=4.6,SNR=3.4							
YKA	Yellowknife Ar	138.34	316	PKP	PKPdf	06 05 50.1	+2.2
0.5nm,0.7s,baz=138,slow=2.2,SNR=3.1							
INK	Inuvik	147.99	318	PKPbc	PKPab	06 06 09.0	-1.8
0.9nm,0.6s,baz=96,slow=2.8,SNR=4.1							
SONM	Songino Array	149.75	88	PKPbc	PKPbc	06 06 12.8	-0.4
0.7nm,0.6s,baz=298,slow=3.2,SNR=4.3							
ILAR	Eielson Array	152.20	309	PKPbc	PKPbc	06 06 18.8	+0.5
0.5nm,0.4s,baz=134,slow=2.6,SNR=9.9							
ILAR				PKPab	PKPab	06 06 27.4	-0.9
1.8nm,0.9s,baz=136,slow=1.8,SNR=10							

IDC ***25*** *05:49:38.2±0.7, 46°.07S×166°.02E, h0km, mb4.2/5, mb1 4.4/7, mb1mx4.1/18, mbtmp4.2/7, ML4.3/2, MS3.8/4, Ms1 3.8/4, ms1mx3.2/28, Error ellipse: s-maj=23.0km s-min=22.4km az=34.0*
ISCJB ***25*** *05:49:40.0±1.1, 46°.14S±0°.04×166°.09E±0°.06, h20km±8km, mb4.1/5, MS3.8/3, Error ellipse: s-maj=7.6km s-min=6.9km az=163.4*
WEL ***25*** *05:49:41.5±0.4, 46°.12S×166°.11E, h31km±2km, ML4.6/19, Error ellipse: s-maj=4.0km s-min=2.1km az=90.0*
NEIC ***25*** *05:49:44.3, 46°.26S×166°.43E, h12km, ML4.6(WEL), After WEL.*
ISC 25 05:49:40.0±2.5, 46°.16S±0°.05×166°.16E±0°.06, h13km±15km, n70, σ1°.24/71, mb4.1/5, MS3.7/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.98	46	PN	Pb	05 49 58.6	-0.2
DCZ				SN	Sb	05 50 11.0	-0.5
DCZ				AML	AML	05 50 11.9	
DCZ				AML	AML	05 50 14.0	
DCZ				AML	AML	05 50 14.0	
DCZ	Deep Cove	0.98	46	P*	Pb	05 49 58.2	-0.6
DCZ				S*	Sb	05 50 10.8	-0.8
WHZ	Wether Hill Ro	1.27	78	PN	Pb	05 50 04.1	+0.2
WHZ				eSN	Sg	05 50 21.0	-0.1
WHZ				AML	AML	05 50 27.5	
WHZ	Wether Hill Ro	1.27	78	P*	Pb	05 50 04.1	+0.2
APZ	The Paps	1.43	119	PN	Pn	05 50 05.4	-0.3
APZ				SN	Sb	05 50 25.0	+0.3
APZ	The Paps	1.43	119	P*	Pn	05 50 05.5	-0.2
APZ				S*	Sb	05 50 25.0	+0.3
MLZ	Mavora Lakes	1.63	61	PN	Pn	05 50 08.8	+0.4
MLZ				AML	AML	05 50 35.1	
MLZ				AML	AML	05 50 42.7	
MLZ	Mavora Lakes	1.63	61	Pn	Pb	05 50 09.6	-0.4
MSZ	Milford Sound	1.94	41	PN	Pn	05 50 13.2	+0.5
MSZ				AML	AML	05 50 52.2	
MSZ				AML	AML	05 50 52.3	
MSZ				AML	AML	05 50 55.1	
MSZ				AML	AML	05 50 55.1	
MSZ	Milford Sound	1.94	41	Pn	Pn	05 50 13.8	+1.2
SYZ	Scrubby Hill	2.10	101	PN	Pn	05 50 15.7	+0.9
SYZ				eSN	Sn	05 50 40.4	-0.3
SYZ	Scrubby Hill	2.10	101	Pn	Pn	05 50 16.0	+1.2
EAZ	Earnscleugh	2.40	68	PN	Pb	05 50 21.3	-1.6
EAZ				AML	AML	05 50 56.3	
EAZ				AML	AML	05 51 04.9	
EAZ				AML	AML	05 51 11.3	
EAZ				AML	AML	05 51 11.3	
EAZ	Earnscleugh	2.40	68	Pn	Pb	05 50 21.6	-1.3
WKZ	Wanaka	2.41	57	PN	Pb	05 50 22.3	-1.0
WKZ				AML	AML	05 50 57.4	
WKZ				AML	AML	05 51 02.6	
WKZ				AML	AML	05 51 10.5	
WKZ				AML	AML	05 51 10.5	
WKZ	Wanaka	2.41	57	Pn	Pb	05 50 22.3	-1.0
TUZ	Tuapeka	2.43	86	PN	Pn	05 50 21.0	+1.7
TUZ				AML	AML	05 51 00.6	
TUZ				AML	AML	05 51 00.7	
TUZ	Tuapeka	2.43	86	Pn	Pn	05 50 21.1	+1.7
JCZ	Jackson Bay	2.78	42	AML	AML	05 51 18.7	
JCZ				AML	AML	05 51 18.8	
JCZ	Jackson Bay	2.78	42	Pn	Pb	05 50 28.2	-1.4
ODZ	Otahua Downs	3.34	72	PN	Pn	05 50 32.6	+0.7
ODZ	Otahua Downs	3.34	72	Pn	Pn	05 50 32.6	+0.7
LBZ	Lake Benmore	3.35	59	PN	Pn	05 50 33.6	+1.5
LBZ				AML	AML	05 51 31.2	
LBZ				AML	AML	05 51 31.2	
LBZ				AML	AML	05 51 34.9	
LBZ				AML	AML	05 51 34.9	
LBZ	Lake Benmore	3.35	59	Pn	Pn	05 50 33.8	+1.7
FOZ	Fox Glacier	3.61	45	PN	Pn	05 50 38.3	+2.7
FOZ				AML	AML	05 51 47.3	
FOZ				AML	AML	05 51 50.6	
FOZ	Fox Glacier	3.61	45	Pn	Pn	05 50 38.5	+2.9
RPZ	Rata Peaks	4.25	57	PN	Pn	05 50 45.3	+0.8
RPZ				AML	AML	05 52 04.5	
RPZ				AML	AML	05 52 10.9	
RPZ	Rata Peaks	4.25	57	Pn	Pn	05 50 45.6	+1.1
RPZ				Sn	Sn	05 51 35.3	+1.4
RPZ	Rata Peaks	4.25	57	Pn	Pn	05 50 45.6	+1.1
18nm,0.3s,baz=186,slow=2.8,SNR=29							
RPZ				LR	LR	05 51 33.4	
comp=Z,744nm,21.6s,baz=250,slow=27							
RPZ				Sn	Sn	05 51 35.3	+1.4
62nm,0.3s,baz=18,slow=11,SNR=9.7							
LTZ	Lake Taylor	5.53	54	Pn	Pn	05 51 02.6	+0.6
DSZ	Denniston Nort	6.01	45	AML	AML	05 51 38.9	
DSZ				AML	AML	05 52 07.6	
DSZ				AML	AML	05 52 07.6	
DSZ				AML	AML	05 52 08.0	
DSZ	Denniston Nort	6.01	45	Pn	Pn	05 51 11.0	+2.4
KHZ	Kahutara	6.49	57	Pn	Pn	05 51 16.2	+1.1
THZ	Tophouse	6.56	50	AML	AML	05 52 36.6	
THZ				AML	AML	05 52 48.1	
THZ	Tophouse	6.56	50	Pn	Pn	05 51 16.2	+0.1
QRZ	Quartz Range	7.06	43	Pn	Pn	05 51 25.5	+2.5
NNZ	Nelson	7.20	49	Pn	Pn	05 51 28.8	+4.0
SNZO	South Karori	7.86	55	ePn	Pn	05 51 36.9	+3.0
CAW	Cannon Point	8.20	55	Pn	Pn	05 51 41.7	+3.0
URZ	Urewera	11.32	50	Pn	Pn	05 52 22.5	+1.2
URZ				Sn	Sn	05 54 26.3	-1.4
URZ	Urewera	11.32	50	Pn	Pn	05 52 22.5	+1.2
1.6nm,0.3s,baz=183,slow=6.0,SNR=6.0							
URZ				Sn	Sn	05 54 26.3	-1.4
0.7nm,0.3s,baz=180,slow=20,SNR=3.3							
STKA	Stephens Creek	23.70	298	LR	LR	06 02 47.1	
comp=Z,233nm,20.4s,baz=209,slow=34							
ASAR	Alice Springs	34.32	300	P	P	05 56 25.8	-0.5
ASAR	Alice Springs	34.32	300	P	P	05 56 25.8	-0.5
2.0nm,0.7s,baz=130,slow=8.6,SNR=18							
WRA	Warramunga Arr	36.93	304	P	P	05 56 47.9	-0.8
WRA	Warramunga Arr	36.93	304	P	P	05 56 47.9	-0.8
3.6nm,0.8s,baz=141,slow=7.7,SNR=20							
HNR	Honiara	36.99	350	LR	LR	06 09 54.2	
comp=Z,216nm,19.1s,baz=140,slow=33							
PMG	Port Moresby	40.08	330	LR	LR	06 11 17.3	
comp=Z,101nm,18.4s,baz=120,slow=32							
TBI	Tubuai	42.28	73	eLR	LR	06 09 58.0	
61nm,24.0s							
QSPA	South Pole Qui	43.96	180	P	P	05 57 48.2	+1.7
QSPA	South Pole Qui	43.96	180	P	P	05 57 48.2	+1.7
2.1nm,1.0s,baz=20,slow=4.8,SNR=6.6							
PPT2	Papeete2	46.32	67	eLR	LR	06 11 49.1	
57nm,22.8s							
SNAA	Sanae	62.21	184	P	P	06 00 01.7	+1.0
SNAA	Sanae	62.21	184	P	P	06 00 01.7	+1.0
1.0nm,0.9s,baz=182,slow=6.6,SNR=6.8							
CMAR	Chiang Mai Arr	88.33	299	P	P	06 02 31.6	+0.3
CMAR	Chiang Mai Arr	88.33	299	P	P	06 02 31.6	+0.3
0.8nm,0.3s,baz=144,slow=3.6,SNR=5.9							
TORD	Torodi Ar. Bea	144.57	207	PKP	PKPab	06 09 14.8	-0.1
TORD	Torodi Ar. Bea	144.57	207	PKP	PKPab	06 09 14.8	-0.1
2.0nm,0.8s,baz=147,slow=2.2,SNR=18							
BRTR	Keskin Array B	145.08	277	PKP	PKPbc	06 09 16.1	-0.2
BRTR	Keskin Array B	145.08	277	PKP	PKPbc	06 09 16.1	-0.2
4.9nm,0.9s,baz=139,slow=4.7,SNR=20							
SCHQ	Schefferville	145.94	56	PKPbc	PKPdf	06 09 17.2	-0.4
SCHQ	Schefferville	145.94	56	PKPbc	PKPdf	06 09 17.2	-0.4
4.9nm,0.8s,baz=224,slow=3.8,SNR=4.8							
ARCES	ARCESS Array B	149.55	334	PKPbc	PKPbc	06 09 27.6	-0.1
ARCES	ARCESS Array B	149.55	334	PKPbc	PKPbc	06 09 27.6	-0.1
2.4nm,0.6s,baz=87,slow=2.9,SNR=27							
AKASG	Malin Array Be	151.38	295	PKPbc	PKPbc	06 09 32.1	-0.5
AKASG	Malin Array Be	151.38	295	PKPbc	PKPbc	06 09 32.1	-0.5
0.7nm,0.4s,baz=94,slow=2.0,SNR=4.0							
FINES	FINESS Array B	152.46	318	PKPbc	PKPbc	06 09 34.5	-0.2
FINES	FINESS Array B	152.46	318	PKPbc	PKPbc	06 09 34.5	-0.2
1.9nm,0.9s,baz=29,slow=8.8,SNR=3.8							
GERES	GERESS Array B	161.24	288	PKPab	PKPab	06 10 22.0	-1.5
GERES	GERESS Array B	161.24	288	PKPab	PKPab	06 10 22.0	-1.5
0.3nm,0.2s,baz=64,slow=6.1,SNR=4.3							

ISCJB ***25*** *05:57:11.4±0.4, 42°.40N±0°.02×13°.30E±0°.03, h10km±4km, Error ellipse: s-maj=3.9km s-min=3.5km az=161.6*
CSEM ***25*** *05:57:11.8±0.1, 42°.40N×13°.30E, h5km, ML3.2/8

PTQR	Pietraquaria	0.38	173	Pg	Pg	05 57 19.3	+0.2
PTQR				Sg	Sb	05 57 25.2	-0.7
119nm,0.4s							
PTQR	Pietraquaria	0.38	173	Pg	Pg	05 57 19.3	+0.2
PTQR				Sg	Sb	05 57 25.2	-0.7
119nm,0.4s							
NRCA	Norcia	0.46	339	Pg	Pg	05 57 20.6	-0.1
NRCA				Sg	Sb	05 57 27.5	-0.8
NRCA	Norcia	0.46	339	Pg	Pg	05 57 20.6	-0.1
NRCA				Sg	Sb	05 57 27.5	-0.8
MNS	Montasola	0.49	268	Pg	Pg	05 57 20.8	-0.3
313nm,0.4s							
MNS	Montasola	0.49	268	Pg	Pg	05 57 20.8	-0.3
313nm,0.4s							
CERT	Cerreto	0.52	211	Pg	Pg	05 57 21.5	-0.2
776nm,0.3s							
CERT	Cerreto	0.52	211	Pg	Pg	05 57 21.5	-0.2
776nm,0.3s							
VVLD	Villa Vallelon	0.57	158	Pg	Pg	05 57 22.3	-0.3
167nm,0.5s							
VVLD	Villa Vallelon	0.57	158	Pg	Pg	05 57 22.3	-0.3
167nm,0.5s							
INTR	Introdacqua	0.57	133	Pg	Pg	05 57 22.5	-0.2
576nm,0.6s							
INTR	Introdacqua	0.57	133	Pg	Pg	05 57 22.5	-0.2
576nm,0.6s							
MTCE	Montecelio	0.58	230	Pg	Pg	05 57 22.5	-0.3
258nm,0.6s							
MTCE	Montecelio	0.58	230	Pg	Pg	05 57 22.5	-0.3
258nm,0.6s							
TRTR	Tortoreto Alta	0.59	46	Pg	Pb	05 57 24.0	+0.4
TRTR	Tortoreto Alta	0.59	46	Pg	Pb	05 57 24.0	+0.4
OFFI	Offida	0.59	25	Pg	Pb	05 57 23.5	-0.2
2µm,0.4s							
OFFI	Offida	0.59	25	Pg	Pb	05 57 23.5	-0.2
2µm,0.4s							
CESX	Cesi	0.60	291	Pg	Pg	05 57 22.8	-0.4
228nm,0.5s							
CESX	Cesi	0.60	291	Pg	Pg	05 57 22.8	-0.4
228nm,0.5s							
GUAR	Guarcino	0.60	182	Pg	Pb	05 57 23.4	-0.5
228nm,0.6s							
GUAR	Guarcino	0.60	182	Pg	Pb	05 57 23.4	-0.5
228nm,0.6s							
FDMO	Fiordimonte	0.66	344	Pg	Pg	05 57 24.2	-0.2
234nm,0.2s							
FDMO	Fiordimonte	0.66	344	Pg	Pg	05 57 24.2	-0.2
234nm,0.2s							
CESI	CESI - Serrava	0.68	332	Pg	Pg	05 57 24.7	-0.1
75nm,0.2s							
CESI	CESI - Serrava	0.68	332	Pg	Pg	05 57 24.7	-0.1
75nm,0.2s							
GUMA	Gualdo di Mace	0.80	33	Pg	Pg	05 57 24.3	-2.6
1µm,0.5s							
MGAB	Montegabbione	1.04	300	Pg	Pb	05 57 31.1	-0.2
239nm,0.4s							
MGAB	Montegabbione	1.04	300	Pg	Pb	05 57 31.1	-0.2
239nm,0.4s							
MURB	Monte Urbino	1.05	325	Pg	Pb	05 57 31.3	-0.2
339nm,0.3s							
MURB	Monte Urbino	1.05	325	Pg	Pb	05 57 31.3	-0.2
339nm,0.3s							
ARVD	Arcevia	1.14	345	Pg	Pb	05 57 32.7	-0.2
126nm,0.7s							
ARVD	Arcevia	1.14	345	Pg	Pb	05 57 32.7	-0.2
126nm,0.7s							
NVLJ	Novalja	2.43	27	ePn	Pn	05 57 51.9	+1.1
NVLJ				Sn	Sn	05 58 21.7	+1.4
NVLJ	Novalja	2.43	27	ePn	Pn	05 57 51.8	+1.1
NVLJ				Sn	Sn	05 58 21.7	+1.4
UDBI	Udbina	2.76	39	ePn	Pb	05 57 58.2	-2.5
UDBI				Sn	Sb	05 58 32.9	-1.6

*IDC **25** 05:58:01.6±0.6, 13°.76N×90°.63W, h0^{km}, mb4.1/17, mb1 4.2/20, mb1mx4.1/30, mbtmp4.1/20, ML4.2/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/43, Error ellipse: s-maj=29.1km s-min=11.6km az=55.0*

*ISCJB **25** 05:58:05.7±0.6, 13°.47N±0°.05×91°.12W±0°.03, h42^{km}±5^{km}, mb4.3/43, MS3.6/7, Error ellipse: s-maj=9.3km s-min=3.6km az=26.9*

*CASC **25** 05:58:07.8±2.0, 13°.55N×91°.03W, h36^{km}±999^{km}, MD4.1, ML4.4*

*NEIC **25** 05:58:12.6±1.1, 13°.70N×90°.67W, h90^{km}±10^{km}, mb4.3/25, Error ellipse: s-maj=11.7km s-min=4.9km az=49.0*

*MEX **25** 05:58:13.2±0.3, 13°.65N×91°.65W, h20^{km}, MD4.3*

ISC 25 05:58:10.7±1.5, 13°.64N±0°.08×90°.81W±0°.10, h76^{km}±12^{km}, n232, σ1§11/221, mb4.3/43, 50C-60D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.77	15	⇓eP	Pn	05 58 25.1	-2.1
FUG	Fuego 3	0.80	358	⇓iP	Pn	05 58 24.5	-2.9
NBG	Las Nubes	1.04	25	⇓eP	Pn	05 58 30.2	-0.1
JAT	Jato	1.05	310	⇓iP	Pn	05 58 24.3	-5.8
RTR	El Retiro	1.16	77	eP	Pn	05 58 30.9	-0.7
SBLS	San Blas	1.17	80	eP	Pn	05 58 30.7	-1.1
RBDL	Robledal	1.19	67	eP	Pn	05 58 31.6	-0.4
SNJE	San Jose	1.19	79	eP	Pn	05 58 31.4	-0.7
BOQS	Boqueron	1.49	86	⇑eP	Pn	05 58 35.6	-0.4
BOQS				eS	Sn	05 58 57.0	+2.1
SNET	Serv Nac Est T	1.53	88	eP	Pn	05 58 35.2	-1.2
SNET				eS	Sn	05 58 57.0	+1.2
SNET				AML	AML	05 59 04.3	
comp=Z,5µm,0.3s							
LFU	La Fuente	1.65	86	eP	Pn	05 58 37.9	0.0
LFU				eS	Sn	05 58 59.4	+0.9
LFRS	El Faro	1.70	90	eP	Pn	05 58 38.1	-0.5
LBRS	Las Brisas	1.72	87	eP	Pn	05 58 39.1	+0.3
MRL	Marmol	1.78	37	⇑eP	Pn	05 58 41.6	+1.8
THIG		1.89	312	eP	Pn	05 58 34.1	-7.0
THIG				iS	Sn	05 58 50.7	-13
SNVI	San Vicente	1.91	91	eP	Pn	05 58 41.8	+0.2
VSM	San Miguel	2.47	95	eP	Pn	05 58 49.5	+0.3
CAHU	Cacacuatique	2.53	87	eP	Pn	05 58 50.3	+0.5
CAHU				eS	Sn	05 59 22.3	+2.5
CNCH	Conchagua	2.92	97	eP	Pn	05 58 55.0	-0.1
CNCH				eS	Sn	05 59 31.1	+2.1
CCIG	Comitan	2.92	334	eP	Pn	05 58 52.9	-2.2
CCIG				iS	Sn	05 59 23.7	-5.6
PCIG		3.11	312	iP	Pn	05 58 51.6	-5.9
PCIG				iS	Sn	05 59 21.1	-12
TGIG		3.84	325	eP	Pn	05 59 04.2	-3.3
TGIG				iS	Sn	05 59 42.6	-8.9
CMIG	Matias Romero	5.22	312	eP	Pn	05 59 19.9	-6.4
CMIG				iS	Sn	06 00 13.1	-12
CMIG	Matias Romero	5.22	312	Pn	Pn	05 59 20.3	-5.9
CMIG				Sn	Sn	06 00 20.1	-5.1
CMIG	Matias Romero	5.22	312	Pn	Pn	05 59 20.3	-5.9
comp=Z,3.4nm,0.3s,baz=125,slow=8.2,SNR=41							
CMIG				Sn	Sn	06 00 20.1	-5.1
comp=Z,9.8nm,0.3s,baz=44,slow=20,SNR=6.8							
SCIG	Sabancuy	5.31	356	iP	Pn	05 59 25.9	-1.6
HUIG	Huatulco	5.55	293	eP	Pn	05 59 22.9	-7.9
HUIG				iS	Sn	06 00 17.6	-16
VCR	Vista de Mar	6.15	124	eP	Sn	06 00 46.7	-1.6
VCR				eS		06 01 26.3	
JTS	JuntasAbangare	6.63	120	ePn	Pn	05 59 46.7	+1.1
VHO	Vista Hermosa	6.66	302	iP	Pn	05 59 39.1	-7.0
VHO				iS	Sn	06 00 45.8	-15
JCR	Jicaral	6.73	123	eP	Pn	05 59 47.0	0.0
JCR				eS	Sn	06 00 53.2	-9.1
TEIG	Tepich	6.98	20	ePn	Pn	05 59 50.7	+0.4
TEIG	Tepich	6.98	20	Pn	Pn	05 59 49.9	-0.4
comp=Z,47nm,0.3s,baz=209,slow=4.9,SNR=397							
TEIG				LR	LR	06 02 40.8	
comp=Z,218nm,19.8s,baz=200,slow=41							
PNIG	Pinotepa	7.58	292	iP	Pn	05 59 51.5	-7.1
PNIG				iS	Sn	06 01 07.7	-15
TPIG	Tehuac#an	7.89	308	eP	Pn	05 59 56.4	-6.5
TPIG				iS	Sn	06 01 19.2	-12
UTMO	Huajuapan	7.92	303	eP	Pn	05 59 57.1	-6.3
UTMO				iS	Sn	06 01 17.7	-14
BUS	Buena Vista	8.01	120	eP	Pn	06 00 07.2	+2.3
BUS				eS	Sn	06 01 30.9	-3.3
732A	Laxson Ranch,	17.26	332	⇓P	Pn	06 02 07.4	+0.6
baz=17							
631A	Perdido Creek	18.12	332	⇓P	P	06 02 16.6	-0.1
baz=18							
532A	Rocksprings	18.43	334	⇓P	Pn	06 02 21.6	+0.5
baz=18,SNR=5.6							
ROSC	El Rosal	18.45	117	P	P	06 02 19.3	-1.5
ROSC				ePn	Pn	06 02 24.6	+2.8
ROSC	El Rosal	18.45	117	P	P	06 02 19.3	-1.5
comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=1.9							
JCT	Junction City	18.70	335	⇓P	P	06 02 23.9	+0.7
baz=19							
531A	Rocksprings	18.74	333	⇓P	P	06 02 24.3	+0.6
baz=19							
TIGA	Tifton	18.91	19	P	P	06 02 24.6	-0.8
432A	Menard	19.04	336	⇓P	P	06 02 27.9	+1.0
baz=19							
530A	J-C Ranch, Com	19.09	331	⇓P	Pn	06 02 29.0	0.0
baz=19							
431A	Sonora	19.21	334	⇑P	P	06 02 29.7	+0.9
baz=19,SNR=12							
WHTX	Lake Whitney	19.25	343	⇑P	Pn	06 02 30.9	0.0
baz=19							
628A	Black Gap, Mar	19.34	327	⇑P	P	06 02 31.4	+1.3
baz=19,SNR=7.3							
332A	Millersview	19.47	337	⇑P	P	06 02 32.6	+1.0
baz=20,SNR=8.8							
529A	Stev Forest Ra	19.50	329	⇑P	P	06 02 32.2	+0.2
baz=20,SNR=6.9							
627A	Terlingua Ranc	19.58	325	⇑P	P	06 02 33.7	+0.9
baz=20,SNR=18							
430A	Baggett Ranch,	19.58	332	⇑P	P	06 02 33.4	+0.5
baz=20,SNR=8.2							
TXAR	Lajitas Array	19.64	325	P	P	06 02 33.9	+0.4
TXAR				PcP	PcP	06 06 53.4	+3.1
TXAR	Lajitas Array	19.64	325	P	P	06 02 33.9	+0.4
comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=67							
TXAR				PcP	PcP	06 06 53.4	+3.1
comp=Z,0.1nm,0.3s,baz=160,slow=4.0,SNR=3.8							
331A	San Angelo	19.68	335	⇑P	P	06 02 34.2	+0.3
baz=20,SNR=12							
429A	Davenport Ranc	19.75	331	⇑P	P	06 02 34.8	+0.2
baz=20,SNR=8.2							
528A	Cox Ranch, San	19.82	328	⇓P	P	06 02 36.1	+0.6
baz=20,SNR=6.5							
232A	Coleman	19.89	337	⇓P	P	06 02 36.5	+0.4
baz=20,SNR=9.3							
626A	Big Bend Ranch	20.07	324	⇑P	P	06 02 38.9	+0.7
baz=20,SNR=19							
330A	Mertzon	20.08	333	⇑P	P	06 02 38.0	-0.2
baz=20,SNR=13							
231A	Bronte	20.19	336	⇓P	P	06 02 38.9	-0.4
baz=20,SNR=5.5							
428A	Kincaid Ranch,	20.22	329	⇓P	P	06 02 39.6	-0.2
baz=20							
527A	Woodward Ranch	20.24	326	⇑P	P	06 02 40.3	+0.3
baz=20,SNR=8.6							
526A	Mary Lane Ranc	20.44	325	⇓P	P	06 02 42.9	+0.7
baz=20,SNR=7.8							
329A	Wagon Wheel Ra	20.51	332	⇓P	P	06 02 42.2	-0.7
baz=21,SNR=9.9							
ABTX	Abilene, Hawle	20.55	338	eP	P	06 02 42.6	-0.6
ABTX	Abilene, Hawle	20.55	338	⇓P	P	06 02 43.1	-0.1
baz=21,SNR=5.5							
427A	Hayter Ranch,	20.68	328	⇑P	P	06 02 44.8	0.0
baz=21,SNR=10							
GOGA	Godfrey	20.79	18	ePn	Pn	06 02 47.8	-1.0
comp=Z,16nm,1.1s							
328A	Wristen Ranch,	20.82	330	⇓P	P	06 02 46.1	-0.1
baz=21,SNR=23							
229A	Bryant Ranch,	20.84	333	⇑P	P	06 02 45.6	-0.9
baz=21							
426A	McDonald Obser	20.87	326	⇑P	P	06 02 46.7	-0.2
baz=21,SNR=19							
130A	Snyder	21.03	335	⇑P	P	06 02 48.1	-0.3
baz=21							
UALR	University of	21.09	356	eP	P	06 02 48.8	-0.1
comp=Z,14nm,1.0s							
Z32A	Haskell	21.11	339	⇓P	P	06 02 48.4	-0.8
baz=21,SNR=14							
326A	Caldwell Ranch	21.35	328	⇓P	P	06 02 52.1	+0.2
baz=21,SNR=46							
Z31A	Sharp Cattle R	21.35	338	⇓P	P	06 02 50.9	-0.9
baz=21,SNR=9.6							
PLAL	Pickwick Lake	21.39	6	eP	P	06 02 53.0	+0.8
comp=Z,50nm,1.9s							
129A	Stewart Farms,	21.43	334	⇑P	P	06 02 51.5	-1.2
baz=22,SNR=7.4							
425A	Indio Mountain	21.49	325	⇓P	P	06 02 53.0	-0.5
baz=22,SNR=27							
227A	Bennet, Jal	21.57	330	⇓P	P	06 02 53.4	-0.8
baz=22							
128A	Castleberry Fa	21.70	332	⇑P	P	06 02 54.5	-1.1
baz=22							
Y32A	R-V Farms, Ver	21.73	340	⇑P	P	06 02 55.7	-0.2
baz=22							
Z29A	Hungry Hill Ra	21.91	335	⇓P	P	06 02 56.1	-1.7
baz=22							
325A	Bean Ranch, Si	21.93	326	⇑P	P	06 02 57.1	-1.0
baz=22,SNR=13							
Y31A	Rekieta Farm,	21.98	339	⇓P	P	06 02 58.4	-0.1
baz=22,SNR=11							
226B	Tecolote Peak,	22.06	329	⇑P	P	06 02 59.0	-0.4
baz=22							
127A	Arkansas Junct	22.15	331	⇓P	P	06 02 59.2	-1.2
baz=22							
Z28A	Tucker Farm, M	22.22	334	⇓P	P	06 02 59.9	-1.3
baz=22							
GDL2	Guadalupe Moun	22.25	328	eP	P	06 03 01.2	-0.4
comp=Z,2.6nm,0.5s							
324A	Moseley Ranch,	22.26	325	⇓P	P	06 03 00.6	-1.1
baz=22,SNR=20							
MNTX	Cornudas Mount	22.40	326	eP	P	06 03 01.8	-1.3
comp=Z,15nm,1.0s							
Y29A	Porterfield Fa	22.42	336	⇓P	P	06 03 01.8	-1.5
baz=22							
225A	Deer Hill, Car	22.42	327	⇓P	P	06 03 02.7	-0.8
baz=22,SNR=22							
126A	Clayton Basin,	22.44	330	⇑P	P	06 03 02.1	-1.5
baz=22							
X31A	McDonald Ranch	22.49	340	⇑P	P	06 03 03.9	-0.1
baz=23							
Z27A	Tatum	22.61	332	⇑P	P	06 03 03.3	-2.1
baz=23							
X30A	Coker Ranch, T	22.63	338	⇑P	P	06 03 04.7	-0.9
baz=23							
Y28A	McKinney Farm,	22.70	335	⇓P	P	06 03 04.4	-1.9
baz=23,SNR=7.3							
224A	Cornudas Mount	22.77	326	P	P	06 03 06.0	-1.1
baz=23							
125A	Gardner Draw,	22.77	329	⇑P	P	06 03 05.7	-1.4
baz=23,SNR=8.5							
TKL	Tuckaleechee C	22.82	15	eP	P	06 03 08.0	+0.6
TKL	Tuckaleechee C	22.82	15	P	P	06 03 06.1	-1.4
comp=Z,6.3nm,0.8s,baz=194,slow=11,SNR=9.6							
Z26A	Caprock	22.93	331	⇓P	P	06 03 07.5	-1.3
baz=23,SNR=9.7							
X29A	Tulia	22.94	336	⇑P	P	06 03 07.4	-1.4
baz=23							
MSTX	Muleshoe	22.97	334	eP	P	06 03 08.0	-1.1
MSTX	Muleshoe	22.97	334	⇑P	P	06 03 07.4	-1.7
baz=23							
Y27A	Causey	23.07	333	⇑P	P	06 03 08.1	-2.0
baz=23							
124A	Stringfield Ra	23.21	327	⇓P	P	06 03 11.4	-0.2
baz=23,SNR=31							
Z25A	Roswell	23.30	329	⇑P	P	06 03 11.3	-1.0
baz=23							
AMTX	Amarillo	23.32	337	eP	P	06 03 11.3	-1.1
comp=Z,11nm,0.9s							
Y26A	Elida	23.40	332	⇑P	P	06 03 11.3	-1.9
baz=24							
W29A	Amraillo	23.52	337	⇑P	P	06 03 13.3	-1.0
baz=24							
Z24A	Sheeppen Canyo	23.66	328	⇓P	P	06 03 16.3	+0.7
baz=24,SNR=12							
222A	Williams Famil	23.67	324	⇓P	P	06 03 16.1	+0.4
baz=24,SNR=14							
TZTN	Tazewell	23.72	15	eP	P	06 03 16.6	+0.7
comp=Z,47nm,1.8s							
Y25A	Mesa, Roswell	23.80	330	⇓P	P	06 03 16.7	-0.2
baz=24,SNR=5.8							
320A	Kipp Ranch, An	23.98	320	⇑P	P	06 03 20.1	+1.6
baz=24							
221A	Mesquite Ranch	24.00	322	⇓P	P	06 03 20.1	+1.5
baz=24							
W27A	Bowe Ranch, En	24.03	335	⇓P	P	06 03 18.4	-0.4
baz=24							
ATAH	Atahualpa	24.04	148	LR	LR	06 11 44.8	
comp=Z,216nm,20.4s,baz=97,slow=34							
122A	Conniff Cattle	24.05	325	⇑P	P	06 03 19.7	+0.6
baz=24							
Z23A	Rita Site, Whi	24.06	327	⇑P	P	06 03 19.7	+0.6
baz=24,SNR=13							
Y24A	Capitan	24.17	329	⇓P	P	06 03 20.6	+0.4
baz=24,SNR=6.0							
220A	Playas Peak, P	24.37	321	⇓P	P	06 03 23.8	+1.8
baz=24,SNR=16							
121A	Cookes Peak, D	24.38	323	⇓P	P	06 03 23.7	+1.6
baz=24,SNR=9.3							
Z22A	Elephant Butte	24.45	326	⇓P	P	06 03 23.3	+0.6
baz=24							
319A	Douglas	24.48	319	⇓P	P	06 03 24.8	+1.8
baz=25							
Y23A	Lovelace Mesa,	24.49	328	⇑P	P	06 03 23.9	+0.8
baz=25,SNR=8.8							
U29A	Oasis Ranch, S	24.58	339	⇑P	P	06 03 24.8	+1.1
baz=25							
Z21A	St. Cloud Mine	24.88	325	⇓P	P	06 03 27.5	+0.7
baz=25							
120A	U Bar Ranch, L	24.89	322	⇑P	P	06 03 28.7	+2.0
baz=25,SNR=10.0							
Y22A	Socorro	24.97	327	⇓P	P	06 03 28.5	+1.0
baz=25,SNR=18							
X23A	Hourglass Bar	25.07	329	⇑P	P	06 03 28.8	+0.4
baz=25							
LENM	Lemitar	25.15	327	eP	P	06 03 29.9	+0.8
W24A	Lazy 6 Ranch,	25.19	331	⇓P	P	06 03 30.2	+0.6
baz=25							
Z20A	Nine Sixteen R	25.27	323	⇑P	P	06 03 32.0	+1.8
baz=25,SNR=12							
V25A	Rancho No Teng	25.35	333	⇑P	P	06 03 31.7	+0.8
baz=25							
Y21A	Point of Rocks	25.41	326	⇓P	P	06 03 32.9	+1.4
baz=26,SNR=7.6							
X22A	Bernardo	25.43	328	⇓P	P	06 03 32.9	+1.3
baz=26							
U26A	Atchley Ranch,	25.45	335	⇑P	P	06 03 32.8	+0.9
baz=26							
ANMO	Albuquerque	25.49	329	eP	P	06 03 32.3	+0.1
comp=Z,8.0nm,1.6s							
ANMO	Albuquerque	25.49	329	P	P	06 03 32.4	+0.2
comp=Z,1.4nm,0.7s,baz=152,slow=12,SNR=11							
W23A	Werner Place,	25.51	330	⇑P	P	06 03 33.2	+0.8
baz=26							
V24A	Rampart Ranch,	25.55	332	⇓P	P	06 03 33.7	+0.9
baz=26							
Y20A	Horse Springs,	25.72	325	⇓P	P	06 03 35.9	+1.5
baz=26,SNR=22							
X21A	Alamocita Cree	25.80	326	⇓P	P	06 03 36.2	+1.1
baz=26,SNR=19							
TUC	Tucson	26.06	319	eP	P	06 03 39.2	+2.0
comp=Z,4.8nm,1.0s							
W21A	San Fidel	26.23	328	⇑P	P	06 03 39.6	+0.7
baz=26							
X20A	Quemado	26.26	325	⇓P	P	06 03 40.4	+1.2
baz=26,SNR=6.7							
U23A	El Rito	26.47	331	⇓P	P	06 03 41.5	+0.4
baz=27,SNR=7.2							
W20A	Ramah	26.69	326	⇑P	P	06 03 44.1	+1.0
baz=27,SNR=12							
T24B	San Luis	26.71	333	⇓P	P	06 03 43.6	+0.2
baz=27							
X18A	Snowflake	27.07	323	⇑P	P	06 03 47.8	+1.4
baz=27,SNR=5.5							
X16A	Lo Mia Camp, P	27.87	321	⇑P	P	06 03 55.2	+1.6
baz=28,SNR=13							
S22A	4UR Ranch, Cre	27.92	332	⇓P	P	06 03 54.7	+0.5
baz=28							
MVCO	Mesa Verde	28.29	329	eP	P	06 03 58.5	+1.1
comp=Z,73nm,2.8s							
MVCO	Mesa Verde	28.29	329	⇑P	P	06 03 57.5	+0.1
baz=28							
WUAZ	Wupatki	28.59	323	eP	P	06 04 01.2	+1.2
comp=Z,6.4nm,0.8s							
WUAZ	Wupatki	28.59	323	⇑P	P	06 04 01.5	+1.5
baz=29,SNR=7.5							
PV01	Paradox Valley	29.05	330	eP	P	06 04 05.3	+1.2
comp=Z,197nm,0.9s							
U15A	North Rim	29.76	323	⇓P	P	06 04 11.9	+1.5
baz=30,SNR=8.6							
W13A	Hualapai Mount	29.83	320	⇓P	P	06 04 12.8	+1.7
baz=30,SNR=5.8							
LDFC	Landfair	30.60	318	eP	P	06 04 20.2	+2.5
comp=Z,6.9nm,0.8s							
PFO	Pinyon Flat Ob	30.63	315	LR	LR	06 16 52.2	
comp=Z,156nm,19.2s,baz=252,slow=37							
Q16A	Castle Valley	30.95	328	eP	P	06 04 21.3	+0.4
CCUT	Cedar City	31.15	324	eP	P	06 04 25.2	+2.5
comp=Z,8.2nm,1.0s							
MSU	Marysvale	31.18	326	eP	P	06 04 23.6	+0.7
comp=Z,2.3nm,0.8s							
MVU	Marysvale	31.19	326	eP	P	06 04 24.4	+1.4
ARUT	Antelope Range	31.36	324	eP	P	06 04 25.9	+1.4
comp=Z,14nm,1.0s							
SADO	Sadowa	32.58	16	P	P	06 04 33.8	-1.0
SADO	Sadowa	32.58	16	P	P	06 04 33.8	-1.0
comp=Z,1.2nm,0.4s,baz=229,slow=12,SNR=3.1							
R11A	Troy Canyon, C	32.98	323	eP	P	06 04 40.8	+2.1
comp=Z,5.0nm,1.1s							
R11A	Troy Canyon, C	32.98	323	⇓P	P	06 04 40.5	+1.8
baz=33,SNR=6.2							
HWUT	Hardware Ranch	33.20	331	eP	P	06 04 41.0	+0.4
comp=Z,4.2nm,1.0s							
PDAR	Pinedale Array	33.23	334	P	P	06 04 41.6	+0.8
PDAR				PcP	PcP	06 07 22.5	+0.6
PDAR	Pinedale Array	33.23	334	P	P	06 04 41.6	+0.8
comp=Z,0.4nm,0.8s,baz=88,slow=10,SNR=3.5							
PDAR				PcP	PcP	06 07 22.5	+0.6
comp=Z,0.8nm,0.9s,baz=134,slow=4.3,SNR=5.3							
BGU	Big Grassy Mou	33.40	329	eP	P	06 04 43.3	+1.0
comp=Z,2.1nm,0.9s							
REDW	Red Top Meadow	34.27	334	eP	P	06 04 50.0	+0.1
comp=Z,5.2nm,0.8s							
SNOW	Snow King Moun	34.31	334	eP	P	06 04 51.5	+1.3
comp=Z,127nm,3.0s							
TPAW	Teton Pass	34.41	334	eP	P	06 04 51.5	+0.4
ELK	Elko	34.42	326	eP	P	06 04 52.5	+1.2
NV11	Mina Array Sit	34.59	321	eP	P	06 04 53.6	+1.0
NVAR	Mina Array Bea	34.68	320	P	P	06 04 54.9	+1.4
NVAR				PcP	PcP

comp=Z,3.4nm,0.2s
ILAR Eielson Array 63.62 337 P P 06 08 32.7 -0.8
ILAR Eielson Array 63.62 337 P P 06 08 32.7 -0.8
comp=Z,1.5nm,1.0s,baz=126,slow=5.0,SNR=8.8
KDAK Kodiak Island 63.63 328 P P 06 08 33.6 0.0
KDAK Kodiak Island 63.63 328 P P 06 08 33.6 0.0
comp=Z,3.4nm,0.6s,baz=129,slow=3.3,SNR=7.3
RSO Redoubt South 64.53 331 eP P 06 08 39.4 -0.3
comp=Z,20nm,0.7s
PPT Papeete 65.76 243 LR LR 06 30 18.4
comp=Z,103nm,19.0s,baz=180,slow=29
PPT2 Papeete2 65.77 243 eLR LR 06 28 13.8
comp=Z,107nm,26.2s
TBI Tubuai 68.13 238 eLR LR 06 29 28.6
comp=Z,107nm,25.8s
DBIC Dimbokro 84.54 84 P P 06 10 36.0 -0.3
DBIC Dimbokro 84.54 84 P P 06 10 36.0 -0.3
comp=Z,2.7nm,0.8s,baz=358,slow=3.5,SNR=4.6
TORD Torodi Ar. Bea 89.33 77 P P 06 10 58.9 -0.6
TORD Torodi Ar. Bea 89.33 77 P P 06 10 58.9 -0.6
comp=Z,0.2nm,0.5s,baz=295,slow=5.0,SNR=3.2
KEST Kesra 90.18 53 P P 06 11 02.5 -0.7
KEST Kesra 90.18 53 P P 06 11 02.5 -0.7
comp=Z,1.0nm,0.7s,baz=301,slow=5.9,SNR=2.3
MKAR Makanchi Array 119.53 5 PKP PKPdf 06 16 52.0 0.0
MKAR Makanchi Array 119.53 5 PKP PKPdf 06 16 52.0 0.0
comp=Z,0.1nm,0.3s,baz=336,slow=2.9,SNR=3.8
WRA Warramunga Arr 136.43 255 PKP PKPdf 06 17 25.7 +0.9
WRA Warramunga Arr 136.43 255 PKP PKPdf 06 17 25.7 +0.9
comp=Z,0.6nm,0.9s,baz=78,slow=2.5,SNR=4.1
CMAR Chiang Mai Arr 146.69 343 PKPbc PKPab 06 17 45.8 -0.2
CMAR Chiang Mai Arr 146.69 343 PKPbc PKPab 06 17 45.8 -0.2
comp=Z,4.0nm,0.6s,baz=343,slow=3.2,SNR=16

*IDC **25** 06:10:37.7±1.4, 13°.34N×91°.13W, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.6/25, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=56.6km s-min=23.4km az=50.0*
*ISCJB **25** 06:10:41.1±1.3, 13°.38N±0°.10×91°.13W±0°.06, h40km±15km, mb3.8/2, Error ellipse: s-maj=17.1km s-min=7.4km az=20.8*
*CASC **25** 06:10:42.2±1.8, 13°.44N×91°.08W, h37km±999km, MD3.8, ML3.6*

ISC 25 06:10:40.9±2.4, 13°.5N±0°.1×91°.12W±0°.05, h24km±16km, n19, σ1°.23/25, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.99	329	⇓eP	Pb	06 10 59.8	+0.3
FUG	Fuego 3	1.02	15	⇓eP	Pb	06 11 00.0	0.0
PCG	Pacaya	1.05	28	⇑eP	Pb	06 11 00.7	0.0
NBG	Las Nubes	1.35	34	⇑eP	Pb	06 11 05.8	+0.1
NBG				eS	Sb	06 11 23.1	+0.5
RTR	El Retiro	1.49	73	eP	Pn	06 11 06.3	-0.1
RTR				eS	Sb	06 11 26.0	-0.7
SBLS	San Blas	1.50	75	eP	Pn	06 11 06.4	-0.2
SNJE	San Jose	1.52	74	eP	Pn	06 11 06.8	0.0
RBDL	Robledal	1.53	65	eP	Pn	06 11 07.2	+0.2
BOQS	Boqueron	1.81	81	eP	Pn	06 11 11.2	+0.5
BOQS				eS	Sn	06 11 33.2	+0.2
SNET	Serv Nac Est T	1.84	83	eP	Pn	06 11 11.1	0.0
SNET				eS	Sn	06 11 33.0	-0.7
SNET				AML	AML	06 11 41.5	
	comp=Z,772nm,0.3s						
LFU	La Fuente	1.97	81	eP	Pn	06 11 13.5	+0.6
LFU				eS	Sn	06 11 35.4	-1.4
LFRS	El Faro	2.00	85	eP	Pn	06 11 14.1	+0.7
MRL	Marmol	2.11	41	eP	Pb	06 11 17.1	-1.5
CMIG	Matias Romero	5.12	315	Pn	Pn	06 11 56.5	+0.3
	comp=Z,1.5nm,0.3s,baz=119,slow=8.5,SNR=9.8						
CMIG				Sn	Sn	06 12 50.7	-3.9
	comp=Z,2.4nm,0.3s,baz=86,slow=16,SNR=3.2						
TEIG	Tepich	7.26	22	Pn	Pn	06 12 27.3	+1.8
	comp=Z,11nm,0.3s,baz=214,slow=2.6,SNR=167						
TXAR	Lajitas Array	19.62	326	P	Pn	06 15 08.5	-0.8
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=8.5						
NVAR	Mina Array Bea	34.63	321	P	P	06 17 30.8	+2.2
	comp=Z,0.8nm,0.8s,baz=125,slow=9.0,SNR=6.6						
SIV	San Ignacio	41.70	134	P	P	06 18 28.1	0.0
	comp=Z,1.5nm,0.6s,baz=320,slow=7.2,SNR=6.4						
CMAR	Chiang Mai Arr	146.77	342	PKPbc	PKPbc	06 30 21.2	-0.6
	comp=Z,1.0nm,0.4s,baz=0.5,slow=3.5,SNR=3.2						

IDC 25 06:18:07.7±1.2, 40°.93N×82°.57E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/31, mbtmp3.4/7, ML3.2/3, 2C-2D, Error ellipse: s-maj=32.4km s-min=22.5km az=63.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	5.87	358	⇓Pn	Pn	06 19 37.3	+1.4
	0.2nm,0.2s,baz=184,slow=12,SNR=17						
MK31				⇑Pg	Pb	06 19 50.0	-0.9
	0.3nm,0.2s,baz=180,slow=12,SNR=6.4						
MK31				⇑Sn	Sn	06 20 34.6	-9.3
	1.5nm,0.3s,baz=187,slow=23,SNR=7.4						
MK31				⇓Lg	Lg	06 20 58.2	
	4.4nm,0.6s						
MKAR	Makanchi Array	5.87	358	Pn	Pn	06 19 37.3	+1.3
	0.5nm,0.3s,baz=186,slow=12,SNR=14						
MKAR				Sn	Sn	06 20 39.5	-4.4
	2.4nm,0.3s,baz=181,slow=23,SNR=12						
ZALV	Zalesovo Beam	13.11	6	Pn	Pn	06 21 13.7	-1.4
	baz=192,slow=13,SNR=2.8						
BVAR	Borovoye Array	14.65	330	Pn	Pn	06 21 34.8	-1.4
	0.1nm,0.3s,baz=139,slow=11,SNR=2.3						
SONM	Songino Array	18.33	60	P	P	06 22 25.2	+1.5
	0.1nm,0.3s,baz=256,slow=12,SNR=2.3						
ARCES	ARCESS Array B	40.91	333	P	P	06 25 51.7	+0.5
	1.5nm,0.8s,baz=81,slow=9.0,SNR=5.1						
TORD	Torodi Ar. Bea	74.66	274	P	P	06 29 49.2	-0.1
	0.1nm,0.6s,baz=44,slow=6.3,SNR=2.9						
WRA	Warramunga Arr	77.30	131	P	P	06 30 03.9	-0.3
	0.7nm,1.2s,baz=326,slow=7.3,SNR=4.0						

FUNV 25 06:27:10.4, 7°.14N×72°.18W, h14km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	0.74	349	⇑eP	Pg	06 27 24.1	-1.0
CAPV				eS	Sg	06 27 34.7	-0.3
SOCV	Socops	1.74	49	eP	Pn	06 27 39.0	-1.3
SOCV				eS	Sn	06 28 00.8	-1.5
VIGV	El Vigia	1.88	25	eP	Pn	06 27 41.4	-0.8
VIGV				eS	Sn	06 28 04.9	-0.7
ELOV	Elorza	2.68	93	eP	Pn	06 27 52.4	-0.8
ELOV				eS	Sn	06 28 23.8	-1.6
VIRV	Villa del Rosa	3.35	356	eP	Pn	06 28 01.4	-1.1
VIRV				eS	Sn	06 28 39.1	-3.0
QARV	Quebrada Arrib	3.46	28	eP	Pn	06 28 03.5	-0.5
QARV				eS	Sn	06 28 42.3	-2.6
CURV	Curarigua	3.60	37	eP	Pn	06 28 05.0	-1.0
CURV				eS	Sn	06 28 45.0	-3.4
TEPV	Terepaima	4.08	46	eP	Pn	06 28 11.5	-0.9
TEPV				eS	Sn	06 28 56.2	-3.8
SIQV	Siquisique	4.20	34	eP	Pn	06 28 11.9	-2.3
SIQV				eS	Sn	06 28 58.4	-4.8
BAUV	El Baul	4.47	66	eP	Pn	06 28 15.4	-2.4
BAUV				eS	Sn	06 29 04.8	-4.9
MAPV	Macapo	4.55	54	eP	Pn	06 28 18.0	-1.0
MONV	Montecano	5.26	24	eP	Pn	06 28 26.9	-1.8
TURV	Turiamo	5.41	52	eP	Pn	06 28 29.1	-1.5
TURV				eS	Sn	06 29 27.5	-5.3
BIRV	Birongo	6.72	60	eP	Pn	06 28 46.9	-1.8
CUPV	Cœpira	6.95	65	eP	Pn	06 28 50.0	-2.0

*BJI **25** 06:28:29.4, 34°.95N×32°.15E, h10km, mB4.8/20, mb4.7/34, Ms4.7/10, Ms7 4.3/11*
*ISCJB **25** 06:28:33.9±0.1, 34°.70N±0°.01×32°.86E±0°.01, h10km, mb4.5/97, MS3.9/26, Error ellipse: s-maj=1.7km s-min=1.3km az=31.9*
*ISK **25** 06:28:33.1, 34°.56N×32°.93E, h14km, ML4.7*
*DDA **25** 06:28:34.1, 34°.79N×33°.13E, h8km, ML4.6*
*NEIC **25** 06:28:35.3±0.3, 34°.72N×32°.99E, h10km, mb4.6/25, ML4.5(NIC), Error ellipse: s-maj=5.9km s-min=3.5km az=2.0*
NEIC Felt [IV] at Akhelia, Episkopion and Limassol; [III] at Pyrgos and Ypsonas; [II] at Moni, Nicosia, Paphos and Pissouri. Felt in much of southwestern Cyprus. Felt [IV] at Akrotiri and [III] at Kolossi, Akrotiri.
*MOS **25** 06:28:36.3±1.2, 34°.68N×32°.86E, h33km, mb4.7/33, Error ellipse: s-maj=5.7km s-min=3.2km az=114.5*
*TEH **25** 06:28:36.0, 34°.72N×32°.91E, h10km, ML4.5*
*CSEM **25** 06:28:37.1±0.1, 34°.72N×32°.94E, h20km, mb4.6/26, Error ellipse: s-maj=2.3km s-min=1.6km az=51.0*
*THE **25** 06:28:37.7, 34°.78N×32°.94E, h14km±29km, ML5.0/4, Error ellipse: s-maj=38.1km s-min=1.5km az=137.0*
*HLW **25** 06:28:37.9, 34°.97N×33°.08E, h32km±4km, Md3.8, Ml0.0*
*NIC **25** 06:28:38.1±0.4, 34°.74N×33°.09E, h31km, ML4.5, MW4.2*
NIC Felt earthquake; Maximum Intensity 4; Felt I=IV MM at Limassol and villages around the epicentral area and I=II MM a.
*GRAL **25** 06:28:38.2±2.0, 34°.77N×33°.01E, h20km±13km, MD4.3*
*IDC **25** 06:28:39.2±1.6, 34°.82N×33°.00E, h38km±14km, mb4.2/22, mb1 4.3/30, mb1mx4.2/37, mbtmp4.2/30, ML4.0/8, MS3.8/23, Ms1 3.8/23, ms1mx3.7/39, Error ellipse: s-maj=12.6km s-min=10.3km az=11.0*

ISC 25 06:28:36.3±0.4, 34°.71N±0°.03×32°.95E±0°.02, h18km±1km, h17km: pP-P, n867, σ1°.36/969, mb4.6/97, MS3.8/26, 38C-16D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.07	309	P	Pg	06 28 41.6	+1.9
SZAC	Souni-Zanaja	0.07	309	P	Pg	06 28 41.6	+1.9
CSS	Prodhromos	0.40	51	⇓P	Pg	06 28 43.9	-0.6
CSS				S	Sg	06 28 47.7	-2.5
CSS	Prodhromos	0.40	51	ePG	Pg	06 28 44.1	-0.4
CSS	Prodhromos	0.40	51	P	Pg	06 28 44.0	-0.6
CSS				S	Sg	06 28 49.7	-0.5
CSS	Prodhromos	0.40	51	P	Pg	06 28 44.0	-0.6
CSS				ePg	Pg	06 28 44.1	-0.4
CSS				eSg	Sg	06 28 47.4	-2.8
CSS				S	Sg	06 28 49.7	-0.5
CSS	Prodhromos	0.40	51	⇓iP	Pg	06 28 43.9	-0.6
CSS				S	Sg	06 28 47.7	-2.5
LEF	Lefka	0.41	353	ePG	Pg	06 28 44.2	-0.2
LEF				eSG	Sn	06 28 52.9	-1.7
LEF	Lefka	0.41	353	ePg	Pg	06 28 44.6	-0.2
LEF				eSg	Sn	06 28 52.9	-1.7
MAMC	Mammari	0.51	25	⇓P	Pg	06 28 46.1	-0.4
MAMC	Mammari	0.51	25	⇓iP	Pg	06 28 46.1	-0.4
AKIN	Ak¨-nc¨-lar- K	0.52	54	ePG	Pg	06 28 45.9	-0.8
PPCY	Paphos	0.53	290	P	Pn	06 28 48.5	-0.4
	42nm,0.7s						
PPCY	Paphos	0.53	290	P	Pn	06 28 48.5	-0.4
	42nm,0.7s						
ALFC	Alevga	0.53	327	⇓P	Pb	06 28 47.4	+0.3
	51nm,0.5s						
ALFC				S	Sg	06 28 51.5	-2.7
ALFC	Alevga	0.53	327	⇓eP	Pb	06 28 47.4	+0.3
	51nm,0.5s						
ALFC				S	Sg	06 28 51.5	-2.7
AKMC	Akamas	0.60	302	⇓P	Pn	06 28 49.7	-0.3
AKMC	Akamas	0.60	302	⇓P	Pn	06 28 49.7	-0.3
LFK	Lefkose	0.74	40	ePG	Pb	06 28 50.2	-0.4
LFK	Lefkose	0.74	40	ePg	Pb	06 28 50.3	-0.4
PHNC	Paralimni	0.94	71	P	Pn	06 28 55.5	+1.0
PHNC	Paralimni	0.94	71	P	Pn	06 28 55.5	+1.0
EREN	Erenkoy	1.29	50	ePN	Pn	06 28 59.0	-0.4
EREN				eSN	Sg	06 29 17.9	-0.1
EREN	Erenkoy	1.29	50	ePn	Pn	06 28 59.0	-0.4
EREN				eSn	Sg	06 29 18.0	-0.1
GAZI	Gazipasa	1.61	341	iP	Pn	06 29 03.3	-0.5
GAZI				iS	Sn	06 29 23.2	-1.0
GAZI	Gazipasa	1.61	341	iP	Pn	06 29 03.3	-0.5
GAZI				iS	Sn	06 29 23.2	-1.0
IKL	Isikli	1.64	21	ePN	Pn	06 29 03.5	-0.7
IKL	Isikli	1.64	21	ePn	Pn	06 29 03.5	-0.7
ERMK	Ermenek	1.93	359	iPn	Pn	06 29 09.1	+0.7
ERMK				iSn	Sb	06 29 35.5	+0.6
KIZK	Mersin	2.02	28	ePn	Pn	06 29 09.1	-0.3
KIZK				eSn	Sn	06 29 35.0	+0.8
BEYL	Beirut	2.26	111	eP	Pn	06 29 13.2	+0.4
HDMB	Hadim	2.28	351	ePN	Pn	06 29 13.6	+0.4
HDMB	Hadim	2.28	351	ePn	Pn	06 29 13.6	+0.4
BHL	Bhannes	2.38	109	eP	Pn	06 29 14.7	+0.3
BHL	Bhannes	2.38	109	eP	Pn	06 29 14.7	+0.3
NAQL	Naqoura	2.42	130	eP	Pn	06 29 14.8	-0.1
HNTI	Hanita	2.46	131	Pn	Pn	06 29 15.9	+0.4
HNTI				Sn	Sn	06 29 44.4	-0.7
HWQ	Hawqa	2.51	99	eP	Pn	06 29 16.5	+0.2
HWQ	Hawqa	2.51	99	eP	Pn	06 29 16.5	+0.2
MMC7	Mount Meron ar	2.64	129	Pn	Pn	06 29 18.1	+0.1
MMA0	Mount Meron ar	2.65	129	Pn	Pn	06 29 18.1	-0.1
MMAI	Mount Meron Ar	2.65	129	Pn	Pn	06 29 18.3	+0.1
MMAI				Sn	Sn	06 29 50.0	+0.1
MMAI	Mount Meron Ar	2.65	129	Pn	Pn	06 29 18.3	+0.1
	269nm,0.3s,baz=315,slow=12,SNR=409						
MMAI				Sn	Sn	06 29 50.0	+0.1
	384nm,0.3s,baz=319,slow=11,SNR=5.0						
MMAI				LR	LR	06 30 34.3	
	comp=Z,2μm,19.0s,baz=300,slow=43						
MMAI	Mount Meron Ar	2.65	129	Pn	Pn	06 29 18.3	+0.1
MMAI				Sn	Sn	06 29 50.0	+0.1
RCY	Rachaya	2.68	116	eP	Pn	06 29 18.9	+0.2
RCY	Rachaya	2.68	116	eP	Pn	06 29 18.9	+0.2
OFRI	'Ofer	2.69	140	Pn	Pn	06 29 18.6	0.0
KSDI	Kefar Szold	2.71	123	Pn	Pn	06 29 18.8	-0.1
BLGI	Bet Lehem HaGe	2.71	136	Pn	Pn	06 29 20.3	+1.3
YAYL	Yayladag	2.90	62	ePn	Pn	06 29 21.6	-0.1
HTY	Hatay	2.96	61	ePN	Pn	06 29 22.7	+0.4
HTY	Hatay	2.96	61	ePn	Pn	06 29 22.7	+0.4
GULE	Gulek	2.96	29	iP	Pn	06 29 24.1	+1.5
GULE	Gulek	2.96	29	iP	Pn	06 29 24.1	+1.5
SLTI	Sal'it	3.02	144	Pn	Pn	06 29 23.5	+0.3
SLTI				Sn	Sn	06 29 59.9	+1.0
YURE	YUREGIR	3.04	45	ePn	Pn	06 29 24.9	+1.4
MMLI	Mount Malkishu	3.06	137	Pn	Pn	06 29 24.0	+0.2
MMLI				Sn	Sn	06 30 00.8	+0.7
KARA	Karaisali	3.06	33	ePN	Pn	06 29 24.6	+0.8
KARA	Karaisali	3.06	33	ePn	Pn	06 29 24.6	+0.8
KSL	Kastellorizon	3.10	299	eP	Pn	06 29 25.4	+1.1
KORT	Korkueli	3.11	318	ePn	Pn	06 29 25.2	+0.6
AKAS	Kas	3.13	300	ePn	Pn	06 29 26.4	+1.6
SUTC	Sutluce-Ispart	3.18	331	ePN	Pn	06 29 26.1	+0.5
SUTC	Sutluce-Ispart	3.18	331	ePn	Pn	06 29 26.1	+0.5
ELL	Elmali	3.21	310	ePN	Pn	06 29 26.2	+0.3
ELL	Elmali	3.21	310	ePn	Pn	06 29 26.2	+0.3
CEYT	Ceyhan	3.23	44	ePN	Pn	06 29 26.7	+0.6
CEYT	Ceyhan	3.23	44	ePn	Pn	06 29 26.7	+0.6
COBT	Iskenderun	3.24	55	ePn	Pn	06 29 27.2	+0.8
HMDT	Nahal Hemdat	3.26	138	Pn	Pn	06 29 27.1	+0.6
HMDT				Sn	Sn	06 30 05.3	+0.5
KONT	Konya--Tatoy	3.27	352	ePN	Pn	06 29 28.2	+1.6
KONT	Konya--Tatoy	3.27	352	ePn	Pn	06 29 28.2	+1.6
BCK	Bucak	3.35	326	ePN	Pn	06 29 28.4	+0.6
BCK	Bucak	3.35	326	ePn	Pn	06 29 28.4	+0.6
SULT	Sultanhani-AKS	3.51	7	ePN	Pn	06 29 30.9	+0.8
SULT	Sultanhani-AKS	3.51	7	ePn	Pn	06 29 30.9	+0.8
LADK	Ladik-KONYA	3.52	352	ePN	Pn	06 29 31.9	+1.8
LADK	Ladik-KONYA	3.52	352	ePn	Pn	06 29 31.9	+1.8
KOZT	Kozan	3.62	39	ePN	Pn	06 29 32.8	+1.4
KOZT	Kozan	3.62	39	ePn	Pn	06 29 32.8	+1.4
NIG	Nigde	3.65	21	ePN	Pn	06 29 33.6	+1.6
NIG	Nigde	3.65	21	ePn	Pn	06 29 33.7	+1.6
ISP	Isparta	3.68	328	ePN	Pn	06 29 33.8	+1.5
ISP	Isparta	3.68	328	P	Pn	06 29 34.4	+2.1
ISP	Isparta	3.68	328	eP	Pn	06 29 34.4	+2.1
ISP	Isparta	3.68	328	ePn	Pn	06 29 34.4	+2.1
ISP	Isparta	3.68	328	ePn	Pn	06 29 33.8	+1.5
ISP	Isparta	3.68	328	P	Pn	06 29 34.4	+2.1
FETY	Fethiye	3.69	303	ePN	Pn	06 29 33.0	+0.6
FETY	Fethiye	3.69	303	ePn	Pn	06 29 33.0	+0.6
GOLH	Golhisar	3.73	314	iPn	Pn	06 29 35.1	+2.0
DSI	Dead Sea	3.73	146	Pn	Pn	06 29 34.1	+1.1
DSI				Sn	Sn	06 30 17.8	+1.2
RSH		3.79	170	P	Pn	06 29 35.3	+1.4
RTMI	Retamim	3.93	158	Pn	Pn	06 29 37.0	+1.3
KUZU	Kuzuini	3.94	57	ePn	Pn	06 29 36.1	+0.3
MZDA	Masada	3.95	148	Pn	Pn	06 29 37.4	+1.5
MZDA				Sn	Sn	06 30 23.6	+1.8
ANDN	Andirin	3.97	43	iPn	Pn	06 29 37.6	+1.3
KZIT	Kziot	3.98	162	Pn	Pn	06 29 37.5	+1.0
AMAG	Maghara	4.06	177	P	Pn	06 29 38.9	+1.3
AYKD	Aykdinkavak	4.13	48	iPn	Pn	06 29 39.3	+0.9
TURN	Turunc	4.14	303	ePn	Pn	06 29 41.8	+3.2
ASF	Jabal al Asfar	4.16	126	Pn	Pn	06 29 40.5	+1.6
ASF				Sn	Sn	06 30 30.2	+3.0
ASF	Jabal al Asfar	4.16	126	Pn	Pn	06 29 40.5	+1.6
	15nm,0.3s,baz=267,slow=4.2,SNR=63						
ASF				Sn	Sn	06 30 30.2	+3.0
	27nm,0.3s,baz=99,slow=20,SNR=5.7						
ASF				LR	LR	06 31 41.1	
	comp=Z,2μm,18.1s,baz=47,slow=43						
ARG	Arkhangelos	4.22	292	P	Pn	06 29 40.0	+0.4
ARG				S	Sn	06 30 28.2	-0.2
ARG	Arkhangelos	4.22	292	P	Pn	06 29 40.0	+0.4
ARG				S	Sn	06 30 28.2	-0.2
ARG	Arkhangelos	4.22	292	eP	Pn	06 29 40.3	+0.7
ARG	Arkhangelos	4.22	292	P	Pn	06 29 40.0	+0.4
ARG				S	Sn	06 30 28.2	-0.2
ARG	Arkhangelos	4.22	292	P	Pn	06 29 40.0	+0.4
ARG				S	Sn	06 30 28.2	-0.2
KIZT	Kizilcal	4.25	349	ePN	Pn	06 29 41.8	+1.6
KIZT	Kizilcal	4.25	349	ePn	Pn	06 29 41.8	+1.6
BOLV	Bolvadin	4.31	339	eP	Pn	06 29 44.5	+3.4
BOLV	Bolvadin	4.31	339	eP	Pn	06 29 44.5	+3.4
DNZL	Cakiroluk	4.34	314	ePn	Pn	06 29 41.5	0.0
RMNI	Mount Ramon	4.38	159	Pn	Pn	06 29 43.4	+1.5
YER	Yerkesik	4.50	304	ePN	Pn	06 29 44.4	+0.9
YER	Yerkesik	4.50	304	ePn	Pn	06 29 44.4	+0.9
KHL	Karahalli	4.54	324	ePN	Pn	06 29 45.4	+1.2
KHL	Karahalli	4.54	324	ePn	Pn	06 29 45.4	+1.2
ZFRI	Zfri	4.55	155	Pn	Pn	06 29 45.3	+1.1
KHAL	Karahalli	4.59	324	ePn	Pn	06 29 45.9	+1.0
SARI	SarD1z-Kayseri	4.63	36	ePN	Pn	06 29 47.1	+1.6
PRNI	Paran	4.68	158	Pn	Pn	06 29 47.0	+1.0
KAMT	Kaman	4.69	7	ePN	Pn	06 29 47.8	+1.5
KAMT	Kaman	4.69	7	ePn	Pn	06 29 47.8	+1.5
AFSR	Af¨ar-Bala (A	4.73	1	ePN	Pn	06 29 49.2	+2.4
AFSR	Af¨ar-Bala (A	4.73	1	ePn	Pn	06 29 49.2	+2.4
BNN	Bunyan	4.74	28	ePN	Pn	06 29 48.6	+1.6
BNN	Bunyan	4.74	28	ePn	Pn	06 29 48.6	+1.6
HHAG	Hagoal	4.80	189	P	Pn	06 29 49.3	+1.6
DAT	Datca	4.81	296	ePN	Pn	06 29 49.0	+1.0
DAT	Datca	4.81	296	ePn	Pn	06 29 49.0	+1.0
KRMI	Paran Flat	4.82	161	Pn	Pn	06 29 49.0	+1.0
KARP	Karpathos	4.82	282	P	Pn	06 29 48.4	+0.4
KARP				S	Sn	06 30 42.6	-0.8
KARP	Karpathos	4.82	282	eP	Pn	06 29 48.5	+0.4
KARP	Karpathos	4.82	282	P	Pn	06 29 48.4	+0.4
KARP				S	Sn	06 30 42.6	-0.8
KARP	Karpathos	4.82	282	P	Pn	06 29 48.4	+0.4
KARP				S	Sn	06 30 42.6	-0.8
PINB	Pinarbasi	4.83	34	ePn	Pn	06 29 49.3	+0.9
HNKL	Nakhl	4.84	169	P	Pn	06 29 49.5	+1.2
KOT	Kottamia	4.86	192	P	Pn	06 29 50.2	+1.6
SVRH	Sivrihisar-ESK	4.87	347	ePN	Pn	06 29 50.2	+1.5
SVRH	Sivrihisar-ESK	4.87	347	ePn	Pn	06 29 50.2	+1.5
HBRG	Burj al 'Arab	4.89	213	P	Pn	06 29 50.8	+1.9
MLSB	Milas	4.93	303	ePN	Pn	06 29 49.9	+0.5
MLSB	Milas	4.93	303	ePn	Pn	06 29 49.9	+0.5
HRFI	Mount Harif	4.98	159	Pn	Pn	06 29 50.9	+0.7
HLW	Helwan	5.03	196	P	Pn	06 29 52.7	+1.9
CDAG	Cicekdag	5.04	13	ePn	Pn	06 29 52.3	+1.3
BR131	Keskin Array S	5.04	6	ePn	Pn	06 29 53.0	+1.9
	88nm,0.9s						
BR131	Keskin Array S	5.04	6	ePn	Pn	06 29 53.0	+1.9
	88nm,0.9s						
BRTR	Keskin Array B	5.04	6	Pn	Pn	06 29 51.8	+0.7
BRTR	Keskin Array B	5.04	6	Pn	Pn	06 29 51.8	+0.7
	3.5nm,0.3s,baz=188,slow=15,SNR=64						
BRTR				LR	LR	06 32 01.1	
	comp=Z,2μm,19.9s,baz=104,slow=41						
BRTR	Keskin Array B	5.04	6	Pn	Pn	06 29 51.8	+0.7
BRTR	Keskin Array B	5.04	6	iP	Pn	06 29 52.9	+1.9
	25nm,0.7s						
SQR		5.04	198	P	Pn	06 29 52.7	+1.7
AYDN	Tasoluk	5.05	307	iPn	Pn	06 29 51.6	+0.5
BDRM	Kayabasi	5.05	299	iP	Pn	06 29 51.4	+0.2
BDRM	Kayabasi	5.05	299	iP	Pn	06 29 51.4	+0.2
ESKT	Eskisehir	5.09	341	ePN	Pn	06 29 53.8	+2.1
ESKT	Eskisehir	5.09	341	ePn	Pn	06 29 53.8	+2.1
KULA	Kula-Manisa	5.13	319	ePN	Pn	06 29 52.7	+0.4
KULA	Kula-Manisa	5.13	319	P	Pn	06 29 52.9	+0.6
KULA				S	Sn	06 30 52.8	+1.7
KULA	Kula-Manisa	5.13	319	P	Pn	06 29 52.9	+0.6
KULA				S	Sn	06 30 52.8	+1.7
KULA	Kula-Manisa	5.13	319	P	Pn	06 29 52.9	+0.6
KULA				S	Sn	06 30 52.8	+1.7
BODT	Bodrum	5.15	299	ePN	Pn	06 29 53.1	+0.7
BODT	Bodrum	5.15	299

LAST				S	Sn	06 31 16.2	-0.2
LAST	**Lasithi**	**6.16**	**276**	*e*P	**Pn**	**06 30 07.2**	**+0.8**
LAST	**Lasithi**	**6.16**	**276**	P	**Pn**	**06 30 07.0**	**+0.6**
LAST				S	Sn	06 31 16.2	-0.2
LAST	**Lasithi**	**6.16**	**276**	P	**Pn**	**06 30 07.0**	**+0.6**
LAST				S	Sn	06 31 16.2	-0.2
HKAT	**Jabal Katrina**	**6.23**	**172**	P	**Pn**	**06 30 08.4**	**+0.9**
ADVT	**Abdulvahap**	**6.26**	**337**	*e*PN	**Pn**	**06 30 09.8**	**+2.1**
ADVT	**Abdulvahap**	**6.26**	**337**	*e*Pn	**Pn**	**06 30 09.8**	**+2.1**
TOKT	**Tokat**	**6.29**	**26**	*e*PN	**Pn**	**06 30 10.3**	**+2.2**
TOKT	**Tokat**	**6.29**	**26**	*e*Pn	**Pn**	**06 30 10.3**	**+2.2**
SVRC	**Sivrice-ELAZID**	**6.29**	**53**	*e*PN	**Pn**	**06 30 10.2**	**+1.9**
SVRC	**Sivrice-ELAZID**	**6.29**	**53**	*e*Pn	**Pn**	**06 30 10.2**	**+1.9**
SANT	**Santorini**	**6.33**	**287**	P	**Pn**	**06 30 10.3**	**+1.6**
SANT	**Santorini**	**6.33**	**287**	*e*P	**Pn**	**06 30 10.3**	**+1.8**
SANT	**Santorini**	**6.33**	**287**	P	**Pn**	**06 30 10.3**	**+1.6**
SANT	**Santorini**	**6.33**	**287**	P	**Pn**	**06 30 10.3**	**+1.6**
THR1	**Thera Island**	**6.33**	**287**	P	**Pn**	**06 30 10.0**	**+1.3**
THR1	**Thera Island**	**6.33**	**287**	P	**Pn**	**06 30 10.0**	**+1.3**
TR2		**6.34**	**174**	P	**Pn**	**06 30 09.4**	**+0.6**
BALB	**Balikesir**	**6.37**	**322**	*e*PN	**Pn**	**06 30 10.8**	**+1.6**
BALB	**Balikesir**	**6.37**	**322**	*e*Pn	**Pn**	**06 30 10.8**	**+1.6**
THR3	**Thira Island,**	**6.38**	**288**	P	**Pn**	**06 30 09.3**	**-0.1**
THR3	**Thira Island,**	**6.38**	**288**	P	**Pn**	**06 30 09.3**	**-0.1**
THR3	**Thira Island,**	**6.38**	**288**	P	**Pn**	**06 30 09.3**	**-0.1**
APE	**Apeiranthos**	**6.47**	**293**	*e*PN	**Pn**	**06 30 11.2**	**+0.6**
APE	**Apeiranthos**	**6.47**	**293**	P	**Pn**	**06 30 11.5**	**+0.9**
APE				S	**Sn**	**06 31 22.0**	**-2.0**
APE	**Apeiranthos**	**6.47**	**293**	P	**Pn**	**06 30 11.5**	**+0.9**
APE				S	**Sn**	**06 31 22.0**	**-2.0**
APE	**Apeiranthos**	**6.47**	**293**	*e*P	**Pn**	**06 30 11.8**	**+1.2**
APE	**Apeiranthos**	**6.47**	**293**	⇑*i*P	**Pn**	**06 30 08.2**	**-2.4**
APE	**Apeiranthos**	**6.47**	**293**	P	**Pn**	**06 30 11.5**	**+0.9**
APE				S	**Sn**	**06 31 22.0**	**-2.0**
APE	**Apeiranthos**	**6.47**	**293**	*e*Pn	**Pn**	**06 30 11.2**	**+0.6**
APE	**Apeiranthos**	**6.47**	**293**	P	**Pn**	**06 30 11.5**	**+0.9**
APE				S	**Sn**	**06 31 22.0**	**-2.0**
ILIC	**ilic-Erzincan**	**6.52**	**42**	*e*PN	**Pn**	**06 30 13.2**	**+1.7**
ILIC	**ilic-Erzincan**	**6.52**	**42**	*e*Pn	**Pn**	**06 30 13.2**	**+1.7**
PTK	**Pertek**	**6.64**	**49**	*e*PN	**Pn**	**06 30 15.8**	**+2.6**
PTK	**Pertek**	**6.64**	**49**	*e*Pn	**Pn**	**06 30 15.8**	**+2.6**
IDI	**Anoyia**	**6.64**	**277**	P	**Pn**	**06 30 14.0**	**+1.0**
IDI				S	**Sn**	**06 31 26.2**	**-2.1**
IDI	**Anoyia**	**6.64**	**277**	*e*P	**Pn**	**06 30 13.5**	**+0.5**
IDI	**Anoyia**	**6.64**	**277**	*e*Pn	**Pn**	**06 30 13.6**	**+0.5**
IDI				S	**Sn**	**06 31 26.2**	**-2.1**
IDI				*e*Sn	Sb	06 31 26.7	-24
IDI	**Anoyia**	**6.64**	**277**	*e*Pn	**Pn**	**06 30 13.6**	**+0.5**
IDI	**Anoyia**	**6.64**	**277**	P	**Pn**	**06 30 14.0**	**+1.0**
IDI				S	**Sn**	**06 31 26.2**	**-2.1**
CHOS	**Chios island**	**6.65**	**305**	P	**Pn**	**06 30 14.3**	**+1.1**
CHOS				S	**Sn**	**06 31 27.6**	**-1.0**
CHOS	**Chios island**	**6.65**	**305**	*e*P	**Pn**	**06 30 14.3**	**+1.1**
CHOS	**Chios island**	**6.65**	**305**	P	**Pn**	**06 30 14.3**	**+1.1**
CHOS				S	**Sn**	**06 31 27.6**	**-1.0**
CHOS	**Chios island**	**6.65**	**305**	P	**Pn**	**06 30 14.3**	**+1.1**
CHOS				S	**Sn**	**06 31 27.6**	**-1.0**
MAZI	**Mazidag**	**6.66**	**64**	*e*PN	**Pn**	**06 30 14.0**	**+0.6**
MAZI	**Mazidag**	**6.66**	**64**	*e*Pn	**Pn**	**06 30 14.0**	**+0.6**
ARMT	**Armutlu**	**6.69**	**332**	*e*PN	**Pn**	**06 30 15.0**	**+1.4**
ARMT	**Armutlu**	**6.69**	**332**	*e*Pn	**Pn**	**06 30 15.0**	**+1.4**
SIVA	**Sivas**	**6.70**	**275**	P	**Pn**	**06 30 14.9**	**+1.1**
SIVA				S	**Sn**	**06 31 28.8**	**-0.9**
SIVA	**Sivas**	**6.70**	**275**	*e*P	**Pn**	**06 30 16.1**	**+2.3**
SIVA	**Sivas**	**6.70**	**275**	P	**Pn**	**06 30 14.9**	**+1.1**
SIVA				S	**Sn**	**06 31 28.8**	**-0.9**
SIVA	**Sivas**	**6.70**	**275**	P	**Pn**	**06 30 14.9**	**+1.1**
SIVA				S	**Sn**	**06 31 28.8**	**-0.9**
TR1		**6.74**	**172**	P	**Pn**	**06 30 15.3**	**+1.0**
GONE	**Gonen-Balikesi**	**6.78**	**323**	*e*PN	**Pn**	**06 30 15.9**	**+1.1**
GONE	**Gonen-Balikesi**	**6.78**	**323**	*e*Pn	**Pn**	**06 30 15.9**	**+1.1**
SHRM		**6.87**	**171**	P	**Pn**	**06 30 17.0**	**+0.9**
EZC	**Erzincan**	**7.17**	**44**	*e*Pn	Pn	06 30 24.3	+4.0
SLUM		**7.24**	**246**	P	**Pn**	**06 30 21.8**	**+0.6**
ERZN	**Erzincan**	**7.27**	**46**	*e*PN	**Pn**	**06 30 24.3**	**+2.6**
ASUT		**7.39**	**190**	P	**Pn**	**06 30 24.4**	**+1.2**
LPK	**Lapseki**	**7.49**	**321**	*e*PN	**Pn**	**06 30 25.9**	**+1.3**
LPK	**Lapseki**	**7.49**	**321**	*e*Pn	**Pn**	**06 30 25.9**	**+1.3**
GELI	**Tayfur-Gelibol**	**7.66**	**320**	*e*PN	**Pn**	**06 30 27.6**	**+0.7**
GELI	**Tayfur-Gelibol**	**7.66**	**320**	*e*Pn	**Pn**	**06 30 27.6**	**+0.7**
ANKY	**Antikythira Is**	**7.98**	**281**	P	**Pn**	**06 30 30.8**	**-0.5**
ANKY				S	**Sn**	**06 31 57.7**	**-3.4**
ANKY	**Antikythira Is**	**7.98**	**281**	*e*P	**Pn**	**06 30 30.8**	**-0.5**
ANKY	**Antikythira Is**	**7.98**	**281**	P	**Pn**	**06 30 30.8**	**-0.5**
ANKY				S	**Sn**	**06 31 57.7**	**-3.4**
ANKY	**Antikythira Is**	**7.98**	**281**	P	**Pn**	**06 30 30.8**	**-0.5**
ANKY				S	**Sn**	**06 31 57.7**	**-3.4**
LTBQ	**Tobruq**	**8.00**	**253**	*i* P	**Pn**	**06 30 32.7**	**+1.0**
	SNR=22						
SMTH	**Samothraki Isl**	**8.23**	**316**	P	**Pn**	**06 30 36.0**	**+1.2**
SMTH	**Samothraki Isl**	**8.23**	**316**	P	**Pn**	**06 30 36.0**	**+1.2**
SMTH	**Samothraki Isl**	**8.23**	**316**	P	**Pn**	**06 30 36.0**	**+1.2**
KYTH	**Kithira**	**8.24**	**284**	P	**Pn**	**06 30 33.8**	**-1.1**
KYTH	**Kithira**	**8.24**	**284**	*e*P	**Pn**	**06 30 33.9**	**-1.0**
KYTH	**Kithira**	**8.24**	**284**	P	**Pn**	**06 30 33.8**	**-1.1**
KYTH	**Kithira**	**8.24**	**284**	P	**Pn**	**06 30 33.8**	**-1.1**
DID	**Didima**	**8.34**	**292**	P	**Pn**	**06 30 37.3**	**+0.9**
DID				S	**Sn**	**06 32 13.4**	**+3.3**
DID	**Didima**	**8.34**	**292**	*e*P	**Pn**	**06 30 37.2**	**+0.9**
DID	**Didima**	**8.34**	**292**	P	**Pn**	**06 30 37.3**	**+0.9**
DID				S	**Sn**	**06 32 13.4**	**+3.3**
DID	**Didima**	**8.34**	**292**	P	**Pn**	**06 30 37.3**	**+0.9**
DIDY	**Didyma**	**8.35**	**292**	P	**Pn**	**06 30 36.2**	**-0.4**
DIDY				S	**Sn**	**06 32 10.4**	**-0.1**
DIDY	**Didyma**	**8.35**	**292**	P	**Pn**	**06 30 36.2**	**-0.4**
DIDY				S	**Sn**	**06 32 10.4**	**-0.1**
SWA2		**8.38**	**231**	P	**Pn**	**06 30 37.2**	**+0.4**
VLI	**Veliai**	**8.39**	**287**	P	**Pn**	**06 30 36.5**	**-0.4**
VLI				S	**Sn**	**06 32 07.7**	**-3.5**
VLI	**Veliai**	**8.39**	**287**	*e*P	**Pn**	**06 30 36.6**	**-0.4**
VLI	**Veliai**	**8.39**	**287**	P	**Pn**	**06 30 36.5**	**-0.4**
VLI	**Veliai**	**8.39**	**287**	P	**Pn**	**06 30 36.5**	**-0.4**
EDRB	**Edirne**	**8.63**	**327**	*e*PN	**Pn**	**06 30 41.9**	**+1.6**
EDRB	**Edirne**	**8.63**	**327**	*e*Pn	**Pn**	**06 30 41.9**	**+1.6**
LTK	**Loutraki**	**8.71**	**295**	P	**Pn**	**06 30 44.4**	**+3.1**
LTK	**Loutraki**	**8.71**	**295**	P	**Pn**	**06 30 44.4**	**+3.1**
LTK	**Loutraki**	**8.71**	**295**	P	**Pn**	**06 30 44.4**	**+3.1**
DYR	**Agios Nikonas**	**8.87**	**286**	P	**Pn**	**06 30 43.6**	**0.0**
DYR				S	**Sn**	**06 32 22.4**	**-0.8**
DYR	**Agios Nikonas**	**8.87**	**286**	*e*P	**Pn**	**06 30 43.8**	**+0.2**
DYR	**Agios Nikonas**	**8.87**	**286**	P	**Pn**	**06 30 43.6**	**0.0**
DYR				S	**Sn**	**06 32 22.4**	**-0.8**
CUKT	**Cukurca**	**9.00**	**71**	*e*PN	**Pn**	**06 30 46.6**	**+1.2**
CUKT	**Cukurca**	**9.00**	**71**	*e*Pn	**Pn**	**06 30 46.6**	**+1.1**
GUR	**Goura**	**9.15**	**294**	P	**Pn**	**06 30 48.3**	**+0.9**
GUR				S	**Sn**	**06 32 29.4**	**-0.6**
GUR	**Goura**	**9.15**	**294**	*e*P	**Pn**	**06 30 48.4**	**+1.0**
GUR	**Goura**	**9.15**	**294**	P	**Pn**	**06 30 48.3**	**+0.9**
GUR				S	**Sn**	**06 32 29.4**	**-0.6**
GUR	**Goura**	**9.15**	**294**	P	**Pn**	**06 30 48.3**	**+0.9**
GUR				S	**Sn**	**06 32 29.4**	**-0.6**
ITM	**Ithomi**	**9.27**	**289**	P	**Pn**	**06 30 49.7**	**+0.6**
ITM				S	**Sn**	**06 32 29.2**	**-3.8**
ITM	**Ithomi**	**9.27**	**289**	P	**Pn**	**06 30 49.7**	**+0.6**
ITM				S	**Sn**	**06 32 29.2**	**-3.8**
ITM	**Ithomi**	**9.27**	**289**	P	**Pn**	**06 30 49.7**	**+0.6**
KLV	**Kalavryta, Ach**	**9.32**	**294**	P	**Pn**	**06 30 51.4**	**+1.6**
KLV				S	**Sn**	**06 32 34.4**	**+0.1**
KLV	**Kalavryta, Ach**	**9.32**	**294**	*e*P	**Pn**	**06 30 51.7**	**+1.9**
KLV	**Kalavryta, Ach**	**9.32**	**294**	P	**Pn**	**06 30 51.4**	**+1.6**
KLV				S	**Sn**	**06 32 34.4**	**+0.1**
KLV	**Kalavryta, Ach**	**9.32**	**294**	P	**Pn**	**06 30 51.4**	**+1.6**
KLV				S	**Sn**	**06 32 34.4**	**+0.1**
PYL	**PYLOS**	**9.36**	**287**	P	**Pn**	**06 30 49.4**	**-0.9**
PYL				S	**Sn**	**06 32 30.4**	**-4.8**
PYL	**PYLOS**	**9.36**	**287**	P	**Pn**	**06 30 49.4**	**-0.9**
PYL				S	**Sn**	**06 32 30.4**	**-4.8**
PYL	**PYLOS**	**9.36**	**287**	P	**Pn**	**06 30 49.4**	**-0.9**
BHD	**Baghdad**	**9.60**	**95**	*e*P	**Pn**	**06 30 53.0**	**-0.5**
BHD				*e*S	**Sn**	**06 32 42.0**	**+1.1**
BHD	**Baghdad**	**9.60**	**95**	*e*P	**Pn**	**06 30 53.0**	**-0.5**
BHD				*e*S	**Sn**	**06 32 42.0**	**+1.1**
MAKR	**Makrakomi, Fth**	**9.67**	**300**	P	**Pn**	**06 30 56.4**	**+1.8**
MAKR	**Makrakomi, Fth**	**9.67**	**300**	P	**Pn**	**06 30 56.4**	**+1.8**
MAKR	**Makrakomi, Fth**	**9.67**	**300**	P	**Pn**	**06 30 56.4**	**+1.8**
AXS	**Araxos**	**9.95**	**294**	P	**Pn**	**06 30 58.5**	**+0.1**
AXS	**Araxos**	**9.95**	**294**	P	**Pn**	**06 30 58.5**	**+0.1**
SIM	**Simferopol'**	**10.27**	**5**	P	Pn	06 31 09.0	+6.4
SIM				pmax	pmax		
	comp=Z,37nm,1.4s						
SIM				MLR	MLR		
	comp=Z,540nm,17.2s						
SOC	**Sochi**	**10.30**	**29**	*e*P	**Pn**	**06 31 02.2**	**-0.9**
SOC				*e*		06 33 00.0	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,718nm,13.0s						
SOC	**Sochi**	**10.30**	**29**	*e*P	**Pn**	**06 31 02.2**	**-0.9**
	comp=Z,9.0nm,0.8s						
SOC				*e*S	**Sn**	**06 33 00.0**	**+2.0**
	comp=Z,718nm,13.0s						
TIRR	**Tirgusor**	**10.35**	**342**	*e*P	**Pn**	**06 31 04.5**	**+0.8**
TIRR	**Tirgusor**	**10.35**	**342**	⇑*i*P	Pn	06 31 06.9	+3.2
TIRR	**Tirgusor**	**10.35**	**342**	*e*Pn	**Pn**	**06 31 04.5**	**+0.8**
TIRR	**Tirgusor**	**10.35**	**342**	*e*P	**Pn**	**06 31 04.5**	**+0.8**
KFL	**Anninata**	**10.37**	**293**	P	**Pn**	**06 31 05.5**	**+1.3**
KFL				S	**Sn**	**06 32 56.5**	**-3.4**
KFL	**Anninata**	**10.37**	**293**	P	**Pn**	**06 31 05.5**	**+1.3**
VLS	**Valsamata**	**10.54**	**293**	P	**Pn**	**06 31 06.3**	**-0.2**
VLS				S	**Sn**	**06 33 00.2**	**-3.9**
VLS	**Valsamata**	**10.54**	**293**	P	**Pn**	**06 31 06.3**	**-0.2**
VLS	**Valsamata**	**10.54**	**293**	P	**Pn**	**06 31 06.3**	**-0.2**
VLS	**Valsamata**	**10.54**	**293**	P	**Pn**	**06 31 06.3**	**-0.2**
TLB	**Topalu**	**10.56**	**341**	⇑P	**Pn**	**06 31 09.5**	**+2.8**
TLB	**Topalu**	**10.56**	**341**	⇑*i*P	**Pn**	**06 31 09.4**	**+2.8**
TLB	**Topalu**	**10.56**	**341**	P	**Pn**	**06 31 09.5**	**+2.8**
ANN	**Anapa**	**10.65**	**18**	*e*P	**Pn**	**06 31 09.9**	**+2.0**
ANN				*e*S	**Sn**	**06 33 12.1**	**+5.5**
ANN				pmax	pmax		
	comp=Z,45nm,1.4s						
ANN	**Anapa**	**10.65**	**18**	*e*P	**Pn**	**06 31 09.9**	**+2.0**
	comp=Z,45nm,1.4s						
AKH	**Akhalkalaki**	**10.66**	**48**	P	Pn	06 31 20.1	+12
LKD2	**Lefkada island**	**10.67**	**296**	P	**Pn**	**06 31 09.6**	**+1.4**
LKD2				S	**Sn**	**06 33 06.0**	**-1.3**
LKD2	**Lefkada island**	**10.67**	**296**	P	**Pn**	**06 31 09.6**	**+1.4**
LKD2	**Lefkada island**	**10.67**	**296**	P	**Pn**	**06 31 09.6**	**+1.4**
LKD2				S	**Sn**	**06 33 06.0**	**-1.3**
IBDR	**Badra**	**10.90**	**95**	*e*P	Pn	06 31 02.0	-9.4
IBDR				*i* S	Sn	06 32 59.0	-14
NAX	**Nakhchivan**	**10.98**	**62**	P	Pn	06 31 22.2	+10
	SNR=5.5						
CFR	**Carcaliu**	**11.09**	**342**	⇓P	**Pn**	**06 31 16.1**	**+2.2**
CFR	**Carcaliu**	**11.09**	**342**	⇓*i*P	**Pn**	**06 31 16.1**	**+2.2**
CFR	**Carcaliu**	**11.09**	**342**	P	**Pn**	**06 31 16.1**	**+2.2**
KZR	**Kazreti**	**11.22**	**50**	P	Pn	06 31 27.3	+11
KEK	**Kerkira**	**11.61**	**299**	P	**Pn**	**06 31 20.5**	**-0.6**
KEK				S	**Sn**	**06 33 26.9**	**-3.4**
KEK	**Kerkira**	**11.61**	**299**	P	**Pn**	**06 31 20.5**	**-0.6**
KEK				S	**Sn**	**06 33 26.9**	**-3.4**
KEK	**Kerkira**	**11.61**	**299**	P	**Pn**	**06 31 20.5**	**-0.6**
TBLG	**Delisi**	**11.62**	**49**	*e*P	Pn	06 31 26.3	+5.2
TBLG	**Delisi**	**11.62**	**49**	P	Pn	06 31 26.3	+5.2
ZEI	**Tsey**	**11.74**	**43**	*e*P	Pn	06 31 28.0	+4.9
ZEI				pmax	pmax		
	comp=Z,25nm,1.1s						
DUS	**Dusheti**	**11.79**	**48**	P	Pn	06 31 27.3	+3.6
DUS	**Dusheti**	**11.79**	**48**	P	Pn	06 31 27.3	+3.7
KBZ	**Khabaz**	**11.85**	**38**	P	**Pn**	**06 31 26.9**	**+2.6**
KBZ				MLR	MLR		
	comp=Z,417nm,21.4s						
KBZ	**Khabaz**	**11.85**	**38**	Pn	**Pn**	**06 31 26.9**	**+2.6**
KBZ	**Khabaz**	**11.85**	**38**	Pn	**Pn**	**06 31 26.9**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=231,slow=8.4,SNR=7.8						
KBZ				LR	LR	06 36 34.2	
	comp=Z,417nm,21.4s,baz=101,slow=40						
KBZ	**Khabaz**	**11.85**	**38**	P	**Pn**	**06 31 26.9**	**+2.6**
	comp=Z,417nm,21.4s						
BARS	**Barje**	**11.87**	**316**	*e*Pn	**Pn**	**06 31 26.0**	**+1.4**
DGRG	**David-gareji**	**11.87**	**52**	P	Pn	06 31 37.9	+13
KIV	**Kislovodsk**	**11.91**	**36**	*e*P	**Pn**	**06 31 22.8**	**-2.4**
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
KIV				MLR	MLR		
	comp=Z,122nm,10.0s						
MLR	**Muntele Rosu**	**12.03**	**336**	⇑*i*P	**Pn**	**06 31 29.1**	**+2.3**
MLR	**Muntele Rosu**	**12.03**	**336**	Pn	**Pn**	**06 31 27.8**	**+1.0**
MLR	**Muntele Rosu**	**12.03**	**336**	Pn	**Pn**	**06 31 27.8**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=261,slow=8.7,SNR=3.6						
MLR				LR	LR	06 37 00.4	
	comp=Z,230nm,19.5s,baz=327,slow=42						
MLR	**Muntele Rosu**	**12.03**	**336**	P	**Pn**	**06 31 27.8**	**+1.0**
	comp=Z,230nm,19.5s						
PLOR	**Plostina**	**12.12**	**339**	⇑P	Pn	06 31 33.9	+5.9
PLOR	**Plostina**	**12.12**	**339**	⇑*i*P	Pn	06 31 33.8	+5.8
GANJ	**Ganja**	**12.13**	**57**	P	**P**	**06 31 38.9**	**-2.0**
	SNR=3.5						
VOIR		**12.30**	**333**	⇑P	Pn	06 31 36.4	+5.9
VOIR		**12.30**	**333**	⇑*i*P	Pn	06 31 36.4	+5.9
KIS	**Kishinev**	**12.67**	**347**	*e*P	Pn	06 31 39.0	+3.6
KIS				LRM	MLR	06 37 04.0	
	comp=Z,600nm,16.0s						
KIS	**Kishinev**	**12.67**	**347**	*e*P	Pn	06 31 39.0	+3.6
KIS				MLR	MLR		
	comp=Z,500nm,15.0s						
KIS				MLR	MLR		
	comp=Z,600nm,16.0s						
KIS	**Kishinev**	**12.67**	**347**	*e*P	Pn	06 31 39.0	+3.6
	comp=Z,600nm,16.0s						
SEKA	**Sheki**	**12.97**	**56**	P	**P**	**06 31 50.3**	**+0.1**
	SNR=4.2						
GRUS	**Gruza**	**13.17**	**318**	*e*Pn	**Pn**	**06 31 40.9**	**-1.5**
GZR	**Gura Zlata**	**13.20**	**327**	⇑P	**Pn**	**06 31 45.3**	**+2.5**
GZR	**Gura Zlata**	**13.20**	**327**	⇑*i*P	**Pn**	**06 31 45.3**	**+2.5**
GZR	**Gura Zlata**	**13.20**	**327**	P	**Pn**	**06 31 45.3**	**+2.5**
LKRN	**Lenkeran, Azer**	**13.31**	**68**	P	**P**	**06 31 51.8**	**-2.1**
	SNR=4.9						
BBLS	**Lazići**	**13.90**	**315**	*e*Pn	**Pn**	**06 31 53.8**	**+1.4**
IRAZ	**Razeghan**	**13.93**	**82**	*e*P	**P**	**06 32 01.1**	**+0.1**
IRAZ	**Razeghan**	**13.93**	**82**	*e*P	**P**	**06 32 01.1**	**+0.1**
MAK	**Makhachkala**	**14.01**	**50**	*e*P	**P**	**06 32 04.3**	**+2.7**
MAK				MLR	MLR		
	comp=Z,806nm,18.0s						
MAK	**Makhachkala**	**14.01**	**50**	*e*P	**P**	**06 32 04.3**	**+2.7**
	comp=Z,806nm,18.0s						
BURAR	**Bucovina Array**	**14.14**	**338**	⇑P	**P**	**06 32 02.6**	**-0.6**
BURAR	**Bucovina Array**	**14.14**	**338**	⇑*i*P	**P**	**06 32 02.6**	**-0.6**
BURAR	**Bucovina Array**	**14.14**	**338**	⇑*i*P	**P**	**06 32 02.6**	**-0.6**
CEL	**Celeste**	**14.17**	**289**	*e*Pn	**Pn**	**06 31 56.4**	**+0.3**
CEL	**Celeste**	**14.17**	**289**	*e*Pn	**Pn**	**06 31 56.4**	**+0.3**
CUC	**Castrocucco**	**14.61**	**296**	*e*Pn	**Pn**	**06 31 59.3**	**-2.8**
IPIR	**Pirpir**	**15.07**	**93**	*e*P	**Pn**	**06 32 11.0**	**+2.4**
IKLH	**Kolahrood**	**15.51**	**90**	*e*P	**Pn**	**06 32 15.1**	**+0.7**
PKSM	**Moragy**	**15.80**	**321**	⇑P	**P**	**06 32 21.3**	**-0.2**
PKSM	**Moragy**	**15.80**	**321**	⇑*i*P	**P**	**06 32 21.3**	**-0.2**
PKSM	**Moragy**	**15.80**	**321**	⇓*e*	**P**	**06 32 20.9**	**-0.6**
PKSM	**Moragy**	**15.80**	**321**	P	**P**	**06 32 21.3**	**-0.2**
UZH	**Uzhgorod**	**16.00**	**334**	*e*P	**P**	**06 32 22.1**	**-1.7**
UZH				*e*S	**Sn**	**06 35 18.1**	**+0.8**
UZH				MLR	MLR		
	comp=N,200nm,13.0s						
UZH				MLR	MLR		
	comp=E,200nm,13.0s						
UZH	**Uzhgorod**	**16.00**	**334**	*e*P	**P**	**06 32 22.1**	**-1.7**
KIEV	**Kiev**	**16.21**	**351**	*e*P	**Pn**	**06 32 23.6**	**+0.7**
KIEV				pmax	pmax		
	comp=Z,46nm,0.8s						
KIEV	**Kiev**	**16.21**	**351**	*e*Pn	**Pn**	**06 32 23.6**	**+0.7**
	comp=Z,46nm,0.8s						
KIEV	**Kiev**	**16.21**	**351**	*e*Pn	**Pn**	**06 32 23.6**	**+0.7**
	comp=Z,46nm,0.8s						
IZEF	**Zefreh**	**16.21**	**91**	*e*P	**P**	**06 32 25.8**	**-0.7**
IZEF	**Zefreh**	**16.21**	**91**	*e*P	**P**	**06 32 25.8**	**-0.7**
AKASG	**Malin Array Be**	**16.21**	**351**	P	**Pn**	**06 32 23.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKASG	**Malin Array Be**	**16.21**	**351**	Pn	**Pn**	**06 32 23.1**	**+0.1**
AKASG	**Malin Array Be**	**16.21**	**351**	Pn	**Pn**	**06 32 23.1**	**+0.1**
	comp=Z,5.4nm,0.3s,baz=171,slow=10,SNR=57						
AKASG	**Malin Array Be**	**16.21**	**351**	Pn	**Pn**	**06 32 23.1**	**+0.1**
KOLS	**Kolonicke sedl**	**16.27**	**334**	*e*P	**P**	**06 32 26.7**	**0.0**
KOLS				pmax	pmax		
	comp=Z,17nm,1.2s						
KOLS	**Kolonicke sedl**	**16.27**	**334**	*e*P	**P**	**06 32 26.7**	**0.0**
KOLS	**Kolonicke sedl**	**16.27**	**334**	*e*P	**P**	**06 32 26.7**	**0.0**
	comp=Z,17nm,1.2s						
PSZ	**Piszkesteto**	**16.41**	**327**	*e*P	**Pn**	**06 32 25.8**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,21nm,0.9s						
PSZ	**Piszkesteto**	**16.41**	**327**	⇓*i*P	**P**	**06 32 28.4**	**0.0**
PSZ	**Piszkesteto**	**16.41**	**327**	*e*Pn	**Pn**	**06 32 25.8**	**+0.1**
	comp=Z,21nm,0.9s						
PSZ	**Piszkesteto**	**16.41**	**327**	⇑*e*SKKPdf	**Pn**	**06 32 27.7**	**+2.0**
PSZ	**Piszkesteto**	**16.41**	**327**	*e*Pn	**Pn**	**06 32 25.8**	**+0.1**
	comp=Z,21nm,0.9s						
PSZ	**Piszkesteto**	**16.41**	**327**	⇑*e*P	**Pn**	**06 32 27.7**	**+2.0**
UDBI	**Udbina**	**16.45**	**312**	P	**P**	**06 32 29.1**	**+0.3**
UDBI	**Udbina**	**16.45**	**312**	P	**P**	**06 32 29.1**	**+0.3**
UDBI	**Udbina**	**16.45**	**312**	P	**P**	**06 32 29.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**16.54**	**332**	*e*P	**Pn**	**06 32 27.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**16.54**	**332**	*e*P	**Pn**	**06 32 27.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**16.54**	**332**	*e*P	**Pn**	**06 32 27.6**	**+0.4**
KECS	**Kecovo**	**16.59**	**330**	*e*P	**P**	**06 32 30.6**	**+0.3**
KECS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KECS	**Kecovo**	**16.59**	**330**	*e*P	**P**	**06 32 30.6**	**+0.3**
KECS	**Kecovo**	**16.59**	**330**	*e*P	**P**	**06 32 30.6**	**+0.3**
	comp=Z,5.0nm,1.1s						
KWP	**Kalwaria Pacla**	**16.71**	**336**	*e*P	**P**	**06 32 31.3**	**-0.3**
KWP				pmax	pmax		
	comp=Z,72nm,1.2s						
KWP	**Kalwaria Pacla**	**16.71**	**336**	*e*Pn	**P**	**06 32 31.2**	**-0.3**
	comp=Z,72nm,1.2s						
KWP	**Kalwaria Pacla**	**16.71**	**336**	*e*P	**P**	**06 32 32.9**	**+1.3**
KWP	**Kalwaria Pacla**	**16.71**	**336**	*e*P	**P**	**06 32 31.3**	**-0.3**
	comp=Z,72nm,1.2s						
VORD	**Divnogorie**	**16.89**	**14**	*e*P	**P**	**06 32 33.2**	**-0.3**
VORD				pmax	pmax		
	comp=Z,20nm,1.1s						
VORD				pmax	pmax		
	comp=N,50nm,1.3s						
VORD				pmax	pmax		
	comp=E,30nm,0.6s						
VORD	**Divnogorie**	**16.89**	**14**	*e*P	**P**	**06 32 33.2**	**-0.3**
	comp=E,50nm,1.3s						
STHS	**Stebnicka Huta**	**17.04**	**333**	*e*P	P	06 32 42.5	+7.2
STHS	**Stebnicka Huta**	**17.04**	**333**	*e*P	P	06 32 42.5	+7.2

UPC Upice 20.04 327 *eP* **P 06 33 06.7 -1.5**
GEC2 GERESS Array S 20.06 321 *eP* **P 06 33 08.3 -0.3**
GEC2 GERESS Array S 20.06 321 *eP* **P 06 33 08.2 -0.3**
GEC2 GERESS Array S 20.06 321 *eP* **P 06 33 08.3 -0.3**
GERES GERESS Array B 20.06 321 P **P 06 33 08.2 -0.3**
GERES GERESS Array B 20.06 321 P **P 06 33 08.2 -0.3**
comp=Z,11nm,0.8s,baz=124,slow=10,SNR=45
GERES LR LR 06 42 18.8
comp=Z,190nm,18.3s,baz=118,slow=41
GERES GERESS Array B 20.06 321 P **P 06 33 08.2 -0.3**
comp=Z,190nm,18.3s
KSP Ksiaz 20.16 328⇑ *eP* **P 06 33 08.6 -0.9**
KSP Ksiaz 20.16 328 *eP* **P 06 33 08.9 -0.6**
KSP Ksiaz 20.16 328 *eP* **P 06 33 08.6 -0.9**
PGF Pioggiola 20.24 300 *eP* **P 06 33 10.1 -0.5**
comp=Z,91nm,1.1s
PGF Pioggiola 20.24 300 *eP* **P 06 33 10.1 -0.5**
PGF Pioggiola 20.24 300 *eP* **P 06 33 10.1 -0.5**
PGF Pioggiola 20.24 300 *eP* **P 06 33 10.1 -0.5**
comp=Z,46nm,1.1s
KHC Kasperske Hory 20.30 321⇑ *iP* **P 06 33 09.9 -1.1**
KHC *e* 06 33 19.9
KHC *e* 06 33 31.5
KHC MLR MLR
comp=Z,300nm,18.5s
KHC Kasperske Hory 20.30 321⇑ *iP* **P 06 33 09.9 -1.1**
KHC *e*pP Pn 06 33 13.4 +0.3
KHC *e*sP **sP 06 33 19.9 +1.5**
KHC *e*x x 06 33 31.5
KHC AMS AMS 06 43 30.0
comp=Z,300nm,18.5s
KHC Kasperske Hory 20.30 321 *eP* **P 06 33 10.0 -1.1**
comp=Z,18nm,0.6s
KHC Kasperske Hory 20.30 321 *eP* **P 06 33 10.0 -1.1**
comp=Z,18nm,0.6s
WTTA Wattenberg 20.32 315⇓ *iP* **P 06 33 11.3 -0.2**
comp=Z,19nm,0.8s,SNR=8.7
WTTA Wattenberg 20.32 315 P **P 06 33 11.3 -0.2**
comp=Z,19nm,0.8s,SNR=8.7
PRU Pruhonice 20.37 324 *eP* **P 06 33 10.0 -1.8**
PRU MLR MLR
comp=Z,200nm,13.2s
PRU Pruhonice 20.37 324⇑ *eP* **P 06 33 10.0 -1.8**
PRU *e*pP **pP 06 33 17.3 +0.5**
PRU AMS AMS 06 43 30.0
comp=Z,200nm,13.2s
PRU Pruhonice 20.37 324 *eP* **P 06 33 10.0 -1.8**
comp=Z,200nm,13.2s
ISFR Sfrayin 20.42 76 *eP* **P 06 33 13.3 +0.6**
ISFR Sfrayin 20.42 76 *eP* **P 06 33 13.3 +0.6**
SUW Suwalki 20.49 343 *eP* **P 06 33 12.7 -0.3**
SUW Suwalki 20.49 343 *eP* **P 06 33 12.7 -0.3**
SUW Suwalki 20.49 343 *eP* **P 06 33 12.7 -0.3**
OBN Obninsk 20.56 6⇓ *eP* **P 06 33 12.8 -0.9**
OBN 06 33 33.0
OBN S **S 06 37 04.0 +1.2**
OBN 06 37 23.0
OBN pmax pmax
comp=Z,83nm,1.6s
OBN MLR MLR
comp=Z,400nm,20.0s
OBN Obninsk 20.56 6 *eP* **P 06 33 12.8 -0.9**
comp=Z,83nm,1.6s
OBN S **S 06 37 04.0 +1.2**
comp=Z,400nm,20.0s
OBN Obninsk 20.56 6 PcP **PcP 06 37 23.0 -1.3**
NACGM Naroch 20.64 350 *e* **P 06 33 11.0 -3.7**
MOTA Moosalm 20.68 314⇑ *iP* **P 06 33 14.5 -0.8**
comp=Z,29nm,0.9s,SNR=10
MOTA Moosalm 20.68 314 P **P 06 33 14.5 -0.8**
comp=Z,29nm,0.9s,SNR=10
PVCC Panska Ves 20.72 325 *eP* **P 06 33 14.6 -0.9**
PVCC MLR MLR
comp=Z,400nm,15.4s
PVCC Panska Ves 20.72 325⇑ *eP* **P 06 33 14.6 -0.9**
PVCC *e*pP **pP 06 33 19.8 -0.8**
PVCC AMS AMS 06 43 10.0
comp=Z,400nm,15.4s
PVCC Panska Ves 20.72 325 *eP* **P 06 33 14.6 -0.9**
comp=Z,400nm,15.4s
FETA Feichten 20.74 313⇑ *iP* **P 06 33 15.7 -0.4**
comp=Z,30nm,1.2s
FETA Feichten 20.74 313 P **P 06 33 15.7 -0.4**
comp=Z,30nm,1.2s
IKRD Kardeh 20.84 77 *eP* Pn 06 33 28.1 +8.3
FUORN Ofenpass-Fuorn 20.84 312 *eP* **P 06 33 17.3 +0.1**
comp=Z,25nm,1.1s
RETA Reutte 20.95 314⇑ *iP* **P 06 33 16.9 -1.3**
comp=Z,9.3nm,0.4s,SNR=5.5
RETA Reutte 20.95 314 P **P 06 33 16.9 -1.3**
comp=Z,9.3nm,0.4s,SNR=5.5
IAKL Akhelmad 21.04 77 *eP* **P 06 33 20.2 +0.8**
IDID Didziasalis 21.05 350 *eP* **P 06 33 18.8 -0.3**
IDID AMB AMB 06 33 26.8
comp=Z,32nm,1.0s
IDID Didziasalis 21.05 350 *eP* **P 06 33 18.8 -0.3**
comp=Z,32nm,1.0s,SNR=35
DAVOX Davos/Dischmat 21.15 312 P **P 06 33 19.8 -0.6**
DAVOX Davos/Dischmat 21.15 312 P **P 06 33 19.8 -0.6**
comp=Z,14nm,0.7s,baz=134,slow=8.9,SNR=12
DAVOX LR LR 06 43 05.2
comp=Z,281nm,18.4s,baz=101,slow=41
IIGN Ignalina 21.16 349 *eP* **P 06 33 19.9 -0.4**
IIGN AMB AMB 06 33 27.9
comp=Z,26nm,1.1s
IIGN Ignalina 21.16 349 *eP* **P 06 33 19.9 -0.4**
comp=Z,26nm,1.1s,SNR=35
IPAY Payeh 21.24 78 *eP* **P 06 33 21.0 -0.5**
BRG Berggiesshubel 21.24 325 *i*P **P 06 33 20.0 -1.2**
comp=Z,29nm,1.1s
BRG *e* 06 33 28.5
comp=Z,16nm,1.0s
BRG Berggiesshubel 21.24 325 *i*P **P 06 33 20.0 -1.2**
BRG *e* 06 33 28.5
BRG pmax pmax
comp=Z,29nm,1.1s
MOS Moscow 21.28 7 *eP* **P 06 33 18.7 -2.8**
MOS *e* 06 33 28.9
MOS *e* 06 33 39.4
MOS *e*S **S 06 37 17.3 +0.3**
MOS pmax pmax
comp=Z,48nm,0.7s
TUE Stuetta 21.35 311 *e*Pn **P 06 33 23.1 +0.5**
comp=Z,10.0nm,0.8s
DAVA Damuels 21.38 313⇑ *iP* **P 06 33 20.1 -2.8**
comp=Z,11nm,0.5s,SNR=8.4
ISAL Salakas 21.39 349 *eP* **P 06 33 22.4 -0.3**
ISAL AMB AMB 06 33 36.9
comp=Z,21nm,1.5s
ISAL Salakas 21.39 349 *eP* **P 06 33 22.4 -0.3**
comp=Z,21nm,1.5s,SNR=35
ITEG Tejag 21.50 88 *eP* **P 06 33 26.6 +2.3**
IMOG Moghan 21.54 79 *eP* **P 06 33 24.9 +0.1**
ISRO Mashad 21.63 78 *eP* **P 06 33 25.4 -0.2**
SAOF Saorge 21.65 303 *eP* **P 06 33 24.5 -1.1**
SBF Sospel 21.69 303 *eP* **P 06 33 25.0 -1.2**
comp=Z,57nm,0.8s
SBF Sospel 21.69 303 *eP* **P 06 33 25.0 -1.2**
SBF Sospel 21.69 303 *eP* **P 06 33 25.0 -1.2**
AUTN L'Aution 21.74 303 *eP* **P 06 33 25.9 -0.9**
LUCF Luceram 21.76 303 *eP* **P 06 33 25.4 -1.6**
IKOO Kooshah 21.81 89 *eP* **P 06 33 28.5 +0.7**
TOUF Mont Tournerai 21.87 303 *eP* **P 06 33 27.1 -1.1**
CLL Collm 21.98 325 *eP* **P 06 33 27.0 -2.1**
CLL *i* 06 33 35.6
CLL pmax pmax
comp=Z,53nm,2.1s
CLL Collm 21.98 325 *eP* **P 06 33 27.0 -2.1**
comp=Z,53nm,2.1s
CLL *i* (sP) **sP 06 33 35.6 -0.8**
CLL *i* 06 33 38.8
CLL *e*PPP PPP 06 33 57.0
CALN Calern 22.04 302 *eP* **P 06 33 28.7 -1.3**
FRF La Foret Royal 22.16 301 *eP* **P 06 33 29.9 -1.3**
comp=Z,85nm,1.2s
FRF La Foret Royal 22.16 301 *eP* **P 06 33 29.9 -1.3**
FRF La Foret Royal 22.16 301 *eP* **P 06 33 29.9 -1.3**
LMR La Mourre 22.21 301 *eP* **P 06 33 32.8 +1.2**
comp=Z,71nm,0.9s
LMR La Mourre 22.21 301 *eP* **P 06 33 32.8 +1.2**
LMR La Mourre 22.21 301 *eP* **P 06 33 32.8 +1.2**
SURF Saint Ours 22.30 304 *eP* **P 06 33 32.0 -0.8**
MBDF Montbardon 22.40 304 *eP* **P 06 33 33.8 -0.1**
comp=Z,44nm,0.9s
MBDF Montbardon 22.40 304 *eP* **P 06 33 33.8 -0.1**
MBDF Montbardon 22.40 304 *eP* **P 06 33 33.8 -0.1**
IDAH Dahanechah 22.45 87 *eP* **P 06 33 37.7 +3.0**
BNI Bardonecchia 22.56 305 *eP* **P 06 33 36.0 +0.4**
BNI pmax pmax
comp=Z,13nm,0.9s
BNI Bardonecchia 22.56 305 *eP* **P 06 33 36.0 +0.4**
comp=Z,13nm,0.9s
SENIN Lac Senin/Sane 22.60 309 *eP* **P 06 33 34.8 -1.3**
comp=Z,13nm,0.8s
LPG La Plagne 22.66 306 *eP* **P 06 33 37.4 +0.7**
comp=Z,66nm,1.0s
LPG La Plagne 22.66 306 *eP* **P 06 33 37.4 +0.7**
LPG La Plagne 22.66 306 *eP* **P 06 33 37.4 +0.7**
BFO Black Forest 22.79 314 *eP* **P 06 33 37.2 -0.7**
BFO pmax pmax
comp=Z,28nm,1.1s
BFO Black Forest 22.79 314 *eP* **P 06 33 37.2 -0.7**
comp=Z,28nm,1.1s
SMRF Simiane la Rot 23.02 302 *eP* **P 06 33 39.9 -0.4**
comp=Z,75nm,1.3s
SMRF Simiane la Rot 23.02 302 *eP* **P 06 33 39.9 -0.4**
ORIF Oris-en-Rattie 23.06 304 *eP* **P 06 33 39.4 -1.4**
comp=Z,35nm,0.8s
ORIF *e*R
comp=Z,324nm,21.2s
ORIF Oris-en-Rattie 23.06 304 *eP* **P 06 33 39.4 -1.4**
ORIF Oris-en-Rattie 23.06 304 *eP* **P 06 33 39.4 -1.4**
LOMF Lomont 23.28 311 *eP* **P 06 33 41.4 -1.6**
MOF Molkenrain 23.30 312 *eP* **P 06 33 40.6 -2.5**
LANF Langenberg 23.40 315 *eP* **P 06 33 43.4 -0.7**
ECH Echery 23.44 313 *eP* **P 06 33 42.4 -2.0**
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 23.44 313 *eP* **P 06 33 42.4 -2.0**
comp=Z,17nm,1.1s
CDF Champ du Feu 23.45 314 *eP* **P 06 33 43.3 -1.4**
comp=Z,65nm,1.3s
CDF Champ du Feu 23.45 314 *eP* **P 06 33 43.3 -1.4**
CDF Champ du Feu 23.45 314 *eP* **P 06 33 43.3 -1.4**
HINF Hinteralfeld 23.45 312 *eP* **P 06 33 42.2 -2.4**
HINF Hinteralfeld 23.45 312 *eP* **P 06 33 42.2 -2.4**
HINF Hinteralfeld 23.45 312 *eP* **P 06 33 42.2 -2.4**
CABF La Chapelle 23.47 309 *eP* **P 06 33 43.7 -1.2**
comp=Z,27nm,0.7s
CABF La Chapelle 23.47 309 *eP* **P 06 33 43.7 -1.2**
CABF La Chapelle 23.47 309 *eP* **P 06 33 43.7 -1.2**
HAU Haudompre 23.84 312 *eP* **P 06 33 46.7 -1.7**
comp=Z,48nm,0.9s
HAU *e*R
comp=Z,354nm,18.8s
HAU Haudompre 23.84 312 *eP* **P 06 33 46.7 -1.7**
HAU Haudompre 23.84 312 *eP* **P 06 33 46.7 -1.7**
VIVF Saint-Julien-l 23.87 304 *eP* **P 06 33 47.8 -0.9**
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 23.87 304 *eP* **P 06 33 47.8 -0.9**
VIVF Saint-Julien-l 23.87 304 *eP* **P 06 33 47.8 -0.9**
AKTO Aktyubinsk 24.08 42 P **P 06 33 49.6 -0.9**
AKTO pmax pmax
comp=Z,9.0nm,0.7s
AKTO MLR MLR
comp=Z,179nm,19.1s
AKTO Aktyubinsk 24.08 42 P **P 06 33 49.6 -0.9**
AKTO Aktyubinsk 24.08 42 P **P 06 33 49.6 -0.9**
comp=Z,9.2nm,0.7s,baz=247,slow=9.9,SNR=47
AKTO LR LR 06 45 53.8
comp=Z,179nm,19.1s,baz=100,slow=43
VSU Vasula 24.12 352 *eP* **P 06 33 51.2 +0.4**
VSU pmax pmax
comp=Z,17nm,0.9s
THEF They Montfort 24.15 312 *eP* **P 06 33 48.8 -2.5**
LASF Ste Croix 24.25 301 *eP* **P 06 33 51.8 -0.4**
comp=Z,54nm,1.0s
LASF Ste Croix 24.25 301 *eP* **P 06 33 51.8 -0.4**
PAGF Fort de Pagny 24.45 313 *eP* **P 06 33 52.0 -1.9**
PAGF Fort de Pagny 24.45 313 *eP* **P 06 33 52.0 -1.9**
ABKAR Akbulak array 24.61 46 *eP* **P 06 33 54.9 -0.4**
comp=Z,12nm,0.8s
SFTF Sexfontaines 24.73 312 *eP* **P 06 33 55.2 -1.3**
SFTF Sexfontaines 24.73 312 *eP* **P 06 33 55.2 -1.3**
ATD Arta Tunnel 24.77 156 LR LR 06 42 40.5
comp=Z,129nm,20.0s,baz=336,slow=34
MEZF Maizieres J'vi 24.84 312 *eP* **P 06 33 57.2 -0.2**
MEZF Maizieres J'vi 24.84 312 *eP* **P 06 33 57.2 -0.2**
LBL Lubilhac 24.94 304 *eP* **P 06 33 58.1 -0.5**
SMF Signal de Mont 24.94 307 *eP* **P 06 33 56.6 -1.9**
comp=Z,47nm,1.1s
SMF Signal de Mont 24.94 307 *eP* **P 06 33 56.6 -1.9**
SMF Signal de Mont 24.94 307 *eP* **P 06 33 56.6 -1.9**
LOR Lormes 25.13 309 *eP* **P 06 33 59.1 -1.1**
comp=Z,16nm,0.8s
LOR *e*R
comp=Z,319nm,19.0s
LOR Lormes 25.13 309 *eP* **P 06 33 59.1 -1.1**
AGO Saint Agoulin 25.24 306 *eP* **P 06 33 59.3 -1.9**
PYM Petit Puy Mans 25.24 305 *eP* **P 06 34 00.2 -1.0**
MTLF Montolieu 25.27 299 *eP* **P 06 34 01.5 0.0**
comp=Z,84nm,1.1s
MTLF Montolieu 25.27 299 *eP* **P 06 34 01.5 0.0**
MTLF Montolieu 25.27 299 *eP* **P 06 34 01.5 0.0**
SSF Saint Saulge 25.29 308 *eP* **P 06 34 00.2 -1.4**
comp=Z,25nm,0.7s
SSF Saint Saulge 25.29 308 *eP* **P 06 34 00.2 -1.4**
SSF Saint Saulge 25.29 308 *eP* **P 06 34 00.2 -1.4**
AVF Avril sur Loir 25.31 307 *eP* **P 06 33 59.9 -1.8**
AVF Avril sur Loir 25.31 307 *eP* **P 06 33 59.9 -1.8**
AVF Avril sur Loir 25.31 307 *eP* **P 06 33 59.9 -1.8**
BCLA Clavier 25.51 316 P **P 06 34 04.6 +1.1**
BCLA Clavier 25.51 316 P **P 06 34 04.6 +1.1**
BGF Bois d'Agland 25.57 307 *eP* **P 06 34 03.2 -0.9**
BGF Bois d'Agland 25.57 307 *eP* **P 06 34 03.2 -0.9**
BGF Bois d'Agland 25.57 307 *eP* **P 06 34 03.2 -0.9**
GIVF Givet 25.64 315 *eP* **P 06 34 02.8 -1.9**
comp=Z,13nm,0.7s
GIVF Givet 25.64 315 *eP* **P 06 34 02.8 -1.9**
GIVF Givet 25.64 315 *eP* **P 06 34 02.8 -1.9**
CAF Calviac 25.69 303 *eP* **P 06 34 05.7 +0.5**
comp=Z,13nm,0.9s
CAF Calviac 25.69 303 *eP* **P 06 34 05.7 +0.5**
CAF Calviac 25.69 303 *eP* **P 06 34 05.7 +0.5**
DOU Dourbes 25.77 315 P **P 06 34 05.0 -0.9**
comp=Z,9.4nm,1.2s
DOU Dourbes 25.77 315 P **P 06 34 05.0 -0.9**
comp=Z,9.4nm,1.2s
TCF Toulx Ste Croi 25.92 306 *eP* **P 06 34 04.3 -3.0**
comp=Z,20nm,1.0s
TCF Toulx Ste Croi 25.92 306 *eP* **P 06 34 04.3 -3.0**
TCF Toulx Ste Croi 25.92 306 *eP* **P 06 34 04.3 -3.0**
BAIF Baives 25.98 315 *eP* **P 06 34 06.5 -1.3**
comp=Z,35nm,0.9s
BAIF Baives 25.98 315 *eP* **P 06 34 06.5 -1.3**
BAIF Baives 25.98 315 *eP* **P 06 34 06.5 -1.3**
RJF Les Rejaudoux 26.15 303 *eP* **P 06 34 09.1 -0.3**
comp=Z,37nm,0.7s
RJF *e*R
comp=Z,245nm,22.0s
RJF Les Rejaudoux 26.15 303 *eP* **P 06 34 09.1 -0.3**
RJF Les Rejaudoux 26.15 303 *eP* **P 06 34 09.1 -0.3**
EPF Esparros 26.59 298 *eP* **P 06 34 13.5 +0.1**
comp=Z,26nm,1.0s
EPF Esparros 26.59 298 *eP* **P 06 34 13.5 +0.1**
EPF Esparros 26.59 298 *eP* **P 06 34 13.5 +0.1**
LFF La Frestale 26.61 302 *eP* **P 06 34 13.6 +0.1**
comp=Z,15nm,0.6s
LFF La Frestale 26.61 302 *eP* **P 06 34 13.6 +0.1**
LFF La Frestale 26.61 302 *eP* **P 06 34 13.6 +0.1**
TAM Tamanrasset 26.73 251 *eP* **P 06 34 15.4 +0.4**
TAM pmax pmax
comp=Z,16nm,1.3s
TAM Tamanrasset 26.73 251 *eP* **P 06 34 15.3 +0.4**
comp=Z,16nm,1.3s
FIA1 FINESS Array S 27.11 353 *eP* **P 06 34 16.4 -1.5**
FINES FINESS Array B 27.11 353 P **P 06 34 16.5 -1.4**
FINES FINESS Array B 27.11 353 P **P 06 34 16.5 -1.4**
comp=Z,5.4nm,0.3s,baz=157,slow=10,SNR=76
FINES LR LR 06 46 11.9
comp=Z,376nm,20.9s,baz=192,slow=39
ETSF Etsaut 27.23 298 *eP* **P 06 34 18.6 -0.6**
comp=Z,50nm,1.2s
ETSF Etsaut 27.23 298 *eP* **P 06 34 18.6 -0.6**
ETSF Etsaut 27.23 298 *eP* **P 06 34 18.6 -0.6**
MFF Saint Martin d 27.57 306 *eP* **P 06 34 20.9 -1.3**
MFF Saint Martin d 27.57 306 *eP* **P 06 34 20.9 -1.3**
MFF Saint Martin d 27.57 306 *eP* **P 06 34 20.9 -1.3**
SJPF Ste Jean 27.73 298 *eP* **P 06 34 24.4 +0.7**
comp=Z,49nm,1.2s
SJPF Ste Jean 27.73 298 *eP* **P 06 34 24.4 +0.7**
SJPF Ste Jean 27.73 298 *eP* **P 06 34 24.4 +0.7**
ARU Arti 27.87 31*d* *iP* **P 06 34 25.0 +0.3**
ARU 06 35 09.9
ARU S **S 06 39 09.6 +2.5**
ARU pmax pmax
comp=Z,5.0nm,1.2s
LDF La Druitiere 28.09 310 *eP* **P 06 34 25.7 -1.1**
LDF La Druitiere 28.09 310 *eP* **P 06 34 25.7 -1.1**
LDF La Druitiere 28.09 310 *eP* **P 06 34 25.7 -1.1**
HFS Hagfors 28.36 340 P **P 06 34 28.1 -1.0**
HFS Hagfors 28.36 340 P **P 06 34 28.1 -1.0**
comp=Z,2.9nm,0.8s,baz=99,slow=9.3,SNR=5.2
FLN La Foliniere 28.37 310 *eP* **P 06 34 27.2 -2.1**
comp=Z,33nm,0.8s
FLN *e*R
comp=Z,331nm,17.5s
FLN La Foliniere 28.37 310 *eP* **P 06 34 27.2 -2.1**
FLN La Foliniere 28.37 310 *eP* **P 06 34 27.2 -2.1**
GRR Gorron 28.50 309 *eP* **P 06 34 28.4 -2.0**
comp=Z,9.0nm,0.5s
GRR Gorron 28.50 309 *eP* **P 06 34 28.4 -2.0**
GRR Gorron 28.50 309 *eP* **P 06 34 28.4 -2.0**
SVE Sverdlovsk 29.01 32 *eP* P 06 34 39.2 +4.3
SVE pmax pmax
comp=Z,33nm,1.3s
TMCR Tamitsa 29.65 5 *eP* **P 06 34 39.3 -1.1**
ESDC Sonseca Array 29.68 291 P **P 06 34 41.6 +0.5**
ESDC Sonseca Array 29.68 291 P **P 06 34 41.6 +0.5**
comp=Z,3.5nm,0.7s,baz=79,slow=9.2,SNR=18
NB2 NORSAR Subarra 29.82 339 P **P 06 34 39.6 -2.4**
comp=Z,5.5nm,1.1s,baz=141,slow=9.3
NB2 NORSAR Subarra 29.82 339 P **P 06 34 40.8 -1.2**
comp=Z,7.2nm,1.2s,baz=141,slow=9.3
NB2 NORSAR Subarra 29.82 339 P **P 06 34 40.8 -1.2**
comp=Z,7.2nm,1.2s,SNR=4.7
NOA NORSAR Array B 29.82 339 P **P 06 34 40.3 -1.7**
NOA NORSAR Array B 29.82 339 P **P 06 34 40.3 -1.7**
comp=Z,2.1nm,0.8s,baz=139,slow=8.8,SNR=4.0
NOA LR LR 06 48 30.8
comp=Z,298nm,20.1s,baz=150,slow=40
ROSF Rostrenen 30.05 308 *eP* **P 06 34 41.6 -2.5**
ROSF Rostrenen 30.05 308 *eP* **P 06 34 41.6 -2.5**
ROSF Rostrenen 30.05 308 *eP* **P 06 34 41.6 -2.5**
KKAR Karatay Array 30.20 63 *eP* **P 06 34 45.4 -0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 30.20 63 *eP* **P 06 34 45.4 -0.2**
comp=Z,10nm,0.9s
MDT Midelt 31.17 277 P **P 06 34 54.8 +0.3**
MDT Midelt 31.17 277 P **P 06 34 54.8 +0.3**
comp=Z,3.0nm,0.8s,baz=93,slow=12,SNR=5.9
PBRG Braganca 31.75 295 *eP* **P 06 34 59.4 +0.1**
comp=Z,20nm,1.5s
PBRG Braganca 31.75 295 *eP* **P 06 34 59.4 +0.1**
comp=Z,20nm,1.5s
MVO Moncorvo 31.97 294 *eP* **P 06 35 01.7 +0.4**
comp=Z,19nm,1.2s
MVO Moncorvo 31.97 294 *eP* **P 06 35 01.7 +0.4**
comp=Z,19nm,1.2s
BRVK Borovoye 32.08 44*c* *iP* **P 06 35 02.0 0.0**
BRVK pmax pmax
comp=Z,13nm,1.1s
BRVK Borovoye 32.08 44 *eP* **P 06 35 01.9 -0.2**
comp=Z,12nm,1.1s
BVAR Borovoye Array 32.13 44 P **P 06 35 02.3 -0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR MLR MLR
comp=Z,74nm,18.7s
BVAR Borovoye Array 32.13 44 P **P 06 35 02.3 -0.2**
BVAR Borovoye Array 32.13 44 P **P 06 35 02.3 -0.2**
comp=Z,2.3nm,0.5s,baz=224,slow=4.1,SNR=14
BVAR LR LR 06 50 58.9
comp=Z,74nm,18.7s,baz=84,slow=42
PBAR Barrancos 32.19 288 *eP* **P 06 35 03.9 +0.8**
comp=Z,19nm,1.4s
PBAR Barrancos 32.19 288 *eP* **P 06 35 03.9 +0.8**
comp=Z,19nm,1.4s
PMRV Marv??o 32.34 290 *eP* **P 06 35 04.6 +0.1**
comp=Z,17nm,1.7s
PMRV Marv??o 32.34 290 *eP* **P 06 35 04.6 +0.1**
comp=Z,17nm,1.7s
MTE Manteigas 32.40 292 *eP* **P 06 35 04.7 -0.3**
comp=Z,21nm,1.7s
MTE Manteigas 32.40 292 *eP* **P 06 35 04.7 -0.3**
comp=Z,21nm,1.7s
PESTR Estremoz 32.54 289 *eP* **P 06 35 06.4 +0.1**
comp=Z,20nm,2.0s
PESTR Estremoz 32.54 289 *eP* **P 06 35 06.4 +0.1**
comp=Z,20nm,2.0s
EKS2 Erkin-Say 32.59 64 *eP* **P 06 35 07.7 +0.9**
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 32.59 64 *eP* **P 06 35 07.7 +0.9**
comp=Z,6.8nm,1.0s
PMTG Montargil 33.02 290 *eP* **P 06 35 09.9 -0.5**
comp=Z,20nm,1.5s
PMTG Montargil 33.02 290 *eP* **P 06 35 09.9 -0.5**
comp=Z,20nm,1.5s
AAK Ala-Archa 33.12 64*c* *iP* **P 06 35 12.3 +0.8**
AAK pmax pmax
comp=Z,29nm,1.0s
AAK Ala-Archa 33.12 64 *eP* **P 06 35 12.8 +1.3**
comp=Z,12nm,1.1s
AAK Ala-Archa 33.12 64 LR LR 06 51 15.7
comp=Z,119nm,19.0s,baz=6.0,slow=41
TKM2 Tokmak 2 33.93 63 *eP* **P 06 35 19.6 +1.0**
TKM2 Tokmak 2 33.93 63 *eP* **P 06 35 19.6 +1.0**
comp=Z,5.4nm,0.9s
TKM2 Tokmak 2 33.93 63 *eP* **P 06 35 19.6 +1.0**
comp=Z,5.4nm,0.9s
KSH Kashi 34.40 69 P **P 06 35 21.5 -1.1**
KSH sP **sP 06 35 28.5 -1.7**
KSH PP **PnPn 06 36 35.5 -1.8**
KSH S **S 06 40 45.5 -4.3**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,40nm,3.4s
KSH LR LR
comp=N,130nm,5.2s
KSH LR LR
comp=E,93nm,4.5s
KSH LR LR
comp=Z,130nm,4.9s
ARCES ARCESS Array B 35.12 355 P **P 06 35 27.1 -1.2**
ARCES ARCESS Array B 35.12 355 P **P 06 35 27.1 -1.2**
comp=Z,8.6nm,0.8s,baz=168,slow=8.6,SNR=32
ARCES LR LR 06 51 09.5
comp=Z,375nm,21.0s,baz=226,slow=39
ARCES ARCESS Array B 35.12 355 P **P 06 35 27.2 -1.2**
comp=Z,375nm,21.0s
TORD Torodi Ar. Bea 35.50 241 P **P 06 35 33.1 +1.0**
TORD Torodi Ar. Bea 35.50 241 P **P 06 35 33.1 +1.0**
comp=Z,1.5nm,0.8s,baz=52,slow=7.9,SNR=14
TORD LR LR 06 52 37.8
comp=Z,166nm,20.3s,baz=350,slow=40
TORD Torodi Ar. Bea 35.50 241 P **P 06 35 33.1 +1.0**
KURBB Kurchatov Arra 36.46 50 P **P 06 35 40.4 +0.4**
comp=Z,3.3nm,0.3s,baz=271,slow=8.9,SNR=43
KURBB PcP **PcP 06 38 02.8 -0.8**
comp=Z,2.9nm,0.8s,baz=267,slow=3.7,SNR=7.6
KURBB ScP **ScP 06 41 43.8 -5.6**
comp=Z,0.5nm,0.3s,baz=258,slow=1.7,SNR=5.3
KURK Kurchatov 36.53 50 P **P 06 35 40.4 -0.2**
KURK 06 38 02.8
KURK pmax pmax
comp=Z,3.0nm,0.4s
KURK Kurchatov 36.53 50 P **P 06 35 40.4 -0.2**
KURK PcP **PcP 06 38 02.8 -1.0**
KURK ScP **ScP 06 41 43.8 -5.8**
KURK Kurchatov 36.53 50 P **P 06 35 40.4 -0.2**
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 38.68 57 *eP* **P 06 35 59.0 +0.1**
MK31 Makanchi Array 38.68 57 *eP* **P 06 35 59.0 +0.1**
MK31 Makanchi Array 38.68 57 *eP* **P 06 35 59.0 +0.1**
MKAR Makanchi Array 38.68 57 P **P 06 35 59.2 +0.3**
MKAR 06 38 09.9
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR MLR MLR
comp=Z,72nm,18.5s
MKAR Makanchi Array 38.68 57 P **P 06 35 59.2 +0.3**

MKAR				PcP	**PcP**	**06 38 09.9**	**-0.7**
MKAR	**Makanchi Array**	**38.68**	**57**	P	**P**	**06 35 59.2**	**+0.3**
	comp=Z,7.4nm,0.8s,baz=271,slow=6.5,SNR=60						
MKAR				PcP	**PcP**	**06 38 09.9**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=256,slow=4.3,SNR=3.1						
MKAR				LR	LR	06 54 58.1	
	comp=Z,72nm,18.5s,baz=85,slow=41						
MKAR	**Makanchi Array**	**38.68**	**57**	P	**P**	**06 35 59.2**	**+0.3**
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**38.68**	**57**	PcP	**PcP**	**06 38 09.9**	**-0.7**
	comp=Z,72nm,18.5s						
NVS	**Novosibirsk**	**39.92**	**44**	*e*P	**P**	**06 36 08.2**	**-0.9**
NVS				*e*		06 37 49.5	
NVS				pmax	pmax		
	comp=Z,24nm,1.7s						
NVS	**Novosibirsk**	**39.92**	**44**	*e*P	**P**	**06 36 08.2**	**-0.9**
	comp=Z,24nm,1.7s						
ZAA0	**Zalesovo Array**	**40.72**	**45**	*e*P	**P**	**06 36 14.6**	**-1.1**
ZAA0	**Zalesovo Array**	**40.72**	**45**	*e*P	**P**	**06 36 14.6**	**-1.1**
ZALV	**Zalesovo Beam**	**40.72**	**45**	*i* P	**P**	**06 36 15.1**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.72**	**45**	P	**P**	**06 36 14.7**	**-1.0**
ZALV	**Zalesovo Beam**	**40.72**	**45**	P	**P**	**06 36 14.7**	**-1.0**
	comp=Z,2.4nm,0.4s,baz=269,slow=10.0,SNR=9.3						
ZALV				LR	LR	06 56 34.4	
	comp=Z,42nm,18.5s,baz=69,slow=41						
ZALV	**Zalesovo Beam**	**40.72**	**45**	*i* P	**P**	**06 36 15.1**	**-0.6**
	comp=Z,2.0nm,0.4s						
WMQ	**Urumqi**	**42.67**	**61**	P	**P**	**06 36 33.0**	**+1.1**
WMQ				sP	**sP**	**06 36 39.0**	**-0.6**
WMQ				PP	**PP**	**06 38 14.5**	**+3.7**
WMQ				S	**S**	**06 42 55.5**	**+1.2**
WMQ				ScS	**ScS**	**06 46 31.5**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,71nm,4.5s						
WMQ				LR	LR		
	comp=Z,88nm,17.0s						
PYUN	**Piuthan**	**42.86**	**85**	*e*P	**P**	**06 36 35.0**	**+1.2**
DANN	**Dangsing**	**43.40**	**84**	*e*P	**P**	**06 36 39.7**	**+1.4**
KOLN	**Koldanda**	**43.48**	**85**	*e*P	**P**	**06 36 39.6**	**+0.7**
	comp=Z,39nm,1.1s						
DBIC	**Dimbokro**	**44.61**	**240**	*e*P	**P**	**06 36 48.5**	**+0.8**
DBIC	**Dimbokro**	**44.61**	**240**	P	**P**	**06 36 50.0**	**+2.3**
	comp=Z,4.3nm,0.7s,baz=132,slow=19,SNR=3.4						
DBIC				LR	LR	06 55 56.5	
	comp=Z,92nm,18.0s,baz=26,slow=37						
DBIC	**Dimbokro**	**44.61**	**240**	*e*P	**P**	**06 36 48.5**	**+0.8**
DMN	**Daman**	**44.78**	**84**	*e*P	**P**	**06 36 50.2**	**+0.9**
	comp=Z,42nm,0.7s						
KKN	**Kakani**	**44.85**	**84**	*e*P	**P**	**06 36 50.6**	**+0.7**
	comp=Z,28nm,0.5s						
PKIN	**Phulchoki**	**45.03**	**84**	*e*P	**P**	**06 36 52.1**	**+0.8**
LIC	**Lamto**	**45.04**	**240**	*e*P	**P**	**06 36 50.2**	**-1.0**
	comp=Z,15nm,0.8s,baz=65						
LIC	**Lamto**	**45.04**	**240**	*e*P	**P**	**06 36 50.2**	**-1.0**
LIC	**Lamto**	**45.04**	**240**	*e*P	**P**	**06 36 50.2**	**-1.0**
	comp=Z,7.6nm,0.8s,baz=65						
PKI	**Pulchoki**	**45.04**	**84**	*e*P	**P**	**06 36 52.1**	**+0.6**
KBS	**Kingsbay**	**45.19**	**354**	*ce*P	**P**	**06 36 50.5**	**-1.1**
KBS				pmax	pmax		
	comp=Z,26nm,1.5s						
KBS	**Kingsbay**	**45.19**	**354**	*e*P	**P**	**06 36 51.0**	**-0.6**
KBS	**Kingsbay**	**45.19**	**354**	*e*P	**P**	**06 36 51.0**	**-0.6**
GUN	**Gumba**	**45.30**	**83**	*e*P	**P**	**06 36 54.3**	**+0.8**
JIRN	**Jiri**	**45.65**	**84**	*e*P	**P**	**06 36 57.4**	**+1.1**
	comp=Z,25nm,0.4s						
RAMN	**Ramite**	**46.26**	**84**	*e*P	**P**	**06 37 01.3**	**+0.3**
ODAN	**Odare**	**46.94**	**84**	*e*P	**P**	**06 37 06.9**	**+0.5**
TAPN	**Taplejung**	**47.01**	**83**	*e*P	**P**	**06 37 07.7**	**+0.7**
GTA	**Gaotai**	**52.47**	**64**	P	**P**	**06 37 49.0**	**+0.8**
GTA				pP	**pP**	**06 37 53.5**	**-0.3**
GTA				sP	**sP**	**06 37 56.0**	**0.0**
GTA				PP	**PP**	**06 39 48.8**	**+1.9**
GTA				S	**S**	**06 45 13.3**	**-0.6**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,45nm,4.1s						
GTA				LR	LR		
	comp=N,69nm,19.6s						
GTA				LR	LR		
	comp=E,110nm,17.3s						
GTA				LR	LR		
	comp=Z,120nm,18.0s						
SONM	**Songino Array**	**54.76**	**52**	P	**P**	**06 38 04.5**	**-0.4**
SONM	**Songino Array**	**54.76**	**52**	P	**P**	**06 38 04.5**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=284,slow=7.9,SNR=23						
SONM				LR	LR	07 04 34.3	
	comp=Z,541nm,19.1s,baz=109,slow=39						
SONM	**Songino Array**	**54.76**	**52**	P	**P**	**06 38 04.5**	**-0.4**
	comp=Z,541nm,19.1s						
ULN	**Ulaanbaatar**	**55.18**	**52**	*e*P	**P**	**06 38 07.7**	**-0.2**
	comp=Z,8.9nm,1.1s						
ULN	**Ulaanbaatar**	**55.18**	**52**	*e*P	**P**	**06 38 07.7**	**-0.2**
	comp=Z,8.9nm,1.1s						
LZH	**Lanzhou**	**56.58**	**66**	*e*P	**P**	**06 38 19.3**	**+1.2**
LZH				pP	**pP**	**06 38 24.5**	**+0.7**
LZH				sP	**sP**	**06 38 27.8**	**+1.8**
LZH				PP	**PP**	**06 40 27.3**	**+3.4**
LZH				*e*S	**S**	**06 46 13.5**	**+4.2**
LZH				sS	sS	06 46 26.5	+7.9
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,4.4s						
LZH				LR	LR		
	comp=N,260nm,13.9s						
LZH				LR	LR		
	comp=E,310nm,15.3s						
LZH				LR	LR		
	comp=Z,360nm,16.0s						
CD2	**Chengdu**	**58.50**	**72**	*e*P	**P**	**06 38 32.8**	**+1.2**
CD2				pP	**pP**	**06 38 37.3**	**0.0**
CD2				sP	**sP**	**06 38 40.0**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CD2				pmax	pmax		
	comp=Z,80nm,6.2s						
KMI	**Kunming**	**60.17**	**79**	P	P	06 38 47.0	+3.5
KMI				pmax	pmax		
	comp=Z,17nm,0.5s						
CMAR	**Chiang Mai Arr**	**60.23**	**87**	P	**P**	**06 38 43.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**60.23**	**87**	P	**P**	**06 38 43.0**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=297,slow=8.1,SNR=21						
CMAR	**Chiang Mai Arr**	**60.23**	**87**	P	**P**	**06 38 43.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**60.48**	**59**	*e*P	**P**	**06 38 44.8**	**-0.4**
HHC				PcP	**PcP**	**06 39 29.8**	**-0.1**
HHC				PP	**PP**	**06 41 00.3**	**+2.0**
HHC				ScP	**ScP**	**06 43 28.8**	**-1.5**
HHC				PcS	**PcS**	**06 43 31.5**	**-0.9**
HHC				S	**S**	**06 46 57.3**	**-2.6**
HHC				ScS	SKKSac	06 48 31.0	-4.2
HHC				pmax	pmax		
	comp=Z,49nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,6.6s						
HHC				LR	LR		
	comp=N,180nm,17.8s						
HHC				LR	LR		
	comp=E,280nm,17.2s						
HHC				LR	LR		
	comp=Z,270nm,16.7s						
XAN	**Xi'an**	**61.20**	**67**	P	**P**	**06 38 49.8**	**-0.4**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,7.0nm,5.0s						
GYA	**Guiyang**	**62.72**	**75**	*e*P	**P**	**06 39 02.5**	**+1.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**63.24**	**70**	*e*P	**P**	**06 39 03.7**	**-0.2**
ENH	**Enshi**	**63.24**	**70**	*e*P	**P**	**06 39 03.7**	**-0.2**
BOSA	**Boshof**	**63.40**	**188**	LR	LR	07 07 00.1	
	comp=Z,100nm,21.8s,baz=253,slow=36						
WHN	**Wuhan**	**66.86**	**68**	P	P	06 39 20.3	-7.0
CN2	**Changchun**	**68.59**	**51**	*e*P	**P**	**06 39 39.3**	**+1.2**
QIZ	**Qiongzhong**	**68.87**	**81**	P	**P**	**06 39 40.3**	**+0.1**
QIZ				S	**S**	**06 48 45.0**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
QIZ				LR	LR		
	comp=Z,150nm,22.7s						
NJ2	**Nanjing**	**69.55**	**65**	*e*P	**P**	**06 39 43.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**69.79**	**44**	*e*P	P	06 39 40.8	-4.6
MDJ	**Mudanjiang**	**70.81**	**49**	P	**P**	**06 39 51.8**	**+0.1**
MDJ				pP	**pP**	**06 39 54.8**	**-2.7**
MDJ				sP	**sP**	**06 39 56.5**	**-3.1**
MDJ				PcP	**PcP**	**06 40 14.0**	**+1.6**
MDJ				S	**S**	**06 49 06.0**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,57nm,6.3s						
MDJ				LR	LR		
	comp=N,49nm,26.7s						
MDJ				LR	LR		
	comp=E,38nm,26.7s						
MDJ				LR	LR		
	comp=Z,78nm,24.1s						
SEY	**Seymchan**	**71.41**	**25**	*e*P	**P**	**06 39 55.1**	**+0.1**
SEY	**Seymchan**	**71.41**	**25**	*e*P	**P**	**06 39 55.1**	**+0.1**
USRK	**Ussuriysk Arra**	**72.50**	**48**	P	**P**	**06 40 00.9**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=263,slow=4.1,SNR=5.2						
KSAR	**Wonju Array Be**	**73.33**	**56**	P	**P**	**06 40 06.5**	**-0.5**
KSAR	**Wonju Array Be**	**73.33**	**56**	P	**P**	**06 40 06.4**	**-0.5**
KSRS	**Korea Array**	**73.36**	**56**	P	**P**	**06 40 06.5**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=292,slow=5.5,SNR=15						
KSRS	**Korea Array**	**73.36**	**56**	P	**P**	**06 40 06.5**	**-0.6**
	comp=Z,4.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**77.19**	**41**	*e*P	**P**	**06 40 30.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**77.19**	**41**	*e*P	**P**	**06 40 30.3**	**+1.4**
IMA2	**Indian Mountai**	**79.41**	**3**	*e*P	**P**	**06 40 40.9**	**-0.2**
IMA2	**Indian Mountai**	**79.41**	**3**	*e*P	**P**	**06 40 40.9**	**-0.2**
YKA	**Yellowknife Ar**	**79.68**	**345**	P	**P**	**06 40 41.6**	**-0.7**
YKA	**Yellowknife Ar**	**79.68**	**345**	P	**P**	**06 40 41.6**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=25,slow=5.4,SNR=4.5						
YKA	**Yellowknife Ar**	**79.68**	**345**	P	**P**	**06 40 41.7**	**-0.7**
MJAR	**Matsushiro Arr**	**80.71**	**52**	P	**P**	**06 40 47.7**	**-0.8**
MJAR	**Matsushiro Arr**	**80.71**	**52**	P	**P**	**06 40 47.7**	**-0.8**
	comp=Z,7.1nm,1.0s,baz=297,slow=5.4,SNR=13						
MJAR	**Matsushiro Arr**	**80.71**	**52**	P	**P**	**06 40 47.7**	**-0.8**
	comp=Z,6.0nm,1.0s						
EGAK	**Eagle**	**80.73**	**357**	*e*P	**P**	**06 40 47.2**	**-0.9**
	comp=Z,14nm,1.4s						
EGAK	**Eagle**	**80.73**	**357**	*e*P	**P**	**06 40 47.2**	**-0.9**
	comp=Z,14nm,1.4s						
ILAR	**Eielson Array**	**80.85**	**360**	P	**P**	**06 40 48.6**	**-0.1**
ILAR	**Eielson Array**	**80.85**	**360**	P	**P**	**06 40 48.6**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=318,slow=3.2,SNR=15						
ILAR	**Eielson Array**	**80.85**	**360**	P	**P**	**06 40 48.6**	**-0.1**
	comp=Z,1.0nm,0.9s						
MENT	**Mentasta**	**82.65**	**358**	*e*P	**P**	**06 40 58.2**	**-0.1**
MENT	**Mentasta**	**82.65**	**358**	*e*P	**P**	**06 40 58.2**	**-0.1**
HYT	**Haines Junctio**	**84.49**	**355**	*e*P	**P**	**06 41 07.5**	**-0.4**
HYT	**Haines Junctio**	**84.49**	**355**	*e*P	**P**	**06 41 07.5**	**-0.4**
EDM	**Edmonton**	**87.66**	**340**	*e*P	**P**	**06 41 22.7**	**-0.9**
EDM	**Edmonton**	**87.66**	**340**	*e*P	**P**	**06 41 22.7**	**-0.9**
EDM	**Edmonton**	**87.66**	**340**	*e*P	**P**	**06 41 22.7**	**-0.9**
BDFB	**Brasilia**	**91.56**	**252**	LR	LR	07 25 07.0	
	comp=Z,73nm,19.2s,baz=236,slow=37						
SWMT	**Swartz Lake**	**92.95**	**338**	*e*P	**P**	**06 41 48.0**	**-0.5**
	comp=Z,3.2nm,1.1s						
SWMT	**Swartz Lake**	**92.95**	**338**	*e*P	**P**	**06 41 48.0**	**-0.5**
	comp=Z,3.2nm,1.1s						

CSEM ***25*** *06:29:08.4, 38.°38N×22.°18E, h12km, MD2.5, After ATH*
ATH 25 06:29:08.4, 38.°38N×22.°18E, h12km, MD2.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.03**	**289**	*e*PG	Pg	06 29 10.6	-0.1
KALE				*e*SG	Sg	06 29 12.3	0.0
KALE	**Kalithea**	**0.03**	**289**	*e*Pg	Pg	06 29 10.6	-0.1
KALE				*e*Sg	Sg	06 29 12.3	0.0
TRIZ	**Trizonia**	**0.09**	**260**	*e*PG	Pg	06 29 11.2	+0.1
TRIZ				*e*SG	Sg	06 29 13.2	+0.2
TRIZ	**Trizonia**	**0.09**	**260**	*e*Pg	Pg	06 29 11.2	+0.1
TRIZ				*e*Sg	Sg	06 29 13.2	+0.2
EFP	**Efpalio**	**0.22**	**282**	*e*PG	Pg	06 29 13.0	-0.1
EFP				*e*SG	Sg	06 29 16.8	+0.5
EFP	**Efpalio**	**0.22**	**282**	*e*Pg	Pg	06 29 13.0	-0.1
EFP				*e*Sg	Sg	06 29 16.8	+0.5
KLV	**Kalavryta, Ach**	**0.34**	**184**	*e*PB	Pg	06 29 15.3	0.0
KLV				*e*SB	Sg	06 29 20.2	+0.3
KLV	**Kalavryta, Ach**	**0.34**	**184**	*e*Pb	Pg	06 29 15.3	0.0
KLV				*e*Sb	Sg	06 29 20.2	+0.3

IDC ***25*** *06:36:51.9±2.5, 3.°08S×100.°92E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, Error ellipse: s-maj=116.3km s-min=17.9km az=57.0*
DJA ***25*** *06:37:11.5±1.7, 3°S±4°×10°1E±°, h20km±18km, M4.4/8, mb4.3/1, mB5.2/1, MLv4.4/8, Mw(mB)4.5/1*
ISC 25 06:36:54.1±1.2, 3.75S±0.°08×100.°2E±0.°1, h27km, n17, σ2§13/14, mb3.8/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**2.17**	**74**	P	**Pb**	**06 37 33.9**	**+1.2**
MASI				S	**Sn**	**06 37 51.4**	**-3.1**
KSI	**Kapahiang**	**2.44**	**88**	P	Pb	06 37 40.3	+3.0
PDSI	**Padang**	**2.83**	**6**	P	**Pb**	**06 37 46.4**	**+2.4**
PDSI				S	**Sn**	**06 38 11.4**	**+0.5**
MNAI	**Manna**	**2.86**	**102**	P	Pb	06 37 49.6	+5.1
PPI	**Padang Panjang**	**3.28**	**4**	P	**Pb**	**06 37 51.4**	**-0.1**
LWLI	**Liwa**	**4.10**	**108**	P	**Pb**	**06 38 07.3**	**+1.7**
BKNI	**Bangkinang**	**4.14**	**12**	P	**Pn**	**06 37 58.0**	**+2.4**
KCSI	**Kotacane, Aceh**	**7.60**	**342**	P	Pn	06 38 52.9	+10
CMAR	**Chiang Mai Arr**	**22.09**	**357**	P	**P**	**06 41 44.4**	**-2.9**
	1.1nm,0.3s,baz=185,slow=7.8,SNR=2.4						
WRA	**Warramunga Arr**	**37.01**	**119**	P	**P**	**06 43 59.7**	**-2.1**
	0.1nm,0.4s,baz=301,slow=9.4,SNR=9.6						
ASAR	**Alice Springs**	**38.13**	**124**	P	**P**	**06 44 11.3**	**0.0**
	0.2nm,0.3s,baz=301,slow=7.7,SNR=4.6						
STKA	**Stephens Creek**	**47.89**	**131**	P	**P**	**06 45 32.6**	**+2.4**
	1.5nm,0.3s,baz=303,slow=18,SNR=2.8						
SONM	**Songino Array**	**51.66**	**5**	P	P	06 45 54.4	-4.2
	0.3nm,0.4s,baz=190,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**52.74**	**345**	P	**P**	**06 46 05.3**	**-1.3**
	1.0nm,0.5s,baz=147,slow=8.1,SNR=15						
KURBB	**Kurchatov Arra**	**57.26**	**344**	P	**P**	**06 46 38.3**	**-0.8**
	0.8nm,0.6s,baz=160,slow=6.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**58.90**	**349**	P	P	06 46 48.7	-1.8
	1.4nm,0.6s,baz=178,slow=5.5,SNR=4.1						
TXAR	**Lajitas Array**	**145.97**	**39**	PKP	**PKPdf**	**06 56 29.9**	**-1.6**
	0.1nm,0.5s,baz=304,slow=1.8,SNR=3.6						

ISCJB ***25*** *06:41:19.4±0.5, 11.°63S±0.°07×166.°41E±0.°07, h59km, mb4.3/18, MS3.9/15, Error ellipse: s-maj=10.9km s-min=8.5km az=42.3*
IDC ***25*** *06:41:21.4±3.1, 11.°62S×166.°43E, h61km±27km, mb4.0/13, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.5/2, MS3.9/15, Ms1 3.9/15, ms1mx3.8/25, Error ellipse: s-maj=20.4km s-min=14.5km az=64.0*
GCMT ***25*** *06:41:22.5±0.3, 11.°66S×166.°03E, h52km±1km, MW5.0, Moment Tensor Solution. s43,c47; s55,c66; Moment tensor: Scale 10^{16}Nm; M_{rr}3.18±.17; $M_{\theta\theta}$0.31±.18; $M_{\phi\phi}$-3.49±.15; $M_{r\theta}$-0.29±.11; $M_{\theta\phi}$1.19±.14; $M_{r\phi}$1.02±.10; Best double couple: $M_0$3.70000×10^{16} NP1:ϕ_s344.00000°, δ53.00000°, λ90.00000°. NP2:ϕ_s164.00000°, δ37.00000°, λ90.00000°. Principal axes: T 3.3400, Plg82.0000°, Azm255.0000°; N 0.6600, Plg0.0000°, Azm164.0000°; P -3.9900, Plg8.0000°, Azm74.0000°; Data Used: IU II IC G CN.*
NEIC ***25*** *06:41:22.5±1.4, 11.°60S×166.°38E, h71km±12km, mb4.5/7 Error ellipse: s-maj=11.0km s-min=8.9km az=66.0*
ISC 25 06:41:21.1±0.6, 11.°65S±0.°07×166.°45E±0.°08, h59km, n53, σ1§04/51, mb4.5/18, MS3.8/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**288**	P	**Pn**	**06 42 57.9**	**0.0**
HNR				S	**Sn**	**06 44 13.7**	**+0.2**
HNR	**Honiara**	**6.76**	**288**	P	**Pn**	**06 42 57.9**	**0.0**
	54nm,0.3s,baz=138,slow=5.9,SNR=5.2						
HNR				S	**Sn**	**06 44 13.7**	**+0.2**
	46nm,0.3s,baz=211,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**10.37**	**180**	*e*Pn	Pn	06 43 52.7	+5.4
	15nm,0.3s						
DZM				*e*Sn	**Sn**	**06 45 38.8**	**-3.2**
	11nm,0.2s						
DZM	**Mont Dzumac**	**10.37**	**180**	P	**Pn**	**06 43 49.6**	**+2.3**
DZM				S	**Sn**	**06 45 40.5**	**-1.5**
DZM	**Mont Dzumac**	**10.37**	**180**	P	**Pn**	**06 43 49.6**	**+2.3**
	0.6nm,0.3s,baz=19,slow=18,SNR=18						
DZM				S	**Sn**	**06 45 40.5**	**-1.5**
	0.5nm,0.3s,baz=90,slow=24,SNR=6.9						
EIDS	**Eidsvold**	**19.94**	**225**	*e*P	**P**	**06 45 49.2**	**+0.8**
	9.0nm,0.6s						
CTA	**Charters Tower**	**21.14**	**244**	P	**P**	**06 46 02.3**	**+0.8**
CTA	**Charters Tower**	**21.14**	**244**	P	**P**	**06 46 02.3**	**+0.8**
	7.0nm,0.7s,baz=92,slow=12,SNR=12						
CTA				LR	LR	06 53 13.3	
	comp=Z,485nm,19.4s,baz=19,slow=34						
CTAO	**Charters Tower**	**21.14**	**244**	*e*P	**P**	**06 46 01.9**	**+0.4**
	6.8nm,0.6s						
AFI	**Afiamalu**	**21.35**	**98**	LR	LR	06 52 46.0	
	comp=Z,255nm,21.6s,baz=274,slow=32						
RAO	**Raoul Island**	**22.79**	**143**	LR	LR	06 53 17.4	
	comp=Z,245nm,21.4s,baz=159,slow=31						
COEN	**Coen**	**22.81**	**262**	*e*P	**P**	**06 46 18.8**	**-0.5**
	38nm,0.8s						
ARMA	**Armidale**	**23.20**	**214**	*e*P	**P**	**06 46 23.6**	**+0.4**
	12nm,0.6s						
URZ	**Urewera**	**28.16**	**162**	LR	LR	06 56 20.8	
	comp=Z,382nm,21.7s,baz=323,slow=32						
STKA	**Stephens Creek**	**30.49**	**225**	P	**P**	**06 47 29.5**	**+0.8**
STKA	**Stephens Creek**	**30.49**	**225**	P	**P**	**06 47 29.5**	**+0.8**
	9.6nm,0.7s,baz=48,slow=7.6,SNR=11						
WRAB	**Tennant Creek**	**31.92**	**251**	*e*P	**P**	**06 47 40.3**	**-1.1**
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**31.93**	**251**	P	**P**	**06 47 40.5**	**-1.0**
WRA				PcP	**PcP**	**06 50 30.4**	**-0.5**
WRA	**Warramunga Arr**	**31.93**	**251**	P	**P**	**06 47 40.5**	**-1.0**
	4.4nm,0.6s,baz=84,slow=9.3,SNR=58						
WRA				PcP	**PcP**	**06 50 30.4**	**-0.5**
	1.0nm,0.8s,baz=76,slow=2.9,SNR=5.5						
WRA				LR	LR	06 59 15.8	
	comp=Z,169nm,21.6s,baz=65,slow=34						
RPZ	**Rata Peaks**	**32.20**	**174**	P	**P**	**06 47 43.4**	**-0.2**
RPZ	**Rata Peaks**	**32.20**	**174**	P	**P**	**06 47 43.4**	**-0.2**
	14nm,0.5s,baz=67,slow=6.1,SNR=9.6						
ASAR	**Alice Springs**	**33.15**	**244**	P	**P**	**06 47 51.1**	**-1.0**
ASAR				PcP	**PcP**	**06 50 33.5**	**-0.7**
ASAR	**Alice Springs**	**33.15**	**244**	P	**P**	**06 47 51.1**	**-1.0**
	4.9nm,0.6s,baz=69,slow=9.6,SNR=63						
ASAR				PcP	**PcP**	**06 50 33.5**	**-0.7**
	0.8nm,0.6s,baz=72,slow=2.5,SNR=7.0						
ASAR				LR	LR	06 59 58.0	
	comp=Z,372nm,21.2s,baz=66,slow=34						
RAR	**Rarotonga**	**33.70**	**111**	LR	LR	06 57 51.1	
	comp=Z,153nm,21.7s,baz=270,slow=29						
FITZ	**Fitzroy Crossi**	**39.90**	**256**	*e*P	**P**	**06 48 49.2**	**-0.5**
	8.8nm,0.7s						
PPT	**Papeete**	**42.88**	**103**	LR	LR	07 03 31.9	
	comp=Z,143nm,18.6s,baz=1.3,slow=31						
TBI	**Tubuai**	**43.47**	**112**	*e*LQ	LQ	07 00 05.1	
	373nm,31.0s						
TBI				*e*LR	LR	07 01 58.6	
	634nm,29.2s,baz=282						
RKT	**Rikitea**	**56.73**	**110**	*e*LR	LR	07 08 14.6	
	607nm,29.2s						
KSRS	**Korea Array**	**60.76**	**325**	P	**P**	**06 51 27.0**	**+0.1**
	0.4nm,0.3s,baz=133,slow=6.8,SNR=4.0						
KSAR	**Wonju Array Be**	**60.77**	**325**	P	**P**	**06 51 27.0**	**0.0**
PETK	**Petropavlovsk-**	**64.93**	**354**	LR	LR	07 16 55.6	
	comp=Z,59nm,18.6s,baz=231,slow=33						
VNDA	**Vanda**	**65.91**	**181**	P	**P**	**06 52 00.9**	**+0.5**
VNDA	**Vanda**	**65.91**	**181**	P	**P**	**06 52 00.9**	**+0.5**
	1.5nm,0.5s,baz=347,slow=8.7,SNR=7.4						
VNDA				LR	LR	07 14 54.2	
	comp=Z,60nm,19.2s,baz=302,slow=30						
SBA	**Scott Base**	**66.20**	**180**	*e*P	**P**	**06 52 02.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.98**	**293**	P	**P**	**06 52 44.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**72.98**	**293**	P	**P**	**06 52 44.6**	**-0.4**
	2.0nm,0.3s,baz=127,slow=4.6,SNR=12						
CMAR				LR	LR	07 22 05.8	
	comp=Z,47nm,19.2s,baz=335,slow=34						
QSPA	**South Pole Qui**	**78.36**	**180**	*e*P	**P**	**06 53 14.5**	**-0.6**
	6.1nm,0.9s						
SONM	**Songino Array**	**79.56**	**324**	P	**P**	**06 53 22.0**	**0.0**
SONM	**Songino Array**	**79.56**	**324**	P	**P**	**06 53 22.0**	**0.0**
	0.7nm,0.6s,baz=146,slow=5.5,SNR=4.5						
ILAR	**Eielson Array**	**83.86**	**18**	P	**P**	**06 53 43.1**	**-1.0**
ILAR	**Eielson Array**	**83.86**	**18**	P	**P**	**06 53 43.1**	**-1.0**
	0.5nm,0.5s,baz=230,slow=5.5,SNR=10						
MAW	**Mawson**	**84.43**	**202**	LR	LR	07 24 24.8	
	comp=Z,103nm,20.8s,baz=209,slow=31						
NVAR	**Mina Array Bea**	**85.88**	**50**	P	**P**	**06 53 54.1**	**-1.0**
NVAR	**Mina Array Bea**	**85.88**	**50**	P	**P**	**06 53 54.1**	**-1.0**
	0

KBL	**Kabul**	**4.51**	**196**	*e*Pn	**Pn**	**06 46 16.4**	**+3.2**
AAK	**Ala-Archa**	**4.80**	**38**	*c i*PN	Pn	06 46 20.2	+3.1
AAK	**Ala-Archa**	**4.80**	**38**	P	Pn	06 46 20.2	+3.1
SNR=94							
AAK	**Ala-Archa**	**4.80**	**38**	*e*Pn	**Pn**	**06 46 19.7**	**+2.5**
AAK				Sn	Sn	06 47 18.3	+5.9
AAK	**Ala-Archa**	**4.80**	**38**	Pn	Pn	06 46 20.3	+3.2
comp=E,19nm,0.3s,baz=202,slow=7.9,SNR=115							
AAK				Sn	Sn	06 47 18.3	+5.9
comp=E,12nm,0.3s,baz=333,slow=22,SNR=5.6							
KZA	**Kyzart**	**4.81**	**47**	P	**Pn**	**06 46 20.4**	**+2.9**
SNR=181							
FRU	**Bishkek**	**5.01**	**37**	*e*PN	Pn	06 46 23.0	+3.1
FRU				*e*S	Sb	06 47 24.0	-8.7
FRU				*i*		06 47 34.0	
FRU				pmax	pmax		
comp=Z,95nm,1.8s							
FRU				pmax	pmax		
comp=E,372nm,1.8s							
KBK	**Karagaybulak**	**5.04**	**41**	P	Pn	06 46 23.9	+3.4
SNR=107							
CEP	**Cherat**	**5.19**	**167**	P	Pn	06 46 26.9	+4.3
CEP				S	Sn	06 47 29.0	+6.8
CHMS	**Chumysh**	**5.20**	**37**	P	**Pn**	**06 46 25.3**	**+2.7**
SNR=33							
USP	**Ospenovka**	**5.30**	**33**	P	**Pn**	**06 46 26.4**	**+2.5**
SNR=17							
ULHL	**Ulahol**	**5.50**	**51**	P	**Pn**	**06 46 28.6**	**+1.8**
SNR=51							
TKM2	**Tokmak 2**	**5.56**	**42**	⇑Pn	**Pn**	**06 46 30.0**	**+2.3**
comp=E,46nm,0.5s							
TKM2				⇓Sn	**Sn**	**06 47 35.6**	**+4.3**
comp=E,60nm,0.7s							
TKM2	**Tokmak 2**	**5.56**	**42**	*e*PN	**Pn**	**06 46 29.6**	**+1.9**
TKM2				pmax	pmax		
comp=Z,73nm,0.5s							
TKM2	**Tokmak 2**	**5.56**	**42**	P	**Pn**	**06 46 30.1**	**+2.4**
SNR=98							
TKM2	**Tokmak 2**	**5.56**	**42**	*e*Pn	**Pn**	**06 46 29.6**	**+1.9**
comp=Z,73nm,0.5s							
CHCP	**Chirah Chowk**	**5.69**	**156**	P	Pn	06 46 34.0	+4.7
THW	**Thamme Wali**	**6.18**	**170**	P	Pn	06 46 39.9	+3.9
DLH	**Dalhousie**	**7.74**	**143**	*e*P	**Pn**	**06 47 00.0**	**+2.3**
DLH				*e*S	Sn	06 48 33.0	+7.9
MK31	**Makanchi Array**	**11.69**	**44**	Pn	**Pn**	**06 47 52.5**	**+0.9**
comp=Z,16nm,1.0s,baz=227,slow=11,SNR=52							
MK31				⇑Lg	Lg	06 51 14.5	
comp=Z,1.8nm,0.5s							
MK31	**Makanchi Array**	**11.69**	**44**	*i* P	**Pn**	**06 47 52.4**	**+0.9**
MK31				pmax	pmax		
comp=Z,11nm,1.0s							
MK31	**Makanchi Array**	**11.69**	**44**	*e*Pn	**Pn**	**06 47 52.2**	**+0.7**
MKAR	**Makanchi Array**	**11.69**	**44**	*e*P	**Pn**	**06 47 53.3**	**+1.8**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**11.69**	**44**	Pn	**Pn**	**06 47 52.0**	**+0.5**
MKAR	**Makanchi Array**	**11.69**	**44**	Pn	**Pn**	**06 47 52.0**	**+0.5**
comp=Z,0.5nm,0.3s,baz=233,slow=13,SNR=6.7							
AB31	**Akbulak array**	**12.82**	**327**	⇑Pn	**Pn**	**06 48 05.9**	**-1.0**
comp=Z,5.9nm,0.5s,baz=145,slow=11,SNR=159							
AB31				⇑Sn	**Sn**	**06 50 28.2**	**-1.0**
comp=Z,21nm,0.6s,baz=150,slow=24,SNR=4.6							
AB31	**Akbulak array**	**12.82**	**327**	*e*P	**Pn**	**06 48 05.8**	**-1.1**
AB31				pmax	pmax		
comp=Z,4.0nm,0.4s							
ABKAR	**Akbulak array**	**12.82**	**327**	*e*Pn	**Pn**	**06 48 05.8**	**-1.1**
comp=Z,7.1nm,0.4s							
KURBB	**Kurchatov Arra**	**13.02**	**23**	⇓Pn	**Pn**	**06 48 09.3**	**-0.3**
comp=Z,3.3nm,0.7s							
KURBB				⇓Lg	Lg	06 51 53.1	
comp=Z,27nm,0.8s							
KURBB	**Kurchatov Arra**	**13.02**	**23**	Pn	**Pn**	**06 48 07.4**	**-2.2**
comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=12							
KURBB				Lg	Lg	06 52 02.1	
comp=Z,0.1nm,0.3s,baz=213,slow=28,SNR=5.3							
KURK	**Kurchatov**	**13.13**	**23**	P	Pn	06 48 07.4	-3.7
KURK	**Kurchatov**	**13.13**	**23**	Pn	Pn	06 48 07.4	-3.7
KURK				Lg	Lg	06 52 02.1	
VOSK	**Vostochnaya**	**13.83**	**1**	⇓Pn	**Pn**	**06 48 19.1**	**-1.5**
comp=Z,4.2nm,1.1s							
VOSK				⇓Lg	Lg	06 52 20.2	
BVA0	**Borovoye Array**	**14.12**	**360**	⇓Pn	**Pn**	**06 48 23.3**	**-1.4**
comp=Z,3.6nm,0.6s,baz=160,slow=10,SNR=7.2							
BVA0				⇑Sn	**Sn**	**06 51 01.0**	**0.0**
comp=Z,6.4nm,1.0s,baz=166,slow=25,SNR=5.1							
BVA0				⇑Lg	Lg	06 52 28.6	
comp=Z,12nm,1.1s							
BVAR	**Borovoye Array**	**14.12**	**360**	P	**Pn**	**06 48 24.5**	**-0.2**
BVAR						06 50 59.6	
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR				smax	smax		
comp=N,1.0nm,0.3s							
BVAR	**Borovoye Array**	**14.12**	**360**	Pn	**Pn**	**06 48 24.5**	**-0.2**
BVAR				Sn	**Sn**	**06 50 59.6**	**-1.4**
BVAR	**Borovoye Array**	**14.12**	**360**	Pn	**Pn**	**06 48 24.5**	**-0.2**
comp=N,0.7nm,0.3s,baz=160,slow=11,SNR=5.4							
BVAR				Sn	**Sn**	**06 50 59.6**	**-1.4**
comp=N,0.5nm,0.3s,baz=171,slow=21,SNR=4.4							
BRVK	**Borovoye**	**14.16**	**359**	⇓Pn	**Pn**	**06 48 24.5**	**-0.7**
comp=N,4.4nm,0.5s							
BRVK				⇓Sn	**Sn**	**06 51 02.6**	**+0.8**
comp=N,14nm,1.4s							
BRVK				⇓Lg	Lg	06 52 31.0	
comp=N,9.4nm,0.8s							
BRVK	**Borovoye**	**14.16**	**359**	*i* P	**Pn**	**06 48 27.5**	**+2.4**
AKTO	**Aktyubinsk**	**14.53**	**327**	⇓Pn	**Pn**	**06 48 29.8**	**-0.5**
comp=N,7.4nm,0.6s							
AKTO				⇑Sn	**Sn**	**06 51 09.1**	**-1.7**
comp=N,17nm,0.7s							
AKTO	**Aktyubinsk**	**14.53**	**327**	P	**Pn**	**06 48 29.8**	**-0.5**
AKTO						06 51 08.6	
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKTO				smax	smax		
comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**14.53**	**327**	Pn	**Pn**	**06 48 29.8**	**-0.5**
AKTO				Sn	**Sn**	**06 51 08.6**	**-2.3**
AKTO	**Aktyubinsk**	**14.53**	**327**	Pn	**Pn**	**06 48 29.8**	**-0.5**
comp=N,0.7nm,0.3s,baz=138,slow=18,SNR=10							
AKTO				Sn	**Sn**	**06 51 08.6**	**-2.3**
comp=N,1.4nm,0.3s,baz=159,slow=22,SNR=8.8							
PYUN	**Piuthan**	**14.97**	**132**	*e*P	Pn	06 48 32.0	-4.5
comp=N,21nm,0.4s							
DANN	**Dangsing**	**15.23**	**130**	*e*P	**Pn**	**06 48 39.0**	**-1.1**
comp=N,20nm,0.4s							
KOLN	**Koldanda**	**15.57**	**132**	*e*P	Pn	06 48 40.2	-4.2
comp=N,7.0nm,0.3s							
KKN	**Kakani**	**16.56**	**128**	*e*P	**Pn**	**06 48 56.4**	**-0.8**
DMN	**Daman**	**16.59**	**128**	*e*P	**Pn**	**06 48 55.8**	**-1.7**
PKIN	**Phulchoki**	**16.79**	**128**	*e*P	**Pn**	**06 48 58.6**	**-1.5**
comp=N,12nm,0.6s							
PKI	**Pulchoki**	**16.80**	**128**	*e*P	**Pn**	**06 48 58.0**	**-2.3**
GUN	**Gumba**	**16.85**	**126**	*e*P	**Pn**	**06 49 01.2**	**+0.2**
comp=N,16nm,0.4s							
JIRN	**Jiri**	**17.22**	**126**	*e*P	**Pn**	**06 49 03.5**	**-2.2**
comp=N,28nm,0.5s							
ZAA0	**Zalesovo Array**	**17.94**	**28**	*e*Pn	**Pn**	**06 49 12.3**	**-1.7**
ZALV	**Zalesovo Beam**	**17.94**	**28**	*e*P	**Pn**	**06 49 13.1**	**-0.8**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**17.94**	**28**	P	**Pn**	**06 49 12.9**	**-1.0**
ZALV	**Zalesovo Beam**	**17.94**	**28**	P	**Pn**	**06 49 12.9**	**-1.0**
comp=Z,0.9nm,0.3s,baz=226,slow=12,SNR=25							
RAMN	**Ramite**	**17.98**	**127**	*e*P	Pn	06 49 10.1	-4.8
comp=Z,27nm,0.5s							
NVS	**Novosibirsk**	**18.11**	**24**	*e*P	**Pn**	**06 49 13.9**	**-2.2**
NVS				pmax	pmax		
comp=Z,5.0nm,0.5s							
NVS				pmax	pmax		
comp=N,4.0nm,0.6s							
ODAN	**Odare**	**18.54**	**125**	*e*P	P	06 49 17.5	-4.1
comp=N,8.7nm,0.4s							
ARU	**Arti**	**19.24**	**340**	*c i*P	**Pn**	**06 49 32.5**	**+2.7**
ARU				S	**S**	**06 53 05.7**	**-0.3**
ARU				pmax	pmax		
comp=Z,8.0nm,1.7s							
KBZ	**Khabaz**	**21.25**	**292**	P	P	06 49 55.7	+5.1
KBZ				pmax	pmax		
comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**21.25**	**292**	P	P	06 49 55.7	+5.1
KBZ	**Khabaz**	**21.25**	**292**	P	P	06 49 55.7	+5.1
comp=Z,3.1nm,0.8s,baz=129,slow=9.0,SNR=6.2							
KIV	**Kislovodsk**	**21.41**	**293**	*e*P	P	06 50 00.7	+8.2
KIV				pmax	pmax		
comp=Z,16nm,1.0s							
GTA	**Gaotai**	**22.69**	**79**	*e*P	**P**	**06 50 08.0**	**+1.7**
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
VSR	**Storozhevoye**	**25.12**	**310**	*e*P	**P**	**06 50 30.4**	**+1.1**
VSR				pmax	pmax		
comp=N,7.0nm,0.5s							
VSR				pmax	pmax		
comp=E,4.0nm,0.5s							
VSR				pmax	pmax		
comp=Z,5.0nm,0.5s							
SONM	**Songino Array**	**27.36**	**59**	P	**P**	**06 50 48.0**	**-1.8**
SONM	**Songino Array**	**27.36**	**59**	P	**P**	**06 50 48.0**	**-1.8**
comp=Z,0.4nm,0.7s,baz=280,slow=11,SNR=2.8							
BRTR	**Keskin Array B**	**28.41**	**283**	P	**P**	**06 51 00.5**	**+1.2**
BRTR	**Keskin Array B**	**28.41**	**283**	P	**P**	**06 51 00.5**	**+1.2**
comp=Z,1.0nm,0.9s,baz=90,slow=2.9,SNR=2.8							
AKASG	**Malin Array Be**	**31.18**	**306**	P	**P**	**06 51 24.9**	**+1.4**
AKASG				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**31.18**	**306**	P	**P**	**06 51 24.9**	**+1.4**
AKASG	**Malin Array Be**	**31.18**	**306**	P	**P**	**06 51 24.9**	**+1.4**
comp=Z,1.3nm,0.5s,baz=115,slow=7.7,SNR=2.5							
CHTO	**Chiang Mai**	**31.74**	**121**	P	**P**	**06 51 28.8**	**+0.1**
CHTO				pmax	pmax		
comp=Z,5.0nm,1.5s							
CHTO	**Chiang Mai**	**31.74**	**121**	P	**P**	**06 51 28.8**	**+0.1**
comp=Z,4.9nm,1.5s							
FINES	**FINESS Array B**	**35.29**	**324**	P	**P**	**06 51 59.7**	**+0.5**
FINES	**FINESS Array B**	**35.29**	**324**	P	**P**	**06 51 59.7**	**+0.5**
comp=Z,1.0nm,0.5s,baz=115,slow=13,SNR=5.2							
UZH	**Uzhgorod**	**35.62**	**302**	*e*P	P	06 52 06.7	+4.6
UZH				*i*		06 52 13.1	
UZH				*e*		06 54 29.9	
UZH				*e*S	**S**	**06 57 35.5**	**-1.9**
ARCES	**ARCESS Array B**	**38.78**	**337**	P	**P**	**06 52 28.8**	**0.0**
ARCES	**ARCESS Array B**	**38.78**	**337**	P	**P**	**06 52 28.8**	**0.0**
comp=Z,1.0nm,0.8s,baz=108,slow=7.8,SNR=3.9							
HFS	**Hagfors**	**40.95**	**320**	P	**P**	**06 52 47.5**	**+0.5**
HFS	**Hagfors**	**40.95**	**320**	P	**P**	**06 52 47.5**	**+0.5**
comp=Z,3.3nm,0.5s,baz=97,slow=12,SNR=14							
NB2	**NORSAR Subarra**	**42.24**	**322**	P	**P**	**06 52 57.6**	**+0.1**
comp=Z,1.8nm,0.7s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**42.24**	**322**	P	**P**	**06 52 57.7**	**+0.2**
NOA	**NORSAR Array B**	**42.24**	**322**	P	**P**	**06 52 57.7**	**+0.2**
comp=Z,1.2nm,0.5s,baz=93,slow=8.1,SNR=4.4							
KSAR	**Wonju Array Be**	**44.48**	**73**	P	**P**	**06 53 13.1**	**-2.7**
KSRS	**Korea Array**	**44.51**	**73**	P	P	06 53 13.1	-2.9
comp=Z,0.5nm,0.4s,baz=287,slow=6.4,SNR=3.5							
ESDC	**Sonseca Array**	**56.02**	**296**	P	**P**	**06 54 46.0**	**+2.7**
ESDC	**Sonseca Array**	**56.02**	**296**	P	**P**	**06 54 46.0**	**+2.7**
comp=Z,0.3nm,0.3s,baz=57,slow=7.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**65.42**	**267**	P	**P**	**06 55 48.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**65.42**	**267**	P	**P**	**06 55 48.0**	**+0.5**
comp=Z,1.0nm,0.8s,baz=47,slow=5.1,SNR=5.5							
ILAR	**Eielson Array**	**72.58**	**16**	P	**P**	**06 56 30.9**	**-0.5**
ILAR	**Eielson Array**	**72.58**	**16**	P	**P**	**06 56 30.9**	**-0.5**
comp=Z,0.4nm,0.8s,baz=324,slow=4.5,SNR=3.8							
YKA	**Yellowknife Ar**	**78.87**	**2**	P	**P**	**06 57 07.4**	**+0.1**
YKA	**Yellowknife Ar**	**78.87**	**2**	P	**P**	**06 57 07.4**	**+0.1**
comp=Z,0.6nm,0.5s,baz=351,slow=4.9,SNR=4.3							
WRA	**Warramunga Arr**	**83.59**	**122**	P	**P**	**06 57 31.9**	**-1.1**
WRA	**Warramunga Arr**	**83.59**	**122**	P	**P**	**06 57 31.9**	**-1.1**
comp=Z,1.0nm,0.7s,baz=322,slow=4.8,SNR=16							
ASAR	**Alice Springs**	**85.94**	**125**	P	**P**	**06 57 43.8**	**-1.0**
ASAR	**Alice Springs**	**85.94**	**125**	P	**P**	**06 57 43.8**	**-1.0**
comp=Z,0.3nm,0.5s,baz=311,slow=5.4,SNR=4.5							
PPT2	**Papeete2**	**139.22**	**70**	*e*LR	LR	07 01 36.1	
comp=Z,665nm,29.5s							

IDC 25 07:17:19.2±3.6, 1°.11S×100°.08E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/24, mbtmp3.5/5, ML4.3/1, Error ellipse: s-maj=164.0km s-min=21.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.47**	**357**	P	P	07 21 47.3	-0.5
0.4nm,0.3s,baz=184,slow=6.7,SNR=2.9							
WRA	**Warramunga Arr**	**38.38**	**121**	P	P	07 24 42.3	-0.2
0.1nm,0.3s,baz=304,slow=8.7,SNR=6.5							
ASAR	**Alice Springs**	**39.72**	**127**	P	P	07 24 53.9	+0.2
0.2nm,0.7s,baz=307,slow=9.2,SNR=3.1							
MKAR	**Makanchi Array**	**50.20**	**344**	P	P	07 26 16.6	-0.2
0.3nm,0.5s,baz=138,slow=8.9,SNR=3.5							
ZALV	**Zalesovo Beam**	**56.31**	**349**	P	P	07 27 02.2	+0.6
0.6nm,0.3s,baz=149,slow=3.0,SNR=2.1							
TXAR	**Lajitas Array**	**143.94**	**37**	PKP	PKPab	07 36 54.5	-0.2
0.2nm,0.6s,baz=337,slow=0.8,SNR=3.6							

*IDC **25** 07:34:53.8±0.7, 6°.56S×154°.73E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.3/17, mbtmp4.2/11, ML3.5/1, MS3.7/9, Ms1 3.8/9, ms1mx3.4/30, Error ellipse: s-maj=29.2km s-min=18.9km az=119.0*

*ISCJB **25** 07:34:59.7±0.5, 6°.65S±0°.08×154°.59E±0°.10, h48km, mb4.2/14, MS3.7/9, Error ellipse: s-maj=14.3km s-min=11.4km az=21.2*

*NEIC **25** 07:34:59.7±0.6, 6°.49S×154°.68E, h35km, mb4.4/4, Error ellipse: s-maj=18.0km s-min=12.4km az=114.0*

ISC 25 07:35:01.2±0.6, 6°.63S±0°.10×154°.7E±0°.1, h48km, n46, σ1°69/51, mb4.1/13, MS3.7/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.93**	**249**	*e*Pn	**Pn**	**07 36 53.9**	**0.0**
53nm,0.9s							
PMG	**Port Moresby**	**7.93**	**249**	Pn	**Pn**	**07 36 53.3**	**-0.6**
3.4nm,0.3s,baz=73,slow=10,SNR=8.5							
CTA	**Charters Tower**	**15.67**	**211**	Pn	**P**	**07 38 42.0**	**-0.3**
CTA	**Charters Tower**	**15.67**	**211**	Pn	**P**	**07 38 42.0**	**-0.3**
0.6nm,0.3s,baz=39,slow=12,SNR=16							
CTAO	**Charters Tower**	**15.67**	**211**	*e*P	**P**	**07 38 42.2**	**-0.1**
13nm,0.9s							
DZM	**Mont Dzumac**	**19.11**	**145**	*e*P	**Pn**	**07 39 21.3**	**-0.2**
46nm,1.2s							
DZM				*e*LR	LR	07 43 44.9	
513nm,32.9s							
DZM	**Mont Dzumac**	**19.11**	**145**	P	**Pn**	**07 39 21.4**	**-0.2**
DZM	**Mont Dzumac**	**19.11**	**145**	P	**Pn**	**07 39 21.4**	**-0.2**
1.1nm,0.3s,baz=320,slow=7.3,SNR=12							
WRAB	**Tennant Creek**	**23.74**	**234**	*e*P	**P**	**07 40 07.5**	**-1.8**
32nm,1.1s							
WRA	**Warramunga Arr**	**23.76**	**234**	P	**P**	**07 40 08.1**	**-1.3**
WRA				PcP	**PcP**	**07 43 52.6**	**+0.2**
WRA				ScP	**ScP**	**07 47 32.2**	**+5.3**
WRA	**Warramunga Arr**	**23.76**	**234**	P	**P**	**07 40 08.1**	**-1.3**
6.2nm,0.5s,baz=55,slow=9.2,SNR=69							
WRA				PcP	**PcP**	**07 43 52.6**	**+0.2**
0.7nm,0.7s,baz=41,slow=2.5,SNR=5.2							
WRA				ScP	**ScP**	**07 47 32.2**	**+5.3**
2.5nm,1.0s,baz=51,slow=2.9,SNR=8.9							
WRA				LR	LR	07 48 51.8	
comp=Z,181nm,19.3s,baz=55,slow=35							
ASAR	**Alice Springs**	**26.17**	**227**	P	**P**	**07 40 29.8**	**-1.7**
ASAR				PcP	**PcP**	**07 43 57.8**	**+0.1**
ASAR				ScP	**ScP**	**07 47 38.2**	**+4.5**
ASAR	**Alice Springs**	**26.17**	**227**	P	**P**	**07 40 29.8**	**-1.7**
2.1nm,0.8s,baz=59,slow=9.2,SNR=18							
ASAR				PcP	**PcP**	**07 43 57.8**	**+0.1**
0.6nm,0.9s,baz=38,slow=4.7,SNR=3.3							
ASAR				ScP	**ScP**	**07 47 38.2**	**+4.5**
2.2nm,0.9s,baz=68,slow=3.8,SNR=10							
ASAR				LR	LR	07 51 10.3	
comp=Z,222nm,18.7s,baz=9.0,slow=37							
STKA	**Stephens Creek**	**27.93**	**204**	P	**P**	**07 40 48.2**	**+1.2**
STKA	**Stephens Creek**	**27.93**	**204**	P	**P**	**07 40 48.2**	**+1.2**
2.7nm,0.5s,baz=25,slow=15,SNR=8.8							
STKA				LR	LR	07 49 49.5	
comp=Z,189nm,20.4s,baz=23,slow=32							
AFI	**Afiamalu**	**33.77**	**105**	LR	LR	07 51 27.2	
comp=Z,60nm,19.9s,baz=127,slow=30							
KSRS	**Korea Array**	**50.47**	**332**	P	**P**	**07 43 55.9**	**+1.6**
0.6nm,0.4s,baz=148,slow=9.1,SNR=2.9							
KSAR	**Wonju Array Be**	**50.47**	**332**	P	**P**	**07 43 55.9**	**+1.5**
PPT	**Papeete**	**55.42**	**107**	LR	LR	08 02 50.3	
comp=Z,82nm,18.8s,baz=238,slow=30							
PPT2	**Papeete2**	**55.42**	**107**	*e*LR	LR	08 00 34.0	
63nm,23.5s							
TBI	**Tubuai**	**56.12**	**114**	*e*LR	LR	08 00 59.2	
126nm,36.0s							
CMAR	**Chiang Mai Arr**	**60.33**	**295**	P	**P**	**07 45 06.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**60.33**	**295**	P	**P**	**07 45 06.8**	**+1.1**
1.0nm,0.3s,baz=109,slow=5.0,SNR=7.8							
CMAR				LR	LR	08 09 04.0	
comp=Z,20nm,18.6s,baz=135,slow=34							
FX1	**Attu Island--F**	**61.34**	**13**	LR	LR	08 09 16.9	
comp=Z,58nm,18.4s,baz=57,slow=34							
SONM	**Songino Array**	**68.85**	**327**	P	**P**	**07 46 00.5**	**-0.4**
SONM	**Songino Array**	**68.85**	**327**	P	**P**	**07 46 00.5**	**-0.4**
0.4nm,0.4s,baz=142,slow=4.2,SNR=4.3							
MK31	**Makanchi Array**	**82.92**	**319**	*e*P	**P**	**07 47 20.6**	**-0.4**
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**	**07 47 21.1**	**0.0**
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**	**07 47 21.1**	**0.0**
1.4nm,0.8s,baz=99,slow=6.3,SNR=5.4							
ILAR	**Eielson Array**	**83.16**	**22**	P	**P**	**07 47 20.8**	**-1.0**
ILAR	**Eielson Array**	**83.16**	**22**	P	**P**	**07 47 20.8**	**-1.0**
1.0nm,0.9s,baz=250,slow=4.7,SNR=2.1							
ILAR				LR	LR	08 23 44.6	
comp=Z,81nm,18.7s,baz=255,slow=35							
QSPA	**South Pole Qui**	**83.34**	**180**	*e*P	**P**	**07 47 23.2**	**+0.1**
11nm,1.0s							
ZALV	**Zalesovo Beam**	**83.70**	**326**	P	**P**	**07 47 23.0**	**-1.8**
ZALV	**Zalesovo Beam**	**83.70**	**326**	P	**P**	**07 47 23.0**	**-1.8**
0.7nm,0.4s,baz=104,slow=6.1,SNR=3.5							
MAW	**Mawson**	**84.60**	**203**	*e*P	**P**	**07 47 29.1**	**-0.2**
0.8nm,0.7s							
MAW	**Mawson**	**84.60**	**203**	P	**P**	**07 47 28.5**	**-0.7**
1.1nm,0.8s,baz=244,slow=5.3,SNR=2.8							
NVAR	**Mina Array Bea**	**91.75**	**52**	P	**P**	**07 48 03.5**	**-0.9**
NVAR	**Mina Array Bea**	**91.75**	**52**	P	**P**	**07 48 03.5**	**-0.9**
2.5nm,0.9s,baz=250,slow=6.8,SNR=15							
NV11	**Mina Array Sit**	**91.87**	**52**	*e*P	**P**	**07 48 05.5**	**+0.7**
PDAR	**Pinedale Array**	**98.70**	**48**	P	Pdif	07 48 39.7	+3.7
PDAR	**Pinedale Array**	**98.70**	**48**	P	Pdif	07 48 39.7	+3.7
0.6nm,0.8s,baz=270,slow=1.5,SNR=4.7							
PDAR				LR	LR	08 30 40.2	
comp=Z,63nm,18.5s,baz=172,slow=34							
BDFB	**Brasilia**	**148.47**	**135**	PKPbc	**PKPbc**	**07 54 43.8**	**0.0**
BDFB	**Brasilia**	**148.47**	**135**	PKPbc	**PKPbc**	**07 54 43.8**	**0.0**
8.1nm,0.9s,baz=260,slow=3.2,SNR=8.5							
TOA0	**Torodi Ar. Sit**	**152.61**	**286**	*e*PKPbc	**PKPbc**	**07 54 53.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**152.61**	**286**	PKP	**PKPdf**	**07 54 45.9**	**-0.7**
TORD				PKPbc	**PKPbc**	**07 54 53.1**	**-0.4**
TORD				PKPab	**PKPab**	**07 55 02.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**152.61**	**286**	PKP	**PKPdf**	**07 54 45.9**	**-0.7**
0.9nm,0.9s,baz=40,slow=3.3,SNR=4.5							
TORD				PKPbc	**PKPbc**	**07 54 53.1**	**-0.4**
5.8nm,0.9s,baz=58,slow=1.7,SNR=23							
TORD				PKPab	**PKPab**	**07 55 02.8**	**-1.5**
3.2nm,0.7s,baz=58,slow=2.8,SNR=7.7							

*ISCJB **25** 07:35:41.9±0.5, 37°.56N±0°.03×35°.69E±0°.03, h5km±5km, Error ellipse: s-maj=4.9km s-min=3.3km az=173.8*

*ISK **25** 07:35:41.6, 37°.56N×35°.68E, h4km, MD3.6*

*DDA **25** 07:35:41.4, 37°.53N×35°.74E, h7km, MD3.6, ML3.7*

*CSEM **25** 07:35:42.1±0.2, 37°.55N×35°.69E, h2km, MD3.6, Error ellipse: s-maj=4.3km s-min=3.5km az=7.0*

ISC 25 07:35:42.4±0.8, 37°.54N±0°.03×35°.71E±0°.02, h15km±6km, n57, σ1°22/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.11**	**123**	PG	**Pg**	**07 35 45.9**	**+0.1**
KOZT				*e*SG	**Sg**	**07 35 47.9**	**-0.1**
KOZT	**Kozan**	**0.11**	**123**	*i* Pg	**Pg**	**07 35 45.9**	**+0.1**
KOZT				*e*Sg	**Sg**	**07 35 47.9**	**-0.1**
ANDN	**Andirin**	**0.51**	**86**	*i* P	**Pg**	**07 35 51.9**	**-0.6**
ANDN				*i* S	**Sb**	**07 36 00.5**	**+0.2**
ANDN	**Andirin**	**0.51**	**86**	*i* P	**Pg**	**07 35 51.9**	**-0.6**
ANDN				*i* S	**Sb**	**07 36 00.5**	**+0.2**
CEYT	**Ceyhan**	**0.53**	**176**	*e*PG	**Pg**	**07 35 53.0**	**+0.1**
CEYT				*e*SG	**Sb**	**07 36 01.3**	**+0.5**
CEYT	**Ceyhan**	**0.53**	**176**	*e*Pg	**Pg**	**07 35 53.0

IRO	Indian Ridge	3.55	79	P		Pn	07 40 44.1	-2.0
KHMM	Horse Mountain	3.57	134	*e*Pn		Pn	07 40 45.5	-0.7
SSOR	Sweet Springs	3.62	65	P		Pn	07 40 46.1	-0.8
YBH	Yreka Blue Hor	3.65	116	*e*Pn		Pn	07 40 45.2	-2.1
YBH				*e*Sn		Sn	07 41 28.9	-1.0
YBH	Yreka Blue Hor	3.65	116	Pn		Pn	07 40 45.5	-1.8
	1.6nm,0.3s,baz=302,slow=12,SNR=49							
G04A	Mulino	3.76	60	P		Pn	07 40 48.0	-0.6
F04A	Amboy	4.17	51	P		Pn	07 40 53.9	-0.4
TDH	Tom, Dick, Har	4.23	62	P		Pn	07 40 54.9	-0.4
LVP	Lakeview Peak	4.25	50	P		Pn	07 40 55.4	-0.2
WDC	Whiskeytown Da	4.42	128	*e*Pn		Pn	07 40 58.7	+0.9
SWFL	Southwest Flan	4.44	50	P		Pn	07 40 58.4	+0.1
NLWA	Neilton Lookou	4.57	29	*e*Pn		Pn	07 40 59.1	-0.7
NLWA				*e*Sn		Sn	07 41 51.1	-1.3
LON	Longmire	5.00	47	*e*Pn		Pn	07 41 05.7	-0.1
HOPS	Hopland	5.36	144	*e*Pn		Pn	07 41 11.1	+0.4
EBG	Ellensburg	5.78	51	P		Pn	07 41 16.9	+0.4
PGC	Sidney	5.80	25	*e*Pn		Pn	07 41 16.7	-0.1
PGC				*e*Sn		Sn	07 42 22.4	-0.4
OHCM	Honcut	5.87	132	*e*Pn		Pn	07 41 19.9	+2.2
WVOR	Wild Horse Val	6.28	96	*e*Pn		Pn	07 41 20.6	-2.9
BMO	Blue Mountains	7.18	75	*e*Pn		Pn	07 41 34.2	-1.6
CMB	Columbia Colle	7.41	134	*e*Pn		Pn	07 41 41.2	+2.3
MFID	Camas Ranch	8.20	86	⇑P		Pn	07 41 49.2	-0.5
	baz=8.3							
NVAR	Mina Array Bea	8.31	124	Pn		Pn	07 41 51.5	0.0
NVAR	Mina Array Bea	8.31	124	Pn		Pn	07 41 51.5	0.0
	0.2nm,0.3s,baz=301,slow=12,SNR=8.7							
NVAR				LR		LR	07 45 05.4	
	comp=Z,243nm,18.4s,baz=154,slow=40							
NEW	Newport	8.47	52	*e*Pn		Pn	07 41 52.8	-0.7
NEW	Newport	8.47	52	⇑P		Pn	07 41 52.7	-0.7
	baz=8.7,SNR=11							
BBB	Bella Bella	8.79	356	LR		LR	07 44 46.2	
	comp=Z,325nm,20.1s,baz=325,slow=32							
HLID	Hailey	9.21	85	*e*Pn		Pn	07 42 05.4	+1.6
HLID	Hailey	9.21	85	⇓P		Pn	07 42 04.7	+1.0
	baz=9.3							
RCTC	Rector, Farmer	9.32	137	⇓P		Pn	07 42 06.3	+1.3
	baz=9.2							
BSMT	Bassoo Peak	9.68	59	*e*Pn		Pn	07 42 11.0	+0.8
VES	Vestal, Richgr	9.77	138	⇑P		Pn	07 42 12.5	+1.4
	baz=9.6							
MSO	Missoula	9.89	65	*e*Pn		Pn	07 42 12.0	-1.0
MSO	Missoula	9.89	65	⇓P		Pn	07 42 11.9	-1.1
	baz=10,SNR=10							
JTMT	Jette	9.96	60	*e*Pn		Pn	07 42 13.9	-0.1
BLMT	Blacktail Moun	10.01	58	*e*Pn		Pn	07 42 15.6	+1.0
SWMT	Swartz Lake	10.06	62	*e*Pn		Pn	07 42 15.2	0.0
YBMT	Yellow Bay	10.17	60	*e*Pn		Pn	07 42 16.8	0.0
SLMT	Seeley Lake	10.30	64	*e*Pn		Pn	07 42 17.9	-0.8
MCMT	McKenzie Canyo	10.34	77	*e*Pn		Pn	07 42 19.2	0.0
CHMT	Chamberlain Mo	10.37	66	*e*Pn		Pn	07 42 18.7	-0.9
DLMT	Dillon	10.55	74	*e*Pn		Pn	07 42 22.9	+0.9
LRM	Limekiln Ridge	10.71	72	*e*Pn		Pn	07 42 24.0	-0.2
WALA	Waterton Lakes	10.72	54	*e*Pn		Pn	07 42 24.4	+0.2
EDW2	Edwards Air Fo	11.07	137	⇓P		Pn	07 42 30.6	+1.5
	baz=11							
BOZ	Bozeman (W)	11.26	73	*e*Pn		Pn	07 42 31.7	0.0
I16A	Newdale	11.32	82	⇓P		Pn	07 42 32.3	-0.3
	baz=11,SNR=6.0							
QLMT	Earthquake Lak	11.34	77	*e*Pn		Pn	07 42 34.2	+1.2
GSC	Goldstone	11.36	132	*e*Pn		Pn	07 42 35.8	+2.8
GSC	Goldstone	11.36	132	⇑P		Pn	07 42 34.3	+1.2
	baz=11							
SHPR	Sheep Range	11.46	123	*e*Pn		Pn	07 42 36.5	+1.9
H16A	Russell Place,	11.47	78	⇓P		Pn	07 42 35.0	+0.3
	baz=12,SNR=11							
RRI2	Red Ridge	11.48	85	*e*Pn		Pn	07 42 35.7	+0.9
HWUT	Hardware Ranch	11.60	94	*e*Pn		Pn	07 42 36.1	-0.4
YMR	Madison River	11.67	78	*e*Pn		Pn	07 42 40.2	+2.7
IMW	Indian Meadow	11.71	82	*e*Pn		Pn	07 42 39.5	+1.4
TPAW	Teton Pass	11.73	84	*e*Pn		Pn	07 42 39.3	+1.0
TUQ	Turquoise Moun	11.74	129	⇑P		Pn	07 42 40.2	+1.8
	baz=12,SNR=5.6							
BFSC	Mount Baldy Ra	11.75	138	⇓P		Pn	07 42 38.6	+0.1
	baz=12							
YFT	Old Faithful	11.77	79	*e*Pn		Pn	07 42 41.0	+2.3
REDW	Red Top Meadow	11.82	85	*e*Pn		Pn	07 42 39.8	+0.4
G17A	Pierce Place,	11.85	75	⇓P		Pn	07 42 40.2	+0.3
	baz=12,SNR=8.0							
SNOW	Snow King Moun	11.88	84	*e*Pn		Pn	07 42 41.9	+1.6
E17A	Martinsdale	11.89	70	⇓P		Pn	07 42 39.9	-0.5
	baz=12,SNR=14							
H17A	Grant Village	11.95	80	*e*Pn		Pn	07 42 43.8	+2.5
F17A	Fitzpatrick Pl	11.96	72	⇑P		Pn	07 42 41.0	-0.3
	baz=12							
HEC	Hector,Ludlow	11.97	132	⇑P		Pn	07 42 41.7	+0.4
	baz=12							
LOHW	Long Hollow	11.97	83	*e*Pn		Pn	07 42 42.9	+1.4
D17A	Six Diamond Ra	12.13	66	⇑P		Pn	07 42 42.8	-0.9
	baz=12							
C17A	Wharram Farm,	12.19	64	⇑P		Pn	07 42 43.7	-0.7
	baz=12							
B17A	L&G Farms, Che	12.35	61	⇑P		Pn	07 42 46.3	-0.2
	baz=12							
GMRC	Granite Mounta	12.37	130	⇓P		Pn	07 42 48.2	+1.2
	baz=12							
LDFC	Landfair	12.47	128	*e*Pn		Pn	07 42 51.1	+2.9
E18A	Harlowton	12.55	70	⇑P		Pn	07 42 48.8	-0.6
	baz=13,SNR=8.2							
F18A	Big Timber	12.61	73	⇑P		Pn	07 42 50.5	+0.3
	baz=13							
GCMT	Greycliff	12.64	73	*e*Pn		Pn	07 42 50.7	+0.1
G18A	Lazy EL Ranch,	12.68	75	⇑P		Pn	07 42 51.0	-0.2
	baz=13,SNR=8.0							
PDAR	Pinedale Array	12.83	87	Pn		Pn	07 42 54.0	+0.7
PDAR	Pinedale Array	12.83	87	Pn		Pn	07 42 54.0	+0.7
	0.1nm,0.3s,baz=277,slow=15,SNR=6.8							
PDAR				LR		LR	07 48 09.8	
	comp=Z,435nm,18.9s,baz=321,slow=41							
PFO	Pinyon Flat Ob	12.85	136	LR		LR	07 47 59.1	
	comp=Z,284nm,18.2s,baz=331,slow=39							
B18A	Beardsley Farm	13.03	62	⇑P		Pn	07 42 55.8	-0.1
	baz=13							
I19A	Meeteetse	13.10	81	⇓P		Pn	07 42 56.7	-0.2
	baz=13							
IRM	Iron Mountain	13.11	131	⇑P		Pn	07 42 58.4	+1.5
	baz=13							
J19A	Crowheart	13.13	84	⇓P		Pn	07 42 56.9	-0.4
	baz=13							
A18A	Metzger Ranch,	13.14	59	⇓P		Pn	07 42 56.9	-0.4
	baz=13							
F19A	Roth Farm, Mol	13.15	73	⇓P		Pn	07 42 57.5	0.0
	baz=13							
E19A	Rath Farm, Rou	13.31	70	⇑P		Pn	07 42 59.9	+0.2
	baz=14							
C19A	Slack Wire Ran	13.34	65	⇑P		Pn	07 42 59.2	-1.0
	baz=14,SNR=8.7							
D19A	Cripps Ranch,	13.35	67	⇓P		Pn	07 42 59.6	-0.6
	baz=14,SNR=9.6							
K20A	Yellowstone Ra	13.73	87	⇓P		Pn	07 43 04.9	-0.6
	baz=14							
A19A	Klindworth Far	13.84	60	⇓P		Pn	07 43 06.3	-0.6
	baz=14							
113A	Mohawk Valley,	14.92	131	⇓P		Pn	07 43 23.4	+1.8
	baz=15							
X16A	Lo Mia Camp, P	15.12	121	⇓P		Pn	07 43 25.1	+0.6
	baz=15							
DLBC	Dease Lake	15.14	354	LR		LR	07 48 36.9	
	comp=Z,260nm,18.6s,baz=167,slow=34							
G23A	Biddle	15.63	76	⇓P		Pn	07 43 31.0	+0.1
	baz=16							
A22A	Carney Farms,	15.66	62	⇑P		Pn	07 43 31.0	-0.3
	baz=16							
D23A	Lindsay	15.83	69	⇓P		Pn	07 43 33.8	+0.2
	baz=16,SNR=6.0							
Q22A	Crested Butte,	15.86	100	⇑P		Pn	07 43 34.5	+0.3
	baz=16							
214A	Organ Pipe Nat	16.06	131	⇓P		Pn	07 43 37.9	+1.4
	baz=16							
O23A	Lake Granby, G	16.10	94	⇑P		Pn	07 43 37.1	-0.2
	baz=16							
B23A	Brockton	16.15	64	⇑P		Pn	07 43 37.3	-0.4
	baz=16							
R22A	Saguache, Gunn	16.23	102	⇑P		Pn	07 43 39.0	+0.1
	baz=16							
H24A	Dirks Ranch, A	16.24	78	⇑P		Pn	07 43 38.7	-0.1
	baz=16							
P23A	Jefferson	16.44	97	⇑P		Pn	07 43 40.9	-0.8
	baz=16							
ISCO	Idaho Springs	16.45	95	*e*P		Pn	07 43 42.9	+1.1
	8.8nm,1.7s							
T22A	Edith	16.68	106	⇓P		Pn	07 43 44.7	+0.1
	baz=17,SNR=6.5							
DGMT	Dagmar	16.68	64	*e*P		Pn	07 43 44.9	+0.5
	16nm,1.0s							
A24A	Westby	16.88	63	⇓P		Pn	07 43 46.5	-0.4
	baz=17							
I25A	Rochford	16.89	80	⇓P		Pn	07 43 46.9	-0.2
	baz=17							
R23A	Moffat	16.91	101	⇑P		Pn	07 43 47.5	0.0
	baz=17							
G25A	Newell	17.02	76	⇑P		Pn	07 43 48.7	0.0
	baz=17,SNR=7.5							
U22A	Llaves	17.02	108	⇓P		Pn	07 43 49.6	+0.7
	baz=17							
Q24A	Divide	17.09	98	⇓P		Pn	07 43 49.7	-0.2
	baz=17							
C25A	Freed Ranch, W	17.20	67	⇑P		Pn	07 43 50.8	-0.1
	baz=17							
SDCO	Great Sand Dun	17.33	102	*e*P		Pn	07 43 52.2	-0.7
	31nm,2.0s							
J26A	Sides Ranch, S	17.45	82	⇓P		Pn	07 43 53.8	-0.3
	baz=18							
S24A	Houchin Ranch,	17.58	102	⇓P		Pn	07 43 54.8	-1.2
	baz=18							
T24B	San Luis	17.72	104	⇓P		Pn	07 43 57.6	-0.1
	baz=18							
B26A	Jensen Ranch,	17.96	65	⇓P		Pn	07 44 00.3	0.0
	baz=18							
F27A	Lemmon	17.98	73	⇓P		P	07 44 01.3	+0.2
	baz=18,SNR=5.8							
ANMO	Albuquerque	18.06	111	*e*P		Pn	07 44 01.9	+0.1
	7.0nm,1.7s							
ANMO	Albuquerque	18.06	111	P		Pn	07 44 01.4	-0.4
	0.1nm,0.3s,baz=306,slow=13,SNR=4.4							
ANMO				LR		LR	07 51 26.9	
	comp=Z,92nm,19.0s,baz=214,slow=40							
G27A	Dupree	18.06	75	⇑P		P	07 44 01.9	-0.1
	baz=18							
I27A	Quinn	18.09	79	⇑P		Pn	07 44 01.3	-0.6
	baz=18							
S25A	Robets Cordova	18.13	101	⇓P		P	07 44 02.9	0.0
	baz=18							
Q26A	Hugo	18.28	96	⇑P		Pn	07 44 03.7	-0.8
	baz=18							
V24A	Rampart Ranch,	18.46	107	⇓P		Pn	07 44 07.1	+0.4
	baz=18							
W24A	Lazy 6 Ranch,	18.64	109	⇓P		Pn	07 44 09.1	+0.3
	baz=19							
U25A	Circle Dot Ran	18.73	104	⇑P		Pn	07 44 09.9	0.0
	baz=19							
G28A	Parade	18.80	76	⇓P		Pn	07 44 10.4	-0.1
	baz=19							
F28A	McLaughlin	18.84	73	⇓P		P	07 44 10.6	+0.1
	baz=19							
V25A	Rancho No Teng	18.86	106	⇓P		Pn	07 44 11.5	0.0
	baz=19							
E28A	Huff	18.90	71	⇑P		Pn	07 44 11.5	-0.3
	baz=19							
T26A	Comanche Natio	18.95	101	⇑P		Pn	07 44 12.2	-0.3
	baz=19							
R27A	Eads	19.05	97	⇑P		Pn	07 44 13.5	-0.2
	baz=19							
O28A	Krutsinger Ran	19.14	91	⇓P		P	07 44 14.2	+0.3
	baz=19							
S27A	Las Animas	19.22	99	⇓P		Pn	07 44 15.3	-0.5
	baz=19							
A28A	Rude Farm, Bot	19.32	64	⇑P		Pn	07 44 16.4	-0.4
	baz=20							
V26A	Tequesquite Ra	19.46	105	⇓P		Pn	07 44 18.3	-0.4
	baz=19,SNR=6.5							
U27A	Thompson Grove	19.84	102	⇓P		P	07 44 22.0	+0.4
	baz=20							
FFC	Flin Flon	19.84	46	*e*P		P	07 44 21.7	+0.4
	11nm,1.0s							
O29A	4D Ranch, Culb	19.85	91	⇑P		P	07 44 22.0	+0.4
	baz=20							
B29A	Wagenman Farm,	19.88	66	⇓P		P	07 44 22.5	+0.7
	baz=20,SNR=5.8							
A29A	Manning Farm,	20.00	64	⇓P		P	07 44 23.8	+0.7
	baz=20,SNR=10							
T28A	Walsh	20.03	100	⇓P		P	07 44 24.1	+0.5
	baz=20							
124A	Stringfield Ra	20.06	115	⇓P		P	07 44 24.4	+0.3
	baz=20							
X26A	CR and CF Fran	20.10	108	⇓P		Pn	07 44 25.6	-0.7
	baz=20,SNR=5.1							
Z25A	Roswell	20.20	113	⇓P		P	07 44 26.4	+0.9
	baz=20							
D30A	Buchanan	20.23	70	⇑P		P	07 44 24.7	-0.9
	baz=20							
O30A	MW Ranch, Wils	20.38	90	⇓P		P	07 44 27.9	+0.6
	baz=20							
YKA	Yellowknife Ar	20.46	17	P		Pn	07 44 34.8	+4.7
YKA	Yellowknife Ar	20.46	17	P		Pn	07 44 34.8	+4.7
	1.5nm,0.5s,baz=203,slow=10,SNR=4.9							
B30A	Myrvik Farm, E	20.56	66	⇑P		P	07 44 30.0	+0.9
	baz=21							
125A	Gardner Draw,	20.62	114	⇑P		Pn	07 44 31.8	-0.6
	baz=21							
Z26A	Caprock	20.70	112	⇓P		P	07 44 32.1	+1.1
	baz=21							
R30A	Dighton	20.88	95	⇑P		P	07 44 33.5	+0.7
	baz=21							
Y27A	Causey	20.91	109	⇑P		P	07 44 34.1	+0.9
	baz=21							
Z27A	Tatum	21.20	110	⇓P		P	07 44 37.0	+0.7
	baz=21							
325A	Bean Ranch, Si	21.22	117	⇓P		P	07 44 36.9	+0.2
	baz=21							
226B	Tecolote Peak,	21.30	114	⇓P		P	07 44 38.5	+1.1
	baz=21							
R31A	Burdett	21.42	94	⇓P		P	07 44 39.7	+1.1
	baz=21							
Y28A	McKinney Farm,	21.53	108	⇓P		P	07 44 40.2	+0.4
	baz=22							
425A	Indio Mountain	21.60	118	⇓P		P	07 44 41.8	+1.2
	baz=22							
X29A	Tulia	21.62	106	⇑P		P	07 44 41.4	+0.6
	baz=22							
ECSD	EROS Data Cent	22.02	79	*e*P		P	07 44 44.6	-0.3
	14nm,1.6s							
AGMN	Agassiz Nation	22.19	66	*e*P		P	07 44 46.5	-0.2
	10nm,1.2s							
426A	McDonald Obser	22.29	117	⇑P		P	07 44 48.7	+0.5
	baz=22							
ULM	Lac du Bonnet	22.30	61	P		P	07 44 50.0	+2.2
ULM	Lac du Bonnet	22.30	61	P		P	07 44 50.0	+2.2
	8.7nm,0.9s,baz=270,slow=10,SNR=6.2							
ULM				LR		LR	07 53 45.1	
	comp=Z,222nm,20.6s,baz=235,slow=38							
527A	Woodward Ranch	22.91	118	⇓P		P	07 44 55.6	+1.0
	baz=23							
626A	Big Bend Ranch	22.97	119	⇑P		P	07 44 55.8	+0.5
	baz=23							
TXAR	Lajitas Array	23.42	119	P		P	07 45 00.8	+1.1
TXAR	Lajitas Array	23.42	119	P		P	07 45 00.8	+1.1
	0.7nm,0.9s,baz=295,slow=7.2,SNR=8.3							
TXAR				LR		LR	07 53 16.2	
	comp=Z,57nm,20.3s,baz=180,slow=35							
627A	Terlingua Ranc	23.52	119	⇑P		P	07 45 02.0	+1.2
	baz=23							
LPIG	La Paz	23.71	139	LR		LR	07 53 22.9	
	comp=Z,131nm,19.1s,baz=325,slow=35							
429A	Davenport Ranc	23.72	114	⇑P		P	07 45 03.7	+1.0
	baz=24							
Z32A	Haskell	23.79	106	⇑P		P	07 45 03.4	+0.2
	baz=24							
430A	Baggett Ranch,	24.06	113	⇑P		P	07 45 06.9	+1.0
	baz=24							
ILAR	Eielson Array	24.12	339	LR		LR	07 53 18.9	
	comp=Z,80nm,18.5s,baz=234,slow=33							
PPLA	Purkeypile	24.34	332	*e*P		P	07 45 09.9	+1.6
	2.9nm,0.7s							
232A	Coleman	24.48	109	⇑P		P	07 45 10.0	+0.4
	baz=24							
SPMN	St. Paul	24.49	74	*e*P		P	07 45 11.7	+2.1
INK	Inuvik	25.17	354	LR		LR	07 54 43.1	
	comp=Z,161nm,19.8s,baz=108,slow=35							
FRB	Frobisher Bay	38.50	38	LR		LR	08 03 50.6	
	comp=Z,110nm,18.3s,baz=249,slow=38							
SCHQ	Schefferville	39.84	52	LR		LR	08 03 51.7	
	comp=Z,175nm,18.1s,baz=329,slow=37							
CN2	Changchun	71.69	313	*e*P		P	07 51 13.5	+1.3
ZALV	Zalesovo Beam	79.23	341	LR		LR	08 27 21.4	
	comp=Z,44nm,19.1s,baz=340,slow=36							
HHC	Hu-ho-hao-te	80.86	319	*e*P		P	07 52 03.3	-1.3
HHC				sP		sP	07 52 10.5	-2.3
HHC				PP		PP	07 55 09.0	+0.7
HHC				S		S	08 02 09.0	-3.1
HHC				SKS		SKSac	08 02 16.0	-6.4
HHC				SS		SS	08 07 23.5	-1.2
HHC				LR		LR		
	comp=Z,150nm,17.5s							
WMQ	Urumqi	87.74	336	*e*P		P	07 52 40.5	+1.2
GYA	Guiyang	94.74	313	*e*P		P	07 53 12.8	+0.5

PGC 25 07:41:36.8±1.2, 66°13N×135°40W, h20km, ML3.8/3, 12D, 151km southwest of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	Inuvik	2.30	18	⇑Pn	Pn	07 42 12.7	-0.8
INK				⇓Sn	Sn	07 42 40.7	-0.5
INK				⇑Sg	Sb	07 42 46.2	+0.7
DAWY	Dawson	2.68	221	⇑Pn	Pn	07 42 18.9	+0.2
DAWY				⇑Pg	Pb	07 42 25.2	+1.2
DAWY				⇑Sn	Sn	07 42 52.0	+1.4
DAWY				⇓Sg	Sb	07 42 58.3	+1.8
HYT	Haines Junctio	5.41	191	⇓Pn	Pn	07 42 57.7	+1.3
HYT				⇑Sg	Sb	07 44 22.1	+6.8
WHY	Whitehorse	5.50	177	⇓Pn	Pn	07 42 58.2	+0.6
WHY				⇓Sg	Sb	07 44 25.8	+8.0
DLBC	Dease Lake	8.12	160	⇑Pn	Pn	07 43 31.4	-2.0
YKR2	Yellowknife Ar	9.60	103	⇓Sn	Sn	07 45 31.9	-8.8
YKR3	Yellowknife Ar	9.62	103	⇑Pn	Pn	07 43 52.1	-1.7
YKR4	Yellowknife Ar	9.64	103	⇑Pn	Pn	07 43 52.2	-1.9
YKB0	Yellowknife Ar	9.66	102	⇑Pn	Pn	07 43 52.2	-2.1
YKB0				⇑Sn	Sn	07 45 33.6	-8.5
YKR5	Yellowknife Ar	9.66	103	⇑Pn	Pn	07 43 52.4	-2.0
YKR5				⇑Sn	Sn	07 45 33.6	-8.5
YKW3	Yellowknife Ar	9.68	102	⇑Pn	Pn	07 43 53.0	-1.7
YKW3				⇑Sn	Sn	07 45 33.3	-9.3
YKR6	Yellowknife Ar	9.68	102	⇑Pn	Pn	07 43 52.5	-2.2
YKR6				⇑Sn	Sn	07 45 32.8	-10
YKB8	Yellowknife Ar	9.68	102	⇑Pn	Pn	07 43 52.7	-2.0
YKB8				⇑Sn	Sn	07 45 32.5	-10
YKB7	Yellowknife Ar	9.69	102	⇓Pn	Pn	07 43 53.0	-1.8
YKB7				⇓Sn	Sn	07 45 33.5	-9.4
YKR7	Yellowknife Ar	9.70	102	⇓Pn	Pn	07 43 52.6	-2.3
YKR7				⇓Sn	Sn	07 45 34.2	-8.8
YKB6	Yellowknife Ar	9.70	102	⇓Pn	Pn	07 43 53.0	-2.0
YKB6				⇑Sn	Sn	07 45 34.4	-8.9
YKR8	Yellowknife Ar	9.71	102	⇓Pn	Pn	07 43 52.9	-2.3
YKW2	Yellowknife Ar	9.75	103	⇑Sn	Sn	07 45 35.2	-9.2

*IDC **25** 07:51:14.6±0.6, 14°09N×93°10E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.0/30, mbtmp4.1/17, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=22.9km s-min=14.2km az=58.0*
*ISCJB **25** 07:51:17.4±0.5, 14°16N±0°06×93°11E±0°05, h32km, mb4.1/18, MS3.0/1, Error ellipse: s-maj=9.2km s-min=7.3km az=14.7*
*NEIC **25** 07:51:19.9±0.4, 14°09N×93°12E, h35km, mb4.2/2, Error ellipse: s-maj=10.2km s-min=9.1km az=215.0*

ISC 25 07:51:19.9±0.6, 14°21N±0°08×93°02E±0°06, h32km, n56, σ1§27/66, mb4.1/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.08	53	Pn	Pn	07 53 01.6	+0.2
CMAR				Sn	Sn	07 54 20.1	-0.7
CMAR	Chiang Mai Arr	7.08	53	Pn	Pn	07 53 01.6	+0.2
	0.7nm,0.3s,baz=240,slow=15,SNR=9.0						
CMAR				Sn	Sn	07 54 20.1	-0.7
	0.6nm,0.3s,baz=240,slow=28,SNR=2.8						
CHTO	Chiang Mai	7.30	50	*e*Pn	Pn	07 53 04.4	+0.1
	6.3nm,0.6s						
VIS	Vishakhapatnam	9.95	292	*i* P	Pn	07 53 41.6	+0.9
VIS				*i* S	Sn	07 55 25.9	-5.5
SHL	Shillong	11.35	355	*e*P	Pn	07 54 02.0	+2.0
SHL				*e*S	Sn	07 56 02.0	-3.8
ODAN	Odare	13.64	338	*e*P	Pn	07 54 31.9	+0.5
RAMN	Ramite	14.02	336	*e*P	Pn	07 54 37.2	+0.6
PKI	Pulchoki	15.07	333	*e*P	Pn	07 54 50.8	0.0
PKIN	Phulchoki	15.08	333	*e*P	Pn	07 54 50.3	-0.6
DMN	Daman	15.23	332	*e*P	Pn	07 54 52.8	-0.2
KKN	Kakani	15.31	333	*e*P	Pn	07 54 53.7	-0.3
KOLN	Koldanda	16.09	328	*e*P	Pn	07 55 03.5	-0.5
	20nm,0.5s						
PYUN	Piuthan	16.67	328	*e*P	Pn	07 55 11.5	+0.1
POO	Poona	18.89	286	*e*P	Sn	07 59 04.0	-5.2
MK31	Makanchi Array	33.70	347	*e*P	P	07 57 59.5	+1.4
MKAR	Makanchi Array	33.70	347	P	P	07 57 58.4	+0.3
MKAR				PcP	PcP	08 00 38.5	+1.1
MKAR	Mak

IDC 25 07:55:31.1±7.6, 6°.75S×153°.30E, h154km±51km, mb3.2/4, mb1 3.4/6, mb1mx3.2/21, mbtmp3.2/6, Error ellipse: s-maj=85.3km s-min=35.1km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.63**	**246**	P	Pn	07 57 05.9	-0.4
	1.5nm,0.3s,baz=41,slow=9.3,SNR=3.1						
CTA	**Charters Tower**	**14.92**	**207**	P	Pn	07 58 54.7	+0.3
	0.1nm,0.3s,baz=31,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**22.60**	**233**	P	P	08 00 19.7	+0.7
	1.2nm,0.6s,baz=55,slow=9.4,SNR=25						
ASAR	**Alice Springs**	**25.10**	**226**	P	P	08 00 41.4	-0.5
	0.5nm,0.7s,baz=59,slow=8.9,SNR=5.4						
FITZ	**Fitzroy Crossi**	**29.22**	**245**	P	P	08 01 19.0	+0.3
	1.6nm,0.9s,baz=73,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**82.11**	**319**	P	P	08 07 35.5	+0.8
	0.3nm,0.7s,baz=117,slow=5.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.34**	**285**	PKPbc	PKPbc	08 15 06.5	-1.2
	0.3nm,0.4s,baz=61,slow=2.5,SNR=4.1						

IDC 25 08:00:20.0±1.9, 6°.76S×143°.48E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=75.8km s-min=27.2km az=118.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.83**	**213**	Pn	Pn	08 04 02.3	-2.1
	0.2nm,0.3s,baz=30,slow=13,SNR=10						
WRA				Lg	Lg	08 08 49.3	
	0.1nm,0.3s,baz=30,slow=26,SNR=6.0						
ASAR	**Alice Springs**	**19.16**	**208**	P	Pn	08 04 46.0	-0.1
	0.2nm,0.3s,baz=35,slow=11,SNR=18						
FITZ	**Fitzroy Crossi**	**20.73**	**235**	P	P	08 05 02.0	-0.3
	1.3nm,0.5s,baz=39,slow=6.5,SNR=6.7						
MKAR	**Makanchi Array**	**75.88**	**322**	P	P	08 12 09.1	+0.7
	0.3nm,0.7s,baz=117,slow=5.0,SNR=3.3						
ILAR	**Eielson Array**	**87.56**	**24**	P	P	08 13 09.3	-0.4
	0.3nm,0.8s,baz=238,slow=5.2,SNR=3.2						

MEX 25 08:15:10.4±0.8, 17°.16N×92°.14W, h4km±8km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.88**	**180**	*i* P	Pg	08 15 25.4	-2.1
CCIG				*i* S	Sg	08 15 37.3	-1.7
TGIG		**1.01**	**248**	*e*P	Pg	08 15 27.0	-2.9
TGIG				*i* S	Sg	08 15 40.8	-2.3
PCIG		**1.78**	**216**	*e*P	Pn	08 15 39.0	-2.9
PCIG				*i* S	Sn	08 15 59.8	-5.2
SCIG	**Sabancuy**	**2.01**	**27**	*i* P	Pn	08 15 41.7	-3.4
SCIG				*i* S	Sn	08 16 06.2	-4.5
CMIG	**Matias Romero**	**2.62**	**269**	*e*P	Pn	08 15 54.9	+1.3
CMIG				*i* S	Sn	08 16 25.5	-0.4
HUIG	**Huatulco**	**4.05**	**251**	*e*P	Pb	08 16 20.3	-2.0
VHO	**Vista Hermosa**	**4.39**	**269**	*e*P	Pn	08 16 16.0	-2.1
VHO				*i* S	Sn	08 17 06.8	-3.1
PNIG	**Pinotepa**	**5.78**	**263**	*e*P	Pn	08 16 31.2	-5.8

*IDC **25** 08:31:40.5±0.6, 14°.07N×93°.13E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/29, mbtmp4.0/15, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/39, Error ellipse: s-maj=24.1km s-min=14.4km az=55.0*
*ISCJB **25** 08:31:43.6±0.6, 14°.17N±0°.08×93°.31E±0°.07, h32km, mb4.0/15, MS3.2/2, Error ellipse: s-maj=12.4km s-min=9.5km az=151.8*
*NEIC **25** 08:31:45.9±0.4, 14°.08N×93°.16E, h35km, mb4.4/2, Error ellipse: s-maj=9.7km s-min=9.1km az=218.0*

ISC 25 08:31:45.6±0.6, 14°.20N±0°.09×93°.22E±0°.09, h32km, n43, σ1§03/47, mb3.9/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.94**	**52**	Pn	**Pn**	**08 33 27.7**	**+2.5**
CMAR				Sn	**Sn**	**08 34 41.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**6.94**	**52**	Pn	**Pn**	**08 33 27.7**	**+2.5**
	0.9nm,0.3s,baz=238,slow=14,SNR=3.9						
CMAR				Sn	**Sn**	**08 34 41.3**	**-1.8**
	baz=160,slow=29,SNR=1.4						
CHTO	**Chiang Mai**	**7.16**	**49**	*e*Pn	**Pn**	**08 33 29.0**	**+0.9**
	10nm,0.6s						
SHL	**Shillong**	**11.38**	**354**	*e*P	**Pn**	**08 34 24.0**	**-2.2**
SHL				*e*S	Sn	08 36 24.0	-8.4
AAK	**Ala-Archa**	**32.62**	**334**	LR	LR	08 52 36.8	
	comp=Z,51nm,18.5s,baz=332,slow=38						
MKAR	**Makanchi Array**	**33.76**	**346**	P	**P**	**08 38 25.5**	**+1.1**
MKAR	**Makanchi Array**	**33.76**	**346**	P	**P**	**08 38 25.5**	**+1.1**
	0.8nm,0.6s,baz=159,slow=9.3,SNR=4.0						
SONM	**Songino Array**	**35.28**	**15**	P	**P**	**08 38 39.3**	**+1.6**
SONM	**Songino Array**	**35.28**	**15**	P	**P**	**08 38 39.3**	**+1.6**
	0.8nm,0.8s,baz=199,slow=10,SNR=5.8						
KSRS	**Korea Array**	**38.55**	**47**	LR	LR	08 57 31.8	
	comp=Z,42nm,21.0s,baz=216,slow=40						
ZALV	**Zalesovo Beam**	**40.21**	**352**	P	**P**	**08 39 19.6**	**+0.6**
ZALV	**Zalesovo Beam**	**40.21**	**352**	P	**P**	**08 39 19.6**	**+0.6**
	0.9nm,0.3s,baz=181,slow=13,SNR=2.6						
ABKAR	**Akbulak array**	**44.33**	**329**	*e*P	**P**	**08 39 53.5**	**+0.9**
	2.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.30**	**134**	P	**P**	**08 39 59.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**45.30**	**134**	P	**P**	**08 39 59.8**	**-1.0**
	1.4nm,0.4s,baz=352,slow=7.2,SNR=10						
AKTO	**Aktyubinsk**	**46.04**	**329**	P	**P**	**08 40 06.0**	**-0.3**
AKTO	**Aktyubinsk**	**46.04**	**329**	P	**P**	**08 40 06.0**	**-0.3**
	0.5nm,0.4s,baz=113,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**52.79**	**129**	P	**P**	**08 40 57.5**	**-0.7**
WRA				PcP	**PcP**	**08 42 07.1**	**-0.3**
WRA	**Warramunga Arr**	**52.79**	**129**	P	**P**	**08 40 57.5**	**-0.7**
	0.7nm,0.6s,baz=303,slow=10,SNR=8.7						
WRA				PcP	**PcP**	**08 42 07.1**	**-0.3**
	1.8nm,0.6s,baz=320,slow=3.2,SNR=17						
ASAR	**Alice Springs**	**54.76**	**133**	P	**P**	**08 41 11.9**	**-0.7**
ASAR				PcP	**PcP**	**08 42 14.9**	**0.0**
ASAR	**Alice Springs**	**54.76**	**133**	P	**P**	**08 41 11.9**	**-0.7**
	0.6nm,0.4s,baz=309,slow=6.9,SNR=16						
ASAR				PcP	**PcP**	**08 42 14.9**	**0.0**
	0.5nm,0.7s,baz=320,slow=3.6,SNR=4.9						
BRTR	**Keskin Array B**	**57.73**	**308**	P	**P**	**08 41 33.3**	**-0.5**
BRTR	**Keskin Array B**	**57.73**	**308**	P	**P**	**08 41 33.3**	**-0.5**
	1.6nm,0.7s,baz=127,slow=7.1,SNR=8.7						
ARCES	**ARCESS Array B**	**69.05**	**340**	P	**P**	**08 42 47.9**	**-0.1**
ARCES	**ARCESS Array B**	**69.05**	**340**	P	**P**	**08 42 47.9**	**-0.1**
	1.8nm,0.9s,baz=90,slow=7.3,SNR=9.3						
GERES	**GERESS Array B**	**72.57**	**317**	P	**P**	**08 43 10.0**	**+0.1**
GERES	**GERESS Array B**	**72.57**	**317**	P	**P**	**08 43 10.0**	**+0.1**
	0.3nm,0.3s,baz=72,slow=4.3,SNR=5.8						
NOA	**NORSAR Array B**	**73.83**	**330**	P	**P**	**08 43 16.4**	**-0.6**
NOA	**NORSAR Array B**	**73.83**	**330**	P	**P**	**08 43 16.4**	**-0.6**
	0.8nm,0.6s,baz=87,slow=5.8,SNR=3.1						
BOSA	**Boshof**	**78.24**	**236**	*e*P	**P**	**08 43 42.9**	**+0.1**
	3.9nm,0.7s						
BOSA	**Boshof**	**78.24**	**236**	P	**P**	**08 43 43.2**	**+0.5**
	3.1nm,0.7s,baz=7.5,slow=4.7,SNR=7.5						
TORD	**Torodi Ar. Bea**	**88.28**	**283**	P	**P**	**08 44 34.7**	**0.0**
TORD	**Torodi Ar. Bea**	**88.28**	**283**	P	**P**	**08 44 34.7**	**0.0**
	2.1nm,0.9s,baz=74,slow=4.6,SNR=11						
ILAR	**Eielson Array**	**89.25**	**22**	P	**P**	**08 44 37.8**	**-0.5**
ILAR	**Eielson Array**	**89.25**	**22**	P	**P**	**08 44 37.8**	**-0.5**
	0.4nm,0.9s,baz=311,slow=5.7,SNR=4.5						
PDAR	**Pinedale Array**	**119.58**	**19**	PKP	**PKPdf**	**08 50 32.1**	**-0.7**
PDAR	**Pinedale Array**	**119.58**	**19**	PKP	**PKPdf**	**08 50 32.1**	**-0.7**
	0.5nm,0.8s,baz=48,slow=5.4,SNR=3.6						
NVAR	**Mina Array Bea**	**119.90**	**28**	PKP	**PKPdf**	**08 50 34.7**	**+1.1**
NVAR	**Mina Array Bea**	**119.90**	**28**	PKP	**PKPdf**	**08 50 34.7**	**+1.1**
	0.4nm,0.6s,baz=308,slow=1.6,SNR=4.1						
TXAR	**Lajitas Array**	**133.75**	**21**	PKP	**PKPdf**	**08 51 01.2**	**+1.1**
TXAR	**Lajitas Array**	**133.75**	**21**	PKP	**PKPdf**	**08 51 01.2**	**+1.1**
	0.2nm,0.5s,baz=138,slow=0.1,SNR=4.7						
CPUP	**Villa Florida**	**149.93**	**242**	PKPbc	**PKPbc**	**08 51 32.9**	**-0.6**
CPUP	**Villa Florida**	**149.93**	**242**	PKPbc	**PKPbc**	**08 51 32.9**	**-0.6**
	0.5nm,0.6s,baz=126,slow=14,SNR=2.7						

*NIED **25** 08:35:00.40°.00N×144°.80E, h5km, Mw3.6 Best double couple: M0=2.65000×10^14 NP1:φs=190.00000°, δ81.00000°, λ-141.00000°. NP2:φs=93.00000°, δ52.00000°, λ-11.00000°.*
*IDC **25** 08:35:45.4±0.8, 39°.85N×145°.16E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.8/28, mbtmp3.7/12, ML3.5/3, Error ellipse: s-maj=20.7km s-min=18.9km az=121.0*
*ISCJB **25** 08:35:48.2±0.5, 39°.98N±0°.05×144°.86E±0°.05, h32km, mb3.6/9, Error ellipse: s-maj=5.5km s-min=3.8km az=33.9*
*JMA **25** 08:35:49.2±0.2, 40°.02N×144°.79E, h44km, M4.1*

ISC 25 08:35:49.8±0.8, 39°.98N±0°.05×144°.96E±0°.06, h32km, n31, σ1§65/47, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**2.38**	**270**	P	**Pn**	**08 36 25.0**	**-1.6**
JEM	**Erimo**	**2.45**	**327**	P	**Pn**	**08 36 26.6**	**-0.9**
JEM				*e*S	**Sn**	**08 36 54.1**	**-2.2**
MIYJ	**Miyakonagasawa**	**2.46**	**261**	P	**Pn**	**08 36 26.5**	**-1.1**
MIYJ				S	**Sn**	**08 36 53.9**	**-2.6**
JANG	**Nango**	**2.67**	**279**	P	**Pn**	**08 36 29.2**	**-1.4**
JANG				S	**Sn**	**08 36 58.4**	**-3.4**
JCH	**Churui**	**2.89**	**336**	P	**Pn**	**08 36 32.3**	**-1.3**
JCH				*e*S	**Sn**	**08 37 05.7**	**-1.5**
JMK	**Ichinoseki**	**3.08**	**252**	P	**Pn**	**08 36 35.1**	**-1.0**
JMK				S	**Sn**	**08 37 09.2**	**-2.6**
JTM	**Tenmabayashi**	**3.08**	**286**	P	**Pn**	**08 36 35.6**	**-0.6**
JTM				*e*S	**Sn**	**08 37 10.2**	**-1.7**
JOT	**Ohata**	**3.29**	**296**	P	**Pn**	**08 36 38.4**	**-0.6**
JOT				*e*S	**Sn**	**08 37 15.0**	**-2.0**
JAH	**Hinai**	**3.33**	**275**	P	**Pn**	**08 36 39.2**	**-0.3**
JAH				S	**Sn**	**08 37 16.8**	**-1.2**
JRG	**Rokugo**	**3.39**	**261**	P	**Pn**	**08 36 39.8**	**-0.7**
JRG				*e*S	**Sn**	**08 37 19.0**	**-0.6**
NEM2	**Nemuro 2**	**3.43**	**10**	P	**Pn**	**08 36 38.4**	**-2.5**
NEM2				*e*S	**Sn**	**08 37 15.9**	**-4.6**
JKB	**Kayabe**	**3.53**	**304**	P	**Pn**	**08 36 41.8**	**-0.6**
JOU	**Okura**	**3.71**	**246**	P	**Pn**	**08 36 43.8**	**-1.1**
JOU				*e*S	**Sn**	**08 37 25.0**	**-2.5**
JYK	**Kaneyama**	**3.72**	**255**	P	**Pn**	**08 36 44.4**	**-0.6**
JYK				S	**Sn**	**08 37 25.8**	**-1.9**
JTKR	**Abashiri--Toko**	**4.06**	**349**	P	**Pn**	**08 36 48.7**	**-0.9**
JTKR				*e*S	**Sn**	**08 37 35.1**	**-0.9**
JFT	**Otama**	**4.38**	**237**	P	**Pn**	**08 36 53.2**	**-0.8**
JFT				*e*S	**Sn**	**08 37 40.8**	**-3.1**
JHR	**Hokuryu**	**4.47**	**328**	P	**Pn**	**08 36 56.5**	**+1.3**
JHR				*e*S	**Sn**	**08 37 46.8**	**+0.7**
ASAJ	**Asahikawa**	**4.49**	**338**	Pn	**Pn**	**08 36 55.0**	**-0.5**
	4.1nm,0.3s,baz=186,slow=10,SNR=20						
ASAJ				Sn	**Sn**	**08 37 48.2**	**+1.6**
	3.0nm,0.3s,baz=75,slow=33,SNR=8.0						
JOSM	**Okushiri--Mats**	**4.65**	**299**	P	**Pn**	**08 36 57.2**	**-0.5**
MJAR	**Matsushiro Arr**	**6.33**	**239**	Pn	**Pn**	**08 37 20.7**	**-0.2**
	1.0nm,0.3s,baz=55,slow=10.0,SNR=12						
MAT	**Matsushiro**	**6.33**	**239**	P	**Pn**	**08 37 20.7**	**-0.2**
MAT				S	**Sn**	**08 38 34.1**	**+2.1**
USRK	**Ussuriysk Arra**	**10.51**	**298**	Pn	**Pn**	**08 38 19.1**	**+0.9**
	0.4nm,0.3s,baz=103,slow=14,SNR=25						
SONM	**Songino Array**	**28.63**	**299**	P	**P**	**08 41 44.8**	**+1.5**
	0.6nm,0.6s,baz=90,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**45.51**	**34**	P	**P**	**08 44 05.8**	**0.0**
	0.3nm,0.6s,baz=250,slow=7.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**46.44**	**306**	P	P	08 44 16.9	+3.5
	0.3nm,0.3s,baz=79,slow=8.8,SNR=2.3						
WRA	**Warramunga Arr**	**60.43**	**192**	P	**P**	**08 45 55.0**	**-1.2**
	0.4nm,0.6s,baz=10,slow=7.1,SNR=8.9						
ASAR	**Alice Springs**	**64.16**	**191**	P	**P**	**08 46 21.5**	**+0.4**
	0.1nm,0.6s,baz=351,slow=4.8,SNR=3.2						
FINES	**FINESS Array B**	**67.48**	**333**	P	**P**	**08 46 43.8**	**+1.7**
	1.4nm,0.9s,baz=61,slow=14,SNR=2.7						
NVAR	**Mina Array Bea**	**71.01**	**56**	P	**P**	**08 47 05.9**	**+1.2**
	0.5nm,0.6s,baz=294,slow=7.1,SNR=6.4						
PDAR	**Pinedale Array**	**73.62**	**48**	P	**P**	**08 47 20.6**	**+0.4**
	0.8nm,0.5s,baz=282,slow=0.8,SNR=10						
TXAR	**Lajitas Array**	**86.13**	**55**	P	**P**	**08 48 27.8**	**-0.1**
	0.4nm,0.7s,baz=312,slow=2.6,SNR=6.9						

IDC 25 08:59:56.7±5.4, 23°.82S×115°.39W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.5/3, MS3.3/4, Ms1 3.3/4, ms1mx3.1/16, Error ellipse: s-maj=312.7km s-min=87.8km az=112.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**41.02**	**125**	LR	LR	09 20 03.0	
	comp=Z,73nm,21.2s,baz=133,slow=29						
CFAA	**Coronel Fontan**	**42.20**	**111**	LR	LR	09 20 41.8	
	comp=Z,15nm,19.7s,baz=270,slow=30						
CMIG	**Matias Romero**	**45.32**	**28**	LR	LR	09 23 03.3	
	comp=Z,63nm,22.0s,baz=9.6,slow=31						
CPUP	**Villa Florida**	**52.27**	**106**	LR	LR	09 25 41.9	
	comp=Z,31nm,19.1s,baz=7.1,slow=30						
TXAR	**Lajitas Array**	**54.04**	**13**	P	P	09 09 23.9	+0.8
	0.5nm,1.0s,baz=193,slow=12,SNR=3.1						
NVAR	**Mina Array Bea**	**61.98**	**357**	P	P	09 10 19.4	+0.7
	0.5nm,0.7s,baz=184,slow=11,SNR=3.8						
PDAR	**Pinedale Array**	**66.47**	**5**	P	P	09 10 47.0	-1.2
	0.5nm,0.7s,baz=155,slow=6.6,SNR=2.2						
MKAR	**Makanchi Array**	**153.04**	**333**	PKPbc	PKPbc	09 19 56.3	+0.2
	0.3nm,0.8s,baz=48,slow=2.1,SNR=2.7						

WEL 25 09:46:59.8±0.1, 39°.70S×176°.87E, h32km, ML3.7/30, 15C-6D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.09**	**176**	⇑P*	Pb	09 47 05.6	+0.1
KAHZ				S*	Sb	09 47 09.9	+0.6
CKHZ	**Cape Kidnapper**	**0.17**	**75**	⇑P*	Pn	09 47 06.4	+0.2
MCHZ	**McNeill Hill**	**0.29**	**333**	⇓P*	Pb	09 47 06.3	-1.1
MCHZ				S*	Sb	09 47 11.9	-0.6
PXZ	**Pawanui**	**0.33**	**181**	⇑P*	Pn	09 47 08.5	+0.1
PXZ				AML	AML	09 47 16.8	
PXZ				AML	AML	09 47 16.9	
PXZ				AML	AML	09 47 17.4	
PXZ				AML	AML	09 47 17.4	
WPHZ	**Waipukurau**	**0.49**	**222**	⇓P*	Pb	09 47 10.1	-0.1
PNHZ	**Pukenui**	**0.56**	**248**	⇓PN	Pb	09 47 10.3	-1.1
PRHZ	**Porangahau**	**0.59**	**198**	⇑PN	Pb	09 47 11.9	+0.1
NMHZ	**Naumai**	**0.61**	**355**	⇑PN	Pb	09 47 11.6	-0.6
BKZ	**Black Stump Fm**	**0.61**	**331**	PN	Pb	09 47 10.7	-1.5
BKZ				SN	Sb	09 47 19.7	-1.0
BKZ				AML	AML	09 47 20.9	
BHHZ	**Black Hill Sta**	**0.66**	**289**	⇑PN	Pb	09 47 11.2	-1.9
TSZ	**Takapari Road**	**0.78**	**243**	⇑PN	Pn	09 47 13.6	-1.2
TSZ				AML	AML	09 47 25.2	
TSZ				AML	AML	09 47 25.6	
RAHZ	**Arahi**	**0.80**	**12**	⇓PN	Pn	09 47 14.6	-0.4
DVHZ	**Dannevirke**	**0.80**	**222**	PN	Pn	09 47 14.1	-0.9
MOVZ	**Moawhango**	**0.91**	**289**	⇑PN	Pn	09 47 15.4	-1.1
MOVZ				AML	AML	09 47 16.3	
MOVZ				AML	AML	09 47 28.3	
KNZ	**Kokohu**	**0.92**	**43**	PN	Pn	09 47 15.8	-0.8
MHGZ	**Mahia Peninsul**	**0.97**	**56**	⇓PN	Pn	09 47 16.9	-0.5
HATZ	**Hinemaiaia**	**1.01**	**323**	PN	Pn	09 47 17.3	-0.6
HATZ				AML	AML	09 47 33.4	
HATZ				AML	AML	09 47 36.7	
TUVZ	**Tukino**	**1.04**	**294**	PN	Pn	09 47 17.9	-0.4
TUVZ				AML	AML	09 47 19.3	
TUVZ				AML	AML	09 47 38.7	
WNVZ	**Wahianoa**	**1.05**	**290**	⇑PN	Pn	09 47 18.1	-0.5
WNVZ				AML	AML	09 47 36.1	
WNVZ				AML	AML	09 47 38.5	
RITZ	**Rihia Road**	**1.07**	**312**	⇑PN	Pn	09 47 18.3	-0.3
RITZ				AML	AML	09 47 38.7	
RITZ				AML	AML	09 47 39.7	
OTVZ	**Oturere**	**1.08**	**300**	⇑PN	Pn	09 47 18.4	-0.5
OTVZ				AML	AML	09 47 35.9	
OTVZ				AML	AML	09 47 36.7	
BFZ	**Birch Farm**	**1.09**	**206**	PN	Pn	09 47 18.2	-0.7
POWZ	**Post Office Ro**	**1.09**	**230**	PN	Pn	09 47 18.2	-0.7
DRZ	**Dome Shelter**	**1.10**	**293**	PN	Pn	09 47 19.0	-0.4
DRZ				AML	AML	09 47 22.2	
DRZ				AML	AML	09 47 37.5	
TRVZ	**Turoa**	**1.10**	**291**	PN	Pn	09 47 19.0	-0.4
TRVZ				AML	AML	09 47 19.8	
TRVZ				AML	AML	09 47 35.1	
PRGZ	**Paritu Road**	**1.11**	**46**	PN	Pn	09 47 18.5	-0.7
FWVZ	**Far West T-bar**	**1.11**	**293**	⇑PN	Pn	09 47 18.7	-0.8
FWVZ				AML	AML	09 47 19.6	
FWVZ				AML	AML	09 47 20.1	
NGZ	**Ngauruhoe**	**1.11**	**298**	PN	Pn	09 47 18.9	-0.6
NGZ				AML	AML	09 47 24.2	
NGZ				AML	AML	09 47 36.3	
MTVZ	**Mangateitei**	**1.13**	**286**	PN	Pn	09 47 19.6	+0.1
MTVZ				AML	AML	09 47 38.0	
MTVZ				AML	AML	09 47 41.8	
KRVZ	**Karewarewa**	**1.13**	**302**	⇑PN	Pn	09 47 19.0	-0.6
KRVZ				AML	AML	09 47 22.7	
KRVZ				AML	AML	09 47 22.8	
WPVZ	**Whakapapa**	**1.14**	**295**	PN	Pn	09 47 19.1	-0.6
WPVZ				AML	AML	09 47 39.1	
WPVZ				AML	AML	09 47 40.0	
WTVZ	**West Tongariro**	**1.15**	**300**	PN	Pn	09 47 19.3	-0.6
WTVZ				AML	AML	09 47 26.6	
WTVZ				AML	AML	09 47 40.4	
KATZ	**Kakaramea**	**1.17**	**308**	PN	Pn	09 47 19.6	-0.5
KATZ				AML	AML	09 47 23.3	
KATZ				AML	AML	09 47 37.6	
RATZ	**Rangitukua**	**1.19**	**314**	PN	Pn	09 47 19.6	-0.7
RATZ				AML	AML	09 47 43.6	
RATZ				AML	AML	09 47 46.3	
ALRZ	**Allen Road**	**1.21**	**340**	PN	Pn	09 47 19.9	-0.7
WHTZ	**Whakaora**	**1.25**	**325**	PN	Pn	09 47 21.6	+0.4
TIWZ	**Tintock**	**1.31**	**215**	*e*PN	Pn	09 47 21.3	-0.7
WATZ	**Wairara**	**1.33**	**318**	PN	Pn	09 47 21.1	-1.1
WATZ				AML	AML	09 47 49.5	
MRZ	**Mangatainoka R**	**1.38**	**225**	⇑PN	Pn	09 47 21.4	-1.4
MRZ				AML	AML	09 47 45.2	
MRZ				AML	AML	09 47 45.7	
HRRZ	**Handcock Road**	**1.39**	**341**	PN	Pn	09 47 22.9	-0.1
RRRZ	**Republican Roa**	**1.39**	**348**	PN	Pn	09 47 22.3	-0.7
WAZ	**Wanganui**	**1.45**	**267**	PN	Pn	09 47 24.4	+0.4
WAZ				AML	AML	09 47 46.7	
WAZ				AML	AML	09 47 47.3	
URZ	**Urewera**	**1.45**	**8**	PN	Pn	09 47 22.9	-1.0
URZ				AML	AML	09 47 47.3	
URZ				AML	AML	09 47 52.9	
MWZ	**Matawai**	**1.46**	**21**	⇓PN	Pn	09 47 23.0	-1.0
MWZ				AML	AML	09 47 23.2	
MWZ				AML	AML	09 47 58.4	
MWZ				AML	AML	09 48 00.1	
HOWZ	**Holdsworth Sta**	**1.58**	**221**	PN	Pn	09 47 24.1	-1.6
OGWZ	**Otaki Gorge**	**1.71**	**229**	PN	Pn	09 47 25.7	-1.7
VRZ	**Vera Road**	**1.73**	**289**	*e*PN	Pn	09 47 27.4	-0.4
VRZ				AML	AML	09 47 56.5	
VRZ				AML	AML	09 48 01.6	
CAW	**Cannon Point**	**1.96**	**224**	AML	AML	09 48 07.3	
CAW				AML	AML	09 48 21.6	
HIZ	**Hauiti**	**1.97**	**307**	⇑PN	Pn	09 47 29.9	-1.1
HIZ				AML	AML	09 48 07.8	
PAWZ	**Paruwai Farm**	**2.00**	**213**	AML	AML	09 48 14.7	
TOZ	**Tahuroa Road**	**2.24**	**331**	PN	Pn	09 47 33.5	-1.2
TCW	**Tory Channel**	**2.49**	**232**	AML	AML	09 48 25.9	
TUWZ	**Tuamarina**	**2.82**	**231**	AML	AML	09 48 33.1	

GUC 25 11:04:34.4±0.8, 32°.49S×71°.80W, h28km±3km, MD3.6, ML2.7, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.31**	**98**	⇓*i*P	Pb	11 04 42.0	0.0
PACH				*i* S	Sb	11 04 47.7	+0.6
IHA	**Instituto Hidr**	**0.55**	**166**	*e*P	Pb	11 04 44.7	-0.8
IHA				*i* S	Sb	11 04 53.4	+0.3
ROCH	**El Roble**	**0.82**	**126**	⇓*i*P	Pn	11 04 49.6	-0.8
ROCH				*i* S	Sb	11 05 01.2	-0.1
ROCH				AML	AML	11 05 03.2	
	comp=N,384nm,0.3s						
PEL	**Peldehue**	**1.14**	**125**	⇑*i*P	Pn	11 04 54.9	+0.2
PEL				*i* S	Sn	11 05 09.8	+0.4
PEL				AML	AML	11 05 13.3	
	comp=E,453nm,0.2s						
CLCH	**Cerro Calan**	**1.39**	**131**	⇑*i*P	Pn	11 04 58.8	+0.7
CLCH				*i* S	Sb	11 05 16.8	-0.5
CLCH				AML	AML	11 05 20.4	
	comp=E,179nm,0.4s						
CMCH	**Combarbala**	**1.48**	**28**	*e*P	Pn	11 04 59.7	+0.4
CMCH				*i* S	Sb	11 05 19.4	-0.6
CMCH				AML	AML	11 05 23.5	
	comp=E,358nm,0.8s						
FCH	**Farellones**	**1.52**	**124**	*e*P	Pn	11 04 59.5	-0.6
FCH				*i* S	Sn	11 05 20.4	+1.0
FCH				AML	AML	11 05 26.0	
	comp=N,91nm,0.3s

ARKR pmax pmax
comp=Z,514nm,0.3s
ARKR Arakani 0.99 138 *e*Pg **Pb 11 12 49.6 +0.2**
comp=Z,514nm,0.3s
ARKR *e*Sg **Sb 11 13 02.4 -0.1**
TRKR Terskaya 1.06 292 ⇓*i*PG **Pn 11 12 52.5 +1.5**
TRKR *i* S **Sn 11 13 08.7 +2.9**
TRKR Terskaya 1.06 292 *i* Pg **Pn 11 12 52.5 +1.5**
VLKR Vladikavkaz 1.07 255 ⇑*i*PG **Pg 11 12 48.4 -2.4**
VLKR *i* S **Sg 11 13 04.1 -0.7**
MAK Makhachkala 1.10 110 *e*PG **Pn 11 12 52.7 +1.1**
MAK *e* 11 13 09.8
MAK pmax pmax
comp=Z,674nm,0.4s
MAK smax smax
comp=N,8μm,0.6s
MAK smax smax
comp=E,10μm,0.6s
MAK Makhachkala 1.10 110 *e*Pg **Pn 11 12 52.7 +1.1**
comp=E,674nm,0.4s
BTKR Batakoyurt 1.13 272 *e*PG **Pn 11 12 53.4 +1.4**
BTKR Batakoyurt 1.13 272 *e*Pg **Pn 11 12 53.4 +1.4**
GNBR Gunib 1.15 146 *i* PG **Pn 11 12 53.2 +0.9**
GNBR Gunib 1.15 146 *i* Pg **Pn 11 12 53.2 +0.9**
ARNR Ardon 1.33 264 ⇓*i*PG **Pb 11 12 56.2 +1.0**
ARNR *e*S **Sn 11 13 15.6 +3.1**
ARNR Ardon 1.33 264 *i* Pg **Pb 11 12 56.2 +1.0**
ARNR *e*Sg **Sn 11 13 15.6 +3.1**
MNSR Manas 1.35 117 ⇓*i*PG **Pb 11 12 57.0 +1.5**
MNSR *e*S **Sn 11 13 16.0 +3.0**
MNSR pmax pmax
comp=Z,1μm,0.4s
MNSR Manas 1.35 117 *i* Pg **Pb 11 12 57.0 +1.5**
comp=Z,1μm,0.4s
MNSR *e*Sg **Sn 11 13 16.0 +3.0**
PRTR Priterechnaya 1.38 288 *e*PG **Pb 11 12 57.4 +1.4**
PRTR *e*S **Sn 11 13 17.8 +4.2**
PRTR Priterechnaya 1.38 288 *e*Pg **Pb 11 12 57.4 +1.4**
PRTR *e*Sg **Sn 11 13 17.8 +4.2**
LACR Lac 1.41 249 ⇑*i*PG **Pn 11 12 55.8 -0.2**
LACR *i* S **Sb 11 13 15.4 +0.7**
LACR Lac 1.41 249 *i* Sg **Sb 11 13 15.4 +0.7**
KMKR Kumukh 1.42 148 ⇑*i*PG **Pb 11 12 57.5 +0.7**
KMKR *e*S **Sn 11 13 17.0 +2.1**
KMKR pmax pmax
comp=Z,886nm,0.5s
KMKR Kumukh 1.42 148 *i* Pg **Pb 11 12 57.5 +0.7**
comp=Z,886nm,0.5s
KMKR *e*Sg **Sn 11 13 17.0 +2.1**
SGKR Sergokala 1.45 127 *i* PG **Pb 11 12 58.0 +0.8**
SGKR *i* S **Sn 11 13 19.0 +3.6**
SGKR pmax pmax
comp=Z,1μm,0.3s
SGKR Sergokala 1.45 127 *i* Pg **Pb 11 12 58.0 +0.8**
comp=Z,1μm,0.3s
SGKR *i* Sg **Sn 11 13 19.0 +3.6**
KORR Kora 1.50 261 ⇓*i*PG **Pg 11 12 58.7 -0.3**
KORR *i* S **Sn 11 13 19.6 +2.9**
KORR Kora 1.50 261 *i* Pg **Pg 11 12 58.7 -0.3**
KORR *i* Sg **Sn 11 13 19.6 +2.9**
DUS Dusheti 1.61 220 *e*PN **Pg 11 13 00.4 -0.7**
DUS Dusheti 1.61 220 P **Sg 11 13 24.2 +2.2**
DUS Dusheti 1.61 220 *e*Pn **Pg 11 13 00.4 -0.7**
URKR Urkarakh 1.63 135 *i* PN **Pb 11 13 00.0 -0.4**
URKR *e*S **Sg 11 13 24.0 +1.3**
URKR Urkarakh 1.63 135 *i* Pn **Pb 11 13 00.0 -0.4**
URKR *e*Sg **Sg 11 13 24.0 +1.3**
LSNR Lesken 1.66 269 ⇓*i*PN **Pb 11 13 00.2 -0.7**
LSNR *e*S **Sg 11 13 23.6 0.0**
LSNR Lesken 1.66 269 *i* Pn **Pb 11 13 00.2 -0.7**
LSNR *e*Sg **Sg 11 13 23.6 0.0**
ZEI Tsey 1.70 251 *e*PN **Pn 11 13 00.1 0.0**
ZEI Tsey 1.70 251 *e*Pn **Pn 11 13 00.1 0.0**
NCK Nalchik 1.82 276 *e*PN **Pb 11 13 02.7 -0.9**
NCK Nalchik 1.82 276 *e*Pn **Pb 11 13 02.7 -0.9**
DIGR Digorskoe uzhe 1.89 257 *e*PN **Pn 11 13 02.7 +0.1**
DIGR Digorskoe uzhe 1.89 257 *e*Pn **Pn 11 13 02.7 +0.1**
TBLG Delisi 1.89 212 PN **Pb 11 13 05.1 +0.3**
TBLG Delisi 1.89 212 P **Pb 11 13 05.1 +0.3**
TBLG S **Sb 11 13 29.1 +0.7**
TBLG Delisi 1.89 212 P **Pb 11 13 05.1 +0.3**
TBLG S **Sb 11 13 29.1 +0.7**
DGRG David-gareji 1.96 196 *e*PN **Pb 11 13 06.0 +0.1**
DGRG *e*S **Sg 11 13 33.3 +0.2**
DGRG David-gareji 1.96 196 P **Pg 11 13 07.5 -0.3**
DGRG S **Sg 11 13 33.3 +0.2**
DGRG David-gareji 1.96 196 *e*Pn **Pb 11 13 06.0 +0.1**
DGRG David-gareji 1.96 196 P **Pg 11 13 07.5 -0.3**
DGRG S **Sg 11 13 33.3 +0.2**
DRN Derbent 2.11 128 ⇓*i*PN **Pg 11 13 09.0 -1.5**
DRN *i* S **Sg 11 13 37.0 -0.8**
DRN pmax pmax
comp=Z,610nm,0.4s
AKT Akhty 2.22 146 ⇑*i*PN **Pb 11 13 10.2 -0.2**
AKT *e*S **Sg 11 13 40.2 -1.3**
AKT Akhty 2.22 146 *i* Pn **Pb 11 13 10.2 -0.2**
SEKA Sheki 2.28 159 ⇓P **Pn 11 13 09.7 +1.8**
SNR=68
SEKA ⇑S **Sb 11 13 39.1 -0.6**
SEKA Sheki 2.28 159 P **Pn 11 13 09.7 +1.8**
SNR=68
SEKA S **Sb 11 13 39.1 -0.6**
KSMR Kasumkent 2.30 138 *i* PN **Pb 11 13 12.0 +0.3**
KSMR *e*S **Sg 11 13 43.0 -1.0**
KZR Kazreti 2.32 213 P **Sn 11 13 38.2 +1.3**
KBZ Khabaz 2.35 281 PN **Pn 11 13 08.7 -0.1**
KBZ 11 13 37.6
KBZ Khabaz 2.35 281 Pn **Pn 11 13 08.7 -0.1**
KBZ Sn **Sn 11 13 37.5 -0.1**
KBZ Khabaz 2.35 281 Pn **Pn 11 13 08.7 -0.1**
comp=Z,8.0nm,0.3s,baz=129,slow=4.1,SNR=195
KBZ Sn **Sn 11 13 37.5 -0.1**
comp=Z,34nm,0.3s,baz=119,slow=22,SNR=9.1
KBZ Khabaz 2.35 281 Pn **Pn 11 13 08.7 -0.1**
KBZ Sn **Sn 11 13 37.6 -0.1**
KIV Kislovodsk 2.55 285 *i* PN **Pn 11 13 11.4 -0.2**
KIV Kislovodsk 2.55 285 *i* Pn **Pn 11 13 11.4 -0.2**
QUBA Quba, Azerbaij 2.67 137 ⇓P **Pb 11 13 18.0 0.0**
SNR=10
QUBA ⇑S **Sb 11 13 53.1 +2.4**
QUBA Quba, Azerbaij 2.67 137 P **Pb 11 13 18.0 0.0**
SNR=10
GANJ Ganja 2.70 176 ⇑P **Pn 11 13 14.7 +1.1**
SNR=92
GANJ ⇑S **Sn 11 13 47.8 +1.6**
GANJ Ganja 2.70 176 P **Pn 11 13 14.7 +1.1**
SNR=92
GANJ S **Sn 11 13 47.8 +1.6**
AKH Akhalkalaki 2.72 226 *e*PN **Pn 11 13 16.3 +2.2**
AKH *e*S **Sb 11 13 52.2 -0.3**
AKH Akhalkalaki 2.72 226 P **Pb 11 13 17.8 -1.3**
AKH S **Sb 11 13 52.2 -0.3**
AKH Akhalkalaki 2.72 226 *e*Pn **Pn 11 13 16.3 +2.2**
AKH Akhalkalaki 2.72 226 P **Pb 11 13 17.8 -1.3**
AKH S **Sb 11 13 52.2 -0.3**
IML Ismayilli 2.98 148 ⇓P **Pn 11 13 20.2 +2.7**
SNR=19
IML ⇑S **Sb 11 14 01.6 +1.7**
IML Ismayilli 2.98 148 P **Pn 11 13 20.2 +2.7**
SNR=19
SIZA Siyzn 3.08 136 ⇑P **Pb 11 13 24.0 -1.0**
SNR=3.2
SIZA Siyzn 3.08 136 P **Pb 11 13 24.0 -1.0**
SNR=3.2
PQL Pirkuli 3.16 143 ⇑P **Pn 11 13 23.0 +3.0**
SNR=12
PQL ⇓S **Sb 11 14 07.0 +2.0**
PQL Pirkuli 3.16 143 P **Pn 11 13 23.0 +3.0**
SNR=12
BRDA Brd 3.18 165 ⇓P **Pn 11 13 22.5 +2.3**
SNR=4.2
BRDA ⇑S **Sn 11 14 02.6 +4.5**
BRDA Brd 3.18 165 P **Pn 11 13 22.5 +2.3**
SNR=4.2
BRDA S **Sn 11 14 02.6 +4.5**
DOMR Dombai 3.26 271 *e*PN **Pn 11 13 22.5 +1.1**
DOMR Dombai 3.26 271 *e*Pn **Pn 11 13 22.5 +1.1**
GNI Garni 3.34 198 *e*Pn **Pn 11 13 22.8 +0.3**
GNI *e*Sn **Sn 11 14 00.1 -2.3**
GNI Garni 3.34 198 *e*Pn **Pn 11 13 24.4 +1.8**
GNI *e*Sn **Sn 11 14 00.1 -2.3**
DIGO Kars 3.56 216 *i* P **Pb 11 13 31.3 -2.0**
DIGO *i* S **Sb 11 14 20.4 +3.9**
DIGO Kars 3.56 216 *i* P **Pb 11 13 31.3 -2.0**
ARTV Artvin 3.77 237 *i* P **Pn 11 13 30.2 +1.7**
ARTV *i* S **Sb 11 14 26.4 +3.8**
ARTV Artvin 3.77 237 *i* P **Pn 11 13 30.2 +1.7**
DAGI Agillar 3.84 235 *i* P **Pn 11 13 31.0 +1.6**
DBOC Borcka 3.84 240 *i* P **Pn 11 13 31.1 +1.9**
DBOC Borcka 3.84 240 *i* P **Pn 11 13 31.1 +1.9**
DBAD Bademkaya 4.01 236 *i* P **Pn 11 13 33.1 +1.5**
DBAD Bademkaya 4.01 236 *i* P **Pn 11 13 33.1 +1.5**
DDEM Demirkent 4.05 234 *i* P **Pn 11 13 34.0 +1.7**
DDEM Demirkent 4.05 234 *i* P **Pn 11 13 34.0 +1.7**
NAX Nakhchivan 4.18 186 ⇑P **Pn 11 13 33.9 -0.2**
SNR=7.6
NAX Nakhchivan 4.18 186 P **Pn 11 13 33.9 -0.2**
SNR=7.6
GLBA Clilabad 4.45 156 ⇑P **Pn 11 13 38.6 +1.0**
SNR=6.6
GLBA ⇓S **Sn 11 14 30.2 +0.9**
GLBA Clilabad 4.45 156 P **Pn 11 13 38.6 +1.0**
SNR=6.6
GLBA S **Sn 11 14 30.2 +0.9**
IMRD Marand 4.63 184 *e*P **Pn 11 13 42.4 +2.1**
IMRD Marand 4.63 184 *e*P **Pn 11 13 42.4 +2.1**
SOC Sochi 4.65 275 *e*PN **Pb 11 13 52.6 +0.9**
SOC *e* 11 14 34.2
SOC *e* 11 14 50.7
SOC pmax pmax
comp=Z,35nm,1.1s
SOC smax smax
comp=E,48nm,1.1s
SOC MLR MLR
comp=Z,384nm,13.0s
SOC Sochi 4.65 275 *e*Sn **Sn 11 14 34.2 -0.1**
ERZM Erzurum 4.93 228 *i* P Pb 11 13 51.8 -4.9
LKRN Lenkeran, Azer 5.05 155 ⇑P **Pn 11 13 47.4 +1.5**
LKRN ⇓S **Sn 11 14 45.4 +1.2**
LKRN Lenkeran, Azer 5.05 155 P **Pn 11 13 47.4 +1.5**
LKRN S **Sn 11 14 45.4 +1.2**
ISHB Shabestar 5.06 184 *e*P **Pn 11 13 48.3 +2.0**
ISHB Shabestar 5.06 184 *e*P **Pn 11 13 48.3 +2.0**
IHRS Heris 5.07 171 *e*P **Pn 11 13 47.7 +1.4**
ANN Anapa 6.41 286 *e*P Pn 11 14 08.5 +4.0
ANN *e*S Sb 11 15 29.1 -9.1
ANN pmax pmax
comp=Z,17nm,0.7s
ANN MLR MLR
comp=Z,168nm,15.0s
IGZV Ghazvin 7.63 154 *e*P **Pn 11 14 21.7 +0.1**
IGZV Ghazvin 7.63 154 *e*P **Pn 11 14 21.7 +0.1**
IPRN Peran 8.56 144 *e*P **Pn 11 14 31.9 -2.3**
IGLO Ghaloghah 9.05 136 *e*P **Pn 11 14 38.5 -2.5**
VSR Storozhevoye 9.18 332 *e*P **Pn 11 14 42.2 -0.2**
VSR Storozhevoye 9.18 332 *e*P **Pn 11 14 42.2 -0.2**
IKIA Kiasar 9.21 138 *e*P **Pn 11 14 42.1 -1.1**
IKIA Kiasar 9.21 138 *e*P **Pn 11 14 42.1 -1.1**
ISHM Shahmirzad 9.35 141 *e*P **Pn 11 14 43.9 -1.3**
IVRN Varamin 9.41 150 *e*P **Pn 11 14 43.7 -2.1**
IANJ Anjilo 9.92 140 *e*P **Pn 11 14 51.9 -1.0**
IANJ Anjilo 9.92 140 *e*P **Pn 11 14 51.9 -1.0**
ISFB Sefidab 10.17 150 *e*P **Pn 11 14 57.0 +0.8**
ISFB Sefidab 10.17 150 *e*P **Pn 11 14 57.0 +0.8**
ISHV Shirvan 10.58 119 *e*P **Pn 11 15 00.8 -1.1**
ISHV Shirvan 10.58 119 *e*P **Pn 11 15 00.8 -1.1**
AKTK Aktyubinsk 10.81 45 P **Pn 11 15 05.5 +0.7**
AKTO Aktyubinsk 10.81 45 ⇑Pn **Pn 11 15 05.3 +0.5**
comp=Z,12nm,0.9s
AKTO Aktyubinsk 10.81 45 P **Pn 11 15 05.5 +0.7**
AKTO 11 16 57.1
AKTO Aktyubinsk 10.81 45 Pn **Pn 11 15 05.5 +0.7**
AKTO Sn Sn 11 16 57.1 -8.6
AKTO Aktyubinsk 10.81 45 Pn **Pn 11 15 05.5 +0.7**
comp=Z,2.1nm,0.3s,baz=220,slow=8.9,SNR=16
AKTO Sn Sn 11 16 57.1 -8.6
comp=Z,4.6nm,0.3s,baz=49,slow=19,SNR=7.6
AKTO Aktyubinsk 10.81 45 Pn **Pn 11 15 05.3 +0.5**
comp=Z,12nm,0.9s
ISFR Sfrayin 11.06 121 *e*P **Pn 11 15 06.9 -1.6**
IEMG Emamgholi 11.26 117 *e*P **Pn 11 15 08.8 -2.5**
AB31 Akbukak array 11.26 53 Pn **Pn 11 15 11.0 +0.1**
comp=Z,3.3nm,0.5s,baz=235,slow=10,SNR=78
AB31 ⇑Sn Sn 11 17 07.4 -9.3
comp=Z,7.6nm,0.4s,baz=251,slow=22,SNR=12
AB31 Akbulak array 11.26 53 Pn **Pn 11 15 11.0 +0.1**
comp=Z,3.3nm,0.5s,baz=235,SNR=78
ABKAR Akbulak array 11.26 53 *e*Pn **Pn 11 15 10.9 -0.1**
comp=Z,4.7nm,0.4s
ABKAR *e*Sn Sn 11 17 09.8 -6.9
ABKAR Akbulak array 11.26 53 *e*Pn **Pn 11 15 10.9 -0.1**
comp=Z,4.7nm,0.4s
IAKL Akhelmad 11.81 120 *e*P **Pn 11 15 19.8 +0.9**
MMAI Mount Meron Ar 13.29 223 LR LR 11 20 42.4
comp=Z,41nm,21.2s,baz=45,slow=38
OBN Obninsk 13.31 336 ⇑*e*P **Pn 11 15 39.8 +0.9**
OBN S **Sn 11 18 05.0 -1.8**
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN Obninsk 13.31 336 *e*P **Pn 11 15 39.8 +0.9**
comp=Z,6.0nm,0.4s
OBN S **Sn 11 18 05.0 -1.8**
AKASG Malin Array Be 13.64 309 P **Pn 11 15 44.1 +0.6**
AKASG Malin Array Be 13.64 309 Pn **Pn 11 15 44.1 +0.6**
AKASG Malin Array Be 13.64 309 Pn **Pn 11 15 44.1 +0.6**
comp=Z,1.1nm,0.3s,baz=108,slow=14,SNR=3.2
AKASG Malin Array Be 13.64 309 P **Pn 11 15 44.1 +0.6**
KIEV Kiev 13.65 308 *e*P **Pn 11 15 41.1 -2.5**
KIEV *e* 11 18 19.8
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 13.65 308 *e*Pn **Pn 11 15 41.0 -2.5**
comp=Z,3.7nm,0.8s
KIEV *e*Sn **Sn 11 18 19.8 +4.7**
NAY Al-Naaiem 14.09 176 *e*P **P 11 15 57.2 -0.4**
NAY AMb AMB 11 15 58.1
comp=Z,1.5nm,0.8s
RDF Al-Radifah 14.43 175 *e*P **P 11 16 01.5 +0.2**
RDF AMb AMB 11 16 02.9
comp=Z,41nm,0.7s
RDF Al-Radifah 14.43 175 *e*P **P 11 16 01.5 +0.2**
comp=Z,41nm,0.7s
MLR Muntele Rosu 14.56 285 ⇓*i*P P 11 16 06.2 +3.4
MLR Muntele Rosu 14.56 285 Pn **Pn 11 15 55.5 -0.7**
MLR Muntele Rosu 14.56 285 Pn **Pn 11 15 55.5 -0.7**
comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=3.3
MLR Muntele Rosu 14.56 285 Pn **Pn 11 15 55.5 -0.7**
QRN Al-Qurain 14.64 174 *e*P **P 11 16 03.9 +0.3**
QRN AMb AMB 11 16 07.7
comp=Z,69nm,1.2s
VOIR 15.19 285 ⇑*i*P **P 11 16 11.6 +1.9**
VOIR 15.19 285 ⇑*i*P **P 11 16 11.6 +1.9**
BURAR Bucovina Array 15.24 294 ⇓*i*P **P 11 16 12.4 +2.0**
BURAR Bucovina Array 15.24 294 ⇓*i*P **P 11 16 12.4 +2.0**
ARU Arti 15.34 27 *d*P **Pn 11 16 02.5 -4.0**
ARU S **Sn 11 18 51.0 -5.2**
ARU pmax pmax
comp=Z,4.0nm,0.6s
EIL Elat 16.30 217 LR LR 11 23 11.7
comp=Z,25nm,18.9s,baz=96,slow=40
SVE Sverdlovsk 16.36 29 ⇑*e*P **Pn 11 16 17.0 -2.7**
SVE pmax pmax
comp=Z,15nm,0.6s
KK31 Karatay Array 17.79 82 ⇓P **P 11 16 38.6 +0.1**
comp=Z,4.6nm,0.8s,baz=292,slow=12,SNR=14
KK31 ⇑S Sn 11 19 45.9 -10
comp=Z,6.0nm,0.7s,baz=279,slow=25,SNR=3.6
KK31 Karatay Array 17.79 82 P **P 11 16 38.6 +0.1**
comp=Z,4.6nm,0.8s,SNR=14
KKAR Karatay Array 17.79 82 *e*P **Pn 11 16 38.2 +0.4**
KKAR *e* 11 19 53.4
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 17.79 82 *e*Pn **Pn 11 16 38.2 +0.4**
comp=Z,5.3nm,0.7s
KKAR *e*Sn **Sn 11 19 53.4 -2.5**
KKAR Karatay Array 17.79 82 *e*P **Pn 11 16 38.2 +0.4**
comp=Z,5.0nm,0.7s
BRVK Borovoye 18.75 50 ⇑P **P 11 16 48.8 -0.1**
comp=Z,9.8nm,0.5s
BRVK Borovoye 18.75 50 *e*P **P 11 16 48.8 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 18.75 50 *e*Pn **P 11 16 48.6 -0.3**
comp=Z,9.6nm,0.6s
BRVK Borovoye 18.75 50 P **P 11 16 48.8 -0.1**
comp=Z,9.8nm,0.5s
BVA0 Borovoye Array 18.79 50 ⇑P **Pn 11 16 50.8 +0.9**
comp=Z,8.3nm,0.8s,baz=241,slow=12,SNR=22
BVA0 ⇓S Sn 11 20 08.0 -12
comp=Z,13nm,1.4s,baz=221,slow=26,SNR=10
BVA0 Borovoye Array 18.79 50 P **Pn 11 16 50.8 +0.9**
comp=Z,8.3nm,0.8s,baz=241,SNR=22
BVAR Borovoye Array 18.79 50 P **P 11 16 49.5 +0.1**
BVAR S Sn 11 20 09.2 -11
BVAR Borovoye Array 18.79 50 P **P 11 16 49.5 +0.1**
BVAR S Sn 11 20 09.2 -11
BVAR Borovoye Array 18.79 50 P **P 11 16 49.5 +0.1**
comp=Z,1.3nm,0.3s,baz=220,slow=11,SNR=23
BVAR S Sn 11 20 09.1 -11
comp=Z,1.1nm,0.3s,baz=216,slow=23,SNR=7.3
BVAR LR LR 11 24 32.9
comp=Z,10nm,21.6s,baz=263,slow=38
BVAR Borovoye Array 18.79 50 P **P 11 16 49.5 +0.1**
VOSK Vostochnaya 19.02 52 ⇑P **Pn 11 16 52.8 +0.1**
comp=Z,16nm,1.0s
VSU Vasula 19.34 328 *e*P **P 11 16 54.6 -0.7**
VSU pmax pmax
comp=Z,23nm,0.8s
VSU Vasula 19.34 328 *e*P **P 11 16 54.6 -0.7**
comp=Z,23nm,0.8s
OKC Ostrava-Krasne 20.20 299 AMS AMS 11 26 10.0
comp=Z,100nm,10.7s
AAK Ala-Archa 20.75 82 P **P 11 17 12.4 +1.3**
AAK pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 20.75 82 *e*P **P 11 17 12.1 +1.0**
comp=Z,6.8nm,0.8s
AAK Ala-Archa 20.75 82 P **P 11 17 12.4 +1.3**
comp=Z,1.6nm,0.4s,baz=272,slow=5.8,SNR=3.7
AAK Ala-Archa 20.75 82 *e*P **P 11 17 12.1 +1.0**
comp=Z,6.8nm,0.8s
TMCR Tamitsa 21.37 350 *e*P P 11 17 24.1 +6.8
JOF Joensuu 21.42 341 *e*P **P 11 17 18.9 +1.0**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 21.42 341 *e*p **P 11 17 18.9 +1.0**
comp=Z,7.6nm,0.4s
JOF Joensuu 21.42 341 *e*P **P 11 17 18.9 +1.0**
comp=Z,8.0nm,0.4s
DPC Dobruska-Polom 21.43 299 *e*P **P 11 17 22.2 +4.0**
DPC Dobruska-Polom 21.43 299 *e*P **P 11 17 22.2 +4.0**
DPC AMS AMS 11 27 20.0
FIA1 FINESS Array S 21.70 334 *e*P **P 11 17 22.6 +1.7**
FINES FINESS Array B 21.70 334 P **P 11 17 20.9 +0.1**
FINES FINESS Array B 21.70 334 P **P 11 17 20.9 +0.1**
comp=Z,8.9nm,0.6s,baz=139,slow=10,SNR=33
FINES FINESS Array B 21.70 334 P **P 11 17 20.9 +0.1**
TREC Trest 21.86 296 AMS AMS 11 28 00.0
KAF Kangasniemi 22.13 335 *e*P **P 11 17 26.4 +0.9**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 22.13 335 *e*p **P 11 17 26.4 +0.9**
comp=Z,4.8nm,0.5s
KAF Kangasniemi 22.13 335 *e*P **P 11 17 26.4 +0.9**
comp=Z,5.0nm,0.5s
PRU Pruhonice 22.53 298 AMS AMS 11 27 30.0
comp=Z,100nm,14.5s
CUC Castrocucco 22.80 272 *e*P **P 11 17 33.3 +0.3**
comp=Z,20nm,0.9s
CUC Castrocucco 22.80 272 *e*P **P 11 17 33.3 +0.3**
comp=Z,20nm,0.9s
GERES GERESS Array B 23.02 295 P **P 11 17 35.4 +0.2**
GERES GERESS Array B 23.02 295 P **P 11 17 35.3 +0.2**
comp=Z,0.8nm,0.5s,baz=94,slow=8.4,SNR=7.7
GERES GERESS Array B 23.02 295 P **P 11 17 35.4 +0.2**
KURBB Kurchatov Arra 23.16 60 P **P 11 17 37.6 +1.1**
comp=Z,0.6nm,0.3s,baz=274,slow=12,SNR=7.3
KURK Kurchatov 23.23 60 P **P 11 17 37.6 +0.4**
KURK Kurchatov 23.23 60 P **P 11 17 37.6 +0.4**
KURK Kurchatov 23.23 60 P **P 11 17 37.6 +0.4**
MK31 Makanchi Array 25.66 70 ⇑P **P 11 18 00.5 +0.6**
comp=Z,0.8nm,0.5s,baz=274,slow=9.6,SNR=16
MK31 Makanchi Array 25.66 70 *e*P **P 11 18 00.6 +0.7**
MK31 Makanchi Array 25.66 70 *e*P **P 11 18 00.6 +0.7**
MK31 Makanchi Array 25.66 70 *i* P **P 11 18 00.5 +0.6**
comp=Z,0.8nm,0.5s,baz=274,SNR=16
MKAR Makanchi Array 25.66 70 *i* P **P 11 18 00.6 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 25.66 70 P **P 11 18 00.3 +0.4**
MKAR Makanchi Array 25.66 70 P **P 11 18 00.3 +0.4**
comp=Z,1.2nm,0.5s,baz=270,slow=9.4,SNR=14
MKAR Makanchi Array 25.66 70 P **P 11 18 00.3 +0.4**
DAVOX Davos/Dischmat 25.66 290 P **P 11 17 59.8 -0.4**
DAVOX Davos/Dischmat 25.66 290 P **P 11 17 59.8 -0.4**
comp=Z,2.2nm,0.5s,baz=145,slow=16,SNR=3.2
DAVOX Davos/Dischmat 25.66 290 P **P 11 17 59.8 -0.4**
HFS Hagfors 25.79 322 P **P 11 18 00.8 -0.1**
HFS Hagfors 25.79 322 P **P 11 18 00.8 -0.1**
comp=Z,12nm,0.7s,baz=120,slow=8.7,SNR=29
HFS Hagfors 25.79 322 P **P 11 18 00.8 -0.1**
NB2 NORSAR Subarra 27.29 323 P **P 11 18 13.9 -0.6**
comp=Z,4.8nm,0.7s,baz=116,slow=8.6
NOA NORSAR Array B 27.29 323 P **P 11 18 14.2 -0.3**
NOA NORSAR Array B 27.29 323 P **P 11 18 14.2 -0.3**
comp=Z,2.1nm,0.5s,baz=126,slow=9.1,SNR=10.0
NOA NORSAR Array B 27.29 323 P **P 11 18 14.2 -0.3**
ZALV Zalesovo Beam 27.37 54 P **P 11 18 15.1 -0.2**
ZALV Zalesovo Beam 27.37 54 P **P 11 18 15.1 -0.2**
ZALV Zalesovo Beam 27.37 54 P **P 11 18 15.0 -0.2**
comp=Z,0.5nm,0.4s,baz=262,slow=10.0,SNR=3.0
ZALV Zalesovo Beam 27.37 54 P **P 11 18 15.1 -0.2**
ARCES ARCESS Array B 28.31 345 P **P 11 18 24.3 +0.8**
ARCES ARCESS Array B 28.31 345 P **P 11 18 24.3 +0.8**
comp=Z,0.9nm,0.6s,baz=148,slow=10.0,SNR=9.5
ARCES ARCESS Array B 28.31 345 P **P 11 18 24.3 +0.8**
SPITS Spitsbergen Ar 36.89 350 P **P 11 19 39.7 +1.4**
SPITS Spitsbergen Ar 36.89 350 P **P 11 19 39.7 +1.4**
comp=Z,1.8nm,0.4s,baz=132,slow=11,SNR=12
SPITS Spitsbergen Ar 36.89 350 P **P 11 19 39.7 +1.4**
SONM Songino Array 41.51 62 P **P 11 20 18.0 +0.6**
SONM Songino Array 41.51 62 P **P 11 20 18.0 +0.6**
comp=Z,0.4nm,0.5s,baz=272,slow=3.6,SNR=5.0
SONM Songino Array 41.51 62 P **P 11 20 18.0 +0.6**
TORD Torodi Ar. Bea 48.52 245 P **P 11 21 11.4 -1.9**
TORD Torodi Ar. Bea 48.52 245 P **P 11 21 11.4 -1.9**
comp=Z,1.9nm,0.6s,baz=43,slow=7.1,SNR=14
XAN Xi'an 48.88 79 P **P 11 21 16.0 0.0**
XAN pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 50.70 102 P **P 11 21 29.7 -0.3**
CMAR Chiang Mai Arr 50.70 102 P **P 11 21 29.7 -0.3**
comp=Z,1.3nm,0.5s,baz=311,slow=8.2,SNR=6.9
CMAR Chiang Mai Arr 50.70 102 P **P 11 21 29.7 -0.3**
DBIC Dimbokro 57.62 246 P **P 11 22 18.8 -1.7**
DBIC Dimbokro 57.62 246 P **P 11 22 18.8 -1.7**
comp=Z,3.6nm,0.9s,baz=18,slow=6.4,SNR=4.6
DBIC Dimbokro 57.62 246 P **P 11 22 18.8 -1.7**
KSAR Wonju Array Be 60.21 65 P **P 11 22 36.7 -1.5**
KSAR Wonju Array Be 60.21 65 P **P 11 22 36.7 -1.5**
KSRS Korea Array 60.23 65 P **P 11 22 36.7 -1.6**
comp=Z,0.9nm,0.6s,baz=308,slow=5.7,SNR=4.5
KSRS Korea Array 60.23 65 P **P 11 22 36.7 -1.6**
comp=Z,1.0nm,0.6s
ILAR Eielson Array 71.75 6 P **P 11 23 52.5 +0.5**
ILAR Eielson Array 71.75 6 P **P 11 23 52.5 +0.5**
comp=Z,0.3nm,0.7s,baz=337,slow=4.3,SNR=3.3
ILAR Eielson Array 71.75 6 P **P 11 23 52.5 +0.5**

NIED ***25*** *11:19:00,35.40N×140.40E,h35km,Mw3.9 Best double couple: M0 7.57000×10^14 NP1:φs59.00000°,δ71.00000°, λ96.00000°. NP2:φs221.00000°,δ20.00000°,λ73.00000°.*
IDC ***25*** *11:19:22.4±1.1,35.29N×140.20E,h0km,mb3.9/6, mb1 4.0/9,mb1mx3.7/29,mbtmp3.9/9,ML3.8/2,MS3.0/2, Ms1 3.0/2,ms1mx2.4/37,Error ellipse: s-maj=32.2km s-min=17.4km az=75.0*
ISCJB ***25*** *11:19:25.5±0.5,35.33N±0.06×140.3E±0.1,h38km±4km, mb4.1/8,Error ellipse: s-maj=15.3km s-min=6.9km az=151.7*
JMA ***25*** *11:19:26.3±0.1,35.40N×140.32E,h26km±2km,M3.6 Broadband fault plane solution: P waves. NP1: φs72.00000°,δ55.00000°,λ97.00000°. NP2:φs239.00000°, δ35.00000°,λ79.00000°. Principal axes: T Plg78.0000°, Azm8.0000°; N Plg6.0000°, Azm248.0000°; P Plg10.0000°, Azm157.0000°;*
JMA Felt III J1.

*NEIC **25** 11:19:27.1±0.5, 35°.30N×140°.23E, h35km, mb4.2/2 Error ellipse: s-maj=14.6km s-min=8.5km az=82.0*
NEIC Recorded [3 JMA] in Chiba.

ISC 25 11:19:26.1±0.8, 35°.35N±0°.05×140°.3E±0°.1, h32km±5km, n29, σ1°25/32, mb4.1/7, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.12**	**307**	⇓P	**Pb**	**11 19 31.4**	**-0.4**
JCN				S	**Sb**	**11 19 35.8**	**+0.1**
KTR	**Katsuura**	**0.20**	**180**	⇑P	**Pb**	**11 19 32.3**	**-0.2**
KTR				S	**Sb**	**11 19 37.2**	**+0.3**
BSO4	**Boso 4**	**0.36**	**177**	⇑P	**Pb**	**11 19 35.2**	**+0.8**
BSO3	**Boso 3**	**0.57**	**164**	⇓P	**Pb**	**11 19 38.1**	**+0.5**
BSO1	**Boso 1**	**0.88**	**142**	⇓P	**Pn**	**11 19 41.7**	**-0.1**
JYT	**Yasato**	**0.88**	**354**	⇓P	**Pb**	**11 19 41.3**	**-1.7**
MJAR	**Matsushiro Arr**	**2.08**	**305**	Pn	**Pn**	**11 19 59.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.08**	**305**	Pn	**Pn**	**11 19 59.1**	**+0.3**
	6.7nm,0.3s,baz=158,slow=13,SNR=42						
MJAR				LR	LR	11 20 58.8	
	comp=Z,441nm,18.1s,baz=110,slow=48						
MAT	**Matsushiro**	**2.08**	**305**	P	**Pn**	**11 20 00.4**	**+1.5**
MAT				eS	**Sn**	**11 20 23.9**	**+0.1**
CBIJ	**Chichi jima**	**8.38**	**168**	Pn	**Pn**	**11 21 24.5**	**-0.9**
CBIJ				Sn	**Sn**	**11 22 55.6**	**-3.4**
CBIJ	**Chichi jima**	**8.38**	**168**	Pn	**Pn**	**11 21 24.5**	**-0.9**
	8.3nm,0.3s,baz=285,slow=18,SNR=10						
CBIJ				Sn	**Sn**	**11 22 55.6**	**-3.4**
	2.3nm,0.3s,baz=98,slow=24,SNR=1.5						
ASAJ	**Asahikawa**	**8.93**	**11**	Pn	**Pn**	**11 21 33.2**	**+0.4**
ASAJ	**Asahikawa**	**8.93**	**11**	Pn	**Pn**	**11 21 33.2**	**+0.4**
	0.5nm,0.3s,baz=185,slow=11,SNR=4.9						
KSRS	**Korea Array**	**10.21**	**285**	LR	LR	11 25 49.3	
	comp=Z,67nm,18.7s,baz=90,slow=38						
YHNB	**Yeheng**	**19.52**	**242**	*eP*	**P**	**11 23 49.5**	**-1.4**
	9.8nm,0.5s						
ZALV	**Zalesovo Beam**	**42.41**	**314**	P	**P**	**11 27 18.3**	**+0.8**
ZALV	**Zalesovo Beam**	**42.41**	**314**	P	**P**	**11 27 18.3**	**+0.8**
	1.4nm,0.6s,baz=89,slow=6.6,SNR=7.4						
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**11 27 32.7**	**0.0**
MKAR	**Makanchi Array**	**44.28**	**303**	P	**P**	**11 27 32.7**	**0.0**
	0.7nm,0.7s,baz=88,slow=9.5,SNR=6.7						
KURK	**Kurchatov**	**46.29**	**309**	P	**P**	**11 27 49.5**	**+1.0**
KURBB	**Kurchatov Arra**	**46.35**	**309**	P	**P**	**11 27 49.5**	**+0.5**
	2.6nm,0.6s,baz=85,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**51.39**	**32**	P	**P**	**11 28 29.2**	**+1.7**
ILAR	**Eielson Array**	**51.39**	**32**	P	**P**	**11 28 29.2**	**+1.7**
	0.6nm,0.9s,baz=262,slow=6.2,SNR=5.2						
FITZ	**Fitzroy Crossi**	**54.95**	**197**	P	**P**	**11 28 54.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**54.95**	**197**	P	**P**	**11 28 54.9**	**+0.8**
	2.0nm,0.9s,baz=29,slow=10,SNR=3.2						
WRAB	**Tennant Creek**	**55.27**	**187**	*eP*	**P**	**11 28 57.1**	**+0.7**
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**55.28**	**187**	P	**P**	**11 28 57.0**	**+0.5**
WRA	**Warramunga Arr**	**55.28**	**187**	P	**P**	**11 28 57.0**	**+0.5**
	0.8nm,0.4s,baz=0.9,slow=7.6,SNR=17						
MTE	**Manteigas**	**99.02**	**336**	*eP*	Pdif	11 33 04.7	+0.8
	24nm,1.1s						

*IDC **25** 11:32:16.9±0.4, 15°.16S×172°.17W, h0km, mb4.7/24, mb1 4.8/24, mb1mx4.8/27, mbtmp4.7/24, MS4.1/22, Ms1 4.1/22, ms1mx4.0/33, Error ellipse: s-maj=18.0km s-min=12.7km az=128.0*
*ISCJB **25** 11:32:17.6±0.2, 15°.11S±0°.06×172°.12W±0°.05, h10km, mb4.9/118, MS4.2/27, Error ellipse: s-maj=9.6km s-min=5.5km az=145.9*
*NEIC **25** 11:32:18.6±0.1, 15°.14S×172°.22W, h10km, mb5.1/79, Error ellipse: s-maj=7.4km s-min=3.5km az=141.0*
NEIC Felt at Apia.
*SZGRF **25** 11:32:21.1, 15°.73S×170°.75W, h33km, Samoa Islands region*
*BJI **25** 11:32:21.9, 14°.32S×172°.56W, h10km, mB5.2/19, mb5.0/26, Ms5.1/14, Ms7 4.7/17*
*MOS **25** 11:32:22.0±1.1, 14°.90S×172°.06W, h33km, mb5.2/31, Error ellipse: s-maj=13.6km s-min=7.7km az=62.5*
*GCMT **25** 11:32:23.0±0.2, 15°.18S×171°.79W, h19km±1km, MW5.1, Moment Tensor Solution. s35,c43; s59,c85; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.26; $M_{\theta\theta}$-0.42±.21; $M_{\phi\phi}$3.47±.21; $M_{r\theta}$1.94±.43; $M_{\theta\phi}$-3.71±.13; $M_{\phi r}$2.63±.42; Best double couple: $M_0$5.90000×10^{16} NP1:ϕ_s183.00000°, δ66.00000°, λ-44.00000°. NP2:ϕ_s295.00000°, δ51.00000°, λ-148.00000°. Principal axes: T 5.9100, Plg9.0000°, Azm242.0000°; N 0.0500, Plg41.0000°, Azm340.0000°; P -5.9600, Plg47.0000°, Azm142.0000°; Data Used: IU II G IC.*

ISC 25 11:32:20.2±0.3, 15°.02S±0°.06×172°.11W±0°.06, h18km, n740, σ0°91/733, mb5.0/118, MS4.2/27, 195C-191D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.15**	**16**	*eP*g	Pn	11 32 37.4	-4.0
AFI				Pn	Pn	11 32 37.5	-4.0
AFI				Sn	**Sb**	**11 32 51.4**	**-4.7**
AFI				*eS*n	**Sb**	**11 32 51.5**	**-4.7**
AFI	**Afiamalu**	**1.15**	**16**	Pn	Pn	11 32 37.5	-4.0
	507nm,0.3s,baz=21,slow=1.6,SNR=982						
AFI				Sn	**Sb**	**11 32 51.4**	**-4.7**
	3μm,0.3s,baz=218,slow=23,SNR=18						
MSVF	**Nonsavu**	**9.82**	**253**	Pn	Pn	11 34 43.2	+2.5
	788nm,1.3s,SNR=14						
MSVF	**Nonsavu**	**9.82**	**253**	*eP*	Pn	11 34 43.6	+2.9
MSVF	**Nonsavu**	**9.82**	**253**	*eP*n	Pn	11 34 43.6	+2.9
RAR	**Rarotonga**	**13.25**	**120**	Pn	Pn	11 35 18.7	-8.7
RAR				Sn	Sn	11 37 34.4	-20
RAR	**Rarotonga**	**13.25**	**120**	Pn	Pn	11 35 18.7	-8.7
	6.5nm,0.3s,baz=270,slow=3.0,SNR=7.0						
RAR				Sn	Sn	11 37 34.3	-20
	1.6nm,0.3s,baz=90,slow=17,SNR=1.9						
RAR				LR	LR	11 39 46.0	
	comp=Z,852nm,19.1s,baz=270,slow=34						
DZM	**Mont Dzumac**	**21.49**	**248**	*eP*	**P**	**11 37 09.3**	**+1.1**
	100nm,1.2s						
DZM				*eLR*	LR	11 42 15.2	
	2μm,28.1s						
DZM	**Mont Dzumac**	**21.49**	**248**	*eP*	**P**	**11 37 07.0**	**-1.3**
DZM	**Mont Dzumac**	**21.49**	**248**	*eP*	**P**	**11 37 07.3**	**-1.0**
DZM	**Mont Dzumac**	**21.49**	**248**	P	**P**	**11 37 05.9**	**-2.3**
	26nm,0.9s,baz=88,slow=17,SNR=9.8						
PPT	**Papeete**	**21.78**	**100**	LR	LR	11 44 28.4	
	comp=Z,416nm,18.1s,baz=294,slow=34						
PPT2	**Papeete2**	**21.78**	**100**	*eP*	P	11 37 19.2	+7.9
	79nm,1.6s						
PPT2				*eS*	Sn	11 41 19.5	-1.9
	3μm,26.8s						
PPT2				*eLR*	LR	11 42 04.9	
	984nm,24.8s						
PAE	**Paea**	**21.78**	**100**	*eP*	P	11 37 19.7	+8.5
	23nm,1.4s						
TIAR	**Tiarei**	**22.00**	**100**	*eP*	P	11 37 22.5	+8.9
	52nm,0.9s						
TBI	**Tubuai**	**22.92**	**115**	*eS*	**S**	**11 41 34.0**	**+1.3**
	2μm,28.2s						
TBI				*eLR*	LR	11 42 40.2	
	1μm,25.2s,baz=297						
OUZ	**Omahuta**	**23.86**	**210**	*eP*	**P**	**11 37 32.5**	**-0.1**
	141nm,1.1s						
URZ	**Urewera**	**25.03**	**200**	*eP*	**P**	**11 37 41.0**	**-2.3**
	45nm,0.7s						
URZ	**Urewera**	**25.03**	**200**	P	**P**	**11 37 41.7**	**-1.6**
	32nm,0.5s,baz=54,slow=5.9,SNR=22						
HNR	**Honiara**	**27.85**	**278**	LR	LR	11 47 36.0	
	comp=Z,605nm,19.1s,baz=103,slow=33						
RPZ	**Rata Peaks**	**32.01**	**203**	P	**P**	**11 38 43.5**	**-2.0**
RPZ	**Rata Peaks**	**32.01**	**203**	P	**P**	**11 38 43.5**	**-2.0**
	18nm,0.9s,baz=243,slow=2.3,SNR=2.4						
RKT	**Rikitea**	**35.93**	**109**	*eLR*	LR	11 48 39.6	
	613nm,25.8s,baz=280						
CTA	**Charters Tower**	**39.94**	**257**	P	P	11 39 50.3	-3.5
CTA	**Charters Tower**	**39.94**	**257**	P	P	11 39 50.3	-3.5
	2.9nm,0.7s,baz=49,slow=9.3,SNR=3.0						
PMG	**Port Moresby**	**40.15**	**273**	LR	LR	11 54 08.6	
	comp=Z,251nm,19.8s,baz=74,slow=33						
COEN	**Coen**	**43.25**	**265**	*eP*	**P**	**11 40 20.0**	**-1.0**
	98nm,0.8s						
STKA	**Stephens Creek**	**45.30**	**240**	*eP*	**P**	**11 40 34.5**	**-2.7**
	8.0nm,1.1s						
STKA	**Stephens Creek**	**45.30**	**240**	P	**P**	**11 40 34.5**	**-2.7**
	21nm,0.9s,baz=69,slow=7.4,SNR=14						
STKA				LR	LR	11 57 20.6	
	comp=Z,87nm,18.1s,baz=288,slow=33						
WRAB	**Tennant Creek**	**51.13**	**256**	*eP*	**P**	**11 41 19.6**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,36nm,1.6s						
WRAB	**Tennant Creek**	**51.13**	**256**	*eP*	**P**	**11 41 19.6**	**-2.8**
	comp=Z,36nm,1.6s						
WRA	**Warramunga Arr**	**51.14**	**256**	P	**P**	**11 41 19.4**	**-3.1**
WRA	**Warramunga Arr**	**51.14**	**256**	P	**P**	**11 41 19.4**	**-3.1**
	comp=Z,5.3nm,0.8s,baz=97,slow=6.7,SNR=42						
WRA				LR	LR	12 01 00.5	
	comp=Z,138nm,18.4s,baz=135,slow=34						
AS31	**Alice Springs**	**51.41**	**252**	*eP*	**P**	**11 41 21.9**	**-2.6**
ASAR	**Alice Springs**	**51.41**	**252**	P	**P**	**11 41 21.8**	**-2.8**
ASAR	**Alice Springs**	**51.41**	**252**	P	**P**	**11 41 21.8**	**-2.8**
	comp=Z,13nm,0.5s,baz=90,slow=7.5,SNR=368						
ASAR				LR	LR	12 01 45.4	
	comp=Z,524nm,19.1s,baz=91,slow=34						
FORT	**Forrest**	**56.70**	**243**	*eP*	**P**	**11 42 00.5**	**-2.5**
	comp=Z,122nm,1.4s						
FITZ	**Fitzroy Crossi**	**59.51**	**258**	P	**P**	**11 42 22.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**59.51**	**258**	P	**P**	**11 42 22.6**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=333,slow=21,SNR=6.6						
SBA	**Scott Base**	**63.73**	**185**	*eP*	**P**	**11 42 51.3**	**+1.0**
SBA				pmax	pmax		
	comp=Z,19nm,0.8s						
SBA	**Scott Base**	**63.73**	**185**	*eP*	**P**	**11 42 51.3**	**+1.0**
	comp=Z,19nm,0.8s						
VNDA	**Vanda**	**63.88**	**186**	*eP*	**P**	**11 42 51.5**	**+0.1**
VNDA	**Vanda**	**63.88**	**186**	P	**P**	**11 42 51.2**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=10,slow=6.3,SNR=14						
MJAR	**Matsushiro Arr**	**69.46**	**319**	P	**P**	**11 43 27.5**	**-0.1**
MJAR	**Matsushiro Arr**	**69.46**	**319**	P	**P**	**11 43 27.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=157,slow=6.1,SNR=7.5						
MJAR				LR	LR	12 08 03.9	
	comp=Z,162nm,21.6s,baz=115,slow=31						
PKM	**Peak Mountain**	**70.18**	**44**	⇓P	**P**	**11 43 32.8**	**+0.6**
	baz=70						
SAO	**San Andreas Ge**	**70.22**	**41**	*eP*	**P**	**11 43 33.5**	**+1.3**
SAO				pmax	pmax		
	comp=Z,21nm,1.0s						
SAO	**San Andreas Ge**	**70.22**	**41**	*eP*	**P**	**11 43 33.5**	**+1.3**
	comp=Z,21nm,1.0s						
SMMC	**Simmler**	**70.30**	**43**	⇑P	**P**	**11 43 34.0**	**+1.2**
	baz=71						
PTRM	**Twissleman Ran**	**70.36**	**43**	*eP*	**P**	**11 43 34.5**	**+1.3**
109C	**Camp Elliot, M**	**70.91**	**47**	⇑P	**P**	**11 43 36.6**	**+0.1**
	baz=71						
ARVC	**Arvin**	**70.97**	**44**	⇑P	**P**	**11 43 37.3**	**+0.4**
	baz=71						
MWC	**Mount Wilson**	**70.98**	**45**	*eP*	**P**	**11 43 37.2**	**0.0**
MWC				pmax	pmax		
	comp=Z,14nm,0.9s						
MWC	**Mount Wilson**	**70.98**	**45**	*eP*	**P**	**11 43 37.2**	**0.0**
	comp=Z,14nm,0.9s						
VES	**Vestal, Richgr**	**71.21**	**43**	⇑P	**P**	**11 43 38.5**	**+0.2**
	baz=72,SNR=7.2						
MURC	**Murrieta**	**71.23**	**46**	⇓P	**P**	**11 43 38.3**	**-0.2**
	baz=72						
BFSC	**Mount Baldy Ra**	**71.27**	**45**	⇓P	**P**	**11 43 38.8**	**-0.1**
	baz=72						
MONP	**Monument Peak**	**71.39**	**47**	⇑P	**P**	**11 43 40.0**	**+0.2**
	baz=72,SNR=6.2						
EDW2	**Edwards Air Fo**	**71.40**	**45**	⇓P	**P**	**11 43 39.9**	**+0.4**
	baz=72,SNR=12						
KHMM	**Horse Mountain**	**71.41**	**37**	*eP*	**P**	**11 43 41.2**	**+1.6**
	comp=Z,16nm,1.1s						
DVTC	**Desert V Tower**	**71.50**	**48**	⇓P	**P**	**11 43 40.2**	**0.0**
	baz=72						
ISA	**Isabella**	**71.52**	**44**	*eP*	**P**	**11 43 40.9**	**+0.6**
ISA				pmax	pmax		
	comp=Z,20nm,1.1s						
ISA	**Isabella**	**71.52**	**44**	*eP*	**P**	**11 43 40.9**	**+0.6**
	comp=Z,20nm,1.1s						
ISA	**Isabella**	**71.52**	**44**	⇓P	**P**	**11 43 40.7**	**+0.5**
	baz=72,SNR=14						
CMB	**Columbia Colle**	**71.66**	**41**	*eP*	**P**	**11 43 41.6**	**+0.5**
CMB				pmax	pmax		
	comp=Z,17nm,1.1s						
CMB	**Columbia Colle**	**71.66**	**41**	*eP*	**P**	**11 43 41.6**	**+0.5**
	comp=Z,17nm,1.1s						
KRMB	**Red Mountain**	**71.73**	**36**	*eP*	**P**	**11 43 42.5**	**+1.1**
	comp=Z,120nm,2.9s						
PFO	**Pinyon Flat Ob**	**71.76**	**47**	⇓P	**P**	**11 43 42.2**	**+0.4**
	baz=72						
OHCM	**Honcut**	**71.77**	**39**	*eP*	**P**	**11 43 42.3**	**+0.7**
LPIG	**La Paz**	**71.78**	**58**	LR	LR	12 08 11.3	
	comp=Z,181nm,18.4s,baz=191,slow=30						
BBRC	**Big Bear Solar**	**71.79**	**46**	⇑P	**P**	**11 43 42.4**	**+0.3**
	baz=72						
ASAJ	**Asahikawa**	**71.88**	**327**	*eP*	**P**	**11 43 43.8**	**+1.7**
	comp=Z,26nm,2.1s						
LRMC	**Laurel Mountai**	**71.94**	**44**	⇑P	**P**	**11 43 43.4**	**+0.5**
	baz=72						
RRX	**Edison Barstow**	**72.07**	**45**	⇓P	**P**	**11 43 44.0**	**+0.5**
	baz=72						
CWC	**Cottonwood Cre**	**72.22**	**43**	⇑P	**P**	**11 43 44.8**	**+0.2**
	baz=72						
BELC	**Belle Mtn. Jos**	**72.29**	**46**	⇑P	**P**	**11 43 45.1**	**+0.1**
	baz=73,SNR=6.3						
MPMC	**Manual Prospec**	**72.40**	**44**	⇑P	**P**	**11 43 46.0**	**+0.3**
	baz=73,SNR=24						
MLAC	**Mammoth Lakes**	**72.41**	**42**	⇓P	**P**	**11 43 46.2**	**+0.5**
	baz=73,SNR=6.5						
MTUM	**Tungsten Hills**	**72.43**	**42**	*eP*	**P**	**11 43 46.7**	**+0.9**
GSC	**Goldstone**	**72.44**	**45**	*eP*	**P**	**11 43 46.0**	**+0.2**
GSC				pmax	pmax		
	comp=Z,25nm,1.4s						
GSC	**Goldstone**	**72.44**	**45**	*eP*	**P**	**11 43 46.0**	**+0.2**
	comp=Z,25nm,1.4s						
GSC	**Goldstone**	**72.44**	**45**	⇓P	**P**	**11 43 46.2**	**+0.4**
	baz=73,SNR=8.2						
JNU	**Nakatsue**	**72.45**	**312**	P	**P**	**11 43 46.2**	**+0.4**
JNU	**Nakatsue**	**72.45**	**312**	P	**P**	**11 43 46.2**	**+0.4**
	comp=Z,11nm,0.9s,baz=120,slow=7.4,SNR=3.7						
TIN	**Tinemaha**	**72.47**	**43**	⇑P	**P**	**11 43 46.6**	**+0.6**
	baz=73						
BC3	**Big Chuckawall**	**72.49**	**47**	⇑P	**P**	**11 43 46.8**	**+0.6**
	baz=73						
HEC	**Hector,Ludlow**	**72.51**	**45**	⇓P	**P**	**11 43 46.3**	**+0.1**
	baz=73						
YBH	**Yreka Blue Hor**	**72.55**	**37**	*eP*	**P**	**11 43 47.4**	**+1.0**
	comp=Z,23nm,1.4s						
GLA	**Glamis**	**72.61**	**48**	⇓P	**P**	**11 43 47.3**	**+0.4**
	baz=73						
PETK	**Petropavlovsk-**	**72.66**	**341**	P	**P**	**11 43 47.3**	**+0.7**
PETK	**Petropavlovsk-**	**72.66**	**341**	P	**P**	**11 43 47.3**	**+0.7**
PETK	**Petropavlovsk-**	**72.66**	**341**	P	**P**	**11 43 47.3**	**+0.7**
	comp=Z,8.16nm,0.8s,baz=127,slow=9.5,SNR=9.0						
LBCM	**Butte Creek Ri**	**72.78**	**38**	P	**P**	**11 43 48.3**	**+0.5**
BEKR	**Beckworth**	**72.78**	**39**	*eP*	**P**	**11 43 48.7**	**+0.8**
	comp=Z,4.3nm,0.9s						
GMRC	**Granite Mounta**	**72.94**	**46**	⇑P	**P**	**11 43 48.9**	**0.0**
	baz=73,SNR=6.8						
IRM	**Iron Mountain**	**72.97**	**47**	⇑P	**P**	**11 43 49.3**	**+0.4**
	baz=73,SNR=7.6						
HUMO	**Hull Mountain**	**72.97**	**36**	*eP*	**P**	**11 43 50.2**	**+1.5**
	comp=Z,22nm,1.4s						
GRAC	**Grapevine Rang**	**73.01**	**43**	⇓P	**P**	**11 43 49.9**	**+0.8**
	baz=73,SNR=13						
FURC	**Furnace Creek,**	**73.05**	**44**	⇓P	**P**	**11 43 49.4**	**+0.2**
	baz=73,SNR=9.0						
TUQ	**Turquoise Moun**	**73.11**	**45**	⇑P	**P**	**11 43 50.2**	**+0.3**
	baz=73,SNR=6.3						
SHOC	**Shoshone**	**73.13**	**45**	⇑P	**P**	**11 43 49.8**	**0.0**
	baz=74,SNR=9.3						
Y12C	**Blythe**	**73.19**	**47**	⇓P	**P**	**11 43 50.4**	**+0.1**
	baz=74						
NVAR	**Mina Array Bea**	**73.22**	**41**	P	**P**	**11 43 51.0**	**+0.4**
NVAR	**Mina Array Bea**	**73.22**	**41**	P	**P**	**11 43 51.0**	**+0.4**
	comp=Z,10nm,0.8s,baz=228,slow=10,SNR=90						
113A	**Mohawk Valley,**	**73.23**	**49**	⇑P	**P**	**11 43 50.7**	**+0.2**
	baz=74						
PAHR	**Pah Rah Range**	**73.29**	**40**	*eP*	**P**	**11 43 51.7**	**+0.8**
	comp=Z,22nm,1.2s						
NV11	**Mina Array Sit**	**73.31**	**42**	*eP*	**P**	**11 43 51.6**	**+0.6**
LDFC	**Landfair**	**73.48**	**46**	*eP*	**P**	**11 43 52.8**	**+0.8**
	comp=Z,18nm,0.8s						
214A	**Organ Pipe Nat**	**73.52**	**50**	⇓P	**P**	**11 43 52.3**	**+0.1**
	baz=74						
PDMCI	**Parker Dam,Lak**	**73.75**	**47**	⇓P	**P**	**11 43 53.9**	**+0.4**
	baz=74,SNR=5.5						
YSS	**Yuzh-Sakhalins**	**73.78**	**330**	*eP*	**P**	**11 43 55.0**	**+1.7**
Z14A	**Wintersburg**	**74.13**	**48**	⇓P	**P**	**11 43 56.3**	**+0.6**
	baz=74						
SHPR	**Sheep Range**	**74.22**	**45**	*eP*	**P**	**11 43 57.0**	**+0.6**
KDAK	**Kodiak Island**	**74.31**	**11**	P	**P**	**11 43 56.5**	**+0.4**
KDAK	**Kodiak Island**	**74.31**	**11**	P	**P**	**11 43 56.5**	**+0.4**
	comp=Z,14nm,0.9s,baz=228,slow=3.4,SNR=8.8						
KDAK				LR	LR	12 16 05.9	
	comp=Z,124nm,18.3s,baz=208,slow=35						
W13A	**Hualapai Mount**	**74.35**	**46**	⇑P	**P**	**11 43 57.5**	**+0.3**
	baz=75,SNR=14						
Y14A	**Wickenburg**	**74.37**	**48**	⇑P	**P**	**11 43 57.4**	**+0.2**
	baz=75,SNR=12						
FRIS	**Frissel Point**	**74.48**	**35**	P	**P**	**11 43 58.1**	**+0.4**
R11A	**Troy Canyon, C**	**74.93**	**43**	*eP*	**P**	**11 44 00.7**	**+0.2**
R11A	**Troy Canyon, C**	**74.93**	**43**	⇑P	**P**	**11 44 01.0**	**+0.5**
	baz=75						
BMN	**Battle Mountai**	**75.06**	**40**	*eP*	**P**	**11 44 01.7**	**+0.6**
BMN				pmax	pmax		
	comp=Z,44nm,1.5s						
BMN	**Battle Mountai**	**75.06**	**40**	*eP*	**P**	**11 44 01.7**	**+0.6**
	comp=Z,44nm,1.5s						
TUC	**Tucson**	**75.19**	**50**	*eP*	**P**	**11 44 02.6**	**+0.6**
TUC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TUC	**Tucson**	**75.19**	**50**	*eP*	**P**	**11 44 02.6**	**+0.6**
	comp=Z,8.2nm,0.9s						
WVOR	**Wild Horse Val**	**75.37**	**38**	*eP*	**P**	**11 44 03.4**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,24nm,1.2s						
WVOR	**Wild Horse Val**	**75.37**	**38**	*eP*	**P**	**11 44 03.4**	**+0.6**
	comp=Z,24nm,1.2s						
VIPM	**Ingram Point**	**75.49**	**35**	P	**P**	**11 44 04.0**	**+0.4**
VIPM	**Ingram Point**	**75.49**	**35**	P	**P**	**11 44 04.0**	**+0.4**
LVP	**Lakeview Peak**	**75.51**	**33**	P	**P**	**11 44 04.2**	**+0.7**
FL2	**Flat Top 2**	**75.62**	**33**	P	**P**	**11 44 05.3**	**+1.1**
X16A	**Lo Mia Camp, P**	**75.74**	**48**	⇓P	**P**	**11 44 06.1**	**+0.8**
	baz=76,SNR=16						
TDL	**Tradedollar La**	**75.79**	**33**	P	**P**	**11 44 06.2**	**+1.0**
319A	**Douglas**	**75.88**	**52**	⇑P	**P**	**11 44 06.6**	**+0.5**
	baz=76,SNR=5.5						
CCUT	**Cedar City**	**75.99**	**44**	*eP*	**P**	**11 44 07.5**	**+0.8**
	comp=Z,26nm,1.5s						
ARUT	**Antelope Range**	**76.06**	**44**	*eP*	**P**	**11 44 07.9**	**+0.9**
ARUT				pmax	pmax		
	comp=Z,15nm,1.0s						
ARUT	**Antelope Range**	**76.06**	**44**	*eP*	**P**	**11 44 07.9**	**+0.9**
	comp=Z,15nm,1.0s						
U15A	**North Rim**	**76.14**	**46**	⇑P	**P**	**11 44 08.6**	**+0.9**
	baz=76,SNR=15						
LON	**Longmire**	**76.27**	**33**	*eP*	**P**	**11 44 08.4**	**+0.6**
LON				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LON	**Longmire**	**76.27**	**33**	*eP*	**P**	**11 44 08.4**	**+0.6**
	comp=Z,5.8nm,0.8s						
WUAZ	**Wupatki**	**76.33**	**47**	*eP*	**P**	**11 44 09.5**	**+0.9**
	comp=Z,15nm,1.3s						
WUAZ	**Wupatki**	**76.33**	**47**	⇑P	**P**	**11 44 09.3**	**+0.8**
	baz=77,SNR=6.7						
WPW	**White Pass**	**76.37**	**33**	P	**P**	**11 44 09.3**	**+0.8**
320A	**Kipp Ranch, An**	**76.43**	**52**	⇑P	**P**	**11 44 10.1**	**+0.8**
	baz=77,SNR=7.7						
ELK	**Elko**	**76.48**	**41**	*eP*	**P**	**11 44 09.8**	**+0.4**
	comp=Z,14nm,1.2s						
JBO	**Jordan Butte**	**76.52**	**35**	P	**P**	**11 44 09.9**	**+0.7**
220A	**Playas Peak, P**	**76.69**	**52**	⇓P	**P**	**11 44 11.4**	**+0.7**
	baz=77,SNR=13						
KSRS	**Korea Array**	**76.76**	**315**	P	**P**	**11 44 12.5**	**+1.8**
	comp=Z,4.6nm,0.9s,baz=128,slow=6.3,SNR=17						
KSRS				LR	LR	12 12 00.6	
	comp=Z,73nm,20.5s,baz=273,slow=31						
NAC	**Naches**	**76.78**	**33**	P	**P**	**11 44 11.5**	**+0.8**
KSAR	**Wonju Array Be**	**76.78**	**315**	P	**P**	**11 44 12.5**	**+1.6**
RSO	**Redoubt South**	**76.82**	**10**	*eP*	**P**	**11 44 10.9**	**+0.1**
X18A	**Snowflake**	**76.87**	**49**	⇑P	**P**	**11 44 12.5**	**+0.8**
	baz=77						
120A	**U Bar Ranch, L**	**76.91**	**51**	⇑P	**P**	**11 44 12.5**	**+0.6**
	baz=77						
Z20A	**Nine Sixteen R**	**77.20**	**50**	⇑P	**P**	**11 44 14.2**	**+0.6**
	baz=78,SNR=8.0						
MVU	**Marysvale**	**77.26**	**44**	*eP*	**P**	**11 44 15.0**	**+1.1**
	comp=Z,22nm,1.0s						
VLA	**Vladivostok**	**77.28**	**322**	*eP*	**P**	**11 44 13.2**	**-0.3**
VLA				pmax	pmax		
	comp=Z,23nm,1.4s						
MSU	**Marysvale**	**77.29**	**44**	*eP*	**P**	**11 44 15.1**	**+1

DAU	Daniels Canyon	78.87	43	eP	P	11 44 22.9	+0.1
X22A	Bernardo	79.00	50	⇑P	P	11 44 24.5	+1.0
	baz=79						
Z23A	Rita Site, Whi	79.03	51	⇑P	P	11 44 24.3	+0.6
	baz=79						
224A	Cornudas Mount	79.06	53	⇓P	P	11 44 24.4	+0.5
	baz=79						
626A	Big Bend Ranch	79.09	55	⇓P	P	11 44 24.2	+0.2
	baz=79,SNR=9.4						
BNM	Barren Site	79.13	50	eP	P	11 44 25.0	+0.7
	comp=Z,2.1nm,0.7s						
V21A	Milan	79.14	48	⇑P	P	11 44 25.3	+1.0
	baz=79						
MVCO	Mesa Verde	79.18	47	eP	P	11 44 25.1	+0.6
	comp=Z,11nm,1.4s						
MVCO	Mesa Verde	79.18	47	⇓P	P	11 44 24.9	+0.4
	baz=80						
325A	Bean Ranch, Si	79.18	53	⇓P	P	11 44 24.6	0.0
	baz=80,SNR=16						
HWUT	Hardware Ranch	79.28	42	eP	P	11 44 25.2	+0.3
	comp=Z,11nm,1.1s						
526A	Mary Lane Ranc	79.33	55	⇑P	P	11 44 25.6	+0.2
	baz=80,SNR=11						
TXAR	Lajitas Array	79.37	56	P	P	11 44 26.1	+0.5
TXAR	Lajitas Array	79.37	56	P	P	11 44 26.1	+0.5
	comp=Z,6.2nm,1.1s,baz=224,slow=5.0,SNR=32						
TXAR				LR	LR	12 12 53.0	
	comp=Z,154nm,18.1s,baz=240,slow=31						
124A	Stringfield Ra	79.38	52	⇓P	P	11 44 26.0	+0.3
	baz=80,SNR=6.8						
U21A	Nageezi	79.41	48	⇓P	P	11 44 26.3	+0.5
	baz=80,SNR=38						
PV04	Paradox Valley	79.46	46	eP	P	11 44 26.9	+1.0
Y23A	Lovelace Mesa,	79.46	51	⇑P	P	11 44 26.2	+0.2
	baz=80						
MDJ	Mudanjiang	79.49	322	P	P	11 44 28.5	+2.8
MDJ				sP	sP	11 44 33.0	-0.8
MDJ				PcP	PcP	11 44 35.8	+2.1
MDJ				PP	PP	11 47 29.3	+2.9
MDJ				S	S	11 54 31.3	+5.0
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,63nm,5.5s						
MDJ				LR	LR		
	comp=N,61nm,21.2s						
MDJ				LR	LR		
	comp=E,110nm,24.5s						
MDJ				LR	LR		
	comp=Z,150nm,19.6s						
PV01	Paradox Valley	79.56	46	eP	P	11 44 27.3	+0.7
	comp=Z,3μm,1.1s						
S20A	Disappointment	79.57	46	⇓P	P	11 44 27.4	+0.8
	baz=80,SNR=22						
ANMO	Albuquerque	79.61	50	eP	P	11 44 27.2	+0.4
	comp=Z,37nm,2.0s						
225A	Deer Hill, Car	79.61	53	⇓P	P	11 44 27.3	+0.4
	baz=80,SNR=8.7						
426A	McDonald Obser	79.63	54	⇓P	P	11 44 27.2	+0.1
	baz=80,SNR=22						
627A	Terlingua Ranc	79.64	56	⇑P	P	11 44 27.4	+0.3
	baz=80,SNR=16						
NEW	Newport	79.70	34	eP	P	11 44 26.9	0.0
	comp=Z,37nm,2.0s						
NEW	Newport	79.70	34	⇑P	P	11 44 26.9	0.0
	baz=80						
V22A	San Miguel Ran	79.71	49	⇓P	P	11 44 27.7	+0.2
	baz=80,SNR=5.8						
Z24A	Sheeppen Canyo	79.72	51	⇓P	P	11 44 27.7	+0.3
	baz=80						
R20A	Redvale	79.72	46	⇑P	P	11 44 27.5	+0.1
	baz=80,SNR=11						
527A	Woodward Ranch	79.74	55	⇓P	P	11 44 27.7	+0.1
	baz=80,SNR=17						
T21A	Navajo Lake	79.76	47	⇓P	P	11 44 28.4	+0.8
	baz=80,SNR=6.2						
M17A	Scullys Gap (B	79.79	42	⇓P	P	11 44 27.5	-0.2
	baz=80,SNR=6.7						
S21A	Coal Bank Pass	79.89	47	⇓P	P	11 44 29.0	+0.6
	baz=80,SNR=30						
Y24A	Capitan	79.92	51	⇓P	P	11 44 28.9	+0.3
	baz=80,SNR=10.0						
W23A	Werner Place,	79.93	49	⇓P	P	11 44 28.9	+0.3
	baz=80						
326A	Caldwell Ranch	79.93	54	⇑P	P	11 44 28.5	-0.1
	baz=80						
U22A	Llaves	79.96	48	⇓P	P	11 44 29.4	+0.6
	baz=80						
125A	Gardner Draw,	79.97	52	⇑P	P	11 44 29.2	+0.5
	baz=80						
GDL2	Guadalupe Moun	80.00	53	eP	P	11 44 29.9	+0.9
	comp=Z,2.7nm,0.7s						
P19A	Cripple Cowboy	80.00	44	⇓P	P	11 44 28.9	0.0
	baz=80,SNR=17						
TRF	Thorofare Moun	80.03	10	eP	P	11 44 27.8	-0.7
	comp=Z,22nm,1.1s						
628A	Black Gap, Mar	80.05	56	⇑P	P	11 44 29.5	+0.3
	baz=80,SNR=11						
226B	Tecolote Peak,	80.10	53	⇑P	P	11 44 29.7	+0.2
	baz=80,SNR=18						
Q20A	Ridgley Place,	80.14	45	⇓P	P	11 44 29.8	+0.2
	baz=80,SNR=20						
V23A	Ortiz Mt. (NFS	80.16	49	⇑P	P	11 44 30.6	+0.7
	baz=80,SNR=10						
AHID	Auburn Hatcher	80.17	41	eP	P	11 44 30.2	+0.5
	comp=Z,24nm,1.2s						
Z25A	Roswell	80.18	52	⇑P	P	11 44 30.4	+0.5
	baz=80,SNR=9.3						
427A	Hayter Ranch,	80.19	54	⇑P	P	11 44 30.2	+0.3
	baz=80,SNR=11						
X24A	Lazy VL Ranch,	80.20	50	⇑P	P	11 44 30.0	-0.1
	baz=80						
T22A	Edith	80.22	48	⇓P	P	11 44 30.5	+0.4
	baz=80,SNR=8.3						
O19A	Miners Draw (B	80.23	44	⇑P	P	11 44 30.4	+0.4
	baz=80						
P20A	De Beque	80.34	45	⇓P	P	11 44 31.0	+0.3
	baz=81,SNR=25						
RRI2	Red Ridge	80.34	40	eP	P	11 44 31.1	+0.4
	comp=Z,25nm,1.0s						
R21A	Cimarron	80.38	46	⇑P	P	11 44 31.8	+0.8
	baz=81,SNR=19						
528A	Cox Ranch, San	80.40	55	⇑P	P	11 44 31.5	+0.3
	baz=81,SNR=17						
U23A	El Rito	80.42	48	⇓P	P	11 44 31.8	+0.6
	baz=81,SNR=18						
L18A	Fontenelle, Gr	80.43	42	⇓P	P	11 44 31.2	0.0
	baz=81,SNR=7.5						
126A	Clayton Basin,	80.45	53	⇑P	P	11 44 31.4	+0.1
	baz=81						
PAX	Paxson	80.47	12	eP	P	11 44 30.5	-0.2
PAX				pmax	pmax		
	comp=Z,14nm,1.3s						
PAX	Paxson	80.47	12	eP	P	11 44 30.5	-0.2
	comp=Z,14nm,1.3s						
Y25A	Mesa, Roswell	80.47	51	⇑P	P	11 44 31.6	+0.1
	baz=81,SNR=16						
HYT	Haines Junctio	80.49	16	eP	P	11 44 32.0	+1.1
W24A	Lazy 6 Ranch,	80.50	50	⇓P	P	11 44 31.5	-0.2
	baz=81,SNR=12						
I16A	Newdale	80.51	40	⇑P	P	11 44 32.4	+0.9
	baz=81,SNR=19						
MCK	McKinley	80.52	10	eP	P	11 44 31.2	+0.3
MCK	McKinley	80.52	10	eP	P	11 44 31.2	+0.3
Q21A	Lamborn Mesa,	80.58	46	⇑P	P	11 44 32.7	+0.6
	baz=81,SNR=6.3						
S22A	4UR Ranch, Cre	80.60	47	⇑P	P	11 44 32.9	+0.6
	baz=81,SNR=27						
DLMT	Dillon	80.62	38	eP	P	11 44 32.9	+0.8
	comp=Z,48nm,1.7s						
MSO	Missoula	80.64	36	eP	P	11 44 31.9	-0.1
	comp=Z,18nm,1.1s						
MSO	Missoula	80.64	36	⇓P	P	11 44 31.5	-0.5
	baz=81,SNR=14						
REDW	Red Top Meadow	80.64	40	eP	P	11 44 32.9	+0.6
	comp=Z,24nm,1.2s						
TPAW	Teton Pass	80.64	40	eP	P	11 44 32.8	+0.4
	comp=Z,20nm,0.9s						
428A	Kincaid Ranch,	80.71	55	⇓P	P	11 44 33.2	+0.5
	baz=81,SNR=12						
O20A	White River Ci	80.74	44	eP	P	11 44 33.1	+0.3
O20A	White River Ci	80.74	44	⇑P	P	11 44 33.2	+0.3
	baz=81,SNR=8.9						
Z26A	Caprock	80.74	52	⇓P	P	11 44 33.0	+0.1
	baz=81,SNR=17						
227A	Bennet, Jal	80.75	53	⇑P	P	11 44 32.8	-0.2
	baz=81						
SNOW	Snow King Moun	80.75	40	eP	P	11 44 33.8	+0.9
	comp=Z,28nm,1.0s						
X25A	Clemmons Ranch	80.75	51	⇑P	P	11 44 33.1	+0.1
	baz=81,SNR=10						
M19A	Rock Springs	80.79	43	⇓P	P	11 44 33.1	0.0
	baz=81,SNR=13						
MENT	Mentasta	80.81	13	eP	P	11 44 33.2	+0.8
V24A	Rampart Ranch,	80.82	49	⇓P	P	11 44 33.8	+0.4
	baz=81,SNR=5.7						
529A	Stev Forest Ra	80.84	55	⇑P	P	11 44 33.3	-0.1
	baz=81,SNR=16						
T23A	Casias Ranch,	80.84	48	⇑P	P	11 44 34.1	+0.6
	baz=81,SNR=6.9						
IMW	Indian Meadow	80.86	40	eP	P	11 44 34.0	+0.5
	comp=Z,14nm,0.8s						
328A	Wristen Ranch,	80.87	54	⇓P	P	11 44 33.3	-0.3
	baz=81,SNR=6.4						
R22A	Saguache, Gunn	80.87	46	⇑P	P	11 44 34.6	+0.8
	baz=81,SNR=10.0						
MOOW	Moose Ponds	80.90	40	eP	P	11 44 34.2	+0.6
	comp=Z,7.5nm,1.0s						
LOHW	Long Hollow	80.92	40	eP	P	11 44 34.0	+0.2
NJ2	Nanjing	80.93	307	eP	P	11 44 34.5	+0.7
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
L19A	Farson	80.96	42	⇓P	P	11 44 34.2	+0.2
	baz=81,SNR=10						
127A	Arkansas Junct	80.97	53	⇑P	P	11 44 34.2	+0.1
	baz=81						
P21A	Newcastle	80.99	45	⇓P	P	11 44 34.6	+0.4
	baz=81,SNR=6.0						
Q22A	Crested Butte,	81.06	46	⇓P	P	11 44 35.4	+0.7
	baz=81,SNR=20						
N20A	Spence Gulch,	81.06	44	⇓P	P	11 44 35.0	+0.4
	baz=81,SNR=12						
H16A	Russell Place,	81.09	39	⇑P	P	11 44 35.7	+1.1
	baz=81,SNR=40						
I17A	Pilgrim Ck.	81.09	40	⇑P	P	11 44 35.2	+0.6
	baz=81						
Y26A	Elida	81.13	51	⇓P	P	11 44 35.1	+0.1
	baz=81,SNR=16						
BW06	Boulder Array	81.16	41	eP	P	11 44 35.1	+0.1
	comp=Z,20nm,1.3s						
PDAR	Pinedale Array	81.16	41	P	P	11 44 35.0	-0.1
PDAR	Pinedale Array	81.16	41	P	P	11 44 35.0	-0.1
	comp=Z,7.2nm,0.9s,baz=211,slow=3.5,SNR=54						
PDAR				LR	LR	12 15 42.7	
	comp=Z,198nm,18.3s,baz=254,slow=32						
SMCO	Snowmass	81.16	46	eP	P	11 44 35.8	+0.5
	comp=Z,14nm,1.0s						
S23A	Nye Farm, Mont	81.17	47	⇓P	P	11 44 35.4	+0.1
	baz=82						
W25A	X Bar L Ranch,	81.20	50	⇑P	P	11 44 35.5	+0.1
	baz=82						
429A	Davenport Ranc	81.29	55	⇑P	P	11 44 35.6	-0.2
	baz=82,SNR=42						
O21A	Pagoda	81.30	44	⇓P	P	11 44 36.1	+0.2
	baz=82						
T24B	San Luis	81.33	48	⇑P	P	11 44 36.5	+0.4
	baz=82						
228A	UT Block 9, Go	81.34	54	⇑P	P	11 44 36.1	+0.1
	baz=82						
H17A	Grant Village	81.34	40	eP	P	11 44 38.0	+2.0
H17A	Grant Village	81.34	40	⇓P	P	11 44 37.4	+1.4
	baz=82,SNR=9.7						
Z27A	Tatum	81.34	52	⇓P	P	11 44 37.0	+0.9
	baz=82,SNR=6.6						
BOZ	Bozeman (W)	81.35	38	eP	P	11 44 36.4	+0.5
BOZ				pmax	pmax		
	comp=Z,22nm,1.4s						
BOZ	Bozeman (W)	81.35	38	eP	P	11 44 36.4	+0.5
	comp=Z,22nm,1.4s						
V25A	Rancho No Teng	81.35	49	⇑P	P	11 44 36.3	+0.1
	baz=82,SNR=9.6						
X26A	CR and CF Fran	81.40	51	⇓P	P	11 44 36.4	0.0
	baz=82,SNR=7.1						
M20A	Sweetwater, Wa	81.42	43	⇓P	P	11 44 36.8	+0.3
	baz=82						
I18A	Diamond G Ranc	81.46	40	⇓P	P	11 44 36.9	+0.3
	baz=82,SNR=6.0						
P22A	Eagle	81.50	45	⇓P	P	11 44 37.1	+0.2
	baz=82,SNR=9.0						
R23A	Moffat	81.51	47	⇓P	P	11 44 37.7	+0.6
	baz=82,SNR=7.4						
N21A	Black Mountain	81.52	44	⇑P	P	11 44 37.3	+0.2
	baz=82,SNR=16						
530A	J-C Ranch, Com	81.55	56	⇑P	P	11 44 37.0	-0.2
	baz=82,SNR=10						
329A	Wagon Wheel Ra	81.56	54	⇑P	P	11 44 37.2	-0.1
	baz=82,SNR=7.7						
L20A	Wamsutter	81.57	43	⇓P	P	11 44 37.5	+0.2
	baz=82,SNR=12						
CN2	Changchun	81.60	320	eP	P	11 44 38.0	+1.0
CN2				esP	sP	11 44 47.0	+1.8
CN2				eS	S	11 54 49.5	+1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,200nm,22.0s						
Y27A	Causey	81.61	52	⇑P	P	11 44 36.9	-0.7
	baz=82,SNR=7.2						
128A	Castleberry Fa	81.62	53	⇑P	P	11 44 37.5	-0.1
	baz=82,SNR=8.7						
K19A	Absolon Red Bu	81.64	42	⇑P	P	11 44 37.0	-0.6
	baz=82,SNR=8.2						
S24A	Houchin Ranch,	81.70	48	⇓P	P	11 44 38.8	+0.6
	baz=82,SNR=11						
G17A	Pierce Place,	81.71	39	⇓P	P	11 44 38.8	+0.9
	baz=82,SNR=6.2						
J19A	Crowheart	81.72	41	⇑P	P	11 44 37.8	-0.2
	baz=82,SNR=13						
U25A	Circle Dot Ran	81.74	49	⇑P	P	11 44 38.1	-0.2
	baz=82,SNR=7.1						
COLA	College	81.76	10	eP	P	11 44 37.3	-0.1
COLA				pmax	pmax		
	comp=Z,34nm,0.9s						
COLA	College	81.76	10	eP	P	11 44 37.3	-0.1
	comp=Z,34nm,0.9s						
Q23A	Hartsel	81.82	46	⇑P	P	11 44 38.8	+0.1
	baz=82						
ILAR	Eielson Array	81.84	11	P	P	11 44 37.5	-0.3
ILAR	Eielson Array	81.84	11	P	P	11 44 37.5	-0.3
	comp=Z,3.8nm,0.8s,baz=226,slow=6.5,SNR=37						
ILAR				LR	LR	12 17 40.0	
	comp=Z,102nm,19.2s,baz=102,slow=33						
430A	Baggett Ranch,	81.88	55	⇑P	P	11 44 38.4	-0.5
	baz=82						
631A	Perdido Creek	81.88	57	⇑P	P	11 44 38.4	-0.5
	baz=82,SNR=7.7						
K20A	Yellowstone Ra	81.88	42	⇓P	P	11 44 38.2	-0.6
	baz=82,SNR=5.2						
229A	Bryant Ranch,	81.89	54	⇓P	P	11 44 38.8	-0.2
	baz=82						
O22A	Kremmling	81.90	45	⇓P	P	11 44 39.4	+0.2
	baz=82,SNR=22						
IM04	Indian Mountai	81.92	7	eP	P	11 44 39.3	+1.1
V26A	Tequesquite Ra	81.94	50	⇓P	P	11 44 39.1	-0.1
	baz=82						
MSTX	Muleshoe	81.95	52	eP	P	11 44 39.5	+0.2
MSTX	Muleshoe	81.95	52	⇑P	P	11 44 39.0	-0.3
	baz=82,SNR=7.8						
Z28A	Tucker Farm, M	81.97	53	⇓P	P	11 44 39.2	-0.2
	baz=82						
IMA2	Indian Mountai	82.02	7	eP	P	11 44 39.0	+0.1
M21A	Separation Pea	82.02	43	⇓P	P	11 44 39.6	-0.1
	baz=82,SNR=16						
P23A	Jefferson	82.03	46	⇑P	P	11 44 40.5	+0.7
	baz=82,SNR=11						
R24A	Sanders Place,	82.03	47	⇑P	P	11 44 40.5	+0.8
	baz=82,SNR=11						
H18A	Shoshone NF, C	82.04	40	⇓P	P	11 44 40.0	+0.3
	baz=82,SNR=6.4						
T25A	Trinidad	82.06	48	⇓P	P	11 44 39.9	0.0
	baz=82,SNR=7.0						
F17A	Fitzpatrick Pl	82.06	38	⇑P	P	11 44 40.5	+0.8
	baz=82,SNR=12						
129A	Stewart Farms,	82.10	53	⇓P	P	11 44 40.3	+0.2
	baz=82						
732A	Laxson Ranch,	82.12	58	⇓P	P	11 44 39.9	-0.2
	baz=82,SNR=6.1						
I19A	Meeteetse	82.14	40	⇓P	P	11 44 40.6	+0.4
	baz=82,SNR=7.2						
RWWY	Rawlins	82.16	43	eP	P	11 44 40.5	+0.1
330A	Mertzon	82.17	55	⇑P	P	11 44 39.8	-0.6
	baz=82,SNR=5.6						
W27A	Bowe Ranch, En	82.17	51	⇑P	P	11 44 40.3	-0.1
	baz=82,SNR=8.4						
L21A	Rawlins	82.19	43	⇓P	P	11 44 40.2	-0.3
	baz=82,SNR=7.7						
531A	Rocksprings	82.19	56	⇑P	P	11 44 40.3	-0.3
	baz=82,SNR=31						
U26A	Atchley Ranch,	82.22	49	⇓P	P	11 44 40.9	+0.1
	baz=82,SNR=16						
E17A	Martinsdale	82.23	38	⇑P	P	11 44 40.9	+0.3
	baz=83,SNR=6.3						
N22A	Wattenberg Ran	82.26	44	⇓P	P	11 44 41.4	+0.4
	baz=83,SNR=19						
S25A	Robets Cordova	82.27	48	⇑P	P	11 44 41.0	0.0
	baz=83,SNR=14						
Y28A	McKinney Farm,	82.32	52	⇓P	P	11 44 41.2	0.0
	baz=83						
Q24A	Divide	82.33	46	⇑P	P	11 44 41.8	+0.4
	baz=83,SNR=6.9						
431A	Sonora	82.34	56	⇑P	P	11 44 41.0	-0.4
	baz=83						
O23A	Lake Granby, G	82.35	45	⇑P	P	11 44 42.1	+0.6
	baz=83,SNR=9.2						
ISCO	Idaho Springs	82.38	45	eP	P	11 44 42.2	+0.5
ISCO				pmax	pmax		
	comp=Z,17nm,1.5s						
ISCO	Idaho Springs	82.38	45	eP	P	11 44 42.2	+0.5
	comp=Z,17nm,1.5s						
ISCO	Idaho Springs	82.38	45	⇑P	P	11 44 42.0	+0.3
	baz=83,SNR=7.1						
J20A	Shoshoni	82.39	41	⇓P	P	11 44 41.7	+0.3
	baz=83,SNR=14						
230A	Sterling City	82.40	54	⇓P	P	11 44 41.9	+0.3
	baz=83						
G18A	Lazy EL Ranch,	82.43	39	⇑P	P	11 44 42.1	+0.5
	baz=83,SNR=10						
M22A	Cedar Creek Ra	82.44	44	⇓P	P	11 44 41.8	0.0
	baz=83,SNR=6.7						
H19A	Powell	82.46	40	⇑P	P	11 44 42.3	+0.5
	baz=83,SNR=14						
Z29A	Hungry Hill Ra	82.48	53	⇓P	P	11 44 41.7	-0.3
	baz=83,SNR=5.4						
SEY	Seymchan	82.48	344	ceP	P	11 44 40.6	-0.6
RLMT	Red Lodge	82.51	39	eP	P	11 44 43.0	+0.9
	comp=Z,21nm,1.3s						
632A	Uvalde	82.56	57	⇑P	P	11 44 42.6	+0.1
	baz=83,SNR=9.7						
K21A	Alcova	82.58	42	⇑P	P	11 44 42.5	0.0
	baz=83,SNR=12						
R25A	Fountain Ranch	82.58	47	⇓P	P	11 44 42.5	0.0
	baz=83,SNR=8.8						
X28A	Dimmitt	82.60	51	⇑P	P	11 44 42.8	+0.1
	baz=83						
F18A	Big Timber	82.63	39	⇑P	P	11 44 43.3	+0.7
	baz=83,SNR=8.8						
V27A	Dan Oppiter Fa	82.63	50	⇓P	P	11 44 42.7	-0.1
	baz=83						
N23A	Red Feather La	82.64	44	⇓P	P	11 44 43.4	+0.4
	baz=83,SNR=10						
I20A	Worland	82.64	41	⇑P	P	11 44 42.5	-0.2
	baz=83,SNR=16						
T26A	Comanche Natio	82.66	49	⇑P	P	11 44 43.0	0.0
	baz=83						
D17A	Six Diamond Ra	82.69	37	⇓P	P	11 44 43.2	+0.2
	baz=83,SNR=26						
532A	Rocksprings	82.69	56	⇑P	P	11 44 42.8	-0.4
	baz=83,SNR=14						
331A	San Angelo	82.72	55	⇑P	P	11 44 42.7	-0.6
	baz=83,SNR=5.6						
DAWY	Dawson	82.75	14	eP	P	11 44 43.2	+0.5
J21A	Lysite	82.79	42	⇑P	P	11 44 43.6	0.0
	baz=83,SNR=39						
L22A	Ellis Ranch, M	82.84	43	⇑P	P	11 44 44.0	+0.2
	baz=83,SNR=17						
E18A	Harlowton	82.85	38	⇑P	P	11 44 43.9	+0.2
	baz=83,SNR=18						
O24A	Longmont	82.89	45	⇓P	P	11 44 44.2	0.0
	baz=83						
C17A	Wharram Farm,	82.90	37	⇓P	P	11 44 43.8	0.0
	baz=83,SNR=31						
JCT	Junction City	82.91	56	eP	P	11 44 44.0	-0.3
JCT				pmax	pmax		
	comp=Z,14nm,1.1s						
JCT	Junction City	82.91	56	eP	P	11 44 44.0	-0.3
	comp=Z,14nm,1.1s						
JCT	Junction City	82.91	56	⇓P	P	11 44 43.6	-0.6
	baz=83						
U27A	Thompson Grove	82.91	49	⇓P	P	11 44 43.8	-0.5
	baz=83,SNR=6.0						
Z30A	Sanderson Ranc	82.93	53	⇑P	P	11 44 43.6	-0.8
	baz=83,SNR=10						
Q25A	Bedland, Calha	82.94	47	⇓P	P	11 44 44.1	-0.4
	baz=83,SNR=6.3						
S26A	Kim	82.94	48	⇓P	P	11 44 43.9	-0.6
	baz=83,SNR=13						
X29A	Tulia	82.95	52	⇓P	P	11 44 44.1	-0.4
	baz=83						
EGAK	Eagle	82.97	13	eP	P	11 44 44.2	+0.5
	comp=Z,13nm,1.1s						
H20A	Greybull	82.98	40	⇓P	P	11 44 44.1	-0.3
	baz=83,SNR=5.6						
231A	Bronte	83.04	54	⇑P	P	11 44 44.1	-0.8
	baz=83,SNR=7.8						
M23A	Laramie	83.05	44	⇓P	P	11 44 45.3	+0.2
	baz=83						
432A	Menard	83.06	56	⇑P	P	11 44 44.2	-0.9
	baz=83,SNR=6.5						
K22A	Casper	83.06	43	⇓P	P	11 44 45.3	+0.4
	baz=83,SNR=7.9						
F19A	Roth Farm, Mol	83.07	39	⇓P	P	11 44 45.1	+0.2
	baz=83,SNR=18						
V28A	Channing	83.08	50	⇑P	P	11 44 45.5	+0.4
	baz=83						
I21A	Big Trails, Te	83.11	41	⇓P	P	11 44 44.7	-0.4
	baz=83,SNR=22						
AMTX	Amarillo	83.14	51	eP	P	11 44 45.5	0.0
	comp=Z,21nm,1.0s						
PHWY	Pilot Hill	83.16	44	eP	P	11 44 45.7	+0.1
G20A	Bridger	83.21	40	⇓P	P	11 44 45.4	-0.2
	baz=84						
B17A	L&G Farms, Che	83.22	36	⇑P	P	11 44 45.4	-0.1
	baz=84,SNR=11						
D18A	Linhart Farms,	83.23	37	⇑P	P	11 44 46.2	+0.5
	baz=84,SNR=10						
R26A	Arlington	83.24	48	⇑P	P	11 44 45.7	-0.3
	baz=84,SNR=26						
T27A	Campo	83.25	49	⇑P	P	11 44 45.8	-0.2
	baz=84						
P25A	Willow Gulch B	83.25	46	⇑P	P	11 44 46.2	+0.2
	baz=84,SNR=16						
W29A	Amraillo	83.26	51	⇑P	P	11 44 45.9	-0.1
	baz=84,SNR=8.0						
131A	Roby	83.27	54	⇑P	P	11 44 45.8	-0.3
	baz=84						
332A	Millersview	83.29	55	⇓P	P	11 44 45.6	-0.6
	baz=84,SNR=15

T28A	Walsh	83.72	49	⇑P		P	11 44 47.9 -0.5
	baz=84						
D19A	Cripps Ranch,	83.76	38	⇑P		P	11 44 48.5 +0.1
	baz=84,SNR=17						
ABTX	Abilene, Hawle	83.83	54	eP		P	11 44 48.9 -0.1
ABTX	Abilene, Hawle	83.83	54	⇓P		P	11 44 48.6 -0.4
	baz=84,SNR=14						
G21A	Lodge Grass	83.83	40	⇓P		P	11 44 49.3 +0.5
	baz=84						
L24A	Wheatland	83.84	44	⇑P		P	11 44 49.4 +0.5
	baz=84,SNR=6.1						
P26A	Davis Ranch, A	83.85	46	⇓P		P	11 44 48.8 -0.3
	baz=84,SNR=9.3						
B18A	Beardsley Farm	83.86	36	⇑P		P	11 44 48.5 -0.3
	baz=84,SNR=15						
Y31A	Rekieta Farm,	83.86	53	⇑P		P	11 44 48.6 -0.5
	baz=84						
E20A	Meyer Farm, Mu	83.88	39	⇑P		P	11 44 49.1 +0.1
	baz=84,SNR=17						
QIZ	Qiongzhong	83.92	291	P		P	11 44 49.0 -0.7
QIZ				S		S	11 55 15.8 +2.7
QIZ				pmax		pmax	
	comp=Z,6.0nm,1.4s						
C19A	Slack Wire Ran	83.94	37	⇑P		P	11 44 49.9 +0.7
	baz=84						
S28A	Manter	84.06	49	⇑P		P	11 44 50.0 -0.2
	baz=84						
U29A	Oasis Ranch, S	84.07	50	⇑P		P	11 44 50.1 -0.1
	baz=84						
H22A	Clearmont	84.07	41	⇓P		P	11 44 50.0 0.0
	baz=84,SNR=10.0						
A18A	Metzger Ranch,	84.08	36	⇓P		P	11 44 49.8 -0.1
	baz=84,SNR=16						
KSCO	Kaye Shedlock'	84.12	47	eP		P	11 44 50.9 +0.5
KSCO	Kaye Shedlock'	84.12	47	⇑P		P	11 44 50.4 0.0
	baz=84,SNR=7.4						
O26A	Horse Wrangler	84.16	46	⇑P		P	11 44 50.5 -0.1
	baz=84						
M25A	Palm-Egli Farm	84.16	45	⇑P		P	11 44 50.9 +0.3
	baz=84						
D20A	Manuel Ranch,	84.17	38	⇓P		P	11 44 50.9 +0.5
	baz=84,SNR=22						
Z32A	Haskell	84.22	53	⇑P		P	11 44 50.9 0.0
	baz=84,SNR=24						
V30A	Spur Ranch, Mi	84.23	51	⇑P		P	11 44 51.0 0.0
	baz=84						
T29A	Hugoton	84.33	49	⇑P		P	11 44 51.8 +0.3
	baz=85						
X31A	McDonald Ranch	84.33	52	⇑P		P	11 44 51.7 +0.3
	baz=85						
B19A	Brinkman Farms	84.36	37	⇑P		P	11 44 51.6 +0.2
	baz=85,SNR=7.0						
P27A	Ficken Ranch,	84.38	47	⇑P		P	11 44 51.7 0.0
	baz=85						
G22A	Birney	84.40	40	⇓P		P	11 44 51.7 0.0
	baz=85,SNR=5.5						
R28A	Tribune	84.43	48	⇑P		P	11 44 52.0 0.0
	baz=85,SNR=22						
N26A	Koester Ranch,	84.47	45	⇓P		P	11 44 52.6 +0.4
	baz=85						
Y32A	R-V Farms, Ver	84.50	53	⇑P		P	11 44 52.1 -0.3
	baz=85,SNR=9.1						
EDM	Edmonton	84.52	31	eP		P	11 44 52.0 0.0
EDM	Edmonton	84.52	31	eP		P	11 44 52.0 0.0
L25A	Engebretsen Ra	84.53	44	⇓P		P	11 44 52.9 +0.5
	baz=85,SNR=5.4						
E21A	Keefer Ranch,	84.54	39	⇓P		P	11 44 53.4 +1.1
	baz=85						
C20A	Veseth Ranch,	84.55	38	⇑P		P	11 44 53.0 +0.7
	baz=85,SNR=16						
W31A	Holland Ranch,	84.57	52	⇓P		P	11 44 52.6 -0.1
	baz=85,SNR=7.6						
J24A	Dixon Ranch, L	84.59	43	⇓P		P	11 44 53.5 +0.8
	baz=85						
F22A	Rosebud	84.68	40	⇑P		P	11 44 53.7 +0.7
	baz=85						
Q28A	Sharon Springs	84.71	47	⇓P		P	11 44 53.7 +0.3
	baz=85						
O27A	Beecher Island	84.72	46	⇑P		P	11 44 53.3 -0.1
	baz=85,SNR=6.2						
A19A	Klindworth Far	84.72	36	⇓P		P	11 44 53.1 -0.1
	baz=85,SNR=12						
K25A	Mack Ranch, Ha	84.80	44	⇑P		P	11 44 54.4 +0.6
	baz=85,SNR=5.3						
D21A	La Casta Ranch	84.84	39	⇓P		P	11 44 54.2 +0.4
	baz=85,SNR=9.6						
I24A	Kuemmerle Ranc	84.85	42	⇓P		P	11 44 55.0 +1.0
	baz=85						
V31A	Spring Creek L	84.87	51	⇑P		P	11 44 54.7 +0.5
	baz=85,SNR=8.4						
B20A	Solberg Farm,	84.89	37	⇑P		P	11 44 54.8 +0.8
	baz=85						
N27A	Anderson Farm,	84.93	46	⇑P		P	11 44 54.9 +0.4
	baz=85						
R29A	Marienthal	84.95	48	⇓P		P	11 44 54.9 +0.3
	baz=85						
G23A	Biddle	84.96	41	⇓P		P	11 44 54.1 -0.4
	baz=85,SNR=9.6						
P28A	Saint Francis	84.97	47	⇑P		P	11 44 55.1 +0.4
	baz=85						
LAO	LASA Array	85.13	39	eP		P	11 44 56.3 +1.1
	comp=Z,56nm,1.4s						
C21A	Desert Coulee	85.14	38	⇑P		P	11 44 55.4 +0.2
	baz=86,SNR=8.0						
A20A	Cobblestone Ra	85.16	37	⇑P		P	11 44 55.6 +0.2
	baz=86,SNR=17						
F23A	Volborg	85.19	40	⇑P		P	11 44 55.5 -0.1
	baz=86,SNR=10						
H24A	Dirks Ranch, A	85.29	41	⇓P		P	11 44 55.7 -0.4
	baz=86,SNR=24						
WHTX	Lake Whitney	85.33	55	⇓P		P	11 44 56.0 -0.5
	baz=86,SNR=6.1						
RSSD	Black Hills	85.34	42	eP		P	11 44 55.9 -0.7
RSSD				pmax		pmax	
	comp=Z,22nm,1.0s						
RSSD	Black Hills	85.34	42	eP		P	11 44 55.9 -0.7
	comp=Z,22nm,1.0s						
D22A	Cohagen	85.37	39	⇓P		P	11 44 56.7 +0.2
	baz=86,SNR=9.3						
B21A	Ellsworth Farm	85.47	37	⇓P		P	11 44 57.1 +0.2
	baz=86,SNR=17						
I25A	Rochford	85.50	42	⇑P		P	11 44 57.1 -0.2
	baz=86,SNR=12						
R30A	Dighton	85.52	49	⇑P		P	11 44 56.9 -0.5
	baz=86,SNR=5.7						
P29A	Atwood	85.56	47	⇑P		P	11 44 58.1 +0.5
	baz=86						
E23A	Ismay	85.60	40	⇑P		P	11 44 57.6 0.0
	baz=86,SNR=5.4						
J26A	Sides Ranch, S	85.62	43	⇓P		P	11 44 57.7 -0.1
	baz=86						
G24A	Alzada	85.63	41	⇓P		P	11 44 58.3 +0.5
	baz=86						
A21A	Bergtoll Ranch	85.79	37	⇑P		P	11 44 58.4 -0.1
	baz=86,SNR=9.3						
C22A	Vida	85.82	38	⇓P		P	11 44 59.3 +0.6
	baz=86						
Q30A	Quinter	85.83	48	⇓P		P	11 44 58.9 0.0
	baz=86,SNR=6.7						
S31A	Mullinville	85.84	49	⇓P		P	11 44 59.3 +0.3
	baz=86						
F24A	Ekalaka	85.84	40	⇓P		P	11 44 59.4 +0.5
	baz=86						
H25A	Fruitdale	85.84	42	⇑P		P	11 44 59.2 +0.3
	baz=86						
HKT	Hockley	85.93	58	eP		P	11 45 00.2 +0.7
HKT				pmax		pmax	
	comp=Z,45nm,1.9s						
HKT	Hockley	85.93	58	eP		P	11 45 00.2 +0.7
	comp=Z,45nm,1.9s						
D23A	Lindsay	85.97	39	⇓P		P	11 45 00.0 +0.6
	baz=86,SNR=6.6						
B22A	Reddig Ranch S	86.01	38	⇑P		P	11 44 59.9 +0.3
	baz=86,SNR=8.4						
P30A	Selden	86.03	47	⇑P		P	11 45 00.0 +0.1
	baz=86						
R31A	Burdett	86.06	49	⇓P		P	11 45 00.2 +0.1
	baz=86						
BJI	Beijing	86.11	313	P		P	11 45 02.0 +1.8
BJI				S		S	11 55 36.0 +2.0
BJI				pmax		pmax	
	comp=Z,9.0nm,0.8s						
BJI				LR		LR	
	comp=Z,56nm,24.9s						
G25A	Newell	86.21	41	⇓P		P	11 45 01.0 +0.3
	baz=86						
E24A	Baker	86.25	40	⇓P		P	11 45 02.0 +1.1
	baz=87						
C23A	Lambert	86.27	38	⇓P		P	11 45 01.4 +0.5
	baz=87,SNR=5.6						
J27A	Elkhorn Farm,	86.31	44	⇓P		P	11 45 01.6 +0.4
	baz=87						
H26A	Fairpoint	86.37	42	⇓P		P	11 45 02.1 +0.6
	baz=87						
D24A	Glendive	86.48	39	⇑P		P	11 45 02.8 +0.8
	baz=87,SNR=5.7						
F25A	Bowman	86.50	41	⇑P		P	11 45 03.0 +0.9
	baz=87						
I27A	Quinn	86.61	43	⇑P		P	11 45 03.5 +0.8
	baz=87						
B23A	Brockton	86.68	38	⇓P		P	11 45 03.7 +0.7
	baz=87						
G26A	Maurine	86.77	41	⇓P		P	11 45 04.2 +0.7
	baz=87						
E25A	Miller Ranch,	86.78	40	⇓P		P	11 45 04.3 +0.9
	baz=87						
F26A	Lodgepole	86.96	41	⇑P		P	11 45 05.1 +0.7
	baz=87						
DGMT	Dagmar	87.16	38	eP		P	11 45 05.8 +0.7
	comp=Z,64nm,1.7s						
DGMT	Dagmar	87.16	38	⇓P		P	11 45 05.9 +0.7
	baz=88						
G27A	Dupree	87.24	42	⇑P		P	11 45 05.5 -0.2
	baz=88						
E26A	Carlson Angus	87.36	40	⇓P		P	11 45 06.5 +0.2
	baz=88						
A24A	Westby	87.47	38	⇓P		P	11 45 07.2 +0.5
	baz=88						
D26A	Manning	87.61	40	⇑P		P	11 45 07.9 +0.5
	baz=88						
B25A	Knox Farm, Ray	87.69	39	⇓P		P	11 45 08.4 +0.6
	baz=88						
IPM	Ipoh	88.12	275	eP		P	11 45 13.1 +2.4
	comp=Z,16nm,1.0s						
MAW	Mawson	88.55	198	P		P	11 45 11.2 -0.3
MAW	Mawson	88.55	198	P		P	11 45 11.2 -0.3
	comp=Z,7.4nm,1.0s,baz=106,slow=5.8,SNR=11						
MAW				LR		LR	12 25 36.8
	comp=Z,100nm,18.2s,baz=299,slow=36						
PLCA	Paso Flores	88.84	132	eP		P	11 45 14.2 +0.6
PLCA	Paso Flores	88.84	132	P		P	11 45 13.7 +0.1
	comp=Z,7.5nm,1.0s,baz=226,slow=7.3,SNR=6.1						
PLCA				LR		LR	12 14 25.4
	comp=Z,108nm,19.3s,baz=316,slow=28						
GYA	Guiyang	88.97	298	P		P	11 45 15.0 +0.6
GYA				PP		PP	11 48 48.8 +4.4
GYA				SKS		SKSac	11 55 42.8 -1.0
GYA				S		S	11 56 03.0 +0.7
GYA				pmax		pmax	
	comp=Z,20nm,1.0s						
GYA				pmax		pmax	
	comp=Z,120nm,5.8s						
GYA				LR		LR	
	comp=N,680nm,20.6s						
GYA				LR		LR	
	comp=E,560nm,21.4s						
GYA				LR		LR	
	comp=Z,620nm,20.5s						
YKA	Yellowknife Ar	89.26	23	P		P	11 45 15.0 +0.2
YKA	Yellowknife Ar	89.26	23	P		P	11 45 15.0 +0.2
	comp=Z,4.7nm,1.0s,baz=227,slow=4.3,SNR=8.5						
HHC	Hu-ho-hao-te	89.68	313	eP		P	11 45 19.5 +2.0
HHC				S		S	11 56 09.0 +0.6
HHC				pmax		pmax	
	comp=Z,50nm,1.0s						
HHC				pmax		pmax	
	comp=Z,260nm,6.8s						
PSI	Prapat	89.72	273	LR		LR	12 23 23.0
	comp=Z,91nm,18.9s,baz=185,slow=34						
JTS	JuntasAbangare	89.92	79	eP		P	11 45 20.1 +1.0
	comp=Z,259nm,1.1s						
ECSD	EROS Data Cent	90.11	45	eP		P	11 45 18.8 -0.5
	comp=Z,7.1nm,1.2s						
A29A	Manning Farm,	90.34	39	⇓P		P	11 45 20.7 +0.5
	baz=91						
KMI	Kunming	91.98	295	P		P	11 45 30.8 +2.1
KMI				pP		pP	11 45 34.3 -0.4
KMI				S		S	11 56 28.0 -2.3
KMI				pmax		pmax	
	comp=Z,3.0nm,0.5s						
KMI				pmax		pmax	
	comp=Z,67nm,3.5s						
KMI				LR		LR	
	comp=Z,63nm,14.1s						
SYO	Syowa Base	93.21	191	⇑eP		P	11 45 41.2 +8.0
SNAA	Sanae	93.22	177	eP		P	11 45 31.8 -1.5
SNAA	Sanae	93.22	177	el		PcP	11 45 37.9 +4.0
SNAA	Sanae	93.22	177	eP		P	11 45 32.1 -1.2
VNA2	Neumayer--Watz	93.63	175	eP		P	11 45 34.5 -0.6
	baz=154,slow=2.8						
VNA2	Neumayer--Watz	93.63	175	el		PcP	11 45 40.9 +5.3
	baz=154,slow=2.8						
CMAR	Chiang Mai Arr	93.68	288	P		P	11 45 37.5 +1.2
CMAR	Chiang Mai Arr	93.68	288	P		P	11 45 37.5 +1.2
	comp=Z,0.9nm,0.8s,baz=90,slow=3.6,SNR=5.6						
CMAR				LR		LR	12 21 04.8
	comp=Z,51nm,20.6s,baz=340,slow=31						
PLAL	Pickwick Lake	93.70	55	eP		P	11 45 35.6 -0.5
	comp=Z,49nm,2.2s						
LZH	Lanzhou	94.00	306	eP		P	11 45 39.3 +1.6
LZH				pP		pP	11 45 42.5 -1.2
LZH				sP		sP	11 45 45.3 -0.5
LZH				SKS		SKSac	11 56 06.0 -6.1
LZH				eS		S	11 56 45.0 -2.6
LZH				sS		sS	11 56 53.8 -3.9
LZH				pmax		pmax	
	comp=Z,14nm,1.1s						
LZH				pmax		pmax	
	comp=Z,110nm,4.7s						
LZH				LR		LR	
	comp=N,260nm,16.8s						
LZH				LR		LR	
	comp=E,230nm,17.6s						
LZH				LR		LR	
	comp=Z,290nm,19.1s						
SONM	Songino Array	95.39	318	P		P	11 45 43.9 +0.2
SONM	Songino Array	95.39	318	P		P	11 45 43.9 +0.2
	comp=Z,0.4nm,0.7s,baz=111,slow=7.9,SNR=2.7						
SONM				LR		LR	12 22 58.0
	comp=Z,114nm,21.0s,baz=326,slow=32						
GTA	Gaotai	97.91	309	eP		Pdif	11 45 57.8 +2.4
GTA				pP		pP	11 46 01.5 +0.1
GTA				sP		sP	11 46 04.0 +0.5
GTA				pmax		pmax	
	comp=Z,3.0nm,0.5s						
ROSC	El Rosal	98.75	87	LR		LR	12 21 45.2
	comp=Z,80nm,19.0s,baz=235,slow=30						
LPAZ	La Paz	98.77	109	P		P	11 46 00.7 +0.4
LPAZ	La Paz	98.77	109	P		P	11 46 00.7 +0.4
	comp=Z,0.5nm,0.5s,baz=252,slow=9.6,SNR=2.7						
LPAZ				LR		LR	12 22 26.4
	comp=Z,66nm,18.8s,baz=60,slow=30						
MKAR	Makanchi Array	111.44	315	PKiKP		PKiKP	11 50 52.2 -1.2
MKAR	Makanchi Array	111.44	315	PKiKP		PKiKP	11 50 52.2 -1.2
	comp=Z,0.6nm,0.7s,baz=64,slow=2.8,SNR=7.5						
KSH	Kashi	116.24	307	ePKP		PKPdf	11 51 06.3 +3.3
AAK	Ala-Archa	117.19	310	i PKIKP		PKPdf	11 51 03.8 -1.0
ARCES	ARCESS Array B	124.40	353	PKP		PKPdf	11 51 17.1 -0.5
ARCES	ARCESS Array B	124.40	353	PKP		PKPdf	11 51 17.1 -0.5
	comp=Z,4.6nm,0.7s,baz=270,slow=0.4,SNR=11						
ABKAR	Akbulak array	125.72	320	eP		PKPdf	11 51 20.5 -0.2
FINES	FINESS Array B	131.83	348	PKP		PKPdf	11 51 31.2 -0.7
FINES	FINESS Array B	131.83	348	PKP		PKPdf	11 51 31.2 -0.7
	comp=Z,2.1nm,0.7s,baz=98,slow=3.9,SNR=5.5						
NOA	NORSAR Array B	133.98	358	PKP		PKPdf	11 51 35.1 -1.0
NOA	NORSAR Array B	133.98	358	PKP		PKPdf	11 51 35.1 -1.0
	comp=Z,1.2nm,0.8s,baz=347,slow=2.2,SNR=2.7						
OBN	Obninsk	134.25	337	⇑i PKIKP		PKPdf	11 51 36.0 -0.7
OBN				pmax		pmax	
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	140.45	339	PKIKP		PKPdf	11 51 49.1 +0.8
AKASG	Malin Array Be	140.45	339	PKP		PKPdf	11 51 49.1 +0.8
AKASG	Malin Array Be	140.45	339	PKP		PKPdf	11 51 49.1 +0.8
	comp=Z,0.7nm,0.4s,baz=40,slow=5.7,SNR=3.2						
CLL	Collm	143.57	355	ePKPbc		PKPbc	11 51 51.2 +0.1
CLL	Collm	143.57	355	ePKIKP		PKPbc	11 51 51.0 -0.1
CLL				e			11 52 04.0
CLL				pmax		pmax	
	comp=Z,7.0nm,0.8s						
CLL	Collm	143.57	355	ePKPdf		PKPbc	11 51 51.0 -0.1
	comp=Z,7.0nm,0.8s						
CLL				ePKiKP		PKPdf	11 51 55.0 +1.2
CLL				e			11 52 04.0
KSP	Ksiaz	143.63	351	ePKIKP		PKPbc	11 51 51.4 0.0
BRG	Berggiesshubel	143.90	353	ePKP		PKPbc	11 51 53.0 +0.8
	comp=Z,5.5nm,1.1s						
BRG	Berggiesshubel	143.90	353	ePKIKP		PKPbc	11 51 53.0 +0.8
BRG				pmax		pmax	
	comp=Z,6.0nm,1.1s						
FBE	Freiberg	143.92	354	ePKPbc		PKPbc	11 51 52.9 +0.7
UPC	Upice	144.00	351	ePKIKP		PKPbc	11 51 53.3 +0.8
UPC	Upice	144.00	351	ePKP		PKPbc	11 51 53.3 +0.8
STHS	Stebnicka Huta	144.00	345	ePKIKP		PKPbc	11 51 53.2 +0.7
STHS	Stebnicka Huta	144.00	345	ePKP		PKPbc	11 51 53.2 +0.7
DPC	Dobruska-Polom	144.10	351	ePKIKP		PKPbc	11 51 53.3 +0.4
DPC				e			11 52 03.2
DPC				e			11 52 09.6
DPC	Dobruska-Polom	144.10	351	ePKP		PKPbc	11 51 53.3 +0.4
DPC				epPKP		PKiKP	11 51 57.3 -1.1
DPC				ex		x	11 52 03.2
DPC				ex		x	11 52 09.6
KOLS	Kolonicke sedl	144.18	344	ePKIKP		PKPbc	11 51 53.4 +0.3
KOLS	Kolonicke sedl	144.18	344	ePKP		PKPbc	11 51 53.4 +0.3
UBBA	Unterbreizbach	144.25	358	ePKPbc		PKPab	11 51 52.6 -0.1
OKC	Ostrava-Krasne	144.28	349	ePKIKP		PKPbc	11 51 53.4 0.0
OKC				e			11 52 04.5
OKC	Ostrava-Krasne	144.28	349	ePKP		PKPbc	11 51 53.4 0.0
OKC				ex		x	11 52 04.5
MOX	Moxa	144.34	356	ePKPbc		PKPab	11 51 53.0 -0.2
MOX	Moxa	144.34	356	ePKIKP		PKPab	11 51 53.0 -0.2
UZH	Uzhgorod	144.44	344	ePKIKP		PKPab	11 51 53.5 -0.2
UZH				i			11 52 04.9
MORC	Moravsky Berou	144.45	349	ePKIKP		PKPbc	11 51 54.3 +0.3
MORC	Moravsky Berou	144.45	349	ePKPdf		PKPbc	11 51 54.2 +0.3
MALT	Malatya	144.46	317	⇑PKIKP		PKPdf	11 51 58.0 +2.0
MALT	Malatya	144.46	317	⇑i P		PKPdf	11 51 58.0 +2.0
BURAR	Bucovina Array	144.46	340	⇑PKIKP		PKPab	11 51 53.8 -0.1
BURAR	Bucovina Array	144.46	340	⇑i P		PKPab	11 51 53.8 -0.1
MEM	Membach	144.47	2	PKP		PKPdf	11 51 55.5 +0.1
WERD	Werda	144.48	355	ePKPbc		PKPab	11 51 53.4 -0.4
TANN	Tannenbergstha	144.50	355	ePKPbc		PKPab	11 51 53.8 -0.1
GUNZ	Gunzen	144.56	355	ePKPbc		PKPab	11 51 53.9 -0.2
BCLA	Clavier	144.63	3	PKP		PKPbc	11 51 54.3 -0.1
WERN	Wernitzgruen	144.64	355	ePKPbc		PKPbc	11 51 54.7 +0.2
TSUM	Tsumeb	144.68	196	ePKPdf		PKPab	11 51 55.3 -0.3
PRU	Pruhonice	144.71	353	ePKIKP		PKPbc	11 51 55.1 +0.4
PRU				e			11 52 07.3
PRU	Pruhonice	144.71	353	ePKP		PKPbc	11 51 55.1 +0.4
PRU				ex		x	11 52 07.3
TRPA	Tarpa	144.83	343	⇑i P		PKPbc	11 51 55.0 -0.2
TNS	Taunus Mts	144.89	359	ePKPbc		PKPab	11 51 54.9 -0.4
TNS	Taunus Mts	144.89	359	ePKIKP		PKPab	11 51 54.9 -0.4
TESR	Tescani	144.90	337	⇓i P		PKPab	11 51 55.0 -0.4
DOU	Dourbes	144.91	4	PKP		PKPbc	11 51 55.7 +0.3
MANZ	Manzenberg	144.96	355	ePKPbc		PKPab	11 51 55.4 -0.2
GHRR		144.98	336	⇑i P		PKPdf	11 51 56.3 -0.2
KECS	Kecovo	145.05	345	ePKIKP		PKPdf	11 51 56.3 -0.2
KECS	Kecovo	145.05	345	ePKP		PKPdf	11 51 56.3 -0.2
ROTZ	Rotzenmuhle	145.17	355	ePKPbc		PKPdf	11 51 56.7 0.0
TREC	Trest	145.25	351	ePKIKP		PKPab	11 51 56.6 -0.1
TREC				e			11 52 07.7
TREC	Trest	145.25	351	ePKP		PKPab	11 51 56.6 -0.1
TREC				epPKP		PKiKP	11 52 00.0 -0.8
TREC				ex		x	11 52 07.7
GRF	Grafenberg Arr	145.31	356	ePKPbc		PKPdf	11 51 57.0 0.0
GRF	Grafenberg Arr	145.31	356	ePKIKP		PKPdf	11 51 57.0 0.0
GRFO	Grafenberg	145.31	356	ePKIKP		PKPdf	11 51 57.1 +0.1
GRFO	Grafenberg	145.31	356	ePKPbc		PKPdf	11 51 57.1 +0.1
VRI	Vrincioaia	145.41	337	⇓PKIKP		PKPbc	11 51 57.0 -0.2
VRI	Vrincioaia	145.41	337	⇓i P		PKPbc	11 51 57.0 -0.2
CFR	Carcaliu	145.41	334	⇑PKP2		PKPbc	11 51 56.4 -0.7
CFR	Carcaliu	145.41	334	⇑i P		PKPbc	11 51 56.4 -0.7
WLF	Walferdange	145.42	2	PKP		PKPab	11 51 57.5 +0.3
WLF	Walferdange	145.42	2	ePKPbc		PKPab	11 51 57.4 +0.3
WLF	Walferdange	145.42	2	ePKIKP		PKPab	11 51 57.6 +0.3
WLF	Walferdange	145.42	2	ePKPbc		PKPab	11 51 57.5 +0.3
VYHS	Vyhne	145.42	347	ePKIKP		PKPab	11 51 58.0 +0.7
VYHS	Vyhne	145.42	347	ePKP		PKPab	11 51 58.0 +0.7
PLOR	Plostina	145.45	337	⇓PKIKP		PKPab	11 51 57.7 +0.2
PLOR	Plostina	145.45	337	⇓i P		PKPab	11 51 57.7 +0.2
KHC	Kasperske Hory	145.66	353	ePKP2		PKPbc	11 51 57.9 0.0
KHC	Kasperske Hory	145.66	353	ePKP		PKPbc	11 51 57.9 0.0
KHC				epPKP		PKiKP	11 52 01.6 -0.1
KHC				ex		x	11 52 07.8
KHC	Kasperske Hory	145.66	353	ePKPbc		PKPdf	11 51 57.6 0.0
PSZ	Piszkesteto	145.72	346	ePKP2		PKPab	11 51 58.4 -0.1
PSZ	Piszkesteto	145.72	346	ePKPbc		PKPab	11 51 58.4 -0.1
PSZ	Piszkesteto	145.72	346	⇑ePKPdf		PKPab	11 51 59.2 +0.7
WET	Wettzell	145.72	354	ePKPbc		PKPbc	11 51 58.1 0.0
WET	Wettzell	145.72	354	ePKP2		PKPbc	11 51 58.1 0.0
TIRR	Tirgusor	145.87	333	⇑PKP2		PKPab	11 51 58.9 -0.1
TIRR	Tirgusor	145.87	333	⇑i P		PKPab	11 51 58.9 -0.1
TLB	Topalu	145.93	334	⇑PKP2		PKPab	11 51 58.9 -0.3
TLB	Topalu	145.93	334	⇑i P		PKPab	11 51 58.9 -0.3
GEC2	GERESS Array S	145.93	353	ePKPbc		PKPbc	11 51 58.8 0.0
GEC2	GERESS Array S	145.93	353	ePKP2		PKPbc	11 51 58.8 0.0
GERES	GERESS Array B	145.93	353	PKPbc		PKPbc	11 51 58.7 0.0
GERES	GERESS Array B	145.93	353	PKPbc		PKPbc	11 51 58.7 0.0
	comp=Z,10nm,1.0s,baz=29,slow=3.0,SNR=49						
DRGR		145.99	342	⇑PKP2		PKPbc	11 51 58.6 -0.4
DRGR		145.99	342	⇑i P		PKPbc	11 51 58.6 -0.4
MLR	Muntele Rosu	146.02	337	⇓i P		PKPbc	11 51 58.9 -0.3
LANF	Langenberg	146.13	0	PKP		PKPdf	11 51 58.7 +0.3
STU

TUE				*e*PKPab	**PKPab**	11 52 10.0	0.0		
JAVS	**Javornik**	148.78	352	*i* PKPbc	**PKPbc**	11 52 06.1	-0.7		
BOJS	**Bojanci**	148.98	350	*i* PKPdf	**PKPdf**	11 52 03.5	+0.3		
BOJS				*i* PKPbc	**PKPbc**	11 52 07.5	+0.3		
SKDS	**Skadanscina**	149.13	352	*i* PKPbc	**PKPbc**	11 52 07.1	-0.6		
SSB	**Saint Sauveur**	149.70	5	*e*PKPdf	**PKPdf**	11 52 05.0	+0.6		
SSB				*e*PKPbc	**PKiKP**	11 52 09.7	-0.4		
SSB				*e*PKPab	**PKPab**	11 52 15.3	+1.1		
BNI	**Bardonecchia**	150.04	2	*e*PKPdf	**PKPdf**	11 52 06.0	+0.9		
BNI				*e*PKPbc	**PKiKP**	11 52 11.4	+0.5		
PCAB	**Cabril**	150.05	24	*e*PKPbc	**PKPbc**	11 52 09.3	-0.7		
PBRG	**Braganca**	150.46	23	*e*PKPbc	**PKPbc**	11 52 10.7	-0.3		
MVO	**Moncorvo**	150.91	24	*e*PKPbc	**PKPbc**	11 52 12.7	+0.5		
EIL	**Elat**	151.13	305	PKPbc	**PKPbc**	11 52 13.0	+0.1		
EIL	**Elat**	151.13	305	PKPbc	**PKPbc**	11 52 13.0	+0.1		
comp=Z,8.3nm,0.8s,baz=333,slow=6.9,SNR=7.5									
MTE	**Manteigas**	151.35	25	*e*PKPdf	**PKPdf**	11 52 07.6	+0.4		
MTE				*e*PKPbc	**PKPbc**	11 52 13.1	-0.1		
MTE				*e*PKPab	**PKPab**	11 52 20.4	-0.9		
PTOM	**Tomar**	151.63	27	*e*PKPbc	**PKPbc**	11 52 13.2	-0.6		
PMTG	**Montargil**	152.16	28	*e*PKPbc	**PKPbc**	11 52 14.8	-0.2		
PMRV	**Marv??o**	152.23	26	*e*PKPbc	**PKPbc**	11 52 15.2	0.0		
PNCL	**Nicolau / Gran**	152.80	29	*e*PKPbc	**PKPbc**	11 52 16.1	-0.3		
PAB	**San Pablo**	153.31	21	*e*PKIKP	**PKPdf**	11 52 10.3	+0.2		
PAB				*e*		11 52 17.5			
PAB	**San Pablo**	153.31	21	*e*PKPdf	**PKPdf**	11 52 10.3	+0.2		
PAB				*e*PKPbc	**PKPbc**	11 52 17.5	-0.2		
PAB				*e*PKPab	**PKPab**	11 52 30.6	+1.1		
ESDC	**Sonseca Array**	153.33	21	PKPbc	**PKPbc**	11 52 17.5	-0.2		
ESDC	**Sonseca Array**	153.33	21	PKPbc	**PKPbc**	11 52 17.5	-0.2		
comp=Z,2.4nm,0.8s,baz=330,slow=2.8,SNR=14									
PBAR	**Barrancos**	153.43	27	*e*PKPdf	**PKPdf**	11 52 11.0	+0.8		
TORD	**Torodi Ar. Bea**	173.71	106	PKP	**PKPdf**	11 52 27.6	-2.1		
TORD				PKPab	**PKPab**	11 53 56.5	-2.9		
TORD				PP	**PP**	11 57 50.1	-1.5		
TORD	**Torodi Ar. Bea**	173.71	106	PKP	**PKPdf**	11 52 27.6	-2.1		
comp=Z,2.7nm,1.1s,baz=347,slow=2.2,SNR=8.8									
TORD				PKPab	**PKPab**	11 53 56.5	-2.9		
comp=Z,1.6nm,0.8s,baz=258,slow=4.9,SNR=5.8									
TORD				PP	**PP**	11 57 50.1	-1.5		
comp=Z,2.3nm,1.3s,baz=275,slow=4.9,SNR=4.8									

IDC 25 11:52:44.5±1.5, 2°.17N×90°.10W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.9/21, mbtmp3.6/7, ML3.7/1, MS3.7/6, Ms1 3.7/6, ms1mx3.5/24, Error ellipse: s-maj=76.9km s-min=21.9km az=50.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**14.90**	**128**	Pn	Pn	11 56 18.6	+1.5
0.3nm,0.3s,baz=304,slow=18,SNR=2.5							
ATAH				LR	LR	12 01 08.0	
comp=Z,232nm,18.1s,baz=110,slow=34							
CMIG	**Matias Romero**	**15.55**	**343**	Pn	P	11 56 30.2	+0.4
0.1nm,0.3s,baz=178,slow=7.5,SNR=4.7							
ROSC	**El Rosal**	**15.96**	**80**	LR	LR	12 01 21.4	
comp=Z,87nm,21.6s,baz=185,slow=32							
LPAZ	**La Paz**	**28.42**	**131**	P	P	11 58 41.3	-0.6
1.4nm,0.8s,baz=299,slow=9.1,SNR=5.9							
LPAZ				LR	LR	12 09 22.6	
comp=Z,167nm,20.6s,baz=345,slow=35							
TXAR	**Lajitas Array**	**29.94**	**336**	P	P	11 58 55.4	+0.8
0.3nm,0.8s,baz=156,slow=11,SNR=4.3							
PDAR	**Pinedale Array**	**44.00**	**339**	P	P	12 00 54.7	+0.6
0.4nm,0.7s,baz=136,slow=11,SNR=3.7							
NVAR	**Mina Array Bea**	**44.36**	**328**	P	P	12 00 57.2	+0.2
0.5nm,0.7s,baz=140,slow=9.0,SNR=6.2							
BDFB	**Brasilia**	**45.22**	**115**	LR	LR	12 20 01.5	
comp=Z,124nm,21.8s,baz=240,slow=36							
PPT	**Papeete**	**61.78**	**249**	LR	LR	12 22 56.4	
comp=Z,63nm,21.6s,baz=16,slow=29							
PPT2	**Papeete2**	**61.78**	**249**	*e*LR	LR	12 21 14.8	
97nm,26.2s							
SFJD	**Kangerlussuaq**	**70.26**	**15**	LR	LR	12 34 32.3	
comp=Z,188nm,19.2s,baz=301,slow=36							
ILAR	**Eielson Array**	**74.42**	**338**	P	P	12 04 22.7	-1.5
0.9nm,0.7s,baz=135,slow=4.1,SNR=11							
ESDC	**Sonseca Array**	**85.65**	**51**	P	P	12 05 25.7	+0.3
0.2nm,0.3s,baz=267,slow=5.1,SNR=3.3							
WRA	**Warramunga Arr**	**133.16**	**245**	PKP	PKPdf	12 12 03.9	+0.6
0.3nm,0.7s,baz=122,slow=0.6,SNR=3.0							

MOS ***25*** *11:52:59.8±1.9, 53°.66N×161°.10E, h44km, mb3.9/1, Error ellipse: s-maj=37.0km s-min=15.3km az=45.2*
ISCJB ***25*** *11:53:00.6±0.5, 53°.42N±0°.03×161°.19E±0°.05, h41km±8km, mb3.2/6, Error ellipse: s-maj=6.4km s-min=2.7km az=38.7*
KRSC ***25*** *11:53:00.5±0.7, 53°.42N×161°.14E, h42km±42km, ML3.9*
IDC ***25*** *11:53:02.5±2.4, 53°.39N×161°.18E, h42km±27km, mb3.1/6, mb1 3.5/9, mb1mx3.3/30, mbtmp3.2/9, ML3.5/3, Error ellipse: s-maj=42.9km s-min=14.3km az=161.0*
ISC 25 11:53:02.3±0.9, 53°.39N±0°.04×161°.22E±0°.04, h44km±10km, n52, σ1§63/72, mb3.3/6, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.78**	**249**	*i* P	Pn	11 53 15.2	-1.6
SPN				*i* S	**Sn**	**11 53 25.3**	**-2.1**
NLC	**Nalytchevo**	**1.15**	**260**	*e*P	Pn	11 53 20.2	-1.7
NLC				*e*S	**Sn**	**11 53 34.5**	**-1.9**
MKZ	**Mys Kozlova**	**1.21**	**14**	*i* P	Pn	11 53 20.7	-2.1
MKZ				*i* S	**Sn**	**11 53 35.3**	**-2.7**
KII	**Karymskiy**	**1.24**	**302**	*e*P	Pn	11 53 20.8	-2.4
KII				*i* S	**Sn**	**11 53 35.2**	**-3.6**
SDLR	**Sedlovina**	**1.41**	**267**	*i* P	Pn	11 53 23.9	-1.7
SDLR				*i* S	**Sn**	**11 53 40.4**	**-2.5**
UGLR	**Uglovaya**	**1.45**	**264**	*i* P	**Pn**	**11 53 24.9**	**-1.2**
UGLR				*i* S	**Sn**	**11 53 42.4**	**-1.6**
SMAR	**Somma**	**1.46**	**266**	*i* P	Pn	11 53 24.8	-1.5
SMAR				*i* S	**Sn**	**11 53 42.1**	**-2.2**
KRER	**Koryakskii**	**1.48**	**268**	*i* P	**Pn**	**11 53 25.5**	**-1.2**
KRER				*i* S	**Sn**	**11 53 43.5**	**-1.5**
AVH	**Avacha**	**1.49**	**266**	*i* P	**Pn**	**11 53 25.5**	**-1.2**
AVH				*i* S	**Sn**	**11 53 43.2**	**-1.9**
KRX	**Arik**	**1.54**	**270**	*i* P	Pn	11 53 25.8	-1.6
KRX				*i* S	**Sn**	**11 53 43.8**	**-2.5**
KOK	**Koryaka**	**1.55**	**268**	*e*P	Pn	11 53 26.1	-1.5
KOK				*i* S	**Sn**	**11 53 44.2**	**-2.3**
PET	**Petropavlovsk**	**1.59**	**258**	⇓*i*PN	Pn	11 53 26.5	-1.4
PET				*e*S	**Sn**	**11 53 44.6**	**-2.6**
PET				pmax	pmax		
comp=Z,71nm,0.4s							
PET				smax	smax		
comp=E,199nm,0.9s							
PET				smax	smax		
comp=N,238nm,0.7s							
PET	**Petropavlovsk**	**1.59**	**258**	*e*P	Pn	11 53 26.5	-1.4
PET				*i* S	**Sn**	**11 53 45.1**	**-2.1**
RUS	**Russkaya**	**1.90**	**241**	*i* P	**Pn**	**11 53 31.0**	**-1.2**
RUS				*i* S	**Sn**	**11 53 53.0**	**-1.8**
GNL	**Ganaly**	**1.98**	**280**	*e*P	**Pn**	**11 53 32.5**	**-0.9**
GNL				*i* S	**Sn**	**11 53 55.5**	**-1.6**
TUMR	**Tumrok**	**2.00**	**342**	*e*P	**Pn**	**11 53 32.7**	**-1.0**
TUMR				*i* S	**Sn**	**11 53 55.7**	**-1.9**
MTVR	**Mutnovka**	**2.05**	**245**	*i* P	**Pn**	**11 53 33.7**	**-0.7**
MTVR				*i* S	**Sn**	**11 53 57.6**	**-1.2**
GRL	**Gorelyy**	**2.08**	**248**	*e*P	**Pn**	**11 53 34.4**	**-0.4**
GRL				*i* S	**Sn**	**11 53 59.0**	**-0.5**
PETK	**Petropavlovsk-**	**2.13**	**264**	PN	**Pn**	**11 53 34.9**	**-0.5**
PETK				S	**Sn**	**11 54 00.8**	**+0.1**
PETK				pmax	pmax		
comp=Z,18nm,0.3s							
PETK				smax	smax		
comp=N,13nm,0.3s							
PETK	**Petropavlovsk-**	**2.13**	**264**	P	**Pn**	**11 53 34.9**	**-0.5**
comp=N,18nm,0.3s,baz=91,slow=19,SNR=342							
PETK				S	**Sn**	**11 54 00.8**	**+0.1**
comp=N,13nm,0.3s,baz=267,slow=30,SNR=5.5							
ASAK	**Asacha**	**2.25**	**245**	*i* P	**Pn**	**11 53 37.1**	**0.0**
ASAK				*i* S	**Sn**	**11 54 03.5**	**-0.1**
KMNR	**Kamenistaya**	**2.44**	**347**	*e*P	**Pn**	**11 53 39.4**	**-0.4**
KMNR				*i* S	**Sn**	**11 54 08.0**	**-0.4**
APC	**Apacha**	**2.49**	**261**	*e*P	**Pn**	**11 53 40.5**	**+0.2**
APC				*i* S	**Sn**	**11 54 09.4**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.58**	**353**	*e*P	Pn	11 53 39.5	-2.1
BZMR	**Bezymyannaya**	**2.59**	**351**	*e*P	**Pn**	**11 53 41.6**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.62**	**351**	*e*P	**Pn**	**11 53 42.5**	**+0.3**
KIRR	**Kirishev**	**2.62**	**349**	*e*P	**Pn**	**11 53 42.0**	**-0.3**
KIRR				*i* S	**Sn**	**11 54 12.1**	**-0.8**
ZLN	**Zelenaya**	**2.65**	**355**	*e*P	**Pn**	**11 53 42.8**	**+0.2**
KPT	**Kopyto**	**2.65**	**348**	*e*P	**Pn**	**11 53 41.2**	**-1.4**
KOZ	**Kozyrevsk**	**2.79**	**344**	*e*P	Pn	11 53 42.1	-2.3
KRSR	**Krestovskiy**	**2.86**	**353**	*e*P	Pn	11 53 43.4	-2.1
MIPR	**Malaya Ipel'ka**	**2.93**	**249**	*e*P	Pn	11 53 47.3	+1.0
ESO	**Esso**	**2.94**	**331**	*e*P	**Pn**	**11 53 45.2**	**-1.3**
ESO				*i* S	**Sn**	**11 54 18.1**	**-2.3**
KLY	**Klyuchi**	**2.95**	**354**	*e*P	**Pn**	**11 53 45.5**	**-1.1**
KLY				*i* S	**Sn**	**11 54 18.0**	**-2.8**
KBTR	**Krutoberegovo**	**2.98**	**17**	*e*P	**Pn**	**11 53 45.5**	**-1.5**
KBTR				*i* S	**Sn**	**11 54 19.0**	**-2.4**
SRDR	**Sredinnyy**	**3.06**	**344**	*e*P	**Pn**	**11 53 48.1**	**-0.1**
BDR	**Baidarnaya**	**3.19**	**360**	*e*P	**Pn**	**11 53 49.1**	**-0.9**
BDR				*i* S	**Sn**	**11 54 24.9**	**-1.9**
SMKR	**Semkarok**	**3.21**	**2**	*e*P	**Pn**	**11 53 50.2**	**0.0**
SMKR				*i* S	**Sn**	**11 54 27.0**	**-0.2**
SRKR	**Sorokina**	**3.28**	**359**	*e*P	**Pn**	**11 53 50.2**	**-1.0**
SRKR				*i* S	**Sn**	**11 54 27.0**	**-1.9**
PAU	**Pauzhetka**	**3.31**	**236**	*e*P	**Pn**	**11 53 51.2**	**-0.4**
PAU				*i* S	**Sn**	**11 54 27.7**	**-2.0**
BKI	**Bering**	**3.33**	**55**	*e*P	**Pn**	**11 53 50.5**	**-1.3**
BKI				*i* S	**Sn**	**11 54 26.2**	**-3.8**
SKR	**Severo-Kuril's**	**4.15**	**231**	*e*PN	**Pn**	**11 54 03.0**	**-0.1**
SKR				pmax	pmax		
comp=Z,50nm,0.5s							
SKR	**Severo-Kuril's**	**4.15**	**231**	*e*P	**Pn**	**11 54 02.1**	**-1.0**
SKR				*i* S	**Sn**	**11 54 48.4**	**-2.0**
FX1	**Attu Island--F**	**7.21**	**89**	P	**Pn**	**11 54 45.3**	**+0.3**
comp=Z,4.8nm,0.3s,baz=335,slow=9.9,SNR=53							
FX1				S	**Sn**	**11 56 02.7**	**-2.7**
comp=Z,5.6nm,0.3s,baz=270,slow=14,SNR=7.5							
ASAJ	**Asahikawa**	**15.35**	**240**	P	**Pn**	**11 56 35.1**	**-0.6**
comp=Z,0.2nm,0.3s,baz=42,slow=15,SNR=2.5							
MJAR	**Matsushiro Arr**	**23.26**	**233**	P	**P**	**11 58 07.4**	**+1.6**
comp=Z,1.0nm,0.7s,baz=28,slow=10.0,SNR=4.7							
ILAR	**Eielson Array**	**28.13**	**46**	P	**P**	**11 58 49.8**	**+0.1**
comp=Z,0.2nm,0.8s,baz=263,slow=12,SNR=3.5							
NVAR	**Mina Array Bea**	**55.01**	**71**	P	**P**	**12 02 30.6**	**+1.3**
comp=Z,0.2nm,0.6s,baz=292,slow=5.7,SNR=2.7							
NVAR				pP		12 02 46.2	+4.5
comp=Z,0.6nm,0.7s,baz=291,slow=7.5,SNR=3.9							
TXAR	**Lajitas Array**	**69.90**	**68**	P	**P**	**12 04 09.4**	**+0.6**
comp=Z,0.2nm,0.8s,baz=316,slow=6.4,SNR=3.0							
TXAR				pP	**pP**	**12 04 25.6**	**+4.1**
comp=Z,0.3nm,0.6s,baz=290,slow=5.4,SNR=4.1							
CLL	**Collm**	**72.32**	**340**	*e*P	P	12 04 17.0	-5.9
WRA	**Warramunga Arr**	**76.64**	**206**	P	**P**	**12 04 47.8**	**-0.4**
comp=Z,0.4nm,1.0s,baz=20,slow=6.2,SNR=3.0							
ASAR	**Alice Springs**	**80.31**	**205**	P	**P**	**12 05 08.5**	**0.0**
comp=Z,0.3nm,0.9s,baz=11,slow=4.9,SNR=3.0							

NIED ***25*** *12:14:00, 32°.90N×140°.80E, h50km, Mw4.5 Best double couple: M0=5.57000×10^15 NP1:φs=98.00000°, δ74.00000°, λ75.00000°. NP2:φs=322.00000°, δ22.00000°, λ132.00000°.*
ISCJB ***25*** *12:14:41.9±0.8, 32°.82N±0°.04×140°.80E±0°.07, h62km±9km, mb3.4/5, Error ellipse: s-maj=9.4km s-min=7.0km az=176.2*
IDC ***25*** *12:14:42.7±2.1, 32°.72N×140°.71E, h53km±21km, mb3.1/5, mb1 3.5/7, mb1mx3.3/26, mbtmp3.3/7, ML3.6/2, Error ellipse: s-maj=37.1km s-min=11.4km az=73.0*
JMA ***25*** *12:14:43.3±0.1, 32°.89N×140°.75E, h53km, M3.5*
ISC 25 12:14:42.7±0.9, 32°.80N±0°.05×140°.85E±0°.07, h54km±9km, n24, σ1§41/37, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.92**	**290**	P	**Pn**	**12 14 59.1**	**-0.4**
JHJ2				S	**Sn**	**12 15 10.1**	**-1.7**
JHCJ	**Hachijojimakas**	**0.93**	**287**	P	**Pn**	**12 14 59.0**	**-0.5**
JHCJ				S	**Sn**	**12 15 09.5**	**-2.4**
JMY	**Miyakejima3**	**1.69**	**319**	S	**Sn**	**12 15 28.9**	**-1.6**
BSO1	**Boso 1**	**1.85**	**3**	P	**Pn**	**12 15 11.5**	**-0.1**
BSO2	**Boso 2**	**1.95**	**358**	*e*S	**Sn**	**12 15 35.6**	**-0.7**
JKO	**Kozu shima**	**1.99**	**315**	P	**Pn**	**12 15 13.9**	**0.0**
JKO				S	**Sn**	**12 15 36.1**	**-1.6**
BSO3	**Boso 3**	**2.02**	**352**	P	**Pn**	**12 15 14.2**	**+0.1**
BSO3				S	**Sn**	**12 15 37.3**	**-0.7**
BSO4	**Boso 4**	**2.23**	**349**	P	**Pn**	**12 15 17.7**	**+0.6**
JIM2	**Oshima 3**	**2.25**	**329**	P	**Pn**	**12 15 17.1**	**-0.4**
JIM2				S	**Sn**	**12 15 41.3**	**-2.8**
JIZS	**Izushimoda**	**2.52**	**320**	P	**Pn**	**12 15 21.5**	**+0.3**
JIZS				S	**Sn**	**12 15 48.6**	**-2.1**
TK02	**Tokai 2**	**2.83**	**295**	P	**Pn**	**12 15 25.9**	**+0.7**
TK02				S	**Sn**	**12 15 58.3**	**+0.3**
JOD2	**Odawara 2**	**2.86**	**330**	P	**Pn**	**12 15 25.8**	**-0.1**
JOD2				S	**Sn**	**12 15 55.9**	**-3.2**
TK04	**Tokai 4**	**2.94**	**303**	P	**Pn**	**12 15 27.8**	**+0.9**
TK04				S	**Sn**	**12 16 02.2**	**+1.3**
SHZ3	**Shizuoka 3**	**3.15**	**317**	P	**Pn**	**12 15 31.1**	**+1.2**
MJAR	**Matsushiro Arr**	**4.32**	**331**	P	**Pn**	**12 15 47.5**	**+1.7**
2.2nm,0.3s,baz=159,slow=13,SNR=21							
MJAR				S	**Sn**	**12 16 34.7**	**-0.3**
1.2nm,0.3s,baz=224,slow=22,SNR=5.4							
MAT	**Matsushiro**	**4.32**	**331**	P	**Pn**	**12 15 47.6**	**+1.7**
MAT				S	**Sn**	**12 16 35.3**	**+0.3**
CBIJ	**Chichi jima**	**5.80**	**168**	P	**Pn**	**12 16 06.2**	**0.0**
3.0nm,0.3s,baz=300,slow=20,SNR=3.4							
CBIJ				S	**Sn**	**12 17 09.6**	**-1.8**
2.5nm,0.3s,baz=269,slow=18,SNR=1.9							
JNU	**Nakatsue**	**9.38**	**275**	P	**Pn**	**12 16 43.7**	**+2.1**
0.5nm,0.3s,baz=96,slow=9.0,SNR=6.2							
ASAJ	**Asahikawa**	**11.38**	**6**	P	Pn	12 17 19.9	-2.6
0.4nm,0.3s,baz=257,slow=19,SNR=5.0							
MKAR	**Makanchi Array**	**46.09**	**306**	P	**P**	**12 23 00.1**	**-1.3**
0.3nm,0.5s,baz=93,slow=10,SNR=5.6							
WRA	**Warramunga Arr**	**52.81**	**188**	P	**P**	**12 23 51.8**	**-0.9**
0.2nm,0.4s,baz=5.9,slow=7.5,SNR=9.4							
WRA				pP	**pP**	**12 24 08.3**	**+1.2**
0.3nm,0.4s,baz=5.8,slow=7.6,SNR=2.2							
ILAR	**Eielson Array**	**53.34**	**31**	P	**P**	**12 23 56.4**	**+0.2**
0.2nm,0.6s,baz=277,slow=5.5,SNR=3.8							
ASAR	**Alice Springs**	**56.54**	**188**	P	**P**	**12 24 20.1**	**+0.4**
0.2nm,0.7s,baz=4.0,slow=8.1,SNR=4.0							
ASAR				pP	**pP**	**12 24 36.2**	**+2.0**
0.2nm,0.6s,baz=12,slow=11,SNR=1.9							
TXAR	**Lajitas Array**	**93.08**	**52**	P	**P**	**12 27 52.2**	**+1.1**
0.1nm,0.4s,baz=306,slow=3.2,SNR=2.0							

IDC 25 12:59:53.2±2.0, 10°.70S×121°.00E, h0km, mb3.2/1, mb1 3.3/4, mb1mx3.2/20, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=177.8km s-min=26.2km az=54.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.62**	**149**	Pn	Pn	13 01 59.4	+0.1
0.1nm,0.3s,baz=324,slow=19,SNR=7.4							
FITZ				Sn	Sn	13 03 43.3	+5.9
0.1nm,0.3s,baz=184,slow=19,SNR=3.3							
WRA	**Warramunga Arr**	**15.80**	**127**	Pn	Pn	13 03 37.5	+0.3
0.0nm,0.3s,baz=301,slow=14,SNR=4.3							
WRA				Sn	Sn	13 06 40.4	+7.2
0.0nm,0.3s,baz=328,slow=23,SNR=2.9							
ASAR	**Alice Springs**	**17.82**	**138**	P	Pn	13 04 02.6	-0.2
0.0nm,0.3s,baz=320,slow=14,SNR=4.5							
MKAR	**Makanchi Array**	**66.87**	**332**	P	P	13 10 47.1	0.0
0.1nm,0.5s,baz=131,slow=7.9,SNR=2.6							

IDC 25 13:02:11.9±0.8, 9°.39S×158°.44E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, ML3.9/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/27, Error ellipse: s-maj=24.2km s-min=16.8km az=150.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.49**	**92**	Pn	Pn	13 02 39.5	-0.4
41nm,0.3s,baz=240,slow=5.9,SNR=20							
PMG	**Port Moresby**	**11.13**	**269**	LR	LR	13 08 45.2	
comp=Z,174nm,19.9s,baz=67,slow=35							
CTA	**Charters Tower**	**15.86**	**227**	Pn	Pn	13 05 56.4	-0.4
0.3nm,0.3s,baz=48,slow=16,SNR=7.3							
WRA	**Warramunga Arr**	**25.53**	**243**	P	P	13 07 42.4	-0.1
2.4nm,0.6s,baz=72,slow=9.8,SNR=14							
WRA				PcP	PcP	13 11 14.3	0.0
1.2nm,0.7s,baz=69,slow=2.9,SNR=12							
ASAR	**Alice Springs**	**27.41**	**236**	P	P	13 07 59.1	-0.4
0.8nm,0.8s,baz=60,slow=10.0,SNR=10							
ASAR				PcP	PcP	13 11 18.8	+0.1
0.9nm,0.7s,baz=74,slow=2.7,SNR=10							
FITZ	**Fitzroy Crossi**	**32.97**	**251**	P	P	13 08 48.9	+0.2
0.9nm,0.7s,baz=82,slow=7.1,SNR=4.1							
MJAR	**Matsushiro Arr**	**49.49**	**339**	P	P	13 11 04.1	-0.2
0.9nm,0.7s,baz=161,slow=7.7,SNR=4.3							
KSRS	**Korea Array**	**54.66**	**330**	P	P	13 11 42.8	0.0
1.4nm,0.7s,baz=140,slow=7.6,SNR=7.7							
KSRS				LR	LR	13 31 59.2	
comp=Z,15nm,21.6s,baz=220,slow=33							
PETK	**Petropavlovsk-**	**62.26**	**359**	P	P	13 12 35.3	-0.2
4.8nm,0.8s,baz=164,slow=7.2,SNR=13							
PETK				LR	LR	13 35 09.3	
comp=Z,23nm,20.2s,baz=58,slow=32							
CMAR	**Chiang Mai Arr**	**64.89**	**295**	P	P	13 12 53.7	+0.1
1.0nm,0.5s,baz=121,slow=5.3,SNR=8.1							
SONM	**Songino Array**	**73.19**	**326**	P	P	13 13 45.1	+0.3
4.6nm,0.7s,baz=138,slow=5.6,SNR=34							
MKAR	**Makanchi Array**	**87.45**	**318**	P	P	13 15 00.9	-0.5
1.0nm,0.6s,baz=96,slow=5.4,SNR=9.2							
ZALV	**Zalesovo Beam**	**88.07**	**325**	P	P	13 15 03.3	-0.8
0.9nm,0.6s,baz=103,slow=6.2,SNR=3.9							
NVAR	**Mina Array Bea**	**90.53**	**51**	P	P	13 15 16.6	+0.1
3.4nm,0.9s,baz=242,slow=7.4,SNR=21							
PDAR	**Pinedale Array**	**97.76**	**48**	P	Pdif	13 15 49.7	+0.1
0.8nm,0.7s,baz=232,slow=2.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**156.90**	**281**	PKPab	PKPab	13 22 39.7	-0.6
0.5nm,0.8s,baz=83,slow=4.8,SNR=4.4							

GUC 25 13:05:26.3±0.5, 23°.83S×67°.32W, h230km, ML3.5, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.90**	**309**	⇑*i*P	Pn	13 06 07.8	+1.2
LVC				*i* S	S	13 06 40.0	+2.1
PB04	**Plate Boundary**	**2.53**	**307**	*e*P	Pn	13 06 19.8	+7.3
PB04				*i* S	S	13 07 00.3	+12
PB04				AML	AML	13 07 03.2	
comp=E,49nm,0.4s							
CEN1	**Los Morros**	**2.68**	**279**	*e*P	Pn	13 06 17.4	+3.2
CEN1				*i* S	S	13 06 55.4	+3.7
CEN1				AML	AML	13 06 58.4	
comp=N,30nm,0.7s							
PB09	**Plate Boundary**	**2.69**	**318**	*e*P	Pn	13 06 16.4	+1.9
PB09				*e*S	S	13 06 54.6	+2.5
PB09				AML	AML	13 06 57.2	
comp=N,160nm,0.3s							
ANCH	**Antofagasta**	**2.84**	**272**	⇑*i*P	Pn	13 06 17.6	+1.9
ANCH				*i* S	S	13 06 56.5	+2.0
PB10	**Plate Boundary**	**2.98**	**275**	⇑*i*P	Pn	13 06 19.2	+1.8
PB10				*i* S	S	13 06 59.7	+2.3
PB10				AML	AML	13 07 04.6	
comp=N,91nm,0.5s							
PB01	**Plate Boundary**	**3.42**	**324**	*e*P	Pn	13 06 23.9	+1.3
PB01				*e*S	S	13 07 08.2	+1.4
PB01				AML	AML	13 07 12.2	
comp=E,33nm,0.1s							
HMBC	**Humberstone**	**4.26**	**325**	*e*P	Pn	13 06 33.6	+1.0
HMBC				*e*S	S	13 07 26.0	+1.0

JMA ***25*** *13:06:50.3±0.3, 24°.21N×122°.23E, h58km, M3.2*
ISCJB ***25*** *13:06:51.4±0.5, 23°.96N±0°.02×122°.40E±0°.02, h24km±3km, mb3.3/5, Error ellipse: s-maj=4.0km s-min=2.6km az=159.7*
TAP ***25*** *13:06:51.7, 24°.01N×122°.39E, h30km, ML3.6, C*
IDC ***25*** *13:06:53.2±1.3

baz=295
TWS1 Kuangyinshan 1.44 322 *e*P **Pb 13 07 16.0 -1.3**
baz=336
TWY Chenhua 1.49 331 *e*P **Pb 13 07 17.5 -0.8**
baz=329
JKRS Kuro-shima 1.50 79 P **Pb 13 07 17.2 -1.1**
JKRS *e*S **Sb 13 07 36.8 -0.2**
ALS Alishan 1.52 253 *e*P **Pn 13 07 17.1 +0.5**
baz=251
TWQ1 Liyutan 1.53 285 *e*P **Pb 13 07 18.4 -0.4**
baz=283
NSY Sanyi 1.56 287 *e*P **Pb 13 07 18.4 -0.9**
baz=284
NSY *e*S **Sb 13 07 37.7 -1.0**
baz=284
WNT Mingjian 1.57 267 *e*P **Pb 13 07 18.6 -0.9**
baz=265
TCU Taichung 1.58 277 *e*P **Pb 13 07 18.6 -1.1**
baz=274
TCU *e*S **Sb 13 07 39.5 +0.1**
baz=274
CHN5 Tsauling 1.61 257 *e*P **Pn 13 07 18.2 +0.6**
baz=245
CHN5 *e*S **Sb 13 07 40.3 0.0**
baz=245
JIJ Ishigaki jima 1.65 76 P **Pn 13 07 18.1 +0.1**
JIJ *e*S **Sb 13 07 39.8 -1.4**
TWG Pinlang 1.66 227 *e*P **Pn 13 07 18.5 +0.3**
baz=237
PCYT Pengchaiyu 1.69 350 *e*P **Pn 13 07 18.6 0.0**
baz=333
PCYT *e*S **Sb 13 07 40.4 -1.9**
baz=333
WGK Gukeng 1.70 261 *e*P **Pb 13 07 20.8 -0.9**
baz=260
CHN1 Nanshi 1.88 246 *e*P **Pb 13 07 23.4 -1.4**
baz=244
CHN1 *e*S **Sb 13 07 47.1 -0.8**
baz=244
SGST Jiashian 1.88 243 *e*P **Pb 13 07 23.7 -1.2**
baz=232
WTCT Ta-ch'eng 1.94 268 *e*P **Pn 13 07 23.6 +1.6**
baz=278
WTCT *e*S **Sb 13 07 48.9 -0.6**
baz=278
TWM1 Shoushan 2.14 238 *e*P **Pn 13 07 26.8 +2.0**
baz=237
JTJ Tarama 2.21 72 P **Pn 13 07 27.7 +1.9**
JTJ *e*S **Sb 13 07 54.4 -3.0**
SCZT Fangliau 2.27 226 *e*P **Pn 13 07 28.8 +2.1**
baz=219
SCZT *e*S **Sb 13 07 57.3 -2.0**
baz=219
TWK1 Hengchun 2.49 216 *e*P **Pn 13 07 30.3 +0.8**
baz=215
WDGT Dungji 2.60 255 *e*P **Pn 13 07 32.9 +1.7**
baz=255
KSRS Korea Array 14.26 18 Pn **Pn 13 10 13.0 +2.0**
0.1nm,0.3s,baz=197,slow=12,SNR=5.8
SONM Songino Array 27.01 336 P **P 13 12 29.8 -0.8**
0.2nm,0.5s,baz=152,slow=9.5,SNR=2.8
MKAR Makanchi Array 39.27 316 P **P 13 14 17.0 -0.1**
0.5nm,0.4s,baz=103,slow=8.2,SNR=7.0
ZALV Zalesovo Beam 41.03 327 P **P 13 14 30.6 -1.0**
0.7nm,0.4s,baz=119,slow=9.2,SNR=4.6
WRA Warramunga Arr 45.17 164 P pP 13 15 17.0 +2.7
0.3nm,0.7s,baz=344,slow=8.7,SNR=3.0
ASAR Alice Springs 48.65 166 P pP 13 15 44.6 +3.0
0.2nm,0.9s,baz=345,slow=6.5,SNR=4.8

NIED ***25*** *13:21:00,37.40N×141.30E,h68km,Mw3.5 Best double couple: M0 2.14000×10^14 NP1:φs192.00000°,δ56.00000°, λ78.00000°. NP2:φs32.00000°,δ36.00000°,λ106.00000°.*
JMA 25 13:21:16.1±0.1,37.38N×141.23E,h61km±1km,M3.5, 4C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.28**	**267**	⇑P	Pn	13 21 26.2	0.0
JFK				S	Sn	13 21 33.5	-0.1
ONAJ	**Iwakimizuishiy**	**0.44**	**231**	⇑P	Pn	13 21 27.6	0.0
ONAJ				S	Sn	13 21 35.9	-0.1
JMM	**Marumori**	**0.60**	**325**	⇑P	Pn	13 21 29.3	+0.1
JMM				S	Sn	13 21 38.9	+0.1
JFT	**Otama**	**0.72**	**281**	⇓P	Pn	13 21 31.3	+0.6
JFT				S	Sn	13 21 42.2	+0.8
JIO	**Ouri**	**1.08**	**5**	⇑P	Pn	13 21 35.2	0.0
JIO				S	Sn	13 21 48.9	-0.4
JOU	**Okura**	**1.08**	**336**	⇓P	Pn	13 21 35.2	-0.1
JOU				S	Sn	13 21 49.6	+0.1
JFY	**Yanaizu**	**1.22**	**272**	⇓P	Pn	13 21 37.3	+0.3
JFY				S	Sn	13 21 53.0	+0.3
JYS	**Shiratake**	**1.25**	**313**	⇓P	Pn	13 21 37.9	+0.5
JYS				S	Sn	13 21 52.7	-0.7
JMK	**Ichinoseki**	**1.57**	**360**	P	Pn	13 21 41.7	0.0
JMK				S	Sn	13 22 00.8	-0.3
MAT	**Matsushiro**	**2.56**	**252**	P	Pn	13 21 57.2	+1.9
MAT				S	Sn	13 22 30.3	+5.0

NNC 25 13:28:52.1±0.4,50.00N×78.65E,h0km,mb3.5,mpv3.2, 8C-5D,Error ellipse: s-maj=5.5km s-min=2.5km az=81.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR10	**Kurchatov Arra**	**0.53**	**350**	P	Pg	13 29 03.3	+0.9
KUR09	**Kurchatov Arra**	**0.55**	**351**	P	Pg	13 29 03.3	+0.6
KUR08	**Kurchatov Arra**	**0.57**	**351**	P	Pg	13 29 03.3	+0.2
KUR07	**Kurchatov Arra**	**0.59**	**352**	P	Pg	13 29 03.6	+0.2
KUR11	**Kurchatov Arra**	**0.60**	**2**	P	Pg	13 29 03.5	-0.2
KUR12	**Kurchatov Arra**	**0.61**	**1**	P	Pg	13 29 03.8	0.0
KUR06	**Kurchatov Arra**	**0.61**	**353**	P	Pg	13 29 04.0	+0.2
KUR13	**Kurchatov Arra**	**0.61**	**359**	P	Pg	13 29 03.8	0.0
KUR14	**Kurchatov Arra**	**0.62**	**357**	P	Pg	13 29 04.0	+0.1
KUR15	**Kurchatov Arra**	**0.62**	**355**	P	Pg	13 29 04.2	+0.1
KURBB	**Kurchatov Arra**	**0.63**	**353**	⇑P	Pg	13 29 04.2	+0.1
	55nm,0.3s						
KURBB				⇓S	Sg	13 29 13.5	+1.1
	378nm,0.6s						
KUR16	**Kurchatov Arra**	**0.64**	**352**	P	Pg	13 29 04.3	0.0
KUR17	**Kurchatov Arra**	**0.64**	**350**	P	Pg	13 29 04.5	+0.1
KUR05	**Kurchatov Arra**	**0.65**	**354**	P	Pg	13 29 04.7	+0.2
KUR18	**Kurchatov Arra**	**0.65**	**348**	P	Pg	13 29 04.5	-0.1
KUR19	**Kurchatov Arra**	**0.66**	**347**	P	Pg	13 29 04.7	-0.1
KUR04	**Kurchatov Arra**	**0.67**	**354**	P	Pg	13 29 05.1	+0.2
KUR20	**Kurchatov Arra**	**0.67**	**345**	P	Pg	13 29 04.8	-0.1
KUR03	**Kurchatov Arra**	**0.69**	**355**	P	Pg	13 29 05.5	+0.2
KUR02	**Kurchatov Arra**	**0.71**	**355**	P	Pg	13 29 05.7	+0.1
KUR01	**Kurchatov Arra**	**0.73**	**356**	P	Pg	13 29 06.2	+0.2
MK31	**Makanchi Array**	**4.02**	**141**	Pn	Pn	13 29 56.5	+1.6
	0.4nm,0.2s,baz=326,slow=10.0,SNR=58						
MK31				⇑Pg	Pb	13 30 04.7	+0.9
	3.2nm,0.4s,baz=326,slow=12,SNR=26						
MK31				⇓Lg	Lg	13 30 59.9	
	25nm,0.6s,baz=331,slow=22,SNR=21						
VOSK	**Vostochnaya**	**5.52**	**303**	⇓Pn	Pn	13 30 16.6	+1.1
	0.9nm,0.4s						
VOSK				⇑Sn	Sn	13 31 20.8	+1.0
	4.2nm,0.7s						
VOSK				⇑Lg	Lg	13 31 46.2	
	5.8nm,0.5s						
BVA0	**Borovoye Array**	**5.98**	**304**	⇑Pn	Pn	13 30 23.5	+1.7
	0.9nm,0.5s,baz=118,slow=15,SNR=7.8						
BVA0				⇑Sn	Sn	13 31 31.5	+0.6
	4.8nm,0.5s,baz=107,slow=15,SNR=5.0						
BVA0				⇑Lg	Lg	13 31 58.2	
	6.9nm,0.8s						
BRVK	**Borovoye**	**6.05**	**304**	⇓Pn	Pn	13 30 24.5	+1.7
	1.5nm,0.5s						
BRVK				⇓Sn	Sn	13 31 33.1	+0.4
	11nm,0.6s						
BRVK				⇑Lg	Lg	13 32 04.9	
	9.3nm,0.5s						
AB31	**Akbulak array**	**12.15**	**274**	P	Pn	13 31 46.3	0.0
	0.3nm,0.3s,baz=87,slow=8.2,SNR=8.4						

NIED ***25*** *13:55:00,36.90N×142.50E,h32km,Mw3.3 Best double couple: M0 8.84000×10^13 NP1:φs240.00000°,δ89.00000°, λ-143.00000°. NP2:φs149.00000°,δ53.00000°, λ-1.00000°.*
JMA 25 13:55:52.7±0.2,36.93N×142.49E,h41km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.36**	**289**	P	Pn	13 56 15.9	+0.6
JFK				S	Sn	13 56 32.7	+0.5
ONAJ	**Iwakimizuishiy**	**1.36**	**278**	P	Pn	13 56 15.8	+0.5
JHO	**Hitachi**	**1.57**	**259**	P	Pn	13 56 18.7	+0.5
JMM	**Marumori**	**1.64**	**305**	P	Pn	13 56 20.0	+0.9
JMM				S	Sn	13 56 40.3	+1.3
JIO	**Ouri**	**1.77**	**330**	P	Pn	13 56 21.5	+0.7
JIO				S	Sn	13 56 42.4	+0.3
JFT	**Otama**	**1.82**	**290**	P	Pn	13 56 23.2	+1.7
JFT				S	Sn	13 56 44.8	+1.5
JOU	**Okura**	**2.04**	**315**	P	Pn	13 56 25.9	+1.3
JOU				S	Sn	13 56 51.1	+2.3
JMK	**Ichinoseki**	**2.25**	**334**	P	Pn	13 56 28.6	+1.1
JMK				S	Sn	13 56 55.0	+1.0
JFY	**Yanaizu**	**2.27**	**283**	P	Pn	13 56 29.6	+1.8
JYS	**Shiratake**	**2.32**	**305**	P	Pn	13 56 30.4	+2.0
JYS				S	Sn	13 56 58.7	+3.0
JAG	**Ashikaga**	**2.49**	**259**	P	Pn	13 56 32.2	+1.4
JAG				S	Sn	13 57 01.2	+1.2

IDC 25 14:01:56.5±1.7,13.81N×92.79E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.7/28,mbtmp3.7/8,ML4.1/1,Error ellipse: s-maj=58.6km s-min=18.9km az=68.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.50**	**51**	Pn	Pn	14 03 47.1	-0.2
	0.8nm,0.3s,baz=242,slow=15,SNR=15						
MKAR	**Makanchi Array**	**34.05**	**347**	P	P	14 08 42.6	+0.1
	0.4nm,0.7s,baz=172,slow=9.7,SNR=5.0						
SONM	**Songino Array**	**35.77**	**16**	P	P	14 08 57.6	+0.2
	0.5nm,0.5s,baz=201,slow=7.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**40.54**	**353**	P	P	14 09 37.0	-0.3
	0.8nm,0.4s,baz=178,slow=8.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**45.33**	**133**	P	P	14 10 16.7	+0.1
	2.3nm,1.1s,baz=326,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**52.87**	**129**	P	P	14 11 14.4	-0.2
	0.3nm,0.7s,baz=310,slow=9.8,SNR=6.6						
ASAR	**Alice Springs**	**54.80**	**132**	P	P	14 11 28.5	-0.1
	0.4nm,0.4s,baz=309,slow=7.1,SNR=16						
ILAR	**Eielson Array**	**89.77**	**22**	P	P	14 14 56.2	-0.5
	0.4nm,0.8s,baz=300,slow=4.0,SNR=4.9						

IDC 25 14:06:35.0±2.2,5.75N×126.50E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/24,mbtmp3.5/4,Error ellipse: s-maj=131.5km s-min=25.4km az=69.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.71**	**182**	P	P	14 11 48.7	-0.1
	0.9nm,0.5s,baz=10,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**26.66**	**163**	P	P	14 12 15.9	0.0
	0.4nm,0.6s,baz=344,slow=9.6,SNR=5.7						
ASAR	**Alice Springs**	**30.11**	**166**	P	P	14 12 46.7	0.0
	0.5nm,0.6s,baz=345,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**55.79**	**325**	P	P	14 16 13.9	-0.1
	0.2nm,0.4s,baz=122,slow=7.4,SNR=5.3						

IDC 25 14:26:27.8±2.1,13.95N×92.84E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/27,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=62.6km s-min=28.5km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.37**	**52**	Pn	Pn	14 28 16.6	-0.2
	0.3nm,0.3s,baz=241,slow=15,SNR=3.7						
MKAR	**Makanchi Array**	**33.91**	**347**	P	P	14 33 12.7	+0.2
	0.6nm,0.7s,baz=166,slow=8.5,SNR=5.1						
WRA	**Warramunga Arr**	**52.92**	**129**	P	P	14 35 46.0	-0.3
	0.6nm,1.1s,baz=312,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**54.86**	**133**	P	P	14 36 00.3	-0.1
	0.3nm,0.7s,baz=304,slow=7.2,SNR=5.4						

IDC 25 14:58:21.3±1.4,7.82N×141.54E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.5/23,mbtmp3.6/3,MS4.3/1,Ms1 4.3/1, ms1mx2.4/26,Error ellipse: s-maj=61.2km s-min=31.1km az=101.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**19.19**	**2**	LR	LR	15 08 40.0	
	comp=Z,1μm,21.7s,baz=56,slow=32						
WRA	**Warramunga Arr**	**28.48**	**194**	P	P	15 04 18.4	0.0
	0.4nm,0.8s,baz=16,slow=9.9,SNR=5.1						
MKAR	**Makanchi Array**	**63.49**	**319**	P	P	15 08 53.5	0.0
	0.3nm,0.5s,baz=100,slow=8.2,SNR=4.9						
ILAR	**Eielson Array**	**75.15**	**25**	P	P	15 10 05.3	0.0
	0.7nm,0.6s,baz=251,slow=5.7,SNR=17						

WEL 25 15:17:29.0±0.4,45.91S×165.81E,h12km,ML3.6/12,1D, Error ellipse: s-maj=3.5km s-min=2.3km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.04**	**66**	P*	Pb	15 17 47.2	-1.6
DCZ				S*	Sb	15 18 00.6	-1.8
DCZ				AML	AML	15 18 01.5	
DCZ				AML	AML	15 18 01.5	
DCZ				AML	AML	15 18 02.6	
WHZ	**Wether Hill Ro**	**1.49**	**90**	PN	Pn	15 17 54.9	-0.7
WHZ				SN	Sn	15 18 13.6	-1.5
WHZ				AML	AML	15 18 16.3	
MLZ	**Mavora Lakes**	**1.75**	**72**	PN	Pn	15 17 58.4	-0.8
MLZ				*e*SN	Sn	15 18 20.0	-1.5
MLZ				AML	AML	15 18 26.7	
APZ	**The Paps**	**1.77**	**122**	PN	Pn	15 17 58.3	-1.1
APZ				SN	Sn	15 18 20.8	-1.1
SYZ	**Scrubby Hill**	**2.39**	**106**	PN	Pn	15 18 07.5	-0.4
EAZ	**Earnscleugh**	**2.55**	**76**	PN	Pn	15 18 10.8	+0.7
EAZ				AML	AML	15 18 50.9	
EAZ				AML	AML	15 18 51.5	
TUZ	**Tuapeka**	**2.67**	**92**	PN	Pn	15 18 11.7	-0.1
TUZ				AML	AML	15 18 46.7	
TUZ				AML	AML	15 20 11.7	
LBZ	**Lake Benmore**	**3.45**	**65**	AML	AML	15 19 45.7	
ODZ	**Otahua Downs**	**3.51**	**77**	⇓PN	Pn	15 18 22.4	-1.0

DJA 25 15:57:58.3±1.2,8.S±9.×10.8E±.,h27km±8km,M3.8/5, MLv3.8/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.60**	**3**	P	Pn	15 58 11.1	-0.1
CISI				S	Sb	15 58 18.9	+0.3
CLJI	**Cilicap**	**1.30**	**70**	P	Pb	15 58 21.4	-0.7
LEM	**Lembang**	**1.33**	**353**	P	Pn	15 58 22.0	+0.6
SKJI	**Sukabumi**	**1.67**	**313**	P	Pn	15 58 25.8	0.0
SKJI				S	Sn	15 58 45.9	-0.5
UGM	**Wanagama**	**2.73**	**85**	P	Pn	15 58 39.4	-1.0
PCJI	**Pacitan**	**3.36**	**91**	S	Sn	15 59 23.9	-4.3

IDC ***25*** *15:59:55.9±2.3,30.07N×51.60E,h0km,mb3.7/5, mb1 3.7/8,mb1mx3.5/30,mbtmp3.7/8,ML3.7/3,Error ellipse: s-maj=53.0km s-min=22.5km az=160.0*
TEH ***25*** *15:59:56.6,29.79N×51.42E,h21km,ML3.8*
CSEM ***25*** *15:59:56.0±0.8,29.81N×51.47E,h15km,ML3.8,Error ellipse: s-maj=21.7km s-min=5.5km az=37.0*
THR ***25*** *15:59:59.6±1.2,30.25N×51.78E,h15km,ML3.8*
ISC 25 15:59:57.1±1.6,29.88N±0.05×51.52E±0.04,h17km±12km, n51,σ1.18/57,mb3.8/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.90**	**105**	*e*Pg	**Pb**	**16 00 14.2**	**-0.1**
SHI				*e*	Sg	16 00 34.0	+7.6
	comp=N,47μm,0.2s						
IPAR	**Pars**	**1.33**	**91**	*e*Pn	**Pn**	**16 00 19.0**	**-2.2**
IPAR				*e*Sg	**Sg**	**16 00 41.3**	**+1.1**
IPAR				*e*		16 00 42.5	
	comp=Z,24μm,0.3s						
IPAR	**Pars**	**1.33**	**91**	*e*Pn	**Pn**	**16 00 19.0**	**-2.2**
IPAR				*e*Sg	**Sg**	**16 00 41.3**	**+1.1**
ISRV	**Sarvestan**	**1.47**	**109**	*e*Pn	**Pn**	**16 00 23.1**	**-0.1**
ISRV				*e*Sg	**Sg**	**16 00 45.2**	**+0.4**
ISRV				*e*		16 00 51.1	
	comp=Z,20μm,0.2s						
ISRV	**Sarvestan**	**1.47**	**109**	*e*Pn	**Pn**	**16 00 23.1**	**-0.1**
ISRV				*e*Sg	**Sg**	**16 00 45.2**	**+0.4**
GHIR	**Ghir-Karzin**	**2.04**	**141**	*e*PN5		16 00 38.2	
GHIR				AML	AML	16 01 14.0	
	comp=N,818nm,0.7s						
GHIR				AML	AML	16 01 14.1	
	comp=E,811nm,0.2s						
IGAR	**Gharneh**	**2.56**	**10**	*e*Pn	**Pn**	**16 00 38.3**	**+0.2**
IGAR				*e*		16 00 43.4	
	comp=Z,4μm,0.2s						
ISAD	**Sadrabad**	**2.76**	**42**	*e*Pn	**Pn**	**16 00 41.7**	**+0.9**
ISAD				*e*	**Sg**	**16 01 21.5**	**-4.3**
	comp=Z,5μm,0.2s						
ISAD	**Sadrabad**	**2.76**	**42**	*e*Pn	**Pn**	**16 00 41.7**	**+0.9**
IPIR	**Pirpir**	**2.85**	**349**	*e*Pn	**Pn**	**16 00 42.4**	**+0.3**
IPIR				*e*	**Sg**	**16 01 31.9**	**+3.1**
	comp=Z,3μm,0.4s						
IPIR	**Pirpir**	**2.85**	**349**	*e*Pn	**Pn**	**16 00 42.4**	**+0.3**
IMEH	**Mehriz**	**3.06**	**60**	*e*Pn	**Pn**	**16 00 45.4**	**+0.4**
IMEH				*e*		16 00 51.8	
	comp=Z,1μm,0.2s						
IMEH	**Mehriz**	**3.06**	**60**	*e*Pn	**Pn**	**16 00 45.4**	**+0.4**
IZEF	**Zefreh**	**3.09**	**13**	*e*Pn	**Pn**	**16 00 45.6**	**+0.2**
IZEF				*e*		16 00 56.5	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**3.09**	**13**	*e*Pn	**Pn**	**16 00 45.6**	**+0.2**
NASN	**Na'in**	**3.12**	**20**	*e*Pn	**Pn**	**16 00 45.4**	**-0.4**
NASN	**Na'in**	**3.12**	**20**	*e*Pn	**Pn**	**16 00 45.4**	**-0.4**
UMR	**Umm Al-Rimmam**	**3.32**	**265**	*e*P	**Pb**	**16 00 54.2**	**-1.4**
UMR				AML	AML	16 01 37.6	
	comp=Z,158nm,0.4s						
KBD	**Kabd**	**3.41**	**259**	*e*P	**Pb**	**16 00 55.8**	**-1.3**
KBD				AML	AML	16 01 37.6	
	comp=Z,59nm,0.4s						
ICHK	**Chekchek**	**3.42**	**46**	*e*Pn	**Pn**	**16 00 50.1**	**+0.2**
ICHK				*e*		16 00 58.5	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**3.42**	**46**	*e*Pn	**Pn**	**16 00 50.1**	**+0.2**
IKLH	**Kolahrood**	**3.43**	**1**	*e*Pn	**Pn**	**16 00 50.1**	**0.0**
IKLH				*e*		16 01 54.1	
	comp=Z,1μm,0.3s						
IKLH	**Kolahrood**	**3.43**	**1**	*e*Pn	**Pn**	**16 00 50.1**	**0.0**
NAY	**Al-Naaiem**	**3.78**	**262**	*e*P	**Pb**	**16 01 00.6**	**-2.8**
IBAF	**Bafgh**	**3.88**	**63**	*e*Pn	**Pn**	**16 00 56.4**	**+0.2**
IBAF				*e*		16 01 06.6	
	comp=Z,874nm,0.2s						
IBAF	**Bafgh**	**3.88**	**63**	*e*Pn	**Pn**	**16 00 56.4**	**+0.2**
KHMZ	**Khomeyn**	**4.07**	**341**	*e*Pn	**Pn**	**16 00 59.6**	**+0.7**
KHMZ	**Khomeyn**	**4.07**	**341**	*e*Pn	**Pn**	**16 00 59.6**	**+0.7**
ISFB	**Sefidab**	**4.50**	**8**	*e*		16 01 21.9	
	comp=Z,600nm,0.2s						
ISFB				*e*Pn	**Pn**	**16 01 03.9**	**-0.8**
KRBR	**Kerman**	**4.55**	**87**	*e*Pn	**Pn**	**16 01 06.5**	**+1.0**
KRBR				AML	AML	16 02 28.5	
	comp=E,71nm,0.7s						
KRBR				AML	AML	16 02 29.5	
	comp=N,51nm,0.7s						
KRBR	**Kerman**	**4.55**	**87**	*e*Pn	**Pn**	**16 01 06.5**	**+1.0**
GHVR	**GHOM**	**4.59**	**358**	*e*Pn	**Pn**	**16 01 06.0**	**+0.1**
GHVR	**GHOM**	**4.59**	**358**	*e*Pn	**Pn**	**16 01 06.0**	**+0.1**
ASAO	**Ashtian**	**4.83**	**345**	*e*Pn	**Pn**	**16 01 09.8**	**+0.5**
ASAO	**Ashtian**	**4.83**	**345**	*e*Pn	**Pn**	**16 01 09.8**	**+0.5**
IVRN	**Varamin**	**5.11**	**2**	*e*Pn	**Pn**	**16 01 12.7**	**-0.3**
IVRN	**Varamin**	**5.11**	**2**	*e*Pn	**Pn**	**16 01 12.7**	**-0.3**
IRAZ	**Razeghan**	**5.67**	**347**	*e*Pn	**Pn**	**16 01 20.2**	**-0.7**
IRAZ				*e*		16 02 33.4	
	comp=Z,320nm,0.2s						
IRAZ	**Razeghan**	**5.67**	**347**	*e*Pn	**Pn**	**16 01 20.2**	**-0.7**
IDMV	**Damavand**	**5.70**	**4**	*e*Pn	**Pn**	**16 01 20.7**	**-0.6**
IDMV				*e*		16 01 28.6	
	comp=Z,233nm,0.1s						
IDMV	**Damavand**	**5.70**	**4**	*e*Pn	**Pn**	**16 01 20.7**	**-0.6**
IFIR	**Firoozkooh**	**5.84**	**10**	*e*Pn	**Pn**	**16 01 22.9**	**-0.3**
IFIR				*e*		16 01 24.3	
	comp=Z,250nm,0.1s						
IFIR	**Firoozkooh**	**5.84**	**10**	*e*Pn	**Pn**	**16 01 22.9**	**-0.3**
ASF	**Jabal al Asfar**	**12.75**	**284**	Pn	**Pn**	**16 02 58.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=51,slow=7.9,SNR=5.8						
ASF				Sn	**Sn**	**16 05 18.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=212,slow=16,SNR=2.5						
MMAI	**Mount Meron Ar**	**14.11**	**287**	Pn	**Pn**	**16 03 18.1**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=110,slow=22,SNR=2.3						
BRTR	**Keskin Array B**	**17.64**	**309**	P	**P**	**16 04 04.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=127,slow=13,SNR=6.5						
AKTO	**Aktyubinsk**	**21.11**	**12**	P	**P**	**16 04 40.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=186,slow=9.8,SNR=3.9						
MKAR	**Makanchi Array**	**29.21**	**46**	P	**P**	**16 05 57.8**	**0.0**
	comp=Z,0.1nm,0.5s,baz=245,slow=9.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**34.02**	**35**	P	**P**	**16 06 39.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=249,slow=9.4,SNR=4.1						
FINES	**FINESS Array B**	**35.76**	**339**	P	**P**	**16 06 53.5**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=142,slow=8.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**48.86**	**261**	P	**P**	**16 08 44.4**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=53,slow=7.1,SNR=5.5						

CASC 25 16:00:43.8±3.6,11.68N×87.69W,h39km±51km,MD4.2, 1C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.59**	**355**	*e*P	Pn	16 01 09.7	0.0
VSM	**San Miguel**	**1.83**	**342**	*e*P	Pn	16 01 13.0	-0.1
CAHU	**Cacacuatique**	**2.14**	**346**	*e*P	Pn	16 01 09.3	-7.9
SNVI	**San Vicente**	**2.22**	**330**	*e*S	Sn	16 01 52.5	+7.8
LFRS	**El Faro**	**2.35**	**325**	*e*P	Pn	16 01 19.9	-0.1
SBLS	**San Blas**	**2.85**	**319**	*e*P	Pn	16 01 26.1	-1.0
SJS	**Escuela Geolog**	**3.97**	**115**	*e*P	Pn	16 01 46.1	+3.7
URSC	**Urasca**	**4.26**	**115**	⇓*e*P	Pn	16 01 49.3	+2.9
BUS	**Buena Vista**	**4.41**	**118**	⇑*e*P	Pn	16 01 50.4	+1.6
BUS				*e*S	Sn	16 02 38.8	-0.5
ACR	**Cerro Adams**	**5.38**	**124**	*e*P	Pn	16 02 03.1	+1.6
ACR				*e*S	Sn	16 02 59.1	-3.2
CTCR	**Cotoan**	**5.59**	**119**	*e*P	Pn	16 02 06.7	+2.0
CTCR				*e*S	Sn	16 03 08.2	+0.4
BRU2	**Volcan**	**5.70**	**120**	*e*P	Pn	16 02 08.1	+2.0
BRU2				*e*S	Sn	16 03 11.5	+1.0

**IDC 25 16:23:41.3±2.0,0.70N×126.34E,h0km,mb3.1/3, mb1 3.4/3,mb1

TOSP				*e*S	**Sn**	**16 25 56.1**	**-0.6**		
GRSS	**Sisters**	**1.29**	**7**	*e*P	**Pn**	**16 25 41.8**	**+1.1**		
GRSS				*e*S	**Sn**	**16 25 56.7**	**-0.9**		
GUNV	**Guanoco**	**1.42**	**234**	⇓*e*P	**Pn**	**16 25 44.1**	**+1.6**		
GUNV				*e*S	**Sn**	**16 26 01.8**	**+1.1**		
CRUV	**Carupano**	**1.47**	**257**	*e*P	**Pn**	**16 25 43.6**	**+0.6**		
CRUV				*e*S	**Sn**	**16 26 02.3**	**+0.5**		
SVB	**Belmont**	**2.30**	**13**	*e*P	**Pn**	**16 25 55.6**	**+1.5**		
SVB				*e*S	**Sn**	**16 26 21.1**	**-0.4**		
ORIV	**Oritupano**	**2.51**	**220**	*e*P	**Pn**	**16 25 58.1**	**+1.1**		
ORIV				*e*S	**Sn**	**16 26 26.0**	**-0.7**		
MCLT	**Moule a Chique**	**2.80**	**17**	*e*P	**Pn**	**16 26 01.6**	**+0.7**		
MCLT				*e*S	**Sn**	**16 26 33.1**	**-0.6**		
RIOV	**Rio Grande**	**2.93**	**181**	*e*P	**Pn**	**16 26 02.9**	**+0.3**		
RIOV				*e*S	**Sn**	**16 26 34.8**	**-1.9**		
PCRV	**Puerto La Cruz**	**2.93**	**254**	*e*P	**Pn**	**16 26 03.6**	**+0.9**		
PCRV				*e*S	**Sn**	**16 26 37.2**	**+0.3**		
GURV	**El Guri**	**3.48**	**202**	*e*P	**Pn**	**16 26 10.3**	**+0.1**		
GURV				*e*S	**Sn**	**16 26 47.8**	**-2.5**		
PRGV	**PARIAGUAN**	**3.61**	**232**	*e*P	**Pn**	**16 26 12.8**	**+1.0**		
PRGV				*e*S	**Sn**	**16 26 53.2**	**-0.1**		
CUPV	**Cœpira**	**4.06**	**257**	*e*P	**Pn**	**16 26 20.0**	**+2.0**		
CUPV				*e*S	**Sn**	**16 27 03.6**	**-0.8**		
BIRV	**Birongo**	**4.45**	**264**	*e*P	**Pn**	**16 26 24.9**	**+1.7**		
LUEV	**Luepa**	**5.15**	**176**	*e*P	**Pn**	**16 26 31.7**	**-1.3**		
LUEV				*e*S	Sn	16 27 25.2	-6.0		
TURV	**Turiamo**	**5.98**	**265**	*e*P	**Pn**	**16 26 44.9**	**+0.6**		
BAUV	**El Baul**	**6.50**	**252**	*e*P	**Pn**	**16 26 51.6**	**+0.2**		
BAUV				*e*S	**Sn**	**16 28 01.4**	**-2.7**		
MAPV	**Macapo**	**6.67**	**260**	*e*P	**Pn**	**16 26 54.3**	**+0.6**		
MONV	**Montecano**	**8.09**	**277**	*e*P	**Pn**	**16 27 12.5**	**-0.5**		

IDC 25 16:35:25.9±2.7, 1°78′S×99°41′E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=109.8km s-min=19.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.58**	**354**	Pn	Pn	16 36 36.5	-0.2
	0.9nm,0.3s,baz=194,slow=8.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**20.12**	**359**	P	P	16 40 01.2	-0.4
	0.6nm,0.5s,baz=190,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**38.61**	**120**	P	P	16 42 51.0	-0.3
	0.8nm,0.8s,baz=303,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**39.86**	**126**	P	P	16 43 01.8	+0.1
	0.6nm,0.6s,baz=304,slow=7.7,SNR=10						
SONM	**Songino Array**	**49.79**	**6**	P	P	16 44 20.2	-0.4
	0.5nm,0.5s,baz=204,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**50.67**	**345**	P	P	16 44 27.1	0.0
	0.8nm,0.5s,baz=154,slow=7.9,SNR=17						
ZALV	**Zalesovo Beam**	**56.85**	**350**	P	P	16 45 11.9	-0.3
	1.0nm,0.5s,baz=160,slow=7.7,SNR=7.3						
TXAR	**Lajitas Array**	**144.89**	**37**	PKP	PKPbc	16 55 05.5	+0.4
	0.3nm,0.4s,baz=264,slow=0.9,SNR=6.7						

IDC 25 16:37:59.1±5.9, 0°77′S×100°70′E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=312.6km s-min=27.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.03**	**122**	P	P	16 45 19.8	+0.3
	0.3nm,0.8s,baz=301,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**39.42**	**128**	P	P	16 45 30.7	-0.5
	0.2nm,0.8s,baz=300,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**50.05**	**344**	P	P	16 46 55.5	-0.1
	0.1nm,0.3s,baz=165,slow=8.4,SNR=5.4						

*ISCJB **25** 17:02:25.3±1.3, 25°.19N±0°.07×123°.56E±0°.04, h20km±10km, mb3.8/6, MS3.1/4, Error ellipse: s-maj=11.8km s-min=6.5km az=2.6*
*JMA **25** 17:02:25.3±0.3, 25°.15N×123°.62E, h4km±4km, M3.4*
*IDC **25** 17:02:26.2±1.1, 24°.63N×122°.44E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/27, mbtmp3.8/7, ML3.2/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/47, Error ellipse: s-maj=69.5km s-min=17.6km az=65.0*

ISC 25 17:02:25.1±1.9, 25°.15N±0°.08×123°.61E±0°.05, h8km±12km, n18, σ0°60/22, mb3.8/6, MS3.1/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.82**	**172**	P	**Pg**	**17 02 41.2**	**+0.2**
IRIF				*e*S	**Sb**	**17 02 52.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.88**	**218**	P	**Pg**	**17 02 42.3**	**+0.3**
YOJ				*e*S	**Sg**	**17 02 53.6**	**+0.2**
JIJ	**Ishigaki jima**	**0.92**	**148**	P	**Pg**	**17 02 42.6**	**-0.3**
JIJ				*e*S	**Sg**	**17 02 54.6**	**-0.3**
JKRS	**Kuro-shima**	**0.98**	**158**	P	**Pg**	**17 02 44.0**	**0.0**
JKRS				*e*S	**Sb**	**17 02 57.7**	**+0.2**
HATJ	**Hateruma jima**	**1.11**	**171**	P	**Pg**	**17 02 46.0**	**-0.4**
HATJ				*e*S	**Sb**	**17 03 01.0**	**-0.1**
JTJ	**Tarama**	**1.11**	**117**	P	**Pb**	**17 02 46.5**	**-0.2**
JTJ				*e*S	**Sb**	**17 03 02.0**	**+0.6**
JMJ	**Miyako jima 2**	**1.56**	**102**	P	**Pn**	**17 02 53.8**	**+0.5**
JMJ				*e*S	**Sb**	**17 03 14.7**	**+0.4**
JOGS	**Gusukube**	**1.68**	**103**	P	**Pn**	**17 02 55.2**	**+0.4**
JOGS				*e*S	**Sn**	**17 03 16.4**	**-0.1**
KSRS	**Korea Array**	**12.80**	**16**	Pn	Pn	17 05 42.0	+15
	0.1nm,0.3s,baz=190,slow=13,SNR=4.1						
KSRS				LR	LR	17 10 51.9	
	comp=Z,19nm,20.9s,baz=347,slow=37						
ASAJ	**Asahikawa**	**24.43**	**35**	LR	LR	17 18 13.3	
	comp=Z,27nm,19.5s,baz=39,slow=37						
SONM	**Songino Array**	**26.41**	**333**	LR	LR	17 18 14.2	
	comp=Z,34nm,19.2s,baz=321,slow=36						
PSI	**Prapat**	**32.54**	**231**	LR	LR	17 21 32.3	
	comp=Z,82nm,18.6s,baz=64,slow=36						
MKAR	**Makanchi Array**	**39.22**	**314**	P	**P**	**17 09 54.1**	**+0.2**
	1.0nm,0.8s,baz=102,slow=11,SNR=9.1						
ZALV	**Zalesovo Beam**	**40.67**	**325**	P	**P**	**17 10 04.7**	**-1.1**
	0.4nm,0.4s,baz=115,slow=11,SNR=3.6						
ZALV				LR	LR	17 27 47.5	
	comp=Z,33nm,18.5s,baz=70,slow=38						
KURBB	**Kurchatov Arra**	**42.82**	**318**	P	**P**	**17 10 22.8**	**-0.7**
	0.4nm,0.5s,baz=110,slow=8.2,SNR=5.6						
WRA	**Warramunga Arr**	**46.02**	**166**	P	**P**	**17 10 49.7**	**+0.3**
	1.8nm,0.7s,baz=347,slow=8.8,SNR=17						
ASAR	**Alice Springs**	**49.55**	**168**	P	**P**	**17 11 18.3**	**+1.6**
	0.9nm,0.5s,baz=350,slow=8.1,SNR=27						
STKA	**Stephens Creek**	**59.26**	**162**	P	**P**	**17 12 26.5**	**-0.7**
	2.8nm,0.7s,baz=14,slow=8.3,SNR=4.1						

IDC 25 17:02:27.2±3.2, 11°08S×163°38E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/20, mbtmp3.5/4, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=56.0km s-min=45.5km az=69.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.75**	**296**	Pn	Pn	17 03 27.8	+1.3
	15nm,0.3s,baz=169,slow=16,SNR=4.2						
HNR				Sn	Sn	17 04 10.5	-0.8
	26nm,0.3s,baz=193,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**29.30**	**249**	P	P	17 08 31.5	-0.2
	0.2nm,0.8s,baz=80,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**30.72**	**242**	P	P	17 08 44.4	+0.1
	0.2nm,0.5s,baz=64,slow=10,SNR=8.1						
ASAJ	**Asahikawa**	**58.09**	**342**	LR	LR	17 31 40.9	
	comp=Z,47nm,21.6s,baz=148,slow=30						
MKAR	**Makanchi Array**	**91.96**	**317**	P	P	17 15 37.7	-0.3
	0.3nm,0.7s,baz=98,slow=4.4,SNR=4.1						

WEL 25 17:03:13.5±0.3, 39°66S×174°25E, h205km±3km, ML4.1/19, 12C-9D, Error ellipse: s-maj=2.2km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEZ	**North Egmont**	**0.40**	**342**	⇓PN	Pn	17 03 41.3	+0.3
PKE	**Pukeiti**	**0.50**	**336**	PN	Pn	17 03 41.3	0.0
WAZ	**Wanganui**	**0.57**	**100**	⇓PN	Pn	17 03 42.1	+0.6
WAZ				SN	S	17 04 02.9	-0.4
VRZ	**Vera Road**	**0.66**	**37**	⇓PN	Pn	17 03 41.2	-0.7
VRZ				SN	S	17 04 02.3	-1.5
PKVZ	**Pokaka**	**0.92**	**67**	PN	Pn	17 03 43.2	-0.2
TRVZ	**Turoa**	**1.06**	**71**	PN	Pn	17 03 44.2	-0.3
TRVZ				SN	S	17 04 06.6	-1.8
FWVZ	**Far West T-bar**	**1.08**	**69**	⇓PN	Pn	17 03 44.3	-0.4
WNVZ	**Wahianoa**	**1.09**	**73**	⇓PN	Pn	17 03 44.5	-0.1
WTVZ	**West Tongariro**	**1.17**	**63**	⇑PN	Pn	17 03 44.9	-0.2
WTVZ				*e*SN	S	17 04 08.1	-1.3
DUWZ	**D'Urville Isla**	**1.18**	**192**	PN	Pn	17 03 45.0	0.0
DUWZ				SN	S	17 04 07.8	-1.6
MOVZ	**Moawhango**	**1.19**	**78**	PN	Pn	17 03 44.7	-0.5
OTVZ	**Oturere**	**1.20**	**66**	⇑PN	Pn	17 03 45.4	0.0
KRVZ	**Karewarewa**	**1.21**	**63**	PN	Pn	17 03 45.2	-0.3
HIZ	**Hauiti**	**1.23**	**23**	PN	Pn	17 03 44.5	-1.0
KIW	**Kapiti Island**	**1.31**	**158**	PN	Pn	17 03 45.9	-0.1
KIW				AML	AML	17 04 09.8	
KIW				AML	AML	17 04 10.3	
OGWZ	**Otaki Gorge**	**1.36**	**149**	⇑PN	Pn	17 03 46.5	+0.2
TSZ	**Takapari Road**	**1.38**	**108**	PN	Pn	17 03 46.6	0.0
TSZ				AML	AML	17 04 12.6	
TSZ				AML	AML	17 04 12.8	
POWZ	**Post Office Ro**	**1.38**	**123**	⇑PN	Pn	17 03 46.6	0.0
BHHZ	**Black Hill Sta**	**1.41**	**84**	PN	Pn	17 03 46.3	-0.7
MRZ	**Mangatainoka R**	**1.43**	**135**	⇑PN	Pn	17 03 46.9	-0.1
MRZ				AML	AML	17 04 12.2	
MRZ				AML	AML	17 04 12.9	
WATZ	**Wairara**	**1.49**	**51**	PN	Pn	17 03 47.3	-0.3
PNHZ	**Pukenui**	**1.52**	**100**	⇓PN	Pn	17 03 47.9	0.0
TCW	**Tory Channel**	**1.56**	**179**	PN	Pn	17 03 48.2	+0.1
TCW				AML	AML	17 04 15.0	
TCW				AML	AML	17 04 15.2	
CAW	**Cannon Point**	**1.58**	**157**	PN	Pn	17 03 48.2	-0.1
CAW				AML	AML	17 04 15.3	
CAW				AML	AML	17 04 19.5	
DVHZ	**Dannevirke**	**1.61**	**114**	⇑PN	Pn	17 03 48.8	0.0
WEL	**Wellington**	**1.68**	**167**	PN	Pn	17 03 48.9	-0.2
TIWZ	**Tintock**	**1.68**	**132**	PN	Pn	17 03 49.3	+0.1
SNZO	**South Karori**	**1.69**	**168**	⇑PN	Pn	17 03 49.0	-0.2
SNZO				AML	AML	17 04 17.3	
SNZO				AML	AML	17 04 17.5	
NNZ	**Nelson**	**1.70**	**203**	⇑PN	Pn	17 03 49.2	-0.1
WPHZ	**Waipukurau**	**1.73**	**104**	PN	Pn	17 03 49.9	+0.2
QRZ	**Quartz Range**	**1.76**	**228**	⇓PN	Pn	17 03 49.1	-0.9
MTW	**Mount Morrison**	**1.78**	**148**	⇑PN	Pn	17 03 49.8	-0.3
MTW				AML	AML	17 04 18.4	
MTW				AML	AML	17 04 22.8	
TUWZ	**Tuamarina**	**1.79**	**187**	⇑PN	Pn	17 03 50.1	-0.1
TUWZ				AML	AML	17 04 17.3	
TUWZ				AML	AML	17 04 17.3	
BKZ	**Black Stump Fm**	**1.80**	**75**	PN	Pn	17 03 49.9	-0.6
BKZ				AML	AML	17 04 16.5	
BKZ				AML	AML	17 04 16.6	
BHW	**Baring Head**	**1.81**	**165**	PN	Pn	17 03 50.3	-0.2
BHW				AML	AML	17 04 18.1	
BHW				AML	AML	17 04 18.9	
BFZ	**Birch Farm**	**1.84**	**125**	⇓PN	Pn	17 03 50.6	-0.1
MCHZ	**McNeill Hill**	**1.90**	**84**	⇓PN	Pn	17 03 51.9	+0.6
MSWZ	**Moikau Station**	**1.92**	**157**	PN	Pn	17 03 51.0	-0.5
MSWZ				AML	AML	17 04 20.9	
MSWZ				AML	AML	17 04 27.2	
TMWZ	**Te Maipa**	**1.92**	**140**	PN	Pn	17 03 51.4	-0.2
PAWZ	**Paruwai Farm**	**1.94**	**153**	PN	Pn	17 03 51.3	-0.4
PAWZ				AML	AML	17 04 28.2	
PAWZ				AML	AML	17 04 32.6	
KAHZ	**Kahuranaki**	**2.03**	**95**	PN	Pn	17 03 53.1	+0.4
PXZ	**Pawanui**	**2.04**	**101**	PN	Pn	17 03 52.9	+0.1
PXZ				AML	AML	17 04 22.3	
PXZ				AML	AML	17 04 22.3	
PXZ				AML	AML	17 04 24.0	
PXZ				AML	AML	17 04 24.0	
TRWZ	**Traveller**	**2.06**	**148**	PN	Pn	17 03 52.6	-0.3
TRWZ				AML	AML	17 04 23.6	
TRWZ				AML	AML	17 04 23.9	
PLWZ	**Palliser**	**2.06**	**159**	PN	Pn	17 03 52.4	-0.6
BSWZ	**Blackbirch Sta**	**2.08**	**188**	PN	Pn	17 03 52.8	-0.3
BSWZ				AML	AML	17 04 23.9	
BSWZ				AML	AML	17 04 24.6	
CKHZ	**Cape Kidnapper**	**2.18**	**91**	PN	Pn	17 03 54.5	+0.3
RAHZ	**Arahi**	**2.32**	**72**	PN	Pn	17 03 55.4	-0.3
THZ	**Tophouse**	**2.34**	**206**	⇑PN	Pn	17 03 55.4	-0.6
URZ	**Urewera**	**2.63**	**59**	PN	Pn	17 03 57.5	-1.6
URZ				AML	AML	17 04 32.6	
URZ				AML	AML	17 04 35.8	
KNZ	**Kokohu**	**2.73**	**78**	PN	Pn	17 03 59.6	-0.6
DSZ	**Denniston Nort**	**2.80**	**221**	⇑PN	Pn	17 04 00.1	-0.9
KHZ	**Kahutara**	**2.81**	**191**	PN	Pn	17 04 00.5	-0.6
KHZ				AML	AML	17 04 36.1	
KHZ				AML	AML	17 04 37.4	
MWZ	**Matawai**	**2.87**	**64**	PN	Pn	17 04 00.6	-1.4
MWZ				AML	AML	17 04 38.7	
MWZ				AML	AML	17 04 40.3	
MHGZ	**Mahia Peninsul**	**2.88**	**81**	PN	Pn	17 04 01.9	0.0
LTZ	**Lake Taylor**	**3.46**	**205**	PN	Pn	17 04 07.8	-1.1
PUZ	**Puketiti**	**3.50**	**64**	PN	Pn	17 04 08.0	-1.4
PUZ				AML	AML	17 04 51.7	
PUZ				AML	AML	17 04 52.0	
CRLZ	**Canterbury Las**	**4.11**	**197**	PN	Pn	17 04 15.1	-1.5
MQZ	**McQueen's Vall**	**4.22**	**196**	PN	Pn	17 04 15.5	-2.6
FOZ	**Fox Glacier**	**5.19**	**220**	PN	Pn	17 04 26.7	-3.7
LBZ	**Lake Benmore**	**5.62**	**211**	PN	Pn	17 04 33.2	-2.5
ODZ	**Otahua Downs**	**6.01**	**205**	PN	Pn	17 04 39.2	-1.7

KRSC 25 17:12:13.0±0.2, 53°26N×160°61E, h43km±33km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.39**	**246**	P	Pn	17 12 23.1	+0.8
SPN				S	Sn	17 12 29.6	+0.5
NLC	**Nalytchevo**	**0.77**	**264**	P	Pn	17 12 27.7	+0.4
NLC				S	Sn	17 12 37.8	+0.1
SDLR	**Sedlovina**	**1.04**	**272**	P	Pn	17 12 31.7	+0.5
SDLR				S	Sn	17 12 45.9	+1.2
KII	**Karymskiy**	**1.04**	**319**	P	Pn	17 12 30.7	-0.5
KII				S	Sn	17 12 43.4	-1.3
UGLR	**Uglovaya**	**1.07**	**268**	P	Pn	17 12 32.6	+0.9
UGLR				S	Sn	17 12 47.5	+1.9
SMAR	**Somma**	**1.09**	**271**	P	Pn	17 12 32.2	+0.2
SMAR				S	Sn	17 12 46.5	+0.4
KRER	**Koryakskii**	**1.12**	**273**	P	Pn	17 12 33.0	+0.5
KRER				S	Sn	17 12 48.0	+1.1
AVH	**Avacha**	**1.12**	**271**	P	Pn	17 12 33.3	+0.9
AVH				S	Sn	17 12 49.2	+2.5
KRX	**Arik**	**1.18**	**276**	P	Pn	17 12 33.5	+0.3
KRX				S	Sn	17 12 48.6	+0.3
KOK	**Koryaka**	**1.19**	**272**	P	Pn	17 12 33.8	+0.6
PET	**Petropavlovsk**	**1.20**	**259**	P	Pn	17 12 33.9	+0.6
PET				S	Sn	17 12 48.9	+0.5
MKZ	**Mys Kozlova**	**1.46**	**27**	P	Pn	17 12 36.0	-0.8
MKZ				S	Sn	17 12 52.9	-1.8
RUS	**Russkaya**	**1.52**	**238**	P	Pn	17 12 38.3	+0.7
RUS				S	Sn	17 12 56.8	+0.7
GNL	**Ganaly**	**1.65**	**286**	P	Pn	17 12 40.7	+1.0
GNL				S	Sn	17 13 01.3	+1.5
MTVR	**Mutnovka**	**1.66**	**243**	P	Pn	17 12 40.8	+0.9
MTVR				S	Sn	17 13 01.6	+1.5
GRL	**Gorelyy**	**1.69**	**246**	P	Pn	17 12 41.0	+0.8
GRL				S	Sn	17 13 02.0	+1.2
ASAK	**Asacha**	**1.86**	**243**	P	Pn	17 12 44.2	+1.7
ASAK				S	Sn	17 13 07.1	+2.2
TUMR	**Tumrok**	**2.04**	**353**	P	Pn	17 12 45.9	+0.8
TUMR				S	Sn	17 13 10.2	+0.7
APC	**Apacha**	**2.11**	**262**	P	Pn	17 12 47.7	+2.0
APC				S	Sn	17 13 13.2	+2.5
KMNR	**Kamenistaya**	**2.51**	**355**	P	Pn	17 12 53.3	+1.9
KMNR				S	Sn	17 13 23.0	+2.1
MIPR	**Malaya Ipel'ka**	**2.54**	**249**	P	Pn	17 12 53.6	+1.9
BZMR	**Bezymyannaya**	**2.68**	**359**	P	Pn	17 12 56.3	+2.5
BZMR				S	Sn	17 13 28.4	+3.2
BZGR	**Bezymyannyi-Gr**	**2.69**	**1**	P	Pn	17 12 55.7	+1.9
BZGR				S	Sn	17 13 26.9	+1.7
KIRR	**Kirishev**	**2.70**	**357**	P	Pn	17 12 57.3	+3.2
BZWR	**Bezymyannyi-We**	**2.71**	**359**	P	Pn	17 12 56.6	+2.3
BZWR				S	Sn	17 13 29.1	+3.1
KPT	**Kopyto**	**2.72**	**355**	P	Pn	17 12 56.9	+2.6
ZLN	**Zelenaya**	**2.77**	**2**	S	Sn	17 13 26.9	-0.2
KOZ	**Kozyrevsk**	**2.84**	**352**	P	Pn	17 12 56.7	+0.9
KOZ				S	Sn	17 13 29.7	+1.0
ESO	**Esso**	**2.89**	**338**	P	Pn	17 12 57.2	+0.6
ESO				S	Sn	17 13 29.7	-0.4
PAU	**Pauzhetka**	**2.94**	**234**	P	Pn	17 12 58.4	+1.2
KLY	**Klyuchi**	**3.06**	**0**	P	Pn	17 13 00.1	+1.3
KLY				S	Sn	17 13 34.7	+0.6
SRDR	**Sredinnyy**	**3.11**	**351**	P	Pn	17 13 00.2	+0.7
KBTR	**Krutoberegovo**	**3.22**	**23**	P	Pn	17 13 02.0	+1.0
KBTR				S	Sn	17 13 38.9	+0.8
SMKR	**Semkarok**	**3.37**	**8**	P	Pn	17 13 06.0	+2.9
SMKR				S	Sn	17 13 44.6	+2.7
BKI	**Bering**	**3.70**	**56**	P	Pn	17 13 07.2	-0.4
BKI				S	Sn	17 13 46.7	-3.1
SKR	**Severo-Kuril's**	**3.79**	**229**	P	Pn	17 13 11.6	+2.8
SKR				S	Sn	17 13 54.4	+2.3

IDC 25 17:12:51.3±2.3, 5°91S×100°76E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, Error ellipse: s-maj=94.4km s-min=19.0km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.28**	**356**	P	P	17 18 09.7	-0.8
	0.4nm,0.4s,baz=186,slow=8.2,SNR=5.0						
WRA	**Warramunga Arr**	**35.48**	**116**	P	P	17 19 50.5	+0.5
	0.7nm,0.8s,baz=294,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**36.44**	**122**	P	P	17 19 58.8	+0.5
	0.2nm,0.6s,baz=299,slow=7.9,SNR=9.2						
CTA	**Charters Tower**	**46.35**	**112**	P	P	17 21 17.7	-2.0
	0.7nm,0.3s,baz=275,slow=11,SNR=3.6						
SONM	**Songino Array**	**53.74**	**5**	P	P	17 22 16.6	+1.1
	0.8nm,0.6s,baz=185,slow=9.4,SNR=7.2						
MKAR	**Makanchi Array**	**54.97**	**345**	P	P	17 22 24.1	-0.2
	0.4nm,0.7s,baz=152,slow=8.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**61.12**	**349**	P	P	17 23 06.9	-0.4
	0.7nm,0.4s,baz=177,slow=5.9,SNR=6.0						
FINES	**FINESS Array B**	**87.90**	**332**	P	P	17 25 42.7	0.0
	0.7nm,0.6s,baz=101,slow=7.2,SNR=2.4						

*NIED **25** 17:33:00,27°.30N×142°.00E, h8km, Mw4.0 Best double couple: M0.19000×10^15 NP1:φs63.00000°, δ82.00000°, λ-68.00000°. NP2:φs171.00000°, δ23.00000°, λ-160.00000°.*
*IDC **25** 17:33:39.0±0.6, 27°.29N×141°.56E, h0km, mb4.1/11, mb1 4.2/13, mb1mx3.9/26, mbtmp4.0/13, ML3.3/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/41, Error ellipse: s-maj=18.2km s-min=13.6km az=69.0*
*ISCJB **25** 17:33:42.9±0.4, 27°.29N±0°.04×141°.58E±0°.08, h39km, mb4.1/14, MS2.8/2, Error ellipse: s-maj=10.8km s-min=4.4km az=153.7*
*NEIC **25** 17:33:44.1±2.2, 27°.28N×141°.62E, h33km±16km, mb4.6/1, MW4.0(NIED), Error ellipse: s-maj=10.6km s-min=6.3km az=79.0*
*JMA **25** 17:33:45.8, 27°.31N×141°.96E, h52km±1km, M4.0*
JMA Felt I J1.

ISC 25 17:33:45.4±0.5, 27°30N±0°.06×141°82E±0°.10, h39km, n48, σ1°08/52, mb4.1/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.38**	**122**	Pn	**Pn**	**17 33 55.0**	**+0.6**
CBIJ				Sn	**Sn**	**17 34 01.8**	**+0.8**
CBIJ	**Chichi jima**	**0.38**	**122**	P	**Pn**	**17 33 54.9**	**+0.6**
CBIJ				S	**Sn**	**17 34 01.7**	**+0.7**
CBIJ	**Chichi jima**	**0.38**	**122**	Pn	**Pn**	**17 33 55.0**	**+0.6**
	862nm,0.3s,baz=273,slow=19,SNR=948						
CBIJ				Sn	**Sn**	**17 34 01.8**	**+0.8**
	baz=270,slow=20						
JHHJ	**Haha-jima-NKT**	**0.74**	**155**	P	**Pn**	**17 33 59.7**	**+0.4**
JHHJ				S	**Sn**	**17 34 09.5**	**+0.2**
BSO1	**Boso 1**	**7.37**	**355**	P	**Pn**	**17 35 30.3**	**+0.5**
JOD2	**Odawara 2**	**8.28**	**344**	P	**Pn**	**17 35 43.8**	**+0.9**
JOD2				*e*S	**Sn**	**17 37 15.9**	**+0.8**
JRY	**Ryogami san**	**9.04**	**345**	P	**Pn**	**17 35 53.6**	**+0.3**
JRY				*e*S	**Sn**	**17 37 31.8**	**-2.0**
MJAR	**Matsushiro Arr**	**9.71**	**342**	Pn	**Pn**	**17 36 01.0**	**-1.6**
MJAR				Sn	**Sn**	**17 37 50.1**	**-0.2**
MJAR	**Matsushiro Arr**	**9.71**	**342**	Pn	**Pn**	**17 36 01.0**	**-1.6**
	0.3nm,0.3s,baz=159,slow=12,SNR=4.3						
MJAR				Sn	**Sn**	**17 37 50.1**	**-0.2**
	0.3nm,0.3s,baz=158,slow=14,SNR=3.4						
JAM	**Amami Oshima**	**10.87**	**279**	P	**Pn**	**17 36 21.4**	**+3.0**
JNU	**Nakatsue**	**11.10**	**304**	LR	LR	17 40 19.7	
	comp=Z,49nm,18.7s,baz=214,slow=37						
KSRS	**Korea Array**	**15.49**	**314**	LR	LR	17 42 53.8	
	comp=Z,41nm,18.6s,baz=125,slow=36						
ASAJ	**Asah

KMNR	Kamenistaya	0.24	103	P	Pn	17 50 24.7 +1.1
KOZ	Kozyrevsk	0.25	7	P	Pn	17 50 24.6 +1.2
KPT	Kopyto	0.28	55	P	Pn	17 50 24.4 +0.8
KIRR	Kirishev	0.33	64	P	Pn	17 50 24.9 +1.1
BZMR	Bezymyannaya	0.40	71	P	Pn	17 50 25.4 +1.5
BZWR	Bezymyannyi-We	0.41	68	P	Pn	17 50 25.4 +1.5
BZGR	Bezymyannyi-Gr	0.51	75	P	Pn	17 50 25.3 +1.2
SRDR	Sredinnyy	0.51	354	P	Pn	17 50 25.1 +1.1
LGNR	Loginova	0.56	60	P	Pn	17 50 25.9 +1.5
TUMR	Tumrok	0.56	161	P	Pn	17 50 25.7 +1.4
KRSR	Krestovskiy	0.58	45	P	Pn	17 50 25.0 +0.8
ESO	Esso	0.64	281	P	Pn	17 50 25.7 +1.4
ESO				*i* S	S	17 50 54.5 -0.5
KLY	Klyuchi	0.69	42	P	Pn	17 50 26.0 +1.6
KLY				*i* S	S	17 50 55.9 +0.4
BDR	Baidarnaya	1.09	45	P	Pn	17 50 27.3 +1.1
SRKR	Sorokina	1.13	41	P	Pn	17 50 27.1 +0.7
SMKR	Semkarok	1.20	49	P	Pn	17 50 28.2 +1.4
SMKR				*i* S	S	17 50 58.6 -0.9
MKZ	Mys Kozlova	1.67	138	P	Pn	17 50 29.8 +0.1
MKZ				*i* S	S	17 51 02.6 -2.1
KBTR	Krutoberegovo	1.73	75	P	Pn	17 50 30.3 +0.2
KBTR				*i* S	S	17 51 02.8 -2.6
SPN	Mys Shipunski	2.72	177	P	Pn	17 50 39.3 +0.8
SPN				*i* S	S	17 51 18.2 -2.5
RUS	Russkaya	3.47	193	P	Pn	17 50 47.7 +1.7
BKI	Bering	3.55	97	P	Pn	17 50 48.8 +2.0
BKI				*i* S	S	17 51 35.6 -0.1

*ISK **25** 17:50:21.9, 40.°05N×40.°79E, h5km, MD3.5*
*CSEM **25** 17:50:23.6±0.2, 40.°09N×40.°81E, h5km, MD3.3, Error ellipse: s-maj=6.2km s-min=3.8km az=17.0*
*DDA **25** 17:50:24.1, 40.°11N×40.°92E, h7km, MD3.3*
ISC 25 17:50:24.5±0.9, 40.°07N±0.°03×40.°79E±0.°02, h13km±8km, n57, σ1°34/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.23**	**258**	*i* P	**Pg**	**17 50 28.4**	**-1.2**
KOPT				*i* S	**Sg**	**17 50 36.1**	**+3.0**
KOPT	**Kop Dagi**	**0.23**	**258**	*i* P	**Pg**	**17 50 28.4**	**-1.2**
EZM	**Erzurum**	**0.47**	**110**	*e*PG	**Pg**	**17 50 32.1**	**-1.8**
ERZM	**Erzurum**	**0.47**	**110**	*i* P	**Pg**	**17 50 32.1**	**-1.8**
ERZM	**Erzurum**	**0.47**	**110**	*i* P	**Pg**	**17 50 32.1**	**-1.8**
BAYT	**Ayd¯–ntepe-Bay**	**0.59**	**304**	*e*PG	**Pg**	**17 50 34.9**	**-1.3**
BAYT				*e*SG	**Sg**	**17 50 44.4**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.59**	**304**	*e*Pg	**Pg**	**17 50 34.9**	**-1.3**
BAYT				*e*Sg	**Sg**	**17 50 44.4**	**+0.3**
HOMI	**Horasan**	**0.86**	**91**	*e*P	**Pg**	**17 50 38.8**	**-2.4**
HOMI				*i* S	**Sb**	**17 50 53.2**	**+0.3**
ERZN	**Erzincan**	**0.95**	**240**	*e*PG	**Pg**	**17 50 40.7**	**-2.1**
GUMT	**Gumushane**	**1.07**	**292**	*e*PN	**Pb**	**17 50 44.1**	**-1.0**
GUMT	**Gumushane**	**1.07**	**292**	*e*Pn	**Pb**	**17 50 44.1**	**-1.0**
BNGB	**Bing¯¶l**	**1.08**	**184**	*e*PG	**Pb**	**17 50 42.7**	**-2.4**
PZAR	**Pazar-Rize**	**1.11**	**4**	*e*PN	**Pb**	**17 50 44.1**	**-1.5**
PZAR	**Pazar-Rize**	**1.11**	**4**	*e*Pn	**Pb**	**17 50 44.1**	**-1.5**
MACK	**Trabzon**	**1.17**	**319**	*e*P	**Pn**	**17 50 46.0**	**-0.7**
MACK				*i* S	**Sg**	**17 51 03.0**	**+0.7**
MACK	**Trabzon**	**1.17**	**319**	*e*P	**Pn**	**17 50 46.0**	**-0.7**
MACK				*i* S	**Sg**	**17 51 03.0**	**+0.7**
KELT	**Kelkit**	**1.18**	**275**	*i* P	**Pn**	**17 50 45.3**	**-1.6**
KELT				*i* S	**Sn**	**17 51 03.9**	**+1.0**
KELT	**Kelkit**	**1.18**	**275**	*i* P	**Pn**	**17 50 45.3**	**-1.6**
KELT				*i* S	**Sn**	**17 51 03.9**	**+1.0**
BINT	**Bingol**	**1.21**	**191**	*e*Pg	Pn	17 50 42.7	-4.6
DAGI	**Agillar**	**1.33**	**40**	*i* P	**Pn**	**17 50 47.5**	**-1.4**
DAGI				*i* S	**Sg**	**17 51 10.9**	**+3.6**
BCA	**Borcka**	**1.52**	**24**	*e*PN	**Pn**	**17 50 51.1**	**-0.3**
BCA	**Borcka**	**1.52**	**24**	*e*Pn	**Pn**	**17 50 51.1**	**-0.3**
PTK	**Pertek**	**1.59**	**223**	*e*PN	**Pn**	**17 50 53.1**	**+0.5**
PTK	**Pertek**	**1.59**	**223**	*e*Pn	**Pn**	**17 50 53.1**	**+0.5**
TUTA	**Tutak**	**1.70**	**112**	*e*P	**Pn**	**17 50 54.0**	**-0.1**
TUTA				*i* S	**Sg**	**17 51 21.1**	**+1.9**
TUTA	**Tutak**	**1.70**	**112**	*e*P	**Pn**	**17 50 54.0**	**-0.1**
AGRB	**Hanur-Agry**	**1.77**	**105**	*e*PN	**Pn**	**17 50 55.5**	**+0.5**
AGRB	**Hanur-Agry**	**1.77**	**105**	*e*Pn	**Pn**	**17 50 55.5**	**+0.5**
ESPY	**Espiye-Giresun**	**1.79**	**299**	*e*PN	**Pn**	**17 50 56.2**	**+1.1**
ESPY	**Espiye-Giresun**	**1.79**	**299**	*e*Pn	**Pn**	**17 50 56.2**	**+1.1**
ILIC	**ilic-Erzincan**	**1.82**	**251**	*e*PN	**Pn**	**17 50 55.5**	**-0.1**
ILIC	**ilic-Erzincan**	**1.82**	**251**	*e*Pn	**Pn**	**17 50 55.5**	**-0.1**
KARS	**Kars**	**1.84**	**71**	*e*PN	**Pn**	**17 50 56.1**	**+0.2**
KARS	**Kars**	**1.84**	**71**	*e*Pn	**Pn**	**17 50 56.1**	**+0.2**
KEMA	**Kemaliye**	**1.94**	**247**	*e*P	**Pn**	**17 50 58.8**	**+1.5**
KEMA				*i* S	**Sg**	**17 51 30.0**	**+3.1**
KEMA	**Kemaliye**	**1.94**	**247**	*e*P	**Pn**	**17 50 58.8**	**+1.5**
DIGO	**Kars**	**2.01**	**79**	*e*P	**Pn**	**17 50 58.6**	**+0.2**
DIGO				*i* S	**Sg**	**17 51 31.9**	**+2.7**
DIGO	**Kars**	**2.01**	**79**	*e*P	**Pn**	**17 50 58.6**	**+0.2**
AKH	**Akhalkalaki**	**2.46**	**56**	P	**Pb**	**17 51 08.3**	**-0.3**
AKH	**Akhalkalaki**	**2.46**	**56**	P	**Pb**	**17 51 08.3**	**-0.3**
MALT	**Malatya**	**2.54**	**227**	*e*PN	**Pn**	**17 51 05.8**	**+0.3**
MALT	**Malatya**	**2.54**	**227**	*e*Pn	**Pn**	**17 51 05.8**	**+0.3**
MAZI	**Mazidag**	**2.62**	**186**	*e*PN	**Pn**	**17 51 06.6**	**0.0**
MAZI	**Mazidag**	**2.62**	**186**	*e*Pn	**Pn**	**17 51 06.6**	**0.0**
SIRT	**Sirnak**	**2.87**	**153**	*e*PN	**Pn**	**17 51 10.3**	**+0.2**
SIRT	**Sirnak**	**2.87**	**153**	*e*Pn	**Pn**	**17 51 10.3**	**+0.2**
SVSK	**Karacayir**	**2.92**	**268**	*e*PN	**Pn**	**17 51 11.4**	**+0.8**
SVSK	**Karacayir**	**2.92**	**268**	*e*Pn	**Pn**	**17 51 11.4**	**+0.8**
DARE	**Darende-Malaty**	**2.97**	**241**	*e*PN	**Pn**	**17 51 11.9**	**+0.6**
KZR	**Kazreti**	**3.05**	**63**	P	**Pb**	**17 51 16.9**	**-1.8**
KZR	**Kazreti**	**3.05**	**63**	P	**Pb**	**17 51 16.9**	**-1.8**
TBLG	**Delisi**	**3.42**	**60**	P	**Pb**	**17 51 26.2**	**+1.1**
DGRG	**David-gareji**	**3.75**	**67**	P	**Pg**	**17 51 36.0**	**-0.3**
KVT	**Kavak**	**3.75**	**287**	*e*PN	**Pn**	**17 51 23.5**	**+1.4**
KVT	**Kavak**	**3.75**	**287**	*e*Pn	**Pn**	**17 51 23.5**	**+1.4**
BNN	**Bunyan**	**4.01**	**254**	*e*PN	**Pn**	**17 51 26.6**	**+0.8**
BNN	**Bunyan**	**4.01**	**254**	*e*Pn	**Pn**	**17 51 26.6**	**+0.8**

IDC 25 17:59:19.2±1.7, 33.°23N×106.°49E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.3/3, Error ellipse: s-maj=251.5km s-min=26.4km az=54.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**22.85**	**313**	P	P	18 04 23.6	-0.3
	0.3nm,0.7s,baz=110,slow=10,SNR=3.8						
FINES	**FINESS Array B**	**56.95**	**326**	P	P	18 09 06.1	+0.1
	1.2nm,0.9s,baz=98,slow=8.6,SNR=8.3						
WRA	**Warramunga Arr**	**59.18**	**149**	P	P	18 09 22.0	-0.1
	0.4nm,0.8s,baz=342,slow=7.2,SNR=2.3						

IDC 25 18:07:27.9±53.0, 17.°26S×178.°20W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=976.0km s-min=164.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.12**	**241**	P	P	18 14 58.2	+1.0
	3.8nm,1.1s,baz=102,slow=9.3,SNR=2.7						
WRA	**Warramunga Arr**	**44.95**	**259**	P	P	18 15 44.5	-0.5
	0.5nm,0.6s,baz=96,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**45.16**	**254**	P	P	18 15 46.3	-0.5
	1.9nm,0.6s,baz=92,slow=8.3,SNR=31						

MAN 25 18:34:53, 5.°92N×125.°94E, h87km, mb4.4, ML3.3, MS3.1, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.06**	**17**	*e*P	Pn	18 35 15.2	+1.9
MATI				*e*S	Sn	18 35 30.6	+2.1
DMPH	**Davao City--Mi**	**1.23**	**339**	*e*P	Pn	18 35 17.2	+1.9
DMPH				*e*S	Sn	18 35 33.5	+1.5
KCP	**Kidapawan**	**1.37**	**322**	*i* P	Pn	18 35 18.2	+1.1
KCP				*i* S	Sn	18 35 37.6	+2.3
BUKP	**Musuan**	**2.13**	**336**	*e*P	Pn	18 35 28.2	+1.2
CGP	**Cagayan de Oro**	**2.81**	**334**	*e*P	Pn	18 35 38.5	+2.6
CGP				*e*S	Sn	18 36 11.2	+2.4
BUTP	**Butuan**	**3.04**	**354**	*e*P	Pn	18 35 40.4	+1.2
PAGZ	**Pagadian**	**3.18**	**307**	*e*P	Pn	18 35 42.6	+1.6
IPIL	**Ipil**	**3.83**	**299**	*e*P	Pn	18 35 52.8	+3.1

IDC 25 18:36:08.8±3.4, 1.°49S×99.°71E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=150.6km s-min=21.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.50**	**121**	P	P	18 43 32.9	-0.4
	0.4nm,0.6s,baz=302,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**39.78**	**126**	P	P	18 43 44.1	+0.1
	0.2nm,0.5s,baz=306,slow=8.0,SNR=3.7						
SONM	**Songino Array**	**49.47**	**6**	P	P	18 45 01.2	+0.1
	0.1nm,0.4s,baz=178,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**50.47**	**345**	P	P	18 45 08.9	+0.4
	0.3nm,0.6s,baz=146,slow=7.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**56.62**	**350**	P	P	18 45 52.7	-0.8
	0.5nm,0.3s,baz=174,slow=6.3,SNR=3.2						
TXAR	**Lajitas Array**	**144.48**	**37**	PKP	PKPdf	18 55 47.7	-0.5
	0.1nm,0.4s,baz=234,slow=6.2,SNR=2.8						

*JMA **25** 18:40:19.4±0.1, 33.°57N×137.°36E, h379km, M3.0*
*ISCJB **25** 18:40:20.5±0.6, 33.°7N±0.°1×137.°3E±0.°1, h372km±10km, mb2.9/3, Error ellipse: s-maj=23.6km s-min=12.7km az=152.8*
*IDC **25** 18:40:20.2±3.6, 33.°16N×137.°74E, h307km±107km, mb2.9/3, mb1 3.0/5, mb1mx2.7/29, mbtmp2.8/5, Error ellipse: s-maj=151.6km s-min=31.7km az=152.0*
ISC 25 18:40:21.5±1.0, 33.°7N±0.°1×137.°32E±0.°09, h362km±12km, n19, σ1°05/25, mb3.1/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.42**	**60**	P	**Pn**	**18 41 07.5**	**+0.8**
JIE	**Ise**	**0.83**	**322**	P	**Pn**	**18 41 08.3**	**+0.4**
HMMJ	**Hamamatsu 2**	**1.17**	**16**	P	**Pn**	**18 41 09.7**	**+0.5**
JWZ	**Kozaga**	**1.35**	**262**	P	**Pn**	**18 41 09.7**	**-0.5**
JAO	**Obara**	**1.53**	**358**	P	**Pn**	**18 41 11.8**	**+0.8**
JNY	**Yasuok**	**1.68**	**15**	P	**Pn**	**18 41 12.6**	**+0.7**
JGM	**Miyama**	**2.02**	**346**	P	**Pn**	**18 41 14.9**	**+0.8**
JOD2	**Odawara 2**	**2.11**	**43**	P	**Pn**	**18 41 15.1**	**+0.4**
JAI	**Aioi**	**2.39**	**272**	P	**Pn**	**18 41 16.6**	**-0.2**
JRY	**Ryogami san**	**2.62**	**29**	P	**Pn**	**18 41 19.6**	**+1.0**
JRY				*e*S	**S**	**18 42 06.4**	**+1.8**
JHU	**Hanno**	**2.66**	**37**	P	**Pn**	**18 41 19.2**	**+0.4**
JHU				*e*S	**S**	**18 42 03.3**	**-1.8**
BSO4	**Boso 4**	**2.79**	**63**	P	**Pn**	**18 41 19.9**	**+0.1**
BSO4				*e*S	**S**	**18 42 07.4**	**+0.5**
MJAR	**Matsushiro Arr**	**2.89**	**14**	P	**Pn**	**18 41 21.4**	**+0.5**
	0.9nm,0.3s,baz=188,slow=9.9,SNR=16						
MJAR				S	**S**	**18 42 08.3**	**-0.4**
	baz=174,slow=13,SNR=3.0						
MAT	**Matsushiro**	**2.90**	**14**	P	**Pn**	**18 41 21.4**	**+0.6**
MAT				S	**S**	**18 42 08.6**	**-0.1**
JAG	**Ashikaga**	**3.20**	**32**	P	**Pn**	**18 41 23.3**	**-0.2**
JAG				*e*S	**S**	**18 42 10.3**	**-3.3**
JNU	**Nakatsue**	**5.42**	**265**	P	**Pn**	**18 41 46.7**	**+0.4**
	0.3nm,0.3s,baz=90,slow=1.0,SNR=3.3						
FITZ	**Fitzroy Crossi**	**52.74**	**194**	P	**P**	**18 49 00.2**	**-0.3**
	1.5nm,1.0s,baz=14,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**53.45**	**183**	P	**P**	**18 49 05.5**	**-0.2**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**57.17**	**184**	P	**P**	**18 49 32.2**	**+0.3**
	0.1nm,0.4s,baz=357,slow=5.1,SNR=4.6						

*ISK **25** 18:49:54.0, 38.°94N×42.°91E, h6km, MD2.8*
*CSEM **25** 18:49:54.3±0.2, 38.°94N×42.°86E, h10km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.7km az=107.0*
*DDA **25** 18:49:55.1, 38.°99N×42.°80E, h7km, MD2.9*
ISC 25 18:49:54.9±1.0, 38.°96N±0.°02×42.°85E±0.°03, h15km±10km, n24, σ0°97/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUTA	**Tutak**	**0.45**	**356**	*e*P	**Pg**	**18 50 03.4**	**-0.6**
TUTA				*i* S	**Sg**	**18 50 10.7**	**+0.7**
TUTA	**Tutak**	**0.45**	**356**	*e*P	**Pg**	**18 50 03.4**	**-0.6**
TUTA				*i* S	**Sg**	**18 50 10.7**	**+0.7**
AGRB	**Hanur-Agry**	**0.63**	**10**	*e*PG	**Pg**	**18 50 06.4**	**-0.9**
AGRB				*e*SG	**Sg**	**18 50 16.1**	**+0.4**
AGRB	**Hanur-Agry**	**0.63**	**10**	*e*Pg	**Pg**	**18 50 06.4**	**-0.9**
AGRB				*e*Sg	**Sg**	**18 50 16.1**	**+0.4**
TATV	**Tatvan**	**0.64**	**226**	*e*P	**Pg**	**18 50 06.9**	**-0.6**
TATV				*i* S	**Sb**	**18 50 17.0**	**+0.2**
TATV	**Tatvan**	**0.64**	**226**	*e*P	**Pg**	**18 50 06.9**	**-0.6**
TATV				*i* S	**Sb**	**18 50 17.0**	**+0.2**
GEVA	**Gevas**	**0.66**	**166**	*e*P	**Pg**	**18 50 06.3**	**-1.7**
GEVA				*i* S	**Sn**	**18 50 19.3**	**-1.0**
GEVA	**Gevas**	**0.66**	**166**	*e*P	**Pg**	**18 50 06.3**	**-1.7**
CLDR	**Caldiran**	**0.85**	**77**	*e*PG	**Pg**	**18 50 09.9**	**-1.6**
CLDR	**Caldiran**	**0.85**	**77**	*e*Pg	**Pg**	**18 50 09.9**	**-1.6**
DYDN	**Diyadin**	**0.88**	**48**	*e*P	**Pb**	**18 50 12.5**	**+0.4**
DYDN				*i* S	**Sb**	**18 50 24.1**	**+0.4**
DYDN	**Diyadin**	**0.88**	**48**	*e*P	**Pb**	**18 50 12.5**	**+0.4**
DYDN				*i* S	**Sb**	**18 50 24.1**	**+0.4**
ERZM	**Erzurum**	**1.49**	**310**	*e*P	**Pn**	**18 50 21.9**	**+0.4**
ERZM	**Erzurum**	**1.49**	**310**	*e*P	**Pn**	**18 50 21.9**	**+0.4**
EZM	**Erzurum**	**1.49**	**310**	*e*PN	**Pb**	**18 50 22.6**	**+0.1**
EZM				*e*SN	**Sg**	**18 50 43.4**	**+0.3**
HAKT	**HAKKARI**	**1.55**	**154**	*e*P	**Pn**	**18 50 22.7**	**+0.4**
HAKT				*i* S	**Sg**	**18 50 48.2**	**+3.2**
HAKT	**HAKKARI**	**1.55**	**154**	*e*P	**Pn**	**18 50 22.7**	**+0.4**
BEST	**Besiri**	**1.63**	**230**	*e*P	**Pb**	**18 50 24.8**	**-0.1**
BEST				*i* S	**Sg**	**18 50 48.7**	**+1.2**
BNGB	**Bing¯¶l**	**1.69**	**272**	*e*PN	**Pb**	**18 50 25.7**	**-0.2**
CUKT	**Cukurca**	**1.81**	**160**	*e*PN	**Pn**	**18 50 26.1**	**+0.4**
CUKT	**Cukurca**	**1.81**	**160**	*e*Pn	**Pn**	**18 50 26.1**	**+0.4**
BINT	**Bingol**	**1.84**	**268**	*e*Pn	**Pn**	**18 50 25.7**	**-0.5**
GNI	**Garni**	**1.89**	**50**	*e*PN	**Pn**	**18 50 27.2**	**+0.3**
GNI	**Garni**	**1.89**	**50**	*e*Pn	**Pn**	**18 50 27.2**	**+0.3**

*ISCJB **25** 18:55:27.0±0.7, 33.°14N±0.°06×138.°5E±0.°1, h300km, mb3.5/9, Error ellipse: s-maj=15.1km s-min=7.9km az=15.3*
*JMA **25** 18:55:26.2±0.2, 33.°18N×138.°52E, h321km, M3.4*
*IDC **25** 18:55:28.1±1.6, 33.°20N×138.°50E, h298km±17km, mb3.3/9, mb1 3.3/12, mb1mx3.2/29, mbtmp3.2/12, Error ellipse: s-maj=31.0km s-min=11.4km az=76.0*
ISC 25 18:55:28.2±1.0, 33.°25N±0.°09×138.°5E±0.°1, h300km, n23, σ0°96/27, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.93**	**319**	P	**Pn**	**18 56 08.8**	**+0.9**
JOD2	**Odawara 2**	**2.07**	**14**	P	**Pn**	**18 56 16.2**	**+0.7**
JOD2				*e*S	**S**	**18 56 55.6**	**+2.4**
JYN	**Shimob**	**2.25**	**1**	P	**Pn**	**18 56 18.3**	**+1.3**
JWY	**Kouya**	**2.60**	**293**	P	**Pn**	**18 56 20.0**	**-0.2**
JRY	**Ryogami san**	**2.79**	**7**	P	**Pn**	**18 56 22.8**	**+1.0**
JRY				*e*S	**S**	**18 57 04.5**	**-0.1**
JGM	**Miyama**	**2.85**	**330**	P	**Pn**	**18 56 22.9**	**+0.4**
JWT	**Wachi**	**3.27**	**309**	P	**Pn**	**18 56 26.4**	**-0.2**
JAG	**Ashikaga**	**3.27**	**14**	P	**Pn**	**18 56 26.0**	**-0.6**
JAG				*e*S	**S**	**18 57 11.3**	**-1.9**
MJAR	**Matsushiro Arr**	**3.30**	**356**	P	**Pn**	**18 56 27.2**	**+0.4**
	5.3nm,0.3s,baz=174,slow=12,SNR=114						
MAT	**Matsushiro**	**3.30**	**356**	P	**Pn**	**18 56 27.4**	**+0.6**
MAT				*e*S	**S**	**18 57 14.7**	**+0.9**
MAT	**Matsushiro**	**3.30**	**356**	P	**Pn**	**18 56 27.5**	**+0.6**
KSRS	**Korea Array**	**9.60**	**299**	P	**Pn**	**18 57 41.5**	**+0.3**
	0.3nm,0.3s,baz=111,slow=13,SNR=9.6						
ASAJ	**Asahikawa**	**11.32**	**15**	P	**P**	**18 58 02.2**	**-2.2**
	0.4nm,0.3s,baz=261,slow=20,SNR=7.3						
SONM	**Songino Array**	**28.17**	**311**	P	**P**	**19 00 53.9**	**+0.4**
	1.1nm,0.6s,baz=114,slow=8.7,SNR=12						
ZALV	**Zalesovo Beam**	**42.81**	**316**	P	**P**	**19 02 57.1**	**+0.2**
	0.7nm,0.5s,baz=87,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**44.21**	**305**	P	**P**	**19 03 08.2**	**0.0**
	0.5nm,0.3s,baz=86,slow=9.6,SNR=15						
FITZ	**Fitzroy Crossi**	**52.51**	**195**	P	**P**	**19 04 11.1**	**-0.1**
	1.1nm,0.8s,baz=16,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**53.04**	**185**	P	**P**	**19 04 14.4**	**-0.7**
	1.0nm,0.3s,baz=0.1,slow=7.6,SNR=43						
ASAR	**Alice Springs**	**56.76**	**185**	P	**P**	**19 04 41.4**	**-0.2**
	0.6nm,0.5s,baz=18,slow=11,SNR=16						
ARCES	**ARCESS Array B**	**66.69**	**339**	P	**P**	**19 05 47.3**	**+0.5**
	1.9nm,0.8s,baz=65,slow=6.4,SNR=3.1						
FINES	**FINESS Array B**	**71.03**	**332**	P	**P**	**19 06 14.0**	**+0.5**
	0.9nm,0.6s,baz=92,slow=4.6,SNR=9.1						
NB2	**NORSAR Subarra**	**76.72**	**337**	P	**P**	**19 06 47.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=45,slow=5.9						
NOA	**NORSAR Array B**	**76.72**	**337**	P	**P**	**19 06 46.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=44,slow=5.6,SNR=4.2						

*MAN **25** 19:05:15, 5.°64N×125.°88E, h102km, mb4.3, ML3.1, MS2.9*
*IDC **25** 19:05:22.0±4.1, 6.°00N×125.°75E, h201km±40km, mb3.5/16, mb1 3.6/17, mb1mx3.5/30, mbtmp3.5/17, Error ellipse: s-maj=24.9km s-min=9.6km az=80.0*
ISC 25 19:05:14.3±0.6, 5.°87N±0.°08×125.°9E±0.°1, h127km, n27, σ2°44/27, mb3.9/17, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.12**	**17**	*e*P	**Pn**	**19 05 40.6**	**+2.5**
MATI				*e*S	**Sn**	**19 05 60.0**	**+3.8**
DMPH	**Davao City--Mi**	**1.28**	**341**	*e*P	Pn	19 05 43.6	+3.8
DMPH				*e*S	**Sn**	**19 06 00.1**	**+0.9**
BUKP	**Musuan**	**2.18**	**337**	*e*P	**Pn**	**19 05 53.5**	**+3.1**
CGP	**Cagayan de Oro**	**2.85**	**334**	*e*P	Pn	19 06 04.2	+5.4
CGP				*e*S	**Sn**	**19 06 38.7**	**+5.5**
BUTP	**Butuan**	**3.10**	**354**	*e*P	Pn	19 06 06.1	+4.0
PAGZ	**Pagadian**	**3.21**	**308**	*e*P	**Pn**	**19 06 06.7**	**+3.1**
IPIL	**Ipil**	**3.85**	**300**	*e*P	Pn	19 06 15.4	+3.4
BATI	**Baumata**	**16.13**	**188**	P	P	19 08 59.1	+4.3
	4.0nm,0.3s,baz=154,slow=3.3,SNR=8.8						
FITZ	**Fitzroy Crossi**	**23.82**	**181**	P	**P**	**19 10 18.4**	**+2.7**
	1.4nm,0.5s,baz=356,slow=6.4,SNR=13						
WRA	**Warramunga Arr**	**26.95**	**162**	P	**P**	**19 10 45.9**	**+1.8**
	0.4nm,0.3s,baz=333,slow=11,SNR=9.8						
JNU	**Nakatsue**	**27.50**	**9**	P	**P**	**19 10 48.9**	**0.0**
	5.4nm,0.9s,baz=230,slow=7.9,SNR=3.4						
ASAR	**Alice Springs**	**30.37**	**165**	P	**P**	**19 11 16.6**	**+2.3**
	1.3nm,0.5s,baz=337,slow=7.0,SNR=23						
ASAR				PcP	**PcP**	**19 14 11.3**	**-0.1**
	0.3nm,0.5s,baz=345,slow=2.5,SNR=6.4						
KSRS	**Korea Array**	**31.49**	**3**	P	**P**	**19 11 23.1**	**-1.0**
	0.7nm,0.8s,baz=185,slow=9.3,SNR=4.3						
STKA	**Stephens Creek**	**40.40**	**159**	P	**P**	**19 12 42.4**	**+2.4**
	2.6nm,0.7s,baz=252,slow=21,SNR=5.5						
ASAJ	**Asahikawa**	**40.81**	**18**	P	**P**	**19 12 44.0**	**+0.8**
	3.1nm,0.8s,baz=268,slow=14,SNR=5.1						
SONM	**Songino Array**	**45.03**	**341**	P	**P**	**19 13 15.9**	**-1.4**
	0.2nm,0.4s,baz=142,slow=7.3,SNR=3.4						
SONM				PcP	**PcP**	**19 14 54.8**	**-1.4**
	0.4nm,0.8s,baz=163,slow=4.1,SNR=3.7						
PETK	**Petropavlovsk-**	**53.77**	**23**	P	**P**	**19 14 23.5**	**0.0**
	2.0nm,0.7s,baz=199,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**55.36**	**325**	P	**P**	**19 14 33.8**	**-1.3**
	1.1nm,0.5s,baz=118,slow=7.8,SNR=38						
ZALV	**Zalesovo Beam**	**58.34**	**333**	P	**P**	**19 14 53.8**	**-2.1**
	0.2nm,0.3s,baz=118,slow=6.4,SNR=2.2						
KURBB	**Kurchatov Arra**	**59.52**	**327**	P	**P**	**19 15 02.7**	**-1.4**
	1.0nm,0.6s,baz=130,slow=6.6,SNR=18						
BVAR	**Borovoye Array**	**65.11**	**327**	P	**P**	**19 15 39.8**	**-1.5**
	0.6nm,0.5s,baz=135,slow=8.1,SNR=5.3						
AKTO	**Aktyubinsk**	**71.50**	**321**	P	**P**	**19 16 19.6**	**-1.6**
	1.6nm,0.6s,baz=96,slow=11,SNR=8.2						
ILAR	**Eielson Array**	**83.53**	**26**	P	**P**	**19 17 26.4**	**-1.4**
	0.8nm,0.7s,baz=258,slow=4.5,SNR=

IDC 25 19:51:50.5±14.0, **17°61'S×178°11'W, h334**km±145km, **mb3.3**/8, **mb1 3.5**/8, **mb1mx3.3**/20, **mbtmp3.3**/8, **Error ellipse: s-maj=53.1km s-min=35.0km az=130.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.02**	**241**	P	P	19 58 46.9	+0.9
	1.1nm,0.6s,baz=95,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**44.97**	**259**	P	P	19 59 32.9	-0.9
	0.5nm,0.5s,baz=96,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**45.15**	**254**	P	P	19 59 35.2	0.0
	4.1nm,0.5s,baz=89,slow=8.2,SNR=112						
FITZ	**Fitzroy Crossi**	**53.36**	**260**	P	P	20 00 36.5	-0.4
	0.8nm,0.6s,baz=114,slow=10.0,SNR=5.6						
MJAR	**Matsushiro Arr**	**67.83**	**323**	P	P	20 02 13.8	+0.3
	1.9nm,0.7s,baz=147,slow=6.0,SNR=7.0						
PETK	**Petropavlovsk-**	**73.46**	**345**	P	P	20 02 47.0	+0.3
	1.4nm,0.6s,baz=146,slow=10,SNR=3.3						
NVAR	**Mina Array Bea**	**79.01**	**44**	P	P	20 03 18.6	+0.2
	0.2nm,0.3s,baz=212,slow=8.1,SNR=3.7						
ILAR	**Eielson Array**	**85.53**	**13**	P	P	20 03 49.9	-1.2
	0.2nm,0.4s,baz=233,slow=5.2,SNR=7.5						
GERES	**GERESS Array B**	**147.39**	**345**	PKPbc	PKPbc	20 10 54.9	-0.4
	0.2nm,0.5s,baz=354,slow=4.0,SNR=3.2						

*IDC **25** 19:59:15.2±0.9, 0°87N×122°47E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=59.2km s-min=16.1km az=70.0*

*DJA **25** 19:59:20.3±0.4, 1°N±5°×12°5E±°, h10km, M5.2/5, mb5.2/5, mB5.7/4, MLv5.1/5, Mw(mB)5.2/4, Mwp6.0/1*

ISC 25 19:59:16.3±0.8, 0°93N±0°09×122°8E±0°2, h10km**, n14,** σ**1**§**43**/10, **mb3.8**/6, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.96**	**179**	P	Sn	20 00 04.4	-10
SGKI	**Sangatta, Kali**	**5.34**	**254**	P	Sn	20 01 16.8	-21
MYLDM	**Lahad Datu**	**5.98**	**315**	P	Pg	20 01 16.4	+5.4
	41nm,0.9s,1μm0.5nm						
BBSI	**Bau Bau**	**6.38**	**182**	P	Pb	20 00 59.2	-8.2
	44nm,0.8s,0.1nm						
KAPI	**Kappang**	**6.62**	**207**	Pn	**Pn**	**20 00 51.8**	**-1.9**
	1.2nm,0.3s,baz=357,slow=6.0,SNR=6.6						
DAV	**Davao City (W)**	**6.72**	**25**	P	**Pn**	**20 00 53.8**	**-1.3**
	443nm,0.5s,6μm2.0nm						
FITZ	**Fitzroy Crossi**	**19.13**	**172**	P	**Pn**	**20 03 39.9**	**-0.6**
	0.8nm,0.3s,baz=357,slow=9.8,SNR=43						
PDSI	**Padang**	**22.36**	**265**	P	**PnPn**	**20 04 39.7**	**+2.1**
WRA	**Warramunga Arr**	**23.65**	**152**	P	**P**	**20 04 29.2**	**+1.1**
	0.8nm,0.6s,baz=327,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.75**	**157**	P	**P**	**20 04 57.0**	**+0.7**
	0.3nm,0.4s,baz=336,slow=9.6,SNR=8.4						
STKA	**Stephens Creek**	**37.20**	**153**	P	**P**	**20 06 29.0**	**+1.1**
	4.9nm,1.2s,baz=339,slow=14,SNR=3.6						
SONM	**Songino Array**	**48.83**	**345**	P	**P**	**20 08 03.0**	**+1.0**
	0.3nm,0.5s,baz=163,slow=9.6,SNR=5.9						
MKAR	**Makanchi Array**	**57.70**	**328**	P	**P**	**20 09 06.8**	**-0.4**
	0.6nm,0.3s,baz=128,slow=8.8,SNR=22						
ZALV	**Zalesovo Beam**	**61.37**	**336**	P	**P**	**20 09 32.1**	**-0.1**
	0.5nm,0.4s,baz=122,slow=7.9,SNR=4.0						

*IDC **25** 20:07:28.7±0.4, 1°50S×99°52E, h0km, mb4.4/28, mb1 4.5/30, mb1mx4.4/35, mbtmp4.4/30, ML4.0/2, MS3.4/3, Ms1 3.5/3, ms1mx2.9/38, Error ellipse: s-maj=16.6km s-min=8.4km az=50.0*

*NEIC **25** 20:07:30.3±0.2, 1°52S×99°42E, h10km, mb4.7/14, Error ellipse: s-maj=6.4km s-min=4.0km az=68.0*

*ISCJB **25** 20:07:31.5±0.3, 1°49S±0°03×99°36E±0°04, h30km, mb4.5/41, MS4.0/2, Error ellipse: s-maj=5.8km s-min=4.2km az=138.2*

*DJA **25** 20:07:36.2±0.4, 2°S±3°×10°0E±°, h13km, M4.8/16, mb5.0/11, mB5.3/7, MLv4.9/16, Mw(mB)4.7/7*

*BJI **25** 20:07:36.8, 1°60S×99°30E, h80km, mB5.0/7, mb4.8/13, Ms4.4/4, Ms7 4.1/3*

ISC 25 20:07:33.4±0.3, 1°47S±0°05×99°42E±0°05, h30km**, n135,** σ**1**§**00**/134, **mb4.6**/41, **2C, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.18**	**62**	P	**Pn**	**20 07 53.2**	**-0.6**
PDSI				S	**Sn**	**20 08 06.8**	**-2.1**
PPI	**Padang Panjang**	**1.40**	**44**	P	**Pn**	**20 07 57.0**	**+0.1**
KRJI	**Kerinci**	**2.13**	**107**	P	**Pn**	**20 08 07.7**	**+0.7**
BKNI	**Bangkinang**	**2.41**	**42**	P	**Pb**	**20 08 14.3**	**-1.7**
RGRI	**Rengat**	**3.12**	**69**	P	Pb	20 08 24.8	-3.3
MASI	**Maura Aman, Be**	**3.27**	**121**	P	**Pn**	**20 08 24.5**	**+1.9**
KSI	**Kapahiang**	**3.84**	**124**	P	**Pn**	**20 08 32.1**	**+1.6**
PSI	**Prapat**	**4.27**	**353**	Pn	**Pn**	**20 08 35.5**	**-1.0**
PSI	**Prapat**	**4.27**	**353**	Pn	**Pn**	**20 08 35.5**	**-1.0**
	2.9nm,0.3s,baz=186,slow=9.2,SNR=5.6						
PSI				LR	LR	20 10 31.2	
	comp=Z,507nm,19.5s,baz=164,slow=43						
MNAI	**Manna**	**4.55**	**129**	P	**Pn**	**20 08 40.5**	**+0.3**
EGSI	**Enggano, Bengk**	**4.80**	**144**	P	**Pn**	**20 08 43.1**	**-0.5**
SNSI	**Sinabang, Aceh**	**4.94**	**321**	P	Pb	20 08 53.3	-5.9
	87nm,1.3s,0.4nm						
TSI	**Tuntungan**	**5.01**	**350**	P	Pn	20 08 53.5	+6.9
	154nm,0.9s,2μm0.8nm						
FRIM	**Kepong**	**5.17**	**25**	P	**Pn**	**20 08 50.7**	**+2.0**
KGM	**Kluang**	**5.21**	**48**	P	Pn	20 08 53.1	+3.7
KCSI	**Kotacane, Aceh**	**5.22**	**342**	P	Pn	20 08 55.8	+6.3
	63nm,0.7s,1μm0.6nm						
MYKOM	**Kota Tinggi**	**5.48**	**54**	P	Pn	20 08 58.3	+5.3
MYKOM	**Kota Tinggi**	**5.48**	**54**	P	**Pn**	**20 08 56.1**	**+3.0**
	62nm,0.8s,1μm0.8nm						
LWLI	**Liwa**	**5.82**	**127**	P	**Pn**	**20 08 58.8**	**+1.0**
	369nm,0.7s,6μm2.2nm						
IPM	**Ipoh**	**6.12**	**15**	*e*Pn	**Pn**	**20 09 03.8**	**+1.9**
	80nm,0.9s						
IPM	**Ipoh**	**6.12**	**15**	P	Pn	20 09 05.1	+3.2
IPM	**Ipoh**	**6.12**	**15**	P	Pn	20 09 05.9	+4.0
	83nm,1.0s,0.3nm						
KASI	**Kota Agung**	**6.47**	**129**	P	**Pn**	**20 09 08.2**	**+1.6**
	125nm,0.6s,3μm0.9nm						
KULM	**Kulim**	**6.82**	**10**	*e*Pn	**Pn**	**20 09 12.1**	**+0.6**
	26nm,0.7s						
KULM	**Kulim**	**6.82**	**10**	P	Pn	20 09 15.0	+3.5
KULM	**Kulim**	**6.82**	**10**	P	**Pn**	**20 09 14.6**	**+3.1**
	39nm,1.2s,1μm0.3nm						
KTGM	**Kuala Trenggan**	**7.70**	**29**	P	**Pn**	**20 09 25.9**	**+2.3**
LEM	**Lembang**	**9.75**	**123**	P	**Pn**	**20 09 54.4**	**+2.6**
	72nm,0.9s						
CISI	**Cisompet, Garu**	**10.32**	**126**	P	**Pn**	**20 09 57.5**	**-2.0**
KSM	**Kuching**	**11.27**	**75**	P	Pn	20 10 15.7	+3.2
SBUM	**Sibu**	**13.37**	**73**	P	**Pn**	**20 10 43.2**	**+2.0**
KKM	**Kota Kinabalu**	**18.35**	**66**	P	**P**	**20 11 45.4**	**-0.4**
	28nm,1.0s						
CM31	**Chiang Mai Arr**	**19.81**	**359**	*e*P	**P**	**20 12 02.3**	**+0.7**
	2.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**19.81**	**359**	P	**P**	**20 12 01.5**	**-0.1**
CMAR				PcP	**PcP**	**20 16 20.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**19.81**	**359**	P	**P**	**20 12 01.5**	**-0.1**
	0.4nm,0.3s,baz=189,slow=9.9,SNR=12						
CMAR				PcP	**PcP**	**20 16 20.7**	**+1.6**
	0.1nm,0.3s,baz=227,slow=3.2,SNR=6.4						
CMAR				LR	LR	20 20 08.5	
	comp=Z,99nm,20.1s,baz=165,slow=38						
CHTO	**Chiang Mai**	**20.16**	**359**	*e*P	**P**	**20 12 05.7**	**+0.2**
	11nm,1.1s						
MYLDM	**Lahad Datu**	**20.17**	**71**	P	Pn	20 12 16.4	+8.8
KAPI	**Kappang**	**20.60**	**100**	P	**P**	**20 12 08.9**	**-1.3**
KAPI	**Kappang**	**20.60**	**100**	P	**P**	**20 12 08.9**	**-1.3**
	18nm,1.0s,baz=282,slow=9.5,SNR=6.2						
MBWA	**Marble Bar**	**27.84**	**136**	P	**P**	**20 13 20.0**	**-0.4**
	16nm,1.2s						
SHL	**Shillong**	**27.85**	**345**	*e*P	**P**	**20 13 22.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**20 13 44.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**30.59**	**124**	P	**P**	**20 13 44.2**	**-0.6**
	10nm,0.8s,baz=294,slow=4.9,SNR=18						
LSA	**Lhasa**	**31.99**	**346**	P	**P**	**20 13 56.3**	**-1.3**
LSA	**Lhasa**	**31.99**	**346**	*e*P	**P**	**20 13 58.1**	**+0.5**
	17nm,0.9s						
LSA				*e*		20 14 06.3	
ENH	**Enshi**	**32.99**	**16**	P	P	20 13 56.6	-9.2
	10nm,1.0s						
YHNB	**Yeheng**	**33.59**	**38**	P	**P**	**20 14 11.4**	**+0.1**
	6.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.49**	**154**	P	**P**	**20 14 27.0**	**-0.5**
NWAO	**Narrogin (SRO)**	**35.49**	**154**	P	**P**	**20 14 27.0**	**-0.5**
	5.9nm,0.8s,baz=328,slow=19,SNR=4.6						
XAN	**Xi'an**	**36.43**	**13**	P	**P**	**20 14 37.0**	**+1.4**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,13nm,4.8s						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**20 14 54.9**	**-0.6**
WRA				PcP	**PcP**	**20 17 07.5**	**+0.7**
WRA				S	**S**	**20 20 49.8**	**-1.3**
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**20 14 54.9**	**-0.6**
	comp=Z,16nm,0.8s,baz=301,slow=9.0,SNR=107						
WRA				PcP	**PcP**	**20 17 07.5**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=312,slow=2.5,SNR=8.9						
WRA				S	**S**	**20 20 49.8**	**-1.3**
	comp=Z,1.0nm,1.0s,baz=295,slow=16,SNR=3.7						
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**20 15 06.0**	**-0.1**
ASAR				PcP	**PcP**	**20 17 11.8**	**+1.0**
ASAR				S	**S**	**20 21 09.6**	**-0.6**
ASAR	**Alice Springs**	**40.03**	**126**	P	**P**	**20 15 06.0**	**-0.1**
	comp=Z,5.2nm,0.9s,baz=302,slow=7.6,SNR=45						
ASAR				PcP	**PcP**	**20 17 11.8**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=309,slow=3.3,SNR=8.9						
ASAR				S	**S**	**20 21 09.6**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=296,slow=15,SNR=6.6						
AS31	**Alice Springs**	**40.03**	**126**	*e*P	**P**	**20 15 05.5**	**-0.5**
JNU	**Nakatsue**	**45.43**	**38**	P	**P**	**20 15 49.3**	**-0.4**
JNU	**Nakatsue**	**45.43**	**38**	P	**P**	**20 15 49.3**	**-0.4**
	comp=Z,6.6nm,0.9s,baz=274,slow=7.3,SNR=4.0						
WMQ	**Urumqi**	**46.30**	**348**	P	**P**	**20 15 58.0**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,30nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,82nm,4.0s						
WMQ				LR	LR		
	comp=N,39nm,19.0s						
WMQ				LR	LR		
	comp=E,52nm,26.0s						
WMQ				LR	LR		
	comp=Z,400nm,21.0s						
KSAR	**Wonju Array Be**	**46.84**	**31**	P	**P**	**20 15 59.9**	**-0.8**
KSRS	**Korea Array**	**46.86**	**31**	P	**P**	**20 15 59.9**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=226,slow=8.4,SNR=4.3						
TKM2	**Tokmak 2**	**49.12**	**337**	*e*P	**P**	**20 16 18.6**	**+0.1**
	comp=Z,13nm,0.8s						
TKM2				*e*		20 16 27.2	
AAK	**Ala-Archa**	**49.32**	**336**	P	**P**	**20 16 20.1**	**+0.1**
AAK				*e*		20 16 28.6	
AAK	**Ala-Archa**	**49.32**	**336**	P	**P**	**20 16 20.1**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=165,slow=5.0,SNR=4.9						
CTA	**Charters Tower**	**49.34**	**115**	P	**P**	**20 16 20.3**	**-0.1**
CTA	**Charters Tower**	**49.34**	**115**	P	**P**	**20 16 20.3**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=282,slow=10,SNR=11						
CTAO	**Charters Tower**	**49.34**	**115**	*e*P	**P**	**20 16 19.8**	**-0.6**
	comp=Z,6.8nm,0.7s						
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**20 16 21.8**	**+0.7**
SONM				PcP	**PcP**	**20 17 43.4**	**+0.6**
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**20 16 21.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=191,slow=9.1,SNR=11						
SONM				PcP	**PcP**	**20 17 43.4**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=185,slow=4.3,SNR=9.2						
ULN	**Ulaanbaatar**	**49.58**	**7**	*e*P	**P**	**20 16 22.7**	**+0.8**
	comp=Z,3.3nm,0.8s						
ULN				*e*		20 16 29.7	
EKS2	**Erkin-Say**	**49.64**	**335**	*e*P	**P**	**20 16 23.3**	**+0.9**
	comp=Z,11nm,0.7s						
EKS2				*e*		20 16 31.4	
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**20 16 25.2**	**+0.5**
STKA	**Stephens Creek**	**49.93**	**132**	P	**P**	**20 16 25.2**	**+0.5**
	comp=Z,12nm,0.7s,baz=312,slow=7.6,SNR=25						
MK31	**Makanchi Array**	**50.37**	**345**	*e*P	**P**	**20 16 28.2**	**+0.5**
MK31				*e*		20 16 36.2	
MKAR	**Makanchi Array**	**50.37**	**345**	P	**P**	**20 16 28.1**	**+0.4**
MKAR	**Makanchi Array**	**50.37**	**345**	P	**P**	**20 16 28.1**	**+0.4**
	comp=Z,9.3nm,0.6s,baz=148,slow=8.1,SNR=57						
USRK	**Ussuriysk Arra**	**53.97**	**29**	P	**P**	**20 16 54.5**	**0.0**
	comp=Z,2.4nm,0.7s,baz=231,slow=5.2,SNR=5.9						
KURBB	**Kurchatov Arra**	**54.88**	**344**	P	**P**	**20 17 01.1**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=165,slow=7.0,SNR=23						
KURK	**Kurchatov**	**54.94**	**344**	P	**P**	**20 17 01.1**	**-0.3**
ZAA0	**Zalesovo Array**	**56.55**	**350**	*e*P	**P**	**20 17 12.6**	**-0.2**
ZAA0				*e*		20 17 20.9	
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**20 17 13.1**	**+0.2**
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**20 17 13.1**	**+0.2**
	comp=Z,12nm,0.8s,baz=177,slow=5.6,SNR=59						
NAY	**Al-Naaiem**	**58.45**	**306**	*e*P	**P**	**20 17 26.1**	**-0.7**
NAY				AMb	AMB	20 17 27.9	
	comp=Z,0.5nm,0.9s						
MIB	**Mutribah**	**58.58**	**307**	*e*P	**P**	**20 17 26.8**	**-0.9**
MIB				AMb	AMB	20 17 28.8	
	comp=Z,27nm,0.9s						
RST	**Umm Al-Ruwaisa**	**58.74**	**306**	*e*P	**P**	**20 17 28.0**	**-0.9**
BVAR	**Borovoye Array**	**59.49**	**340**	P	**P**	**20 17 33.1**	**-0.4**
BVAR	**Borovoye Array**	**59.49**	**340**	P	**P**	**20 17 33.1**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=140,slow=7.8,SNR=15						
ABKAR	**Akbulak array**	**60.90**	**332**	*e*P	**P**	**20 17 42.1**	**-1.2**
	comp=Z,8.0nm,0.8s						
ABKAR				*e*		20 17 50.5	
KMBO	**Kilima Mbogo**	**62.15**	**270**	*e*P	**P**	**20 17 53.6**	**+0.8**
	comp=Z,3.5nm,0.8s						
KMBO	**Kilima Mbogo**	**62.15**	**270**	P	**P**	**20 17 53.9**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=64,slow=9.4,SNR=5.7						
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**20 18 27.3**	**+0.4**
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**20 18 27.3**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=180,slow=7.1,SNR=14						
EIL	**Elat**	**68.75**	**303**	P	**P**	**20 18 35.5**	**+0.6**
EIL	**Elat**	**68.75**	**303**	P	**P**	**20 18 35.5**	**+0.6**
	comp=Z,6.2nm,0.8s,baz=51,slow=6.5,SNR=6.7						
MAW	**Mawson**	**70.66**	**194**	P	**P**	**20 18 45.8**	**0.0**
MAW	**Mawson**	**70.66**	**194**	P	**P**	**20 18 45.8**	**0.0**
	comp=Z,3.1nm,0.8s,baz=10,slow=9.9,SNR=4.7						
BRTR	**Keskin Array B**	**72.54**	**312**	P	**P**	**20 18 56.9**	**-1.0**
BRTR	**Keskin Array B**	**72.54**	**312**	P	**P**	**20 18 56.9**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=118,slow=6.7,SNR=11						
BOSA	**Boshof**	**75.41**	**241**	P	**P**	**20 19 15.7**	**+0.7**
AKASG	**Malin Array Be**	**78.71**	**322**	P	**P**	**20 19 32.2**	**-0.6**
AKASG	**Malin Array Be**	**78.71**	**322**	P	**P**	**20 19 32.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=101,slow=4.0,SNR=4.2						
MLR	**Muntele Rosu**	**79.52**	**317**	‖*i*P	**P**	**20 19 35.3**	**-2.3**
VTS	**Vitosha**	**80.87**	**313**	‖*i*P	**P**	**20 19 44.8**	**-0.1**
KOLS	**Kolonicke sedl**	**82.68**	**320**	*e*P	**P**	**20 19 55.5**	**+1.3**
VNDA	**Vanda**	**82.79**	**169**	P	**P**	**20 19 54.4**	**+0.2**
VNDA	**Vanda**	**82.79**	**169**	P	**P**	**20 19 54.4**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=289,slow=4.4,SNR=6.8						
FINES	**FINESS Array B**	**83.38**	**332**	P	**P**	**20 19 57.8**	**+0.3**
FINES	**FINESS Array B**	**83.38**	**332**	P	**P**	**20 19 57.8**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=112,slow=5.2,SNR=12						
SBA	**Scott Base**	**83.89**	**169**	*e*P	**P**	**20 20 01.4**	**+1.6**
	comp=Z,4.8nm,0.8s						
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**20 20 21.6**	**-0.6**
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**20 20 21.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=92,slow=4.0,SNR=9.6						
QSPA	**South Pole Qui**	**88.49**	**180**	P	**P**	**20 20 22.4**	**-0.4**
QSPA	**South Pole Qui**	**88.49**	**180**	P	**P**	**20 20 22.4**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=313,slow=2.4,SNR=12						
CLL	**Collm**	**88.89**	**321**	*e*P	**P**	**20 20 25.0**	**+0.1**
	comp=Z,7.0nm,1.2s						
KEST	**Kesra**	**90.91**	**306**	P	**P**	**20 20 35.0**	**+0.2**
KEST	**Kesra**	**90.91**	**306**	P	**P**	**20 20 35.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=102,slow=8.2,SNR=4.3						
KEST				LR	LR	21 01 24.2	
	comp=Z,23nm,18.9s,baz=236,slow=36						
TORD	**Torodi Ar. Bea**	**97.86**	**283**	P	**P**	**20 21 06.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**97.86**	**283**	P	**P**	**20 21 06.2**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=74,slow=6.2,SNR=2.6						
NVAR	**Mina Array Bea**	**129.55**	**39**	PKP	**PKPdf**	**20 26 41.7**	**+1.6**
NVAR	**Mina Array Bea**	**129.55**	**39**	PKP	**PKPdf**	**20 26 41.7**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=294,slow=1.3,SNR=4.1						
PDAR	**Pinedale Array**	**131.39**	**28**	PKP	**PKPdf**	**20 26 43.5**	**0.0**
PDAR	**Pinedale Array**	**131.39**	**28**	PKP	**PKPdf**	**20 26 43.5**	**0.0**
	comp=Z,0.6nm,0.8s,baz=236,slow=1.0,SNR=3.3						
CPUP	**Villa Florida**	**144.40**	**217**	PKP	PKPbc	20 27 06.5	+0.7
CPUP	**Villa Florida**	**144.40**	**217**	PKP	PKPbc	20 27 06.5	+0.7
	comp=Z,7.8nm,0.8s,baz=112,slow=2.0,SNR=20						
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	**PKPdf**	**20 27 07.7**	**-0.3**
TXAR	**Lajitas Array**	**144.62**	**36**	PKP	**PKPdf**	**20 27 07.7**	**-0.3**
	comp=Z,8.7nm,0.6s,baz=265,slow=1.3,SNR=96						
MIAR	**Mount Ida**	**144.93**	**19**	*e*PKPdf	**PKPab**	**20 27 07.6**	**+0.3**
MIAR				*e*		20 27 15.9	
CFAA	**Coronel Fontan**	**145.08**	**199**	PKPbc	**PKPdf**	**20 27 09.1**	**+0.4**
CFAA	**Coronel Fontan**	**145.08**	**199**	PKPbc	**PKPdf**	**20 27 09.1**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=169,slow=3.0,SNR=28						
TKL	**Tuckaleechee C**	**145.85**	**5**	PKPbc	**PKPbc**	**20 27 10.4**	**+0.1**
TKL	**Tuckaleechee C**	**145.85**	**5**	PKPbc	**PKPbc**	**20 27 10.4**	**+0.1**
	comp=Z,7.4nm,0.7s,baz=90,slow=3.0,SNR=5.4						
JCT	**Junction City**	**145.87**	**30**	*e*PKPdf	**PKPbc**	**20 27 10.9**	**+0.3**
SIV	**San Ignacio**	**154.07**	**227**	PKPbc	**PKPbc**	**20 27 30.2**	**-1.1**
SIV	**San Ignacio**	**154.07**	**227**	PKPbc	**PKPbc**	**20 27 30.2**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=128,slow=6.2,SNR=7.0						
LPAZ	**La Paz**	**158.50**	**214**	PKP	**PKPdf**	**20 27 30.0**	**+0.2**
LPAZ	**La Paz**	**158.50**	**214**	PKP	**PKPdf**	**20 27 30.0**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=56,slow=6.2,SNR=3.7						

*NIED **25** 20:07:00, 45°30N×151°10E, h17km, Mw4.1 Best double couple: M0 1.43000×10^15 NP1:φ8 16.00000°, δ62.00000°, λ78.00000°. NP2:φ8 220.00000°, δ31.00000°, λ111.00000°.*

*BJI **25** 20:07:38.0, 45°20N×151°00E, h10km, mB4.6/8, mb4.3/8, Ms4.0/2, Ms7 3.7/2*

*ISCJB **25** 20:07:40.4±0.4, 44°88N±0°06×151°01E±0°06, h35km, mb4.2/30, MS3.6/6, Error ellipse: s-maj=9.8km s-min=3.3km az=148.2*

*JMA **25** 20:07:40.5±0.5, 45°27N×151°08E, h30km, M4.6*

*MOS **25** 20:07:41.8±1.4, 45°19N×150°82E, h39km, mb4.4/16, Error ellipse: s-maj=8.8km s-min=7.8km az=105.2*

*IDC **25** 20:07:45.9±2.4, 45°33N×150°81E, h61km±21km, mb3.7/18, mb1 3.9/23, mb1mx3.8/32, mbtmp3.7/23, ML3.6/5, MS3.4/9, Ms1 3.4/9, ms1mx3.1/51, Error ellipse: s-maj=17.5km s-min=12.6km az=144.0*

*SZGRF **25** 20:07:46.5, 45°63N×150°87E, h33km, mb4.9, Kuril Islands, Russia*

ISC 25 20:07:41.9±0.6, 44°93N±0°08×151°00E±0°06, h35km**, n133,** σ**1**§**61**/137, **mb4.3**/33, **MS3.6**/6, **16C-9D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.24**	**279**	*i* PN	**Pn**	**20 08 16.8**	**+0.4**
KUR				*e*S	**Sn**	**20 08 44.5**	**+1.7**
KUR				pmax	pmax		
	comp=E,30nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.78**	**258**	*i* PN	**Pn**	**20 08 39.6**	**+1.9**
YUK				*i* S	**Sn**	**20 09 23.5**	**+2.6**
YUK				pmax	pmax		
	comp=E,27nm,0.2s						
YUK				pmax	pmax		
	comp=N,35nm,0.2s						
YUK				pmax	pmax		
	comp=Z,171nm,0.3s						
YUK				smax	smax		
	comp=N,333nm,0.7s						
YUK				smax	smax		
	comp=E,261nm,0.3s						
NEM2	**Nemuro 2**	**4.09**	**249**	P	**Pn**	**20 08 42.6**	**+0.7**
NEM2				*e*S	**Sn**	**20 09 28.5**	**0.0**
JRA	**Rausu**	**4.32**	**259**	P	**Pn**	**20 08 47.6**	**+2.5**
JNK	**Nakash**	**4.70**	**256**	P	**Pn**	**20 08 52.3**	**+1.9**
JAK	**Akkeshi**	**4.94**	**249**	P	**Pn**	**20 08 54.4**	**+0.8**
JAK				*e*S	**Sn**	**20 09 49.4**	**0.0**
JTKR	**Abashiri--Toko**	**5.16**	**262**	P	**Pn**	**20 08 59.3**	**+2.7**
JAR	**Ashorobuto**	**5.45**	**255**	P	**Pn**	**20 09 02.9**	**+2.3**
JMP	**Maruseppu**	**5.54**	**263**	P	**Pn**	**20 09 04.6**	**+2.7**
JOB	**Onbets**	**5.55**	**251**	P	**Pn**	**20 09 03.4**	**+1.4**
JOB				*e*S	**Sn**	**20 10 04.3**	**-0.3**
JCH	**Churui**	**5.99**	**250**	P	**Pn**	**20 09 09.0**	**+1.0**
JCH				*e*S	**Sn**	**20 10 14.8**	**-0.6**
JKK2	**Kamakawa 2**	**6.

ZALV Zalesovo Beam 42.50 307 P P 20 15 30.3 -3.1
comp=Z,0.3nm,0.3s,baz=83,slow=6.0,SNR=3.1
ZALV LR LR 20 34 18.3
comp=Z,51nm,18.9s,baz=69,slow=38
INK Inuvik 43.98 31 P **P 20 15 45.7 +0.5**
comp=Z,1.1nm,0.5s,baz=270,slow=19,SNR=3.5
INK LR LR 20 36 57.2
comp=Z,48nm,18.2s,baz=147,slow=40
MKAR Makanchi Array 46.48 298 P **P 20 16 05.0 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,77nm,19.8s
MKAR Makanchi Array 46.48 298 P **P 20 16 05.0 -0.4**
comp=Z,4.5nm,0.8s,baz=72,slow=7.6,SNR=40
MKAR LR LR 20 36 32.9
comp=Z,77nm,19.8s,baz=174,slow=37
KURK Kurchatov 47.15 304 P **P 20 16 08.9 -1.6**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURBB Kurchatov Arra 47.24 304 P **P 20 16 08.9 -2.4**
comp=Z,2.0nm,0.7s,baz=74,slow=8.3,SNR=20
CMAR Chiang Mai Arr 50.50 256 P **P 20 16 37.8 +1.2**
comp=Z,1.2nm,0.9s,baz=42,slow=6.9,SNR=5.1
BVAR Borovoye Array 50.88 310 P **P 20 16 37.3 -1.7**
BVAR Borovoye Array 50.88 310 P **P 20 16 37.3 -1.7**
comp=Z,0.3nm,0.4s,baz=60,slow=5.7,SNR=3.1
AKTO Aktyubinsk 58.84 312 LR LR 20 45 03.1
comp=Z,62nm,18.4s,baz=252,slow=38
JOF Joensuu 62.30 333 *eP* **P 20 17 57.8 -2.2**
JOF Joensuu 62.30 333 *ep* **P 20 17 57.8 -2.2**
FINES FINESS Array B 65.05 334 P **P 20 18 15.5 -2.6**
comp=Z,2.0nm,0.6s,baz=40,slow=7.9,SNR=21
WRA Warramunga Arr 66.32 197 P **P 20 18 29.4 +2.6**
comp=Z,2.3nm,0.9s,baz=14,slow=6.7,SNR=6.8
FITZ Fitzroy Crossi 66.85 206 P **P 20 18 33.3 +3.1**
comp=Z,2.7nm,1.1s,baz=12,slow=19,SNR=2.5
PDAR Pinedale Array 67.03 52 P **P 20 18 31.4 -0.1**
comp=Z,0.3nm,0.4s,baz=338,slow=1.6,SNR=3.5
NB2 NORSAR Subarra 69.46 340 P **P 20 18 45.0 -1.2**
comp=Z,3.6nm,0.6s,baz=27,slow=6.5
NOA NORSAR Array B 69.46 340 P **P 20 18 45.2 -0.9**
comp=Z,2.9nm,0.5s,baz=28,slow=6.4,SNR=24
NOA LR LR 20 52 05.6
comp=Z,18nm,18.8s,baz=285,slow=38
ASAR Alice Springs 70.03 197 P P 20 18 53.6 +3.6
comp=Z,1.5nm,0.9s,baz=15,slow=6.0,SNR=7.3
KBZ Khabaz 71.04 313 P **P 20 18 54.8 -1.3**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 71.04 313 P **P 20 18 54.8 -1.3**
comp=Z,9.2nm,0.8s,baz=45,slow=4.5,SNR=10
AKASG Malin Array Be 72.22 325 *ceP* **P 20 19 02.2 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 72.22 325 P **P 20 19 01.8 -1.3**
comp=Z,2.2nm,0.3s,baz=36,slow=5.9,SNR=5.7
KWP Kalwaria Pacla 75.61 328 ⇑P **P 20 19 23.2 +0.3**
KWP Kalwaria Pacla 75.61 328 ⇑*iP* **P 20 19 23.2 +0.3**
KWP Kalwaria Pacla 75.61 328 *eP* **P 20 19 23.1 +0.2**
OJC Ojcow 76.18 330 *eP* **P 20 19 26.0 -0.2**
BURAR Bucovina Array 76.27 326 ⇑P **P 20 19 26.5 -0.4**
BURAR Bucovina Array 76.27 326 ⇑*iP* **P 20 19 26.5 -0.4**
STHS Stebnicka Huta 76.33 329 *eP* **P 20 19 27.6 +0.6**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 76.33 329 *eP* **P 20 19 27.6 +0.6**
KOLS Kolonicke sedl 76.34 328 *eP* **P 20 19 27.1 0.0**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 76.34 328 *eP* **P 20 19 27.1 0.0**
TESR Tescani 76.57 324 ⇑*iP* **P 20 19 28.2 -0.2**
NIE Niedzica 76.67 329 *eP* **P 20 19 31.3 +2.3**
KSP Ksiaz 76.85 332 *eP* **P 20 19 29.9 0.0**
TRPA Tarpa 76.90 327 ⇓*iP* **P 20 19 30.2 0.0**
CFR Carcaliu 77.00 322 ⇑P **P 20 19 30.4 -0.4**
CFR Carcaliu 77.00 322 ⇑*iP* **P 20 19 30.4 -0.4**
VRI Vrincioaia 77.05 324 ⇓P P 20 19 34.6 +3.4
VRI Vrincioaia 77.05 324 ⇓*iP* P 20 19 34.6 +3.4
OKC Ostrava-Krasne 77.08 331 *eP* **P 20 19 31.2 0.0**
OKC Ostrava-Krasne 77.08 331 *eP* **P 20 19 31.2 0.0**
PLOR Plostina 77.10 324 ⇑P **P 20 19 34.6 +3.1**
PLOR Plostina 77.10 324 ⇑*iP* **P 20 19 34.6 +3.1**
UPC Upice 77.23 332 *eP* **P 20 19 31.8 -0.3**
UPC Upice 77.23 332 *eP* **P 20 19 31.8 -0.3**
DPC Dobruska-Polom 77.26 332 *eP* **P 20 19 32.1 -0.2**
DPC Dobruska-Polom 77.26 332 *eP* **P 20 19 32.1 -0.2**
MALT Malatya 77.29 312 ⇓P **P 20 19 34.1 +1.4**
MALT Malatya 77.29 312 ⇓*iP* **P 20 19 34.1 +1.4**
CLL Collm 77.49 335 ⇑*iP* **P 20 19 32.6 -0.9**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 77.49 335 ⇑*iP* **P 20 19 32.6 -0.9**
comp=Z,11nm,0.9s
PVCC Panska Ves 77.68 333 *eP* **P 20 19 33.7 -0.9**
PVCC Panska Ves 77.68 333 *eP* **P 20 19 33.7 -0.9**
VYHS Vyhne 77.97 330 *eP* **P 20 19 36.3 0.0**
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 77.97 330 *eP* **P 20 19 36.3 0.0**
VOIR 78.10 324 ⇑P **P 20 19 37.4 +0.3**
VOIR 78.10 324 ⇑*iP* **P 20 19 37.4 +0.3**
PRU Pruhonice 78.16 333 *eP* **P 20 19 37.4 +0.2**
PRU Pruhonice 78.16 333 *eP* **P 20 19 37.4 +0.2**
BRTR Keskin Array B 78.68 316 P **P 20 19 40.5 0.0**
comp=Z,0.8nm,0.6s,baz=57,slow=5.3,SNR=4.3
GZR Gura Zlata 79.06 326 ⇑P **P 20 19 42.0 -0.4**
GZR Gura Zlata 79.06 326 ⇑*iP* **P 20 19 42.0 -0.4**
KHC Kasperske Hory 79.21 333 *eP* **P 20 19 42.9 -0.2**
KHC *e* 20 19 47.1
KHC Kasperske Hory 79.21 333 *eP* **P 20 19 42.9 -0.2**
KHC *ep*P **PcP 20 19 47.1 -4.3**
GERES GERESS Array B 79.42 333 P **P 20 19 43.9 -0.5**
comp=Z,1.8nm,0.8s,baz=34,slow=5.2,SNR=17
GRF Grafenberg Arr 79.46 335 *eP* **P 20 19 44.5 +0.1**
comp=Z,14nm,1.1s
GRF Grafenberg Arr 79.46 335 *eP* **P 20 19 44.5 +0.1**
GRF pmax pmax
comp=Z,14nm,1.1s
CONA Conrad Observa 79.50 331 ⇓*iP*P **P 20 19 45.1 +0.3**
comp=Z,4.2nm,0.8s
TXAR Lajitas Array 79.69 59 P **P 20 19 47.4 +1.3**
comp=Z,0.4nm,0.5s,baz=302,slow=5.2,SNR=3.8
SOKA Soboth 80.86 331 ⇓*iP*P **P 20 19 52.0 -0.1**
comp=Z,3.5nm,1.0s
KBA Koelnbreinsper 81.08 332 ⇓*iP*P **P 20 19 53.7 +0.3**
comp=Z,4.2nm,0.7s
PAGF Fort de Pagny 82.06 338 *eP* **P 20 19 58.6 +0.3**
comp=Z,6.0nm,1.0s
LOR Lormes 83.74 338 *eP* **P 20 20 06.9 -0.2**
GRR Gorron 83.85 342 *eP* **P 20 20 07.5 -0.1**
SMF Signal de Mont 84.32 338 *eP* **P 20 20 11.5 +1.5**
LPL La Plagne 84.54 336 *eP* **P 20 20 12.7 +1.2**
LPG La Plagne 84.56 336 *eP* **P 20 20 12.1 +0.5**
comp=Z,6.1nm,0.9s
TCF Toulx Ste Croi 85.08 339 *eP* **P 20 20 15.1 +1.2**
comp=Z,7.2nm,0.9s
MFF Saint Martin d 85.36 340 *eP* **P 20 20 15.6 +0.3**
CAF Calviac 86.38 338 *eP* **P 20 20 21.5 +1.1**
TORD Torodi Ar. Bea 115.84 326 PKP **PKPdf 20 26 20.6 -0.5**
comp=Z,0.6nm,1.0s,baz=33,slow=0.8,SNR=4.1
SNAA Sanae 150.39 196 *e*PKP **PKPbc 20 27 30.0 +1.8**
SNAA Sanae 150.39 196 *e*I PKPab 20 27 43.5 +8.7
VNA2 Neumayer--Watz 151.87 195 *e*PKP **PKPbc 20 27 33.8 +2.2**
VNA2 Neumayer--Watz 151.87 195 *e*I PKPab 20 27 47.4 +6.5

*IDC **25** 20:13:29.7±0.9, 11°.96N×87°.29W, h0^{km}, mb4.2/8, mb1 4.4/10, mb1mx4.0/26, mbtmp4.2/10, ML3.3/2, MS3.8/18, Ms1 3.9/18, ms1mx3.7/30, Error ellipse: s-maj=39.1km s-min=16.4km az=52.0*
*ISCJB **25** 20:13:33.4±0.5, 11°.71N±0°.07×87°.66W±0°.07, h48^{km}, mb4.3/16, MS3.9/16, Error ellipse: s-maj=13.7km s-min=3.1km az=40.1*
*CASC **25** 20:13:34.5±2.4, 11°.72N×87°.64W, h37^{km}±999^{km}, MD4.4*
*NEIC **25** 20:13:36.4±1.3, 11°.96N×87°.43W, h50^{km}±12^{km}, mb4.5/8, Error ellipse: s-maj=18.3km s-min=7.9km az=48.0*
ISC 25 20:13:35.6±0.6,**11°.83N**±0°.08×**87°.53W**±0°.07,**h48**^{km},**n73**, σ1**^{s}25**/70,**mb4.5**/16,**MS3.9**/16,**1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**1.05**	**51**	*eP*	**Pn**	**20 13 55.1**	**+1.0**
CNCH	**Conchagua**	**1.47**	**348**	*eP*	**Pn**	**20 14 00.1**	**+0.3**
BLLM	**Bellamira**	**1.75**	**337**	*eP*	**Pn**	**20 14 03.1**	**-0.5**
CAHU	**Cacacuatique**	**2.04**	**341**	*eP*	**Pn**	**20 14 08.3**	**+0.5**
BUEV	**Buena Vista**	**2.32**	**116**	*i P*	**Pn**	**20 14 11.4**	**0.0**
LFRS	**El Faro**	**2.33**	**320**	*eP*	**Pn**	**20 14 09.7**	**-1.9**
GPS1	**Guardaparques**	**2.38**	**116**	*i P*	**Pn**	**20 14 12.4**	**0.0**
LFU	**La Fuente**	**2.45**	**321**	*eP*	**Pn**	**20 14 12.6**	**-0.7**
BOQS	**Boqueron**	**2.55**	**318**	*eP*	**Pn**	**20 14 13.3**	**-1.4**
BOQS				*eS*	**Sn**	**20 14 46.0**	**+1.4**
CUI	**Cuipilapa**	**2.60**	**116**	*i P*	**Pn**	**20 14 15.6**	**+0.4**
CUI				*i S*	**Sn**	**20 14 45.6**	**0.0**
AMAS	**Alto Masis**	**2.77**	**116**	*i P*	**Pn**	**20 14 17.5**	**-0.1**
SBLS	**San Blas**	**2.85**	**315**	*eP*	**Pn**	**20 14 17.5**	**-1.5**
RTR	**El Retiro**	**2.91**	**315**	*eP*	**Pn**	**20 14 18.7**	**-1.0**
RBDL	**Robledal**	**3.09**	**317**	*eP*	**Pn**	**20 14 21.6**	**-0.6**
URSC	**Urasca**	**4.19**	**118**	*eP*	**Pn**	**20 14 39.6**	**+2.4**
BUS	**Buena Vista**	**4.34**	**121**	⇓*eP*	**Pn**	**20 14 40.6**	**+1.0**
BUS				*eS*	**Sn**	**20 15 27.0**	**-2.2**
ACR	**Cerro Adams**	**5.33**	**126**	*eP*	**Pn**	**20 14 53.0**	**+0.2**
ACR				*eS*	**Sn**	**20 15 48.7**	**-4.2**
CTCR	**Cotoan**	**5.53**	**121**	*eP*	**Pn**	**20 14 56.4**	**+0.8**
CTCR				*eS*	**Sn**	**20 15 58.1**	**+0.1**
BRU2	**Volcan**	**5.64**	**122**	*eP*	**Pn**	**20 14 57.6**	**+0.5**
BRU2				*eS*	**Sn**	**20 16 01.6**	**+1.0**
BRU	**Baru**	**5.74**	**121**	*eP*	**Pn**	**20 15 00.3**	**+1.5**
BCIP	**Isla Barro Col**	**8.02**	**109**	*eP*	**Pn**	**20 15 31.6**	**+2.1**
BCIP	**Isla Barro Col**	**8.02**	**109**	*e*Pn	**Pn**	**20 15 31.2**	**+1.6**
TEIG	**Tepich**	**8.38**	**355**	Sn	Sn	20 16 48.6	-19
	0.2nm,0.3s,baz=252,slow=20,SNR=3.9						
TEIG				LR	LR	20 19 35.2	
	comp=Z,1μm,18.2s,baz=305,slow=44						
CMIG	**Matias Romero**	**8.83**	**307**	Pn	**Pn**	**20 15 40.0**	**-0.8**
CMIG				Sn	**Sn**	**20 17 18.1**	**-1.0**
CMIG	**Matias Romero**	**8.83**	**307**	Pn	**Pn**	**20 15 40.0**	**-0.8**
	0.7nm,0.3s,baz=105,slow=9.2,SNR=5.7						
CMIG				Sn	**Sn**	**20 17 18.1**	**-1.0**
	baz=106,slow=7.4,SNR=1.9						
ROSC	**El Rosal**	**14.78**	**117**	Pn	Pn	20 16 58.0	-4.2
ROSC	**El Rosal**	**14.78**	**117**	Pn	Pn	20 16 58.0	-4.2
	1.8nm,0.3s,baz=20,slow=7.9,SNR=3.7						
ROSC				LR	LR	20 23 24.1	
	comp=Z,142nm,19.4s,baz=207,slow=41						
ATAH	**Atahualpa**	**20.92**	**154**	LR	LR	20 25 25.6	
	comp=Z,298nm,18.6s,baz=206,slow=34						
JCT	**Junction City**	**21.77**	**330**	*eP*	**P**	**20 18 24.1**	**+0.6**
	16nm,1.0s						
TXAR	**Lajitas Array**	**23.00**	**322**	P	**P**	**20 18 37.5**	**+0.8**
TXAR	**Lajitas Array**	**23.00**	**322**	P	**P**	**20 18 37.5**	**+0.8**
	1.5nm,0.6s,baz=141,slow=10.0,SNR=12						
MIAR	**Mount Ida**	**23.27**	**347**	*eP*	**P**	**20 18 39.3**	**+0.2**
	15nm,0.8s						
CPCT	**Cooper Cave**	**23.68**	**6**	*eP*	**P**	**20 18 42.8**	**-0.1**
TKL	**Tuckaleechee C**	**23.97**	**8**	*eP*	**P**	**20 18 45.8**	**+0.2**
TKL	**Tuckaleechee C**	**23.97**	**8**	P	**P**	**20 18 46.2**	**+0.6**
	13nm,0.8s,baz=181,slow=10,SNR=8.8						
TKL				LR	LR	20 30 10.4	
	comp=Z,127nm,18.9s,baz=65,slow=42						
LPIG	**La Paz**	**24.82**	**303**	LR	LR	20 30 24.9	
	comp=Z,287nm,19.6s,baz=78,slow=41						
WMOK	**Wichita Mounta**	**25.00**	**338**	*eP*	**P**	**20 18 53.9**	**-1.2**
	8.2nm,1.1s						
AMTX	**Amarillo**	**26.31**	**333**	*eP*	**P**	**20 19 05.9**	**-1.1**
	16nm,0.9s						
SAML	**Samuel**	**31.81**	**129**	*eP*	**P**	**20 19 55.1**	**-0.9**
	5.4nm,1.0s						
ECSD	**EROS Data Cent**	**32.74**	**348**	*eP*	**P**	**20 20 02.8**	**-1.1**
	11nm,1.0s						
LPAZ	**La Paz**	**33.89**	**145**	LR	LR	20 34 50.5	
	comp=Z,158nm,19.1s,baz=355,slow=38						
LONY	**Lake Ozonia**	**34.52**	**16**	*eP*	**P**	**20 20 17.5**	**-1.8**
	11nm,1.0s						
AGMN	**Agassiz Nation**	**37.02**	**351**	*eP*	**P**	**20 20 39.5**	**-1.2**
	12nm,0.9s						
SIV	**San Ignacio**	**38.07**	**136**	P	**P**	**20 20 50.8**	**+0.8**
SIV	**San Ignacio**	**38.07**	**136**	P	**P**	**20 20 50.8**	**+0.8**
	7.5nm,0.8s,baz=325,slow=9.7,SNR=16						
NVAR	**Mina Array Bea**	**38.12**	**319**	P	**P**	**20 20 52.9**	**+2.5**
NVAR				PcP	**PcP**	**20 23 06.2**	**+1.6**
NVAR	**Mina Array Bea**	**38.12**	**319**	P	**P**	**20 20 52.9**	**+2.5**
	0.4nm,0.4s,baz=159,slow=6.1,SNR=5.1						
NVAR				PcP	**PcP**	**20 23 06.2**	**+1.6**
	0.2nm,0.3s,baz=148,slow=5.3,SNR=3.2						
NVAR				LR	LR	20 39 56.4	
	comp=Z,218nm,20.4s,baz=264,slow=42						
ULM	**Lac du Bonnet**	**38.92**	**351**	P	**P**	**20 20 55.3**	**-1.3**
ULM	**Lac du Bonnet**	**38.92**	**351**	P	**P**	**20 20 55.3**	**-1.3**
	6.4nm,0.7s,baz=154,slow=9.4,SNR=5.7						
ULM				LR	LR	20 37 27.5	
	comp=Z,98nm,19.0s,baz=259,slow=37						
SCHQ	**Scheefferville**	**45.89**	**17**	P	**P**	**20 21 52.0**	**-1.3**
SCHQ	**Scheefferville**	**45.89**	**17**	P	**P**	**20 21 52.0**	**-1.3**
	6.4nm,0.7s,baz=222,slow=10,SNR=9.0						
SCHQ				LR	LR	20 43 09.1	
	comp=Z,225nm,18.4s,baz=4.7,slow=39						
BDFB	**Brasilia**	**47.70**	**124**	P	**P**	**20 22 07.3**	**-0.7**
BDFB	**Brasilia**	**47.70**	**124**	P	**P**	**20 22 07.3**	**-0.7**
	5.4nm,0.9s,baz=306,slow=7.3,SNR=5.5						
BDFB				LR	LR	20 42 50.7	
	comp=Z,151nm,20.8s,baz=357,slow=37						
CPUP	**Vila Florida**	**47.97**	**143**	LR	LR	20 43 46.4	
	comp=Z,64nm,18.9s,baz=181,slow=38						
ILAR	**Eielson Array**	**66.55**	**336**	P	**P**	**20 24 20.8**	**+0.3**
ILAR	**Eielson Array**	**66.55**	**336**	P	**P**	**20 24 20.8**	**+0.3**
	0.4nm,0.8s,baz=123,slow=5.3,SNR=5.1						
ILAR				LR	LR	20 59 18.3	
	comp=Z,108nm,18.1s,baz=133,slow=41						
ESDC	**Sonseca Array**	**77.64**	**52**	LR	LR	20 57 53.1	
	comp=Z,62nm,18.4s,baz=290,slow=34						
MDT	**Midelt**	**77.79**	**59**	LR	LR	20 57 45.9	
	comp=Z,106nm,18.4s,baz=302,slow=34						
NOA	**NORSAR Array B**	**83.95**	**29**	LR	LR	21 01 44.2	
	comp=Z,38nm,18.2s,baz=290,slow=35						
DAVOX	**Davos/Dischmat**	**86.49**	**43**	LR	LR	20 57 23.6	
	comp=Z,38nm,21.9s,baz=264,slow=30						
FINES	**FINESS Array B**	**90.56**	**26**	LR	LR	21 06 11.7	
	comp=Z,44nm,19.9s,baz=37,slow=35						
AKASG	**Malin Array Be**	**97.07**	**35**	LR	LR	21 11 08.5	
	comp=Z,54nm,19.8s,baz=200,slow=36						
SONM	**Songino Array**	**119.32**	**349**	PKP	**PKPdf**	**20 32 20.0**	**0.0**
SONM	**Songino Array**	**119.32**	**349**	PKP	**PKPdf**	**20 32 20.0**	**0.0**
	0.2nm,0.6s,baz=318,slow=1.9,SNR=2.4						
MKAR	**Makanchi Array**	**120.94**	**8**	PKP	**PKPdf**	**20 32 23.2**	**+0.2**
MKAR	**Makanchi Array**	**120.94**	**8**	PKP	**PKPdf**	**20 32 23.2**	**+0.2**
	0.2nm,0.6s,baz=11,slow=2.2,SNR=2.8						
ASAR	**Alice Springs**	**138.96**	**248**	PKP	**PKPdf**	**20 32 59.5**	**+1.8**
ASAR	**Alice Springs**	**138.96**	**248**	PKP	**PKPdf**	**20 32 59.5**	**+1.8**
	0.4nm,0.7s,baz=108,slow=3.0,SNR=3.7						
WRA	**Warramunga Arr**	**139.02**	**253**	PKP	**PKPdf**	**20 32 59.1**	**+1.2**
WRA	**Warramunga Arr**	**139.02**	**253**	PKP	**PKPdf**	**20 32 59.1**	**+1.2**
	0.5nm,0.7s,baz=88,slow=1.7,SNR=6.9						
CHTO	**Chiang Mai**	**148.89**	**348**	*e*PKPbc	**PKPbc**	**20 33 19.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**149.24**	**348**	PKPbc	**PKPbc**	**20 33 19.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**149.24**	**348**	PKPbc	**PKPbc**	**20 33 19.9**	**-0.1**
	5.3nm,0.8s,baz=338,slow=3.4,SNR=21						

IDC 25 20:25:43.1±7.7,**15°.06S**×**177°.27W**,**h0**^{km},**mb3.5**/3, **mb1 3.8**/3,**mb1mx3.5**/19,**mbtmp3.5**/3,**Error ellipse: s-maj=343.8km s-min=36.5km az=140.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.28**	**257**	P	P	20 34 11.0	+0.1
	0.3nm,1.1s,baz=92,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**46.67**	**252**	P	P	20 34 13.6	-0.3
	0.7nm,0.5s,baz=85,slow=8.4,SNR=13						
ILAR	**Eielson Array**	**82.88**	**13**	P	P	20 38 09.2	0.0
	0.5nm,0.7s,baz=218,slow=6.2,SNR=5.0						

*MOS **25** 20:26:45.3±0.9, 5°.48N×94°.73E, h33^{km}, mb5.0/15, Error ellipse: s-maj=15.6km s-min=6.3km az=119.6*
*BJI **25** 20:26:46.6, 5°.14N×94°.53E, h69^{km}, mB4.8/25, mb4.8/43, Ms4.3/22, Ms7 4.1/23*
*ISCJB **25** 20:26:49.4±0.7, 5°.36N±0°.04×94°.65E±0°.04, h71^{km}±6^{km}, mb4.5/86, Error ellipse: s-maj=7.6km s-min=4.7km az=39.9*
*IDC **25** 20:26:49.8±2.0, 5°.44N×94°.70E, h58^{km}±17^{km}, mb4.2/33, mb1 4.3/34, mb1mx4.2/40, mbtmp4.2/34, MS3.5/10, Ms1 3.6/10, ms1mx3.3/38, Error ellipse: s-maj=18.1km s-min=8.7km az=41.0*
*TEH **25** 20:26:50.0, 5°.30N×94°.58E, h70^{km}, ML4.6*
*NEIC **25** 20:26:51.9±1.1, 5°.36N×94°.69E, h80^{km}±9^{km}, mb4.6/9, Error ellipse: s-maj=11.0km s-min=5.2km az=54.0*
NEIC Felt [III] at Banda Aceh.
*BKK **25** 20:26:58.4±0.4, 6°N±3°×9°5E±°, h10^{km}, M4.7/19, mB5.3/10, mb4.9/19, MLv4.7/9, Mw(mB)4.7/10*
ISC 25 20:26:51.3±0.5,**5°.40N**±0°.05×**94°.67E**±0°.05,**h73**^{km}±2^{km}, **h73**^{km}:**pP-P, n277,** σ1**^{s}42**/330,**mb4.6**/86,**18C-8D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.77**	**335**	*eP*	**Pn**	**20 27 17.7**	**-2.3**
PKDT	**Phuket**	**4.41**	**56**	P	**Pn**	**20 27 55.2**	**-0.6**
PSI	**Prapat**	**4.97**	**121**	P	**Pn**	**20 28 04.0**	**+0.4**
PSI				S	**Sn**	**20 28 60.0**	**+0.2**
PSI	**Prapat**	**4.97**	**121**	P	**Pn**	**20 28 04.0**	**+0.4**
	9.6nm,0.3s,baz=305,slow=14,SNR=22						
PSI				S	**Sn**	**20 28 60.0**	**+0.2**
	13nm,0.3s,baz=309,slow=13,SNR=4.0						
PSI				LR	LR	20 30 17.4	
	comp=Z,343nm,21.4s,baz=285,slow=41						
KRAB	**Krabi**	**5.30**	**58**	P	**Pn**	**20 28 07.7**	**-0.3**
SRIT	**Nakonsritamara**	**5.84**	**57**	P	Pn	20 28 09.3	-6.1
KULM	**Kulim**	**5.96**	**91**	*e*Pn	**Pn**	**20 28 15.8**	**-1.2**
	44nm,0.3s						
KULM				*e*Sn	**Sn**	**20 29 22.4**	**-1.5**
KULM	**Kulim**	**5.96**	**91**	P	**Pn**	**20 28 16.7**	**-0.3**
KULM	**Kulim**	**5.96**	**91**	P	**Pn**	**20 28 16.7**	**-0.3**
KULM	**Kulim**	**5.96**	**91**	P	**Pn**	**20 28 17.2**	**+0.3**
SKLT	**Songkhla**	**6.17**	**73**	P	**Pn**	**20 28 20.1**	**+0.2**
	228nm,0.7s,3μm1.0nm						
SURA	**Surathani**	**6.19**	**52**	P	**Pn**	**20 28 20.1**	**0.0**
	358nm,0.6s,14μm1.3nm						
IPM	**Ipoh**	**6.40**	**98**	*e*Pn	**Pn**	**20 28 21.6**	**-1.4**
	32nm,0.4s						
IPM				*e*Sn	**Sn**	**20 29 30.7**	**-4.1**
IPM	**Ipoh**	**6.40**	**98**	P	**Pn**	**20 28 22.1**	**-0.9**
IPM	**Ipoh**	**6.40**	**98**	P	**Pn**	**20 28 22.4**	**-0.6**
FRIM	**Kepong**	**7.26**	**107**	P	**Pn**	**20 28 34.7**	**-0.2**
FRIM	**Kepong**	**7.26**	**107**	P	**Pn**	**20 28 35.0**	**+0.2**
DGPR	**DIGLIPUR**	**7.92**	**348**	*eP*	**Pn**	**20 28 42.2**	**-1.6**
KTGM	**Kuala Trenggan**	**8.43**	**90**	P	**Pn**	**20 28 51.4**	**+0.6**
PHET	**Kaeng Krachan**	**8.93**	**33**	P	**Pn**	**20 28 58.6**	**+1.0**
	126nm,0.8s						
KGM	**Kluang**	**9.26**	**111**	P	**Pn**	**20 29 02.7**	**+0.5**
CHBT	**CHBT**	**10.52**	**45**	P	**Pn**	**20 29 20.3**	**+1.0**
	122nm,0.8s,1μm						
NAYO	**Nakonayok**	**11.02**	**36**	P	Pn	20 29 29.3	+3.1
	1μm,1.0s,18μm						
UTHA	**Uthaitani**	**11.14**	**25**	P	**Pn**	**20 29 30.0**	**+2.3**
	5.7nm,1.0s						
CHAI	**Chaiyaphum**	**12.67**	**34**	P	**Pn**	**20 29 51.4**	**+2.7**
	8.1nm,0.9s						
PBKT	**Sadao Pong**	**12.71**	**29**	P	**Pn**	**20 29 51.7**	**+2.5**
	20nm,0.5s,1μm						
CM31	**Chiang Mai Arr**	**13.64**	**17**	*e*Pn	**Pn**	**20 30 04.1**	**+2.5**
	7.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**13.64**	**17**	P	**Pn**	**20 30 04.0**	**+2.4**
CMAR	**Chiang Mai Arr**	**13.64**	**17**	P	**Pn**	**20 30 04.0**	**+2.4**
	1.8nm,0.3s,baz=210,slow=14,SNR=30						
CMAR				LR	LR	20 34 41.9	
	comp=Z,165nm,21.5s,baz=35,slow=35						
LOEI	**Loei**	**13.66**	**28**	P	P	20 30 14.4	+6.2
CHTO	**Chiang Mai**	**13.97**	**17**	*eP*	**Pn**	**20 30 07.4**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,23nm,0.6s						
CHTO	**Chiang Mai**	**13.97**	**17**	*e*Pn	**Pn**	**20 30 07.4**	**+1.4**
	comp=Z,23nm,0.6s						
CHTO	**Chiang Mai**	**13.97**	**17**	P	**P**	**20 30 09.4**	**-2.3**
	comp=Z,46nm,0.8s,comp=Z,370nm						
SKNT	**Sakolnakorn**	**14.69**	**38**	P	**P**	**20 30 19.9**	**+0.3**
	comp=Z,28nm,0.7s						
PAYA	**Payao**	**14.78**	**20**	P	**P**	**20 30 21.1**	**+0.5**
	comp=Z,16nm,0.7s						
CMAI	**Chiengmai2**	**15.06**	**16**	P	**P**	**20 30 24.3**	**+0.3**
PANO	**Nakornpanom**	**15.21**	**39**	P	**P**	**20 30 25.8**	**+0.4**
	comp=Z,49nm,1.2s						
KSM	**Kuching**	**16.09**	**103**	*e*Pn	**P**	**20 30 35.0**	**-0.3**
KSM	**Kuching**	**16.09**	**103**	P	**Pn**	**20 30 32.5**	**-0.7**
KSM	**Kuching**	**16.09**	**103**	P	**P**	**20 30 34.7**	**-0.6**
VIS	**Vishakhapatnam**	**16.52**	**319**	*eP*	**Pn**	**20 30 38.2**	**-0.3**
VIS				AMB	AMB	20 30 46.0	
	comp=Z,43nm,4.1s						
TRD	**Trivandrum**	**17.85**	**281**	⇑*eP*	S	20 34 32.4	+17
HYB	**Hyderabad**	**19.78**	**308**	*ex*	**S**	**20 35 01.3**	**+6.2**
QIZ	**Qiongzhong**	**20.06**	**46**	P	Pn	20 31 20.5	-0.8
QIZ				S	Sn	20 35 04.8	-2.0
QIZ				pmax	pmax		
	comp=Z,11nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,84nm,4.2s						
QIZ				LR	LR		
	comp=N,220nm,15.4s						
QIZ				LR	LR		
	comp=E

CD2 LR LR
comp=N,140nm,12.0s
CD2 LR LR
comp=Z,160nm,15.2s
KAPI Kappang 27.10 112 P **P 20 32 26.9 -0.6**
KAPI Kappang 27.10 112 P **P 20 32 26.9 -0.6**
comp=Z,9.4nm,0.6s,baz=304,slow=7.2,SNR=13
KAPI LR LR 20 43 45.2
comp=Z,66nm,19.5s,baz=307,slow=38
ENH Enshi 28.41 28 *e*P **P 20 32 37.8 -1.4**
comp=Z,7.3nm,0.6s
DDI Dehra Dun 29.32 330 *e*P **P 20 32 47.4 +0.2**
DDI AMB AMB 20 33 28.7
comp=Z,42nm,0.3s
SMLA Simla 30.42 329 *e*P **P 20 32 56.0 -0.9**
SMLA AMB AMB 20 33 30.8
comp=Z,9.1nm,0.9s
WHN Wuhan 31.13 34 P **P 20 33 03.0 -0.1**
WHN S S 20 38 10.0 +6.3
WHN LR LR
comp=Z,450nm,18.1s
XAN Xi'an 31.42 23 P **P 20 33 04.5 -1.2**
XAN pP **pP 20 33 22.0 -1.1**
XAN PP **PnPn 20 34 10.0 -1.3**
XAN S **S 20 38 04.0 -4.3**
XAN sS **sS 20 38 34.5 -3.6**
XAN pmax pmax
comp=Z,9.0nm,0.6s
XAN pmax pmax
comp=Z,13nm,6.9s
XAN LR LR
comp=N,72nm,19.1s
XAN LR LR
comp=E,31nm,20.4s
XAN LR LR
comp=Z,50nm,21.6s
LZH Lanzhou 31.69 14 *e*P **P 20 33 07.3 -0.9**
LZH pP **pP 20 33 24.8 -0.8**
LZH sP **sP 20 33 33.5 -0.6**
LZH PP **PnPn 20 34 15.5 +0.7**
LZH S **S 20 38 09.8 -2.8**
LZH SS **SnSn 20 40 07.3 +1.1**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=N,210nm,13.3s
LZH LR LR
comp=E,330nm,14.0s
LZH LR LR
comp=Z,460nm,15.1s
DHRM DHARAMSHALA 31.76 330 *e*P **P 20 33 08.0 -1.0**
DHRM AMB AMB 20 33 27.2
comp=Z,12nm,2.3s
BATI Baumata 32.78 118 P **P 20 33 16.4 -1.4**
BATI Baumata 32.78 118 P **P 20 33 16.4 -1.4**
comp=Z,9.4nm,0.6s,baz=233,slow=8.0,SNR=2.7
GTA Gaotai 34.18 7 ⇑P **P 20 33 29.0 -0.8**
GTA pP **pP 20 33 46.5 -0.8**
GTA sP **sP 20 33 53.5 -2.4**
GTA pmax pmax
comp=Z,16nm,0.8s
NJ2 Nanjing 34.86 37 *e*P **P 20 33 36.5 +0.9**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 LR LR
comp=Z,250nm,16.3s
KSH Kashi 37.94 336 P **P 20 34 00.3 -1.6**
KSH sP **sP 20 34 28.3 +0.2**
KSH PP **PnPn 20 35 32.3 +0.4**
KSH S **S 20 39 44.3 -4.2**
KSH sS **sS 20 40 15.0 -3.8**
KSH SS SnSn 20 42 23.8 -13
KSH pmax pmax
comp=Z,8.0nm,0.8s
KSH LR LR
comp=N,88nm,5.3s
KSH LR LR
comp=E,68nm,4.1s
KSH LR LR
comp=Z,120nm,5.0s
HHC Hu-ho-hao-te 38.41 21 *e*P **P 20 34 06.3 +0.4**
HHC PP **PnPn 20 35 41.0 +3.4**
HHC PcP **PcP 20 36 13.3 -4.7**
HHC S **S 20 39 58.0 +2.3**
HHC PcS **PcS 20 40 06.3 -1.0**
HHC SS **SS 20 42 42.5 -5.3**
HHC ScS **ScS 20 44 06.5 -3.4**
HHC pmax pmax
comp=Z,38nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.7s
HHC LR LR
comp=N,240nm,14.4s
HHC LR LR
comp=E,190nm,15.0s
HHC LR LR
comp=Z,230nm,14.6s
FITZ Fitzroy Crossi 38.45 128 P **P 20 34 05.7 -0.6**
FITZ PcP **PcP 20 36 19.2 +0.8**
FITZ Fitzroy Crossi 38.45 128 P **P 20 34 05.7 -0.6**
comp=Z,4.9nm,0.6s,baz=309,slow=5.9,SNR=30
FITZ PcP **PcP 20 36 19.2 +0.8**
comp=Z,1.8nm,1.0s,baz=301,slow=7.4,SNR=3.6
BJI Beijing 39.56 26 P **P 20 34 16.3 +1.0**
BJI S S 20 40 18.5 +5.8
BJI pmax pmax
comp=Z,26nm,0.9s
BJI LR LR
comp=N,98nm,17.3s
BJI LR LR
comp=E,100nm,14.9s
BJI LR LR
comp=Z,66nm,27.7s
TKM2 Tokmak 2 41.01 339 *i*P **P 20 34 27.9 +0.4**
TKM2 Tokmak 2 41.01 339 P **P 20 34 27.9 +0.4**
SNR=15
TKM2 Tokmak 2 41.01 339 *e*P **P 20 34 27.6 0.0**
comp=Z,9.5nm,0.5s
KBK Karagaybulak 41.02 338 P **P 20 34 28.7 +1.1**
SNR=30
AML Almayashu 41.07 336 P **P 20 34 28.9 +0.6**
SNR=18
AAK Ala-Archa 41.17 337 ⇑*i*P **P 20 34 28.1 -0.8**
AAK pmax pmax
comp=Z,24nm,0.8s
FRU Bishkek 41.30 338 *e*P **P 20 34 29.0 -0.7**
FRU pmax pmax
comp=Z,26nm,1.8s
CHMS Chumysh 41.39 338 P **P 20 34 31.1 +0.7**
SNR=8.3
EKS2 Erkin-Say 41.48 337 *e*P **P 20 34 31.8 +0.5**
EKS2 pmax pmax
comp=Z,12nm,0.7s
EKS2 Erkin-Say 41.48 337 P **P 20 34 32.2 +0.9**
SNR=19
EKS2 Erkin-Say 41.48 337 *e*P **P 20 34 31.8 +0.5**
comp=Z,12nm,0.7s
USP Ospenovka 41.72 338 P **P 20 34 33.0 -0.1**
SNR=29
MK31 Makanchi Array 42.61 347 *e*P **P 20 34 39.8 -0.5**
MK31 *e* 20 36 31.4
MK31 Makanchi Array 42.61 347 *e*P **P 20 34 39.8 -0.5**
MK31 *e*PcP **PcP 20 36 31.4 +0.1**
MKAR Makanchi Array 42.61 347 P **P 20 34 40.1 -0.2**
MKAR 20 36 31.9
MKAR Makanchi Array 42.61 347 P **P 20 34 40.1 -0.2**
MKAR PcP **PcP 20 36 31.9 +0.6**
MKAR Makanchi Array 42.61 347 P **P 20 34 40.1 -0.2**
comp=Z,8.5nm,0.7s,baz=159,slow=8.1,SNR=116
MKAR PcP **PcP 20 36 31.9 +0.6**
comp=Z,1.0nm,0.5s,baz=173,slow=3.4,SNR=3.6
MKAR LR LR 20 54 39.0
comp=Z,51nm,21.9s,baz=354,slow=39
KKAR Karatay Array 43.20 334 *e*P **P 20 34 45.0 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 43.20 334 *e*P **P 20 34 45.0 -0.1**
comp=Z,3.1nm,0.4s
SONM Songino Array 43.46 11 P **P 20 34 46.6 -0.7**
SONM PcP **PcP 20 36 34.9 +0.6**
SONM ScP **ScP 20 40 21.1 +1.6**
SONM Songino Array 43.46 11 P **P 20 34 46.6 -0.7**
comp=Z,7.8nm,0.7s,baz=190,slow=8.3,SNR=82
SONM PcP **PcP 20 36 34.9 +0.6**
comp=Z,2.1nm,0.5s,baz=196,slow=3.9,SNR=17
SONM ScP **ScP 20 40 21.1 +1.6**
comp=Z,0.3nm,0.8s,baz=201,slow=4.1,SNR=4.3
SONM LR LR 20 53 21.6
comp=Z,46nm,19.6s,baz=240,slow=37
ULN Ulaanbaatar 43.63 12 *e*P **P 20 34 47.5 -1.1**
comp=Z,5.3nm,0.6s
ULN *e*PcP **PcP 20 36 34.8 -0.1**
KSAR Wonju Array Be 43.99 39 P **P 20 34 51.5 -0.1**
KSRS Korea Array 44.02 39 P **P 20 34 51.5 -0.3**
comp=Z,3.7nm,0.7s,baz=218,slow=9.6,SNR=16
KSRS LR LR 20 54 33.5
comp=Z,68nm,18.7s,baz=47,slow=38
IPAY Payeh 44.98 318 *e*P **P 20 34 58.8 -0.9**
IAKL Akhelmad 45.22 318 *e*P **P 20 34 59.8 -1.9**
ZAK Zakamensk 45.41 8 *e*P P 20 34 53.7 -9.1
ZAK *e* 20 35 01.5
ZAK pmax pmax
comp=Z,2.0nm,1.6s
IEMG Emamgholi 45.76 319 *e*P **P 20 35 05.9 0.0**
WRA Warramunga Arr 46.43 124 P **P 20 35 11.4 +0.3**
WRA ScP **ScP 20 40 32.7 +0.5**
WRA Warramunga Arr 46.43 124 P **P 20 35 11.4 +0.3**
comp=Z,5.0nm,0.5s,baz=300,slow=10,SNR=208
WRA ScP **ScP 20 40 32.7 +0.5**
comp=Z,0.5nm,0.7s,baz=314,slow=3.9,SNR=4.8
CN2 Changchun 46.86 31 *e*P **P 20 35 14.3 +0.2**
CN2 *e*pP **pP 20 35 31.0 -1.3**
CN2 *e*S **S 20 41 58.8 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
AS31 Alice Springs 47.95 129 *e*P **P 20 35 23.0 0.0**
ASAR Alice Springs 47.95 129 P **P 20 35 23.2 +0.3**
ASAR Alice Springs 47.95 129 P **P 20 35 23.2 +0.3**
comp=Z,5.0nm,0.5s,baz=300,slow=7.5,SNR=103
ASAR LR LR 20 58 48.4
comp=Z,106nm,20.6s,baz=354,slow=40
ZAA0 Zalesovo Array 49.07 352 *e*P **P 20 35 30.6 -0.4**
ZALV Zalesovo Beam 49.07 352 *i*P **P 20 35 30.7 -0.2**
ZALV pmax pmax
comp=Z,13nm,0.5s
ZALV Zalesovo Beam 49.07 352 P **P 20 35 30.8 -0.2**
ZALV Zalesovo Beam 49.07 352 P **P 20 35 30.8 -0.2**
comp=Z,13nm,0.5s,baz=182,slow=7.3,SNR=102
MDJ Mudanjiang 49.58 32 P **P 20 35 35.8 +0.7**
MDJ pP **pP 20 35 50.3 -3.1**
MDJ sP **sP 20 35 59.0 -2.8**
MDJ PP **PP 20 37 30.8 +0.7**
MDJ S S 20 42 45.3 +7.5
MDJ sS **sS 20 43 12.8 +3.7**
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,35nm,4.4s
MDJ LR LR
comp=N,54nm,17.9s
MDJ LR LR
comp=E,47nm,16.4s
MDJ LR LR
comp=Z,120nm,14.9s
CBIJ Chichi jima 50.08 59 P **P 20 35 38.2 -0.9**
CBIJ Chichi jima 50.08 59 P **P 20 35 38.2 -0.9**
comp=Z,28nm,0.7s,baz=293,slow=15,SNR=3.6
NVS Novosibirsk 50.16 351 ⇑*i*P **P 20 35 37.5 -1.7**
NVS *e*S **S 20 42 45.6 +0.1**
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS pmax pmax
comp=Z,15nm,1.0s
NVS smax smax
comp=N,52nm,4.2s
NVS smax smax
comp=E,34nm,3.3s
MJAR Matsushiro Arr 50.46 46 P **P 20 35 42.2 +0.2**
MJAR Matsushiro Arr 50.46 46 P **P 20 35 42.2 +0.2**
comp=E,1.1nm,0.6s,baz=242,slow=9.1,SNR=7.4
MJAR LR LR 20 56 33.8
comp=E,51nm,20.7s,baz=300,slow=35
USRK Ussuriysk Arra 50.63 34 P **P 20 35 43.1 +0.1**
comp=E,2.6nm,0.6s,baz=248,slow=6.4,SNR=17
USRK LR LR 20 59 18.5
comp=E,94nm,22.0s,baz=23,slow=38
NAY Al-Naaiem 50.65 304 *e*P **P 20 35 43.7 +0.3**
NAY AMb AMB 20 35 44.5
comp=Z,0.7nm,0.6s
MIB Mutribah 50.75 304 *e*P **P 20 35 44.7 +0.6**
MIB AMb AMB 20 35 45.6
comp=Z,20nm,0.8s
RST Umm Al-Ruwaisa 50.93 304 *e*P **P 20 35 45.7 +0.1**
BRVK Borovoye 51.55 341 *c i*P **P 20 35 49.2 -0.6**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 52.65 332 *e*P **P 20 35 57.9 -0.1**
comp=Z,5.2nm,0.5s
KLR Kul'dur 53.76 29 *e*P P 20 36 02.3 -3.8
PMG Port Moresby 54.34 106 P **P 20 36 10.8 -0.1**
PMG Port Moresby 54.34 106 P **P 20 36 11.4 +0.5**
comp=Z,5.4nm,0.4s,baz=212,slow=15,SNR=4.5
CTA Charters Tower 56.66 118 P **P 20 36 27.0 -0.6**
CTA Charters Tower 56.66 118 P **P 20 36 27.0 -0.6**
comp=Z,0.9nm,0.3s,baz=286,slow=7.4,SNR=2.9
SVE Sverdlovsk 57.88 339 ⇑*i*P **P 20 36 35.7 +0.2**
SVE pmax pmax
comp=Z,15nm,0.8s
STKA Stephens Creek 58.04 133 P **P 20 36 36.6 -0.4**
STKA Stephens Creek 58.04 133 P **P 20 36 36.6 -0.4**
comp=Z,3.6nm,0.6s,baz=310,slow=8.2,SNR=8.9
ARU Arti 58.36 337 *d i*P **P 20 36 37.5 -1.3**
ARU 20 38 43.2
ARU S **S 20 44 34.4 -1.5**
ARU pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 59.27 319 P **P 20 36 44.8 -0.6**
KBZ Khabaz 59.27 319 P **P 20 36 44.8 -0.6**
KBZ Khabaz 59.27 319 P **P 20 36 44.8 -0.6**
comp=Z,2.7nm,0.8s,baz=141,slow=4.2,SNR=7.2
KIV Kislovodsk 59.50 319 *e*P **P 20 36 46.2 -0.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s
MMAI Mount Meron Ar 61.43 305 P **P 20 37 01.7 +1.3**
MMAI Mount Meron Ar 61.43 305 P **P 20 37 01.7 +1.3**
comp=Z,3.3nm,0.7s,baz=96,slow=7.9,SNR=7.6
BR131 Keskin Array S 64.44 312 *e*P **P 20 37 19.1 -1.3**
comp=Z,2.3nm,0.7s
BRTR Keskin Array B 64.44 312 P **P 20 37 19.7 -0.7**
BRTR Keskin Array B 64.44 312 P **P 20 37 19.7 -0.7**
comp=Z,2.9nm,0.8s,baz=128,slow=7.3,SNR=18
VSR Storozhevoye 64.70 325 *e*P **P 20 37 20.0 -1.7**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 67.75 328 *c e*P **P 20 37 40.0 -1.0**
OBN pmax pmax
comp=Z,19nm,1.9s
TIXI Tiksi 69.55 11 ⇓*e*P **P 20 37 51.0 -0.9**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 70.42 322 *c e*P **P 20 37 56.2 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 70.42 322 P **P 20 37 56.3 -1.4**
AKASG Malin Array Be 70.42 322 P **P 20 37 56.3 -1.4**
comp=Z,1.7nm,0.5s,baz=83,slow=5.8,SNR=7.3
VRI Vrincioaia 70.85 317 ⇑⇑P **P 20 38 00.9 +0.5**
VRI Vrincioaia 70.85 317 ⇑*i*P **P 20 38 00.9 +0.5**
PLOR Plostina 70.90 317 ⇓⇓P **P 20 38 01.4 +0.6**
PLOR Plostina 70.90 317 ⇓*i*P **P 20 38 01.4 +0.6**
TESR Tescani 71.04 317 ⇓*i*P **P 20 38 01.5 -0.1**
MLR Muntele Rosu 71.31 316 ⇓*i*P **P 20 38 03.9 +0.5**
MLR Muntele Rosu 71.31 316 P **P 20 38 03.4 +0.1**
MLR Muntele Rosu 71.31 316 P **P 20 38 03.4 +0.1**
comp=Z,1.4nm,0.7s,baz=122,slow=0.6,SNR=20
VOIR 71.91 316 ⇑⇑P **P 20 38 06.5 -0.5**
VOIR 71.91 316 ⇑*i*P **P 20 38 06.5 -0.5**
BURAR Bucovina Array 72.23 318 ⇑⇑P **P 20 38 09.2 +0.4**
BURAR Bucovina Array 72.23 318 ⇑*i*P **P 20 38 09.2 +0.4**
JOF Joensuu 73.30 335 *e*P **P 20 38 14.7 0.0**
JOF Joensuu 73.30 335 *e*p **P 20 38 14.7 0.0**
FINES FINESS Array B 75.14 332 P **P 20 38 24.9 -0.5**
FINES FINESS Array B 75.14 332 P **P 20 38 24.9 -0.5**
comp=Z,2.5nm,0.5s,baz=100,slow=5.9,SNR=31
KAF Kangasniemi 75.22 333 *e*P **P 20 38 25.8 -0.1**
KAF Kangasniemi 75.22 333 *e*p **P 20 38 25.8 -0.1**
OJC Ojcow 76.20 320 *e*P **P 20 38 31.9 +0.1**
OKC Ostrava-Krasne 77.21 320 *e*P **P 20 38 38.1 +0.7**
OKC Ostrava-Krasne 77.21 320 *e*P **P 20 38 38.1 +0.7**
ARCES ARCESS Array B 77.76 340 P **P 20 38 40.4 +0.2**
ARCES ARCESS Array B 77.76 340 P **P 20 38 40.4 +0.2**
comp=Z,3.8nm,0.5s,baz=96,slow=5.9,SNR=45
VRAC Vranov 78.15 319 P **P 20 38 43.2 +0.4**
VRAC Vranov 78.15 319 P **P 20 38 43.2 +0.4**
comp=Z,1.3nm,0.5s,baz=159,slow=8.6,SNR=2.6
DPC Dobruska-Polom 78.43 320 *e*P **P 20 38 44.9 +0.6**
DPC *e* 20 39 01.3
DPC Dobruska-Polom 78.43 320 *e*P **P 20 38 44.9 +0.6**
DPC *ex* x 20 39 01.3
DPC *e*pP **pP 20 39 03.9 -0.1**
UPC Upice 78.64 320 *e*P P 20 38 49.1 +3.7
UPC Upice 78.64 320 *e*P P 20 38 49.1 +3.7
FX1 Attu Island--F 78.78 37 P **P 20 38 45.8 -0.2**
FX1 Attu Island--F 78.78 37 P **P 20 38 45.8 -0.2**
comp=Z,9.4nm,0.6s,baz=333,slow=2.3,SNR=9.4
SOKA Soboth 78.98 316 ⇑*i*P **P 20 38 47.7 +0.2**
comp=Z,6.0nm,0.9s,SNR=7.3
PRU Pruhonice 79.54 320 *e*P **P 20 38 49.0 -1.3**
PRU Pruhonice 79.54 320 *e*P **P 20 38 49.0 -1.3**
GERES GERESS Array B 80.02 319 P **P 20 38 53.6 +0.6**
GERES GERESS Array B 80.02 319 P **P 20 38 53.6 +0.6**
comp=Z,4.0nm,0.7s,baz=100,slow=5.5,SNR=38
KHC Kasperske Hory 80.11 319 *e*P **P 20 38 53.4 -0.1**
KHC *e* 20 39 07.0
KHC Kasperske Hory 80.11 319 *e*P **P 20 38 53.4 -0.1**
KHC *ex* x 20 39 07.0
KHC *e*pP **pP 20 39 13.1 -0.1**
KBA Koelnbreinsper 80.16 317 ⇑*i*P **P 20 38 53.5 -0.4**
comp=Z,2.4nm,0.6s
HFS Hagfors 80.85 330 P **P 20 38 56.9 -0.2**
HFS Hagfors 80.85 330 P **P 20 38 56.9 -0.2**
comp=Z,1.7nm,0.5s,baz=111,slow=6.5,SNR=11
WTTA Wattenberg 81.33 317 ⇑*i*P **P 20 38 59.6 -0.6**
comp=Z,4.1nm,0.5s
WATA Walderalm 81.38 317 ⇑*i*P **P 20 38 59.7 -0.7**
comp=Z,2.8nm,0.5s
MOTA Moosalm 81.70 317 ⇓*i*P **P 20 39 01.5 -0.6**
comp=Z,3.1nm,0.7s
FETA Feichten 81.95 317 ⇓*i*P **P 20 39 03.4 0.0**
comp=Z,3.2nm,0.7s
NOA NORSAR Array B 82.14 331 P **P 20 39 03.6 -0.3**
NOA NORSAR Array B 82.14 331 P **P 20 39 03.6 -0.3**
comp=Z,0.8nm,0.9s,baz=93,slow=5.4,SNR=3.6
DAVOX Davos/Dischmat 82.53 316 P **P 20 39 06.7 +0.2**
DAVOX Davos/Dischmat 82.53 316 P **P 20 39 06.7 +0.2**
comp=Z,6.4nm,0.6s,baz=121,slow=5.3,SNR=14
KEST Kesra 83.09 305 P **P 20 39 10.9 +1.4**
KEST Kesra 83.09 305 P **P 20 39 10.9 +1.4**
comp=Z,1.3nm,0.7s,baz=139,slow=1.7,SNR=11
PGF Pioggiola 83.19 312 *e*P **P 20 39 10.2 +0.3**
comp=Z,7.9nm,0.8s
PGF Pioggiola 83.19 312 *e*P **P 20 39 10.2 +0.3**
PGF Pioggiola 83.19 312 *e*P **P 20 39 10.2 +0.3**
SBF Sospel 84.30 313 *e*P **P 20 39 15.8 +0.3**
comp=Z,9.8nm,0.6s
SBF Sospel 84.30 313 *e*P **P 20 39 15.8 +0.3**
SBF Sospel 84.30 313 *e*P **P 20 39 15.8 +0.3**
LPG La Plagne 84.73 315 *e*P **P 20 39 18.3 +0.4**
comp=Z,5.2nm,0.6s
LPG La Plagne 84.73 315 *e*P **P 20 39 18.3 +0.4**
LPG La Plagne 84.73 315 *e*P **P 20 39 18.3 +0.4**
LPL La Plagne 84.74 315 *e*P **P 20 39 18.4 +0.5**
comp=Z,10nm,0.8s
LPL La Plagne 84.74 315 *e*P **P 20 39 18.4 +0.5**
LPL La Plagne 84.74 315 *e*P **P 20 39 18.4 +0.5**
FRF La Foret Royal 84.89 313 *e*P **P 20 39 18.9 +0.5**
comp=Z,9.4nm,0.7s
FRF La Foret Royal 84.89 313 *e*P **P 20 39 18.9 +0.5**
FRF La Foret Royal 84.89 313 *e*P **P 20 39 18.9 +0.5**
LMR La Mourre 85.00 313 *e*P **P 20 39 19.2 +0.3**
comp=Z,2.2nm,0.5s
LMR La Mourre 85.00 313 *e*P **P 20 39 19.2 +0.3**
LMR La Mourre 85.00 313 *e*P **P 20 39 19.2 +0.3**
ORIF Oris-en-Rattie 85.37 315 *e*P **P 20 39 21.4 +0.5**
comp=Z,3.4nm,0.6s
ORIF Oris-en-Rattie 85.37 315 *e*P **P 20 39 21.4 +0.5**
ORIF Oris-en-Rattie 85.37 315 *e*P **P 20 39 21.4 +0.5**
SMRF Simiane la Rot 85.64 314 *e*P **P 20 39 22.5 +0.3**
comp=Z,4.9nm,0.7s
SMRF Simiane la Rot 85.64 314 *e*P **P 20 39 22.5 +0.3**
SFTF Sexfontaines 85.77 318 *e*P **P 20 39 22.7 0.0**
SFTF Sexfontaines 85.77 318 *e*P **P 20 39 22.7 0.0**
VIVF Saint-Julien-l 86.23 315 *e*P **P 20 39 25.4 +0.3**
comp=Z,3.1nm,0.5s
VIVF Saint-Julien-l 86.23 315 *e*P **P 20 39 25.4 +0.3**
VIVF Saint-Julien-l 86.23 315 *e*P **P 20 39 25.4 +0.3**
LOR Lormes 86.63 317 *e*P **P 20 39 27.0 0.0**
comp=Z,3.3nm,0.6s
LOR Lormes 86.63 317 *e*P **P 20 39 27.0 0.0**
SMF Signal de Mont 86.69 316 *e*P **P 20 39 27.2 0.0**
comp=Z,5.1nm,0.7s
SMF Signal de Mont 86.69 316 *e*P **P 20 39 27.2 0.0**
SMF Signal de Mont 86.69 316 *e*P **P 20 39 27.2 0.0**
LASF Ste Croix 86.87 314 *e*P **P 20 39 28.8 +0.6**
LASF Ste Croix 86.87 314 *e*P **P 20 39 28.8 +0.6**
BGF Bois d'Agland 87.38 316 *e*P **P 20 39 30.9 +0.3**
BGF Bois d'Agland 87.38 316 *e*P **P 20 39 30.9 +0.3**
BGF Bois d'Agland 87.38 316 *e*P **P 20 39 30.9 +0.3**
TCF Toulx Ste Croi 87.84 316 *e*P **P 20 39 33.6 +0.8**
TCF Toulx Ste Croi 87.84 316 *e*P **P 20 39 33.6 +0.8**
TCF Toulx Ste Croi 87.84 316 *e*P **P 20 39 33.6 +0.8**
CAF Calviac 88.07 315 *e*P **P 20 39 34.7 +0.7**
CAF Calviac 88.07 315 *e*P **P 20 39 34.7 +0.7**
CAF Calviac 88.07 315 *e*P **P 20 39 34.7 +0.7**
FLN La Foliniere 89.38 319 *e*P **P 20 39 40.4 +0.4**
comp=Z,14nm,0.8s
FLN La Foliniere 89.38 319 *e*P **P 20 39 40.4 +0.4**
FLN La Foliniere 89.38 319 *e*P **P 20 39 40.4 +0.4**
EKA Eskdalemuir Ar 90.05 326 P **P 20 39 43.2 +0.3**
EKA Eskdalemuir Ar 90.05 326 P **P 20 39 43.2 +0.3**
comp=Z,0.6nm,0.5s,baz=90,slow=5.4,SNR=4.3
TORD Torodi Ar. Bea 91.67 283 P **P 20 39 52.0 +0.6**
TORD PKiKP **PKiKP 20 44 43.1 +0.7**
TORD PKKPbc **PKKPbc 20 57 11.2 +1.0**
TORD Torodi Ar. Bea 91.67 283 P **P 20 39 52.0 +0.6**
comp=Z,1.2nm,1.0s,baz=90,slow=3.4,SNR=4.2
TORD PKiKP **PKiKP 20 44 43.1 +0.7**
comp=Z,0.3nm,0.4s,baz=63,slow=0.1,SNR=12
TORD PKKPbc **PKKPbc 20 57 11.2 +1.0**
comp=Z,0.7nm,1.1s,baz=302,slow=3.0,SNR=4.4
ESDC Sonseca Array 93.20 310 P **P 20 39 58.8 +0.8**
ESDC Sonseca Array 93.20 310 P **P 20 39 58.8 +0.8**
comp=Z,0.6nm,0.5s,baz=59,slow=3.9,SNR=4.6
QSPA South Pole Qui 95.31 180 LR LR 21 16 06.2
comp=Z,74nm,19.4s,baz=338,slow=31
ILAR Eielson Array 96.83 22 P **P 20 40 13.2 -0.7**
ILAR Eielson Array 96.83 22 P **P 20 40 13.2 -0.7**
comp=Z,0.4nm,0.5s,baz=296,slow=4.2,SNR=7.7
ULM Lac du Bonnet 123.83 8 PKP **PKPdf 20 45 40.8 -0.3**
ULM Lac du Bonnet 123.83 8 PKP **PKPdf 20 45 40.8 -0.3**
comp=Z,3.6nm,0.6s,baz=354,slow=3.8,SNR=3.9
NVAR Mina Array Bea 126.74 32 PKP **PKPdf 20 45 47.9 +0.6**
NVAR Mina Array Bea 126.74 32 PKP **PKPdf 20 45 47.9 +0.6**
comp=Z,0.8nm,0.5s,baz=275,slow=3.3,SNR=7.0
PDAR Pinedale Array 127.26 22 PKP **PKPdf 20 45 48.2 +0.1**
PDAR Pinedale Array 127.26 22 PKP **PKPdf 20 45 48.2 +0.1**
comp=Z,1.2nm,0.6s,baz=90,slow=2.3,SNR=11
TXAR Lajitas Array 141.23 26 PKPpre PKPpre 20 46 08.8
TXAR PKP **PKPdf 20 46 15.4 +0.9**
TXAR Lajitas Array 141.23 26 PKhKP PKPpre 20 46 08.8
comp=Z,0.3nm,0.4s,baz=267,slow=0.2,SNR=6.4
TXAR PKP **PKPdf 20 46 15.4 +0.9**
comp=Z,0.9nm,0.5s,baz=117,slow=1.3,SNR=12
CPUP Villa Florida 146.11 229 PKPbc **PKPbc 20 46 24.1 +0.2**
CPUP Villa Florida 146.11 229 PKPbc **PKPbc 20 46 24.1 +0.2**
comp=Z,0.4nm,0.3s,baz=92,slow=5.2,SNR=3.2

MEX 25 20:38:14.3±0.8, 18°41N×103°35W, h63km±8km, MD3.6,
Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MMIG	**Aquila**	**0.12**	**180**	*e*P	Pn		20 38 22.1	-1.6
MMIG				*i* S	Sn		20 38 28.9	-1.6
R15V		**0.97**	**322**	*e*P	Pn		20 38 31.1	-1.1

R15V *i* S Sn 20 38 43.2 -2.2
EZ5V 1.09 347 *e*P Pn 20 38 32.3 -1.8
EZ5V *i* S Sn 20 38 46.8 -1.9
ZIIG Zihuatanejo 1.96 114 *i* P Pn 20 38 46.7 +1.5
ZIIG *i* S Sn 20 39 07.2 -1.5
SFJM Santa Fe 2.09 8 *i* P Pn 20 38 47.0 -0.3
SFJM *i* S Sn 20 39 11.0 -1.4
MOIG Morelia 2.40 58 *i* P Pn 20 38 52.1 +0.5
ANIG Ahuacatlan 2.86 337 *i* P Pn 20 38 59.0 +1.3

*IDC **25** 21:31:09.0±2.4, 8.29S×112.85E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx2.9/35, Error ellipse: s-maj=119.1km s-min=20.7km az=52.0*
*ISCJB **25** 21:31:25.8±0.7, 8.7S±0.1×113.02E±0.04, h136km, mb3.5/5, Error ellipse: s-maj=15.4km s-min=6.0km az=6.1*
*DJA **25** 21:31:27.7±0.8, 9.9S±9.1×113.3E±.1, h117km±9km, M3.8/9, mb4.3/1, MLv3.6/9*
ISC 25 21:31:25.9±1.0, **8.5S**±0.1×**113.03E**±0.05, **h136**km, **n17**, σ1**972/18**, **mb3.8/5**, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.68**	**303**	P	**Pn**	**21 31 48.7**	**+2.0**
KRKI				S	**Sn**	**21 32 06.2**	**+3.7**
BLJI	**Banyuglugur**	**0.96**	**36**	P	**Pn**	**21 31 50.1**	**+1.1**
PWJI	**Pagerwojo**	**1.31**	**293**	P	**Pn**	**21 31 53.0**	**+0.6**
PWJI				S	**Sn**	**21 32 13.3**	**+0.7**
SJI	**Sawahan**	**1.48**	**302**	P	**Pn**	**21 31 55.2**	**+0.9**
GRJI	**Gresik**	**1.70**	**341**	P	**Pn**	**21 31 58.5**	**+1.9**
KMMI	**Kalianget**	**1.74**	**32**	P	**Pn**	**21 31 58.2**	**+1.0**
PCJI	**Pacitan**	**1.86**	**280**	P	**Pn**	**21 31 59.7**	**+1.2**
PCJI				S	**Sn**	**21 32 24.5**	**+1.0**
SRBI	**Singaraja**	**2.21**	**79**	P	**Pn**	**21 32 04.0**	**+1.3**
SRBI				S	**Sn**	**21 32 32.7**	**+1.8**
UGM	**Wanagama**	**2.56**	**284**	P	**Pn**	**21 32 08.7**	**+1.6**
CISI	**Cisompet, Garu**	**5.25**	**280**	P	**Pn**	**21 32 43.3**	**+0.8**
KAPI	**Kappang**	**7.54**	**63**	LR	LR	21 36 11.5	
	comp=Z,60nm,18.1s,baz=14,slow=40						
WRA	**Warramunga Arr**	**23.53**	**121**	P	**P**	**21 36 23.9**	**-0.1**
	0.5nm,0.9s,baz=298,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.02**	**129**	P	**P**	**21 36 37.4**	**0.0**
	0.4nm,0.3s,baz=304,slow=9.0,SNR=8.9						
SONM	**Songino Array**	**56.43**	**355**	P	**P**	**21 40 51.4**	**-2.0**
	0.5nm,0.4s,baz=174,slow=7.8,SNR=8.6						
ASAJ	**Asahikawa**	**58.84**	**25**	LR	LR	22 12 17.5	
	comp=Z,178nm,18.1s,baz=23,slow=42						
MKAR	**Makanchi Array**	**61.51**	**336**	P	**P**	**21 41 26.1**	**-2.2**
	0.7nm,0.4s,baz=149,slow=7.3,SNR=16						
ZALV	**Zalesovo Beam**	**66.65**	**342**	P	P	21 41 58.3	-3.4
	0.8nm,0.5s,baz=144,slow=5.2,SNR=4.2						

*ISCJB **25** 21:34:58.2±0.3, 21.15S±0.03×68.47W±0.05, h131km±3km, mb4.8/56, Error ellipse: s-maj=7.2km s-min=4.6km az=165.8*
*NEIC **25** 21:35:00.3, 21.18S×68.84W, h138km, mb5.1/38, After GUC.*
*GUC **25** 21:35:00.3±0.7, 21.18S×68.84W, h138km±4km, ML5.4*
*IDC **25** 21:35:01.3±0.4, 21.09S×68.26W, h129km±3km, mb4.6/12, mb1 4.6/16, mb1mx4.6/18, mbtmp4.6/16, MS3.4/6, Ms1 3.4/6, ms1mx3.2/25, Error ellipse: s-maj=13.5km s-min=10.3km az=77.0*
ISC 25 21:35:00.6±0.3, **21.17S**±0.04×**68.44W**±0.05, **h133**km±2km, **h133**km:**pP-P**, **n508**, σ1**962/253**, **mb5.1/56**, **157C-178D**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.97**	**230**	⇑*i*P	**Pn**	**21 35 22.4**	**-1.3**
PB09				*i* S	**Sn**	**21 35 38.8**	**-2.4**
PB09				AML	AML	21 35 40.3	
	comp=N,280μm,0.5s						
PB01	**Plate Boundary**	**0.98**	**277**	⇓*i*P	**Pn**	**21 35 21.8**	**-1.9**
PB01				*i* S	**Sn**	**21 35 37.6**	**-3.6**
PB01				AML	AML	21 35 40.5	
	comp=E,55μm,0.6s						
PB04	**Plate Boundary**	**1.46**	**221**	⇑*i*P	Pn	21 35 32.1	+3.7
PB04				*i* S	Sn	21 35 55.9	+6.2
PB04				AML	AML	21 35 57.6	
	comp=E,26μm,0.5s						
LVC	**Limon Verde**	**1.50**	**197**	*e*Pn	**Pn**	**21 35 28.0**	**-1.2**
LVC				*e*Sn	**Sn**	**21 35 48.7**	**-2.3**
HMBC	**Humberstone**	**1.62**	**303**	⇓*i*P	**Pn**	**21 35 28.6**	**-1.8**
HMBC				*i* S	**Sn**	**21 35 49.8**	**-3.2**
HMBC				AML	AML	21 35 51.4	
	comp=N,67μm,0.6s						
PSGC	**Pisagua**	**2.22**	**314**	*i* P	**Pn**	**21 35 35.3**	**-2.2**
PSGC				*i* S	**Sn**	**21 36 02.1**	**-3.8**
PSGC				AML	AML	21 36 05.2	
	comp=N,16μm,0.5s						
MNMC	**Minimini**	**2.30**	**332**	⇓*i*P	**Pn**	**21 35 38.0**	**-0.7**
MNMC				*i* S	**Sn**	**21 36 06.4**	**-1.5**
PB10	**Plate Boundary**	**3.04**	**220**	AML	AML	21 36 44.3	
	comp=E,14μm,0.7s						
ANCH	**Antofagasta**	**3.09**	**216**	*e*P	**Pn**	**21 35 45.9**	**-2.6**
ANCH				*i* S	**Sn**	**21 36 21.3**	**-4.2**
LPAZ	**La Paz**	**4.86**	**4**	*e*Pn	**Pn**	**21 36 13.3**	**+0.8**
LPAZ				*e*Sn	**Sn**	**21 37 09.8**	**+1.4**
LPAZ	**La Paz**	**4.86**	**4**	P	**Pn**	**21 36 13.6**	**+1.1**
	comp=E,98nm,0.3s,baz=188,slow=8.2,SNR=476						
LPAZ				S	**Sn**	**21 37 07.2**	**-1.2**
	comp=E,8.6nm,0.3s,baz=270,slow=20,SNR=1.3						
LPAZ				LR	LR	21 37 57.2	
	comp=E,668nm,19.0s,baz=249,slow=37						
LCO	**Las Campanas**	**8.07**	**194**	*e*Pn	Pn	21 36 49.7	-5.6
LCO				*e*Sn	Sn	21 38 17.7	-7.4
SIV	**San Ignacio**	**8.68**	**55**	P	**Pn**	**21 37 01.1**	**-2.2**
SIV	**San Ignacio**	**8.68**	**55**	P	**Pn**	**21 37 01.1**	**-2.2**
	comp=E,112nm,0.3s,baz=256,slow=14,SNR=858						
SIV				LR	LR	21 40 57.5	
	comp=E,271nm,18.8s,slow=42						
CFAA	**Coronel Fontan**	**10.39**	**179**	P	Pn	21 37 21.4	-4.7
CFAA				S	Sn	21 39 08.4	-13
CFAA	**Coronel Fontan**	**10.39**	**179**	P	Pn	21 37 21.4	-4.7
	comp=E,1.0nm,0.3s,baz=352,slow=15,SNR=54						
CFAA				S	Sn	21 39 08.4	-13
	comp=E,0.4nm,0.3s,baz=351,slow=11,SNR=3.8						
CFAA				LR	LR	21 42 00.8	
	comp=E,52nm,21.1s,baz=350,slow=40						
CPUP	**Villa Florida**	**11.40**	**119**	*e*Pn	**Pn**	**21 37 37.5**	**-2.0**
CPUP				*e*Sn	**Sn**	**21 39 41.5**	**-3.6**
CPUP	**Villa Florida**	**11.40**	**119**	P	**Pn**	**21 37 37.3**	**-2.2**
	comp=E,3.2nm,0.3s,baz=282,slow=15,SNR=24						
CPUP				LR	LR	21 43 13.4	
	comp=E,174nm,20.2s,baz=273,slow=44						
SAML	**Samuel**	**13.16**	**23**	*e*Pn	**Pn**	**21 37 59.7**	**-2.9**
	comp=E,57nm,0.9s						
SAML				*e*Sn	**Sn**	**21 40 23.7**	**-4.3**
TRQA	**Tornquist**	**17.73**	**163**	*e*P	**P**	**21 38 57.2**	**-0.9**
	comp=E,82nm,0.8s						
PLCA	**Paso Flores**	**19.59**	**185**	*e*P	**P**	**21 39 19.1**	**+0.7**
PLCA	**Paso Flores**	**19.59**	**185**	P	**P**	**21 39 18.6**	**+0.2**
	comp=E,1.3nm,0.3s,baz=0.2,slow=12,SNR=22						
BDFB	**Brasilia**	**20.14**	**78**	P	**P**	**21 39 24.4**	**-0.1**
BDFB	**Brasilia**	**20.14**	**78**	P	**P**	**21 39 24.4**	**-0.1**
	comp=E,12nm,0.3s,baz=244,slow=9.4,SNR=75						
BDFB				LR	LR	21 47 20.1	
	comp=E,92nm,19.1s,baz=49,slow=37						
OTAV	**Otavalo**	**23.42**	**334**	*e*P	**P**	**21 40 01.0**	**+2.6**
	comp=E,84nm,1.1s						
ROSC	**El Rosal**	**26.50**	**347**	*e*P	**P**	**21 40 25.1**	**-1.1**
ROSC	**El Rosal**	**26.50**	**347**	P	**P**	**21 40 26.2**	**0.0**
	comp=E,17nm,0.4s,baz=86,slow=23,SNR=5.7						
ROSC				LR	LR	21 51 43.4	
	comp=E,136nm,18.4s,baz=192,slow=38						
GRGR	**Grenville**	**33.76**	**12**	*e*P	**P**	**21 41 29.9**	**+0.1**
FDF	**Fort de France**	**36.39**	**12**	*e*P	**P**	**21 41 51.8**	**-0.5**
	comp=E,54nm,0.4s						
CRPR	**Cabo Rojo, PR**	**38.95**	**2**	*e*P	**P**	**21 42 13.5**	**-0.3**
	comp=E,66nm,0.8s						
OBIP	**Obispado Ponce**	**39.01**	**3**	*e*P	**P**	**21 42 13.1**	**-1.2**
	comp=E,82nm,0.6s						
OBIP				*e*pP	**pP**	**21 42 46.9**	**+3.1**
CELP	**Cerrillos**	**39.04**	**3**	*e*P	**P**	**21 42 13.3**	**-1.2**
HUMP	**Col San Antoni**	**39.15**	**4**	*e*P	**P**	**21 42 13.7**	**-1.7**
	comp=E,26nm,0.7s						
MPR	**Mayaguez**	**39.16**	**2**	*e*P	**P**	**21 42 14.3**	**-1.1**
	comp=E,73nm,0.8s						
LRS	**Lares**	**39.25**	**2**	*e*P	**P**	**21 42 14.8**	**-1.4**
CBYP	**Canovanas**	**39.28**	**4**	*e*P	**P**	**21 42 14.6**	**-1.9**
	comp=E,76nm,0.9s						
CBYP				*e*pP	**pP**	**21 42 44.9**	**-1.2**
AOPR	**Arecibo Observ**	**39.31**	**3**	*e*P	**P**	**21 42 15.3**	**-1.5**
	comp=E,87nm,1.2s						
TEIG	**Tepich**	**45.48**	**333**	P	**P**	**21 43 06.7**	**0.0**
TEIG	**Tepich**	**45.48**	**333**	P	**P**	**21 43 06.7**	**0.0**
	comp=E,5.4nm,0.6s,baz=146,slow=7.3,SNR=4.2						
TIGA	**Tifton**	**54.29**	**344**	⇑P	P	21 44 44.5	+32
	baz=54						
KMSC	**Kings Mountain**	**57.32**	**347**	*e*P	**P**	**21 44 35.3**	**+0.7**
	comp=E,35nm,1.0s						
KMSC				*e*pP	**pP**	**21 45 07.2**	**+1.1**
KMSC	**Kings Mountain**	**57.32**	**347**	⇓P	P	21 45 06.4	+32
	baz=58						
732A	**Laxson Ranch,**	**58.20**	**327**	⇓P	P	21 45 11.4	+31
	baz=58						
CPCT	**Cooper Cave**	**58.34**	**345**	*e*P	**P**	**21 44 42.2**	**+0.5**
TKL	**Tuckaleechee C**	**58.35**	**345**	*e*P	**P**	**21 44 41.9**	**0.0**
TKL				*e*pP	**pP**	**21 45 11.5**	**-1.9**
TKL	**Tuckaleechee C**	**58.35**	**345**	P	**P**	**21 44 42.0**	**+0.2**
	comp=E,9.5nm,0.8s,baz=201,slow=8.6,SNR=11						
632A	**Uvalde**	**58.74**	**328**	⇓P	P	21 45 15.6	+31
	baz=59						
PLAL	**Pickwick Lake**	**58.87**	**341**	*e*P	**P**	**21 44 45.1**	**-0.3**
PLAL				*e*pP	**pP**	**21 45 16.3**	**-0.7**
631A	**Perdido Creek**	**59.06**	**327**	⇓P	P	21 45 17.4	+31
	baz=59,SNR=8.3						
TZTN	**Tazewell**	**59.15**	**346**	*e*P	**P**	**21 44 46.6**	**-0.7**
	comp=E,28nm,0.7s						
BLA	**Blacksburg**	**59.16**	**349**	*e*P	**P**	**21 44 46.8**	**-0.5**
	comp=E,20nm,0.9s						
532A	**Rocksprings**	**59.31**	**328**	⇑P	P	21 45 19.6	+31
	baz=59						
JCT	**Junction City**	**59.55**	**329**	⇑P	P	21 45 21.1	+31
	baz=60						
531A	**Rocksprings**	**59.66**	**328**	⇓P	P	21 45 22.0	+31
	baz=60,SNR=5.9						
WHTX	**Lake Whitney**	**59.72**	**331**	⇑P	P	21 45 21.7	+30
	baz=60						
432A	**Menard**	**59.87**	**329**	⇓P	P	21 45 23.2	+31
	baz=60						
530A	**J-C Ranch, Com**	**60.04**	**327**	⇓P	P	21 45 24.9	+31
	baz=60,SNR=7.2						
431A	**Sonora**	**60.11**	**328**	⇓P	P	21 45 24.6	+31
	baz=60,SNR=6.2						
332A	**Millersview**	**60.26**	**329**	⇑P	P	21 45 25.9	+31
	baz=60						
628A	**Black Gap, Mar**	**60.31**	**325**	⇑P	P	21 45 27.1	+32
	baz=60,SNR=6.7						
MIAR	**Mount Ida**	**60.34**	**336**	*e*P	**P**	**21 44 53.1**	**-2.4**
	comp=E,28nm,1.0s						
MIAR				*e*pP	**pP**	**21 45 27.3**	**0.0**
529A	**Stev Forest Ra**	**60.47**	**326**	⇓P	P	21 45 27.9	+31
	baz=60						
430A	**Baggett Ranch,**	**60.51**	**328**	⇓P	P	21 45 27.7	+31
	baz=61,SNR=6.1						
331A	**San Angelo**	**60.53**	**329**	⇓P	P	21 45 28.3	+31
	baz=61						
627A	**Terlingua Ranc**	**60.55**	**325**	⇓P	P	21 45 29.6	+32
	baz=61						
TXAR	**Lajitas Array**	**60.61**	**325**	P	**P**	**21 44 58.4**	**+0.9**
TXAR				pP	**pP**	**21 45 28.9**	**-0.4**
TXAR	**Lajitas Array**	**60.61**	**325**	P	**P**	**21 44 58.4**	**+0.9**
	comp=E,0.2nm,0.5s,baz=150,slow=3.8,SNR=3.2						
TXAR				pP	**pP**	**21 45 28.9**	**-0.4**
	comp=E,4.2nm,0.9s,baz=139,slow=8.3,SNR=12						
232A	**Coleman**	**60.64**	**330**	⇓P	P	21 45 28.6	+31
	baz=61						
429A	**Davenport Ranc**	**60.71**	**327**	⇓P	P	21 45 29.5	+31
	baz=61,SNR=5.7						
528A	**Cox Ranch, San**	**60.80**	**326**	⇓P	P	21 45 30.1	+31
	baz=61,SNR=5.0						
VNA2	**Neumayer--Watz**	**60.82**	**161**	*e*Pn	**P**	**21 44 59.8**	**+1.5**
PARMO	**Parma**	**60.94**	**340**	*e*P	**P**	**21 44 59.1**	**-0.3**
330A	**Mertzon**	**60.98**	**328**	⇓P	P	21 45 31.1	+31
	baz=61						
231A	**Bronte**	**60.99**	**329**	⇓P	P	21 45 30.8	+31
	baz=61						
626A	**Big Bend Ranch**	**61.03**	**324**	⇑P	P	21 45 32.5	+32
	baz=61,SNR=7.0						
428A	**Kincaid Ranch,**	**61.19**	**326**	⇓P	P	21 45 34.1	+33
	baz=61						
527A	**Woodward Ranch**	**61.22**	**325**	⇓P	P	21 45 33.1	+31
	baz=61,SNR=7.9						
ABTX	**Abilene, Hawle**	**61.25**	**330**	⇑P	P	21 45 32.5	+31
	baz=61						
MVL	**Millersville**	**61.30**	**353**	*e*P	**P**	**21 45 02.7**	**+0.9**
	comp=E,22nm,1.0s						
MVL				*e*pP	**pP**	**21 45 35.5**	**+1.9**
230A	**Sterling City**	**61.34**	**328**	⇓P	P	21 45 34.1	+32
	baz=61						
526A	**Mary Lane Ranc**	**61.41**	**325**	⇓P	P	21 45 34.9	+32
	baz=61,SNR=9.8						
329A	**Wagon Wheel Ra**	**61.44**	**327**	⇓P	P	21 45 33.8	+31
	baz=62,SNR=6.7						
131A	**Roby**	**61.64**	**330**	⇑P	P	21 45 34.9	+31
	baz=62						
427A	**Hayter Ranch,**	**61.66**	**326**	⇑P	P	21 45 37.0	+32
	baz=62						
Z32A	**Haskell**	**61.74**	**331**	⇓P	P	21 45 35.6	+31
	baz=62						
229A	**Bryant Ranch,**	**61.75**	**328**	⇑P	P	21 45 37.1	+32
	baz=62						
SIUC	**Southern Illin**	**61.75**	**341**	*e*P	**P**	**21 45 02.9**	**-2.0**
SIUC				*e*pP	**pP**	**21 45 37.2**	**+0.4**
328A	**Wristen Ranch,**	**61.78**	**327**	⇓P	P	21 45 36.3	+31
	baz=62,SNR=5.1						
130A	**Snyder**	**61.85**	**329**	⇓P	P	21 45 37.1	+31
	baz=62,SNR=5.4						
426A	**McDonald Obser**	**61.85**	**325**	⇓P	P	21 45 37.4	+31
	baz=62,SNR=6.7						
Z31A	**Sharp Cattle R**	**62.05**	**330**	⇓P	P	21 45 38.8	+32
	baz=62						
SSPA	**Standing Stone**	**62.11**	**352**	*e*P	**P**	**21 45 06.4**	**-0.9**
	comp=E,14nm,1.0s						
228A	**UT Block 9, Go**	**62.26**	**327**	⇑P	P	21 45 39.5	+31
	baz=62						
Y32A	**R-V Farms, Ver**	**62.30**	**331**	⇑P	P	21 45 39.7	+31
	baz=62						
129A	**Stewart Farms,**	**62.31**	**328**	⇓P	P	21 45 39.9	+31
	baz=62						
326A	**Caldwell Ranch**	**62.33**	**326**	⇑P	P	21 45 41.0	+32
	baz=62						
TUL1	**Tulsa**	**62.40**	**335**	⇓P	P	21 45 39.7	+30
	baz=62						
SNAA	**Sanae**	**62.45**	**161**	*e*Pn	**P**	**21 45 10.4**	**+1.1**
SNAA	**Sanae**	**62.45**	**161**	*e*P	**P**	**21 45 10.3**	**+1.0**
Z30A	**Sanderson Ranc**	**62.49**	**329**	⇓P	P	21 45 40.8	+31
	baz=63,SNR=5.1						
227A	**Bennet, Jal**	**62.53**	**327**	⇑P	P	21 45 42.2	+32
	baz=63						
128A	**Castleberry Fa**	**62.61**	**328**	⇑P	P	21 45 42.2	+31
	baz=63						
Y31A	**Rekieta Farm,**	**62.64**	**330**	⇓P	P	21 45 42.2	+31
	baz=63						
Z29A	**Hungry Hill Ra**	**62.75**	**329**	⇑P	P	21 45 42.5	+31
	baz=63						
BRYW	**Bryant College**	**62.83**	**357**	*e*P	**P**	**21 45 11.8**	**-0.3**
	comp=E,40nm,0.7s						
325A	**Bean Ranch, Si**	**62.90**	**325**	⇓P	P	21 45 44.5	+31
	baz=63,SNR=9.6						
226B	**Tecolote Peak,**	**63.03**	**326**	⇓P	P	21 45 45.5	+32
	baz=63,SNR=8.2						
X31A	**McDonald Ranch**	**63.07**	**331**	⇑P	P	21 45 44.7	+31
	baz=63						
127A	**Arkansas Junct**	**63.09**	**327**	⇑P	P	21 45 45.7	+32
	baz=63						
Z28A	**Tucker Farm, M**	**63.10**	**328**	⇑P	P	21 45 45.0	+31
	baz=63						
Y29A	**Porterfield Fa**	**63.22**	**329**	⇓P	P	21 45 46.0	+31
	baz=63						
324A	**Moseley Ranch,**	**63.23**	**325**	⇑P	P	21 45 46.2	+31
	baz=63,SNR=6.8						
MNTX	**Cornudas Mount**	**63.38**	**325**	*e*P	**P**	**21 45 13.7**	**-2.2**
MNTX				*e*pP	**pP**	**21 45 46.6**	**-1.3**
225A	**Deer Hill, Car**	**63.40**	**326**	⇑P	P	21 45 47.7	+31
	baz=63						
126A	**Clayton Basin,**	**63.41**	**327**	⇓P	P	21 45 48.1	+32
	baz=64						
HRV	**Adam Dziewonsk**	**63.42**	**357**	*e*P	**P**	**21 45 15.4**	**-0.5**
	comp=E,5.5nm,0.8s						
ALLY	**Alegheny Colle**	**63.43**	**350**	*e*P	**P**	**21 45 15.7**	**-0.3**
	comp=E,21nm,0.7s						
BINY	**Binghamton**	**63.43**	**354**	*e*P	**P**	**21 45 16.0**	**-0.1**
	comp=E,16nm,0.5s						
W31A	**Holland Ranch,**	**63.52**	**331**	⇑P	P	21 45 47.0	+30
	baz=64						
Z27A	**Tatum**	**63.53**	**328**	⇓P	P	21 45 47.9	+31
	baz=64,SNR=6.6						
Y28A	**McKinney Farm,**	**63.54**	**329**	⇓P	P	21 45 48.0	+31
	baz=64						
SFIN	**Scholer Farm**	**63.65**	**344**	*e*P	**P**	**21 45 17.0**	**-0.4**
	comp=E,30nm,0.8s						
SFIN				*e*pP	**pP**	**21 45 49.2**	**-0.3**
SFIN	**Scholer Farm**	**63.65**	**344**	⇑P	P	21 45 47.8	+30
	baz=64						
224A	**Cornudas Mount**	**63.74**	**325**	⇑P	P	21 45 50.6	+32
	baz=64						
125A	**Gardner Draw,**	**63.74**	**326**	⇑P	P	21 45 50.1	+32
	baz=64						
MSTX	**Muleshoe**	**63.84**	**329**	*e*P	**P**	**21 45 19.8**	**+0.8**
	comp=E,36nm,0.9s						
MSTX				*e*pP	**pP**	**21 45 50.9**	**-0.2**
MSTX	**Muleshoe**	**63.84**	**329**	⇓P	P	21 45 49.9	+31
	baz=64,SNR=9.0						
Z26A	**Caprock**	**63.88**	**327**	⇓P	P	21 45 51.0	+32
	baz=64						
Y27A	**Causey**	**63.96**	**328**	⇓P	P	21 45 50.7	+31
	baz=64,SNR=5.5						
V31A	**Spring Creek L**	**63.97**	**332**	⇓P	P	21 45 51.3	+32
	baz=64						
124A	**Stringfield Ra**	**64.19**	**326**	⇑P	P	21 45 53.0	+32
	baz=64,SNR=6.3						
W29A	**Amraillo**	**64.24**	**330**	⇓P	P	21 45 52.6	+31
	baz=64						
Z25A	**Roswell**	**64.26**	**327**	⇑P	P	21 45 52.7	+31
	baz=64,SNR=5.1						
V30A	**Spur Ranch, Mi**	**64.33**	**331**	⇓P	P	21 45 52.3	+30
	baz=64						
W28A	**Vega**	**64.62**	**330**	⇓P	P	21 45 55.3	+31
	baz=65						
Z24A	**Sheeppen Canyo**	**64.64**	**326**	⇑P	P	21 45 56.0	+32
	baz=65,SNR=5.5						
Y25A	**Mesa, Roswell**	**64.76**	**327**	⇓P	P	21 45 56.8	+32
	baz=65						
X26A	**CR and CF Fran**	**64.82**	**328**	⇓P	P	21 45 57.3	+32
	baz=65,SNR=8.1						
320A	**Kipp Ranch, An**	**64.84**	**322**	⇑P	P	21 45 58.7	+33
	baz=65,SNR=5.3						
W27A	**Bowe Ranch, En**	**64.87**	**329**	⇓P	P	21 45 56.5	+31
	baz=65,SNR=5.5						
221A	**Mesquite Ranch**	**64.92**	**324**	⇓P	P	21 45 59.7	+34
	baz=65						
U30A	**WK&E Inc. Balk**	**64.96**	**332**	⇓P	P	21 45 57.1	+31
	baz=65						
T31A	**Randall Ranch,**	**65.01**	**333**	⇓P	P	21 45 58.4	+32
	baz=65						
V28A	**Channing**	**65.03**	**330**	⇑P	P	21 45 58.6	+32
	baz=65						
Z23A	**Rita Site, Whi**	**65.04**	**326**	⇓P	P	21 45 59.7	+33
	baz=65						
Y24A	**Capitan**	**65.14**	**327**	⇓P	P	21 45 59.4	+32
	baz=65						
LBNH	**Lisbon**	**65.17**	**357**	*e*P	**P**	**21 45 26.4**	**-0.9**
	comp=E,26nm,0.8s						
U29A	**Oasis Ranch, S**	**65.17**	**331**	⇑P	P	21 45 59.3	+32
	baz=65						
X25A	**Clemmons Ranch**	**65.22**	**327**	⇓P	P	21 45 59.9	+32
	baz=65						
W26A	**Owens Ranch, T**	**65.23**	**329**	⇑P	P	21 45 60.0	+32
	baz=65						
220A	**Playas Peak, P**	**65.26**	**323**	⇑P	P	21 46 01.6	+33
	baz=65,SNR=7.7						
319A	**Douglas**	**65.30**	**322**	⇓P	P	21 46 01.8	+33
	baz=65,SNR=7.4						
121A	**Cookes Peak, D**	**65.32**	**324**	⇑P	P	21 46 02.0	+33
	baz=65,SNR=6.2						
Z22A	**Elephant Butte**	**65.42**	**325**	⇑P	P	21 46 02.5	+33
	baz=66,SNR=10.0						
Y23A	**Lovelace Mesa,**	**65.47**	**326**	⇑P	P	21 46 02.2	+33
	baz=66						
U28A	**Mallet**	**65.54**	**330**	⇑P	P	21 46 01.7	+32
	baz=66						
X24A	**Lazy VL Ranch,**	**65.64**	**327**	⇓P	P	21 46 02.8	+32
	baz=66						
W25A	**X Bar L Ranch,**	**65.67**	**328**	⇑P	P	21 46 02.6	+32
	baz=66,SNR=6.2						
LONY	**Lake Ozonia**	**65.71**	**355**	*e*P	**P**	**21 45 30.1**	**-0.7**
	comp=E,20nm,0.7s						
LONY				*e*pP	**pP**	**21 46 04.1**	**+1.1**
120A	**U Bar Ranch, L**	**65.80**	**323**	⇑P	P	21 46 05.1	+33
	baz=66,SNR=5.7						
S30A	**Montezuma**	**65.80**	**333**	⇑P	P	21 46 02.4	+31
	baz=66						
V26A	**Tequesquite Ra**	**65.80**	**329**	⇑P	P	21 46 04.1	+32
	baz=66,SNR=8.4						
Z21A	**St. Cloud Mine**	**65.84**	**325**	⇓P	P	21 46 05.5	+33
	baz=66,SNR=6.0						
U27A	**Thompson Grove**	**65.86**	**330**	⇑P	P	21 46 03.9	+32
	baz=66						
Y22A	**Socorro**	**65.95**	**325**	⇓P	P	21 46 05.7	+33
	baz=66						
T28A	**Walsh**	**66.10**	**331**	⇑P	P	21 46 05.4	+32
	baz=66						
Z20A	**Nine Sixteen R**	**66.20**	**324**	⇑P	P	21 46 07.6	+33
	baz=66,SNR=6.6						
V25A	**Rancho No Teng**	**66.24**	**328**	⇑P	P	21 46 07.2	+33
	baz=66,SNR=6.9						
U26A	**Atchley Ranch,**	**66.27**	**329**	⇑P	P	21 46 07.5	+33
	baz=66,SNR=10						
T27A	**Campo**	**66.33**	**331**	⇑P	P

baz=68
U22A Llaves 67.78 327 ⇑P P 21 46 18.4 +34
baz=68
214A Organ Pipe Nat 67.79 320 ⇑P P 21 46 18.5 +34
baz=68,SNR=5.6
LIC Lamto 67.88 74 eP P 21 45 44.0 -1.2
comp=E,37nm,1.0s
T23A Casias Ranch, 67.89 328 ⇓P P 21 46 18.3 +33
baz=68
R25A Fountain Ranch 67.93 330 ⇑P P 21 46 18.2 +33
baz=68,SNR=5.4
S24A Houchin Ranch, 67.97 329 ⇓P P 21 46 19.2 +34
baz=68,SNR=8.0
P28A Saint Francis 67.97 333 ⇓P P 21 46 18.1 +33
baz=68
X18A Snowflake 68.01 324 ⇑P P 21 46 20.7 +35
baz=68
O29A 4D Ranch, Culb 68.03 334 ⇑P P 21 46 18.3 +33
baz=68
TIC Toumodi 68.07 73 eP P 21 45 45.7 -0.7
comp=E,58nm,1.2s
BGNE Belgrade 68.08 336 ⇓P P 21 46 17.8 +32
baz=68
KIC Kosan Boka 68.19 74 eP P 21 45 45.4 -1.8
comp=E,47nm,1.0s
Q26A Hugo 68.21 331 ⇓P P 21 46 20.2 +33
baz=68
DBIC Dimbokro 68.22 73 eP P 21 45 48.2 +0.8
DBIC Dimbokro 68.22 73 P P 21 45 47.9 +0.6
comp=E,28nm,0.9s,baz=225,slow=8.6,SNR=21
U21A Nageezi 68.23 327 ⇓P P 21 46 20.3 +33
baz=68
T22A Edith 68.30 328 ⇑P P 21 46 20.3 +33
baz=68
P27A Ficken Ranch, 68.31 332 ⇓P P 21 46 20.6 +33
baz=68
W18A Petrified Fore 68.33 324 ⇑P P 21 46 21.6 +34
baz=68
R24A Sanders Place, 68.39 330 ⇓P P 21 46 21.9 +34
baz=68,SNR=8.2
O28A Krutsinger Ran 68.44 333 ⇓P P 21 46 21.1 +33
baz=69
T21A Navajo Lake 68.60 327 ⇓P P 21 46 22.3 +33
baz=69
U20A Newcomb 68.63 326 ⇓P P 21 46 23.6 +34
baz=69
P26A Davis Ranch, A 68.66 332 ⇓P P 21 46 22.6 +33
baz=69
R23A Moffat 68.70 329 ⇑P P 21 46 23.4 +33
baz=69
X16A Lo Mia Camp, P 68.76 323 ⇑P P 21 46 24.3 +34
baz=69
O27A Beecher Island 68.80 333 ⇑P P 21 46 24.6 +34
baz=69,SNR=5.2
Z14A Wintersburg 68.86 321 ⇓P P 21 46 25.2 +34
baz=69
P25A Willow Gulch B 68.98 331 ⇓P P 21 46 25.5 +34
baz=69
Q24A Divide 68.99 330 ⇓P P 21 46 25.5 +33
baz=69,SNR=5.7
QSPA South Pole Qui 69.02 180 eP P 21 45 53.6 +2.0
comp=E,39nm,0.7s
O26A Horse Wrangler 69.20 332 ⇓P P 21 46 26.5 +34
baz=69
P24A Kohler Place, 69.32 331 ⇓P P 21 46 26.8 +33
baz=69
M28A Bar X Bar Ranc 69.34 334 ⇑P P 21 46 27.1 +33
baz=70
WUAZ Wupatki 69.52 324 ⇑P P 21 46 29.3 +34
baz=70
ECSD EROS Data Cent 69.57 339 eP P 21 45 52.9 -2.2
ECSD epP pP 21 46 27.6 0.0
S20A Disappointment 69.66 327 ⇑P P 21 46 29.9 +34
baz=70
SPMN St. Paul 69.70 342 ⇓P P 21 46 28.2 +32
baz=70
GLA Glamis 69.77 320 ⇓P P 21 46 31.4 +35
baz=70
ISCO Idaho Springs 69.88 330 ⇓P P 21 46 30.8 +33
baz=70,SNR=5.5
R20A Redvale 69.95 327 ⇑P P 21 46 31.7 +34
baz=70
Y12C Blythe 70.07 320 ⇑P P 21 46 32.5 +34
baz=70
K29A Lazy Trails An 70.07 336 ⇑P P 21 46 31.4 +33
baz=70
PDMCI Parker Dam,Lak 70.23 321 ⇓P P 21 46 33.6 +34
baz=70
P22A Eagle 70.25 329 ⇓P P 21 46 33.0 +33
baz=70
O23A Lake Granby, G 70.34 330 ⇑P P 21 46 34.2 +34
baz=70
N24A Carr 70.37 331 ⇓P P 21 46 34.2 +34
baz=70
P21A Newcastle 70.53 329 ⇓P P 21 46 35.4 +34
baz=71
BC3 Big Chuckawall 70.56 320 ⇓P P 21 46 35.6 +34
baz=71,SNR=5.4
O22A Kremmling 70.60 330 ⇑P P 21 46 35.3 +33
baz=71
MONP Monument Peak 70.63 319 ⇓P P 21 46 36.8 +35
baz=71
U15A North Rim 70.70 324 ⇓P P 21 46 37.1 +35
baz=71,SNR=7.2
IRM Iron Mountain 70.73 320 ⇓P P 21 46 36.5 +34
baz=71,SNR=7.1
K27A Flueckinger Fa 70.78 334 ⇓P P 21 46 35.9 +33
baz=71
M24A Cheyenne 70.86 332 ⇓P P 21 46 37.5 +34
baz=71,SNR=8.8
N23A Red Feather La 70.90 331 ⇑P P 21 46 37.3 +34
baz=71
J28A Allard Ranch, 70.99 335 ⇑P P 21 46 37.2 +33
baz=71,SNR=7.6
BRSD Miller 71.01 337 ⇑P P 21 46 36.2 +32
baz=71
BELC Belle Mtn. Jos 71.13 320 ⇓P P 21 46 39.8 +35
baz=71
PFO Pinyon Flat Ob 71.14 319 pP pP 21 46 39.2 +1.5
PFO Pinyon Flat Ob 71.14 319 pP pP 21 46 39.2 +1.5
comp=E,4.3nm,0.7s,baz=125,slow=3.0,SNR=4.6
PFO Pinyon Flat Ob 71.14 319 ⇓P P 21 46 39.7 +35
baz=71
J27A Elkhorn Farm, 71.15 335 ⇓P P 21 46 38.9 +34
baz=71,SNR=7.8
M23A Laramie 71.26 331 ⇑P P 21 46 39.3 +34
baz=71,SNR=7.8
P19A Cripple Cowboy 71.36 328 ⇑P P 21 46 40.3 +34
baz=71,SNR=5.2
K25A Mack Ranch, Ha 71.38 333 ⇓P P 21 46 39.7 +33
baz=72
GMRC Granite Mounta 71.46 320 ⇓P P 21 46 41.3 +34
baz=72,SNR=5.7
J26A Sides Ranch, S 71.63 334 ⇓P P 21 46 41.3 +34
baz=72
L23A Garrett 71.77 332 ⇑P P 21 46 42.0 +33
baz=72
EYMN Ely 71.84 344 eP P 21 46 08.3 -0.4
EYMN epP pP 21 46 41.9 +0.4
I27A Quinn 71.85 335 ⇑P P 21 46 42.4 +33
baz=72,SNR=5.7
HEC Hector,Ludlow 71.89 320 ⇓P P 21 46 44.0 +35
baz=72
Q16A Castle Valley 71.93 326 ⇑P P 21 46 43.7 +34
baz=72
N20A Spence Gulch, 71.94 329 ⇑P P 21 46 43.2 +33
baz=72
O19A Miners Draw (B 71.94 328 ⇑P P 21 46 43.7 +34
baz=72,SNR=5.4
H28A Mission Ridge 71.97 336 ⇓P P 21 46 42.9 +33
baz=72,SNR=8.0
J25A Sunshine Ranch 71.99 334 ⇑P P 21 46 43.9 +34
baz=72
TUQ Turquoise Moun 72.07 321 ⇑P P 21 46 45.3 +35
baz=72
M21A Separation Pea 72.12 330 ⇑P P 21 46 44.4 +34
baz=72
I26A New Underwood 72.14 335 ⇓P P 21 46 44.2 +34
baz=72
K23A Bowen Ranch, D 72.25 332 ⇓P P 21 46 45.6 +34
baz=72
G28A Parade 72.27 336 ⇑P P 21 46 44.9 +34
baz=72,SNR=5.0
BFSC Mount Baldy Ra 72.30 319 ⇑P P 21 46 46.9 +35
baz=72
J24A Dixon Ranch, L 72.30 333 ⇑P P 21 46 45.1 +33
baz=72
H27A Howes 72.34 335 ⇑P P 21 46 45.0 +33
baz=72,SNR=5.5
M20A Sweetwater, Wa 72.41 330 ⇑P P 21 46 46.5 +34
baz=72
I25A Rochford 72.48 334 ⇑P P 21 46 46.8 +34
baz=73,SNR=9.7
GSC Goldstone 72.50 320 ⇑P P 21 46 48.0 +35
baz=72
F29A Eureka 72.52 338 ⇓P P 21 46 46.0 +33
baz=73
K22A Casper 72.56 332 ⇑P P 21 46 47.3 +34
baz=73
H26A Fairpoint 72.59 335 ⇑P P 21 46 47.0 +34
baz=73
SHOC Shoshone 72.60 321 ⇓P P 21 46 49.0 +35
baz=73
I24A Kuemmerle Ranc 72.72 333 ⇑P P 21 46 47.7 +34
baz=73
E30A Jud 72.78 338 ⇓P P 21 46 46.9 +33
baz=73
K21A Alcova 72.88 331 ⇓P P 21 46 49.2 +34
baz=73,SNR=6.9
F28A McLaughlin 72.88 337 ⇑P P 21 46 48.0 +33
baz=73
L20A Wamsutter 72.89 330 ⇑P P 21 46 49.3 +34
baz=73,SNR=5.7
G27A Dupree 72.91 336 ⇓P P 21 46 48.6 +33
baz=73,SNR=7.1
EDW2 Edwards Air Fo 72.93 319 ⇓P P 21 46 50.3 +35
baz=73
MPU Maple Canyon 72.98 327 P P 21 46 15.9 0.0
MPU epP pP 21 46 50.5 +1.8
DAU Daniels Canyon 73.09 327 P P 21 46 17.3 +0.6
BLG Laguna Peak 73.09 318 ⇑P P 21 46 51.4 +35
baz=73
E29A Napoleon 73.09 338 ⇑P P 21 46 49.6 +33
baz=73
G26A Maurine 73.09 336 ⇑P P 21 46 49.7 +33
baz=73,SNR=8.1
LRMC Laurel Mountai 73.15 320 ⇓P P 21 46 51.3 +34
baz=73
D30A Buchanan 73.25 339 ⇓P P 21 46 50.3 +33
baz=73,SNR=5.6
G25A Newell 73.33 335 ⇑P P 21 46 51.3 +34
baz=74
K20A Yellowstone Ra 73.39 330 ⇑P P 21 46 51.9 +34
baz=74
H24A Dirks Ranch, A 73.42 334 ⇓P P 21 46 51.6 +33
baz=74
MPMC Manual Prospec 73.42 320 ⇓P P 21 46 53.3 +35
baz=73
L19A Farson 73.44 329 ⇓P P 21 46 52.5 +34
baz=74,SNR=5.6
E28A Huff 73.47 337 ⇓P P 21 46 51.9 +34
baz=74
J21A Lysite 73.53 331 ⇓P P 21 46 52.6 +34
baz=74
I22A 9 Mile Ranch, 73.54 332 ⇑P P 21 46 52.7 +34
baz=74,SNR=6.6
F26A Lodgepole 73.58 336 ⇓P P 21 46 52.7 +34
baz=74,SNR=9.3
M17A Scullys Gap (B 73.59 328 ⇑P P 21 46 53.2 +34
baz=74,SNR=6.6
L18A Fontenelle, Gr 73.63 329 ⇑P P 21 46 53.6 +34
baz=74,SNR=10
C30A Mose, Pekin 73.68 339 ⇑P P 21 46 52.9 +33
baz=74
DUG Dugway 73.72 326 P P 21 46 20.6 +0.4
DUG epP pP 21 46 54.6 +1.6
DUG Dugway 73.72 326 ⇓P P 21 46 54.8 +35
baz=74,SNR=9.5
ISA Isabella 73.75 319 eP P 21 46 18.6 -1.7
comp=E,10nm,0.9s
ISA Isabella 73.75 319 ⇑P P 21 46 54.6 +34
baz=74,SNR=5.3
K19A Absolon Red Bu 73.76 330 ⇑P P 21 46 54.1 +34
baz=74
I21A Big Trails, Te 73.83 332 ⇓P P 21 46 54.4 +34
baz=74,SNR=7.9
R11A Troy Canyon, C 73.90 323 ⇑P P 21 46 56.2 +35
baz=74,SNR=9.3
D28A Regan 73.95 338 ⇑P P 21 46 54.9 +34
baz=74
F25A Bowman 73.95 335 ⇓P P 21 46 54.6 +33
baz=74,SNR=5.8
PDAR Pinedale Array 74.04 330 pP pP 21 46 55.4 +0.4
PDAR Pinedale Array 74.04 330 pP pP 21 46 55.4 +0.4
comp=E,3.8nm,0.9s,baz=167,slow=7.3,SNR=4.2
H22A Clearmont 74.04 333 ⇓P P 21 46 55.8 +34
baz=74
PKM Peak Mountain 74.07 318 ⇓P P 21 46 57.6 +35
baz=74
G23A Biddle 74.13 334 ⇑P P 21 46 55.9 +34
baz=74,SNR=5.9
MDND Maddock 74.18 339 eP P 21 46 26.8 +4.3
comp=E,136nm,1.1s
MDND Maddock 74.18 339 ⇑P P 21 46 56.2 +34
baz=74,SNR=6.8
J19A Crowheart 74.19 330 ⇑P P 21 46 57.0 +34
baz=74
VES Vestal, Richgr 74.24 319 ⇑P P 21 46 58.6 +36
baz=74
F24A Ekalaka 74.27 335 ⇑P P 21 46 57.1 +34
baz=74
B30A Myrvik Farm, E 74.28 340 ⇑P P 21 46 56.1 +33
baz=74
BGU Big Grassy Mou 74.37 326 P P 21 46 21.6 -2.3
E25A Miller Ranch, 74.41 336 ⇓P P 21 46 57.4 +34
baz=74,SNR=5.2
SMMC Simmler 74.45 318 ⇓P P 21 46 60.0 +36
baz=74
G22A Birney 74.52 333 ⇓P P 21 46 58.1 +34
baz=75
F23A Volborg 74.56 334 ⇓P P 21 46 58.1 +33
baz=75,SNR=5.6
B29A Wagenman Farm, 74.63 339 ⇓P P 21 46 58.5 +33
baz=75,SNR=9.2
A30A Hoffart Farm, 74.70 340 ⇑P P 21 46 59.0 +33
baz=75
I19A Meeteetse 74.77 331 ⇓P P 21 47 00.1 +34
baz=75,SNR=6.2
E24A Baker 74.81 335 ⇓P P 21 46 59.9 +34
baz=75,SNR=8.5
I18A Diamond G Ranc 74.88 330 ⇑P P 21 47 01.5 +35
baz=75
G21A Lodge Grass 74.91 333 ⇓P P 21 47 00.8 +34
baz=75,SNR=5.1
D25A Fairfield 74.92 336 ⇓P P 21 47 01.0 +34
baz=75,SNR=5.0
F22A Rosebud 74.96 334 ⇑P P 21 47 00.9 +34
baz=75
B28A Dugan Ranch, T 74.96 339 ⇓P P 21 47 00.7 +34
baz=75
A29A Manning Farm, 74.99 340 ⇑P P 21 47 00.3 +33
baz=75,SNR=8.7
C26A Wahner Farm, P 75.03 337 ⇑P P 21 47 01.4 +34
baz=75
ULM Lac du Bonnet 75.14 342 eP P 21 46 26.6 -1.3
comp=E,19nm,0.9s
ULM pP pP 21 46 59.9 -1.0
ULM Lac du Bonnet 75.14 342 P P 21 46 29.5 +1.6
comp=E,6.0nm,0.4s,baz=151,slow=7.2,SNR=7.4
ULM pP pP 21 46 59.9 -1.0
comp=E,16nm,0.9s,baz=163,slow=6.5,SNR=6.0
E23A Ismay 75.15 335 ⇓P P 21 47 01.7 +34
baz=75,SNR=7.1
H19A Powell 75.25 331 ⇑P P 21 47 03.0 +34
baz=75
TPAW Teton Pass 75.25 329 eP P 21 46 27.0 -2.1
TPAW epP pP 21 47 03.3 +1.2
D24A Glendive 75.27 336 ⇑P P 21 47 03.3 +35
baz=75
A28A Rude Farm, Bot 75.32 339 ⇓P P 21 47 02.7 +34
baz=76
RRI2 Red Ridge 75.32 329 eP P 21 46 27.2 -2.3
comp=E,42nm,1.0s
RRI2 epP pP 21 46 56.1 -6.4
G20A Bridger 75.34 332 ⇑P P 21 47 03.1 +34
baz=75,SNR=5.2
MOOW Moose Ponds 75.35 330 P P 21 46 27.1 -2.5
MOOW epP pP 21 47 03.6 +1.0
C25A Freed Ranch, W 75.36 337 ⇓P P 21 47 03.7 +34
baz=76
E22A Miles City 75.36 334 ⇓P P 21 47 03.2 +34
baz=76
I17A Pilgrim Ck. 75.40 330 ⇑P P 21 47 04.5 +35
baz=76
NVAR Mina Array Bea 75.50 322 P P 21 46 32.8 +2.3
NVAR pP pP 21 47 05.0 +1.4
comp=E,0.5nm,0.6s,baz=151,slow=8.0,SNR=3.9
NVAR pP pP 21 47 05.0 +1.4
comp=E,4.9nm,0.9s,baz=150,slow=6.0,SNR=9.4
IMW Indian Meadow 75.56 330 eP P 21 46 30.1 -0.7
comp=E,3.9nm,0.9s
IMW epP pP 21 47 05.2 +1.3
H18A Shoshone NF, C 75.56 331 ⇑P P 21 47 04.7 +34
baz=76,SNR=6.3
C24A Savage 75.65 336 ⇑P P 21 47 05.3 +34
baz=76
D23A Lindsay 75.66 335 ⇑P P 21 47 05.4 +34
baz=76,SNR=6.2
SCHQ Schefferville 75.70 1 P P 21 46 31.5 +0.5
SCHQ Schefferville 75.70 1 P P 21 46 31.5 +0.5
comp=E,7.2nm,0.8s,baz=172,slow=7.1,SNR=6.4
H17A Grant Village 75.77 330 ⇓P P 21 47 07.2 +35
baz=76
F20A Billings 75.77 333 ⇑P P 21 47 05.6 +34
baz=76
B25A Knox Farm, Ray 75.80 337 ⇑P P 21 47 06.1 +34
baz=76
I16A Newdale 75.80 329 ⇓P P 21 47 06.8 +35
baz=76,SNR=5.5
E21A Keefer Ranch, 75.91 334 ⇑P P 21 47 06.8 +34
baz=76
A26A Wade Farm, Ken 75.92 338 ⇓P P 21 47 06.0 +34
baz=76
G18A Lazy EL Ranch, 76.02 331 ⇑P P 21 47 07.6 +34
baz=76,SNR=8.7
D22A Cohagen 76.03 335 ⇓P P 21 47 07.4 +34
baz=76,SNR=9.3
F19A Roth Farm, Mol 76.16 332 ⇑P P 21 47 08.4 +34
baz=76,SNR=7.9
C23A Lambert 76.17 335 ⇑P P 21 47 07.9 +34
baz=76
SBA Scott Base 76.23 190 eP P 21 46 36.9 +3.0
comp=E,18nm,1.1s
D21A La Casta Ranch 76.29 334 ⇓P P 21 47 09.3 +35
baz=76,SNR=10
H16A Russell Place, 76.31 330 ⇓P P 21 47 10.6 +36
baz=76,SNR=7.8
E20A Meyer Farm, Mu 76.32 333 ⇓P P 21 47 09.2 +34
baz=76,SNR=8.6
A25A Svangstu Ranch 76.34 337 ⇓P P 21 47 09.0 +34
baz=76
DGMT Dagmar 76.34 336 ⇓P P 21 47 09.2 +34
baz=76,SNR=6.6
C22A Vida 76.40 335 ⇓P P 21 47 09.4 +34
baz=76,SNR=7.3
GCMT Greycliff 76.43 332 eP P 21 46 33.5 -2.0
comp=E,2.9nm,0.8s
F18A Big Timber 76.54 332 ⇓P P 21 47 11.0 +35
baz=77,SNR=11
E19A Rath Farm, Rou 76.57 333 ⇑P P 21 47 10.5 +34
baz=77,SNR=13
B23A Brockton 76.64 336 ⇑P P 21 47 10.8 +34
baz=77,SNR=5.4
A24A Westby 76.65 337 ⇓P P 21 47 11.0 +34
baz=77
SYO Syowa Base 76.66 159 ⇑eP P 21 46 36.4 0.0
SYO Syowa Base 76.66 159 ⇑epP pP 21 47 08.9 -0.6
D20A Manuel Ranch, 76.79 333 ⇓P P 21 47 11.7 +34
baz=77,SNR=6.7
TOA0 Torodi Ar. Sit 76.83 70 eP P 21 46 38.5 +0.1
TOA0 epP pP 21 47 11.4 -0.1
TORD Torodi Ar. Bea 76.83 70 P P 21 46 38.5 +0.2
TORD S S 21 56 13.4 -2.0
TORD Torodi Ar. Bea 76.83 70 P P 21 46 38.5 +0.2
comp=E,31nm,0.8s,baz=250,slow=4.8,SNR=179
TORD S S 21 56 13.4 -2.0
comp=E,1.1nm,0.8s,baz=251,slow=11,SNR=6.3
B22A Reddig Ranch S 76.89 335 ⇑P P 21 47 12.4 +34
baz=77,SNR=7.9
C21A Desert Coulee 76.94 334 ⇑P P 21 47 12.3 +34
baz=77,SNR=7.7
F17A Fitzpatrick Pl 76.96 331 ⇓P P 21 47 13.3 +35
baz=77,SNR=12
PAHR Pah Rah Range 76.98 322 eP P 21 46 39.0 +0.2
comp=E,34nm,1.2s
HLID Hailey 77.00 328 eP P 21 46 37.3 -1.6
comp=E,3.4nm,0.9s
HLID epP pP 21 47 13.7 +1.7
HLID Hailey 77.00 328 ⇑P P 21 47 14.1 +35
baz=77,SNR=12
A23A Redstone 77.00 336 ⇑P P 21 47 12.5 +34
baz=77
E18A Harlowton 77.14 332 ⇑P P 21 47 13.9 +34
baz=77,SNR=13
D19A Cripps Ranch, 77.16 333 ⇓P P 21 47 13.6 +34
baz=77,SNR=9.3
MCMT McKenzie Canyo 77.16 329 eP P 21 46 40.0 +0.2
comp=E,1.5nm,0.8s
C20A Veseth Ranch, 77.22 334 ⇑P P 21 47 13.6 +34
baz=77,SNR=5.1
VNDA Vanda 77.25 190 eP P 21 46 38.2 -1.4
comp=E,8.5nm,0.9s
VNDA Vanda 77.25 190 P P 21 46 42.0 +2.4
comp=E,7.2nm,0.8s,baz=121,slow=3.3,SNR=24
B21A Ellsworth Farm 77.40 335 ⇓P P 21 47 14.9 +34
baz=78,SNR=6.3
DLMT Dillon 77.44 330 eP P 21 46 37.0 -4.2
DLMT epP pP 21 47 15.8 +1.4
E17A Martinsdale 77.47 331 ⇓P P 21 47 15.8 +34
baz=78,SNR=12
D18A Linhart Farms, 77.58 333 ⇓P P 21 47 16.0 +34
baz=78
MFID Camas Ranch 77.61 327 ⇓P P 21 47 17.3 +35
baz=78,SNR=6.7
C19A Slack Wire Ran 77.68 333 ⇑P P 21 47 16.4 +34
baz=78,SNR=8.4
B20A Solberg Farm, 77.81 334 ⇓P P 21 47 17.0 +34
baz=78,SNR=6.2
A21A Bergtoll Ranch 77.81 335 ⇓P P 21 47 16.9 +34
baz=78,SNR=7.5
D17A Six Diamond Ra 77.93 332 ⇓P P 21 47 18.3 +34
baz=78,SNR=14
A20A Cobblestone Ra 78.12 335 ⇑P P 21 47 18.8 +34
baz=78,SNR=10
B19A Brinkman Farms 78.20 334 ⇓P P 21 47 19.9 +35
baz=78
EGMT Eagleton 78.20 333 ⇓P P 21 47 19.3 +34
baz=78,SNR=7.9
C17A Wharram Farm, 78.33 332 ⇓P P 21 47 20.0 +34
baz=78,SNR=8.0
SUR Sutherland 78.37 120 P P 21 46 49.2 +2.3
comp=E,146nm,0.8s,SNR=8.0
A19A Klindworth Far 78.49 334 ⇓P P 21 47 20.7 +34
baz=79
B18A Beardsley Farm 78.50 333 ⇓P P 21 47 21.2 +34
baz=79,SNR=7.5
B17A L&G Farms, Che 78.85 333 ⇓P P 21 47 22.7 +34
baz=79,SNR=6.5
CHMT Chamberlain Mo 78.90 331 eP P 21 46 46.5 -2.8
CHMT epP pP 21 47 21.8 -0.8
A18A Metzger Ranch, 78.93 334 ⇑P P 21 47 22.9 +34
baz=79,SNR=8.3
MSO Missoula 79.15 330 ⇑P P 21 47 25.6 +35
baz=79,SNR=8.2
SLMT Seeley Lake 79.25 331 eP P 21 46 50.1 -1.0
SLMT epP pP 21 47 25.8 +1.3
BMO Blue Mountains 79.38 327 eP P 21 46 50.2 -1.6
comp=E,1.4nm,0.4s
SWMT Swartz Lake 79.68 331 eP P 21 46 51.8 -1.7
SWMT epP pP 21 47 28.2 +1.4
TSUM Tsumeb 79.72 107 eP P 21 46 55.1 +0.7
comp=E,30nm,1.2s
BLMT Blacktail Moun 80.22 331 eP P 21 46 57.4 +1.0
BLMT epP pP 21 47 31.2 +1.4
YBH Yreka Blue Hor 80.22 322 P P 21 46 58.3 +1.9
YBH pP pP 21 47 30.3 +0.5
YBH Yreka Blue Hor 80.22 322 P P 21 46 58.3 +1.9
comp=E,2.0nm,0.8s,baz=78,slow=6.1,SNR=5.9
YBH pP pP 21 47 30.3 +0.5
comp=E,5.3nm,0.8s,baz=87,slow=5.2,SNR=7.4
KHMM Horse Mountain 80.27 321 eP P 21 46 54.5 -2.3
KHMM epP pP 21 47 32.4 +2.2
NEW Newport 81.68 330 eP P 21 47 03.4 -0.6
NEW epP pP 21 47 38.0 +0.5
NEW Newport 81.68 330 ⇑P P 21 47 38.0 +34
baz=82
BOSA Boshof 83.22 118 eP P 21 47 13.5 +0.8
BOSA Boshof 83.22 118 P P 21 47 13.4 +0.8
comp=E,26nm,0.8s,baz=264,slow=4.6,SNR=31
EDM Edmonton 83.65 335 eP P 21 47 13.9 -0.1
EDM epP pP 21 47 47.6 -0.1
TAM Tamanrasset 84.28 63 eP P 21 47 17.8 -0.3

comp=E,8.0nm,1.3s
MAW Mawson 84.52 163 P **P** **21 47 19.8 +1.5**
MAW Mawson 84.52 163 P **P** **21 47 19.8 +1.5**
comp=E,21nm,0.6s,baz=231,slow=6.4,SNR=42
LBTB Lobatse 84.76 115 *e*P **P** **21 47 21.6 +1.1**
ESDC Sonseca Array 85.29 44 P **P** **21 47 24.0 +1.3**
ESDC pP **pP** **21 47 58.8 +2.4**
ESDC Sonseca Array 85.29 44 P **P** **21 47 24.0 +1.3**
comp=E,0.5nm,0.6s,baz=233,slow=5.6,SNR=5.2
ESDC pP **pP** **21 47 58.8 +2.4**
comp=E,1.2nm,0.6s,baz=250,slow=5.0,SNR=3.0
YKA Yellowknife Ar 91.02 340 P **P** **21 47 50.2 +0.9**
YKA pP **pP** **21 48 23.9 +0.6**
YKA Yellowknife Ar 91.02 340 P **P** **21 47 50.2 +0.9**
comp=E,3.9nm,0.7s,baz=130,slow=4.4,SNR=7.5
YKA pP **pP** **21 48 23.9 +0.6**
comp=E,9.2nm,0.8s,baz=133,slow=4.6,SNR=6.6
VYHS Vyhne 103.80 43 PDIF **Pdif** **21 48 51.8 +4.4**
KBZ Khabaz 119.57 51 PKP **PKPdf** **21 53 35.3 +0.7**
KBZ Khabaz 119.57 51 PKP **PKPdf** **21 53 35.3 +0.7**
comp=E,3.0nm,1.0s,baz=180,slow=1.0,SNR=7.5
STKA Stephens Creek 119.92 209 PKP **PKPdf** **21 53 36.5 +0.7**
STKA Stephens Creek 119.92 209 PKP **PKPdf** **21 53 36.5 +0.7**
comp=E,2.6nm,0.7s,baz=326,slow=3.6,SNR=4.8
NWAO Narrogin (SRO) 125.94 186 PKP **PKPdf** **21 53 47.8 +0.5**
NWAO Narrogin (SRO) 125.94 186 PKP **PKPdf** **21 53 47.8 +0.5**
comp=E,6.0nm,0.8s,baz=187,slow=2.6,SNR=5.2
CTA Charters Tower 126.78 222 PKP **PKPdf** **21 53 50.4 +1.1**
CTA Charters Tower 126.78 222 PKP **PKPdf** **21 53 50.4 +1.1**
comp=E,3.1nm,0.6s,baz=270,slow=2.0,SNR=5.8
ASAR Alice Springs 130.41 207 PKP **PKPdf** **21 53 56.8 +0.7**
ASAR Alice Springs 130.41 207 PKP **PKPdf** **21 53 56.8 +0.7**
comp=E,5.7nm,0.8s,baz=140,slow=2.1,SNR=41
AS31 Alice Springs 130.41 207 *e*PKPdf **PKPdf** **21 53 56.2 +0.1**
ABKAR Akbulak array 130.61 43 *e*PKPdf **PKPdf** **21 53 57.0 +1.5**
PETK Petropavlovsk- 132.56 324 PKP **PKPdf** **21 54 00.7 +1.6**
PETK pPKP **pPKPdf** **21 54 35.8 +1.0**
PETK Petropavlovsk- 132.56 324 PKP **PKPdf** **21 54 00.7 +1.6**
comp=E,2.9nm,0.8s,baz=169,slow=2.7,SNR=4.9
PETK pPKP **pPKPdf** **21 54 35.8 +1.0**
comp=E,3.8nm,0.8s,baz=123,slow=7.3,SNR=5.4
WRA Warramunga Arr 133.46 210 PKP **PKPdf** **21 54 02.9 +1.0**
WRA Warramunga Arr 133.46 210 PKP **PKPdf** **21 54 02.9 +1.0**
comp=E,6.7nm,0.6s,baz=156,slow=1.7,SNR=78
WRAB Tennant Creek 133.46 210 *e*PKPdf **PKPdf** **21 54 01.1 -0.8**
FITZ Fitzroy Crossi 138.60 200 PKP **PKPdf** **21 54 12.7 +1.2**
FITZ Fitzroy Crossi 138.60 200 PKP **PKPdf** **21 54 12.7 +1.2**
comp=E,5.7nm,0.6s,baz=192,slow=4.5,SNR=16
ZAA0 Zalesovo Array 141.47 25 *e*PKPdf **PKPdf** **21 54 13.3 -2.3**
ZALV Zalesovo Beam 141.47 25 PKPpre PKPpre 21 54 12.3
ZALV PKP **PKiKP** **21 54 17.2 -1.2**
ZALV pPKP pPKPdf 21 54 52.2 +1.1
ZALV Zalesovo Beam 141.47 25 PKhKP PKPpre 21 54 12.3
comp=E,4.4nm,0.7s,baz=316,slow=4.3,SNR=18
ZALV PKP **PKiKP** **21 54 17.2 -1.2**
comp=E,5.1nm,0.6s,baz=304,slow=3.0,SNR=20
ZALV pPKP pPKPdf 21 54 52.2 +1.1
comp=E,2.4nm,0.7s,baz=288,slow=2.3,SNR=2.8
AAK Ala-Archa 142.36 47 *e*PKPdf **PKPdf** **21 54 18.8 +1.0**
KSH Kashi 144.56 51 PKP **PKPdf** **21 54 21.8 +0.1**
KSH PP **PP** **21 57 43.0 +3.7**
KSH SKS **SKSdf** **22 01 12.8 -6.1**
KSH SKKS **SKKSac** **22 04 14.8 -4.3**
KSH SS **SS** **22 16 12.5 -3.7**
KSH AMB AMB
comp=Z,89nm,5.6s
KSH LR LR
comp=N,56nm,3.8s
KSH LR LR
comp=E,55nm,4.5s
KSH LR LR
comp=Z,92nm,4.3s
MK31 Makanchi Array 145.11 36 *e*PKPdf **PKPdf** **21 54 23.3 +1.0**
MKAR Makanchi Array 145.11 36 PKP **PKPdf** **21 54 23.6 +1.3**
MKAR pPKP **pPKPdf** **21 54 58.0 +0.1**
MKAR Makanchi Array 145.11 36 PKP **PKPdf** **21 54 23.6 +1.3**
comp=Z,16nm,0.7s,baz=325,slow=3.1,SNR=114
MKAR pPKP **pPKPdf** **21 54 58.0 +0.1**
comp=Z,15nm,0.9s,baz=316,slow=3.3,SNR=6.0
WMQ Urumqi 149.94 36 *e*PKPbc **PKPdf** **21 54 30.0 -0.4**
WMQ sPKP 21 55 20.3
WMQ PKS **PKSdf** **21 58 03.3 -1.9**
WMQ PP **PP** **21 58 13.5 +3.3**
WMQ SKS **SKSdf** **22 01 24.5 -1.6**
WMQ SKKS **SKKSac** **22 04 47.5 -1.3**
WMQ SS **SS** **22 17 14.5 -1.2**
WMQ LR LR
comp=N,260nm,26.0s
WMQ LR LR
comp=E,180nm,24.0s
WMQ LR LR
comp=Z,190nm,23.0s
USRK Ussuriysk Arra 151.46 328 PKPbc **PKPbc** **21 54 40.1 +1.2**
comp=Z,6.9nm,0.7s,baz=337,slow=0.3,SNR=18
USRK pPKPbc **pPKPbc** **21 55 14.1 -0.2**
comp=Z,10nm,0.7s,baz=15,slow=1.2,SNR=14
MJAR Matsushiro Arr 152.20 309 PKPbc **PKPbc** **21 54 41.7 +0.9**
MJAR pPKPbc **pPKPbc** **21 55 16.3 0.0**
MJAR Matsushiro Arr 152.20 309 PKPbc **PKPbc** **21 54 41.7 +0.9**
comp=Z,5.1nm,0.8s,baz=103,slow=1.1,SNR=14
MJAR pPKPbc **pPKPbc** **21 55 16.3 0.0**
comp=Z,6.7nm,0.9s,baz=99,slow=0.9,SNR=8.9
MAT Matsushiro 152.21 309 PKP **PKPbc** **21 54 41.6 +0.8**
MDJ Mudanjiang 152.27 332 PKPbc **PKPdf** **21 54 33.5 -0.3**
MDJ PP **PP** **21 58 22.5 -0.7**
MDJ SKS **SKSdf** **22 01 29.0 +0.2**
MDJ LR LR
comp=N,70nm,27.0s
MDJ LR LR
comp=E,47nm,23.2s
MDJ LR LR
comp=Z,29nm,26.1s
KAPI Kappang 152.77 198 PKPbc **PKPbc** **21 54 43.5 +0.8**
KAPI Kappang 152.77 198 PKPbc **PKPbc** **21 54 43.5 +0.8**
comp=Z,21nm,1.0s,baz=180,slow=4.0,SNR=8.2
SONM Songino Array 153.07 8 PKP **PKPdf** **21 54 37.1 +2.0**
SONM PKPbc **PKiKP** **21 54 43.8 +1.1**
SONM Songino Array 153.07 8 PKP **PKPdf** **21 54 37.1 +2.0**
comp=Z,2.1nm,0.8s,baz=297,slow=1.5,SNR=14
SONM PKPbc **PKiKP** **21 54 43.8 +1.1**
comp=Z,3.7nm,0.8s,baz=323,slow=1.4,SNR=18
ULN Ulaanbaatar 153.12 7 *e*PKPdf **PKPdf** **21 54 34.8 -0.4**
CN2 Changchun 154.64 336 *e*PKPbc **PKPdf** **21 54 33.8 -3.5**
KSRS Korea Array 158.44 322 PKP **PKPdf** **21 54 44.0 +1.7**
comp=Z,2.1nm,0.7s,baz=38,slow=1.1,SNR=8.7
KSRS PKPab **PKPab** **21 55 19.2 +1.6**
comp=Z,2.1nm,0.7s,baz=50,slow=3.0,SNR=7.4
KSAR Wonju Array Be 158.47 322 PKP **PKPdf** **21 54 44.0 +1.6**
KSAR PKPab **PKPab** **21 55 19.2 +1.5**
GTA Gaotai 159.22 26 PKP **PKPdf** **21 54 45.0 +1.6**
HHC Hu-ho-hao-te 160.38 360 *e*PKP **PKPdf** **21 54 41.0 -3.7**
HHC pPKP **pPKPdf** **21 55 20.0 -0.4**
HHC sPKP 21 55 39.5
HHC PKS **PKSdf** **21 58 13.8 -4.3**
HHC PP **PP** **21 59 08.0 +0.4**
HHC AMB AMB
comp=Z,100nm,9.0s
HHC LR LR
comp=N,170nm,21.5s
HHC LR LR
comp=E,180nm,21.3s
HHC LR LR
comp=Z,200nm,20.7s
LZH Lanzhou 163.68 23 *e*PKP **PKPdf** **21 54 48.0 -0.2**
LZH sPKP 21 55 40.3
LZH LR LR
comp=N,170nm,18.0s
LZH LR LR
comp=E,170nm,16.3s
LZH LR LR
comp=Z,210nm,19.8s
NJ2 Nanjing 167.35 330 *e*PKP **PKPdf** **21 54 50.5 -0.6**
CD2 Chengdu 168.04 34 *e*PKP **PKPdf** **21 54 50.5 -1.2**
CD2 pPKP **pPKPdf** **21 55 26.3 -1.3**
CD2 sPKP 21 55 40.3
CD2 PP **PP** **21 59 50.0 +1.7**
CD2 SKKS 22 06 22.0
CD2 SS **SS** **22 20 25.3 -1.4**
CD2 AMB AMB
comp=Z,120nm,9.6s
KMI Kunming 170.98 62 PKP **PKPdf** **21 54 52.8 -1.1**
GYA Guiyang 173.09 39 PKP **PKPdf** **21 54 53.0 -1.7**
GYA pPKP **pPKPdf** **21 55 29.0 -1.5**
GYA sPKP 21 55 42.5
GYA PKPab **PKPab** **21 56 23.0 +0.4**
GYA PP **PP** **22 00 15.8 +2.0**
GYA AMB AMB
comp=Z,120nm,8.0s

---

*IDC **25** 21:39:06.1±0.6,3.°02S×147.°41E,h0km,mb4.4/18, mb1 4.6/19,mb1mx4.5/22,mbtmp4.4/19,ML3.9/1,MS4.6/23, Ms1 4.6/23,ms1mx4.5/27,Error ellipse: s-maj=20.2km s-min=12.9km az=93.0*
*ISCJB **25** 21:39:08.8±1.3,3.°05S±0.°04×147.°44E±0.°06,h25km±9km, mb4.6/49,MS4.7/42,Error ellipse: s-maj=10.0km s-min=7.3km az=175.2*
*BJI **25** 21:39:10.9,2.°97S×147.°37E,h35km,mB5.3/38,mb4.7/45, Ms4.9/47,Ms7 4.7/45*
*GCMT **25** 21:39:12.6±0.2,2.°94S×147.°33E,h15km±1km,MW5.2, Moment Tensor Solution. s53,c75; s89,c159; Moment tensor: Scale 10^{16}Nm; M_{rr}0.71±.16; $M_{\theta\theta}$-0.81±.15; $M_{\phi\phi}$0.10±.16; $M_{r\theta}$-2.81±.49; $M_{\theta\phi}$7.09±.13; $M_{\phi r}$-0.02±.43; Best double couple: $M_0$7.70000×10^{16} NP1:ϕ_s269.00000°, δ88.00000°,λ22.00000°. NP2:ϕ_s178.00000°,δ68.00000°, λ178.00000°. Principal axes: T 7.3400, Plg17.0000°, Azm136.0000°; N 0.6200, Plg68.0000°, Azm274.0000°; P -7.9600, Plg14.0000°, Azm41.0000°; Data Used: II IU IC G.*
*NEIC **25** 21:39:12.4±1.3,3.°00S×147.°31E,h43km±12km,mb4.9/16 Error ellipse: s-maj=9.2km s-min=6.5km az=75.0*
*DJA **25** 21:39:20.2±2.0,3.°S±13.°×14.°7E±1.°4,h73km±14km, M4.9/12,mB5.5/7,mb4.7/12,MLv5.0/1,Mw(mB)5.0/7*
ISC 25 21:39:11.9±0.5,**3.°05S**±0.°05×**147.°41E**±0.°07,**h34**km±1km, **n115**,σ1§**70**/172,**mb4.8**/50,**MS4.6**/42,**2D,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**6.32**	**182**	*e*Pn	**Pn**	**21 40 45.0**	**+2.2**
PMG	**Port Moresby**	**6.32**	**182**	P	**Pn**	**21 40 45.3**	**+2.5**
	66nm,0.8s,2μm0.8nm						
PMG	**Port Moresby**	**6.32**	**182**	Pn	**Pn**	**21 40 43.7**	**+1.0**
	1.8nm,0.3s,baz=25,slow=9.3,SNR=12						
PMG				LR	LR	21 42 59.6	
	comp=Z,2μm,20.4s,baz=7.8,slow=37						
COEN	**Coen**	**11.62**	**201**	*e*Pn	**Pn**	**21 41 54.9**	**-0.6**
SWI	**Sorong**	**16.28**	**277**	P	**P**	**21 43 00.2**	**-0.7**
	29nm,2.0s						
CTA	**Charters Tower**	**16.97**	**184**	P	**Pn**	**21 43 06.3**	**-0.5**
CTA	**Charters Tower**	**16.97**	**184**	P	**Pn**	**21 43 06.3**	**-0.5**
	0.3nm,0.3s,baz=359,slow=13,SNR=11						
CTA				LR	LR	21 49 12.4	
	comp=Z,1μm,20.5s,baz=8.8,slow=36						
CTAO	**Charters Tower**	**16.97**	**184**	*e*Pn	**P**	**21 43 07.8**	**-0.7**
	119nm,1.7s						
LBMI	**Labuha**	**20.04**	**276**	P	**Pn**	**21 43 45.5**	**+1.3**
	77nm,1.3s,2μm						
WRAB	**Tennant Creek**	**21.07**	**216**	*e*P	**P**	**21 43 52.4**	**-1.1**
	76nm,1.1s						
WRA	**Warramunga Arr**	**21.09**	**216**	P	**P**	**21 43 52.5**	**-1.1**
WRA				PcP	**PcP**	**21 47 59.2**	**-0.2**
WRA	**Warramunga Arr**	**21.09**	**216**	P	**P**	**21 43 52.5**	**-1.1**
	79nm,1.1s,baz=41,slow=10.0,SNR=107						
WRA				PcP	**PcP**	**21 47 59.2**	**-0.2**
	2.3nm,0.8s,baz=28,slow=2.0,SNR=8.3						
WRA				LR	LR	21 52 47.6	
	comp=Z,2μm,18.1s,baz=45,slow=39						
EIDS	**Eidsvold**	**22.47**	**171**	*e*P	**P**	**21 44 07.6**	**-0.8**
	47nm,1.3s						
KWAJ	**Kwajalein Atol**	**23.33**	**60**	*e*P	**P**	**21 44 17.2**	**-0.1**
	51nm,0.9s						
SOEI	**Soe**	**23.93**	**253**	P	**P**	**21 44 27.0**	**+3.8**
AS31	**Alice Springs**	**24.30**	**211**	*e*P	**P**	**21 44 25.6**	**-0.9**
ASAR	**Alice Springs**	**24.30**	**211**	P	**P**	**21 44 25.8**	**-0.8**
ASAR				PcP	**PcP**	**21 48 05.8**	**-0.2**
ASAR	**Alice Springs**	**24.30**	**211**	P	**P**	**21 44 25.8**	**-0.8**
	16nm,0.9s,baz=36,slow=7.4,SNR=100						
ASAR				PcP	**PcP**	**21 48 05.8**	**-0.2**
	1.9nm,0.8s,baz=30,slow=2.8,SNR=7.0						
ASAR				LR	LR	21 54 37.3	
	comp=Z,2μm,18.0s,baz=169,slow=38						
BATI	**Baumata**	**24.62**	**252**	P	**P**	**21 44 28.9**	**-0.6**
BATI	**Baumata**	**24.62**	**252**	P	**P**	**21 44 30.3**	**+0.8**
	49nm,1.7s,1μm						
BATI	**Baumata**	**24.62**	**252**	P	**P**	**21 44 28.9**	**-0.6**
	34nm,0.8s,baz=53,slow=5.1,SNR=6.8						
GTOI	**Gorontalo**	**24.66**	**278**	P	**P**	**21 44 31.9**	**+2.1**
	119nm,1.6s,3μm						
LUWI	**Luwuk**	**24.70**	**274**	P	**P**	**21 44 30.9**	**+0.7**
	128nm,2.1s,3μm						
MMRI	**Maumere**	**25.64**	**256**	P	**P**	**21 44 41.3**	**+2.6**
FITZ	**Fitzroy Crossi**	**26.05**	**233**	P	**P**	**21 44 41.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**26.05**	**233**	P	**P**	**21 44 41.3**	**-1.1**
	8.8nm,0.6s,baz=44,slow=12,SNR=36						
FITZ				LR	LR	21 55 21.0	
	comp=Z,2μm,21.3s,baz=58,slow=37						
DZM	**Mont Dzumac**	**26.44**	**137**	*e*LR	LR	21 51 32.3	
	5μm,23.4s						
DZM	**Mont Dzumac**	**26.44**	**137**	P	**P**	**21 44 45.9**	**-0.1**
DZM	**Mont Dzumac**	**26.44**	**137**	P	**P**	**21 44 45.9**	**-0.1**
	11nm,1.0s,baz=337,slow=9.3,SNR=8.0						
DZM				LR	LR	21 53 40.0	
	comp=Z,3μm,20.6s,baz=359,slow=33						
ARMA	**Armidale**	**27.52**	**172**	*e*P	**P**	**21 44 58.2**	**+2.7**
	46nm,1.3s						
STKA	**Stephens Creek**	**29.19**	**190**	P	**P**	**21 45 10.7**	**+0.4**
STKA	**Stephens Creek**	**29.19**	**190**	LR	LR	21 58 09.5	
	comp=Z,1μm,20.2s,baz=116,slow=39						
MBWA	**Marble Bar**	**32.39**	**234**	*e*P	**P**	**21 45 37.8**	**-0.9**
KKM	**Kota Kinabalu**	**32.43**	**286**	*e*P	**P**	**21 45 37.8**	**-1.4**
YULB	**Yu-li**	**36.58**	**317**	*e*P	**P**	**21 46 13.5**	**-1.4**
	12nm,0.9s						
NACB	**Ninganchiao**	**36.91**	**319**	*e*P	**P**	**21 46 16.8**	**-0.9**
	8.3nm,0.6s						
SSLB	**Suanglung**	**37.08**	**317**	*e*P	**P**	**21 46 22.1**	**+2.9**
	94nm,2.3s						
YHNB	**Yeheng**	**37.40**	**319**	*e*P	**P**	**21 46 20.0**	**-1.9**
	44nm,1.0s						
JNU	**Nakatsue**	**39.23**	**338**	P	**P**	**21 46 35.9**	**-1.3**
JNU	**Nakatsue**	**39.23**	**338**	P	**P**	**21 46 35.9**	**-1.3**
	8.0nm,0.9s,baz=131,slow=8.3,SNR=4.9						
QZH	**Quanzhou**	**39.45**	**316**	*e*P	**P**	**21 46 40.3**	**+1.2**
QZH				S	**S**	**21 52 35.3**	**-3.7**
QZH				LR	LR		
	comp=N,1μm,16.9s						
QZH				LR	LR		
	comp=E,1μm,18.4s						
QZH				LR	LR		
	comp=Z,2μm,19.0s						
MJAR	**Matsushiro Arr**	**40.31**	**349**	P	**P**	**21 46 45.3**	**-0.8**
MJAR	**Matsushiro Arr**	**40.31**	**349**	P	**P**	**21 46 45.3**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=167,slow=8.7,SNR=8.2						
MJAR				LR	LR	22 02 25.3	
	comp=Z,270nm,19.9s,baz=190,slow=35						
NWAO	**Narrogin (SRO)**	**41.01**	**220**	LR	LR	22 04 35.8	
	comp=Z,1μm,19.6s,baz=47,slow=37						
RAO	**Raoul Island**	**41.98**	**132**	LR	LR	22 01 46.6	
	comp=Z,645nm,18.6s,baz=292,slow=32						
SSE	**Sheshan**	**42.15**	**326**	P	**P**	**21 47 01.0**	**-0.3**
SSE				S	**S**	**21 53 20.3**	**+1.2**
SSE				sS	**sS**	**21 53 39.0**	**+3.4**
SSE				pmax	pmax		
	comp=Z,25nm,0.9s						
SSE				pmax	pmax		
	comp=Z,89nm,5.9s						
SSE				LR	LR		
	comp=N,670nm,25.0s						
SSE				LR	LR		
	comp=E,610nm,25.0s						
SSE				LR	LR		
	comp=Z,920nm,20.6s						
QIZ	**Qiongzhong**	**42.97**	**302**	P	**P**	**21 47 07.5**	**-0.7**
QIZ				pP	**pP**	**21 47 17.0**	**-1.2**
QIZ				sP	**sP**	**21 47 20.5**	**-1.8**
QIZ				S	**S**	**21 53 31.0**	**-0.5**
QIZ				sS	**sS**	**21 53 46.5**	**-1.5**
QIZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,160nm,5.5s						
QIZ				LR	LR		
	comp=N,400nm,22.5s						
QIZ				LR	LR		
	comp=E,260nm,23.4s						
QIZ				LR	LR		
	comp=Z,1μm,22.8s						
KSRS	**Korea Array**	**44.17**	**338**	P	**P**	**21 47 16.7**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=164,slow=8.1,SNR=12						
KSRS				LR	LR	22 03 56.4	
	comp=Z,631nm,18.5s,baz=148,slow=34						
KSAR	**Wonju Array Be**	**44.18**	**338**	P	**P**	**21 47 16.6**	**-0.9**
NJ2	**Nanjing**	**44.20**	**324**	*e*P	**P**	**21 47 17.8**	**0.0**
NJ2				pP	**pP**	**21 47 26.8**	**-1.1**
NJ2				sP	**sP**	**21 47 30.5**	**-1.5**
NJ2				S	**S**	**21 53 50.0**	**+1.0**
NJ2				sS	**sS**	**21 54 05.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,270nm,4.7s						
NJ2				LR	LR		
	comp=N,960nm,24.3s						
NJ2				LR	LR		
	comp=E,680nm,20.1s						
NJ2				LR	LR		
	comp=Z,930nm,16.5s						
WHN	**Wuhan**	**45.94**	**319**	P	**P**	**21 47 34.3**	**+2.6**
WHN				S	**S**	**21 54 15.5**	**+1.1**
WHN				LR	LR		
	comp=N,740nm,17.1s						
WHN				LR	LR		
	comp=E,3μm,21.3s						
WHN				LR	LR		
	comp=Z,2μm,20.9s						
USRK	**Ussuriysk Arra**	**49.02**	**345**	P	**P**	**21 47 54.9**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=187,slow=9.7,SNR=8.2						
USRK				LR	LR	22 07 41.1	
	comp=Z,294nm,20.0s,baz=317,slow=35						
ENH	**Enshi**	**49.08**	**315**	*e*P	**P**	**21 47 54.8**	**-1.4**
GYA	**Guiyang**	**49.09**	**309**	P	**P**	**21 47 57.0**	**+0.5**
GYA				pP	**pP**	**21 48 07.3**	**+0.7**
GYA				sP	**sP**	**21 48 13.8**	**+3.1**
GYA				PcP	**PcP**	**21 49 21.0**	**+1.2**
GYA				PP	**PP**	**21 49 51.5**	**+1.1**
GYA				ScP	**ScP**	**21 53 11.8**	**-0.9**
GYA				S	**S**	**21 54 57.5**	**-2.1**
GYA				sS	**sS**	**21 55 15.5**	**-0.8**
GYA				SS	**SS**	**21 58 25.0**	**-6.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,17.7s						
GYA				LR	LR		
	comp=E,360nm,18.0s						
GYA				LR	LR		
	comp=Z,420nm,17.9s						
SNY	**Shenyang**	**49.64**	**337**	⇓P	**P**	**21 48 00.8**	**+0.6**
SNY				S	**S**	**21 55 10.0**	**+3.6**
SNY				pmax	pmax		
	comp=Z,9.0nm,0.4s						
SNY				LR	LR		
	comp=N,360nm,19.8s						
SNY				LR	LR		
	comp=E,280nm,22.8s						
SNY				LR	LR		
	comp=Z,510nm,20.4s						
MDJ	**Mudanjiang**	**50.06**	**343**	P	**P**	**21 48 04.3**	**+1.0**
MDJ				pP	**pP**	**21 48 12.5**	**-1.0**
MDJ				sP	**sP**	**21 48 17.5**	**-0.1**
MDJ				PcP	**PcP**	**21 49 23.5**	**+0.7**
MDJ				PP	**PP**	**21 49 59.5**	**+0.8**
MDJ				S	**S**	**21 55 14.0**	**+1.8**
MDJ				sS	**sS**	**21 55 29.5**	**+0.5**
MDJ				ScS	**ScS**	**21 57 52.0**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,87nm,4.3s						
MDJ				LR	LR		
	comp=N,220nm,19.4s						
MDJ				LR	LR		
	comp=E,83nm,17.3s						
MDJ				LR	LR		
	comp=Z,320nm,17.6s						
CN2	**Changchun**	**50.64**	**340**	*e*P	**P**	**21 48 10.5**	**+2.7**
BJI	**Beijing**	**51.56**	**329**	P	**P**	**21 48 17.3**	**+2.6**
BJI				S	**S**	**21 55 36.0**	**+2.8**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						
BJI				LR	LR		
	comp=N,560nm,18.0s						
BJI				LR	LR		
	comp=E,360nm,21.3s						
BJI				LR	LR		
	comp=Z,540nm,26.3s						
KMI	**Kunming**	**51.57**	**306**	P	**P**	**21 48 16.5**	**+1.1**
KMI				pP	**pP**	**21 48 27.3**	**+1.7**
KMI				sP	**sP**	**21 48 31.3**	**+1.6**
KMI				PP	**PP**	**21 50 15.0**	**+1.9**
KMI				S	**S**	**21 55 33.0**	**-1.4**
KMI				sS	**sS**	**21 55 50.3**	**-0.9**
KMI				SS	**SS**	**21 59 07.0**	**-4.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,76nm,3.4s						
KMI				LR	LR		
	comp=N,310nm,16.0s						
KMI				LR	LR		
	comp=E,330nm,17.6s						
KMI				LR	LR		
	comp=Z,530nm,23.4s						
XAN	**Xi'an**	**51.71**	**319**	P	**P**	**21 48 14.5**	**-1.5**
XAN				pP	**pP**	**21 48 24.5**	**-1.8**
XAN				sP	**sP**	**21 48 28.5**	**-1.8**
XAN				PP	**PP**	**21 50 14.8**	**+0.8**
XAN				S	**S**	**21 55 38.0**	**+2.4**
XAN				sS	**sS**	**21 55 54.5**	**+2.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,41nm,5.7s						
XAN				LR	LR		
	comp=N,310nm,17.9s						
XAN				LR	LR		
	comp=E,99nm,19.5s						
XAN				LR	LR		
	comp=Z,190nm,20.7s						
CMAR	**Chiang Mai Arr**	**52.27**	**296**	P	**P**	**21 48 20.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**52.27**	**296**	P	**P**	**21 48 20.3**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=121,slow=6.3,SNR=13						
CMAR				LR	LR	22 07 34.8	
	comp=Z,226nm,21.0s,baz=22,slow=33						
CHTO	**Chiang Mai**	**52.39**	**296**	*e*P	**P**	**21 48 23.7**	**+2.4**
	comp=Z,70nm,3.0s						
CD2	**Chengdu**	**53.55**	**312**	*e*P	**P**	**21 48 31.3**	**+1.5**
CD2				pP	**pP**	**21 48 41.5**	**+1.5**
CD2				sP	**sP**	**21 48 45.8**	**+1.7**
CD2				S	**S**	**21 56 00.3**	**-0.6**
CD2				sS	**sS**	**21 56 17.5**	**-0.3**
CD2				SS	**SS**	**21 59 40.0**	**-1.8**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,80nm,5.8s						
CD2				LR	LR		
	comp=N,620nm,19.0s						
CD2				LR	LR		
	comp=Z,840nm,17.8s						
HHC	**Hu-ho-hao-te**	**54.57**	**327**	*e*P	**P**	**21 48 38.5**	**+1.4**
HHC				PcP	**PcP**	**21 49 40.5**	**+0.5**
HHC				PP	**PP**	**21 50 41.8**	**+2.0**
HHC				ScP	**ScP**	**21 53 35.8**	**-0.2**
HHC				PcS	**PcS**	**21 53 38.5**	**-1.2**
HHC				S	**S**	**21 56 13.8**	**-0.7**
HHC				ScS	**ScS**	**21 58 21.8**	**-2.2**
HHC				SS	**SS**	**21 59 56.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,31nm,0.8s						
HHC				pmax	pmax		
	comp=Z,400nm,5.5s						
HHC				LR	LR		
	comp=N,1μm,16.0s						
HHC				LR	LR		
	comp=E,1μm,16.4s						
HHC				LR	LR		
	comp=Z,2μm,16.4s						
BTO	**Baotou**	**55.26**	**326**	*e*P	**P**	**21 48 43.0**	**+0.9**
LZH	**Lanzhou**	**56.28**	**318**	*e*P	**P**	**21 48 50.0**	**+0.5**
LZH				pP	**pP**	**21 49 01.0**	**+1.1**

LZH				sP	**sP**	**21 49 05.0**	**+1.1**
LZH				PP	**PP**	**21 50 57.0**	**+1.8**
LZH				S	**S**	**21 56 34.3**	**-3.3**
LZH				sS	**sS**	**21 56 50.5**	**-4.0**
LZH				pmax	pmax		
	comp=Z,30nm,1.2s						
LZH				pmax	pmax		
	comp=Z,200nm,4.6s						
LZH				LR	LR		
	comp=N,280nm,12.7s						
LZH				LR	LR		
	comp=E,350nm,16.0s						
LZH				LR	LR		
	comp=Z,630nm,17.1s						
PETK	**Petropavlovsk-**	**56.62**	**7**	P	**P**	**21 48 51.1**	**-0.3**
PETK	**Petropavlovsk-**	**56.62**	**7**	P	**P**	**21 48 51.1**	**-0.3**
	comp=Z,6.5nm,0.7s,baz=176,slow=8.7,SNR=17						
PETK				LR	LR	22 10 00.1	
	comp=Z,261nm,19.8s,baz=187,slow=33						
FX1	**Attu Island--F**	**59.80**	**18**	LR	LR	22 11 32.6	
	comp=Z,400nm,20.8s,baz=234,slow=33						
GTA	**Gaotai**	**60.77 319**		‖P	**P**	**21 49 21.3**	**+0.6**
GTA				pP	**pP**	**21 49 31.5**	**+0.4**
GTA				sP	**sP**	**21 49 35.3**	**+0.2**
GTA				S	**S**	**21 57 35.5**	**-0.3**
GTA				sS	**sS**	**21 57 52.5**	**-0.5**
GTA				SS	**SS**	**22 01 36.8**	**+1.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,180nm,4.3s						
GTA				LR	LR		
	comp=N,190nm,17.3s						
GTA				LR	LR		
	comp=E,240nm,17.8s						
GTA				LR	LR		
	comp=Z,350nm,18.2s						
ULN	**Ulaanbaatar**	**61.75 330**		*e*P	**P**	**21 49 29.4**	**+2.1**
	comp=Z,7.3nm,1.4s						
SONM	**Songino Array**	**62.05 330**		P	**P**	**21 49 29.1**	**-0.1**
SONM	**Songino Array**	**62.05 330**		P	**P**	**21 49 29.1**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=126,slow=7.3,SNR=10						
SONM				LR	LR	22 14 36.5	
	comp=Z,551nm,19.9s,baz=128,slow=34						
LSA	**Lhasa**	**62.83 306**		*e*P	**P**	**21 49 34.5**	**-0.7**
	comp=Z,30nm,1.7s						
PPT2	**Papeete2**	**63.38 108**		*e*LR	LR	22 08 41.8	
	comp=Z,418nm,24.8s						
TBI	**Tubuai**	**64.18 114**		*e*LQ	LQ	22 06 21.6	
	comp=Z,603nm,33.0s						
TBI				*e*LR	LR	22 09 09.2	
	comp=Z,945nm,32.0s						
WMQ	**Urumqi**	**70.85 319**		P	**P**	**21 50 27.0**	**+1.5**
WMQ				sP	**sP**	**21 50 41.8**	**+1.8**
WMQ				PcP	**PcP**	**21 50 47.0**	**+1.0**
WMQ				S	**S**	**21 59 37.8**	**-0.7**
WMQ				SKS	**SKSac**	**22 00 22.5**	**-3.0**
WMQ				ScS	**SKKSac**	**22 00 24.5**	**-1.1**
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,220nm,3.5s						
WMQ				LR	LR		
	comp=N,260nm,26.0s						
WMQ				LR	LR		
	comp=E,180nm,25.0s						
WMQ				LR	LR		
	comp=Z,190nm,23.0s						
VNDA	**Vanda**	**74.82 177**		*e*P	**P**	**21 50 48.1**	**-0.2**
VNDA	**Vanda**	**74.82 177**		P	**P**	**21 50 47.8**	**-0.6**
	comp=Z,5.4nm,0.9s,baz=321,slow=6.0,SNR=12						
SBA	**Scott Base**	**75.45 176**		*e*P	**P**	**21 50 54.2**	**+2.2**
	comp=Z,22nm,1.5s						
MK31	**Makanchi Array**	**75.50 320**		*e*P	**P**	**21 50 52.2**	**-0.7**
MKAR	**Makanchi Array**	**75.50 320**		P	**P**	**21 50 51.5**	**-1.4**
MKAR	**Makanchi Array**	**75.50 320**		P	**P**	**21 50 51.5**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=108,slow=5.8,SNR=6.0						
MKAR				LR	LR	22 23 22.0	
	comp=Z,308nm,19.3s,baz=245,slow=35						
ZALV	**Zalesovo Beam**	**76.75 327**		P	**P**	**21 50 58.0**	**-1.8**
ZALV	**Zalesovo Beam**	**76.75 327**		P	**P**	**21 50 58.0**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=115,slow=6.5,SNR=6.1						
ZALV				LR	LR	22 25 12.9	
	comp=Z,391nm,18.7s,baz=74,slow=36						
KDAK	**Kodiak Island**	**77.13**	**28**	LR	LR	22 18 35.1	
	comp=Z,414nm,21.4s,baz=260,slow=31						
RKT	**Rikitea**	**77.42 113**		*e*LR	LR	22 15 18.0	
	comp=Z,583nm,33.5s						
KSH	**Kashi**	**77.73 311**		*e*P	P	21 51 09.5	+3.7
KSH				sP	sP	21 51 23.5	+3.1
KSH				PP	**PP**	**21 54 06.5**	**+5.0**
KSH				S	**S**	**22 00 58.8**	**+2.7**
KSH				sS	**SKSac**	**22 01 17.0**	**-0.3**
KSH				SS	**SS**	**22 06 03.0**	**+6.3**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,140nm,3.5s						
KSH				LR	LR		
	comp=N,110nm,6.3s						
KSH				LR	LR		
	comp=E,60nm,5.3s						
KSH				LR	LR		
	comp=Z,250nm,20.7s						
TKM2	**Tokmak 2**	**78.86 315**		*e*P	**P**	**21 51 11.5**	**-0.6**
AAK	**Ala-Archa**	**79.58 314**		*e*P	**P**	**21 51 15.0**	**-1.0**
EKS2	**Erkin-Say**	**80.10 314**		*e*P	**P**	**21 51 18.2**	**-0.5**
COLD	**Coldfoot**	**82.44**	**20**	*e*P	**P**	**21 51 29.7**	**-0.8**
	comp=Z,3.3nm,1.0s						
ILAR	**Eielson Array**	**82.62**	**23**	P	**P**	**21 51 30.1**	**-1.4**
ILAR	**Eielson Array**	**82.62**	**23**	P	**P**	**21 51 30.1**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=256,slow=5.1,SNR=30						
ILAR				LR	LR	22 27 04.5	
	comp=Z,174nm,19.1s,baz=157,slow=35						
BRVK	**Borovoye**	**84.71 324**		*e*P	**P**	**21 51 40.1**	**-2.3**
	comp=Z,42nm,2.3s						
DAWY	**Dawson**	**85.44**	**25**	*e*P	**P**	**21 51 46.8**	**+0.9**
QSPA	**South Pole Qui**	**86.90 180**		*e*P	**P**	**21 51 51.8**	**-1.4**
	comp=Z,9.0nm,1.1s						
DLBC	**Dease Lake**	**88.68**	**31**	LR	LR	22 22 56.2	
	comp=Z,496nm,21.1s,baz=296,slow=30						
INK	**Inuvik**	**88.78**	**21**	LR	LR	22 27 26.4	
	comp=Z,469nm,21.9s,baz=271,slow=33						
BBB	**Bella Bella**	**89.00**	**38**	LR	LR	22 25 09.7	
	comp=Z,524nm,19.0s,baz=260,slow=31						
NVAR	**Mina Array Bea**	**95.24**	**52**	P	**P**	**21 52 33.0**	**+0.2**
NVAR	**Mina Array Bea**	**95.24**	**52**	P	**P**	**21 52 33.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=260,slow=5.4,SNR=5.9						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**21 52 35.7**	**-1.4**
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**21 52 35.7**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=256,slow=5.0,SNR=3.2						
OKC	**Ostrava-Krasne**	**116.71 326**		AMS	AMS	22 47 00.0	
	comp=Z,300nm,20.3s						
DPC	**Dobruska-Polom**	**117.45 327**		AMS	AMS	22 49 00.0	
TREC	**Trest**	**118.47 326**		AMS	AMS	22 48 10.0	
	comp=Z,400nm,18.2s						
PRU	**Pruhonice**	**118.61 327**		AMS	AMS	22 50 40.0	
	comp=Z,300nm,17.7s						
KHC	**Kasperske Hory**	**119.61 327**		AMS	AMS	22 48 10.0	
	comp=Z,400nm,20.7s						
TORD	**Torodi Ar. Bea**	**144.65 288**		PKP	**PKPab**	**21 58 43.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**144.65 288**		PKP	**PKPab**	**21 58 43.5**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=72,slow=2.4,SNR=14						
SIV	**San Ignacio**	**146.07 125**		PKPbc	**PKPdf**	**21 58 48.3**	**-0.3**
SIV	**San Ignacio**	**146.07 125**		PKPbc	**PKPdf**	**21 58 48.3**	**-0.3**
	comp=Z,13nm,1.0s,baz=243,slow=3.8,SNR=29						
SAML	**Samuel**	**147.26 112**		*e*PKPbc	**PKPbc**	**21 58 52.7**	**-0.3**

IDC ***25*** *22:00:07.7±0.7, 7°.65S×77°.79W, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.4/26, mbtmp4.4/19, ML4.5/2, MS4.1/10, Ms1 4.1/10, ms1mx3.8/31, Error ellipse: s-maj=29.0km s-min=12.7km az=52.0*

ISCJB ***25*** *22:00:11.3±0.3, 7°.62S±0°.04×77°.76W±0°.06, h33km, mb4.6/52, MS4.0/9, Error ellipse: s-maj=9.7km s-min=5.3km az=154.2*

NEIC ***25*** *22:00:16.0±1.0, 7°.60S×77°.56W, h63km±9km, mb4.7/31, Error ellipse: s-maj=12.3km s-min=4.2km az=68.0*

NEIC Felt [III] at Cajabamba and Huamachuco and [II] at Cajamarca and Quiruvilca. Also felt at Otuzco and Pucara.

ISC 25 22:00:13.1±0.4, 7°.65S±0°.06×77°.65W±0°.08, h35km, n133, σ1§21/134, mb4.7/52, MS4.0/9, 1C, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**0.90**	**305**	Pn	Pn	22 00 23.4	-6.3
ATAH				Sn	Sn	22 00 32.5	-9.4
ATAH	**Atahualpa**	**0.90**	**305**	Pn	Pn	22 00 23.4	-6.3
	41nm,0.3s,baz=121,slow=13,SNR=353						
ATAH				Sn	Sn	22 00 32.5	-9.4
	194nm,0.3s,baz=202,slow=19,SNR=24						
LPAZ	**La Paz**	**12.66**	**134**	*e*Pn	**Pn**	**22 03 13.6**	**+2.2**
LPAZ				Sn	**Sn**	**22 05 30.5**	**-1.1**
LPAZ	**La Paz**	**12.66**	**134**	Pn	**Pn**	**22 03 13.1**	**+1.6**
	0.4nm,0.3s,baz=332,slow=9.6,SNR=14						
LPAZ				LR	LR	22 09 10.6	
	comp=Z,1μm,18.4s,baz=263,slow=42						
ROSC	**El Rosal**	**12.86**	**15**	*e*Pn	**Pn**	**22 03 15.8**	**+1.9**
ROSC				Sn	**Sn**	**22 05 36.5**	**+0.5**
ROSC	**El Rosal**	**12.86**	**15**	LR	LR	22 08 53.8	
	comp=Z,683nm,18.6s,baz=194,slow=41						
SAML	**Samuel**	**14.38**	**96**	*e*Pn	Pn	22 03 31.4	-2.9
	6.1nm,0.9s						
SAML				*e*Sn	**Sn**	**22 06 08.2**	**-4.4**
LVC	**Limon Verde**	**17.09**	**151**	*e*Pn	**P**	**22 04 12.4**	**+1.2**
	47nm,1.1s						
SDV	**Santo Domingo**	**17.85**	**23**	Pn	**Pn**	**22 04 17.9**	**-1.2**
	22nm,0.9s						
SIV	**San Ignacio**	**18.21**	**119**	P	**Pn**	**22 04 23.1**	**-0.3**
SIV	**San Ignacio**	**18.21**	**119**	P	**Pn**	**22 04 23.1**	**-0.3**
	3.3nm,0.3s,baz=306,slow=12,SNR=20						
SIV				LR	LR	22 11 37.0	
	comp=Z,684nm,20.9s,slow=38						
LCO	**Las Campanas**	**22.24**	**164**	*e*P	**P**	**22 05 06.9**	**-0.3**
	54nm,1.2s						
CFAA	**Coronel Fontan**	**25.40**	**161**	P	**P**	**22 05 37.9**	**+0.4**
CFAA	**Coronel Fontan**	**25.40**	**161**	P	**P**	**22 05 37.9**	**+0.4**
	0.5nm,0.6s,baz=345,slow=11,SNR=5.4						
CFAA				LR	LR	22 13 50.2	
	comp=Z,27nm,19.2s,baz=324,slow=32						
CPUP	**Villa Florida**	**26.81**	**136**	*e*P	**P**	**22 05 49.6**	**-0.6**
	6.7nm,0.5s						
CPUP	**Villa Florida**	**26.81**	**136**	P	**P**	**22 05 50.2**	**0.0**
	2.2nm,0.8s,baz=307,slow=15,SNR=5.4						
CPUP				LR	LR	22 18 50.1	
	comp=Z,428nm,18.9s,baz=301,slow=42						
TEIG	**Tepich**	**29.61**	**339**	LR	LR	22 17 31.8	
	comp=Z,138nm,18.5s,baz=340,slow=35						
BDFB	**Brasilia**	**30.07**	**108**	P	**P**	**22 06 20.4**	**+0.8**
BDFB	**Brasilia**	**30.07**	**108**	P	**P**	**22 06 20.4**	**+0.8**
	3.0nm,0.5s,baz=285,slow=9.1,SNR=4.9						
BDFB				LR	LR	22 19 11.5	
	comp=Z,488nm,19.9s,baz=313,slow=38						
TRQA	**Tornquist**	**33.43**	**157**	*e*P	**P**	**22 06 48.0**	**-0.7**
	7.5nm,1.1s						
PLCA	**Paso Flores**	**33.55**	**170**	*e*P	**P**	**22 06 49.7**	**-0.1**
PLCA	**Paso Flores**	**33.55**	**170**	P	**P**	**22 06 49.4**	**-0.4**
	8.0nm,1.1s,baz=351,slow=10,SNR=5.5						
PLCA				LR	LR	22 18 00.3	
	comp=Z,94nm,19.6s,baz=315,slow=32						
LRAL	**Lakeview Retre**	**41.42**	**348**	*e*P	**P**	**22 07 55.2**	**-1.1**
	5.6nm,0.7s						
TKL	**Tuckaleechee C**	**43.46**	**353**	LR	LR	22 26 54.2	
	comp=Z,97nm,19.4s,baz=99,slow=37						
TXAR	**Lajitas Array**	**44.49**	**327**	P	**P**	**22 08 21.7**	**+0.3**
TXAR	**Lajitas Array**	**44.49**	**327**	P	**P**	**22 08 21.7**	**+0.3**
	1.6nm,0.9s,baz=142,slow=8.0,SNR=7.1						
MIAR	**Mount Ida**	**44.59**	**341**	*e*P	**P**	**22 08 22.0**	**+0.1**
	9.7nm,0.8s						
TUL1	**Tulsa**	**46.57**	**340**	*e*P	**P**	**22 08 39.1**	**+1.5**
	16nm,0.8s						
BINY	**Binghamton**	**49.63**	**2**	*e*P	**P**	**22 09 00.2**	**-1.0**
	7.9nm,0.6s						
KSU1	**Kansas State U**	**49.73**	**341**	*e*P	**P**	**22 09 01.1**	**-0.9**
	7.8nm,0.3s						
ANMO	**Albuquerque**	**50.35**	**329**	*e*P	**P**	**22 09 06.9**	**-0.1**
	4.5nm,1.0s						
ANMO	**Albuquerque**	**50.35**	**329**	P	**P**	**22 09 07.2**	**+0.2**
	4.3nm,1.0s,baz=160,slow=8.9,SNR=7.8						
SDCO	**Great Sand Dun**	**52.11**	**332**	*e*P	**P**	**22 09 20.0**	**-0.3**
	5.8nm,0.9s						
ECSD	**EROS Data Cent**	**53.95**	**343**	*e*P	**P**	**22 09 32.5**	**-0.9**
	8.7nm,0.8s						
BRSD	**Miller**	**55.30**	**342**	*e*P	**P**	**22 09 43.1**	**-0.1**
CCUT	**Cedar City**	**55.98**	**326**	*e*P	**P**	**22 09 49.4**	**+0.8**
	53nm,2.5s						
MVU	**Marysvale**	**56.05**	**328**	*e*P	**P**	**22 09 50.0**	**+1.0**
	18nm,1.9s						
GSC	**Goldstone**	**56.45**	**322**	*e*P	**P**	**22 09 54.0**	**+2.2**
	15nm,1.4s						
RSSD	**Black Hills**	**56.78**	**338**	*e*P	**P**	**22 09 54.2**	**+0.1**
	5.7nm,0.9s						
R11A	**Troy Canyon, C**	**57.79**	**325**	*e*P	**P**	**22 10 01.7**	**+0.4**
	24nm,2.3s						
AGMN	**Agassiz Nation**	**57.97**	**346**	*e*P	**P**	**22 10 01.7**	**-0.4**
	8.3nm,0.8s						
PDAR	**Pinedale Array**	**57.98**	**333**	P	**P**	**22 10 01.6**	**-1.0**
PDAR	**Pinedale Array**	**57.98**	**333**	P	**P**	**22 10 01.6**	**-1.0**
	1.2nm,0.8s,baz=151,slow=5.8,SNR=4.0						
LOHW	**Long Hollow**	**59.12**	**333**	*e*P	**P**	**22 10 10.2**	**-0.3**
	40nm,2.5s						
RRI2	**Red Ridge**	**59.24**	**332**	*e*P	**P**	**22 10 11.5**	**+0.1**
	5.6nm,0.9s						
ELK	**Elko**	**59.28**	**327**	*e*P	**P**	**22 10 11.3**	**-0.4**
	2.0nm,0.8s						
NVAR	**Mina Array Bea**	**59.41**	**324**	P	**P**	**22 10 12.4**	**-0.3**
NVAR	**Mina Array Bea**	**59.41**	**324**	P	**P**	**22 10 12.4**	**-0.3**
	3.0nm,0.8s,baz=133,slow=7.5,SNR=17						
ULM	**Lac du Bonnet**	**59.80**	**347**	*e*P	**P**	**22 10 14.2**	**-0.6**
	9.0nm,0.9s						
ULM	**Lac du Bonnet**	**59.80**	**347**	P	**P**	**22 10 13.8**	**-0.9**
	8.6nm,0.8s,baz=153,slow=8.0,SNR=7.5						
ULM				LR	LR	22 36 10.5	
	comp=Z,418nm,19.7s,baz=54,slow=36						
WAKR	**Walker**	**60.14**	**323**	*e*P	**P**	**22 10 18.1**	**+0.5**
	2.8nm,0.9s						
EGMT	**Eagleton**	**62.24**	**336**	*e*P	**P**	**22 10 31.7**	**+0.2**
SCHQ	**Schefferville**	**62.91**	**7**	P	**P**	**22 10 34.8**	**-0.9**
SCHQ	**Schefferville**	**62.91**	**7**	P	**P**	**22 10 34.8**	**-0.9**
	4.0nm,0.7s,baz=180,slow=5.3,SNR=5.7						
MSO	**Missoula**	**63.10**	**333**	*e*P	**P**	**22 10 37.9**	**+0.6**
	7.4nm,0.9s						
YBH	**Yreka Blue Hor**	**64.12**	**324**	P	**P**	**22 10 43.1**	**-1.1**
YBH	**Yreka Blue Hor**	**64.12**	**324**	P	**P**	**22 10 43.1**	**-1.1**
	2.3nm,0.6s,baz=90,slow=7.1,SNR=6.9						
BSMT	**Bassoo Peak**	**64.25**	**333**	*e*P	**P**	**22 10 45.1**	**+0.2**
	2.9nm,0.8s						
EDM	**Edmonton**	**67.77**	**338**	*e*P	**P**	**22 11 06.7**	**-0.6**
FRB	**Frobisher Bay**	**71.53**	**4**	P	**P**	**22 11 29.9**	**-0.2**
FRB	**Frobisher Bay**	**71.53**	**4**	P	**P**	**22 11 29.9**	**-0.2**
	13nm,0.7s,baz=197,slow=8.5,SNR=9.9						
LIC	**Lamto**	**73.74**	**81**	*e*P	**P**	**22 11 45.9**	**+1.5**
	8.4nm,0.7s						
LIC	**Lamto**	**73.74**	**81**	*e*P	**P**	**22 11 45.8**	**+1.4**
	33nm,1.2s						
LIC	**Lamto**	**73.74**	**81**	*e*P	**P**	**22 11 45.9**	**+1.5**
TIC	**Toumodi**	**73.82**	**81**	*e*P	**P**	**22 11 47.7**	**+2.9**
	88nm,1.5s						
DBIC	**Dimbokro**	**73.98**	**81**	P	**P**	**22 11 46.9**	**+1.1**
DBIC	**Dimbokro**	**73.98**	**81**	P	**P**	**22 11 46.9**	**+1.1**
	3.9nm,0.6s,baz=244,slow=7.5,SNR=15						
KIC	**Kosan Boka**	**74.04**	**81**	*e*P	**P**	**22 11 47.4**	**+1.3**
	12nm,0.6s						
YKA	**Yellowknife Ar**	**75.48**	**343**	P	**P**	**22 11 53.2**	**-0.3**
YKA	**Yellowknife Ar**	**75.48**	**343**	P	**P**	**22 11 53.2**	**-0.3**
	2.1nm,0.8s,baz=143,slow=6.3,SNR=4.1						
VNA2	**Neumayer--Watz**	**76.41**	**161**	*e*P	**P**	**22 11 59.3**	**+0.6**
	baz=299,slow=6.3						
SNAA	**Sanae**	**78.02**	**162**	*e*P	**P**	**22 12 08.2**	**+0.4**
SNAA	**Sanae**	**78.02**	**162**	*e*P	**P**	**22 12 06.8**	**-1.0**
	14nm,1.2s						
EVOP	**Sao Brissos**	**79.05**	**48**	*e*P	**P**	**22 12 15.6**	**+1.6**
EVO	**Evora**	**79.14**	**48**	*e*P	**P**	**22 12 15.6**	**+1.1**
	8.4nm,1.0s						
TOA0	**Torodi Ar. Sit**	**81.45**	**75**	*e*P	**P**	**22 12 27.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**81.45**	**75**	P	**P**	**22 12 28.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**81.45**	**75**	P	**P**	**22 12 28.1**	**+0.7**
	2.4nm,0.6s,baz=266,slow=6.0,SNR=36						
QSPA	**South Pole Qui**	**82.46**	**180**	*e*P	**P**	**22 12 32.0**	**+0.1**
	9.5nm,0.9s						
ESDC	**Sonseca Array**	**82.48**	**48**	P	**P**	**22 12 34.4**	**+2.0**
ESDC	**Sonseca Array**	**82.48**	**48**	P	**P**	**22 12 34.4**	**+2.0**
	0.1nm,0.2s,baz=251,slow=5.1,SNR=4.9						
SUMG	**Summit**	**83.95**	**11**	*i* P	**P**	**22 12 40.0**	**+0.3**
	9.5nm,0.7s						
INK	**Inuvik**	**85.18**	**342**	P	**P**	**22 12 46.0**	**+0.6**
INK	**Inuvik**	**85.18**	**342**	P	**P**	**22 12 46.0**	**+0.6**
	2.3nm,0.4s,baz=104,slow=3.7,SNR=3.4						
PAX	**Paxson**	**86.94**	**335**	*e*P	**P**	**22 12 54.2**	**-0.2**
	5.7nm,1.1s						
GRR	**Gorron**	**87.00**	**41**	*e*P	**P**	**22 12 55.1**	**+0.2**
GRR	**Gorron**	**87.00**	**41**	*e*P	**P**	**22 12 55.1**	**+0.2**
MFF	**Saint Martin d**	**87.01**	**42**	*e*P	**P**	**22 12 55.6**	**+0.6**
	12nm,0.9s						
MFF	**Saint Martin d**	**87.01**	**42**	*e*P	**P**	**22 12 55.6**	**+0.6**
LFF	**La Frestale**	**87.22**	**44**	*e*P	**P**	**22 12 55.9**	**-0.1**
LFF	**La Frestale**	**87.22**	**44**	*e*P	**P**	**22 12 55.9**	**-0.1**
LDF	**La Druitiere**	**87.52**	**40**	*e*P	**P**	**22 12 57.9**	**+0.5**
LDF	**La Druitiere**	**87.52**	**40**	*e*P	**P**	**22 12 57.9**	**+0.5**
ILAR	**Eielson Array**	**88.21 336**		P	**P**	**22 12 59.6**	**-0.8**
ILAR				PP	**PP**	**22 16 28.2**	**+0.4**
ILAR	**Eielson Array**	**88.21 336**		P	**P**	**22 12 59.6**	**-0.8**
	1.1nm,0.7s,baz=136,slow=4.2,SNR=10						
ILAR				PP	**PP**	**22 16 28.2**	**+0.4**
	0.6nm,0.9s,baz=112,slow=7.7,SNR=4.4						
TRF	**Thorofare Moun**	**89.15 335**		*e*P	**P**	**22 13 04.3**	**-0.7**
	42nm,2.0s						
AVF	**Avril sur Loir**	**89.40**	**43**	*e*P	**P**	**22 13 07.1**	**+0.8**
AVF	**Avril sur Loir**	**89.40**	**43**	*e*P	**P**	**22 13 07.1**	**+0.8**
PPLA	**Purkeypile**	**89.80 334**		*e*P	**P**	**22 13 08.0**	**0.0**
	10nm,1.0s						
LOR	**Lormes**	**89.84**	**42**	*e*P	**P**	**22 13 08.4**	**0.0**
	3.5nm,0.7s						
LOR	**Lormes**	**89.84**	**42**	*e*P	**P**	**22 13 08.4**	**0.0**
FRF	**La Foret Royal**	**91.10**	**46**	*e*P	**P**	**22 13 14.4**	**0.0**
	17nm,1.2s						
FRF	**La Foret Royal**	**91.10**	**46**	*e*P	**P**	**22 13 14.4**	**0.0**
SYO	**Syowa Base**	**92.30 161**		‖*e*X	P	22 13 10.0	-9.4
DAVOX	**Davos/Dischmat**	**93.82**	**43**	LR	LR	22 51 54.7	
	comp=Z,392nm,20.5s,baz=66,slow=33						
ARCES	**ARCESS Array B**	**101.72**	**20**	P	**Pdif**	**22 14 01.6**	**-0.3**
ARCES	**ARCESS Array B**	**101.72**	**20**	P	**Pdif**	**22 14 01.6**	**-0.3**
	2.5nm,0.9s,baz=305,slow=5.4,SNR=4.5						
ABKAR	**Akbulak array**	**125.41**	**33**	*e*PKPdf	**PKPdf**	**22 19 08.9**	**-1.7**
ZAA0	**Zalesovo Array**	**131.71**	**14**	*e*PKPdf	**PKPdf**	**22 19 20.4**	**-1.9**
ZALV	**Zalesovo Beam**	**131.71**	**14**	PKP	**PKPdf**	**22 19 22.9**	**+0.5**
ZALV	**Zalesovo Beam**	**131.71**	**14**	PKP	**PKPdf**	**22 19 22.9**	**+0.5**
	1.9nm,0.8s,baz=267,slow=2.7,SNR=8.3						
KURK	**Kurchatov**	**132.76**	**20**	PKP	**PKPdf**	**22 19 24.7**	**+0.2**
KURBB	**Kurchatov Arra**	**132.81**	**21**	PKP	**PKPdf**	**22 19 24.7**	**+0.1**
	0.6nm,0.4s,baz=334,slow=2.3,SNR=6.3						
ASAR	**Alice Springs**	**136.19 224**		PKPpre	PKPpre	22 19 21.8	
ASAR				PKP	**PKPdf**	**22 19 30.1**	**-1.8**
ASAR	**Alice Springs**	**136.19 224**		PKhKP	PKPpre	22 19 21.8	
	0.2nm,0.3s,baz=127,slow=3.5,SNR=3.9						
ASAR				PKP	**PKPdf**	**22 19 30.1**	**-1.8**
	0.6nm,0.6s,baz=125,slow=1.9,SNR=7.8						
MKAR	**Makanchi Array**	**137.37**	**20**	PKP	**PKPdf**	**22 19 32.6**	**-0.7**
MKAR	**Makanchi Array**	**137.37**	**20**	PKP	**PKPdf**	**22 19 32.6**	**-0.7**
	0.6nm,0.7s,baz=345,slow=2.4,SNR=6.6						
WRA	**Warramunga Arr**	**138.25 228**		PKP	**PKPdf**	**22 19 34.9**	**-0.8**
WRA	**Warramunga Arr**	**138.25 228**		PKP	**PKPdf**	**22 19 34.9**	**-0.8**
	1.5nm,0.6s,baz=121,slow=2.1,SNR=14						
CN2	**Changchun**	**138.71 335**		*e*P	PKPdf	22 19 29.5	-6.3
SONM	**Songino Array**	**139.81 356**		PKPpre	PKPpre	22 19 35.1	
SONM	**Songino Array**	**139.81 356**		PKhKP	PKPpre	22 19 35.2	
	0.4nm,0.5s,baz=101,slow=1.5,SNR=3.0						
KSH	**Kashi**	**140.42**	**33**	*e*PKP	**PKPdf**	**22 19 40.8**	**+1.6**
KSRS	**Korea Array**	**142.33 326**		PKP	**PKPdf**	**22 19 42.2**	**-0.3**
	1.9nm,0.7s,baz=39,slow=2.5,SNR=7.0						
KSAR	**Wonju Array Be**	**142.36 326**		PKP	**PKPdf**	**22 19 42.2**	**-0.4**
HHC	**Hu-ho-hao-te**	**145.93 347**		*e*PKPbc	PKPdf	22 19 44.8	-4.1
HHC				PP	**PP**	**22 23 10.3**	**+0.6**
HHC				PKS	PKSdf	22 23 19.0	-5.4
HHC				SKS	SKSdf	22 26 48.0	-7.6
HHC				SKKS	SKKSac	22 29 55.0	-5.6
HHC				SS	**SS**	**22 41 58.3**	**-3.1**
HHC				AMB	AMB		
	comp=Z,280nm,9.5s						
HHC				LR	LR		
	comp=N,130nm,20.0s						
HHC				LR	LR		
	comp=E,190nm,20.5s						
HHC				LR	LR		
	comp=Z,180nm,22.0s						
GTA	**Gaotai**	**148.29**	**4**	PKPbc	**PKPdf**	**22 19 56.0**	**+3.1**
G

HNAT	Natroun	3.21	193	P	Pn	22 34 57.5	+2.0
RTMI	Retamim	3.22	121	Pn	Pn	22 34 55.8	+0.1
MMA0	Mount Meron ar	3.32	85	Pn	Pn	22 34 57.4	+0.4
MMA0				Sn	Sn	22 35 34.5	-0.8
MMLI	Mount Malkishu	3.35	94	Pn	Pn	22 34 56.4	-1.1
MMLI				Sn	Sn	22 35 33.8	-2.2
HMDT	Nahal Hemdat	3.46	97	Pn	Pn	22 34 58.5	-0.5
DSI	Dead Sea	3.52	109	Pn	Pn	22 34 59.8	0.0
RMNI	Mount Ramon	3.54	127	Pn	Pn	22 35 00.2	+0.1
KSDI	Kefar Szold	3.54	82	Pn	Pn	22 35 00.6	+0.5
KSDI				Sn	Sn	22 35 40.3	-0.5
HNKL	Nakhl	3.55	142	P	Pn	22 35 00.7	+0.5
HNKL				S	Sn	22 35 39.3	-1.6
MZDA	Masada	3.61	113	Pn	Pn	22 35 01.2	+0.3
MZDA				Sn	Sn	22 35 41.6	-0.7
TCHB	Talchebab	3.79	90	eP	Pn	22 35 04.3	+0.8
TCHB				eS	Sn	22 35 47.6	+0.7
TCHB				AML	AML	22 35 50.4	
	comp=E,30nm,0.6s						
TCHB				AML	AML	22 35 50.5	
	comp=Z,61nm,0.3s						
TCHB				AML	AML	22 35 52.3	
	comp=N,47nm,0.3s						
TCHB	Talchebab	3.79	90	eP	Pn	22 35 04.3	+0.8
	SNR=57						
TCHB				eS	Sn	22 35 47.6	+0.7
	comp=N,47nm,0.3s,SNR=58						
KRMI	Paran Flat	3.83	133	Pn	Pn	22 35 04.3	+0.2
KRMI				Sn	Sn	22 35 47.0	-0.9
ZFRI	Zfri	3.85	124	Pn	Pn	22 35 04.2	-0.1
ZFRI				Sn	Sn	22 35 46.9	-1.4
PRNI	Paran	3.85	128	Pn	Pn	22 35 04.4	0.0
IKL	Isikli	3.92	27	ePN	Pn	22 35 06.7	+1.4
HRFI	Mount Harif	4.08	131	Pn	Pn	22 35 08.1	+0.5
MBRI	Mt Berech	4.17	134	Pn	Pn	22 35 09.4	+0.5
MBRI				Sn	Sn	22 35 55.9	-0.6
ELL	Elmali	4.18	342	ePN	Pn	22 35 08.3	-0.6
HDMB	Hadim	4.27	11	ePN	Pn	22 35 11.6	+1.3
EIL	Elat	4.29	135	Pn	Pn	22 35 10.7	+0.4
FETY	Fethiye	4.34	334	ePN	Pn	22 35 10.4	-0.6
MARH	Ras Al Marh	4.38	72	eP	Pn	22 35 12.7	+0.9
MARH				eS	Sn	22 36 01.6	-0.1
MARH				AML	AML	22 36 05.2	
	comp=E,19nm,0.4s						
MARH				AML	AML	22 36 06.0	
	comp=N,26nm,0.6s						
MARH				AML	AML	22 36 06.6	
	comp=Z,12nm,0.3s						
MARH	Ras Al Marh	4.38	72	eP	Pn	22 35 12.7	+0.9
	SNR=57						
MARH				eS	Sn	22 36 01.6	-0.1
	comp=Z,12nm,0.3s,SNR=58						
SALA	Sala	4.43	89	eP	Pn	22 35 14.1	+1.6
SALA				eS	Sn	22 36 04.4	+1.4
SALA				AML	AML	22 36 08.8	
	comp=E,1.5nm,0.4s						
SALA	Sala	4.43	89	eP	Pn	22 35 14.1	+1.6
	SNR=57						
SALA				eS	Sn	22 36 04.4	+1.4
	comp=E,1.5nm,0.4s,SNR=58						
HAWK	Haweek	4.47	66	eP	Pn	22 35 13.2	+0.2
HAWK				eS	Sn	22 36 01.8	-2.0
HAWK				AML	AML	22 36 03.6	
	comp=N,11nm,0.2s						
HAWK				AML	AML	22 36 04.8	
	comp=E,15nm,0.3s						
HAWK				AML	AML	22 36 11.1	
	comp=Z,9.7nm,0.2s						
HAWK	Haweek	4.47	66	eP	Pn	22 35 13.2	+0.2
	SNR=57						
HAWK				eS	Sn	22 36 01.8	-2.0
	comp=Z,9.7nm,0.2s,SNR=58						
DALY	Dalyan (Mu¨la	4.66	331	ePN	Pn	22 35 15.7	+0.2
SUTC	Sutluce-Ispart	4.72	355	ePN	Pn	22 35 16.5	+0.2
BCK	Bucak	4.74	351	ePN	Pn	22 35 17.1	+0.5
HKAT	Jabal Katrina	4.75	152	P	Pn	22 35 17.0	+0.1
TR2		4.78	155	P	Pn	22 35 17.2	+0.2
YER	Yerkesik	5.09	330	ePN	Pn	22 35 21.9	+0.6
HTY	Hatay	5.11	48	ePN	Pn	22 35 24.5	+3.0
KARA	Karaisali	5.36	32	eP	Pn	22 35 25.6	+0.5

IDC 25 22:36:43.3±8.8, 1°.99N×96°.38E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/25, mbtmp3.8/3, Error ellipse: s-maj=417.5km s-min=28.0km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIZ	Qiongzhong	21.47	37	SS	Sn	22 45 43.3	+2.9
QIZ				LR	LR		
	comp=N,230nm,23.0s						
QIZ				LR	LR		
	comp=E,160nm,24.1s						
QIZ				LR	LR		
	comp=Z,580nm,24.3s						
WRA	Warramunga Arr	43.15	122	P	P	22 44 45.9	-0.1
	comp=Z,0.4nm,0.3s,baz=303,slow=8.9,SNR=4.6						
MKAR	Makanchi Array	46.29	347	P	P	22 45 11.0	+0.3
	comp=Z,0.2nm,0.3s,baz=154,slow=9.6,SNR=5.2						
ZALV	Zalesovo Beam	52.66	351	P	P	22 45 58.8	-0.4
	comp=Z,3.4nm,0.5s,baz=172,slow=6.6,SNR=20						
TXAR	Lajitas Array	143.42	30	PKP	PKPdf	22 56 19.7	-1.1
	comp=Z,0.3nm,0.8s,baz=343,slow=1.9,SNR=3.2						

*ISCJB **25** 22:45:28.3±0.5, 71°.20N±0°.04×8°.6W±0°.1, h20km, mb3.6/4, MS3.4/1, Error ellipse: s-maj=7.0km s-min=3.7km az=139.6*
*REY **25** 22:45:29.5, 70°.97N×8°.52W, h10km, ML3.5, ML3.2*
*IDC **25** 22:45:29.7±0.8, 70°.99N×8°.51W, h0km, mb3.7/4, mb1 3.9/9, mb1mx3.6/32, mbtmp3.7/9, ML3.3/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/44, Error ellipse: s-maj=23.7km s-min=7.7km az=82.0*
*CSEM **25** 22:45:30.6±0.2, 71°.21N×9°.19W, h10km, ML4.2, Error ellipse: s-maj=6.0km s-min=4.5km az=126.0*
*NAO **25** 22:45:31.8±1.5, 71°.09N×7°.72W, ML3.9*
*BER **25** 22:45:33.3±0.7, 71°.21N×8°.52W, h10km, MD3.6, ML4.2, ML3.9(NAO)*

ISC 25 22:45:32.0±0.6, 71°.18N±0°.05×8°.53W±0°.06, h20km, n56, σ1°46/67, mb3.7/4, 2C-4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.15	168	⇓iP	Pb	22 45 36.9	+0.4
JNW	Jan Mayen West	0.15	168	⇓iP	Pb	22 45 36.9	+0.4
	SNR=116						
JMIC	Jan Mayen	0.19	178	Pg	Pb	22 45 37.3	+0.3
JMIC				Lg	Lg	22 45 40.9	
JMIC	Jan Mayen	0.19	178	eP	Pb	22 45 37.3	+0.3
JMIC				eSg	Sb	22 45 40.8	+0.4
JMIC	Jan Mayen	0.19	178	Pn	Pb	22 45 37.3	+0.3
	8μm,0.3s,baz=143,slow=20,SNR=881						
JMIC				Sn	Sb	22 45 40.5	+0.1
	15μm,0.3s,baz=143,slow=18,SNR=1124						
JMIC	Jan Mayen	0.19	178	eP	Pb	22 45 37.3	+0.3
	SNR=112						
JMIC				eSg	Sb	22 45 40.8	+0.4
	SNR=112						
JNE	Jan Mayen East	0.20	158	⇑iP	Pb	22 45 37.1	-0.1
JNE	Jan Mayen East	0.20	158	⇑iP	Pb	22 45 37.1	-0.1
	SNR=111						
JMI	Jan Mayen	0.26	195	⇓iP	Pb	22 45 38.8	+0.8
JMI				eS	Sb	22 45 42.7	+0.7
JMI				AML	AML	22 45 44.3	
	comp=Z,26μm,0.1s						
JMI	Jan Mayen	0.26	195	⇓iP	Pb	22 45 38.8	+0.8
	SNR=108						
JMI				eS	Sb	22 45 42.7	+0.7
	comp=Z,26μm,0.1s,SNR=108						
ILEI	Leirhofn	5.59	215	P	Pn	22 46 51.8	-2.1
ILEI				S	Sn	22 47 57.7	+0.3
IGIL	Gilhagi	5.86	213	P	Pn	22 46 55.4	-2.2
IGIL				S	Sn	22 48 04.1	0.0
IHED	Heoinshofoi¨j	6.04	216	P	Pn	22 46 58.0	-2.0
IDIM	Dimmadals¨j	6.07	214	P	Pn	22 46 58.4	-2.1
IDIM				S	Sn	22 48 09.3	0.0
ISKI	Skildingah¨‡ls	6.17	214	P	Pn	22 47 00.5	-1.3
ISKI				S	Sn	22 48 12.1	+0.4
IGRS	Grimsstaoir	6.23	210	P	Pn	22 47 01.4	-1.2
IGRS				S	Sn	22 48 13.6	+0.5
IGRA	Granastaoir	6.23	216	P	Pn	22 47 00.9	-1.7
IGRA				S	Sn	22 48 13.4	+0.2
DAG	Danmarks Havn	6.27	338	iP	Pn	22 47 03.5	+0.4
DAG				eS	Sn	22 48 09.4	-4.6
IKVO	Krokottuvotn	6.29	213	P	Pn	22 47 00.7	-2.7
IREN	Reynihlio	6.35	213	P	Pn	22 47 02.4	-1.9
IHLA	Hella	6.37	219	P	Pn	22 47 03.2	-1.3
IGLU	Glumsstadir	6.69	205	P	Pn	22 47 08.2	-0.7
IADA	Aoalbol	6.72	206	P	Pn	22 47 08.8	-0.6
LOF	Lofoten	8.24	101	eP	Pn	22 47 28.3	-1.9
KONS	Konsvik	9.09	110	eP	Pn	22 47 40.0	-1.7
STOK	Stokkvaagen	9.16	111	eP	Pn	22 47 41.0	-1.8
FLOS	Flostrand	9.27	111	eP	Pn	22 47 43.1	-1.0
KBS	Kingsbay	9.32	25	iP	Pn	22 47 45.2	+0.3
	SNR=46						
SUMG	Summit	9.37	293	iP	Pn	22 47 50.3	+4.3
SUMG				eS	Sn	22 49 27.1	-3.6
SPA0	Spitsbergen Ar	9.52	32	Pn	Pn	22 47 49.0	+1.4
	baz=228,slow=14						
SPA0	Spitsbergen Ar	9.52	32	P	Pn	22 47 49.0	+1.4
	baz=228,slow=14						
SPA0	Spitsbergen Ar	9.52	32	P	Pn	22 47 49.0	+1.4
	baz=228,slow=13,SNR=48						
SPITS	Spitsbergen Ar	9.52	32	Pn	Pn	22 47 49.3	+1.7
	baz=222,slow=14,SNR=92						
MOR8	Moi Rana	9.70	110	eP	Pn	22 47 49.3	-0.9
ARCES	ARCESS Array B	11.47	82	Pn	Pn	22 48 13.5	-0.8
	comp=Z,0.2nm,0.3s,baz=291,slow=12,SNR=10						
ARA0	ARCESS Array S	11.47	82	Pn	Pn	22 48 13.4	-0.9
	baz=288,slow=12						
ARA0	ARCESS Array S	11.47	82	P	Pn	22 48 13.4	-0.9
	baz=288,slow=12						
ARA0	ARCESS Array S	11.47	82	P	Pn	22 48 13.4	-0.9
	baz=288,slow=12,SNR=48						
NB2	NORSAR Subarra	12.85	132	Pn	Pn	22 48 31.9	-1.3
NB2	NORSAR Subarra	12.85	132	P	Pn	22 48 31.9	-1.3
HFS	Hagfors	14.24	130	Pn	Pn	22 48 51.1	-1.1
	baz=355,slow=7.4						
HFS	Hagfors	14.24	130	P	Pn	22 48 51.1	-1.1
	baz=355,slow=7.4						
HFS	Hagfors	14.24	130	Pn	Pn	22 48 51.2	-1.0
	comp=Z,0.2nm,0.3s,baz=337,slow=10,SNR=7.3						
HFS	Hagfors	14.24	130	Pn	Pn	22 48 51.1	-1.1
	baz=355,slow=7.4,SNR=9.6						
EKA	Eskdalemuir Ar	16.08	169	Pn	Pn	22 49 16.1	-0.4
	baz=358,slow=13,SNR=2.7						
KAF	Kangasniemi	16.25	106	ep	P	22 49 20.1	-1.5
FIA0	FINESS Array S	16.69	108	P	Pn	22 49 24.5	+0.3
	baz=319,slow=14						
FIA0	FINESS Array S	16.69	108	Pn	Pn	22 49 24.5	+0.3
	baz=319,slow=14						
FIA0	FINESS Array S	16.69	108	P	Pn	22 49 24.5	+0.3
	baz=319,slow=12,SNR=5.1						
FINES	FINESS Array B	16.69	108	Pn	Pn	22 49 23.0	-1.2
	comp=Z,0.2nm,0.3s,baz=317,slow=12,SNR=9.2						
JOF	Joensuu	17.25	99	ep	Pn	22 49 28.6	-2.6
GERES	GERESS Array B	24.69	143	P	P	22 50 51.2	-0.1
	comp=Z,0.4nm,0.6s,baz=340,slow=8.4,SNR=4.6						
YKA	Yellowknife Ar	37.25	313	P	P	22 52 44.5	+2.9
	comp=Z,1.6nm,0.6s,baz=29,slow=9.1,SNR=3.3						
ZALV	Zalesovo Beam	41.26	63	LR	LR	23 12 20.2	
	comp=Z,48nm,19.8s,baz=70,slow=39						
ILAR	Eielson Array	41.35	334	P	P	22 53 18.8	+2.9
	comp=Z,1.0nm,0.9s,baz=18,slow=7.4,SNR=7.1						
TORD	Torodi Ar. Bea	58.34	168	P	P	22 55 26.6	+1.3
	comp=Z,1.1nm,1.0s,baz=344,slow=7.9,SNR=4.7						

MAN 25 22:45:49, 12°.67N×124°.27E, h24km, mb4.1, ML2.9, MS2.6, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	0.42	112	eP	Pn	22 45 59.7	+0.1
CNP				eS	Sn	22 46 08.7	+2.1
PVCP	Virac	0.93	353	⇑eP	Pb	22 46 06.0	-0.4
PVCP				iS	Sn	22 46 25.7	+6.6
PLP	Palo	1.65	155	⇓eP	Pn	22 46 16.9	+0.4
PLP				eS	Sb	22 46 38.5	-0.7

*IDC **25** 23:03:08.1±0.7, 2°.98S×147°.34E, h0km, mb4.2/16, mb1 4.4/18, mb1mx4.3/22, mbtmp4.2/18, ML3.4/2, MS4.3/19, Ms1 4.3/19, ms1mx4.2/24, Error ellipse: s-maj=28.5km s-min=13.3km az=96.0*
*ISCJB **25** 23:03:11.2±0.5, 2°.99S±0°.05×147°.3E±0°.1, h32km, mb4.4/22, MS4.3/18, Error ellipse: s-maj=17.4km s-min=6.9km az=2.3*
*NEIC **25** 23:03:13.4±1.3, 2°.99S×147°.32E, h38km±12km, mb4.9/7, Error ellipse: s-maj=12.6km s-min=7.1km az=82.0*
*GCMT **25** 23:03:14.5±0.2, 2°.97S×147°.35E, h14km±1km, MW5.0, Moment Tensor Solution. s37,c52; s83,c137; Moment tensor: Scale 10^{16}Nm; M_{rr}0.01±.11; $M_{\theta\theta}$0.54±.10; $M_{\phi\phi}$-0.55±.11; $M_{r\theta}$-0.98±.23; $M_{\theta\phi}$4.05±.11; $M_{\phi r}$-0.47±.21; Best double couple: $M_0$4.20000×10^{16} NP1:ϕ_s275.00000°, δ83.00000°, λ13.00000°. NP2:ϕ_s183.00000°, δ77.00000°, λ173.00000°. Principal axes: T 4.3400, Plg14.0000°, Azm139.0000°; N -0.2200, Plg76.0000°, Azm301.0000°; P -4.1100, Plg4.0000°, Azm48.0000°; Data Used: II IU IC G.*

ISC 25 23:03:12.8±0.5, 2°.99S±0°.07×147°.4E±0°.1, h32km, n56, σ0°64/49, mb4.4/22, MS4.3/18, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.37	182	Pn	Pn	23 04 44.3	-0.3
PMG	Port Moresby	6.37	182	Pn	Pn	23 04 44.3	-0.3
	1.4nm,0.3s,baz=16,slow=13,SNR=7.0						
PMG				LR	LR	23 07 01.6	
	comp=Z,1μm,18.9s,baz=186,slow=36						
COEN	Coen	11.65	201	eP	Pn	23 05 57.5	+0.4
	148nm,0.8s						
CTA	Charters Tower	17.02	184	Pn	Pn	23 07 09.4	+0.7
CTA	Charters Tower	17.02	184	Pn	Pn	23 07 09.4	+0.7
	0.3nm,0.3s,baz=360,slow=14,SNR=7.5						
CTAO	Charters Tower	17.02	184	ePn	Pn	23 07 08.6	-0.1
	51nm,1.5s						
WRAB	Tennant Creek	21.09	216	eP	P	23 07 54.3	-0.5
	56nm,0.9s						
WRA	Warramunga Arr	21.10	216	P	P	23 07 54.7	-0.2
WRA				PcP	PcP	23 12 01.2	+0.5
WRA	Warramunga Arr	21.10	216	P	P	23 07 54.7	-0.2
	50nm,1.0s,baz=41,slow=11,SNR=63						
WRA				PcP	PcP	23 12 01.2	+0.5
	1.7nm,0.7s,baz=33,slow=2.0,SNR=5.2						
WRA				LR	LR	23 17 08.2	
	comp=Z,892nm,18.4s,baz=40,slow=40						
EIDS	Eidsvold	22.53	171	eP	P	23 08 10.7	+0.5
	312nm,2.5s						
AS31	Alice Springs	24.32	211	eP	P	23 08 27.6	-0.2
ASAR	Alice Springs	24.32	211	P	P	23 08 27.9	0.0
ASAR				PcP	PcP	23 12 07.9	+0.6
ASAR	Alice Springs	24.32	211	P	P	23 08 27.9	0.0
	16nm,0.9s,baz=38,slow=7.8,SNR=96						
ASAR				PcP	PcP	23 12 07.9	+0.6
	1.6nm,0.8s,baz=42,slow=2.3,SNR=6.8						
ASAR				LR	LR	23 18 48.0	
	comp=Z,698nm,19.6s,baz=39,slow=39						
FITZ	Fitzroy Crossi	26.05	233	P	P	23 08 42.7	-0.8
	8.4nm,0.8s,baz=40,slow=10,SNR=24						
FITZ				LR	LR	23 19 46.5	
	comp=Z,1μm,20.4s,baz=55,slow=38						
DZM	Mont Dzumac	26.52	137	eP	P	23 08 54.0	+6.2
	69nm,1.4s						
DZM				eLR	LR	23 15 34.0	
	3μm,23.6s						
DZM	Mont Dzumac	26.52	137	LR	LR	23 17 42.2	
	comp=Z,2μm,20.6s,baz=345,slow=33						
STKA	Stephens Creek	29.24	190	LR	LR	23 21 35.4	
	comp=Z,694nm,20.6s,baz=6.5,slow=38						
YHNB	Yeheng	37.33	319	eP	P	23 10 22.2	-0.4
	40nm,1.1s						
JNU	Nakatsue	39.16	338	eP	P	23 10 37.4	-0.4
JNU	Nakatsue	39.16	338	P	P	23 10 38.1	+0.3
	8.7nm,0.9s,baz=89,slow=6.6,SNR=5.1						
MJAR	Matsushiro Arr	40.25	349	P	P	23 10 45.8	-1.0
MJAR	Matsushiro Arr	40.25	349	P	P	23 10 45.8	-1.0
	2.1nm,0.9s,baz=169,slow=8.3,SNR=5.0						
MJAR				LR	LR	23 26 00.5	
	comp=Z,295nm,18.3s,baz=195,slow=34						
KSRS	Korea Array	44.11	338	P	P	23 11 17.7	-0.5
	1.2nm,0.7s,baz=150,slow=9.9,SNR=5.5						
KSRS				LR	LR	23 27 58.8	
	comp=Z,349nm,18.4s,baz=150,slow=34						
KSAR	Wonju Array Be	44.11	338	P	P	23 11 17.7	-0.5
USRK	Ussuriysk Arra	48.96	345	P	P	23 11 56.6	+0.4
	2.9nm,0.9s,baz=175,slow=8.4,SNR=4.4						
USRK				LR	LR	23 31 52.6	
	comp=Z,200nm,19.1s,baz=147,slow=35						
CMAR	Chiang Mai Arr	52.21	296	P	P	23 12 22.2	+1.0
CMAR	Chiang Mai Arr	52.21	296	P	P	23 12 22.2	+1.0
	0.7nm,0.4s,baz=116,slow=6.1,SNR=6.7						
CMAR				LR	LR	23 35 36.0	
	comp=Z,92nm,19.6s,baz=243,slow=37						
PETK	Petropavlovsk-	56.57	7	P	P	23 12 52.6	+0.4
PETK	Petropavlovsk-	56.57	7	P	P	23 12 52.6	+0.4
	6.5nm,0.8s,baz=165,slow=6.0,SNR=9.5						
PETK				LR	LR	23 32 36.3	
	comp=Z,166nm,21.2s,baz=186,slow=31						
ULN	Ulaanbaatar	61.68	330	eP	P	23 13 28.1	+0.2
SONM	Songino Array	61.98	330	P	P	23 13 30.3	+0.3
SONM	Songino Array	61.98	330	P	P	23 13 30.3	+0.3
	0.3nm,0.8s,baz=147,slow=8.2,SNR=4.5						
SONM				LR	LR	23 38 38.4	
	comp=Z,318nm,19.5s,baz=108,slow=34						
PPT2	Papeete2	63.44	108	eLR	LR	23 32 39.8	
	230nm,24.8s						
TBI	Tubuai	64.24	114	eLQ	LQ	23 30 24.3	
	391nm,39.8s						
TBI				eLR	LR	23 33 03.7	
	434nm,33.0s						
VNDA	Vanda	74.87	177	eP	P	23 14 50.3	+0.4
	4.1nm,1.0s						
VNDA	Vanda	74.87	177	P	P	23 14 50.0	+0.1
	3.0nm,0.8s,baz=332,slow=5.5,SNR=16						
VNDA				LR	LR	23 44 06.5	
	comp=Z,149nm,18.5s,baz=350,slow=33						
MKAR	Makanchi Array	75.43	320	P	P	23 14 53.4	-0.3
MKAR	Makanchi Array	75.43	320	P	P	23 14 53.4	-0.3
	1.1nm,0.9s,baz=101,slow=7.5,SNR=5.6						
MKAR				LR	LR	23 48 01.0	
	comp=Z,164nm,18.5s,baz=245,slow=36						
ZALV	Zalesovo Beam	76.68	327	P	P	23 14 60.0	-0.7
ZALV	Zalesovo Beam	76.68	327	P	P	23 14 60.0	-0.7
	0.4nm,0.5s,baz=112,slow=6.4,SNR=4.4						
ZALV				LR	LR	23 49 05.5	
	comp=Z,216nm,18.1s,baz=70,slow=36						
RKT	Rikitea	77.49	113	eLR	LR	23 39 06.3	
	321nm,33.0s						
KBL	Kabul	82.09	305	eP	P	23 15 30.2	-0.6
ILAR	Eielson Array	82.59	23	P	P	23 15 31.9	-0.6
ILAR	Eielson Array	82.59	23	P	P	23 15 31.9	-0.6
	2.3nm,0.8s,baz=251,slow=5.1,SNR=19						
ILAR				LR	LR	23 48 45.7	
	comp=Z,118nm,18.5s,baz=272,slow=33						
BVAR	Borovoye Array	84.57	324	P	P	23 15 42.9	0.0
BVAR	Borovoye Array	84.57	324	P	P	23 15 42.9	0.0
	0.8nm,0.7s,baz=100,slow=7.6,SNR=5.8						
MAW	Mawson	85.14	203	LR	LR	23 47 35.3	
	comp=Z,112nm,21.9s,baz=277,slow=31						
QSPA	South Pole Qui	86.95	180	eP	P	23 15 53.4	-1.3
	6.8nm,1.0s						
YBH	Yreka Blue Hor	91.92	48	LR	LR	23 47 39.7	
	comp=Z,343nm,21.9s,baz=354,slow=29						
WVOR	Wild Horse Val	94.96	48	eP	P	23 16 32.1	-0.4
	3.6nm,0.8s						
NVAR	Mina Array Bea	95.25	52	P	P	23 16 35.7	+1.6
NVAR	Mina Array Bea	95.25	52	P	P	23 16 35.7	+1.6
	0.7nm,0.9s,baz=255,slow=7.1,SNR=5.3						
PFO	Pinyon Flat Ob	96.80	57	LR	LR	23 52 19.5	
	comp=Z,215nm,20.5s,baz=85,slow=30						
TORD	Torodi Ar. Bea	144.59	289	PKP	PKPbc	23 22 45.9	-0.2
TORD	Torodi Ar. Bea	144.59	289	PKP	PKPbc	23 22 45.9	-0.2
	3.3nm,1.0s,baz=65,slow=3.0,SNR=12						
SAML	Samuel	147.32	112	ePKPbc	PKPbc	23 22 54.3	0.0

MAN 25 23:09:35, 7°.87N×124°.69E, h28km, mb4.2, ML3.0, MS2.7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.37	89	eP	Pn	23 09 45.6	+1.1
BUKP				eS	Sn	23 09 53.4	+2.6
CGP	Cagayan de Oro	0.58	0	⇑iP	Pn	23 09 48.6	+1.2
CGP				iS	Sn	23 09 57.5	+1.4
CTBH	Cotabato--PC H	0.78	214	⇑iP	Pn	23 09 50.1	-0.1
CTBH				iS	Sb	23 09 57.9	-2.5
PAGZ	Pagadian	1.30	269	eP	Pb	23 09 59.2	+0.4
PAGZ				eS	Sb	23 10 14.8	-0.2

IDC 25 23:46:45.5±4.2, 5°.96S×149°.28E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=151.4km s-min=39.4km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.02	211	Pn	Pn	23 47 50.1	+1.8
	7.4nm,0.3s,baz=60,slow=3.8,SNR=9.2						
PMG				Sn	Sn	23 48 35.5	-0.6
	3.1nm,0.3s,baz=139,slow=15,SNR=3.5						
WRA	Warramunga Arr	20.10	225	P	P	23 51 20.3	-0.7
	0.5nm,0.3s,baz=50,slow=11,SNR=2.0						
ASAR	Alice Springs	23.00	218	P	P	23 51 51.8	-0.4
	0.2nm,0.3s,baz=56,slow=9.3,SNR=3.2						
TORD	Torodi Ar. Bea	147.27	285	PKPbc	PKPbc	00 06 31.4	-0.6
	0.2nm,0.8s,baz=75,slow=2.8,SNR=1.6						

IDC 25 23:59:06.8±4.8, 19°.36S×69°.78W, h113km±35km, mb3.4/2, mb1 3.6/5, mb1mx3.3/20, mbtmp3.4/5, Error ellipse: s-maj=58.9km s-min=26.9km az=36.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.44	27	P	Pn	23 59 58.4	-1.1
	3.4nm,0.3s,baz=211,slow=9.6,SNR=69						
SIV	San Ignacio	8.95	69	P	Pn	00 01 13.2	-0.1
	1.3nm,0.3s,baz=261,slow=13,SNR=15						
CPUP	Villa Florida	13.40	123	P	Pn	00 02 14.1	+1.6
	0.6nm,0.3s,baz=291,slow=13,SNR=8.6						
TXAR

42nm,0.9s
WRA Warramunga Arr 21.04 216 P **P 00 06 13.7 -0.6**
WRA Warramunga Arr 21.04 216 P **P 00 06 13.7 -0.6**
32nm,0.9s,baz=40,slow=12,SNR=64
WRA LR LR 00 14 35.2
comp=Z,590nm,18.0s,baz=35,slow=37
AS31 Alice Springs 24.25 212 *eP* **P 00 06 46.8 -0.4**
ASAR Alice Springs 24.25 212 P **P 00 06 46.2 -0.9**
ASAR Alice Springs 24.25 212 P **P 00 06 46.3 -0.9**
6.6nm,0.7s,baz=41,slow=7.7,SNR=41
ASAR LR LR 00 16 26.0
comp=Z,699nm,20.2s,baz=40,slow=37
FITZ Fitzroy Crossi 26.04 234 *eP* **P 00 07 03.8 +0.4**
7.0nm,1.0s
FITZ Fitzroy Crossi 26.04 234 P **P 00 07 04.3 +0.9**
3.9nm,0.7s,baz=66,slow=10,SNR=10
FITZ LR LR 00 18 04.5
comp=Z,762nm,20.0s,baz=59,slow=38
DZM Mont Dzumac 26.34 137 LR LR 00 16 00.2
comp=Z,1μm,20.7s,baz=182,slow=33
STKA Stephens Creek 29.11 190 *eP* **P 00 07 30.1 -0.7**
STKA Stephens Creek 29.11 190 LR LR 00 20 46.7
comp=Z,446nm,18.7s,baz=12,slow=40
MJAR Matsushiro Arr 40.41 348 P **P 00 09 09.1 +1.0**
MJAR Matsushiro Arr 40.41 348 P **P 00 09 09.1 +1.0**
0.6nm,0.3s,baz=160,slow=12,SNR=3.5
MJAR LR LR 00 24 36.3
comp=Z,172nm,18.1s,baz=175,slow=34
KSRS Korea Array 44.28 338 P **P 00 09 40.3 +0.7**
0.5nm,0.4s,baz=138,slow=7.4,SNR=2.8
KSRS LR LR 00 26 16.8
comp=Z,227nm,18.5s,baz=152,slow=33
KSAR Wonju Array Be 44.28 338 P **P 00 09 40.3 +0.7**
USRK Ussuriysk Arra 49.13 345 P **P 00 10 18.3 +0.9**
0.9nm,0.6s,baz=158,slow=9.0,SNR=3.0
USRK LR LR 00 30 00.6
comp=Z,113nm,18.9s,baz=343,slow=35
CMAR Chiang Mai Arr 52.36 296 P **P 00 10 41.9 -0.4**
CMAR Chiang Mai Arr 52.36 296 P **P 00 10 41.9 -0.4**
0.5nm,0.3s,baz=108,slow=5.9,SNR=3.7
CMAR LR LR 00 33 17.8
comp=Z,103nm,18.4s,baz=138,slow=36
PETK Petropavlovsk- 56.70 7 LR LR 00 30 54.1
comp=Z,135nm,19.9s,baz=73,slow=31
SONM Songino Array 62.16 330 LR LR 00 36 56.9
comp=Z,208nm,20.3s,baz=310,slow=34
PPT Papeete 63.30 108 LR LR 00 33 24.9
comp=Z,145nm,18.5s,baz=237,slow=30
VNDA Vanda 74.72 177 *eP* **P 00 13 07.9 -1.1**
VNDA Vanda 74.72 177 P **P 00 13 09.4 +0.4**
1.8nm,0.8s,baz=300,slow=5.5,SNR=7.8
VNDA LR LR 00 42 15.6
comp=Z,95nm,21.3s,baz=254,slow=33
MKAR Makanchi Array 75.61 320 LR LR 00 46 28.8
comp=Z,119nm,18.5s,baz=245,slow=36
ZALV Zalesovo Beam 76.86 327 LR LR 00 47 33.2
comp=Z,153nm,18.7s,baz=250,slow=36
ILAR Eielson Array 82.69 23 P **P 00 13 52.1 -0.9**
ILAR Eielson Array 82.69 23 P **P 00 13 52.1 -0.9**
0.7nm,0.7s,baz=252,slow=5.1,SNR=7.1
ILAR LR LR 00 43 59.6
comp=Z,90nm,21.2s,baz=322,slow=31
MAW Mawson 85.05 203 LR LR 00 49 27.3
comp=Z,133nm,21.9s,baz=287,slow=34
TORD Torodi Ar. Bea 144.73 288 PKP **PKPab 00 21 05.3 -1.0**
TORD Torodi Ar. Bea 144.73 288 PKP **PKPab 00 21 05.3 -1.0**
0.7nm,0.8s,baz=60,slow=3.9,SNR=8.3

IDC 26 00:25:38.9±3.8, 3°.13S×147°.48E, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.5/17, mbtmp3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/19, Error ellipse: s-maj=158.6km s-min=56.9km az=114.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.88**	**117**	LR	LR		00 32 59.3	
	comp=Z,52nm,20.1s,baz=86,slow=32							
WRA	**Warramunga Arr**	**21.07**	**217**	P	P		00 30 24.8	-0.2
	5.2nm,0.9s,baz=42,slow=11,SNR=12							
ASAR	**Alice Springs**	**24.28**	**212**	P	P		00 30 58.6	+0.5
	1.5nm,0.7s,baz=40,slow=8.0,SNR=11							
MJAR	**Matsushiro Arr**	**40.40**	**348**	LR	LR		00 49 15.8	
	comp=Z,75nm,18.0s,baz=60,slow=35							
KSRS	**Korea Array**	**44.28**	**338**	LR	LR		00 50 17.7	
	comp=Z,18nm,19.7s,baz=191,slow=33							
TORD	**Torodi Ar. Bea**	**144.75**	**288**	PKP	PKPab		00 45 17.6	-0.1
	0.4nm,1.1s,baz=77,slow=1.6,SNR=2.5							

IDC 26 00:33:11.9±27.0, 0°.63S×100°.05E, h215km±200km, mb3.2/3, mb1 3.3/3, mb1mx2.9/23, mbtmp3.2/3, Error ellipse: s-maj=437.4km s-min=25.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.65**	**122**	P	P	P	00 40 14.9	-0.2
	0.5nm,0.6s,baz=300,slow=8.7,SNR=2.8							
MKAR	**Makanchi Array**	**49.73**	**344**	P	P	P	00 41 42.2	-0.3
	0.5nm,0.5s,baz=150,slow=8.9,SNR=7.2							
ZALV	**Zalesovo Beam**	**55.84**	**349**	P	P	P	00 42 27.1	+0.2
	0.5nm,0.3s,baz=178,slow=4.3,SNR=3.8							
TXAR	**Lajitas Array**	**143.58**	**36**	PKP	PKPdf		00 52 21.3	-0.6
	0.4nm,0.5s,baz=282,slow=1.8,SNR=8.6							

---

*ISCJB **26** 00:49:25.9±0.9, 24°.21S±0°.07×67°.7W±0°.1, h230km±17km, mb3.4/2, Error ellipse: s-maj=20.3km s-min=11.1km az=176.7*
*GUC **26** 00:49:25.3±0.5, 24°.21S×67°.62W, h210km, ML4.3*
*IDC **26** 00:49:39.8±2.5, 22°.92S×65°.98W, h242km±24km, mb3.3/2, mb1 3.3/4, mb1mx3.1/17, mbtmp3.1/4, Error ellipse: s-maj=33.7km s-min=27.8km az=69.0*
ISC 26 00:49:26.8±1.1, 24°.15S±0°.08×67°.7W±0°.1, h224km±19km, n11, σ0§82/17, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.42**	**288**	*eP*	**Pn**		**00 50 11.3**	**-0.4**
CEN1				*eS*	**S**		**00 50 47.9**	**+1.4**
CEN1				AML	AML		00 50 49.5	
	comp=N,292nm,0.6s							
ANCH	**Antofagasta**	**2.54**	**280**	*eP*	**Pn**		**00 50 12.5**	**-0.1**
ANCH				*i* S	**S**		**00 50 48.4**	**+0.1**
PB10	**Plate Boundary**	**2.70**	**283**	↑*eP*	**Pn**		**00 50 14.4**	**-0.1**
PB10				*eS*	**S**		**00 50 51.5**	**-0.1**
PB10				AML	AML		00 50 56.1	
	comp=N,660nm,0.4s							
PB09	**Plate Boundary**	**2.75**	**328**	↑*eP*	**Pn**		**00 50 15.6**	**+0.4**
PB09				*eS*	**S**		**00 50 53.7**	**+0.7**
PB09				AML	AML		00 50 58.2	
	comp=E,658nm,0.2s							
HMBC	**Humberstone**	**4.36**	**332**	*eP*	**Pn**		**00 50 33.6**	**-0.5**
HMBC				*eS*	**S**		**00 51 27.5**	**+0.4**
PSGC	**Pisagua**	**5.07**	**333**	*eP*	**Pn**		**00 50 42.7**	**-0.2**
PSGC				*eS*	**S**		**00 51 41.1**	**-1.9**
MNMC	**Minimini**	**5.30**	**340**	*eP*	**Pn**		**00 50 46.0**	**0.0**
LPAZ	**La Paz**	**7.84**	**357**	P	**Pn**		**00 51 19.8**	**+1.2**
	comp=E,0.6nm,0.3s,baz=158,slow=6,2,SNR=18							
LPAZ				S	**S**		**00 52 47.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=0.5,slow=17,SNR=3.0							
CPUP	**Villa Florida**	**9.62**	**105**	P	**Pn**		**00 51 40.3**	**-0.6**
	comp=E,0.5nm,0.3s,baz=271,slow=16,SNR=6.4							
VNDA	**Vanda**	**74.44**	**190**	P	PcP		01 00 59.4	+6.1
	comp=E,0.6nm,0.5s,baz=166,slow=4.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**77.21**	**69**	P	**P**		**01 00 57.0**	**+0.4**
	comp=E,0.4nm,0.5s,baz=260,slow=5.5,SNR=16							

---

*BYKL **26** 00:53:24.5±0.3, 51°.10N×103°.51E*
MOS 26 00:53:23.2±0.7, 51°.06N×103°.60E, h15km, mb4.2/1, 6C-5D, Error ellipse: s-maj=60.2km s-min=18.5km az=83.6, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLY	**Talaya**	**0.62**	**3**	↑*iPg*	Pg		00 53 35.5	0.0
TLY				*eSg*	Sg		00 53 43.5	-0.4
TLY				Pmax				
	458nm,0.1s							
TLY				Smax				
	2μm,0.1s							
TLY	**Talaya**	**0.62**	**3**	↑*iPG*	Pg		00 53 35.5	0.0
TLY				*e*			00 53 42.9	

2009 AUG

TLY				pmax	pmax			
	comp=Z,451nm,0.1s							
TLY				smax	smax			
	comp=N,2μm,0.1s							
ZAK	**Zakamensk**	**0.71**	**197**	⇓*iPg*	Pb		00 53 37.7	+0.3
	comp=N,264nm,0.2s							
ZAK				⇓*iPg*	Pb		00 53 37.7	+0.3
	comp=N,107nm,0.2s							
ZAK				⇑*iPg*	Pb		00 53 37.7	+0.3
	comp=N,358nm,0.2s							
ZAK				*i* Sg	Sb		00 53 47.9	+0.9
ZAK				*e*			00 53 48.6	
ZAK				Pmax				
	comp=N,484nm,0.1s							
ZAK				max				
	comp=N,795nm,0.1s							
ZAK	**Zakamensk**	**0.71**	**197**	*e*PG	Pb		00 53 37.4	0.0
ZAK				*e*			00 53 47.4	
ZAK				pmax	pmax			
	comp=Z,490nm,0.1s							
ZAK				smax	smax			
	comp=N,782nm,0.1s							
LSTR	**Listvyanka**	**1.12**	**43**	↑*iPg*	Pg		00 53 44.7	-0.2
LSTR				⇓*iPb*	Pn		00 53 46.2	+1.8
LSTR				*e*Sg	Sg		00 53 59.3	-0.2
LSTR				*e*Sb	Sn		00 54 02.4	+2.8
LSTR				max				
	comp=N,36nm,0.2s							
LSTR				max				
	comp=N,203nm,0.2s							
LSTR	**Listvyanka**	**1.12**	**43**	*e*PG	Pn		00 53 44.4	0.0
LSTR				*e*			00 53 59.3	
LSTR				pmax	pmax			
	comp=Z,34nm,0.2s							
LSTR				smax	smax			
	comp=E,203nm,0.2s							
ARS	**Arshan**	**1.13**	**320**	*e*Pg	Pb		00 53 43.6	-1.0
ARS				*e*Sg	Sb		00 53 58.4	-0.8
ARS				*e*Sb	Sn		00 53 59.0	-1.0
ARS				Pmax				
	comp=E,104nm,0.2s							
ARS				max				
	comp=E,691nm,0.3s							
ARS	**Arshan**	**1.13**	**320**	*e*PG	Pb		00 53 44.6	0.0
ARS				*e*			00 53 58.6	
ARS				pmax	pmax			
	comp=Z,105nm,0.1s							
ARS				smax	smax			
	comp=E,692nm,0.3s							
IRK	**Irkutsk**	**1.26**	**19**	*e*Pg	Pn		00 53 46.0	-0.3
IRK				*i* Sg	Sn		00 54 03.1	+0.1
IRK				Pmax				
	comp=E,265nm,0.1s							
IRK				Smax				
	comp=E,867nm,0.4s							
IRK	**Irkutsk**	**1.26**	**19**	*e*PG	Pn		00 53 46.1	-0.2
IRK				*e*			00 54 01.6	
IRK				pmax	pmax			
	comp=Z,262nm,0.1s							
IRK				smax	smax			
	comp=E,853nm,0.4s							
MOY	**Mondy**	**1.74**	**291**	↑*iPg*	Pb		00 53 54.5	-0.5
MOY				*e*			00 54 01.7	
MOY				*i* Sg	Sb		00 54 17.3	+0.5
MOY				max				
	comp=E,27nm,0.7s							
MOY				Smax				
	comp=E,133nm,0.7s							
KAB	**Kabansk**	**2.15**	**61**	*e*Sg	Sg		00 54 32.1	-0.4
KAB				Smax				
	comp=E,340nm,1.4s							
TRG	**Tyrgan**	**2.41**	**44**	*e*Pn	Pb		00 54 04.7	-1.6
TRG				⇓*iPg*	Pg		00 54 07.4	-2.1
TRG				*e*			00 54 37.1	
TRG				*e*Sg	Sg		00 54 38.4	-2.4
TRG				Pmax				
	comp=E,49nm,0.2s							
TRG				Smax				
	comp=E,208nm,0.2s							
ZRHB	**Zarechye**	**2.67**	**54**	*e*Sg	Sg		00 54 46.9	-2.1
ZRHB				Smax				
	comp=E,330nm,1.4s							
UUDB	**Ulan-Yde**	**2.67**	**71**	*e*	Pn		00 54 05.8	+0.1
UUDB				*e*Pg	Pg		00 54 12.6	-1.8
UUDB				*e*			00 54 18.2	
UUDB				*i* Sg	Sg		00 54 47.8	-1.3
UUDB				max				
	comp=E,21nm,1.0s							
UUDB				Smax				
	comp=E,63nm,0.6s							
ORL	**Orlik**	**2.78**	**304**	↑*iPg*	Pb		00 54 12.6	-0.1
ORL				*i* Sg	Sb		00 54 48.5	+1.8
ORL				Pmax				
	comp=E,15nm,1.3s							
ORL				Smax				
	comp=E,60nm,1.5s							
OGRR	**Ongureny**	**3.56**	**42**	⇓*iPn*	Pn		00 54 20.9	+2.9
OGRR				*e*Pg	Pb		00 54 27.7	+1.7
OGRR				*e*PgPg	PbPb		00 54 29.7	+0.6
OGRR				*e*			00 55 01.9	
OGRR				*e*Sg	Sb		00 55 13.3	+4.2
OGRR				max				
	comp=E,17nm,0.3s							
OGRR				Smax				
	comp=E,67nm,0.6s							
MXMB	**Maximikha**	**3.86**	**53**	*e*	Sb		00 55 11.5	-6.1
MXMB				*e*Sg	Sg		00 55 23.8	-3.5
MXMB				*e*			00 55 34.5	
MXMB				Smax				
	comp=E,44nm,0.2s							
ULN	**Ulaanbaatar**	**3.91**	**143**	*e*Pg	Pg		00 54 35.5	-2.9
ULN				*e*			00 54 41.2	
ULN				*e*			00 54 57.6	
ULN				*e*Sg	Sg		00 55 27.7	-1.5
SYVR	**Suvo**	**4.71**	**54**	*e*	Pb		00 54 47.0	+1.6
SYVR				*e*Pg	Pg		00 54 49.2	-4.2
SYVR				Sg	Sg		00 55 51.3	-3.1
SYVR				*e*			00 55 54.0	
SYVR				Pmax				
	comp=E,3.0nm,0.8s							
SYVR				Smax				
	comp=E,9.0nm,1.5s							
KPC	**Khapcheranga**	**5.78**	**100**	*e*	Pn		00 54 53.9	+5.4
KPC				*e*Pg	Pg		00 55 09.7	-4.3
KPC				*e*			00 56 04.5	
KPC				*e*Sg	Sg		00 56 26.7	-2.2
KPC				Pmax				
	comp=E,3.0nm,0.9s							
KPC				Smax				
	comp=E,18nm,1.5s							
YLYR	**Ulyunkhan**	**5.96**	**47**	*e*Pg	Pb		00 55 11.4	+4.7
YLYR				*e*Sg	Sg		00 56 29.1	-5.3
YLYR				*e*			00 56 35.9	
YLYR				max				
	comp=E,13nm,1.7s							
CIT	**Chita**	**6.29**	**77**	Sg	Sg		00 56 41.9	-3.1
CIT				Smax				
	comp=E,147nm,0.3s							
KMO	**Kumora**	**6.63**	**40**	*e*			00 56 43.1	
KMO				Sg	Sg		00 56 49.5	-6.4
KMO				Smax				
	comp=E,29nm,2.2s							
CRS	**Chara**	**10.42**	**50**	Sg			00 58 49.2	
TUP	**Tupik**	**10.47**	**65**	Sg			00 58 51.4	
TUP				Smax				
	comp=E,6.0nm,0.5s							

---

*ISCJB **26** 01:00:19.6±0.8, 21°.02S±0°.04×68°.6W±0°.1, h107km±8km, mb3.3/4, Error ellipse: s-maj=17.0km s-min=6.9km az=1.6*
*GUC **26** 01:00:21.2±0.8, 21°.04S×68°.79W, h108km±11km, ML4.0*
*IDC **26** 01:00:30.1±7.9, 20°.50S×68°.26W, h169km±55km, mb3.1/4, mb1 3.4/6, mb1mx3.3/18, mbtmp3.1/6, Error ellipse: s-maj=80.4km s-min=19.7km az=23.0*
ISC 26 01:00:20.6±1.1, 21°.01S±0°.05×68°.6W±0°.1, h100km±10km, n16, σ1§15/21, mb3.3/4, 4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.84**	**268**	↑*eP*	**Pn**		**01 00 39.3**	**-0.2**
PB01				*i* S	**Sn**		**01 00 53.0**	**-0.6**
PB01				AML	AML		01 00 54.9	
	comp=E,3μm,0.2s							
PB09	**Plate Boundary**	**0.99**	**218**	↑*iP*	**Pn**		**01 00 41.6**	**+0.4**
PB09				*eS*	**Sn**		**01 00 57.1**	**+0.5**
PB09				AML	AML		01 01 00.2	
	comp=E,7μm,0.5s							
HMBC	**Humberstone**	**1.41**	**301**	⇓*iP*	**Pn**		**01 00 46.3**	**+0.3**
HMBC				*eS*	**Sn**		**01 01 05.1**	**-0.1**
HMBC				AML	AML		01 01 09.3	
	comp=E,2μm,0.5s							
PB04	**Plate Boundary**	**1.50**	**213**	↑*iP*	Pn		01 00 51.7	+4.8
PB04				*eS*	Sn		01 01 15.8	+8.9
PB04				AML	AML		01 01 26.1	
	comp=N,1μm,0.4s							
PSGC	**Pisagua**	**2.01**	**314**	↑*eP*	**Pn**		**01 00 53.5**	**0.0**
PSGC				*eS*	**Sn**		**01 01 18.5**	**0.0**
CEN1	**Los Morros**	**2.80**	**212**	*eP*	**Pn**		**01 01 05.5**	**+1.7**
CEN1				*eS*	**Sn**		**01 01 39.6**	**+2.6**
PB10	**Plate Boundary**	**3.08**	**216**	*eP*	**Pn**		**01 01 06.0**	**-1.6**
PB10				*eS*	**Sn**		**01 01 41.4**	**-2.3**
PB10				AML	AML		01 01 55.4	
	comp=E,1μm,0.3s							
ANCH	**Antofagasta**	**3.15**	**212**	*eP*	**Pn**		**01 01 07.6**	**-0.8**
LPAZ	**La Paz**	**4.72**	**5**	P	Pn		01 01 34.6	+4.4
	comp=E,3.7nm,0.3s,baz=212,slow=5.1,SNR=94							
LPAZ				S	**Sn**		**01 02 24.4**	**+0.4**
	baz=236,slow=3.6,SNR=1.8							
BDFB	**Brasilia**	**20.25**	**78**	P	**P**		**01 04 47.1**	**-1.1**
	comp=E,0.3nm,0.3s,baz=231,slow=6.5,SNR=2.9							
TXAR	**Lajitas Array**	**60.40**	**325**	P	**P**		**01 10 19.6**	**-0.1**
	comp=E,0.1nm,0.5s,baz=159,slow=7.7,SNR=3.2							
PDAR	**Pinedale Array**	**73.84**	**330**	P	**P**		**01 11 44.4**	**-0.1**
	comp=E,0.2nm,0.6s,baz=159,slow=8.7,SNR=2.9							
NVAR	**Mina Array Bea**	**75.29**	**322**	P	**P**		**01 11 54.3**	**+1.2**
	comp=E,0.7nm,1.1s,baz=164,slow=4.7,SNR=2.4							
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**		**01 12 02.1**	**-0.4**
	comp=E,0.9nm,0.5s,baz=247,slow=5.3,SNR=23							
ZALV	**Zalesovo Beam**	**141.39**	**25**	PKP	**PKPdf**		**01 19 40.0**	**+0.5**
	comp=E,0.6nm,0.5s,baz=298,slow=3.2,SNR=3.6							
MKAR	**Makanchi Array**	**145.06**	**36**	PKP	**PKPdf**		**01 19 46.6**	**+0.3**
	comp=E,0.7nm,0.4s,baz=347,slow=2.5,SNR=9.1							

IDC 26 01:16:04.7±11.0, 10°.11S×108°.91W, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.4/4, MS3.6/3, Ms1 3.6/3, ms1mx3.3/10, Error ellipse: s-maj=327.4km s-min=127.6km az=128.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**39.53**	**7**	P	P		01 23 36.4	-1.2
	0.4nm,1.0s,baz=191,slow=8.8,SNR=3.1							
LPAZ	**La Paz**	**40.12**	**103**	LR	LR		01 36 50.7	
	comp=Z,47nm,18.1s,baz=317,slow=31							
PLCA	**Paso Flores**	**45.56**	**139**	LR	LR		01 38 21.4	
	comp=Z,81nm,18.0s,baz=316,slow=29							
NVAR	**Mina Array Bea**	**49.08**	**350**	P	P		01 24 53.7	-0.3
	0.3nm,0.5s,baz=182,slow=12,SNR=4.3							
NVAR				LR	LR		01 40 01.1	
	comp=Z,78nm,21.4s,baz=270,slow=29							
PDAR	**Pinedale Array**	**52.62**	**359**	P	P		01 25 22.2	+1.5
	0.4nm,0.8s,baz=168,slow=4.6,SNR=3.1							
ILAR	**Eielson Array**	**79.92**	**344**	P	P		01 28 14.9	-0.3
	0.4nm,0.8s,baz=177,slow=6.1,SNR=4.6							

IDC 26 01:27:53.7±3.5, 6°.59S×154°.56E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=122.8km s-min=40.4km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.70**	**234**	P	P		01 33 07.3	-0.1
	1.1nm,0.9s,baz=58,slow=9.7,SNR=3.1							
MKAR	**Makanchi Array**	**82.82**	**319**	P	P		01 40 21.1	+1.1
	0.7nm,0.7s,baz=96,slow=6.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**83.60**	**326**	P	P		01 40 23.4	-0.4
	0.6nm,0.6s,baz=116,slow=6.6,SNR=2.7							
TORD	**Torodi Ar. Bea**	**152.50**	**286**	PKPbc	PKPbc		01 47 52.8	-0.4
	1.8nm,0.7s,baz=67,slow=2.1,SNR=13							

IDC 26 01:35:22.6±2.8, 6°.87S×128°.68E, h0km, mb3.5/1, mb1 4.3/3, mb1mx3.7/19, mbtmp4.0/3, ML4.1/2, Error ellipse: s-maj=296.0km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**158**	Pn	Pn		01 38 42.7	-1.2
	0.7nm,0.3s,baz=333,slow=13,SNR=19							
WRA				Sn	Sn		01 41 07.5	-14
	2.3nm,0.3s,baz=332,slow=22,SNR=14							
ASAR	**Alice Springs**	**17.44**	**164**	P	P		01 39 28.2	-0.6
	1.1nm,0.3s,baz=346,slow=11,SNR=77							
ASAR				S	Sn		01 42 28.8	-14
	0.4nm,0.3s,baz=344,slow=24,SNR=6.6							
MKAR	**Makanchi Array**	**67.40**	**327**	P	P		01 46 19.9	0.0
	0.2nm,0.3s,baz=110,slow=7.9,SNR=4.9							

---

*IDC **26** 01:49:30.0±1.2, 30°.80N×103°.86E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=198.3km s-min=21.7km az=57.0*
*BJI **26** 01:49:33.4, 30°.56N×103°.19E, h5km, ML3.4/14, Ms3.4/2, Ms7 3.1/1*
ISC 26 01:49:31.4±1.4, 30°.4N±0°.2×103°.2E±0°.2, h10km, n6, σ1§42/6, mb3.7/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**5.31**	**185**	Pn	Pn		01 50 59.3	+8.3
KMI				smax	smax			
	comp=N,19nm,1.3s							
KMI				smax	smax			
	comp=E,26nm,0.8s							
KMI				LR	LR			
	comp=N,120nm,10.2s							
KMI				LR	LR			
	comp=E,220nm,7.6s							
KMI				LR	LR			
	comp=Z,150nm,9.2s							
XAN	**Xi'an**	**6.02**	**52**	Pn	**Pn**		**01 50 58.8**	**-1.8**
XAN				Pg	**Pb**		**01 51 18.0**	**+1.5**
XAN				Sg	Sb		01 52 35.8	+7.1
XAN				smax	smax			
	comp=N,46nm,0.9s							
XAN				smax	smax			
	comp=E,37nm,0.9s							
MKAR	**Makanchi Array**	**22.99**	**321**	P	**P**		**01 54 36.7**	**+0.4**
	comp=E,0.5nm,0.8s,baz=116,slow=9.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**27.00**	**336**	P	**P**		**01 55 12.9**	**-0.3**
	comp=E,0.7nm,0.5s,baz=123,slow=10,SNR=4.8							
WRA	**Warramunga Arr**	**58.36**	**145**	P	**P**		**01 59 26.9**	**-0.1**
	comp=E,1.0nm,0.5s,baz=337,slow=7.5,SNR=16							
ASAR	**Alice Springs**	**61.33**	**148**	P	**P**		**01 59 47.9**	**+0.4**
	comp=E,0.2nm,0.3s,baz=337,slow=6.6,SNR=4.1							

---

*BJI **26** 01:51:59.6, 3°.95S×102°.95E, h31km, mB4.9/8, mb4.7/15, Ms4.5/7, Ms7 4.1/7*
*ISCJB **26** 01:52:20.8±0.4, 1°.55S±0°.05×99°.25E±0°.04, h10km, mb4.3/24, MS3.6/3, Error ellipse: s-maj=6.9km s-min=5.8km az=5.3*
*IDC **26** 01:52:20.8±0.7, 1°.61S×99°.24E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/26, mbtmp4.1/16, ML4.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=26.1km s-min=14.9km az=48.0*
*NEIC **26** 01:52:22.2±0.4, 1°.63S×99°.19E, h10km, mb4.5/7, Error ellipse: s-maj=13.0km s-min=7.8km az=47.0*
*DJA **26** 01:52:23.3±0.6, 2°.S±4°.×9°.9E±°., h10km, M4.6/5, mb4.3/1, MLv4.8/5*
ISC 26 01:52:22.7±0.5, 1°.47S±0°.05×99°.33E±0°.05, h10km, n65, σ1§59/61, mb4.4/24, MS3.7/3, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.26**	**64**	P	**Pn**		**01 52 45.8**	**-0.6**
PDSI				S	**Sg**		**01 53 03.1**	**-0.3**
PPI	**Padang Panjang**	**1.47**	**47**	P	**Pn**		**01 52 49.0**	**-0.2**
P

PSI	**Prapat**	**4.26**	**355**	Pn	**Pn**	**01 53 28.0**	**+0.2**
	3.0nm,0.3s,baz=167,slow=11,SNR=5.8						
MNAI	**Manna**	**4.62**	**128**	P	**Pn**	**01 53 32.7**	**0.0**
EGSI	**Enggano, Bengk**	**4.85**	**143**	P	**Pn**	**01 53 33.8**	**-2.0**
KCSI	**Kotacane, Aceh**	**5.20**	**343**	P	Pn	01 53 44.0	+3.4
IPM	**Ipoh**	**6.15**	**16**	*e*Pn	Pn	01 54 01.5	+7.8
IPM				*e*Sn	**Sg**	**01 55 36.9**	**-3.3**
IPM	**Ipoh**	**6.15**	**16**	P	Pn	01 54 01.2	+7.5
KULM	**Kulim**	**6.84**	**11**	*e*Pn	Pn	01 54 10.9	+7.7
KULM				*e*Sn	Sg	01 55 55.4	-7.1
KKM	**Kota Kinabalu**	**18.44**	**66**	*e*P	**Pn**	**01 56 39.7**	**+1.0**
	43nm,1.2s						
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**01 56 54.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.80**	**359**	P	**P**	**01 56 54.6**	**+1.1**
	0.7nm,0.3s,baz=188,slow=10.0,SNR=11						
KAPI	**Kappang**	**20.69**	**100**	P	Pn	01 57 05.3	-0.2
KAPI	**Kappang**	**20.69**	**100**	P	Pn	01 57 05.3	-0.2
	9.7nm,0.9s,baz=295,slow=14,SNR=3.2						
KMI	**Kunming**	**26.64**	**7**	P	P	01 57 57.5	-4.5
KMI				pP	pP	01 58 08.0	+2.9
KMI				sP	sP	01 58 13.3	+7.0
KMI				S	**S**	**02 02 44.3**	**+7.0**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,79nm,5.8s						
KMI				LR	LR		
	comp=N,110nm,16.8s						
KMI				LR	LR		
	comp=E,130nm,14.4s						
KMI				LR	LR		
	comp=Z,100nm,11.5s						
GYA	**Guiyang**	**28.65**	**14**	*e*P	P	01 58 11.8	-8.1
GYA				pP	pP	01 58 21.0	-2.0
GYA				sP	sP	01 58 27.5	+3.3
GYA				PP	**PnPn**	**01 59 11.3**	**+1.2**
GYA				PcP	PcP	02 01 11.8	-19
GYA				S	**S**	**02 03 08.5**	**-0.4**
GYA				sS	sS	02 03 25.5	+12
GYA				ScP	SS	02 04 47.8	-23
GYA				ScS	ScS	02 08 42.3	-24
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**31.96**	**346**	*e*P	**P**	**01 58 50.3**	**+0.8**
	comp=Z,3.7nm,0.5s						
LZH	**Lanzhou**	**37.60**	**6**	*e*P	P	01 59 32.0	-5.8
LZH				pP	pP	01 59 39.5	-1.4
LZH				sP	sP	01 59 42.5	+0.4
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**38.84**	**121**	P	**P**	**01 59 47.2**	**-1.2**
WRA	**Warramunga Arr**	**38.84**	**121**	P	**P**	**01 59 47.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=303,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**40.11**	**126**	P	**P**	**01 59 57.8**	**-1.2**
ASAR	**Alice Springs**	**40.11**	**126**	P	**P**	**01 59 57.8**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=299,slow=8.1,SNR=13						
GTA	**Gaotai**	**40.68**	**1**	*e*P	P	02 00 01.3	-2.2
GTA				pP	pP	02 00 11.8	+5.2
GTA				sP	sP	02 00 15.5	+7.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**43.57**	**13**	*e*P	P	02 00 15.3	-12
HHC				pP	pP	02 00 25.0	-5.2
HHC				sP	sP	02 00 29.0	-2.4
HHC				PcP	PP	02 01 55.5	-13
HHC				PP	PcP	02 02 01.8	-13
HHC				S	**S**	**02 06 52.3**	**-4.1**
HHC				sS	sS	02 07 08.8	+7.3
HHC				SS	**SS**	**02 10 06.3**	**-5.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.5s						
HHC				LR	LR		
	comp=N,170nm,13.0s						
HHC				LR	LR		
	comp=E,220nm,13.0s						
HHC				LR	LR		
	comp=Z,160nm,13.7s						
KSH	**Kashi**	**46.07**	**335**	*e*P	P	02 00 52.5	+5.5
WMQ	**Urumqi**	**46.28**	**348**	*e*P	**P**	**02 00 48.0**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,85nm,4.0s						
KSAR	**Wonju Array Be**	**46.89**	**31**	P	**P**	**02 00 55.8**	**+2.5**
KSRS	**Korea Array**	**46.91**	**31**	P	**P**	**02 00 55.8**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=223,slow=9.1,SNR=2.9						
KSRS				LR	LR	02 24 05.2	
	comp=Z,18nm,18.7s,baz=146,slow=40						
TKM2	**Tokmak 2**	**49.08**	**337**	*e*P	**P**	**02 01 11.1**	**+0.6**
	comp=Z,3.7nm,0.6s						
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**02 01 14.0**	**+0.5**
SONM				PcP	**PcP**	**02 02 35.5**	**+0.1**
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**02 01 14.0**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=192,slow=8.1,SNR=6.5						
SONM				PcP	**PcP**	**02 02 35.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=196,slow=3.7,SNR=2.9						
EKS2	**Erkin-Say**	**49.60**	**335**	*e*P	**P**	**02 01 16.0**	**+1.6**
	comp=Z,3.5nm,0.8s						
STKA	**Stephens Creek**	**50.00**	**132**	P	**P**	**02 01 18.0**	**+0.5**
STKA	**Stephens Creek**	**50.00**	**132**	P	**P**	**02 01 18.0**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=294,slow=6.7,SNR=3.7						
MK31	**Makanchi Array**	**50.34**	**345**	*e*P	**P**	**02 01 20.0**	**+0.2**
MKAR	**Makanchi Array**	**50.34**	**345**	*e*P	**P**	**02 01 20.6**	**+0.8**
MKAR	**Makanchi Array**	**50.34**	**345**	P	**P**	**02 01 20.4**	**+0.6**
	comp=Z,4.8nm,0.6s,baz=147,slow=8.2,SNR=32						
USRK	**Ussuriysk Arra**	**54.02**	**29**	P	**P**	**02 01 46.3**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=240,slow=13,SNR=3.5						
ZAA0	**Zalesovo Array**	**56.53**	**350**	*e*P	**P**	**02 02 04.9**	**-0.2**
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**02 02 05.2**	**+0.1**
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**02 02 05.2**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=179,slow=5.9,SNR=26						
BRVK	**Borovoye**	**59.52**	**340**	*e*P	**P**	**02 02 24.8**	**-1.3**
	comp=Z,2.5nm,0.7s						
ABKAR	**Akbulak array**	**60.85**	**332**	*e*P	**P**	**02 02 34.7**	**-0.6**
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**62.06**	**270**	P	**P**	**02 02 44.1**	**-0.3**
KMBO	**Kilima Mbogo**	**62.06**	**270**	P	**P**	**02 02 44.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=54,slow=9.4,SNR=5.1						
KBZ	**Khabaz**	**67.47**	**319**	P	**P**	**02 03 19.4**	**+0.6**
KBZ	**Khabaz**	**67.47**	**319**	P	**P**	**02 03 19.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=111,slow=8.3,SNR=7.8						
BR131	**Keskin Array S**	**72.47**	**313**	*e*P	**P**	**02 03 48.9**	**-1.0**
	comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**72.47**	**313**	P	**P**	**02 03 49.2**	**-0.7**
BRTR	**Keskin Array B**	**72.47**	**313**	P	**P**	**02 03 49.2**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=141,slow=6.9,SNR=5.1						
VRI	**Vrincioaia**	**79.01**	**317**	‖ *i*P	**P**	**02 04 27.6**	**+0.5**
MLR	**Muntele Rosu**	**79.45**	**317**	‖ *i*P	**P**	**02 04 30.5**	**+0.8**
BURAR	**Bucovina Array**	**80.42**	**319**	‖ *i*P	**P**	**02 04 35.7**	**+0.9**
FINES	**FINESS Array B**	**83.33**	**332**	P	**P**	**02 04 49.9**	**+0.2**
FINES	**FINESS Array B**	**83.33**	**332**	P	**P**	**02 04 49.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=97,slow=6.7,SNR=14						
GERES	**GERESS Array B**	**88.21**	**319**	P	**P**	**02 05 14.4**	**+0.1**
GERES	**GERESS Array B**	**88.21**	**319**	P	**P**	**02 05 14.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=86,slow=5.5,SNR=6.7						
CPUP	**Villa Florida**	**144.34**	**218**	PKP	PKPbc	02 11 58.5	+0.3
CPUP	**Villa Florida**	**144.34**	**218**	PKP	PKPbc	02 11 58.5	+0.3
	comp=Z,1.7nm,0.6s,baz=87,slow=1.9,SNR=7.6						
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	**PKPab**	**02 11 59.5**	**+0.3**
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	**PKPab**	**02 11 59.5**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=275,slow=1.0,SNR=43						

JMA 26 02:20:26.1,36.45N×138.04E,h5km±1km,M-0.2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.07**	**132**	P	Pg	02 20 27.9	+0.1
JNG				S	Sg	02 20 29.2	+0.3
MAT	**Matsushiro**	**0.16**	**55**	P	Pg	02 20 29.4	0.0
MAT				S	Sg	02 20 31.9	+0.2

IDC 26 02:30:09.3±8.1,18.11S×177.28E,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.9/18,mbtmp4.2/4,Error ellipse: s-maj=184.7km s-min=38.7km az=33.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.95**	**240**	P	P	02 37 03.6	+0.4
	2.2nm,0.6s,baz=78,slow=10.0,SNR=9.8						
WRA	**Warramunga Arr**	**40.55**	**260**	P	P	02 37 50.5	-0.2
	0.8nm,0.5s,baz=98,slow=6.7,SNR=32						
ASAR	**Alice Springs**	**40.78**	**255**	P	P	02 37 52.0	-0.6
	5.9nm,0.6s,baz=89,slow=8.2,SNR=74						
VNDA	**Vanda**	**59.93**	**184**	P	P	02 40 16.9	+0.1
	1.3nm,0.5s,baz=15,slow=6.5,SNR=14						

NIED ***26*** *02:37:00,32.90N×140.70E,h68km,Mw3.9 Best double couple: M₀6.80000×10¹⁴ NP1:φ₀=318.00000°,δ52.00000°, λ62.00000°. NP2:φ₀=180.00000°,δ46.00000°,λ121.00000°.*
ISCJB ***26*** *02:37:35.7±0.9,32.81N±0.05×140.75E±0.07,h64km±9km, mb3.9/5,Error ellipse: s-maj=11.1km s-min=6.7km az=24.9*
JMA ***26*** *02:37:37.0±0.2,32.86N×140.68E,h57km,M3.7*
IDC ***26*** *02:37:37.9±3.9,32.72N×140.63E,h69km±36km,mb3.6/5, mb1 3.8/7,mb1mx3.4/26,mbtmp3.6/7,ML3.7/2,MS2.6/2, Ms1 2.6/2,ms1mx2.2/38,Error ellipse: s-maj=38.8km s-min=18.2km az=96.0*

ISC 26 02:37:35.3±2.2,32.73N±0.10×140.83E±0.09,h45km±20km, n27,σ1°50/40,mb3.9/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.94**	**292**	P	**Pn**	**02 37 52.2**	**+0.2**
JHCJ				*e*S	**Sn**	**02 38 02.5**	**-1.8**
JHJ2	**Mitsune**	**0.94**	**294**	P	**Pn**	**02 37 52.3**	**+0.3**
JHJ2				S	**Sn**	**02 38 02.8**	**-1.5**
JMY	**Miyakejima3**	**1.74**	**321**	*e*S	**Sn**	**02 38 22.7**	**-1.2**
BSO1	**Boso 1**	**1.92**	**4**	P	**Pn**	**02 38 06.3**	**+1.3**
BSO1				S	**Sn**	**02 38 27.5**	**-0.2**
BSO2	**Boso 2**	**2.02**	**358**	*e*S	**Sn**	**02 38 30.1**	**-0.3**
BSO3	**Boso 3**	**2.08**	**353**	P	**Pn**	**02 38 07.8**	**+0.3**
BSO3				*e*S	**Sn**	**02 38 30.8**	**-1.3**
BSO4	**Boso 4**	**2.29**	**350**	P	**Pn**	**02 38 11.0**	**+0.5**
BSO4				*e*S	**Sn**	**02 38 38.1**	**+0.7**
TK02	**Tokai 2**	**2.85**	**296**	P	**Pn**	**02 38 19.9**	**+1.9**
TK02				*e*S	**Sn**	**02 38 51.2**	**+0.3**
JOD2	**Odawara 2**	**2.91**	**331**	P	**Pn**	**02 38 19.4**	**+0.3**
JOD2				S	**Sn**	**02 38 49.8**	**-3.1**
JYN	**Shimob**	**3.35**	**326**	P	**Pn**	**02 38 26.7**	**+1.5**
JYN				*e*S	**Sn**	**02 39 05.7**	**+1.9**
TTO1	**TONANKAI O.B.S**	**3.51**	**286**	P	**Pn**	**02 38 28.9**	**+1.9**
JRY	**Ryogami san**	**3.65**	**335**	P	**Pn**	**02 38 30.2**	**+1.0**
JRY				*e*S	**Sn**	**02 39 08.6**	**-2.4**
JIE	**Ise**	**3.82**	**297**	P	**Pn**	**02 38 32.3**	**+0.7**
JAG	**Ashikaga**	**3.86**	**343**	P	**Pn**	**02 38 32.6**	**+0.5**
MJAR	**Matsushiro Arr**	**4.38**	**331**	P	**Pn**	**02 38 41.3**	**+2.1**
	2.8nm,0.3s,baz=148,slow=12,SNR=14						
MJAR				S	**Sn**	**02 39 29.1**	**+0.2**
	1.9nm,0.3s,baz=143,slow=24,SNR=4.8						
MAT	**Matsushiro**	**4.38**	**331**	P	**Pn**	**02 38 42.0**	**+2.8**
MAT				S	**Sn**	**02 39 28.8**	**-0.1**
MAT	**Matsushiro**	**4.38**	**331**	P	**Pn**	**02 38 42.3**	**+3.1**
MAT				*e*S	**Sn**	**02 39 28.8**	**-0.1**
JGM	**Miyama**	**4.52**	**312**	P	**Pn**	**02 38 43.4**	**+2.3**
JFT	**Otama**	**4.79**	**355**	*e*S	**Sn**	**02 39 37.7**	**-1.5**
JNU	**Nakatsue**	**8.38**	**275**	P	**Pn**	**02 39 36.1**	**+2.0**
	0.9nm,0.3s,baz=74,slow=10,SNR=5.0						
JNU				LR	LR	02 42 42.4	
	comp=Z,51nm,18.5s,baz=65,slow=37						
KSRS	**Korea Array**	**11.58**	**298**	LR	LR	02 44 05.1	
	comp=Z,22nm,18.9s,baz=210,slow=34						
MKAR	**Makanchi Array**	**46.12**	**306**	P	**P**	**02 45 53.6**	**-1.5**
	0.4nm,0.5s,baz=83,slow=8.9,SNR=5.0						
WRA	**Warramunga Arr**	**52.74**	**188**	P	**P**	**02 46 44.7**	**-1.0**
	1.3nm,0.3s,baz=7.3,slow=7.6,SNR=36						
WRA				PcP	**PcP**	**02 47 55.1**	**+0.2**
	0.9nm,0.7s,baz=0.6,slow=4.2,SNR=5.1						
ILAR	**Eielson Array**	**53.41**	**31**	P	**P**	**02 46 50.4**	**+0.3**
	0.4nm,1.0s,baz=268,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**56.47**	**188**	P	**P**	**02 47 11.8**	**-0.9**
	0.6nm,0.3s,baz=3.5,slow=7.1,SNR=15						
ASAR				PcP	**PcP**	**02 48 09.9**	**+0.7**
	0.5nm,0.6s,baz=9.1,slow=5.4,SNR=5.2						
TXAR	**Lajitas Array**	**93.13**	**52**	P	**P**	**02 50 46.0**	**+1.1**
	0.3nm,0.7s,baz=322,slow=3.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**119.96**	**313**	PKP	**PKPdf**	**02 56 20.8**	**-0.7**
	0.9nm,1.3s,baz=22,slow=1.7,SNR=2.5						

MOS ***26*** *02:50:39.7±1.9,45.71N×152.03E,h124km,mb4.2/3,Error ellipse: s-maj=23.0km s-min=13.0km az=139.2*
IDC ***26*** *02:50:46.3±2.6,46.63N×150.78E,h166km±25km,mb3.2/6, mb1 3.6/9,mb1mx3.3/26,mbtmp3.3/8,Error ellipse: s-maj=43.0km s-min=23.4km az=154.0*

ISC 26 02:50:38.6±1.8,45.4N±0.1×152.1E±0.1,h150km,n29, σ1°67/23,mb3.4/6,1D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.00**	**268**	‖ *i*PN	**Pn**	**02 51 28.1**	**+2.2**
KUR				*i* S	**Sn**	**02 52 03.4**	**+1.0**
KUR				pmax	pmax		
	comp=N,29nm,0.4s						
KUR				pmax	pmax		
	comp=Z,90nm,0.4s						
KUR				smax	smax		
	comp=N,58nm,0.5s						
KUR				smax	smax		
	comp=E,27nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.67**	**255**	*i* PN	**Pn**	**02 51 50.5**	**+3.0**
NEM2	**Nemuro 2**	**5.01**	**248**	P	**Pn**	**02 51 54.4**	**+2.4**
NEM2				*e*S	Sn	02 52 45.2	-4.1
JRA	**Rausu**	**5.20**	**256**	P	**Pn**	**02 51 56.3**	**+1.7**
JAK	**Akkeshi**	**5.86**	**248**	P	**Pn**	**02 52 05.0**	**+1.7**
JAK				*e*S	Sn	02 53 04.6	-5.0
JTKR	**Abashiri--Toko**	**6.03**	**259**	P	**Pn**	**02 52 05.7**	**+0.2**
JMP	**Maruseppu**	**6.40**	**260**	P	**Pn**	**02 52 11.6**	**+1.1**
JOB	**Onbets**	**6.47**	**250**	P	**Pn**	**02 52 13.0**	**+1.6**
JOB				*e*S	Sn	02 53 17.8	-6.3
JKK2	**Kamakawa 2**	**6.86**	**260**	P	**Pn**	**02 52 16.7**	**0.0**
ASAJ	**Asahikawa**	**6.90**	**262**	P	**Pn**	**02 52 16.8**	**-0.3**
ASAJ	**Asahikawa**	**6.90**	**262**	P	**Pn**	**02 52 16.9**	**-0.3**
	comp=E,4.1nm,0.3s,baz=71,slow=15,SNR=15						
JCH	**Churui**	**6.91**	**249**	P	**Pn**	**02 52 18.2**	**+0.9**
JCH				*e*S	Sn	02 53 27.5	-7.2
JEM	**Erimo**	**7.33**	**245**	P	**Pn**	**02 52 25.1**	**+2.2**
ERM	**Erimo**	**7.33**	**245**	*i* PN	Pn	02 52 26.8	+3.9
PETK	**Petropavlovsk-**	**8.50**	**23**	PN	**Pn**	**02 52 38.0**	**-0.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.50**	**23**	P	**Pn**	**02 52 38.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=198,slow=13,SNR=13						
JKB	**Kayabe**	**8.78**	**250**	P	**Pn**	**02 52 41.2**	**-1.0**
JKB				*e*S	Sn	02 54 06.8	-13
JANG	**Nango**	**9.27**	**241**	P	**Pn**	**02 52 49.2**	**+0.3**
JANG				*e*S	Sn	02 54 22.9	-8.8
JTM	**Tenmabayashi**	**9.31**	**244**	P	**Pn**	**02 52 49.2**	**-0.2**
JTM				*e*S	Sn	02 54 21.9	-11
JSR	**Shiriuchi**	**9.35**	**249**	P	**Pn**	**02 52 48.8**	**-1.1**
JOSM	**Okushiri--Mats**	**9.74**	**254**	P	**Pn**	**02 52 53.7**	**-1.3**
OFUJ	**Ofunato**	**10.01**	**234**	*e*S	**Sn**	**02 54 46.0**	**-3.3**
JRG	**Rokugo**	**10.41**	**239**	P	**Pn**	**02 53 05.9**	**+2.0**
JRG				*e*S	Sn	02 54 53.6	-5.4
ILAR	**Eielson Array**	**38.02**	**37**	P	P	02 57 44.5	+2.9
	comp=Z,0.4nm,0.5s,baz=268,slow=6.9,SNR=18						
YKA	**Yellowknife Ar**	**52.40**	**36**	P	P	02 59 37.8	+2.9
	comp=Z,0.9nm,0.6s,baz=307,slow=7.7,SNR=2.9						
ARCES	**ARCESS Array B**	**58.87**	**341**	P	P	03 00 17.0	-3.9
	comp=Z,4.3nm,1.1s,baz=34,slow=8.2,SNR=2.8						
NVAR	**Mina Array Bea**	**63.67**	**61**	P	P	03 01 02.1	+8.1
	comp=Z,0.3nm,0.6s,baz=297,slow=8.0,SNR=3.5						
PDAR	**Pinedale Array**	**66.09**	**53**	P	P	03 01 15.3	+5.7
	comp=Z,0.3nm,0.5s,baz=247,slow=1.0,SNR=3.5						
TXAR	**Lajitas Array**	**78.75**	**60**	P	P	03 02 31.4	+6.8
	comp=Z,0.2nm,0.6s,baz=276,slow=4.8,SNR=4.3						

NIED ***26*** *02:56:00,32.10N×142.40E,h5km,Mw3.8 Best double couple: M₀5.59000×10¹⁴ NP1:φ₀=165.00000°,δ47.00000°, λ-84.00000°. NP2:φ₀=336.00000°,δ43.00000°, λ-96.00000°.*
IDC ***26*** *02:56:41.9±0.9,31.90N×142.29E,h0km,mb3.6/5, mb1 3.9/7,mb1mx3.7/26,mbtmp3.7/7,ML3.9/2,MS4.1/1, Ms1 4.1/1,ms1mx2.7/34,Error ellipse: s-maj=35.0km s-min=20.3km az=89.0*
ISCJB ***26*** *02:56:43.3±0.7,31.92N±0.06×142.3E±0.1,h29km, mb3.6/5,MS4.1/1,Error ellipse: s-maj=14.4km s-min=6.2km az=154.0*
JMA ***26*** *02:56:45.2±0.5,32.13N×142.35E,h45km,M3.7*

ISC 26 02:56:45.2±0.8,31.94N±0.07×142.1E±0.1,h29km,n17, σ1°53/22,mb3.5/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.28**	**301**	P	**Pn**	**02 57 23.1**	**+2.2**
JHJ2				*e*S	**Sb**	**02 57 50.5**	**-3.0**
BSO1	**Boso 1**	**2.87**	**341**	P	**Pn**	**02 57 28.6**	**0.0**
BSO3	**Boso 3**	**3.16**	**335**	P	**Pn**	**02 57 32.8**	**0.0**
BSO4	**Boso 4**	**3.39**	**334**	P	**Pn**	**02 57 37.1**	**+1.0**
JIM2	**Oshima 3**	**3.58**	**321**	P	**Pn**	**02 57 40.4**	**+1.6**
JOD2	**Odawara 2**	**4.18**	**323**	P	**Pn**	**02 57 47.3**	**+0.3**
JOD2				*e*S	**Sn**	**02 58 35.9**	**+1.0**
CBIJ	**Chichi jima**	**4.83**	**179**	Pn	**Pn**	**02 57 55.6**	**-0.4**
	10nm,0.3s,baz=0.0,slow=19,SNR=22						
CBIJ				Sn	**Sn**	**02 58 48.5**	**-2.4**
	14nm,0.3s,baz=340,slow=18,SNR=10						
JAG	**Ashikaga**	**5.00**	**334**	P	**Pn**	**02 57 58.0**	**-0.2**
JAG				*e*S	**Sn**	**02 58 52.1**	**-2.9**
MJAR	**Matsushiro Arr**	**5.62**	**326**	Pn	**Pn**	**02 58 07.6**	**+0.7**
	1.7nm,0.3s,baz=150,slow=10,SNR=25						
MJAR				Sn	**Sn**	**02 59 09.3**	**-1.2**
	baz=148,slow=22,SNR=3.5						
MAT	**Matsushiro**	**5.63**	**326**	P	**Pn**	**02 58 07.8**	**+0.9**
MAT				S	**Sn**	**02 59 09.1**	**-1.5**
SONM	**Songino Array**	**31.35**	**311**	P	**P**	**03 03 05.6**	**+2.3**
	1.2nm,0.8s,baz=118,slow=6.5,SNR=7.5						
WRA	**Warramunga Arr**	**52.13**	**189**	P	**P**	**03 05 53.4**	**+0.4**
	0.6nm,0.4s,baz=7.1,slow=7.7,SNR=10						
FITZ	**Fitzroy Crossi**	**52.21**	**200**	LR	LR	03 26 42.9	
	comp=Z,160nm,19.2s,baz=305,slow=34						
ILAR	**Eielson Array**	**53.53**	**30**	P	**P**	**03 06 03.1**	**+0.3**
	0.3nm,0.6s,baz=263,slow=5.5,SNR=4.7						
ASAR	**Alice Springs**	**55.85**	**189**	P	**P**	**03 06 20.8**	**+0.6**
	0.2nm,0.4s,baz=16,slow=10,SNR=5.4						
NVAR	**Mina Array Bea**	**77.58**	**52**	P	**P**	**03 08 39.2**	**+0.2**
	0.3nm,0.8s,baz=289,slow=2.8,SNR=2.4						
LPAZ	**La Paz**	**148.42**	**68**	PKPbc	**PKPab**	**03 16 32.9**	**-0.7**
	1.2nm,1.1s,baz=333,slow=4.3,SNR=3.8						

SZGRF ***26*** *02:57:43.9,12.94N×93.41E,h33km,mb4.8,Andaman Islands, India, region*
ISCJB ***26*** *02:57:47.7±0.8,14.12N±0.02×93.05E±0.02,h27km±6km, mb4.6/125,MS3.9/29,Error ellipse: s-maj=4.0km s-min=3.5km az=23.4*
BJI ***26*** *02:57:47.2,13.86N×92.98E,h33km,mB4.6/27,mb4.5/35, Ms4.1/31,Ms7 3.8/30*
MOS ***26*** *02:57:48.4±0.9,14.11N×93.12E,h33km,mb5.0/38, MS4.0/4,Error ellipse: s-maj=8.6km s-min=5.4km az=122.3*
BKK ***26*** *02:57:49.5±0.4,14°N±4°×93°3E±°,h10km,M4.7/22, mB5.2/14,mb4.8/22,MLv4.9/11,Mw(mB)4.6/14*
IDC ***26*** *02:57:49.7±0.5,14.07N×93.20E,h30km±3km,mb4.2/35, mb1 4.3/36,mb1mx4.3/40,mbtmp4.2/36,ML4.6/1,MS3.9/21, Ms1 3.9/21,ms1mx3.7/44,Error ellipse: s-maj=11.6km s-min=8.8km az=48.0*
NEIC ***26*** *02:57:50.2±0.1,14.09N×93.11E,mb4.8/29,Error ellipse: s-maj=4.6km s-min=3.9km az=202.0*
TEH ***26*** *02:57:51.0,14.11N×93.08E,h37km,ML4.7*
DJA ***26*** *02:57:55.9±0.9,14°N±4°×9°3E±°,h76km±10km,M4.9/15, mB5.1/3,mb4.8/15,MLv5.0/3,Mw(mB)4.4/3*

ISC 26 02:57:50.1±0.3,14.05N±0.03×93.10E±0.03,h33km±1km, h33km:pP-P,n365,σ1°56/438,mb4.7/125,MS3.9/31, 14C-10D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.88**	**191**	*e*P	**Pb**	**02 58 08.1**	**+1.2**
DGPR				*e*S	**Sb**	**02 58 20.4**	**+1.9**
PBA	**Port Blair**	**2.40**	**188**	*e*P	Pn	02 58 27.9	+0.7
PBA				*e*S	Sb	02 58 59.5	-2.5
PHET	**Kaeng Krachan**	**6.45**	**99**	P	**Pn**	**02 59 24.4**	**+1.5**
	507nm,0.7s,9μm3.3nm						
CM31	**Chiang Mai Arr**	**7.12**	**51**	*e*Pn	**Pn**	**02 59 32.0**	**0.0**
	36nm,0.6s						
CM31				*e*Sn	**Sn**	**03 00 47.4**	**-4.5**
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	**02 59 32.2**	**+0.1**
CMAR				Sn	**Sn**	**03 00 48.2**	**-3.7**
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn	**Pn**	**02 59 32.2**	**+0.1**
	2.7nm,0.3s,baz=236,slow=15,SNR=30						
CMAR				Sn	**Sn**	**03 00 48.2**	**-3.7**
	3.4nm,0.3s,baz=238,slow=28,SNR=7.2						
CMAR				LR	LR	03 02 54.5	
	comp=Z,855nm,19.5s,baz=265,slow=

KMI LR LR
comp=Z,410nm,17.0s
HYB Hyderabad 14.40 285 *i* P **Pn 03 01 09.5 -2.3**
HYB *e*S **Sn 03 03 50.0 -0.5**
HYB Hyderabad 14.40 285 *e*P **Pn 03 01 11.0 -0.8**
HYB AMB AMB 03 01 29.3
comp=Z,26nm,0.3s
JIRN Jiri 15.00 336 *e*P **Pn 03 01 18.4 -1.8**
comp=Z,73nm,0.5s
NGP Nagpur 15.14 300 *e*P **Pn 03 01 21.5 -0.2**
NGP *e*x x 03 01 38.5
comp=Z,52nm,1.1s
NGP *e*x x 03 04 37.8
PKI Pulchoki 15.25 333 *e*P **Pn 03 01 21.6 -1.8**
comp=Z,93nm,0.5s
PKIN Phulchoki 15.26 333 *e*P **Pn 03 01 21.6 -1.9**
comp=Z,80nm,0.5s
GUN Gumba 15.35 335 *e*P **Pn 03 01 21.9 -2.8**
comp=Z,87nm,0.7s
JBP Jabalpur 15.38 308⇓*i*x P 03 01 35.1 +6.0
JBP *i* x x 03 01 35.6
comp=Z,47nm,0.5s
JBP *e*x x 03 04 03.7
DMN Daman 15.42 332 *e*P **Pn 03 01 22.8 -2.7**
comp=Z,138nm,0.9s
KKN Kakani 15.49 333 *e*P **Pn 03 01 25.2 -1.3**
comp=Z,23nm,0.5s
LSA Lhasa 15.68 354 P **P 03 01 31.3 -1.7**
PPI Padang Panjang 16.12 153 P **Pn 03 01 35.6 +1.2**
comp=Z,29nm,1.1s
MYKOM Kota Tinggi 16.16 138 P **P 03 01 39.3 +1.4**
comp=Z,59nm,1.1s
KOLN Koldanda 16.27 329 *e*P **Pn 03 01 35.1 -1.4**
comp=Z,159nm,0.6s
PDSI Padang 16.55 153 P **Pn 03 01 40.1 +0.1**
comp=Z,60nm,1.2s
DANN Dangsing 16.67 330 *e*P **Pn 03 01 40.0 -1.6**
comp=Z,79nm,0.5s
QIZ Qiongzhong 16.80 71 P **Pn 03 01 43.5 +0.5**
QIZ sP **sP 03 01 56.8 -0.9**
QIZ S **Sn 03 04 49.0 +0.3**
QIZ pmax pmax
comp=Z,10.0nm,1.0s
QIZ LR LR
comp=N,470nm,15.6s
QIZ LR LR
comp=Z,470nm,15.6s
BHPL Bhopal 17.43 304 *e*P **P 03 01 51.8 -0.1**
BHPL AMB AMB 03 02 02.6
comp=Z,43nm,0.3s
GYA Guiyang 17.71 44 P **Pn 03 01 54.3 -0.2**
GYA pP **pP 03 02 03.8 +0.1**
GYA PP **PnPn 03 02 11.0 +5.6**
GYA S **Sn 03 05 08.8 -2.2**
GYA SS **SnSn 03 05 31.5 +6.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.7s
GYA LR LR
comp=N,430nm,14.9s
GYA LR LR
comp=E,380nm,15.6s
GYA LR LR
comp=Z,460nm,15.0s
POO Poona 19.00 286 *e*P **Pn 03 02 10.0 -0.2**
comp=Z,30nm,1.0s
POO *e*x x 03 02 20.0
POO AMB AMB 03 02 21.5
comp=Z,41nm,1.5s
POO *i* S **S 03 05 44.0 +0.6**
MASI Maura Aman, Be 19.33 151 P **Pn 03 02 15.1 +1.0**
comp=Z,136nm,1.1s
CD2 Chengdu 19.44 29 *e*P **Pn 03 02 17.5 +2.2**
CD2 pP **pP 03 02 26.0 +3.4**
CD2 sP **sP 03 02 31.3 +4.5**
CD2 PP **PnPn 03 02 35.5 +6.5**
CD2 S **S 03 05 49.3 -2.7**
CD2 sS **sS 03 06 02.5 -3.4**
CD2 SS **SnSn 03 06 16.3 +9.2**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,100nm,8.2s
CD2 LR LR
comp=N,270nm,15.4s
CD2 LR LR
comp=E,260nm,9.5s
CD2 LR LR
comp=Z,300nm,17.8s
PMBI Palembang 20.45 145 S Sn 03 06 27.8 +11
baz=11,SNR=4.8
SMLA Simla 22.43 322 *e*P **P 03 02 46.8 +0.5**
SMLA AMB AMB 03 02 47.9
comp=Z,28nm,3.1s
DHRM DHARAMSHALA 23.75 323 *e*P **P 03 03 00.1 +0.2**
DHRM AMB AMB 03 03 08.2
comp=Z,51nm,2.7s
LZH Lanzhou 23.97 22 *e*P **P 03 03 03.0 +1.2**
LZH pP **pP 03 03 13.8 +2.6**
LZH sP **sP 03 03 17.5 +2.3**
LZH S **S 03 07 15.0 -1.7**
LZH sS **sS 03 07 29.3 -2.8**
LZH SS **SnSn 03 08 07.3 +9.0**
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=N,260nm,12.4s
LZH LR LR
comp=E,240nm,12.5s
LZH LR LR
comp=Z,400nm,15.0s
KKM Kota Kinabalu 24.09 107 *e*P **P 03 03 01.8 -1.2**
comp=Z,53nm,1.3s
XAN Xi'an 24.53 33 P P 03 03 13.3 +6.4
XAN pP pP 03 03 22.0 +5.7
XAN S **S 03 07 25.0 -0.5**
XAN pmax pmax
comp=Z,4.0nm,1.1s
XAN LR LR
comp=N,170nm,24.6s
XAN LR LR
comp=E,98nm,19.4s
XAN LR LR
comp=Z,55nm,13.3s
GTA Gaotai 25.95 12 *e*P **P 03 03 20.3 +0.6**
GTA pP **pP 03 03 30.0 +0.8**
GTA sP **sP 03 03 33.5 +0.4**
GTA PcP **PcP 03 06 49.0 +1.1**
GTA S **S 03 07 47.0 -1.1**
GTA sS **sS 03 08 02.8 -0.9**
GTA SS **SnSn 03 08 53.5 +6.9**
GTA ScP **ScP 03 10 27.0 +1.8**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,93nm,5.2s
GTA LR LR
comp=N,130nm,17.1s
GTA LR LR
comp=E,160nm,18.0s
GTA LR LR
comp=Z,130nm,16.6s
TGY Tagaytay City 27.00 86 P **P 03 03 29.3 0.0**
TGY Tagaytay City 27.00 86 P **P 03 03 29.3 0.0**
comp=Z,168nm,0.3s,baz=141,slow=12,SNR=3.1
BBKI Banjar Baru 27.70 127 P **P 03 03 36.8 +1.2**
comp=Z,90nm,1.0s
SSLB Suanglung 28.03 66 *e*P **P 03 03 39.1 +0.6**
comp=Z,18nm,1.0s
YULB Yu-li 28.23 67 *e*P **P 03 03 40.5 +0.2**
comp=Z,15nm,1.1s
KSH Kashi 29.51 332 P **P 03 03 50.3 -1.3**
KSH sP **sP 03 04 04.3 -0.8**
KSH PP **PnPn 03 04 46.5 -0.2**
KSH S **S 03 08 38.5 -5.8**
KSH sS sS 03 08 54.5 -5.4
KSH SS **SnSn 03 10 11.5 -1.9**
KSH pmax pmax
comp=Z,10.0nm,0.7s
KSH pmax pmax
comp=Z,88nm,4.4s
KSH LR LR
comp=N,75nm,6.2s
KSH LR LR
comp=E,110nm,5.2s
KSH LR LR
comp=Z,140nm,5.9s
NJ2 Nanjing 29.59 48 *e*P **P 03 03 52.0 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 30.03 352 *e*P **P 03 03 58.3 +2.2**
WMQ sP **sP 03 04 14.0 +4.4**
WMQ PP **PnPn 03 04 56.5 +2.9**
WMQ S **S 03 08 52.3 +0.1**
WMQ sS **sS 03 09 10.5 +2.6**
WMQ SS **SnSn 03 10 30.5 +4.6**
WMQ pmax pmax
comp=Z,6.0nm,1.0s
WMQ pmax pmax
comp=Z,10.0nm,5.0s
WMQ LR LR
comp=N,94nm,27.0s
WMQ LR LR
comp=E,170nm,28.0s
WMQ LR LR
comp=Z,120nm,22.0s
HHC Hu-ho-hao-te 31.19 28 *e*P **P 03 04 07.3 +0.9**
HHC sP **sP 03 04 16.8 -3.1**
HHC PP **PnPn 03 05 10.5 +1.7**
HHC PcP **PcP 03 07 01.8 +1.0**
HHC S **S 03 09 10.0 -0.5**
HHC sS **sS 03 09 26.0 -0.2**
HHC SS **SnSn 03 10 56.8 +2.6**
HHC ScS **ScS 03 14 36.5 -2.3**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.3s
HHC LR LR
comp=N,360nm,14.0s
HHC LR LR
comp=E,280nm,13.3s
HHC LR LR
comp=Z,270nm,14.0s
TKM2 Tokmak 2 32.48 336 *e*P **P 03 04 17.6 -0.3**
TKM2 pmax pmax
comp=Z,21nm,2.0s
TKM2 Tokmak 2 32.48 336 *e*P **P 03 04 17.6 -0.3**
comp=Z,21nm,2.0s
KAPI Kappang 32.53 124 LR LR 03 18 41.4
comp=Z,193nm,20.4s,baz=303,slow=39
AAK Ala-Archa 32.70 334*d i*P **P 03 04 19.4 -0.3**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 32.70 334 *e*P **P 03 04 20.5 +0.7**
comp=Z,6.7nm,1.1s
AAK *e*pP **pP 03 04 31.2 +1.9**
AAK Ala-Archa 32.70 334 P **P 03 04 20.6 +0.9**
comp=Z,3.6nm,0.8s,baz=151,slow=6.9,SNR=6.8
BJI Beijing 32.86 34 P **P 03 04 21.5 +0.6**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=N,220nm,25.5s
BJI LR LR
comp=E,220nm,26.0s
BJI LR LR
comp=Z,150nm,24.4s
LUWI Luwuk 32.99 115 P P 03 04 14.6 -7.8
baz=24,SNR=3.6
EKS2 Erkin-Say 33.03 333 *e*P **P 03 04 23.3 +0.7**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 33.03 333 *e*P **P 03 04 23.3 +0.7**
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 33.88 347 *i* P **P 03 04 29.0 -0.8**
MK31 pmax pmax
comp=Z,17nm,1.2s
MK31 Makanchi Array 33.88 347 *e*P **P 03 04 29.6 -0.2**
MK31 *e*pP **pP 03 04 39.8 +0.5**
MKAR Makanchi Array 33.88 347 *e*P **P 03 04 29.9 +0.1**
MKAR Makanchi Array 33.88 347 *e*P **P 03 04 29.9 +0.1**
MKAR Makanchi Array 33.88 347 P **P 03 04 29.8 +0.1**
comp=Z,8.9nm,0.9s,baz=162,slow=9.0,SNR=28
MKAR LR LR 03 22 27.8
comp=Z,162nm,20.0s,baz=333,slow=44
LBFI Labuhan Bajo, 34.75 129 P **P 03 04 38.2 +0.5**
comp=Z,52nm,1.1s
KK31 Karatay Array 34.87 331 *i* P **P 03 04 38.2 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 34.87 331 *e*P **P 03 04 38.5 +0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 34.87 331 *e*P **P 03 04 38.5 +0.1**
comp=Z,5.7nm,0.8s
SONM Songino Array 35.46 15 P **P 03 04 43.2 -0.4**
SONM pP **pP 03 04 52.8 -0.3**
SONM Songino Array 35.46 15 P **P 03 04 43.2 -0.4**
comp=Z,2.6nm,0.8s,baz=200,slow=9.6,SNR=14
SONM pP **pP 03 04 52.8 -0.3**
comp=Z,6.1nm,0.9s,baz=201,slow=9.5,SNR=12
ULN Ulaanbaatar 35.66 16 *e*P **P 03 04 44.6 -0.7**
comp=Z,6.7nm,1.0s
ULN *e*pP **pP 03 04 56.3 +1.4**
ULN Ulaanbaatar 35.66 16 P pP 03 04 57.1 +2.2
WSI Waingapu 35.82 130 S S 03 10 15.0 -7.6
baz=26,SNR=3.4
ITEG Tejag 36.44 307 *e*P **P 03 04 51.9 -0.4**
ZAK Zakamensk 37.17 11 *e*P P 03 05 05.2 +7.1
ZAK pmax pmax
comp=Z,2.0nm,1.4s
IAKL Akhelmad 38.00 312 *e*P **P 03 05 03.3 -2.3**
IKRD Kardeh 38.25 313 *e*P P 03 05 01.9 -5.8
KURBB Kurchatov Arra 38.35 345 P **P 03 05 07.5 -0.4**
comp=Z,9.4nm,0.8s,baz=160,slow=7.4,SNR=21
KURBB pP **pP 03 05 17.4 -0.2**
comp=Z,6.8nm,0.7s,baz=159,slow=8.3,SNR=8.3
KURK Kurchatov 38.41 345 P **P 03 05 07.6 -0.9**
KURK *PP **pP 03 05 17.4 -0.7**
KURK Kurchatov 38.41 345 P **P 03 05 07.5 -0.9**
KURK pP **pP 03 05 17.4 -0.7**
KSAR Wonju Array Be 38.70 47 P **P 03 05 11.1 0.0**
KSRS Korea Array 38.73 47 P **P 03 05 11.1 -0.2**
comp=Z,0.8nm,0.6s,baz=239,slow=9.8,SNR=2.1
KSRS LR LR 03 23 04.0
comp=Z,178nm,18.6s,baz=236,slow=39
ISFR Sfrayin 38.75 313 *e*P **P 03 05 11.9 +0.1**
AAI Ambon 39.01 114 P sP 03 05 29.7 +2.2
baz=30,SNR=3.4
JNU Nakatsue 39.21 54 P **P 03 05 16.7 +1.3**
JNU Nakatsue 39.21 54 P **P 03 05 16.7 +1.3**
comp=Z,2.8nm,0.8s,baz=256,slow=8.3,SNR=2.1
ZAA0 Zalesovo Array 40.34 352 *e*P **P 03 05 23.7 -0.8**
ZAA0 *e*pP **pP 03 05 34.6 +0.5**
ZALV Zalesovo Beam 40.34 352 *i* P **P 03 05 23.8 -0.7**
ZALV pmax pmax
comp=Z,8.0nm,0.9s
ZALV Zalesovo Beam 40.34 352 P **P 03 05 23.9 -0.7**
ZALV Zalesovo Beam 40.34 352 P **P 03 05 23.9 -0.7**
comp=Z,8.3nm,0.9s,baz=175,slow=8.6,SNR=18
CN2 Changchun 40.54 37 *e*P **P 03 05 24.5 -1.8**
CN2 *e*pP **pP 03 05 34.3 -1.6**
CN2 *e*sP **sP 03 05 38.3 -1.6**
CN2 *e*S **S 03 11 31.5 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,300nm,14.0s
NVS Novosibirsk 41.43 351⇑*i*P **P 03 05 31.2 -2.2**
NVS pmax pmax
comp=Z,16nm,2.0s
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.4s
BVAR Borovoye Array 42.86 340 P **P 03 05 44.8 -0.4**
BVAR Borovoye Array 42.86 340 P **P 03 05 44.8 -0.4**
BVAR Borovoye Array 42.86 340 P **P 03 05 44.8 -0.4**
comp=E,2.6nm,0.8s,baz=134,slow=8.5,SNR=10
BRVK Borovoye 42.93 340*c i*P **P 03 05 45.5 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 42.93 340 *e*P **P 03 05 45.1 -0.6**
comp=Z,5.8nm,0.9s
ABKAR Akbulak array 44.40 329 *e*P **P 03 05 56.5 -1.1**
comp=Z,17nm,0.9s
MAT Matsushiro 46.01 52 P P 03 06 06.1 -4.5
MJAR Matsushiro Arr 46.01 52 P **P 03 06 10.7 +0.1**
MJAR pP **pP 03 06 19.9 -0.5**
MJAR Matsushiro Arr 46.01 52 P **P 03 06 10.7 +0.1**
comp=Z,3.1nm,1.1s,baz=262,slow=11,SNR=6.5
MJAR pP **pP 03 06 19.9 -0.5**
comp=Z,3.2nm,0.9s,baz=261,slow=11,SNR=4.8
MJAR LR LR 03 27 42.9
comp=Z,99nm,18.3s,baz=235,slow=39
AKTO Aktyubinsk 46.11 329 LR LR 03 27 05.8
comp=Z,97nm,20.5s,baz=352,slow=38
MEEK Meekatharra 47.44 148 P **P 03 06 21.0 -0.8**
baz=38,SNR=4.0
MORW Morawa 48.26 153 P **P 03 06 27.7 -0.4**
baz=39,SNR=3.6
MAK Makhachkala 48.53 316 *e*P **P 03 06 32.0 +1.9**
MAK MLR MLR
comp=Z,212nm,18.0s
ATD Arta Tunnel 49.00 273 LR LR 03 24 29.7
comp=Z,48nm,18.9s,baz=0.9,slow=33
SVE Sverdlovsk 49.34 337⇓*i*P **P 03 06 36.4 +0.3**
SVE pmax pmax
comp=Z,31nm,1.0s
GNI Garni 49.52 311 *e*P **P 03 06 38.5 +0.5**
comp=Z,18nm,1.0s
ARU Arti 49.86 336*c i*P P 03 06 32.8 -7.3
ARU pmax pmax
comp=Z,10.0nm,1.7s
ZEI Tsey 50.94 314 *e*P **P 03 06 49.1 +0.3**
ZEI pmax pmax
comp=Z,11nm,0.7s
KLBR Kellerberrin 51.17 153 P **P 03 06 49.8 -0.6**
baz=42,SNR=5.0
KBZ Khabaz 51.94 315 P **P 03 06 56.8 +0.8**
KBZ Khabaz 51.94 315 P **P 03 06 56.8 +0.8**
KBZ Khabaz 51.94 315 P **P 03 06 56.8 +0.8**
comp=Z,2.6nm,0.8s,baz=119,slow=10,SNR=4.5
KBZ LR LR 03 33 32.1
comp=Z,80nm,18.5s,baz=201,slow=41
KIV Kislovodsk 52.16 315 *e*P **P 03 06 57.7 0.0**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,87nm,16.0s
YSS Yuzh-Sakhalins 52.69 41 *e*P P 03 07 11.0 +10
YSS pmax pmax
comp=Z,30nm,1.0s
WRA Warramunga Arr 52.79 129 P **P 03 07 01.6 -1.0**
WRA pP **pP 03 07 11.2 -1.3**
WRA PcP **PcP 03 08 11.7 -0.1**
WRA Warramunga Arr 52.79 129 P **P 03 07 01.6 -1.0**
comp=Z,10nm,0.9s,baz=312,slow=7.9,SNR=47
WRA pP **pP 03 07 11.2 -1.3**
comp=Z,3.7nm,0.8s,baz=309,slow=7.8,SNR=4.0
WRA PcP **PcP 03 08 11.7 -0.1**
comp=Z,2.6nm,0.7s,baz=317,slow=3.6,SNR=8.6
WRAB Tennant Creek 52.79 129 *e*P **P 03 07 01.4 -1.1**
WRAB pmax pmax
comp=Z,16nm,1.0s
WRAB Tennant Creek 52.79 129 *e*P **P 03 07 01.4 -1.1**
comp=Z,16nm,1.0s
YUK Yuzh-Kuril'sk 53.80 45 P **P 03 07 07.1 -2.5**
YUK *i* S **S 03 14 39.4 -2.8**
YUK MLR MLR
comp=Z,244nm,17.0s
ASF Jabal al Asfar 54.15 300 P **P 03 07 13.3 +0.7**
ASF Jabal al Asfar 54.15 300 P **P 03 07 13.3 +0.7**
comp=Z,3.0nm,0.8s,baz=28,slow=4.9,SNR=4.2
ASF LR LR 03 34 35.8
comp=Z,69nm,18.1s,baz=174,slow=41
AS31 Alice Springs 54.74 133 *e*P **P 03 07 15.8 -1.1**
ASAR Alice Springs 54.74 133 P **P 03 07 16.1 -0.8**
ASAR PcP **PcP 03 08 19.2 0.0**
ASAR ScP **ScP 03 12 13.9 -1.5**
ASAR S **S 03 14 51.8 -3.7**
ASAR Alice Springs 54.74 133 P **P 03 07 16.1 -0.8**
comp=Z,7.7nm,0.8s,baz=310,slow=6.8,SNR=71
ASAR PcP **PcP 03 08 19.2 0.0**
comp=Z,4.1nm,0.9s,baz=319,slow=4.0,SNR=7.7
ASAR ScP **ScP 03 12 13.9 -1.5**
comp=Z,0.5nm,0.8s,baz=287,slow=3.0,SNR=5.5
ASAR S **S 03 14 51.8 -3.7**
comp=Z,1.1nm,1.0s,baz=303,slow=12,SNR=7.9
ASAR LR LR 03 34 29.6
comp=Z,110nm,19.1s,baz=301,slow=40
MMAI Mount Meron Ar 55.49 300 P **P 03 07 23.1 +0.8**
MMAI Mount Meron Ar 55.49 300 P **P 03 07 23.1 +0.8**
comp=Z,0.7nm,0.4s,baz=103,slow=10,SNR=2.7
EIL Elat 55.63 296 LR LR 03 31 45.5
comp=Z,80nm,21.1s,baz=274,slow=36
OPO Ambohidratompo 55.66 236 P **P 03 07 25.5 +1.9**
OPO Ambohidratompo 55.66 236 P **P 03 07 25.5 +1.9**
comp=Z,2.4nm,0.6s,baz=34,slow=7.3,SNR=4.2
FORT Forrest 55.83 143 *e*P **P 03 07 24.5 0.0**
comp=Z,24nm,0.9s
ANN Anapa 56.01 315 *e*P P 03 07 17.9 -7.7
ANN *e*PP pP 03 07 25.0 -11
ANN *e*SS SKiKP 03 19 01.4 +37
ANN pmax pmax
comp=Z,17nm,0.9s
COEN Coen 56.85 117 *e*P **P 03 07 30.5 -1.5**
KMBO Kilima Mbogo 57.32 259 P **P 03 07 37.2 +1.5**
KMBO Kilima Mbogo 57.32 259 P **P 03 07 37.2 +1.5**
comp=Z,0.9nm,0.5s,baz=109,slow=9.6,SNR=4.6
BR131 Keskin Array S 57.73 308 *e*P **P 03 07 37.6 -0.6**
comp=Z,6.1nm,0.7s
BRTR Keskin Array B 57.73 308 P **P 03 07 37.6 -0.6**
BRTR Keskin Array B 57.73 308 P **P 03 07 37.6 -0.6**
comp=Z,8.3nm,0.8s,baz=120,slow=7.8,SNR=46
BRTR LR LR 03 35 59.2
comp=Z,101nm,19.3s,baz=103,slow=40
ANTO Ankara 58.40 308 *e*P **P 03 07 41.6 -1.1**
ANTO pmax pmax
comp=Z,11nm,1.3s
ANTO Ankara 58.40 308 *e*P **P 03 07 41.6 -1.1**
comp=Z,11nm,1.3s
OBN Obninsk 59.68 326 *e*P **P 03 07 50.2 -0.9**
OBN *e*PP **pP 03 07 59.2 -2.0**
OBN *e* 03 08 38.1
OBN *e*S **S 03 15 58.8 -0.7**
OBN pmax pmax
comp=Z,27nm,2.5s
OBN MLR MLR
comp=Z,100nm,17.0s
CTAO Charters Tower 62.31 122 *e*P **P 03 08 09.7 0.0**
CTAO pmax pmax
comp=Z,17nm,1.2s
CTAO Charters Tower 62.31 122 *e*P **P 03 08 09.7 0.0**
comp=Z,17nm,1.2s
CFR Carcaliu 62.55 314⇑P **P 03 08 10.5 -0.3**
CFR Carcaliu 62.55 314⇑*i*P **P 03 08 10.5 -0.3**
AKASG Malin Array Be 62.75 320*c e*P **P 03 08 11.5 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 62.75 320 P **P 03 08 11.2 -0.9**
AKASG Malin Array Be 62.75 320 P **P 03 08 11.2 -0.9**
comp=Z,0.5nm,0.4s,baz=100,slow=3.3,SNR=4.8
MBAR Mbarara 63.41 262 P **P 03 08 18.4 +1.1**
MBAR Mbarara 63.41 262 P **P 03 08 18.4 +1.1**
comp=Z,2.3nm,0.5s,baz=51,slow=14,SNR=6.0
VRI Vrincioaia 63.62 314⇑P **P 03 08 18.6 +0.6**
VRI Vrincioaia 63.62 314⇑*i*P **P 03 08 18.6 +0.6**
PLOR Plostina 63.67 314⇓P **P 03 08 19.2 +0.8**
PLOR Plostina 63.67 314⇓*i*P **P 03 08 19.2 +0.8**
PETK Petropavlovsk- 63.68 37 LR LR 03 40 25.3
comp=Z,56nm,18.6s,baz=273,slow=40
MLR Muntele Rosu 64.12 314⇑*i*P **P 03 08 22.2 +0.7**
MLR Muntele Rosu 64.12 314 P **P 03 08 21.7 +0.2**
MLR Muntele Rosu 64.12 314 P **P 03 08 21.7 +0.2**
comp=Z,1.9nm,0.9s,baz=105,slow=3.2,SNR=7.6
BURAR Bucovina Array 64.86 316⇓P **P 03 08 26.2 0.0**
BURAR Bucovina Array 64.86 316⇓*i*P **P 03 08 26.2 0.0**
JOF Joensuu 64.89 334 *e*P **P 03 08 24.5 -1.4**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 64.89 334 *e*p **P 03 08 24.5 -1.4**
comp=Z,5.5nm,0.6s
STKA Stephens Creek 65.14 135 P **P 03 08 27.9 -0.2**
STKA pP **pP 03 08 36.3 -1.9**

STKA Stephens Creek 65.14 135 P **P 03 08 27.9 -0.2**
comp=Z,5.9nm,0.7s,baz=291,slow=5.9,SNR=11
STKA pP **pP 03 08 36.3 -1.9**
comp=Z,3.1nm,0.6s,baz=304,slow=6.8,SNR=2.6
STKA LR LR 03 38 06.3
comp=Z,198nm,20.5s,baz=274,slow=37
STKA Stephens Creek 65.14 135 P **P 03 08 27.8 -0.3**
baz=56,SNR=7.5
VSU Vasula 65.81 328 *eP* **P 03 08 30.5 -1.5**
VSU pmax pmax
comp=Z,27nm,1.3s
DRGR 66.48 315 ⇓*iP* **P 03 08 36.7 0.0**
KWP Kalwaria Pacla 66.73 318 *eP* **P 03 08 37.5 -0.6**
KWP pmax pmax
comp=Z,13nm,1.0s
KWP Kalwaria Pacla 66.73 318 *eP* **P 03 08 37.5 -0.6**
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 66.73 318 *eP* **P 03 08 37.9 -0.2**
FINES FINESS Array B 66.82 331 P **P 03 08 37.8 -0.7**
FINES pP **pP 03 08 46.2 -2.3**
FINES FINESS Array B 66.82 331 P **P 03 08 37.8 -0.7**
comp=Z,5.6nm,0.8s,baz=96,slow=6.2,SNR=11
FINES pP **pP 03 08 46.2 -2.3**
comp=Z,4.7nm,0.7s,baz=112,slow=6.4,SNR=7.3
FINES LR LR 03 41 29.5
comp=Z,127nm,19.5s,baz=294,slow=39
KAF Kangasniemi 66.88 332 *eP* P 03 08 42.6 +3.8
KAF Kangasniemi 66.88 332 *ep* P 03 08 42.6 +3.8
UZH Uzhgorod 66.91 317 *eP* **P 03 08 39.3 +0.1**
UZH *e* 03 08 45.5
SUW Suwalki 66.96 323 *eP* **P 03 08 39.3 -0.2**
SUW pmax pmax
comp=Z,37nm,1.1s
SUW Suwalki 66.96 323 *eP* **P 03 08 39.3 -0.2**
comp=Z,37nm,1.1s
SUW Suwalki 66.96 323 *eP* **P 03 08 38.9 -0.5**
RMQ Roma 67.44 127 P **P 03 08 44.6 +1.7**
baz=58,SNR=4.5
CRVS Cervenica-Dubn 67.48 317 *eP* **P 03 08 43.3 +0.4**
CRVS pmax pmax
comp=Z,12nm,1.2s
CRVS Cervenica-Dubn 67.48 317 *eP* **P 03 08 43.3 +0.4**
STHS Stebnicka Huta 67.67 318 *eP* **P 03 08 44.2 +0.1**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 67.67 318 *eP* **P 03 08 44.2 +0.1**
CMSA Cobar Meteorol 67.80 133 P **P 03 08 45.4 +0.3**
baz=58,SNR=10.0
PSZ Piszkesteto 68.46 316 *eP* **P 03 08 48.7 -0.5**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 68.46 316 *eP* **P 03 08 48.7 -0.5**
comp=Z,8.1nm,1.0s
OJC Ojcow 68.66 319 *eP* **P 03 08 50.2 0.0**
OJC pmax pmax
comp=Z,9.0nm,1.0s
OJC Ojcow 68.66 319 *eP* **P 03 08 50.2 0.0**
comp=Z,8.6nm,1.0s
ARCES ARCESS Array B 69.15 340 P **P 03 08 52.7 -0.3**
ARCES ARCESS Array B 69.15 340 P **P 03 08 52.7 -0.3**
comp=Z,2.0nm,0.6s,baz=81,slow=7.5,SNR=9.5
ARCES LR LR 03 42 28.6
comp=Z,150nm,19.1s,baz=234,slow=39
OKC Ostrava-Krasne 69.70 318 *eP* **P 03 08 57.0 +0.3**
OKC *e* 03 09 06.9
OKC Ostrava-Krasne 69.70 318 *eP* **P 03 08 57.0 +0.3**
OKC *ep*P **pP 03 09 06.9 0.0**
MORC Moravsky Berou 70.09 318 *eP* **P 03 08 58.9 -0.3**
MORC pmax pmax
comp=Z,11nm,1.1s
MORC Moravsky Berou 70.09 318 *eP* **P 03 08 58.9 -0.3**
comp=Z,11nm,1.1s
LSZ Lusaka 70.49 248 P **P 03 09 03.6 +1.4**
LSZ Lusaka 70.49 248 P **P 03 09 03.6 +1.4**
comp=Z,10nm,0.8s,baz=48,slow=7.6,SNR=24
DPC Dobruska-Polom 70.89 319 *eP* **P 03 09 04.7 +0.6**
DPC pmax pmax
comp=Z,33nm,1.0s
DPC Dobruska-Polom 70.89 319 *i* P **P 03 09 03.9 -0.1**
DPC *ep*P **pP 03 09 13.0 -1.2**
DPC Dobruska-Polom 70.89 319 *eP* **P 03 09 04.7 +0.6**
comp=Z,33nm,1.0s
KSP Ksiaz 70.92 319 *eP* **P 03 09 04.2 +0.1**
KSP Ksiaz 70.92 319 *eP* **P 03 09 04.6 +0.5**
UPC Upice 71.09 319 *eP* P 03 09 13.9 +8.7
UPC Upice 71.09 319 *epP* P 03 09 13.9 +8.7
CSNA Conrad Observa 71.18 316 ⇑*iP* **P 03 09 05.9 0.0**
comp=Z,2.8nm,0.9s
TREC Trest 71.42 318 *eP* **P 03 09 07.4 +0.1**
TREC *e* 03 09 15.8
TREC Trest 71.42 318 *eP* **P 03 09 07.4 +0.1**
TREC *ep*P **pP 03 09 15.8 -1.7**
CEL Celeste 71.46 306 *eP* **P 03 09 07.1 -0.7**
BOJS Bojanci 71.63 314 *i* P **P 03 09 08.1 -0.5**
BOJS *i* 03 09 16.5
PERS Pernice 71.70 315 *i* P **P 03 09 08.5 -0.5**
PERS *i* 03 09 17.4
SOKA Soboth 71.76 315 ⇓*iP* **P 03 09 09.2 -0.2**
comp=Z,7.2nm,1.2s
VISS Visnje 71.91 314 *i* P **P 03 09 09.8 -0.5**
VISS *i* 03 09 18.5
PRU Pruhonice 72.03 318 *eP* **P 03 09 10.8 -0.1**
PRU *e* 03 09 19.7
PRU Pruhonice 72.03 318 *eP* **P 03 09 10.8 -0.1**
PRU *ep*P **pP 03 09 19.7 -1.4**
OBKA Obir 72.09 315 ⇑*iP* **P 03 09 11.3 -0.2**
comp=Z,6.0nm,0.9s,SNR=5.1
MOA Molln 72.25 316 ⇑*iP* **P 03 09 11.6 -0.7**
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 72.41 319 *i* P **P 03 09 13.2 +0.1**
comp=Z,5.9nm,0.8s
BRG *e* 03 09 21.8
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 72.41 319 *eP* **P 03 09 13.0 -0.1**
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 72.41 319 *i* P **P 03 09 13.2 +0.1**
BRG *e* 03 09 21.8
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,7.0nm,1.1s
JAVS Javornik 72.45 314 *i* P **P 03 09 12.6 -1.0**
JAVS *i* 03 09 20.1
GEC2 GERESS Array S 72.60 317 *eP* **P 03 09 14.2 -0.2**
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 72.60 317 *eP* **P 03 09 14.2 -0.2**
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GERES GERESS Array B 72.60 317 P **P 03 09 14.5 0.0**
GERES GERESS Array B 72.60 317 P **P 03 09 14.5 0.0**
comp=Z,4.5nm,0.8s,baz=84,slow=5.5,SNR=30
HFS Hagfors 72.66 329 P **P 03 09 13.8 -0.6**
HFS Hagfors 72.66 329 P **P 03 09 13.8 -0.6**
comp=Z,5.9nm,0.7s,baz=98,slow=4.5,SNR=11
KHC Kasperske Hory 72.67 317 *eP* **P 03 09 14.5 -0.3**
KHC *e* 03 09 24.7
KHC Kasperske Hory 72.67 317 *eP* **P 03 09 14.5 -0.3**
KHC *ep*P **pP 03 09 24.7 -0.3**
KHC Kasperske Hory 72.67 317 *eP* **P 03 09 13.9 -0.9**
comp=Z,4.3nm,0.9s
KHC *ep*P **pP 03 09 24.5 -0.6**
FBE Freiberg 72.78 319 *eP* **P 03 09 15.5 +0.2**
comp=Z,19nm,1.0s
CLL Collm 72.99 320 *eP* **P 03 09 16.0 -0.5**
comp=Z,6.0nm,1.0s
CLL Collm 72.99 320 *i* P **P 03 09 16.0 -0.5**
CLL *i* 03 09 28.1
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 72.99 320 *i* P **P 03 09 16.0 -0.5**
comp=Z,6.0nm,1.0s
CLL *i* (pP) **pP 03 09 28.1 +1.3**
CLL Lm MLR 03 45 00.0
comp=Z,100nm,20.3s
WET Wettzell 73.13 317 *eP* **P 03 09 17.0 -0.5**
comp=Z,7.0nm,1.2s
WET Wettzell 73.13 317 *eP* **P 03 09 17.0 -0.5**
WET pmax pmax
comp=Z,7.0nm,1.2s
GUNZ Gunzen 73.44 319 *eP* **P 03 09 19.2 -0.1**
comp=Z,9.0nm,1.4s
WERD Werda 73.46 319 *eP* **P 03 09 19.1 -0.3**
comp=Z,7.0nm,1.1s
ROTZ Rotzenmuhle 73.55 318 *eP* **P 03 09 20.3 +0.4**
comp=Z,11nm,1.2s
MANZ Manzenberg 73.60 318 *eP* **P 03 09 19.9 -0.3**
comp=Z,12nm,1.4s
MOX Moxa 73.89 319 *eP* **P 03 09 21.0 -0.9**
comp=Z,6.0nm,0.9s
MOX Moxa 73.89 319 *eP* **P 03 09 21.0 -0.9**
MOX pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 73.90 330 P **P 03 09 20.4 -1.4**
comp=Z,3.0nm,0.7s,baz=88,slow=5.9
NOA NORSAR Array B 73.90 330 P **P 03 09 20.7 -1.0**
NOA NORSAR Array B 73.90 330 P **P 03 09 20.7 -1.0**
comp=Z,2.3nm,0.7s,baz=89,slow=5.9,SNR=9.8
NOA LR LR 03 47 09.8
comp=Z,55nm,18.8s,baz=105,slow=40
MOTA Moosalm 74.41 316 ⇓*iP* **P 03 09 23.8 -1.4**
comp=Z,4.5nm,0.8s
CLZ Clausthal 74.61 320 *eP* **P 03 09 26.0 -0.1**
CLZ pmax pmax
comp=Z,222nm,3.1s
RETA Reutte 74.63 316 ⇑*iP* **P 03 09 25.3 -1.0**
comp=Z,6.6nm,0.8s,SNR=7.0
FETA Feichten 74.69 315 *i* P **P 03 09 26.0 -0.8**
comp=Z,6.6nm,1.0s,SNR=4.5
NRDL Niedersach Rie 74.74 321 *eP* **P 03 09 26.8 +0.2**
comp=Z,12nm,1.5s
DAVA Damuels 75.25 316 ⇑*iP* **P 03 09 29.2 -0.8**
comp=Z,11nm,1.0s
DAVOX Davos/Dischmat 75.29 315 P **P 03 09 29.4 -1.0**
DAVOX Davos/Dischmat 75.29 315 P **P 03 09 29.3 -1.0**
comp=Z,4.9nm,0.8s,baz=137,slow=9.8,SNR=5.3
TUE Stuetta 75.68 315 *eP* **P 03 09 32.0 -0.6**
comp=Z,9.0nm,1.1s
TNS Taunus Mts 75.94 319 *eP* **P 03 09 33.3 -0.5**
comp=Z,6.0nm,0.9s
TNS Taunus Mts 75.94 319 *eP* **P 03 09 33.3 -0.5**
TNS pmax pmax
comp=Z,6.0nm,0.9s
LBTB Lobatse 76.38 240 *eP* **P 03 09 38.2 +1.5**
comp=Z,8.9nm,0.9s
CDF Champ du Feu 76.88 317 *eP* **P 03 09 38.1 -1.1**
KEST Kesra 76.93 304 P **P 03 09 39.3 -0.5**
KEST Kesra 76.93 304 P **P 03 09 39.3 -0.5**
comp=Z,2.2nm,0.9s,baz=54,slow=8.7,SNR=4.5
HINF Hinteralfeld 77.23 316 *eP* **P 03 09 40.0 -1.2**
SBF Sospel 77.31 312 *eP* **P 03 09 41.6 -0.1**
comp=Z,30nm,1.0s
HAU Haudompre 77.55 317 *eP* **P 03 09 41.8 -1.1**
HAU *eR*
comp=Z,71nm,20.2s
LPG La Plagne 77.59 314 *eP* **P 03 09 43.0 -0.5**
comp=Z,17nm,0.6s
LPL La Plagne 77.60 314 *eP* **P 03 09 43.0 -0.5**
comp=Z,21nm,0.7s
MBDF Montbardon 77.67 313 *eP* **P 03 09 42.4 -1.4**
comp=Z,9.1nm,0.8s
PAGF Fort de Pagny 77.89 317 *eP* **P 03 09 43.9 -0.8**
CABF La Chapelle 77.90 315 *eP* **P 03 09 44.4 -0.6**
FRF La Foret Royal 77.92 312 *eP* **P 03 09 44.3 -0.7**
comp=Z,20nm,0.9s
LMR La Mourre 78.05 312 *eP* **P 03 09 45.0 -0.7**
BOSA Boshof 78.06 236 P **P 03 09 46.7 +0.6**
BOSA Boshof 78.06 236 P **P 03 09 46.7 +0.6**
comp=Z,6.3nm,0.7s,baz=96,slow=7.8,SNR=12
GIVF Givet 78.27 319 *eP* **P 03 09 46.1 -0.7**
ORIF Oris-en-Rattie 78.28 314 *eP* **P 03 09 46.5 -0.6**
comp=Z,7.4nm,0.8s
ORIF *eR*
comp=Z,80nm,18.5s
SFTF Sexfontaines 78.39 317 *eP* **P 03 09 47.6 +0.1**
SMRF Simiane la Rot 78.63 313 *eP* **P 03 09 48.7 -0.3**
comp=Z,7.9nm,0.8s
BAIF Baives 78.67 319 *eP* **P 03 09 48.5 -0.5**
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 79.14 314 *eP* **P 03 09 51.0 -0.7**
LOR Lormes 79.32 316 *eP* **P 03 09 51.6 -1.1**
LOR *eR*
comp=Z,92nm,20.5s
SMF Signal de Mont 79.43 316 *eP* **P 03 09 52.2 -1.1**
comp=Z,7.4nm,0.7s
SSF Saint Saulge 79.59 316 *eP* **P 03 09 53.1 -1.0**
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 79.74 316 *eP* **P 03 09 53.8 -1.1**
comp=Z,12nm,1.0s
BGF Bois d'Agland 80.12 316 *eP* **P 03 09 56.2 -0.8**
TCF Toulx Ste Croi 80.60 315 *eP* **P 03 09 59.1 -0.5**
comp=Z,17nm,1.0s
CAF Calviac 80.95 314 *eP* **P 03 10 01.0 -0.5**
MTLF Montolieu 81.14 312 *eP* **P 03 10 02.1 -0.4**
RJF Les Rejaudoux 81.26 314 *eP* **P 03 10 02.8 -0.4**
comp=Z,12nm,0.9s
RJF *eR*
comp=Z,79nm,20.0s
TSUM Tsumeb 81.34 248 P **P 03 10 04.9 +0.7**
TSUM Tsumeb 81.34 248 P **P 03 10 04.9 +0.7**
comp=Z,2.1nm,0.8s,baz=64,slow=9.4,SNR=4.5
LDF La Druitiere 81.71 318 *eP* **P 03 10 04.5 -0.9**
EKA Eskdalemuir Ar 82.10 325 P **P 03 10 06.9 -0.4**
EKA Eskdalemuir Ar 82.10 325 P **P 03 10 06.9 -0.4**
comp=Z,2.8nm,0.8s,baz=91,slow=5.8,SNR=5.3
MFF Saint Martin d 82.14 316 *eP* **P 03 10 06.9 -0.8**
comp=Z,19nm,0.9s
MAW Mawson 84.34 191 P **P 03 10 18.9 +0.5**
MAW Mawson 84.34 191 P **P 03 10 18.9 +0.5**
comp=Z,1.1nm,0.5s,baz=30,slow=15,SNR=2.3
MAW LR LR 03 40 53.6
comp=Z,96nm,20.9s,baz=96,slow=31
IMA2 Indian Mountai 86.32 22 *eP* **P 03 10 28.4 -0.4**
IMA2 *ep*P **pP 03 10 38.8 -0.4**
IM04 Indian Mountai 86.33 22 *eP* **P 03 10 28.6 -0.1**
IM04 *ep*P **pP 03 10 39.3 +0.2**
ESDC Sonseca Array 86.49 310 P **P 03 10 29.7 -0.3**
ESDC pP **pP 03 10 39.8 -0.6**
ESDC Sonseca Array 86.49 310 P **P 03 10 29.7 -0.3**
comp=Z,0.2nm,0.4s,baz=58,slow=4.8,SNR=8.5
ESDC pP **pP 03 10 39.8 -0.6**
comp=Z,0.3nm,0.4s,baz=55,slow=4.6,SNR=2.9
TORD Torodi Ar. Bea 88.20 283 P **P 03 10 39.1 +0.4**
TORD pP **pP 03 10 49.0 -0.1**
TORD PP **PP 03 14 07.6 +1.5**
TORD Torodi Ar. Bea 88.20 283 P **P 03 10 39.1 +0.4**
comp=Z,7.3nm,0.8s,baz=81,slow=4.5,SNR=32
TORD pP **pP 03 10 49.0 -0.1**
comp=Z,1.9nm,0.7s,baz=93,slow=5.3,SNR=5.6
TORD PP **PP 03 14 07.6 +1.5**
comp=Z,0.9nm,0.9s,baz=87,slow=8.1,SNR=4.1
TRF Thorofare Moun 88.85 24 *eP* **P 03 10 40.8 -0.2**
comp=Z,4.0nm,0.8s
COLA College 89.03 22 *eP* **P 03 10 42.0 +0.4**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 89.03 22 *eP* **P 03 10 42.0 +0.4**
comp=Z,10nm,0.8s
MCK McKinley 89.23 23 *eP* **P 03 10 42.1 -0.5**
MCK pmax pmax
comp=Z,4.0nm,0.7s
MCK McKinley 89.23 23 *eP* **P 03 10 42.1 -0.5**
comp=Z,3.9nm,0.7s
ILAR Eielson Array 89.44 22 P **P 03 10 42.6 -0.9**
ILAR Eielson Array 89.44 22 P **P 03 10 42.6 -0.9**
comp=Z,0.5nm,0.8s,baz=293,slow=4.3,SNR=8.3
INK Inuvik 91.37 16 *eP* **P 03 10 52.9 +0.5**
comp=Z,13nm,1.3s
INK *ep*P **pP 03 11 02.3 -0.6**
INK Inuvik 91.37 16 LR LR 03 57 55.0
comp=Z,68nm,18.2s,baz=342,slow=40
LIC Lamto 96.34 278 *eP* **P 03 11 17.5 +1.1**
comp=Z,8.0nm,0.8s
DLBC Dease Lake 99.64 21 LR LR 04 03 23.8
comp=Z,70nm,19.6s,baz=317,slow=40
ULM Lac du Bonnet 115.50 6 *e*PKPdf **PKPdf 03 16 28.6 -0.2**
LOHW Long Hollow 118.66 19 *e*PKPdf **PKPdf 03 16 35.5 +0.1**
BW06 Boulder Array 119.76 19 *e*PKPdf **PKPdf 03 16 38.1 +0.5**
PDAR Pinedale Array 119.76 19 PKP **PKPdf 03 16 37.8 +0.2**
PDAR pPKP **pPKPdf 03 16 46.9 -1.5**
PDAR Pinedale Array 119.76 19 PKP **PKPdf 03 16 37.8 +0.2**
comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=3.1
PDAR pPKP **pPKPdf 03 16 46.9 -1.5**
comp=Z,0.6nm,0.6s,baz=105,slow=2.6,SNR=3.0
NVAR Mina Array Bea 120.08 28 PKP **PKPdf 03 16 39.2 +0.9**
NVAR Mina Array Bea 120.08 28 PKP **PKPdf 03 16 39.2 +0.9**
comp=Z,0.4nm,0.5s,baz=317,slow=2.6,SNR=5.3
DUG Dugway 120.90 23 *e*PKIKP **PKPdf 03 16 39.6 -0.1**
DUG Dugway 120.90 23 *e*PKPdf **PKPdf 03 16 39.6 -0.1**
ANMO Albuquerque 127.86 20 *e*PKPdf **PKPdf 03 16 52.2 -1.1**
WVT Waverly 130.09 1 *e*PKIKP **PKPdf 03 16 57.4 +0.2**
WVT Waverly 130.09 1 *e*PKPdf **PKPdf 03 16 57.4 +0.2**
MNTX Cornudas Mount 131.18 21 *e*PKPdf **PKPdf 03 16 59.8 +0.3**
TXAR Lajitas Array 133.93 20 PKP **PKPdf 03 17 06.2 +1.4**
TXAR pPKP **pPKPdf 03 17 15.9 +0.4**
TXAR SKPbc **SKPab 03 20 33.0 -1.1**
TXAR Lajitas Array 133.93 20 PKP **PKPdf 03 17 06.2 +1.4**
comp=Z,0.2nm,0.5s,baz=346,slow=1.9,SNR=3.8
TXAR pPKP **pPKPdf 03 17 15.9 +0.4**
comp=Z,0.3nm,0.5s,baz=127,slow=1.4,SNR=4.6
TXAR SKPbc **SKPab 03 20 33.0 -1.1**
comp=Z,0.6nm,0.9s,baz=331,slow=1.6,SNR=4.5
JCT Junction City 134.02 16 *e*PKIKP **PKPdf 03 17 05.1 +0.2**
JCT Junction City 134.02 16 *e*PKPdf **PKPdf 03 17 05.1 +0.2**
HKT Hockley 135.42 11 *e*PKIKP **PKPdf 03 17 08.0 +0.7**
HKT Hockley 135.42 11 *e*PKPdf **PKPdf 03 17 08.0 +0.7**
TEIG Tepich 145.91 2 *e*PKPbc **PKPab 03 17 27.6 0.0**
TRQA Tornquist 147.44 218 *e*PKPbc **PKPbc 03 17 31.0 -0.1**
CPUP Villa Florida 149.76 242 *e*PKPbc **PKPbc 03 17 36.6 -0.7**
CPUP *e*PKPab **PKPab 03 17 43.0 +0.2**
CPUP Villa Florida 149.76 242 PKPbc **PKPbc 03 17 37.0 -0.3**
comp=Z,0.9nm,0.5s,baz=96,slow=2.0,SNR=5.0
PLCA Paso Flores 149.82 205 *e*PKPbc **PKPbc 03 17 37.6 +0.4**
PLCA Paso Flores 149.82 205 PKPbc **PKPbc 03 17 37.7 +0.5**
comp=Z,1.8nm,0.7s,baz=146,slow=2.7,SNR=3.5
SAML Samuel 156.22 280 *e*PKPdf **PKPdf 03 17 41.8 -0.6**
SAML *e*PKPab **PKPab 03 18 10.3 0.0**
LPAZ La Paz 161.75 261 *e*PKPdf **PKPdf 03 17 50.1 +0.5**
LPAZ *e*PKPab **PKPab 03 18 34.5 -0.5**
LPAZ La Paz 161.75 261 PKPab **PKPab 03 18 34.0 -1.0**
comp=Z,1.7nm,1.0s,baz=140,slow=7.9,SNR=5.9

BJI ***26*** *02:59:37.8, 34°.42N±25°.13E, h9km, mB4.9/8, mb4.7/10, Ms4.7/3, Ms7 4.2/3*
NSSC ***26*** *02:59:38.6±0.9, 34°.39N±25°.11E, h38km±999km, ML3.5*
ISCJB ***26*** *02:59:39.9±0.5, 33°.97N±0°.02±25°.53E±0°.02, h17km±4km, mb4.4/81, MS3.7/10, Error ellipse: s-maj=3.1km s-min=2.0km az=32.0*
IDC ***26*** *02:59:39.5±0.6, 34°.06N±25°.49E, h0km, mb4.2/22, mb1 4.3/33, mb1mx4.3/41, mbtmp4.2/33, ML4.1/10, MS3.6/10, Ms1 3.7/10, ms1mx3.2/43, Error ellipse: s-maj=14.6km s-min=12.0km az=167.0*
PDG ***26*** *02:59:41.2±0.2, 34°.30N±25°.86E, h15km±18km, ML4.3/10, Error ellipse: s-maj=19.2km s-min=13.9km az=90.0*
CSEM ***26*** *02:59:41.0±0.1, 33°.98N±25°.50E, h10km, mb4.4/19, Ms3.4, Mw4.1, Error ellipse: s-maj=4.2km s-min=2.2km az=34.0*
NEIC ***26*** *02:59:41.1±0.3, 34°.00N±25°.52E, h10km, mb4.4/29, Error ellipse: s-maj=5.5km s-min=3.8km az=197.0*
ATH ***26*** *02:59:42.8, 34°.14N±25°.39E, h17km±1km, MD3.9/26, ML3.8*
MOS ***26*** *02:59:43.6±1.0, 34°.14N±25°.39E, h33km, mb4.7/18, Error ellipse: s-maj=6.6km s-min=3.1km az=113.0*
THE ***26*** *02:59:44.8, 34°.25N±25°.45E, h0km±3km, ML3.9/2, Error ellipse: s-maj=7.7km s-min=1.9km az=177.0*
HLW ***26*** *02:59:44.5, 34°.13N±25°.59E, h32km±4km, Md3.9, Ml3.7*
DDA ***26*** *02:59:49.3, 34°.25N±26°.00E, h21km, ML3.7*
ISC 26 02:59:41.7±0.5, 34°.07N±0°.03±25°.51E±0°.02, h16km±2km, h16km:pP-P, n667, σ1s48/722, mb4.5/79, MS3.8/10, 29C-14D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.09**	**358**	P	**Pn**	**03 00 02.1**	**-0.2**
LAST				S	**Sb**	**03 00 15.9**	**-0.2**
LAST	**Lasithi**	**1.09**	**358**	*e*PN	**Pg**	**03 00 02.4**	**-0.3**
LAST				*e*SN	**Sg**	**03 00 16.5**	**-0.5**
LAST	**Lasithi**	**1.09**	**358**	P	**Pn**	**03 00 02.1**	**-0.2**
LAST	**Lasithi**	**1.09**	**358**	*e*Pn	**Pg**	**03 00 02.4**	**-0.3**
LAST				S	**Sb**	**03 00 15.9**	**-0.2**
LAST				*e*Sn	**Sg**	**03 00 16.5**	**-0.5**
SIVA	**Sivas**	**1.11**	**329**	P	**Pn**	**03 00 02.3**	**-0.2**
SIVA				S	**Sn**	**03 00 18.4**	**+1.0**
SIVA	**Sivas**	**1.11**	**329**	*e*PN	**Pg**	**03 00 02.4**	**-0.7**
SIVA				*e*SN	**Sb**	**03 00 16.4**	**-0.2**
SIVA	**Sivas**	**1.11**	**329**	*e*Pn	**Pg**	**03 00 02.4**	**-0.7**
SIVA				*e*Sn	**Sb**	**03 00 16.4**	**-0.2**
SIVA				S	**Sn**	**03 00 18.4**	**+1.0**
NPS	**Neapolis**	**1.19**	**4**	P	**Pg**	**03 00 04.4**	**-0.3**
NPS				S	**Sg**	**03 00 19.5**	**-0.7**
NPS	**Neapolis**	**1.19**	**4**	*e*PN	**Pg**	**03 00 04.4**	**-0.3**
NPS				*e*SN	**Sn**	**03 00 19.2**	**-0.3**
NPS	**Neapolis**	**1.19**	**4**	P	**Pg**	**03 00 04.4**	**-0.3**
NPS				*e*Sn	**Sn**	**03 00 19.2**	**-0.3**
ZKR	**Zakros**	**1.19**	**29**	P	**Pg**	**03 00 05.1**	**+0.4**
ZKR				S	**Sn**	**03 00 19.1**	**-0.4**
ZKR	**Zakros**	**1.19**	**29**	*e*PN	**Pg**	**03 00 05.0**	**+0.4**
ZKR				*e*SN	**Sg**	**03 00 22.2**	**+2.0**
ZKR	**Zakros**	**1.19**	**29**	*e*Pn	**Pg**	**03 00 05.0**	**+0.4**
ZKR				S	**Sn**	**03 00 19.1**	**-0.4**
ZKR				*e*Sn	**Sg**	**03 00 22.2**	**+2.0**
IDI	**Anoyia**	**1.32**	**337**	P	**Pg**	**03 00 06.4**	**-0.7**
IDI				S	**Sg**	**03 00 24.4**	**+0.1**
IDI	**Anoyia**	**1.32**	**337**	*e*PN	**Pb**	**03 00 05.8**	**-0.2**
IDI				*e*SN	**Sn**	**03 00 22.5**	**-0.2**
IDI	**Anoyia**	**1.32**	**337**	*e*Pn	**Pg**	**03 00 06.7**	**-0.4**
IDI	**Anoyia**	**1.32**	**337**	P	**Pg**	**03 00 06.4**	**-0.7**
IDI	**Anoyia**	**1.32**	**337**	*e*Pn	**Pg**	**03 00 06.7**	**-0.4**
IDI				*e*Sn	**Sn**	**03 00 22.5**	**-0.2**
IDI				S	**Sg**	**03 00 24.4**	**+0.1**
VAM	**Vamos**	**1.72**	**321**	P	**Pb**	**03 00 12.7**	**-0.1**
VAM				S	**Sb**	**03 00 34.1**	**0.0**
VAM	**Vamos**	**1.72**	**321**	*e*PN	**Pb**	**03 00 12.7**	**-0.1**
VAM				*e*SN	**Sg**	**03 00 35.0**	**-2.0**
VAM	**Vamos**	**1.72**	**321**	P	**Pb**	**03 00 12.7**	**-0.1**
VAM				S	**Sb**	**03 00 34.1**	**0.0**
VAM				*e*Sn	**Sg**	**03 00 35.0**	**-2.0**
KARN	**Karanos**	**1.87**	**316**	P	**Pb**	**03 00 14.4**	**-1.0**
KARN	**Karanos**	**1.87**	**316**	*e*PN	**Pb**	**03 00 15.5**	**+0.1**
KARN	**Karanos**	**1.87**	**316**	P	**Pb**	**03 00 14.4**	**-1.0**
KARN	**Karanos**	**1.87**	**316**	*e*Pn	**Pb**	**03 00 15.5**	**+0.1**
KARP	**Karpathos**	**2.00**	**42**	P	**Pb**	**03 00 17.9**	**+0.2**
KARP				S	**Sg**	**03 00 45.1**	**-1.0**
KARP	**Karpathos**	**2.00**	**42**	*e*PN	**Pb**	**03 00 18.5**	**+0.8**
KARP	**Karpathos**	**2.00**	**42**	P	**Pb**	**03 00 17.9**	**+0.2**
KARP	**Karpathos**	**2.00**	**42**	*e*Pn	**Pb**	**03 00 18.5**	**+0.8**
SANT	**Santorini**	**2.29**	**359**	*e*PN	**Pb**	**03 00 22.2**	**-0.5**
SANT	**Santorini**	**2.29**	**359**	*e*Pn	**Pn**	**03 00 20.2**	**+1.4**
SANT				*e*Pg	**Pg**	**03 00 26.9**	**+1.2**
SANT	**Santorini**	**2.29**	**359**	*e*Pn	**Pn**	**03 00 20.2**	**+1.4**
LTBQ	**Tobruq**	**2.42**	**214**	*i* P	**Pn**	**03 00 21.1**	**+0.6**
LTBQ	SNR=76						
	SNR=76			*e*S	**Sn**	**03 00 49.2**	**-0.5**
ANKY	**Antikythira Is**	**2.55**	**315**	P	**Pb**	**03 00 25.1**	**-1.9**
ANKY				S	**Sn**	**03 00 52.5**	**-0.5**
ANKY	**Antikythira Is**	**2.55**	**315**	*e*PB	**Pb**	**03 00 25.9**	**-1.1**
ANKY	**Antikythira Is**	**2.55**	**315**	P	**Pb**	**03 00 25.1**	**-1.9**
ANKY	**Antikythira Is**	**2.55**	**315**	*e*Pb	**Pb**	**03 00 25.9**	**-1.1**
ANKY				S	**Sn**	**03 00 52.5**	**-0.5**
APE	**Apeiranthos**	**2.99**	**0**	*e*PN	**Pb**	**03 00 31.4**	**-3.1**
APE	**Apeiranthos**	**2.99**	**0**	*e*Pn	**Pb**	**03 00 31.4**	**-3.1**
KYTH	**Kithira**	**3.00**	**318**	P	**Pn**	**03 00 30.7**	**+2.2**
KYTH	**Kithira**	**3.00**	**318**	*e*PB	Pb	03 00 31.3	-3.3
KYTH	**Kithira**	**3.00**	**318**	P	**Pn**	**03 00 30.7**	**+2.2**
KYTH	**Kithira**	**3.00**	**318**	*e*Pb	Pb	03 00 31.3	-3.3
ARG	**Arkhangelos**	**3.03**	**44**	*e*PN	**Pb**	**03 00 32.8**	**-2.3**
ARG	**Arkhangelos**	**3.03**	**44**	*e*Pn	**Pb**	**03 00 32.8**	**-2.3**
BDRM	**Kayabasi**	**3.38**	**27**	*i* P	**Pn**	**03 00 36.6**	**+2.9**
BDRM				*e*S	**Sn**	**03 01 10.1**	**-3.3**
BDRM	**Kayabasi**	**3.38**	**27**	*i* P	**Pn**	**03 00 36.6**	**+2.9**
BDRM				*e*S	**Sn**	**03 01 10.1**	**-3.3**
VLI	**Veliai**	**3.38**	**322**	P	**Pn**	**03 00 34.8**	**+1.1**
VLI				S	**Sn**	**03 01 14.2**	**+0.8**
VLI	**Veliai**	**3.38**	**322**	*e*PN	**Pn**	**03 00 35.2**	**+1.5**
VLI	**Veliai**	**3.38**	**322**	P	**Pn**	**03 00 34.8**	**+1.1**
VLI	**Veliai**	**3.38**	**322**	*e*Pn	**Pn**	**03 00 35.2**	**+1.5**
VLI				S	**Sn**	**03 01 14.2**	**+0.8**
DYR	**Agios Nikonas**	**3.73**	**317**	P	**Pn**	**03 00 41.0**	**+2.4**
DYR	**Agios Nikonas**	**3.73**	**317**	*e*PN	**Pn**	**03 00 41.1**	**+2.4**
DYR	**Agios Nikonas**	**3.73**	**317**	P	**Pn**	**03 00 41.0**	**+2.4**
TURN	**Turunc**	**3.76**	**41**	*e*P	**Pn**	**03 00 37.8**	**-1.2**
TURN				*e*S	**Sn**	**03 01 19.6**	**-3.3**
TURN	**Turunc**	**3.76**	**41**

DID S Sn 03 01 29.1 +2.9
DID Didima 3.89 332 *e*PN **Pn 03 00 42.2 +1.4**
DID Didima 3.89 332 *e*Pn **Pn 03 00 42.2 +1.4**
DID S Sn 03 01 29.1 +2.9
KSL Kastellorizon 3.93 57 *e*PN Pb 03 00 46.8 -3.7
AKAS Kas 3.98 56 *e*P **Pn 03 00 44.2 +2.0**
AKAS *i* S Sn 03 01 29.1 +0.5
AKAS Kas 3.98 56 *e*P **Pn 03 00 44.2 +2.0**
AKAS *i* S Sn 03 01 29.1 +0.5
NAIG Nisos Aigina 4.03 336 *e*PN **Pn 03 00 45.0 +2.3**
NAIG Nisos Aigina 4.03 336 *e*Pn **Pn 03 00 45.0 +2.3**
AYDN Tasoluk 4.06 28 *i* P **Pn 03 00 46.1 +2.9**
AYDN *e*S Sn 03 01 30.9 +0.5
AYDN Tasoluk 4.06 28 *i* P **Pn 03 00 46.1 +2.9**
AYDN *e*S Sn 03 01 33.9 +0.5
ATH Athens Observa 4.16 340 *e*PN Pn 03 00 47.6 +3.2
ATH Athens Observa 4.16 340 *e*Pn Pn 03 00 47.6 +3.2
VLX Vlachokerasia 4.16 323 *e*PN **Pn 03 00 46.5 +1.9**
VLX Vlachokerasia 4.16 323 *e*Pn **Pn 03 00 46.5 +1.9**
PYL PYLOS 4.17 314 *e*PN **Pn 03 00 45.6 +1.0**
PYL PYLOS 4.17 314 *e*Pn **Pn 03 00 45.6 +1.0**
PTL Penteli 4.19 342 *e*PN **Pn 03 00 47.6 +2.7**
PTL Penteli 4.19 342 *e*Pn **Pn 03 00 47.6 +2.7**
ITM Ithomi 4.26 318 P **Pn 03 00 47.3 +1.4**
ITM Ithomi 4.26 318 *e*PN **Pn 03 00 47.6 +1.7**
ITM Ithomi 4.26 318 P **Pn 03 00 47.3 +1.4**
ITM Ithomi 4.26 318 *e*Pn **Pn 03 00 47.6 +1.7**
CHOS Chios island 4.33 6 *e*PN Pn 03 00 49.8 +3.0
CHOS Chios island 4.33 6 *e*Pn Pn 03 00 49.8 +3.0
LTK Loutraki 4.45 333 *e*PN **Pn 03 00 49.6 +1.1**
LTK Loutraki 4.45 333 *e*Pn **Pn 03 00 49.6 +1.1**
GOLH Golhisar 4.56 45 *i* P **Pn 03 00 52.7 +2.6**
GOLH *i* S Sn 03 01 42.4 -0.5
GOLH Golhisar 4.56 45 *i* P **Pn 03 00 52.7 +2.6**
GOLH *i* S Sn 03 01 42.4 -0.5
GUR Goura 4.63 327 *e*PN **Pn 03 00 52.2 +1.1**
GUR Goura 4.63 327 *e*Pn **Pn 03 00 52.2 +1.1**
AMT Artemida-Makis 4.63 319 *e*PN **Pn 03 00 52.6 +1.6**
AMT Artemida-Makis 4.63 319 *e*Pn **Pn 03 00 52.6 +1.6**
KLV Kalavryta, Ach 4.81 326 *e*PN **Pn 03 00 54.5 +1.1**
KLV Kalavryta, Ach 4.81 326 *e*Pn **Pn 03 00 54.5 +1.1**
SWA2 4.81 181 P **Pn 03 00 52.8 -0.7**
KORT Korkueli 4.91 52 *i* P **Pn 03 00 57.6 +2.7**
KORT *i* S Sn 03 01 49.5 -1.9
KORT Korkueli 4.91 52 *i* P **Pn 03 00 57.6 +2.7**
KORT *i* S Sn 03 01 49.5 -1.9
LKR Lokris 5.00 337 *e*PN **Pn 03 00 57.6 +1.6**
LKR Lokris 5.00 337 *e*Pn **Pn 03 00 57.6 +1.6**
KALE Kalithea 5.10 329 *e*PN **Pn 03 00 58.9 +1.5**
KALE Kalithea 5.10 329 *e*Pn **Pn 03 00 58.9 +1.5**
TRIZ Trizonia 5.11 328 *e*PN **Pn 03 00 58.9 +1.4**
TRIZ Trizonia 5.11 328 *e*Pn **Pn 03 00 58.9 +1.4**
RLS Riolos of Patr 5.15 322 *e*PN Pn 03 01 01.0 +2.9
RLS Riolos of Patr 5.15 322 *e*Pn Pn 03 01 01.0 +2.9
PRK Paraskevi 5.20 7 *e*PN Pn 03 01 02.3 +3.6
PRK Paraskevi 5.20 7 *e*Pn Pn 03 01 02.3 +3.6
EFP Efpalio 5.23 327 *e*PN **Pn 03 01 00.7 +1.5**
EFP Efpalio 5.23 327 *e*Pn **Pn 03 01 00.7 +1.5**
AOS Alonnisos 5.25 346 *e*PN **Pn 03 01 02.2 +2.7**
AOS Alonnisos 5.25 346 *e*Pn **Pn 03 01 02.2 +2.7**
KHAL Karahalli 5.36 36 *i* P **Pn 03 01 02.3 +1.3**
KHAL *i* S Sn 03 01 56.8 -5.7
KHAL Karahalli 5.36 36 *i* P **Pn 03 01 02.3 +1.3**
LJBD Adjabya 5.49 236 *i* P **Pn 03 01 02.2 -0.5**
SNR=70
NEO Neokhori 5.54 341 *e*PN **Pn 03 01 05.8 +2.4**
NEO Neokhori 5.54 341 *e*Pn **Pn 03 01 05.8 +2.4**
AGG Agios Georgios 5.56 334 *e*PN Pn 03 01 06.8 +3.0
AGG Agios Georgios 5.56 334 *e*Pn Pn 03 01 06.8 +3.0
EVR Evrytania 5.68 329 *e*PN Pn 03 01 09.1 +3.6
EVR Evrytania 5.68 329 *e*Pn Pn 03 01 09.1 +3.6
VLS Valsamata 5.71 317 *e*PN Pn 03 01 09.6 +3.8
VLS Valsamata 5.71 317 *e*Pn Pn 03 01 09.6 +3.8
LIA Limnos Island 5.82 357 *e*PN Pn 03 01 12.4 +5.2
GAZI Gazipasa 5.97 67 *i* P **Pn 03 01 10.0 +0.6**
GAZI *i* S Sn 03 02 09.6 -7.9
GAZI Gazipasa 5.97 67 *i* P **Pn 03 01 10.0 +0.6**
PAIG Paliouri 6.03 346 *e*PN Pn 03 01 13.4 +3.3
PAIG Paliouri 6.03 346 *e*Pn Pn 03 01 13.4 +3.3
LUJL Ujela 6.11 217 *i* P **Pn 03 01 10.0 -1.2**
SNR=70
LKD2 Lefkada island 6.12 322 *e*PN **Pn 03 01 12.7 +1.3**
LKD2 Lefkada island 6.12 322 *e*Pn **Pn 03 01 12.7 +1.3**
THL Klokotos Trika 6.16 334 *e*PN Pn 03 01 15.5 +3.6
THL Klokotos Trika 6.16 334 *e*Pn Pn 03 01 15.5 +3.6
HMYD Mayadein 6.19 132 P **Pn 03 01 12.0 -0.4**
HNAT Natroun 6.20 134 P **Pn 03 01 11.1 -1.4**
AYT Al 'Ayyat 6.48 131 P **Pn 03 01 14.7 -1.6**
LIT Litokhoron 6.48 339 *e*PN Pn 03 01 19.8 +3.4
LIT Litokhoron 6.48 339 *e*Pn Pn 03 01 19.8 +3.4
CSS Prodhromos 6.51 80 *e*Pn **Pn 03 01 17.8 +1.0**
CSS *e*Pg Pg 03 01 42.8 -3.5
CSS *e*Sn Sn 03 02 33.0 +2.2
CSS Prodhromos 6.51 80 *e*Pn **Pn 03 01 17.8 +1.0**
ERMK Ermenek 6.57 65 *i* P **Pn 03 01 18.9 +1.2**
ERMK *i* S Sn 03 02 28.1 -4.2
ERMK Ermenek 6.57 65 *i* P **Pn 03 01 18.9 +1.2**
JAN Janina 6.71 328 *e*PN **Pn 03 01 22.0 +2.5**
JAN Janina 6.71 328 *e*Pn **Pn 03 01 22.0 +2.5**
KZN Kozani 6.90 335 *e*PN Pn 03 01 25.2 +3.0
KZN Kozani 6.90 335 *e*Pn Pn 03 01 25.2 +3.0
GLL Jalalah 6.92 129 P **Pn 03 01 21.3 -1.1**
KEK Kerkira 7.25 323 *e*PN **Pn 03 01 28.2 +1.2**
KEK Kerkira 7.25 323 *e*Pn **Pn 03 01 28.2 +1.2**
SRN Sarande 7.28 324 *e*PN **Pn 03 01 27.4 +0.1**
GRG Griva 7.30 341 *e*PN Pn 03 01 31.1 +3.4
GRG Griva 7.30 341 *e*Pn Pn 03 01 31.1 +3.4
AMAG Maghara 7.35 116 P **Pn 03 01 26.6 -1.8**
NVR Nevrokopi 7.38 350 *e*PN Pn 03 01 32.1 +3.4
NVR Nevrokopi 7.38 350 *e*Pn Pn 03 01 32.1 +3.4
KIZK Mersin 7.46 69 *i* P **Pn 03 01 31.7 +2.0**
KIZK *i* S Sn 03 02 49.5 -4.4
KIZK Mersin 7.46 69 *i* P **Pn 03 01 31.7 +2.0**
FNA Florina 7.46 335 *e*PN **Pn 03 01 31.7 +1.8**
FNA Florina 7.46 335 *e*Pn **Pn 03 01 31.7 +1.8**
SUZ 7.51 122 P **Pn 03 01 29.3 -1.2**
RSH 7.59 112 P **Pn 03 01 29.5 -2.1**
ZAF 7.66 127 P **Pn 03 01 30.1 -2.5**
BIA Bitola 7.69 336 *e*Pn **Pn 03 01 35.5 +2.5**
ZNM 7.82 125 P **Pn 03 01 34.0 -0.8**
KKB Krupnik 8.01 347 P Pn 03 01 44.1 +6.7
KZIT Kziot 8.14 110 Pn **Pn 03 01 38.5 -0.6**
GULE Gulek 8.19 64 *i* P **Pn 03 01 42.5 +2.5**
GULE *i* S Sn 03 03 09.7 -2.5
GULE Gulek 8.19 64 *i* P **Pn 03 01 42.5 +2.5**
GULE *i* S Sn 03 03 09.7 -2.5
SLTI Sal'it 8.19 100 Pn **Pn 03 01 41.1 +1.2**
ANTO Ankara 8.21 43 *e*P **Pn 03 01 40.0 -0.1**
ANTO Ankara 8.21 43 ⇓*i*P Pn 03 01 44.3 +4.2
ANTO Ankara 8.21 43 *e*Pn **Pn 03 01 40.0 -0.1**
ANTO Ankara 8.21 43 *e*P **Pn 03 01 40.0 -0.1**
HNKL Nakhl 8.29 118 P **Pn 03 01 38.9 -2.3**
RTMI Retamim 8.31 109 Pn **Pn 03 01 41.3 -0.2**
MMAI Mount Meron Ar 8.32 95 Pn **Pn 03 01 40.7 -1.0**
MMAI Sn Sn 03 03 13.5 -1.9
MMAI Mount Meron Ar 8.32 95 Pn **Pn 03 01 40.7 -1.0**
4.7nm,0.3s,baz=262,slow=12,SNR=22
MMAI Sn **Sn 03 03 13.5 -1.9**
5.9nm,0.3s,baz=266,slow=22,SNR=5.9
MMAI Mount Meron Ar 8.32 95 Pn **Pn 03 01 40.7 -1.0**
MMAI Sn **Sn 03 03 13.5 -1.9**
MMLI Mount Malkishu 8.46 98 Pn **Pn 03 01 43.1 -0.4**
GRB Gharib 8.50 131 P **Pn 03 01 42.8 -1.3**
KSDI Kefar Szold 8.51 93 Pn **Pn 03 01 45.2 +1.1**
HMDT Nahal Hemdat 8.59 99 Pn **Pn 03 01 46.0 +0.7**
PHP Peshkopia 8.59 334 *e*PN **Pn 03 01 46.0 +0.7**
BR131 Keskin Array S 8.61 47 *e*Pn **Pn 03 01 46.5 +0.8**
2.2nm,0.6s
BR131 Keskin Array S 8.61 47 *e*Pn **Pn 03 01 46.5 +0.8**
2.2nm,0.6s
BRTR Keskin Array B 8.61 47 Pn **Pn 03 01 47.5 +1.8**
BRTR Sn **Sn 03 03 23.3 +0.8**
BRTR Keskin Array B 8.61 47 Pn **Pn 03 01 47.5 +1.8**
0.3nm,0.3s,baz=226,slow=14,SNR=18
BRTR Sn **Sn 03 03 23.3 +0.8**
0.1nm,0.3s,baz=208,slow=24,SNR=3.6
BRTR Keskin Array B 8.61 47 Pn **Pn 03 01 47.5 +1.8**
BRTR Sn **Sn 03 03 23.3 +0.8**
DSI Dead Sea 8.67 104 Pn **Pn 03 01 46.2 -0.2**
VTS Vitosha 8.70 349 ⇓P Pn 03 01 52.2 +5.3
VTS Vitosha 8.70 349 P **Pn 03 01 47.0 +0.1**
VTS Vitosha 8.70 349 ⇓*i*P Pn 03 01 52.2 +5.3
VTS Vitosha 8.70 349 P **Pn 03 01 47.0 +0.1**
MZDA Masada 8.74 106 Pn **Pn 03 01 47.5 +0.1**
KRMI Paran Flat 8.75 114 Pn **Pn 03 01 47.3 -0.3**
ARNB Al Arnab 8.77 75 *e*P **Pn 03 01 47.9 +0.1**
ARNB *e*S **Sn 03 03 21.8 -4.5**
ARNB AML AML 03 03 32.0
comp=E,25nm,0.7s
ARNB AML AML 03 03 33.9
comp=Z,14nm,0.6s
ARNB AML AML 03 03 36.7
comp=N,29nm,0.7s
ARNB Al Arnab 8.77 75 *e*P **Pn 03 01 47.9 +0.1**
SNR=57
CEL Celeste 8.83 301 *e*Pn **Pn 03 01 48.9 +0.3**
CEL *e*Sn **Sn 03 03 23.1 -4.7**
CEL Celeste 8.83 301 *e*Pn **Pn 03 01 48.9 +0.3**
PRNI Paran 8.85 112 Pn **Pn 03 01 48.5 -0.5**
TCHB Talchebab 8.86 96 *e*P **Pn 03 01 51.0 +2.0**
TCHB *e*S **Sn 03 03 26.0 -2.5**
TCHB AML AML 03 03 33.1
comp=E,20nm,0.8s
TCHB AML AML 03 03 34.2
comp=Z,121nm,0.7s
TCHB AML AML 03 03 35.4
comp=N,59nm,0.5s
TCHB Talchebab 8.86 96 *e*P **Pn 03 01 51.0 +2.0**
SNR=57
TCHB *e*S **Sn 03 03 26.0 -2.5**
comp=N,59nm,0.5s,SNR=58
HRFI Mount Harif 9.03 114 Pn **Pn 03 01 51.2 -0.1**
MBRI Mt Berech 9.05 116 Pn **Pn 03 01 51.3 -0.5**
PUK Puka 9.11 333 *e*PN **Pn 03 01 53.6 +1.2**
EIL Elat 9.14 116 Pn **Pn 03 01 52.3 -0.6**
EIL Sn **Sn 03 03 30.2 -5.3**
EIL Elat 9.14 116 Pn **Pn 03 01 52.3 -0.6**
comp=N,1.4nm,0.3s,baz=310,slow=12,SNR=29
EIL Sn **Sn 03 03 30.2 -5.3**
comp=N,2.5nm,0.3s,baz=303,slow=17,SNR=5.6
EIL Elat 9.14 116 Pn **Pn 03 01 52.3 -0.6**
BTCH Batrach 9.19 75 *e*P **Pn 03 01 53.1 -0.4**
BTCH *e*S **Sn 03 03 30.8 -5.8**
BTCH AML AML 03 03 42.4
comp=E,38nm,0.5s
BTCH AMP 03 03 46.1
BTCH AML AML 03 03 49.9
comp=N,59nm,0.5s
BTCH Batrach 9.19 75 *e*P **Pn 03 01 53.1 -0.4**
SNR=57
ULC Ulcinj 9.30 330 ⇓*i*Pn **Pn 03 01 56.1 +1.1**
ULC *e*Sn **Sn 03 03 37.4 -1.9**
ULC Ulcinj 9.30 330 ⇓*i*Pn **Pn 03 01 56.1 +1.1**
MPEP Malo Peshtene 9.37 352 P Pn 03 02 12.5 +16
SALA Sala 9.48 95 *e*P **Pn 03 01 59.5 +1.9**
SALA Sala 9.48 95 *e*P **Pn 03 01 59.5 +1.9**
SNR=57
DRME Dracevica, Mon 9.51 330 *e*Pn **Pn 03 01 58.8 +0.9**
DRME *e*Sn **Sn 03 03 42.2 -2.2**
DRME Dracevica, Mon 9.51 330 *e*Pn **Pn 03 01 58.8 +0.9**
PVY Plav 9.56 335 ⇑*i*Pn **Pn 03 01 59.7 +1.0**
PVY *e*Sn **Sn 03 03 42.0 -3.8**
PVY Plav 9.56 335 ⇑*i*Pn **Pn 03 01 59.7 +1.0**
PDG Podgorica 9.68 331 ⇑*i*Pn **Pn 03 02 00.9 +0.7**
TTG Podgorica 9.68 331 ⇑*i*Pn **Pn 03 02 00.9 +0.7**
TTG *e*Sn **Sn 03 03 45.8 -2.8**
BUM Brajici-Budva 9.72 330 ⇑*i*Pn **Pn 03 02 02.2 +1.3**
BUM *e*Sn **Sn 03 03 46.9 -2.9**
BUM Brajici-Budva 9.72 330 ⇑*i*Pn **Pn 03 02 02.2 +1.3**
ASF Jabal al Asfar 9.73 98 Pn **Pn 03 02 00.7 -0.4**
ASF Sn **Sn 03 03 45.3 -4.8**
ASF Jabal al Asfar 9.73 98 Pn **Pn 03 02 00.7 -0.4**
comp=N,0.3nm,0.3s,baz=188,slow=2.1,SNR=4.0
ASF Sn **Sn 03 03 45.3 -4.8**
comp=N,0.5nm,0.3s,baz=172,slow=22,SNR=2.4
CUC Castrocucco 9.74 310 *e*Pn **Pn 03 02 02.3 +1.1**
CUC Castrocucco 9.74 310 *e*Pn **Pn 03 02 02.3 +1.1**
BEY Berane 9.83 335 ⇑*i*Pn **Pn 03 02 02.8 +0.5**
IVA Berane 9.83 335 ⇑*i*Pn **Pn 03 02 02.8 +0.5**
IVA *e*Sn **Sn 03 03 48.6 -3.7**
HCY Herceg Novi 10.02 329 ⇑*i*Pn **Pn 03 02 06.2 +1.4**
HCY *e*Sn **Sn 03 03 54.1 -2.7**
HCY Herceg Novi 10.02 329 ⇑*i*Pn **Pn 03 02 06.2 +1.4**
NKME Niksic 10.09 331 *e*Pn **Pn 03 02 07.3 +1.5**
NKME *e*Sn **Sn 03 03 55.6 -3.1**
NKME Niksic 10.09 331 *e*Pn **Pn 03 02 07.3 +1.5**
NKY Niksic 10.11 332 ⇓*i*Pn **Pn 03 02 07.5 +1.3**
NKY *e*Sn **Sn 03 03 56.2 -3.1**
NKY Niksic 10.11 332 ⇓*i*Pn **Pn 03 02 07.5 +1.3**
BRY Bratogost 10.37 330 ⇓*i*Pn **Pn 03 02 11.2 +1.4**
BRY *e*Sn **Sn 03 04 02.8 -2.9**
BRY Bratogost 10.37 330 ⇓*i*Pn **Pn 03 02 11.2 +1.4**
PLE Pljevlja 10.40 334 ⇑*i*Pn **Pn 03 02 10.6 +0.3**
PLE *e*Sn **Sn 03 04 02.4 -4.1**
PLE Pljevlja 10.40 334 ⇑*i*Pn **Pn 03 02 10.6 +0.3**
UPM Unac-Piva 10.47 332 ⇑*i*Pn **Pn 03 02 11.8 +0.5**
UPM *e*Sn **Sn 03 04 04.4 -4.0**
UPM Unac-Piva 10.47 332 ⇑*i*Pn **Pn 03 02 11.8 +0.5**
STON Ston 10.70 327 *e*Pn **Pn 03 02 11.7 -2.5**
STON Sn Sn 03 04 02.8 -11
VOIR 11.36 358 ⇓*i*P Pn 03 02 26.3 +3.1
VOIR 11.36 358 P Pn 03 02 26.3 +3.1
MLR Muntele Rosu 11.41 2 ⇑*i*P Pn 03 02 28.1 +4.1
MLR Muntele Rosu 11.41 2 Pn **Pn 03 02 24.9 +0.9**
MLR Muntele Rosu 11.41 2 Pn **Pn 03 02 24.9 +0.9**
comp=N,0.0nm,0.3s,baz=169,slow=5.7,SNR=5.9
MLR LR LR 03 07 17.9
comp=N,76nm,19.3s,baz=185,slow=40
MLR Muntele Rosu 11.41 2 P **Pn 03 02 24.9 +0.9**
GZR Gura Zlata 11.50 350 ⇑*i*P Pn 03 02 31.4 +6.2
BZS Buzias 11.91 347 ⇓*i*P **Pn 03 02 31.8 +1.1**
BZS Buzias 11.91 347 P **Pn 03 02 31.8 +1.1**
AQU L'Aquila 12.60 315 *e*Pn **Pn 03 02 41.1 +0.9**
AQU *e*Sn **Sn 03 04 57.8 -2.4**
AQU L'Aquila 12.60 315 *e*P **Pn 03 02 41.2 +0.9**
UDBI Udbina 12.87 327 *e*Pn **Pn 03 02 42.7 -1.3**
UDBI Sn Sn 03 04 59.3 -7.5
DRGR 12.88 351 ⇑P Pn 03 02 37.8 -6.3
DRGR 12.88 351 ⇑*i*P Pn 03 02 37.8 -6.3
KIS Kishinev 13.15 10 *e* P 03 03 06.0 +8.3
KIS LRM MLR 03 08 40.0
comp=N,400nm,12.0s
NVLJ Novalja 13.31 325 *e*Pn **Pn 03 02 47.3 -2.6**
NVLJ Sn Sn 03 05 08.3 -9.2
KEST Kesra 13.38 282 *e*Pn **Pn 03 02 53.6 +2.7**
KEST Kesra 13.38 282 Pn **Pn 03 02 52.1 +1.2**
comp=N,0.0nm,0.3s,baz=32,slow=9.5,SNR=2.5
KEST Kesra 13.38 282 *e*Pn **Pn 03 02 53.6 +2.7**
BURAR Bucovina Array 13.53 359 ⇑P Pn 03 02 44.4 -8.5
BURAR Bucovina Array 13.53 359 ⇑*i*P Pn 03 02 44.4 -8.5
BOJS Bojanci 13.86 328 *i* Pn **Pn 03 02 56.0 -1.4**
BOJS *i* Sn Sn 03 05 19.3 -12
CRES Cresnjev 14.03 330 *e*Pn **Pn 03 02 57.8 -1.9**
ANN Anapa 14.11 37 *e*P **P 03 03 09.4 +1.1**
ANN pmax pmax
comp=Z,13nm,0.7s
ANN Anapa 14.11 37 *e*P **P 03 03 09.4 +1.1**
comp=Z,13nm,0.7s
SKDS Skadanscina 14.45 326 *i* Pn **Pn 03 03 04.7 -0.8**
SKDS *i* Sn Sn 03 05 31.7 -14
PSZ Piszkesteto 14.46 345 *e*P **Pn 03 03 06.0 +0.3**
PSZ Piszkesteto 14.46 345 *e*Pn **Pn 03 03 06.0 +0.3**
PSZ Piszkesteto 14.46 345 *e*Pn **Pn 03 03 05.9 +0.3**
JAVS Javornik 14.69 327 *i* Pn **Pn 03 03 06.5 -2.3**
JAVS *i* Sn Sn 03 05 41.4 -10
PERS Pernice 14.82 331 *i* Pn **Pn 03 03 08.2 -2.4**
PERS *i* Sn Sn 03 05 47.8 -6.6
SOKA Soboth 14.89 331 ⇑*i*Pn **Pn 03 03 09.3 -2.2**
comp=Z,1.3nm,0.5s
SOKA ⇓*i*P **P 03 03 18.1 +0.9**
comp=Z,16nm,1.0s,SNR=7.6
OBKA Obir 14.96 329 ⇑*i*Pn **Pn 03 03 14.4 +2.0**
comp=Z,1.3nm,0.5s,SNR=7.8
OBKA ⇑*i*P **P 03 03 19.8 +1.9**
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 15.04 352 *e*P **Pn 03 03 14.2 +0.7**
KOLS Kolonicke sedl 15.04 352 *e*PN **Pn 03 03 14.2 +0.7**
KOLS Kolonicke sedl 15.04 352 *e*Pn **Pn 03 03 14.2 +0.7**
PGF Pioggiola 15.46 308 *e*P **P 03 03 21.5 -2.0**
comp=Z,48nm,0.9s
PGF Pioggiola 15.46 308 *e*P **P 03 03 21.5 -2.0**
PGF Pioggiola 15.46 308 *e*P **P 03 03 21.5 -2.0**
PGF Pioggiola 15.46 308 *e*P **P 03 03 21.5 -2.0**
comp=Z,24nm,0.9s
STHS Stebnicka Huta 15.65 350 *e*P **P 03 03 25.0 -0.5**
STHS Stebnicka Huta 15.65 350 *e*PN **P 03 03 25.0 -0.5**
STHS Stebnicka Huta 15.65 350 *e*P **P 03 03 25.0 -0.5**
KWP Kalwaria Pacla 15.69 353 *e*P **Pn 03 03 23.3 +1.4**
KWP pmax pmax
comp=Z,6.0nm,0.8s
KWP Kalwaria Pacla 15.69 353 *e*Pn **Pn 03 03 23.3 +1.4**
comp=Z,5.8nm,0.8s
KWP Kalwaria Pacla 15.69 353 *e*Pn **Pn 03 03 23.3 +1.4**
comp=Z,5.8nm,0.8s
KBA Koelnbreinsper 15.92 328 ⇓*i*Pn **Pn 03 03 24.8 -0.2**
comp=Z,1.9nm,0.7s,SNR=10.0
KBA ⇓*i*P **P 03 03 30.4 +1.7**
comp=Z,21nm,0.8s
ABTA Abfaltersbach 16.04 326 ⇑*i*Pn **Pn 03 03 26.9 +0.3**
comp=Z,2.3nm,0.6s
ABTA *i* P **P 03 03 31.8 +1.9**
comp=Z,24nm,0.8s,SNR=14
MOA Molln 16.15 332 ⇑*i*P **P 03 03 32.3 +1.3**
comp=Z,15nm,0.8s
MOA Molln 16.15 332 P **P 03 03 32.3 +1.3**
comp=Z,15nm,0.8s
GNI Garni 16.48 63 *e*Pn **Pn 03 03 33.6 +1.3**
GNI *e*P **P 03 03 37.0 +2.1**
GNI Garni 16.48 63 *e*P **Pn 03 03 33.6 +1.3**
KIV Kislovodsk 16.57 48 *e*P **P 03 03 38.2 +2.4**
KIV *e*S **S 03 06 43.3 -5.2**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,33nm,14.0s
KBZ Khabaz 16.59 49 P **P 03 03 36.9 +1.1**
KBZ Khabaz 16.59 49 Pn **P 03 03 36.9 +1.1**
KBZ Khabaz 16.59 49 Pn **P 03 03 36.9 +1.1**
comp=Z,0.3nm,0.3s,baz=260,slow=9.1,SNR=12
KBZ Khabaz 16.59 49 P **P 03 03 36.9 +1.1**
VRAC Vranov 16.60 339 Pn **P 03 03 35.5 -0.5**
VRAC Vranov 16.60 339 Pn **P 03 03 35.5 -0.5**
comp=Z,0.7nm,0.3s,baz=147,slow=9.9,SNR=10
VRAC Vranov 16.60 339 *e*Pn **Pn 03 03 33.8 +0.3**
VRAC Vranov 16.60 339 P **P 03 03 35.5 -0.5**
OKC Ostrava-Krasne 16.66 343 *e*P **P 03 03 35.4 -1.3**
OKC Ostrava-Krasne 16.66 343 *e*P **P 03 03 35.4 -1.3**
OKC *e*pP **pP 03 03 39.5 -1.8**
OKC Ostrava-Krasne 16.66 343 *e*P **P 03 03 35.4 -1.3**
MORC Moravsky Berou 16.76 342 *e*P **Pn 03 03 35.5 -0.1**
MORC pmax pmax
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 16.76 342 *e*Pn **Pn 03 03 35.5 -0.1**
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 16.76 342 *e*Pn **Pn 03 03 35.5 -0.1**
comp=Z,6.0nm,1.0s
ZEI Tsey 16.80 53 *e*P **P 03 03 42.2 +3.7**
ZEI pmax pmax
comp=Z,27nm,1.0s
KIEV Kiev 16.83 8 *e*P **P 03 03 37.8 -0.7**
KIEV pmax pmax
comp=Z,29nm,0.8s
KIEV Kiev 16.83 8 *e*Pn **P 03 03 37.8 -0.7**
comp=Z,29nm,0.8s
KIEV Kiev 16.83 8 *e*P **P 03 03 37.8 -0.7**
comp=Z,29nm,0.8s
WTTA Wattenberg 16.83 326 ⇑*i*Pn **Pn 03 03 36.9 +0.2**
comp=Z,5.8nm,1.0s
WTTA *i* P **pP 03 03 41.8 -1.5**
comp=Z,38nm,1.2s,SNR=9.3
AKASG Malin Array Be 16.84 8 *i* P **P 03 03 37.5 -1.1**
AKASG pmax pmax
comp=Z,18nm,0.6s
AKASG Malin Array Be 16.84 8 Pn **P 03 03 38.0 -0.6**
AKASG Malin Array Be 16.84 8 Pn **P 03 03 38.0 -0.6**
comp=Z,4.5nm,0.3s,baz=200,slow=11,SNR=18
AKASG Malin Array Be 16.84 8 *i* P **P 03 03 37.5 -1.1**
comp=Z,18nm,0.6s
AKASG Malin Array Be 16.84 8 Pn **P 03 03 38.0 -0.6**
TREC Trest 16.93 337 *e*P **Pn 03 03 37.6 -0.1**
TREC MLR MLR
comp=Z,100nm,13.7s
TREC Trest 16.93 337 *e*P **Pn 03 03 37.6 -0.1**
TREC *e*pP **pP 03 03 42.0 -2.2**
TREC *e*sP **sP 03 03 46.6 +0.2**
TREC AMS AMS 03 10 50.0
comp=Z,100nm,13.7s
FUORN Ofenpass-Fuorn 17.06 322 *e*Pn **P 03 03 43.5 +2.1**
comp=Z,17nm,0.8s
SBF Sospel 17.09 310 *e*P **Pn 03 03 40.5 +0.6**
comp=Z,32nm,0.7s
SBF Sospel 17.09 310 *e*P **Pn 03 03 40.5 +0.6**
SBF Sospel 17.09 310 *e*P **Pn 03 03 40.5 +0.6**
SBF Sospel 17.09 310 *e*P **Pn 03 03 40.5 +0.6**
comp=Z,16nm,0.7s
FETA Feichten 17.09 324 ⇑*i*P **P 03 03 43.5 +1.8**
SNR=10
FETA Feichten 17.09 324 P **P 03 03 43.5 +1.8**
SNR=10
MOTA Moosalm 17.14 325 ⇑*i*Pn **Pn 03 03 38.0 -2.6**
comp=Z,1.2nm,0.5s
GEC2 GERESS Array S 17.18 333 *e*P **P 03 03 41.7 -0.8**
GEC2 GERESS Array S 17.18 333 *e*Pn **P 03 03 41.7 -0.8**
GEC2 GERESS Array S 17.18 333 *e*P **P 03 03 41.7 -0.8**
GERES GERESS Array B 17.18 333 P **P 03 03 41.6 -0.9**
GERES GERESS Array B 17.18 333 P **P 03 03 41.6 -0.9**
comp=Z,1.3nm,0.3s,baz=151,slow=12,SNR=51
GERES GERESS Array B 17.18 333 P **P 03 03 41.6 -0.9**
DGRG David-gareji 17.32 59 P **P 03 03 47.0 +2.9**
DAVOX Davos/Dischmat 17.36 322 P **P 03 03 45.1 +0.5**
DAVOX Davos/Dischmat 17.36 322 P **P 03 03 45.1 +0.5**
comp=Z,0.5nm,0.3s,baz=119,slow=16,SNR=8.2
DAVOX LR LR 03 11 17.5
comp=Z,144nm,19.5s,baz=83,slow=40
DAVOX Davos/Dischmat 17.36 322 P **P 03 03 45.1 +0.5**
TUE Stuetta 17.44 320 *e*Pn **P 03 03 46.8 +1.3**
comp=Z,11nm,0.9s
TUE Stuetta 17.44 320 *e*Pn **P 03 03 46.8 +1.3**
comp=Z,11nm,0.9s
LMR La Mourre 17.45 308 *e*P **P 03 03 44.9 -0.5**
comp=Z,16nm,0.8s
LMR La Mourre 17.45 308 *e*P **P 03 03 44.9 -0.5**
LMR La Mourre 17.45 308 *e*P **P 03 03 44.9 -0.5**
LMR La Mourre 17.45 308 *e*P **P 03 03 44.9 -0.5**
comp=Z,8.1nm,0.8s
FRF La Foret Royal 17.46 308 *e*P **P 03 03 45.6 +0.1**
comp=Z,29nm,1.1s
FRF La Foret Royal 17.46 308 *e*P **P 03 03 45.6 +0.1**
FRF La Foret Royal 17.46 308 *e*P **P 03 03 45.6 +0.1**
FRF La Foret Royal 17.46 308 *e*P **P 03 03 45.6 +0.1**
comp=Z,14nm,1.1s
KHC Kasperske Hory 17.46 333 *e*P **Pn 03 03 44.2 -0.2**
KHC MLR MLR
comp=Z,200nm,15.4s
KHC Kasperske Hory 17.46 333 *e*P **Pn 03 03 44.2 -0.2**
KHC *i* pP **pP 03 03 47.6 -2.5**
KHC *ex* x 03 03 58.0
KHC *ex* x 03 04 05.2
KHC AMS AMS 03 11 00.0
comp=Z,200nm,15.4s
KHC Kasperske Hory 17.46 333 *e*Pn **Pn 03 03 44.6 +0.2**
comp=Z,9.9nm,0.9s
KHC Kasperske Hory 17.46 333 *e*P **Pn 03 03 44.2 -0.2**
comp=Z,200nm,15.4s
KHC Kasperske Hory 17.46 333 *e*Pn **Pn 03 03 44.6 +0.2**
comp=Z,9.9nm,0.9s
DPC Dobruska-Polom 17.61 340 *e*P **P 03 03 46.8 -0.4**
DPC Dobruska-Polom 17.61 340 *e*P **P 03 03 46.8 -0.4**
DPC *e*pP **pP 03 03 54.5 +2.7**
DPC *ex* x 03 04 05.9
DPC AMS AMS 03 12 30.0
DPC Dobruska-Polom 17.61 340 *e*Pn **P 03 03 48.2 +1.0**
comp=Z,48nm,1.0s
DPC Dobruska-Polom 17.61 340 *e*P **P 03 03 46.8 -0.4**
DPC Dobruska-Polom 17.61 340 *e*Pn **P 03 03 48.2 +1.0**
comp=Z,48nm,1.0s
DAVA Damuels 17.70 323 ⇑*i*P **P 03 03 49.7 +1.4**
comp=Z,15nm,0.7s
DAVA Damuels 17.70 323 P **P 03 03 49.7 +1.4**
comp=Z,15nm,0.7s
PRU Pruhonice 17.84 336 *e*P **Pn 03 03 48.4 -0.6**
PRU MLR MLR
comp=Z,100nm,9.5s
PRU Pruhonice 17.84 336 *e*P **Pn 03 03 48.4 -0.6**
PRU *e*pP **pP 03 03 53.0 -1.2**
PRU *ex* x 03 04 09.1
PRU AMS AMS 03 11 00.0

comp=Z,100nm,9.5s
PRU Pruhonice 17.84 336 *e*P **Pn 03 03 48.4 -0.6**
comp=Z,100nm,9.5s
UPC Upice 17.84 340 *e*P **Pn 03 03 48.4 -0.6**
UPC Upice 17.84 340 *e*P **Pn 03 03 48.4 -0.6**
UPC *e*pP **pP 03 03 57.5 +3.2**
UPC Upice 17.84 340 *e*P **Pn 03 03 48.4 -0.6**
MBDF Montbardon 17.93 312 *e*P **P 03 03 51.7 +0.8**
comp=Z,20nm,0.8s
MBDF Montbardon 17.93 312 *e*P **P 03 03 51.7 +0.8**
MBDF Montbardon 17.93 312 *e*P **P 03 03 51.7 +0.8**
MBDF Montbardon 17.93 312 *e*P **P 03 03 51.7 +0.8**
comp=Z,10nm,0.8s
BNI Bardonecchia 18.15 313 *e*P **P 03 03 53.9 +0.6**
BNI pmax pmax
comp=Z,8.0nm,1.0s
BNI Bardonecchia 18.15 313 *e*Pn **P 03 03 53.9 +0.6**
comp=Z,7.8nm,1.0s
BNI Bardonecchia 18.15 313 *e*P **P 03 03 53.9 +0.6**
comp=Z,8.0nm,1.0s
PVCC Panska Ves 18.30 337 *e*P **P 03 03 56.0 +1.3**
PVCC Panska Ves 18.30 337 *e*P **P 03 03 56.0 +1.3**
PVCC *e*x x 03 04 12.2
PVCC Panska Ves 18.30 337 *e*P **P 03 03 56.0 +1.3**
SMRF Simiane la Rot 18.34 309 *e*P **P 03 03 57.4 +2.1**
SMRF Simiane la Rot 18.34 309 *e*P **P 03 03 57.4 +2.1**
SMRF Simiane la Rot 18.34 309 *e*P **P 03 03 57.4 +2.1**
LPG La Plagne 18.34 314 *e*P **P 03 03 56.0 +0.4**
comp=Z,13nm,0.7s
LPG La Plagne 18.34 314 *e*P **P 03 03 56.0 +0.4**
LPG La Plagne 18.34 314 *e*P **P 03 03 56.0 +0.4**
LPG La Plagne 18.34 314 *e*P **P 03 03 56.0 +0.4**
comp=Z,6.7nm,0.7s
LPL La Plagne 18.36 314 *e*P **P 03 03 56.7 +1.0**
comp=Z,9.4nm,0.7s
LPL La Plagne 18.36 314 *e*P **P 03 03 56.7 +1.0**
LPL La Plagne 18.36 314 *e*P **P 03 03 56.7 +1.0**
LPL La Plagne 18.36 314 *e*P **P 03 03 56.7 +1.0**
comp=Z,4.7nm,0.7s
SENIN Lac Senin/Sane 18.50 317 *e*Pn **Pn 03 03 58.5 +1.1**
comp=Z,12nm,0.8s
SENIN Lac Senin/Sane 18.50 317 *e*Pn **Pn 03 03 58.5 +1.1**
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 18.58 311 *e*P **Pn 03 03 58.2 0.0**
comp=Z,11nm,0.8s
ORIF *e*R
comp=Z,163nm,22.9s
ORIF Oris-en-Rattie 18.58 311 *e*P **Pn 03 03 58.2 0.0**
ORIF Oris-en-Rattie 18.58 311 *e*P **Pn 03 03 58.2 0.0**
ORIF Oris-en-Rattie 18.58 311 *e*P **Pn 03 03 58.2 0.0**
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 18.80 337 *i* P **Pn 03 04 01.5 +0.8**
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 18.80 337 *i* P **Pn 03 04 01.5 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 18.80 337 *i* P **Pn 03 04 01.5 +0.8**
comp=Z,5.0nm,1.0s
RST Umm Al-Ruwaisa 18.82 98 *e*P **Pn 03 04 02.2 +1.1**
GRA1 Grafenberg Arr 18.84 330 *e*Pn **Pn 03 04 01.7 +0.4**
comp=Z,24nm,1.1s
GRF Grafenberg Arr 18.84 330 *e*Pn **Pn 03 04 01.7 +0.4**
comp=Z,24nm,1.1s
GRF Grafenberg Arr 18.84 330 *e*P **Pn 03 04 01.7 +0.4**
GRF pmax pmax
comp=Z,24nm,1.1s
GRFO Grafenberg 18.84 330 *e*P **Pn 03 04 01.8 +0.6**
GRFO pmax pmax
comp=Z,26nm,1.0s
GRFO Grafenberg 18.84 330 *e*P **Pn 03 04 01.8 +0.6**
comp=Z,26nm,1.0s
GRFO Grafenberg 18.84 330 *e*P **Pn 03 04 01.8 +0.6**
comp=Z,26nm,1.0s
MIB Mutribah 19.00 97 *e*P **Pn 03 04 03.9 +0.6**
MIB AMb AMB 03 04 07.0
comp=Z,15nm,0.7s
MIB Mutribah 19.00 97 *e*P **Pn 03 04 03.9 +0.6**
comp=Z,15nm,0.7s
STU Stuttgart 19.06 325 *e*P **Pn 03 04 05.2 +1.3**
STU pmax pmax
comp=Z,19nm,0.8s
STU Stuttgart 19.06 325 *e*P **Pn 03 04 05.2 +1.3**
comp=Z,19nm,0.8s
STU Stuttgart 19.06 325 *e*P **Pn 03 04 05.2 +1.3**
comp=Z,19nm,0.8s
NAY Al-Naaiem 19.10 99 *e*P **Pn 03 04 04.6 0.0**
NAY AMb AMB 03 04 08.6
comp=Z,0.9nm,0.9s
NAY Al-Naaiem 19.10 99 *e*P **Pn 03 04 04.6 0.0**
comp=Z,0.9nm,0.9s
BFO Black Forest 19.17 323 *e*P **Pn 03 04 06.7 +1.3**
BFO pmax pmax
comp=Z,11nm,0.8s
BFO Black Forest 19.17 323 *e*P **Pn 03 04 06.7 +1.3**
comp=Z,11nm,0.8s
BFO Black Forest 19.17 323 *e*P **Pn 03 04 06.7 +1.3**
comp=Z,11nm,0.8s
VIVF Saint-Julien-I 19.31 310 *e*P **Pn 03 04 06.3 -0.7**
comp=Z,37nm,1.3s
VIVF Saint-Julien-I 19.31 310 *e*P **Pn 03 04 06.3 -0.7**
VIVF Saint-Julien-I 19.31 310 *e*P **Pn 03 04 06.3 -0.7**
VIVF Saint-Julien-I 19.31 310 *e*P **Pn 03 04 06.3 -0.7**
comp=Z,18nm,1.3s
CABF La Chapelle 19.33 316 *e*P **P 03 04 05.6 -0.6**
comp=Z,23nm,0.9s
CABF La Chapelle 19.33 316 *e*P **P 03 04 05.6 -0.6**
CABF La Chapelle 19.33 316 *e*P **P 03 04 05.6 -0.6**
CABF La Chapelle 19.33 316 *e*P **P 03 04 05.6 -0.6**
comp=Z,12nm,0.9s
LOMF Lomont 19.34 319 *e*P **P 03 04 05.6 -0.7**
CLL Collm 19.48 336 *e*P **P 03 04 08.0 +0.3**
CLL *e*S **Sn 03 07 45.0 -2.0**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 19.48 336 *e*P **P 03 04 08.0 +0.3**
comp=Z,6.0nm,0.9s
CLL *e*sP **sP 03 04 12.0 -2.4**
CLL *i* 03 04 15.3
CLL *e*PP **PnPn 03 04 22.0 -0.2**
CLL *i* (sPP) 03 04 27.7
CLL *e*S **Sn 03 07 45.0 -2.0**
CLL Collm 19.48 336 *e*P **P 03 04 08.0 +0.3**
comp=Z,6.0nm,0.9s
LASF Ste Croix 19.51 307 *e*P **P 03 04 08.4 +0.3**
comp=Z,67nm,1.4s
LASF Ste Croix 19.51 307 *e*P **P 03 04 08.4 +0.3**
LASF Ste Croix 19.51 307 *e*P **P 03 04 08.4 +0.3**
comp=Z,33nm,1.4s
SSB Saint Sauveur 19.58 311 *e*P **Pn 03 04 09.9 -0.4**
SSB pmax pmax
comp=Z,5.0nm,0.9s
SSB Saint Sauveur 19.58 311 *e*P **Pn 03 04 09.9 -0.4**
comp=Z,5.2nm,0.9s
SSB Saint Sauveur 19.58 311 *e*P **Pn 03 04 09.9 -0.4**
comp=Z,5.2nm,0.9s
HINF Hinteralfeld 19.61 320 *e*P **Pn 03 04 10.2 -0.4**
comp=Z,11nm,0.7s
HINF Hinteralfeld 19.61 320 *e*P **Pn 03 04 10.2 -0.4**
HINF Hinteralfeld 19.61 320 *e*P **Pn 03 04 10.2 -0.4**
HINF Hinteralfeld 19.61 320 *e*P **Pn 03 04 10.2 -0.4**
comp=Z,5.6nm,0.7s
VORD Divnogorie 19.64 27 *e*P **Pn 03 04 11.0 +0.1**
VORD pmax pmax
comp=Z,9.0nm,0.8s
VORD pmax pmax
comp=N,140nm,0.6s
VORD pmax pmax
comp=E,190nm,0.6s
VORD Divnogorie 19.64 27 *e*P **Pn 03 04 11.0 +0.1**
comp=E,9.0nm,0.8s
ECH Echery 19.70 321 *e*P **Pn 03 04 10.8 -0.8**
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH Echery 19.70 321 *e*P **Pn 03 04 10.8 -0.8**
comp=Z,9.6nm,0.9s
ECH Echery 19.70 321 *e*P **Pn 03 04 10.8 -0.8**
comp=Z,9.6nm,0.9s
CDF Champ du Feu 19.76 322 *e*P **Pn 03 04 12.0 -0.4**
comp=Z,18nm,0.8s
CDF Champ du Feu 19.76 322 *e*P **Pn 03 04 12.0 -0.4**
CDF Champ du Feu 19.76 322 *e*P **Pn 03 04 12.0 -0.4**
CDF Champ du Feu 19.76 322 *e*P **Pn 03 04 12.0 -0.4**
comp=Z,9.1nm,0.8s
VSR Storozhevoye 19.80 26 *e*P **Pn 03 04 14.2 +1.4**
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
LANF Langenberg 19.87 324 *e*P **Pn 03 04 15.2 +1.6**
HAU Haudompre 19.99 320 *e*P **Pn 03 04 14.1 -1.0**
comp=Z,35nm,0.8s
HAU *e*R
comp=Z,130nm,18.5s
HAU Haudompre 19.99 320 *e*P **Pn 03 04 14.1 -1.0**
HAU Haudompre 19.99 320 *e*P **Pn 03 04 14.1 -1.0**
HAU Haudompre 19.99 320 *e*P **Pn 03 04 14.1 -1.0**
comp=Z,17nm,0.8s
SUW Suwalki 20.00 356 *e*P **P 03 04 13.8 +0.5**
SUW pmax pmax
comp=Z,46nm,0.8s
SUW Suwalki 20.00 356 *e*P **P 03 04 13.8 +0.5**
comp=Z,46nm,0.8s
SUW Suwalki 20.00 356 *e*P **P 03 04 14.0 +0.7**
SUW Suwalki 20.00 356 *e*P **P 03 04 13.8 +0.5**
comp=Z,46nm,0.8s
IRAZ Razeghan 20.10 79 *e*P Pn 03 04 18.4 +1.6
THEF They Montfort 20.32 320 *e*P **P 03 04 17.6 +0.7**
MTLF Montolieu 20.35 304 *e*P **P 03 04 17.8 +0.6**
MTLF Montolieu 20.35 304 *e*P **P 03 04 17.8 +0.6**
MTLF Montolieu 20.35 304 *e*P **P 03 04 17.8 +0.6**
MTLF Montolieu 20.35 304 *e*P **P 03 04 17.8 +0.6**
PAGF Fort de Pagny 20.66 320 *e*P **P 03 04 20.1 -0.4**
comp=Z,14nm,1.0s
PAGF Fort de Pagny 20.66 320 *e*P **P 03 04 20.1 -0.4**
PAGF Fort de Pagny 20.66 320 *e*P **P 03 04 20.1 -0.4**
comp=Z,7.1nm,1.0s
VRHR Novokhopersk 20.66 30 *e*P Pn 03 04 24.6 +1.7
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.5s
SMF Signal de Mont 20.67 314 *e*P **P 03 04 19.4 -1.3**
comp=N,17nm,0.8s
SMF Signal de Mont 20.67 314 *e*P **P 03 04 19.4 -1.3**
SMF Signal de Mont 20.67 314 *e*P **P 03 04 19.4 -1.3**
SMF Signal de Mont 20.67 314 *e*P **P 03 04 19.4 -1.3**
comp=N,8.3nm,0.8s
PYM Petit Puy Mans 20.76 311 *e*P **P 03 04 21.9 +0.2**
AGO Saint Agoulin 20.82 312 *e*P **P 03 04 22.6 +0.3**
SFTF Sexfontaines 20.82 319 *e*P **P 03 04 23.0 +0.7**
SFTF Sexfontaines 20.82 319 *e*P **P 03 04 23.0 +0.7**
SFTF Sexfontaines 20.82 319 *e*P **P 03 04 23.0 +0.7**
TAM Tamanrasset 20.83 243 *e*P **P 03 04 23.4 +0.7**
TAM pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 20.83 243 *e*P **P 03 04 23.4 +0.7**
comp=Z,5.9nm,0.8s
TAM Tamanrasset 20.83 243 *e*P **P 03 04 23.4 +0.7**
comp=Z,5.9nm,0.8s
LOR Lormes 20.97 315 *e*P **P 03 04 23.5 -0.5**
comp=Z,11nm,0.8s
LOR *e*R
comp=Z,173nm,23.0s
LOR Lormes 20.97 315 *e*P **P 03 04 23.5 -0.5**
LOR Lormes 20.97 315 *e*P **P 03 04 23.5 -0.5**
comp=Z,5.6nm,0.8s
MEZF Maizieres J'vi 20.98 320 *e*P **P 03 04 25.0 +0.9**
comp=Z,120nm,1.3s
MEZF Maizieres J'vi 20.98 320 *e*P **P 03 04 25.0 +0.9**
MEZF Maizieres J'vi 20.98 320 *e*P **P 03 04 25.0 +0.9**
comp=Z,60nm,1.3s
CAF Calviac 21.02 308 *e*P **P 03 04 24.7 +0.2**
comp=Z,20nm,0.9s
CAF Calviac 21.02 308 *e*P **P 03 04 24.7 +0.2**
CAF Calviac 21.02 308 *e*P **P 03 04 24.7 +0.2**
CAF Calviac 21.02 308 *e*P **P 03 04 24.7 +0.2**
comp=Z,9.8nm,0.9s
AVF Avril sur Loir 21.03 314 *e*P **P 03 04 24.9 +0.3**
comp=Z,17nm,1.0s
AVF Avril sur Loir 21.03 314 *e*P **P 03 04 24.9 +0.3**
AVF Avril sur Loir 21.03 314 *e*P **P 03 04 24.9 +0.3**
AVF Avril sur Loir 21.03 314 *e*P **P 03 04 24.9 +0.3**
comp=Z,8.7nm,1.0s
SSF Saint Saulge 21.07 315 *e*P **P 03 04 25.2 +0.1**
comp=Z,21nm,1.0s
SSF Saint Saulge 21.07 315 *e*P **P 03 04 25.2 +0.1**
SSF Saint Saulge 21.07 315 *e*P **P 03 04 25.2 +0.1**
SSF Saint Saulge 21.07 315 *e*P **P 03 04 25.2 +0.1**
comp=Z,10nm,1.0s
WLF Walferdange 21.13 323 P **P 03 04 30.1 +4.4**
comp=Z,13nm,1.0s
WLF Walferdange 21.13 323 *e*P **P 03 04 27.9 +2.3**
WLF pmax pmax
comp=Z,25nm,1.1s
WLF Walferdange 21.13 323 *e*P **P 03 04 27.9 +2.3**
comp=Z,26nm,1.1s
WLF Walferdange 21.13 323 *e*P **P 03 04 27.9 +2.3**
comp=Z,26nm,1.1s
BGF Bois d'Agland 21.23 313 *e*P **P 03 04 27.3 +0.6**
comp=Z,25nm,0.7s
BGF Bois d'Agland 21.23 313 *e*P **P 03 04 27.3 +0.6**
BGF Bois d'Agland 21.23 313 *e*P **P 03 04 27.3 +0.6**
BGF Bois d'Agland 21.23 313 *e*P **P 03 04 27.3 +0.6**
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 21.50 312 *e*P **P 03 04 30.3 +0.7**
comp=Z,41nm,1.0s
TCF Toulx Ste Croi 21.50 312 *e*P **P 03 04 30.3 +0.7**
TCF Toulx Ste Croi 21.50 312 *e*P **P 03 04 30.3 +0.7**
TCF Toulx Ste Croi 21.50 312 *e*P **P 03 04 30.3 +0.7**
comp=Z,21nm,1.0s
RJF Les Rejaudoux 21.52 309 *e*P **P 03 04 30.5 +0.6**
comp=Z,19nm,0.7s
RJF *e*R
comp=Z,106nm,22.0s
RJF Les Rejaudoux 21.52 309 *e*P **P 03 04 30.5 +0.6**
RJF Les Rejaudoux 21.52 309 *e*P **P 03 04 30.5 +0.6**
RJF Les Rejaudoux 21.52 309 *e*P **P 03 04 30.5 +0.6**
comp=Z,9.5nm,0.7s
EPF Esparros 21.56 302 *e*P **P 03 04 32.1 +1.7**
comp=Z,26nm,1.1s
EPF Esparros 21.56 302 *e*P **P 03 04 32.1 +1.7**
EPF Esparros 21.56 302 *e*P **P 03 04 32.1 +1.7**
EPF Esparros 21.56 302 *e*P **P 03 04 32.1 +1.7**
comp=Z,13nm,1.1s
MEM Membach 21.82 325 P **P 03 04 34.3 +1.2**
comp=Z,12nm,1.1s
LFF La Frestale 21.90 307 *e*P **P 03 04 34.6 +0.7**
comp=Z,31nm,0.9s
LFF La Frestale 21.90 307 *e*P **P 03 04 34.6 +0.7**
LFF La Frestale 21.90 307 *e*P **P 03 04 34.6 +0.7**
LFF La Frestale 21.90 307 *e*P **P 03 04 34.6 +0.7**
comp=Z,15nm,0.9s
HGN Heimansgroeve 21.96 325 *e*P **P 03 04 37.7 +3.2**
comp=Z,27nm,1.0s
HGN *e*L L 03 09 08.9
comp=Z,82nm,21.0s
GIVF Givet 22.07 323 *e*P **P 03 04 36.2 +0.4**
comp=Z,38nm,1.1s
GIVF Givet 22.07 323 *e*P **P 03 04 36.2 +0.4**
GIVF Givet 22.07 323 *e*P **P 03 04 36.2 +0.4**
GIVF Givet 22.07 323 *e*P **P 03 04 36.2 +0.4**
comp=Z,19nm,1.1s
ETSF Etsaut 22.16 301 *e*P **P 03 04 37.5 +0.6**
comp=Z,5.0nm,0.5s
ETSF Etsaut 22.16 301 *e*P **P 03 04 37.5 +0.6**
ETSF Etsaut 22.16 301 *e*P **P 03 04 37.5 +0.6**
ETSF Etsaut 22.16 301 *e*P **P 03 04 37.5 +0.6**
comp=Z,2.5nm,0.5s
DOU Dourbes 22.19 322 P **P 03 04 37.4 +0.4**
BAIF Baives 22.36 322 *e*P **P 03 04 39.2 +0.4**
comp=Z,23nm,0.7s
BAIF Baives 22.36 322 *e*P **P 03 04 39.2 +0.4**
BAIF Baives 22.36 322 *e*P **P 03 04 39.2 +0.4**
BAIF Baives 22.36 322 *e*P **P 03 04 39.2 +0.4**
comp=Z,12nm,0.7s
WTSB Winterswijk 22.40 329 *e*P **P 03 04 41.1 +1.9**
comp=Z,26nm,0.8s
WTSB Winterswijk 22.40 329 *e*P **P 03 04 41.1 +1.9**
comp=Z,26nm,0.8s
OBN Obninsk 22.41 17 *e*P **P 03 04 42.6 +3.4**
OBN *e* 03 04 51.5
OBN *e* 03 08 45.3
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,19.0s
SJPF Ste Jean 22.69 301 *e*P **P 03 04 41.7 -0.7**
comp=Z,22nm,0.7s
SJPF Ste Jean 22.69 301 *e*P **P 03 04 41.7 -0.7**
SJPF Ste Jean 22.69 301 *e*P **P 03 04 41.7 -0.7**
SJPF Ste Jean 22.69 301 *e*P **P 03 04 41.7 -0.7**
comp=Z,11nm,0.7s
MFF Saint Martin d 23.10 310 *e*P **P 03 04 46.9 +0.2**
comp=Z,18nm,0.7s
MFF Saint Martin d 23.10 310 *e*P **P 03 04 46.9 +0.2**
MFF Saint Martin d 23.10 310 *e*P **P 03 04 46.9 +0.2**
MFF Saint Martin d 23.10 310 *e*P **P 03 04 46.9 +0.2**
comp=Z,8.9nm,0.7s
LDF La Druitiere 23.96 315 *e*P **P 03 04 54.1 -0.9**
comp=Z,38nm,0.9s
LDF La Druitiere 23.96 315 *e*P **P 03 04 54.1 -0.9**
LDF La Druitiere 23.96 315 *e*P **P 03 04 54.1 -0.9**
ESDC Sonseca Array 24.17 292 P **P 03 04 57.3 +0.1**
ESDC Sonseca Array 24.17 292 P **P 03 04 57.3 +0.1**
comp=Z,4.0nm,0.7s,baz=83,slow=9.3,SNR=33
ESLA Sonseca Array 24.17 292 *e*P **P 03 04 57.7 +0.5**
comp=Z,7.3nm,1.4s
FLN La Foliniere 24.25 315 *e*P **P 03 04 57.1 -0.6**
comp=Z,37nm,1.0s
FLN *e*R
comp=Z,202nm,20.5s
FLN La Foliniere 24.25 315 *e*P **P 03 04 57.1 -0.6**
FLN La Foliniere 24.25 315 *e*P **P 03 04 57.1 -0.6**
VSU Vasula 24.41 2 *e*P **P 03 05 01.6 +2.5**
PAB San Pablo 24.46 292 *e*P **P 03 05 00.0 +0.1**
PAB pmax pmax
comp=Z,54nm,1.1s
PAB San Pablo 24.46 292 *e*P **P 03 05 00.0 +0.1**
comp=Z,54nm,1.1s
MDT Midelt 25.13 276 P **P 03 05 06.7 +0.7**
MDT Midelt 25.13 276 P **P 03 05 06.7 +0.7**
comp=Z,5.4nm,0.7s,baz=90,slow=10,SNR=13
MDT LR LR 03 18 01.6
comp=Z,94nm,19.4s,baz=92,slow=44
SGMF Saint Gilles 25.27 313 *e*P **P 03 05 07.6 +0.6**
comp=Z,126nm,1.5s
SGMF Saint Gilles 25.27 313 *e*P **P 03 05 07.6 +0.6**
SGMF Saint Gilles 25.27 313 *e*P **P 03 05 07.6 +0.6**
QUIF Quistinic 25.51 311 *e*P **P 03 05 09.3 +0.1**
comp=Z,37nm,0.9s
QUIF Quistinic 25.51 311 *e*P **P 03 05 09.3 +0.1**
QUIF Quistinic 25.51 311 *e*P **P 03 05 09.3 +0.1**
ROSF Rostrenen 25.74 312 *e*P **P 03 05 11.0 -0.3**
comp=Z,52nm,1.1s
ROSF Rostrenen 25.74 312 *e*P **P 03 05 11.0 -0.3**
ROSF Rostrenen 25.74 312 *e*P **P 03 05 11.0 -0.3**
PBRG Braganca 26.47 296 *e*P **P 03 05 18.4 +0.4**
comp=Z,36nm,1.3s
PBAR Barrancos 26.53 288 *e*P **P 03 05 18.8 +0.2**
comp=Z,24nm,1.4s
MVO Moncorvo 26.62 295 *e*P **P 03 05 21.7 +2.3**
comp=Z,31nm,0.8s
PMRV Marv??o 26.81 291 *e*P **P 03 05 21.4 +0.3**
comp=Z,20nm,2.2s
PESTR Estremoz 26.96 290 *e*P **P 03 05 22.7 +0.3**
comp=Z,15nm,1.3s
PVAQ Vaqueiros 27.10 287 *e*P **P 03 05 23.8 +0.1**
comp=Z,35nm,1.7s
PBEJ Beja 27.19 288 *e*P **P 03 05 24.9 +0.4**
comp=Z,21nm,1.6s
HFS Hagfors 27.20 347 P **P 03 05 24.3 0.0**
HFS Hagfors 27.20 347 P **P 03 05 24.3 0.0**
comp=Z,3.1nm,0.6s,baz=154,slow=10,SNR=17
PVIS Viseu 27.25 294 *e*P **P 03 05 25.7 +0.7**
comp=Z,24nm,1.7s
PBDV Barranco-do-Ve 27.28 286 *e*P **P 03 05 25.9 +0.6**
comp=Z,46nm,1.5s
EVO Evora 27.29 289 *e*P **P 03 05 25.4 0.0**
comp=Z,11nm,0.8s
EVO *e*R
comp=Z,88nm,18.0s
EVO Evora 27.29 289 *e*P **P 03 05 25.7 +0.3**
comp=Z,20nm,1.7s
EVOP Sao Brissos 27.38 289 *e*P **P 03 05 25.4 -0.8**
EVOP Sao Brissos 27.38 289 *e*P **P 03 05 25.4 -0.8**
FINES FINESS Array B 27.39 1 P **P 03 05 25.4 -0.5**
FINES FINESS Array B 27.39 1 P **P 03 05 25.4 -0.5**
comp=Z,1.8nm,0.5s,baz=160,slow=11,SNR=14
FINES LR LR 03 16 41.6
comp=Z,102nm,21.5s,baz=291,slow=37
PCAB Cabril 27.42 296 *e*P **P 03 05 27.2 +0.7**
PTOM Tomar 27.60 291 *e*P **P 03 05 28.4 +0.3**
comp=Z,20nm,1.7s
KAF Kangasniemi 28.06 1 *e*P **P 03 05 29.4 -2.6**
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 28.06 1 *e*p **P 03 05 29.4 -2.6**
comp=Z,8.9nm,0.8s
PMAFR Mafra 28.28 290 *e*P **P 03 05 35.0 +0.8**
comp=Z,74nm,1.6s
PMAFR Mafra 28.28 290 *e*P **P 03 05 35.0 +0.8**
comp=Z,74nm,1.6s
NAO01 NORSAR Array S 28.42 345 *e*P **P 03 05 35.2 0.0**
comp=Z,4.1nm,0.4s
NB2 NORSAR Subarra 28.52 345 P **P 03 05 35.8 -0.4**
comp=Z,2.0nm,0.6s,baz=159,slow=9.3
NB2 NORSAR Subarra 28.52 345 P **P 03 05 35.8 -0.4**
comp=Z,2.0nm,0.6s,SNR=4.0
NOA NORSAR Array B 28.52 345 P **P 03 05 36.0 -0.2**
NOA NORSAR Array B 28.52 345 P **P 03 05 36.0 -0.2**
comp=Z,2.7nm,0.7s,baz=159,slow=9.8,SNR=14
AKTO Aktyubinsk 28.79 46 P **P 03 05 39.4 +0.8**
AKTO Aktyubinsk 28.79 46 P **P 03 05 39.4 +0.8**
AKTO Aktyubinsk 28.79 46 P **P 03 05 39.4 +0.8**
comp=Z,1.5nm,0.6s,baz=266,slow=9.5,SNR=5.5
EKA Eskdalemuir Ar 29.10 326 P **P 03 05 41.5 +0.2**
EKA Eskdalemuir Ar 29.10 326 P **P 03 05 41.5 +0.2**
comp=Z,5.3nm,0.8s,baz=127,slow=9.6,SNR=12
JOF Joensuu 29.10 5 *e*P **P 03 05 38.7 -2.5**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 29.10 5 *e*p **P 03 05 38.7 -2.5**
comp=Z,6.3nm,0.5s
AB31 Akbulak array 29.55 49 *i* P P 03 05 53.1 +7.7
AB31 pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 29.55 49 *e*P **P 03 05 47.3 +1.9**
TORD Torodi Ar. Bea 30.03 232 P **P 03 05 50.0 +0.1**
TORD Torodi Ar. Bea 30.03 232 P **P 03 05 50.0 +0.1**
comp=Z,1.1nm,0.6s,baz=36,slow=10,SNR=10
TORD LR LR 03 19 53.4
comp=Z,252nm,18.6s,baz=45,slow=40
ARCES ARCESS Array B 35.51 360 P **P 03 06 36.5 -0.8**
ARCES ARCESS Array B 35.51 360 P **P 03 06 36.5 -0.8**
comp=Z,2.6nm,0.7s,baz=180,slow=8.6,SNR=14
ARCES LR LR 03 21 32.0
comp=Z,112nm,19.9s,baz=54,slow=37
KBL Kabul 35.75 77 *e*P **P 03 06 41.6 +1.6**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 35.75 77 *e*P **P 03 06 41.6 +1.6**
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 38.36 62 *e*P **P 03 07 03.6 +1.6**
EKS2 pmax pmax
comp=Z,2.0nm,0.6s
EKS2 Erkin-Say 38.36 62 *e*P **P 03 07 03.6 +1.6**
comp=Z,1.6nm,0.6s
DBIC Dimbokro 39.13 233 LR LR 03 25 17.5
comp=Z,184nm,18.3s,baz=272,slow=39
LIC Lamto 39.57 232 *e*P **P 03 07 12.9 +0.6**
comp=Z,6.6nm,0.6s
LIC *e*R
comp=Z,236nm,20.8s
LIC Lamto 39.57 232 *e*P **P 03 07 12.9 +0.6**
KURBB Kurchatov Arra 41.59 50 P **P 03 07 29.9 +1.4**
comp=Z,1.8nm,0.4s,baz=285,slow=9.9,SNR=5.8
KURK Kurchatov 41.65 50 P **P 03 07 29.9 +0.9**
KURK Kurchatov 41.65 50 P **P 03 07 29.9 +0.9**
MK31 Makanchi Array 44.14 56 *e*P **P 03 07 50.1 +0.8**
MK31 Makanchi Array 44.14 56 *e*P **P 03 07 50.1 +0.8**
MKAR Makanchi Array 44.14 56 *i* P **P 03 07 51.0 +1.7**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.14 56 P **P 03 07 50.5 +1.2**
MKAR Makanchi Array 44.14 56 P **P 03 07 50.5 +1.2**
comp=Z,3.1nm,0.6s,baz=273,slow=6.3,SNR=16
NVS Novosibirsk 44.66 44 *e*P P 03 07 49.0 -4.3
ZALV Zalesovo Beam 45.55 45 *i* P **P 03 08 02.2 +1.8**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 45.55 45 P **P 03 08 01.2 +0.8**
ZALV Zalesovo Beam 45.55 45 P **P 03 08 01.2 +0.8**
comp=Z,2.5nm,0.5s,baz=269,slow=8.9,SNR=3.9
WMQ Urumqi 48.30 59 *e*P **P 03 08 23.5 +1.3**

WMQ					pmax	pmax		
	comp=Z,6.0nm,0.8s							
WMQ					pmax	pmax		
	comp=Z,39nm,3.7s							
TSUM	**Tsumeb**	**53.51**	**189**	P		**P**	**03 09 00.9**	**-0.7**
TSUM	**Tsumeb**	**53.51**	**189**	P		**P**	**03 09 00.9**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=342,slow=9.6,SNR=7.1							
ZAK	**Zakamensk**	**57.25**	**48**	*e*P		**P**	**03 09 29.8**	**+1.5**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**59.95**	**50**	P		**P**	**03 09 48.9**	**+1.7**
SONM	**Songino Array**	**59.95**	**50**	P		**P**	**03 09 48.9**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=279,slow=8.5,SNR=5.1							
BOSA	**Boshof**	**62.35**	**180**	LR		LR	03 40 36.6	
	comp=Z,131nm,19.0s,baz=356,slow=39							
SCHQ	**Schefferville**	**64.20**	**320**	P		**P**	**03 10 16.0**	**+0.5**
SCHQ	**Schefferville**	**64.20**	**320**	P		**P**	**03 10 16.0**	**+0.5**
	comp=Z,10nm,0.7s,baz=70,slow=6.9,SNR=20							
CD2	**Chengdu**	**64.51**	**69**	*e*P		**P**	**03 10 19.3**	**+1.4**
CD2				pP		**pP**	**03 10 24.3**	**+1.2**
CD2				sP		**sP**	**03 10 26.5**	**+1.4**
CD2					pmax	pmax		
	comp=Z,10.0nm,1.2s							
CD2					pmax	pmax		
	comp=Z,50nm,5.8s							
HHC	**Hu-ho-hao-te**	**66.00**	**56**	*e*P		**P**	**03 10 26.5**	**-1.0**
HHC				sP		**sP**	**03 10 33.5**	**-1.2**
HHC				PP		**PP**	**03 12 53.5**	**+1.0**
HHC				ScP			03 14 58.8	
HHC				PcS			03 15 00.5	
HHC				S		**S**	**03 19 11.0**	**-3.7**
HHC				ScS		**SKSac**	**03 20 18.3**	**-4.7**
HHC				SS		**SS**	**03 23 27.0**	**-2.5**
HHC					pmax	pmax		
	comp=Z,35nm,0.8s							
HHC					pmax	pmax		
	comp=Z,230nm,5.4s							
HHC					LR	LR		
	comp=N,130nm,17.1s							
HHC					LR	LR		
	comp=E,170nm,17.0s							
HHC					LR	LR		
	comp=Z,150nm,17.4s							
KMI	**Kunming**	**66.31**	**75**	P		**P**	**03 10 30.8**	**+1.0**
KMI				pP		**pP**	**03 10 34.0**	**-1.1**
KMI				sP		**sP**	**03 10 35.5**	**-1.6**
KMI					pmax	pmax		
	comp=Z,10.0nm,0.6s							
GYA	**Guiyang**	**68.80**	**72**	*e*P		**P**	**03 10 46.0**	**+0.6**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
CN2	**Changchun**	**73.68**	**48**	*e*P		**P**	**03 11 13.5**	**-1.0**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.8s							
KULM	**Kulim**	**74.75**	**94**	*e*P		**P**	**03 11 21.9**	**+0.7**
	comp=Z,5.4nm,0.6s							
INK	**Inuvik**	**76.73**	**352**	*e*P		**P**	**03 11 31.7**	**+0.1**
	comp=Z,7.2nm,1.0s							
USRK	**Ussuriysk Arra**	**77.41**	**45**	P		**P**	**03 11 36.5**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=296,slow=4.4,SNR=5.4							
YKA	**Yellowknife Ar**	**78.57**	**342**	P		**P**	**03 11 41.8**	**-0.2**
YKA	**Yellowknife Ar**	**78.57**	**342**	P		**P**	**03 11 41.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=35,slow=5.5,SNR=3.9							
KSAR	**Wonju Array Be**	**78.69**	**52**	P		**P**	**03 11 43.2**	**+0.1**
KSRS	**Korea Array**	**78.71**	**52**	P		**P**	**03 11 43.2**	**0.0**
	comp=Z,1.2nm,0.7s,baz=304,slow=6.0,SNR=4.0							
KSRS					LR	LR	03 49 59.6	
	comp=Z,28nm,20.4s,baz=290,slow=38							
FFC	**Flin Flon**	**80.72**	**332**	*e*P		**P**	**03 11 54.8**	**+0.9**
FFC					pmax	pmax		
	comp=Z,12nm,0.8s							
FFC	**Flin Flon**	**80.72**	**332**	*e*P		**P**	**03 11 54.8**	**+0.9**
	comp=Z,12nm,0.8s							
COLA	**College**	**81.24**	**357**	*e*P		**P**	**03 11 57.6**	**+1.2**
COLA					pmax	pmax		
	comp=Z,8.0nm,0.6s							
COLA	**College**	**81.24**	**357**	*e*P		**P**	**03 11 57.5**	**+1.2**
	comp=Z,8.0nm,0.6s							
ILAR	**Eielson Array**	**81.30**	**357**	P		**P**	**03 11 56.5**	**-0.3**
ILAR	**Eielson Array**	**81.30**	**357**	P		**P**	**03 11 56.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=356,slow=3.7,SNR=7.2							
ILAR					LR	LR	03 50 21.2	
	comp=Z,48nm,18.2s,baz=340,slow=37							
DAWY	**Dawson**	**81.46**	**353**	*e*P		**P**	**03 11 58.8**	**+1.1**
MCK	**McKinley**	**82.43**	**358**	*e*P		**P**	**03 12 03.2**	**+0.5**
MCK					pmax	pmax		
	comp=Z,10.0nm,1.0s							
MCK	**McKinley**	**82.43**	**358**	*e*P		**P**	**03 12 03.2**	**+0.5**
	comp=Z,9.7nm,1.0s							
SML	**Sawmill**	**84.33**	**357**	*e*P		**P**	**03 12 14.3**	**+1.7**
SML					pmax	pmax		
	comp=Z,2.0nm,0.9s							
SML	**Sawmill**	**84.33**	**357**	*e*P		**P**	**03 12 14.3**	**+1.7**
	comp=Z,2.1nm,0.9s							
BDFB	**Brasilia**	**85.56**	**248**	P		**P**	**03 12 21.2**	**+1.6**
BDFB	**Brasilia**	**85.56**	**248**	P		**P**	**03 12 21.2**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=63,slow=10,SNR=4.8							
MJAR	**Matsushiro Arr**	**85.83**	**48**	P		**P**	**03 12 22.4**	**+1.8**
MJAR	**Matsushiro Arr**	**85.83**	**48**	P		**P**	**03 12 22.4**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=301,slow=4.5,SNR=2.8							
PDAR	**Pinedale Array**	**93.18**	**329**	P		**P**	**03 12 55.6**	**+0.1**
PDAR	**Pinedale Array**	**93.18**	**329**	P		**P**	**03 12 55.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=75,slow=6.9,SNR=3.7							
ASAR	**Alice Springs**	**117.56**	**101**	PKP		**PKPdf**	**03 18 27.4**	**+0.2**
ASAR	**Alice Springs**	**117.56**	**101**	PKP		**PKPdf**	**03 18 27.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=291,slow=1.0,SNR=3.7							

IDC 26 03:11:21.3±1.1, 2°.00N×99°.99E, h156km±35km, mb3.4/5, mb1 3.5/5, mb1mx3.2/26, mbtmp3.4/5, Error ellipse: s-maj=119.2km s-min=16.6km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.33**	**307**	P	Pn	03 11 49.5	-0.3
	15nm,0.3s,baz=135,slow=4.3,SNR=31						
PSI				S	Sn	03 12 10.6	-1.1
	1.7nm,0.3s,baz=286,slow=23,SNR=13						
FITZ	**Fitzroy Crossi**	**32.20**	**129**	P	P	03 17 34.6	-0.2
	1.4nm,1.0s,baz=329,slow=5.9,SNR=3.1						
WRA	**Warramunga Arr**	**40.14**	**125**	P	P	03 18 42.4	+0.1
	1.6nm,0.4s,baz=302,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**41.70**	**130**	P	P	03 18 54.4	-0.6
	0.2nm,0.3s,baz=304,slow=7.9,SNR=4.3						
SONM	**Songino Array**	**45.99**	**6**	P	P	03 19 28.6	-0.4
	0.2nm,0.4s,baz=173,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**47.20**	**343**	P	P	03 19 38.4	+0.1
	1.3nm,0.3s,baz=158,slow=8.5,SNR=24						

IDC 26 03:30:50.0±1.8, 3°.57S×147°.98E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, MS3.5/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=100.9km s-min=22.4km az=120.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.02**	**218**	P	P	03 35 36.4	+0.8
	3.7nm,1.0s,baz=43,slow=10,SNR=11						
WRA				LR	LR	03 44 09.9	
	comp=Z,77nm,20.8s,baz=160,slow=38						
ASAR	**Alice Springs**	**24.17**	**213**	P	P	03 36 08.8	+0.6
	0.5nm,0.3s,baz=42,slow=8.2,SNR=9.7						
FITZ	**Fitzroy Crossi**	**26.22**	**235**	P	P	03 36 25.4	-1.4
	2.7nm,1.1s,baz=77,slow=11,SNR=3.2						
FITZ				LR	LR	03 47 44.1	
	comp=Z,142nm,18.8s,baz=50,slow=39						
PETK	**Petropavlovsk-**	**57.06**	**7**	P	P	03 40 38.9	+1.1
	1.8nm,0.8s,baz=189,slow=8.6,SNR=3.6						
ILAR	**Eielson Array**	**82.87**	**23**	P	P	03 43 15.4	-0.8
	0.3nm,0.5s,baz=246,slow=5.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**145.36**	**288**	PKPbc	PKPbc	03 50 29.8	-1.1
	0.3nm,0.6s,baz=82,slow=3.1,SNR=2.9						

GUC 26 03:36:18.0±0.7, 21°.11S×68°.29W, h191km±8km, ML3.5, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**1.12**	**232**	⇑*i*P	Pn	03 36 48.9	+1.0
PB09				*e*S	Sn	03 37 12.0	+0.9
PB09				AML	AML	03 37 13.6	
	comp=N,711nm,0.4s						
PB04	**Plate Boundary**	**1.60**	**224**	*e*P	Pn	03 36 58.8	+6.9
PB04				*e*S	Sn	03 37 29.1	+11
PB04				AML	AML	03 37 32.9	
	comp=N,193nm,0.1s						
HMBC	**Humberstone**	**1.71**	**299**	‖*e*P	Pn	03 36 54.2	+1.1
HMBC				*e*S	Sn	03 37 21.8	+1.6
HMBC				AML	AML	03 37 23.6	
	comp=N,125nm,0.5s						
PSGC	**Pisagua**	**2.28**	**311**	*e*P	Pn	03 37 00.1	+1.0
PSGC				*e*S	Sn	03 37 32.4	+1.4
PSGC				AML	AML	03 37 34.9	
	comp=N,93nm,0.7s						
MNMC	**Minimini**	**2.31**	**328**	*e*P	Pn	03 37 01.0	+1.3
MNMC				*e*S	Sn	03 37 33.4	+1.3
MNMC				AML	AML	03 37 35.2	
	comp=E,343nm,0.6s						
CEN1	**Los Morros**	**2.88**	**218**	*e*P	Pn	03 37 08.1	+2.2
CEN1				*e*S	Sn	03 37 47.8	+4.5
ANCH	**Antofagasta**	**3.23**	**217**	*e*P	Pn	03 37 10.8	+0.9

*IDC **26** 03:45:08.4±1.2, 50°.48N×175°.90W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/28, mbtmp3.6/9, Error ellipse: s-maj=35.4km s-min=22.9km az=8.0*
*NEIC **26** 03:45:13.7, 50°.64N×175°.83W, h14km, ML3.6(AEIC), After AEIC.*

ISC 26 03:45:08.7±3.5, 50°.54N±0°.07×175°.88W±0°.05, h0km±22km, n30, σ1§52/37, mb3.7/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**1.36**	**346**	P	P	**03 45 34.8**	**-0.2**
ADK	**Adak**	**1.44**	**340**	*e*Pn	**Pn**	**03 45 35.7**	**-0.3**
ADK				*e*S	**Sn**	**03 45 53.5**	**-2.0**
GSCK	**Great Sitkin C**	**1.48**	**353**	P	**Pn**	**03 45 36.5**	**-0.1**
GSMY	**Great Sitkin M**	**1.51**	**356**	P	**Pn**	**03 45 36.8**	**-0.2**
ADAG	**Mount Adagdak**	**1.51**	**343**	P	**Pn**	**03 45 37.6**	**+0.6**
GSTD	**Great Sitkin T**	**1.53**	**354**	P	**Pn**	**03 45 37.3**	**0.0**
GSTD				S	**Sn**	**03 45 56.3**	**-1.5**
GSTR	**Great Sitkin T**	**1.56**	**356**	*e*Pn	**Pn**	**03 45 37.7**	**0.0**
GSTR				*e*S	**Sb**	**03 45 59.1**	**+0.4**
KIRH	**Kanaga Island**	**1.56**	**331**	P	**Pb**	**03 45 38.9**	**+0.4**
KIKV	**Kanaga Island**	**1.57**	**329**	P	**Pn**	**03 45 38.2**	**+0.4**
TAFL	**Tanaga Flats**	**1.76**	**314**	P	**Pn**	**03 45 41.1**	**+0.7**
TASE	**Tanaga Southea**	**1.88**	**314**	P	**Pn**	**03 45 43.1**	**+1.0**
TASE				S	**Sn**	**03 46 06.8**	**+0.3**
TAFP	**Tanaga Falls P**	**1.90**	**317**	P	**Pn**	**03 45 43.2**	**+0.8**
TAFP				S	**Sn**	**03 46 06.1**	**-0.8**
KOFP	**Korovin Flat P**	**2.06**	**32**	P	**Pn**	**03 45 45.1**	**+0.4**
GAEA	**Gareloi East**	**2.19**	**306**	P	**Pn**	**03 45 47.6**	**+1.2**
GALAA	**Gareloi Lava P**	**2.19**	**305**	P	**Pn**	**03 45 47.9**	**+1.5**
AMKA	**Amchitka**	**3.16**	**287**	*e*Pn	**Pn**	**03 45 59.8**	**+0.2**
AMKA				*e*S	**Sn**	**03 46 36.2**	**-1.8**
NIKH	**Nikolski High**	**5.00**	**58**	P	**Pn**	**03 46 24.9**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**5.62**	**57**	P	**Pn**	**03 46 34.0**	**+0.6**
MREP	**Makushin Rep't**	**6.50**	**56**	P	**Pn**	**03 46 46.3**	**+0.7**
KDAK	**Kodiak Island**	**15.39**	**53**	Pn	**Pn**	**03 48 42.7**	**-4.2**
	0.5nm,0.3s,baz=153,slow=8.7,SNR=8.9						
KDAK				Sn	**Sn**	**03 51 43.5**	**+5.6**
	0.3nm,0.3s,baz=218,slow=19,SNR=4.6						
PETK	**Petropavlovsk-**	**16.50**	**289**	Pn	**P**	**03 49 05.7**	**+1.6**
	0.2nm,0.3s,baz=100,slow=14,SNR=5.3						
ILAR	**Eielson Array**	**20.79**	**36**	P	**P**	**03 49 50.6**	**-0.4**
	0.9nm,0.5s,baz=221,slow=9.1,SNR=35						
NVAR	**Mina Array Bea**	**41.81**	**84**	P	**P**	**03 53 01.2**	**+1.1**
	0.4nm,0.8s,baz=282,slow=10.0,SNR=4.2						
PDAR	**Pinedale Array**	**44.79**	**73**	P	**P**	**03 53 23.8**	**-0.4**
	0.7nm,0.8s,baz=296,slow=3.2,SNR=5.9						
SONM	**Songino Array**	**48.67**	**299**	P	**P**	**03 53 55.9**	**+1.4**
	0.5nm,0.7s,baz=41,slow=8.2,SNR=3.7						
TXAR	**Lajitas Array**	**56.94**	**83**	P	**P**	**03 54 55.3**	**-0.4**
	0.4nm,0.7s,baz=310,slow=6.0,SNR=6.5						
ARCES	**ARCESS Array B**	**59.21**	**351**	P	**P**	**03 55 10.9**	**-0.1**
	2.8nm,1.0s,baz=39,slow=7.3,SNR=2.2						
NOA	**NORSAR Array B**	**68.62**	**356**	P	**P**	**03 56 13.1**	**0.0**
	0.3nm,0.5s,baz=5.8,slow=6.2,SNR=3.0						
AKASG	**Malin Array Be**	**76.89**	**344**	P	**P**	**03 57 01.7**	**-0.5**
	1.3nm,0.5s,baz=356,slow=3.7,SNR=2.6						
WRA	**Warramunga Arr**	**82.73**	**226**	P	**P**	**03 57 32.5**	**-1.7**
	0.3nm,1.0s,baz=34,slow=6.0,SNR=3.0						

IDC 26 03:57:13.0±4.0, 10°.77S×110°.74W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.7/5, MS4.2/19, Ms1 4.2/19, ms1mx4.2/21, Error ellipse: s-maj=117.7km s-min=32.9km az=47.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**38.20**	**255**	LR	LR	04 17 04.9	
	comp=Z,417nm,18.6s,baz=359,slow=31						
PPT2	**Papeete2**	**38.21**	**255**	*e*S	S	04 11 04.4	+34
	103nm,26.2s						
PPT2				*e*LQ	LQ	04 14 04.9	
	2μm,30.8s						
PPT2				*e*LR	LR	04 16 02.4	
	1μm,26.0s						
ROSC	**El Rosal**	**39.43**	**69**	LR	LR	04 16 54.9	
	comp=Z,210nm,20.4s,baz=256,slow=30						
TXAR	**Lajitas Array**	**40.45**	**10**	P	P	04 04 54.7	+1.2
	1.9nm,1.2s,baz=185,slow=10.0,SNR=6.9						
TXAR				LR	LR	04 17 31.7	
	comp=Z,240nm,19.7s,baz=200,slow=30						
LPAZ	**La Paz**	**41.73**	**102**	P	P	04 05 04.5	-0.4
	2.5nm,1.1s,baz=279,slow=7.1,SNR=5.3						
LPAZ				LR	LR	04 17 58.6	
	comp=Z,338nm,19.9s,baz=49,slow=30						
ANMO	**Albuquerque**	**45.65**	**5**	LR	LR	04 20 43.0	
	comp=Z,294nm,19.6s,baz=256,slow=31						
PLCA	**Paso Flores**	**46.28**	**137**	LR	LR	04 20 29.4	
	comp=Z,633nm,18.9s,baz=315,slow=30						
RAR	**Rarotonga**	**48.10**	**251**	LR	LR	04 20 53.2	
	comp=Z,156nm,21.4s,baz=91,slow=30						
SIV	**San Ignacio**	**48.51**	**102**	LR	LR	04 22 50.7	
	comp=Z,174nm,19.9s,slow=32						
NVAR	**Mina Array Bea**	**49.45**	**352**	P	P	04 06 03.9	-1.4
	0.7nm,0.7s,baz=176,slow=11,SNR=7.0						
NVAR				LR	LR	04 22 04.2	
	comp=Z,448nm,18.1s,baz=36,slow=30						
CPUP	**Villa Florida**	**52.58**	**115**	LR	LR	04 24 40.9	
	comp=Z,392nm,20.0s,baz=265,slow=31						
TKL	**Tuckaleechee C**	**52.74**	**28**	LR	LR	04 27 54.4	
	comp=Z,153nm,19.2s,baz=76,slow=35						
PDAR	**Pinedale Array**	**53.29**	**1**	P	P	04 06 32.7	-1.3
	0.4nm,0.8s,baz=171,slow=6.4,SNR=3.8						
PDAR				LR	LR	04 25 30.1	
	comp=Z,324nm,18.9s,baz=206,slow=32						
BDFB	**Brasilia**	**61.08**	**102**	LR	LR	04 30 01.3	
	comp=Z,114nm,19.4s,baz=52,slow=32						
ULM	**Lac du Bonnet**	**62.14**	**11**	LR	LR	04 33 26.1	
	comp=Z,96nm,18.6s,baz=320,slow=35						
SCHQ	**Schefferville**	**75.04**	**25**	LR	LR	04 39 03.3	
	comp=Z,244nm,21.4s,baz=109,slow=34						
VNDA	**Vanda**	**78.99**	**193**	LR	LR	04 37 38.4	
	comp=Z,91nm,19.3s,baz=3.5,slow=31						
ILAR	**Eielson Array**	**80.08**	**345**	P	P	04 09 25.5	+1.2
	0.6nm,1.1s,baz=178,slow=6.2,SNR=4.4						
ILAR				LR	LR	04 37 00.3	
	comp=Z,167nm,19.4s,baz=132,slow=30						
STKA	**Stephens Creek**	**98.98**	**235**	LR	LR	04 49 54.2	
	comp=Z,230nm,21.8s,baz=154,slow=32						
PETK	**Petropavlovsk-**	**99.46**	**322**	LR	LR	04 46 32.1	
	comp=Z,189nm,20.5s,baz=280,slow=30						

*MEX **26** 04:20:06.8±0.6, 13°.88N×93°.30W, h9km±15km, MD4.4*
*IDC **26** 04:20:08.3±2.1, 14°.23N×92°.85W, h0km, mb3.9/5, mb1 4.4/8, mb1mx4.0/26, mbtmp4.0/8, ML4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/29, Error ellipse: s-maj=39.2km s-min=35.2km az=26.0*
*NEIC **26** 04:20:15.5±0.9, 14°.44N×92°.86W, h35km, mb4.2/16, MD4.4(MEX), Error ellipse: s-maj=20.7km s-min=10.3km az=214.0*

ISC 26 04:20:08.7±3.3, 14°.24N±0°.08×93°.18W±0°.05, h0km±21km, n214, σ1§52/218, mb4.3/19, 78C-90D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.11**	**53**	*i* P	**Pb**	**04 20 29.2**	**-1.6**
THIG				*i* S	**Sn**	**04 20 47.2**	**-0.4**
PCIG		**1.46**	**359**	*i* P	**Pn**	**04 20 34.8**	**-1.5**
PCIG				*i* S	**Sn**	**04 20 56.2**	**0.0**
CCIG	**Comitan**	**2.27**	**26**	*e*P	**Pn**	**04 20 46.3**	**-1.4**
CCIG				*i* S	**Sn**	**04 21 18.3**	**+1.8**
TGIG		**2.53**	**1**	*i* P	**Pn**	**04 20 51.5**	**+0.4**
TGIG				*i* S	**Sn**	**04 21 24.2**	**+1.6**
HUIG	**Huatulco**	**3.21**	**299**	*i* P	Pn	04 20 56.4	-4.1
HUIG				*i* S	**Sn**	**04 21 34.1**	**-5.3**
CMIG	**Matias Romero**	**3.27**	**330**	*e*P	**Pn**	**04 21 00.5**	**-0.9**
CMIG				*i* S	**Sn**	**04 21 41.3**	**+0.2**
CMIG	**Matias Romero**	**3.27**	**330**	Pn	**Pn**	**04 21 02.4**	**+1.0**
CMIG				Sn	**Sb**	**04 21 46.7**	**-1.5**
CMIG	**Matias Romero**	**3.27**	**330**	Pn	**Pn**	**04 21 02.4**	**+1.0**
	9.6nm,0.3s,baz=137,slow=12,SNR=57						
CMIG				Sn	**Sb**	**04 21 46.7**	**-1.5**
	36nm,0.3s,baz=106,slow=20,SNR=8.4						
VHO	**Vista Hermosa**	**4.43**	**310**	*e*P	Pn	04 21 15.3	-2.1
VHO				*i* S	**Sn**	**04 22 05.7**	**-4.1**
PNIG	**Pinotepa**	**5.23**	**295**	*i* P	Pn	04 21 24.0	-4.2
PNIG				*i* S	Sn	04 22 23.3	-6.0
TEIG	**Tepich**	**7.58**	**38**	*e*Pn	**Pn**	**04 21 58.9**	**-1.6**
TEIG				*e*S	Sn	04 23 12.4	-15
TEIG	**Tepich**	**7.58**	**38**	Pn	**Pn**	**04 21 58.4**	**-2.1**
	13nm,0.3s,baz=270,slow=10,SNR=70						
TEIG				Sn	**Sn**	**04 23 24.0**	**-3.2**
	11nm,0.3s,baz=323,slow=23,SNR=6.6						
TEIG				LR	LR	04 25 17.2	
	comp=Z,355nm,21.4s,baz=22,slow=42						
JTS	**JuntasAbangare**	**8.95**	**115**	Pn	**Pn**	**04 22 19.9**	**+0.6**
	143nm,0.9s						
632A	**Uvalde**	**16.38**	**339**	⇑P	**Pn**	**04 24 02.2**	**+2.1**
	baz=16						
631A	**Perdido Creek**	**16.58**	**337**	⇑P	**Pn**	**04 24 04.9**	**+2.2**
	baz=17						
532A	**Rocksprings**	**16.99**	**340**	⇓P	**P**	**04 24 10.0**	**+0.2**
	baz=17						
531A	**Rocksprings**	**17.24**	**338**	⇓P	**P**	**04 24 13.2**	**+0.5**
	baz=17						
530A	**J-C Ranch, Com**	**17.53**	**336**	⇑P	**P**	**04 24 17.3**	**+1.4**
	baz=18						
628A	**Black Gap, Mar**	**17.63**	**331**	⇓P	**P**	**04 24 18.5**	**+1.5**
	baz=18						
432A	**Menard**	**17.64**	**341**	⇑P	**P**	**04 24 17.8**	**+0.7**
	baz=18						
431A	**Sonora**	**17.74**	**339**	⇓P	**P**	**04 24 19.4**	**+1.2**
	baz=18						
627A	**Terlingua Ranc**	**17.84**	**330**	⇑P	**P**	**04 24 21.8**	**+2.4**
	baz=18						
TXAR	**Lajitas Array**	**17.88**	**329**	P	**P**	**04 24 21.3**	**+1.4**
TXAR	**Lajitas Array**	**17.88**	**329**	P	**P**	**04 24 21.3**	**+1.4**
	0.1nm,0.3s,baz=158,slow=12,SNR=17						
430A	**Baggett Ranch,**	**18.06**	**337**	⇑P	**P**	**04 24 23.2**	**+1.4**
	baz=18						
332A	**Millersview**	**18.09**	**342**	⇓P	**P**	**04 24 23.6**	**+1.5**
	baz=18						
528A	**Cox Ranch, San**	**18.16**	**332**	⇓P	**P**	**04 24 25.1**	**+2.3**
	baz=18						
429A	**Davenport Ranc**	**18.17**	**335**	⇓P	**P**	**04 24 24.9**	**+1.8**
	baz=18,SNR=13						
331A	**San Angelo**	**18.25**	**340**	⇑P	**P**	**04 24 25.5**	**+1.7**
	baz=18,SNR=5.2						
626A	**Big Bend Ranch**	**18.30**	**328**	⇑P	**P**	**04 24 27.0**	**+2.6**
	baz=18						
527A	**Woodward Ranch**	**18.52**	**330**	⇑P	**Pn**	**04 24 29.4**	**+2.4**
	baz=19,SNR=10						
232A	**Coleman**	**18.54**	**342**	⇓P	**Pn**	**04 24 28.9**	**+1.8**
	baz=18						
428A	**Kincaid Ranch,**	**18.59**	**334**	⇓P	**Pn**	**04 24 30.1**	**+2.3**
	baz=19						
330A	**Mertzon**	**18.59**	**338**	⇓P	**Pn**	**04 24 29.9**	**+2.1**
	baz=19						
526A	**Mary Lane Ranc**	**18.69**	**329**	⇓P	**Pn**	**04 24 30.7**	**+1.7**
	baz=19,SNR=6.8						
231A	**Bronte**	**18.79**	**341**	⇓P	**Pn**	**04 24 31.3**	**+1.2**
	baz=19						
329A	**Wagon Wheel Ra**	**18.97**	**336**	⇑P	**Pn**	**04 24 33.6**	**+1.3**
	baz=19						
230A	**Sterling City**	**19.01**	**339**	⇑P	**Pn**	**04 24 33.9**	**+1.0**
	baz=19						
427A	**Hayter Ranch,**	**19.02**	**332**	⇓P	**Pn**	**04 24 34.6**	**+1.6**
	baz=19						
426A	**McDonald Obser**	**19.16**	**330**	⇓P	**Pn**	**04 24 35.7**	**+0.9**
	baz=19						
328A	**Wristen Ranch,**	**19.21**	**334**	⇑P	**Pn**	**04 24 36.5**	**+1.2**
	baz=19,SNR=13						
ABTX	**Abilene, Hawle**	**19.23**	**343**	*e*Pn	Pn	04 24 42.0	+6.6
425A	**Indio Mountain**	**19.73**	**329**	⇑P	**Pn**	**04 24 42.7**	**+1.1**
	baz=20						
228A	**UT Block 9, Go**	**19.77**	**336**	⇓P	**Pn**	**04 24 42.8**	**+0.8**
	baz=20						
Z32A	**Haskell**	**19.83**	**344**	⇓P	**P**	**04 24 42.5**	**+1.4**
	baz=20						
227A	**Bennet, Jal**	**19.96**	**334**	⇓P	**Pn**	**04 24 44.8**	**+0.5**
	baz=20						
Z31A	**Sharp Cattle R**	**20.02**	**343**	⇓P	**P**	**04 24 44.6**	**+1.3**
	baz=20						
128A	**Castleberry Fa**	**20.17**	**337**	⇑P	**P**	**04 24 46.3**	**+1.3**
	baz=20,SNR=9.4						
325A	**Bean Ranch, Si**	**20.19**	**330**	⇑

baz=22
Y25A Mesa, Roswell 22.20 334 ⇊P P 04 25 07.1 +0.2
baz=22,SNR=12
X27A F and S Farms, 22.21 338 ⇊P P 04 25 07.1 +0.1
baz=22,SNR=5.1
V31A Spring Creek L 22.26 346 ⇑P P 04 25 08.0 +0.6
baz=22
122A Conniff Cattle 22.28 328 ⇊P P 04 25 09.9 +2.1
baz=22
Z23A Rita Site, Whi 22.35 330 ⇊P P 04 25 09.8 +1.3
baz=22
X26A CR and CF Fran 22.39 336 ⇑P P 04 25 09.9 +1.0
baz=22
220A Playas Peak, P 22.50 324 ⇊P P 04 25 12.0 +1.9
baz=23
Y24A Capitan 22.53 333 ⇊P P 04 25 11.7 +1.2
baz=23,SNR=18
319A Douglas 22.56 322 ⇑P P 04 25 12.6 +1.9
baz=23
121A Cookes Peak, D 22.56 326 ⇊P P 04 25 12.1 +1.3
baz=23
W27A Bowe Ranch, En 22.57 338 ⇊P P 04 25 10.8 0.0
baz=23,SNR=13
Z22A Elephant Butte 22.70 329 ⇑P P 04 25 14.0 +1.8
baz=23
X25A Clemmons Ranch 22.71 335 ⇑P P 04 25 13.5 +1.2
baz=23,SNR=8.0
Y23A Lovelace Mesa, 22.82 331 ⇑P P 04 25 14.9 +1.4
baz=23,SNR=8.3
V28A Channing 22.91 341 ⇑P P 04 25 15.1 +0.7
baz=23
120A U Bar Ranch, L 23.04 325 ⇑P P 04 25 17.9 +2.1
baz=23
X24A Lazy VL Ranch, 23.07 333 ⇑P P 04 25 17.2 +1.0
baz=23,SNR=8.8
Z21A St. Cloud Mine 23.11 328 ⇑P P 04 25 18.0 +1.5
baz=23
U30A WK&E Inc. Balk 23.18 345 ⇊P P 04 25 17.9 +0.7
baz=23
W25A X Bar L Ranch, 23.23 336 ⇑P P 04 25 18.6 +0.8
baz=23,SNR=6.7
Y22A Socorro 23.25 330 ⇊P P 04 25 19.5 +1.5
baz=23
BNM Barren Site 23.26 331 *eP* P 04 25 19.4 +1.2
X23A Hourglass Bar 23.42 332 ⇊P P 04 25 21.0 +1.2
baz=24
Z20A Nine Sixteen R 23.44 326 ⇑P P 04 25 22.0 +2.0
baz=24
W24A Lazy 6 Ranch, 23.61 334 ⇊P P 04 25 22.6 +0.9
baz=24,SNR=6.2
LAZ Ladron 23.71 330 *eP* P 04 25 24.8 +2.1
2.3nm,1.0s
U27A Thompson Grove 23.72 340 ⇑P P 04 25 22.9 +0.3
baz=24,SNR=7.0
V25A Rancho No Teng 23.83 337 ⇑P P 04 25 24.8 +1.0
baz=24,SNR=11
ANMO Albuquerque 23.84 332 *eP* P 04 25 25.6 +1.7
1.8nm,0.8s
ANMO Albuquerque 23.84 332 P P 04 25 25.2 +1.3
2.0nm,0.8s,baz=143,slow=10,SNR=13
Y20A Horse Springs, 23.94 328 ⇊P P 04 25 27.4 +2.5
baz=24,SNR=6.1
T29A Hugoton 23.94 344 ⇊P P 04 25 25.1 +0.4
baz=24
V24A Rampart Ranch, 24.00 335 ⇑P P 04 25 27.1 +1.7
baz=24,SNR=11
U26A Atchley Ranch, 24.00 339 ⇊P P 04 25 26.7 +1.3
baz=24,SNR=12
X21A Alamocita Cree 24.06 329 ⇑P P 04 25 28.1 +2.0
baz=24
TUC Tucson 24.12 321 *eP* P 04 25 29.8 +3.3
5.7nm,1.2s
U25A Circle Dot Ran 24.25 338 ⇑P P 04 25 29.4 +1.6
baz=24,SNR=8.2
S29A Ulysses 24.33 345 ⇑P P 04 25 28.7 +0.4
baz=24
V23A Ortiz Mt. (NFS 24.39 334 ⇊P P 04 25 30.7 +1.6
baz=24
X20A Quemado 24.50 328 ⇑P P 04 25 31.5 +1.4
baz=25
U24A Moreno Valley 24.59 336 ⇊P P 04 25 33.0 +2.0
baz=25
R31A Burdett 24.61 348 ⇊P P 04 25 30.8 0.0
baz=25
T26A Comanche Natio 24.66 340 ⇊P P 04 25 31.8 +0.4
baz=25
R30A Dighton 24.76 347 ⇑P P 04 25 32.2 0.0
baz=25
U23A El Rito 24.89 334 ⇑P P 04 25 35.4 +1.8
baz=25
T25A Trinidad 24.91 338 ⇑P P 04 25 35.8 +2.1
baz=25,SNR=9.5
S26A Kim 25.02 340 ⇊P P 04 25 36.1 +1.5
baz=25
V21A Milan 25.09 331 ⇑P P 04 25 36.7 +1.3
baz=25
R29A Marienthal 25.10 345 ⇑P P 04 25 35.8 +0.6
baz=25
R28A Tribune 25.20 344 ⇊P P 04 25 36.5 +0.4
baz=25
T24B San Luis 25.20 337 ⇑P P 04 25 38.4 +1.9
baz=25,SNR=6.7
S25A Robets Cordova 25.38 339 ⇊P P 04 25 39.3 +1.3
baz=25
R27A Eads 25.42 342 ⇑P P 04 25 39.2 +1.0
baz=25
T23A Casias Ranch, 25.44 336 ⇑P P 04 25 40.1 +1.5
baz=26
U21A Nageezi 25.61 332 ⇊P P 04 25 41.7 +1.5
baz=26
R26A Arlington 25.64 341 ⇑P P 04 25 41.4 +1.2
baz=26
S24A Houchin Ranch, 25.65 338 ⇊P P 04 25 41.4 +0.9
baz=26
R25A Fountain Ranch 25.77 340 ⇊P P 04 25 42.5 +1.1
baz=26
T22A Edith 25.77 334 ⇊P P 04 25 43.4 +1.8
baz=26
SDCO Great Sand Dun 25.85 337 *eP* P 04 25 43.4 +1.1
4.0nm,1.0s
P30A Selden 25.96 347 ⇊P P 04 25 44.1 +1.0
baz=26
X16A Lo Mia Camp, P 26.00 324 ⇊P P 04 25 46.1 +2.5
baz=26
R24A Sanders Place, 26.13 338 ⇑P P 04 25 46.1 +1.3
baz=26
Q26A Hugo 26.23 342 ⇊P P 04 25 46.8 +1.2
baz=26
R23A Moffat 26.36 337 ⇊P P 04 25 48.5 +1.5
baz=26
S22A 4UR Ranch, Cre 26.37 335 ⇑P P 04 25 49.2 +2.1
baz=26,SNR=5.9
MVCO Mesa Verde 26.64 332 *eP* P 04 25 54.3 +4.9
4.3nm,0.8s
R22A Saguache, Gunn 26.75 336 ⇊P P 04 25 52.9 +2.3
baz=27
P26A Davis Ranch, A 26.76 342 ⇊P P 04 25 52.6 +2.1
baz=27
R21A Cimarron 27.19 335 ⇑P P 04 25 56.8 +2.3
baz=27
N28A Pribbeno Ranch 27.34 346 ⇑P P 04 25 57.5 +1.9
baz=27
Q22A Crested Butte, 27.36 336 ⇑P P 04 25 58.1 +2.1
baz=27
P23A Jefferson 27.41 338 ⇊P P 04 25 58.1 +1.7
baz=27,SNR=8.5
ISCO Idaho Springs 27.71 339 ⇑P P 04 26 00.2 +1.2
baz=28
O23A Lake Granby, G 28.18 339 ⇊P P 04 26 04.8 +1.6
baz=28
O22A Kremmling 28.36 338 ⇑P P 04 26 06.5 +1.6
baz=28
N22A Wattenberg Ran 28.89 339 ⇑P P 04 26 11.7 +2.1
baz=29
N21A Black Mountain 29.24 337 ⇊P P 04 26 14.5 +1.9
baz=29
N20A Spence Gulch, 29.59 336 ⇊P P 04 26 17.8 +2.0
baz=30
M21A Separation Pea 29.92 338 ⇊P P 04 26 20.5 +1.8
baz=30
MWC Mount Wilson 30.03 316 P P 04 26 21.9 +2.2
3.7nm,0.6s
J26A Sides Ranch, S 30.20 346 ⇊P P 04 26 22.7 +1.8
baz=30
L21A Rawlins 30.24 339 ⇑P P 04 26 23.5 +2.1
baz=30
PDAR Pinedale Array 31.74 337 P P 04 26 35.5 +0.8
PDAR Pinedale Array 31.74 337 P P 04 26 35.5 +0.8

0.7nm,0.9s,baz=140,slow=9.4,SNR=4.9
I20A Worland 32.25 340 ⇊P P 04 26 40.2 +1.1
baz=32
H21A Big Horn, Sher 32.51 341 ⇑P P 04 26 42.2 +0.9
baz=32
F26A Lodgepole 32.51 348 ⇊P P 04 26 41.7 +0.5
baz=32
I19A Meeteetse 32.63 339 ⇑P P 04 26 44.1 +1.6
baz=33
I18A Diamond G Ranc 32.64 337 ⇑P P 04 26 43.6 +1.0
baz=33
H20A Greybull 32.68 340 ⇊P P 04 26 43.7 +0.9
baz=33
REDW Red Top Meadow 32.75 336 *eP* P 04 26 44.7 +1.2
5.1nm,0.9s
NVAR Mina Array Bea 32.77 322 P P 04 26 46.2 +2.3
NVAR PcP PcP 04 29 29.6 +0.3
NVAR Mina Array Bea 32.77 322 P P 04 26 46.2 +2.3
2.1nm,0.7s,baz=134,slow=8.9,SNR=22
NVAR PcP PcP 04 29 29.6 +0.3
0.3nm,0.6s,baz=116,slow=3.5,SNR=3.2
LOHW Long Hollow 32.86 336 *eP* P 04 26 45.5 +1.0
6.0nm,0.9s
TPAW Teton Pass 32.89 336 *eP* P 04 26 46.5 +1.6
7.4nm,0.9s
RRI2 Red Ridge 32.92 335 *eP* P 04 26 47.1 +2.0
6.5nm,1.1s
MOOW Moose Ponds 33.03 336 *eP* P 04 26 49.3 +3.3
3.9nm,0.9s
E26A Carlson Angus 33.06 348 ⇑P P 04 26 46.0 -0.1
baz=33
IMW Indian Meadow 33.23 336 *eP* P 04 26 50.9 +3.1
3.1nm,0.8s
H18A Shoshone NF, C 33.42 338 ⇑P P 04 26 50.0 +0.6
baz=33,SNR=14
G18A Lazy EL Ranch, 33.94 339 ⇑P P 04 26 54.5 +0.6
baz=34
E21A Keefer Ranch, 34.25 343 ⇊P P 04 26 55.2 -1.2
baz=34
D23A Lindsay 34.34 345 ⇊P P 04 26 58.3 +1.2
baz=34
HLID Hailey 34.42 332 ⇊P P 04 26 59.9 +1.8
baz=34
C24A Savage 34.49 347 ⇊P P 04 26 59.1 +0.6
baz=34
B29A Wagenman Farm, 34.51 353 ⇊P P 04 26 58.0 -0.6
baz=34
F18A Big Timber 34.51 339 ⇑P P 04 26 59.4 +0.6
baz=34
E20A Meyer Farm, Mu 34.53 342 ⇑P P 04 26 59.8 +1.0
baz=34
D22A Cohagen 34.56 344 ⇊P P 04 26 59.3 +0.2
baz=34
B28A Dugan Ranch, T 34.62 352 ⇑P P 04 26 59.3 -0.3
baz=35
MCMT McKenzie Canyo 34.77 335 *eP* P 04 27 03.2 +2.1
F17A Fitzpatrick Pl 34.84 338 ⇊P P 04 27 02.8 +1.2
baz=35
A30A Hoffart Farm, 34.86 354 ⇊P P 04 27 00.7 -0.9
baz=35
A29A Manning Farm, 34.94 353 ⇊P P 04 27 01.0 -1.3
baz=35
C22A Vida 35.04 345 ⇑P P 04 27 03.7 +0.5
baz=35
A28A Rude Farm, Bot 35.06 352 ⇊P P 04 27 02.4 -1.0
baz=35
D19A Cripps Ranch, 35.35 341 ⇊P P 04 27 06.3 +0.3
baz=35
D17A Six Diamond Ra 35.92 340 ⇊P P 04 27 11.8 +0.8
baz=36
C17A Wharram Farm, 36.37 340 ⇑P P 04 27 15.3 +0.7
baz=36
EGMT Eagleton 36.38 341 ⇑P P 04 27 15.5 +0.7
baz=36
B19A Brinkman Farms 36.52 342 ⇊P P 04 27 16.4 +0.5
baz=36
MSO Missoula 36.84 336 ⇑P P 04 27 19.7 +0.9
baz=37
YKA Yellowknife Ar 50.54 347 P P 04 29 07.7 -0.9
YKA Yellowknife Ar 50.54 347 P P 04 29 07.7 -0.9
3.0nm,0.6s,baz=152,slow=7.6,SNR=6.0
ILAR Eielson Array 62.17 337 P P 04 30 31.5 -0.1
ILAR Eielson Array 62.17 337 P P 04 30 31.5 -0.1
0.7nm,0.7s,baz=137,slow=4.8,SNR=12
CMAR Chiang Mai Arr 145.38 339 PKPbc PKPbc 04 39 48.4 -1.1
CMAR Chiang Mai Arr 145.38 339 PKPbc PKPbc 04 39 48.4 -1.1
1.3nm,0.4s,baz=353,slow=3.8,SNR=6.3

*NSSC **26** 04:32:10.2±3.1, 39°.63N×42°.23E, h0km±212km, ML3.6*
*DDA **26** 04:32:25.5, 39°.01N×41°.13E, h16km, MD3.8*
*CSEM **26** 04:32:26.4±0.3, 39°.01N×41°.11E, h2km, MD3.8, Error ellipse: s-maj=6.5km s-min=6.4km az=57.0*
*IDC **26** 04:32:27.2±1.5, 39°.05N×40°.96E, h0km, mb3.4/3, mb1 3.5/9, mb1mx3.4/31, mbtmp3.4/9, ML3.4/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=25.6km s-min=17.4km az=137.0*

ISC 26 04:32:25.7±0.8, 38°.99N±0°.02×41°.14E±0°.02, h16km±5km, n77, σ1.94/110, mb3.1/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.04**	**172**	*i* P	**Pg**	**04 32 28.4**	**-0.5**
BNGL				*i* S	**Sg**	**04 32 30.9**	**-0.1**
ERZM	**Erzurum**	**0.93**	**11**	*i* P	**Pn**	**04 32 43.5**	**-1.0**
ERZM				*i* S	Sn	04 33 03.0	+5.4
ERZM	**Erzurum**	**0.93**	**11**	*i* P	**Pn**	**04 32 43.5**	**-1.0**
ERZM				*i* S	Sn	04 33 03.0	+5.4
TATV	**Tatvan**	**1.00**	**118**	*i* P	**Pb**	**04 32 44.1**	**-0.7**
TATV				*i* S	**Sg**	**04 32 59.0**	**+0.7**
TATV	**Tatvan**	**1.00**	**118**	*i* P	**Pb**	**04 32 44.1**	**-0.7**
TATV				*i* S	**Sg**	**04 32 59.0**	**+0.7**
BEST	**Besiri**	**1.10**	**175**	*i* P	**Pg**	**04 32 47.7**	**+0.7**
BEST				*i* S	**Sg**	**04 33 04.9**	**+3.5**
KOPT	**Kop Dagi**	**1.14**	**334**	*i* P	**Pg**	**04 32 47.1**	**-0.8**
KOPT				*i* S	**Sg**	**04 33 05.6**	**+2.7**
KOPT	**Kop Dagi**	**1.14**	**334**	*i* P	**Pg**	**04 32 47.1**	**-0.8**
KOPT				*i* S	**Sg**	**04 33 05.6**	**+2.7**
HOMI	**Horasan**	**1.21**	**29**	*i* P	**Pg**	**04 32 48.2**	**-0.9**
HOMI				*i* S	**Sg**	**04 33 06.4**	**+1.4**
EUZM	**Uzumlu**	**1.33**	**303**	*i* P	**Pg**	**04 32 50.1**	**-1.3**
EUZM				*i* S	**Sg**	**04 33 12.9**	**+4.1**
EUZM	**Uzumlu**	**1.33**	**303**	*i* P	**Pg**	**04 32 50.1**	**-1.3**
EUZM				*i* S	**Sg**	**04 33 12.9**	**+4.1**
DIYA	**Diyarbakir**	**1.33**	**217**	*i* P	**Pg**	**04 32 51.3**	**-0.1**
DIYA				*i* S	**Sg**	**04 33 10.7**	**+1.9**
DIYA	**Diyarbakir**	**1.33**	**217**	*i* P	**Pg**	**04 32 51.3**	**-0.1**
DIYA				*i* S	**Sg**	**04 33 10.7**	**+1.9**
TUTA	**Tutak**	**1.36**	**72**	*i* P	**Pb**	**04 32 50.4**	**-0.6**
TUTA				*i* S	**Sg**	**04 33 11.7**	**+1.9**
TUTA	**Tutak**	**1.36**	**72**	*i* P	**Pb**	**04 32 50.4**	**-0.6**
TUTA				*i* S	**Sg**	**04 33 11.7**	**+1.9**
GEVA	**Gevas**	**1.64**	**114**	*i* P	**Pg**	**04 32 56.5**	**-0.9**
GEVA				*i* S	**Sg**	**04 33 21.0**	**+2.2**
GEVA	**Gevas**	**1.64**	**114**	*i* P	**Pg**	**04 32 56.5**	**-0.9**
GEVA				*i* S	**Sg**	**04 33 21.0**	**+2.2**
MARD	**Mardin**	**1.69**	**190**	*i* P	**Pb**	**04 32 57.2**	**+0.5**
MARD				*i* S	**Sg**	**04 33 20.7**	**+0.3**
SIRN	**S¨–rnak**	**1.79**	**146**	*i* P	**Pb**	**04 32 58.4**	**+0.1**
SIRN				*i* S	**Sg**	**04 33 25.0**	**+1.5**
SIRN	**S¨–rnak**	**1.79**	**146**	*i* P	**Pb**	**04 32 58.4**	**+0.1**
SIRN				*i* S	**Sg**	**04 33 25.0**	**+1.5**
KELT	**Kelkit**	**1.86**	**309**	*i* P	**Pb**	**04 32 59.2**	**-0.4**
KELT	**Kelkit**	**1.86**	**309**	*i* P	**Pb**	**04 32 59.2**	**-0.4**
DDEM	**Demirkent**	**1.96**	**14**	*i* P	**Pb**	**04 33 01.0**	**-0.1**
DDEM				*i* S	**Sg**	**04 33 31.8**	**+3.0**
DDEM	**Demirkent**	**1.96**	**14**	*i* P	**Pb**	**04 33 01.0**	**-0.1**
DDEM				*i* S	**Sg**	**04 33 31.8**	**+3.0**
DYDN	**Diyadin**	**2.05**	**74**	*i* P	**Pb**	**04 33 02.9**	**+0.1**
DYDN				*i* S	**Sg**	**04 33 31.9**	**+0.1**
DYDN	**Diyadin**	**2.05**	**74**	*i* P	**Pb**	**04 33 02.9**	**+0.1**
DYDN				*i* S	**Sg**	**04 33 31.9**	**+0.1**
DBAD	**Bademkaya**	**2.07**	**12**	*i* P	**Pb**	**04 33 02.9**	**-0.1**
DBAD				*i* S	**Sg**	**04 33 32.8**	**+0.4**
DBAD	**Bademkaya**	**2.07**	**12**	*i* P	**Pb**	**04 33 02.9**	**-0.1**
DBAD				*i* S	**Sg**	**04 33 32.8**	**+0.4**
KEMA	**Kemaliye**	**2.08**	**279**	*i* P	**Pb**	**04 33 01.7**	**-1.5**
KEMA	**Kemaliye**	**2.08**	**279**	*i* P	**Pb**	**04 33 01.7**	**-1.5**
DAGI	**Agillar**	**2.17**	**16**	*i* P	**Pb**	**04 33 03.6**	**-1.2**
DAGI				*i* S	**Sg**	**04 33 37.0**	**+1.4**
DIGO	**Kars**	**2.23**	**50**	*i* P	**Pg**	**04 33 07.4**	**-1.2**
DIGO				*i* S	**Sg**	**04 33 42.3**	**+4.6**
DIGO	**Kars**	**2.23**	**50**	*i* P	**Pg**	**04 33 07.4**	**-1.2**
DIGO				*i* S	**Sg**	**04 33 42.3**	**+4.6**
ARTV	**Artvin**	**2.28**	**15**	*i* P	**Pb**	**04 33 05.3**	**-1.3**
ARTV				*i* S	**Sg**	**04 33 40.7**	**+1.7**
ARTV	**Artvin**	**2.28**	**15**	*i* P	**Pb**	**04 33 05.3**	**-1.3**
ARTV				*i* S	**Sg**	**04 33 40.7**	**+1.7**
DBOC	**Borcka**	**2.39**	**9**	*i* P	**Pb**	**04 33 06.8**	**-1.6**
DBOC				*i* S	**Sg**	**04 33 41.9**	**-0.6**
DBOC	**Borcka**	**2.39**	**9**	*i* P	**Pb**	**04 33 06.8**	**-1.6**
DBOC				*i* S	**Sg**	**04 33 41.9**	**-0.6**
HAKT	**HAKKARI**	**2.47**	**124**	*i* P	**Pb**	**04 33 10.7**	**+0.7**
HAKT				*i* S	**Sg**	**04 33 46.0**	**+0.8**
HAKT	**HAKKARI**	**2.47**	**124**	*i* P	**Pb**	**04 33 10.7**	**+0.7**
HAKT				*i* S	**Sg**	**04 33 46.0**	**+0.8**
SUSE	**Susehri**	**2.58**	**299**	*i* P	**Pg**	**04 33 13.3**	**-1.9**
SUSE	**Susehri**	**2.58**	**299**	*i* P	**Pg**	**04 33 13.3**	**-1.9**
AKCD	**Akcadag**	**2.62**	**256**	*i* P	**Pg**	**04 33 13.7**	**-2.2**
AKCD				*i* S	Sg	04 33 58.5	+8.7
AKCD	**Akcadag**	**2.62**	**256**	*i* P	**Pg**	**04 33 13.7**	**-2.2**
AKCD				*i* S	Sg	04 33 58.5	+8.7
ATAB	**Bozova**	**2.71**	**237**	*i* P	**Pg**	**04 33 15.7**	**-2.0**
ATAB				*i* S	**Sg**	**04 33 55.4**	**+2.7**
ATAB	**Bozova**	**2.71**	**237**	*i* P	**Pg**	**04 33 15.7**	**-2.0**
ATAB				*i* S	**Sg**	**04 33 55.4**	**+2.7**
MZRK	**Al-Mazaregh**	**3.18**	**187**	*eP*	**Pn**	**04 33 12.8**	**-2.3**
MZRK				*eS*	**Sb**	**04 33 59.0**	**-1.4**
MZRK				AML	AML	04 34 05.4	
comp=Z,362nm,0.4s
MZRK Al-Mazaregh 3.18 187 *eP* **Pn** **04 33 12.8 -2.3**
SNR=45
MZRK *eS* **Sb** **04 33 59.0 -1.4**
comp=Z,362nm,0.4s,SNR=40
GZT Gaziantep 3.26 241 *i* P **Pn** **04 33 17.8 +1.5**
KZR Kazreti 3.46 45 P **Pn** **04 33 20.6 +1.5**
AYKD Aykdinkavak 3.76 247 *i* P **Pn** **04 33 25.3 +2.2**
AYKD *i* S **Sg** **04 34 30.3 +3.8**
SLMH Al Salmeh 3.77 224 *eP* **Pn** **04 33 21.7 -1.5**
SLMH *eS* **Sb** **04 34 17.0 -0.3**
SLMH AML AML 04 34 31.4
comp=Z,140nm,0.5s
SLMH Al Salmeh 3.77 224 *eP* **Pn** **04 33 21.7 -1.5**
SNR=45
SLMH *eS* **Sb** **04 34 17.0 -0.3**
comp=Z,140nm,0.5s,SNR=40
TBLG Delisi 3.88 44 P **Pg** **04 33 39.0 -1.1**
TBLG S **Sg** **04 34 33.4 +3.1**
ANDN Andirin 4.03 251 *eP* **Pg** **04 33 42.1 -0.8**
ANDN Andirin 4.03 251 *eP* **Pg** **04 33 42.1 -0.8**
DGRG David-gareji 4.07 51 P Pn 04 33 10.6 -17
DGRG David-gareji 4.07 51 P **Pg** **04 33 41.5 -2.1**
DGRG S Sg 04 34 47.0 +11
DUS Dusheti 4.12 40 P **Pg** **04 33 46.4 +1.8**
BTCH Batrach 4.75 233 *eP* **Pn** **04 33 38.8 +2.1**
BTCH *eS* **Sb** **04 34 41.2 -4.4**
BTCH AML AML 04 35 09.4
comp=E,326nm,0.6s
BTCH AML AML 04 35 21.5
comp=N,213nm,0.6s
BTCH Batrach 4.75 233 *eP* **Pn** **04 33 38.8 +2.1**
SNR=45
BTCH *eS* **Sb** **04 34 41.2 -4.4**
comp=N,213nm,0.6s,SNR=40
KBZ Khabaz 4.92 15 Pn Pn 04 33 44.1 +5.2
comp=N,0.1nm,0.3s,baz=165,slow=16,SNR=3.6
ARNB Al Arnab 5.17 234 *eP* **Pn** **04 33 44.9 +2.4**
ARNB *eS* **Sb** **04 34 53.1 -4.5**
ARNB AML AML 04 35 23.4
comp=E,67nm,0.6s
ARNB AML AML 04 35 25.2
comp=N,81nm,0.7s
ARNB Al Arnab 5.17 234 *eP* **Pn** **04 33 44.9 +2.4**
SNR=45
ARNB *eS* **Sb** **04 34 53.1 -4.5**
comp=N,81nm,0.7s,SNR=40
CDAG Cicekdag 5.29 279 *i* P Pb 04 34 00.8 +2.9
CDAG Cicekdag 5.29 279 *i* P Pb 04 34 00.8 +2.9
HAWK Haweek 5.86 222 *eP* Pn 04 33 55.0 +3.0
HAWK *eS* Sb 04 35 09.0 -8.6
HAWK Haweek 5.86 222 *eP* Pn 04 33 55.0 +3.0
SNR=45
HAWK *eS* Sb 04 35 09.0 -8.6
SNR=40
BRTR Keskin Array B 5.86 280 Pn **Pn** **04 33 53.4 +1.3**
comp=N,0.3nm,0.3s,baz=97,slow=15,SNR=6.3
BHD Baghdad 6.28 154 *eP* Pn 04 33 52.0 -5.7
BHD *eS* Sn 04 34 58.0 -11
MMAI Mount Meron Ar 7.56 220 Pn Pn 04 34 19.0 +3.7
comp=N,4.0nm,0.3s,baz=66,slow=15,SNR=7.7
MMAI Lg Lg 04 36 16.1
comp=N,1.6nm,0.3s,baz=31,slow=17,SNR=2.5
ASF Jabal al Asfar 7.63 208 Pn Pn 04 34 19.8 +3.4
comp=N,0.4nm,0.3s,baz=66,slow=3.8,SNR=4.2
ASF Lg Lg 04 36 22.1
comp=N,0.5nm,0.3s,baz=223,slow=4.2,SNR=2.6
AKASG Malin Array Be 14.42 328 Pn Pn 04 35 51.2 +2.1
comp=N,0.6nm,0.3s,baz=141,slow=10,SNR=3.6
AKTO Aktyubinsk 16.53 41 Pn **P** **04 36 19.6 +0.2**
comp=N,0.1nm,0.3s,baz=233,slow=12,SNR=3.5
GERES GERESS Array B 21.98 306 P **P** **04 37 19.8 +0.8**
comp=N,0.6nm,0.8s,baz=120,slow=12,SNR=3.0
GERES LR LR 04 47 53.0
comp=N,40nm,18.2s,baz=112,slow=42
FINES FINESS Array B 24.34 342 P **P** **04 37 44.3 +1.8**
comp=N,2.4nm,0.8s,baz=147,slow=11,SNR=5.7
AAK Ala-Archa 25.41 71 LR LR 04 50 14.9
comp=N,23nm,18.0s,baz=145,slow=42
KURBB Kurchatov Arra 28.66 54 P P 04 38 25.7 +4.1
comp=N,0.3nm,0.8s,baz=266,slow=9.3,SNR=4.4

CASC 26 04:49:43.3±2.6, 13°.57N×91°.46W, h18km±25km, MD3.7, ML3.6, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.77**	**347**	‖*eP*	Pg	04 49 58.6	+0.2
FUG	**Fuego 3**	**1.06**	**34**	*eP*	Pb	04 50 02.7	-0.7
PCG	**Pacaya**	**1.17**	**45**	*eP*	Pn	04 50 04.4	-0.7
NBG	**Las Nubes**	**1.48**	**47**	*eP*	Pn	04 50 09.9	+0.4
NBG				*eS*	Sn	04 50 29.0	+0.4
RTR	**El Retiro**	**1.79**	**79**	*i* P	Pn	04 50 12.8	-0.8
SBLS	**San Blas**	**1.81**	**81**	*i* P	Pn	04 50 12.6	-1.2
SBLS				*eS*	Sn	04 50 36.8	+0.2
SNJE	**San Jose**	**1.83**	**80**	*eP*	Pn	04 50 13.2	-0.9
BOQS	**Boqueron**	**2.12**	**85**	*i* P	Pn	04 50 17.7	-0.6
BOQS				*eS*	Sn	04 50 44.2	-0.3
SNET	**Serv Nac Est T**	**2.17**	**87**	*i* P	Pn	04 50 18.1	-0.6
SNET				*eS*	Sn	04 50 45.9	+0.6
SNET				AML	AML	04 50 54.1	
comp=Z,526nm,0.3s
MRL Marmol 2.27 49 *eP* Pn 04 50 21.5 +1.3
LFU La Fuente 2.29 85 *eP* Pn 04 50 20.4 +0.1
LFU *eS* Sb 04 50 51.6 -0.7
LFRS El Faro 2.33 88 *i* P Pn 04 50 21.1 +0.1
LFRS *eS* Sb 04 50 52.2 -1.4
LBRS Las Brisas 2.35 86 *i* P Pn 04 50 21.9 +0.7
SNVI San Vicente 2.55 89 *eP* Pn 04 50 24.5 +0.5
SNVI *eS* Sn 04 50 54.9 +0.2

KRSC 26 05:10:10.9±0.8, 50°.52N×157°.46E, h61km±61km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.87**	**281**	P	Pn	05 10 27.7	+0.4
SKR				S	Sn	05 10 39.6	+0.2
ASAK	**Asacha**	**1.89**	**8**	S	Sn	05 11 07.4	+3.7
MTVR	**Mutnovka**	**2.02**	**13**	P	Pn	05 10 44.7	+1.9
MTVR				S	Sn	05 11 09.9	+2.9
RUS	**Russkaya**	**2.03**	**19**	P	Pn	05 10 44.4	+1.7
RUS				S	Sn	05 11 08.4	+1.5
SDLR	**Sedlovina**	**2.90**	**17**	P	Pn	05 10 57.3	+2.5
SDLR				S	Sn	05 11 31.7	+3.2
SPN	**Mys Shipunski**	**3.03**	**31**	P	Pn	05 10 59.1	+2.7
SPN				S	Sn	05 11 34.5	+3.0
MKZ	**Mys Kozlova**	**4.81**	**31**	P	Pn	05 11 22.1	+1.5

*NEIC **26** 05:15:50.3, 18°.25N×67°.90W, h123km, MD3.5(RSPR), After RSPR.*

RSPR 26 05:15:50.3, 18°.25N×67°.90W, h123km, MD3.5/6, 20C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.42**	**71⇑**	*eP*	Pn	05 16 07.9	-0.2
IDE	**Isla Desecheo**	**0.42**	**71⇑**	*eP*	Pn	05 16 07.9	-0.2
AGPR	**Aguadilla, PR**	**0.78**	**74⇑**	*eP*	Pn	05 16 10.3	-0.2
AGPR	**Aguadilla, PR**	**0.78**	**74⇑**	*eP*	Pn	05 16 10.3	-0.2
AGPR				*eS*	Sn	05 16 25.7	-0.2
CRPR	**Cabo Rojo, PR**	**0.79**	**108⇑**	*eP*	Pn	05 16 10.3	-0.3
CRPR	**Cabo Rojo, PR**	**0.79**	**108⇑**	*eP*	Pn	05 16 10.3	-0.3
CRPR				*eS*	Sn	05 16 25.9	0.0
LRS	**Lares**	**1.00**	**87⇑**	*eP*	Pn	05 16 12.1	-0.5
LRS				*eS*	Sn	05 16 29.5	0.0
LRS	**Lares**	**1.00**	**87⇑**	*eP*	Pn	05 16 12.1	-0.5
LRS				*eS*	Sn	05 16 29.5	0.0
AOPR	**Arecibo Observ**	**1.09**	**85⇑**	*eP*	Pn	05 16 13.2	-0.3
AOPR	**Arecibo Observ**	**1.09**	**85⇑**	*eP*	Pn	05 16 13.2	-0.3
AOPR				*eS*	Sn	05 16 31.0	-0.1
OBIP	**Obispado Ponce**	**1.24**	**99⇑**	*eP*	Pn	05 16 14.8	-0.3
OBIP	**Obispado Ponce**	**1.24**	**99⇑**	*eP*	Pn	05 16 14.8	-0.3
OBIP				*eS*	Sn	05 16 33.9	0.0
DR12	**Loma Pena Alta**	**1.51**	**291⇑**	*eP*	Pn	05 16 17.9	-0.2
DR12				*eS*	Sn	05 16 39.1	-0.2
DR12	**Loma Pena Alta**	**1.51**	**291⇑**	*eP*	Pn	05 16 17.9	-0.2
DR12				*eS*	Sn	05 16 39.1	-0.2
CPD	**Cerro la Pandu**	**1.90**	**96⇑**	*eP*	Pn	05 16 22.8	+0.1
CPD	**Cerro la Pandu**	**1.90**	**96⇑**	*eP*	Pn	05 16 22.8	+0.1
CPD				*eS*	Sn	05 16 47.0	-0.3
HUMP	**Col San Antoni**	**1.95**	**93⇑**	*eP*	Pn	05 16 23.0	-0.2
HUMP	**Col San Antoni**	**1.95**	**93⇑**	*eP*	Pn	05 16 23.0	-0.2
HUMP				*eS*	Sn	05 16 48.6	+0.2
MTP	**Monte Pirata**	**2.23**	**93⇑**	*eP*	Pn	05 16 26.7	-0.1
MTP	**Monte Pirata**	**2.23**	**93⇑**	*eP*	Pn	05 16 26.7	-0.1
MTP				*eS*	Sn	05 16 55.1	+0.3

WEL 26 05:32:14.5±0.3, 45°.47S×166°.81E, h24km±1km, ML3.6/15, 2D, Error ellipse: s-maj=2.5km s-min=1.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.24**	**92**	⇓P*	Pb	05 32 20.6	0.0
DCZ				S*	Sb	05 32 24.4	-0.3
DCZ				AML	AML	05 32 24.7	
DCZ				AML	AML	05 32 24.8	
DCZ				AML	AML	05 32 24.9	
WHZ	**Wether Hill Ro**	**0.90**	**118**	P*	Pb	05 32 31.5	-0.1
WHZ				S*	Sb	05 32 43.5	+0.3
WHZ				AML	AML	05 32 46.2	
MLZ	**Mavora Lakes**	**0.97**	**83**	⇓PN	Pn	05 32 31.5	-1.2
MLZ				SN	Sb	05 32 43.8	-1.4
MLZ				AML	AML	05 32 45.4	
MSZ	**Milford Sound**	**1.13**	**45**	PN	Pn	05 32 33.0	-1.8
MSZ				AML	AML	05 32 53.1	
MSZ				AML	AML	05 32 53.1	
MSZ				AML	AML	05 32 59.5	
MSZ				AML	AML	05 32 59.5	
APZ	**The Paps**	**1.59**	**149**	PN	Pb	05 32 43.3	0.0
WKZ	**Wanaka**	**1.69**	**68**	PN	Pn	05 32 43.6	+0.9
WKZ				AML	AML	05 33 10.1	
WKZ				AML	AML	05 33 14.4	
EAZ	**Earnscleugh**	**1.78**	**83**	PN	Pn	05 32 44.8	+1.0
EAZ				AML	AML	05 33 12.9	
EAZ				AML	AML	05 33 12.9	
EAZ				AML	AML	05 33 12.9	
SYZ	**Scrubby Hill**	**1.94**	**124**	PN	Pb	05 32 48.0	-1.2
JCZ	**Jackson Bay**	**1.97**	**46**	PN	Pb	05 32 48.8	-1.0
JCZ				AML	AML	05 33 23.0	
JCZ				AML	AML	05 33 27.5	
TUZ	**Tuapeka**	**2.04**	**105**	PN	Pb	05 32 49.7	-1.2
TUZ				AML	AML	05 33 22.4	
LBZ	**Lake Benmore**	**2.63**	**67**	PN	Pn	05 32 57.9	+2.3
LBZ				AML	AML	05 33 07.0	
LBZ				AML	AML	05 33 21.2	
ODZ	**Otahua Downs**	**2.74**	**82**	PN	Pn	05 32 57.1	0.0

*MOS **26** 05:41:33.8±1.0, 49°.73N×157°.16E, h52km, mb4.2/1, Error ellipse: s-maj=99.7km s-min=28.4km az=84.9*

KRSC 26 05:41:33.8±1.0, 49°.73N×157°.16E, h52km±51km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.17**	**325**	*e*PN	Pn	05 41 44.9	-8.9
SKR				pmax	pmax		
	comp=Z,90nm,0.4s						
SKR	**Severo-Kuril's**	**1.17**	**325**	P	Pn	05 41 53.5	-0.3
SKR				S	Sn	05 42 07.9	-0.7
PAU	**Pauzhetka**	**1.75**	**353**	PN	Pn	05 42 03.7	+1.9
PAU				S	Sn	05 42 25.7	+2.8
PAU	**Pauzhetka**	**1.75**	**353**	P	Pn	05 42 03.7	+1.9
PAU				S	Sn	05 42 25.7	+2.8
MIPR	**Malaya Ipel'ka**	**2.56**	**354**	P	Pn	05 42 14.6	+1.8
ASAK	**Asacha**	**2.70**	**10**	P	Pn	05 42 18.4	+3.6
ASAK				S	Sn	05 42 50.3	+4.0
MTVR	**Mutnovka**	**2.83**	**13**	P	Pn	05 42 19.6	+2.9
MTVR				S	Sn	05 42 53.3	+3.6
RUS	**Russkaya**	**2.84**	**17**	PN	Pn	05 42 19.2	+2.6
RUS				S	Sn	05 42 52.4	+2.9
RUS	**Russkaya**	**2.84**	**17**	P	Pn	05 42 19.2	+2.6
RUS				S	Sn	05 42 52.4	+2.9
APC	**Apacha**	**3.20**	**360**	P	Pn	05 42 24.8	+3.3
AVH	**Avacha**	**3.67**	**15**	P	Pn	05 42 32.0	+3.8
AVH				S	Sn	05 43 14.1	+3.8
KOK	**Koryaka**	**3.68**	**14**	P	Pn	05 42 32.2	+3.9
KOK				S	Sn	05 43 13.9	+3.3
SDLR	**Sedlovina**	**3.71**	**16**	S	Sn	05 43 15.1	+3.8
KRER	**Koryakskii**	**3.71**	**15**	P	Pn	05 42 32.3	+3.4
KRER				S	Sn	05 43 15.2	+3.7
KRX	**Arik**	**3.75**	**14**	P	Pn	05 42 32.9	+3.6
KRX				S	Sn	05 43 15.6	+3.3
SPN	**Mys Shipunski**	**3.82**	**27**	PN	Pn	05 42 32.8	+2.8
SPN				S	Sn	05 43 16.7	+3.1
SPN	**Mys Shipunski**	**3.82**	**27**	P	Pn	05 42 32.8	+2.8
SPN				S	Sn	05 43 16.7	+3.1
GNL	**Ganaly**	**4.00**	**7**	P	Pn	05 42 35.9	+3.2
GNL				S	Sn	05 43 20.6	+2.2
MKZ	**Mys Kozlova**	**5.59**	**28**	PN	Pn	05 42 56.6	+2.3
MKZ				S	Sn	05 43 58.7	+1.6
MKZ	**Mys Kozlova**	**5.59**	**28**	P	Pn	05 42 56.6	+2.3
MKZ				S	Sn	05 43 58.7	+1.6
BKI	**Bering**	**7.68**	**41**	S	Sn	05 44 48.2	-0.1

*ISCJB **26** 05:44:14.2±0.4, 7°.26S±0°.07×121°.11E±0°.07, h600km, mb3.5/5, Error ellipse: s-maj=11.1km s-min=8.0km az=43.5*
*IDC **26** 05:44:14.9±1.7, 7°.24S×121°.14E, h585km±20km, mb3.2/6, mb1 3.4/7, mb1mx3.0/24, mbtmp3.3/7, Error ellipse: s-maj=42.0km s-min=12.3km az=52.0*
*DJA **26** 05:44:15.4±0.4, 7°.5S±6°×12°.1E±°, h584km±8km, M4.6/7, mb4.7/6, mB5.1/2, MLv4.6/7, Mw(mB)4.5/2*

ISC 26 05:44:15.4±0.6, 7°.27S±0°.09×121°.09E±0°.09, h600km, n28, σ19°30/29, mb3.3/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKSI	**Bulukumba**	**2.16**	**333**	P	**P**	**05 45 28.9**	**-1.5**
WSI	**Waingapu**	**2.51**	**198**	S	S	05 46 20.3	-14
	baz=11,SNR=3.3						
SPSI	**Sidrap Palu**	**3.54**	**338**	P	**P**	**05 45 36.7**	**-1.2**
BATI	**Baumata**	**3.87**	**139**	P	**P**	**05 45 37.9**	**-2.1**
SOEI	**Soe**	**4.00**	**128**	P	**P**	**05 45 38.6**	**-2.4**
MTNI	**Mataram**	**5.06**	**254**	P	**P**	**05 45 47.7**	**-1.1**
	155nm,0.7s						
IGBI	**Denpasar**	**6.08**	**255**	P	**P**	**05 45 56.1**	**-1.2**
	147nm,1.0s,1.5nm						
NLAI	**Namlea**	**7.20**	**57**	P	**P**	**05 46 06.6**	**-0.7**
	220nm,0.6s,3μm1.0nm						
SGKI	**Sangatta, Kali**	**7.55**	**332**	P	**P**	**05 46 11.0**	**+0.4**
	192nm,0.9s,6μm1.2nm						
KNRA	**Kununurra**	**11.23**	**139**	P	**P**	**05 46 45.1**	**-1.4**
	baz=21,SNR=5.3						
FAKI	**Fak Fak**	**11.92**	**69**	P	**P**	**05 46 50.9**	**-2.6**
	55nm,1.3s						
KDU	**Kakadu**	**12.43**	**117**	P	**P**	**05 46 58.2**	**-0.3**
	baz=21,SNR=4.1						
KDU				S	PcP	05 51 14.0	-31
	baz=21,SNR=5.1						
CISI	**Cisompet, Garu**	**13.17**	**268**	S	**P**	**05 47 03.6**	**-2.5**
	baz=12,SNR=3.1						
WRA	**Warramunga Arr**	**17.99**	**136**	P	**P**	**05 47 50.9**	**-0.2**
	2.5nm,0.3s,baz=315,slow=11,SNR=249						
WRA				ScP	**ScP**	**05 54 34.8**	**+1.8**
	0.1nm,0.3s,baz=318,slow=2.4,SNR=7.2						
MEEK	**Meekatharra**	**19.40**	**187**	P	**P**	**05 48 03.8**	**0.0**
	baz=28,SNR=7.0						
ASAR	**Alice Springs**	**20.42**	**144**	P	**P**	**05 48 13.1**	**0.0**
	3.9nm,0.3s,baz=320,slow=8.5,SNR=72						
ASAR				ScP	**ScP**	**05 54 40.2**	**+1.7**
	0.8nm,0.6s,baz=327,slow=1.9,SNR=8.5						
PSI	**Prapat**	**24.28**	**294**	P	**P**	**05 48 47.9**	**+0.3**
	baz=58,slow=9.5						
FORT	**Forrest**	**24.28**	**165**	P	**P**	**05 48 47.6**	**+0.4**
	baz=34,SNR=10						
MTSU	**Mount Surprise**	**25.06**	**118**	P	**P**	**05 48 54.9**	**+0.5**
	baz=33,SNR=5.1						
BBOO	**Buckleboo**	**28.97**	**153**	P	**P**	**05 49 28.3**	**+0.1**
	baz=38,SNR=9.3						
STKA	**Stephens Creek**	**31.06**	**145**	P	**P**	**05 49 46.8**	**+0.6**
	9.6nm,0.5s,baz=318,slow=10,SNR=31						
STKA	**Stephens Creek**	**31.06**	**145**	P	**P**	**05 49 46.9**	**+0.7**
	baz=41,SNR=22						
CMSA	**Cobar Meteorol**	**33.32**	**140**	P	**P**	**05 50 06.5**	**+1.3**
	baz=43,SNR=9.6						
PATS	**Pohnpei**	**39.68**	**70**	S	**S**	**05 56 19.7**	**+0.1**
	baz=42,SNR=3.2						
MKAR	**Makanchi Array**	**63.91**	**331**	P	**P**	**05 53 51.3**	**+0.7**
	1.0nm,0.6s,baz=134,slow=8.0,SNR=10						
KURBB	**Kurchatov Arra**	**68.38**	**332**	P	**P**	**05 54 18.6**	**+0.6**
	0.1nm,0.3s,baz=118,slow=4.8,SNR=4.4						
VNDA	**Vanda**	**73.37**	**171**	P	**P**	**05 54 47.9**	**+1.0**
	0.3nm,0.4s,baz=307,slow=9.2,SNR=3.7						
QSPA	**South Pole Qui**	**82.71**	**180**	P	**P**	**05 55 38.0**	**+0.9**
	0.9nm,0.9s,baz=292,slow=4.7,SNR=7.2						

IDC 26 05:51:51.2±0.8, 14°.00N×93°.12E, h29km±4km, mb3.7/11, mb1 3.9/12, mb1mx3.7/28, mbtmp3.7/12, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=23.3km s-min=15.8km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.14**	**51**	Pn	Pn	05 53 34.0	+0.2
	0.8nm,0.3s,baz=243,slow=15,SNR=12						
CMAR				Sn	Sn	05 54 52.9	-1.1
	0.3nm,0.3s,baz=237,slow=27,SNR=4.7						
MKAR	**Makanchi Array**	**33.93**	**347**	P	P	05 58 32.1	+0.2
	1.2nm,0.8s,baz=165,slow=7.4,SNR=10						
SONM	**Songino Array**	**35.50**	**15**	P	P	05 58 46.0	+0.5
	0.5nm,0.5s,baz=194,slow=10,SNR=5.9						
SONM				pP	pP	05 58 54.6	+0.4
	1.0nm,0.8s,baz=201,slow=9.6,SNR=5.3						
KURBB	**Kurchatov Arra**	**38.41**	**345**	P	P	05 59 09.7	-0.2
	1.2nm,0.6s,baz=161,slow=7.7,SNR=15						
KURBB				pP	pP	05 59 18.3	-0.4
	2.1nm,0.8s,baz=163,slow=8.2,SNR=6.9						
KSRS	**Korea Array**	**38.76**	**47**	LR	LR	06 16 43.9	
	comp=Z,25nm,20.1s,baz=215,slow=38						
ZALV	**Zalesovo Beam**	**40.39**	**352**	P	P	05 59 26.5	0.0
	1.3nm,0.6s,baz=182,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**52.74**	**129**	P	P	06 01 03.5	-0.3
	1.2nm,0.9s,baz=306,slow=9.8,SNR=8.8						
WRA				PcP	PcP	06 02 13.3	0.0
	1.0nm,0.7s,baz=317,slow=3.2,SNR=12						
ASAR	**Alice Springs**	**54.69**	**133**	P	P	06 01 17.9	-0.2
	0.6nm,0.4s,baz=309,slow=6.7,SNR=11						
ASAR				PcP	PcP	06 02 20.5	-0.2
	0.6nm,0.8s,baz=322,slow=3.8,SNR=4.4						
BRTR	**Keskin Array B**	**57.78**	**308**	P	P	06 01 39.4	-0.7
	0.7nm,0.7s,baz=90,slow=4.9,SNR=3.1						
BRTR				pP	pP	06 01 49.1	0.0
	1.9nm,0.8s,baz=116,slow=7.5,SNR=5.9						
FINES	**FINESS Array B**	**66.88**	**331**	P	P	06 02 39.7	-0.7
	2.6nm,1.1s,baz=113,slow=11,SNR=3.3						
GERES	**GERESS Array B**	**72.65**	**317**	P	P	06 03 16.1	-0.3
	0.2nm,0.2s,baz=72,slow=6.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**88.23**	**283**	P	P	06 04 40.8	+0.4
	0.9nm,0.9s,baz=85,slow=5.2,SNR=4.6						
TORD				pP	pP	06 04 50.5	+0.6
	1.0nm,1.0s,baz=104,slow=4.6,SNR=3.5						
ILAR	**Eielson Array**	**89.48**	**22**	P	P	06 04 44.8	-0.5
	0.5nm,0.8s,baz=312,slow=5.3,SNR=5.5						
ILAR				pP	pP	06 04 53.9	-0.9
	0.5nm,0.8s,baz=286,slow=4.6,SNR=3.9						

*PRE **26** 06:03:16.4±2.5, 28°.14S×26°.85E, h2km, ML3.8*
*IDC **26** 06:03:19.2±2.2, 28°.00S×26°.72E, h0km, mb4.1/1, mb1 4.1/1, mb1mx3.4/24, mbtmp4.1/1, Error ellipse: s-maj=42.8km s-min=18.0km az=139.0*

ISC 26 06:03:17.3±1.7, 28°.13S±0°.04×26°.84E±0°.06, h7km±12km, n13, σ1°.55/19, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**1.48**	**250**	*eP*	**Pg**	**06 03 45.9**	**+0.3**
BOSA				*eS*	**Sg**	**06 04 05.2**	**+0.4**
BOSA				AML	AML	06 04 08.0	
	comp=Z,260nm,0.5s						
BOSA	**Boshof**	**1.48**	**250**	Pg	**Pg**	**06 03 45.8**	**+0.2**
	comp=Z,58nm,0.3s,baz=69,slow=15,SNR=763						
BOSA				Lg	Lg	06 04 04.9	
	comp=Z,63nm,0.3s,baz=337,slow=16,SNR=26						
KLOF	**Kloof**	**1.90**	**21**	*eP*	**Pb**	**06 03 51.5**	**-0.9**
KLOF				*eS*	**Sn**	**06 04 13.6**	**-1.1**
KLOF				AML	AML	06 04 22.4	
	comp=Z,687nm,0.2s						
ERPM	**east rand prop**	**2.17**	**35**	*eP*	**Pb**	**06 03 55.8**	**-1.3**
ERPM				*eS*	**Sb**	**06 04 23.3**	**-1.0**
ERPM				AML	AML	06 04 36.8	
	comp=Z,372nm,0.5s						
KSR	**Koster**	**2.27**	**1**	*eP*	**Pb**	**06 03 56.6**	**-2.1**
KSR				*eS*	**Sn**	**06 04 23.6**	**-0.1**
KSR				AML	AML	06 04 29.0	
	comp=Z,338nm,0.4s						
LBTB	**Lobatse**	**3.29**	**340**	⇓*iP*	**Pn**	**06 04 10.7**	**+1.2**
LBTB				*eS*	**Sn**	**06 04 48.7**	**-0.2**
LBTB				AML	AML	06 05 05.5	
	comp=Z,324nm,0.3s						
KSD	**Kokstad**	**3.29**	**138**	*eP*	**Pn**	**06 04 11.1**	**+1.5**
KSD				*eS*	**Sn**	**06 04 46.6**	**-2.4**
KSD				AML	AML	06 05 03.7	
	comp=Z,162nm,0.3s						
SUR	**Sutherland**	**6.72**	**229**	*eP*	**Pn**	**06 04 56.3**	**-0.4**
SUR				*eS*	**Sn**	**06 06 11.1**	**-2.4**
SUR				AML	AML	06 06 47.6	
	comp=Z,24nm,0.7s						
ELIM	**Elim**	**8.85**	**221**	*eS*	Sn	06 06 59.5	-6.2
ELIM				AML	AML	06 08 07.8	
	comp=Z,24nm,0.6s						
SNAA	**Sanae**	**46.55**	**192**	*eP*	**P**	**06 11 47.5**	**+2.1**
VNA2	**Neumayer--Watz**	**46.92**	**195**	*eP*	**P**	**06 11 50.2**	**+2.0**
TORD	**Torodi Ar. Bea**	**47.71**	**326**	P	**P**	**06 11 55.8**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=141,slow=5.9,SNR=14						
NVAR	**Mina Array Bea**	**149.26**	**299**	PKPbc	**PKPab**	**06 23 10.3**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=99,slow=2.8,SNR=5.0						

FUNV 26 06:17:12.8, 7°.06N×72°.86W, h145km, MW3.5, 5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.97**	**34**	⇓*iP*	Pn	06 17 36.4	-0.7
CAPV				*eS*	Sn	06 17 54.2	-1.4
VIGV	**El Vigia**	**2.31**	**40**	⇓*iP*	Pn	06 17 51.0	-0.3
VIGV				*eS*	Sn	06 18 18.2	-2.8
SOCV	**Socops**	**2.33**	**58**	*eP*	Pn	06 17 50.6	-1.0
SOCV				*eS*	Sn	06 18 18.2	-3.2
ELOV	**Elorza**	**3.35**	**91**	⇓*iP*	Pn	06 18 02.5	-2.0
VIRV	**Villa del Rosa**	**3.45**	**7**	⇓*iP*	Pn	06 18 03.8	-2.0
VIRV				*eS*	Sn	06 18 42.0	-4.9
QARV	**Quebrada Arrib**	**3.89**	**36**	*eP*	Pn	06 18 10.8	-0.8
QARV				*eS*	Sn	06 18 52.8	-4.4
CURV	**Curarigua**	**4.10**	**44**	*eP*	Pn	06 18 13.6	-0.8
DABV	**Dabajuro**	**4.42**	**30**	*eP*	Pn	06 18 17.4	-1.1
TEPV	**Terepaima**	**4.64**	**51**	*eP*	Pn	06 18 19.4	-2.0
SIQV	**Siquisique**	**4.67**	**40**	*eP*	Pn	06 18 20.5	-1.4
SIQV				*eS*	Sn	06 19 10.1	-5.6
BAUV	**El Baul**	**5.13**	**68**	*eP*	Pn	06 18 25.1	-2.7
MAPV	**Macapo**	**5.15**	**57**	⇓*eP*	Pn	06 18 26.7	-1.6
MONV	**Montecano**	**5.64**	**30**	*eP*	Pn	06 18 32.3	-2.3
TURV	**Turiamo**	**6.00**	**55**	*eP*	Pn	06 18 38.0	-1.4
BIRV	**Birongo**	**7.34**	**62**	*eP*	Pn	06 18 55.1	-2.4
CUPV	**Cœpira**	**7.60**	**66**	*eP*	Pn	06 18 58.4	-2.6
PRGV	**PARIAGUAN**	**8.31**	**78**	*eP*	Pn	06 19 07.5	-3.0
PCRV	**Puerto La Cruz**	**8.70**	**69**	*eP*	Pn	06 19 13.0	-2.7

IDC 26 06:18:02.7±0.9, 3°.21N×126°.65E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=60.5km s-min=16.9km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.21**	**162**	P	P	06 23 21.0	-0.3
	7.8nm,0.8s,baz=340,slow=10,SNR=39						
ASAR	**Alice Springs**	**27.63**	**166**	P	P	06 23 52.2	0.0
	0.9nm,0.6s,baz=348,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**37.67**	**159**	P	P	06 25 20.0	+0.2
	8.2nm,1.0s,baz=331,slow=7.2,SNR=10						
SONM	**Songino Array**	**47.77**	**342**	P	P	06 26 41.5	-0.3
	0.3nm,0.5s,baz=158,slow=9.0,SNR=2.2						
PETK	**Petropavlovsk-**	**55.94**	**22**	P	P	06 27 42.6	0.0
	1.4nm,0.8s,baz=207,slow=5.8,SNR=2.7						
MKAR	**Makanchi Array**	**57.94**	**325**	P	P	06 27 58.2	+1.3
	0.4nm,0.5s,baz=125,slow=7.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**62.13**	**328**	P	P	06 28 24.8	-0.8
	1.2nm,0.7s,baz=130,slow=5.9,SNR=9.2						

*ISCJB **26** 06:23:02.1±0.5, 21°.54N±0°.05×143°.1E±0°.1, h311km, mb3.9/24, Error ellipse: s-maj=13.6km s-min=7.1km az=168.7*
*IDC **26** 06:23:04.3±1.7, 21°.63N×143°.07E, h315km±15km, mb3.6/23, mb1 3.8/26, mb1mx3.8/32, mbtmp3.6/26, Error ellipse: s-maj=12.8km s-min=10.8km az=98.0*

ISC 26 06:23:03.7±0.7, 21°.61N±0°.08×143°.1E±0°.1, h311km, n46, σ0°.77/51, mb4.0/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.52**	**352**	P	**Pn**	**06 24 27.6**	**0.0**
CBIJ	**Chichi jima**	**5.52**	**352**	P	**Pn**	**06 24 27.9**	**+0.3**
	baz=165,slow=16						
CBIJ				S	**S**	**06 25 35.6**	**+0.3**
	35nm,0.3s,baz=291,slow=23,SNR=6.9						
JHJ2	**Mitsune**	**11.82**	**346**	P	**Pn**	**06 25 43.3**	**-0.4**
JWZ	**Kozaga**	**13.55**	**333**	P	**Pn**	**06 26 04.9**	**+0.4**
JOD2	**Odawara 2**	**14.05**	**346**	P	**Pn**	**06 26 10.2**	**-0.2**
JMN	**Monobe**	**14.56**	**328**	P	**Pn**	**06 26 18.3**	**+1.7**
JYT	**Yasato**	**14.78**	**351**	P	**Pn**	**06 26 19.6**	**+0.5**
JRY	**Ryogami san**	**14.81**	**347**	P	**P**	**06 26 17.9**	**-0.2**
JWT	**Wachi**	**15.20**	**335**	P	**Pn**	**06 26 23.9**	**-0.1**
MJAR	**Matsushiro Arr**	**15.47**	**345**	P	**P**	**06 26 25.3**	**0.0**
	2.8nm,0.3s,baz=157,slow=8.3,SNR=11						
MJAR				S	**S**	**06 29 12.6**	**0.0**
	0.5nm,0.3s,baz=170,slow=26,SNR=6.5						
MAT	**Matsushiro**	**15.48**	**345**	P	**P**	**06 26 25.8**	**+0.5**
MAT				S	**S**	**06 29 11.8**	**-0.8**
MAT	**Matsushiro**	**15.48**	**345**	P	**P**	**06 26 25.2**	**-0.1**
JNU	**Nakatsue**	**15.77**	**319**	P	**P**	**06 26 28.8**	**+0.2**
	0.5nm,0.3s,baz=65,slow=12,SNR=3.9						
JMM	**Marumori**	**16.32**	**353**	P	**Pn**	**06 26 36.4**	**-0.6**
JSD	**Sado**	**16.89**	**347**	P	**P**	**06 26 40.4**	**-0.3**
JYA	**Atsumi**	**17.17**	**351**	P	**Pn**	**06 26 45.8**	**-1.1**
JOM	**Ohasama**	**17.87**	**355**	P	**Pn**	**06 26 57.4**	**+2.3**
KSRS	**Korea Array**	**20.54**	**324**	P	**P**	**06 27 19.4**	**+0.2**
	6.1nm,0.6s,baz=147,slow=9.0,SNR=23						
USRK	**Ussuriysk Arra**	**24.33**	**340**	P	**P**	**06 27 54.2**	**+0.5**
	2.3nm,0.7s,baz=151,slow=11,SNR=4.5						
PETK	**Petropavlovsk-**	**33.38**	**16**	P	**P**	**06 29 13.9**	**+0.6**
	0.7nm,0.7s,baz=232,slow=9.0,SNR=2.5						
SONM	**Songino Array**	**39.35**	**321**	P	**P**	**06 30 04.0**	**+0.3**
	0.7nm,0.4s,baz=128,slow=7.7,SNR=7.3						
CMAR	**Chiang Mai Arr**	**41.50**	**274**	P	**P**	**06 30 22.1**	**+0.7**
	2.9nm,0.5s,baz=80,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**42.18**	**192**	P	**P**	**06 30 26.8**	**0.0**
	1.8nm,0.6s,baz=14,slow=8.6,SNR=26						
ASAR	**Alice Springs**	**45.89**	**192**	P	**P**	**06 30 56.0**	**0.0**
	0.6nm,0.6s,baz=15,slow=8.8,SNR=12						
ZALV	**Zalesovo Beam**	**54.23**	**322**	P	**P**	**06 31 58.0**	**+0.2**
	4.2nm,0.6s,baz=101,slow=7.5,SNR=12						
ZALV				PcP	**PcP**	**06 32 57.1**	**-0.7**
	3.2nm,0.5s,baz=135,slow=5.4,SNR=8.6						
MKAR	**Makanchi Array**	**54.70**	**313**	P	**P**	**06 32 01.5**	**+0.2**
	1.9nm,0.6s,baz=83,slow=8.4,SNR=11						
MKAR				PcP	**PcP**	**06 32 59.1**	**-0.7**
	1.1nm,0.6s,baz=83,slow=5.2,SNR=5.3						
KURBB	**Kurchatov Arra**	**57.53**	**317**	P	**P**	**06 32 21.3**	**+0.1**
	9.0nm,0.5s

IDC 26 06:33:52.5±1.4, 1°43S×99°61E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=69.3km s-min=21.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.62**	**121**	P	P	06 41 17.9	0.0
	0.6nm,0.7s,baz=301,slow=9.0,SNR=6.7						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	06 41 28.2	-0.4
	0.2nm,0.7s,baz=303,slow=8.8,SNR=3.1						
SONM	**Songino Array**	**49.42**	**6**	P	P	06 42 44.9	+0.6
	0.3nm,0.3s,baz=193,slow=5.9,SNR=3.1						
MKAR	**Makanchi Array**	**50.38**	**345**	P	P	06 42 51.4	-0.1
	1.0nm,0.7s,baz=154,slow=8.7,SNR=6.4						
KURBB	**Kurchatov Arra**	**54.90**	**344**	P	P	06 43 24.3	-0.5
	0.1nm,0.3s,baz=166,slow=6.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	P	06 43 36.3	-0.3
	0.6nm,0.3s,baz=152,slow=6.6,SNR=4.2						
TXAR	**Lajitas Array**	**144.48**	**36**	PKP	PKPbc	06 53 30.7	+0.4
	0.7nm,0.7s,baz=205,slow=0.8,SNR=13						
CFAA	**Coronel Fontan**	**145.18**	**198**	PKPbc	PKPbc	06 53 32.0	-0.4
	0.1nm,0.4s,baz=225,slow=2.9,SNR=4.1						

IDC 26 06:36:15.3±5.7, 5°52N×95°28E, h99km±42km, mb3.5/6, mb1 3.5/7, mb1mx3.3/28, mbtmp3.4/7, Error ellipse: s-maj=126.3km s-min=17.4km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.53**	**126**	P	Pn	06 37 22.7	+0.8
	0.3nm,0.3s,baz=317,slow=19,SNR=2.1						
MKAR	**Makanchi Array**	**42.62**	**347**	P	P	06 44 01.8	-0.1
	0.8nm,0.4s,baz=177,slow=7.9,SNR=8.6						
SONM	**Songino Array**	**43.23**	**11**	P	P	06 44 06.5	-0.4
	0.3nm,0.6s,baz=178,slow=6.9,SNR=3.0						
WRA	**Warramunga Arr**	**45.99**	**124**	P	P	06 44 29.1	0.0
	0.8nm,0.7s,baz=302,slow=9.3,SNR=11						
KURBB	**Kurchatov Arra**	**47.10**	**345**	P	P	06 44 37.1	-0.1
	1.5nm,0.5s,baz=168,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**47.55**	**129**	P	P	06 44 41.0	-0.3
	0.3nm,0.6s,baz=304,slow=8.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**49.03**	**352**	P	P	06 44 52.0	-0.1
	1.7nm,0.3s,baz=177,slow=6.8,SNR=8.9						

CSEM ***26*** *07:18:37.3, 42°59N×13°19E, h11km, MD2.1/7, After ROM*
ROM 26 07:18:37.3±0.1, 42°59N×13°19E, h11km, Md2.1/7, Ml1.6/7, Error ellipse: s-maj=1.0km s-min=0.8km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**279**	Pg	Pg	07 18 40.7	+0.4
LNSS				Sg	Sg	07 18 42.8	+0.4
	460nm,0.2s						
LNSS	**Leonessa**	**0.11**	**279**	Pg	Pg	07 18 40.7	+0.4
LNSS				Sg	Sg	07 18 42.8	+0.4
	460nm,0.2s						
CAMP	**Campotosto**	**0.17**	**107**	Pg	Pg	07 18 41.8	+0.5
CAMP				Sg	Sg	07 18 44.6	+0.6
	74nm,0.7s						
CAMP	**Campotosto**	**0.17**	**107**	Pg	Pg	07 18 41.8	+0.5
CAMP				Sg	Sg	07 18 44.6	+0.6
	74nm,0.7s						
NRCA	**Norcia**	**0.25**	**348**	Pg	Pg	07 18 43.2	+0.5
NRCA				Sg	Sg	07 18 47.1	+0.8
	197nm,0.1s						
NRCA	**Norcia**	**0.25**	**348**	Pg	Pg	07 18 43.2	+0.5
NRCA				Sg	Sg	07 18 47.1	+0.8
	197nm,0.1s						
TERO	**Teramo**	**0.31**	**83**	Pg	Pg	07 18 44.0	+0.3
TERO				Sg	Sg	07 18 48.9	+1.0
	36nm,0.4s						
TERO	**Teramo**	**0.31**	**83**	Pg	Pg	07 18 44.0	+0.3
TERO				Sg	Sg	07 18 48.9	+1.0
	36nm,0.4s						
FIAM	**Fiamignano**	**0.32**	**189**	Pg	Pg	07 18 44.3	+0.4
FIAM				Sg	Sb	07 18 49.7	-0.9
	23nm,0.5s						
FIAM	**Fiamignano**	**0.32**	**189**	Pg	Pg	07 18 44.3	+0.4
FIAM				Sg	Sb	07 18 49.7	-0.9
	23nm,0.5s						
FDMO	**Fiordimonte**	**0.46**	**351**	Pg	Pg	07 18 46.8	+0.5
FDMO				Sg	Sb	07 18 53.8	-0.5
	16nm,0.2s						
FDMO	**Fiordimonte**	**0.46**	**351**	Pg	Pg	07 18 46.8	+0.5
FDMO				Sg	Sb	07 18 53.8	-0.5
	16nm,0.2s						

IDC ***26*** *07:26:36.8±0.5, 38°76N×70°67E, h0km, mb4.5/24, mb1 4.7/30, mb1mx4.6/36, mbtmp4.6/30, ML4.6/6, MS4.3/20, Ms1 4.3/20, ms1mx4.0/42, Error ellipse: s-maj=10.2km s-min=7.9km az=166.0*
NNC ***26*** *07:26:39.9±4.3, 39°05N×70°23E, h0km, mb5.5, mpv5.2, Error ellipse: s-maj=42.3km s-min=20.9km az=1.0*
ISCJB ***26*** *07:26:40.1±0.8, 38°85N±0°02×70°67E±0°02, h27km±5km, mb4.7/145, MS4.4/43, Error ellipse: s-maj=3.7km s-min=2.6km az=14.6*
MOS ***26*** *07:26:41.2±1.2, 38°90N×70°64E, h33km, mb5.1/39, MS4.3/15, Error ellipse: s-maj=5.0km s-min=3.8km az=104.3*
MOS Felt (V) at Garm; (III) at Dushanbe.
GCMT ***26*** *07:26:42.0±0.4, 39°09N×70°50E, h22km±1km, MW4.9, Moment Tensor Solution. s21,c25; s58,c83; Moment tensor: Scale 10¹⁶Nm; Mrr1.20±.17; Mθθ-0.03±.15; Mφφ-1.17±.13; Mrθ-0.20±.23; Mφθ-2.31±.10; Mφr-0.39±.17; Best double couple: M0 2.40000×10¹⁶ NP1:φs174.00000°, δ88.00000°, λ11.00000°. NP2:φs83.00000°, δ79.00000°, λ178.00000°. Principal axes: T 1.7900, Plg9.0000°, Azm39.0000°; N 1.2300, Plg79.0000°, Azm186.0000°; P -3.0200, Plg6.0000°, Azm308.0000°; Data Used: II IU CN IC G.*
BKK ***26*** *07:26:42.5±0.4, 39°N-6°×7°1E±°, h10km, M5.1/16, mB5.4/6, mb4.9/16, MLv5.3/2, Mw(mB)4.8/6.*
BJI ***26*** *07:26:44.7, 39°14N×70°94E, h47km, mB4.9/35, mb4.8/41, ML4.6/3, Ms4.7/46, Ms7 4.5/38*
NEIC ***26*** *07:26:45.4±0.7, 38°98N×70°77E, h59km±6km, mb4.8/35, Error ellipse: s-maj=6.6km s-min=4.7km az=178.0*
NEIC Felt [II] at Dushanbe.
TEH ***26*** *07:26:46.0, 39°05N×70°69E, h46km, ML4.8*
SZGRF ***26*** *07:26:46.1, 39°82N×71°00E, h33km, mb4.9, Tajikistan*
DJA ***26*** *07:26:46.7±0.7, 39°N-6°×7°1E±°, h52km±8km, MS.4/6, mB5.5/2, mb4.9/6, MLv5.6/2, Mw(mB)5.0/2*
ISC 26 07:26:43.6±0.3, 38°99N±0°03×70°61E±0°02, h36km±1km, h36km:pP-P, n492, σ1s75/502, mb4.8/145, MS4.4/43, 22C-17D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.91**	**36**	*i* PN	**Pn**	**07 27 43.7**	**+2.2**
AML	**Almayashu**	**3.91**	**36**	P	**Pn**	**07 27 43.7**	**+2.2**
	SNR=318						
KK31	**Karatay Array**	**4.11**	**359**	⇓Pn	**Pn**	**07 27 45.8**	**+2.0**
	79nm,0.3s,baz=190,slow=13,SNR=1500						
KK31				⇑Lg	Lg	07 28 49.2	
	1μm,0.8s,baz=187,slow=32,SNR=6.6						
KK31	**Karatay Array**	**4.11**	**359**	*e*PN	**Pn**	**07 27 45.4**	**+1.6**
KK31						07 28 48.8	
KK31				pmax	pmax		
	comp=Z,266nm,0.4s						
KK31				pmax	pmax		
	comp=Z,1μm,0.8s						
KKAR	**Karatay Array**	**4.11**	**359**	*e*PN	**Pn**	**07 27 45.3**	**+1.5**
KKAR	**Karatay Array**	**4.11**	**359**	*e*Pn	**Pn**	**07 27 45.3**	**+1.5**
KSH	**Kashi**	**4.19**	**81**	P	Pn	07 27 41.8	-3.3
KSH				S	Sn	07 28 26.5	-6.4
KSH				smax	smax		
	comp=N,4μm,0.9s						
KSH				smax	smax		
	comp=E,2μm,0.9s						
EKS2	**Erkin-Say**	**4.38**	**32**	*e*PN	**Pn**	**07 27 50.0**	**+2.3**
EKS2	**Erkin-Say**	**4.38**	**32**	P	**Pn**	**07 27 50.1**	**+2.3**
	SNR=281						
EKS2	**Erkin-Say**	**4.38**	**32**	*e*Pn	**Pn**	**07 27 50.0**	**+2.3**
UCH	**Uchtor**	**4.39**	**41**	*i* PN	Pn	07 27 50.9	+2.8
UCH	**Uchtor**	**4.39**	**41**	P	Pn	07 27 50.9	+2.8
	SNR=35						
KBL	**Kabul**	**4.62**	**196**	*e*PN	**Pn**	**07 27 53.0**	**+1.9**
KBL	**Kabul**	**4.62**	**196**	*e*Pn	**Pn**	**07 27 53.0**	**+1.9**
AAK	**Ala-Archa**	**4.68**	**38**	PN	**Pn**	**07 27 54.3**	**+2.4**
AAK						07 28 51.9	
AAK				pmax	pmax		
	comp=Z,106nm,0.3s						
AAK				smax	smax		
	comp=N,31nm,0.3s						
AAK				MLR	MLR		
	comp=Z,3μm,20.2s						
AAK	**Ala-Archa**	**4.68**	**38**	P	**Pn**	**07 27 54.2**	**+2.4**
	SNR=556						
AAK	**Ala-Archa**	**4.68**	**38**	*e*Pn	**Pn**	**07 27 54.2**	**+2.4**
AAK				Sn	Sn	07 28 51.9	+7.0
AAK	**Ala-Archa**	**4.68**	**38**	Pn	**Pn**	**07 27 54.3**	**+2.4**
	comp=Z,106nm,0.3s,baz=202,slow=13,SNR=627						
AAK				Sn	Sn	07 28 51.9	+7.0
	comp=Z,31nm,0.3s,baz=310,slow=23,SNR=6.0						
AAK				LR	LR	07 30 03.7	
	comp=Z,3μm,20.2s,baz=196,slow=43						
KZA	**Kyzart**	**4.69**	**47**	*i* PN	**Pn**	**07 27 53.9**	**+1.7**
KZA	**Kyzart**	**4.69**	**47**	P	**Pn**	**07 27 53.9**	**+1.7**
	SNR=970						
FRU	**Bishkek**	**4.89**	**37**	⇑*i*PN	**Pn**	**07 27 56.0**	**+1.4**
FRU				*i*		07 28 10.0	
FRU				*i* S	Sn	07 29 00.0	+10
FRU				pmax	pmax		
	comp=Z,920nm,1.6s						
FRU				pmax	pmax		
	comp=Z,2μm,3.0s						
FRU				smax	smax		
	comp=E,2μm,1.6s						
FRU				MLR	MLR		
	comp=Z,5μm,7.0s						
KBK	**Karagaybulak**	**4.92**	**41**	*i* PN	Pn	07 27 58.1	+3.0
KBK	**Karagaybulak**	**4.92**	**41**	P	Pn	07 27 58.1	+3.0
	SNR=998						
CHMS	**Chumysh**	**5.08**	**37**	*i* PN	**Pn**	**07 27 59.1**	**+1.9**
CHMS	**Chumysh**	**5.08**	**37**	P	**Pn**	**07 27 59.1**	**+1.9**
	SNR=207						
USP	**Ospenovka**	**5.18**	**33**	*i* PN	**Pn**	**07 28 00.8**	**+2.2**
USP	**Ospenovka**	**5.18**	**33**	P	**Pn**	**07 28 00.8**	**+2.2**
	SNR=94						
CEP	**Cherat**	**5.26**	**168**	P	**Pn**	**07 28 02.9**	**+3.0**
CEP				S	**Sn**	**07 29 05.0**	**+5.6**
ULHL	**Ulahol**	**5.37**	**51**	*i* PN	**Pn**	**07 28 02.8**	**+1.3**
ULHL	**Ulahol**	**5.37**	**51**	P	**Pn**	**07 28 02.8**	**+1.3**
	SNR=51						
TKM2	**Tokmak 2**	**5.44**	**42**	⇑Pn	**Pn**	**07 28 04.3**	**+2.0**
	comp=Z,223nm,0.6s						
TKM2				⇓Sn	Sn	07 29 09.4	+5.6
	comp=Z,476nm,0.8s						
TKM2	**Tokmak 2**	**5.44**	**42**	*e*PN	**Pn**	**07 28 04.4**	**+2.0**
TKM2	**Tokmak 2**	**5.44**	**42**	P	**Pn**	**07 28 04.4**	**+2.0**
	SNR=626						
TKM2	**Tokmak 2**	**5.44**	**42**	*e*Pn	**Pn**	**07 28 04.4**	**+2.0**
CHCP	**Chirah Chowk**	**5.74**	**157**	⇓P	**Pn**	**07 28 07.8**	**+1.5**
THW	**Thamme Wali**	**6.25**	**171**	P	**Pn**	**07 28 13.4**	**0.0**
KNDC	**Almaty**	**6.39**	**47**	⇓Pn	Pn	07 28 18.2	+3.0
	comp=Z,402nm,1.0s						
KNDC				⇑Lg	Lg	07 30 08.9	
	comp=Z,897nm,0.9s						
AAA	**Alma-Ata**	**6.41**	**46**	*e*PN	Pn	07 28 18.2	+2.7
AAA				*e*S	**Sn**	**07 29 31.5**	**+4.0**
AAA				pmax	pmax		
	comp=Z,1μm,0.9s						
AAA				smax	smax		
	comp=E,3μm,3.1s						
AAA				MLR	MLR		
	comp=Z,6μm,7.0s						
THN	**Thein Dam**	**7.75**	**146**	*e*P	Pn	07 28 30.5	-3.4
THN				*ex*	x	07 29 59.0	
DLH	**Dalhousie**	**7.77**	**144**	*e*P	**Pn**	**07 28 33.0**	**-1.4**
DLH				*ex*	x	07 30 04.0	
DHRM	**DHARAMSHALA**	**8.17**	**144**	*e*P	**Pn**	**07 28 38.0**	**-1.9**
DHRM				*e*S	**Sn**	**07 30 10.1**	**-0.9**
DHRM				AML	AML	07 30 22.9	
	comp=N,406nm,0.5s						
DHRM				AML	AML	07 30 23.1	
	comp=E,573nm,0.7s						
IMYA	**Miami**	**8.75**	**256**	*e*P	Pn	07 28 43.6	-4.1
BHK	**Bhakra**	**8.93**	**146**	*ex*	Pn	07 28 55.0	+5.0
BHK				*e*4	x	07 30 33.2	
SDNR	**Sundarnagar**	**9.10**	**143**	*e*P	**Pn**	**07 28 51.6**	**-0.9**
SDNR				*ex*	x	07 30 26.0	
ISRO	**Mashad**	**9.23**	**257**	*e*P	Pn	07 28 49.7	-4.7
IMOG	**Moghan**	**9.40**	**256**	*e*P	Pn	07 28 52.8	-4.1
SMLA	**Simla**	**9.51**	**144**	*i* P	**Pn**	**07 28 56.0**	**-1.9**
SMLA				*i* x	x	07 30 42.1	
IEMG	**Emamgholi**	**9.55**	**264**	*e*P	Pn	07 28 54.3	-4.5
IPAY	**Payeh**	**9.55**	**258**	*e*P	Pn	07 28 53.5	-5.3
IAKL	**Akhelmad**	**9.68**	**259**	*e*P	Pn	07 28 54.9	-5.8
ISFR	**Sfrayin**	**10.14**	**263**	*e*P	Pn	07 29 03.8	-3.1
ISHV	**Shirvan**	**10.26**	**266**	*e*P	Pn	07 29 05.0	-3.5
DDI	**Dehra Dun**	**10.60**	**142**	*ex*	x	07 29 06.0	
DDI				*e*P	**Pn**	**07 29 11.8**	**-1.2**
DDI				*ex*	x	07 31 07.1	
DDI				AML	AML	07 31 22.7	
	comp=N,751nm,0.7s						
DDI				AML	AML	07 31 26.8	
	comp=E,782nm,0.6s						
IDAH	**Dahanechah**	**10.72**	**238**	*e*P	**Pn**	**07 29 13.8**	**-1.0**
MK31	**Makanchi Array**	**11.57**	**44**	P	**Pn**	**07 29 26.7**	**+0.5**
	comp=E,61nm,0.8s,baz=228,slow=10,SNR=316						
MK31	**Makanchi Array**	**11.57**	**44**	*e*P	**Pn**	**07 29 26.9**	**+0.7**
MK31	**Makanchi Array**	**11.57**	**44**	*e*Pn	**Pn**	**07 29 26.9**	**+0.7**
MKAR	**Makanchi Array**	**11.57**	**44**	*i* P	**Pn**	**07 29 26.7**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,66nm,0.9s						
MKAR	**Makanchi Array**	**11.57**	**44**	*e*Pn	**Pn**	**07 29 26.8**	**+0.6**
MKAR				Lg	Lg	07 32 47.5	
MKAR	**Makanchi Array**	**11.57**	**44**	Pn	**Pn**	**07 29 25.6**	**-0.6**
	comp=E,1.7nm,0.3s,baz=233,slow=13,SNR=228						
MKAR				Lg	Lg	07 32 47.5	
	comp=Z,0.8nm,0.3s,baz=246,slow=28,SNR=3.7						
MKAR				LR	LR	07 34 16.4	
	comp=Z,1μm,18.4s,baz=230,slow=39						
NDI	**New Delhi**	**11.65**	**150**	*e*P	Pn	07 29 45.7	+18
NDI				*e*S	Sn	07 31 53.2	+17
NDI				AML	AML	07 33 17.1	
	comp=N,22nm,0.6s						
NDI				AML	AML	07 33 19.4	
	comp=E,29nm,0.4s						
AB31	**Akbulak array**	**12.79**	**327**	⇓P	Pn	07 29 39.9	-2.9
	comp=E,44nm,0.5s,baz=144,slow=11,SNR=960						
AB31	**Akbulak array**	**12.79**	**327**	*i* P	Pn	07 29 39.8	-3.0
AB31				pmax	pmax		
	comp=Z,36nm,0.4s						
ABKAR	**Akbulak array**	**12.79**	**327**	*e*Pn	Pn	07 29 40.0	-2.8
KURBB	**Kurchatov Arra**	**12.90**	**23**	⇑P	**Pn**	**07 29 41.2**	**-3.2**
	comp=Z,25nm,0.7s						
KURBB	**Kurchatov Arra**	**12.90**	**23**	Pn	**Pn**	**07 29 41.6**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=216,slow=12,SNR=49						
KURBB				Sn	**Sn**	**07 32 03.5**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=208,slow=16,SNR=4.1						
KURBB				Lg	Lg	07 33 33.4	
	comp=Z,0.4nm,0.3s,baz=213,slow=27,SNR=5.3						
KURK	**Kurchatov**	**13.01**	**23**	P	Pn	07 29 41.6	-4.2
KURK						07 32 03.5	
KURK	**Kurchatov**	**13.01**	**23**	Pn	Pn	07 29 41.6	-4.2
KURK				Sn	**Sn**	**07 32 03.5**	**-5.7**
KURK				Lg	Lg	07 33 33.4	
IGLO	**Ghaloghah**	**13.52**	**265**	*e*P	Pn	07 29 49.1	-3.9
WMQ	**Urumqi**	**13.69**	**64**	P	P	07 29 59.0	-4.4
WMQ				pP	Pn	07 30 08.5	+13
WMQ				PP	PnPn	07 30 10.3	+7.3
WMQ				S	**Sn**	**07 32 29.5**	**+3.5**
WMQ				sS	**S**	**07 32 42.0**	**-5.8**
WMQ				pmax	pmax		
	comp=Z,54nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.8s						
WMQ				LR	LR		
	comp=N,3μm,20.0s						
WMQ				LR	LR		
	comp=E,800nm,19.0s						
WMQ				LR	LR		
	comp=Z,2μm,22.0s						
IKIA	**Kiasar**	**13.71**	**264**	*e*P	Pn	07 29 51.1	-4.6
BVA0	**Borovoye Array**	**14.03**	**359**	⇓P	**Pn**	**07 29 58.3**	**-1.4**
	comp=Z,27nm,0.8s						
BVA0	**Borovoye Array**	**14.03**	**359**	P	**Pn**	**07 29 58.3**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,27nm,0.8s						
BVAR	**Borovoye Array**	**14.03**	**359**	P	**Pn**	**07 29 58.0**	**-1.8**
BVAR						07 32 29.8	
BVAR	**Borovoye Array**	**14.03**	**359**	Pn	**Pn**	**07 29 58.0**	**-1.8**
BVAR				Sn	**Sn**	**07 32 29.8**	**-4.3**
BVAR				Lg	Lg	07 34 10.4	
BVAR	**Borovoye Array**	**14.03**	**359**	Pn	**Pn**	**07 29 58.0**	**-1.8**
	comp=Z,2.3nm,0.3s,baz=172,slow=12,SNR=38						
BVAR				Sn	**Sn**	**07 32 29.8**	**-4.3**
	comp=Z,2.4nm,0.3s,baz=180,slow=27,SNR=6.8						
BVAR				Lg	Lg	07 34 10.4	
	comp=Z,1.2nm,0.3s,baz=177,slow=27,SNR=3.4						
BRVK	**Borovoye**	**14.07**	**359**	*e*P	**Pn**	**07 29 58.7**	**-1.5**
BRVK	**Borovoye**	**14.07**	**359**	*e*Pn	**Pn**	**07 29 58.7**	**-1.5**
IBAF	**Bafgh**	**14.33**	**244**	*e*P	Pn	07 30 01.6	-2.4
IALA	**Alasht**	**14.42**	**264**	*e*P	Pn	07 30 00.8	-4.6
AKTO	**Aktyubinsk**	**14.50**	**326**	⇓P	**Pn**	**07 30 03.4**	**-2.7**
	comp=Z,85nm,0.7s						
AKTO				⇑S	**Sn**	**07 32 44.5**	**-1.1**
	comp=Z,241nm,1.0s						
AKTO	**Aktyubinsk**	**14.50**	**326**	P	**Pn**	**07 30 03.5**	**-2.7**
AKTO						07 32 40.9	
AKTO	**Aktyubinsk**	**14.50**	**326**	Pn	**Pn**	**07 30 03.5**	**-2.7**
AKTO				Sn	**Sn**	**07 32 40.9**	**-4.6**
AKTO	**Aktyubinsk**	**14.50**	**326**	Pn	**Pn**	**07 30 03.5**	**-2.7**
	comp=Z,1.9nm,0.3s,baz=139,slow=14,SNR=39						
AKTO				Sn	**Sn**	**07 32 40.9**	**-4.6**
	comp=Z,2.2nm,0.3s,baz=156,slow=20,SNR=5.5						
AKTO				LR	LR	07 36 20.2	
	comp=Z,1μm,21.7s,baz=142,slow=40						
ICHK	**Chekchek**	**14.79**	**248**	*e*Pn	**Pn**	**07 30 09.2**	**-1.2**
IDMV	**Damavand**	**15.18**	**263**	*e*P	**Pn**	**07 30 13.2**	**-2.4**
DANN	**Dangsing**	**15.23**	**130**	*e*P	Pn	07 30 10.3	-6.0
ISFB	**Sefidab**	**15.45**	**258**	*e*P	Pn	07 30 14.9	-4.0
ISAD	**Sadrabad**	**15.49**	**248**	*e*P	Pn	07 30 15.9	-3.7
KOLN	**Koldanda**	**15.57**	**132**	*e*P	Pn	07 30 15.0	-5.6
	comp=Z,94nm,0.9s						
IZEF	**Zefreh**	**16.00**	**253**	*e*P	**Pn**	**07 30 24.5**	**-1.7**
IGZV	**Ghazvin**	**16.35**	**267**	*e*P	Pn	07 30 25.3	-5.3
IKLH	**Kolahrood**	**16.38**	**256**	*e*P	**P**	**07 30 35.7**	**+2.2**
KKN	**Kakani**	**16.55**	**128**	*e*P	Pn	07 30 27.6	-5.6
	comp=Z,65nm,0.6s						
DMN	**Daman**	**16.58**	**129**	*e*P	Pn	07 30 28.6	-5.0
	comp=Z,89nm,0.7s						
BHPL	**Bhopal**	**16.74**	**158**	*e*P	**Pn**	**07 30 33.1**	**-2.3**
BHPL				*ex*	x	07 33 27.6	
SIZA	**Siyzn**	**16.76**	**284**	P	**P**	**07 30 38.3**	**+0.8**
	SNR=12						
SIZA	**Siyzn**	**16.76**	**284**	Pn	**P**	**07 30 38.3**	**+0.8**
	SNR=12						
PKIN	**Phulchoki**	**16.78**	**128**	*e*P	Pn	07 30 31.2	-4.9
	comp=Z,55nm,0.6s						
PKI	**Pulchoki**	**16.79**	**128**	*e*P	Pn	07 30 31.3	-5.0
	comp=Z,111nm,0.8s						
GUN	**Gumba**	**16.84**	**126**	*e*P	Pn	07 30 31.3	-5.6
	comp=Z,153nm,0.8s						
IRAZ	**Razeghan**	**16.86**	**264**	*e*P	Pn	07 30 33.5	-3.5
LKRN	**Lenkeran, Azer**	**17.01**	**276**	P	**P**	**07 30 43.0**	**+2.8**
	SNR=7.1						
LKRN	**Lenkeran, Azer**	**17.01**	**276**	Pn	**P**	**07 30 43.0**	**+2.8**
	SNR=7.1						
QUBA	**Quba, Azerbaij**	**17.07**	**285**	P	**P**	**07 30 42.0**	**+1.1**
	SNR=3.6						
QUBA	**Quba, Azerbaij**	**17.07**	**285**	Pn	**P**	**07 30 42.0**	**+1.1**
	SNR=3.6						
IPIR	**Pirpir**	**17.17**	**255**	*e*P	**Pn**	**07 30 41.1**	**+0.1**
JIRN	**Jiri**	**17.21**	**126**	*e*P	Pn	07 30 35.9	-5.7
	comp=Z,88nm,0.5s						
GLBA	**Clilabad**	**17.25**	**278**	P	**Pn**	**07 30 42.8**	**+1.2**
	SNR=8.1						
GLBA	**Clilabad**	**17.25**	**278**	Pn	**Pn**	**07 30 42.8**	**+1.2**
	SNR=8.1						
IML	**Ismayilli**	**17.30**	**283**	P	**P**	**07 30 44.1**	**+0.6**
	SNR=6.0						
IML	**Ismayilli**	**17.30**	**283**	Pn	**P**	**07 30 44.1**	**+0.6**
	SNR=6.0						
ZAA0	**Zalesovo Array**	**17.82**	**28**	*e*Pn	**Pn**	**07 30 46.7**	**-1.8**
ZALV	**Zalesovo Beam**	**17.82**	**28**	*i* P	**Pn**	**07 30 47.0**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,56nm,0.6s						
ZALV	**Zalesovo Beam**	**17.82**	**28**	P	**Pn**	**07 30 47.2**	**-1.3**
ZALV				Lg	Lg	07 36 04.0	
ZALV	**Zalesovo Beam**	**17.82**	**28**	P	**Pn**	**07 30 47.2**	**-1.3**
	comp=Z,2.9nm,0.3s,baz=228,slow=12,SNR=131						
ZALV				Lg	Lg	07 36 04.0	
	comp=Z,0.1nm,0.3s,baz=215,slow=26,SNR=2.2						
ZALV				LR	LR	07 38 03.8	
	comp=Z,1μm,18.4s,baz=247,slow=38						
MAK	**Makhachkala**	**17.88**	**290**	*e*P	**Pn**	**07 30 46.8**	**-2.6**
MAK				*e*S	Sn	07 34 01.3	-6.2
MAK				pmax	pmax		
	comp=Z,141nm,1.5s						
MAK				MLR	MLR		
	comp=Z,850nm,10.0s						
RAMN	**Ramite**	**17.97**	**127**	*e*P	Pn	07 30 44.8	-6.1
	comp=Z,161nm,0.9s						
NVS	**Novosibirsk**	**18.00**	**24**	⇑*i*P	**Pn**	**07 30 47.6**	**-3.1**
NVS				*e*S	Sn	07 34 02.0	-8.2
NVS				pmax	pmax		
	comp=N,27nm,1.0s						
NVS				pmax	pmax		
	comp=E,16nm,1.0s						
NVS				pmax	pmax		
	comp=Z,45nm,1.0s						
NVS				smax	smax		
	comp=N,56nm,2.2s						
NVS				smax	smax		
	comp=E,84nm,2.0s						
BRDA	**Brd**	**18.09**	**281**	P	**Pn**	**07 30 53.1**	**+1.2**
	SNR=6.9						
BRDA	**Brd**	**18.09**	**281**	P	**Pn**	**07 30 53.1**	**+1.2**
	SNR=6.9						
TAPN	**Taplejung**	**18.39**	**124**	*e*P	P	07 30 50.3	-5.6
	comp=E,78nm,0.8s						
T

comp=Z,165nm,0.9s
KBZ Khabaz 21.29 292 P **P 07 31 25.8 -1.1**
KBZ S **S 07 35 24.6 +3.3**
KBZ Khabaz 21.29 292 P **P 07 31 25.8 -1.1**
KBZ S **S 07 35 24.6 +3.3**
KBZ Khabaz 21.29 292 P **P 07 31 25.8 -1.1**
comp=Z,15nm,0.9s,baz=133,slow=8.6,SNR=14
KBZ S **S 07 35 24.6 +3.3**
comp=Z,13nm,0.9s,baz=207,slow=9.0,SNR=3.9
KBZ LR LR 07 41 50.2
comp=Z,1μm,18.3s,baz=91,slow=43
KBD Kabd 21.31 250 *e*P **P 07 31 25.6 -1.7**
KBD AMb AMB 07 31 32.7
comp=Z,72nm,0.9s
KIV Kislovodsk 21.45 292 *e*P **P 07 31 30.8 +2.0**
KIV *e*S **S 07 35 25.7 +0.9**
KIV pmax pmax
comp=Z,108nm,0.9s
KIV MLR MLR
comp=Z,642nm,14.0s
RDF Al-Radifah 21.55 249 *e*P **P 07 31 28.5 -1.3**
RDF AMb AMB 07 31 32.7
comp=Z,101nm,0.9s
NAY Al-Naaiem 21.60 250 *e*P **P 07 31 29.4 -1.0**
NAY AMb AMB 07 31 34.9
comp=Z,3.4nm,0.8s
RST Umm Al-Ruwaisa 21.65 251 *e*P **P 07 31 29.3 -1.6**
BHD Baghdad 21.91 263 *e*P P 07 31 42.0 +8.4
BHD *e*S **S 07 35 39.0 +5.4**
ARTV Artvin 22.02 285 *i* P **P 07 31 37.2 +2.1**
DAGI Agillar 22.03 285 *i* P **P 07 31 37.0 +1.9**
DBOC Borcka 22.20 285 *i* P **P 07 31 39.2 +2.4**
DBAD Bademkaya 22.20 284 *i* P **P 07 31 40.2 +3.3**
SHL Shillong 22.35 121 *e*P **P 07 31 39.0 +0.3**
SHL *e*4 07 35 57.0
SOKR Solikamsk 22.39 341 *c i*P **P 07 31 38.6 +0.1**
SOKR S **S 07 35 45.1 +3.0**
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,870nm,14.0s
ERZM Erzurum 22.56 282 *i* P **P 07 31 43.7 +2.7**
HYB Hyderabad 22.59 160 *i* P **P 07 31 39.5 -1.6**
GTA Gaotai 22.59 80 P **P 07 31 40.3 -0.8**
GTA pP **pP 07 31 51.8 +1.2**
GTA sP **sP 07 31 57.5 +2.4**
GTA S **S 07 35 43.0 -3.4**
GTA sS **sS 07 36 02.0 -0.5**
GTA pmax pmax
comp=Z,14nm,1.7s
GTA pmax pmax
comp=Z,250nm,5.2s
GTA LR LR
comp=N,2μm,12.4s
GTA LR LR
comp=E,990nm,12.4s
VRHR Novokhopersk 23.62 310 *e*P **P 07 31 51.1 -0.1**
VRHR *e**PP **pP 07 31 56.9 -4.2**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR MLR MLR
comp=Z,920nm,14.0s
VRHR MLR MLR
comp=N,170nm,11.0s
VRHR MLR MLR
comp=E,890nm,17.0s
KEMA Kemaliye 24.85 281 *i* P **P 07 32 05.2 +2.4**
VSR Storozhevoye 25.13 309 *e*P **P 07 32 04.7 -0.3**
VSR *e*S S 07 36 35.4 +8.1
VSR pmax pmax
comp=E,70nm,0.8s
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.4s
VSR smax smax
comp=N,390nm,3.2s
VSR smax smax
comp=Z,180nm,3.5s
VSR smax smax
comp=E,60nm,3.0s
VSR MLR MLR
comp=N,840nm,17.0s
VSR MLR MLR
comp=E,760nm,17.0s
VSR MLR MLR
comp=Z,2μm,17.0s
ANN Anapa 25.25 294 *e*P **P 07 32 07.4 +1.2**
ANN *e**PP **pP 07 32 19.0 +2.7**
ANN *e* 07 32 48.4
ANN *e* 07 35 38.9
ANN *e*S **S 07 36 32.2 +2.8**
ANN pmax pmax
comp=Z,124nm,1.2s
ANN MLR MLR
comp=N,389nm,15.0s
ANN MLR MLR
comp=E,274nm,15.0s
ANN MLR MLR
comp=Z,424nm,15.0s
ZAK Zakamensk 25.66 53⇑ *i*P **P 07 32 09.9 -0.1**
ZAK pmax pmax
comp=Z,22nm,1.1s
LZH Lanzhou 26.43 86 *e*P **P 07 32 17.0 -0.1**
LZH pP **pP 07 32 30.5 +3.2**
LZH sP sP 07 32 38.0 +6.3
LZH PP **PnPn 07 33 01.0 +3.4**
LZH S S 07 36 40.0 -8.5
LZH sS **sS 07 37 03.0 -2.4**
LZH pmax pmax
comp=Z,30nm,0.9s
LZH pmax pmax
comp=Z,100nm,4.0s
LZH LR LR
comp=N,1μm,12.8s
LZH LR LR
comp=E,820nm,9.1s
LZH LR LR
comp=Z,1μm,15.6s
SONM Songino Array 27.25 59 P **P 07 32 23.7 -0.7**
SONM Songino Array 27.25 59 P **P 07 32 23.7 -0.7**
comp=Z,4.3nm,1.0s,baz=261,slow=9.7,SNR=19
SONM LR LR 07 44 16.9
comp=Z,823nm,19.4s,baz=264,slow=39
MOS Moscow 27.56 318 *e*P **P 07 32 29.7 +2.8**
SIM Simferopol' 27.61 294 *e*P **P 07 32 29.0 +1.5**
SIM *e*S **S 07 37 10.0 +3.3**
SIM pmax pmax
comp=Z,27nm,0.8s
ULN Ulaanbaatar 27.69 59 *e*P **P 07 32 28.0 -0.4**
comp=Z,8.6nm,0.8s
ULN Ulaanbaatar 27.69 59 P **P 07 32 28.3 -0.1**
comp=Z,12nm,0.9s
OBN Obninsk 27.88 317 *e*P **P 07 32 30.6 +0.8**
OBN *e* 07 32 37.6
OBN *e* 07 32 46.0
OBN *e* 07 33 20.1
OBN *e* 07 35 49.2
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,500nm,16.0s
ASF Jabal al Asfar 28.14 266 LR LR 07 45 57.1
comp=Z,214nm,19.8s,baz=219,slow=41
CD2 Chengdu 28.22 96 *e*P **P 07 32 33.8 +0.7**
CD2 pP **pP 07 32 46.0 +2.6**
CD2 sP **sP 07 32 51.8 +4.1**
CD2 PP **PnPn 07 33 25.5 +3.5**
CD2 S **S 07 37 14.5 -2.1**
CD2 sS **sS 07 37 34.8 +1.3**
CD2 SS **SnSn 07 38 39.3 +4.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,830nm,13.2s
CD2 LR LR
comp=E,1μm,12.0s
BR131 Keskin Array S 28.47 283 *e*P **P 07 32 36.3 +0.9**
comp=E,7.9nm,0.8s
BRTR Keskin Array B 28.47 283 P **P 07 32 35.5 +0.1**
BRTR Keskin Array B 28.47 283 P **P 07 32 35.5 +0.1**
comp=E,12nm,0.9s,baz=97,slow=7.4,SNR=28
BRTR LR LR 07 45 52.6
comp=E,206nm,18.4s,baz=357,slow=40
MMAI Mount Meron Ar 28.98 269 LR LR 07 46 43.3
comp=E,348nm,18.3s,baz=60,slow=42
ANTO Ankara 29.09 284 *e*P **P 07 32 42.0 +1.2**
ANTO pmax pmax
comp=Z,19nm,1.0s
ANTO Ankara 29.09 284 *e*P **P 07 32 42.0 +1.2**
comp=Z,19nm,1.0s
KMI Kunming 30.36 108 P **P 07 32 55.3 +2.9**
KMI pP **pP 07 33 07.0 +4.4**
KMI sP sP 07 33 12.0 +5.0
KMI PP **PnPn 07 33 55.5 +4.2**
KMI S **S 07 37 51.5 +0.9**
KMI sS **sS 07 38 11.8 +4.2**
KMI SS **ScP 07 39 31.5 +0.2**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI pmax pmax
comp=Z,100nm,3.4s
KMI LR LR
comp=N,530nm,12.9s
KMI LR LR
comp=E,130nm,15.4s
KMI LR LR
comp=Z,460nm,12.3s
EIL Elat 30.72 263 LR LR 07 47 58.8
comp=Z,680nm,18.1s,baz=260,slow=42
CMAI Chiengmai2 31.01 120 P **P 07 32 56.8 -1.2**
comp=Z,14nm,1.3s,comp=Z,885nm
XAN Xi'an 31.02 87 P **P 07 32 56.5 -1.4**
XAN pP **pP 07 33 07.0 -1.2**
XAN PP **PnPn 07 33 54.5 -5.1**
XAN S S 07 37 51.0 -10
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,19nm,6.4s
XAN LR LR
comp=N,640nm,19.4s
XAN LR LR
comp=E,290nm,21.5s
XAN LR LR
comp=Z,250nm,16.4s
AKASG Malin Array Be 31.19 306 P **P 07 32 59.3 +0.1**
AKASG Malin Array Be 31.19 306 P **P 07 32 59.3 +0.1**
AKASG Malin Array Be 31.19 306 P **P 07 32 59.3 +0.1**
comp=Z,14nm,1.0s,baz=79,slow=7.1,SNR=11
AKASG LR LR 07 47 52.6
comp=Z,809nm,20.1s,baz=95,slow=41
KIEV Kiev 31.20 306 *e*P **P 07 32 58.9 -0.3**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 31.20 306 *e*P **P 07 32 58.9 -0.3**
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 31.26 73 *e*P **P 07 33 00.3 +0.3**
HHC pP **pP 07 33 12.0 +1.7**
HHC PP **PnPn 07 34 03.5 +0.8**
HHC PcP **PcP 07 35 54.5 +0.7**
HHC S **S 07 38 01.3 -2.9**
HHC sS **sS 07 38 21.5 +0.3**
HHC PcS **PcS 07 39 37.8 -0.3**
HHC SS **SnSn 07 39 47.8 -0.7**
HHC ScS **ScS 07 43 28.5 -2.9**
HHC pmax pmax
comp=Z,46nm,0.8s
HHC pmax pmax
comp=Z,240nm,6.0s
HHC LR LR
comp=N,620nm,13.2s
HHC LR LR
comp=E,820nm,14.2s
HHC LR LR
comp=Z,2μm,14.4s
TMCR Tamitsa 31.67 333 *e*P **P 07 33 02.9 -0.3**
TMCR *e* 07 34 06.8
TMCR pmax pmax
comp=Z,21nm,0.7s
CHTO Chiang Mai 31.72 121 P P 07 33 09.5 +5.4
CHTO Chiang Mai 31.72 121 P P 07 33 09.5 +5.4
comp=Z,7.2nm,1.7s
CFR Carcaliu 31.84 295⇓ *i*P **P 07 33 05.6 +0.7**
PAYA Payao 31.96 119 P **P 07 33 05.5 -0.7**
comp=Z,4.3nm,0.9s
CMAR Chiang Mai Arr 31.97 122 P **P 07 33 03.9 -2.4**
CMAR Chiang Mai Arr 31.97 122 P **P 07 33 03.9 -2.4**
comp=Z,3.3nm,0.9s,baz=312,slow=8.4,SNR=9.3
CMAR LR LR 07 48 00.6
comp=Z,253nm,19.4s,baz=152,slow=40
GYA Guiyang 32.59 102 P **P 07 33 13.5 +1.6**
GYA pP **pP 07 33 25.8 +3.6**
GYA sP sP 07 33 32.0 +5.5
GYA PP **PP 07 34 22.8 -3.0**
GYA PcP **PcP 07 36 01.5 +3.8**
GYA S **S 07 38 25.0 -0.3**
GYA sS **sS 07 38 45.3 +3.0**
GYA ScP **ScP 07 39 39.5 +0.8**
GYA ScS **ScS 07 43 37.5 -1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=N,480nm,15.8s
GYA LR LR
comp=E,420nm,16.4s
GYA LR LR
comp=Z,510nm,15.5s
VRI Vrincioaia 32.78 297⇑ *i*P **P 07 33 15.4 +2.2**
TESR Tescani 32.80 298⇑ *i*P **P 07 33 14.7 +1.4**
PLOR Plostina 32.84 297⇓ *i*P **P 07 33 15.5 +1.8**
ENH Enshi 32.95 93 *e*P **P 07 33 13.7 -1.1**
comp=Z,12nm,0.8s
MLR Muntele Rosu 33.36 296⇓ *i*P **P 07 33 20.5 +2.1**
JOF Joensuu 33.57 328 *e*P **P 07 33 18.7 -1.2**
JOF pmax pmax
comp=Z,14nm,0.7s
JOF Joensuu 33.57 328 *e*p **P 07 33 18.7 -1.2**
comp=Z,14nm,0.7s
BURAR Bucovina Array 33.73 300⇓ *i*P **P 07 33 23.1 +1.6**
BUR08 Bucovina Ar. S 33.74 300 *e*P **P 07 33 22.6 +1.0**
VOIR 33.99 296⇑ *i*P **P 07 33 25.2 +1.4**
VSU Vasula 34.07 319 *i* P **P 07 33 24.4 +0.2**
VSU pmax pmax
comp=Z,37nm,0.9s
LOEI Loei 34.20 120 P **P 07 33 26.1 +0.3**
comp=Z,20nm,1.0s,comp=Z,603nm
UTHA Uthaitani 34.41 125 P **P 07 33 27.2 -0.4**
comp=Z,8.7nm,0.9s,comp=Z,81nm
LVV L'vov 34.48 304 *e*P **P 07 33 27.3 -0.6**
PBKT Sadao Pong 34.67 122 P **P 07 33 28.9 -0.9**
comp=Z,21nm,1.2s
PBKT Sadao Pong 34.67 122 P **P 07 33 28.9 -0.9**
comp=Z,21nm,1.2s
BJI Beijing 34.87 73 P **P 07 33 34.0 +2.6**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=N,1μm,20.0s
BJI LR LR
comp=E,370nm,20.9s
BJI LR LR
comp=Z,500nm,22.1s
LVZ Lovozero 35.04 337⇑ *i*P **P 07 33 32.7 +0.1**
LVZ pmax pmax
comp=Z,71nm,1.7s
APA Apatity 35.23 336⇑ *e*P P 07 33 30.0 -4.1
APA MLR MLR
comp=Z,2μm,11.0s
FIA1 FINESS Array S 35.26 324 *e*P **P 07 33 32.2 -2.3**
FINES FINESS Array B 35.26 324 P **P 07 33 34.2 -0.3**
FINES FINESS Array B 35.26 324 P **P 07 33 34.2 -0.3**
comp=Z,3.3nm,0.8s,baz=106,slow=10,SNR=14
FINES LR LR 07 49 02.6
comp=Z,672nm,21.2s,baz=107,slow=38
KWP Kalwaria Pacla 35.34 303 *e*P **P 07 33 36.1 +0.8**
KWP pmax pmax
comp=Z,12nm,0.7s
KWP Kalwaria Pacla 35.34 303 *e*P **P 07 33 36.1 +0.8**
comp=Z,12nm,0.7s
KAF Kangasniemi 35.38 325 *e*P **P 07 33 35.7 +0.2**
KAF pmax pmax
comp=Z,13nm,1.3s
KAF Kangasniemi 35.38 325 *e*p **P 07 33 35.7 +0.2**
comp=Z,13nm,1.3s
DRGR 35.48 299⇑ *i*P **P 07 33 39.5 +2.8**
KOLS Kolonicke sedl 35.64 302 *e*P **P 07 33 40.0 +2.1**
KOLS pmax pmax
comp=Z,13nm,1.4s
KOLS Kolonicke sedl 35.64 302 *e*P **P 07 33 40.0 +2.1**
KOLS *e*PP **PnPn 07 34 51.5 -6.3**
VTS Vitosha 35.70 291⇑ *i*P P 07 33 42.3 +3.6
STHS Stebnicka Huta 36.30 303 *e*P **P 07 33 46.5 +3.0**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 36.30 303 *e*P **P 07 33 46.5 +3.0**
BZS Buzias 36.37 297⇓ *i*P P 07 33 48.0 +3.8
SKNT Sakolnakorn 36.42 118 P **P 07 33 43.4 -1.5**
comp=Z,65nm,0.9s
PHET Kaeng Krachan 36.53 127 P P 07 33 49.2 +3.4
comp=Z,70nm,0.9s
NAYO Nakonayok 36.54 124 P **P 07 33 45.4 -0.5**
comp=Z,40nm,0.9s
WHN Wuhan 36.62 90 P **P 07 33 47.0 +0.6**
WHN LR LR
comp=N,520nm,12.9s
WHN LR LR
comp=E,770nm,10.7s
WHN LR LR
comp=Z,1μm,15.1s
KECS Kecovo 36.85 302 *e*P **P 07 33 49.9 +1.7**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 36.85 302 *e*P **P 07 33 49.9 +1.7**
NIE Niedzica 36.90 303 *e*P P 07 33 53.0 +4.3
OJC Ojcow 37.20 305 *e*P **P 07 33 52.5 +1.3**
OJC Ojcow 37.20 305 *e*P **P 07 33 51.7 +0.6**
VYHS Vyhne 37.94 302 *e*P **P 07 33 59.3 +1.8**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 37.94 302 *e*P **P 07 33 59.3 +1.8**
OKC Ostrava-Krasne 38.28 304 AMS AMS 07 53 00.0
comp=Z,300nm,16.4s
UBPT Khong Chiam 38.62 118 P **P 07 34 01.8 -1.7**
comp=Z,22nm,1.1s,comp=Z,2μm
UBPT Khong Chiam 38.62 118 P **P 07 34 01.8 -1.7**
comp=Z,22nm,1.1s,comp=Z,2μm
MORC Moravsky Berou 38.68 304 *e*P **P 07 34 04.7 +1.0**
MORC pmax pmax
comp=Z,6.0nm,1.1s
MORC Moravsky Berou 38.68 304 *e*P **P 07 34 04.7 +1.0**
comp=Z,6.0nm,1.1s
ARCES ARCESS Array B 38.73 337 P **P 07 34 03.7 -0.2**
ARCES ARCESS Array B 38.73 337 P **P 07 34 03.7 -0.2**
comp=Z,4.3nm,0.6s,baz=101,slow=7.4,SNR=11
ARCES LR LR 07 50 59.0
comp=Z,929nm,18.0s,baz=120,slow=38
ARE0 ARCESS Array S 38.73 337 *e*P **P 07 34 03.8 -0.1**
QIZ Qiongzhong 39.27 109 P **P 07 34 08.5 -0.5**
QIZ sP **sP 07 34 23.0 -0.7**
QIZ S **S 07 40 06.5 -0.8**
QIZ pmax pmax
comp=Z,7.0nm,1.6s
QIZ LR LR
comp=N,520nm,16.9s
QIZ LR LR
comp=Z,570nm,16.4s
QIZ Qiongzhong 39.27 109 P **P 07 34 07.1 -1.9**
DPC Dobruska-Polom 39.41 305 *e*P **P 07 34 11.4 +1.5**
DPC pmax pmax
comp=Z,72nm,1.2s
DPC Dobruska-Polom 39.41 305 *e*P **P 07 34 11.4 +1.5**
DPC *ex* x 07 34 16.9
DPC AMS AMS 07 52 50.0
DPC Dobruska-Polom 39.41 305 *e*P **P 07 34 11.4 +1.5**
comp=Z,72nm,1.2s
NJ2 Nanjing 39.49 85 *e*P **P 07 34 11.0 +0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
UPC Upice 39.60 305 *e*P **P 07 34 13.5 +2.1**
UPC *e* 07 34 18.5
UPC Upice 39.60 305 *e*P **P 07 34 13.5 +2.1**
UPC *ex* x 07 34 18.5
CONA Conrad Observa 39.98 301 **P 07 34 15.8 +1.1**
comp=Z,13nm,1.0s
TREC Trest 40.06 303 AMS AMS 07 54 20.0
comp=Z,500nm,14.7s
PVCC Panska Ves 40.51 305 AMS AMS 07 53 10.0
comp=Z,600nm,17.2s
PRU Pruhonice 40.59 305 *e*P **P 07 34 20.6 +1.0**
PRU *e* 07 34 27.3
PRU MLR MLR
comp=Z,600nm,21.6s
PRU Pruhonice 40.59 305 *e*P **P 07 34 20.6 +1.0**
PRU *ex* x 07 34 27.3
PRU AMS AMS 07 53 20.0
comp=Z,600nm,21.6s
PERS Pernice 40.68 299 *i* P P 07 34 27.9 +7.4
SOKA Soboth 40.73 299⇑ *i*P **P 07 34 21.8 +0.9**
comp=Z,8.0nm,0.9s
CN2 Changchun 40.78 65 *e*P P 07 34 26.5 +5.3
CN2 *e*pP pP 07 34 38.8 +7.1
CN2 *e*sP sP 07 34 44.0 +8.0
CN2 *e*S **S 07 40 32.5 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,13.0s
CN2 LR LR
comp=E,500nm,13.0s
CN2 LR LR
comp=Z,800nm,11.0s
BOJS Bojanci 40.80 298 *i* P P 07 34 27.6 +6.3
BRG Berggiesshubel 40.88 306 *i* P **P 07 34 22.7 +0.8**
comp=Z,12nm,1.0s
BRG *e* 07 34 30.7
comp=Z,14nm,1.0s
BRG
comp=Z,537nm,19.4s
BRG
comp=N,310nm,14.3s
BRG
comp=E,292nm,14.3s
BRG Berggiesshubel 40.88 306 *i* P **P 07 34 22.7 +0.8**
BRG *e* 07 34 30.7
BRG pmax pmax
comp=Z,12nm,1.0s
BRG MLR MLR
comp=Z,537nm,19.4s
BRG MLR MLR
comp=N,310nm,14.3s
BRG MLR MLR
comp=E,292nm,14.3s
VISS Visnje 41.02 298 *i* P P 07 34 27.1 +3.9
MOA Molln 41.06 301⇑ *i*P **P 07 34 24.0 +0.5**
comp=E,6.5nm,1.1s
GEC2 GERESS Array S 41.28 303 *e*P **P 07 34 26.5 +1.1**
GEC2 GERESS Array S 41.28 303 *e*P **P 07 34 26.5 +1.1**
GERES GERESS Array B 41.28 303 P **P 07 34 25.5 +0.1**
GERES PP **PP 07 36 01.1 +0.2**
GERES GERESS Array B 41.28 303 P **P 07 34 25.5 +0.1**
comp=E,2.1nm,0.6s,baz=72,slow=6.3,SNR=16
GERES PP **PP 07 36 01.1 +0.2**
comp=E,0.6nm,0.5s,baz=66,slow=9.8,SNR=2.9
GERES LR LR 07 55 11.3
comp=E,303nm,19.0s,baz=82,slow=41
KHC Kasperske Hory 41.32 303 *e*P **P 07 34 27.1 +1.4**
KHC *e* 07 34 32.4
KHC *e* 07 36 03.7
KHC MLR MLR
comp=Z,500nm,18.4s
KHC Kasperske Hory 41.32 303 *e*P **P 07 34 27.1 +1.4**
KHC *ex* x 07 34 32.4
KHC *e*sP sP 07 34 48.6 +8.2
KHC *e*PP **PP 07 36 03.7 +2.5**
KHC AMS AMS 07 54 50.0
comp=Z,500nm,18.4s
KHC Kasperske Hory 41.32 303 *e*P **P 07 34 26.7 +1.0**
comp=Z,8.2nm,1.0s
CLL Collm 41.42 307 *e*P **P 07 34 27.0 +0.6**
CLL *e* 07 34 34.0
CLL *e*S **S 07 40 39.0 +0.2**
CLL pmax pmax
comp=Z,13nm,1.2s
CLL Collm 41.42 307 *e*P **P 07 34 27.0 +0.6**

comp=Z,13nm,1.2s
CLL e 07 34 34.0
CLL ePP PP 07 36 00.0 -2.2
CLL ePPP PPP 07 36 31.0
CLL eS S 07 40 39.0 +0.2
CLL eSS SS 07 43 36.0 -7.4
JAVS Javornik 41.54 299 *i* P P 07 34 31.0 +3.5
SSE Sheshan 41.70 85 P P 07 34 28.5 -0.4
SSE S S 07 40 42.5 -0.9
SSE sS sS 07 41 05.0 +4.4
SSE pmax pmax
comp=Z,28nm,0.8s
SSE pmax pmax
comp=Z,100nm,7.5s
SSE LR LR
comp=N,470nm,18.1s
SSE LR LR
comp=E,400nm,18.1s
SSE LR LR
comp=Z,490nm,13.6s
CUC Castrocucco 41.73 289 *e*P P 07 34 31.1 +1.9
comp=Z,13nm,0.7s
KBA Koelnbreinsper 41.80 300⇑ *i*P P 07 34 31.0 +1.2
comp=Z,10nm,1.1s
YAK Yakutsk 42.14 37 *e*P P 07 34 30.1 -2.0
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=E,15nm,1.1s
YAK MLR MLR
comp=N,280nm,14.0s
YAK MLR MLR
comp=E,277nm,14.0s
YAK MLR MLR
comp=Z,335nm,13.0s
NB2 NORSAR Subarra 42.22 321 P P 07 34 32.1 -0.8
comp=Z,8.1nm,0.6s,baz=93,slow=8.6
NOA NORSAR Array B 42.22 321 P P 07 34 32.3 -0.6
NOA PP PP 07 36 11.5 +0.7
NOA NORSAR Array B 42.22 321 P P 07 34 32.3 -0.6
comp=Z,6.9nm,0.7s,baz=95,slow=8.3,SNR=17
NOA PP PP 07 36 11.5 +0.7
comp=Z,2.9nm,0.8s,baz=93,slow=10,SNR=3.6
NOA LR LR 07 52 58.7
comp=Z,545nm,18.1s,baz=85,slow=37
GRF Grafenberg Arr 42.76 305 *e*P P 07 34 37.7 +0.3
comp=Z,17nm,0.7s
GRF Grafenberg Arr 42.76 305 *e*P P 07 34 37.7 +0.3
GRF pmax pmax
comp=Z,17nm,0.7s
WTTA Wattenberg 42.91 301⇓ *i*P P 07 34 39.4 +0.6
comp=Z,11nm,1.0s
MOTA Moosalm 43.25 301⇑ *i*P P 07 34 41.8 +0.3
comp=Z,11nm,0.8s
MDJ Mudanjiang 43.49 63 P P 07 34 43.5 +0.2
MDJ pmax pmax
comp=Z,4.0nm,0.3s
MDJ pmax pmax
comp=Z,64nm,3.6s
FETA Feichten 43.57 301⇓ *i*P P 07 34 43.4 -0.7
comp=Z,6.3nm,0.8s
TIXI Tiksi 43.59 23⇓ *e*P P 07 34 42.8 -0.9
TIXI pmax pmax
comp=Z,42nm,0.8s
TIXI MLR MLR
comp=Z,368nm,21.0s
KLR Kul'dur 43.96 56 *e*P P 07 34 42.9 -4.1
FUORN Ofenpass-Fuorn 43.97 300 *e*P P 07 34 48.6 +1.2
comp=Z,7.1nm,0.8s
DAVA Damuels 44.08 301⇑ *i*P P 07 34 48.3 +0.1
comp=Z,17nm,0.8s
DAVOX Davos/Dischmat 44.19 301 P P 07 34 48.5 -0.6
DAVOX Davos/Dischmat 44.19 301 P P 07 34 48.5 -0.6
comp=Z,7.8nm,0.6s,baz=100,slow=8.0,SNR=8.8
KSAR Wonju Array Be 44.38 73 P P 07 34 49.2 -1.3
KSRS Korea Array 44.40 73 P P 07 34 49.2 -1.5
comp=Z,4.8nm,0.9s,baz=283,slow=6.3,SNR=12
KSRS LR LR 07 54 49.0
comp=Z,419nm,19.6s,baz=285,slow=38
TUE Stuetta 44.62 300 *e*P P 07 34 54.2 +1.6
comp=Z,5.5nm,0.6s
SPITS Spitsbergen Ar 45.00 346 P P 07 34 56.8 +1.8
SPITS Spitsbergen Ar 45.00 346 P P 07 34 56.8 +1.8
comp=Z,2.2nm,0.5s,baz=113,slow=11,SNR=5.4
USRK Ussuriysk Arra 45.27 63 P P 07 34 55.4 -2.1
comp=Z,1.8nm,0.8s,baz=282,slow=7.2,SNR=3.9
CDF Champ du Feu 45.55 303 *e*P P 07 34 59.1 -0.7
comp=Z,12nm,0.8s
CDF Champ du Feu 45.55 303 *e*P P 07 34 59.1 -0.7
CDF Champ du Feu 45.55 303 *e*P P 07 34 59.1 -0.7
PGF Pioggiola 45.89 295 *e*P P 07 35 01.4 -1.2
comp=Z,23nm,0.9s
PGF Pioggiola 45.89 295 *e*P P 07 35 01.4 -1.2
PGF Pioggiola 45.89 295 *e*P P 07 35 01.4 -1.2
HINF Hinteralfeld 45.96 303 *e*P P 07 35 02.5 -0.5
comp=Z,11nm,0.6s
HINF Hinteralfeld 45.96 303 *e*P P 07 35 02.5 -0.5
HINF Hinteralfeld 45.96 303 *e*P P 07 35 02.5 -0.5
SENIN Lac Senin/Sane 46.02 301 *e*P P 07 35 04.2 +0.5
comp=Z,15nm,0.7s
KBS Kingsbay 46.12 347 *d i*P P 07 35 04.3 +0.6
KBS pmax pmax
comp=Z,22nm,1.2s
KBS Kingsbay 46.12 347 *e*P P 07 35 04.4 +0.6
comp=Z,15nm,0.8s
HAU Haudompre 46.24 303 *e*P P 07 35 04.1 -1.1
comp=Z,10nm,0.6s
HAU eR
comp=Z,284nm,19.2s
HAU Haudompre 46.24 303 *e*P P 07 35 04.1 -1.1
HAU Haudompre 46.24 303 *e*P P 07 35 04.1 -1.1
PAGF Fort de Pagny 46.52 304 *e*P P 07 35 07.6 +0.2
comp=Z,8.4nm,0.7s
PAGF Fort de Pagny 46.52 304 *e*P P 07 35 07.6 +0.2
SBF Sospel 46.60 297 *e*P P 07 35 08.2 +0.1
comp=Z,90nm,0.9s
SBF Sospel 46.60 297 *e*P P 07 35 08.2 +0.1
SBF Sospel 46.60 297 *e*P P 07 35 08.2 +0.1
LPG La Plagne 46.61 300 *e*P P 07 35 09.1 +0.6
comp=Z,25nm,0.5s
LPG La Plagne 46.61 300 *e*P P 07 35 09.1 +0.6
LPG La Plagne 46.61 300 *e*P P 07 35 09.1 +0.6
LPL La Plagne 46.62 300 *e*P P 07 35 08.7 +0.3
LPL La Plagne 46.62 300 *e*P P 07 35 08.7 +0.3
LPL La Plagne 46.62 300 *e*P P 07 35 08.7 +0.3
GIVF Givet 46.75 306 *e*P P 07 35 09.7 +0.6
GIVF Givet 46.75 306 *e*P P 07 35 09.7 +0.6
GIVF Givet 46.75 306 *e*P P 07 35 09.7 +0.6
CABF La Chapelle 46.76 301 *e*P P 07 35 08.6 -0.8
comp=Z,16nm,0.6s
CABF La Chapelle 46.76 301 *e*P P 07 35 08.6 -0.8
CABF La Chapelle 46.76 301 *e*P P 07 35 08.6 -0.8
BNI Bardonecchia 46.78 299 *e*P P 07 35 10.6 +1.0
BNI pmax pmax
comp=Z,22nm,1.0s
BNI Bardonecchia 46.78 299 *e*P P 07 35 10.6 +1.0
comp=Z,22nm,1.0s
MBDF Montbardon 46.81 299 *e*P P 07 35 09.0 -0.9
comp=Z,21nm,0.8s
MBDF Montbardon 46.81 299 *e*P P 07 35 09.0 -0.9
MBDF Montbardon 46.81 299 *e*P P 07 35 09.0 -0.9
BAIF Baives 47.14 306 *e*P P 07 35 12.7 +0.5
comp=Z,48nm,1.1s
BAIF Baives 47.14 306 *e*P P 07 35 12.7 +0.5
BAIF Baives 47.14 306 *e*P P 07 35 12.7 +0.5
FRF La Foret Royal 47.24 297 *e*P P 07 35 14.1 +1.1
comp=Z,28nm,0.8s
FRF La Foret Royal 47.24 297 *e*P P 07 35 14.1 +1.1
FRF La Foret Royal 47.24 297 *e*P P 07 35 14.1 +1.1
ORIF Oris-en-Rattie 47.37 299 *e*P P 07 35 14.3 +0.2
ORIF eR
comp=Z,444nm,20.5s
ORIF Oris-en-Rattie 47.37 299 *e*P P 07 35 14.3 +0.2
ORIF Oris-en-Rattie 47.37 299 *e*P P 07 35 14.3 +0.2
LMR La Mourre 47.40 297 *e*P P 07 35 14.6 +0.3
comp=Z,50nm,1.2s
LMR La Mourre 47.40 297 *e*P P 07 35 14.6 +0.3
LMR La Mourre 47.40 297 *e*P P 07 35 14.6 +0.3
SMRF Simiane la Rot 47.85 298 *e*P P 07 35 18.2 +0.4
comp=Z,28nm,1.0s
SMRF Simiane la Rot 47.85 298 *e*P P 07 35 18.2 +0.4
KEST Kesra 48.00 286 P P 07 35 19.1 0.0
KEST Kesra 48.00 286 P P 07 35 19.1 0.0
comp=Z,1.8nm,0.8s,baz=84,slow=9.2,SNR=3.3
LOR Lormes 48.06 303 *e*P P 07 35 19.6 +0.2
comp=Z,12nm,0.7s
LOR eR
comp=Z,210nm,22.0s
LOR Lormes 48.06 303 *e*P P 07 35 19.6 +0.2
SSB Saint Sauveur 48.17 300 *e*P P 07 35 20.8 +0.5
SSB pmax pmax
comp=Z,16nm,1.0s
SSB Saint Sauveur 48.17 300 *e*P P 07 35 20.8 +0.5
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 48.20 299 *e*P P 07 35 22.3 +1.8
comp=Z,24nm,0.8s
VIVF Saint-Julien-l 48.20 299 *e*P P 07 35 22.3 +1.8
VIVF Saint-Julien-l 48.20 299 *e*P P 07 35 22.3 +1.8
SMF Signal de Mont 48.24 302 *e*P P 07 35 20.4 -0.4
comp=Z,20nm,0.7s
SMF Signal de Mont 48.24 302 *e*P P 07 35 20.4 -0.4
SMF Signal de Mont 48.24 302 *e*P P 07 35 20.4 -0.4
JNU Nakatsue 48.30 77 P P 07 35 20.0 -1.5
JNU Nakatsue 48.30 77 P P 07 35 20.0 -1.5
comp=Z,16nm,0.9s,baz=297,slow=4.5,SNR=9.7
SSF Saint Saulge 48.35 303 *e*P P 07 35 20.8 -0.8
comp=Z,16nm,0.8s
SSF Saint Saulge 48.35 303 *e*P P 07 35 20.8 -0.8
SSF Saint Saulge 48.35 303 *e*P P 07 35 20.8 -0.8
AVF Avril sur Loir 48.53 302 *e*P P 07 35 22.5 -0.4
comp=Z,48nm,1.0s
AVF Avril sur Loir 48.53 302 *e*P P 07 35 22.5 -0.4
AVF Avril sur Loir 48.53 302 *e*P P 07 35 22.5 -0.4
LASF Ste Croix 49.00 299 *e*P P 07 35 26.8 +0.1
comp=Z,34nm,0.9s
LASF Ste Croix 49.00 299 *e*P P 07 35 26.8 +0.1
TCF Toulx Ste Croi 49.43 302 *e*P P 07 35 29.8 -0.1
comp=Z,23nm,0.8s
TCF Toulx Ste Croi 49.43 302 *e*P P 07 35 29.8 -0.1
TCF Toulx Ste Croi 49.43 302 *e*P P 07 35 29.8 -0.1
CAF Calviac 49.95 300 *e*P P 07 35 34.1 +0.2
comp=Z,30nm,1.1s
CAF Calviac 49.95 300 *e*P P 07 35 34.1 +0.2
CAF Calviac 49.95 300 *e*P P 07 35 34.1 +0.2
JMIC Jan Mayen 50.19 335 LR LR 07 57 18.4
comp=Z,238nm,18.4s,baz=78,slow=36
RJF Les Rejaudoux 50.19 301 *e*P P 07 35 36.1 +0.4
RJF eR
comp=Z,135nm,21.0s
RJF Les Rejaudoux 50.19 301 *e*P P 07 35 36.1 +0.4
RJF Les Rejaudoux 50.19 301 *e*P P 07 35 36.1 +0.4
LDF La Druitiere 50.26 305 *e*P P 07 35 36.6 +0.5
LDF La Druitiere 50.26 305 *e*P P 07 35 36.6 +0.5
LDF La Druitiere 50.26 305 *e*P P 07 35 36.6 +0.5
KMBO Kilima Mbogo 50.32 226 *e*P P 07 35 38.7 +1.5
comp=Z,13nm,0.3s
MTLF Montolieu 50.36 298 *e*P P 07 35 37.0 0.0
comp=Z,20nm,0.8s
MTLF Montolieu 50.36 298 *e*P P 07 35 37.0 0.0
MTLF Montolieu 50.36 298 *e*P P 07 35 37.0 0.0
FLN La Foliniere 50.44 306 *e*P P 07 35 37.8 +0.3
FLN eR
comp=Z,348nm,20.5s
FLN La Foliniere 50.44 306 *e*P P 07 35 37.8 +0.3
FLN La Foliniere 50.44 306 *e*P P 07 35 37.8 +0.3
GRR Gorron 50.79 305 *e*P P 07 35 40.4 +0.3
GRR Gorron 50.79 305 *e*P P 07 35 40.4 +0.3
GRR Gorron 50.79 305 *e*P P 07 35 40.4 +0.3
LFF La Frestale 50.83 301 *e*P P 07 35 41.0 +0.5
comp=Z,27nm,0.7s
LFF La Frestale 50.83 301 *e*P P 07 35 41.0 +0.5
LFF La Frestale 50.83 301 *e*P P 07 35 41.0 +0.5
MFF Saint Martin d 50.88 303 *e*P P 07 35 41.3 +0.5
comp=Z,54nm,1.2s
MFF Saint Martin d 50.88 303 *e*P P 07 35 41.3 +0.5
MFF Saint Martin d 50.88 303 *e*P P 07 35 41.3 +0.5
EPF Esparros 51.76 298 *e*P P 07 35 47.7 +0.1
EPF Esparros 51.76 298 *e*P P 07 35 47.7 +0.1
EPF Esparros 51.76 298 *e*P P 07 35 47.7 +0.1
SGMF Saint Gilles 51.91 306 *e*P P 07 35 48.5 0.0
comp=Z,79nm,1.1s
SGMF Saint Gilles 51.91 306 *e*P P 07 35 48.5 0.0
SGMF Saint Gilles 51.91 306 *e*P P 07 35 48.5 0.0
DAG Danmarks Havn 52.26 343 *i* P P 07 35 50.5 -0.2
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 52.26 343 *i* P P 07 35 50.5 -0.2
comp=Z,9.4nm,0.8s
ROSF Rostrenen 52.33 306 *e*P P 07 35 51.1 -0.6
ROSF Rostrenen 52.33 306 *e*P P 07 35 51.1 -0.6
ROSF Rostrenen 52.33 306 *e*P P 07 35 51.1 -0.6
MAT Matsushiro 52.36 70 P P 07 35 50.2 -1.9
MJAR Matsushiro Arr 52.36 70 P P 07 35 50.9 -1.2
MJAR Matsushiro Arr 52.36 70 P P 07 35 50.8 -1.2
comp=Z,7.2nm,0.9s,baz=288,slow=9.8,SNR=15
QUIF Quistinic 52.40 305 *e*P P 07 35 52.3 +0.1
QUIF Quistinic 52.40 305 *e*P P 07 35 52.3 +0.1
QUIF Quistinic 52.40 305 *e*P P 07 35 52.3 +0.1
ETSF Etsaut 52.42 299 *e*P P 07 35 53.0 +0.5
comp=Z,19nm,0.8s
ETSF Etsaut 52.42 299 *e*P P 07 35 53.0 +0.5
ETSF Etsaut 52.42 299 *e*P P 07 35 53.0 +0.5
SBUM Sibu 52.50 123 P P 07 35 53.8 +0.5
SEY Seymchan 52.53 35 *i* P P 07 35 52.8 -0.1
SJPF Ste Jean 52.80 299 *e*P P 07 35 55.3 +0.1
comp=Z,9.4nm,0.8s
SJPF Ste Jean 52.80 299 *e*P P 07 35 55.3 +0.1
SJPF Ste Jean 52.80 299 *e*P P 07 35 55.3 +0.1
ESDC Sonseca Array 56.05 296 P P 07 36 18.7 -0.2
ESDC Sonseca Array 56.05 296 P P 07 36 18.7 -0.2
comp=Z,4.9nm,0.6s,baz=60,slow=7.8,SNR=18
ESLA Sonseca Array 56.05 296 *e*P P 07 36 18.5 -0.5
comp=Z,3.0nm,0.8s
PCAB Cabril 57.97 300 *e*P P 07 36 34.1 +1.6
comp=Z,42nm,1.8s
PETK Petropavlovsk- 58.41 45 P P 07 36 34.3 -1.0
PETK Petropavlovsk- 58.41 45 P P 07 36 34.3 -1.0
PETK Petropavlovsk- 58.41 45 P P 07 36 34.3 -1.0
comp=Z,2.9nm,0.9s,baz=256,slow=5.3,SNR=4.6
SUMG Summit 58.61 341 *e*P P 07 36 37.1 +0.2
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 58.61 341 *i* P P 07 36 37.2 +0.3
comp=Z,16nm,0.8s
SUMG Summit 58.61 341 *e*P P 07 36 37.1 +0.2
comp=Z,19nm,0.8s
PBAR Barrancos 58.87 296 *e*P P 07 36 37.7 -1.0
comp=Z,20nm,1.3s
PVAQ Vaqueiros 59.70 295 *e*P P 07 36 45.7 +1.2
comp=Z,43nm,1.4s
TORD Torodi Ar. Bea 65.50 267 P P 07 37 22.4 -1.2
TORD Torodi Ar. Bea 65.50 267 P P 07 37 22.4 -1.2
comp=Z,3.8nm,0.8s,baz=54,slow=6.5,SNR=19
TORD LR LR 08 06 35.9
comp=Z,90nm,19.0s,baz=10.0,slow=37
FX1 Attu Island--F 66.68 40 *e*P P 07 37 29.4 -1.1
COLD Coldfoot 69.66 16 *e*P P 07 37 48.5 -0.4
comp=Z,8.4nm,0.8s
IMA2 Indian Mountai 69.84 18 *e*P P 07 37 49.0 -1.2
IM04 Indian Mountai 69.89 18 *e*P P 07 37 49.1 -1.3
INK Inuvik 71.50 9 *e*P P 07 37 59.9 -0.2
comp=Z,8.1nm,0.7s
COLA College 72.17 16 *e*P P 07 38 03.5 -0.7
COLA pmax pmax
comp=Z,40nm,0.8s
COLA College 72.17 16 *e*P P 07 38 03.5 -0.7
comp=Z,40nm,0.8s
ILAR Eielson Array 72.47 16 P P 07 38 05.1 -0.9
ILAR Eielson Array 72.47 16 P P 07 38 05.1 -0.9
comp=Z,3.0nm,0.9s,baz=318,slow=4.9,SNR=34
EGAK Eagle 73.60 14 *e*P P 07 38 10.3 -2.4
comp=Z,8.1nm,1.3s
PAX Paxson 74.35 16 *e*P P 07 38 16.3 -0.9
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 74.35 16 *e*P P 07 38 16.3 -0.9
comp=Z,5.0nm,0.8s
DBIC Dimbokro 74.54 266 LR LR 08 11 35.8
comp=Z,178nm,20.3s,baz=221,slow=36
DAWY Dawson 74.57 13 *e*P P 07 38 17.8 -0.6
PMR Palmer 74.70 18 *e*P P 07 38 18.0 -1.1
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 74.70 18 *e*P P 07 38 18.0 -1.1
comp=Z,8.0nm,0.8s
SML Sawmill 74.71 18 *e*P P 07 38 18.2 -1.1
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 74.71 18 *e*P P 07 38 18.2 -1.1
comp=Z,4.1nm,0.8s
RSO Redoubt South 74.71 21 *e*P P 07 38 19.6 +0.1
comp=Z,16nm,0.8s
LIC Lamto 74.95 266 *e*P P 07 38 20.4 -1.0
comp=Z,46nm,1.4s
LIC eR
comp=Z,289nm,17.0s
LIC Lamto 74.95 266 *e*P P 07 38 20.4 -1.0
BMRM Bremner River 76.32 17 *e*P P 07 38 26.6 -1.9
comp=Z,7.9nm,0.8s
HYT Haines Junctio 77.90 14 *e*P P 07 38 37.1 -0.4
YKA Yellowknife Ar 78.77 2 P P 07 38 41.5 -0.6
YKA Yellowknife Ar 78.77 2 P P 07 38 41.5 -0.6
comp=Z,6.3nm,0.7s,baz=352,slow=5.5,SNR=6.4
SCHQ Schefferville 79.69 337 P P 07 38 48.2 +1.0
SCHQ Schefferville 79.69 337 P P 07 38 48.2 +1.0
comp=Z,6.4nm,0.7s,baz=56,slow=7.3,SNR=7.1
WRA Warramunga Arr 83.57 122 P P 07 39 06.2 -2.0
WRA Warramunga Arr 83.57 122 P P 07 39 06.2 -2.0
comp=Z,5.6nm,0.7s,baz=324,slow=4.8,SNR=6.7
ASAR Alice Springs 85.93 125 P P 07 39 18.2 -1.8
ASAR Alice Springs 85.93 125 P P 07 39 18.2 -1.8
comp=Z,2.6nm,0.7s,baz=317,slow=5.2,SNR=12
FFC Flin Flon 86.43 356 P P 07 39 22.1 0.0
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 86.43 356 P P 07 39 22.1 0.0
comp=Z,17nm,0.9s
EDM Edmonton 88.09 2 *e*P P 07 39 30.1 -0.1
EDM Edmonton 88.09 2 *e*P P 07 39 30.1 -0.1
CTAO Charters Tower 91.85 114 *e*P P 07 39 46.7 -1.4
CTAO pmax pmax
comp=Z,6.0nm,0.9s
CTAO Charters Tower 91.85 114 *e*P P 07 39 46.7 -1.4
comp=Z,6.3nm,0.9s
BSMT Bassoo Peak 93.40 4 *e*P P 07 39 52.8 -2.4
comp=Z,3.6nm,1.0s
SLMT Seeley Lake 94.06 3 *e*P P 07 39 58.1 -0.1
comp=Z,7.2nm,1.0s
CHMT Chamberlain Mo 94.40 3 *e*P P 07 39 59.5 -0.3
comp=Z,2.1nm,0.9s
CFAA Coronel Fontan 145.84 270 PKPbc **PKPdf** 07 46 18.1 -0.4
CFAA Coronel Fontan 145.84 270 PKPbc **PKPdf** 07 46 18.1 -0.4
comp=Z,0.4nm,0.7s,baz=55,slow=1.8,SNR=5.6
PLCA Paso Flores 150.30 254 PKPbc **PKPdf** 07 46 28.2 +2.7
PLCA Paso Flores 150.30 254 PKPbc **PKPdf** 07 46 28.2 +2.7
comp=Z,5.3nm,1.1s,baz=108,slow=3.2,SNR=2.9

---

*IDC **26** 07:30:38.2±0.5, 15°.35S×173°.31W, h0km, mb4.6/19, mb1 4.8/19, mb1mx4.7/26, mbtmp4.6/19, MS4.5/26, Ms1 4.5/26, ms1mx4.4/38, Error ellipse: s-maj=18.7km s-min=14.0km az=118.0*

*NEIC **26** 07:30:40.0±0.2, 15°.32S×173°.34W, h10km, mb5.0/53, Error ellipse: s-maj=8.0km s-min=4.2km az=141.0*

*ISCJB **26** 07:30:41.2±0.2, 15°.39S±0°.06×173°.37W±0°.05, h29km, mb4.9/78, MS4.6/33, Error ellipse: s-maj=10.4km s-min=4.8km az=146.8*

*AUST **26** 07:30:41.9±0.0, 15°.31S×172°.60W, h55km, Error ellipse: s-maj=1.2km s-min=1.1km az=258.0*

*MOS **26** 07:30:42.4±1.1, 15°.29S×173°.39W, h33km, mb5.2/23, MS4.7/5, Error ellipse: s-maj=14.3km s-min=9.3km az=56.7*

*SZGRF **26** 07:30:42.9, 15°.84S×172°.61W, h33km, Samoa Islands region*

*GCMT **26** 07:30:47.7±0.2, 15°.28S×172°.88W, h28km, MW5.2, Moment Tensor Solution. s62,c92; s85,c143; Moment tensor: Scale 10^16^Nm; M_{rr}7.23±.25; $M_{\theta\theta}$0.65±.18; $M_{\phi\phi}$-7.88±.17; $M_{r\theta}$1.68±.35; $M_{\theta\phi}$1.14±.13; $M_{\phi r}$4.76±.27; Best double couple: $M_0$9.20000×10^16^ NP1:ϕ_s7.00000°, δ62.00000°, λ105.00000°. NP2:ϕ_s157.00000°, δ32.00000°, λ64.00000°. Principal axes: T 9.0500, Plg69.0000°, Azm309.0000°; N 0.2400, Plg14.0000°, Azm180.0000°; P -9.3000, Plg16.0000°, Azm86.0000°; Data Used: II IU IC G CN.*

ISC 26 07:30:44.5±0.3, 15°.38S±0°.08×173°.40W±0°.08, h42km, n604, σ0°94/581, mb5.0/79, MS4.7/33, 179C-154D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**47**	Pn	Pn	07 31 08.7	-9.2
AFI				Sn	Sn	07 31 28.1	-15
AFI	**Afiamalu**	**2.14**	**47**	Pn	Pn	07 31 08.7	-9.2
132nm,0.3s,baz=17,slow=2.5,SNR=149							
AFI				Sn	Sn	07 31 28.1	-15
625nm,0.3s,baz=240,slow=20,SNR=22							
AFI				LR	LR	07 31 58.6	
comp=Z,3μm,21.4s,baz=204,slow=39							
NIUE	**Niue**	**4.95**	**138**	P	Pn	07 31 48.1	-8.3
baz=4.5,SNR=26							
NIUE				S	Sn	07 32 37.7	-15
baz=4.5,SNR=6.5							
RAR	**Rarotonga**	**14.18**	**116**	*e*Pn	Pn	07 33 53.3	-9.4
RAR	**Rarotonga**	**14.18**	**116**	Pn	Pn	07 33 51.7	-11
2.4nm,0.3s,baz=270,slow=4.5,SNR=6.0							
RAR				LR	LR	07 38 18.7	
comp=Z,1μm,19.9s,baz=270,slow=33							
DZM	**Mont Dzumac**	**20.21**	**248**	*e*P	Pn	07 35 18.3	+0.1
167nm,1.1s							
DZM				*e*S	**S**	**07 38 54.3**	**-6.4**
788nm,26.3s							
DZM				*e*LQ	LQ	07 39 22.8	
2μm,26.9s							
DZM				*e*LR	LR	07 40 16.3	
3μm,24.1s							
DZM	**Mont Dzumac**	**20.21**	**248**	P	**P**	**07 35 15.8**	**-0.2**
DZM	**Mont Dzumac**	**20.21**	**248**	P	**P**	**07 35 15.8**	**-0.2**
38nm,1.2s,baz=80,slow=18,SNR=8.6							
DZM				LR	LR	07 41 13.0	
comp=Z,639nm,21.6s,baz=180,slow=31							
NOUC	**Port Laguerre**	**20.34**	**248**	*e*P	**P**	**07 35 17.3**	**-0.1**
TARA	**Tarawa**	**21.43**	**320**	*e*P	**P**	**07 35 32.2**	**+3.0**
1μm,2.3s							
PPT	**Papeete**	**22.95**	**99**	LR	LR	07 42 09.6	
comp=Z,1μm,18.7s,baz=84,slow=30							
PPT2	**Papeete2**	**22.95**	**99**	*e*S	S	07 39 32.3	-21
718nm,27.2s							
PPT2				*e*LQ	LQ	07 40 03.5	
3μm,28.2s							
PPT2				*e*LR	LR	07 41 08.9	
3μm,25.0s,baz=270							
TBI	**Tubuai**	**23.91**	**113**	*e*S	S	07 39 47.6	-21
621nm,27.3s							
TBI				*e*LQ	LQ	07 40 31.1	
3μm,30.2s							
TBI				*e*LR	LR	07 41 28.4	
3μm,27.0s,baz=288							
URZ	**Urewera**	**24.29**	**198**	*e*P	**P**	**07 35 58.3**	**+0.4**
URZ	**Urewera**	**24.29**	**198**	P	**P**	**07 35 57.9**	**0.0**
9.0nm,0.7s,baz=8.7,slow=13,SNR=6.8							
HNR	**Honiara**	**26.68**	**280**	LR	LR	07 45 37.8	
comp=Z,2μm,18.7s,baz=117,slow=34							
ARMA	**Armidale**	**35.35**	**239**	P	**P**	**07 37 36.4**	**+0.1**
baz=36,SNR=5.7							
RMQ	**Roma**	**36.91**	**246**	P	**P**	**07 37 50.2**	**+0.7**
baz=38,SNR=4.9							
RKT	**Rikitea**	**37.00**	**108**	*e*S	S	07 43 16.5	-17
222nm,25.5s							
RKT				*e*LQ	LQ	07 46 27.0	
331nm,30.5s							
RKT				*e*LR	LR	07 47 42.4	
2μm,25.5s,baz=280							
CTAO	**Charters Tower**	**38.65**	**257**	*e*P	**P**	**07 38 03.9**	**-0.3**
CTAO				pmax	pmax		
comp=Z,10.0nm,1.1s							
CTAO	**Charters Tower**	**38.65**	**257**	*e*P	**P**	**07 38 03.9**	**-0.3**
comp=Z,10nm,1.1s							
MTSU	**Mount Surprise**	**40.52**	**260**	P	**P**	**07 38 20.1**	**+0.2**
baz=41,SNR=19							
CMSA	**Cobar Meteorol**	**40.57**	**239**	P	**P**	**07 38 19.5**	**-0.6**
baz=41,SNR=12							
COEN	**Coen**	**41.98**	**266**	*e*P	**P**	**07 38 33.2**	**+1.4**
comp=Z,147nm,0.8s							
COEN	**Coen**	**41.98**	**266**	P	**P**	**07 38 33.3**	**+1.4**
baz=43,SNR=11							
STKA	**Stephens Creek**	**44.05**	**240**	*e*P	**P**	**07 38 48.5**	**0.0**
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**07 38 47.9**	**-0.5**
comp=Z,13nm,0.8s,baz=80,slow=10,SNR=14							
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**07 38 48.4**	**0.0**
baz=45,SNR=14							
BBOO	**Buckleboo**	**48.82**	**240**	P	**P**	**07 39 25.4**	**-0.5**

baz=50,SNR=11
WRAB Tennant Creek 49.84 257 *eP* **P 07 39 33.2 -0.7**
WRAB Tennant Creek 49.84 257 *eP* **P 07 39 33.2 -0.7**
WRA Warramunga Arr 49.85 257 P **P 07 39 33.6 -0.3**
WRA Warramunga Arr 49.85 257 P **P 07 39 33.6 -0.3**
comp=Z,11nm,0.5s,baz=90,slow=6.8,SNR=56
WRA LR LR 07 59 16.8
comp=Z,1µm,19.6s,baz=85,slow=34
ASAR Alice Springs 50.12 252 P **P 07 39 35.9 -0.1**
ASAR Alice Springs 50.12 252 P **P 07 39 35.9 -0.1**
comp=Z,1.7nm,0.3s,baz=85,slow=8.2,SNR=12
ASAR LR LR 07 59 35.1
comp=Z,2µm,19.7s,baz=95,slow=35
KDU Kakadu 52.47 266 P **P 07 39 53.6 0.0**
baz=53,SNR=4.7
PALU Palau 56.36 290 P P 07 40 14.0 -7.9
baz=57,SNR=3.1
FITZ Fitzroy Crossi 58.22 258 LR LR 08 03 29.4
comp=Z,846nm,20.2s,baz=196,slow=34
FITZ Fitzroy Crossi 58.22 258 P **P 07 40 36.5 +1.6**
baz=59,SNR=4.0
SOEI Soe 60.93 267 P **P 07 40 55.4 +1.5**
baz=62,SNR=5.0
BATI Baumata 61.42 267 LR LR 08 05 54.3
comp=Z,730nm,19.4s,baz=299,slow=34
SBA Scott Base 63.27 185 *eP* **P 07 41 10.4 +2.0**
SBA Scott Base 63.27 185 *eP* **P 07 41 10.4 +2.0**
comp=Z,141nm,2.5s
VNDA Vanda 63.40 186 P **P 07 41 09.9 +0.7**
VNDA Vanda 63.40 186 P **P 07 41 09.9 +0.7**
comp=Z,3.5nm,0.9s,baz=7.6,slow=6.5,SNR=18
VNDA LR LR 08 04 14.4
comp=Z,110nm,19.0s,baz=12,slow=32
MEEK Meekatharra 63.82 248 P **P 07 41 12.8 -0.2**
baz=64,SNR=8.0
KLBR Kellerberrin 64.25 242 P **P 07 41 15.8 +0.1**
baz=65,SNR=7.3
BLDU Ballidu 65.20 243 P **P 07 41 22.0 +0.1**
baz=66,SNR=6.3
MJAR Matsushiro Arr 68.92 320 P **P 07 41 45.1 -0.1**
MJAR Matsushiro Arr 68.92 320 P **P 07 41 45.1 -0.1**
comp=Z,6.3nm,1.0s,baz=163,slow=6.2,SNR=12
MJAR LR LR 08 05 46.9
comp=Z,506nm,21.6s,baz=145,slow=31
MAT Matsushiro 68.92 320 P **P 07 41 46.1 +0.8**
MAT *eS* **S 07 50 51.2 +4.4**
CASY Casey 70.43 205 *eP* **P 07 41 56.7 +2.6**
comp=Z,28nm,1.7s
ASAJ Asahikawa 71.52 328 *eP* **P 07 42 03.2 +2.3**
JNU Nakatsue 71.78 313 P **P 07 42 03.0 +0.2**
JNU Nakatsue 71.78 313 P **P 07 42 03.0 +0.2**
comp=Z,4.9nm,0.7s,baz=164,slow=4.3,SNR=4.8
JNU LR LR 08 06 33.5
comp=Z,256nm,21.3s,baz=66,slow=30
EDW2 Edwards Air Fo 72.53 45 ⇑P **P 07 42 07.3 -0.1**
baz=73
MONP Monument Peak 72.55 48 ⇑P **P 07 42 07.6 -0.1**
baz=73
PETK Petropavlovsk- 72.61 342 P **P 07 42 07.3 0.0**
PETK Petropavlovsk- 72.61 342 P **P 07 42 07.3 0.0**
PETK Petropavlovsk- 72.61 342 P **P 07 42 07.3 0.0**
comp=Z,10nm,0.9s,baz=137,slow=8.6,SNR=17
PETK LR LR 08 10 22.3
comp=Z,141nm,19.3s,baz=150,slow=33
ISA Isabella 72.64 44 *eP* **P 07 42 07.9 -0.1**
ISA Isabella 72.64 44 *eP* **P 07 42 07.9 -0.1**
ISA Isabella 72.64 44 ⇑P **P 07 42 08.6 +0.6**
baz=73
CMB Columbia Colle 72.75 41 *eP* **P 07 42 08.1 -0.4**
CMB pmax pmax
comp=Z,45nm,2.5s
CMB Columbia Colle 72.75 41 *eP* **P 07 42 08.1 -0.4**
comp=Z,45nm,2.5s
LPIG La Paz 73.03 58 LR LR 08 07 06.0
comp=Z,328nm,18.2s,baz=225,slow=30
LRMC Laurel Mountai 73.06 45 ⇓P **P 07 42 10.6 0.0**
baz=73
RRX Edison Barstow 73.21 46 ⇑P **P 07 42 11.4 +0.1**
baz=73
CWC Cottonwood Cre 73.33 44 ⇑P **P 07 42 12.0 -0.2**
baz=73
BELC Belle Mtn. Jos 73.44 47 ⇓P **P 07 42 12.8 0.0**
baz=74
YSS Yuzh-Sakhalins 73.46 330⇑*eP* **P 07 42 15.0 +2.5**
YSS *e* 07 42 24.5
YSS pmax pmax
comp=Z,50nm,1.0s
MPMC Manual Prospec 73.52 44 ⇑P **P 07 42 13.4 0.0**
baz=74
GSC Goldstone 73.57 45 *eP* **P 07 42 13.8 +0.3**
GSC pmax pmax
comp=Z,12nm,1.3s
GSC Goldstone 73.57 45 *eP* **P 07 42 13.8 +0.3**
comp=Z,12nm,1.3s
GSC Goldstone 73.57 45 ⇓P **P 07 42 13.5 0.0**
baz=74
WAKR Walker 73.63 41 *eP* **P 07 42 14.2 +0.3**
BC3 Big Chuckawall 73.64 47 ⇑P **P 07 42 13.7 -0.2**
baz=74
HEC Hector,Ludlow 73.65 46 ⇑P **P 07 42 13.9 0.0**
baz=74
GLA Glamis 73.78 48 ⇓P **P 07 42 14.5 -0.2**
baz=74
GMRC Granite Mounta 74.08 46 ⇓P **P 07 42 16.1 -0.5**
baz=74
IRM Iron Mountain 74.12 47 ⇑P **P 07 42 16.5 -0.1**
baz=74
GRAC Grapevine Rang 74.12 44 ⇓P **P 07 42 16.9 +0.2**
baz=74
FURC Furnace Creek, 74.17 44 ⇓P **P 07 42 16.7 -0.1**
baz=74
TUQ Turquoise Moun 74.25 46 ⇓P **P 07 42 17.2 -0.4**
baz=74
NVAR Mina Array Bea 74.31 42 P **P 07 42 17.6 -0.3**
NVAR Mina Array Bea 74.31 42 P **P 07 42 17.6 -0.3**
comp=Z,1.6nm,0.8s,baz=229,slow=7.2,SNR=17
NVAR LR LR 08 09 32.3
comp=Z,422nm,18.0s,baz=252,slow=31
Y12C Blythe 74.35 48 ⇓P **P 07 42 18.0 0.0**
baz=74
PAHR Pah Rah Range 74.36 40 *eP* **P 07 42 19.0 +0.9**
comp=Z,40nm,1.9s
113A Mohawk Valley, 74.40 49 ⇓P **P 07 42 18.3 0.0**
baz=74
LDFC Landfair 74.63 46 *eP* **P 07 42 19.9 +0.2**
comp=Z,14nm,1.0s
QSPA South Pole Qui 74.67 180 P **P 07 42 20.1 +0.6**
QSPA South Pole Qui 74.67 180 P **P 07 42 20.1 +0.6**
comp=Z,20nm,1.1s,baz=49,slow=1.5,SNR=28
QSPA LR LR 08 11 24.1
comp=Z,118nm,20.8s,baz=46,slow=33
214A Organ Pipe Nat 74.70 50 ⇓P **P 07 42 19.8 -0.3**
baz=75
KDAK Kodiak Island 74.90 11 *eP* **P 07 42 21.0 +0.4**
comp=Z,82nm,1.6s
PDMCI Parker Dam,Lak 74.91 47 ⇓P **P 07 42 21.2 0.0**
baz=75
Z14A Wintersburg 75.29 49 ⇑P **P 07 42 23.3 -0.2**
baz=75
SHPR Sheep Range 75.34 45 *eP* **P 07 42 23.9 0.0**
W13A Hualapai Mount 75.50 47 ⇓P **P 07 42 24.4 -0.4**
baz=76
Y14A Wickenburg 75.54 48 ⇓P **P 07 42 24.7 -0.3**
baz=76
R11A Troy Canyon, C 76.04 43 *eP* **P 07 42 27.4 -0.5**
comp=Z,87nm,3.0s
R11A Troy Canyon, C 76.04 43 ⇑P **P 07 42 27.5 -0.4**
baz=76
KSRS Korea Array 76.14 316 P **P 07 42 29.1 +1.0**
comp=Z,1.8nm,0.7s,baz=123,slow=6.8,SNR=5.8
KSRS LR LR 08 10 27.8
comp=Z,173nm,19.3s,baz=123,slow=31
KSAR Wonju Array Be 76.16 316 P **P 07 42 29.1 +0.8**
TUC Tucson 76.38 51 *eP* **P 07 42 29.7 -0.1**
TUC pmax pmax
comp=Z,30nm,2.0s
TUC Tucson 76.38 51 *eP* **P 07 42 29.6 -0.1**
comp=Z,30nm,2.0s
WVOR Wild Horse Val 76.42 38 *eP* **P 07 42 29.6 -0.2**
WVOR pmax pmax
comp=Z,6.0nm,0.7s
WVOR Wild Horse Val 76.42 38 *eP* **P 07 42 29.6 -0.2**
comp=Z,5.8nm,0.7s
X16A Lo Mia Camp, P 76.90 49 ⇑P **P 07 42 32.2 -0.6**
baz=77
319A Douglas 77.08 52 ⇓P **P 07 42 33.3 -0.5**
baz=77

CCUT Cedar City 77.11 45 *eP* **P 07 42 34.3 +0.3**
comp=Z,15nm,1.6s
U15A North Rim 77.28 46 ⇓P **P 07 42 34.8 -0.3**
baz=77
USRK Ussuriysk Arra 77.37 323 P **P 07 42 36.0 +1.0**
comp=Z,9.1nm,1.0s,baz=128,slow=4.2,SNR=13
USRK LR LR 08 09 49.5
comp=Z,568nm,21.7s,baz=184,slow=30
RSO Redoubt South 77.38 10 *eP* **P 07 42 35.0 +0.1**
WUAZ Wupatki 77.48 48 ⇓P **P 07 42 35.9 -0.2**
baz=78
ELK Elko 77.56 41 *eP* **P 07 42 35.7 -0.8**
320A Kipp Ranch, An 77.63 52 ⇓P **P 07 42 36.6 -0.3**
baz=78
220A Playas Peak, P 77.89 52 ⇓P **P 07 42 38.0 -0.3**
baz=78
X18A Snowflake 78.03 49 ⇓P **P 07 42 38.9 -0.3**
baz=78
120A U Bar Ranch, L 78.10 51 ⇑P **P 07 42 39.5 -0.1**
baz=78
SPU Mount Spurr 78.18 10 *eP* **P 07 42 38.5 -0.7**
Z20A Nine Sixteen R 78.39 51 ⇓P **P 07 42 40.9 -0.2**
baz=78
W18A Petrified Fore 78.47 49 ⇑P **P 07 42 41.4 -0.1**
baz=78
221A Mesquite Ranch 78.51 52 ⇓P **P 07 42 41.6 -0.2**
baz=79
BMO Blue Mountains *eP* **P 07 42 41.4 -0.6**
comp=Z,21nm,1.5s
MFID Camas Ranch 78.67 39 ⇓P **P 07 42 42.0 -0.4**
baz=79
121A Cookes Peak, D 78.73 52 ⇓P **P 07 42 42.5 -0.5**
baz=79
DUG Dugway 78.84 43 *eP* **P 07 42 43.1 -0.3**
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG Dugway 78.84 43 *eP* **P 07 42 43.1 -0.3**
comp=Z,10nm,1.3s
DUG Dugway 78.84 43 ⇑P **P 07 42 43.3 -0.2**
baz=79
Y20A Horse Springs, 78.91 50 ⇓P **P 07 42 43.4 -0.7**
baz=79
BGU Big Grassy Mou 79.08 42 *eP* **P 07 42 44.5 -0.3**
comp=Z,23nm,1.9s
PMR Palmer 79.10 12 *eP* **P 07 42 43.8 -0.3**
PMR pmax pmax
comp=Z,24nm,1.2s
PMR Palmer 79.10 12 *eP* **P 07 42 43.8 -0.3**
comp=Z,24nm,1.2s
X20A Quemado 79.10 50 ⇑P **P 07 42 44.7 -0.4**
baz=79
Z21A St. Cloud Mine 79.16 51 ⇓P **P 07 42 45.5 +0.1**
baz=79,SNR=16
Q16A Castle Valley 79.29 45 ⇑P **P 07 42 45.9 -0.1**
baz=79
W20A Ramah 79.37 49 ⇓P **P 07 42 46.3 -0.3**
baz=79
DIV Divide 79.38 13 *eP* **P 07 42 45.7 -0.1**
122A Conniff Cattle 79.40 52 ⇑P **P 07 42 46.4 -0.2**
baz=80
TMUT Trail Mountain 79.46 44 *eP* **P 07 42 46.6 -0.4**
comp=Z,36nm,1.4s
Y21A Point of Rocks 79.47 50 ⇓P **P 07 42 47.2 +0.1**
baz=80,SNR=7.0
BMRM Bremner River 79.50 14 *eP* **P 07 42 46.3 -0.1**
X21A Alamocita Cree 79.58 50 ⇑P **P 07 42 47.4 -0.3**
baz=80,SNR=8.7
HLID Hailey 79.61 39 *eP* **P 07 42 47.6 0.0**
comp=Z,17nm,1.1s
HLID Hailey 79.61 39 ⇑P **P 07 42 47.6 0.0**
baz=80
SPUT South Promonto 79.65 42 *eP* **P 07 42 47.6 -0.2**
comp=Z,17nm,1.4s
Z22A Elephant Butte 79.67 51 ⇑P **P 07 42 47.6 -0.5**
baz=80,SNR=8.7
HVU Hansel Valley 79.69 41 *eP* **P 07 42 47.5 -0.5**
HVU pmax pmax
comp=Z,15nm,1.3s
HVU Hansel Valley 79.69 41 *eP* **P 07 42 47.5 -0.5**
comp=Z,15nm,1.3s
V20A Brimhall 79.70 48 ⇓P **P 07 42 48.0 -0.3**
baz=80
SRU San Rafael 79.83 45 *eP* **P 07 42 48.9 0.0**
SRU pmax pmax
comp=Z,25nm,1.5s
SRU San Rafael 79.83 45 *eP* **P 07 42 48.9 0.0**
comp=Z,25nm,1.5s
U20A Newcomb 79.93 48 ⇓P **P 07 42 49.0 -0.4**
baz=80
JLU Jordanelle 79.95 43 *eP* **P 07 42 48.9 -0.7**
comp=Z,16nm,1.4s
Y22A Socorro 79.97 51 ⇓P **P 07 42 49.0 -0.8**
baz=80,SNR=5.4
DAU Daniels Canyon 79.98 43 *eP* **P 07 42 50.1 +0.2**
DAU Daniels Canyon 79.98 43 *eP* **P 07 42 50.0 +0.2**
324A Moseley Ranch, 80.03 54 ⇓P **P 07 42 49.1 -1.0**
baz=80,SNR=8.6
LAZ Ladron 80.04 50 *eP* **P 07 42 49.8 -0.4**
comp=Z,7.3nm,1.6s
425A Indio Mountain 80.14 54 ⇑P **P 07 42 50.0 -0.7**
baz=80,SNR=8.7
MNTX Cornudas Mount 80.21 53 *eP* **P 07 42 50.4 -0.5**
comp=Z,16nm,1.5s
Z23A Rita Site, Whi 80.22 52 ⇑P **P 07 42 50.5 -0.6**
baz=80
224A Cornudas Mount 80.26 53 ⇓P **P 07 42 50.8 -0.6**
baz=80,SNR=10
V21A Milan 80.30 49 ⇑P **P 07 42 50.9 -0.7**
baz=80
BNM Barren Site 80.31 51 *eP* **P 07 42 51.3 -0.4**
comp=Z,14nm,1.5s
626A Big Bend Ranch 80.31 56 ⇑P **P 07 42 51.1 -0.5**
baz=80
MVCO Mesa Verde 80.33 47 ⇑P **P 07 42 51.6 -0.1**
baz=80
LPM Los Pinos Moun 80.38 50 *eP* **P 07 42 52.8 +0.8**
325A Bean Ranch, Si 80.39 54 ⇓P **P 07 42 51.3 -0.8**
baz=80,SNR=5.3
KLR Kul'dur 80.50 327 *eP* **P 07 42 49.8 -2.2**
KLR pmax pmax
comp=Z,40nm,1.6s
W22A Albuquerque 80.54 50 ⇓P **P 07 42 52.4 -0.4**
baz=81
526A Mary Lane Ranc 80.55 55 ⇓P **P 07 42 52.0 -0.9**
baz=81,SNR=7.3
U21A Nageezi 80.57 48 ⇑P **P 07 42 52.9 -0.1**
baz=81,SNR=26
124A Stringfield Ra 80.58 52 ⇓P **P 07 42 52.6 -0.6**
baz=81,SNR=5.7
PV04 Paradox Valley 80.59 46 *eP* **P 07 42 52.8 -0.2**
TXAR Lajitas Array 80.60 56 P **P 07 42 53.0 -0.2**
TXAR Lajitas Array 80.60 56 P **P 07 42 53.0 -0.2**
comp=Z,5.1nm,1.1s,baz=228,slow=4.9,SNR=24
TXAR LR LR 08 11 56.7
comp=Z,307nm,18.6s,baz=305,slow=31
TRF Thorofare Moun 80.60 10 *eP* **P 07 42 51.3 -1.2**
Y23A Lovelace Mesa, 80.65 51 ⇑P **P 07 42 52.7 -0.7**
baz=81
NEW Newport 80.69 34 *eP* **P 07 42 52.3 -0.8**
comp=Z,8.3nm,1.1s
NEW Newport 80.69 34 ⇑P **P 07 42 52.6 -0.5**
baz=81
PV01 Paradox Valley 80.71 46 *eP* **P 07 42 53.1 -0.6**
comp=Z,2µm,1.4s
S20A Disappointment 80.71 47 ⇓P **P 07 42 53.1 -0.7**
baz=81,SNR=9.1
ANMO Albuquerque 80.79 50 *eP* **P 07 42 53.6 -0.6**
225A Deer Hill, Car 80.81 53 ⇑P **P 07 42 53.6 -0.8**
baz=81,SNR=8.4
X23A Hourglass Bar 80.83 50 ⇓P **P 07 42 53.7 -0.7**
baz=81,SNR=5.5
426A McDonald Obser 80.84 55 ⇓P **P 07 42 53.8 -0.8**
baz=81,SNR=16
R20A Redvale 80.86 46 ⇑P **P 07 42 53.8 -0.7**
baz=81,SNR=5.6
627A Terlingua Ranc 80.87 56 ⇑P **P 07 42 53.9 -0.7**
baz=81,SNR=17
V22A San Miguel Ran 80.88 49 ⇑P **P 07 42 54.2 -0.5**
baz=81
M17A Scullys Gap (B 80.89 43 ⇑P **P 07 42 54.0 -0.6**
baz=81
Z24A Sheeppen Canyo 80.91 52 ⇑P **P 07 42 54.2 -0.6**
baz=81
T21A Navajo Lake 80.91 48 ⇓P **P 07 42 54.3 -0.5**
baz=81
527A Woodward Ranch 80.97 55 ⇓P **P 07 42 54.2 -1.0**
baz=81,SNR=7.6

S21A Coal Bank Pass 81.03 47 ⇑P **P 07 42 55.5 -0.1**
baz=81,SNR=17
CN2 Changchun 81.07 320 ⇑P **P 07 42 56.5 +1.3**
CN2 *eS* S 07 52 55.3 -6.3
CN2 pmax pmax
comp=Z,80nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
MCK McKinley 81.10 11 *eP* **P 07 42 54.8 -0.2**
MCK McKinley 81.10 11 *eP* **P 07 42 54.8 -0.2**
W23A Werner Place, 81.11 50 ⇑P **P 07 42 55.4 -0.5**
baz=81,SNR=6.1
Y24A Capitan 81.11 51 ⇓P **P 07 42 55.3 -0.6**
baz=81,SNR=9.1
U22A Llaves 81.13 49 ⇓P **P 07 42 55.7 -0.3**
baz=81
P19A Cripple Cowboy 81.13 45 ⇓P **P 07 42 55.1 -0.9**
baz=81,SNR=5.6
326A Caldwell Ranch 81.15 54 ⇓P **P 07 42 55.2 -0.9**
baz=81
125A Gardner Draw, 81.17 53 ⇓P **P 07 42 55.4 -0.7**
baz=81,SNR=6.2
HYT Haines Junctio 81.19 17 *eP* **P 07 42 55.4 -0.2**
MCMT McKenzie Canyo 81.24 39 *eP* **P 07 42 56.4 0.0**
comp=Z,7.6nm,1.1s
Q20A Ridgley Place, 81.28 46 ⇑P **P 07 42 56.2 -0.4**
baz=81,SNR=12
628A Black Gap, Mar 81.28 56 ⇑P **P 07 42 56.3 -0.5**
baz=81,SNR=7.3
226B Tecolote Peak, 81.31 53 ⇓P **P 07 42 56.2 -0.7**
baz=81,SNR=9.6
V23A Ortiz Mt. (NFS 81.34 49 ⇓P **P 07 42 57.0 -0.1**
baz=81,SNR=9.6
O19A Miners Draw (B 81.35 44 ⇓P **P 07 42 56.0 -1.0**
baz=81
T22A Edith 81.37 48 ⇓P **P 07 42 57.0 -0.3**
baz=81,SNR=6.4
X24A Lazy VL Ranch, 81.38 51 ⇑P **P 07 42 57.0 -0.4**
baz=81
Z25A Roswell 81.38 52 ⇓P **P 07 42 56.8 -0.4**
baz=81,SNR=6.1
427A Hayter Ranch, 81.41 55 ⇓P **P 07 42 56.7 -0.8**
baz=82
RRI2 Red Ridge 81.42 41 *eP* **P 07 42 57.3 -0.2**
comp=Z,25nm,1.3s
P20A De Beque 81.47 45 ⇓P **P 07 42 57.2 -0.4**
baz=82,SNR=13
R21A Cimarron 81.53 46 ⇑P **P 07 42 57.8 -0.3**
baz=82,SNR=19
I16A Newdale 81.58 40 ⇑P **P 07 42 57.9 -0.3**
baz=82,SNR=15
U23A El Rito 81.58 49 ⇑P **P 07 42 58.1 -0.3**
baz=82,SNR=15
528A Cox Ranch, San 81.63 56 ⇑P **P 07 42 57.9 -0.7**
baz=82,SNR=9.4
126A Clayton Basin, 81.65 53 ⇑P **P 07 42 58.0 -0.7**
baz=82
MSO Missoula 81.66 37 *eP* **P 07 42 57.4 -1.1**
comp=Z,26nm,1.3s
MSO Missoula 81.66 37 ⇑P **P 07 42 58.4 -0.1**
baz=82,SNR=16
Y25A Mesa, Roswell 81.67 52 ⇑P **P 07 42 58.1 -0.7**
baz=82,SNR=7.9
DLMT Dillon 81.67 38 *eP* **P 07 42 58.7 +0.1**
comp=Z,27nm,1.4s
W24A Lazy 6 Ranch, 81.68 50 ⇓P **P 07 42 58.0 -0.9**
baz=82,SNR=8.1
REDW Red Top Meadow 81.72 41 *eP* **P 07 42 58.8 -0.2**
comp=Z,35nm,1.5s
TPAW Teton Pass 81.72 41 *eP* **P 07 42 59.0 0.0**
Q21A Lamborn Mesa, 81.72 46 ⇑P **P 07 42 58.8 -0.2**
baz=82
BSMT Bassoo Peak 81.74 36 *eP* **P 07 42 58.4 -0.5**
S22A 4UR Ranch, Cre 81.75 47 ⇓P **P 07 42 59.1 -0.3**
baz=82,SNR=16
SNOW Snow King Moun 81.83 41 *eP* **P 07 42 59.5 0.0**
comp=Z,19nm,1.2s
O20A White River Ci 81.86 45 ⇑P **P 07 42 59.1 -0.7**
baz=82
M19A Rock Springs 81.90 43 ⇓P **P 07 42 59.3 -0.7**
baz=82,SNR=6.2
428A Kincaid Ranch, 81.93 55 ⇑P **P 07 42 59.8 -0.4**
baz=82,SNR=7.0
IMW Indian Meadow 81.93 40 *eP* **P 07 43 00.2 +0.1**
comp=Z,22nm,1.3s
Z26A Caprock 81.94 52 ⇑P **P 07 42 59.2 -1.0**
baz=82,SNR=12
X25A Clemmons Ranch 81.94 51 ⇓P **P 07 42 59.4 -0.9**
baz=82
227A Bennet, Jal 81.96 54 ⇓P **P 07 42 59.6 -0.7**
baz=82
JTMT Jette 81.97 36 *eP* **P 07 42 59.2 -0.8**
MOOW Moose Ponds 81.98 41 *eP* **P 07 43 00.0 -0.3**
comp=Z,15nm,1.4s
V24A Rampart Ranch, 82.00 50 ⇑P **P 07 43 00.2 -0.4**
baz=82,SNR=6.9
LRM Limekiln Ridge 82.00 38 *eP* **P 07 43 00.1 -0.3**
LOHW Long Hollow 82.00 41 *eP* **P 07 43 00.2 -0.2**
SWMT Swartz Lake 82.00 36 *eP* **P 07 42 59.6 -0.6**
T23A Casias Ranch, 82.01 48 ⇑P **P 07 43 00.4 -0.3**
baz=82,SNR=7.7
R22A Saguache, Gunn 82.02 47 ⇑P **P 07 43 00.8 0.0**
baz=82,SNR=13
L19A Farson 82.06 43 ⇓P **P 07 42 59.9 -0.8**
baz=82,SNR=5.5
529A Stev Forest Ra 82.06 56 ⇑P **P 07 43 00.1 -0.8**
baz=82
328A Wristen Ranch, 82.09 55 ⇑P **P 07 43 00.2 -0.7**
baz=82,SNR=5.1
QLMT Earthquake Lak 82.10 39 *eP* **P 07 43 01.5 +0.6**
CHMT Chamberlain Mo 82.11 37 *eP* **P 07 42 59.9 -1.0**
P21A Newcastle 82.12 45 ⇑P **P 07 43 00.8 -0.4**
baz=82,SNR=7.7
SLMT Seeley Lake 82.14 37 *eP* **P 07 42 59.7 -1.3**
H16A Russell Place, 82.15 40 ⇑P **P 07 43 01.5 +0.3**
baz=82,SNR=27
I17A Pilgrim Ck. 82.17 40 ⇑P **P 07 43 01.2 -0.1**
baz=82
N20A Spence Gulch, 82.18 44 ⇑P **P 07 43 00.8 -0.6**
baz=82,SNR=10
127A Arkansas Junct 82.18 53 ⇓P **P 07 43 01.1 -0.4**
baz=82
Q22A Crested Butte, 82.20 46 ⇑P **P 07 43 01.3 -0.4**
baz=82,SNR=20
PDAR Pinedale Array 82.25 42 P **P 07 43 01.0 -0.8**
PDAR Pinedale Array 82.25 42 P **P 07 43 01.0 -0.8**
comp=Z,4.4nm,1.0s,baz=227,slow=3.5,SNR=26
PDAR LR LR 08 15 19.9
comp=Z,384nm,18.7s,baz=250,slow=33
U24A Moreno Valley 82.28 49 ⇓P **P 07 43 02.0 -0.2**
baz=82,SNR=7.6
SMCO Snowmass 82.30 46 *eP* **P 07 43 02.4 +0.1**
YMR Madison River 82.30 40 *eP* **P 07 43 01.9 -0.1**
comp=Z,60nm,1.6s
S23A Nye Farm, Mont 82.32 48 ⇓P **P 07 43 01.5 -0.8**
baz=82
Y26A Elida 82.33 52 ⇑P **P 07 43 01.4 -0.9**
baz=82,SNR=8.5
COLA College 82.34 11 *eP* **P 07 43 01.3 -0.1**
COLA pmax pmax
comp=Z,24nm,0.9s
COLA College 82.34 11 *eP* **P 07 43 01.3 -0.1**
comp=Z,24nm,0.9s
W25A X Bar L Ranch, 82.38 50 ⇑P **P 07 43 01.7 -0.9**
baz=82,SNR=13
BOZ Bozeman (W) 82.40 39 *eP* **P 07 43 01.6 -0.8**
BOZ pmax pmax
comp=Z,22nm,1.4s
BOZ Bozeman (W) 82.40 39 *eP* **P 07 43 01.6 -0.8**
comp=Z,22nm,1.4s
ILAR Eielson Array 82.42 11 P **P 07 43 01.0 -0.9**
ILAR Eielson Array 82.42 11 P **P 07 43 01.0 -0.9**
comp=Z,2.5nm,0.9s,baz=222,slow=5.4,SNR=21
IM04 Indian Mountai 82.44 8 *eP* **P 07 43 01.9 0.0**
T24B San Luis 82.49 48 ⇑P **P 07 43 02.8 -0.5**
baz=83,SNR=11
SEY Seymchan 82.50 345⇑*eP* **P 07 43 01.8 -0.5**
YNR Norris Junctio 82.50 40 *eP* **P 07 43 03.9 +0.8**
comp=Z,29nm,1.5s
429A Davenport Ranc 82.52 56 ⇑P **P 07 43 02.0 -1.2**
baz=83,SNR=15
V25A Rancho No Teng 82.53 50 ⇓P **P 07 43 02.6 -0.8**
baz=83,SNR=25
M20A Sweetwater, Wa 82.53 43 ⇑P **P 07 43 02.5 -0.7**
baz=83,SNR=9.8
IMA2 Indian Mountai 82.54 8 *eP* **P 07 43 02.3 -0.3**
Z27A Tatum 82.54 53 ⇓P **P 07 43 02.7 -0.6**

baz=83
228A UT Block 9, Go 82.55 54 ⇓P P 07 43 02.8 -0.6
baz=83
X26A CR and CF Fran 82.59 51 ⇑P P 07 43 02.6 -1.0
baz=83,SNR=6.8
LKWY Lake 82.60 40 eP P 07 43 04.4 +0.8
LKWY pmax pmax
comp=Z,28nm,1.5s
LKWY Lake 82.60 40 eP P 07 43 04.4 +0.8
comp=Z,28nm,1.5s
P22A Eagle 82.63 46 ⇓P P 07 43 03.4 -0.4
baz=83,SNR=9.2
N21A Black Mountain 82.64 44 ⇑P P 07 43 03.5 -0.4
baz=83,SNR=13
R23A Moffat 82.66 47 ⇓P P 07 43 03.7 -0.4
baz=83,SNR=12
L20A Wamsutter 82.68 43 ⇓P P 07 43 03.5 -0.4
baz=83,SNR=18
SDCO Great Sand Dun 82.70 48 eP P 07 43 03.6 -0.7
comp=Z,10nm,1.3s
K19A Absolon Red Bu 82.73 42 ⇑P P 07 43 03.1 -1.2
baz=83,SNR=12
G17A Pierce Place, 82.77 39 ⇓P P 07 43 04.3 0.0
baz=83,SNR=7.1
530A J-C Ranch, Com 82.78 56 ⇓P P 07 43 03.4 -1.2
baz=83
329A Wagon Wheel Ra 82.78 55 ⇑P P 07 43 03.4 -1.2
baz=83,SNR=5.9
Y27A Causey 82.81 52 ⇑P P 07 43 03.6 -1.2
baz=83,SNR=7.7
J19A Crowheart 82.81 42 ⇑P P 07 43 03.7 -0.9
baz=83,SNR=8.8
HRY Holter Researc 82.83 38 eP P 07 43 04.2 -0.4
128A Castleberry Fa 82.83 53 ⇑P P 07 43 03.9 -0.9
baz=83,SNR=5.6
W26A Owens Ranch, T 82.85 51 ⇓P P 07 43 03.9 -1.0
baz=83
S24A Houchin Ranch, 82.86 48 ⇓P P 07 43 04.6 -0.6
baz=83,SNR=14
QIZ Qiongzhong 82.90 292 P P 07 43 06.3 +1.0
QIZ S S 07 53 13.8 -7.6
QIZ LR LR
comp=E,84nm,25.1s
QIZ LR LR
comp=Z,280nm,22.4s
U25A Circle Dot Ran 82.92 49 ⇓P P 07 43 04.6 -0.8
baz=83,SNR=14
Q23A Hartsel 82.97 47 ⇑P P 07 43 04.7 -1.0
baz=83
K20A Yellowstone Ra 82.98 42 ⇓P P 07 43 04.2 -1.3
baz=83,SNR=14
O22A Kremmling 83.03 45 ⇓P P 07 43 05.2 -0.8
baz=83,SNR=21
229A Bryant Ranch, 83.10 54 ⇓P P 07 43 05.5 -0.8
baz=83
430A Baggett Ranch, 83.10 56 ⇓P P 07 43 05.2 -1.1
baz=83
H18A Shoshone NF, C 83.11 40 ⇓P P 07 43 05.5 -0.7
baz=83
F17A Fitzpatrick Pl 83.11 39 ⇓P P 07 43 05.8 -0.2
baz=83,SNR=12
631A Perdido Creek 83.12 57 ⇑P P 07 43 05.1 -1.2
baz=83
V26A Tequesquite Ra 83.12 50 ⇓P P 07 43 05.2 -1.1
baz=83,SNR=6.3
M21A Separation Pea 83.14 44 ⇓P P 07 43 05.5 -0.9
baz=83,SNR=10.0
MSTX Muleshoe 83.14 52 ⇑P P 07 43 05.4 -1.0
baz=83,SNR=7.8
X27A F and S Farms, 83.17 51 ⇑P P 07 43 05.6 -1.0
baz=83,SNR=5.9
Z28A Tucker Farm, M 83.17 53 ⇑P P 07 43 05.7 -0.9
baz=83,SNR=7.8
P23A Jefferson 83.17 46 ⇓P P 07 43 06.7 -0.1
baz=83,SNR=8.1
R24A Sanders Place, 83.19 47 ⇑P P 07 43 06.2 -0.5
baz=83,SNR=13
I19A Meeteetse 83.22 41 ⇓P P 07 43 06.2 -0.5
baz=83,SNR=14
T25A Trinidad 83.22 49 ⇑P P 07 43 06.0 -0.9
baz=83,SNR=6.7
RWWY Rawlins 83.28 44 eP P 07 43 06.7 -0.5
comp=Z,47nm,1.4s
E17A Martinsdale 83.28 38 ⇑P P 07 43 06.4 -0.6
baz=83,SNR=5.7
L21A Rawlins 83.30 43 ⇑P P 07 43 06.2 -1.0
baz=83,SNR=8.2
129A Stewart Farms, 83.31 54 ⇓P P 07 43 06.4 -0.9
baz=83
W27A Bowe Ranch, En 83.36 51 ⇑P P 07 43 06.6 -1.0
baz=83,SNR=12
N22A Wattenberg Ran 83.38 45 ⇑P P 07 43 07.4 -0.3
baz=84,SNR=12
330A Mertzon 83.39 55 ⇓P P 07 43 06.4 -1.3
baz=83
DAWY Dawson 83.40 14 eP P 07 43 06.9 -0.1
U26A Atchley Ranch, 83.40 50 ⇓P P 07 43 06.9 -0.9
baz=84,SNR=18
531A Rocksprings 83.42 56 ⇓P P 07 43 06.8 -1.1
baz=84
S25A Robets Cordova 83.43 48 ⇓P P 07 43 07.2 -0.8
baz=84,SNR=17
Q24A Divide 83.47 47 ⇓P P 07 43 07.6 -0.7
baz=84,SNR=6.6
J20A Shoshoni 83.48 42 ⇑P P 07 43 07.6 -0.4
baz=84,SNR=20
O23A Lake Granby, G 83.48 45 ⇓P P 07 43 07.8 -0.5
baz=84,SNR=7.0
G18A Lazy EL Ranch, 83.49 40 ⇓P P 07 43 07.7 -0.3
baz=84,SNR=12
ISCO Idaho Springs 83.51 46 eP P 07 43 07.7 -0.8
ISCO pmax pmax
comp=Z,31nm,1.9s
ISCO Idaho Springs 83.51 46 eP P 07 43 07.7 -0.8
comp=Z,31nm,1.9s
ISCO Idaho Springs 83.51 46 ⇓P P 07 43 08.1 -0.4
baz=84,SNR=6.3
Y28A McKinney Farm, 83.52 52 ⇓P P 07 43 07.6 -0.8
baz=84
H19A Powell 83.53 40 ⇑P P 07 43 08.2 0.0
baz=84,SNR=13
M22A Cedar Creek Ra 83.56 44 ⇓P P 07 43 08.3 -0.3
baz=84
431A Sonora 83.56 56 ⇑P P 07 43 08.1 -0.6
baz=84
RLMT Red Lodge 83.58 40 eP P 07 43 08.2 -0.3
comp=Z,34nm,1.4s
230A Sterling City 83.62 55 ⇑P P 07 43 08.1 -0.8
baz=84
GCMT Greycliff 83.66 39 eP P 07 43 08.7 -0.2
comp=Z,28nm,1.6s
Z29A Hungry Hill Ra 83.68 53 ⇓P P 07 43 08.3 -0.9
baz=84,SNR=5.3
K21A Alcova 83.68 43 ⇓P P 07 43 08.4 -0.7
baz=84,SNR=15
F18A Big Timber 83.69 39 ⇓P P 07 43 08.5 -0.5
baz=84,SNR=13
D17A Six Diamond Ra 83.73 38 ⇑P P 07 43 08.6 -0.6
baz=84,SNR=19
I20A Worland 83.73 41 ⇓P P 07 43 08.5 -0.7
baz=84,SNR=19
R25A Fountain Ranch 83.74 48 ⇑P P 07 43 08.5 -1.0
baz=84,SNR=12
N23A Red Feather La 83.77 45 ⇑P P 07 43 09.0 -0.8
baz=84,SNR=9.1
632A Uvalde 83.79 57 ⇑P P 07 43 08.9 -0.8
baz=84
X28A Dimmitt 83.80 52 ⇑P P 07 43 08.6 -1.2
baz=84,SNR=7.3
V27A Dan Oppiter Fa 83.81 50 ⇓P P 07 43 08.7 -1.2
baz=84,SNR=7.2
T26A Comanche Natio 83.83 49 ⇓P P 07 43 08.8 -1.2
baz=84,SNR=5.7
J21A Lysite 83.89 42 ⇑P P 07 43 09.2 -1.0
baz=84,SNR=33
E18A Harlowton 83.89 38 ⇑P P 07 43 09.8 -0.3
baz=84,SNR=18
532A Rocksprings 83.92 57 ⇓P P 07 43 09.6 -0.9
baz=84
C17A Wharram Farm, 83.93 37 ⇓P P 07 43 09.4 -0.7
baz=84,SNR=37
Y29A Porterfield Fa 83.94 53 ⇓P P 07 43 10.3 -0.3
baz=84
331A San Angelo 83.94 55 ⇑P P 07 43 09.3 -1.2
baz=84
L22A Ellis Ranch, M 83.95 44 ⇓P P 07 43 10.0 -0.5
baz=84,SNR=8.5
130A Snyder 84.00 54 ⇑P P 07 43 10.2 -0.7
baz=84
O24A Longmont 84.03 46 ⇑P P 07 43 10.7 -0.3
baz=84
H20A Greybull 84.06 41 ⇑P P 07 43 10.0 -1.0
baz=84,SNR=15
W28A Vega 84.08 51 ⇑P P 07 43 10.5 -0.8
baz=84
U27A Thompson Grove 84.09 50 ⇑P P 07 43 09.8 -1.4
baz=84,SNR=7.6
Q25A Bedland, Calha 84.09 47 ⇑P P 07 43 10.4 -0.9
baz=84
S26A Kim 84.11 49 ⇑P P 07 43 10.1 -1.3
baz=84,SNR=8.3
COLD Coldfoot 84.12 9 eP P 07 43 11.6 +1.1
F19A Roth Farm, Mol 84.13 39 ⇓P P 07 43 10.4 -0.8
baz=84,SNR=17
Z30A Sanderson Ranc 84.14 53 ⇓P P 07 43 10.2 -1.3
baz=84,SNR=8.9
X29A Tulia 84.15 52 ⇑P P 07 43 10.4 -1.2
baz=84,SNR=6.1
K22A Casper 84.17 43 ⇑P P 07 43 10.6 -1.0
baz=84,SNR=6.9
M23A Laramie 84.17 44 ⇓P P 07 43 10.9 -0.9
baz=84
I21A Big Trails, Te 84.20 42 ⇑P P 07 43 10.6 -1.1
baz=84,SNR=17
B17A L&G Farms, Che 84.24 37 ⇑P P 07 43 10.8 -0.9
baz=84,SNR=13
231A Bronte 84.26 55 ⇑P P 07 43 10.7 -1.5
baz=84
V28A Channing 84.27 51 ⇑P P 07 43 11.5 -0.6
baz=84
D18A Linhart Farms, 84.27 38 ⇓P P 07 43 12.0 0.0
baz=84,SNR=11
G20A Bridger 84.28 40 ⇓P P 07 43 11.6 -0.5
baz=84
PHWY Pilot Hill 84.28 45 eP P 07 43 11.9 -0.4
comp=Z,13nm,1.3s
432A Menard 84.29 56 ⇓P P 07 43 11.0 -1.3
baz=84
AMTX Amarillo 84.33 52 eP P 07 43 11.2 -1.3
comp=Z,49nm,1.5s
P25A Willow Gulch B 84.40 47 ⇓P P 07 43 12.4 -0.5
baz=84,SNR=6.4
R26A Arlington 84.40 48 ⇓P P 07 43 11.7 -1.1
baz=84,SNR=15
T27A Campo 84.42 49 ⇑P P 07 43 11.7 -1.3
baz=84,SNR=6.2
W29A Amraillo 84.45 51 ⇑P P 07 43 12.1 -1.1
baz=84,SNR=7.6
N24A Carr 84.46 45 ⇑P P 07 43 12.6 -0.6
baz=84,SNR=8.8
L23A Garrett 84.47 44 ⇓P P 07 43 12.1 -1.1
baz=85,SNR=12
131A Roby 84.48 54 ⇑P P 07 43 12.3 -0.9
baz=84
332A Millersview 84.51 56 ⇓P P 07 43 12.2 -1.2
baz=85
E19A Rath Farm, Rou 84.52 39 ⇑P P 07 43 12.8 -0.4
baz=85,SNR=12
Y30A Stafford Cattl 84.54 53 ⇑P P 07 43 12.4 -1.2
baz=85,SNR=6.8
F20A Billings 84.59 40 ⇑P P 07 43 13.0 -0.6
baz=85,SNR=8.3
Q26A Hugo 84.61 47 ⇓P P 07 43 13.4 -0.5
baz=85
EGMT Eagleton 84.71 37 eP P 07 43 13.2 -0.9
comp=Z,26nm,1.3s
EGMT Eagleton 84.71 37 ⇑P P 07 43 13.2 -0.9
baz=85,SNR=7.0
H21A Big Horn, Sher 84.74 41 ⇑P P 07 43 13.4 -0.9
baz=85,SNR=5.7
I22A 9 Mile Ranch, 84.76 42 ⇑P P 07 43 13.7 -0.8
baz=85,SNR=6.7
232A Coleman 84.78 55 ⇓P P 07 43 13.6 -1.1
baz=85
X30A Coker Ranch, T 84.78 52 ⇑P P 07 43 13.8 -0.9
baz=85
M24A Cheyenne 84.78 45 ⇑P P 07 43 14.3 -0.4
baz=85
D19A Cripps Ranch, 84.81 38 ⇑P P 07 43 14.2 -0.4
baz=85,SNR=17
K23A Bowen Ranch, D 84.81 43 ⇓P P 07 43 14.4 -0.4
baz=85
V29A Stinnett 84.84 51 ⇓P P 07 43 14.5 -0.5
baz=85
R27A Eads 84.86 48 ⇑P P 07 43 14.4 -0.7
baz=85
B18A Beardsley Farm 84.88 37 ⇑P P 07 43 14.4 -0.6
baz=85,SNR=6.7
T28A Walsh 84.89 49 ⇓P P 07 43 14.5 -0.8
baz=85
G21A Lodge Grass 84.91 40 ⇑P P 07 43 15.2 +0.1
baz=85
Z31A Sharp Cattle R 84.92 54 ⇓P P 07 43 14.6 -0.8
baz=85
E20A Meyer Farm, Mu 84.94 39 ⇑P P 07 43 15.1 -0.1
baz=85,SNR=9.7
L24A Wheatland 84.96 44 ⇓P P 07 43 15.3 -0.2
baz=85
C19A Slack Wire Ran 84.98 38 ⇓P P 07 43 15.0 -0.5
baz=85,SNR=23
P26A Davis Ranch, A 85.00 47 ⇓P P 07 43 15.3 -0.5
baz=85
ABTX Abilene, Hawle 85.05 54 ⇓P P 07 43 15.3 -0.8
baz=85
Y31A Rekieta Farm, 85.06 53 ⇓P P 07 43 15.4 -0.8
baz=85
A18A Metzger Ranch, 85.11 36 ⇑P P 07 43 15.1 -1.0
baz=85,SNR=17
H22A Clearmont 85.16 41 ⇑P P 07 43 15.7 -0.8
baz=85,SNR=6.1
D20A Manuel Ranch, 85.22 39 ⇑P P 07 43 16.3 -0.4
baz=85,SNR=12
S28A Manter 85.23 49 ⇑P P 07 43 16.5 -0.5
baz=85
KSCO Kaye Shedlock' 85.28 48 ⇓P P 07 43 16.9 -0.4
baz=85
M25A Palm-Egli Farm 85.29 45 ⇑P P 07 43 17.0 -0.3
baz=85
B19A Brinkman Farms 85.40 37 ⇑P P 07 43 17.4 -0.1
baz=86,SNR=12
Z32A Haskell 85.43 54 ⇓P P 07 43 17.7 -0.3
baz=86
EDM Edmonton 85.47 32 eP P 07 43 16.3 -1.4
EDM Edmonton 85.47 32 eP P 07 43 16.3 -1.4
G22A Birney 85.48 41 ⇓P P 07 43 17.9 -0.1
baz=86
C20A Veseth Ranch, 85.59 38 ⇓P P 07 43 18.1 -0.4
baz=86,SNR=19
R28A Tribune 85.60 48 ⇓P P 07 43 18.0 -0.7
baz=86,SNR=6.9
E21A Keefer Ranch, 85.60 39 ⇑P P 07 43 18.5 0.0
baz=86
Y32A R-V Farms, Ver 85.71 53 ⇓P P 07 43 18.8 -0.5
baz=86
U30A WK&E Inc. Balk 85.74 50 ⇑P P 07 43 18.9 -0.6
baz=86
A19A Klindworth Far 85.74 37 ⇓P P 07 43 18.6 -0.6
baz=86,SNR=5.7
F22A Rosebud 85.76 40 ⇓P P 07 43 19.2 -0.2
baz=86
W31A Holland Ranch, 85.77 52 ⇓P P 07 43 19.0 -0.7
baz=86
O27A Beecher Island 85.86 47 ⇑P P 07 43 19.5 -0.6
baz=86
D21A La Casta Ranch 85.89 39 ⇑P P 07 43 19.6 -0.4
baz=86,SNR=6.4
K25A Mack Ranch, Ha 85.91 44 ⇑P P 07 43 19.9 -0.4
baz=86
G23A Biddle 86.04 41 ⇑P P 07 43 20.0 -0.8
baz=86
V31A Spring Creek L 86.06 51 ⇑P P 07 43 20.8 -0.3
baz=86,SNR=5.5
C21A Desert Coulee 86.18 38 ⇑P P 07 43 20.9 -0.5
baz=86
A20A Cobblestone Ra 86.19 37 ⇓P P 07 43 20.7 -0.8
baz=86,SNR=12
E22A Miles City 86.25 40 ⇓P P 07 43 21.4 -0.3
baz=86
F23A Volborg 86.26 41 ⇑P P 07 43 21.2 -0.6
baz=86
H24A Dirks Ranch, A 86.38 42 ⇑P P 07 43 21.4 -1.1
baz=86,SNR=5.9
D22A Cohagen 86.42 39 ⇑P P 07 43 22.2 -0.4
baz=86
RSSD Black Hills 86.44 42 eP P 07 43 21.9 -1.1
RSSD pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 86.44 42 eP P 07 43 21.9 -1.1
comp=Z,5.1nm,1.0s
B21A Ellsworth Farm 86.51 38 ⇑P P 07 43 22.5 -0.5
baz=87,SNR=11
WHTX Lake Whitney 86.55 56 ⇑P P 07 43 22.6 -0.9
baz=87
I25A Rochford 86.60 43 ⇑P P 07 43 22.6 -1.1
baz=87
E23A Ismay 86.67 40 ⇑P P 07 43 23.7 -0.1
baz=87
T31A Randall Ranch, 86.68 50 ⇑P P 07 43 23.6 -0.5
baz=87
A21A Bergtoll Ranch 86.83 37 ⇑P P 07 43 24.4 -0.1
baz=87
C22A Vida 86.87 39 ⇓P P 07 43 24.5 -0.3
baz=87
F24A Ekalaka 86.92 41 ⇑P P 07 43 24.4 -0.7
baz=87
Q30A Quinter 86.99 48 ⇓P P 07 43 24.9 -0.6
baz=87
B22A Reddig Ranch S 87.06 38 ⇓P P 07 43 25.4 -0.3
baz=87
HKT Hockley 87.17 58 eP P 07 43 27.1 +0.6
HKT pmax pmax
comp=Z,12nm,1.4s
HKT Hockley 87.17 58 eP P 07 43 27.1 +0.6
comp=Z,12nm,1.4s
C23A Lambert 87.32 39 ⇑P P 07 43 27.0 +0.1
baz=87
A22A Carney Farms, 87.42 38 ⇑P P 07 43 27.3 -0.1
baz=88
J27A Elkhorn Farm, 87.42 44 ⇓P P 07 43 27.6 0.0
baz=88
H26A Fairpoint 87.47 42 ⇑P P 07 43 27.8 0.0
baz=88
C24A Savage 87.66 39 ⇓P P 07 43 28.9 +0.3
baz=88
B23A Brockton 87.73 38 ⇓P P 07 43 28.7 -0.2
baz=88
MAW Mawson 87.81 199 LR LR 08 23 11.1
comp=Z,388nm,19.3s,baz=112,slow=36
GYA Guiyang 88.03 298 eP P 07 43 31.0 +0.1
GYA pP pP 07 44 05.3 +22
GYA sP sP 07 44 20.5 +32
GYA PP PP 07 47 01.8 +3.7
GYA SKS SKSac 07 53 45.3 -11
GYA S SKKSac 07 54 01.0 -5.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
DGMT Dagmar 88.21 38 eP P 07 43 31.2 0.0
comp=Z,24nm,1.1s
DGMT Dagmar 88.21 38 ⇓P P 07 43 30.8 -0.4
baz=88
E26A Carlson Angus 88.44 41 ⇑P P 07 43 31.8 -0.5
baz=88
A24A Westby 88.52 38 ⇑P P 07 43 32.8 +0.2
baz=89
D26A Manning 88.68 40 ⇓P P 07 43 33.5 +0.1
baz=89
HHC Hu-ho-hao-te 89.01 313 eP P 07 43 35.3 +0.1
HHC pP pP 07 44 07.5 +20
HHC sP sP 07 44 21.0 +28
HHC PP PP 07 47 09.0 +3.4
HHC SKS SKSac 07 53 51.0 -11
HHC S SKKSac 07 54 11.0 -2.5
HHC sS sS 07 55 07.5 +25
HHC SS SS 08 00 10.5 -4.3
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,370nm,6.0s
HHC LR LR
comp=N,290nm,17.4s
HHC LR LR
comp=E,270nm,17.8s
HHC LR LR
comp=Z,250nm,17.7s
YAK Yakutsk 89.09 337 i P P 07 43 34.9 0.0
TUL1 Tulsa 89.19 52 ⇓P P 07 43 36.2 +0.2
baz=89
F28A McLaughlin 89.24 42 ⇓P P 07 43 36.0 -0.1
baz=89
PLCA Paso Flores 89.53 132 LR LR 08 15 17.2
comp=Z,296nm,18.2s,baz=316,slow=30
YKA Yellowknife Ar 90.08 23 P P 07 43 38.6 -0.9
YKA Yellowknife Ar 90.08 23 P P 07 43 38.6 -0.9
comp=Z,2.4nm,0.8s,baz=236,slow=4.4,SNR=3.4
KMI Kunming 91.02 296 P P 07 43 46.5 +1.4
KMI pP pP 07 44 17.5 +20
KMI sP sP 07 44 30.5 +28
KMI S SKKSac 07 54 29.3 -0.1
KMI sS sS 07 55 28.5 +27
KMI SS SS 08 00 36.5 -8.2
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI pmax pmax
comp=Z,48nm,5.0s
KMI LR LR
comp=N,100nm,17.9s
KMI LR LR
comp=E,160nm,20.8s
KMI LR LR
comp=Z,180nm,20.8s
CD2 Chengdu 91.80 301 eP P 07 43 48.0 -0.4
CD2 pP pP 07 44 22.0 +21
CD2 sP sP 07 44 36.5 +31
CD2 pmax pmax
comp=Z,10.0nm,1.4s
CD2 pmax pmax
comp=Z,60nm,6.2s
CMAR Chiang Mai Arr 92.61 288 LR LR 08 20 30.9
comp=Z,186nm,20.3s,baz=148,slow=32
SYO Syowa Base 92.62 191⇑ eP P 07 43 49.8 -1.6
SYO Syowa Base 92.62 191⇑ eP P 07 44 06.2 +15
SNAA Sanae 92.93 177 eP P 07 43 52.1 -0.8
comp=Z,8.6nm,1.2s
SNAA Sanae 92.93 177 P P 07 43 52.4 -0.5
comp=Z,1.8nm,1.1s,baz=168,slow=4.4,SNR=8.5
SONM Songino Array 94.83 318 P P 07 44 03.3 +1.2
SONM Songino Array 94.83 318 P P 07 44 03.3 +1.2
comp=Z,0.2nm,0.3s,baz=48,slow=2.2,SNR=4.0
SONM LR LR 08 21 03.0
comp=Z,262nm,21.7s,baz=305,slow=32
SFIN Scholer Farm 97.04 50 ⇑P P 07 44 11.7 -0.4
baz=97
GTA Gaotai 97.17 309 P P 07 44 12.3 -0.6
GTA pP pP 07 44 48.0 +22
GTA sP sP 07 45 01.8 +31
GTA pmax pmax
comp=Z,4.0nm,0.4s
LPAZ La Paz 99.82 110 LR LR 08 19 48.7
comp=Z,150nm,20.0s,baz=317,slow=30
ROSC El Rosal 100.00 88 LR LR 08 20 12.9
comp=Z,120nm,20.0s,baz=256,slow=30
WMQ Urumqi 106.85 312 eP Pdif 07 44 55.0 -0.9
WMQ LR LR
comp=Z,96nm,26.0s
MKAR Makanchi Array 110.81 315 PKiKP PKiKP 07 49 12.5 -0.5
MKAR Makanchi Array 110.81 315 PKiKP PKiKP 07 49 12.5 -0.5
comp=Z,0.6nm,0.7s,baz=72,slow=1.3,SNR=4.8
KURK Kurchatov 113.12 319 PKiKP PKiKP 07 49 17.1 -0.1
KURK PP PP 07 50 03.7 -3.6
KURBB Kurchatov Arra 113.19 319 PKiKP PKiKP 07 49 17.1 -0.2
comp=Z,0.7nm,0.2s,baz=109,slow=1.7,SNR=4.3
KURBB PP PP 07 50 03.7 -4.0
comp=Z,0.6nm,0.4s,baz=78,slow=7.1,SNR=6.1
BVAR Borovoye Array 117.86 322 PKiKP PKPdf 07 49 26.5 +0.2
BVAR Borovoye Array 117.86 322 PKP PKPdf 07 49 26.5 +0.2
BVAR Borovoye Array 117.86 322 PKP PKPdf 07 49 26.5 +0.2
comp=Z,1.4nm,0.7s,baz=132,slow=2.1,SNR=5.0
BRVK Borovoye 117.92 322 i PKiKP PKPdf 07 49 25.5 -0.9
ARCES ARCESS Array B 124.59 352 PKP PKPdf 07 49 38.8 +0.1
ARCES ARCESS Array B 124.59 352 PKP PKPdf 07 49 38.8 +0.1
comp=Z,2.0nm,0.7s,baz=43,slow=2.1,SNR=9.9
FINES FINESS Array B 131.92 348 PKP PKPdf 07 49 52.2 -0.7
FINES FINESS Array B 131.92 348 PKP PKPdf 07 49 52.2 -0.7
comp=Z,1.0nm,0.8s,baz=41,slow=9.3,SNR=4.1
OBN Obninsk 134.09 336 i PKiKP PKPdf 07 49 58.6 +1.5
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 138.18 320 i PKiKP PKPdf 07 50 02.6 -2.7
KIV pmax pmax
comp=Z,7.0nm,1.0s

KIV MLR MLR
comp=Z,141nm,21.0s
AKASG Malin Array Be 140.32 337 PKIKP **PKPdf 07 50 08.7 -0.1**
AKASG Malin Array Be 140.32 337 PKP **PKPdf 07 50 08.7 -0.1**
AKASG Malin Array Be 140.32 337 PKP **PKPdf 07 50 08.7 -0.1**
comp=Z,0.7nm,0.4s,baz=21,slow=2.2,SNR=4.3
KIEV Kiev 140.33 337 *i* PKIKP **PKPdf 07 50 08.8 0.0**
ANN Anapa 140.78 325 *i* PKHKP PKPpre 07 49 58.3
ANN pmax pmax
comp=Z,24nm,1.2s
CLL Collm 143.79 353 *e*PKPbc **PKPdf 07 50 13.8 -1.2**
CLL Collm 143.79 353 *e*PKIKP PKPbc 07 50 13.0 +0.3
CLL Collm 143.79 353 *e*PKPdf PKPbc 07 50 13.0 +0.3
CLL *e* 07 50 25.0
CLL LmV 08 58 00.0
comp=Z,100nm,21.8s
STHS Stebnicka Huta 144.01 344 *e*PKIKP **PKPdf 07 50 14.4 -1.1**
STHS *e* 07 50 25.3
STHS Stebnicka Huta 144.01 344 *e*PKP **PKPdf 07 50 14.4 -1.1**
STHS *e* 07 50 25.3
UPC Upice 144.14 350 *e*PKIKP PKPbc 07 50 14.3 +0.5
UPC *e* 07 50 26.2
UPC Upice 144.14 350 *e*PKP PKPbc 07 50 14.3 +0.5
UPC *ex* x 07 50 26.2
KOLS Kolonicke sedl 144.15 342 *e*PKIKP PKPbc 07 50 14.3 +0.4
KOLS Kolonicke sedl 144.15 342 *e*PKP PKPbc 07 50 14.3 +0.4
DPC Dobruska-Polom 144.24 349 *i* PKIKP **PKPdf 07 50 15.0 -0.9**
DPC *e* 07 50 24.4
DPC Dobruska-Polom 144.24 349 *i* PKP **PKPdf 07 50 15.0 -0.9**
DPC *ep*PKP **PKiKP 07 50 19.2 -0.3**
DPC *ex* x 07 50 24.4
DPC AMS AMS 08 52 30.0
BURAR Bucovina Array 144.35 338↑*i*P **PKPdf 07 50 15.6 -0.7**
OKC Ostrava-Krasne 144.37 347 *e*PKIKP **PKPdf 07 50 15.1 -1.0**
OKC *e* 07 50 24.8
OKC Ostrava-Krasne 144.37 347 *e*PKP **PKPdf 07 50 15.1 -1.0**
OKC *ex* x 07 50 24.8
CRVS Cervenica-Dubn 144.41 343 *e*PKIKP PKPbc 07 50 14.9 +0.2
CRVS Cervenica-Dubn 144.41 343 *e*PKP PKPbc 07 50 14.9 +0.2
UZH Uzhgorod 144.42 342↑*i*PKIKP **PKPdf 07 50 15.3 -0.9**
UZH *e* 07 50 23.1
MOX Moxa 144.59 354 *e*PKPbc PKPbc 07 50 14.9 -0.3
MOX Moxa 144.59 354 *e*PKIKP PKPbc 07 50 14.9 -0.3
WERD Werda 144.72 354 *e*PKPbc PKPbc 07 50 15.5 -0.1
TESR Tescani 144.73 336↓*i*P **PKPdf 07 50 16.2 -0.6**
TANN Tannenbergstha 144.73 354 *e*PKPbc PKPbc 07 50 15.6 -0.1
GUNZ Gunzen 144.80 354 *e*PKPbc PKPbc 07 50 15.9 0.0
PRA Prague 144.82 351 PKP **PKPdf 07 50 17.0 +0.2**
WERN Wernitzgruen 144.87 354 *e*PKPbc PKPbc 07 50 16.2 +0.1
PRU Pruhonice 144.88 351 *e*PKIKP **PKPdf 07 50 16.9 -0.1**
PRU *e* 07 50 27.1
PRU MLR MLR
comp=Z,300nm,21.2s
PRU Pruhonice 144.88 351 *e*PKP **PKPdf 07 50 16.9 -0.1**
PRU *ep*PKP **PKiKP 07 50 20.9 +0.2**
PRU *ex* x 07 50 27.1
PRU AMS AMS 08 58 00.0
comp=Z,300nm,21.2s
KECS Kecovo 145.06 344 *e*PKIKP **PKPdf 07 50 17.2 -0.1**
KECS *e* 07 50 28.7
KECS Kecovo 145.06 344 *e*PKP **PKPdf 07 50 17.2 -0.1**
KECS *e* 07 50 28.7
CFR Carcaliu 145.18 333↓↓*i*P **PKPdf 07 50 18.1 +0.5**
MANZ Manzenberg 145.19 354 *e*PKPbc **PKPdf 07 50 17.4 -0.2**
TNS Taunus Mts 145.21 358 *e*PKPbc **PKPdf 07 50 17.4 -0.2**
TNS Taunus Mts 145.21 358 *e*PKIKP **PKPdf 07 50 17.4 -0.2**
VRI Vrincioaia 145.22 335↓↓*i*P **PKPdf 07 50 18.2 +0.5**
PLOR Plostina 145.27 335↓↓*i*P **PKPdf 07 50 18.2 +0.4**
ROTZ Rotzenmuhle 145.40 354 *e*PKPbc **PKPab 07 50 18.3 +0.3**
TREC Trest 145.40 350 *e*PKIKP **PKPab 07 50 18.4 +0.3**
TREC *e* 07 50 29.0
TREC MLR MLR
comp=Z,300nm,20.4s
TREC Trest 145.40 350 *e*PKP **PKPab 07 50 18.4 +0.3**
TREC *ex* x 07 50 29.0
TREC AMS AMS 08 53 10.0
comp=Z,300nm,20.4s
VYHS Vyhne 145.47 346 *e*PKIKP **PKPab 07 50 18.7 +0.4**
VYHS Vyhne 145.47 346 *e*PKP **PKPab 07 50 18.7 +0.4**
KMBO Kilima Mbogo 145.54 244 PKPbc **PKPab 07 50 20.3 +0.3**
KMBO Kilima Mbogo 145.54 244 PKPbc **PKPab 07 50 20.3 +0.3**
comp=Z,4.8nm,0.6s,baz=81,slow=5.0,SNR=9.9
GRF Grafenberg Arr 145.57 355 *e*PKPbc **PKPab 07 50 18.7 +0.1**
GRF Grafenberg Arr 145.57 355 *e*PKIKP **PKPab 07 50 18.7 +0.1**
TIRR Tirgusor 145.62 332↓↓*i*P **PKPab 07 50 19.9 +1.0**
PSZ Piszkesteto 145.74 344↓↓*i*P **PKPab 07 50 20.5 +1.1**
PSZ Piszkesteto 145.74 344↑*e*PP **PKPab 07 50 19.0 -0.4**
WLF Walferdange 145.80 1 *e*PKPbc **PKPab 07 50 19.7 +0.2**
MLR Muntele Rosu 145.85 335↑↑*i*P **PKPab 07 50 19.7 -0.3**
KHC Kasperske Hory 145.86 352 *e*PKP2 **PKPab 07 50 19.6 -0.2**
KHC MLR MLR
comp=Z,200nm,19.7s
KHC Kasperske Hory 145.86 352 *e*PKP **PKPab 07 50 19.6 -0.2**
KHC *ep*PKP **PKiKP 07 50 22.9 +0.1**
KHC *es*PKP 07 50 29.5
KHC *ex* x 07 50 45.6
KHC *ex* x 07 50 57.7
KHC AMS AMS 08 54 10.0
comp=Z,200nm,19.7s
DRGR 145.92 340↑↑*i*P **PKPab 07 50 19.9 -0.2**
WET Wettzell 145.94 353 *e*PKPbc **PKPab 07 50 19.8 -0.2**
WET Wettzell 145.94 353 *e*PKP2 **PKPab 07 50 19.8 -0.2**
GEC2 GERESS Array S 146.12 352 *e*PKPbc **PKPab 07 50 20.2 -0.6**
GEC2 GERESS Array S 146.12 352 *e*PKP2 **PKPab 07 50 20.2 -0.6**
GERES GERESS Array B 146.12 352 PKPbc **PKPbc 07 50 19.6 -0.6**
GERES GERESS Array B 146.12 352 PKPbc **PKPbc 07 50 19.6 -0.6**
comp=Z,3.4nm,0.8s,baz=33,slow=3.2,SNR=25
BRTR Keskin Array B 146.14 321 PKPbc **PKPbc 07 50 19.9 -0.7**
BRTR Keskin Array B 146.14 321 PKPbc **PKPbc 07 50 20.0 -0.7**
comp=Z,23nm,1.0s,baz=108,slow=2.7,SNR=46
ZST Bratislava 146.15 347 *e*PKP2 **PKPab 07 50 20.6 -0.2**
ZST Bratislava 146.15 347 *e*PKP **PKPab 07 50 20.6 -0.2**
VOIR 146.24 336↑↑*i*P **PKPab 07 50 22.1 +0.7**
ARR Arges 146.46 337↑↑*i*P **PKPab 07 50 23.5 +1.3**
ANTO Ankara 146.56 322↑↑*i*P **PKPab 07 50 23.7 +0.9**
CONA Conrad Observa 146.65 349 *i* pPKPdf **PKPab 07 50 22.6 -0.3**
comp=Z,11nm,1.1s,SNR=6.2
MOA Molln 147.00 351↑↑*i*PKPab **PKPab 07 50 23.2 -1.0**
comp=Z,20nm,1.2s
BFO Black Forest 147.11 358 *e*PKPbc **PKPbc 07 50 23.1 +0.1**
BFO Black Forest 147.11 358 *e*PKP2 **PKPbc 07 50 23.1 +0.1**
BZS Buzias 147.31 340↑↑*i*P **PKPbc 07 50 24.0 +0.4**
RJOB Jochberg 147.33 352 *e*PKPbc **PKPbc 07 50 23.9 +0.2**
ARSA Arzberg 147.37 349↓↓*i*PKPab **PKPab 07 50 24.4 -1.3**
comp=Z,11nm,1.4s
PKSM Moragy 147.65 344↑↑*e* **PKPbc 07 50 24.0 -0.5**
ASF Jabal al Asfar 147.78 307 PKPbc **PKPbc 07 50 25.1 -0.4**
ASF Jabal al Asfar 147.78 307 PKPbc **PKPbc 07 50 25.1 -0.4**
comp=Z,1.5nm,0.7s,baz=116,slow=2.0,SNR=5.6
KBA Koelnbreinsper 147.90 351↑↑*i*PKPdf **PKPbc 07 50 25.1 -0.3**
comp=Z,13nm,1.6s
MOTA Moosalm 147.91 354↓↓*i*sPKPdf **PKPdf 07 50 25.8 +3.4**
comp=Z,7.7nm,1.0s
WTTA Wattenberg 147.93 354↑↑*i*sPKPdf **PKPdf 07 50 25.9 +3.4**
comp=Z,8.7nm,0.7s
SOKA Soboth 148.01 349↑↑*i*pPKPdf **PKPbc 07 50 25.4 -0.2**
comp=Z,14nm,1.0s,SNR=5.0
DAVA Damuels 148.07 356↑↑*i*pPKPdf **PKPbc 07 50 25.1 -0.8**
comp=Z,13nm,1.1s
FETA Feichten 148.26 355↑↑*i*sPKPdf **PKPdf 07 50 26.6 +3.6**
comp=Z,9.9nm,1.2s
ABTA Abfaltersbach 148.34 352↑↑*i*sPKPdf **PKPdf 07 50 26.2 +3.2**
comp=Z,9.4nm,1.0s
MMAI Mount Meron Ar 148.55 309 PKPbc **PKPbc 07 50 27.4 -0.1**
MMAI Mount Meron Ar 148.55 309 PKPbc **PKPbc 07 50 27.4 -0.1**
comp=Z,1.2nm,0.4s,baz=62,slow=3.9,SNR=5.6
ESDC Sonseca Array 154.09 19 PKPbc **PKPbc 07 50 42.6 +2.5**
ESDC Sonseca Array 154.09 19 PKPbc **PKPbc 07 50 42.6 +2.5**
comp=Z,0.2nm,0.3s,baz=336,slow=2.8,SNR=2.9
TORD Torodi Ar. Bea 174.75 114 PKPab **PKPab 07 52 23.2 -1.7**
TORD Torodi Ar. Bea 174.75 114 PKPab **PKPab 07 52 23.2 -1.7**
comp=Z,0.5nm,0.8s,baz=270,slow=4.3,SNR=2.7

ISCJB ***26*** *07:38:39.1±0.4,32°.97S±0°.04×69°.95W±0°.07, h121km±4km, mb3.8/6, Error ellipse: s-maj=9.5km s-min=6.0km az=16.8*
GUC ***26*** *07:38:40.0±0.3,32°.98S×70°.10W, h128km±1km, MD4.2, ML4.4*
IDC ***26*** *07:38:42.4±2.2,32°.93S×69°.66W, h123km±14km, mb3.6/6, mb1 3.5/9, mb1mx3.4/19, mbtmp3.4/9, Error ellipse: s-maj=32.0km s-min=17.5km az=100.0*

ISC 26 07:38:40.3±0.7,32°.96S±0°.05×69°.94W±0°.06, h115km±6km, n29, σ0°81/43, mb3.9/6, 8C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.65**	**254**	↓↓*i*P	**Pn**	**07 38 58.5**	**-0.2**
PEL				*e*S	**Sn**	**07 39 12.4**	**-0.2**
PEL				AML	AML	07 39 14.5	
comp=E,24μm,0.3s							
CLCH	**Cerro Calan**	**0.66**	**229**	↑↑*i*P	**Pn**	**07 38 58.8**	**-0.1**
CLCH				*i* S	**Sn**	**07 39 13.1**	**+0.2**
CLCH				AML	AML	07 39 14.2	
comp=N,11μm,0.5s							
CLCH				AML	AML	07 39 14.8	
comp=N,13μm,0.6s							
FSR	**Penalolen**	**0.71**	**224**	↑↑*i*P	**Pn**	**07 39 00.1**	**+0.9**
FSR				*i* S	**Sn**	**07 39 14.7**	**+1.1**
SAN	**Santiago**	**0.78**	**231**	↓↓*i*P	**Pn**	**07 38 59.5**	**-0.2**
SAN				*i* S	**Sn**	**07 39 14.3**	**-0.1**
SAN				AML	AML	07 39 15.1	
comp=N,10μm,0.3s							
PCH	**Pirque**	**0.81**	**216**	↓↓*i*P	**Pn**	**07 39 00.0**	**-0.1**
PCH				*i* S	**Sn**	**07 39 15.3**	**+0.2**
ANTU	**Antumapu**	**0.84**	**224**	↑↑*i*P	**Pn**	**07 39 00.0**	**-0.3**
ANTU				*i* S	**Sn**	**07 39 15.4**	**-0.1**
ANTU				AML	AML	07 39 17.0	
comp=E,10μm,0.2s							
ROCH	**El Roble**	**0.90**	**269**	↑↑*i*P	**Pn**	**07 39 00.9**	**-0.2**
ROCH				*i* S	**Sn**	**07 39 16.8**	**0.0**
ROCH				AML	AML	07 39 18.4	
comp=E,15μm,0.4s							
LMEL	**Las Melosas**	**0.91**	**194**	↑↑*i*P	**Pn**	**07 39 00.9**	**-0.2**
LMEL				*i* S	**Sn**	**07 39 17.2**	**+0.3**
TACH	**Talagante**	**1.08**	**230**	↓↓*i*P	**Pn**	**07 39 02.3**	**-0.4**
TACH				*i* S	**Sn**	**07 39 19.0**	**-0.7**
PACH	**Papudo**	**1.33**	**288**	↑↑*i*P	**Pn**	**07 39 04.7**	**-0.7**
PACH				*i* S	**Sn**	**07 39 23.4**	**-1.1**
LNV	**Longovilo**	**1.58**	**231**	↓↓*i*P	**Pn**	**07 39 07.2**	**-1.0**
LNV				*i* S	**Sn**	**07 39 27.8**	**-1.7**
CFAA	**Coronel Fontan**	**1.98**	**47**	P	**Pn**	**07 39 13.0**	**-0.2**
comp=E,2.6nm,0.3s,baz=217,slow=12,SNR=561							
CFAA				S	**Sn**	**07 39 37.6**	**-0.9**
comp=E,10nm,0.3s,baz=127,slow=20,SNR=34							
CMCH	**Combarbala**	**2.00**	**333**	↑↑*i*P	**Pn**	**07 39 13.5**	**0.0**
CMCH				*i* S	**Sn**	**07 39 38.9**	**0.0**
NICH	**Los Niches**	**2.30**	**207**	*e*P	**Pn**	**07 39 16.5**	**-0.7**
NICH				*i* S	**Sn**	**07 39 44.3**	**-1.3**
NICH				AML	AML	07 39 50.2	
comp=N,2μm,0.3s							
LCO	**Las Campanas**	**3.99**	**350**	AML	AML	07 40 29.0	
comp=E,338nm,0.3s							
CPUP	**Villa Florida**	**12.80**	**62**	P	**Pn**	**07 41 37.1**	**-1.0**
comp=E,0.4nm,0.3s,baz=219,slow=14,SNR=3.6							
LPAZ	**La Paz**	**16.68**	**6**	P	**P**	**07 42 28.6**	**+0.3**
comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=6.9							
SIV	**San Ignacio**	**18.71**	**28**	P	**P**	**07 42 49.6**	**-0.3**
comp=E,0.3nm,0.3s,baz=219,slow=10,SNR=8.5							
USHA	**Ushuaia**	**21.89**	**178**	P	**P**	**07 43 25.9**	**+2.2**
comp=E,6.3nm,0.9s,baz=332,slow=7.8,SNR=3.6							
BDFB	**Brasilia**	**26.30**	**54**	P	**P**	**07 44 04.6**	**-0.9**
comp=E,5.5nm,0.7s,baz=224,slow=9.8,SNR=10							
SNAA	**Sanae**	**51.89**	**158**	P	**P**	**07 47 37.1**	**+0.4**
comp=E,0.5nm,0.6s,baz=289,slow=8.0,SNR=12							
SYO	**Syowa Base**	**66.18**	**158**	↑↑*e*P	**P**	**07 49 13.8**	**-1.3**
TXAR	**Lajitas Array**	**69.72**	**329**	P	**P**	**07 49 39.3**	**+1.4**
comp=E,0.1nm,0.6s,baz=156,slow=6.9,SNR=3.3							
DBIC	**Dimbokro**	**73.18**	**70**	P	**P**	**07 49 58.4**	**-0.5**
comp=E,1.7nm,0.5s,baz=194,slow=6.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**82.21**	**69**	P	**P**	**07 50 49.0**	**0.0**
comp=E,1.3nm,0.7s,baz=278,slow=5.7,SNR=9.2							
BVAR	**Borovoye Array**	**145.33**	**43**	PKPbc	**PKPab**	**07 58 05.8**	**+1.4**
comp=E,2.1nm,0.5s,baz=321,slow=1.9,SNR=12							
AAK	**Ala-Archa**	**150.47**	**61**	PKPbc	**PKPbc**	**07 58 18.4**	**0.0**
comp=E,2.1nm,0.6s,baz=258,slow=9.3,SNR=5.3							
ZALV	**Zalesovo Beam**	**152.41**	**33**	PKPbc	**PKPbc**	**07 58 22.8**	**+0.5**
comp=E,3.9nm,0.5s,baz=314,slow=3.1,SNR=12							
MKAR	**Makanchi Array**	**154.76**	**49**	PKPbc	**PKPbc**	**07 58 28.2**	**+0.5**
comp=E,0.3nm,0.6s,baz=318,slow=1.9,SNR=3.6							
MKAR				PKPab	**PKPab**	**07 58 42.9**	**-0.4**
comp=E,0.4nm,0.5s,baz=309,slow=3.0,SNR=4.9							

IDC 26 07:47:50.5±3.1,15°.06S×173°.30W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/21, mbtmp4.0/2, Error ellipse: s-maj=214.5km s-min=24.9km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.87**	**52**	Pn	Pn	07 48 22.5	-1.4
21nm,0.3s,baz=264,slow=10,SNR=13							
AFI				Sn	Sn	07 48 41.7	-6.6
35nm,0.3s,baz=75,slow=20,SNR=15							
WRA	**Warramunga Arr**	**50.01**	**256**	P	P	07 56 46.1	-1.1
0.7nm,0.5s,baz=92,slow=6.9,SNR=32							
WRA				PcP	PcP	07 58 08.2	+0.9
0.4nm,0.7s,baz=90,slow=3.6,SNR=4.0							
ASAR	**Alice Springs**	**50.31**	**252**	P	P	07 56 48.7	-0.7
1.6nm,0.5s,baz=85,slow=8.1,SNR=38							
BRTR	**Keskin Array B**	**145.96**	**321**	PKPbc	PKPab	08 07 33.6	+0.5
0.8nm,0.7s,baz=72,slow=4.7,SNR=3.8							

ISCJB ***26*** *07:52:38.1±0.3,40°.47S±0°.02×176°.58E±0°.05, h53km±4km, mb3.8/5, Error ellipse: s-maj=6.6km s-min=3.1km az=26.9*
NEIC ***26*** *07:52:39.9,40°.44S×176°.53E, h36km, ML4.5(WEL), After WEL.*
NEIC Felt at Hawke Bay and Manawatu.
WEL ***26*** *07:52:39.8±0.1,40°.44S×176°.56E, h37km±1km, ML4.5/20, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, intensity MM 4.*
WEL Felt between King Country, Wellington and Hawke''s Bay, maximum reported.
IDC ***26*** *07:52:40.1±0.9,40°.26S×176°.27E, h35km±5km, mb3.7/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.6/2, Error ellipse: s-maj=22.9km s-min=17.4km az=69.0*

ISC 26 07:52:39.1±0.7,40°.41S±0°.03×176°.50E±0°.03, h34km±2km, n179, σ0°89/185, mb4.0/5, 10C-12D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.17**	**37**	↑↑P*	**Pb**	**07 52 46.5**	**+0.9**
PRHZ				S*	**Sb**	**07 52 51.6**	**+1.7**
PRHZ	**Porangahau**	**0.17**	**37**	P*	**Pb**	**07 52 46.5**	**+0.9**
DVHZ	**Dannevirke**	**0.28**	**293**	↓↓P*	**Pn**	**07 52 46.5**	**0.0**
DVHZ	**Dannevirke**	**0.28**	**293**	P*	**Pn**	**07 52 46.5**	**0.0**
BFZ	**Birch Farm**	**0.34**	**215**	↑↑P*	**Pn**	**07 52 48.9**	**+1.3**
BFZ	**Birch Farm**	**0.34**	**215**	P*	**Pn**	**07 52 48.9**	**+1.3**
WPHZ	**Waipukurau**	**0.34**	**353**	↓↓P*	**Pb**	**07 52 47.7**	**+0.2**
WPHZ	**Waipukurau**	**0.34**	**353**	P*	**Pb**	**07 52 47.7**	**+0.2**
PXZ	**Pawanui**	**0.47**	**37**	P*	**Pn**	**07 52 50.4**	**+1.0**
PXZ				AML	AML	07 52 59.4	
PXZ				AML	AML	07 52 59.4	
PXZ				AML	AML	07 52 59.4	
PXZ				AML	AML	07 52 59.5	
PXZ	**Pawanui**	**0.47**	**37**	P*	**Pn**	**07 52 50.1**	**+0.7**
TSZ	**Takapari Road**	**0.54**	**310**	P*	**Pn**	**07 52 49.9**	**-0.4**
TSZ				AML	AML	07 52 57.5	
TSZ				AML	AML	07 52 57.5	
TSZ				AML	AML	07 52 58.3	
TSZ				AML	AML	07 52 58.3	
TSZ	**Takapari Road**	**0.54**	**310**	P*	**Pn**	**07 52 49.9**	**-0.4**
TSZ				S*	**Sb**	**07 52 57.4**	**-0.7**
PNHZ	**Pukenui**	**0.54**	**335**	↑↑P*	**Pn**	**07 52 50.1**	**-0.3**
PNHZ	**Pukenui**	**0.54**	**335**	P*	**Pn**	**07 52 50.1**	**-0.3**
POWZ	**Post Office Ro**	**0.56**	**271**	↓↓P*	**Pb**	**07 52 51.1**	**+0.4**
POWZ	**Post Office Ro**	**0.56**	**271**	P*	**Pb**	**07 52 51.1**	**+0.4**
TIWZ	**Tintock**	**0.59**	**231**	↓↓P*	**Pb**	**07 52 52.4**	**+1.1**
TIWZ	**Tintock**	**0.59**	**231**	P*	**Pb**	**07 52 52.4**	**+1.1**
KAHZ	**Kahuranaki**	**0.68**	**26**	↑↑Pn	**Pb**	**07 52 53.3**	**+0.6**
KAHZ	**Kahuranaki**	**0.68**	**26**	Pn	**Pb**	**07 52 53.3**	**+0.6**
MRZ	**Mangatainoka R**	**0.74**	**250**	P*	**Pb**	**07 52 53.8**	**+0.1**
MRZ				AML	AML	07 53 04.7	
MRZ				AML	AML	07 53 05.6	
MRZ	**Mangatainoka R**	**0.74**	**250**	P*	**Pb**	**07 52 53.8**	**+0.1**
TMWZ	**Te Maipa**	**0.84**	**213**	↓↓P*	**Pb**	**07 52 55.6**	**+0.3**
TMWZ	**Te Maipa**	**0.84**	**213**	P*	**Pb**	**07 52 55.6**	**+0.3**
CKHZ	**Cape Kidnapper**	**0.87**	**31**	PN	**Pb**	**07 52 55.5**	**-0.2**
CKHZ	**Cape Kidnapper**	**0.87**	**31**	Pn	**Pb**	**07 52 55.5**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.90**	**236**	↓↓P*	**Pb**	**07 52 56.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.90**	**236**	P*	**Pb**	**07 52 56.0**	**-0.2**
MCHZ	**McNeill Hill**	**0.97**	**9**	↑↑PN	**Pb**	**07 52 57.2**	**-0.4**
MCHZ	**McNeill Hill**	**0.97**	**9**	Pn	**Pb**	**07 52 57.2**	**-0.4**
BHHZ	**Black Hill Sta**	**0.98**	**340**	↑↑Pn	**Pn**	**07 52 56.7**	**+0.3**
BHHZ	**Black Hill Sta**	**0.98**	**340**	Pn	**Pn**	**07 52 56.7**	**+0.3**
MTW	**Mount Morrison**	**1.07**	**225**	↓↓P*	**Pn**	**07 52 58.1**	**+0.4**
MTW				AML	AML	07 53 19.3	
MTW				AML	AML	07 53 26.7	
MTW	**Mount Morrison**	**1.07**	**225**	P*	**Pn**	**07 52 58.1**	**+0.4**
OGWZ	**Otaki Gorge**	**1.09**	**247**	P*	**Pn**	**07 52 58.7**	**+0.7**
OGWZ	**Otaki Gorge**	**1.09**	**247**	P*	**Pn**	**07 52 58.7**	**+0.7**
MOVZ	**Moawhango**	**1.15**	**330**	↑↑PN	**Pn**	**07 52 59.6**	**+0.7**
MOVZ	**Moawhango**	**1.15**	**330**	Pn	**Pn**	**07 52 59.6**	**+0.7**
TRWZ	**Traveller**	**1.17**	**212**	↓↓PN	**Pn**	**07 52 59.6**	**+0.6**
TRWZ				AML	AML	07 53 32.3	
TRWZ				AML	AML	07 53 37.2	
TRWZ	**Traveller**	**1.17**	**212**	P*	**Pn**	**07 52 59.6**	**+0.6**
BKZ	**Black Stump Fm**	**1.24**	**360**	PN	**Pn**	**07 53 00.1**	**+0.1**
BKZ				AML	AML	07 53 27.8	
BKZ				AML	AML	07 53 28.6	
BKZ	**Black Stump Fm**	**1.24**	**360**	Pn	**Pn**	**07 53 00.1**	**+0.1**
PAWZ	**Paruwai Farm**	**1.27**	**219**	PN	**Pn**	**07 53 00.9**	**+0.5**
PAWZ				AML	AML	07 53 18.1	
PAWZ				AML	AML	07 53 21.7	
PAWZ	**Paruwai Farm**	**1.27**	**219**	Pn	**Pn**	**07 53 00.9**	**+0.5**
WNVZ	**Wahianoa**	**1.28**	**327**	PN	**Pn**	**07 53 01.9**	**+1.2**
MTVZ	**Mangateitei**	**1.29**	**322**	PN	**Pn**	**07 53 02.0**	**+1.2**
MTVZ	**Mangateitei**	**1.29**	**322**	Pn	**Pn**	**07 53 02.0**	**+1.2**
KIW	**Kapiti Island**	**1.29**	**249**	PN	**Pn**	**07 53 01.4**	**+0.7**
KIW				AML	AML	07 53 19.3	
KIW				AML	AML	07 53 20.9	
KIW	**Kapiti Island**	**1.29**	**249**	Pn	**Pn**	**07 53 01.4**	**+0.7**
CAW	**Cannon Point**	**1.29**	**237**	↓↓PN	**Pn**	**07 53 01.1**	**+0.4**
CAW				AML	AML	07 53 34.1	
CAW				AML	AML	07 53 35.1	
CAW	**Cannon Point**	**1.29**	**237**	Pn	**Pn**	**07 53 01.1**	**+0.4**
TUVZ	**Tukino**	**1.31**	**330**	PN	**Pn**	**07 53 02.4**	**+1.2**
TUVZ	**Tukino**	**1.31**	**330**	Pn	**Pn**	**07 53 02.4**	**+1.2**
TRVZ	**Turoa**	**1.33**	**326**	PN	**Pn**	**07 53 02.5**	**+1.0**
TRVZ	**Turoa**	**1.33**	**326**	Pn	**Pn**	**07 53 02.3**	**+0.8**
NMHZ	**Naumai**	**1.33**	**10**	PN	**Pn**	**07 53 02.1**	**+0.8**
WAZ	**Wanganui**	**1.33**	**299**	PN	**Pb**	**07 53 02.9**	**-0.6**
WAZ	**Wanganui**	**1.33**	**299**	Pn	**Pb**	**07 53 02.9**	**-0.6**
DRZ	**Dome Shelter**	**1.34**	**327**	↑↑PN	**Pn**	**07 53 03.0**	**+1.3**
DRZ	**Dome Shelter**	**1.34**	**327**	Pn	**Pn**	**07 53 03.0**	**+1.3**
FWVZ	**Far West T-bar**	**1.36**	**327**	PN	**Pn**	**07 53 02.7**	**+0.8**
FWVZ	**Far West T-bar**	**1.36**	**327**	Pn	**Pn**	**07 53 02.7**	**+0.8**
MSWZ	**Moikau Station**	**1.38**	**223**	↓↓PN	**Pn**	**07 53 01.9**	**-0.1**
MSWZ				AML	AML	07 53 20.2	
MSWZ				AML	AML	07 53 34.7	
MSWZ	**Moikau Station**	**1.38**	**223**	Pn	**Pn**	**07 53 01.9**	**-0.1**
OTVZ	**Oturere**	**1.40**	**332**	↑↑PN	**Pn**	**07 53 03.4**	**+1.0**
OTVZ	**Oturere**	**1.40**	**332**	Pn	**Pn**	**07 53 03.4**	**+1.0**
WPVZ	**Whakapapa**	**1.41**	**328**	PN	**Pn**	**07 53 03.5**	**+1.1**
WPVZ	**Whakapapa**	**1.41**	**328**	Pn	**Pn**	**07 53 03.5**	**+1.1**
NGZ	**Ngauruhoe**	**1.41**	**330**	↑↑PN	**Pn**	**07 53 03.5**	**+1.0**
NGZ	**Ngauruhoe**	**1.41**	**330**	Pn	**Pn**	**07 53 03.5**	**+1.0**
PKVZ	**Pokaka**	**1.43**	**321**	PN	**Pn**	**07 53 03.8**	**+1.1**
PKVZ	**Pokaka**	**1.43**	**321**	Pn	**Pn**	**07 53 03.8**	**+1.1**
KRVZ	**Karewarewa**	**1.47**	**333**	PN	**Pn**	**07 53 04.2**	**+1.0**
KRVZ	**Karewarewa**	**1.47**	**333**	Pn	**Pn**	**07 53 04.4**	**+1.2**
WTVZ	**West Tongariro**	**1.47**	**331**	PN	**Pn**	**07 53 04.2**	**+1.0**
WTVZ	**West Tongariro**	**1.47**	**331**	Pn	**Pn**	**07 53 04.2**	**+1.0**
PLWZ	**Palliser**	**1.50**	**219**	PN	**Pn**	**07 53 03.5**	**-0.1**
PLWZ	**Palliser**	**1.50**	**219**	Pn	**Pn**	**07 53 03.5**	**-0.1**
RITZ	**Rihia Road**	**1.51**	**341**	PN	**Pn**	**07 53 04.8**	**+1.1**
RITZ	**Rihia Road**	**1.51**	**341**	Pn	**Pn**	**07 53 05.1**	**+1.4**
HATZ	**Hinemaiaia**	**1.54**	**348**	PN	**Pn**	**07 53 05.0**	**+0.8**
HATZ	**Hinemaiaia**	**1.54**	**348**	Pn	**Pn**	**07 53 05.0**	**+0.8**
RAHZ	**Arahi**	**1.56**	**17**	PN	**Pn**	**07 53 04.8**	**+0.4**
KATZ	**Kakaramea**	**1.56**	**336**	PN	**Pn**	**07 53 05.4**	**+0.9**
KATZ	**Kakaramea**	**1.56**	**336**	Pn	**Pn**	**07 53 05.2**	**+1.2**
TWVZ	**Taurewa**	**1.56**	**328**	PN	**Pn**	**07 53 05.3**	**+0.7**
TWVZ	**Taurewa**	**1.56**	**328**	Pn	**Pn**	**07 53 05.5**	**+0.9**
WEL	**Wellington**	**1.58**	**236**	PN	**Pn**	**07 53 04.8**	**+0.1**
WEL	**Wellington**	**1.58**	**236**	Pn	**

MXZ			AML	AML	07 55 00.8	
MXZ	**Matakaoa Point**	**3.17 27**	Pn	**Pn**	**07 53 26.6**	**0.0**
MKAZ	**Moumakai**	**3.45 342**	PN	**Pn**	**07 53 31.2**	**+0.7**
MKAZ	**Moumakai**	**3.45 342**	Pn	**Pn**	**07 53 31.2**	**+0.7**
DSZ	**Denniston Nort**	**3.79 248**	PN	**Pn**	**07 53 35.4**	**+0.2**
DSZ	**Denniston Nort**	**3.79 248**	Pn	**Pn**	**07 53 34.6**	**-0.6**
LTZ	**Lake Taylor**	**3.96 232**	PN	**Pn**	**07 53 35.8**	**-1.7**
LTZ	**Lake Taylor**	**3.96 232**	Pn	**Pn**	**07 53 35.8**	**-1.7**
CRLZ	**Canterbury Las**	**4.29 221**	PN	**Pn**	**07 53 40.5**	**-1.3**
CRLZ	**Canterbury Las**	**4.29 221**	Pn	**Pn**	**07 53 41.5**	**-0.3**
MQZ	**McQueen's Vall**	**4.37 220**	PN	**Pn**	**07 53 41.2**	**-1.8**
MQZ	**McQueen's Vall**	**4.37 220**	Pn	**Pn**	**07 53 41.2**	**-1.8**
WVZ	**Waitaha Valley**	**5.07 236**	PN	**Pn**	**07 53 53.4**	**+0.8**
RPZ	**Rata Peaks**	**5.23 229**	Pn	**Pn**	**07 53 55.7**	**+0.8**
	66nm,0.5s					
RPZ	**Rata Peaks**	**5.23 229**	Pn	**Pn**	**07 53 55.3**	**+0.4**
	2.6nm,0.3s,baz=86,slow=19,SNR=2.9					
CTZ	**Chatham Island**	**6.11 125**	PN	**Pn**	**07 54 08.3**	**+1.4**
LBZ	**Lake Benmore**	**6.14 228**	PN	**Pn**	**07 54 05.9**	**-1.4**
ODZ	**Otahua Downs**	**6.33 221**	PN	**Pn**	**07 54 09.1**	**-0.8**
TUZ	**Tuapeka**	**7.48 220**	PN	**Pn**	**07 54 26.2**	**+0.5**
SYZ	**Scrubby Hill**	**8.13 219**	PN	**Pn**	**07 54 34.7**	**0.0**
ASAR	**Alice Springs**	**39.36 282**	P	**P**	**08 00 04.6**	**-0.8**
	0.7nm,0.5s,baz=123,slow=7.1,SNR=9.4					
ASAR			pP	**pP**	**08 00 14.9**	**-0.5**
	2.9nm,0.7s,baz=134,slow=8.8,SNR=12					
WRA	**Warramunga Arr**	**41.28 287**	P	**P**	**08 00 20.2**	**-1.1**
	2.1nm,0.4s,baz=125,slow=8.2,SNR=127					
WRA			pP	**pP**	**08 00 30.6**	**-0.7**
	4.4nm,0.5s,baz=126,slow=8.1,SNR=22					
FITZ	**Fitzroy Crossi**	**48.86 282**	P	**P**	**08 01 20.5**	**-1.0**
	1.8nm,0.9s,baz=141,slow=5.3,SNR=6.1					
FITZ			pP	**pP**	**08 01 31.0**	**-0.6**
	1.5nm,0.5s,baz=153,slow=6.1,SNR=3.4					
QSPA	**South Pole Qui**	**49.72 180**	P	P	08 01 30.4	+2.7
	1.3nm,0.8s,baz=60,slow=7.9,SNR=3.6					
QSPA			pP	pP	08 01 41.5	+3.7
	2.1nm,0.7s,baz=293,slow=1.7,SNR=5.1					
SNAA	**Sanae**	**68.23 180**	P	**P**	**08 03 36.4**	**+0.6**
	0.2nm,0.8s,baz=184,slow=12,SNR=3.9					
ARCES	**ARCESS Array B**	**147.07 342**	PKPbc	**PKPbc**	**08 12 17.8**	**+0.6**
	2.4nm,0.9s,baz=44,slow=3.7,SNR=5.2					
BRTR	**Keskin Array B**	**151.70 281**	PKPbc	**PKPbc**	**08 12 30.8**	**+1.0**
	0.3nm,0.5s,baz=35,slow=5.3,SNR=2.4					
TORD	**Torodi Ar. Bea**	**152.46 191**	PKPbc	**PKPbc**	**08 12 33.1**	**+1.0**
	0.3nm,0.4s,baz=156,slow=3.3,SNR=7.0					
TORD			pPKPbc	**pPKPbc**	**08 12 43.6**	**+0.4**
	0.8nm,0.5s,baz=169,slow=3.4,SNR=5.4					

WEL 26 07:58:58.3±0.1, 40.°45S×176.°57E, h39km±1km, ML3.6/14, 6C-6D, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.19**	**16**	⇑P*	Pn	07 59 05.0	-1.6
PRHZ				S*	Sn	07 59 10.0	-3.7
DVHZ	**Dannevirke**	**0.34**	**295**	⇓P*	Pn	07 59 04.8	-2.1
BFZ	**Birch Farm**	**0.34**	**226**	P*	Pn	07 59 07.1	+0.3
BFZ				S*	Sn	07 59 13.5	+0.2
WPHZ	**Waipukurau**	**0.39**	**346**	P*	Pn	07 59 06.1	-1.3
PXZ	**Pawanui**	**0.47**	**29**	⇑P*	Pn	07 59 08.9	+0.4
PXZ				AML	AML	07 59 17.9	
PXZ				AML	AML	07 59 17.9	
PXZ				AML	AML	07 59 17.9	
PXZ				AML	AML	07 59 18.0	
PNHZ	**Pukenui**	**0.60**	**332**	⇑P*	Pn	07 59 08.5	-2.0
TSZ	**Takapari Road**	**0.60**	**310**	⇓P*	Pn	07 59 08.2	-2.3
TSZ				AML	AML	07 59 15.9	
TSZ				AML	AML	07 59 15.9	
TSZ				AML	AML	07 59 16.1	
TSZ				AML	AML	07 59 16.2	
POWZ	**Post Office Ro**	**0.61**	**275**	⇓P*	Pn	07 59 09.4	-1.2
TIWZ	**Tintock**	**0.61**	**237**	⇑P*	Pn	07 59 10.8	+0.1
TIWZ				S*	Sn	07 59 19.9	+0.5
KAHZ	**Kahuranaki**	**0.69**	**20**	PN	Pn	07 59 11.7	0.0
MRZ	**Mangatainoka R**	**0.78**	**254**	P*	Pn	07 59 12.2	-0.7
MRZ				AML	AML	07 59 22.8	
MRZ				AML	AML	07 59 22.8	
TMWZ	**Te Maipa**	**0.84**	**218**	P*	Pn	07 59 14.0	+0.4
CKHZ	**Cape Kidnapper**	**0.88**	**27**	PN	Pn	07 59 14.1	-0.1
HOWZ	**Holdsworth Sta**	**0.92**	**240**	⇑P*	Pn	07 59 14.4	-0.3
MCHZ	**McNeill Hill**	**1.01**	**6**	⇓PN	Pn	07 59 15.8	-0.1
BHHZ	**Black Hill Sta**	**1.03**	**338**	⇑PN	Pn	07 59 15.1	-1.2
MTW	**Mount Morrison**	**1.08**	**228**	PN	Pn	07 59 14.4	-0.5
MTW				AML	AML	07 59 37.6	
MTW				AML	AML	07 59 44.9	
OGWZ	**Otaki Gorge**	**1.13**	**250**	PN	Pn	07 59 17.1	-0.4
TRWZ	**Traveller**	**1.16**	**215**	PN	Pn	07 59 18.1	+0.1
TRWZ				AML	AML	07 59 34.0	
TRWZ				AML	AML	07 59 34.1	
MOVZ	**Moawhango**	**1.21**	**329**	PN	Pn	07 59 17.9	-0.9
PAWZ	**Paruwai Farm**	**1.27**	**222**	PN	Pn	07 59 19.2	-0.4
PAWZ				AML	AML	07 59 36.3	
PAWZ				AML	AML	07 59 36.8	
BKZ	**Black Stump Fm**	**1.28**	**357**	PN	Pn	07 59 18.9	-0.9
BKZ				AML	AML	07 59 37.9	
BKZ				AML	AML	07 59 46.2	
CAW	**Cannon Point**	**1.32**	**239**	PN	Pn	07 59 19.4	-0.7
KIW	**Kapiti Island**	**1.33**	**251**	PN	Pn	07 59 19.9	-0.4
KIW				AML	AML	07 59 38.5	
KIW				AML	AML	07 59 38.6	
WNVZ	**Wahianoa**	**1.34**	**326**	PN	Pn	07 59 20.2	-0.5
MTVZ	**Mangateitei**	**1.35**	**321**	PN	Pn	07 59 20.4	-0.3
MTVZ				SN	Sn	07 59 37.5	-0.1
NMHZ	**Naumai**	**1.36**	**8**	PN	Pn	07 59 20.6	-0.3
TUVZ	**Tukino**	**1.37**	**329**	PN	Pn	07 59 20.9	-0.2
TRVZ	**Turoa**	**1.39**	**325**	PN	Pn	07 59 21.0	-0.5
MSWZ	**Moikau Station**	**1.39**	**225**	PN	Pn	07 59 20.3	-0.9
MSWZ				AML	AML	07 59 38.4	
MSWZ				AML	AML	07 59 52.9	
WAZ	**Wanganui**	**1.40**	**299**	⇓PN	Pn	07 59 21.4	+0.2
DRZ	**Dome Shelter**	**1.40**	**326**	PN	Pn	07 59 22.1	+0.4
FWVZ	**Far West T-bar**	**1.42**	**326**	PN	Pn	07 59 21.4	-0.4
OTVZ	**Oturere**	**1.46**	**331**	PN	Pn	07 59 21.8	-0.5
WPVZ	**Whakapapa**	**1.47**	**327**	PN	Pn	07 59 21.9	-0.4
NGZ	**Ngauruhoe**	**1.47**	**329**	PN	Pn	07 59 22.2	-0.3
PLWZ	**Palliser**	**1.50**	**221**	PN	Pn	07 59 21.9	-0.8
KRVZ	**Karewarewa**	**1.52**	**332**	PN	Pn	07 59 23.2	+0.1
WTVZ	**West Tongariro**	**1.53**	**330**	PN	Pn	07 59 23.0	-0.2
RITZ	**Rihia Road**	**1.56**	**339**	PN	Pn	07 59 23.5	-0.1
RAHZ	**Arahi**	**1.58**	**15**	PN	Pn	07 59 23.4	-0.4
HATZ	**Hinemaiaia**	**1.59**	**347**	PN	Pn	07 59 23.5	-0.5
BHW	**Baring Head**	**1.60**	**233**	PN	Pn	07 59 23.0	-1.0
BHW				AML	AML	07 59 43.0	
BHW				AML	AML	07 59 43.1	
KATZ	**Kakaramea**	**1.61**	**335**	PN	Pn	07 59 24.4	0.0
TWVZ	**Taurewa**	**1.62**	**327**	PN	Pn	07 59 25.7	+1.1
SNZO	**South Karori**	**1.65**	**238**	PN	Pn	07 59 23.8	-1.0
SNZO				AML	AML	07 59 44.3	
SNZO				AML	AML	08 00 10.8	
KNZ	**Kokohu**	**1.66**	**31**	PN	Pn	07 59 24.1	-0.7
RATZ	**Rangitukua**	**1.69**	**338**	PN	Pn	07 59 25.7	+0.3
PRGZ	**Paritu Road**	**1.83**	**34**	PN	Pn	07 59 26.5	-0.7
WATZ	**Wairara**	**1.85**	**339**	PN	Pn	07 59 26.7	-0.8
ALRZ	**Allen Road**	**1.89**	**355**	PN	Pn	07 59 27.0	-1.0
TCW	**Tory Channel**	**1.90**	**245**	PN	Pn	07 59 27.2	-0.9
TCW				AML	AML	07 59 51.0	
TCW				AML	AML	07 59 51.3	
VRZ	**Vera Road**	**1.92**	**313**	PN	Pn	07 59 28.4	0.0
PRRZ	**Plateau Road**	**1.95**	**356**	PN	Pn	07 59 27.9	-0.9
DUWZ	**D'Urville Isla**	**2.04**	**259**	PN	Pn	07 59 29.8	-0.4
TUWZ	**Tuamarina**	**2.22**	**243**	PN	Pn	07 59 31.1	-1.4
TUWZ				AML	AML	07 59 57.4	
TUWZ				AML	AML	07 59 58.9	
URZ	**Urewera**	**2.22**	**11**	PN	Pn	07 59 31.2	-1.4
MWZ	**Matawai**	**2.24**	**20**	⇓PN	Pn	07 59 31.6	-1.2
MWZ				AML	AML	07 59 58.4	
MWZ				AML	AML	08 00 23.2	
HIZ	**Hauiti**	**2.34**	**325**	PN	Pn	07 59 34.0	-0.2
BSWZ	**Blackbirch Sta**	**2.40**	**237**	*e*PN	Pn	07 59 33.4	-1.6
PUZ	**Puketiti**	**2.71**	**30**	PN	Pn	07 59 37.9	-1.4
KHZ	**Kahutara**	**3.01**	**228**	PN	Pn	07 59 41.6	-1.7
THZ	**Tophouse**	**3.06**	**243**	PN	Pn	07 59 42.6	-1.7
QRZ	**Quartz Range**	**3.10**	**262**	PN	Pn	07 59 43.4	-1.1
LTZ	**Lake Taylor**	**3.98**	**233**	PN	Pn	07 59 54.5	-2.2
MQZ	**McQueen's Vall**	**4.37**	**221**	PN	Pn	07 59 59.9	-2.1

*IDC **26** 08:02:08.9±1.8, 6.°57S×129.°16E, h0km, mb4.2/2, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.3/3, Error ellipse: s-maj=83.7km s-min=26.1km az=76.0*
*ISCJB **26** 08:02:11.5±0.7, 6.°74S±0.°04×129.°16E±0.°07, h33km, mb4.1/2, Error ellipse: s-maj=10.3km s-min=6.2km az=7.4*
*AUST **26** 08:02:18.3, 6.°48S×129.°03E, h60km*
ISC 26 08:02:16.3±0.9, 6.°76S±0.°07×129.°07E±0.°09, h35km, n16, σ2°70/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.96**	**40**	P	**Pn**	**08 03 31.1**	**+2.7**
	baz=4.8,SNR=6.2						
FAKI				S	**Sn**	**08 04 21.1**	**-3.5**
	baz=4.8,SNR=4.5						
MTN	**Manton Dam**	**6.38**	**162**	P	Pn	08 03 52.3	+4.5
	baz=6.7,SNR=19						
MTN				S	**Sn**	**08 04 57.7**	**-1.8**
	baz=6.7,SNR=7.5						
KDU	**Kakadu**	**6.78**	**151**	P	**Pn**	**08 03 56.0**	**+2.6**
	baz=7.1,SNR=58						
KDU				S	**Sn**	**08 05 04.1**	**-5.2**
	baz=7.1,SNR=8.2						
LUWI	**Luwuk**	**8.46**	**312**	S	Sn	08 05 29.4	-22
	baz=8.3,SNR=3.1						
KNRA	**Kununurra**	**8.87**	**182**	P	Pn	08 04 28.8	+6.8
	baz=9.2,SNR=4.5						
KNRA				S	**Sn**	**08 06 00.3**	**-0.4**
	baz=9.2,SNR=4.4						
FITZ	**Fitzroy Crossi**	**11.76**	**196**	Pn	**Pn**	**08 05 02.6**	**+1.0**
	0.0nm,0.3s,baz=24,slow=12,SNR=2.0						
FITZ				Sn	**Sn**	**08 07 11.4**	**-0.3**
	0.6nm,0.3s,baz=294,slow=20,SNR=5.8						
FITZ	**Fitzroy Crossi**	**11.76**	**196**	P	Pn	08 05 10.0	+8.4
	baz=12,SNR=4.4						
FITZ				S	**Sn**	**08 07 13.9**	**+2.3**
	baz=12,SNR=4.0						
WRA	**Warramunga Arr**	**14.07**	**159**	Pn	Pn	08 05 29.9	-3.3
	0.2nm,0.3s,baz=336,slow=13,SNR=10						
WRA				Sn	Sn	08 07 57.5	-11
	0.8nm,0.3s,baz=328,slow=25,SNR=9.1						
ASAR	**Alice Springs**	**17.44**	**165**	Pn	**Pn**	**08 06 15.6**	**-1.4**
	0.3nm,0.3s,baz=350,slow=11,SNR=29						
ASAR				Sn	Sn	08 09 20.6	-10
	0.2nm,0.3s,baz=354,slow=28,SNR=4.6						
MTSU	**Mount Surprise**	**18.68**	**129**	P	P	08 06 26.6	-5.0
	baz=19,SNR=4.8						
MANU	**Manus Island**	**18.84**	**76**	P	**Pn**	**08 06 35.2**	**+1.1**
	baz=19,SNR=11						
CISI	**Cisompet, Garu**	**21.10**	**267**	S	S	08 10 43.8	-7.4
	baz=21,SNR=3.9						
PMBI	**Palembang**	**24.50**	**278**	P	**P**	**08 07 30.5**	**-2.1**
	baz=24,SNR=6.5						
PATS	**Pohnpei**	**32.15**	**66**	P	**P**	**08 08 43.0**	**+2.0**
	baz=32,SNR=3.4						
MKAR	**Makanchi Array**	**67.52**	**327**	P	**P**	**08 13 06.7**	**-2.3**
	0.3nm,0.3s,baz=113,slow=8.3,SNR=8.9						
KURBB	**Kurchatov Arra**	**71.82**	**329**	P	P	08 13 32.3	-3.1
	1.2nm,0.2s,baz=110,slow=4.9,SNR=4.3						

*NEIC **26** 08:05:27.6, 19.°05N×65.°49W, h23km, MD3.3(RSPR), After RSPR.*
RSPR 26 08:05:27.6, 19.°05N×65.°49W, h23km±16km, MD3.3/11, 45C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.85**	**205**	⇑*e*P	Pb	08 05 41.2	-2.6
CBYP	**Canovanas**	**0.85**	**205**	*e*S	Sb	08 05 52.3	-2.4
CBYP	**Canovanas**	**0.85**	**205**	⇑*e*P	Pb	08 05 41.2	-2.6
CBYP				*e*S	Sb	08 05 52.3	-2.4
CBYP	**Canovanas**	**0.85**	**205**	⇑*e*P	Pb	08 05 41.2	-2.6
CBYP				*e*S	Sb	08 05 52.3	-2.4
STVI	**Saint Thomas**	**0.85**	**144**	⇑*e*P	Pb	08 05 41.7	-2.1
STVI	**Saint Thomas**	**0.85**	**144**	*e*S	Sb	08 05 53.0	-1.8
STVI	**Saint Thomas**	**0.85**	**144**	⇑*e*P	Pb	08 05 41.7	-2.1
STVI				*e*S	Sb	08 05 53.0	-1.8
STVI	**Saint Thomas**	**0.85**	**144**	⇑*e*P	Pb	08 05 41.7	-2.1
STVI				*e*S	Sb	08 05 53.2	-1.6
MTP	**Monte Pirata**	**0.94**	**184**	⇑*e*P	Pb	08 05 43.1	-2.3
MTP	**Monte Pirata**	**0.94**	**184**	*e*S	Sb	08 05 54.9	-2.6
MTP	**Monte Pirata**	**0.94**	**184**	⇑*e*P	Pb	08 05 43.1	-2.3
MTP				*e*S	Sb	08 05 54.9	-2.6
MTP	**Monte Pirata**	**0.94**	**184**	⇑*e*P	Pb	08 05 43.7	-1.6
MTP				*e*S	Sb	08 05 54.9	-2.6
HUMP	**Col San Antoni**	**0.96**	**201**	⇑*e*P	Pb	08 05 42.9	-2.8
HUMP	**Col San Antoni**	**0.96**	**201**	*e*S	Sb	08 05 55.5	-2.4
HUMP	**Col San Antoni**	**0.96**	**201**	⇑*e*P	Pb	08 05 42.9	-2.8
HUMP				*e*S	Sb	08 05 55.5	-2.4
HUMP	**Col San Antoni**	**0.96**	**201**	⇑*e*P	Pb	08 05 42.9	-2.8
HUMP				*e*S	Sb	08 05 55.5	-2.4
CPD	**Cerro la Pandu**	**1.08**	**202**	⇑*e*P	Pn	08 05 44.7	-2.7
CPD	**Cerro la Pandu**	**1.08**	**202**	*e*S	Sb	08 05 58.4	-3.1
CPD	**Cerro la Pandu**	**1.08**	**202**	⇑*e*P	Pn	08 05 44.7	-2.7
CPD				*e*S	Sb	08 05 58.4	-3.1
CPD	**Cerro la Pandu**	**1.08**	**202**	⇑*e*P	Pn	08 05 44.7	-2.7
CPD				*e*S	Sb	08 05 58.4	-3.1
SJG	**San Juan**	**1.12**	**214**	⇑*e*P	Pn	08 05 45.3	-2.7
SJG				*e*S	Sb	08 05 59.5	-3.0
SJG	**San Juan**	**1.12**	**214**	⇑*e*P	Pn	08 05 45.3	-2.7
SJG				*e*S	Sb	08 05 59.5	-3.0
SJG	**San Juan**	**1.12**	**214**	⇑*e*P	Pn	08 05 45.3	-2.7
SJG				*e*S	Sb	08 05 59.5	-3.0
AOPR	**Arecibo Observ**	**1.39**	**240**	⇑*e*P	Pn	08 05 49.1	-2.6
AOPR	**Arecibo Observ**	**1.39**	**240**	*e*S	Sn	08 06 05.9	-3.5
AOPR	**Arecibo Observ**	**1.39**	**240**	⇑*e*P	Pn	08 05 49.1	-2.6
AOPR				*e*S	Sn	08 06 05.9	-3.5
AOPR	**Arecibo Observ**	**1.39**	**240**	⇑*e*P	Pn	08 05 49.7	-1.9
AOPR				*e*S	Sn	08 06 05.9	-3.5
CELP	**Cerrillos**	**1.42**	**227**	⇑*e*P	Pn	08 05 49.5	-2.5
CELP				*e*S	Sn	08 06 07.0	-3.0
CELP	**Cerrillos**	**1.42**	**227**	⇑*e*P	Pn	08 05 49.5	-2.5
CELP				*e*S	Sn	08 06 07.0	-3.0
CELP	**Cerrillos**	**1.42**	**227**	⇑*e*P	Pn	08 05 49.5	-2.5
CELP				*e*S	Sn	08 06 07.0	-3.0
CDVI	**St. Croix**	**1.46**	**152**	*e*Pn	Pn	08 05 52.8	+0.3
CDVI				*e*Sn	Sn	08 06 11.1	+0.2
OBIP	**Obispado Ponce**	**1.46**	**227**	⇑*e*P	Pn	08 05 50.3	-2.3
OBIP	**Obispado Ponce**	**1.46**	**227**	*e*S	Sn	08 06 07.7	-3.3
OBIP	**Obispado Ponce**	**1.46**	**227**	⇑*e*P	Pn	08 05 50.3	-2.3
OBIP				*e*S	Sn	08 06 07.7	-3.3
OBIP	**Obispado Ponce**	**1.46**	**227**	⇑*e*P	Pn	08 05 50.3	-2.3
OBIP				*e*S	Sn	08 06 07.7	-3.3
LRS	**Lares**	**1.49**	**240**	⇑*e*P	Pn	08 05 50.8	-2.3
LRS	**Lares**	**1.49**	**240**	⇑*e*P	Pn	08 05 50.8	-2.3
LRS	**Lares**	**1.49**	**240**	⇑*e*P	Pn	08 05 50.8	-2.3
AGPR	**Aguadilla, PR**	**1.64**	**250**	⇑*e*P	Pn	08 05 52.9	-2.2
AGPR	**Aguadilla, PR**	**1.64**	**250**	*e*S	Sn	08 06 12.7	-2.9
AGPR	**Aguadilla, PR**	**1.64**	**250**	⇑*e*P	Pn	08 05 52.9	-2.2
AGPR				*e*S	Sn	08 06 12.7	-2.9
AGPR	**Aguadilla, PR**	**1.64**	**250**	⇑*e*P	Pn	08 05 52.9	-2.2
AGPR				*e*S	Sn	08 06 12.7	-2.9
GBPR	**Guanica, Bosqu**	**1.70**	**231**	⇑*e*P	Pn	08 05 53.8	-2.1
GBPR	**Guanica, Bosqu**	**1.70**	**231**	*e*S	Sn	08 06 14.1	-2.8
GBPR	**Guanica, Bosqu**	**1.70**	**231**	⇑*e*P	Pn	08 05 53.8	-2.1
GBPR				*e*S	Sn	08 06 14.1	-2.8
GBPR	**Guanica, Bosqu**	**1.70**	**231**	⇑*e*P	Pn	08 05 53.8	-2.1
GBPR				*e*S	Sn	08 06 14.5	-2.4
LSP	**Las Mesas**	**1.75**	**241**	⇑*e*P	Pn	08 05 54.5	-2.1
LSP	**Las Mesas**	**1.75**	**241**	⇑*e*P	Pn	08 05 54.5	-2.1
LSP	**Las Mesas**	**1.75**	**241**	⇑*e*P	Pn	08 05 54.5	-2.1
CRPR	**Cabo Rojo, PR**	**1.86**	**236**	⇑*e*P	Pn	08 05 56.1	-1.9
CRPR	**Cabo Rojo, PR**	**1.86**	**236**	*e*S	Sn	08 06 18.1	-2.6
CRPR	**Cabo Rojo, PR**	**1.86**	**236**	⇑*e*P	Pn	08 05 56.1	-1.9
CRPR				*e*S	Sn	08 06 18.1	-2.6
CRPR	**Cabo Rojo, PR**	**1.86**	**236**	⇑*e*P	Pn	08 05 56.6	-1.4
CRPR				*e*S	Sn	08 06 18.1	-2.6
DR12	**Loma Pena Alta**	**3.70**	**267**	⇑*e*P	Pn	08 06 21.5	-1.9
DR12				*e*S	Sn	08 07 04.0	-2.4
DR12	**Loma Pena Alta**	**3.70**	**267**	⇑*e*P	Pn	08 06 21.5	-1.9
DR12				*e*S	Sn	08 07 04.0	-2.4
DR12	**Loma Pena Alta**	**3.70**	**267**	⇑*e*P	Pn	08 06 21.5	-1.9
DR12				*e*S	Sn	08 07 04.1	-2.3

IDC 26 08:14:18.3±3.9, 15.°08S×173.°27W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/21, mbtmp3.9/2, Error ellipse: s-maj=236.8km s-min=24.9km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**51**	Pn	Pn	08 14 50.0	-1.5
	10nm,0.3s,baz=252,slow=6.4,SNR=14						
AFI				Sn	Sn	08 15 09.7	-6.1
	77nm,0.3s,baz=73,slow=20,SNR=15						
WRA	**Warramunga Arr**	**50.04**	**256**	P	P	08 23 14.3	-0.8
	0.9nm,0.6s,baz=90,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**50.33**	**252**	P	P	08 23 16.8	-0.6
	1.1nm,0.4s,baz=85,slow=8.3,SNR=12						
BRTR	**Keskin Array B**	**145.99**	**321**	PKPbc	PKPab	08 34 02.1	+1.1
	1.7nm,0.9s,baz=108,slow=1.9,SNR=6.0						

*ISCJB **26** 08:18:40.0±0.7, 25.°65S±0.°08×179.°51E±0.°10, h507km, mb3.8/8, Error ellipse: s-maj=12.3km s-min=10.4km az=153.4*
*IDC **26** 08:18:40.3±1.4, 25.°65S×179.°48E, h501km±16km, mb3.4/8, mb1 3.7/10, mb1mx3.5/19, mbtmp3.5/10, Error ellipse: s-maj=27.1km s-min=14.1km az=161.0*
*AUST **26** 08:19:08.9, 25.°84S×176.°67E, h600km*
ISC 26 08:18:40.8±0.8, 25.°7S±0.°1×179.°5E±0.°1, h507km, n28, σ1°07/28, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.17**	**148**	P	**P**	**08 19 60.0**	**-0.9**
	31nm,0.3s,baz=249,slow=20,SNR=4.8						
DZM	**Mont Dzumac**	**12.52**	**284**	P	**P**	**08 21 24.8**	**-0.2**
	0.4nm,0.3s,baz=99,slow=16,SNR=9.0						
URZ	**Urewera**	**12.65**	**189**	P	**P**	**08 21 26.4**	**+0.4**
	2.6nm,0.3s,baz=344,slow=3.2,SNR=16						
URZ				S	**S**	**08 23 42.2**	**0.0**
	0.6nm,0.3s,baz=165,slow=22,SNR=6.0						
ARMA	**Armidale**	**25.03**	**253**	P	**P**	**08 23 26.6**	**+2.3**
	baz=22,SNR=5.9						
EIDS	**Eidsvold**	**25.66**	**265**	P	**P**	**08 23 30.9**	**+1.1**
	baz=23,SNR=5.1						
RMQ	**Roma**	**27.62**	**262**	P	**P**	**08 23 49.0**	**+2.0**
	baz=25,SNR=7.2						
CMSA	**Cobar Meteorol**	**30.19**	**251**	P	**P**	**08 24 07.2**	**-2.1**
	baz=28,SNR=30						
MTSU	**Mount Surprise**	**33.46**	**276**	P	**P**	**08 24 38.0**	**+0.4**
	baz=31,SNR=14						
STKA	**Stephens Creek**	**33.69**	**251**	P	**P**	**08 24 39.5**	**+0.3**
	3.9nm,1.0s,baz=125,slow=8.3,SNR=6.9						
STKA	**Stephens Creek**	**33.69**	**251**	P	**P**	**08 24 40.2**	**+1.0**
	baz=31,SNR=5.8						
COEN	**Coen**	**36.04**	**282**	P	**P**	**08 24 59.5**	**+0.4**
	baz=34,SNR=6.8						
MANU	**Manus Island**	**38.90**	**302**	S	S	08 30 36.3	-8.0
	baz=37,SNR=6.0						
ASAR	**Alice Springs**	**41.36**	**263**	P	**P**	**08 25 42.2**	**0.0**
	3.8nm,0.5s,baz=93,slow=7.2,SNR=39						
ASAR				ScP	**ScP**	**08 30 30.6**	**+0.3**
	0.6nm,0.8s,baz=111,slow=5.1,SNR=5.2						
ASAR				S	**S**	**08 31 20.1**	**+0.1**
	0.2nm,0.6s,baz=99,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**41.90**	**268**	P	**P**	**08 25 45.8**	**-0.8**
	5.9nm,0.7s,baz=99,slow=7.0,SNR=96						
WRA				ScP	**ScP**	**08 30 33.8**	**+1.4**
	0.7nm,0.9s,baz=98,slow=3.8,SNR=4.4						
WRA				S	**S**	**08 31 26.3**	**-1.7**
	0.3nm,0.7s,baz=96,slow=11,SNR=3.8						
KDU	**Kakadu**	**46.07**	**277**	P	**P**	**08 26 17.8**	**-1.1**
	baz=44,SNR=4.2

JIJ				*e*S	**Sn**	**08 29 43.4**	**-0.2**
YUS	**Yu-Shan**	**1.64**	**236**	*e*P	**Pn**	**08 29 26.4**	**+0.2**
	baz=226						
YUS				*e*S	**Sn**	**08 29 45.1**	**-1.3**
	baz=226						

NIED ***26*** *08:44:00, 34.°80N×139.°50E, h130km, Mw3.9 Best double couple: M₀9.03000×10¹⁴ NP1:φs352.00000°, δ83.00000°, λ98.00000°. NP2:φs124.00000°, δ10.00000°, λ43.00000°.*
ISCJB ***26*** *08:44:49.7±0.4, 34.°71N±0.°04×139.°40E±0.°08, h128km±3km, mb3.8/13, Error ellipse: s-maj=11.2km s-min=6.4km az=157.1*
IDC ***26*** *08:44:49.6±1.2, 34.°60N×139.°40E, h113km±10km, mb3.5/13, mb1 3.7/16, mb1mx3.6/30, mbtmp3.5/16, MS2.7/1, Ms1 2.7/1, ms1mx2.2/40, Error ellipse: s-maj=20.2km s-min=10.1km az=72.0*
JMA ***26*** *08:44:50.7±0.1, 34.°75N×139.°48E, h119km±1km, M3.6*
JMA Felt I J1.

ISC 26 08:44:50.8±0.7, 34.°73N±0.°05×139.°41E±0.°06, h121km±5km, n29, σ0.59/34, mb3.7/13, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.02**	**128**	P	**Pn**	**08 45 07.0**	**-0.3**
JIM2				S	**Sn**	**08 45 19.1**	**-0.6**
JIZS	**Izushimoda**	**0.44**	**269**	P	**Pn**	**08 45 08.6**	**+0.1**
JIZS				S	**Sn**	**08 45 21.9**	**+0.1**
JOD2	**Odawara 2**	**0.59**	**334**	P	**Pn**	**08 45 09.3**	**-0.2**
JOD2				S	**Sn**	**08 45 23.1**	**-0.5**
BSO3	**Boso 3**	**0.91**	**85**	P	**Pn**	**08 45 11.8**	**+0.1**
SHZ3	**Shizuoka 3**	**1.04**	**289**	P	**Pn**	**08 45 13.9**	**+0.5**
JYN	**Shimob**	**1.05**	**317**	P	**Pn**	**08 45 13.8**	**+0.4**
BSO1	**Boso 1**	**1.29**	**93**	P	**Pn**	**08 45 15.3**	**0.0**
JRY	**Ryogami san**	**1.35**	**342**	P	**Pn**	**08 45 17.2**	**+0.6**
JRY				S	**Sn**	**08 45 36.8**	**+0.6**
TK02	**Tokai 2**	**1.58**	**241**	P	**Pn**	**08 45 20.0**	**+1.1**
JHJ2	**Mitsune**	**1.65**	**168**	P	**Pn**	**08 45 20.6**	**+0.6**
JHJ2				S	**Sn**	**08 45 43.4**	**+1.1**
JAG	**Ashikaga**	**1.69**	**1**	P	**Pn**	**08 45 20.3**	**-0.2**
MJAR	**Matsushiro Arr**	**2.06**	**332**	P	**Pn**	**08 45 25.4**	**+0.4**
	13nm,0.3s,baz=156,slow=14,SNR=81						
MJAR				S	**Sn**	**08 45 51.8**	**+0.6**
	14nm,0.3s,baz=149,slow=18,SNR=23						
MAT	**Matsushiro**	**2.06**	**332**	P	**Pn**	**08 45 25.5**	**+0.5**
MAT				S	**Sn**	**08 45 52.2**	**+1.0**
JNU	**Nakatsue**	**7.27**	**260**	P	**Pn**	**08 46 33.4**	**-1.0**
	1.5nm,0.3s,baz=66,slow=6.1,SNR=13						
CBIJ	**Chichi jima**	**7.97**	**162**	P	Pn	08 46 40.4	-3.6
	4.7nm,0.3s,baz=14,slow=19,SNR=6.6						
CBIJ				S	Sn	08 48 05.1	-7.4
	12nm,0.3s,baz=273,slow=19,SNR=6.6						
ASAJ	**Asahikawa**	**9.69**	**14**	LR	LR	08 51 13.6	
	comp=Z,41nm,18.6s,baz=177,slow=39						
SONM	**Songino Array**	**27.82**	**308**	P	**P**	**08 50 28.4**	**-0.3**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.31**	**314**	P	**P**	**08 52 32.1**	**-0.2**
	0.6nm,0.4s,baz=106,slow=11,SNR=1.8						
MKAR	**Makanchi Array**	**44.01**	**304**	P	**P**	**08 52 45.9**	**-0.2**
	0.5nm,0.6s,baz=91,slow=8.5,SNR=5.5						
KURBB	**Kurchatov Arra**	**46.17**	**310**	P	**P**	**08 53 02.8**	**-0.3**
	1.2nm,0.5s,baz=85,slow=7.2,SNR=6.3						
ILAR	**Eielson Array**	**52.30**	**31**	P	**P**	**08 53 49.9**	**+0.3**
	0.4nm,0.6s,baz=275,slow=5.9,SNR=8.2						
WRA	**Warramunga Arr**	**54.58**	**186**	P	**P**	**08 54 05.5**	**-1.1**
	1.1nm,0.4s,baz=1.4,slow=7.6,SNR=41						
ASAR	**Alice Springs**	**58.31**	**186**	P	**P**	**08 54 32.9**	**-0.2**
	0.4nm,0.4s,baz=19,slow=10,SNR=8.1						
AKTO	**Aktyubinsk**	**59.02**	**312**	P	**P**	**08 54 37.4**	**-0.3**
	2.2nm,0.7s,baz=74,slow=14,SNR=7.4						
ARCES	**ARCESS Array B**	**65.58**	**339**	P	**P**	**08 55 21.0**	**-0.1**
	3.5nm,0.9s,baz=51,slow=7.1,SNR=4.0						
KBZ	**Khabaz**	**71.16**	**310**	P	**P**	**08 55 56.6**	**+0.4**
	1.9nm,0.8s,baz=73,slow=3.3,SNR=4.6						
AKASG	**Malin Array Be**	**75.11**	**322**	P	**P**	**08 56 18.8**	**-0.5**
	1.1nm,0.4s,baz=47,slow=6.0,SNR=4.8						
NVAR	**Mina Array Bea**	**77.68**	**52**	P	**P**	**08 56 35.3**	**+0.9**
	0.4nm,0.7s,baz=278,slow=5.9,SNR=4.1						
TXAR	**Lajitas Array**	**92.82**	**51**	P	**P**	**08 57 50.2**	**+0.1**
	0.2nm,0.8s,baz=302,slow=2.0,SNR=2.6						

MOS ***26*** *08:49:09.6±1.2, 49.°07N×156.°84E, h5km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=26.3km az=84.4*

KRSC 26 08:49:09.6±1.1, 49.°07N×156.°84E, h5km±5km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.68**	**344**	*e*PN	Pn	08 49 29.9	-10
SKR	**Severo-Kuril's**	**1.68**	**344**	P	Pn	08 49 39.2	-0.4
SKR				S	Sn	08 50 00.7	-0.8
PAU	**Pauzhetka**	**2.40**	**360**	PN	Pn	08 49 50.1	+0.6
PAU				S	Sn	08 50 20.0	+0.7
PAU	**Pauzhetka**	**2.40**	**360**	P	Pn	08 49 50.1	+0.6
PAU				S	Sn	08 50 20.0	+0.7
ASAK	**Asacha**	**3.38**	**11**	P	Pn	08 50 06.0	+2.8
ASAK				S	Sb	08 50 47.9	-3.8
MTVR	**Mutnovka**	**3.52**	**13**	P	Pn	08 50 07.6	+2.5
MTVR				S	Sn	08 50 50.3	+3.0
RUS	**Russkaya**	**3.53**	**17**	PN	Pn	08 50 07.4	+2.4
RUS				S	Sn	08 50 50.1	+3.0
RUS	**Russkaya**	**3.53**	**17**	P	Pn	08 50 07.4	+2.4
RUS				S	Sn	08 50 50.1	+3.0
AVH	**Avacha**	**4.37**	**15**	S	Sn	08 51 13.1	+5.1
KRER	**Koryakskii**	**4.41**	**15**	P	Pn	08 50 19.7	+2.3
KRER				S	Sn	08 51 12.2	+3.0
SPN	**Mys Shipunski**	**4.50**	**25**	S	Sn	08 51 14.2	+3.0
GNL	**Ganaly**	**4.68**	**8**	P	Pn	08 50 21.9	+0.8
MKZ	**Mys Kozlova**	**6.27**	**27**	PN	Pn	08 50 44.9	+2.2
MKZ	**Mys Kozlova**	**6.27**	**27**	P	Pn	08 50 44.9	+2.2
MKZ				S	Sn	08 51 54.1	-0.6
KBTR	**Krutoberegovo**	**8.02**	**25**	PN	Pn	08 51 07.4	+0.8
KBTR	**Krutoberegovo**	**8.02**	**25**	P	Pn	08 51 07.4	+0.8

IDC ***26*** *08:54:22.7±3.8, 59.°23N×27.°04E, h0km, mb1 3.2/3, mb1mx3.0/26, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=41.4km s-min=22.6km az=134.0*
ISCJB ***26*** *08:54:22.4±0.7, 59.°33N±0.°03×27.°05E±0.°09, h0km, Error ellipse: s-maj=6.4km s-min=4.1km az=12.6*
CSEM ***26*** *08:54:22.7±0.5, 59.°32N×27.°39E, h2km, ML2.4, Error ellipse: s-maj=12.9km s-min=5.2km az=99.0, Mining explosion.*
NAO ***26*** *08:54:23.7±1.0, 59.°29N×26.°89E, ML2.4*
BER ***26*** *08:54:24.4±3.3, 59.°30N×27.°06E, h0km, ML2.4(NAO), Suspected explosion*
HEL ***26*** *08:54:25.3±0.8, 59.°35N×27.°04E, h0km, ML1.9, Explosion*

ISC 26 08:54:23.6±0.8, 59.°31N±0.°02×26.°98E±0.°03, h0km, n42, σ1.81/59, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.86**	**188**	Pg	**Pg**	**08 54 39.9**	**-0.2**
VSU				Lg	Lg	08 54 51.2	
VSU	**Vasula**	**0.86**	**188**	Pg	**Pg**	**08 54 39.9**	**-0.2**
VSU				Lg	Lg	08 54 51.2	
VSU	**Vasula**	**0.86**	**188**	Pg	**Pg**	**08 54 39.9**	**-0.2**
VSU	**Vasula**	**0.86**	**188**	*e*P	**Pb**	**08 54 40.6**	**-0.8**
	SNR=90						
VSU				*e*S	**Sg**	**08 54 51.0**	**-0.3**
	408nm,0.7s,SNR=90						
VSU				Lg	Lg	08 54 51.2	
VJF	**Virojoki**	**1.26**	**13**	PG	**Pg**	**08 54 46.6**	**-1.3**
VJF				SG	**Sg**	**08 55 03.3**	**-0.9**
VJF				MSG		08 55 03.3	
	comp=Z,8.0nm,0.2s						
VJF				RG	Rg	08 55 08.0	
VJF	**Virojoki**	**1.26**	**13**	Pg	**Pg**	**08 54 46.5**	**-1.3**
VJF				Sg	**Sg**	**08 55 03.3**	**-0.9**
PVF	**Pernaja**	**1.36**	**336**	PG	**Pg**	**08 54 49.5**	**-0.1**
PVF				SG	**Sn**	**08 55 10.9**	**+2.4**
PVF				MSG		08 55 10.9	
	comp=Z,9.8nm,0.4s						
PVF				RG	Rg	08 55 11.5	
PVF	**Pernaja**	**1.36**	**336**	Pg	**Pg**	**08 54 49.5**	**-0.1**
PVF				Sg	**Sn**	**08 55 10.9**	**+2.4**
MEF	**Metsahovi**	**1.59**	**306**	PG	**Pg**	**08 54 54.5**	**+0.5**
MEF				SG	**Sg**	**08 55 15.4**	**+0.8**
MEF				MSG		08 55 15.4	
	comp=Z,10nm,0.4s						
MEF	**Metsahovi**	**1.59**	**306**	*e*P	**Pg**	**08 54 54.4**	**+0.3**
	SNR=50						
MEF				*e*S	**Sg**	**08 55 15.1**	**+0.5**
	comp=Z,31nm,0.1s,SNR=50						
MEF				Sg	**Sg**	**08 55 15.4**	**+0.8**
MTSE	**Matsula**	**1.74**	**251**	PN	**Pb**	**08 54 55.9**	**-0.5**
MTSE				SG	**Sg**	**08 55 19.8**	**+0.3**
MTSE	**Matsula**	**1.74**	**251**	Pn	**Pb**	**08 54 55.9**	**-0.5**
MTSE				Sg	**Sg**	**08 55 19.8**	**+0.3**
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**08 55 01.7**	**+0.5**
	baz=164,slow=18						
FIA0				Pg	**Pn**	**08 55 02.8**	**+1.6**
FIA0				Lg	Lg	08 55 32.7	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**08 55 01.7**	**+0.5**
	baz=164,slow=18						
FIA0				Pg	**Pn**	**08 55 02.8**	**+1.6**
FIA0				Lg	Lg	08 55 32.7	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.18**	**349**	PN	**Pn**	**08 55 01.7**	**+0.5**
	baz=163						
FIA0				SG	**Sb**	**08 55 31.6**	**+0.1**
FIA0				MSG		08 55 31.6	
	comp=Z,8.1nm,0.3s						
FIA0				RG	Rg	08 55 44.3	
FIA0	**FINESS Array S**	**2.18**	**349**	Pn	**Pn**	**08 55 01.7**	**+0.5**
	baz=164,slow=17,SNR=2.1						
FIA0	**FINESS Array S**	**2.18**	**349**	Pg	**Pn**	**08 55 02.8**	**+1.6**
FIA0				Sg	**Sb**	**08 55 31.6**	**+0.1**
FIA0				Lg	Lg	08 55 32.7	
	baz=166,slow=28,SNR=90						
FINES	**FINESS Array B**	**2.18**	**349**	Pn	**Pn**	**08 55 01.6**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=166,slow=16,SNR=29						
FINES				Sn	**Sb**	**08 55 32.0**	**+0.4**
	comp=Z,5.4nm,0.3s,baz=164,slow=25,SNR=15						
KAF	**Kangasniemi**	**2.83**	**354**	PN	**Pb**	**08 55 13.3**	**-1.6**
KAF				SG	**Sn**	**08 55 45.3**	**+0.5**
KAF				MSG		08 55 45.3	
	comp=Z,3.6nm,0.4s						
KAF	**Kangasniemi**	**2.83**	**354**	Pn	**Pb**	**08 55 13.3**	**-1.6**
SLIT	**Slitere, Latvi**	**2.98**	**238**	*e*P	**Pb**	**08 55 16.5**	**-1.1**
	SNR=50						
SLIT				*e*S	**Sb**	**08 55 56.4**	**+1.9**
	comp=Z,160nm,0.4s,SNR=50						
KEF	**Keuruu**	**3.04**	**341**	SG	**Sb**	**08 55 58.4**	**+2.1**
KEF				MSG		08 55 58.4	
	comp=Z,2.1nm,0.2s						
KEF	**Keuruu**	**3.04**	**341**	Sg	**Sb**	**08 55 58.4**	**+2.1**
RAF	**Rauma**	**3.12**	**306**	PN	**Pn**	**08 55 17.1**	**+3.1**
	baz=117						
RAF				SG	**Sb**	**08 55 59.9**	**+1.5**
RAF				MSG		08 55 59.9	
	comp=Z,2.3nm,0.4s						
RAF	**Rauma**	**3.12**	**306**	*e*P	**Pn**	**08 55 16.2**	**+2.2**
	SNR=50						
RAF	**Rauma**	**3.12**	**306**	Pn	**Pn**	**08 55 17.1**	**+3.1**
RAF				*e*S	**Sb**	**08 55 55.8**	**-2.6**
	comp=Z,6.9nm,0.3s,SNR=50						
SUF	**Sumiainen**	**3.44**	**354**	PN	**Pn**	**08 55 19.8**	**+1.4**
SUF				SG	**Sb**	**08 56 09.0**	**+1.3**
SUF				MSG		08 56 09.0	
	comp=Z,5.2nm,0.4s						
SUF	**Sumiainen**	**3.44**	**354**	Pn	**Pn**	**08 55 19.8**	**+1.4**
SUF				Sg	**Sb**	**08 56 09.0**	**+1.3**
JOF	**Joensuu**	**4.18**	**28**	PN	**Pn**	**08 55 30.3**	**+1.6**
JOF				SG	**Sb**	**08 56 32.6**	**+3.6**
JOF				MSG		08 56 32.6	
	comp=Z,7.3nm,0.4s						
JOF	**Joensuu**	**4.18**	**28**	Pn	**Pn**	**08 55 30.2**	**+1.6**
JOF				Sg	**Sb**	**08 56 32.6**	**+3.6**
HFS	**Hagfors**	**6.77**	**283**	Sn	**Sn**	**08 57 16.7**	**-5.1**
	baz=101,slow=37						
HFS				Lg	Lg	08 57 52.6	
	baz=91,slow=28						
HFS	**Hagfors**	**6.77**	**283**	Sn	**Sn**	**08 57 16.7**	**-5.1**
	baz=101,slow=37						
HFS				Lg	Lg	08 57 52.6	
	baz=91,slow=28						
HFS	**Hagfors**	**6.77**	**283**	Lg	Lg	08 57 54.1	
	baz=85,slow=31						
HFS	**Hagfors**	**6.77**	**283**	Lg	Lg	08 57 52.6	
	baz=91,slow=24,SNR=4.4						
NB2	**NORSAR Subarra**	**8.04**	**289**	Lg	Lg	08 58 36.0	
	baz=114,slow=37						
NB2	**NORSAR Subarra**	**8.04**	**289**	Lg	Lg	08 58 36.0	
	baz=114,slow=37						
NB2	**NORSAR Subarra**	**8.04**	**289**	Lg	Lg	08 58 36.0	
	baz=114,slow=34,SNR=3.0						
NOA	**NORSAR Array B**	**8.04**	**289**	Pn	Pn	08 56 17.7	-3.9
	comp=Z,0.2nm,0.3s,baz=91,slow=17,SNR=2.2						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**08 56 50.6**	**-1.6**
	baz=172,slow=14						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**08 56 50.6**	**-1.6**
	baz=172,slow=14						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**08 56 50.6**	**-1.6**
	baz=172,slow=14,SNR=8.9						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**08 56 50.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=175,slow=15,SNR=5.5						

IDC ***26*** *08:59:45.2±3.2, 63.°96N×36.°17E, h0km, mb1 3.1/4, mb1mx3.0/28, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=35.5km s-min=12.3km az=113.0*
ISCJB ***26*** *09:00:05.2±0.8, 64.°72N±0.°03×30.°7E±0.°2, h0km, Error ellipse: s-maj=11.0km s-min=4.7km az=170.1*
HEL ***26*** *09:00:06.7±0.2, 64.°70N×30.°71E, h0km, ML2.1, Explosion*
CSEM ***26*** *09:00:06.7, 64.°70N×30.°71E, h0km, ML2.1, Mining explosion. After HEL*

ISC 26 09:00:06.0±1.1, 64.°71N±0.°04×30.°75E±0.°07, h0km, n21, σ1.06/29, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.37**	**345**	*e*P	**Pg**	**09 00 31.2**	**-1.0**
KU6				*e*S	**Sg**	**09 00 49.6**	**-0.4**
KU6	**Riekki**	**1.37**	**345**	P	**Pg**	**09 00 31.2**	**-1.0**
KU6				S	**Sg**	**09 00 49.5**	**-0.4**
MSF	**Maaselka**	**1.40**	**330**	*e*P	**Pn**	**09 00 31.7**	**-1.2**
MSF				*e*S	**Sg**	**09 00 49.9**	**-1.1**
MSF	**Maaselka**	**1.40**	**330**	P	**Pn**	**09 00 31.6**	**-1.2**
MSF				S	**Sg**	**09 00 49.9**	**-1.1**
KJN	**Kajaani**	**1.46**	**246**	*e*P	**Pn**	**09 00 32.1**	**-1.5**
KJN	**Kajaani**	**1.46**	**246**	P	**Pn**	**09 00 32.1**	**-1.5**
JOF	**Joensuu**	**1.82**	**172**	*e*P	**Pn**	**09 00 38.4**	**-0.1**
JOF				*e*SN	**Sn**	**09 01 02.6**	**+0.4**
JOF	**Joensuu**	**1.82**	**172**	P	**Pn**	**09 00 38.4**	**-0.1**
JOF				Sn	**Sn**	**09 01 02.6**	**+0.4**
OUL	**Oulu**	**2.10**	**282**	*e*PB	**Pn**	**09 00 43.2**	**+0.8**
OUL				*e*S	**Sn**	**09 01 09.4**	**+0.1**
OUL	**Oulu**	**2.10**	**282**	Pb	**Pn**	**09 00 43.2**	**+0.8**
OUL				S	**Sn**	**09 01 09.3**	**+0.1**
RNF	**Rovaniemi**	**2.73**	**316**	*e*P	**Pn**	**09 00 51.9**	**+0.7**
RNF	**Rovaniemi**	**2.73**	**316**	P	**Pn**	**09 00 51.8**	**+0.7**
SUF	**Sumiainen**	**2.86**	**228**	*e*P	**Pn**	**09 00 53.9**	**+1.0**
SUF				MSG		09 01 35.3	
	comp=Z,5.5nm,0.1s						
SUF	**Sumiainen**	**2.86**	**228**	P	**Pn**	**09 00 53.8**	**+1.0**
KAF	**Kangasniemi**	**3.29**	**219**	*e*P	**Pn**	**09 00 59.9**	**+1.2**
KAF				MSG		09 01 51.2	
	comp=Z,3.4nm,0.1s						
KAF	**Kangasniemi**	**3.29**	**219**	P	**Pn**	**09 00 59.8**	**+1.2**
KEF	**Keuruu**	**3.67**	**229**	MSG		09 02 00.3	
	comp=Z,3.7nm,0.1s						
FINES	**FINESS Array B**	**3.91**	**215**	Pn	**Pn**	**09 01 06.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=5.0						
FINES				Sn	**Sb**	**09 02 04.2**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=37,slow=26,SNR=8.8						
FINES				Lg	Lg	09 02 30.6	
	comp=Z,0.3nm,0.3s,baz=40,slow=31,SNR=7.9						
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn	**Pn**	**09 01 25.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=149,slow=14,SNR=25						
ARCES				Sn	**Sb**	**09 02 45.0**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=152,slow=27,SNR=3.4						
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 02 19.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=3.8						
NOA	**NORSAR Array B**	**9.63**	**257**	Pn	Pn	09 02 29.7	+3.9
	comp=Z,0.1nm,0.3s,baz=59,slow=15,SNR=2.8						

FUNV 26 09:05:48.6, 6.°98N×72.°91W, h151km, MW3.5, 8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.06**	**34**	||*e*P	Pn	09 06 13.4	-0.9
CAPV				*e*S	Sn	09 06 32.3	-1.7
VIGV	**El Vigia**	**2.40**	**39**	||*e*P	Pn	09 06 28.1	-0.6
VIGV				*e*S	Sn	09 06 56.6	-2.9
SOCV	**Socops**	**2.42**	**57**	||*e*P	Pn	09 06 27.7	-1.1
SOCV				*e*S	Sn	09 06 56.4	-3.4
ELOV	**Elorza**	**3.40**	**89**	||*e*P	Pn	09 06 39.7	-1.4
VIRV	**Villa del Rosa**	**3.54**	**8**	*e*P	Pn	09 06 40.8	-2.2
VIRV				*e*S	Sn	09 07 20.4	-4.8
QARV	**Quebrada Arrib**	**3.98**	**36**	*e*P	Pn	09 06 47.8	-1.0
CURV	**Curaripua**	**4.20**	**44**	||*e*P	Pn	09 06 50.4	-1.2
DABV	**Dabajuro**	**4.52**	**30**	*e*P	Pn	09 06 54.6	-1.1
TEPV	**Terepaima**	**4.73**	**51**	||*e*P	Pn	09 06 57.2	-1.3
SIQV	**Siquisique**	**4.77**	**40**	||*e*P	Pn	09 06 57.4	-1.7
BAUV	**El Baul**	**5.20**	**68**	*e*P	Pn	09 07 02.0	-2.8
MAPV	**Macapo**	**5.24**	**57**	||*e*P	Pn	09 07 03.6	-1.7
MONV	**Montecano**	**5.73**	**30**	*e*P	Pn	09 07 09.9	-1.9
TURV	**Turiamo**	**6.08**	**55**	*e*P	Pn	09 07 14.7	-1.8
MERV	**Las Mercedes**	**6.93**	**71**	*e*P	Pn	09 07 25.0	-2.8
BIRV	**Birongo**	**7.43**	**62**	*e*P	Pn	09 07 31.7	-2.7
CUPV	**Cœpira**	**7.68**	**66**	*e*P	Pn	09 07 34.9	-2.9

IDC ***26*** *09:11:03.1±0.6, 3.°05S×147.°53E, h0km, mb4.3/18, mb1 4.4/20, mb1mx4.4/25, mbtmp4.3/20, ML3.2/2, MS4.3/18, Ms1 4.3/18, ms1mx4.2/32, Error ellipse: s-maj=22.4km s-min=13.1km az=93.0*
ISCJB ***26*** *09:11:05.8±0.4, 3.°02S±0.°04×147.°57E±0.°07, h32km, mb4.4/22, MS4.4/17, Error ellipse: s-maj=10.1km s-min=5.4km az=173.8*
NEIC ***26*** *09:11:09.2±1.6, 3.°05S×147.°45E, h41km±15km, mb4.8/6, Error ellipse: s-maj=13.1km s-min=8.8km az=78.0*
AUST ***26*** *09:11:09.0, 2.°85S×147.°53E, h60km*
GCMT ***26*** *09:11:09.4±0.2, 2.°97S×147.°34E, h18km±1km, MW5.0, Moment Tensor Solution. s26,c34; s82,c131; Moment tensor: Scale 10¹⁶Nm; Mrr-0.32±.14; Mθθ0.71±.11; Mφφ-0.39±.13; Mrθ-0.12±.29; Mθφ4.17±.10; Mφr-0.31±.27; Best double couple: M₀4.20000×10¹⁶ NP1:φs184.00000°, δ89.00000°, λ176.00000°. NP2:φs274.00000°, δ86.00000°, λ1.00000°. Principal axes: T 4.3900, Plg4.0000°, Azm139.0000°; N -0.3300, Plg86.0000°, Azm353.0000°; P -4.0500, Plg2.0000°, Azm229.0000°; Data Used: II IU IC G CN.*

ISC 26 09:11:07.7±0.5, 2.°93S±0.°05×147.°65E±0.°08, h32km, n72, σ1.79/69, mb4.3/22, MS4.4/17, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.93**	**342**	P	Pn	09 11 21.0	-3.5
	baz=0.8,SNR=141						
MANU				S	**Sn**	**09 11 35.9**	**-0.9**
	baz=0.8,SNR=10						
PMG	**Port Moresby**	**6.45**	**184**	Pn	**Pn**	**09 12 39.0**	**-1.5**
PMG				Sn	**Sn**	**09 13 58.3**	**+5.2**
PMG	**Port Moresby**	**6.45**	**184**	Pn	**Pn**	**09 12 38.1**	**-2.4**
	0.7nm,0.3s,baz=353,slow=17,SNR=2.7						
PMG				Sn	**Sn**	**09 13 58.3**	**+5.2**
	0.6nm,0.3s,baz=357,slow=11,SNR=3.0						
PMG				LR	LR	09 14 56.5	
	comp=Z,860nm,21.6s,baz=8.8,slow=37						
COEN	**Coen**	**11.81**	**202**	*e*Pn	**Pn**	**09 13 52.9**	**-1.2**
	71nm,0.8s						
COEN	**Coen**	**11.81**	**202**	P	**Pn**	**09 13 52.9**	**-1.2**
	baz=12,SNR=9.6						
MTSU	**Mount Surprise**	**15.46**	**192**	P	**P**	**09 14 48.6**	**+0.9**
	baz=16,SNR=6.9						
PALU	**Palau**	**16.65**	**308**	P	**Pn**	**09 14 59.2**	**+0.4**
	baz=16,SNR=4.2						
PALU				S	Sn	09 17 52.5	-10
	baz=16,SNR=3.3						
CTA	**Charters Tower**	**17.11**	**184**	Pn	**Pn**	**09 15 04.2**	**-0.3**
CTA	**Charters Tower**	**17.11**	**184**	Pn	**Pn**	**09 15 04.2**	**-0.3**
	0.3nm,0.3s,baz=11,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**17.11**	**184**	*e*P	**P**	**09 15 06.0**	**-0.1**
	32nm,1.4s						
KDU	**Kakadu**	**17.88**	**236**	P	**Pn**	**09 15 11.7**	**-2.4**
	baz=18,SNR=5.3						
MTN	**Manton Dam**	**19.08**	**238**	S	**S**	**09 19 04.3**	**+1.7**
	baz=19,SNR=6.8						
WRAB	**Tennant Creek**	**21.31**	**217**	*e*P	**P**	**09 15 49.7**	**-2.4**
	80nm,1.3s						
WRA	**Warramunga Arr**	**21.32**	**217**	P	**P**	**09 15 49.3**	**-2.9**
WRA				PcP	**PcP**	**09 19 56.8**	**+0.7**
WRA	**Warramunga Arr**	**21.32**	**217**	P	**P**	**09 15 49.3**	**-2.9**
	18nm,0.9s,baz=41,slow=11,SNR=61						
WRA				PcP	**PcP**	**09 19 56.8**	**+0.7**
	1.9nm,1.0s,baz=26,slow=2.1,SNR=7.1						
WRA				LR	LR	09 24 12.8	
	comp=Z,855nm,19.7s,baz=40,slow=37						
KNRA	**Kununurra**	**22.50**	**235**	P	**P**	**09 16 02.7**	**-2.1**
	baz=22,SNR=4.3						
KNRA				S	**S**	**09 20 06.0**	**-3.9**
	baz=22,SNR=6.5						
RMQ	**Roma**	**23.44**	**178**	P	**P**	**09 16 15.2**	**+0.8**
	baz=24,SNR=8.1						
SOEI	**Soe**	**24.20**	**253**	S

SONM Songino Array 62.08 330 P P 09 21 26.7 +1.2
0.4nm,0.5s,baz=126,slow=4.2,SNR=5.3
SONM LR LR 09 46 34.5
comp=Z,297nm,19.5s,baz=303,slow=34
PPT2 Papeete2 63.19 108 *e*S **S 09 30 00.4 -2.8**
49nm,28.0s
PPT2 Papeete2 63.19 108 *e*LR LR 09 40 24.4
177nm,25.2s
TBI Tubuai 64.00 114 *e*S **S 09 30 10.0 -3.1**
359nm,33.2s
TBI Tubuai 64.00 114 *e*LR LR 09 40 46.8
438nm,30.8s
VNDA Vanda 74.92 177 P P 09 22 44.1 -1.0
VNDA Vanda 74.92 177 P P 09 22 44.1 -1.0
3.0nm,0.8s,baz=328,slow=5.8,SNR=18
VNDA LR LR 09 51 53.4
comp=Z,161nm,20.9s,baz=343,slow=33
MKAR Makanchi Array 75.57 320 P P 09 22 50.1 +0.7
MKAR Makanchi Array 75.57 320 P P 09 22 50.1 +0.7
1.0nm,0.9s,baz=86,slow=7.7,SNR=6.1
ZALV Zalesovo Beam 76.79 327 P P 09 22 56.2 +0.1
ZALV Zalesovo Beam 76.79 327 P P 09 22 56.2 +0.1
3.0nm,0.3s,baz=108,slow=4.7,SNR=6.8
ZALV LR LR 09 57 20.6
comp=Z,222nm,18.1s,baz=248,slow=36
KDAK Kodiak Island 76.91 28 LR LR 09 56 09.6
comp=Z,215nm,18.7s,baz=253,slow=35
RKT Rikitea 77.24 113 *e*LR LR 09 46 54.4
264nm,33.2s
KURK Kurchatov 79.17 323 P P 09 23 09.0 -0.4
KURBB Kurchatov Arra 79.19 323 P P 09 23 09.0 -0.6
0.3nm,0.3s,baz=106,slow=5.0,SNR=4.9
ILAR Eielson Array 82.42 23 P P 09 23 26.8 +0.2
ILAR Eielson Array 82.42 23 P P 09 23 26.8 +0.2
2.9nm,1.0s,baz=249,slow=5.2,SNR=14
ILAR LR LR 09 58 23.5
comp=Z,100nm,18.3s,baz=265,slow=34
BVAR Borovoye Array 84.69 324 P P 09 23 39.1 +0.6
BVAR Borovoye Array 84.69 324 P P 09 23 39.1 +0.6
0.9nm,0.6s,baz=101,slow=7.7,SNR=4.8
BVAR LR LR 10 00 03.8
comp=Z,152nm,18.6s,baz=89,slow=35
MAW Mawson 85.31 203 LR LR 09 56 23.9
comp=Z,129nm,20.8s,baz=248,slow=32
QSPA South Pole Qui 87.02 180 *e*P **P 09 23 49.7 -0.2**
6.4nm,1.2s
NVAR Mina Array Bea 94.98 52 P P 09 24 30.4 +2.6
NVAR Mina Array Bea 94.98 52 P P 09 24 30.4 +2.6
0.8nm,0.8s,baz=259,slow=6.9,SNR=5.7
TORD Torodi Ar. Bea 144.85 289 PKP PKPab 09 30 41.7 +0.1
TORD Torodi Ar. Bea 144.85 289 PKP PKPab 09 30 41.7 +0.1
3.7nm,1.1s,baz=74,slow=2.7,SNR=10
SAML Samuel 147.08 111 *e*PKPdf **PKPbc 09 30 47.7 -0.9**
SAML *e*PKPbc **PKPab 09 30 50.0 -0.1**

NEIC ***26*** *09:11:48.9, 19.°04N×65.°49W, h27km, MD3.3(RSPR), After RSPR.*
RSPR 26 09:11:48.9, 19.°04N×65.°49W, h27km±11km, MD3.3/13, 39C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.84**	**204**	*e*S	Sb	09 12 13.6	-2.5
CBYP	**Canovanas**	**0.84**	**204**	⇑*e*P	Pb	09 12 02.8	-2.3
CBYP	**Canovanas**	**0.84**	**204**	⇓*e*P	Pb	09 12 02.8	-2.3
CBYP				*e*S	Sb	09 12 13.6	-2.5
CBYP	**Canovanas**	**0.84**	**204**	⇑*e*P	Pb	09 12 02.8	-2.3
CBYP				*e*S	Sb	09 12 13.6	-2.5
STVI	**Saint Thomas**	**0.85**	**144**	*e*S	Sb	09 12 14.1	-2.2
STVI	**Saint Thomas**	**0.85**	**144**	⇑*e*P	Pb	09 12 03.3	-1.9
STVI	**Saint Thomas**	**0.85**	**144**	⇓*e*P	Pb	09 12 03.3	-1.9
STVI				*e*S	Sb	09 12 14.1	-2.2
STVI	**Saint Thomas**	**0.85**	**144**	⇑*e*P	Pb	09 12 03.3	-1.9
STVI				*e*S	Sb	09 12 14.6	-1.6
MTP	**Monte Pirata**	**0.94**	**184**	*e*S	Sb	09 12 16.6	-2.2
MTP	**Monte Pirata**	**0.94**	**184**	⇑*e*P	Pn	09 12 04.3	-2.1
MTP	**Monte Pirata**	**0.94**	**184**	⇓*e*P	Pn	09 12 04.3	-2.1
MTP				*e*S	Sb	09 12 16.6	-2.2
MTP	**Monte Pirata**	**0.94**	**184**	⇑*e*P	Pn	09 12 04.3	-2.1
MTP				*e*S	Sb	09 12 16.6	-2.2
HUMP	**Col San Antoni**	**0.96**	**201**	*e*S	Sb	09 12 16.8	-2.4
HUMP	**Col San Antoni**	**0.96**	**201**	⇑*e*P	Pn	09 12 04.8	-1.8
HUMP	**Col San Antoni**	**0.96**	**201**	⇓*e*P	Pn	09 12 04.8	-1.8
HUMP				*e*S	Sb	09 12 16.8	-2.4
HUMP	**Col San Antoni**	**0.96**	**201**	⇑*e*P	Pn	09 12 04.8	-1.8
HUMP				*e*S	Sb	09 12 16.8	-2.4
TBVI	**Tortola**	**1.03**	**127**	⇓*i*P	Pn	09 12 05.7	-2.0
TBVI				*e*S	Sn	09 12 18.6	-2.7
TBVI	**Tortola**	**1.03**	**127**	⇓*i*P	Pn	09 12 05.7	-2.0
TBVI				*e*S	Sn	09 12 18.6	-2.7
TBVI	**Tortola**	**1.03**	**127**	⇓*i*P	Pn	09 12 05.7	-2.0
TBVI				*e*S	Sn	09 12 18.6	-2.7
CPD	**Cerro la Pandu**	**1.08**	**202**	*e*S	Sn	09 12 19.6	-2.8
CPD	**Cerro la Pandu**	**1.08**	**202**	⇓*e*P	Pn	09 12 06.6	-1.8
CPD	**Cerro la Pandu**	**1.08**	**202**	⇓*e*P	Pn	09 12 06.6	-1.8
CPD				*e*S	Sn	09 12 19.6	-2.8
CPD	**Cerro la Pandu**	**1.08**	**202**	⇓*e*P	Pn	09 12 06.6	-1.8
CPD				*e*S	Sn	09 12 19.6	-2.8
SJG	**San Juan**	**1.12**	**214**	⇑*e*P	Pn	09 12 06.9	-1.9
SJG				*e*S	Sn	09 12 20.7	-2.6
SJG	**San Juan**	**1.12**	**214**	⇑*e*P	Pn	09 12 06.9	-1.9
SJG				*e*S	Sn	09 12 20.7	-2.6
SJG	**San Juan**	**1.12**	**214**	⇑*e*P	Pn	09 12 06.9	-1.9
SJG				*e*S	Sn	09 12 20.7	-2.6
ABVI	**Anegada Island**	**1.14**	**106**	⇑*e*P	Pn	09 12 07.0	-2.0
ABVI				*e*S	Sn	09 12 21.0	-2.8
ABV	**Anegada**	**1.14**	**106**	*e*S	Sn	09 12 21.0	-2.8
ABV	**Anegada**	**1.14**	**106**	⇑*e*P	Pn	09 12 07.0	-2.0
ABV	**Anegada**	**1.14**	**106**	⇑*e*P	Pn	09 12 07.4	-1.7
ABV				*e*S	Sn	09 12 21.1	-2.7
AOPR	**Arecibo Observ**	**1.39**	**240**	⇓*e*P	Pn	09 12 10.9	-1.6
AOPR	**Arecibo Observ**	**1.39**	**240**	*e*S	Sn	09 12 27.3	-2.7
AOPR	**Arecibo Observ**	**1.39**	**240**	⇓*e*P	Pn	09 12 10.9	-1.6
AOPR				*e*S	Sn	09 12 27.3	-2.7
AOPR	**Arecibo Observ**	**1.39**	**240**	⇓*e*P	Pn	09 12 10.9	-1.6
AOPR				*e*S	Sn	09 12 27.3	-2.7
CELP	**Cerrillos**	**1.41**	**227**	⇑*e*P	Pn	09 12 11.3	-1.5
CELP				*e*S	Sn	09 12 28.1	-2.6
CELP	**Cerrillos**	**1.41**	**227**	⇑*e*P	Pn	09 12 11.3	-1.5
CELP				*e*S	Sn	09 12 28.1	-2.6
CELP	**Cerrillos**	**1.41**	**227**	⇑*e*P	Pn	09 12 11.3	-1.5
CELP				*e*S	Sn	09 12 28.8	-1.9
OBIP	**Obispado Ponce**	**1.45**	**227**	⇑*e*P	Pn	09 12 11.4	-2.1
OBIP	**Obispado Ponce**	**1.45**	**227**	*e*S	Sn	09 12 28.9	-2.7
OBIP	**Obispado Ponce**	**1.45**	**227**	⇑*e*P	Pn	09 12 11.4	-2.1
OBIP				*e*S	Sn	09 12 28.9	-2.7
OBIP	**Obispado Ponce**	**1.45**	**227**	⇑*e*P	Pn	09 12 11.4	-2.1
OBIP				*e*S	Sn	09 12 28.9	-2.7
LRS	**Lares**	**1.49**	**240**	⇑*e*P	Pn	09 12 12.0	-1.9
LRS	**Lares**	**1.49**	**240**	⇑*e*P	Pn	09 12 12.0	-1.9
LRS	**Lares**	**1.49**	**240**	⇑*e*P	Pn	09 12 12.4	-1.5
AGPR	**Aguadilla, PR**	**1.64**	**250**	⇑*e*P	Pn	09 12 13.8	-2.2
AGPR	**Aguadilla, PR**	**1.64**	**250**	*e*S	Sn	09 12 33.9	-2.4
AGPR	**Aguadilla, PR**	**1.64**	**250**	⇑*e*P	Pn	09 12 13.8	-2.2
AGPR				*e*S	Sn	09 12 33.9	-2.4
AGPR	**Aguadilla, PR**	**1.64**	**250**	⇑*e*P	Pn	09 12 13.8	-2.2
AGPR				*e*S	Sn	09 12 33.9	-2.4
GBPR	**Guanica, Bosqu**	**1.69**	**231**	*e*S	Sn	09 12 35.4	-2.2
GBPR	**Guanica, Bosqu**	**1.69**	**231**	*e*S	Sn	09 12 35.4	-2.2
LSP	**Las Mesas**	**1.74**	**241**	⇑*e*P	Pn	09 12 15.6	-1.9
LSP	**Las Mesas**	**1.74**	**241**	⇑*e*P	Pn	09 12 15.6	-1.9
LSP	**Las Mesas**	**1.74**	**241**	⇑*e*P	Pn	09 12 15.6	-1.9
CRPR	**Cabo Rojo, PR**	**1.85**	**236**	⇑*e*P	Pn	09 12 16.9	-1.9
CRPR	**Cabo Rojo, PR**	**1.85**	**236**	*e*S	Sn	09 12 39.2	-2.3
CRPR	**Cabo Rojo, PR**	**1.85**	**236**	⇑*e*P	Pn	09 12 16.9	-1.9
CRPR				*e*S	Sn	09 12 39.2	-2.3
CRPR	**Cabo Rojo, PR**	**1.85**	**236**	⇑*e*P	Pn	09 12 16.9	-1.9
CRPR				*e*S	Sn	09 12 39.2	-2.3
IDE	**Isla Desecheo**	**1.99**	**251**	⇑*e*P	Pn	09 12 19.0	-1.8
IDE	**Isla Desecheo**	**1.99**	**251**	⇑*e*P	Pn	09 12 19.0	-1.8
IDE	**Isla Desecheo**	**1.99**	**251**	⇑*e*P	Pn	09 12 19.4	-1.4
DR12	**Loma Pena Alta**	**3.69**	**267**	⇓*e*P	Pn	09 12 43.3	-1.0
DR12				*e*S	Sn	09 13 25.4	-1.6
DR12	**Loma Pena Alta**	**3.69**	**267**	⇓*e*P	Pn	09 12 43.3	-1.0
DR12				*e*S	Sn	09 13 25.4	-1.6
DR12	**Loma Pena Alta**	**3.69**	**267**	⇓*e*P	Pn	09 12 43.3	-1.0
DR12				*e*S	Sn	09 13 25.4	-1.6
SDDR	**Presa de Saban**	**5.49**	**270**	*e*Pn	Pn	09 13 09.2	+0.2
SDDR				*e*Sn	Sn	09 14 11.0	-0.3

TIR ***26*** *09:13:16.5±1.9, 39.°00N×20.°52E, h26km, ML3.6*
CSEM ***26*** *09:13:26.8±0.1, 39.°28N×20.°66E, h5km, ML2.4/4, Error ellipse: s-maj=3.7km s-min=2.7km az=58.0*
ATH ***26*** *09:13:27.8, 39.°27N×20.°70E, h7km, MD3.0/8*
THE ***26*** *09:13:27.0, 39.°28N×20.°64E, h0km±4km, ML2.4/4, Error ellipse: s-maj=4.1km s-min=0.9km az=89.0*
ISC 26 09:13:26.8±1.1, 39.27N±0.02×20.63E±0.03, h6km±10km, n34, σ0.53/52, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.35**	**319**	P	**Pg**	**09 13 33.0**	**-0.6**
IGT				S	**Sg**	**09 13 39.1**	**+0.8**
IGT	**Igoumenitsa**	**0.35**	**319**	P	**Pg**	**09 13 33.0**	**-0.6**
IGT				S	**Sg**	**09 13 39.1**	**+0.8**
JAN	**Janina**	**0.42**	**24**	P	**Pg**	**09 13 34.6**	**-0.4**
JAN				S	**Sg**	**09 13 40.9**	**+0.4**
JAN	**Janina**	**0.42**	**24**	*e*PB	**Pg**	**09 13 34.7**	**-0.3**
JAN				*e*SB	**Sg**	**09 13 41.3**	**+0.8**
JAN	**Janina**	**0.42**	**24**	*e*Pb	**Pg**	**09 13 34.7**	**-0.3**
JAN				S	**Sg**	**09 13 40.9**	**+0.4**
JAN				*e*Sb	**Sg**	**09 13 41.3**	**+0.8**
LKD2	**Lefkada island**	**0.48**	**178**	P	**Pg**	**09 13 35.5**	**-0.5**
LKD2				S	**Sb**	**09 13 43.9**	**-1.0**
LKD2	**Lefkada island**	**0.48**	**178**	*e*PB	**Pg**	**09 13 36.4**	**+0.4**
LKD2				*e*SB	**Sb**	**09 13 44.4**	**-0.5**
LKD2	**Lefkada island**	**0.48**	**178**	P	**Pg**	**09 13 35.5**	**-0.5**
LKD2	**Lefkada island**	**0.48**	**178**	*e*Pb	**Pg**	**09 13 36.4**	**+0.4**
LKD2				S	**Sb**	**09 13 43.9**	**-1.0**
LKD2				*e*Sb	**Sb**	**09 13 44.4**	**-0.5**
SRN	**Sarande**	**0.78**	**322**	*i* PG	**Pg**	**09 13 41.1**	**-0.7**
SRN				*i* SG	**Sn**	**09 13 56.8**	**+0.6**
SRN	**Sarande**	**0.78**	**322**	*i* Pg	**Pg**	**09 13 41.1**	**-0.7**
SNR=103							
SRN				*i* Sg	**Sn**	**09 13 56.8**	**+0.6**
SNR=103							
KEK	**Kerkira**	**0.78**	**305**	P	**Pg**	**09 13 41.6**	**-0.2**
KEK				S	**Sb**	**09 13 53.8**	**+0.2**
KEK	**Kerkira**	**0.78**	**305**	*e*PB	**Pn**	**09 13 43.9**	**-0.4**
KEK				*e*SB	**Sb**	**09 13 54.7**	**+1.1**
KEK	**Kerkira**	**0.78**	**305**	P	**Pg**	**09 13 41.6**	**-0.2**
KEK	**Kerkira**	**0.78**	**305**	*e*Pb	**Pn**	**09 13 43.9**	**-0.4**
KEK				S	**Sb**	**09 13 53.8**	**+0.2**
KEK				*e*Sb	**Sb**	**09 13 54.7**	**+1.1**
EVR	**Evrytania**	**0.98**	**111**	*e*PB	**Pn**	**09 13 45.6**	**0.0**
EVR	**Evrytania**	**0.98**	**111**	*e*Pb	**Pg**	**09 13 45.6**	**0.0**
VLS	**Valsamata**	**1.09**	**182**	*e*PB	**Pn**	**09 13 48.9**	**+0.4**
VLS	**Valsamata**	**1.09**	**182**	*e*Pb	**Pn**	**09 13 48.9**	**+0.4**
THL	**Klokotos Trika**	**1.11**	**74**	P	**Pb**	**09 13 48.1**	**-0.2**
THL	**Klokotos Trika**	**1.11**	**74**	*e*PN	**Pn**	**09 13 48.5**	**-0.3**
THL	**Klokotos Trika**	**1.11**	**74**	P	**Pb**	**09 13 48.1**	**-0.2**
THL	**Klokotos Trika**	**1.11**	**74**	*e*Pn	**Pn**	**09 13 48.5**	**-0.3**
NEST	**Nestorio**	**1.19**	**16**	P	**Pn**	**09 13 50.0**	**0.0**
NEST	**Nestorio**	**1.19**	**16**	P	**Pn**	**09 13 50.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.19**	**102**	P	**Pb**	**09 13 49.1**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.19**	**102**	P	**Pb**	**09 13 49.1**	**-0.7**
AGG	**Agios Georgios**	**1.34**	**100**	P	**Pg**	**09 13 52.7**	**+0.3**
AGG	**Agios Georgios**	**1.34**	**100**	*e*PB	**Pg**	**09 13 52.8**	**+0.3**
AGG	**Agios Georgios**	**1.34**	**100**	*e*Pb	**Pg**	**09 13 52.8**	**+0.3**
TRIZ	**Trizonia**	**1.44**	**128**	*e*PG	**Pb**	**09 13 53.6**	**-0.4**
TRIZ	**Trizonia**	**1.44**	**128**	*e*Pg	**Pb**	**09 13 53.6**	**-0.4**
PHP	**Peshkopia**	**2.42**	**357**	*i* PN	**Pn**	**09 14 06.7**	**-0.1**
PHP				*i* SN	**Sb**	**09 14 40.3**	**-0.4**
PHP	**Peshkopia**	**2.42**	**357**	*i* Pn	**Pn**	**09 14 06.7**	**-0.1**
PHP				*i* Sn	**Sb**	**09 14 40.3**	**-0.4**

MAN ***26*** *09:16:49, 11.°44N×124.°58E, h61km, mb5.5, ML4.5, MS4.9*
MAN INTENSITY IV - NAVAL BILIRAN; INTENSITY III - TACLOBAN CITY; INTENSITY II - PALO LEYTE.
MOS ***26*** *09:16:52.9±1.2, 11.°43N×124.°36E, h47km, mb5.1/40, Error ellipse: s-maj=11.2km s-min=5.8km az=120.9*
ISCJB ***26*** *09:16:52.4±0.5, 11.°44N±0.°02×124.°48E±0.°03, h40km±4km, mb4.8/107, MS4.3/19, Error ellipse: s-maj=5.2km s-min=3.7km az=169.9*
BJI ***26*** *09:16:53.7, 11.°22N×124.°46E, h62km, mB5.0/32, mb4.7/44, Ms4.6/44, Ms7 4.3/40*
IDC ***26*** *09:16:55.7±2.5, 11.°45N×124.°44E, h58km±23km, mb4.4/33, mb1 4.4/35, mb1mx4.4/39, mbtmp4.4/35, ML4.5/2, MS4.1/2, Ms1 4.2/2, ms1mx3.5/44, Error ellipse: s-maj=14.7km s-min=8.4km az=71.0*
NEIC ***26*** *09:16:56.0±0.7, 11.°42N×124.°42E, h58km±7km, mb4.9/31, Error ellipse: s-maj=5.8km s-min=4.0km az=72.0*
NEIC Felt [III PIVS] at Tacloban and [II PIVS] at Palo. Also felt [II PIVS] at Cebu City, Cebu.
BKK ***26*** *09:17:04.5±0.9, 11.°N±5.°N×12.°4E±.°, h105km±10km, M5.0/31, mB5.5/13, mb4.8/31, MLv5.3/1, Mw(mB)5.0/13, Mwp8.0/2*
DJA ***26*** *09:17:15.4±0.8, 11.°N±6.°N×12.°4E±.°, h264km±8km, M4.9/24, mB5.3/11, mb4.7/24, MLv5.3/1, Mw(mB)4.7/11*
ISC 26 09:16:56.0±0.4, 11.39N±0.03×124.43E±0.04, h61km±2km, n287, σ1.9/66/296, mb4.7/107, 10C-6D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.14**	**12**	*e*P	Pn	09 17 09.4	-6.5
CNP				*e*S	**Sn**	**09 17 26.8**	**-4.0**
LLP	**Lapu-Lapu**	**1.16**	**203**	⇑*e*P	Pn	09 17 11.9	-4.2
LLP				*e*S	**Sn**	**09 17 30.1**	**-1.1**
MMPH	**Masbate**	**1.24**	**321**	*e*P	Pn	09 17 09.3	-8.0
MMPH				*e*S	Sn	09 17 25.3	-7.9
RCP	**Roxas**	**1.66**	**276**	⇓*e*P	Pn	09 17 17.0	-5.8
RCP				*e*S	**Sn**	**09 17 40.6**	**-2.6**
TBP	**Tagbilaran**	**1.77**	**198**	*e*P	**Pn**	**09 17 21.4**	**-3.1**
KALP	**Kalibo**	**2.07**	**278**	*e*P	Pn	09 17 25.1	-3.3
PVCP	**Virac**	**2.21**	**353**	⇓*e*P	Pn	09 17 24.9	-5.5
SNPH	**Sibulan**	**2.34**	**210**	*i* S	Sn	09 17 53.9	-6.1
AUQP	**San Andres**	**2.58**	**319**	*e*P	Pn	09 17 31.8	-3.6
GQP	**Guinayangan**	**3.16**	**323**	⇑*e*P	Pn	09 17 34.6	-8.8
BOAC	**Boac**	**3.26**	**310**	*e*P	Pn	09 17 40.4	-4.3
SJMP	**San Jose**	**3.41**	**289**	*e*P	Pn	09 17 43.5	-3.3
LQP	**Lukban**	**3.91**	**314**	⇓*e*P	Pn	09 17 57.6	+3.8
CTBH	**Cotabato--PC H**	**4.14**	**182**	⇑*e*P	**Pn**	**09 17 56.5**	**-0.3**
TGY	**Tagaytay City**	**4.34**	**309**	P	**Pn**	**09 17 58.2**	**-1.4**
TGY	**Tagaytay City**	**4.34**	**309**	P	**Pn**	**09 17 58.2**	**-1.4**
85nm,0.3s,baz=128,slow=6.5,SNR=4.8							
DAV	**Davao City (W)**	**4.44**	**165**	Pn	**Pn**	**09 17 59.8**	**-1.1**
MYLDM	**Lahad Datu**	**8.51**	**224**	P	**Pn**	**09 18 56.5**	**-0.2**
MYLDM	**Lahad Datu**	**8.51**	**224**	P	Pn	09 18 59.5	+2.9
SDKM	**Sandakan**	**9.15**	**232**	P	**Pn**	**09 19 05.4**	**-0.1**
TSM	**Tawau**	**9.58**	**223**	P	Pn	09 19 06.3	-5.0
GTOI	**Gorontalo**	**10.77**	**188**	P	Pn	09 19 41.6	+14
70nm,1.0s							
TNTI	**Ternate**	**10.94**	**164**	P	Pn	09 19 35.3	+5.4
PCI	**Palu**	**13.04**	**201**	P	P	09 20 13.8	+6.9
YHNB	**Yeheng**	**13.53**	**348**	Pn	**Pn**	**09 20 05.2**	**0.0**
SKSI	**Sorokoko, Sulaw**	**14.16**	**193**	P	**P**	**09 20 19.7**	**+0.2**
448nm,1.1s,32μm							
QZH	**Quanzhou**	**14.57**	**338**	⇑*i*P	**P**	**09 20 20.8**	**-3.1**
QZH				*e*S	**Sn**	**09 23 00.5**	**+1.3**
QZH				LR	LR		
comp=N,400nm,8.3s							
QZH				LR	LR		
comp=E,1μm,13.6s							
QZH				LR	LR		
comp=Z,2μm,20.8s							
NLAI	**Namlea**	**14.77**	**169**	P	**P**	**09 20 25.6**	**-0.6**
comp=Z,58nm,1.2s							
SBUM	**Sibu**	**15.01**	**235**	P	**P**	**09 20 26.6**	**-2.2**
SBUM	**Sibu**	**15.01**	**235**	P	**P**	**09 20 29.1**	**+0.2**
comp=Z,50nm,1.2s,comp=Z,784nm							
MMSI	**Mamuju**	**15.02**	**202**	P	**P**	**09 20 29.6**	**+0.6**
comp=Z,92nm,1.1s,comp=Z,1μm							
MSAI	**Masohi**	**15.31**	**163**	P	**P**	**09 20 35.4**	**+3.3**
comp=Z,48nm,1.1s							
AAI	**Ambon**	**15.44**	**166**	P	P	09 20 39.3	+5.7
comp=Z,102nm,1.1s,comp=Z,3μm							
JOW	**Kunigami**	**15.79**	**13**	*e*Pn	**P**	**09 20 35.8**	**-1.6**
comp=Z,54nm,1.1s							
SPSI	**Sidrap Palu**	**15.94**	**197**	P	**P**	**09 20 40.5**	**+1.4**
comp=Z,70nm,1.2s,comp=Z,979nm							
QIZ	**Qiongzhong**	**15.98**	**300**	P	**P**	**09 20 37.5**	**-2.1**
QIZ				pP	**pP**	**09 20 49.5**	**-3.1**
QIZ				sP	**sP**	**09 20 56.0**	**-4.3**
QIZ				S	**Sn**	**09 23 34.3**	**+0.7**
QIZ				pmax	pmax		
comp=Z,13nm,1.6s							
QIZ				pmax	pmax		
comp=Z,190nm,8.4s							
QIZ				LR	LR		
comp=N,550nm,14.2s							
QIZ				LR	LR		
comp=Z,820nm,23.1s							
RKPI	**Ransiki, Papua**	**16.07**	**142**	P	P	09 20 46.3	+5.7
comp=Z,112nm,1.0s,comp=Z,9μm							
BNDI	**Bandanaira**	**16.72**	**161**	P	**P**	**09 20 50.3**	**+2.5**
comp=Z,420nm,1.3s,comp=Z,6μm							
KAPI	**Kappang**	**16.94**	**196**	*e*Pn	**P**	**09 20 49.6**	**-0.7**
comp=Z,167nm,1.2s							
KAPI	**Kappang**	**16.94**	**196**	P	**P**	**09 20 50.7**	**+0.5**
comp=Z,95nm,1.3s,comp=Z,1μm							
KAPI	**Kappang**	**16.94**	**196**	P	**P**	**09 20 50.8**	**+0.5**
comp=Z,0.6nm,0.3s,baz=28,slow=8.8,SNR=15							
BAKI	**Biak**	**17.06**	**136**	P	**P**	**09 20 53.5**	**+2.0**
KSM	**Kuching**	**17.13**	**236**	*e*P	**P**	**09 20 53.2**	**+0.9**
comp=Z,90nm,1.9s							
KSM	**Kuching**	**17.13**	**236**	P	**P**	**09 20 53.4**	**+1.0**
KSM	**Kuching**	**17.13**	**236**	P	P	09 21 05.0	+13
BKSI	**Bulukumba**	**17.14**	**195**	P	**P**	**09 20 53.6**	**+1.1**
comp=Z,36nm,1.1s							
UBPT	**Khong Chiam**	**18.84**	**284**	P	**Pn**	**09 21 11.2**	**-1.1**
comp=Z,55nm,1.6s							
UBPT	**Khong Chiam**	**18.84**	**284**	P	**Pn**	**09 21 11.2**	**-1.1**
comp=Z,55nm,1.6s							
SSE	**Sheshan**	**19.84**	**352**	P	**Pn**	**09 21 23.5**	**-0.5**
SSE				S	**Sn**	**09 25 05.5**	**-1.0**
SSE				pmax	pmax		
comp=Z,48nm,0.9s							
SSE				pmax	pmax		
comp=Z,120nm,5.2s							
SSE				LR	LR		
comp=N,250nm,15.7s							
SSE				LR	LR		
comp=E,930nm,15.7s							
SSE				LR	LR		
comp=Z,670nm,18.2s							
MMRI	**Maumere**	**20.01**	**186**	P	Pn	09 21 24.9	-1.2
comp=Z,135nm,1.0s,comp=Z,2μm							
PANO	**Nakornpanom**	**20.03**	**289**	P	**P**	**09 21 23.3**	**-0.9**
comp=Z,43nm,1.6s,comp=Z,1μm							
GUMO	**Guam**	**20.08**	**82**	*e*P	Pn	09 21 26.0	-0.9
comp=Z,482nm,1.5s							
LBFI	**Labuhan Bajo,**	**20.25**	**193**	P	Pn	09 21 32.9	+4.0
SOEI	**Soe**	**21.00**	**180**	P	P	09 21 40.5	+5.7
comp=Z,147nm,0.9s							
NJ2	**Nanjing**	**21.20**	**347**	*e*P	**P**	**09 21 38.0**	**+1.4**
NJ2				pmax	pmax		
comp=Z,24nm,0.5s							
WHN	**Wuhan**	**21.23**	**335**	P	**P**	**09 21 40.5**	**+3.5**
WHN				LR	LR		
comp=N,1μm,16.4s							
WHN				LR	LR		
comp=E,1μm,16.5s							
WHN				LR	LR		
comp=Z,1μm,17.5s							
JAY	**Jayapura**	**21.28**	**130**	P	P	09 21 45.3	+7.6
comp=Z,87nm,1.3s							
SRBI	**Singaraja**	**21.41**	**206**	P	P	09 21 53.6	+15
BATI	**Baumata**	**21.46**	**182**	P	**P**	**09 21 40.3**	**+0.7**
BATI	**Baumata**	**21.46**	**182**	P	**P**	**09 21 40.5**	**+0.9**
comp=Z,135nm,1.1s,comp=Z,2μm							
BATI	**Baumata**	**21.46**	**182**	P	**P**	**09 21 40.3**	**+0.7**
comp=Z,104nm,0.9s,baz=18,slow=20,SNR=16							
CHBT	**CHBT**	**21.65**	**276**	P	P	09 21 45.5	+3.9
CHBT	**CHBT**	**21.65**	**276**	P	P	09 21 45.5	+3.9
comp=Z,32nm,1.4s							
TPI	**Tanjungpandan**	**21.81**	**231**	P	P	09 21 55.2	+12
KTGM	**Kuala Trenggan**	**21.90**	**256**	P	P	09 21 51.2	+6.9
CHAI	**Chaiyaphum**	**22.26**	**284**	P	**P**	**09 21 45.6**	**-2.5**
GMJI	**Gumukmas**	**22.38**	**210**	P	**P**	**09 21 52.5**	**+3.1**
JNU	**Nakatsue**	**22.43**	**14**	*e*P	**P**	**09 21 50.4**	**+0.5**
JNU	**Nakatsue**	**22.43**	**14**	P	**P**	**09 21 50.2**	**+0.3**
comp=Z,16nm,1.0s,baz=182,slow=2.9,SNR=6.5							
GYA	**Guiyang**	**22.47**	**314**	P	**P**	**09 21 49.8**	**-0.7**
GYA				pP	**pP**	**09 22 05.3**	**+1.4**
GYA				sP	**sP**	**09 22 12.8**	**+1.3**
GYA				PP	**PnPn**	**09 22 21.0**	**+4.9**
GY

CD2 PP **PnPn** **09 23 26.0 +4.5**
CD2 S **S** **09 27 11.3 +1.2**
CD2 sS **sS** **09 27 35.0 -0.6**
CD2 SS **SnSn** **09 28 31.0 +7.2**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,200nm,5.2s
CD2 LR LR
comp=N,700nm,15.4s
CD2 LR LR
comp=E,490nm,15.4s
CD2 LR LR
comp=Z,630nm,15.3s
MJAR Matsushiro Arr 27.96 24 P **P** **09 22 37.6 -3.3**
MJAR Matsushiro Arr 27.96 24 P **P** **09 22 37.6 -3.3**
comp=Z,4.0nm,0.9s,baz=199,slow=10,SNR=8.6
FITZ Fitzroy Crossi 29.33 178 *e*P **P** **09 22 52.9 -0.2**
FITZ Fitzroy Crossi 29.33 178 P **P** **09 22 52.6 -0.5**
comp=Z,11nm,0.8s,baz=16,slow=7.7,SNR=14
BJI Beijing 29.46 347 P P 09 22 56.5 +2.4
BJI S S 09 27 51.5 +7.5
BJI pmax pmax
comp=Z,22nm,1.7s
BJI LR LR
comp=N,440nm,18.4s
BJI LR LR
comp=E,380nm,20.4s
BJI LR LR
comp=Z,290nm,31.9s
PMG Port Moresby 30.62 132 P **P** **09 23 04.4 -0.3**
comp=Z,1.5nm,1.0s
PMG Port Moresby 30.62 132 P **P** **09 23 04.4 -0.3**
comp=Z,22nm,1.0s,baz=287,slow=16,SNR=4.0
COEN Coen 31.30 143 *e*P **P** **09 23 10.5 -0.2**
comp=Z,254nm,1.0s
HHC Hu-ho-hao-te 31.46 341 *e*P **P** **09 23 13.5 +1.6**
HHC pP **pP** **09 23 28.3 +1.3**
HHC sP **sP** **09 23 35.5 +1.3**
HHC PP **PP** **09 24 19.3 -4.6**
HHC S **S** **09 28 16.3 +0.6**
HHC sS **sS** **09 28 41.5 +0.2**
HHC ScP **ScP** **09 29 41.8 -0.2**
HHC SS **SnSn** **09 30 07.8 +2.3**
HHC ScS **ScS** **09 33 38.3 -1.5**
HHC pmax pmax
comp=Z,39nm,0.7s
HHC pmax pmax
comp=Z,250nm,5.9s
HHC LR LR
comp=N,420nm,15.3s
HHC LR LR
comp=E,580nm,16.1s
HHC LR LR
comp=Z,360nm,15.5s
CN2 Changchun 32.31 1 *e*P **P** **09 23 20.3 +1.1**
CN2 *e*S **S** **09 28 29.0 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,12.0s
CN2 LR LR
comp=E,400nm,12.0s
CN2 LR LR
comp=Z,400nm,13.0s
WRAB Tennant Creek 32.62 162 *e*P **P** **09 23 22.1 -0.1**
WRAB pmax pmax
comp=Z,34nm,1.3s
WRAB Tennant Creek 32.62 162 *e*P **P** **09 23 22.1 -0.1**
comp=Z,34nm,1.3s
WRA Warramunga Arr 32.63 163 P **P** **09 23 21.5 -0.7**
WRA Warramunga Arr 32.63 163 P **P** **09 23 21.5 -0.7**
comp=Z,13nm,1.0s,baz=344,slow=9.8,SNR=32
MBWA Marble Bar 32.67 188 *e*P **P** **09 23 23.2 +0.7**
comp=Z,18nm,1.4s
USRK Ussuriysk Arra 33.34 10 P **P** **09 23 27.2 -1.0**
comp=Z,6.0nm,0.8s,baz=186,slow=7.7,SNR=10
MDJ Mudanjiang 33.41 7 P **P** **09 23 29.5 +0.7**
MDJ pP **pP** **09 23 44.5 +0.6**
MDJ sP **sP** **09 23 51.8 +0.7**
MDJ PP **PP** **09 24 47.0 +1.6**
MDJ PcP **PcP** **09 26 06.0 -3.1**
MDJ S **S** **09 28 47.8 +2.1**
MDJ ScP **ScP** **09 29 45.5 -3.0**
MDJ PcS **PcS** **09 29 52.5 -2.2**
MDJ ScS **ScS** **09 33 47.5 -1.8**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,57nm,5.6s
MDJ LR LR
comp=N,120nm,26.4s
MDJ LR LR
comp=E,340nm,26.4s
MDJ LR LR
comp=Z,150nm,16.9s
SHL Shillong 33.82 299 *e*P **P** **09 23 32.6 -0.3**
GTA Gaotai 35.45 326 P P 09 23 49.5 +2.8
GTA pP pP 09 24 01.0 -0.9
GTA sP sP 09 24 07.0 -2.0
GTA PcP **PcP** **09 26 18.0 +2.7**
GTA S **S** **09 29 21.3 +3.8**
GTA sS sS 09 29 46.0 +2.7
GTA SS **SnSn** **09 31 44.3 +2.2**
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,95nm,4.8s
GTA LR LR
comp=N,680nm,19.5s
GTA LR LR
comp=E,470nm,20.0s
GTA LR LR
comp=Z,430nm,17.1s
AS31 Alice Springs 36.05 165 *e*P **P** **09 23 52.4 +0.6**
ASAR Alice Springs 36.05 165 P **P** **09 23 52.6 +0.8**
ASAR PcP **PcP** **09 26 16.8 -0.4**
ASAR Alice Springs 36.05 165 P **P** **09 23 52.6 +0.8**
comp=Z,11nm,0.8s,baz=347,slow=7.7,SNR=75
ASAR PcP **PcP** **09 26 16.8 -0.4**
comp=Z,2.4nm,0.9s,baz=350,slow=4.7,SNR=3.1
ASAJ Asahikawa 36.18 22 P **P** **09 23 52.3 -0.4**
ASAJ Asahikawa 36.18 22 P **P** **09 23 52.3 -0.4**
comp=Z,5.3nm,0.8s,baz=231,slow=15,SNR=3.0
TAPN Taplejung 37.93 300 *e*P **P** **09 24 07.3 -0.8**
comp=Z,69nm,1.3s
CTA Charters Tower 37.95 145 P **P** **09 24 07.9 -0.1**
CTA Charters Tower 37.95 145 P **P** **09 24 07.9 -0.1**
comp=Z,1.9nm,0.4s,baz=321,slow=9.2,SNR=6.2
CTAO Charters Tower 37.95 145 *e*P **P** **09 24 08.4 +0.4**
CTAO pmax pmax
comp=Z,11nm,1.0s
CTAO Charters Tower 37.95 145 *e*P **P** **09 24 08.4 +0.4**
comp=Z,11nm,1.0s
ODAN Odare 38.06 299 *e*P **P** **09 24 09.4 +0.2**
comp=Z,43nm,0.8s
KLR Kul'dur 38.22 8 *e*P P 09 24 03.7 -6.2
YSS Yuzh-Sakhalins 38.69 20 *e*P **P** **09 24 16.0 +2.1**
YSS *e* 09 33 28.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,16.0s
RAMN Ramite 38.76 299 *e*P **P** **09 24 14.9 -0.2**
ULN Ulaanbaatar 39.18 341 *e*P **P** **09 24 17.9 -0.3**
comp=Z,14nm,1.1s
JIRN Jiri 39.31 300 *e*P **P** **09 24 19.8 0.0**
comp=Z,36nm,0.7s
SONM Songino Array 39.36 341 P **P** **09 24 18.6 -1.0**
SONM PcP **PcP** **09 26 26.7 -0.4**
SONM Songino Array 39.36 341 P **P** **09 24 18.6 -1.0**
comp=Z,8.5nm,1.1s,baz=162,slow=8.2,SNR=18
SONM PcP **PcP** **09 26 26.7 -0.4**
comp=Z,2.4nm,0.9s,baz=163,slow=5.4,SNR=4.6
GUN Gumba 39.64 300 *e*P **P** **09 24 21.9 -0.7**
comp=Z,64nm,1.0s
PKI Pulchoki 39.95 299 *e*P **P** **09 24 24.6 -0.5**
PKIN Phulchoki 39.96 300 *e*P **P** **09 24 24.9 -0.2**
comp=Z,11nm,0.7s
KKN Kakani 40.12 300 *e*P **P** **09 24 26.1 -0.3**
DMN Daman 40.22 299 *e*P **P** **09 24 26.8 -0.4**
comp=Z,61nm,1.2s
KOLN Koldanda 41.55 299 *e*P **P** **09 24 37.9 -0.2**
comp=Z,21nm,0.7s
DANN Dangsing 41.56 300 *e*P **P** **09 24 38.0 -0.3**
comp=Z,39nm,0.8s
ZAK Zakamensk 42.59 340 *e*P **P** **09 24 44.6 -1.6**
ZAK *e* 09 26 30.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s
NWAO Narrogin (SRO) 44.60 189 *e*P **P** **09 25 02.8 +0.5**
comp=Z,31nm,1.3s
WMQ Urumqi 45.24 322 P **P** **09 25 08.8 +1.4**
WMQ pP **pP** **09 25 22.5 -0.6**
WMQ S **S** **09 31 44.0 +0.8**
WMQ sS **sS** **09 32 09.5 -0.2**
WMQ ScS **ScS** **09 34 57.3 -1.5**
WMQ pmax pmax
comp=Z,26nm,1.5s
WMQ pmax pmax
comp=Z,210nm,3.8s
WMQ LR LR
comp=N,700nm,25.0s
WMQ LR LR
comp=E,580nm,28.0s
WMQ LR LR
comp=Z,370nm,20.0s
BBOO Buckleboo 45.33 166 *e*P **P** **09 25 09.5 +1.3**
comp=Z,388nm,1.0s
CLNS Chul'man 45.35 0 *e*P **P** **09 25 08.6 +0.5**
CLNS pmax pmax
comp=Z,24nm,1.2s
CLNS pmax pmax
comp=N,23nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,1.2s
STKA Stephens Creek 46.05 160 *e*P **P** **09 25 14.5 +0.6**
STKA *e*PP **PP** **09 27 01.9 -1.1**
STKA Stephens Creek 46.05 160 P **P** **09 25 15.0 +1.1**
comp=E,38nm,1.0s,baz=349,slow=7.7,SNR=20
TARA Tarawa 49.14 98 *e*P **P** **09 25 40.2 +2.1**
comp=E,36nm,0.6s
PETK Petropavlovsk- 49.40 26 P **P** **09 25 39.9 +0.3**
PETK Petropavlovsk- 49.40 26 P **P** **09 25 39.9 +0.3**
PETK Petropavlovsk- 49.40 26 P **P** **09 25 39.9 +0.3**
comp=E,15nm,1.0s,baz=188,slow=3.0,SNR=12
MK31 Makanchi Array 50.05 323 *e*P **P** **09 25 44.7 +0.1**
MK31 Makanchi Array 50.05 323 *e*P **P** **09 25 44.7 +0.1**
MKAR Makanchi Array 50.05 323 P **P** **09 25 45.0 +0.3**
MKAR 09 27 03.7
MKAR Makanchi Array 50.05 323 P **P** **09 25 45.0 +0.3**
MKAR PcP **PcP** **09 27 03.7 0.0**
MKAR Makanchi Array 50.05 323 P **P** **09 25 45.0 +0.3**
comp=E,26nm,0.8s,baz=123,slow=8.4,SNR=113
MKAR PcP **PcP** **09 27 03.7 0.0**
comp=E,6.5nm,0.9s,baz=108,slow=4.1,SNR=4.3
YAK Yakutsk 50.70 3 *e*P **P** **09 25 47.0 -2.2**
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=N,38nm,1.2s
YAK pmax pmax
comp=E,14nm,1.2s
KSH Kashi 51.14 312 P P 09 25 56.5 +3.4
KSH sP sP 09 26 19.5 +3.5
KSH PP PP 09 27 54.5 +4.2
KSH S **S** **09 33 09.5 +2.6**
KSH sS sS 09 33 36.0 +2.2
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,120nm,4.6s
KSH LR LR
comp=N,190nm,12.1s
KSH LR LR
comp=E,130nm,6.7s
KSH LR LR
comp=Z,160nm,13.1s
TKM2 Tokmak 2 52.61 316 *e*P **P** **09 26 04.2 +0.1**
TKM2 pmax pmax
comp=Z,24nm,1.4s
TKM2 Tokmak 2 52.61 316 *e*P **P** **09 26 04.2 +0.1**
comp=Z,24nm,1.4s
ZAA0 Zalesovo Array 52.79 332 *e*P **P** **09 26 04.2 -0.7**
ZALV Zalesovo Beam 52.79 332 P **P** **09 26 04.3 -0.6**
ZALV Zalesovo Beam 52.79 332 P **P** **09 26 04.3 -0.6**
ZALV Zalesovo Beam 52.79 332 P **P** **09 26 04.3 -0.6**
comp=Z,5.4nm,0.6s,baz=121,slow=7.5,SNR=9.9
DZM Mont Dzumac 52.95 129 P **P** **09 26 07.6 +0.8**
DZM Mont Dzumac 52.95 129 P **P** **09 26 07.6 +0.8**
comp=Z,20nm,0.9s,baz=272,slow=21,SNR=10
AAK Ala-Archa 53.26 315⇑ *e*P **P** **09 26 10.0 +1.2**
AAK pmax pmax
comp=Z,49nm,2.5s
AAK Ala-Archa 53.26 315 *e*P **P** **09 26 09.8 +1.0**
comp=Z,1.9nm,0.5s
AAK Ala-Archa 53.26 315 P **P** **09 26 10.2 +1.4**
comp=Z,2.1nm,0.4s,baz=131,slow=14,SNR=5.5
EKS2 Erkin-Say 53.77 315 *e*P **P** **09 26 13.2 +0.7**
EKS2 Erkin-Say 53.77 315 *e*P **P** **09 26 13.2 +0.7**
NVS Novosibirsk 54.07 332 *i* P **P** **09 26 12.3 -2.0**
NVS pmax pmax
comp=Z,34nm,1.3s
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=E,21nm,1.2s
KURK Kurchatov 54.13 326 P **P** **09 26 14.6 -0.2**
KURK Kurchatov 54.13 326 P **P** **09 26 14.6 -0.2**
KURBB Kurchatov Arra 54.13 326 P **P** **09 26 14.6 -0.3**
comp=E,24nm,1.0s,baz=126,slow=6.9,SNR=71
KBL Kabul 55.21 304 *e*P **P** **09 26 22.9 -0.3**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 55.21 304 *e*P **P** **09 26 22.9 -0.3**
comp=Z,8.3nm,0.6s
KK31 Karatay Array 56.18 315 *i* P **P** **09 26 29.3 -0.5**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 56.18 315 *e*P **P** **09 26 29.5 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 56.18 315 *e*P **P** **09 26 29.5 -0.3**
comp=Z,3.2nm,0.6s
VOSK Vostochnaya 59.27 325 P **P** **09 26 50.0 -1.3**
VOSK pmax pmax
comp=Z,7.0nm,0.7s
BVA0 Borovoye Array 59.72 326 *i* P **P** **09 26 53.9 -0.5**
BVA0 pmax pmax
comp=Z,32nm,1.2s
BVAR Borovoye Array 59.72 326 P **P** **09 26 54.2 -0.2**
BVAR 09 27 40.2
BVAR Borovoye Array 59.72 326 P **P** **09 26 54.2 -0.2**
BVAR PcP **PcP** **09 27 40.2 -0.6**
BVAR Borovoye Array 59.72 326 P **P** **09 26 54.2 -0.2**
comp=Z,4.6nm,0.8s,baz=115,slow=11,SNR=14
BVAR PcP **PcP** **09 27 40.2 -0.6**
comp=Z,5.7nm,0.9s,baz=96,slow=8.1,SNR=4.3
BRVK Borovoye 59.80 326 *c* *i* P **P** **09 26 54.6 -0.3**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK MLR MLR
comp=Z,100nm,18.0s
BRVK Borovoye 59.80 326 *e*P **P** **09 26 54.7 -0.2**
comp=Z,36nm,1.1s
TIXI Tiksi 60.28 2⇓ *e*P **P** **09 26 56.8 -1.0**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
AB31 Akbulak array 64.85 319 *i* P **P** **09 27 28.0 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 64.85 319 *e*P **P** **09 27 28.1 -0.6**
comp=Z,22nm,1.2s
ABKAR *e*PcP **PcP** **09 28 03.9 +2.3**
SVE Sverdlovsk 66.30 327 *e*P **P** **09 27 37.6 -0.3**
SVE pmax pmax
comp=Z,47nm,1.5s
AKTO Aktyubinsk 66.31 320 P **P** **09 27 37.6 -0.6**
AKTO Aktyubinsk 66.31 320 P **P** **09 27 37.6 -0.6**
AKTO Aktyubinsk 66.31 320 P **P** **09 27 37.6 -0.6**
comp=Z,4.1nm,0.8s,baz=88,slow=10,SNR=7.3
ARU Arti 67.30 327 *d* *i* P **P** **09 27 42.7 -1.6**
ARU S **S** **09 36 37.4 +2.6**
ARU pmax pmax
comp=Z,12nm,1.0s
ZEI Tsey 75.43 311 *e*P **P** **09 28 32.7 -1.2**
ZEI pmax pmax
comp=Z,29nm,1.3s
KBZ Khabaz 76.12 312 P **P** **09 28 37.2 -0.3**
KBZ Khabaz 76.12 312 P **P** **09 28 37.1 -0.3**
KBZ Khabaz 76.12 312 P **P** **09 28 37.1 -0.3**
comp=Z,7.7nm,1.0s,baz=26,slow=6.3,SNR=8.4
KIV Kislovodsk 76.27 313 *e*P **P** **09 28 38.8 +0.3**
KIV pmax pmax
comp=Z,19nm,1.0s
IM04 Indian Mountai 76.33 25 *e*P **P** **09 28 38.1 -0.2**
IMA2 Indian Mountai 76.38 25 *e*P **P** **09 28 39.0 +0.3**
VRHR Novokhopersk 76.72 320 *e*P P 09 28 37.7 -3.0
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.5s
COLD Coldfoot 77.79 23 *e*P **P** **09 28 46.6 +0.2**
comp=E,12nm,1.0s
TRF Thorofare Moun 77.79 27 *e*P **P** **09 28 44.7 -2.1**
comp=E,13nm,1.1s
VORD Divnogorie 78.20 320 *e*P **P** **09 28 46.0 -3.0**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 78.26 320 *e*P **P** **09 28 48.3 -1.0**
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR pmax pmax
comp=N,4.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.3s
PMR Palmer 78.38 29 *e*P **P** **09 28 51.6 +1.8**
PMR pmax pmax
comp=Z,9.0nm,0.9s
PMR Palmer 78.38 29 *e*P **P** **09 28 51.6 +1.8**
comp=Z,8.9nm,0.9s
MCK McKinley 78.39 27 *e*P **P** **09 28 49.1 -0.8**
MCK pmax pmax
comp=Z,30nm,1.1s
MCK McKinley 78.39 27 *e*P **P** **09 28 49.1 -0.8**
comp=Z,30nm,1.1s
SML Sawmill 78.75 29 *e*P **P** **09 28 51.8 -0.1**
SML pmax pmax
comp=Z,7.0nm,1.1s
SML Sawmill 78.75 29 *e*P **P** **09 28 51.8 -0.1**
comp=Z,6.9nm,1.1s
COLA College 78.81 26 *e*P **P** **09 28 53.4 +1.3**
COLA pmax pmax
comp=Z,16nm,1.0s
COLA College 78.81 26 *e*P **P** **09 28 53.4 +1.3**
comp=Z,16nm,1.0s
ILAR Eielson Array 79.23 26 P **P** **09 28 53.5 -0.9**
ILAR Eielson Array 79.23 26 P **P** **09 28 53.5 -0.9**
comp=Z,1.7nm,0.8s,baz=257,slow=5.1,SNR=12
OBN Obninsk 79.54 324⇑ *e*P P 09 28 58.7 +2.5
OBN *e* 09 29 02.5
OBN *e*SS SS 09 44 05.6 +4.0
OBN pmax pmax
comp=Z,10.0nm,1.2s
ANN Anapa 79.96 314 *e*P P 09 28 51.7 -7.0
ANN *e**PP **PcP** **09 29 04.9 -1.2**
ANN pmax pmax
comp=Z,14nm,0.8s
PAX Paxson 80.00 28 P **P** **09 29 00.5 +1.8**
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 80.00 28 P **P** **09 29 00.5 +1.8**
comp=Z,8.2nm,1.0s
DIV Divide 80.03 30 *e*P **P** **09 28 59.4 +0.5**
comp=Z,7.4nm,0.9s
ASF Jabal al Asfar 81.96 301 P **P** **09 29 10.5 +0.7**
ASF Jabal al Asfar 81.96 301 P **P** **09 29 10.5 +0.7**
comp=Z,4.1nm,0.9s,baz=343,slow=1.7,SNR=5.3
ARCES ARCESS Array B 82.52 339 P **P** **09 29 13.2 +1.4**
ARCES ARCESS Array B 82.52 339 P **P** **09 29 13.2 +1.4**
comp=Z,9.7nm,1.1s,baz=81,slow=7.5,SNR=5.4
BRTR Keskin Array B 83.43 309 P **P** **09 29 16.1 -1.3**
BRTR Keskin Array B 83.43 309 P **P** **09 29 16.1 -1.3**
comp=Z,1.0nm,0.8s,baz=97,slow=3.0,SNR=6.9
INK Inuvik 83.92 21 *e*P **P** **09 29 19.3 +0.2**
comp=Z,25nm,1.3s
ANTO Ankara 84.05 309 *e*P **P** **09 29 22.7 +2.3**
ANTO pmax pmax
comp=Z,4.0nm,0.7s
ANTO Ankara 84.05 309 *e*P **P** **09 29 22.7 +2.3**
comp=Z,3.7nm,0.7s
FINES FINESS Array B 84.05 331 P **P** **09 29 18.4 -1.5**
FINES FINESS Array B 84.05 331 P **P** **09 29 18.4 -1.5**
comp=Z,0.6nm,0.5s,baz=49,slow=4.2,SNR=4.0
HYT Haines Junctio 84.06 29 *e*P **P** **09 29 20.7 +0.6**
VSU Vasula 84.38 328 *i* P P 09 29 24.4 +2.8
VSU pmax pmax
comp=Z,47nm,1.5s
CSS Prodhromos 84.46 304 *e*P **P** **09 29 22.4 -0.2**
comp=Z,31nm,1.0s
AKASG Malin Array Be 84.56 320 P **P** **09 29 21.2 -1.5**
AKASG Malin Array Be 84.56 320 P **P** **09 29 21.1 -1.5**
AKASG Malin Array Be 84.56 320 P **P** **09 29 21.1 -1.5**
comp=Z,0.7nm,0.4s,baz=63,slow=5.4,SNR=8.5
KIEV Kiev 84.57 320 *e*P **P** **09 29 21.4 -1.3**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 84.57 320 *e*P **P** **09 29 21.4 -1.3**
comp=Z,8.1nm,1.0s
MICGM Minsk 84.60 324 *e* P 09 29 16.0 -6.8
MNK Minsk 84.62 324 *e*P P 09 29 16.0 -6.9
SKAG Skagway 85.44 30 *e*P P 09 29 31.3 +4.5
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 87.45 268 P **P** **09 29 38.9 +0.9**
KMBO Kilima Mbogo 87.45 268 P **P** **09 29 38.9 +0.9**
comp=Z,2.8nm,0.9s,baz=26,slow=16,SNR=4.0
BUR08 Bucovina Ar. S 87.81 318 *e*P **P** **09 29 38.1 -0.8**
KOLS Kolonicke sedl 89.35 320 *e*P **P** **09 29 45.0 -1.0**
KOLS Kolonicke sedl 89.35 320 *e*P **P** **09 29 45.0 -1.0**
UZH Uzhgorod 89.42 320⇑ *e*P **P** **09 29 46.0 -0.3**
UZH *i* 09 29 55.3
CRVS Cervenica-Dubn 89.87 320 *e*P **P** **09 29 48.0 -0.4**
CRVS pmax pmax
comp=Z,16nm,1.3s
CRVS Cervenica-Dubn 89.87 320 *e*P **P** **09 29 48.0 -0.4**
KECS Kecovo 90.61 320 *e*P **P** **09 29 48.9 -3.0**
KECS Kecovo 90.61 320 *e*P **P** **09 29 48.9 -3.0**
VNDA Vanda 91.26 172 P **P** **09 29 54.3 +0.1**
comp=Z,2.8nm,1.0s
VNDA Vanda 91.26 172 P **P** **09 29 54.3 +0.1**
comp=Z,4.8nm,1.0s,baz=303,slow=6.7,SNR=12
OKC Ostrava-Krasne 91.63 322 AMS AMS 10 18 50.0
comp=Z,200nm,17.6s
DPC Dobruska-Polom 92.56 322 AMS AMS 10 20 00.0
TREC Trest 93.44 322 AMS AMS 10 20 10.0
comp=Z,300nm,18.0s
CONA Conrad Observa 93.71 320⇑ *i*PcP **PcP** **09 30 06.7 -0.1**
comp=Z,3.5nm,0.9s
PRU Pruhonice 93.75 323 AMS AMS 10 22 20.0
comp=Z,200nm,24.1s
CLL Collm 94.14 324 *e*SS SS 09 47 36.0 +1.0
CLL LmH 10 21 00.0
comp=N,200nm,20.0s
CLL LmH 10 21 00.0
comp=E,200nm,21.4s
CLL LmH 10 21 00.0
comp=Z,200nm,20.6s
CLL LmV 10 24 00.0
comp=Z,300nm,18.6s
KHC Kasperske Hory 94.66 322 AMS AMS 10 23 20.0
comp=Z,300nm,19.8s
GERES GERESS Array B 94.70 322 P **P** **09 30 09.4 -1.5**
GERES GERESS Array B 94.70 322 P **P** **09 30 09.4 -1.5**
comp=Z,1.3nm,0.7s,baz=72,slow=4.3,SNR=8.4
MOA Molln 94.74 321⇑ *i*PcP **PcP** **09 30 10.3 -1.0**
comp=Z,16nm,1.2s
OBKA Obir 95.07 319⇓ *i*PcP **PcP** **09 30 12.2 -0.7**
comp=Z,8.2nm,1.3s
NVAR Mina Array Bea 103.38 46 Pdif **Pdif** **09 30 50.4 +0.2**
NVAR Mina Array Bea 103.38 46 Pdiff **Pdif** **09 30 50.4 +0.2**
comp=Z,0.6nm,0.8s,baz=270,slow=4.8,SNR=6.1
TORD Torodi Ar. Bea 118.17 292 PKKPab PKKPab 09 46 01.8 +2.1
TORD Torodi Ar. Bea 118.17 292 PKKPab PKKPab 09 46 01.8 +2.1
comp=Z,0.7nm,0.8s,baz=280,slow=3.8,SNR=4.3
TXAR Lajitas Array 118.44 48 PKP **PKPdf** **09 35 38.0 +0.4**
TXAR Lajitas Array 118.44 48 PKP **PKPdf** **09 35 38.0 +0.4**
comp=Z,1.1nm,0.8s,baz=234,slow=0.8,SNR=12
JCT Junction City 120.50 44 *e*PKIKP **PKPdf** **09 35 41.5 0.0**

JCT	**Junction City**	**120.50**	**44**	*e*PKPdf	**PKPdf**	**09 35 41.5**	**0.0**
PLCA	**Paso Flores**	**147.93**	**158**	PKPbc	**PKPbc**	**09 36 35.2**	**+0.4**
PLCA	**Paso Flores**	**147.93**	**158**	PKPbc	**PKPbc**	**09 36 35.2**	**+0.4**
	comp=Z,5.1nm,1.0s,baz=203,slow=8.4,SNR=4.5						

IDC 26 09:27:05.5±1.7, 3°.06S×147°.43E, h0^km, mb3.6/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=112.2km s-min=27.7km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.10**	**216**	P	P	09 31 51.8	-0.1
	4.3nm,1.1s,baz=42,slow=10,SNR=18						
ASAR	**Alice Springs**	**24.31**	**211**	P	P	09 32 25.3	+0.2
	1.4nm,0.7s,baz=38,slow=7.4,SNR=21						
FITZ	**Fitzroy Crossi**	**26.07**	**233**	P	P	09 32 40.4	-0.7
	1.4nm,0.8s,baz=54,slow=12,SNR=3.3						
ILAR	**Eielson Array**	**82.62**	**23**	P	P	09 39 30.2	-0.2
	0.2nm,0.7s,baz=242,slow=6.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.68**	**288**	PKP	PKPdf	09 46 46.0	+0.6
	0.6nm,1.0s,baz=72,slow=2.2,SNR=2.5						

*ISCJB **26** 09:51:03.4±0.5, 60°.89N±0°.04×20°.60E±0°.07, h0^km, Error ellipse: s-maj=6.0km s-min=4.5km az=161.4*
*IDC **26** 09:51:03.7±1.1, 60°.65N×20°.78E, h0^km, mb1 3.0/4, mb1mx2.9/29, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=22.8km s-min=7.1km az=165.0*
*NAO **26** 09:51:03.9±1.0, 60°.75N×20°.73E, ML2.0*
*HEL **26** 09:51:05.4±0.5, 60°.80N×20°.78E, h0^km, ML2.2, Explosion*
*CSEM **26** 09:51:05.1±0.2, 60°.90N×20°.68E, h2^km, ML2.2, Error ellipse: s-maj=5.4km s-min=3.9km az=158.0, Mining explosion.*
*BER **26** 09:51:07.4±4.0, 60°.97N×20°.50E, h0^km, ML2.0(NAO), Suspected explosion*

ISC 26 09:51:03.7±0.7, 60°.86N±0°.04×20°.65E±0°.03, h0^km, n31, σ1°31/49, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.57**	**73**	*e*P	**Pg**	**09 51 14.3**	**-0.3**
RAF				*e*S	**Sg**	**09 51 22.2**	**+0.3**
RAF	**Rauma**	**0.57**	**73**	*e*P	**Pg**	**09 51 14.6**	**+0.1**
	SNR=90						
RAF				*e*S	**Sg**	**09 51 22.2**	**+0.3**
	74nm,0.6s,SNR=90						
MEF	**Metsahovi**	**1.96**	**108**	*e*P	**Pn**	**09 51 38.4**	**+0.3**
MEF	**Metsahovi**	**1.96**	**108**	*e*P	**Pn**	**09 51 38.7**	**+0.6**
	SNR=51						
MEF				*e*S	**Sb**	**09 52 04.8**	**-0.4**
	20nm,0.2s,SNR=51						
VAF	**Ylistaro**	**2.39**	**23**	*e*P	**Pn**	**09 51 46.2**	**+2.2**
VAF				*e*SB	**Sb**	**09 52 18.5**	**+1.2**
VAF				MSG		09 52 21.7	
	comp=Z,17nm,0.2s						
VAF	**Ylistaro**	**2.39**	**23**	P	**Pn**	**09 51 46.2**	**+2.2**
VAF				Sb	**Sb**	**09 52 18.5**	**+1.2**
KEF	**Keuruu**	**2.41**	**55**	*e*P	**Pn**	**09 51 46.3**	**+2.0**
KEF				*e*SG	**Sb**	**09 52 18.6**	**+0.6**
KEF				MSG		09 52 21.9	
	comp=Z,8.4nm,0.1s						
KEF	**Keuruu**	**2.41**	**55**	P	**Pn**	**09 51 46.2**	**+2.0**
KEF				Sg	**Sb**	**09 52 18.6**	**+0.6**
MTSE	**Matsula**	**2.69**	**142**	*e*SG	**Sb**	**09 52 25.3**	**-0.7**
FIA0	**FINESS Array S**	**2.69**	**75**	Pn	**Pn**	**09 51 49.8**	**+1.5**
	baz=256,slow=14						
FIA0				Sn	**Sb**	**09 52 24.8**	**-1.5**
	baz=278,slow=28						
FIA0	**FINESS Array S**	**2.69**	**75**	Pn	**Pn**	**09 51 49.8**	**+1.5**
	baz=256,slow=14						
FIA0				Sn	**Sb**	**09 52 24.8**	**-1.5**
	baz=278,slow=28						
FIA0	**FINESS Array S**	**2.69**	**75**	*e*P	**Pn**	**09 51 49.7**	**+1.5**
FIA0				MSG		09 52 30.8	
	comp=Z,8.6nm,0.2s						
FIA0	**FINESS Array S**	**2.69**	**75**	P	**Pn**	**09 51 49.7**	**+1.5**
FIA0				Sn	**Sb**	**09 52 24.8**	**-1.5**
	baz=278,slow=24,SNR=7.1						
FINES	**FINESS Array B**	**2.69**	**75**	Pn	**Pn**	**09 51 49.8**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=254,slow=14,SNR=47						
FINES				Sn	**Sb**	**09 52 24.5**	**-1.7**
	comp=Z,3.2nm,0.3s,baz=258,slow=26,SNR=19						
SUF	**Sumiainen**	**3.21**	**52**	*e*PB	**Pb**	**09 51 59.5**	**-2.0**
SUF				MSG		09 52 48.7	
	comp=Z,5.6nm,0.2s						
SLIT	**Slitere, Latvi**	**3.35**	**165**	*e*P	**Pn**	**09 51 59.7**	**+2.5**
	SNR=51						
SLIT				*e*S	**Sn**	**09 52 39.5**	**+1.8**
	comp=Z,87nm,0.5s,SNR=51						
HFS	**Hagfors**	**3.52**	**261**	Pn	**Pn**	**09 52 00.2**	**+0.7**
	baz=71,slow=12						
HFS				Pg	**Pb**	**09 52 07.0**	**+0.3**
	baz=90,slow=16						
HFS				Sn	**Sn**	**09 52 43.3**	**+1.5**
	baz=75,slow=37						
HFS				Lg	Lg	09 52 53.0	
	baz=71,slow=37						
HFS	**Hagfors**	**3.52**	**261**	Pn	**Pn**	**09 52 00.2**	**+0.7**
	baz=71,slow=12						
HFS				Pg	**Pb**	**09 52 07.0**	**+0.3**
	baz=90,slow=16						
HFS				Sn	**Sn**	**09 52 43.3**	**+1.5**
	baz=75,slow=37						
HFS				Lg	Lg	09 52 53.0	
	baz=71,slow=37						
HFS	**Hagfors**	**3.52**	**261**	Pn	**Pn**	**09 52 00.9**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=78,slow=13,SNR=13						
HFS				Sn	**Sn**	**09 52 44.0**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=80,slow=26,SNR=5.2						
HFS				Lg	Lg	09 52 53.2	
	comp=Z,1.7nm,0.3s,baz=82,slow=31,SNR=12						
HFS	**Hagfors**	**3.52**	**261**	Pn	**Pn**	**09 52 00.2**	**+0.7**
	baz=71,slow=11,SNR=50						
HFS				Sn	**Sn**	**09 52 43.3**	**+1.5**
	baz=75,slow=31,SNR=4.4						
HFS				Lg	Lg	09 52 53.0	
	baz=71,slow=31						
NB2	**NORSAR Subarra**	**4.60**	**276**	Pn	**Pn**	**09 52 15.8**	**+1.3**
	baz=98,slow=12						
NB2				Lg	Lg	09 53 27.5	
	baz=91,slow=37						
NB2	**NORSAR Subarra**	**4.60**	**276**	Pn	**Pn**	**09 52 15.8**	**+1.3**
	baz=98,slow=12						
NB2				Lg	Lg	09 53 27.5	
	baz=91,slow=37						
NB2	**NORSAR Subarra**	**4.60**	**276**	Pn	**Pn**	**09 52 15.8**	**+1.3**
	baz=98,slow=11,SNR=50						
NB2				Lg	Lg	09 53 27.5	
	baz=91,slow=31,SNR=48						
NOA	**NORSAR Array B**	**4.60**	**276**	Pn	**Pn**	**09 52 15.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=55,slow=13,SNR=5.4						
NOA				Lg	Lg	09 53 24.2	
	comp=Z,1.2nm,0.3s,baz=79,slow=4.1,SNR=5.6						
APA0	**Apatity Array**	**8.62**	**33**	Pn	**Pn**	**09 53 10.2**	**+0.6**
	baz=219,slow=14						
APA0	**Apatity Array**	**8.62**	**33**	Pn	**Pn**	**09 53 10.2**	**+0.6**
	baz=219,slow=14						
APA0	**Apatity Array**	**8.62**	**33**	Pn	**Pn**	**09 53 10.1**	**+0.6**
	baz=219,slow=12,SNR=50						
ARA0	**ARCESS Array S**	**8.94**	**11**	Pn	**Pn**	**09 53 14.0**	**+0.1**
	baz=194,slow=14						
ARA0	**ARCESS Array S**	**8.94**	**11**	Pn	**Pn**	**09 53 14.0**	**+0.1**
	baz=194,slow=14						
ARA0	**ARCESS Array S**	**8.94**	**11**	Pn	**Pn**	**09 53 14.0**	**+0.1**
	baz=194,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**8.94**	**11**	Pn	**Pn**	**09 53 14.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=190,slow=13,SNR=16						

IDC 26 09:52:51.7±3.5, 1°.20S×100°.07E, h0^km, mb3.3/3, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, ML4.6/1, Error ellipse: s-maj=155.6km s-min=25.0km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.56**	**357**	P	Pn	09 57 22.5	0.0
	0.8nm,0.3s,baz=186,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**38.34**	**121**	P	P	10 00 15.1	+0.4
	0.1nm,0.3s,baz=304,slow=9.2,SNR=5.4						
ASAR	**Alice Springs**	**39.67**	**127**	P	P	10 00 25.3	-0.5
	0.2nm,0.7s,baz=305,slow=7.9,SNR=1.3						
MKAR	**Makanchi Array**	**50.28**	**344**	P	P	10 01 49.5	-0.4
	0.5nm,0.5s,baz=157,slow=8.8,SNR=7.0						
TXAR	**Lajitas Array**	**144.02**	**37**	PKP	PKPbc	10 12 28.6	+0.6
	0.3nm,0.5s,baz=191,slow=0.6,SNR=8.6						

*ISCJB **26** 09:54:42.8±0.6, 60°.85N±0°.06×20°.56E±0°.07, h0^km, Error ellipse: s-maj=8.7km s-min=4.5km az=160.2*
*NAO **26** 09:54:43.1±1.1, 60°.76N×20°.73E, ML2.5*
*CSEM **26** 09:54:44.3±0.2, 60°.99N×20°.48E, h1^km, ML2.6, Error ellipse: s-maj=7.1km s-min=4.6km az=159.0, Mining explosion.*
*HEL **26** 09:54:45.1±0.4, 60°.79N×20°.77E, h0^km, Explosion*
*BER **26** 09:54:47.0±3.2, 61°.12N×20°.44E, h0^km, ML2.5(NAO), Suspected explosion*

ISC 26 09:54:43.2±0.9, 60°.94N±0°.05×20°.55E±0°.03, h0^km, n33, σ1°29/42, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.60**	**81**	*e*P	**Pg**	**09 54 54.1**	**-0.5**
RAF				*e*S	**Sg**	**09 55 01.6**	**-0.7**
RAF	**Rauma**	**0.60**	**81**	*e*S	**Sg**	**09 55 01.9**	**-0.4**
	132nm,0.4s,SNR=90						
MEF	**Metsahovi**	**2.03**	**109**	*e*P	**Pn**	**09 55 18.5**	**-0.1**
MEF	**Metsahovi**	**2.03**	**109**	*e*P	**Pn**	**09 55 18.6**	**0.0**
	SNR=51						
VAF	**Ylistaro**	**2.34**	**24**	*e*SB	**Sg**	**09 55 58.2**	**-0.1**
VAF	**Ylistaro**	**2.34**	**24**	Sb	**Sg**	**09 55 58.1**	**-0.1**
KEF	**Keuruu**	**2.41**	**57**	*e*P	**Pb**	**09 55 26.0**	**-1.4**
KEF				*e*SB	**Sb**	**09 55 58.0**	**+0.4**
KEF	**Keuruu**	**2.41**	**57**	P	**Pb**	**09 55 25.9**	**-1.4**
PVF	**Pernaja**	**2.64**	**96**	*e*PB	**Pn**	**09 55 28.7**	**+1.8**
FIA0	**FINESS Array S**	**2.72**	**77**	Pn	**Pn**	**09 55 29.7**	**+1.6**
	baz=261,slow=14						
FIA0				Sn	**Sn**	**09 56 03.8**	**+2.1**
	baz=270,slow=28						
FIA0	**FINESS Array S**	**2.72**	**77**	Pn	**Pn**	**09 55 29.7**	**+1.6**
	baz=261,slow=14						
FIA0				Sn	**Sn**	**09 56 03.8**	**+2.1**
	baz=270,slow=28						
FIA0	**FINESS Array S**	**2.72**	**77**	*e*P	**Pn**	**09 55 29.6**	**+1.4**
FIA0	**FINESS Array S**	**2.72**	**77**	P	**Pn**	**09 55 29.5**	**+1.4**
FIA0	**FINESS Array S**	**2.72**	**77**	Pn	**Pn**	**09 55 29.7**	**+1.6**
	baz=261,slow=14,SNR=50						
FIA0				Sn	**Sn**	**09 56 03.8**	**+2.1**
	baz=270,slow=25,SNR=50						
MTSE	**Matsula**	**2.77**	**142**	*e*P	**Pn**	**09 55 28.3**	**-0.5**
MTSE				*e*SG	**Sn**	**09 56 04.2**	**+1.3**
KAF	**Kangasniemi**	**3.00**	**64**	*e*P	**Pn**	**09 55 33.3**	**+1.3**
KAF	**Kangasniemi**	**3.00**	**64**	P	**Pn**	**09 55 33.2**	**+1.3**
SUF	**Sumiainen**	**3.20**	**54**	*e*P	**Pn**	**09 55 36.3**	**+1.6**
SUF	**Sumiainen**	**3.20**	**54**	P	**Pn**	**09 55 36.3**	**+1.6**
SLIT	**Slitere, Latvi**	**3.44**	**164**	*e*P	**Pn**	**09 55 40.6**	**+2.7**
	SNR=51						
HFS	**Hagfors**	**3.48**	**260**	Pn	**Pn**	**09 55 40.0**	**+1.4**
	baz=80,slow=14						
HFS				Sn	**Sn**	**09 56 21.2**	**+0.7**
	baz=80,slow=28						
HFS	**Hagfors**	**3.48**	**260**	Pn	**Pn**	**09 55 40.0**	**+1.4**
	baz=80,slow=14						
HFS				Sn	**Sn**	**09 56 21.2**	**+0.7**
	baz=80,slow=28						
HFS	**Hagfors**	**3.48**	**260**	Pn	**Pn**	**09 55 40.0**	**+1.4**
	baz=80,slow=14,SNR=50						
HFS				Sn	**Sn**	**09 56 21.2**	**+0.7**
	baz=80,slow=24,SNR=50						
VSU	**Vasula**	**4.00**	**126**	*e*S	**Sb**	**09 56 40.4**	**-2.8**
	98nm,0.5s,SNR=51						
NB2	**NORSAR Subarra**	**4.55**	**275**	Pn	**Pn**	**09 55 53.2**	**-0.1**
	baz=84,slow=12						
NB2	**NORSAR Subarra**	**4.55**	**275**	Pn	**Pn**	**09 55 53.2**	**-0.1**
	baz=84,slow=12						
NB2	**NORSAR Subarra**	**4.55**	**275**	Pn	**Pn**	**09 55 53.2**	**-0.1**
	baz=84,slow=12,SNR=50						
APA0	**Apatity Array**	**8.59**	**34**	Pn	**Pn**	**09 56 48.3**	**-0.3**
	baz=210,slow=12						
APA0	**Apatity Array**	**8.59**	**34**	Pn	**Pn**	**09 56 48.3**	**-0.3**
	baz=210,slow=12						
APA0	**Apatity Array**	**8.59**	**34**	Pn	**Pn**	**09 56 48.3**	**-0.3**
	baz=210,slow=12,SNR=50						
ARA0	**ARCESS Array S**	**8.88**	**11**	Pn	**Pn**	**09 56 52.4**	**-0.1**
	baz=196,slow=14						
ARA0	**ARCESS Array S**	**8.88**	**11**	Pn	**Pn**	**09 56 52.4**	**-0.1**
	baz=196,slow=14						
ARA0	**ARCESS Array S**	**8.88**	**11**	Pn	**Pn**	**09 56 52.4**	**-0.1**
	baz=196,slow=13,SNR=50						

*ISCJB **26** 10:03:41.0±0.4, 27°.62S±0°.07×175°.67W±0°.08, h33^km, mb4.2/16, MS3.6/4, Error ellipse: s-maj=13.1km s-min=6.4km az=136.5*
*IDC **26** 10:03:45.2±3.3, 27°.56S×175°.88W, h59^km±28^km, mb3.8/12, mb1 4.1/12, mb1mx4.0/19, mbtmp3.8/12, ML5.1/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/33, Error ellipse: s-maj=22.6km s-min=21.1km az=168.0*
*NEIC **26** 10:03:46.2±1.3, 27°.67S×175°.85W, h70^km±11^km, mb4.5/4, Error ellipse: s-maj=12.5km s-min=9.2km az=103.0*

ISC 26 10:03:42.2±0.5, 27°.65±0°.1×175°.6W±0°.1, h35^km, n67, σ1°13/52, mb4.1/15, MS3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.60**	**230**	*e*Pn	**Pn**	**10 04 22.9**	**+1.1**
RAO				*e*Sn	**Sn**	**10 04 51.6**	**-0.4**
RAO				S		10 04 52.5	
RAO	**Raoul Island**	**2.60**	**230**	P	**Pn**	**10 04 22.7**	**+1.0**
	410nm,0.3s,baz=332,slow=4.6,SNR=24						
RAO				S	**Sn**	**10 04 52.5**	**+0.5**
	2μm,0.3s,baz=53,slow=20,SNR=19						
RAO				LR	LR	10 04 56.5	
	comp=Z,309nm,18.4s,baz=38,slow=29						
MSVF	**Nonsavu**	**11.42**	**328**	*e*Pn	Pn	10 06 26.2	+3.3
	15nm,0.8s						
URZ	**Urewera**	**12.24**	**208**	P	Pn	10 06 28.4	-5.6
URZ				S	Sn	10 08 39.6	-10
URZ	**Urewera**	**12.24**	**208**	P	Pn	10 06 28.4	-5.6
	2.2nm,0.3s,baz=273,slow=1.9,SNR=13						
URZ				S	Sn	10 08 39.6	-10
	4.4nm,0.3s,baz=128,slow=18,SNR=13						
AFI	**Afiamalu**	**14.09**	**16**	P	Pn	10 06 54.7	-4.7
AFI	**Afiamalu**	**14.09**	**16**	P	Pn	10 06 54.7	-4.7
	1.8nm,0.3s,baz=216,slow=19,SNR=2.8						
RAR	**Rarotonga**	**15.78**	**70**	LR	LR	10 11 30.9	
	comp=Z,162nm,21.5s,baz=180,slow=29						
DZM	**Mont Dzumac**	**17.17**	**285**	P	**P**	**10 07 43.3**	**+2.5**
DZM	**Mont Dzumac**	**17.17**	**285**	P	**P**	**10 07 43.3**	**+2.5**
	0.6nm,0.3s,baz=92,slow=19,SNR=5.0						
DZM				LR	LR	10 12 59.5	
	comp=Z,320nm,18.1s,baz=199,slow=33						
TBI	**Tubuai**	**23.99**	**86**	*e*LR	LR	10 14 27.0	
	274nm,28.8s						
PPT2	**Papeete2**	**25.99**	**73**	*e*LR	LR	10 15 16.1	
	235nm,28.8s						
PPT	**Papeete**	**26.00**	**73**	LR	LR	10 17 13.7	
	comp=Z,97nm,19.8s,baz=227,slow=31						
HNR	**Honiara**	**29.27**	**303**	LR	LR	10 19 02.6	
	comp=Z,140nm,21.2s,baz=146,slow=32						
CTA	**Charters Tower**	**35.54**	**274**	P	**P**	**10 10 35.2**	**-1.0**
CTA	**Charters Tower**	**35.54**	**274**	P	**P**	**10 10 35.2**	**-1.0**
	3.5nm,0.5s,baz=101,slow=11,SNR=5.8						
RKT	**Rikitea**	**36.90**	**92**	*e*LR	LR	10 20 20.5	
	267nm,36.8s						
STKA	**Stephens Creek**	**37.20**	**253**	LR	LR	10 22 49.6	
	comp=Z,100nm,18.9s,baz=206,slow=31						
ASAR	**Alice Springs**	**45.41**	**263**	P	**P**	**10 11 56.1**	**-1.7**
ASAR	**Alice Springs**	**45.41**	**263**	P	**P**	**10 11 56.1**	**-1.7**
	0.8nm,0.5s,baz=93,slow=6.9,SNR=22						
WRA	**Warramunga Arr**	**46.16**	**268**	P	**P**	**10 12 01.8**	**-1.9**
WRA	**Warramunga Arr**	**46.16**	**268**	P	**P**	**10 12 01.8**	**-1.9**
	0.8nm,0.4s,baz=105,slow=8.0,SNR=21						
VNDA	**Vanda**	**51.08**	**186**	P	**P**	**10 12 41.9**	**+1.1**
VNDA	**Vanda**	**51.08**	**186**	P	**P**	**10 12 41.9**	**+1.1**
	2.3nm,0.9s,baz=357,slow=6.9,SNR=10						
FITZ	**Fitzroy Crossi**	**54.51**	**267**	P	**P**	**10 13 07.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**54.51**	**267**	P	**P**	**10 13 07.1**	**+0.2**
	0.7nm,0.5s,baz=150,slow=8.4,SNR=4.8						
QSPA	**South Pole Qui**	**62.50**	**180**	*e*P	**P**	**10 14 02.2**	**+0.1**
	19nm,1.1s						
MAW	**Mawson**	**75.64**	**200**	P	**P**	**10 15 23.7**	**+0.5**
MAW	**Mawson**	**75.64**	**200**	P	**P**	**10 15 23.7**	**+0.5**
	2.7nm,0.6s,baz=143,slow=8.3,SNR=7.8						
MJAR	**Matsushiro Arr**	**77.18**	**323**	P	**P**	**10 15 31.9**	**-0.5**
MJAR	**Matsushiro Arr**	**77.18**	**323**	P	**P**	**10 15 31.9**	**-0.5**
	0.9nm,0.7s,baz=156,slow=6.6,SNR=2.9						
ERM	**Erimo**	**79.03**	**330**	P	**P**	**10 15 44.3**	**+1.8**
SNAA	**Sanae**	**80.87**	**178**	*e*P	**P**	**10 15 51.0**	**-1.3**
SNAA	**Sanae**	**80.87**	**178**	*e*P	**P**	**10 15 51.0**	**-1.3**
	4.5nm,1.0s						
ASAJ	**Asahikawa**	**80.96**	**331**	LR	LR	10 50 00.5	
	comp=Z,36nm,18.7s,baz=164,slow=34						
VNA2	**Neumayer--Watz**	**81.40**	**176**	*e*P	**P**	**10 15 54.1**	**-0.9**
NVAR	**Mina Array Bea**	**84.78**	**42**	P	**P**	**10 16 14.3**	**+1.2**
NVAR	**Mina Array Bea**	**84.78**	**42**	P	**P**	**10 16 14.3**	**+1.2**
	2.1nm,0.8s,baz=222,slow=8.9,SNR=16						
TUC	**Tucson**	**85.75**	**50**	*e*P	**P**	**10 16 19.6**	**+1.7**
	2.8nm,0.8s						
TXAR	**Lajitas Array**	**89.13**	**56**	P	**P**	**10 16 35.4**	**+1.1**
TXAR	**Lajitas Array**	**89.13**	**56**	P	**P**	**10 16 35.4**	**+1.1**
	0.9nm,0.9s,baz=206,slow=8.3,SNR=8.0						
LAZ	**Ladron**	**89.44**	**50**	*e*P	**P**	**10 16 37.0**	**+1.2**
PV01	**Paradox Valley**	**90.61**	**47**	*e*P	**P**	**10 16 41.4**	**+0.1**
SNOW	**Snow King Moun**	**92.38**	**41**	*e*P	**P**	**10 16 49.6**	**+0.3**
	2.1nm,0.9s						
PDAR	**Pinedale Array**	**92.68**	**42**	P	**P**	**10 16 51.2**	**+0.5**
PDAR	**Pinedale Array**	**92.68**	**42**	P	**P**	**10 16 51.2**	**+0.5**
	0.6nm,0.8s,baz=194,slow=3.1,SNR=5.4						
ILAR	**Eielson Array**	**94.76**	**12**	P	**P**	**10 16 59.5**	**+0.1**
ILAR	**Eielson Array**	**94.76**	**12**	P	**P**	**10 16 59.5**	**+0.1**
	0.4nm,0.7s,baz=227,slow=5.6,SNR=5.8						
LPAZ	**La Paz**	**97.35**	**113**	P	Pdif	10 17 13.6	+0.2
LPAZ	**La Paz**	**97.35**	**113**	P	Pdif	10 17 13.6	+0.2
	0.5nm,0.6s,baz=226,slow=7.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**117.30**	**319**	PKP	**PKPdf**	**10 22 22.3**	**-1.1**
ZALV	**Zalesovo Beam**	**117.30**	**319**	PKP	**PKPdf**	**10 22 22.3**	**-1.1**
	1.1nm,0.2s,baz=151,slow=3.3,SNR=2.4						
MKAR	**Makanchi Array**	**117.54**	**311**	PKP	**PKPdf**	**10 22 22.7**	**-1.5**
MKAR	**Makanchi Array**	**117.54**	**311**	PKP	**PKPdf**	**10 22 22.7**	**-1.5**
	0.7nm,0.6s,baz=81,slow=1.6,SNR=4.3						
AKTO	**Aktyubinsk**	**133.68**	**315**	PKP	**PKPdf**	**10 22 55.0**	**+0.1**
AKTO	**Aktyubinsk**	**133.68**	**315**	PKP	**PKPdf**	**10 22 55.0**	**+0.1**
	1.0nm,0.6s,baz=326,slow=3.6,SNR=3.4						
FINES	**FINESS Array B**	**143.16**	**343**	PKPpre	PKPpre	10 23 07.4	
FINES	**FINESS Array B**	**143.16**	**343**	PKhKP	PKPpre	10 23 07.4	
	1.1nm,0.5s,baz=46,slow=5.5,SNR=6.9						
NB2	**NORSAR Subarra**	**146.25**	**354**	PKP	**PKPbc**	**10 23 18.0**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=8.5,slow=2.9						
NOA	**NORSAR Array B**	**146.25**	**354**	PKPbc	**PKPdf**	**10 23 17.5**	**+0.2**
NOA	**NORSAR Array B**	**146.25**	**354**	PKPbc	**PKPdf**	**10 23 17.5**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=14,slow=4.5,SNR=9.3						
AKASG	**Malin Array Be**	**150.20**	**327**	PKPbc	**PKPbc**	**10 23 28.0**	**-1.2**
AKASG	**Malin Array Be**	**150.20**	**327**	PKPbc	**PKPbc**	**10 23 28.0**	**-1.2**
	comp=Z,7.0nm,0.9s,baz=45,slow=2.7,SNR=9.7						
BRTR	**Keskin Array B**	**152.92**	**304**	PKPbc	**PKPbc**	**10 23 35.5**	**-0.5**
BRTR	**Keskin Array B**	**152.92**	**304**	PKPbc	**PKPbc**	**10 23 35.5**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=106,slow=2.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**165.41**	**170**	PKPab	**PKPab**	**10 24 40.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**165.41**	**170**	PKPab	**PKPab**	**10 24 40.8**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=182,slow=4.1,SNR=16						

*ISCJB **26** 10:33:38.4±0.8, 60°.82N±0°.06×20°.59E±0°.09, h0^km, Error ellipse: s-maj=9.3km s-min=5.9km az=165.2*
*HEL **26** 10:33:39.6±0.2, 60°.76N×20°.70E, h0^km, ML2.1, Explosion*
*CSEM **26** 10:33:39.7±2.2, 60°.72N×20°.77E, h2^km, ML2.1, Error ellipse: s-maj=47.0km s-min=21.8km az=87.0, Mining explosion.*
*IDC **26** 10:33:39.7±1.0, 60°.79N×20°.69E, h0^km, mb1 2.8/4, mb1mx2.8/29, mbtmp2.8/4, ML2.4/4, Error ellipse: s-maj=22.2km s-min=6.9km az=164.0*

ISC 26 10:33:38.9±1.0, 60°.79N±0°.05×20°.76E±0°.04, h0^km, n17, σ1°13/23, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.54**	**65**	*e*P	**Pg**	**10 33 48.8**	**-0.5**
RAF				*e*S	**Sg**	**10 33 57.2**	**+0.9**
RAF	**Rauma**	**0.54**	**65**	*e*P	**Pg**	**10 33 49.4**	**+0.1**
	SNR=90						
RAF				*e*S	**Sb**	**10 33 58.6**	**-1.0**
	226nm,0.6s,SNR=90						
MEF	**Metsahovi**	**1.89**	**106**	*e*P	**Pn**	**10 34 12.9**	**+0.5**
MEF	**Metsahovi**	**1.89**	**106**	*e*P	**Pn**	**10 34 12.2**	**-0.2**
	SNR=51						
MEF				*e*S	**Sb**	**10 34 38.9**	**+0.6**
	SNR=51						
KEF	**Keuruu**	**2.41**	**53**	*e*P	**Pn**	**10 34 20.8**	**+1.3**
KEF				*e*SB	**Sb**	**10 34 53.7**	**+0.5**
KEF				MSG		10 34 57.0	
	comp=Z,7.8nm,0.2s						
KEF	**Keuruu**	**2.41**	**53**	P	**Pn**	**10 34 20.7**	**+1.3**
VAF	**Ylistaro**	**2.43**	**21**	*e*SB	**Sb**	**10 34 54.1**	**+0.2**
PVF	**Pernaja**	**2.53**	**93**

*CSEM **26** 10:37:20.8±0.2, 60°.95N×20°.62E, h2km, ML2.3, Error ellipse: s-maj=7.4km s-min=4.7km az=169.0, Mining explosion.*
*BER **26** 10:37:23.1±4.3, 60°.94N×20°.49E, h0km, ML2.1(NAO), Suspected explosion*
ISC 26 10:37:20.2±0.9, 60°.94N±0°.05×20°.61E±0°.03, h0km, n27, σ1§05/39, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.57**	**81**	*e*P	**Pg**	**10 37 30.1**	**-0.9**
RAF	**Rauma**	**0.57**	**81**	*e*P	**Pg**	**10 37 30.2**	**-0.9**
	SNR=90						
MEF	**Metsahovi**	**2.00**	**109**	*e*PN	**Pn**	**10 37 54.3**	**-0.9**
MEF	**Metsahovi**	**2.00**	**109**	*e*P	**Pn**	**10 37 54.3**	**-0.9**
	SNR=51						
MEF				*e*S	**Sn**	**10 38 21.1**	**+0.2**
	SNR=51						
VAF	**Ylistaro**	**2.33**	**24**	*e*SB	**Sg**	**10 38 34.2**	**-0.7**
VAF	**Ylistaro**	**2.33**	**24**	Sb	**Sg**	**10 38 34.1**	**-0.7**
KEF	**Keuruu**	**2.38**	**57**	*e*P	**Pn**	**10 38 01.7**	**+1.2**
KEF				*e*SB	**Sb**	**10 38 33.3**	**-0.5**
KEF	**Keuruu**	**2.38**	**57**	P	**Pn**	**10 38 01.7**	**+1.2**
FIA0	**FINESS Array S**	**2.69**	**77**	Pn	**Pn**	**10 38 05.6**	**+0.9**
	baz=260,slow=14						
FIA0				Sn	**Sn**	**10 38 40.1**	**+2.1**
	baz=262,slow=28						
FIA0	**FINESS Array S**	**2.69**	**77**	Pn	**Pn**	**10 38 05.6**	**+0.9**
	baz=260,slow=14						
FIA0				Sn	**Sn**	**10 38 40.1**	**+2.1**
	baz=262,slow=28						
FIA0	**FINESS Array S**	**2.69**	**77**	*e*P	**Pn**	**10 38 05.4**	**+0.7**
FIA0				*e*SB	**Sb**	**10 38 42.1**	**-0.7**
FIA0	**FINESS Array S**	**2.69**	**77**	Pn	**Pn**	**10 38 05.6**	**+0.9**
	baz=260,slow=14,SNR=50						
FIA0				Sn	**Sn**	**10 38 40.1**	**+2.1**
	baz=262,slow=25,SNR=50						
FINES	**FINESS Array B**	**2.69**	**77**	Pn	**Pn**	**10 38 05.5**	**+0.9**
	2.0nm,0.3s,baz=260,slow=14,SNR=25						
FINES				Sn	**Sn**	**10 38 39.8**	**+1.7**
	3.1nm,0.3s,baz=259,slow=24,SNR=13						
MTSE	**Matsula**	**2.75**	**143**	*e*P	**Pn**	**10 38 03.3**	**-2.2**
MTSE				*e*SG	**Sn**	**10 38 40.3**	**+0.9**
SLIT	**Slitere, Latvi**	**3.43**	**165**	*e*P	**Pn**	**10 38 17.0**	**+2.2**
	SNR=51						
HFS	**Hagfors**	**3.51**	**260**	Pn	**Pn**	**10 38 16.0**	**0.0**
	baz=96,slow=14						
HFS				Sn	**Sn**	**10 38 58.1**	**0.0**
	baz=94,slow=28						
HFS				Lg	Lg	10 39 08.8	
	baz=73,slow=37						
HFS	**Hagfors**	**3.51**	**260**	Pn	**Pn**	**10 38 16.0**	**0.0**
	baz=96,slow=14						
HFS				Sn	**Sn**	**10 38 58.1**	**0.0**
	baz=94,slow=28						
HFS				Lg	Lg	10 39 08.8	
	baz=73,slow=37						
HFS	**Hagfors**	**3.51**	**260**	Pn	**Pn**	**10 38 16.0**	**0.0**
	0.2nm,0.3s,baz=76,slow=15,SNR=6.7						
HFS				Pg	**Pb**	**10 38 22.6**	**-0.5**
	1.1nm,0.3s,baz=81,slow=18,SNR=13						
HFS				Lg	Lg	10 39 09.9	
	2.9nm,0.3s,baz=79,slow=31,SNR=8.8						
HFS	**Hagfors**	**3.51**	**260**	Pn	**Pn**	**10 38 16.0**	**0.0**
	baz=96,slow=13,SNR=50						
HFS				Sn	**Sn**	**10 38 58.1**	**0.0**
	baz=94,slow=27,SNR=50						
HFS				Lg	Lg	10 39 08.8	
	baz=73,slow=28,SNR=50						
NB2	**NORSAR Subarra**	**4.58**	**275**	Pn	**Pn**	**10 38 31.4**	**+0.8**
	baz=81,slow=14						
NB2				Lg	Lg	10 39 41.5	
	baz=86,slow=37						
NB2	**NORSAR Subarra**	**4.58**	**275**	Pn	**Pn**	**10 38 31.4**	**+0.8**
	baz=81,slow=14						
NB2				Lg	Lg	10 39 41.5	
	baz=86,slow=37						
NB2	**NORSAR Subarra**	**4.58**	**275**	Pn	**Pn**	**10 38 31.4**	**+0.8**
	baz=81,slow=13,SNR=50						
NB2				Lg	Lg	10 39 41.5	
	baz=86,slow=30,SNR=50						
NOA	**NORSAR Array B**	**4.58**	**275**	Pn	**Pn**	**10 38 30.6**	**-0.1**
	0.2nm,0.3s,baz=114,slow=11,SNR=2.7						
NOA				Lg	Lg	10 39 38.6	
	1.1nm,0.3s,baz=112,slow=18,SNR=6.4						
ARA0	**ARCESS Array S**	**8.87**	**11**	Pn	**Pn**	**10 39 29.4**	**-0.1**
	baz=192,slow=14						
ARA0	**ARCESS Array S**	**8.87**	**11**	Pn	**Pn**	**10 39 29.4**	**-0.1**
	baz=192,slow=14						
ARA0	**ARCESS Array S**	**8.87**	**11**	Pn	**Pn**	**10 39 29.4**	**-0.1**
	baz=192,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**8.87**	**11**	Pn	**Pn**	**10 39 29.5**	**0.0**
	0.2nm,0.3s,baz=193,slow=13,SNR=10						

---

*MAN **26** 10:47:35, 15°.03N×119°.74E, h1km, mb4.6, ML3.5, MS3.4*
*ISCJB **26** 10:47:38.4±0.6, 15°.13N±0°.05×119°.65E±0°.06, h39km, mb3.9/13, MS3.4/3, Error ellipse: s-maj=9.4km s-min=6.6km az=142.0*
*IDC **26** 10:47:41.4±1.9, 14°.83N×119°.87E, h72km±19km, mb3.6/14, mb1 3.8/14, mb1mx3.6/28, mbtmp3.6/14, MS3.4/3, Ms1 3.5/3, ms1mx3.0/33, Error ellipse: s-maj=25.2km s-min=14.4km az=69.0*
ISC 26 10:47:38.7±0.7, 15°.01N±0°.06×119°.6E±0°.1, h39km, n25, σ1§57/25, mb4.0/13, MS3.6/3, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.81**	**20**	*e*P	Pn	10 47 50.7	-3.0
SCZP				*e*S	**Sn**	**10 48 00.7**	**-3.8**
TGY	**Tagaytay City**	**1.56**	**125⇑**	*e*P	**Pn**	**10 48 03.5**	**-0.4**
TGY	**Tagaytay City**	**1.56**	**125**	P	**Pn**	**10 48 03.4**	**-0.6**
	497nm,0.3s,baz=281,slow=3.8,SNR=21						
TGY				S	**Sn**	**10 48 25.7**	**+2.7**
	630nm,0.3s,baz=163,slow=18,SNR=8.3						
BCPH	**Baguio City Da**	**1.65**	**34⇑**	*i*P	**Pn**	**10 48 04.4**	**-0.9**
BCPH				*i* S	**Sn**	**10 48 27.4**	**+2.1**
BALP	**Baler**	**2.02**	**69**	*e*P	**Pn**	**10 48 09.1**	**-1.1**
LQP	**Lukban**	**2.06**	**115⇓**	*e*P	**Pn**	**10 48 10.5**	**-0.5**
CAUP	**Cauayan**	**2.86**	**47**	*e*P	**Pn**	**10 48 22.7**	**+0.9**
APYP	**Conner**	**3.24**	**28**	*e*P	**Pn**	**10 48 27.7**	**+0.8**
AUQP	**San Andres**	**3.40**	**119**	*e*P	Pn	10 48 32.2	+3.0
CMAR	**Chiang Mai Arr**	**20.10**	**283**	P	Pn	10 52 12.8	+1.6
	0.7nm,0.3s,baz=110,slow=12,SNR=6.7						
CMAR				LR	LR	10 59 46.8	
	comp=Z,40nm,21.0s,baz=195,slow=36						
KSRS	**Korea Array**	**23.54**	**17**	P	**P**	**10 52 44.2**	**-1.1**
	0.6nm,0.4s,baz=197,slow=12,SNR=4.5						
SONM	**Songino Array**	**34.52**	**344**	P	**P**	**10 54 23.3**	**0.0**
	0.3nm,0.4s,baz=155,slow=11,SNR=2.3						
ASAJ	**Asahikawa**	**34.98**	**29**	P	**P**	**10 54 28.5**	**+1.3**
	3.7nm,0.9s,baz=233,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**37.63**	**157**	P	P	10 54 46.1	-3.9
	4.2nm,0.6s,baz=330,slow=10.0,SNR=58						
ASAR	**Alice Springs**	**40.90**	**160**	P	**P**	**10 55 14.7**	**-2.6**
	2.1nm,0.4s,baz=336,slow=7.3,SNR=71						
ASAR				PcP	**PcP**	**10 57 16.8**	**-0.7**
	0.3nm,0.7s,baz=347,slow=2.9,SNR=3.1						
MKAR	**Makanchi Array**	**44.37**	**323**	P	**P**	**10 55 47.4**	**+2.1**
	0.3nm,0.8s,baz=128,slow=9.3,SNR=3.3						
MKAR				PcP	**PcP**	**10 57 29.0**	**+0.3**
	0.4nm,0.7s,baz=113,slow=4.6,SNR=3.1						
PETK	**Petropavlovsk-**	**48.40**	**30**	P	**P**	**10 56 16.1**	**-0.7**
	4.1nm,1.0s,baz=228,slow=3.7,SNR=4.9						
KURBB	**Kurchatov Arra**	**48.53**	**326**	P	**P**	**10 56 19.0**	**+1.2**
	0.9nm,0.9s,baz=121,slow=8.9,SNR=3.4						
BVAR	**Borovoye Array**	**54.11**	**326**	P	**P**	**10 57 02.0**	**+2.4**
	0.6nm,0.4s,baz=108,slow=7.7,SNR=2.5						
ARCES	**ARCESS Array B**	**77.50**	**339**	P	**P**	**10 59 29.9**	**0.0**
	1.8nm,0.6s,baz=69,slow=6.8,SNR=9.4						
ILAR	**Eielson Array**	**78.04**	**26**	P	**P**	**10 59 33.0**	**+0.1**
	0.3nm,0.7s,baz=249,slow=7.4,SNR=4.1						
FINES	**FINESS Array B**	**78.64**	**331**	P	**P**	**10 59 36.5**	**+0.2**
	0.9nm,0.5s,baz=64,slow=6.3,SNR=8.7						
NB2	**NORSAR Subarra**	**85.62**	**332**	P	**P**	**11 00 13.3**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=72,slow=5.6						
NOA	**NORSAR Array B**	**85.62**	**332**	P	**P**	**11 00 12.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=67,slow=4.7,SNR=5.8						
NOA				LR	LR	11 44 42.5	
	comp=Z,26nm,18.5s,baz=60,slow=40						
DAVOX	**Davos/Dischmat**	**92.14**	**320**	LR	LR	11 47 48.9	
	comp=Z,37nm,18.9s,baz=85,slow=39						

---

*IDC **26** 10:54:00.5±0.8, 1°.52S×99°.25E, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.1/28, mbtmp4.1/17, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/41, Error ellipse: s-maj=32.5km s-min=13.5km az=58.0*
*ISCJB **26** 10:54:03.3±0.6, 1°.46S±0°.07×99°.23E±0°.08, h30km, mb4.1/15, MS3.6/1, Error ellipse: s-maj=13.0km s-min=7.5km az=144.6*
*DJA **26** 10:54:06.2±4.7, 1°.5±8°.×9°.9E±1°.3, h9km±36km, M4.6/5, mb4.4/2, MLv4.7/5*
ISC 26 10:54:05.6±0.7, 1°.40S±0°.07×99°.39E±0°.09, h30km, n29, σ1§02/27, mb4.1/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**66**	P	**Pn**	**10 54 25.7**	**-0.4**
PPI	**Padang Panjang**	**1.37**	**47**	P	**Pn**	**10 54 28.6**	**-0.2**
BKNI	**Bangkinang**	**2.38**	**44**	P	**Pb**	**10 54 48.9**	**+1.1**
MASI	**Maura Aman, Be**	**3.33**	**121**	P	**Pn**	**10 54 57.2**	**+1.4**
KSI	**Kapahiang**	**3.90**	**125**	P	**Pn**	**10 55 05.4**	**+1.7**
PSI	**Prapat**	**4.20**	**354**	Pn	**Pn**	**10 55 07.0**	**-0.9**
	0.8nm,0.3s,baz=170,slow=19,SNR=4.3						
PSI				LR	LR	10 56 51.4	
	comp=Z,149nm,19.7s,baz=326,slow=41						
KCSI	**Kotacane, Aceh**	**5.15**	**342**	P	**Pn**	**10 55 23.5**	**+2.7**
	36nm,0.8s						
MYKOM	**Kota Tinggi**	**5.47**	**55**	P	Pn	10 55 30.6	+5.5
IPM	**Ipoh**	**6.06**	**16**	P	**Pn**	**10 55 35.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**19.74**	**359**	P	**Pn**	**10 58 34.3**	**-0.5**
	0.3nm,0.3s,baz=185,slow=10,SNR=8.9						
KAPI	**Kappang**	**20.64**	**100**	P	Pn	10 58 45.7	+0.2
	3.8nm,0.6s,baz=277,slow=19,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.65**	**124**	P	**P**	**11 00 17.0**	**-0.7**
	3.1nm,0.9s,baz=279,slow=8.2,SNR=6.4						
WRA	**Warramunga Arr**	**38.82**	**121**	P	**P**	**11 01 27.9**	**-0.3**
	5.2nm,0.7s,baz=301,slow=9.0,SNR=58						
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**11 01 38.5**	**-0.4**
	1.3nm,0.7s,baz=300,slow=7.7,SNR=23						
KSRS	**Korea Array**	**46.82**	**31**	P	**P**	**11 02 32.2**	**-0.6**
	0.9nm,0.6s,baz=222,slow=7.9,SNR=4.3						
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**11 02 53.4**	**+0.6**
	1.0nm,0.7s,baz=186,slow=7.8,SNR=5.7						
SONM				PcP	**PcP**	**11 04 15.1**	**+0.2**
	1.0nm,0.6s,baz=184,slow=5.0,SNR=3.8						
STKA	**Stephens Creek**	**50.00**	**132**	P	**P**	**11 02 57.5**	**0.0**
	3.4nm,0.7s,baz=307,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**50.29**	**345**	P	**P**	**11 02 59.9**	**+0.5**
	2.4nm,0.6s,baz=158,slow=7.7,SNR=9.8						
USRK	**Ussurisk Arra**	**53.92**	**29**	P	**P**	**11 03 26.6**	**+0.2**
	2.0nm,0.7s,baz=214,slow=3.2,SNR=5.5						
KURBB	**Kurchatov Arra**	**54.81**	**344**	P	**P**	**11 03 32.4**	**-0.3**
	0.6nm,0.4s,baz=162,slow=6.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**56.47**	**350**	P	**P**	**11 03 45.0**	**+0.3**
	4.0nm,0.6s,baz=175,slow=5.8,SNR=9.1						
BVAR	**Borovoye Array**	**59.42**	**340**	P	**P**	**11 04 05.0**	**-0.3**
	1.2nm,0.6s,baz=128,slow=9.6,SNR=4.0						
KBZ	**Khabaz**	**67.46**	**319**	P	**P**	**11 04 58.1**	**-0.6**
	0.7nm,0.5s,baz=152,slow=4.5,SNR=6.4						
KBZ				LR	LR	11 35 37.3	
	comp=Z,33nm,18.7s,baz=125,slow=37						
BRTR	**Keskin Array B**	**72.47**	**312**	P	**P**	**11 05 28.4**	**-1.4**
	0.6nm,0.6s,baz=121,slow=5.6,SNR=2.9						
VNDA	**Vanda**	**82.86**	**169**	P	**P**	**11 06 26.4**	**-0.4**
	1.8nm,1.1s,baz=303,slow=6.3,SNR=3.8						
GERES	**GERESS Array B**	**88.20**	**319**	P	**P**	**11 06 54.0**	**0.0**
	0.4nm,0.2s,baz=86,slow=3.0,SNR=3.2						
CPUP	**Villa Florida**	**144.43**	**218**	PKP	PKPbc	11 13 38.4	+0.1
	1.9nm,0.7s,baz=185,slow=2.5,SNR=6.0						
TXAR	**Lajitas Array**	**144.59**	**36**	PKP	**PKPdf**	**11 13 39.7**	**-0.5**
	2.4nm,0.6s,baz=277,slow=1.3,SNR=43						
TKL	**Tuckaleechee C**	**145.79**	**5**	PKPbc	**PKPdf**	**11 13 41.9**	**-0.1**
	2.8nm,0.7s,baz=129,slow=2.8,SNR=6.1						

---

*IDC **26** 11:25:22.9±1.1, 26°.75N×54°.76E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/27, mbtmp3.7/9, MS2.8/1, Ms1 2.8/1, ms1mx2.2/42, Error ellipse: s-maj=29.9km s-min=23.4km az=1.0*
*ISCJB **26** 11:25:25.5±0.4, 27°.00N±0°.05×54°.66E±0°.04, h18km, mb3.7/9, Error ellipse: s-maj=7.4km s-min=4.5km az=36.4*
*CSEM **26** 11:25:26.3±0.2, 27°.02N×54°.80E, h10km, ML3.4, Error ellipse: s-maj=6.9km s-min=4.5km az=49.0*
*KISR **26** 11:25:27.9±0.6, 27°.33N×54°.26E, h34km±999km, ML3.5*
*OMAN **26** 11:25:28.8±99.0, 26°.90N×55°.04E, h10km, Error ellipse: s-maj=129.6km s-min=19.0km az=336.0*
ISC 26 11:25:26.7±0.7, 26°.93N±0°.04×54°.73E±0°.04, h18km, n31, σ1§30/34, mb3.6/9, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.37**	**70**	*e*Pg	**Pb**	**11 25 51.7**	**-0.2**
BANOM	**Banah**	**1.73**	**125**	P	**Pn**	**11 25 55.7**	**-0.3**
	SNR=51						
BANOM	**Banah**	**1.73**	**125**	P	**Pn**	**11 25 55.7**	**-0.3**
	SNR=51						
BANOM				S	**Sn**	**11 26 17.6**	**0.0**
GHIR	**Ghir-Karzin**	**2.05**	**311**	*e*Pg	**Pb**	**11 26 04.0**	**+0.5**
NAZ	**Nazwa, Dubai**	**2.11**	**156**	⇓P	**Pb**	**11 26 03.5**	**-0.9**
NAZ	**Nazwa, Dubai**	**2.11**	**156**	P	**Pn**	**11 26 02.8**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.31**	**160**	P	**Pn**	**11 26 05.3**	**+1.4**
ASUD	**Al Ashush, Dub**	**2.36**	**167**	P	**Pn**	**11 26 06.5**	**+2.0**
	SNR=16						
ASUD	**Al Ashush, Dub**	**2.36**	**167**	P	**Pn**	**11 26 06.5**	**+2.0**
HATD	**Hatta, Dubai**	**2.45**	**149**	⇓P	**Pn**	**11 26 06.5**	**+0.7**
HATD	**Hatta, Dubai**	**2.45**	**149**	P	**Pn**	**11 26 06.5**	**+0.7**
ASHO	**Ashiyiah**	**2.54**	**152**	P	**Pn**	**11 26 08.0**	**+0.9**
	SNR=30						
ASHO	**Ashiyiah**	**2.54**	**152**	P	**Pn**	**11 26 08.0**	**+0.9**
	SNR=5.6						
KRBR	**Kerman**	**3.53**	**30**	*e*Pn	**Pn**	**11 26 20.4**	**-0.5**
KRBR				*e*Sg	**Sn**	**11 27 05.1**	**+2.8**
NASN	**Na'in**	**6.08**	**345**	*e*Pn	**Pn**	**11 26 56.0**	**0.0**
QRN	**Al-Qurain**	**6.29**	**288**	*e*P	**Pn**	**11 27 00.2**	**+1.5**
QRN				*e*S	**Sn**	**11 28 09.0**	**-1.1**
QRN				AML	AML	11 28 13.2	
	comp=Z,35nm,0.3s						
RDF	**Al-Radifah**	**6.65**	**289**	*e*P	**Pn**	**11 27 04.6**	**+1.0**
RDF				AML	AML	11 28 19.6	
	comp=Z,7.5nm,0.3s						
RDF	**Al-Radifah**	**6.65**	**289**	*e*P	**Pn**	**11 27 04.6**	**+1.0**
NAY	**Al-Naaiem**	**7.00**	**291**	*e*P	**Pn**	**11 27 10.0**	**+1.6**
NAY				*e*S	**Sn**	**11 28 26.3**	**-1.3**
NAY	**Al-Naaiem**	**7.00**	**291**	*e*P	**Pn**	**11 27 10.0**	**+1.6**
TABS	**Tabas**	**7.00**	**17**	*e*Pn	**Pn**	**11 27 07.2**	**-1.3**
MMAI	**Mount Meron Ar**	**17.80**	**295**	LR	LR	11 37 14.6	
	comp=Z,35nm,20.6s,baz=125,slow=40						
BRTR	**Keskin Array B**	**21.69**	**311**	P	**P**	**11 30 17.8**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=128,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**29.41**	**40**	P	**P**	**11 31 31.1**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=244,slow=9.5,SNR=2.2						
ZALV	**Zalesovo Beam**	**34.92**	**31**	P	**P**	**11 32 15.9**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=232,slow=7.5,SNR=4.5						
FINES	**FINESS Array B**	**39.51**	**339**	P	**P**	**11 32 55.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=131,slow=5.8,SNR=4.7						
SONM	**Songino Array**	**45.09**	**48**	P	**P**	**11 33 42.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=260,slow=8.6,SNR=2.0						
ARCES	**ARCESS Array B**	**45.91**	**346**	P	**P**	**11 33 48.2**	**+0.3**
	comp=Z,3.8nm,1.1s,baz=123,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**51.33**	**265**	P	**P**	**11 34 29.9**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=62,slow=8.5,SNR=23						
WRA	**Warramunga Arr**	**90.08**	**112**	P	**P**	**11 38 24.4**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=312,slow=4.5,SNR=3.5						
ASAR	**Alice Springs**	**91.50**	**116**	P	**P**	**11 38 30.7**	**-1.8**
	comp=Z,0.5nm,1.0s,baz=300,slow=4.7,SNR=7.5						

---

*ISCJB **26** 11:34:30.8±0.3, 11°.49N±0°.03×124°.44E±0°.04, h15km, mb4.3/31, MS3.7/8, Error ellipse: s-maj=5.9km s-min=4.2km az=164.0*
*MAN **26** 11:34:32, 11°.54N×124°.32E, h22km, mb5.2, ML4.1, MS4.3*
*NEIC **26** 11:34:35.1±0.7, 11°.55N×124°.69E, h38km±7km, mb4.5/10, Error ellipse: s-maj=9.9km s-min=5.6km az=67.0*
*IDC **26** 11:34:37.5±3.7, 11°.43N×124°.40E, h55km±34km, mb4.0/19, mb1 4.1/20, mb1mx4.0/32, mbtmp4.0/20, ML4.6/2, MS3.7/5, Ms1 3.7/5, ms1mx3.3/41, Error ellipse: s-maj=26.5km s-min=10.8km az=67.0*
*BJI **26** 11:34:39.9, 12°.15N×124°.05E, h30km, mB4.8/6, mb4.2/9, Ms4.1/5, Ms7 3.8/5*
ISC 26 11:34:32.2±0.4, 11°.51N±0°.04×124°.44E±0°.05, h15km, n75, σ1§27/78, mb4.3/31, MS3.6/8, 1C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.02**	**12**	*e*P	**Pb**	**11 34 50.9**	**-0.7**
CNP				*e*S	**Sn**	**11 35 05.9**	**-0.2**
MMPH	**Masbate**	**1.16**	**317**	*e*P	**Pn**	**11 34 51.4**	**-2.5**
MMPH				*e*S	**Sb**	**11 35 06.0**	**-2.9**
LLP	**Lapu-Lapu**	**1.27**	**201⇑**	*e*P	**Pn**	**11 34 54.0**	**-1.4**
LLP				*e*S	**Sb**	**11 35 12.1**	**+0.2**
RCP	**Roxas**	**1.66**	**272⇓**	*e*P	**Pn**	**11 34 58.8**	**-2.0**
RCP				*e*S	**Sn**	**11 35 20.1**	**-1.7**
TBP	**Tagbilaran**	**1.89**	**197**	*e*P	**Pn**	**11 35 04.6**	**+0.7**
PVCP	**Virac**	**2.10**	**352**	*e*P	**Pn**	**11 35 07.2**	**+0.4**
SNPH	**Sibulan**	**2.45**	**209**	⇓*i*P	Pn	11 34 56.1	-16
SNPH				*i* S	Sn	11 35 26.5	-15
OTRP	**Odiongan**	**2.51**	**290**	*e*P	**Pn**	**11 35 12.1**	**-0.4**
SJMP	**San Jose**	**3.38**	**287**	*e*P	**Pn**	**11 35 25.1**	**+0.7**
CUYO	**Cuyo Island**	**3.42**	**259**	*e*P	**Pn**	**11 35 24.8**	**-0.1**
TGY	**Tagaytay City**	**4.28**	**307**	P	**Pn**	**11 35 40.0**	**+3.1**
TGY	**Tagaytay City**	**4.28**	**307**	P	**Pn**	**11 35 40.0**	**+3.1**
	54nm,0.3s,baz=120,slow=20,SNR=4.1						
ENPP	**El Nido**	**4.92**	**267**	*e*P	**Pn**	**11 35 45.9**	**+0.2**
BCPH	**Baguio City Da**	**6.12**	**323**	⇓*i*P	**Pn**	**11 36 03.8**	**+1.4**
QIZ	**Qiongzhong**	**15.94**	**300**	P	**Pn**	**11 38 14.5**	**-1.5**
QIZ				S	**Sn**	**11 41 12.5**	**-0.1**
QIZ				LR	LR		
	comp=N,280nm,13.9s						
QIZ				LR	LR		
	comp=Z,350nm,22.4s						
KAPI	**Kappang**	**17.06**	**196**	*e*Pn	**P**	**11 38 32.7**	**+0.6**
KAPI	**Kappang**	**17.06**	**196**	P	**Pn**	**11 38 30.7**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=23,slow=6.8,SNR=7.1						
KSM	**Kuching**	**17.20**	**236**	*e*P	**P**	**11 38 36.6**	**+2.9**
	comp=Z,12nm,1.0s						
BATI	**Baumata**	**21.58**	**182**	P	**P**	**11 39 22.4**	**+0.9**
BATI	**Baumata**	**21.58**	**182**	P	**P**	**11 39 22.4**	**+0.9**
	comp=Z,42nm,0.9s,baz=161,slow=3.6,SNR=9.1						
BATI				LR	LR	11 47 46.9	
	comp=Z,252nm,19.4s,baz=196,slow=37						
JNU	**Nakatsue**	**22.31**	**14**	*e*P	**P**	**11 39 27.0**	**-2.3**
	comp=Z,5.1nm,1.2s						
IPM	**Ipoh**	**24.20**	**255**	*e*P	**P**	**11 39 50.5**	**+2.0**
	comp=Z,24nm,1.1s						
CMAR	**Chiang Mai Arr**	**25.56**	**289**	P	**P**	**11 40 01.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**25.56**	**289**	P	**P**	**11 40 01.4**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=101,slow=8.1,SNR=14						
CMAR				LR	LR	11 50 54.8	
	comp=Z,173nm,18.3s,baz=257,slow=38						
XAN	**Xi'an**	**26.53**	**330**	P	**P**	**11 40 09.0**	**-0.4**
XAN				pP	**pP**	**11 40 14.8**	**+0.8**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,25nm,5.1s						
XAN				LR	LR		
	comp=N,200nm,20.5s						
XAN				LR	LR		
	comp=E,100nm,20.5s						
XAN				LR	LR		
	comp=Z,79nm,16.4s						
PSI	**Prapat**	**26.73**	**253**	P	**P**	**11 40 13.4**	**+2.0**
PSI	**Prapat**	**26.73**	**253**	P	**P**	**11 40 13.4**	**+2.0**
	comp=Z,3.4nm,0.3s,baz=79,slow=7.1,SNR=3.8						
PSI				LR	LR	11 51 43.5	
	comp=Z,259nm,18.4s,baz=34,slow=38						
MJAR	**Matsushiro Arr**	**27.85**	**24**	LR	LR	11 50 38.6	
	comp=Z,59nm,19.2s,baz=205,slow=34						
FITZ	**Fitzroy Crossi**	**29.44**	**178**	P	**P**	**11 40 35.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**29.44**	**178**	P	**P**	**11 40 35.3**	**-0.2**
	comp=Z,4.5nm,1.0s,baz=20,slow=9.4,SNR=5.4						
PMG	**Port Moresby**	**30.69**	**132**	P	**P**	**11 40 43.5**	**-3.2**
	comp=Z,6.7nm,0.8s						
COEN	**Coen**	**31.39**	**143**	*e*pP	pP	11 41 02.3	+4.9
WRAB	**Tennant Creek**	**32.73**	**163**	*e*P	**P**	**11 41 04.0**	**-0.5**
	comp=Z,28nm,1.8s						
WRA	**Warramunga Arr**	**32.73**	**163**	P	**P**	**11 41 04.0**	**-0.6**
WRA	**Warramunga Arr**	**32.73**	**163**	P	**P**	**11 41 04.0**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=340,slow=9.7,SN

mb1 2.9/3, mb1mx2.6/26, mbtmp2.6/3, Error ellipse: s-maj=426.1km s-min=19.1km az=109.0

ISC 26 11:45:34.6±2.0, 33°.3N±0°.2×138°.5E±0°.1, h350km, n17, σ2§40/14, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	TONANKAI O.B.S	1.43	284	P	Pn	11 46 22.8	+0.8
HMMJ	Hamamatsu 2	1.68	339	P	Pn	11 46 25.0	+1.3
JOD2	Odawara 2	2.04	15	P	Pn	11 46 28.2	+2.0
JKN2	Miekihoku	2.05	298	P	Pn	11 46 27.1	+0.9
JNY	Yasuok	2.12	347	P	Pn	11 46 29.3	+2.5
BSO1	Boso 1	2.50	56	P	Pn	11 46 30.0	+1.0
BSO1				S	S	11 47 10.5	-2.3
JHU	Hanno	2.65	15	P	Pn	11 46 33.1	+2.3
JRY	Ryogami san	2.75	8	P	Pn	11 46 34.8	+3.1
JAG	Ashikaga	3.24	14	P	Pn	11 46 38.2	+2.1
MJAR	Matsushiro Arr 1.5nm,0.3s,baz=173,slow=12,SNR=26	3.25	357	P	Pn	11 46 38.9	+2.7
MJAR				S	S	11 47 21.9	-4.0
	baz=215,slow=45,SNR=1.8						
MAT	Matsushiro	3.26	357	P	Pn	11 46 39.2	+3.0
MAT	Matsushiro	3.26	357	P	Pn	11 46 39.7	+3.5
JYT	Yasato	3.27	26	P	Pn	11 46 37.9	+1.6
JHO	Hitachi	3.75	27	P	Pn	11 46 42.8	+1.8
JHO				S	S	11 47 32.3	-2.2
WRA	Warramunga Arr 0.3nm,0.3s,baz=360,slow=7.5,SNR=11	53.07	185	P	P	11 54 25.3	+8.1
ILAR	Eielson Array 0.2nm,0.7s,baz=246,slow=6.8,SNR=3.6	53.95	31	P	P	11 54 12.6	-10
ASAR	Alice Springs 0.2nm,0.5s,baz=10,slow=8.0,SNR=6.2	56.80	185	P	P	11 54 51.7	+8.1

BJI ***26*** *11:49:22.4, 16°.02S×172°.67W, h38km, mB5.4/25, mb5.1/27, Ms5.1/33, Ms7 4.8/34*

IDC ***26*** *11:49:22.3±0.5, 15°.45S×173°.16W, h0km, mb4.6/20, mb1 4.8/20, mb1mx4.7/25, mbtmp4.6/20, MS4.8/22, Ms1 4.8/22, ms1mx4.7/26, Error ellipse: s-maj=19.7km s-min=13.5km az=130.0*

AUST ***26*** *11:49:24.4±0.0, 15°.20S×172°.57W, h47km, Error ellipse: s-maj=1.4km s-min=1.3km az=280.0*

ISCJB ***26*** *11:49:24.9±0.2, 15°.49S±0°.05×173°.22W±0°.03, h29km, mb5.0/114, MS4.8/43, Error ellipse: s-maj=7.0km s-min=4.1km az=153.6*

SZGRF ***26*** *11:49:26.9, 15°.78S×171°.74W, h33km, Samoa Islands region*

NEIC ***26*** *11:49:27.8±0.1, 15°.45S×173°.20W, mb5.2/72, Error ellipse: s-maj=7.6km s-min=3.7km az=144.0*

MOS ***26*** *11:49:27.1±0.9, 15°.23S×172°.94W, h33km, mb5.4/34, MS5.0/9, Error ellipse: s-maj=14.1km s-min=8.0km az=59.7*

GCMT ***26*** *11:49:31.3±0.1, 15°.26S×172°.83W, h28km, MW5.4, Moment Tensor Solution. s86,c152; s93,c176; Moment tensor: Scale 10^{17}Nm; M_{rr}1.30±.03; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-1.38±.02; $M_{r\theta}$-0.12±.04; $M_{\theta\phi}$0.39±.02; $M_{r\phi}$0.68±.03; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s348.00000°, δ58.00000°, λ92.00000°. NP2:ϕ_s164.00000°, δ32.00000°, λ86.00000°. Principal axes: T 1.4600, Plg77.0000°, Azm266.0000°; N 0.1700, Plg2.0000°, Azm167.0000°; P -1.6400, Plg13.0000°, Azm76.0000°; Data Used: II IU IC G CN.*

ISC 26 11:49:27.7±0.4, 15°.44S±0°.06×173°.16W±0°.05, h38km±6km, h39km:pP-P, n740, σ1§04/760, mb5.1/115, MS4.9/43, 200C-168D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.03	42	Pn	Pn	11 49 52.7	-6.7
AFI				Sn	Sn	11 50 12.5	-11
AFI	Afiamalu 287nm,0.3s,baz=198,slow=1.3,SNR=223	2.03	42	Pn	Pn	11 49 52.7	-6.7
AFI				Sn	Sn	11 50 12.5	-11
	2μm,0.3s,baz=217,slow=20,SNR=18						
NIUE	Niue baz=4.6,SNR=54	4.76	140	P	Pn	11 50 32.4	-4.5
MSVF	Nonsavu	8.73	254	*e*P	Pn	11 51 38.1	+6.6
MSVF				*e*		11 53 22.0	
MSVF	Nonsavu	8.73	254	*e*Pn	Pn	11 51 38.1	+6.6
MSVF				*e*Sn	Sn	11 53 21.9	+13
RAR	Rarotonga	13.95	116	Pn	Pn	11 52 36.6	-6.2
RAR				Sn	Sn	11 55 08.2	-8.1
RAR	Rarotonga 3.6nm,0.3s,baz=270,slow=7.8,SNR=3.8	13.95	116	Pn	Pn	11 52 36.6	-6.2
RAR				Sn	Sn	11 55 08.2	-8.1
	baz=270,slow=3.0,SNR=3.1						
RAR				LR	LR	11 57 03.4	
	comp=Z,2μm,20.5s,baz=270,slow=33						
DZM	Mont Dzumac 152nm,1.2s	20.39	248	*e*P	Pn	11 54 02.8	-1.0
DZM				*e*LQ	LQ	11 58 02.8	
	3μm,26.2s						
DZM				*e*LR	LR	11 58 56.7	
	6μm,24.1s						
DZM	Mont Dzumac	20.39	248	*e*P	P	11 53 59.2	-2.3
DZM	Mont Dzumac	20.39	248	P	Pn	11 54 02.5	-1.3
DZM	Mont Dzumac 16nm,0.8s,baz=62,slow=18,SNR=9.2	20.39	248	P	Pn	11 54 02.5	-1.3
DZM				LR	LR	11 59 21.2	
	comp=Z,791nm,18.1s,baz=180,slow=29						
NOUC	Port Laguerre	20.53	248	*e*P	Pn	11 54 04.5	-0.7
TARA	Tarawa 70nm,0.9s	21.63	319	*e*P	P	11 54 15.6	+0.8
PAE	Paea 16nm,1.1s	22.71	99	*e*P	P	11 54 25.6	-0.8
PPT	Papeete comp=Z,2μm,19.5s,baz=83,slow=31	22.71	99	LR	LR	12 01 03.7	
PPT2	Papeete2 103nm,1.5s	22.71	99	*e*P	P	11 54 26.0	-0.5
PPT2				*e*S	S	11 58 28.3	-4.3
	1μm,24.2s						
PPT2				*e*LQ	LQ	11 58 48.1	
	6μm,28.5s						
PPT2				*e*LR	LR	11 59 51.8	
	5μm,25.0s,baz=260						
TVO	Taravao 233nm,1.5s	23.03	99	*e*P	P	11 54 28.8	-0.9
XMAS	Kiritimati 50nm,0.9s	23.32	43	*e*P	P	11 54 32.9	+0.4
TBI	Tubuai 939nm,25.8s	23.68	113	*e*S	S	11 58 44.8	-3.5
TBI				*e*LQ	LQ	11 59 15.7	
	5μm,30.0s						
TBI				*e*LR	LR	12 00 25.7	
	5μm,25.5s,baz=286						
URZ	Urewera	24.30	199	P	P	11 54 40.8	-0.7
URZ	Urewera 24nm,1.0s,baz=350,slow=6.1,SNR=4.1	24.30	199	P	P	11 54 40.8	-0.7
PMOR	Pomariorio Ree 246nm,1.3s	24.38	92	*e*P	P	11 54 42.2	-0.3
HNR	Honiara comp=Z,3μm,18.4s,baz=119,slow=33	26.91	280	LR	LR	12 04 21.6	
WHZ	Wether Hill Ro 1μm,2.6s	34.25	204	*e*P	P	11 56 10.9	+1.0
EIDS	Eidsvold 122nm,2.7s	34.84	248	*e*P	P	11 56 13.8	-1.5
ARMA	Armidale baz=36,SNR=7.4	35.52	239	P	P	11 56 20.1	-1.1
RKT	Rikitea 459nm,28.0s	36.77	108	*e*S	S	12 02 13.5	+0.2
RKT				*e*LQ	LQ	12 04 56.8	
	623nm,29.2s						
RKT				*e*LR	LR	12 06 27.1	
	3μm,25.5s,baz=281						
RMQ	Roma baz=38,SNR=5.6	37.09	246	P	P	11 56 33.8	-0.8
CNB	Canberra Magne baz=40,SNR=7.3	38.91	232	P	P	11 56 49.1	-0.8
KIP	Kipapa comp=Z,143nm,1.6s	39.54	22	*e*P	P	11 56 54.4	-0.7
KIP				pmax	pmax		
CMSA	Cobar Meteorol baz=41,SNR=5.0	40.73	239	P	P	11 57 03.5	-1.4
CMSA				S	S	12 03 17.1	+4.1
	baz=41,SNR=8.3						
MTSU	Mount Surprise baz=41,SNR=12	40.73	260	P	P	11 57 03.9	-1.3
COEN	Coen comp=Z,135nm,0.9s	42.21	266	*e*P	P	11 57 17.3	0.0
COEN	Coen baz=43,SNR=12	42.21	266	P	P	11 57 17.6	+0.3
TOO	Toolangi	42.62	231	P	P	11 57 19.9	-0.5
	baz=43,SNR=4.6						
STKA	Stephens Creek	44.21	240	*e*P	P	11 57 32.3	-1.1
STKA				PcP	PcP	11 59 18.5	+0.9
STKA	Stephens Creek comp=Z,14nm,0.8s,baz=77,slow=7.4,SNR=24	44.21	240	P	P	11 57 31.8	-1.5
STKA				PcP	PcP	11 59 18.5	+0.9
	comp=Z,3.9nm,0.8s,baz=117,slow=6.8,SNR=2.8						
STKA	Stephens Creek baz=45,SNR=10	44.21	240	P	P	11 57 32.2	-1.1
BBOO	Buckleboo baz=50,SNR=11	48.99	240	P	P	11 58 09.3	-1.5
WRAB	Tennant Creek comp=Z,106nm,0.5s,SNR=7.7	50.05	257	P	P	11 58 17.0	-2.0
WRAB	Tennant Creek	50.05	257	*e*P	P	11 58 17.3	-1.7
WRAB				pmax	pmax		
	comp=Z,88nm,1.9s						
WRAB	Tennant Creek comp=Z,88nm,1.9s	50.05	257	*e*P	P	11 58 17.3	-1.7
WRA	Warramunga Arr	50.06	257	P	P	11 58 17.3	-1.8
WRA				PcP	PcP	11 59 38.3	-0.2
WRA	Warramunga Arr comp=Z,8.7nm,0.5s,baz=91,slow=6.8,SNR=164	50.06	257	P	P	11 58 17.3	-1.8
WRA				PcP	PcP	11 59 38.3	-0.2
	comp=Z,3.5nm,0.7s,baz=87,slow=3.6,SNR=5.6						
WRA				LR	LR	12 18 01.1	
	comp=Z,2μm,20.0s,baz=85,slow=34						
AS31	Alice Springs	50.31	252	*e*P	P	11 58 19.4	-1.6
ASAR	Alice Springs	50.31	252	P	P	11 58 19.8	-1.2
ASAR	Alice Springs comp=Z,14nm,0.5s,baz=87,slow=8.0,SNR=174	50.31	252	P	P	11 58 19.8	-1.2
ASAR				LR	LR	12 17 59.1	
	comp=Z,3μm,20.1s,baz=95,slow=34						
KDU	Kakadu baz=53,SNR=4.3	52.69	266	P	P	11 58 39.6	+0.8
MTN	Manton Dam baz=54,SNR=4.3	53.95	265	P	P	11 58 46.5	-1.6
FORT	Forrest comp=Z,27nm,0.7s	55.60	243	*e*P	P	11 58 58.3	-1.5
FORT	Forrest baz=56,SNR=11	55.60	243	P	P	11 58 58.1	-1.7
KNRA	Kununurra baz=56,SNR=8.3	55.78	261	P	P	11 59 01.5	+0.2
FITZ	Fitzroy Crossi	58.42	258	P	P	11 59 19.9	-0.1
FITZ	Fitzroy Crossi comp=Z,1.6nm,0.7s,baz=320,slow=19,SNR=10	58.42	258	P	P	11 59 19.9	-0.1
FITZ	Fitzroy Crossi baz=59,SNR=5.7	58.42	258	P	P	11 59 21.4	+1.4
SOEI	Soe baz=62,SNR=4.1	61.15	267	P	P	11 59 39.9	+0.9
SBA	Scott Base	63.23	185	*e*P	P	11 59 54.8	+3.1
SBA				pmax	pmax		
	comp=Z,141nm,2.3s						
SBA	Scott Base comp=Z,141nm,2.3s	63.23	185	*e*P	P	11 59 54.8	+3.1
VNDA	Vanda comp=Z,12nm,1.1s	63.36	186	*e*P	P	11 59 54.8	+2.2
VNDA	Vanda comp=Z,4.9nm,0.8s,baz=11,slow=6.0,SNR=23	63.36	186	P	P	11 59 54.8	+2.2
VNDA				LR	LR	12 20 28.2	
	comp=Z,233nm,20.8s,baz=5.6,slow=30						
MEEK	Meekatharra baz=65,SNR=6.5	64.01	248	P	P	11 59 57.5	-0.3
KLBR	Kellerberrin baz=65,SNR=7.0	64.42	242	P	P	11 59 59.8	-0.6
MJAR	Matsushiro Arr	69.12	320	P	P	12 00 30.2	+0.1
MJAR	Matsushiro Arr comp=Z,5.1nm,1.0s,baz=168,slow=5.8,SNR=9.9	69.12	320	P	P	12 00 30.2	+0.1
MJAR				LR	LR	12 25 03.4	
	comp=Z,871nm,21.7s,baz=110,slow=31						
MAT	Matsushiro	69.12	320	P	P	12 00 30.3	+0.2
MAT				*e*S	SKiKP	12 10 07.0	-11
KUR	Kuril'sk	69.97	332	*e*P	P	12 00 31.3	-3.8
KUR				*i* S	S	12 09 50.8	+8.3
KUR				MLR	MLR		
	comp=N,484nm,19.0s						
KUR				MLR	MLR		
	comp=Z,656nm,19.0s						
YUK	Yuzh-Kuril'sk	70.01	330	*e*P	P	12 00 38.1	+2.7
YUK				*e*S	S	12 09 39.0	-4.1
CASY	Casey comp=Z,149nm,2.6s	70.47	205	*e*P	P	12 00 38.3	+0.4
ASAJ	Asahikawa	71.70	328	P	P	12 00 47.4	+1.8
ASAJ	Asahikawa comp=Z,20nm,0.8s,baz=205,slow=9.1,SNR=14	71.70	328	P	P	12 00 47.4	+1.8
JNU	Nakatsue	71.99	313	P	P	12 00 48.8	+1.1
JNU	Nakatsue comp=Z,4.2nm,0.8s,baz=157,slow=12,SNR=5.0	71.99	313	P	P	12 00 48.8	+1.1
VES	Vestal, Richgr baz=72	72.22	44	⇓P	P	12 00 50.0	+1.0
BFSC	Mount Baldy Ra baz=72	72.29	46	⇓P	P	12 00 50.5	+0.9
EDW2	Edwards Air Fo baz=73	72.41	45	⇓P	P	12 00 51.0	+0.7
MONP	Monument Peak baz=73	72.43	48	⇑P	P	12 00 51.2	+0.7
ISA	Isabella	72.52	44	*e*P	P	12 00 51.4	+0.5
ISA				pmax	pmax		
	comp=Z,27nm,1.6s						
ISA	Isabella comp=Z,27nm,1.6s	72.52	44	*e*P	P	12 00 51.4	+0.5
ISA	Isabella baz=73	72.52	44	⇓P	P	12 00 51.7	+0.8
CHGN	Chignik	72.53	9	*e*P	P	12 00 50.0	-0.3
CMB	Columbia Colle	72.64	41	*e*P	P	12 00 51.8	+0.3
CMB				*e**PP	pP	12 01 02.7	-0.5
CMB	Columbia Colle	72.64	41	*e*P	P	12 00 51.8	+0.3
CMB				*e*pP	pP	12 01 02.7	-0.5
PEA0B	Petropavlovsk-	72.74	342	*e*P	P	12 00 51.9	+0.2
PETK	Petropavlovsk-	72.74	342	P	P	12 00 52.1	+0.4
PETK	Petropavlovsk-	72.74	342	P	P	12 00 52.1	+0.4
PETK	Petropavlovsk- comp=Z,10nm,0.9s,baz=140,slow=9.4,SNR=20	72.74	342	P	P	12 00 52.1	+0.4
PETK				LR	LR	12 30 05.0	
	comp=Z,212nm,19.3s,baz=158,slow=34						
PFO	Pinyon Flat Ob baz=73	72.78	47	⇑P	P	12 00 53.0	+0.4
CWC	Cottonwood Cre baz=73	73.22	44	⇑P	P	12 00 56.2	+1.1
BELC	Belle Mtn. Jos baz=74	73.31	47	⇑P	P	12 00 56.4	+0.7
MPMC	Manual Prospec baz=74	73.41	44	⇓P	P	12 00 57.0	+0.7
GSC	Goldstone	73.45	45	*e*P	P	12 00 56.8	+0.4
GSC				pmax	pmax		
	comp=Z,13nm,1.3s						
GSC	Goldstone comp=Z,13nm,1.3s	73.45	45	*e*P	P	12 00 56.8	+0.4
GSC	Goldstone baz=74	73.45	45	⇑P	P	12 00 57.4	+1.0
BC3	Big Chuckawall baz=74	73.52	47	⇓P	P	12 00 57.8	+0.9
WAKR	Walker	73.53	41	*e*P	P	12 00 57.3	+0.4
HEC	Hector,Ludlow baz=74	73.53	46	⇓P	P	12 00 57.4	+0.6
YSS	Yuzh-Sakhalins	73.63	330	⇓*i*P	P	12 00 59.0	+1.9
YSS				*e*		12 01 20.0	
BEKR	Beckworth comp=Z,26nm,2.1s	73.75	40	*e*P	P	12 00 58.3	+0.1
HUMO	Hull Mountain	73.91	36	*e*P	P	12 00 59.6	+0.8
GMRC	Granite Mounta baz=74	73.97	46	⇑P	P	12 00 59.9	+0.4
IRM	Iron Mountain baz=74	74.00	47	⇓P	P	12 01 00.2	+0.6
GRAC	Grapevine Rang baz=74	74.01	44	⇑P	P	12 01 00.3	+0.7
FURC	Furnace Creek, baz=74	74.06	44	⇑P	P	12 01 00.4	+0.6
TUQ	Turquoise Moun baz=74	74.13	46	⇑P	P	12 01 00.8	+0.3
SHOC	Shoshone baz=74	74.14	45	⇑P	P	12 01 01.1	+0.8
NVAR	Mina Array Bea	74.21	42	P	P	12 01 01.2	+0.3
NVAR	Mina Array Bea comp=Z,2.0nm,0.7s,baz=226,slow=8.9,SNR=19	74.21	42	P	P	12 01 01.2	+0.3
NVAR				LR	LR	12 27 27.1	
	comp=Z,837nm,18.6s,baz=326,slow=31						
Y12C	Blythe baz=74	74.23	48	⇑P	P	12 01 01.6	+0.8
PAHR	Pah Rah Range comp=Z,111nm,2.5s	74.26	40	*e*P	P	12 01 01.5	+0.3
113A	Mohawk Valley, baz=74	74.27	49	⇑P	P	12 01 01.8	+0.6
NV11	Mina Array Sit	74.30	42	*e*P	P	12 01 02.4	+1.0
214A	Organ Pipe Nat baz=75	74.57	50	⇑P	P	12 01 03.8	+0.8
PDMCI	Parker Dam,Lak baz=75	74.78	47	⇓P	P	12 01 05.1	+1.1
UGM	Wanagama baz=75,SNR=3.8	74.80	266	P	P	12 00 58.4	-6.3
KDAK	Kodiak Island comp=Z,53nm,1.4s	74.92	11	*e*P	P	12 01 04.5	+0.2
Z14A	Wintersburg baz=75	75.17	49	⇓P	P	12 01 07.1	+0.8
SHPR	Sheep Range	75.23	45	*e*P	P	12 01 07.4	+0.6
Y14A	Wickenburg baz=76	75.41	48	⇓P	P	12 01 08.5	+0.7
R11A	Troy Canyon, C baz=76	75.93	43	⇑P	P	12 01 11.7	+0.9
TUC	Tucson	76.24	51	*e*P	P	12 01 13.1	+0.5
TUC				pmax	pmax		
	comp=Z,78nm,2.3s						
TUC	Tucson comp=Z,78nm,2.3s	76.24	51	*e*P	P	12 01 13.1	+0.5
WVOR	Wild Horse Val	76.33	38	*e*P	P	12 01 13.6	+0.7
WVOR				pmax	pmax		
	comp=Z,20nm,1.2s						
WVOR	Wild Horse Val comp=Z,20nm,1.2s	76.33	38	*e*P	P	12 01 13.6	+0.7
KSRS	Korea Array comp=Z,1.0nm,0.6s,baz=137,slow=5.8,SNR=4.5	76.35	315	P	P	12 01 15.8	+2.9
KSRS				LR	LR	12 28 49.6	
	comp=Z,301nm,21.7s,baz=115,slow=31						
KSAR	Wonju Array Be	76.37	315	P	P	12 01 15.8	+2.8
VIPM	Ingram Point	76.42	36	P	P	12 01 14.0	+0.5
VIPM	Ingram Point	76.42	36	P	P	12 01 14.0	+0.5
VLL	Laurance Lake	76.43	35	P	P	12 01 14.3	+0.9
X16A	Lo Mia Camp, P baz=77	76.77	48	⇓P	P	12 01 17.2	+1.5
ASR	Mount Adams--S	76.91	34	P	P	12 01 16.7	+0.6
319A	Douglas baz=77	76.94	52	⇓P	P	12 01 17.7	+1.1
CCUT	Cedar City comp=Z,28nm,1.7s	77.00	45	*e*P	P	12 01 17.9	+0.9
U15A	North Rim baz=77	77.17	46	⇓P	P	12 01 19.0	+1.0
LON	Longmire	77.17	33	*e*P	P	12 01 17.6	+0.1
LON				pmax	pmax		
	comp=Z,33nm,1.6s						
LON	Longmire comp=Z,33nm,1.6s	77.17	33	*e*P	P	12 01 17.6	+0.1
WPW	White Pass	77.28	34	P	P	12 01 18.4	+0.2
WUAZ	Wupatki	77.36	47	*e*P	P	12 01 19.9	+0.9
	comp=Z,13nm,1.2s						
WUAZ	Wupatki baz=78	77.36	47	⇓P	P	12 01 19.8	+0.9
RSO	Redoubt South	77.41	10	*e*P	P	12 01 18.2	-0.5
ELK	Elko comp=Z,25nm,1.6s	77.46	41	*e*P	P	12 01 19.7	+0.2
320A	Kipp Ranch, An baz=78	77.49	52	⇓P	P	12 01 20.7	+0.9
USRK	Ussuriysk Arra comp=Z,6.5nm,0.9s,baz=124,slow=5.1,SNR=11	77.55	323	P	P	12 01 21.2	+1.6
USRK				LR	LR	12 28 55.3	
	comp=Z,930nm,21.9s,baz=116,slow=31						
PGC	Sidney	77.56	31	*e*P	P	12 01 19.9	+0.4
QZH	Quanzhou	77.67	300	P	P	12 01 19.3	-1.4
QZH				S	S	12 11 13.0	+2.8
QZH				LR	LR		
	comp=Z,900nm,32.4s						
220A	Playas Peak, P baz=78,SNR=12	77.75	52	⇑P	P	12 01 22.6	+1.4
X18A	Snowflake baz=78	77.91	49	⇑P	P	12 01 23.1	+1.0
120A	U Bar Ranch, L baz=78,SNR=7.1	77.96	51	⇑P	P	12 01 23.5	+1.1
JCW	Jim Creek	78.03	32	P	P	12 01 22.6	+0.4
SSE	Sheshan	78.16	307	P	P	12 01 22.3	-1.0
SSE				S	S	12 11 13.5	-1.8
SSE				sS	sS	12 11 34.0	-0.9
SSE				pmax	pmax		
	comp=Z,25nm,0.7s						
SSE				pmax	pmax		
	comp=Z,150nm,12.0s						
SSE				LR	LR		
	comp=N,240nm,25.0s						
SSE				LR	LR		
	comp=E,220nm,25.0s						
SSE				LR	LR		
	comp=Z,400nm,25.9s						
SPU	Mount Spurr	78.20	10	*e*P	P	12 01 22.5	-0.4
Z20A	Nine Sixteen R baz=78,SNR=5.4	78.25	51	⇑P	P	12 01 25.2	+1.2
MVU	Marysvale comp=Z,10nm,1.0s	78.27	44	*e*P	P	12 01 24.9	+0.8
221A	Mesquite Ranch baz=78	78.37	52	⇓P	P	12 01 25.7	+1.1
ETW	Entiat	78.50	33	P	P	12 01 25.2	+0.3
BMO	Blue Mountains	78.52	37	*e*P	P	12 01 25.3	+0.2
BMO				pmax	pmax		
	comp=Z,35nm,1.6s						
BMO	Blue Mountains comp=Z,35nm,1.6s	78.52	37	*e*P	P	12 01 25.3	+0.2
MFID	Camas Ranch baz=79,SNR=11	78.58	39	⇓P	P	12 01 25.9	+0.5
121A	Cookes Peak, D baz=79	78.59	52	⇓P	P	12 01 26.8	+0.9
DUG	Dugway	78.74	43	*e*P	P	12 01 26.5	0.0
DUG				pmax	pmax		
	comp=Z,11nm,1.1s						
DUG	Dugway comp=Z,11nm,1.1s	78.74	43	*e*P	P	12 01 26.4	0.0
DUG	Dugway baz=79	78.74	43	⇓P	P	12 01 27.0	+0.6
Y20A	Horse Springs, baz=79,SNR=6.8	78.77	50	⇓P	P	12 01 28.3	+1.4
XMIS	Christmas Isla baz=79,SNR=4.1	78.86	262	P	P	12 01 18.1	-9.4
222A	Williams Famil baz=79	78.92	52	⇑P	P	12 01 28.7	+1.0
X20A	Quemado baz=79,SNR=6.4	78.97	49	⇓P	P	12 01 29.3	+1.3
BGU	Big Grassy Mou comp=Z,26nm,1.8s	78.98	42	*e*P	P	12 01 27.7	-0.1
Z21A	St. Cloud Mine baz=79	79.03	51	⇑P	P	12 01 29.5	+1.2
PMR	Palmer	79.12	11	*e*P	P	12 01 27.4	-0.4
PMR				pmax	pmax		
	comp=Z,28nm,1.3s						
PMR	Palmer comp=Z,28nm,1.3s	79.12	11	*e*P	P	12 01 27.4	-0.4
Q16A	Castle Valley	79.18	45	*e*P	P	12 01 30.0	+1.0
Q16A	Castle Valley baz=79	79.18	45	⇓P	P	12 01 30.2	+1.2
MDJ	Mudanjiang	79.20	322	P	P	12 01 30.5	+1.8
MDJ				pP	pP	12 01 40.0	-0.5
MDJ				sP	sP	12 01 43.8	-1.1
MDJ				PP	PP	12 04 28.0	-0.8
MDJ				S	S	12 11 27.0	+1.2
MDJ				ScS	ScS	12 11 50.8	+2.4
MDJ				SS	SS	12 16 36.0	+2.8
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,210nm,6.9s						
MDJ				LR	LR		
	comp=N,330nm,22.1s						
MDJ				LR	LR		
	comp=E,510nm,21.4s						
MDJ				LR	LR		
	comp=Z,840nm,22.1s						
W20A	Ramah baz=79,SNR=11	79.24	49	⇓P	P	12 01 30.8	+1.3
122A	Conniff Cattle baz=79	79.26	52	⇑P	P	12 01 30.7	+1.2
Y21A	Point of Rocks baz=80	79.34	50	⇑P	P	12 01 31.2	+1.2
TMUT	Trail Mountain comp=Z,94nm,1.8s	79.34	44	*e*P	P	12 01 30.8	+0.7
DIV	Divide comp=Z,55nm,1.4s	79.39	13	*e*P	P	12 01 29.2	-0.3
MPU	Maple Canyon comp=Z,5.3nm,1.0s	79.42	43	*e*P	P	12 01 29.3	-1.0
X21A	Alamocita Cree baz=80	79.45	50	⇓P	P	12 01 31.7	+1.1
BMRM	Bremner River comp=Z,33nm,1.0s	79.50	14	*e*P	P	12 01 30.2	+0.2
HLID	Hailey comp=Z,15nm,0.9s	79.52	39	*e*P	P	12 01 31.5	+0.8
HLID	Hailey baz=80,SNR=28	79.52	39	⇓P	P	12 01 31.6	+0.9
Z22A	Elephant Butte baz=80	79.53	51	⇓P	P	12 01 32.0	+1.0

V20A **Brimhall** 79.57 48 ⇑P P 12 01 32.1 +0.9
baz=80
HVU **Hansel Valley** 79.59 41 eP P 12 01 31.5 +0.4
HVU pmax pmax
comp=Z,99nm,2.2s
HVU **Hansel Valley** 79.59 41 eP P 12 01 31.5 +0.4
comp=Z,99nm,2.2s
SRU **San Rafael** 79.71 45 eP P 12 01 32.5 +0.6
SRU pmax pmax
comp=Z,31nm,1.6s
SRU **San Rafael** 79.71 45 eP P 12 01 32.5 +0.6
comp=Z,31nm,1.6s
U20A **Newcomb** 79.80 48 ⇓P P 12 01 33.3 +0.9
baz=80
Y22A **Socorro** 79.83 51 ⇑P P 12 01 33.8 +1.1
baz=80
JLU **Jordanelle** 79.84 43 eP P 12 01 32.9 +0.3
comp=Z,27nm,1.5s
W21A **San Fidel** 79.86 49 ⇑P P 12 01 34.0 +1.2
baz=80
DAU **Daniels Canyon** 79.87 43 eP P 12 01 33.5 +0.6
DAU **Daniels Canyon** 79.87 43 eP P 12 01 33.5 +0.6
324A **Moseley Ranch,** 79.88 53 ⇑P P 12 01 33.7 +0.7
baz=80
LAZ **Ladron** 79.91 50 eP P 12 01 34.2 +1.1
425A **Indio Mountain** 80.00 54 ⇓P P 12 01 34.7 +1.1
baz=80,SNR=11
MNTX **Cornudas Mount** 80.07 53 eP P 12 01 34.0 +0.2
comp=Z,19nm,1.4s
Z23A **Rita Site, Whi** 80.09 51 ⇓P P 12 01 35.5 +1.5
baz=80
224A **Cornudas Mount** 80.12 53 ⇓P P 12 01 35.3 +1.1
baz=80,SNR=9.2
V21A **Milan** 80.17 49 ⇑P P 12 01 35.4 +0.9
baz=80
MVCO **Mesa Verde** 80.20 47 eP P 12 01 35.4 +0.7
comp=Z,35nm,1.8s
MVCO **Mesa Verde** 80.20 47 ⇓P P 12 01 35.8 +1.1
baz=80
325A **Bean Ranch, Si** 80.25 54 ⇑P P 12 01 35.5 +0.6
baz=80,SNR=14
HWUT **Hardware Ranch** 80.27 42 eP P 12 01 34.8 0.0
comp=Z,13nm,1.4s
NJ2 **Nanjing** 80.37 307 eP P 12 01 36.0 +0.7
NJ2 pmax pmax
comp=Z,17nm,0.5s
PV10 **Paradox Valley** 80.38 46 eP P 12 01 35.9 +0.3
526A **Mary Lane Ranc** 80.40 55 ⇑P P 12 01 36.7 +0.9
baz=81,SNR=11
W22A **Albuquerque** 80.41 50 ⇑P P 12 01 37.4 +1.6
baz=81
124A **Stringfield Ra** 80.44 52 ⇓P P 12 01 37.0 +1.0
baz=81,SNR=5.4
U21A **Nageezi** 80.44 48 ⇑P P 12 01 37.1 +1.1
baz=81,SNR=32
TXAR **Lajitas Array** 80.45 56 P P 12 01 36.8 +0.8
TXAR **Lajitas Array** 80.45 56 P P 12 01 36.8 +0.8
comp=Z,4.9nm,1.1s,baz=224,slow=5.2,SNR=33
TXAR LR LR 12 32 04.5
comp=Z,556nm,18.4s,baz=355,slow=32
PV04 **Paradox Valley** 80.48 46 eP P 12 01 36.8 +0.8
Y23A **Lovelace Mesa,** 80.51 51 ⇑P P 12 01 37.2 +0.9
baz=81
PV01 **Paradox Valley** 80.59 46 eP P 12 01 37.3 +0.6
S20A **Disappointment** 80.59 47 ⇑P P 12 01 37.8 +1.1
baz=81,SNR=12
NEW **Newport** 80.61 34 eP P 12 01 36.2 -0.2
comp=Z,6.3nm,0.9s
TRF **Thorofare Moun** 80.63 10 eP P 12 01 35.1 -1.2
comp=Z,24nm,1.1s
ANMO **Albuquerque** 80.65 50 eP P 12 01 37.6 +0.6
comp=Z,27nm,1.7s
225A **Deer Hill, Car** 80.67 53 ⇑P P 12 01 38.2 +1.0
baz=81,SNR=8.1
KLR **Kul'dur** 80.68 327 eP P 12 01 33.3 -3.3
KLR pmax pmax
comp=Z,63nm,2.0s
X23A **Hourglass Bar** 80.69 50 ⇑P P 12 01 38.3 +1.0
baz=81
426A **McDonald Obser** 80.70 55 ⇑P P 12 01 38.1 +0.7
baz=81,SNR=14
627A **Terlingua Ranc** 80.72 56 ⇑P P 12 01 38.2 +0.8
baz=81,SNR=15
R20A **Redvale** 80.75 46 ⇑P P 12 01 38.2 +0.7
baz=81,SNR=6.3
V22A **San Miguel Ran** 80.75 49 ⇓P P 12 01 38.4 +0.8
baz=81
Z24A **Sheeppen Canyo** 80.77 52 ⇓P P 12 01 38.5 +0.8
baz=81
M17A **Scullys Gap (B** 80.79 42 ⇓P P 12 01 38.2 +0.5
baz=81
T21A **Navajo Lake** 80.79 48 ⇑P P 12 01 38.8 +1.0
baz=81
527A **Woodward Ranch** 80.81 55 ⇓P P 12 01 38.6 +0.6
baz=81,SNR=12
S21A **Coal Bank Pass** 80.91 47 ⇓P P 12 01 39.6 +1.1
baz=81,SNR=17
Y24A **Capitan** 80.97 51 ⇑P P 12 01 39.7 +0.9
baz=81
W23A **Werner Place,** 80.97 50 ⇓P P 12 01 39.7 +0.9
baz=81
U22A **Llaves** 81.00 48 ⇑P P 12 01 39.8 +0.9
baz=81
326A **Caldwell Ranch** 81.00 54 ⇓P P 12 01 39.5 +0.7
baz=81
P19A **Cripple Cowboy** 81.01 45 ⇑P P 12 01 39.5 +0.6
baz=81,SNR=5.4
125A **Gardner Draw,** 81.03 53 ⇑P P 12 01 39.8 +0.8
baz=81,SNR=5.8
GDL2 **Guadalupe Moun** 81.06 53 eP P 12 01 40.0 +0.8
comp=Z,13nm,1.3s
PAX **Paxson** 81.10 12 eP P 12 01 38.4 -0.2
PAX pmax pmax
comp=Z,13nm,1.2s
PAX **Paxson** 81.10 12 eP P 12 01 38.4 -0.2
comp=Z,13nm,1.2s
MCK **McKinley** 81.12 11 eP P 12 01 38.4 -0.3
MCK pmax pmax
comp=Z,33nm,1.0s
MCK **McKinley** 81.12 11 eP P 12 01 38.4 -0.3
comp=Z,33nm,1.0s
628A **Black Gap, Mar** 81.13 56 ⇑P P 12 01 40.4 +0.9
baz=81,SNR=10
MCMT **McKenzie Canyo** 81.14 39 eP P 12 01 40.2 +0.7
Q20A **Ridgley Place,** 81.16 46 ⇑P P 12 01 40.7 +1.0
baz=81,SNR=5.1
226B **Tecolote Peak,** 81.17 53 ⇓P P 12 01 40.7 +1.0
baz=81,SNR=15
HYT **Haines Junctio** 81.19 17 eP P 12 01 39.8 +0.6
V23A **Ortiz Mt. (NFS** 81.21 49 ⇓P P 12 01 41.5 +1.5
baz=81,SNR=8.2
O19A **Miners Draw (B** 81.23 44 ⇓P P 12 01 40.5 +0.5
baz=81
Z25A **Roswell** 81.24 52 ⇑P P 12 01 41.1 +1.0
baz=81,SNR=6.0
X24A **Lazy VL Ranch,** 81.25 51 ⇑P P 12 01 41.2 +1.0
baz=81
T22A **Edith** 81.25 48 ⇑P P 12 01 41.0 +0.8
baz=81,SNR=6.5
427A **Hayter Ranch,** 81.26 55 ⇓P P 12 01 41.0 +0.7
baz=81,SNR=12
CN2 **Changchun** 81.27 320 ⇓P P 12 01 41.3 +1.5
CN2 epP pP 12 01 54.5 +2.8
CN2 esP sP 12 01 59.5 +3.4
CN2 eS S 12 11 46.8 -0.8
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,7.0s
CN2 LR LR
comp=N,300nm,21.0s
CN2 LR LR
comp=E,300nm,21.0s
CN2 LR LR
comp=Z,400nm,23.0s
RRI2 **Red Ridge** 81.32 41 eP P 12 01 41.1 +0.6
comp=Z,18nm,1.0s
P20A **De Beque** 81.35 45 ⇑P P 12 01 41.5 +0.8
baz=82,SNR=12
R21A **Cimarron** 81.41 46 ⇓P P 12 01 42.2 +1.2
baz=82,SNR=17
L18A **Fontenelle, Gr** 81.42 42 ⇑P P 12 01 42.0 +1.0
baz=82
MENT **Mentasta** 81.44 13 eP P 12 01 41.0 +0.6
U23A **El Rito** 81.46 49 ⇓P P 12 01 42.3 +1.0
baz=82,SNR=11
528A **Cox Ranch, San** 81.48 56 ⇑P P 12 01 42.1 +0.6
baz=82,SNR=13
I16A **Newdale** 81.48 40 ⇓P P 12 01 42.4 +1.2
baz=82,SNR=14
126A **Clayton Basin,** 81.51 53 ⇓P P 12 01 42.0 +0.5
baz=82,SNR=5.2
Y25A **Mesa, Roswell** 81.53 51 ⇓P P 12 01 42.3 +0.7
baz=82,SNR=7.2
W24A **Lazy 6 Ranch,** 81.54 50 ⇑P P 12 01 42.4 +0.6
baz=82
MSO **Missoula** 81.58 37 eP P 12 01 41.4 -0.2
comp=Z,23nm,1.3s
MSO **Missoula** 81.58 37 ⇑P P 12 01 41.5 -0.1
baz=82,SNR=10
Q21A **Lamborn Mesa,** 81.60 46 ⇓P P 12 01 43.2 +1.2
baz=82
REDW **Red Top Meadow** 81.62 41 eP P 12 01 42.5 +0.5
comp=Z,68nm,1.8s
TPAW **Teton Pass** 81.62 41 eP P 12 01 42.8 +0.7
comp=Z,20nm,1.1s
S22A **4UR Ranch, Cre** 81.63 47 ⇓P P 12 01 43.4 +1.1
baz=82,SNR=23
BSMT **Bassoo Peak** 81.66 35 eP P 12 01 42.0 -0.1
O20A **White River Ci** 81.75 45 eP P 12 01 43.7 +0.9
O20A **White River Ci** 81.75 45 ⇓P P 12 01 43.6 +0.8
baz=82,SNR=5.7
428A **Kincaid Ranch,** 81.78 55 ⇑P P 12 01 44.1 +1.1
baz=82,SNR=9.4
M19A **Rock Springs** 81.79 43 ⇑P P 12 01 43.9 +0.9
baz=82
Z26A **Caprock** 81.80 52 ⇑P P 12 01 43.7 +0.6
baz=82,SNR=21
X25A **Clemmons Ranch** 81.81 51 ⇑P P 12 01 43.9 +0.7
baz=82
227A **Bennet, Jal** 81.82 54 ⇑P P 12 01 44.0 +0.9
baz=82
V24A **Rampart Ranch,** 81.87 50 ⇓P P 12 01 44.5 +0.9
baz=82,SNR=6.7
MOOW **Moose Ponds** 81.88 40 eP P 12 01 43.1 -0.3
comp=Z,18nm,1.5s
T23A **Casias Ranch,** 81.88 48 ⇑P P 12 01 44.7 +1.1
baz=82
JTMT **Jette** 81.89 36 eP P 12 01 43.1 -0.1
LOHW **Long Hollow** 81.90 41 eP P 12 01 44.0 +0.5
comp=Z,37nm,1.5s
R22A **Saguache, Gunn** 81.90 47 ⇑P P 12 01 45.1 +1.4
baz=82,SNR=16
LRM **Limekiln Ridge** 81.91 38 eP P 12 01 43.8 +0.3
529A **Stev Forest Ra** 81.91 56 ⇑P P 12 01 44.5 +0.9
baz=82
SWMT **Swartz Lake** 81.92 36 eP P 12 01 42.8 -0.6
comp=Z,3.9nm,1.2s
328A **Wristen Ranch,** 81.94 54 ⇑P P 12 01 44.1 +0.3
baz=82,SNR=6.2
L19A **Farson** 81.95 42 ⇑P P 12 01 44.3 +0.5
baz=82,SNR=8.5
P21A **Newcastle** 82.01 45 ⇓P P 12 01 45.0 +0.8
baz=82
QLMT **Earthquake Lak** 82.01 39 eP P 12 01 45.2 +1.2
CHMT **Chamberlain Mo** 82.02 37 eP P 12 01 43.9 -0.2
127A **Arkansas Junct** 82.03 53 ⇑P P 12 01 45.0 +0.6
baz=82
H16A **Russell Place,** 82.05 39 ⇑P P 12 01 45.7 +1.4
baz=82,SNR=37
SLMT **Seeley Lake** 82.06 36 eP P 12 01 43.5 -0.7
N20A **Spence Gulch,** 82.07 44 ⇑P P 12 01 45.0 +0.5
baz=82,SNR=15
I17A **Pilgrim Ck.** 82.07 40 ⇑P P 12 01 45.3 +0.9
baz=82
FLWY **Flagg Ranch** 82.08 40 eP P 12 01 45.3 +0.8
comp=Z,35nm,0.5s
Q22A **Crested Butte,** 82.08 46 ⇓P P 12 01 45.7 +1.0
baz=82,SNR=17
BW06 **Boulder Array** 82.14 42 eP P 12 01 44.7 -0.1
comp=Z,31nm,1.5s
PDAR **Pinedale Array** 82.14 42 P P 12 01 44.7 -0.1
PDAR **Pinedale Array** 82.14 42 P P 12 01 44.7 -0.1
comp=Z,4.4nm,0.9s,baz=225,slow=3.4,SNR=33
PDAR LR LR 12 34 12.8
comp=Z,790nm,18.5s,baz=255,slow=33
U24A **Moreno Valley** 82.16 49 ⇓P P 12 01 46.3 +1.2
baz=82
SMCO **Snowmass** 82.18 46 eP P 12 01 46.0 +0.7
comp=Z,14nm,0.9s
YFT **Old Faithful** 82.18 40 eP P 12 01 45.0 0.0
comp=Z,44nm,1.5s
Y26A **Elida** 82.19 52 ⇓P P 12 01 45.7 +0.5
baz=82,SNR=6.3
S23A **Nye Farm, Mont** 82.20 48 ⇑P P 12 01 46.1 +0.8
baz=82
YMR **Madison River** 82.21 40 eP P 12 01 46.1 +1.0
comp=Z,78nm,1.5s
W25A **X Bar L Ranch,** 82.25 50 ⇓P P 12 01 46.0 +0.5
baz=82,SNR=8.6
BOZ **Bozeman (W)** 82.31 38 eP P 12 01 45.9 +0.4
BOZ pmax pmax
comp=Z,27nm,1.4s
BOZ **Bozeman (W)** 82.31 38 eP P 12 01 45.9 +0.4
comp=Z,27nm,1.4s
H17A **Grant Village** 82.31 40 eP P 12 01 47.0 +1.3
H17A **Grant Village** 82.31 40 ⇑P P 12 01 47.3 +1.6
baz=82,SNR=7.8
O21A **Pagoda** 82.31 45 ⇑P P 12 01 46.2 +0.4
baz=82
COLA **College** 82.36 11 eP P 12 01 45.0 -0.1
COLA pmax pmax
comp=Z,42nm,1.1s
COLA **College** 82.36 11 eP P 12 01 45.0 -0.1
comp=Z,42nm,1.1s
T24B **San Luis** 82.36 48 ⇓P P 12 01 47.2 +1.0
baz=82,SNR=11
429A **Davenport Ranc** 82.37 55 ⇓P P 12 01 46.4 +0.4
baz=82,SNR=15
V25A **Rancho No Teng** 82.39 50 ⇓P P 12 01 46.9 +0.7
baz=83,SNR=15
Z27A **Tatum** 82.40 53 ⇓P P 12 01 46.8 +0.5
baz=83
228A **UT Block 9, Go** 82.40 54 ⇑P P 12 01 47.0 +0.8
baz=83
YNR **Norris Junctio** 82.41 40 eP P 12 01 46.0 -0.2
comp=Z,57nm,1.6s
M20A **Sweetwater, Wa** 82.43 43 ⇑P P 12 01 47.2 +0.8
baz=83
I18A **Diamond G Ranc** 82.44 41 ⇓P P 12 01 47.0 +0.7
baz=83
ILAR **Eielson Array** 82.44 11 P P 12 01 45.0 -0.6
ILAR **Eielson Array** 82.44 11 P P 12 01 45.0 -0.6
comp=Z,3.0nm,0.8s,baz=219,slow=5.4,SNR=31
ILAR LR LR 12 36 10.4
comp=Z,332nm,18.3s,baz=215,slow=34
X26A **CR and CF Fran** 82.46 51 ⇓P P 12 01 47.1 +0.5
baz=83
IM04 **Indian Mountai** 82.47 8 eP P 12 01 45.9 +0.2
LKWY **Lake** 82.50 40 eP P 12 01 46.3 -0.4
LKWY pmax pmax
comp=Z,34nm,1.4s
LKWY **Lake** 82.50 40 eP P 12 01 46.3 -0.4
comp=Z,34nm,1.4s
P22A **Eagle** 82.51 46 ⇑P P 12 01 47.5 +0.7
baz=83,SNR=10
N21A **Black Mountain** 82.53 44 ⇓P P 12 01 47.7 +0.8
baz=83,SNR=5.9
R23A **Moffat** 82.54 47 ⇓P P 12 01 48.1 +1.0
baz=83,SNR=15
L20A **Wamsutter** 82.57 43 ⇓P P 12 01 48.0 +1.0
baz=83,SNR=12
IMA2 **Indian Mountai** 82.57 8 eP P 12 01 46.7 +0.4
SDCO **Great Sand Dun** 82.57 48 eP P 12 01 47.8 +0.6
comp=Z,74nm,2.3s
SEY **Seymchan** 82.62 345 eP P 12 01 46.7 +0.2
530A **J-C Ranch, Com** 82.63 56 ⇑P P 12 01 47.9 +0.5
baz=83,SNR=6.1
K19A **Absolon Red Bu** 82.63 42 ⇑P P 12 01 47.3 0.0
baz=83,SNR=9.8
329A **Wagon Wheel Ra** 82.63 55 ⇑P P 12 01 47.9 +0.5
baz=83,SNR=9.4
Y27A **Causey** 82.67 52 ⇓P P 12 01 47.9 +0.2
baz=83,SNR=6.5
G17A **Pierce Place,** 82.68 39 ⇓P P 12 01 48.5 +1.1
baz=83,SNR=7.6
128A **Castleberry Fa** 82.69 53 ⇓P P 12 01 48.1 +0.4
baz=83,SNR=12
J19A **Crowheart** 82.71 41 ⇑P P 12 01 48.0 +0.3
baz=83,SNR=13
W26A **Owens Ranch, T** 82.71 51 ⇓P P 12 01 48.8 +0.9
baz=83
S24A **Houchin Ranch,** 82.73 48 ⇓P P 12 01 49.0 +0.9
baz=83,SNR=15
HRY **Holter Researc** 82.74 37 eP P 12 01 48.1 +0.4
U25A **Circle Dot Ran** 82.79 49 ⇓P P 12 01 48.7 +0.4
baz=83,SNR=16
WALA **Waterton Lakes** 82.82 35 eP P 12 01 48.1 0.0
comp=Z,0.3nm,0.9s
Q23A **Hartsel** 82.85 47 ⇑P P 12 01 49.6 +0.9
baz=83
K20A **Yellowstone Ra** 82.88 42 ⇓P P 12 01 48.5 -0.1
baz=83,SNR=9.6
O22A **Kremmling** 82.92 45 ⇓P P 12 01 49.6 +0.6
baz=83,SNR=20
430A **Baggett Ranch,** 82.95 56 ⇓P P 12 01 49.5 +0.4
baz=83
229A **Bryant Ranch,** 82.95 54 ⇑P P 12 01 49.5 +0.5
baz=83
631A **Perdido Creek** 82.96 57 ⇑P P 12 01 49.6 +0.5
baz=83
V26A **Tequesquite Ra** 82.99 50 ⇑P P 12 01 49.3 +0.1
baz=83,SNR=5.4
MSTX **Muleshoe** 83.00 52 ⇑P P 12 01 49.8 +0.4
baz=83,SNR=9.6
H18A **Shoshone NF, C** 83.02 40 ⇓P P 12 01 50.0 +0.7
baz=83,SNR=9.7
F17A **Fitzpatrick Pl** 83.02 39 ⇑P P 12 01 50.1 +0.9
baz=83,SNR=14
M21A **Separation Pea** 83.03 44 ⇑P P 12 01 49.8 +0.3
baz=83,SNR=18
Z28A **Tucker Farm, M** 83.03 53 ⇓P P 12 01 49.6 +0.2
baz=83,SNR=5.4
X27A **F and S Farms,** 83.03 51 ⇓P P 12 01 50.2 +0.7
baz=83
P23A **Jefferson** 83.05 46 ⇑P P 12 01 50.9 +1.1
baz=83,SNR=11
R24A **Sanders Place,** 83.06 47 ⇑P P 12 01 50.6 +0.9
baz=83,SNR=12
T25A **Trinidad** 83.10 49 ⇑P P 12 01 50.3 +0.4
baz=83,SNR=6.8
I19A **Meeetse** 83.12 41 ⇓P P 12 01 50.4 +0.5
baz=83,SNR=12
QIZ **Qiongzhong** 83.13 292 P P 12 01 50.3 +0.1
QIZ PP PP 12 05 01.0 -0.9
QIZ S S 12 12 06.5 -1.2
QIZ sS sS 12 12 25.5 -2.0
QIZ SS SS 12 17 33.0 +0.1
QIZ pmax pmax
comp=Z,230nm,17.0s
QIZ LR LR
comp=E,130nm,23.4s
QIZ LR LR
comp=Z,450nm,23.0s
RWWY **Rawlins** 83.17 44 eP P 12 01 50.5 +0.3
comp=Z,169nm,2.0s
129A **Stewart Farms,** 83.17 54 ⇓P P 12 01 50.8 +0.6
baz=83
E17A **Martinsdale** 83.19 38 ⇓P P 12 01 50.6 +0.5
baz=83,SNR=7.9
L21A **Rawlins** 83.19 43 ⇑P P 12 01 50.4 +0.1
baz=83,SNR=9.2
732A **Laxson Ranch,** 83.20 58 ⇓P P 12 01 51.0 +0.7
baz=83
W27A **Bowe Ranch, En** 83.23 51 ⇑P P 12 01 50.7 +0.2
baz=83,SNR=12
330A **Mertzon** 83.24 55 ⇓P P 12 01 50.5 0.0
baz=83
531A **Rocksprings** 83.27 56 ⇑P P 12 01 51.2 +0.4
baz=83,SNR=12
N22A **Wattenberg Ran** 83.27 45 ⇓P P 12 01 51.7 +0.9
baz=84,SNR=25
U26A **Atchley Ranch,** 83.27 50 ⇑P P 12 01 51.1 +0.4
baz=83,SNR=16
S25A **Robets Cordova** 83.30 48 ⇓P P 12 01 51.5 +0.6
baz=84,SNR=23
Q24A **Divide** 83.35 47 ⇑P P 12 01 52.3 +0.9
baz=84,SNR=5.9
O23A **Lake Granby, G** 83.37 45 ⇑P P 12 01 52.3 +1.0
baz=84,SNR=9.7
J20A **Shoshoni** 83.37 42 ⇑P P 12 01 51.7 +0.7
baz=84,SNR=22
G18A **Lazy EL Ranch,** 83.39 40 ⇑P P 12 01 52.0 +0.9
baz=84,SNR=13
ISCO **Idaho Springs** 83.40 46 eP P 12 01 52.0 +0.5
ISCO pmax pmax
comp=Z,111nm,2.6s
ISCO **Idaho Springs** 83.40 46 eP P 12 01 52.0 +0.5
comp=Z,111nm,2.6s
ISCO **Idaho Springs** 83.40 46 ⇑P P 12 01 52.3 +0.8
baz=84,SNR=8.9
DAWY **Dawson** 83.41 14 eP P 12 01 51.1 +0.5
431A **Sonora** 83.41 56 ⇑P P 12 01 51.6 +0.1
baz=84
H19A **Powell** 83.44 40 ⇑P P 12 01 52.6 +1.3
baz=84,SNR=13
M22A **Cedar Creek Ra** 83.44 44 ⇑P P 12 01 51.7 +0.1
baz=84,SNR=7.2
230A **Sterling City** 83.47 55 ⇑P P 12 01 52.1 +0.4
baz=84
RLMT **Red Lodge** 83.48 40 eP P 12 01 52.4 +0.7
comp=Z,22nm,1.1s
Z29A **Hungry Hill Ra** 83.54 53 ⇓P P 12 01 52.1 +0.1
baz=84,SNR=6.3
GCMT **Greycliff** 83.57 39 eP P 12 01 52.8 +0.8
K21A **Alcova** 83.58 43 ⇑P P 12 01 52.4 +0.2
baz=84,SNR=14
F18A **Big Timber** 83.59 39 ⇑P P 12 01 53.1 +1.0
baz=84,SNR=16
EGAK **Eagle** 83.61 13 eP P 12 01 51.7 +0.1
comp=Z,100nm,2.3s
R25A **Fountain Ranch** 83.62 48 ⇓P P 12 01 52.8 +0.4
baz=84,SNR=14
I20A **Worland** 83.63 41 ⇓P P 12 01 52.8 +0.5
baz=84,SNR=27
632A **Uvalde** 83.64 57 ⇓P P 12 01 53.2 +0.6
baz=84
D17A **Six Diamond Ra** 83.64 38 ⇑P P 12 01 53.1 +0.7
baz=84,SNR=27
N23A **Red Feather La** 83.66 45 ⇑P P 12 01 53.5 +0.7
baz=84,SNR=16
X28A **Dimmitt** 83.66 52 ⇓P P 12 01 53.0 +0.2
baz=84,SNR=5.4
T26A **Comanche Natio** 83.70 49 ⇓P P 12 01 52.9 -0.1
baz=84,SNR=7.0
532A **Rocksprings** 83.77 57 ⇑P P 12 01 53.6 +0.3
baz=84,SNR=6.5
J21A **Lysite** 83.78 42 ⇓P P 12 01 53.8 +0.6
baz=84,SNR=52
331A **San Angelo** 83.79 55 ⇓P P 12 01 53.4 +0.1
baz=84
Y29A **Porterfield Fa** 83.80 53 ⇓P P 12 01 53.9 +0.4
baz=84,SNR=7.1
E18A **Harlowton** 83.80 38 ⇓P P 12 01 54.2 +1.0
baz=84,SNR=22
L22A **Ellis Ranch, M** 83.84 44 ⇓P P 12 01 54.4 +0.8
baz=84,SNR=7.5
C17A **Wharram Farm,** 83.84 37 ⇑P P 12 01 53.6 +0.3
baz=84,SNR=29
130A **Snyder** 83.86 54 ⇑P P 12 01 54.6 +0.9
baz=84
O24A **Longmont** 83.91 46 ⇑P P 12 01 54.7 +0.8
baz=84
W28A **Vega** 83.95 51 ⇓P P 12 01 54.3 +0.1
baz=84
U27A **Thompson Grove** 83.96 50 ⇓P P 12 01 54.1 -0.2
baz=84,SNR=6.5
H20A **Greybull** 83.97 41 ⇓P P 12 01 54.0 -0.1
baz=84,SNR=11
Q25A **Bedland, Calha** 83.97 47 ⇑P P 12 01 54.5 +0.2
baz=84
S26A **Kim** 83.98 48 ⇓P P 12 01 54.2 -0.1
baz=84,SNR=9.0
JCT **Junction City** 83.98 56 eP P 12 01 53.6 -0.8
JCT pmax pmax
comp=Z,9.0nm,1.1s
JCT **Junction City** 83.98 56 eP P 12 01 53.6 -0.8
comp=Z,8.6nm,1.1s
JCT **Junction City** 83.98 56 ⇑P P 12 01 54.4 0.0
baz=84
Z30A **Sanderson Ranc** 84.00 53 ⇓P P 12 01 54.4 0.0
baz=84,SNR=11
X29A **Tulia** 84.01 52 ⇑P P 12 01 54.7 +0.2
baz=84,SNR=5.9
F19A **Roth Farm, Mol** 84.04 39 ⇑P P 12 01 54.9 +0.5
baz=84,SNR=30
K22A **Casper** 84.06 43 ⇓P P 12 01 55.0 +0.4
baz=84,SNR=6.9
M23A **Laramie** 84.06 44 ⇓P P 12 01 55.1 +0.4
baz=84,SNR=23
I21A **Big Trails, Te** 84.10 42 ⇓P P 12 01 54.9 +0.1
baz=84,SNR=23
231A **Bronte** 84.12 55 ⇓P P 12 01 54.7 -0.3

baz=84,SNR=8.9
432A Menard 84.14 56 ⇑P P 12 01 55.0 -0.2
baz=84,SNR=8.9
COLD Coldfoot 84.15 9 eP P 12 01 54.2 -0.1
comp=Z,19nm,1.1s
B17A L&G Farms, Che 84.16 36 ⇑P P 12 01 55.0 +0.1
baz=84,SNR=17
PHWY Pilot Hill 84.17 44 eP P 12 01 55.5 +0.1
comp=Z,9.4nm,0.8s
G20A Bridger 84.18 40 ⇑P P 12 01 55.3 +0.2
baz=84
D18A Linhart Farms, 84.18 38 ⇓P P 12 01 55.9 +0.8
baz=84,SNR=11
AMTX Amarillo 84.19 52 eP P 12 01 55.8 +0.4
comp=Z,32nm,0.9s
P25A Willow Gulch B 84.28 47 ⇑P P 12 01 56.3 +0.5
baz=84,SNR=11
R26A Arlington 84.28 48 ⇓P P 12 01 55.9 +0.1
baz=84,SNR=12
T27A Campo 84.29 49 ⇑P P 12 01 56.2 +0.3
baz=84
W29A Amraillo 84.31 51 ⇓P P 12 01 56.2 +0.1
baz=84,SNR=8.6
131A Roby 84.34 54 ⇑P P 12 01 56.0 -0.1
baz=84,SNR=6.4
N24A Carr 84.35 45 ⇓P P 12 01 56.9 +0.7
baz=84,SNR=6.1
L23A Garrett 84.36 44 ⇓P P 12 01 56.4 +0.1
baz=85,SNR=22
332A Millersview 84.36 55 ⇓P P 12 01 56.1 -0.1
baz=84,SNR=8.6
U28A Mallet 84.38 50 ⇓P P 12 01 56.2 -0.2
baz=85
Y30A Stafford Cattl 84.40 53 ⇑P P 12 01 56.9 +0.4
baz=85
S27A Las Animas 84.42 49 ⇓P P 12 01 56.9 +0.3
baz=85
E19A Rath Farm, Rou 84.43 39 ⇑P P 12 01 57.0 +0.6
baz=85,SNR=18
Q26A Hugo 84.49 47 ⇑P P 12 01 57.3 +0.4
baz=85
F20A Billings 84.50 40 ⇑P P 12 01 57.3 +0.6
baz=85
O25A Wiggins 84.57 46 ⇓P P 12 01 57.6 +0.4
baz=85
232A Coleman 84.63 55 ⇓P P 12 01 57.6 0.0
baz=85,SNR=6.1
EGMT Eagleton 84.63 37 eP P 12 01 57.6 +0.3
comp=Z,189nm,2.4s
EGMT Eagleton 84.63 37 ⇓P P 12 01 57.6 +0.3
baz=85,SNR=9.1
H21A Big Horn, Sher 84.64 41 ⇑P P 12 01 57.7 +0.2
baz=85,SNR=8.1
X30A Coker Ranch, T 84.64 52 ⇑P P 12 01 57.9 +0.3
baz=85
I22A 9 Mile Ranch, 84.65 42 ⇑P P 12 01 57.8 +0.2
baz=85,SNR=9.4
M24A Cheyenne 84.67 45 ⇓P P 12 01 58.2 +0.4
baz=85
K23A Bowen Ranch, D 84.70 43 ⇓P P 12 01 58.3 +0.5
baz=85
V29A Stinnett 84.70 51 ⇓P P 12 01 58.3 +0.3
baz=85
D19A Cripps Ranch, 84.72 38 ⇑P P 12 01 58.3 +0.5
baz=85,SNR=14
R27A Eads 84.74 48 ⇓P P 12 01 58.2 +0.1
baz=85
T28A Walsh 84.76 49 ⇓P P 12 01 58.1 -0.1
baz=85,SNR=5.7
Z31A Sharp Cattle R 84.77 54 ⇑P P 12 01 58.3 0.0
baz=85,SNR=14
B18A Beardsley Farm 84.80 37 ⇑P P 12 01 58.6 +0.5
baz=85,SNR=8.7
G21A Lodge Grass 84.81 40 ⇓P P 12 01 58.6 +0.3
baz=85
L24A Wheatland 84.84 44 ⇑P P 12 01 59.2 +0.6
baz=85
E20A Meyer Farm, Mu 84.85 39 ⇓P P 12 01 59.3 +0.8
baz=85,SNR=16
P26A Davis Ranch, A 84.87 47 ⇑P P 12 01 59.1 +0.3
baz=85
C19A Slack Wire Ran 84.89 38 ⇑P P 12 01 59.4 +0.8
baz=85
ABTX Abilene, Hawle 84.90 54 eP P 12 01 59.2 +0.3
ABTX Abilene, Hawle 84.90 54 ⇑P P 12 01 59.2 +0.3
baz=85,SNR=12
Y31A Rekieta Farm, 84.92 53 ⇓P P 12 01 59.1 +0.1
baz=85,SNR=7.5
A18A Metzger Ranch, 85.02 36 ⇑P P 12 01 59.2 0.0
baz=85,SNR=16
H22A Clearmont 85.06 41 ⇓P P 12 01 59.8 +0.3
baz=85,SNR=5.6
S28A Manter 85.11 49 ⇑P P 12 02 00.4 +0.5
baz=85
U29A Oasis Ranch, S 85.12 50 ⇓P P 12 02 00.7 +0.6
baz=85
D20A Manuel Ranch, 85.12 38 ⇓P P 12 02 00.3 +0.6
baz=85,SNR=11
M25A Palm-Egli Farm 85.17 45 ⇑P P 12 02 00.6 +0.3
baz=85
O26A Horse Wrangler 85.18 46 ⇑P P 12 02 00.9 +0.5
baz=85
K24A Anderson Ranch 85.22 43 ⇑P P 12 02 00.7 +0.2
baz=85
Z32A Haskell 85.28 54 ⇑P P 12 02 01.4 +0.6
baz=85,SNR=39
V30A Spur Ranch, Mi 85.28 51 ⇑P P 12 02 01.4 +0.5
baz=86
B19A Brinkman Farms 85.31 37 ⇑P P 12 02 01.3 +0.6
baz=86,SNR=13
G22A Birney 85.38 41 ⇑P P 12 02 01.9 +0.8
baz=86
X31A McDonald Ranch 85.39 52 ⇑P P 12 02 01.6 +0.3
baz=86
EDM Edmonton 85.40 31 eP P 12 02 00.6 -0.4
EDM e*PP pP 12 02 12.9 0.0
EDM Edmonton 85.40 31 eP P 12 02 00.6 -0.4
EDM epP pP 12 02 12.9 0.0
R28A Tribune 85.47 48 ⇑P P 12 02 02.0 +0.2
baz=86,SNR=9.5
C20A Veseth Ranch, 85.50 38 ⇑P P 12 02 02.7 +1.1
baz=86,SNR=16
E21A Keefer Ranch, 85.51 39 ⇓P P 12 02 02.8 +1.1
baz=86
Y32A R-V Farms, Ver 85.57 53 ⇑P P 12 02 02.5 +0.3
baz=86,SNR=5.8
J24A Dixon Ranch, L 85.59 43 ⇓P P 12 02 03.0 +0.7
baz=86
U30A WK&E Inc. Balk 85.61 50 ⇑P P 12 02 03.1 +0.6
baz=86
W31A Holland Ranch, 85.63 52 ⇓P P 12 02 02.7 +0.2
baz=86,SNR=7.4
H23A Clabaugh Cattl 85.65 42 ⇑P P 12 02 03.0 +0.4
baz=86
A19A Klindworth Far 85.66 37 ⇑P P 12 02 02.7 +0.3
baz=86,SNR=7.4
F22A Rosebud 85.66 40 ⇑P P 12 02 02.9 +0.4
baz=86
BJI Beijing 85.66 313 P P 12 02 03.8 +1.3
BJI sP sP 12 02 20.0 +1.2
BJI PP PP 12 05 22.0 -0.1
BJI S SKKSac 12 12 32.5 +0.4
BJI sS sS 12 12 54.0 +2.0
BJI pmax pmax
comp=Z,14nm,2.3s
BJI pmax pmax
comp=Z,270nm,9.6s
BJI LR LR
comp=N,170nm,18.2s
BJI LR LR
comp=E,210nm,22.8s
BJI LR LR
comp=Z,300nm,24.3s
S29A Ulysses 85.69 49 ⇑P P 12 02 03.0 +0.2
baz=86
D21A La Casta Ranch 85.80 39 ⇑P P 12 02 03.8 +0.6
baz=86,SNR=6.7
K25A Mack Ranch, Ha 85.80 44 ⇓P P 12 02 04.6 +1.2
baz=86
G23A Biddle 85.94 41 ⇓P P 12 02 04.4 +0.5
baz=86
R29A Marienthal 85.99 48 ⇑P P 12 02 04.5 +0.2
baz=86
C21A Desert Coulee 86.09 38 ⇓P P 12 02 05.2 +0.6
baz=86
LAO LASA Array 86.09 39 eP P 12 02 05.1 +0.4
comp=Z,7.3nm,0.3s
A20A Cobblestone Ra 86.11 37 ⇓P P 12 02 05.0 +0.4
baz=86,SNR=14
F23A Volborg 86.16 41 ⇓P P 12 02 05.1 +0.1
baz=86,SNR=5.2
S30A Montezuma 86.17 49 ⇑P P 12 02 05.9 +0.6
baz=86
O28A Krutsinger Ran 86.21 47 ⇓P P 12 02 06.0 +0.7
baz=86
H24A Dirks Ranch, A 86.28 42 ⇑P P 12 02 05.3 -0.3
baz=86,SNR=8.7
K26A Motz Farm, Whi 86.30 44 ⇓P P 12 02 06.3 +0.5
baz=86
D22A Cohagen 86.33 39 ⇑P P 12 02 06.6 +0.8
baz=86,SNR=5.0
RSSD Black Hills 86.34 42 eP P 12 02 05.7 -0.4
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 86.34 42 eP P 12 02 05.7 -0.4
comp=Z,8.7nm,1.1s
WMOK Wichita Mounta 86.35 53 eP P 12 02 06.1 0.0
WMOK pmax pmax
comp=Z,22nm,1.8s
WMOK Wichita Mounta 86.35 53 eP P 12 02 06.1 0.0
comp=Z,22nm,1.8s
WHTX Lake Whitney 86.40 56 eP P 12 02 06.7 +0.3
WHTX Lake Whitney 86.40 56 ⇓P P 12 02 06.6 +0.3
baz=87
B21A Ellsworth Farm 86.42 38 ⇑P P 12 02 06.9 +0.8
baz=87,SNR=7.6
I25A Rochford 86.49 43 ⇓P P 12 02 07.2 +0.4
baz=87
T31A Randall Ranch, 86.55 50 ⇓P P 12 02 07.4 +0.4
baz=87
R30A Dighton 86.56 49 ⇓P P 12 02 07.5 +0.5
baz=87
P29A Atwood 86.60 47 ⇑P P 12 02 07.7 +0.5
baz=87
G24A Alzada 86.61 41 ⇓P P 12 02 07.8 +0.5
baz=87
J26A Sides Ranch, S 86.63 43 ⇓P P 12 02 07.9 +0.5
baz=87
A21A Bergtoll Ranch 86.74 37 ⇑P P 12 02 08.3 +0.5
baz=87
Q30A Quinter 86.86 48 ⇑P P 12 02 08.9 +0.4
baz=87
S31A Mullinville 86.88 50 ⇑P P 12 02 09.5 +0.8
baz=87
D23A Lindsay 86.94 39 ⇓P P 12 02 09.6 +0.9
baz=87
B22A Reddig Ranch S 86.97 38 ⇓P P 12 02 09.6 +0.7
baz=87,SNR=6.1
HKT Hockley 87.01 58 eP P 12 02 10.5 +1.2
HKT pmax pmax
comp=Z,47nm,1.9s
HKT Hockley 87.01 58 eP P 12 02 10.5 +1.2
comp=Z,47nm,1.9s
P30A Selden 87.06 48 ⇓P P 12 02 10.2 +0.7
baz=87
R31A Burdett 87.10 49 ⇓P P 12 02 10.2 +0.5
baz=87
C23A Lambert 87.23 39 ⇓P P 12 02 10.7 +0.6
baz=87
J27A Elkhorn Farm, 87.31 44 ⇓P P 12 02 11.2 +0.5
baz=88
B23A Brockton 87.64 38 ⇑P P 12 02 12.8 +0.7
baz=88
N30A Hueftle Ranch, 87.65 47 ⇓P P 12 02 13.0 +0.6
baz=88
MAW Mawson 87.83 199 eP P 12 02 13.6 +1.0
comp=Z,3.4nm,1.1s
MAW Mawson 87.83 199 P P 12 02 13.7 +1.1
comp=Z,11nm,1.1s,baz=129,slow=8.5,SNR=9.0
MAW LR LR 12 41 55.6
comp=Z,716nm,18.5s,baz=116,slow=36
MAW Mawson 87.83 199 P P 12 02 13.8 +1.2
baz=88,SNR=8.6
DGMT Dagmar 88.12 38 eP P 12 02 14.9 +0.6
comp=Z,30nm,1.1s
DGMT Dagmar 88.12 38 ⇑P P 12 02 15.0 +0.7
baz=88
G27A Dupree 88.23 42 ⇓P P 12 02 15.3 +0.3
baz=88
GYA Guiyang 88.26 298 P P 12 02 15.8 +0.1
GYA pP pP 12 02 28.8 +1.2
GYA sP sP 12 02 33.8 +1.8
GYA PP PP 12 05 43.3 -0.2
GYA SKS SKSac 12 12 37.0 -5.0
GYA S SKKSac 12 12 53.5 +1.0
GYA sS sS 12 13 17.0 -1.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,590nm,19.5s
GYA LR LR
comp=E,530nm,20.0s
GYA LR LR
comp=Z,610nm,19.7s
F27A Lemmon 88.37 41 ⇑P P 12 02 16.1 +0.5
baz=89
A24A Westby 88.43 38 ⇓P P 12 02 16.7 +0.9
baz=89
D26A Manning 88.58 40 ⇑P P 12 02 17.3 +0.7
baz=89
B25A Knox Farm, Ray 88.66 39 ⇓P P 12 02 17.9 +1.0
baz=89
XAN Xi'an 88.84 306 P P 12 02 25.5 +7.4
XAN pP pP 12 02 36.5 +6.4
XAN sP sP 12 02 42.0 +7.5
XAN PP PP 12 05 59.0 +11
XAN Xi'an 88.84 306 S S 12 13 10.5 +7.3
XAN Xi'an 88.84 306 SS SS 12 19 11.5 +15
XAN pmax pmax
comp=Z,2.0nm,1.3s
XAN pmax pmax
comp=Z,33nm,6.3s
XAN LR LR
comp=N,140nm,20.4s
XAN LR LR
comp=E,49nm,21.4s
XAN LR LR
comp=Z,81nm,22.4s
A25A Svangstu Ranch 88.97 38 ⇑P P 12 02 19.6 +1.3
baz=89
HHC Hu-ho-hao-te 89.22 313 eP P 12 02 19.5 -0.3
HHC pP pP 12 02 31.8 0.0
HHC sP sP 12 02 36.8 +0.6
HHC PP PP 12 05 50.0 -0.9
HHC SKS SKSac 12 12 42.0 -5.0
HHC S SKKSac 12 13 01.3 +2.2
HHC sS sS 12 13 24.0 -2.5
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,370nm,6.3s
HHC LR LR
comp=N,240nm,18.3s
HHC LR LR
comp=E,370nm,18.6s
HHC LR LR
comp=Z,490nm,17.1s
PLCA Paso Flores 89.31 132 LR LR 12 33 21.6
comp=Z,547nm,20.4s,baz=316,slow=30
YKA Yellowknife Ar 90.05 23 P P 12 02 22.0 -1.0
YKA Yellowknife Ar 90.05 23 P P 12 02 22.0 -1.0
comp=Z,3.0nm,0.9s,baz=234,slow=4.2,SNR=4.2
ECSD EROS Data Cent 91.13 45 eP P 12 02 27.6 -1.0
comp=Z,89nm,3.0s
KMI Kunming 91.25 296 P P 12 02 30.5 +0.7
KMI pP pP 12 02 43.5 +1.7
KMI sP sP 12 02 48.5 +2.4
KMI PP PP 12 06 09.0 +1.5
KMI SKS SKSac 12 12 57.8 -1.9
KMI S SKKSac 12 13 20.0 +4.9
KMI sS sS 12 13 42.0 -4.1
KMI pmax pmax
comp=Z,150nm,10.0s
KMI LR LR
comp=N,140nm,16.1s
KMI LR LR
comp=E,220nm,17.8s
KMI LR LR
comp=Z,250nm,19.5s
A29A Manning Farm, 91.31 39 ⇑P P 12 02 29.4 +0.1
baz=92
A30A Hoffart Farm, 91.89 40 ⇑P P 12 02 31.8 -0.1
baz=92
CD2 Chengdu 92.03 301 eP P 12 02 32.3 -0.7
CD2 pP pP 12 02 45.8 +0.8
CD2 sP sP 12 02 50.8 +1.4
CD2 PP PP 12 06 14.5 +1.2
CD2 SKS SKSac 12 13 00.0 -3.5
CD2 S S 12 13 27.5 -5.1
CD2 sS sS 12 13 49.5 -3.1
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 LR LR
comp=N,330nm,22.8s
CD2 LR LR
comp=E,250nm,22.6s
CD2 LR LR
comp=Z,300nm,15.5s
SYO Syowa Base 92.60 191⇓eP P 12 02 33.6 -1.3
CMAR Chiang Mai Arr 92.84 288 P P 12 02 38.2 +1.2
CMAR Chiang Mai Arr 92.84 288 P P 12 02 38.2 +1.2
comp=Z,1.7nm,1.0s,baz=91,slow=2.6,SNR=8.3
CMAR LR LR 12 39 04.3
comp=Z,281nm,19.6s,baz=276,slow=32
SNAA Sanae 92.85 177 eP P 12 02 37.1 +1.0
comp=Z,21nm,1.6s
VNA2 Neumayer--Watz 93.29 175 eP P 12 02 39.7 +1.6
LZH Lanzhou 93.43 306 eP P 12 02 41.8 +2.2
LZH pP pP 12 02 49.0 -2.6
LZH sP sP 12 02 53.3 -2.6
LZH SS SS 12 20 03.5 +0.7
LZH pmax pmax
comp=Z,10.0nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.0s
LZH LR LR
comp=N,340nm,18.8s
LZH LR LR
comp=E,530nm,18.7s
LZH LR LR
comp=Z,490nm,17.8s
ULM Lac du Bonnet 93.82 39 LR LR 12 40 54.5
comp=Z,848nm,18.2s,baz=108,slow=33
SONM Songino Array 95.03 318 P P 12 02 48.2 +1.6
SONM Songino Array 95.03 318 P P 12 02 48.2 +1.6
comp=Z,0.9nm,0.9s,baz=100,slow=5.1,SNR=4.7
SONM LR LR 12 39 46.2
comp=Z,446nm,21.7s,baz=69,slow=32
GTA Gaotai 97.38 309 eP Pdif 12 02 58.5 +0.9
GTA pP pP 12 03 12.3 +2.8
GTA sP sP 12 03 17.5 +3.7
GTA pmax pmax
comp=Z,3.0nm,0.7s
ZAK Zakamensk 97.70 320 eP P 12 02 55.9 -2.7
ZAK pmax pmax
comp=Z,2.0nm,1.5s
LPAZ La Paz 99.58 110 LR LR 12 38 33.3
comp=Z,228nm,20.9s,baz=261,slow=30
ROSC El Rosal 99.78 88 LR LR 12 38 24.8
comp=Z,252nm,21.4s,baz=223,slow=30
CPUP Villa Florida 105.09 123 ePKPdf PKiKP 12 07 42.8 -3.8
WMQ Urumqi 107.07 312 ePdif Pdif 12 03 39.3 -1.1
WMQ PP PP 12 08 08.3 +0.8
WMQ S Sdif 12 15 34.0 -5.9
WMQ AMB AMB
comp=Z,18nm,10.0s
WMQ LR LR
comp=N,110nm,24.0s
WMQ LR LR
comp=E,15nm,23.0s
WMQ LR LR
comp=Z,140nm,24.5s
ZAA0 Zalesovo Array 109.40 322 ePKPdf PKiKP 12 07 53.9 +0.2
ZALV Zalesovo Beam 109.40 322 PKiKP PKiKP 12 07 53.1 -0.6
ZALV Zalesovo Beam 109.40 322 PKiKP PKiKP 12 07 53.1 -0.6
comp=Z,0.4nm,0.4s,baz=79,slow=3.1,SNR=3.3
MKAR Makanchi Array 111.02 315 PKiKP PKiKP 12 07 56.7 -0.4
MKAR Makanchi Array 111.02 315 PKiKP PKiKP 12 07 56.7 -0.4
comp=Z,0.5nm,0.7s,baz=72,slow=0.7,SNR=6.7
KURK Kurchatov 113.32 319 PKiKP PKiKP 12 08 01.3 +0.1
KURK PP PP 12 08 50.1 -2.2
KURBB Kurchatov Arra 113.39 319 PKiKP PKiKP 12 08 01.3 0.0
comp=Z,1.1nm,0.8s,baz=95,slow=1.9,SNR=12
KURBB PP PP 12 08 50.1 -2.6
comp=Z,1.1nm,1.0s,baz=87,slow=7.0,SNR=5.2
BVAR Borovoye Array 118.06 322 PKIKP PKPdf 12 08 10.1 -0.2
BVAR Borovoye Array 118.06 322 PKP PKPdf 12 08 10.1 -0.2
BVAR Borovoye Array 118.06 322 PKP PKPdf 12 08 10.1 -0.2
comp=Z,1.7nm,0.6s,baz=81,slow=1.9,SNR=6.2
BRVK Borovoye 118.11 322 i PKIKP PKPdf 12 08 10.8 +0.4
SOKR Solikamsk 122.92 332c i PKIKP PKPdf 12 08 19.5 +0.1
SOKR pmax pmax
comp=Z,10.0nm,0.7s
SOKR MLR MLR
comp=Z,300nm,20.0s
ARU Arti 123.50 328 i PKIKP PKPdf 12 08 20.5 -0.1
ARU 12 10 03.8
ARCES ARCESS Array B 124.68 352 PKP PKPdf 12 08 23.2 +0.6
ARCES ARCESS Array B 124.68 352 PKP PKPdf 12 08 23.2 +0.6
comp=Z,3.2nm,0.9s,baz=354,slow=2.4,SNR=5.9
AKTO Aktyubinsk 126.16 322 PKIKP PKPdf 12 08 26.4 +0.4
AKTO Aktyubinsk 126.16 322 PKP PKPdf 12 08 26.4 +0.4
AKTO Aktyubinsk 126.16 322 PKP PKPdf 12 08 26.4 +0.4
comp=Z,1.1nm,0.6s,baz=31,slow=3.0,SNR=4.8
FINES FINESS Array B 132.03 348 PKP PKPdf 12 08 38.2 +1.5
FINES FINESS Array B 132.03 348 PKP PKPdf 12 08 38.2 +1.5
comp=Z,2.7nm,0.9s,baz=316,slow=3.8,SNR=3.6
OBN Obninsk 134.24 337 PKIKP PKPdf 12 08 40.6 -0.5
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,300nm,19.0s
KIV Kislovodsk 138.38 320 i PKIKP PKPdf 12 08 51.7 +2.4
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,267nm,21.0s
AKASG Malin Array Be 140.47 338 PKIKP PKPdf 12 08 52.7 -0.1
AKASG Malin Array Be 140.47 338 PKP PKPdf 12 08 52.7 -0.1
AKASG Malin Array Be 140.47 338 PKP PKPdf 12 08 52.7 -0.1
comp=Z,2.8nm,0.9s,baz=19,slow=1.8,SNR=6.1
OJC Ojcow 143.75 346 ePKIKP PKPbc 12 08 56.7 +0.5
OJC Ojcow 143.75 346 ePKPdf PKPbc 12 08 56.7 +0.4
CLL Collm 143.88 353 ePKIKP PKPbc 12 08 57.0 +0.4
CLL e 12 12 14.0
CLL MLR MLR
comp=Z,300nm,20.5s
CLL Collm 143.88 353 ePKPdf PKPbc 12 08 57.0 +0.4
CLL ePP PP 12 12 14.0 +2.5
CLL ePPS PPS 12 24 45.0
CLL e 12 25 52.0
CLL e 12 27 45.0
CLL e 12 30 12.0
CLL eSS SS 12 30 42.0 -9.4
CLL e 12 32 48.0
CLL eSSS SSS 12 36 18.0
CLL e(SSSS) 12 39 42.0
CLL Lm MLR 13 17 00.0
comp=N,200nm,19.5s
CLL Lm MLR 13 17 00.0
comp=E,100nm,21.7s
CLL Lm MLR 13 17 00.0
comp=Z,300nm,20.5s
MALT Malatya 144.05 315 ⇑PKIKP PKPbc 12 08 58.7 +1.0
MALT Malatya 144.05 315⇑iP PKPbc 12 08 58.7 +1.0
STHS Stebnicka Huta 144.13 344 ePKIKP PKPdf 12 08 58.6 -0.8
STHS Stebnicka Huta 144.13 344 ePKP PKPdf 12 08 58.6 -0.8
FBE Freiberg 144.22 353 ePKPbc PKPdf 12 08 59.3 -0.1
UPC Upice 144.25 350 ePKIKP PKPbc 12 08 58.8 +1.1
UPC e 12 09 05.3
UPC e 12 09 11.5
UPC Upice 144.25 350⇑ePKP PKPbc 12 08 58.8 +1.1
UPC ex x 12 09 05.3
UPC epPKP pPKPdf 12 09 11.5 -0.4
KOLS Kolonicke sedl 144.28 343 ePKIKP PKPbc 12 08 58.1 +0.2
KOLS Kolonicke sedl 144.28 343 ePKP PKPbc 12 08 58.1 +0.2
DPC Dobruska-Polom 144.34 350 ePKIKP PKPbc 12 08 58.4 +0.3
DPC e 12 09 04.5
DPC e 12 09 10.4
DPC Dobruska-Polom 144.34 350 ePKP PKPbc 12 08 58.4 +0.3
DPC ex x 12 09 04.5
DPC epPKP pPKPdf 12 09 10.4 -1.7
DPC ex x 12 09 28.7
DPC ex x 12 09 37.7
DPC AMS AMS 13 11 10.0
DPC Dobruska-Polom 144.34 350 ePKPdf PKPbc 12 08 58.5 +0.4
PVCC Panska Ves 144.45 352 ePKIKP PKPdf 12 08 59.6 -0.2

PVCC	Panska Ves	144.45	352	⇑ePKP	PKPdf	12 08 59.6	-0.2
BUR08	Bucovina Ar. S	144.47	338	ePKPdf	PKPbc	12 08 59.4	+0.7
OKC	Ostrava-Krasne	144.48	347	ePKIKP	PKPdf	12 08 59.5	-0.4
OKC				e		12 09 06.5	
OKC				e		12 09 10.6	
OKC				MLR	MLR		
	comp=Z,300nm,19.0s						
OKC	Ostrava-Krasne	144.48	347	⇑ePKP	PKPdf	12 08 59.5	-0.4
OKC				ex	x	12 09 06.5	
OKC				epPKP	pPKPdf	12 09 10.6	-1.7
OKC				AMS	AMS	13 12 50.0	
	comp=Z,300nm,19.0s						
BURAR	Bucovina Array	144.49	338	⇓PKIKP	PKPbc	12 08 59.4	+0.7
BURAR	Bucovina Array	144.49	338	⇓iP	PKPbc	12 08 59.4	+0.7
CRVS	Cervenica-Dubn	144.54	343	ePKIKP	PKPbc	12 08 59.0	+0.3
CRVS	Cervenica-Dubn	144.54	343	ePKP	PKPbc	12 08 59.0	+0.3
UZH	Uzhgorod	144.55	342	ePKIKP	PKPab	12 08 58.5	0.0
UZH				i		12 09 04.9	
UZH				e		12 09 11.3	
UBBA	Unterbreizbach	144.62	357	ePKPbc	PKPab	12 08 58.0	-0.6
MORC	Moravsky Berou	144.66	348	ePKIKP	PKPbc	12 08 59.6	+0.5
MORC	Moravsky Berou	144.66	348	ePKPdf	PKPbc	12 08 59.6	+0.5
MOX	Moxa	144.68	355	ePKPbc	PKPab	12 08 58.9	0.0
MOX	Moxa	144.68	355	ePKIKP	PKPab	12 08 58.9	0.0
WERD	Werda	144.81	354	ePKPbc	PKPab	12 08 58.9	-0.6
TANN	Tannenbergstha	144.82	354	ePKPbc	PKPab	12 08 59.7	+0.1
GUNZ	Gunzen	144.88	354	ePKPbc	PKPab	12 08 59.8	0.0
PRA	Prague	144.91	351	⇑PKP	PKPab	12 09 00.0	+0.2
WERN	Wernitzgruen	144.96	354	ePKPbc	PKPab	12 09 00.4	+0.4
PRU	Pruhonice	144.98	351	ePKIKP	PKPbc	12 09 00.1	0.0
PRU				e		12 09 07.3	
PRU				e		12 09 13.8	
PRU				MLR	MLR		
	comp=Z,400nm,18.6s						
PRU	Pruhonice	144.98	351	⇑ePKP	PKPbc	12 09 00.1	0.0
PRU				ex	x	12 09 07.3	
PRU				epPKP	pPKPdf	12 09 13.8	+0.7
PRU				AMS	AMS	13 17 40.0	
	comp=Z,400nm,18.6s						
KECS	Kecovo	145.19	344	ePKIKP	PKPdf	12 09 01.3	+0.1
KECS	Kecovo	145.19	344	ePKP	PKPdf	12 09 01.3	+0.1
MANZ	Manzenberg	145.28	354	ePKPbc	PKPab	12 09 01.4	+0.2
TNS	Taunus Mts	145.29	358	ePKPbc	PKPbc	12 09 01.2	+0.1
TNS	Taunus Mts	145.29	358	ePKIKP	PKPbc	12 09 01.2	+0.1
CFR	Carcaliu	145.34	333	⇑PKIKP	PKPab	12 09 02.1	+0.6
CFR	Carcaliu	145.34	333	⇑iP	PKPab	12 09 02.1	+0.6
VRI	Vrincioaia	145.38	335	⇓PKIKP	PKPab	12 09 02.3	+0.6
VRI	Vrincioaia	145.38	335	⇓iP	PKPab	12 09 02.3	+0.6
PLOR	Plostina	145.42	335	⇑PKIKP	PKPab	12 09 02.3	+0.4
PLOR	Plostina	145.42	335	⇑iP	PKPab	12 09 02.3	+0.4
ROTZ	Rotzenmuhle	145.49	354	ePKPbc	PKPab	12 09 02.2	+0.2
TREC	Trest	145.51	350	ePKIKP	PKPbc	12 09 02.0	+0.2
TREC				e		12 09 08.9	
TREC				e		12 09 13.9	
TREC				MLR	MLR		
	comp=Z,500nm,19.8s						
TREC	Trest	145.51	350	⇑ePKP	PKPbc	12 09 02.0	+0.2
TREC				ex	x	12 09 08.9	
TREC				epPKP	pPKPdf	12 09 13.9	-0.2
TREC				AMS	AMS	13 18 10.0	
	comp=Z,500nm,19.8s						
VYHS	Vyhne	145.59	346	ePKIKP	PKPab	12 09 02.9	+0.5
VYHS	Vyhne	145.59	346	ePKP	PKPab	12 09 02.9	+0.5
GRF	Grafenberg Arr	145.66	355	ePKPbc	PKPab	12 09 02.7	+0.1
GRF	Grafenberg Arr	145.66	355	ePKIKP	PKPab	12 09 02.7	+0.1
GRFO	Grafenberg	145.66	355	ePKPdf	PKPdf	12 08 56.2	-5.8
KMBO	Kilima Mbogo	145.72	244	PKPbc	PKPab	12 09 04.3	0.0
KMBO	Kilima Mbogo	145.72	244	PKPbc	PKPab	12 09 04.3	0.0
	comp=Z,7.8nm,1.1s,baz=265,slow=24,SNR=8.8						
TIRR	Tirgusor	145.78	332	⇑PKP2	PKPab	12 09 03.8	+0.6
TIRR	Tirgusor	145.78	332	⇑iP	PKPab	12 09 03.8	+0.6
TIRR	Tirgusor	145.78	332	ePKPbc	PKPab	12 09 03.4	+0.2
PSZ	Piszkesteto	145.86	344	ePKP2	PKPab	12 09 04.1	+0.6
PSZ	Piszkesteto	145.86	344	⇑iP	PKPab	12 09 04.8	+1.3
PSZ	Piszkesteto	145.86	344	ePKPab	PKPab	12 09 04.1	+0.6
PSZ	Piszkesteto	145.86	344	⇑eSKKPbc	PKPdf	12 09 02.8	+0.3
WLF	Walferdange	145.86	1	ePKPbc	PKPab	12 09 03.5	+0.2
KHC	Kasperske Hory	145.95	352	⇑iPKP2	PKPab	12 09 03.8	+0.1
KHC				MLR	MLR		
	comp=Z,300nm,16.8s						
KHC	Kasperske Hory	145.95	352	⇑iPKP	PKPab	12 09 03.8	+0.1
KHC				ex	x	12 09 09.9	
KHC				epPKP	pPKPdf	12 09 17.0	+2.1
KHC				ex	x	12 09 29.5	
KHC				ex	x	12 09 42.6	
KHC				AMS	AMS	13 12 30.0	
	comp=Z,300nm,16.8s						
KHC	Kasperske Hory	145.95	352	ePKPbc	PKPab	12 09 03.9	+0.1
MLR	Muntele Rosu	146.00	336	⇑iP	PKPbc	12 09 03.9	+0.3
WET	Wettzell	146.03	353	ePKPbc	PKPab	12 09 04.0	0.0
WET	Wettzell	146.03	353	ePKP2	PKPab	12 09 04.0	0.0
DRGR		146.06	340	⇑PKP2	PKPbc	12 09 03.8	+0.1
DRGR		146.06	340	⇑iP	PKPbc	12 09 03.8	+0.1
GEC2	GERESS Array S	146.22	352	ePKPbc	PKPbc	12 09 04.4	+0.3
GEC2	GERESS Array S	146.22	352	ePKP2	PKPbc	12 09 04.4	+0.3
GERES	GERESS Array B	146.22	352	PKPbc	PKPbc	12 09 04.4	+0.3
GERES	GERESS Array B	146.22	352	PKPbc	PKPbc	12 09 04.4	+0.3
	comp=Z,3.4nm,0.8s,baz=29,slow=3.0,SNR=23						
ZST	Bratislava	146.26	348	ePKP2	PKPab	12 09 06.0	+1.1
ZST	Bratislava	146.26	348	ePKP	PKPab	12 09 06.0	+1.1
BR131	Keskin Array S	146.33	321	ePKPbc	PKPab	12 09 05.5	-0.1
BRTR	Keskin Array B	146.33	321	PKPbc	PKPab	12 09 05.8	+0.2
BRTR	Keskin Array B	146.33	321	PKPbc	PKPab	12 09 05.8	+0.2
	comp=Z,20nm,0.9s,baz=102,slow=3.0,SNR=37						
VOIR		146.40	337	⇓PKP2	PKPab	12 09 06.0	+0.4
VOIR		146.40	337	⇓iP	PKPab	12 09 06.0	+0.4
PSN	Preselentsi	146.49	331	P	PKPab	12 09 06.3	+0.4
ARR	Arges	146.61	337	⇓iP	PKPab	12 09 07.1	+0.7
STU	Stuttgart	146.71	357	ePKPbc	PKPbc	12 09 06.0	+0.6
ANTO	Ankara	146.75	322	ePKP2	PKPab	12 09 07.4	+0.2
ANTO	Ankara	146.75	322	⇓iP	PKPbc	12 09 06.0	0.0
ANTO	Ankara	146.75	322	ePKPbc	PKPab	12 09 07.4	+0.2
CONA	Conrad Observa	146.76	349	⇑iPKPab	PKPbc	12 09 06.3	+0.5
	comp=Z,16nm,1.0s,SNR=10						
SOP	Sopron	146.86	348	⇑ePKPdf	PKPbc	12 09 06.0	+0.1
BFO	Black Forest	147.18	358	ePKPbc	PKPbc	12 09 07.0	+0.2
BFO	Black Forest	147.18	358	ePKP2	PKPbc	12 09 07.0	+0.2
BFO	Black Forest	147.18	358	ePKPbc	PKPbc	12 09 07.4	+0.6
PRD	Provadia	147.22	332	P	PKPbc	12 09 07.8	+0.8
ECH	Echery	147.32	360	ePKIKP	PKPdf	12 09 04.2	-0.6
ECH	Echery	147.32	360	ePKPdf	PKPdf	12 09 04.2	-0.6
RJOB	Jochberg	147.42	353	ePKPbc	PKPbc	12 09 08.0	+0.4
BZS	Buzias	147.45	341	⇑PKP2	PKPbc	12 09 08.3	+0.7
BZS	Buzias	147.45	341	⇑iP	PKPbc	12 09 08.3	+0.7
PKSM	Moragy	147.77	345	⇓PKP2	PKPbc	12 09 08.4	-0.1
PKSM	Moragy	147.77	345	⇓iP	PKPbc	12 09 08.4	-0.1
PKSM	Moragy	147.77	345	⇑ePKPdf	PKPbc	12 09 08.0	-0.5
ASF	Jabal al Asfar	148.00	307	PKPbc	PKPab	12 09 11.7	-0.7
ASF	Jabal al Asfar	148.00	307	PKPbc	PKPab	12 09 11.7	-0.7
	comp=Z,0.7nm,0.3s,baz=124,slow=0.8,SNR=5.3						
WTTA	Wattenberg	148.02	354	⇑iPKPbc	PKPbc	12 09 09.1	-0.3
	comp=Z,10nm,0.8s						
SOKA	Soboth	148.11	349	⇑iPKPbc	PKPbc	12 09 09.3	-0.2
	comp=Z,9.4nm,1.0s,SNR=5.8						
PERS	Pernice	148.14	349	iPKPbc	PKPbc	12 09 09.3	-0.2
DAVA	Damuels	148.15	356	⇑iPKIKP	PKPbc	12 09 10.0	+0.3
	comp=Z,16nm,1.1s						
FETA	Feichten	148.35	355	⇑iPKIKP	PKiKP	12 09 11.7	-0.2
	comp=Z,10nm,1.0s						
ABTA	Abfaltersbach	148.43	353	⇓iPKPbc	PKPbc	12 09 10.0	-0.3
	comp=Z,25nm,1.6s						
MPEP	Malo Peshtene	148.65	336	P	PKPbc	12 09 11.3	+0.4
FUORN	Ofenpass-Fuorn	148.78	355	ePKPab	PKPbc	12 09 12.7	+1.2
LJU	Ljubljana	148.82	350	ePKPbc	PKPbc	12 09 10.9	-0.3
TUE	Stuetta	148.99	357	ePKPbc	PKPbc	12 09 12.8	+0.8
JAVS	Javornik	149.04	350	ePKPbc	PKPbc	12 09 11.0	-0.9
JAVS				e		12 09 18.8	
BOJS	Bojanci	149.21	348	iPKPbc	PKPbc	12 09 12.6	+0.4
BOJS				e		12 09 20.0	
VTS	Vitosha	149.51	336	P	PKPbc	12 09 12.0	-1.3
VTS	Vitosha	149.51	336	⇑iP	PKPbc	12 09 11.3	-2.0
MMB	Musomiste	150.13	334	P	PKPbc	12 09 13.4	-1.3
KKB	Krupnik	150.17	335	P	PKPbc	12 09 15.4	+0.7
BNI	Bardonecchia	150.48	0	ePKIKP	PKPbc	12 09 17.1	+1.5
BNI	Bardonecchia	150.48	0	ePKPbc	PKPbc	12 09 17.1	+1.5
EIL	Elat	150.53	304	PKPbc	PKPbc	12 09 16.4	+0.4
EIL	Elat	150.53	304	PKPbc	PKPbc	12 09 16.4	+0.4
	comp=Z,2.0nm,0.4s,baz=359,slow=3.2,SNR=5.7						
MBAR	Mbarara	151.50	238	PKPbc	PKPbc	12 09 19.1	+0.2
MBAR	Mbarara	151.50	238	PKPbc	PKPbc	12 09 19.1	+0.2
	comp=Z,2.2nm,0.2s,baz=180,slow=1.0,SNR=3.8						
TIR	Tirane	151.83	339	ePKIKP	PKPbc	12 09 19.9	+1.3
TIR	Tirane	151.83	339	ePKPbc	PKPbc	12 09 19.9	+1.3
ESDC	Sonseca Array	154.07	19	PKPab	PKPab	12 09 37.5	+0.4
ESDC	Sonseca Array	154.07	19	PKPab	PKPab	12 09 37.5	+0.4
	comp=Z,0.2nm,0.3s,baz=333,slow=2.1,SNR=7.6						
TORD	Torodi Ar. Bea	174.52	114	PKP	PKPdf	12 09 33.6	-0.7
TORD				PKPab	PKPab	12 11 06.6	-0.9
TORD	Torodi Ar. Bea	174.52	114	PKP	PKPdf	12 09 33.6	-0.7
	comp=Z,1.4nm,0.9s,baz=295,slow=0.7,SNR=6.5						
TORD				PKPab	PKPab	12 11 06.6	-0.9
	comp=Z,0.7nm,0.8s,baz=260,slow=2.7,SNR=3.4						

MAN 26 11:52:51.11˚53N×124˚37E, h21km, mb4.1, ML2.9, MS2.6, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.53	154	eP	Pb	11 53 01.7	-0.1
OCLP				eS	Sn	11 53 11.5	-0.2
LLP	Lapu-Lapu	1.27	198	⇓eP	Pn	11 53 13.2	-0.4
LLP				eS	Sb	11 53 30.7	+0.5
MSLP	Maasin	1.47	161	eP	Pb	11 53 17.9	+0.3
RCP	Roxas	1.59	271	⇑iP	Pn	11 53 18.6	+0.6
RCP				eS	Sn	11 53 37.2	-0.7
GUIM	Jordan	1.97	243	eP	Pn	11 53 23.8	+0.7

*IDC **26** 11:53:59.2±1.0, 1˚70S×99˚48E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/26, mbtmp4.0/11, ML3.1/1, Error ellipse: s-maj=52.2km s-min=15.4km az=57.0*
*DJA **26** 11:54:17.2±2.9, 1˚S±7˚×10˚0E±2˚5, h10km, M4.0/3, MLv4.0/3*

ISC 26 11:54:04.5±0.8, 1˚57S±0˚07×99˚6E±0˚1, h33km, n18, σ0892/19, mb4.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.05	52	P	Pb	11 54 24.1	0.0
PPI	Padang Panjang	1.34	35	P	Pb	11 54 28.8	-0.2
BKNI	Bangkinang	2.34	37	P	Pb	11 54 45.9	-0.2
MASI	Maura Aman, Be	3.03	121	P	Pb	11 55 05.4	+7.6
KSI	Kapahiang	3.61	125	P	Pb	11 55 07.1	-0.5
PSI	Prapat	4.39	351	Pn	Pn	11 55 07.6	-1.4
	1.0nm,0.3s,baz=163,slow=11,SNR=2.8						
CMAR	Chiang Mai Arr	19.91	358	P	P	11 58 33.4	-0.1
	1.4nm,0.8s,baz=190,slow=10,SNR=7.8						
WRA	Warramunga Arr	38.52	121	P	P	12 01 23.1	-1.1
	2.5nm,0.5s,baz=302,slow=9.1,SNR=8.4						
WRA				PcP	PcP	12 03 37.6	+0.8
	0.5nm,0.5s,baz=313,slow=2.4,SNR=5.1						
ASAR	Alice Springs	39.80	126	P	P	12 01 34.2	-0.6
	1.2nm,0.6s,baz=301,slow=8.0,SNR=9.3						
ASAR				PcP	PcP	12 03 41.8	+1.1
	0.9nm,0.8s,baz=299,slow=2.7,SNR=5.0						
SONM	Songino Array	49.55	6	P	P	12 02 53.8	+1.5
	0.8nm,0.6s,baz=189,slow=11,SNR=6.4						
SONM				PcP	PcP	12 04 15.1	+1.4
	0.8nm,0.7s,baz=177,slow=4.9,SNR=3.2						
STKA	Stephens Creek	49.71	132	P	P	12 02 54.2	+0.6
	2.1nm,0.8s,baz=315,slow=19,SNR=4.1						
MKAR	Makanchi Array	50.52	345	P	P	12 03 00.0	+0.5
	3.5nm,0.8s,baz=151,slow=7.9,SNR=26						
ZALV	Zalesovo Beam	56.68	350	P	P	12 03 45.0	+0.6
	4.0nm,0.5s,baz=173,slow=5.9,SNR=26						
AKTO	Aktyubinsk	62.80	331	P	P	12 04 26.4	-0.3
	0.6nm,0.5s,baz=90,slow=12,SNR=3.5						
KBZ	Khabaz	67.75	319	P	P	12 04 59.1	+0.3
	2.4nm,0.9s,baz=120,slow=4.3,SNR=5.2						
FINES	FINESS Array B	83.56	332	P	P	12 06 27.5	-1.6
	1.6nm,0.8s,baz=132,slow=5.8,SNR=3.7						
CPUP	Villa Florida	144.45	217	PKP	PKPbc	12 13 37.5	+0.8
	2.8nm,0.8s,baz=157,slow=7.7,SNR=3.3						
TXAR	Lajitas Array	144.57	37	PKP	PKPdf	12 13 38.6	+0.1
	2.7nm,0.7s,baz=254,slow=1.0,SNR=35						

IDC 26 11:59:15.2±4.3, 15˚04S×173˚71W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=190.4km s-min=31.5km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.95	240	P	P	12 07 23.8	-0.5
	3.5nm,1.1s,baz=108,slow=16,SNR=2.4						
WRA	Warramunga Arr	49.63	256	P	P	12 08 09.2	+0.2
	0.8nm,0.5s,baz=90,slow=6.8,SNR=31						
ASAR	Alice Springs	49.94	252	P	P	12 08 10.8	-0.5
	1.3nm,0.4s,baz=87,slow=8.1,SNR=35						
ILAR	Eielson Array	82.16	11	P	P	12 11 36.9	-0.6
	0.4nm,1.0s,baz=187,slow=6.5,SNR=4.9						
BRTR	Keskin Array B	145.69	321	PKPbc	PKPab	12 18 57.0	+0.1
	1.6nm,1.0s,baz=66,slow=3.5,SNR=5.9						

DJA 26 12:00:11.1±1.5, 8˚S±7˚×10˚8E±˚, h10km, M3.6/3, MLv3.6/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.84	15	P	Pg	12 00 26.5	-0.9
CISI				S	Sg	12 00 38.1	-0.3
LEM	Lembang	1.53	1	P	Pn	12 00 39.3	+0.5
LEM				S	Sg	12 01 00.6	-0.3

MAN 26 12:00:26.11˚62N×124˚36E, h3km, mb4.0, ML2.8, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.62	156	eP	Pb	12 00 38.8	-0.6
OCLP				eS	Sb	12 00 48.1	-0.5
MSLP	Maasin	1.56	161	eP	Pn	12 00 55.0	+0.4
RCP	Roxas	1.58	268	⇓eP	Pn	12 00 55.2	+0.2
RCP				eS	Sn	12 01 15.6	-0.3
GUIM	Jordan	2.00	241	eP	Pn	12 01 01.8	+1.1

WEL 26 12:09:31.3±0.6, 36˚38S×177˚84E, h225km±5km, ML3.5/4, Error ellipse: s-maj=8.2km s-min=7.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	1.73	169	PN	Pn	12 10 09.1	-0.2
PUZ				SN	S	12 10 37.7	-1.2
URZ	Urewera	1.97	197	PN	Pn	12 10 11.8	+0.4
URZ				SN	S	12 10 42.7	-0.1
MWZ	Matawai	1.97	187	PN	Pn	12 10 11.8	+0.3
MWZ				SN	S	12 10 43.4	+0.4
CNGZ	Carnagh Statio	2.12	172	PN	Pn	12 10 13.7	+0.8
KNZ	Kokohu	2.64	183	PN	Pn	12 10 18.6	+0.3
PXZ	Pawanui	3.73	192	PN	Pn	12 10 30.6	-0.1
BFZ	Birch Farm	4.47	196	PN	Pn	12 10 39.5	-0.2

NNC 26 12:10:45.9±7.5, 54˚15N×87˚06E, h0km, mb3.9, mpv3.5, 4C-5D, Error ellipse: s-maj=58.8km s-min=36.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	6.30	239	⇓Pn	Pn	12 12 21.4	+1.4
	3.8nm,0.5s,baz=56,slow=14						
KURBB				⇓Sn	Sn	12 13 33.1	+0.5
	29nm,0.7s,baz=60,slow=25						
KURBB				⇑Lg	Lg	12 14 08.5	
	50nm,0.8s,baz=50,slow=30						
MK31	Makanchi Array	7.96	204	⇓Pn	Pn	12 12 44.2	+1.3
	1.2nm,0.8s,baz=30,slow=14,SNR=8.5						
MK31				⇓Sn	Sn	12 14 15.8	+2.2
	1.1nm,0.6s,baz=27,slow=27,SNR=5.3						
MK31				⇑Lg	Lg	12 15 00.4	
	12nm,1.0s,baz=30,slow=29,SNR=4.0						
VOSK	Vostochnaya	9.70	268	⇑Pn	Pn	12 13 07.0	+0.3
	2.7nm,0.7s						
VOSK				⇓Sn	Sn	12 14 52.2	-4.0
	21nm,1.1s						
BVA0	Borovoye Array	9.98	270	⇑Pn	Pn	12 13 10.4	0.0
	1.8nm,0.6s,baz=65,slow=15,SNR=10						
BVA0				Sn	Sn	12 15 02.5	-0.5
	4.4nm,0.7s,baz=64,slow=27,SNR=7.0						

*ATH **26** 12:35:47.5, 33˚96N×25˚30E, h5km, MD3.4/7*

*CSEM **26** 12:35:47.5, 33˚96N×25˚30E, h5km, MD3.4, After ATH*
*IDC **26** 12:35:48.1±1.2, 34˚01N×25˚32E, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.6/30, mbtmp3.5/11, ML3.8/5, Error ellipse: s-maj=26.7km s-min=20.3km az=5.0*

ISC 26 12:35:48.0±1.8, 33˚99N±0˚06×25˚31E±0˚04, h0km±10km, n27, σ0887/40, mb3.4/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.10	338	ePB	Pg	12 36 09.3	+0.1
SIVA				eSB	Sb	12 36 25.2	+0.3
SIVA	Sivas	1.10	338	ePb	Pg	12 36 09.3	+0.1
SIVA				eSb	Sb	12 36 25.2	+0.3
LAST	Lasithi	1.18	7	ePG	Pg	12 36 10.2	-0.4
LAST				eSB	Sb	12 36 27.0	-0.1
LAST	Lasithi	1.18	7	ePg	Pg	12 36 10.2	-0.4
LAST				eSb	Sb	12 36 27.0	-0.1
NPS	Neapolis	1.30	11	ePG	Pg	12 36 12.2	-0.6
NPS				eSB	Sb	12 36 30.9	+0.5
NPS	Neapolis	1.30	11	ePg	Pg	12 36 12.2	-0.6
NPS				eSb	Sb	12 36 30.9	+0.5
GVD	Gavdhos	1.32	310	ePB	Pn	12 36 11.0	-2.6
GVD	Gavdhos	1.32	310	ePb	Pn	12 36 11.0	-2.6
IDI	Anoyia	1.34	345	ePB	Pn	12 36 13.4	-0.6
IDI				eSB	Sn	12 36 32.8	+0.3
IDI	Anoyia	1.34	345	ePb	Pn	12 36 13.4	-0.6
IDI				eSb	Sn	12 36 32.8	+0.3
ZKR	Zakros	1.35	34	ePB	Pg	12 36 14.1	+0.2
ZKR				eSB	Sn	12 36 32.7	0.0
ZKR	Zakros	1.35	34	ePb	Pg	12 36 14.1	+0.2
ZKR				eSb	Sn	12 36 32.7	0.0
VAM	Vamos	1.68	328	ePN	Pg	12 36 20.3	+0.1
VAM				eSN	Sg	12 36 43.5	+1.4
VAM	Vamos	1.68	328	ePn	Pg	12 36 20.3	+0.1
VAM				eSn	Sg	12 36 43.5	+1.4
KARP	Karpathos	2.18	44	ePN	Pb	12 36 28.0	-0.3
KARP	Karpathos	2.18	44	ePn	Pb	12 36 28.0	-0.3
MMAI	Mount Meron Ar	8.49	94	Pn	Pn	12 37 53.6	+1.4
	0.4nm,0.3s,baz=272,slow=13,SNR=2.5						
BRTR	Keskin Array B	8.79	47	Pn	Pn	12 37 55.4	-1.0
	0.1nm,0.3s,baz=229,slow=13,SNR=3.5						
EIL	Elat	9.27	115	Pn	Pn	12 38 01.6	-1.2
	0.9nm,0.3s,baz=319,slow=11,SNR=4.7						
EIL				Sn	Sn	12 39 49.0	+1.3
	0.4nm,0.3s,baz=350,slow=18,SNR=2.6						
AKASG	Malin Array Be	16.95	9	Pn	Pn	12 39 46.0	-0.3
	2.6nm,0.3s,baz=201,slow=10,SNR=5.4						
GERES	GERESS Array B	17.18	333	P	Pn	12 39 49.4	+0.1
	0.2nm,0.3s,baz=153,slow=13,SNR=5.4						
ESDC	Sonseca Array	24.04	292	P	P	12 41 04.7	0.0
	0.2nm,0.3s,baz=88,slow=9.0,SNR=3.0						
HFS	Hagfors	27.24	347	P	P	12 41 33.0	-0.5
	2.9nm,0.9s,baz=190,slow=16,SNR=2.9						
TORD	Torodi Ar. Bea	29.84	232	P	P	12 41 57.5	+0.5
	0.3nm,0.7s,baz=52,slow=12,SNR=3.6						
MKAR	Makanchi Array	44.33	56	P	P	12 43 59.5	-0.1
	0.7nm,0.5s,baz=284,slow=6.2,SNR=6.9						
SONM	Songino Array	60.14	50	P	P	12 45 57.8	+0.4
	0.2nm,0.6s,baz=297,slow=6.3,SNR=2.2						
ILAR	Eielson Array	81.38	357	P	P	12 48 06.6	+0.5
	0.3nm,0.9s,baz=354,slow=2.7,SNR=4.2						

CASC 26 12:56:14.4±2.2, 13˚66N×90˚96W, h29km±8km, MD3.5, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.80	8	⇑eP	Pb	12 56 30.0	+0.1
PCG	Pacaya	0.81	25	eP	Pn	12 56 30.2	0.0
PCG				eS	Sn	12 56 41.6	+0.1
JAT	Jato	0.93	315	⇓iP	Pb	12 56 33.6	+1.6
JAT				eS	Sb	12 56 44.6	+0.7
NBG	Las Nubes	1.10	33	eP	Pn	12 56 33.8	-0.5
NBG				eS	Sb	12 56 50.6	+1.1
RTR	El Retiro	1.30	79	iP	Pn	12 56 36.6	-0.3
RTR				eS	Sb	12 56 56.1	+1.1
SBLS	San Blas	1.31	82	iP	Pn	12 56 36.7	-0.4
SBLS				eS	Sb	12 56 54.9	-0.6
SNJE	San Jose	1.

ISC 26 13:37:12.9±0.9, 50°.86N±0°.07×73°.61E±0°.05, h10km, n14, σ1§86/17, 6C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.48**	**320**	⇓Pn	**Pb**	**13 37 55.8**	**-1.7**
	10nm,0.5s						
VOSK				⇑Sn	**Sg**	**13 38 29.9**	**-2.6**
	119nm,0.9s						
BVA0	**Borovoye Array**	**2.94**	**319**	⇑Pn	**Pb**	**13 38 04.1**	**-1.3**
	6.1nm,0.7s,baz=138,slow=14,SNR=37						
BVA0				⇑Sn	**Sg**	**13 38 46.0**	**-1.4**
	40nm,0.8s,baz=123,slow=25,SNR=14						
BVAR	**Borovoye Array**	**2.94**	**319**	Pn	**Pn**	**13 38 02.1**	**+2.4**
	1.2nm,0.3s,baz=143,slow=13,SNR=28						
BVAR				Lg	Lg	13 38 45.0	
	4.0nm,0.3s,baz=133,slow=27,SNR=9.2						
KURBB	**Kurchatov Arra**	**3.14**	**92**	⇓Pn	**Pn**	**13 38 03.9**	**+1.5**
	17nm,0.5s,baz=276,slow=12						
KURBB				⇑Sn	**Sg**	**13 38 50.5**	**-3.1**
	194nm,0.8s,baz=255,slow=19						
KURBB	**Kurchatov Arra**	**3.14**	**92**	Pn	**Pn**	**13 38 04.2**	**+1.8**
	0.3nm,0.3s,baz=279,slow=14,SNR=79						
KURBB				Lg	Lg	13 38 49.1	
	0.9nm,0.3s,baz=276,slow=28,SNR=11						
MK31	**Makanchi Array**	**7.03**	**122**	⇓Pn	**Pn**	**13 38 57.4**	**+1.6**
	0.9nm,0.5s,baz=292,slow=13,SNR=3.5						
MK31				⇓Lg	Lg	13 40 55.4	
	31nm,0.8s,baz=318,slow=24,SNR=6.0						
MKAR	**Makanchi Array**	**7.03**	**122**	Pn	**Pn**	**13 38 56.7**	**+0.9**
	0.1nm,0.3s,baz=305,slow=13,SNR=5.4						
MKAR				Lg	Lg	13 40 49.1	
	0.5nm,0.3s,baz=311,slow=29,SNR=4.4						
ZALV	**Zalesovo Beam**	**7.52**	**61**	Pn	**Pn**	**13 39 03.8**	**+1.2**
	0.2nm,0.3s,baz=253,slow=14,SNR=5.9						
ZALV				Sn	**Sn**	**13 40 26.9**	**-1.0**
	0.2nm,0.3s,baz=248,slow=23,SNR=3.0						
TKM2	**Tokmak 2**	**8.06**	**170**	⇓Lg	Lg	13 41 27.0	
	47nm,1.1s						
AAK	**Ala-Archa**	**8.25**	**175**	Sn	**Sn**	**13 40 44.3**	**-1.8**
	0.5nm,0.3s,baz=252,slow=23,SNR=3.3						
AAK				Lg	Lg	13 41 33.9	
	0.2nm,0.3s,baz=297,slow=10.0,SNR=6.3						
AB31	**Akbulak array**	**8.94**	**265**	Pn	**Pn**	**13 39 23.0**	**+1.0**
	0.2nm,0.3s,baz=79,slow=9.5,SNR=8.8						
AKTO	**Aktyubinsk**	**9.92**	**274**	⇑Pn	**Pn**	**13 39 36.3**	**+1.0**
	1.7nm,0.5s						
AKTO				⇑Lg	Lg	13 42 25.9	
	7.9nm,1.1s						
AKTO	**Aktyubinsk**	**9.92**	**274**	Pn	**Pn**	**13 39 36.4**	**+1.0**
	0.6nm,0.3s,baz=84,slow=11,SNR=7.8						
AKTO				Lg	Lg	13 42 26.6	
	0.1nm,0.3s,baz=153,slow=14,SNR=3.5						
ILAR	**Eielson Array**	**60.51**	**19**	P	**P**	**13 47 23.9**	**+1.4**
	0.3nm,0.6s,baz=324,slow=5.2,SNR=12						

*DDA **26** 13:44:53.0, 34°.46N×22°.95E, h23km, MD3.5*
*IDC **26** 13:44:57.5±0.9, 35°.25N×23°.32E, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.9/31, mbtmp4.0/13, ML4.1/3, Error ellipse: s-maj=22.8km s-min=20.9km az=14.0*
*ATH **26** 13:45:03.8, 35°.11N×23°.31E, h33km±3km, MD3.5/17*
*CSEM **26** 13:45:06.9±0.4, 35°.28N×23°.46E, h30km, ML3.5/5, Error ellipse: s-maj=11.2km s-min=3.2km az=29.0*
*THE **26** 13:45:07.5, 35°.34N×23°.45E, h23km±1km, ML3.5/5, Error ellipse: s-maj=1.9km s-min=0.6km az=33.0*

ISC 26 13:45:05.4±1.3, 35°.20N±0°.06×23°.39E±0°.04, h30km±9km, n107, σ1§32/119, mb4.1/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.48**	**64**	P	**Pb**	**13 45 15.7**	**+0.3**
KARN				S	**Sb**	**13 45 22.1**	**-0.2**
KARN	**Karanos**	**0.48**	**64**	*e*PN	**Pb**	**13 45 16.0**	**+0.6**
KARN				*e*SN	**Sn**	**13 45 25.7**	**+2.1**
KARN	**Karanos**	**0.48**	**64**	P	**Pb**	**13 45 15.7**	**+0.3**
KARN	**Karanos**	**0.48**	**64**	*e*Pn	**Pb**	**13 45 16.0**	**+0.6**
KARN				S	**Sb**	**13 45 22.1**	**-0.2**
KARN				*e*Sn	**Sn**	**13 45 25.7**	**+2.1**
GVD	**Gavdhos**	**0.67**	**122**	*e*PN	**Pb**	**13 45 17.8**	**-0.8**
GVD	**Gavdhos**	**0.67**	**122**	*e*Pn	**Pb**	**13 45 17.8**	**-0.8**
ANKY	**Antikythira Is**	**0.67**	**354**	P	**Pb**	**13 45 18.1**	**-0.6**
ANKY				S	**Sb**	**13 45 26.3**	**-1.4**
ANKY	**Antikythira Is**	**0.67**	**354**	*e*PN	**Pb**	**13 45 18.3**	**-0.4**
ANKY				*e*SN	**Sn**	**13 45 30.2**	**+1.8**
ANKY	**Antikythira Is**	**0.67**	**354**	P	**Pb**	**13 45 18.1**	**-0.6**
ANKY				S	**Sb**	**13 45 26.3**	**-1.4**
ANKY				*e*Sn	**Sn**	**13 45 30.2**	**+1.8**
VAM	**Vamos**	**0.69**	**72**	P	**Pb**	**13 45 19.0**	**0.0**
VAM				S	**Sb**	**13 45 27.7**	**-0.6**
VAM	**Vamos**	**0.69**	**72**	*e*PB	**Pb**	**13 45 19.0**	**0.0**
VAM				*e*SN	**Sn**	**13 45 30.5**	**+1.6**
VAM	**Vamos**	**0.69**	**72**	P	**Pb**	**13 45 19.0**	**0.0**
VAM				S	**Sb**	**13 45 27.7**	**-0.6**
VAM				*e*Sn	**Sn**	**13 45 30.5**	**+1.6**
KYTH	**Kithira**	**1.12**	**345**	P	**Pb**	**13 45 25.7**	**-0.5**
KYTH	**Kithira**	**1.12**	**345**	*e*PN	**Pb**	**13 45 26.1**	**-0.1**
KYTH	**Kithira**	**1.12**	**345**	P	**Pb**	**13 45 25.7**	**-0.5**
KYTH	**Kithira**	**1.12**	**345**	*e*Pn	**Pb**	**13 45 26.1**	**-0.1**
SIVA	**Sivas**	**1.18**	**98**	P	**Pn**	**13 45 26.8**	**+1.0**
SIVA	**Sivas**	**1.18**	**98**	*e*PN	**Pn**	**13 45 26.8**	**+1.0**
SIVA	**Sivas**	**1.18**	**98**	P	**Pn**	**13 45 26.8**	**+1.0**
IDI	**Anoyia**	**1.23**	**85**	P	**Pn**	**13 45 27.6**	**+1.0**
IDI				S	**Sn**	**13 45 43.6**	**+1.4**
IDI	**Anoyia**	**1.23**	**85**	*e*PN	**Pn**	**13 45 27.7**	**+1.1**
IDI	**Anoyia**	**1.23**	**85**	P	**Pn**	**13 45 27.6**	**+1.0**
IDI				S	**Sn**	**13 45 43.6**	**+1.4**
VLI	**Veliai**	**1.56**	**347**	P	**Pn**	**13 45 31.7**	**+0.6**
VLI				S	**Sn**	**13 45 49.2**	**-1.2**
VLI	**Veliai**	**1.56**	**347**	*e*PN	**Pn**	**13 45 31.8**	**+0.6**
VLI	**Veliai**	**1.56**	**347**	P	**Pn**	**13 45 31.7**	**+0.6**
VLI				S	**Sn**	**13 45 49.2**	**-1.2**
LAST	**Lasithi**	**1.71**	**91**	P	**Pn**	**13 45 34.7**	**+1.5**
LAST	**Lasithi**	**1.71**	**91**	*e*PB	**Pn**	**13 45 34.7**	**+1.5**
LAST	**Lasithi**	**1.71**	**91**	P	**Pn**	**13 45 34.7**	**+1.5**
DYR	**Agios Nikonas**	**1.78**	**332**	P	**Pn**	**13 45 35.5**	**+1.4**
DYR				S	**Sn**	**13 45 55.0**	**-0.8**
DYR	**Agios Nikonas**	**1.78**	**332**	*e*PB	**Pn**	**13 45 35.6**	**+1.4**
DYR	**Agios Nikonas**	**1.78**	**332**	P	**Pn**	**13 45 35.5**	**+1.4**
DYR				S	**Sn**	**13 45 55.0**	**-0.8**
NPS	**Neapolis**	**1.82**	**87**	*e*PB	**Pn**	**13 45 36.5**	**+1.9**
NPS	**Neapolis**	**1.82**	**87**	*e*Pb	**Pn**	**13 45 36.5**	**+1.9**
THR3	**Thira Island,**	**2.03**	**53**	P	**Pn**	**13 45 37.9**	**+0.3**
THR3	**Thira Island,**	**2.03**	**53**	P	**Pn**	**13 45 37.9**	**+0.3**
SANT	**Santorini**	**2.05**	**54**	P	**Pn**	**13 45 38.2**	**+0.4**
SANT	**Santorini**	**2.05**	**54**	P	**Pn**	**13 45 38.2**	**+0.4**
THR1	**Thera Island**	**2.05**	**55**	P	**Pn**	**13 45 38.3**	**+0.5**
THR1	**Thera Island**	**2.05**	**55**	P	**Pn**	**13 45 38.3**	**+0.5**
THR2	**Thira island,**	**2.08**	**52**	P	**Pn**	**13 45 38.8**	**+0.6**
THR2	**Thira island,**	**2.08**	**52**	P	**Pn**	**13 45 38.8**	**+0.6**
ITM	**Ithomi**	**2.31**	**330**	P	**Pn**	**13 45 42.1**	**+0.7**
ITM				S	**Sn**	**13 46 08.3**	**-0.5**
ITM	**Ithomi**	**2.31**	**330**	P	**Pn**	**13 45 42.1**	**+0.7**
ITM				S	**Sn**	**13 46 08.3**	**-0.5**
DID	**Didima**	**2.31**	**357**	P	**Pn**	**13 45 42.0**	**+0.6**
DID				S	**Sn**	**13 46 08.1**	**-0.7**
DID	**Didima**	**2.31**	**357**	*e*PN	**Pn**	**13 45 43.0**	**+1.6**
DID	**Didima**	**2.31**	**357**	P	**Pn**	**13 45 42.0**	**+0.6**
DID	**Didima**	**2.31**	**357**	*e*Pn	**Pn**	**13 45 43.0**	**+1.6**
DID				S	**Sn**	**13 46 08.1**	**-0.7**
ZKR	**Zakros**	**2.32**	**91**	P	**Pn**	**13 45 43.3**	**+1.8**
ZKR	**Zakros**	**2.32**	**91**	P	**Pn**	**13 45 43.3**	**+1.8**
APE	**Apeiranthos**	**2.55**	**42**	P	**Pn**	**13 45 44.9**	**+0.2**
APE				S	**Sn**	**13 46 14.2**	**-0.5**
APE	**Apeiranthos**	**2.55**	**42**	P	**Pn**	**13 45 44.9**	**+0.2**
APE				S	**Sn**	**13 46 14.2**	**-0.5**
GUR	**Goura**	**2.86**	**343**	P	**Pn**	**13 45 49.9**	**+0.8**
GUR				S	**Sn**	**13 46 22.8**	**+0.2**
GUR	**Goura**	**2.86**	**343**	*e*PN	**Pn**	**13 45 50.4**	**+1.3**
GUR	**Goura**	**2.86**	**343**	P	**Pn**	**13 45 49.9**	**+0.8**
GUR	**Goura**	**2.86**	**343**	*e*Pn	**Pn**	**13 45 50.4**	**+1.3**
GUR				S	**Sn**	**13 46 22.8**	**+0.2**
KLV	**Kalavryta, Ach**	**3.01**	**341**	P	**Pn**	**13 45 51.6**	**+0.5**
KLV	**Kalavryta, Ach**	**3.01**	**341**	P	**Pn**	**13 45 51.6**	**+0.5**
KARP	**Karpathos**	**3.10**	**82**	P	**Pn**	**13 45 52.9**	**+0.6**
KARP	**Karpathos**	**3.10**	**82**	*e*PN	**Pn**	**13 45 52.8**	**+0.5**
KARP	**Karpathos**	**3.10**	**82**	P	**Pn**	**13 45 52.9**	**+0.6**
LTBQ	**Tobruq**	**3.16**	**172**	*i* P	Pn	13 45 52.2	-0.9
	SNR=91						
RLS	**Riolos of Patr**	**3.25**	**332**	P	**Pn**	**13 45 54.6**	**+0.3**
RLS	**Riolos of Patr**	**3.25**	**332**	P	**Pn**	**13 45 54.6**	**+0.3**
TRIZ	**Trizonia**	**3.34**	**342**	*e*PN	**Pn**	**13 45 57.0**	**+1.5**
TRIZ	**Trizonia**	**3.34**	**342**	*e*Pn	**Pn**	**13 45 57.0**	**+1.5**
KALE	**Kalithea**	**3.34**	**343**	P	**Pn**	**13 45 56.1**	**+0.5**
KALE	**Kalithea**	**3.34**	**343**	*e*PN	**Pn**	**13 45 57.2**	**+1.6**
KALE	**Kalithea**	**3.34**	**343**	P	**Pn**	**13 45 56.1**	**+0.5**
KALE	**Kalithea**	**3.34**	**343**	*e*Pn	**Pn**	**13 45 57.2**	**+1.6**
EFP	**Efpalio**	**3.44**	**340**	*e*PN	**Pn**	**13 45 58.8**	**+1.9**
EFP	**Efpalio**	**3.44**	**340**	*e*Pn	**Pn**	**13 45 58.8**	**+1.9**
BDRM	**Kayabasi**	**3.77**	**59**	*i* P	**Pn**	**13 46 02.2**	**+0.7**
BDRM	**Kayabasi**	**3.77**	**59**	*i* P	**Pn**	**13 46 02.2**	**+0.7**
AGG	**Agios Georgios**	**3.91**	**348**	P	**Pn**	**13 46 03.5**	**+0.1**
AGG	**Agios Georgios**	**3.91**	**348**	P	**Pn**	**13 46 03.5**	**+0.1**
XOR	**Xorichti**	**4.17**	**358**	P	**Pn**	**13 46 07.3**	**+0.4**
XOR	**Xorichti**	**4.17**	**358**	P	**Pn**	**13 46 07.3**	**+0.4**
TURN	**Turunc**	**4.54**	**67**	*i* P	Pn	13 46 08.7	-3.3
TURN				*i* S	Sn	13 46 55.6	-8.2
TURN	**Turunc**	**4.54**	**67**	*i* P	Pn	13 46 08.7	-3.3
AKAS	**Kas**	**5.16**	**77**	*i* P	**Pn**	**13 46 20.5**	**-0.2**
AKAS				*i* S	**Sn**	**13 47 17.0**	**-2.3**
AKAS	**Kas**	**5.16**	**77**	*i* P	**Pn**	**13 46 20.5**	**-0.2**
AKAS				*i* S	**Sn**	**13 47 17.0**	**-2.3**
DNZL	**Cakiroluk**	**5.19**	**60**	*i* P	**Pn**	**13 46 23.4**	**+2.2**
DNZL	**Cakiroluk**	**5.19**	**60**	*i* P	**Pn**	**13 46 23.4**	**+2.2**
GOLH	**Golhisar**	**5.39**	**66**	*i* P	**Pn**	**13 46 24.5**	**+0.7**
GOLH				*i* S	**Sn**	**13 47 20.2**	**-4.7**
GOLH	**Golhisar**	**5.39**	**66**	*i* P	**Pn**	**13 46 24.5**	**+0.7**
GOLH				*i* S	**Sn**	**13 47 20.2**	**-4.7**
GAZI	**Gazipasa**	**7.33**	**79**	*i* P	**Pn**	**13 46 48.7**	**-1.7**
GAZI				*i* S	Sn	13 48 00.5	-12
GAZI	**Gazipasa**	**7.33**	**79**	*i* P	**Pn**	**13 46 48.7**	**-1.7**
STON	**Ston**	**8.85**	**332**	Sn	Sn	13 48 38.9	-11
BRTR	**Keskin Array B**	**9.32**	**58**	Pn	**Pn**	**13 47 18.9**	**+1.2**
	0.3nm,0.3s,baz=236,slow=13,SNR=17						
MMAI	**Mount Meron Ar**	**10.19**	**99**	Pn	Pn	13 47 26.2	-3.5
	2.8nm,0.3s,baz=289,slow=13,SNR=5.0						
MMAI				Sn	Sn	13 49 15.3	-7.8
	2.2nm,0.3s,baz=301,slow=26,SNR=4.6						
EIL	**Elat**	**11.21**	**116**	Pn	Pn	13 47 39.6	-3.9
	1.1nm,0.3s,baz=270,slow=6.2,SNR=11						
EIL				Sn	Sn	13 49 38.6	-9.3
	0.7nm,0.3s,baz=318,slow=13,SNR=3.4						
NVLJ	**Novalja**	**11.41**	**328**	*e*Pn	Pn	13 47 42.1	-4.1
NVLJ				Sn	Sn	13 49 40.2	-12
ASF	**Jabal al Asfar**	**11.65**	**101**	Pn	Pn	13 47 46.9	-2.7
	0.7nm,0.3s,baz=237,slow=6.9,SNR=3.4						
GERES	**GERESS Array B**	**15.40**	**335**	Pn	**Pn**	**13 48 43.3**	**+2.8**
	0.2nm,0.3s,baz=153,slow=13,SNR=3.8						
AKASG	**Malin Array Be**	**16.07**	**14**	Pn	**Pn**	**13 48 50.6**	**+1.7**
	2.3nm,0.3s,baz=202,slow=11,SNR=4.7						
KBZ	**Khabaz**	**17.28**	**55**	P	**Pn**	**13 49 04.1**	**-0.2**
	0.1nm,0.3s,baz=216,slow=9.3,SNR=4.0						
HFS	**Hagfors**	**25.74**	**349**	P	**P**	**13 50 29.6**	**-3.3**
	0.9nm,0.4s,baz=151,slow=10,SNR=7.5						
TORD	**Torodi Ar. Bea**	**29.43**	**227**	P	P	13 51 03.1	-3.3
	0.6nm,0.4s,baz=33,slow=8.9,SNR=13						
ARCES	**ARCESS Array B**	**34.41**	**1**	P	P	13 51 45.1	-4.6
	2.1nm,0.8s,baz=188,slow=7.3,SNR=6.5						
ARCES				PcP	PcP	13 54 21.1	-3.4
	2.2nm,0.9s,baz=193,slow=2.8,SNR=4.0						
SPITS	**Spitsbergen Ar**	**43.19**	**358**	P	P	13 52 59.6	-3.5
	8.7nm,0.9s,baz=145,slow=13,SNR=5.7						
MKAR	**Makanchi Array**	**44.96**	**56**	P	P	13 53 14.5	-3.2
	0.7nm,0.3s,baz=268,slow=8.0,SNR=35						
ZALV	**Zalesovo Beam**	**46.02**	**46**	P	P	13 53 22.3	-3.6
	1.5nm,0.4s,baz=257,slow=9.2,SNR=7.8						
SONM	**Songino Array**	**60.58**	**50**	P	P	13 55 10.3	-2.9
	0.4nm,0.5s,baz=293,slow=8.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**68.00**	**82**	P	P	13 55 59.4	-2.6
	0.3nm,0.5s,baz=296,slow=7.8,SNR=4.3						
YKA	**Yellowknife Ar**	**76.96**	**341**	P	P	13 56 50.6	-4.1
	2.6nm,0.9s,baz=38,slow=7.1,SNR=2.8						
USRK	**Ussuriysk Arra**	**77.84**	**44**	P	P	13 56 56.1	-3.7
	1.5nm,0.7s,baz=321,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**119.48**	**99**	PKP	PKPdf	14 03 48.8	-3.6
	0.2nm,0.8s,baz=293,slow=1.5,SNR=3.0						

*AUST **26** 13:49:26.5, 29°.38S×176°.78W, h0km*
*IDC **26** 13:49:28.8±0.7, 29°.72S×177°.29W, h0km, mb4.6/11, mb1 4.7/11, mb1mx4.5/20, mbtmp4.5/11, MS3.4/2, Ms1 3.4/2, ms1mx2.9/40, Error ellipse: s-maj=21.4km s-min=16.1km az=30.0*
*NEIC **26** 13:49:32.1±2.2, 29°.81S×177°.32W, h21km±13km, mb4.9/6, Error ellipse: s-maj=16.9km s-min=9.8km az=96.0*
*ISCJB **26** 13:49:33.4±0.6, 29°.85S±0°.05×177°.5W±0°.1, h35km, mb4.6/15, MS3.2/1, Error ellipse: s-maj=12.9km s-min=6.9km az=171.4*

ISC 26 13:49:35.1±0.6, 29°.77S±0°.06×177°.5W±0°.1, h35km, n90, σ1§62/79, mb4.6/15, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.62**	**326**	Pn	**Pn**	**13 49 47.2**	**-0.3**
RAO				Sn	**Sn**	**13 49 57.3**	**+1.0**
RAO	**Raoul Island**	**0.62**	**326**	Pn	**Pn**	**13 49 47.2**	**-0.3**
	4μm,0.3s,baz=104,slow=22,SNR=278						
RAO				Sn	**Sn**	**13 49 57.3**	**+1.0**
	14μm,0.3s,baz=60,slow=20,SNR=31						
URZ	**Urewera**	**9.57**	**206**	*e*P	Pn	13 51 46.1	-4.2
URZ				Sn	**Sn**	**13 53 34.7**	**-1.8**
URZ	**Urewera**	**9.57**	**206**	Pn	Pn	13 51 45.8	-4.5
	0.7nm,0.3s,baz=328,slow=18,SNR=9.2						
URZ				Sn	**Sn**	**13 53 34.7**	**-1.8**
	4.2nm,0.3s,baz=218,slow=20,SNR=9.1						
KHZ	**Kahutara**	**14.53**	**207**	*e*P	**Pn**	**13 52 57.0**	**-1.2**
DZM	**Mont Dzumac**	**16.33**	**294**	*e*LR	LR	13 57 16.6	
	327nm,26.4s						
RPZ	**Rata Peaks**	**16.64**	**210**	*e*P	**Pn**	**13 53 24.9**	**-0.6**
RPZ	**Rata Peaks**	**16.64**	**210**	Pn	**Pn**	**13 53 22.4**	**-3.1**
	2.5nm,0.3s,baz=291,slow=2.9,SNR=8.6						
RAR	**Rarotonga**	**18.13**	**66**	LR	LR	13 58 30.5	
	comp=Z,161nm,20.5s,baz=90,slow=30						
TBI	**Tubuai**	**25.86**	**82**	*e*LR	LR	14 01 27.6	
	241nm,32.0s						
TBI	**Tubuai**	**25.86**	**82**	*e*T	T	14 21 38.5	
	24nm,0.4s						
ARMA	**Armidale**	**26.66**	**261**	P	**P**	**13 55 14.4**	**+3.5**
	baz=27,SNR=11						
MGCD	**Mangrove Creek**	**26.92**	**255**	P	**P**	**13 55 17.9**	**+4.8**
	baz=28,SNR=5.1						
EIDS	**Eidsvold**	**28.13**	**271**	*e*P	**P**	**13 55 25.5**	**+1.5**
	9.8nm,0.8s						
EIDS	**Eidsvold**	**28.13**	**271**	P	**P**	**13 55 26.0**	**+2.0**
	baz=29,SNR=8.4						
PAE	**Paea**	**28.20**	**71**	*e*T	T	14 24 43.6	
	6.1nm,0.3s						
PPT2	**Papeete2**	**28.23**	**71**	*e*LR	LR	14 02 32.8	
	157nm,25.0s						
PPT2	**Papeete2**	**28.23**	**71**	*e*T	T	14 24 47.4	
	5.3nm,0.3s						
PPT	**Papeete**	**28.25**	**71**	LR	LR	14 03 08.7	
	comp=Z,63nm,19.6s,baz=344,slow=29						
TVO	**Taravao**	**28.41**	**72**	*e*T	T	14 24 59.1	
	7.8nm,0.3s						
YNG	**Young**	**29.16**	**252**	P	P	13 55 36.7	+3.5
	baz=30,SNR=8.1						
RMQ	**Roma**	**29.86**	**268**	P	**P**	**13 55 42.4**	**+3.0**
	baz=30,SNR=20						
PMOR	**Pomariorio Ree**	**30.97**	**68**	*e*T	T	14 28 14.2	
	3.2nm,0.3s						
CMSA	**Cobar Meteorol**	**31.61**	**257**	P	**P**	**13 55 57.5**	**+2.8**
	baz=32,SNR=8.8						
CTA	**Charters Tower**	**34.12**	**278**	P	**P**	**13 56 18.3**	**+1.5**
CTA	**Charters Tower**	**34.12**	**278**	P	**P**	**13 56 18.3**	**+1.5**
	12nm,0.4s,baz=101,slow=10,SNR=37						
CTAO	**Charters Tower**	**34.12**	**278**	*e*P	**P**	**13 56 18.5**	**+1.7**
	13nm,0.4s						
STKA	**Stephens Creek**	**35.03**	**256**	*e*P	**P**	**13 56 25.9**	**+1.4**
	2.6nm,0.8s						
STKA	**Stephens Creek**	**35.03**	**256**	P	**P**	**13 56 26.3**	**+1.7**
	12nm,0.6s,baz=91,slow=9.1,SNR=32						
STKA	**Stephens Creek**	**35.03**	**256**	P	**P**	**13 56 26.1**	**+1.5**
	baz=36,SNR=25						
MTSU	**Mount Surprise**	**36.59**	**280**	P	**P**	**13 56 40.0**	**+1.9**
	baz=37,SNR=12						
PATS	**Pohnpei**	**43.18**	**324**	P	**P**	**13 57 31.1**	**-1.6**
	baz=43,SNR=3.3						
AS31	**Alice Springs**	**43.56**	**266**	*e*P	**P**	**13 57 35.1**	**-0.8**
ASAR	**Alice Springs**	**43.56**	**266**	P	**P**	**13 57 35.3**	**-0.6**
ASAR				PcP	**PcP**	**13 59 24.2**	**+0.9**
ASAR	**Alice Springs**	**43.56**	**266**	P	**P**	**13 57 35.3**	**-0.6**
	3.8nm,0.4s,baz=106,slow=7.4,SNR=126						
ASAR				PcP	**PcP**	**13 59 24.2**	**+0.9**
	1.0nm,0.8s,baz=115,slow=4.2,SNR=3.7						
WRAB	**Tennant Creek**	**44.49**	**271**	*e*P	**P**	**13 57 42.4**	**-1.0**
	14nm,0.6s						
WRA	**Warramunga Arr**	**44.50**	**271**	P	**P**	**13 57 42.6**	**-0.8**
WRA	**Warramunga Arr**	**44.50**	**271**	P	**P**	**13 57 42.6**	**-0.8**
	12nm,0.4s,baz=110,slow=8.1,SNR=233						
FORT	**Forrest**	**46.62**	**254**	P	**P**	**13 57 59.0**	**-1.1**
	baz=47,SNR=11						
VNDA	**Vanda**	**48.76**	**186**	*e*P	**P**	**13 58 19.1**	**+3.1**
KDU	**Kakadu**	**49.23**	**279**	P	**P**	**13 58 20.4**	**0.0**
	baz=50,SNR=3.0						
MTN	**Manton Dam**	**50.30**	**278**	P	**P**	**13 58 27.7**	**-0.9**
	baz=51,SNR=4.7						
KNRA	**Kununurra**	**51.08**	**274**	P	**P**	**13 58 34.0**	**-0.4**
	baz=52,SNR=12						
FITZ	**Fitzroy Crossi**	**52.78**	**269**	P	**P**	**13 58 46.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.78**	**269**	P	**P**	**13 58 46.4**	**-0.7**
	4.8nm,0.8s,baz=176,slow=6.8,SNR=11						
FITZ	**Fitzroy Crossi**	**52.78**	**269**	P	**P**	**13 58 46.4**	**-0.7**
	baz=53,SNR=8.2						
CASY	**Casey**	**55.89**	**208**	*e*P	**P**	**13 59 09.1**	**+0.1**
	9.1nm,0.6s						
MORW	**Morawa**	**57.11**	**253**	P	**P**	**13 59 17.1**	**-1.2**
	baz=58,SNR=3.4						
QSPA	**South Pole Qui**	**60.34**	**180**	*e*P	**P**	**13 59 41.9**	**+1.5**
	14nm,0.7s						
MAW	**Mawson**	**73.04**	**200**	P	**P**	**14 01 01.1**	**+0.1**
MAW	**Mawson**	**73.04**	**200**	P	**P**	**14 01 01.1**	**+0.1**
	4.9nm,0.8s,baz=115,slow=5.9,SNR=8.0						
MAW	**Mawson**	**73.04**	**200**	P	**P**	**14 01 02.4**	**+1.4**
	baz=73,SNR=4.8						
MJAR	**Matsushiro Arr**	**77.97**	**325**	P	**P**	**14 01 29.0**	**-0.7**
MJAR	**Matsushiro Arr**	**77.97**	**325**	P	**P**	**14 01 29.0**	**-0.7**
	0.6nm,0.5s,baz=173,slow=5.2,SNR=4.2						
SNAA	**Sanae**	**78.77**	**178**	*e*P	**P**	**14 01 34.2**	**+0.4**
VNA3	**Neumayer Olymp**	**78.90**	**176**	*e*P	**P**	**14 01 35.0**	**+0.6**
VNA2	**Neumayer--Watz**	**79.34**	**177**	*e*P	**P**	**14 01 37.7**	**+0.9**
	baz=173,slow=4.4						
PETK	**Petropavlovsk-**	**85.31**	**345**	P	**P**	**14 02 07.5**	**-0.5**
PETK	**Petropavlovsk-**	**85.31**	**345**	P	**P**	**14 02 07.5**	**-0.5**
	2.1nm,0.4s,baz=142,slow=7.3,SNR=3.6						
USRK	**Ussuriysk Arra**	**86.87**	**326**	P	**P**	**14 02 14.9**	**-0.9**
	1.1nm,0.6s,baz=82,slow=3.2,SNR=3.8						
NVAR	**Mina Array Bea**	**87.50**	**42**	P	P	14 02 16.9	-2.5
NVAR	**Mina Array Bea**	**87.50**	**42**	P	P	14 02 16.9	-2.5
	1.5nm,0.9s,baz=218,slow=5.3,SNR=9.3						
ILAR	**Eielson Array**	**97.22**	**13**	P	**P**	**14 03 02.9**	**-0.6**
ILAR	**Eielson Array**	**97.22**	**13**	P	**P**	**14 03 02.9**	**-0.6**
	0.3nm,0.8s,baz=215,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**117.69**	**310**	PKP	**PKPdf**	**14 08 15.4**	**-1.9**
MKAR	**Makanchi Array**	**117.69**	**310**	PKP	**PKPdf**	**14 08 15.4**	**-1.9**
	0.4nm,0.6s,baz=68,slow=3.3,SNR=5.2

IDC 26 14:21:23.9±1.4, 1.73S×99.14E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/24, mbtmp3.8/9, ML3.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/45, Error ellipse: s-maj=62.9km s-min=16.3km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.50**	**357**	Pn	Pn	14 22 34.0	+0.4
	1.0nm,0.3s,baz=127,slow=5.1,SNR=2.8						
PSI				LR	LR	14 24 36.6	
	comp=Z,172nm,19.2s,baz=197,slow=44						
CMAR	**Chiang Mai Arr**	**20.06**	**359**	P	P	14 25 58.0	-0.9
	0.8nm,0.6s,baz=186,slow=10,SNR=6.7						
NWAO	**Narrogin (SRO)**	**35.39**	**153**	LR	LR	14 43 17.6	
	comp=Z,122nm,19.8s,baz=98,slow=37						
WRA	**Warramunga Arr**	**38.88**	**120**	P	P	14 28 50.4	-1.0
	2.3nm,0.9s,baz=302,slow=9.0,SNR=17						
WRA				PcP	PcP	14 31 02.7	0.0
	0.6nm,0.9s,baz=317,slow=2.6,SNR=4.6						
ASAR	**Alice Springs**	**40.11**	**126**	P	P	14 29 01.5	-0.3
	0.6nm,0.8s,baz=303,slow=7.6,SNR=11						
ASAR				PcP	PcP	14 31 07.1	+0.6
	0.5nm,0.8s,baz=292,slow=2.3,SNR=4.3						
JNU	**Nakatsue**	**45.81**	**38**	P	P	14 29 53.9	+6.2
	4.4nm,0.8s,baz=93,slow=10,SNR=3.7						
KSRS	**Korea Array**	**47.23**	**31**	P	P	14 30 05.5	+6.7
	0.9nm,0.5s,baz=314,slow=18,SNR=7.1						
SONM	**Songino Array**	**49.76**	**6**	P	P	14 30 18.3	-0.1
	0.4nm,0.4s,baz=178,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**49.98**	**131**	P	P	14 30 20.8	+0.7
	4.0nm,0.8s,baz=26,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	14 30 23.9	-0.2
	0.8nm,0.6s,baz=155,slow=8.4,SNR=17						
ZALV	**Zalesovo Beam**	**56.75**	**350**	P	P	14 31 08.6	-0.9
	0.6nm,0.4s,baz=179,slow=9.7,SNR=5.0						
FINES	**FINESS Array B**	**83.47**	**332**	P	P	14 33 53.6	+0.3
	1.4nm,0.8s,baz=86,slow=11,SNR=2.6						
CPUP	**Villa Florida**	**144.02**	**218**	PKP	PKPdf	14 41 03.0	+0.6
	1.0nm,0.5s,baz=103,slow=2.6,SNR=5.0						
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPab	14 41 03.1	-0.3
	0.7nm,0.6s,baz=260,slow=1.0,SNR=7.2						

TRN 26 14:24:38.3, 17.05N×62.40W, h136km, MD3.8, 5C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.43**	**311**	⇓iP	Pn	14 24 58.8	+1.1
SKI	**Saint Kitts**	**0.43**	**311**	eP	Pn	14 24 59.0	+1.3
SKI				eS	Sn	14 25 13.5	+1.0
SKI				eS	Sn	14 25 13.5	+1.0
ANWB	**Willy Bob**	**0.85**	**43**	⇑eP	Pn	14 25 01.5	+1.1
ANWB				eS	Sn	14 25 18.9	+1.6
SEG	**Port Louis**	**1.07**	**127**	eP	Pn	14 25 03.4	+1.0
LZG	**Guadaloupe-1**	**1.08**	**146**	eP	Pn	14 25 03.6	+1.1
SSG	**Sans Toucher**	**1.18**	**144**	⇑eP	Pn	14 25 04.6	+1.0
MLG	**Mont-d'or**	**1.18**	**146**	eP	Pn	14 25 04.7	+1.1
FNG	**Fond-Bernard**	**1.20**	**145**	eP	Pn	14 25 04.9	+1.1
CRG	**Carmichael**	**1.22**	**144**	eP	Pn	14 25 05.4	+1.3
TAG	**Tarade**	**1.22**	**145**	eP	Pn	14 25 05.5	+1.4
ECG	**Echelle**	**1.23**	**144**	⇑iP	Pn	14 25 05.5	+1.3
DOG	**Dongo Capester**	**1.26**	**143**	eP	Pn	14 25 05.5	+1.2
PHG	**Guadaloupe-2**	**1.26**	**145**	eP	Pn	14 25 05.7	+1.3
TBG	**Guadaloupe-3**	**1.39**	**149**	⇑iP	Pn	14 25 06.4	+0.7
SFG	**Saint Francois**	**1.40**	**124**	⇓iP	Pn	14 25 06.3	+0.6
MGG	**Marie-Galante**	**1.53**	**137**	⇑iP	Pn	14 25 08.1	+1.0

*ISCJB **26** 14:26:15.7±0.4, 52.2N±0.1×174.68W±0.06, h102km±4km, mb3.7/15, Error ellipse: s-maj=17.2km s-min=5.1km az=167.4*
*NEIC **26** 14:26:17.9, 51.92N×174.53W, h74km, MG3.8(AEIC), After AEIC.*
*IDC **26** 14:26:19.1±2.6, 52.28N×174.79W, h117km±22km, mb3.5/15, mb1 3.6/19, mb1mx3.5/34, mbtmp3.4/19, MS3.3/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=23.0km s-min=11.1km az=168.0*

ISC 26 14:26:16.6±0.9, 52.1N±0.1×174.68W±0.05, h99km±7km, n37, σ1900/44, mb3.7/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.85**	**270**	P	**Pn**	**14 26 35.3**	**0.0**
GSTR	**Great Sitkin T**	**0.85**	**274**	P	**Pn**	**14 26 35.6**	**+0.2**
GSTD	**Great Sitkin T**	**0.91**	**271**	P	**Pn**	**14 26 35.9**	**-0.1**
GSTD				S	**Sn**	**14 26 50.1**	**-0.4**
GSCK	**Great Sitkin C**	**0.92**	**268**	P	**Pn**	**14 26 36.1**	**+0.1**
ETKA	**Kagalaska Isla**	**1.09**	**261**	P	**Pn**	**14 26 38.1**	**+0.3**
ETKA				S	**Sn**	**14 26 53.5**	**-0.4**
ADAG	**Mount Adagdak**	**1.19**	**267**	P	**Pn**	**14 26 39.8**	**+0.7**
ADK	**Adak**	**1.25**	**263**	eP	**Pn**	**14 26 40.0**	**+0.3**
ADK				eS	**Sn**	**14 26 55.3**	**-1.9**
KIKV	**Kanaga Island**	**1.55**	**265**	P	**Pn**	**14 26 44.1**	**+0.8**
KIKV				S	**Sn**	**14 27 04.2**	**+0.5**
KICM	**Kanaga Island**	**1.56**	**266**	P	**Pn**	**14 26 44.1**	**+0.6**
TAFP	**Tanaga Falls P**	**2.05**	**267**	P	**Pn**	**14 26 50.3**	**+0.6**
TAFP				S	**Sn**	**14 27 15.4**	**+0.4**
NIKH	**Nikolski High**	**3.68**	**73**	P	**Pn**	**14 27 10.1**	**-1.1**
NIKH				S	**Sn**	**14 27 52.8**	**-0.9**
MREP	**Makushin Rep't**	**5.11**	**67**	P	**Pn**	**14 27 30.1**	**-0.7**
SPIA	**Saint Paul Isl**	**5.75**	**25**	P	**Pn**	**14 27 39.6**	**+0.3**
SSBA	**Shishaldin**	**6.87**	**62**	P	**Pn**	**14 27 53.8**	**-0.9**
FX1	**Attu Island--F**	**7.48**	**281**	P	**Pn**	**14 28 03.3**	**+0.5**
	0.8nm,0.3s,baz=94,slow=3.1,SNR=5.5						
FX1				S	**Sn**	**14 29 26.5**	**+0.6**
	0.8nm,0.3s,baz=294,slow=18,SNR=2.0						
KDAK	**Kodiak Island**	**13.91**	**57**	P	**Pn**	**14 29 28.1**	**-0.9**
	0.4nm,0.3s,baz=263,slow=8.1,SNR=3.4						
KDAK				S	**Sn**	**14 32 05.4**	**+3.6**
	0.3nm,0.3s,baz=162,slow=20,SNR=4.2						
PETK	**Petropavlovsk-**	**16.79**	**285**	P	**P**	**14 30 05.7**	**-0.2**
	0.1nm,0.3s,baz=91,slow=13,SNR=9.2						
PETK				PcP	**PcP**	**14 34 48.1**	**+0.7**
	0.1nm,0.3s,baz=95,slow=1.9,SNR=5.5						
ILAR	**Eielson Array**	**19.13**	**38**	P	**P**	**14 30 30.2**	**-1.3**
	0.2nm,0.3s,baz=234,slow=10,SNR=14						
INK	**Inuvik**	**25.44**	**35**	P	**P**	**14 31 34.6**	**0.0**
	1.2nm,0.7s,baz=243,slow=6.8,SNR=3.9						
ASAJ	**Asahikawa**	**29.27**	**271**	LR	LR	14 43 55.7	
	comp=Z,28nm,18.0s,baz=163,slow=36						
YKA	**Yellowknife Ar**	**32.89**	**48**	P	**P**	**14 32 41.1**	**+0.4**
	1.4nm,0.7s,baz=281,slow=7.5,SNR=2.8						
MJAR	**Matsushiro Arr**	**36.42**	**264**	P	**P**	**14 33 11.9**	**+0.5**
	0.7nm,0.6s,baz=40,slow=6.6,SNR=4.5						
NVAR	**Mina Array Bea**	**40.94**	**86**	P	**P**	**14 33 50.6**	**+1.2**
	0.5nm,0.6s,baz=306,slow=7.7,SNR=5.0						
NVAR				LR	LR	14 46 34.2	
	comp=Z,72nm,22.0s,baz=288,slow=30						
JNU	**Nakatsue**	**43.19**	**266**	P	**P**	**14 34 08.9**	**+1.4**
	8.2nm,0.9s,baz=56,slow=1.7,SNR=5.6						
PDAR	**Pinedale Array**	**43.66**	**75**	P	**P**	**14 34 12.6**	**+1.2**
	0.7nm,0.8s,baz=297,slow=4.0,SNR=5.9						
SONM	**Songino Array**	**48.62**	**298**	P	**P**	**14 34 49.6**	**-0.4**
	0.4nm,0.4s,baz=72,slow=9.1,SNR=4.0						
TXAR	**Lajitas Array**	**56.02**	**85**	P	**P**	**14 35 45.9**	**+0.9**
	0.5nm,0.5s,baz=289,slow=5.5,SNR=6.8						
MKAR	**Makanchi Array**	**61.59**	**310**	P	**P**	**14 36 22.0**	**-1.2**
	0.2nm,0.3s,baz=41,slow=6.6,SNR=6.4						
FINES	**FINESS Array B**	**65.65**	**349**	P	**P**	**14 36 48.4**	**-1.2**
	1.1nm,0.7s,baz=35,slow=7.5,SNR=3.2						
NOA	**NORSAR Array B**	**67.16**	**357**	P	**P**	**14 36 58.8**	**-0.5**
	0.5nm,0.5s,baz=4.2,slow=6.2,SNR=3.8						
HFS	**Hagfors**	**67.97**	**355**	P	**P**	**14 37 03.1**	**-1.2**
	1.7nm,0.4s,baz=318,slow=2.0,SNR=15						
AKASG	**Malin Array Be**	**75.64**	**345**	P	**P**	**14 37 48.9**	**-1.5**
	1.0nm,0.5s,baz=21,slow=8.0,SNR=1.7						
WRA	**Warramunga Arr**	**84.32**	**227**	P	**P**	**14 38 37.0**	**-0.3**
	0.5nm,0.9s,baz=34,slow=6.0,SNR=3.2						
ASAR	**Alice Springs**	**87.76**	**226**	P	**P**	**14 38 54.5**	**+0.3**
	0.3nm,0.9s,baz=29,slow=5.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**115.00**	**4**	PKP	PKPdf	14 44 45.1	-0.9
	0.2nm,0.4s,baz=355,slow=2.4,SNR=3.7						
DBIC	**Dimbokro**	**120.86**	**12**	PKP	**PKPdf**	**14 44 56.7**	**-0.7**
	1.2nm,0.4s,baz=304,slow=3.4,SNR=2.6						
BOSA	**Boshof**	**152.27**	**320**	PKPbc	**PKPbc**	**14 46 00.5**	**-0.1**
	2.2nm,0.5s,baz=103,slow=13,SNR=9.8						

*IDC **26** 14:26:32.1±0.6, 35.37N×28.43E, h0km, mb4.2/21, mb1 4.2/28, mb1mx4.2/33, mbtmp4.1/28, ML4.3/6, MS3.1/6, Ms1 3.1/6, ms1mx2.7/40, Error ellipse: s-maj=15.3km s-min=12.9km az=7.0*

*DDA **26** 14:26:34.7, 35.44N×28.58E, h11km, ML4.1*
*ISK **26** 14:26:34.2, 35.21N×28.44E, h62km, ML4.3*
*MOS **26** 14:26:35.9±1.0, 35.36N×28.51E, h33km, mb4.5/5, Error ellipse: s-maj=7.4km s-min=4.3km az=124.1*
*ISCJB **26** 14:26:36.1±0.2, 35.27N±0.02×28.59E±0.01, h47km±3km, mb4.2/38, MS3.1/4, Error ellipse: s-maj=2.9km s-min=1.9km az=18.0*
*ATH **26** 14:26:36.9, 35.36N×28.49E, h36km±3km, MD3.8/10*
*CSEM **26** 14:26:37.7±0.1, 35.32N×28.57E, h44km±1km, mb4.3/12, Ms3.0, Mw3.6, Error ellipse: s-maj=2.6km s-min=1.8km az=26.0*
*THE **26** 14:26:38.9, 35.40N×28.63E, h44km±3km, ML4.0/5, Error ellipse: s-maj=3.2km s-min=0.7km az=330.0*
*NEIC **26** 14:26:38.2±0.4, 35.35N×28.57E, h42km±4km, mb4.5/9, Error ellipse: s-maj=5.8km s-min=3.9km az=184.0*
*NIC **26** 14:26:39.8±0.2, 34.84N×28.86E, h91km, mb4.5, ML4.2, MW3.6*
*HLW **26** 14:26:40.3, 35.23N×28.47E, h33km±4km, Md3.6, Ml0.0*

ISC 26 14:26:38.3±0.5, 35.31N±0.03×28.57E±0.02, h47km±4km, n516, σ1923/612, mb4.2/38, MS3.1/4, 8C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.97**	**338**	P	**Pn**	**14 26 54.6**	**-1.0**
ARG				S	**Sn**	**14 27 07.4**	**-0.9**
ARG	**Arkhangelos**	**0.97**	**338**	P	**Pn**	**14 26 54.6**	**-1.0**
ARG	**Arkhangelos**	**0.97**	**338**	ePN	**Pn**	**14 26 54.7**	**-0.9**
ARG				eSN	**Sn**	**14 27 07.3**	**-1.0**
ARG	**Arkhangelos**	**0.97**	**338**	P	**Pn**	**14 26 54.6**	**-1.0**
ARG	**Arkhangelos**	**0.97**	**338**	ePn	**Pn**	**14 26 54.7**	**-0.9**
ARG				S	**Sn**	**14 27 07.4**	**-0.9**
KARP	**Karpathos**	**1.18**	**282**	P	**Pn**	**14 26 58.4**	**0.0**
KARP				S	**Sn**	**14 27 14.5**	**+1.2**
KARP	**Karpathos**	**1.18**	**282**	ePN	**Pn**	**14 26 58.3**	**-0.1**
KARP				eSN	**Sn**	**14 27 13.1**	**-0.2**
KARP	**Karpathos**	**1.18**	**282**	P	**Pn**	**14 26 58.4**	**0.0**
KARP				S	**Sn**	**14 27 14.5**	**+1.2**
KARP	**Karpathos**	**1.18**	**282**	ePn	**Pn**	**14 26 58.3**	**-0.1**
KARP				eSn	**Sn**	**14 27 13.1**	**-0.2**
KARP				S	**Sn**	**14 27 14.5**	**+1.2**
KSL	**Kastellorizon**	**1.18**	**44**	ePN	**Pn**	**14 26 58.6**	**+0.2**
KSL				eSN	**Sn**	**14 27 15.1**	**+1.9**
AKAS	**Kas**	**1.25**	**42**	iP	**Pn**	**14 26 59.7**	**+0.2**
AKAS				iS	**Sn**	**14 27 16.1**	**+0.9**
AKAS	**Kas**	**1.25**	**42**	iP	**Pn**	**14 26 59.7**	**+0.2**
AKAS				iS	**Sn**	**14 27 16.1**	**+0.9**
FETY	**Fethiye**	**1.39**	**17**	ePN	**Pn**	**14 26 59.4**	**-1.9**
FETY				eSN	**Sn**	**14 27 18.0**	**-0.5**
FETY	**Fethiye**	**1.39**	**17**	ePn	**Pn**	**14 26 59.4**	**-1.9**
FETY				eSn	**Sn**	**14 27 18.0**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.50**	**3**	ePN	**Pn**	**14 27 01.9**	**-1.0**
DALY	**Dalyan (Mu¨la**	**1.50**	**3**	ePn	**Pn**	**14 27 01.9**	**-1.0**
TURN	**Turunc**	**1.56**	**1**	iP	**Pn**	**14 27 02.3**	**-1.3**
TURN	**Turunc**	**1.56**	**1**	iP	**Pn**	**14 27 02.3**	**-1.3**
DAT	**Datca**	**1.63**	**331**	ePN	**Pn**	**14 27 02.5**	**-2.2**
DAT	**Datca**	**1.63**	**331**	ePn	**Pn**	**14 27 02.5**	**-2.2**
YER	**Yerkesik**	**1.83**	**353**	ePN	**Pn**	**14 27 06.0**	**-1.5**
YER	**Yerkesik**	**1.83**	**353**	ePn	**Pn**	**14 27 06.0**	**-1.5**
ZKR	**Zakros**	**1.94**	**265**	P	**Pn**	**14 27 09.2**	**+0.4**
ZKR				S	**Sn**	**14 27 33.1**	**+1.2**
ZKR	**Zakros**	**1.94**	**265**	P	**Pn**	**14 27 09.2**	**+0.4**
ZKR				S	**Sn**	**14 27 33.1**	**+1.2**
ZKR	**Zakros**	**1.94**	**265**	P	**Pn**	**14 27 09.2**	**+0.4**
ZKR				S	**Sn**	**14 27 33.1**	**+1.2**
BDRM	**Kayabasi**	**1.97**	**333**	iP	**Pn**	**14 27 08.3**	**-1.0**
BDRM				iS	Sn	14 27 14.6	-18
BDRM	**Kayabasi**	**1.97**	**333**	iP	**Pn**	**14 27 08.3**	**-1.0**
BODT	**Bodrum**	**2.02**	**330**	ePN	**Pn**	**14 27 08.1**	**-1.9**
BODT	**Bodrum**	**2.02**	**330**	ePn	**Pn**	**14 27 08.1**	**-1.9**
MLSB	**Milas**	**2.08**	**342**	ePN	**Pn**	**14 27 09.1**	**-1.7**
MLSB	**Milas**	**2.08**	**342**	ePn	**Pn**	**14 27 09.1**	**-1.7**
GOLH	**Golhisar**	**2.08**	**22**	iP	**Pn**	**14 27 11.8**	**+0.9**
GOLH				iS	**Sn**	**14 27 37.6**	**+1.9**
GOLH	**Golhisar**	**2.08**	**22**	iP	**Pn**	**14 27 11.8**	**+0.9**
GOLH				iS	**Sn**	**14 27 37.6**	**+1.9**
KORT	**Korkueli**	**2.22**	**40**	iP	**Pn**	**14 27 13.6**	**+0.8**
KORT	**Korkueli**	**2.22**	**40**	iP	**Pn**	**14 27 13.6**	**+0.8**
DNZL	**Cakiroluk**	**2.41**	**9**	iP	**Pn**	**14 27 15.0**	**-0.4**
DNZL	**Cakiroluk**	**2.41**	**9**	iP	**Pn**	**14 27 15.0**	**-0.4**
AYDN	**Tasoluk**	**2.41**	**347**	iP	**Pn**	**14 27 15.2**	**-0.1**
AYDN	**Tasoluk**	**2.41**	**347**	iP	**Pn**	**14 27 15.2**	**-0.1**
NPS	**Neapolis**	**2.42**	**270**	P	**Pn**	**14 27 16.5**	**+1.1**
NPS	**Neapolis**	**2.42**	**270**	P	**Pn**	**14 27 16.5**	**+1.1**
NPS	**Neapolis**	**2.42**	**270**	P	**Pn**	**14 27 16.5**	**+1.1**
NPS	**Neapolis**	**2.42**	**270**	P	**Pn**	**14 27 16.5**	**+1.1**
DENT	**Denizli**	**2.47**	**9**	ePN	**Pn**	**14 27 14.7**	**-1.4**
DENT	**Denizli**	**2.47**	**9**	ePn	**Pn**	**14 27 14.7**	**-1.4**
LAST	**Lasithi**	**2.54**	**268**	P	**Pn**	**14 27 17.9**	**+0.8**
LAST				S	**Sn**	**14 27 47.5**	**+0.7**
LAST	**Lasithi**	**2.54**	**268**	P	**Pn**	**14 27 17.9**	**+0.8**
LAST				S	**Sn**	**14 27 47.5**	**+0.7**
LAST	**Lasithi**	**2.54**	**268**	P	**Pn**	**14 27 17.9**	**+0.8**
LAST				S	**Sn**	**14 27 47.5**	**+0.7**
BCK	**Bucak**	**2.69**	**37**	ePN	**Pn**	**14 27 19.4**	**+0.1**
BCK	**Bucak**	**2.69**	**37**	ePn	**Pn**	**14 27 19.4**	**+0.1**
SANT	**Santorini**	**2.74**	**294**	P	**Pn**	**14 27 19.1**	**-0.8**
SANT	**Santorini**	**2.74**	**294**	P	**Pn**	**14 27 19.1**	**-0.8**
SANT	**Santorini**	**2.74**	**294**	P	**Pn**	**14 27 19.1**	**-0.8**
SMG	**Samos**	**2.77**	**330**	P	**Pn**	**14 27 19.4**	**-0.8**
SMG				S	**Sn**	**14 27 50.0**	**-2.5**
SMG	**Samos**	**2.77**	**330**	ePN	**Pn**	**14 27 19.3**	**-0.9**
SMG	**Samos**	**2.77**	**330**	P	**Pn**	**14 27 19.4**	**-0.8**
SMG				S	**Sn**	**14 27 50.0**	**-2.5**
SMG	**Samos**	**2.77**	**330**	P	**Pn**	**14 27 19.4**	**-0.8**
SMG				S	**Sn**	**14 27 50.0**	**-2.5**
THR2	**Thira island,**	**2.79**	**295**	P	**Pn**	**14 27 20.2**	**-0.3**
THR2	**Thira island,**	**2.79**	**295**	P	**Pn**	**14 27 20.2**	**-0.3**
THR2	**Thira island,**	**2.79**	**295**	P	**Pn**	**14 27 20.2**	**-0.3**
THR3	**Thira Island,**	**2.80**	**294**	P	**Pn**	**14 27 19.9**	**-0.7**
THR3	**Thira Island,**	**2.80**	**294**	P	**Pn**	**14 27 19.9**	**-0.7**
THR3	**Thira Island,**	**2.80**	**294**	P	**Pn**	**14 27 19.9**	**-0.7**
SUTC	**Sutluce-Ispart**	**2.92**	**41**	ePN	**Pn**	**14 27 22.6**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.92**	**41**	ePn	**Pn**	**14 27 22.6**	**+0.2**
ISP	**Isparta**	**2.96**	**32**	ePN	**Pn**	**14 27 23.4**	**+0.5**
ISP	**Isparta**	**2.96**	**32**	P	**Pn**	**14 27 22.4**	**-0.5**
ISP	**Isparta**	**2.96**	**32**	P	**Pn**	**14 27 22.4**	**-0.5**
ISP	**Isparta**	**2.96**	**32**	P	**Pn**	**14 27 22.4**	**-0.5**
ISP	**Isparta**	**2.96**	**32**	P	**Pn**	**14 27 22.4**	**-0.5**
ISP	**Isparta**	**2.96**	**32**	ePn	**Pn**	**14 27 23.4**	**+0.5**
IDI	**Anoyia**	**3.01**	**271**	P	**Pn**	**14 27 23.9**	**+0.3**
IDI				S	**Sn**	**14 27 59.6**	**+1.2**
IDI	**Anoyia**	**3.01**	**271**	ePn	**Pn**	**14 27 23.5**	**-0.1**
IDI				S	**Sn**	**14 27 59.6**	**+1.2**
IDI	**Anoyia**	**3.01**	**271**	ePn	**Pn**	**14 27 23.5**	**-0.1**
IDI	**Anoyia**	**3.01**	**271**	P	**Pn**	**14 27 23.9**	**+0.3**
IDI				S	**Sn**	**14 27 59.6**	**+1.2**
APE	**Apeiranthos**	**3.02**	**306**	ePN	**Pn**	**14 27 21.0**	**-2.7**
APE	**Apeiranthos**	**3.02**	**306**	P	**Pn**	**14 27 23.1**	**-0.6**
APE				S	**Sn**	**14 27 58.2**	**-0.5**
APE	**Apeiranthos**	**3.02**	**306**	P	**Pn**	**14 27 23.1**	**-0.6**
APE				S	**Sn**	**14 27 58.2**	**-0.5**
APE	**Apeiranthos**	**3.02**	**306**	ePN	**Pn**	**14 27 23.0**	**-0.6**
APE	**Apeiranthos**	**3.02**	**306**	P	**Pn**	**14 27 23.1**	**-0.6**
APE				S	**Sn**	**14 27 58.2**	**-0.5**
APE	**Apeiranthos**	**3.02**	**306**	P	**Pn**	**14 27 23.1**	**-0.6**
APE				S	**Sn**	**14 27 58.2**	**-0.5**
AKMC	**Akamas**	**3.09**	**94**	P	**Pn**	**14 27 24.4**	**-0.3**
AKMC	**Akamas**	**3.09**	**94**	P	**Pn**	**14 27 24.4**	**-0.3**
SIVA	**Sivas**	**3.09**	**266**	P	**Pn**	**14 27 25.7**	**+1.0**
SIVA				S	**Sn**	**14 28 01.8**	**+1.4**
SIVA	**Sivas**	**3.09**	**266**	P	**Pn**	**14 27 25.7**	**+1.0**
SIVA	**Sivas**	**3.09**	**266**	P	**Pn**	**14 27 25.7**	**+1.0**
SIVA				S	**Sn**	**14 28 01.8**	**+1.4**
KHL	**Karahalli**	**3.10**	**14**	ePN	**Pn**	**14 27 24.7**	**-0.2**
KHL	**Karahalli**	**3.10**	**14**	ePn	**Pn**	**14 27 24.7**	**-0.2**
PPCY	**Paphos**	**3.12**	**97**	P	**Pn**	**14 27 24.6**	**-0.5**
PPCY	**Paphos**	**3.12**	**97**	P	**Pn**	**14 27 24.6**	**-0.5**
KHAL	**Karahalli**	**3.14**	**13**	iP	**Pn**	**14 27 25.2**	**-0.3**
KHAL	**Karahalli**	**3.14**	**13**	iP	**Pn**	**14 27 25.2**	**-0.3**
GAZI	**Gazipasa**	**3.18**	**72**	iP	**Pn**	**14 27 25.4**	**-0.5**
GAZI				iS	**Sn**	**14 27 59.7**	**-2.9**
GAZI	**Gazipasa**	**3.18**	**72**	iP	**Pn**	**14 27 25.4**	**-0.5**
GAZI				iS	**Sn**	**14 27 59.7**	**-2.9**
KULA	**Kula-Manisa**	**3.20**	**1**	ePN	**Pn**	**14 27 25.7**	**-0.5**
KULA	**Kula-Manisa**	**3.20**	**1**	ePn	**Pn**	**14 27 25.7**	**-0.5**
IZM	**Izmir**	**3.25**	**342**	ePN	**Pn**	**14 27 24.9**	**-2.0**
IZM	**Izmir**	**3.25**	**342**	ePn	**Pn**	**14 27 24.9**	**-2.0**
ALFC	**Alevga**	**3.30**	**92**	P	**Pn**	**14 27 27.3**	**-0.3**
	22nm,0.2s						
ALFC				S	**Sn**	**14 28 04.6**	**-1.0**
ALFC	**Alevga**	**3.30**	**92**	P	**Pn**	**14 27 27.3**	**-0.3**
	22nm,0.2s						
ALFC				S	**Sn**	**14 28 04.6**	**-1.0**
LEF	**Lefka**	**3.54**	**92**	ePN	**Pn**	**14 27 29.6**	**-1.1**
LEF	**Lefka**	**3.54**	**92**	ePn	**Pn**	**14 27 29.7**	**-1.1**
HDMB	**Hadim**	**3.57**	**61**	ePN	**Pn**	**14 27 31.5**	**+0.1**
HDMB	**Hadim**	**3.57**	**61**	ePn	**Pn**	**14 27 31.5**	**+0.1**
VAM	**Vamos**	**3.57**	**273**	P	**Pn**	**14 27 31.5**	**+0.3**
VAM				S	**Sn**	**14 28 13.3**	**+1.1**
VAM	**Vamos**	**3.57**	**273**	P	**Pn**	**14 27 31.5**	**+0.3**
VAM				S	**Sn**	**14 28 13.3**	**+1.1**
VAM	**Vamos**	**3.57**	**273**	ePN	**Pn**	**14 27 31.6**	**+0.3**
VAM	**Vamos**	**3.57**	**273**	P	**Pn**	**14 27 31.5**	**+0.3**
VAM				S	**Sn**	**14 28 13.3**	**+1.1**
VAM	**Vamos**	**3.57**	**273**	P	**Pn**	**14 27 31.5**	**+0.3**
VAM				S	**Sn**	**14 28 13.3**	**+1.1**
AKS	**Akhisar**	**3.61**	**351**	ePN	**Pn**	**14 27 30.5**	**-1.3**
AKS	**Akhisar**	**3.61**	**351**	ePn	**Pn**	**14 27 30.5**	**-1.3**
CHOS	**Chios island**	**3.67**	**327**	P	**Pn**	**14 27 32.0**	**-0.7**
CHOS				S	**Sn**	**14 28 13.3**	**-1.5**
CHOS	**Chios island**	**3.67**	**327**	ePN	**Pn**	**14 27 32.1**	**-0.7**
CHOS	**Chios island**	**3.67**	**327**	P	**Pn**	**14 27 32.0**	**-0.7**
CHOS				S	**Sn**	**14 28 13.3**	**-1.5**
CHOS	**Chios island**	**3.67**	**327**	P	**Pn**	**14 27 32.0**	**-0.7**
CHOS				S	**Sn**	**14 28 13.3**	**-1.5**
ERMK	**Ermenek**	**3.76**	**68**	iP	**Pn**	**14 27 35.9**	**+1.8**
ERMK				iS	**Sn**	**14 28 19.4**	**+2.2**
ERMK	**Ermenek**	**3.76**	**68**	iP	**Pn**	**14 27 35.9**	**+1.8**
ERMK				iS	**Sn**	**14 28 19.4**	**+2.2**
KARN	**Karanos**	**3.80**	**273**	P	**Pn**	**14 27 34.9**	**+0.5**
KARN				S	**Sn**	**14 28 19.0**	**+1.1**
KARN	**Karanos**	**3.80**	**273**	P	**Pn**	**14 27 34.9**	**+0.5**
KARN				S	**Sn**	**14 28 19.0**	**+1.1**
KARN	**Karanos**	**3.80**	**273**	P	**Pn**	**14 27 34.9**	**+0.5**
KARN				S	**Sn**	**14 28 19.0**	**+1.1**
MAMC	**Mammari**	**3.81**	**91**	P	**Pn**	**14 27 33.9**	**-0.6**
MAMC	**Mammari**	**3.81**	**91**	P	**Pn**	**14 27 33.9**	**-0.6**
CSS	**Prodhromos**	**3.92**	**94**	P	**Pn**	**14 27 35.4**	**-0.5**
	4.8nm,0.4s						
CSS				S	**Sn**	**14 28 18.7**	**-2.0**
CSS	**Prodhromos**	**3.92**	**94**	ePN	**Pn**	**14 27 34.8**	**-1.2**
CSS	**Prodhromos**	**3.92**	**94**	P	**Pn**	**14 27 35.5**	**-0.5**
CSS				S	**Sn**	**14 28 18.7**	**-2.0**
CSS	**Prodhromos**	**3.92**	**94**	P	**Pn**	**14 27 35.5**	**-0.5**
CSS				S	**Sn**	**14 28 18.7**	**-2.0**

HWQ	Hawqa	6.16	98	eP	Pn	14 28 06.6	-0.2
HWQ	Hawqa	6.16	98	eP	Pn	14 28 06.6	-0.2
SLTI	Sal'it	6.20	118	Pn	Pn	14 28 06.2	-1.1
HSAF	As Saff	6.21	155	P	Pn	14 28 06.3	-1.2
KSDI	Kefar Szold	6.24	108	Pn	Pn	14 28 06.8	-1.0
KOZT	Kozan	6.24	68	ePN	Pn	14 28 07.6	-0.3
KOZT	Kozan	6.24	68	ePn	Pn	14 28 07.6	-0.3
RCY	Rachaya	6.27	105	eP	Pn	14 28 07.5	-1.0
MMLI	Mount Malkishu	6.38	115	Pn	Pn	14 28 08.5	-1.3
MMLI				Sn	Sn	14 29 18.3	-3.0
HMDT	Nahal Hemdat	6.54	116	Pn	Pn	14 28 11.5	-0.5
KZIT	Kziot	6.57	130	Pn	Pn	14 28 11.7	-0.7
KZIT				Sn	Sn	14 29 22.6	-3.4
RTMI	Retamim	6.66	128	Pn	Pn	14 28 12.7	-0.9
EDRB	Edirne	6.68	348	ePN	Pn	14 28 12.1	-1.8
EDRB	Edirne	6.68	348	ePn	Pn	14 28 12.1	-1.8
DSI	Dead Sea	6.80	121	Pn	Pn	14 28 14.7	-0.9
DSI				Sn	Sn	14 29 29.4	-2.4
MZDA	Masada	6.95	123	Pn	Pn	14 28 16.7	-0.8
MZDA				Sn	Sn	14 29 32.8	-2.3
VLS	Valsamata	7.02	296	P	Pn	14 28 18.2	-0.3
VLS	Valsamata	7.02	296	P	Pn	14 28 18.2	-0.3
VLS	Valsamata	7.02	296	P	Pn	14 28 18.2	-0.3
VLS	Valsamata	7.02	296	P	Pn	14 28 18.2	-0.3
HNKL	Nakhl	7.04	138	P	Pn	14 28 18.1	-0.8
LKD2	Lefkada island	7.22	301	P	Pn	14 28 21.8	+0.6
LKD2	Lefkada island	7.22	301	P	Pn	14 28 21.8	+0.6
LKD2	Lefkada island	7.22	301	P	Pn	14 28 21.8	+0.6
ZFRI	Zfri	7.30	129	Pn	Pn	14 28 21.2	-1.2
KRMI	Paran Flat	7.33	133	Pn	Pn	14 28 21.5	-1.3
PRNI	Paran	7.33	131	Pn	Pn	14 28 21.7	-1.2
HRFI	Mount Harif	7.57	132	Pn	Pn	14 28 25.4	-0.8
ASF	Jabal al Asfar	7.61	112	Pn	Pn	14 28 26.8	+0.1
ASF				Sn	Sn	14 29 53.5	+1.8
ASF	Jabal al Asfar	7.61	112	Pn	Pn	14 28 26.8	+0.1
	1.5nm,0.3s,baz=237,slow=6.1,SNR=6.9						
ASF				Sn	Sn	14 29 53.5	+1.8
	1.0nm,0.3s,baz=279,slow=22,SNR=2.7						
MBRI	Mt Berech	7.67	134	Pn	Pn	14 28 26.8	-0.8
EIL	Elat	7.79	134	Pn	Pn	14 28 27.8	-1.4
EIL				Sn	Sn	14 29 53.2	-2.7
EIL	Elat	7.79	134	Pn	Pn	14 28 27.8	-1.4
	5.4nm,0.3s,baz=339,slow=7.9,SNR=104						
EIL				Sn	Sn	14 29 53.2	-2.7
	7.9nm,0.3s,baz=29,slow=15,SNR=5.5						
EIL	Elat	7.79	134	Pn	Pn	14 28 28.1	-1.0
EIL				Sn	Sn	14 29 53.2	-2.7
IGT	Igoumenitsa	7.79	305	P	Pn	14 28 29.5	+0.4
IGT	Igoumenitsa	7.79	305	P	Pn	14 28 29.5	+0.4
IGT	Igoumenitsa	7.79	305	P	Pn	14 28 29.5	+0.4
IGT	Igoumenitsa	7.79	305	P	Pn	14 28 29.5	+0.4
KEK	Kerkira	8.24	305	P	Pn	14 28 35.5	+0.3
KEK	Kerkira	8.24	305	P	Pn	14 28 35.5	+0.3
KEK	Kerkira	8.24	305	P	Pn	14 28 35.5	+0.3
LJBD	Adjabya	8.28	240	iP	Pn	14 28 34.6	-1.2
	SNR=22						
LUJL	Ujela	8.72	227	iP	Pn	14 28 40.6	-1.2
	SNR=22						
MLR	Muntele Rosu	10.36	350	Pn	Pn	14 29 03.0	-1.4
MLR	Muntele Rosu	10.36	350	Pn	Pn	14 29 03.0	-1.4
	0.0nm,0.3s,baz=194,slow=16,SNR=2.7						
MLR	Muntele Rosu	10.36	350	P	Pn	14 29 03.0	-1.4
CEL	Celeste	10.58	290	ePn	Pn	14 29 04.5	-2.9
CEL	Celeste	10.58	290	ePn	Pn	14 29 04.5	-2.9
CUC	Castrocucco	11.14	299	ePn	Pn	14 29 12.4	-2.5
CUC	Castrocucco	11.14	299	ePn	Pn	14 29 12.4	-2.5
STON	Ston	11.32	315	ePn	Pn	14 29 14.8	-2.6
STON				Sn	Sn	14 31 13.5	-8.9
STON	Ston	11.32	315	ePn	Pn	14 29 14.7	-2.6
TEKS	Tekeris	11.54	326	ePn	Pn	14 29 17.3	-3.1
SOC	Sochi	11.93	43	eP	Pn	14 29 23.4	-2.3
SOC				e		14 31 37.6	
SOC				MLR	MLR		
	comp=Z,101nm,15.0s						
SOC	Sochi	11.93	43	eP	Pn	14 29 23.4	-2.3
	comp=Z,101nm,15.0s						
SOC				eS	Sn	14 31 37.6	+0.4
UDBI	Udbina	13.45	317	iPn	Pn	14 29 45.8	-0.8
UDBI	Udbina	13.45	317	iPn	Pn	14 29 45.7	-0.8
KIV	Kislovodsk	13.87	47	eP	Pn	14 29 52.3	0.0
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,19nm,13.0s						
KBZ	Khabaz	13.88	48	P	P	14 30 00.0	+0.7
KBZ	Khabaz	13.88	48	Pn	P	14 30 00.0	+0.7
KBZ	Khabaz	13.88	48	Pn	P	14 30 00.0	+0.7
	comp=Z,0.1nm,0.3s,baz=190,slow=17,SNR=2.5						
KBZ				LR	LR	14 36 07.4	
	comp=Z,39nm,20.5s,baz=108,slow=41						
NVLJ	Novalja	13.98	316	ePn	Pn	14 29 51.3	-2.3
NVLJ				Sn	Sn	14 32 18.9	-8.3
NVLJ	Novalja	13.98	316	ePn	Pn	14 29 51.3	-2.3
KOLS	Kolonicke sedl	14.38	343	eP	P	14 30 04.6	-0.4
KOLS	Kolonicke sedl	14.38	343	eP	P	14 30 04.6	-0.4
KOLS	Kolonicke sedl	14.38	343	eP	P	14 30 04.6	-0.4
KECS	Kecovo	14.46	338	eP	Pn	14 30 02.6	+2.5
KECS	Kecovo	14.46	338	eP	Pn	14 30 02.6	+2.5
CRVS	Cervenica-Dubn	14.56	341	eP	P	14 30 07.1	+0.2
CRVS	Cervenica-Dubn	14.56	341	eP	P	14 30 07.1	+0.2
CRVS	Cervenica-Dubn	14.56	341	eP	P	14 30 07.1	+0.2
VYHS	Vyhne	15.02	334	eP	P	14 30 11.6	-0.4
VYHS	Vyhne	15.02	334	eP	P	14 30 11.5	-0.4
VYHS	Vyhne	15.02	334	eP	P	14 30 11.6	-0.4
SOKA	Soboth	15.25	322	⇑iPn	Pn	14 30 08.6	-2.0
	comp=Z,6.9nm,1.0s						
SOKA	Soboth	15.25	322	Pn	Pn	14 30 08.6	-2.0
	comp=Z,6.9nm,1.0s						
KIEV	Kiev	15.38	2	eP	P	14 30 15.7	-0.3
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	Kiev	15.38	2	ePn	P	14 30 15.7	-0.3
	comp=Z,6.3nm,0.8s						
KIEV	Kiev	15.38	2	eP	P	14 30 15.7	-0.3
	comp=Z,6.0nm,0.8s						
AKASG	Malin Array Be	15.39	2	iP	P	14 30 16.0	-0.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	Malin Array Be	15.39	2	Pn	P	14 30 14.6	-1.5
AKASG	Malin Array Be	15.39	2	Pn	P	14 30 14.6	-1.5
	comp=Z,1.4nm,0.3s,baz=175,slow=6.9,SNR=6.8						
AKASG	Malin Array Be	15.39	2	iP	P	14 30 16.0	-0.1
	comp=Z,3.0nm,0.6s						
VOY	Vojsko	15.42	318	ePn	Pn	14 30 11.2	-1.6
ZST	Bratislava	15.44	330	eP	P	14 30 18.4	+1.8
ZST	Bratislava	15.44	330	eP	P	14 30 18.4	+1.8
ZST	Bratislava	15.44	330	eP	P	14 30 18.4	+1.8
KEST	Kesra	15.66	277	eP	Pn	14 30 15.1	-0.9
KEST	Kesra	15.66	277	Pn	Pn	14 30 15.3	-0.6
	comp=Z,0.1nm,0.3s,baz=22,slow=14,SNR=3.4						
KBA	Koelnbreinsper	16.38	320	⇑iPn	Pn	14 30 23.5	-1.6
	comp=Z,15nm,1.1s						
KBA	Koelnbreinsper	16.38	320	Pn	Pn	14 30 23.5	-1.6
	comp=Z,15nm,1.1s						
OKC	Ostrava-Krasne	16.40	335	eP	P	14 30 32.5	+5.2
OKC	Ostrava-Krasne	16.40	335	⇑eP	P	14 30 32.5	+5.2
OKC				epP	pP	14 30 39.4	+1.3
OKC				ex	x	14 30 48.2	
VRAC	Vranov	16.53	331	Pn	Pn	14 30 26.0	-0.7
VRAC	Vranov	16.53	331	Pn	Pn	14 30 26.0	-0.7
	comp=Z,1.3nm,0.3s,baz=150,slow=8.1,SNR=2.6						
VRAC				LR	LR	14 36 19.4	
	comp=Z,50nm,20.8s,baz=146,slow=36						
VRAC	Vranov	16.53	331	Pn	Pn	14 30 26.0	-0.7
GEC2	GERESS Array S	17.41	325	eP	Pn	14 30 37.4	-0.4
GEC2	GERESS Array S	17.41	325	eP	Pn	14 30 37.4	-0.4
GEC2	GERESS Array S	17.41	325	eP	Pn	14 30 37.4	-0.4
GERES	GERESS Array B	17.41	325	P	Pn	14 30 35.8	-2.0
GERES	GERESS Array B	17.41	325	P	Pn	14 30 35.8	-2.0
	comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=19						
DPC	Dobruska-Polom	17.47	333	eP	Pn	14 30 38.5	0.0
DPC				pmax	pmax		
	comp=Z,246nm,2.1s						
DPC	Dobruska-Polom	17.47	333	eP	P	14 30 38.8	-0.4
DPC				ex	x	14 30 43.1	
DPC				epP	pP	14 30 51.8	+1.7
DPC				esP	sP	14 30 58.6	+2.6
DPC	Dobruska-Polom	17.47	333	eP	Pn	14 30 38.5	0.0
	comp=Z,246nm,2.1s						
DPC	Dobruska-Polom	17.47	333	eP	Pn	14 30 38.5	0.0
	comp=Z,246nm,2.1s						
KHC	Kasperske Hory	17.67	326	⇑iP	Pn	14 30 40.7	-0.3
KHC				MLR	MLR		
	comp=Z,100nm,18.8s						
KHC	Kasperske Hory	17.67	326	⇑iP	Pn	14 30 40.7	-0.3
KHC				ex	x	14 30 46.0	
KHC				esP	sP	14 30 55.6	-2.6
KHC				ex	x	14 31 03.6	
KHC				AMS	AMS	14 38 30.0	
	comp=Z,100nm,18.8s						
KHC	Kasperske Hory	17.67	326	eP	Pn	14 30 40.5	-0.5
	comp=Z,8.3nm,1.0s						
KHC	Kasperske Hory	17.67	326	iP	Pn	14 30 40.7	-0.3
	comp=Z,100nm,18.8s						
UPC	Upice	17.72	333	eP	Pn	14 30 41.1	-0.4
UPC	Upice	17.72	333	⇑eP	Pn	14 30 41.1	-0.4
UPC				ex	x	14 30 47.2	
UPC				ex	x	14 30 49.3	
UPC	Upice	17.72	333	eP	Pn	14 30 41.1	-0.4
FETA	Feichten	17.77	317	⇓iP	Pn	14 30 42.2	-0.1
	comp=Z,5.4nm,0.8s						
FETA	Feichten	17.77	317	P	Pn	14 30 42.2	-0.1
	comp=Z,5.4nm,0.8s						
PRU	Pruhonice	17.89	329	eP	Pn	14 30 43.4	-0.2
PRU				MLR	MLR		
	comp=Z,100nm,11.5s						
PRU	Pruhonice	17.89	329	⇑eP	Pn	14 30 43.4	-0.2
PRU				epP	pP	14 30 50.4	-4.2
PRU				AMS	AMS	14 38 40.0	
	comp=Z,100nm,11.5s						
PRU	Pruhonice	17.89	329	eP	Pn	14 30 43.4	-0.2
	comp=Z,100nm,11.5s						
DAVOX	Davos/Dischmat	18.12	315	P	Pn	14 30 47.1	+0.5
DAVOX	Davos/Dischmat	18.12	315	P	Pn	14 30 47.1	+0.5
	comp=Z,0.3nm,0.3s,baz=317,slow=19,SNR=3.1						
DAVOX	Davos/Dischmat	18.12	315	P	Pn	14 30 47.1	+0.5
PVCC	Panska Ves	18.29	331	eP	Pn	14 30 52.4	+3.9
PVCC	Panska Ves	18.29	331	⇑eP	Pn	14 30 52.4	+3.9
PVCC				epP	pP	14 30 59.8	+0.7
SBF	Sospel	18.36	304	eP	P	14 30 48.4	-0.6
	comp=Z,43nm,0.8s						
SBF	Sospel	18.36	304	eP	P	14 30 48.4	-0.6
SBF	Sospel	18.36	304	eP	P	14 30 48.4	-0.6
SBF	Sospel	18.36	304	eP	P	14 30 48.4	-0.6
	comp=Z,22nm,0.8s						
FRF	La Foret Royal	18.79	303	eP	P	14 30 53.2	-0.6
FRF	La Foret Royal	18.79	303	eP	P	14 30 53.2	-0.6
FRF	La Foret Royal	18.79	303	eP	P	14 30 53.2	-0.6
FRF	La Foret Royal	18.79	303	eP	P	14 30 53.2	-0.6
BRG	Berggiesshubel	18.81	330	eP	P	14 30 53.6	-0.3
	comp=Z,6.7nm,0.9s						
BRG				e		14 31 01.3	
	comp=Z,33nm,1.9s						
BRG	Berggiesshubel	18.81	330	eP	P	14 30 53.6	-0.3
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,33nm,1.9s						
BRG	Berggiesshubel	18.81	330	eP	P	14 30 53.6	-0.3
	comp=Z,33nm,1.9s						
MBDF	Montbardon	19.11	306	eP	Pn	14 30 58.1	-0.5
	comp=Z,16nm,0.6s						
MBDF	Montbardon	19.11	306	eP	Pn	14 30 58.1	-0.5
MBDF	Montbardon	19.11	306	eP	Pn	14 30 58.1	-0.5
MBDF	Montbardon	19.11	306	eP	Pn	14 30 58.1	-0.5
	comp=Z,7.9nm,0.6s						
BNI	Bardonecchia	19.30	307	eP	Pn	14 31 01.7	+0.9
BNI				pmax	pmax		
	comp=Z,42nm,1.9s						
BNI	Bardonecchia	19.30	307	eP	Pn	14 31 01.6	+0.9
	comp=Z,42nm,1.9s						
BNI	Bardonecchia	19.30	307	eP	Pn	14 31 01.6	+0.8
	comp=Z,42nm,1.9s						
LPG	La Plagne	19.43	308	eP	P	14 31 01.6	+0.6
	comp=Z,15nm,0.6s						
LPG	La Plagne	19.43	308	eP	P	14 31 01.6	+0.6
LPG	La Plagne	19.43	308	eP	P	14 31 01.6	+0.6
LPG	La Plagne	19.43	308	eP	P	14 31 01.6	+0.6
	comp=Z,7.3nm,0.6s						
SENIN	Lac Senin/Sane	19.45	311	eP	P	14 31 01.1	-0.1
	comp=Z,13nm,0.8s						
SENIN	Lac Senin/Sane	19.45	311	eP	P	14 31 01.1	-0.1
	comp=Z,13nm,0.8s						
CLL	Collm	19.53	330	iP	P	14 31 01.0	-0.7
CLL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CLL	Collm	19.53	330	iP	P	14 31 01.0	-0.7
	comp=Z,4.0nm,0.7s						
CLL				e		14 31 04.0	
CLL				i		14 31 07.8	
CLL				i		14 31 10.7	
CLL				ePPP	PPP	14 31 26.0	
CLL				Lm	MLR	14 39 00.0	
	comp=Z,100nm,21.4s						
CLL	Collm	19.53	330	iP	P	14 31 01.0	-0.7
	comp=Z,4.0nm,0.7s						
SMRF	Simiane la Rot	19.66	303	eP	P	14 31 03.4	+0.1
SMRF	Simiane la Rot	19.66	303	eP	P	14 31 03.4	+0.1
SMRF	Simiane la Rot	19.66	303	eP	P	14 31 03.4	+0.1
ORIF	Oris-en-Rattie	19.77	306	eP	P	14 31 04.6	0.0
	comp=Z,6.7nm,0.6s						
ORIF				eR			
	comp=Z,110nm,22.2s						
ORIF	Oris-en-Rattie	19.77	306	eP	P	14 31 04.6	0.0
ORIF	Oris-en-Rattie	19.77	306	eP	P	14 31 04.6	0.0
ORIF	Oris-en-Rattie	19.77	306	eP	P	14 31 04.6	0.0
	comp=Z,3.3nm,0.6s						
CABF	La Chapelle	20.32	311	eP	P	14 31 11.3	+0.9
	comp=Z,21nm,0.7s						
CABF	La Chapelle	20.32	311	eP	P	14 31 11.3	+0.9
CABF	La Chapelle	20.32	311	eP	P	14 31 11.3	+0.9
CABF	La Chapelle	20.32	311	eP	P	14 31 11.3	+0.9
	comp=Z,10nm,0.7s						
CDF	Champ du Feu	20.48	316	eP	P	14 31 10.5	-1.7
	comp=Z,28nm,1.0s						
CDF	Champ du Feu	20.48	316	eP	P	14 31 10.5	-1.7
CDF	Champ du Feu	20.48	316	eP	P	14 31 10.5	-1.7
CDF	Champ du Feu	20.48	316	eP	P	14 31 10.5	-1.7
	comp=Z,14nm,1.0s						
VIVF	Saint-Julien-l	20.56	305	eP	P	14 31 12.8	-0.2
	comp=Z,16nm,0.9s						
VIVF	Saint-Julien-l	20.56	305	eP	P	14 31 12.8	-0.2
VIVF	Saint-Julien-l	20.56	305	eP	P	14 31 12.8	-0.2
VIVF	Saint-Julien-l	20.56	305	eP	P	14 31 12.8	-0.2
	comp=Z,8.2nm,0.9s						
OBN	Obninsk	20.56	13	eP	P	14 31 12.4	-0.5
OBN				e*PP	pP	14 31 28.3	+4.4
OBN				e		14 35 17.5	
OBN				eSS	Sn	14 35 31.8	+26
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN	Obninsk	20.56	13	eP	P	14 31 12.4	-0.5
	comp=Z,4.0nm,0.7s						
HAU	Haudompre	20.80	314	eP	P	14 31 15.9	+0.3
	comp=Z,9.1nm,0.5s						
HAU				eR			
	comp=Z,120nm,18.5s						
HAU	Haudompre	20.80	314	eP	P	14 31 15.9	+0.3
HAU	Haudompre	20.80	314	eP	P	14 31 15.9	+0.3
HAU	Haudompre	20.80	314	eP	P	14 31 15.9	+0.3
	comp=Z,4.6nm,0.5s						
LASF	Ste Croix	20.88	302	eP	P	14 31 16.5	+0.1
	comp=Z,8.4nm,0.7s						
LASF	Ste Croix	20.88	302	eP	P	14 31 16.5	+0.1
LASF	Ste Croix	20.88	302	eP	P	14 31 16.5	+0.1
	comp=Z,4.2nm,0.7s						
SMF	Signal de Mont	21.74	309	eP	P	14 31 24.4	-1.3
	comp=Z,23nm,0.8s						
SMF	Signal de Mont	21.74	309	eP	P	14 31 24.4	-1.3
SMF	Signal de Mont	21.74	309	eP	P	14 31 24.4	-1.3
SMF	Signal de Mont	21.74	309	eP	P	14 31 24.4	-1.3
	comp=Z,11nm,0.8s						
MTLF	Montolieu	21.84	299	eP	P	14 31 26.7	-0.1
	comp=Z,5.0nm,0.7s						
MTLF	Montolieu	21.84	299	eP	P	14 31 26.7	-0.1
MTLF	Montolieu	21.84	299	eP	P	14 31 26.7	-0.1
MTLF	Montolieu	21.84	299	eP	P	14 31 26.7	-0.1
	comp=Z,2.5nm,0.7s						
LOR	Lormes	21.98	310	eP	P	14 31 27.3	-0.9
	comp=Z,29nm,1.1s						
LOR				eR			
	comp=Z,117nm,22.0s						
LOR	Lormes	21.98	310	eP	P	14 31 27.3	-0.9
LOR	Lormes	21.98	310	eP	P	14 31 27.3	-0.9
	comp=Z,14nm,1.1s						
AVF	Avril sur Loir	22.11	309	eP	P	14 31 28.4	-1.2
	comp=Z,17nm,0.8s						
AVF	Avril sur Loir	22.11	309	eP	P	14 31 28.4	-1.2
AVF	Avril sur Loir	22.11	309	eP	P	14 31 28.4	-1.2
AVF	Avril sur Loir	22.11	309	eP	P	14 31 28.4	-1.2
	comp=Z,8.6nm,0.8s						
SSF	Saint Saulge	22.11	310	eP	P	14 31 29.5	-0.2
	comp=Z,25nm,0.7s						
SSF	Saint Saulge	22.11	310	eP	P	14 31 29.5	-0.2
SSF	Saint Saulge	22.11	310	eP	P	14 31 29.5	-0.2
SSF	Saint Saulge	22.11	310	eP	P	14 31 29.5	-0.2
	comp=Z,13nm,0.7s						
CAF	Calviac	22.34	303	eP	P	14 31 31.3	-0.9
	comp=Z,9.7nm,0.9s						
CAF	Calviac	22.34	303	eP	P	14 31 31.3	-0.9
CAF	Calviac	22.34	303	eP	P	14 31 31.3	-0.9
CAF	Calviac	22.34	303	eP	P	14 31 31.3	-0.9
	comp=Z,4.8nm,0.9s						
RJF	Les Rejaudoux	22.82	304	eP	P	14 31 35.8	-1.5
	comp=Z,12nm,0.8s						
RJF				eR			
	comp=Z,88nm,23.0s						
RJF	Les Rejaudoux	22.82	304	eP	P	14 31 35.8	-1.5
RJF	Les Rejaudoux	22.82	304	eP	P	14 31 35.8	-1.5
RJF	Les Rejaudoux	22.82	304	eP	P	14 31 35.8	-1.5
	comp=Z,6.2nm,0.8s						
EPF	Esparros	23.13	298	eP	P	14 31 37.7	-2.7
EPF	Esparros	23.13	298	eP	P	14 31 37.7	-2.7
EPF	Esparros	23.13	298	eP	P	14 31 37.7	-2.7
TAM	Tamanrasset	23.63	244	eP	P	14 31 47.3	+1.8
TAM				pmax	pmax		
	comp=Z,25nm,1.4s						
TAM	Tamanrasset	23.63	244	eP	P	14 31 47.3	+1.8
	comp=Z,25nm,1.4s						
TAM	Tamanrasset	23.63	244	eP	P	14 31 47.3	+1.8
	comp=Z,25nm,1.4s						
SJPF	Ste Jean	24.27	298	eP	P	14 31 50.3	-0.8
SJPF	Ste Jean	24.27	298	eP	P	14 31 50.3	-0.8
SJPF	Ste Jean	24.27	298	eP	P	14 31 50.3	-0.8
SJPF	Ste Jean	24.27	298	eP	P	14 31 50.3	-0.8
MFF	Saint Martin d	24.31	306	eP	P	14 31 49.8	-1.6
	comp=Z,43nm,1.1s						
MFF	Saint Martin d	24.31	306	eP	P	14 31 49.8	-1.6
MFF	Saint Martin d	24.31	306	eP	P	14 31 49.8	-1.6
MFF	Saint Martin d	24.31	306	eP	P	14 31 49.8	-1.6
	comp=Z,21nm,1.1s						
LDF	La Druitiere	24.96	311	eP	P	14 31 55.1	-2.2
LDF	La Druitiere	24.96	311	eP	P	14 31 55.1	-2.2
LDF	La Druitiere	24.96	311	eP	P	14 31 55.1	-2.2
LDF	La Druitiere	24.96	311	eP	P	14 31 55.1	-2.2
GRR	Gorron	25.34	310	eP	P	14 31 58.6	-2.1
	comp=Z,13nm,0.4s						
GRR	Gorron	25.34	310	eP	P	14 31 58.6	-2.1
GRR	Gorron	25.34	310	eP	P	14 31 58.6	-2.1
GRR	Gorron	25.34	310	eP	P	14 31 58.6	-2.1
	comp=Z,6.6nm,0.4s						
ESDC	Sonseca Array	26.10	289	P	P	14 32 07.3	-0.5
ESDC	Sonseca Array	26.10	289	P	P	14 32 07.3	-0.5
	comp=Z,4.5nm,0.7s,baz=79,slow=9.8,SNR=24						
ESDC	Sonseca Array	26.10	289	P	P	14 32 07.3	-0.5
AKTK	Aktyubinsk	26.12	46	P	P	14 32 08.5	+0.7
AKTO	Aktyubinsk	26.12	46	P	P	14 32 08.5	+0.7
AKTO	Aktyubinsk	26.12	46	P	P	14 32 08.5	+0.7
AKTO	Aktyubinsk	26.12	46	P	P	14 32 08.5	+0.7
	comp=Z,5.2nm,0.7s,baz=253,slow=8.0,SNR=19						
AKTO	Aktyubinsk	26.12	46	P	P	14 32 08.5	+0.7
FINES	FINESS Array B	26.20	357	P	P	14 32 07.5	-0.8
FINES				PcP	PcP	14 35 34.2	+0.2
FINES	FINESS Array B	26.20	357	P	P	14 32 07.5	-0.8
	comp=Z,4.9nm,0.7s,baz=156,slow=11,SNR=13						
FINES				PcP	PcP	14 35 34.2	+0.2
	comp=Z,0.9nm,0.6s,baz=159,slow=5.9,SNR=3.6						
FINES				LR	LR	14 43 34.9	
	comp=Z,77nm,18.1s,baz=88,slow=39						
FINES	FINESS Array B	26.20	357	P	P	14 32 07.5	-0.8
PAB	San Pablo	26.39	289	eP	P	14 32 09.9	-0.6
PAB				pmax	pmax		
	comp=Z,47nm,0.9s						
PAB	San Pablo	26.39	289	eP	P	14 32 09.9	-0.6
	comp=Z,47nm,0.9s						
PAB	San Pablo	26.39	289	eP	P	14 32 09.9	-0.6
	comp=Z,47nm,0.9s						
HFS	Hagfors	26.65	343	P	P	14 32 10.9	-1.5
HFS	Hagfors	26.65	343	P	P	14 32 10.9	-1.5
	comp=Z,4.0nm,0.8s,baz=148,slow=8.7,SNR=10						
HFS				LR	LR	14 44 41.6	
	comp=Z,73nm,18.6s,baz=143,slow=41						
HFS	Hagfors	26.65	343	P	P	14 32 10.9	-1.5
ABKAR	Akbulak array	26.85	49	eP	P	14 32 14.8	+0.5
ABKAR	Akbulak array	26.85	49	eP	P	14 32 14.9	+0.5
MDT	Midelt	27.53	274	LR	LR	14 44 48.4	
	comp=Z,36nm,20.7s,baz=310,slow=40						
NB2	NORSAR Subarra	28.04	342	P	P	14 32 23.8	-1.2
	comp=Z,1.7nm,0.8s,baz=158,slow=10		

comp=Z,2.5nm,0.5s,baz=56,slow=7.3,SNR=4.2
USRK Ussuriysk Arra 74.74 46 P **P 14 38 13.2 -0.1**
comp=Z,3.0nm,0.6s,baz=328,slow=5.1,SNR=8.2
KSAR Wonju Array Be 75.94 54 P **P 14 38 21.9 +1.6**
KSRS Korea Array 75.96 54 P **P 14 38 21.9 +1.5**
comp=Z,1.7nm,0.6s,baz=307,slow=4.6,SNR=8.5
YKA Yellowknife Ar 78.13 343 P **P 14 38 31.9 -0.2**
YKA Yellowknife Ar 78.13 343 P **P 14 38 31.9 -0.2**
comp=Z,1.1nm,0.6s,baz=2.4,slow=29,SNR=2.8
ILAR Eielson Array 80.18 358 P **P 14 38 43.1 -0.2**
ILAR Eielson Array 80.18 358 P **P 14 38 43.1 -0.2**
comp=Z,0.5nm,0.7s,baz=353,slow=4.7,SNR=8.6
PETK Petropavlovsk- 81.49 28 P **P 14 38 50.6 +0.1**
PETK Petropavlovsk- 81.49 28 P **P 14 38 50.6 +0.1**
PETK Petropavlovsk- 81.49 28 P **P 14 38 50.6 +0.1**
comp=Z,1.7nm,0.9s,baz=354,slow=5.9,SNR=3.5
ULM Lac du Bonnet 81.71 328 P **P 14 38 51.0 -0.7**
ULM Lac du Bonnet 81.71 328 P **P 14 38 51.0 -0.7**
comp=Z,3.7nm,0.8s,baz=37,slow=6.5,SNR=4.5
CPCT Cooper Cave 85.97 311 *eP* **P 14 39 14.9 +1.2**
BOZ Bozeman (W) 91.76 333 *eP* **P 14 39 41.8 +0.6**
BOZ pmax pmax
comp=Z,1.0nm,0.7s
BOZ Bozeman (W) 91.76 333 *eP* **P 14 39 41.8 +0.6**
comp=Z,1.0nm,0.7s
PHWY Pilot Hill 92.86 327 *eP* **P 14 39 46.9 +0.3**
comp=Z,3.6nm,0.8s
PDAR Pinedale Array 93.39 331 P **P 14 39 48.2 -0.7**
PDAR Pinedale Array 93.39 331 P **P 14 39 48.2 -0.7**
comp=Z,0.6nm,0.7s,baz=77,slow=3.2,SNR=5.4
ASAR Alice Springs 115.34 102 PKP **PKPdf 14 45 16.1 +0.9**
ASAR Alice Springs 115.34 102 PKP **PKPdf 14 45 16.1 +0.9**
comp=Z,0.6nm,0.8s,baz=283,slow=1.6,SNR=6.0

---

*CSEM **26** 14:26:53.7, 39.°25N×34.°48E, h5km, MD2.7, After ISK*
ISK 26 14:26:53.7, 39.°25N×34.°48E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.60**	**282**	*e*PG	Pg	14 27 05.9	+0.4
KAMT				*e*SG	Sb	14 27 14.8	-1.1
KAMT	**Kaman**	**0.60**	**282**	*e*Pg	Pg	14 27 05.9	+0.4
KAMT				*e*Sg	Sb	14 27 14.8	-1.1
YOZ	**Yozgat**	**0.76**	**59**	*e*PG	Pg	14 27 08.9	+0.3
YOZ	**Yozgat**	**0.76**	**59**	*e*Pg	Pg	14 27 08.9	+0.3
CORM	**Corum**	**0.94**	**7**	*e*PG	Pg	14 27 12.1	+0.2
CORM				*e*SG	Sb	14 27 25.6	0.0
CORM	**Corum**	**0.94**	**7**	*e*Pg	Pg	14 27 12.1	+0.2
CORM				*e*Sg	Sb	14 27 25.6	0.0
AFSR	**Af¯ar-Bala (A**	**1.11**	**281**	*e*PN	Pb	14 27 15.4	-0.1
AFSR	**Af¯ar-Bala (A**	**1.11**	**281**	*e*Pn	Pb	14 27 15.4	-0.1
SULT	**Sultanhani-AKS**	**1.29**	**216**	*e*PN	Pb	14 27 18.6	0.0
SULT	**Sultanhani-AKS**	**1.29**	**216**	*e*Pn	Pb	14 27 18.6	0.0
ANTO	**Ankara**	**1.44**	**296**	*e*PN	Pb	14 27 21.3	+0.1
ANTO	**Ankara**	**1.44**	**296**	*e*Pn	Pb	14 27 21.3	+0.1
SVSK	**Karacayir**	**2.06**	**70**	*e*PN	Pn	14 27 29.9	+1.0
SVSK	**Karacayir**	**2.06**	**70**	*e*Pn	Pn	14 27 29.9	+0.9

---

*CSEM **26** 14:31:10.7±0.1, 42.°57N×13.°21E, h8km, MD1.6/6, Error ellipse: s-maj=3.2km s-min=2.0km az=177.0*
ROM 26 14:31:09.9±0.1, 42.°57N×13.°20E, h11km, Md1.6/6, Ml1.2/2, Error ellipse: s-maj=1.6km s-min=0.3km az=136.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.13**	**286**	Pg	Pg	14 31 13.7	+0.5
LNSS				Sg	Sg	14 31 16.1	+0.6
LNSS	**Leonessa**	**0.13**	**286**	Pg	Pg	14 31 13.7	+0.5
LNSS				Sg	Sg	14 31 16.1	+0.6
CAMP	**Campotosto**	**0.15**	**102**	Pg	Pg	14 31 14.2	+0.6
CAMP				Sg	Sg	14 31 17.0	+0.8
CAMP	**Campotosto**	**0.15**	**102**	Pg	Pg	14 31 14.2	+0.6
CAMP				Sg	Sg	14 31 17.0	+0.8
NRCA	**Norcia**	**0.27**	**346**	Pg	Pg	14 31 16.0	+0.3
NRCA				Sg	Sg	14 31 20.1	+0.6
NRCA	**Norcia**	**0.27**	**346**	Pg	Pg	14 31 16.0	+0.3
NRCA				Sg	Sg	14 31 20.1	+0.6
TERO	**Teramo**	**0.30**	**79**	Pg	Pg	14 31 16.4	+0.3
TERO				Sg	Sg	14 31 21.0	+0.8
	137nm,1.3s						
TERO	**Teramo**	**0.30**	**79**	Pg	Pg	14 31 16.4	+0.3
TERO				Sg	Sg	14 31 21.0	+0.8
	137nm,1.3s						
MNS	**Montasola**	**0.43**	**245**	Pg	Pb	14 31 19.0	-0.6
MNS				Sg	Sb	14 31 25.7	-0.4
	8.0nm,0.5s						
MNS	**Montasola**	**0.43**	**245**	Pg	Pb	14 31 19.0	-0.6
MNS				Sg	Sb	14 31 25.7	-0.4
	8.0nm,0.5s						

IDC 26 14:33:35.3±1.6, 20.°35S×177.°52W, h534km±21km, mb3.3/9, mb1 3.5/12, mb1mx3.3/22, mbtmp3.4/12, Error ellipse: s-maj=31.4km s-min=13.6km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.44**	**41**	P	P	14 35 37.1	0.0
	3.6nm,0.3s,baz=253,slow=17,SNR=4.6						
AFI				S	S	14 37 13.3	-3.7
	9.3nm,0.3s,baz=359,slow=23,SNR=5.1						
DZM	**Mont Dzumac**	**15.05**	**261**	P	P	14 36 46.6	+0.8
	0.3nm,0.3s,baz=67,slow=17,SNR=7.6						
URZ	**Urewera**	**18.44**	**193**	P	P	14 37 18.3	+0.5
	0.8nm,0.3s,baz=170,slow=20,SNR=5.6						
STKA	**Stephens Creek**	**38.26**	**244**	P	P	14 40 09.9	0.0
	3.1nm,0.9s,baz=63,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**44.99**	**257**	P	P	14 41 03.2	-0.1
	1.4nm,0.4s,baz=88,slow=6.5,SNR=88						
ASAR				S	S	14 47 00.3	-2.8
	1.6nm,1.0s,baz=97,slow=15,SNR=8.5						
WRA	**Warramunga Arr**	**45.07**	**262**	P	P	14 41 03.4	-0.5
	1.4nm,0.3s,baz=97,slow=7.0,SNR=98						
WRA				S	S	14 47 02.4	-1.9
	0.3nm,0.7s,baz=102,slow=18,SNR=2.5						
MJAR	**Matsushiro Arr**	**70.36**	**323**	P	P	14 43 55.3	-0.2
	1.6nm,0.6s,baz=160,slow=6.2,SNR=9.8						
ASAJ	**Asahikawa**	**73.82**	**331**	P	P	14 44 16.4	+1.2
	6.2nm,0.8s,baz=251,slow=13,SNR=4.0						
PETK	**Petropavlovsk-**	**76.25**	**345**	P	P	14 44 29.0	+0.3
	2.2nm,0.7s,baz=128,slow=8.6,SNR=6.2						
USRK	**Ussuriysk Arra**	**79.09**	**326**	P	P	14 44 45.1	+0.9
	2.5nm,0.8s,baz=221,slow=7.6,SNR=5.7						
ILAR	**Eielson Array**	**88.07**	**13**	P	P	14 45 28.4	0.0
	0.4nm,0.7s,baz=210,slow=6.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**90.49**	**289**	P	P	14 45 41.4	+0.7
	0.5nm,0.5s,baz=117,slow=2.2,SNR=5.1						
AKASG	**Malin Array Be**	**143.10**	**332**	PKP	PKPab	14 52 05.5	-0.4
	0.6nm,0.4s,baz=42,slow=4.4,SNR=5.2						
BRTR	**Keskin Array B**	**147.07**	**313**	PKPbc	PKPbc	14 52 17.6	-1.1
	0.7nm,0.7s,baz=170,slow=3.6,SNR=3.7						
GERES	**GERESS Array B**	**150.18**	**345**	PKPbc	PKPbc	14 52 25.8	-0.2
	0.3nm,0.3s,baz=19,slow=3.3,SNR=4.7						

---

*IDC **26** 14:38:50.5±1.5, 1.°67S×99.°29E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, Error ellipse: s-maj=74.2km s-min=18.9km az=57.0*
*ISCJB **26** 14:38:53.1±1.0, 1.°6S±0.°1×99.°31E±0.°09, h30km, mb3.8/6, Error ellipse: s-maj=16.3km s-min=11.9km az=164.6*
*DJA **26** 14:38:55.5±2.6, 2.°S±33.°×10.°0E±1.°5, h10km, M4.4/3, MLv4.4/3*
ISC 26 14:38:55.5±1.0, 1.°6S±0.°1×99.°5E±0.°1, h30km, n13, σ0.59/14, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.19**	**58**	P	**Pn**	**14 39 15.4**	**-0.8**
PDSI				S	**Sb**	**14 39 33.5**	**+0.8**
PPI	**Padang Panjang**	**1.44**	**41**	P	**Pn**	**14 39 18.7**	**-0.9**
BKNI	**Bangkinang**	**2.45**	**40**	P	**Pb**	**14 39 38.9**	**0.0**
KSI	**Kapahiang**	**3.77**	**124**	P	Pn	14 39 42.2	-9.4
CMAR	**Chiang Mai Arr**	**19.89**	**359**	P	**P**	**14 43 24.2**	**-0.5**
	0.3nm,0.3s,baz=205,slow=9.9,SNR=3.3						
WRA	**Warramunga Arr**	**38.69**	**121**	P	**P**	**14 46 16.9**	**-0.1**
	0.7nm,0.7s,baz=303,slow=9.0,SNR=15						
WRA				PcP	**PcP**	**14 48 29.4**	**+0.7**
	0.3nm,0.8s,baz=317,slow=2.4,SNR=3.3						
ASAR	**Alice Springs**	**39.95**	**126**	P	**P**	**14 46 27.3**	**-0.3**
	0.5nm,0.6s,baz=302,slow=7.9,SNR=12						
SONM	**Songino Array**	**49.56**	**6**	P	**P**	**14 47 44.7**	**+0.9**
	0.5nm,0.8s,baz=206,slow=9.3,SNR=2.5						
SONM				PcP	**PcP**	**14 49 05.5**	**+0.2**
	0.4nm,0.6s,baz=160,slow=4.6,SNR=3.7						
MKAR	**Makanchi Array**	**50.46**	**345**	P	**P**	**14 47 50.8**	**+0.2**
	1.3nm,0.6s,baz=153,slow=8.3,SNR=14						
ZALV	**Zalesovo Beam**	**56.63**	**350**	P	**P**	**14 48 35.4**	**-0.3**
	0.8nm,0.3s,baz=163,slow=5.4,SNR=6.8						
FINES	**FINESS Array B**	**83.47**	**332**	P	**P**	**14 51 19.9**	**-0.1**
	1.6nm,0.9s,baz=104,slow=2.9,SNR=4.2						
CPUP	**Villa Florida**	**144.35**	**217**	PKP	PKPbc	14 58 27.6	-0.2
	1.8nm,0.8s,baz=108,slow=6.4,SNR=4.4						
TXAR	**Lajitas Array**	**144.68**	**36**	PKP	**PKPdf**	**14 58 30.0**	**-0.2**
	0.8nm,0.5s,baz=210,slow=0.9,SNR=9.2						

IDC 26 14:45:52.8±4.2, 16.°55S×172.°75W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.6/4, ML1.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=144.4km s-min=23.1km az=130.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.79**	**20**	Pn	Pn	14 46 38.9	+0.1
	2.6nm,0.3s,baz=177,slow=17,SNR=4.6						
AFI				LR	LR	14 47 03.4	
	comp=Z,205nm,18.4s,baz=160,slow=25						
AFI				Sn	Sn	14 47 13.4	+0.2
	21nm,0.3s,baz=120,slow=20,SNR=11						
WRA	**Warramunga Arr**	**50.20**	**258**	P	P	14 54 50.5	-0.3
	0.3nm,0.4s,baz=97,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**50.36**	**253**	P	P	14 54 52.1	+0.1
	1.2nm,0.6s,baz=88,slow=8.8,SNR=26						
ILAR	**Eielson Array**	**83.44**	**11**	P	P	14 58 21.8	0.0
	0.2nm,0.6s,baz=224,slow=6.7,SNR=5.2						

---

*MOS **26** 14:50:42.1±0.6, 49.°13N×156.°52E, h5km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=17.1km az=81.4*
KRSC 26 14:50:42.1±0.3, 49.°13N×156.°52E, h5km±5km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.58**	**351**	*e*PN	Pn	14 51 01.2	-9.5
SKR				pmax	pmax		
	comp=N,100nm,0.3s						
SKR				pmax	pmax		
	comp=Z,120nm,0.3s						
SKR	**Severo-Kuril's**	**1.58**	**351**	P	Pn	14 51 10.1	-0.6
SKR				*i* S	Sn	14 51 30.3	-1.1
PAU	**Pauzhetka**	**2.35**	**4**	PN	Pn	14 51 22.3	+1.0
PAU				S	Sn	14 51 51.1	+0.6
PAU	**Pauzhetka**	**2.35**	**4**	P	Pn	14 51 22.3	+1.0
PAU				*i* S	Sn	14 51 51.1	+0.6
MIPR	**Malaya Ipel'ka**	**3.15**	**3**	P	Pn	14 51 34.0	+1.6
MIPR				*i* S	Sn	14 52 12.2	+1.8
ASAK	**Asacha**	**3.37**	**15**	P	Pn	14 51 38.2	+2.7
ASAK				*i* S	Sn	14 52 18.3	+2.3
MTVR	**Mutnovka**	**3.52**	**17**	P	Pn	14 51 40.3	+2.7
MTVR				*i* S	Sn	14 52 21.5	+1.8
RUS	**Russkaya**	**3.54**	**20**	PN	Pn	14 51 40.5	+2.8
RUS				S	Sn	14 52 21.5	+1.6
RUS	**Russkaya**	**3.54**	**20**	P	Pn	14 51 40.5	+2.8
RUS				*i* S	Sn	14 52 21.5	+1.6
APC	**Apacha**	**3.82**	**6**	P	Pn	14 51 44.3	+2.8
PET	**Petropavlovsk**	**4.12**	**18**	PN	Pn	14 51 48.2	+2.5
PET				S	Sn	14 52 36.7	+2.4
PET	**Petropavlovsk**	**4.12**	**18**	P	Pn	14 51 48.2	+2.5
PET				*i* S	Sn	14 52 36.7	+2.4
UGLR	**Uglovaya**	**4.33**	**19**	P	Pn	14 51 52.5	+3.7
UGLR				*i* S	Sn	14 52 43.3	+3.6
AVH	**Avacha**	**4.37**	**18**	P	Pn	14 51 53.3	+4.1
KOK	**Koryaka**	**4.38**	**17**	P	Pn	14 51 53.1	+3.8
KRER	**Koryakskii**	**4.41**	**18**	P	Pn	14 51 53.0	+3.1
SDLR	**Sedlovina**	**4.41**	**19**	P	Pn	14 51 53.6	+3.8
KRX	**Arik**	**4.44**	**17**	P	Pn	14 51 54.0	+3.7
GNL	**Ganaly**	**4.66**	**10**	P	Pn	14 51 56.7	+3.5
MKZ	**Mys Kozlova**	**6.32**	**29**	PN	Pn	14 52 18.0	+2.2
MKZ	**Mys Kozlova**	**6.32**	**29**	P	Pn	14 52 18.0	+2.2
MKZ				*i* S	Sn	14 53 30.7	+2.4
KBTR	**Krutoberegovo**	**8.05**	**26**	PN	Pn	14 52 42.2	+2.6
KBTR	**Krutoberegovo**	**8.05**	**26**	P	Pn	14 52 42.2	+2.6

---

*ISCJB **26** 14:55:43.3±0.8, 23.°76N±0.°02×122.°48E±0.°02, h7km±6km, Error ellipse: s-maj=3.2km s-min=2.5km az=137.3*
*TAP **26** 14:55:44.9, 23.°83N×122.°44E, h14km, MLS.4, C*
*JMA **26** 14:55:46.3±0.2, 23.°91N×122.°61E, h0km, M2.9*
ISC 26 14:55:43.4±1.2, 23.°79N±0.°03×122.°48E±0.°02, h6km±10km, n53, σ0.80/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.82**	**36**	P	**Pg**	**14 55 59.6**	**+0.3**
YOJ				S	**Sg**	**14 56 08.8**	**-1.2**
TWD	**Chiawan**	**0.86**	**290**	*i* P	**Pg**	**14 56 00.3**	**+0.4**
	baz=270						
TWD				*i* S	**Sg**	**14 56 11.6**	**+0.6**
	baz=270						
ENA	**Nanau**	**0.93**	**313**	P	**Pg**	**14 56 01.8**	**+0.5**
	baz=312						
ENA				*e*S	**Sg**	**14 56 14.2**	**+0.9**
	baz=312						
ESL	**Shilin**	**0.96**	**271**	*e*P	**Pg**	**14 56 01.6**	**-0.2**
	baz=268						
ESL				*e*S	**Sg**	**14 56 13.9**	**-0.4**
	baz=268						
TWC	**Suao**	**1.00**	**325**	*i* P	**Pg**	**14 56 02.7**	**+0.1**
	baz=324						
TWC				*e*S	**Sg**	**14 56 15.5**	**0.0**
	baz=324						
EHY	**Hungye**	**1.10**	**255**	P	Pg	14 56 04.3	-0.2
	baz=252						
EHY				*e*S	**Sg**	**14 56 18.7**	**-0.2**
	baz=252						
TWF1	**Yuli**	**1.17**	**248**	P	Pb	14 56 05.8	-0.3
	baz=245						
TWF1				*e*S	**Sg**	**14 56 21.5**	**+0.4**
	baz=245						
ILA	**Ilan**	**1.18**	**326**	*e*P	**Pg**	**14 56 04.7**	**-1.3**
	baz=324						
ILA				*e*S	**Sg**	**14 56 22.3**	**+1.0**
	baz=324						
TWE	**Neicheng**	**1.19**	**321**	*i* P	**Pg**	**14 56 06.4**	**+0.2**
	baz=320						
TWE				S	**Sg**	**14 56 22.0**	**+0.4**
	baz=320						
ENTT	**Nioudou**	**1.19**	**316**	*e*P	**Pg**	**14 56 06.2**	**0.0**
	baz=296						
ENTT				*e*S	**Sg**	**14 56 22.6**	**+1.0**
	baz=296						
NNS	**Nan Shan**	**1.20**	**303**	*e*P	**Pg**	**14 56 06.0**	**-0.5**
	baz=286						
NNS				*e*S	**Sg**	**14 56 21.3**	**-0.8**
	baz=286						
CHKT	**Chengkung**	**1.23**	**236**	*e*P	Pn	14 56 05.8	-1.4
	baz=233						
CHKT				*e*S	Sb	14 56 21.1	-2.3
	baz=233						
HATJ	**Hateruma jima**	**1.24**	**77**	P	**Pg**	**14 56 07.7**	**+0.4**
HATJ				*e*S	**Sg**	**14 56 22.1**	**-1.3**
IRIF	**Iriomote-Funau**	**1.26**	**64**	P	**Pg**	**14 56 07.7**	**0.0**
IRIF				*e*S	**Sg**	**14 56 23.3**	**-0.8**
TWT	**Tachien**	**1.28**	**291**	*e*P	**Pn**	**14 56 07.6**	**-0.4**
	baz=288						
TWT				*e*S	**Sb**	**14 56 23.2**	**-1.6**
	baz=288						
TWB1	**Santiao Chiao**	**1.29**	**340**	*i* P	**Pb**	**14 56 08.2**	**0.0**
	baz=323						
TWB1				S	**Sn**	**14 56 26.0**	**+0.4**
	baz=323						
NSK	**Sanguang**	**1.35**	**311**	*e*P	**Pn**	**14 56 08.5**	**-0.4**
	baz=294						
NSK				*e*S	**Sb**	**14 56 26.0**	**-0.8**
	baz=294						
NWF	**Wu-fen Shan**	**1.42**	**334**	*e*P	**Pn**	**14 56 09.0**	**-1.0**
	baz=332						
NWF				*e*S	**Sb**	**14 56 29.0**	**+0.1**
	baz=332						
YUS	**Yu-Shan**	**1.43**	**258**	P	**Pn**	**14 56 10.3**	**-0.1**
	baz=255						
YUS				S	**Sn**	**14 56 27.9**	**-2.0**
	baz=255						
TWA	**Mucha**	**1.44**	**326**	P	**Pn**	**14 56 10.6**	**+0.5**
	baz=324						
TWA				*e*S	**Sb**	**14 56 29.9**	**+0.7**
	baz=324						
SMLT	**Sun Moon Lake**	**1.45**	**274**	P	**Pn**	**14 56 09.7**	**-0.6**
	baz=271						
SMLT				*e*S	**Sn**	**14 56 28.3**	**-1.4**
	baz=271						
JKRS	**Kuro-shima**	**1.47**	**72**	P	**Pn**	**14 56 11.8**	**+1.3**
JKRS				*e*S	**Sb**	**14 56 29.5**	**-0.6**
ELDTW	**Lidau**	**1.47**	**246**	*e*P	Pn	14 56 09.6	-1.0
	baz=243						
ELDTW				S	Sn	14 56 27.9	-2.4
	baz=243						
TYC	**Yuchr**	**1.49**	**275**	P	**Pn**	**14 56 10.7**	**-0.1**
	baz=272						
TYC				S	**Sn**	**14 56 29.2**	**-1.3**
	baz=272						
TAP1	**Taipei**	**1.52**	**325**	*e*P	**Pn**	**14 56 10.9**	**-0.3**
	baz=322						
TAP1				*e*S	**Sn**	**14 56 32.2**	**+1.0**
	baz=322						
TAP	**Taipei**	**1.53**	**325**	*e*P	**Pn**	**14 56 11.5**	**+0.2**
	baz=322						
TAP				*e*S	**Sn**	**14 56 31.8**	**+0.3**
	baz=322						
ALS	**Alishan**	**1.56**	**260**	*e*P	**Pn**	**14 56 12.4**	**+0.4**
	baz=257						
ALS				*e*S	**Sn**	**14 56 31.6**	**-1.1**
	baz=257						
NSTT	**Nanjuang**	**1.59**	**302**	P	**Pn**	**14 56 12.9**	**+0.7**
	baz=285						
NSTT				*e*S	**Sn**	**14 56 33.1**	**+0.1**
	baz=285						
TTN	**Taitung**	**1.60**	**230**	*e*P	**Pn**	**14 56 12.8**	**+0.5**
	baz=227						
TTN				*e*S	**Sn**	**14 56 33.3**	**-0.1**
	baz=227						
TWG	**Pinlang**	**1.62**	**234**	P	Pn	14 56 12.0	-0.5
	baz=220						
TWG				*e*S	**Sn**	**14 56 31.9**	**-1.8**
	baz=220						
JIJ	**Ishigaki jima**	**1.62**	**69**	P	**Pn**	**14 56 13.8**	**+1.2**
JIJ				*e*S	**Sn**	**14 56 33.3**	**-0.6**
TWS1	**Kuangyinshan**	**1.62**	**324**	*e*P	**Pn**	**14 56 12.8**	**+0.2**
	baz=321						
TWS1				*e*S	**Sn**	**14 56 34.3**	**+0.4**
	baz=321						
WNT	**Mingjian**	**1.65**	**273**	*e*P	**Pn**	**14 56 13.2**	**+0.3**
	baz=270						
WNT				*e*S	**Sn**	**14 56 35.2**	**+0.7**
	baz=270						
TWQ1	**Liyutan**	**1.66**	**290**	*e*P	**Pn**	**14 56 14.1**	**+1.0**
	baz=287						
TWQ1				*e*S	**Sn**	**14 56 35.3**	**+0.6**
	baz=287						
CHN5	**Tsauling**	**1.66**	**264**	*e*P	**Pn**	**14 56 13.4**	**+0.1**
	baz=260						
CHN5				*e*S	**Sn**	**14 56 34.8**	**-0.1**
	baz=260						
TWY	**Chenhua**	**1.68**	**332**	*e*P	**Pn**	**14 56 14.8**	**+1.4**
	baz=330						
TWY				*e*S	**Sn**	**14 56 35.8**	**+0.5**
	baz=330						
TCU	**Taichung**	**1.69**	**282**	*e*P	**Pn**	**14 56 14.5**	**+1.0**
	baz=279						
TCU				*e*S	**Sn**	**14 56 35.5**	**0.0**
	baz=279						
NSY	**Sanyi**	**1.69**	**292**	*e*P	**Pn**	**14 56 13.4**	**-0.1**
	baz=289						
NSY				*e*S	**Sn**	**14 56 35.2**	**-0.3**
	baz=289						
WGK	**Gukeng**	**1.76**	**267**	*e*P	Pn	14 56 13.9	-0.6
	baz=264						
WGK				*e*S	**Sn**	**14 56 37.6**	**+0.3**
	baz=264						
CHN2	**Minshiung**	**1.86**	**262**	*e*P	**Pn**	**14 56 15.4**	**-0.4**
	baz=259						
CHN2				*e*S	**Sn**	**14 56 40.8**	**+1.2**
	baz=259						
PCYT	**Pengchaiyu**	**1.87**	**349**	*e*P	**Pn**	**14 56 14.9**	**-1.1**
	baz=331						
SGST	**Jiashian**	**1.88**	**248**	*e*P	**Pn**	**14 56 17.1**	**+0.9**
	baz=234						
SGST				*e*S	**Sn**	**14 56 40.5**	**+0.2**
	baz=234						
CHN1	**Nanshi**	**1.89**	**252**	*e*P	**Pn**	**14 56 17.4**	**+1.1**
	baz=249						
CHN1				*e*S	**Sn**	**14 56 41.5**	**+1.0**
	baz=249						
CHY	**Chiayi**	**1.91**	**262**	*e*P	Pn	14 56 15.3	-1.2
	baz=258						
CHY				*e*S	**Sn**	**14 56 41.3**	**+0.4**
	baz=258						
LAY	**Lan-yu**	**1.94**	**206**	*e*P	Pn	14 56 15.0	-2.1
	baz=204						
WTCT	**Ta-ch'eng**	**2.02**	**272**	*e*P	**Pn**	**14 56 17.8**	**-0.2**
	baz=269						
WTCT				*e*S	**Sn**	**14 56 44.6**	**+1.1**
	baz=269						
EAST	**Anshuo**	**2.06**	**227**	*e*P	Pn	14 56 18.0	-0.7
	baz=225						
TWM1	**Shoushan**	**2.12**	**243**	*e*P	**Pn**	**14 56 20.6**	**+1.1**
	baz=241						
SCZT	**Fangliau**	**2.22**	**231**	*e*P	Pn	14 56 20.5	-0.3
	baz=228						
SCZT				*e*S	**Sn**	**14 56 49.5**	**+0.9**
	baz=228						
HEN	**Hengchun**	**2.40**	**222**	*e*P	Pn	14 56 23.0	-0.3
	baz=220						
HEN				*e*S	**Sn**	**14 56 52.8**	**-0.2**
	baz=220						
TWK1	**Hengchun**	**2.40**	**220**	*e*P	Pn	14 56 22.5	-0.8
	baz=218						
TWK1				*e*S	**Sn**	**14 56 54.0**	**+0.9**
	baz=218						
WDGT	**Dungji**	**2.64**	**259**	*e*P	**Pn**	**14 56 27.1**	**+0.5**
	baz=255						
WDGT				*e*S	**Sn**	**14 56 57.0**	**-2.0**
	baz=255						
PNG	**Penghu**	**2.69**	**266**	*e*P	**Pn**	**14 56 27.7**	**+0.4**
	baz=262						
PNG				*e*S	**Sn**	**14 56 60.0**	**-0.3**
	baz=262						

IDC 26 14:59:55.1±8.8, 16.°86S×175.°83W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, MS3.8/1, Ms1 3.8/1, ms1mx2.6/19, Error ellipse: s-maj=392.8km s-min=36.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.25**	**258**	P	P	15 08 30.1	-0.3
	0.2nm,0.6s,baz=94,slow=6.5,SNR=5.5						
**ASA

3µm,0.3s
RAO S **S** 15 15 04.1 +3.5
RAO Raoul Island 5.36 141 P **P** 15 13 42.8 +0.5
859nm,0.3s,baz=78,slow=4.4,SNR=24
RAO S **S** 15 15 04.1 +3.5
68nm,0.3s,baz=107,slow=19,SNR=2.5
MSVF Nonsavu 7.32 358 P **P** 15 13 57.0 -2.8
3µm,0.7s
MSVF Nonsavu 7.32 358 *e*P **P** 15 13 57.8 -2.0
MSVF pmax pmax
comp=Z,263nm,0.6s
MSVF Nonsavu 7.32 358 *e*P **P** 15 13 57.8 -2.0
comp=Z,263nm,0.6s
OUZ Omahuta 10.87 201 *e*P **P** 15 14 35.7 +1.9
comp=Z,314nm,0.8s
PLUM Mont Dore 11.01 282 *e*P **P** 15 14 34.5 -0.9
LASL Noumea 11.11 282 *e*P **P** 15 14 35.5 -0.9
DZM Mont Dzumac 11.25 283 *e*P **P** 15 14 38.6 +0.7
comp=Z,1µm,0.9s
DZM Mont Dzumac 11.25 283 *e*P **P** 15 14 37.4 -0.5
DZM Mont Dzumac 11.25 283 P **P** 15 14 38.6 +0.7
DZM S **S** 15 16 44.9 +2.8
DZM Mont Dzumac 11.25 283 P **P** 15 14 38.6 +0.7
comp=Z,56nm,0.3s,baz=93,slow=13,SNR=384
DZM S **S** 15 16 44.9 +2.8
baz=314,slow=15,SNR=3.3
NOUC Port Laguerre 11.36 283 *e*P **P** 15 14 40.1 +1.2
NIUE Niue 12.47 64 P **P** 15 14 48.5 -1.5
baz=12,SNR=10
NIUE S **S** 15 17 06.9 +2.3
baz=12,SNR=9.6
URZ Urewera 13.17 184 *e*P **P** 15 14 53.7 -3.1
comp=Z,57nm,0.5s
URZ S S 15 17 08.8 -7.9
URZ Urewera 13.17 184 P **P** 15 14 53.7 -3.1
comp=Z,8.5nm,0.3s,baz=351,slow=3.9,SNR=52
URZ S S 15 17 08.8 -7.9
comp=Z,2.2nm,0.3s,baz=236,slow=18,SNR=5.3
AFI Afiamalu 14.55 42 *e*P P 15 15 05.8 -4.9
comp=Z,162nm,0.8s
AFI *e*S S 15 17 29.5 -12
AFI S S 15 17 32.6 -8.5
AFI Afiamalu 14.55 42 P P 15 15 05.9 -4.9
comp=Z,23nm,0.3s,baz=30,slow=1.5,SNR=15
AFI S S 15 17 32.6 -8.5
comp=Z,5.9nm,0.3s,baz=202,slow=19,SNR=5.0
SNZO South Karori 16.45 189 *e*P **P** 15 15 26.8 -0.8
comp=Z,260nm,0.8s
KHZ Kahutara 17.72 192 *e*P **P** 15 15 38.1 -1.1
comp=Z,125nm,0.5s
LHI Lord Howe Isla 18.07 245 P **P** 15 15 45.1 +2.5
baz=18,SNR=8.8
RPZ Rata Peaks 19.50 196 *e*P **P** 15 15 55.3 -0.1
RPZ Rata Peaks 19.50 196 P **P** 15 15 54.7 -0.7
comp=Z,6.7nm,0.3s,baz=345,slow=1.3,SNR=20
HNR Honiara 23.37 309 P **P** 15 16 28.7 -1.7
HNR Honiara 23.37 309 P **P** 15 16 28.7 -1.7
comp=Z,212nm,0.8s,baz=166,slow=1.3,SNR=9.2
ARMA Armidale 24.13 251 *e*P **P** 15 16 38.5 +1.4
comp=Z,38nm,0.9s
ARMA Armidale 24.13 251 P **P** 15 16 38.8 +1.6
baz=24,SNR=23
EIDS Eidsvold 24.58 264 *e*P **P** 15 16 41.5 +0.6
comp=Z,15nm,0.6s
EIDS Eidsvold 24.58 264 P **P** 15 16 41.8 +0.8
baz=25,SNR=14
EIDS S **S** 15 20 22.6 +1.5
baz=25,SNR=7.9
MGCD Mangrove Creek 25.00 245 P **P** 15 16 46.6 +1.9
baz=25,SNR=13
RMQ Roma 26.58 261 P **P** 15 17 00.3 +1.7
baz=27,SNR=22
CNB Canberra Magne 26.89 241 P **P** 15 17 02.9 +1.6
baz=27,SNR=29
CAN Canberra 27.18 241 *e*P **P** 15 17 04.8 +1.0
CAN pmax pmax
comp=Z,103nm,1.2s
CAN Canberra 27.18 241 *e*P **P** 15 17 04.8 +1.0
comp=Z,103nm,1.2s
YNG Young 27.44 243 P **P** 15 17 07.4 +1.4
baz=28,SNR=28
MILA Mila 27.52 237 P **P** 15 17 08.5 +1.7
baz=28,SNR=10
CMSA Cobar Meteorol 29.31 250 P **P** 15 17 22.9 +0.7
baz=30,SNR=143
CTA Charters Tower 29.93 273 P **P** 15 17 28.5 +0.8
CTA S **S** 15 21 44.7 +0.3
CTA Charters Tower 29.93 273 P **P** 15 17 28.5 +0.8
comp=Z,42nm,0.4s,baz=96,slow=11,SNR=142
CTA S **S** 15 21 44.7 +0.3
comp=Z,9.1nm,0.8s,baz=227,slow=21,SNR=18
CTAO Charters Tower 29.93 273 *e*P **P** 15 17 28.2 +0.5
CTAO Charters Tower 29.93 273 *e*P **P** 15 17 28.2 +0.5
comp=Z,48nm,0.4s
TOO Toolangi 30.48 238 P **P** 15 17 33.2 +1.0
baz=31,SNR=53
PAE Paea 30.79 82 *e*P **P** 15 17 35.2 +0.1
comp=Z,16nm,1.1s
PPT2 Papeete2 30.82 82 *e*P **P** 15 17 35.8 +0.4
comp=Z,55nm,1.1s
PPT Papeete 30.82 82 P **P** 15 17 35.7 +0.3
PPT Papeete 30.82 82 P **P** 15 17 35.7 +0.3
comp=Z,45nm,0.8s,baz=356,slow=12,SNR=8.5
MOO Moorlands 30.86 228 P **P** 15 17 36.7 +1.4
baz=31,SNR=4.1
TAU Tasmania Unive 30.97 227 P **P** 15 17 37.5 +1.3
comp=Z,949nm,0.6s,SNR=15
TIAR Tiarei 31.04 82 *e*P **P** 15 17 37.6 +0.4
comp=Z,149nm,1.0s
TVO Taravao 31.05 83 *e*P **P** 15 17 37.5 +0.2
comp=Z,72nm,0.7s
MTSU Mount Surprise 32.24 276 P **P** 15 17 48.3 +0.8
baz=32,SNR=138
MTSU S **S** 15 22 20.8 +0.9
baz=32,SNR=6.3
STKA Stephens Creek 32.82 250 *e*P **P** 15 17 52.8 +0.7
comp=Z,17nm,0.6s
STKA S **S** 15 22 27.3 -0.9
STKA Stephens Creek 32.82 250 P **P** 15 17 52.9 +0.7
comp=Z,95nm,0.6s,baz=95,slow=10,SNR=373
STKA S **S** 15 22 27.3 -0.9
comp=Z,14nm,0.9s,baz=254,slow=16,SNR=8.3
STKA Stephens Creek 32.82 250 P **P** 15 17 52.9 +0.8
baz=33,SNR=316
ARPS Mount Arapiles 33.16 241 P **P** 15 17 55.7 +0.8
baz=33,SNR=24
PMOR Pomaria Rec 33.26 79 *e*P **P** 15 17 56.3 +0.4
comp=Z,112nm,1.1s
PMG Port Moresby 33.43 292 *e*P **P** 15 17 57.4 0.0
PMG Port Moresby 33.43 292 P **P** 15 17 56.8 -0.6
comp=Z,87nm,0.8s
PMG Port Moresby 33.43 292 P **P** 15 17 57.2 -0.2
comp=Z,65nm,0.7s,baz=101,slow=4.7,SNR=20
COEN Coen 34.77 282 *e*P **P** 15 18 09.2 +0.6
comp=Z,182nm,0.8s
COEN Coen 34.77 282 P **P** 15 18 09.3 +0.6
baz=35,SNR=31
BBOO Buckleboo 37.53 248 *e*P **P** 15 18 30.6 -0.4
comp=Z,2µm,0.6s
BBOO Buckleboo 37.53 248 P **P** 15 18 30.9 -0.2
baz=38,SNR=130
BBOO S **S** 15 23 37.1 -1.4
baz=38,SNR=5.4
MANU Manus Island 37.58 303 P **P** 15 18 31.3 -0.4
baz=38,SNR=4.3
AS31 Alice Springs 40.29 262 *e*P **P** 15 18 53.3 -0.1
ASAR Alice Springs 40.29 262 P **P** 15 18 53.5 +0.1
ASAR pP **pP** 15 20 35.0 -1.0
ASAR ScP **ScP** 15 23 35.5 +0.9
ASAR S **S** 15 24 18.6 -0.6
ASAR Alice Springs 40.29 262 P **P** 15 18 53.5 +0.1
comp=Z,59nm,1.0s,baz=90,slow=7.5,SNR=720
ASAR pP **pP** 15 20 35.0 -1.0
comp=Z,3.8nm,0.7s,baz=88,slow=7.5,SNR=1.7
ASAR ScP **ScP** 15 23 35.6 +0.9
comp=Z,1.6nm,0.7s,baz=101,slow=5.9,SNR=4.2
ASAR S **S** 15 24 18.6 -0.6
comp=Z,13nm,0.8s,baz=100,slow=16,SNR=32
WRAB Tennant Creek 40.76 268 P **P** 15 18 56.0 -1.1
comp=Z,408nm,0.4s
WRAB Tennant Creek 40.76 268 *e*P **P** 15 18 56.5 -0.6
WRAB pmax pmax
comp=Z,55nm,0.8s
WRAB Tennant Creek 40.76 268 *e*P **P** 15 18 56.5 -0.6
comp=Z,55nm,0.8s
WRA Warramunga Arr 40.76 268 P **P** 15 18 56.4 -0.8
WRA PcP **PcP** 15 20 42.3 -1.1
WRA ScP **ScP** 15 23 39.0 +2.5
WRA S **S** 15 24 23.6 -2.4
WRA Warramunga Arr 40.76 268 P **P** 15 18 56.4 -0.8
comp=Z,26nm,0.3s,baz=101,slow=6.5,SNR=612
WRA PcP **PcP** 15 20 42.3 -1.1
comp=Z,4.3nm,1.0s,baz=107,slow=3.3,SNR=5.2
WRA ScP **ScP** 15 23 39.0 +2.5
comp=Z,5.5nm,0.8s,baz=102,slow=4.0,SNR=8.9
WRA S **S** 15 24 23.6 -2.4
comp=Z,36nm,1.2s,baz=104,slow=14,SNR=12
JAY Jayapura 42.56 296 P **P** 15 19 11.1 -0.2
baz=43,SNR=4.6
FORT Forrest 44.42 251 *e*P **P** 15 19 24.5 -0.9
comp=Z,300nm,0.6s
FORT Forrest 44.42 251 P **P** 15 19 24.8 -0.6
baz=45,SNR=168
KDU Kakadu 44.84 277 P **P** 15 19 28.2 -0.6
baz=45,SNR=15
KDU S **S** 15 25 23.1 -0.9
baz=45,SNR=5.8
MTN Manton Dam 45.99 276 P **P** 15 19 36.7 -0.9
baz=46,SNR=15
KNRA Kununurra 47.12 272 P **P** 15 19 46.2 +0.2
baz=47,SNR=102
KNRA S **S** 15 25 53.8 -1.8
baz=47,SNR=8.4
TLE Tual 47.67 286 P **P** 15 19 50.4 +0.2
baz=48,SNR=3.8
FITZ Fitzroy Crossi 49.17 267 *e*P **P** 15 20 01.3 0.0
comp=Z,48nm,0.8s
FITZ *e*pP **pP** 15 21 48.7 -1.6
FITZ S **S** 15 26 23.1 -0.6
FITZ Fitzroy Crossi 49.17 267 P **P** 15 20 01.4 +0.2
comp=Z,44nm,0.8s,baz=107,slow=5.6,SNR=151
FITZ pP **pP** 15 21 48.7 -1.6
comp=Z,14nm,0.9s,baz=116,slow=7.0,SNR=5.6
FITZ S **S** 15 26 23.0 -0.6
baz=210,slow=20
FITZ Fitzroy Crossi 49.17 267 P **P** 15 20 01.4 +0.2
baz=49,SNR=53
FITZ S S 15 26 31.6 +8.0
baz=49,SNR=3.2
FAKI Fak Fak 49.44 289 P **P** 15 20 02.6 -0.7
baz=50,SNR=9.0
SWI Sorong 51.35 291 P **P** 15 20 17.0 -0.1
baz=52,SNR=4.7
VNDA Vanda 53.07 184 *e*P **P** 15 20 29.2 +0.8
comp=Z,16nm,0.9s
VNDA Vanda 53.07 184 P **P** 15 20 29.4 +1.0
comp=Z,8.9nm,0.6s,baz=360,slow=7.9,SNR=83
KLBR Kellerberrin 53.07 248 P **P** 15 20 28.8 -0.4
baz=53,SNR=30
SBA Scott Base 53.11 183 *e*P **P** 15 20 30.4 +1.8
SBA pmax pmax
comp=Z,55nm,0.9s
SBA Scott Base 53.11 183 *e*P **P** 15 20 30.4 +1.8
comp=Z,55nm,0.9s
MEEK Meekatharra 53.26 255 P **P** 15 20 29.6 -1.1
baz=54,SNR=17
RKGY Rocky Gully 53.29 244 P **P** 15 20 30.6 -0.1
baz=54,SNR=9.7
NWAO Narrogin (SRO) 53.31 247 P **P** 15 20 30.2 -0.6
NWAO Narrogin (SRO) 53.31 247 P **P** 15 20 30.2 -0.6
comp=Z,22nm,0.8s,baz=120,slow=6.9,SNR=15
MBWA Marble Bar 53.62 261 *e*P **P** 15 20 32.4 -0.8
comp=Z,28nm,0.9s
BLDU Ballidu 54.12 249 P **P** 15 20 35.9 -0.7
baz=54,SNR=5.1
MORW Morawa 54.99 251 P **P** 15 20 42.1 -0.6
baz=55,SNR=30
CASY Casey 58.35 206 *e*P **P** 15 21 04.5 -0.4
comp=Z,73nm,0.7s
QSPA South Pole Qui 65.00 180 P **P** 15 21 49.2 +1.0
QSPA South Pole Qui 65.00 180 P **P** 15 21 49.2 +1.0
comp=Z,116nm,0.8s,baz=22,slow=1.5,SNR=817
UGM Wanagama 66.55 272 P **P** 15 21 58.7 0.0
baz=67,SNR=3.8
JNU Nakatsue 73.39 320 P **P** 15 22 38.2 -0.5
JNU Nakatsue 73.39 320 P **P** 15 22 38.2 -0.5
comp=Z,1.7nm,0.6s,baz=180,slow=20,SNR=3.9
MAW Mawson 76.08 201 P **P** 15 22 53.5 +0.4
MAW Mawson 76.08 201 P **P** 15 22 53.5 +0.4
comp=Z,19nm,0.6s,baz=125,slow=7.1,SNR=54
MAW Mawson 76.08 201 P **P** 15 22 53.6 +0.5
baz=76,SNR=30
KSRS Korea Array 78.16 321 P **P** 15 23 03.4 -1.3
comp=Z,1.0nm,0.8s,baz=127,slow=5.8,SNR=4.7
KSAR Wonju Array Be 78.17 321 P **P** 15 23 03.4 -1.4
QIZ Qiongzhong 79.70 297 P **P** 15 23 13.5 +0.2
PETK Petropavlovsk- 79.90 348 P **P** 15 23 13.7 +0.1
PETK *PP **pP** 15 25 20.6 +1.0
PETK Petropavlovsk- 79.90 348 P **P** 15 23 13.7 +0.1
PETK pP **pP** 15 25 20.6 +1.0
PETK Petropavlovsk- 79.90 348 P **P** 15 23 13.7 +0.1
comp=Z,1.3nm,0.6s,baz=109,slow=8.0,SNR=3.9
PETK pP **pP** 15 25 20.6 +1.0
comp=Z,1.8nm,0.8s,baz=142,slow=7.3,SNR=2.4
NJ2 Nanjing 80.26 312 *e*P **P** 15 23 18.3 +2.4
NJ2 pmax pmax
comp=Z,11nm,0.5s
SYO Syowa Base 81.49 194‖ *e*P **P** 15 23 19.6 -2.0
SYO Syowa Base 81.49 194‖ *e*PcP **PcP** 15 23 25.0 -0.7
MDJ Mudanjiang 82.39 327 P **P** 15 23 27.8 +1.3
MDJ pmax pmax
comp=Z,39nm,3.4s
PANO Nakornpanom 83.08 292 P **P** 15 23 31.2 +0.6
comp=Z,19nm,0.8s
SNAA Sanae 83.50 180 *e*P **P** 15 23 31.0 -0.9
comp=Z,24nm,0.7s
SKNT Sakolnakorn 83.53 292 P **P** 15 23 33.5 +0.7
comp=Z,32nm,0.8s
CN2 Changchun 83.92 325 *e*P **P** 15 23 35.0 +0.9
CN2 *e*S **S** 15 33 09.5 +0.7
CN2 pmax pmax
comp=Z,200nm,4.0s
MAIT Maitri 83.93 184 *e*P **P** 15 23 30.9 -3.0
ISA Isabella 84.99 47 *e*P **P** 15 23 40.7 +1.0
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella 84.99 47 *e*P **P** 15 23 40.7 +1.0
comp=Z,6.0nm,1.0s
PBKT Sadao Pong 85.88 290 P **P** 15 23 45.8 +1.6
comp=Z,12nm,0.8s
GYA Guiyang 86.00 301⇑ *i*P **P** 15 23 45.0 +0.2
GYA pP **pP** 15 25 53.8 +0.5
GYA sP **sP** 15 26 54.0 +0.5
GYA PP **PP** 15 27 18.3 +1.6
GYA SKS **SKSac** 15 33 13.0 -1.3
GYA S **S** 15 33 29.3 -0.5
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
NVAR Mina Array Bea 86.71 45 P **P** 15 23 49.0 +1.1
NVAR pP **pP** 15 25 56.2 -0.6
NVAR Mina Array Bea 86.71 45 P **P** 15 23 49.0 +1.1
comp=Z,2.0nm,0.7s,baz=222,slow=8.3,SNR=24
NVAR pP **pP** 15 25 56.2 -0.6
comp=Z,1.1nm,0.9s,baz=230,slow=7.0,SNR=4.8
UTHA Uthaitani 86.73 289 P **P** 15 23 49.7 +1.5
comp=Z,4.9nm,1.1s,comp=Z,66nm
KMI Kunming 88.43 299 P **P** 15 23 55.5 -0.8
CMAR Chiang Mai Arr 88.46 291 P **P** 15 23 57.5 +1.2
CMAR PP **PP** 15 27 34.6 -1.5
CMAR Chiang Mai Arr 88.46 291 P **P** 15 23 57.5 +1.2
comp=Z,3.6nm,0.9s,baz=140,slow=3.8,SNR=23
CMAR PP **PP** 15 27 34.6 -1.5
comp=Z,0.7nm,0.7s,baz=148,slow=5.3,SNR=3.5
CHTO Chiang Mai 88.62 291 *e*P **P** 15 23 58.4 +1.3
CHTO pmax pmax
comp=Z,2.0nm,0.6s
CHTO Chiang Mai 88.62 291 *e*P **P** 15 23 58.4 +1.3
comp=Z,1.7nm,0.6s
CHTO Chiang Mai 88.62 291 P **P** 15 23 58.6 +1.5
comp=Z,9.9nm,0.9s
HHC Hu-ho-hao-te 90.15 316 *e*P **P** 15 24 03.8 0.0
HHC pP **pP** 15 26 14.5 +0.8
HHC sP **sP** 15 27 13.3 -0.1
HHC PP **PP** 15 27 51.5 +2.4
HHC SKS **SKSac** 15 33 37.5 -0.5
HHC S **S** 15 34 05.5 -1.8
HHC sS **sS** 15 37 57.3 -2.0
HHC SS **SS** 15 40 29.3 +3.2
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.1s
CD2 Chengdu 90.42 304 P **P** 15 24 04.5 -0.7
CD2 pP **pP** 15 26 16.0 +0.9
CD2 sP **sP** 15 27 15.3 +0.5
CD2 PP **PP** 15 27 53.8 +2.5
CD2 SKS **SKSac** 15 33 38.8 -1.0
CD2 S **S** 15 34 08.3 -1.6
CD2 SS **SS** 15 40 33.5 +3.4
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,120nm,6.2s
TXAR Lajitas Array 92.40 59 P **P** 15 24 15.8 +1.3
TXAR pP **pP** 15 26 25.2 +0.7
TXAR Lajitas Array 92.40 59 P **P** 15 24 15.8 +1.3
comp=Z,1.8nm,0.8s,baz=217,slow=5.6,SNR=18
TXAR pP **pP** 15 26 25.2 +0.7
comp=Z,0.3nm,0.3s,baz=205,slow=4.0,SNR=4.9
LZH Lanzhou 92.86 309 *e*P **P** 15 24 17.3 +0.8
LZH pP **pP** 15 26 26.8 +0.2
LZH sP **sP** 15 27 25.8 -0.4
LZH SKS **SKSac** 15 33 55.0 +1.7
LZH S **S** 15 34 30.5 -0.9
LZH sS **sS** 15 38 23.0 -2.2
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,63nm,4.8s
ILAR Eielson Array 93.56 14 P P 15 24 27.3 +8.6
ILAR pP pP 15 26 31.9 +2.9
ILAR Eielson Array 93.56 14 P P 15 24 27.3 +8.6
comp=Z,0.8nm,1.0s,baz=229,slow=5.6,SNR=3.7
ILAR pP pP 15 26 31.9 +2.9
comp=Z,4.2nm,0.9s,baz=230,slow=5.8,SNR=17
PDAR Pinedale Array 94.64 45 P **P** 15 24 24.8 +0.3
PDAR pP **pP** 15 26 33.3 -1.6
PDAR Pinedale Array 94.64 45 P **P** 15 24 24.8 +0.3
comp=Z,0.7nm,0.3s,baz=243,slow=4.0,SNR=2.7
PDAR pP **pP** 15 26 33.3 -1.6
comp=Z,1.1nm,0.9s,baz=211,slow=3.2,SNR=3.3
MKAR Makanchi Array 111.79 313 PKiKP **PKiKP** 15 29 32.9 -1.0
MKAR Makanchi Array 111.79 313 PKiKP **PKiKP** 15 29 32.9 -1.0
comp=Z,0.7nm,0.7s,baz=114,slow=0.6,SNR=6.5
ZALV Zalesovo Beam 111.86 321 PKiKP **PKiKP** 15 29 31.1 -2.5
ZALV Zalesovo Beam 111.86 321 PKiKP **PKiKP** 15 29 31.2 -2.5
comp=Z,0.8nm,0.4s,baz=91,slow=1.3,SNR=5.9
OPO Ambohidratompo115.57 232 PKP **PKPdf** 15 29 40.5 -1.7
OPO Ambohidratompo115.57 232 PKP **PKPdf** 15 29 40.5 -1.7
comp=Z,2.1nm,0.6s,baz=117,slow=4.5,SNR=3.5
SUR Sutherland 118.94 202 PKP **PKPdf** 15 29 48.6 +0.2
SUR Sutherland 118.94 202 PKP **PKPdf** 15 29 48.6 +0.2
comp=Z,6.9nm,0.6s,baz=284,slow=22,SNR=5.1
BVAR Borovoye Array 120.28 318 PKIKP **PKPdf** 15 29 49.4 -0.5
BVAR Borovoye Array 120.28 318 PKP **PKPdf** 15 29 49.4 -0.5
BVAR Borovoye Array 120.28 318 PKP **PKPdf** 15 29 49.4 -0.5
comp=Z,3.9nm,0.5s,baz=109,slow=3.6,SNR=16
BOSA Boshof 120.63 208 PKP **PKPdf** 15 29 51.7 0.0
BOSA Boshof 120.63 208 PKP **PKPdf** 15 29 51.7 0.0
comp=Z,2.7nm,0.5s,baz=318,slow=4.1,SNR=5.6
LBTB Lobatse 123.61 210 PKP **PKPdf** 15 29 56.8 -0.7
LBTB Lobatse 123.61 210 PKP **PKPdf** 15 29 56.8 -0.7
comp=Z,2.5nm,0.6s,baz=143,slow=21,SNR=4.5
ARU Arti 126.89 323 *i* PKIKP **PKPdf** 15 30 02.5 0.0
ARU 15 32 07.1
ABKAR Akbulak array 126.90 314 *e*PKPdf **PKPdf** 15 30 02.4 -0.4
LSZ Lusaka 130.39 219 PKP **PKPdf** 15 30 11.3 +0.7
LSZ SKPbc **SKPbc** 15 32 38.1 -0.8
LSZ Lusaka 130.39 219 PKP **PKPdf** 15 30 11.3 +0.7
comp=Z,2.3nm,0.5s,baz=57,slow=5.6,SNR=7.0
LSZ SKPbc **SKPbc** 15 32 38.1 -0.8
comp=Z,1.5nm,0.6s,baz=52,slow=6.8,SNR=5.1
TSUM Tsumeb 132.13 205 PKP **PKPdf** 15 30 13.6 -0.2
TSUM SKPbc **SKPbc** 15 32 43.9 -1.0
TSUM Tsumeb 132.13 205 PKP **PKPdf** 15 30 13.6 -0.2
comp=Z,3.1nm,0.7s,baz=236,slow=23,SNR=6.3
TSUM SKPbc **SKPbc** 15 32 43.8 -1.0
comp=Z,2.6nm,0.8s,baz=131,slow=3.9,SNR=3.9
ARCES ARCESS Array B 132.71 347 PKPpre PKPpre 15 30 09.8
ARCES SKPab **SKPbc** 15 32 46.0 +0.9
ARCES ARCESS Array B 132.71 347 PKhKP PKPpre 15 30 09.8
comp=Z,3.0nm,0.9s,baz=48,slow=1.8,SNR=6.4
ARCES SKPab **SKPbc** 15 32 46.0 +0.9
comp=Z,4.7nm,0.8s,baz=46,slow=5.2,SNR=6.6
KMBO Kilima Mbogo 134.14 241 PKP **PKPdf** 15 30 18.9 +1.1
KMBO SKP 15 32 53.5
KMBO Kilima Mbogo 134.14 241 PKP **PKPdf** 15 30 18.9 +1.1
comp=Z,1.5nm,0.4s,baz=63,slow=2.3,SNR=4.5
KMBO SKP 15 32 53.5
comp=Z,5.5nm,0.9s,baz=61,slow=5.8,SNR=7.1
JOF Joensuu 136.28 339 *e*PKIKP **PKPdf** 15 30 20.4 +0.4
JOF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 138.46 341 *e*PKHKP PKPpre 15 30 12.4
FINES FINESS Array B 139.04 340 PKPpre PKPpre 15 30 16.4
FINES PKP **PKPdf** 15 30 26.0 +1.0
FINES SKPbc **SKPbc** 15 33 05.3 +1.0
FINES FINESS Array B 139.04 340 PKhKP PKPpre 15 30 16.4
comp=Z,0.8nm,0.5s,baz=45,slow=4.3,SNR=8.3
FINES PKP **PKPdf** 15 30 26.0 +1.0
comp=Z,1.2nm,0.4s,baz=76,slow=2.5,SNR=7.4
FINES SKPbc **SKPbc** 15 33 05.3 +1.0
comp=Z,3.8nm,0.8s,baz=42,slow=4.3,SNR=7.0
NB2 NORSAR Subarra142.98 350 PKP **PKPdf** 15 30 29.7 -2.5
comp=Z,6.0nm,0.7s,baz=17,slow=3.1
NOA NORSAR Array B142.98 350 PKP **PKPdf** 15 30 29.9 -2.3
NOA SKPbc **SKPbc** 15 33 14.1 -0.3
NOA NORSAR Array B142.98 350 PKP **PKPdf** 15 30 29.9 -2.3
comp=Z,6.0nm,0.7s,baz=16,slow=4.9,SNR=24
NOA SKPbc **SKPbc** 15 33 14.1 -0.3
comp=Z,0.5nm,0.7s,baz=14,slow=4.2,SNR=3.2
HFS Hagfors 143.37 347 PKP PKPab 15 30 31.0 -0.4
HFS Hagfors 143.37 347 PKP PKPab 15 30 31.0 -0.4
comp=Z,13nm,0.4s,baz=72,slow=4.8,SNR=96
MALT Malatya 143.65 301⇑ PKIKP **PKPdf** 15 30 34.1 -0.1
MALT Malatya 143.65 301⇑ *i*P **PKPdf** 15 30 34.1 -0.1
SIM Simferopol' 144.96 314 *e*PKIKP PKPbc 15 30 37.0 0.0
SIM pmax pmax
comp=Z,20nm,0.8s
AKASG Malin Array Be 145.07 325 PKIKP **PKPdf** 15 30 36.4 +0.3
AKASG Malin Array Be 145.07 325 PKP **PKPdf** 15 30 36.4 +0.3
AKASG Malin Array Be 145.07 325 PKP **PKPdf** 15 30 36.4 +0.3
comp=Z,4.2nm,0.6s,baz=43,slow=4.1,SNR=15
KIEV Kiev 145.09 325 *e*PKIKP **PKPdf** 15 30 36.1 0.0
KIEV Kiev 145.09 325 *e*PKPbc **PKPdf** 15 30 36.1 0.0
DRWC Darouich 145.30 299 *e*P **PKPab** 15 30 42.8 +3.0
ASF Jabal al Asfar 145.50 291 PKPbc **PKPbc** 15 30 39.6 +0.6
ASF Jabal al Asfar 145.50 291 PKPbc **PKPbc** 15 30 39.6 +0.6
comp=Z,7.7nm,0.7s,baz=84,slow=3.4,SNR=15
BTCH Batrach 145.54 298 *e*P **PKPbc** 15 30 39.1 +0.1
MARH Ras Al Marh 145.74 294 *e*P **PKPbc** 15 30 40.6 +0.6
HAWK Haweek 145.76 295 *e*P **PKPbc** 15 30 39.9 +0.2
BIDA Albida 145.78 296 *e*P **PKPdf** 15 30 37.9 0.0
ARNB Al Arnab 145.96 297 *e*P **PKPbc** 15 30 40.2 0.0
BRBR Barbar 146.23 293 *e*P **PKPbc** 15 30 41.5 +0.3
BRTR Keskin Array B 146.99 305 PKP **PKPdf** 15 30 38.4 -1.5
BRTR PKPbc **PKPbc** 15 30 42.2 -0.8
BRTR Keskin Array B 146.99 305 PKP **PKPdf** 15 30 38.4 -1.5
comp=Z,2.9nm,0.8s,baz=11,slow=1.5,SNR=4.8
BRTR PKPbc **PKPbc** 15 30 42.2 -0.8
comp=Z,3.2nm,0.6s,baz=135,slow=4.3,SNR=13
EIL Elat 147.19 286 PKPbc **PKPbc** 15 30 42.4 -1.2
EIL Elat 147.19 286 PKPbc **PKPbc** 15 30 42.4 -1.2
comp=Z,16nm,0.9s,baz=20,slow=3.6,SNR=10.0
CSS Prodhromos 148.22 296 *e*PKPbc **PKPbc** 15 30 45.9 -0.2
CFR Carcaliu 148.67 317⇑ PKP2 **PKPbc** 15 30 47.4 +0.6
CFR Carcaliu 148.67 317⇑ *i*P **PKPbc** 15 30 47.4 +0.6
BURAR Bucovina Array 149.02 323⇑ *i*P **PKPbc** 15 30 48.5 +0.7
VRI Vrincioaia 149.16 319⇑ *i*P **PKPbc** 15 30 47.3 -0.7
PLOR Plostina 149.22 320‖ *i*P **PKPbc** 15 30 48.2 0.0
KOLS Kolonicke sedl 149.68 328 *e*PKP **PKPbc** 15 30 50.6 +1.4
EKA Eskdalemuir Ar 149.77 2 PKPbc **PKPbc** 15 30 48.5 -0.6
EKA Eskdalemuir Ar 149.77 2 PKPbc **PKPbc** 15 30 48.5 -0.6
comp=Z,0.6nm,0.3s,baz=349,slow=2.7,SNR=7.7
STHS Stebnicka Huta 149.83 330 *e*PKP **PKPbc** 15 30 49.2 -0.3
MLR Muntele Rosu 149.83 319‖ *i*P **PKPbc** 15 30 50.0 +0.2
OJC Ojcow 149.88 332 *e*PKHKP **PKPbc** 15 30 49.8 +0.2
CRVS Cervenica-Dubn 150.09 329 *e*PKP **PKPbc** 15 30 50.6 +0.5
VOIR 150.38 320⇑ PKIKP **PKPbc** 15 30 51.0 0.0
VOIR 150.38 320⇑ *i*P **PKPbc** 15 30 51.0 0.0
ARR Arges 150.66 320⇑ *i*P **PKPbc** 15 30 52.8 +1.2
KSP Ksiaz 150.78 336 *e*PKIKP **PKPbc** 15 30 52.2 +0.6
KSP Ksiaz 150.78 336 *e*PKP **PKPbc** 15 30 52.2 +0.6
KECS Kecovo 150.84 329 *e*PKIKP **PKPbc** 15 30 53.2 +1.4
KECS *e* 15 31 02.5

KECS	**Kecovo**	**150.84 329**	*e*PKP	**PKPbc**	**15 30 53.2**	**+1.4**
KECS			*e*		15 31 02.5	
OKC	**Ostrava-Krasne**	**150.86 333**	*e*PKIKP	**PKPbc**	**15 30 52.1**	**+0.3**
OKC	**Ostrava-Krasne**	**150.86 333⇑**	*e*PKP	**PKPbc**	**15 30 52.1**	**+0.3**
DRGR		**150.87 324**	⇑PKIKP	**PKPbc**	**15 30 53.6**	**+1.5**
DRGR		**150.87 324⇑**	*i*P	**PKPbc**	**15 30 53.6**	**+1.5**
UPC	**Upice**	**151.16 336**	*e*PKIKP	**PKPbc**	**15 30 52.9**	**+0.4**
UPC	**Upice**	**151.16 336⇑**	*e*PKP	**PKPbc**	**15 30 52.9**	**+0.4**
UPC			*ex*	x	15 33 18.6	
DPC	**Dobruska-Polom**	**151.17 336**	*i*PKIKP	**PKPbc**	**15 30 53.2**	**+0.6**
DPC			*e*		15 31 05.6	
DPC	**Dobruska-Polom**	**151.17 336⇑**	*i*PKP	**PKPbc**	**15 30 53.2**	**+0.6**
DPC			*e*PKPAB	**PKPab**	**15 31 05.6**	**+2.3**
DPC			*e*pPKP	pPKPdf	15 33 15.3	+10
CLL	**Collm**	**151.49 340**	*i*PKIKP	**PKPbc**	**15 30 53.3**	**+0.1**
CLL			*e*		15 31 03.0	
CLL			*e*		15 33 10.0	
CLL			pmax	pmax		
	comp=Z,11nm,0.8s					
CLL			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CLL	**Collm**	**151.49 340**	*i*PKPbc	**PKPbc**	**15 30 53.3**	**+0.1**
	comp=Z,11nm,0.8s					
CLL			*i*		15 30 56.5	
CLL			*e*PKPab	**PKPab**	**15 31 01.0**	**-3.5**
	comp=Z,4.0nm,0.9s					
CLL			*ep*PKPbc	**pPKPbc**	**15 33 10.0**	**-1.2**
CLL			*ep*PKPab	**pPKPab**	**15 33 16.0**	**-0.7**
CLL			*e*SKPdf	**SKPdf**	**15 33 22.0**	**-1.5**
BRG	**Berggiesshubel**	**151.57 339**	*i*PKP	**PKPbc**	**15 30 53.8**	**+0.4**
	comp=Z,8.9nm,0.5s					
BRG			*i*		15 30 57.1	
	comp=Z,3.8nm,0.6s					
BRG	**Berggiesshubel**	**151.57 339**	*i*PKIKP	**PKPbc**	**15 30 53.8**	**+0.4**
BRG			pmax	pmax		
	comp=Z,9.0nm,0.5s					
VYHS	**Vyhne**	**151.59 331**	*e*PKIKP	**PKPdf**	**15 30 47.6**	**+0.9**
VYHS			*e*		15 30 53.8	
VYHS	**Vyhne**	**151.59 331**	*e*PKP	**PKPdf**	**15 30 47.6**	**+0.9**
VYHS			*e*		15 30 53.8	
PVCC	**Panska Ves**	**151.65 338**	*e*PKIKP	**PKPbc**	**15 30 53.9**	**+0.3**
PVCC	**Panska Ves**	**151.65 338⇑**	*e*PKP	**PKPbc**	**15 30 53.9**	**+0.3**
GZR	**Gura Zlata**	**151.71 322**	⇑PKIKP	**PKPbc**	**15 30 53.3**	**-0.7**
GZR	**Gura Zlata**	**151.71 322⇑**	*i*P	**PKPbc**	**15 30 53.3**	**-0.7**
PRA	**Prague**	**152.08 337**	⇑PKP	**PKPbc**	**15 30 55.0**	**+0.5**
PRA			pPKP	pPKPdf	15 33 19.0	+12
PRU	**Pruhonice**	**152.12 337**	*e*PKIKP	**PKPbc**	**15 30 54.7**	**+0.1**
PRU	**Pruhonice**	**152.12 337⇑**	*e*PKP	**PKPbc**	**15 30 54.7**	**+0.1**
PRU			*ep*PKP	pPKPdf	15 33 18.4	+12
KHC	**Kasperske Hory**	**153.18 337**	*e*PKIKP	**PKPdf**	**15 30 48.9**	**-0.1**
KHC			*e*		15 30 57.1	
KHC			*e*		15 31 11.5	
KHC	**Kasperske Hory**	**153.18 337**	*e*PKPDF	**PKPdf**	**15 30 48.9**	**-0.1**
KHC			⇑*e*PKP	**PKiKP**	**15 30 57.1**	**0.0**
KHC			*ex*	x	15 31 00.1	
KHC			*e*PKPAB	**PKPab**	**15 31 11.5**	**-0.4**
KHC			*ep*PKP	pPKPdf	15 33 20.8	+12
CSNA	**Conrad Observa**	**153.30 333⇑**	*i*PKiKP	**PKiKP**	**15 30 57.6**	**+0.2**
	comp=Z,6.7nm,0.9s					
GERES	**GERESS Array B**	**153.37 337**	PKPbc	**PKPbc**	**15 30 56.8**	**-0.7**
GERES	**GERESS Array B**	**153.37 337**	PKPbc	**PKPbc**	**15 30 56.8**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=0.0,slow=2.9,SNR=5.5					
DBIC	**Dimbokro**	**161.44 170**	PKPab	**PKPab**	**15 31 48.4**	**-0.1**
DBIC	**Dimbokro**	**161.44 170**	PKPab	**PKPab**	**15 31 48.4**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=130,slow=9.4,SNR=3.8					
TORD	**Torodi Ar. Bea**	**167.69 196**	PKP	**PKPdf**	**15 31 04.7**	**-0.7**
TORD			PKPab	**PKPab**	**15 32 15.9**	**0.0**
TORD			PP	**PP**	**15 36 02.0**	**-2.6**
TORD	**Torodi Ar. Bea**	**167.69 196**	PKP	**PKPdf**	**15 31 04.7**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=10,slow=1.1,SNR=8.5					
TORD			PKPab	**PKPab**	**15 32 15.9**	**0.0**
	comp=Z,9.3nm,0.7s,baz=166,slow=4.5,SNR=53					
TORD			PP	**PP**	**15 36 02.0**	**-2.6**
	comp=Z,2.1nm,0.9s,baz=155,slow=4.3,SNR=6.1					

*CSEM **26** 15:14:16.7, 42°.59N×13°.19E, h11^{km}, MD2.0/11, After ROM*

ROM 26 15:14:16.7±0.1, 42°.59N×13°.19E, h11^{km}, Md2.0/11, Ml1.6/7, Error ellipse: s-maj=1.0km s-min=0.8km az=33.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.11**	**278**	Pg	Pg	15 14 20.0	+0.3
LNSS				Sg	Sg	15 14 22.1	+0.3
	451nm,0.1s						
LNSS	**Leonessa**	**0.11**	**278**	Pg	Pg	15 14 20.0	+0.3
LNSS				Sg	Sg	15 14 22.1	+0.3
	451nm,0.1s						
CAMP	**Campotosto**	**0.17**	**107**	Pg	Pg	15 14 21.1	+0.4
CAMP				Sg	Sg	15 14 24.2	+0.8
	90nm,0.5s						
CAMP	**Campotosto**	**0.17**	**107**	Pg	Pg	15 14 21.1	+0.4
CAMP				Sg	Sg	15 14 24.2	+0.8
	90nm,0.5s						
NRCA	**Norcia**	**0.25**	**348**	Pg	Pg	15 14 22.4	+0.3
NRCA				Sg	Sg	15 14 26.5	+0.9
	144nm,0.2s						
NRCA	**Norcia**	**0.25**	**348**	Pg	Pg	15 14 22.4	+0.3
NRCA				Sg	Sg	15 14 26.5	+0.9
	144nm,0.2s						
TERO	**Teramo**	**0.31**	**83**	Pg	Pg	15 14 23.3	+0.3
TERO				Sg	Sg	15 14 28.1	+0.8
	49nm,0.3s						
TERO	**Teramo**	**0.31**	**83**	Pg	Pg	15 14 23.3	+0.3
TERO				Sg	Sg	15 14 28.1	+0.8
	49nm,0.3s						
FIAM	**Fiamignano**	**0.32**	**189**	Pg	Pg	15 14 23.6	+0.3
FIAM				Sg	Sg	15 14 28.6	+0.8
	56nm,0.3s						
FIAM	**Fiamignano**	**0.32**	**189**	Pg	Pg	15 14 23.6	+0.3
FIAM				Sg	Sg	15 14 28.6	+0.8
	56nm,0.3s						
MNS	**Montasola**	**0.43**	**242**	Pg	Pg	15 14 25.5	+0.3
MNS				Sg	Sb	15 14 31.9	-0.9
	39nm,0.3s						
MNS	**Montasola**	**0.43**	**242**	Pg	Pg	15 14 25.5	+0.3
MNS				Sg	Sb	15 14 31.9	-0.9
	39nm,0.3s						
CESX	**Cesi**	**0.45**	**273**	Pg	Pb	15 14 26.6	-0.1
CESX				Sg	Sb	15 14 32.6	-0.9
CESX	**Cesi**	**0.45**	**273**	Pg	Pb	15 14 26.6	-0.1
CESX				Sg	Sb	15 14 32.6	-0.9
CESI	**CESI - Serrava**	**0.47**	**334**	Pg	Pg	15 14 26.2	+0.2
CESI				Sg	Sb	15 14 33.5	-0.6
	9.0nm,0.1s						
CESI	**CESI - Serrava**	**0.47**	**334**	Pg	Pg	15 14 26.2	+0.2
CESI				Sg	Sb	15 14 33.5	-0.6
	9.0nm,0.1s						

*ISCJB **26** 15:17:23.8±0.9, 23°.76N±0°.02×122°.50E±0°.02, h14^{km}±6^{km}, Error ellipse: s-maj=4.1km s-min=2.7km az=154.2*
*TAP **26** 15:17:24.2, 23°.80N×122°.41E, h10^{km}±1^{km}, ML3.0, D*
*JMA **26** 15:17:26.0±0.5, 23°.91N×122°.53E, h23^{km}, M2.3*

ISC 26 15:17:23.6±1.7, 23°.79N±0°.03×122°.48E±0°.02, h13^{km}±13^{km}, n41, σ0^{s}.89/70, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.82**	**36**	P	**Pb**	**15 17 39.4**	**-0.4**
YOJ				S	**Sb**	**15 17 48.7**	**-2.1**
TWD	**Chiawan**	**0.86**	**290**	*e*P	**Pb**	**15 17 40.0**	**-0.4**
	baz=290						
TWD				S	**Sb**	**15 17 51.6**	**-0.3**
	baz=290						
ENA	**Nanau**	**0.93**	**313**	P	**Pb**	**15 17 41.6**	**+0.1**
	baz=315						
ENA				*e*S	**Sg**	**15 17 53.9**	**+0.2**
	baz=315						
ESL	**Shilin**	**0.96**	**272**	*e*P	**Pb**	**15 17 41.4**	**-0.7**
	baz=270						
ESL				*e*S	**Sb**	**15 17 53.8**	**-1.0**
	baz=270						
TWC	**Suao**	**1.00**	**325**	P	**Pb**	**15 17 42.4**	**-0.4**
	baz=327						
TWC				S	**Sn**	**15 17 56.4**	**-0.9**
	baz=327						
EHY	**Hungye**	**1.10**	**255**	*e*P	**Pb**	**15 17 44.3**	**-0.2**
	baz=253						
EHY				*e*S	**Sb**	**15 17 58.4**	**-0.4**
	baz=253						
TWF1	**Yuli**	**1.17**	**248**	P	**Pn**	**15 17 45.6**	**-0.1**
	baz=246						
TWF1				S	**Sb**	**15 18 01.3**	**+0.5**
	baz=246						
TWE	**Neicheng**	**1.19**	**321**	P	**Pn**	**15 17 45.9**	**0.0**
	baz=323						
TWE				*e*S	**Sg**	**15 18 02.0**	**0.0**
	baz=323						
ENTT	**Nioudou**	**1.19**	**316**	*e*P	**Pn**	**15 17 46.0**	**+0.1**
	baz=317						
ENTT				*e*S	**Sg**	**15 18 02.2**	**+0.1**
	baz=317						
NNS	**Nan Shan**	**1.20**	**303**	*e*P	**Pn**	**15 17 46.0**	**-0.3**
	baz=303						
CHKT	**Chengkung**	**1.23**	**236**	*e*P	**Pn**	**15 17 46.1**	**-0.4**
	baz=233						
CHKT				*e*S	**Sb**	**15 18 00.8**	**-1.9**
	baz=233						
HATJ	**Hateruma jima**	**1.24**	**77**	*e*S	**Sb**	**15 18 01.8**	**-0.9**
IRIF	**Iriomote-Funau**	**1.26**	**64**	P	**Pn**	**15 17 47.3**	**+0.4**
IRIF				S	**Sb**	**15 18 03.0**	**-0.4**
TWB1	**Santiao Chiao**	**1.29**	**340**	*e*P	**Pn**	**15 17 47.5**	**+0.2**
	baz=342						
TWB1				*e*S	**Sg**	**15 18 05.6**	**+0.2**
	baz=342						
NSK	**Sanguang**	**1.35**	**311**	*e*P	**Pn**	**15 17 47.9**	**-0.4**
	baz=312						
NSK				*e*S	**Sn**	**15 18 05.8**	**-0.3**
	baz=312						
NWF	**Wu-fen Shan**	**1.43**	**334**	*e*P	**Pb**	**15 17 50.4**	**+0.3**
	baz=335						
YUS	**Yu-Shan**	**1.44**	**258**	*e*P	**Pn**	**15 17 49.9**	**+0.2**
	baz=256						
YUS				S	**Sn**	**15 18 07.7**	**-1.1**
	baz=256						
TWA	**Mucha**	**1.44**	**326**	*e*P	**Pn**	**15 17 50.1**	**+0.7**
	baz=327						
SMLT	**Sun Moon Lake**	**1.45**	**274**	*e*P	**Pn**	**15 17 50.1**	**+0.5**
	baz=273						
SMLT				*e*S	**Sn**	**15 18 08.1**	**-0.5**
	baz=273						
JKRS	**Kuro-shima**	**1.47**	**72**	P	**Pn**	**15 17 50.1**	**+0.4**
ELDTW	**Lidau**	**1.47**	**246**	*e*P	**Pn**	**15 17 49.2**	**-0.7**
	baz=244						
ELDTW				*e*S	**Sn**	**15 18 08.0**	**-1.2**
	baz=244						
TYC	**Yuchr**	**1.49**	**275**	*e*P	**Pn**	**15 17 51.4**	**+1.3**
	baz=274						
ALS	**Alishan**	**1.56**	**260**	*e*P	**Pn**	**15 17 51.9**	**+0.6**
	baz=258						
ALS				*e*S	**Sn**	**15 18 11.4**	**-0.3**
	baz=258						
NSTT	**Nanjuang**	**1.59**	**302**	*e*P	**Pn**	**15 17 52.2**	**+0.8**
	baz=302						
NSTT				*e*S	**Sb**	**15 18 12.5**	**-0.4**
	baz=302						
TTN	**Taitung**	**1.60**	**230**	*e*P	**Pn**	**15 17 51.6**	**0.0**
	baz=227						
TTN				*e*S	**Sn**	**15 18 12.7**	**+0.5**
	baz=227						
TWG	**Pinlang**	**1.62**	**234**	*e*P	**Pn**	**15 17 51.5**	**-0.3**
	baz=231						
TWG				*e*S	**Sn**	**15 18 11.6**	**-0.9**
	baz=231						
JIJ	**Ishigaki jima**	**1.62**	**69**	P	**Pn**	**15 17 51.6**	**-0.3**
JIJ				*e*S	**Sn**	**15 18 12.4**	**-0.2**
WNT	**Mingjian**	**1.65**	**273**	*e*P	**Pn**	**15 17 52.6**	**+0.3**
	baz=272						
TWQ1	**Liyutan**	**1.66**	**290**	*e*P	**Pn**	**15 17 53.4**	**+1.0**
	baz=290						
TWQ1				*e*S	**Sb**	**15 18 14.8**	**0.0**
	baz=290						
CHN5	**Tsauling**	**1.67**	**264**	*e*P	**Pn**	**15 17 53.2**	**+0.6**
	baz=262						
CHN5				*e*S	**Sn**	**15 18 14.6**	**+0.8**
	baz=262						
TCU	**Taichung**	**1.69**	**283**	*e*P	**Pb**	**15 17 54.5**	**0.0**
	baz=282						
WGK	**Gukeng**	**1.76**	**267**	*e*P	**Pn**	**15 17 55.0**	**+1.1**
	baz=266						
SGST	**Jiashian**	**1.88**	**248**	*e*P	**Pn**	**15 17 55.8**	**+0.4**
	baz=246						
SGST				*e*S	**Sn**	**15 18 20.9**	**+1.8**
	baz=246						
CHN1	**Nanshi**	**1.89**	**252**	*e*P	**Pn**	**15 17 57.1**	**+1.5**
	baz=250						
CHN1				*e*S	**Sn**	**15 18 21.6**	**+2.2**
	baz=250						
LAY	**Lan-yu**	**1.94**	**206**	*e*P	**Pn**	**15 17 55.1**	**-1.2**
	baz=204						
WTCT	**Ta-ch'eng**	**2.02**	**273**	*e*P	**Pn**	**15 17 58.2**	**+0.9**
	baz=271						
WTCT				*e*S	**Sn**	**15 18 22.9**	**+0.5**
	baz=271						
TWM1	**Shoushan**	**2.12**	**243**	*e*P	**Pn**	**15 17 59.0**	**+0.1**
	baz=241						
JTJ	**Tarama**	**2.20**	**67**	P	**Pn**	**15 18 02.2**	**+2.4**
JTJ				*e*S	**Sn**	**15 18 27.8**	**+1.0**
SCZT	**Fangliau**	**2.22**	**231**	*e*P	**Pn**	**15 18 02.4**	**+2.3**
	baz=229						
TWK1	**Hengchun**	**2.40**	**220**	*e*P	**Pn**	**15 18 03.2**	**+0.6**
	baz=218						
TWK1				*e*S	**Sn**	**15 18 33.0**	**+1.1**
	baz=218						
PNG	**Penghu**	**2.69**	**266**	*e*P	**Pn**	**15 18 07.7**	**+1.1**
	baz=264						
PNG				*e*S	**Sn**	**15 18 38.7**	**-0.4**
	baz=264						

IDC 26 15:36:56.6±2.0, 37°.86S×92°.46W, h0^{km}, mb3.6/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.6/4, MS3.6/7, Ms1 3.6/7, ms1mx3.4/22, Error ellipse: s-maj=432.8km s-min=32.6km az=71.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**17.20**	**106**	LR	LR	15 46 12.8	
	comp=Z,229nm,19.9s,baz=103,slow=32						
USHA	**Ushuaia**	**23.54**	**144**	LR	LR	15 49 55.2	
	comp=Z,154nm,18.8s,baz=136,slow=33						
LPAZ	**La Paz**	**30.35**	**52**	LR	LR	15 52 59.7	
	comp=Z,48nm,21.1s,baz=65,slow=32						
ATAH	**Atahualpa**	**33.14**	**26**	LR	LR	15 53 56.3	
	comp=Z,62nm,19.2s,baz=7.5,slow=31						
BDFB	**Brasilia**	**44.92**	**73**	LR	LR	16 02 42.7	
	comp=Z,82nm,20.1s,baz=148,slow=34						
SNAA	**Sanae**	**54.45**	**157**	P	P	15 46 25.3	-0.1
	0.6nm,1.1s,baz=210,slow=9.0,SNR=3.5						
TXAR	**Lajitas Array**	**67.66**	**349**	P	P	15 47 55.6	0.0
	0.4nm,0.7s,baz=172,slow=6.9,SNR=5.0						
TXAR				LR	LR	16 12 58.2	
	comp=Z,36nm,18.7s,baz=5.0,slow=32						
URZ	**Urewera**	**68.15**	**238**	LR	LR	16 08 53.5	
	comp=Z,101nm,20.2s,baz=224,slow=28						
NVAR	**Mina Array Bea**	**79.56**	**340**	P	P	15 49 05.7	+0.2
	0.4nm,0.8s,baz=178,slow=7.2,SNR=4.4						
PDAR	**Pinedale Array**	**81.74**	**347**	P	P	15 49 16.9	-0.1
	0.6nm,0.7s,baz=154,slow=6.7,SNR=4.5						

NOU 26 15:48:45.5±2.4, 21°.37S×168°.26E, h0^{km}±999^{km}, MD2.9, ML4.1, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**1.75**	**239**	*e*P	Pn	15 49 15.6	-1.6
PLUM				*e*S	Sn	15 49 39.4	-0.8
DZM	**Mont Dzumac**	**1.83**	**247**	*e*P	Pn	15 49 15.5	-2.8
DZM				*e*S	Sn	15 49 40.0	-2.3
DZM				AMP		15 49 43.5	
	comp=Z,3μm,3.7s						
NORM	**Noumea**	**1.86**	**242**	*e*S	Sn	15 49 40.3	-2.5
MVNO	**Noumea**	**1.91**	**242**	*e*P	Pn	15 49 17.9	-1.4
MVNO				*e*S	Sn	15 49 41.6	-2.5
NOUC	**Port Laguerre**	**1.96**	**248**	*e*P	Pb	15 49 21.8	-0.3
NOUC				*e*S	Sn	15 49 45.6	+0.2
NOUC				AMP		15 49 52.7	
	comp=Z,182nm,5.6s						

*AUST **26** 16:02:35.4±4.3, 4°.19S×150°.64E, h46^{km}, Error ellipse: s-maj=4.6km s-min=1.8km az=256.0*
*ISCJB **26** 16:03:02.2±1.4, 5°.8S±0°.1×149°.3E±0°.1, h150^{km}, mb4.1/3, Error ellipse: s-maj=20.5km s-min=17.0km az=137.7*
*IDC **26** 16:03:03.9±5.8, 5°.94S×149°.40E, h147^{km}±42^{km}, mb3.7/4, mb1 3.9/5, mb1mx3.3/20, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=54.1km s-min=26.2km az=4.0*

ISC 26 16:03:03.8±1.6, 5°.9S±0°.1×149°.4E±0°.1, h150^{km}, n12, σ0^{s}.83/13, mb4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.11**	**213**	P	**Pn**	**16 04 05.2**	**-0.4**
	15nm,0.3s,baz=27,slow=4.9,SNR=40						
PMG				S	**Sn**	**16 04 53.9**	**+0.3**
	9.8nm,0.3s,baz=157,slow=20,SNR=6.6						
PMG				LR	LR	16 05 49.4	
	comp=Z,107nm,18.2s,baz=345,slow=40						
KDU	**Kakadu**	**18.00**	**247**	P	**P**	**16 07 02.4**	**-0.9**
	baz=20,SNR=26						
SWI	**Sorong**	**18.80**	**285**	S	**S**	**16 10 39.4**	**+1.3**
	baz=20,SNR=18						
MTN	**Manton Dam**	**19.29**	**248**	P	**P**	**16 07 16.5**	**-0.8**
	baz=21,SNR=22						
WRA	**Warramunga Arr**	**20.21**	**225**	P	**P**	**16 07 27.6**	**+0.3**
	2.4nm,0.4s,baz=51,slow=9.9,SNR=27						
KNRA	**Kununurra**	**22.45**	**243**	P	**P**	**16 07 49.3**	**-1.3**
	baz=24,SNR=22						
DZM	**Mont Dzumac**	**22.99**	**136**	P	**P**	**16 07 56.2**	**+0.5**
	5.0nm,0.9s,baz=52,slow=19,SNR=2.7						
ASAR	**Alice Springs**	**23.10**	**219**	P	**P**	**16 07 57.7**	**+1.0**
	1.5nm,0.6s,baz=55,slow=8.5,SNR=45						
FITZ	**Fitzroy Crossi**	**26.16**	**240**	P	**P**	**16 08 24.1**	**-0.4**
	8.0nm,0.4s,baz=69,slow=9.2,SNR=74						
FITZ	**Fitzroy Crossi**	**26.16**	**240**	P	**P**	**16 08 24.1**	**-0.4**
	baz=28,SNR=20						
MEEK	**Meekatharra**	**35.85**	**231**	P	**P**	**16 09 49.5**	**+0.1**
	baz=38,SNR=14						
TORD	**Torodi Ar. Bea**	**147.39**	**285**	PKPbc	**PKPbc**	**16 22 30.6**	**-0.4**
	1.1nm,1.3s,baz=80,slow=1.3,SNR=3.3						

*ISCJB **26** 16:12:55.5±0.7, 31°.08N±0°.06×141°.8E±0°.2, h37^{km}, mb3.4/3, Error ellipse: s-maj=20.1km s-min=5.6km az=159.6*
*JMA **26** 16:12:56.2±0.3, 31°.07N×141°.71E, h37^{km}, M3.7*
*IDC **26** 16:12:59.7±4.1, 30°.78N×141°.13E, h36^{km}±35^{km}, mb3.2/3, mb1 3.5/6, mb1mx3.3/27, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=75.2km s-min=18.2km az=67.0*

ISC 26 16:12:56.3±1.1, 31°.10N±0°.07×142°.0E±0°.2, h37^{km}, n17, σ1^{s}.72/19, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.71**	**317**	*e*S	**Sn**	**16 14 07.4**	**-1.5**
JHJ2	**Mitsune**	**2.73**	**318**	P	**Pn**	**16 13 37.6**	**0.0**
JHJ2				S	**Sn**	**16 14 07.5**	**-1.8**
BSO1	**Boso 1**	**3.65**	**347**	P	**Pn**	**16 13 50.9**	**+1.2**
BSO3	**Boso 3**	**3.90**	**342**	P	**Pn**	**16 13 54.9**	**+1.5**
CBIJ	**Chichi jima**	**3.99**	**178**	P	**Pn**	**16 13 56.8**	**+1.9**
CBIJ				*e*S	**Sn**	**16 14 38.4**	**-2.0**
CBIJ	**Chichi jima**	**3.99**	**178**	Pn	**Pn**	**16 13 56.6**	**+1.7**
	baz=342,slow=20						
CBIJ				Sn	**Sn**	**16 14 37.9**	**-2.5**
	8.8nm,0.3s,baz=287,slow=21,SNR=7.1						
JOD2	**Odawara 2**	**4.82**	**330**	P	Pn	16 14 08.9	+2.6
JHU	**Hanno**	**5.26**	**335**	P	Pn	16 14 14.3	+2.0
JHU				S	**Sn**	**16 15 09.4**	**-2.2**
JRY	**Ryogami san**	**5.54**	**333**	P	Pn	16 14 18.7	+2.4
JRY				S	**Sn**	**16 15 19.3**	**+0.5**
JHO	**Hitachi**	**5.63**	**348**	P	**Pn**	**16 14 17.6**	**+0.3**
JHO				S	**Sn**	**16 15 17.0**	**-3.7**
MJAR	**Matsushiro Arr**	**6.28**	**331**	Pn	Pn	16 14 28.5	+2.2
	1.4nm,0.3s,baz=160,slow=11,SNR=26						
MJAR				Sn	**Sn**	**16 15 37.8**	**+1.0**
	0.5nm,0.3s,baz=150,slow=10,SNR=4.9						
MAT	**Matsushiro**	**6.28**	**331**	P	Pn	16 14 28.7	+2.3
MAT				S	**Sn**	**16 15 36.8**	**0.0**
JMK	**Ichinoseki**	**7.86**	**356**	P	**Pn**	**16 14 48.4**	**+0.4**
JNU	**Nakatsue**	**9.65**	**285**	Pn	Pn	16 15 07.2	-5.3
	0.2nm,0.3s,baz=65,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**47.88**	**307**	P	**P**	**16 21 31.4**	**+0.8**
	0.6nm,0.7s,baz=83,slow=9.7,SNR=9.4						
WRA	**Warramunga Arr**	**51.28**	**189**	P	**P**	**16 21 56.9**	**+0.2**
	0.1nm,0.3s,baz=7.0,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**55.00**	**189**	P	**P**	**16 22 24.1**	**+0.1**
	0.1nm,0.5s,baz=1.9,slow=5.0,SNR=8.2						

KRSC 26 16:14:44.5±0.7, 51°.98N×158°.94E, h58^{km}±57^{km}, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.52**	**330**	*i*P	Pn	16 14 57.0	+0.5
RUS				*i*S	Sn	16 15 05.5	+0.2
MTVR	**Mutnovka**	**0.69**	**318**	*i*P	Pn	16 14 59.3	+0.6
MTVR				*i*S	Sn	16 15 09.5	+0.5
ASAK	**Asacha**	**0.76**	**303**	*i*P	Pn	16 15 00.4	+1.0
ASAK				*i*S	Sn	16 15 11.2	+0.8
GRL	**Gorelyy**	**0.78**	**317**	*e*P	Pn	16 15 00.8	+1.0
GRL				*e*S	Sn	16 15 12.1	+1.1
PET	**Petropavlovsk**	**1.06**	**351**	*i*P	Pn	16 15 04.2	+1.0
PET				*i*S	Sn	16 15 18.2	+1.1
NLC	**Nalytchevo**	**1.22**	**12**	*e*S	Sn	16 15 23.9	+3.1
UGLR	**Uglovaya**	**1.23**	**357**	*e*P	Pn	16 15 06.9	+1.2
UGLR				*e*S	Sn	16 15 23.2	+1.7
SMAR	**Somma**	**1.29**	**356**	*e*P	Pn	16 15 07.5	+0.9
SMAR				*e*S	Sn	16 15 24.2	+1.1
AVH	**Avacha**	**1.29**	**355**	*i*P	Pn	16 15 07.9	+1.4
AVH				*i*S	Sn	16 15 24.7	+1.8
SDLR	**Sedlovina**	**1.30**	**359**	*e*P	Pn	16 15 07.3	+0.7
SDLR				*e*S	Sn	16 15 23.8	+0.6
SPN	**Mys Shipunski**	**1.30**	**30**	*e*P	Pn	16 15 08.1	+1.7
SPN				*e*S	Sn	16 15 25.3	+2.5
KOK	**Koryaka**	**1.33**	**352**	*i*P	Pn	16 15 08.5	+1.6
KOK				*e*S	Sn	16 15 26.0	+2.3
KRER	**Ko

JHJ2	**Mitsune**	2.03 299	P		**Pn**	16 30 24.7	-1.4
JHJ2			*e*S		**Sn**	16 30 49.3	-1.1
BSO1	**Boso 1**	2.63 343	P		**Pn**	16 30 32.2	-1.6
BSO1			S		**Sn**	16 31 04.6	+0.2
BSO3	**Boso 3**	2.90 336	P		**Pn**	16 30 36.0	-1.9
JKO	**Kozu shima**	3.10 312	P		**Pn**	16 30 40.4	-0.5
BSO4	**Boso 4**	3.13 335	P		**Pn**	16 30 41.0	-0.2
JYT	**Yasato**	4.32 341	P		**Pn**	16 30 56.9	-0.7
JYT			S		**Sn**	16 31 44.6	-2.3
JHO	**Hitachi**	4.60 346	P		**Pn**	16 30 59.4	-2.0
JHO			S		**Sn**	16 31 49.7	-4.0
JRY	**Ryogami san**	4.61 328	P		**Pn**	16 31 01.1	-0.5
JRY			S		**Sn**	16 31 53.4	-0.7
JIE	**Ise**	4.92 299	P		**Pn**	16 31 05.8	0.0
JAO	**Obara**	4.99 310	P		**Pn**	16 31 06.9	+0.1
CBIJ	**Chichi jima**	5.04 177	Pn		**Pn**	16 31 06.6	-0.9
CBIJ			Sn		**Sn**	16 31 59.3	-5.4
CBIJ	**Chichi jima**	5.04 177	P		**Pn**	16 31 08.0	+0.5
CBIJ			*e*S		**Sn**	16 32 03.3	-1.4
CBIJ	**Chichi jima**	5.04 177	Pn		**Pn**	16 31 06.6	-0.9
	18nm,0.3s,baz=303,slow=21,SNR=29						
CBIJ			Sn		**Sn**	16 31 59.3	-5.4
	baz=287,slow=19						
MJAR	**Matsushiro Arr**	5.36 326	Pn		**Pn**	16 31 10.9	-1.0
MJAR			Sn		**Sn**	16 32 11.9	-0.7
MJAR	**Matsushiro Arr**	5.36 326	Pn		**Pn**	16 31 10.9	-1.0
	2.9nm,0.3s,baz=153,slow=12,SNR=30						
MJAR			Sn		**Sn**	16 32 11.9	-0.7
	1.7nm,0.3s,baz=233,slow=33,SNR=6.1						
MAT	**Matsushiro**	5.36 326	P		**Pn**	16 31 11.1	-0.8
MAT			S		**Sn**	16 32 13.4	+0.8
JMK	**Ichinoseki**	6.82 355	P		**Pn**	16 31 29.8	-2.1
JMK			S		Sn	16 32 39.9	-8.5
ERM	**Erimo**	9.90 5	*e*Pn		Pn	16 32 09.4	-4.7
ERM			*e*Sn		Sn	16 33 50.5	-14
ASAJ	**Asahikawa**	11.96 2	*e*Pn		Pn	16 32 38.1	-4.4
ASAJ			Sn		Sn	16 34 42.3	-12
ASAJ	**Asahikawa**	11.96 2	Pn		Pn	16 32 37.7	-4.7
	0.3nm,0.3s,baz=196,slow=7.4,SNR=4.8						
ASAJ			Sn		Sn	16 34 42.3	-12
	0.5nm,0.3s,baz=74,slow=20,SNR=2.8						
KSRS	**Korea Array**	12.67 299	Pn		Pn	16 32 55.9	+3.8
	0.1nm,0.3s,baz=109,slow=12,SNR=3.1						
KSRS			LR		LR	16 37 33.3	
	comp=Z,48nm,19.6s,baz=161,slow=37						
KSAR	**Wonju Array Be**	12.69 298	Pn		Pn	16 32 55.9	+3.4
ULN	**Ulaanbaatar**	30.68 311	P		**P**	16 36 06.6	+0.6
	2.1nm,0.8s						
SONM	**Songino Array**	31.09 311	P		**P**	16 36 11.3	+1.7
SONM	**Songino Array**	31.09 311	P		**P**	16 36 11.3	+1.7
	1.9nm,0.9s,baz=110,slow=8.5,SNR=6.4						
SONM			LR		LR	16 49 23.5	
	comp=Z,89nm,18.5s,baz=68,slow=38						
ZAA0	**Zalesovo Array**	45.62 316	*e*P		**P**	16 38 10.3	-1.0
ZALV	**Zalesovo Beam**	45.62 316	P		**P**	16 38 10.8	-0.6
ZALV			PcP		**PcP**	16 39 49.3	+0.1
ZALV	**Zalesovo Beam**	45.62 316	P		**P**	16 38 10.8	-0.6
	1.0nm,0.4s,baz=101,slow=7.7,SNR=8.7						
ZALV			PcP		**PcP**	16 39 49.3	+0.1
	0.6nm,0.5s,baz=83,slow=4.4,SNR=2.8						
MK31	**Makanchi Array**	47.21 306	*e*P		**P**	16 38 23.7	-0.3
MKAR	**Makanchi Array**	47.21 306	P		**P**	16 38 23.7	-0.3
MKAR	**Makanchi Array**	47.21 306	P		**P**	16 38 23.7	-0.3
	3.2nm,0.7s,baz=89,slow=9.8,SNR=31						
WRAB	**Tennant Creek**	52.29 189	*e*P		**P**	16 39 02.7	0.0
	5.5nm,0.9s						
WRA	**Warramunga Arr**	52.30 189	P		**P**	16 39 03.1	+0.3
WRA	**Warramunga Arr**	52.30 189	P		**P**	16 39 03.1	+0.3
	3.5nm,0.6s,baz=6.0,slow=7.6,SNR=83						
ILAR	**Eielson Array**	53.44 30	P		**P**	16 39 10.7	-0.1
ILAR	**Eielson Array**	53.44 30	P		**P**	16 39 10.7	-0.1
	0.9nm,0.8s,baz=266,slow=7.2,SNR=7.6						
AS31	**Alice Springs**	56.02 189	*e*P		**P**	16 39 31.4	+1.4
ASAR	**Alice Springs**	56.02 189	P		**P**	16 39 30.6	+0.6
ASAR	**Alice Springs**	56.02 189	P		**P**	16 39 30.6	+0.6
	0.9nm,0.6s,baz=18,slow=13,SNR=27						
KKAR	**Karatay Array**	56.05 303	*e*P		**P**	16 39 30.1	0.0
	3.5nm,0.7s						
INK	**Inuvik**	58.57 26	*e*P		**P**	16 39 46.0	-1.4
INK	**Inuvik**	58.57 26	P		**P**	16 39 45.9	-1.5
	2.7nm,0.9s,baz=230,slow=2.8,SNR=3.8						
ABKAR	**Akbulak array**	61.48 312	*e*P		**P**	16 40 07.0	-0.6
	1.6nm,0.5s						
FINES	**FINESS Array B**	73.34 333	P		**P**	16 41 22.1	-0.4
FINES	**FINESS Array B**	73.34 333	P		**P**	16 41 22.1	-0.4
	0.7nm,0.4s,baz=60,slow=6.0,SNR=12						
KBZ	**Khabaz**	74.44 312	P		**P**	16 41 29.4	+0.1
KBZ	**Khabaz**	74.44 312	P		**P**	16 41 29.4	+0.1
	3.6nm,0.8s,baz=68,slow=2.0,SNR=7.3						
NVAR	**Mina Array Bea**	77.60 52	P		**P**	16 41 49.0	+1.4
NVAR	**Mina Array Bea**	77.60 52	P		**P**	16 41 49.0	+1.4
	0.3nm,0.6s,baz=295,slow=4.6,SNR=4.1						
AKASG	**Malin Array Be**	78.44 323	P		**P**	16 41 51.6	-0.1
AKASG	**Malin Array Be**	78.44 323	P		**P**	16 41 51.6	-0.1
	0.7nm,0.4s,baz=48,slow=6.1,SNR=4.0						
NOA	**NORSAR Array B**	78.86 338	P		**P**	16 41 54.2	+0.3
NOA	**NORSAR Array B**	78.86 338	P		**P**	16 41 54.2	+0.3
	1.5nm,0.9s,baz=40,slow=5.5,SNR=3.4						
PDAR	**Pinedale Array**	80.80 45	P		**P**	16 42 05.8	+0.7
PDAR	**Pinedale Array**	80.80 45	P		**P**	16 42 05.8	+0.7
	0.4nm,0.6s,baz=329,slow=3.2,SNR=3.7						
BRTR	**Keskin Array B**	82.43 312	P		**P**	16 42 13.9	+0.3
BRTR	**Keskin Array B**	82.43 312	P		**P**	16 42 13.9	+0.3
	1.1nm,0.9s,baz=27,slow=1.4,SNR=6.5						
ASF	**Jabal al Asfar**	84.61 305	P		**P**	16 42 25.2	+0.4
ASF	**Jabal al Asfar**	84.61 305	P		**P**	16 42 25.2	+0.4
	1.1nm,0.6s,baz=158,slow=9.6,SNR=3.7						
CLL	**Collm**	85.55 331	*i* P		**P**	16 42 30.6	+1.5
	comp=Z,7.0nm,1.1s						
CLL			*es*P		**sP**	16 42 43.0	+0.6
TXAR	**Lajitas Array**	92.75 53	P		**P**	16 43 05.5	+1.7
TXAR	**Lajitas Array**	92.75 53	P		**P**	16 43 05.5	+1.7
	comp=Z,0.5nm,0.7s,baz=328,slow=4.4,SNR=4.5						
SAML	**Samuel**	147.22 51	*e*PKPbc		**PKPbc**	16 49 35.1	+0.2
LPAZ	**La Paz**	148.51 67	PKPbc		**PKPbc**	16 49 38.2	-0.9
LPAZ	**La Paz**	148.51 67	PKPbc		**PKPbc**	16 49 38.2	-0.9
	comp=Z,0.6nm,0.4s,baz=248,slow=5.4,SNR=3.5						

IDC 26 16:55:48.9±2.1, 22°.01N×142°.95E, h264km±21km, mb3.3/12, mb1 3.4/14, mb1mx3.3/30, mbtmp3.3/14, Error ellipse: s-maj=28.6km s-min=10.5km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	5.11 352		P	Pn	16 57 04.4	-1.9
	baz=270,slow=14						
CBIJ				S	S	16 58 01.6	-6.8
	12nm,0.3s,baz=286,slow=23,SNR=7.5						
MJAR	**Matsushiro Arr**	15.05 345		P	P	16 59 07.4	-1.0
	0.4nm,0.3s,baz=168,slow=10,SNR=5.9						
KSRS	**Korea Array**	20.13 323		P	P	17 00 04.6	+1.3
	2.8nm,0.6s,baz=146,slow=9.0,SNR=15						
ASAJ	**Asahikawa**	22.05 359		P	P	17 00 23.7	+1.7
	2.5nm,0.7s,baz=138,slow=15,SNR=3.8						
SONM	**Songino Array**	38.96 320		P	P	17 02 49.6	-0.2
	0.5nm,0.4s,baz=127,slow=6.3,SNR=7.6						
WRA	**Warramunga Arr**	42.54 192		P	P	17 03 19.1	+0.1
	2.0nm,0.6s,baz=7.8,slow=8.5,SNR=40						
ASAR	**Alice Springs**	46.25 192		P	P	17 03 48.4	+0.1
	0.5nm,0.5s,baz=17,slow=11,SNR=27						
STKA	**Stephens Creek**	53.60 181		P	P	17 04 42.8	-0.4
	4.3nm,1.1s,baz=7.1,slow=8.1,SNR=3.2						
ZALV	**Zalesovo Beam**	53.83 322		P	P	17 04 43.9	-0.7
	0.7nm,0.4s,baz=103,slow=8.4,SNR=6.0						
ZALV				PcP	PcP	17 05 46.1	-0.5
	0.3nm,0.3s,baz=132,slow=2.1,SNR=3.0						
MKAR	**Makanchi Array**	54.32 312		P	P	17 04 48.1	-0.2
	0.4nm,0.5s,baz=88,slow=9.4,SNR=11						
MKAR				PcP	PcP	17 05 48.8	+0.1
	0.3nm,0.6s,baz=100,slow=1.4,SNR=3.9						
KURBB	**Kurchatov Arra**	57.14 317		P	P	17 05 07.5	-0.7
	0.6nm,0.3s,baz=99,slow=7.6,SNR=5.3						
ILAR	**Eielson Array**	61.86 27		P	P	17 05 39.9	-0.1
	0.3nm,0.6s,baz=246,slow=5.2,SNR=4.5						
JOF	**Joensuu**	79.94 334		*ep* P	P	17 07 27.7	-0.6
	2.1nm,0.5s						
KBZ	**Khabaz**	81.99 314		P	P	17 07 40.1	+0.6
	1.0nm,0.5s,baz=69,slow=6.8,SNR=5.1						
FINES	**FINESS Array B**	82.80 334		P	P	17 07 42.4	-1.0
	1.5nm,0.4s,baz=62,slow=5.0,SNR=19						
TORD	**Torodi Ar. Bea**	128.37 309		PKP	PKPdf	17 14 24.8	-0.1
	0.2nm,0.4s,baz=36,slow=1.3,SNR=5.6						

*IDC **26** 17:13:29.5±7.2, 35°.04S×178°.88E, h225km±77km, mb3.7/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=105.9km s-min=38.7km az=3.0*
*WEL **26** 17:13:30.1±0.5, 35°.27S×179°.16E, h268km±5km, ML4.5/10, Error ellipse: s-maj=21.2km s-min=7.1km az=90.0*
*ISCJB **26** 17:13:32.5±1.7, 35°.44S±0°.10×178°.7E±0°.3, h272km, mb3.7/2, Error ellipse: s-maj=29.3km s-min=12.4km az=168.2*

ISC 26 17:13:31.7±1.8, 35°.4S±0°.1×178°.9E±0°.2, h272km, n24, σ1§08/28, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	2.23 191		PN	**Pn**	17 14 17.8	-0.1
MXZ				SN	**S**	17 14 53.3	-1.5
MXZ				AML	AML	17 14 56.2	
PUZ	**Puketiti**	2.74 190		PN	**Pn**	17 14 23.2	+0.4
PUZ				SN	**S**	17 15 04.0	+0.5
PUZ				AML	AML	17 15 06.1	
MWZ	**Matawai**	3.14 199		PN	**Pn**	17 14 27.8	+0.8
MWZ				SN	**S**	17 15 12.3	+1.2
MWZ				AML	AML	17 15 14.9	
URZ	**Urewera**	3.21 205		PN	**Pn**	17 14 27.8	+0.2
URZ				AML	AML	17 15 16.7	
URZ				AML	AML	17 15 18.7	
URZ	**Urewera**	3.21 205		P	**Pn**	17 14 27.8	+0.2
	2.1nm,0.3s,baz=274,slow=19,SNR=139						
URZ				S	**S**	17 15 11.1	-1.1
	26nm,0.3s,baz=229,slow=19,SNR=19						
KNZ	**Kokohu**	3.76 194		PN	**Pn**	17 14 34.1	+0.4
MHGZ	**Mahia Peninsul**	3.85 191		PN	**Pn**	17 14 35.9	+1.2
NMHZ	**Naumai**	4.06 203		PN	**Pn**	17 14 38.1	+0.9
BKZ	**Black Stump Fm**	4.23 206		PN	**Pn**	17 14 40.0	+0.9
BKZ				AML	AML	17 15 38.3	
CKHZ	**Cape Kidnapper**	4.51 198		PN	**Pn**	17 14 43.0	+0.7
MOVZ	**Moawhango**	4.73 211		PN	**Pn**	17 14 44.8	-0.1
PXZ	**Pawanui**	4.91 198		PN	**Pn**	17 14 47.0	0.0
PXZ				AML	AML	17 15 50.7	
PXZ				AML	AML	17 15 51.3	
PNHZ	**Pukenui**	5.00 204		PN	**Pn**	17 14 48.1	-0.1
TSZ	**Takapari Road**	5.21 205		PN	**Pn**	17 14 50.5	-0.2
TSZ				AML	AML	17 15 59.2	
OGWZ	**Otaki Gorge**	6.17 207		PN	**Pn**	17 15 01.7	-0.4
MSWZ	**Moikau Station**	6.67 204		PN	**Pn**	17 15 08.0	-0.3
PLWZ	**Palliser**	6.80 203		PN	**Pn**	17 15 09.3	-0.8
TCW	**Tory Channel**	6.85 210		PN	**Pn**	17 15 09.8	-0.9
TCW				AML	AML	17 16 37.6	
TUWZ	**Tuamarina**	7.17 211		PN	**Pn**	17 15 13.8	-0.9
TUWZ				AML	AML	17 16 38.6	
KHZ	**Kahutara**	8.16 209		PN	**Pn**	17 15 26.5	-0.4
KHZ				AML	AML	17 17 57.5	
MQZ	**McQueen's Vall**	9.60 208		PN	**Pn**	17 15 43.7	-1.2
ASAR	**Alice Springs**	40.51 274		P	**P**	17 20 46.9	+2.1
	1.7nm,0.5s,baz=113,slow=8.0,SNR=73						
WRA	**Warramunga Arr**	41.96 279		P	**P**	17 20 58.0	+1.5
	2.3nm,0.4s,baz=117,slow=7.8,SNR=105						
FINES	**FINESS Array B**	148.72 335		PKPbc	**PKPab**	17 32 47.6	-3.0
	1.5nm,0.7s,baz=50,slow=3.2,SNR=11						

IDC 26 17:26:24.1±403.0, 53°.75N×42°.51E, h0km, Error ellipse: s-maj=113.3km s-min=15.5km az=135.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	4.25 317		*i*		17 50 00.0	
	baz=132,slow=323,SNR=3.7						
I31KZ	**AKTYUBINSK INF**	10.13 103		*i*		18 31 00.0	
	baz=295,slow=322,SNR=1.7						
I26DE	**FREYUNG INFRAS**	18.59 266		*i*		19 17 10.0	
	baz=64,slow=318,SNR=0.4						

WEL 26 17:58:12.7±0.4, 46°.68S×165°.57E, h12km, ML3.8/15, 1C-1D, Error ellipse: s-maj=4.4km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	1.63	43	PN	Pn	17 58 40.6	-0.5
DCZ				AML	AML	17 58 44.2	
DCZ				SN	Sn	17 59 01.7	-0.3
DCZ				AML	AML	17 59 03.5	
APZ	**The Paps**	1.67	96	⇓PN	Pn	17 58 40.8	-1.0
APZ				SN	Sn	17 59 02.4	-0.9
WHZ	**Wether Hill Ro**	1.82	66	PN	Pn	17 58 43.8	-0.2
WHZ				SN	Sn	17 59 07.4	+0.4
WHZ				AML	AML	17 59 10.4	
MLZ	**Mavora Lakes**	2.25	55	⇑PN	Pn	17 58 50.7	+0.9
MLZ				AML	AML	17 59 26.4	
MLZ				AML	AML	17 59 30.3	
SYZ	**Scrubby Hill**	2.47	88	PN	Pn	17 58 53.3	+0.6
SYZ				SN	Sn	17 59 22.6	-0.1
MSZ	**Milford Sound**	2.60	40	PN	Pn	17 58 55.1	+0.6
MSZ				AML	AML	17 59 44.8	
MSZ				AML	AML	17 59 45.8	
TUZ	**Tuapeka**	2.91	77	PN	Pn	17 58 59.1	+0.3
TUZ				AML	AML	17 59 35.2	
TUZ				AML	AML	17 59 36.1	
EAZ	**Earnscleugh**	2.98	62	PN	Pn	17 59 00.7	+0.9
EAZ				AML	AML	17 59 38.4	
EAZ				AML	AML	17 59 38.4	
WKZ	**Wanaka**	3.04	54	PN	Pn	17 59 03.4	+2.7
WKZ				AML	AML	17 59 46.8	
WKZ				AML	AML	18 00 00.0	
JCZ	**Jackson Bay**	3.44	42	PN	Pn	17 59 09.1	+2.9
JCZ				AML	AML	18 00 06.6	
JCZ				AML	AML	18 00 09.4	
LBZ	**Lake Benmore**	3.97	56	PN	Pn	17 59 14.3	+0.9
LBZ				AML	AML	18 00 12.1	
FOZ	**Fox Glacier**	4.26	45	PN	Pn	17 59 20.5	+3.1

*NNC **26** 18:29:04.5±12.0, 37°.88N×72°.00E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=101.7km s-min=70.6km az=174.0*

ISC 26 18:29:05.3±3.7, 37°.6N±0°.2×72°.0E±0°.1, h130km, n9, σ1§43/11, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	4.71	15	P	**Pn**	18 30 16.1	+1.4
	SNR=33						
UCH	**Uchtor**	5.00	22	P	**Sn**	18 31 17.1	+1.1
	SNR=8.6						
EKS2	**Erkin-Say**	5.24	14	P	**Pn**	18 30 23.6	+2.0
	SNR=7.9						
AAK	**Ala-Archa**	5.38	20	P	**Pn**	18 30 24.7	+1.2
	SNR=5.8						
KK31	**Karatay Array**	5.63 348		⇑Pn	**Pn**	18 30 27.7	+1.0
	0.6nm,0.3s,baz=169,slow=12,SNR=2.8						
KK31				⇑Sn	**Sn**	18 31 29.7	-0.6
	3.5nm,0.3s,baz=174,slow=23,SNR=5.0						
CHMS	**Chumysh**	5.79	20	P	**Pn**	18 30 29.7	+0.9
	SNR=6.0						
TKM2	**Tokmak 2**	5.98	26	⇑Pn	**Pn**	18 30 31.4	-0.2
	2.6nm,0.6s						
TKM2				⇓Sn	**Sn**	18 31 36.8	-2.2
	2.0nm,0.7s						
TKM2	**Tokmak 2**	5.98	26	P	**Pn**	18 30 31.9	+0.3
	SNR=6.3						
AB31	**Akbulak array**	14.58 327		⇑P	**Pn**	18 32 24.1	-1.0
	0.2nm,0.3s,baz=134,slow=11,SNR=7.5						

MAN 26 18:38:45, 16°.79N×122°.28E, h11km, mb4.2, ML3.1, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	0.30	27	⇑*eP*	Pb	18 38 52.5	0.0
CAUP	**Cauayan**	0.47	289	*eP*	Pb	18 38 55.4	+0.1
CAUP				*eS*	Sb	18 39 05.5	+3.3
APYP	**Conner**	1.46	317	*eP*	Pn	18 39 11.6	+0.4
ABRA	**Dolores**	1.73	300	*eP*	Pn	18 39 15.4	+0.4

MEX 26 18:40:56.1±0.8, 16°.79N×95°.22W, h16km±44km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	1.33	220	*eP*	Pn	18 41 15.8	-4.2
HUIG				*i* S	Sn	18 41 32.0	-5.3
VHO	**Vista Hermosa**	1.47	281	*eP*	Pn	18 41 10.8	-11
VHO				*i* S	Sn	18 41 28.5	-13
UTMO	**Huajuapan**	2.67	293	*i* P	Pn	18 41 35.4	-3.5
UTMO				*es* S	Sn	18 42 06.2	-5.0
PNIG	**Pinotepa**	2.81	262	*i* P	Pn	18 41 38.3	-2.2
PNIG				*i* S	Sn	18 42 09.7	-4.5

MEX 26 18:55:34.3±0.7, 17°.39N×101°.28W, h32km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	0.28	322	*eP*	Pb	18 55 40.0	-1.7
ZIIG				*i* S	Sb	18 55 45.3	-1.5
CAIG	**El Cayaco**	1.03	109	*i* P	Pn	18 55 51.0	-1.4
CAIG				*i* S	Sn	18 56 02.5	-3.3
ACX	**Acapulco**	1.46	110	*i* P	Pn	18 55 56.2	-2.2
MEIG	**Mezcala**	1.68	71	*eP*	Pn	18 55 59.0	-2.5
MEIG				*i* S	Sn	18 56 20.2	-1.8
PLIG	**Platanillo**	1.97	59	*eP*	Pn	18 56 04.0	-1.6
PLIG				*i* S	Sn	18 56 27.1	-2.2
MMIG	**Aquila**	2.16	295	*i* P	Pn	18 56 06.2	-1.9
MMIG				*i* S	Sn	18 56 31.4	-2.3
MOIG	**Morelia**	2.28	2	*eP*	Pn	18 56 08.2	-1.9
MOIG				*i* S	Sn	18 56 34.5	-2.9
YAIG	**Yautepec**	2.57	55	*eP*	Pn	18 56 12.1	-1.9
YAIG				*i* S	Sn	18 56 42.6	-1.7
PPM	**Popocatepetl**	3.03	56	*i* P	Pn	18 56 18.8	-1.9
PPM				*i* S	Sn	18 56 54.6	-1.7
PNIG	**Pinotepa**	3.18	108	*i* P	Pn	18 56 21.4	-0.7
PNIG				*i* S	Sn	18 56 57.6	-1.4
UTMO	**Huajuapan**	3.35	82	*eP*	Pn	18 56 22.9	-1.8
UTMO				*i* S	Sn	18 57 01.1	-2.5
SFJM	**Santa Fe**	3.50	332	*i* P	Pn	18 56 22.4	-4.5
VHO	**Vista Hermosa**	4.36	93	*i* P	Pn	18 56 37.8	-0.8

*IDC **26** 19:08:44.1±0.9, 4°.54S×136°.68E, h0km, mb4.0/6, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, ML4.2/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=29.9km s-min=17.9km az=73.0*
*ISCJB **26** 19:08:47.0±0.4, 4°.68S±0°.03×136°.67E±0°.04, h33km, mb4.0/6, MS3.3/1, Error ellipse: s-maj=6.1km s-min=4.2km az=158.2*
*AUST **26** 19:08:51.3, 4°.94S×136°.54E, h35km*
*DJA **26** 19:08:51.6±0.4, 5°.S±2°×13°.7E±°, h44km±14km, M4.7/14, mB5.3/6, mb4.7/14, MLv4.7/7, Mw(mB)4.7/6*

ISC 26 19:08:48.7±0.6, 4°.64S±0°.05×136°.70E±0°.05, h35km, n42, σ1§63/45, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	2.79	351	P	**Pn**	19 09 30.9	-0.1
SRPI				S	**Sn**	19 10 04.4	+0.9
BAKI	**Biak**	3.48	350	P	**Pn**	19 09 40.4	0.0
BAKI				S	**Sn**	19 10 21.1	+0.7
RKPI	**Ransiki, Papua**	4.00	321	P	**Pn**	19 09 48.2	+0.6
TLE	**Tual**	4.07	256	P	**Pn**	19 09 51.4	+2.9
TLE	**Tual**	4.07	256	P	**Pn**	19 09 51.0	+2.6
	baz=3.9,SNR=27						
JAY	**Jayapura**	4.52	62	P	Pn	19 09 58.6	+3.8
JAY	**Jayapura**	4.52	62	P	Pn	19 10 13.9	+19
	baz=4.8,SNR=3.0						
FAKI	**Fak Fak**	4.76	291	P	**Pn**	19 09 58.9	+0.9
FAKI				S	**Sn**	19 10 50.9	-1.1
FAKI	**Fak Fak**	4.76	291	P	**Pn**	19 09 58.4	+0.4
	baz=4.7,SNR=158						
FAKI				S	**Sn**	19 10 51.1	-0.9
	baz=4.7,SNR=8.9						
MMPI	**Merauke**	5.28	136	P	Pn	19 10 13.6	+8.5
	530nm,0.8s,17μm5.6nm						
SWI	**Sorong**	6.60	305	P	**Pn**	19 10 23.3	-0.1
	222nm,0.4s,4μm1.1nm						
SWI	**Sorong**	6.60	305	P	**Pn**	19 10 22.7	-0.7
	baz=6.7,SNR=132						
SWI				S	**Sn**	19 11 36.7	-0.8
	baz=6.7,SNR=5.1						
BNDI	**Bandanaira**	6.77	271	P	**Pn**	19 10 27.8	+2.1
BNDI	**Bandanaira**	6.77	271	P	Pn	19 10 28.9	+3.2
	baz=6.6,SNR=6.3						
BNDI				S	**Sn**	19 11 42.5	+0.9
	baz=6.6,SNR=4.5						
MSAI	**Masohi**	7.86	279	P	**Pn**	19 10 42.5	+1.9
	7.2nm,0.9s,2μm0.1nm						
AAI	**Ambon**	8.53	276	P	**Pn**	19 10 51.6	+1.7
	40nm,0.8s,917nm						
KDU	**Kakadu**	9.02	207	P	**Pn**	19 10 56.8	+0.3
	baz=8.7,SNR=40						
MTN	**Manton Dam**	9.83	214	P	**Pn**	19 11 09.2	+1.5
	baz

ROCH	**El Roble**	**0.30 175**	⇑	*i* P	Pg	19 18 29.4	+0.5
ROCH				*i* S	Sg	19 18 34.5	+1.4
ROCH				AML	AML	19 18 36.7	
	comp=N,197nm,0.3s						
PEL	**Peldehue**	**0.56 148**	⇓	*i* P	Pg	19 18 34.3	+0.7
PEL				*i* S	Sb	19 18 42.9	-1.0
PEL				AML	AML	19 18 43.8	
	comp=N,266nm,0.2s						
FCH	**Farellones**	**0.91 136**	⇑	*i* P	Pb	19 18 41.4	-0.3
FCH				*i* S	Sb	19 18 55.1	+0.5
LMEL	**Las Melosas**	**1.37 149**	⇑	*i* P	Pn	19 18 48.0	-1.1
LMEL				*i* S	Sg	19 19 07.3	0.0
LMEL				AML	AML	19 19 08.1	
	comp=N,103nm,0.4s						
CACH	**El Canelo**	**1.49 166**	⇑	*i* P	Pn	19 18 50.4	-0.3
CACH				*i* S	Sg	19 19 11.8	+0.8

*AUST **26** 19:27:09.4±6.9, 6°.55S×126°.83E, h436km, Error ellipse: s-maj=4.1km s-min=1.3km az=307.0*
*IDC **26** 19:27:11.9±5.3, 6°.73S×127°.03E, h390km±65km, mb2.8/2, mb1 2.7/6, mb1mx2.6/21, mbtmp2.6/6, Error ellipse: s-maj=88.4km s-min=20.8km az=50.0*
ISC 26 19:27:10.3±1.0, 6°.53S±0°.09×127°.0E±0°.1, h350km, n13, σ2§26/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.17**	**220**	P	Pn	19 28 26.8	+5.5
	baz=4.1,SNR=4.6						
SOEI				S	**S**	**19 29 20.6**	**+2.2**
	baz=4.1,SNR=4.2						
BATI	**Baumata**	**4.90**	**222**	P	Pn	19 28 32.9	+4.0
	2.5nm,0.3s,baz=104,slow=2.4,SNR=9.2						
BATI				S	**S**	**19 29 35.5**	**+3.1**
	7.6nm,0.3s,baz=332,slow=19,SNR=14						
TLE	**Tual**	**5.81**	**82**	P	Pn	19 28 43.0	+4.0
	baz=5.9,SNR=6.2						
FAKI	**Fak Fak**	**6.37**	**56**	P	**Pn**	**19 28 48.4**	**+2.9**
	baz=6.5,SNR=6.2						
SWI	**Sorong**	**7.07**	**37**	S	**S**	**19 30 16.3**	**-1.3**
	baz=7.2,SNR=3.7						
MTN	**Manton Dam**	**7.50**	**147**	P	**Pn**	**19 28 59.7**	**+1.0**
	baz=7.6,SNR=40						
KDU	**Kakadu**	**8.18**	**139**	P	**Pn**	**19 29 06.9**	**+0.2**
	baz=8.3,SNR=5.0						
KNRA	**Kununurra**	**9.26**	**169**	P	**Pn**	**19 29 19.8**	**+0.3**
	baz=9.3,SNR=12						
FITZ	**Fitzroy Crossi**	**11.58**	**186**	P	**Pn**	**19 29 45.6**	**-1.5**
	0.1nm,0.3s,baz=12,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**15.14**	**152**	P	**P**	**19 30 23.6**	**-2.9**
	0.2nm,0.3s,baz=332,slow=11,SNR=14						
ASAR	**Alice Springs**	**18.30**	**159**	P	**P**	**19 30 58.0**	**-2.6**
	0.1nm,0.3s,baz=342,slow=12,SNR=15						
MKAR	**Makanchi Array**	**66.21**	**328**	P	**P**	**19 37 20.9**	**-0.6**
	0.1nm,0.4s,baz=123,slow=7.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**69.86**	**335**	P	**P**	**19 37 42.3**	**-1.5**
	0.5nm,0.4s,baz=123,slow=5.3,SNR=2.4						

MAN 26 19:34:44, 18°.64N×121°.01E, h9km, mb4.6, ML3.5, MS3.4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.48**	**230**	⇓ *i* P	Pb	19 34 54.6	0.0
PIP				*e* S	Sb	19 35 06.2	+4.3
APYP	**Conner**	**0.80**	**164**	*e* P	Pg	19 34 59.1	-0.4
APYP				*e* S	Sn	19 35 14.2	+0.7
ABRA	**Dolores**	**1.02**	**196**	*e* P	Pn	19 35 04.2	-0.3
ABRA				*e* S	Sn	19 35 23.5	+4.5
CVP	**Callao Caves**	**1.21**	**140**	*e* P	Pb	19 35 03.5	-3.6
CVP				*e* S	Sb	19 35 22.5	-0.3
CAUP	**Cauayan**	**1.85**	**155**	*e* P	Pb	19 35 17.9	-0.2
PALP	**Palanan**	**2.07**	**139**	⇑ *e* P	Pb	19 35 20.7	-1.0
PALP				*i* S	Sg	19 35 51.1	+0.6
BCPH	**Baguio City Da**	**2.28**	**190**	⇑ *i* P	Pn	19 35 20.6	-1.5
BCPH				*i* S	Sg	19 35 57.6	-0.1
BALP	**Baler**	**2.93**	**169**	*e* P	Pb	19 35 34.2	-2.2
SCZP	**Santa Cruz**	**3.03**	**200**	*e* P	Pn	19 35 31.3	-0.9

MEX 26 19:46:32.4±0.4, 16°.09N×96°.03W, h100km±8km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.33**	**194**	*i* P	Pn	19 46 46.0	-1.1
HUIG				*i* S	Sn	19 46 56.2	-1.8
VHO	**Vista Hermosa**	**1.19**	**325**	*i* P	Pn	19 46 54.0	-1.2
VHO				*i* S	Sn	19 47 10.8	-1.6
PNIG	**Pinotepa**	**2.04**	**279**	*i* P	Pn	19 47 03.5	-2.0
PNIG				*i* S	Sn	19 47 29.4	-1.5
UTMO	**Huajuapan**	**2.43**	**316**	*i* P	Pn	19 47 10.1	-0.8
UTMO				*i* S	Sn	19 47 38.7	-1.6
PCIG		**2.73**	**98**	*i* P	Pn	19 47 13.5	-1.0
PCIG				*i* S	Sn	19 47 45.1	-1.9

*AUST **26** 19:54:20.0±0.0, 0°.35N×134°.11E, h105km±1km, Error ellipse: s-maj=3.0km s-min=2.2km az=312.0*
*IDC **26** 19:54:30.9±2.9, 0°.74S×133°.19E, h0km, mb3.0/2, mb1 3.3/4, mb1mx3.2/22, mbtmp3.1/4, ML3.1/2, Error ellipse: s-maj=128.6km s-min=25.0km az=79.0*
*ISCJB **26** 19:54:33.7±1.6, 0°.8S±0°.1×133°.3E±0°.2, h32km, mb2.9/2, Error ellipse: s-maj=26.4km s-min=14.2km az=151.7*
ISC 26 19:54:35.5±2.0, 0°.7S±0°.1×133°.2E±0°.2, h32km, n11, σ1§55/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.97**	**266**	P	**Pn**	**19 55 07.8**	**+1.0**
	baz=3.1,SNR=15						
FAKI	**Fak Fak**	**2.40**	**204**	P	**Pn**	**19 55 14.5**	**+1.8**
	baz=3.8,SNR=8.3						
TLE	**Tual**	**4.92**	**186**	P	**Pn**	**19 55 49.4**	**+2.1**
	baz=6.1,SNR=4.1						
KDU	**Kakadu**	**11.92**	**184**	P	**Pn**	**19 57 23.0**	**-0.4**
	baz=13,SNR=5.1						
MTN	**Manton Dam**	**12.23**	**190**	P	**Pn**	**19 57 26.8**	**-0.8**
	baz=14,SNR=4.2						
KNRA	**Kununurra**	**15.51**	**196**	P	**Pn**	**19 58 09.6**	**-2.4**
	baz=17,SNR=8.6						
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	**P**	**19 58 52.0**	**-0.7**
	0.1nm,0.3s,baz=32,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**19.14**	**177**	P	**P**	**19 58 55.4**	**-0.9**
	0.1nm,0.3s,baz=356,slow=13,SNR=4.0						
MTSU	**Mount Surprise**	**20.45**	**148**	P	Pn	19 59 13.6	+0.6
	baz=21,SNR=7.1						
ASAR	**Alice Springs**	**22.83**	**178**	P	**P**	**19 59 35.7**	**-0.4**
	0.2nm,0.6s,baz=358,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20 05 12.3**	**+0.3**
	0.1nm,0.5s,baz=112,slow=6.4,SNR=2.7						

*CSEM **26** 20:00:42.9, 64°.67N×17°.39W, h3km, ML3.6, After REY*
REY 26 20:00:42.9, 64°.67N×17°.39W, h3km, ML3.1, ML3.6, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	**Grimsfjall**	**0.27**	**168**	P	Pg	20 00 48.2	-0.2
ISKR	**Skrokkalda**	**0.44**	**256**	P	Pg	20 00 51.2	-0.3
ISKR				S	Sg	20 00 57.8	+0.5
IKRE	**Kreppuhraun**	**0.45**	**75**	P	Pg	20 00 51.3	-0.3
IKRE				S	Sg	20 00 57.7	+0.2
IASK	**Askja**	**0.50**	**39**	P	Pg	20 00 52.1	-0.5
IASK				S	Sg	20 00 59.3	+0.2
IMKO	**Mokollar**	**0.55**	**55**	P	Pg	20 00 53.1	-0.4
IMKO				S	Sg	20 01 00.9	+0.3
IBRU	**Bruarjokull**	**0.58**	**74**	P	Pg	20 00 53.6	-0.6
IBRU				S	Sg	20 01 01.7	-0.1
ISVA	**Svartarkot**	**0.67**	**5**	P	Pg	20 00 55.0	-0.8
ISVA				S	Sg	20 01 04.3	-0.3
IHVA	**Hvannstoosfjol**	**0.71**	**66**	P	Pg	20 00 55.7	-0.9
IHVA				S	Sg	20 01 05.4	-0.5
IVSH	**V-Sauoahnukur**	**0.73**	**78**	P	Pg	20 00 56.0	-1.0
IVSH				S	Sg	20 01 05.9	-0.6
IKAL	**Kalfafell**	**0.74**	**190**	P	Pg	20 00 56.2	-0.8
IKAL				S	Sg	20 01 06.3	-0.3
IVAT	**Vatnsfell**	**0.82**	**234**	P	Pg	20 00 57.8	-0.9
IVAT				S	Sg	20 01 09.8	+0.4
IADA	**Aoalbol**	**0.85**	**65**	P	Pg	20 00 57.9	-1.4
IADA				S	Sg	20 01 09.4	-1.0
IFAG	**Fagurholsmyri**	**0.86**	**158**	P	Pg	20 00 58.2	-1.2
IFAG				S	Sg	20 01 10.4	-0.1
IHVE	**Hveravellir**	**0.95**	**283**	P	Pg	20 00 59.3	-1.9
IHVE				S	Sg	20 01 12.4	-1.2
IREN	**Reynihlio**	**1.00**	**12**	P	Pg	20 01 00.4	-1.7
IREN				S	Sg	20 01 14.1	-1.0
IGLU	**Glumsstadir**	**1.03**	**71**	P	Pg	20 01 01.0	-1.7
IGLU				S	Sg	20 01 14.8	-1.3
IKVO	**Krokottuvotn**	**1.07**	**11**	P	Pg	20 01 01.5	-2.0
IKVO				S	Sg	20 01 16.0	-1.4
ISNB	**Snabyli**	**1.08**	**211**	P	Pg	20 01 01.9	-1.8
ISNB				S	Sg	20 01 16.9	-0.8
IGRS	**Grimsstaoir**	**1.11**	**28**	P	Pg	20 01 02.3	-1.9
IGRS				S	Sg	20 01 17.6	-1.0
ISKI	**Skildingah^‡ls**	**1.21**	**7**	P	Pg	20 01 03.9	-2.3
ISKI				S	Sg	20 01 20.2	-1.7
IGRA	**Granastaoir**	**1.25**	**357**	P	Pg	20 01 04.6	-2.3
IGRA				S	Sg	20 01 21.0	-2.2
IGYG	**Gygjarholskot**	**1.28**	**253**	P	Pg	20 01 05.1	-2.4
IGYG				S	Sg	20 01 22.5	-1.6
IDIM	**Dimmadals^¡s**	**1.31**	**8**	P	Pg	20 01 05.3	-2.7
IDIM				S	Sg	20 01 23.3	-1.7
IHVO	**Lagu-Hvolar**	**1.32**	**210**	P	Pg	20 01 06.0	-2.1
IGOD	**Go??abunga**	**1.32**	**221**	P	Pg	20 01 06.2	-2.2
IHAU	**Haukadalur**	**1.32**	**239**	P	Pn	20 01 05.8	-2.4
IHAU				S	Sg	20 01 23.3	-2.1
IHLA	**Hella**	**1.34**	**342**	P	Pn	20 01 06.1	-2.4
IHLA				S	Sg	20 01 23.8	-2.2
IHED	**Heoinshofoi**	**1.42**	**1**	P	Pn	20 01 07.0	-2.5
IHED				S	Sb	20 01 25.8	-2.5
IESK	**Eystri-Skogar**	**1.46**	**219**	P	Pn	20 01 07.9	-2.2
IESK				S	Sb	20 01 27.4	-2.3
IGIL	**Gilhagi**	**1.48**	**17**	P	Pn	20 01 07.8	-2.6
IGIL				S	Sb	20 01 27.3	-2.8
ISAU	**Saurbar**	**1.48**	**244**	P	Pn	20 01 08.1	-2.3
ISAU				S	Sb	20 01 27.9	-2.3
IMID	**Miomork**	**1.49**	**228**	P	Pn	20 01 08.9	-1.7
IFLA	**Flatey**	**1.51**	**353**	P	Pn	20 01 08.7	-2.1
IFLA				S	Sn	20 01 28.6	-2.3
ISIG	**Siglufjorour**	**1.60**	**337**	P	Pn	20 01 09.9	-2.1
ISIG				S	Sn	20 01 30.8	-2.3
IASM	**Asmuli**	**1.64**	**241**	P	Pn	20 01 11.0	-1.5
IASB	**^sbjarnarst**	**1.69**	**274**	P	Pn	20 01 11.2	-2.1
IASB				S	Sn	20 01 32.8	-2.6
ISOL	**Solvholt**	**1.72**	**246**	P	Pn	20 01 11.9	-1.7
ISOL				S	Sn	20 01 34.3	-1.7
IKRO	**Krokur**	**1.72**	**252**	P	Pn	20 01 11.5	-2.2
IKRO				S	Sn	20 01 34.2	-1.9
IHEI	**Heioarbar**	**1.73**	**256**	P	Pn	20 01 12.1	-1.8
IHEI				S	Sn	20 01 34.2	-2.2
IVES	**Vestmannaeyjar**	**1.77**	**227**	P	Pn	20 01 13.2	-1.2
ILEI	**Leirhofn**	**1.78**	**12**	P	Pn	20 01 12.6	-1.9
IHRN	**Hraun**	**1.84**	**323**	P	Pn	20 01 13.2	-2.1
IHRN				S	Sn	20 01 37.5	-1.6
IBJA	**Bjarnastaoir**	**1.85**	**249**	P	Pn	20 01 14.5	-1.0
IGRI	**Grimsey**	**1.90**	**353**	P	Pn	20 01 14.0	-2.1
IGRI				S	Sn	20 01 38.0	-2.5
IKUD	**Kuludalsa**	**1.97**	**262**	P	Pn	20 01 15.6	-1.5
IKUD				S	Sn	20 01 41.2	-1.1
IKAS	**Kald??rsel**	**2.05**	**253**	P	Pn	20 01 16.2	-2.0
IVOS	**Vogsosar**	**2.05**	**248**	P	Pn	20 01 16.4	-1.8
IVOS				S	Sn	20 01 42.7	-1.6
IVOG	**Vogar**	**2.29**	**254**	P	Pn	20 01 19.8	-1.7
INYL	**Nylenda**	**2.43**	**256**	P	Pn	20 01 22.5	-0.9

*IDC **26** 20:12:03.4±6.1, 13°.96N×91°.06W, h60km±44km, mb3.6/3, mb1 3.8/5, mb1mx3.4/24, mbtmp3.5/5, ML4.1/3, Error ellipse: s-maj=58.6km s-min=23.7km az=6.0*
*ISCJB **26** 20:12:04.2±0.9, 13°.9N±0°.1×91°.33W±0°.06, h72km±9km, mb3.7/3, Error ellipse: s-maj=18.5km s-min=5.9km az=25.9*
*CASC **26** 20:12:04.8±1.4, 13°.86N×91°.27W, h28km±6km, MD3.5, ML3.8*
ISC 26 20:12:05.6±1.2, 13°.95N±0°.10×91°.28W±0°.06, h63km±11km, n25, σ0§95/30, mb3.8/3, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.50**	**316**	⇑ *i* P	**Pn**	**20 12 17.2**	**-0.7**
FUG	**Fuego 3**	**0.65**	**41**	⇓ *e* P	**Pn**	**20 12 18.8**	**-0.9**
PCG	**Pacaya**	**0.79**	**56**	⇓ *e* P	**Pn**	**20 12 20.8**	**-0.5**
IXG	**Ixpaco**	**0.83**	**75**	*e* P	**Pn**	**20 12 21.4**	**-0.4**
IXG				*e* S	**Sn**	**20 12 33.0**	**-0.8**
NBG	**Las Nubes**	**1.10**	**55**	⇓ *e* P	**Pn**	**20 12 25.7**	**+0.3**
NBG				*e* S	**Sn**	**20 12 42.6**	**+2.5**
RBDL	**Robledal**	**1.55**	**84**	*e* P	**Pn**	**20 12 30.6**	**-0.7**
RTR	**El Retiro**	**1.59**	**92**	*e* P	**Pn**	**20 12 31.4**	**-0.3**
RTR				*e* S	**Sn**	**20 12 52.4**	**+1.0**
SBLS	**San Blas**	**1.61**	**94**	*e* P	**Pn**	**20 12 31.7**	**-0.5**
SBLS				*e* S	**Sn**	**20 12 52.7**	**+0.6**
SNJE	**San Jose**	**1.63**	**93**	*e* P	**Pn**	**20 12 31.7**	**-0.6**
SNJE				*e* S	**Sn**	**20 12 52.4**	**-0.1**
MRL	**Marmol**	**1.89**	**54**	⇑ *e* P	**Pn**	**20 12 35.7**	**-0.2**
BOQS	**Boqueron**	**1.96**	**96**	*e* P	**Pn**	**20 12 36.3**	**-0.4**
BOQS				*e* S	**Sn**	**20 13 01.0**	**+0.6**
SNET	**Serv Nac Est T**	**2.01**	**97**	AML	AML	20 13 08.7	
	comp=Z,1μm,0.1s						
LFU	**La Fuente**	**2.11**	**95**	*e* P	**Pn**	**20 12 38.2**	**-0.5**
LFRS	**El Faro**	**2.18**	**98**	*e* P	**Pn**	**20 12 39.6**	**-0.1**
SNVI	**San Vicente**	**2.40**	**98**	*e* P	**Pn**	**20 12 42.3**	**-0.3**
SNVI				*e* S	**Sn**	**20 13 12.3**	**+1.3**
VSM	**San Miguel**	**2.97**	**100**	*e* P	**Pn**	**20 12 51.4**	**+0.8**
CNCH	**Conchagua**	**3.42**	**101**	*e* P	**Pn**	**20 12 56.1**	**-0.5**
CMIG	**Matias Romero**	**4.67**	**312**	P	**Pn**	**20 13 14.5**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=131,slow=9.5,SNR=18						
CMIG				S	**Sn**	**20 14 06.5**	**-0.1**
	comp=Z,6.5nm,0.3s,baz=238,slow=17,SNR=7.4						
TEIG	**Tepich**	**6.87**	**24**	P	**Pn**	**20 13 42.1**	**-1.6**
	comp=Z,21nm,0.3s,baz=213,slow=2.9,SNR=105						
TXAR	**Lajitas Array**	**19.13**	**325**	P	**P**	**20 16 24.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=141,slow=9.4,SNR=5.6						
TKL	**Tuckaleechee C**	**22.64**	**16**	P	P	20 16 58.0	-3.5
	comp=Z,3.1nm,0.6s,baz=137,slow=19,SNR=1.8						
NVAR	**Mina Array Bea**	**34.15**	**321**	P	**P**	**20 18 45.8**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=130,slow=9.1,SNR=6.7						
TORD	**Torodi Ar. Bea**	**89.71**	**77**	P	P	20 24 52.9	-4.7
	comp=Z,0.6nm,1.1s,baz=298,slow=3.1,SNR=2.9						
WRA	**Warramunga Arr**	**136.06**	**256**	PKP	**PKPdf**	**20 31 19.2**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=91,slow=2.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**146.25**	**342**	PKPbc	**PKPdf**	**20 31 37.4**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=330,slow=3.8,SNR=8.6						

*CSEM **26** 20:29:44.9, 39°.19N×21°.86E, h24km, MD2.7, After ATH*
ATH 26 20:29:44.9, 39°.19N×21°.86E, h24km±1km, MD2.7/6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.28**	**188**	*e* PB	Pb	20 29 51.7	+0.1
EVR				*e* SB	Sb	20 29 56.5	+0.3
EVR	**Evrytania**	**0.28**	**188**	*e* Pb	Pb	20 29 51.7	+0.1
EVR				*e* Sb	Sb	20 29 56.5	+0.3
THL	**Klokotos Trika**	**0.39**	**18**	*e* PB	Pb	20 29 53.3	0.0
THL				*e* SB	Sb	20 29 59.5	+0.5
THL	**Klokotos Trika**	**0.39**	**18**	*e* Pb	Pb	20 29 53.3	0.0
THL				*e* Sb	Sb	20 29 59.5	+0.5
AGG	**Agios Georgios**	**0.40**	**114**	*e* PB	Pb	20 29 53.4	-0.1
AGG				*e* SB	Sb	20 30 00.0	+0.6
AGG	**Agios Georgios**	**0.40**	**114**	*e* Pb	Pb	20 29 53.4	-0.1
AGG				*e* Sb	Sb	20 30 00.0	+0.6
EFP	**Efpalio**	**0.76**	**177**	*e* PN	Pn	20 30 00.2	0.0
EFP				*e* SN	Sn	20 30 10.6	-0.3
EFP	**Efpalio**	**0.76**	**177**	*e* Pn	Pn	20 30 00.2	0.0
EFP				*e* Sn	Sn	20 30 10.6	-0.3
KALE	**Kalithea**	**0.83**	**165**	*e* PN	Pn	20 30 01.6	+0.4
KALE				*e* SN	Sn	20 30 12.7	0.0
KALE	**Kalithea**	**0.83**	**165**	*e* Pn	Pn	20 30 01.6	+0.4
KALE				*e* Sn	Sn	20 30 12.7	0.0
TRIZ	**Trizonia**	**0.84**	**169**	*e* PN	Pn	20 30 01.3	+0.1
TRIZ	**Trizonia**	**0.84**	**169**	*e* Pn	Pn	20 30 01.3	+0.1

*CSEM **26** 20:30:32.7±0.2, 39°.18N×21°.90E, h16km±1km, ML1.4/3, Error ellipse: s-maj=5.4km s-min=3.4km az=91.0*
*ATH **26** 20:30:32.4, 39°.21N×21°.91E, h23km±1km, MD2.9/10*
THE 26 20:30:32.6, 39°.20N×21°.88E, h18km, ML1.4/3, Error ellipse: s-maj=0.7km s-min=0.4km az=65.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**0.27**	**133**	P	Pg	20 30 38.5	-0.2
MAKR				S	Sb	20 30 43.2	0.0
MAKR	**Makrakomi, Fth**	**0.27**	**133**	P	Pg	20 30 38.5	-0.2
MAKR				S	Sb	20 30 43.2	0.0
EVR	**Evrytania**	**0.29**	**191**	P	Pg	20 30 38.8	-0.3
EVR				S	Sg	20 30 43.6	+0.1
EVR	**Evrytania**	**0.29**	**191**	*e* PB	Pg	20 30 38.6	-0.5
EVR				*e* SB	Sb	20 30 44.1	+0.2
EVR	**Evrytania**	**0.29**	**191**	*e* Pb	Pg	20 30 38.6	-0.5
EVR				S	Sg	20 30 43.6	+0.1
EVR				*e* Sb	Sb	20 30 44.1	+0.2
THL	**Klokotos Trika**	**0.38**	**16**	P	Pg	20 30 40.5	0.0
THL				S	Sb	20 30 46.3	-0.2
THL	**Klokotos Trika**	**0.38**	**16**	*e* PB	Pg	20 30 40.5	0.0
THL	**Klokotos Trika**	**0.38**	**16**	P	Pg	20 30 40.5	0.0
THL				S	Sb	20 30 46.3	-0.2
AGG	**Agios Georgios**	**0.39**	**117**	P	Pg	20 30 40.3	-0.5
AGG				S	Sb	20 30 47.1	+0.2
AGG	**Agios Georgios**	**0.39**	**117**	*e* PB	Pg	20 30 40.4	-0.4
AGG	**Agios Georgios**	**0.39**	**117**	P	Pg	20 30 40.3	-0.5
AGG				S	Sb	20 30 47.1	+0.2
EFP	**Efpalio**	**0.77**	**178**	P	Pb	20 30 47.1	-0.4
EFP	**Efpalio**	**0.77**	**178**	*e* PN	Pb	20 30 47.1	-0.4
EFP				*e* SN	Sn	20 30 59.2	-0.5
EFP	**Efpalio**	**0.77**	**178**	P	Pb	20 30 47.1	-0.4
EFP				*e* Sn	Sn	20 30 59.2	-0.5
KALE	**Kalithea**	**0.83**	**166**	*e* PN	Pb	20 30 48.2	-0.4
KALE				*e* SN	Sg	20 31 00.4	+0.3
KALE	**Kalithea**	**0.83**	**166**	*e* Pn	Pb	20 30 48.2	-0.4
KALE				*e* Sn	Sg	20 31 00.4	+0.3
TRIZ	**Trizonia**	**0.85**	**170**	*e* PB	Pb	20 30 48.2	-0.5
TRIZ				*e* SN	Sg	20 31 00.8	+0.5
TRIZ	**Trizonia**	**0.85**	**170**	*e* Pb	Pb	20 30 48.2	-0.5
TRIZ				*e* Sn	Sg	20 31 00.8	+0.5
DSF	**Desfina**	**0.94**	**147**	P	Pb	20 30 49.8	-0.6
DSF				S	Sg	20 31 03.2	-0.1
DSF	**Desfina**	**0.94**	**147**	P	Pb	20 30 49.8	-0.6
DSF				S	Sg	20 31 03.2	-0.1
LKD2	**Lefkada island**	**1.03**	**247**	*e* PN	Pg	20 30 52.8	0.0
LKD2	**Lefkada island**	**1.03**	**247**	*e* Pn	Pg	20 30 52.8	0.0
KLV	**Kalavryta, Ach**	**1.17**	**169**	*e* PN	Pn	20 30 54.1	-0.1
KLV	**Kalavryta, Ach**	**1.17**	**169**	*e* Pn	Pn	20 30 54.1	-0.1
RLS	**Riolos of Patr**	**1.18**	**196**	*e* PN	Pg	20 30 55.4	-0.1
RLS	**Riolos of Patr**	**1.18**	**196**	*e* Pn	Pg	20 30 55.4	-0.1
AOS	**Alonnisos**	**1.56**	**90**	*e* PN	Pb	20 31 00.3	-0.6
AOS	**Alonnisos**	**1.56**	**90**	*e* Pn	Pb	20 31 00.3	-0.6
FNA	**Florina**	**1.63**	**346**	*e* PN	Pb	20 31 01.4	-0.8
FNA	**Florina**	**1.63**	**346**	*e* Pn	Pb	20 31 01.4	-0.8

IDC 26 20:31:50.9±2.0, 1°.87N×126°.87E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=163.5km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.88**	**162**	P	P	20 36 54.5	-1.8
	1.5nm,0.7s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.29**	**165**	P	P	20 37 29.8	+1.4
	0.6nm,0.8s,baz=352,slow=15,SNR=9.8						
MKAR	**Makanchi Array**	**59.16**	**326**	P	P	20 41 53.5	-0.1
	0.2nm,0.3s,baz=110,slow=8.2,SNR=6.7						

*IDC **26** 20:40:50.2±1.8, 8°.35S×124°.77E, h0km, mb3.6/1, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, ML3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.6/26, Error ellipse: s-maj=51.6km s-min=25.2km az=77.0*
*AUST **26** 20:40:58.5, 9°.00S×124°.01E, h100km*
ISC 26 20:40:58.0±1.3, 9°.05S±0°.10×124°.06E±0°.09, h74km, n12, σ2§86/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.74**	**164**	P	Pn	20 41 21.5	+7.7
	baz=0.8,SNR=238						
SOEI				S	Sn	20 41 36.1	+11
	baz=0.8,SNR=5.5						
BATI	**Baumata**	**1.22**	**199**	Pn	Pn	20 41 27.6	+8.1
	62nm,0.3s,baz=38,slow=3.0,SNR=108						
MTN	**Manton Dam**	**7.91**	**119**	P	**Pn**	**20 42 53.5**	**+3.2**
	baz=8.0,SNR=28						
MTN				S	**Sn**	**20 44 15.0**	**-3.4**
	baz=8.0,SNR=6.7						
KNRA	**Kununurra**	**8.04**	**146**	P	**Pn**	**20 42 55.0**	**+2.9**
	baz=8.1,SNR=62						
KNRA				S	**Sn**	**20 44 19.9**	**-1.5**
	baz=8.1,SNR=5.9						

MACH	**Maria Elena**	**0.78 299**	⇓*i*P	Pn	20 50 27.0	+0.5
MACH			*i* S	Sn	20 50 40.9	+1.2
PB09	**Plate Boundary**	**0.80 345**	⇓*i*P	Pn	20 50 26.9	+0.2
PB09			*i* S	Sn	20 50 40.5	+0.5
PB09			AML	AML	20 50 41.5	
	comp=N,4μm,0.4s					
SPCH	**San Pedro de A**	**0.83 114**	*i* P	Pn	20 50 27.7	+0.6
SPCH			*i* S	Sn	20 50 41.8	+1.0
SPCH			AML	AML	20 50 42.8	
	comp=E,2μm,0.3s					
CEN1	**Los Morros**	**1.35 233**	*e*P	Pn	20 50 35.9	+2.8
CEN1			*i* S	Sn	20 50 56.5	+5.3
CEN1			AML	AML	20 51 01.2	
	comp=N,218nm,0.3s					
PB01	**Plate Boundary**	**1.59 344**	*e*P	Pn	20 50 35.3	-0.6
PB01			*i* S	Sn	20 50 56.1	-0.2
PB01			AML	AML	20 50 56.9	
	comp=E,2μm,0.4s					
ANCH	**Antofagasta**	**1.69 229**	AML	AML	20 51 05.3	
	comp=E,402nm,0.4s					
PB10	**Plate Boundary**	**1.69 236**	*e*P	Pn	20 50 38.0	+0.8
PB10			*i* S	Sn	20 50 59.6	+1.1
PB10			AML	AML	20 51 08.8	
	comp=N,510nm,0.3s					

NNC 26 20:50:46.5±6.8, 36°.71N×70°.62E, h0km, mb3.7, mpv3.5, 3C-3D, Error ellipse: s-maj=61.3km s-min=45.7km az=149.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.39**	**359**	⇑Pn	Pn	20 52 23.9	+2.0
	2.5nm,0.4s,baz=183,slow=12,SNR=75						
KK31				⇑Sn	Sn	20 53 37.3	+1.8
	0.9nm,0.3s,baz=191,slow=25,SNR=3.9						
TKM2	**Tokmak 2**	**7.29**	**30**	⇓Pn	Pn	20 52 35.1	+0.7
	0.9nm,0.5s						
TKM2				⇓Sn	Sn	20 53 57.5	-0.7
	1.1nm,0.5s						
AB31	**Akbulak array**	**14.76**	**332**	⇓P	Pn	20 54 13.8	-2.5
	0.4nm,0.3s,baz=150,slow=13,SNR=16						
AKTO	**Aktyubinsk**	**16.45**	**330**	⇑P	Pn	20 54 35.5	-3.1
	0.8nm,0.6s						

NIED ***26*** *21:04:00.32°.20N×142°.00E, h5km, Mw3.9 Best double couple: M0=6.69000×10^14 NP1:φs=356.00000°, δ50.00000°, λ95.00000°. NP2:φs=168.00000°, δ41.00000°, λ84.00000°.*
IDC ***26*** *21:04:54.2±0.9, 32°.26N×142°.07E, h0km, mb4.0/13, mb1 4.1/16, mb1mx4.0/30, mbtmp4.0/16, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/41, Error ellipse: s-maj=32.8km s-min=15.3km az=77.0*
ISCJB ***26*** *21:04:56.7±1.7, 32°.22N±0°.04×141°.92E±0°.07, h28km±12km, mb4.1/18, Error ellipse: s-maj=11.2km s-min=5.1km az=157.6*
NEIC ***26*** *21:04:56.9±4.1, 32°.20N×141°.98E, h17km±25km, mb4.2/6, Error ellipse: s-maj=14.4km s-min=7.3km az=77.0*
JMA ***26*** *21:04:56.5±0.3, 32°.21N×141°.99E, h37km, M3.9*
ISC 26 21:04:56.1±4.5, 32°.19N±0°.05×141°.98E±0°.08, h14km±29km, n55, σ1§25/71, mb4.2/18, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.04**	**296**	P	**Pn**	**21 05 29.3**	**-0.7**
JHCJ				*e*S	**Sn**	**21 05 53.0**	**-2.3**
JHJ2	**Mitsune**	**2.04**	**297**	P	**Pn**	**21 05 29.6**	**-0.5**
JHJ2				*e*S	**Sn**	**21 05 54.7**	**-0.6**
BSO1	**Boso 1**	**2.59**	**341**	P	**Pn**	**21 05 37.2**	**0.0**
BSO1				S	**Sn**	**21 06 08.2**	**0.0**
BSO2	**Boso 2**	**2.75**	**339**	*e*S	**Sn**	**21 06 13.1**	**+0.7**
BSO3	**Boso 3**	**2.88**	**335**	P	**Pn**	**21 05 41.3**	**0.0**
BSO3				*e*S	**Sn**	**21 06 14.7**	**-0.9**
JKO	**Kozu shima**	**3.10**	**311**	P	**Pn**	**21 05 45.0**	**+0.3**
JKO				*e*S	**Sn**	**21 06 19.8**	**-1.8**
BSO4	**Boso 4**	**3.11**	**334**	P	**Pn**	**21 05 44.7**	**+0.1**
BSO4				*e*S	**Sn**	**21 06 19.6**	**-1.9**
JOD2	**Odawara 2**	**3.89**	**323**	P	**Pn**	**21 05 54.7**	**-0.9**
JOD2				*e*S	**Sn**	**21 06 38.7**	**-2.5**
JYN	**Shimob**	**4.36**	**320**	P	**Pn**	**21 06 03.6**	**+1.5**
JRY	**Ryogami san**	**4.59**	**327**	P	**Pn**	**21 06 06.2**	**+1.1**
JRY				*e*S	**Sn**	**21 06 56.8**	**-1.5**
JAG	**Ashikaga**	**4.71**	**334**	P	**Pn**	**21 06 06.6**	**-0.2**
JAG				*e*S	**Sn**	**21 06 58.8**	**-2.4**
CBIJ	**Chichi jima**	**5.08**	**178**	Pn	**Pn**	**21 06 11.9**	**-0.1**
CBIJ				Sn	**Sn**	**21 07 06.6**	**-3.9**
CBIJ	**Chichi jima**	**5.08**	**178**	P	**Pn**	**21 06 11.9**	**-0.1**
CBIJ				*e*S	**Sn**	**21 07 08.0**	**-2.5**
CBIJ	**Chichi jima**	**5.08**	**178**	Pn	**Pn**	**21 06 11.9**	**-0.1**
CBIJ				Sn	**Sn**	**21 07 06.6**	**-3.9**
	32nm,0.3s,baz=271,slow=22,SNR=8.1						
MJAR	**Matsushiro Arr**	**5.34**	**325**	Pn	**Pn**	**21 06 16.1**	**+0.6**
MJAR				Sn	**Sn**	**21 07 17.4**	**+0.6**
MJAR	**Matsushiro Arr**	**5.34**	**325**	Pn	**Pn**	**21 06 16.1**	**+0.6**
	2.4nm,0.3s,baz=153,slow=12,SNR=22						
MJAR				Sn	**Sn**	**21 07 17.4**	**+0.6**
	1.2nm,0.3s,baz=349,slow=12,SNR=4.2						
MAT	**Matsushiro**	**5.34**	**325**	P	**Pn**	**21 06 15.8**	**+0.3**
MAT				S	**Sn**	**21 07 16.3**	**-0.5**
ASAJ	**Asahikawa**	**11.91**	**2**	Pn	**Pn**	**21 07 43.2**	**-2.3**
ASAJ	**Asahikawa**	**11.91**	**2**	Pn	**Pn**	**21 07 43.2**	**-2.3**
	0.4nm,0.3s,baz=223,slow=19,SNR=3.8						
KSRS	**Korea Array**	**12.68**	**298**	LR	LR	21 12 46.6	
	comp=Z,39nm,18.7s,baz=100,slow=37						
SSLB	**Suanglung**	**20.34**	**251**	*e*P	**P**	**21 09 32.0**	**-0.1**
	2.3nm,0.5s						
TPUB	**Ta-pu**	**20.84**	**250**	*e*P	**P**	**21 09 37.8**	**+0.2**
HIA	**Hailar**	**23.83**	**322**	*e*P	**P**	**21 10 09.2**	**+0.4**
	9.2nm,0.5s						
SONM	**Songino Array**	**31.09**	**311**	P	**P**	**21 11 16.1**	**+2.1**
SONM	**Songino Array**	**31.09**	**311**	P	**P**	**21 11 16.1**	**+2.1**
	1.5nm,0.8s,baz=104,slow=9.2,SNR=6.3						
CHTO	**Chiang Mai**	**40.80**	**262**	*e*P	**P**	**21 12 37.5**	**+0.1**
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**45.62**	**316**	P	**P**	**21 13 15.8**	**0.0**
ZALV				PcP	**PcP**	**21 14 54.2**	**+0.2**
ZALV	**Zalesovo Beam**	**45.62**	**316**	P	**P**	**21 13 15.8**	**0.0**
	0.8nm,0.5s,baz=96,slow=9.1,SNR=6.4						
ZALV				PcP	**PcP**	**21 14 54.2**	**+0.2**
	0.6nm,0.6s,baz=96,slow=4.3,SNR=3.6						
MK31	**Makanchi Array**	**47.21**	**306**	*e*P	**P**	**21 13 28.8**	**+0.2**
MKAR	**Makanchi Array**	**47.21**	**306**	P	**P**	**21 13 28.9**	**+0.3**
MKAR	**Makanchi Array**	**47.21**	**306**	P	**P**	**21 13 28.9**	**+0.3**
	1.7nm,0.5s,baz=88,slow=9.6,SNR=28						
KURK	**Kurchatov**	**49.38**	**312**	P	**P**	**21 13 45.4**	**+0.3**
KURBB	**Kurchatov Arra**	**49.45**	**311**	P	**P**	**21 13 45.4**	**-0.2**
	2.1nm,0.5s,baz=90,slow=7.8,SNR=24						
WRAB	**Tennant Creek**	**52.34**	**189**	*e*P	**P**	**21 14 08.2**	**+0.5**
	4.8nm,0.8s						
WRA	**Warramunga Arr**	**52.35**	**189**	P	**P**	**21 14 08.1**	**+0.3**
WRA	**Warramunga Arr**	**52.35**	**189**	P	**P**	**21 14 08.1**	**+0.3**
	3.5nm,0.6s,baz=5.9,slow=7.6,SNR=81						
ILAR	**Eielson Array**	**53.38**	**30**	P	**P**	**21 14 15.2**	**+0.4**
ILAR	**Eielson Array**	**53.38**	**30**	P	**P**	**21 14 15.2**	**+0.4**
	0.2nm,0.6s,baz=264,slow=5.7,SNR=3.4						
KKAR	**Karatay Array**	**56.05**	**303**	*e*P	**P**	**21 14 34.8**	**+0.1**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**56.08**	**189**	P	**P**	**21 14 36.6**	**+1.7**
ASAR	**Alice Springs**	**56.08**	**189**	P	**P**	**21 14 36.6**	**+1.7**
	0.6nm,0.6s,baz=20,slow=12,SNR=16						
ABKAR	**Akbulak array**	**61.47**	**312**	*e*P	**P**	**21 15 12.3**	**+0.1**
	1.2nm,0.4s						
AKTO	**Aktyubinsk**	**62.31**	**314**	P	**P**	**21 15 18.1**	**+0.3**
AKTO	**Aktyubinsk**	**62.31**	**314**	P	**P**	**21 15 18.1**	**+0.3**
	1.2nm,0.7s,baz=66,slow=13,SNR=4.5						
FINES	**FINESS Array B**	**73.32**	**333**	P	**P**	**21 16 27.3**	**+0.3**
FINES	**FINESS Array B**	**73.32**	**333**	P	**P**	**21 16 27.3**	**+0.3**
	2.3nm,1.0s,baz=29,slow=3.2,SNR=6.1						
KBZ	**Khabaz**	**74.44**	**312**	P	**P**	**21 16 33.8**	**-0.1**
KBZ	**Khabaz**	**74.44**	**312**	P	**P**	**21 16 33.8**	**-0.1**
	2.1nm,0.8s,baz=78,slow=5.2,SNR=6.3						
HFS	**Hagfors**	**78.69**	**336**	P	**P**	**21 16 58.1**	**+0.5**
HFS	**Hagfors**	**78.69**	**336**	P	**P**	**21 16 58.1**	**+0.5**
	1.8nm,0.7s,baz=104,slow=9.5,SNR=5.2						
NB2	**NORSAR Subarra**	**78.83**	**338**	P	**P**	**21 16 58.1**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**78.83**	**338**	P	**P**	**21 16 56.6**	**-1.8**
NOA	**NORSAR Array B**	**78.83**	**338**	P	**P**	**21 16 56.6**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=40,slow=5.2,SNR=4.3						
BRTR	**Keskin Array B**	**82.43**	**312**	P	**P**	**21 17 18.4**	**+0.1**
BRTR	**Keskin Array B**	**82.43**	**312**	P	**P**	**21 17 18.4**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=58,slow=3.6,SNR=3.5						

DDA ***26*** *21:06:27.9, 38°.29N×26°.59E, h7km, MD2.9*
ATH ***26*** *21:06:27.8, 38°.27N×26°.53E, h28km±1km, MD3.1/4*
ISK ***26*** *21:06:27.7, 38°.33N×26°.62E, h5km, MD2.9*
CSEM 26 21:06:28.0±0.2, 38°.29N×26°.56E, h5km, MD3.1, Error ellipse: s-maj=5.0km s-min=3.8km az=49.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.07**	**22**	*i* Pg	Pg	21 06 30.2	+0.5
URLA				*i* Sg	Sg	21 06 31.8	+0.9
CHOS	**Chios island**	**0.41**	**283**	*e*PB	Pg	21 06 36.7	+0.7
CHOS				*e*SB	Sb	21 06 43.0	-1.5
CHOS	**Chios island**	**0.41**	**283**	*e*Pb	Pg	21 06 36.7	+0.7
CHOS				*e*Sb	Sb	21 06 43.0	-1.5
IZM	**Izmir**	**0.56**	**79**	*e*PG	Pg	21 06 38.5	-0.4
IZM				*e*SG	Sg	21 06 47.3	+1.0
IZM	**Izmir**	**0.56**	**79**	*e*Pg	Pg	21 06 38.6	-0.3
IZM				*e*Sg	Sg	21 06 47.3	+1.0
SMG	**Samos**	**0.62**	**159**	*e*PB	Pg	21 06 39.6	-0.4
SMG				*e*SN	Sb	21 06 49.7	-0.8
SMG	**Samos**	**0.62**	**159**	*e*Pb	Pg	21 06 39.6	-0.4
SMG				*e*Sn	Sb	21 06 49.7	-0.8
GCAM	**G?zelcaml?**	**0.80**	**138**	*e*P	Pg	21 06 43.2	-0.1
GCAM				*e*S	Sg	21 06 53.7	+0.1
GCAM	**G?zelcaml?**	**0.80**	**138**	*e*P	Pg	21 06 43.2	-0.1
GCAM				*e*S	Sg	21 06 53.7	+0.1
PRK	**Paraskevi**	**0.98**	**347**	*e*PN	Pg	21 06 46.9	+0.1
PRK				*e*SN	Sb	21 07 01.4	+0.8
PRK	**Paraskevi**	**0.98**	**347**	*e*Pn	Pg	21 06 46.9	+0.1
PRK				*e*Sn	Sb	21 07 01.4	+0.8
AKS	**Akhisar**	**1.14**	**59**	*e*PN	Pg	21 06 49.5	-0.4
AKS	**Akhisar**	**1.14**	**59**	*e*Pn	Pg	21 06 49.5	-0.5
AKHS	**Akhisar**	**1.14**	**59**	*e*P	Pg	21 06 49.9	-0.1
AKHS				*e*S	Sg	21 07 05.1	+0.2
AKHS	**Akhisar**	**1.14**	**59**	*e*P	Pg	21 06 49.9	-0.1
AKHS				*e*S	Sg	21 07 05.1	+0.3
AYDN	**Tasoluk**	**1.22**	**121**	*e*P	Pg	21 06 51.4	-0.1
AYDN				*e*S	Sg	21 07 06.8	-0.6
AYDN	**Tasoluk**	**1.22**	**121**	*e*P	Pg	21 06 51.4	-0.1
AYDN				*e*S	Sg	21 07 06.8	-0.6
MLSB	**Milas**	**1.39**	**136**	*e*PN	Pg	21 06 55.3	+0.7
MLSB	**Milas**	**1.39**	**136**	*e*Pn	Pg	21 06 55.3	+0.7
APE	**Apeiranthos**	**1.47**	**214**	*e*PN	Pn	21 06 54.2	-1.0
APE	**Apeiranthos**	**1.47**	**214**	*e*Pn	Pn	21 06 54.2	-1.0
EZN	**Ezine**	**1.54**	**353**	*e*PN	Pb	21 06 57.3	+0.3
EZN	**Ezine**	**1.54**	**353**	*e*Pn	Pg	21 06 57.3	-0.3
BALY	**Balya**	**1.66**	**29**	*e*P	Pn	21 06 58.2	+0.3
BALY				*e*S	Sb	21 07 20.2	-0.4
BALY	**Balya**	**1.66**	**29**	*e*P	Pn	21 06 58.2	+0.3
BALY				*e*S	Sb	21 07 20.2	-0.3
KULA	**Kula-Manisa**	**1.66**	**82**	*e*PN	Pn	21 06 58.0	0.0
KULA	**Kula-Manisa**	**1.66**	**82**	*e*Pn	Pn	21 06 58.0	0.0
BALB	**Balikesir**	**1.69**	**37**	*e*PN	Pn	21 06 57.9	-0.3
BALB	**Balikesir**	**1.69**	**37**	*e*Pn	Pn	21 06 57.9	-0.3
LIA	**Limnos Island**	**1.93**	**327**	*e*PN	Pn	21 07 00.9	-0.5
LIA	**Limnos Island**	**1.93**	**327**	*e*Pn	Pn	21 07 00.9	-0.5
GONE	**Gonen-Balikesi**	**1.96**	**26**	*e*PN	Pn	21 07 02.4	+0.5
GONE	**Gonen-Balikesi**	**1.96**	**26**	*e*Pn	Pn	21 07 02.4	+0.5
GELI	**Tayfur-Gelibol**	**2.10**	**358**	*e*PN	Pn	21 07 05.1	+1.2
GELI	**Tayfur-Gelibol**	**2.10**	**358**	*e*Pn	Pn	21 07 05.1	+1.2
SMTH	**Samothraki Isl**	**2.32**	**340**	*e*PN	Pn	21 07 06.0	-0.8
SMTH	**Samothraki Isl**	**2.32**	**340**	*e*Pn	Pn	21 07 06.0	-0.8

ISCJB ***26*** *21:18:28.7±0.5, 11°.50N±0°.04×124°.56E±0°.07, h15km, mb3.9/6, Error ellipse: s-maj=9.4km s-min=5.8km az=2.0*
IDC ***26*** *21:18:28.5±2.5, 11°.56N×124°.61E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, Error ellipse: s-maj=276.0km s-min=19.4km az=66.0*
NEIC ***26*** *21:18:29.8±0.5, 11°.51N×124°.64E, h10km, mb4.5/2, Error ellipse: s-maj=16.6km s-min=7.6km az=65.0*
NEIC Felt [III PIVS] at Naval.
MAN ***26*** *21:18:30, 11°.57N×124°.33E, h4km, mb4.4, ML3.3, MS3.1*
MAN INTENSITY III - NAVAL BILIRAN.
ISC 26 21:18:30.6±0.6, 11°.49N±0°.04×124°.53E±0°.07, h15km, n25, σ1§58/29, mb3.9/6, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.44**	**170**	*e*P	**Pn**	**21 18 41.9**	**-0.5**
CNP	**Cataman**	**1.03**	**7**	*e*P	**Pb**	**21 18 49.4**	**-0.7**
MMPH	**Masbate**	**1.24**	**315**	*e*P	**Pn**	**21 18 50.2**	**-3.1**
MMPH				*e*S	**Sg**	**21 19 16.0**	**+5.3**
LLP	**Lapu-Lapu**	**1.28**	**205**	⇓*e*P	**Pn**	**21 18 53.2**	**-0.8**
LLP				*e*S	**Sb**	**21 19 09.9**	**-1.0**
MSLP	**Maasin**	**1.38**	**166**	*e*P	**Pg**	**21 18 58.7**	**+1.5**
RCP	**Roxas**	**1.75**	**273**	⇓*e*P	**Pn**	**21 18 57.6**	**-2.8**
GUIM	**Jordan**	**2.09**	**246**	*e*P	**Pn**	**21 19 03.9**	**-1.1**
PVCP	**Virac**	**2.13**	**350**	*e*P	**Pn**	**21 19 05.7**	**0.0**
OTRP	**Odiongan**	**2.60**	**290**	*e*P	**Pn**	**21 19 11.5**	**-0.7**
DAV	**Davao City (W)**	**4.51**	**167**	Pn	**Pn**	**21 19 37.7**	**-0.7**
YULB	**Yu-li**	**12.23**	**346**	*e*Pn	**Pn**	**21 21 25.2**	**+0.7**
GUMO	**Guam**	**19.97**	**82**	*e*P	**P**	**21 23 00.8**	**-1.7**
	64nm,0.9s						
CM31	**Chiang Mai Arr**	**25.65**	**289**	P	**P**	**21 24 00.3**	**+0.3**
WRA	**Warramunga Arr**	**32.69**	**163**	P	**P**	**21 25 02.5**	**0.0**
WRA	**Warramunga Arr**	**32.69**	**163**	P	**P**	**21 25 02.5**	**0.0**
	0.8nm,1.1s,baz=337,slow=8.3,SNR=3.0						
ASAR	**Alice Springs**	**36.12**	**165**	P	**P**	**21 25 33.5**	**+1.2**
ASAR	**Alice Springs**	**36.12**	**165**	P	**P**	**21 25 33.5**	**+1.2**
	0.4nm,0.4s,baz=346,slow=7.5,SNR=7.8						
CTAO	**Charters Tower**	**37.97**	**146**	*e*P	**P**	**21 25 47.5**	**-0.6**
	2.7nm,0.8s						
ULN	**Ulaanbaatar**	**39.12**	**341**	P	**P**	**21 25 57.3**	**-0.3**
MKAR	**Makanchi Array**	**50.03**	**323**	P	**P**	**21 27 25.1**	**+0.4**
MKAR				PcP	**PcP**	**21 28 43.0**	**-1.4**
MKAR	**Makanchi Array**	**50.03**	**323**	P	**P**	**21 27 25.1**	**+0.4**
	1.6nm,0.8s,baz=120,slow=8.9,SNR=18						
MKAR				PcP	**PcP**	**21 28 43.0**	**-1.4**
	0.3nm,0.7s,baz=108,slow=4.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.75**	**332**	P	**P**	**21 27 44.3**	**-0.5**
ZALV	**Zalesovo Beam**	**52.75**	**332**	P	**P**	**21 27 44.3**	**-0.5**
	0.6nm,0.7s,baz=120,slow=5.7,SNR=3.9						
KURK	**Kurchatov**	**54.10**	**326**	P	**P**	**21 27 55.4**	**+0.6**
KURBB	**Kurchatov Arra**	**54.11**	**326**	P	**P**	**21 27 55.4**	**+0.6**
	2.0nm,0.7s,baz=130,slow=7.2,SNR=23						

ISCJB ***26*** *21:23:50.2±0.5, 14°.95S±0°.07×167°.81E±0°.06, h35km, mb4.2/13, Error ellipse: s-maj=9.8km s-min=8.3km az=148.6*
NEIC ***26*** *21:23:50.9±0.7, 14°.79S×167°.75E, h26km±5km, mb4.8/7, Error ellipse: s-maj=9.6km s-min=6.1km az=170.0*
IDC ***26*** *21:23:50.8±1.4, 14°.75S×167°.75E, h25km±6km, mb3.8/8, mb1 4.0/9, mb1mx3.7/22, mbtmp3.8/9, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=42.3km s-min=21.1km az=139.0*
ISC 26 21:23:51.8±0.6, 14°.86S±0°.08×167°.74E±0°.07, h35km, n33, σ1§23/38, mb4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.28**	**190**	Pn	**Pn**	**21 25 36.0**	**+0.3**
DZM				Sn	**Sn**	**21 26 55.9**	**-1.3**
DZM	**Mont Dzumac**	**7.28**	**190**	Pn	**Pn**	**21 25 36.0**	**+0.3**
	2.7nm,0.3s,baz=164,slow=16,SNR=22						
DZM				Sn	**Sn**	**21 26 55.9**	**-1.3**
	1.2nm,0.3s,baz=150,slow=20,SNR=1.8						
HNR	**Honiara**	**9.34**	**304**	LR	LR	21 29 16.5	
	comp=Z,110nm,20.8s,baz=293,slow=35						
MSVF	**Nonsavu**	**10.30**	**108**	Pn	**Pn**	**21 26 16.9**	**-0.3**
FUNA	**Funafuti**	**12.86**	**62**	*e*Pn	**Pn**	**21 26 51.6**	**-0.5**
RAO	**Raoul Island**	**19.51**	**140**	*e*P	**Pn**	**21 28 16.9**	**-0.5**
	255nm,0.8s						
CTA	**Charters Tower**	**21.14**	**253**	P	**P**	**21 28 35.6**	**+1.7**
CTA	**Charters Tower**	**21.14**	**253**	P	**P**	**21 28 35.6**	**+1.7**
	0.9nm,0.3s,baz=91,slow=15,SNR=3.9						
CTAO	**Charters Tower**	**21.14**	**253**	*e*P	**P**	**21 28 33.9**	**0.0**
	2.5nm,0.6s						
ARMA	**Armidale**	**21.43**	**221**	*e*P	**P**	**21 28 38.1**	**+1.2**
COEN	**Coen**	**23.81**	**269**	*e*P	**P**	**21 29 01.3**	**-0.4**
	39nm,1.0s						
STKA	**Stephens Creek**	**29.26**	**230**	*e*P	**P**	**21 29 52.3**	**+1.7**
STKA				pP	**pP**	**21 30 00.0**	**-0.7**
STKA	**Stephens Creek**	**29.26**	**230**	P	**P**	**21 29 52.0**	**+1.3**
	0.9nm,0.4s,baz=49,slow=9.6,SNR=6.2						
STKA				pP	**pP**	**21 30 00.0**	**-0.7**
	2.0nm,0.4s,baz=44,slow=7.9,SNR=2.4						
RAR	**Rarotonga**	**31.49**	**106**	*e*P	**P**	**21 30 11.1**	**+0.7**
	108nm,1.4s						
WRAB	**Tennant Creek**	**32.23**	**256**	*e*P	**P**	**21 30 17.4**	**+0.4**
	18nm,1.6s						
WRA	**Warramunga Arr**	**32.24**	**256**	P	**P**	**21 30 16.8**	**-0.4**
WRA				pP	**pP**	**21 30 24.6**	**-2.6**
WRA	**Warramunga Arr**	**32.24**	**256**	P	**P**	**21 30 16.8**	**-0.4**
	0.6nm,0.6s,baz=86,slow=9.6,SNR=16						
WRA				pP	**pP**	**21 30 24.6**	**-2.6**
	1.1nm,0.5s,baz=86,slow=9.2,SNR=8.0						
ASAR	**Alice Springs**	**33.06**	**249**	P	**P**	**21 30 24.4**	**+0.2**
ASAR				pP	**pP**	**21 30 32.4**	**-2.0**
ASAR	**Alice Springs**	**33.06**	**249**	P	**P**	**21 30 24.4**	**+0.2**
	1.3nm,0.7s,baz=81,slow=8.7,SNR=19						
ASAR				pP	**pP**	**21 30 32.4**	**-2.0**
	2.5nm,0.5s,baz=82,slow=8.9,SNR=17						
FITZ	**Fitzroy Crossi**	**40.44**	**259**	pP	pP	21 31 35.6	-1.8
FITZ	**Fitzroy Crossi**	**40.44**	**259**	P	**P**	**21 31 28.1**	**+0.9**
	1.8nm,1.0s,baz=82,slow=11,SNR=5.3						
FITZ				pP	**pP**	**21 31 35.6**	**-1.8**
	4.1nm,1.1s,baz=134,slow=11,SNR=3.1						
MBWA	**Marble Bar**	**45.95**	**255**	*e*P	**P**	**21 32 12.5**	**+0.8**
	5.8nm,0.8s						
VNDA	**Vanda**	**62.74**	**181**	*e*P	**P**	**21 34 13.5**	**+0.6**
SBA	**Scott Base**	**63.01**	**180**	P	**P**	**21 34 15.7**	**+1.0**
CASY	**Casey**	**63.58**	**202**	*e*P	**P**	**21 34 19.2**	**+0.6**
	1.9nm,0.8s						
ILAR	**Eielson Array**	**86.51**	**18**	P	**P**	**21 36 29.4**	**-1.2**
ILAR	**Eielson Array**	**86.51**	**18**	P	**P**	**21 36 29.4**	**-1.2**
	0.7nm,0.7s,baz=237,slow=5.5,SNR=7.8						
NVAR	**Mina Array Bea**	**87.01**	**49**	P	**P**	**21 36 35.3**	**+1.3**
NVAR	**Mina Array Bea**	**87.01**	**49**	P	**P**	**21 36 35.3**	**+1.3**
	0.4nm,0.7s,baz=220,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**97.61**	**316**	P	Pdif	21 37 23.7	+0.9
MKAR	**Makanchi Array**	**97.61**	**316**	P	Pdif	21 37 23.7	+0.9
	0.4nm,0.8s,baz=98,slow=4.6,SNR=3.4						
ARCES	**ARCESS Array B**	**120.49**	**346**	PKP	**PKPdf**	**21 42 38.6**	**-0.4**
ARCES	**ARCESS Array B**	**120.49**	**346**	PKP	**PKPdf**	**21 42 38.6**	**-0.4**
	1.2nm,0.8s,baz=336,slow=2.7,SNR=4.3						

KRSC 26 21:31:47.7±0.5, 51°.83N×158°.79E, h33km±23km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.63**	**344**	*i* P	Pb	21 32 00.6	+0.3
RUS				*i* S	Sn	21 32 09.3	+0.2
MTVR	**Mutnovka**	**0.75**	**330**	*e*P	Pb	21 32 02.5	-0.1
MTVR				*i* S	Sb	21 32 12.9	+0.1
ASAK	**Asacha**	**0.78**	**316**	*i* P	Pb	21 32 03.2	+0.2
ASAK				*i* S	Sb	21 32 13.8	+0.4
GRL	**Gorelyy**	**0.85**	**329**	*i* P	Pb	21 32 04.2	0.0
GRL				*i* S	Sb	21 32 16.1	+0.7
PET	**Petropavlovsk**	**1.20**	**356**	*i* P	Pn	21 32 08.6	+0.5
PET				*i* S	Sn	21 32 23.9	+0.7
PAU	**Pauzhetka**	**1.28**	**254**	*e*P	Pn	21 32 09.8	+0.5
PAU				*i* S	Sn	21 32 25.8	+0.4
MIPR	**Malaya Ipel'ka**	**1.33**	**290**	*i* P	Pb	21 32 11.4	-0.7
MIPR				*i* S	Sb	21 32 28.5	-0.4
UGLR	**Uglovaya**	**1.38**	**1**	*i* P	Pn	21 32 11.6	+0.8
SMAR	**Somma**	**1.44**	**0**	*e*P	Pb	21 32 13.0	-1.2
AVH	**Avacha**	**1.44**	**359**	*e*P	Pn	21 32 12.7	+1.2
AVH				*i* S	Sb	21 32 31.4	-

comp=Z,243nm,18.3s,baz=244,slow=38
MKAR Makanchi Array 75.65 322 P P 22 22 04.8 +0.2
0.7nm,0.8s,baz=99,slow=7.7,SNR=6.4
ILAR Eielson Array 87.57 24 P P 22 23 06.9 -0.4
0.5nm,0.9s,baz=242,slow=6.7,SNR=4.4

NIED ***26*** *22:18:00,46˚.40N×152˚.80E,h35km,Mw4.1 Best double couple: M₀1.70000×10¹⁵ NP1:φ₀338.00000°,δ61.00000°, λ40.00000°. NP2:φ₀226.00000°,δ56.00000°,λ144.00000°.*
JMA ***26*** *22:18:18.0±0.7,46˚.38N×152˚.77E,h30km,M4.9*
ISCJB ***26*** *22:18:19.6±0.7,46˚.41N±0˚.05×152˚.31E±0˚.06,h52km±6km, mb4.3/58,MS3.7/5,Error ellipse: s-maj=10.1km s-min=4.9km az=141.2*
SKHL ***26*** *22:18:20.0±1.1,46˚.73N×152˚.71E,h53km±22km,mb5.0/5*
IDC ***26*** *22:18:22.7±0.8,46˚.74N×152˚.25E,h56km±6km,mb3.8/25, mb1 4.0/28,mb1mx4.0/37,mbtmp3.9/28,MS3.5/6, Ms1 3.5/6,ms1mx3.1/53,Error ellipse: s-maj=25.3km s-min=11.3km az=168.0*
NEIC ***26*** *22:18:23.7±0.7,46˚.67N×152˚.25E,h68km±6km,mb4.6/9, Error ellipse: s-maj=8.6km s-min=4.7km az=142.0*
MOS ***26*** *22:18:26.4±1.2,46˚.57N×152˚.15E,h109km,mb4.3/10, Error ellipse: s-maj=12.0km s-min=8.1km az=123.3*
BJI ***26*** *22:18:27.5,46˚.52N×152˚.44E,h151km,mB4.7/5,mb4.5/6*
ISC 26 22:18:22.0±0.6,46˚.47N±0˚.06×152˚.39E±0˚.05,h59km±5km, n198,σ1§42/213,mb4.3/58,MS3.7/5,7C-12D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.39**	**250**	⇓*i*	P	N	**Pn**	**22 19 12.9**	**+0.6**
KUR				*i*	S		**Sn**	**22 19 51.8**	**+0.5**
KUR					pmax		pmax		
	comp=E,60nm,0.3s								
KUR					pmax		pmax		
	comp=N,113nm,0.5s								
KUR					pmax		pmax		
	comp=Z,170nm,0.5s								
KUR					smax		smax		
	comp=N,370nm,0.3s								
KUR					smax		smax		
	comp=E,371nm,0.3s								
KUR	**Kuril'sk**	**3.39**	**250**	⇓*i*	P		**Pn**	**22 19 13.0**	**+0.6**
KUR					AMB		AMB	22 19 13.2	
	comp=E,340nm,0.3s								
KUR				*i*	S		**Sn**	**22 19 51.9**	**+0.6**
KUR					A		A	22 20 05.5	
	comp=E,810nm,0.6s								
KUR					A		A	22 20 05.5	
	comp=E,1μm,0.6s								
SKR	**Severo-Kuril's**	**4.89**	**29**	*e*	PN		Pn	22 19 24.0	-8.9
SKR					pmax		pmax		
	comp=N,60nm,0.5s								
SKR					pmax		pmax		
	comp=E,50nm,0.5s								
SKR					pmax		pmax		
	comp=Z,80nm,0.5s								
SKR	**Severo-Kuril's**	**4.89**	**29**	*e*	P		Pn	22 19 24.0	-8.9
SKR					AMB		AMB	22 19 27.4	
	comp=Z,60nm,0.5s								
SKR					AMB		AMB	22 19 27.4	
	comp=Z,50nm,0.5s								
SKR					AMB		AMB	22 19 27.4	
	comp=Z,80nm,0.5s								
SKR				*e*	S		Sn	22 20 17.5	-11
SKR					A		A	22 20 24.5	
	comp=Z,140nm,0.5s								
SKR					A		A	22 20 24.5	
	comp=Z,80nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**5.21**	**245**	*d*	*i*	PN	**Pn**	**22 19 38.3**	**+1.0**
YUK				*i*	S		**Sn**	**22 20 37.0**	**+1.1**
YUK					pmax		pmax		
	comp=N,83nm,0.2s								
YUK					pmax		pmax		
	comp=E,71nm,0.2s								
YUK					pmax		pmax		
	comp=Z,184nm,0.2s								
YUK					smax		smax		
	comp=N,144nm,0.2s								
YUK					smax		smax		
	comp=E,415nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.21**	**245**	⇓*i*	P		**Pn**	**22 19 38.3**	**+1.0**
YUK					AMB		AMB	22 19 39.9	
	comp=E,71nm,0.2s								
YUK					AMB		AMB	22 19 39.9	
	comp=E,184nm,0.2s								
YUK					AMB		AMB	22 19 39.9	
	comp=E,83nm,0.2s								
YUK				*i*	S		**Sn**	**22 20 37.1**	**+1.1**
YUK					A		A	22 21 00.3	
	comp=E,144nm,0.2s								
YUK					A		A	22 21 00.3	
	comp=E,430nm,0.2s								
NEM2	**Nemuro 2**	**5.65**	**239**	P			**Pn**	**22 19 41.7**	**-1.5**
NEM2				*e*	S		**Sn**	**22 20 44.0**	**-2.7**
JRA	**Rausu**	**5.72**	**246**	P			**Pn**	**22 19 45.8**	**+1.5**
JNK	**Nakash**	**6.15**	**245**	P			**Pn**	**22 19 50.8**	**+0.6**
JNK				*e*	S		**Sn**	**22 20 57.5**	**-1.6**
JAK	**Akkeshi**	**6.48**	**240**	P			**Pn**	**22 19 53.4**	**-1.3**
JAK				*e*	S		**Sn**	**22 21 03.4**	**-3.9**
JTKR	**Abashiri--Toko**	**6.49**	**250**	P			**Pn**	**22 19 56.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.64**	**278**	⇑*i*	P	N	**Pn**	**22 19 59.0**	**+2.1**
YSS				*e*	S		**Sn**	**22 21 14.0**	**+2.9**
YSS	**Yuzh-Sakhalins**	**6.64**	**278**	⇑*i*	P		**Pn**	**22 19 59.0**	**+2.1**
YSS				*e*	S		**Sn**	**22 21 14.0**	**+2.9**
YSS					A		A	22 21 16.5	
	comp=E,60nm,0.8s								
YSS					A		A	22 21 16.5	
	comp=E,50nm,0.8s								
JMP	**Maruseppu**	**6.83**	**252**	P			**Pn**	**22 20 01.7**	**+2.2**
JOB	**Onbets**	**7.06**	**243**	P			**Pn**	**22 20 02.0**	**-0.6**
JOB				*e*	S		**Sn**	**22 21 19.3**	**-2.1**
JKK2	**Kamakawa 2**	**7.29**	**253**	P			**Pn**	**22 20 07.5**	**+1.7**
ASAJ	**Asahikawa**	**7.29**	**255**	P			**Pn**	**22 20 08.1**	**+2.3**
ASAJ	**Asahikawa**	**7.29**	**255**	P			**Pn**	**22 20 08.4**	**+2.6**
ASAJ	**Asahikawa**	**7.29**	**255**	P			**Pn**	**22 20 08.1**	**+2.3**
	comp=E,5.2nm,0.3s,baz=77,slow=18,SNR=15								
ASAJ					LR		LR	22 22 50.2	
	comp=E,163nm,19.9s,baz=159,slow=37								
JWK2	**Keihoku**	**7.41**	**265**	P			Pn	22 20 12.4	+5.0
PEA0B	**Petropavlovsk-**	**7.48**	**25**	*e*	Pn		**Pn**	**22 20 08.7**	**+0.4**
PEA0B				*e*	Sn		**Sn**	**22 21 26.8**	**-4.9**
PETK	**Petropavlovsk-**	**7.48**	**25**	PN			**Pn**	**22 20 09.1**	**+0.8**
PETK	**Petropavlovsk-**	**7.48**	**25**	P			**Pn**	**22 20 09.1**	**+0.8**
PETK	**Petropavlovsk-**	**7.48**	**25**	P			**Pn**	**22 20 09.1**	**+0.8**
	comp=E,0.7nm,0.3s,baz=192,slow=13,SNR=4.6								
JCH	**Churui**	**7.51**	**242**	P			**Pn**	**22 20 07.6**	**-1.2**
JCH				*e*	S		**Sn**	**22 21 28.8**	**-3.6**
TYV	**Tymovskoe**	**7.80**	**308**	*e*	P		**Pn**	**22 20 13.8**	**+1.1**
TYV					AMB		AMB	22 20 15.2	
	comp=E,26nm,1.0s								
TYV					AMB		AMB	22 20 15.2	
	comp=E,13nm,0.8s								
TYV					AMB		AMB	22 20 15.2	
	comp=E,15nm,0.8s								
JEM	**Erimo**	**7.98**	**239**	P			**Pn**	**22 20 15.4**	**+0.2**
JEM				*e*	S		**Sn**	**22 21 40.9**	**-3.1**
ERM	**Erimo**	**7.98**	**239**	*ce*	PN		**Pn**	**22 20 14.7**	**-0.5**
ERM	**Erimo**	**7.98**	**239**	*e*	Pn		**Pn**	**22 20 15.3**	**+0.1**
	comp=E,98nm,0.6s								
ERM				*e*	Sn		**Sn**	**22 21 39.5**	**-4.4**
JBT2	**Biratori 2**	**8.04**	**246**	P			**Pn**	**22 20 15.7**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.07**	**242**	P			**Pn**	**22 20 15.0**	**-1.4**
JNBK				*e*	S		**Sn**	**22 21 43.1**	**-3.1**
JNB	**Noboribetsu**	**9.04**	**248**	P			**Pn**	**22 20 29.2**	**-0.6**
JNB				*e*	S		**Sn**	**22 22 07.7**	**-2.3**
JKB	**Kayabe**	**9.35**	**245**	P			**Pn**	**22 20 32.0**	**-2.0**
JKB				*e*	S		Sn	22 22 10.2	-7.4
JYM2	**Yakumo 2**	**9.65**	**248**	P			**Pn**	**22 20 37.6**	**-0.4**
JSR	**Shiriuchi**	**9.94**	**245**	P			**Pn**	**22 20 39.7**	**-2.2**
JSR				*e*	S		Sn	22 22 24.8	-7.0
JTM	**Tenmabayashi**	**9.97**	**239**	P			**Pn**	**22 20 39.8**	**-2.7**
JTM				*e*	S		Sn	22 22 24.0	-8.8
JANG	**Nango**	**9.98**	**236**	P			Pn	22 20 38.6	-3.9
JANG				*e*	S		Sn	22 22 22.6	-10
JTH	**Tanohata**	**10.07**	**233**	*e*	S		Sn	22 22 24.9	-10
JOSM	**Okushiri--Mats**	**10.24**	**249**	P			**Pn**	**22 20 44.9**	**-1.2**
OFUJ	**Ofunato**	**10.79**	**231**	P			Pn	22 20 49.7	-3.9
OFUJ				*e*	S		Sn	22 22 41.8	-11
TEY	**Ternei**	**11.13**	**268**	*e*	P		Pn	22 21 02.5	+4.4
TEY					AMB		AMB	22 21 03.0	
	comp=E,34nm,1.0s								
JRG	**Rokugo**	**11.14**	**235**	P			Pn	22 20 55.0	-3.3
JRG				*e*	S		Sn	22 22 52.8	-8.4
JIO	**Ouri**	**11.42**	**229**	P			Pn	22 20 58.4	-3.8
JIO				*e*	S		Sn	22 22 56.9	-11
HABR	**Khabarovsk**	**11.91**	**286**	*e*	PN		Pn	22 21 12.6	+3.8
HABR				*e*	S		Sn	22 23 27.5	+7.6
HABR					pmax		pmax		
	comp=Z,55nm,1.6s								
KLR	**Kul'dur**	**14.13**	**289**	*e*	P		**Pn**	**22 21 39.9**	**+1.0**
MJAR	**Matsushiro Arr**	**14.51**	**232**	P			**Pn**	**22 21 41.1**	**-2.9**
MJAR	**Matsushiro Arr**	**14.51**	**232**	P			**Pn**	**22 21 41.1**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=22,slow=14,SNR=5.8								
MAT	**Matsushiro**	**14.51**	**232**	P			**Pn**	**22 21 44.9**	**+0.9**
USRK	**Ussuriysk Arra**	**14.52**	**268**	P			**Pn**	**22 21 43.5**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=74,slow=12,SNR=19								
USRK					LR		LR	22 27 05.2	
	comp=Z,71nm,20.8s,baz=142,slow=36								
FX1	**Attu Island--F**	**14.88**	**57**	*e*	P	N	**Pn**	**22 21 48.5**	**-0.1**
FX1	**Attu Island--F**	**14.88**	**57**	P			**Pn**	**22 21 47.5**	**-1.1**
	comp=Z,6.1nm,0.3s,baz=252,slow=20,SNR=15								
KSRS	**Korea Array**	**20.23**	**252**	P			**P**	**22 22 53.4**	**+1.3**
	comp=Z,9.5nm,0.6s,baz=54,slow=11,SNR=22								
KSAR	**Wonju Array Be**	**20.27**	**252**	P			**P**	**22 22 53.4**	**+0.9**
YAK	**Yakutsk**	**20.30**	**328**	⇑*e*	P		Pn	22 22 57.1	+2.1
INCN	**Inchon**	**21.07**	**254**	*e*	P		**P**	**22 23 02.9**	**+1.8**
JNU	**Nakatsue**	**21.15**	**239**	*e*	P		**P**	**22 23 03.3**	**+1.3**
	comp=Z,1.6nm,0.5s								
JNU	**Nakatsue**	**21.15**	**239**	P			**P**	**22 23 02.2**	**+0.2**
	comp=Z,3.2nm,0.4s,baz=0.0,slow=5.1,SNR=3.7								
HHC	**Hu-ho-hao-te**	**29.82**	**274**	*e*	P		P	22 24 18.8	-4.5
HHC					S		S	22 29 02.0	-14
HHC					pmax		pmax		
	comp=Z,34nm,0.7s								
HHC					pmax		pmax		
	comp=Z,130nm,4.8s								
ULN	**Ulaanbaatar**	**30.52**	**289**	*e*	P		**P**	**22 24 29.3**	**-0.3**
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**30.96**	**290**	P			**P**	**22 24 33.7**	**+0.3**
SONM	**Songino Array**	**30.96**	**290**	P			**P**	**22 24 33.7**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=71,slow=8.4,SNR=4.5								
SSLB	**Suanglung**	**33.89**	**239**	*e*	P		**P**	**22 25 00.2**	**+1.0**
	comp=Z,26nm,0.6s								
YULB	**Yu-li**	**33.99**	**238**	*e*	P		**P**	**22 25 01.3**	**+1.3**
IMA2	**Indian Mountai**	**34.33**	**36**	*e*	P		**P**	**22 25 02.3**	**-0.3**
TPUB	**Ta-pu**	**34.45**	**239**	*e*	P		**P**	**22 25 05.1**	**+1.1**
	comp=Z,81nm,0.7s								
KDAK	**Kodiak Island**	**34.67**	**51**	P			**P**	**22 25 04.1**	**-1.3**
KDAK	**Kodiak Island**	**34.67**	**51**	P			**P**	**22 25 04.1**	**-1.3**
	comp=Z,6.1nm,0.9s,baz=180,slow=11,SNR=4.6								
ILAR	**Eielson Array**	**37.08**	**38**	P			**P**	**22 25 25.6**	**-0.4**
ILAR	**Eielson Array**	**37.08**	**38**	P			**P**	**22 25 25.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=266,slow=7.1,SNR=5.3								
GTA	**Gaotai**	**38.52**	**279**	*e*	P		**P**	**22 25 41.0**	**+2.4**
GTA					pmax		pmax		
	comp=Z,4.0nm,1.0s								
ZALV	**Zalesovo Beam**	**42.37**	**306**	*e*	P		**P**	**22 26 10.0**	**0.0**
ZALV	**Zalesovo Beam**	**42.37**	**306**	P			**P**	**22 26 07.3**	**-2.7**
ZALV					PcP		**PcP**	**22 28 02.3**	**0.0**
ZALV	**Zalesovo Beam**	**42.37**	**306**	P			**P**	**22 26 07.3**	**-2.7**
	comp=Z,0.4nm,0.4s,baz=75,slow=7.8,SNR=4.1								
ZALV					PcP		**PcP**	**22 28 02.3**	**0.0**
	comp=Z,0.9nm,0.4s,baz=74,slow=2.3,SNR=7.5								
ZALV					LR		LR	22 45 04.6	
	comp=Z,94nm,18.3s,baz=340,slow=38								
QIZ	**Qiongzhong**	**44.28**	**246**	*e*	P		**P**	**22 26 25.1**	**-0.7**
	comp=Z,8.4nm,0.9s								
DLBC	**Dease Lake**	**46.15**	**45**	P			**P**	**22 26 40.1**	**-0.1**
DLBC	**Dease Lake**	**46.15**	**45**	P			**P**	**22 26 42.8**	**+2.5**
	comp=Z,2.0nm,0.8s,baz=326,slow=3.6,SNR=4.0								
MK31	**Makanchi Array**	**46.63**	**297**	*e*	P		**P**	**22 26 42.5**	**-1.6**
MK31	**Makanchi Array**	**46.63**	**297**	*e*	P		**P**	**22 26 42.5**	**-1.6**
MKAR	**Makanchi Array**	**46.63**	**297**	P			**P**	**22 26 42.6**	**-1.5**
MKAR								22 28 17.4	
MKAR	**Makanchi Array**	**46.63**	**297**	P			**P**	**22 26 42.6**	**-1.5**
MKAR					PcP		**PcP**	**22 28 17.4**	**+0.3**
MKAR	**Makanchi Array**	**46.63**	**297**	P			**P**	**22 26 42.6**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=69,slow=7.7,SNR=21								
MKAR					PcP		**PcP**	**22 28 17.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=72,slow=2.7,SNR=9.9								
KURK	**Kurchatov**	**47.10**	**304**	P			**P**	**22 26 46.5**	**-1.2**
KURK								22 28 18.1	
KURK	**Kurchatov**	**47.10**	**304**	P			**P**	**22 26 46.5**	**-1.2**
KURK					PcP		**PcP**	**22 28 18.1**	**-0.6**
KURBB	**Kurchatov Arra**	**47.20**	**303**	P			**P**	**22 26 46.5**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=74,slow=8.5,SNR=14								
KURBB					PcP		**PcP**	**22 28 18.1**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=64,slow=3.3,SNR=5.9								
BVAR	**Borovoye Array**	**50.65**	**309**	P			**P**	**22 27 15.4**	**+0.6**
BVAR								22 28 31.0	
BVAR	**Borovoye Array**	**50.65**	**309**	P			**P**	**22 27 15.4**	**+0.6**
BVAR					PcP		**PcP**	**22 28 31.0**	**-0.5**
BVAR	**Borovoye Array**	**50.65**	**309**	P			**P**	**22 27 15.4**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=43,slow=7.5,SNR=6.6								
BVAR					PcP		**PcP**	**22 28 31.0**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=85,slow=3.4,SNR=5.2								
BVAR					LR		LR	22 50 02.1	
	comp=Z,48nm,20.4s,baz=283,slow=38								
BRVK	**Borovoye**	**50.69**	**309**	*e*	P		**P**	**22 27 14.0**	**-1.2**
BRVK					pmax		pmax		
	comp=Z,4.0nm,0.6s								
BRVK	**Borovoye**	**50.69**	**309**	*e*	P		**P**	**22 27 14.0**	**-1.2**
	comp=Z,3.6nm,0.6s								
YKA	**Yellowknife Ar**	**51.45**	**36**	P			**P**	**22 27 21.0**	**+0.3**
YKA	**Yellowknife Ar**	**51.45**	**36**	P			**P**	**22 27 21.0**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=302,slow=5.8,SNR=2.7								
AAK	**Ala-Archa**	**53.51**	**296**	*i*	P		**P**	**22 27 34.7**	**-1.8**
AAK					pmax		pmax		
	comp=Z,7.0nm,0.9s								
AAK	**Ala-Archa**	**53.51**	**296**	*e*	P		**P**	**22 27 35.0**	**-1.5**
	comp=Z,2.1nm,0.6s								
AAK	**Ala-Archa**	**53.51**	**296**	P			**P**	**22 27 36.5**	**0.0**
	comp=Z,1.0nm,0.3s,baz=157,slow=5.0,SNR=6.3								
AAK					LR		LR	22 52 58.8	
	comp=Z,71nm,18.8s,baz=54,slow=39								
ARU	**Arti**	**54.88**	**317**	*d*	*i*	P	**P**	**22 27 44.1**	**-1.9**
ARU					*PP		pP	22 28 15.5	+14
ARU								22 29 47.1	
ARU					S		**S**	**22 35 17.5**	**-5.1**
ARU					pmax		pmax		
	comp=Z,11nm,2.5s								
ARCES	**ARCESS Array B**	**57.95**	**341**	P			**P**	**22 28 05.9**	**-1.8**
ARCES	**ARCESS Array B**	**57.95**	**341**	P			**P**	**22 28 05.9**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=40,slow=7.1,SNR=5.9								
AKTO	**Aktyubinsk**	**58.54**	**312**	LR			LR	22 55 53.3	
	comp=Z,67nm,18.4s,baz=245,slow=39								
COEN	**Coen**	**60.71**	**190**	*e*	P		**P**	**22 28 29.4**	**+2.2**
	comp=Z,38nm,0.6s								
KBL	**Kabul**	**61.71**	**291**	*e*	P		**P**	**22 28 33.1**	**-1.1**
KBL					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KBL	**Kabul**	**61.71**	**291**	*e*	P		**P**	**22 28 33.1**	**-1.1**
	comp=Z,2.3nm,0.8s								
NVAR	**Mina Array Bea**	**63.01**	**62**	P			**P**	**22 28 43.8**	**+1.0**
NVAR					pP		**pP**	**22 28 59.0**	**+0.2**
NVAR	**Mina Array Bea**	**63.01**	**62**	P			**P**	**22 28 43.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=303,slow=8.2,SNR=2.8								
NVAR					pP		**pP**	**22 28 59.0**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=295,slow=7.3,SNR=7.5								
FINES	**FINESS Array B**	**64.08**	**335**	P			**P**	**22 28 48.4**	**-0.9**
FINES	**FINESS Array B**	**64.08**	**335**	P			**P**	**22 28 48.4**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=38,slow=6.1,SNR=21								
PDAR	**Pinedale Array**	**65.32**	**53**	P			**P**	**22 28 58.9**	**+1.0**
PDAR	**Pinedale Array**	**65.32**	**53**	P			**P**	**22 28 58.9**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=298,slow=1.9,SNR=2.4								
CTAO	**Charters Tower**	**66.47**	**186**	*e*	P		**P**	**22 29 07.6**	**+2.5**
CTAO	**Charters Tower**	**66.47**	**186**	*e*	P		**P**	**22 29 07.6**	**+2.5**
WRAB	**Tennant Creek**	**68.07**	**198**	*e*	P		**P**	**22 29 17.3**	**+2.0**
WRAB					pmax		pmax		
	comp=Z,12nm,0.6s								
WRAB	**Tennant Creek**	**68.07**	**198**	*e*	P		**P**	**22 29 17.3**	**+2.0**
	comp=Z,12nm,0.6s								
NB2	**NORSAR Subarra**	**68.33**	**341**	P			**P**	**22 29 15.5**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**68.33**	**341**	P			**P**	**22 29 16.1**	**-0.4**
NOA	**NORSAR Array B**	**68.33**	**341**	P			**P**	**22 29 16.1**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=27,slow=6.3,SNR=13								
HFS	**Hagfors**	**68.55**	**339**	P			**P**	**22 29 17.1**	**-0.7**
HFS	**Hagfors**	**68.55**	**339**	P			**P**	**22 29 17.1**	**-0.7**
	comp=Z,5.7nm,0.6s,baz=52,slow=5.8,SNR=22								
KIV	**Kislovodsk**	**70.64**	**314**	*e*	P		**P**	**22 29 31.4**	**+0.3**
KIV					pmax		pmax		
	comp=Z,5.0nm,1.1s								
KIV					MLR		MLR		
	comp=Z,32nm,18.0s								
KBZ	**Khabaz**	**70.70**	**314**	P			**P**	**22 29 32.3**	**+1.0**
KBZ	**Khabaz**	**70.70**	**314**	P			**P**	**22 29 32.3**	**+1.0**
KBZ	**Khabaz**	**70.70**	**314**	P			**P**	**22 29 32.3**	**+1.0**
	comp=Z,4.4nm,0.9s,baz=351,slow=1.3,SNR=10								
AKASG	**Malin Array Be**	**71.50**	**326**	P			**P**	**22 29 34.6**	**-1.5**
AKASG	**Malin Array Be**	**71.50**	**326**	P			**P**	**22 29 34.6**	**-1.5**
AKASG	**Malin Array Be**	**71.50**	**326**	P			**P**	**22 29 34.6**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=37,slow=6.5,SNR=3.9								
KIEV	**Kiev**	**71.51**	**326**	*i*	P		**P**	**22 29 35.8**	**-0.3**
PALK	**Pallekele**	**72.16**	**262**	*e*	P		**P**	**22 29 40.4**	**-0.2**
	comp=Z,16nm,0.8s								
STHS	**Stebnicka Huta**	**75.51**	**329**	*e*	P		**P**	**22 30 00.5**	**+0.8**
STHS					pmax		pmax		
	comp=Z,2.0nm,0.8s								
STHS	**Stebnicka Huta**	**75.51**	**329**	*e*	P		**P**	**22 30 00.5**	**+0.8**
BUR08	**Bucovina Ar. S**	**75.53**	**326**	*e*	P		**P**	**22 29 59.7**	**-0.2**
BURAR	**Bucovina Array**	**75.55**	**326**	⇓P			**P**	**22 29 59.6**	**-0.4**
BURAR	**Bucovina Array**	**75.55**	**326**	⇓*i*	P		**P**	**22 29 59.6**	**-0.4**
KOLS	**Kolonicke sedl**	**75.55**	**329**	*e*	P		**P**	**22 29 59.7**	**-0.2**
KOLS	**Kolonicke sedl**	**75.55**	**329**	*e*	P		**P**	**22 29 59.7**	**-0.2**
CRVS	**Cervenica-Dubn**	**75.86**	**329**	*e*	P		**P**	**22 30 01.1**	**-0.6**
CRVS					pmax		pmax		
	comp=Z,4.0nm,1.5s								
CRVS	**Cervenica-Dubn**	**75.86**	**329**	*e*	P		**P**	**22 30 01.1**	**-0.6**
TRPA	**Tarpa**	**76.12**	**328**	⇑*i*	P		**P**	**22 30 03.3**	**+0.2**
OKC	**Ostrava-Krasne**	**76.20**	**331**	*e*	P		**P**	**22 30 04.3**	**+0.7**
OKC	**Ostrava-Krasne**	**76.20**	**331**	*e*	P		**P**	**22 30 04.3**	**+0.7**
UPC	**Upice**	**76.31**	**333**	*e*	P		P	22 30 13.4	+9.2
UPC	**Upice**	**76.31**	**333**	*e*	PCP		P	22 30 13.4	+9.2
DPC	**Dobruska-Polom**	**76.35**	**333**	*e*	P		**P**	**22 30 04.0**	**-0.5**
DPC				*e*				22 30 10.6	
DPC	**Dobruska-Polom**	**76.35**	**333**	*e*	P		**P**	**22 30 04.0**	**-0.5**
DPC				*ex*			x	22 30 10.6	
CLL	**Collm**	**76.51**	**335**	*i*	P		**P**	**22 30 04.9**	**-0.4**
CLL					pmax		pmax		
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	**76.51**	**335**	*i*	P		**P**	**22 30 04.9**	**-0.4**
	comp=Z,5.0nm,0.8s								
MLR	**Muntele Rosu**	**77.01**	**324**	P			**P**	**22 30 08.9**	**+0.6**
MLR	**Muntele Rosu**	**77.01**	**324**	P			**P**	**22 30 08.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=182,slow=8.5,SNR=13								
VYHS	**Vyhne**	**77.13**	**330**	*e*	P		**P**	**22 30 09.0**	**+0.2**
VYHS					pmax		pmax		
	comp=Z,1.0nm,0.8s								
VYHS	**Vyhne**	**77.13**	**330**	*e*	P		**P**	**22 30 09.0**	**+0.2**
PRU	**Pruhonice**	**77.22**	**334**	*e*	P		**P**	**22 30 09.4**	**+0.1**
PRU	**Pruhonice**	**77.22**	**334**	*e*	P		**P**	**22 30 09.4**	**+0.1**
VOIR		**77.41**	**325**	⇓P			**P**	**22 30 11.2**	**+0.6**
VOIR		**77.41**	**325**	⇓*i*	P		**P**	**22 30 11.2**	**+0.6**
TREC	**Trest**	**77.54**	**333**	*e*	P		**P**	**22 30 11.2**	**+0.1**
TREC	**Trest**	**77.54**	**333**	*e*	P		**P**	**22 30 11.2**	**+0.1**
TXAR	**Lajitas Array**	**78.07**	**60**	P			**P**	**22 30 15.4**	**+0.9**
TXAR				pP			**pP**	**22 30 30.8**	**-0.1**
TXAR	**Lajitas Array**	**78.07**	**60**	P			**P**	**22 30 15.4**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=301,slow=4.0,SNR=13								
TXAR				pP			**pP**	**22 30 30.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=304,slow=4.0,SNR=7.4								
BRTR	**Keskin Array B**	**78.25**	**316**	P			**P**	**22 30

Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.96**	**354⇓**	*eP*	**P**	**22 22 01.5**	**+0.1**
LLP				*eS*	**S**	**22 22 53.0**	**-4.1**
CGP	**Cagayan de Oro**	**1.09**	**146⇓**	*eP*	**P**	**22 22 01.9**	**+0.2**
CTBH	**Cotabato--PC H**	**2.13**	**175⇓**	*iP*	**P**	**22 22 06.0**	**+0.6**
KCP	**Kidapawan**	**2.54**	**157⇓**	*eP*	P	22 22 10.7	+3.2
RCP	**Roxas**	**2.55**	**329⇓**	*eP*	**P**	**22 22 06.8**	**-0.5**
RCP				*eS*	**S**	**22 23 06.7**	**-1.2**
DAV	**Davao City (W)** SNR=75	**2.72**	**147**	P	**P**	**22 22 09.3**	**+1.0**
DAV	**Davao City (W)**	**2.72**	**147**	*eP*	**P**	**22 22 09.1**	**+0.7**
DAV				*eS*	**S**	**22 23 09.3**	**-0.3**
DAV	**Davao City (W)**	**2.72**	**147**	P	**P**	**22 22 09.0**	**+0.7**
KALP	**Kalibo**	**2.87**	**324**	*eP*	**P**	**22 22 06.4**	**-2.6**
PVCP	**Virac**	**4.21**	**1⇓**	*eP*	P	22 22 27.2	+9.2
GQP	**Guinayangan**	**4.79**	**341⇓**	*eP*	**P**	**22 22 22.0**	**-0.4**
PPR	**Puerto Princes**	**5.29**	**275⇓**	*eP*	**P**	**22 22 27.9**	**+1.4**
LQP	**Lukban**	**5.34**	**333⇓**	*eP*	**P**	**22 22 26.5**	**-0.6**
TGY	**Tagaytay City**	**5.63**	**327**	P	**P**	**22 22 29.5**	**0.0**
TGY	**Tagaytay City** 679nm,0.3s,baz=194,slow=1.2,SNR=86	**5.63**	**327**	P	**P**	**22 22 29.5**	**0.0**
BALP	**Baler**	**6.80**	**339**	*eP*	**P**	**22 22 39.0**	**-0.8**
MYLDM	**Lahad Datu**	**6.91**	**233**	P	**P**	**22 22 43.3**	**+2.3**
MYLDM	**Lahad Datu** 893nm,0.9s,9μm2.7nm	**6.91**	**233**	P	**P**	**22 22 42.8**	**+1.8**
SCZP	**Santa Cruz**	**7.56**	**328**	*eP*	**P**	**22 22 45.0**	**-2.1**
KDM	**Kudat**	**7.57**	**252**	P	**P**	**22 22 47.8**	**+0.6**
SDKM	**Sandakan**	**7.75**	**242**	P	**P**	**22 22 48.1**	**-1.0**
PALP	**Palanan**	**7.82**	**348**	*eP*	**P**	**22 22 50.0**	**+0.4**
CAUP	**Cauayan**	**7.85**	**344**	*eP*	**P**	**22 22 50.5**	**+0.6**
TSM	**Tawau**	**7.95**	**231**	P	**P**	**22 22 51.1**	**+0.2**
KKM	**Kota Kinabalu**	**8.46**	**248**	*eP*	**P**	**22 22 56.1**	**+0.2**
KKM				*eS*	**S**	**22 24 32.8**	**-4.0**
KKM	**Kota Kinabalu**	**8.46**	**248**	P	**P**	**22 22 56.3**	**+0.4**
KKM	**Kota Kinabalu** 988nm,1.0s,11μm	**8.46**	**248**	P	**P**	**22 22 55.9**	**-0.1**
KKM	**Kota Kinabalu** baz=8.3,SNR=124	**8.46**	**248**	P	**P**	**22 22 56.2**	**+0.2**
KKM	baz=8.3,SNR=6.3			S	**S**	**22 24 36.2**	**-0.6**
KMSI	**Cibinong** 1μm,1.1s,11μm	**8.73**	**181**	P	**P**	**22 22 59.5**	**+1.0**
KMSI	1μm,1.1s,11μm			S	**S**	**22 24 42.9**	**+1.4**
GTOI	**Gorontalo** 2μm,0.7s,22μm	**8.73**	**187**	P	**P**	**22 22 57.5**	**-1.1**
TOLI	**Toli-Toli** 2μm,0.8s,22μm	**8.81**	**202**	P	**P**	**22 22 59.5**	**+0.1**
ABRA	**Dolores**	**8.87**	**339**	*eP*	**P**	**22 22 58.4**	**-1.4**
APYP	**Conner**	**8.89**	**342**	*eP*	**P**	**22 22 58.9**	**-1.1**
MRSI	**Marisa** 1μm,0.7s,10μm	**9.07**	**194**	P	**P**	**22 23 02.4**	**+0.4**
TNTI	**Ternate** 539nm,0.7s,7μm	**9.14**	**159**	P	**P**	**22 23 02.2**	**-0.4**
PIP	**Pasuquin**	**9.52**	**340⇑**	*eP*	**P**	**22 23 04.5**	**-1.8**
LUWI	**Luwuk** 784nm,0.7s,14μm	**10.41**	**187**	P	**P**	**22 23 14.9**	**-0.5**
LUWI	**Luwuk** baz=10,SNR=28	**10.41**	**187**	P	**P**	**22 23 14.1**	**-1.3**
LUWI	baz=10,SNR=9.1			S	**S**	**22 25 10.5**	**-2.0**
PALU	**Palau** baz=10,SNR=49	**10.48**	**100**	P	**P**	**22 23 17.6**	**+1.4**
PALU	baz=10,SNR=3.8			S	S	22 25 21.3	+7.5
LBMI	**Labuha** 512nm,1.0s,7μm	**10.50**	**161**	P	**P**	**22 23 16.4**	**+0.1**
SWI	**Sorong** 173nm,0.7s,2μm	**12.42**	**144**	P	**P**	**22 23 37.3**	**+1.4**
SWI	**Sorong** baz=12,SNR=9.4	**12.42**	**144**	P	**P**	**22 23 37.3**	**+1.4**
SWI	baz=12,SNR=6.0			S	S	22 25 57.0	+6.9
BTM	**Bintulu**	**12.52**	**241**	P	**P**	**22 23 37.1**	**+0.1**
BKB	**Balikpapan** 2μm,1.0s,21μm	**12.74**	**214**	P	**P**	**22 23 39.7**	**+0.5**
MMSI	**Mamuju** 824nm,1.0s,6μm	**13.03**	**204**	P	**P**	**22 23 41.5**	**-0.7**
MSAI	**Masohi** 94nm,0.7s,2μm	**13.52**	**159**	P	**P**	**22 23 49.4**	**+2.2**
AAI	**Ambon** 405nm,0.6s,4μm	**13.60**	**162**	P	**P**	**22 23 48.5**	**+0.5**
AAI	**Ambon** baz=13,SNR=14	**13.60**	**162**	P	**P**	**22 23 48.8**	**+0.8**
SBUM	**Sibu**	**13.64**	**241**	P	**P**	**22 23 49.3**	**+0.9**
SBUM	**Sibu** 4μm,0.9s,36μm	**13.64**	**241**	P	**P**	**22 23 48.3**	**-0.1**
KKSI	**Kolaka, Sulawe** 367nm,1.1s,5μm	**13.66**	**190**	P	**P**	**22 23 49.5**	**+0.9**
TWG	**Pinlang**	**13.69**	**348**	*eP*	**P**	**22 23 46.3**	**-2.6**
TWG				*eS*	S	22 26 06.8	-6.6
MTKI	**Muara Teweh, K** 2μm,0.8s,28μm	**13.72**	**222**	P	**P**	**22 23 49.5**	**+0.2**
YULB	**Yu-li**	**14.21**	**350**	*eP*	**P**	**22 23 51.2**	**-2.8**
TPUB	**Ta-pu**	**14.25**	**347**	*eP*	**P**	**22 23 53.2**	**-1.2**
SSLB	**Suanglung**	**14.65**	**349**	*eP*	**P**	**22 23 56.2**	**-2.3**
FAKI	**Fak Fak** 245nm,0.9s,2μm	**14.67**	**146**	P	**P**	**22 23 59.4**	**+0.6**
FAKI	**Fak Fak** baz=14,SNR=35	**14.67**	**146**	P	**P**	**22 23 59.3**	**+0.6**
FAKI	baz=14,SNR=20			S	**S**	**22 26 31.5**	**+0.3**
RKPI	**Ransiki, Papua** 776nm,0.9s	**14.76**	**137**	P	**P**	**22 24 01.5**	**+1.9**
BBSI	**Bau Bau** 208nm,1.0s,2μm	**14.82**	**186**	P	**P**	**22 24 00.2**	**0.0**
KAPI	**Kappang** 902nm,1.0s,SNR=12	**14.91**	**197**	P	**P**	**22 23 58.8**	**-2.3**
KAPI	**Kappang** SNR=18	**14.91**	**197**	P	**P**	**22 23 58.9**	**-2.2**
KAPI	**Kappang**	**14.91**	**197**	*eP*	**P**	**22 24 02.2**	**+1.2**
KAPI				S	**S**	**22 26 32.4**	**-3.1**
KAPI	**Kappang** 182nm,1.2s,1μm	**14.91**	**197**	P	**P**	**22 24 00.0**	**-1.1**
KAPI	**Kappang** 3.1nm,0.3s,baz=20,slow=9.2,SNR=28	**14.91**	**197**	P	**P**	**22 23 58.0**	**-3.1**
KAPI	0.7nm,0.3s,baz=233,slow=20,SNR=2.2			S	**S**	**22 26 32.4**	**-3.1**
NACB	**Ninganchiao**	**14.92**	**351**	*eP*	**P**	**22 23 58.8**	**-2.3**
NACB				*eS*	**S**	**22 26 31.3**	**-4.1**
BNDI	**Bandanaira** 1μm,0.7s,10μm	**14.96**	**157**	P	**P**	**22 24 02.7**	**+1.1**
BNDI	**Bandanaira** baz=15,SNR=22	**14.96**	**157**	P	**P**	**22 24 02.5**	**+0.9**
BNDI	baz=15,SNR=8.5			S	**S**	**22 26 38.1**	**+1.8**
YHNB	**Yeheng** 113nm,0.9s	**15.44**	**351**	*eP*	**P**	**22 24 04.5**	**-1.6**
YHNB				*eS*	**S**	**22 26 41.3**	**-3.0**
STKI	**Sintang** 868nm,0.8s,9μm	**15.57**	**234**	P	**P**	**22 24 08.1**	**+0.6**
BBKI	**Banjar Baru** 1μm,0.8s,12μm	**15.71**	**216**	P	**P**	**22 24 08.7**	**-0.2**
TATO	**Taipei** 59nm,0.7s	**15.72**	**351**	*eP*	**P**	**22 24 07.4**	**-1.3**
KSM	**Kuching** 3μm,1.2s	**15.78**	**241**	*eP*	**P**	**22 24 09.5**	**0.0**
KSM	**Kuching**	**15.78**	**241**	P	**P**	**22 24 09.8**	**+0.4**
KSM	**Kuching** 2μm,1.1s,20μm	**15.78**	**241**	P	**P**	**22 24 09.9**	**+0.4**
KSM	**Kuching** baz=16,SNR=500	**15.78**	**241**	P	**P**	**22 24 09.7**	**+0.3**
BSSI	**Bau Bau, Buton** 142nm,0.9s,1μm	**15.81**	**193**	P	**P**	**22 24 07.5**	**-2.3**
BAKI	**Biak** 478nm,1.2s,5μm	**15.92**	**131**	P	**P**	**22 24 12.8**	**+1.9**
KMPI	**Kaimana, Papua** 830nm,1.0s,8μm	**16.11**	**143**	P	**P**	**22 24 14.1**	**+1.5**
QZH	**Quanzhou**	**16.36**	**342⇑**	*iP*	**P**	**22 24 13.5**	**-1.1**
QZH				S	**S**	**22 26 53.0**	**-6.1**
QZH	comp=Z,130nm,0.9s			pmax	pmax		
SRPI	**Serui, Papua** comp=Z,433nm,0.6s	**16.47**	**132**	P	**P**	**22 24 17.8**	**+1.9**
QIZ	**Qiongzhong**	**16.80**	**306**	P	**P**	**22 24 19.3**	**+0.5**
QIZ				sP	sP	22 26 24.5	-14
QIZ				S	**S**	**22 27 08.0**	**+1.4**
QIZ	comp=Z,190nm,0.9s			pmax	pmax		
QIZ	**Qiongzhong** comp=Z,174nm,0.8s	**16.80**	**306**	*eP*	**P**	**22 24 18.9**	**+0.1**
QIZ				*eS*	**S**	**22 27 07.2**	**+0.6**
TLE	**Tual**	**17.22**	**150**	P	**P**	**22 24 24.7**	**+2.1**
TLE	**Tual** comp=Z,277nm,1.0s baz=17,SNR=17	**17.22**	**150**	P	**P**	**22 24 24.9**	**+2.3**
TLE	baz=17,SNR=4.6			S	**S**	**22 27 17.7**	**+4.2**
JOW	**Kunigami** comp=Z,74nm,0.8s	**17.83**	**12**	*eP*	**P**	**22 24 29.6**	**+1.5**
MMRI	**Maumere** comp=Z,679nm,0.8s,comp=Z,11μm	**17.97**	**186**	P	**P**	**22 24 30.7**	**+1.2**
LBFI	**Labuhan Bajo,** comp=Z,3μm,0.7s,comp=Z,22μm	**18.20**	**193**	P	**P**	**22 24 32.9**	**+1.3**
SAUI	**Saumlaki** comp=Z,337nm,0.8s	**18.67**	**157**	P	**P**	**22 24 36.7**	**+0.8**
SOEI	**Soe** comp=Z,561nm,0.8s,comp=Z,4μm	**18.99**	**179**	P	**P**	**22 24 38.6**	**-0.3**
SOEI	**Soe** baz=19,SNR=31	**18.99**	**179**	P	**P**	**22 24 38.4**	**-0.5**
SOEI	baz=19,SNR=8.6			S	**S**	**22 27 39.6**	**-2.8**
UBPT	**Khong Chiam** comp=Z,204nm,1.1s,comp=Z,3μm	**19.10**	**290**	P	**P**	**22 24 40.0**	**+0.2**
UBPT	**Khong Chiam** comp=Z,204nm,1.1s,comp=Z,3μm	**19.10**	**290**	P	**P**	**22 24 39.7**	**-0.1**
KMMI	**Kalianget** comp=Z,276nm,1.1s,comp=Z,5μm	**19.16**	**212**	P	**P**	**22 24 41.5**	**+1.2**
WSI	**Waingapu** comp=Z,875nm,0.8s,comp=Z,8μm	**19.27**	**191**	P	**P**	**22 24 40.0**	**-1.3**
WSI	**Waingapu** baz=19,SNR=4.0	**19.27**	**191**	P	**P**	**22 24 39.5**	**-1.8**
BATI	**Baumata**	**19.44**	**181**	P	**P**	**22 24 42.4**	**-0.5**
BATI				S	**S**	**22 27 44.6**	**-4.7**
BATI				ScP	**ScP**	**22 31 18.0**	**-0.6**
BATI	**Baumata** comp=Z,622nm,0.8s,comp=Z,6μm	**19.44**	**181**	P	**P**	**22 24 42.8**	**-0.1**
BATI	**Baumata** comp=Z,117nm,0.3s,baz=51,slow=0.9,SNR=206	**19.44**	**181**	P	**P**	**22 24 42.4**	**-0.5**
BATI	comp=Z,5.7nm,0.3s,baz=50,slow=22,SNR=13			S	**S**	**22 27 44.6**	**-4.7**
BATI	comp=Z,3.2nm,0.3s,baz=282,slow=1.5,SNR=4.6			ScP	**ScP**	**22 31 18.0**	**-0.6**
SRBI	**Singaraja** comp=Z,441nm,0.9s,comp=Z,5μm	**19.45**	**207**	P	**P**	**22 24 43.5**	**+0.6**
MTNI	**Mataram** comp=Z,291nm,0.8s,comp=Z,3μm	**19.53**	**204**	P	**P**	**22 24 43.5**	**-0.2**
BLJI	**Banyuglugur** comp=Z,229nm,0.7s	**19.94**	**212**	P	**P**	**22 24 48.9**	**+1.5**
NBBI	**Negara** comp=Z,302nm,0.7s,comp=Z,3μm	**19.97**	**208**	P	**P**	**22 24 50.1**	**+2.4**
DNP	**Denpasar** comp=Z,1μm,0.7s,comp=Z,37μm	**19.97**	**206**	P	**P**	**22 24 50.2**	**+2.5**
IGBI	**Denpasar** comp=Z,1μm,0.8s,comp=Z,13μm	**20.13**	**206**	P	**P**	**22 24 50.4**	**+1.3**
TPI	**Tanjungpandan** comp=Z,357nm,1.0s,comp=Z,3μm	**20.31**	**234**	P	**P**	**22 24 50.7**	**-0.1**
JAY	**Jayapura** comp=Z,75nm,0.9s,comp=Z,7μm	**20.34**	**125**	P	**P**	**22 24 52.2**	**+1.1**
JAY	**Jayapura** baz=20,SNR=15	**20.34**	**125**	P	**P**	**22 24 51.9**	**+0.8**
PANO	**Nakornpanom** comp=Z,138nm,0.9s	**20.45**	**294**	P	**P**	**22 24 52.0**	**0.0**
GUMO	**Guam** comp=Z,196nm,1.2s	**20.80**	**76**	*eP*	**P**	**22 24 55.2**	**0.0**
SJI	**Sawahan** comp=Z,144nm,0.9s	**20.94**	**216**	P	**P**	**22 24 56.2**	**-0.4**
SKNT	**Sakolnakorn** comp=Z,156nm,1.0s,comp=Z,2μm	**20.96**	**293**	P	**P**	**22 24 56.5**	**-0.1**
KTGM	**Kuala Trenggan**	**21.15**	**261**	P	**P**	**22 24 58.8**	**+0.5**
PWJI	**Pagerwojo** comp=Z,54nm,1.0s,comp=Z,24μm	**21.15**	**216**	P	**P**	**22 24 58.7**	**+0.3**
PPBI	**Pangkal Pinang** comp=Z,118nm,1.1s,comp=Z,1μm	**21.22**	**238**	P	**P**	**22 24 58.4**	**-0.6**
MYKOM	**Kota Tinggi**	**21.47**	**251**	P	**P**	**22 25 02.2**	**+1.0**
MYKOM	**Kota Tinggi** comp=Z,524nm,1.1s,comp=Z,5μm	**21.47**	**251**	P	**P**	**22 25 02.3**	**+1.0**
CHBT	**CHBT** comp=Z,121nm,0.9s,comp=Z,2μm	**21.60**	**281**	P	**P**	**22 25 02.7**	**+0.3**
CHBT	**CHBT** comp=Z,121nm,0.9s,comp=Z,2μm	**21.60**	**281**	P	**P**	**22 25 02.7**	**+0.3**
BTDF	**Bukit Timah Da** baz=22,SNR=34	**21.70**	**250**	P	**P**	**22 25 03.8**	**+0.5**
BTDF	baz=22,SNR=34			P	**P**	**22 25 03.8**	**+0.5**
UGM	**Wanagama** comp=Z,358nm,1.5s	**21.83**	**219**	*eP*	**P**	**22 25 04.3**	**-0.2**
UGM	**Wanagama** baz=22,SNR=6.2	**21.83**	**219**	P	**P**	**22 25 04.3**	**-0.2**
KGM	**Kluang**	**21.89**	**252**	P	**P**	**22 25 05.7**	**+0.7**
BJII	**Banjamegara** comp=Z,183nm,0.9s,comp=Z,3μm	**21.90**	**221**	P	**P**	**22 25 06.0**	**+0.8**
PMBI	**Palembang** comp=Z,417nm,1.0s,comp=Z,3μm	**22.78**	**238**	P	**P**	**22 25 14.3**	**+1.4**
NAYO	**Nakonayok** comp=Z,557nm,1.0s	**22.80**	**285**	P	**P**	**22 25 13.6**	**+0.5**
WHN	**Wuhan**	**22.95**	**338**	⇓P	**P**	**22 25 16.0**	**+1.8**
WHN				sP	**sP**	**22 27 44.8**	**-1.6**
WHN				S	**S**	**22 28 47.5**	**+3.1**
WHN	comp=Z,120nm,1.0s			pmax	pmax		
LEM	**Lembang** comp=Z,610nm,0.9s,comp=Z,5μm	**22.96**	**226**	P	**P**	**22 25 15.5**	**+0.8**
LEM	**Lembang** baz=23,SNR=23	**22.96**	**226**	P	**P**	**22 25 16.0**	**+1.3**
NJ2	**Nanjing**	**23.09**	**349**	*eP*	**P**	**22 25 17.0**	**+1.6**
NJ2				S	**S**	**22 28 50.8**	**+4.2**
NJ2	comp=Z,88nm,1.1s			pmax	pmax		
NJ2	comp=Z,150nm,10.3s			pmax	pmax		
FRIM	**Kepong**	**23.12**	**256**	P	**P**	**22 25 16.3**	**+0.3**
MTN	**Manton Dam** baz=23,SNR=21	**23.14**	**162**	P	**P**	**22 25 15.6**	**-0.5**
MTN	baz=23,SNR=5.9			S	**S**	**22 28 45.2**	**-2.6**
CBJI	**Citeko** comp=Z,3μm,0.7s,comp=Z,31μm	**23.24**	**228**	P	**P**	**22 25 18.3**	**+1.3**
SKLT	**Songkhla** comp=Z,244nm,1.0s,comp=Z,2μm	**23.31**	**266**	P	**P**	**22 25 18.2**	**+0.6**
SKLT	**Songkhla** comp=Z,244nm,1.0s,comp=Z,2μm	**23.31**	**266**	P	**P**	**22 25 18.2**	**+0.6**
CISI	**Cisompet, Garu** comp=Z,211nm,0.7s,comp=Z,2μm	**23.34**	**224**	P	**P**	**22 25 17.9**	**0.0**
CISI	**Cisompet, Garu** baz=23,SNR=18	**23.34**	**224**	P	**P**	**22 25 16.7**	**-1.2**
IPM	**Ipoh** comp=Z,113nm,0.9s	**23.38**	**260**	*eP*	**P**	**22 25 18.2**	**-0.1**
IPM	**Ipoh**	**23.38**	**260**	P	**P**	**22 25 18.4**	**+0.1**
IPM	**Ipoh** comp=Z,165nm,1.2s,comp=Z,2μm	**23.38**	**260**	P	**P**	**22 25 18.1**	**-0.2**
DBJI	**Dramaga** comp=Z,773nm,1.0s,comp=Z,7μm	**23.41**	**228**	P	**P**	**22 25 18.6**	**+0.1**
KDU	**Kakadu** baz=23,SNR=50	**23.44**	**159**	P	**P**	**22 25 17.9**	**-0.8**
KDU	baz=23,SNR=7.3			S	S	22 28 44.7	-7.7
KULM	**Kulim** comp=Z,255nm,1.5s	**23.58**	**262**	*eP*	**P**	**22 25 20.4**	**+0.4**
KULM	**Kulim**	**23.58**	**262**	P	**P**	**22 25 20.0**	**0.0**
KULM	**Kulim** comp=Z,148nm,1.1s,comp=Z,1μm	**23.58**	**262**	P	**P**	**22 25 20.2**	**+0.2**
SBJI	**Serang** comp=Z,1μm,1.2s,comp=Z,11μm	**23.58**	**230**	P	**P**	**22 25 20.4**	**+0.4**
LOEI	**Loei** comp=Z,158nm,1.0s	**23.60**	**292**	P	**P**	**22 25 17.0**	**-3.2**
GYA	**Guiyang**	**23.69**	**318⇓**	*iP*	**P**	**22 25 21.0**	**0.0**
GYA				sP	**sP**	**22 27 55.5**	**+0.8**
GYA				PcP	**PcP**	**22 28 46.8**	**+2.0**
GYA				S	**S**	**22 28 58.5**	**+2.1**
GYA				ScP	**ScP**	**22 31 31.0**	**+1.6**
GYA				PcS	**PcS**	**22 32 25.0**	**-0.1**
GYA	comp=Z,40nm,0.8s			pmax	pmax		
GYA	comp=Z,160nm,4.6s			pmax	pmax		
BLSI	**Bandar Lampung** comp=Z,464nm,0.8s,comp=Z,4μm	**23.79**	**233**	P	**P**	**22 25 21.5**	**-0.4**
KLI	**Kotabumi** comp=Z,348nm,1.0s	**23.80**	**234**	P	**P**	**22 25 21.6**	**-0.4**
SKJI	**Sukabumi** comp=Z,359nm,0.8s,comp=Z,4μm	**23.85**	**228**	P	**P**	**22 25 21.3**	**-1.1**
MMPI	**Merauke** baz=24,SNR=4.1	**24.03**	**137**	P	P	22 25 13.3	-11
SURA	**Surathani** comp=Z,204nm,1.1s	**24.13**	**272**	P	**P**	**22 25 25.5**	**+0.7**
SRIT	**Nakonsrittamara** comp=Z,208nm,1.1s,comp=Z,16μm	**24.18**	**270**	P	**P**	**22 25 26.0**	**+0.6**
PHET	**Kaeng Krachan** comp=Z,552nm,0.7s,comp=Z,6μm	**24.24**	**281**	P	**P**	**22 25 26.6**	**+0.8**
JNU	**Nakatsue** comp=Z,12nm,1.1s	**24.47**	**14**	*eP*	**P**	**22 25 27.1**	**-0.5**
JNU	**Nakatsue** comp=Z,12nm,0.6s,baz=183,slow=4.7,SNR=13	**24.47**	**14**	P	**P**	**22 25 27.6**	**0.0**
KASI	**Kota Agung** comp=Z,340nm,0.9s,comp=Z,3μm	**24.48**	**234**	P	**P**	**22 25 26.6**	**-1.4**
LWLI	**Liwa** comp=Z,2μm,0.8s,comp=Z,13μm	**24.53**	**235**	P	**P**	**22 25 27.6**	**-1.0**
CBIJ	**Chichi jima**	**24.58**	**42**	P	**P**	**22 25 28.2**	**-0.5**
CBIJ				S	**S**	**22 29 07.0**	**-3.2**
CBIJ	**Chichi jima** comp=Z,126nm,0.4s,baz=261,slow=13	**24.58**	**42**	P	**P**	**22 25 28.2**	**-0.5**
CBIJ	baz=319,slow=19			S	**S**	**22 29 07.0**	**-3.2**
KRAB	**Krabi** comp=Z,137nm,1.2s,comp=Z,2μm	**24.61**	**269**	P	**P**	**22 25 29.7**	**+0.6**
BKNI	**Bangkinang** comp=Z,600nm,0.9s,comp=Z,6μm	**24.62**	**250**	P	**P**	**22 25 29.3**	**0.0**
BKNI	**Bangkinang** baz=24,SNR=14	**24.62**	**250**	P	**P**	**22 25 29.5**	**+0.3**
UTHA	**Uthaitani** comp=Z,40nm,0.8s,comp=Z,374nm	**24.81**	**287**	P	**P**	**22 25 31.4**	**+0.5**
ENH	**Enshi** comp=Z,50nm,0.8s	**24.87**	**329**	*eP*	**P**	**22 25 31.7**	**+0.4**
ENH				*ePcP*	**PcP**	**22 28 47.0**	**-0.3**
ENH				*eScP*	**ScP**	**22 31 32.0**	**-0.4**
KSI	**Kapahiang** comp=Z,682nm,0.9s,comp=Z,6μm	**25.01**	**240**	P	**P**	**22 25 32.3**	**-0.4**
MASI	**Maura Aman, Be** comp=Z,650nm,0.8s,comp=Z,5μm	**25.05**	**241**	P	**P**	**22 25 33.3**	**+0.2**
MNAI	**Manna** comp=Z,1μm,0.8s,comp=Z,9μm	**25.07**	**238**	P	**P**	**22 25 32.5**	**-0.8**
MNAI	**Manna** baz=25,SNR=19	**25.07**	**238**	P	**P**	**22 25 32.4**	**-0.8**
KNRA	**Kununurra** baz=25,SNR=73	**25.30**	**169**	P	**P**	**22 25 35.1**	**-0.1**
KNRA	baz=25,SNR=5.6			S	**S**	**22 29 20.2**	**-1.4**
PAYA	**Payao** comp=Z,129nm,0.6s,comp=Z,3μm	**25.44**	**296**	P	**P**	**22 25 36.6**	**+0.2**
PKDT	**Phuket** comp=Z,241nm,0.8s,comp=Z,2μm	**25.49**	**269**	P	**P**	**22 25 37.3**	**+0.4**
PPI	**Padang Panjang** comp=Z,439nm,1.2s,comp=Z,4μm	**25.51**	**249**	P	**P**	**22 25 36.7**	**-0.4**
PPI	**Padang Panjang** baz=25,SNR=39	**25.51**	**249**	P	**P**	**22 25 37.1**	**0.0**
PDSI	**Padang** comp=Z,698nm,0.7s,comp=Z,7μm	**25.63**	**248**	P	**P**	**22 25 37.3**	**-0.9**
KMI	**Kunming**	**25.64**	**310**	P	**P**	**22 25 40.3**	**+1.9**
KMI				sP	**sP**	**22 28 13.3**	**-2.6**
KMI				PcP	**PcP**	**22 28 50.5**	**+1.1**
KMI				S	**S**	**22 29 29.5**	**+2.1**
KMI				ScP	**ScP**	**22 31 35.0**	**-0.1**
KMI				ScS	**ScS**	**22 35 26.0**	**+0.2**
KMI	comp=Z,94nm,0.7s			pmax	pmax		
KMI	comp=Z,66nm,3.1s			pmax	pmax		
PSI	**Prapat**	**25.83**	**257**	P	**P**	**22 25 40.6**	**+0.5**
PSI				ScP	**ScP**	**22 31 34.5**	**-1.2**
PSI	**Prapat** comp=Z,199nm,0.6s,baz=76,slow=5.0,SNR=183	**25.83**	**257**	P	**P**	**22 25 40.6**	**+0.5**
PSI	comp=Z,8.5nm,0.7s,baz=190,slow=4.6,SNR=8.3			ScP	**ScP**	**22 31 34.5**	**-1.2**
PSI	**Prapat** baz=26,SNR=98	**25.83**	**257**	P	**P**	**22 25 40.6**	**+0.5**
CM31	**Chiang Mai Arr** comp=Z,34nm,0.5s	**25.99**	**293**	*eP*	**P**	**22 25 42.5**	**+1.2**
CM31				*eScP*	**ScP**	**22 31 36.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**25.99**	**293**	P	**P**	**22 25 42.2**	**+0.9**
CMAR				PcP	**PcP**	**22 28 51.1**	**+1.1**
CMAR				PKiKP	**PKiKP**	**22 36 28.1**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,39nm,0.6s,baz=118,slow=7.0,SNR=264	**25.99**	**293**	P	**P**	**22 25 42.2**	**+0.9**
CMAR	comp=Z,18nm,0.9s,baz=96,slow=0.8,SNR=13			PcP	**PcP**	**22 28 51.1**	**+1.1**
CMAR	comp=Z,1.0nm,0.6s,baz=259,slow=1.0,SNR=7.1			PKiKP	**PKiKP**	**22 36 28.1**	**-0.6**
TSI	**Tuntungan** comp=Z,234nm,0.9s,comp=Z,3μm	**26.00**	**259**	P	**P**	**22 25 42.6**	**+1.2**
CHTO	**Chiang Mai**	**26.09**	**294**	*eP*	**P**	**22 25 42.7**	**+0.5**
CHTO	comp=Z,76nm,1.1s			pmax	pmax		
CHTO	**Chiang Mai** SNR=20	**26.09**	**294**	P	**P**	**22 25 42.5**	**+0.3**
CHTO	**Chiang Mai** comp=Z,76nm,1.1s	**26.09**	**294**	*eP*	**P**	**22 25 42.6**	**+0.5**
CHTO				*eScP*	**ScP**	**22 31 35.9**	**-0.4**
CHTO	**Chiang Mai** comp=Z,82nm,1.0s,comp=Z,942nm	**26.09**	**294**	P	**P**	**22 25 42.3**	**+0.1**
CHTO	**Chiang Mai** comp=Z,82nm,1.0s,comp=Z,942nm	**26.09**	**294**	P	**P**	**22 25 42.3**	**+0.1**
KCSI	**Kotacane, Aceh** comp=Z,518nm,0.8s,comp=Z,5μm	**26.76**	**259**	P	**P**	**22 25 47.1**	**-1.0**
LHMI	**Lhok Sumawe** comp=Z,3μm,0.7s,comp=Z,28μm	**27.21**	**263**	P	**P**	**22 25 53.3**	**+1.3**
LHMI	**Lhok Sumawe** baz=27,SNR=56	**27.21**	**263**	P	**P**	**22 25 53.6**	**+1.6**
KSAR	**Wonju Array Be**	**28.17**	**6**	P	**P**	**22 26 01.2**	**+1.2**
KSAR				PcP	**PcP**	**22 28 56.0**	**+1.0**
KSAR				ScP	**ScP**	**22 31 43.5**	**+1.2**
KSRS	**Korea Array** comp=Z,30nm,0.6s,baz=184,slow=9.4,SNR=102	**28.19**	**6**	P	**P**	**22 26 01.2**	**+1.1**
KSRS	comp=Z,11nm,0.7s,baz=185,slow=2.4,SNR=16			PcP	**PcP**	**22 28 56.0**	**+1.0**
KSRS	comp=Z,4.8nm,0.8s,baz=194,slow=2.7,SNR=8.9			ScP	**ScP**	**22 31 43.5**	**+1.2**
XAN	**Xi'an**	**28.24**	**333**	P	**P**	**22 26 01.3**	**+0.5**
XAN				sP	**sP**	**22 28 38.3**	**-1.7**
XAN				S	**S**	**22 30 06.0**	**-1.2**
XAN				ScS	**ScS**	**22 35 34.5**	**-2.3**
XAN	comp=Z,47nm,0.7s			pmax	pmax		
SNSI	**Sinabang, Aceh** comp=Z,958nm,1.1s,comp=Z,8μm	**28.43**	**258**	P	**P**	**22 26 02.8**	**+0.1**
CD2	**Chengdu**	**28.60**	**321**	P	**P**	**22 26 04.8**	**+0.8**
CD2				sP	**sP**	**22 28 42.5**	**-0.8**
CD2				PcP	**PcP**	**22 28 57.3**	**+1.0**
CD2				S	**S**	**22 30 15.3**	**+2.4**
CD2				PcS	**PcS**	**22 32 39.3**	**-0.4**
CD2				ScS	**ScS**	**22 35 38.0**	**-0.6**
CD2	comp=Z,80nm,1.0s			pmax	pmax		
CD2	comp=Z,180nm,4.8s			pmax	pmax		
BSI	**Banda Aceh** comp=Z,247nm,0.9s,comp=Z,3μm	**28.79**	**264**	P	**P**	**22 26 05.0**	**-0.8**
DL2	**Dalian**	**29.50

MBWA *e*ScP **ScP** **22 31 49.2 -1.3**
WRAB Tennant Creek 30.82 161 P **P** **22 26 22.0 -1.1**
comp=Z,2µm,0.5s
WRAB Tennant Creek 30.82 161 *e*P **P** **22 26 22.8 -0.3**
WRAB pmax pmax
comp=Z,146nm,0.6s
WRAB Tennant Creek 30.82 161 *e*P **P** **22 26 22.8 -0.3**
comp=Z,146nm,0.6s
WRA Warramunga Arr 30.82 161 P **P** **22 26 22.9 -0.2**
WRA PcP **PcP** **22 29 02.3 0.0**
WRA S **S** **22 30 42.6 -4.7**
WRA ScP **ScP** **22 31 50.2 -1.0**
WRA *e* 22 57 54.7
WRA Warramunga Arr 30.82 161 P **P** **22 26 22.9 -0.2**
comp=Z,135nm,0.4s,baz=343,slow=9.0,SNR=352
WRA PcP **PcP** **22 29 02.3 0.0**
comp=Z,30nm,0.7s,baz=338,slow=3.2,SNR=12
WRA S **S** **22 30 42.6 -4.7**
comp=Z,66nm,0.8s,baz=339,slow=15,SNR=9.5
WRA ScP **ScP** **22 31 50.2 -1.0**
comp=Z,27nm,0.7s,baz=344,slow=3.6,SNR=9.1
WRA P3KPbc 22 57 54.7
comp=Z,1.6nm,0.6s,baz=155,slow=3.9,SNR=11
RABL Rabaul 31.06 114 P **P** **22 26 28.5 +3.1**
baz=31,SNR=5.2
BJT Baijiatuau 31.34 348 *e*P **P** **22 26 28.0 +0.7**
comp=Z,325nm,0.6s
BJI Beijing 31.35 348 P **P** **22 26 28.3 +0.9**
BJI PcP **PcP** **22 29 04.3 +1.0**
BJI sP **sP** **22 29 06.8 -1.1**
BJI S **S** **22 30 55.8 +0.9**
BJI ScP **ScP** **22 31 54.8 +2.2**
BJI ScS **ScS** **22 35 54.0 +2.3**
BJI pmax pmax
comp=Z,370nm,0.6s
SNY Shenyang 32.34 359 ⇓P **P** **22 26 36.5 +0.7**
SNY sP **sP** **22 29 18.0 +1.4**
SNY S **S** **22 31 09.3 -0.6**
SNY pmax pmax
comp=Z,76nm,0.8s
LZH Lanzhou 32.35 328 ⇓P **P** **22 26 38.3 +2.1**
LZH PcP **PcP** **22 29 07.5 +1.0**
LZH sP **sP** **22 29 16.8 -0.2**
LZH S **S** **22 31 13.5 +2.9**
LZH ScP **ScP** **22 31 57.0 +0.6**
LZH PcS **PcS** **22 32 53.0 +0.4**
LZH ScS **ScS** **22 35 57.0 -0.4**
LZH pmax pmax
comp=Z,500nm,1.4s
LZH pmax pmax
comp=Z,780nm,4.5s
HHC Hu-ho-hao-te 33.27 343 *e*P **P** **22 26 45.0 +1.2**
HHC pP **pP** **22 28 18.8 +0.1**
HHC PcP **PcP** **22 29 11.5 +2.6**
HHC sP **sP** **22 29 20.0 -5.0**
HHC S **S** **22 31 28.5 +4.3**
HHC pmax pmax
comp=Z,180nm,0.8s
HHC pmax pmax
comp=Z,750nm,4.9s
BTO Baotou 33.53 340 *e*P **P** **22 26 45.5 -0.5**
MTSU Mount Surprise 33.85 144 P **P** **22 26 49.6 +0.8**
baz=34,SNR=82
PATS Pohnpei 33.98 92 P **P** **22 26 51.5 +1.4**
baz=34,SNR=10
PATS S **S** **22 31 30.2 -5.3**
baz=34,SNR=3.3
AS31 Alice Springs 34.20 164 *e*P **P** **22 26 51.9 +0.2**
AS31 *e*PcP **PcP** **22 29 10.9 -1.0**
AS31 *e*S **S** **22 31 36.5 -2.1**
ASAR Alice Springs 34.20 164 P **P** **22 26 52.1 +0.4**
ASAR PcP **PcP** **22 29 11.8 0.0**
ASAR S **S** **22 31 36.8 -1.8**
ASAR *e* 22 57 39.2
ASAR Alice Springs 34.20 164 P **P** **22 26 52.1 +0.4**
comp=Z,83nm,0.3s,baz=341,slow=7.3,SNR=1364
ASAR PcP **PcP** **22 29 11.8 0.0**
comp=Z,20nm,0.5s,baz=345,slow=2.8,SNR=11
ASAR S **S** **22 31 36.8 -1.8**
comp=Z,52nm,0.9s,baz=350,slow=20,SNR=30
ASAR P3KPbc 22 57 39.2
comp=Z,1.1nm,0.8s,baz=160,slow=3.7,SNR=8.8
VLA Vladivostok 34.32 10 *i*P **P** **22 26 54.0 +1.6**
VLA pmax pmax
comp=Z,45nm,0.4s
CN2 Changchun 34.33 2 *e*P **P** **22 26 52.8 +0.3**
CN2 PcP **PcP** **22 29 12.5 +0.7**
CN2 *e*S S 22 31 47.8 +7.8
CN2 pmax pmax
comp=Z,30nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
SHL Shillong 34.55 302 *i*CN **P** **22 26 55.0 +0.2**
SHL *i*x x 22 31 44.0
USRK Ussuriysk Arra 35.38 10 P **P** **22 27 02.3 +1.1**
comp=Z,30nm,0.5s,baz=193,slow=6.4,SNR=87
USRK PcP **PcP** **22 29 15.6 +0.7**
comp=Z,4.3nm,0.6s,baz=197,slow=2.8,SNR=4.0
USRK ScP **ScP** **22 32 07.2 +0.4**
comp=Z,6.4nm,0.8s,baz=223,slow=5.2,SNR=5.6
MDJ Mudanjiang 35.45 7 P **P** **22 27 03.3 +1.5**
MDJ pP **pP** **22 28 38.0 0.0**
MDJ PP **PP** **22 28 47.3 +0.7**
MDJ PcP **PcP** **22 29 16.3 +1.2**
MDJ sP **sP** **22 29 42.5 -1.5**
MDJ S **S** **22 32 00.0 +3.3**
MDJ ScP **ScP** **22 32 09.3 +2.2**
MDJ PcS **PcS** **22 33 04.5 +1.4**
MDJ sS **sS** **22 34 55.3 +0.6**
MDJ ScS **ScS** **22 36 13.5 0.0**
MDJ pmax pmax
comp=Z,140nm,0.8s
MDJ pmax pmax
comp=Z,58nm,4.3s
MDJ Mudanjiang 35.45 7 *e*P **P** **22 27 02.3 +0.5**
comp=Z,96nm,0.8s
MEEK Meekatharra 36.17 188 P **P** **22 27 07.6 -0.4**
baz=36,SNR=175
MEEK S **S** **22 32 04.8 -3.2**
baz=36,SNR=12
CTA Charters Tower 36.51 143 P **P** **22 27 12.3 +1.4**
CTA Charters Tower 36.51 143 P **P** **22 27 12.3 +1.4**
comp=Z,79nm,0.6s,baz=324,slow=11,SNR=122
CTAO Charters Tower 36.51 143 *e*P **P** **22 27 12.3 +1.4**
CTAO *e* 22 32 11.6
CTAO pmax pmax
comp=Z,96nm,0.8s
CTAO Charters Tower 36.51 143 *e*P **P** **22 27 12.3 +1.4**
comp=Z,96nm,0.8s
CTAO *e*ScP **ScP** **22 32 11.6 +0.1**
ERM Erimo 36.61 24 P **P** **22 27 13.3 +1.9**
comp=Z,250nm,1.1s,SNR=7.3
ERM Erimo 36.61 24*c* *i*P **P** **22 27 12.7 +1.3**
ERM pmax pmax
comp=Z,42nm,1.0s
ERM Erimo 36.61 24 *e*P **P** **22 27 13.6 +2.2**
comp=Z,68nm,1.3s
LSA Lhasa 36.84 308 P P 22 27 10.5 -3.5
LSA Lhasa 36.84 308 *e*P P 22 27 10.7 -3.3
LSA *e* 22 29 20.5
LSA pmax pmax
comp=Z,37nm,0.5s
LSA Lhasa 36.84 308 *e*P P 22 27 10.7 -3.3
comp=Z,37nm,0.5s
LSA *e*PcP **PcP** **22 29 20.5 +0.2**
GTA Gaotai 36.95 328 ⇓P **P** **22 27 16.0 +1.6**
GTA pP **pP** **22 28 54.5 +2.9**
GTA PcP **PcP** **22 29 21.0 +1.0**
GTA sP **sP** **22 29 54.8 -2.4**
GTA ScP **ScP** **22 32 13.3 +0.3**
GTA S **S** **22 32 19.8 +0.3**
GTA PcS **PcS** **22 33 08.8 -0.5**
GTA ScS **ScS** **22 36 21.0 -1.5**
GTA pmax pmax
comp=Z,64nm,0.8s
GTA pmax pmax
comp=Z,62nm,6.7s
ASAJ Asahikawa 38.18 22 *e*P **P** **22 27 25.6 +1.4**
comp=Z,29nm,0.8s
ASAJ PcP **PcP** **22 29 24.9 +1.4**
ASAJ Asahikawa 38.18 22 P **P** **22 27 25.6 +1.4**
comp=Z,36nm,0.5s,baz=235,slow=12,SNR=25
ASAJ PcP **PcP** **22 29 24.9 +1.4**
comp=Z,24nm,0.7s,baz=245,slow=7.9,SNR=4.0

TAPN Taplejung 38.68 302 *e*P **P** **22 27 29.7 +0.9**
comp=Z,245nm,0.4s
ODAN Odare 38.78 302 *e*P **P** **22 27 30.2 +0.6**
comp=Z,273nm,0.5s
MORW Morawa 38.98 191 P **P** **22 27 30.5 -0.3**
baz=39,SNR=36
YUK Yuzh-Kuril'sk 39.39 25 P **P** **22 27 33.6 -0.3**
YUK *i* *SP **sP** **22 30 15.1 -2.8**
YUK *i*S **S** **22 32 54.7 -0.2**
YUK *i*SS **SS** **22 36 08.9 -8.6**
RAMN Ramite 39.47 301 *e*P **P** **22 27 36.0 +0.8**
comp=Z,199nm,0.5s
HIA Hailar 39.94 356 *e*P **P** **22 27 38.3 0.0**
comp=Z,157nm,0.8s
HIA *e*PcP **PcP** **22 29 30.0 +0.7**
JIRN Jiri 40.05 302 *e*P **P** **22 27 40.7 +0.8**
comp=Z,98nm,0.2s
FORT Forrest 40.09 175 *e*P **P** **22 27 39.9 +0.2**
comp=Z,328nm,0.7s
FORT *e*ScP **ScP** **22 32 24.7 -0.3**
FORT Forrest 40.09 175 P **P** **22 27 39.9 +0.2**
baz=40,SNR=112
FORT S **S** **22 33 04.7 -0.7**
baz=40,SNR=5.5
KLR Kul'dur 40.26 8⇑*i*P **P** **22 27 38.2 -2.6**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s
BLDU Ballidu 40.37 190 P **P** **22 27 41.3 -0.6**
baz=40,SNR=69
BLDU S **S** **22 33 06.6 -2.8**
baz=40,SNR=7.1
GUN Gumba 40.39 302 *e*P **P** **22 27 43.3 +0.7**
comp=Z,164nm,0.5s
PKI Pulchoki 40.68 302 *e*P **P** **22 27 44.9 0.0**
comp=Z,118nm,0.5s
PKIN Phulchoki 40.69 302 *e*P **P** **22 27 44.8 -0.1**
comp=Z,35nm,0.4s
YSS Yuzh-Sakhalins 40.70 20⇓*i*P **P** **22 27 45.2 +0.9**
YSS *e* 22 29 33.0
YSS pmax pmax
comp=Z,60nm,1.0s
KKN Kakani 40.85 302 *e*P **P** **22 27 46.3 +0.1**
comp=Z,72nm,0.5s
DMN Daman 40.94 302 *e*P **P** **22 27 47.1 +0.2**
ULN Ulaanbaatar 40.99 343 P **P** **22 27 48.1 +1.3**
SNR=34
ULN Ulaanbaatar 40.99 343 *e*P **P** **22 27 47.2 +0.4**
comp=Z,88nm,1.0s
ULN *e*ScP **ScP** **22 32 29.4 +0.9**
SONM Songino Array 41.16 342 P **P** **22 27 48.9 +0.8**
SONM PcP **PcP** **22 29 33.5 +0.1**
SONM ScP **ScP** **22 32 29.8 +0.6**
SONM S **S** **22 33 22.6 +1.9**
SONM Songino Array 41.16 342 P **P** **22 27 48.9 +0.8**
comp=Z,41nm,0.8s,baz=154,slow=9.1,SNR=253
SONM PcP **PcP** **22 29 33.5 +0.1**
comp=Z,11nm,0.8s,baz=154,slow=3.2,SNR=7.6
SONM ScP **ScP** **22 32 29.8 +0.6**
comp=Z,5.9nm,0.7s,baz=165,slow=4.0,SNR=7.9
SONM S **S** **22 33 22.6 +1.9**
comp=Z,1.3nm,1.0s,baz=152,slow=9.8,SNR=1.9
KLBR Kellerberrin 41.16 188 P **P** **22 27 47.8 -0.5**
baz=41,SNR=248
KLBR S **S** **22 33 24.7 +3.8**
baz=41,SNR=5.2
KUR Kuril'sk 41.20 26 *e*P **P** **22 27 48.9 +0.6**
KUR S **S** **22 33 15.7 -5.4**
KUR pmax pmax
comp=Z,197nm,1.1s
KUR pmax pmax
comp=Z,294nm,1.1s
KOLN Koldanda 42.26 301 *e*P **P** **22 27 57.8 +0.6**
comp=Z,422nm,0.3s
DANN Dangsing 42.31 302 *e*P **P** **22 27 58.0 +0.3**
comp=Z,331nm,0.5s
WAKE Wake Island 42.32 72 *e*P **P** **22 27 59.2 +1.7**
comp=Z,576nm,1.5s
NWAO Narrogin (SRO) 42.55 189 *e*P **P** **22 27 59.3 +0.2**
comp=Z,86nm,0.6s
PALK Pallekele 42.95 271 P **P** **22 28 03.0 +0.4**
comp=Z,314nm,1.5s,SNR=8.5
PALK Pallekele 42.95 271 *e*P **P** **22 28 03.3 +0.8**
comp=Z,40nm,0.7s
RMQ Roma 42.95 147 P **P** **22 28 03.1 +0.8**
baz=43,SNR=9.4
KWAJ Kwajalein Atol 42.98 87 *e*P **P** **22 28 04.7 +1.9**
KWAJ pmax pmax
comp=Z,70nm,0.8s
KWAJ Kwajalein Atol 42.98 87 *e*P **P** **22 28 04.7 +1.9**
comp=Z,70nm,0.8s
CIT Chita 43.40 351 *e*P **P** **22 28 06.3 +0.8**
CIT *e* 22 29 41.7
CIT pmax pmax
comp=Z,162nm,1.3s
EIDS Eidsvold 43.40 143 *e*P **P** **22 28 06.2 +0.4**
comp=Z,77nm,0.9s
EIDS Eidsvold 43.40 143 P **P** **22 28 06.4 +0.6**
baz=43,SNR=31
EIDS S **S** **22 33 52.9 -0.2**
baz=43,SNR=6.0
BBOO Buckleboo 43.46 165 *e*P **P** **22 28 06.6 +0.5**
comp=Z,3µm,0.7s
BBOO Buckleboo 43.46 165 P **P** **22 28 06.6 +0.5**
baz=43,SNR=157
BBOO S **S** **22 33 52.8 -0.9**
baz=43,SNR=9.6
RKGY Rocky Gully 44.24 188 P **P** **22 28 12.8 +0.6**
baz=44,SNR=35
STKA Stephens Creek 44.30 158 *e*P **P** **22 28 13.4 +0.7**
comp=Z,17nm,0.6s
STKA PcP **PcP** **22 29 44.1 -0.1**
STKA ScP **ScP** **22 32 41.4 -0.7**
STKA S **S** **22 34 03.5 -2.1**
STKA Stephens Creek 44.30 158 P **P** **22 28 13.3 +0.7**
comp=Z,85nm,0.5s,baz=334,slow=7.5,SNR=272
STKA PcP **PcP** **22 29 44.1 -0.1**
comp=Z,16nm,0.6s,baz=332,slow=6.6,SNR=3.5
STKA ScP **ScP** **22 32 41.4 -0.7**
comp=Z,23nm,0.8s,baz=338,slow=6.3,SNR=7.7
STKA S **S** **22 34 03.5 -2.1**
comp=Z,33nm,1.1s,baz=152,slow=16,SNR=7.3
STKA Stephens Creek 44.30 158 P **P** **22 28 13.4 +0.7**
baz=44,SNR=257
STKA S **S** **22 34 04.7 -0.9**
baz=44,SNR=8.0
ZAK Zakamensk 44.38 341 *e*P **P** **22 28 12.7 -0.4**
ZAK *e* 22 29 44.8
HYB Hyderabad 44.91 285⇑*i*P **P** **22 28 17.0 -0.7**
comp=Z,93nm,0.8s
HYB *e*PcP **PcP** **22 29 46.0 -0.8**
HYB *e*pP **pP** **22 30 02.5 +2.2**
HYB *e*ScP **ScP** **22 32 43.0 -2.0**
CMSA Cobar Meteorol 45.63 154 P **P** **22 28 24.4 +1.6**
baz=46,SNR=208
WMQ Urumqi 46.64 324 P **P** **22 28 32.0 +1.6**
WMQ PcP **PcP** **22 29 53.0 +0.5**
WMQ pP **pP** **22 30 17.8 +3.5**
WMQ PP **PP** **22 30 30.8 +2.6**
WMQ S **S** **22 34 39.8 +1.6**
WMQ ScS **ScS** **22 37 23.0 +0.4**
WMQ sS **sS** **22 37 45.0 -1.4**
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ pmax pmax
comp=Z,70nm,3.0s
CLNS Chul'man 47.37 1 *e*P **P** **22 28 36.2 +0.6**
CLNS *e* 22 29 55.2
CLNS *e* 22 30 16.2
CLNS *e*S S 22 34 55.3 +7.5
CLNS pmax pmax
comp=Z,104nm,0.7s
CLNS pmax pmax
comp=E,28nm,0.7s
CLNS pmax pmax
comp=N,54nm,0.8s
CLNS smax smax
comp=E,105nm,13.1s
CLNS smax smax
comp=N,74nm,11.6s
ARMA Armidale 47.59 147 *e*P **P** **22 28 39.5 +1.7**
comp=N,66nm,0.8s
ARMA *e*ScP **ScP** **22 32 57.2 +1.1**
ARMA Armidale 47.59 147 P **P** **22 28 39.7 +1.9**
baz=48,SNR=7.2

NDI New Delhi 47.93 300 *e*x P 22 28 37.0 -3.2
ARPS Mount Arapiles 48.83 161 P **P** **22 28 47.2 +0.6**
baz=49,SNR=28
SKR Severo-Kuril's 48.94 27 *e*P P 22 28 39.0 -8.3
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
YNG Young 49.17 153 P **P** **22 28 50.5 +1.2**
baz=49,SNR=14
TARA Tarawa 49.23 96 *e*P **P** **22 28 51.4 +1.2**
comp=Z,252nm,0.9s
MGCD Mangrove Creek 49.54 150 P **P** **22 28 54.2 +2.2**
baz=50,SNR=9.6
DLH Dalhousie 49.98 305 *e*P **P** **22 28 56.0 +0.4**
DLH *e*S **P** **22 28 58.0 +2.4**
CAN Canberra 50.29 153 *e*P **P** **22 28 58.6 +1.1**
CAN *e* 22 30 06.6
CAN pmax pmax
comp=Z,160nm,1.2s
CAN Canberra 50.29 153 *e*P **P** **22 28 58.6 +1.1**
comp=Z,160nm,1.2s
CAN *e*PcP **PcP** **22 30 06.6 +0.7**
CAN *e*ScP **ScP** **22 33 07.8 +0.4**
CNB Canberra Magne 50.45 153 P **P** **22 29 00.1 +1.3**
baz=50,SNR=58
TOO Toolangi 50.81 158 P **P** **22 29 02.6 +1.4**
baz=51,SNR=28
PEA0B Petropavlovsk- 51.37 25 *e*P **P** **22 29 05.6 +0.5**
PEA0B *e*PcP **PcP** **22 30 09.6 0.0**
PEA0B *e*pP **pP** **22 30 49.7 -2.2**
PETK Petropavlovsk- 51.37 25 P **P** **22 29 06.3 +1.3**
PETK 22 30 09.9
PETK Petropavlovsk- 51.37 25 P **P** **22 29 06.3 +1.3**
PETK PcP **PcP** **22 30 09.8 +0.2**
PETK Petropavlovsk- 51.37 25 P **P** **22 29 06.3 +1.3**
comp=Z,58nm,0.6s,baz=204,slow=5.8,SNR=68
PETK PcP **PcP** **22 30 09.8 +0.2**
comp=Z,26nm,0.8s,baz=194,slow=5.5,SNR=5.5
MK31 Makanchi Array 51.47 324 *i*P **P** **22 29 06.6 +0.7**
MK31 pmax pmax
comp=Z,82nm,0.4s
MK31 Makanchi Array 51.47 324 *e*P **P** **22 29 06.8 +0.9**
MK31 *e*PcP **PcP** **22 30 10.7 +0.5**
MKAR Makanchi Array 51.47 324 *e*P **P** **22 29 06.8 +0.9**
MKAR 22 30 10.2
MKAR S **S** **22 35 43.7 -0.1**
MKAR Makanchi Array 51.47 324 *e*P **P** **22 29 06.8 +0.9**
MKAR PcP **PcP** **22 30 10.2 0.0**
MKAR ScP **ScP** **22 33 11.6 -0.8**
MKAR S **S** **22 35 43.6 -0.1**
MKAR Makanchi Array 51.47 324 P **P** **22 29 06.7 +0.9**
comp=Z,146nm,0.5s,baz=123,slow=8.2,SNR=1147
MKAR PcP **PcP** **22 30 10.2 0.0**
comp=Z,41nm,0.7s,baz=107,slow=4.1,SNR=13
MKAR ScP **ScP** **22 33 11.6 -0.8**
comp=Z,5.7nm,0.9s,baz=119,slow=5.1,SNR=4.5
MKAR S **S** **22 35 43.6 -0.1**
comp=Z,3.8nm,1.1s,baz=108,slow=9.3,SNR=3.4
KAAM Kaadhehdhoo 51.59 263 P **P** **22 29 08.2 +1.0**
baz=52,SNR=4.3
PET Petropavlovsk 51.72 26⇓*i*P **P** **22 29 08.7 +1.2**
PET *e* 22 30 10.1
PET *e**SP **sP** **22 31 54.2 -3.0**
PET *e*S S 22 35 55.1 +8.4
PET *e**SS sS 22 39 06.3 +6.6
PET pmax pmax
comp=Z,193nm,1.0s
PET pmax pmax
comp=Z,100nm,8.0s
NOUC Port Laguerre 51.88 128 *e*P P 22 29 13.8 +4.6
DZM Mont Dzumac 51.98 127 *e*P **P** **22 29 10.2 +0.2**
DZM Mont Dzumac 51.98 127 P **P** **22 29 11.6 +1.5**
DZM Mont Dzumac 51.98 127 P **P** **22 29 11.6 +1.5**
comp=Z,112nm,0.8s,baz=90,slow=24,SNR=86
KSH Kashi 52.25 313 P **P** **22 29 13.5 +1.7**
KSH PP **PP** **22 31 21.5 +2.9**
KSH S **S** **22 35 53.5 -1.2**
KSH pmax pmax
comp=Z,71nm,1.4s
YAK Yakutsk 52.73 3*d* *i*P **P** **22 29 14.9 +0.3**
YAK *e* 22 30 13.8
YAK *e* 22 31 19.1
YAK *e*S **S** **22 35 57.9 -2.0**
YAK *e* 22 38 03.3
YAK *e*SS **SS** **22 39 47.2 -2.4**
YAK pmax pmax
comp=Z,257nm,0.9s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=N,96nm,1.2s
YAK pmax pmax
comp=Z,118nm,2.8s
YAK pmax pmax
comp=N,92nm,2.7s
YAK pmax pmax
comp=E,89nm,2.4s
YAK smax smax
comp=N,212nm,2.0s
YAK smax smax
comp=E,142nm,2.0s
ULHL Ulahol 53.12 317 *i*P **P** **22 29 19.5 +1.4**
ULHL Ulahol 53.12 317 P **P** **22 29 19.5 +1.4**
SNR=6.7
KZA Kyzart 53.73 316 *i*P **P** **22 29 24.1 +1.5**
KZA Kyzart 53.73 316 P **P** **22 29 24.1 +1.5**
SNR=23
TKM2 Tokmak 2 53.83 317 *i*P **P** **22 29 23.6 +0.6**
TKM2 Tokmak 2 53.83 317 P **P** **22 29 23.7 +0.6**
SNR=47
TKM2 Tokmak 2 53.83 317 *e*P **P** **22 29 24.0 +1.0**
comp=E,50nm,0.7s
KBK Karagaybulak 54.16 317 *i*P **P** **22 29 26.6 +1.2**
KBK Karagaybulak 54.16 317 P **P** **22 29 26.6 +1.2**
SNR=39
UCH Uchtor 54.30 316 *i*P **P** **22 29 28.0 +1.4**
UCH Uchtor 54.30 316 P **P** **22 29 28.0 +1.4**
SNR=16
ZAA0 Zalesovo Array 54.41 333 *e*P **P** **22 29 26.6 0.0**
ZAA0 *e*PcP **PcP** **22 30 19.7 -1.6**
ZAA0 *e*S **S** **22 36 20.7 -1.5**
ZALV Zalesovo Beam 54.41 333 P **P** **22 29 26.5 -0.1**
ZALV 22 30 20.2
ZALV S **S** **22 36 21.1 -1.2**
ZALV Zalesovo Beam 54.41 333 P **P** **22 29 26.5 -0.1**
ZALV PcP **PcP** **22 30 20.2 -1.0**
ZALV S **S** **22 36 21.1 -1.2**
ZALV ⇑*e* 22 59 39.5
ZALV Zalesovo Beam 54.41 333 P **P** **22 29 26.5 -0.1**
comp=E,59nm,0.4s,baz=127,slow=6.2,SNR=321
ZALV PcP **PcP** **22 30 20.2 -1.0**
comp=E,19nm,0.9s,baz=132,slow=2.2,SNR=4.7
ZALV S **S** **22 36 21.1 -1.2**
comp=E,2.8nm,0.6s,baz=132,slow=12,SNR=7.7
ZALV PKP2bc 22 59 39.5
comp=E,0.9nm,0.7s,baz=328,slow=5.1,SNR=4.8
CHMS Chumysh 54.43 317 P **P** **22 29 27.7 +0.7**
SNR=43
FRU Bishkek 54.46 317 *e*P **P** **22 29 26.0 -1.2**
FRU *e* 22 36 24.0
AAK Ala-Archa 54.46 316 P **P** **22 29 28.0 +0.6**
comp=E,164nm,0.6s,SNR=12
AAK Ala-Archa 54.46 316*c* *i*P **P** **22 29 28.3 +0.9**
AAK pmax pmax
comp=Z,53nm,0.8s
AAK Ala-Archa 54.46 316 P **P** **22 29 28.8 +1.3**
SNR=13
AAK Ala-Archa 54.46 316 P **P** **22 29 28.4 +0.9**
SNR=20
AAK Ala-Archa 54.46 316 *e*P **P** **22 29 28.4 +0.9**
AAK PcP **PcP** **22 30 22.5 +0.5**
AAK ScP **ScP** **22 33 24.8 -1.0**
AAK Ala-Archa 54.46 316 P **P** **22 29 28.5 +1.1**
comp=Z,18nm,0.7s,baz=113,slow=6.0,SNR=41
AAK PcP **PcP** **22 30 22.5 +0.5**
comp=Z,6.9nm,0.6s,baz=289,slow=7.0,SNR=4.7
AAK ScP **ScP** **22 33 24.8 -1.0**
comp=Z,5.3nm,0.8s,baz=128,slow=5.9,SNR=3.8
USP Ospenovka 54.70 317 *i*P **P** **22 29 29.7 +0.8**
USP Ospenovka 54.70 317 P **P** **22 29 29.7 +0.8**
SNR=107
AML Almayashu 54.82 315 *i*P **P** **22 29 31.4 +1.2**
AML Almayashu 54.82 315 P **P** **22 29 31.4 +1.2**
SNR=6.0

EKS2 Erkin-Say 54.96 316 *eP* **P 22 29 31.9 +1.0**
EKS2 pmax pmax
comp=Z,82nm,0.7s
EKS2 Erkin-Say 54.96 316 P **P 22 29 31.9 +1.0**
SNR=90
EKS2 Erkin-Say 54.96 316 *eP* **P 22 29 31.9 +1.0**
comp=Z,82nm,0.7s
KURBB Kurchatov Arra 55.61 327 P **P 22 29 35.5 +0.5**
comp=Z,218nm,0.6s,baz=125,slow=6.4,SNR=2086
KURBB S S 22 36 31.9 -6.1
comp=Z,4.0nm,1.2s,baz=122,slow=14,SNR=9.8
KURK Kurchatov 55.61 327 P **P 22 29 35.6 +0.6**
KURK S S 22 36 31.9 -6.1
KURK Kurchatov 55.61 327 P **P 22 29 35.5 +0.6**
KURK S S 22 36 31.9 -6.1
NVS Novosibirsk 55.69 333⇓ *iP* **P 22 29 34.1 -1.4**
NVS *e* 22 30 23.5
NVS *i* S **S 22 36 35.9 -2.9**
NVS *e* 22 38 16.9
NVS pmax pmax
comp=Z,114nm,0.9s
NVS pmax pmax
comp=N,43nm,0.6s
NVS pmax pmax
comp=E,50nm,0.6s
NVS smax smax
comp=N,30nm,1.7s
NVS smax smax
comp=E,47nm,1.7s
KBL Kabul 56.08 305 *eP* **P 22 29 38.9 +0.1**
KBL pmax pmax
comp=Z,46nm,0.6s
KBL Kabul 56.08 305 *eP* **P 22 29 38.9 +0.1**
comp=Z,46nm,0.6s
KBL Kabul 56.08 305 P **P 22 29 39.2 +0.4**
baz=56,SNR=22
KK31 Karatay Array 57.36 316 *i P* **P 22 29 47.5 +0.2**
KK31 pmax pmax
comp=Z,41nm,0.5s
KKAR Karatay Array 57.36 316 *eP* **P 22 29 47.7 +0.5**
KKAR Karatay Array 57.36 316 *eP* **P 22 29 47.7 +0.5**
FX1 Attu Island--F 58.66 32 *eP* **P 22 29 57.4 +1.7**
FX1 Attu Island--F 58.66 32 P **P 22 29 57.3 +1.5**
comp=Z,68nm,0.5s,baz=327,slow=1.3,SNR=41
MSVF Nonsavu 59.72 117 P **P 22 30 05.0 +1.5**
comp=Z,636nm,0.9s,SNR=7.0
MSVF Nonsavu 59.72 117 *eP* **P 22 30 05.1 +1.5**
MSVF pmax pmax
comp=Z,115nm,1.0s
MSVF Nonsavu 59.72 117 *eP* **P 22 30 05.1 +1.5**
comp=Z,115nm,1.0s
BVAR Borovoye Array 61.20 326 P **P 22 30 12.9 +0.3**
BVAR 22 30 47.2
BVAR S **S 22 37 47.8 -0.7**
BVAR Borovoye Array 61.20 326 P **P 22 30 12.9 +0.3**
BVAR PcP **PcP 22 30 47.2 -1.2**
BVAR S **S 22 37 47.8 -0.7**
BVAR Borovoye Array 61.20 326 P **P 22 30 12.9 +0.3**
comp=Z,86nm,0.7s,baz=127,slow=9.5,SNR=258
BVAR PcP **PcP 22 30 47.2 -1.2**
comp=Z,18nm,0.8s,baz=108,slow=4.8,SNR=5.5
BVAR S **S 22 37 47.8 -0.7**
comp=Z,1.1nm,0.8s,baz=349,slow=15,SNR=3.7
BRVK Borovoye 61.27 326 P **P 22 30 13.8 +0.7**
comp=Z,1μm,0.8s,SNR=50
BRVK Borovoye 61.27 326 *d iP* **P 22 30 13.4 +0.4**
BRVK pmax pmax
comp=Z,237nm,1.2s
BRVK Borovoye 61.27 326 P **P 22 30 13.7 +0.7**
SNR=60
BRVK Borovoye 61.27 326 *eP* **P 22 30 13.6 +0.5**
comp=Z,161nm,0.9s
TIXI Tiksi 62.31 2 *d iP* **P 22 30 19.0 -0.4**
TIXI pmax pmax
comp=Z,165nm,1.5s
AB31 Akbulak array 66.16 320 *i P* **P 22 30 44.0 -0.2**
AB31 pmax pmax
comp=Z,30nm,0.4s
ABKAR Akbulak array 66.16 320 *eP* **P 22 30 44.3 +0.1**
WHZ Wether Hill Ro 67.59 148 *eP* **P 22 30 53.1 +0.1**
comp=Z,479nm,2.2s
AKTO Aktyubinsk 67.65 321 *i P* **P 22 30 53.4 0.0**
AKTO pmax pmax
comp=Z,63nm,0.6s
AKTO Aktyubinsk 67.65 321 P **P 22 30 53.6 +0.2**
AKTO S **S 22 39 05.1 -0.7**
AKTO Aktyubinsk 67.65 321 P **P 22 30 53.6 +0.2**
comp=Z,59nm,0.6s,baz=98,slow=8.5,SNR=171
AKTO S **S 22 39 05.1 -0.7**
comp=Z,2.9nm,0.9s,baz=282,slow=20,SNR=7.5
SVE Sverdlovsk 67.82 328 *c iP* **P 22 30 54.4 +0.2**
SVE pmax pmax
comp=Z,151nm,0.6s
RPZ Rata Peaks 67.86 145 *eP* **P 22 30 55.6 +0.9**
comp=Z,98nm,0.6s
URZ Urewera 68.44 137 *eP* **P 22 30 58.7 +0.4**
comp=Z,362nm,2.0s
ODZ Otahua Downs 68.47 146 *eP* **P 22 30 59.6 +1.3**
comp=Z,792nm,3.0s
KHZ Kahutara 68.51 143 *eP* **P 22 30 58.6 0.0**
comp=Z,129nm,1.3s
ARU Arti 68.80 327 *d iP* **P 22 30 59.8 -0.4**
ARU 22 31 17.8
ARU *PP **pP** 22 32 57.9 +1.3
ARU PPP PPP 22 35 25.3
ARU S **S 22 39 16.6 -2.3**
ARU 22 39 57.8
ARU SSS SSS 22 47 16.9
ARU pmax pmax
comp=Z,116nm,0.6s
ARU Arti 68.80 327 P **P 22 30 59.3 -0.9**
comp=Z,2μm,0.5s,SNR=87
MSEY Mahe Island 69.76 262 *eP* **P 22 31 06.4 -0.4**
comp=Z,96nm,1.8s
SOKR Solikamsk 70.55 330 *d iP* **P 22 31 10.2 -0.3**
SOKR pmax pmax
comp=Z,80nm,1.0s
AKUT Akutan 70.87 36 *eP* **P 22 31 12.9 +0.5**
FALS False Pass 72.34 35 *eP* **P 22 31 20.9 -0.2**
comp=Z,162nm,0.7s
QRN Al-Qurain 73.46 297 *eP* **P 22 31 27.4 -0.6**
QRN AMb AMB 22 31 28.6
comp=Z,129nm,1.0s
UMR Umm Al-Rimmam 73.61 298 *eP* **P 22 31 28.2 -0.6**
KBD Kabd 73.65 298 *eP* **P 22 31 28.4 -0.6**
RDF Al-Radifah 73.78 297 *eP* **P 22 31 29.4 -0.4**
RDF AMb AMB 22 31 30.5
comp=Z,77nm,1.2s
MIB Mutribah 73.94 298 *eP* **P 22 31 30.2 -0.5**
MIB AMb AMB 22 31 31.3
comp=Z,113nm,0.9s
NAY Al-Naaiem 74.04 298 *eP* **P 22 31 30.3 -1.0**
NAY AMb AMB 22 31 31.8
comp=Z,2.9nm,0.9s
SDPT Sand Point 74.08 35 *eP* **P 22 31 30.9 0.0**
comp=Z,183nm,0.7s
RST Umm Al-Ruwaisa 74.24 298 *eP* **P 22 31 31.3 -1.2**
RST AMb AMB 22 31 33.3
comp=Z,1μm,0.9s
CHGN Chignik 75.34 34 *eP* **P 22 31 37.8 -0.2**
DGRG David-gareji 75.41 310 P **P 22 31 40.2 +1.4**
KIP Kipapa 75.45 70⇓ *eP* **P 22 31 41.0 +1.7**
KIP pmax pmax
comp=Z,122nm,1.6s
TBLG Delisi 75.89 311 *eP* **P 22 31 42.2 +0.8**
TBLG Delisi 75.89 311 P P 22 31 48.1 +6.7
TBLG Delisi 75.89 311 P **P 22 31 42.2 +0.8**
GNI Garni 75.89 309 *eP* **P 22 31 42.3 +0.7**
GNI Garni 75.89 309 P **P 22 31 43.3 +1.7**
SNR=6.3
GNI Garni 75.89 309 *eP* **P 22 31 42.4 +0.7**
comp=Z,38nm,0.8s
GNI *ep*P **pP 22 33 39.4 -1.9**
RAYN Ar Rayn 75.90 292 P **P 22 31 41.0 -0.9**
comp=Z,457nm,0.7s,SNR=31
DUS Dusheti 75.92 311 P **P 22 31 41.7 +0.1**
CASY Casey 76.09 186 *eP* **P 22 31 41.3 -0.5**
comp=Z,19nm,0.5s
KZR Kazreti 76.13 310 P **P 22 31 43.5 +0.7**
ZEI Tsey 76.51 312 *eP* **P 22 31 44.7 -0.3**
ZEI pmax pmax
comp=Z,56nm,0.9s
CLDR Caldiran 76.54 308 *eP* **P 22 31 46.1 +0.8**
HAKT HAKKARI 76.74 306 *i P* **P 22 31 46.9 +0.4**
AKH Akhalkalaki 76.82 310 P **P 22 31 48.1 +1.4**

CUKT Cukurca 76.83 306 *eP* **P 22 31 46.9 +0.1**
KARS Kars 77.15 310 *eP* **P 22 31 49.1 +0.6**
SVW2 Sparrevohn 77.20 29 *eP* **P 22 31 49.5 +1.4**
comp=Z,51nm,1.0s
KBZ Khabaz 77.23 313 P **P 22 31 48.7 +0.1**
KBZ S **S 22 40 51.3 -0.9**
KBZ Khabaz 77.23 313 P **P 22 31 48.7 +0.1**
KBZ S **S 22 40 51.3 -0.9**
KBZ Khabaz 77.23 313 P **P 22 31 48.7 +0.1**
comp=Z,24nm,0.9s,baz=99,slow=3.3,SNR=35
KBZ S **S 22 40 51.3 -0.9**
comp=Z,2.8nm,1.0s,baz=110,slow=14,SNR=7.2
GEVA Gevas 77.23 307 *i P* **P 22 31 49.9 +0.8**
AGRB Hanur-Agry 77.25 308 *eP* **P 22 31 48.9 -0.2**
KIV Kislovodsk 77.38 313 *eP* **P 22 31 49.4 -0.2**
KIV *e**PP **pP 22 33 51.8 +2.0**
KIV *e* 22 34 55.9
KIV *e*S **S 22 40 52.9 -1.1**
KIV pmax pmax
comp=Z,67nm,0.9s
KIV Kislovodsk 77.38 313 P **P 22 31 49.6 0.0**
comp=Z,451nm,0.8s,SNR=11
POHA Pohakuloa 77.91 72 *eP* **P 22 31 55.5 +2.4**
comp=Z,136nm,0.9s
ARTV Artvin 78.01 310 *i P* **P 22 31 53.0 -0.2**
DAGI Agillar 78.02 310 *i P* **P 22 31 53.9 +0.7**
VRHR Novokhopersk 78.04 320 *eP* **P 22 31 51.4 -1.5**
VRHR pmax pmax
comp=Z,110nm,0.9s
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=E,100nm,1.8s
DDEM Demirkent 78.15 310 *i P* **P 22 31 54.7 +0.8**
DBOC Borcka 78.20 310 *i P* **P 22 31 54.3 +0.3**
OHAK Old Harbor 78.21 33 *eP* **P 22 31 54.3 +0.7**
comp=E,132nm,0.9s
BCA Borcka 78.23 310 *eP* **P 22 31 53.3 -0.9**
XMAS Kiritimati 78.31 90 *eP* **P 22 31 55.4 +0.4**
comp=E,164nm,0.9s
IM04 Indian Mountai 78.31 24 *eP* **P 22 31 55.0 +1.0**
IMA2 Indian Mountai 78.35 24 *eP* **P 22 31 54.5 +0.1**
ERZM Erzurum 78.49 309 *i P* **P 22 31 57.0 +1.1**
EZM Erzurum 78.49 309 *eP* **P 22 31 57.1 +1.2**
RSO Redoubt South 78.55 30 *eP* **P 22 31 55.8 +0.1**
KDAK Kodiak Island 78.60 33 P **P 22 31 56.0 +0.4**
comp=E,840nm,0.7s,SNR=29
KDAK Kodiak Island 78.60 33 *eP* **P 22 31 56.5 +0.9**
comp=E,93nm,0.7s
KDAK Kodiak Island 78.60 33 P **P 22 31 56.6 +0.9**
comp=E,78nm,0.6s,baz=258,slow=3.2,SNR=74
BEST Besiri 78.66 307 *i P* **P 22 31 57.4 +0.8**
PPLA Purkeypile 78.88 28 *eP* **P 22 31 58.2 +0.9**
comp=E,81nm,1.1s
SPU Mount Spurr 78.91 29 *eP* **P 22 31 57.5 +0.2**
BNGB Bing¶ll 79.06 308 *eP* **P 22 31 59.3 +0.6**
MARD Mardin 79.08 306 *i P* **P 22 31 59.4 +0.5**
MAZI Mazidag 79.34 306 *eP* **P 22 32 00.1 -0.1**
BAYT Ayd¨–ntepe-Bay 79.40 309 *eP* **P 22 32 00.1 -0.5**
BPAW Bear Paw Mtn. 79.44 26 *eP* **P 22 32 01.1 +1.0**
comp=E,165nm,1.0s
VORD Divnogorie 79.52 320 *eP* **P 22 31 59.8 -0.9**
VORD pmax pmax
comp=N,70nm,0.6s
VORD pmax pmax
comp=Z,50nm,0.6s
VORD pmax pmax
comp=E,80nm,0.8s
SOC Sochi 79.54 313 *d iP* **P 22 32 00.2 -0.8**
SOC *e* 22 35 12.3
SOC *e*S **S 22 41 11.4 -4.9**
SOC *e*SS **SS 22 46 47.2 +6.4**
SOC *e*SSS SSS 22 50 10.1
SOC pmax pmax
comp=Z,53nm,0.7s
VSR Storozhevoye 79.59 320 *eP* **P 22 32 00.3 -0.8**
VSR *e* 22 41 11.5
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,50nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
ATD Arta Tunnel 79.65 280 P **P 22 32 03.9 +1.7**
ATD Arta Tunnel 79.65 280 P **P 22 32 03.9 +1.7**
comp=N,16nm,0.7s,baz=89,slow=4.8,SNR=11
SFNV Sufian 79.67 305 *eP* **P 22 32 02.8 +0.9**
TRF Thorofare Moun 79.74 27 *eP* **P 22 32 01.8 0.0**
comp=N,92nm,0.9s
COLD Coldfoot 79.78 23 *eP* **P 22 32 03.5 +1.7**
GUMT Gumushane 79.90 310 *eP* **P 22 32 03.1 0.0**
TMCR Tamitsa 79.92 334 *eP* **P 22 32 02.6 +0.1**
TMCR *e* 22 35 13.8
TMCR pmax pmax
comp=Z,112nm,0.8s
PTK Pertek 80.07 308 *eP* **P 22 32 04.5 +0.3**
KELT Kelkit 80.09 309 *i P* **P 22 32 04.4 +0.1**
PMR Palmer 80.31 29 *eP* **P 22 32 04.8 +0.2**
PMR pmax pmax
comp=Z,88nm,0.9s
PMR Palmer 80.31 29 *eP* **P 22 32 04.8 +0.2**
comp=Z,88nm,0.9s
MOS Moscow 80.34 325κ *iP* **P 22 32 04.6 -0.3**
MOS *e*S **S 22 41 18.0 -5.9**
MOS *e* 22 41 25.9
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,98nm,0.8s
MCK McKinley 80.34 27 *eP* **P 22 32 05.2 +0.4**
MCK McKinley 80.34 27 *eP* **P 22 32 05.2 +0.4**
ESPY Espiye-Giresun 80.44 310 *eP* **P 22 32 05.0 -0.8**
SML Sawmill 80.69 29 *eP* **P 22 32 07.1 +0.5**
SML Sawmill 80.69 29 *eP* **P 22 32 07.1 +0.5**
KEMA Kemaliye 80.74 308 *i P* **P 22 32 08.4 +1.0**
COLA College 80.78 26 *eP* **P 22 32 06.4 -0.5**
COLA pmax pmax
comp=Z,65nm,0.8s
COLA College 80.78 26 *eP* **P 22 32 06.4 -0.5**
comp=Z,65nm,0.8s
MALT Malatya 80.87 307 *eP* **P 22 32 08.9 +0.8**
MALT Malatya 80.87 307⇓ *iP* **P 22 32 09.3 +1.1**
MALT Malatya 80.87 307⇓ *iP* **P 22 32 09.3 +1.1**
OBN Obninsk 80.97 324 *d iP* **P 22 32 07.5 -0.6**
OBN *e**PP **pP 22 34 13.4 +3.6**
OBN *e*S **S 22 41 28.7 -1.6**
OBN pmax pmax
comp=Z,72nm,0.8s
OBN Obninsk 80.97 324 P **P 22 32 07.7 -0.4**
comp=Z,666nm,0.6s,SNR=9.7
ATAB Bozova 81.05 307 *i P* **P 22 32 09.9 +0.9**
ANN Anapa 81.11 314 *d iP* **P 22 32 08.2 -0.8**
ANN *e**PP **pP 22 34 12.6 +1.8**
ANN *e*S **S 22 41 30.6 -1.5**
ANN pmax pmax
comp=Z,176nm,0.9s
LVZ Lovozero 81.18 337 *d iP* **P 22 32 08.7 -0.3**
LVZ pmax pmax
comp=Z,188nm,1.2s
LVZ Lovozero 81.18 337 P **P 22 32 09.3 +0.3**
comp=Z,731nm,0.9s,SNR=12
ILAR Eielson Array 81.20 26 P **P 22 32 08.3 -0.8**
ILAR PKKPbc **PKKPbc 22 50 38.9 -3.9**
ILAR Eielson Array 81.20 26 P **P 22 32 08.3 -0.8**
comp=Z,15nm,0.7s,baz=246,slow=4.7,SNR=140
ILAR PKKPbc **PKKPbc 22 50 38.9 -3.9**
comp=Z,0.7nm,0.6s,baz=164,slow=2.1,SNR=7.2
SLMH Al Salmeh 81.45 305 *eP* **P 22 32 11.5 +0.4**
RSDY Resadiye-TOKAT 81.54 310 *eP* **P 22 32 12.1 +0.7**
DARE Darende-Malaty 81.59 308 *eP* **P 22 32 12.1 +0.3**
GZT Gaziantep 81.64 306 *i P* **P 22 32 12.9 +0.7**
APA Apatity 81.68 337⇓ *iP* **P 22 32 12.2 +0.7**
APA *e**PP **pP 22 34 16.6 +3.1**
APA pmax pmax
comp=Z,169nm,1.0s
APA MLR MLR
comp=Z,400nm,14.0s
SCER sogukcermik 81.74 309 *i P* **P 22 32 13.6 +0.9**
PAX Paxson 81.95 27 *eP* **P 22 32 14.0 +0.9**
PAX pmax pmax
comp=Z,41nm,0.8s
PAX Paxson 81.95 27 *eP* **P 22 32 14.0 +0.9**
comp=Z,41nm,0.8s
ERBA Erbaa 81.95 310 *i P* **P 22 32 13.6 0.0**

DIV Divide 81.95 29 *eP* **P 22 32 14.3 +1.2**
KMRS Kahramanmaras 82.15 307 *eP* **P 22 32 14.6 0.0**
AYKD Aykdinkavak 82.23 307 *i P* **P 22 32 15.5 +0.5**
ZALF Zalf 82.27 302 *eP* **P 22 32 16.3 +1.0**
DRWC Darouich 82.42 306 *eP* **P** 22 32 19.9 +3.8
KVT Kavak 82.45 310 *eP* **P 22 32 15.2 -0.9**
BMRM Bremner River 82.54 29 *eP* **P 22 32 17.0 +0.9**
comp=Z,129nm,1.0s
RAGM Ragged Mountai 82.56 30 *eP* **P 22 32 17.9 +1.7**
ANDN Andirin 82.58 307 *i P* **P 22 32 17.6 +0.7**
BTCH Batrach 82.65 305 *eP* **P 22 32 17.3 +0.1**
HAVZ Havza 82.69 310 *i P* **P 22 32 17.7 +0.4**
ASF Jabal al Asfar 82.71 301 P **P 22 32 18.7 +1.1**
ASF Jabal al Asfar 82.71 301 P **P 22 32 18.7 +1.1**
comp=Z,21nm,0.8s,baz=58,slow=3.9,SNR=29
MENT Mentasta 82.75 27 *eP* **P 22 32 17.5 +0.5**
WRDH Warideh 82.75 305 *eP* **P** 22 32 14.1 -3.6
SALA Sala 82.79 302 *eP* **P 22 32 18.7 +0.5**
BNN Bunyan 82.83 308 *eP* **P 22 32 17.9 -0.3**
MARH Ras Al Marh 82.85 303 *eP* **P 22 32 19.6 +1.0**
HAWK Haweek 82.86 304 *eP* **P** 22 32 14.1 -4.2
BIDA Albida 82.87 304 *eP* **P 22 32 18.9 +0.5**
YAYL Yayladag 82.94 305 *i P* **P 22 32 18.7 0.0**
DIKM Dikmen 82.98 311 *eP* **P 22 32 18.4 -0.2**
KOZT Kozan 83.00 307 *eP* **P 22 32 19.8 +0.9**
JOF Joensuu 83.00 333 *eP* **P 22 32 17.3 -1.0**
JOF pmax pmax
comp=Z,81nm,0.8s
JOF Joensuu 83.00 333 *ep* **P 22 32 17.3 -1.0**
comp=Z,81nm,0.8s
ARNB Al Arnab 83.06 305 *eP* **P 22 32 19.6 +0.3**
CEYT Ceyhan 83.11 306 *eP* **P 22 32 19.0 -0.4**
YURE YUREGIR 83.23 306 *i P* **P 22 32 21.0 +1.0**
BRBR Barbar 83.36 303 *eP* **P 22 32 21.1 +0.1**
BYBT Boyabat 83.36 311 *eP* **P 22 32 20.6 +0.1**
SIM Simferopol' 83.44 314 *d iP* **P 22 32 20.0 -0.9**
SIM *e*S **S 22 41 51.0 -4.3**
CTKT Corum 83.44 310 *i P* **P 22 32 21.1 -0.1**
AVNT Avonos 83.61 308 *i P* **P 22 32 21.9 -0.2**
CORM Corum 83.62 310 *eP* **P 22 32 21.7 -0.3**
KARA Karaisali 83.63 307 *eP* **P 22 32 20.6 -1.4**
EGAK Eagle 83.64 25 *eP* **P 22 32 21.8 +0.4**
comp=Z,86nm,0.9s
GULE Gulek 83.85 307 *i P* **P 22 32 20.9 -2.4**
MMAI Mount Meron Ar 83.87 302 P **P 22 32 24.4 +1.0**
MMAI pP **pP 22 34 27.8 +1.6**
MMAI Mount Meron Ar 83.87 302 P **P 22 32 24.4 +1.0**
comp=Z,26nm,0.6s,baz=75,slow=6.4,SNR=51
MMAI pP **pP 22 34 27.8 +1.6**
comp=Z,2.3nm,0.8s,baz=88,slow=11,SNR=2.8
PUL Pulkovo 83.88 329 *i P* **P 22 32 23.3 +0.6**
PUL pmax pmax
comp=Z,58nm,0.7s
CDAG Cicekdag 83.88 309 *i P* **P 22 32 22.8 -0.5**
NIG Nigde 83.88 308 *eP* **P 22 32 23.4 -0.2**
TOS Tosya 83.97 310 *eP* **P 22 32 23.6 -0.1**
ARCES ARCESS Array B 84.29 340 P **P 22 32 24.0 -0.6**
ARCES PKKP **PKKPdf 22 50 27.5 +1.7**
ARCES ARCESS Array B 84.29 340 P **P 22 32 24.0 -0.6**
comp=Z,40nm,0.7s,baz=75,slow=6.4,SNR=74
ARCES PKKP **PKKPdf 22 50 27.5 +1.7**
comp=Z,1.1nm,0.7s,baz=246,slow=4.5,SNR=2.8
ARE0 ARCESS Array S 84.29 340 *eP* **P 22 32 24.1 -0.5**
ARE0 ARCESS Array S 84.29 340 *eP* **P 22 32 24.1 -0.5**
ARE0 *ep*P **pP 22 34 25.6 -2.0**
BR131 Keskin Array S 84.43 309 *eP* **P 22 32 25.4 -0.7**
comp=Z,6.8nm,0.5s
BR131 *e*PP **PP 22 35 51.3 -0.5**
BRTR Keskin Array B 84.43 309 P **P 22 32 25.4 -0.7**
BRTR pP **pP 22 34 30.8 +1.7**
BRTR PKKPbc **PKKPbc 22 50 33.5 -1.0**
BRTR Keskin Array B 84.43 309 P **P 22 32 25.4 -0.7**
comp=Z,11nm,0.7s,baz=125,slow=4.0,SNR=69
BRTR pP **pP 22 34 30.8 +1.7**
comp=Z,3.4nm,0.9s,baz=108,slow=6.6,SNR=5.7
BRTR PKKPbc **PKKPbc 22 50 33.5 -1.0**
comp=Z,0.6nm,0.5s,baz=248,slow=1.9,SNR=4.1
SPA0 Spitsbergen Ar 84.48 349 *eP* **P 22 32 25.2 -0.2**
SPITS Spitsbergen Ar 84.48 349 P **P 22 32 24.9 -0.4**
SPITS Spitsbergen Ar 84.48 349 P **P 22 32 24.9 -0.4**
comp=Z,7.6nm,0.5s,baz=88,slow=9.3,SNR=16
EIL Elat 84.68 299 P **P 22 32 28.0 +0.7**
EIL Elat 84.68 299 P **P 22 32 28.0 +0.7**
comp=Z,34nm,0.8s,baz=21,slow=1.7,SNR=23
EIL Elat 84.68 299 P **P 22 32 27.9 +0.7**
baz=85,SNR=17
BBAL Bala 84.85 309 *i P* **P 22 32 26.6 -1.5**
KBS Kingsbay 85.03 350 *eP* **P 22 32 27.3 -0.7**
KBS AMS AMS 23 34 47.5
comp=Z,375nm,11.1s
KBS Kingsbay 85.03 350 *c iP* **P 22 32 27.6 -0.4**
KBS pmax pmax
comp=Z,13nm,0.8s
ANTO Ankara 85.06 309 *eP* **P 22 32 28.5 -0.5**
ANTO Ankara 85.06 309 *eP* **P 22 32 28.5 -0.5**
KTK1 Kautokeino 85.19 339 *eP* **P 22 32 27.9 -1.0**
KTK1 AMB AMB 22 32 29.5
comp=Z,355nm,1.0s
CSS Prodhromos 85.32 305 *eP* **P 22 32 30.0 -0.3**
CSS Prodhromos 85.32 305 *eP* **P 22 32 29.0 -1.3**
comp=Z,32nm,0.6s
KAF Kangasniemi 85.42 332 *eP* **P 22 32 29.0 -1.1**
KAF pmax pmax
comp=Z,109nm,0.7s
KAF Kangasniemi 85.42 332 *ep* **P 22 32 29.0 -1.1**
comp=Z,109nm,0.7s
FIA1 FINESS Array S 85.66 331 *eP* **P 22 32 30.8 -0.5**
FIA1 *ep*P **pP 22 34 35.1 +0.3**
FINES FINESS Array B 85.66 331 P **P 22 32 30.8 -0.5**
FINES pP **pP 22 34 38.5 +3.6**
FINES PKKPbc **PKKPbc 22 50 29.5 -2.9**
FINES FINESS Array B 85.66 331 P **P 22 32 30.8 -0.5**
comp=Z,45nm,0.6s,baz=69,slow=4.8,SNR=298
FINES pP **pP 22 34 38.5 +3.6**
comp=Z,5.9nm,0.7s,baz=69,slow=10,SNR=4.1
FINES PKKPbc **PKKPbc 22 50 29.5 -2.9**
comp=Z,2.6nm,0.7s,baz=151,slow=4.4,SNR=7.3
AKASG Malin Array Be 85.89 321 P **P 22 32 31.7 -0.9**
AKASG Malin Array Be 85.89 321 P **P 22 32 31.7 -0.9**
AKASG Malin Array Be 85.89 321 P **P 22 32 31.7 -0.9**
comp=Z,26nm,0.6s,baz=64,slow=5.6,SNR=43
KIEV Kiev 85.90 321 *eP* **P 22 32 31.8 -0.9**
KIEV pmax pmax
comp=Z,23nm,0.7s
KIEV Kiev 85.90 321 *eP* **P 22 32 31.8 -0.9**
comp=Z,23nm,0.7s
VSU Vasula 85.92 328⇑ *eP* **P 22 32 31.4 -1.2**
VSU pmax pmax
comp=Z,247nm,1.3s
INK Inuvik 85.92 21 *eP* **P 22 32 32.6 +0.3**
comp=Z,69nm,0.8s
INK Inuvik 85.92 21 P **P 22 32 32.8 +0.4**
comp=Z,87nm,0.9s,baz=293,slow=4.7,SNR=69
GAZI Gazipasa 85.95 306 *i P* **P 22 32 32.1 -1.2**
HYT Haines Junctio 85.99 29 *eP* **P 22 32 33.7 +0.6**
IDID Didziasalis 86.53 325 *eP* **P 22 32 35.4 -0.1**
IDID AMB AMB 22 32 37.3
comp=Z,14nm,0.8s
NACGM Naroch 86.59 325 *e* P 22 32 32.0 -3.8
SEYT Eskypehyr 86.59 309 *i P* **P 22 32 34.2 -2.2**
IIGN Ignalina 86.81 325 *eP* **P 22 32 36.8 -0.1**
IIGN AMB AMB 22 32 37.4
comp=Z,11nm,0.9s
ISAL Salakas 86.82 326 *eP* **P 22 32 36.8 -0.1**
ISAL AMB AMB 22 32 37.5
comp=Z,8.7nm,1.3s
KMBO Kilima Mbogo 87.05 268 *eP* **P 22 32 40.4 +1.2**
KMBO pP **pP 22 34 46.9 +3.6**
KMBO Kilima Mbogo 87.05 268 P **P 22 32 40.0 +0.9**
comp=Z,7.9nm,1.0s,baz=227,slow=23,SNR=3.0
KMBO pP **pP 22 34 46.9 +3.6**
comp=Z,6.9nm,0.9s,baz=52,slow=8.3,SNR=6.7
TLCR 87.12 315⇓ *iP* **P 22 32 39.9 +1.4**
TLCR 87.12 315⇓ *iP* **P 22 32 39.9 +1.4**
TIRR Tirgusor 87.53 314 *eP* **P 22 32 40.0 -0.5**
TIRR Tirgusor 87.53 314 *eP* **P 22 32 40.0 -0.5**
CFR Carcaliu 87.59 315⇑ *iP* **P 22 32 40.1 -0.7**
CFR Carcaliu 87.59 315⇑ *iP* **P 22 32 40.1 -0.7**
MAW Mawson 88.11 200 P **P 22 32 42.1 -0.5**
MAW Mawson 88.11 200 P **P 22 32 42.1 -0.5**
comp=Z,2.4nm,0.6s,baz=54,slow=1.8,SNR=4.4
STEI Steigen 88.33 339 *eP* **P 22 32 42.5 -1.2**
STEI AMB AMB 22 32 43.5

comp=Z,102nm,0.9s
TESR Tescani 88.35 317⇓iP P 22 32 44.1 -0.2
VRI Vrincioaia 88.43 316⇓iP P 22 32 44.8 +0.1
VRI Vrincioaia 88.43 316⇓iP P 22 32 44.8 +0.1
PLOR Plostina 88.49 316⇑P P 22 32 45.3 +0.3
PLOR Plostina 88.49 316⇑iP P 22 32 45.3 +0.3
SUW Suwalki 88.83 325 eP P 22 32 45.7 -0.7
SUW pmax pmax
comp=Z,118nm,0.9s
SUW Suwalki 88.83 325 eP P 22 32 45.7 -0.7
comp=Z,118nm,0.9s
SUW Suwalki 88.83 325 eP P 22 32 45.6 -0.7
SUW epP **pP 22 34 54.1 +3.1**
LOF Lofoten 88.85 339 eP P 22 32 44.4 -1.8
MLR Muntele Rosu 89.04 316⇑iP P 22 32 47.8 +0.1
MLR Muntele Rosu 89.04 316 P P 22 32 47.7 -0.1
MLR Muntele Rosu 89.04 316 P P 22 32 47.7 -0.1
comp=Z,3.6nm,0.7s,baz=250,slow=0.7,SNR=41
BURAR Bucovina Array 89.07 318⇓P P 22 32 47.5 -0.3
BURAR Bucovina Array 89.07 318⇓iP P 22 32 47.5 -0.3
BUR08 Bucovina Ar. S 89.08 318 eP P 22 32 47.5 -0.3
BUR08 epP **pP 22 34 51.2 -1.3**
MOR8 Moi Rana 89.26 337⇓iP P 22 32 45.8 -2.3
MOR8 AMB AMB 22 32 47.0
comp=Z,42nm,0.7s
ARG Arkhangelos 89.29 306 eP P 22 32 47.9 -1.0
VNDA Vanda 89.31 172 eP P 22 32 48.0 0.0
comp=Z,21nm,1.0s
VNDA PKKP **PKKPbc 22 50 22.3 -1.9**
VNDA Vanda 89.31 172 P P 22 32 48.2 +0.2
comp=Z,18nm,0.8s,baz=318,slow=5.8,SNR=83
VNDA PKKP **PKKPbc 22 50 22.3 -1.9**
comp=Z,3.0nm,0.8s,baz=270,slow=1.2,SNR=17
LVV L'vov 89.33 320 eP P 22 32 47.5 -1.3
FLOS Flostrand 89.60 338 eP P 22 32 48.1 -1.5
VOIR 89.67 316⇓iP P 22 32 49.5 -1.1
VOIR 89.67 316⇓iP P 22 32 49.5 -1.1
WRAK Wrangell Islan 89.68 33 eP P 22 32 51.0 +0.8
comp=Z,18nm,0.7s
STOK Stokkvaagen 89.73 338 eP P 22 32 49.4 -0.8
SMG Samos 90.01 308 eP P 22 32 51.3 -0.9
KARP Karpathos 90.19 306 eP P 22 32 52.4 -0.7
KWP Kalwaria Pacla 90.21 320 eP P 22 32 52.7 -0.2
KWP e*PP **pP 22 34 56.2 -1.7**
KWP pmax pmax
comp=Z,38nm,1.2s
KWP Kalwaria Pacla 90.21 320 eP P 22 32 52.7 -0.2
comp=Z,38nm,1.2s
KWP epP **pP 22 34 56.2 -1.7**
KWP Kalwaria Pacla 90.21 320 eP P 22 32 52.8 -0.2
DLBC Dease Lake 90.28 30 eP P 22 32 53.7 +0.7
DLBC Dease Lake 90.28 30 P P 22 32 54.4 +1.3
comp=Z,16nm,0.9s,baz=288,slow=4.2,SNR=19
LOT Lotru 90.55 316⇓iP P 22 32 54.4 -0.3
KOLS Kolonicke sedl 90.67 320 eP P 22 32 55.1 +0.1
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 90.67 320 eP P 22 32 55.1 +0.1
UZH Uzhgorod 90.73 319⇑iP P 22 32 55.2 -0.1
UZH e 22 34 59.8
BEL Belsk 90.80 323 eP P 22 32 55.6 +0.1
NSS Namsos 90.86 336 eP P 22 32 53.9 -1.5
DRGR 90.93 318 ⇑P P 22 32 56.3 0.0
DRGR 90.93 318⇑iP P 22 32 56.3 0.0
STHS Stebnicka Huta 91.19 320 eP P 22 32 58.2 +0.8
STHS pmax pmax
comp=Z,8.0nm,0.6s
STHS Stebnicka Huta 91.19 320 eP P 22 32 58.2 +0.8
CRVS Cervenica-Dubn 91.19 320 eP P 22 32 57.5 +0.1
CRVS pmax pmax
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 91.19 320 eP P 22 32 57.5 +0.1
DAG Danmarks Havn 91.36 352⇓iP P 22 32 56.5 -1.1
DAG pmax pmax
comp=Z,34nm,0.8s
DAG Danmarks Havn 91.36 352⇓iP P 22 32 56.5 -1.1
comp=Z,46nm,0.8s
NVR Nevrokopi 91.45 312 eP P 22 32 57.4 -1.4
NVR Nevrokopi 91.45 312 eP P 22 32 57.0 -1.8
NPS Neapolis 91.49 306 eP P 22 32 58.5 -0.7
NPS Neapolis 91.49 306 eP P 22 32 58.4 -0.7
VTS Vitosha 91.63 313 ⇓P P 22 32 59.4 -0.4
VTS Vitosha 91.63 313⇓iP P 22 32 59.3 -0.5
NIE Niedzica 91.77 321 eP P 22 33 02.6 +2.5
HFS Hagfors 91.84 332 P P 22 32 59.0 -1.1
HFS PKKP **PKKPdf 22 50 11.8 -0.9**
HFS Hagfors 91.84 332 P P 22 32 59.0 -1.1
comp=Z,12nm,0.5s,baz=103,slow=4.7,SNR=70
HFS PKKP **PKKPdf 22 50 11.8 -0.9**
comp=Z,2.4nm,0.6s,baz=199,slow=4.1,SNR=10
OJC Ojcow 91.86 321 eP P 22 33 00.6 +0.1
OJC Ojcow 91.86 321 eP P 22 33 00.6 +0.1
PAIG Paliouri 91.93 311 eP P 22 32 59.4 -1.6
PAIG Paliouri 91.93 311 eP P 22 32 59.3 -1.7
KECS Kecovo 91.93 320 eP P 22 33 00.8 0.0
KECS pmax pmax
comp=Z,7.0nm,0.7s
KECS Kecovo 91.93 320 eP P 22 33 00.8 0.0
SOH Sokhos 91.95 312 eP P 22 32 59.4 -1.8
BZS Buzias 91.97 317 ⇑P P 22 32 59.9 -1.1
BZS Buzias 91.97 317⇑iP P 22 32 59.9 -1.1
PTL Penteli 92.23 309 eP P 22 33 00.5 -2.0
GKP Gorka Klasztor 92.44 325 eP P 22 33 03.1 +0.1
VAM Vamos 92.58 306 eP P 22 33 03.2 -0.9
VAM Vamos 92.58 306 eP P 22 33 03.6 -0.5
NC602 NORSAR Array S 92.58 333 eP P 22 33 02.3 -1.2
NB2 NORSAR Subarra 92.61 333 P P 22 33 02.3 -1.3
comp=Z,32nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 92.61 333 P P 22 33 02.3 -1.3
baz=65,slow=4.6
NOA NORSAR Array B 92.61 333 P P 22 33 02.4 -1.3
NOA PKKP **PKKPdf 22 50 11.9 +0.5**
NOA NORSAR Array B 92.61 333 P P 22 33 02.4 -1.3
comp=Z,22nm,0.7s,baz=66,slow=4.7,SNR=93
NOA PKKP **PKKPdf 22 50 11.9 +0.5**
comp=Z,1.5nm,0.8s,baz=248,slow=2.3,SNR=5.7
GRG Griva 92.62 312 eP P 22 33 02.2 -2.0
GRG Griva 92.62 312 eP P 22 33 02.5 -1.7
RES Resolute Bay 92.76 10 P P 22 33 04.6 +0.6
RES Resolute Bay 92.76 10 P P 22 33 04.6 +0.6
comp=Z,36nm,0.7s,baz=314,slow=5.8,SNR=14
LIT Litokhoron 92.77 311 eP P 22 33 02.8 -2.1
NAO01 NORSAR Array S 92.83 333 eP P 22 33 03.3 -1.4
comp=Z,24nm,0.7s
DID Didima 92.84 309 eP P 22 33 02.1 -3.2
LTK Loutraki 92.93 309 eP P 22 33 02.4 -3.2
VYHS Vyhne 92.97 320 eP P 22 33 04.9 -0.7
VYHS Vyhne 92.97 320 eP P 22 33 04.9 -0.7
OKC Ostrava-Krasne 92.99 321 eP P 22 33 05.8 +0.2
OKC Ostrava-Krasne 92.99 321 eP P 22 33 05.8 +0.2
BSD Bornholm Skovb 93.09 327⇓iP P 22 33 05.0 -0.9
BSD pmax pmax
comp=Z,23nm,1.0s
BSD Bornholm Skovb 93.09 327⇓iP P 22 33 05.0 -0.9
comp=Z,23nm,0.9s
AGG Agios Georgios 93.16 310 eP P 22 33 04.1 -2.6
ANKY Antikythira Is 93.19 307 eP P 22 33 04.3 -2.5
THL Klokotos Trika 93.26 311 eP P 22 33 04.8 -2.3
VLI Veliai 93.27 308 eP P 22 33 03.5 -3.7
BBB Bella Bella 93.36 36 P P 22 33 06.5 -0.8
BBB Bella Bella 93.36 36 P P 22 33 06.5 -0.8
comp=Z,8.6nm,0.8s,baz=270,slow=6.8,SNR=3.4
MORC Moravsky Berou 93.38 321 eP P 22 33 07.4 -0.1
MORC pmax pmax
comp=Z,13nm,1.0s
MORC Moravsky Berou 93.38 321 eP P 22 33 07.4 -0.1
comp=Z,12nm,1.0s
GUR Goura 93.42 309 eP P 22 33 06.1 -1.9
GUR Goura 93.42 309 eP P 22 33 05.8 -2.2
KALE Kalithea 93.47 310 eP P 22 33 06.3 -1.9
TRIZ Trizonia 93.52 310 eP P 22 33 06.7 -1.6
KLV Kalavryta, Ach 93.55 309 eP P 22 33 06.5 -2.0
KLV Kalavryta, Ach 93.55 309 eP P 22 33 06.7 -1.8
EVR Evrytania 93.58 310 eP P 22 33 06.7 -2.0
EVR Evrytania 93.58 310 eP P 22 33 06.7 -2.0
EFP Efpalio 93.63 310 eP P 22 33 07.2 -1.6
DYR Agios Nikonas 93.73 308 eP P 22 33 07.7 -1.6
KSP Ksiaz 93.79 323⇓eP P 22 33 09.4 +0.1
KSP Ksiaz 93.79 323 eP P 22 33 09.6 +0.3
KONO Kongsberg 93.92 332 eP P 22 33 08.5 -1.1
KONO AMS AMS 23 32 22.0
comp=Z,291nm,19.5s
ITM Ithomi 93.94 308 eP P 22 33 08.4 -1.9
ITM Ithomi 93.94 308 eP P 22 33 08.8 -1.5
DPC Dobruska-Polom 93.94 322 eP P 22 33 10.4 +0.4
DPC Dobruska-Polom 93.94 322 iP P 22 33 10.3 +0.3
DPC Dobruska-Polom 93.94 322 eP P 22 33 10.4 +0.4
AMT Artemida-Makis 94.01 309 eP P 22 33 08.9 -1.7
RLS Riolos of Patr 94.06 309 eP P 22 33 09.9 -0.9
UPC Upice 94.07 323 eP P 22 33 10.8 +0.2
UPC Upice 94.07 323 eP P 22 33 10.8 +0.2
VRAC Vranov 94.12 321 P P 22 33 11.3 +0.4
VRAC Vranov 94.12 321 P P 22 33 11.3 +0.4
comp=Z,10nm,0.9s,baz=80,slow=3.8,SNR=16
PYL PYLOS 94.15 308 eP P 22 33 08.9 -2.3
PYL PYLOS 94.15 308 eP P 22 33 09.1 -2.1
LKD2 Lefkada island 94.48 310 eP P 22 33 11.0 -1.7
RUE Ruedersdorf 94.68 325 eP P 22 33 13.5 +0.3
comp=Z,70nm,1.1s
RUE Ruedersdorf 94.68 325 eP P 22 33 12.9 -0.3
comp=Z,76nm,1.2s
VLS Valsamata 94.70 310 eP P 22 33 11.6 -2.1
TREC Trest 94.81 321 eP P 22 33 14.0 0.0
TREC Trest 94.81 321 eP P 22 33 14.0 0.0
KEK Kerkira 94.87 311 eP P 22 33 12.9 -1.5
PVCC Panska Ves 94.93 323 eP P 22 33 14.4 0.0
PVCC Panska Ves 94.93 323 eP P 22 33 14.4 0.0
PRU Pruhonice 95.14 322 iP P 22 33 15.5 +0.1
PRU Pruhonice 95.14 322 iP P 22 33 15.5 +0.1
BRG Berggiesshubel 95.17 323⇓iP P 22 33 15.5 0.0
comp=Z,30nm,0.8s
BRG Berggiesshubel 95.17 323 eP P 22 33 15.6 0.0
comp=Z,30nm,0.9s
BRG Berggiesshubel 95.17 323⇓iP P 22 33 15.5 0.0
BRG pmax pmax
comp=Z,30nm,0.9s
PRA Prague 95.17 322 P P 22 33 16.0 +0.5
YKA Yellowknife Ar 95.46 23 P P 22 33 16.9 +0.4
YKA PP **PP 22 37 15.3 -1.4**
YKA PKiKP **PKiKP 22 37 53.0 +0.1**
YKA Yellowknife Ar 95.46 23 P P 22 33 16.9 +0.4
comp=Z,20nm,0.8s,baz=301,slow=4.8,SNR=56
YKA PP **PP 22 37 15.3 -1.4**
comp=Z,1.1nm,0.8s,baz=321,slow=7.3,SNR=3.1
YKA PKiKP **PKiKP 22 37 52.9 +0.1**
comp=Z,0.8nm,0.6s,baz=301,slow=1.8,SNR=5.1
FBE Freiberg 95.50 324 eP P 22 33 17.2 +0.2
comp=Z,40nm,1.0s
MUD Monsted U'grnd 95.53 330⇓iP P 22 33 16.2 -0.7
MUD pmax pmax
comp=Z,12nm,0.8s
MUD Monsted U'grnd 95.53 330⇓iP P 22 33 16.2 -0.7
comp=Z,12nm,0.7s
CLL Collm 95.56 324 eP P 22 33 16.9 -0.4
comp=Z,20nm,1.1s
CLL Collm 95.56 324⇓iP P 22 33 16.9 -0.4
CLL eS **S 22 43 47.0 +2.0**
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 95.56 324⇓iP P 22 33 16.9 -0.4
comp=Z,20nm,1.1s
CLL eS **S 22 43 47.0 +2.0**
CLL esS **sS 22 47 29.0 -2.0**
CLL eSS **SS 22 50 24.0 -6.3**
CLL eSSS SSS 22 54 21.0
CLL e 22 55 48.0
CLL eSSSS 22 57 38.0
PERS Pernice 95.96 319 iP P 22 33 18.7 -0.6
SOKA Soboth 96.00 319⇓iPcP P 22 33 18.8 -0.7
comp=Z,2.6nm,0.6s
BSEG Bad Segeberg 96.02 327 eP P 22 33 19.2 0.0
comp=Z,30nm,1.0s
BSEG Bad Segeberg 96.02 327 eP P 22 33 19.2 0.0
BSEG pmax pmax
comp=Z,30nm,1.0s
KHC Kasperske Hory 96.04 322 eP P 22 33 19.0 -0.5
KHC Kasperske Hory 96.04 322 eP P 22 33 19.0 -0.5
KHC Kasperske Hory 96.04 322 eP P 22 33 18.5 -1.0
comp=Z,2.0nm,0.6s
GEC2 GERESS Array S 96.06 321 eP P 22 33 19.6 -0.2
comp=Z,23nm,1.4s
GEC2 GERESS Array S 96.06 321 eP P 22 33 19.6 -0.2
GEC2 pmax pmax
comp=Z,23nm,1.4s
GERES GERESS Array B 96.06 321 P P 22 33 19.6 -0.2
GERES PP PP 22 37 16.2 -5.7
GERES PKKP **PKKPdf 22 50 02.4 -2.8**
GERES GERESS Array B 96.06 321 P P 22 33 19.6 -0.2
comp=Z,4.6nm,0.7s,baz=63,slow=5.1,SNR=55
GERES PP PP 22 37 16.2 -5.7
comp=Z,0.9nm,0.9s,baz=64,slow=6.1,SNR=3.8
GERES PKKP **PKKPdf 22 50 02.4 -2.8**
comp=Z,0.5nm,0.8s,baz=205,slow=2.8,SNR=5.0
MOA Molln 96.08 320⇓iPcP P 22 33 19.7 -0.1
comp=Z,10nm,0.6s,SNR=6.1
TANN Tannenbergstha 96.22 323 eP P 22 33 20.3 -0.1
comp=Z,14nm,0.9s
BOJS Bojanci 96.26 318 iP P 22 33 20.2 -0.3
WERD Werda 96.30 323 eP P 22 33 20.6 -0.1
comp=Z,24nm,1.1s
NEUB Neuenburg 96.31 324 eP P 22 33 20.7 +0.1
comp=Z,36nm,0.9s
GUNZ Gunzen 96.32 323 eP P 22 33 20.8 0.0
comp=Z,32nm,1.0s
WERN Wernitzgruen 96.32 323 eP P 22 33 20.8 0.0
comp=Z,31nm,1.2s
OBKA Obir 96.37 319⇓iPcP P 22 33 21.1 -0.1
comp=Z,4.4nm,1.1s
VISS Visnje 96.43 318 iP P 22 33 21.0 -0.3
WET Wettzell 96.46 322 eP P 22 33 21.6 +0.2
comp=Z,14nm,1.3s
WET Wettzell 96.46 322 eP P 22 33 21.6 +0.2
WET pmax pmax
comp=Z,14nm,1.3s
MANZ Manzenberg 96.60 323 eP P 22 33 22.2 +0.2
comp=Z,13nm,1.1s
ROTZ Rotzenmuhle 96.62 323 eP P 22 33 22.5 +0.4
comp=Z,19nm,0.9s
MOX Moxa 96.63 324 eP P 22 33 22.1 0.0
comp=Z,16nm,1.1s
MOX Moxa 96.63 324 eP P 22 33 22.1 0.0
MOX pmax pmax
comp=Z,16nm,1.1s
SYO Syowa Base 96.69 201⇓eX P 22 33 19.8 -2.0
NRDL Niedersach Rie 96.73 326 eP P 22 33 22.8 +0.4
comp=Z,24nm,1.0s
CLZ Clausthal 96.86 325 eP P 22 33 23.5 +0.4
comp=Z,37nm,1.0s
CLZ Clausthal 96.86 325 eP P 22 33 23.5 +0.4
CLZ pmax pmax
comp=Z,37nm,1.0s
JAVS Javornik 96.90 319 iP P 22 33 22.6 -0.9
KBA Koelnbreinsper 96.94 320⇓iPdiff P 22 33 22.6 -1.2
comp=Z,3.5nm,0.6s
GRF Grafenberg Arr 97.24 323 eP P 22 33 25.1 +0.2
comp=Z,16nm,1.0s
GRF Grafenberg Arr 97.24 323 eP P 22 33 25.1 +0.2
GRF pmax pmax
comp=Z,16nm,1.0s
GRF MLR MLR
comp=Z,200nm,21.9s
SUMG Summit 97.44 355 iP P 22 33 26.6 +0.8
comp=Z,10nm,1.0s
ABTA Abfaltersbach 97.59 320⇓iPdiff Pdif 22 33 25.1 -1.5
WTTA Wattenberg 97.95 321⇓iPdiff Pdif 22 33 27.6 -0.7
comp=Z,9.8nm,0.6s
IBBN Ibbenburen 98.11 326 eP P 22 33 28.8 +0.1
comp=Z,32nm,1.0s
MOTA Moosalm 98.25 321⇑iPdiff Pdif 22 33 28.7 -0.9
comp=Z,5.4nm,0.7s,SNR=6.9
FETA Feichten 98.61 321⇓iPdiff Pdif 22 33 30.7 -0.5
comp=Z,8.5nm,1.1s
TNS Taunus Mts 98.65 324 eP P 22 33 31.5 +0.3
comp=Z,19nm,1.2s
TNS Taunus Mts 98.65 324 eP P 22 33 31.5 +0.3
TNS pmax pmax
comp=Z,19nm,1.2s
BUG Bochum--Univer 98.77 326 eP P 22 33 31.7 +0.1
comp=Z,17nm,0.9s
DAVOX Davos/Dischmat 99.24 321 P Pdif 22 33 33.9 -0.2
DAVOX S **SKSac 22 43 17.5 -0.1**
DAVOX Davos/Dischmat 99.24 321 P Pdif 22 33 33.9 -0.2
comp=Z,4.2nm,0.9s,baz=81,slow=3.2,SNR=6.4
DAVOX S **SKSac 22 43 17.5 -0.1**
comp=Z,2.4nm,0.9s,baz=290,slow=10,SNR=3.1
MEM Membach 99.86 325 P Pdif 22 33 36.9 +0.4
comp=Z,6.6nm,1.7s
CDF Champ du Feu 100.13 323 eP Pdif 22 33 37.5 -0.4
comp=Z,14nm,0.8s
CDF Champ du Feu 100.13 323 eP Pdif 22 33 37.5 -0.4
CDF Champ du Feu 100.13 323 eP Pdif 22 33 37.5 -0.4
WLF Walferdange 100.22 324 P Pdif 22 33 39.2 +1.1
comp=Z,16nm,1.7s
WLF Walferdange 100.22 324 eP Pdif 22 33 38.9 +0.8
comp=Z,27nm,1.2s
YBH Yreka Blue Hor 100.61 44 ePdif Pdif 22 33 39.4 -0.7
YBH Yreka Blue Hor 100.61 44 P Pdif 22 33 39.4 -0.7
comp=Z,4.4nm,0.8s,baz=283,slow=1.8,SNR=11
HINF Hinteralfeld 100.66 322 eP Pdif 22 33 39.5 -0.6
comp=Z,5.0nm,0.7s
HINF Hinteralfeld 100.66 322 eP Pdif 22 33 39.5 -0.6
HINF Hinteralfeld 100.66 322 eP Pdif 22 33 39.5 -0.6
GIVF Givet 100.77 325 eP Pdif 22 33 40.7 +0.2
comp=Z,22nm,0.9s
GIVF Givet 100.77 325 eP Pdif 22 33 40.7 +0.2
GIVF Givet 100.77 325 eP Pdif 22 33 40.7 +0.2
DOU Dourbes 100.91 325 P Pdif 22 33 41.3 +0.2
PAGF Fort de Pagny 100.99 323 eP Pdif 22 33 41.5 0.0
PAGF Fort de Pagny 100.99 323 eP Pdif 22 33 41.5 0.0
BAIF Baives 101.14 325 eP Pdif 22 33 42.3 +0.1
BAIF Baives 101.14 325 eP Pdif 22 33 42.3 +0.1
BAIF Baives 101.14 325 eP Pdif 22 33 42.3 +0.1
PGF Pioggiola 101.55 317 eP Pdif 22 33 43.8 -0.5
PGF Pioggiola 101.55 317 eP Pdif 22 33 43.8 -0.5
PGF Pioggiola 101.55 317 eP Pdif 22 33 43.8 -0.5
LPG La Plagne 101.76 320 eP Pdif 22 33 45.1 -0.3
comp=Z,4.1nm,0.7s
LPG La Plagne 101.76 320 eP Pdif 22 33 45.1 -0.3
LPG La Plagne 101.76 320 eP Pdif 22 33 45.1 -0.3
LPL La Plagne 101.76 320 eP Pdif 22 33 45.1 -0.2
comp=Z,3.5nm,0.6s
LPL La Plagne 101.76 320 eP Pdif 22 33 45.1 -0.2
LPL La Plagne 101.76 320 eP Pdif 22 33 45.1 -0.2
MBDF Montbardon 102.08 320 eP Pdif 22 33 46.2 -0.5
comp=Z,9.8nm,1.2s
MBDF Montbardon 102.08 320 eP Pdif 22 33 46.2 -0.5
MBDF Montbardon 102.08 320 eP Pdif 22 33 46.2 -0.5
BOSA Boshof 102.12 243 PKKPbc PKKPbc 22 49 49.5 +1.0
BOSA Boshof 102.12 243 PKKPbc PKKPbc 22 49 49.5 +1.0
comp=Z,2.3nm,0.7s,baz=177,slow=3.4,SNR=4.8
ORIF Oris-en-Rattie 102.57 320 eP Pdif 22 33 48.3 -0.5
comp=Z,3.5nm,0.8s
ORIF Oris-en-Rattie 102.57 320 eP Pdif 22 33 48.3 -0.5
ORIF Oris-en-Rattie 102.57 320 eP Pdif 22 33 48.3 -0.5
LOR Lormes 102.70 323 eP Pdif 22 33 49.4 +0.2
comp=Z,5.9nm,0.9s
LOR Lormes 102.70 323 eP Pdif 22 33 49.4 +0.2
SMF Signal de Mont 103.02 322 eP Pdif 22 33 50.2 -0.4
SMF Signal de Mont 103.02 322 eP Pdif 22 33 50.2 -0.4
SMF Signal de Mont 103.02 322 eP Pdif 22 33 50.2 -0.4
SMRF Simiane la Rot 103.19 319 eP Pdif 22 33 51.0 -0.5
SMRF Simiane la Rot 103.19 319 eP Pdif 22 33 51.0 -0.5
AVF Avril sur Loir 103.24 323 eP Pdif 22 33 51.1 -0.5
comp=Z,8.2nm,0.9s
AVF Avril sur Loir 103.24 323 eP Pdif 22 33 51.1 -0.5
AVF Avril sur Loir 103.24 323 eP Pdif 22 33 51.1 -0.5
BGF Bois d'Agland 103.66 323 eP Pdif 22 33 54.0 +0.5
BGF Bois d'Agland 103.66 323 eP Pdif 22 33 54.0 +0.5
BGF Bois d'Agland 103.66 323 eP Pdif 22 33 54.0 +0.5
MSO Missoula 103.97 37 ⇓P 22 38 08.8
baz=104
TCF Toulx Ste Croi 104.17 323 eP Pdif 22 33 55.8 0.0
comp=Z,4.4nm,0.8s
TCF Toulx Ste Croi 104.17 323 eP Pdif 22 33 55.8 0.0
TCF Toulx Ste Croi 104.17 323 eP Pdif 22 33 55.8 0.0
WAKR Walker 104.19 46 ePdif Pdif 22 33 56.5 +0.2
comp=Z,1.8nm,0.8s
MFID Camas Ranch 104.48 41 ⇑P 22 38 10.7
baz=104
NVAR Mina Array Bea 105.03 46 Pdif Pdif 22 34 01.1 +1.0
NVAR PKiKP **PKiKP 22 38 12.3 +1.2**
NVAR PKKPbc **PKKPbc 22 49 39.9 -0.8**
NVAR Mina Array Bea 105.03 46 Pdif Pdif 22 34 01.1 +1.0
comp=Z,2.4nm,0.8s,baz=269,slow=5.4,SNR=13
NVAR PKiKP **PKiKP 22 38 12.3 +1.2**
comp=Z,1.9nm,0.7s,baz=233,slow=2.5,SNR=10
NVAR PKKPbc **PKKPbc 22 49 39.9 -0.8**
comp=Z,0.8nm,0.7s,baz=141,slow=4.5,SNR=6.5
A18A Metzger Ranch, 105.19 34 ⇓P 22 38 11.0
baz=105
HLID Hailey 105.31 40 ⇓P 22 38 12.1
baz=105
PKM Peak Mountain 105.36 50 ⇑P 22 38 12.1
baz=105
MTLF Montolieu 105.64 320 eP Pdif 22 34 01.9 -0.4
MTLF Montolieu 105.64 320 eP Pdif 22 34 01.9 -0.4
MTLF Montolieu 105.64 320 eP Pdif 22 34 01.9 -0.4
D17A Six Diamond Ra 105.70 35 ⇓P 22 38 11.6
baz=106
EGMT Eagleton 105.74 34 ePKiKP PKiKP 22 38 12.2 +0.2
EGMT Eagleton 105.74 34 ⇓P 22 38 12.0
baz=106,SNR=5.8
B19A Brinkman Farms 105.94 34 ⇓P 22 38 12.0
baz=106
BOZ Bozeman (W) 105.96 37 ePKiKP PKiKP 22 38 12.7 +0.2
C19A Slack Wire Ran 106.30 34 ⇑P 22 38 12.5
baz=106
F17A Fitzpatrick Pl 106.39 36 ⇓P 22 38 13.7
baz=106
E18A Harlowton 106.46 36 ⇑P 22 38 14.0
baz=106
MPMC Manual Prospec 106.62 48 ⇓P 22 38 14.4
baz=106
D19A Cripps Ranch, 106.71 35 ⇓P 22 38 14.0
baz=107
LRMC Laurel Mountai 106.72 49 ⇑P 22 38 15.0
baz=107
C20A Veseth Ranch, 106.88 34 ⇑P 22 38 14.6
baz=107
F18A Big Timber 106.94 36 ⇓P 22 38 15.5
baz=107
R11A Troy Canyon, C 106.99 45 ⇑P 22 38 15.9
baz=107
B21A Ellsworth Farm 107.00 33 ⇑P 22 38 15.5
baz=107
CIS Catalina Islan 107.03 51 ⇓P 22 38 15.4
baz=107
E19A Rath Farm, Rou 107.17 35 ⇓P 22 38 15.2
baz=107
D20A Manuel Ranch, 107.17 34 ⇓P 22 38 15.3
baz=107
A22A Carney Farms, 107.24 32 ⇑P 22 38 15.5
baz=107
C21A Desert Coulee 107.31 33 ⇑P 22 38 15.4
baz=107
GSC Goldstone 107.45 49 ⇑P 22 38 16.7
baz=107
LOHW Long Hollow 107.66 38 ePKiKP PKiKP 22 38 16.6 +0.7
D21A La Casta Ranch 107.82 34 ⇑P 22 38 16.4
baz=108
DUG Dugway 108.00 42 ⇓P 22 38 17.1
baz=108
C22A Vida 108.02 33 ⇓P 22 38 16.9
baz=108
TUQ Turquoise Moun 108.04 48 ⇓P 22 38 17.6
baz=108
E21A Keefer Ranch, 108.08 34 ⇓P 22 38 17.0
baz=108
G20A Bridger 108.20 36 ⇑P 22 38 17.6
baz=108
D22A Cohagen 108.22 34 ⇑P 22 38 17.3
baz=108,SNR=6.0
C23A Lambert 108.35 33 ⇓P 22 38 18.1
baz=108
I19A Meeteetse 108.41 37 ⇑P 22 38 18.0
baz=108
PFO Pinyon Flat Ob 108.43 50 PKiKP PKiKP 22 38 18.9 +1.4
PFO PKKP **PKKPdf 22 49 40.9 -1.6**
PFO Pinyon Flat Ob 108.43 50 PKiKP PKiKP 22 38 18.9 +1.4
comp=Z,1.3nm,0.6s,baz=191,slow=1.9,SNR=4.3
PFO PKKP **PKKPdf 22 49 40.9 -1.6**
comp=Z,3.3nm,0.8s,baz=100,slow=4.2,SNR=3.8
PFO Pinyon Flat Ob 108.43 50 ⇓P 22 38 18.3
baz=108
GMRC Granite Mounta 108.52 49 ⇓P 22 38 18.7
baz=108
BELC Belle Mtn. Jos 108.61 49 ⇓P 22 38 18.7
baz=108
H20A Greybull 108.75 37 ⇑P 22 38 18.1
baz=109
M17A Scullys Gap (B 108.75 40 ⇓P 22 38 18.5
baz=109
PDAR Pinedale Array 108.76 39 PKiKP PKiKP 22 38 18.2 +0.3
PDAR PP PP 22 38 47.0 -8.5

PDAR PKKPbc **PKKPbc** **22 49 27.1 -2.4**
PDAR PKKP **PKKPdf** **22 49 41.6 -0.5**
PDAR **Pinedale Array** **108.76 39** PKiKP **PKiKP** **22 38 18.2 +0.3**
comp=Z,1.2nm,0.7s,baz=7.7,slow=0.1,SNR=8.0
PDAR PP PP 22 38 47.0 -8.5
comp=Z,0.9nm,0.8s,baz=358,slow=3.6,SNR=4.5
PDAR PKKPbc **PKKPbc** **22 49 27.1 -2.4**
comp=Z,0.4nm,0.7s,baz=126,slow=1.6,SNR=4.0
PDAR PKKP **PKKPdf** **22 49 41.6 -0.5**
comp=Z,0.6nm,0.8s,baz=126,slow=4.6,SNR=3.7
MONP **Monument Peak** **108.76 51** ⇓P 22 38 18.6
baz=109
J19A **Crowheart** **108.80 38** ⇑P 22 38 18.9
baz=109
L18A **Fontenelle, Gr** **108.92 40** ⇓P 22 38 19.2
baz=109,SNR=8.2
I20A **Worland** **108.97 37** ⇓P 22 38 18.9
baz=109
BC3 **Big Chuckawall** **109.17 50** ⇓P 22 38 20.1
baz=109
K19A **Absolon Red Bu** **109.17 38** ⇓P 22 38 18.6
baz=109,SNR=5.9
IRM **Iron Mountain** **109.17 49** ⇓P 22 38 19.9
baz=109
L19A **Farson** **109.25 39** ⇑P 22 38 19.4
baz=109
G22A **Birney** **109.31 35** ⇓P 22 38 19.3
baz=109
F23A **Volborg** **109.51 34** ⇑P 22 38 19.4
baz=109
I21A **Big Trails, Te** **109.55 37** ⇓P 22 38 19.3
baz=109
K20A **Yellowstone Ra** **109.57 38** ⇑P 22 38 19.7
baz=109
J21A **Lysite** **109.72 37** ⇑P 22 38 20.3
baz=110
Q16A **Castle Valley** **109.74 43** ⇑P 22 38 21.1
baz=110
Y12C **Blythe** **109.82 49** ⇑P 22 38 20.9
baz=110
G23A **Biddle** **109.83 35** ⇓P 22 38 20.3
baz=110
PDMCI **Parker Dam,Lak** **109.86 48** ⇑P 22 38 21.0
baz=110
GLA **Glamis** **109.90 50** ⇑P 22 38 21.3
baz=110
SNAA **Sanae** **109.92 196** *e*PKiKP **PKiKP** **22 38 20.1 +1.1**
L20A **Wamsutter** **109.93 39** ⇑P 22 38 20.9
baz=110
I22A **9 Mile Ranch,** **109.98 36** ⇑P 22 38 20.4
baz=110
SRU **San Rafael** **110.08 42** *e*PKiKP **PKiKP** **22 38 20.3 -0.2**
U15A **North Rim** **110.20 46** ⇓P 22 38 22.3
baz=110
K21A **Alcova** **110.25 38** ⇓P 22 38 21.0
baz=110,SNR=8.2
M20A **Sweetwater, Wa** **110.31 39** ⇓P 22 38 21.8
baz=110
C27A **Sayler Ranch,** **110.32 31** ⇑P 22 38 21.4
baz=110
I23A **Meade Ranch, G** **110.53 36** ⇓P 22 38 21.7
baz=110
L21A **Rawlins** **110.56 39** ⇑P 22 38 21.9
baz=110
H24A **Dirks Ranch, A** **110.58 35** ⇓P 22 38 21.2
baz=110
N20A **Spence Gulch,** **110.63 40** ⇓P 22 38 22.1
baz=110,SNR=7.3
K22A **Casper** **110.68 38** ⇓P 22 38 21.9
baz=110
D27A **Center** **110.71 31** ⇑P 22 38 22.5
baz=110
M21A **Separation Pea** **110.76 39** ⇑P 22 38 22.1
baz=111,SNR=11
P19A **Cripple Cowboy** **110.82 41** ⇓P 22 38 23.5
baz=111,SNR=7.0
Y14A **Wickenburg** **110.86 48** ⇓P 22 38 22.7
baz=111
G25A **Newell** **110.93 34** ⇓P 22 38 22.2
baz=111
O20A **White River Ci** **111.03 41** ⇑P 22 38 23.0
baz=111,SNR=5.1
N21A **Black Mountain** **111.14 40** ⇑P 22 38 23.4
baz=111,SNR=6.4
D28A **Regan** **111.14 31** ⇓P 22 38 22.6
baz=111
K23A **Bowen Ranch, D** **111.15 37** ⇓P 22 38 22.5
baz=111
H25A **Fruitdale** **111.19 34** ⇓P 22 38 22.7
baz=111
ULM **Lac du Bonnet** **111.21 26** PKiKP **PKiKP** **22 38 20.8 -1.2**
ULM **Lac du Bonnet** **111.21 26** PKiKP **PKiKP** **22 38 20.8 -1.2**
comp=Z,4.4nm,0.6s,baz=333,slow=1.7,SNR=6.2
P20A **De Beque** **111.28 41** ⇑P 22 38 23.5
baz=111,SNR=5.4
WUAZ **Wupatki** **111.30 46** ⇓P 22 38 23.9
baz=111
O21A **Pagoda** **111.47 40** ⇑P 22 38 24.0
baz=111
L23A **Garrett** **111.48 38** ⇑P 22 38 23.1
baz=111
I25A **Rochford** **111.49 35** ⇓P 22 38 22.8
baz=111,SNR=9.0
ESDC **Sonseca Array** **111.50 319** PKiKP **PKiKP** **22 38 23.2 +0.1**
ESDC PP **PP** **22 39 15.5 +0.7**
ESDC PKKPbc **PKKPbc** **22 49 19.4 -1.0**
ESDC **Sonseca Array** **111.50 319** PKiKP **PKiKP** **22 38 23.2 +0.1**
comp=Z,0.6nm,0.7s,baz=351,slow=3.5,SNR=7.2
ESDC PP **PP** **22 39 15.5 +0.7**
comp=Z,0.7nm,0.6s,baz=52,slow=8.7,SNR=5.9
ESDC PKKPbc **PKKPbc** **22 49 19.4 -1.0**
comp=Z,0.9nm,0.8s,baz=283,slow=2.8,SNR=6.9
VNA2 **Neumayer--Watz** **111.56 195** *e*PKiKP **PKiKP** **22 38 22.2 +0.1**
VNA2 **Neumayer--Watz** **111.56 195** *e*pSKSdf SKKSac 22 45 37.5 +20
VNA2 **Neumayer--Watz** **111.56 195** *e*sSKSdf **Sdif** **22 45 51.0 -6.8**
G27A **Dupree** **111.62 33** ⇓P 22 38 23.5
baz=112
Q20A **Ridgley Place,** **111.63 42** ⇑P 22 38 24.5
baz=112
K24A **Anderson Ranch** **111.65 37** ⇓P 22 38 23.6
baz=112
X16A **Lo Mia Camp, P** **111.78 47** ⇓P 22 38 25.2
baz=112
N22A **Wattenberg Ran** **111.78 39** ⇑P 22 38 24.4
baz=112
J25A **Sunshine Ranch** **111.84 36** ⇑P 22 38 23.3
baz=112,SNR=6.4
M23A **Laramie** **111.85 38** ⇑P 22 38 24.2
baz=112
214A **Organ Pipe Nat** **111.91 50** ⇓P 22 38 24.4
baz=112
H27A **Howes** **112.03 34** ⇑P 22 38 24.0
baz=112
O22A **Kremmling** **112.09 40** ⇓P 22 38 24.8
baz=112
S20A **Disappointment** **112.19 43** ⇑P 22 38 25.4
baz=112
K25A **Mack Ranch, Ha** **112.27 36** ⇓P 22 38 24.8
baz=112
P22A **Eagle** **112.27 40** ⇑P 22 38 25.7
baz=112
J26A **Sides Ranch, S** **112.30 35** ⇓P 22 38 24.8
baz=112
G28A **Parade** **112.37 33** ⇑P 22 38 24.9
baz=112
M24A **Cheyenne** **112.39 38** ⇓P 22 38 25.6
baz=112
I27A **Quinn** **112.40 34** ⇓P 22 38 24.8
baz=112
MVCO **Mesa Verde** **112.43 43** ⇓P 22 38 26.5
baz=112,SNR=5.0
O23A **Lake Granby, G** **112.46 39** ⇓P 22 38 26.7
baz=112,SNR=8.0
L25A **Engebretsen Ra** **112.50 37** ⇑P 22 38 25.6
baz=112
H28A **Mission Ridge** **112.57 33** ⇑P 22 38 25.0
baz=112
MVO **Moncorvo** **112.58 322** *e*PKiKP **PKiKP** **22 38 25.9 +0.9**
Q22A **Crested Butte,** **112.59 41** ⇑P 22 38 26.7
baz=112,SNR=7.1
K26A **Motz Farm, Whi** **112.62 36** ⇑P 22 38 25.3
baz=112
S21A **Coal Bank Pass** **112.66 43** ⇑P 22 38 27.1
baz=112,SNR=28
PGAV **Gavieira, Arco** **112.84 323** *e*PKiKP **PKiKP** **22 38 25.8 +0.2**
PCAB **Cabril** **112.85 323** *e*PKiKP **PKiKP** **22 38 25.8 +0.3**
U20A **Newcomb** **112.86 44** ⇓P 22 38 26.8
baz=113
M25A **Palm-Egli Farm** **112.88 37** ⇑P 22 38 25.8
baz=113
ISCO **Idaho Springs** **112.88 40** ⇑P 22 38 26.2
baz=113
I28A **Midland** **112.93 34** ⇑P 22 38 26.0
baz=113
P23A **Jefferson** **112.99 40** ⇑P 22 38 27.1
baz=113
L26A **Underwood Farm** **113.09 36** ⇓P 22 38 26.4
baz=113
T21A **Navajo Lake** **113.20 43** ⇑P 22 38 27.7
baz=113
Q23A **Hartsel** **113.26 41** ⇓P 22 38 28.0
baz=113,SNR=6.2
S22A **4UR Ranch, Cre** **113.26 42** ⇑P 22 38 28.0
baz=113,SNR=6.2
MTE **Manteigas** **113.34 322** *e*PKiKP **PKiKP** **22 38 27.3 +0.8**
PVIS **Viseu** **113.37 322** *e*PKiKP **PKiKP** **22 38 27.1 +0.5**
U21A **Nageezi** **113.42 44** ⇑P 22 38 28.6
baz=113,SNR=18
W20A **Ramah** **113.52 45** ⇑P 22 38 28.8
baz=113,SNR=6.0
T22A **Edith** **113.61 43** ⇑P 22 38 28.5
baz=114
PCBR **Castelo Branco** **113.63 321** *e*PKiKP **PKiKP** **22 38 27.7 +0.7**
R23A **Moffat** **113.67 41** ⇓P 22 38 28.6
baz=114,SNR=7.7
V21A **Milan** **113.76 44** ⇑P 22 38 28.6
baz=114
PMRV **Marv??o** **113.82 321** *e*PKiKP **PKiKP** **22 38 28.0 +0.6**
X20A **Quemado** **113.82 46** ⇓P 22 38 28.7
baz=114
P25A **Willow Gulch B** **113.96 39** ⇑P 22 38 28.7
baz=114,SNR=5.2
U22A **Llaves** **113.99 43** ⇓P 22 38 29.2
baz=114
R24A **Sanders Place,** **114.11 41** ⇑P PKPdf 22 38 28.9 +0.6
baz=114
W21A **San Fidel** **114.12 45** ⇓P PKPdf 22 38 28.9 +0.5
baz=114
PCAS **Casmilo, Conde** **114.14 322** *e*PKiKP **PKiKP** **22 38 28.4 +0.4**
N27A **Anderson Farm,** **114.17 37** ⇓P PKPdf 22 38 29.0 +0.8
baz=114
T23A **Casias Ranch,** **114.18 42** ⇑P PKPdf 22 38 29.7 +1.2
baz=114
V22A **San Miguel Ran** **114.20 44** ⇑P PKPdf 22 38 30.1 +1.5
baz=114,SNR=7.9
Y20A **Horse Springs,** **114.23 46** ⇓P PKPdf 22 38 30.2 +1.5
baz=114,SNR=7.1
PESTR **Estremoz** **114.28 320** *e*PKiKP **PKiKP** **22 38 28.6 +0.3**
PBAR **Barrancos** **114.33 319** *e*PKiKP **PKiKP** **22 38 28.8 +0.4**
PTOM **Tomar** **114.34 321** *e*PKiKP **PKiKP** **22 38 28.7 +0.3**
X21A **Alamocita Cree** **114.38 46** ⇑P PKPdf 22 38 30.5 +1.6
baz=114
S24A **Houchin Ranch,** **114.38 41** ⇓P PKPdf 22 38 30.1 +1.2
baz=114,SNR=6.0
P26A **Davis Ranch, A** **114.44 39** ⇑P PKPdf 22 38 29.7 +0.9
baz=114
U23A **El Rito** **114.46 43** ⇓P PKPdf 22 38 30.5 +1.4
baz=114,SNR=5.7
Z20A **Nine Sixteen R** **114.48 47** ⇓P PKPdf 22 38 30.6 +1.5
baz=114,SNR=19
PMTG **Montargil** **114.56 321** *e*PKiKP **PKiKP** **22 38 28.8 0.0**
T24B **San Luis** **114.59 42** ⇓P PKPdf 22 38 30.7 +1.3
baz=114
Y21A **Point of Rocks** **114.68 46** ⇑P PKPdf 22 38 31.2 +1.6
baz=115,SNR=19
R25A **Fountain Ranch** **114.69 40** ⇑P PKPdf 22 38 30.1 +0.9
baz=114
Q26A **Hugo** **114.71 39** ⇑P PKPdf 22 38 30.2 +0.9
baz=115
120A **U Bar Ranch, L** **114.74 48** ⇑P PKPdf 22 38 31.2 +1.6
baz=115,SNR=11
EVO **Evora** **114.74 320** ⇑*i*PKIKP PKPdf 22 38 29.8 +0.6
comp=Z,17nm,0.9s
V23A **Ortiz Mt. (NFS** **114.79 44** ⇑P PKPdf 22 38 31.2 +1.6
baz=115
EVOP **Sao Brissos** **114.81 320** ⇑*i*PKIKP PKPdf 22 38 29.8 +0.5
EVOP **Sao Brissos** **114.81 320** ⇑*i*PKPdf PKPdf 22 38 29.8 +0.5
N28A **Pribbeno Ranch** **114.84 37** ⇑P PKPdf 22 38 29.7 +0.3
baz=115
319A **Douglas** **114.84 49** ⇓P PKPdf 22 38 31.4 +1.7
baz=115
LAZ **Ladron** **114.85 45** *e*PKPdf PKPdf 22 38 31.1 +1.3
LAZ PP **PP** **22 39 38.1 -0.5**
S25A **Robets Cordova** **114.87 41** ⇑P PKPdf 22 38 30.3 +0.6
baz=115,SNR=5.5
X22A **Bernardo** **114.89 45** ⇑P PKPdf 22 38 31.5 +1.7
baz=115,SNR=11
PBEJ **Beja** **114.95 320** *e*PKiKP **PKiKP** **22 38 30.3 +0.7**
ANMO **Albuquerque** **115.04 44** *e*PKPdf **PKPdf** **22 38 31.0 +0.9**
Z21A **St. Cloud Mine** **115.05 47** ⇑P **PKPdf** **22 38 31.7 +1.5**
baz=115,SNR=8.0
R26A **Arlington** **115.13 40** ⇓P **PKPdf** **22 38 30.8 +0.7**
baz=115
W23A **Werner Place,** **115.13 44** ⇑P **PKPdf** **22 38 31.7 +1.4**
baz=115
220A **Playas Peak, P** **115.14 48** ⇑P **PKPdf** **22 38 31.6 +1.2**
baz=115,SNR=5.8
T25A **Trinidad** **115.19 41** ⇑P **PKPdf** **22 38 31.4 +1.0**
baz=115,SNR=12
PVAQ **Vaqueiros** **115.21 319** *e*PKiKP **PKiKP** **22 38 30.7 +0.6**
Y22A **Socorro** **115.22 46** ⇓P **PKPdf** **22 38 31.7 +1.2**
baz=115,SNR=13
N29A **Votaw Ranch, W** **115.29 36** ⇓P **PKPdf** **22 38 30.9 +0.6**
baz=115
PNCL **Nicolau / Gran** **115.32 320** *e*PKiKP **PKiKP** **22 38 30.6 +0.3**
BNM **Barren Site** **115.35 45** *e*PKPdf **PKPdf** **22 38 30.7 -0.1**
121A **Cooks Peak, D** **115.36 47** ⇑P **PKPdf** **22 38 32.2 +1.4**
baz=115,SNR=14
SCHQ **Schefferville** **115.40 7** PKP **PKPdf** **22 38 30.1 +0.1**
SCHQ **Schefferville** **115.40 7** PKP **PKPdf** **22 38 30.1 +0.1**
comp=Z,6.2nm,0.5s,baz=31,slow=4.5,SNR=13
P28A **Saint Francis** **115.40 38** ⇓P **PKPdf** **22 38 30.8 +0.2**
baz=115
V24A **Rampart Ranch,** **115.42 43** ⇓P **PKPdf** **22 38 32.4 +1.5**
baz=115,SNR=21
320A **Kipp Ranch, An** **115.42 49** ⇑P **PKPdf** **22 38 32.4 +1.5**
baz=115,SNR=10
X23A **Hourglass Bar** **115.42 45** ⇓P **PKPdf** **22 38 31.8 +0.9**
baz=115
S26A **Kim** **115.52 40** ⇑P **PKPdf** **22 38 31.5 +0.6**
baz=115,SNR=9.0
ECSD **EROS Data Cent** **115.54 32** *e*PKPdf **PKPdf** **22 38 30.3 -0.3**
ECSD *e*PP **PP** **22 39 42.5 -0.1**
R27A **Eads** **115.55 40** ⇓P **PKPdf** **22 38 31.6 +0.7**
baz=115
Z22A **Elephant Butte** **115.58 46** ⇓P **PKPdf** **22 38 32.4 +1.3**
baz=116
MDT **Midelt** **115.61 313** PKP **PKPdf** **22 38 31.3 +0.1**
MDT PP **PP** **22 39 47.2 +3.4**
MDT **Midelt** **115.61 313** PKP **PKPdf** **22 38 31.3 +0.1**
comp=Z,2.5nm,0.7s,baz=21,slow=4.2,SNR=6.4
MDT PP **PP** **22 39 47.2 +3.4**
comp=Z,2.2nm,0.8s,baz=348,slow=7.0,SNR=3.8
W24A **Lazy 6 Ranch,** **115.61 44** ⇑P **PKPdf** **22 38 32.5 +1.2**
baz=116,SNR=12
U25A **Circle Dot Ran** **115.61 42** ⇑P **PKPdf** **22 38 32.2 +1.0**
baz=116,SNR=5.2
Q28A **Sharon Springs** **115.67 38** ⇓P **PKPdf** **22 38 31.4 +0.3**
baz=116,SNR=5.8
T26A **Comanche Natio** **115.70 41** ⇑P **PKPdf** **22 38 32.1 +0.7**
baz=116,SNR=23
V25A **Rancho No Teng** **115.80 43** ⇓P **PKPdf** **22 38 32.7 +1.1**
baz=116,SNR=28
S27A **Las Animas** **115.84 40** ⇑P **PKPdf** **22 38 32.2 +0.7**
baz=116
122A **Conniff Cattle** **115.85 47** ⇓P **PKPdf** **22 38 32.8 +1.2**
baz=116,SNR=5.3
Y23A **Lovelace Mesa,** **115.86 45** ⇑P **PKPdf** **22 38 32.4 +0.7**
baz=116
P29A **Atwood** **115.88 37** ⇓P **PKPdf** **22 38 31.9 +0.4**
baz=116
O30A **MW Ranch, Wils** **116.03 36** ⇓P **PKPdf** **22 38 31.6 -0.1**
baz=116
U26A **Atchley Ranch,** **116.06 42** ⇓P **PKPdf** **22 38 32.8 +0.7**
baz=116,SNR=9.0
222A **Williams Famil** **116.08 47** ⇓P **PKPdf** **22 38 33.4 +1.3**
baz=116,SNR=12
PFVI **Vila Bisbo** **116.09 319** *e*PKiKP **PKiKP** **22 38 32.7 +0.9**
Z23A **Rita Site, Whi** **116.10 46** ⇑P **PKPdf** **22 38 33.4 +1.3**
baz=116,SNR=5.2
R28A **Tribune** **116.13 39** ⇑P **PKPdf** **22 38 32.4 +0.4**
baz=116,SNR=10
W25A **X Bar L Ranch,** **116.25 43** ⇑P **PKPdf** **22 38 33.3 +0.9**
baz=116,SNR=11
Y24A **Capitan** **116.30 45** ⇓P **PKPdf** **22 38 33.5 +0.9**
baz=116,SNR=19
Q29A **Oakley** **116.30 38** ⇓P **PKPdf** **22 38 32.7 +0.4**
baz=116,SNR=15
BGNE **Belgrade** **116.31 34** ⇑P **PKPdf** **22 38 32.3 +0.2**
baz=116
P30A **Selden** **116.33 37** ⇓P **PKPdf** **22 38 32.9 +0.6**
baz=116
SPMN **St. Paul** **116.33 28** ⇑P **PKPdf** **22 38 32.3 +0.3**
baz=116
V26A **Tequesquite Ra** **116.37 42** ⇑P **PKPdf** **22 38 32.9 +0.3**
baz=116,SNR=14
R29A **Marienthal** **116.49 39** ⇓P **PKPdf** **22 38 33.2 +0.6**
baz=116
X25A **Clemmons Ranch** **116.50 44** ⇑P **PKPdf** **22 38 33.1 +0.2**
baz=116
S28A **Manter** **116.53 40** ⇓P **PKPdf** **22 38 33.0 +0.2**
baz=116
U27A **Thompson Grove** **116.64 41** ⇓P **PKPdf** **22 38 33.7 +0.6**
baz=116
Z24A **Sheeppen Canyo** **116.67 45** ⇑P **PKPdf** **22 38 34.5 +1.2**
baz=117
T28A **Walsh** **116.68 40** ⇓P **PKPdf** **22 38 33.4 +0.3**
baz=116,SNR=5.9
W26A **Owens Ranch, T** **116.79 43** ⇓P **PKPdf** **22 38 34.4 +1.0**
baz=117
Y25A **Mesa, Roswell** **116.82 44** ⇑P **PKPdf** **22 38 34.1 +0.6**
baz=117,SNR=31
P31A **Stockton** **116.86 37** ⇓P **PKPdf** **22 38 34.3 +1.0**
baz=117
124A **Stringfield Ra** **116.95 46** ⇓P **PKPdf** **22 38 35.2 +1.3**
baz=117
V27A **Dan Oppiter Fa** **117.02 42** ⇓P **PKPdf** **22 38 34.3 +0.5**
baz=117
U28A **Mallet** **117.06 41** ⇑P **PKPdf** **22 38 33.8 -0.1**
baz=117
X26A **CR and CF Fran** **117.07 43** ⇑P **PKPdf** **22 38 34.3 +0.3**
baz=117,SNR=5.9
R30A **Dighton** **117.11 38** ⇓P **PKPdf** **22 38 34.0 +0.2**
baz=117,SNR=7.7
Z25A **Roswell** **117.16 45** ⇓P **PKPdf** **22 38 35.0 +0.9**
baz=117,SNR=9.0
Q31A **Ellis** **117.18 37** ⇓P **PKPdf** **22 38 34.4 +0.4**
baz=117
224A **Cornudas Mount** **117.24 47** ⇑P **PKPdf** **22 38 35.1 +0.7**
baz=117
W27A **Bowe Ranch, En** **117.28 43** ⇑P **PKPdf** **22 38 35.0 +0.6**
baz=117,SNR=14
COWI **Conover** **117.29 25** *e*PKPdf **PKPdf** **22 38 33.4 -0.5**
S30A **Montezuma** **117.40 39** ⇓P **PKPdf** **22 38 34.8 +0.4**
baz=117
Y26A **Elida** **117.41 44** ⇑P **PKPdf** **22 38 35.0 +0.4**
baz=117
V28A **Channing** **117.43 41** ⇑P **PKPdf** **22 38 35.6 +1.0**
baz=117
125A **Gardner Draw,** **117.54 46** ⇑P **PKPdf** **22 38 35.5 +0.6**
baz=117,SNR=16
MNTX **Cornudas Mount** **117.54 47** *e*PKPdf **PKPdf** **22 38 34.3 -0.5**
Z26A **Caprock** **117.67 45** ⇓P **PKPdf** **22 38 35.2 +0.1**
baz=118,SNR=12
T30A **Plains** **117.72 39** ⇓P **PKPdf** **22 38 35.1 0.0**
baz=118
W28A **Vega** **117.73 42** ⇓P **PKPdf** **22 38 35.8 +0.6**
baz=118
V29A **Stinnett** **117.81 41** ⇑P **PKPdf** **22 38 35.8 +0.5**
baz=118,SNR=6.3
Y27A **Causey** **117.89 44** ⇓P **PKPdf** **22 38 35.9 +0.4**
baz=118,SNR=6.6
U30A **WK&E Inc. Balk** **117.97 40** ⇓P **PKPdf** **22 38 36.1 +0.5**
baz=118
126A **Clayton Basin,** **117.99 45** ⇑P **PKPdf** **22 38 36.0 +0.2**
baz=118,SNR=12
325A **Bean Ranch, Si** **118.01 47** ⇓P **PKPdf** **22 38 36.3 +0.4**
baz=118,SNR=12
S31A **Mullinville** **118.01 38** ⇓P **PKPdf** **22 38 36.3 +0.7**
baz=118
MSTX **Muleshoe** **118.11 43** ⇓P **PKPdf** **22 38 36.3 +0.4**
baz=118,SNR=8.7
Z27A **Tatum** **118.18 44** ⇑P **PKPdf** **22 38 36.6 +0.5**
baz=118,SNR=29
226B **Tecolote Peak,** **118.20 46** ⇓P **PKPdf** **22 38 36.6 +0.4**
baz=118,SNR=16
T31A **Randall Ranch,** **118.23 39** ⇓P **PKPdf** **22 38 36.4 +0.4**
baz=118
425A **Indio Mountain** **118.31 48** ⇑P **PKPdf** **22 38 36.9 +0.4**
baz=118,SNR=15
V30A **Spur Ranch, Mi** **118.42 41** ⇓P **PKPdf** **22 38 37.5 +1.0**
baz=118
127A **Arkansas Junct** **118.44 45** ⇑P **PKPdf** **22 38 37.2 +0.6**
baz=118
Y28A **McKinney Farm,** **118.50 43** ⇑P **PKPdf** **22 38 36.9 +0.2**
baz=118
X29A **Tulia** **118.55 42** ⇓P **PKPdf** **22 38 37.2 +0.4**
baz=118
KSU1 **Kansas State U** **118.74 35** *e*PKPdf **PKPdf** **22 38 36.4 -0.5**
326A **Caldwell Ranch** **118.75 47** ⇑P **PKPdf** **22 38 37.3 0.0**
baz=119,SNR=22
Y29A **Porterfield Fa** **118.91 43** ⇓P **PKPdf** **22 38 38.2 +0.8**
baz=119
V31A **Spring Creek L** **118.95 40** ⇑P **PKPdf** **22 38 38.5 +1.0**
baz=119,SNR=8.4
426A **McDonald Obser** **119.07 47** ⇓P **PKPdf** **22 38 38.5 +0.4**
baz=119,SNR=6.1
X30A **Coker Ranch, T** **119.09 42** ⇑P **PKPdf** **22 38 38.1 +0.4**
baz=119,SNR=6.0
Z29A **Hungry Hill Ra** **119.24 43** ⇓P **PKPdf** **22 38 38.4 +0.3**
baz=119,SNR=14
W31A **Holland Ranch,** **119.25 41** ⇑P **PKPdf** **22 38 38.7 +0.6**
baz=119,SNR=13
JFWS **Jewell Farm** **119.28 28** *e*PKIKP **PKPdf** **22 38 37.0 -0.8**
JFWS **Jewell Farm** **119.28 28** *e*PKPdf **PKPdf** **22 38 37.0 -0.8**
228A **UT Block 9, Go** **119.29 45** ⇑P **PKPdf** **22 38 38.8 +0.6**
baz=119
526A **Mary Lane Ranc** **119.35 48** ⇑P **PKPdf** **22 38 39.1 +0.6**
baz=119,SNR=18
427A **Hayter Ranch,** **119.42 47** ⇑P **PKPdf** **22 38 39.3 +0.7**
baz=119,SNR=25
Y30A **Stafford Cattl** **119.42 42** ⇑P **PKPdf** **22 38 38.9 +0.4**
baz=119
129A **Stewart Farms,** **119.50 44** ⇑P **PKPdf** **22 38 39.2 +0.6**
baz=119
328A **Wristen Ranch,** **119.55 46** ⇑P **PKPdf** **22 38 39.2 +0.5**
baz=119,SNR=29
X31A **McDonald Ranch** **119.57 41** ⇓P **PKPdf** **22 38 39.0 +0.4**
baz=119,SNR=17
626A **Big Bend Ranch** **119.59 48** ⇓P **PKPdf** **22 38 39.3 +0.4**
baz=120,SNR=12
Z30A **Sanderson Ranc** **119.62 43** ⇓P **PKPdf** **22 38 38.8 0.0**
baz=120,SNR=24
527A **Woodward Ranch** **119.65 47** ⇓P **PKPdf** **22 38 39.6 +0.5**
baz=120,SNR=24
Y31A **Rekieta Farm,** **119.79 42** ⇓P **PKPdf** **22 38 39.3 +0.2**
baz=120,SNR=9.8
229A **Bryant Ranch,** **119.92 45** ⇑P **PKPdf** **22 38 39.8 +0.4**
baz=120
428A **Kincaid Ranch,** **120.00 46** ⇓P **PKPdf** **22 38 40.8 +1.2**
baz=120,SNR=30
TXAR **Lajitas Array** **120.05 48** PKP **PKPdf** **22 38 40.4 +0.6**
TXAR **Lajitas Array** **120.05 48** PKP **PKPdf** **22 38 40.4 +0.6**
comp=Z,12nm,0.6s,baz=241,slow=1.0,SNR=158
329A **Wagon Wheel Ra** **120.07 45** ⇓P **PKPdf** **22 38 40.1 +0.4**
baz=120,SNR=7.6
130A **Snyder** **120.13 44** ⇓P **PKPdf** **22 38 40.6 +0.8**
baz=120
627A **Terlingua Ranc** **120.19 48** ⇑P **PKPdf** **22 38 40.7 +0.6**
baz=120,SNR=53
528A **Cox Ranch, San** **120.24 47** ⇑P **PKPdf** **22 38 40.9 +0.7**
baz=120,SNR=14
Z31A **Sharp Cattle R** **120.26 43** ⇑P **PKPdf** **22 38 40.3 +0.3**
baz=120,SNR=7.3
WMOK **Wichita Mounta** **120.28 40** *e*PKIKP **PKPdf** **22 38 39.5 -0.5**
WMOK **Wichita Mounta** **120.28 40** *e*PKPdf **PKPdf** **22 38 39.5 -0.5**
Y32A **R-V Farms, Ver** **120.31 41** ⇑P **PKPdf** **22 38 40.4 +0.3**
baz=120
230A **Sterling City** **120.45 44** ⇑P **PKPdf** **22 38 40.7 +0.3**
baz=120,SNR=8.6
131A **Roby** **120.48 43** ⇑P **PKPdf** **22 38 40.7 +0.3**
baz=120
628A **Black Gap, Mar** **120.54 48** ⇓P **PKPdf** **22 38 41.4 +0.8**
baz=120,SNR=31
429A **Davenport Ranc** **120.62 46** ⇑P **PKPdf** **22 38 41.2 +0.4**
baz=120,SNR=32
529A **Stev Forest Ra** **120.67 47** ⇑P **PKPdf** **22 38 41.3 +0.4**
baz=121
330A **Mertzon** **120.68 45** ⇓P **PKPdf** **22 38 40.9 0.0**
baz=121,SNR=8.5
Z32A **Haskell** **120.71 42** ⇑P **PKPdf** **22 38 41.8 +1.0**
baz=121
231A **Bronte** **120.97 44** ⇓P **PKPdf** **22 38 41.8 +0.4**

baz=121
430A Baggett Ranch, 121.00 46 ⇑P PKPdf 22 38 41.9 +0.4
baz=121,SNR=17
ABTX Abilene, Hawle 121.01 43 ⇓P PKPdf 22 38 41.9 +0.4
baz=121,SNR=9.2
331A San Angelo 121.26 45 ⇓P PKPdf 22 38 42.2 +0.2
baz=121,SNR=17
530A J-C Ranch, Com 121.29 46 ⇓P PKPdf 22 38 42.9 +0.8
baz=121,SNR=37
TUL1 Tulsa 121.37 38 ⇑P PKPdf 22 38 42.5 +0.5
baz=121
232A Coleman 121.45 44 ⇑P PKPdf 22 38 42.8 +0.4
baz=121,SNR=7.4
431A Sonora 121.50 45 ⇓P PKPdf 22 38 42.8 +0.3
baz=121,SNR=20
HDIL Hopedale 121.56 29 *e*PKPdf **PKPdf 22 38 41.8 -0.4**
332A Millersview 121.69 44 ⇑P PKPdf 22 38 43.4 +0.6
baz=122,SNR=20
531A Rocksprings 121.84 46 ⇑P PKPdf 22 38 43.6 +0.5
baz=122,SNR=20
432A Menard 121.95 45 ⇓P PKPdf 22 38 43.5 +0.2
baz=122,SNR=8.3
JCT Junction City 122.18 45 *e*PKIKP **PKPdf 22 38 43.9 +0.1**
JCT Junction City 122.18 45 *e*PKPdf **PKPdf 22 38 43.9 +0.1**
JCT Junction City 122.18 45 ⇑P PKPdf 22 38 44.3 +0.5
baz=122,SNR=26
631A Perdido Creek 122.25 46 ⇑P PKPdf 22 38 44.3 +0.4
baz=122,SNR=36
532A Rocksprings 122.31 45 ⇓P PKPdf 22 38 44.2 +0.1
baz=122,SNR=18
SFIN Scholer Farm 122.74 28 ⇓P PKPdf 22 38 44.2 -0.3
baz=122
632A Uvalde 122.76 46 ⇓P PKPdf 22 38 45.7 +0.8
baz=123,SNR=30
WHTX Lake Whitney 122.86 42 ⇑P PKPdf 22 38 45.4 +0.4
baz=123
732A Laxson Ranch, 123.08 47 ⇓P PKPdf 22 38 46.1 +0.6
baz=123,SNR=14
MIAR Mount Ida 123.63 37 *e*PKIKP **PKPdf 22 38 46.4 0.0**
MIAR Mount Ida 123.63 37 *e*PKPdf **PKPdf 22 38 46.4 0.0**
BLO Bloomington 123.97 28 *e*PKIKP **PKPdf 22 38 47.3 +0.4**
BLO Bloomington 123.97 28 *e*PKPdf **PKPdf 22 38 47.3 +0.4**
PARMO Parma 124.27 33 *e*PKPdf **PKPdf 22 38 48.2 +0.6**
NCB Newcomb 124.38 16 *e*PKPdf **PKPdf 22 38 47.7 +0.1**
MDV Middlebury 124.63 15 *e*PKPdf **PKPdf 22 38 48.2 +0.2**
HKT Hockley 125.22 43 *e*PKIKP **PKPdf 22 38 50.1 +0.6**
HKT Hockley 125.22 43 *e*PKPdf **PKPdf 22 38 50.1 +0.6**
BINY Binghamton 125.50 18 *e*PKPdf **PKPdf 22 38 49.8 0.0**
SSPA Standing Stone 126.28 21 *e*PKPdf **PKPdf 22 38 51.2 0.0**
KIC Kosan Boka 126.66 285 *e*PKIKP **PKPdf 22 38 52.8 +0.1**
comp=Z,53nm,0.8s
DBIC Dimbokro 126.68 286 PKP **PKPdf 22 38 52.6 -0.1**
DBIC *e*PKPdf **PKiKP 22 38 53.0 -0.3**
DBIC Dimbokro 126.68 286 PKP **PKPdf 22 38 52.6 -0.1**
comp=Z,15nm,0.7s,baz=50,slow=3.2,SNR=20
TIC Toumodi 126.84 286 *e*PKIKP **PKPdf 22 38 52.8 -0.3**
comp=Z,30nm,0.8s
LIC Lamto 126.97 285 *e*PKIKP **PKPdf 22 38 53.2 -0.1**
comp=Z,51nm,0.8s
LIC Lamto 126.97 285 *e*PKIKP **PKPdf 22 38 53.3 -0.1**
comp=Z,78nm,0.8s
LIC Lamto 126.97 285 *e*PKPdf **PKPdf 22 38 53.2 -0.1**
TZTN Tazewell 127.47 28 *e*PKPdf **PKPdf 22 38 54.1 +0.4**
KMSC Kings Mountain 129.64 27 ⇓P PKPdf 22 38 58.3 +0.5
baz=129
TIGA Tifton 131.55 32 ⇓P PKPdf 22 39 01.8 +0.2
baz=131
CMIG Matias Romero 133.37 56 PKP **PKPdf 22 39 06.0 +0.7**
CMIG SKPab **SKPbc 22 41 41.7 +1.1**
CMIG Matias Romero 133.37 56 PKP **PKPdf 22 39 06.0 +0.7**
comp=Z,20nm,0.7s,baz=334,slow=2.5
CMIG SKPab **SKPbc 22 41 41.7 +1.1**
comp=Z,4.1nm,0.8s,baz=342,slow=2.2,SNR=4.0
PAYG Puerto Ayora 144.74 78 *e*PKPdf **PKPab 22 39 27.5 +0.2**
JTS JuntasAbangare 145.14 57 *e*PKPdf **PKPdf 22 39 26.2 -0.5**
GTBY Guantanamo Bay 145.31 33 *e*PKPdf **PKPbc 22 39 27.4 -0.5**
GRTK Grand Turk 145.88 26 *e*PKPdf **PKPbc 22 39 28.7 -0.9**
PLCA Paso Flores 146.17 160 PKPbc **PKPdf 22 39 28.5 +0.7**
PLCA *e*PKPdf **PKPbc 22 39 28.9 -1.1**
PLCA *ep*PKPdf **pPKPdf 22 41 41.6 +0.1**
PLCA SKPbc **SKPbc 22 42 13.6 -0.7**
PLCA Paso Flores 146.17 160 PKPbc **PKPdf 22 39 28.5 +0.7**
comp=Z,52nm,0.8s,baz=217,slow=2.9,SNR=92
PLCA SKPbc **SKPbc 22 42 13.6 -0.7**
comp=Z,10nm,0.8s,baz=182,slow=1.6,SNR=6.1
SDDR Presa de Saban 148.02 28 *e*PKPdf **PKPdf 22 39 32.2 +0.8**
SDDR *e*PKPbc **PKiKP 22 39 36.0 -0.7**
SDDR *e*PKPab **PKPab 22 39 40.5 +0.4**
BCIP Isla Barro Col 149.91 53 *e*PKPdf **PKPdf 22 39 34.4 -0.1**
BCIP *e*PKPbc **PKPbc 22 39 40.1 +0.1**
AGPR Aguadilla, PR 150.23 22 *e*PKPdf **PKPdf 22 39 34.1 -0.7**
AGPR *e*PKPbc **PKPbc 22 39 40.7 +0.1**
AGPR *e*PKPab **PKPab 22 39 49.4 +0.2**
LRS Lares 150.49 21 *e*PKPdf **PKPdf 22 39 35.4 +0.1**
LRS *e*PKPbc **PKPbc 22 39 41.1 -0.2**
LRS *e*PKPab **PKPab 22 39 50.5 +0.2**
LSP Las Mesas 150.51 22 *e*PKPbc **PKPbc 22 39 41.0 -0.3**
LSP *e*PKPab **PKPab 22 39 50.2 -0.1**
CRPR Cabo Rojo, PR 150.65 22 *e*PKPdf **PKPdf 22 39 36.3 +0.8**
CRPR *e*PKPbc **PKPbc 22 39 41.4 -0.2**
CRPR *e*PKPab **PKPab 22 39 51.2 +0.3**
CELP Cerrillos 150.78 21 *e*PKPdf **PKPdf 22 39 36.1 +0.4**
CELP *e*PKPbc **PKPbc 22 39 42.0 +0.1**
CELP *e*PKPab **PKPab 22 39 51.7 +0.2**
OBIP Obispado Ponce 150.80 21 *e*PKPdf **PKPdf 22 39 36.0 +0.3**
OBIP *e*PKPbc **PKPbc 22 39 41.8 -0.2**
CBYP Canovanas 150.85 20 *e*PKPbc **PKPbc 22 39 41.5 -0.7**
CBYP *e*PKPab **PKPab 22 39 51.6 -0.3**
TRQA Tornquist 150.91 170 *e*PKPdf **PKPdf 22 39 35.5 +0.1**
TRQA *e*PKPbc **PKPbc 22 39 41.4 -0.3**
TRQA *e*PKPab **PKPab 22 39 52.2 +0.6**
STVI Saint Thomas 151.06 18 *e*PKPdf **PKPdf 22 39 36.4 +0.3**
STVI *e*PKPbc **PKPbc 22 39 42.6 +0.1**
STVI *e*PKPab **PKPab 22 39 52.1 -0.5**
MTP Monte Pirata 151.11 19 *e*PKPdf **PKPdf 22 39 36.1 -0.1**
MTP *e*PKPbc **PKPbc 22 39 42.6 -0.1**
MTP *e*PKPab **PKPab 22 39 53.5 +0.6**
CFAA Coronel Fontan 155.08 154 PKP **PKPdf 22 39 41.7 +0.1**
CFAA PKPbc PKPab 22 39 50.8 -19
CFAA PKPab PKPab 22 40 09.7 +0.1
CFAA Coronel Fontan 155.08 154 PKP **PKPdf 22 39 41.7 +0.1**
comp=Z,0.5nm,0.7s,baz=222,slow=4.0,SNR=3.9
CFAA PKPbc PKPab 22 39 50.8 -19
comp=Z,1.2nm,0.6s,baz=217,slow=2.1,SNR=7.1
CFAA PKPab PKPab 22 40 09.7 +0.1
comp=Z,1.6nm,0.8s,baz=226,slow=4.4,SNR=6.1
SDV Santo Domingo 156.70 39 *e*PKPdf **PKPdf 22 39 44.7 +0.4**
ROSC El Rosal 156.85 53 PKP **PKPdf 22 39 45.9 +1.0**
ROSC El Rosal 156.85 53 PKP **PKPdf 22 39 45.9 +1.0**
comp=Z,10nm,0.4s,baz=67,slow=18,SNR=7.7
ATAH Atahualpa 157.66 86 PKP **PKPdf 22 39 47.0 +1.2**
ATAH PKPab **PKPab 22 40 21.9 -0.1**
ATAH Atahualpa 157.66 86 PKP **PKPdf 22 39 47.0 +1.2**
comp=Z,19nm,1.0s,baz=19,slow=0.4,SNR=9.4
ATAH PKPab **PKPab 22 40 21.9 -0.1**
comp=Z,11nm,0.7s,baz=274,slow=5.6,SNR=4.8
NNA Nana 159.28 99 PKP **PKPdf 22 39 48.2 +1.0**
NNA PKPab **PKPab 22 40 29.3 +0.8**
NNA Nana 159.28 99 PKP **PKPdf 22 39 48.2 +1.0**
comp=Z,22nm,0.8s,baz=311,slow=2.8,SNR=6.4
NNA PKPab **PKPab 22 40 29.3 +0.8**
comp=Z,27nm,0.7s,baz=270,slow=8.2,SNR=8.3
LVC Limon Verde 161.87 138 *e*PKPdf **PKPdf 22 39 51.0 +0.9**
LVC *e*PKPab **PKPab 22 40 42.5 +2.7**
CPUP Villa Florida 163.07 176 *e*PKPdf **PKPdf 22 39 51.1 +0.3**
CPUP *e*PKPab **PKPab 22 40 44.5 +0.1**
CPUP PKPab PKPab 22 40 44.7 +0.3
CPUP Villa Florida 163.07 176 PKP **PKPdf 22 39 51.0 +0.3**
comp=Z,5.4nm,0.8s,baz=36,slow=1.9,SNR=15
CPUP PKPab **PKPab 22 40 44.7 +0.3**
comp=Z,3.3nm,0.6s,baz=156,slow=3.6,SNR=8.0
LPAZ La Paz 166.25 121 PKP **PKPdf 22 39 55.3 +0.8**
LPAZ *e*PKPdf PKPdf 22 39 55.4 +0.9
LPAZ *e*PKPab **PKPab 22 41 00.9 +1.1**
LPAZ PKPab PKPab 22 41 02.2 +2.4
LPAZ La Paz 166.25 121 PKP **PKPdf 22 39 55.3 +0.8**
comp=Z,16nm,0.8s,baz=338,slow=0.8,SNR=70
LPAZ PKPab **PKPab 22 41 02.2 +2.4**
comp=Z,8.0nm,0.9s,baz=247,slow=3.9,SNR=7.7
BDFB Brasilia 170.07 230 PKP **PKPdf 22 39 55.6 -0.8**
BDFB Brasilia 170.07 230 PKP **PKPdf 22 39 55.6 -0.8**
comp=Z,6.8nm,1.0s,baz=142,slow=2.6,SNR=7.4
SIV San Ignacio 171.71 143 PKP **PKPdf 22 39 57.2 +0.1**
SIV PKPab **PKPab 22 41 23.9 +0.8**
SIV San Ignacio 171.71 143 PKP **PKPdf 22 39 57.2 +0.1**
comp=Z,11nm,0.8s,baz=163,slow=1.3,SNR=36
SIV PKPab **PKPab 22 41 23.9 +0.8**
comp=Z,4.6nm,0.8s,baz=201,slow=4.0,SNR=9.0
SAML Samuel 172.82 87 *e*PKPdf **PKPdf 22 39 57.3 -0.4**
SAML *e*PKPab **PKPab 22 41 28.6 +0.2**

*IDC **26** 22:22:09.6±4.8, 30˚.97N×50˚.02E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/27, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=94.6km s-min=29.0km az=177.0*
*THR **26** 22:22:11.1±0.4, 30˚.93N×50˚.09E, h18km±7km, ML3.5*
*CSEM **26** 22:22:13.6±0.1, 31˚.01N×50˚.24E, h10km, ML3.7, Error ellipse: s-maj=3.2km s-min=2.5km az=139.0*
*TEH **26** 22:22:14.3, 30˚.97N×50˚.20E, h15km, ML3.7*
*OMAN **26** 22:23:54.9, 25˚.21N×55˚.43E, h6km*
ISC 26 22:22:13.6±1.5, 31˚.04N±0˚.04×50˚.22E±0˚.04, h17km±11km, n106, σ1°28/115, mb3.9/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.73**	**19**	*e*Pn	**Pb**	**22 22 45.0**	**-0.2**
IPIR				*e*Sg	**Sg**	**22 23 11.4**	**+1.8**
IPIR				*e*		22 23 13.1	
comp=Z,13μm,0.3s							
IPIR	**Pirpir**	**1.73**	**19**	*e*Pn	**Pb**	**22 22 45.0**	**-0.2**
IPIR				*e*Sg	**Sg**	**22 23 11.4**	**+1.8**
IGAR	**Gharneh**	**2.06**	**48**	*e*Pn	**Pn**	**22 22 49.0**	**+1.3**
IGAR				*e*		22 22 53.1	
comp=Z,4μm,0.1s							
IGAR				*e*Sg	**Sg**	**22 23 20.2**	**+0.2**
IGAR	**Gharneh**	**2.06**	**48**	*e*Pn	**Pn**	**22 22 49.0**	**+1.3**
IGAR				*e*Sg	**Sg**	**22 23 20.2**	**+0.2**
IKLH	**Kolahrood**	**2.55**	**26**	*e*Pn	**Pn**	**22 22 56.3**	**+1.9**
IKLH				*e*	Sg	22 23 42.3	+6.8
comp=Z,3μm,0.3s							
IKLH	**Kolahrood**	**2.55**	**26**	*e*Pn	**Pn**	**22 22 56.3**	**+1.9**
IZEF	**Zefreh**	**2.57**	**43**	*e*Pn	**Pn**	**22 22 56.2**	**+1.4**
IZEF				*e*		22 23 01.0	
comp=Z,1μm,0.1s							
IZEF	**Zefreh**	**2.57**	**43**	*e*Pn	**Pn**	**22 22 56.2**	**+1.4**
KHMZ	**Khomeyn**	**2.70**	**355**	*e*Pn	**Pn**	**22 22 57.5**	**+1.0**
KHMZ				AML	AML	22 23 47.5	
comp=E,136nm,0.7s							
KHMZ	**Khomeyn**	**2.70**	**355**	*e*Pn	**Pn**	**22 22 57.5**	**+1.0**
IPAR	**Pars**	**2.72**	**115**	*e*Pn	**Pn**	**22 22 57.6**	**+0.8**
IPAR				*e*	Sg	22 23 52.9	+12
comp=Z,4μm,0.4s							
IPAR	**Pars**	**2.72**	**115**	*e*Pn	**Pn**	**22 22 57.6**	**+0.8**
MIB	**Mutribah**	**2.78**	**244**	*e*P	**Pn**	**22 22 58.7**	**+1.3**
MIB				AML	AML	22 23 42.7	
comp=Z,114nm,0.7s							
MIB	**Mutribah**	**2.78**	**244**	*e*P	**Pn**	**22 22 58.7**	**+1.3**
NASN	**Na'in**	**2.81**	**51**	*e*Pn	**Pn**	**22 22 59.7**	**+1.6**
NASN	**Na'in**	**2.81**	**51**	*e*Pn	**Pn**	**22 22 59.7**	**+1.6**
KBD	**Kabd**	**2.88**	**230**	*e*P	**Pn**	**22 22 59.5**	**+0.8**
KBD	**Kabd**	**2.88**	**230**	*e*P	**Pn**	**22 22 59.5**	**+0.8**
QRN	**Al-Qurain**	**3.04**	**222**	*e*P	**Pn**	**22 23 01.6**	**+0.7**
ISAD	**Sadrabad**	**3.08**	**73**	*e*Pn	**Pn**	**22 23 03.1**	**+1.3**
ISAD				*e*	**Sg**	**22 23 55.0**	**+2.3**
comp=Z,3μm,0.4s							
ISAD	**Sadrabad**	**3.08**	**73**	*e*Pn	**Pn**	**22 23 03.1**	**+1.3**
RDF	**Al-Radifah**	**3.13**	**228**	*e*P	**Pn**	**22 23 03.5**	**+1.3**
RDF				AML	AML	22 23 45.6	
comp=Z,109nm,0.4s							
RDF	**Al-Radifah**	**3.13**	**228**	*e*P	**Pn**	**22 23 03.5**	**+1.3**
NAY	**Al-Naaiem**	**3.14**	**236**	*e*P	**Pn**	**22 23 03.8**	**+1.5**
NAY				AML	AML	22 23 45.3	
comp=Z,4.7nm,0.5s							
NAY	**Al-Naaiem**	**3.14**	**236**	*e*P	**Pn**	**22 23 03.8**	**+1.5**
RST	**Umm Al-Ruwaisa**	**3.19**	**242**	*e*P	**Pn**	**22 23 03.9**	**+1.0**
RST	**Umm Al-Ruwaisa**	**3.19**	**242**	*e*P	**Pn**	**22 23 03.9**	**+1.0**
GHVR	**GHOM**	**3.55**	**14**	*e*Pn	**Pn**	**22 23 09.2**	**+1.2**
GHVR				AML	AML	22 24 16.1	
comp=N,87nm,0.6s							
GHVR				AML	AML	22 24 17.6	
comp=E,82nm,0.7s							
GHVR	**GHOM**	**3.55**	**14**	*e*Pn	**Pn**	**22 23 09.2**	**+1.2**
GHIR	**Ghir-Karzin**	**3.65**	**138**	*e*Pn	**Pn**	**22 23 08.7**	**-0.7**
GHIR				*e*Sg	**Sb**	**22 24 04.6**	**+2.8**
GHIR	**Ghir-Karzin**	**3.65**	**138**	*e*Pn	**Pn**	**22 23 08.7**	**-0.7**
GHIR				*e*Sg	**Sb**	**22 24 04.6**	**+2.8**
ISFB	**Sefidab**	**3.71**	**27**	*e*Pn	**Pn**	**22 23 11.3**	**+1.0**
ISFB				*e*		22 23 12.5	
comp=Z,749nm,0.1s							
ISFB	**Sefidab**	**3.71**	**27**	*e*Pn	**Pn**	**22 23 11.3**	**+1.0**
ICHK	**Chekchek**	**3.76**	**70**	*e*Pn	**Pn**	**22 23 12.3**	**+1.2**
ICHK				*e*	**Sb**	**22 24 03.2**	**-2.0**
comp=Z,1μm,0.2s							
ICHK	**Chekchek**	**3.76**	**70**	*e*Pn	**Pn**	**22 23 12.3**	**+1.2**
IMEH	**Mehriz**	**3.78**	**84**	*e*Pn	**Pn**	**22 23 12.4**	**+1.1**
IMEH				*e*	Sb	22 23 59.4	-6.2
comp=Z,859nm,0.3s							
IMEH	**Mehriz**	**3.78**	**84**	*e*Pn	**Pn**	**22 23 12.4**	**+1.1**
IKOM	**Komasi**	**3.88**	**324**	*e*Pn	**Pn**	**22 23 13.5**	**+0.9**
IKOM				*e*		22 23 29.6	
comp=Z,2μm,0.2s							
IKOM	**Komasi**	**3.88**	**324**	*e*Pn	**Pn**	**22 23 13.5**	**+0.9**
IVRN	**Varamin**	**4.14**	**17**	*e*Pn	**Pn**	**22 23 17.7**	**+1.5**
IVRN				*e*		22 23 18.9	
comp=Z,737nm,0.1s							
IVRN	**Varamin**	**4.14**	**17**	*e*Pn	**Pn**	**22 23 17.7**	**+1.5**
IR5	**Iran Long-Peri**	**4.17**	**4**	*e*Pn	**Pn**	**22 23 17.3**	**+0.7**
IR5	**Iran Long-Peri**	**4.17**	**4**	*e*Pn	**Pn**	**22 23 17.3**	**+0.7**
IBDR	**Badra**	**4.19**	**301**	*e*P	**Pg**	**22 23 32.0**	**-1.9**
IBDR				*e*S	**Sn**	**22 24 06.0**	**+0.7**
IRAZ	**Razeghan**	**4.36**	**357**	*e*Pn	**Pn**	**22 23 20.5**	**+1.2**
IRAZ				*e*	**Sg**	**22 24 36.5**	**+2.8**
comp=Z,589nm,0.3s							
IRAZ	**Razeghan**	**4.36**	**357**	*e*Pn	**Pn**	**22 23 20.5**	**+1.2**
IR3	**Iran Long-Peri**	**4.47**	**8**	*e*Pn	**Pn**	**22 23 21.7**	**+0.9**
IR3	**Iran Long-Peri**	**4.47**	**8**	*e*Pn	**Pn**	**22 23 21.7**	**+0.9**
IVIS	**Veis**	**4.49**	**322**	*e*Pn	**Pn**	**22 23 21.0**	**0.0**
IVIS				*e*		22 23 41.1	
comp=Z,732nm,0.2s							
IVIS	**Veis**	**4.49**	**322**	*e*Pn	**Pn**	**22 23 21.0**	**0.0**
IGHG	**Ghaleghazi**	**4.50**	**318**	*e*Pn	**Pn**	**22 23 22.7**	**+1.5**
IGHG				*e*		22 24 59.5	
comp=Z,1μm,0.3s							
IGHG	**Ghaleghazi**	**4.50**	**318**	*e*Pn	**Pn**	**22 23 22.7**	**+1.5**
IBAF	**Bafgh**	**4.61**	**82**	*e*Pn	**Pn**	**22 23 23.4**	**+0.8**
IBAF				*e*		22 23 26.2	
comp=Z,318nm,0.1s							
IBAF	**Bafgh**	**4.61**	**82**	*e*Pn	**Pn**	**22 23 23.4**	**+0.8**
SNGE	**Sanandaj**	**4.71**	**330**	*e*Pn	**Pn**	**22 23 24.2**	**+0.1**
SNGE	**Sanandaj**	**4.71**	**330**	*e*Pn	**Pn**	**22 23 24.2**	**+0.1**
IDMV	**Damavand**	**4.77**	**18**	*e*Pn	**Pn**	**22 23 26.2**	**+1.2**
IDMV				*e*		22 23 27.5	
comp=Z,431nm,0.1s							
IDMV	**Damavand**	**4.77**	**18**	*e*Pn	**Pn**	**22 23 26.2**	**+1.2**
IDHR	**Dehrash**	**4.87**	**320**	*e*Pn	**Pn**	**22 23 27.2**	**+0.9**
IDHR				*e*		22 23 49.6	
comp=Z,1μm,0.2s							
IDHR	**Dehrash**	**4.87**	**320**	*e*Pn	**Pn**	**22 23 27.2**	**+0.9**
THKV	**Tehran--Karaj**	**4.89**	**6**	*e*Pn	**Pn**	**22 23 27.9**	**+1.3**
THKV	**Tehran--Karaj**	**4.89**	**6**	*e*Pn	**Pn**	**22 23 27.9**	**+1.3**
ILAS	**Lasjerd**	**4.90**	**27**	*e*Pn	**Pn**	**22 23 27.9**	**+1.2**
ILAS				*e*	Sb	22 24 30.8	-7.0
comp=Z,445nm,0.3s							
ILAS	**Lasjerd**	**4.90**	**27**	*e*Pn	**Pn**	**22 23 27.9**	**+1.2**
IFIR	**Firoozkooh**	**5.05**	**24**	*e*Pn	**Pn**	**22 23 30.2**	**+1.3**
IFIR				*e*		22 23 35.4	
comp=Z,730nm,0.1s							
IFIR	**Firoozkooh**	**5.05**	**24**	*e*Pn	**Pn**	**22 23 30.2**	**+1.3**
IGZV	**Ghazvin**	**5.33**	**360**	*e*Pn	**Pn**	**22 23 33.8**	**+1.1**
IGZV				*e*		22 25 09.0	
comp=Z,228nm,0.3s							
IGZV	**Ghazvin**	**5.33**	**360**	*e*Pn	**Pn**	**22 23 33.8**	**+1.1**
IANJ	**Anjilo**	**5.39**	**34**	*e*Pn	**Pn**	**22 23 34.3**	**+0.8**
IANJ				*e*		22 23 37.3	
comp=Z,344nm,0.1s							
IANJ	**Anjilo**	**5.39**	**34**	*e*Pn	**Pn**	**22 23 34.3**	**+0.8**
ISHM	**Shahmirzad**	**5.40**	**28**	*e*Pn	**Pn**	**22 23 34.9**	**+1.2**
ISHM				*e*		22 23 40.5	
comp=Z,507nm,0.1s							
ISHM	**Shahmirzad**	**5.40**	**28**	*e*Pn	**Pn**	**22 23 34.9**	**+1.2**
IALA	**Alasht**	**5.47**	**23**	*e*Pn	**Pn**	**22 23 36.8**	**+2.1**
IALA	**Alasht**	**5.47**	**23**	*e*Pn	**Pn**	**22 23 36.8**	**+2.1**
IPRN	**Peran**	**5.48**	**18**	*e*Pn	**Pn**	**22 23 36.8**	**+2.2**
IPRN				*e*		22 23 56.8	
comp=Z,436nm,0.2s							
IKIA	**Kiasar**	**5.91**	**28**	*e*Pn	**Pn**	**22 23 41.6**	**+1.0**
IKIA				*e*		22 25 52.0	
comp=Z,120nm,0.3s							
IKIA	**Kiasar**	**5.91**	**28**	*e*Pn	**Pn**	**22 23 41.6**	**+1.0**
IGLO	**Ghaloghah**	**6.22**	**28**	*e*Pn	**Pn**	**22 23 45.9**	**+1.1**
IGLO				*e*		22 23 50.9	
comp=Z,317nm,0.2s							
IBND	**Bandar-abas**	**6.58**	**121**	*e*Pn	**Pn**	**22 23 48.6**	**-0.9**
IBND				*e*		22 25 14.2	
comp=Z,1μm,0.1s							
IBND	**Bandar-abas**	**6.58**	**121**	*e*Pn	**Pn**	**22 23 48.6**	**-0.9**
BANOM	**Banah**	**7.39**	**132**	P	**Pn**	**22 23 59.1**	**-1.6**
BANOM	SNR=38			S	Sn	22 25 04.6	-20
IKOO	**Kooshah**	**7.61**	**77**	*e*		22 24 07.9	
IKOO	comp=N,67nm,0.1s			*e*Pn	**Pn**	**22 24 04.5**	**+0.6**
NAZ	**Nazwa, Dubai**	**7.71**	**140**	P	**Pn**	**22 24 03.6**	**-1.5**
ASUD	**Al Ashush, Dub**	**7.83**	**144**	P	**Pn**	**22 24 06.4**	**-0.3**
	SNR=16						
ASUD	**Al Ashush, Dub**	**7.83**	**144**	P	**Pn**	**22 24 06.4**	**-0.3**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**7.87**	**142**	P	**Pn**	**22 24 06.1**	**-1.2**
HATD	**Hatta, Dubai**	**8.10**	**138**	P	**Pn**	**22 24 08.6**	**-1.9**
ASHO	**Ashiyiah**	**8.17**	**139**	P	**Pn**	**22 24 09.8**	**-1.7**
	SNR=15						
ASHO	**Ashiyiah**	**8.17**	**139**	P	**Pn**	**22 24 09.8**	**-1.7**
	SNR=15						
ISFR	**Sfrayin**	**8.81**	**45**	*e*Pn	**Pn**	**22 24 21.4**	**+1.0**
ISFR				*e*		22 24 22.8	
comp=Z,147nm,0.1s							
IAKL	**Akhelmad**	**9.01**	**50**	*e*Pn	**Pn**	**22 24 23.5**	**+0.3**
IPAY	**Payeh**	**9.08**	**51**	*e*Pn	**Pn**	**22 24 24.9**	**+0.8**
IPAY				*e*		22 24 48.6	
comp=Z,34nm,0.1s							
IPAY	**Payeh**	**9.08**	**51**	*e*Pn	**Pn**	**22 24 24.9**	**+0.8**
IMOG	**Moghan**	**9.13**	**54**	*e*Pn	**Pn**	**22 24 25.8**	**+1.0**
IMOG				*e*		22 24 27.2	
comp=Z,61nm,0.3s							
IMOG	**Moghan**	**9.13**	**54**	*e*Pn	**Pn**	**22 24 25.8**	**+1.0**
IMYA	**Miami**	**9.78**	**55**	*e*Pn	**Pn**	**22 24 34.3**	**+0.7**
IMYA				*e*		22 24 38.9	
comp=Z,38nm,0.2s							
IMYA	**Miami**	**9.78**	**55**	*e*Pn	**Pn**	**22 24 34.3**	**+0.7**
BSY	**Bisya**	**10.34**	**141**	P	**Pn**	**22 24 42.3**	**+1.1**
	SNR=12						
BSYO	**Bisya**	**10.37**	**141**	P	**Pn**	**22 24 42.3**	**+0.6**
	SNR=12						
ASF	**Jabal al Asfar**	**11.42**	**279**	Pn	Pn	22 24 52.3	-3.7
	comp=Z,0.7nm,0.3s,baz=46,slow=6.0,SNR=14						
ASF				Sn	Sn	22 26 54.2	-9.2
	comp=Z,0.2nm,0.3s,baz=256,slow=22,SNR=4.7						
BRTR	**Keskin Array B**	**16.05**	**307**	Pn	**Pn**	**22 25 58.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=136,slow=13,SNR=2.4						
AKTO	**Aktyubinsk**	**20.23**	**15**	P	**P**	**22 26 47.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=207,slow=11,SNR=3.8						
AKASG	**Malin Array Be**	**25.10**	**328**	P	**P**	**22 27 35.1**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=147,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**29.24**	**48**	P	**P**	**22 28 14.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=237,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**33.74**	**37**	P	**P**	**22 28 53.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=248,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**34.28**	**340**	P	**P**	**22 28 57.4**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=136,slow=6.9,SNR=8.0						

*CSEM **26** 22:32:54.7, 42˚.58N×13˚.22E, h11km, MD1.7/5, After ROM*
ROM 26 22:32:54.7±0.1, 42˚.58N×13˚.22E, h11km, Md1.7/5, Ml1.1/3, Error ellipse: s-maj=1.2km s-min=1.0km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.14**	**281**	Pg	Pg	22 32 58.4	+0.3
LNSS				Sg	Sg	22 33 01.2	+0.7
38nm,0.2s							
LNSS	**Leonessa**	**0.14**	**281**	Pg	Pg	22 32 58.4	+0.3
LNSS				Sg	Sg	22 33 01.2	+0.7
38nm,0.2s							
CAMP	**Campotosto**	**0.14**	**106**	Pg	Pg	22 32 58.7	+0.5
CAMP				Sg	Sg	22 33 00.9	+0.3
12nm,0.5s							
CAMP	**Campotosto**	**0.14**	**106**	Pg	Pg	22 32 58.7	+0.5
CAMP				Sg	Sg	22 33 00.9	+0.3
12nm,0.5s							
NRCA	**Norcia**	**0.27**	**343**	Pg	Pg	22 33 00.8	+0.4
NRCA				Sg	Sg	22 33 05.1	+0.9
5.0nm,0.2s							
NRCA	**Norcia**	**0.27**	**343**	Pg	Pg	22 33 00.8	+0.4
NRCA				Sg	Sg	22 33 05.1	+0.9
5.0nm,0.2s							

*IDC **26** 22:43:51.3±0.6, 14˚.59N×93˚.83W, h0km, mb4.5/20, mb1 4.7/23, mb1mx4.6/29, mbtmp4.5/23, ML4.2/3, MS4.2/27, Ms1

TEIG eSn Sn 22 47 07.2 -3.0
TEIG Tepich 7.60 43 Pn Pn 22 45 45.2 +0.1
7.1nm,0.3s,baz=249,slow=8.3,SNR=41
TEIG Sn Sn 22 47 12.5 +2.3
4.3nm,0.3s,baz=131,slow=20,SNR=2.6
TEIG LR LR 22 49 07.9
comp=Z,5µm,20.6s,baz=293,slow=41
JTS JuntasAbangare 9.73 116 ePn Pn 22 46 15.8 +1.3
JTS eSn Sn 22 48 05.3 +2.6
732A Laxson Ranch, 15.03 339 ⇑P Pn 22 47 26.4 -0.4
baz=15,SNR=6.9
HKT Hockley 15.24 353 ePn Pn 22 47 29.2 -0.3
632A Uvalde 15.69 340 ⇓P Pn 22 47 35.0 -0.3
baz=16,SNR=5.6
631A Perdido Creek 15.87 338 ⇑P Pn 22 47 37.3 -0.3
baz=16,SNR=15
532A Rocksprings 16.30 341 ⇑P Pn 22 47 43.3 +0.2
baz=16,SNR=26
531A Rocksprings 16.55 339 ⇑P Pn 22 47 46.0 -0.3
baz=17,SNR=29
JCT Junction City 16.60 342 ePn Pn 22 47 48.3 +1.4
53nm,1.0s
JCT eS S 22 50 59.4 -1.6
JCT Junction City 16.60 342 ⇑P Pn 22 47 47.2 +0.3
baz=17,SNR=17
530A J-C Ranch, Com 16.82 337 ⇑P Pn 22 47 50.0 +0.3
baz=17,SNR=19
628A Black Gap, Mar 16.89 332 ⇑P Pn 22 47 51.8 +1.2
baz=17,SNR=46
NATX Nacogdoches 16.95 358 eP Pn 22 47 50.2 -1.2
432A Menard 16.96 342 ⇓P Pn 22 47 52.0 +0.5
baz=17,SNR=27
431A Sonora 17.04 340 ⇑P Pn 22 47 52.7 +0.2
baz=17,SNR=29
627A Terlingua Ranc 17.09 330 ⇓P Pn 22 47 54.6 +1.4
baz=17,SNR=56
TXAR Lajitas Array 17.13 330 P Pn 22 47 55.2 +1.6
TXAR Lajitas Array 17.13 330 P Pn 22 47 55.2 +1.6
0.1nm,0.3s,baz=155,slow=12,SNR=19
TXAR LR LR 22 54 54.2
comp=Z,413nm,18.4s,baz=195,slow=38
BRAL Brewton 17.34 20 ePn Pn 22 47 56.8 +0.6
430A Baggett Ranch, 17.36 338 ⇓P Pn 22 47 57.2 +0.8
baz=18,SNR=17
528A Cox Ranch, San 17.42 333 ⇑P P 22 47 59.2 +0.8
baz=18,SNR=12
332A Millersview 17.42 343 ⇑P Pn 22 47 57.6 +0.3
baz=18,SNR=17
429A Davenport Ranc 17.46 336 ⇓P Pn 22 47 58.6 +0.9
baz=18,SNR=38
WHTX Lake Whitney 17.48 350 ⇑P Pn 22 47 57.6 -0.4
baz=18,SNR=6.9
626A Big Bend Ranch 17.54 329 ⇑P P 22 48 00.8 +1.1
baz=18,SNR=27
331A San Angelo 17.56 341 ⇓P Pn 22 47 59.4 +0.5
baz=18,SNR=17
VBMS Vicksburg 17.66 9 eP Pn 22 47 59.0 -1.0
73nm,1.0s
527A Woodward Ranch 17.78 331 ⇓P Pn 22 48 02.7 +1.0
baz=18,SNR=32
428A Kincaid Ranch, 17.86 334 ⇓P Pn 22 48 03.7 +1.0
baz=18,SNR=43
232A Coleman 17.87 344 ⇑P Pn 22 48 03.1 +0.3
baz=18,SNR=34
330A Mertzon 17.90 339 ⇑P Pn 22 48 03.6 +0.5
baz=18,SNR=22
526A Mary Lane Ranc 17.93 330 ⇓P Pn 22 48 04.9 +1.2
baz=18,SNR=41
LPIG La Paz 18.10 303 LR LR 22 55 07.4
comp=Z,511nm,21.0s,baz=4.3,slow=37
231A Bronte 18.11 342 ⇑P Pn 22 48 05.7 0.0
baz=18,SNR=10
329A Wagon Wheel Ra 18.26 337 ⇑P P 22 48 08.0 +0.5
baz=18,SNR=12
427A Hayter Ranch, 18.28 333 ⇓P Pn 22 48 09.6 +1.8
baz=18,SNR=12
230A Sterling City 18.32 340 ⇓P P 22 48 08.8 +0.7
baz=18,SNR=13
426A McDonald Obser 18.41 331 ⇑P Pn 22 48 11.2 +1.6
baz=19
328A Wristen Ranch, 18.49 335 ⇑P Pn 22 48 11.4 +1.1
baz=19,SNR=20
ABTX Abilene, Hawle 18.57 344 ⇑P P 22 48 12.1 +1.2
baz=19,SNR=25
229A Bryant Ranch, 18.63 338 ⇑P Pn 22 48 13.0 +0.9
baz=19,SNR=12
327A Balmorhea Ranc 18.77 333 ⇑P P 22 48 13.2 +0.1
baz=19
131A Roby 18.82 343 ⇑P Pn 22 48 15.1 +0.7
baz=19,SNR=17
130A Snyder 18.92 341 ⇓P P 22 48 15.8 +1.0
baz=19,SNR=11
326A Caldwell Ranch 18.93 332 ⇓P Pn 22 48 16.8 +1.1
baz=19,SNR=22
425A Indio Mountain 18.97 329 ⇑P Pn 22 48 17.4 +1.2
baz=19,SNR=41
228A UT Block 9, Go 19.05 337 ⇓P Pn 22 48 17.9 +0.7
baz=19,SNR=12
TIGA Tifton 19.08 28 ⇑P P 22 48 15.6 -0.9
baz=19
Z32A Haskell 19.18 345 ⇓P Pn 22 48 19.5 +0.9
baz=19
227A Bennet, Jal 19.24 335 ⇓P Pn 22 48 20.5 +1.1
baz=19
LRAL Lakeview Retre 19.24 18 eP P 22 48 18.2 0.0
41nm,1.1s
LRAL eS Sn 22 51 49.8 -4.3
129A Stewart Farms, 19.25 339 ⇑P P 22 48 19.9 +1.5
baz=20,SNR=13
Z31A Sharp Cattle R 19.36 344 ⇑P P 22 48 20.0 +0.5
baz=20,SNR=23
325A Bean Ranch, Si 19.44 330 ⇓P P 22 48 21.9 +1.3
baz=20
128A Castleberry Fa 19.46 338 ⇑P P 22 48 22.1 +1.4
baz=20
Z30A Sanderson Ranc 19.61 342 ⇑P P 22 48 22.6 +0.3
baz=20,SNR=58
226B Tecolote Peak, 19.66 333 ⇑P P 22 48 24.4 +1.4
baz=20,SNR=18
CLNB Carlsbad 19.70 334 eP P 22 48 24.9 +1.6
4.2nm,0.8s
MIAR Mount Ida 19.72 1 eP P 22 48 23.7 +0.3
51nm,0.9s
MIAR eS S 22 51 59.5 -4.4
Z29A Hungry Hill Ra 19.77 340 ⇑P P 22 48 24.7 +0.6
baz=20,SNR=41
Y32A R-V Farms, Ver 19.84 346 ⇓P P 22 48 25.7 +0.9
baz=20,SNR=8.5
127A Arkansas Junct 19.85 336 ⇓P P 22 48 25.8 +0.9
baz=20,SNR=16
GDL2 Guadalupe Moun 19.86 333 ePn Pn 22 48 27.3 +0.5
MNTX Cornudas Mount 19.91 330 eP P 22 48 26.5 +1.0
14nm,0.8s
UALR University of 19.99 4 eP P 22 48 26.4 0.0
74nm,1.3s
UALR eS S 22 52 08.9 -0.5
Y31A Rekieta Farm, 20.00 344 ⇓P P 22 48 27.7 +1.2
baz=20,SNR=26
Z28A Tucker Farm, M 20.03 339 ⇓P P 22 48 28.3 +1.4
baz=20,SNR=6.4
OXF Oxford 20.08 11 eP P 22 48 27.8 +0.4
84nm,1.0s
OXF eS S 22 52 08.6 -2.6
126A Clayton Basin, 20.09 334 ⇓P P 22 48 28.7 +1.1
baz=20,SNR=13
Y30A Stafford Cattl 20.09 343 ⇓P P 22 48 28.9 +1.3
baz=20
224A Cornudas Mount 20.29 330 ⇓P P 22 48 31.0 +1.2
baz=20
Y29A Porterfield Fa 20.31 341 ⇓P P 22 48 30.9 +0.9
baz=20,SNR=6.6
Z27A Tatum 20.36 337 ⇑P P 22 48 31.5 +1.0
baz=21,SNR=52
125A Gardner Draw, 20.38 333 ⇓P P 22 48 32.1 +1.4
baz=21,SNR=26
WMOK Wichita Mounta 20.40 348 eP P 22 48 30.8 -0.1
31nm,1.2s
WMOK eS S 22 52 15.9 -1.8
Y28A McKinney Farm, 20.55 340 ⇓P P 22 48 33.2 +0.7
baz=21,SNR=66
X31A McDonald Ranch 20.56 345 ⇓P P 22 48 33.4 +0.8
baz=21,SNR=19
Z26A Caprock 20.62 335 ⇓P P 22 48 34.4 +1.1
baz=21,SNR=16
X30A Coker Ranch, T 20.62 343 ⇓P P 22 48 34.2 +0.9
baz=21,SNR=39
223A Chaparral, Ant 20.68 328 ⇓P P 22 48 35.2 +1.2
baz=21

124A Stringfield Ra 20.77 331 ⇓P P 22 48 36.7 +1.6
baz=21,SNR=16
MSTX Muleshoe 20.78 339 eP P 22 48 35.9 +0.8
133nm,1.0s
MSTX Muleshoe 20.78 339 ⇓P P 22 48 35.8 +0.8
baz=21,SNR=28
PLAL Pickwick Lake 20.81 13 ePn P 22 48 34.4 -0.8
78nm,1.5s
GOGA Godfrey 20.83 25 eP Pn 22 48 38.4 +0.3
35nm,1.0s
Y27A Causey 20.84 338 ⇓P P 22 48 36.3 +0.5
baz=21,SNR=37
X29A Tulia 20.86 341 ⇑P P 22 48 36.3 +0.3
baz=21,SNR=11
Z25A Roswell 20.93 334 ⇑P P 22 48 37.7 +0.9
baz=21,SNR=21
OTAV Otavalo 20.95 132 eP Pn 22 48 42.0 +1.7
13nm,1.1s
W31A Holland Ranch, 21.08 346 ⇑P P 22 48 38.7 +0.4
baz=21,SNR=9.8
X28A Dimmitt 21.09 340 ⇑P P 22 48 39.0 +0.7
baz=21
123A Bell Site, Whi 21.10 330 ⇓P P 22 48 40.3 +1.7
baz=21
222A Williams Famil 21.10 327 ⇓P P 22 48 40.0 +1.4
baz=21,SNR=22
Y26A Elida 21.13 336 ⇓P P 22 48 39.7 +0.8
baz=21,SNR=12
TUL1 Tulsa 21.15 356 eP P 22 48 39.3 +0.4
40nm,1.1s
TUL1 Tulsa 21.15 356 ⇑P P 22 48 38.4 -0.5
baz=21
W30A Crocket Farms 21.24 345 ⇑P P 22 48 40.9 +1.0
baz=22
Z24A Sheeppen Canyo 21.26 333 ⇑P P 22 48 41.8 +1.5
baz=21,SNR=50
320A Kipp Ranch, An 21.31 323 ⇑P P 22 48 42.8 +2.0
baz=21,SNR=21
221A Mesquite Ranch 21.39 326 ⇓P P 22 48 44.3 +2.6
baz=22,SNR=7.3
GNAR Gosnell 21.41 9 P P 22 48 41.2 -0.5
W29A Amraillo 21.47 342 ⇓P P 22 48 43.2 +0.7
baz=22,SNR=13
Y25A Mesa, Roswell 21.48 335 ⇑P P 22 48 44.3 +1.7
baz=22,SNR=42
X27A F and S Farms, 21.51 339 ⇑P P 22 48 44.6 +1.7
baz=22
122A Conniff Cattle 21.52 328 ⇓P P 22 48 45.5 +2.4
baz=22
ROSC El Rosal 21.56 115 eP P 22 48 47.2 +3.3
ROSC El Rosal 21.56 115 P P 22 48 46.8 +2.9
37nm,0.9s,baz=107,slow=12,SNR=16
Z23A Rita Site, Whi 21.60 331 ⇑P P 22 48 45.7 +1.8
baz=22,SNR=24
V31A Spring Creek L 21.62 347 ⇑P P 22 48 45.4 +1.3
baz=22
X26A CR and CF Fran 21.68 337 ⇓P P 22 48 45.7 +0.9
baz=22,SNR=15
220A Playas Peak, P 21.73 324 ⇑P P 22 48 47.4 +2.2
baz=22,SNR=36
W28A Vega 21.77 341 ⇑P P 22 48 46.4 +0.7
baz=22,SNR=16
319A Douglas 21.77 322 ⇓P P 22 48 47.9 +2.1
baz=22,SNR=15
Y24A Capitan 21.80 333 ⇓P P 22 48 47.8 +1.7
baz=22,SNR=74
121A Cookes Peak, D 21.80 327 ⇑P P 22 48 48.3 +2.2
baz=22,SNR=70
V30A Spur Ranch, Mi 21.82 345 ⇑P P 22 48 47.5 +1.3
baz=22
W27A Bowe Ranch, En 21.87 339 ⇑P P 22 48 47.2 +0.4
baz=22,SNR=26
Z22A Elephant Butte 21.95 329 ⇑P P 22 48 49.5 +1.8
baz=22
WVT Waverly 21.96 13 eP P 22 48 47.0 -0.7
22nm,0.9s
WVT eS S 22 52 46.0 -2.3
SDDR Presa de Saban 21.98 76 eP P 22 48 47.0 -1.1
39nm,1.1s
X25A Clemmons Ranch 21.99 336 ⇓P P 22 48 49.3 +1.2
baz=22,SNR=10
Y23A Lovelace Mesa, 22.07 332 ⇑P P 22 48 51.1 +2.0
baz=22,SNR=52
V29A Stinnett 22.14 343 ⇑P P 22 48 50.7 +1.0
baz=22,SNR=6.4
W26A Owens Ranch, T 22.14 338 ⇑P P 22 48 52.0 +2.2
baz=22
U31A Nine Bar Ranch 22.20 347 ⇓P P 22 48 51.8 +1.6
baz=22
V28A Channing 22.23 342 ⇓P P 22 48 51.8 +1.2
baz=22
CPCT Cooper Cave 22.25 20 eP P 22 48 51.3 +0.6
120A U Bar Ranch, L 22.27 325 ⇓P P 22 48 53.3 +2.1
baz=22,SNR=18
Z21A St. Cloud Mine 22.35 328 ⇓P P 22 48 53.7 +1.6
baz=22,SNR=25
V27A Dan Oppiter Fa 22.43 341 ⇑P P 22 48 54.1 +1.3
baz=23
Y22A Socorro 22.50 330 ⇓P P 22 48 55.3 +1.6
baz=23,SNR=24
W25A X Bar L Ranch, 22.52 337 ⇑P P 22 48 54.8 +1.0
baz=23,SNR=39
BNM Barren Site 22.52 331 eP P 22 48 55.9 +2.0
36nm,1.2s
U30A WK&E Inc. Balk 22.54 346 ⇓P P 22 48 54.6 +0.7
baz=23,SNR=9.7
U29A Oasis Ranch, S 22.62 344 ⇓P P 22 48 56.3 +1.6
baz=23
LPM Los Pinos Moun 22.66 332 eP P 22 48 57.2 +1.9
Z20A Nine Sixteen R 22.68 326 ⇑P P 22 48 57.7 +2.2
baz=23,SNR=14
X23A Hourglass Bar 22.68 333 ⇑P P 22 48 57.0 +1.4
baz=23,SNR=11
LENM Lemitar 22.69 331 eP P 22 48 58.1 +2.4
TKL Tuckaleechee C 22.70 22 eP P 22 48 56.6 +1.0
TKL Tuckaleechee C 22.70 22 P P 22 48 56.0 +0.5
7.7nm,1.1s,baz=199,slow=12,SNR=4.6
TKL LR LR 22 59 55.4
comp=Z,787nm,18.7s,baz=210,slow=42
V26A Tequesquite Ra 22.79 339 ⇓P P 22 48 57.6 +1.1
baz=23,SNR=14
T31A Randall Ranch, 22.86 348 ⇓P P 22 48 57.2 -0.1
baz=23,SNR=8.3
W24A Lazy 6 Ranch, 22.88 335 ⇓P P 22 48 59.0 +1.3
baz=23,SNR=14
Y21A Point of Rocks 22.91 329 ⇑P P 22 48 60.0 +2.0
baz=23,SNR=22
LAZ Ladron 22.97 331 eP P 22 49 00.5 +1.9
21nm,1.2s
LAZ ePcP PcP 22 52 50.3 +2.3
X22A Bernardo 22.99 331 ⇑P P 22 49 01.0 +2.3
baz=23
T30A Plains 23.00 346 ⇓P P 22 48 59.4 +0.6
baz=23,SNR=9.4
U27A Thompson Grove 23.04 341 ⇑P P 22 48 59.9 +0.8
baz=23,SNR=9.1
ANMO Albuquerque 23.11 333 eP P 22 49 00.8 +0.8
12nm,0.9s
ANMO Albuquerque 23.11 333 P P 22 49 01.0 +1.0
2.7nm,0.8s,baz=163,slow=16,SNR=10
ANMO LR LR 22 58 23.9
comp=Z,347nm,18.2s,baz=3.4,slow=38
V25A Rancho No Teng 23.12 337 ⇑P P 22 49 01.7 +1.6
baz=23,SNR=30
W23A Werner Place, 23.15 334 ⇓P P 22 49 02.0 +1.6
baz=23,SNR=8.6
Y20A Horse Springs, 23.18 328 ⇑P P 22 49 03.0 +2.2
baz=23,SNR=61
KMSC Kings Mountain 23.21 27 eP P 22 49 00.9 +0.1
31nm,1.1s
KMSC Kings Mountain 23.21 27 ⇓P P 22 49 00.5 -0.3
baz=24
SIUC Southern Illin 23.24 9 eP P 22 49 01.6 +0.6
106nm,0.9s
V24A Rampart Ranch, 23.28 336 ⇓P P 22 49 03.5 +1.8
baz=24,SNR=20
T29A Hugoton 23.29 345 ⇑P P 22 49 02.8 +1.1
baz=24
U26A Atchley Ranch, 23.31 339 ⇓P P 22 49 02.9 +0.9
baz=24,SNR=20
X21A Alamocita Cree 23.31 330 ⇓P P 22 49 04.3 +2.2
baz=24
S31A Mullinville 23.33 349 ⇑P P 22 49 02.6 +0.6
baz=24
TUC Tucson 23.34 321 eP P 22 49 04.0 +1.8
29nm,1.1s
SDV Santo Domingo 23.43 102 eP P 22 49 04.5 +1.1
20nm,0.7s

T28A Walsh 23.47 343 ⇑P P 22 49 04.4 +0.9
baz=24
U25A Circle Dot Ran 23.55 338 ⇑P P 22 49 05.6 +1.3
baz=24,SNR=7.1
S30A Montezuma 23.55 347 ⇓P P 22 49 04.5 +0.3
baz=24,SNR=15
TZTN Tazewell 23.57 21 eP P 22 49 04.7 +0.4
51nm,1.4s
T27A Campo 23.59 342 ⇑P P 22 49 06.4 +1.7
baz=24
V23A Ortiz Mt. (NFS 23.66 334 ⇑P P 22 49 07.5 +2.1
baz=24,SNR=29
S29A Ulysses 23.68 345 ⇑P P 22 49 07.2 +1.8
baz=24
X20A Quemado 23.74 329 ⇑P P 22 49 08.4 +2.2
baz=24,SNR=46
USIN University of 23.77 12 eP P 22 49 06.5 +0.4
64nm,1.0s
S28A Manter 23.86 344 ⇓P P 22 49 08.0 +0.9
baz=24
U24A Moreno Valley 23.88 337 ⇓P P 22 49 09.5 +1.9
baz=24
T26A Comanche Natio 23.97 341 ⇓P P 22 49 09.3 +1.0
baz=24,SNR=10
V22A San Miguel Ran 24.12 333 ⇑P P 22 49 11.4 +1.6
baz=24,SNR=12
R30A Dighton 24.13 348 ⇓P P 22 49 10.1 +0.5
baz=24,SNR=11
U23A El Rito 24.17 335 ⇑P P 22 49 11.9 +1.7
baz=24,SNR=18
W20A Ramah 24.21 330 ⇓P P 22 49 12.2 +1.7
baz=24,SNR=21
T25A Trinidad 24.21 339 ⇓P P 22 49 12.5 +2.0
baz=24,SNR=18
S27A Las Animas 24.22 342 ⇑P P 22 49 12.1 +1.5
baz=24
WCI Wyandotte Cave 24.32 15 eP P 22 49 11.2 -0.2
36nm,0.8s
S26A Kim 24.34 341 ⇑P P 22 49 13.0 +1.3
baz=25,SNR=11
214A Organ Pipe Nat 24.37 318 ⇓P P 22 49 13.3 +1.5
baz=24,SNR=11
KSU1 Kansas State U 24.39 355 eP P 22 49 06.7 -5.1
25nm,0.8s
OLIL Olney 24.43 11 eP P 22 49 11.7 -0.5
44nm,0.8s
R29A Marienthal 24.45 346 ⇑P P 22 49 13.2 +0.6
baz=25,SNR=20
X18A Snowflake 24.48 326 ⇑P P 22 49 14.4 +1.4
baz=25,SNR=8.4
U22A Llaves 24.49 334 ⇓P P 22 49 15.1 +2.0
baz=25
T24B San Luis 24.49 337 ⇓P P 22 49 14.8 +1.6
baz=25
R28A Tribune 24.54 345 ⇑P P 22 49 14.0 +0.6
baz=25,SNR=13
Q31A Ellis 24.66 350 ⇑P P 22 49 14.7 +0.3
baz=25,SNR=5.3
S25A Robets Cordova 24.69 340 ⇑P P 22 49 16.5 +1.6
baz=25,SNR=20
T23A Casias Ranch, 24.72 336 ⇓P P 22 49 17.2 +1.9
baz=25
V20A Brimhall 24.73 331 ⇑P P 22 49 17.3 +2.0
baz=25
R27A Eads 24.75 343 ⇑P P 22 49 16.4 +1.0
baz=25,SNR=11
Q30A Quinter 24.79 348 ⇓P P 22 49 16.8 +1.2
baz=25,SNR=7.3
W18A Petrified Fore 24.82 328 ⇓P P 22 49 18.7 +2.6
baz=25
Q29A Oakley 24.86 347 ⇑P P 22 49 17.1 +0.8
baz=25,SNR=52
U21A Nagezi 24.88 333 ⇓P P 22 49 18.6 +1.9
baz=25,SNR=9.0
S24A Houchin Ranch, 24.94 338 ⇓P P 22 49 19.2 +1.9
baz=25,SNR=10
R26A Arlington 24.96 342 ⇑P P 22 49 19.3 +2.1
baz=25,SNR=16
T22A Edith 25.05 335 ⇑P P 22 49 20.1 +1.9
baz=25,SNR=12
R25A Fountain Ranch 25.08 340 ⇑P P 22 49 20.2 +1.9
baz=25,SNR=13
SDCO Great Sand Dun 25.14 338 eP P 22 49 20.0 +1.0
14nm,1.1s
P31A Stockton 25.16 350 ⇑P P 22 49 19.5 +0.6
baz=25,SNR=16
BLO Bloomington 25.17 13 eP P 22 49 18.2 -0.8
26nm,0.8s
X16A Lo Mia Camp, P 25.22 324 ⇑P P 22 49 21.9 +2.1
baz=25,SNR=9.6
U20A Newcomb 25.23 331 ⇓P P 22 49 21.5 +1.8
baz=25
Q28A Sharon Springs 25.23 345 ⇓P P 22 49 20.8 +1.2
baz=26,SNR=13
T21A Navajo Lake 25.30 334 ⇓P P 22 49 22.3 +1.9
baz=26,SNR=5.3
P30A Selden 25.34 348 ⇓P P 22 49 21.2 +0.6
baz=26,SNR=10
Z14A Wintersburg 25.38 320 ⇑P P 22 49 23.4 +2.4
baz=26
KSCO Kaye Shedlock' 25.38 344 ⇑P P 22 49 22.5 +1.4
baz=26
R24A Sanders Place, 25.43 339 ⇓P P 22 49 23.1 +1.5
baz=26,SNR=13
113A Mohawk Valley, 25.51 318 ⇑P P 22 49 24.4 +2.3
baz=26
P29A Atwood 25.54 347 ⇓P P 22 49 23.0 +0.7
baz=26,SNR=25
Q26A Hugo 25.55 342 ⇑P P 22 49 24.4 +1.7
baz=26
S22A 4UR Ranch, Cre 25.65 336 ⇑P P 22 49 24.9 +1.2
baz=26,SNR=6.6
R23A Moffat 25.65 338 ⇓P P 22 49 24.6 +0.9
baz=26,SNR=10
P28A Saint Francis 25.69 346 ⇑P P 22 49 24.7 +0.8
baz=26,SNR=20
Q25A Bedland, Calha 25.77 341 ⇓P P 22 49 25.2 +0.5
baz=26,SNR=5.6
Y14A Wickenburg 25.81 321 ⇑P P 22 49 26.3 +1.4
baz=26,SNR=11
MVCO Mesa Verde 25.90 332 eP P 22 49 27.5 +1.5
19nm,0.9s
MVCO Mesa Verde 25.90 332 ⇑P P 22 49 27.1 +1.2
baz=26,SNR=7.7
O30A MW Ranch, Wils 25.92 349 ⇑P P 22 49 26.6 +0.8
baz=26
S21A Coal Bank Pass 25.97 334 ⇓P P 22 49 27.8 +1.1
baz=26,SNR=8.8
WUAZ Wupatki 26.00 326 eP P 22 49 28.1 +1.4
32nm,1.1s
WUAZ Wupatki 26.00 326 ⇑P P 22 49 28.3 +1.6
baz=26,SNR=11
O29A 4D Ranch, Culb 26.01 348 ⇑P P 22 49 27.6 +0.9
baz=26
HDIL Hopedale 26.02 8 eP P 22 49 26.2 -0.4
81nm,1.5s
R22A Saguache, Gunn 26.04 336 ⇑P P 22 49 29.2 +2.0
baz=26
P26A Davis Ranch, A 26.09 343 ⇓P P 22 49 29.7 +2.2
baz=26
SFIN Scholer Farm 26.21 12 eP P 22 49 27.6 -0.8
31nm,1.3s
SFIN Scholer Farm 26.21 12 ⇓P P 22 49 27.6 -0.8
baz=26
O28A Krutsinger Ran 26.22 346 ⇑P P 22 49 30.1 +1.4
baz=26,SNR=14
Q23A Hartsel 26.29 339 ⇑P P 22 49 31.3 +1.8
baz=26
P25A Willow Gulch B 26.29 342 ⇓P P 22 49 31.1 +1.7
baz=26
S20A Disappointment 26.36 333 ⇑P P 22 49 31.6 +1.5
baz=26
GLA Glamis 26.38 317 eP P 22 49 32.1 +2.1
14nm,0.9s
GLA Glamis 26.38 317 ⇑P P 22 49 32.0 +1.9
baz=26
O27A Beecher Island 26.45 345 ⇑P P 22 49 32.0 +1.2
baz=27,SNR=7.3
ATAH Atahualpa 26.59 144 P P 22 49 32.2 -0.3
ATAH Atahualpa 26.59 144 P P 22 49 32.2 -0.3
6.7nm,0.7s,baz=333,slow=5.9,SNR=3.8
ATAH LR LR 22 57 14.9
comp=Z,347nm,19.0s,baz=123,slow=30
Y12C Blythe 26.62 319 ⇑P P 22 49 34.6 +2.3
baz=27
Q22A Crested Butte, 26.65 337 ⇓P P 22 49 34.4 +1.7
baz=27
R20A Redvale 26.66 334 ⇑P P 22 49 34.5 +1.7

baz=27,SNR=5.8
PV01 **Paradox Valley** 26.70 333 eP P 22 49 34.9 +1.7
2µm,1.0s
N28A **Pribbeno Ranch** 26.71 347 ⇑P P 22 49 34.7 +1.7
baz=27
P23A **Jefferson** 26.71 339 ⇑P P 22 49 34.7 +1.3
baz=27,SNR=12
PDMCI **Parker Dam,Lak** 26.74 320 ⇓P P 22 49 35.3 +2.0
baz=27,SNR=7.9
O25A **Wiggins** 26.83 342 ⇑P P 22 49 36.4 +2.3
baz=27
Q21A **Lamborn Mesa,** 26.88 336 ⇑P P 22 49 36.8 +2.1
baz=27
SMCO **Snowmass** 26.95 337 eP P 22 49 37.6 +2.1
16nm,1.2s
SMCO epP pP 22 50 05.9 +21
SWSC **Sam W. Stewart** 26.95 316 ⇓P P 22 49 38.0 +2.9
baz=27
DVTC **Desert V Tower** 26.99 315 ⇓P P 22 49 39.2 +3.5
baz=27
ISCO **Idaho Springs** 27.01 340 eP P 22 49 37.7 +1.6
13nm,0.9s
ISCO **Idaho Springs** 27.01 340 ⇑P P 22 49 37.1 +1.1
baz=27,SNR=14
N27A **Anderson Farm,** 27.05 345 ⇑P P 22 49 37.6 +1.4
baz=27
PV04 **Paradox Valley** 27.06 333 eP P 22 49 37.8 +1.4
PV04 eS S 22 54 09.7 -2.5
OGNE **Ogallala** 27.06 346 eP P 22 49 37.2 +1.0
26nm,0.9s
OGNE PcP PcP 22 52 58.6 +1.8
OGNE **Ogallala** 27.06 346 ⇓P P 22 49 38.0 +1.8
baz=27
BC3 **Big Chuckawall** 27.16 318 ⇑P P 22 49 38.7 +1.5
baz=27,SNR=14
U15A **North Rim** 27.17 326 ⇑P P 22 49 39.2 +1.8
baz=27,SNR=9.1
P22A **Eagle** 27.23 338 ⇓P P 22 49 39.2 +1.3
baz=27
Q20A **Ridgley Place,** 27.27 335 ⇓P P 22 49 39.3 +1.1
baz=28
IRM **Iron Mountain** 27.29 319 ⇑P P 22 49 39.9 +1.7
baz=27,SNR=9.2
MONP **Monument Peak** 27.34 315 ⇓P P 22 49 40.9 +1.9
baz=27
P21A **Newcastle** 27.43 337 ⇑P P 22 49 41.2 +1.5
baz=28
O23A **Lake Granby, G** 27.48 340 ⇓P P 22 49 41.9 +1.7
baz=28
O22A **Kremmling** 27.66 339 ⇑P P 22 49 42.8 +1.0
baz=28
BELC **Belle Mtn. Jos** 27.73 318 ⇑P P 22 49 44.1 +1.8
baz=28,SNR=6.2
P20A **De Beque** 27.78 335 ⇓P P 22 49 44.3 +1.5
baz=28
PFO **Pinyon Flat Ob** 27.79 316 LR LR 23 00 54.6
comp=Z,440nm,20.9s,baz=314,slow=37
PFO **Pinyon Flat Ob** 27.79 316 ⇓P P 22 49 45.0 +2.1
baz=28
LDFC **Landfair** 27.86 320 eP P 22 49 46.5 +3.1
20nm,0.9s
GMRC **Granite Mounta** 28.01 319 ⇓P P 22 49 46.8 +2.0
baz=28,SNR=6.8
N23A **Red Feather La** 28.11 340 ⇓P P 22 49 46.6 +0.8
baz=28
P19A **Cripple Cowboy** 28.13 335 ⇓P P 22 49 47.4 +1.4
baz=28
N22A **Wattenberg Ran** 28.20 339 ⇑P P 22 49 48.3 +1.7
baz=28,SNR=8.8
JFWS **Jewell Farm** 28.24 6 eP P 22 49 46.0 -0.6
18nm,0.9s
M24A **Cheyenne** 28.28 342 ⇑P P 22 49 48.9 +1.6
baz=28
PHWY **Pilot Hill** 28.32 341 eP P 22 49 49.5 +1.8
73nm,2.5s
SRU **San Rafael** 28.37 332 eP P 22 49 50.1 +2.0
6.7nm,1.1s
HEC **Hector,Ludlow** 28.46 319 ⇑P P 22 49 50.9 +2.1
baz=29,SNR=6.8
Q16A **Castle Valley** 28.52 331 ⇑P P 22 49 51.5 +2.1
baz=29
N21A **Black Mountain** 28.53 338 ⇑P P 22 49 51.0 +1.4
baz=29
CCUT **Cedar City** 28.57 326 eP P 22 49 52.8 +2.9
10nm,1.0s
TUQ **Turquoise Moun** 28.59 320 ⇓P P 22 49 52.3 +2.3
baz=29
MVU **Marysvale** 28.70 329 eP P 22 49 53.5 +2.5
8.4nm,1.3s
M22A **Cedar Creek Ra** 28.78 340 ⇑P P 22 49 53.8 +2.1
baz=29
TMUT **Trail Mountain** 28.84 331 eP P 22 49 54.6 +2.3
8.7nm,1.0s
SHPR **Sheep Range** 28.84 323 eP P 22 49 54.5 +2.3
N20A **Spence Gulch,** 28.87 337 ⇓P P 22 49 54.1 +1.5
baz=29,SNR=6.4
BFSC **Mount Baldy Ra** 28.97 316 ⇑P P 22 49 55.1 +1.7
baz=29
ECSD **EROS Data Cent** 28.99 356 eP P 22 49 52.7 -0.5
22nm,0.7s
GSC **Goldstone** 29.06 319 ⇓P P 22 49 56.2 +2.1
baz=29
L23A **Garrett** 29.14 342 ⇓P P 22 49 56.2 +1.3
baz=29,SNR=12
M21A **Separation Pea** 29.22 339 ⇑P P 22 49 57.4 +1.8
baz=29,SNR=13
RWWY **Rawlins** 29.24 339 eP P 22 49 58.3 +2.5
36nm,1.0s
J28A **Allard Ranch,** 29.28 349 ⇑P P 22 49 57.1 +1.2
baz=30
L22A **Ellis Ranch, M** 29.29 341 ⇑P P 22 49 58.0 +1.8
baz=30
M20A **Sweetwater, Wa** 29.42 338 ⇑P P 22 49 58.9 +1.6
baz=30
L21A **Rawlins** 29.54 339 ⇓P P 22 49 59.5 +1.1
baz=30,SNR=7.9
J26A **Sides Ranch, S** 29.55 346 ⇑P P 22 49 59.3 +0.9
baz=30
EDW2 **Edwards Air Fo** 29.57 317 ⇓P P 22 50 00.3 +1.7
baz=30
DAU **Daniels Canyon** 29.76 333 eP P 22 50 02.9 +2.4
I28A **Midland** 29.82 349 ⇓P P 22 50 01.2 +0.5
baz=30
FURC **Furnace Creek,** 29.84 321 ⇑P P 22 50 03.4 +2.5
baz=30
K22A **Casper** 29.88 341 ⇑P P 22 50 02.8 +1.4
baz=30,SNR=6.0
BRSD **Miller** 29.92 353 eP P 22 50 01.9 +0.4
30nm,0.9s
BRSD **Miller** 29.92 353 ⇑P P 22 50 01.4 -0.1
baz=30
L20A **Wamsutter** 29.92 338 ⇑P P 22 50 02.8 +1.0
baz=30
MPMC **Manual Prospec** 29.97 319 ⇓P P 22 50 03.9 +1.6
baz=30,SNR=9.9
I27A **Quinn** 30.06 348 ⇓P P 22 50 03.6 +0.9
baz=30
K21A **Alcova** 30.10 340 ⇑P P 22 50 04.1 +0.8
baz=30
DUG **Dugway** 30.30 330 ⇑P P 22 50 06.6 +1.5
baz=30
ISA **Isabella** 30.36 318 ⇑P P 22 50 07.4 +1.8
baz=30
R11A **Troy Canyon, C** 30.37 325 eP P 22 50 07.8 +2.1
5.9nm,1.1s
R11A **Troy Canyon, C** 30.37 325 ⇓P P 22 50 07.4 +1.6
baz=30,SNR=7.8
M17A **Scullys Gap (B** 30.37 335 ⇓P P 22 50 07.4 +1.6
baz=31
I25A **Rochford** 30.38 346 ⇑P P 22 50 06.9 +1.1
baz=31
SPMN **St. Paul** 30.39 1 eP P 22 50 04.7 -1.0
35nm,0.9s
SPMN **St. Paul** 30.39 1 ⇓P P 22 50 04.9 -0.8
baz=31
L18A **Fontenelle, Gr** 30.50 336 ⇓P P 22 50 08.6 +1.7
baz=31
GRAC **Grapevine Rang** 30.50 321 ⇑P P 22 50 09.5 +2.7
baz=31
H27A **Howes** 30.60 348 ⇓P P 22 50 08.6 +1.0
baz=31
H26A **Fairpoint** 30.73 347 ⇑P P 22 50 10.0 +1.3
baz=31
J21A **Lysite** 30.80 340 ⇓P P 22 50 10.8 +1.3
baz=31,SNR=14
PKM **Peak Mountain** 30.81 315 ⇑P P 22 50 12.3 +2.6
baz=31
K19A **Absolon Red Bu** 30.82 338 ⇑P P 22 50 10.2 +0.5
baz=31,SNR=5.2
G28A **Parade** 30.82 350 ⇑P P 22 50 10.8 +1.3
baz=31
VES **Vestal, Richgr** 30.86 317 ⇓P P 22 50 12.7 +2.8
baz=31
HWUT **Hardware Ranch** 30.86 334 eP P 22 50 11.3 +1.2
7.1nm,1.1s
HWUT ePcP PcP 22 53 06.3 -0.2
H25A **Fruitdale** 30.91 346 ⇑P P 22 50 12.2 +1.8
baz=31
BGU **Big Grassy Mou** 30.98 331 eP P 22 50 12.8 +1.8
12nm,1.4s
I22A **9 Mile Ranch,** 31.00 342 ⇑P P 22 50 12.6 +1.4
baz=31
BW06 **Boulder Array** 31.03 337 eP P 22 50 12.6 +1.0
6.2nm,1.2s
PDAR **Pinedale Array** 31.03 337 P P 22 50 12.7 +1.0
PDAR PcP PcP 22 53 06.7 -0.3
PDAR **Pinedale Array** 31.03 337 P P 22 50 12.7 +1.0
1.6nm,0.9s,baz=139,slow=12,SNR=8.4
PDAR PcP PcP 22 53 06.7 -0.3
1.4nm,1.0s,baz=88,slow=4.6,SNR=3.7
PDAR LR LR 23 05 39.4
comp=Z,190nm,19.8s,baz=161,slow=42
I21A **Big Trails, Te** 31.17 341 ⇓P P 22 50 13.6 +0.8
baz=31
H24A **Dirks Ranch, A** 31.26 345 ⇓P P 22 50 14.6 +1.1
baz=32
J19A **Crowheart** 31.28 338 ⇓P P 22 50 15.2 +1.5
baz=32
G27A **Dupree** 31.30 349 ⇓P P 22 50 14.2 +0.5
baz=32
G25A **Newell** 31.42 347 ⇑P P 22 50 15.9 +1.2
baz=32
NNA **Nana** 31.44 147 LR LR 23 00 22.0
comp=Z,184nm,21.5s,baz=332,slow=32
COWI **Conover** 31.51 6 eP P 22 50 13.8 -1.7
6.7nm,0.9s
HVU **Hansel Valley** 31.54 332 eP P 22 50 18.4 +2.4
16nm,1.1s
I20A **Worland** 31.56 340 ⇓P P 22 50 17.0 +0.8
baz=32,SNR=11
H22A **Clearmont** 31.60 343 ⇓P P 22 50 17.7 +1.2
baz=32
F27A **Lemmon** 31.79 349 ⇑P P 22 50 18.2 +0.2
baz=32
H21A **Big Horn, Sher** 31.83 342 ⇓P P 22 50 19.4 +0.9
baz=32
F26A **Lodgepole** 31.89 348 ⇓P P 22 50 19.8 +0.9
baz=32
G23A **Biddle** 31.90 344 ⇑P P 22 50 20.0 +0.9
baz=32,SNR=9.0
NV11 **Mina Array Sit** 31.90 322 eP P 22 50 20.7 +1.5
ELK **Elko** 31.92 328 eP P 22 50 21.6 +2.2
10nm,0.9s
I19A **Meeteetse** 31.93 339 ⇑P P 22 50 21.0 +1.5
baz=32,SNR=16
E30A **Jud** 31.95 353 ⇑P P 22 50 19.4 +0.1
baz=32
NVAR **Mina Array Bea** 31.99 322 P P 22 50 22.2 +2.1
NVAR PcP PcP 22 53 10.8 +1.2
NVAR **Mina Array Bea** 31.99 322 P P 22 50 22.2 +2.1
18nm,1.0s,baz=142,slow=8.7,SNR=72
NVAR PcP PcP 22 53 10.8 +1.2
2.2nm,0.8s,baz=118,slow=4.1,SNR=5.1
NVAR LR LR 23 04 33.6
comp=Z,763nm,18.9s,baz=51,slow=39
H20A **Greybull** 32.00 341 ⇓P P 22 50 20.8 +0.8
baz=32,SNR=9.8
REDW **Red Top Meadow** 32.03 336 eP P 22 50 22.2 +1.8
41nm,1.4s
SNOW **Snow King Moun** 32.08 336 eP P 22 50 23.0 +2.1
17nm,0.8s
F25A **Bowman** 32.12 347 ⇓P P 22 50 21.9 +0.9
baz=32
LOHW **Long Hollow** 32.15 337 eP P 22 50 23.4 +2.0
40nm,1.6s
G22A **Birney** 32.15 343 ⇓P P 22 50 21.9 +0.6
baz=32,SNR=6.6
TPAW **Teton Pass** 32.18 336 eP P 22 50 23.9 +2.1
16nm,1.1s
RRI2 **Red Ridge** 32.20 336 eP P 22 50 23.6 +1.6
26nm,1.4s
E27A **Carson** 32.25 350 ⇑P P 22 50 23.4 +1.4
baz=32
E28A **Huff** 32.25 351 ⇓P P 22 50 22.9 +0.9
baz=32
F24A **Ekalaka** 32.27 346 ⇓P P 22 50 23.6 +1.4
baz=32
MOOW **Moose Ponds** 32.32 337 eP P 22 50 24.8 +1.9
25nm,1.6s
F23A **Volborg** 32.38 345 ⇓P P 22 50 23.6 +0.3
baz=33,SNR=9.6
I17A **Pilgrim Ck.** 32.40 337 ⇓P P 22 50 25.8 +2.1
baz=33
G21A **Lodge Grass** 32.42 342 ⇓P P 22 50 25.0 +1.3
baz=33
E26A **Carlson Angus** 32.45 349 ⇓P P 22 50 23.9 +0.1
baz=33,SNR=11
H19A **Powell** 32.49 340 ⇓P P 22 50 25.2 +0.9
baz=33,SNR=13
D30A **Buchanan** 32.53 354 ⇑P P 22 50 24.8 +0.3
baz=33
FLWY **Flagg Ranch** 32.59 337 eP P 22 50 25.7 +0.5
E25A **Miller Ranch,** 32.66 348 ⇑P P 22 50 27.0 +1.3
baz=33
I16A **Newdale** 32.71 336 ⇑P P 22 50 28.0 +1.7
baz=33
WAKR **Walker** 32.72 321 eP P 22 50 29.2 +2.7
G20A **Bridger** 32.72 341 ⇓P P 22 50 26.7 +0.4
baz=33,SNR=11
H18A **Shoshone NF, C** 32.72 339 ⇑P P 22 50 27.6 +1.1
baz=33,SNR=45
BMN **Battle Mountai** 32.73 326 eP P 22 50 28.9 +2.4
14nm,1.1s
D28A **Regan** 32.84 352 ⇓P P 22 50 28.1 +1.0
baz=33
E24A **Baker** 32.91 347 ⇓P P 22 50 28.9 +1.1
baz=33,SNR=7.1
F21A **Absaloka Mine,** 32.94 343 ⇑P P 22 50 29.5 +1.3
baz=33
RLMT **Red Lodge** 32.98 340 eP P 22 50 29.8 +1.1
71nm,1.8s
D26A **Manning** 32.98 349 ⇓P P 22 50 29.7 +1.3
baz=33
CMB **Columbia Colle** 33.01 320 eP P 22 50 30.7 +1.8
107nm,2.8s
C30A **Mose, Pekin** 33.09 354 ⇑P P 22 50 30.0 +0.6
baz=33
E22A **Miles City** 33.19 345 ⇓P P 22 50 30.9 +0.6
baz=33,SNR=8.0
F20A **Billings** 33.23 342 ⇑P P 22 50 31.7 +1.0
baz=34,SNR=5.9
G18A **Lazy EL Ranch,** 33.25 340 ⇓P P 22 50 32.1 +1.1
baz=34,SNR=13
D25A **Fairfield** 33.26 348 ⇓P P 22 50 32.2 +1.3
baz=34
H16A **Russell Place,** 33.32 337 ⇓P P 22 50 34.1 +2.4
baz=34
C28A **Hausauer Farms** 33.32 352 ⇑P P 22 50 31.8 +0.5
baz=34
MDND **Maddock** 33.35 353 ⇑P P 22 50 32.0 +0.3
baz=34
D24A **Glendive** 33.44 347 ⇓P P 22 50 34.4 +2.0
baz=34
PAHR **Pah Rah Range** 33.46 323 eP P 22 50 35.4 +2.5
C27A **Sayler Ranch,** 33.48 351 ⇑P P 22 50 34.3 +1.5
baz=34
LAO **LASA Array** 33.49 344 eP P 22 50 33.5 +0.5
24nm,1.4s
QLMT **Earthquake Lak** 33.50 337 eP P 22 50 36.0 +2.8
AGMN **Agassiz Nation** 33.50 358 eP P 22 50 32.1 -0.8
24nm,0.9s
E21A **Keefer Ranch,** 33.59 343 ⇓P P 22 50 35.3 +1.6
baz=34
G17A **Pierce Place,** 33.66 338 ⇓P P 22 50 36.3 +1.8
baz=34
HLID **Hailey** 33.69 333 eP P 22 50 36.5 +1.7
9.8nm,1.0s
HLID **Hailey** 33.69 333 ⇑P P 22 50 36.2 +1.4
baz=34,SNR=8.1
C26A **Wahner Farm, P** 33.69 350 ⇓P P 22 50 35.8 +1.2
baz=34
GCMT **Greycliff** 33.70 340 eP P 22 50 35.6 +0.7
14nm,1.0s
C25A **Freed Ranch, W** 33.79 349 ⇓P P 22 50 36.7 +1.2
baz=34
B30A **Myrvik Farm, E** 33.81 355 ⇓P P 22 50 36.7 +1.0
baz=34
F18A **Big Timber** 33.82 340 ⇓P P 22 50 37.0 +1.2
baz=34,SNR=16
E20A **Meyer Farm, Mu** 33.85 342 ⇑P P 22 50 37.0 +0.9
baz=34,SNR=7.8
C24A **Savage** 33.85 347 ⇓P P 22 50 37.1 +1.1
baz=34,SNR=5.4
D22A **Cohagen** 33.91 345 ⇓P P 22 50 37.4 +0.9
baz=34,SNR=22
B29A **Wagenman Farm,** 33.93 353 ⇓P P 22 50 36.9 +0.2
baz=34,SNR=7.4
E19A **Rath Farm, Rou** 34.01 341 ⇑P P 22 50 38.5 +1.0
baz=34,SNR=13
B28A **Dugan Ranch, T** 34.04 352 ⇓P P 22 50 38.1 +0.5
baz=34,SNR=7.3
D21A **La Casta Ranch** 34.05 344 ⇑P P 22 50 38.9 +1.2
baz=34,SNR=6.3
MCMT **McKenzie Canyo** 34.05 336 eP P 22 50 39.2 +1.2
8.5nm,1.1s
B27A **Peters Farms,** 34.12 351 ⇓P P 22 50 40.0 +1.7
baz=34
BEKR **Beckworth** 34.13 322 eP P 22 50 40.0 +1.2
4.2nm,1.0s
F17A **Fitzpatrick Pl** 34.14 339 ⇓P P 22 50 40.0 +1.3
baz=34,SNR=30
MFID **Camas Ranch** 34.22 331 ⇑P P 22 50 41.4 +2.0
baz=34
BOZ **Bozeman (W)** 34.27 338 eP P 22 50 40.9 +1.1
9.4nm,1.1s
BOZ ePP PP 22 51 59.0 +1.3
C23A **Lambert** 34.28 346 ⇓P P 22 50 40.7 +0.9
baz=34,SNR=11
A30A **Hoffart Farm,** 34.30 355 ⇑P P 22 50 40.0 +0.1
baz=35,SNR=5.2
B25A **Knox Farm, Ray** 34.31 349 ⇓P P 22 50 41.4 +1.4
baz=35
A29A **Manning Farm,** 34.37 354 ⇓P P 22 50 41.0 +0.6
baz=35
D20A **Manuel Ranch,** 34.39 343 ⇓P P 22 50 41.8 +1.1
baz=35,SNR=7.0
DLMT **Dillon** 34.39 336 eP P 22 50 43.5 +2.6
42nm,1.4s
C22A **Vida** 34.39 346 ⇑P P 22 50 42.2 +1.5
baz=35,SNR=23
E18A **Harlowton** 34.47 340 ⇑P P 22 50 42.8 +1.3
baz=35,SNR=14
A28A **Rude Farm, Bot** 34.48 352 ⇑P P 22 50 42.3 +0.8
baz=35
D19A **Cripps Ranch,** 34.67 342 ⇑P P 22 50 44.2 +1.0
baz=35,SNR=15
E17A **Martinsdale** 34.69 339 ⇑P P 22 50 44.9 +1.4
baz=35
DGMT **Dagmar** 34.70 348 eP P 22 50 44.9 +1.5
21nm,0.9s
DGMT **Dagmar** 34.70 348 ⇓P P 22 50 44.0 +0.6
baz=35
A26A **Wade Farm, Ken** 34.72 350 ⇓P P 22 50 44.0 +0.5
baz=35
LRM **Limekiln Ridge** 34.72 337 eP P 22 50 45.9 +2.1
C21A **Desert Coulee** 34.77 344 ⇑P P 22 50 45.3 +1.3
baz=35,SNR=7.3
B23A **Brockton** 34.86 347 ⇑P P 22 50 46.5 +1.7
baz=35
WVOR **Wild Horse Val** 34.90 327 eP P 22 50 46.5 +1.2
20nm,1.1s
WVOR ePcP PcP 22 53 19.2 +1.6
C20A **Veseth Ranch,** 34.91 343 ⇓P P 22 50 46.3 +1.1
baz=35,SNR=7.4
B22A **Reddig Ranch S** 34.94 346 ⇑P P 22 50 47.1 +1.7
baz=35
A25A **Svangstu Ranch** 34.94 349 ⇓P P 22 50 46.9 +1.4
baz=35
D18A **Linhart Farms,** 34.99 341 ⇑P P 22 50 47.1 +1.2
baz=35,SNR=11
A24A **Westby** 35.09 348 ⇑P P 22 50 48.5 +1.7
baz=35
C19A **Slack Wire Ran** 35.23 342 ⇑P P 22 50 49.0 +0.9
baz=36,SNR=6.0
HRY **Holter Researc** 35.25 338 eP P 22 50 50.0 +1.8
A23A **Redstone** 35.31 347 ⇑P P 22 50 50.2 +1.6
baz=36
B21A **Ellsworth Farm** 35.31 345 ⇑P P 22 50 50.1 +1.5
baz=36
ULM **Lac du Bonnet** 35.45 358 eP P 22 50 48.2 -1.6
10nm,0.8s
ULM **Lac du Bonnet** 35.45 358 P P 22 50 48.2 -1.6
11nm,0.8s,baz=180,slow=10,SNR=12
ULM LR LR 23 07 48.8
comp=Z,318nm,18.9s,baz=63,slow=40
A22A **Carney Farms,** 35.57 346 ⇑P P 22 50 52.2 +1.4
baz=36
C17A **Wharram Farm,** 35.68 340 ⇑P P 22 50 52.6 +0.7
baz=36,SNR=15
EGMT **Eagleton** 35.71 342 eP P 22 50 53.8 +1.7
31nm,1.1s
EGMT **Eagleton** 35.71 342 ⇓P P 22 50 53.0 +0.9
baz=36,SNR=10
A21A **Bergtoll Ranch** 35.81 345 ⇑P P 22 50 54.1 +1.2
baz=36,SNR=6.9
B19A **Brinkman Farms** 35.85 343 ⇑P P 22 50 54.3 +1.0
baz=36,SNR=14
CHMT **Chamberlain Mo** 35.94 337 eP P 22 50 55.4 +1.2
A20A **Cobblestone Ra** 35.96 344 ⇑P P 22 50 55.8 +1.6
baz=36
BMO **Blue Mountains** 36.00 331 eP P 22 50 55.2 +0.5
5.2nm,1.1s
BMO ePcP PcP 22 53 21.2 +0.4
B18A **Beardsley Farm** 36.04 342 ⇑P P 22 50 55.6 +0.7
baz=36,SNR=5.8
MSO **Missoula** 36.13 336 eP P 22 50 57.2 +1.5
9.7nm,1.0s
MSO **Missoula** 36.13 336 ⇑P P 22 50 56.9 +1.1
baz=36,SNR=5.8
A19A **Klindworth Far** 36.23 343 ⇑P P 22 50 58.2 +1.7
baz=36
B17A **L&G Farms, Che** 36.27 341 ⇓P P 22 50 58.4 +1.5
baz=36
A18A **Metzger Ranch,** 36.53 342 ⇓P P 22 51 00.2 +1.0
baz=37
YBH **Yreka Blue Hor** 36.70 323 P P 22 50 59.9 -0.7
YBH **Yreka Blue Hor** 36.70 323 P P 22 50 59.9 -0.7
1.9nm,0.6s,baz=125,slow=8.2,SNR=6.1
SWMT **Swartz Lake** 36.72 337 eP P 22 51 02.1 +1.3
KHMM **Horse Mountain** 36.78 321 eP P 22 51 04.0 +2.5
135nm,2.2s
JTMT **Jette** 37.02 337 eP P 22 51 04.9 +1.5
SAML **Samuel** 38.44 126 eP P 22 51 11.9 -3.7
5.9nm,0.8s
SAML ePP PnPn 22 52 45.4 -0.6
SAML PcP PcP 22 53 27.7 -0.9
NEW **Newport** 38.56 335 eP P 22 51 17.9 +1.6
4.2nm,0.8s
NEW **Newport** 38.56 335 ⇓P P 22 51 16.9 +0.7
baz=39
LON **Longmire** 39.54 330 eP P 22 51 26.0 +1.5
8.2nm,0.9s
LPAZ **La Paz** 39.94 140 eP P 22 51 27.8 -1.0
LPAZ **La Paz** 39.94 140 P P 22 51 27.7 -1.1
1.4nm,0.7s,baz=327,slow=6.3,SNR=6.7
LPAZ LR LR 23 06 05.9
comp=Z,138nm,18.5s,baz=254,slow=34
FFC **Flin Flon** 40.40 353 eP P 22 51 33.3 +1.8
20nm,1.0s
NLWA **Neilton Lookou** 41.01 329 eP P 22 51 38.5 +1.9
152nm,2.5s
EDM **Edmonton** 41.37 342 eP P 22 51 40.7 +1.1
PGC **Sidney** 41.66 330 eP P 22 51 43.3 +1.4
1.5nm,0.6s
PGC epP pP 22 52 11.2 +20
SIV **San Ignacio** 44.50 132 LR LR 23 10 32.8
comp=Z,326nm,18.9s,slow=36
SCHQ **Schefferville** 45.17 22 LR LR 23 15 13.2
comp=Z,658nm,18.1s,baz=237,slow=42
YKA **Yellowknife Ar** 49.91 348 P P 22 52 47.3 +0.5
YKA **Yellowknife Ar** 49.91 348 P P 22 52 47.3 +0.5
17nm,0.8s,baz=149,slow=7.2,SNR=56
YKW3 **Yellowknife Ar** 49.97 348 eP P 22 52 47.6 +0.4
0.5nm,1.0s
DLBC **Dease Lake** 51.26 337 eP P 22 52 58.6 +1.4
CFAA **Coronel Fontan** 52.22 152 P P 22 53 03.6 -1.1
CFAA **Coronel Fontan** 52.22 152 P P 22 53 03.6 -1.1
0.5nm,0.6s,baz=331,slow=7.4,SNR=10.0
CFAA LR LR 23 10 30.1
comp=Z,18nm,18.4s,baz=1.6,slow=31
CPUP **Villa Florida** 54.10 139 P P 22 53 16.5 -2.0
CPUP **Villa Florida** 54.10 139 P P 22 53 16.5 -2.0
1.9nm,0.7s,baz=299,slow=7.6,SNR=6.4

CPUP LR LR 23 17 06.4
comp=Z,141nm,18.4s,baz=97,slow=37
BDFB Brasilia 54.42 122 P **P 22 53 19.9 -1.2**
BDFB Brasilia 54.42 122 P **P 22 53 19.9 -1.2**
9.9nm,0.7s,baz=269,slow=8.2,SNR=18
RKT Rikitea 55.11 228 *e*LR LR 23 09 31.2
412nm,28.5s
INK Inuvik 59.23 344 *e*P **P 22 53 54.7 +0.4**
22nm,1.4s
INK Inuvik 59.23 344 P **P 22 53 55.0 +0.7**
9.1nm,0.8s,baz=132,slow=9.3,SNR=9.7
INK LR LR 23 22 53.2
comp=Z,367nm,19.6s,baz=244,slow=39
PLCA Paso Flores 59.27 160 LR LR 23 13 16.8
comp=Z,103nm,20.2s,baz=46,slow=30
ILAR Eielson Array 61.46 337 P **P 22 54 10.0 +0.3**
ILAR Eielson Array 61.46 337 P **P 22 54 10.0 +0.3**
8.4nm,0.9s,baz=140,slow=4.1,SNR=55
ILAR LR LR 23 22 49.9
comp=Z,255nm,18.4s,baz=325,slow=38
MCK McKinley 61.78 336 *e*P **P 22 54 13.0 +1.1**
22nm,1.1s
COLA College 61.88 337 *e*P **P 22 54 11.9 -0.5**
59nm,1.0s
SPU Mount Spurr 62.09 332 *e*P **P 22 54 14.9 +0.9**
TRF Thorofare Moun 62.21 335 *e*P **P 22 54 15.3 +0.4**
26nm,1.0s
BPAW Bear Paw Mtn. 62.76 335 *e*P **P 22 54 18.6 +0.1**
12nm,0.9s
PPLA Purkeypile 62.79 334 *e*P **P 22 54 19.6 +0.8**
33nm,1.4s
PPT Papeete 63.66 242 LR LR 23 15 05.3
comp=Z,148nm,18.8s,baz=13,slow=30
PPT2 Papeete2 63.67 242 *e*LR LR 23 13 22.3
235nm,27.2s
COLD Coldfoot 63.80 339 *e*P **P 22 54 26.9 +1.7**
12nm,1.1s
SUMG Summit 66.00 16 *i* P **P 22 54 40.5 +0.6**
21nm,0.8s
SUMG Summit 66.00 16 *e*P **P 22 54 39.8 -0.1**
32nm,0.9s
TBI Tubuai 66.28 236 *e*LR LR 23 14 38.5
272nm,32.2s
DAG Danmarks Havn 72.36 14⇑ *i*P **P 22 55 18.7 -0.1**
10nm,0.8s
DAG *i* 22 55 27.0
ATKA Atka Island 72.60 321 *e*P **P 22 55 18.7 -1.9**
4μm,0.9s
EVOP Sao Brissos 77.66 53 *e*P **P 22 55 48.8 -1.3**
EVO Evora 77.75 53 *e*P **P 22 55 48.8 -1.8**
27nm,1.4s
EVO *e*R
231nm,19.8s
SPITS Spitsbergen Ar 79.71 11 LR LR 23 32 57.8
comp=Z,393nm,20.9s,baz=245,slow=37
ESDC Sonseca Array 80.65 51 P **P 22 56 06.2 -0.4**
ESDC Sonseca Array 80.65 51 P **P 22 56 06.2 -0.4**
3.1nm,0.9s,baz=291,slow=5.2,SNR=18
GRR Gorron 81.08 42 *e*P **P 22 56 08.9 +0.4**
GRR Gorron 81.08 42 *e*P **P 22 56 08.9 +0.4**
FLN La Foliniere 81.24 42 *e*P **P 22 56 08.1 -1.3**
51nm,1.1s
FLN *e*R
401nm,21.5s
FLN La Foliniere 81.24 42 *e*P **P 22 56 08.1 -1.3**
MFF Saint Martin d 81.93 44 *e*P **P 22 56 12.5 -0.6**
MFF Saint Martin d 81.93 44 *e*P **P 22 56 12.5 -0.6**
ETSF Etsaut 82.47 48 *e*P **P 22 56 16.0 -0.1**
16nm,1.2s
ETSF Etsaut 82.47 48 *e*P **P 22 56 16.0 -0.1**
LFF La Frestale 82.92 46 *e*P **P 22 56 17.0 -1.3**
LFF La Frestale 82.92 46 *e*P **P 22 56 17.0 -1.3**
EPF Esparros 83.09 47 *e*P **P 22 56 18.9 -0.4**
10nm,0.9s
EPF Esparros 83.09 47 *e*P **P 22 56 18.9 -0.4**
RJF Les Rejaudoux 83.36 45 *e*P **P 22 56 20.0 -0.6**
14nm,0.9s
RJF *e*R
241nm,21.5s
RJF Les Rejaudoux 83.36 45 *e*P **P 22 56 20.0 -0.6**
TCF Toulx Ste Croi 83.59 44 *e*P **P 22 56 21.7 -0.1**
58nm,1.5s
TCF Toulx Ste Croi 83.59 44 *e*P **P 22 56 21.7 -0.1**
CAF Calviac 83.83 45 *e*P **P 22 56 22.4 -0.7**
4.4nm,0.7s
CAF Calviac 83.83 45 *e*P **P 22 56 22.4 -0.7**
BAIF Baives 83.91 40 *e*P **P 22 56 24.0 +0.8**
45nm,1.3s
BAIF Baives 83.91 40 *e*P **P 22 56 24.0 +0.8**
BGF Bois d'Agland 83.95 44 *e*P **P 22 56 22.9 -0.7**
27nm,0.8s
BGF Bois d'Agland 83.95 44 *e*P **P 22 56 22.9 -0.7**
DOU Dourbes 84.14 40 P **P 22 56 24.6 +0.1**
comp=Z,13nm,2.8s
AVF Avril sur Loir 84.22 43 *e*P **P 22 56 23.9 -1.1**
comp=Z,12nm,0.8s
AVF Avril sur Loir 84.22 43 *e*P **P 22 56 23.9 -1.1**
NAO01 NORSAR Array S 84.25 28 *e*P **P 22 56 25.1 +0.3**
comp=Z,10nm,0.9s
SSF Saint Saulge 84.25 43 *e*P **P 22 56 24.3 -0.8**
comp=Z,12nm,0.8s
SSF Saint Saulge 84.25 43 *e*P **P 22 56 24.3 -0.8**
NB2 NORSAR Subarra 84.33 28 P **P 22 56 26.5 +1.2**
comp=Z,1.5nm,0.8s,baz=296,slow=5.3
NOA NORSAR Array B 84.33 28 P **P 22 56 26.9 +1.7**
NOA NORSAR Array B 84.33 28 P **P 22 56 26.9 +1.7**
comp=Z,12nm,0.8s,baz=298,slow=5.3,SNR=6.0
NOA LR LR 23 32 59.1
comp=Z,154nm,20.5s,baz=285,slow=35
MTLF Montolieu 84.34 47 *e*P **P 22 56 25.2 -0.4**
comp=Z,16nm,1.1s
MTLF Montolieu 84.34 47 *e*P **P 22 56 25.2 -0.4**
LOR Lormes 84.43 43 *e*P **P 22 56 25.6 -0.4**
comp=Z,20nm,1.1s
LOR *e*R
comp=Z,273nm,22.8s
LOR Lormes 84.43 43 *e*P **P 22 56 25.6 -0.4**
BCLA Clavier 84.48 39 P **P 22 56 26.8 +0.6**
comp=Z,20nm,2.3s
SMF Signal de Mont 84.59 43 *e*P **P 22 56 26.0 -0.8**
comp=Z,11nm,1.0s
SMF Signal de Mont 84.59 43 *e*P **P 22 56 26.0 -0.8**
HGN Heimansgroeve 84.77 39 *e*P **P 22 56 28.2 +0.6**
comp=Z,26nm,1.2s
MEM Membach 84.86 39 P **P 22 56 29.2 +1.1**
comp=Z,8.6nm,1.2s
MEZF Maizieres J'vi 84.86 41 *e*P **P 22 56 28.0 -0.1**
MEZF Maizieres J'vi 84.86 41 *e*P **P 22 56 28.0 -0.1**
WTSB Winterswijk 84.94 38 *e*P **P 22 56 28.8 +0.4**
comp=Z,35nm,0.9s
SFTF Sexfontaines 84.94 42 *e*P **P 22 56 28.3 -0.3**
SFTF Sexfontaines 84.94 42 *e*P **P 22 56 28.3 -0.3**
WLF Walferdange 85.22 40 P **P 22 56 31.3 +1.3**
comp=Z,14nm,1.7s
PAGF Fort de Pagny 85.28 41 *e*P **P 22 56 30.3 +0.1**
comp=Z,16nm,1.3s
PAGF Fort de Pagny 85.28 41 *e*P **P 22 56 30.3 +0.1**
LASF Ste Croix 85.30 46 *e*P **P 22 56 30.5 +0.1**
comp=Z,15nm,1.1s
LASF Ste Croix 85.30 46 *e*P **P 22 56 30.5 +0.1**
VIVF Saint-Julien-l 85.64 45 *e*P **P 22 56 32.4 +0.2**
comp=Z,30nm,1.2s
VIVF Saint-Julien-l 85.64 45 *e*P **P 22 56 32.4 +0.2**
HFS Hagfors 85.81 29 P **P 22 56 33.9 +1.3**
HFS Hagfors 85.81 29 P **P 22 56 33.9 +1.3**
comp=Z,7.9nm,0.8s,baz=259,slow=0.8,SNR=8.5
HAU Haudompre 85.84 42 *e*P **P 22 56 32.8 -0.3**
comp=Z,40nm,0.9s
HAU *e*R
comp=Z,237nm,22.2s
HAU Haudompre 85.84 42 *e*P **P 22 56 32.8 -0.3**
ARCES ARCESS Array B 85.98 18 P **P 22 56 33.9 +0.5**
ARCES ARCESS Array B 85.98 18 P **P 22 56 33.9 +0.5**
comp=Z,2.6nm,0.7s,baz=320,slow=3.6,SNR=6.8
ARCES LR LR 23 35 33.9
comp=Z,216nm,19.2s,baz=321,slow=36
CABF La Chapelle 86.08 43 *e*P **P 22 56 34.1 -0.3**
comp=Z,16nm,1.0s
CABF La Chapelle 86.08 43 *e*P **P 22 56 34.1 -0.3**
HINF Hinteralfeld 86.22 42 *e*P **P 22 56 34.5 -0.5**
comp=Z,18nm,0.8s
HINF Hinteralfeld 86.22 42 *e*P **P 22 56 34.5 -0.5**
ECH Echery 86.29 41 *e*P **P 22 56 35.8 +0.4**
comp=Z,9.1nm,0.8s
ECH Echery 86.29 41 *e*P **P 22 56 35.6 +0.3**
CDF Champ du Feu 86.31 41 *e*P **P 22 56 35.1 -0.4**
comp=Z,18nm,0.9s
CDF Champ du Feu 86.31 41 *e*P **P 22 56 35.1 -0.4**
LOMF Lomont 86.34 42 *e*P **P 22 56 36.0 +0.3**
MOF Molkenrain 86.39 41 *e*P **P 22 56 36.0 +0.1**
ORIF Oris-en-Rattie 86.44 45 *e*P **P 22 56 36.3 +0.1**
comp=Z,30nm,1.2s
ORIF *e*R
comp=Z,266nm,22.0s
ORIF Oris-en-Rattie 86.44 45 *e*P **P 22 56 36.3 +0.1**
LANF Langenberg 86.46 40 *e*P **P 22 56 36.8 +0.7**
SMRF Simiane la Rot 86.51 46 *e*P **P 22 56 36.9 +0.4**
comp=Z,25nm,0.9s
SMRF Simiane la Rot 86.51 46 *e*P **P 22 56 36.9 +0.4**
LPL La Plagne 86.84 44 *e*P **P 22 56 37.7 -0.6**
comp=Z,6.2nm,0.9s
LPL La Plagne 86.84 44 *e*P **P 22 56 37.7 -0.6**
LPG La Plagne 86.86 44 *e*P **P 22 56 38.9 +0.4**
LPG La Plagne 86.86 44 *e*P **P 22 56 38.9 +0.4**
BNI Bardonecchia 86.94 44 *e*P **P 22 56 39.6 +0.9**
SENIN Lac Senin/Sane 86.95 43 *e*P **P 22 56 40.1 +1.3**
MBDF Montbardon 87.11 45 *e*P **P 22 56 39.6 +0.1**
comp=Z,20nm,0.8s
MBDF Montbardon 87.11 45 *e*P **P 22 56 39.6 +0.1**
TIC Toumodi 87.19 84 *e*P **P 22 56 39.9 -0.4**
comp=Z,36nm,0.9s
LIC Lamto 87.29 84 *e*P **P 22 56 40.6 -0.2**
comp=Z,39nm,1.0s,baz=282
LIC Lamto 87.29 84 *e*P **P 22 56 40.4 -0.4**
comp=Z,53nm,1.0s
LIC Lamto 87.29 84 *e*P **P 22 56 40.6 -0.2**
DBIC Dimbokro 87.34 84 *e*P **P 22 56 41.2 +0.2**
DBIC Dimbokro 87.34 84 P **P 22 56 41.2 +0.2**
comp=Z,8.1nm,0.8s,baz=290,slow=2.8,SNR=7.5
LMR La Mourre 87.35 46 *e*P **P 22 56 40.3 -0.2**
comp=Z,42nm,1.1s
LMR La Mourre 87.35 46 *e*P **P 22 56 40.3 -0.2**
FRF La Foret Royal 87.38 46 *e*P **P 22 56 40.3 -0.4**
comp=Z,29nm,1.0s
FRF La Foret Royal 87.38 46 *e*P **P 22 56 40.3 -0.4**
KIC Kosan Boka 87.53 84 *e*P **P 22 56 41.6 -0.4**
comp=Z,42nm,1.0s
TUE Stuetta 88.26 42 *e*P **P 22 56 45.8 +0.7**
GRF Grafenberg Arr 88.33 39 *e*P **P 22 56 45.6 +0.5**
comp=Z,63nm,2.2s
GRF *e*L L 23 32 56.4
comp=Z,184nm,21.9s
DAVA Damuels 88.33 41⇓ *i*P **P 22 56 45.7 +0.4**
comp=Z,14nm,1.1s
DAVOX Davos/Dischmat 88.50 42 P **P 22 56 46.6 +0.3**
DAVOX Davos/Dischmat 88.50 42 P **P 22 56 46.6 +0.3**
comp=Z,3.7nm,0.8s,baz=284,slow=3.0,SNR=5.3
CLL Collm 88.80 37 *e*P **P 22 56 47.0 -0.2**
comp=Z,7.0nm,1.0s
CLL *e* 22 56 59.0
CLL LmV 23 36 00.0
comp=Z,200nm,20.0s
RETA Reutte 88.82 41⇓ *i*P **P 22 56 48.0 +0.4**
comp=Z,8.3nm,1.0s
FETA Feichten 88.97 41⇑ *i*P **P 22 56 48.7 +0.4**
comp=Z,5.7nm,0.9s
MOTA Moosalm 89.09 41⇑ *i*P **P 22 56 49.3 +0.4**
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 89.51 37 *i* P **P 22 56 51.3 +0.7**
comp=Z,9.5nm,1.1s
KHC Kasperske Hory 89.97 39 *i* P **P 22 56 53.5 +0.7**
KHC *e*pP **pP 22 57 01.9 -1.5**
KHC AMS AMS 23 37 30.0
comp=Z,300nm,20.9s
KHC Kasperske Hory 89.97 39 *e*P **P 22 56 53.8 +1.0**
PVCC Panska Ves 90.01 37 *e*P **P 22 56 54.0 +1.1**
PVCC AMS AMS 23 38 10.0
comp=Z,400nm,22.7s
GERES GERESS Array B 90.15 39 P **P 22 56 54.5 +0.7**
GERES GERESS Array B 90.15 39 P **P 22 56 54.5 +0.7**
comp=Z,3.3nm,0.9s,baz=316,slow=3.7,SNR=27
GERES LR LR 23 34 00.2
comp=Z,265nm,21.3s,baz=306,slow=33
ABTA Abfaltersbach 90.20 41⇑⇑ *i*P **P 22 56 54.4 +0.4**
comp=Z,7.1nm,1.0s
PRU Pruhonice 90.21 38 *i* P **P 22 56 54.4 +0.5**
PRU AMS AMS 23 38 00.0
comp=Z,100nm,18.5s
FINES FINESS Array B 90.57 25 P **P 22 56 56.9 +1.6**
FINES FINESS Array B 90.57 25 P **P 22 56 56.9 +1.6**
comp=Z,2.2nm,0.8s,baz=264,slow=5.4,SNR=4.9
FINES LR LR 23 36 44.1
comp=Z,134nm,21.2s,baz=323,slow=35
KBA Koelnbreinsper 90.61 41⇑ *i*P **P 22 56 56.3 +0.2**
comp=Z,3.7nm,1.0s
UPC Upice 90.86 37 *e*P **P 22 56 57.9 +1.0**
TREC Trest 91.05 38 *e*P **P 22 56 58.1 +0.2**
TREC AMS AMS 23 40 20.0
comp=Z,200nm,17.3s
DPC Dobruska-Polom 91.11 37 *i* P **P 22 56 58.9 +0.8**
DPC AMS AMS 23 39 10.0
DPC Dobruska-Polom 91.11 37 *e*P **P 22 56 59.0 +0.9**
CONA Conrad Observa 91.84 39⇓ *i*P **P 22 57 02.2 +0.6**
comp=Z,3.6nm,0.9s
KEST Kesra 91.86 52 LR LR 23 37 07.8
comp=Z,49nm,18.8s,baz=232,slow=35
OKC Ostrava-Krasne 92.39 37 *e*P **P 22 57 04.7 +0.7**
OKC AMS AMS 23 41 20.0
SMOL Smolenice 92.54 38 *e*P **P 22 57 06.7 +1.9**
VYHS Vyhne 93.39 38 *e*P **P 22 57 09.5 +0.8**
KECS Kecovo 94.37 37 *e*P **P 22 57 14.0 +0.8**
STHS Stebnicka Huta 94.37 36 *e*P **P 22 57 15.3 +2.1**
CRVS Cervenica-Dubn 94.74 37 *e*P **P 22 57 16.1 +1.2**
KWP Kalwaria Pacla 95.10 36 *e*P **P 22 57 17.4 +0.9**
comp=Z,5.5nm,0.7s
KOLS Kolonicke sedl 95.20 36 *e*P **P 22 57 17.9 +0.9**
AKASG Malin Array Be 98.07 33 LR LR 23 45 07.6
comp=Z,182nm,18.2s,baz=250,slow=37
DZM Mont Dzumac 104.25 251 *e*LR LR 23 32 14.2
comp=Z,208nm,25.6s
ZALV Zalesovo Beam 111.58 1 PP PP 23 03 06.6 -1.5
ZALV Zalesovo Beam 111.58 1 PP PP 23 03 06.6 -1.5
comp=Z,0.3nm,0.3s,baz=26,slow=7.0,SNR=4.1
CN2 Changchun 111.58 330 *e*PKP **PKiKP 23 02 27.5 -0.4**
KURK Kurchatov 114.49 5 PKP PKPdf 23 02 33.0 -0.3
KURBB Kurchatov Arra 114.57 5 PKP PKPdf 23 02 33.0 -0.4
comp=Z,0.6nm,0.8s,baz=341,slow=1.5,SNR=7.5
MKAR Makanchi Array 118.65 3 PKP **PKPdf 23 02 40.6 -0.9**
MKAR PP **PP 23 03 53.8 -4.2**
MKAR Makanchi Array 118.65 3 PKP **PKPdf 23 02 40.6 -0.9**
comp=Z,0.6nm,0.7s,baz=3.4,slow=2.2,SNR=6.5
MKAR PP **PP 23 03 53.8 -4.2**
comp=Z,1.4nm,1.0s,baz=19,slow=4.9,SNR=5.2
HHC Hu-ho-hao-te 119.88 338 *e*PKP **PKPdf 23 02 43.3 -0.8**
HHC PP **PP 23 04 09.5 +2.6**
HHC SS SS 23 20 28.0 -1.6
HHC AMB AMB
comp=Z,280nm,8.5s
WMQ Urumqi 121.70 359 *e*PKP **PKPdf 23 02 48.0 +0.5**
BOSA Boshof 122.28 115 PKP **PKPdf 23 02 48.5 -0.5**
BOSA Boshof 122.28 115 PKP **PKPdf 23 02 48.5 -0.5**
comp=Z,3.8nm,0.8s,baz=270,slow=10,SNR=3.2
NJ2 Nanjing 123.91 326 *e*PKP **PKPdf 23 02 51.5 -0.4**
GTA Gaotai 124.64 347 PKP **PKPdf 23 02 53.0 -0.4**
KSH Kashi 125.19 10 *e*PKP **PKPdf 23 02 55.5 +1.1**
CD2 Chengdu 131.56 340 *e*PKP **PKPdf 23 03 05.5 -1.2**
CD2 PP **PP 23 05 29.0 +4.4**
CD2 AMB AMB
comp=Z,120nm,10.2s
WRA Warramunga Arr 133.85 256 PKP **PKPdf 23 03 10.2 -0.9**
WRA Warramunga Arr 133.85 256 PKP **PKPdf 23 03 10.2 -0.9**
comp=Z,1.2nm,0.8s,baz=85,slow=2.0,SNR=7.0
ASAR Alice Springs 134.23 251 PKP **PKPdf 23 03 09.7 -2.1**
ASAR Alice Springs 134.23 251 PKP **PKPdf 23 03 09.7 -2.1**
comp=Z,0.6nm,0.7s,baz=100,slow=0.8,SNR=5.7
GYA Guiyang 134.45 334 *e*Pdif **Pdif 23 00 09.0 -3.5**
GYA PKP **PKPdf 23 03 10.3 -2.0**
GYA PP **PP 23 05 46.5 +3.2**
GYA AMB AMB
comp=Z,90nm,7.6s
KMI Kunming 137.21 338 PKP **PKPdf 23 03 17.3 -0.3**
KMI PP **PP 23 06 04.8 +4.1**
KMI AMB AMB
comp=Z,89nm,7.0s
KMI LR LR
comp=N,230nm,8.6s
KMI LR LR
comp=E,290nm,16.3s
KMI LR LR
comp=Z,340nm,17.8s
CHTO Chiang Mai 144.36 339 *e*PKPdf **PKPab 23 03 27.2 -1.2**
CMAR Chiang Mai Arr 144.69 339 PKP **PKPab 23 03 29.8 +0.2**
CMAR Chiang Mai Arr 144.69 339 PKP **PKPab 23 03 29.8 +0.2**
comp=Z,10.0nm,1.0s,baz=347,slow=4.0,SNR=47
HYB Hyderabad 147.17 13 *i* PKP **PKPab 23 03 39.0 0.0**
KSM Kuching 151.18 302 *e*PKPdf **PKPdf 23 03 44.7 +3.0**

SKHL 26 22:47:45.6±1.4, 52°.63N×143°.59E, h10km, mb4.0/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.00**	**337**	*i* Pg	Pn	22 48 07.8	+2.1
OKH				AMB	AMB	22 48 08.1	
300nm,0.3s							
OKH				*e*Sg	Sn	22 48 23.8	+3.9
OKH				A	A	22 48 24.0	
700nm,0.6s							
OKH				A	A	22 48 24.0	
600nm,0.6s							
NKL	**Nikolayevsk**	**1.84**	**288**	*e*Pg	Pg	22 48 22.5	+1.7
NKL				AMB	AMB	22 48 23.5	
21nm,0.5s							
NKL				*e*Sg	Sg	22 48 49.0	+4.4
NKL				A	A	22 48 50.5	
70nm,0.5s							
TYV	**Tymovskoe**	**1.86**	**199**	*e*Pg	Pg	22 48 23.0	+1.7
TYV				AMB	AMB	22 48 25.5	
8.0nm,0.5s							
TYV				*e*Sg	Sg	22 48 48.0	+2.6
EKMR	**Ekimchan**	**6.46**	**278**	*e*Pg	Pg	22 49 53.2	+3.9
EKMR				AMB	AMB	22 49 56.5	
4.0nm,0.5s							
EKMR				*e*Sg	Sg	22 51 21.0	+8.0
EKMR				A	A	22 51 21.8	
7.0nm,0.6s							
EKMR				A	A	22 51 21.8	
4.0nm,0.6s							
EKMR				A	A	22 51 21.8	
3.0nm,0.6s							

---

*DDA **26** 22:56:33.5, 37°.67N×36°.17E, h7km, MD3.2, ML3.3*
*ISK **26** 22:56:33.3, 37°.69N×36°.20E, h4km, MD3.5*
*CSEM **26** 22:56:34.0±0.1, 37°.68N×36°.19E, h2km, ML3.3, Error ellipse: s-maj=3.2km s-min=2.7km az=163.0*
ISC 26 22:56:34.3±1.0, 37°.68N±0°.02×36°.18E±0°.02, h5km±11km, n68, σ0°70/85, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.17**	**129**	*i* P	**Pg**	**22 56 37.2**	**-0.4**
ANDN				*i* S	**Sg**	**22 56 40.0**	**+0.2**
ANDN	**Andirin**	**0.17**	**129**	*i* P	**Pg**	**22 56 37.2**	**-0.4**
ANDN				*i* S	**Sg**	**22 56 40.0**	**+0.2**
KOZT	**Kozan**	**0.35**	**235**	PG	**Pg**	**22 56 41.1**	**+0.1**
KOZT				SG	**Sg**	**22 56 47.0**	**+1.4**
KOZT	**Kozan**	**0.35**	**235**	*i* Pg	**Pg**	**22 56 41.1**	**+0.1**
KOZT				*i* Sg	**Sg**	**22 56 47.0**	**+1.4**
AYKD	**Aykdinkavak**	**0.56**	**118**	*i* P	**Pg**	**22 56 44.6**	**-0.5**
AYKD				*i* S	**Sg**	**22 56 52.2**	**-0.2**
KMRS	**Kahramanmaras**	**0.60**	**107**	PG	**Pg**	**22 56 45.3**	**-0.4**
KMRS				SG	**Sg**	**22 56 53.8**	**+0.3**
KMRS	**Kahramanmaras**	**0.60**	**107**	*i* Pg	**Pg**	**22 56 45.3**	**-0.4**
KMRS				*i* Sg	**Sg**	**22 56 53.8**	**+0.3**
CEYT	**Ceyhan**	**0.76**	**207**	*e*PG	**Pg**	**22 56 48.6**	**-0.2**
CEYT	**Ceyhan**	**0.76**	**207**	*e*Pg	**Pg**	**22 56 48.6**	**-0.2**
KARA	**Karaisali**	**0.99**	**245**	*e*PG	**Pg**	**22 56 52.2**	**-1.1**
KARA				*e*SG	**Sb**	**22 57 07.1**	**-0.2**
KARA	**Karaisali**	**0.99**	**245**	*e*Pg	**Pg**	**22 56 52.2**	**-1.1**
KARA				*e*Sg	**Sb**	**22 57 07.1**	**-0.2**
PINB	**Pinarbasi**	**1.01**	**10**	*i* P	**Pg**	**22 56 52.9**	**-0.7**
PINB	**Pinarbasi**	**1.01**	**10**	*i* P	**Pg**	**22 56 52.9**	**-0.7**
GZT	**Gaziantep**	**1.15**	**106**	*i* P	**Pg**	**22 56 55.6**	**-0.6**
KUZU	**Kuzuini**	**1.15**	**142**	*i* P	**Pg**	**22 56 55.9**	**-0.5**
KUZU				*i* S	**Sb**	**22 57 12.3**	**+0.3**
KUZU	**Kuzuini**	**1.15**	**142**	*i* P	**Pg**	**22 56 55.9**	**-0.5**
KUZU				*i* S	**Sb**	**22 57 12.3**	**+0.3**
GULE	**Gulek**	**1.19**	**251**	*i* P	**Pg**	**22 56 55.5**	**-1.5**
GULE				*i* S	**Sb**	**22 57 13.9**	**+0.8**
GULE	**Gulek**	**1.19**	**251**	*i* P	**Pg**	**22 56 55.5**	**-1.5**
GULE				*i* S	**Sb**	**22 57 13.9**	**+0.8**
BNN	**Bunyan**	**1.20**	**347**	*e*PN	**Pg**	**22 56 56.0**	**-1.2**
BNN	**Bunyan**	**1.20**	**347**	*e*Pn	**Pg**	**22 56 56.0**	**-1.2**
DARE	**Darende-Malaty**	**1.35**	**49**	*e*PN	**Pn**	**22 56 59.5**	**-0.4**
AKCD	**Akcadag**	**1.50**	**65**	*i* P	**Pg**	**22 57 03.1**	**0.0**
AKCD				*i* S	**Sg**	**22 57 24.9**	**+2.3**
AKCD	**Akcadag**	**1.50**	**65**	*i* P	**Pg**	**22 57 03.1**	**0.0**
AVNT	**Avonos**	**1.51**	**317**	*i* P	**Pn**	**22 57 02.1**	**-0.1**
AVNT				*i* S	**Sg**	**22 57 23.6**	**+0.6**
AVNT	**Avonos**	**1.51**	**317**	*i* P	**Pn**	**22 57 02.1**	**-0.1**
AVNT				*i* S	**Sg**	**22 57 23.6**	**+0.6**
HTY	**Hatay**	**1.56**	**181**	*e*PN	**Pn**	**22 57 02.8**	**+0.2**
HTY	**Hatay**	**1.56**	**181**	*e*Pn	**Pn**	**22 57 02.8**	**+0.2**
YAYL	**Yayladag**	**1.65**	**182**	*i* P	**Pn**	**22 57 03.5**	**-0.4**
YAYL	**Yayladag**	**1.65**	**182**	*i* P	**Pn**	**22 57 03.5**	**-0.4**
ATAB	**Bozova**	**1.69**	**97**	*i* P	**Pn**	**22 57 03.6**	**-0.9**
ATAB				*i* S	**Sg**	**22 57 29.6**	**+1.1**
ATAB	**Bozova**	**1.69**	**97**	*i* P	**Pn**	**22 57 03.6**	**-0.9**
MALT	**Malatya**	**1.88**	**70**	*e*PN	**Pn**	**22 57 07.5**	**+0.4**
MALT	**Malatya**	**1.88**	**70**	*e*Pn	**Pn**	**22 57 07.6**	**+0.4**
YOZ	**Yozgat**	**2.07**	**341**	*e*PN	**Pn**	**22 57 09.8**	**0.0**
YOZ	**Yozgat**	**2.07**	**341**	*e*Pn	**Pn**	**22 57 09.8**	**0.0**
SULT	**Sultanhani-AKS**	**2.17**	**285**	*e*PN	**Pn**	**22 57 11.6**	**+0.5**
SULT	**Sultanhani-AKS**	**2.17**	**285**	*e*Pn	**Pn**	**22 57 11.6**	**+0.5**
SVSK	**Karacayir**	**2.32**	**16**	*e*PN	**Pn**	**22 57 13.4**	**+0.3**
SVSK	**Karacayir**	**2.32**	**16**	*e*Pn	**Pn**	**22 57 13.4**	**+0.3**
KEMA	**Kemaliye**	**2.41**	**48**	*i* P	**Pn**	**22 57 14.6**	**+0.2**
KEMA	**Kemaliye**	**2.41**	**48**	*i* P	**Pn**	**22 57 14.6**	**+0.2**
IKL	**Isikli**	**2.47**	**235**	*e*PN	**Pn**	**22 57 15.6**	**+0.5**
IKL	**Isikli**	**2.47**	**235**	*e*Pn	**Pn**	**22 57 15.6**	**+0.5**
KAMT	**Kaman**	**2.57**	**312**	*e*PN	**Pn**	**22 57 17.1**	**+0.5**
KAMT	**Kaman**	**2.57**	**312**	*e*Pn	**Pn**	**22 57 17.1**	**+0.5**
ILIC	**ilic-Erzincan**	**2.57**	**46**	*e*PN	**Pn**	**22 57 16.9**	**+0.2**
ILIC	**ilic-Erzincan**	**2.57**	**46**	*e*Pn	**Pn**	**22 57 16.9**	**+0.2**
TOKT	**Tokat**	**2.65**	**6**	*e*PN	**Pn**	**22 57 18.2**	**+0.6**
TOKT	**Tokat**	**2.65**	**6**	*e*Pn	**Pn**	**22 57 18.2**	**+0.6**
CORM	**Corum**	**2.77**	**335**	*e*PN	**Pn**	**22 57 19.8**	**+0.4**
CORM	**Corum**	**2.77**	**335**	*e*Pn	**Pn**	**22 57 19.8**	**+0.4**
PTK	**Pertek**	**2.80**	**63**	*e*PN	**Pn**	**22 57 20.3**	**+0.4**
PTK	**Pertek**	**2.80**	**63**	*e*Pn	**Pn**	**22 57 20.3**	**+0.4**
ERMK	**Ermenek**	**2.81**	**249**	*i* P	**Pb**	**22 57 23.9**	**-1.2**
RSDY	**Resadiye-TOKAT**	**2.85**	**18**	*e*PN	**Pn**	**22 57 20.8**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.85**	**18**	*e*Pn	**Pn**	**22 57 20.8**	**+0.3**
AFSR	**Af´ar-Bala (A**	**3.01**	**307**	*e*PN	**Pn**	**22 57 23.3**	**+0.6**
AFSR	**Af´ar-Bala (A**	**3.01**	**307**	*e*Pn	**Pn**	**22 57 23.3**	**+0.6**
HDMB	**Hadim**	**3.03**	**257**	*e*PN	**Pn**	**22 57 23.6**	**+0.6**
HDMB	**Hadim**	**3.03**	**257**	*e*Pn	**Pn**	**22 57 23.7**	**+0.6**
KONT	**Konya--Tatoy**	**3.04**	**276**	*e*PN	**Pn**	**22 57 23.8**	**+0.8**
KONT	**Konya--Tatoy**	**3.04**	**276**	*e*Pn	**Pn**	**22 57 23.8**	**+0.8**
DIY	**Diyarbakir**	**3.21**	**85**	*e*PN	**Pn**	**22 57 26.1**	**+0.7**
DIY	**Diyarbakir**	**3.21**	**85**	*e*Pn	**Pn**	**22 57 26.1**	**+0.7**
LOD	**Lodumlu**	**3.46**	**311**	*e*PN	**Pn**	**22 57 29.8**	**+0.9**
LOD	**Lodumlu**	**3.46**	**311**	*e*Pn	**Pn**	**22 57 29.8**	**+0.9**
KIZT	**Kizilcal**	**3.59**	**291**	*e*PN	**Pn**	**22 57 31.5**	**+0.8**
KIZT	**Kizilcal**	**3.59**	**291**	*e*Pn	**Pn**	**22 57 31.5**	**+0.8**

IDC 26 22:59:30.0±6.4, 15°.30S×173°.08W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/19, mbtmp3.9/2, Error ellipse: s-maj=327.4km s-min=25.1km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**42**	Pn	Pn	23 00 02.5	-1.0
32nm,0.3s,baz=124,slow=1.7,SNR=24							
AFI				Sn	Sn	23 00 21.8	-6.2
93nm,0.3s,baz=112,slow=22,SNR=8.7							
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	23 08 27.3	-0.6
0.6nm,0.5s,baz=91,slow=6.8,SNR=15							
ASAR	**Alice Springs**	**50.43**	**252**	P	P	23 08 29.3	-0.6
1.6nm,0.6s,baz=86,slow=7.9,SN

*CSEM **26** 23:01:15.8, 44°.33N×10°.86E, h30km, MD2.1/7, After ROM*
*ISCJB **26** 23:01:16.5±1.3, 44°.33N±0°.05×10°.86E±0°.06, h29km±9km, Error ellipse: s-maj=9.1km s-min=5.6km az=33.1*
*GEN **26** 23:01:16.8, 44°.37N×10°.88E, h12km, ML1.3*

ISC 26 23:01:17.0±1.2, 44°.33N±0°.04×10°.84E±0°.04, h25km±7km, n19, σ0°55/38, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	**Zocca**	**0.10**	**79**	Pg	**Pb**	**23 01 21.3**	**-0.4**
ZCCA				Sg	**Sb**	**23 01 25.9**	**+1.1**
	120nm,2.9s						
ZCCA	**Zocca**	**0.10**	**79**	Pg	**Pb**	**23 01 21.3**	**-0.4**
ZCCA				Sg	**Sb**	**23 01 25.9**	**+1.1**
	120nm,2.9s						
GSCL	**Gusciola**	**0.18**	**276**	Pg	**Pb**	**23 01 21.6**	**-0.8**
GSCL				Sg	**Sb**	**23 01 25.9**	**-0.2**
	1.0nm,0.3s						
GSCL	**Gusciola**	**0.18**	**276**	Pg	**Pb**	**23 01 21.6**	**-0.8**
GSCL				Sg	**Sb**	**23 01 25.9**	**-0.2**
	1.0nm,0.3s						
PZZT	**Monte Pizzetto**	**0.20**	**175**	Pg	**Pb**	**23 01 22.3**	**-0.4**
PZZT				Sg	**Sb**	**23 01 26.7**	**+0.1**
	95nm,0.3s						
PZZT	**Monte Pizzetto**	**0.20**	**175**	Pg	**Pb**	**23 01 22.3**	**-0.4**
PZZT				Sg	**Sb**	**23 01 26.7**	**+0.1**
	95nm,0.3s						
FNVD	**Fontana Vidola**	**0.26**	**128**	Pg	**Pb**	**23 01 22.8**	**-0.7**
FNVD				Sg	**Sb**	**23 01 27.7**	**-0.2**
	241nm,0.3s						
FNVD	**Fontana Vidola**	**0.26**	**128**	Pg	**Pb**	**23 01 22.8**	**-0.7**
FNVD				Sg	**Sb**	**23 01 27.7**	**-0.2**
	241nm,0.3s						
ERBM	**Eremo**	**0.32**	**286**	Pg	**Pb**	**23 01 24.0**	**-0.3**
ERBM				Sg	**Sb**	**23 01 30.3**	**+1.0**
	75nm,1.9s						
ERBM	**Eremo**	**0.32**	**286**	Pg	**Pb**	**23 01 24.0**	**-0.3**
ERBM				Sg	**Sb**	**23 01 30.3**	**+1.0**
	75nm,1.9s						
BDI	**Bagni Di Lucca**	**0.32**	**213**	Pg	**Pb**	**23 01 23.9**	**-0.4**
BDI				Sg	**Sb**	**23 01 29.7**	**+0.4**
BDI	**Bagni Di Lucca**	**0.32**	**213**	Pg	**Pb**	**23 01 23.9**	**-0.4**
BDI				Sg	**Sb**	**23 01 29.7**	**+0.4**
VALM	**Valbona**	**0.42**	**273**	P	**Pb**	**23 01 25.4**	**-0.5**
VALM				S	**Sb**	**23 01 31.6**	**-0.4**
MAIM	**Mastiano**	**0.48**	**211**	Pg	**Pb**	**23 01 26.7**	**-0.2**
MAIM				Sg	**Sb**	**23 01 34.2**	**+0.6**
MAIM	**Mastiano**	**0.48**	**211**	Pg	**Pb**	**23 01 26.7**	**-0.2**
MAIM				Sg	**Sb**	**23 01 34.2**	**+0.6**
MAIM	**Mastiano**	**0.48**	**211**	P	**Pb**	**23 01 26.7**	**-0.2**
MAIM				S	**Sb**	**23 01 33.7**	**+0.1**
BACM	**Baccana**	**0.55**	**265**	P	**Pb**	**23 01 27.8**	**-0.2**
BACM				S	**Sb**	**23 01 35.4**	**-0.2**
GRAM	**Graiana**	**0.57**	**286**	P	**Pb**	**23 01 28.0**	**-0.5**
GRAM				S	**Sb**	**23 01 35.9**	**-0.4**
CODM	**Codolo**	**0.71**	**275**	P	**Pn**	**23 01 31.9**	**+0.4**
CODM				S	**Sn**	**23 01 41.4**	**-0.2**

IDC 26 23:09:33.9±3.2, 1°.30S×134°.95E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=150.3km s-min=26.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.54**	**182**	P	P	23 13 51.5	-0.7
	0.2nm,0.3s,baz=0.5,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**22.26**	**183**	P	P	23 14 32.8	+0.1
	0.5nm,0.6s,baz=7.2,slow=12,SNR=9.8						
MKAR	**Makanchi Array**	**66.41**	**323**	P	P	23 20 25.0	+0.1
	0.2nm,0.7s,baz=138,slow=6.7,SNR=2.6						

*CSEM **26** 23:18:28.6±0.1, 42°.58N×13°.18E, h5km, ML3.6/13, Ms3.0, Error ellipse: s-maj=1.6km s-min=1.3km az=67.0*
*ISCJB **26** 23:18:28.0±0.2, 42°.58N±0°.02×13°.17E±0°.02, h14km±2km, Error ellipse: s-maj=2.7km s-min=2.4km az=141.9*
*ROM **26** 23:18:28.3±0.1, 42°.58N×13°.19E, h10km, Ml3.1/38, Error ellipse: s-maj=0.8km s-min=0.6km az=69.0*
*VIE **26** 23:18:29.7±0.3, 42°.63N×13°.26E, h10km, mb2.6/11, ML2.8/10, Ms3.0/1, Error ellipse: s-maj=2.9km s-min=2.2km az=79.0 104 km NE of Rome*
*PRU **26** 23:18:30.2, 42°.55N×13°.57E, h9km*
*LDG **26** 23:18:31.4±0.3, 42°.60N×13°.16E, h10km, Ml2.8/6, Error ellipse: s-maj=13.0km s-min=7.4km az=54.0*

ISC 26 23:18:28.7±0.8, 42°.58N±0°.01×13°.17E±0°.01, h12km±5km, n137, σ1°.04/196, 8C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.10**	**283**	Pg	**Pg**	**23 18 31.5**	**-0.2**
LNSS				Sg	**Sg**	**23 18 33.7**	**-0.1**
	27µm,0.3s						
LNSS	**Leonessa**	**0.10**	**283**	Pg	**Pg**	**23 18 31.5**	**-0.2**
LNSS				Sg	**Sg**	**23 18 33.7**	**-0.1**
	27µm,0.3s						
CAMP	**Campotosto**	**0.18**	**104**	Pg	**Pg**	**23 18 32.7**	**-0.1**
CAMP				Sg	**Sg**	**23 18 35.3**	**-0.3**
	4µm,0.4s						
CAMP	**Campotosto**	**0.18**	**104**	Pg	**Pg**	**23 18 32.7**	**-0.1**
CAMP				Sg	**Sg**	**23 18 35.3**	**-0.3**
	4µm,0.4s						
NRCA	**Norcia**	**0.26**	**350**	Pg	**Pg**	**23 18 33.9**	**-0.2**
NRCA				Sg	**Sg**	**23 18 38.0**	**+0.3**
	4µm,0.2s						
NRCA	**Norcia**	**0.26**	**350**	Pg	**Pg**	**23 18 33.9**	**-0.2**
NRCA				Sg	**Sg**	**23 18 38.0**	**+0.3**
	4µm,0.2s						
AQU	**L'Aquila**	**0.28**	**143**	Pg	**Pg**	**23 18 34.5**	**0.0**
AQU				Sg	**Sg**	**23 18 39.2**	**+0.8**
	4µm,0.9s						
AQU	**L'Aquila**	**0.28**	**143**	Pg	**Pg**	**23 18 34.5**	**0.0**
AQU				Sg	**Sg**	**23 18 39.2**	**+0.8**
	4µm,0.9s						
FIAM	**Fiamignano**	**0.32**	**188**	Pg	**Pg**	**23 18 35.1**	**0.0**
FIAM				Sg	**Sg**	**23 18 40.1**	**+0.7**
FIAM	**Fiamignano**	**0.32**	**188**	Pg	**Pg**	**23 18 35.1**	**0.0**
FIAM				Sg	**Sg**	**23 18 40.1**	**+0.7**
TERO	**Teramo**	**0.32**	**82**	Pg	**Pg**	**23 18 34.8**	**-0.4**
TERO				Sg	**Sg**	**23 18 39.6**	**+0.1**
	3µm,0.5s						
TERO	**Teramo**	**0.32**	**82**	Pg	**Pg**	**23 18 34.8**	**-0.4**
TERO				Sg	**Sg**	**23 18 39.6**	**+0.1**
	3µm,0.5s						
MNS	**Montasola**	**0.41**	**242**	Pg	**Pg**	**23 18 36.9**	**0.0**
MNS				Sg	**Sg**	**23 18 43.4**	**+1.0**
	1µm,0.3s						
MNS	**Montasola**	**0.41**	**242**	Pg	**Pg**	**23 18 36.9**	**0.0**
MNS				Sg	**Sg**	**23 18 43.4**	**+1.0**
	1µm,0.3s						
FAGN	**Fagnano**	**0.44**	**136**	Pg	**Pg**	**23 18 37.1**	**-0.2**
FAGN				Sg	**Sg**	**23 18 43.8**	**+0.7**
	2µm,0.4s						
FAGN	**Fagnano**	**0.44**	**136**	Pg	**Pg**	**23 18 37.1**	**-0.2**
FAGN				Sg	**Sg**	**23 18 43.8**	**+0.7**
	2µm,0.4s						
CESX	**Cesi**	**0.44**	**274**	Pg	**Pg**	**23 18 37.1**	**-0.3**
CESX				Sg	**Sg**	**23 18 44.1**	**+0.9**
	1µm,0.3s						
CESX	**Cesi**	**0.44**	**274**	Pg	**Pg**	**23 18 37.1**	**-0.3**
CESX				Sg	**Sg**	**23 18 44.1**	**+0.9**
	1µm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**352**	Pg	**Pg**	**23 18 37.5**	**-0.3**
FDMO				Sg	**Sg**	**23 18 44.6**	**+0.7**
	669nm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**352**	Pg	**Pg**	**23 18 37.5**	**-0.3**
FDMO				Sg	**Sg**	**23 18 44.6**	**+0.7**
	669nm,0.3s						
CESI	**CESI - Serrava**	**0.47**	**335**	Pg	**Pg**	**23 18 37.8**	**-0.1**
CESI				Sg	**Sb**	**23 18 45.1**	**-0.7**
	362nm,0.3s						
CESI	**CESI - Serrava**	**0.47**	**335**	Pg	**Pg**	**23 18 37.8**	**-0.1**
CESI				Sg	**Sb**	**23 18 45.1**	**-0.7**
	362nm,0.3s						
OFFI	**Offida**	**0.52**	**47**	Pg	**Pg**	**23 18 39.1**	**+0.3**
	2µm,0.5s						
OFFI	**Offida**	**0.52**	**47**	Pg	**Pg**	**23 18 39.1**	**+0.3**
	2µm,0.5s						
VCEL	**Villa Celiera**	**0.53**	**110**	Pg	**Pg**	**23 18 39.1**	**+0.1**
VCEL				Sg	**Sg**	**23 18 46.2**	**+0.2**
	3µm,1.0s						
VCEL	**Villa Celiera**	**0.53**	**110**	Pg	**Pg**	**23 18 39.1**	**+0.1**
VCEL				Sg	**Sg**	**23 18 46.2**	**+0.2**
	3µm,1.0s						
PTQR	**Pietraquaria**	**0.58**	**163**	Pg	**Pg**	**23 18 39.6**	**-0.4**
	67nm,0.3s						
PTQR	**Pietraquaria**	**0.58**	**163**	Pg	**Pg**	**23 18 39.6**	**-0.4**
	67nm,0.3s						
TRTR	**Tortoreto Alta**	**0.59**	**67**	Pg	**Pg**	**23 18 40.1**	**-0.1**
	2µm,0.5s						
TRTR	**Tortoreto Alta**	**0.59**	**67**	Pg	**Pg**	**23 18 40.1**	**-0.1**
	2µm,0.5s						
MTCE	**Montecelio**	**0.64**	**210**	Pg	**Pg**	**23 18 40.5**	**-0.6**
MTCE				Sg	**Sb**	**23 18 51.1**	**+0.4**
	633nm,0.4s						
MTCE	**Montecelio**	**0.64**	**210**	Pg	**Pg**	**23 18 40.5**	**-0.6**
MTCE				Sg	**Sb**	**23 18 51.1**	**+0.4**
	633nm,0.4s						
CERT	**Cerreto**	**0.65**	**193**	Pg	**Pg**	**23 18 40.5**	**-0.7**
CERT				Sg	**Sb**	**23 18 50.8**	**-0.1**
	1µm,0.5s						
CERT	**Cerreto**	**0.65**	**193**	Pg	**Pg**	**23 18 40.5**	**-0.7**
CERT				Sg	**Sb**	**23 18 50.8**	**-0.1**
	1µm,0.5s						
SNTG	**Esanatoglia**	**0.70**	**346**	Pg	**Pg**	**23 18 41.6**	**-0.6**
	148nm,0.3s						
SNTG	**Esanatoglia**	**0.70**	**346**	Pg	**Pg**	**23 18 41.6**	**-0.6**
	148nm,0.3s						
GUMA	**Gualdo di Mace**	**0.74**	**49**	Pg	Pg	23 18 38.6	-4.4
GUMA				Sg	Sg	23 18 45.9	-6.8
	4µm,0.6s						
VVLD	**Villa Vallelon**	**0.78**	**155**	Pg	**Pb**	**23 18 44.2**	**0.0**
	367nm,0.7s						
VVLD	**Villa Vallelon**	**0.78**	**155**	Pg	**Pb**	**23 18 44.2**	**0.0**
	367nm,0.7s						
INTR	**Introdacqua**	**0.79**	**136**	Pg	**Pg**	**23 18 42.9**	**-1.0**
	735nm,0.7s						
INTR	**Introdacqua**	**0.79**	**136**	Pg	**Pg**	**23 18 42.9**	**-1.0**
	735nm,0.7s						
GUAR	**Guarcino**	**0.79**	**173**	Pg	**Pb**	**23 18 44.3**	**-0.1**
GUAR	**Guarcino**	**0.79**	**173**	Pg	**Pb**	**23 18 44.3**	**-0.1**
CING	**Cingoli**	**0.80**	**1**	Pg	**Pg**	**23 18 43.3**	**-0.8**
	396nm,0.4s						
CING	**Cingoli**	**0.80**	**1**	Pg	**Pg**	**23 18 43.3**	**-0.8**
	396nm,0.4s						
MURB	**Monte Urbino**	**0.83**	**325**	Pg	**Pg**	**23 18 44.3**	**-0.5**
	942nm,0.4s						
MURB	**Monte Urbino**	**0.83**	**325**	Pg	**Pg**	**23 18 44.3**	**-0.5**
	942nm,0.4s						
RMP	**Rome, Mte Porz**	**0.84**	**205**	Pg	**Pg**	**23 18 45.1**	**+0.1**
	657nm,0.4s						
RMP	**Rome, Mte Porz**	**0.84**	**205**	Pg	**Pg**	**23 18 45.1**	**+0.1**
	657nm,0.4s						
MGAB	**Montegabbione**	**0.85**	**293**	Pg	**Pg**	**23 18 44.7**	**-0.4**
	643nm,0.5s						
MGAB	**Montegabbione**	**0.85**	**293**	Pg	**Pg**	**23 18 44.7**	**-0.4**
	643nm,0.5s						
RDP	**Rocca di Papa**	**0.89**	**203**	Pg	**Pg**	**23 18 45.2**	**-0.6**
	2µm,0.6s						
RDP	**Rocca di Papa**	**0.89**	**203**	Pg	**Pg**	**23 18 45.2**	**-0.6**
	2µm,0.6s						
LPEL	**Lama dei Pelig**	**0.92**	**125**	Pg	**Pg**	**23 18 45.0**	**-1.4**
	261nm,0.6s						
LPEL	**Lama dei Pelig**	**0.92**	**125**	Pg	**Pg**	**23 18 45.0**	**-1.4**
	261nm,0.6s						
ARVD	**Arcevia**	**0.93**	**350**	Pg	**Pg**	**23 18 45.8**	**-0.9**
	704nm,1.0s						
ARVD	**Arcevia**	**0.93**	**350**	Pg	**Pg**	**23 18 45.8**	**-0.9**
	704nm,1.0s						
POFI	**Posta Fibreno**	**0.95**	**155**	Pg	**Pb**	**23 18 47.1**	**0.0**
	250nm,0.7s						
POFI	**Posta Fibreno**	**0.95**	**155**	Pg	**Pb**	**23 18 47.1**	**0.0**
	250nm,0.7s						
SACS	**San Casciano d**	**0.97**	**287**	Pg	**Pb**	**23 18 46.9**	**-0.5**
	463nm,1.0s						
LATE	**Laterza**	**1.01**	**272**	Pg	**Pb**	**23 18 47.9**	**-0.2**
	518nm,0.4s						
LATE	**Laterza**	**1.01**	**272**	Pg	**Pb**	**23 18 47.9**	**-0.2**
	518nm,0.4s						
TOLF	**Tolfa**	**1.01**	**240**	Pg	**Pb**	**23 18 47.7**	**-0.4**
TOLF	**Tolfa**	**1.01**	**240**	Pg	**Pb**	**23 18 47.7**	**-0.4**
AOI	**Ancona**	**1.02**	**18**	Pg	**Pb**	**23 18 47.8**	**-0.4**
	231nm,0.5s						
AOI	**Ancona**	**1.02**	**18**	Pg	**Pb**	**23 18 47.8**	**-0.4**
	231nm,0.5s						
PIEI	**Pieia**	**1.06**	**334**	Pg	**Pb**	**23 18 48.1**	**-0.9**
	313nm,0.4s						
PIEI	**Pieia**	**1.06**	**334**	Pg	**Pb**	**23 18 48.1**	**-0.9**
	313nm,0.4s						
FSSB	**Fossombrone**	**1.15**	**345**	Pg	**Pb**	**23 18 49.8**	**-0.7**
	638nm,0.5s						
FSSB	**Fossombrone**	**1.15**	**345**	Pg	**Pb**	**23 18 49.8**	**-0.7**
	638nm,0.5s						
CAFI	**Castiglion Fio**	**1.16**	**311**	Pg	**Pb**	**23 18 50.6**	**-0.1**
	145nm,0.7s						
CAFI	**Castiglion Fio**	**1.16**	**311**	Pg	**Pb**	**23 18 50.6**	**-0.1**
	145nm,0.7s						
CERA	**Filignano**	**1.17**	**147**	Pg	**Pb**	**23 18 50.6**	**-0.1**
	466nm,1.1s						
CERA	**Filignano**	**1.17**	**147**	Pg	**Pb**	**23 18 50.6**	**-0.1**
	466nm,1.1s						
MIDA	**Miranda**	**1.23**	**139**	Pg	**Pn**	**23 18 50.9**	**-0.9**
	183nm,0.7s						
MIDA	**Miranda**	**1.23**	**139**	Pg	**Pn**	**23 18 50.9**	**-0.9**
	183nm,0.7s						
PARC	**Parchiule**	**1.27**	**328**	Pg	**Pb**	**23 18 52.5**	**0.0**
	243nm,0.9s						
PARC	**Parchiule**	**1.27**	**328**	Pg	**Pb**	**23 18 52.5**	**0.0**
	243nm,0.9s						
ARCI	**Arcidosso**	**1.28**	**283**	Pg	**Pb**	**23 18 52.8**	**0.0**
	68nm,0.8s						
ARCI	**Arcidosso**	**1.28**	**283**	Pg	**Pb**	**23 18 52.8**	**0.0**
	68nm,0.8s						
NVLJ	**Novalja**	**2.33**	**31**	*e*Pn	**Pn**	**23 19 07.7**	**+0.9**
NVLJ				Sn	**Sn**	**23 19 36.6**	**+1.1**
NVLJ	**Novalja**	**2.33**	**31**	*e*Pn	**Pn**	**23 19 07.7**	**+0.9**
NVLJ				Sn	**Sn**	**23 19 36.5**	**+1.1**
UDBI	**Udbina**	**2.71**	**43**	*e*Pn	**Pn**	**23 19 14.1**	**+2.0**
UDBI				Sn	**Sb**	**23 19 48.2**	**-2.1**
UDBI	**Udbina**	**2.71**	**43**	*e*Pn	**Pn**	**23 19 14.0**	**+2.0**
UDBI				Sn	**Sb**	**23 19 48.1**	**-2.1**
SKDS	**Skadanscina**	**3.03**	**11**	*i* Pn	**Pn**	**23 19 16.8**	**+0.4**
SKDS	**Skadanscina**	**3.03**	**11**	Pn	**Pn**	**23 19 16.8**	**+0.4**
PGF	**Pioggiola**	**3.08**	**271**	*e*Pn	**Pn**	**23 19 18.3**	**+1.1**
PGF	**Pioggiola**	**3.08**	**271**	*e*Pn	**Pn**	**23 19 18.3**	**+1.1**
BOJS	**Bojanci**	**3.28**	**26**	*i* Pn	**Pn**	**23 19 21.2**	**+1.3**
BOJS	**Bojanci**	**3.28**	**26**	*i* Pn	**Pn**	**23 19 21.2**	**+1.3**
STON	**Ston**	**3.35**	**83**	*e*Pn	**Pn**	**23 19 20.4**	**-0.4**
STON				Sn	**Sn**	**23 20 02.1**	**+1.7**
STON	**Ston**	**3.35**	**83**	*e*Pn	**Pn**	**23 19 20.3**	**-0.4**
STON				Sn	**Sn**	**23 20 02.0**	**+1.7**
VOY	**Vojsko**	**3.49**	**8**	*e*Pn	**Pn**	**23 19 24.2**	**+1.4**
VOY				*e*		23 19 28.3	
VOY				*e*Sn	**Sn**	**23 20 06.3**	**+2.2**
VOY	**Vojsko**	**3.49**	**8**	*e*Pn	**Pn**	**23 19 24.2**	**+1.4**
VOY				*e*Sn	**Sn**	**23 20 06.3**	**+2.2**
OBKA	**Obir**	**4.05**	**14**	⇑*i*Pn	**Pn**	**23 19 31.5**	**+1.0**
OBKA				⇓*i*Sn	**Sn**	**23 20 18.1**	**+0.2**
OBKA	**Obir**	**4.05**	**14**	Pn	**Pn**	**23 19 31.5**	**+1.0**
OBKA				Sn	**Sn**	**23 20 18.1**	**+0.2**
MYKA	**Terra Mystica**	**4.06**	**5**	⇑*i*Pn	**Pn**	**23 19 31.6**	**+0.9**
MYKA				⇓*i*Sn	**Sn**	**23 20 19.5**	**+1.3**
MYKA	**Terra Mystica**	**4.06**	**5**	Pn	**Pn**	**23 19 31.6**	**+0.9**
MYKA				Sn	**Sn**	**23 20 19.5**	**+1.3**
ABTA	**Abfaltersbach**	**4.19**	**354**	⇓*i*Pn	**Pn**	**23 19 33.6**	**+1.1**
ABTA				⇑*i*Sn	**Sn**	**23 20 23.5**	**+2.1**
ABTA	**Abfaltersbach**	**4.19**	**354**	Pn	**Pn**	**23 19 33.6**	**+1.1**
ABTA				Sn	**Sn**	**23 20 23.5**	**+2.1**
SBF	**Sospel**	**4.39**	**289**	*e*Pn	**Pn**	**23 19 36.3**	**+1.2**
SBF	**Sospel**	**4.39**	**289**	*e*Pn	**Pn**	**23 19 36.3**	**+1.2**
KBA	**Koelnbreinsper**	**4.50**	**1**	⇑*i*Pn	**Pn**	**23 19 37.5**	**+0.8**
KBA				⇓*i*Sn	**Sn**	**23 20 30.1**	**+1.0**
KBA	**Koelnbreinsper**	**4.50**	**1**	Pn	**Pn**	**23 19 37.5**	**+0.8**
KBA				Sn	**Sn**	**23 20 30.1**	**+1.0**
FETA	**Feichten**	**4.77**	**339**	⇑*i*Pn	**Pn**	**23 19 41.5**	**+1.1**
	SNR=5.2						
FETA				⇓*i*Sn	**Sn**	**23 20 37.7**	**+2.0**
FETA	**Feichten**	**4.77**	**339**	Pn	**Pn**	**23 19 41.5**	**+1.1**
	SNR=5.2						
FETA				Sn	**Sn**	**23 20 37.7**	**+2.0**
FRF	**La Foret Royal**	**4.88**	**284**	*e*Pn	**Pn**	**23 19 42.8**	**+1.0**
FRF	**La Foret Royal**	**4.88**	**284**	*e*Pn	**Pn**	**23 19 42.8**	**+1.0**
LMR	**La Mourre**	**4.95**	**281**	*e*Pn	**Pn**	**23 19 43.8**	**+1.0**
LMR				*e*Sn	**Sn**	**23 20 38.2**	**-1.7**
	2.2nm,0.4s						
LMR	**La Mourre**	**4.95**	**281**	*e*Pn	**Pn**	**23 19 43.8**	**+1.0**
LMR				*e*Sn	**Sn**	**23 20 38.2**	**-1.7**
	1.1nm,0.4s						
ARSA	**Arzberg**	**4.96**	**19**	⇑*i*Pn	**Pn**	**23 19 43.5**	**+0.6**
ARSA	**Arzberg**	**4.96**	**19**	Pn	**Pn**	**23 19 43.5**	**+0.6**
MBDF	**Montbardon**	**5.12**	**297**	*e*Pn	**Pn**	**23 19 46.7**	**+1.5**
MBDF	**Montbardon**	**5.12**	**297**	*e*Pn	**Pn**	**23 19 46.7**	**+1.5**
DAVA	**Damuels**	**5.25**	**335**	⇑*i*Pn	**Pn**	**23 19 48.4**	**+1.3**
DAVA				⇓*i*Sn	**Sn**	**23 20 48.5**	**+0.8**
DAVA	**Damuels**	**5.25**	**335**	Pn	**Pn**	**23 19 48.4**	**+1.3**
DAVA				Sn	**Sn**	**23 20 48.5**	**+0.8**
MOA	**Molln**	**5.33**	**8**	⇓*i*Pn	**Pn**	**23 19 49.1**	**+1.2**
MOA				⇓*i*Sn	**Sn**	**23 20 50.2**	**+1.0**
MOA	**Molln**	**5.33**	**8**	Pn	**Pn**	**23 19 49.1**	**+1.2**
MOA				Sn	**Sn**	**23 20 50.2**	**+1.0**
LPG	**La Plagne**	**5.47**	**304**	*e*Pn	**Pn**	**23 19 51.0**	**+0.8**
LPG				*e*Sn	**Sn**	**23 20 50.8**	**-2.4**
	1.7nm,0.5s						
LPG	**La Plagne**	**5.47**	**304**	*e*Pn	**Pn**	**23 19 51.0**	**+0.8**
LPL	**La Plagne**	**5.49**	**304**	*e*Pn	**Pn**	**23 19 52.4**	**+2.0**
LPL				*e*Sn	**Sn**	**23 20 51.9**	**-1.7**
	1.3nm,0.3s						
LPL	**La Plagne**	**5.49**	**304**	*e*Pn	**Pn**	**23 19 52.4**	**+2.0**
CONA	**Conrad Observa**	**5.67**	**19**	⇓*i*Pn	**Pn**	**23 19 53.3**	**+0.5**
CONA				⇑*i*Sn	**Sn**	**23 20 58.4**	**+0.5**
CONA	**Conrad Observa**	**5.67**	**19**	Pn	**Pn**	**23 19 53.3**	**+0.5**
CONA				Sn	**Sn**	**23 20 58.4**	**+0.5**
SMRF	**Simiane la Rot**	**5.72**	**287**	*e*Pn	**Pn**	**23 19 54.6**	**+1.2**
SMRF	**Simiane la Rot**	**5.72**	**287**	*e*Pn	**Pn**	**23 19 54.6**	**+1.2**
ORIF	**Oris-en-Rattie**	**5.78**	**296**	*e*Pn	Pn	23 19 58.3	+4.1
CABF	**La Chapelle**	**6.47**	**311**	*e*Pn	**Pn**	**23 20 05.0**	**+1.3**
CABF	**La Chapelle**	**6.47**	**311**	*e*Pn	**Pn**	**23 20 05.0**	**+1.3**
KHC	**Kasperske Hory**	**6.56**	**2**	*e*PN	**Pn**	**23 20 06.4**	**+1.5**
KHC				*e*SN	**Sn**	**23 21 18.4**	**-1.2**
KHC	**Kasperske Hory**	**6.56**	**2**	Pn	**Pn**	**23 20 06.4**	**+1.5**
KHC				Sn	**Sn**	**23 21 18.4**	**-1.2**
HINF	**Hinteralfeld**	**6.88**	**322**	*e*Pn	**Pn**	**23 20 10.3**	**+1.0**
HINF				*e*Sn	**Sn**	**23 21 24.5**	**-3.0**
	2.6nm,0.4s						
HINF	**Hinteralfeld**	**6.88**	**322**	*e*Pn	**Pn**	**23 20 10.3**	**+1.0**
CDF	**Champ du Feu**	**7.15**	**327**	*e*Pn	**Pn**	**23 20 13.9**	**+0.8**
CDF				*e*Sn	**Sn**	**23 21 31.2**	**-3.1**
	1.3nm,0.4s						
CDF	**Champ du Feu**	**7.15**	**327**	*e*Pn	**Pn**	**23 20 13.9**	**+0.8**
HAU	**Haudompre**	**7.25**	**321**	*e*Pn	**Pn**	**23 20 15.3**	**+0.9**
HAU				*e*Sn	**Sn**	**23 21 32.6**	**-4.0**
	4.5nm,0.3s						
HAU	**Haudompre**	**7.25**	**321**	*e*Pn	**Pn**	**23 20 15.3**	**+0.9**

*NSSC **26** 23:27:32.5±2.5, 3°.90N×126°.99E, h5km±999km*
*MOS **26** 23:27:48.5±1.0, 0°.21N×123°.31E, h110km, mb5.6/55, Error ellipse: s-maj=9.9km s-min=5.2km az=113.3*
*ISCJB **26** 23:27:53.0±0.2, 0°.11N±0°.02×123°.61E±0°.02, h153km±2km, mb5.4/178, Error ellipse: s-maj=3.0km s-min=2.6km az=25.9*
*BJI **26** 23:27:52.3, 0°.10N×123°.50E, h141km, mB5.1/30, mb5.5/67*
*IDC **26** 23:27:53.9±1.1, 0°.17N×123°.45E, h143km±9km, mb5.1/33, mb1 5.1/35, mb1mx5.1/36, mbtmp5.1/35, MS4.1/11, Ms1 4.1/11, ms1mx3.7/38, Error ellipse: s-maj=10.5km s-min=7.1km az=78.0*
*NEIC **26** 23:27:53.3±0.1, 0°.13N×123°.52E, mb5.4/62, Error ellipse: s-maj=5.1km s-min=3.5km az=71.0*
*AUST **26** 23:27:53.3±0.1, 0°.01S×123°.59E, h126km, Error ellipse: s-maj=0.7km s-min=0.4km az=18.0*
*DJA **26** 23:27:53.8±0.1, 0°.N±1°×12°.4E±°, h119km±2km, M5.3/87, mb5.5/87, mB5.7/57, MLv5.9/20, Mw(mB)5.2/57*
*BKK **26** 23:27:54.9±0.3, 0°.N±3°×12°.4E±°, h142km±3km, M5.3/56, mb5.5/56, mB5.7/42, MLv6.1/8, Mw(mB)5.2/42*
*GCMT **26** 23:27:54.6±0.2, 0°.14N×123°.63E, h133km±1km, MW5.2, Moment Tensor Solution. s57,c75; s96,c164; Moment tensor: Scale 10^{16}Nm; M_{rr}7.79±.16; $M_{\theta\theta}$-7.37±.21; $M_{\phi\phi}$-0.42±.24; $M_{r\theta}$3.18±.16; $M_{r\phi}$-3.86±.19; $M_{\theta\phi}$-0.63±.18; Best double couple: $M_0$9.10000×10^{16} NP1:ϕ_s79.00000°, δ55.00000°, λ107.00000°. NP2:ϕ_s232.00000°, δ38.00000°, λ67.00000°. Principal axes: T 8.6600, Plg74.0000°, Azm36.0000°; N 0.8400, Plg14.0000°, Azm250.0000°; P -9.5000, Plg9.0000°, Azm158.0000°; Data Used: II IU IC G CN.*

**ISC 26 23:27:53.6±0.2, 0°.09N±

354nm,0.7s,4μm1.4nm
SWI S **Sn** 23 31 06.6 -3.7
354nm,0.7s,4μm1.4nm
SWI Sorong 7.75 97 P **Pn** 23 29 43.9 +0.1
baz=7.7,SNR=9.1
BNDI Bandanaira 7.82 126 P **Pn** 23 29 43.9 -0.8
3μm,1.0s,19μm6.9nm
BNDI S **Sn** 23 31 06.4 -5.4
3μm,1.0s,19μm6.9nm
BNDI Bandanaira 7.82 126 P **Pn** 23 29 44.2 -0.5
baz=7.8,SNR=23
CGP Cagayan de Oro 8.39 8 *e*P Pn 23 29 55.6 +3.3
SDKM Sandakan 8.42 311 P **Pn** 23 29 54.7 +2.0
MTKI Muara Teweh, K 8.73 263 P **Pn** 23 29 58.3 +1.4
195nm,0.9s
MMRI Maumere 8.77 189 P **Pn** 23 29 56.4 -1.0
303nm,1.0s,4μm
FAKI Fak Fak 9.18 109 P **Pn** 23 30 00.8 -2.1
FAKI S Sn 23 31 37.6 -7.2
FAKI Fak Fak 9.18 109 P **Pn** 23 30 00.9 -2.0
baz=9.1,SNR=31
FAKI S Sn 23 31 36.5 -8.3
baz=9.1,SNR=9.7
LBFI Labuhan Bajo, 9.26 203 P **Pn** 23 30 04.2 +0.2
637nm,0.9s,7μm
BBKI Banjar Baru 9.40 248 P **Pn** 23 30 08.5 +2.6
245nm,0.9s
KKM Kota Kinabalu 9.43 309⇓*i*Pn **Pn** 23 30 08.1 +1.9
KKM *e*Sn **Sn** 23 31 50.0 -0.8
KKM Kota Kinabalu 9.43 309 P **Pn** 23 30 09.2 +2.9
KKM Kota Kinabalu 9.43 309 P **Pn** 23 30 08.5 +2.2
2μm,0.7s,18μm
KKM Kota Kinabalu 9.43 309 P **Pn** 23 30 08.7 +2.4
baz=9.5,SNR=54
KKM S **Sn** 23 31 55.5 +4.7
baz=9.5,SNR=5.2
KDM Kudat 9.54 315 P Pn 23 30 13.8 +6.0
SOEI Soe 9.80 176 P **Pn** 23 30 12.9 +1.6
825nm,1.0s,8μm
SOEI Soe 9.80 176 P **Pn** 23 30 13.9 +2.6
baz=9.8,SNR=57
BATI Baumata 10.23 179 P **Pn** 23 30 18.7 +1.9
BATI Baumata 10.23 179 P **Pn** 23 30 18.9 +2.0
321nm,0.9s,3μm
BATI Baumata 10.23 179 P **Pn** 23 30 18.7 +1.9
24nm,0.3s,baz=357,slow=1.2,SNR=100
BATI LR LR 23 34 19.6
comp=Z,2μm,19.6s,baz=2.4,slow=37
RKPI Ransiki, Papua 10.73 99 P **Pn** 23 30 22.2 -1.3
PPR Puerto Princes 10.76 334⇓*e*P Pn 23 30 29.7 +5.8
TLE Tual 10.78 122 P **Pn** 23 30 23.5 -0.7
2μm,0.9s,14μm
TLE Tual 10.78 122 P **Pn** 23 30 24.1 -0.1
baz=11,SNR=47
BTM Bintulu 10.92 287 P **Pn** 23 30 27.6 +1.5
SAUI Saumlaki 11.12 136 P **Pn** 23 30 29.0 +0.3
973nm,1.1s,10μm
MTNI Mataram 11.37 220 P **Pn** 23 30 31.6 -0.4
193nm,1.3s,2μm
RCP Roxas 11.43 356⇓*e*P P 23 30 36.7 -3.9
SBUM Sibu 11.58 282 P **Pn** 23 30 35.9 +1.1
SBUM Sibu 11.58 282 P **Pn** 23 30 34.9 +0.2
105nm,0.8s,1μm
SRBI Singaraja 11.63 226 P **Pn** 23 30 36.8 +1.5
96nm,0.8s
KMMI Kalianget 11.91 233 P **Pn** 23 30 42.2 +3.2
242nm,1.1s
DNP Denpasar 12.04 224 P **Pn** 23 30 42.6 +1.9
507nm,1.2s
STKI Sintang 12.09 270 P **Pn** 23 30 42.8 +1.5
174nm,1.0s
PBKI Pangkalan Bun 12.21 257 P **Pn** 23 30 44.2 +1.3
226nm,1.0s,2μm
OTRP Odiongan 12.29 353 *e*P **P** 23 30 47.5 -2.7
SJMP San Jose 12.53 349 *e*P **P** 23 30 50.9 -1.9
BAKI Biak 12.61 96 P **Pn** 23 30 49.6 +1.5
170nm,0.8s,2μm
BLJI Banyuglugur 12.62 232 P P 23 31 04.4 +10
SRPI Serui, Papua 12.82 99 P P 23 30 59.7 +3.5
PALU Palau 13.05 56 P **Pn** 23 30 54.4 +0.6
baz=13,SNR=10
GMJI Gumukmas 13.06 230 P **Pn** 23 30 53.3 -0.7
249nm,0.8s
AUQP San Andres 13.18 356 *e*P P 23 31 04.0 +3.9
KSM Kuching 13.32 276 *e*Pn **Pn** 23 30 57.7 +0.3
KSM *e*Sn **Sn** 23 33 24.1 -0.6
KSM Kuching 13.32 276 P **Pn** 23 30 59.5 +2.2
KSM Kuching 13.32 276 P **Pn** 23 30 58.6 +1.3
267nm,1.0s,2μm
KSM Kuching 13.32 276 P **Pn** 23 30 58.9 +1.5
baz=13,SNR=4.0
BOAC Boac 13.39 353 *e*P **P** 23 31 03.9 +1.5
KRKI Karangkates 13.77 233 P P 23 31 10.0 +3.3
LQP Lukban 14.08 352⇑*e*P **P** 23 31 10.6 +0.3
SJI Sawahan 14.10 236 P **P** 23 31 10.2 -0.2
120nm,0.6s,4μm
TGY Tagaytay City 14.17 350 P **P** 23 31 11.4 +0.2
TGY Tagaytay City 14.17 350 P **P** 23 31 11.4 +0.2
82nm,0.3s,baz=185,slow=5.3,SNR=25
PWJI Pagerwojo 14.22 235 P **P** 23 31 10.5 -1.2
205nm,0.7s,20μm
MTN Manton Dam 14.88 150 P **Pn** 23 31 16.2 -0.8
baz=15,SNR=149
UGM Wanagama 15.24 238 P **P** 23 31 26.4 +3.4
baz=15,SNR=7.4
KDU Kakadu 15.46 145 P **Pn** 23 31 23.6 -0.6
baz=15,SNR=167
BJII Banjamegara 15.66 242 P **P** 23 31 30.1 +2.3
189nm,1.7s,3μm
TGJI Tegal 15.98 244 P **P** 23 31 33.1 +1.9
87nm,0.8s
TPI Tanjungpandan 16.15 260 P **P** 23 31 34.9 +1.8
129nm,0.9s,1μm
KNRA Kununurra 16.48 162 P **Pn** 23 31 36.1 -0.5
baz=16,SNR=185
KNRA S **S** 23 34 39.6 -0.7
baz=16,SNR=8.8
LEM Lembang 17.33 246 P **Pn** 23 31 47.6 +0.5
226nm,1.1s,2μm
LEM Lembang 17.33 246 P **Pn** 23 31 48.0 +0.9
baz=17,SNR=3.1
JAY Jayapura 17.33 99 P **Pn** 23 31 48.3 +1.3
81nm,0.7s,7μm
JAY Jayapura 17.33 99 P **Pn** 23 31 47.8 +0.8
baz=17,SNR=10
CISI Cisompet, Garu 17.44 244 P **P** 23 31 47.5 +0.1
333nm,0.7s,3μm
CISI Cisompet, Garu 17.44 244 P **Pn** 23 31 49.6 +1.3
baz=17,SNR=7.4
PPBI Pangkal Pinang 17.57 263 P **Pn** 23 31 50.1 +0.3
153nm,0.9s,3μm
CBJI Citeko 17.89 249 P **Pn** 23 31 53.3 -0.3
1μm,0.9s
DBJI Dramaga 18.03 248 P **P** 23 31 54.2 +0.4
247nm,1.1s,3μm
SKJI Sukabumi 18.37 247 P **Pn** 23 32 01.5 +2.2
242nm,1.2s,3μm
SBJI Serang 18.46 250 P Pn 23 32 07.8 +7.4
PMBI Palembang 19.02 261 P **Pn** 23 32 06.7 -0.2
724nm,1.0s,13μm
PMBI Palembang 19.02 261 P **Pn** 23 32 07.6 +0.7
baz=19,SNR=4.3
KLI Kotabumi 19.32 255 P **Pn** 23 32 11.9 +1.5
166nm,0.9s,3μm
MYKOM Kota Tinggi 19.78 275 P **Pn** 23 32 14.9 -1.0
MYKOM Kota Tinggi 19.78 275 P **Pn** 23 32 14.6 -1.3
98nm,1.1s,1μm
BTDF Bukit Timah Da 19.83 274 P **Pn** 23 32 15.3 -1.1
baz=20,SNR=12
BTDF P **Pn** 23 32 15.3 -1.1
baz=20,SNR=12
KASI Kota Agung 19.84 253 P **P** 23 32 14.5 +1.1
176nm,0.8s,2μm
LWLI Liwa 20.13 255 P Pn 23 32 19.1 -1.0
224nm,0.7s,8μm
KGM Kluang 20.33 276 P Pn 23 32 20.7 -1.6
XMIS Christmas Isla 20.68 239 *e*P **P** 23 32 20.0 -2.4
521nm,0.8s
XMIS Christmas Isla 20.68 239 P P 23 32 13.5 -8.9
baz=21,SNR=4.4
KTGM Kuala Trenggan 21.05 285 P **P** 23 32 28.4 +1.9
MNAI Manna 21.06 258 P **P** 23 32 27.4 +0.8
baz=21,SNR=11
KSI Kapahiang 21.28 260 P **P** 23 32 29.2 +0.2
183nm,0.9s,3μm
MBWA Marble Bar 21.45 190 *e*P **P** 23 32 30.2 -0.4
102nm,0.9s

MBWA *e*pP **pP** 23 32 57.0 +0.4
MBWA *e*sP **sP** 23 33 13.7 -0.9
MBWA *e*S **S** 23 36 19.6 -0.2
MASI Maura Aman, Be 21.55 261 P **P** 23 32 32.2 +0.3
567nm,1.0s,4μm
FRIM Kepong 22.15 278 P **P** 23 32 39.9 +1.9
BKNI Bangkinang 22.52 271 P **P** 23 32 42.8 +1.1
167nm,1.0s,2μm
WRAB Tennant Creek 22.53 153 P **P** 23 32 41.0 -0.6
1μm,0.6s
WRAB Tennant Creek 22.53 153 *e*P **P** 23 32 41.0 -0.6
WRAB *e* 23 36 30.6
WRAB pmax pmax
comp=Z,106nm,0.6s
WRAB Tennant Creek 22.53 153 *e*P **P** 23 32 41.0 -0.6
comp=Z,106nm,0.6s
WRAB *e*PcP **PcP** 23 36 30.6 +0.2
WRA Warramunga Arr 22.53 153 P **P** 23 32 41.4 -0.2
WRA PcP **PcP** 23 36 30.6 +0.2
WRA S **S** 23 36 35.7 -2.5
WRA ScP **ScP** 23 39 54.9 +0.1
WRA *e* 00 06 07.8
WRA Warramunga Arr 22.53 153 P **P** 23 32 41.4 -0.2
comp=Z,88nm,0.5s,baz=334,slow=10,SNR=206
WRA PcP **PcP** 23 36 30.6 +0.2
comp=Z,14nm,0.6s,baz=324,slow=2.3,SNR=6.7
WRA S **S** 23 36 35.7 -2.5
comp=Z,55nm,0.9s,baz=335,slow=16,SNR=11
WRA ScP **ScP** 23 39 54.9 +0.1
comp=Z,11nm,0.8s,baz=332,slow=2.6,SNR=8.2
WRA P3KPbc 00 06 07.8
comp=Z,0.5nm,0.4s,baz=152,slow=3.5,SNR=5.1
TWG Pinlang 22.73 354 *e*P **P** 23 32 43.0 -0.5
comp=Z,239nm,0.6s
TWG *e*PcP **PcP** 23 36 30.2 -0.6
IPM Ipoh 22.93 281 *e*P **P** 23 32 46.6 +1.1
IPM *e*PcP **PcP** 23 36 31.6 +0.2
IPM Ipoh 22.93 281 P **P** 23 32 46.9 +1.4
IPM Ipoh 22.93 281 P **P** 23 32 46.8 +1.3
comp=Z,538nm,1.0s,comp=Z,5μm
PDSI Padang 23.12 267 P **P** 23 32 47.5 +0.2
comp=Z,438nm,1.2s,comp=Z,4μm
QIZ Qiongzhong 23.14 325 P **P** 23 32 48.3 +0.9
QIZ pP **pP** 23 33 14.3 -0.7
QIZ sP **sP** 23 33 31.0 -1.9
QIZ S **S** 23 36 52.5 +4.5
QIZ pmax pmax
comp=Z,260nm,1.1s
QIZ pmax pmax
comp=Z,580nm,2.9s
QIZ Qiongzhong 23.14 325 *e*P **P** 23 32 47.7 +0.3
comp=Z,231nm,0.9s
QIZ *e*PcP **PcP** 23 36 32.6 +0.9
PPI Padang Panjang 23.17 269 P **P** 23 32 47.8 +0.1
comp=Z,259nm,1.0s,comp=Z,2μm
PPI Padang Panjang 23.17 269 P **P** 23 32 48.2 +0.5
baz=23,SNR=26
PPI S S 23 36 31.8 -17
baz=23,SNR=5.3
TPUB Ta-pu 23.25 353 *e*P **P** 23 32 48.3 0.0
comp=Z,247nm,0.8s
TPUB *e*PcP **PcP** 23 36 31.4 -0.5
YULB Yu-li 23.27 355 *e*P **P** 23 32 47.6 -0.9
comp=Z,52nm,0.8s
YULB *e*PcP **PcP** 23 36 30.3 -1.6
UBPT Khong Chiam 23.40 311 P **P** 23 32 51.3 +1.6
comp=Z,149nm,1.1s,comp=Z,2μm
UBPT Khong Chiam 23.40 311 P **P** 23 32 51.3 +1.6
comp=Z,149nm,1.1s,comp=Z,2μm
KULM Kulim 23.46 283 *e*P **P** 23 32 51.0 +0.6
KULM Kulim 23.46 283 P **P** 23 32 51.7 +1.4
KULM Kulim 23.46 283 P **P** 23 32 51.5 +1.2
comp=Z,106nm,1.2s,comp=Z,1μm
SSLB Suanglung 23.70 354 *e*P **P** 23 32 51.8 -0.6
MANU Manus Island 23.89 95 P **P** 23 32 56.9 +2.6
baz=24,SNR=6.1
COEN Coen 23.91 126 *e*P **P** 23 32 52.5 -1.9
comp=Z,494nm,0.8s
COEN Coen 23.91 126 P **P** 23 32 54.3 -0.1
baz=24,SNR=44
COEN S **S** 23 37 06.7 +6.2
baz=24,SNR=6.2
SKLT Songkhla 23.94 288 P **P** 23 32 56.6 +1.9
comp=Z,232nm,1.0s,comp=Z,2μm
SKLT Songkhla 23.94 288 P **P** 23 32 56.6 +1.9
comp=Z,232nm,1.0s,comp=Z,2μm
NACB Ninganchiao 24.02 356 *e*P **P** 23 32 56.0 +0.7
comp=Z,57nm,0.9s
CHBT CHBT 24.53 302 P **P** 23 33 02.1 +2.1
comp=Z,278nm,1.0s,comp=Z,2μm
CHBT CHBT 24.53 302 P **P** 23 33 02.1 +2.1
comp=Z,278nm,1.0s,comp=Z,2μm
YHNB Yeheng 24.53 355 *e*P **P** 23 32 58.9 -1.1
comp=Z,85nm,0.9s
YHNB *e*PcP **PcP** 23 36 34.6 0.0
PSI Prapat 24.78 276 P **P** 23 33 02.7 +0.2
PSI PcP **PcP** 23 36 35.3 -0.2
PSI ScP **ScP** 23 39 59.1 -2.0
PSI Prapat 24.78 276 P **P** 23 33 02.7 +0.2
comp=Z,109nm,0.9s,baz=104,slow=6.1,SNR=66
PSI PcP **PcP** 23 36 35.3 -0.2
comp=Z,14nm,0.9s,baz=167,slow=9.0,SNR=5.2
PSI ScP **ScP** 23 39 59.1 -2.0
comp=Z,5.2nm,0.7s,baz=17,slow=0.4,SNR=4.1
PSI Prapat 24.78 276 P **P** 23 33 02.9 +0.5
baz=25,SNR=21
TATO Taipei 24.82 356 P **P** 23 33 04.7 +2.1
SNR=5.5
TATO Taipei 24.82 356 *e*P **P** 23 33 02.8 +0.3
GUMO Guam 25.01 57 *e*P **P** 23 33 03.6 -0.7
QZH Quanzhou 25.17 349 P **P** 23 33 05.0 -0.7
QZH sP **sP** 23 33 49.0 -3.8
QZH pmax pmax
comp=Z,250nm,0.9s
QZH LR LR
comp=Z,930nm,19.3s
TSI Tuntungan 25.21 278 P **P** 23 33 07.6 +1.3
comp=Z,204nm,0.8s
PANO Nakornpanom 25.21 313 P **P** 23 33 07.1 +0.9
comp=Z,468nm,0.9s,comp=Z,3μm
PMG Port Moresby 25.31 113 *e*P **P** 23 33 07.9 +0.8
comp=Z,88nm,1.1s
PMG Port Moresby 25.31 113 P **P** 23 33 08.2 +1.0
comp=Z,80nm,1.0s
PMG Port Moresby 25.31 113 P **P** 23 33 08.3 +1.2
comp=Z,62nm,0.9s,baz=297,slow=7.5,SNR=12
SRIT Nakonsritamara 25.32 290 P **P** 23 33 09.2 +1.9
comp=Z,181nm,0.8s,comp=Z,15μm
SURA Surathani 25.48 291 P P 23 33 14.5 +5.8
comp=Z,172nm,0.9s,comp=Z,16μm
SKNT Sakolnakorn 25.57 312 P **P** 23 33 11.0 +1.6
comp=Z,334nm,0.8s,comp=Z,6μm
KRAB Krabi 25.59 289 P **P** 23 33 11.9 +2.2
comp=Z,136nm,0.8s,comp=Z,1μm
AS31 Alice Springs 25.66 158 *e*P **P** 23 33 10.6 +0.4
AS31 *e*pP **pP** 23 33 40.0 -0.6
AS31 *e*PcP **PcP** 23 36 36.4 -0.7
AS31 *e*S **S** 23 37 29.4 +1.3
AS31 *e*ScP **ScP** 23 40 02.2 -1.1
ASAR Alice Springs 25.66 158 P **P** 23 33 10.4 +0.2
ASAR PcP **PcP** 23 36 38.0 +0.8
ASAR S **S** 23 37 26.4 -1.7
ASAR ScP **ScP** 23 40 03.5 +0.2
ASAR *e* 00 06 00.8
ASAR Alice Springs 25.66 158 P **P** 23 33 10.4 +0.2
comp=Z,18nm,0.6s,baz=336,slow=7.7,SNR=217
ASAR PcP **PcP** 23 36 38.0 +0.8
comp=Z,25nm,0.4s,baz=350,slow=2.3,SNR=19
ASAR S **S** 23 37 26.4 -1.7
comp=Z,13nm,0.8s,baz=343,slow=16,SNR=5.6
ASAR ScP **ScP** 23 40 03.5 +0.2
comp=Z,7.6nm,0.7s,baz=342,slow=2.8,SNR=8.1
ASAR P3KPbc 00 06 00.8
comp=Z,1.5nm,0.8s,baz=151,slow=4.2,SNR=11
KCSI Kotacane, Aceh 26.00 278 P **P** 23 33 12.7 -0.7
comp=Z,88nm,1.1s,comp=Z,759nm
NAYO Nakonayok 26.16 304 P **P** 23 33 16.4 +1.6
comp=Z,255nm,0.9s
PKDT Phuket 26.32 288 P **P** 23 33 18.3 +2.1
comp=Z,87nm,0.9s,comp=Z,8μm
PHET Kaeng Krachan 26.93 299 P **P** 23 33 23.5 +1.8
comp=Z,357nm,0.8s,comp=Z,4μm
JOW Kunigami 26.98 9 *e*P **P** 23 33 22.1 +0.1
MEEK Meekatharra 26.99 190 P **P** 23 33 21.7 -0.5
baz=27,SNR=41
LHMI Lhok Sumawe 27.07 281 P **P** 23 33 25.3 +2.4
comp=Z,197nm,0.8s
LHMI Lhok Sumawe 27.07 281 P **P** 23 33 24.2 +1.2
baz=27,SNR=5.4
MTSU Mount Surprise 27.28 133 P **P** 23 33 26.1 +1.3
baz=27,SNR=5.5
PBKT Sadao Pong 27.65 307 P **P** 23 33 28.9 +0.9
comp=Z,61nm,0.7s
PBKT Sadao Pong 27.65 307 P **P** 23 33 28.9 +0.9
comp=Z,61nm,0.7s
LOEI Loei 27.95 309 P **P** 23 33 28.8 -2.0
comp=Z,160nm,0.9s,comp=Z,5μm
UTHA Uthaitani 28.35 304 P **P** 23 33 35.5 +1.2
comp=Z,81nm,0.9s,comp=Z,586nm
LAMP Lampang 29.80 309 P **P** 23 33 48.6 +1.4
comp=Z,43nm,0.8s,comp=Z,295nm
MORW Morawa 29.87 193 P **P** 23 33 47.6 0.0
baz=30,SNR=12
CTA Charters Tower 29.93 133 P **P** 23 33 50.0 +1.7
CTA PcP **PcP** 23 36 49.4 +1.7
CTA ScP **ScP** 23 40 17.9 +1.4
CTA Charters Tower 29.93 133 P **P** 23 33 50.0 +1.7
comp=Z,13nm,0.8s,baz=318,slow=11,SNR=10.0
CTA PcP **PcP** 23 36 49.4 +1.7
comp=Z,6.1nm,0.6s,baz=347,slow=7.2,SNR=5.2
CTA ScP **ScP** 23 40 17.9 +1.4
comp=Z,7.9nm,0.7s,baz=256,slow=7.2,SNR=4.9
CTAO Charters Tower 29.93 133 *e*P **P** 23 33 50.0 +1.7
CTAO Charters Tower 29.93 133 *e*P **P** 23 33 50.0 +1.7
PAYA Payao 30.11 311 P **P** 23 33 51.3 +1.4
comp=Z,12nm,0.8s,comp=Z,127nm
CM31 Chiang Mai Arr 30.30 308 *e*P **P** 23 33 52.6 +1.0
comp=Z,97nm,1.0s
CMAR Chiang Mai Arr 30.30 308 P **P** 23 33 52.6 +1.0
CMAR PcP **PcP** 23 36 49.7 +1.1
CMAR PKiKP **PKiKP** 23 44 20.3 0.0
CMAR Chiang Mai Arr 30.30 308 P **P** 23 33 52.6 +1.0
comp=Z,50nm,0.8s,baz=134,slow=7.6,SNR=100
CMAR PcP **PcP** 23 36 49.7 +1.1
comp=Z,16nm,0.8s,baz=169,slow=1.8,SNR=15
CMAR PKiKP **PKiKP** 23 44 20.3 0.0
comp=Z,2.5nm,0.7s,baz=281,slow=1.0,SNR=14
CMAR LR LR 23 45 51.4
comp=Z,307nm,19.1s,baz=262,slow=36
CHTO Chiang Mai 30.50 309 *e*P **P** 23 33 54.7 +1.3
CHTO pmax pmax
comp=Z,115nm,0.9s
CHTO Chiang Mai 30.50 309 P **P** 23 33 55.0 +1.6
SNR=45
CHTO Chiang Mai 30.50 309 *e*P **P** 23 33 54.7 +1.3
comp=Z,115nm,0.9s
CHTO Chiang Mai 30.50 309 P **P** 23 33 54.5 +1.1
comp=Z,157nm,0.9s,comp=Z,1μm
CHTO Chiang Mai 30.50 309 P **P** 23 33 54.5 +1.1
comp=Z,157nm,0.9s,comp=Z,1μm
GYA Guiyang 30.86 329 P P 23 34 01.3 +4.7
GYA pP pP 23 34 29.8 +2.4
GYA sP sP 23 34 44.5 +0.5
GYA PP **PP** 23 35 07.0 -2.2
GYA S **S** 23 38 52.8 +2.8
GYA ScS **ScS** 23 44 16.0 -0.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
SSE Sheshan 30.92 356 P **P** 23 33 59.8 +3.0
SSE sP **sP** 23 34 46.0 +1.7
SSE S **S** 23 38 55.5 +5.0
SSE sS **sS** 23 39 49.0 +4.4
SSE pmax pmax
comp=Z,49nm,1.2s
SSE pmax pmax
comp=Z,160nm,7.4s
SSE LR LR
comp=N,170nm,21.3s
SSE LR LR
comp=E,180nm,21.3s
SSE LR LR
comp=Z,230nm,19.8s
FORT Forrest 30.99 172 *e*P **P** 23 33 57.6 +0.1
comp=Z,291nm,0.6s
FORT Forrest 30.99 172 P **P** 23 33 57.8 +0.3
baz=31,SNR=116
FORT S **S** 23 38 51.1 -0.5
baz=31,SNR=7.4
BLDU Ballidu 31.22 191 P **P** 23 33 59.3 -0.2
baz=31,SNR=42
WHN Wuhan 31.53 345 ⇑P **P** 23 34 03.8 +1.6
WHN sP **sP** 23 34 51.0 +1.3
WHN S S 23 39 07.3 +7.3
WHN pmax pmax
comp=Z,190nm,1.2s
WHN LR LR
comp=Z,660nm,16.9s
KLBR Kellerberrin 31.98 189 P **P** 23 34 06.0 -0.1
baz=32,SNR=18
KMI Kunming 32.02 323 P **P** 23 34 07.8 +1.0
KMI pmax pmax
comp=Z,35nm,1.4s
NJ2 Nanjing 32.10 352 *e*P **P** 23 34 08.5 +1.3
NJ2 pmax pmax
comp=Z,65nm,1.2s
CBIJ Chichi jima 32.27 32 P **P** 23 34 08.6 -0.2
CBIJ S **S** 23 39 07.4 -4.3
CBIJ Chichi jima 32.27 32 P **P** 23 34 08.6 -0.2
comp=Z,856nm,0.4s,baz=140,slow=1.8,SNR=177
CBIJ S **S** 23 39 07.4 -4.3
comp=Z,26nm,0.7s,baz=325,slow=14,SNR=3.6
ENH Enshi 32.87 337 *e*P **P** 23 34 15.3 +1.3
comp=Z,161nm,0.9s
ENH *e*PcP **PcP** 23 36 55.9 +0.5
JNU Nakatsue 33.57 11 P **P** 23 34 19.6 -0.4
JNU PcP **PcP** 23 36 57.2 -0.1
JNU Nakatsue 33.57 11 P **P** 23 34 19.6 -0.4
comp=Z,21nm,0.8s,baz=214,slow=3.2,SNR=12
JNU PcP **PcP** 23 36 57.2 -0.1
comp=Z,12nm,1.0s,baz=196,slow=4.8,SNR=2.4
JNU LR LR 23 48 17.2
comp=Z,155nm,21.4s,baz=26,slow=36
BBOO Buckleboo 34.78 161 *e*P **P** 23 34 31.0 +0.6
comp=Z,5μm,2.3s
BBOO Buckleboo 34.78 161 P **P** 23 34 30.9 +0.5
baz=35,SNR=18
RKGY Rocky Gully 35.06 189 P **P** 23 34 34.4 +1.6
baz=35,SNR=21
PATS Pohnpei 35.31 78 P **P** 23 34 37.1 +1.9
baz=35,SNR=7.9
RMQ Roma 35.87 139 P **P** 23 34 41.0 +1.1
baz=36,SNR=8.5
CD2 Chengdu 35.96 330 P **P** 23 34 42.0 +1.4
CD2 pP **pP** 23 35 11.8 -0.1
CD2 sP **sP** 23 35 27.8 -0.7
CD2 PP **PnPn** 23 36 08.5 +2.0
CD2 S **S** 23 40 10.5 +2.0
CD2 ScS **ScS** 23 44 41.5 -1.7
CD2 pmax pmax
comp=Z,240nm,0.9s
CD2 pmax pmax
comp=Z,590nm,4.0s
STKA Stephens Creek 36.08 153 *e*P **P** 23 34 42.5 +1.0
STKA PP **PP** 23 36 01.8 -4.8
STKA PcP **PcP** 23 37 05.1 +0.5
STKA ScP **ScP** 23 40 37.7 +0.1
STKA Stephens Creek 36.08 153 P **P** 23 34 42.5 +1.0
comp=Z,62nm,0.5s,baz=336,slow=7.4,SNR=155
STKA PP **PP** 23 36 01.8 -4.8
comp=Z,50nm,0.9s,baz=326,slow=13,SNR=4.4
STKA PcP **PcP** 23 37 05.1 +0.5
comp=Z,21nm,0.5s,baz=330,slow=5.9,SNR=4.7
STKA ScP **ScP** 23 40 37.7 +0.1
comp=Z,19nm,0.7s,baz=344,slow=4.9,SNR=6.7
STKA Stephens Creek 36.08 153 P **P** 23 34 42.5 +1.0
baz=36,SNR=72
XAN Xi'an 36.46 339 P **P** 23 34 45.0 +0.2
XAN pP **pP** 23 35 18.5 +2.3
XAN pmax pmax
comp=Z,26nm,1.0s
XAN pmax pmax
comp=Z,43nm,4.1s
XAN LR LR
comp=N,290nm,13.3s
XAN LR LR
comp=E,130nm,14.3s
XAN LR LR
comp=Z,120nm,18.4s
EIDS Eidsvold 36.71 136 *e*P **P** 23 34 47.2 +0.2
EIDS Eidsvold 36.71 136 P **P** 23 34 47.1 +0.2

baz=37,SNR=5.2
KSAR Wonju Array Be 37.38 6 P **P** **23 34 53.0 +0.5**
KSAR PcP **PcP** **23 37 09.1 +0.7**
KSRS Korea Array 37.40 6 P **P** **23 34 53.0 +0.4**
comp=Z,19nm,0.8s,baz=182,slow=9.8,SNR=42
KSRS PcP **PcP** **23 37 09.1 +0.6**
comp=Z,9.1nm,0.7s,baz=188,slow=2.8,SNR=12
HNR Honiara 37.43 106 P **P** **23 34 53.1 -0.2**
HNR Honiara 37.43 106 P **P** **23 34 53.1 -0.2**
comp=Z,246nm,0.6s,baz=185,slow=14,SNR=4.6
CMSA Cobar Meteorol 37.80 148 P **P** **23 34 57.8 +1.8**
baz=38,SNR=80
CMSA S S 23 40 45.4 +9.1
baz=38,SNR=7.8
DL2 Dalian 38.67 358 P **P** **23 35 02.8 -0.4**
DL2 pmax pmax
comp=Z,120nm,0.8s
MJAR Matsushiro Arr 38.73 19 P **P** **23 35 03.0 -0.8**
MJAR PcP **PcP** **23 37 13.3 +0.7**
MJAR ScP **ScP** **23 40 47.0 -0.5**
MJAR Matsushiro Arr 38.73 19 P **P** **23 35 03.0 -0.8**
comp=Z,86nm,0.8s,baz=194,slow=9.7,SNR=179
MJAR PcP **PcP** **23 37 13.3 +0.7**
comp=Z,12nm,0.8s,baz=198,slow=3.6,SNR=7.3
MJAR ScP **ScP** **23 40 47.0 -0.5**
comp=Z,2.4nm,0.7s,baz=189,slow=5.4,SNR=4.2
SHL Shillong 39.71 312 *e*P **P** **23 35 15.0 +2.7**
SHL *ex* x 23 35 51.0
SHL *ex* x 23 40 44.0
LZH Lanzhou 40.24 335 ⇑P **P** **23 35 18.0 +1.5**
LZH pP **pP** **23 35 49.5 +1.1**
LZH sP **sP** **23 36 06.5 +1.8**
LZH PP **PnPn** **23 36 55.5 -1.7**
LZH S **S** **23 41 16.0 +3.0**
LZH pmax pmax
comp=Z,200nm,1.1s
LZH pmax pmax
comp=Z,400nm,4.6s
BJT Baijiatuau 40.31 351 *e*P **P** **23 35 16.2 -0.7**
comp=Z,70nm,0.8s
BJT *e*PcP **PcP** **23 37 17.8 +0.2**
BJI Beijing 40.33 351 P **P** **23 35 16.3 -0.7**
BJI sP **sP** **23 36 03.5 -1.7**
BJI S **S** **23 41 16.8 +2.9**
BJI sS **sS** **23 42 13.5 +4.0**
BJI pmax pmax
comp=Z,89nm,0.8s
BJI LR LR
comp=N,240nm,21.7s
BJI LR LR
comp=E,150nm,22.8s
BJI LR LR
comp=Z,110nm,21.6s
ARPS Mount Arapiles 40.40 157 P **P** **23 35 19.0 +1.4**
baz=40,SNR=48
ARMA Armidale 40.40 141 *e*P **P** **23 35 19.6 +1.7**
comp=Z,50nm,0.8s
ARMA *e*pP **pP** **23 35 49.4 -0.4**
ARMA Armidale 40.40 141 P **P** **23 35 20.1 +2.2**
baz=40,SNR=40
YNG Young 41.37 148 P **P** **23 35 27.7 +2.1**
baz=41,SNR=31
SNY Shenyang 41.55 0 ⇑P **P** **23 35 25.5 -1.4**
SNY S **S** **23 41 33.3 +1.4**
SNY pmax pmax
comp=Z,16nm,0.7s
SNY LR LR
comp=N,210nm,17.8s
SNY LR LR
comp=E,270nm,17.2s
SNY LR LR
comp=Z,230nm,17.2s
HHC Hu-ho-hao-te 42.01 346 *e*P **P** **23 35 30.5 -0.4**
HHC sP **sP** **23 36 18.0 -1.3**
HHC PP **PP** **23 37 12.5 +1.4**
HHC PcP **PcP** **23 37 22.8 -0.5**
HHC ScP **ScP** **23 40 59.3 -1.1**
HHC PcS **PcS** **23 41 12.8 -2.4**
HHC S **S** **23 41 40.3 +1.3**
HHC ScS **ScS** **23 45 15.3 -3.0**
HHC pmax pmax
comp=Z,110nm,0.8s
HHC pmax pmax
comp=Z,450nm,5.3s
HHC LR LR
comp=N,620nm,14.5s
HHC LR LR
comp=E,750nm,15.0s
HHC LR LR
comp=Z,610nm,14.3s
MGCD Mangrove Creek 42.05 145 P **P** **23 35 34.1 +2.9**
baz=42,SNR=16
CAN Canberra 42.47 149 *e*P **P** **23 35 36.8 +2.2**
CAN *e**PP **pP** **23 36 11.4 +4.6**
CAN *e* 23 37 25.7
CAN pmax pmax
comp=Z,114nm,0.6s
CAN Canberra 42.47 149 *e*P **P** **23 35 36.8 +2.2**
comp=Z,114nm,0.6s
CAN *e*pP **pP** **23 36 11.4 +4.6**
CAN *e*PcP **PcP** **23 37 25.7 +0.8**
TOO Toolangi 42.59 154 P **P** **23 35 37.8 +2.3**
baz=43,SNR=7.2
CNB Canberra Magne 42.66 148 P **P** **23 35 38.8 +2.7**
baz=43,SNR=27
LSA Lhasa 42.67 317 *e*P **P** **23 35 37.2 +0.4**
LSA pmax pmax
comp=Z,62nm,0.9s
LSA Lhasa 42.67 317 *e*P **P** **23 35 37.2 +0.4**
comp=Z,62nm,0.9s
LSA *e*pP **pP** **23 36 08.0 -1.0**
VLA Vladivostok 43.49 9 *i*P **P** **23 35 43.0 +0.5**
VLA pmax pmax
comp=Z,45nm,0.7s
CN2 Changchun 43.56 2 *e*P **P** **23 35 43.5 +0.4**
CN2 PcP **PcP** **23 37 28.5 +0.3**
CN2 *e*S **S** **23 42 03.3 +2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
ODAN Odare 43.80 310 *e*P **P** **23 35 45.9 +0.3**
comp=Z,122nm,0.6s
TAPN Taplejung 43.81 311 *e*P **P** **23 35 46.4 +0.6**
comp=Z,113nm,0.6s
RAMN Ramite 44.45 310 *e*P **P** **23 35 52.2 +1.4**
comp=Z,427nm,0.7s
USRK Ussuriysk Arra 44.56 9 P **P** **23 35 51.1 +0.1**
comp=Z,26nm,0.5s,baz=193,slow=7.3,SNR=102
USRK PcP **PcP** **23 37 31.9 +0.2**
comp=Z,8.1nm,0.7s,baz=185,slow=3.5,SNR=4.2
USRK LR LR 23 53 20.5
comp=Z,151nm,20.1s,baz=288,slow=34
MDJ Mudanjiang 44.66 6 P **P** **23 35 52.0 +0.1**
MDJ pP **pP** **23 36 21.5 -2.8**
MDJ sP **sP** **23 36 36.5 -4.1**
MDJ PP **PP** **23 37 38.3 -0.8**
MDJ pmax pmax
comp=Z,39nm,1.0s
MDJ pmax pmax
comp=Z,96nm,4.1s
MDJ LR LR
comp=N,97nm,22.1s
MDJ LR LR
comp=E,120nm,28.9s
MDJ LR LR
comp=Z,140nm,30.3s
MDJ Mudanjiang 44.66 6 *e*P **P** **23 35 51.1 -0.8**
comp=Z,66nm,0.8s
GTA Gaotai 44.76 334 ⇑P **P** **23 35 53.5 +0.5**
GTA pP **pP** **23 36 27.8 +2.4**
GTA sP **sP** **23 36 42.0 +0.4**
GTA PcP **PcP** **23 37 33.0 +0.3**
GTA ScP **ScP** **23 41 11.5 -0.2**
GTA PcS **PcS** **23 41 24.8 -1.7**
GTA S **S** **23 42 22.3 +3.1**
GTA sS **sS** **23 43 17.5 +2.0**
GTA pmax pmax
comp=Z,120nm,1.0s
GTA pmax pmax
comp=Z,97nm,5.2s
GTA LR LR
comp=N,180nm,18.5s
GTA LR LR
comp=E,270nm,16.2s
GTA LR LR
comp=Z,170nm,17.6s
JIRN Jiri 45.12 311 *e*P **P** **23 35 57.3 +1.0**
comp=Z,170nm,0.6s
ERM Erimo 45.33 21 P **P** **23 35 57.6 +0.4**
comp=Z,257nm,0.5s,SNR=11
ERM Erimo 45.33 21 *e*P **P** **23 35 57.9 +0.7**
ERM pmax pmax
comp=Z,83nm,1.6s
ERM Erimo 45.33 21 *e*P **P** **23 35 57.0 -0.2**
comp=Z,32nm,0.7s
ERM *e*pP **PcP** **23 37 34.9 +0.6**
GUN Gumba 45.49 311 *e*P **P** **23 35 59.5 +0.3**
comp=Z,242nm,0.5s
PKI Pulchoki 45.67 310 *e*P **P** **23 36 01.1 +0.5**
comp=Z,121nm,0.8s
KKN Kakani 45.88 310 *e*P **P** **23 36 02.8 +0.7**
comp=Z,116nm,0.7s
DMN Daman 45.93 310 *e*P **P** **23 36 03.3 +0.8**
comp=Z,383nm,1.0s
ASAJ Asahikawa 47.01 19 *e*P **P** **23 36 10.2 -0.1**
comp=Z,46nm,0.8s
ASAJ Asahikawa 47.01 19 P **P** **23 36 11.1 +0.8**
comp=Z,100nm,0.7s,baz=236,slow=12,SNR=52
KOLN Koldanda 47.17 309 *e*P **P** **23 36 12.1 0.0**
comp=Z,385nm,0.7s
DZM Mont Dzumac 47.22 121 *e*P **P** **23 36 13.9 +1.4**
comp=Z,72nm,1.0s
DZM Mont Dzumac 47.22 121 *e*P **P** **23 36 13.0 +0.5**
DANN Dangsing 47.33 310 *e*P **P** **23 36 13.3 -0.1**
comp=Z,328nm,0.6s
HYB Hyderabad 47.51 294 *i*P **P** **23 36 13.0 -1.7**
comp=Z,160nm,1.0s
HYB *e*pP **pP** **23 36 46.0 -1.5**
HYB *e*sP **sP** **23 37 06.0 +2.4**
HIA Hailar 49.10 357 *e*P **P** **23 36 25.9 -0.4**
comp=Z,52nm,0.9s
HIA *e*PcP **PcP** **23 37 48.5 +0.7**
KLR Kul'dur 49.46 7 ⇓*i*P P 23 36 25.0 -4.0
KLR pmax pmax
comp=Z,85nm,1.4s
YSS Yuzh-Sakhalins 49.60 17 ⇑*i*P **P** **23 36 30.5 +0.4**
YSS pmax pmax
comp=N,90nm,1.2s
YSS pmax pmax
comp=Z,130nm,1.2s
ULN Ulaanbaatar 49.71 345 P **P** **23 36 30.7 -0.4**
SNR=15
ULN Ulaanbaatar 49.71 345 *e*P **P** **23 36 30.4 -0.8**
comp=Z,31nm,0.6s
ULN *e*pP **pP** **23 37 02.8 -1.4**
ULN *e*PcP **PcP** **23 37 49.6 -0.5**
SONM Songino Array 49.85 345 P **P** **23 36 31.9 -0.3**
SONM PcP **PcP** **23 37 50.3 -0.3**
SONM ScP **ScP** **23 41 31.4 -1.4**
SONM *e* 00 14 03.2
SONM Songino Array 49.85 345 P **P** **23 36 31.9 -0.3**
comp=Z,47nm,0.8s,baz=158,slow=7.9,SNR=242
SONM PcP **PcP** **23 37 50.3 -0.3**
comp=Z,16nm,0.6s,baz=163,slow=5.1,SNR=8.1
SONM ScP **ScP** **23 41 31.4 -1.4**
comp=Z,1.0nm,0.9s,baz=153,slow=5.1,SNR=2.6
SONM P4KPbc 00 14 03.2
comp=Z,0.7nm,0.6s,baz=160,slow=4.7,SNR=5.1
LGTI Lohaghat 50.56 309 *ex* P 23 36 43.0 +5.4
ZAK Zakamensk 53.01 344 ⇑*i*P **P** **23 36 55.2 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,0.9s
SDNR Sundarnagar 54.00 310 *ex* **P** **23 37 03.0 -0.1**
WMQ Urumqi 54.01 328 P **P** **23 37 03.3 +0.3**
WMQ pP **pP** **23 37 36.5 -0.1**
WMQ PcP **PcP** **23 38 06.5 +0.2**
WMQ PP **PP** **23 39 07.5 +1.5**
WMQ ScS ScS 23 46 34.5 -3.5
WMQ pmax pmax
comp=Z,140nm,0.7s
WMQ pmax pmax
comp=Z,82nm,3.4s
WMQ LR LR
comp=N,150nm,23.0s
WMQ LR LR
comp=E,150nm,30.0s
WMQ LR LR
comp=Z,170nm,32.0s
MOY Mondy 54.81 343 *e*P **P** **23 37 08.6 -0.1**
MOY pmax pmax
comp=Z,13nm,1.8s
DLH Dalhousie 55.22 311 *ex* **P** **23 37 13.0 +0.8**
KSH Kashi 58.49 318 P **P** **23 37 35.5 +0.6**
KSH sP **sP** **23 38 24.5 -0.3**
KSH PP **PP** **23 39 48.5 +2.4**
KSH pmax pmax
comp=Z,26nm,0.8s
KSH pmax pmax
comp=Z,180nm,3.2s
KSH LR LR
comp=N,90nm,4.6s
KSH LR LR
comp=E,45nm,4.1s
KSH LR LR
comp=Z,130nm,15.4s
MK31 Makanchi Array 58.84 328 *ce*P **P** **23 37 36.8 -0.3**
MK31 pmax pmax
comp=Z,21nm,0.3s
MK31 Makanchi Array 58.84 328 *e*P **P** **23 37 36.5 -0.5**
MK31 *e*PcP **PcP** **23 38 24.4 -0.6**
MKAR Makanchi Array 58.84 328 P **P** **23 37 36.7 -0.4**
MKAR 23 38 24.8
MKAR Makanchi Array 58.84 328 P **P** **23 37 36.7 -0.4**
MKAR PcP **PcP** **23 38 24.8 -0.2**
MKAR ScP **ScP** **23 42 10.8 -1.4**
MKAR P'P' 00 07 09.0
MKAR *e* 00 14 43.8
MKAR Makanchi Array 58.84 328 P **P** **23 37 36.7 -0.4**
comp=Z,39nm,0.4s,baz=127,slow=7.7,SNR=328
MKAR PcP **PcP** **23 38 24.8 -0.2**
comp=Z,36nm,0.5s,baz=155,slow=2.9,SNR=25
MKAR ScP **ScP** **23 42 10.8 -1.4**
comp=Z,1.9nm,0.7s,baz=145,slow=5.4,SNR=3.6
MKAR PKPPKP **P'P'df** **00 07 09.0 -1.8**
comp=Z,0.7nm,0.8s,baz=289,slow=3.7,SNR=3.6
MKAR P4KPbc 00 14 43.8
comp=Z,1.1nm,0.7s,baz=120,slow=4.9,SNR=10
ULHL Ulahol 59.71 321 P **P** **23 37 46.1 +2.7**
SNR=12
PEA0B Petropavlovsk- 59.99 23 *e*P **P** **23 37 45.8 +1.0**
PEA0B *e*PcP **PcP** **23 38 29.3 -0.1**
PETK Petropavlovsk- 59.99 23 P **P** **23 37 45.8 +1.0**
PETK 23 38 29.8
PETK Petropavlovsk- 59.99 23 P **P** **23 37 45.8 +1.0**
PETK PcP **PcP** **23 38 29.8 +0.4**
PETK Petropavlovsk- 59.99 23 P **P** **23 37 45.8 +1.0**
comp=Z,51nm,0.6s,baz=197,slow=7.0,SNR=113
PETK PcP **PcP** **23 38 29.8 +0.4**
comp=Z,14nm,0.6s,baz=212,slow=4.4,SNR=6.8
PETK LR LR 00 01 56.2
comp=Z,61nm,18.2s,baz=102,slow=34
KZA Kyzart 60.26 320 P **P** **23 37 47.8 +0.5**
SNR=24
PET Petropavlovsk 60.30 24 ⇑*i*P **P** **23 37 47.8 +0.9**
PET pmax pmax
comp=Z,117nm,0.7s
TKM2 Tokmak 2 60.47 321 *e*P **P** **23 37 48.4 -0.2**
TKM2 pmax pmax
comp=Z,51nm,0.6s
TKM2 Tokmak 2 60.47 321 P **P** **23 37 48.6 0.0**
SNR=106
TKM2 Tokmak 2 60.47 321 *e*P **P** **23 37 48.4 -0.2**
comp=Z,51nm,0.6s
RPZ Rata Peaks 60.73 142 *e*P **P** **23 37 51.2 +1.2**
comp=Z,184nm,0.9s
RPZ *e*pP **pP** **23 38 25.2 +0.9**
RPZ Rata Peaks 60.73 142 LR LR 00 04 39.4
comp=Z,353nm,19.7s,baz=95,slow=36
KBK Karagaybulak 60.74 321 P **P** **23 37 50.8 +0.4**
SNR=22
UCH Uchtor 60.80 320 P **P** **23 37 51.8 +0.6**
SNR=7.5
AAK Ala-Archa 61.02 320 P **P** **23 37 52.5 +0.2**
comp=Z,191nm,0.8s,SNR=10
AAK Ala-Archa 61.02 320 *c i*P **P** **23 37 52.2 0.0**
AAK pmax pmax
comp=Z,78nm,1.0s
AAK Ala-Archa 61.02 320 P **P** **23 37 52.7 +0.5**
SNR=13
AAK Ala-Archa 61.02 320 P **P** **23 37 51.8 -0.5**
SNR=19
AAK Ala-Archa 61.02 320 *e*P **P** **23 37 51.8 -0.5**
comp=Z,18nm,0.7s
AAK *e*pP **pP** **23 38 26.3 -0.3**
AAK *e*PcP **PcP** **23 38 34.0 0.0**
CHMS Chumysh 61.04 321 P **P** **23 37 51.9 -0.3**
SNR=14
AML Almayashu 61.29 320 P **P** **23 37 54.4 +0.1**
SNR=62
KBL Kabul 61.32 310 *e*P **P** **23 37 53.6 -0.9**
KBL *e* 23 38 35.4
KBL *e* 23 40 09.7
KBL pmax pmax
comp=Z,63nm,0.6s
KBL Kabul 61.32 310 *e*P **P** **23 37 53.6 -0.9**
comp=Z,63nm,0.6s
KBL *e*pP **pP** **23 38 27.8 -1.0**
KBL *e*PcP **PcP** **23 38 35.4 -0.1**
KBL *e*sP **sP** **23 38 44.5 0.0**
KBL *e*PP **PP** **23 40 09.7 -1.5**
KBL Kabul 61.32 310 P **P** **23 37 54.0 -0.4**
baz=62,SNR=20
USP Ospenovka 61.34 321 P **P** **23 37 54.2 0.0**
SNR=22
EKS2 Erkin-Say 61.49 320 *e*P **P** **23 37 55.3 -0.1**
EKS2 *e**PP **pP** **23 38 29.4 -0.3**
EKS2 pmax pmax
comp=Z,21nm,0.7s
EKS2 Erkin-Say 61.49 320 P **P** **23 37 55.5 +0.1**
SNR=46
EKS2 Erkin-Say 61.49 320 *e*P **P** **23 37 55.3 -0.1**
comp=Z,21nm,0.7s
EKS2 *e*pP **pP** **23 38 29.4 -0.3**
YAK Yakutsk 61.96 3 *c i*P **P** **23 37 57.6 -0.3**
YAK pmax pmax
comp=Z,294nm,1.0s
YAK pmax pmax
comp=N,88nm,1.1s
YAK pmax pmax
comp=E,16nm,1.1s
URZ Urewera 62.17 134 *e*P **P** **23 38 00.5 +0.7**
comp=E,45nm,0.6s
ZAA0 Zalesovo Array 62.47 335 *e*P **P** **23 37 59.8 -1.6**
ZAA0 *e*pP **pP** **23 38 36.0 +0.1**
ZAA0 *e*PP **PP** **23 40 20.8 +0.1**
ZALV Zalesovo Beam 62.47 335 P **P** **23 37 59.8 -1.6**
ZALV 23 38 37.4
ZALV Zalesovo Beam 62.47 335 P **P** **23 37 59.8 -1.6**
ZALV PcP **pP** **23 38 37.4 +1.5**
ZALV P'P' 00 07 04.3
ZALV Zalesovo Beam 62.47 335 P **P** **23 37 59.8 -1.6**
comp=E,58nm,0.6s,baz=125,slow=6.4,SNR=182
ZALV PcP **pP** **23 38 37.4 +1.5**
comp=E,8.0nm,0.4s,baz=128,slow=4.4,SNR=5.2
ZALV PKPPKP **P'P'df** **00 07 04.3 -0.3**
comp=E,1.4nm,0.7s,baz=316,slow=4.1,SNR=4.5
KURBB Kurchatov Arra 63.17 330 PKPPKP P'P'df 00 06 58.2 -5.6
comp=E,0.9nm,0.8s,baz=288,slow=3.2,SNR=7.0
KURBB P4KPbc 00 15 01.7
comp=E,0.2nm,0.5s,baz=123,slow=3.6,SNR=6.3
NVS Novosibirsk 63.76 335 ⇑*i*P **P** **23 38 07.0 -2.9**
NVS *e* 23 38 38.7
NVS *e*S **S** **23 46 28.3 -4.8**
NVS pmax pmax
comp=N,54nm,0.6s
NVS pmax pmax
comp=E,60nm,0.6s
NVS pmax pmax
comp=Z,88nm,0.6s
NVS smax smax
comp=N,5.0nm,1.7s
NVS smax smax
comp=E,9.0nm,1.3s
KK31 Karatay Array 63.81 319 *ce*P **P** **23 38 09.6 -1.0**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 63.81 319 *e*P **P** **23 38 09.3 -1.3**
KKAR *e**PP **pP** **23 38 44.4 -0.8**
KKAR pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 63.81 319 *e*P **P** **23 38 09.3 -1.3**
comp=Z,11nm,0.6s
KKAR *e*pP **pP** **23 38 44.4 -0.8**
SEY Seymchan 66.29 14 *c i*P **P** **23 38 27.2 +1.1**
FX1 Attu Island--F 66.80 30 *e*P **P** **23 38 30.7 +1.1**
FX1 Attu Island--F 66.80 30 P **P** **23 38 30.7 +1.1**
comp=Z,61nm,0.5s,baz=287,slow=2.2,SNR=79
CASY Casey 66.87 186 *e*P **P** **23 38 30.1 +0.4**
comp=Z,41nm,0.9s
CASY *e*PcP **PcP** **23 38 55.5 -1.8**
JMDO Jabal Madar 67.36 294 P **P** **23 38 33.4 -0.4**
SNR=5.3
BSY Bisya 68.24 294 P **P** **23 38 38.2 -1.1**
SNR=6.6
HOQ Hoqain 68.28 295 P **P** **23 38 39.6 +0.1**
SNR=6.0
BVAR Borovoye Array 68.70 329 PKPPKP **P'P'df** **00 06 53.8 -0.8**
comp=Z,0.5nm,0.8s,baz=308,slow=3.6,SNR=3.7
BVAR LR LR 00 08 54.4
comp=Z,97nm,21.4s,baz=109,slow=36
BRVK Borovoye 68.77 329 P **P** **23 38 41.2 -0.8**
comp=Z,265nm,0.5s,SNR=33
BRVK Borovoye 68.77 329 *e*P **P** **23 38 40.9 -1.0**
BRVK pmax pmax
comp=Z,28nm,0.7s
BRVK Borovoye 68.77 329 P **P** **23 38 41.0 -1.0**
SNR=22
BRVK Borovoye 68.77 329 *e*P **P** **23 38 40.9 -1.0**
comp=Z,28nm,0.7s
ARQ Araqi 68.95 295 P **P** **23 38 43.4 -0.4**
SNR=7.4
MIR Mirnyy 69.92 193 ⇑*i*P **P** **23 38 51.0 +2.3**
MIR *i* 23 39 30.0
MIR pmax pmax
comp=Z,63nm,1.0s
ASUD Al Ashush, Dub 70.24 296 P **P** **23 38 50.9 -0.6**
SNR=14
TIXI Tiksi 71.53 2 *c i*P **P** **23 38 57.3 -1.1**
TIXI pmax pmax
comp=Z,158nm,1.0s
AB31 Akbulak array 73.01 322 *ce*P **P** **23 39 06.2 -1.4**
ABKAR Akbulak array 73.01 322 *e*P **P** **23 39 06.3 -1.3**
comp=Z,6.5nm,0.5s
ABKAR *e*PcP **PcP** **23 39 22.0 -1.7**
ABKAR *e*PP **PP** **23 41 53.0 +0.8**
AKTO Aktyubinsk 74.58 323 LR LR 00 14 36.7
comp=Z,93nm,21.5s,baz=310,slow=38
SVE Sverdlovsk 75.44 330 *d i*P **P** **23 39 20.3 -1.2**
SVE pmax pmax
comp=Z,101nm,0.9s
ARU Arti 76.35 329 *c i*P **P** **23 39 24.7 -2.0**
ARU *PP **pP** **23 40 03.9 +1.5**
ARU 23 42 17.0
ARU S **S** **23 48 56.8 -2.9**
ARU pmax pmax
comp=Z,81nm,1.0s
ARU Arti 76.35 329 P **P** **23 39 25.7 -1.0**
comp=Z,445nm,0.9s,SNR=47
ABPO Ambohimpanom 77.11 251 *e*P **P** **23 39 31.2 -0.8**
ABPO *e**PP **pP** **23 40 07.5 -0.2**
ABPO pmax pmax
comp=Z,22nm,0.8s
ABPO Ambohimpanom 77.11 251 *e*P **P** **23 39 31.2 -0.8**
comp=Z,22nm,0.8s
ABPO *e*pP **pP** **23 40 07.5 -0.2**
QRN Al-Qurain 77.38 299 *e*P **P** **23 39 31.0 -2.1**
QRN AMb AMB 23 39 33.2
comp=Z,111nm,0.6s
KBD Kabd 77.63 300 *e*P **P** **23 39 31.6 -2.8**
KBD AMb AMB 23 39 34.3
comp=Z,31nm,1.0s
RDF Al-Radifah 77.73 299 *e*P **P** **23 39 32.8 -2.2**
RDF AMb AMB 23 39 36.6
comp=Z,50nm,0.7s
MIB Mutribah 78.01 300 *e*P **P** **23 39 34.3 -2.2**
MIB AMb AMB 23 39 36.9
comp=Z,103nm,0.7s
NAY Al-Naaiem 78.03 300 *e*P **P** **23 39 34.3 -2.4**
NAY AMb AMB 23 39 36.4
comp=Z,1.5nm,0.8s
SOKR Solikamsk 78.35 331 *c i*P **P** **23 39 36.1 -1.6**
SOKR pmax pmax
comp=Z,30nm,1.0s
RAYN Ar Rayn 79.02 294 P **P** **23 39 40.5 -1.8**
comp=Z,361nm,0.6s,SNR=30

MAW Mawson 79.27 200 *e*P **P** **23 39 43.4 +0.7**
comp=Z,16nm,1.1s
MAW *e*pP **pP** **23 40 18.2 -0.4**
MAW ScS S 23 49 49.2 +19
MAW Mawson 79.27 200 P **P** **23 39 43.6 +1.0**
comp=Z,53nm,1.0s,baz=69,slow=5.5,SNR=32
MAW ScS S 23 49 49.2 +19
comp=Z,1.6nm,0.6s,baz=12,slow=11,SNR=3.5
MAW LR LR 00 09 16.5
comp=Z,114nm,20.5s,baz=47,slow=31
MAW Mawson 79.27 200 P **P** **23 39 43.7 +1.0**
baz=79,SNR=16
VNDA Vanda 80.25 172 *e*P **P** **23 39 48.5 +0.7**
comp=Z,31nm,0.7s
VNDA PKKPbc **PKKPbc** **23 58 29.8 -3.9**
VNDA Vanda 80.25 172 P **P** **23 39 48.6 +0.8**
comp=Z,32nm,0.7s,baz=317,slow=6.0,SNR=126
VNDA PKKPbc **PKKPbc** **23 58 29.8 -3.9**
comp=Z,1.9nm,0.8s,baz=272,slow=1.7,SNR=10.0
DGRG David-gareji 81.09 312 P **P** **23 39 53.5 +0.5**
SBA Scott Base 81.20 172 *e*P **P** **23 39 53.5 +0.7**
SBA pmax pmax
comp=Z,18nm,0.9s
SBA Scott Base 81.20 172 *e*P **P** **23 39 53.5 +0.7**
comp=Z,18nm,0.9s
GNI Garni 81.40 310 *e*P **P** **23 39 54.4 -0.5**
comp=Z,23nm,0.8s
TBLG Delisi 81.60 312 *e*P **P** **23 39 55.5 -0.2**
TBLG Delisi 81.60 312 P **P** **23 39 55.5 -0.2**
DUS Dusheti 81.67 312 P **P** **23 39 55.9 -0.3**
ZEI Tsey 82.35 313 *e*P **P** **23 39 58.3 -1.5**
ZEI pmax pmax
comp=Z,35nm,1.0s
AKH Akhalkalaki 82.49 312 P **P** **23 40 00.9 +0.4**
GEVA Gevas 82.49 309 *i*P **P** **23 40 00.1 -0.6**
KBZ Khabaz 83.19 314 P **P** **23 40 02.8 -1.0**
KBZ Khabaz 83.19 314 P **P** **23 40 02.8 -1.0**
KBZ PKKPbc **PKKPbc** **23 58 26.2 +0.7**
KBZ Khabaz 83.19 314 P **P** **23 40 02.8 -1.0**
comp=Z,16nm,0.9s,baz=102,slow=3.9,SNR=28
KBZ PKKPbc **PKKPbc** **23 58 26.2 +0.7**
comp=Z,2.1nm,0.8s,baz=188,slow=12,SNR=4.4
KIV Kislovodsk 83.36 314 *e*P **P** **23 40 04.2 -0.7**
KIV pmax pmax
comp=Z,17nm,1.0s
ARTV Artvin 83.64 311 *i*P **P** **23 40 05.3 -1.2**
DAGI Agillar 83.64 311 *i*P **P** **23 40 05.8 -0.6**
DDEM Demirkent 83.75 311 *i*P **P** **23 40 06.4 -0.5**
DBOC Borcka 83.85 311 *i*P **P** **23 40 06.6 -0.8**
ERZM Erzurum 83.95 310 *i*P **P** **23 40 08.3 +0.1**
MZRK Al-Mazaregh 84.19 306 *e*P **P** **23 40 08.2 -1.0**
KBSD Kabsdagh 84.37 307 *e*P P 23 40 04.4 -5.6
KOPT Kop Dagi 84.62 310 *i*P **P** **23 40 11.6 0.0**
SFNV Sufian 84.67 306 *e*P **P** **23 40 11.2 -0.4**
VRHR Novokhopersk 84.86 321 *e*P **P** **23 40 10.3 -1.8**
VRHR pmax pmax
comp=Z,80nm,0.9s
VRHR pmax pmax
comp=N,30nm,1.5s
VRHR pmax pmax
comp=E,70nm,1.4s
SOC Sochi 85.47 314 *e*P **P** **23 40 13.1 -2.3**
SOC *e**PP **pP** **23 40 49.7 -2.1**
SOC *e* 23 43 34.6
SOC *e*S S 23 50 22.7 -12
SOC *e*SS **SS** **23 56 09.7 -3.8**
SOC *e*SSS SSS 23 59 36.2
SOC pmax pmax
comp=Z,62nm,1.0s
KELT Kelkit 85.58 310 *i*P **P** **23 40 15.4 -0.9**
JHLN Al Jahlan 85.98 306 *e*P **P** **23 40 17.8 -0.3**
KEMA Kemaliye 86.12 309 *i*P **P** **23 40 18.4 -0.4**
MALT Malatya 86.12 308 ⇓P **P** **23 40 18.2 -0.6**
MALT Malatya 86.12 308 ⇓*i*P **P** **23 40 18.2 -0.6**
ATAB Bozova 86.19 307 *i*P **P** **23 40 18.5 -0.5**
KMBO Kilima Mbogo 86.31 269 P **P** **23 40 21.2 +0.7**
SNR=5.9
KMBO Kilima Mbogo 86.31 269 *e*P **P** **23 40 19.6 -0.9**
comp=Z,15nm,0.8s
KMBO Kilima Mbogo 86.31 269 P **P** **23 40 20.8 +0.3**
comp=Z,16nm,0.9s,baz=60,slow=8.9,SNR=42
KMBO Kilima Mbogo 86.31 269 P **P** **23 40 20.6 +0.1**
baz=86,SNR=9.3
VORD Divnogorie 86.31 321 *e*P **P** **23 40 17.5 -1.8**
VORD pmax pmax
comp=E,90nm,0.8s
VORD pmax pmax
comp=Z,120nm,0.8s
VORD pmax pmax
comp=N,30nm,0.6s
SUSE Susehri 86.39 310 *i*P **P** **23 40 18.4 -1.8**
VSR Storozhevoye 86.41 321 *e*P **P** **23 40 18.0 -1.8**
VSR pmax pmax
comp=N,4.0nm,0.9s
VSR pmax pmax
comp=E,60nm,0.9s
VSR pmax pmax
comp=Z,120nm,0.9s
VOR Voronezh 86.43 322 P **P** **23 40 17.0 -2.9**
VOR pmax pmax
comp=Z,270nm,1.2s
KDAK Kodiak Island 86.64 32 P **P** **23 40 21.0 +0.3**
comp=Z,497nm,0.8s,SNR=26
KDAK Kodiak Island 86.64 32 *e*P **P** **23 40 21.1 +0.4**
comp=Z,60nm,0.8s
KDAK Kodiak Island 86.64 32 P **P** **23 40 21.7 +1.0**
comp=Z,45nm,0.6s,baz=254,slow=3.8,SNR=48
GZT Gaziantep 86.76 307 *i*P **P** **23 40 21.4 -0.7**
ZALF Zalf 86.78 303 *e*P **P** **23 40 23.5 +1.4**
RSO Redoubt South 86.80 30 *e*P **P** **23 40 21.7 -0.1**
comp=Z,112nm,0.8s
IM04 Indian Mountai 86.92 24 *e*P **P** **23 40 22.3 +0.2**
ASF Jabal al Asfar 87.13 302 P **P** **23 40 23.8 -0.1**
ASF PKKPbc **PKKPbc** **23 58 17.5 +1.7**
ASF Jabal al Asfar 87.13 302 P **P** **23 40 23.8 -0.1**
comp=Z,30nm,1.0s,baz=42,slow=4.0,SNR=36
ASF PKKPbc **PKKPbc** **23 58 17.5 +1.7**
comp=Z,1.7nm,0.8s,baz=92,slow=4.8,SNR=5.1
KUZU Kuzuini 87.13 307 *i*P **P** **23 40 22.8 -0.9**
ANN Anapa 87.19 315*c i*P P 23 40 20.2 -3.5
ANN *e**PP pP 23 40 59.7 -0.5
ANN *e*PPP PPP 23 45 41.0
ANN *e*S S 23 50 32.3 -19
ANN pmax pmax
comp=Z,123nm,1.2s
SCER sogukcermik 87.20 310 *i*P **P** **23 40 23.7 -0.4**
PPLA Purkeypile 87.29 27 *e*P **P** **23 40 23.7 -0.3**
comp=Z,13nm,0.5s
AYKD Aykdinkavak 87.37 307 *i*P **P** **23 40 23.8 -1.0**
DRWC Darouich 87.45 306 *e*P **P** **23 40 28.5 +3.2**
MARH Ras Al Marh 87.53 304 *e*P **P** **23 40 25.3 -0.7**
BTCH Batrach 87.60 306 *e*P **P** **23 40 25.0 -1.0**
HAWK Haweek 87.61 304 *e*P P 23 40 21.3 -4.8
WRDH Warideh 87.63 305 *e*P **P** **23 40 25.2 -0.9**
MOS Moscow 87.63 326 *e*P **P** **23 40 23.3 -2.3**
MOS *e* 23 50 35.6
MOS pmax pmax
comp=Z,38nm,0.6s
BIDA Albida 87.69 305 *e*P **P** **23 40 25.6 -0.9**
ANDN Andirin 87.74 307 *i*P **P** **23 40 26.0 -0.7**
YAYL Yayladag 87.89 306 *i*P **P** **23 40 26.5 -1.0**
SYO Syowa Base 87.91 201 ⇓*i*X **P** **23 40 25.6 -1.0**
BPAW Bear Paw Mtn. 87.93 26 *e*P **P** **23 40 26.9 0.0**
comp=Z,38nm,0.6s
BRBR Barbar 87.96 303 *e*P **P** **23 40 27.4 -0.5**
TMCR Tamitsa 87.97 334 *e*P **P** **23 40 25.4 -1.5**
TMCR pmax pmax
comp=Z,111nm,1.1s
ARNB Al Arnab 87.99 306 *e*P **P** **23 40 27.0 -0.9**
TRF Thorofare Moun 88.19 27 *e*P **P** **23 40 27.2 -1.1**
comp=Z,23nm,0.9s
OBN Obninsk 88.20 325*ce*P **P** **23 40 25.7 -2.6**
OBN *e* 23 43 56.8
OBN *e*SS SS 23 56 51.1 -1.5
OBN pmax pmax
comp=Z,99nm,1.6s
OBN Obninsk 88.20 325 P **P** **23 40 27.2 -1.1**
comp=Z,465nm,0.6s,SNR=6.2
COLD Coldfoot 88.46 23 *e*P **P** **23 40 30.0 +0.7**
comp=Z,46nm,0.5s
PMOR Pomariorio Ree 88.61 105 ⇓*i*P P 23 40 35.1 +4.1
comp=Z,237nm,1.1s
EIL Elat 88.75 300 P **P** **23 40 31.9 +0.4**
EIL Elat 88.75 300 P **P** **23 40 31.9 +0.4**
comp=Z,4.6nm,0.5s,baz=70,slow=3.1,SNR=9.9
EIL Elat 88.75 300 P **P** **23 40 33.5 +2.1**
baz=89,SNR=7.2
MCK McKinley 88.81 26 *e*P **P** **23 40 30.1 -0.9**
MCK pmax pmax
comp=Z,58nm,0.8s
MCK McKinley 88.81 26 *e*P **P** **23 40 30.1 -0.9**
comp=Z,58nm,0.8s
AVNT Avonos 88.94 309 *i*P **P** **23 40 30.8 -1.6**
GULE Gulek 88.98 307 *i*P **P** **23 40 31.3 -1.3**
SML Sawmill 89.02 28 *e*P **P** **23 40 31.9 -0.2**
SML pmax pmax
comp=Z,15nm,0.8s
SML Sawmill 89.02 28 *e*P **P** **23 40 31.9 -0.2**
comp=Z,14nm,0.8s
COLA College 89.32 25 *e*P **P** **23 40 32.5 -0.8**
COLA pmax pmax
comp=Z,29nm,0.4s
COLA College 89.32 25 *e*P **P** **23 40 32.5 -0.8**
comp=Z,29nm,0.4s
LVZ Lovozero 89.51 338*d i*P **P** **23 40 32.3 -1.9**
LVZ pmax pmax
comp=Z,36nm,0.9s
SIM Simferopol' 89.55 315*c i*P **P** **23 40 32.7 -2.2**
SIM pmax pmax
comp=Z,19nm,1.1s
ILAR Eielson Array 89.73 25 P **P** **23 40 33.8 -1.5**
ILAR PP **PP** **23 44 07.3 -2.0**
ILAR PKKP **PKKPdf** **23 58 07.9 +2.3**
ILAR Eielson Array 89.73 25 P **P** **23 40 33.8 -1.5**
comp=Z,13nm,0.5s,baz=245,slow=4.8,SNR=151
ILAR PP **PP** **23 44 07.3 -2.0**
comp=Z,2.4nm,0.9s,baz=272,slow=7.1,SNR=5.7
ILAR PKKP **PKKPdf** **23 58 07.9 +2.3**
comp=Z,1.6nm,0.7s,baz=77,slow=1.7,SNR=13
BR131 Keskin Array S 89.89 310 *e*P **P** **23 40 34.5 -2.3**
comp=Z,10nm,0.9s
BRTR Keskin Array B 89.89 310 P **P** **23 40 34.9 -1.9**
BRTR PP **PP** **23 44 10.5 -0.9**
BRTR PKKPbc **PKKPbc** **23 58 08.8 -0.7**
BRTR Keskin Array B 89.89 310 P **P** **23 40 34.9 -1.9**
comp=Z,9.1nm,0.9s,baz=127,slow=4.3,SNR=36
BRTR PP **PP** **23 44 10.5 -0.9**
comp=Z,3.7nm,0.8s,baz=113,slow=7.0,SNR=8.0
BRTR PKKPbc **PKKPbc** **23 58 08.8 -0.7**
comp=Z,0.9nm,0.8s,baz=321,slow=1.8,SNR=4.7
APA Apatity 89.98 337 *i*P **P** **23 40 35.0 -1.4**
APA *i* *PP **pP** **23 41 11.6 -1.5**
QSPA South Pole Qui 90.02 180 *e*P **P** **23 40 37.0 +0.3**
comp=Z,38nm,1.0s
QSPA PKKP **PKKPdf** **23 58 05.6 -0.2**
QSPA South Pole Qui 90.02 180 PKKP **PKKPdf** **23 58 05.6 -0.2**
comp=Z,3.0nm,0.8s,baz=176,slow=2.7,SNR=8.9
CSS Prodhromos 90.14 305 *e*P **P** **23 40 36.2 -1.7**
comp=Z,25nm,1.0s
DIV Divide 90.25 29 *e*P **P** **23 40 38.4 +0.6**
comp=Z,56nm,1.1s
PAX Paxson 90.36 27 *e*P **P** **23 40 38.3 -0.1**
PAX pmax pmax
comp=Z,33nm,1.0s
PAX Paxson 90.36 27 *e*P **P** **23 40 38.2 -0.1**
comp=Z,33nm,1.0s
BMRM Bremner River 90.82 29 *e*P **P** **23 40 41.1 +0.6**
comp=Z,39nm,0.9s
JOF Joensuu 90.95 333 *e*P **P** **23 40 38.3 -2.7**
JOF Joensuu 90.95 333 *e*p **P** **23 40 38.3 -2.7**
comp=Z,73nm,0.6s
GAZI Gazipasa 90.96 306 *i*P **P** **23 40 39.3 -2.3**
PUL Pulkovo 91.57 330 *i*P **P** **23 40 42.4 -1.5**
PUL pmax pmax
comp=Z,44nm,0.6s
SEYT Eskypehyr 92.04 309 *i*P **P** **23 40 44.8 -1.9**
EGAK Eagle 92.18 25 *e*P **P** **23 40 47.0 +0.4**
comp=Z,12nm,0.3s
KORT Korkueli 92.52 307 *i*P **P** **23 40 45.9 -3.1**
AKASG Malin Array Be 92.69 321*ce*P **P** **23 40 47.0 -2.2**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 92.69 321 P **P** **23 40 47.1 -2.2**
AKASG Malin Array Be 92.69 321 P **P** **23 40 47.1 -2.2**
comp=Z,13nm,0.8s,baz=68,slow=4.9,SNR=23
KIEV Kiev 92.70 321 *e*P **P** **23 40 46.3 -3.0**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 92.70 321 *e*P **P** **23 40 46.3 -3.0**
comp=Z,12nm,0.8s
ARCES ARCESS Array B 92.75 340 P **P** **23 40 47.4 -1.8**
ARCES PKKP **PKKPdf** **23 58 00.1 -0.3**
ARCES ARCESS Array B 92.75 340 P **P** **23 40 47.4 -1.8**
comp=Z,22nm,0.6s,baz=89,slow=5.6,SNR=121
ARCES PKKP **PKKPdf** **23 58 00.1 -0.3**
comp=Z,1.0nm,0.5s,baz=256,slow=3.1,SNR=14
ARCES LR LR 00 26 30.6
comp=Z,90nm,19.1s,baz=281,slow=38
ARE0 ARCESS Array S 92.75 340 *e*P **P** **23 40 47.3 -1.9**
MICGM Minsk 93.24 324 *e*P P 23 40 48.0 -3.7
MNK Minsk 93.27 324 *e*P P 23 40 48.0 -3.9
KAF Kangasniemi 93.33 332 *e*P **P** **23 40 49.3 -2.7**
KAF pmax pmax
comp=Z,10.0nm,0.4s
KAF Kangasniemi 93.33 332 *e*p **P** **23 40 49.3 -2.7**
comp=Z,10nm,0.4s
VSU Vasula 93.51 328*d i*P **P** **23 40 51.2 -1.6**
FINES FINESS Array B 93.51 331 P **P** **23 40 50.8 -2.0**
FINES PKKP **PKiKP** **23 45 38.0 +0.1**
FINES FINESS Array B 93.51 331 P **P** **23 40 50.8 -2.0**
comp=Z,7.0nm,0.5s,baz=63,slow=4.6,SNR=54
FINES PKKP **PKiKP** **23 45 38.0 +0.1**
comp=Z,2.7nm,0.5s,baz=120,slow=2.5,SNR=9.4
FINES LR LR 00 23 36.8
comp=Z,123nm,19.5s,baz=286,slow=36
CFR Carcaliu 93.78 315 ⇑P **P** **23 40 52.4 -2.0**
CFR Carcaliu 93.78 315 ⇑*i*P **P** **23 40 52.4 -2.0**
IDID Didziasalis 93.82 325 *e*P **P** **23 40 53.4 -1.0**
IDID AMB AMB 23 40 54.9
comp=Z,29nm,1.0s
KBS Kingsbay 94.00 350*ce*P **P** **23 40 53.6 -1.2**
KBS pmax pmax
comp=Z,15nm,0.7s
IIGN Ignalina 94.11 325 *e*P **P** **23 40 54.7 -1.1**
IIGN AMB AMB 23 40 56.2
comp=Z,27nm,1.2s
ISAL Salakas 94.14 326 *e*P **P** **23 40 54.8 -1.0**
ISAL AMB AMB 23 40 56.2
comp=Z,18nm,0.9s
HYT Haines Junctio 94.29 29 *e*P **P** **23 40 57.5 +0.9**
INK Inuvik 94.69 21 *e*P **P** **23 40 56.9 -1.1**
comp=Z,14nm,0.4s
INK Inuvik 94.69 21 P **P** **23 40 58.0 -0.1**
comp=Z,26nm,0.5s,baz=300,slow=3.9,SNR=46
TESR Tescani 94.71 317 ⇑*i*P **P** **23 40 57.2 -1.5**
VRI Vrincioaia 94.71 316 ⇑P **P** **23 40 57.6 -1.1**
VRI Vrincioaia 94.71 316 ⇑*i*P **P** **23 40 57.6 -1.1**
PLOR Plostina 94.76 316 ⇑P **P** **23 40 58.1 -0.9**
PLOR Plostina 94.76 316 ⇑*i*P **P** **23 40 58.1 -0.9**
LSZ Lusaka 95.21 255 P **P** **23 41 01.6 -0.1**
SNR=11
MLR Muntele Rosu 95.29 316 ⇑*i*P **P** **23 40 59.8 -1.7**
BURAR Bucovina Array 95.57 318 ⇓P **P** **23 41 01.4 -1.3**
BURAR Bucovina Array 95.57 318 ⇓*i*P **P** **23 41 01.4 -1.3**
BUR08 Bucovina Ar. S 95.58 318 *e*P **P** **23 41 01.4 -1.4**
SUW Suwalki 96.04 324 *e*P **P** **23 41 02.7 -1.8**
SUW pmax pmax
comp=Z,38nm,0.8s
SUW Suwalki 96.04 324 *e*P **P** **23 41 02.7 -1.8**
comp=Z,38nm,0.8s
SUW Suwalki 96.04 324 *e*P **P** **23 41 02.8 -1.8**
LVV L'vov 96.09 320 *e*P **P** **23 41 03.3 -1.6**
KWP Kalwaria Pacla 96.97 320 *e*P **P** **23 41 07.3 -1.6**
KWP pmax pmax
comp=Z,20nm,0.9s
KWP Kalwaria Pacla 96.97 320 *e*P **P** **23 41 07.3 -1.6**
comp=Z,20nm,0.9s
KWP Kalwaria Pacla 96.97 320 *e*P **P** **23 41 08.1 -0.8**
BOSA Boshof 97.34 241 P **P** **23 41 10.6 -0.6**
BOSA Boshof 97.34 241 P **P** **23 41 10.6 -0.6**
comp=Z,9.1nm,0.8s,baz=130,slow=5.5,SNR=14
KOLS Kolonicke sedl 97.35 319 *e*P **P** **23 41 09.7 -0.9**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 97.35 319 *e*P **P** **23 41 09.7 -0.9**
DRGR 97.37 317 ⇑P **P** **23 41 09.4 -1.5**
DRGR 97.37 317 ⇑*i*P **P** **23 41 09.4 -1.5**
UZH Uzhgorod 97.39 319 ⇓*i*P **P** **23 41 09.4 -1.3**
UZH *e* 23 41 46.6
WRAK Wrangell Islan 97.70 33 *e*P Pdif 23 41 12.4 +0.4
comp=Z,30nm,0.8s
BEL Belsk 97.81 322 *e*Pdiff **P** **23 41 11.6 -1.0**
CRVS Cervenica-Dubn 97.89 319 *e*P **P** **23 41 12.0 -1.0**
CRVS pmax pmax
comp=Z,20nm,1.2s
CRVS Cervenica-Dubn 97.89 319 *e*P **P** **23 41 12.0 -1.0**
STHS Stebnicka Huta 97.94 320 *e*P **P** **23 41 12.2 -1.1**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 97.94 320 *e*P **P** **23 41 12.2 -1.1**
BZS Buzias 98.29 316 ⇓P **P** **23 41 13.1 -1.8**
BZS Buzias 98.29 316 ⇓*i*P **P** **23 41 13.1 -1.8**
DLBC Dease Lake 98.47 31 P Pdif 23 41 17.0 +1.4
DLBC Dease Lake 98.47 31 P Pdif 23 41 17.0 +1.4
comp=Z,7.3nm,0.6s,baz=293,slow=5.5,SNR=16
KECS Kecovo 98.59 319 *e*P **P** **23 41 14.9 -1.3**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 98.59 319 PDIF **P** **23 41 14.9 -1.3**
VYHS Vyhne 99.67 319 *e*P **Pdif** **23 41 19.6 -1.4**
VYHS Vyhne 99.67 319 PDIF **Pdif** **23 41 19.6 -1.4**
OKC Ostrava-Krasne 99.84 321 *i*P **Pdif** **23 41 21.1 -0.6**
OKC Ostrava-Krasne 99.84 321 *i*PDIFF **Pdif** **23 41 21.1 -0.6**
DAG Danmarks Havn 100.40 352 *i*P **Pdif** **23 41 21.8 -1.8**
DAG pmax pmax
comp=Z,9.0nm,0.7s
DAG Danmarks Havn 100.40 352 *i*P **Pdif** **23 41 21.8 -1.8**
comp=Z,13nm,0.7s
NB2 NORSAR Subarra 100.59 333 P **Pdif** **23 41 22.3 -2.6**
comp=Z,5.2nm,0.7s,baz=72,slow=4.4
NB2 NORSAR Subarra 100.59 333 P **Pdif** **23 41 22.3 -2.6**
baz=72,slow=4.4
NOA NORSAR Array B 100.59 333 P **Pdif** **23 41 22.6 -2.3**
NOA PP PP 23 45 25.9 -7.4
NOA NORSAR Array B 100.59 333 P **Pdif** **23 41 22.6 -2.3**
comp=Z,4.0nm,0.7s,baz=73,slow=4.6,SNR=16
NOA PP PP 23 45 25.9 -7.4
comp=Z,1.1nm,0.7s,baz=76,slow=8.1,SNR=4.3
DPC Dobruska-Polom 100.88 321 *e*P **Pdif** **23 41 25.7 -0.7**
DPC Dobruska-Polom 100.88 321 *e*PDIFF **Pdif** **23 41 25.7 -0.7**
DPC *ex* x 23 41 30.1
SNAA Sanae 100.91 195 *e*P **Pdif** **23 41 26.5 +0.4**
SNAA Sanae 100.91 195 *e*PKiKP **PKiKP** **23 45 52.0 +1.2**
SNAA Sanae 100.91 195 *e*Pdif **Pdif** **23 41 26.2 +0.1**
comp=Z,3.2nm,0.8s
UPC Upice 101.03 322 *e*P **Pdif** **23 41 21.8 -5.2**
UPC Upice 101.03 322 *e*PDIFF **Pdif** **23 41 26.0 -1.0**
TREC Trest 101.65 321 *e*P **Pdif** **23 41 27.0 -2.8**
TREC Trest 101.65 321 *e*PDIFF **Pdif** **23 41 27.0 -2.8**
CONA Conrad Observa 101.73 319 ⇓*i*PP PP 23 45 41.6 -0.9
comp=Z,5.2nm,1.2s
PVCC Panska Ves 101.92 322 *e*P **Pdif** **23 41 27.1 -3.9**
PVCC Panska Ves 101.92 322 *e*PDIFF **Pdif** **23 41 27.1 -3.9**
PRU Pruhonice 102.08 321 *e*P **Pdif** **23 41 30.7 -1.0**
PRU Pruhonice 102.08 321 *e*PDIFF **Pdif** **23 41 30.7 -1.0**
BRG Berggiesshubel 102.22 322 *i*P **Pdif** **23 41 31.4 -0.8**
comp=Z,14nm,1.4s
BRG *e* 23 45 52.0
comp=Z,4.9nm,1.1s
BRG Berggiesshubel 102.22 322 *i*P **Pdif** **23 41 31.5 -0.8**
BRG *e* 23 45 52.0
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,5.0nm,1.1s
VNA2 Neumayer--Watz 102.53 195 *e*P **Pdif** **23 41 33.2 0.0**
VNA2 Neumayer--Watz 102.53 195 *e*PKiKP **PKiKP** **23 45 54.1 +0.4**
VNA2 Neumayer--Watz 102.53 195 *e*PKP sPKiKP 23 46 46.0 -0.9
PERS Pernice 102.53 318 *i*P **Pdif** **23 41 32.4 -1.5**
SOKA Soboth 102.58 318 ⇑*i*PP PP 23 45 50.2 +1.4
comp=Z,9.3nm,1.5s
CLL Collm 102.67 323 ⇓*i*P **Pdif** **23 41 33.4 -0.8**
CLL pmax pmax
comp=Z,13nm,1.6s
CLL Collm 102.67 323 ⇓*i*Pdif **Pdif** **23 41 33.4 -0.8**
comp=Z,13nm,1.6s
CLL *e*PP **PP** **23 45 46.0 -3.2**
BOJS Bojanci 102.70 317 *i*P **Pdif** **23 41 33.8 -0.7**
GERES GERESS Array B 102.90 320 P **Pdif** **23 41 33.1 -2.4**
GERES PP PP 23 45 43.3 -7.9
GERES PKiKP **PKiKP** **23 45 54.8 -0.3**
GERES PKKPbc **PKKPbc** **23 57 33.5 -1.0**
GERES GERESS Array B 102.90 320 P **Pdif** **23 41 33.1 -2.4**
comp=Z,1.0nm,0.7s,baz=72,slow=4.3,SNR=12
GERES PP PP 23 45 43.3 -7.9
comp=Z,0.6nm,0.6s,baz=58,slow=5.0,SNR=4.2
GERES PKiKP **PKiKP** **23 45 54.8 -0.3**
comp=Z,0.9nm,0.6s,baz=17,slow=1.4,SNR=5.4
GERES PKKPbc **PKKPbc** **23 57 33.5 -1.0**
comp=Z,1.0nm,0.8s,baz=238,slow=1.3,SNR=7.2
KHC Kasperske Hory 102.91 321 *e*P **Pdif** **23 41 34.3 -1.1**
KHC Kasperske Hory 102.91 321 *e*PDIFF **Pdif** **23 41 34.3 -1.1**
KHC *ex* x 23 41 38.2
VSS Visnje 102.91 317 *i*P **Pdif** **23 41 34.5 -1.0**
JAVS Javornik 103.42 317 *i*P **Pdif** **23 41 36.2 -1.7**
YKA Yellowknife Ar 104.10 24 Pdif **Pdif** **23 41 40.5 +0.1**
YKA PKiKP **PKiKP** **23 45 56.8 +0.1**
YKA PKKPbc **PKKPbc** **23 57 28.0 -3.3**
YKA Yellowknife Ar 104.10 24 Pdiff **Pdif** **23 41 40.4 +0.1**
comp=Z,2.4nm,0.6s,baz=297,slow=4.4,SNR=9.7
YKA PKiKP **PKiKP** **23 45 56.8 +0.1**
comp=Z,1.5nm,0.3s,baz=301,slow=1.9,SNR=21
YKA PKKPbc **PKKPbc** **23 57 28.0 -3.3**
comp=Z,2.2nm,0.7s,baz=111,slow=2.2,SNR=6.6
WTTA Wattenberg 104.67 319 ⇑*i*PKiKP **PKiKP** **23 45 58.1 -0.4**
comp=Z,8.7nm,0.9s
DAVA Damuels 105.80 320 ⇑*i*PKiKP **PKiKP** **23 46 00.1 -0.4**
comp=Z,6.5nm,0.9s
LPG La Plagne 108.43 319 *e*PKiKP **PKiKP** **23 46 05.5 -0.2**
comp=Z,9.2nm,0.9s
LPL La Plagne 108.44 319 *e*PKiKP **PKiKP** **23 46 05.3 -0.3**
comp=Z,7.0nm,0.9s
CABF La Chapelle 108.48 320 *e*PKiKP **PKiKP** **23 46 05.4 -0.1**
comp=Z,12nm,0.7s
MBDF Montbardon 108.68 318 *e*PKiKP **PKiKP** **23 46 05.2 -0.8**
comp=Z,5.5nm,0.8s
ORIF Oris-en-Rattie 109.21 318 *e*PKiKP **PKiKP** **23 46 06.2 -0.7**
comp=Z,8.8nm,1.0s
ORIF *e*R
comp=Z,147nm,22.8s
KEST Kesra 109.44 308 PP PP 23 46 35.7 -3.9
KEST PKKPbc **PKKPbc** **23 57 14.0 +0.1**
KEST Kesra 109.44 308 PP PP 23 46 35.7 -3.9
comp=Z,2.5nm,0.9s,baz=185,slow=17,SNR=4.6
KEST PKKPbc **PKKPbc** **23 57 14.0 +0.1**
comp=Z,0.9nm,0.5s,baz=0.0,slow=6.1,SNR=8.8
LOR Lormes 109.66 321 *e*PKiKP **PKiKP** **23 46 07.1 -0.4**
comp=Z,12nm,1.2s
LOR *e*R
comp=Z,85nm,22.0s
SMRF Simiane la Rot 109.74 317 *e*PKiKP **PKiKP** **23 46 07.8 0.0**
comp=Z,15nm,1.0s
SSF Saint Saulge 109.96 321 *e*PKiKP **PKiKP** **23 46 07.9 -0.2**
comp=Z,9.5nm,0.8s
VIVF Saint-Julien-l 110.03 318 *e*PKiKP **PKiKP** **23 46 08.0 -0.4**
AVF Avril sur Loir 110.16 321 *e*PKiKP **PKiKP** **23 46 07.9 -0.6**
comp=Z,5.4nm,0.8s
BGF Bois d'Agland 110.57 321 *e*PKiKP **PKiKP** **23 46 09.1 -0.2**
comp=Z,26nm,0.9s
LASF Ste Croix 110.86 318 *e*PKiKP **PKiKP** **23 46 09.7 -0.2**
TCF Toulx Ste Croi 111.08 321 *e*PKiKP **PKiKP** **23 46 10.1 -0.2**
comp=Z,24nm,1.2s
MSO Missoula 111.58 39 ⇓P 23 46 11.4
baz=112
NVAR Mina Array Bea 111.68 48 Pdif **Pdif** **23 42 16.9 +2.0**
NVAR PKiKP **PKiKP** **23 46 13.4 +1.5**
NVAR PKKPbc **PKKPbc** **23 57 07.2 +0.2**
NVAR PKKPab **PKKPab** **23 57 14.5 -1.5**
NVAR Mina Array Bea 111.68 48 Pdiff **Pdif** **23 42 16.9 +2.0**
comp=Z,0.5nm,0.8s,baz=246,slow=4.5,SNR=3.5
NVAR PKiKP **PKiKP** **23 46 13.4 +1.5**
comp=Z,3.8nm,0.6s,baz=247,slow=1.9,SNR=25
NVAR PKKPbc **PKKPbc** **23 57 07.2 +0.2**
comp=Z,1.0nm,0.7s,baz=134,slow=3.9,SNR=7.5
NVAR PKKPab **PKKPab** **23 57 14.5 -1.5**
comp=Z,1.0nm,0.6s,baz=126,slow=4.6,SNR=5.9
MFID Camas Ranch 111.72 42 ⇑P 23 46 12.6
baz=112
CAF Calviac 111.72 319 *e*PKiKP **PKiKP** **23 46 11.7 +0.1**
comp=Z,4.4nm,0.7s
GRR Gorron 112.07 324 *e*PKiKP **PKiKP** **23 46 11.1 -0.9**
MTLF Montolieu 112.24 318 *e*PKiKP **PKiKP** **23 46 12.2 -0.3**
comp=Z,4.4nm,0.8s
ISA Isabella 112.39 51 ⇑P 23 46 13.5

	baz=112							
MFF	Saint Martin d	112.43	322	ePKIKP	PKiKP	23 46 12.4	-0.4	
	comp=Z,13nm,0.7s							
LFF	La Frestale	112.58	320	ePKIKP	PKiKP	23 46 12.4	-0.7	
	comp=Z,29nm,1.1s							
HLID	Hailey	112.61	42	⇑P		23 46 15.1		
	baz=112							
B17A	L&G Farms, Che	112.83	36	⇑P		23 46 14.0		
	baz=113							
GRAC	Grapevine Rang	112.83	49	⇓P		23 46 15.1		
	baz=113							
EDW2	Edwards Air Fo	113.00	52	⇓P		23 46 15.6		
	baz=113							
MPMC	Manual Prospec	113.03	50	⇑P		23 46 16.0		
	baz=113							
LRMC	Laurel Mountai	113.06	51	⇑P		23 46 15.4		
	baz=113							
A18A	Metzger Ranch,	113.08	35	⇓P		23 46 13.9		
	baz=113,SNR=7.9							
SGMF	Saint Gilles	113.13	324	ePKIKP	PKiKP	23 46 14.2	+0.1	
C17A	Wharram Farm,	113.16	37	⇑P		23 46 14.2		
	baz=113,SNR=6.6							
B18A	Beardsley Farm	113.38	36	⇑P		23 46 14.8		
	baz=113							
FURC	Furnace Creek,	113.39	50	⇑P		23 46 15.4		
	baz=113							
D17A	Six Diamond Ra	113.43	37	⇑P		23 46 15.1		
	baz=113							
BFSC	Mount Baldy Ra	113.45	52	⇑P		23 46 15.4		
	baz=113							
BOZ	Bozeman (W)	113.54	39	ePKIKP	PKiKP	23 46 15.5	+0.3	
BOZ	Bozeman (W)	113.54	39	ePKiKP	PKiKP	23 46 15.5	+0.3	
EGMT	Eagleton	113.57	36	⇓P		23 46 15.8		
	baz=114							
EPF	Esparros	113.62	318	ePKIKP	PKiKP	23 46 15.6	+0.3	
	comp=Z,7.4nm,0.7s							
E17A	Martinsdale	113.65	38	⇑P		23 46 16.0		
	baz=114							
R11A	Troy Canyon, C	113.72	48	⇓P		23 46 16.9		
	baz=114							
GSC	Goldstone	113.80	51	⇓P		23 46 17.5		
	baz=114							
B19A	Brinkman Farms	113.83	35	⇑P		23 46 15.7		
	baz=114							
FFC	Flin Flon	113.89	27	ePKIKP	PKiKP	23 46 15.8	+0.4	
FFC	Flin Flon	113.89	27	ePKiKP	PKiKP	23 46 15.8	+0.4	
D18A	Linhart Farms,	113.94	37	⇓P		23 46 16.2		
	baz=114							
SHOC	Shoshone	114.02	50	⇓P	PKPdf	23 46 17.7	+1.5	
	baz=114							
F17A	Fitzpatrick Pl	114.03	38	⇑P	PKPdf	23 46 16.7	+0.6	
	baz=114,SNR=6.8							
C19A	Slack Wire Ran	114.13	36	⇓P	PKPdf	23 46 17.1	+1.0	
	baz=114							
E18A	Harlowton	114.17	37	⇑P	PKPdf	23 46 17.3	+1.0	
	baz=114							
H16A	Russell Place,	114.20	40	⇑P	PKPdf	23 46 18.0	+1.5	
	baz=114							
A20A	Cobblestone Ra	114.20	34	⇑P	PKPdf	23 46 17.3	+1.1	
	baz=114							
G17A	Pierce Place,	114.24	39	⇓P	PKPdf	23 46 17.5	+1.0	
	baz=114							
ETSF	Etsaut	114.28	318	ePKIKP	PKPdf	23 46 16.9	+0.3	
	comp=Z,8.7nm,0.8s							
HEC	Hector,Ludlow	114.32	51	⇑P	PKPdf	23 46 17.9	+1.0	
	baz=114							
I16A	Newdale	114.41	41	⇑P	PKPdf	23 46 18.3	+1.4	
	baz=114							
TUQ	Turquoise Moun	114.44	51	⇑P	PKPdf	23 46 18.5	+1.3	
	baz=114							
D19A	Cripps Ranch,	114.51	36	⇓P	PKPdf	23 46 17.5	+0.6	
	baz=114,SNR=7.1							
PFO	Pinyon Flat Ob	114.60	53	⇓P	PKPdf	23 46 17.6	+0.1	
	baz=114							
F18A	Big Timber	114.61	38	⇓P	PKPdf	23 46 17.8	+0.6	
	baz=114,SNR=10							
SJPF	Ste Jean	114.63	319	ePKIKP	PKPdf	23 46 17.4	+0.3	
	comp=Z,5.9nm,0.6s							
A21A	Bergtoll Ranch	114.70	34	⇑P	PKPdf	23 46 17.4	+0.2	
	baz=115							
C20A	Veseth Ranch,	114.75	36	⇓P	PKPdf	23 46 17.7	+0.4	
	baz=115,SNR=19							
BELC	Belle Mtn. Jos	114.84	52	⇓P	PKPdf	23 46 18.9	+0.9	
	baz=115							
MONP	Monument Peak	114.84	53	⇓P	PKPdf	23 46 19.4	+1.3	
	baz=115							
GMRC	Granite Mounta	114.86	51	⇓P	PKPdf	23 46 19.3	+1.3	
	baz=115							
E19A	Rath Farm, Rou	114.91	37	⇓P	PKPdf	23 46 17.9	+0.2	
	baz=115,SNR=5.4							
I17A	Pilgrim Ck.	114.98	40	⇑P	PKPdf	23 46 19.0	+0.9	
	baz=115							
D20A	Manuel Ranch,	114.99	36	⇑P	PKPdf	23 46 18.3	+0.5	
	baz=115							
DUG	Dugway	115.04	45	⇓P	PKPdf	23 46 19.3	+1.1	
	baz=115							
REDW	Red Top Meadow	115.05	41	ePKiKP	PKPdf	23 46 19.0	+0.8	
F19A	Roth Farm, Mol	115.11	38	⇑P	PKPdf	23 46 19.2	+1.1	
	baz=115							
DVTC	Desert V Tower	115.17	54	⇓P	PKPdf	23 46 19.3	+0.7	
	baz=115							
C21A	Desert Coulee	115.22	35	⇑P	PKPdf	23 46 18.7	+0.5	
	baz=115							
A22A	Carney Farms,	115.27	34	⇑P	PKPdf	23 46 18.5	+0.3	
	baz=115							
E20A	Meyer Farm, Mu	115.28	37	⇓P	PKPdf	23 46 19.1	+0.7	
	baz=115							
SWSC	Sam W. Stewart	115.33	53	⇑P	PKPdf	23 46 19.3	+0.6	
	baz=115							
HWUT	Hardware Ranch	115.33	43	ePKPdf	PKPdf	23 46 18.9	+0.2	
BC3	Big Chuckawall	115.38	52	⇑P	PKPdf	23 46 19.8	+0.8	
	baz=115							
IRM	Iron Mountain	115.45	52	⇑P	PKPdf	23 46 20.0	+0.9	
	baz=115							
I18A	Diamond G Ranc	115.57	40	⇓P	PKPdf	23 46 20.3	+1.0	
	baz=116							
B22A	Reddig Ranch S	115.59	34	⇑P	PKPdf	23 46 19.9	+1.0	
	baz=116							
F20A	Billings	115.62	38	⇑P	PKPdf	23 46 20.1	+1.0	
	baz=116							
CCUT	Cedar City	115.65	48	ePKPdf	PKPdf	23 46 20.6	+1.1	
D21A	La Casta Ranch	115.67	36	⇑P	PKPdf	23 46 19.7	+0.6	
	baz=116,SNR=9.6							
TAM	Tamanrasset	115.67	295	ePKIKP	PKPdf	23 46 19.7	-0.2	
TAM	Tamanrasset	115.67	295	ePKPdf	PKPdf	23 46 19.7	-0.2	
JLU	Jordanelle	115.82	44	ePKPdf	PKPdf	23 46 20.1	+0.3	
G20A	Bridger	115.86	38	⇑P	PKPdf	23 46 19.9	+0.3	
	baz=116,SNR=11							
E21A	Keefer Ranch,	115.89	36	⇓P	PKPdf	23 46 20.4	+0.8	
	baz=116							
MPU	Maple Canyon	115.94	45	ePKPdf	PKPdf	23 46 19.9	-0.1	
I19A	Meeteetse	115.94	40	⇓P	PKPdf	23 46 20.3	+0.5	
	baz=116,SNR=5.3							
C22A	Vida	115.95	35	⇑P	PKPdf	23 46 20.5	+0.9	
	baz=116,SNR=12							
M17A	Scullys Gap (B	115.99	43	⇓P	PKPdf	23 46 21.1	+1.0	
	baz=116							
DAU	Daniels Canyon	116.04	44	ePKIKP	PKPdf	23 46 21.1	+0.8	
DAU	Daniels Canyon	116.04	44	ePKPdf	PKPdf	23 46 21.1	+0.8	
B23A	Brockton	116.07	34	⇑P	PKPdf	23 46 20.6	+0.8	
	baz=116							
D22A	Cohagen	116.10	35	⇓P	PKPdf	23 46 20.9	+1.0	
	baz=116,SNR=23							
MVU	Marysvale	116.13	46	ePKPdf	PKPdf	23 46 21.1	+0.7	
PDAR	Pinedale Array	116.16	41	PKP	PKPdf	23 46 20.6	+0.1	
PDAR				PKKPbc	PKKPbc	23 56 48.7	-3.3	
PDAR				PKKPab	PKKPab	23 56 55.1	-1.0	
PDAR	Pinedale Array	116.16	41	PKP	PKPdf	23 46 20.6	+0.1	
	comp=Z,2.7nm,0.6s,baz=207,slow=1.0,SNR=17							
PDAR				PKKPbc	PKKPbc	23 56 48.7	-3.3	
	comp=Z,0.9nm,0.5s,baz=122,slow=6.9,SNR=7.8							
PDAR				PKKPab	PKKPab	23 56 55.1	-1.0	
	comp=Z,6.3nm,0.6s,baz=120,slow=6.9,SNR=34							
PDMCI	Parker Dam,Lak	116.20	51	⇓P	PKPdf	23 46 21.2	+0.9	
	baz=116							
L18A	Fontenelle, Gr	116.22	42	⇓P	PKPdf	23 46 21.6	+1.1	
	baz=116							
J19A	Crowheart	116.26	40	⇑P	PKPdf	23 46 21.2	+0.7	
	baz=116							
LAO	LASA Array	116.32	36	ePKPdf	PKPdf	23 46 21.2	+0.9	
C23A	Lambert	116.32	34	⇑P	PKPdf	23 46 21.2	+0.9	
	baz=116,SNR=12							
A24A	Westby	116.35	33	⇑P	PKPdf	23 46 20.6	+0.3	
	baz=116							
H20A	Greybull	116.35	39	⇑P	PKPdf	23 46 21.0	+0.5	
	baz=116,SNR=6.6							
DGMT	Dagmar	116.50	33	⇑P	PKPdf	23 46 21.2	+0.5	
	baz=116							
TMUT	Trail Mountain	116.53	45	ePKPdf	PKPdf	23 46 21.2	-0.1	
I20A	Worland	116.53	39	⇓P	PKPdf	23 46 21.2	+0.3	
	baz=116,SNR=17							
L19A	Farson	116.59	42	⇑P	PKPdf	23 46 21.7	+0.5	
	baz=116,SNR=8.8							
K19A	Absolon Red Bu	116.60	41	⇓P	PKPdf	23 46 21.4	+0.2	
	baz=116,SNR=12							
E22A	Miles City	116.61	36	⇓P	PKPdf	23 46 21.5	+0.6	
	baz=116,SNR=12							
D23A	Lindsay	116.65	35	⇓P	PKPdf	23 46 21.9	+1.0	
	baz=116							
Q16A	Castle Valley	116.71	45	⇑P	PKPdf	23 46 22.6	+1.1	
	baz=117							
A25A	Svangstu Ranch	116.83	33	⇓P	PKPdf	23 46 22.3	+1.1	
	baz=117							
J20A	Shoshoni	116.84	40	⇓P	PKPdf	23 46 22.6	+1.0	
	baz=117							
U15A	North Rim	116.86	48	⇓P	PKPdf	23 46 23.7	+1.8	
	baz=117							
C24A	Savage	116.90	34	⇑P	PKPdf	23 46 22.3	+0.9	
	baz=117							
E23A	Ismay	116.96	36	⇓P	PKPdf	23 46 22.4	+0.8	
	baz=117							
M19A	Rock Springs	117.00	42	⇑P	PKPdf	23 46 22.5	+0.5	
	baz=117							
K20A	Yellowstone Ra	117.01	41	⇑P	PKPdf	23 46 22.1	+0.2	
	baz=117,SNR=5.6							
SRU	San Rafael	117.09	45	ePKIKP	PKPdf	23 46 22.7	+0.5	
SRU	San Rafael	117.09	45	ePKPdf	PKPdf	23 46 22.7	+0.5	
I21A	Big Trails, Te	117.13	39	⇑P	PKPdf	23 46 22.0	-0.1	
	baz=117,SNR=9.5							
B25A	Knox Farm, Ray	117.19	33	⇓P	PKPdf	23 46 23.3	+1.4	
	baz=117							
D24A	Glendive	117.19	35	⇓P	PKPdf	23 46 23.1	+1.1	
	baz=117							
Y14A	Wickenburg	117.21	51	⇓P	PKPdf	23 46 23.6	+1.1	
	baz=117							
F23A	Volborg	117.31	36	⇓P	PKPdf	23 46 22.6	+0.3	
	baz=117,SNR=7.4							
L20A	Wamsutter	117.31	41	⇑P	PKPdf	23 46 23.0	+0.4	
	baz=117,SNR=6.0							
A26A	Wade Farm, Ken	117.42	32	⇓P	PKPdf	23 46 23.4	+1.1	
	baz=117							
C25A	Freed Ranch, W	117.45	34	⇓P	PKPdf	23 46 23.6	+1.1	
	baz=117							
O19A	Miners Draw (B	117.56	43	⇓P	PKPdf	23 46 23.5	+0.4	
	baz=118,SNR=8.8							
G23A	Biddle	117.59	37	⇓P	PKPdf	23 46 23.0	+0.1	
	baz=118,SNR=6.0							
M20A	Sweetwater, Wa	117.65	42	⇓P	PKPdf	23 46 23.8	+0.5	
	baz=118,SNR=6.7							
D25A	Fairfield	117.74	34	⇑P	PKPdf	23 46 23.9	+0.8	
	baz=118							
WUAZ	Wupatki	117.89	49	ePKPdf	PKPdf	23 46 24.0	+0.2	
WUAZ	Wupatki	117.89	49	⇑P	PKPdf	23 46 25.2	+1.4	
	baz=118							
N20A	Spence Gulch,	117.90	42	⇓P	PKPdf	23 46 24.6	+0.8	
	baz=118,SNR=14							
P19A	Cripple Cowboy	117.95	44	⇓P	PKPdf	23 46 24.9	+1.0	
	baz=118,SNR=8.6							
L21A	Rawlins	117.97	41	⇓P	PKPdf	23 46 24.1	+0.2	
	baz=118,SNR=15							
ESDC	Sonseca Array	117.98	316	PKP	PKPdf	23 46 23.8	+0.1	
ESDC				PKKPbc	PKKPbc	23 56 46.4	+1.2	
ESDC	Sonseca Array	117.98	316	PKP	PKPdf	23 46 23.8	+0.1	
	comp=Z,1.4nm,0.6s,baz=16,slow=3.8,SNR=11							
ESDC				PKKPbc	PKKPbc	23 56 46.4	+1.2	
	comp=Z,1.6nm,0.9s,baz=271,slow=3.0,SNR=5.2							
C26A	Wahner Farm, P	118.03	33	⇑P	PKPdf	23 46 24.3	+0.7	
	baz=118,SNR=5.0							
214A	Organ Pipe Nat	118.03	53	⇓P	PKPdf	23 46 25.0	+1.0	
	baz=118							
M21A	Separation Pea	118.14	41	⇑P	PKPdf	23 46 24.7	+0.4	
	baz=118,SNR=35							
K22A	Casper	118.19	40	⇓P	PKPdf	23 46 24.3	+0.1	
	baz=118,SNR=10							
RWWY	Rawlins	118.21	41	ePKPdf	PKPdf	23 46 24.1	-0.3	
X16A	Lo Mia Camp, P	118.25	50	⇓P	PKPdf	23 46 25.7	+1.1	
	baz=118							
D26A	Manning	118.30	34	⇓P	PKPdf	23 46 24.6	+0.5	
	baz=118							
H24A	Dirks Ranch, A	118.34	37	⇓P	PKPdf	23 46 24.7	+0.3	
	baz=118,SNR=12							
F25A	Bowman	118.34	35	⇑P	PKPdf	23 46 25.1	+0.8	
	baz=118							
A28A	Rude Farm, Bot	118.35	31	⇑P	PKPdf	23 46 24.4	+0.3	
	baz=118							
P20A	De Beque	118.42	44	⇓P	PKPdf	23 46 25.5	+0.7	
	baz=118,SNR=9.9							
N21A	Black Mountain	118.44	42	⇓P	PKPdf	23 46 25.7	+0.9	
	baz=118,SNR=12							
PV04	Paradox Valley	118.54	45	ePKPdf	PKPdf	23 46 25.3	+0.2	
L22A	Ellis Ranch, M	118.55	41	⇓P	PKPdf	23 46 25.8	+0.8	
	baz=118,SNR=5.7							
B28A	Dugan Ranch, T	118.58	32	⇑P	PKPdf	23 46 25.1	+0.5	
	baz=118							
E26A	Carlson Angus	118.61	35	⇑P	PKPdf	23 46 25.4	+0.7	
	baz=118							
K23A	Bowen Ranch, D	118.71	39	⇑P	PKPdf	23 46 25.1	-0.1	
	baz=119,SNR=5.3							
O21A	Pagoda	118.72	43	⇓P	PKPdf	23 46 25.9	+0.5	
	baz=119,SNR=5.1							
Q20A	Ridgley Place,	118.72	44	⇓P	PKPdf	23 46 26.2	+0.8	
	baz=119,SNR=14							
D27A	Center	118.76	33	⇓P	PKPdf	23 46 26.1	+1.1	
	baz=119							
G25A	Newell	118.77	36	⇓P	PKPdf	23 46 25.1	0.0	
	baz=119,SNR=6.4							
F26A	Lodgepole	118.84	35	⇑P	PKPdf	23 46 25.6	+0.4	
	baz=119							
PBRG	Braganca	118.86	319	ePKPdf	PKPdf	23 46 25.4	0.0	
A29A	Manning Farm,	118.87	31	⇑P	PKPdf	23 46 25.2	0.0	
	baz=119,SNR=7.1							
PV01	Paradox Valley	118.89	45	ePKPdf	PKPdf	23 46 27.1	+1.4	
RSSD	Black Hills	118.99	37	ePKIKP	PKPdf	23 46 25.7	-0.1	
RSSD	Black Hills	118.99	37	ePKPdf	PKPdf	23 46 25.7	-0.1	
R20A	Redvale	119.00	45	⇑P	PKPdf	23 46 27.0	+1.0	
	baz=119,SNR=7.8							
C28A	Hausauer Farms	119.02	32	⇑P	PKPdf	23 46 25.9	+0.5	
	baz=119							
P21A	Newcastle	119.06	43	⇑P	PKPdf	23 46 26.8	+0.8	
	baz=119,SNR=5.0							
B29A	Wagenman Farm,	119.10	31	⇑P	PKPdf	23 46 25.9	+0.3	
	baz=119,SNR=6.0							
E27A	Carson	119.14	34	⇓P	PKPdf	23 46 26.6	+0.8	
	baz=119							
S20A	Disappointment	119.17	46	⇓P	PKPdf	23 46 27.3	+0.9	
	baz=119,SNR=21							
G26A	Maurine	119.20	36	⇓P	PKPdf	23 46 25.7	-0.2	
	baz=119,SNR=6.3							
F27A	Lemmon	119.20	35	⇑P	PKPdf	23 46 26.1	+0.2	
	baz=119,SNR=9.4							
I25A	Rochford	119.22	37	⇑P	PKPdf	23 46 26.1	-0.1	
	baz=119,SNR=23							
K24A	Anderson Ranch	119.24	39	⇓P	PKPdf	23 46 26.1	-0.1	
	baz=119,SNR=6.4							
W18A	Petrified Fore	119.28	49	⇓P	PKPdf	23 46 28.1	+1.6	
	baz=119							
Q21A	Lamborn Mesa,	119.28	44	⇑P	PKPdf	23 46 27.7	+1.3	
	baz=119							
MVCO	Mesa Verde	119.34	46	ePKPdf	PKPdf	23 46 27.3	+0.6	
MVCO	Mesa Verde	119.34	46	⇑P	PKPdf	23 46 27.9	+1.2	
	baz=119							
X18A	Snowflake	119.35	50	⇑P	PKPdf	23 46 28.0	+1.3	
	baz=119							
MDND	Maddock	119.35	32	⇓P	PKPdf	23 46 26.8	+0.8	
	baz=119							
MVO	Moncorvo	119.36	319	ePKPdf	PKPdf	23 46 26.7	+0.3	
O22A	Kremmling	119.37	42	⇑P	PKPdf	23 46 27.4	+0.7	
	baz=119							
N23A	Red Feather La	119.42	41	⇓P	PKPdf	23 46 27.5	+0.7	
	baz=119,SNR=8.7							
H26A	Fairpoint	119.47	36	⇑P	PKPdf	23 46 26.8	+0.3	
	baz=119							
P22A	Eagle	119.50	43	⇑P	PKPdf	23 46 27.8	+0.9	
	baz=119,SNR=9.1							
R21A	Cimarron	119.51	45	⇓P	PKPdf	23 46 28.0	+1.1	
	baz=119,SNR=5.2							
J25A	Sunshine Ranch	119.52	38	⇓P	PKPdf	23 46 26.7	0.0	
	baz=119							
TUC	Tucson	119.52	52	ePKIKP	PKPdf	23 46 27.1	+0.1	
TUC	Tucson	119.52	52	ePKPdf	PKPdf	23 46 27.1	+0.1	
E28A	Huff	119.54	34	⇑P	PKPdf	23 46 26.9	+0.5	
	baz=119							
G27A	Dupree	119.54	35	⇓P	PKPdf	23 46 27.0	+0.4	
	baz=119,SNR=29							
SMCO	Snowmass	119.54	44	ePKPdf	PKPdf	23 46 27.7	+0.4	
B30A	Myrvik Farm, E	119.64	31	⇑P	PKPdf	23 46 26.6	0.0	
	baz=120							
ULM	Lac du Bonnet	119.65	28	ePKPdf	PKPdf	23 46 26.0	-0.5	
ULM	Lac du Bonnet	119.65	28	PKP	PKPdf	23 46 26.1	-0.5	
	comp=Z,28nm,0.8s,baz=323,slow=2.4,SNR=31							
U20A	Newcomb	119.67	47	⇑P	PKPdf	23 46 28.4	+1.1	
	baz=120							
Q22A	Crested Butte,	119.73	44	⇓P	PKPdf	23 46 28.5	+1.0	
	baz=120,SNR=14							
PCAB	Cabril	119.74	320	ePKPdf	PKPdf	23 46 27.5	+0.5	
I26A	New Underwood	119.75	37	⇓P	PKPdf	23 46 27.5	+0.4	
	baz=120,SNR=5.8							
PGAV	Gavieira, Arco	119.76	320	ePKPdf	PKPdf	23 46 27.5	+0.3	
O23A	Lake Granby, G	119.77	42	⇑P	PKPdf	23 46 28.4	+0.9	
	baz=120,SNR=14							
H27A	Howes	119.88	36	⇑P	PKPdf	23 46 27.0	-0.3	
	baz=120,SNR=16							
K25A	Mack Ranch, Ha	119.89	39	⇑P	PKPdf	23 46 28.0	+0.6	
	baz=120							
F28A	McLaughlin	119.91	34	⇓P	PKPdf	23 46 27.5	+0.3	
	baz=120							
V20A	Brimhall	119.95	48	⇑P	PKPdf	23 46 28.5	+0.7	
	baz=120,SNR=5.3							
J26A	Sides Ranch, S	120.01	38	⇑P	PKPdf	23 46 27.9	+0.3	
	baz=120,SNR=9.0							
C30A	Mose, Pekin	120.03	31	⇓P	PKPdf	23 46 27.6	+0.2	
	baz=120							
L25A	Engebretsen Ra	120.07	39	⇑P	PKPdf	23 46 27.6	-0.2	
	baz=120							
MTE	Manteigas	120.08	318	ePKPdf	PKPdf	23 46 28.2	+0.4	
T21A	Navajo Lake	120.13	46	⇓P	PKPdf	23 46 29.7	+1.6	
	baz=120,SNR=12							
R22A	Saguache, Gunn	120.13	44	⇓P	PKPdf	23 46 29.9	+1.6	
	baz=120,SNR=12							
PVIS	Viseu	120.15	319	ePKPdf	PKPdf	23 46 28.4	+0.5	
N24A	Carr	120.16	41	⇓P	PKPdf	23 46 29.0	+1.0	
	baz=120							
ISCO	Idaho Springs	120.18	42	ePKIKP	PKPdf	23 46 28.9	+0.6	
ISCO	Idaho Springs	120.18	42	ePKPdf	PKPdf	23 46 28.9	+0.6	
ISCO	Idaho Springs	120.18	42	⇑P	PKPdf	23 46 29.1	+0.8	
	baz=120							
W20A	Ramah	120.20	48	⇑P	PKPdf	23 46 29.6	+1.2	
	baz=120,SNR=17							
I27A	Quinn	120.21	37	⇓P	PKPdf	23 46 28.4	+0.4	
	baz=120,SNR=5.6							
P23A	Jefferson	120.23	43	⇓P	PKPdf	23 46 29.5	+1.1	
	baz=120,SNR=7.5							
D30A	Buchanan	120.26	32	⇓P	PKPdf	23 46 28.3	+0.5	
	baz=120							
K26A	Motz Farm, Whi	120.28	38	⇓P	PKPdf	23 46 28.4	+0.2	
	baz=120							
U21A	Nageezi	120.28	47	⇓P	PKPdf	23 46 29.8	+1.3	
	baz=120,SNR=35							
S22A	4UR Ranch, Cre	120.30	45	⇓P	PKPdf	23 46 30.1	+1.5	
	baz=120,SNR=21							
PCBR	Castelo Branco	120.30	318	ePKPdf	PKPdf	23 46 28.8	+0.7	
PTO	Porto	120.40	320	ePKPdf	PKPdf	23 46 28.9	+0.7	
X20A	Quemado	120.44	49	⇑P	PKPdf	23 46 30.0	+1.1	
	baz=120							
PMRV	Marv??o	120.44	317	ePKPdf	PKPdf	23 46 28.8	+0.4	
Q23A	Hartsel	120.45	43	⇑P	PKPdf	23 46 30.1	+1.2	
	baz=120,SNR=7.7							
F29A	Eureka	120.46	34	⇑P	PKPdf	23 46 28.6	+0.3	
	baz=120							
H28A	Mission Ridge	120.47	36	⇑P	PKPdf	23 46 28.5	+0.1	
	baz=120							
E30A	Jud	120.56	33	⇓P	PKPdf	23 46 28.9	+0.4	
	baz=120							
T22A	Edith	120.57	46	⇓P	PKPdf	23 46 30.1	+1.0	
	baz=120,SNR=14							
J27A	Elkhorn Farm,	120.69	37	⇑P	PKPdf	23 46 30.0	+1.1	
	baz=121,SNR=6.0							
L26A	Underwood Farm	120.69	39	⇓P	PKPdf	23 46 29.3	+0.3	
	baz=121							
I28A	Midland	120.77	36	⇓P	PKPdf	23 46 29.4	+0.5	
	baz=121							
Y20A	Horse Springs,	120.79	50	⇑P	PKPdf	23 46 30.9	+1.3	
	baz=121,SNR=7.0							
P24A	Kohler Place,	120.79	42	⇓P	PKPdf	23 46 29.8	+0.4	
	baz=121							
R23A	Moffat	120.80	44	⇓P	PKPdf	23 46 30.0	+0.5	
	baz=121							
PBAR	Barrancos	120.80	316	ePKPdf	PKPdf	23 46 29.7	+0.6	
PESTR	Estremoz	120.85	317	ePKPdf	PKPdf	23 46 29.9	+0.7	
PCAS	Casmilo, Conde	120.88	318	ePKPdf	PKPdf	23 46 29.7	+0.5	
U22A	Llaves	120.89	46	⇓P	PKPdf	23 46 31.4	+1.8	
	baz=121,SNR=16			

O27A	Beecher Island	122.06	41	⇑P		PKPdf	23 46 32.0	+0.4
	baz=122							
Z22A	Elephant Butte	122.13	50	⇑P		PKPdf	23 46 33.4	+1.4
	baz=122,SNR=8.8							
T25A	Trinidad	122.28	45	⇓P		PKPdf	23 46 33.7	+1.4
	baz=122,SNR=9.2							
L29A	Maesberg Ranch	122.29	38	⇓P		PKPdf	23 46 32.0	0.0
	baz=122							
P27A	Ficken Ranch,	122.32	41	⇓P		PKPdf	23 46 32.8	+0.6
	baz=122							
V24A	Rampart Ranch,	122.32	46	⇓P		PKPdf	23 46 34.0	+1.6
	baz=122,SNR=35							
122A	Conniff Cattle	122.33	50	⇓P		PKPdf	23 46 34.1	+1.6
	baz=122,SNR=16							
MORF	Marmelete	122.33	316	*e*PKPdf		PKPdf	23 46 33.0	+0.8
R26A	Arlington	122.38	43	⇑P		PKPdf	23 46 33.4	+1.0
	baz=122,SNR=8.7							
N28A	Pribbeno Ranch	122.39	40	⇑P		PKPdf	23 46 33.2	+0.9
	baz=122							
W24A	Lazy 6 Ranch,	122.46	47	⇓P		PKPdf	23 46 33.8	+1.1
	baz=122,SNR=26							
222A	Williams Famil	122.49	51	⇑P		PKPdf	23 46 33.9	+1.1
	baz=122,SNR=6.7							
Y23A	Lovelace Mesa,	122.54	49	⇑P		PKPdf	23 46 33.8	+1.0
	baz=122,SNR=8.1							
PFVI	Vila Bisbo	122.54	316	*e*PKPdf		PKPdf	23 46 33.4	+0.9
O28A	Krutsinger Ran	122.55	40	⇓P		PKPdf	23 46 33.0	+0.4
	baz=122							
U25A	Circle Dot Ran	122.63	45	⇓P		PKPdf	23 46 34.1	+1.1
	baz=122,SNR=7.8							
S26A	Kim	122.70	44	⇑P		PKPdf	23 46 33.9	+0.9
	baz=123,SNR=13							
X24A	Lazy VL Ranch,	122.72	48	⇑P		PKPdf	23 46 33.8	+0.6
	baz=123,SNR=6.8							
V25A	Rancho No Teng	122.75	46	⇑P		PKPdf	23 46 34.4	+1.1
	baz=123,SNR=34							
R27A	Eads	122.83	43	⇓P		PKPdf	23 46 33.9	+0.7
	baz=123,SNR=7.1							
T26A	Comanche Natio	122.84	44	⇓P		PKPdf	23 46 34.4	+1.0
	baz=123,SNR=33							
Y24A	Capitan	123.00	48	⇓P		PKPdf	23 46 34.9	+1.1
	baz=123,SNR=35							
S27A	Las Animas	123.06	43	⇓P		PKPdf	23 46 34.6	+0.9
	baz=123,SNR=5.8							
Q28A	Sharon Springs	123.08	41	⇑P		PKPdf	23 46 34.1	+0.5
	baz=123,SNR=6.0							
U26A	Atchley Ranch,	123.11	45	⇓P		PKPdf	23 46 34.5	+0.6
	baz=123							
W25A	X Bar L Ranch,	123.14	47	⇓P		PKPdf	23 46 34.9	+0.9
	baz=123,SNR=19							
O29A	4D Ranch, Culb	123.18	40	⇑P		PKPdf	23 46 34.3	+0.5
	baz=123							
X25A	Clemmons Ranch	123.31	47	⇑P		PKPdf	23 46 34.8	+0.5
	baz=123,SNR=9.1							
EYMN	Ely	123.31	28	*e*PKPdf		PKPdf	23 46 33.5	-0.2
Z24A	Sheeppen Canyo	123.31	49	⇑P		PKPdf	23 46 35.4	+1.1
	baz=123,SNR=21							
P29A	Atwood	123.38	40	⇓P		PKPdf	23 46 34.4	+0.3
	baz=123,SNR=7.9							
R28A	Tribune	123.47	42	⇓P		PKPdf	23 46 35.2	+0.8
	baz=123,SNR=18							
T27A	Campo	123.50	44	⇑P		PKPdf	23 46 35.7	+1.1
	baz=123,SNR=5.8							
124A	Stringfield Ra	123.52	50	⇓P		PKPdf	23 46 36.0	+1.1
	baz=123,SNR=13							
Y25A	Mesa, Roswell	123.56	48	⇑P		PKPdf	23 46 35.8	+1.0
	baz=124,SNR=34							
ECSD	EROS Data Cent	123.56	34	*e*PKPdf		PKPdf	23 46 34.4	+0.1
W26A	Owens Ranch, T	123.71	46	⇑P		PKPdf	23 46 35.8	+0.8
	baz=124,SNR=6.9							
224A	Cornudas Mount	123.72	50	⇑P		PKPdf	23 46 36.5	+1.3
	baz=124							
Q29A	Oakley	123.73	41	⇓P		PKPdf	23 46 35.5	+0.6
	baz=124,SNR=22							
U27A	Thompson Grove	123.74	45	⇓P		PKPdf	23 46 35.6	+0.6
	baz=124,SNR=15							
S28A	Manter	123.80	43	⇑P		PKPdf	23 46 35.7	+0.7
	baz=124,SNR=7.8							
Z25A	Roswell	123.82	49	⇓P		PKPdf	23 46 36.3	+1.0
	baz=124,SNR=12							
P30A	Selden	123.85	40	⇑P		PKPdf	23 46 35.6	+0.5
	baz=124,SNR=7.6							
R29A	Marienthal	123.87	42	⇓P		PKPdf	23 46 36.0	+0.8
	baz=124,SNR=6.7							
X26A	CR and CF Fran	123.93	47	⇓P		PKPdf	23 46 36.0	+0.5
	baz=124,SNR=6.7							
MNTX	Cornudas Mount	123.99	51	*e*PKPdf		PKPdf	23 46 35.6	+0.2
324A	Moseley Ranch,	124.02	51	⇓P		PKPdf	23 46 36.7	+1.0
	baz=124							
V27A	Dan Oppiter Fa	124.06	45	⇑P		PKPdf	23 46 36.6	+1.0
	baz=124							
BGNE	Belgrade	124.09	37	⇓P		PKPdf	23 46 35.8	+0.3
	baz=124							
125A	Gardner Draw,	124.14	49	⇑P		PKPdf	23 46 36.8	+0.9
	baz=124,SNR=14							
Q30A	Quinter	124.18	41	⇑P		PKPdf	23 46 36.4	+0.7
	baz=124,SNR=7.2							
U28A	Mallet	124.18	44	⇑P		PKPdf	23 46 36.6	+0.7
	baz=124							
Y26A	Elida	124.20	48	⇑P		PKPdf	23 46 36.9	+0.9
	baz=124,SNR=5.8							
225A	Deer Hill, Car	124.25	50	⇓P		PKPdf	23 46 37.1	+0.9
	baz=124							
S29A	Ulysses	124.31	43	⇓P		PKPdf	23 46 37.1	+1.1
	baz=124,SNR=5.1							
P31A	Stockton	124.42	40	⇓P		PKPdf	23 46 36.6	+0.5
	baz=124,SNR=16							
T29A	Hugoton	124.43	43	⇓P		PKPdf	23 46 37.1	+0.8
	baz=124,SNR=7.0							
325A	Bean Ranch, Si	124.44	51	⇓P		PKPdf	23 46 37.2	+0.7
	baz=124,SNR=9.7							
V28A	Channing	124.50	45	⇓P		PKPdf	23 46 37.2	+0.7
	baz=124							
R30A	Dighton	124.52	41	⇓P		PKPdf	23 46 36.7	+0.3
	baz=124,SNR=7.0							
USHA	Ushuaia	124.55	172	PKP		PKPdf	23 46 37.3	+1.5
USHA	Ushuaia	124.55	172	PKP		PKPdf	23 46 37.3	+1.5
	comp=Z,18nm,0.9s,baz=152,slow=1.4,SNR=10.0							
SCHQ	Schefferville	124.60	7	*e*PKPdf		PKPdf	23 46 36.2	+0.2
SCHQ	Schefferville	124.60	7	PKP		PKPdf	23 46 36.1	+0.2
	comp=Z,45nm,0.6s,baz=342,slow=2.0,SNR=70							
SPMN	St. Paul	124.61	31	⇑P		PKPdf	23 46 36.8	+0.6
	baz=124							
126A	Clayton Basin,	124.63	49	⇑P		PKPdf	23 46 37.6	+0.8
	baz=125,SNR=11							
425A	Indio Mountain	124.67	52	⇓P		PKPdf	23 46 37.7	+0.7
	baz=125,SNR=12							
Y27A	Causey	124.71	47	⇓P		PKPdf	23 46 36.7	-0.2
	baz=125							
S30A	Montezuma	124.74	42	⇑P		PKPdf	23 46 37.9	+1.1
	baz=125							
W28A	Vega	124.75	46	⇓P		PKPdf	23 46 38.2	+1.2
	baz=125							
U29A	Oasis Ranch, S	124.81	44	⇓P		PKPdf	23 46 37.9	+0.9
	baz=125							
V29A	Stinnett	124.93	45	⇑P		PKPdf	23 46 38.1	+0.9
	baz=125							
Z27A	Tatum	124.93	48	⇓P		PKPdf	23 46 38.2	+0.8
	baz=125,SNR=21							
MSTX	Muleshoe	124.96	47	⇓P		PKPdf	23 46 37.9	+0.5
	baz=125,SNR=15							
T30A	Plains	125.01	43	⇑P		PKPdf	23 46 38.4	+1.1
	baz=125							
R31A	Burdett	125.01	41	⇑P		PKPdf	23 46 38.0	+0.7
	baz=125							
127A	Arkansas Junct	125.11	49	⇓P		PKPdf	23 46 38.4	+0.6
	baz=125							
X28A	Dimmitt	125.11	46	⇑P		PKPdf	23 46 38.4	+0.7
	baz=125,SNR=5.9							
U30A	WK&E Inc. Balk	125.20	43	⇑P		PKPdf	23 46 38.6	+0.9
	baz=125,SNR=8.8							
W29A	Amraillo	125.22	45	⇑P		PKPdf	23 46 38.6	+0.7
	baz=125							
326A	Caldwell Ranch	125.24	51	⇑P		PKPdf	23 46 38.4	+0.4
	baz=125,SNR=7.7							
Y28A	McKinney Farm,	125.37	47	⇓P		PKPdf	23 46 38.7	+0.5
	baz=125,SNR=6.9							
426A	McDonald Obser	125.47	51	⇑P		PKPdf	23 46 39.2	+0.6
	baz=125							
X29A	Tulia	125.51	46	⇓P		PKPdf	23 46 39.2	+0.8
	baz=125							
T31A	Randall Ranch,	125.56	42	⇓P		PKPdf	23 46 38.9	+0.6
	baz=126,SNR=6.0							
526A	Mary Lane Ranc	125.68	52	⇑P		PKPdf	23 46 39.5	+0.5
	baz=126,SNR=16							
COWI	Conover	125.76	28	*e*PKPdf		PKPdf	23 46 38.1	-0.4
128A	Castleberry Fa	125.80	49	⇓P		PKPdf	23 46 39.8	+0.8
	baz=126							
U31A	Nine Bar Ranch	125.83	43	⇑P		PKPdf	23 46 40.1	+1.2
	baz=126							
626A	Big Bend Ranch	125.85	53	⇑P		PKPdf	23 46 39.4	+0.2
	baz=126,SNR=6.7							
228A	UT Block 9, Go	125.94	49	⇓P		PKPdf	23 46 40.1	+0.8
	baz=126							
527A	Woodward Ranch	126.02	52	⇑P		PKPdf	23 46 40.2	+0.6
	baz=126,SNR=12							
Z29A	Hungry Hill Ra	126.08	47	⇓P		PKPdf	23 46 40.4	+0.9
	baz=126,SNR=21							
X30A	Coker Ranch, T	126.10	46	⇑P		PKPdf	23 46 40.5	+1.0
	baz=126,SNR=5.9							
328A	Wristen Ranch,	126.11	50	⇑P		PKPdf	23 46 40.9	+1.3
	baz=126,SNR=18							
TXAR	Lajitas Array	126.31	53	PKP		PKPdf	23 46 40.1	0.0
TXAR	Lajitas Array	126.31	53	PKP		PKPdf	23 46 40.1	0.0
	comp=Z,5.0nm,0.9s,baz=267,slow=1.1,SNR=34							
Y30A	Stafford Cattl	126.37	46	⇓P		PKPdf	23 46 41.5	+1.4
	baz=126,SNR=15							
W31A	Holland Ranch,	126.39	44	⇑P		PKPdf	23 46 41.5	+1.5
	baz=126,SNR=12							
KSU1	Kansas State U	126.41	39	*e*PKPdf		PKPdf	23 46 40.1	+0.2
627A	Terlingua Ranc	126.48	52	⇑P		PKPdf	23 46 41.5	+1.0
	baz=126,SNR=21							
Z30A	Sanderson Ranc	126.49	47	⇑P		PKPdf	23 46 41.1	+0.8
	baz=126,SNR=14							
428A	Kincaid Ranch,	126.49	51	⇓P		PKPdf	23 46 41.7	+1.3
	baz=126,SNR=22							
229A	Bryant Ranch,	126.60	49	⇑P		PKPdf	23 46 41.2	+0.7
	baz=126,SNR=5.1							
X31A	McDonald Ranch	126.65	45	⇓P		PKPdf	23 46 41.5	+1.0
	baz=127,SNR=8.7							
528A	Cox Ranch, San	126.66	51	⇓P		PKPdf	23 46 41.6	+0.8
	baz=127,SNR=8.7							
329A	Wagon Wheel Ra	126.69	50	⇑P		PKPdf	23 46 41.7	+1.0
	baz=127,SNR=12							
Y31A	Rekieta Farm,	126.78	46	⇑P		PKPdf	23 46 41.7	+0.9
	baz=127,SNR=9.8							
628A	Black Gap, Mar	126.87	52	⇓P		PKPdf	23 46 42.2	+1.1
	baz=127,SNR=13							
130A	Snyder	126.94	48	⇓P		PKPdf	23 46 42.0	+0.8
	baz=127,SNR=6.7							
529A	Stev Forest Ra	127.12	51	⇓P		PKPdf	23 46 42.6	+1.0
	baz=127,SNR=21							
429A	Davenport Ranc	127.15	50	⇓P		PKPdf	23 46 42.4	+0.7
	baz=127,SNR=24							
230A	Sterling City	127.17	49	⇓P		PKPdf	23 46 42.5	+0.9
	baz=127							
Z31A	Sharp Cattle R	127.19	47	⇑P		PKPdf	23 46 42.3	+0.7
	baz=127,SNR=7.6							
131A	Roby	127.33	47	⇓P		PKPdf	23 46 42.6	+0.7
	baz=127							
330A	Mertzon	127.34	49	⇑P		PKPdf	23 46 42.6	+0.6
	baz=127							
Y32A	R-V Farms, Ver	127.35	45	⇑P		PKPdf	23 46 42.7	+0.9
	baz=127							
WMOK	Wichita Mounta	127.43	44	*e*PKIKP		PKPdf	23 46 42.0	0.0
WMOK	Wichita Mounta	127.43	44	*e*PKPdf		PKPdf	23 46 42.0	0.0
JFWS	Jewell Farm	127.55	31	*e*PKIKP		PKPdf	23 46 41.7	-0.2
JFWS	Jewell Farm	127.55	31	*e*PKPdf		PKPdf	23 46 41.7	-0.2
430A	Baggett Ranch,	127.58	50	⇑P		PKPdf	23 46 43.3	+0.9
	baz=128,SNR=16							
Z32A	Haskell	127.68	46	⇓P		PKPdf	23 46 43.7	+1.2
	baz=128,SNR=12							
231A	Bronte	127.74	48	⇓P		PKPdf	23 46 43.7	+1.0
	baz=128,SNR=10							
ABTX	Abilene, Hawle	127.90	47	⇑P		PKPdf	23 46 43.6	+0.7
	baz=128							
331A	San Angelo	127.95	49	⇑P		PKPdf	23 46 43.6	+0.5
	baz=128,SNR=18							
KIC	Kosan Boka	128.02	278	*e*PKIKP		PKPdf	23 46 43.1	-0.5
	comp=Z,54nm,1.1s							
DBIC	Dimbokro	128.10	278	*e*PKPdf		PKPdf	23 46 43.6	-0.1
DBIC				PKP		PKPdf	23 46 44.1	+0.4
DBIC	Dimbokro	128.10	278	PKP		PKPdf	23 46 44.1	+0.4
	comp=Z,11nm,0.8s,baz=38,slow=3.2,SNR=12							
431A	Sonora	128.11	50	⇑P		PKPdf	23 46 44.2	+0.7
	baz=128,SNR=11							
232A	Coleman	128.26	48	⇑P		PKPdf	23 46 44.7	+1.0
	baz=128							
TIC	Toumodi	128.27	278	*e*PKIKP		PKPdf	23 46 43.3	-0.8
	comp=Z,33nm,0.9s							
LIC	Lamto	128.31	278	*e*PKIKP		PKPdf	23 46 43.7	-0.5
	comp=Z,29nm,0.8s							
LIC	Lamto	128.31	278	*e*PKIKP		PKPdf	23 46 43.6	-0.6
	comp=Z,45nm,0.8s							
531A	Rocksprings	128.40	50	⇓P		PKPdf	23 46 45.5	+1.5
	baz=128,SNR=15							
332A	Millersview	128.43	48	⇑P		PKPdf	23 46 44.8	+0.8
	baz=128,SNR=14							
432A	Menard	128.64	49	⇑P		PKPdf	23 46 45.0	+0.6
	baz=129							
631A	Perdido Creek	128.71	51	⇑P		PKPdf	23 46 45.6	+1.0
	baz=129,SNR=15							
TUL1	Tulsa	128.82	41	⇑P		PKPdf	23 46 45.7	+1.2
	baz=129							
JCT	Junction City	128.82	50	*e*PKIKP		PKPdf	23 46 44.2	-0.6
JCT	Junction City	128.82	50	*e*PKPdf		PKPdf	23 46 44.2	-0.6
JCT	Junction City	128.82	50	⇑P		PKPdf	23 46 45.9	+1.1
	baz=129							
532A	Rocksprings	128.90	50	⇑P		PKPdf	23 46 45.9	+1.0
	baz=129,SNR=11							
632A	Uvalde	129.28	51	⇑P		PKPdf	23 46 46.9	+1.2
	baz=129,SNR=13							
732A	Laxson Ranch,	129.49	52	⇑P		PKPdf	23 46 47.4	+1.4
	baz=129,SNR=9.1							
HDIL	Hopedale	129.72	33	*e*PKPdf		PKPdf	23 46 46.1	0.0
WHTX	Lake Whitney	129.81	47	⇓P		PKPdf	23 46 47.8	+1.2
	baz=130							
SFIN	Scholer Farm	131.01	31	⇑P		PKPdf	23 46 49.6	+1.0
	baz=131							
MIAR	Mount Ida	131.09	41	*e*PKIKP		PKPdf	23 46 49.4	+0.5
MIAR	Mount Ida	131.09	41	*e*PKPdf		PKPdf	23 46 49.4	+0.5
OLIL	Olney	131.66	33	*e*PKPdf		PKPdf	23 46 50.1	+0.3
HKT	Hockley	132.06	48	*e*PKIKP		PKPdf	23 46 51.5	+0.7
HKT	Hockley	132.06	48	*e*PKPdf		PKPdf	23 46 51.5	+0.7
MSNY	Massena	132.23	18	*e*PKPdf		PKPdf	23 46 50.9	+0.2
LONY	Lake Ozonia	132.65	18	*e*PKPdf		PKPdf	23 46 51.9	+0.3
FRNY	Flat Rock	132.75	17	*e*PKPdf		PKPdf	23 46 51.2	-0.5
WCI	Wyandotte Cave	133.01	32	*e*PKIKP		PKPdf	23 46 52.2	-0.3
WCI	Wyandotte Cave	133.01	32	*e*PKPdf		PKPdf	23 46 52.2	-0.3
NCB	Newcomb	133.35	18	*e*PKPdf		PKPdf	23 46 53.2	+0.3
MDV	Middlebury	133.63	17	*e*PKPdf		PKPdf	23 46 53.4	0.0
WVT	Waverly	133.64	36	*e*PKIKP		PKPdf	23 46 53.2	-0.5
WVT	Waverly	133.64	36	*e*PKPdf		PKPdf	23 46 53.2	-0.5
OXF	Oxford	133.78	38	*e*PKIKP		PKPdf	23 46 53.9	-0.1
OXF	Oxford	133.78	38	*e*PKPdf		PKPdf	23 46 53.9	-0.1
BINY	Binghamton	134.36	20	*e*PKPdf		PKPdf	23 46 55.0	+0.1
TZTN	Tazewell	135.72	32	*e*PKPdf		PKPdf	23 46 58.0	+0.4
LRAL	Lakeview Retre	136.26	38	*e*PKPdf		PKPdf	23 46 58.9	+0.3
SDMD	Soldier's Deli	136.48	23	*e*PKPdf		PKPdf	23 46 59.0	+0.1
BLA	Blacksburg	136.76	28	*e*PKIKP		PKPdf	23 46 59.3	-0.2
BLA	Blacksburg	136.76	28	*e*PKPdf		PKPdf	23 46 59.3	-0.2
JSRW	J. Sargeant Re	137.51	25	*e*PKPdf		PKPdf	23 47 01.8	+1.0
PLCA	Paso Flores	137.56	164	SKPbc		SKPbc	23 50 21.2	-0.1
PLCA	Paso Flores	137.56	164	SKPbc		SKPbc	23 50 21.2	-0.1
	comp=Z,2.5nm,0.7s,baz=224,slow=7.4,SNR=3.7							
BRAL	Brewton	137.57	40	*e*PKPdf		PKPdf	23 47 01.7	+0.6
KMSC	Kings Mountain	137.95	31	⇑P		PKPdf	23 47 03.0	+1.3
	baz=138							
CMIG	Matias Romero	138.47	64	SKPbc		SKPbc	23 50 23.5	-0.9
CMIG	Matias Romero	138.47	64	SKPbc		SKPbc	23 50 23.5	-0.9
	comp=Z,4.5nm,0.6s,baz=336,slow=4.2,SNR=11							
TIGA	Tifton	139.44	37	⇑P		PKPdf	23 47 05.4	+0.8
	baz=139							
TRQA	Tornquist	141.87	173	*e*PKPpre		PKPpre	23 47 03.7	
TRQA				*e*PKPdf		PKPdf	23 47 09.8	+1.0
TEIG	Tepich	142.87	55	*e*PKPpre		PKPpre	23 47 08.6	
LMEL	Las Melosas	144.01	160	⇑*e*P		PKPdf	23 47 12.1	-0.8
FCH	Farellones	144.46	160	⇓*e*P		PKPbc	23 47 13.0	+0.3
CFAA	Coronel Fontan	146.72	161	PKPbc		PKPdf	23 47 18.1	+0.7
CFAA	Coronel Fontan	146.72	161	PKPbc		PKPdf	23 47 18.1	+0.7
	comp=Z,7.6nm,0.7s,baz=218,slow=3.3,SNR=92							
BBSR	BB Station	146.79	13	*e*PKPdf		PKPdf	23 47 18.1	+0.7
LCO	Las Campanas	148.17	156	*e*PKPdf		PKPdf	23 47 21.1	+0.9
LCO				*e*PKPbc		PKiKP	23 47 24.9	-0.4
JTS	JuntasAbangare	149.82	69	*e*PKPdf		PKPdf	23 47 23.5	+0.6
JTS				*e*PKPbc		PKPbc	23 47 28.2	+0.4
ANCH	Antofagasta	152.90	151	⇑*e*P		PKPbc	23 47 36.5	+1.9
GTBY	Guantanamo Bay	152.98	42	*e*PKPbc		PKPbc	23 47 35.4	+0.6
PB10	Plate Boundary	152.98	150	*e*P		PKPbc	23 47 36.5	+1.7
CPUP	Villa Florida	153.89	178	*e*PKPdf		PKPdf	23 47 28.9	+0.2
CPUP				PKP		PKPdf	23 47 29.6	+0.9
CPUP				*e*PKPbc		PKiKP	23 47 37.3	+0.6
CPUP				PKPbc		PKPab	23 47 37.6	-13
CPUP				PKPab		PKPab	23 47 51.4	+1.2
CPUP				PP		PP	23 51 22.7	-0.9
CPUP	Villa Florida	153.89	178	PKP		PKPdf	23 47 29.6	+0.9
	comp=Z,4.4nm,0.7s,baz=347,slow=0.7,SNR=14							
CPUP				PKPbc		PKiKP	23 47 37.6	+0.9
	comp=Z,12nm,0.6s,baz=142,slow=1.3,SNR=22							
CPUP				PKPab		PKPab	23 47 51.4	+1.2
	comp=Z,18nm,0.8s,baz=177,slow=3.5,SNR=14							
CPUP				PP		PP	23 51 22.7	-0.9
	comp=Z,4.1nm,0.9s,baz=173,slow=8.1,SNR=3.4							
LVC	Limon Verde	154.53	152	*e*PKPdf		PKPdf	23 47 31.5	+1.5
LVC				*e*PKPbc		PKiKP	23 47 40.8	+2.3
LVC				*e*PKPab		PKPab	23 47 55.3	+1.9
PB04	Plate Boundary	154.55	151	*e*P		PKPbc	23 47 39.3	+1.1
NNA	Nana	156.55	121	PKP		PKPdf	23 47 33.9	+1.2
NNA				PKPab		PKPab	23 48 03.6	+1.5
NNA	Nana	156.55	121	PKP		PKPdf	23 47 33.9	+1.2
	comp=Z,9.9nm,0.7s,baz=319,slow=6.6,SNR=4.6							
NNA				PKPab		PKPab	23 48 03.6	+1.5
	comp=Z,9.9nm,0.5s,baz=267,slow=6.7,SNR=5.3							
MNMC	Minimini	157.09	146	*e*P		PKPdf	23 47 34.9	+1.4
LPAZ	La Paz	160.19	145	*e*PKPdf		PKPdf	23 47 39.0	+1.4
LPAZ				*e*PKPab		PKPab	23 48 20.1	+1.7
LPAZ				PKPab		PKPab	23 48 20.9	+2.5
LPAZ	La Paz	160.19	145	PKP		PKPdf	23 47 39.1	+1.4
	comp=Z,7.3nm,0.8s,baz=286,slow=0.2,SNR=36							
LPAZ				PKPab		PKPab	23 48 20.9	+2.5
	comp=Z,17nm,0.8s,baz=200,slow=3.4,SNR=14							
ROSC	El Rosal	161.47	74	*e*PKPdf		PKPdf	23 47 39.8	+1.0
ROSC				*e*PKPab		PKPab	23 48 25.5	+1.4
ROSC				PKPab		PKPab	23 48 26.7	+2.7
ROSC	El Rosal	161.47	74	PKP		PKPdf	23 47 39.9	+1.0
	comp=Z,14nm,0.8s,baz=97,slow=21,SNR=12							
ROSC				PKPab		PKPab	23 48 26.7	+2.7
	comp=Z,18nm,0.5s,baz=110,slow=20,SNR=9.2							
BDFB	Brasilia	162.45	208	PKP		PKPdf	23 47 39.6	+0.2
BDFB				PKPab		PKPab	23 48 28.3	+0.7
BDFB	Brasilia	162.45	208	PKP		PKPdf	23 47 39.6	+0.2
	comp=Z,6.2nm,1.0s,baz=160,slow=2.8,SNR=5.6							
BDFB				PKPab		PKPab	23 48 28.3	+0.7
	comp=Z,18nm,0.9s,baz=160,slow=4.0,SNR=15							
SDV	Santo Domingo	163.28	57	*e*PKPdf		PKPdf	23 47 40.2	-0.2
SDV				*e*PKPab		PKPab	23 48 32.2	+0.5
SAML	Samuel	168.93	143	*e*PKPdf		PKPdf	23 47 44.6	0.0
SAML				*e*PKPab		PKPab	23 48 56.6	+0.5

IDC 26 23:43:34.3±3.5, 6°21S×148°34E, h0km, mb3.0/1, mb1 3.3/3, mb1mx3.2/18, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=112.0km s-min=34.3km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.38	200	Pn	Pn	23 44 30.3	+1.9
	3.1nm,0.3s,baz=3.1,slow=6.3,SNR=9.8						
PMG				Sn	Sn	23 45 09.9	+0.6
	8.4nm,0.3s,baz=136,slow=23,SNR=8.3						
WRA	Warramunga Arr	19.27	224	P	P	23 48 00.5	-0.2
	0.1nm,0.3s,baz=50,slow=11,SNR=3.8						
ASAR	Alice Springs	22.23

MSTX	**Muleshoe**	**22.41**	**336**	*e*P	**P**	**23 58 38.6**	**-0.7**
	comp=Z,5.1nm,0.8s						
CPCT	**Cooper Cave**	**22.71**	**16**	*e*P	**P**	**23 58 41.5**	**-0.9**
TKL	**Tuckaleechee C**	**23.11**	**17**	P	**P**	**23 58 45.1**	**-1.5**
TKL	**Tuckaleechee C**	**23.11**	**17**	P	**P**	**23 58 45.1**	**-1.5**
	comp=Z,1.5nm,0.4s,baz=179,slow=14,SNR=3.6						
TKL				LR	LR	00 09 11.6	
	comp=Z,174nm,18.1s,baz=315,slow=40						
SIUC	**Southern Illin**	**24.06**	**6**	*e*P	**P**	**23 58 53.9**	**-1.8**
	comp=Z,20nm,0.8s						
BNM	**Barren Site**	**24.29**	**330**	*e*P	**P**	**23 58 59.1**	**+1.0**
	comp=Z,4.1nm,0.8s						
ATAH	**Atahualpa**	**24.74**	**146**	LR	LR	00 06 41.2	
	comp=Z,71nm,21.7s,baz=348,slow=31						
ANMO	**Albuquerque**	**24.85**	**331**	*e*P	**P**	**23 59 03.7**	**+0.5**
	comp=Z,2.7nm,0.6s						
ANMO	**Albuquerque**	**24.85**	**331**	P	**P**	**23 59 03.7**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=142,slow=11,SNR=12						
OLIL	**Olney**	**25.19**	**7**	*e*P	**P**	**23 59 05.1**	**-0.9**
	comp=Z,15nm,0.6s						
PDAR	**Pinedale Array**	**32.68**	**336**	P	**P**	**00 00 12.1**	**-0.9**
PDAR	**Pinedale Array**	**32.68**	**336**	P	**P**	**00 00 12.1**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=148,slow=5.2,SNR=2.9						
REDW	**Red Top Meadow**	**33.70**	**335**	*e*P	**P**	**00 00 22.3**	**+0.4**
	comp=Z,5.4nm,1.2s						
NVAR	**Mina Array Bea**	**33.88**	**321**	P	**P**	**00 00 25.3**	**+1.8**
NVAR	**Mina Array Bea**	**33.88**	**321**	P	**P**	**00 00 25.3**	**+1.8**
	comp=Z,2.0nm,0.6s,baz=134,slow=9.1,SNR=17						
HLID	**Hailey**	**35.42**	**332**	*e*P	**P**	**00 00 39.0**	**+2.3**
	comp=Z,9.0nm,1.6s						
LPAZ	**La Paz**	**38.03**	**141**	P	**P**	**00 01 01.2**	**+1.6**
LPAZ	**La Paz**	**38.03**	**141**	P	**P**	**00 01 01.2**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=317,slow=7.7,SNR=3.9						
YKA	**Yellowknife Ar**	**51.32**	**347**	P	**P**	**00 02 43.5**	**-0.8**
YKA	**Yellowknife Ar**	**51.32**	**347**	P	**P**	**00 02 43.5**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=148,slow=7.3,SNR=11						
ILAR	**Eielson Array**	**63.10**	**337**	P	**P**	**00 04 07.3**	**-0.3**
ILAR	**Eielson Array**	**63.10**	**337**	P	**P**	**00 04 07.3**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=180,slow=4.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**146.27**	**341**	PKPbc	**PKPbc**	**00 13 22.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**146.27**	**341**	PKPbc	**PKPbc**	**00 13 22.1**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=335,slow=3.9,SNR=16						

*ISCJB **26** 23:55:51.2±0.8, 19°.3N±0°.1×65°.72W±0°.03, h80km±26km, Error ellipse: s-maj=19.6km s-min=4.8km az=173.6*
*NEIC **26** 23:55:52.5, 19°.20N×65°.70W, h86km, MD3.6(RSPR), After RSPR.*
*RSPR **26** 23:55:52.5, 19°.20N×65°.70W, h86km±6km, MD3.6/14*
ISC 26 23:55:52.8±1.6, 19°.3N±0°.1×65.72W±0°.03, h65km±36km, **n54,** σ0∓77/91**, 35C-9D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.99**	**187**	*e*S	**Sn**	**23 56 25.3**	**+0.7**
CBYP	**Canovanas**	**0.99**	**187**	⇑*e*P	**Pn**	**23 56 10.0**	**-1.1**
CBYP	**Canovanas**	**0.99**	**187**	⇑*e*P	**Pn**	**23 56 10.0**	**-1.1**
CBYP				*e*S	**Sn**	**23 56 25.3**	**+0.7**
CBYP	**Canovanas**	**0.99**	**187**	⇑*e*P	**Pn**	**23 56 10.0**	**-1.1**
CBYP				*e*S	**Sn**	**23 56 25.3**	**+0.7**
HUMP	**Col San Antoni**	**1.12**	**186**	⇑*e*P	**Pn**	**23 56 11.8**	**-0.9**
HUMP	**Col San Antoni**	**1.12**	**186**	⇑*e*P	**Pn**	**23 56 11.9**	**-0.8**
HUMP				*e*S	**Sn**	**23 56 27.0**	**-0.5**
HUMP	**Col San Antoni**	**1.12**	**186**	⇑*e*P	**Pn**	**23 56 11.8**	**-0.9**
HUMP				*e*S	**Sn**	**23 56 26.9**	**-0.5**
HUMP	**Col San Antoni**	**1.12**	**186**	⇑*e*P	**Pn**	**23 56 11.8**	**-0.9**
HUMP	**Col San Antoni**	**1.12**	**186**	⇑*e*P	**Pn**	**23 56 11.9**	**-0.8**
HUMP				*e*S	**Sn**	**23 56 26.9**	**-0.5**
HUMP				*e*S	**Sn**	**23 56 27.0**	**-0.5**
STVI	**Saint Thomas**	**1.16**	**141**	⇓*e*P	**Pn**	**23 56 13.1**	**-0.1**
STVI	**Saint Thomas**	**1.16**	**141**	*e*S	**Sn**	**23 56 31.0**	**+2.6**
STVI	**Saint Thomas**	**1.16**	**141**	⇓*e*P	**Pn**	**23 56 13.1**	**-0.1**
STVI				*e*S	**Sn**	**23 56 31.0**	**+2.6**
STVI	**Saint Thomas**	**1.16**	**141**	⇓*e*P	**Pn**	**23 56 13.9**	**+0.7**
STVI				*e*S	**Sn**	**23 56 31.3**	**+2.9**
MTP	**Monte Pirata**	**1.17**	**172**	⇑*e*P	**Pn**	**23 56 13.1**	**-0.3**
MTP				*e*S	**Sn**	**23 56 29.1**	**+0.5**
MTP	**Monte Pirata**	**1.17**	**172**	⇑*e*P	**Pn**	**23 56 13.1**	**-0.3**
MTP				*e*S	**Sn**	**23 56 29.1**	**+0.5**
MTP	**Monte Pirata**	**1.17**	**172**	⇑*e*P	**Pn**	**23 56 13.5**	**+0.2**
MTP				*e*S	**Sn**	**23 56 29.9**	**+1.3**
SJG	**San Juan**	**1.22**	**200**	⇑*e*P	**Pn**	**23 56 13.5**	**-0.4**
SJG				*e*S	**Sn**	**23 56 29.2**	**-0.4**
SJG	**San Juan**	**1.22**	**200**	⇑*e*P	**Pn**	**23 56 13.5**	**-0.4**
SJG				*e*S	**Sn**	**23 56 29.2**	**-0.4**
SJG	**San Juan**	**1.22**	**200**	⇑*e*P	**Pn**	**23 56 13.5**	**-0.4**
SJG				*e*S	**Sn**	**23 56 29.2**	**-0.4**
CPD	**Cerro la Pandu**	**1.23**	**189**	⇑*e*P	**Pn**	**23 56 13.9**	**-0.3**
CPD	**Cerro la Pandu**	**1.23**	**189**	*e*S	**Sn**	**23 56 30.3**	**+0.1**
CPD	**Cerro la Pandu**	**1.23**	**189**	⇑*e*P	**Pn**	**23 56 13.9**	**-0.3**
CPD				*e*S	**Sn**	**23 56 30.3**	**+0.1**
CPD	**Cerro la Pandu**	**1.23**	**189**	⇑*e*P	**Pn**	**23 56 13.9**	**-0.3**
CPD				*e*S	**Sn**	**23 56 30.3**	**+0.1**
AOPR	**Arecibo Observ**	**1.34**	**227**	⇑*e*P	**Pn**	**23 56 14.8**	**-0.7**
AOPR	**Arecibo Observ**	**1.34**	**227**	*e*S	**Sn**	**23 56 33.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.34**	**227**	⇑*e*P	**Pn**	**23 56 14.8**	**-0.7**
AOPR				*e*S	**Sn**	**23 56 33.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.34**	**227**	⇑*e*P	**Pn**	**23 56 14.8**	**-0.7**
AOPR				*e*S	**Sn**	**23 56 33.2**	**+0.7**
TBVI	**Tortola**	**1.34**	**129**	⇑*e*P	**Pn**	**23 56 14.9**	**-0.7**
TBVI				*e*S	**Sn**	**23 56 32.6**	**-0.1

425A	Indio Mountain	63.49	325	⇓P	P	00 40 55.3	-0.3
	baz=64,SNR=12						
Z30A	Sanderson Ranc	63.59	330	⇑P	P	00 40 55.6	-0.5
	baz=64,SNR=6.1						
128A	Castleberry Fa	63.69	328	⇓P	P	00 40 55.9	-0.8
	baz=64						
Y31A	Rekieta Farm,	63.76	331	⇑P	P	00 40 56.7	-0.3
	baz=64						
325A	Bean Ranch, Si	63.95	326	⇑P	P	00 40 58.1	-0.4
	baz=64,SNR=16						
Z28A	Tucker Farm, M	64.19	329	⇑P	P	00 40 59.1	-0.9
	baz=64						
X31A	McDonald Ranch	64.19	331	⇓P	P	00 40 59.4	-0.5
	baz=64						
324A	Moseley Ranch,	64.27	325	⇑P	P	00 40 59.9	-0.7
	baz=64						
225A	Deer Hill, Car	64.45	326	⇓P	P	00 41 01.8	-0.1
	baz=65						
126A	Clayton Basin,	64.47	327	⇓P	P	00 41 01.8	-0.1
	baz=65						
Z27A	Tatum	64.61	328	⇓P	P	00 41 01.9	-0.9
	baz=65						
Y28A	McKinney Farm,	64.63	329	⇑P	P	00 41 01.9	-0.9
	baz=65						
224A	Cornudas Mount	64.79	326	⇑P	P	00 41 03.3	-0.7
	baz=65						
125A	Gardner Draw,	64.81	327	⇓P	P	00 41 03.3	-0.7
	baz=65						
MSTX	Muleshoe	64.93	329	eP	P	00 41 04.2	-0.6
	comp=E,10nm,1.0s						
MSTX	Muleshoe	64.93	329	⇓P	P	00 41 04.4	-0.4
	baz=65						
Z26A	Caprock	64.95	328	⇓P	P	00 41 04.5	-0.5
	baz=65						
124A	Stringfield Ra	65.25	326	⇓P	P	00 41 06.8	-0.2
	baz=65						
Z25A	Roswell	65.33	327	⇑P	P	00 41 06.8	-0.6
	baz=66						
Z24A	Sheeppen Canyo	65.70	327	⇑P	P	00 41 09.7	-0.2
	baz=66,SNR=5.7						
Y25A	Mesa, Roswell	65.83	327	⇓P	P	00 41 10.1	-0.6
	baz=66						
X26A	CR and CF Fran	65.90	328	⇓P	P	00 41 11.0	-0.1
	baz=66						
T31A	Randall Ranch,	66.15	333	⇑P	P	00 41 11.8	-0.7
	baz=66						
220A	Playas Peak, P	66.28	323	⇑P	P	00 41 14.1	+0.6
	baz=66						
319A	Douglas	66.30	322	⇑P	P	00 41 14.2	+0.5
	baz=66						
X25A	Clemmons Ranch	66.30	328	⇑P	P	00 41 13.2	-0.5
	baz=66						
121A	Cookes Peak, D	66.35	324	⇓P	P	00 41 14.8	+0.7
	baz=66						
Z22A	Elephant Butte	66.47	325	⇑P	P	00 41 15.5	+0.7
	baz=67,SNR=12						
Y23A	Lovelace Mesa,	66.52	326	⇓P	P	00 41 15.8	+0.6
	baz=67						
120A	U Bar Ranch, L	66.82	324	⇓P	P	00 41 17.7	+0.7
	baz=67						
Z21A	St. Cloud Mine	66.88	325	⇑P	P	00 41 18.3	+0.8
	baz=67,SNR=5.1						
V26A	Tequesquite Ra	66.90	329	⇓P	P	00 41 17.3	-0.1
	baz=67						
S30A	Montezuma	66.94	333	⇑P	P	00 41 17.5	-0.1
	baz=67						
BNM	Barren Site	66.99	326	eP	P	00 41 18.2	0.0
	comp=E,1.8nm,0.6s						
Y22A	Socorro	67.00	326	⇓P	P	00 41 19.1	+0.9
	baz=67						
X23A	Hourglass Bar	67.10	327	⇓P	P	00 41 19.6	+0.7
	baz=67						
S29A	Ulysses	67.20	332	⇑P	P	00 41 19.6	+0.3
	baz=67						
W24A	Lazy 6 Ranch,	67.21	328	⇑P	P	00 41 19.9	+0.4
	baz=67						
Z20A	Nine Sixteen R	67.23	324	⇑P	P	00 41 20.5	+0.9
	baz=67						
V25A	Rancho No Teng	67.33	329	⇑P	P	00 41 20.3	+0.1
	baz=68						
U26A	Atchley Ranch,	67.36	330	⇑P	P	00 41 20.8	+0.3
	baz=68						
Y21A	Point of Rocks	67.42	325	⇑P	P	00 41 22.1	+1.1
	baz=68,SNR=6.8						
T27A	Campo	67.44	331	⇑P	P	00 41 20.9	+0.1
	baz=68						
S28A	Manter	67.51	332	⇓P	P	00 41 21.2	0.0
	baz=68						
ANMO	Albuquerque	67.53	327	eP	P	00 41 21.9	+0.4
W23A	Werner Place,	67.54	327	⇑P	P	00 41 22.2	+0.6
	baz=68						
V24A	Rampart Ranch,	67.56	328	⇑P	P	00 41 21.8	+0.1
	baz=68						
Q31A	Ellis	67.66	334	⇑P	P	00 41 22.5	+0.5
	baz=68						
U25A	Circle Dot Ran	67.68	329	⇑P	P	00 41 22.5	+0.1
	baz=68						
Y20A	Horse Springs,	67.72	325	⇑P	P	00 41 23.5	+0.7
	baz=68						
QSPA	South Pole Qui	67.73	180	eP	P	00 41 23.5	+1.1
	comp=E,5.8nm,0.5s						
X21A	Alamocita Cree	67.82	326	⇓P	P	00 41 24.5	+1.0
	baz=68						
T26A	Comanche Natio	67.93	330	⇑P	P	00 41 24.2	+0.2
	baz=68						
Q30A	Quinter	67.97	334	⇓P	P	00 41 24.2	+0.2
	baz=68						
V23A	Ortiz Mt. (NFS	68.02	328	⇓P	P	00 41 25.2	+0.6
	baz=68,SNR=5.4						
P31A	Stockton	68.10	335	⇑P	P	00 41 25.1	+0.3
	baz=68						
S26A	Kim	68.24	331	⇓P	P	00 41 26.2	+0.4
	baz=68						
V22A	San Miguel Ran	68.51	327	⇓P	P	00 41 28.4	+0.6
	baz=69,SNR=5.2						
DBIC	Dimbokro	68.62	73	P	P	00 41 27.4	-1.1
DBIC	Dimbokro	68.62	73	P	P	00 41 27.4	-1.1
	comp=E,1.8nm,0.4s,baz=220,slow=7.7,SNR=11						
T24B	San Luis	68.68	329	⇓P	P	00 41 29.4	+0.6
	baz=69						
S25A	Robets Cordova	68.72	330	⇑P	P	00 41 29.3	+0.5
	baz=69						
W20A	Ramah	68.72	326	⇑P	P	00 41 29.8	+0.8
	baz=69						
214A	Organ Pipe Nat	68.76	320	⇑P	P	00 41 30.2	+1.1
	baz=69						
R26A	Arlington	68.79	331	⇓P	P	00 41 29.0	-0.2
	baz=69,SNR=5.3						
KSCO	Kaye Shedlock'	69.01	332	⇑P	P	00 41 32.1	+1.5
	baz=69						
S24A	Houchin Ranch,	69.06	329	⇑P	P	00 41 32.0	+0.9
	baz=69						
SDCO	Great Sand Dun	69.28	329	eP	P	00 41 32.6	+0.1
	comp=E,2.6nm,0.8s						
U21A	Nageezi	69.29	327	⇓P	P	00 41 33.6	+1.1
	baz=70						
R24A	Sanders Place,	69.49	330	⇑P	P	00 41 34.5	+0.9
	baz=70						
T21A	Navajo Lake	69.67	327	⇑P	P	00 41 35.9	+1.1
	baz=70						
X16A	Lo Mia Camp, P	69.77	323	⇓P	P	00 41 36.3	+0.9
	baz=70						
S22A	4UR Ranch, Cre	69.92	328	⇑P	P	00 41 36.2	-0.2
	baz=70						
O27A	Beecher Island	69.93	333	⇑P	P	00 41 37.0	+0.8
	baz=70						
P25A	Willow Gulch B	70.10	331	⇑P	P	00 41 38.1	+0.7
	baz=70						
MVCO	Mesa Verde	70.32	327	eP	P	00 41 39.6	+0.8
	comp=E,73nm,2.9s						
MVCO	Mesa Verde	70.32	327	⇑P	P	00 41 39.7	+0.8
	baz=70						
OGNE	Ogallala	70.38	334	⇑P	P	00 41 39.9	+1.0
	baz=71						
WUAZ	Wupatki	70.55	324	eP	P	00 41 40.2	0.0
	comp=E,3.6nm,0.8s						
WUAZ	Wupatki	70.55	324	⇓P	P	00 41 41.6	+1.4
	baz=71						
S20A	Disappointment	70.73	327	⇑P	P	00 41 42.8	+1.4
	baz=71						
R21A	Cimarron	70.76	328	⇑P	P	00 41 42.1	+0.7
	baz=71						
ISCO	Idaho Springs	70.98	331	eP	P	00 41 43.5	+0.6
	comp=E,3.2nm,1.0s						
ISCO	Idaho Springs	70.98	331	⇑P	P	00 41 43.5	+0.6
	baz=71						
R20A	Redvale	71.02	328	⇑P	P	00 41 44.3	+1.2
	baz=71						
BC3	Big Chuckawall	71.53	320	⇑P	P	00 41 46.8	+0.8
	baz=72						
P21A	Newcastle	71.62	329	⇓P	P	00 41 47.9	+1.3
	baz=72						
O22A	Kremmling	71.70	330	⇑P	P	00 41 47.6	+0.4
	baz=72						
U15A	North Rim	71.72	324	⇑P	P	00 41 48.3	+0.9
	baz=72,SNR=5.5						
N23A	Red Feather La	72.02	331	⇓P	P	00 41 50.2	+1.2
	baz=72						
PFO	Pinyon Flat Ob	72.10	319	P	P	00 41 48.8	-0.7
PFO	Pinyon Flat Ob	72.10	319	P	P	00 41 48.8	-0.7
	comp=E,1.6nm,0.7s,baz=162,slow=6.4,SNR=2.5						
J27A	Elkhorn Farm,	72.31	335	⇑P	P	00 41 51.5	+1.1
	baz=72						
M23A	Laramie	72.38	331	⇑P	P	00 41 52.0	+0.9
	baz=73						
P19A	Cripple Cowboy	72.44	328	⇓P	P	00 41 52.1	+0.6
	baz=73,SNR=9.9						
GMRC	Granite Mounta	72.44	321	⇓P	P	00 41 52.8	+1.3
	baz=73						
SRU	San Rafael	72.80	327	eP	P	00 41 54.4	+0.7
	comp=E,4.7nm,0.8s						
N20A	Spence Gulch,	73.03	329	⇓P	P	00 41 55.8	+0.9
	baz=73						
CCUT	Cedar City	73.13	324	eP	P	00 41 57.4	+1.7
MVU	Marysvale	73.22	325	eP	P	00 41 57.4	+1.2
K23A	Bowen Ranch, D	73.38	332	⇓P	P	00 41 57.6	+0.7
	baz=74						
L21A	Rawlins	73.51	331	⇓P	P	00 41 58.7	+1.0
	baz=74						
M20A	Sweetwater, Wa	73.51	330	⇓P	P	00 41 58.8	+1.0
	baz=74						
I25A	Rochford	73.63	334	⇑P	P	00 41 59.4	+1.0
	baz=74						
K22A	Casper	73.69	332	⇓P	P	00 41 60.0	+1.3
	baz=74						
I24A	Kuemmerle Ranc	73.86	334	⇑P	P	00 42 01.3	+1.6
	baz=74						
FURC	Furnace Creek,	74.32	321	⇑P	P	00 42 03.5	+1.3
	baz=74						
K20A	Yellowstone Ra	74.50	331	⇓P	P	00 42 03.5	+0.1
	baz=75						
L19A	Farson	74.54	330	⇓P	P	00 42 04.0	+0.3
	baz=75						
H24A	Dirks Ranch, A	74.57	334	⇓P	P	00 42 03.6	-0.1
	baz=75						
ISA	Isabella	74.72	320	⇓P	P	00 42 05.9	+1.2
	baz=75						
L18A	Fontenelle, Gr	74.72	329	⇓P	P	00 42 05.0	+0.2
	baz=75,SNR=5.8						
DUG	Dugway	74.78	326	eP	P	00 42 06.0	+1.0
	comp=E,40nm,2.8s						
DUG	Dugway	74.78	326	⇑P	P	00 42 06.1	+1.0
	baz=75						
K19A	Absolon Red Bu	74.86	330	⇑P	P	00 42 05.6	+0.1
	baz=75						
R11A	Troy Canyon, C	74.92	323	⇓P	P	00 42 06.9	+0.9
	baz=75						
J20A	Shoshoni	74.94	331	⇓P	P	00 42 06.3	+0.4
	baz=75						
I21A	Big Trails, Te	74.95	332	⇓P	P	00 42 06.2	+0.2
	baz=75						
PKM	Peak Mountain	75.02	318	⇓P	P	00 42 07.8	+1.2
	baz=75						
PDAR	Pinedale Array	75.15	330	P	P	00 42 06.6	-0.6
PDAR				pP	pP	00 42 35.0	+0.2
PDAR	Pinedale Array	75.15	330	P	P	00 42 06.6	-0.6
	comp=E,0.5nm,0.6s,baz=129,slow=10.0,SNR=4.6						
PDAR				pP	pP	00 42 35.0	+0.2
	comp=E,0.4nm,0.5s,baz=129,slow=8.8,SNR=2.2						
VES	Vestal, Richgr	75.20	319	⇓P	P	00 42 08.7	+1.3
	baz=75						
G23A	Biddle	75.28	334	⇓P	P	00 42 08.2	+0.5
	baz=76						
J19A	Crowheart	75.30	331	⇑P	P	00 42 09.1	+1.1
	baz=76						
I20A	Worland	75.43	332	⇑P	P	00 42 09.4	+0.8
	baz=76						
SYO	Syowa Base	75.46	159	⇑eP	P	00 42 07.5	-0.9
SYO	Syowa Base	75.46	159	⇓ePcP	PcP	00 42 21.0	0.0
SYO	Syowa Base	75.46	159	⇓eX		00 42 41.6	
I19A	Meeteetse	75.88	331	⇑P	P	00 42 12.4	+1.1
	baz=76						
VNDA	Vanda	75.97	190	P	P	00 42 12.8	+1.5
VNDA	Vanda	75.97	190	P	P	00 42 12.8	+1.5
	comp=E,1.0nm,0.6s,baz=83,slow=3.7,SNR=7.2						
I18A	Diamond G Ranc	75.99	330	⇓P	P	00 42 13.1	+1.0
	baz=76						
RRI2	Red Ridge	76.42	329	eP	P	00 42 15.2	+0.7
	comp=E,3.9nm,0.9s						
G20A	Bridger	76.47	332	⇓P	P	00 42 14.6	0.0
	baz=77						
NVAR	Mina Array Bea	76.50	322	P	P	00 42 15.2	+0.1
NVAR	Mina Array Bea	76.50	322	P	P	00 42 15.2	+0.1
	comp=E,0.6nm,0.7s,baz=170,slow=7.1,SNR=5.5						
H18A	Shoshone NF, C	76.68	331	⇓P	P	00 42 16.2	+0.3
	baz=77						
G18A	Lazy EL Ranch,	77.14	332	⇓P	P	00 42 19.1	+0.8
	baz=77						
F19A	Roth Farm, Mol	77.29	332	⇓P	P	00 42 19.7	+0.6
	baz=78						
TORD	Torodi Ar. Bea	77.30	70	P	P	00 42 18.4	-1.3
TORD				pP	pP	00 42 48.8	+1.4
TORD	Torodi Ar. Bea	77.30	70	P	P	00 42 18.4	-1.3
	comp=E,5.1nm,0.3s,baz=256,slow=5.5,SNR=67						
TORD				pP	pP	00 42 48.8	+1.4
	comp=E,2.9nm,0.7s,baz=254,slow=5.4,SNR=3.1						
E20A	Meyer Farm, Mu	77.46	333	⇑P	P	00 42 20.7	+0.7
	baz=78						
F18A	Big Timber	77.66	332	⇓P	P	00 42 22.2	+1.0
	baz=78						
E19A	Rath Farm, Rou	77.70	333	⇑P	P	00 42 22.0	+0.6
	baz=78						
PAHR	Pah Rah Range	77.99	322	eP	P	00 42 24.4	+1.2
HLID	Hailey	78.07	328	eP	P	00 42 24.8	+1.2
HLID	Hailey	78.07	328	⇓P	P	00 42 24.8	+1.2
	baz=78,SNR=8.8						
F17A	Fitzpatrick Pl	78.08	331	⇑P	P	00 42 24.8	+1.2
	baz=78						
B19A	Brinkman Farms	79.34	334	⇓P	P	00 42 31.0	+0.6
	baz=80						
B18A	Beardsley Farm	79.64	333	⇓P	P	00 42 32.2	+0.3
	baz=80						
BOSA	Boshof	82.64	118	P	P	00 42 48.2	-0.3
BOSA	Boshof	82.64	118	P	P	00 42 48.2	-0.3
	comp=E,2.7nm,0.8s,baz=243,slow=4.5,SNR=4.0						
MAW	Mawson	83.29	163	P	P	00 42 51.5	+0.6
MAW	Mawson	83.29	163	P	P	00 42 51.5	+0.6
	comp=E,4.6nm,0.6s,baz=188,slow=6.1,SNR=7.5						
ESDC	Sonseca Array	86.24	44	P	P	00 43 06.5	+0.4
ESDC	Sonseca Array	86.24	44	P	P	00 43 06.5	+0.4
	comp=E,0.1nm,0.3s,baz=197,slow=3.9,SNR=4.0						
YKA	Yellowknife Ar	92.23	340	P	P	00 43 33.1	-0.7
YKA	Yellowknife Ar	92.23	340	P	P	00 43 33.1	-0.7
	comp=E,2.7nm,0.6s,baz=142,slow=4.7,SNR=13						
ASAR	Alice Springs	129.24	207	PKP	PKPdf	00 49 32.7	-0.3
ASAR	Alice Springs	129.24	207	PKP	PKPdf	00 49 32.7	-0.3
	comp=E,1.5nm,0.7s,baz=154,slow=2.1,SNR=17						
WRA	Warramunga Arr	132.32	210	PKP	PKPdf	00 49 38.8	0.0
WRA	Warramunga Arr	132.32	210	PKP	PKPdf	00 49 38.8	0.0
	comp=E,1.5nm,0.6s,baz=157,slow=1.7,SNR=23						
ZALV	Zalesovo Beam	142.65	26	PKPpre	PKPpre	00 49 52.2	
ZALV				PKP	PKPdf	00 49 56.8	+0.1
ZALV	Zalesovo Beam	142.65	26	PKhKP	PKPpre	00 49 52.2	
	comp=E,1.1nm,0.5s,baz=298,slow=2.9,SNR=2.8						
ZALV				PKP	PKPdf	00 49 56.8	+0.1
	comp=E,2.3nm,0.6s,baz=296,slow=4.2,SNR=10						
KSH	Kashi	145.38	52	PKPbc	PKPab	00 50 01.5	-1.0
KSH				sPKP		00 50 15.8	
KSH				PP	PP	00 53 22.5	-0.5
KSH				SKS	SKSdf	00 57 05.5	+3.9
KSH				SKKS	SKKSac	01 00 06.5	+1.4
KSH				AMB	AMB		
	comp=Z,77nm,4.6s						
KSH				LR	LR		
	comp=N,51nm,5.3s						
KSH				LR	LR		
	comp=E,69nm,5.1s						
KSH				LR	LR		
	comp=Z,130nm,4.8s						
MKAR	Makanchi Array	146.16	37	PKPbc	PKPbc	00 50 03.1	-1.2
MKAR	Makanchi Array	146.16	37	PKPbc	PKPbc	00 50 03.1	-1.2
	comp=Z,4.3nm,0.9s,baz=313,slow=3.2,SNR=23						
SONM	Songino Array	154.35	8	PKP	PKPdf	00 50 16.1	+0.1
SONM				PKPbc	PKPbc	00 50 22.7	-1.6
SONM				PKPab	PKPab	00 50 38.4	-0.4
SONM				pPKP	pPKPdf	00 50 45.6	-0.1
SONM	Songino Array	154.35	8	PKP	PKPdf	00 50 16.1	+0.1
	comp=Z,0.6nm,0.7s,baz=270,slow=1.5,SNR=3.6						
SONM				PKPbc	PKPbc	00 50 22.7	-1.6
	comp=Z,0.7nm,0.4s,baz=310,slow=1.1,SNR=5.2						
SONM				PKPab	PKPab	00 50 38.4	-0.4
	comp=Z,0.6nm,0.6s,baz=338,slow=7.5,SNR=2.6						
SONM				pPKP	pPKPdf	00 50 45.6	-0.1
	comp=Z,0.3nm,0.3s,baz=9.5,slow=2.3,SNR=2.6						
CN2	Changchun	155.81	335	ePKP	PKPdf	00 50 15.0	-2.9
HHC	Hu-ho-hao-te	161.67	360	ePKP	PKPdf	00 50 24.5	-0.6
HHC				pPKP	pPKPdf	00 50 35.0	-20
HHC				sPKP		00 50 38.0	
HHC				PKS	PKSdf	00 53 56.8	-1.6
HHC				PP	PP	00 54 54.5	+1.1
HHC				SKS	SKSdf	00 57 25.3	+5.0
HHC				SKKS	SKKSac	01 01 37.5	+5.0
HHC				AMB	AMB		
	comp=Z,120nm,8.5s						
HHC				LR	LR		
	comp=N,200nm,21.8s						
HHC				LR	LR		
	comp=E,230nm,20.4s						
CD2	Chengdu	169.10	38	ePKP	PKPdf	00 50 33.0	+1.5
CD2				pPKP	pPKPdf	00 50 43.5	-18
CD2				sPKP		00 50 47.0	
CD2				PKPab	PKPab	00 51 44.0	+0.4
CD2				PP	PP	00 55 33.8	+1.1
CD2				SKKS		01 02 17.0	
CD2				AMB	AMB		
	comp=Z,100nm,9.4s						
CD2				LR	LR		
	comp=N,130nm,17.8s						
CD2				LR	LR		
	comp=Z,120nm,17.8s						
KMI	Kunming	171.53	70	PKP	PKPdf	00 50 32.3	-0.9
WHN	Wuhan	171.57	343	PKP	PKPdf	00 50 34.3	+1.5
GYA	Guiyang	174.05	47	ePKP	PKPdf	00 50 34.8	+0.7
GYA				PKPab	PKPab	00 52 04.0	-1.8
GYA				PKS	PKSdf	00 54 06.3	-0.3
GYA				PP	PP	00 55 58.0	+0.3
GYA				AMB	AMB		
	comp=Z,110nm,8.9s						

IDC 27 00:39:10.5±1.6, 7°.59N×126°.97E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/23, mbtmp3.7/4, Error ellipse: s-maj=206.1km s-min=22.9km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.31	165	P		P	P	00 45 05.8	-0.2
	0.5nm,0.7s,baz=348,slow=10,SNR=3.5								
WRA				PcP		PcP	PcP	00 48 18.8	-0.6
	0.3nm,0.7s,baz=338,slow=3.3,SNR=3.0								
ASAR	Alice Springs	31.80	168	PcP		PcP	PcP	00 48 28.3	-0.1
	0.5nm,0.4s,baz=348,slow=2.6,SNR=5.9								
STKA	Stephens Creek	41.66	161	P		P	P	00 47 01.2	+0.3
	1.3nm,0.4s,baz=342,slow=12,SNR=3.3								
SONM	Songino Array	43.76	340	P		P	P	00 47 18.0	+0.1
	0.1nm,0.3s,baz=168,slow=7.4,SNR=3.6								
MKAR	Makanchi Array	54.57	324	P		P	P	00 48 40.5	-0.2
	0.5nm,0.7s,baz=115,slow=5.7,SNR=5.2								

GUC 27 00:50:48.6±0.5, 31°.40S×69°.83W, h153km±6km, MD3.5, ML3.5, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.03	282	⇓	iP	Pn	Pn	00 51 14.6	+0.6
CMCH					i S	Sn	Sn	00 51 34.1	+0.8
TLL	Tololo Astrono	1.48	325	⇑	iP	Pn	Pn	00 51 19.5	+0.9
TLL					i S	Sn	Sn	00 51 42.2	+0.7
TLL					AML	AML	AML	00 51 44.4	
	comp=E,185nm,0.3s								
ROCH	El Roble	1.86	212	⇓	iP	Pn	Pn	00 51 23.3	+0.7
ROCH					eS	Sn	Sn	00 51 49.8	+1.0
ROCH					AML	AML	AML	00 51 51.2	
	comp=N,326nm,0.3s								
PEL	Peldehue	1.89	202	⇑	eP	Pn	Pn	00 51 23.0	+0.4
PEL					i S	Sn	Sn	00 51 49.1	+0.2
FCH	Farellones	1.96	191	AML		AML	AML	00 51 57.5	
	comp=N,276nm,0.1s								
CLCH	Cerro Calan	2.08	196	i P		Pn	Pn	00 51 25.5	+0.6
CLCH					i S	Sn	Sn	00 51 53.2	+0.3
CLCH					AML	AML	AML	00 51 58.3	
	comp=N,226nm,0.5s								
ANTU	Antumapu	2.27	197	AML		AML	AML	00 51 59.5	
	comp=N,346nm,0.4s								
LMEL	Las Melosas	2.46	187	⇑	iP	Pn	Pn	00 51 30.2	+0.6
LMEL					i S	Sn	Sn	00 52 01.8	+0.5
LMEL					AML	AML	AML	00 52 07.4	
	comp=N,228nm,0.2s								
LCO	Las Campanas	2.50	342	⇑	iP	Pn	Pn	00 51 30.7	+0.5
LCO					i S	Sn	Sn	00 52 02.9	+0.6
LCO					AML	AML	AML	00 52 03.5	
	comp=E,191nm,0.2s								
CACH	El Canelo	2.79	193	⇓	iP	Pn	Pn	00 51 34.8	+1.2
CACH					i S	Sn	Sn	00 52 09.6	+1.2
LNV	Longovilo	2.88	207	i P		Pn	Pn	00 51 34.8	+0.3
LNV					i S	Sn	Sn	00 52 10.2	+0.1

IDC 27 01:01:33.4±6.6, 22°.71S×148°.33E, h0km, mb1 3.6/3, mb1mx3.4/14, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=56.9km s-min=39.4km az=63.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	10.91	212	P		Pn	Pn	01 04 09.6	-1.4
	0.3nm,0.3s,baz=35,slow=12,SNR=4.2								
STKA						Sn	Sn	01 06 05.3	-8.5
	0.1nm,0.3s,baz=277,slow=13,SNR=3.1								
STKA						Lg	Lg	01 07 19.8	
	0.1nm,0.3s,baz=219,slow=18,SNR=2.0								
ASAR	Alice Springs	13.30	263	Pn		Pn	Pn	01 04 44.6	+0.9
	0.1nm,0.3s,baz=93,slow=13,SNR=7.5								
ASAR						Sn	Sn	01 07 05.4	-7.0
	0.1nm,0.3s,baz=82,slow=23,SNR=3.4								
ASAR						Lg	Lg	01 08 35.2	
	0.1nm,0.3s,baz=83,slow=29,SNR=3.7								
WRA	Warramunga Arr	13.33	279	Pn		Pn	Pn	01 04 45.0	+1.1
	0.2nm,0.3s,baz=105,slow=14,SNR=9.4								
WRA						Sn	Sn	01 07 06.5	-6.5
	baz=104,slow=23,SNR=3.1								
WRA						Lg	Lg	01 08 35.9	
	0.1nm,0.3s,baz=104,slow=29,SNR

MORF	**Marmelete**	**4.12**	**57**	P		**Pn**	**01 03 37.0**	**+2.7**
MORF				S		**Sn**	**01 04 22.2**	**-0.4**
9.9nm,0.1s								
MORF	**Marmelete**	**4.12**	**57**	P		**Pn**	**01 03 37.0**	**+2.7**
MORF				S		**Sn**	**01 04 22.2**	**-0.4**
9.9nm,0.1s								
PBDV	**Barranco-do-Ve**	**4.60**	**62**	*e*Pn		**Pn**	**01 03 43.7**	**+2.8**
PBDV				*e*Sn		**Sn**	**01 04 33.1**	**-1.3**
PBDV				A		A	01 04 40.5	
5.4nm,0.5s								
PBDV	**Barranco-do-Ve**	**4.60**	**62**	P		**Pn**	**01 03 43.7**	**+2.8**
PBDV				S		**Sn**	**01 04 33.1**	**-1.3**
5.4nm,0.5s								
PBDV	**Barranco-do-Ve**	**4.60**	**62**	P		**Pn**	**01 03 43.7**	**+2.8**
PBDV				S		**Sn**	**01 04 33.1**	**-1.3**
5.4nm,0.5s								
PNCL	**Nicolau / Gran**	**4.66**	**49**	*e*Pn		**Pn**	**01 03 44.2**	**+2.6**
PNCL				*e*Sn		**Sn**	**01 04 34.8**	**-0.9**
PNCL				A		A	01 04 37.7	
6.5nm,0.1s								
PNCL	**Nicolau / Gran**	**4.66**	**49**	*e*Pn		**Pn**	**01 03 44.2**	**+2.6**
PNCL				*e*Sn		**Sn**	**01 04 34.8**	**-0.9**
6.5nm,0.1s								
PCVE	**Castro Verde**	**4.71**	**57**	*e*Pn		**Pn**	**01 03 45.1**	**+2.8**
PCVE				*e*Sn		**Sn**	**01 04 35.9**	**-1.1**
PCVE				A		A	01 04 37.8	
3.6nm,0.2s								
PCVE	**Castro Verde**	**4.71**	**57**	P		**Pn**	**01 03 45.1**	**+2.8**
PCVE				S		**Sn**	**01 04 35.9**	**-1.1**
3.6nm,0.2s								
PCVE	**Castro Verde**	**4.71**	**57**	P		**Pn**	**01 03 45.1**	**+2.8**
PCVE				S		**Sn**	**01 04 35.9**	**-1.1**
3.6nm,0.2s								
PMST	**Lisbon--Monsan**	**4.71**	**39**	*e*Sn		**Sn**	**01 04 35.9**	**-1.1**
PMST	**Lisbon--Monsan**	**4.71**	**39**	*e*Sn		**Sn**	**01 04 35.9**	**-1.1**
PMAFR	**Mafra**	**4.83**	**37**	*e*Pn		**Pn**	**01 03 45.8**	**+1.9**
PMAFR				*e*Sn		**Sn**	**01 04 39.1**	**-0.8**
PMAFR				A		A	01 04 40.7	
26nm,0.1s								
PMAFR	**Mafra**	**4.83**	**37**	P		**Pn**	**01 03 45.8**	**+1.9**
1.4nm,0.2s,SNR=7.9								
PMAFR				S		**Sn**	**01 04 37.0**	**-2.8**
21nm,0.2s,SNR=24								
PMAFR	**Mafra**	**4.83**	**37**	P		**Pn**	**01 03 45.8**	**+1.9**
1.4nm,0.2s,SNR=7.9								
PMAFR				S		**Sn**	**01 04 37.0**	**-2.8**
21nm,0.2s,SNR=24								
PMAFR				*e*Sn		Sb	01 04 39.1	-15
26nm,0.1s								
PVAQ	**Vaqueiros**	**4.83**	**61**	*e*Pn		**Pn**	**01 03 46.6**	**+2.7**
PVAQ				*e*Sn		**Sn**	**01 04 39.0**	**-0.9**
PVAQ				A		A	01 04 43.7	
7.4nm,0.1s								
PVAQ	**Vaqueiros**	**4.83**	**61**	P		**Pn**	**01 03 46.6**	**+2.7**
PVAQ				S		**Sn**	**01 04 39.0**	**-0.9**
7.4nm,0.1s								
PVAQ	**Vaqueiros**	**4.83**	**61**	P		**Pn**	**01 03 46.6**	**+2.7**
PVAQ				S		**Sn**	**01 04 39.0**	**-0.9**
7.4nm,0.1s								
PACT	**Alcochete**	**4.92**	**42**	*e*Pn		**Pn**	**01 03 47.7**	**+2.6**
PACT				*e*Sn		**Sn**	**01 04 41.0**	**-1.1**
PACT	**Alcochete**	**4.92**	**42**	*e*Pn		**Pn**	**01 03 47.7**	**+2.6**
PACT				*e*Sn		**Sn**	**01 04 41.0**	**-1.1**
CIA	**Chichaoua**	**5.04**	**134**	P		**Pn**	**01 03 48.0**	**+1.2**
CIA				S		Sn	01 04 42.0	-3.1
CIA	**Chichaoua**	**5.04**	**134**	*i* P		**Pn**	**01 03 48.0**	**+1.2**
CIA				*i* S		Sn	01 04 42.0	-3.1
EGRO	**El Granado**	**5.05**	**60**	P		**Pn**	**01 03 49.9**	**+2.9**
1.7nm,0.3s,SNR=22								
EGRO				S		**Sn**	**01 04 44.9**	**-0.5**
2.4nm,0.3s,SNR=5.5								
EGRO	**El Granado**	**5.05**	**60**	P		**Pn**	**01 03 49.9**	**+2.9**
1.7nm,0.3s,SNR=22								
EGRO				S		**Sn**	**01 04 44.9**	**-0.5**
2.4nm,0.3s,SNR=5.5								
EVO	**Evora**	**5.24**	**48**	*e*Sn		**Sn**	**01 04 48.2**	**-1.7**
EVO				A		A	01 04 52.4	
8.8nm,0.1s								
EVO	**Evora**	**5.24**	**48**	S		**Sn**	**01 04 48.2**	**-1.7**
8.8nm,0.1s								
EVO	**Evora**	**5.24**	**48**	S		**Sn**	**01 04 48.2**	**-1.7**
8.8nm,0.1s								
ALMR	**Almeirim**	**5.34**	**40**	*e*S		**Sn**	**01 04 49.7**	**-2.7**
ALMR				AML		AML	01 04 52.1	
comp=N,24nm,0.5s								
PMTG	**Montargil**	**5.47**	**43**	*e*Pn		**Pn**	**01 03 55.0**	**+2.3**
PMTG				*e*Sn		**Sn**	**01 04 53.7**	**-1.9**
PMTG	**Montargil**	**5.47**	**43**	*e*Pn		**Pn**	**01 03 55.0**	**+2.3**
PMTG				*e*Sn		**Sn**	**01 04 53.7**	**-1.9**
PBAR	**Barrancos**	**5.67**	**56**	*e*Pn		**Pn**	**01 03 58.3**	**+2.9**
PBAR				*e*Sn		**Sn**	**01 04 59.2**	**-1.3**
PBAR	**Barrancos**	**5.67**	**56**	P		**Pn**	**01 03 58.3**	**+2.9**
PBAR				S		**Sn**	**01 04 59.2**	**-1.3**
PBAR	**Barrancos**	**5.67**	**56**	P		**Pn**	**01 03 58.3**	**+2.9**
PBAR				S		**Sn**	**01 04 59.2**	**-1.3**
PESTR	**Estremoz**	**5.70**	**48**	*e*Pn		**Pn**	**01 03 58.6**	**+2.6**
PESTR				*e*Sn		**Sn**	**01 04 59.1**	**-2.4**
PESTR	**Estremoz**	**5.70**	**48**	P		**Pn**	**01 03 58.6**	**+2.6**
PESTR				S		**Sn**	**01 04 59.1**	**-2.4**
PESTR	**Estremoz**	**5.70**	**48**	P		**Pn**	**01 03 58.6**	**+2.6**
PESTR				S		**Sn**	**01 04 59.1**	**-2.4**
EMIN	**Mina Concepcio**	**5.73**	**61**	P		**Pn**	**01 03 58.9**	**+2.6**
comp=N,4.5nm,0.1s,SNR=65								
EMIN				S		**Sn**	**01 05 00.4**	**-1.8**
comp=N,1.3nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.73**	**61**	P		**Pn**	**01 03 58.9**	**+2.6**
comp=N,4.5nm,0.1s,SNR=65								
EMIN				S		**Sn**	**01 05 00.4**	**-1.8**
comp=N,1.3nm,0.1s,SNR=7.9								
OUK	**Oukaimeden**	**5.83**	**131**	P		**Pn**	**01 04 00.0**	**+2.0**
OUK				S		Sn	01 05 02.0	-3.0
OUK	**Oukaimeden**	**5.83**	**131**	*i* P		**Pn**	**01 04 00.0**	**+2.0**
OUK				*i* S		Sn	01 05 02.0	-3.0
EBAD	**Badajoz**	**6.00**	**51**	P		**Pn**	**01 04 02.2**	**+2.2**
comp=N,2.1nm,0.3s,SNR=54								
EBAD				S		**Sn**	**01 05 06.7**	**-2.0**
comp=N,9.0nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**6.00**	**51**	P		**Pn**	**01 04 02.2**	**+2.2**
comp=N,2.1nm,0.3s,SNR=54								
EBAD				S		**Sn**	**01 05 06.7**	**-2.0**
comp=N,9.0nm,0.2s,SNR=7.9								
ESPR	**Espera**	**6.04**	**71**	P		**Pn**	**01 04 03.1**	**+2.5**
comp=N,5.4nm,0.3s,SNR=15								
ESPR				S		**Sn**	**01 05 08.5**	**-1.3**
comp=N,8.8nm,0.2s,SNR=7.9								
ESPR	**Espera**	**6.04**	**71**	P		**Pn**	**01 04 03.1**	**+2.5**
comp=N,5.4nm,0.3s,SNR=15								
ESPR				S		**Sn**	**01 05 08.5**	**-1.3**
comp=N,8.8nm,0.2s,SNR=7.9								
PMRV	**Marv??o**	**6.18**	**45**	*e*Sn		**Sn**	**01 05 10.2**	**-3.2**
PMRV	**Marv??o**	**6.18**	**45**	S		**Sn**	**01 05 10.2**	**-3.2**
PMRV	**Marv??o**	**6.18**	**45**	*e*Sn		**Sn**	**01 05 10.2**	**-3.2**
TZC	**Tazercounte**	**6.20**	**117**	P		**Pn**	**01 04 04.0**	**+1.0**
TZC				S		**Sn**	**01 05 12.0**	**-2.0**
TZC	**Tazercounte**	**6.20**	**117**	*e*P		**Pn**	**01 04 04.0**	**+1.0**
TZC				*i* S		**Sn**	**01 05 12.0**	**-2.0**
KIB	**El Ksiba**	**6.33**	**112**	P		**Pn**	**01 04 06.0**	**+1.3**
KIB				S		**Sn**	**01 05 15.0**	**-2.2**
KIB	**El Ksiba**	**6.33**	**112**	*e*P		**Pn**	**01 04 06.0**	**+1.3**
KIB				*i* S		**Sn**	**01 05 15.0**	**-2.2**
ECAB	**El Cabril**	**6.76**	**62**	P		**Pn**	**01 04 12.8**	**+2.3**
comp=N,1.2nm,0.3s,SNR=24								
ECAB				S		**Sn**	**01 05 24.7**	**-2.9**
comp=N,1.0nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**6.76**	**62**	P		**Pn**	**01 04 12.8**	**+2.3**
comp=N,1.2nm,0.3s,SNR=24								
ECAB				S		**Sn**	**01 05 24.7**	**-2.9**
comp=N,1.0nm,0.2s,SNR=7.9								
MTE	**Manteigas**	**6.79**	**38**	*e*Pn		**Pn**	**01 04 13.0**	**+2.0**
MTE	**Manteigas**	**6.79**	**38**	P		**Pn**	**01 04 13.0**	**+2.0**
MTE	**Manteigas**	**6.79**	**38**	P		**Pn**	**01 04 13.0**	**+2.0**
CZD	**Col de Zad**	**6.93**	**105**	P		**Pn**	**01 04 15.0**	**+1.9**
CZD				S		Sn	01 05 28.0	-4.2
CZD	**Col de Zad**	**6.93**	**105**	*i* P		**Pn**	**01 04 15.0**	**+1.9**
CZD				*i* S		Sn	01 05 28.0	-4.2
EPLA	**Plasencia**	**7.37**	**46**	P		**Pn**	**01 04 21.3**	**+2.5**
comp=N,0.8nm,0.2s,SNR=5.9								
EPLA				S		**Sn**	**01 05 39.8**	**-2.6**
comp=N,1.4nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**7.37**	**46**	P		**Pn**	**01 04 21.3**	**+2.5**
comp=N,0.8nm,0.2s,SNR=5.9								
EPLA				S		**Sn**	**01 05 39.8**	**-2.6**
comp=N,1.4nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**7.41**	**64**	P		**Pn**	**01 04 21.8**	**+2.4**
comp=N,1.0nm,0.3s,SNR=17								
EADA				S		**Sn**	**01 05 41.3**	**-2.3**
comp=N,1.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**7.41**	**64**	P		**Pn**	**01 04 21.8**	**+2.4**
comp=N,1.0nm,0.3s,SNR=17								
EADA				S		**Sn**	**01 05 41.3**	**-2.3**
comp=N,1.4nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**7.63**	**36**	*e*Pn		**Pn**	**01 04 23.9**	**+1.5**
MVO				*e*Sn		**Sn**	**01 05 45.7**	**-3.3**
MVO	**Moncorvo**	**7.63**	**36**	P		**Pn**	**01 04 23.9**	**+1.5**
comp=N,0.7nm,0.3s,SNR=6.4								
MVO				S		Sn	01 05 43.4	-5.6
comp=N,2.2nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**7.63**	**36**	P		**Pn**	**01 04 23.9**	**+1.5**
comp=N,0.7nm,0.3s,SNR=6.4								
MVO				*e*Sn		**Sn**	**01 05 45.7**	**-3.3**
ELOB	**Lobios**	**7.75**	**29**	P		**Pn**	**01 04 24.6**	**+0.6**
SNR=7.9								
ELOB				S		Sn	01 05 44.9	-7.0
comp=N,1.7nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**7.75**	**27**	*e*Pn		**Pn**	**01 04 27.1**	**+3.0**
PGAV				*e*Sn		**Sn**	**01 05 50.8**	**-1.2**
PGAV	**Gavieira, Arco**	**7.75**	**27**	*e*Pn		**Pn**	**01 04 27.1**	**+3.0**
PGAV				*e*Sn		**Sn**	**01 05 50.8**	**-1.2**
EBAN	**Banos Encina**	**8.00**	**65**	P		**Pn**	**01 04 29.9**	**+2.5**
comp=N,1.5nm,0.2s,SNR=7.9								
EBAN				S		**Sn**	**01 05 55.4**	**-2.5**
comp=N,1.2nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**8.00**	**65**	P		**Pn**	**01 04 29.9**	**+2.5**
comp=N,1.5nm,0.2s,SNR=7.9								
EBAN				S		**Sn**	**01 05 55.4**	**-2.5**
comp=N,1.2nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**8.37**	**34**	P		**Pn**	**01 04 34.3**	**+1.7**
comp=N,0.5nm,0.2s,SNR=7.9								
ECAL				S		Sn	01 06 01.5	-5.7
comp=N,4.9nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**8.37**	**34**	P		**Pn**	**01 04 34.3**	**+1.7**
comp=N,0.5nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**8.39**	**21**	P		**Pn**	**01 04 32.9**	**0.0**
comp=N,1.0nm,0.2s,SNR=7.9								
EMAZ				S		Sn	01 05 57.8	-10
comp=N,4.2nm,0.1s,SNR=7.9								
EQES	**Quesada**	**8.43**	**69**	P		**Pn**	**01 04 36.4**	**+3.0**
comp=N,0.2nm,0.1s,SNR=7.9								
EQES				S		**Sn**	**01 06 06.4**	**-2.3**
comp=N,0.9nm,0.2s,SNR=7.9								
EQES	**Quesada**	**8.43**	**69**	P		**Pn**	**01 04 36.4**	**+3.0**
comp=N,0.2nm,0.1s,SNR=7.9								
EQES				S		**Sn**	**01 06 06.4**	**-2.3**
comp=N,0.9nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**8.49**	**55**	P		**Pn**	**01 04 36.2**	**+1.9**
comp=N,1.0nm,0.2s,baz=245,slow=13,SNR=20								
ESDC	**Sonseca Array**	**8.49**	**55**	P		**Pn**	**01 04 36.2**	**+1.9**
comp=N,1.0nm,0.2s,baz=245,slow=13,SNR=20								
GUD	**Guadarrama**	**8.89**	**49**	P		**Pn**	**01 04 42.3**	**+2.5**
comp=N,0.6nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**8.89**	**49**	P		**Pn**	**01 04 42.3**	**+2.5**
comp=N,0.6nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**9.81**	**66**	P		**Pn**	**01 04 54.4**	**+2.0**
comp=N,0.9nm,0.5s,SNR=6.0								
ETOB				S		**Sn**	**01 06 39.6**	**-3.1**
SNR=7.9								
ETOB	**Tobarra**	**9.81**	**66**	P		**Pn**	**01 04 54.4**	**+2.0**
comp=N,0.9nm,0.5s,SNR=6.0								
ETOB				S		**Sn**	**01 06 39.6**	**-3.1**
SNR=7.9								

IDC 27 01:54:03.1±1.1, 40°.93S×91°.41W, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.1/19, mbtmp4.0/8, ML3.7/1, MS3.7/2, Ms1 3.6/2, ms1mx3.3/14, Error ellipse: s-maj=33.7km s-min=25.8km az=100.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.79**	**96**	Pn	Pn	01 57 48.5	+1.7
0.1nm,0.3s,baz=347,slow=16,SNR=3.1							
LPAZ	**La Paz**	**31.75**	**46**	P	P	02 00 29.6	-0.1
3.4nm,1.2s,baz=214,slow=7.9,SNR=8.4							
ATAH	**Atahualpa**	**35.60**	**23**	P	P	02 01 04.2	+1.3
3.5nm,0.7s,baz=322,slow=15,SNR=4.2							
SIV	**San Ignacio**	**36.13**	**55**	P	P	02 01 05.6	-1.5
2.7nm,1.0s,baz=245,slow=11,SNR=5.0							
SIV				LR	LR	02 12 34.9	
comp=Z,60nm,19.1s,slow=31							
QSPA	**South Pole Qui**	**49.30**	**180**	P	P	02 02 53.6	+0.1
1.9nm,1.1s,baz=63,slow=4.5,SNR=3.1							
VNA2	**Neumayer--Watz**	**50.04**	**155**	*e*P	P	02 02 55.4	-3.5
VNA2	**Neumayer--Watz**	**50.04**	**155**	*e*I		02 03 07.4	
SNAA	**Sanae**	**51.32**	**156**	*e*P	P	02 03 05.5	-3.1
SNAA	**Sanae**	**51.32**	**156**	*e*I		02 03 16.6	
TXAR	**Lajitas Array**	**70.82**	**349**	P	P	02 05 21.9	+0.4
0.5nm,0.9s,baz=165,slow=5.2,SNR=5.1							
NVAR	**Mina Array Bea**	**82.71**	**339**	P	P	02 06 28.3	-0.3
0.9nm,0.8s,baz=176,slow=7.1,SNR=7.9							
PDAR	**Pinedale Array**	**84.91**	**347**	P	P	02 06 39.2	-0.5
1.4nm,1.0s,baz=149,slow=3.1,SNR=7.5							
ULM	**Lac du Bonnet**	**90.88**	**357**	LR	LR	02 44 28.0	
comp=Z,63nm,21.8s,baz=15,slow=33							
KBZ	**Khabaz**	**146.43**	**70**	PKPbc	PKPbc	02 13 44.9	-0.7
0.9nm,0.6s,baz=243,slow=4.5,SNR=2.5							

*ISCJB **27** 01:55:37.6±0.6, 41°.25S±0°.1×91°.1W±0°.1, h10km, mb4.2/11, MS4.0/9, Error ellipse: s-maj=16.0km s-min=11.7km az=160.3*

*IDC **27** 01:55:38.2±0.7, 41°.12S×91°.14W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, ML3.7/1, MS4.1/10, Ms1 4.1/10, ms1mx4.0/15, Error ellipse: s-maj=27.7km s-min=17.2km az=115.0*

*NEIC **27** 01:55:39.6±0.5, 41°.11S×91°.09W, h10km, mb4.2/2, Error ellipse: s-maj=15.2km s-min=12.1km az=135.0*

*GCMT **27** 01:55:40.2±0.2, 41°.10S×91°.29W, h14km±1km, MW5.0, Moment Tensor Solution. s30,c34; s79,c114; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.66±.20; $M_{\theta\theta}$-0.18±.13; $M_{\phi\phi}$3.84±.14; $M_{r\theta}$1.95±.37; $M_{\theta\phi}$-0.52±.09; $M_{\phi r}$0.36±.25; Best double couple: $M_0$4.20000×10^{16} NP1:ϕ_s195.00000°, δ51.00000°, λ-58.00000°. NP2:ϕ_s330.00000°, δ49.00000°, λ-123.00000°. Principal axes: T 3.9100, Plg1.0000°, Azm263.0000°; N 0.6600, Plg25.0000°, Azm354.0000°; P -4.5700, Plg65.0000°, Azm171.0000°; Data Used: IU II G IC CN.*

ISC 27 01:55:39.5±0.6, 41°.25±0°.1×91°.17W±0°.10, h10km, n41, σ1°.13/37, mb4.2/11, MS4.1/9, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.59**	**95**	Pn	**Pn**	**01 59 19.4**	**+0.1**
PLCA	**Paso Flores**	**15.59**	**95**	Pn	**Pn**	**01 59 19.4**	**+0.1**
0.1nm,0.3s,baz=279,slow=13,SNR=2.7							
PLCA				LR	LR	02 03 55.4	
comp=Z,3μm,19.5s,baz=315,slow=32							
USHA	**Ushuaia**	**20.34**	**140**	LR	LR	02 06 32.1	
comp=Z,1μm,18.4s,baz=88,slow=32							
CFAA	**Coronel Fontan**	**20.73**	**70**	P	**P**	**02 00 19.1**	**-1.0**
CFAA	**Coronel Fontan**	**20.73**	**70**	P	**P**	**02 00 19.1**	**-1.0**
0.2nm,0.5s,baz=230,slow=11,SNR=4.6							
CFAA				LR	LR	02 06 34.4	
comp=Z,206nm,19.8s,baz=245,slow=32							
LVC	**Limon Verde**	**26.31**	**52**	*e*P	**P**	**02 01 14.8**	**-0.9**
3.1nm,0.9s							
PMSA	**Palmer Station**	**28.32**	**156**	LR	LR	02 09 50.4	
comp=Z,416nm,18.3s,baz=247,slow=30							
LPAZ	**La Paz**	**31.78**	**46**	*e*P	**P**	**02 02 04.3**	**-0.5**
18nm,1.5s							
LPAZ	**La Paz**	**31.78**	**46**	P	**P**	**02 02 04.6**	**-0.2**
2.1nm,0.6s,baz=220,slow=6.0,SNR=13							
LPAZ				LR	LR	02 11 57.0	
comp=Z,712nm,21.8s,baz=236,slow=31							
ATAH	**Atahualpa**	**35.74**	**22**	P	**P**	**02 02 39.5**	**+0.6**
ATAH	**Atahualpa**	**35.74**	**22**	P	**P**	**02 02 39.5**	**+0.6**
8.4nm,0.9s,baz=229,slow=9.3,SNR=3.4							
SIV	**San Ignacio**	**36.11**	**55**	P	**P**	**02 02 39.9**	**-1.9**
SIV	**San Ignacio**	**36.11**	**55**	P	**P**	**02 02 39.9**	**-1.9**
4.7nm,1.1s,baz=238,slow=9.0,SNR=8.0							
SAML	**Samuel**	**40.52**	**46**	*e*P	**P**	**02 03 17.5**	**-1.4**
15nm,1.6s							
RKT	**Rikitea**	**40.74**	**282**	*e*LR	LR	02 14 30.4	
1μm,27.0s,baz=128							
ROSC	**El Rosal**	**48.31**	**23**	P	**P**	**02 04 22.9**	**+1.3**
ROSC	**El Rosal**	**48.31**	**23**	P	**P**	**02 04 22.9**	**+1.3**
3.1nm,0.3s,baz=98,slow=23,SNR=7.8							
ROSC				LR	LR	02 23 13.3	
comp=Z,120nm,18.8s,baz=215,slow=34							
QSPA	**South Pole Qui**	**49.08**	**180**	P	**P**	**02 04 26.6**	**-0.1**
QSPA	**South Pole Qui**	**49.08**	**180**	P	**P**	**02 04 26.6**	**-0.1**
0.5nm,0.6s,baz=107,slow=6.2,SNR=4.4							
VNA2	**Neumayer--Watz**	**49.76**	**155**	*e*I	**P**	**02 04 31.3**	**-0.3**
SNAA	**Sanae**	**51.04**	**156**	*e*I	**P**	**02 04 40.4**	**-1.0**
TBI	**Tubuai**	**51.46**	**271**	*e*S	**S**	**02 12 01.9**	**-3.2**
321nm,25.1s							
TBI				*e*LR	LR	02 19 27.9	
2μm,28.0s,baz=125							
VNDA	**Vanda**	**53.71**	**195**	P	**P**	**02 05 01.3**	**+0.3**
VNDA				PcP	**PcP**	**02 06 08.4**	**+1.4**
VNDA	**Vanda**	**53.71**	**195**	P	**P**	**02 05 01.3**	**+0.3**
1.0nm,1.1s,baz=111,slow=8.6,SNR=3.1							
VNDA				PcP	**PcP**	**02 06 08.4**	**+1.4**
0.7nm,0.7s,baz=96,slow=0.3,SNR=3.0							
PPT2	**Papeete2**	**54.95**	**277**	*e*S	**S**	**02 12 52.7**	**-0.3**
352nm,25.2s							
PPT2				*e*LR	LR	02 21 02.6	
1μm,27.8s,baz=134							
MAW	**Mawson**	**69.80**	**170**	LR	LR	02 38 04.5	
comp=Z,101nm,18.1s,baz=172,slow=36							
TXAR	**Lajitas Array**	**71.08**	**348**	P	**P**	**02 06 57.6**	**-0.2**
TXAR	**Lajitas Array**	**71.08**	**348**	P	**P**	**02 06 57.6**	**-0.2**
0.8nm,0.8s,baz=164,slow=6.4,SNR=6.3							
TXAR				LR	LR	02 32 39.6	
comp=Z,88nm,21.8s,baz=5.0,slow=31							
NVAR	**Mina Array Bea**	**82.99**	**339**	P	**P**	**02 08 04.9**	**+0.1**
NVAR	**Mina Array Bea**	**82.99**	**339**	P	**P**	**02 08 04.9**	**+0.1**
1.6nm,0.9s,baz=171,slow=5.4,SNR=6.6							
DZM	**Mont Dzumac**	**84.57**	**246**	*e*LR	LR	02 34 34.9	
546nm,28.9s							
PDAR	**Pinedale Array**	**85.17**	**347**	P	**P**	**02 08 15.1**	**-0.7**
PDAR	**Pinedale Array**	**85.17**	**347**	P	**P**	**02 08 15.1**	**-0.7**
1.5nm,0.9s,baz=173,slow=6.0,SNR=6.1							
PDAR				LR	LR	02 40 53.4	
comp=Z,65nm,21.7s,baz=344,slow=32							
SCHQ	**Schefferville**	**97.85**	**14**	LR	LR	02 51 26.4	
comp=Z,80nm,19.8s,baz=86,slow=34							
GERES	**GERESS Array B**	**128.33**	**54**	PKP	**PKPdf**	**02 14 47.9**	**+2.1**
GERES	**GERESS Array B**	**128.33**	**54**	PKP	**PKPdf**	**02 14 47.9**	**+2.1**
0.1nm,0.3s,baz=266,slow=5.9,SNR=2.2							
JNU	**Nakatsue**	**145.80**	**270**	PKPbc	**PKPbc**	**02 15 18.8**	**0.0**
JNU	**Nakatsue**	**145.80**	**270**	PKPbc	**PKPbc**	**02 15 18.8**	**0.0**
9.0nm,1.0s,baz=124,slow=7.3,SNR=3.8							
KBZ	**Khabaz**	**146.34**	**70**	PKPbc	**PKPbc**	**02 15 19.9**	**-0.2**
KBZ	**Khabaz**	**146.34**	**70**	PKPbc	**PKPbc**	**02 15 19.9**	**-0.2**
0.5nm,0.3s,baz=305,slow=2.9,SNR=2.2							
USRK	**Ussuriysk Arra**	**148.38**	**290**	PKPbc	**PKPdf**	**02 15 23.6**	**+1.4**
1.7nm,0.7s,baz=100,slow=6.8,SNR=4.3							

IDC 27 02:12:35.7±10.0, 2°.77N×128°.45E, h75km±98km, mb3.4/5, mb1 3.5/5, mb1mx3.3/23, mbtmp3.4/5, Error ellipse: s-maj=98.4km s-min=24.2km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.93**	**187**	P	P	02 17 12.3	-0.1
1.0nm,0.7s,baz=0.0,slow=11,SNR=2.7							
WRA	**Warramunga Arr**	**23.30**	**166**	P	P	02 17 37.1	-0.3
1.1nm,0.5s,baz=346,slow=9.6,SNR=21							
ASAR	**Alice Springs**	**26.81**	**169**	P	P	02 18 08.4	-0.7
0.2nm,0.4s,baz=349,slow=9.4,SNR=3.3							
STKA	**Stephens Creek**	**36.65**	**161**	P	P	02 19 35.8	+0.6
1.3nm,0.4s,baz=342,slow=8.6,SNR=4.8							
MKAR	**Makanchi Array**	**59.32**	**325**	P	P	02 22 30.2	+0.4
0.9nm,0.5s,baz=121,slow=8.1,SNR=12							
MKAR				pP	pP	02 22 48.3	-0.8
0.7nm,0.6s,baz=122,slow=8.1,S

ITM	**Ithomi**	**2.14 151**	*e*PB	**Pn**	**02 13 29.6**	**+0.6**
ITM	**Ithomi**	**2.14 151**	*e*Pb	**Pn**	**02 13 29.6**	**+0.6**
GRG	**Griva**	**2.34 35**	*e*PN	**Pb**	**02 13 33.6**	**-1.7**
GRG	**Griva**	**2.34 35**	*e*Pn	**Pb**	**02 13 33.6**	**-1.7**
PAIG	**Paliouri**	**2.52 69**	*e*PN	**Pn**	**02 13 35.2**	**+1.0**
PAIG	**Paliouri**	**2.52 69**	*e*Pn	**Pn**	**02 13 35.2**	**+1.0**
AOS	**Alonnisos**	**2.54 86**	*e*PB	**Pn**	**02 13 36.2**	**+1.7**
AOS	**Alonnisos**	**2.54 86**	*e*Pb	**Pn**	**02 13 36.2**	**+1.7**
PLG	**Polygyros**	**2.55 58**	*e*PB	**Pn**	**02 13 35.9**	**+1.3**
PLG	**Polygyros**	**2.55 58**	*e*Pb	**Pn**	**02 13 35.9**	**+1.3**
DID	**Didima**	**2.58 126**	*e*PN	**Pn**	**02 13 35.4**	**+0.3**
DID	**Didima**	**2.58 126**	*e*Pn	**Pn**	**02 13 35.4**	**+0.3**
SOH	**Sokhos**	**2.75 49**	*e*PB	**Pb**	**02 13 40.1**	**-2.1**
SOH	**Sokhos**	**2.75 49**	*e*Pb	**Pb**	**02 13 40.1**	**-2.1**
VLI	**Veliai**	**2.97 141**	*e*PB	**Pn**	**02 13 42.6**	**+2.2**
VLI	**Veliai**	**2.97 141**	*e*Pb	**Pn**	**02 13 42.6**	**+2.2**

*AUST **27** 02:22:17.8±0.0, 16°.04S×177°.10W, h384km, Error ellipse: s-maj=2.6km s-min=1.4km az=353.0*
*ISCJB **27** 02:22:20.1±0.6, 16°.7S±0°.2×177°.37W±0°.09, h400km, mb3.9/9, Error ellipse: s-maj=23.2km s-min=10.0km az=160.7*
*IDC **27** 02:22:22.0±6.6, 16°.34S×177°.57W, h402km±72km, mb3.6/9, mb1 3.8/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=70.4km s-min=20.5km az=153.0*

ISC 27 02:22:21.2±0.7, 16°.7S±0°.2×177°.3W±0°.1, h400km, n25, σ0s77/23, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.41**	**110**	P	**P**	**02 24 09.7**	**-0.3**
	baz=7.5,SNR=3.1						
DZM	**Mont Dzumac**	**16.25**	**248**	P	**P**	**02 25 47.7**	**+0.5**
	0.4nm,0.3s,baz=90,slow=20,SNR=4.4						
ARMA	**Armidale**	**31.48**	**239**	P	**P**	**02 28 07.9**	**0.0**
	baz=32,SNR=5.8						
ARMA				S	S	02 33 18.4	+32
	baz=32,SNR=4.0						
MGCD	**Mangrove Creek**	**32.87**	**234**	S	**S**	**02 33 08.3**	**+0.8**
	baz=33,SNR=7.9						
CTA	**Charters Tower**	**34.71**	**259**	P	**P**	**02 28 34.7**	**-0.9**
	2.3nm,0.6s,baz=64,slow=11,SNR=4.8						
YNG	**Young**	**35.37**	**234**	S	S	02 33 38.0	-7.7
	baz=36,SNR=7.2						
MTSU	**Mount Surprise**	**36.61**	**262**	P	P	02 28 41.5	-10
	baz=37,SNR=6.1						
COEN	**Coen**	**38.18**	**269**	P	**P**	**02 29 05.8**	**+1.2**
	baz=38,SNR=8.8						
TOO	**Toolangi**	**38.77**	**230**	P	**P**	**02 29 09.8**	**+0.7**
	baz=39,SNR=3.6						
STKA	**Stephens Creek**	**40.16**	**240**	P	**P**	**02 29 20.2**	**-0.3**
	3.7nm,0.4s,baz=80,slow=8.0,SNR=17						
STKA	**Stephens Creek**	**40.16**	**240**	P	**P**	**02 29 20.5**	**0.0**
	baz=41,SNR=15						
WRA	**Warramunga Arr**	**45.91**	**258**	P	**P**	**02 30 04.7**	**-1.5**
	1.6nm,0.3s,baz=94,slow=8.3,SNR=55						
ASAR	**Alice Springs**	**46.15**	**253**	P	**P**	**02 30 07.2**	**-0.8**
	21nm,0.5s,baz=89,slow=8.0,SNR=270						
KDU	**Kakadu**	**48.65**	**268**	P	**P**	**02 30 27.4**	**+0.3**
	baz=49,SNR=15						
MTN	**Manton Dam**	**49.91**	**267**	P	**P**	**02 30 37.2**	**+0.7**
	baz=50,SNR=4.3						
FORT	**Forrest**	**51.50**	**244**	P	**P**	**02 30 47.4**	**-0.6**
	baz=52,SNR=7.5						
KNRA	**Kununurra**	**51.68**	**263**	P	**P**	**02 30 49.9**	**+0.4**
	baz=52,SNR=4.4						
FITZ	**Fitzroy Crossi**	**54.29**	**259**	P	**P**	**02 31 08.2**	**0.0**
	2.4nm,0.4s,baz=83,slow=8.1,SNR=27						
FITZ	**Fitzroy Crossi**	**54.29**	**259**	P	**P**	**02 31 08.5**	**+0.3**
	baz=55,SNR=18						
MEEK	**Meekatharra**	**59.86**	**249**	P	**P**	**02 31 46.2**	**-0.6**
	baz=60,SNR=4.2						
NVAR	**Mina Array Bea**	**77.81**	**44**	P	**P**	**02 33 36.3**	**+0.4**
	1.1nm,0.7s,baz=226,slow=8.9,SNR=11						
TXAR	**Lajitas Array**	**84.44**	**57**	P	**P**	**02 34 11.9**	**+1.4**
	1.3nm,0.8s,baz=223,slow=6.8,SNR=16						
ILAR	**Eielson Array**	**84.46**	**13**	P	**P**	**02 34 08.7**	**-1.0**
	1.3nm,0.5s,baz=228,slow=5.4,SNR=30						
PDAR	**Pinedale Array**	**85.73**	**43**	P	**P**	**02 34 16.3**	**-0.4**
	0.2nm,0.3s,baz=245,slow=5.7,SNR=2.4						
BRTR	**Keskin Array B**	**144.64**	**317**	PKP	**PKPdf**	**02 41 11.3**	**-0.1**
	0.5nm,0.8s,baz=55,slow=3.9,SNR=3.1						

KRSC 27 02:33:21.7±0.7, 51°.05N×157°.86E, h39km±39km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.78**	**303**	*i* P	Pn	02 33 37.5	+1.3
PAU				*i* S	Sn	02 33 48.3	+1.6
SKR	**Severo-Kuril's**	**1.16**	**252**	*e*P	Pn	02 33 41.9	+0.5
SKR				*i* S	Sn	02 33 55.8	-0.3
ASAK	**Asacha**	**1.33**	**1**	*e*P	Pn	02 33 45.4	+1.5
ASAK				*e*S	Sn	02 34 02.6	+2.1
MIPR	**Malaya Ipel'ka**	**1.41**	**331**	*i* P	Pn	02 33 46.3	+1.5
RUS	**Russkaya**	**1.44**	**16**	*e*P	Pn	02 33 46.3	+1.0
RUS				*e*S	Sn	02 34 04.1	+1.1
MTVR	**Mutnovka**	**1.45**	**8**	*e*P	Pn	02 33 47.1	+1.5
MTVR				*e*S	Sn	02 34 05.1	+1.6
GRL	**Gorelyy**	**1.51**	**5**	*e*P	Pn	02 33 48.0	+1.6
GRL				*e*S	Sn	02 34 07.0	+2.1
APC	**Apacha**	**1.93**	**347**	*e*P	Pn	02 33 54.1	+2.2
APC				*e*S	Sn	02 34 17.3	+2.4
PET	**Petropavlovsk**	**2.04**	**14**	*e*P	Pn	02 33 55.5	+2.1
PET				*e*S	Sn	02 34 19.7	+2.1
UGLR	**Uglovaya**	**2.24**	**15**	*e*P	Pn	02 33 58.9	+2.5
UGLR				*e*S	Sn	02 34 25.4	+2.5
AVH	**Avacha**	**2.28**	**13**	*e*P	Pn	02 33 59.4	+2.5
AVH				*e*S	Sn	02 34 26.7	+2.8
SMAR	**Somma**	**2.29**	**14**	*e*P	Pn	02 34 00.0	+2.8
SMAR				*e*S	Sn	02 34 27.6	+3.2
KOK	**Koryaka**	**2.30**	**12**	*e*P	Pn	02 34 00.2	+3.1
NLC	**Nalytchevo**	**2.31**	**23**	*e*S	Sn	02 34 27.9	+3.5
SDLR	**Sedlovina**	**2.32**	**15**	*e*P	Pn	02 33 59.6	+2.1
KRER	**Koryakskii**	**2.32**	**13**	*e*P	Pn	02 33 59.9	+2.2
KRX	**Arik**	**2.36**	**12**	*e*P	Pn	02 34 01.1	+3.0
SPN	**Mys Shipunski**	**2.45**	**32**	*e*P	Pn	02 34 01.4	+2.3
SPN				*e*S	Sn	02 34 30.1	+2.4
GNL	**Ganaly**	**2.65**	**1**	*e*P	Pn	02 34 04.3	+2.3
GNL				*e*S	Sn	02 34 35.3	+2.3
KII	**Karymskiy**	**3.14**	**17**	*e*P	Pn	02 34 11.7	+2.9
MKZ	**Mys Kozlova**	**4.22**	**32**	*e*P	Pn	02 34 25.1	+1.7
MKZ				*e*S	Sn	02 35 12.8	+1.4
ESO	**Esso**	**4.91**	**6**	*e*P	Pn	02 34 36.4	+3.5
KMNR	**Kamenistaya**	**4.92**	**16**	*e*P	Pn	02 34 37.6	+4.4
KBTR	**Krutoberegovo**	**5.95**	**28**	*e*P	Pn	02 34 49.6	+2.5
BKI	**Bering**	**6.41**	**46**	P	Pn	02 34 59.2	+5.7

IDC 27 02:38:47.3±1.3, 41°.28S×91°.09W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, MS3.0/4, Ms1 3.1/4, ms1mx3.0/24, Error ellipse: s-maj=40.3km s-min=30.4km az=69.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.52**	**95**	LR	LR	02 47 05.2	
	comp=Z,143nm,20.6s,baz=324,slow=32						
CFAA	**Coronel Fontan**	**20.71**	**70**	LR	LR	02 49 21.0	
	comp=Z,9.6nm,19.2s,baz=172,slow=31						
LPAZ	**La Paz**	**31.82**	**45**	P	P	02 45 15.4	+0.8
	1.8nm,0.9s,baz=195,slow=6.6,SNR=6.0						
LPAZ				LR	LR	02 54 31.6	
	comp=Z,16nm,20.4s,baz=62,slow=30						
SIV	**San Ignacio**	**36.14**	**55**	P	P	02 45 50.7	-0.6
	1.3nm,1.0s,baz=221,slow=11,SNR=4.2						
BDFB	**Brasilia**	**45.05**	**68**	LR	LR	03 05 24.6	
	comp=Z,73nm,18.9s,baz=237,slow=36						
VNA2	**Neumayer--Watz**	**49.62**	**155**	*e*P	P	02 47 40.9	+1.0
SNAA	**Sanae**	**50.90**	**156**	*e*P	P	02 47 48.4	-1.3
SNAA	**Sanae**	**50.90**	**156**	P	P	02 47 49.9	+0.2
	0.8nm,1.0s,baz=270,slow=19,SNR=4.8						
TXAR	**Lajitas Array**	**71.22**	**348**	P	P	02 50 07.8	-0.3
	0.7nm,1.0s,baz=167,slow=4.5,SNR=3.9						
NVAR	**Mina Array Bea**	**83.13**	**339**	P	P	02 51 15.2	+0.2
	1.6nm,0.9s,baz=163,slow=6.3,SNR=7.9						
PDAR	**Pinedale Array**	**85.31**	**346**	P	P	02 51 26.1	+0.1
	0.9nm,0.9s,baz=161,slow=6.3,SNR=6.1						
DBIC	**Dimbokro**	**91.53**	**83**	P	P	02 51 55.2	-0.9
	6.0nm,1.0s,baz=220,slow=7.9,SNR=3.1						

IDC 27 02:48:17.8±0.8, 19°.81N×71°.01W, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/27, mbtmp3.8/10, ML2.8/1, Error ellipse: s-maj=22.5km s-min=20.1km az=77.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**15.21**	**193**	Pn	Pn	02 51 53.9	-0.7
	0.9nm,0.3s,baz=98,slow=17,SNR=3.5						
SADO	**Sadowa**	**25.79**	**347**	P	P	02 53 50.6	+0.1
	2.2nm,0.6s,baz=217,slow=20,SNR=3.2						
TXAR	**Lajitas Array**	**31.09**	**294**	P	P	02 54 37.9	-0.3
	0.3nm,0.8s,baz=112,slow=12,SNR=2.9						
TXAR				PcP	PcP	02 57 32.4	-1.5
	0.3nm,0.7s,baz=66,slow=2.2,SNR=3.6						
LPAZ	**La Paz**	**35.98**	**175**	P	P	02 55 21.7	+0.3
	0.5nm,0.5s,baz=0.0,slow=3.0,SNR=2.9						
NVAR	**Mina Array Bea**	**44.76**	**305**	P	P	02 56 34.4	+0.8
	1.3nm,0.9s,baz=96,slow=8.3,SNR=6.4						
RPN	**Rapa Nui**	**59.64**	**220**	P	P	02 58 24.2	+0.3
	0.8nm,0.5s,baz=155,slow=20,SNR=3.9						
ESDC	**Sonseca Array**	**60.16**	**55**	P	P	02 58 27.9	+0.3
	1.0nm,0.6s,baz=280,slow=7.4,SNR=11						
ILAR	**Eielson Array**	**66.25**	**333**	P	P	02 59 06.5	-1.0
	0.5nm,0.7s,baz=98,slow=5.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**69.58**	**83**	P	P	02 59 28.6	-0.7
	0.5nm,0.8s,baz=283,slow=7.5,SNR=3.7						
ARCES	**ARCESS Array B**	**73.87**	**21**	P	P	02 59 55.5	+1.2
	1.4nm,0.9s,baz=304,slow=6.4,SNR=4.0						
WRA	**Warramunga Arr**	**156.17**	**265**	PKPbc	PKPdf	03 08 23.0	+7.8
	0.4nm,0.8s,baz=86,slow=3.3,SNR=4.3						

*IDC **27** 02:55:28.6±3.5, 53°.94N×158°.98W, h0km, mb3.9/7, mb1 3.9/12, mb1mx3.7/35, mbtmp3.8/12, ML3.8/5, Error ellipse: s-maj=83.2km s-min=20.5km az=154.0*
*ISCJB **27** 02:55:33.0±1.8, 54°.23N±0°.08×158°.90W±0°.08, h33km±14km, mb3.9/7, Error ellipse: s-maj=14.4km s-min=5.6km az=157.1*
*NEIC **27** 02:55:34.0, 54°.22N×159°.03W, h10km, ML3.3(AEIC), After AEIC.*

ISC 27 02:55:33.8±3.8, 54°.3N±0°.1×158°.93W±0°.07, h23km±29km, n43, σ0s79/45, mb3.8/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.40**	**321**	*e*Pn	**Pn**	**02 55 56.9**	**-0.9**
DOL	**Dolgoi Island**	**1.91**	**298**	P	**Pn**	**02 56 04.3**	**-0.6**
VNWF	**Veniaminof 8**	**1.91**	**349**	P	**Pn**	**02 56 06.1**	**+1.1**
VNHG	**Veniaminof 1**	**1.95**	**356**	P	**Pn**	**02 56 06.5**	**+0.9**
PS4A	**Pavlof South-4**	**2.00**	**304**	P	**Pn**	**02 56 06.2**	**+0.1**
CHGN	**Chignik**	**2.05**	**8**	*e*Pn	**Pn**	**02 56 06.2**	**-0.6**
CHGN				*e*S	**Sn**	**02 56 30.7**	**-0.8**
DRIA	**Deer Island**	**2.06**	**291**	P	**Pn**	**02 56 05.9**	**-1.0**
DT1	**Dutton Round H**	**2.12**	**295**	P	**Pn**	**02 56 07.1**	**-0.6**
DTNA	**Dutton South F**	**2.12**	**296**	P	**Pn**	**02 56 07.5**	**-0.2**
ANPK	**Aniakchak Peak**	**2.61**	**10**	P	**Pn**	**02 56 14.8**	**+0.3**
FALS	**False Pass**	**2.67**	**284**	*e*Pn	**Pn**	**02 56 16.4**	**+1.0**
FALS				*e*S	**Sn**	**02 56 47.4**	**+0.5**
ISNN	**Isanotski Nort**	**2.88**	**283**	P	**Pn**	**02 56 18.3**	**+0.1**
SSLN	**Shishaldin Nor**	**3.00**	**282**	P	**Pn**	**02 56 20.1**	**+0.2**
AKUT	**Akutan**	**4.02**	**271**	*e*Pn	**Pn**	**02 56 34.6**	**+0.8**
AKUT				*e*S	**Sn**	**02 57 18.6**	**-1.5**
CAHL	**Cahill**	**4.29**	**27**	P	**Pn**	**02 56 37.3**	**-0.3**
OHAK	**Old Harbor**	**4.34**	**45**	P	**Pn**	**02 56 37.2**	**-1.1**
ANCK	**Angle Creek**	**4.37**	**25**	P	**Pn**	**02 56 38.8**	**0.0**
MREP	**Makushin Rep't**	**4.63**	**267**	P	**Pn**	**02 56 42.6**	**+0.3**
MSW	**Makushin Switc**	**4.64**	**269**	P	**Pn**	**02 56 42.0**	**-0.3**
MSW				S	**Sn**	**02 57 33.5**	**-1.9**
KDAK	**Kodiak Island**	**5.00**	**43**	*e*Pn	**Pn**	**02 56 46.2**	**-1.0**
KDAK				Sn	Sn	02 57 38.6	-5.7
KDAK	**Kodiak Island**	**5.00**	**43**	Pn	**Pn**	**02 56 46.0**	**-1.3**
	2.7nm,0.3s,baz=222,slow=7.1,SNR=22						
KDAK				Sn	Sn	02 57 38.6	-5.7
	baz=273,slow=19,SNR=3.1						
ILAR	**Eielson Array**	**12.14**	**25**	Pn	Pn	02 58 22.0	-3.1
ILAR	**Eielson Array**	**12.14**	**25**	Pn	Pn	02 58 22.0	-3.1
	0.1nm,0.3s,baz=221,slow=13,SNR=7.0						
DLBC	**Dease Lake**	**16.48**	**64**	Pn	**Pn**	**02 59 23.4**	**+0.2**
DLBC	**Dease Lake**	**16.48**	**64**	Pn	**Pn**	**02 59 23.4**	**+0.2**
	0.1nm,0.3s,baz=305,slow=12,SNR=4.0						
FX1	**Attu Island--F**	**16.59**	**277**	Pn	**Pn**	**02 59 25.1**	**+0.6**
FX1	**Attu Island--F**	**16.59**	**277**	Pn	**Pn**	**02 59 25.1**	**+0.6**
	1.1nm,0.3s,baz=7.7,slow=5.4,SNR=4.0						
INK	**Inuvik**	**18.40**	**30**	P	**Pn**	**02 59 48.6**	**+1.7**
INK	**Inuvik**	**18.40**	**30**	P	**Pn**	**02 59 48.6**	**+1.7**
	0.4nm,0.3s,baz=237,slow=13,SNR=10.0						
SONM	**Songino Array**	**55.50**	**305**	P	**P**	**03 05 07.1**	**+0.4**
SONM	**Songino Array**	**55.50**	**305**	P	**P**	**03 05 07.1**	**+0.4**
	0.6nm,0.7s,baz=71,slow=5.6,SNR=5.2						
ARCES	**ARCESS Array B**	**56.45**	**358**	P	**P**	**03 05 13.1**	**+0.1**
ARCES	**ARCESS Array B**	**56.45**	**358**	P	**P**	**03 05 13.1**	**+0.1**
	3.1nm,1.0s,baz=7.0,slow=8.2,SNR=3.0						
FINES	**FINESS Array B**	**64.56**	**357**	P	**P**	**03 06 08.9**	**+0.6**
FINES	**FINESS Array B**	**64.56**	**357**	P	**P**	**03 06 08.9**	**+0.6**
	0.9nm,0.6s,baz=10,slow=8.5,SNR=3.1						
BVAR	**Borovoye Array**	**65.51**	**330**	P	**P**	**03 06 15.0**	**+0.4**
BVAR	**Borovoye Array**	**65.51**	**330**	P	**P**	**03 06 15.0**	**+0.4**
	0.3nm,0.4s,baz=31,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**66.76**	**319**	P	**P**	**03 06 23.1**	**+0.3**
MKAR	**Makanchi Array**	**66.76**	**319**	P	**P**	**03 06 23.1**	**+0.3**
	0.2nm,0.3s,baz=52,slow=7.7,SNR=5.2						
AKTO	**Aktyubinsk**	**71.16**	**336**	P	**P**	**03 06 50.2**	**+0.2**
AKTO	**Aktyubinsk**	**71.16**	**336**	P	**P**	**03 06 50.2**	**+0.2**
	0.4nm,0.4s,baz=51,slow=13,SNR=4.2						
CMAR	**Chiang Mai Arr**	**82.07**	**290**	P	**P**	**03 07 52.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**82.07**	**290**	P	**P**	**03 07 52.0**	**-0.2**
	0.9nm,0.4s,baz=10,slow=5.7,SNR=4.7						

*NSSC **27** 02:56:34.9±0.9, 36°.59N×30°.46E, h38km±999km, ML2.7*
*ISCJB **27** 02:56:38.2±0.3, 37°.12N±0°.02×30°.87E±0°.02, h104km±4km, mb3.8/3, Error ellipse: s-maj=3.7km s-min=2.6km az=21.4*
*IDC **27** 02:56:39.7±3.7, 37°.09N×31°.01E, h93km±21km, mb3.4/3, mb1 3.2/7, mb1mx3.1/28, mbtmp3.2/7, Error ellipse: s-maj=45.7km s-min=12.6km az=92.0*
*CSEM **27** 02:56:39.6±0.2, 37°.14N×30°.87E, h94km±3km, Mw3.4, Error ellipse: s-maj=3.9km s-min=2.6km az=21.0*
*DDA **27** 02:56:39.6, 37°.19N×30°.88E, h54km, MD3.5*
*ISK **27** 02:56:39.5, 37°.20N×30°.85E, h89km, MD3.4, ML3.2*
*NIC **27** 02:56:40.1±0.2, 36°.92N×30°.76E, h51km, ML3.2, MW3.4*

ISC 27 02:56:38.9±0.9, 37°.12N±0°.03×30°.86E±0°.02, h101km±6km, n115, σ1s28/170, mb3.6/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.41**	**328**	PG	**Pn**	**02 56 54.1**	**-0.2**
BCK				*e*SG	**Sn**	**02 57 04.2**	**-1.6**
BCK	**Bucak**	**0.41**	**328**	*i* Pg	**Pn**	**02 56 54.1**	**-0.2**
BCK				*e*Sg	**Sn**	**02 57 04.2**	**-1.6**
KORT	**Korkueli**	**0.42**	**254**	*i* P	**Pn**	**02 56 54.4**	**-0.1**
KORT				*i* S	**Sn**	**02 57 06.0**	**-0.1**
KORT	**Korkueli**	**0.42**	**254**	*i* P	**Pn**	**02 56 54.4**	**-0.1**
KORT				*i* S	**Sn**	**02 57 06.0**	**-0.1**
ELL	**Elmali**	**0.85**	**245**	*e*PG	**Pn**	**02 56 58.6**	**+0.7**
ELL	**Elmali**	**0.85**	**245**	*e*Pg	**Pn**	**02 56 58.7**	**+0.7**
GOLH	**Golhisar**	**1.05**	**277**	*i* P	**Pn**	**02 57 00.5**	**+0.5**
GOLH				*i* S	**Sn**	**02 57 15.9**	**0.0**
GOLH	**Golhisar**	**1.05**	**277**	*i* P	**Pn**	**02 57 00.5**	**+0.5**
GOLH				*i* S	**Sn**	**02 57 15.9**	**0.0**
HDMB	**Hadim**	**1.31**	**96**	*e*PN	**Pn**	**02 57 04.3**	**+1.2**
HDMB				*e*SN	**Sn**	**02 57 21.8**	**+0.3**
HDMB	**Hadim**	**1.31**	**96**	*e*Pn	**Pn**	**02 57 04.3**	**+1.2**
HDMB				*e*Sn	**Sn**	**02 57 21.8**	**+0.3**
AKAS	**Kas**	**1.34**	**229**	*i* P	**Pn**	**02 57 03.9**	**+0.5**
AKAS				*i* S	**Sn**	**02 57 22.5**	**+0.5**
AKAS	**Kas**	**1.34**	**229**	*i* P	**Pn**	**02 57 03.9**	**+0.5**
AKAS				*i* S	**Sn**	**02 57 22.5**	**+0.5**
KSL	**Kastellorizon**	**1.41**	**227**	*e*P	**Pn**	**02 57 04.8**	**+0.7**
KSL	**Kastellorizon**	**1.41**	**227**	*e*P	**Pn**	**02 57 04.8**	**+0.7**
KONT	**Konya--Tatoy**	**1.45**	**55**	*e*PN	**Pn**	**02 57 05.2**	**+0.5**
KONT				*e*SN	**Sn**	**02 57 23.9**	**-0.2**
KONT	**Konya--Tatoy**	**1.45**	**55**	*e*Pn	**Pn**	**02 57 05.2**	**+0.5**
KONT				*e*Sn	**Sn**	**02 57 23.9**	**-0.2**
GAZI	**Gazipasa**	**1.46**	**127**	*i* P	**Pn**	**02 57 05.4**	**+0.6**
GAZI				*i* S	**Sn**	**02 57 23.4**	**-1.0**
GAZI	**Gazipasa**	**1.46**	**127**	*i* P	**Pn**	**02 57 05.4**	**+0.6**
GAZI				*i* S	**Sn**	**02 57 23.4**	**-1.0**
FETY	**Fethiye**	**1.50**	**252**	*e*PN	**Pn**	**02 57 06.1**	**+0.8**
FETY	**Fethiye**	**1.50**	**252**	*e*Pn	**Pn**	**02 57 06.1**	**+0.8**
DNZL	**Cakiroluk**	**1.56**	**292**	*i* P	**Pn**	**02 57 06.4**	**+0.3**
DNZL				*i* S	**Sn**	**02 57 26.8**	**+0.1**
DNZL	**Cakiroluk**	**1.56**	**292**	*i* P	**Pn**	**02 57 06.4**	**+0.3**
DNZL				*i* S	**Sn**	**02 57 26.8**	**+0.1**
KHL	**Karahalli**	**1.60**	**319**	*e*PN	**Pn**	**02 57 06.4**	**-0.2**
KHL	**Karahalli**	**1.60**	**319**	*e*Pn	**Pn**	**02 57 06.4**	**-0.2**
LADK	**Ladik-KONYA**	**1.61**	**47**	*e*PN	**Pn**	**02 57 07.2**	**+0.5**
LADK				*e*SN	**Sn**	**02 57 27.5**	**-0.3**
LADK	**Ladik-KONYA**	**1.61**	**47**	*e*Pn	**Pn**	**02 57 07.2**	**+0.5**
LADK				*e*Sn	**Sn**	**02 57 27.5**	**-0.3**
KHAL	**Karahalli**	**1.66**	**319**	*i* P	**Pn**	**02 57 07.1**	**-0.2**
KHAL				*i* S	**Sn**	**02 57 26.3**	**-2.5**
KHAL	**Karahalli**	**1.66**	**319**	*i* P	**Pn**	**02 57 07.1**	**-0.2**
KHAL				*i* S	**Sn**	**02 57 26.3**	**-2.5**
ERMK	**Ermenek**	**1.71**	**105**	*i* P	**Pn**	**02 57 09.5**	**+1.4**
ERMK				*i* S	**Sn**	**02 57 31.0**	**+0.8**
ERMK	**Ermenek**	**1.71**	**105**	*i* P	**Pn**	**02 57 09.5**	**+1.4**
ERMK				*i* S	**Sn**	**02 57 31.0**	**+0.8**
KDHN	**Kadinhani**	**1.72**	**35**	*i* P	**Pn**	**02 57 08.3**	**+0.2**
KDHN				*i* S	**Sn**	**02 57 29.5**	**-0.7**
KDHN	**Kadinhani**	**1.72**	**35**	*i* P	**Pn**	**02 57 08.3**	**+0.2**
KDHN				*i* S	**Sn**	**02 57 29.5**	**-0.7**
DALY	**Dalyan (Mu¨la**	**1.79**	**261**	*e*PN	**Pn**	**02 57 10.3**	**+1.5**
DALY	**Dalyan (Mu¨la**	**1.79**	**261**	*e*Pn	**Pn**	**02 57 10.3**	**+1.5**
TURN	**Turunc**	**1.82**	**263**	*i* P	Pn	02 57 13.8	+4.6
TURN				*i* S	**Sn**	**02 57 38.3**	**+6.0**
TURN	**Turunc**	**1.82**	**263**	*i* P	Pn	02 57 13.8	+4.6
KIZT	**Kizilcal**	**1.94**	**24**	*e*PN	**Pn**	**02 57 11.1**	**+0.3**
KIZT	**Kizilcal**	**1.94**	**24**	*e*Pn	**Pn**	**02 57 11.1**	**+0.3**
YER	**Yerkesik**	**2.06**	**271**	*e*PN	**Pn**	**02 57 13.8**	**+1.4**
YER	**Yerkesik**	**2.06**	**271**	*e*Pn	**Pn**	**02 57 13.8**	**+1.4**
KULA	**Kula-Manisa**	**2.23**	**309**	*e*PN	**Pn**	**02 57 14.9**	**+0.3**
KULA	**Kula-Manisa**	**2.23**	**309**	*e*Pn	**Pn**	**02 57 14.9**	**+0.3**
MANT	**Manisa**	**2.28**	**308**	*i* P	**Pn**	**02 57 15.5**	**+0.1**
MANT				*i* S	**Sn**	**02 57 42.2**	**-1.1**
MANT	**Manisa**	**2.28**	**308**	*i* P	**Pn**	**02 57 15.5**	**+0.1**
MANT				*i* S	**Sn**	**02 57 42.2**	**-1.1**
SULT	**Sultanhani-AKS**	**2.37**	**62**	*e*PN	**Pn**	**02 57 17.5**	**+1.1**
SULT	**Sultanhani-AKS**	**2.37**	**62**	*e*Pn	**Pn**	**02 57 17.5**	**+1.1**
ARG	**Arkhangelos**	**2.38**	**249**	*e*P	**Pn**	**02 57 16.5**	**+0.1**
ARG	**Arkhangelos**	**2.38**	**249**	*e*P	**Pn**	**02 57 16.5**	**+0.1**
SVRH	**Sivrihisar-ESK**	**2.38**	**12**	*e*PN	**Pn**	**02 57 16.4**	**-0.2**
SVRH	**Sivrihisar-ESK**	**2.38**	**12**	*e*Pn	**Pn**	**02 57 16.4**	**-0.2**
AKMC	**Akamas**	**2.40**	**150**	P	**Pn**	**02 57 15.4**	**-1.4**
AKMC	**Akamas**	**2.40**	**150**	P	**Pn**	**02 57 15.4**	**-1.4**
ALFC	**Alevga**	**2.41**	**144**	P	**Pn**	**02 57 16.3**	**-0.6**
ALFC				S	**Sn**	**02 57 44.4**	**-1.6**
ALFC	**Alevga**	**2.41**	**144**	P	**Pn**	**02 57 16.3**	**-0.6**
ALFC				S	**Sn**	**02 57 44.4**	**-1.6**
IKL	**Isikli**	**2.43**	**110**	*e*PN	**

comp=N,17nm,0.3s
SALA Sala 6.52 131 *e*P Pn 02 58 09.0 -3.5
SALA *e*S Sn 02 59 16.7 -8.9
ASF Jabal al Asfar 7.00 133 P **Pn** **02 58 20.0 +1.1**
comp=N,0.3nm,0.3s,baz=340,slow=8.9,SNR=3.7
ASF S **Sn** **02 59 35.8 -1.3**
comp=N,0.1nm,0.3s,baz=174,slow=12,SNR=2.8
EIL Elat 8.18 154 P **Pn** **02 58 33.2 -1.6**
comp=N,0.6nm,0.3s,baz=320,slow=12,SNR=8.3
EIL S Sn 02 59 58.7 -6.8
comp=N,0.5nm,0.3s,baz=54,slow=17,SNR=3.3
MKAR Makanchi Array 38.83 59 P **P** **03 03 54.8 +0.8**
comp=N,0.5nm,0.5s,baz=274,slow=7.9,SNR=7.3
ZALV Zalesovo Beam 40.30 48 P **P** **03 04 06.8 +0.9**
comp=N,0.7nm,0.3s,baz=279,slow=9.0,SNR=2.3
SONM Songino Array 54.65 53 P **P** **03 05 58.2 +0.9**
comp=N,0.3nm,0.5s,baz=294,slow=8.7,SNR=2.5

IDC 27 02:57:48.1±5.4, 16°.34S×177°.03W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.7/19, mbtmp4.2/2, Error ellipse: s-maj=302.8km s-min=81.3km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.23**	**258**	P	P	03 06 15.5	0.0
	0.7nm,0.5s,baz=91,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**46.50**	**253**	P	P	03 06 17.4	-0.2
	3.1nm,0.5s,baz=88,slow=9.0,SNR=65						
BRTR	**Keskin Array B**	**144.57**	**317**	PKP	PKPbc	03 17 26.4	+0.6
	0.5nm,0.7s,baz=86,slow=4.8,SNR=3.5						

JMA 27 03:01:29.4, 39°.75N×142°.22E, h26km±1km, M3.6, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.33**	**305**	⇑P	Pb	03 01 37.0	0.0
JTH				S	Sb	03 01 42.1	-0.1
MIYJ	**Miyakonagasawa**	**0.35**	**241**	⇑P	Pb	03 01 37.1	-0.2
MIYJ				S	Sb	03 01 42.4	-0.3
JKZ	**Kuzumaki**	**0.72**	**289**	⇑P	Pb	03 01 43.1	-0.4
JKZ				*e*S	Sb	03 01 52.6	-0.5
JOM	**Ohasama**	**0.77**	**249**	⇑P	Pb	03 01 43.8	-0.4
JOM				*e*S	Sb	03 01 54.2	0.0
OFUJ	**Ofunato**	**0.79**	**213**	⇓P	Pb	03 01 44.0	-0.6
OFUJ				*e*S	Sb	03 01 54.7	-0.2
JANG	**Nango**	**0.82**	**319**	⇑P	Pb	03 01 44.0	-1.1
JANG				*e*S	Sb	03 01 54.9	-1.0
JMK	**Ichinoseki**	**1.11**	**225**	P	Pn	03 01 49.3	0.0
JMK				*e*S	Sn	03 02 03.7	0.0

*SZGRF **27** 03:07:46.3, 21°.02S×177°.82W, h33km, Fiji Islands region*
*AUST **27** 03:07:52.2, 22°.55S×178°.63W, h0km*
*ISCJB **27** 03:08:51.2±0.3, 21°.14S±0°.07×179°.17W±0°.07, h619km, mb4.1/27, Error ellipse: s-maj=9.4km s-min=7.6km az=135.2*
*IDC **27** 03:08:53.9±2.0, 21°.12S×179°.14W, h640km±25km, mb3.5/14, mb1 3.7/15, mb1mx3.7/20, mbtmp3.5/15, Error ellipse: s-maj=16.7km s-min=14.3km az=148.0*
*NEIC **27** 03:08:53.8±1.1, 21°.03S×179°.21W, h637km±10km, mb4.3/10, Error ellipse: s-maj=24.0km s-min=11.1km az=149.0*
*BJI **27** 03:08:53.0, 21°.00S×179°.20W, h637km, mB4.8/5, mb4.5/7*
*BGS **27** 03:08:55.6±4.0, 20°.03S×179°.21W, h637km, mb4.5(NEIC)*
ISC 27 03:08:52.1±0.4, 21°.16S±0°.07×179°.13W±0°.08, h619km, n122, σ1$15/136, mb4.3/27, 21C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.33**	**322**	*e*P	**P**	**03 10 23.3**	**+1.9**
RAO	**Raoul Island**	**8.13**	**172**	P	**P**	**03 10 55.1**	**+1.9**
	73nm,0.3s,baz=53,slow=20,SNR=6.5						
RAO				S	**S**	**03 12 29.4**	**-3.0**
	22nm,0.3s,baz=288,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**13.45**	**264**	P	**P**	**03 11 45.8**	**+0.6**
	0.7nm,0.3s,baz=80,slow=17,SNR=11						
URZ	**Urewera**	**17.35**	**190**	P	**P**	**03 12 18.1**	**-2.7**
	1.1nm,0.3s,baz=30,slow=20,SNR=5.6						
CTAO	**Charters Tower**	**32.38**	**266**	*e*P	P	03 14 20.0	-13
STKA	**Stephens Creek**	**36.55**	**245**	P	**P**	**03 15 08.8**	**+1.2**
	2.3nm,0.7s,baz=90,slow=12,SNR=2.9						
JAY	**Jayapura**	**43.26**	**290**	P	**P**	**03 16 02.4**	**+1.1**
	baz=44,SNR=7.6						
AS31	**Alice Springs**	**43.34**	**258**	*e*P	**P**	**03 16 02.3**	**+0.5**
ASAR	**Alice Springs**	**43.34**	**258**	P	**P**	**03 16 02.2**	**+0.4**
	7.8nm,0.7s,baz=87,slow=8.4,SNR=76						
ASAR				PcP	**PcP**	**03 17 36.0**	**-0.1**
	2.3nm,0.6s,baz=105,slow=3.8,SNR=13						
ASAR				S	**S**	**03 21 45.0**	**-1.4**
	2.7nm,0.8s,baz=94,slow=15,SNR=21						
WRAB	**Tennant Creek**	**43.46**	**263**	*e*P	**P**	**03 16 02.6**	**-0.1**
	10nm,1.0s						
WRA	**Warramunga Arr**	**43.47**	**263**	P	**P**	**03 16 02.7**	**-0.1**
	3.4nm,0.3s,baz=97,slow=7.3,SNR=454						
WRA				PcP	**PcP**	**03 17 36.6**	**0.0**
	2.6nm,1.0s,baz=90,slow=4.4,SNR=4.9						
WRA				S	**S**	**03 21 45.4**	**-2.8**
	1.0nm,0.8s,baz=101,slow=18,SNR=6.6						
KDU	**Kakadu**	**46.91**	**272**	P	**P**	**03 16 29.1**	**+0.2**
	baz=47,SNR=19						
KDU				S	S	03 23 07.0	+31
	baz=47,SNR=3.6						
MTN	**Manton Dam**	**48.12**	**272**	P	P	03 16 32.6	-5.4
	baz=49,SNR=11						
FAKI	**Fak Fak**	**50.63**	**284**	P	P	03 17 09.9	+14
	baz=52,SNR=3.6						
FITZ	**Fitzroy Crossi**	**51.90**	**263**	*e*P	**P**	**03 17 06.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**51.90**	**263**	P	**P**	**03 17 06.2**	**+0.8**
	baz=52,SNR=8.8						
BNDI	**Bandanaira**	**52.11**	**281**	S	**PKiKP**	**03 24 44.0**	**-1.6**
	baz=53,SNR=8.0						
SOEI	**Soe**	**55.47**	**273**	P	**P**	**03 17 32.6**	**+1.9**
	baz=56,SNR=6.6						
MBWA	**Marble Bar**	**56.68**	**258**	*e*P	**P**	**03 17 38.5**	**-0.3**
	8.0nm,0.5s						
MEEK	**Meekatharra**	**56.70**	**251**	P	**P**	**03 17 38.5**	**-0.4**
	baz=57,SNR=5.3						
KLBR	**Kellerberrin**	**56.82**	**245**	P	**P**	**03 17 39.9**	**+0.3**
	baz=57,SNR=6.2						
VNDA	**Vanda**	**57.16**	**185**	P	**P**	**03 17 42.6**	**+1.5**
	0.6nm,0.6s,baz=333,slow=5.8,SNR=6.9						
WSI	**Waingapu**	**59.20**	**271**	S	ScS	03 26 14.7	-30
	baz=60,SNR=3.2						
QSPA	**South Pole Qui**	**68.91**	**180**	*e*P	**P**	**03 18 56.7**	**+0.4**
	1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**70.12**	**325**	P	**P**	**03 19 03.6**	**-0.3**
	4.4nm,0.7s,baz=162,slow=5.9,SNR=12						
MAT	**Matsushiro**	**70.13**	**325**	P	**P**	**03 19 03.6**	**-0.3**
TPUB	**Ta-pu**	**73.45**	**304**	P	**P**	**03 19 21.6**	**-1.8**
	20nm,0.7s						
PETK	**Petropavlovsk-**	**76.65**	**346**	P	**P**	**03 19 40.3**	**-0.1**
	7.9nm,0.8s,baz=140,slow=7.6,SNR=9.3						
KSRS	**Korea Array**	**76.69**	**319**	P	**P**	**03 19 40.7**	**-0.3**
	1.1nm,0.6s,baz=133,slow=5.3,SNR=3.3						
USRK	**Ussuriysk Arra**	**78.92**	**326**	P	**P**	**03 19 54.0**	**+1.3**
	10.0nm,0.9s,baz=135,slow=3.8,SNR=13						
ISA	**Isabella**	**80.55**	**46**	*e*P	**P**	**03 20 01.8**	**+0.1**
	7.1nm,1.4s						
CMB	**Columbia Colle**	**80.67**	**43**	*e*P	**P**	**03 20 02.7**	**+0.5**
YBH	**Yreka Blue Hor**	**81.47**	**39**	P	**P**	**03 20 07.0**	**+0.8**
	3.6nm,0.6s,baz=216,slow=1.5,SNR=5.0						
WAKR	**Walker**	**81.55**	**43**	*e*P	**P**	**03 20 07.4**	**+0.5**
NVAR	**Mina Array Bea**	**82.23**	**44**	P	**P**	**03 20 10.6**	**+0.2**
	2.6nm,0.8s,baz=224,slow=7.9,SNR=17						
GYA	**Guiyang**	**86.06**	**300**	*e*P	**P**	**03 20 30.0**	**+0.8**
GYA				pP	**pP**	**03 22 44.3**	**+3.4**
GYA				sP	**sP**	**03 23 47.5**	**+4.8**
GYA				PP	**PP**	**03 24 02.8**	**+1.0**
GYA				SKS	**SKSac**	**03 29 53.0**	**-4.3**
GYA				S	**S**	**03 30 10.5**	**-2.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TRF	**Thorofare Moun**	**87.32**	**13**	*e*P	**P**	**03 20 32.7**	**-1.6**
	comp=Z,17nm,0.8s						
MCK	**McKinley**	**87.85**	**13**	P	**P**	**03 20 35.6**	**-1.0**
	comp=Z,8.1nm,0.9s						
TXAR	**Lajitas Array**	**88.30**	**58**	P	**P**	**03 20 40.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=210,slow=6.6,SNR=18						
HHC	**Hu-ho-hao-te**	**89.06**	**315**	*e*P	P	03 20 38.8	-4.1
HHC				pP	pP	03 22 59.8	+4.1
HHC				PP	**PP**	**03 24 25.0**	**-0.1**
HHC				S	S	03 30 31.8	-8.6
HHC				sS	sS	03 34 41.3	+4.0
HHC				SS	**SS**	**03 36 51.0**	**-3.2**
HHC				pmax	pmax		
	comp=Z,26nm,1.2s						
HHC				pmax	pmax		
	comp=Z,200nm,5.0s						
IMA2	**Indian Mountai**	**89.08**	**10**	*e*P	**P**	**03 20 41.6**	**-0.7**
ILAR	**Eielson Array**	**89.19**	**13**	P	**P**	**03 20 41.4**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=216,slow=5.3,SNR=37						
RRI2	**Red Ridge**	**89.33**	**42**	*e*P	**P**	**03 20 44.6**	**+0.4**
	comp=Z,2.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.34**	**290**	P	**P**	**03 20 46.4**	**+1.8**
	comp=Z,4.7nm,0.8s,baz=129,slow=3.1,SNR=23						
CHTO	**Chiang Mai**	**89.48**	**290**	*e*P	**P**	**03 20 46.5**	**+1.3**
	comp=Z,5.5nm,0.8s						
REDW	**Red Top Meadow**	**89.63**	**43**	*e*P	**P**	**03 20 45.8**	**+0.2**
	comp=Z,5.1nm,1.0s						
IMW	**Indian Meadow**	**89.84**	**42**	*e*P	**P**	**03 20 46.9**	**+0.2**
PDAR	**Pinedale Array**	**90.17**	**44**	P	**P**	**03 20 47.7**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=212,slow=3.0,SNR=15						
CD2	**Chengdu**	**90.26**	**303**	*e*P	**P**	**03 20 48.5**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,30nm,6.8s						
ZALV	**Zalesovo Beam**	**110.34**	**321**	PKiKP	**PKiKP**	**03 26 12.9**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=107,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**110.88**	**313**	PKiKP	**PKiKP**	**03 26 14.4**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=135,slow=0.3,SNR=4.4						
ARCES	**ARCESS Array B**	**129.37**	**349**	PKP	**PKPdf**	**03 26 49.6**	**-1.2**
	comp=Z,4.3nm,0.7s,baz=39,slow=1.1,SNR=17						
FINES	**FINESS Array B**	**136.10**	**343**	PKhKP	PKPpre	03 26 51.0	
	comp=Z,2.6nm,1.0s,baz=60,slow=3.4,SNR=2.8						
NB2	**NORSAR Subarra**	**139.50**	**352**	PKP	PKPpre	03 27 01.9	
	comp=Z,0.6nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**139.50**	**352**	PKhKP	PKPpre	03 27 01.7	
	baz=25,slow=5.3						
AKASG	**Malin Array Be**	**143.07**	**330**	PKP	PKPab	03 27 13.7	-0.9
	comp=Z,11nm,0.5s,baz=42,slow=4.6,SNR=43						
KAC	**Achnashellach**	**143.43**	**6**	*e*P	PKPab	03 27 15.1	-0.7
MALT	**Malatya**	**143.48**	**306**	⇓*i*P	PKPab	03 27 16.8	0.0
MCD	**Coleburn Disti**	**143.50**	**4**	*e*P	PKPab	03 27 14.7	-1.3
MDO	**Dochfour**	**143.56**	**5**	*e*P	PKPab	03 27 15.2	-1.1
EAB	**Aberfoyle**	**144.81**	**5**	*e*P	**PKPdf**	**03 27 19.3**	**-0.2**
ESY	**Stoneypath**	**145.20**	**3**	*e*P	**PKPdf**	**03 27 19.2**	**-0.9**
EBL	**Broad Law**	**145.31**	**4**	*e*P	**PKPdf**	**03 27 20.9**	**+0.6**
BR131	**Keskin Array S**	**146.49**	**311**	*e*PKPbc	**PKPbc**	**03 27 25.0**	**-0.6**
BRTR	**Keskin Array B**	**146.49**	**311**	PKPbc	**PKPbc**	**03 27 24.6**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=146,slow=3.3,SNR=27						
BSEG	**Bad Segeberg**	**146.50**	**350**	*e*PKPbc	**PKPbc**	**03 27 24.5**	**-0.4**
TLCR		**146.81**	**323**	⇑*i*P	**PKPbc**	**03 27 25.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**147.09**	**329**	*e*PKPbc	**PKPbc**	**03 27 27.1**	**+0.1**
BURAR	**Bucovina Array**	**147.10**	**329**	⇓*i*P	**PKPbc**	**03 27 26.9**	**0.0**
CFR	**Carcaliu**	**147.20**	**323**	⇑*i*P	**PKPbc**	**03 27 26.4**	**-0.7**
VRI	**Vrincioaia**	**147.53**	**325**	⇑*i*P	**PKPbc**	**03 27 27.8**	**-0.2**
NRDL	**Niedersach Rie**	**147.92**	**349**	*e*PKPbc	**PKPbc**	**03 27 28.0**	**-0.6**
TRPA	**Tarpa**	**147.95**	**332**	⇑*i*P	**PKPbc**	**03 27 28.3**	**-0.6**
MLR	**Muntele Rosu**	**148.19**	**326**	⇑*i*P	**PKPbc**	**03 27 29.4**	**-0.4**
OKC	**Ostrava-Krasne**	**148.28**	**339**	⇑*e*PKP	**PKPbc**	**03 27 29.3**	**-0.4**
OKC				*e*PKPAB	**PKPab**	**03 27 35.5**	**+0.2**
UPC	**Upice**	**148.38**	**341**	⇑*e*PKP	**PKPbc**	**03 27 29.5**	**-0.4**
UPC				*e*PKPAB	**PKPab**	**03 27 35.9**	**+0.2**
CSS	**Prodhromos**	**148.38**	**303**	*e*PKPbc	**PKPbc**	**03 27 30.0**	**-0.5**
DPC	**Dobruska-Polom**	**148.42**	**341**	⇑*i*PKP	**PKPbc**	**03 27 29.9**	**-0.2**
DPC				*i* PKPAB	**PKPab**	**03 27 36.5**	**+0.6**
CLL	**Collm**	**148.45**	**345**	*e*PKPbc	**PKPbc**	**03 27 29.6**	**-0.5**
CLL	**Collm**	**148.45**	**345**	⇓*i*PKPbc	**PKPbc**	**03 27 29.6**	**-0.5**
	comp=Z,16nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**03 27 31.7**	**+0.6**
CLL				⇑*i*PKPab	**PKPab**	**03 27 35.5**	**-0.4**
	comp=Z,4.0nm,0.9s						
CLZ	**Clausthal**	**148.50**	**349**	*e*PKPbc	**PKPbc**	**03 27 29.8**	**-0.4**
MORC	**Moravsky Berou**	**148.53**	**339**	*e*PKPdf	**PKPdf**	**03 27 25.8**	**-0.1**
MORC				*e*PKPbc	**PKPbc**	**03 27 30.2**	**-0.2**
MORC				*e*PKPab	**PKPab**	**03 27 36.6**	**+0.2**
BRG	**Berggiesshubel**	**148.62**	**344**	⇓*i*PKP	**PKPbc**	**03 27 30.2**	**-0.3**
	comp=Z,15nm,1.2s						
BRG				*e*		03 27 30.2	
	comp=Z,15nm,1.2s						
BRG				*e*		03 27 36.6	
	comp=Z,6.0nm,1.1s						
BRG	**Berggiesshubel**	**148.62**	**344**	*e*PKPbc	**PKPbc**	**03 27 30.0**	**-0.5**
VOIR		**148.69**	**326**	⇑*i*PKP	**PKPbc**	**03 27 31.1**	**+0.1**
FBE	**Freiberg**	**148.72**	**345**	*e*PKPbc	**PKPbc**	**03 27 30.5**	**-0.2**
PVCC	**Panska Ves**	**148.77**	**343**	⇑*e*PKP	**PKPbc**	**03 27 30.3**	**-0.6**
PVCC				*e*PKPAB	**PKPab**	**03 27 38.2**	**+0.9**
NEUB	**Neuenburg**	**148.82**	**347**	*e*PKPbc	**PKPbc**	**03 27 30.5**	**-0.5**
DRGR		**148.88**	**330**	⇑*i*P	**PKPbc**	**03 27 31.1**	**-0.3**
ARR	**Arges**	**148.95**	**327**	⇑*i*P	**PKPbc**	**03 27 32.4**	**+0.8**
MCH1	**Michaelchurch**	**149.08**	**5**	*e*P	**PKPdf**	**03 27 27.9**	**+1.3**
PRU	**Pruhonice**	**149.26**	**343**	⇑*e*PKP	**PKPbc**	**03 27 31.6**	**-0.5**
PRU				*e*PKPAB	**PKPab**	**03 27 39.5**	**+0.2**
BUG	**Bochum--Univer**	**149.37**	**352**	*e*PKPbc	**PKPbc**	**03 27 31.5**	**-0.8**
MOX	**Moxa**	**149.38**	**347**	*e*PKPbc	**PKPbc**	**03 27 31.9**	**-0.5**
TANN	**Tannenbergstha**	**149.41**	**345**	*e*PKPbc	**PKPbc**	**03 27 32.0**	**-0.5**
WERD	**Werda**	**149.41**	**346**	*e*PKPbc	**PKPbc**	**03 27 32.1**	**-0.4**
GUNZ	**Gunzen**	**149.49**	**345**	*e*PKPbc	**PKPbc**	**03 27 32.5**	**-0.2**
WERN	**Wernitzgruen**	**149.55**	**345**	*e*PKPbc	**PKPbc**	**03 27 32.7**	**-0.1**
TREC	**Trest**	**149.61**	**341**	⇑*e*PKP	**PKPbc**	**03 27 32.4**	**-0.6**
TREC				*e*PKPAB	**PKPab**	**03 27 40.8**	**0.0**
MANZ	**Manzenberg**	**149.89**	**345**	*e*PKPbc	**PKPbc**	**03 27 33.4**	**-0.2**
ROTZ	**Rotzenmuhle**	**150.07**	**345**	*e*PKPbc	**PKPbc**	**03 27 33.8**	**-0.2**
BZS	**Buzias**	**150.26**	**330**	⇑*i*P	**PKPbc**	**03 27 34.3**	**-0.3**
KHC	**Kasperske Hory**	**150.31**	**343**	⇑*i*PKP	**PKPbc**	**03 27 34.3**	**-0.4**
KHC				*i* PKPAB	**PKPab**	**03 27 44.0**	**+0.2**
KHC	**Kasperske Hory**	**150.31**	**343**	*e*PKPdf	**PKPbc**	**03 27 34.2**	**-0.4**
KHC				*e*PKPab	**PKPab**	**03 27 43.5**	**-0.3**
MEM	**Membach**	**150.34**	**353**	PKPbc	**PKPbc**	**03 27 34.2**	**-0.4**
TNS	**Taunus Mts**	**150.39**	**350**	*e*PKPbc	**PKPbc**	**03 27 34.4**	**-0.4**
GEC2	**GERESS Array S**	**150.53**	**343**	*e*PKPbc	**PKPbc**	**03 27 34.6**	**-0.7**
GERES	**GERESS Array B**	**150.53**	**343**	PKPbc	**PKPbc**	**03 27 34.5**	**-0.7**
	comp=Z,5.1nm,0.8s,baz=28,slow=2.2,SNR=41						
GERES				PKPab	**PKPab**	**03 27 44.5**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=59,slow=4.7,SNR=4.0						
CONA	**Conrad Observa**	**150.69**	**339**	*i* PKiKP	**PKPbc**	**03 27 35.2**	**-0.4**
	comp=Z,9.2nm,0.7s,SNR=12						
DOU	**Dourbes**	**150.98**	**355**	PKPbc	**PKPbc**	**03 27 35.8**	**-0.3**
PKSM	**Moragy**	**151.10**	**334**	⇑*i*P	**PKPbc**	**03 27 36.0**	**-0.5**
WLF	**Walferdange**	**151.25**	**353**	*e*PKPbc	**PKPbc**	**03 27 37.3**	**+0.6**
WLF	**Walferdange**	**151.25**	**353**	*e*PKPbc	**PKPbc**	**03 27 36.7**	**0.0**
VTS	**Vitosha**	**151.59**	**324**	⇓*i*P	**PKPbc**	**03 27 37.2**	**-0.7**
KBA	**Koelnbreinsper**	**152.23**	**342**	⇑*i*PKPbc	**PKPbc**	**03 27 38.0**	**-1.3**
	comp=Z,5.1nm,0.8s						
BFO	**Black Forest**	**152.24**	**349**	*e*PKPbc	**PKPbc**	**03 27 37.6**	**-1.3**
BFO				*e*PKPab	**PKPab**	**03 27 50.5**	**-1.4**
MOTA	**Moosalm**	**152.60**	**345**	⇑*i*PKPbc	**PKPbc**	**03 27 39.0**	**-0.9**
	comp=Z,8.3nm,1.0s						
VNDS	**Vrh nad Dolski**	**152.67**	**339**	*i* PKPbc	**PKPbc**	**03 27 39.1**	**-0.9**
ABTA	**Abfaltersbach**	**152.78**	**342**	⇑*i*PKPbc	**PKPbc**	**03 27 38.7**	**-1.6**
	comp=Z,6.9nm,0.8s,SNR=6.2						
ESDC	**Sonseca Array**	**161.09**	**12**	PKPab	**PKPab**	**03 28 29.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=346,slow=3.8,SNR=7.8						
KEST	**Kesra**	**163.70**	**335**	PKPab	**PKPab**	**03 28 42.2**	**0.0**
	comp=Z,1.4nm,0.8s,baz=275,slow=6.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**171.99**	**186**	PKP	**PKPdf**	**03 27 50.1**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=351,slow=0.9,SNR=6.6						
TORD				PKPab	**PKPab**	**03 29 18.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=182,slow=2.3,SNR=2.7						

*CSEM **27** 03:08:57.9±1.2, 50°.32N×19°.34E, h1km, Error ellipse: s-maj=20.5km s-min=18.1km az=92.0*
PRU 27 03:09:00.1, 50°.17N×19°.28E, h0km, M4.3, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.80**	**246**	*e*PG	Pg	03 09 15.3	-0.2
OKC				*e*SG	Sg	03 09 26.0	+0.1
	comp=Z,2.5nm,0.3s						
OKC	**Ostrava-Krasne**	**0.80**	**246**	Pg	Pg	03 09 15.3	-0.2
OKC				Sg	Sg	03 09 26.0	+0.1
	2.5nm,0.3s						
MORC	**Moravsky Berou**	**1.19**	**251**	*e*Pg	Pg	03 09 23.1	+0.1
MORC				*e*Sg	Sb	03 09 39.5	-0.1
DPC	**Dobruska-Polom**	**1.91**	**277**	*e*PG	Pn	03 09 34.7	+0.8
DPC				*e*SG	Sb	03 10 00.9	+0.6
DPC	**Dobruska-Polom**	**1.91**	**277**	Pg	Pn	03 09 34.7	+0.8
DPC				Sg	Sb	03 10 00.9	+0.6

IDC 27 03:26:40.2±1.8, 3°.59S×140°.86E, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=44.1km s-min=27.2km az=82.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.52**	**133**	Pn	Pn	03 28 44.7	-0.2
	1.1nm,0.3s,baz=321,slow=6.5,SNR=3.4						
WRA	**Warramunga Arr**	**17.45**	**201**	P	Pn	03 30 45.9	+0.6
	0.3nm,0.3s,baz=19,slow=13,SNR=16						
WRA				S	Sn	03 33 48.6	-12
	0.1nm,0.3s,baz=5.1,slow=22,SNR=3.6						
FITZ	**Fitzroy Crossi**	**20.74**	**225**	P	P	03 31 22.7	+0.1
	0.7nm,0.7s,baz=48,slow=12,SNR=5.0						
FITZ				S	S	03 35 07.5	-7.7
	1.8nm,0.9s,baz=180,slow=17,SNR=3.2						
ASAR	**Alice Springs**	**21.06**	**198**	P	P	03 31 25.7	-0.4
	0.5nm,0.6s,baz=28,slow=10,SNR=8.1						
MKAR	**Makanchi Array**	**71.80**	**322**	P	P	03 38 04.8	+0.1
	0.2nm,0.5s,baz=102,slow=6.1,SNR=3.0						

*SKO **27** 03:47:32.8, 41°.28N×22°.73E, h15km, M3.0, ML3.3*
*ISCJB **27** 03:47:32.8±0.3, 41°.31N±0°.01×22°.73E±0°.02, h6km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=154.1*
*CSEM **27** 03:47:33.5±0.1, 41°.29N×22°.72E, h5km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.9km az=77.0*
*SOF **27** 03:47:33.0, 41°.31N×22°.76E, h2km, MD3.3*
*BEO **27** 03:47:33.6±0.6, 41°.26N×22°.71E, h6km±2km, ML3.0/1*
*THE **27** 03:47:33.6, 41°.28N×22°.73E, h1km±1km, ML3.1/12, Error ellipse: s-maj=1.6km s-min=0.5km az=300.0*
*ATH **27** 03:47:33.3, 41°.28N×22°.74E, h21km±1km, MD3.5/15*
ISC 27 03:47:33.7±0.9, 41°.29N±0°.01×22°.72E±0°.01, h7km±6km, n127, σ0$75/186, 11C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.12**	**285**	P	**Pg**	**03 47 35.1**	**-1.2**
VAY				S	**Sg**	**03 47 38.0**	**0.0**
VAY	**Valandovo**	**0.12**	**285**	*i* Pg	**Pg**	**03 47 36.1**	**-0.2**
VAY				*i* Sg	**Sg**	**03 47 38.5**	**+0.5**
VAY				*e*Lg	Lg	03 47 38.6	
	comp=N,23μm,0.3s						
VAY				*e*Lg	Lg	03 47 38.9	
	comp=E,6μm,0.5s						
VAY	**Valandovo**	**0.12**	**285**	*e*Pg	**Pg**	**03 47 35.6**	**-0.7**
VAY	**Valandovo**	**0.12**	**285**	P	**Pg**	**03 47 35.1**	**-1.2**
VAY	**Valandovo**	**0.12**	**285**	*i* Pg	**Pg**	**03 47 36.1**	**-0.2**
VAY				S	**Sg**	**03 47 38.0**	**0.0**
VAY				*e*Lg	Lg	03 47 38.9	
	comp=E,6μm,0.5s						
KNT	**Kendrikon**	**0.18**	**134**	P	**Pg**	**03 47 37.6**	**+0.2**
KNT				S	**Sg**	**03 47 40.3**	**+0.4**
KNT	**Kendrikon**	**0.18**	**134**	P	**Pg**	**03 47 37.6**	**+0.2**
KNT				S	**Sg**	**03 47 40.3**	**+0.4**
GRG	**Griva**	**0.41**	**216**	P	**Pg**	**03 47 41.7**	**0.0**
GRG				S	**Sg**	**03 47 47.8**	**+0.7**
GRG	**Griva**	**0.41**	**216**	P	**Pg**	**03 47 41.7**	**0.0**
GRG				S	**Sg**	**03 47 47.8**	**+0.7**
KKB	**Krupnik**	**0.64**	**25**	*i* P	**Pg**	**03 47 45.4**	**-0.5**
KKB	**Krupnik**

ZAPS eSg Sg 03 48 38.7 +1.3
NEO Neokhori 2.02 169 ePB Pn 03 48 07.4 -0.7
NEO Neokhori 2.02 169 ePb Pn 03 48 07.4 -0.7
SELS Selova 2.27 329 ePn Pn 03 48 10.9 -0.7
SELS eSg Sg 03 48 46.0 -0.5
SMTH Samothraki Isl 2.28 110 ePN Pn 03 48 11.6 -0.1
SMTH Samothraki Isl 2.28 110 ePn Pn 03 48 11.6 -0.1
AGG Agios Georgios 2.29 188 P Pn 03 48 11.4 -0.4
AGG Agios Georgios 2.29 188 ePN Pn 03 48 11.4 -0.4
AGG eSN Sn 03 48 40.1 -0.1
AGG Agios Georgios 2.29 188 P Pn 03 48 11.4 -0.4
AGG eSn Sn 03 48 40.1 -0.1
AOS Alonnisos 2.29 157 ePn Pn 03 48 11.3 -0.6
AOS Alonnisos 2.29 157 ePn Pn 03 48 11.3 -0.6
LIA Limnos Island 2.33 126 ePN Pn 03 48 12.5 +0.1
LIA eSN Sn 03 48 41.0 -0.3
LIA Limnos Island 2.33 126 ePn Pn 03 48 12.5 +0.1
LIA eSn Sn 03 48 41.0 -0.3
EVR Evrytania 2.47 197 ePB Pn 03 48 16.2 +1.7
EVR Evrytania 2.47 197 ePb Pn 03 48 16.2 +1.7
ALN Alexandroupoli 2.54 98 ePN Pn 03 48 15.6 +0.3
ALN eSN Sn 03 48 46.2 -0.3
ALN Alexandroupoli 2.54 98 ePn Pn 03 48 15.6 +0.3
ALN eSn Sn 03 48 46.2 -0.3
BOLS Boljevac 2.60 348 ePn Pn 03 48 17.6 +1.5
BOLS Boljevac 2.60 348 ePn Pn 03 48 17.6 +1.5
KEK Kerkira 2.73 236 ePB Pn 03 48 19.7 +1.8
KEK Kerkira 2.73 236 ePb Pn 03 48 19.7 +1.8
SJES Sjenica 2.84 315 ePn Pn 03 48 18.3 -1.2
EFP Efpalio 2.93 193 ePN Pn 03 48 21.7 +1.1
EFP Efpalio 2.93 193 ePn Pn 03 48 21.7 +1.1
KALE Kalithea 2.93 189 ePN Pn 03 48 21.5 +0.8
KALE Kalithea 2.93 189 ePn Pn 03 48 21.5 +0.8
TRIZ Trizonia 2.96 190 ePN Pn 03 48 21.6 +0.5
TRIZ Trizonia 2.96 190 ePn Pn 03 48 21.6 +0.5
GRUS Gruza 2.99 331 ePn Pn 03 48 21.2 -0.3
GRUS eSg Sg 03 49 10.1 +0.4
GRUS Gruza 2.99 331 ePn Pn 03 48 21.2 -0.3
GRUS eSg Sg 03 49 10.1 +0.4
KLV Kalavryta, Ach 3.27 188 ePN Pn 03 48 25.9 +0.5
KLV Kalavryta, Ach 3.27 188 ePn Pn 03 48 25.9 +0.5
GUR Goura 3.36 185 ePN Pn 03 48 27.3 +0.6
GUR Goura 3.36 185 ePn Pn 03 48 27.3 +0.6
TRUS Trudelj 3.39 331 ePn Pn 03 48 26.2 -0.8
TRUS Trudelj 3.39 331 ePn Pn 03 48 26.2 -0.8
DIVS Divibare 3.46 325 ePn Pn 03 48 27.7 -0.3
DIVS Divibare 3.46 325 ePn Pn 03 48 27.7 -0.3
BBLS Lazići 3.56 318 ePn Pn 03 48 31.0 +1.7
BBLS Lazići 3.56 318 ePn Pn 03 48 31.0 +1.7
DID Didima 3.80 174 ePN Pn 03 48 33.4 +0.8
DID Didima 3.80 174 ePn Pn 03 48 33.4 +0.8
GZR Gura Zlata 4.10 1 ⇓iP Pn 03 48 36.0 -0.8
GZR Gura Zlata 4.10 1 ⇓iP Pn 03 48 36.0 -0.8
LOT Lotru 4.23 10 ⇓iP Pn 03 48 38.9 +0.3
LOT Lotru 4.23 10 ⇓iP Pn 03 48 38.9 +0.3
ARR Arges 4.31 18 ⇑iP Pn 03 48 39.1 -0.6
ARR Arges 4.31 18 ⇑iP Pn 03 48 39.1 -0.6
BZS Buzias 4.40 350 ⇑iP Pn 03 48 40.1 -0.7
BZS Buzias 4.40 350 ⇑iP Pn 03 48 40.1 -0.7
VOIR 4.48 21 ⇓iP Pn 03 48 42.0 0.0
VOIR 4.48 21 ⇓iP Pn 03 48 42.0 0.0
MLR Muntele Rosu 4.81 28 ⇑iP Pn 03 48 48.3 +1.7
MLR Muntele Rosu 4.81 28 ⇑iP Pn 03 48 48.3 +1.7
PLOR Plostina 5.38 31 ⇑iP Pn 03 48 54.4 +0.1
PLOR Plostina 5.38 31 ⇑iP Pn 03 48 54.4 +0.1
VRI Vrincioaia 5.42 31 ⇑iP Pn 03 48 56.0 +1.1
VRI Vrincioaia 5.42 31 ⇑iP Pn 03 48 56.0 +1.1
CFR Carcaliu 5.54 44 ⇓iP Pn 03 48 58.9 +2.4
CFR Carcaliu 5.54 44 ⇓iP Pn 03 48 58.9 +2.4

LDG ***27*** *04:06:07.6±0.1, 39°.39N×74°.06E, h10km, Mb4.5/12, Ms3.3/8, Error ellipse: s-maj=6.3km s-min=4.6km az=177.0*
IDC ***27*** *04:06:07.6±0.6, 39°.48N×73°.96E, h0km, mb4.2/20, mb1 4.3/25, mb1mx4.2/34, mbtmp4.2/25, ML3.7/5, MS3.4/12, Ms1 3.4/12, ms1mx3.2/34, Error ellipse: s-maj=13.1km s-min=10.8km az=7.0*
NNC ***27*** *04:06:08.4±3.9, 39°.48N×73°.64E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=33.2km s-min=15.3km az=175.0*
BJI ***27*** *04:06:09.6, 39°.59N×73°.81E, h30km, mB4.6/20, mb4.5/31, ML4.2/5, Ms4.2/21, Ms7 3.9/16*
MOS ***27*** *04:06:11.3±0.9, 39°.40N×74°.00E, h33km, mb4.6/29, Error ellipse: s-maj=7.3km s-min=4.7km az=95.6*
ISCJB ***27*** *04:06:13.0±0.4, 39°.49N±0°.02×74°.10E±0°.03, h49km±4km, mb4.4/51, MS3.6/15, Error ellipse: s-maj=4.6km s-min=3.0km az=154.8*
NEIC ***27*** *04:06:13.6±0.3, 39°.53N×74°.09E, h35km, mb4.5/4, Error ellipse: s-maj=7.8km s-min=5.3km az=163.0*
ISC 27 04:06:12.0±0.4, 39°.53N±0°.03×73°.94E±0°.03, h31km±2km, h31km; pP-P, n252, σ2§04/290, mb4.5/51, MS3.6/16, 19C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.57**	**90**	⇑iPg	Pn		04 06 33.5	-4.4
KSH					Sg	Sn	04 06 50.8	-6.5
KSH					smax	smax		
	comp=N,3μm,0.8s							
KSH					smax	smax		
	comp=E,3μm,0.8s							
AML	**Almayashu**	**2.60**	**356**	*i* PN	**Pn**		**04 06 53.9**	**+1.6**
AML	**Almayashu**	**2.60**	**356**	P	**Pn**		**04 06 53.9**	**+1.6**
	SNR=51							
UCH	**Uchtor**	**2.73**	**9**	*i* PN	**Pn**		**04 06 56.0**	**+1.9**
UCH	**Uchtor**	**2.73**	**9**	P	**Pn**		**04 06 56.0**	**+1.9**
	SNR=41							
KZA	**Kyzart**	**2.73**	**21**	*i* PN	**Pn**		**04 06 55.7**	**+1.7**
KZA	**Kyzart**	**2.73**	**21**	P	**Pn**		**04 06 55.7**	**+1.7**
	SNR=48							
AAK	**Ala-Archa**	**3.12**	**8**	*ce*PN	**Pn**		**04 07 01.4**	**+2.1**
AAK				pmax	pmax			
	comp=Z,575nm,1.2s							
AAK	**Ala-Archa**	**3.12**	**8**	P	**Pn**		**04 07 01.7**	**+2.3**
	SNR=50							
AAK	**Ala-Archa**	**3.12**	**8**	*e*Pn	**Pn**		**04 07 01.6**	**+2.3**
AAK				Sn	**Sb**		**04 07 42.7**	**-1.9**
AAK				*e*S	Sn		04 07 47.0	+11
AAK	**Ala-Archa**	**3.12**	**8**	Pn	**Pn**		**04 07 01.6**	**+2.3**
	comp=Z,13nm,0.3s,baz=169,slow=9.1,SNR=62							
AAK				Sn	**Sb**		**04 07 42.7**	**-1.9**
	comp=Z,15nm,0.3s,baz=0.0,slow=19,SNR=5.9							
EKS2	**Erkin-Say**	**3.13**	**358**	*e*PN	**Pn**		**04 07 01.1**	**+1.8**
EKS2				*e*S	**Sb**		**04 07 41.8**	**-2.9**
EKS2	**Erkin-Say**	**3.13**	**358**	P	**Pn**		**04 07 01.2**	**+2.0**
	SNR=56							
EKS2	**Erkin-Say**	**3.13**	**358**	*e*Pn	**Pn**		**04 07 01.1**	**+1.8**
EKS2				*e*S	**Sb**		**04 07 41.8**	**-2.9**
KBK	**Karagaybulak**	**3.21**	**13**	*i* PN	**Pn**		**04 07 03.1**	**+2.6**
KBK	**Karagaybulak**	**3.21**	**13**	P	**Pn**		**04 07 03.0**	**+2.6**
	SNR=39							
ULHL	**Ulahol**	**3.22**	**32**	*i* PN	**Pn**		**04 07 03.2**	**+2.6**
ULHL	**Ulahol**	**3.22**	**32**	P	**Pn**		**04 07 03.2**	**+2.6**
	SNR=50							
FRU	**Bishkek**	**3.33**	**9**	⇑*e*PN	**Pn**		**04 07 05.0**	**+2.9**
FRU				*i*			04 07 53.5	
FRU				*i*			04 08 14.0	
FRU				pmax	pmax			
	comp=Z,710nm,1.6s							
FRU				smax	smax			
	comp=E,4μm,1.9s							
CHMS	**Chumysh**	**3.52**	**10**	*i* PN	**Pn**		**04 07 06.7**	**+2.2**
CHMS	**Chumysh**	**3.52**	**10**	P	**Pn**		**04 07 06.7**	**+2.2**
	SNR=46							
TKM2	**Tokmak 2**	**3.61**	**20**	⇑Pn	**Pn**		**04 07 08.2**	**+2.3**
	comp=E,90nm,0.6s							
TKM2				⇑Lg	Lg		04 08 02.8	
	comp=E,271nm,0.8s							
TKM2	**Tokmak 2**	**3.61**	**20**	*i* PN	**Pn**		**04 07 08.1**	**+2.2**
TKM2	**Tokmak 2**	**3.61**	**20**	P	**Pn**		**04 07 08.1**	**+2.2**
	SNR=55							
TKM2	**Tokmak 2**	**3.61**	**20**	*e*Pn	**Pn**		**04 07 07.9**	**+2.0**
TKM2				*e*S	**Sb**		**04 07 54.9**	**-3.7**
USP	**Ospenovka**	**3.75**	**6**	*i* PN	**Pn**		**04 07 10.7**	**+2.9**
USP	**Ospenovka**	**3.75**	**6**	P	**Pn**		**04 07 10.7**	**+2.9**
	SNR=7.2							
KNDC	**Almaty**	**4.33**	**31**	⇓Pn	Pn		04 07 19.3	+3.6
	comp=E,189nm,1.0s							
KNDC				⇑Pg	**Pb**		**04 07 29.9**	**+2.5**
	comp=E,286nm,0.7s							
KNDC				⇓Lg	Lg		04 08 30.5	
	comp=E,1μm,1.2s							
AAA	**Alma-Ata**	**4.37**	**30**	*i* PN	**Pn**		**04 07 19.1**	**+2.9**
AAA				*i* S	**Sb**		**04 08 24.1**	**+3.9**
AAA				pmax	pmax			
	comp=Z,181nm,0.9s							
AAA				smax	smax			
	comp=E,752nm,1.1s							
KK31	**Karatay Array**	**4.40**	**325**	Pn	**Pn**		**04 07 17.5**	**+0.7**
	comp=E,11nm,0.4s,baz=138,slow=14,SNR=471							
KK31				⇓Pg	**Pb**		**04 07 27.5**	**-1.1**
	comp=E,63nm,0.6s,baz=134,slow=16,SNR=24							
KK31				⇑Sn	Sn		04 08 13.4	+6.5
	comp=E,56nm,0.5s,baz=148,slow=31							
KK31				⇑Lg	Lg		04 08 27.8	
	comp=E,231nm,0.8s,baz=138,slow=26							
KK31	**Karatay Array**	**4.40**	**325**	PN	**Pn**		**04 07 17.4**	**+0.7**
KK31							04 08 13.4	
KK31				pmax	pmax			
	comp=Z,23nm,0.3s							
KK31				smax	smax			
	comp=Z,34nm,0.3s							
CHCP	**Chirah Chowk**	**5.89**	**186**	P	Pn		04 07 43.9	+6.7
CEP	**Cherat**	**5.93**	**197**	P	Pn		04 07 43.6	+5.8
CEP				S	Sn		04 08 54.0	+9.3
KBL	**Kabul**	**6.34**	**220**	*e*PN	Pn		04 07 48.4	+4.9
KBL	**Kabul**	**6.34**	**220**	*e*Pn	Pn		04 07 48.4	+4.9
KBL				*e*S	**Sn**		**04 08 54.7**	**-0.2**
THW	**Thamme Wali**	**6.96**	**195**	P	Pn		04 07 57.3	+5.5
DLH	**Dalhousie**	**7.17**	**166**	*e*P	Pn		04 08 00.0	+5.1
DLH				*e*4			04 09 29.0	
THN	**Thein Dam**	**7.23**	**168**	*e*P	**Pn**		**04 07 57.0**	**+1.5**
THN				*e*S	**Sn**		**04 09 19.0**	**+2.5**
DHRM	**DHARAMSHALA**	**7.52**	**165**	*e*P	Pn		04 08 03.2	+3.5
DHRM				AMB	AMB		04 08 07.1	
	comp=Z,151nm,0.9s							
DHRM				*e*S	**Sn**		**04 09 27.0**	**+3.1**
DHRM				AML	AML		04 09 38.7	
	comp=N,162nm,0.4s							
DHRM				AML	AML		04 09 41.9	
	comp=E,172nm,0.8s							
SARP	**Sargodha**	**7.67**	**188**	P	Pn		04 08 07.1	+5.6
BHK	**Bhakra**	**8.35**	**165**	*ex*	Pn		04 08 17.4	+6.5
SDNR	**Sundarnagar**	**8.39**	**162**	*e*P	**Pn**		**04 08 14.0**	**+2.5**
SMLA	**Simla**	**8.79**	**162**	*i* P	**Pn**		**04 08 19.8**	**+2.8**
SMLA				AMB	AMB		04 08 25.9	
	comp=Z,18nm,0.5s							
SMLA				*e*S	**Sn**		**04 09 55.5**	**+0.6**
SMLA				AML	AML		04 10 01.9	
	comp=E,91nm,0.6s							
SMLA				AML	AML		04 10 04.5	
	comp=N,104nm,0.4s							
MK31	**Makanchi Array**	**9.47**	**37**	⇑Pn	**Pn**		**04 08 28.9**	**+2.5**
	comp=N,4.5nm,0.6s,baz=207,slow=13,SNR=30							
MK31				⇓Sn	Sn		04 10 26.5	+15
	comp=N,7.0nm,0.9s							
MK31				⇓Lg	Lg		04 11 11.0	
	comp=N,26nm,1.1s							
MK31	**Makanchi Array**	**9.47**	**37**	*e*P	**Pn**		**04 08 28.8**	**+2.5**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MK31	**Makanchi Array**	**9.47**	**37**	*e*Pn	**Pn**		**04 08 28.6**	**+2.3**
MK31				*e*S	Lg		04 11 08.0	
MKAR	**Makanchi Array**	**9.47**	**37**	P	**Pn**		**04 08 28.3**	**+2.0**
MKAR				MLR	MLR			
	comp=Z,153nm,19.3s							
MKAR	**Makanchi Array**	**9.47**	**37**	Pn	**Pn**		**04 08 28.3**	**+2.0**
MKAR				Lg	Lg		04 11 04.9	
MKAR	**Makanchi Array**	**9.47**	**37**	Pn	**Pn**		**04 08 28.3**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=19							
MKAR				Lg	Lg		04 11 04.9	
	comp=Z,0.2nm,0.3s,baz=212,slow=21,SNR=2.6							
MKAR				LR	LR		04 12 21.8	
	comp=Z,153nm,19.3s,baz=218,slow=39							
DDI	**Dehra Dun**	**9.79**	**159**	*e*P	**Pn**		**04 08 30.1**	**-0.6**
DDI				AMB	AMB		04 08 34.3	
	comp=Z,104nm,1.0s							
DDI				*e*S	**Sn**		**04 10 19.5**	**0.0**
DDI				*ex*	x		04 10 21.0	
DDI				AML	AML		04 10 30.0	
	comp=N,550nm,0.2s							
DDI				AML	AML		04 10 33.7	
	comp=E,347nm,0.0s							
NDI	**New Delhi**	**11.16**	**165**	*e*P	**Pn**		**04 08 49.0**	**-0.4**
NDI				*e*S	**Sn**		**04 10 49.0**	**-4.0**
KURBB	**Kurchatov Arra**	**11.55**	**15**	⇓Sn	Sn		04 11 10.7	+8.2
	comp=E,16nm,0.9s							
KURBB				⇓Lg	Lg		04 12 20.0	
	comp=E,101nm,1.1s							
KURBB	**Kurchatov Arra**	**11.55**	**15**	Pn	**Pn**		**04 08 56.0**	**+1.4**
	comp=E,0.1nm,0.3s,baz=202,slow=12,SNR=5.2							
KURBB				Sn	**Sn**		**04 11 03.6**	**+1.2**
	comp=E,0.1nm,0.3s,baz=204,slow=26,SNR=3.4							
KURBB				Lg	Lg		04 12 07.2	
	comp=E,0.1nm,0.3s,baz=204,slow=29,SNR=7.8							
KURK	**Kurchatov**	**11.66**	**15**	P	**Pn**		**04 08 56.0**	**-0.1**
KURK							04 11 03.6	
KURK	**Kurchatov**	**11.66**	**15**	Pn	**Pn**		**04 08 56.0**	**-0.1**
KURK				Sn	**Sn**		**04 11 03.6**	**-1.4**
KURK				Lg	Lg		04 12 07.2	
VOSK	**Vostochnaya**	**13.35**	**352**	⇑P	**Pn**		**04 09 16.8**	**-2.5**
	comp=E,9.4nm,1.0s							
VOSK	**Vostochnaya**	**13.35**	**352**	P	**Pn**		**04 09 16.7**	**-2.5**
VOSK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BVA0	**Borovoye Array**	**13.71**	**351**	⇑Pn	**Pn**		**04 09 21.5**	**-2.6**
	comp=Z,7.5nm,0.6s,baz=155,slow=12,SNR=29							
BVA0				⇑Lg	Lg		04 13 29.3	
	comp=Z,34nm,1.3s,baz=168,slow=25,SNR=4.1							
BVA0	**Borovoye Array**	**13.71**	**351**	P	**Pn**		**04 09 22.4**	**-1.8**
BVA0				pmax	pmax			
	comp=Z,20nm,1.1s							
BVAR	**Borovoye Array**	**13.71**	**351**	P	**Pn**		**04 09 21.3**	**-2.8**
BVAR				MLR	MLR			
	comp=Z,202nm,20.2s							
BVAR	**Borovoye Array**	**13.71**	**351**	Pn	**Pn**		**04 09 21.3**	**-2.8**
BVAR				Lg	Lg		04 13 11.8	
BVAR	**Borovoye Array**	**13.71**	**351**	Pn	**Pn**		**04 09 21.3**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=156,slow=15,SNR=18							
BVAR				Lg	Lg		04 13 11.8	
	comp=Z,0.2nm,0.3s,baz=153,slow=23,SNR=3.6							
BVAR				LR	LR		04 14 52.2	
	comp=Z,202nm,20.2s,baz=358,slow=38							
BRVK	**Borovoye**	**13.76**	**351**	⇑Pn	Pn		04 09 21.4	-3.4
	comp=Z,24nm,0.8s							
BRVK				⇓Lg	Lg		04 13 30.8	
	comp=Z,111nm,1.3s							
DANN	**Dangsing**	**13.80**	**141**	*e*P	**Pn**		**04 09 25.8**	**0.0**
	comp=Z,43nm,0.6s							
AB31	**Akbulak array**	**13.93**	**319**	Pn	**Pn**		**04 09 24.4**	**-2.7**
	comp=Z,12nm,0.8s,baz=126,slow=14,SNR=98							
AB31				⇑Sn	**Sn**		**04 11 58.0**	**-2.5**
	comp=Z,11nm,1.1s,baz=122,slow=25,SNR=5.1							
AB31	**Akbulak array**	**13.93**	**319**	P	**Pn**		**04 09 24.4**	**-2.7**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.2s							
KOLN	**Koldanda**	**14.21**	**143**	*e*P	**Pn**		**04 09 31.4**	**+0.1**
	comp=Z,20nm,0.4s							
KKN	**Kakani**	**15.03**	**138**	*e*P	**Pn**		**04 09 42.0**	**-0.3**
	comp=Z,13nm,0.4s							
DMN	**Daman**	**15.09**	**139**	*e*P	**Pn**		**04 09 42.1**	**-1.0**
	comp=Z,22nm,0.6s							
GUN	**Gumba**	**15.25**	**136**	*e*P	**Pn**		**04 09 43.9**	**-1.5**
PKIN	**Phulchoki**	**15.26**	**138**	*e*P	**Pn**		**04 09 45.6**	**+0.1**
	comp=Z,15nm,0.5s							
PKI	**Pulchoki**	**15.27**	**138**	*e*P	**Pn**		**04 09 46.0**	**+0.3**
	comp=Z,33nm,0.8s							
JIRN	**Jiri**	**15.61**	**136**	*e*P	**Pn**		**04 09 49.5**	**-0.7**
	comp=Z,32nm,0.5s							
AKTO	**Aktyubinsk**	**15.64**	**319**	⇓Pn	**Pn**		**04 09 47.5**	**-2.5**
	comp=Z,16nm,1.0s							
AKTO				⇓Sn	**Sn**		**04 12 39.3**	**-2.9**
	comp=Z,10nm,1.2s							
AKTO	**Aktyubinsk**	**15.64**	**319**	P	**Pn**		**04 09 48.4**	**-1.6**
AKTO				pmax	pmax			
	comp=Z,13nm,0.9s							
AKTO	**Aktyubinsk**	**15.64**	**319**	Pn	**Pn**		**04 09 48.3**	**-1.7**
AKTO				Sn	**Sn**		**04 12 37.0**	**-5.1**
AKTO				Lg	Lg		04 14 20.6	
AKTO	**Aktyubinsk**	**15.64**	**319**	Pn	**Pn**		**04 09 48.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=13,SNR=23							
AKTO				Sn	**Sn**		**04 12 37.0**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=317,slow=19,SNR=2.0							
AKTO				Lg	Lg		04 14 20.6	
	comp=Z,0.2nm,0.3s,baz=82,slow=19,SNR=2.5							
AKTO				LR	LR		04 16 18.5	
	comp=Z,175nm,21.1s,baz=272,slow=39							
ZALV	**Zalesovo Beam**	**16.20**	**24**	*i* P	**Pn**		**04 09 58.5**	**+1.3**
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ZALV	**Zalesovo Beam**	**16.20**	**24**	Pn	**Pn**		**04 09 57.6**	**+0.4**
ZALV				Lg	Lg		04 14 36.9	
ZALV	**Zalesovo Beam**	**16.20**	**24**	Pn	**Pn**		**04 09 57.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=208,slow=12,SNR=7.5							
ZALV				Lg	Lg		04 14 36.9	
	comp=Z,0.9nm,0.3s,baz=213,slow=29,SNR=3.6							
ZALV				LR	LR		04 16 25.5	
	comp=Z,140nm,19.9s,baz=69,slow=38							
RAMN	**Ramite**	**16.40**	**136**	*e*P	**Pn**		**04 09 59.6**	**-0.5**
	comp=Z,57nm,1.0s							
BHPL	**Bhopal**	**16.51**	**169**	*e*P	**Pn**		**04 10 01.2**	**-0.1**
NVS	**Novosibirsk**	**16.54**	**19**	*e*P	**Pn**		**04 10 00.6**	**-0.8**
NVS				*e*S	**S**		**04 13 15.2**	**+0.2**
NVS				pmax	pmax			
	comp=N,36nm,1.9s							
NVS				pmax	pmax			
	comp=Z,46nm,1.9s							
NVS				smax	smax			
	comp=N,6.0nm,1.3s							
NVS				smax	smax			
	comp=E,6.0nm,1.3s							
TAPN	**Taplejung**	**16.70**	**133**	*e*P	**Pn**		**04 10 02.8**	**-1.2**
	comp=E,44nm,1.1s							
ODAN	**Odare**	**16.90**	**134**	*e*P	**Pn**		**04 10 06.3**	**-0.1**
BOK	**Bokaro**	**18.67**	**144**	*e*P	**P**		**04 10 25.4**	**-2.1**
NGP	**Nagpur**	**18.84**	**165**	*e*P	**Pn**		**04 10 29.9**	**-0.2**
NGP				AMB	AMB		04 10 40.6	
	comp=Z,18nm,0.0s							
ARU	**Arti**	**19.71**	**334**	*c i*P	**Pn**		**04 10 39.8**	**-0.5**
ARU				S	**Sn**		**04 14 21.9**	**+1.3**
ARU				pmax	pmax			
	comp=Z,13nm,0.8s							
ARU				MLR	MLR			
	comp=Z,180nm,18.0s							
GTA	**Gaotai**	**19.96**	**82**	⇑P	**Pn**		**04 10 43.8**	**+0.3**
GTA				pP	**pP**		**04 10 47.5**	**-2.4**
GTA				sP	**sP**		**04 10 50.8**	**-3.0**
GTA				PP	PnPn		04 11 06.5	+8.7
GTA				sS	**sS**		**04 14 38.5**	**+0.8**
GTA				pmax	pmax			
	comp=Z,17nm,0.8s							
GTA				pmax	pmax			
	comp=Z,77nm,4.9s							
GTA				LR	LR			
	comp=N,120nm,12.9s							
GTA				LR	LR			
	comp=E,220nm,13.5s							
SHL	**Shillong**	**20.51**	**127**	*e*P	**P**		**04 10 45.9**	**-1.9**
LATR	**Latur**	**21.17**	**173**	*e*P	**P**		**04 10 53.8**	**-0.9**
DGRG	**David-gareji**	**21.77**	**284**	P	**P**		**04 11 04.9**	**+3.8**
TBLG	**Delisi**	**22.23**	**285**	P	**P**		**04 11 05.6**	**-0.4**
TBLG	**Delisi**	**22.23**	**285**	P	**P**		**04 11 05.6**	**-0.4**
DUS	**Dusheti**	**22.23**	**286**	P	P		04 11 12.8	+6.7
GNI	**Garni**	**22.39**	**281**	*e*P	**P**		**04 11 11.2**	**+3.3**
	comp=E,60nm,1.6s							
HYB	**Hyderabad**	**22.40**	**168**	*i* P	**P**		**04 11 07.5**	**-0.5**
KZR	**Kazreti**	**22.50**	**284**	P	P		04 11 14.1	+5.2
ZEI	**Tsey**	**22.79**	**288**	*e*P	**P**		**04 11 12.4**	**+0.2**
ZEI				pmax	pmax			
	comp=Z,9.0nm,0.7s							
ZAK	**Zakamensk**	**23.27**	**53**	*e*P	**P**		**04 11 17.4**	**+0.5**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KBZ	**Khabaz**	**23.50**	**290**	P	**P**		**04 11 19.1**	**0.0**
KBZ	**Khabaz**	**23.50**	**290**	P	**P**		**04 11 19.1**	**0.0**
KBZ	**Khabaz**	**23.50**	**290**	P	**P**		**04 11 19.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=120,slow=14,SNR=2.1							
KBZ				LR	LR		04 22 08.4	
	comp=Z,45nm,18.1s,baz=245,slow=41							
KIV	**Kislovodsk**	**23.66**	**291**	*e*P	**P**		**04 11 18.5**	**-2.2**
KIV				*e*S	**S**		**04 15 32.0**	**-1.4**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,25nm,14.0s							
LZH	**Lanzhou**	**23.82**	**89**	*e*P	**P**		**04 11 25.5**	**+3.1**
LZH				pP	**pP**		**04 11 33.3**	**+2.1**
LZH				sP	**sP**		**04 11 37.0**	**+2.0**
LZH				S	**S**		**04 15 32.3**	**-4.0**
LZH				sS	**sS**		**04 15 46.0**	**-5.0**
LZH				SS	**SnSn**		**04 16 22.0**	**+5.8**
LZH				pmax	pmax			
	comp=Z,39nm,1.3s							
LZH				pmax	pmax			
	comp=Z,140nm,5.5s							
LZH				LR	LR			
	comp=N,260nm,13.2s							
LZH				LR	LR			
	comp=E,160nm,9.3s							
LZH				LR	LR			
	comp=Z,400nm,11.2s							
NAY	**Al-Naaiem**	**24.22**	**253**	*e*P	**P**		**04 11 28.2**	**+2.2**
NAY				AMb	AMB		04 11 30.2	
	comp=Z,0.8nm,1.0s							
RST	**Umm Al-Ruwaisa**	**24.27**	**254**	*e*P	**P**		**04 11 26.9**	**+0.4**
RST				AMb	AMB		04 11 31.0	
	comp=Z,156nm,0.7s							
SONM	**Songino Array**	**24.75**	**60**	P	**P**		**04 11 31.3**	**+0.5**
SONM	**Songino Array**	**24.75**	**60**	P	**P**		**04 11 31.3**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=262,slow=9.3,SNR=25							
SONM				LR	LR		04 21 14.7	
	comp=Z,74nm,19.4s,baz=47,slow=37							
ULN	**Ulaanbaatar**	**25.19**	**60**	*e*P	**P**		**04 11 34.4**	**-0.4**
	comp=Z,13nm,1.0

OBN *e* 04 13 07.9
OBN *e*S **S** **04 17 00.0 -2.4**
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,19.0s
CMAR Chiang Mai Arr 30.14 127 P **P** **04 12 18.9 -0.3**
CMAR Chiang Mai Arr 30.14 127 P **P** **04 12 18.9 -0.3**
comp=Z,0.6nm,0.4s,baz=316,slow=8.9,SNR=4.8
GYA Guiyang 30.21 106 *e*P **P** **04 12 20.3 +0.4**
GYA pP **pP** **04 12 30.5 +1.6**
GYA PP **PnPn** **04 13 19.0 +1.0**
GYA PcP **PcP** **04 15 22.3 +2.0**
GYA S **S** **04 17 15.5 -1.9**
GYA sS **sS** **04 17 31.3 -1.0**
GYA ScP **ScP** **04 19 00.8 +0.5**
GYA ScS **ScS** **04 22 54.0 -2.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 30.86 283 *e*P **P** **04 12 27.7 +2.1**
comp=Z,1.5nm,0.6s
BRTR Keskin Array B 30.86 283 P **P** **04 12 27.2 +1.7**
BRTR Keskin Array B 30.86 283 P **P** **04 12 27.2 +1.7**
comp=Z,3.1nm,0.9s,baz=91,slow=8.3,SNR=15
BJI Beijing 32.24 75 P **P** **04 12 37.5 +0.1**
BJI S **S** **04 17 48.0 -0.6**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI pmax pmax
comp=Z,55nm,3.8s
BJI LR LR
comp=N,180nm,12.4s
BJI LR LR
comp=E,120nm,13.5s
AKASG Malin Array Be 32.99 305 P **P** **04 12 44.7 +0.7**
AKASG Malin Array Be 32.99 305 P **P** **04 12 44.7 +0.7**
AKASG Malin Array Be 32.99 305 P **P** **04 12 44.7 +0.7**
comp=E,0.3nm,0.3s,baz=80,slow=7.2,SNR=2.1
JOF Joensuu 34.50 327 *e*P **P** **04 12 56.6 -0.3**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 34.50 327 *e*p **P** **04 12 56.6 -0.3**
comp=Z,0.7nm,0.3s
FINES FINESS Array B 36.36 323 P **P** **04 13 13.2 +0.3**
FINES FINESS Array B 36.36 323 P **P** **04 13 13.2 +0.3**
comp=Z,2.2nm,0.4s,baz=115,slow=9.9,SNR=20
FINES LR LR 04 28 45.8
comp=Z,131nm,19.5s,baz=18,slow=37
NJ2 Nanjing 36.88 87 *e*P **P** **04 13 17.3 -0.4**
NJ2 pmax pmax
comp=Z,20nm,0.8s
CN2 Changchun 38.20 66 *e*P **P** **04 13 27.0 -1.8**
CN2 *es*P **sP** **04 13 40.8 -0.8**
CN2 *e*PP **PnPn** **04 14 57.5 -0.5**
CN2 *e*S **S** **04 19 16.5 -3.8**
CN2 LR LR
comp=N,240nm,14.0s
CN2 LR LR
comp=E,260nm,14.0s
CN2 LR LR
comp=Z,170nm,15.0s
ARCES ARCESS Array B 39.29 335 P **P** **04 13 38.3 +0.8**
ARCES ARCESS Array B 39.29 335 P **P** **04 13 38.3 +0.8**
comp=Z,2.3nm,0.4s,baz=108,slow=8.2,SNR=46
ARCES LR LR 04 31 28.8
comp=Z,29nm,21.3s,baz=345,slow=39
OKC Ostrava-Krasne 40.12 304 *e*P P 04 13 54.4 +10
OKC Ostrava-Krasne 40.12 304 *ep*P P 04 13 54.4 +10
DPC Dobruska-Polom 41.22 305 *e*P P 04 13 57.1 +3.2
DPC Dobruska-Polom 41.22 305 *e*P P 04 13 57.1 +3.2
DPC *ex* x 04 14 01.8
KSAR Wonju Array Be 41.75 75 P **P** **04 13 59.1 +0.9**
KSRS Korea Array 41.77 75 P **P** **04 13 59.1 +0.7**
comp=Z,1.0nm,0.6s,baz=282,slow=8.0,SNR=5.1
KSRS LR LR 04 32 26.4
comp=Z,30nm,19.0s,baz=275,slow=38
PRU Pruhonice 42.41 305 *e*P **P** **04 14 06.3 +2.8**
PRU Pruhonice 42.41 305 *e*P **P** **04 14 06.3 +2.8**
GERES GERESS Array B 43.15 303 P **P** **04 14 11.1 +1.4**
GERES GERESS Array B 43.15 303 P **P** **04 14 11.1 +1.4**
comp=Z,2.0nm,0.7s,baz=65,slow=7.5,SNR=17
GERES LR LR 04 34 47.1
comp=Z,34nm,19.8s,baz=257,slow=40
CLL Collm 43.17 307 *i* P **P** **04 14 11.9 +2.3**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 43.17 307 *i* P **P** **04 14 11.9 +2.3**
comp=Z,4.0nm,0.8s
CLL *i* 04 14 14.5
CLL *e*(PP) 04 16 02.0
CLL *es*PP 04 16 09.0
CLL LmV 04 35 00.0
comp=Z,100nm,19.3s
KHC Kasperske Hory 43.18 303 *e*P **P** **04 14 12.8 +3.0**
KHC *e* 04 14 18.6
KHC Kasperske Hory 43.18 303 *e*P **P** **04 14 12.8 +3.0**
KHC *ep*P **pP** **04 14 18.6 -0.4**
NB2 NORSAR Subarra 43.42 321 P **P** **04 14 12.0 +0.4**
comp=Z,4.4nm,0.8s,baz=89,slow=7.9
NOA NORSAR Array B 43.42 321 P **P** **04 14 11.5 -0.1**
NOA NORSAR Array B 43.42 321 P **P** **04 14 11.5 -0.1**
comp=Z,2.5nm,0.6s,baz=90,slow=8.0,SNR=12
KBA Koelnbreinsper 43.76 301 ⇑*i*P **P** **04 14 17.4 +2.8**
comp=Z,1.7nm,0.9s
JNU Nakatsue 45.66 80 P **P** **04 14 29.9 0.0**
JNU Nakatsue 45.66 80 P **P** **04 14 29.9 0.0**
comp=Z,5.8nm,0.8s,baz=345,slow=14,SNR=3.6
DAVA Damuels 46.00 302 ⇑*i*P **P** **04 14 34.8 +2.3**
comp=Z,4.8nm,0.7s
CDF Champ du Feu 47.40 304 *e*P **P** **04 14 45.4 +2.1**
comp=Z,5.8nm,0.7s
CDF Champ du Feu 47.40 304 *e*P **P** **04 14 45.4 +2.1**
CDF pmax pmax
comp=Z,6.0nm,0.7s
CDF Champ du Feu 47.40 304 *e*P **P** **04 14 45.4 +2.1**
comp=Z,5.8nm,0.7s
HINF Hinterlalfeld 47.83 303 *e*P **P** **04 14 48.4 +1.7**
HINF Hinterlalfeld 47.83 303 *e*P **P** **04 14 48.4 +1.7**
HINF Hinterlalfeld 47.83 303 *e*P **P** **04 14 48.4 +1.7**
HAU Haudompre 48.11 303 *e*P **P** **04 14 50.7 +1.9**
HAU *e*R
comp=Z,76nm,18.8s
HAU Haudompre 48.11 303 *e*P **P** **04 14 50.7 +1.9**
HAU Haudompre 48.11 303 *e*P **P** **04 14 50.7 +1.9**
LPG La Plagne 48.58 300 *e*P **P** **04 14 55.8 +3.0**
comp=Z,7.6nm,0.8s
LPG La Plagne 48.58 300 *e*P **P** **04 14 55.8 +3.0**
LPG pmax pmax
comp=Z,8.0nm,0.8s
LPG La Plagne 48.58 300 *e*P **P** **04 14 55.8 +3.0**
comp=Z,7.6nm,0.8s
LPL La Plagne 48.59 300 *e*P **P** **04 14 55.3 +2.6**
comp=Z,8.5nm,0.8s
LPL La Plagne 48.59 300 *e*P **P** **04 14 55.3 +2.6**
LPL pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 48.59 300 *e*P **P** **04 14 55.3 +2.6**
comp=Z,8.5nm,0.8s
SBF Sospel 48.64 298 *e*P **P** **04 14 55.1 +2.1**
comp=Z,22nm,0.9s
SBF Sospel 48.64 298 *e*P **P** **04 14 55.1 +2.1**
SBF pmax pmax
comp=Z,23nm,0.9s
SBF Sospel 48.64 298 *e*P **P** **04 14 55.1 +2.1**
comp=Z,22nm,0.9s
MEZF Maizieres J'vi 48.80 304 *e*P **P** **04 14 56.4 +2.4**
MEZF Maizieres J'vi 48.80 304 *e*P **P** **04 14 56.4 +2.4**
MBDF Montbardon 48.81 299 *e*P **P** **04 14 55.9 +1.5**
comp=Z,8.5nm,0.8s
MBDF Montbardon 48.81 299 *e*P **P** **04 14 55.9 +1.5**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
MBDF Montbardon 48.81 299 *e*P **P** **04 14 55.9 +1.5**
comp=Z,8.5nm,0.8s
BAIF Baives 48.90 307 *e*P **P** **04 14 57.4 +2.6**
BAIF Baives 48.90 307 *e*P **P** **04 14 57.4 +2.6**
BAIF Baives 48.90 307 *e*P **P** **04 14 57.4 +2.6**
FRF La Foret Royal 49.28 298 *e*P **P** **04 14 59.7 +1.9**
FRF La Foret Royal 49.28 298 *e*P **P** **04 14 59.7 +1.9**
FRF La Foret Royal 49.28 298 *e*P **P** **04 14 59.7 +1.9**
MJAR Matsushiro Arr 49.74 72 P **P** **04 15 02.3 +0.9**
MJAR Matsushiro Arr 49.74 72 P **P** **04 15 02.3 +0.9**
comp=Z,3.9nm,0.8s,baz=292,slow=8.7,SNR=8.2
SMRF Simiane la Rot 49.87 299 *e*P **P** **04 15 04.5 +2.2**
comp=Z,5.7nm,0.9s
SMRF Simiane la Rot 49.87 299 *e*P **P** **04 15 04.5 +2.2**
comp=Z,5.7nm,0.9s
LOR Lormes 49.93 303 *e*P **P** **04 15 04.6 +1.9**
LOR *e*R
comp=Z,56nm,17.2s
LOR Lormes 49.93 303 *e*P **P** **04 15 04.6 +1.9**
ASAJ Asahikawa 50.02 61 P **P** **04 15 03.0 -0.4**
ASAJ Asahikawa 50.02 61 P **P** **04 15 03.0 -0.4**
comp=Z,3.9nm,0.3s,baz=307,slow=20,SNR=4.4
SMF Signal de Mont 50.14 302 *e*P **P** **04 15 06.0 +1.7**
SMF Signal de Mont 50.14 302 *e*P **P** **04 15 06.0 +1.7**
SMF Signal de Mont 50.14 302 *e*P **P** **04 15 06.0 +1.7**
VIVF Saint-Julien-l 50.18 300 *e*P **P** **04 15 06.9 +2.2**
VIVF Saint-Julien-l 50.18 300 *e*P **P** **04 15 06.9 +2.2**
VIVF Saint-Julien-l 50.18 300 *e*P **P** **04 15 06.9 +2.2**
AVF Avril sur Loir 50.41 303 *e*P **P** **04 15 08.0 +1.7**
comp=Z,19nm,0.9s
AVF Avril sur Loir 50.41 303 *e*P **P** **04 15 08.0 +1.7**
AVF pmax pmax
comp=Z,19nm,0.9s
AVF Avril sur Loir 50.41 303 *e*P **P** **04 15 08.0 +1.7**
comp=Z,19nm,0.9s
LASF Ste Croix 51.00 299 *e*P **P** **04 15 13.1 +2.3**
LASF Ste Croix 51.00 299 *e*P **P** **04 15 13.1 +2.3**
TCF Toulx Ste Croi 51.33 302 *e*P **P** **04 15 15.3 +2.0**
TCF Toulx Ste Croi 51.33 302 *e*P **P** **04 15 15.3 +2.0**
TCF Toulx Ste Croi 51.33 302 *e*P **P** **04 15 15.3 +2.0**
CAF Calviac 51.90 301 *e*P **P** **04 15 19.9 +2.4**
comp=Z,9.2nm,1.0s
CAF Calviac 51.90 301 *e*P **P** **04 15 19.9 +2.4**
CAF pmax pmax
comp=Z,9.0nm,1.0s
CAF Calviac 51.90 301 *e*P **P** **04 15 19.9 +2.4**
comp=Z,9.2nm,1.0s
LDF La Druitiere 52.04 306 *e*P **P** **04 15 19.9 +1.4**
LDF La Druitiere 52.04 306 *e*P **P** **04 15 19.9 +1.4**
LDF La Druitiere 52.04 306 *e*P **P** **04 15 19.9 +1.4**
RJF Les Rejaudoux 52.12 302 *e*P **P** **04 15 21.6 +2.4**
RJF *e*R
comp=Z,66nm,21.5s
RJF Les Rejaudoux 52.12 302 *e*P **P** **04 15 21.6 +2.4**
RJF Les Rejaudoux 52.12 302 *e*P **P** **04 15 21.6 +2.4**
MTLF Montolieu 52.37 299 *e*P **P** **04 15 23.2 +2.1**
MTLF Montolieu 52.37 299 *e*P **P** **04 15 23.2 +2.1**
MTLF Montolieu 52.37 299 *e*P **P** **04 15 23.2 +2.1**
GRR Gorron 52.57 306 *e*P **P** **04 15 23.8 +1.3**
GRR Gorron 52.57 306 *e*P **P** **04 15 23.8 +1.3**
GRR Gorron 52.57 306 *e*P **P** **04 15 23.8 +1.3**
MFF Saint Martin d 52.74 304 *e*P **P** **04 15 25.9 +2.1**
MFF Saint Martin d 52.74 304 *e*P **P** **04 15 25.9 +2.1**
MFF Saint Martin d 52.74 304 *e*P **P** **04 15 25.9 +2.1**
LFF La Frestale 52.77 301 *e*P **P** **04 15 26.3 +2.4**
LFF La Frestale 52.77 301 *e*P **P** **04 15 26.3 +2.4**
LFF La Frestale 52.77 301 *e*P **P** **04 15 26.3 +2.4**
SGMF Saint Gilles 53.68 306 *e*P **P** **04 15 32.7 +2.1**
comp=Z,23nm,1.0s
SGMF Saint Gilles 53.68 306 *e*P **P** **04 15 32.7 +2.1**
SGMF pmax pmax
comp=Z,23nm,1.0s
SGMF Saint Gilles 53.68 306 *e*P **P** **04 15 32.7 +2.1**
comp=Z,23nm,1.0s
ETSF Etsaut 54.42 299 *e*P **P** **04 15 39.0 +2.8**
ETSF Etsaut 54.42 299 *e*P **P** **04 15 39.0 +2.8**
ETSF Etsaut 54.42 299 *e*P **P** **04 15 39.0 +2.8**
ESDC Sonseca Array 58.12 297 P **P** **04 16 04.7 +2.1**
ESDC Sonseca Array 58.12 297 P **P** **04 16 04.7 +2.1**
comp=Z,1.3nm,0.8s,baz=52,slow=7.2,SNR=7.2
TORD Torodi Ar. Bea 68.10 269 P **P** **04 17 08.9 -0.2**
TORD Torodi Ar. Bea 68.10 269 P **P** **04 17 08.9 -0.2**
comp=Z,2.8nm,0.7s,baz=45,slow=4.5,SNR=24
COLD Coldfoot 68.41 17 *e*P **P** **04 17 10.0 -0.3**
comp=Z,4.4nm,0.9s
IMA2 Indian Mountai 68.52 19 *e*P **P** **04 17 10.6 -0.5**
ILAR Eielson Array 71.22 17 P **P** **04 17 27.1 -0.4**
ILAR Eielson Array 71.22 17 P **P** **04 17 27.1 -0.4**
comp=Z,1.3nm,0.7s,baz=321,slow=4.6,SNR=16
ILAR LR LR 04 52 21.8
comp=Z,46nm,18.6s,baz=207,slow=39
DBIC Dimbokro 77.15 268 P **P** **04 18 02.3 -0.6**
DBIC Dimbokro 77.15 268 P **P** **04 18 02.3 -0.6**
comp=Z,2.5nm,0.8s,baz=19,slow=7.7,SNR=2.4
YKA Yellowknife Ar 78.09 4 P **P** **04 18 07.5 +0.1**
YKA Yellowknife Ar 78.09 4 P **P** **04 18 07.5 +0.1**
comp=Z,1.5nm,0.6s,baz=345,slow=5.8,SNR=6.4
WRA Warramunga Arr 81.70 124 P **P** **04 18 27.8 +0.3**
WRA Warramunga Arr 81.70 124 P **P** **04 18 27.8 +0.3**
comp=Z,2.4nm,0.8s,baz=323,slow=4.7,SNR=26
ASAR Alice Springs 84.15 127 P **P** **04 18 40.4 +0.2**
ASAR Alice Springs 84.15 127 P **P** **04 18 40.4 +0.2**
comp=Z,1.0nm,0.6s,baz=316,slow=4.7,SNR=10
PDAR Pinedale Array 98.02 3 LR LR 05 04 09.4
comp=Z,40nm,19.6s,baz=267,slow=36
PLCA Paso Flores 152.94 256 PKPbc **PKPbc** **04 26 07.2 +1.2**
PLCA Paso Flores 152.94 256 PKPbc **PKPbc** **04 26 07.2 +1.2**
comp=Z,2.2nm,0.8s,baz=63,slow=4.5,SNR=4.7

NIED ***27*** *04:20:00,26°.10N×141°.40E,h74km,Mw4.4 Best double couple: M0=4.36000×10^15 NP1:φ=229.00000°,δ79.00000°, λ76.00000°. NP2:φ=102.00000°,δ18.00000°,λ141.00000°.*
ISCJB ***27*** *04:20:27.8±0.4,26°.08N±0°.04×141°.28E±0°.07,h110km, mb4.0/23, Error ellipse: s-maj=9.5km s-min=6.0km az=4.4*
JMA ***27*** *04:20:29.7±0.2,26°.09N×141°.36E,h95km,M4.2*
JMA Felt I J1.
IDC ***27*** *04:20:30.2±0.6,26°.05N×141°.08E,h113km±5km,mb3.7/20, mb1 3.9/21,mb1mx3.8/29,mbtmp3.7/21, Error ellipse: s-maj=16.9km s-min=9.8km az=89.0*

ISC 27 04:20:29.8±0.5,26°.09N±0°.06×141°.27E±0°.09,h110km,n34,σ1=21/45,mb4.0/23,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.97**	**56**	P	**Pn**	**04 20 48.9**	**-1.8**
JHHJ				S	**Sn**	**04 21 03.0**	**-3.5**
CBIJ	**Chichi jima**	**1.29**	**39**	P	**Pn**	**04 20 52.6**	**-1.5**
CBIJ				S	**Sn**	**04 21 10.5**	**-2.1**
CBIJ	**Chichi jima**	**1.29**	**39**	P	**Pn**	**04 20 53.1**	**-1.0**
	baz=279,slow=15						
CBIJ				S	**Sn**	**04 21 11.9**	**-0.7**
	750nm,0.3s,baz=106,slow=22,SNR=15						
BSO1	**Boso 1**	**8.54**	**358**	P	**Pn**	**04 22 29.8**	**-0.2**
JRY	**Ryogami san**	**10.10**	**349**	P	**Pn**	**04 22 50.8**	**-0.9**
JRY				*e*S	**Sn**	**04 24 42.6**	**-0.5**
MJAR	**Matsushiro Arr**	**10.74**	**347**	P	**Pn**	**04 23 00.6**	**+0.2**
	1.2nm,0.3s,baz=164,slow=10,SNR=6.3						
MJAR				S	**Sn**	**04 24 58.9**	**+0.3**
	0.5nm,0.3s,baz=130,slow=17,SNR=2.8						
KSRS	**Korea Array**	**16.02**	**318**	P	P	04 24 14.8	+4.8
	0.2nm,0.3s,baz=124,slow=13,SNR=6.0						
CTA	**Charters Tower**	**46.16**	**174**	P	**P**	**04 28 43.2**	**-0.2**
	4.7nm,0.5s,baz=359,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**46.25**	**189**	P	**P**	**04 28 43.6**	**-0.6**
	16nm,0.5s,baz=11,slow=8.6,SNR=181						
WRA				pP	**pP**	**04 29 09.3**	**-0.6**
	2.1nm,0.3s,baz=9.5,slow=8.6,SNR=2.9						
FITZ	**Fitzroy Crossi**	**46.48**	**201**	P	P	04 28 45.9	-0.1
	4.8nm,0.6s,baz=19,slow=9.0,SNR=32						
PSI	**Prapat**	**46.76**	**247**	P	**P**	**04 28 49.1**	**+0.6**
	3.2nm,0.4s,baz=18,slow=3.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**49.72**	**320**	PcP	**PcP**	**04 30 28.8**	**-1.2**
	1.2nm,0.3s,baz=98,slow=3.2,SNR=2.7						
ASAR	**Alice Springs**	**49.98**	**189**	P	**P**	**04 29 12.4**	**-0.4**
	0.9nm,0.4s,baz=20,slow=9.9,SNR=24						
ASAR				PcP	**PcP**	**04 30 31.6**	**+0.2**
	0.3nm,0.5s,baz=9.6,slow=4.6,SNR=5.7						
MKAR	**Makanchi Array**	**50.49**	**310**	P	**P**	**04 29 16.6**	**+0.1**
	0.2nm,0.3s,baz=89,slow=9.5,SNR=5.2						
MKAR				PcP	**PcP**	**04 30 31.9**	**-1.2**
	0.4nm,0.7s,baz=81,slow=7.6,SNR=3.8						
MKAR				ScP	**ScP**	**04 34 19.8**	**+0.8**
	0.2nm,0.5s,baz=98,slow=4.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**53.16**	**315**	P	**P**	**04 29 36.0**	**-0.3**
	1.0nm,0.2s,baz=89,slow=8.3,SNR=8.2						
DZM	**Mont Dzumac**	**53.74**	**151**	P	**P**	**04 29 40.4**	**-0.4**
	3.4nm,0.7s,baz=284,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**57.65**	**180**	P	**P**	**04 30 08.0**	**-0.5**
	5.5nm,0.5s,baz=346,slow=7.1,SNR=16						
BVAR	**Borovoye Array**	**58.23**	**318**	P	**P**	**04 30 11.9**	**-0.6**
	1.1nm,0.4s,baz=94,slow=7.8,SNR=7.0						
ILAR	**Eielson Array**	**58.98**	**28**	P	**P**	**04 30 17.9**	**+0.4**
	0.6nm,0.8s,baz=256,slow=5.5,SNR=5.8						
ILAR				pP	**pP**	**04 30 45.7**	**+1.5**
	1.3nm,0.8s,baz=263,slow=5.8,SNR=6.6						
INK	**Inuvik**	**64.28**	**24**	P	P	**04 30 54.1**	**+1.2**
	1.0nm,0.6s,baz=244,slow=2.8,SNR=3.6						
YKA	**Yellowknife Ar**	**73.41**	**28**	P	**P**	**04 31 50.4**	**+0.9**
	1.0nm,0.7s,baz=298,slow=6.2,SNR=3.5						
YKA				pP	**pP**	**04 32 19.1**	**+1.8**
	1.8nm,0.7s,baz=294,slow=6.1,SNR=5.4						
ARCES	**ARCESS Array B**	**74.22**	**341**	P	**P**	**04 31 54.1**	**-0.1**
	1.6nm,0.9s,baz=77,slow=9.4,SNR=4.6						
JOF	**Joensuu**	**75.62**	**334**	*e*p	**P**	**04 32 00.8**	**-1.5**
	0.6nm,0.3s						
KAF	**Kangasniemi**	**78.02**	**334**	*e*p	P	04 32 21.7	+5.9
	1.0nm,0.4s						
KBZ	**Khabaz**	**78.09**	**313**	P	**P**	**04 32 15.8**	**-0.7**
	1.0nm,0.4s,baz=86,slow=9.3,SNR=3.8						
FINES	**FINESS Array B**	**78.48**	**334**	P	**P**	**04 32 17.4**	**-1.0**
	1.1nm,0.3s,baz=71,slow=5.0,SNR=17						
NVAR	**Mina Array Bea**	**81.78**	**51**	P	**P**	**04 32 38.9**	**+2.0**
	0.1nm,0.5s,baz=257,slow=8.2,SNR=2.2						
NVAR				pP	**pP**	**04 33 07.0**	**+1.9**
	0.7nm,0.6s,baz=290,slow=6.3,SNR=5.0						
NOA	**NORSAR Array B**	**84.23**	**338**	P	**P**	**04 32 47.5**	**-1.4**
	1.0nm,0.7s,baz=48,slow=4.6,SNR=4.2						
PDAR	**Pinedale Array**	**85.50**	**44**	P	**P**	**04 32 56.7**	**+0.8**
	0.4nm,0.9s,baz=285,slow=3.5,SNR=2.9						
PDAR				pP	**pP**	**04 33 26.1**	**+1.9**
	1.8nm,0.9s,baz=289,slow=2.8,SNR=7.6						
BRTR	**Keskin Array B**	**86.08**	**313**	P	**P**	**04 32 57.6**	**-1.0**
	0.3nm,0.4s,baz=20,slow=4.6,SNR=3.3						
TXAR	**Lajitas Array**	**96.86**	**53**	P	**P**	**04 33 50.8**	**+1.9**
	0.2nm,0.7s,baz=245,slow=3.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**124.61**	**310**	PKP	**PKPdf**	**04 39 16.2**	**-0.9**
	0.5nm,0.5s,baz=62,slow=0.6,SNR=11						
PLCA	**Paso Flores**	**149.88**	**127**	PKPbc	**PKPbc**	**04 40 07.4**	**+0.2**
	3.1nm,0.8s,baz=189,slow=1.6,SNR=6.9						
LPAZ	**La Paz**	**150.96**	**76**	PKPbc	**PKPbc**	**04 40 11.7**	**+0.5**
	3.3nm,0.7s,baz=280,slow=2.1,SNR=18						

IDC ***27*** *04:34:41.3±2.7,36°.96N×68°.69E,h0km,mb3.6/2, mb1 3.5/6,mb1mx3.3/31,mbtmp3.5/6,ML3.3/4, Error ellipse: s-maj=74.8km s-min=19.8km az=140.0*
ISCJB ***27*** *04:34:44.9±1.3,37°.68N±0°.10×68°.1E±0°.1,h22km,mb3.7/1, Error ellipse: s-maj=13.8km s-min=12.3km az=6.8*
NNC ***27*** *04:34:49.3±4.0,38°.04N×68°.66E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=32.9km s-min=29.5km az=50.0*

ISC 27 04:34:47.1±1.7,37°.6N±0°.1×68°.1E±0°.1,h22km,n12,σ1=39/14,4C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.76**	**18**	Pn	**Pn**	**04 36 12.6**	**+1.3**
	0.8nm,0.3s,baz=192,slow=12,SNR=29						
KK31				⇓Sn	**Sn**	**04 37 17.2**	**+0.6**
	6.2nm,0.7s,baz=199,slow=21						
AAK	**Ala-Archa**	**6.97**	**42**	Pn	**Pn**	**04 36 30.1**	**+2.1**
	1.5nm,0.3s,baz=195,slow=4.8,SNR=7.9						
AAK				Lg	Lg	04 38 26.5	
	0.3nm,0.3s,baz=352,slow=22,SNR=3.5						
TKM2	**Tokmak 2**	**7.77**	**45**	⇓Pn	**Pn**	**04 36 38.8**	**-0.2**
	9.3nm,0.5s						
TKM2				⇑Sn	Sn	04 37 56.2	-10
	2.8nm,0.9s						
TKM2				⇑Lg	Lg	04 38 41.1	
	6.5nm,1.3s						
AB31	**Akbulak array**	**13.04**	**336**	⇑Pn	**Pn**	**04 37 49.8**	**-1.2**
	0.7nm,0.4s,baz=160,slow=11,SNR=17						
AB31				⇓Sn	**Sn**	**04 40 14.4**	**-1.0**
	0.5nm,0.5s						
AB31				⇓Lg	Lg	04 41 42.6	
	2.8nm,1.0s						
MK31	**Makanchi Array**	**13.90**	**44**	⇓Pn	**Pn**	**04 38 01.0**	**-1.7**
	1.0nm,0.8s,baz=209,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**13.90**	**44**	Pn	**Pn**	**04 38 01.9**	**-0.9**
	0.1nm,0.3s,baz=224,slow=12,SNR=5.6						
MKAR				Lg	Lg	04 42 03.1	
	0.1nm,0.3s,baz=217,slow=29,SNR=2.8						
KURBB	**Kurchatov Arra**	**14.96**	**26**	Pn	**Pn**	**04 38 15.0**	**-2.0**
	0.0nm,0.3s,baz=215,slow=12,SNR=2.8						
VOSK	**Vostochnaya**	**15.22**	**7**	⇑Pn	**Pn**	**04 38 20.1**	**-0.5**
	2.6nm,0.8s						
BVA0	**Borovoye Array**	**15.47**	**5**	⇓Pn	**Pn**	**04 38 25.8**	**+1.9**
	1.8nm,0.7s,baz=162,slow=11,SNR=14						
BVAR	**Borovoye Array**	**15.47**	**5**	Pn	**Pn**	**04 38 24.5**	**+0.6**
	0.5nm,0.3s,baz=188,slow=14,SNR=3.8						
ZALV	**Zalesovo Beam**	**19.95**	**30**	P	**P**	**04 39 17.2**	**-0.3**
	1.2nm,0.3s,baz=225,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**63.48**	**266**	P	**P**	**04 45 16.1**	**+0.4**
	0.4nm,0.7s,baz=56,slow=6.1,SNR=9.0						

IDC 27 04:59:01.7±1.8,5°.23S×152°.18E,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.7/20,mbtmp3.8/6,ML2.7/1,Error ellipse: s-maj=80.2km s-min=21.9km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.48**	**230**	Pn	Pn	05 00 40.2	+1.7
	1.0nm,0.3s,baz=49,slow=9.3,SNR=3.0						
PMG				Sn	Sn	05 01 50.5	-2.6
	1.6nm,0.3s,baz=52,slow=19,SNR=5.7						
WRA	**Warramunga Arr**	**22.70**	**228**	P	P	05 04 04.2	-1.0
	0.6nm,0.6s,baz=53,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**25.42**	**222**	P	P	05 04 31.5	+0.2
	1.0nm,0.7s,baz=55,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**28.91**	**242**	P	P	05 05 02.3	-0.4
	1.3nm,0.5s,baz=53,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**80.25**	**319**	P	P	05 11 14.4	0.0
	0.4nm,0.8s,baz=94,slow=5.8,SNR=3.7						
ILAR	**Eielson Array**	**82.79**	**22**	P	P	05 11 27.7	+0.2
	1.3nm,0.7s,baz=246,slow=5.4,SNR=23						
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc	PKPbc	05 18 54.4	-0.6
	0.3nm,0.4s,baz=92,slow=2.7,SNR=6.1						
TORD				PKPab	PKPab	05 19 00.1	-0.3
	0.4nm,0.7s,baz=81,slow=2.0,SNR=4.5						

NEIC ***27*** *05:05:27.9±0.2,10°.23S×161°.45E,mb5.0/45,Error ellipse: s-maj=6.9km s-min=4.9km az=127.0*
NEIC Felt at Honiara.
MOS ***27*** *05:05:27.1±0.8,10°.21S×161°.35E,h61km,mb5.2/18,Error ellipse: s-maj=12.3km s-min=8.8km az=64.1*
IDC ***27*** *05:05:27.2±0.7,10°.37S×161°.68E,h59km±5km,mb4.6/23, mb1 4.7/23,mb1mx4.7/24,mbtmp4.6/23,MS3.9/24, Ms1 3.9/24,ms1mx3.8/35,Error ellipse: s-maj=12.2km s-min=8.8km az=17.0*
ISCJB ***27*** *05:05:29.6±1.0,10°.24S±0°.04×161°.42E±0°.04,h83km±8km, mb4.8/84,Error ellipse: s-maj=7.2km s-min=5.8km az=29.8*
BJI ***27*** *05:05:29.3,10°.03S×161°.81E,h89km,mB4.9/24,mb4.9/38, Ms4.9/14,Ms7 4.5/14*
AUST ***27*** *05:05:30.4±1.6,10°.27S×161°.84E,h93km,Error ellipse: s-maj=1.3km s-min=1.0km az=289.0*
DJA ***27*** *05:05:33.2±1.2,10°S±6°×16°2E±°,h100km±14km,M5.0/12, mB5.6/3,mb4.9/12,Mw(mB)5.1/3,Mwp6.7/1*
BKK ***27*** *05:05:39.6±1.2,10°S±8°×16°2E±°,h157km±12km,M4.9/11, mB5.0/1,mb4.9/11,Mw(mB)4.2/1,Mwp7.2/1*

ISC 27 05:05:27.9±0.5,10°.30S±0°.04×161°.67E±0°.05,h64km±3km, h63km:pP-P,n242,σ1=45/268,mb4.9/83,2C,Bougainville - Solomon Islands region

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

PMG	**Port Moresby**	**14.33 272**	P		**Pn**	**05 08 47.9 +0.3**
	90nm,1.1s,1µm					
PMG	**Port Moresby**	**14.33 272**	P		**P**	**05 08 51.6 -1.4**
	0.9nm,0.3s,baz=123,slow=5.5,SNR=4.2					
PMG			LR		LR	05 12 32.0
	comp=Z,170nm,20.9s,baz=84,slow=30					
TARA	**Tarawa**	**16.11 45**	*e*Pn		**P**	**05 09 12.7 0.0**
	150nm,0.6s					
PATS	**Pohnpei**	**17.35 349**	P		**P**	**05 09 28.4 +1.9**
	baz=18,SNR=8.2					
PATS			S		Sn	05 12 27.4 -11
	baz=18,SNR=6.1					
CTA	**Charters Tower**	**17.76 235**	P		**P**	**05 09 32.8 +1.7**
CTA	**Charters Tower**	**17.76 235**	P		**P**	**05 09 32.8 +1.7**
	3.2nm,0.3s,baz=64,slow=14,SNR=45					
CTAO	**Charters Tower**	**17.76 235**	*e*P		**P**	**05 09 30.7 -0.3**
CTAO			pmax		pmax	
	comp=Z,40nm,0.7s					
CTAO	**Charters Tower**	**17.76 235**	*e*P		**P**	**05 09 30.7 -0.3**
	comp=Z,40nm,0.7s					
EIDS	**Eidsvold**	**18.04 212**	*e*Pn		**Pn**	**05 09 35.9 +1.6**
	comp=Z,26nm,0.9s					
EIDS			*e*PcP		**PcP**	**05 14 08.4 +2.2**
EIDS	**Eidsvold**	**18.04 212**	P		**Pn**	**05 09 36.2 +1.9**
	baz=18,SNR=12					
COEN	**Coen**	**18.45 257**	*e*P		**Pn**	**05 09 41.4 +2.1**
	comp=Z,302nm,0.8s					
COEN	**Coen**	**18.45 257**	P		**Pn**	**05 09 41.7 +2.4**
	baz=19,SNR=8.8					
MTSU	**Mount Surprise**	**18.53 243**	P		**Pn**	**05 09 42.7 +2.4**
	baz=19,SNR=73					
KWAJ	**Kwajalein Atol**	**19.88 18**	*e*P		**Pn**	**05 09 56.2 -0.1**
KWAJ			pmax		pmax	
	comp=Z,79nm,1.3s					
KWAJ	**Kwajalein Atol**	**19.88 18**	*e*P		**Pn**	**05 09 56.2 -0.1**
	comp=Z,79nm,1.3s					
RMQ	**Roma**	**20.20 215**	P		Pn	05 10 00.2 +0.1
	baz=20,SNR=17					
RMQ			S		**S**	**05 13 40.8 -0.2**
	baz=20,SNR=7.0					
ARMA	**Armidale**	**22.09 204**	*e*P		**P**	**05 10 18.9 +0.9**
	comp=Z,84nm,1.9s					
ARMA	**Armidale**	**22.09 204**	P		**P**	**05 10 18.9 +0.9**
	baz=22,SNR=12					
JAY	**Jayapura**	**22.21 289**	P		**P**	**05 10 17.7 -1.7**
	baz=22,SNR=4.3					
CMSA	**Cobar Meteorol**	**25.80 213**	P		**P**	**05 10 55.4 +2.2**
	baz=26,SNR=6.5					
AFI	**Afiamalu**	**26.20 101**	LR		LR	05 19 17.9
	comp=Z,205nm,18.4s,baz=182,slow=32					
CNB	**Canberra Magne**	**27.31 202**	P		**P**	**05 11 09.5 +2.8**
	baz=28,SNR=4.8					
WRAB	**Tennant Creek**	**28.02 247**	*e*P		**P**	**05 11 13.1 -0.2**
WRAB			pmax		pmax	
	comp=Z,19nm,0.8s					
WRAB	**Tennant Creek**	**28.02 247**	*e*P		**P**	**05 11 13.1 -0.2**
	comp=Z,19nm,0.8s					
WRA	**Warramunga Arr**	**28.03 247**	P		**P**	**05 11 12.9 -0.5**
WRA			PcP		**PcP**	**05 14 26.6 -0.4**
WRA			PKiKP		**PKiKP**	**05 22 01.6 -1.5**
WRA	**Warramunga Arr**	**28.03 247**	P		**P**	**05 11 12.9 -0.5**
	comp=Z,20nm,0.7s,baz=74,slow=9.1,SNR=164					
WRA			PcP		**PcP**	**05 14 26.6 -0.4**
	comp=Z,0.8nm,0.7s,baz=71,slow=2.1,SNR=4.5					
WRA			LR		LR	05 21 31.1
	comp=Z,240nm,20.8s,baz=80,slow=34					
WRA			PKiKP		**PKiKP**	**05 22 01.6 -1.5**
	comp=Z,0.3nm,1.0s,baz=27,slow=0.9,SNR=4.8					
STKA	**Stephens Creek**	**28.39 218**	P		**P**	**05 11 16.6 +0.3**
STKA	**Stephens Creek**	**28.39 218**	P		**P**	**05 11 16.6 +0.3**
	comp=Z,2.0nm,0.5s,baz=352,slow=8.8,SNR=7.4					
STKA			LR		LR	05 22 30.7
	comp=Z,386nm,20.4s,baz=30,slow=36					
STKA	**Stephens Creek**	**28.39 218**	P		**P**	**05 11 17.9 +1.5**
	baz=29,SNR=5.4					
KDU	**Kakadu**	**28.71 262**	P		**P**	**05 11 18.7 -0.6**
	baz=29,SNR=9.7					
AS31	**Alice Springs**	**29.62 240**	*e*P		**P**	**05 11 26.5 -1.0**
ASAR	**Alice Springs**	**29.62 240**	P		**P**	**05 11 26.3 -1.2**
ASAR			ScP		**ScP**	**05 18 07.8 +0.2**
ASAR	**Alice Springs**	**29.62 240**	P		**P**	**05 11 26.3 -1.2**
	comp=Z,4.4nm,0.8s,baz=64,slow=10,SNR=31					
ASAR			ScP		**ScP**	**05 18 07.8 +0.2**
	comp=Z,0.2nm,0.3s,baz=58,slow=2.5,SNR=4.6					
ASAR			LR		LR	05 22 32.9
	comp=Z,354nm,20.2s,baz=52,slow=35					
MTN	**Manton Dam**	**30.02 262**	P		**P**	**05 11 30.7 -0.3**
	baz=30,SNR=5.2					
TOO	**Toolangi**	**30.81 206**	P		**P**	**05 11 39.9 +2.1**
	baz=31,SNR=8.5					
URZ	**Urewera**	**31.09 156**	P		P	05 11 43.1 +2.9
URZ	**Urewera**	**31.09 156**	P		P	05 11 43.1 +2.9
	comp=Z,15nm,0.8s,baz=58,slow=5.8,SNR=6.1					
URZ			LR		LR	05 23 23.4
	comp=Z,211nm,18.0s,baz=338,slow=35					
PALU	**Palau**	**32.26 302**	P		**P**	**05 11 51.5 +0.7**
	baz=32,SNR=4.0					
KNRA	**Kununurra**	**32.48 257**	P		**P**	**05 11 52.3 -0.4**
	baz=33,SNR=22					
BBOO	**Buckleboo**	**32.53 223**	P		**P**	**05 11 53.3 +0.4**
	baz=33,SNR=6.3					
RPZ	**Rata Peaks**	**34.27 168**	LR		LR	05 23 10.7
	comp=Z,260nm,19.2s,baz=310,slow=31					
FITZ	**Fitzroy Crossi**	**35.73 253**	P		**P**	**05 12 19.9 -0.9**
FITZ	**Fitzroy Crossi**	**35.73 253**	P		**P**	**05 12 19.9 -0.9**
	comp=Z,23nm,0.6s,baz=83,slow=7.5,SNR=140					
FITZ	**Fitzroy Crossi**	**35.73 253**	P		**P**	**05 12 20.4 -0.5**
	baz=36,SNR=6.4					
FORT	**Forrest**	**37.27 232**	P		**P**	**05 12 35.1 +1.4**
	baz=37,SNR=8.8					
BATI	**Baumata**	**37.39 267**	P		**P**	**05 12 35.3 +0.3**
BATI	**Baumata**	**37.39 267**	P		**P**	**05 12 35.3 +0.3**
	comp=Z,46nm,0.7s,baz=163,slow=4.8,SNR=6.2					
MBWA	**Marble Bar**	**41.67 250**	*e*P		**P**	**05 13 10.1 -0.4**
	comp=Z,24nm,0.6s					
CBIJ	**Chichi jima**	**41.71 333**	P		**P**	**05 13 08.7 -2.0**
CBIJ	**Chichi jima**	**41.71 333**	P		**P**	**05 13 08.7 -2.0**
	comp=Z,39nm,0.6s,baz=164,slow=20,SNR=3.2					
KAPI	**Kappang**	**41.85 274**	*e*P		**P**	**05 13 11.9 -0.2**
KAPI	**Kappang**	**41.85 274**	P		pP	05 13 26.1 -2.0
KAPI	**Kappang**	**41.85 274**	P		**P**	**05 13 09.9 -2.2**
	comp=Z,16nm,0.7s,baz=122,slow=7.3,SNR=7.8					
MEEK	**Meekatharra**	**43.71 242**	P		**P**	**05 13 27.6 +0.5**
	baz=44,SNR=25					
MEEK			S		**S**	**05 19 55.7 +2.7**
	baz=44,SNR=3.1					
MYLDM	**Lahad Datu**	**45.66 288**	P		**P**	**05 13 42.7 0.0**
TSM	**Tawau**	**45.97 286**	P		P	05 13 41.9 -3.3
BLDU	**Ballidu**	**46.34 237**	P		**P**	**05 13 48.2 +0.3**
	baz=46,SNR=7.1					
MORW	**Morawa**	**46.51 240**	P		**P**	**05 13 49.3 +0.1**
	baz=47,SNR=3.9					
NWAO	**Narrogin (SRO)**	**46.60 234**	*e*P		**P**	**05 13 50.3 +0.4**
NWAO	**Narrogin (SRO)**	**46.60 234**	P		**P**	**05 13 49.5 -0.4**
	comp=Z,14nm,0.9s,baz=126,slow=6.4,SNR=4.1					
PPT	**Papeete**	**47.76 104**	LR		LR	05 28 26.5
	comp=Z,114nm,20.4s,baz=206,slow=29					
PPT2	**Papeete2**	**47.76 104**	*e*LQ		LQ	05 25 45.8
	comp=Z,240nm,33.0s					
PPT2			*e*LR		LR	05 27 48.3
	comp=Z,147nm,24.8s					
KDM	**Kudat**	**47.82 289**	P		**P**	**05 13 58.8 -0.7**
KKM	**Kota Kinabalu**	**48.10 288**	*e*P		**P**	**05 14 01.4 -0.4**
	comp=Z,12nm,0.4s					
KKM	**Kota Kinabalu**	**48.10 288**	P		**P**	**05 14 00.9 -1.0**
JOW	**Kunigami**	**49.13 319**	*e*P		**P**	**05 14 09.7 +0.2**
	comp=Z,6.1nm,0.6s					
JOW			*e*pP		pP	05 14 32.2 +6.4
UGM	**Wanagama**	**50.52 268**	P		**P**	**05 14 19.5 -0.8**
	baz=51,SNR=5.6					
OPA	**Opana**	**50.76 51**	*e*P		P	05 14 24.9 +3.0
OPA	**Opana**	**50.76 51**	*e*P		P	05 14 24.9 +3.0
SBUM	**Sibu**	**50.83 282**	P		**P**	**05 14 23.9 +1.3**
MJAR	**Matsushiro Arr**	**51.56 336**	P		**P**	**05 14 26.6 -1.1**
MJAR	**Matsushiro Arr**	**51.56 336**	P		**P**	**05 14 26.6 -1.1**
	comp=Z,14nm,0.7s,baz=169,slow=8.7,SNR=36					
MJAR			LR		LR	05 34 27.4
	comp=Z,65nm,21.9s,baz=160,slow=34					
MAT	**Matsushiro**	**51.57 336**	P		**P**	**05 14 27.0 -0.7**
MAT			S		S	05 21 59.8 +16
YULB	**Yu-li**	**51.78 311**	*e*P		**P**	**05 14 28.2 -1.3**
	comp=Z,12nm,0.7s					
NACB	**Ninganchiao**	**52.02 312**	*e*P		**P**	**05 14 30.9 -0.4**
JNU	**Nakatsue**	**52.21 327**	*e*P		**P**	**05 14 32.4 -0.2**
	comp=Z,18nm,1.1s					
TPUB	**Ta-pu**	**52.23 310**	*e*P		**P**	**05 14 31.6 -1.3**
	comp=Z,24nm,0.8s					
SSLB	**Suanglung**	**52.27 311**	*e*P		**P**	**05 14 32.3 -0.9**
KSM	**Kuching**	**52.43 280**	*e*P		**P**	**05 14 33.5 -1.0**
	comp=Z,6.8nm,0.7s					
YHNB	**Yeheng**	**52.48 312**	*e*P		**P**	**05 14 34.2 -0.5**
	comp=Z,22nm,0.6s					
ASAJ	**Asahikawa**	**56.87 344**	*e*P		**P**	**05 15 07.1 +1.1**
	comp=Z,12nm,0.7s					
ASAJ	**Asahikawa**	**56.87 344**	LR		LR	05 40 00.4
	comp=Z,123nm,19.0s,baz=347,slow=36					
KSRS	**Korea Array**	**57.08 328**	P		**P**	**05 15 07.3 -0.3**
	comp=Z,14nm,1.0s,baz=143,slow=7.4,SNR=26					
KSRS			pP		**pP**	**05 15 23.1 -1.3**
	comp=Z,10nm,1.1s,baz=135,slow=6.9,SNR=5.7					
KSRS			LR		LR	05 35 27.8
	comp=Z,85nm,21.9s,baz=306,slow=32					
KSAR	**Wonju Array Be**	**57.09 328**	P		**P**	**05 15 07.3 -0.4**
KSAR			pP		**pP**	**05 15 23.1 -1.4**
NJ2	**Nanjing**	**58.73 318**	*e*P		**P**	**05 15 20.3 +0.9**
NJ2			pmax		pmax	
	comp=Z,50nm,1.1s					
QIZ	**Qiongzhong**	**58.82 300**	P		**P**	**05 15 20.0 -0.3**
QIZ			S		**S**	**05 23 18.8 -2.6**
KGM	**Kluang**	**59.35 279**	P		**P**	**05 15 25.0 +0.9**
YSS	**Yuzh-Sakhalins**	**59.45 345**	*e*P		**P**	**05 15 25.4 +1.3**
YSS			pmax		pmax	
	comp=Z,30nm,0.7s					
USRK	**Ussuriysk Arra**	**60.56 336**	P		**P**	**05 15 32.5 +0.8**
	comp=Z,40nm,0.8s,baz=146,slow=6.4,SNR=62					
WHN	**Wuhan**	**60.95 313**	P		**P**	**05 15 34.0 -0.6**
FRIM	**Kepong**	**61.28 279**	P		**P**	**05 15 36.9 -0.3**
MDJ	**Mudanjiang**	**61.90 335**	P		**P**	**05 15 41.5 +0.8**
MDJ			pP		pP	05 16 03.0 +5.3
MDJ			sP		sP	05 16 12.3 +7.5
MDJ			PP		**PP**	**05 17 59.8 +2.0**
MDJ			S		**S**	**05 24 01.3 +1.5**
MDJ			sS		sS	05 24 36.8 +8.4
MDJ			pmax		pmax	
	comp=Z,23nm,1.1s					
MDJ			pmax		pmax	
	comp=Z,45nm,4.1s					
MDJ	**Mudanjiang**	**61.90 335**	*e*P		**P**	**05 15 41.6 +0.8**
	comp=Z,14nm,0.8s					
KULM	**Kulim**	**62.71 281**	*e*P		**P**	**05 15 45.1 -1.8**
	comp=Z,8.2nm,0.7s					
KULM	**Kulim**	**62.71 281**	P		**P**	**05 15 46.9 0.0**
CN2	**Changchun**	**63.11 331**	*e*P		**P**	**05 15 48.8 -0.1**
CN2			*e*pP		**pP**	**05 16 08.5 +2.6**
CN2			*e*PP		**PP**	**05 18 10.3 +1.7**
CN2			*e*S		**S**	**05 24 12.8 -2.3**
CN2			pmax		pmax	
	comp=Z,50nm,0.8s					
CN2			pmax		pmax	
	comp=Z,100nm,3.0s					
CN2			LR		LR	
	comp=N,160nm,17.0s					
CN2			LR		LR	
	comp=E,150nm,17.0s					
CN2			LR		LR	
	comp=Z,120nm,17.0s					
PETK	**Petropavlovsk-**	**63.25 357**	P		**P**	**05 15 50.3 +0.7**
PETK			*PP		**pP**	**05 16 05.4 -1.2**
PETK	**Petropavlovsk-**	**63.25 357**	P		**P**	**05 15 50.3 +0.7**
PETK			pP		**pP**	**05 16 05.4 -1.2**
PETK	**Petropavlovsk-**	**63.25 357**	P		**P**	**05 15 50.3 +0.7**
	comp=Z,11nm,0.8s,baz=165,slow=8.5,SNR=14					
PETK			pP		**pP**	**05 16 05.4 -1.2**
	comp=Z,9.6nm,0.9s,baz=149,slow=6.9,SNR=5.5					
PETK			LR		LR	05 37 28.1
	comp=Z,62nm,20.7s,baz=354,slow=30					
FX1	**Attu Island--F**	**63.70 8**	*e*P		**P**	**05 15 53.9 +1.3**
FX1	**Attu Island--F**	**63.70 8**	LR		LR	05 38 42.6
	comp=Z,61nm,20.2s,baz=58,slow=31					
PSI	**Prapat**	**63.80 278**	P		**P**	**05 15 52.0 -2.2**
PSI	**Prapat**	**63.80 278**	P		**P**	**05 15 52.0 -2.2**
	comp=Z,2.0nm,0.4s,baz=142,slow=20,SNR=2.8					
GYA	**Guiyang**	**64.72 306**	*e*P		**P**	**05 16 01.0 +1.0**
GYA			pP		pP	05 16 22.5 +5.5
GYA			sP		sP	05 16 33.0 +8.9
GYA			PP		**PP**	**05 18 26.5 +3.4**
GYA			ScP			05 20 27.0
GYA			PcS			05 20 36.0
GYA			S		**S**	**05 24 31.3 -4.6**
GYA			sS		sS	05 25 10.5 +5.8
GYA			SKS		**SKSac**	**05 25 43.5 -5.9**
GYA			pmax		pmax	
	comp=Z,10.0nm,1.0s					
GYA			pmax		pmax	
	comp=Z,110nm,5.2s					
KLR	**Kul'dur**	**64.86 339**	*e*P		**P**	**05 15 57.6 -2.6**
CASY	**Casey**	**65.65 200**	*e*P		**P**	**05 16 05.0 -0.1**
	comp=Z,5.7nm,0.8s					
LOEI	**Loei**	**65.76 294**	P		**P**	**05 16 07.0 +0.3**
	comp=Z,6.9nm,1.1s					
XAN	**Xi'an**	**66.70 314**	P		**P**	**05 16 11.3 -1.2**
XAN			S		S	05 24 47.0 -13
XAN			pmax		pmax	
	comp=Z,7.0nm,0.6s					
XAN			pmax		pmax	
	comp=Z,16nm,5.6s					
XAN			LR		LR	
	comp=N,56nm,16.3s					
VNDA	**Vanda**	**67.20 180**	*e*P		**P**	**05 16 16.1 +1.2**
VNDA	**Vanda**	**67.20 180**	P		**P**	**05 16 15.8 +1.0**
	comp=N,3.8nm,0.7s,baz=344,slow=6.4,SNR=27					
VNDA			LR		LR	05 39 32.5
	comp=N,94nm,21.2s,baz=353,slow=30					
KMI	**Kunming**	**67.34 303**	P		**P**	**05 16 18.8 +1.9**
KMI			pmax		pmax	
	comp=Z,6.0nm,0.8s					
LAMP	**Lampang**	**67.56 295**	P		**P**	**05 16 19.6 +1.4**
	comp=Z,5.9nm,0.7s					
SBA	**Scott Base**	**67.58 179**	P		**P**	**05 16 18.8 +1.5**
SBA			pmax		pmax	
	comp=Z,103nm,2.6s					
SBA	**Scott Base**	**67.58 179**	P		**P**	**05 16 18.8 +1.5**
	comp=Z,103nm,2.6s					
CM31	**Chiang Mai Arr**	**68.16 295**	*e*P		**P**	**05 16 22.0 +0.1**
	comp=Z,5.4nm,0.9s					
CMAR	**Chiang Mai Arr**	**68.16 295**	P		**P**	**05 16 21.9 0.0**
CMAR	**Chiang Mai Arr**	**68.16 295**	P		**P**	**05 16 21.9 0.0**
	comp=Z,3.1nm,0.6s,baz=127,slow=5.2,SNR=16					
HHC	**Hu-ho-hao-te**	**68.72 321**	*e*P		**P**	**05 16 25.5 +0.4**
HHC			pP		**PcP**	**05 16 49.0 -0.5**
HHC			sP		sP	05 17 00.0 +11
HHC			PP		**PP**	**05 18 59.5 +1.8**
HHC			PcS			05 20 52.0
HHC			S		S	05 25 18.3 -5.4
HHC			sS		sS	05 26 01.0 +8.2
HHC			ScS		**SKiKP**	**05 26 11.5 -0.6**
HHC			pmax		pmax	
	comp=Z,40nm,0.9s					
HHC			pmax		pmax	
	comp=Z,100nm,5.1s					
HHC			LR		LR	
	comp=Z,150nm,16.9s					
CD2	**Chengdu**	**69.00 309**	*e*P		**P**	**05 16 28.5 +1.5**
CD2			pP		**PcP**	**05 16 51.0 +0.1**
CD2			S		**S**	**05 25 24.8 -2.5**
CD2			sS		sS	05 26 03.8 +7.4
CD2			SS		**SS**	**05 29 53.5 -0.9**
CD2			pmax		pmax	
	comp=Z,40nm,1.2s					
CD2			pmax		pmax	
	comp=Z,120nm,6.8s					
CD2			LR		LR	
	comp=N,90nm,17.8s					
CD2			LR		LR	
	comp=Z,160nm,13.2s					
HIA	**Hailar**	**69.80 332**	*e*P		**P**	**05 16 31.9 +0.4**
	comp=Z,41nm,1.0s					
LZH	**Lanzhou**	**71.33 314**	*e*P		**P**	**05 16 42.5 +1.2**
LZH			pP		**PcP**	**05 17 03.5 +2.7**
LZH			sP		sP	05 17 12.8 +7.2
LZH			pmax		pmax	
	comp=Z,18nm,0.9s					
LZH			pmax		pmax	
	comp=Z,96nm,4.0s					
ULN	**Ulaanbaatar**	**75.39 325**	*e*P		**P**	**05 17 05.5 +0.6**
	comp=Z,25nm,0.8s					
ULN	**Ulaanbaatar**	**75.39 325**	P		**P**	**05 17 05.5 +0.6**
GTA	**Gaotai**	**75.69 315**	⇑P		**P**	**05 17 07.3 +0.5**
GTA			S		**S**	**05 26 42.5 -1.2**
GTA			SKS		**SKSac**	**05 27 07.5 -4.3**
GTA			SS		**SS**	**05 31 37.3 +0.7**
GTA			pmax		pmax	
	comp=Z,12nm,1.0s					
GTA			pmax		pmax	
	comp=Z,76nm,7.1s					
GTA			LR		LR	
	comp=N,160nm,20.6s					
GTA			LR		LR	
	comp=E,180nm,19.0s					
GTA			LR		LR	
	comp=Z,83nm,18.1s					
SONM	**Songino Array**	**75.74 325**	P		**P**	**05 17 07.5 +0.6**
SONM			pP		**pP**	**05 17 22.6 -1.7**
SONM	**Songino Array**	**75.74 325**	P		**P**	**05 17 07.5 +0.6**
	comp=Z,25nm,0.7s,baz=142,slow=5.8,SNR=152					
SONM			pP		**pP**	**05 17 22.6 -1.7**
	comp=Z,10.0nm,0.5s,baz=140,slow=6.2,SNR=10					
SONM			LR		LR	05 49 05.5
	comp=Z,43nm,21.9s,baz=54,slow=34					
YAK	**Yakutsk**	**76.31 345**	*e*P		**P**	**05 17 09.7 +0.1**
YAK			pmax		pmax	
	comp=E,5.0nm,1.1s					
YAK			pmax		pmax	
	comp=Z,31nm,0.8s					
YAK			pmax		pmax	
	comp=N,14nm,1.4s					
ZAK	**Zakamensk**	**78.83 326**	*e*P		**P**	**05 17 23.2 -0.9**
ZAK			*e*			05 17 39.1
ZAK			pmax		pmax	
	comp=Z,12nm,1.0s					
QSPA	**South Pole Qui**	**79.69 180**	*e*P		**P**	**05 17 28.8 +0.1**
	comp=Z,10nm,0.9s					
SML	**Sawmill**	**81.72 22**	*e*P		**P**	**05 17 40.8 +1.5**
SML			pmax		pmax	
	comp=Z,3.0nm,0.9s					
SML	**Sawmill**	**81.72 22**	*e*P		**P**	**05 17 40.8 +1.5**
	comp=Z,3.4nm,0.9s					
TRF	**Thorofare Moun**	**82.13 20**	*e*P		**P**	**05 17 41.2 -0.4**
	comp=Z,13nm,0.8s					
DIV	**Divide**	**82.24 23**	*e*P		**P**	**05 17 43.8 +1.6**
	comp=Z,15nm,0.8s					
BPAW	**Bear Paw Mtn.**	**82.34 19**	*e*P		**P**	**05 17 42.8 +0.3**
	comp=Z,9.1nm,1.0s					
BMRM	**Bremner River**	**82.59 23**	*e*P		**P**	**05 17 46.5 +2.6**
	comp=Z,20nm,1.1s					
MCK	**McKinley**	**82.77 20**	*e*P		**P**	**05 17 45.7 +0.9**
MCK	**McKinley**	**82.77 20**	*e*P		**P**	**05 17 45.7 +0.9**
	comp=Z,55nm,0.9s					
IM04	**Indian Mountai**	**82.82 17**	*e*P		**P**	**05 17 46.4 +1.4**
IMA2	**Indian Mountai**	**82.91 17**	*e*P		**P**	**05 17 46.9 +1.3**
COLA	**College**	**83.88 19**	*e*P		**P**	**05 17 50.7 +0.3**
COLA	**College**	**83.88 19**	*e*P		**P**	**05 17 50.7 +0.3**
	comp=Z,130nm,0.9s					
MAW	**Mawson**	**83.89 202**	P		**P**	**05 17 50.9 +0.4**
MAW	**Mawson**	**83.89 202**	P		**P**	**05 17 50.9 +0.4**
	comp=Z,4.1nm,0.8s,baz=104,slow=8.0,SNR=4.3					
MAW			LR		LR	05 50 07.5
	comp=Z,121nm,21.5s,baz=143,slow=32					
MAW	**Mawson**	**83.89 202**	P		pP	05 18 05.7 -2.5
	baz=84,SNR=6.6					
MENT	**Mentasta**	**84.11 22**	*e*P		**P**	**05 17 53.5 +1.8**
ILAR	**Eielson Array**	**84.13 20**	P		**P**	**05 17 52.0 +0.3**
ILAR			pP		**pP**	**05 18 07.8 -1.5**
ILAR	**Eielson Array**	**84.13 20**	P		**P**	**05 17 52.0 +0.3**
	comp=Z,14nm,1.0s,baz=249,slow=4.6,SNR=74					
ILAR			pP		**pP**	**05 18 07.8 -1.5**
	comp=Z,2.6nm,0.7s,baz=247,slow=5.1,SNR=3.6					
ILAR			LR		LR	05 50 53.5
	comp=Z,72nm,19.1s,baz=246,slow=32					
TIXI	**Tiksi**	**84.64 350**	*e*P		**P**	**05 17 53.5 -0.6**
TIXI			pmax		pmax	
	comp=Z,11nm,1.0s					
COLD	**Coldfoot**	**84.72 17**	*e*P		**P**	**05 17 56.3 +1.7**
	comp=Z,5.1nm,0.9s					
WMQ	**Urumqi**	**85.76 316**	*e*P		**P**	**05 18 00.5 +0.1**
WMQ			SKS		SKSac	05 28 12.5 -8.2
WMQ			sS		sS	05 29 02.8 +4.4
WMQ			SS		**SS**	**05 34 05.3 -1.3**
WMQ			pmax		pmax	
	comp=Z,4.0nm,1.0s					
WMQ			pmax		pmax	
	comp=Z,140nm,5.2s					
WMQ			LR		LR	
	comp=N,44nm,27.0s					
WMQ			LR		LR	
	comp=E,47nm,16.0s					
EGAK	**Eagle**	**86.10 21**	*e*P		**P**	**05 18 03.3 +1.8**
	comp=E,39nm,1.2s					
YBH	**Yreka Blue Hor**	**86.27 47**	*e*P		**P**	**05 18 05.1 +2.1**
	comp=E,15nm,1.4s					
YBH	**Yreka Blue Hor**	**86.27 47**	P		**P**	**05 18 05.4 +2.4**
	comp=E,3.7nm,0.8s,baz=270,slow=17					
DAWY	**Dawson**	**86.35 22**	*e*P		**P**	**05 18 04.7 +1.8**
WAKR	**Walker**	**87.79 50**	*e*P		**P**	**05 18 12.9 +2.3**
	comp=E,6.2nm,1.2s					
NVAR	**Mina Array Bea**	**88.63 51**	P		**P**	**05 18 16.4 +1.8**
NVAR			pP		**pP**	**05 18 32.3 -0.2**
NVAR	**Mina Array Bea**	**88.63 51**	P		**P**	**05 18 16.4 +1.8**
	comp=E,3.8nm,0.8s,baz=232,slow=7.1,SNR=27					
NVAR			pP		**pP**	**05 18 32.3 -0.2**
	comp=E,1.4nm,0.7s,baz=232,slow=6.7,SNR=4.0					
PFO	**Pinyon Flat Ob**	**88.96 56**	LR		LR	05 48 48.5
	comp=E,120nm,21.2s,baz=59,slow=29					
WVOR	**Wild Horse Val**	**89.37 47**	*e*P		**P**	**05 18 20.0 +2.1**
WVOR			pmax		pmax	
	comp=Z,12nm,1.1s					
WVOR	**Wild Horse Val**	**89.37 47**	*e*P		**P**	**05 18 20.0 +2.1**
	comp=Z,12nm,1.1s					
MK31	**Makanchi Array**	**90.26 318**	*e*P		**P**	**05 18 21.1 -0.7**
MK31	**Makanchi Array**	**90.26 318**	*e*P		**P**	**05 18 21.1 -0.7**
MKAR	**Makanchi Array**	**90.26 318**	P		**P**	**05 18 21.1 -0.7**
MKAR	**Makanchi Array**	**90.26 318**	P		**P**	**05 18 21.1 -0.7**
MKAR	**Makanchi Array**	**90.26 318**	P		**P**	**05 18 21.1 -0.7**
	comp=Z,6.6nm,0.4s,baz=96,slow=6.1,SNR=88					
MKAR			LR		LR	06 00 13.6
	comp=Z,33nm,20.0s,baz=351,slow=36					
LDFC	**Landfair**	**90.36 55**	*e*P		**P**	**05 18 25.2 +2.5**
	comp=Z,15nm,0.8s					
INK	**Inuvik**	**90.53 20**	*e*P		**P**	**05 18 23.8 +1.4**
	comp=Z,5.5nm,1.3s					
SHPR	**Sheep Range**	**90.63 53**	*e*P		**P**	**05 18 26.6 +2.7**
	comp=Z,14nm,1.2s					
ZALV	**Zalesovo Beam**	**90.63 325**	*i* P		**P**	**05

EKS2	Erkin-Say	95.36	312	P	P	05 18 46.0	+0.5
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	96.01	48	P	P	05 18 50.1	+1.4
PDAR	Pinedale Array	96.01	48	P	P	05 18 50.1	+1.4
	comp=Z,0.7nm,0.9s,baz=249,slow=1.9,SNR=5.3						
PDAR				LR	LR	05 53 33.4	
	comp=Z,48nm,20.5s,baz=253,slow=30						
YKA	Yellowknife Ar	96.17	28	P	P	05 18 48.9	+0.3
YKA	Yellowknife Ar	96.17	28	P	P	05 18 48.8	+0.3
	comp=Z,3.6nm,0.8s,baz=254,slow=4.8,SNR=14						
SNAA	Sanae	97.55	185	eP	Pdif	05 18 54.5	-0.5
SNAA	Sanae	97.55	185	eP	Pdif	05 18 54.5	-0.4
SNAA	Sanae	97.55	185	P	P	05 18 53.8	-1.1
	comp=Z,0.4nm,0.7s,baz=176,slow=2.7,SNR=17						
VNA2	Neumayer--Watz	98.62	184	eP	P	05 18 58.9	-0.7
BRVK	Borovoye	98.98	322	eP	Pdif	05 19 00.0	-1.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TXAR	Lajitas Array	99.00	62	P	Pdif	05 19 04.7	+2.4
TXAR	Lajitas Array	99.00	62	P	Pdif	05 19 04.7	+2.4
	comp=Z,0.2nm,0.6s,baz=240,slow=4.2,SNR=3.5						
TXAR				LR	LR	05 54 05.1	
	comp=Z,65nm,20.6s,baz=290,slow=30						
ARCES	ARCESS Array B	114.58	344	PKP	PKPdf	05 23 59.5	-0.8
ARCES	ARCESS Array B	114.58	344	PKP	PKPdf	05 23 59.5	-0.8
	comp=Z,1.9nm,0.8s,baz=92,slow=1.7,SNR=13						
SADO	Sadowa	117.81	45	PKP	PKPdf	05 24 06.5	-0.8
SADO	Sadowa	117.81	45	PKP	PKPdf	05 24 06.5	-0.8
	comp=Z,4.9nm,0.7s,baz=205,slow=7.1,SNR=4.9						
NCB	Newcomb	121.42	44	ePKPdf	PKPdf	05 24 14.4	+0.1
SCHQ	Schefferville	121.48	31	PKP	PKPdf	05 24 13.1	-1.0
SCHQ	Schefferville	121.48	31	PKP	PKPdf	05 24 13.1	-1.0
	comp=Z,4.2nm,0.7s,baz=248,slow=11,SNR=3.4						
AKASG	Malin Array Be	124.02	326	PKIKP	PKPdf	05 24 18.4	-0.6
AKASG	Malin Array Be	124.02	326	PKP	PKPdf	05 24 18.4	-0.6
AKASG	Malin Array Be	124.02	326	PKP	PKPdf	05 24 18.4	-0.6
	comp=Z,0.5nm,0.3s,baz=104,slow=1.1,SNR=3.2						
LPAZ	La Paz	124.08	118	PKP	PKPdf	05 24 21.2	+0.2
LPAZ	La Paz	124.08	118	PKP	PKPdf	05 24 21.2	+0.2
	comp=Z,1.2nm,0.9s,baz=176,slow=1.9,SNR=4.7						
NOA	NORSAR Array B	124.89	343	PKP	PKPdf	05 24 20.0	-0.5
NOA	NORSAR Array B	124.89	343	PKP	PKPdf	05 24 20.0	-0.5
	comp=Z,0.7nm,0.6s,baz=53,slow=2.2,SNR=3.4						
BRTR	Keskin Array B	125.50	312	PKP	PKPdf	05 24 21.4	-1.1
BRTR	Keskin Array B	125.50	312	PKP	PKPdf	05 24 21.4	-1.1
	comp=Z,0.6nm,0.7s,baz=20,slow=4.7,SNR=2.9						
CPUP	Villa Florida	127.44	135	PKP	PKPdf	05 24 25.8	-0.6
CPUP	Villa Florida	127.44	135	PKP	PKPdf	05 24 25.8	-0.6
	comp=Z,0.3nm,0.4s,baz=189,slow=5.9,SNR=3.7						
CONA	Conrad Observa	132.76	329	⇑iPKiKP	PKiKP	05 24 36.8	-0.3
	comp=Z,4.0nm,1.2s						
EKA	Eskdalemuir Ar	133.52	348	PKP	PKPdf	05 24 37.1	+0.1
EKA	Eskdalemuir Ar	133.52	348	PKP	PKPdf	05 24 37.1	+0.1
	comp=Z,0.6nm,0.5s,baz=27,slow=2.1,SNR=4.0						
KEST	Kesra	144.33	320	ePKPdf	PKPbc	05 24 55.7	-0.2
KEST				PKP	PKPab	05 24 55.9	+0.3
KEST	Kesra	144.33	320	PKP	PKPbc	05 24 55.9	0.0
	comp=Z,2.8nm,0.8s,baz=318,slow=5.7,SNR=9.0						
PBRG	Braganca	147.01	344	ePKPbc	PKPbc	05 25 03.9	+0.1
MVO	Moncorvo	147.69	344	ePKPbc	PKPbc	05 25 06.3	+0.5
ESDC	Sonseca Array	148.08	339	PKPbc	PKPbc	05 25 06.8	-0.1
ESDC	Sonseca Array	148.08	339	PKPbc	PKPbc	05 25 06.8	-0.1
	comp=Z,1.4nm,0.6s,baz=21,slow=3.0,SNR=7.5						
ESLA	Sonseca Array	148.08	339	ePKPbc	PKPbc	05 25 07.0	+0.2
ESLA				ePKPab	PKPab	05 25 10.3	+0.6
PVIS	Viseu	148.34	345	ePKPbc	PKPbc	05 25 08.0	+0.5
MTE	Manteigas	148.54	344	ePKPbc	PKPbc	05 25 08.6	+0.6
MTE	Manteigas	148.54	344	ePKPbc	PKPbc	05 25 08.3	+0.3
MTE				ePKPab	PKPab	05 25 12.3	+0.8
PCBR	Castelo Branco	149.04	344	ePKPbc	PKPbc	05 25 09.7	+0.5
PCAS	Casmilo, Conde	149.11	345	ePKPbc	PKPbc	05 25 09.5	+0.1
PMRV	Marv??o	149.40	343	ePKPbc	PKPbc	05 25 10.7	+0.5
PTOM	Tomar	149.50	345	ePKPbc	PKPbc	05 25 11.1	+0.7
PMTG	Montargil	149.97	344	ePKPbc	PKPbc	05 25 11.7	+0.2
PBAR	Barrancos	150.46	342	ePKPbc	PKPbc	05 25 13.2	+0.5
PBEJ	Beja	150.84	343	ePKPbc	PKPbc	05 25 14.6	+0.9
PNCL	Nicolau / Gran	150.95	344	ePKPbc	PKPbc	05 25 14.6	+0.7
PFVI	Vila Bisbo	151.94	344	ePKPbc	PKPbc	05 25 16.8	+0.6
TORD	Torodi Ar. Bea	160.19	280	PKP	PKPdf	05 25 21.6	+0.5
TORD				PKPab	PKPab	05 26 00.8	-0.9
TORD	Torodi Ar. Bea	160.19	280	PKP	PKPdf	05 25 21.6	+0.5
	comp=Z,0.9nm,0.9s,baz=28,slow=9.0,SNR=5.6						
TORD				PKPab	PKPab	05 26 00.8	-0.9
	comp=Z,1.7nm,0.9s,baz=72,slow=4.2,SNR=7.5						

*CSEM **27** 05:16:44.3, 13°.69N×45°.86E, h5km, ML3.8, After DHMR*
DHMR 27 05:16:44.3±0.9, 13°.69N×45°.86E, h6km±4km, ML3.8, 2C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	0.40	315	⇑iP	Pg	05 16 51.5	-0.9
BDHA				i S	Sg	05 16 58.1	+0.2
BDHA				AML	AML	05 16 58.4	
	comp=N,8μm,0.4s						
BDHA	Al Bayda'	0.40	315	⇑iP	Pg	05 16 51.5	-0.9
BDHA				i S	Sg	05 16 58.1	+0.2
	comp=N,4μm,0.4s						
DHBB	Dhamar BB	1.67	302	i P	Pn	05 17 14.7	+0.1
DHBB				i S	Sg	05 17 38.2	-0.6
DHBB	Dhamar BB	1.67	302	i P	Pn	05 17 14.7	+0.1
DHBB				i S	Sg	05 17 38.2	-0.6
TRBA	At Turbah	1.75	255	⇓iP	Pn	05 17 16.2	+0.6
TRBA				i S	Sg	05 17 40.9	-0.4
TRBA	At Turbah	1.75	255	⇓iP	Pn	05 17 16.2	+0.6
TRBA				i S	Sg	05 17 40.8	-0.5
UDYN	Al 'Udayn	1.86	279	i P	Pn	05 17 17.7	+0.7
UDYN				i S	Sb	05 17 42.8	+0.3
SANA	San'a	2.33	317	i S	Sb	05 17 57.8	+1.4
HAJJ	Hajjah	2.96	313	i P	Pn	05 17 34.7	+2.6
HAJJ				i S	Sb	05 18 14.0	-0.4
HAJJ				AML	AML	05 18 20.8	
	comp=Z,523nm,0.3s						
HAJJ	Hajjah	2.96	313	i P	Pn	05 17 34.7	+2.5
HAJJ				i S	Sb	05 18 14.0	-0.5
	comp=Z,262nm,0.3s						

*ISCJB **27** 05:18:12.1±0.4, 45°.39N±0°.02×25°.75E±0°.02, h106km±4km, Error ellipse: s-maj=3.8km s-min=2.9km az=7.2*
*SOF **27** 05:18:13.2, 45°.20N×25°.75E, h11km, MD3.0*
*CSEM **27** 05:18:13.1±0.1, 45°.38N×25°.74E, h100km, MD3.7/2, Error ellipse: s-maj=3.0km s-min=2.2km az=8.0*
*BUC **27** 05:18:13.1±0.5, 45°.40N×25°.76E, h100km±7km, MD3.7/2, Error ellipse: s-maj=4.5km s-min=3.6km az=17.0*
*BEO **27** 05:18:23.2±0.6, 45°.13N×24°.55E, h48km±3km, ML3.1/1*
ISC 27 05:18:12.5±1.2, 45°.39N±0°.02×25°.76E±0°.02, h105km±5km, n161, σ0°.83/220, 71C-41D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.17	53	⇓iP	Pn	05 18 27.4	-0.1
MLR	Muntele Rosu	0.17	53	⇓iP	Pn	05 18 27.4	-0.1
MLR				i S	Sn	05 18 37.6	-1.0
MLR	Muntele Rosu	0.17	53	⇓iP	Pn	05 18 27.4	-0.1
MLR				i S	Sn	05 18 37.6	-1.0
VOIR		0.50	276	⇓iP	Pn	05 18 28.7	-0.3
VOIR		0.50	276	⇓iP	Pn	05 18 28.7	-0.3
VOIR				i S	Sn	05 18 39.6	-1.7
VOIR		0.50	276	⇓iP	Pn	05 18 28.7	-0.3
VOIR				i S	Sn	05 18 39.6	-1.7
PLAR	PLOIESTI	0.51	158	⇑iP	Pn	05 18 29.5	+0.5
PLAR	PLOIESTI	0.51	158	⇑iP	Pn	05 18 29.5	+0.5
PLAR	PLOIESTI	0.51	158	⇑iP	Pn	05 18 29.5	+0.5
MTUR	Matau	0.52	252	⇓iP	Pn	05 18 29.1	0.0
MTUR	Matau	0.52	252	⇓iP	Pn	05 18 29.1	0.0
MTUR	Matau	0.52	252	⇓iP	Pn	05 18 29.1	0.0
ISR	Istrita	0.62	116	⇓iP	Pn	05 18 30.0	+0.2
ISR	Istrita	0.62	116	⇓iP	Pn	05 18 30.0	+0.2
ISR				i S	Sn	05 18 44.0	+1.2
ISR	Istrita	0.62	116	⇓iP	Pn	05 18 30.0	+0.2
ISR				i S	Sn	05 18 44.0	+1.2
PLOR	Plostina	0.78	53	⇑iP	Pn	05 18 31.0	-0.2
PLOR	Plostina	0.78	53	⇑iP	Pn	05 18 31.0	-0.2
PLOR				i S	Sn	05 18 44.3	-0.9
PLOR	Plostina	0.78	53	⇑iP	Pn	05 18 31.0	-0.2
PLOR				i S	Sn	05 18 44.3	-0.9
ARR	Arges	0.79	269	⇑iP	Pn	05 18 31.7	+0.4
ARR	Arges	0.79	269	⇑iP	Pn	05 18 31.7	+0.4
ARR				i S	Sn	05 18 44.5	-1.0
ARR	Arges	0.79	269	⇑iP	Pn	05 18 31.7	+0.4
ARR				i S	Sn	05 18 44.5	-1.0
SULR		0.79	153	⇓iP	Pn	05 18 31.8	+0.5
SULR		0.79	153	⇓iP	Pn	05 18 31.8	+0.5
SULR				i S	Sn	05 18 46.0	+0.7
SULR		0.79	153	⇓iP	Pn	05 18 31.8	+0.5
SULR				i S	Sn	05 18 46.0	+0.7
VRI	Vrincioaia	0.83	55	⇑iP	Pn	05 18 31.6	-0.1
VRI	Vrincioaia	0.83	55	⇑iP	Pn	05 18 31.6	-0.1
VRI				i S	Sn	05 18 45.2	-0.9
VRI	Vrincioaia	0.83	55	⇑iP	Pn	05 18 31.6	-0.1
VRI				i S	Sn	05 18 45.2	-0.9
GRER		0.86	90	⇑iP	Pn	05 18 33.5	+1.6
GRER		0.86	90	⇑iP	Pn	05 18 33.5	+1.6
GRER		0.86	90	⇑iP	Pn	05 18 33.5	+1.6
CIOR	Ciorogarla	0.94	175	⇓iP	Pn	05 18 33.2	+0.4
CIOR	Ciorogarla	0.94	175	⇓iP	Pn	05 18 33.2	+0.4
CIOR				i S	Sn	05 18 48.3	+0.3
CIOR	Ciorogarla	0.94	175	⇓iP	Pn	05 18 33.2	+0.4
CIOR				i S	Sn	05 18 48.3	+0.3
ODBI	Odobesti	0.99	67	⇑iP	Pn	05 18 34.6	+1.4
ODBI	Odobesti	0.99	67	⇑iP	Pn	05 18 34.6	+1.4
ODBI	Odobesti	0.99	67	⇑iP	Pn	05 18 34.6	+1.4
INCR	INCERC-Sediu C	0.99	163	⇑iP	Pn	05 18 33.6	+0.4
INCR	INCERC-Sediu C	0.99	163	⇑iP	Pn	05 18 33.6	+0.4
INCR				i S	Sn	05 18 49.0	+0.2
INCR	INCERC-Sediu C	0.99	163	⇑iP	Pn	05 18 33.6	+0.4
INCR				i S	Sn	05 18 49.0	+0.2
PGOR	Pogoanele	0.99	119	⇓iP	Pn	05 18 33.9	+0.7
PGOR	Pogoanele	0.99	119	⇓iP	Pn	05 18 33.9	+0.7
PGOR				i S	Sn	05 18 49.8	+0.9
PGOR	Pogoanele	0.99	119	⇓iP	Pn	05 18 33.9	+0.7
PGOR				i S	Sn	05 18 49.8	+0.9
CNCR	Cernica	1.01	159	⇓iP	Pn	05 18 33.9	+0.4
CNCR	Cernica	1.01	159	⇓iP	Pn	05 18 33.9	+0.4
CNCR				i S	Sn	05 18 49.4	+0.2
CNCR	Cernica	1.01	159	⇓iP	Pn	05 18 33.9	+0.4
CNCR				i S	Sn	05 18 49.4	+0.2
HUMR	Humele	1.02	213	⇓iP	Pn	05 18 33.9	+0.3
HUMR	Humele	1.02	213	⇓iP	Pn	05 18 33.9	+0.3
HUMR				i S	Sn	05 18 49.3	-0.1
HUMR	Humele	1.02	213	⇓iP	Pn	05 18 33.9	+0.3
HUMR				i S	Sn	05 18 49.3	-0.1
BUC1	Bucharest	1.06	169	⇓iP	Pn	05 18 34.5	+0.5
BUC1	Bucharest	1.06	169	⇓iP	Pn	05 18 34.5	+0.5
BUC1				i S	Sn	05 18 50.2	+0.1
BUC1	Bucharest	1.06	169	⇓iP	Pn	05 18 34.5	+0.5
BUC1				i S	Sn	05 18 50.2	+0.1
PETR	Petresti	1.09	72	⇑iP	Pn	05 18 35.1	+0.8
PETR	Petresti	1.09	72	⇑iP	Pn	05 18 35.1	+0.8
PETR				i S	Sn	05 18 51.3	+0.6
PETR	Petresti	1.09	72	⇑iP	Pn	05 18 35.1	+0.8
PETR				i S	Sn	05 18 51.3	+0.6
MDB	Medias	1.22	308	⇓iP	Pn	05 18 36.4	+0.6
MDB	Medias	1.22	308	⇓iP	Pn	05 18 36.4	+0.6
MDB				i S	Sn	05 18 54.4	+1.0
MDB	Medias	1.22	308	⇓iP	Pn	05 18 36.4	+0.6
MDB				i S	Sn	05 18 54.4	+1.0
TESR	Tescani	1.28	29	⇑iP	Pn	05 18 36.6	+0.1
TESR	Tescani	1.28	29	⇑iP	Pn	05 18 36.6	+0.1
TESR				i S	Sn	05 18 53.1	-1.5
TESR	Tescani	1.28	29	⇑iP	Pn	05 18 36.6	+0.1
TESR				i S	Sn	05 18 53.1	-1.5
AMRR	Amara	1.36	124	⇑iP	Pn	05 18 37.8	+0.4
AMRR	Amara	1.36	124	⇑iP	Pn	05 18 37.8	+0.4
AMRR				i S	Sn	05 18 56.5	+0.2
AMRR	Amara	1.36	124	⇑iP	Pn	05 18 37.8	+0.4
AMRR				i S	Sn	05 18 56.5	+0.2
LOT	Lotru	1.40	273	⇑iP	Pn	05 18 38.0	0.0
LOT	Lotru	1.40	273	⇑iP	Pn	05 18 38.0	0.0
LOT				i S	Sn	05 18 57.8	+0.5
LOT	Lotru	1.40	273	⇑iP	Pn	05 18 38.0	0.0
LOT				i S	Sn	05 18 57.8	+0.5
CFR	Carcaliu	1.69	96	⇓iP	Pn	05 18 40.9	-0.5
CFR	Carcaliu	1.69	96	⇓iP	Pn	05 18 40.9	-0.5
CFR				i S	Sn	05 19 02.2	-1.2
CFR	Carcaliu	1.69	96	⇓iP	Pn	05 18 40.9	-0.5
CFR				i S	Sn	05 19 02.2	-1.2
HARR	Harsova	1.69	114	⇑iP	Pn	05 18 41.6	+0.2
HARR	Harsova	1.69	114	⇑iP	Pn	05 18 41.6	+0.2
HARR	Harsova	1.69	114	⇑iP	Pn	05 18 41.6	+0.2
ZIMR		1.75	189	⇓iP	Pn	05 18 42.7	+0.5
ZIMR		1.75	189	⇓iP	Pn	05 18 42.7	+0.5
ZIMR				i S	Sn	05 19 04.4	-0.4
TLB	Topalu	1.81	116	⇑iP	Pn	05 18 43.1	+0.2
TLB	Topalu	1.81	116	⇑iP	Pn	05 18 43.1	+0.2
TLB				i S	Sn	05 19 04.5	-1.5
TLB	Topalu	1.81	116	⇑iP	Pn	05 18 43.1	+0.2
TLB				i S	Sn	05 19 04.5	-1.5
CVD	Cernavoda	1.94	123	⇑iP	Pn	05 18 45.0	+0.4
CVD	Cernavoda	1.94	123	⇑iP	Pn	05 18 45.0	+0.4
CVD				i S	Sn	05 19 08.5	-0.5
CVD	Cernavoda	1.94	123	⇑iP	Pn	05 18 45.0	+0.4
CVD				i S	Sn	05 19 08.5	-0.5
SRE	Strehaia	1.95	249	⇓iP	Pn	05 18 45.2	+0.5
SRE	Strehaia	1.95	249	⇓iP	Pn	05 18 45.2	+0.5
SRE				i S	Sn	05 19 08.9	-0.3
SRE	Strehaia	1.95	249	⇓iP	Pn	05 18 45.2	+0.5
SRE				i S	Sn	05 19 08.9	-0.3
LEOM	Leova	2.05	57	⇑iP	Pn	05 18 46.1	+0.2
LEOM	Leova	2.05	57	⇑iP	Pn	05 18 46.1	+0.2
LEOM				i S	Sn	05 19 09.9	-1.5
LEOM	Leova	2.05	57	⇑iP	Pn	05 18 46.1	+0.2
LEOM				i S	Sn	05 19 09.9	-1.5
DEV	Deva	2.06	285	i S	Sn	05 19 11.7	0.0
DEV	Deva	2.06	285	i S	Sn	05 19 11.7	0.0
DEV	Deva	2.06	285	i S	Sn	05 19 11.7	0.0
GZR	Gura Zlata	2.10	271	⇑iP	Pn	05 18 47.7	+1.1
GZR	Gura Zlata	2.10	271	⇑iP	Pn	05 18 47.7	+1.1
GZR				i S	Sn	05 19 13.6	+0.9
GZR	Gura Zlata	2.10	271	ePg	Pn	05 18 47.0	+0.4
GZR				eSg	Sn	05 19 05.6	-7.1
GZR	Gura Zlata	2.10	271	ePg	Pn	05 18 47.0	+0.4
GZR	Gura Zlata	2.10	271	⇑iP	Pn	05 18 47.7	+1.1
GZR				i S	Sn	05 19 13.6	+0.9
TIRR	Tirgusor	2.10	115	⇑iP	Pn	05 18 46.9	+0.3
TIRR	Tirgusor	2.10	115	⇑iP	Pn	05 18 46.9	+0.3
TIRR				i S	Sn	05 19 10.8	-1.9
TIRR	Tirgusor	2.10	115	⇑iP	Pn	05 18 46.9	+0.3
TIRR				i S	Sn	05 19 10.8	-1.9
SZH	Strazhica	2.13	177	i P	Pn	05 18 47.4	+0.4
SZH	Strazhica	2.13	177	i P	Pn	05 18 47.4	+0.4
TLCR		2.17	94	⇑iP	Pn	05 18 48.3	+0.9
TLCR		2.17	94	⇑iP	Pn	05 18 48.3	+0.9
TLCR				i S	Sn	05 19 14.3	+0.2
TLCR		2.17	94	⇑iP	Pn	05 18 48.3	+0.9
TLCR				i S	Sn	05 19 14.3	+0.2
PVL	Pavlikeni	2.19	188	i P	Pn	05 18 49.5	+1.7
PVL	Pavlikeni	2.19	188	i P	Pn	05 18 49.5	+1.7
BURAR	Bucovina Array	2.26	351	⇑iP	Pn	05 18 50.2	+1.5
BURAR	Bucovina Array	2.26	351	⇑iP	Pn	05 18 50.2	+1.5
BURAR	Bucovina Array	2.26	351	⇑iP	Pn	05 18 50.2	+1.5
DJES	Djerdap	2.41	254	ePg	Pn	05 18 49.8	-0.8
DJES				eSg	Sn	05 19 11.3	-8.4
DJES	Djerdap	2.41	254	ePg	Pn	05 18 49.8	-0.8
EFOR	EFORIE	2.43	122	⇑iP	Pn	05 18 51.6	+0.7
EFOR	EFORIE	2.43	122	⇑iP	Pn	05 18 51.6	+0.7
EFOR				i S	Sn	05 19 19.0	-1.3
EFOR	EFORIE	2.43	122	⇑iP	Pn	05 18 51.6	+0.7
EFOR				i S	Sn	05 19 19.0	-1.3
PSN	Preselentsi	2.43	134	i P	Pn	05 18 51.8	+0.9
PSN	Preselentsi	2.43	134	i P	Pn	05 18 51.8	+0.9
PRD	Provadia	2.49	151	i P	Pn	05 18 52.7	+1.1
PRD	Provadia	2.49	151	i P	Pn	05 18 52.7	+1.1
MPEP	Malo Peshtene	2.50	216	i P	Pn	05 18 52.3	+0.6
DRGR		2.54	305	⇑iP	Pn	05 18 52.7	+0.3
DRGR		2.54	305	⇑iP	Pn	05 18 52.7	+0.3
DRGR		2.54	305	ePn	Pn	05 18 52.5	+0.1
DRGR		2.54	305	ePn	Pn	05 18 52.5	+0.1
MANR	Mangalia	2.56	127	⇑iP	Pn	05 18 53.4	+0.8
MANR	Mangalia	2.56	127	⇑iP	Pn	05 18 53.4	+0.8
MANR				i S	Sn	05 19 22.5	-0.8
MANR	Mangalia	2.56	127	⇑iP	Pn	05 18 53.4	+0.8
MANR				i S	Sn	05 19 22.5	-0.8
KIS	Kishinev	2.67	52	e	Sn	05 19 24.0	-1.8
BZS	Buzias	2.92	276	⇑iP	Pn	05 18 57.2	-0.1
BZS	Buzias	2.92	276	⇑iP	Pn	05 18 57.2	-0.1
BZS	Buzias	2.92	276	⇑iP	Pn	05 18 57.2	-0.1
JMB	Yambol	2.98	168	i P	Pn	05 18 58.0	-0.2
JMB	Yambol	2.98	168	i P	Pn	05 18 58.0	-0.2
PGB	Panagyurishte	3.06	203	i P	Pn	05 19 00.5	+1.2
PGB	Panagyurishte	3.06	203	i P	Pn	05 19 00.5	+1.2
ZAPS	Zavoj	3.08	228	ePn	Pn	05 19 00.0	+0.5
ZAPS				eSg	Sn	05 19 34.8	-0.9
ZAPS	Zavoj	3.08	228	ePn	Pn	05 19 00.0	+0.5
ZAPS				eSg	Sn	05 19 34.8	-0.9
BOLS	Boljevac	3.13	241	eSn	Sn	05 19 23.9	-13
VTS	Vitosha	3.35	214	i P	Pn	05 19 03.7	+0.6
VTS	Vitosha	3.35	214	⇑iP	Pn	05 19 03.8	+0.6
VTS	Vitosha	3.35	214	⇑iP	Pn	05 19 03.8	+0.6
VTS				i S	Sn	05 19 40.6	-1.7
VTS	Vitosha	3.35	214	ePn	Pn	05 19 03.9	+0.7
VTS				eSn	Sn	05 19 34.1	-8.2
VTS	Vitosha	3.35	214	⇑iP	Pn	05 19 03.8	+0.6
VTS				i S	Sn	05 19 40.6	-1.7
RZN	Rozhen	3.78	192	i P	Pn	05 19 09.4	+0.4
RZN	Rozhen	3.78	192	i P	Pn	05 19 09.4	+0.4
BARS	Barje	3.83	229	ePn	Pn	05 19 09.7	+0.2
BARS	Barje	3.83	229	ePn	Pn	05 19 09.7	+0.2
GRUS	Gruza	3.90	249	ePn	Pn	05 19 08.9	-1.5
GRUS	Gruza	3.90	249	ePn	Pn	05 19 08.9	-1.5
SELS	Selova	3.97	239	ePn	Pn	05 19 11.5	+0.1
TRUS	Trudelj	3.98	255	ePn	Pn	05 19 10.5	-1.0
TRUS				eSn	Sn	05 19 43.1	-14
TRUS	Trudelj	3.98	255	ePn	Pn	05 19 10.5	-1.0
KOLS	Kolonicke sedl	4.27	327	eP	Pn	05 19 25.7	+10
DIVS	Divibare	4.30	255	ePn	Pn	05 19 14.3	-1.7
DIVS				eSn	Sn	05 19 50.5	-15
DIVS	Divibare	4.30	255	ePn	Pn	05 19 14.3	-1.7
CRVS	Cervenica-Dubn	4.58	322	eP	Pn	05 19 20.3	+0.8
KECS	Kecovo	4.75	312	eP	Pn	05 19 22.8	+0.9
KECS	Kecovo	4.75	312	ePg	Pn	05 19 22.8	+0.9
BBLS	Lazići	4.78	254	ePn	Pn	05 19 21.7	-0.7
BBLS				eSn	Sn	05 20 00.9	-16
BBLS	Lazići	4.78	254	ePn	Pn	05 19 21.7	-0.7
STHS	Stebnicka Huta	5.06	324	eP	Pn	05 19 28.1	+2.0
STHS	Stebnicka Huta	5.06	324	ePg	Pn	05 19 28.1	+2.0
VYHS	Vyhne	5.67	306	eP	Pn	05 19 35.3	+1.1
VYHS	Vyhne	5.67	306	ePg	Pn	05 19 35.3	+1.1

*ISCJB **27** 05:30:20.6±0.9, 14°.86N±0°.08×92°.62W±0°.07, h81km±9km, Error ellipse: s-maj=17.0km s-min=5.2km az=41.0*
*MEX **27** 05:30:20.5±0.6, 14°.78N×92°.56W, h92km±6km, MD4.0*
*CASC **27** 05:30:22.2±1.2, 15°.00N×92°.50W, h62km±29km, MD3.8*
ISC 27 05:30:22.0±1.6, 14°.91N±0°.09×92°.59W±0°.07, h72km±11km, n15, σ0°.76/22, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.31	90	eP	Pn	05 30 32.6	-0.9
THIG				i S	Sn	05 30 42.5	+0.5
PCIG		1.00	322	eP	Pn	05 30 40.4	-0.3
PCIG				i S	Sn	05 30 56.1	+1.6
JAT	Jato	1.09	123	eP	Pn	05 30 41.3	-0.5
CCIG	Comitan	1.43	18

ELBA	**Catalca**	**1.35**	**48**	*e*Pn	**Pn**	**05 41 40.1**	**-0.1**
ELBA				*e*Sn	**Sn**	**05 41 57.2**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.37**	**85**	*e*PN	**Pb**	**05 41 40.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.37**	**85**	*e*PN	**Pb**	**05 41 40.8**	**-0.3**
ARMT	**Armutlu**	**1.38**	**76**	*e*PN	**Pn**	**05 41 40.5**	**-0.1**
ARMT	**Armutlu**	**1.38**	**76**	*e*Pn	**Pn**	**05 41 40.5**	**-0.1**
ORLT	**Orhaneli**	**1.39**	**98**	*e*PN	**Pb**	**05 41 41.6**	**+0.1**
ORLT	**Orhaneli**	**1.39**	**98**	*e*Pn	**Pb**	**05 41 41.6**	**+0.1**
PHSR	**Pinarhisar**	**1.41**	**13**	*e*PN	**Pn**	**05 41 41.0**	**-0.1**
PHSR	**Pinarhisar**	**1.41**	**13**	*e*Pn	**Pn**	**05 41 41.0**	**-0.1**
CTKS	**Kestanelik-??a**	**1.45**	**47**	*e*PN	**Pn**	**05 41 41.7**	**+0.2**
CTKS	**Kestanelik-??a**	**1.45**	**47**	*e*Pn	**Pn**	**05 41 41.7**	**+0.2**
AKHS	**Akhisar**	**1.48**	**158**	*e*Pn	**Pb**	**05 41 42.7**	**-0.4**
AKHS				*e*Sn	**Sb**	**05 42 01.4**	**-0.2**
AKS	**Akhisar**	**1.48**	**158**	*e*PN	**Pn**	**05 41 42.0**	**+0.1**
AKS	**Akhisar**	**1.48**	**158**	*e*Pn	**Pn**	**05 41 42.0**	**+0.1**
LIA	**Limnos Island**	**1.52**	**257**	*e*PN	**Pn**	**05 41 42.7**	**+0.3**
LIA				*e*SN	**Sb**	**05 42 03.2**	**+0.5**
LIA	**Limnos Island**	**1.52**	**257**	*e*Pn	**Pn**	**05 41 42.7**	**+0.3**
CTYL	**Yal??k??y-??at**	**1.52**	**36**	*e*PN	**Pn**	**05 41 42.5**	**0.0**
CTYL	**Yal??k??y-??at**	**1.52**	**36**	*e*Pn	**Pn**	**05 41 42.5**	**0.0**
BGKT	**Bogazkoy**	**1.57**	**53**	*e*PN	**Pn**	**05 41 42.9**	**-0.3**
BGKT	**Bogazkoy**	**1.57**	**53**	*e*Pn	**Pn**	**05 41 42.9**	**-0.3**
GEMT	**Gemlik**	**1.60**	**83**	*e*PN	**Pn**	**05 41 43.9**	**+0.2**
GEMT	**Gemlik**	**1.60**	**83**	*e*Pn	**Pn**	**05 41 43.9**	**+0.2**
EDRB	**Edirne**	**1.62**	**350**	*e*PN	**Pn**	**05 41 43.9**	**0.0**
EDRB	**Edirne**	**1.62**	**350**	*e*Pn	**Pn**	**05 41 43.9**	**0.0**
BUY	**Buyukada**	**1.65**	**68**	*e*PN	**Pn**	**05 41 43.6**	**-0.7**
BUY	**Buyukada**	**1.65**	**68**	*e*Pn	**Pn**	**05 41 43.6**	**-0.7**
ISK	**Istanbul-Kandi**	**1.69**	**61**	*e*PN	**Pn**	**05 41 45.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.69**	**61**	*e*Pn	**Pn**	**05 41 45.2**	**+0.3**
YLV	**Yalova**	**1.76**	**79**	*e*PN	**Pn**	**05 41 45.5**	**-0.4**
YLV	**Yalova**	**1.76**	**79**	*e*Pn	**Pn**	**05 41 45.5**	**-0.4**
KLYT	**Kilyos**	**1.78**	**55**	*e*PN	**Pn**	**05 41 46.5**	**+0.4**
KLYT	**Kilyos**	**1.78**	**55**	*e*Pn	**Pn**	**05 41 46.5**	**+0.4**
IZM	**Izmir**	**1.86**	**176**	*e*PN	**Pn**	**05 41 47.5**	**+0.3**
IZM	**Izmir**	**1.86**	**176**	*e*Pn	**Pn**	**05 41 47.5**	**+0.3**
KDZ	**Kurdzhali**	**1.89**	**318**	*i* P	**Pn**	**05 41 47.9**	**+0.2**
KDZ	**Kurdzhali**	**1.89**	**318**	*i* P	**Pn**	**05 41 47.9**	**+0.2**
ADVT	**Abdulvahap**	**2.02**	**84**	*e*PN	**Pn**	**05 41 50.1**	**+0.7**
ADVT	**Abdulvahap**	**2.02**	**84**	*e*Pn	**Pn**	**05 41 50.1**	**+0.7**
CHOS	**Chios island**	**2.03**	**204**	*e*PB	**Pn**	**05 41 49.5**	**-0.2**
CHOS	**Chios island**	**2.03**	**204**	*e*Pb	**Pn**	**05 41 49.5**	**-0.2**
HRT	**Hereke**	**2.04**	**73**	*e*PN	**Pn**	**05 41 49.4**	**-0.2**
HRT	**Hereke**	**2.04**	**73**	*e*Pn	**Pn**	**05 41 49.4**	**-0.2**
CAVI	**Cavuskoy**	**2.10**	**90**	*e*PN	**Pn**	**05 41 51.0**	**+0.5**
CAVI	**Cavuskoy**	**2.10**	**90**	*e*Pn	**Pn**	**05 41 51.0**	**+0.5**
KULA	**Kula-Manisa**	**2.11**	**145**	*e*PN	**Pn**	**05 41 51.4**	**+0.6**
KULA	**Kula-Manisa**	**2.11**	**145**	*e*Pn	**Pn**	**05 41 51.4**	**+0.6**
SILT	**Sile**	**2.13**	**64**	*e*PN	**Pn**	**05 41 51.5**	**+0.6**
SILT	**Sile**	**2.13**	**64**	*e*Pn	**Pn**	**05 41 51.5**	**+0.6**
DIM	**Dimitrovgrad**	**2.15**	**327**	*i* P	**Pn**	**05 41 51.5**	**+0.3**
DIM	**Dimitrovgrad**	**2.15**	**327**	*i* P	**Pn**	**05 41 51.5**	**+0.3**
JMB	**Yambol**	**2.25**	**350**	*i* P	**Pn**	**05 41 54.0**	**+1.5**
JMB	**Yambol**	**2.25**	**350**	*i* P	**Pn**	**05 41 54.0**	**+1.5**
RZN	**Rozhen**	**2.31**	**309**	*i* P	**Pn**	**05 41 53.6**	**+0.1**
RZN	**Rozhen**	**2.31**	**309**	*i* P	**Pn**	**05 41 53.6**	**+0.1**
GPA	**Golpazari**	**2.45**	**88**	*e*PN	**Pn**	**05 41 56.0**	**+0.7**
GULT	**Gulveren**	**2.61**	**85**	*e*PN	**Pn**	**05 41 58.3**	**+0.7**
GULT	**Gulveren**	**2.61**	**85**	*e*Pn	**Pn**	**05 41 58.3**	**+0.7**
KHL	**Karahalli**	**2.69**	**135**	*e*PN	**Pn**	**05 41 59.6**	**+0.9**
KHL	**Karahalli**	**2.69**	**135**	*e*Pn	**Pn**	**05 41 59.6**	**+0.9**
NVR	**Nevrokopi**	**2.69**	**295**	*e*PN	**Pn**	**05 41 59.0**	**+0.3**
NVR	**Nevrokopi**	**2.69**	**295**	*e*Pn	**Pn**	**05 41 59.0**	**+0.3**
AOS	**Alonnisos**	**2.71**	**248**	*e*PN	**Pn**	**05 41 58.8**	**-0.1**
AOS	**Alonnisos**	**2.71**	**248**	*e*Pn	**Pn**	**05 41 58.8**	**-0.1**
PLG	**Polygyros**	**2.80**	**274**	*e*PN	**Pn**	**05 42 00.2**	**0.0**
PLG	**Polygyros**	**2.80**	**274**	*e*Pn	**Pn**	**05 42 00.2**	**0.0**
ROIA	**ROIAK**	**2.85**	**4**	*i* P	**Pn**	**05 42 01.7**	**+0.9**
MMB	**Musomiste**	**2.89**	**299**	*i* P	**Pn**	**05 42 01.2**	**-0.2**
MMB	**Musomiste**	**2.89**	**299**	*i* P	**Pn**	**05 42 01.2**	**-0.2**
MDUB	**Mudurnu**	**3.13**	**85**	*e*PN	**Pn**	**05 42 06.0**	**+1.2**
MDUB	**Mudurnu**	**3.13**	**85**	*e*Pn	**Pn**	**05 42 06.1**	**+1.2**
BODT	**Bodrum**	**3.19**	**177**	*e*PN	**Pn**	**05 42 06.7**	**+1.2**
BODT	**Bodrum**	**3.19**	**177**	*e*Pn	**Pn**	**05 42 06.7**	**+1.2**
SVRH	**Sivrihisar-ESK**	**3.50**	**102**	*e*PN	**Pn**	**05 42 10.9**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.50**	**102**	*e*Pn	**Pn**	**05 42 10.9**	**+1.1**
GRG	**Griva**	**3.65**	**283**	*e*PN	**Pn**	**05 42 12.9**	**+1.1**
GRG	**Griva**	**3.65**	**283**	*e*Pn	**Pn**	**05 42 12.9**	**+1.1**
VTS	**Vitosha**	**3.75**	**310**	⇑*i*P	**Pn**	**05 42 15.5**	**+2.2**
VTS	**Vitosha**	**3.75**	**310**	*e*Pn	**Pn**	**05 42 15.3**	**+2.0**
AGG	**Agios Georgios**	**3.88**	**253**	*e*PN	**Pn**	**05 42 15.6**	**+0.5**
AGG	**Agios Georgios**	**3.88**	**253**	*e*Pn	**Pn**	**05 42 15.6**	**+0.5**
MPEP	**Malo Peshtene**	**3.99**	**322**	*i* P	**Pn**	**05 42 16.8**	**+0.3**
TLP	**Topalu**	**4.39**	**9**	⇑*i*P	**Pb**	**05 42 30.2**	**-2.4**
BARS	**Barje**	**4.72**	**305**	*e*Pn	**Pn**	**05 42 27.5**	**+0.9**
CFR	**Carcaliu**	**4.98**	**8**	⇑*i*P	**Pn**	**05 42 30.5**	**+0.4**
CFR	**Carcaliu**	**4.98**	**8**	⇑*i*P	**Pn**	**05 42 30.5**	**+0.4**
MLR	**Muntele Rosu**	**5.30**	**351**	⇑*i*P	**Pn**	**05 42 36.8**	**+2.1**
MLR	**Muntele Rosu**	**5.30**	**351**	⇑*i*P	**Pn**	**05 42 36.8**	**+2.1**
VOIR		**5.40**	**344**	⇑*i*P	Pb	05 42 45.0	-4.9
PLOR	**Plostina**	**5.61**	**357**	⇑*i*P	**Pn**	**05 42 41.2**	**+2.5**
VRI	**Vrincioaia**	**5.62**	**357**	⇑*i*P	**Pn**	**05 42 41.0**	**+2.1**
TESR	**Tescani**	**6.27**	**357**	⇑*i*P	**Pn**	**05 42 48.6**	**+0.9**

*ISCJB **27** 05:44:03.2±0.8, 24°.5N±0°.1×94°.8E±0°.1, h104km, mb3.5/3, Error ellipse: s-maj=24.2km s-min=7.9km az=30.6*
*IDC **27** 05:44:05.9±4.1, 24°.29N×94°.51E, h123km±40km, mb3.4/3, mb1 3.4/4, mb1mx3.0/29, mbtmp3.2/4, Error ellipse: s-maj=180.4km s-min=19.2km az=59.0*

ISC 27 05:44:04.7±1.1, 24°.6N±0°.2×94°.8E±0°.1, h104km, n15, σ1§25/16, mb3.4/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.85**	**290**	*e*PN	**Pn**	**05 44 50.0**	**+1.3**
SHL				*e*SN	**Sn**	**05 45 23.0**	**+0.4**
TAPN	**Taplejung**	**6.98**	**295**	*e*P	**Pn**	**05 45 44.0**	**-0.6**
	19nm,0.3s						
ODAN	**Odare**	**7.09**	**290**	*e*P	**Pn**	**05 45 48.5**	**+2.5**
	16nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.20**	**147**	P	**Pn**	**05 45 47.6**	**+0.2**
	0.4nm,0.3s,baz=320,slow=14,SNR=4.5						
JIRN	**Jiri**	**8.35**	**293**	*e*P	**Pn**	**05 46 02.7**	**-0.6**
JIRN				*e*S	**Sn**	**05 47 34.7**	**-1.4**
GUN	**Gumba**	**8.70**	**294**	*e*P	**Pn**	**05 46 06.3**	**-1.7**
PKI	**Pulchoki**	**8.98**	**291**	*e*P	**Pn**	**05 46 12.0**	**+0.2**
	4.7nm,0.2s						
PKIN	**Phulchoki**	**8.99**	**291**	*e*P	**Pn**	**05 46 11.9**	**-0.1**
	5.0nm,0.2s						
KKN	**Kakani**	**9.16**	**292**	*e*P	**Pn**	**05 46 12.1**	**-2.0**
DMN	**Daman**	**9.25**	**291**	*e*P	**Pn**	**05 46 15.6**	**+0.2**
KOLN	**Koldanda**	**10.58**	**290**	*e*P	**Pn**	**05 46 33.2**	**-0.2**
	5.5nm,0.3s						
DANN	**Dangsing**	**10.61**	**293**	*e*P	Pn	05 46 30.0	-3.9
MKAR	**Makanchi Array**	**24.32**	**339**	P	**P**	**05 49 13.8**	**+1.2**
	2.9nm,0.5s,baz=149,slow=9.8,SNR=32						
KURBB	**Kurchatov Arra**	**28.89**	**338**	P	**P**	**05 49 54.1**	**+0.6**
	0.3nm,0.5s,baz=145,slow=9.9,SNR=5.7						
WRA	**Warramunga Arr**	**58.63**	**136**	P	**P**	**05 53 50.3**	**-0.9**
	0.4nm,1.1s,baz=322,slow=7.4,SNR=2.3						

IDC 27 05:57:37.2±5.8, 1°.88S×99°.15E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=276.3km s-min=22.9km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.79**	**120**	P	P	06 05 02.8	-1.2
	1.1nm,1.1s,baz=295,slow=8.4,SNR=6.6						
ASAR	**Alice Springs**	**40.01**	**126**	P	P	06 05 14.9	+0.6
	0.1nm,0.3s,baz=302,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	06 06 38.6	0.0
	0.2nm,0.6s,baz=151,slow=6.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**56.90**	**350**	P	P	06 07 23.4	-0.5
	0.4nm,0.3s,baz=180,slow=4.3,SNR=2.3						
TXAR	**Lajitas Array**	**145.12**	**36**	PKPbc	PKPbc	06 17 17.0	0.0
	0.1nm,0.4s,baz=223,slow=1.6,SNR=4.4						

MAN 27 06:01:46, 11°.50N×124°.39E, h17km, mb4.3, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.49**	**154**	*e*P	Pb	06 01 57.0	+0.7
OCLP				*e*S	Sn	06 02 05.4	-1.1
LLP	**Lapu-Lapu**	**1.25**	**199**	‖*e*P	Pn	06 02 08.4	-0.3
LLP				*e*S	Sn	06 02 25.4	+0.4
MSLP	**Maasin**	**1.43**	**161**	*e*P	Pb	06 02 12.4	+0.2
RCP	**Roxas**	**1.61**	**272**	‖*e*P	Pn	06 02 13.3	-0.4
RCP				*e*S	Sb	06 02 35.3	-0.1
GUIM	**Jordan**	**1.97**	**244**	*e*P	Pb	06 02 20.0	-1.4
GUIM				*e*S	Sb	06 02 45.7	+0.1

*ISCJB **27** 06:03:54.1±0.6, 32°.13N±0°.04×104°.51E±0°.10, h15km, mb3.6/5, Error ellipse: s-maj=12.3km s-min=5.3km az=15.2*
*IDC **27** 06:03:54.6±1.1, 31°.98N×104°.57E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/27, mbtmp3.6/6, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/41, Error ellipse: s-maj=92.4km s-min=19.2km az=60.0*
*BJI **27** 06:03:58.6, 32°.05N×104°.39E, h19km, ML3.4/13, Ms3.4/2, Ms7 3.2/2*

ISC 27 06:03:57.3±0.8, 32°.09N±0°.05×104°.31E±0°.09, h15km, n9, σ1§52/13, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.27**	**202**	Pn	**Pn**	**06 04 20.0**	**-0.6**
CD2				Pg	**Pb**	**06 04 21.0**	**0.0**
CD2				Sg	**Sg**	**06 04 39.3**	**+1.0**
CD2				smax	smax		
	comp=N,2μm,1.0s						
CD2				smax	smax		
	comp=E,4μm,1.1s						
LZH	**Lanzhou**	**4.01**	**355**	Pg	**Pg**	**06 05 13.0**	**-1.1**
LZH				Sg	**Sg**	**06 06 05.0**	**-1.0**
LZH				smax	smax		
	comp=N,110nm,0.9s						
LZH				smax	smax		
	comp=E,120nm,0.7s						
LZH				LR	LR		
	comp=N,340nm,6.0s						
LZH				LR	LR		
	comp=E,260nm,4.6s						
LZH				LR	LR		
	comp=Z,310nm,7.0s						
XAN	**Xi'an**	**4.33**	**62**	Pn	**Pn**	**06 05 02.8**	**+0.1**
XAN				Pg	Pg	06 05 17.0	-3.3
XAN				Sg	**Sb**	**06 06 06.3**	**+1.1**
XAN				smax	smax		
	comp=N,97nm,0.5s						
XAN				smax	smax		
	comp=E,42nm,0.6s						
XAN				LR	LR		
	comp=N,57nm,3.5s						
XAN				LR	LR		
	comp=E,29nm,4.5s						
XAN				LR	LR		
	comp=Z,17nm,3.5s						
SONM	**Songino Array**	**15.81**	**5**	Pn	**Pn**	**06 07 41.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=187,slow=8.4,SNR=2.6						
SONM				LR	LR	06 14 22.9	
	comp=Z,65nm,19.9s,baz=91,slow=40						
MKAR	**Makanchi Array**	**22.36**	**317**	P	**P**	**06 08 57.5**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=121,slow=13,SNR=3.1						
ZALV	**Zalesovo Beam**	**25.92**	**333**	P	**P**	**06 09 30.1**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=139,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**56.44**	**336**	P	**P**	**06 13 37.6**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=75,slow=9.2,SNR=4.2						
WRA	**Warramunga Arr**	**59.19**	**147**	P	**P**	**06 13 56.2**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=337,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**62.24**	**149**	P	**P**	**06 14 16.9**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=335,slow=6.6,SNR=3.5						

NNC 27 06:22:27.7±5.1, 37°.51N×70°.92E, h0km, mb3.5, mpv3.3, 2C-1D, Error ellipse: s-maj=55.2km s-min=39.5km az=67.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.59**	**357**	Pn	Pn	06 23 55.2	+3.0
	1.5nm,0.3s,baz=170,slow=12,SNR=35						
KK31				Sn	Sn	06 25 03.6	+6.4
	2.0nm,0.4s,baz=179,slow=21,SNR=12						
TKM2	**Tokmak 2**	**6.48**	**32**	⇑Pn	Pn	06 24 04.0	-0.6
	1.0nm,0.5s						
AB31	**Akbulak array**	**14.18**	**329**	⇓Pn	Pn	06 25 47.4	-2.2
	0.1nm,0.2s,baz=167,slow=12,SNR=6.8						
AB31				⇑Sn	Sn	06 28 29.2	+1.6
	0.4nm,0.6s						

IDC 27 06:28:13.7±9.2, 5°.82S×153°.04E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=287.0km s-min=35.1km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.97**	**231**	P	P	06 33 18.8	-1.2
	0.3nm,0.6s,baz=62,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**25.58**	**224**	P	P	06 33 45.5	+0.9
	0.1nm,0.4s,baz=62,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**81.24**	**319**	P	P	06 40 31.7	0.0
	2.0nm,0.7s,baz=101,slow=6.0,SNR=29						

*ISCJB **27** 06:45:58.3±0.5, 19°.93N±0°.06×63°.62W±0°.09, h33km, mb3.8/12, Error ellipse: s-maj=14.7km s-min=5.1km az=146.7*
*TRN **27** 06:45:59.0, 19°.75N×63°.28W, h7km, MD4.6*
*IDC **27** 06:46:00.2±0.7, 19°.86N×63°.72W, h36km±5km, mb3.6/11, mb1 3.9/12, mb1mx3.7/28, mbtmp3.7/12, ML3.3/1, Error ellipse: s-maj=20.3km s-min=12.3km az=49.0*

ISC 27 06:46:00.2±0.6, 19°.92N±0°.08×63°.6W±0°.1, h35km, n35, σ0§84/44, mb3.8/12, 10C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**2.71**	**162**	*e*P	**Pn**	**06 46 41.4**	**+0.2**
SKI	**Saint Kitts**	**2.71**	**162**	*e*P	**Pn**	**06 46 41.5**	**+0.3**
SKI				*e*S	**Sn**	**06 47 12.8**	**+0.1**
SKI				*e*S	**Sn**	**06 47 13.0**	**+0.2**
ANWB	**Willy Bob**	**2.84**	**142**	‖*e*P	**Pn**	**06 46 42.2**	**-0.9**
ANWB				*e*S	**Sn**	**06 47 13.8**	**-2.2**
NEV	**Hard Times**	**2.94**	**160**	*e*P	**Pn**	**06 46 45.5**	**+1.1**
NEV				*e*S	**Sn**	**06 47 17.8**	**-0.8**
BPA	**Boggy Peak**	**3.32**	**149**	*e*P	**Pn**	**06 46 50.3**	**+0.7**
BPA				*e*S	**Sn**	**06 47 27.2**	**-0.6**
SEG	**Port Louis**	**4.04**	**150**	*e*P	**Pn**	**06 46 59.2**	**-0.3**
LZG	**Guadaloupe-1**	**4.15**	**154**	*e*P	**Pn**	**06 47 00.9**	**-0.1**
SSG	**Sans Toucher**	**4.24**	**154**	⇑*i*P	**Pn**	**06 47 02.3**	**-0.1**
MLG	**Mont-d'or**	**4.25**	**154**	‖*e*P	**Pn**	**06 47 02.6**	**+0.1**
FNG	**Fond-Bernard**	**4.26**	**154**	⇑*i*P	**Pn**	**06 47 02.5**	**-0.2**
CRG	**Carmichael**	**4.28**	**154**	⇑*i*P	**Pn**	**06 47 02.9**	**-0.1**
ECG	**Echelle**	**4.29**	**154**	*e*P	**Pn**	**06 47 03.2**	**0.0**
SCG	**Saint Claude**	**4.29**	**154**	*e*P	**Pn**	**06 47 03.1**	**+0.1**
DOG	**Dongo Capester**	**4.31**	**153**	⇑*i*P	**Pn**	**06 47 03.8**	**+0.4**
PHG	**Guadaloupe-2**	**4.32**	**154**	*e*P	**Pn**	**06 47 03.9**	**+0.4**
HMG	**Houelmont**	**4.32**	**154**	⇑*i*P	**Pn**	**06 47 04.2**	**+0.7**
TBG	**Guadaloupe-3**	**4.46**	**155**	⇑*i*P	**Pn**	**06 47 05.4**	**0.0**
MGG	**Marie-Galante**	**4.55**	**151**	⇑*i*P	**Pn**	**06 47 06.5**	**0.0**
FDF	**Fort de France**	**5.67**	**155**	⇑*i*P	**Pn**	**06 47 21.7**	**-0.4**
MCLT	**Moule a Chique**	**6.69**	**157**	*e*P	**Pn**	**06 47 37.7**	**+1.7**
SVB	**Belmont**	**6.99**	**161**	*e*P	**Pn**	**06 47 40.6**	**+0.5**
TOSP	**Speyside**	**9.07**	**160**	*e*P	**Pn**	**06 48 11.0**	**+2.3**
ROSC	**El Rosal**	**18.23**	**216**	P	**Pn**	**06 50 11.0**	**0.0**
	2.2nm,0.3s,baz=278,slow=23,SNR=5.0						
TEIG	**Tepich**	**23.14**	**275**	P	**P**	**06 51 04.1**	**+0.6**
	4.8nm,1.0s,baz=338,slow=13,SNR=3.1						
TKL	**Tuckaleechee C**	**23.66**	**316**	P	P	06 51 23.3	+15
	2.8nm,0.4s,baz=136,slow=12,SNR=7.0						
TKL				S	Sn	06 55 32.6	-11
	3.7nm,0.6s,baz=249,slow=20,SNR=6.0						
SIV	**San Ignacio**	**35.77**	**176**	P	**P**	**06 52 55.1**	**-1.0**
	0.5nm,0.5s,baz=21,slow=14,SNR=2.2						
LPAZ	**La Paz**	**36.25**	**187**	P	**P**	**06 52 59.8**	**-1.0**
	0.9nm,0.8s,baz=49,slow=7.0,SNR=3.2						
TXAR	**Lajitas Array**	**37.43**	**292**	P	**P**	**06 53 09.8**	**-0.5**
	0.6nm,0.8s,baz=116,slow=9.6,SNR=7.7						
BDFB	**Brasilia**	**38.53**	**155**	P	**P**	**06 53 21.0**	**+1.4**
	1.1nm,0.5s,baz=311,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**44.67**	**311**	P	**P**	**06 54 09.2**	**-0.7**
	2.1nm,1.0s,baz=106,slow=9.4,SNR=9.2						
PDAR				pP	**pP**	**06 54 20.9**	**+0.6**
	0.8nm,0.7s,baz=101,slow=7.7,SNR=3.6						
CPUP	**Villa Florida**	**46.38**	**172**	P	**P**	**06 54 22.1**	**-1.1**
	0.2nm,0.4s,baz=326,slow=15,SNR=3.4						
NVAR	**Mina Array Bea**	**50.43**	**304**	P	**P**	**06 54 54.4**	**-0.3**
	0.4nm,0.6s,baz=80,slow=10,SNR=4.8						
NVAR				pP	**pP**	**06 55 04.8**	**-0.4**
	0.4nm,0.6s,baz=205,slow=29,SNR=3.9						
TORD	**Torodi Ar. Bea**	**62.67**	**85**	P	**P**	**06 56 22.9**	**+1.0**
	1.9nm,0.6s,baz=287,slow=6.8,SNR=13						
TORD				pP	**pP**	**06 56 34.0**	**+1.4**
	1.1nm,0.6s,baz=288,slow=7.7,SNR=6.1						
ILAR	**Eielson Array**	**69.31**	**333**	P	**P**	**06 57 02.9**	**-0.8**
	0.6nm,0.8s,baz=110,slow=4.6,SNR=6.1						
ILAR				pP	**pP**	**06 57 13.9**	**-0.6**
	0.6nm,0.7s,baz=107,slow=4.5,SNR=4.8						
ARCES	**ARCESS Array B**	**71.22**	**22**	P	**P**	**06 57 16.1**	**+0.8**
	2.0nm,0.9s,baz=294,slow=6.8,SNR=1.9						
ARCES				pP	**pP**	**06 57 26.4**	**+0.2**
	3.6nm,0.9s,baz=291,slow=3.8,SNR=2.8						

NEIC 27 07:08:24.7, 36°.01N×117°.40W, h5km, ML3.6(PAS), After PAS., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSC	**Goldstone**	**0.86**	**146**	*e*Pg	Pg	07 08 40.6	-0.7
GSC				*e*Sg	Sg	07 08 52.3	-0.2
ISA	**Isabella**	**0.94**	**249**	*e*Pg	Pg	07 08 42.1	-0.8
ISA				*e*Sg	Sg	07 08 54.8	-0.5
OSI	**Osito Adit**	**1.77**	**218**	*e*Pn	Pn	07 08 56.4	+0.4
OSI				*e*Sn	Sn	07 09 17.3	-1.6
MWC	**Mount Wilson**	**1.86**	**197**	*e*Pn	Pn	07 08 56.7	-0.8
MWC				*e*Sg	Sg	07 09 25.2	+0.1
SHPR	**Sheep Range**	**1.87**	**74**	*e*Pn	Pn	07 08 56.5	-1.1
SHPR				*e*Sn	Sn	07 09 22.1	+0.2
PASC	**Pasadena Art C**	**1.95**	**200**	*e*Pn	Pn	07 08 57.2	-1.2
PASC				*e*Sg	Sg	07 09 27.6	+0.2
LDFC	**Landfair**	**2.08**	**116**	*e*Pn	Pn	07 08 58.0	-2.5
LDFC				*e*Sn	Sb	07 09 28.4	-1.2
NV11	**Mina Array Sit**	**2.49**	**346**	*e*Pn	Pn	07 09 05.7	-0.5
PFO	**Pinyon Flat Ob**	**2.52**	**162**	*e*Pn	Pn	07 09 05.1	-1.3
PFO				*e*Sg	Sg	07 09 45.1	-0.9
WAKR	**Walker**	**2.97**	**327**	*e*Pg	Pb	07 09 19.7	+1.2
WAKR				*e*Sg	Sg	07 10 00.3	-0.4
CMB	**Columbia Colle**	**3.13**	**311**	*e*Pn	Pn	07 09 15.9	+1.2
CMB				*e*Sg	Sg	07 10 05.1	-0.3
SAO	**San Andreas Ge**	**3.35**	**284**	*e*Pn	Pn	07 09 18.6	+0.8
SAO				*e*Sg	Sg	07 10 12.9	+0.4
BAR	**Barrett**	**3.38**	**170**	*e*Pn	Pn	07 09 17.7	-0.4
BAR				*e*Sg	Sg	07 10 11.5	-1.8
CCUT	**Cedar City**	**3.58**	**63**	*e*Pn	Pn	07 09 21.2	-0.1
CCUT				*e*Sg	Sb	07 10 16.3	+3.4
GLA	**Glamis**	**3.63**	**144**	*e*Pn	Pn	07 09 19.4	-2.3
GLA				*e*Sg	Sg	07 10 20.5	-1.1
BMN	**Battle Mountai**	**4.42**	**2**	*e*Pn	Pn	07 09 33.0	+0.4
BMN				*e*Sg	Sg	07 10 45.8	-1.2
MVU	**Marysvale**	**4.83**	**57**	*e*Pn	Pn	07 09 38.9	+0.5
MVU				*e*Sg	S

s-min=6.1km az=39.4
*JMA **27** 07:41:23.1±0.1,38°.59N×139°.92E,h168km±1km,M2.9*
*IDC **27** 07:41:23.6±2.1,38°.77N×138°.99E,h184km±19km,mb2.7/2,mb1 3.0/3,mb1mx2.8/26,mbtmp2.7/3,Error ellipse:*
s-maj=69.0km s-min=26.6km az=110.0
ISC 27 07:41:23.0±1.0,38°.63N±0°.07×139°.88E±0°.08,h167km±7km,n17,σ0^{s}50/27,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYA	**Atsumi**	**0.14**	**253**	P	**Pn**	**07 41 45.7**	**+0.4**
JYA				S	**Sn**	**07 42 02.5**	**+0.2**
JYS	**Shiratake**	**0.44**	**161**	P	**Pn**	**07 41 46.3**	**+0.2**
JYS				S	**Sn**	**07 42 04.2**	**+0.4**
JYK	**Kaneyama**	**0.47**	**52**	P	**Pn**	**07 41 46.4**	**+0.2**
JYK				S	**Sn**	**07 42 03.9**	**-0.1**
JAW	**Awa shima**	**0.53**	**251**	P	**Pn**	**07 41 46.7**	**+0.2**
JOU	**Okura**	**0.67**	**113**	P	**Pn**	**07 41 47.2**	**0.0**
JOU				S	**Sn**	**07 42 05.7**	**-0.1**
JNS	**Sasagawa**	**0.93**	**209**	P	**Pn**	**07 41 48.9**	**0.0**
JMK	**Ichinoseki**	**1.09**	**73**	P	**Pn**	**07 41 50.4**	**+0.2**
JFT	**Otama**	**1.17**	**162**	*e*S	**Sn**	**07 42 12.0**	**-0.3**
JOM	**Ohasama**	**1.38**	**52**	P	**Pn**	**07 41 53.1**	**+0.4**
JOM				S	**Sn**	**07 42 15.2**	**-0.5**
JSD	**Sado**	**1.41**	**246**	P	**Pn**	**07 41 53.1**	**+0.1**
JSD				S	**Sn**	**07 42 15.2**	**-0.9**
JANG	**Nango**	**2.15**	**35**	P	**Pn**	**07 42 01.2**	**+0.3**
JANG				S	**Sn**	**07 42 29.3**	**-1.0**
JAG	**Ashikaga**	**2.23**	**189**	P	**Pn**	**07 42 02.0**	**+0.1**
MAT	**Matsushiro**	**2.48**	**213**	P	**Pn**	**07 42 05.1**	**+0.3**
MAT				S	**Sn**	**07 42 36.8**	**-0.3**
MAT	**Matsushiro**	**2.48**	**213**	P	**Pn**	**07 42 05.4**	**+0.6**
MAT				*e*S	**Sn**	**07 42 37.5**	**+0.4**
MJAR	**Matsushiro Arr**	**2.48**	**213**	P	**Pn**	**07 42 05.3**	**+0.5**
	0.9nm,0.3s,baz=21,slow=12,SNR=14						
MJAR				S	**Sn**	**07 42 36.3**	**-0.8**
	0.2nm,0.3s,baz=10,slow=21,SNR=3.7						
ILAR	**Eielson Array**	**48.81**	**33**	P	**P**	**07 49 51.5**	**+0.7**
	0.1nm,0.5s,baz=279,slow=5.0,SNR=4.5						
WRA	**Warramunga Arr**	**58.50**	**186**	P	**P**	**07 51 00.9**	**-0.7**
	0.5nm,0.8s,baz=4.4,slow=7.2,SNR=4.8						

---

*NEIC **27** 08:22:14.5±0.4,34°.94N×96°.62W,h5km,MN3.4(TUL),*
Error ellipse: s-maj=6.1km s-min=4.7km az=177.0
NEIC Felt [III] at Ada and Konawa and [II] at Tulsa. Also felt at Allen, Ardmore, Coweta, Edmond, Hugo, Jones, Norman, Oklahoma City, Seminole, Shawnee, Spencer, Stonewall, Stratford and Wilson.
*IDC **27** 08:22:15.3±2.9,35°.03N×96°.87W,h0km,mb1 3.9/3,mb1mx3.5/30,mbtmp3.5/3,ML3.5/3,Error ellipse:*
s-maj=47.4km s-min=11.6km az=112.0
ISC 27 08:22:13.1±1.3,34°.89N±0°.03×96°.63W±0°.03,h2km±10km,n212,σ1^{s}40/244,85C-106D,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL1	**Tulsa**	**1.23**	**34**	*e*Pn	**Pn**	**08 22 38.7**	**+1.3**
TUL1				*e*Sn	**Sn**	**08 22 55.9**	**+1.3**
TUL1	**Tulsa**	**1.23**	**34**	⇓P	**Pn**	**08 22 38.6**	**+1.2**
	baz=1.1						
TUL1				⇑Sb	**Sn**	**08 22 56.2**	**+1.6**
	baz=1.1						
WMOK	**Wichita Mounta**	**1.77**	**266**	*e*Pn	**Pn**	**08 22 45.6**	**+0.8**
WMOK				*e*Sn	**Sn**	**08 23 09.4**	**+1.3**
Y32A	**R-V Farms, Ver**	**2.48**	**250**	⇑P	**Pn**	**08 22 56.3**	**+1.7**
	baz=2.5,SNR=189						
Y32A				⇓Sb	**Sb**	**08 23 30.8**	**+1.3**
	baz=2.5						
MIAR	**Mount Ida**	**2.54**	**97**	*e*Pn	**Pn**	**08 22 57.5**	**+2.1**
MIAR				*e*Sn	**Sn**	**08 23 28.2**	**+1.3**
MIAR				*e*Sg	**Sg**	**08 23 35.3**	**+0.5**
W31A	**Holland Ranch,**	**2.73**	**277**	⇓P	**Pn**	**08 23 00.2**	**+2.1**
	baz=2.7						
X31A	**McDonald Ranch**	**2.77**	**266**	⇑P	**Pn**	**08 23 00.6**	**+2.1**
	baz=2.8						
V31A	**Spring Creek L**	**2.77**	**290**	⇓P	**Pn**	**08 23 00.7**	**+2.1**
	baz=2.8						
Z32A	**Haskell**	**2.84**	**237**	⇑P	**Pn**	**08 23 01.1**	**+1.6**
	baz=2.9						
Z32A				⇑S	**Sn**	**08 23 36.2**	**+1.9**
	baz=2.9						
WHTX	**Lake Whitney**	**2.97**	**194**	⇓P	**Pn**	**08 23 01.4**	**+0.1**
	baz=3.1						
U31A	**Nine Bar Ranch**	**3.01**	**300**	⇑P	**Pn**	**08 23 04.1**	**+2.2**
	baz=3.0						
U31A				⇑Sb	**Sg**	**08 23 48.4**	**-1.4**
	baz=3.0						
Y31A	**Rekieta Farm,**	**3.14**	**254**	⇓P	**Pn**	**08 23 05.3**	**+1.6**
	baz=3.2,SNR=32						
W30A	**Crocket Farms**	**3.25**	**276**	⇑P	**Pn**	**08 23 06.9**	**+1.7**
	baz=3.3						
W30A				⇑S	**Sn**	**08 23 47.0**	**+2.5**
	baz=3.3						
Z31A	**Sharp Cattle R**	**3.31**	**243**	⇓P	**Pn**	**08 23 07.2**	**+1.2**
	baz=3.4,SNR=29						
T31A	**Randall Ranch,**	**3.31**	**313**	⇓P	**Pn**	**08 23 08.0**	**+2.0**
	baz=3.3						
T31A				⇑S	**Sn**	**08 23 48.8**	**+2.8**
	baz=3.3						
ABTX	**Abilene, Hawle**	**3.38**	**229**	⇓P	**Pn**	**08 23 07.2**	**+0.4**
	baz=3.5						
V30A	**Spur Ranch, Mi**	**3.43**	**286**	⇓P	**Pn**	**08 23 09.7**	**+1.9**
	baz=3.4						
X30A	**Coker Ranch, T**	**3.52**	**264**	⇓P	**Pn**	**08 23 10.6**	**+1.6**
	baz=3.6,SNR=38						
NATX	**Nacogdoches**	**3.53**	**152**	Pn	**Pn**	**08 23 11.3**	**+2.4**
NATX				*e*Sg	**Sg**	**08 24 07.3**	**+0.8**
UALR	**University of**	**3.53**	**91**	*e*Pn	**Pn**	**08 23 11.0**	**+2.0**
UALR				*e*Sn	**Sn**	**08 23 50.2**	**-1.1**
UALR				*e*Sg	**Sg**	**08 24 05.9**	**-0.6**
S31A	**Mullinville**	**3.57**	**321**	⇓P	**Pn**	**08 23 11.6**	**+2.0**
	baz=3.5						
U30A	**WK&E Inc. Balk**	**3.66**	**298**	⇑P	**Pn**	**08 23 13.0**	**+2.2**
	baz=3.6						
Y30A	**Stafford Cattl**	**3.67**	**255**	⇓P	**Pn**	**08 23 12.6**	**+1.6**
	baz=3.7						
T30A	**Plains**	**3.83**	**305**	⇑P	**Pn**	**08 23 14.9**	**+1.8**
	baz=3.8						
131A	**Roby**	**3.83**	**236**	⇓P	**Pn**	**08 23 13.7**	**+0.5**
	baz=3.9						
232A	**Coleman**	**3.91**	**221**	⇓P	**Pn**	**08 23 14.5**	**+0.2**
	baz=4.0						
232A				⇓Sb	**Sb**	**08 24 13.7**	**+3.0**
	baz=4.0						
Z30A	**Sanderson Ranc**	**4.06**	**248**	⇑P	**Pn**	**08 23 17.3**	**+1.0**
	baz=4.1,SNR=50						
U29A	**Oasis Ranch, S**	**4.09**	**294**	⇓P	**Pn**	**08 23 18.3**	**+1.5**
	baz=4.1						
V29A	**Stinnett**	**4.11**	**285**	⇑P	**Pn**	**08 23 18.9**	**+1.8**
	baz=4.1						
V29A				⇓S	**Sn**	**08 24 08.1**	**+2.2**
	baz=4.1						
R31A	**Burdett**	**4.12**	**326**	⇑P	**Pn**	**08 23 18.8**	**+1.7**
	baz=4.0						
R31A				⇓S	**Sn**	**08 24 07.6**	**+1.7**
	baz=4.0						
W29A	**Amraillo**	**4.12**	**275**	⇑P	**Pn**	**08 23 18.9**	**+1.6**
	baz=4.1						
S30A	**Montezuma**	**4.14**	**313**	⇓P	**Pn**	**08 23 19.5**	**+2.0**
	baz=4.1						
S30A				⇑S	**Sn**	**08 24 07.7**	**+1.3**
	baz=4.1						
X29A	**Tulia**	**4.20**	**265**	⇑P	**Pn**	**08 23 19.6**	**+1.2**
	baz=4.2,SNR=37						
KSU1	**Kansas State U**	**4.21**	**0**	*e*Pn	**Pn**	**08 23 19.7**	**+1.4**
KSU1				*e*Sg	**Sg**	**08 24 29.5**	**+1.3**
KSU1				*e*Sg	Sb	08 24 29.5	+10
231A	**Bronte**	**4.26**	**227**	⇓P	**Pn**	**08 23 19.5**	**+0.4**
	baz=4.4						
130A	**Snyder**	**4.27**	**239**	⇑P	**Pn**	**08 23 19.8**	**+0.6**
	baz=4.4,SNR=10						
130A				⇓Sb	**Sb**	**08 24 25.4**	**+4.3**
	baz=4.4						
Y29A	**Porterfield Fa**	**4.29**	**258**	⇑P	**Pn**	**08 23 20.9**	**+1.4**
	baz=4.3,SNR=21						
332A	**Millersview**	**4.36**	**218**	⇑P	**Pn**	**08 23 20.4**	**-0.1**
	baz=4.5						
332A				⇓Sb	**Sb**	**08 24 27.2**	**+3.6**
	baz=4.5						
T29A	**Hugoton**	**4.41**	**302**	⇑P	**Pn**	**08 23 22.8**	**+1.7**
	baz=4.4						
R30A	**Dighton**	**4.48**	**320**	⇓P	**Pn**	**08 23 24.0**	**+1.8**
	baz=4.4						
Z29A	**Hungry Hill Ra**	**4.51**	**250**	⇑P	**Pn**	**08 23 23.4**	**+0.8**
	baz=4.6,SNR=48						
S29A	**Ulysses**	**4.54**	**308**	⇓P	**Pn**	**08 23 24.6**	**+1.7**
	baz=4.5						
S29A				⇓S	**Sn**	**08 24 17.6**	**+1.4**
	baz=4.5						
W28A	**Vega**	**4.59**	**276**	⇑P	**Pn**	**08 23 25.1**	**+1.5**
	baz=4.6						
X28A	**Dimmitt**	**4.60**	**267**	⇓P	**Pn**	**08 23 25.1**	**+1.3**
	baz=4.6						
V28A	**Channing**	**4.65**	**282**	⇓P	**Pn**	**08 23 26.2**	**+1.7**
	baz=4.6						
Q31A	**Ellis**	**4.67**	**333**	⇓P	**Pn**	**08 23 26.4**	**+1.8**
	baz=4.6						
Y28A	**McKinney Farm,**	**4.75**	**260**	⇑P	**Pn**	**08 23 26.8**	**+1.0**
	baz=4.8						
331A	**San Angelo**	**4.78**	**223**	⇓P	**Pn**	**08 23 26.4**	**+0.1**
	baz=4.9						
U28A	**Mallet**	**4.79**	**290**	⇓P	**Pn**	**08 23 28.2**	**+1.7**
	baz=4.8						
U28A				⇓S	**Sn**	**08 24 24.7**	**+2.1**
	baz=4.8						
230A	**Sterling City**	**4.79**	**233**	⇓P	**Pn**	**08 23 26.8**	**+0.4**
	baz=4.9						
432A	**Menard**	**4.80**	**214**	⇓P	**Pn**	**08 23 26.6**	**0.0**
	baz=4.9						
129A	**Stewart Farms,**	**4.91**	**244**	⇓P	**Pn**	**08 23 28.8**	**+0.8**
	baz=5.0,SNR=41						
129A				⇓S	**Sn**	**08 24 25.7**	**+0.3**
	baz=5.0						
HBAR	**Harrisburg**	**4.94**	**81**	*e*Pg	**Pg**	**08 23 48.0**	**+0.3**
HBAR				*e*Sg	**Sg**	**08 24 52.1**	**+0.4**
HKT	**Hockley**	**4.97**	**172**	*e*Pn	**Pn**	**08 23 30.1**	**+1.4**
T28A	**Walsh**	**4.97**	**298**	⇑P	**Pn**	**08 23 30.6**	**+1.7**
	baz=4.9						
Q30A	**Quinter**	**4.99**	**326**	⇑P	**Pn**	**08 23 30.8**	**+1.6**
	baz=4.9						
Z28A	**Tucker Farm, M**	**5.03**	**253**	⇑P	**Pn**	**08 23 30.8**	**+1.0**
	baz=5.1						
S28A	**Manter**	**5.04**	**304**	⇑P	**Pn**	**08 23 31.4**	**+1.5**
	baz=5.0						
R29A	**Marienthal**	**5.06**	**316**	⇓P	**Pn**	**08 23 31.7**	**+1.7**
	baz=5.0						
P31A	**Stockton**	**5.12**	**335**	⇓P	**Pn**	**08 23 32.1**	**+1.3**
	baz=5.0						
JCT	**Junction City**	**5.14**	**212**	*e*Pn	**Pn**	**08 23 31.2**	**0.0**
JCT				*e*Sg	**Sg**	**08 24 58.7**	**+0.3**
JCT	**Junction City**	**5.14**	**212**	⇓P	**Pn**	**08 23 31.1**	**-0.2**
	baz=5.3						
V27A	**Dan Oppiter Fa**	**5.15**	**281**	⇑P	**Pn**	**08 23 32.9**	**+1.5**
	baz=5.1						
330A	**Mertzon**	**5.15**	**229**	⇑P	**Pn**	**08 23 31.8**	**+0.4**
	baz=5.2						
MSTX	**Muleshoe**	**5.16**	**262**	*e*Pn	**Pn**	**08 23 32.3**	**+0.8**
MSTX	**Muleshoe**	**5.16**	**262**	⇑P	**Pn**	**08 23 32.4**	**+1.0**
	baz=5.2,SNR=18						
229A	**Bryant Ranch,**	**5.22**	**238**	⇑P	**Pn**	**08 23 32.8**	**+0.5**
	baz=5.3						
U27A	**Thompson Grove**	**5.27**	**289**	⇓P	**Pn**	**08 23 34.1**	**+1.1**
	baz=5.3						
W27A	**Bowe Ranch, En**	**5.28**	**274**	⇓P	**Pn**	**08 23 34.1**	**+0.9**
	baz=5.3						
Q29A	**Oakley**	**5.30**	**320**	⇓P	**Pn**	**08 23 35.0**	**+1.6**
	baz=5.2						
X27A	**F and S Farms,**	**5.33**	**269**	⇓P	**Pn**	**08 23 34.6**	**+0.8**
	baz=5.3						
431A	**Sonora**	**5.37**	**220**	⇑P	**Pn**	**08 23 34.5**	**+0.2**
	baz=5.5						
128A	**Castleberry Fa**	**5.37**	**247**	⇑P	**Pn**	**08 23 35.1**	**+0.7**
	baz=5.4,SNR=102						
T27A	**Campo**	**5.39**	**295**	⇑P	**Pn**	**08 23 36.1**	**+1.4**
	baz=5.4						
R28A	**Tribune**	**5.41**	**311**	⇑P	**Pn**	**08 23 36.2**	**+1.3**
	baz=5.4						
P30A	**Selden**	**5.47**	**329**	⇑P	**Pn**	**08 23 37.4**	**+1.6**
	baz=5.4						
532A	**Rocksprings**	**5.49**	**211**	⇓P	**Pn**	**08 23 35.6**	**-0.4**
	baz=5.6						
Y27A	**Causey**	**5.49**	**261**	⇑P	**Pn**	**08 23 37.0**	**+0.9**
	baz=5.5,SNR=23						
329A	**Wagon Wheel Ra**	**5.62**	**234**	⇓P	**Pn**	**08 23 38.9**	**+1.1**
	baz=5.7						
430A	**Baggett Ranch,**	**5.63**	**225**	⇓P	**Pn**	**08 23 38.4**	**+0.4**
	baz=5.7						
228A	**F Block 9, Go**	**5.69**	**243**	⇑P	**Pn**	**08 23 39.9**	**+1.1**
	baz=5.8,SNR=24						
531A	**Rocksprings**	**5.75**	**216**	⇑P	**Pn**	**08 23 39.5**	**-0.1**
	baz=5.9						
VBMS	**Vicksburg**	**5.76**	**116**	*e*Pn	**Pn**	**08 23 40.4**	**+0.8**
	25nm,0.4s						
S27A	**Las Animas**	**5.78**	**301**	⇑P	**Pn**	**08 23 41.7**	**+1.7**
	baz=5.7						
P29A	**Atwood**	**5.82**	**325**	⇓P	**Pn**	**08 23 42.1**	**+1.6**
	baz=5.8						
W26A	**Owens Ranch, T**	**5.86**	**274**	⇓P	**Pn**	**08 23 42.5**	**+1.3**
	baz=5.9						
PARMO	**Parma**	**5.87**	**70**	*e*Pn	**Pn**	**08 23 42.8**	**+1.7**
PARMO				*e*Sg	**Sg**	**08 25 21.6**	**0.0**
Q28A	**Sharon Springs**	**5.89**	**317**	⇑P	**Pn**	**08 23 43.1**	**+1.6**
	baz=5.8						
V26A	**Tequesquite Ra**	**5.92**	**281**	⇓P	**Pn**	**08 23 42.8**	**+0.9**
	baz=5.9						
X26A	**CR and CF Fran**	**5.92**	**269**	⇑P	**Pn**	**08 23 42.8**	**+0.8**
	baz=5.9						
O30A	**MW Ranch, Wils**	**5.94**	**334**	⇑P	**Pn**	**08 23 43.6**	**+1.5**
	baz=5.9						
OXF	**Oxford**	**5.96**	**92**	*e*Pn	**Pn**	**08 23 43.8**	**+1.4**
	39nm,0.5s						
U26A	**Atchley Ranch,**	**5.98**	**287**	⇑P	**Pn**	**08 23 44.0**	**+1.0**
	baz=6.0						
632A	**Uvalde**	**5.99**	**207**	⇓P	**Pn**	**08 23 42.9**	**0.0**
	baz=6.1						
R27A	**Eads**	**6.01**	**306**	⇓P	**Pn**	**08 23 44.0**	**+0.8**
	baz=6.0						
127A	**Arkansas Junct**	**6.02**	**250**	⇑P	**Pn**	**08 23 43.7**	**+0.4**
	baz=6.1						
T26A	**Comanche Natio**	**6.08**	**294**	⇓P	**Pn**	**08 23 45.5**	**+1.2**
	baz=6.1						
429A	**Davenport Ranc**	**6.14**	**228**	⇓P	**Pn**	**08 23 44.8**	**-0.1**
	baz=6.2						
S26A	**Kim**	**6.16**	**298**	⇑P	**Pn**	**08 23 46.5**	**+1.2**
	baz=6.1						
530A	**J-C Ranch, Com**	**6.17**	**221**	⇑P	**Pn**	**08 23 45.5**	**+0.1**
	baz=6.3						
P28A	**Saint Francis**	**6.21**	**320**	⇓P	**Pn**	**08 23 47.1**	**+1.2**
	baz=6.1						
328A	**Wristen Ranch,**	**6.25**	**238**	⇑P	**Pn**	**08 23 47.0**	**+0.6**
	baz=6.3						
KSCO	**Kaye Shedlock'**	**6.32**	**312**	⇓P	**Pn**	**08 23 48.8**	**+1.3**
	baz=6.3						
631A	**Perdido Creek**	**6.40**	**213**	⇓P	**Pn**	**08 23 48.3**	**-0.1**
	baz=6.5						
W25A	**X Bar L Ranch,**	**6.43**	**275**	⇓P	**Pn**	**08 23 50.1**	**+1.1**
	baz=6.4						
R26A	**Arlington**	**6.45**	**304**	⇓P	**Pn**	**08 23 50.1**	**+0.8**
	baz=6.4						
U25A	**Circle Dot Ran**	**6.51**	**286**	⇑P	**Pn**	**08 23 51.2**	**+1.0**
	baz=6.5						
428A	**Kincaid Ranch,**	**6.57**	**233**	⇓P	**Pn**	**08 23 50.8**	**0.0**
	baz=6.7						
BGNE	**Belgrade**	**6.62**	**350**	*e*Pn	**Pn**	**08 23 52.5**	**+1.0**
BGNE	**Belgrade**	**6.62**	**350**	⇓P	**Pn**	**08 23 52.1**	**+0.6**
	baz=6.5						
X25A	**Clemmons Ranch**	**6.62**	**269**	⇓P	**Pn**	**08 23 52.3**	**+0.7**
	baz=6.6						
O28A	**Krutsinger Ran**	**6.64**	**324**	⇑P	**Pn**	**08 23 53.2**	**+1.5**
	baz=6.6						
P27A	**Ficken Ranch,**	**6.65**	**316**	⇓P	**Pn**	**08 23 53.5**	**+1.5**
	baz=6.6						
T25A	**Trinidad**	**6.69**	**292**	⇑P	**Pn**	**08 23 54.1**	**+1.5**
	baz=6.7						
529A	**Stev Forest Ra**	**6.70**	**226**	⇓P	**Pn**	**08 23 52.6**	**0.0**
	baz=6.8						
N29A	**Votaw Ranch, W**	**6.71**	**333**	⇑P	**Pn**	**08 23 54.4**	**+1.6**
	baz=6.6						
327A	**Balmorhea Ranc**	**6.74**	**241**	⇓P	**Pn**	**08 23 54.1**	**+0.9**
	baz=6.8						
Q26A	**Hugo**	**6.83**	**308**	⇓P	**Pn**	**08 23 55.9**	**+1.4**
	baz=6.8						
S25A	**Robets Cordova**	**6.88**	**296**	⇑P	**Pn**	**08 23 56.4**	**+1.1**
	baz=6.8						
Z25A	**Roswell**	**6.90**	**259**	⇑P	**Pn**	**08 23 56.3**	**+0.9**
	baz=6.9						
R25A	**Fountain Ranch**	**6.97**	**300**	⇑P	**Pn**	**08 23 58.0**	**+1.7**
	baz=6.9						
N28A	**Pribbeno Ranch**	**6.97**	**328**	⇑P	**Pn**	**08 23 57.3**	**+1.0**
	baz=6.9						
427A	**Hayter Ranch,**	**6.97**	**237**	⇓P	**Pn**	**08 23 56.8**	**+0.4**
	baz=7.1						
528A	**Cox Ranch, San**	**7.01**	**230**	⇓P	**Pn**	**08 23 57.4**	**+0.4**
	baz=7.1						
PLAL	**Pickwick Lake**	**7.03**	**87**	*e*Pn	**Pn**	**08 23 57.5**	**+0.4**
O27A	**Beecher Island**	**7.04**	**320**	⇓P	**Pn**	**08 23 58.9**	**+1.6**
	baz=7.0						
P26A	**Davis Ranch, A**	**7.10**	**313**	⇓P	**Pn**	**08 23 59.8**	**+1.6**
	baz=7.0						
326A	**Caldwell Ranch**	**7.12**	**242**	P	**Pn**	**08 23 58.9**	**+0.5**
	baz=7.2,SNR=43						
W24A	**Lazy 6 Ranch,**	**7.21**	**275**	⇓P	**Pn**	**08 24 00.3**	**+0.6**
	baz=7.2						
X24A	**Lazy VL Ranch,**	**7.26**	**270**	⇓P	**Pn**	**08 24 01.0**	**+0.6**
	baz=7.3						
M29A	**Burnside Ranch**	**7.28**	**335**	⇓P	**Pn**	**08 24 01.6**	**+0.9**
	baz=7.2						
WVT	**Waverly**	**7.29**	**78**	*e*Pn	**Pn**	**08 24 01.2**	**+0.6**
	9.4nm,0.4s						
WVT				*e*Sn	**Sn**	**08 25 24.2**	**+0.3**
Q25A	**Bedland, Calha**	**7.30**	**306**	⇓P	**Pn**	**08 24 02.8**	**+1.7**
	baz=7.3						
Y24A	**Capitan**	**7.34**	**265**	⇓P	**Pn**	**08 24 02.3**	**+0.7**
	baz=7.4						
OGNE	**Ogallala**	**7.40**	**326**	⇑P	**Pn**	**08 24 04.1**	**+1.9**
	baz=7.3						
Z24A	**Sheeppen Canyo**	**7.41**	**260**	⇑P	**Pn**	**08 24 03.7**	**+1.2**
	baz=7.4						
M28A	**Bar X Bar Ranc**	**7.49**	**332**	⇓P	**Pn**	**08 24 05.1**	**+1.5**
	baz=7.4						
426A	**McDonald Obser**	**7.51**	**238**	⇓P	**Pn**	**08 24 04.2**	**+0.2**
	baz=7.6						
O26A	**Horse Wrangler**	**7.53**	**317**	⇓P	**Pn**	**08 24 05.9**	**+1.8**
	baz=7.5						
527A	**Woodward Ranch**	**7.55**	**233**	⇑P	**Pn**	**08 24 04.7**	**+0.3**
	baz=7.6						
628A	**Black Gap, Mar**	**7.56**	**226**	⇓P	**Pn**	**08 24 05.0**	**+0.6**
	baz=7.7						
P25A	**Willow Gulch B**	**7.58**	**310**	⇓P	**Pn**	**08 24 06.5**	**+1.7**
	baz=7.5						
R24A	**Sanders Place,**	**7.59**	**299**	⇓P	**Pn**	**08 24 06.7**	**+1.7**
	baz=7.6						
SDCO	**Great Sand Dun**	**7.71**	**294**	*e*Pn	**Pn**	**08 24 07.7**	**+1.0**
	7.9nm,0.7s						
SDCO				*e*Sn	**Sn**	**08 25 33.7**	**-1.0**
L29A	**Maesberg Ranch**	**7.77**	**338**	⇑P	**Pn**	**08 24 08.6**	**+1.2**
	baz=7.7						
325A	**Bean Ranch, Si**	**7.82**	**246**	⇑P	**Pn**	**08 24 09.5**	**+1.3**
	baz=7.9						
627A	**Terlingua Ranc**	**7.88**	**228**	⇑P	**Pn**	**08 24 09.7**	**+0.8**
	baz=8.0						
N26A	**Koester Ranch,**	**7.89**	**321**	⇓P	**Pn**	**08 24 09.8**	**+0.8**
	baz=7.8						
O25A	**Wiggins**	**7.91**	**313**	⇓P	**Pn**	**08 24 10.5**	**+1.2**
	baz=7.9						
Q24A	**Divide**	**7.94**	**303**	⇓P	**Pn**	**08 24 11.3**	**+1.4**
	baz=7.9						
MNTX	**Cornudas Mount**	**7.99**	**249**	*e*Pn	**Pn**	**08 24 11.3**	**+1.0**
	12nm,0.8s						
M27A	**Reverse DX Ran**	**8.03**	**327**	⇓P	**Pn**	**08 24 12.0**	**+1.1**
	baz=8.0						
P24A	**Kohler Place,**	**8.06**	**307**	⇓P	**Pn**	**08 24 13.0**	**+1.6**
	baz=8.0						
ANMO	**Albuquerque**	**8.07**	**273**	Pn	Pn	08 24 14.9	+3.3
ANMO				*e*Sg	**Sg**	**08 26 29.4**	**-2.9**
425A	**Indio Mountain**	**8.13**	**242**	⇑P	**Pn**	**08 24 13.6**	**+1.3**
	baz=8.2,SNR=9.4						
TXAR	**Lajitas Array**	**8.14**	**229**	Pn	**Pn**	**08 24 12.8**	**+0.4**
TXAR				Sn	**Sn**	**08 25 41.4**	**-3.7**
TXAR				Lg	Lg	08 26 29.4	
TXAR	**Lajitas Array**	**8.14**	**229**	Pn	**Pn**	**08 24 12.8**	**+0.4**
	0.4nm,0.3s,baz=73,slow=15,SNR=30						
TXAR				Sn	**Sn**	**08 25 41.4**	**-3.7**
	1.8nm,0.3s,baz=4.8,slow=16,SNR=4.2						
TXAR				Lg	Lg	08 26 29.4	
	6.1nm,0.3s,baz=54,slow=30,SNR=7.4						
324A	**Moseley Ranch,**	**8.18**	**248**	⇓P	**Pn**	**08 24 13.9**	**+0.9**
	baz=8.2						
LRAL	**Lakeview Retre**	**8.21**	**100**	*e*Pn	**Pn**	**08 24 13.9**	**+0.5**
	5.2nm,0.6s						
LPM	**Los Pinos Moun**	**8.27**	**269**	*e*Pn	**Pn**	**08 24 17.0**	**+2.7**
BNM	**Barren Site**	**8.28**	**268**	*e*Pn	**Pn**	**08 24 17.0**	**+2.4**
	8.2nm,0.4s						
BNM				*e*Sg	**Sg**	**08 26 37.5**	**-1.6**
N25A	**Grover**	**8.35**	**317**	⇓P	**Pn**	**08 24 16.6**	**+1.2**
	baz=8.3						
K29A	**Lazy Trails An**	**8.37**	**341**	⇑P	**Pn**	**08 24 16.6**	**+1.1**
	baz=8.3						
O24A	**Longmont**	**8.50**	**310**	⇑P	**Pn**	**08 24 19.0**	**+1.6**
	baz=8.4						
P23A	**Jefferson**	**8.61**	**304**	⇑P	**Pn**	**08 24 21.4**	**+2.4**
	baz=8.6						
K28A	**Ten Mile Ranch**	**8.64**	**336**	⇓P	**Pn**	**08 24 20.4**	**+1.2**
	baz=8.6						
**

H24A	**Dirks Ranch, A**	**11.57**	**331**	⇑P		**Pn**	**08 24 58.7**	**-0.7**
	baz=12							
F27A	**Lemmon**	**11.71**	**341**	⇓P		**Pn**	**08 24 59.5**	**-1.8**
	baz=12							
COWI	**Conover**	**12.56**	**25**	*e*Pn		**Pn**	**08 25 11.9**	**-0.9**
	7.2nm,0.8s							
COWI				*e*Sn		Sn	08 27 25.6	-7.7
PDAR	**Pinedale Array**	**12.78**	**312**	Pn		**Pn**	**08 25 15.7**	**-0.3**
PDAR				Lg		Lg	08 28 59.4	
PDAR	**Pinedale Array**	**12.78**	**312**	Pn		**Pn**	**08 25 15.7**	**-0.3**
	0.1nm,0.3s,baz=129,slow=14,SNR=8.2							
PDAR				Lg		Lg	08 28 59.4	
	0.5nm,0.3s,baz=122,slow=27,SNR=7.9							
AGMN	**Agassiz Nation**	**13.41**	**2**	*e*Pn		**Pn**	**08 25 21.3**	**-3.2**
ULM	**Lac du Bonnet**	**15.36**	**2**	Pn		Pn	08 25 45.5	-5.4
ULM				Sn		Sn	08 28 30.5	-11
ULM				Lg		Lg	08 30 12.5	
ULM	**Lac du Bonnet**	**15.36**	**2**	Pn		Pn	08 25 45.5	-5.4
	0.3nm,0.3s,baz=180,slow=13,SNR=2.0							
ULM				Sn		Sn	08 28 30.5	-11
	0.3nm,0.3s,baz=188,slow=7.1,SNR=1.9							
ULM				Lg		Lg	08 30 12.5	
	0.5nm,0.3s,baz=230,slow=8.2,SNR=2.4							

MAN 27 08:24:36,7°.36N×124°.50E,h41km,mb3.9,ML2.6,MS2.3, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.29**	**242**	⇑*e*P	Pn	08 24 46.8	+2.6
CTBH				*i* S	Sn	08 24 53.4	+3.4
BUKP	**Musuan**	**0.76**	**47**	*e*P	Pn	08 24 51.8	+1.4
BUKP				*e*S	Sn	08 25 03.4	+2.6
PAGZ	**Pagadian**	**1.21**	**294**	*e*P	Pn	08 24 57.5	+1.0
PAGZ				*e*S	Sn	08 25 13.3	+1.6

NIED ***27*** *08:47:00,33°.60N×135°.20E,h38km,Mw3.9 Best double couple: M₀7.13000×10¹⁴ NP1:φs298.00000°,δ61.00000°, λ-123.00000°. NP2:φs171.00000°,δ43.00000°, λ-46.00000°.*
ISCJB ***27*** *08:47:29.9±0.5,33°.64N±0°.04×135°.18E±0°.03,h45km±5km, mb3.5/5,MS2.6/1,Error ellipse: s-maj=7.2km s-min=4.6km az=173.5*
JMA ***27*** *08:47:30.9,33°.66N×135°.21E,h40km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs169.00000°,δ55.00000°,λ-63.00000°. NP2: φs307.00000°,δ43.00000°,λ-123.00000°. Principal axes: T Plg6.0000°, Azm240.0000°; N Plg22.0000°, Azm332.0000°; P Plg67.0000°, Azm135.0000°;*
JMA Felt II J1.
IDC ***27*** *08:47:31.3±3.5,33°.61N×135°.20E,h38km±32km,mb3.3/5, mb1 3.6/8,mb1mx3.5/28,mbtmp3.4/8,ML3.7/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/19 Error ellipse: s-maj=25.1km s-min=20.4km az=89.0*

ISC 27 08:47:30.0±1.2,33°.65N±0°.05×135°.17E±0°.03,h28km±10km, n24,σ0°81/32,mb3.4/5,8C-2D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.25**	**38**	⇓P	**Pn**	**08 47 38.3**	**+0.3**
JWM				S	**Sn**	**08 47 43.3**	**+0.3**
JWZ	**Kozaga**	**0.47**	**104**	⇑P	**Pn**	**08 47 40.7**	**-0.2**
JWZ				S	**Sb**	**08 47 47.6**	**+1.0**
JAI	**Aioi**	**0.61**	**284**	⇑P	**Pn**	**08 47 43.5**	**+0.6**
JAI				S	**Sn**	**08 47 52.3**	**+0.4**
JWY	**Kouya**	**0.67**	**32**	⇑P	**Pn**	**08 47 43.6**	**-0.2**
JWY				S	**Sb**	**08 47 52.2**	**0.0**
JAJ2	**Tsuna**	**0.80**	**343**	⇓P	**Pn**	**08 47 46.0**	**+0.5**
JAJ2				S	**Sn**	**08 47 56.8**	**+0.2**
JMN	**Monobe**	**1.08**	**275**	⇑P	**Pb**	**08 47 49.7**	**-0.3**
JMN				S	**Sn**	**08 48 03.2**	**-0.2**
JHE	**Heguri**	**1.09**	**23**	⇑P	**Pn**	**08 47 49.5**	**0.0**
JHE				S	**Sb**	**08 48 03.2**	**-0.9**
JKN2	**Miekihoku**	**1.09**	**57**	⇑P	**Pn**	**08 47 49.0**	**-0.5**
JKN2				S	**Sb**	**08 48 03.1**	**-1.0**
JJS	**Sakaide**	**1.26**	**306**	⇑P	**Pn**	**08 47 52.1**	**+0.4**
JJS				S	**Sn**	**08 48 07.3**	**-0.4**
TTO1	**TONANKAI O.B.S**	**1.35**	**91**	P	**Pn**	**08 47 52.6**	**-0.1**
JKS	**Kasai**	**1.36**	**349**	⇑P	**Pn**	**08 47 53.5**	**+0.4**
JKS				S	**Sn**	**08 48 09.5**	**-0.7**
JNU	**Nakatsue**	**3.63**	**263**	Pn	**Pn**	**08 48 25.2**	**+0.8**
	11nm,0.3s,baz=74,slow=3.3,SNR=208						
JNU				Sn	**Sn**	**08 49 04.4**	**-1.9**
	5.0nm,0.3s,baz=189,slow=5.1,SNR=5.3						
MAT	**Matsushiro**	**3.81**	**40**	P	**Pn**	**08 48 27.8**	**+0.9**
MAT				*e*S	**Sn**	**08 49 11.7**	**+0.8**
MJAR	**Matsushiro Arr**	**3.81**	**40**	Pn	**Pn**	**08 48 28.3**	**+1.3**
	3.4nm,0.3s,baz=317,slow=22,SNR=27						
KSRS	**Korea Array**	**7.02**	**305**	Pn	**Pn**	**08 49 11.8**	**+0.9**
	0.1nm,0.3s,baz=135,slow=22,SNR=2.6						
KSRS				Sn	**Sn**	**08 50 27.9**	**-1.9**
	0.5nm,0.3s,baz=125,slow=27,SNR=3.4						
CBIJ	**Chichi jima**	**8.91**	**135**	LR	LR	08 52 24.6	
	comp=Z,799nm,21.4s,baz=183,slow=33						
ASAJ	**Asahikawa**	**11.94**	**27**	LR	LR	08 54 56.0	
	comp=Z,50nm,18.4s,baz=192,slow=37						
SONM	**Songino Array**	**25.82**	**312**	pP	pP	08 53 10.0	+3.0
SONM				LR	LR	09 03 47.0	
	comp=Z,20nm,20.2s,baz=48,slow=38						
MKAR	**Makanchi Array**	**41.70**	**305**	P	**P**	**08 55 17.2**	**+0.8**
	0.2nm,0.6s,baz=76,slow=7.6,SNR=3.4						
MKAR				pP	pP	08 55 27.5	+2.9
	0.3nm,0.6s,baz=79,slow=12,SNR=3.6						
KURBB	**Kurchatov Arra**	**44.16**	**310**	P	**P**	**08 55 36.1**	**-0.1**
	0.2nm,0.6s,baz=82,slow=6.6,SNR=3.4						
KURBB				pP	pP	08 55 47.1	+2.7
	0.9nm,0.8s,baz=92,slow=8.2,SNR=4.3						
WRA	**Warramunga Arr**	**53.30**	**181**	P	P	08 56 45.8	-0.8
	1.9nm,0.6s,baz=357,slow=7.7,SNR=24						
ILAR	**Eielson Array**	**55.04**	**31**	P	**P**	**08 56 58.7**	**-0.1**
	0.2nm,0.6s,baz=261,slow=5.7,SNR=7.5						
ASAR	**Alice Springs**	**57.01**	**181**	P	**P**	**08 57 13.3**	**0.0**
	0.6nm,0.6s,baz=10,slow=14,SNR=14						
BRTR	**Keskin Array B**	**77.14**	**309**	pP	pP	08 59 32.6	+2.5
	1.1nm,0.8s,baz=64,slow=5.7,SNR=5.2						

ISCJB ***27*** *08:55:11.9±0.6,2°.70N±0°.04×100°.05E±0°.04,h39km±10km, mb3.6/5,MS3.5/1,Error ellipse: s-maj=7.8km s-min=6.8km az=35.9*
DJA ***27*** *08:55:12.8±1.0,3°.N±3°×10°.0E±°,h103km±13km,M4.2/8, MLv4.2/8*
IDC ***27*** *08:55:13.1±2.6,2°.37N×99°.78E,h49km±43km,mb3.4/5, mb1 3.6/6,mb1mx3.4/26,mbtmp3.4/6,ML4.5/1,MS3.5/1, Ms1 3.5/1,ms1mx2.5/18,Error ellipse: s-maj=65.0km s-min=19.3km az=65.0*

ISC 27 08:55:13.9±0.9,2°.74N±0°.04×100°.02E±0°.04,h39km±6km, n23,σ2°06/26,mb3.5/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.10**	**273**	P	**Pn**	**08 55 29.8**	**-3.1**
	276nm,0.3s,baz=86,slow=14,SNR=388						
PSI				S	**Sn**	**08 55 44.2**	**-2.9**
	457nm,0.3s,baz=300,slow=14,SNR=34						
TSI	**Tuntungan**	**1.64**	**297**	P	**Pn**	**08 55 42.8**	**+2.5**
TSI				S	**Sn**	**08 56 00.6**	**+0.4**
FRIM	**Kepong**	**1.67**	**73**	P	**Pn**	**08 55 37.7**	**-3.1**
IPM	**Ipoh**	**2.00**	**30**	P	**Pn**	**08 55 44.9**	**-0.3**
IPM	**Ipoh**	**2.00**	**30**	P	**Pn**	**08 55 44.9**	**-0.3**
IPM				S	**Sn**	**08 56 10.8**	**+1.8**
KCSI	**Kotacane, Aceh**	**2.38**	**289**	P	**Pn**	**08 55 50.4**	**-0.1**
KCSI				S	Sn	08 56 26.6	+8.1
BKNI	**Bangkinang**	**2.60**	**157**	P	**Pn**	**08 55 55.1**	**+1.6**
BKNI				S	**Sn**	**08 56 27.5**	**+3.6**
KULM	**Kulim**	**2.61**	**14**	P	**Pn**	**08 55 52.6**	**-1.0**
KULM	**Kulim**	**2.61**	**14**	P	**Pn**	**08 55 52.1**	**-1.5**
PPI	**Padang Panjang**	**3.20**	**173**	P	**Pn**	**08 55 59.1**	**-2.6**
KGM	**Kluang**	**3.37**	**102**	P	**Pn**	**08 56 01.2**	**-2.9**
PDSI	**Padang**	**3.65**	**173**	P	**Pn**	**08 56 06.7**	**-1.3**
PDSI				S	**Sn**	**08 56 52.3**	**+2.4**
RGRI	**Rengat**	**3.84**	**143**	P	**Pn**	**08 56 10.8**	**+0.3**
MYKOM	**Kota Tinggi**	**3.94**	**104**	P	Pn	08 56 07.9	-4.0
MYKOM	**Kota Tinggi**	**3.94**	**104**	P	Pn	08 56 21.9	+10
KTGM	**Kuala Trenggan**	**4.03**	**50**	P	**Pn**	**08 56 12.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**15.66**	**356**	P	**P**	**08 58 57.1**	**+1.6**
	0.6nm,0.3s,baz=191,slow=9.2,SNR=5.0						
MYLDM	**Lahad Datu**	**18.59**	**82**	P	**P**	**08 59 27.6**	**-0.4**
WRA	**Warramunga Arr**	**40.53**	**125**	P	**P**	**09 02 47.5**	**-2.2**
	1.3nm,0.8s,baz=301,slow=9.1,SNR=14						
WRA				LR	LR	09 24 01.6	
	comp=Z,62nm,18.4s,baz=190,slow=43						
ASAR	**Alice Springs**	**42.15**	**130**	P	**P**	**09 03 00.9**	**-2.0**
	0.7nm,0.6s,baz=303,slow=7.8,SNR=16						
KSRS	**Korea Array**	**43.01**	**33**	P	**P**	**09 03 10.2**	**+0.6**
	2.3nm,0.7s,baz=228,slow=8.9,SNR=7.7						
SONM	**Songino Array**	**45.26**	**6**	P	**P**	**09 03 29.3**	**+1.6**
	0.2nm,0.4s,baz=168,slow=7.4,SNR=2.6						
MKAR	**Makanchi Array**	**46.51**	**343**	P	**P**	**09 03 37.6**	**+0.1**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=3.4						

WEL 27 09:07:10.4±0.8,38°.23S×175°.31E,h245km±11km,ML3.7/5, 2D,Error ellipse: s-maj=17.2km s-min=12.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHHZ	**Black Hill Sta**	**1.39**	**155**	PN	Pn	09 07 47.4	-0.2
BHHZ				*e*SN	S	09 08 15.7	-1.1
URZ	**Urewera**	**1.42**	**92**	⇓PN	Pn	09 07 47.4	-0.2
URZ				SN	S	09 08 16.6	-0.3
NMHZ	**Naumai**	**1.46**	**127**	*i* PN	Pn	09 07 48.7	+0.7
WAZ	**Wanganui**	**1.55**	**189**	*e*PN	Pn	09 07 48.4	-0.2
WAZ				SN	S	09 08 17.8	-1.0
RAHZ	**Arahi**	**1.56**	**117**	PN	Pn	09 07 49.0	+0.3
MWZ	**Matawai**	**1.75**	**94**	PN	Pn	09 07 50.1	-0.2
MWZ				SN	S	09 08 21.2	-0.5
CKHZ	**Cape Kidnapper**	**1.99**	**137**	*e*PN	Pn	09 07 51.5	-0.8
KNZ	**Kokohu**	**2.02**	**114**	⇓PN	Pn	09 07 51.8	-0.8
OGWZ	**Otaki Gorge**	**2.59**	**182**	PN	Pn	09 07 55.8	-2.4
OGWZ				SN	S	09 08 32.7	-3.3
KIW	**Kapiti Island**	**2.65**	**187**	SN	S	09 08 33.0	-4.2
KIW				AML	AML	09 08 34.5	
DUWZ	**D'Urville Isla**	**2.79**	**202**	PN	Pn	09 07 58.1	-2.2
TCW	**Tory Channel**	**3.09**	**195**	PN	Pn	09 08 00.8	-2.7
TCW				SN	S	09 08 41.1	-4.4
TCW				AML	AML	09 08 42.0	
NNZ	**Nelson**	**3.34**	**206**	PN	Pn	09 08 03.2	-3.0
NNZ				SN	S	09 08 46.3	-4.3
QRZ	**Quartz Range**	**3.37**	**219**	*e*PN	Pn	09 08 04.6	-2.1
THZ	**Tophouse**	**3.99**	**207**	PN	Pn	09 08 09.9	-4.0
KHZ	**Kahutara**	**4.40**	**197**	PN	Pn	09 08 14.7	-4.0
LTZ	**Lake Taylor**	**5.11**	**206**	PN	Pn	09 08 22.5	-4.8

IDC ***27*** *09:39:00.3±6.0,36°.30N×71°.10E,h179km±64km,mb3.2/4, mb1 3.3/7,mb1mx3.0/30,mbtmp3.2/7,Error ellipse: s-maj=74.5km s-min=47.1km az=102.0*
ISCJB ***27*** *09:39:04.3±1.4,36°.7N±0°.1×70°.9E±0°.1,h188km,mb3.5/4, Error ellipse: s-maj=17.5km s-min=11.2km az=147.8*
NNC ***27*** *09:39:11.2±3.5,37°.13N×71°.22E,h230km±40km,mb2.4, mpv3.4,Error ellipse: s-maj=35.6km s-min=16.6km az=5.0*

ISC 27 09:39:02.7±1.8,36°.5N±0°.1×71°.1E±0°.1,h188km,n17, σ1°78/20,mb3.5/4,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.96**	**19**	P	**Pn**	**09 40 31.5**	**+2.0**
	SNR=12						
KZA	**Kyzart**	**6.43**	**29**	P	**Pn**	**09 40 37.3**	**+1.6**
	SNR=6.3						
EKS2	**Erkin-Say**	**6.48**	**18**	P	**Pn**	**09 40 38.4**	**+2.4**
	SNR=5.3						
KK31	**Karatay Array**	**6.58**	**357**	⇑P	**Pn**	**09 40 38.7**	**+1.4**
	0.3nm,0.3s,baz=171,slow=12,SNR=6.4						
KK31				⇓S	**Sn**	**09 41 48.9**	**-3.2**
	3.3nm,0.5s,baz=175,slow=21,SNR=15						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**09 40 40.4**	**+2.1**
	3.3nm,0.3s,baz=203,slow=7.7,SNR=11						
AAK				S	**Sn**	**09 41 53.3**	**-0.7**
	1.5nm,0.3s,baz=315,slow=23,SNR=19						
ULHL	**Ulahol**	**6.98**	**34**	P	**Pn**	**09 40 44.2**	**+1.5**
	SNR=7.2						
TKM2	**Tokmak 2**	**7.28**	**27**	⇑P	**Pn**	**09 40 48.0**	**+1.3**
	6.5nm,0.4s						
TKM2				⇓S	**Sn**	**09 42 05.9**	**-3.1**
	7.3nm,1.1s						
TKM2	**Tokmak 2**	**7.28**	**27**	P	**Pn**	**09 40 48.2**	**+1.6**
	SNR=16						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**09 42 04.5**	**+0.9**
	0.1nm,0.3s,baz=212,slow=13,SNR=6.5						
MK31	**Makanchi Array**	**13.24**	**36**	⇑P	**Pn**	**09 42 03.2**	**-0.4**
	0.4nm,0.5s,baz=212,slow=12,SNR=7.3						
AB31	**Akbulak array**	**15.08**	**331**	⇓P	**P**	**09 42 28.1**	**+1.1**
	0.3nm,0.4s,baz=123,slow=9.0,SNR=7.3						
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P	**Pn**	**09 42 46.7**	**0.0**
	2.2nm,0.8s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**Pn**	**09 42 47.2**	**+0.6**
	0.3nm,0.3s,baz=137,slow=11,SNR=7.2						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**09 45 58.2**	**+0.4**
	1.2nm,0.8s,baz=119,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**09 46 28.4**	**+0.5**
	0.6nm,0.5s,baz=108,slow=7.8,SNR=6.0						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**09 46 54.3**	**+0.1**
	0.4nm,0.5s,baz=95,slow=4.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	**P**	**09 49 25.4**	**-2.4**
	0.6nm,0.8s,baz=45,slow=5.5,SNR=3.6						

CSEM ***27*** *09:40:58.7,60°.69N×28°.82E,h0km,ML1.5,Mining explosion. After HEL*

HEL 27 09:40:58.7±0.6,60°.69N×28°.82E,h0km,ML1.5, Explosion,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.64**	**257**	*e*P	Pg	09 41 10.8	-0.1
VJF				*e*S	Sg	09 41 20.4	+1.2
VJF	**Virojoki**	**0.64**	**257**	*e*P	Pg	09 41 10.8	-0.1
VJF				*e*S	Sg	09 41 17.6	-1.6
VJF	**Virojoki**	**0.64**	**257**	P	Pg	09 41 10.8	-0.1
VJF				S	Sg	09 41 17.5	-1.7
FIA0	**FINESS Array S**	**1.53**	**301**	*e*P	Pn	09 41 25.5	-1.8
FIA0				*e*S	Sn	09 41 43.7	-4.2
FIA0	**FINESS Array S**	**1.53**	**301**	*e*P	Pn	09 41 25.3	-2.0
FIA0				*e*S	Sn	09 41 46.3	-1.6
FIA0				MSG		09 41 49.0	
	comp=Z,2.9nm,0.1s						
FIA0	**FINESS Array S**	**1.53**	**301**	P	Pn	09 41 25.3	-2.0
FIA0				S	Sn	09 41 46.3	-1.6
KAF	**Kangasniemi**	**1.87**	**321**	*e*P	Pn	09 41 31.7	-0.3
KAF				*e*S	Sn	09 41 55.5	-0.8
KAF	**Kangasniemi**	**1.87**	**321**	*e*P	Pn	09 41 31.6	-0.4
KAF				*e*S	Sn	09 41 55.5	-0.8
KAF	**Kangasniemi**	**1.87**	**321**	P	Pn	09 41 31.6	-0.4
KAF				S	Sn	09 41 55.5	-0.8
MEF	**Metsahovi**	**2.24**	**260**	*e*PB	Pn	09 41 37.5	+0.5
MEF				*e*SB	Sb	09 42 06.8	-1.4
MEF	**Metsahovi**	**2.24**	**260**	Pb	Pn	09 41 37.4	+0.4
MEF				Sb	Sb	09 42 06.8	-1.4
SUF	**Sumiainen**	**2.40**	**329**	*e*PB	Pn	09 41 40.7	+1.5
SUF				*e*SB	Sb	09 42 11.3	-1.7
SUF				MSG		09 42 14.7	
	comp=Z,1.9nm,0.1s						
SUF	**Sumiainen**	**2.40**	**329**	Pb	Pn	09 41 40.7	+1.5
SUF				Sb	Sb	09 42 11.2	-1.7

IDC 27 09:44:46.6±10.0,13°.93S×167°.96E,h204km±95km, mb3.3/3,mb1 3.4/4,mb1mx3.2/20,mbtmp3.3/4,Error ellipse: s-maj=170.2km s-min=74.5km az=86.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.22**	**190**	P	Pn	09 46 43.0	+0.1
	0.9nm,0.3s,baz=30,slow=16,SNR=9.3						
DZM				S	S	09 48 15.6	0.0
	0.1nm,0.3s,baz=66,slow=20,SNR=2.2						
STKA	**Stephens Creek**	**30.02**	**229**	P	P	09 50 36.0	-0.4
	2.2nm,0.7s,baz=62,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	**32.67**	**255**	P	P	09 51 00.2	+0.4
	0.3nm,0.7s,baz=83,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**33.58**	**248**	P	P	09 51 07.5	-0.2
	0.7nm,0.3s,baz=75,slow=9.6,SNR=30						

BYKL ***27*** *09:51:10.1±0.3,56°.27N×115°.79E*

MOS ***27*** *09:51:10.4±1.3,56°.28N×115°.62E,h19km,mb4.5/5,Error ellipse: s-maj=11.6km s-min=9.2km az=57.1*
IDC ***27*** *09:51:10.1±0.8,56°.66N×115°.58E,h0km,mb3.5/10, mb1 3.8/10,mb1mx3.6/28,mbtmp3.6/10,MS2.8/2, Ms1 2.8/2,ms1mx2.4/43,Error ellipse: s-maj=23.6km s-min=19.1km az=27.0*

ISC 27 09:51:08.5±1.2,56°.24N±0°.03×115°.68E±0°.02,h3km±9km, n60,σ1°50/77,mb3.7/11,6C-2D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**1.20**	**265**	*e*Pg	**Pb**	**09 51 31.9**	**+0.1**
SVKR				Pmax		09 51 37.3	
	984nm,0.3s						
SVKR				*i* Sg	**Sg**	**09 51 49.0**	**+2.2**
SVKR				Smax		09 51 53.2	
	7μm,0.4s						
SVKR	**Severomuysk**	**1.20**	**265**	*e*PG	**Pg**	**09 51 32.3**	**+0.9**
SVKR				*e*		09 51 48.3	
SVKR				pmax	pmax		
	comp=Z,1μm,0.2s						
SVKR				smax	smax		
	comp=N,7μm,0.3s						
CRS	**Chara**	**1.57**	**64**	*e*Pn	**Pn**	**09 51 37.5**	**+0.2**
CRS				*e*Pg	**Pb**	**09 51 38.1**	**-0.2**
CRS				Pmax		09 51 44.9	
	comp=N,80nm,0.8s						
CRS				*e*Sg	**Sb**	**09 51 58.6**	**0.0**
CRS				Smax		09 52 00.2	
	comp=N,425nm,0.9s						
CRS	**Chara**	**1.57**	**64**	*e*PN	**Pn**	**09 51 37.6**	**+0.2**
CRS				*e*		09 51 57.6	
CRS				pmax	pmax		
	comp=Z,81nm,0.4s						
CRS				smax	smax		
	comp=E,411nm,0.7s						
BOD	**Bodaibo**	**1.83**	**331**	*e*Pn	**Pb**	**09 51 40.9**	**-1.7**
BOD				⇑*i*Pg	**Pg**	**09 51 42.6**	**-0.9**
BOD				Pmax		09 51 43.6	
	comp=E,2μm,0.7s						
BOD				*e*Sg	**Sg**	**09 52 06.4**	**-0.8**
BOD				Smax		09 52 07.0	
	comp=E,6μm,0.4s						
BOD	**Bodaibo**	**1.83**	**331**	⇑*i*PN	**Pb**	**09 51 42.2**	**-0.4**
BOD				*e*		09 52 05.9	
BOD				pmax	pmax		
	comp=Z,2μm,0.4s						
BOD				smax	smax		
	comp=E,6μm,0.4s						
YOA	**Uoyan**	**2.22**	**269**	*e*Pg	**Pb**	**09 51 50.2**	**+1.1**
YOA				*e*PgPg	**PnPn**	**09 51 52.7**	**-0.5**
YOA				max		09 51 56.3	
	comp=E,642nm,0.3s						
YOA				*e*Sg	**Sg**	**09 52 21.1**	**+1.5**
YOA				Smax		09 52 26.8	
	comp=E,6μm,0.6s						
YOA	**Uoyan**	**2.22**	**269**	⇑*i*PN	**Pb**	**09 51 50.3**	**+1.1**
YOA				*e*		09 52 21.7	
YOA				pmax	pmax		
	comp=Z,442nm,0.3s						
YOA				smax	smax		
	comp=E,6μm,0.6s						
KHNR	**Khani**	**2.47**	**72**	*e*Pn	**Pn**	**09 51 49.9**	**+0.2**
KHNR				*e*Pg	**Pb**	**09 51 53.1**	**-0.4**
KHNR				*e*Sn	**Sn**	**09 52 19.3**	**-1.1**
KHNR				*e*Sg	**Sb**	**09 52 24.5**	**+0.1**
KMO	**Kumora**	**2.54**	**264**	⇑*i*Pn	**Pn**	**09 51 51.9**	**+1.3**
KMO				*e*Pg	**Pb**	**09 51 55.1**	**+0.4**
KMO				*e*		09 52 02.4	
KMO				max		09 52 02.8	
	comp=E,279nm,0.5s						
KMO				*e*Sg	**Sg**	**09 52 30.1**	**+0.1**
KMO				Smax		09 52 36.0	
	comp=E,1μm,0.9s						
KMO	**Kumora**	**2.54**	**264**	*e*PN	**Pn**	**09 51 51.8**	**+1.2**
KMO				*e*		09 51 55.9	
KMO				*e*S	**Sb**	**09 52 23.4**	**-2.9**
KMO				*e*		09 52 29.3	
KMO				pmax	pmax		
	comp=Z,215nm,0.3s						
KMO				smax	smax		
	comp=E,1μm,0.8s						
YLYR	**Ulyunkhan**	**2.91**	**244**	⇓*i*Pn	**Pn**	**09 51 57.0**	**+1.2**
YLYR				*e*Pg	**Pb**	**09 52 02.0**	**+1.0**
YLYR				Pmax		09 52 11.6	
	comp=E,82nm,0.5s						
YLYR				*e*Sn	**Sn**	**09 52 31.0**	**-0.2**
YLYR				*e*Sg	**Sg**	**09 52 41.7**	**-0.2**
YLYR				Smax		09 52 46.4	
	comp=E,573nm,0.6s						
YLYR	**Ulyunkhan**	**2.91**	**244**	*e*PN	**Pn**	**09 51 56.9**	**+1.2**
YLYR				*e*		09 52 02.5	
YLYR				*e*S	**Sn**	**09 52 32.6**	**+1.4**
YLYR				*e*		09 52 41.0	
YLYR				pmax	pmax		
	comp=Z,71nm,0.5s						
YLYR				smax	smax		
	comp=E,385nm,0.2s						
TUP	**Tupik**	**3.04**	**125**	*e*Pn	**Pn**	**09 51 57.4**	**-0.1**
TUP				⇑*i*Pg	**Pb**	**09 52 03.4**	**+0.1**
TUP				Pmax		09 52 07.3	
	comp=E,280nm,0.7s						
TUP				*e*Sg	**Sb**	**09 52 43.6**	**+2.8**
TUP				*e*SgSg	Sg	09 52 56.3	+10
TUP				max		09 52 57.6	
	comp=E,3μm,0.9s						
TUP	**Tupik**	**3.04**	**125**	*e*PN	**Pn**	**09 51 57.2**	**-0.3**
TUP				*e*		09 52 03.4	
TUP				*e*S	**Sn**	**09 52 34.3**	**-0.2**
TUP				*e*		09 52 44.1	
TUP				pmax	pmax		
	comp=Z,249nm,0.3s						
TUP				smax	smax		
	comp=N,3μm,0.9s						
YKLR	**Yuktali**	**3.33**	**82**	*e*Pn	**Pn**	**09 52 01.1**	**-0.4**
YKLR				*e*Pg	**Pb**	**09 52 08.3**	**+0.1**
YKLR				*e*Sg	**Sb**	**09 52 51.0**	**+1.8**
NIZ	**Nizh Angarsk**	**3.48**	**265**	*e*Pn	**Pn**	**09

CLNS				*e*S	**Sn**	**09 53 26.0**	**+0.1**
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,1.0nm,0.7s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
CLNS				smax	smax		
	comp=N,24nm,0.8s						
CLNS				smax	smax		
	comp=E,20nm,0.9s						
CLNS				MLR	MLR		
	comp=N,48nm,9.0s						
CLNS				MLR	MLR		
	comp=Z,68nm,10.0s						
CLNS				MLR	MLR		
	comp=E,122nm,11.0s						
OGRR	**Ongureny**	**5.34 244**	⇑*i*Pn		**Pn**	**09 52 30.4**	**+1.3**
OGRR			*e*Pg		Pb	09 52 45.7	+3.3
OGRR			Pmax			09 52 58.9	
	comp=E,17nm,0.6s						
OGRR			*e*Sg		**Sg**	**09 53 55.9**	**-4.0**
OGRR			Smax			09 54 04.9	
	comp=E,150nm,1.4s						
OGRR	**Ongureny**	**5.34 244**	*e*PN		**Pn**	**09 52 30.4**	**+1.3**
OGRR			*e*			09 52 46.1	
OGRR			*e*			09 53 55.4	
OGRR			pmax		pmax		
	comp=Z,27nm,0.9s						
OGRR			smax		smax		
	comp=N,161nm,1.5s						
UUDB	**Ulan-Yde**	**6.44 230**	*e*Sg		**Sg**	**09 54 32.0**	**-3.2**
TRG	**Tyrgan**	**6.46 241**	*e*Pn		Pn	09 52 49.2	+4.7
TRG			*e*Pg		Pg	09 53 08.4	-3.8
TRG			Pmax			09 53 13.7	
	comp=N,9.0nm,0.9s						
TRG			*e*Sg		**Sg**	**09 54 33.6**	**-2.2**
TRG			Smax			09 54 39.9	
	comp=N,81nm,1.1s						
KAB	**Kabansk**	**6.76 235**	*e*Sg		**Sg**	**09 54 42.1**	**-3.4**
KAB			Smax			09 55 18.6	
	comp=N,737nm,1.6s						
KPC	**Khapcheranga**	**6.85 198**	⇓*i*Pn		**Pn**	**09 52 49.0**	**-0.8**
KPC			*e*			09 52 56.9	
KPC			*e*Pg		Pb	09 53 13.9	+5.8
KPC			Pmax			09 53 14.5	
	comp=N,11nm,0.3s						
KPC			*e*			09 54 22.0	
KPC			*e*Sg		Sg	09 54 43.4	-4.8
KPC			Smax			09 54 50.8	
	comp=N,278nm,1.4s						
KPC	**Khapcheranga**	**6.85 198**	*e*PG		Pb	09 53 14.1	+6.0
KPC			*e*			09 54 43.4	
KPC			pmax		pmax		
	comp=Z,13nm,0.5s						
KPC			smax		smax		
	comp=N,238nm,0.8s						
LSTR	**Listvyanka**	**7.74 240**	*e*Sg		Sb	09 55 11.9	+16
LSTR			Smax			09 55 26.5	
	comp=N,152nm,1.6s						
IRK	**Irkutsk**	**7.79 244**	*e*Sg		Sb	09 55 13.6	+16
IRK			Smax			09 55 26.3	
	comp=N,299nm,0.9s						
TLY	**Talaya**	**8.44 242**	*e*Sg		Sb	09 55 32.7	+17
TLY			Smax			09 55 52.4	
	comp=N,44nm,1.2s						
TLY	**Talaya**	**8.44 242**	*e*PN		**Pn**	**09 53 11.9**	**+0.3**
TLY			*e*			09 53 41.2	
TLY			*e*			09 55 33.1	
TLY			pmax		pmax		
	comp=Z,9.0nm,0.9s						
TLY			smax		smax		
	comp=E,46nm,1.0s						
ARS	**Arshan**	**8.91 246**	*e*Sg		Sn	09 55 50.0	+51
ARS			Smax			09 55 54.0	
	comp=E,149nm,1.3s						
ZAK	**Zakamensk**	**9.46 237**	*e*Sg		Sn	09 56 05.5	+53
ZAK			Smax			09 56 28.8	
	comp=E,43nm,1.5s						
ZAK	**Zakamensk**	**9.46 237**	*e*P		Pn	09 53 20.9	-4.7
ZAK			pmax		pmax		
	comp=Z,1.0nm,1.2s						
MOY	**Mondy**	**9.79 248**	*e*Pn		**Pn**	**09 53 30.1**	**-0.1**
MOY			*e*			09 54 06.1	
MOY			max			09 54 22.0	
MOY			*e*Sg		Sn	09 56 15.5	+55
MOY			Smax			09 56 18.7	
	comp=Z,120nm,1.8s						
ULN	**Ulaanbaatar**	**9.92 216**	*e*Sg		Sn	09 56 18.9	+55
ORL	**Orlik**	**9.97 255**	*e*Pn		Pn	09 53 36.2	+3.6
ORL			Pg			09 54 11.9	
ORL			Pmax			09 54 36.6	
	comp=Z,6.0nm,0.8s						
ORL			*e*			09 55 47.6	
ORL			*e*Sg		Sn	09 56 19.8	+55
ORL			Smax			09 56 27.6	
	comp=Z,62nm,1.4s						
SONM	**Songino Array**	**10.17 218**	Pn		**Pn**	**09 53 36.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=28,slow=12,SNR=8.4						
SONM			Lg		Lg	09 56 28.1	
	comp=Z,3.3nm,0.3s,baz=24,slow=33,SNR=13						
SONM			LR		LR	09 57 49.7	
	comp=Z,52nm,20.8s,baz=241,slow=38						
HABR	**Khabarovsk**	**14.12 115**	*e*P		**P**	**09 54 35.2**	**-1.9**
HABR			*e*S		**Sn**	**09 57 03.4**	**-3.0**
HABR			pmax		pmax		
	comp=E,30nm,1.6s						
HABR			MLR		MLR		
	comp=Z,46nm,20.0s						
USRK	**Ussuriysk Arra**	**15.89 132**	Lg		Lg	09 59 35.5	
	comp=Z,0.2nm,0.3s,baz=328,slow=28,SNR=7.8						
ZALV	**Zalesovo Beam**	**17.74 276**	LR		LR	10 02 37.7	
	comp=Z,36nm,18.7s,baz=68,slow=39						
KSRS	**Korea Array**	**20.52 151**	P		Pn	09 55 54.3	+4.6
	comp=Z,1.3nm,0.8s,baz=348,slow=9.4,SNR=4.2						
KURK	**Kurchatov**	**22.54 272**	P		**P**	**09 56 11.2**	**+1.9**
KURK			pmax		pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**22.62 259**	*e*P		**P**	**09 56 11.2**	**+0.9**
MKAR	**Makanchi Array**	**22.62 259**	P		**P**	**09 56 10.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=40,slow=9.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**22.63 271**	P		**P**	**09 56 11.2**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=63,slow=13,SNR=10						
BVAR	**Borovoye Array**	**26.05 282**	P		**P**	**09 56 44.8**	**+2.1**
BVAR	**Borovoye Array**	**26.05 282**	P		**P**	**09 56 44.8**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=58,slow=14,SNR=2.6						
BRVK	**Borovoye**	**26.09 282**	*e*P		**P**	**09 56 45.4**	**+2.3**
BRVK			pmax		pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**43.16 315**	P		**P**	**09 59 09.2**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=54,slow=7.5,SNR=6.8						
ILAR	**Eielson Array**	**44.05 38**	P		**P**	**09 59 16.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=313,slow=4.0,SNR=4.4						
NOA	**NORSAR Array B**	**48.94 321**	P		**P**	**09 59 54.5**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=51,slow=7.8,SNR=3.5						
NVAR	**Mina Array Bea**	**75.18 41**	P		**P**	**10 02 52.2**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=0.9,slow=5.8,SNR=2.8						
WRA	**Warramunga Arr**	**77.51 162**	P		P	10 03 09.5	+4.3
	comp=Z,0.7nm,0.7s,baz=352,slow=6.5,SNR=7.9						
ASAR	**Alice Springs**	**81.08 163**	P		P	10 03 29.4	+4.7
	comp=Z,0.2nm,0.6s,baz=357,slow=5.1,SNR=5.7						

*CASC **27** 09:55:16.9±2.1, 14°.29N×90°.47W, h195km±6km, MD3.5, ML3.6*

*ISCJB **27** 09:55:17.0±0.4, 14°.49N±0°.05×90°.55W±0°.05, h190km±3km, mb4.1/8, Error ellipse: s-maj=10.2km s-min=4.6km az=137.5*

*NEIC **27** 09:55:17.9±1.1, 14°.49N×90°.47W, h185km±10km, mb4.2/6, Error ellipse: s-maj=15.4km s-min=11.6km az=52.0*

*IDC **27** 09:55:18.1±4.4, 14°.49N×90°.41W, h186km±24km, mb3.9/7, mb1 3.9/10, mb1mx3.6/26, mbtmp3.7/10, Error ellipse: s-maj=48.8km s-min=19.3km az=155.0*

ISC 27 09:55:17.1±0.7, 14°.48N±0°.06×90°.63W±0°.05, h185km±6km, n55, σ1§31/68, mb4.2/8, 2C-5D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.09**	**169**⇑	*e*P	**Pn**	**09 55 43.0**	**+1.2**
FUG	**Fuego 3**	**0.21**	**262**⇓	*e*P	**Pn**	**09 55 42.9**	**+1.0**
NBG	**Las Nubes**	**0.29**	**68**⇓	*e*P	**Pn**	**09 55 43.6**	**+1.5**
RBDL	**Robledal**	**0.98**	**112**⇓	*e*P	**Pn**	**09 55 45.3**	**-0.1**
JAT	**Jato**	**0.99**	**261**⇑	*e*P	**Pn**	**09 55 46.7**	**+1.4**
JAT				*e*S	**Sn**	**09 56 06.2**	**-0.8**
MRL	**Marmol**	**1.07**	**57**⇓	*e*P	**Pn**	**09 55 47.8**	**+1.7**
MRL				*e*S	**Sn**	**09 56 09.8**	**+1.3**
RTR	**El Retiro**	**1.11**	**121**⇓	*i*P	**Pn**	**09 55 46.3**	**-0.1**
SNJE	**San Jose**	**1.16**	**121**	*e*P	**Pn**	**09 55 46.5**	**-0.3**
SNJE				*e*S	**Sn**	**09 56 09.2**	**-0.6**
SBLS	**San Blas**	**1.16**	**123**	*e*P	**Pn**	**09 55 46.5**	**-0.3**
BOQS	**Boqueron**	**1.50**	**119**	*e*P	**Pn**	**09 55 49.6**	**-0.2**
BOQS				*e*S	**Sn**	**09 56 14.6**	**-0.4**
SNET	**Serv Nac Est T**	**1.56**	**120**	*e*P	**Pn**	**09 55 49.7**	**-0.5**
SNET				AML	AML	09 56 23.3	
	comp=Z,472nm,0.2s						
LFU	**La Fuente**	**1.64**	**116**	*e*P	**Pn**	**09 55 50.8**	**-0.1**
LFU				*e*S	**Sn**	**09 56 16.7**	**-0.4**
LBRS	**Las Brisas**	**1.70**	**115**	*e*P	**Pn**	**09 55 51.2**	**-0.3**
LFRS	**El Faro**	**1.74**	**119**	*e*P	**Pn**	**09 55 51.9**	**-0.1**
COPN	**Copaltepe**	**4.54**	**120**	*e*P	**Pn**	**09 56 25.1**	**-0.2**
CMIG	**Matias Romero**	**4.85**	**303**	P	**Pn**	**09 56 30.8**	**+1.5**
CMIG				S	**Sn**	**09 57 22.6**	**-3.4**
CMIG	**Matias Romero**	**4.85**	**303**	P	**Pn**	**09 56 30.8**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=132,slow=9.1,SNR=27						
CMIG				S	**Sn**	**09 57 22.6**	**-3.4**
	comp=Z,6.8nm,0.3s,baz=297,slow=18,SNR=14						
TEIG	**Tepich**	**6.14**	**21**	*e*Pn	**Pn**	**09 56 45.9**	**-0.1**
	comp=Z,14nm,0.4s						
TEIG				*e*Sn	**Sn**	**09 57 54.0**	**-2.2**
TEIG				S	**Sn**	**09 57 54.3**	**-1.9**
TEIG	**Tepich**	**6.14**	**21**	P	**Pn**	**09 56 47.4**	**+1.4**
	comp=Z,4.6nm,0.3s,baz=212,slow=2.6,SNR=51						
TEIG				S	**Sn**	**09 57 54.3**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=201,slow=22,SNR=6.2						
VCR	**Vista de Mar**	**6.52**	**131**	*e*P	**Pn**	**09 56 52.2**	**+1.0**
JTS	**JuntasAbangare**	**6.93**	**126**	*e*Pn	**Pn**	**09 56 55.9**	**-0.5**
	comp=Z,380nm,0.3s						
JTS				*e*Sn	**Sn**	**09 58 11.8**	**-3.1**
JCR	**Jicaral**	**7.09**	**130**	*e*P	**Pn**	**09 56 59.7**	**+1.2**
CAO	**Cobano**	**7.19**	**131**	*e*P	**Pn**	**09 57 00.0**	**+0.2**
CAO				*e*S	**Sn**	**09 58 18.2**	**-2.9**
CGA2	**Cerro Gallo 2**	**7.48**	**126**	*e*P	**Pn**	**09 57 05.4**	**+1.7**
BUS	**Buena Vista**	**8.31**	**125**	*e*P	**Pn**	**09 57 16.2**	**+1.2**
CNI	**Changuinola**	**9.39**	**121**	*e*P	**Pn**	**09 57 29.4**	**+0.8**
CNI				*e*S	**Sn**	**09 59 11.7**	**-1.9**
CTCR	**Cotoan**	**9.49**	**125**	*e*P	**Pn**	**09 57 29.8**	**-0.4**
CTCR				*e*S	**Sn**	**09 59 14.5**	**-1.8**
BRU2	**Volcan**	**9.61**	**125**	*e*P	**Pn**	**09 57 32.5**	**+0.8**
BRU2				*e*S	**Sn**	**09 59 16.8**	**-2.1**
VBMS	**Vicksburg**	**17.66**	**0**	*e*P	**Pn**	**09 59 11.1**	**-0.7**
	comp=Z,46nm,0.8s						
JCT	**Junction City**	**18.03**	**334**	*e*P	**Pn**	**09 59 16.9**	**+0.7**
	comp=Z,3.3nm,0.6s						
LRAL	**Lakeview Retre**	**18.77**	**10**	*e*P	**P**	**09 59 22.3**	**+0.2**
	comp=Z,6.0nm,0.8s						
TXAR	**Lajitas Array**	**19.08**	**323**	P	**Pn**	**09 59 29.5**	**+0.8**
TXAR	**Lajitas Array**	**19.08**	**323**	P	**Pn**	**09 59 29.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=145,slow=11,SNR=32						
MIAR	**Mount Ida**	**20.16**	**353**	*e*P	**P**	**09 59 37.3**	**+0.2**
	comp=Z,8.5nm,1.0s						
WMOK	**Wichita Mounta**	**21.47**	**341**	*e*P	**P**	**09 59 51.1**	**0.0**
	comp=Z,4.6nm,1.0s						
CPCT	**Cooper Cave**	**21.59**	**14**	*e*P	**P**	**09 59 53.6**	**+1.3**
TKL	**Tuckaleechee C**	**21.97**	**15**	P	**P**	**09 59 57.8**	**+1.6**
TKL	**Tuckaleechee C**	**21.97**	**15**	P	**P**	**09 59 57.8**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=195,slow=11,SNR=15						
SADO	**Sadowa**	**31.73**	**16**	P	**P**	**10 01 24.0**	**+0.6**
SADO	**Sadowa**	**31.73**	**16**	P	**P**	**10 01 24.0**	**+0.6**
	comp=Z,11nm,0.4s,baz=224,slow=9.2,SNR=16						
REDW	**Red Top Meadow**	**33.60**	**333**	*e*P	**P**	**10 01 41.4**	**+1.3**
NVAR	**Mina Array Bea**	**34.16**	**319**	P	P	10 01 48.4	+3.5
NVAR	**Mina Array Bea**	**34.16**	**319**	P	P	10 01 48.4	+3.5
	comp=Z,1.6nm,0.7s,baz=137,slow=8.2,SNR=20						
ULM	**Lac du Bonnet**	**35.93**	**354**	P	**P**	**10 01 59.2**	**-0.3**
ULM	**Lac du Bonnet**	**35.93**	**354**	P	**P**	**10 01 59.2**	**-0.3**
	comp=Z,7.2nm,0.6s,baz=170,slow=10,SNR=6.5						
SCHQ	**Schefferville**	**44.32**	**20**	P	**P**	**10 03 08.8**	**+0.3**
SCHQ	**Schefferville**	**44.32**	**20**	P	**P**	**10 03 08.8**	**+0.3**
	comp=Z,20nm,0.6s,baz=214,slow=6.5,SNR=49						
YKA	**Yellowknife Ar**	**50.88**	**346**	P	**P**	**10 03 58.7**	**-0.1**
YKA	**Yellowknife Ar**	**50.88**	**346**	P	**P**	**10 03 58.7**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=143,slow=7.1,SNR=4.0						
ILAR	**Eielson Array**	**62.93**	**336**	P	**P**	**10 05 23.2**	**-0.2**
ILAR	**Eielson Array**	**62.93**	**336**	P	**P**	**10 05 23.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=118,slow=5.1,SNR=6.4						
WRA	**Warramunga Arr**	**136.80**	**256**	PKP	**PKPdf**	**10 14 19.3**	**+0.9**
WRA	**Warramunga Arr**	**136.80**	**256**	PKP	**PKPdf**	**10 14 19.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=4.7,slow=0.9,SNR=7.3						
ASAR	**Alice Springs**	**137.08**	**251**	PKP	**PKPdf**	**10 14 20.2**	**+1.4**
ASAR	**Alice Springs**	**137.08**	**251**	PKP	**PKPdf**	**10 14 20.2**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=95,slow=2.0,SNR=3.5						

IDC 27 10:02:05.3±0.9, 47°.42N×27°.43W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.7/34, mbtmp3.7/8, ML4.8/1, MS3.4/13, Ms1 3.4/13, ms1mx3.2/47, Error ellipse: s-maj=33.9km s-min=20.5km az=12.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.03**	**53**	P	Pn	10 06 04.4	-0.2
	baz=250,slow=11,SNR=5.0						
ESDC	**Sonseca Array**	**18.64**	**106**	P	P	10 06 24.2	-0.4
	0.7nm,0.3s,baz=302,slow=12,SNR=7.0						
ESDC				LR	LR	10 12 10.8	
	comp=Z,115nm,19.1s,baz=335,slow=32						
MDT	**Midelt**	**22.63**	**122**	LR	LR	10 14 53.9	
	comp=Z,66nm,19.6s,baz=271,slow=34						
SFJD	**Kangerlussuaq**	**23.03**	**337**	LR	LR	10 13 07.1	
	comp=Z,89nm,21.2s,baz=243,slow=29						
DAVOX	**Davos/Dischmat**	**25.25**	**78**	LR	LR	10 16 02.8	
	comp=Z,84nm,20.0s,baz=269,slow=33						
SCHQ	**Schefferville**	**25.53**	**302**	LR	LR	10 16 50.1	
	comp=Z,54nm,18.7s,baz=21,slow=35						
NOA	**NORSAR Array B**	**25.92**	**44**	LR	LR	10 15 51.9	
	comp=Z,24nm,20.4s,baz=260,slow=32						
GERES	**GERESS Array B**	**27.26**	**72**	P	P	10 07 51.9	+0.8
	0.2nm,0.2s,baz=281,slow=11,SNR=2.3						
GERES				LR	LR	10 17 37.1	
	comp=Z,103nm,18.6s,baz=298,slow=34						
VRAC	**Vranov**	**29.01**	**70**	LR	LR	10 19 23.9	
	comp=Z,110nm,18.8s,baz=299,slow=36						
KEST	**Kesra**	**29.62**	**100**	LR	LR	10 18 22.1	
	comp=Z,42nm,21.3s,baz=295,slow=33						
TORD	**Torodi Ar. Bea**	**41.95**	**135**	P	P	10 09 57.6	-0.3
	2.7nm,0.7s,baz=331,slow=8.1,SNR=18						
ULM	**Lac du Bonnet**	**43.70**	**300**	LR	LR	10 27 05.0	
	comp=Z,72nm,20.4s,baz=31,slow=34						
DBIC	**Dimbokro**	**44.97**	**147**	LR	LR	10 28 37.5	
	comp=Z,67nm,18.1s,baz=177,slow=35						
PDAR	**Pinedale Array**	**55.59**	**298**	P	P	10 11 43.1	+0.3
	1.4nm,0.9s,baz=69,slow=8.1,SNR=9.9						
PDAR				LR	LR	10 33 18.3	
	comp=Z,65nm,19.2s,baz=185,slow=34						
BVAR	**Borovoye Array**	**58.05**	**45**	P	P	10 12 04.3	+4.4
	0.3nm,0.3s,baz=262,slow=7.3,SNR=3.8						
TXAR	**Lajitas Array**	**60.07**	**282**	P	P	10 12 14.0	-0.3
	0.4nm,0.8s,baz=64,slow=5.7,SNR=4.5						
TXAR				LR	LR	10 38 28.2	
	comp=Z,49nm,18.2s,baz=5.0,slow=36						
MKAR	**Makanchi Array**	**67.92**	**44**	P	P	10 13 05.9	+0.3
	0.2nm,0.6s,baz=306,slow=3.4,SNR=3.0						
SONM	**Songino Array**	**76.96**	**30**	P	P	10 13 58.3	-1.3
	0.7nm,0.8s,baz=328,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**148.84**	**35**	PKPbc	PKPbc	10 21 54.8	-0.1
	1.0nm,0.9s,baz=334,slow=3.1,SNR=6.6						
ASAR	**Alice Springs**	**151.99**	**39**	PKPbc	PKPbc	10 22 02.1	-0.3
	0.7nm,0.8s,baz=34,slow=1.7,SNR=5.9						

DJA 27 10:06:39.1±2.7, 1°S±20°×10°1E±2°9, h106km±22km, M3.7/3, MLv3.7/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.90**	**300**	P	Pn	10 06 59.1	+0.1
PDSI				S	Sn	10 07 15.0	+1.1
PPI	**Padang Panjang**	**1.23**	**317**	P	Pn	10 07 02.4	-0.1
BKNI	**Bangkinang**	**1.69**	**353**	P	Pn	10 07 07.8	-0.2

IDC 27 10:09:29.9±26.0, 21°.13S×171°.22W, h0km, mb4.5/4, mb1 4.6/4, mb1mx3.9/21, mbtmp4.5/4, Error ellipse: s-maj=496.6km s-min=170.2km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**34.82**	**256**	P	P	10 16 20.1	-2.7
	baz=32,SNR=4.2						
CTA	**Charters Tower**	**39.73**	**264**	P	P	10 17 04.4	-0.2
	9.3nm,0.4s,baz=98,slow=9.1,SNR=22						
MTSU	**Mount Surprise**	**41.89**	**266**	P	P	10 17 23.6	+1.2
	baz=40,SNR=6.6						
STKA	**Stephens Creek**	**43.27**	**246**	P	P	10 17 32.0	-1.4
	1.2nm,0.5s,baz=108,slow=9.6,SNR=3.7						
ASAR	**Alice Springs**	**50.54**	**256**	P	P	10 18 30.8	+0.2
	2.1nm,0.5s,baz=92,slow=7.5,SNR=22						
WRA	**Warramunga Arr**	**50.78**	**261**	P	P	10 18 32.8	+0.4
	2.4nm,0.3s,baz=90,slow=5.9,SNR=115						
KNRA	**Kununurra**	**56.93**	**265**	P	P	10 19 21.1	+3.7
	baz=54,SNR=7.8						
FITZ	**Fitzroy Crossi**	**59.22**	**261**	P	P	10 19 37.2	+3.8
	baz=56,SNR=5.9						
MORW	**Morawa**	**65.44**	**247**	P	P	10 20 19.8	+4.8
	baz=61,SNR=3.9						
WSI	**Waingapu**	**66.58**	**268**	S	S	10 29 04.0	-11
	baz=64,SNR=3.8						
CISI	**Cisompet, Garu**	**78.92**	**266**	P	P	10 21 45.0	+9.0
	baz=76,SNR=4.5						

IDC 27 10:10:27.3±1.6, 16°.25S×175°.89E, h0km, mb3.9/4, mb1 4.3/5, mb1mx3.8/19, mbtmp4.1/5, ML4.6/1, Error ellipse: s-maj=123.7km s-min=28.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.64**	**236**	Pn	Pn	10 12 59.1	-2.1
	4.8nm,0.3s,baz=90,slow=20,SNR=53						
NOUC	**Port Laguerre**	**10.76**	**236**	*e*P	Pn	10 13 04.3	+1.5
CMSA	**Cobar Meteorol**	**31.39**	**236**	P	P	10 16 49.3	-0.8
	baz=35,SNR=12						
STKA	**Stephens Creek**	**34.79**	**237**	P	P	10 17 19.3	-0.5
	3.3nm,1.0s,baz=86,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**39.60**	**258**	P	P	10 18 01.3	+0.5
	0.3nm,0.4s,baz=89,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**40.03**	**252**	P	P	10 18 04.6	+0.1
	2.0nm,0.4s,baz=82,slow=9.2,SNR=66						
TXAR	**Lajitas Array**	**89.79**	**59**	P	P	10 23 28.1	-0.2
	0.4nm,0.7s,baz=219,slow=6.3,SNR=8.1						

MEX 27 10:27:36.8±1.3, 15°.47N×94°.02W, h20km±60km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.80**	**73**	*e*P	Pb	10 27 49.5	-2.6
PCIG				*i* S	Sb	10 28 00.2	-2.3
TGIG		**1.56**	**33**	*i* P	Pn	10 27 59.8	-3.7
TGIG				*i* S	Sn	10 28 18.1	-5.0
CMIG	**Matias Romero**	**1.81**	**333**	*i* P	Pn	10 28 04.5	-2.4
CMIG				*i* S	Sn	10 28 26.0	-3.3
CCIG	**Comitan**	**1.98**	**66**	*i* P	Pn	10 28 07.3	-2.2
CCIG				*i* S	Sn	10 28 30.2	-3.7
HUIG	**Huatulco**	**2.04**	**279**	*e*P	Pn	10 28 06.9	-3.1
HUIG				*i* S	Sn	10 28 31.3	-3.6

IDC 27 10:28:13.6±2.9, 1°.73S×99°.12E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML2.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/41, Error ellipse: s-maj=112.3km s-min=19.4km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.50**	**357**	Pn	Pn	10 29 21.0	-2.3
	0.7nm,0.3s,baz=120,slow=20,SNR=1.9						
PSI				LR	LR	10 30 47.6	
	comp=Z,115nm,19.3s,baz=206,slow=35						
CMAR	**Chiang Mai Arr**	**20.06**	**360**	P	P	10 32 47.4	-1.2
	0.5nm,0.3s,baz=186,slow=9.4,SNR=5.7						
WRA	**Warramunga Arr**	**38.89**	**120**	P	P	10 35 40.7	-0.5
	0.4nm,0.6s,baz=303,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**40.12**	**126**	P	P	10 35 51.6	0.0
	0.2nm,0.6s,baz=298,slow=8.2,SNR=6.1						
SONM	**Songino Array**	**49.77**	**6**	P	P	10 37 09.3	+1.3
	0.2nm,0.4s,baz=194,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	10 37 13.6	-0.2
	0.7nm,0.5s,baz=156,slow=10,SNR=7.6						
OPO	**Ambohidratompo**	**53.55**	**248**	LR	LR	10 57 08.7	
	comp=Z,116nm,20.0s,baz=79,slow=32						
ZALV	**Zalesovo Beam**	**56.74**	**350**	P	P	10 37 58.5	-0.6
	1.4nm,0.4s,baz=192,slow=5.5,SNR=3.7						
TXAR	**Lajitas Array**	**145.01**	**36**	PKPbc	PKPab	10 47 52.5	-0.6
	0.2nm,0.5s,baz=179,slow=1.1,SNR=8.8						

IDC 27 10:28:25.8±27.0, 22°.37S×173°.04W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/21, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=507.7km s-min=147.9km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**22.56**	**82**

ZALV	**Zalesovo Beam**	**19.90**	**24**	P		**P**	**10 44 28.8 +0.2**
	1.8nm,0.3s,baz=213,slow=11,SNR=5.2						
SONM	**Songino Array**	**28.31**	**55**	P		**P**	**10 45 50.1 +0.6**
	0.4nm,0.9s,baz=249,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**37.49**	**326**	P		P	10 47 12.2 +3.3
	1.0nm,0.4s,baz=133,slow=11,SNR=6.1						
ARCES	**ARCESS Array B**	**41.15**	**338**	P		P	10 47 42.6 +3.4
	1.7nm,0.9s,baz=113,slow=8.0,SNR=4.5						
NB2	**NORSAR Subarra**	**44.39**	**323**	P		P	10 48 09.4 +3.8
	comp=Z,0.8nm,0.5s,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**44.39**	**323**	P		P	10 48 08.8 +3.2
	comp=Z,1.0nm,0.4s,baz=96,slow=7.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**65.74**	**269**	P		**P**	**10 50 40.4 +0.7**
	comp=Z,0.5nm,0.5s,baz=49,slow=6.7,SNR=8.6						
YKA	**Yellowknife Ar**	**81.24**	**3**	P		**P**	**10 52 11.0 +1.2**
	comp=Z,0.2nm,0.5s,baz=57,slow=27,SNR=3.3						
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**	**10 52 13.0 -1.2**
	comp=Z,0.6nm,1.1s,baz=328,slow=4.9,SNR=4.0						

*ISCJB **27** 10:41:20.0±0.6, 36.°61N±0.°05×4.°99W±0.°02, h60km±6km, Error ellipse: s-maj=7.5km s-min=3.3km az=1.9*
*INMG **27** 10:41:21.5±0.9, 36.°57N×4.°97W, h31km, ML2.0, Error ellipse: s-maj=3.5km s-min=2.2km az=168.0*
*CSEM **27** 10:41:21.3±0.2, 36.°64N×4.°96W, h40km, mb3.8/21, Error ellipse: s-maj=5.6km s-min=2.8km az=5.0*
*MDD **27** 10:41:21.9±0.5, 36.°54N×4.°91W, h40km±4km, mb3.8/21, Error ellipse: s-maj=6.6km s-min=3.0km az=178.0, PRXIMO*
*SFS **27** 10:41:22.0, 36.°65N×4.°94W, h30km, ML2.3*
ISC 27 10:41:20.9±1.5, 36.°57N±0.°04×4.°97W±0.°02, h36km±1km, n67, σ1°24/106, 2C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.16**	**90**	⇑P	Pn	10 41 28.1	-2.4
	17nm,0.1s,SNR=18						
EMIJ				S	Sn	10 41 32.6	-6.8
	54nm,0.2s						
EMIJ	**Mijas**	**0.16**	**90**	P	Pn	10 41 28.1	-2.4
	17nm,0.1s,SNR=18						
REAL	**Reales**	**0.21**	**247**	P	**Pn**	**10 41 30.4**	**+0.9**
REAL				S	**Sn**	**10 41 36.4**	**-0.6**
REAL	**Reales**	**0.21**	**247**	P	**Pn**	**10 41 30.4**	**+0.9**
REAL				S	**Sn**	**10 41 36.4**	**-0.6**
EMAL	**Malaga-Limoner**	**0.47**	**65**	P	**Pn**	**10 41 30.8**	**-0.3**
EMAL				S	**Sn**	**10 41 38.1**	**-0.2**
EMAL	**Malaga-Limoner**	**0.47**	**65**	P	**Pn**	**10 41 30.8**	**-0.3**
EMAL				S	**Sn**	**10 41 38.1**	**-0.2**
LIJA	**Lijar**	**0.49**	**314**	P	Pn	10 41 34.4	+2.9
LIJA				S	**Sn**	**10 41 42.5**	**+3.7**
LIJA	**Lijar**	**0.49**	**314**	*e*P	Pn	10 41 34.4	+2.9
LIJA				*e*S	**Sn**	**10 41 42.5**	**+3.7**
ELOJ	**Sierra Loja**	**0.87**	**48**	P	**Pn**	**10 41 37.3**	**+0.5**
	1.6nm,0.1s,SNR=7.9						
ELOJ				S	**Sn**	**10 41 48.2**	**-0.2**
	10nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.87**	**48**	P	**Pn**	**10 41 37.3**	**+0.5**
	1.6nm,0.1s,SNR=7.9						
ELOJ				S	**Sn**	**10 41 48.2**	**-0.2**
	10nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.04**	**64**	⇓P	**Pn**	**10 41 39.7**	**+0.7**
	1.8nm,0.1s,SNR=18						
ERON				S	**Sn**	**10 41 53.3**	**+1.0**
	9.6nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.04**	**64**	P	**Pn**	**10 41 39.7**	**+0.7**
	1.8nm,0.1s,SNR=18						
ERON				S	**Sn**	**10 41 53.3**	**+1.0**
	9.6nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.14**	**29**	P	**Pn**	**10 41 41.4**	**+1.0**
	4.3nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**10 41 55.6**	**+0.8**
	44nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.14**	**29**	P	**Pn**	**10 41 41.4**	**+1.0**
	4.3nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**10 41 55.6**	**+0.8**
	44nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.16**	**76**	P	**Pn**	**10 41 39.1**	**-1.5**
	4.6nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**10 41 56.2**	**+1.0**
	18nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.16**	**76**	P	**Pn**	**10 41 39.1**	**-1.5**
	4.6nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**10 41 56.2**	**+1.0**
	18nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**1.55**	**347**	P	**Pn**	**10 41 45.5**	**-0.5**
	0.4nm,0.1s,SNR=7.9						
ECAB				P	**Pn**	**10 41 48.1**	**+2.1**
	3.6nm,0.1s,SNR=20						
ECAB				S	**Sn**	**10 42 07.4**	**+2.5**
	13nm,0.1s,SNR=6.2						
ECAB	**El Cabril**	**1.55**	**347**	P	**Pn**	**10 41 45.5**	**-0.5**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.63**	**11**	⇓P	**Pn**	**10 41 46.3**	**-0.8**
	0.6nm,0.1s,SNR=18						
EADA				P	**Pn**	**10 41 49.3**	**+2.2**
	2.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**10 42 08.9**	**+2.1**
	20nm,0.1s,SNR=14						
EADA	**Adamuz**	**1.63**	**11**	P	**Pn**	**10 41 46.3**	**-0.8**
	0.6nm,0.1s,SNR=18						
EALB	**Alboran**	**1.68**	**111**	P	**Pn**	**10 41 48.5**	**+0.7**
	0.6nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**10 42 08.8**	**+0.7**
	8.4nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.68**	**111**	P	**Pn**	**10 41 48.5**	**+0.7**
	0.6nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**10 42 08.8**	**+0.7**
	8.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.70**	**78**	P	**Pn**	**10 41 48.6**	**+0.5**
	0.1nm,0.1s,SNR=6.4						
EBER				S	**Sn**	**10 42 09.0**	**+0.2**
	1.0nm,0.1s,SNR=6.1						
EBER	**Berja**	**1.70**	**78**	P	**Pn**	**10 41 48.7**	**+0.5**
	0.1nm,0.1s,SNR=6.4						
EBER				S	**Sn**	**10 42 09.0**	**+0.2**
	1.0nm,0.1s,SNR=6.1						
EMIN	**Mina Concepcio**	**1.81**	**312**	⇓P	**Pn**	**10 41 49.4**	**-0.2**
	0.4nm,0.0s,SNR=18						
EMIN				S	**Sn**	**10 42 09.8**	**-1.6**
	1.6nm,0.1s,SNR=6.9						
EMIN				S	**Sn**	**10 42 16.5**	**+5.1**
	2.1nm,0.1s						
EMIN	**Mina Concepcio**	**1.81**	**312**	P	**Pn**	**10 41 49.4**	**-0.2**
	0.4nm,0.0s,SNR=18						
EMIN				S	**Sn**	**10 42 09.8**	**-1.6**
	1.6nm,0.1s,SNR=6.9						
EBAN	**Banos Encina**	**1.85**	**30**	P	**Pn**	**10 41 49.3**	**-0.9**
	1.0nm,0.1s,SNR=7.9						
EBAN				P	Pn	10 41 53.0	+2.8
	2.3nm,0.1s,SNR=7.9						
EBAN				S	Sn	10 42 09.2	-3.2
	4.3nm,0.1s,SNR=9.1						
EBAN				S		10 42 15.3	
	14nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.85**	**30**	P	**Pn**	**10 41 49.3**	**-0.9**
	1.0nm,0.1s,SNR=7.9						
EBAN				S	Sn	10 42 09.2	-3.2
	4.3nm,0.1s,SNR=9.1						
EQES	**Quesada**	**1.95**	**50**	S	**Sn**	**10 42 13.4**	**-1.6**
	1.8nm,0.1s,SNR=7.9						
EQES				S		10 42 19.6	
	5.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.95**	**50**	S	**Sn**	**10 42 13.4**	**-1.6**
	1.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.23**	**296**	⇓P	**Pn**	**10 41 55.6**	**+0.3**
	1.6nm,0.0s,SNR=18						
EGRO				S	**Sn**	**10 42 20.6**	**-1.1**
	2.7nm,0.1s						
EGRO	**El Granado**	**2.23**	**296**	P	**Pn**	**10 41 55.6**	**+0.3**
	1.6nm,0.0s,SNR=18						
EGRO				S	**Sn**	**10 42 20.6**	**-1.1**
	2.7nm,0.1s						
PBAR	**Barrancos**	**2.30**	**315**	*e*Pn	**Pn**	**10 41 56.2**	**-0.1**
PBAR				A	A	10 42 35.8	
	4.0nm,0.3s						
PBAR	**Barrancos**	**2.30**	**315**	P	**Pn**	**10 41 56.2**	**-0.1**
PBAR	**Barrancos**	**2.30**	**315**	P	**Pn**	**10 41 56.2**	**-0.1**
PVAQ	**Vaqueiros**	**2.36**	**292**	*e*Pn	**Pn**	**10 41 57.4**	**+0.4**
PVAQ				*e*Sn	**Sn**	**10 42 23.4**	**-1.3**
PVAQ				A	A	10 42 25.8	
	5.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.36**	**292**	P	**Pn**	**10 41 57.4**	**+0.4**
PVAQ				S	**Sn**	**10 42 23.4**	**-1.3**
	5.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.36**	**292**	P	**Pn**	**10 41 57.4**	**+0.4**
PVAQ				S	**Sn**	**10 42 23.4**	**-1.3**
	5.0nm,0.1s						
PBDV	**Barranco-de-Ve**	**2.47**	**287**	*e*Pn	**Pn**	**10 41 59.8**	**+1.2**
PBDV				*e*Sn	**Sn**	**10 42 26.9**	**-0.7**
PBDV				A	A	10 42 29.8	
	3.2nm,0.2s						
PBDV	**Barranco-de-Ve**	**2.47**	**287**	P	**Pn**	**10 41 59.8**	**+1.2**
PBDV				S	**Sn**	**10 42 26.9**	**-0.7**
	3.2nm,0.2s						
PBDV	**Barranco-de-Ve**	**2.47**	**287**	P	**Pn**	**10 41 59.8**	**+1.2**
PBDV				S	**Sn**	**10 42 26.9**	**-0.7**
	3.2nm,0.2s						
PCVE	**Castro Verde**	**2.68**	**294**	*e*Pn	**Pn**	**10 42 01.7**	**+0.2**
PCVE				A	A	10 42 31.2	
	1.6nm,0.1s						
PCVE				*e*Sn	**Sn**	**10 42 31.3**	**-1.3**
PCVE	**Castro Verde**	**2.68**	**294**	P	**Pn**	**10 42 01.7**	**+0.2**
PCVE				S	**Sn**	**10 42 31.3**	**-1.3**
PCVE	**Castro Verde**	**2.68**	**294**	P	**Pn**	**10 42 01.7**	**+0.2**
PCVE				S	**Sn**	**10 42 31.3**	**-1.3**
EBAD	**Badajoz**	**2.72**	**324**	P	**Pn**	**10 42 01.9**	**-0.2**
	2.9nm,0.1s,SNR=14						
EBAD				S	**Sn**	**10 42 31.3**	**-2.5**
	1.0nm,0.0s,SNR=5.6						
EBAD				S		10 42 43.1	
	1.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.72**	**324**	P	**Pn**	**10 42 01.9**	**-0.2**
	2.9nm,0.1s,SNR=14						
EBAD				S	**Sn**	**10 42 31.3**	**-2.5**
	1.0nm,0.0s,SNR=5.6						
PESTR	**Estremoz**	**3.10**	**319**	*e*Pn	**Pn**	**10 42 07.3**	**0.0**
PESTR				*e*Sn	Sn	10 42 40.3	-2.8
PESTR				A	A	10 43 09.1	
	4.2nm,0.5s						
PESTR	**Estremoz**	**3.10**	**319**	P	**Pn**	**10 42 07.3**	**0.0**
PESTR				S	Sn	10 42 40.3	-2.8
	4.2nm,0.5s						
PESTR	**Estremoz**	**3.10**	**319**	P	**Pn**	**10 42 07.3**	**0.0**
PESTR				S	Sn	10 42 40.3	-2.8
	4.2nm,0.5s						
PFVI	**Vila Bisbo**	**3.15**	**282**	*e*Pn	**Pn**	**10 42 08.9**	**+1.0**
PFVI				*e*Sn	**Sn**	**10 42 42.7**	**-1.5**
PFVI				A	A	10 42 47.9	
	6.7nm,0.6s						
PFVI	**Vila Bisbo**	**3.15**	**282**	P	**Pn**	**10 42 08.9**	**+1.0**
	0.6nm,0.0s,SNR=5.6						
PFVI				S	**Sn**	**10 42 42.5**	**-1.7**
	3.0nm,0.2s,SNR=5.6						
PFVI	**Vila Bisbo**	**3.15**	**282**	P	**Pn**	**10 42 08.9**	**+1.0**
	0.6nm,0.0s,SNR=5.6						
PFVI				S	**Sn**	**10 42 42.5**	**-1.7**
	3.0nm,0.2s,SNR=5.6						
PNCL	**Nicolau / Gran**	**3.23**	**300**	*e*Sn	**Sn**	**10 42 45.4**	**-0.9**
PNCL	**Nicolau / Gran**	**3.23**	**300**	*e*Sn	**Sn**	**10 42 45.4**	**-0.9**
ETOB	**Tobarra**	**3.42**	**52**	P	**Pn**	**10 42 10.5**	**-1.2**
	0.3nm,0.1s,SNR=4.0						
ETOB				S	Sn	10 42 47.5	-3.6
	1.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.42**	**52**	P	**Pn**	**10 42 10.5**	**-1.2**
	0.3nm,0.1s,SNR=4.0						
PMRV	**Marv??o**	**3.44**	**327**	*e*Pn	**Pn**	**10 42 12.4**	**+0.4**
PMRV				A	A	10 43 15.2	
	4.5nm,0.2s						
PMRV	**Marv??o**	**3.44**	**327**	P	**Pn**	**10 42 12.4**	**+0.4**
PMRV	**Marv??o**	**3.44**	**327**	P	**Pn**	**10 42 12.4**	**+0.4**
PMTG	**Montargil**	**3.59**	**315**	*e*Pn	**Pn**	**10 42 14.5**	**+0.5**
PMTG				*e*Sn	**Sn**	**10 42 53.9**	**-1.3**
PMTG				A	A	10 43 25.1	
	2.4nm,0.5s						
PMTG	**Montargil**	**3.59**	**315**	*e*Pn	**Pn**	**10 42 14.5**	**+0.5**
PMTG				*e*Sn	**Sn**	**10 42 53.9**	**-1.3**
	2.4nm,0.5s						
EPLA	**Plasencia**	**3.60**	**346**	⇑P	**Pn**	**10 42 14.5**	**+0.3**
	0.8nm,0.1s,SNR=18						
EPLA				S	Sn	10 42 50.5	-5.0
	0.6nm,0.1s,SNR=4.0						
EPLA				S		10 43 07.7	
	1.5nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**3.60**	**346**	P	**Pn**	**10 42 14.5**	**+0.3**
	0.8nm,0.1s,SNR=18						
GUD	**Guadarrama**	**4.12**	**9**	P	**Pn**	**10 42 21.3**	**-0.2**
	0.7nm,0.1s,SNR=4.0						
GUD	**Guadarrama**	**4.12**	**9**	P	**Pn**	**10 42 21.3**	**-0.2**
	0.7nm,0.1s,SNR=4.0						
MVO	**Moncorvo**	**4.87**	**341**	P	**Pn**	**10 42 31.5**	**-0.1**
	2.5nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.87**	**341**	P	**Pn**	**10 42 31.5**	**-0.1**
	2.5nm,0.1s,SNR=7.9						

*BJI **27** 10:47:51.1, 0.°30N×98.°50E, h38km, mB4.9/22, mb4.7/31, Ms4.5/11, Ms7 4.1/11*
*DJA **27** 10:47:52.3±0.8, 0.°N±5.°×9.°8E±.°, h116km±12km, M4.9/8, mb5.0/2, mB5.0/2, MLv4.9/8, Mw(mB)4.3/2*
*NEIC **27** 10:47:52.5±0.5, 0.°25N×98.°62E, h35km, mb4.6/8, Error ellipse: s-maj=13.1km s-min=7.9km az=62.0*
*ISCJB **27** 10:47:53.4±0.7, 0.°33N±0.°04×98.°55E±0.°05, h58km±5km, mb4.5/36, MS3.7/6, Error ellipse: s-maj=9.8km s-min=4.2km az=142.6*
*AUST **27** 10:47:54.3±0.9, 0.°34N×98.°41E, h57km, Error ellipse: s-maj=2.0km s-min=0.9km az=241.0*
*IDC **27** 10:47:57.7±2.5, 0.°46N×98.°90E, h75km±21km, mb4.1/20, mb1 4.2/22, mb1mx4.0/34, mbtmp4.1/22, MS3.3/3, Ms1 3.3/3, ms1mx2.8/34, Error ellipse: s-maj=23.1km s-min=9.9km az=51.0*
*BKK **27** 10:47:58.3±1.1, 1.°N±8.°×9.°9E±1.°1, h10km, M4.8/19, mB5.4/6, mb4.7/19, MLv4.8/7, Mw(mB)4.8/6*
ISC 27 10:47:55.2±1.0, 0.°36N±0.°06×98.°57E±0.°07, h58km±7km, n134, σ1°49/128, mb4.5/36, MS3.7/6, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.00**	**114**	P	Pn	10 48 28.9	+2.3
PPI	**Padang Panjang**	**2.00**	**114**	P	Pn	10 48 29.1	+2.4
	baz=2.1,SNR=100						
PDSI	**Padang**	**2.27**	**124**	P	**Pn**	**10 48 31.9**	**+1.5**
PDSI				S	**Sn**	**10 49 00.6**	**+3.3**
PSI	**Prapat**	**2.45**	**8**	P	**Pn**	**10 48 31.6**	**-1.4**
PSI	**Prapat**	**2.45**	**8**	P	**Pn**	**10 48 31.6**	**-1.4**
	352nm,0.3s,baz=172,slow=7.8,SNR=953						
PSI	**Prapat**	**2.45**	**8**	P	**Pn**	**10 48 31.7**	**-1.4**
	baz=2.4,SNR=464						
BKNI	**Bangkinang**	**2.47**	**91**	P	**Pn**	**10 48 33.7**	**+0.6**
BKNI	**Bangkinang**	**2.47**	**91**	P	**Pn**	**10 48 33.6**	**+0.6**
	baz=2.6,SNR=56						
SNSI	**Sinabang, Aceh**	**3.03**	**312**	P	Pn	10 48 40.8	0.0
SNSI				S	Sn	10 49 12.5	-3.4
KCSI	**Kotacane, Aceh**	**3.25**	**346**	P	**Pn**	**10 48 43.1**	**-0.7**
KCSI				S	**Sn**	**10 49 19.5**	**-1.7**
FRIM	**Kepong**	**4.18**	**47**	P	**Pn**	**10 48 56.5**	**-0.1**
IPM	**Ipoh**	**4.77**	**31**	*e*Pn	**Pn**	**10 49 03.9**	**-0.8**
IPM	**Ipoh**	**4.77**	**31**	P	**Pn**	**10 49 06.0**	**+1.3**
IPM	**Ipoh**	**4.77**	**31**	P	**Pn**	**10 49 05.8**	**+1.1**
KGM	**Kluang**	**5.02**	**71**	P	**Pn**	**10 49 08.1**	**0.0**
LHMI	**Lhok Sumawe**	**5.11**	**341**	P	**Pn**	**10 49 08.8**	**-0.4**
	baz=5.1,SNR=10						
BTDF	**Bukit Timah Da**	**5.29**	**79**	P	Pn	10 49 12.2	+0.4
	baz=5.5,SNR=4.7						
BTDF				P	Pn	10 49 12.2	+0.4
	baz=5.5,SNR=4.7						
KULM	**Kulim**	**5.32**	**23**	*e*Pn	**Pn**	**10 49 12.7**	**+0.4**
KULM	**Kulim**	**5.32**	**23**	P	**Pn**	**10 49 12.6**	**+0.4**
KULM	**Kulim**	**5.32**	**23**	P	**Pn**	**10 49 13.0**	**+0.8**
	202nm,0.8s,2μm0.6nm						
MYKOM	**Kota Tinggi**	**5.46**	**75**	P	Pn	10 49 15.5	+1.3
MYKOM	**Kota Tinggi**	**5.46**	**75**	P	**Pn**	**10 49 14.2**	**0.0**
KSI	**Kapahiang**	**5.66**	**135**	P	Pn	10 49 31.2	+14
KSI				S	**Sn**	**10 50 21.2**	**+0.7**
BSI	**Banda Aceh**	**6.06**	**327**	S	Sn	10 50 24.5	-6.0
MNAI	**Manna**	**6.41**	**137**	P	**Pn**	**10 49 29.0**	**+1.8**
	baz=6.5,SNR=14						
MNAI				S	**Sn**	**10 50 37.0**	**-2.1**
	baz=6.5,SNR=8.6						
KTGM	**Kuala Trenggan**	**6.72**	**43**	P	**Pn**	**10 49 32.2**	**+0.9**
SRIT	**Nakonsritamara**	**8.25**	**7**	P	**Pn**	**10 49 53.7**	**+1.4**
	159nm,0.7s,2μm0.5nm						
KASI	**Kota Agung**	**8.31**	**135**	P	Pn	10 50 07.1	+14
SURA	**Surathani**	**8.81**	**7**	P	**Pn**	**10 50 01.9**	**+1.8**
	146nm,0.8s,13μm0.7nm						
KSM	**Kuching**	**11.79**	**85**	P	Pn	10 50 41.7	+1.0
PHET	**Kaeng Krachan**	**12.52**	**5**	P	Pn	10 50 54.4	+3.7
	86nm,0.7s,5μm						
XMIS	**Christmas Isla**	**12.87**	**147**	S	Sn	10 52 59.8	-17
	baz=13,SNR=3.3						
STKI	**Sintang**	**12.91**	**91**	P	P	10 51 07.1	+2.2
SBUM	**Sibu**	**13.80**	**81**	P	P	10 51 17.2	+2.4
NAYO	**Nakonayok**	**14.13**	**11**	P	**P**	**10 51 17.5**	**-1.0**
	170nm,1.2s						
UGM	**Wanagama**	**14.47**	**125**	P	**Pn**	**10 51 15.3**	**-1.8**
	baz=15,SNR=3.9						
BTM	**Bintulu**	**14.78**	**79**	P	P	10 51 27.5	+1.8
UTHA	**Uthaitani**	**15.13**	**3**	P	**P**	**10 51 29.1**	**-0.5**
	7.4nm,0.8s						
CHAI	**Chaiyaphum**	**15.81**	**12**	P	**P**	**10 51 36.6**	**-0.5**
	4.7nm,0.6s						
LOEI	**Loei**	**17.25**	**9**	P	**P**	**10 51 51.9**	**-1.2**
	15nm,1.0s						
SKNT	**Sakolnakorn**	**17.35**	**18**	P	P	10 51 57.5	+3.3
	17nm,1.0s						
PANO	**Nakornpanom**	**17.71**	**19**	P	**P**	**10 51 57.4**	**-0.8**
	28nm,0.9s						
CM31	**Chiang Mai Arr**	**17.99**	**1**	*e*Pn	**Pn**	**10 52 00.9**	**-0.6**
	7.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.99**	**1**	P	**P**	**10 52 00.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**17.99**	**1**	P	**P**	**10 52 00.4**	**-0.9**
	1.9nm,0.3s,baz=190,slow=11,SNR=28						
CMAR				LR	LR	10 59 14.8	
	comp=Z,79nm,19.6s,baz=327,slow=38						
LAMP	**Lampang**	**18.08**	**3**	P	Pn	10 52 07.9	+5.4
	3.5nm,0.9s						
CHTO	**Chiang Mai**	**18.35**	**1**	*e*P	**P**	**10 52 04.3**	**-0.9**
	4.1nm,0.8s						
CHTO	**Chiang Mai**	**18.35**	**1**	P	**Pn**	**10 52 06.9**	**+1.2**
	5.7nm,0.6s						
KKM	**Kota Kinabalu**	**18.49**	**72**	*e*P	**Pn**	**10 52 07.5**	**-0.1**
	64nm,0.6s						
KKM	**Kota Kinabalu**	**18.49**	**72**	P	**Pn**	**10 52 08.9**	**+1.3**
KKM	**Kota Kinabalu**	**18.49**	**72**	P	**Pn**	**10 52 08.5**	**+0.9**
	baz=19,SNR=26						
SDKM	**Sandakan**	**19.32**	**74**	P	P	10 52 07.5	-8.4
KDM	**Kudat**	**19.34**	**70**	P	**Pn**	**10 52 17.9**	**+0.2**
TSM	**Tawau**	**19.67**	**78**	P	**Pn**	**10 52 18.4**	**-3.2**
MYLDM	**Lahad Datu**	**20.47**	**76**	P	Pn	10 52 27.2	-3.8
KAPI	**Kappang**	**21.82**	**104**	*e*P	P	10 52 45.3	+2.5
	20nm,0.7s						
KAPI	**Kappang**	**21.82**	**104**	P	P	10 52 45.4	+2.5
	23nm,0.8s,baz=262,slow=7.2,SNR=12						
WSI	**Waingapu**	**23.81**	**115**	P	P	10 53 06.4	+3.3
	baz=24,SNR=3.4						
LUWI	**Luwuk**	**24.24**	**93**	P	**P**	**10 53 06.9**	**-0.1**
	baz=24,SNR=3.9						
KMI	**Kunming**	**24.95**	**9**	P	P	10 53 18.3	+4.7
KMI				pP	pP	10 53 26.5	-1.4
KMI				sP	sP	10 53 30.0	-4.8
KMI				PP	**PnPn**	**10 53 54.0**	**+4.7**
KMI				S	S	10 57 38.8	+5.4
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,100nm,4.9s						
KMI				LR	LR		
	comp=N,93nm,17.7s						
KMI				LR	LR		
	comp=E,120nm,16.3s						
SHL	**Shillong**	**25.88**	**346**	⇓*i*P	**P**	**10 53 22.5**	**+0.5**
	comp=Z,9.0nm,0.6s						
SHL				*e*S	Sx	10 58 17.0	
GYA	**Guiyang**	**27.10**	**16**	*e*P	**P**	**10 53 35.5**	**+2.6**
GYA				pP	**pP**	**10 53 45.3**	**-1.9**
GYA				PP	**PnPn**	**10 54 22.8**	**+4.3**
GYA				S	S	10 58 11.0	+3.9
GYA				sS	sS	10 58 28.5	-3.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,490nm,16.5s						
GYA				LR	LR		
	comp=E,330nm,17.0s						
GYA				LR	LR		
	comp=Z,410nm,17.7s						
LSA	**Lhasa**	**30.03**	**347**	*e*P	**P**	**10 54 00.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**32.33**	**126**	P	**P**	**10 54 17.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**32.33**	**126**	P	**P**	**10 54 17.3**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=259,slow=18,SNR=9.8						
FITZ				LR	LR	11 09 20.7	
	comp=Z,97nm,19.7s,baz=148,slow=40						
MEEK	**Meekatharra**	**33.06**	**146**	P	P	10 54 28.3	+2.8
	baz=33,SNR=3.2						
WHN	**Wuhan**	**33.56**	**25**	P	**P**	**10 54 30.5**	**+0.8**
KNRA	**Kununurra**	**33.80**	**119**	P	**P**	**10 54 30.0**	**-2.1**
	baz=34,SNR=3.2						
MTN	**Manton Dam**	**34.85**	**113**	S	**S**	**11 00 09.0**	**+0.6**
	baz=35,SNR=5.4						
XAN	**Xi'an**	**34.88**	**15**	P	**P**	**10 54 40.5**	**-0.8**
XAN				pP	pP	10 54 50.0	-5.9
XAN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,11nm,4.1s						
KDU	**Kakadu**	**36.04**	**112**	P	**P**	**10 54 49.2**	**-2.1**
	baz=36,SNR=4.0					

KSH LR LR
comp=E,90nm,4.5s
KSH LR LR
comp=Z,91nm,6.7s
WMQ Urumqi 44.35 349 *e*P **P 10 56 00.0 +0.1**
WMQ pmax pmax
comp=Z,6.0nm,1.0s
WMQ pmax pmax
comp=Z,72nm,4.0s
JNU Nakatsue 44.55 40 P **P 10 56 01.0 -0.6**
JNU Nakatsue 44.55 40 P **P 10 56 01.0 -0.6**
comp=Z,6.8nm,0.7s,baz=237,slow=11,SNR=5.0
KSAR Wonju Array Be 45.75 33 P **P 10 56 09.9 -1.0**
KSRS Korea Array 45.78 33 P **P 10 56 09.9 -1.3**
comp=Z,6.0nm,0.6s,baz=221,slow=8.7,SNR=28
KSRS LR LR 11 15 46.4
comp=Z,17nm,18.7s,baz=235,slow=37
COEN Coen 46.39 110 P **P 10 56 14.7 -1.7**
baz=47,SNR=4.2
TKM2 Tokmak 2 47.12 337 *e*P **P 10 56 23.1 +1.2**
comp=Z,7.9nm,0.9s
AAK Ala-Archa 47.32 336 P **P 10 56 25.4 +2.0**
AAK Ala-Archa 47.32 336 P **P 10 56 25.4 +2.0**
comp=Z,1.3nm,0.3s,baz=162,slow=22,SNR=4.5
EKS2 Erkin-Say 47.64 335 *e*P **P 10 56 27.4 +1.6**
comp=Z,4.7nm,0.9s
SONM Songino Array 47.78 7 P **P 10 56 27.4 +0.6**
SONM PcP **PcP 10 57 55.5 +0.4**
SONM Songino Array 47.78 7 P **P 10 56 27.4 +0.6**
comp=Z,3.9nm,0.4s,baz=191,slow=8.7,SNR=28
SONM PcP **PcP 10 57 55.5 +0.4**
comp=Z,3.0nm,0.5s,baz=188,slow=4.2,SNR=8.0
ULN Ulaanbaatar 47.89 8 *e*P **P 10 56 28.9 +1.1**
comp=Z,5.3nm,0.6s
MK31 Makanchi Array 48.40 345 *e*P **P 10 56 31.9 +0.4**
MKAR Makanchi Array 48.40 345 *e*P **P 10 56 32.1 +0.6**
MKAR Makanchi Array 48.40 345 P **P 10 56 31.8 +0.3**
comp=Z,8.5nm,0.6s,baz=154,slow=7.9,SNR=36
MTSU Mount Surprise 48.57 115 P **P 10 56 32.5 -0.8**
baz=49,SNR=7.7
CN2 Changchun 49.45 26 *e*P **P 10 56 38.3 -1.3**
CN2 *e*sP sP 10 56 52.0 -9.5
CN2 *e*PP **PP 10 58 33.8 -0.5**
CN2 *e*S S 11 03 44.3 +1.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,70nm,4.0s
CTA Charters Tower 50.90 116 P **P 10 56 50.1 -0.9**
CTA Charters Tower 50.90 116 P **P 10 56 50.1 -0.9**
comp=Z,3.5nm,0.7s,baz=267,slow=11
MJAR Matsushiro Arr 51.40 41 P **P 10 56 52.7 -1.8**
MJAR Matsushiro Arr 51.40 41 P **P 10 56 52.7 -1.8**
comp=Z,1.5nm,0.4s,baz=229,slow=6.5,SNR=7.7
STKA Stephens Creek 51.78 132 P **P 10 56 57.2 -0.1**
STKA Stephens Creek 51.78 132 P **P 10 56 57.2 -0.1**
comp=Z,5.2nm,0.6s,baz=297,slow=6.9,SNR=17
STKA Stephens Creek 51.78 132 P **P 10 56 57.5 +0.2**
baz=52,SNR=11
USRK Ussuriysk Arra 52.80 30 P **P 10 57 04.0 -0.7**
comp=Z,6.6nm,0.7s,baz=247,slow=3.2,SNR=14
KURBB Kurchatov Arra 52.90 344 P **P 10 57 05.4 +0.1**
comp=Z,1.9nm,0.6s,baz=157,slow=7.1,SNR=6.3
KURK Kurchatov 52.96 344 P **P 10 57 05.4 -0.3**
ZALV Zalesovo Beam 54.61 350 P **P 10 57 17.7 -0.1**
ZALV Zalesovo Beam 54.61 350 P **P 10 57 17.7 -0.1**
comp=Z,7.7nm,0.4s,baz=162,slow=7.0,SNR=15
CMSA Cobar Meteorol 54.70 130 P **P 10 57 19.4 +0.5**
baz=55,SNR=10.0
EIDS Eidsvold 56.77 121 *e*P **P 10 57 33.7 -0.1**
comp=Z,6.9nm,0.6s
EIDS Eidsvold 56.77 121 P **P 10 57 33.5 -0.3**
baz=57,SNR=7.2
BVAR Borovoye Array 57.50 340 P **P 10 57 38.0 -0.4**
BVAR Borovoye Array 57.50 340 P **P 10 57 38.0 -0.4**
comp=Z,3.6nm,0.6s,baz=137,slow=10,SNR=9.6
ABKAR Akbulak array 58.90 331 *e*P **P 10 57 47.6 -0.7**
AKTO Aktyubinsk 60.62 331 P **P 10 57 59.4 -0.7**
AKTO Aktyubinsk 60.62 331 P **P 10 57 59.4 -0.7**
comp=Z,0.7nm,0.3s,baz=122,slow=14,SNR=4.8
KBZ Khabaz 65.60 319 P **P 10 58 35.2 +2.0**
KBZ Khabaz 65.60 319 P **P 10 58 35.2 +2.0**
comp=Z,1.6nm,0.7s,baz=88,slow=2.6,SNR=4.7
BRTR Keskin Array B 70.69 312 P **P 10 59 05.2 -0.1**
BRTR Keskin Array B 70.69 312 P **P 10 59 05.2 -0.1**
comp=Z,1.2nm,0.8s,baz=123,slow=9.0,SNR=4.2
BUR08 Bucovina Ar. S 78.58 319 *e*P **P 10 59 52.3 +1.4**
FINES FINESS Array B 81.38 332 P **P 11 00 07.5 +1.9**
FINES FINESS Array B 81.38 332 P **P 11 00 07.5 +1.9**
comp=Z,1.1nm,0.5s,baz=71,slow=6.0,SNR=2.5
ARCES ARCESS Array B 83.79 340 P **P 11 00 18.2 +0.2**
ARCES ARCESS Array B 83.79 340 P **P 11 00 18.2 +0.2**
comp=Z,1.5nm,0.9s,baz=95,slow=4.5,SNR=9.1
TXAR Lajitas Array 143.63 34 PKP PKPbc 11 07 22.3 +0.3
TXAR Lajitas Array 143.63 34 PKP PKPbc 11 07 22.3 +0.3
comp=Z,0.3nm,0.5s,baz=217,slow=0.8,SNR=8.5
JCT Junction City 144.70 28 *e*PKPdf PKPbc 11 07 24.6 -0.6
CPUP Villa Florida 145.28 220 PKPbc **PKPab 11 07 29.0 +1.8**
CPUP *e*PKPdf **PKPbc 11 07 29.5 +2.4**
CPUP Villa Florida 145.28 220 PKPbc **PKPab 11 07 29.0 +1.8**
comp=Z,4.0nm,0.6s,baz=87,slow=1.6,SNR=19

*NNC **27** 11:13:17.9±23.0, 37°.57N×71°.16E, h122km±420km, mb3.0, mpv3.8, Error ellipse: s-maj=210.1km s-min=135.3km az=8.0*
ISC 27 11:13:24.5±3.0, 38°.4N±0°.2×70°.5E±0°.1, h23km, n9, σ2§51/11, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.72**	**0**	P	**Pn**	**11 14 33.9**	**-0.4**
	2.5nm,0.3s,baz=177,slow=12,SNR=80						
KK31				⇓S	**Sb**	**11 15 44.6**	**+1.7**
	11nm,0.6s,baz=166,slow=28,SNR=9.1						
EKS2	**Erkin-Say**	**4.97**	**30**	P	**Pn**	**11 14 39.8**	**+1.9**
	SNR=7.2						
AAK	**Ala-Archa**	**5.24**	**35**	P	**Pn**	**11 14 43.9**	**+2.3**
	SNR=9.5						
KBK	**Karagaybulak**	**5.47**	**37**	P	**Pn**	**11 14 48.0**	**+3.2**
	SNR=13						
USP	**Ospenovka**	**5.76**	**31**	P	**Pn**	**11 14 50.1**	**+1.4**
	SNR=5.4						
TKM2	**Tokmak 2**	**5.99**	**39**	⇑P	**Pn**	**11 14 53.8**	**+1.9**
	4.9nm,0.5s						
TKM2				⇑S	**Sn**	**11 15 56.3**	**-3.5**
	5.0nm,0.9s						
TKM2	**Tokmak 2**	**5.99**	**39**	P	**Pn**	**11 14 54.3**	**+2.4**
	SNR=11						
MK31	**Makanchi Array**	**12.10**	**42**	P	**Pn**	**11 16 14.1**	**-1.4**
	1.0nm,0.9s,baz=227,slow=11,SNR=5.8						
AB31	**Akbulak array**	**13.24**	**329**	⇓P	**Pn**	**11 16 29.5**	**-1.6**
	0.4nm,0.4s,baz=136,slow=12,SNR=6.2						

*MOS **27** 11:16:06.1±1.0, 54°.60N×168°.33E, h5km, mb4.0/1, Error ellipse: s-maj=32.8km s-min=19.6km az=175.1*
*IDC **27** 11:16:07.8±2.1, 54°.76N×168°.40E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=82.6km s-min=21.5km az=171.0*
*KRSC **27** 11:16:09.8±0.1, 54°.50N×167°.70E, h3km±2km, ML4.0*
ISC 27 11:16:08.8±1.1, 54°.59N±0°.08×168°.13E±0°.07, h10km, n30, σ1§59/43, mb3.3/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.39**	**297**	PN	**Pn**	**11 16 34.0**	**-0.2**
BKI				S	**Sb**	**11 16 52.9**	**+0.2**
BKI	**Bering**	**1.39**	**297**	*e*P	**Pn**	**11 16 34.0**	**-0.2**
BKI				*e*S	**Sb**	**11 16 52.9**	**+0.2**
MKZ	**Mys Kozlova**	**3.73**	**272**	PN	**Pn**	**11 17 06.9**	**+0.6**
MKZ	**Mys Kozlova**	**3.73**	**272**	*e*P	**Pn**	**11 17 06.9**	**+0.6**
MKZ				*e*S	**Sn**	**11 17 47.7**	**-2.5**
BZGR	**Bezymyannyi-Gr**	**4.46**	**291**	*e*P	**Pn**	**11 17 18.4**	**+1.8**
BZGR				*e*S	**Sn**	**11 18 07.9**	**-0.7**
BZMR	**Bezymyannaya**	**4.58**	**290**	*e*P	**Pn**	**11 17 18.9**	**+0.8**
BZWR	**Bezymyannyi-We**	**4.58**	**291**	*e*P	**Pn**	**11 17 19.8**	**+1.6**
BZWR				*e*S	**Sn**	**11 18 10.1**	**-1.4**
TUMR	**Tumrok**	**4.66**	**282**	*e*P	**Pn**	**11 17 19.0**	**-0.2**
KMNR	**Kamenistaya**	**4.67**	**288**	*e*S	**Sn**	**11 18 12.0**	**-1.8**
SPN	**Mys Shipunski**	**5.03**	**256**	PN	**Pn**	**11 17 25.8**	**+1.6**
SPN	**Mys Shipunski**	**5.03**	**256**	*e*P	**Pn**	**11 17 25.8**	**+1.6**
SPN				*e*S	**Sn**	**11 18 19.1**	**-3.2**
SRDR	**Sredinnyy**	**5.09**	**293**	*e*P	**Pn**	**11 17 26.9**	**+1.7**
SRDR				*e*S	**Sn**	**11 18 24.2**	**+0.2**
KII	**Karymskiy**	**5.11**	**267**	*e*P	**Pn**	**11 17 27.1**	**+1.6**
SDLR	**Sedlovina**	**5.62**	**260**	*e*P	**Pn**	**11 17 33.1**	**+0.7**
SMAR	**Somma**	**5.67**	**260**	*e*P	**Pn**	**11 17 33.6**	**+0.4**
AVH	**Avacha**	**5.71**	**260**	*e*P	**Pn**	**11 17 34.1**	**+0.5**
AVH				*e*S	**Sn**	**11 18 36.8**	**-2.3**
KRX	**Arik**	**5.73**	**261**	*e*P	**Pn**	**11 17 35.4**	**+1.4**
KRX				*e*S	**Sn**	**11 18 37.8**	**-2.0**
KOK	**Koryaka**	**5.76**	**261**	*e*P	**Pn**	**11 17 34.7**	**+0.4**
GNL	**Ganaly**	**6.05**	**266**	*e*P	**Pn**	**11 17 38.9**	**+0.5**
RUS	**Russkaya**	**6.13**	**253**	PN	**Pn**	**11 17 40.9**	**+1.6**
RUS	**Russkaya**	**6.13**	**253**	*e*P	**Pn**	**11 17 40.9**	**+1.6**
RUS				*e*S	**Sn**	**11 18 47.1**	**-2.3**
MTVR	**Mutnovka**	**6.29**	**255**	*e*P	**Pn**	**11 17 43.2**	**+1.5**
MTVR				*e*S	**Sn**	**11 18 51.4**	**-2.3**
PETK	**Petropavlovsk-**	**6.35**	**261**	PN	**Pn**	**11 17 45.0**	**+2.6**
PETK	**Petropavlovsk-**	**6.35**	**261**	Pn	**Pn**	**11 17 45.0**	**+2.6**
	0.4nm,0.3s,baz=80,slow=18,SNR=19						
PETK				Sn	**Sn**	**11 18 56.0**	**+1.1**
	0.7nm,0.3s,baz=320,slow=17,SNR=6.4						
ASAK	**Asacha**	**6.49**	**254**	*e*P	**Pn**	**11 17 46.3**	**+1.9**
ASAK				*e*S	**Sn**	**11 18 56.2**	**-2.3**
ILAR	**Eielson Array**	**24.34**	**47**	P	**P**	**11 21 24.9**	**-1.5**
	0.7nm,0.6s,baz=256,slow=7.9,SNR=13						
SONM	**Songino Array**	**38.13**	**286**	P	**P**	**11 23 29.9**	**+1.9**
	0.2nm,0.4s,baz=57,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**51.70**	**299**	P	**P**	**11 25 15.9**	**+0.2**
MKAR	**Makanchi Array**	**51.70**	**299**	P	**P**	**11 25 15.9**	**+0.2**
	0.2nm,0.6s,baz=61,slow=6.8,SNR=3.4						
TXAR	**Lajitas Array**	**65.65**	**73**	P	**P**	**11 26 52.4**	**-0.8**
	0.2nm,0.6s,baz=304,slow=5.3,SNR=5.5						

TAP 27 11:40:00.2, 24°.36N×121°.71E, h13km, ML1.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.05**	**152**	*e*P	Pg	11 40 03.3	+0.7
	baz=146						
ENA	**Nanau**	**0.07**	**20**	P	Pg	11 40 04.0	+1.2
	baz=25						
ENA				*i* S	Sg	11 40 05.4	+0.6
	baz=25						
TWC	**Suao**	**0.28**	**26**	*e*P	Pb	11 40 06.9	-0.2
	baz=28						
TWC				S	Sb	11 40 11.6	-0.2
	baz=28						
TWD	**Chiawan**	**0.30**	**201**	*e*P	Pb	11 40 07.1	-0.3
	baz=199						
ENTT	**Nioudou**	**0.31**	**335**	*e*P	Pb	11 40 08.1	+0.4
	baz=335						
ENTT				S	Sb	11 40 12.2	-0.6
	baz=335						
NNS	**Nan Shan**	**0.32**	**285**	*e*P	Pb	11 40 07.6	-0.4
	baz=284						
TWE	**Neicheng**	**0.36**	**353**	*e*P	Pb	11 40 09.7	+1.1
	baz=355						
NSK	**Sanguang**	**0.45**	**314**	*e*P	Pb	11 40 11.0	+0.8
	baz=314						
NSK				*e*S	Sb	11 40 17.4	+0.4
	baz=314						
WHF	**Hehuan Shan**	**0.46**	**243**	*e*P	Pg	11 40 09.9	0.0
	baz=242						
WHF				*e*S	Sg	11 40 16.1	-0.3
	baz=242						

*IDC **27** 11:40:23.9±1.0, 23°.37N×123°.40E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.6/26, mbtmp3.6/8, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=38.0km s-min=19.5km az=74.0*
*ISCJB **27** 11:40:27.4±1.5, 23°.38N±0°.08×123°.52E±0°.08, h39km±14km, mb3.4/6, Error ellipse: s-maj=14.3km s-min=11.4km az=25.9*
*JMA **27** 11:40:27.4±0.2, 23°.39N×123°.53E, h50km±3km, M3.1*
ISC 27 11:40:27.1±1.1, 23°.4N±0°.1×123°.52E±0°.07, h21km±5km, n17, σ0§80/22, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.71**	**22**	P	**Pb**	**11 40 41.4**	**+0.6**
HATJ				S	**Sn**	**11 40 51.5**	**-0.7**
JKRS	**Kuro-shima**	**0.95**	**28**	P	**Pb**	**11 40 44.9**	**0.0**
JKRS				S	**Sb**	**11 40 57.7**	**+0.7**
IRIF	**Iriomote-Funau**	**0.95**	**12**	P	**Pb**	**11 40 44.9**	**-0.1**
JIJ	**Ishigaki jima**	**1.12**	**31**	P	**Pn**	**11 40 46.8**	**-0.8**
JIJ				S	**Sb**	**11 41 01.1**	**-0.8**
YOJ	**Yonaguni jima**	**1.16**	**336**	P	**Pn**	**11 40 47.9**	**-0.2**
YOJ				S	**Sb**	**11 41 02.6**	**-0.4**
JTJ	**Tarama**	**1.64**	**41**	P	**Pn**	**11 40 54.8**	**0.0**
JTJ				S	**Sn**	**11 41 14.8**	**-0.6**
JMJ	**Miyako jima 2**	**2.15**	**49**	P	**Pn**	**11 41 01.4**	**-0.4**
JOGS	**Gusukube**	**2.19**	**51**	P	**Pn**	**11 41 02.4**	**0.0**
JKE	**Kume jima 2**	**4.16**	**45**	P	**Pn**	**11 41 27.9**	**-1.6**
KSRS	**Korea Array**	**14.51**	**14**	Pn	**Pn**	**11 43 52.9**	**+1.6**
	0.2nm,0.3s,baz=200,slow=10,SNR=4.8						
KSRS				LR	LR	11 50 19.0	
	comp=Z,53nm,20.4s,baz=169,slow=41						
MJAR	**Matsushiro Arr**	**18.23**	**41**	P	**P**	**11 44 40.3**	**+1.2**
	0.3nm,0.3s,baz=229,slow=8.3,SNR=5.9						
SONM	**Songino Array**	**27.95**	**335**	P	**P**	**11 46 15.5**	**-0.7**
	0.6nm,0.7s,baz=152,slow=9.5,SNR=5.6						
MKAR	**Makanchi Array**	**40.39**	**316**	P	**P**	**11 48 03.7**	**+0.1**
	0.4nm,0.8s,baz=109,slow=7.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**42.07**	**327**	P	**P**	**11 48 16.4**	**-0.9**
	0.5nm,0.3s,baz=116,slow=6.8,SNR=3.8						
WRA	**Warramunga Arr**	**44.35**	**165**	P	**P**	**11 48 35.4**	**-0.7**
	1.1nm,0.9s,baz=347,slow=8.4,SNR=5.9						
ASAR	**Alice Springs**	**47.86**	**167**	P	**P**	**11 49 04.2**	**+0.5**
	0.6nm,0.8s,baz=352,slow=14,SNR=6.6						
ILAR	**Eielson Array**	**68.93**	**27**	P	**P**	**11 51 30.5**	**+0.1**
	0.3nm,0.8s,baz=6.6,slow=13,SNR=4.5						

*ISCJB **27** 11:48:10.7±1.1, 13°.0N±0°.1×91°.03W±0°.05, h33km, mb3.9/10, MS3.4/2, Error ellipse: s-maj=15.1km s-min=5.6km az=14.1*
*CASC **27** 11:48:11.5±1.4, 13°.12N×90°.96W, h16km±10km, MD3.7, ML3.7*
*IDC **27** 11:48:12.3±1.3, 14°.06N×90°.24W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/40, Error ellipse: s-maj=45.2km s-min=19.2km az=43.0*
ISC 27 11:48:12.7±1.1, 13°.1N±0°.1×90°.94W±0°.06, h33km, n32, σ1§25/29, mb3.9/10, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.33**	**14**	*e*P	**Pn**	**11 48 34.8**	**-0.5**
FUG	**Fuego 3**	**1.35**	**4**	*e*P	**Pn**	**11 48 34.9**	**-0.6**
JAT	**Jato**	**1.40**	**331**	*e*P	**Pn**	**11 48 35.5**	**-0.4**
SBLS	**San Blas**	**1.48**	**60**	⇑*e*P	**Pn**	**11 48 36.7**	**-0.6**
RTR	**El Retiro**	**1.49**	**57**	*e*P	**Pn**	**11 48 37.1**	**-0.2**
SNJE	**San Jose**	**1.51**	**59**	*e*P	**Pn**	**11 48 37.2**	**-0.4**
RBDL	**Robledal**	**1.58**	**50**	*e*P	**Pn**	**11 48 38.4**	**-0.3**
NBG	**Las Nubes**	**1.59**	**21**	*e*P	**Pn**	**11 48 39.7**	**+0.8**
BOQS	**Boqueron**	**1.73**	**68**	*e*P	**Pn**	**11 48 40.8**	**+0.1**
SNET	**Serv Nac Est T**	**1.76**	**70**	*e*P	**Pn**	**11 48 41.4**	**+0.3**
SNET				*e*S	**Sn**	**11 49 04.2**	**+1.8**
SNET				AML	AML	11 49 17.4	
	comp=Z,1μm,0.4s						
LFU	**La Fuente**	**1.89**	**70**	*e*P	**Pn**	**11 48 43.6**	**+0.8**
LFRS	**El Faro**	**1.90**	**74**	*e*P	**Pn**	**11 48 43.6**	**+0.6**
LBRS	**Las Brisas**	**1.95**	**71**	*e*P	**Pn**	**11 48 44.1**	**+0.4**
MRL	**Marmol**	**2.31**	**31**	*e*P	**Pn**	**11 48 50.2**	**+1.6**
VSM	**San Miguel**	**2.61**	**82**	*e*P	**Pn**	**11 48 54.0**	**+1.1**
CNCH	**Conchagua**	**3.03**	**86**	*e*P	**Pn**	**11 48 59.1**	**+0.6**
CMIG	**Matias Romero**	**5.51**	**317**	Pn	**Pn**	**11 49 33.4**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=136,slow=8.5,SNR=13						
CMIG				Sn	**Sn**	**11 50 38.0**	**+3.3**
	comp=Z,1.1nm,0.3s,baz=112,slow=17,SNR=3.9						
TEIG	**Tepich**	**7.54**	**19**	Pn	**Pn**	**11 50 01.5**	**+1.2**
	comp=Z,4.5nm,0.3s,baz=15,slow=13,SNR=42						
TXAR	**Lajitas Array**	**20.02**	**326**	P	Pn	11 52 44.5	-0.4
	comp=Z,0.3nm,0.3s,baz=151,slow=10,SNR=28						
TKL	**Tuckaleechee C**	**23.38**	**15**	P	**P**	**11 53 17.8**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=174,slow=10,SNR=5.8						
TKL				LR	LR	12 02 56.4	
	comp=Z,90nm,18.4s,baz=257,slow=40						
ANMO	**Albuquerque**	**25.90**	**330**	P	**P**	**11 53 42.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=164,slow=3.5,SNR=4.9						
PDAR	**Pinedale Array**	**33.67**	**335**	P	**P**	**11 54 50.3**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=134,slow=12,SNR=2.9						
NVAR	**Mina Array Bea**	**35.02**	**321**	P	**P**	**11 55 04.8**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=132,slow=8.1,SNR=20						
ULM	**Lac du Bonnet**	**37.27**	**355**	P	**P**	**11 55 18.8**	**-2.6**
	comp=Z,4.6nm,0.7s,baz=155,slow=5.2,SNR=4.7						
SIV	**San Ignacio**	**41.32**	**133**	P	P	11 56 02.8	+7.2
	comp=Z,0.9nm,0.5s,baz=326,slow=7.6,SNR=3.7						
SCHQ	**Schefferville**	**45.72**	**19**	P	P	11 56 26.8	-3.8
	comp=Z,3.0nm,0.5s,baz=203,slow=7.6,SNR=6.1						
CPUP	**Villa Florida**	**51.03**	**140**	LR	LR	12 21 25.1	
	comp=Z,44nm,18.6s,baz=354,slow=39						
YKA	**Yellowknife Ar**	**52.15**	**346**	P	**P**	**11 57 18.2**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=134,slow=8.6,SNR=3.9						
ILAR	**Eielson Array**	**64.08**	**337**	P	**P**	**11 58 42.5**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=182,slow=4.2,SNR=7.6						
DBIC	**Dimbokro**	**84.71**	**84**	P	**P**	**12 00 44.0**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=235,slow=3.2,SNR=4.1						
WRA	**Warramunga Arr**	**136.16**	**255**	PKP	PKPdf	12 07 38.4	+6.8
	comp=Z,0.3nm,0.7s,baz=15,slow=0.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**147.17**	**343**	PKPbc	**PKPbc**	**12 07 54.4**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=342,slow=3.6,SNR=5.3						

*IDC **27** 11:57:48.5±3.9, 29°.04N×138°.79E, h355km±104km, mb2.6/2, mb1 2.8/4, mb1mx2.6/26, mbtmp2.7/4, Error ellipse: s-maj=224.0km s-min=22.3km az=68.0*
*JMA **27** 11:57:48.7±0.1, 29°.38N×140°.07E, h433km, M3.3*
ISC 27 11:57:49.7±1.0, 29°.44N±0°.09×140°.2E±0°.2, h423km, n10, σ1§19/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.93**	**142**	P	**P**	**11 58 54.8**	**+0.7**
CBIJ				*e*S	**S**	**11 59 46.5**	**+0.1**
CBIJ	**Chichi jima**	**2.93**	**142**	P	**P**	**11 58 55.0**	**+0.8**
	16nm,0.3s,baz=294,slow=20,SNR=33						
CBIJ				S	**S**	**11 59 45.9**	**-0.5**
	baz=287,slow=19						
JHHJ	**Haha-jima-NKT**	**3.31**	**147**	P	**P**	**11 58 56.6**	**-0.6**
JHHJ				S	**S**	**11 59 52.0**	**+0.1**
BSO3	**Boso 3**	**5.35**	**3**	*e*S	**S**	**12 00 27.9**	**+1.6**
JIE	**Ise**	**5.75**	**330**	P	**P**	**11 59 20.9**	**+0.7**
JAG	**Ashikaga**	**6.99**	**355**	P	**P**	**11 59 33.7**	**-0.1**
JAG				*e*S	**S**	**12 00 55.9**	**-2.8**
JHO	**Hitachi**	**7.16**	**3**	P	**P**	**11 59 37.4**	**+1.8**
JHO				*e*S	**S**	**12 01 01.4**	**-0.6**
MJAR	**Matsushiro Arr**	**7.27**	**347**	P	**P**	**11 59 36.2**	**-0.6**
	0.4nm,0.3s,baz=171,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**49.42**	**187**	P	**P**	**12 05 59.4**	**+0.3**
	0.4nm,0.4s,baz=3.3,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**53.14**	**187**	P	**P**	**12 06 27.2**	**+0.8**
	0.2nm,0.7s,baz=359,slow=5.7,SNR=4.6						

*IDC **27** 12:00:39.6±1.4, 50°.59N×73°.63E, h0km, mb3.3/1, mb1 3.1/5, mb1mx3.0/31, mbtmp2.9/5, ML2.6/4, Error ellipse: s-maj=28.1km s-min=10.5km az=29.0*
*ISCJB **27** 12:00:41.5±0.6, 50°.94N±0°.05×73°.91E±0°.07, h10km, mb3.4/1, Error ellipse: s-maj=7.8km s-min=5.9km az=6.9*
*NNC **27** 12:00:43.1±1.4, 50°.91N×73°.46E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=16.3km s-min=10.1km az=31.0*
ISC 27 12:00:43.4±1.0, 50°.9N±0°.1×73°.78E±0°.05, h10km, n13, σ1§74/13, 8C-13D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.52**	**317**	⇓Pn	Pn	12 01 22.3	-2.1
	6.5nm,0.5s						
VOSK				⇑Lg	Lg	12 01 57.1	
	81nm,1.1s						
VOSK				⇑Rg	Rg	12 02 12.8	
	163nm,1.4s						
BVA0	**Borovoye Array**	**2.99**	**317**	⇓Pn	**Pn**	**12 01 32.4**	**+1.6**
	7.4nm,0.7s,baz=136,slow=16,SNR=16						
BVA0				Lg	Lg	12 02 12.8	
	60nm,1.2s,baz=140,slow=31,SNR=16						
BVA0				⇓Rg	Rg	12 02 25.5	
	64nm,1.3s,baz=100,slow=28,SNR=3.7						
BVAR	**Borovoye Array**	**2.99**	**317**	Pn	**Pn**	**12 01 30.6**	**-0.2**
	1.4nm,0.3s,baz=135,slow=17,SNR=17						
BVAR				Lg	Lg	12 02 11.9	
	1.6nm,0.3s,baz=119,slow=27,SNR=5.3						
KURBB	**Kurchatov Arra**	**3.03**	**93**	⇓Pn	**Pn**	**12 01 31.2**	**-0.2**
	4.1nm,0.6s,baz=277,slow=13						
KURBB				⇑Pg	**Pb**	**12 01 37.1**	**-0.2**
	14nm,0.6s,baz=276,slow=14						
KURBB				⇑Sn	**Sb**	**12 02 17.9**	**+3.6**
	66nm,0.7s,baz=165,slow=49						
KURBB				⇓Lg	Lg	12 02 23.9	
	150nm,0.8s,baz=288,slow=29						
KURBB				⇓Rg	Rg	12 02 44.0	
	88nm,1.1s						
KURBB	**Kurchatov Arra**	**3.03**	**93**	Pn	**Pn**	**12 01 31.1**	**-0.2**
	0.2nm,0.3s,baz=278,slow=13,SNR=32						
KURBB				Lg	Lg	12 02 17.3	
	0.6nm,0.3s,baz=278,slow=31,SNR=9.3						
BRVK	**Borovoye**	**3.06**	**316**	⇓Pn	**Pn**	**12 01 32.9**	**+1.2**
	8.3nm,0.6s						
BRVK				⇓Lg	Lg	12 02 13.1	
	111nm,0.9s						
BRVK				⇓Rg	Rg	12 02 34.5	
	234nm,1.7s						
MK31	**Makanchi Array**	**6.96**	**123**	⇑Pn	Pn	12 02 33.2	+7.9
	0.5nm,0.7s,baz=311,slow=6.8,SNR=4.8						
MKAR	**Makanchi Array**	**6.96**	**123**	Pn	Pn	12 02 20.2	-5.2
	0.0nm,0.3s,baz=305,slow=9.6,SNR

TXAR	**Lajitas Array**	**78.94**	**59**	P	**PcP**	**12 22 21.3**	**+2.8**
	0.4nm,0.7s,baz=307,slow=3.6,SNR=3.7						

IDC ***27*** *12:14:35.9±1.0,23°.69N×121°.59E,h0km,mb3.5/7, mb1 3.7/7,mb1mx3.6/25,mbtmp3.5/7,MS3.2/2,Ms1 3.2/2, ms1mx2.5/33,Error ellipse: s-maj=34.5km s-min=19.6km az=67.0*
ISCJB ***27*** *12:14:39.4±0.2,23°.83N±0°.01×121°.54E±0°.02,h21km±2km, mb3.4/7,MS3.1/2,Error ellipse: s-maj=2.8km s-min=1.8km az=35.7*
JMA ***27*** *12:14:39.4±0.3,23°.85N×121°.43E,h61km,M3.4*
TAP ***27*** *12:14:39.3,23°.85N×121°.46E,h18km,ML4.1,B*
ISC 27 12:14:38.8±0.9,23°.83N±0°.02×121°.50E±0°.02,h17km±4km, n84,σ1§10/136,mb3.5/7,17C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.06**	**251**	⇓*i*P	**Pb**	**12 14 42.6**	**+0.6**
ESL	baz=198			*e*S	**Sb**	**12 14 44.2**	**0.0**
TEGC	**Jichi Village**	**0.13**	**163**	P	**Pb**	**12 14 44.3**	**+1.6**
TEGC	baz=156			S	**Sb**	**12 14 48.2**	**+2.7**
HWA	**Hwalien**	**0.17**	**35**	⇑*i*P	**Pb**	**12 14 44.5**	**+1.0**
HWA	baz=45			S	**Sb**	**12 14 48.1**	**+1.4**
TWD	**Chiawan**	**0.26**	**20**	⇓*i*P	**Pb**	**12 14 45.3**	**+0.3**
TWD	baz=27			*i* S	**Sb**	**12 14 49.1**	**-0.1**
EHY	**Hungye**	**0.36**	**206**	⇑*i*P	**Pb**	**12 14 46.4**	**-0.3**
EHY	baz=198			S	**Sb**	**12 14 51.4**	**-0.8**
WHF	**Hehuan Shan**	**0.38**	**326**	⇑*i*P	**Pb**	**12 14 46.8**	**-0.4**
TWT	**Tachien**	**0.51**	**325**	⇑*i*P	**Pb**	**12 14 49.6**	**+0.2**
TWT	baz=320			*i* S	**Sb**	**12 14 55.6**	**-1.0**
TWF1	**Yuli**	**0.51**	**201**	⇑*i*P	**Pb**	**12 14 48.6**	**-0.7**
TWF1	baz=194			S	**Sb**	**12 14 56.7**	**+0.2**
EHP	**Heping Village**	**0.52**	**25**	P	**Pb**	**12 14 49.6**	**+0.1**
EHP	baz=32			*e*S	**Sb**	**12 14 57.1**	**+0.3**
SMLT	**Sun Moon Lake**	**0.55**	**275**	⇑*i*P	**Pb**	**12 14 49.9**	**-0.1**
SMLT	baz=273			*i* S	**Sb**	**12 14 56.8**	**-0.8**
TYC	**Yuchr**	**0.59**	**277**	⇑*i*P	**Pb**	**12 14 50.4**	**-0.2**
TYC	baz=280			S	**Sb**	**12 14 57.7**	**-1.0**
YUS	**Yu-Shan**	**0.61**	**236**	⇓*i*P	**Pb**	**12 14 51.6**	**+0.5**
YUS	baz=231			*i* S	**Sb**	**12 14 59.0**	**-0.6**
NNS	**Nan Shan**	**0.61**	**349**	⇑*i*P	**Pb**	**12 14 51.4**	**+0.3**
NNS	baz=3.0			*i* S	**Sb**	**12 14 59.0**	**-0.5**
ENA	**Nanau**	**0.63**	**21**	⇓*i*P	**Pb**	**12 14 51.2**	**-0.1**
ENA	baz=26			*e*S	**Sb**	**12 14 59.9**	**0.0**
ALS	**Alishan**	**0.71**	**243**	⇓*i*P	**Pb**	**12 14 53.4**	**+0.5**
ALS	baz=239			*i* S	**Sb**	**12 15 02.3**	**-0.2**
CHKT	**Chengkung**	**0.74**	**189**	*e*P	**Pb**	**12 14 53.1**	**-0.1**
CHKT	baz=185			*e*S	**Sn**	**12 15 04.1**	**-1.2**
WNT	**Mingjian**	**0.75**	**273**	⇑*i*P	**Pn**	**12 14 54.5**	**0.0**
WNT	baz=274			S	**Sn**	**12 15 05.0**	**-0.4**
ELDTW	**Lidau**	**0.78**	**215**	*e*P	**Pb**	**12 14 53.0**	**-0.9**
ELDTW	baz=218			*e*S	**Sb**	**12 15 04.4**	**+0.1**
CHN5	**Tsauling**	**0.79**	**253**	⇑*i*P	**Pn**	**12 14 55.0**	**-0.2**
CHN5	baz=242			S	**Sn**	**12 15 06.1**	**-0.5**
ENTT	**Nioudou**	**0.80**	**4**	⇓*i*P	**Pb**	**12 14 54.2**	**-0.1**
ENTT	baz=9.0			S	**Sb**	**12 15 04.9**	**0.0**
TCU	**Taichung**	**0.81**	**293**	⇑*i*P	**Pn**	**12 14 55.7**	**+0.3**
TCU	baz=290			*e*S	**Sn**	**12 15 07.5**	**+0.4**
TWC	**Suao**	**0.83**	**23**	*i* P	**Pb**	**12 14 54.5**	**-0.3**
TWC	baz=20			S	**Sb**	**12 15 05.5**	**-0.3**
TWQ1	**Liyutan**	**0.84**	**308**	⇑P	**Pn**	**12 14 55.6**	**-0.1**
TWQ1	baz=315			*e*S	**Sn**	**12 15 08.2**	**+0.6**
NSK	**Sanguang**	**0.85**	**351**	*i* P	**Pb**	**12 14 55.5**	**+0.5**
NSK	baz=355			*i* S	**Sb**	**12 15 05.9**	**-0.3**
WGK	**Gukeng**	**0.87**	**260**	⇑P	**Pn**	**12 14 56.5**	**+0.3**
WGK	baz=257			*e*S	**Sn**	**12 15 08.8**	**+0.4**
NSY	**Sanyi**	**0.89**	**311**	⇑*i*P	**Pn**	**12 14 57.1**	**+0.7**
NSY	baz=313			*e*S	**Sn**	**12 15 10.0**	**+1.0**
TWE	**Neicheng**	**0.90**	**10**	⇓*i*P	**Pb**	**12 14 55.5**	**-0.3**
TWE	baz=14			S	**Sb**	**12 15 07.7**	**+0.2**
NSTT	**Nanjuang**	**0.91**	**330**	⇑*i*P	**Pn**	**12 14 56.9**	**+0.1**
NSTT	baz=333			S	**Sb**	**12 15 08.2**	**+0.2**
ILA	**Ilan**	**0.95**	**14**	*e*P	**Pn**	**12 14 58.5**	**+1.2**
ILA	baz=18			*e*S	**Sn**	**12 15 10.0**	**-0.6**
CHN2	**Minshiung**	**0.98**	**252**	*e*P	**Pn**	**12 14 59.3**	**+1.5**
CHN2	baz=249			*e*S	**Sn**	**12 15 11.9**	**+0.6**
CHY	**Chiayi**	**1.04**	**251**	*e*P	**Pn**	**12 14 58.7**	**+0.2**
CHY	baz=248			*e*S	**Sn**	**12 15 13.2**	**+0.6**
HSN	**Hsinchu**	**1.08**	**334**	P	**Pb**	**12 15 01.0**	**+2.0**
HSN	baz=322			*e*S	**Sn**	**12 15 15.4**	**+1.9**
TWG	**Pinlang**	**1.08**	**201**	*e*P	**Pn**	**12 14 57.4**	**-1.8**
TWG	baz=184			*e*S	**Sn**	**12 15 14.6**	**+0.9**
CHN1	**Nanshi**	**1.10**	**234**	P	**Pb**	**12 15 00.7**	**+1.3**
CHN1	baz=231			*e*S	**Sn**	**12 15 15.5**	**+1.3**
WTCT	**Ta-ch'eng**	**1.11**	**272**	⇑*i*P	**Pb**	**12 15 00.1**	**+0.5**
WTCT	baz=270			*e*S	**Sn**	**12 15 15.3**	**+0.9**
TTN	**Taitung**	**1.12**	**197**	*e*P	**Pb**	**12 14 59.8**	**+0.1**
SGST	**Jiashian**	**1.12**	**228**	*e*P	**Pb**	**12 15 00.8**	**+1.1**
SGST	baz=225			*e*S	**Sn**	**12 15 17.3**	**+2.5**
TWA	**Mucha**	**1.14**	**4**	*e*P	**Pb**	**12 15 00.3**	**+0.2**
TWA	baz=8.0			*e*S	**Sn**	**12 15 16.5**	**+1.3**
NCU	**National Centr**	**1.17**	**346**	*e*P	**Pb**	**12 15 00.7**	**+0.3**
NCU	baz=349			*e*S	**Sn**	**12 15 17.9**	**+2.1**
WSF	**Szhu**	**1.19**	**261**	*e*P	**Pb**	**12 15 01.2**	**+0.4**
WSF	baz=258			*e*S	**Sn**	**12 15 17.4**	**+1.1**
TAP1	**Taipei**	**1.20**	**1**	*e*P	**Pn**	**12 15 01.0**	**+0.3**
TAP1	baz=15			*e*S	**Sn**	**12 15 17.0**	**+0.5**
TAP	**Taipei**	**1.20**	**0**	*e*P	Pb	12 15 04.7	+3.7
TAP	baz=17			*e*S	**Sn**	**12 15 17.3**	**+0.7**
TWB1	**Santiao Chiao**	**1.25**	**21**	*e*P	**Pn**	**12 15 01.1**	**-0.3**
NWF	**Wu-fen Shan**	**1.26**	**12**	*e*P	**Pn**	**12 15 01.5**	**-0.1**
NWF	baz=15			S	**Sb**	**12 15 19.6**	**+1.6**
TWS1	**Kuangyinshan**	**1.26**	**357**	*e*P	**Pb**	**12 15 02.5**	**+0.4**
TWS1	baz=11			*e*S	**Sb**	**12 15 20.8**	**+2.7**
CHN3	**Shinhua**	**1.28**	**234**	*e*P	**Pb**	**12 15 04.4**	**+1.9**
CHN3	baz=231			*e*S	**Sb**	**12 15 22.5**	**+3.9**
TAI1	**Yung-k'ang**	**1.41**	**236**	*e*P	**Pb**	**12 15 05.6**	**+1.0**
TAI1	baz=247			*e*S	**Sb**	**12 15 25.0**	**+2.8**
TWM1	**Shoushan**	**1.41**	**225**	*e*P	**Pb**	**12 15 06.8**	**+2.2**
TWY	**Chenhua**	**1.44**	**4**	*e*P	**Pn**	**12 15 03.8**	**-0.2**
SGLT	**Jiouru**	**1.44**	**220**	*e*P	**Pb**	**12 15 06.9**	**+1.8**
YOJ	**Yonaguni jima**	**1.52**	**65**	⇑*i*P	**Pn**	**12 15 05.5**	**+0.4**
YOJ	baz=66			*e*S	**Sb**	**12 15 24.9**	**-0.5**
YOJ	**Yonaguni jima**	**1.52**	**65**	P	**Pn**	**12 15 05.5**	**+0.4**
YOJ				S	**Sb**	**12 15 24.9**	**-0.5**
EAST	**Anshuo**	**1.56**	**203**	*e*P	**Pn**	**12 15 05.5**	**-0.3**
TAW	**Tawu**	**1.57**	**201**	*e*P	**Pb**	**12 15 07.6**	**+0.3**
SCZT	**Fangliau**	**1.67**	**209**	*e*P	**Pb**	**12 15 08.3**	**-0.6**
WDGT	**Dungji**	**1.78**	**252**	*e*P	**Pn**	**12 15 09.3**	**+0.6**
LAY	**Lan-yu**	**1.79**	**178**	*e*P	**Pn**	**12 15 07.3**	**-1.6**
PNG	**Penghu**	**1.80**	**262**	*e*P	**Pn**	**12 15 09.4**	**+0.4**
PNG	baz=258			*e*S	**Sn**	**12 15 32.0**	**+0.6**
TWP	**Hsiaoliuchiu**	**1.81**	**215**	*e*P	**Pb**	**12 15 13.7**	**+2.2**
PCYT	**Pengchaiyu**	**1.86**	**16**	*e*P	**Pn**	**12 15 09.8**	**0.0**
HEN	**Hengchun**	**1.95**	**201**	*e*P	**Pb**	**12 15 14.0**	**+0.2**
TWK1	**Hengchun**	**1.99**	**199**	*e*P	**Pb**	**12 15 13.6**	**-0.9**
IRIF	**Iriomote-Funau**	**2.10**	**76**	P	**Pn**	**12 15 13.8**	**+0.7**
IRIF				S	**Sn**	**12 15 40.1**	**+1.3**
HATJ	**Hateruma jima**	**2.12**	**84**	P	**Pn**	**12 15 14.1**	**+0.7**
HATJ				S	**Sn**	**12 15 39.1**	**-0.3**
JKRS	**Kuro-shima**	**2.33**	**80**	P	**Pn**	**12 15 17.4**	**+1.1**
JKRS				S	**Sn**	**12 15 45.7**	**+1.2**
JIJ	**Ishigaki jima**	**2.47**	**77**	P	**Pn**	**12 15 18.6**	**+0.3**
JIJ				S	**Sn**	**12 15 48.2**	**+0.1**
KNM	**Kinmen**	**2.86**	**282**	*e*P	**Pn**	**12 15 24.4**	**+0.8**
QZH	**Quanzhou**	**2.87**	**293**	⇓Pn	**Pn**	**12 15 22.3**	**-1.4**
QZH				Sn	**Sn**	**12 15 55.5**	**-2.3**
QZH	comp=N,400nm,1.0s			smax	smax		
QZH	comp=E,200nm,0.5s			smax	smax		
QZH	comp=N,780nm,10.8s			LR	LR		
QZH	comp=E,710nm,8.4s			LR	LR		
QZH	comp=Z,1μm,10.8s			LR	LR		
JTJ	**Tarama**	**3.03**	**74**	P	**Pn**	**12 15 26.7**	**+0.8**
JTJ				S	**Sn**	**12 16 02.0**	**+0.1**
JOGS	**Gusukube**	**3.68**	**75**	P	**Pn**	**12 15 36.3**	**+1.4**
JOGS				*e*S	**Sn**	**12 16 19.1**	**+1.2**
JKE	**Kume jima 2**	**5.40**	**62**	P	**Pn**	**12 15 58.9**	**+0.4**
JOW	**Kunigami**	**6.82**	**63**	P	**Pn**	**12 16 17.2**	**-0.8**
JTK	**Tokunoshima**	**7.78**	**58**	P	**Pn**	**12 16 30.1**	**-1.1**
JAMN	**Amaminishikomi**	**8.18**	**56**	P	**Pn**	**12 16 35.1**	**-1.6**
JAM	**Amami Oshima**	**8.59**	**56**	P	**Pn**	**12 16 41.0**	**-1.3**
KSRS	**Korea Array**	**14.65**	**21**	Pn	**P**	**12 18 09.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=201,slow=11,SNR=7.8						
CMAR	**Chiang Mai Arr**	**21.70**	**260**	P	**P**	**12 19 30.4**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=58,slow=8.8,SNR=4.8						
SONM	**Songino Array**	**26.80**	**337**	P	**P**	**12 20 19.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=134,slow=6.4,SNR=4.2						
SONM				LR	LR	12 31 39.1	
	comp=Z,24nm,18.9s,baz=67,slow=38						
BATI	**Baumata**	**33.90**	**176**	LR	LR	12 35 39.8	
	comp=Z,90nm,19.3s,baz=195,slow=37						
MKAR	**Makanchi Array**	**38.79**	**316**	P	**P**	**12 22 03.9**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=114,slow=9.8,SNR=11						
ZALV	**Zalesovo Beam**	**40.69**	**327**	P	**P**	**12 22 18.0**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=108,slow=9.3,SNR=3.7						
WRA	**Warramunga Arr**	**45.28**	**163**	P	**P**	**12 22 53.2**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=344,slow=8.6,SNR=7.0						
ASAR	**Alice Springs**	**48.73**	**165**	P	**P**	**12 23 21.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=341,slow=6.6,SNR=6.1						
ILAR	**Eielson Array**	**69.39**	**27**	P	**P**	**12 25 46.7**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=270,slow=7.2,SNR=3.8						

MAN 27 12:25:26,11°.61N×124°.35E,h1km,mb4.0,ML2.8,MS2.4, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.61**	**156**	*e*P	Pb	12 25 39.2	-0.4
OCLP				*e*S	Sb	12 25 48.7	0.0
MSLP	**Maasin**	**1.55**	**161**	*e*P	Pb	12 25 55.4	-0.2
RCP	**Roxas**	**1.57**	**268**	⇑*e*P	Pb	12 25 56.0	+0.1
GUIM	**Jordan**	**1.99**	**241**	*e*P	Pn	12 26 01.5	+0.7

IDC 27 12:37:10.6±2.7,31°.08S×179°.64W,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.8/18,mbtmp4.0/3,ML3.0/1,Error ellipse: s-maj=59.6km s-min=43.6km az=111.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.65**	**200**	Pn	Pn	12 39 02.8	-0.4
	0.2nm,0.3s,baz=9.5,slow=18,SNR=4.8						
URZ				Sn	Sn	12 40 15.9	-15
	1.3nm,0.3s,baz=28,slow=22,SNR=10						
ASAR	**Alice Springs**	**41.67**	**268**	P	P	12 45 01.1	-0.1
	1.2nm,0.5s,baz=108,slow=7.5,SNR=24						
WRA	**Warramunga Arr**	**42.73**	**274**	P	P	12 45 09.6	-0.2
	1.7nm,0.4s,baz=113,slow=8.0,SNR=53						
FINES	**FINESS Array B**	**145.28**	**339**	PKPbc	PKPbc	12 56 48.7	-0.6
	1.1nm,0.3s,baz=43,slow=4.4,SNR=16						

ISCJB ***27*** *12:53:14.9±0.5,9°.16S±0°.04×122°.99E±0°.04,h100km±7km, mb4.1/6,Error ellipse: s-maj=7.5km s-min=5.1km az=44.0*
AUST ***27*** *12:53:16.1,9°.50S×123°.00E,h35km*
IDC ***27*** *12:53:17.3±0.7,8°.93S×122°.87E,h99km±6km,mb3.9/6, mb1 4.0/8,mb1mx3.7/20,mbtmp3.9/8,MS3.2/5,Ms1 3.3/5, ms1mx2.9/32,Error ellipse: s-maj=50.5km s-min=8.3km az=60.0*
DJA ***27*** *12:53:20.1±0.5,9°.S±4°.×12°.3E±°,h39km±6km,M4.4/7, mb4.3/3,MLv4.5/7*
ISC 27 12:53:16.5±0.6,9°.06S±0°.05×122°.92E±0°.05,h93km±6km, n41,σ1§89/46,mb4.0/6,Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.79**	**302**	P	**Pn**	**12 53 32.8**	**-1.4**
MMRI				S	**Sn**	**12 53 44.7**	**-2.7**
BATI	**Baumata**	**1.36**	**147**	P	**Pn**	**12 53 42.3**	**+1.6**
BATI				S	Sn	12 54 06.1	+7.2
BATI	**Baumata**	**1.36**	**147**	P	**Pn**	**12 53 42.4**	**+1.7**
	460nm,0.3s,baz=258,slow=0.6,SNR=703						
BATI				S	**Sn**	**12 54 03.5**	**+4.6**
	282nm,0.3s,baz=9.5,slow=18,SNR=9.5						
WSI	**Waingapu**	**2.65**	**257**	P	**Pn**	**12 53 58.4**	**+0.9**
WSI	**Waingapu**	**2.65**	**257**	P	**Pn**	**12 53 57.0**	**-0.5**
	baz=2.7,SNR=8.5						
WSI				S	**Sn**	**12 54 29.4**	**+0.4**
	baz=2.7,SNR=5.2						
LBFI	**Labuhan Bajo,**	**3.04**	**281**	P	**Pn**	**12 54 03.9**	**+1.2**
LBFI				S	**Sn**	**12 54 40.9**	**+2.5**
WBSI	**Waikabubak, Su**	**3.52**	**260**	P	Pn	12 53 58.9	-10
BSSI	**Bau Bau, Buton**	**3.77**	**320**	P	**Pn**	**12 54 13.2**	**+0.7**
BKSI	**Bulukumba**	**4.63**	**323**	P	**Pn**	**12 54 24.0**	**-0.3**
KKSI	**Kolaka, Sulawe**	**5.02**	**345**	P	**Pn**	**12 54 31.1**	**+1.6**
KAPI	**Kappang**	**5.10**	**322**	P	**Pn**	**12 54 31.3**	**+0.7**
KAPI	**Kappang**	**5.10**	**322**	P	**Pn**	**12 54 31.1**	**+0.5**
	9.5nm,0.3s,baz=160,slow=9.0,SNR=25						
KAPI				LR	LR	12 56 48.7	
	comp=Z,136nm,21.1s,baz=314,slow=42						
SPSI	**Sidrap Palu**	**5.95**	**328**	P	**Pn**	**12 54 43.7**	**+1.5**
	28nm,0.8s						
SKSI	**Soroako, Sulaw**	**6.68**	**346**	P	**Pn**	**12 54 54.6**	**+2.5**
	26nm,1.1s						
TTSI	**Tana Toraja**	**6.72**	**333**	P	**Pn**	**12 54 55.7**	**+3.0**
KNRA	**Kununurra**	**8.71**	**140**	P	**Pn**	**12 55 17.1**	**-2.6**
	baz=8.4,SNR=182						
KNRA				S	Sn	12 56 49.4	-6.8
	baz=8.4,SNR=18						
MTN	**Manton Dam**	**8.90**	**116**	P	**Pn**	**12 55 21.3**	**-1.0**
	baz=8.6,SNR=26						
MTN				S	**Sn**	**12 56 58.9**	**-2.1**
	baz=8.6,SNR=4.5						
FITZ	**Fitzroy Crossi**	**9.37**	**164**	P	**Pn**	**12 55 27.4**	**-1.3**
	1.6nm,0.3s,baz=1.3,slow=8.7,SNR=69						
FITZ				S	Sn	12 57 04.5	-7.8
	5.0nm,0.3s,baz=172,slow=4.7,SNR=14						
FITZ				LR	LR	12 59 31.0	
	comp=Z,79nm,20.9s,baz=270,slow=39						
FITZ	**Fitzroy Crossi**	**9.37**	**164**	P	**Pn**	**12 55 26.6**	**-2.1**
	baz=9.0,SNR=62						
MRSI	**Marisa**	**9.53**	**354**	P	Pn	12 55 34.1	+3.2
BBKI	**Banjar Baru**	**9.76**	**304**	P	Pn	12 55 41.4	+7.3
KDU	**Kakadu**	**10.05**	**112**	P	**Pn**	**12 55 36.4**	**-1.6**
	baz=9.8,SNR=54						
KDU				S	**Sn**	**12 57 24.1**	**-4.9**
	baz=9.8,SNR=4.8						
FAKI	**Fak Fak**	**11.11**	**57**	P	**Pn**	**12 55 54.5**	**+2.1**
	baz=11,SNR=4.4						
UGM	**Wanagama**	**12.31**	**274**	P	**Pn**	**12 56 09.4**	**+0.8**
	baz=12,SNR=4.8						
WRA	**Warramunga Arr**	**15.46**	**136**	P	**Pn**	**12 56 45.3**	**-4.2**
	0.8nm,0.3s,baz=304,slow=14,SNR=35						
WRA				S	Sn	12 59 26.8	-14
	1.1nm,0.3s,baz=304,slow=24,SNR=8.8						
WRA				LR	LR	13 02 41.0	
	comp=Z,73nm,21.0s,baz=160,slow=36						
ASAR	**Alice Springs**	**17.93**	**145**	P	**P**	**12 57 19.2**	**0.0**
	0.6nm,0.3s,baz=321,slow=11,SNR=72						
ASAR				S	Sn	13 00 28.4	-12
	0.6nm,0.3s,baz=319,slow=23,SNR=24						
ASAR				LR	LR	13 05 12.2	
	comp=Z,150nm,22.0s,baz=303,slow=40						
MEEK	**Meekatharra**	**17.95**	**193**	P	**Pn**	**12 57 22.0**	**+1.9**
	baz=18,SNR=10						
MEEK				S	Sn	13 00 29.9	-10
	baz=18,SNR=5.4						
COEN	**Coen**	**20.43**	**106**	P	Pn	12 57 48.1	-1.4
	baz=20,SNR=7.0						
MORW	**Morawa**	**20.92**	**197**	P	**P**	**12 57 52.3**	**+0.5**
	baz=21,SNR=5.5						
MORW				S	**S**	**13 01 40.1**	**+0.2**
	baz=21,SNR=5.7						
BLDU	**Ballidu**	**22.21**	**194**	P	**P**	**12 58 05.4**	**0.0**
	baz=22,SNR=8.5						
MTSU	**Mount Surprise**	**22.65**	**116**	P	**P**	**12 58 11.7**	**+1.5**
	baz=22,SNR=11						
STKA	**Stephens Creek**	**28.57**	**145**	P	**P**	**12 59 04.5**	**+0.7**
	1.8nm,0.6s,baz=313,slow=6.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**36.16**	**319**	P	**P**	**13 00 09.4**	**-0.8**
	0.5nm,0.3s,baz=148,slow=6.8,SNR=5.4						
USRK	**Ussuriysk Arra**	**53.65**	**8**	P	**P**	**13 02 27.7**	**-0.7**
	0.7nm,0.4s,baz=188,slow=8.3,SNR=3.6						
SONM	**Songino Array**	**58.51**	**347**	P	**P**	**13 03 02.7**	**-0.5**
	0.9nm,0.7s,baz=163,slow=9.1,SNR=6.4						
SONM				pP	**pP**	**13 03 27.6**	**+1.3**
	0.9nm,0.8s,baz=163,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**66.34**	**331**	P	**P**	**13 03 54.8**	**-0.5**
	3.7nm,0.7s,baz=135,slow=7.1,SNR=24						
MKAR				pP	**pP**	**13 04 19.2**	**+0.4**
	2.0nm,0.7s,baz=127,slow=7.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**70.53**	**337**	P	**P**	**13 04 19.3**	**-1.9**
	9.9nm,0.7s,baz=136,slow=4.4,SNR=40						
ZALV				pP	**pP**	**13 04 44.3**	**-0.7**
	2.1nm,0.7s,baz=142,slow=4.5,SNR=2.8						
VNDA	**Vanda**	**71.35**	**172**	LR	LR	13 31 37.1	
	comp=Z,62nm,20.5s,baz=161,slow=32						
TORD	**Torodi Ar. Bea**	**122.28**	**280**	PKP	**PKPdf**	**13 12 01.5**	**-0.3**
	1.1nm,0.7s,baz=34,slow=1.9,SNR=12						
TXAR	**Lajitas Array**	**131.99**	**59**	PKP	**PKPdf**	**13 12 21.1**	**+1.0**
	0.4nm,0.9s,baz=208,slow=1.7,SNR=2.7						
CPUP	**Villa Florida**	**144.82**	**180**	PKP	**PKPdf**	**13 12 43.8**	**+0.4**
	1.9nm,0.7s,baz=85,slow=1.4,SNR=5.7						

NNC 27 13:13:19.1±4.3,42°.48N×68°.46E,h0km,mb3.7,mpv3.3, 4C-5D,Error ellipse: s-maj=61.8km s-min=12.5km az=19.0,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**1.63**	**67**	P	Pn	13 13 41.0	-8.1
	12nm,0.3s,baz=228,slow=17,SNR=291						
KK31				⇓S	Sn	13 14 01.9	-9.0
	121nm,0.6s,baz=221,slow=30,SNR=64						
TKM2	**Tokmak 2**	**5.28**	**83**	⇓Pn	Pn	13 14 37.5	-2.0
	5.4nm,1.2s						
TKM2				⇑Sn	Sn	13 15 43.3	+2.1
	7.7nm,0.4s						
AB31	**Akbulak array**	**9.01**	**322**	⇑Pn	Pn	13 15 30.3	-0.1
	0.4nm,0.4s,baz=126,slow=14,SNR=15						
AB31				⇑Sn	Sn	13 17 12.3	-0.2
	0.8nm,0.3s,baz=128,slow=20,SNR=6.5						
KURBB	**Kurchatov Arra**	**10.69**	**37**	⇓Lg	Lg	13 18 56.5	
	12nm,0.9s						
AKTO	**Aktyubinsk**	**10.72**	**321**	⇓Pn	Pn	13 15 55.9	+2.0
	2.8nm,1.1s						
AKTO				⇓Sn	Sn	13 17 56.9	+2.3
	1.4nm,0.5s						
MK31	**Makanchi Array**	**10.76**	**62**	⇑Lg	Lg	13 18 51.8	
	4.0nm,0.8s						

MEX 27 13:27:13.8±0.6,19°.76N×104°.48W,h57km±10km,MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.59**	**244**	*e*P	Pn	13 27 25.4	-1.2
CJM				*i* S	Sn	13 27 34.0	-2.0
R15V		**0.75**	**141**	*i* P	Pn	13 27 26.7	-1.8
R15V				*i* S	Sn	13 27 37.9	-1.5
EZ5V		**0.87**	**108**	*i* P	Pn	13 27 28.5	-1.8
EZ5V				*i* S	Sn	13 27 40.6	-1.9
ANIG	**Ahuacatlan**	**1.29**	**358**	*i* P	Pn	13 27 34.5	-1.3
ANIG				*i* S	Sn	13 27 50.2	-2.0
SFJM	**Santa Fe**	**1.53**	**61**	*i* P	Pn	13 27 36.8	-2.3
MMIG	**Aquila**	**1.81**	**144**	*i* P	Pn	13 27 41.0	-1.6
MMIG				*i* S	Sn	13 28 03.0	-1.5

IDC ***27*** *13:28:05.2±1.0,1°.42S×99°.44E,h0km,mb4.1/11, mb1 4.1/13,mb1mx3.9/26,mbtmp4.1/13,ML3.9/2,Error ellipse: s-maj=42.7km s-min=15.1km az=60.0*
NEIC ***27*** *13:28:06.1±0.4,1°.49S×99°.32E,h10km,mb4.1/5,Error ellipse: s-maj=15.0km s-min=7.1km az=60.0*
NEIC Felt [II] at Padangpanjang, Sumatra.
ISCJB ***27*** *13:28:07.5±0.5,1°.37S±0°.06×99°.27E±0°.06,h30km, mb4.2/15,Error ellipse: s-maj=9.4km s-min=6.5km az=42.4*
DJA ***27*** *13:28:08.2±1.6,1°.S±12°.×9°.9E±1°.2,h16km±22km,M4.8/4, MLv4.8/4*

ISC 27 13:28:09.9±0.6, 1°31'S±0'.07×99°43'E±0'.07, h30km, n47, σ1°05/52, mb4.2/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.11**	**69**	P	**Pn**	**13 28 29.0**	**-0.4**
PDSI				S	**Sb**	**13 28 46.9**	**+2.3**
PPI	**Padang Panjang**	**1.29**	**49**	P	**Pb**	**13 28 32.6**	**-0.9**
SDSI	**Sungai Dareh**	**2.03**	**79**	P	**Pb**	**13 28 43.4**	**-2.8**
MASI	**Maura Aman, Be**	**3.35**	**123**	P	**Pn**	**13 29 01.1**	**+0.8**
KSI	**Kapahiang**	**3.92**	**126**	P	**Pn**	**13 29 10.5**	**+2.3**
PSI	**Prapat**	**4.12**	**353**	Pn	**Pn**	**13 29 11.0**	**+0.1**
PSI	**Prapat**	**4.12**	**353**	Pn	**Pn**	**13 29 11.0**	**+0.1**
	1.4nm,0.3s,baz=181,slow=7.2,SNR=4.9						
EGSI	**Enggano, Bengk**	**4.92**	**145**	P	**Pn**	**13 29 23.8**	**+1.9**
KULM	**Kulim**	**6.67**	**11**	*e*Pn	**Pn**	**13 29 45.3**	**-0.6**
KKM	**Kota Kinabalu**	**18.28**	**66**	P	**P**	**13 32 23.6**	**+2.0**
	5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.65**	**359**	P	**P**	**13 32 37.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.65**	**359**	P	**P**	**13 32 37.1**	**+0.7**
	0.4nm,0.3s,baz=186,slow=9.5,SNR=12						
MBWA	**Marble Bar**	**27.95**	**136**	*e*P	**P**	**13 33 56.6**	**-1.4**
WRA	**Warramunga Arr**	**38.83**	**121**	P	**P**	**13 35 31.4**	**-1.2**
WRA				PcP	**PcP**	**13 37 43.5**	**-0.2**
WRA	**Warramunga Arr**	**38.83**	**121**	P	**P**	**13 35 31.4**	**-1.2**
	1.3nm,0.6s,baz=303,slow=9.0,SNR=19						
WRA				PcP	**PcP**	**13 37 43.5**	**-0.2**
	0.4nm,0.5s,baz=308,slow=2.8,SNR=6.1						
WRAB	**Tennant Creek**	**38.84**	**121**	*e*P	**P**	**13 35 31.3**	**-1.4**
	1.5nm,0.6s						
ASAR	**Alice Springs**	**40.12**	**126**	P	**P**	**13 35 42.5**	**-0.8**
ASAR				PcP	**PcP**	**13 37 48.0**	**+0.3**
ASAR	**Alice Springs**	**40.12**	**126**	P	**P**	**13 35 42.5**	**-0.8**
	0.9nm,0.8s,baz=301,slow=7.2,SNR=8.6						
ASAR				PcP	**PcP**	**13 37 48.0**	**+0.3**
	0.6nm,0.7s,baz=298,slow=2.3,SNR=5.8						
KSAR	**Wonju Array Be**	**46.70**	**31**	P	**P**	**13 36 35.6**	**-0.5**
KSRS	**Korea Array**	**46.73**	**31**	P	**P**	**13 36 35.6**	**-0.7**
	1.1nm,0.7s,baz=221,slow=7.8,SNR=5.2						
TKM2	**Tokmak 2**	**48.98**	**337**	*e*P	**P**	**13 36 54.6**	**+0.6**
	3.0nm,0.5s						
SONM	**Songino Array**	**49.32**	**6**	P	**P**	**13 36 57.4**	**+1.0**
SONM				PcP	**PcP**	**13 38 19.4**	**+0.6**
SONM	**Songino Array**	**49.32**	**6**	P	**P**	**13 36 57.4**	**+1.0**
	1.3nm,0.7s,baz=193,slow=8.9,SNR=9.4						
SONM				PcP	**PcP**	**13 38 19.4**	**+0.6**
	1.1nm,0.6s,baz=187,slow=3.8,SNR=6.4						
EKS2	**Erkin-Say**	**49.50**	**335**	*e*P	**P**	**13 36 58.7**	**+0.8**
	3.2nm,0.8s						
STKA	**Stephens Creek**	**50.03**	**132**	P	**P**	**13 37 01.6**	**-0.4**
STKA	**Stephens Creek**	**50.03**	**132**	P	**P**	**13 37 01.6**	**-0.4**
	1.2nm,0.7s,baz=336,slow=14,SNR=3.4						
MK31	**Makanchi Array**	**50.22**	**345**	*e*P	**P**	**13 37 03.4**	**+0.3**
MKAR	**Makanchi Array**	**50.22**	**345**	P	**P**	**13 37 04.0**	**+0.9**
MKAR	**Makanchi Array**	**50.22**	**345**	P	**P**	**13 37 04.0**	**+0.9**
	6.6nm,0.6s,baz=149,slow=8.1,SNR=60						
USRK	**Ussuriysk Arra**	**53.83**	**29**	P	**P**	**13 37 30.3**	**+0.3**
	2.1nm,0.8s,baz=226,slow=4.5,SNR=6.0						
ZAA0	**Zalesovo Array**	**56.39**	**350**	*e*P	**P**	**13 37 48.0**	**-0.3**
ZALV	**Zalesovo Beam**	**56.39**	**350**	P	**P**	**13 37 48.9**	**+0.5**
ZALV	**Zalesovo Beam**	**56.39**	**350**	P	**P**	**13 37 48.9**	**+0.5**
	4.7nm,0.5s,baz=181,slow=5.9,SNR=26						
BVAR	**Borovoye Array**	**59.34**	**340**	P	**P**	**13 38 08.9**	**-0.2**
BVAR	**Borovoye Array**	**59.34**	**340**	P	**P**	**13 38 08.9**	**-0.2**
	1.4nm,0.7s,baz=141,slow=7.6,SNR=8.3						
ABKAR	**Akbulak array**	**60.77**	**331**	*e*P	**P**	**13 38 17.8**	**-1.2**
	1.2nm,0.6s						
BUR08	**Bucovina Ar. S**	**80.39**	**319**	*e*P	**P**	**13 40 18.0**	**-0.8**
FINES	**FINESS Array B**	**83.24**	**332**	P	**P**	**13 40 33.1**	**-0.2**
FINES	**FINESS Array B**	**83.24**	**332**	P	**P**	**13 40 33.1**	**-0.2**
	3.1nm,0.9s,baz=72,slow=6.2,SNR=6.5						
ARCES	**ARCESS Array B**	**85.64**	**340**	P	**P**	**13 40 47.0**	**+1.7**
ARCES	**ARCESS Array B**	**85.64**	**340**	P	**P**	**13 40 47.0**	**+1.7**
	1.1nm,0.8s,baz=96,slow=7.4,SNR=5.8						
TXAR	**Lajitas Array**	**144.49**	**36**	PKP	**PKPdf**	**13 47 43.6**	**-0.7**
TXAR	**Lajitas Array**	**144.49**	**36**	PKP	**PKPdf**	**13 47 43.6**	**-0.7**
	2.0nm,0.6s,baz=278,slow=1.0,SNR=24						
CPUP	**Villa Florida**	**144.53**	**218**	PKP	PKPbc	13 47 42.9	+0.1
CPUP	**Villa Florida**	**144.53**	**218**	PKP	PKPbc	13 47 42.9	+0.1
	0.6nm,0.5s,baz=108,slow=11,SNR=3.6						
MIAR	**Mount Ida**	**144.78**	**19**	*e*PKPdf	**PKPab**	**13 47 43.2**	**-0.2**
JCT	**Junction City**	**145.73**	**30**	*e*PKPdf	**PKPab**	**13 47 46.8**	**-0.2**

WEL 27 13:28:25.8±0.4, 46°10S×165°89E, h12km, ML3.3/13, Error ellipse: s-maj=3.7km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.08**	**55**	P*	Pb	13 28 44.5	-2.0
DCZ				S*	Sb	13 28 57.8	-2.8
DCZ				S*	Sg	13 29 57.9	-2.8
WHZ	**Wether Hill Ro**	**1.45**	**82**	PN	Pn	13 28 50.9	-0.9
WHZ				SN	Sn	13 29 09.1	-1.8
WHZ				SN	Sb	13 29 09.2	-2.0
MLZ	**Mavora Lakes**	**1.77**	**66**	PN	Pn	13 28 55.4	-0.9
MLZ				AML	AML	13 30 58.0	
MLZ				AML	AML	13 31 26.8	
MSZ	**Milford Sound**	**2.03**	**46**	AML	AML	13 31 05.9	
MSZ				AML	AML	13 31 07.8	
SYZ	**Scrubby Hill**	**2.29**	**102**	*e*PN	Pn	13 29 03.9	+0.5
WKZ	**Wanaka**	**2.55**	**61**	*e*PN	Pn	13 29 08.6	+1.7
EAZ	**Earnscleugh**	**2.55**	**71**	AML	AML	13 31 21.1	
TUZ	**Tuapeka**	**2.61**	**88**	AML	AML	13 32 37.9	
JCZ	**Jackson Bay**	**2.87**	**46**	AML	AML	13 31 55.1	
JCZ				AML	AML	13 32 08.8	
ODZ	**Otahua Downs**	**3.50**	**74**	*e*PN	Pn	13 29 18.9	-1.2

WEL 27 13:30:27.7±0.2, 45°46S×166°80E, h24km±1km, ML2.9/14, 1D, Error ellipse: s-maj=2.0km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.25**	**95**	⇓P*	Pb	13 30 33.9	0.0
DCZ				S*	Sb	13 30 37.7	-0.3
WHZ	**Wether Hill Ro**	**0.91**	**119**	PN	Pb	13 30 44.7	-0.2
WHZ				S*	Sb	13 30 57.0	+0.3
MLZ	**Mavora Lakes**	**0.97**	**84**	PN	Pb	13 30 44.8	-1.2
MSZ	**Milford Sound**	**1.12**	**46**	PN	Pb	13 30 49.4	+1.0
WKZ	**Wanaka**	**1.69**	**69**	PN	Pb	13 30 57.1	-1.1
EAZ	**Earnscleugh**	**1.78**	**84**	*e*PN	Pn	13 30 58.3	+1.3
SYZ	**Scrubby Hill**	**1.96**	**124**	*e*PN	Pn	13 31 00.8	+1.4
JCZ	**Jackson Bay**	**1.96**	**46**	*e*PN	Pb	13 31 03.0	+0.1
TUZ	**Tuapeka**	**2.04**	**105**	PN	Pb	13 31 02.6	-1.5
LBZ	**Lake Benmore**	**2.63**	**67**	AML	AML	13 31 17.7	
LBZ				AML	AML	13 31 57.9	
ODZ	**Otahua Downs**	**2.74**	**83**	PN	Pn	13 31 10.3	0.0

NNC 27 13:39:25.7±0.4, 49°98N×78°75E, h0km, mb3.5, mpv3.2, 6C-6D, Error ellipse: s-maj=7.2km s-min=2.1km az=74.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR10	**Kurchatov Arra**	**0.57**	**343**	P	Pg	13 39 37.3	+0.6
KUR10				S	Sb	13 39 46.3	-1.1
KUR09	**Kurchatov Arra**	**0.59**	**344**	P	Pg	13 39 37.5	+0.5
KUR09				S	Sb	13 39 46.3	-1.5
KUR08	**Kurchatov Arra**	**0.61**	**345**	P	Pg	13 39 37.9	+0.5
KUR08				S	Sg	13 39 46.4	+1.1
KUR07	**Kurchatov Arra**	**0.63**	**346**	P	Pg	13 39 38.3	+0.6
KUR07				S	Sg	13 39 47.0	+1.1
KUR11	**Kurchatov Arra**	**0.63**	**356**	P	Pg	13 39 38.2	+0.5
KUR11				S	Sg	13 39 46.4	+0.4
KUR12	**Kurchatov Arra**	**0.64**	**354**	P	Pg	13 39 38.4	+0.5
KUR12				S	Sg	13 39 46.5	+0.4
KUR13	**Kurchatov Arra**	**0.64**	**353**	P	Pg	13 39 38.4	+0.4
KUR13				S	Sg	13 39 46.7	+0.4
KUR06	**Kurchatov Arra**	**0.65**	**347**	P	Pg	13 39 38.7	+0.6
KUR06				S	Sg	13 39 47.9	+1.4
KUR14	**Kurchatov Arra**	**0.65**	**351**	P	Pg	13 39 38.6	+0.5
KUR14				S	Sg	13 39 47.6	+1.0
KUR15	**Kurchatov Arra**	**0.66**	**349**	P	Pg	13 39 38.8	+0.5
KUR15				S	Sg	13 39 48.1	+1.3
KURBB	**Kurchatov Arra**	**0.66**	**348**	⇓P	Pg	13 39 38.9	+0.5
	42nm,0.3s						
KURBB				⇑S	Sg	13 39 47.5	+0.4
	190nm,0.6s						
KUR16	**Kurchatov Arra**	**0.67**	**346**	P	Pg	13 39 39.1	+0.5
KUR16				S	Sg	13 39 48.3	+1.0
KUR17	**Kurchatov Arra**	**0.68**	**345**	P	Pg	13 39 39.2	+0.4
KUR17				S	Sg	13 39 48.5	+0.9
KUR05	**Kurchatov Arra**	**0.68**	**348**	P	Pg	13 39 39.3	+0.6
KUR05				S	Sg	13 39 48.4	+0.7
KUR18	**Kurchatov Arra**	**0.69**	**343**	P	Pg	13 39 39.3	+0.4
KUR18				S	Sg	13 39 49.0	+1.1
KUR04	**Kurchatov Arra**	**0.70**	**349**	P	Pg	13 39 39.7	+0.6
KUR04				S	Sg	13 39 49.0	+0.8
KUR19	**Kurchatov Arra**	**0.70**	**342**	P	Pg	13 39 39.4	+0.2
KUR19				S	Sg	13 39 49.2	+0.9
KUR20	**Kurchatov Arra**	**0.71**	**340**	P	Pg	13 39 39.5	+0.2
KUR20				S	Sg	13 39 48.9	+0.3
KUR03	**Kurchatov Arra**	**0.72**	**350**	P	Pg	13 39 40.1	+0.6
KUR03				S	Sg	13 39 49.6	+0.8
KUR02	**Kurchatov Arra**	**0.74**	**350**	P	Pg	13 39 40.3	+0.5
KUR02				S	Sg	13 39 50.3	+0.9
KUR01	**Kurchatov Arra**	**0.76**	**351**	P	Pg	13 39 40.7	+0.5
KUR01				S	Sg	13 39 50.5	+0.5
MK31	**Makanchi Array**	**3.96**	**142**	Pn	Pn	13 40 31.4	+3.6
	1.1nm,0.2s,baz=331,slow=11,SNR=47						
MK31				Pg	Pb	13 40 38.6	+2.2
	1.3nm,0.2s,baz=326,slow=13,SNR=24						
MK31				⇓Sn	Sn	13 41 18.9	+4.1
	0.8nm,0.3s						
MK31				⇓Lg	Lg	13 41 32.0	
	3.9nm,0.3s,baz=339,slow=30,SNR=18						
VOSK	**Vostochnaya**	**5.59**	**302**	⇑Pn	Pn	13 40 50.8	+0.7
	0.6nm,0.4s						
VOSK				⇓Sn	Sn	13 41 53.7	-1.3
	0.8nm,0.3s						
VOSK				⇑Lg	Lg	13 42 19.1	
	2.9nm,0.8s						
BVA0	**Borovoye Array**	**6.05**	**304**	⇑Pn	Pn	13 40 57.6	+1.3
	1.5nm,0.6s,baz=347,slow=22,SNR=10						
BVA0				⇓Sn	Sn	13 42 05.1	-1.2
	4.2nm,0.8s						
BVA0				⇑Lg	Lg	13 42 37.4	
	2.9nm,0.6s						
TKM2	**Tokmak 2**	**7.38**	**198**	⇑Sn	Sn	13 42 40.6	+1.0
	0.6nm,0.3s						
TKM2				⇓Lg	Lg	13 43 19.4	
	0.8nm,0.6s						

AUST ***27*** *13:40:47.0, 24°.61S×170°.13W, h0km*
ISCJB ***27*** *13:41:59.8±0.5, 26°.36S±0°.07×178°.0W±0°.1, h200km, mb3.8/12, Error ellipse: s-maj=13.8km s-min=9.5km az=166.8*
IDC ***27*** *13:41:59.0±2.2, 26°.24S×177°.91W, h180km±23km, mb3.8/12, mb1 4.0/13, mb1mx3.9/18, mbtmp3.8/13, Error ellipse: s-maj=27.7km s-min=16.6km az=173.0*

ISC 27 13:42:00.7±0.6, 26°38S±0°.10×177°9W±0°.1, h200km, n36, σ1°00/31, mb3.9/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.86**	**180**	P	**Pn**	**13 42 47.5**	**-1.2**
	82nm,0.3s,baz=240,slow=23,SNR=10						
RAO				S	**Sn**	**13 43 26.2**	**-0.1**
	608nm,0.3s,baz=106,slow=22,SNR=13						
URZ	**Urewera**	**12.56**	**198**	S	Sn	13 47 02.5	-10
	1.9nm,0.3s,baz=303,slow=23,SNR=12						
DZM	**Mont Dzumac**	**14.89**	**283**	*e*P	P	13 45 25.2	+2.6
NOUC	**Port Laguerre**	**15.00**	**283**	*e*P	P	13 45 27.4	+3.8
STKA	**Stephens Creek**	**35.63**	**251**	P	**P**	**13 48 40.5**	**+0.9**
	2.8nm,1.0s,baz=72,slow=19,SNR=3.6						
STKA				PcP	**PcP**	**13 51 05.9**	**+2.2**
	1.2nm,0.5s,baz=102,slow=17,SNR=4.4						
MTSU	**Mount Surprise**	**35.79**	**275**	P	P	13 48 44.8	+3.6
	baz=43,SNR=7.7						
RABL	**Rabaul**	**36.14**	**303**	P	P	13 48 35.4	-8.7
	baz=42,SNR=4.1						
COEN	**Coen**	**38.40**	**281**	P	P	13 49 06.1	+3.1
	baz=45,SNR=4.8						
ASAR	**Alice Springs**	**43.53**	**263**	P	**P**	**13 49 44.9**	**0.0**
	1.8nm,0.7s,baz=97,slow=6.9,SNR=17						
WRA	**Warramunga Arr**	**44.16**	**268**	P	**P**	**13 49 49.4**	**-0.5**
	0.9nm,0.4s,baz=102,slow=8.9,SNR=30						
WRA				PcP	**PcP**	**13 51 31.9**	**+0.7**
	2.0nm,0.8s,baz=107,slow=3.9,SNR=7.4						
KDU	**Kakadu**	**48.41**	**276**	P	**P**	**13 50 20.4**	**-2.6**
	baz=55,SNR=5.0						
KNRA	**Kununurra**	**50.58**	**271**	P	**P**	**13 50 40.2**	**+0.8**
	baz=58,SNR=9.4						
FITZ	**Fitzroy Crossi**	**52.54**	**267**	P	**P**	**13 50 53.8**	**-0.1**
	baz=60,SNR=6.6						
MORW	**Morawa**	**57.82**	**251**	P	**P**	**13 51 30.9**	**-0.6**
	baz=65,SNR=3.7						
MJAR	**Matsushiro Arr**	**75.00**	**325**	P	**P**	**13 53 19.1**	**-1.0**
	1.8nm,0.8s,baz=164,slow=6.3,SNR=6.4						
KSRS	**Korea Array**	**81.34**	**319**	P	**P**	**13 53 55.5**	**+0.6**
	2.2nm,0.7s,baz=129,slow=5.8,SNR=10						
PETK	**Petropavlovsk-**	**81.95**	**345**	P	**P**	**13 53 57.8**	**+0.1**
	2.9nm,0.6s,baz=128,slow=7.9,SNR=9.6						
SNAA	**Sanae**	**82.16**	**178**	*e*P	**P**	**13 53 59.6**	**+0.8**
VNA3	**Neumayer Olymp**	**82.30**	**176**	*e*P	**P**	**13 54 00.0**	**+0.5**
VNA2	**Neumayer--Watz**	**82.73**	**177**	*e*P	**P**	**13 54 02.6**	**+0.9**
VNA1	**Neumayer--Stat**	**82.96**	**177**	*e*P	**P**	**13 54 04.2**	**+1.4**
USRK	**Ussuriysk Arra**	**83.85**	**326**	P	**P**	**13 54 08.2**	**+0.6**
	2.8nm,0.5s,baz=149,slow=3.9,SNR=13						
PLCA	**Paso Flores**	**85.20**	**133**	P	**P**	**13 54 14.9**	**+0.1**
	2.5nm,1.0s,baz=160,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**85.26**	**43**	P	**P**	**13 54 15.0**	**-0.2**
	1.6nm,0.7s,baz=220,slow=9.4,SNR=17						
TXAR	**Lajitas Array**	**90.17**	**57**	P	**P**	**13 54 39.0**	**+0.3**
	0.6nm,0.9s,baz=224,slow=6.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**92.13**	**289**	P	P	13 54 49.8	+1.9
	1.6nm,0.9s,baz=156,slow=3.7,SNR=9.4						
PDAR	**Pinedale Array**	**93.18**	**43**	P	**P**	**13 54 51.7**	**-0.7**
	0.7nm,0.8s,baz=204,slow=3.3,SNR=5.1						
MKAR	**Makanchi Array**	**115.20**	**312**	PKP	**PKPdf**	**14 00 16.7**	**-1.4**
	0.5nm,0.6s,baz=90,slow=1.2,SNR=4.8						
BVAR	**Borovoye Array**	**123.53**	**318**	PKP	**PKPdf**	**14 00 34.1**	**+0.3**
	1.3nm,0.6s,baz=105,slow=3.5,SNR=7.3						
AKTO	**Aktyubinsk**	**131.38**	**315**	PKP	**PKPdf**	**14 00 49.7**	**+0.8**
	0.6nm,0.3s,baz=120,slow=3.1,SNR=3.9						
ARCES	**ARCESS Array B**	**134.68**	**349**	PKP	**PKPdf**	**14 00 55.4**	**+0.8**
	0.6nm,0.4s,baz=42,slow=2.4,SNR=8.5						
FINES	**FINESS Array B**	**141.38**	**342**	PKhKP	PKPpre	14 01 02.4	
	5.6nm,1.1s,baz=46,slow=6.3,SNR=7.1						
NB2	**NORSAR Subarra**	**144.80**	**352**	PKP	**PKPdf**	**14 01 11.7**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=17,slow=3.5						
NOA	**NORSAR Array B**	**144.80**	**352**	PKP	**PKPdf**	**14 01 12.4**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=9.9,slow=1.8,SNR=7.4						
AKASG	**Malin Array Be**	**148.07**	**327**	PKPbc	**PKPbc**	**14 01 21.7**	**-0.6**
	comp=Z,4.8nm,0.6s,baz=43,slow=4.6,SNR=8.8						
BRTR	**Keskin Array B**	**150.55**	**305**	PKPbc	**PKPbc**	**14 01 29.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=131,slow=3.8,SNR=9.5						

IDC 27 13:56:53.0±1.0, 1°48S×99°48E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=49.5km s-min=16.2km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.82**	**358**	P	P	14 01 25.8	+0.4
	0.2nm,0.3s,baz=183,slow=9.5,SNR=4.3						
WRA	**Warramunga Arr**	**38.70**	**121**	P	P	14 04 18.4	-0.6
	1.0nm,0.5s,baz=302,slow=9.0,SNR=16						
ASAR	**Alice Springs**	**39.98**	**126**	P	P	14 04 29.6	-0.1
	0.2nm,0.4s,baz=300,slow=8.4,SNR=9.8						
SONM	**Songino Array**	**49.48**	**6**	P	P	14 05 45.9	+0.6
	0.5nm,0.7s,baz=199,slow=5.7,SNR=2.5						
STKA	**Stephens Creek**	**49.88**	**132**	P	P	14 05 48.6	+0.2
	1.3nm,0.7s,baz=324,slow=19,SNR=3.7						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	14 05 52.3	+0.2
	2.0nm,0.5s,baz=148,slow=8.3,SNR=16						
ZALV	**Zalesovo Beam**	**56.56**	**350**	P	P	14 06 37.1	-0.1
	1.3nm,0.3s,baz=177,slow=5.5,SNR=10						
BVAR	**Borovoye Array**	**59.52**	**340**	P	P	14 06 57.0	-1.0
	0.5nm,0.5s,baz=152,slow=6.7,SNR=4.0						
KBZ	**Khabaz**	**67.58**	**319**	P	P	14 07 51.4	-0.1
	1.2nm,0.7s,baz=103,slow=6.7,SNR=3.7						
FINES	**FINESS Array B**	**83.41**	**332**	P	P	14 09 21.6	-0.4
	3.4nm,1.0s,baz=110,slow=7.7,SNR=4.4						
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	PKPbc	14 16 31.6	+0.4
	1.1nm,0.6s,baz=268,slow=0.9,SNR=13						
CFAA	**Coronel Fontan**	**145.09**	**198**	PKPbc	PKPab	14 16 32.6	0.0
	0.5nm,0.6s,baz=177,slow=5.0,SNR=7.2						

IDC 27 14:04:38.3±0.6, 1°48S×99°49E, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/28, mbtmp3.9/17, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/38, Error ellipse: s-maj=28.1km s-min=13.5km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.29**	**352**	Pn	Pn	14 05 44.8	-0.2
	0.9nm,0.3s,baz=156,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**19.82**	**358**	P	P	14 09 10.6	0.0
	0.1nm,0.3s,baz=187,slow=10,SNR=7.7						
KAPI	**Kappang**	**20.53**	**100**	LR	LR	14 19 11.6	
	comp=Z,57nm,18.6s,baz=154,slow=42						
WRA	**Warramunga Arr**	**38.70**	**121**	P	P	14 12 03.3	-1.1
	1.0nm,0.6s,baz=302,slow=9.1,SNR=14						
WRA				PcP	PcP	14 14 16.6	+0.2
	0.5nm,0.6s,baz=311,slow=2.4,SNR=4.7						
ASAR	**Alice Springs**	**39.97**	**126**	P	P	14 12 14.8	-0.1
	1.7nm,0.7s,baz=298,slow=7.9,SNR=39						
ASAR				PcP	PcP	14 14 20.9	+0.5
	0.9nm,0.8s,baz=272,slow=1.6,SNR=7.3						
KSRS	**Korea Array**	**46.84**	**31**	P	P	14 13 09.5	-0.5
	0.7nm,0.7s,baz=215,slow=7.5,SNR=3.9						
SONM	**Songino Array**	**49.48**	**6**	P	P	14 13 31.1	+0.5
	0.5nm,0.5s,baz=192,slow=9.7,SNR=3.6						
SONM				PcP	PcP	14 14 52.7	0.0
	0.5nm,0.7s,baz=184,slow=4.3,SNR=2.7						
STKA	**Stephens Creek**	**49.88**	**132**	P	P	14 13 33.5	-0.2
	2.7nm,0.8s,baz=281,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**50.39**	**345**	P	P	14 13 37.8	+0.4
	1.6nm,0.6s,baz=148,slow=8.4,SNR=20						
USRK	**Ussuriysk Arra**	**53.95**	**29**	P	P	14 14 04.0	+0.2
	1.0nm,0.6s,baz=254,slow=10,SNR=2.8						
ZALV	**Zalesovo Beam**	**56.57**	**350**	P	P	14 14 21.7	-0.8
	2.1nm,0.7s,baz=183,slow=7.4,SNR=10						
KBZ	**Khabaz**	**67.58**	**319**	P	P	14 15 36.6	-0.1
	1.5nm,0.6s,baz=117,slow=2.3,SNR=3.5						
DZM	**Mont Dzumac**	**68.13**	**113**	P	P	14 15 40.9	+0.1
	5.8nm,0.6s,baz=284,slow=8.3,SNR=4.4						
BRTR	**Keskin Array B**	**72.59**	**312**	P	P	14 16 07.3	-0.7
	0.3nm,0.4s,baz=76,slow=6.4,SNR=2.8						
MLR	**Muntele Rosu**	**79.57**	**317**	P	P	14 16 46.6	-1.0
	0.2nm,0.3s,baz=169,slow=13,SNR=3.3						
VNDA	**Vanda**	**82.77**	**169**	P	P	14 17 03.3	-0.4
	1.0nm,1.0s,baz=348,slow=2.5,SNR=4.0						
FINES	**FINESS Array B**	**83.42**	**332**	P	P	14 17 07.4	+0.1
	0.4nm,0.4s,baz=81,slow=8.9,SNR=3.1						
QSPA	**South Pole Qui**	**88.48**	**180**	P	P	14 17 32.9	+0.4
	0.7nm,0.5s,baz=304,slow=2.4,SNR=20						
CPUP	**Villa Florida**	**144.43**	**217**	PKP	PKPbc	14 24 16.3	+0.5
	2.7nm,0.7s,baz=140,slow=4.2,SNR=7.8						
TXAR	**Lajitas Array**	**144.59**	**36**	PKP	PKPbc	14 24 17.0	+0.6
	1.4nm,0.6s,baz=227,slow=1.1,SNR=18						
CFAA	**Coronel Fontan**	**145.09**	**198**	PKPbc	PKPdf	14 24 18.2	-0.3
	0.9nm,0.6s,baz=161,slow=4.2,SNR=11						

IDC ***27*** *14:10:44.1±0.7, 41°.24S×174°.44E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, ML4.0/2, MS3.9/11, Ms1 3.9/11, ms1mx3.6/27, Error ellipse: s-maj=23.5km s-min=16.8km az=25.0*
AUST ***27*** *14:10:45.9±1.8, 41°.53S×174°.27E, h0km, Error ellipse: s-maj=1.9km s-min=1.3km az=280.0*
BJI ***27*** *14:10:47.6, 41°.40S×174°.60E, h30km, mB5.4/5, mb5.1/9, Ms5.0/1, Ms7 4.7/2*
ISCJB ***27*** *14:10:47.4±0.2, 41°.54S±0°.03×174°.73E±0°.04, h39km±3km, mb4.5/16, MS3.9/11, Error ellipse: s-maj=5.6km s-min=3.1km az=41.5*
WEL ***27*** *14:10:49

POWZ	Post Office Ro	1.36	39	⇓PN	Pn	14 11 10.8	-0.1
POWZ	Post Office Ro	1.36	39	Pn	Pn	14 11 10.8	-0.1
BFZ	Birch Farm	1.43	58	PN	Pn	14 11 10.9	-1.1
BFZ	Birch Farm	1.43	58	Pn	Pn	14 11 10.7	-1.3
DVHZ	Dannevirke	1.63	45	⇓PN	Pn	14 11 13.8	-0.9
TSZ	Takapari Road	1.71	36	⇑PN	Pn	14 11 15.6	-0.3
TSZ				AML	AML	14 11 48.6	
TSZ				AML	AML	14 11 52.3	
TSZ	Takapari Road	1.71	36	Pn	Pn	14 11 15.4	-0.5
WAZ	Wanganui	1.72	9	PN	Pb	14 11 18.2	-1.2
WAZ	Wanganui	1.72	9	Pn	Pb	14 11 18.3	-1.1
QRZ	Quartz Range	1.72	291	⇓PN	Pb	14 11 18.1	-1.3
QRZ	Quartz Range	1.72	291	Pn	Pb	14 11 18.0	-1.3
PRHZ	Porangahau	1.92	52	PN	Pn	14 11 17.3	-1.3
PRHZ	Porangahau	1.92	52	Pn	Pn	14 11 17.4	-1.2
PNHZ	Pukenui	1.94	38	⇓PN	Pn	14 11 18.4	-0.6
PNHZ	Pukenui	1.94	38	Pn	Pn	14 11 18.4	-0.6
WPHZ	Waipukurau	1.94	45	PN	Pn	14 11 18.1	-0.9
WPHZ	Waipukurau	1.94	45	Pn	Pn	14 11 18.2	-0.9
DSZ	Denniston Nort	2.15	261	⇑PN	Pn	14 11 23.2	+1.2
DSZ	Denniston Nort	2.15	261	Pn	Pn	14 11 23.2	+1.2
MTVZ	Mangateitei	2.16	17	PN	Pn	14 11 23.4	+1.4
MTVZ	Mangateitei	2.16	17	Pn	Pn	14 11 23.6	+1.5
DFE	Dawson Falls	2.17	349	PN	Pb	14 11 25.7	-1.3
DFE	Dawson Falls	2.17	349	Pn	Pb	14 11 26.1	-0.9
PXZ	Pawanui	2.20	50	PN	Pn	14 11 20.6	-2.0
PXZ				AML	AML	14 12 18.9	
PXZ				AML	AML	14 12 18.9	
PXZ				AML	AML	14 12 22.4	
PXZ				AML	AML	14 12 22.4	
PXZ	Pawanui	2.20	50	Pn	Pn	14 11 20.8	-1.7
LTZ	Lake Taylor	2.21	232	PN	Pn	14 11 23.0	+0.3
LTZ	Lake Taylor	2.21	232	Pn	Pn	14 11 23.1	+0.4
MOVZ	Moawhango	2.21	23	PN	Pn	14 11 22.9	+0.1
MOVZ	Moawhango	2.21	23	Pn	Pn	14 11 23.0	+0.2
NEZ	North Egmont	2.22	349	PN	Pb	14 11 26.5	-1.5
NEZ	North Egmont	2.22	349	Pn	Pb	14 11 26.9	-1.1
PKVZ	Pokaka	2.23	14	PN	Pn	14 11 24.0	+1.0
PKVZ	Pokaka	2.23	14	Pn	Pn	14 11 24.5	+1.5
BHHZ	Black Hill Sta	2.24	29	PN	Pn	14 11 23.2	0.0
BHHZ	Black Hill Sta	2.24	29	Pn	Pn	14 11 23.3	+0.1
WNVZ	Wahianoa	2.25	19	PN	Pn	14 11 24.3	+0.9
WNVZ	Wahianoa	2.25	19	Pn	Pn	14 11 24.2	+0.9
NWEZ	Newall Road	2.26	344	PN	Pb	14 11 27.1	-1.5
NWEZ	Newall Road	2.26	344	Pn	Pb	14 11 27.1	-1.5
TRVZ	Turoa	2.26	18	PN	Pn	14 11 24.7	+1.1
TRVZ	Turoa	2.26	18	Pn	Pn	14 11 24.9	+1.3
DRZ	Dome Shelter	2.29	18	PN	Pn	14 11 25.1	+1.1
DRZ	Dome Shelter	2.29	18	Pn	Pn	14 11 25.4	+1.3
DREZ	Durham Road	2.29	351	PN	Pb	14 11 27.1	-2.0
DREZ	Durham Road	2.29	351	Pn	Pb	14 11 27.6	-1.5
FWVZ	Far West T-bar	2.30	18	PN	Pn	14 11 25.2	+1.0
FWVZ	Far West T-bar	2.30	18	Pn	Pn	14 11 25.3	+1.1
PKE	Pukeiti	2.31	347	PN	Pb	14 11 27.7	-1.8
PKE	Pukeiti	2.31	347	Pn	Pb	14 11 27.7	-1.8
TUVZ	Tukino	2.32	20	PN	Pn	14 11 25.3	+1.1
TUVZ	Tukino	2.32	20	Pn	Pn	14 11 25.4	+1.1
VRZ	Vera Road	2.33	2	PN	Pn	14 11 26.4	+2.1
VRZ	Vera Road	2.33	2	Pn	Pn	14 11 26.5	+2.1
WPVZ	Whakapapa	2.35	17	PN	Pn	14 11 26.0	+1.2
WPVZ	Whakapapa	2.35	17	Pn	Pn	14 11 26.0	+1.2
KAHZ	Kahuranaki	2.37	46	PN	Pn	14 11 23.4	-1.5
KAHZ	Kahuranaki	2.37	46	Pn	Pn	14 11 23.5	-1.5
MHEZ	Mangahewa	2.39	354	PN	Pb	14 11 29.5	-1.3
MHEZ	Mangahewa	2.39	354	Pn	Pb	14 11 29.8	-1.0
NGZ	Ngauruhoe	2.39	18	⇓PN	Pn	14 11 26.4	+1.1
NGZ	Ngauruhoe	2.39	18	Pn	Pn	14 11 26.6	+1.3
OTVZ	Oturere	2.42	19	PN	Pn	14 11 26.4	+0.8
OTVZ	Oturere	2.42	19	Pn	Pn	14 11 26.8	+1.1
WTVZ	West Tongariro	2.44	17	PN	Pn	14 11 27.3	+1.3
WTVZ	West Tongariro	2.44	17	Pn	Pn	14 11 27.4	+1.4
TWVZ	Taurewa	2.46	14	PN	Pn	14 11 27.1	+0.9
TWVZ	Taurewa	2.46	14	Pn	Pn	14 11 27.1	+0.9
KRVZ	Karewarewa	2.48	18	PN	Pn	14 11 27.5	+1.1
KRVZ	Karewarewa	2.48	18	Pn	Pn	14 11 27.6	+1.2
MCHZ	McNeill Hill	2.55	39	PN	Pn	14 11 26.2	-1.1
MCHZ	McNeill Hill	2.55	39	Pn	Pn	14 11 26.2	-1.1
CKHZ	Cape Kidnapper	2.58	47	PN	Pn	14 11 25.7	-2.1
CKHZ	Cape Kidnapper	2.58	47	Pn	Pn	14 11 23.9	-3.9
CRLZ	Canterbury Las	2.60	215	PN	Pn	14 11 26.9	-1.1
CRLZ	Canterbury Las	2.60	215	Pn	Pn	14 11 27.1	-0.9
KATZ	Kakaramea	2.60	18	Pn	Pn	14 11 29.4	+1.1
RITZ	Rihia Road	2.64	21	Pn	Pb	14 11 38.4	+3.3
BKZ	Black Stump Fm	2.69	32	⇓PN	Pn	14 11 28.2	-1.1
BKZ				AML	AML	14 12 31.2	
BKZ				AML	AML	14 12 32.7	
BKZ	Black Stump Fm	2.69	32	Pn	Pn	14 11 28.2	-1.1
MQZ	McQueen's Vall	2.69	213	⇑PN	Pn	14 11 28.0	-1.2
MQZ	McQueen's Vall	2.69	213	Pn	Pn	14 11 28.0	-1.2
RATZ	Rangitukua	2.72	19	PN	Pn	14 11 31.8	+2.0
RATZ	Rangitukua	2.72	19	Pn	Pn	14 11 31.8	+2.0
HATZ	Hinemaiaia	2.79	24	PN	Pn	14 11 30.4	-0.3
HATZ	Hinemaiaia	2.79	24	Pn	Pn	14 11 30.5	-0.2
WATZ	Wairara	2.87	17	PN	Pn	14 11 32.2	+0.4
WATZ	Wairara	2.87	17	Pn	Pn	14 11 32.3	+0.5
NMHZ	Naumai	2.88	36	PN	Pn	14 11 30.5	-1.4
HIZ	Hauiti	2.94	3	PN	Pn	14 11 34.7	+1.9
HIZ	Hauiti	2.94	3	Pn	Pn	14 11 34.7	+1.9
RAHZ	Arahi	3.15	37	PN	Pn	14 11 33.6	-2.0
RAHZ	Arahi	3.15	37	Pn	Pn	14 11 34.0	-1.6
ALRZ	Allen Road	3.17	25	PN	Pn	14 11 34.8	-1.1
ALRZ	Allen Road	3.17	25	Pn	Pn	14 11 35.0	-0.9
PRRZ	Plateau Road	3.24	25	PN	Pn	14 11 36.1	-0.8
PRRZ	Plateau Road	3.24	25	Pn	Pn	14 11 36.1	-0.8
WVZ	Waitaha Valley	3.33	240	PN	Pn	14 11 38.2	+0.2
WVZ	Waitaha Valley	3.33	240	Pn	Pn	14 11 38.5	+0.5
KNZ	Kokohu	3.36	45	PN	Pn	14 11 35.5	-2.9
KNZ	Kokohu	3.36	45	Pn	Pn	14 11 35.9	-2.5
MHGZ	Mahia Peninsul	3.39	48	Pn	Pn	14 11 36.4	-2.5
RPZ	Rata Peaks	3.48	228	PN	Pn	14 11 39.5	-0.7
RPZ	Rata Peaks	3.48	228	*e*Pn	Pn	14 11 40.0	-0.3
RPZ				*e*Sn	Pb	14 11 54.1	+4.7
RPZ				Sn	Sn	14 12 17.6	-2.7
RPZ	Rata Peaks	3.48	228	Pn	Pn	14 11 39.8	-0.4
	6.8nm,0.3s,baz=35,slow=5.6,SNR=17						
RPZ				Sn	Sn	14 12 17.6	-2.7
	36nm,0.3s,baz=290,slow=6.4,SNR=5.7						
PRGZ	Paritu Road	3.54	45	PN	Pn	14 11 38.3	-2.7
PRGZ	Paritu Road	3.54	45	Pn	Pn	14 11 38.4	-2.6
KARZ	Kaharoa	3.64	20	Pn	Pb	14 11 57.4	+5.3
URZ	Urewera	3.71	31	PN	Pn	14 11 40.4	-2.9
URZ				AML	AML	14 12 52.5	
URZ				AML	AML	14 13 05.9	
URZ	Urewera	3.71	31	*e*Pn	Pn	14 11 41.2	-2.1
URZ				*e*Sn	Pb	14 11 55.5	+2.3
URZ				Sn	Sn	14 12 22.8	-3.0
URZ	Urewera	3.71	31	Pn	Pn	14 11 40.9	-2.4
	25nm,0.3s,baz=242,slow=7.2,SNR=92						
URZ				Sn	Sn	14 12 22.8	-3.0
	52nm,0.3s,baz=121,slow=22,SNR=3.2						
TOZ	Tahuroa Road	3.78	10	PN	Pn	14 11 44.7	+0.5
TOZ	Tahuroa Road	3.78	10	Pn	Pn	14 11 44.8	+0.5
MWZ	Matawai	3.82	36	PN	Pn	14 11 41.8	-3.1
MWZ				AML	AML	14 13 11.6	
MWZ				AML	AML	14 13 11.6	
MWZ				AML	AML	14 13 23.2	
MWZ				AML	AML	14 13 23.2	
MWZ	Matawai	3.82	36	Pn	Pn	14 11 42.0	-3.0
OPRZ	Ohinepanea	3.89	23	PN	Pn	14 11 44.3	-1.5
OPRZ	Ohinepanea	3.89	23	Pn	Pn	14 11 44.6	-1.2
TGRZ	Tauranga	3.92	19	PN	Pn	14 11 46.2	-0.1
CNGZ	Carnagh Statio	4.03	44	*e*PN	Pn	14 11 44.7	-3.0
CNGZ	Carnagh Statio	4.03	44	Pn	Pn	14 11 45.1	-2.6
FOZ	Fox Glacier	4.23	238	*e*PN	Pn	14 11 49.1	-1.3
FOZ	Fox Glacier	4.23	238	Pn	Pn	14 11 49.2	-1.2
MKAZ	Moumakai	4.36	5	PN	Pn	14 11 52.8	+0.6
MKAZ	Moumakai	4.36	5	Pn	Pn	14 11 53.2	+1.0
PUZ	Puketiti	4.38	41	AML	AML	14 13 35.9	
PUZ				AML	AML	14 13 39.7	
PUZ	Puketiti	4.38	41	Pn	Pn	14 11 48.9	-3.6
LBZ	Lake Benmore	4.40	227	*e*PN	Pn	14 11 52.3	-0.5
LBZ	Lake Benmore	4.40	227	Pn	Pn	14 11 52.5	-0.3
OTAZ	Otara	4.50	3	Pn	Pn	14 11 56.2	+1.9
WTAZ	Waiatarua	4.52	359	PN	Pn	14 11 57.1	+2.6
WTAZ	Waiatarua	4.52	359	Pn	Pn	14 11 57.3	+2.8
ODZ	Otahua Downs	4.63	218	*e*PN	Pn	14 11 54.5	-1.4
ODZ	Otahua Downs	4.63	218	*e*Pn	Pn	14 11 55.1	-0.8
RVAZ	Riverhead Bore	4.68	359	*e*PN	Pn	14 11 58.2	+1.6
KUZ	Kuaotunu	4.78	10	*e*PN	Pn	14 11 57.7	-0.3
KUZ	Kuaotunu	4.78	10	Pn	Pn	14 11 58.3	+0.3
MXZ	Matakaoa Point	4.81	37	AML	AML	14 13 30.0	
MXZ				AML	AML	14 13 32.9	
MXZ	Matakaoa Point	4.81	37	Pn	Pn	14 11 55.6	-2.8
JCZ	Jackson Bay	5.07	237	Pn	Pn	14 12 02.0	0.0
WKZ	Wanaka	5.32	229	*e*PN	Pn	14 12 03.9	-1.6
WKZ	Wanaka	5.32	229	Pn	Pn	14 12 05.0	-0.5
EAZ	Earnscleugh	5.42	224	*e*PN	Pn	14 12 06.4	-0.4
EAZ	Earnscleugh	5.42	224	Pn	Pn	14 12 06.4	-0.4
WCZ	Waipu Caves	5.51	357	PN	Pn	14 12 09.4	+1.3
WCZ	Waipu Caves	5.51	357	Pn	Pn	14 12 09.8	+1.7
TUZ	Tuapeka	5.78	217	*e*PN	Pn	14 12 11.0	-0.7
TUZ	Tuapeka	5.78	217	Pn	Pn	14 12 11.1	-0.6
MLZ	Mavora Lakes	6.11	228	*e*PN	Pn	14 12 15.8	-0.5
MLZ	Mavora Lakes	6.11	228	Pn	Pn	14 12 16.3	0.0
OUZ	Omahuta	6.28	352	*e*Pn	Pn	14 12 18.9	+0.3
OUZ				*e*S	Sn	14 13 27.1	-2.1
SYZ	Scrubby Hill	6.45	216	*e*PN	Pn	14 12 20.3	-0.5
SYZ	Scrubby Hill	6.45	216	Pn	Pn	14 12 20.7	-0.1
WHZ	Wether Hill Ro	6.58	225	Pn	Pn	14 12 22.1	-0.6
CTZ	Chatham Island	6.83	112	*e*PN	Pn	14 12 24.3	-1.9
CTZ	Chatham Island	6.83	112	Pn	Pn	14 12 24.8	-1.4
RAO	Raoul Island	13.60	29	LR	LR	14 18 58.0	
	comp=Z,562nm,19.8s,baz=209,slow=37						
LHI	Lord Howe Isla	15.96	303	S	Sn	14 17 06.0	-20
	baz=16,SNR=3.6						
DZM	Mont Dzumac	20.53	338	*e*S	S	14 19 05.2	-6.7
	250nm,25.1s						
DZM				*e*LR	LR	14 20 15.0	
	532nm,23.2s						
CAN	Canberra	20.98	279	*e*P	Pn	14 15 30.8	-0.6
EIDS	Eidsvold	25.27	302	*e*P	P	14 16 11.2	-0.4
	3.5nm,0.7s						
STKA	Stephens Creek	28.04	279	P	P	14 16 36.9	+0.4
STKA	Stephens Creek	28.04	279	P	P	14 16 36.9	+0.4
	2.6nm,1.0s,baz=129,slow=6.5,SNR=2.0						
STKA				LR	LR	14 26 07.3	
	comp=Z,256nm,21.2s,baz=43,slow=33						
CTA	Charters Tower	32.15	303	P	P	14 17 12.1	-0.7
CTA	Charters Tower	32.15	303	P	P	14 17 12.1	-0.7
	3.6nm,1.0s,baz=104,slow=8.3,SNR=3.0						
HNR	Honiara	34.44	334	LR	LR	14 28 40.5	
	comp=Z,82nm,21.6s,baz=313,slow=32						
TBI	Tubuai	34.95	70	*e*LR	LR	14 26 57.7	
	222nm,25.2s						
VNDA	Vanda	36.56	185	LR	LR	14 31 43.5	
	comp=Z,88nm,19.4s,baz=29,slow=34						
AS31	Alice Springs	38.24	285	*e*P	P	14 18 05.3	-0.1
ASAR	Alice Springs	38.24	285	P	P	14 18 05.3	-0.1
ASAR				S	S	14 23 55.0	-2.1
ASAR	Alice Springs	38.24	285	P	P	14 18 05.3	-0.1
	3.4nm,0.4s,baz=121,slow=7.0,SNR=179						
ASAR				S	S	14 23 55.0	-2.1
	0.6nm,0.8s,baz=123,slow=14,SNR=5.3						
ASAR				LR	LR	14 34 35.9	
	comp=Z,146nm,18.1s,baz=121,slow=38						
PPT2	Papeete2	38.76	63	*e*LR	LR	14 28 41.9	
	175nm,24.2s						
PPT	Papeete	38.77	63	LR	LR	14 29 32.9	
	comp=Z,197nm,21.2s,baz=185,slow=29						
WRAB	Tennant Creek	40.28	290	*e*P	P	14 18 22.1	-0.3
	4.1nm,0.5s						
WRA	Warramunga Arr	40.28	290	P	P	14 18 22.1	-0.2
WRA	Warramunga Arr	40.28	290	P	P	14 18 22.2	-0.2
	3.4nm,0.6s,baz=126,slow=8.3,SNR=104						
WRA				LR	LR	14 33 56.8	
	comp=Z,243nm,20.3s,baz=95,slow=35						
KNRA	Kununurra	47.07	289	P	P	14 19 17.6	+0.6
	baz=47,SNR=11						
MTN	Manton Dam	47.37	294	P	P	14 19 19.4	+0.1
	baz=47,SNR=12						
FITZ	Fitzroy Crossi	47.73	284	P	P	14 19 21.8	-0.3
FITZ	Fitzroy Crossi	47.73	284	P	P	14 19 21.8	-0.3
	1.9nm,0.6s,baz=181,slow=10,SNR=11						
FITZ				LR	LR	14 38 56.6	
	comp=Z,121nm,20.1s,baz=118,slow=36						
FITZ	Fitzroy Crossi	47.73	284	P	P	14 19 22.0	-0.1
	baz=47,SNR=7.9						
MEEK	Meekatharra	47.93	270	P	P	14 19 22.8	-0.9
	baz=48,SNR=4.9						
QSPA	South Pole Qui	48.67	180	*e*P	P	14 19 31.3	+2.4
	13nm,1.0s						
QSPA	South Pole Qui	48.67	180	P	P	14 19 31.8	+2.8
	5.2nm,0.8s,baz=32,slow=2.2,SNR=34						
WSI	Waingapu	57.18	288	P	P	14 20 31.9	-0.3
	baz=57,SNR=3.7						
MAW	Mawson	59.84	204	LR	LR	14 46 05.3	
	comp=Z,233nm,20.6s,baz=208,slow=35						
SYO	Syowa Base	64.94	196	*e*pP	pP	14 21 35.2	+0.8
SNAA	Sanae	67.16	181	*e*P	P	14 21 40.1	+1.7
SNAA	Sanae	67.16	181	*e*P	P	14 21 39.0	+0.6
	8.3nm,1.3s						
VNA3	Neumayer Olymp	67.57	178	*e*P	P	14 21 42.8	+1.9
VNA2	Neumayer--Watz	67.92	179	*e*P	P	14 21 45.2	+2.1
VNA1	Neumayer--Stat	68.18	179	*e*P	P	14 21 46.9	+2.2
PLCA	Paso Flores	79.10	135	P	P	14 22 51.9	+2.4
PLCA	Paso Flores	79.10	135	P	P	14 22 51.9	+2.4
	1.6nm,0.8s,baz=266,slow=4.8,SNR=3.4						
MJAR	Matsushiro Arr	84.49	331	LR	LR	14 56 12.2	
	comp=Z,45nm,19.5s,baz=75,slow=32						
LCO	Las Campanas	87.50	127	P	P	14 23 33.7	+0.5
	baz=88,SNR=7.2						
KSRS	Korea Array	89.39	325	P	P	14 23 41.8	+0.6
	0.6nm,0.7s,baz=141,slow=7.6,SNR=3.5						
KSAR	Wonju Array Be	89.40	325	P	P	14 23 41.8	+0.6
NJ2	Nanjing	89.40	315	*e*P	P	14 23 44.0	+2.6
NJ2				pmax	pmax		
	comp=Z,50nm,0.8s						
CMAR	Chiang Mai Arr	91.80	293	P	P	14 23 54.7	+1.8
CMAR	Chiang Mai Arr	91.80	293	P	P	14 23 54.7	+1.8
	comp=Z,0.5nm,0.6s,baz=138,slow=3.3,SNR=3.4						
CMAR				LR	LR	15 02 17.6	
	comp=Z,35nm,21.3s,baz=190,slow=34						
GYA	Guiyang	92.28	304	*e*P	P	14 23 56.8	+1.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	Kunming	93.84	300	P	P	14 24 05.8	+3.3
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CN2	Changchun	95.70	327	*e*P	P	14 24 10.0	-0.2
CN2				*e*pP	pP	14 24 20.5	-0.5
CN2				*e*S	S	14 35 22.0	-2.8
CD2	Chengdu	97.22	305	*e*P	Pdif	14 24 18.8	+1.2
CD2				pP	pP	14 24 30.0	+1.7
CD2				sP	sP	14 24 34.0	+1.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				pmax	pmax		
	comp=Z,30nm,6.2s						
HHC	Hu-ho-hao-te	99.88	317	*e*P	Pdif	14 24 29.5	+0.2
HHC				pP	pP	14 24 40.3	+0.2
HHC				sP	sP	14 24 44.0	+0.1
HHC				PP	PP	14 28 38.0	+3.1
HHC				SKS	SKSac	14 35 04.5	-0.7
HHC				S	ScS	14 35 58.5	-2.4
HHC				sS	sS	14 36 16.3	-2.5
HHC				SS	SS	14 42 56.5	+1.7
HHC				LR	LR		
	comp=N,160nm,19.6s						
HHC				LR	LR		
	comp=E,220nm,19.0s						
HHC				LR	LR		
	comp=Z,200nm,18.4s						
YKA	Yellowknife Ar	117.97	30	PKP	PKPdf	14 29 30.6	+0.2
YKA	Yellowknife Ar	117.97	30	PKP	PKPdf	14 29 30.5	+0.2
	comp=Z,1.0nm,0.7s,baz=215,slow=3.3,SNR=3.8						
MKAR	Makanchi Array	120.03	308	PKP	PKPdf	14 29 34.5	-0.5
MKAR	Makanchi Array	120.03	308	PKP	PKPdf	14 29 34.5	-0.5
	comp=Z,0.6nm,0.9s,baz=29,slow=2.8,SNR=4.1						
KBZ	Khabaz	144.80	290	PKP	PKPdf	14 30 21.4	+0.2
KBZ	Khabaz	144.80	290	PKP	PKPdf	14 30 21.4	+0.2
	comp=Z,1.4nm,0.7s,baz=76,slow=4.2,SNR=3.4						
LIC	Lamto	144.92	181	*e*P	PKPab	14 30 21.1	-0.4
	comp=Z,21nm,0.6s						
KIC	Kosan Boka	145.05	181	*e*P	PKPdf	14 30 22.9	+0.3
	comp=Z,52nm,1.2s						
TIC	Toumodi	145.33	181	*e*P	PKPdf	14 30 23.7	+0.6
	comp=Z,52nm,1.2s						
DBIC	Dimbokro	145.36	181	PKPbc	PKPdf	14 30 23.6	+0.5
DBIC	Dimbokro	145.36	181	PKPbc	PKPdf	14 30 23.6	+0.5
	comp=Z,3.8nm,0.7s,baz=198,slow=4.1,SNR=4.5						
ARCES	ARCESS Array B	147.60	340	PKPbc	PKPbc	14 30 26.8	-1.2
ARCES	ARCESS Array B	147.60	340	PKPbc	PKPbc	14 30 26.8	-1.2
	comp=Z,3.8nm,0.8s,baz=31,slow=1.5,SNR=12						
BRTR	Keskin Array B	150.51	280	PKPbc	PKPbc	14 30 36.5	+0.1
BRTR	Keskin Array B	150.51	280	PKPbc	PKPbc	14 30 36.5	+0.1
	comp=Z,2.7nm,0.8s,baz=151,slow=5.6,SNR=12						
TORD	Torodi Ar. Bea	151.13	194	PKPbc	PKPbc	14 30 38.9	+0.5
TORD	Torodi Ar. Bea	151.13	194	PKPbc	PKPbc	14 30 38.9	+0.5
	comp=Z,1.3nm,0.9s,baz=109,slow=1.1,SNR=6.3						
FINES	FINESS Array B	152.45	327	PKPbc	PKPbc	14 30 38.6	-1.4
FINES				PKPab	PKPab	14 30 51.8	+1.5
FINES	FINESS Array B	152.45	327	PKPbc	PKPbc	14 30 38.6	-1.4
	comp=Z,2.9nm,0.8s,baz=84,slow=5.9,SNR=6.3						
FINES				PKPab	PKPab	14 30 51.8	+1.5
	comp=Z,1.9nm,0.7s,baz=163,slow=20,SNR=4.4						

ATH ***27*** *14:11:43.0,33°.87N±25°.40E,h11km±4km,MD3.7/12*
IDC ***27*** *14:11:43.6±1.0,34°.03N±25°.37E,h0km,mb4.0/13,*
mb1 4.0/19,mb1mx4.0/33,mbtmp3.9/19,ML3.9/6,MS3.2/2,
Ms1 3.2/2,ms1mx2.4/46,Error ellipse: s-maj=21.3km
s-min=16.2km az=6.0
CSEM ***27*** *14:11:45.4±0.2,33°.98N±25°.44E,h10km,mb4.1/11,Ms2.7,*
Error ellipse: s-maj=4.7km s-min=3.8km az=8.0
HLW ***27*** *14:11:47.8,34°.16N±25°.32E,h32km±3km,Md3.3,Ml0.0*
ISK ***27*** *14:11:48.0,34°.01N±25°.74E,h32km,ML3.9*
DDA ***27*** *14:12:00.0,34°.56N±26°.28E,h23km,ML4.1*

ISC 27 14:11:44.4±1.4,33°.91N±0°.04×25°.45E±0°.04,h10km±9km,
n145,σ1$23/146,mb3.9/25,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.99	12	*e*PB	Pg	14 12 02.5	-0.9
XRY	Khrisi	0.99	12	*e*Pb	Pg	14 12 02.5	-0.9
LAST	Lasithi	1.25	1	*e*PG	Pn	14 12 07.0	-1.0
LAST				*e*SB	Sg	14 12 25.2	+0.5
LAST	Lasithi	1.25	1	*e*Pg	Pn	14 12 07.0	-1.0
LAST				*e*Sb	Sg	14 12 25.2	+0.5
NPS	Neapolis	1.36	6	*e*PB	Pn	14 12 08.7	-0.7
NPS	Neapolis	1.36	6	*e*Pb	Pn	14 12 08.7	-0.7
ZKR	Zakros	1.36	28	*e*PB	Pb	14 12 09.8	-0.2
ZKR	Zakros	1.36	28	*e*Pb	Pb	14 12 09.8	-0.2
IDI	Anoyia	1.45	342	*e*PB	Pb	14 12 10.8	-0.7
IDI	Anoyia	1.45	342	*e*Pb	Pb	14 12 10.8	-0.7
VAM	Vamos	1.82	326	*e*PN	Pb	14 12 16.7	-1.0
VAM	Vamos	1.82	326	*e*Pn	Pb	14 12 16.7	-1.0
KARP	Karpathos	2.16	40	*e*PG	Pb	14 12 23.5	-0.1
SLUM		2.42	185	P	Pb	14 12 26.9	-1.0
SLUM				S	Sb	14 12 56.3	-1.5
KYTH	Kithira	3.08	321	*e*PB	Pb	14 12 35.2	-4.1
KYTH	Kithira	3.08	321	*e*Pb	Pb	14 12 35.2	-4.1
APE	Apeiranthos	3.16	1	*e*PN	Pn	14 12 35.5	+1.4
APE				*e*SN	Sn	14 13 09.7	-2.1
APE	Apeiranthos	3.16	1	*e*PN	Pn	14 12 34.8	+0.7
APE	Apeiranthos	3.16	1	*e*Pn	Pn	14 12 34.8	+0.7
APE				*e*Sn	Sn	14 13 09.7	-2.1
ARG	Arkhangelos	3.18	43	*e*PN	Pn	14 12 36.0	+1.5
ARG	Arkhangelos	3.18	43	*e*Pn	Pn	14 12 36.0	+1.5
DAT	Datca	3.31	31	*e*PN

MTLF	Montolieu	20.39 304	*e*P	Pn	14 16 21.4	-2.0
	5.3nm,0.8s					
MTLF	Montolieu	20.39 304	*e*P	Pn	14 16 21.4	-2.0
	2.7nm,0.8s					
SMF	Signal de Mont	20.74 314	*e*P	Pn	14 16 25.0	-2.5
	5.3nm,0.6s					
SMF	Signal de Mont	20.74 314	*e*P	Pn	14 16 25.0	-2.5
	2.7nm,0.6s					
LOR	Lormes	21.05 316	*e*P	P	14 16 28.7	+0.3
	6.3nm,0.8s					
LOR			*e*R			
	42nm,18.0s					
LOR	Lormes	21.05 316	*e*P	P	14 16 28.7	+0.3
	3.2nm,0.8s					
CAF	Calviac	21.08 308	*e*P	P	14 16 29.7	+1.0
	8.4nm,0.7s					
CAF	Calviac	21.08 308	*e*P	P	14 16 29.7	+1.0
	4.2nm,0.7s					
AVF	Avril sur Loir	21.11 314	*e*P	P	14 16 28.8	-0.2
	7.9nm,0.8s					
AVF	Avril sur Loir	21.11 314	*e*P	P	14 16 28.8	-0.2
	4.0nm,0.8s					
SSF	Saint Saulge	21.15 315	*e*P	P	14 16 31.2	+1.7
	8.4nm,0.8s					
SSF	Saint Saulge	21.15 315	*e*P	P	14 16 31.2	+1.7
	4.2nm,0.8s					
TCF	Toulx Ste Croi	21.56 312	*e*P	P	14 16 35.2	+1.3
	15nm,0.9s					
TCF	Toulx Ste Croi	21.56 312	*e*P	P	14 16 35.2	+1.3
	7.6nm,0.9s					
RJF	Les Rejaudoux	21.59 309	*e*P	P	14 16 34.6	+0.5
	10nm,0.7s					
RJF			*e*R			
	56nm,20.0s					
RJF	Les Rejaudoux	21.59 309	*e*P	P	14 16 34.6	+0.5
	5.2nm,0.7s					
ETSF	Etsaut	22.20 301	*e*P	P	14 16 41.3	+0.4
	5.3nm,0.5s					
ETSF	Etsaut	22.20 301	*e*P	P	14 16 41.3	+0.4
	2.7nm,0.5s					
BAIF	Baives	22.46 322	*e*P	P	14 16 43.2	-0.2
	11nm,0.6s					
BAIF	Baives	22.46 322	*e*P	P	14 16 43.2	-0.2
	5.6nm,0.6s					
SJPF	Ste Jean	22.73 302	*e*P	P	14 16 46.5	+0.1
	14nm,0.9s					
SJPF	Ste Jean	22.73 302	*e*P	P	14 16 46.5	+0.1
	7.2nm,0.9s					
MFF	Saint Martin d	23.17 311	*e*P	P	14 16 50.8	-0.1
MFF	Saint Martin d	23.17 311	*e*P	P	14 16 50.8	-0.1
LDF	La Druitiere	24.03 315	*e*P	P	14 16 59.0	-0.4
	13nm,0.6s					
LDF	La Druitiere	24.03 315	*e*P	P	14 16 59.0	-0.4
	6.3nm,0.6s					
ESDC	Sonseca Array	24.18 292	P	P	14 17 01.0	0.0
	2.0nm,0.6s,baz=86,slow=9.4,SNR=16					
FLN	La Foliniere	24.32 315	*e*P	P	14 17 01.5	-0.6
FLN			*e*R			
	47nm,19.8s					
FLN	La Foliniere	24.32 315	*e*P	P	14 17 01.5	-0.6
SGMF	Saint Gilles	25.34 313	*e*P	P	14 17 11.6	+0.4
SGMF	Saint Gilles	25.34 313	*e*P	P	14 17 11.6	+0.4
QUIF	Quistinic	25.58 312	*e*P	P	14 17 13.4	0.0
	19nm,0.8s					
QUIF	Quistinic	25.58 312	*e*P	P	14 17 13.4	0.0
	9.4nm,0.8s					
ROSF	Rostrenen	25.81 313	*e*P	P	14 17 17.0	+1.5
	6.1nm,0.6s					
ROSF	Rostrenen	25.81 313	*e*P	P	14 17 17.0	+1.5
	3.0nm,0.6s					
HFS	Hagfors	27.35 347	P	P	14 17 28.2	-1.0
	1.0nm,0.5s,baz=183,slow=12,SNR=4.1					
FINES	FINESS Array B	27.56 1	P	P	14 17 30.1	-1.0
	5.3nm,1.1s,baz=172,slow=11,SNR=2.8					
NOA	NORSAR Array B	28.67 346	P	P	14 17 41.4	+0.3
	0.8nm,0.8s,baz=154,slow=8.3,SNR=3.2					
AKTO	Aktyubinsk	28.94 45	P	P	14 17 44.0	+0.3
	0.7nm,0.3s,baz=264,slow=6.4,SNR=3.9					
EKA	Eskdalemuir Ar	29.20 326	P	P	14 17 45.3	-0.6
	0.4nm,0.5s,baz=118,slow=9.0,SNR=3.0					
TORD	Torodi Ar. Bea	29.89 232	P	P	14 17 53.9	+1.6
	1.1nm,0.7s,baz=35,slow=9.8,SNR=7.9					
ARCES	ARCESS Array B	35.68 0	P	P	14 18 41.1	-1.3
	0.5nm,0.4s,baz=172,slow=11,SNR=7.1					
DBIC	Dimbokro	38.99 233	LR	LR	14 36 50.8	
	comp=Z,41nm,20.0s,baz=90,slow=39					
MKAR	Makanchi Array	44.28 55	P	P	14 19 55.4	+1.3
	3.5nm,0.5s,baz=270,slow=6.8,SNR=45					
MKAR			LR	LR	14 39 50.7	
	comp=Z,24nm,18.4s,baz=337,slow=38					
ZALV	Zalesovo Beam	45.71 45	P	P	14 20 05.8	+0.5
	3.7nm,0.5s,baz=271,slow=8.9,SNR=17					
SONM	Songino Array	60.10 50	P	P	14 21 53.5	+1.7
	0.6nm,0.5s,baz=288,slow=8.9,SNR=5.1					
USRK	Ussurlysk Arra	77.56 45	P	P	14 23 41.1	+0.6
	0.7nm,0.4s,baz=296,slow=4.2,SNR=4.6					
ILAR	Eielson Array	81.46 357	P	P	14 24 01.2	-0.1
	0.4nm,0.8s,baz=345,slow=4.3,SNR=5.8					
ASAR	Alice Springs	117.58 101	PKP	PKPdf	14 30 31.3	+0.4
	0.2nm,0.7s,baz=284,slow=1.3,SNR=4.5					

IDC 27 14:18:03.5±1.8, 24°.12S×67°.04W, h186km±17km, mb3.2/3, mb1 3.3/5, mb1mx3.1/18, mbtmp3.1/5, Error ellipse: s-maj=26.4km s-min=14.6km az=81.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.53	188	P	Pn	14 19 48.8	-1.9
	0.1nm,0.3s,baz=12,slow=12,SNR=10						
CFAA				S	Sn	14 21 07.0	-8.5
	0.2nm,0.3s,baz=250,slow=17,SNR=10						
LPAZ	La Paz	7.86	352	P	Pn	14 19 56.8	+0.9
	0.8nm,0.3s,baz=153,slow=8.1,SNR=28						
LPAZ				S	Sn	14 21 23.2	-1.7
	0.1nm,0.3s,baz=249,slow=24,SNR=2.3						
CPUP	Villa Florida	9.06	106	P	Pn	14 20 12.5	+1.8
	0.3nm,0.3s,baz=249,slow=14,SNR=1.8						
TXAR	Lajitas Array	63.76	324	P	P	14 28 16.2	+0.4
	0.2nm,0.5s,baz=134,slow=7.8,SNR=3.2						
QSPA	South Pole Qui	66.08	180	P	P	14 28 30.9	+0.5
	1.0nm,0.6s,baz=214,slow=3.1,SNR=19						
TORD	Torodi Ar. Bea	76.65	69	P	P	14 29 33.3	-1.0
	0.3nm,0.3s,baz=254,slow=5.0,SNR=7.1						
ASAR	Alice Springs	128.33	205	PKP	PKPdf	14 36 47.6	-1.1
	0.4nm,1.0s,baz=122,slow=1.5,SNR=5.2						
WRA	Warramunga Arr	131.50	207	PKP	PKPdf	14 36 54.9	+0.2
	0.2nm,0.5s,baz=158,slow=1.8,SNR=8.1						
ZALV	Zalesovo Beam	143.52	28	PKP	PKPbc	14 37 14.2	+0.7
	0.9nm,0.5s,baz=303,slow=4.7,SNR=5.2						
MKAR	Makanchi Array	146.64	40	PKPbc	PKPbc	14 37 22.6	-0.6
	0.9nm,0.5s,baz=296,slow=3.3,SNR=13						

IDC 27 14:18:13.9±2.0, 13°.84N×92°.73E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/27, mbtmp3.4/4, ML3.3/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/27, Error ellipse: s-maj=65.2km s-min=27.3km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.54	52	Pn	Pn	14 20 05.2	+0.1
	0.1nm,0.3s,baz=233,slow=14,SNR=2.4						
CMAR				Sn	Sn	14 21 23.9	-7.5
	0.2nm,0.3s,baz=240,slow=26,SNR=1.5						
MKAR	Makanchi Array	34.00	347	P	P	14 24 59.7	+0.3
	0.4nm,0.5s,baz=172,slow=7.6,SNR=4.7						
BATI	Baumata	38.90	126	LR	LR	14 45 39.0	
	comp=Z,159nm,19.0s,baz=138,slow=42						
ZALV	Zalesovo Beam	40.50	353	P	P	14 25 53.9	-0.5
	0.4nm,0.3s,baz=163,slow=11,SNR=4.1						
ASAR	Alice Springs	54.87	132	P	P	14 27 46.4	-0.1
	0.2nm,0.4s,baz=309,slow=7.1,SNR=11						

*CSEM **27** 14:25:27.5, 45°.60N×26°.45E, h131km, MD4.1/2, After BUC*

BUC 27 14:25:27.5±1.0, 45°.60N×26°.45E, h131km±9km, MD4.1/2, 21C-15D, Error ellipse: s-maj=7.5km s-min=5.7km az=28.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.29	29	⇑*i*P	Pn	14 25 45.5	-0.3
PLOR	Plostina	0.29	29	⇑*i*P	Pn	14 25 45.5	-0.3
PLOR				*i* S	Sn	14 25 58.2	-1.4
PLOR	Plostina	0.29	29	⇑*i*P	Pn	14 25 45.5	-0.3
PLOR				*i* S	Sn	14 25 58.2	-1.4
VRI	Vrincioaia	0.33	36	⇑*i*P	Pn	14 25 45.9	0.0
VRI	Vrincioaia	0.33	36	⇑*i*P	Pn	14 25 45.9	0.0
VRI				*i* S	Sn	14 25 58.6	-1.2
VRI	Vrincioaia	0.33	36	⇑*i*P	Pn	14 25 45.9	0.0
VRI				*i* S	Sn	14 25 58.6	-1.2
MLR	Muntele Rosu	0.37	253	⇑*i*P	Pn	14 25 46.0	-0.2
MLR	Muntele Rosu	0.37	253	⇑*i*P	Pn	14 25 46.0	-0.2
MLR				*i* S	Sn	14 25 59.4	-0.9
MLR	Muntele Rosu	0.37	253	⇑*i*P	Pn	14 25 46.0	-0.2
MLR				*i* S	Sn	14 25 59.4	-0.9
ODBI	Odobesti	0.45	69	S	Sn	14 26 01.6	+0.9
ODBI	Odobesti	0.45	69	*i* S	Sn	14 26 01.6	+0.9
ODBI	Odobesti	0.45	69	*i* S	Sn	14 26 01.6	+0.9
ISR	Istrita	0.48	172	S	Sn	14 26 01.1	0.0
ISR	Istrita	0.48	172	*i* S	Sn	14 26 01.1	0.0
ISR	Istrita	0.48	172	*i* S	Sn	14 26 01.1	0.0
PETR	Petresti	0.56	77	S	Sn	14 26 01.2	-0.5
PETR	Petresti	0.56	77	*i* S	Sn	14 26 01.2	-0.5
PETR	Petresti	0.56	77	*i* S	Sn	14 26 01.2	-0.5
SECR		0.63	206	⇓*i*P	Pn	14 25 47.7	+0.2
SECR		0.63	206	⇓*i*P	Pn	14 25 47.7	+0.2
SECR				*i* S	Sn	14 26 02.5	-0.1
SECR		0.63	206	⇓*i*P	Pn	14 25 47.7	+0.2
SECR				*i* S	Sn	14 26 02.5	-0.1
PLAR	PLOIESTI	0.75	204	S	Sn	14 26 04.3	+0.2
PLAR	PLOIESTI	0.75	204	*i* S	Sn	14 26 04.3	+0.2
PLAR	PLOIESTI	0.75	204	*i* S	Sn	14 26 04.3	+0.2
TESR	Tescani	0.92	8	⇑*i*P	Pn	14 25 49.9	+0.1
TESR	Tescani	0.92	8	⇑*i*P	Pn	14 25 49.9	+0.1
TESR				*i* S	Sn	14 26 05.0	-1.7
TESR	Tescani	0.92	8	⇑*i*P	Pn	14 25 49.9	+0.1
TESR				*i* S	Sn	14 26 05.0	-1.7
VOIR		1.00	261	⇑*i*P	Pn	14 25 50.5	-0.1
VOIR		1.00	261	⇑*i*P	Pn	14 25 50.5	-0.1
VOIR				*i* S	Sn	14 26 06.6	-1.5
VOIR		1.00	261	⇑*i*P	Pn	14 25 50.5	-0.1
VOIR				*i* S	Sn	14 26 06.6	-1.5
MTUR	Matau	1.05	250	⇓*i*P	Pn	14 25 49.8	-1.2
MTUR	Matau	1.05	250	⇓*i*P	Pn	14 25 49.8	-1.2
MTUR	Matau	1.05	250	⇓*i*P	Pn	14 25 49.8	-1.2
CFR	Carcaliu	1.26	109	⇑*i*P	Pn	14 25 52.8	-0.2
CFR	Carcaliu	1.26	109	⇑*i*P	Pn	14 25 52.8	-0.2
CFR				*i* S	Sn	14 26 10.6	-1.8
CFR	Carcaliu	1.26	109	⇑*i*P	Pn	14 25 52.8	-0.2
CFR				*i* S	Sn	14 26 10.6	-1.8
ARR	Arges	1.30	260	⇓*i*P	Pn	14 25 54.0	+0.4
ARR	Arges	1.30	260	⇓*i*P	Pn	14 25 54.0	+0.4
ARR				*i* S	Sn	14 26 13.0	-0.4
ARR	Arges	1.30	260	⇓*i*P	Pn	14 25 54.0	+0.4
ARR				*i* S	Sn	14 26 13.0	-0.4
TLB	Topalu	1.52	131	⇓*i*P	Pn	14 25 55.8	0.0
TLB	Topalu	1.52	131	⇓*i*P	Pn	14 25 55.8	0.0
TLB				*i* S	Sn	14 26 15.7	-1.6
TLB	Topalu	1.52	131	⇓*i*P	Pn	14 25 55.8	0.0
TLB				*i* S	Sn	14 26 15.7	-1.6
LEOM	Leova	1.52	54	S	Sn	14 26 16.7	-0.8
LEOM	Leova	1.52	54	*i* S	Sn	14 26 16.7	-0.8
LEOM	Leova	1.52	54	*i* S	Sn	14 26 16.7	-0.8
TLCR		1.71	103	⇑*i*P	Pn	14 25 58.6	+0.5
TLCR		1.71	103	⇑*i*P	Pn	14 25 58.6	+0.5
TLCR				*i* S	Sn	14 26 20.6	-0.8
TLCR		1.71	103	⇑*i*P	Pn	14 25 58.6	+0.5
TLCR				*i* S	Sn	14 26 20.6	-0.8
TIRR	Tirgusor	1.80	129	⇓*i*P	Pn	14 25 59.2	+0.1
TIRR	Tirgusor	1.80	129	⇓*i*P	Pn	14 25 59.2	+0.1
TIRR				*i* S	Sn	14 26 20.9	-2.3
TIRR	Tirgusor	1.80	129	⇓*i*P	Pn	14 25 59.2	+0.1
TIRR				*i* S	Sn	14 26 20.9	-2.3

IDC 27 14:27:38.4±5.5, 46°.38N×149°.65E, h164km±54km, mb3.2/5, mb1 3.3/6, mb1mx3.0/25, mbtmp3.1/6, Error ellipse: s-maj=52.5km s-min=20.9km az=92.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	8.51	35	P	Pn	14 29 38.3	0.0
	0.2nm,0.3s,baz=201,slow=13,SNR=7.1						
ILAR	Eielson Array	38.32	38	P	P	14 34 42.6	-0.1
	0.1nm,0.4s,baz=262,slow=6.3,SNR=4.2						
FINES	FINESS Array B	63.33	333	P	P	14 37 49.5	+0.1
	1.8nm,0.6s,baz=25,slow=6.3,SNR=8.5						
WRA	Warramunga Arr	67.45	196	P	P	14 38 15.9	-0.3
	0.1nm,0.5s,baz=15,slow=6.8,SNR=3.6						
NOA	NORSAR Array B	67.78	340	P	P	14 38 17.7	-0.2
	0.8nm,0.5s,baz=26,slow=6.5,SNR=3.9						
ASAR	Alice Springs	71.16	195	P	P	14 38 39.2	+0.2
	0.2nm,0.5s,baz=9.0,slow=6.3,SNR=9.5						

*CSEM **27** 14:39:51.2, 40°.24N×36°.52E, h4km, MD2.7, After DDA*

DDA 27 14:39:51.2, 40°.24N×36°.52E, h4km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKA	Tokat	0.09	339	*i* P	Pg	14 39 53.4	+0.2
TOKA				*i* S	Sg	14 39 55.3	+0.7
TOKA	Tokat	0.09	339	*i* P	Pg	14 39 53.4	+0.2
TOKA				*i* S	Sg	14 39 55.3	+0.7
ERBA	Erbaa	0.48	22	*i* P	Pg	14 40 01.1	+0.6
ERBA				*i* S	Sg	14 40 08.0	+1.2
ERBA	Erbaa	0.48	22	*i* P	Pg	14 40 01.1	+0.6
ERBA				*i* S	Sg	14 40 08.0	+1.2
SCER	sogukcermik	0.60	129	*i* P	Pg	14 40 02.7	-0.2
SCER				*i* S	Sg	14 40 12.0	+1.2
SCER	sogukcermik	0.60	129	*i* P	Pg	14 40 02.7	-0.2
SCER				*i* S	Sg	14 40 12.0	+1.2
CDAG	Cicekdag	1.76	250	*i* P	Pg	14 40 24.8	-0.4
CDAG				*i* S	Sg	14 40 49.3	+1.2
CDAG	Cicekdag	1.76	250	*i* P	Pg	14 40 24.8	-0.4
CDAG				*i* S	Sg	14 40 49.3	+1.2
KEMA	Kemaliye	1.80	122	*i* P	Pb	14 40 25.3	+0.4
KEMA				*i* S	Sn	14 40 44.9	-1.7
KEMA	Kemaliye	1.80	122	*i* P	Pb	14 40 25.3	+0.4
KEMA				*i* S	Sn	14 40 44.9	-1.7

*ATH **27** 14:39:58.0, 36°.54N×28°.68E, h14km±3km, MD3.1/6*
*CSEM **27** 14:39:59.8±0.2, 36°.49N×28°.63E, h8km, MD3.0, Error ellipse: s-maj=4.8km s-min=3.4km az=152.0*
*DDA **27** 14:39:59.2, 36°.48N×28°.60E, h7km, MD3.0*

ISK 27 14:39:58.0, 36°.46N×28°.66E, h5km, MD3.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mu¨la	0.35	359	*e*PG	Pb	14 40 06.1	-0.7
DALY				*e*SG	Sb	14 40 11.9	-0.8
DALY	Dalyan (Mu¨la	0.35	359	*e*Pg	Pb	14 40 06.1	-0.7
DALY				*e*Sg	Sb	14 40 11.9	-0.8
FETY	Fethiye	0.38	63	*e*PG	Pg	14 40 06.4	+0.9
FETY				*e*SG	Sb	14 40 12.7	-0.9
TURN	Turunc	0.41	354	*i* P	Pb	14 40 07.6	-0.2
TURN				*i* S	Sb	14 40 15.1	+0.7
TURN	Turunc	0.41	354	*i* P	Pb	14 40 07.6	-0.2
TURN				*i* S	Sb	14 40 15.1	+0.7
ARG	Arkhangelos	0.50	241	*e*PG	Pb	14 40 08.5	-0.7
ARG				*e*SB	Sb	14 40 17.0	+0.2
ARG	Arkhangelos	0.50	241	*e*Pg	Pb	14 40 08.5	-0.7
ARG				*e*Sb	Sb	14 40 17.0	+0.2
YER	Yerkesik	0.74	336	*e*PG	Pb	14 40 13.2	-0.3
YER	Yerkesik	0.74	336	*e*Pg	Pb	14 40 13.2	-0.2
AKAS	Kas	0.80	106	*i* P	Pb	14 40 14.3	-0.2
AKAS				*i* S	Sn	14 40 28.2	-0.2
AKAS	Kas	0.80	106	*i* P	Pb	14 40 14.3	-0.2
DAT	Datca	0.91	287	*e*PG	Pb	14 40 16.7	+0.2
DAT	Datca	0.91	287	*e*Pg	Pb	14 40 16.7	+0.2
ELL	Elmali	1.04	74	*e*PG	Pb	14 40 19.0	+0.3
ELL	Elmali	1.04	74	*e*Pg	Pb	14 40 19.0	+0.3
GOLH	Golhisar	1.06	43	*i* P	Pb	14 40 18.8	-0.2
GOLH				*i* S	Sn	14 40 36.5	+1.6
GOLH	Golhisar	1.06	43	*i* P	Pb	14 40 18.8	-0.2
GOLH				*i* S	Sn	14 40 36.5	+1.6
MLSB	Milas	1.09	320	*e*PN	Pn	14 40 19.8	-0.3
MLSB	Milas	1.09	320	*e*Pn	Pn	14 40 19.8	-0.2
BDRM	Kayabasi	1.15	302	*i* P	Pg	14 40 20.1	0.0
BDRM				*i* S	Sn	14 40 36.9	0.0
BDRM	Kayabasi	1.15	302	*i* P	Pg	14 40 20.1	0.0
BDRM				*i* S	Sn	14 40 36.9	0.0
BODT	Bodrum	1.24	299	*e*PN	Pn	14 40 22.4	+0.4
BODT	Bodrum	1.24	299	*e*Pn	Pn	14 40 22.4	+0.4
DNZL	Cakiroluk	1.26	14	*i* P	Pb	14 40 22.6	0.0
DNZL				*i* S	Sn	14 40 41.2	+1.0
DNZL	Cakiroluk	1.26	14	*i* P	Pn	14 40 22.6	0.0
DNZL				*i* S	Sn	14 40 41.2	+1.0
DENT	Denizli	1.32	13	*e*PN	Pg	14 40 24.2	+0.8
DENT	Denizli	1.32	13	*e*Pn	Pg	14 40 24.3	+0.8
AYDN	Tasoluk	1.35	333	*i* P	Pg	14 40 24.6	+0.6
AYDN				*i* S	Sb	14 40 41.6	0.0
AYDN	Tasoluk	1.35	333	*i* P	Pg	14 40 24.7	+0.7
AYDN				*i* S	Sg	14 40 41.6	0.0
KORT	Korkueli	1.46	68	*i* P	Pg	14 40 27.6	+1.4
KORT				*i* S	Sg	14 40 50.6	+5.3
KORT	Korkueli	1.46	68	*i* P	Pg	14 40 27.6	+1.4
KORT				*i* S	Sg	14 40 50.6	+5.3
KARP	Karpathos	1.52	234	*e*PB	Pg	14 40 27.7	+0.5
KARP				*e*SB	Sg	14 40 49.6	+2.6
KARP	Karpathos	1.52	234	*e*Pb	Pg	14 40 27.7	+0.5
KARP				*e*Sb	Sg	14 40 49.6	+2.6
GCAM	G?zelcaml?	1.68	318	*i* P	Pb	14 40 29.1	-0.3
GCAM				*i* S	Sg	14 40 53.3	+1.2
GCAM	G?zelcaml?	1.68	318	*i* P	Pb	14 40 29.1	-0.3
GCAM				*i* S	Sg	14 40 53.3	+1.2
SMG	Samos	1.92	311	*e*PN	Pn	14 40 32.3	+1.0
SMG	Samos	1.92	311	*e*Pn	Pn	14 40 32.3	+1.0
KHL	Karahalli	1.98	20	*e*PN	Pb	14 40 34.0	-0.7
KHL	Karahalli	1.98	20	*e*Pn	Pb	14 40 34.0	-0.7
KHAL	Karahalli	2.02	19	*i* P	Pn	14 40 34.0	+1.2
KHAL				*i* S	Sn	14 40 59.4	+0.8
KHAL	Karahalli	2.02	19	*i* P	Pn	14 40 34.0	+1.1
KHAL				*i* S	Sn	14 40 59.4	+0.8
KULA	Kula-Manisa	2.05	360	*e*PN	Pb	14 40 34.7	-1.1
KULA	Kula-Manisa	2.05	360	*e*Pn	Pb	14 40 34.7	-1.1
SUTC	Sutluce-Ispart	2.13	61	*e*PN	Pb	14 40 36.0	-1.2
SUTC	Sutluce-Ispart	2.13	61	*e*Pn	Pb	14 40 36.1	-1.2
IZM	Izmir	2.23	330	*e*PN	Pn	14 40 37.1	+1.4
IZM	Izmir	2.23	330	*e*Pn	Pn	14 40 37.1	+1.4
ZKR	Zakros	2.40	237	*e*PN	Pb	14 40 40.3	-1.4
ZKR	Zakros	2.40	237	*e*Pn	Pb	14 40 40.3	-1.4
APE	Apeiranthos	2.59	284	*e*PB	Pn	14 40 41.1	+0.5
APE	Apeiranthos	2.59	284	*e*Pb	Pn	14 40 41.1	+0.5
NPS	Neapolis	2.75	245	*e*PB	Pn	14 40 44.8	+2.0
NPS	Neapolis	2.75	245	*e*Pb	Pn	14 40 44.8	+2.0
LAST	Lasithi	2.89	244	*e*PN	Pn	14 40 46.7	+1.8
LAST	Lasithi	2.89	244	*e*Pn	Pn	14 40 46.7	+1.8
HDMB	Hadim	3.11	80	*e*PN	Pn	14 40 50.0	+1.9
HDMB	Hadim	3.11	80	*e*Pn	Pn	14 40 50.0	+1.9
IDI	Anoyia	3.28	250	*e*PN	Pn	14 40 51.5	+1.4
IDI	Anoyia	3.28	250	*e*Pn	Pn	14 40 51.5	+1.4
KONT	Konya--Tatoy	3.30	62	*e*PN	Pn	14 40 52.8	+2.4
KONT	Konya--Tatoy	3.30	62	*e*Pn	Pn	14 40 52.8	+2.4

IDC 27 14:48:09.9±5.5, 20°.99S×173°.98W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/20, mbtmp4.0/3, Error ellipse: s-maj=183.0km s-min=107.4km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSU	Mount Surprise	39.32	267	P	P	14 55 44.1	+3.0
	baz=39,SNR=11						
STKA	Stephens Creek	40.98	245	P	P	14 55 53.6	-1.1
	1.0nm,0.7s,baz=103,slow=11,SNR=4.4						
MMPI	Merauke	45.70	279	P	P	14 56 37.6	+4.6
	baz=46,SNR=4.2						
ASAR	Alice Springs	48.06	257	P	P	14 56 51.5	-0.1
	0.8nm,0.5s,baz=96,slow=7.2,SNR=54						
ASAR				PcP	PcP	14 58 19.1	-0.4
	0.2nm,0.7s,baz=108,slow=3.0,SNR=2.6						
WRA	Warramunga Arr	48.25	262	P	P	14 56 53.7	+0.6
	1.2nm,0.4s,baz=95,slow=8.3,SNR=159						
KDU	Kakadu	51.71	270	P	P	14 57 23.6	+4.2
	baz=51,SNR=5.5						
MTN	Manton Dam	52.92	270	P	P	14 57 32.4	+4.0
	baz=52,SNR=3.9						
KNRA	Kununurra	54.37	265	P	P	14 57 42.3	+3.3
	baz=54,SNR=9.4						
FITZ	Fitzroy Crossi	56.68	262	P	P	14 57 58.5	+2.9
	baz=56,SNR=4.7						
SWI	Sorong	57.01	283	S	S	15 05 54.6	+0.8
	baz=58,SNR=5.3						

*IDC **27** 14:56:35.9±0.4, 5°.40S×81°.26W, h0km, mb4.3/22, mb1 4.5/25, mb1mx4.4/29, mbtmp4.3/25, ML4.1/3, MS4.5/30, Ms1 4.5/30, ms1mx4.5/39, Error ellipse: s-maj=20.2km s-min=10.4km az=58.0*

*GCMT **27** 14:56:36.6±0.2, 5°.73S×81°.30W, h12km, MW5.3, Moment Tensor Solution. s60,c90; s88,c148; Moment tensor: Scale 10^{16}Nm; M_{rr}=7.87±.13; $M_{\theta\theta}$1.90±.12; $M_{\phi\phi}$5.97±.15; $M_{r\theta}$-4.10±.38; $M_{

comp=Z,1µm,20.1s,baz=214,slow=34
CELP Cerrillos 27.58 31 *e*P **P 15 02 26.3 +1.2**
CBYP Canovanas 28.13 32 *e*P **P 15 02 29.2 -0.8**
173nm,1.6s
CFAA Coronel Fontan 28.67 156 P **P 15 02 35.1 +0.4**
CFAA Coronel Fontan 28.67 156 P **P 15 02 35.1 +0.4**
0.3nm,0.5s,baz=338,slow=3.7,SNR=4.4
CFAA LR LR 15 13 27.8
comp=Z,85nm,18.7s,baz=126,slow=35
CPUP Villa Florida 30.84 135 P **P 15 02 54.2 +0.3**
4.6nm,0.6s
CPUP PcP **PcP 15 05 50.9 +0.1**
CPUP Villa Florida 30.84 135 P **P 15 02 54.2 +0.3**
1.1nm,0.6s,baz=304,slow=6.2,SNR=5.5
CPUP PcP **PcP 15 05 50.9 +0.1**
1.6nm,0.6s,baz=190,slow=2.4,SNR=4.4
CPUP LR LR 15 16 53.1
comp=Z,2µm,18.6s,baz=306,slow=39
DWPF Disney 33.45 360 *e*P P 15 03 12.1 -4.6
BDFB Brasilia 34.16 110 P **P 15 03 24.1 +0.8**
BDFB PcP **PcP 15 06 01.2 +1.0**
BDFB Brasilia 34.16 110 P **P 15 03 24.1 +0.8**
1.8nm,0.5s,baz=263,slow=14,SNR=3.1
BDFB PcP **PcP 15 06 01.2 +1.0**
1.5nm,0.5s,baz=166,slow=4.5,SNR=3.1
BDFB LR LR 15 18 25.6
comp=Z,2µm,18.8s,baz=85,slow=38
RPN Rapa Nui 34.27 228 P **P 15 03 26.3 +2.3**
RPN Rapa Nui 34.27 228 P **P 15 03 26.3 +2.3**
1.2nm,0.5s,baz=339,slow=23,SNR=6.4
PLCA Paso Flores 36.34 166 *e*P **P 15 03 41.0 -0.8**
5.7nm,0.9s
PLCA Paso Flores 36.34 166 P **P 15 03 42.5 +0.8**
6.2nm,0.9s,baz=327,slow=10,SNR=11
PLCA LR LR 15 16 11.4
comp=Z,557nm,18.0s,baz=136,slow=32
TRQA Tornquist 36.83 154 *e*P **P 15 03 44.3 -1.6**
29nm,1.4s
LRAL Lakeview Retre 38.74 352 *e*P **P 15 04 01.0 -1.0**
12nm,0.9s
632A Uvalde 39.11 334 ⇑P **P 15 04 05.0 -0.2**
baz=39,SNR=8.9
631A Perdido Creek 39.38 333 ⇑P **P 15 04 07.6 +0.1**
baz=40,SNR=11
532A Rocksprings 39.70 334 ⇑P **P 15 04 10.1 0.0**
baz=40,SNR=10
JCT Junction City 39.96 335 ⇓P **P 15 04 12.3 0.0**
baz=40
531A Rocksprings 40.01 334 ⇓P **P 15 04 13.2 +0.5**
baz=40
432A Menard 40.30 335 ⇓P **P 15 04 15.5 +0.4**
baz=40
530A J-C Ranch, Com 40.35 333 ⇓P **P 15 04 15.3 -0.3**
baz=40,SNR=7.3
KMSC Kings Mountain 40.46 360 ⇑P **P 15 04 15.6 -0.7**
baz=41,SNR=5.8
431A Sonora 40.48 334 ⇑P **P 15 04 16.9 +0.2**
baz=41
628A Black Gap, Mar 40.54 330 ⇑P **P 15 04 17.8 +0.7**
baz=41
332A Millersview 40.72 335 ⇑P **P 15 04 19.2 +0.7**
baz=41
529A Stev Forest Ra 40.74 332 ⇓P **P 15 04 18.8 -0.1**
baz=41,SNR=9.4
627A Terlingua Ranc 40.76 330 ⇑P **P 15 04 19.1 +0.1**
baz=41
TXAR Lajitas Array 40.80 329 P **P 15 04 19.1 -0.2**
TXAR PcP **PcP 15 06 20.4 +0.2**
TXAR Lajitas Array 40.80 329 P **P 15 04 19.1 -0.2**
0.9nm,0.8s,baz=152,slow=8.3,SNR=8.6
TXAR PcP **PcP 15 06 20.4 +0.2**
0.6nm,0.7s,baz=151,slow=4.8,SNR=4.3
TXAR LR LR 15 20 28.1
comp=Z,305nm,18.4s,baz=10.0,slow=35
CPCT Cooper Cave 40.88 356 *e*P **P 15 04 17.2 -2.6**
429A Davenport Ranc 41.01 332 ⇑P **P 15 04 21.4 +0.3**
baz=41
TKL Tuckaleechee C 41.04 357 P **P 15 04 20.2 -0.9**
TKL Tuckaleechee C 41.04 357 P **P 15 04 20.2 -0.9**
5.5nm,0.7s,baz=176,slow=11,SNR=7.2
528A Cox Ranch, San 41.05 331 ⇓P **P 15 04 21.5 +0.1**
baz=41,SNR=8.6
232A Coleman 41.13 336 ⇓P **P 15 04 22.0 0.0**
baz=41
UALR University of 41.43 346 P **P 15 04 24.3 0.0**
64nm,1.5s
527A Woodward Ranch 41.44 330 ⇓P **P 15 04 24.7 +0.1**
baz=42,SNR=14
428A Kincaid Ranch, 41.47 332 ⇑P **P 15 04 25.0 +0.2**
baz=42,SNR=6.4
MIAR Mount Ida 41.52 345 *e*P **P 15 04 22.5 -2.6**
32nm,1.5s
526A Mary Lane Ranc 41.60 330 ⇓P **P 15 04 26.4 +0.4**
baz=42,SNR=8.0
230A Sterling City 41.74 334 ⇑P **P 15 04 27.1 +0.1**
baz=42
ABTX Abilene, Hawle 41.77 336 ⇓P **P 15 04 27.8 +0.6**
baz=42
329A Wagon Wheel Ra 41.78 333 ⇓P **P 15 04 27.7 +0.3**
baz=42,SNR=7.8
427A Hayter Ranch, 41.91 331 ⇓P **P 15 04 28.7 +0.3**
baz=42,SNR=5.9
426A McDonald Obser 42.07 330 ⇑P **P 15 04 30.1 +0.2**
baz=42,SNR=12
131A Roby 42.12 336 ⇓P **P 15 04 30.6 +0.5**
baz=42
Z32A Haskell 42.31 337 ⇑P **P 15 04 32.1 +0.6**
baz=42
326A Caldwell Ranch 42.57 331 ⇑P **P 15 04 34.0 +0.2**
baz=43,SNR=5.7
Z31A Sharp Cattle R 42.58 336 ⇓P **P 15 04 34.1 +0.3**
baz=43
228A UT Block 9, Go 42.59 333 ⇑P **P 15 04 34.1 +0.2**
baz=43
425A Indio Mountain 42.64 329 ⇓P **P 15 04 34.5 +0.1**
baz=43,SNR=11
Z30A Sanderson Ranc 42.95 335 ⇓P **P 15 04 36.9 0.0**
baz=43,SNR=6.4
128A Castleberry Fa 42.97 333 ⇓P **P 15 04 37.5 +0.5**
baz=43
325A Bean Ranch, Si 43.11 330 ⇓P **P 15 04 38.4 +0.2**
baz=43,SNR=6.8
Z29A Hungry Hill Ra 43.17 335 ⇑P **P 15 04 38.8 +0.1**
baz=43
Y31A Rekieta Farm, 43.19 337 ⇑P **P 15 04 39.2 +0.5**
baz=43,SNR=9.4
226B Tecolote Peak, 43.29 331 ⇓P **P 15 04 39.9 +0.3**
baz=43,SNR=7.4
127A Arkansas Junct 43.41 333 ⇑P **P 15 04 41.0 +0.4**
baz=44
MNTX Cornudas Mount 43.58 330 *e*P **P 15 04 40.7 -1.2**
37nm,1.7s
225A Deer Hill, Car 43.63 331 ⇓P **P 15 04 42.8 +0.3**
baz=44
SIUC Southern Illin 43.66 351 *e*P **P 15 04 40.8 -1.6**
31nm,0.9s
X31A McDonald Ranch 43.67 337 ⇑P **P 15 04 43.2 +0.6**
baz=44
Y29A Porterfield Fa 43.67 335 ⇓P **P 15 04 43.2 +0.5**
baz=44
126A Clayton Basin, 43.69 332 ⇓P **P 15 04 43.3 +0.4**
baz=44
X30A Coker Ranch, T 43.86 336 ⇓P **P 15 04 44.8 +0.7**
baz=44
Z27A Tatum 43.88 333 ⇑P **P 15 04 44.2 -0.2**
baz=44
224A Cornudas Mount 43.95 330 ⇓P **P 15 04 45.2 +0.2**
baz=44
125A Gardner Draw, 44.00 331 ⇓P **P 15 04 45.4 0.0**
baz=44,SNR=8.6
Y27A Causey 44.34 334 ⇓P **P 15 04 48.6 +0.6**
baz=44
124A Stringfield Ra 44.42 330 ⇑P **P 15 04 49.0 +0.1**
baz=45,SNR=11
Z25A Roswell 44.54 332 ⇓P **P 15 04 49.9 +0.2**
baz=45
222A Williams Famil 44.78 328 ⇓P **P 15 04 52.4 +0.7**
baz=45
Z24A Sheeppen Canyo 44.89 331 ⇓P **P 15 04 52.8 +0.2**
baz=45,SNR=13
320A Kipp Ranch, An 44.95 326 ⇓P **P 15 04 53.8 +0.8**
baz=45
Y25A Mesa, Roswell 45.06 332 ⇑P **P 15 04 54.0 +0.2**
baz=45
X26A CR and CF Fran 45.19 334 ⇓P **P 15 04 55.5 +0.7**
baz=45
Z23A Rita Site, Whi 45.26 330 ⇑P **P 15 04 55.9 +0.5**
baz=45
W27A Bowe Ranch, En 45.29 335 ⇓P **P 15 04 56.4 +0.7**
baz=46
220A Playas Peak, P 45.39 327 ⇓P **P 15 04 56.7 +0.2**
baz=46,SNR=11
319A Douglas 45.40 326 ⇑P **P 15 04 57.1 +0.5**
baz=46,SNR=6.9
Y24A Capitan 45.41 331 ⇓P **P 15 04 57.7 +0.9**
baz=46
121A Cookes Peak, D 45.48 328 ⇑P **P 15 04 57.9 +0.6**
baz=46,SNR=7.8
U30A WK&E Inc. Balk 45.61 338 ⇑P **P 15 04 59.0 +1.0**
baz=46
Z22A Elephant Butte 45.62 329 ⇓P **P 15 04 58.7 +0.3**
baz=46,SNR=7.9
Y23A Lovelace Mesa, 45.72 331 ⇓P **P 15 04 59.7 +0.6**
baz=46,SNR=11
120A U Bar Ranch, L 45.94 327 ⇑P **P 15 05 01.0 +0.2**
baz=46,SNR=6.3
W25A X Bar L Ranch, 46.03 333 ⇑P **P 15 05 02.1 +0.6**
baz=46
S31A Mullinville 46.16 340 ⇓P **P 15 05 03.3 +0.9**
baz=46
Y22A Socorro 46.17 330 ⇓P **P 15 05 03.3 +0.7**
baz=46
BNM Barren Site 46.17 331 *e*P **P 15 05 03.1 +0.3**
23nm,1.6s
V26A Tequesquite Ra 46.23 334 ⇑P **P 15 05 03.1 +0.1**
baz=46,SNR=9.2
X23A Hourglass Bar 46.31 331 ⇓P **P 15 05 04.3 +0.6**
baz=46
Z20A Nine Sixteen R 46.35 328 ⇑P **P 15 05 04.3 +0.2**
baz=46,SNR=9.6
U27A Thompson Grove 46.36 336 ⇑P **P 15 05 04.6 +0.5**
baz=46
W24A Lazy 6 Ranch, 46.46 333 ⇓P **P 15 05 05.2 +0.2**
baz=47,SNR=8.1
S30A Montezuma 46.52 339 ⇓P **P 15 05 06.5 +1.3**
baz=47
KSU1 Kansas State U 46.62 344 *e*P **P 15 05 04.4 -1.5**
61nm,0.9s
ANMO Albuquerque 46.73 331 LR LR 15 24 06.5
comp=Z,300nm,18.7s,baz=326,slow=35
S29A Ulysses 46.74 338 ⇑P **P 15 05 08.0 +1.0**
baz=47
W23A Werner Place, 46.76 332 ⇑P **P 15 05 07.8 +0.4**
baz=47,SNR=9.7
Y20A Horse Springs, 46.86 329 ⇓P **P 15 05 08.6 +0.5**
baz=47
T27A Campo 46.87 336 ⇑P **P 15 05 08.8 +0.8**
baz=47
TUC Tucson 46.95 325 *e*P **P 15 05 08.3 -0.4**
3.8nm,0.8s
X21A Alamocita Cree 46.98 330 ⇑P **P 15 05 09.7 +0.6**
baz=47,SNR=12
U25A Circle Dot Ran 47.00 334 ⇓P **P 15 05 09.6 +0.4**
baz=47,SNR=6.4
R30A Dighton 47.03 340 ⇑P **P 15 05 10.0 +0.8**
baz=47
T26A Comanche Natio 47.32 336 ⇑P **P 15 05 12.4 +0.8**
baz=48
X20A Quemado 47.42 329 ⇓P **P 15 05 13.3 +0.8**
baz=48
R29A Marienthal 47.46 339 ⇓P **P 15 05 13.0 +0.4**
baz=48,SNR=5.2
T25A Trinidad 47.63 335 ⇑P **P 15 05 14.6 +0.5**
baz=48
Q30A Quinter 47.63 340 ⇑P **P 15 05 14.7 +0.8**
baz=48
R28A Tribune 47.64 338 ⇑P **P 15 05 14.3 +0.3**
baz=48,SNR=9.3
S26A Kim 47.65 336 ⇑P **P 15 05 15.3 +1.1**
baz=48,SNR=9.0
V22A San Miguel Ran 47.73 332 ⇓P **P 15 05 15.5 +0.6**
baz=48
214A Organ Pipe Nat 47.87 323 ⇑P **P 15 05 16.2 +0.4**
baz=48,SNR=7.9
R27A Eads 47.96 337 ⇓P **P 15 05 16.7 +0.2**
baz=48
S25A Robets Cordova 48.08 335 ⇑P **P 15 05 18.0 +0.4**
baz=48
U22A Llaves 48.08 332 ⇑P **P 15 05 18.5 +0.8**
baz=48
X18A Snowflake 48.16 328 ⇓P **P 15 05 18.8 +0.5**
baz=48
Q28A Sharon Springs 48.28 339 ⇑P **P 15 05 19.2 +0.2**
baz=48
U21A Nageezi 48.50 331 ⇑P **P 15 05 21.6 +0.7**
baz=49
SDCO Great Sand Dun 48.61 334 *e*P **P 15 05 21.9 +0.2**
64nm,1.9s
U20A Newcomb 48.88 331 ⇑P **P 15 05 24.6 +0.9**
baz=49
X16A Lo Mia Camp, P 48.88 327 ⇓P **P 15 05 24.8 +1.0**
baz=49
Z14A Wintersburg 48.96 324 ⇓P **P 15 05 25.1 +0.9**
baz=49
P27A Ficken Ranch, 48.99 338 ⇑P **P 15 05 25.5 +1.1**
baz=49
113A Mohawk Valley, 49.02 323 ⇓P **P 15 05 25.8 +1.2**
baz=49
S22A 4UR Ranch, Cre 49.19 333 ⇓P **P 15 05 27.1 +0.9**
baz=49
P26A Davis Ranch, A 49.28 337 ⇓P **P 15 05 27.5 +0.8**
baz=50
N29A Votaw Ranch, W 49.43 341 ⇑P **P 15 05 28.2 +0.6**
baz=50
Q24A Divide 49.48 335 ⇓P **P 15 05 28.8 +0.3**
baz=50
P25A Willow Gulch B 49.56 337 ⇑P **P 15 05 29.5 +0.6**
baz=50
R22A Saguache, Gunn 49.56 334 ⇑P **P 15 05 29.5 +0.5**
baz=50
S21A Coal Bank Pass 49.56 332 ⇓P **P 15 05 29.6 +0.5**
baz=50
WUAZ Wupatki 49.67 328 ⇑P **P 15 05 30.7 +0.9**
baz=50
S20A Disappointment 49.96 332 ⇑P **P 15 05 33.0 +0.9**
baz=50
M29A Burnside Ranch 50.01 341 ⇑P **P 15 05 33.4 +1.3**
baz=50
OGNE Ogallala 50.02 339 ⇑P **P 15 05 33.3 +1.2**
baz=50
SADO Sadowa 50.11 2 LR LR 15 25 56.8
comp=Z,378nm,19.6s,baz=169,slow=35
P23A Jefferson 50.12 335 ⇑P **P 15 05 33.9 +0.6**
baz=50,SNR=12
Q22A Crested Butte, 50.15 334 ⇓P **P 15 05 34.4 +0.9**
baz=50
R20A Redvale 50.26 332 ⇑P **P 15 05 35.5 +1.2**
baz=50
PV01 Paradox Valley 50.31 332 *e*P **P 15 05 34.9 +0.3**
6µm,1.9s
PDMCI Parker Dam,Lak 50.32 324 ⇓P **P 15 05 35.7 +1.2**
baz=50
ISCO Idaho Springs 50.38 336 ⇓P **P 15 05 35.8 +0.6**
baz=51
BC3 Big Chuckawall 50.65 323 ⇓P **P 15 05 37.5 +0.4**
baz=51
P22A Eagle 50.69 335 ⇓P **P 15 05 38.5 +1.0**
baz=51
IRM Iron Mountain 50.82 323 ⇑P **P 15 05 39.0 +0.7**
baz=51,SNR=16
U15A North Rim 50.84 328 ⇑P **P 15 05 39.2 +0.4**
baz=51
M26A McRoberts Ranc 50.87 339 ⇓P **P 15 05 38.7 0.0**
baz=51
O22A Kremmling 51.07 335 ⇑P **P 15 05 40.8 +0.3**
baz=51
BELC Belle Mtn. Jos 51.21 323 ⇑P **P 15 05 41.9 +0.5**
baz=51
PFO Pinyon Flat Ob 51.23 322 P **P 15 05 39.5 -2.0**
PFO Pinyon Flat Ob 51.23 322 P **P 15 05 39.5 -2.0**
2.3nm,0.8s,baz=117,slow=7.3,SNR=4.0
P20A De Beque 51.33 333 ⇑P **P 15 05 43.3 +1.1**
baz=52
K28A Ten Mile Ranch 51.37 341 ⇑P **P 15 05 43.6 +1.2**
baz=52
N23A Red Feather La 51.44 336 ⇓P **P 15 05 44.1 +0.9**
baz=52
M24A Cheyenne 51.49 337 ⇓P **P 15 05 44.6 +1.1**
baz=52
GMRC Granite Mounta 51.55 324 ⇓P **P 15 05 44.6 +0.7**
baz=52
P19A Cripple Cowboy 51.70 333 ⇑P **P 15 05 45.9 +0.8**
baz=52
J28A Allard Ranch, 51.97 342 ⇑P **P 15 05 47.4 +0.6**
baz=52,SNR=7.1
HEC Hector,Ludlow 51.98 323 ⇓P **P 15 05 47.7 +0.6**
baz=52
SRU San Rafael 52.01 331 *e*P **P 15 05 47.2 -0.1**
53nm,1.8s
J27A Elkhorn Farm, 52.06 341 ⇑P **P 15 05 48.6 +1.1**
baz=52
TUQ Turquoise Moun 52.16 324 ⇓P **P 15 05 48.5 0.0**
baz=52,SNR=8.0
Q16A Castle Valley 52.17 331 ⇑P **P 15 05 49.2 +0.6**
baz=52
N20A Spence Gulch, 52.36 334 ⇓P **P 15 05 50.6 +0.7**
baz=52
L23A Garrett 52.38 337 ⇑P **P 15 05 51.2 +1.1**
baz=53
BFSC Mount Baldy Ra 52.39 322 ⇓P **P 15 05 50.9 +0.7**
baz=52
J26A Sides Ranch, S 52.47 340 ⇓P **P 15 05 51.4 +0.8**
baz=53
SHPR Sheep Range 52.48 326 *e*P **P 15 05 51.2 +0.3**
70nm,1.9s
GSC Goldstone 52.59 323 ⇑P **P 15 05 52.6 +1.0**
baz=53
L22A Ellis Ranch, M 52.60 337 ⇑P **P 15 05 52.8 +1.1**
baz=53
RWWY Rawlins 52.63 336 *e*P **P 15 05 52.0 +0.1**
170nm,1.9s
SHOC Shoshone 52.69 324 ⇑P **P 15 05 53.2 +0.9**
baz=53
I27A Quinn 52.81 341 ⇓P **P 15 05 53.9 +0.9**
baz=53
M20A Sweetwater, Wa 52.87 335 ⇓P **P 15 05 54.5 +0.8**
baz=53
L21A Rawlins 52.92 336 ⇑P **P 15 05 55.0 +1.0**
baz=53
EDW2 Edwards Air Fo 53.02 322 ⇑P **P 15 05 55.1 +0.4**
baz=53
H28A Mission Ridge 53.03 342 ⇓P **P 15 05 55.1 +0.4**
baz=53
I26A New Underwood 53.04 341 ⇑P **P 15 05 55.4 +0.7**
baz=53
K22A Casper 53.16 337 ⇓P **P 15 05 56.6 +0.8**
baz=53
LRMC Laurel Mountai 53.24 323 ⇑P **P 15 05 56.9 +0.5**
baz=53
H27A Howes 53.32 342 ⇓P **P 15 05 57.7 +0.9**
baz=54
DAU Daniels Canyon 53.38 332 *e*P **P 15 05 58.1 +0.5**
109nm,1.9s
FURC Furnace Creek, 53.42 324 ⇓P **P 15 05 58.4 +0.8**
baz=54
K21A Alcova 53.43 336 ⇓P **P 15 05 58.6 +0.7**
baz=54
I24A Kuemmerle Ranc 53.49 339 ⇓P **P 15 05 59.1 +1.0**
baz=54
MPMC Manual Prospec 53.51 323 ⇓P **P 15 05 59.1 +0.6**
baz=54
RSSD Black Hills 53.51 340 P **P 15 05 58.6 +0.2**
56nm,1.8s
JLU Jordanelle 53.62 332 *e*P **P 15 05 59.9 +0.6**
95nm,1.8s
L19A Farson 53.87 334 ⇑P **P 15 06 01.4 +0.3**
baz=54
K20A Yellowstone Ra 53.90 335 ⇓P **P 15 06 01.3 +0.1**
baz=54
DUG Dugway 53.96 330 *e*P **P 15 06 01.8 +0.1**
59nm,1.8s
DUG Dugway 53.96 330 ⇑P **P 15 06 02.5 +0.8**
baz=54
R11A Troy Canyon, C 54.03 327 ⇓P **P 15 06 02.8 +0.6**
baz=54,SNR=9.2
G26A Maurine 54.08 342 ⇓P **P 15 06 02.1 -0.2**
baz=54
GRAC Grapevine Rang 54.09 324 ⇑P **P 15 06 02.3 -0.2**
baz=54
J21A Lysite 54.11 337 ⇑P **P 15 06 03.3 +0.5**
baz=54
E30A Jud 54.12 345 ⇓P **P 15 06 01.9 -0.6**
baz=54,SNR=7.0
I22A 9 Mile Ranch, 54.20 338 ⇓P **P 15 06 03.4 +0.1**
baz=54
H24A Dirks Ranch, A 54.24 340 ⇑P **P 15 06 03.5 -0.1**
baz=54
K19A Absolon Red Bu 54.24 335 ⇓P **P 15 06 03.6 -0.1**
baz=54
G25A Newell 54.25 341 ⇑P **P 15 06 03.3 -0.2**
baz=54
J20A Shoshoni 54.37 336 ⇑P **P 15 06 04.4 -0.2**
baz=54
E29A Napoleon 54.38 344 ⇑P **P 15 06 04.4 0.0**
baz=55
F27A Lemmon 54.42 342 ⇑P **P 15 06 04.9 +0.2**
baz=55
I21A Big Trails, Te 54.44 337 ⇓P **P 15 06 04.8 -0.3**
baz=55
HWUT Hardware Ranch 54.46 332 *e*P **P 15 06 05.1 -0.3**
PDAR Pinedale Array 54.50 335 P **P 15 06 05.0 -0.7**
PDAR Pinedale Array 54.50 335 P **P 15 06 05.0 -0.7**
3.0nm,0.8s,baz=132,slow=8.9,SNR=22
PDAR LR LR 15 29 23.2
comp=Z,223nm,20.0s,baz=140,slow=36
SMMC Simmler 54.55 321 ⇓P **P 15 06 06.1 +0.2**
baz=55
RKT Rikitea 54.55 246 *e*S **S 15 13 44.7 +0.7**
RKT *e*LR LR 15 22 03.8
2µm,26.2s
F26A Lodgepole 54.60 342 ⇓P **P 15 06 06.3 +0.1**
baz=55
BGU Big Grassy Mou 54.63 331 *e*P **P 15 06 06.7 +0.2**
90nm,2.0s
D30A Buchanan 54.65 345 ⇑P **P 15 06 06.1 -0.2**
baz=55,SNR=6.1
E28A Huff 54.67 344 ⇑P **P 15 06 06.9 +0.3**
baz=55
J19A Crowheart 54.69 335 ⇑P **P 15 06 07.3 +0.3**
baz=55
I20A Worland 54.88 337 ⇑P **P 15 06 08.4 +0.1**
baz=55
F25A Bowman 54.91 341 ⇓P **P 15 06 08.9 +0.5**
baz=55
G23A Biddle 54.93 339 ⇓P **P 15 06 09.0 +0.5**
baz=55
H21A Big Horn, Sher 55.04 338 ⇓P **P 15 06 09.5 +0.1**
baz=55
E26A Carlson Angus 55.09 342 ⇓P **P 15 06 09.7 0.0**
baz=55
AGMN Agassiz Nation 55.11 348 *e*P **P 15 06 08.6 -1.1**
35nm,0.7s
C30A Mose, Pekin 55.13 346 ⇓P **P 15 06 10.0 +0.1**
baz=55
F24A Ekalaka 55.17 340 ⇓P **P 15 06 10.5 +0.2**
baz=55
G22A Birney 55.26 339 ⇓P **P 15 06 10.4 -0.6**
baz=55,SNR=7.4
H20A Greybull 55.28 337 ⇑P **P 15 06 11.2 0.0**
baz=56
I18A Diamond G Ranc 55.37 335 ⇓P **P 15 06 12.1 +0.2**
baz=56
NV11 Mina Array Sit 55.52 325 *e*P **P 15 06 13.5 +0.5**
REDW Red Top Meadow 55.54 334 *e*P **P 15 06 12.4 -0.8**
101nm,1.8s
MDND Maddock 55.55 345 ⇑P **P 15 06 13.6 +0.8**
baz=56
ELK Elko 55.60 329 *e*P **P 15 06 13.8 +0.2**
95nm,2.0s
NVAR Mina Array Bea 55.60 325 P **P 15 06 14.1 +0.4**
NVAR PcP **PcP 15 07 14.0 +0.8**
NVAR Mina Array Bea 55.60 325 P **P 15 06 14.1 +0.4**
3.9nm,0.7s,baz=129,slow=7.3,SNR=40
NVAR PcP **PcP 15 07 14.0 +0.8**
1.0nm,0.7s,baz=119,slow=3.5,SNR=3.6
LOHW Long Hollow 55.63 334 P **P 15 06 15.1 +1.3**
2.8nm,0.3s
C28A Hausauer Farms 55.63 344 ⇓P **P 15 06 13.8 +0.4**
baz=56
TPAW Teton Pass 55.68 334 *e*P **P 15 06 13.8 -0.5**
128nm,2.3s
RRI2 Red Ridge 55.73 334 *e*P **P 15 06 14.3 -0.3**
83nm,1.8s
F22A Rosebud 55.73 339 ⇑P **P 15 06 14.5 +0.2**
baz=56
E24A Baker 55.75 341 ⇓P **P 15 06 15.0 +0.6**
baz=56
B30A Myrvik Farm, E 55.80 346 ⇑P **P 15 06 15.4 +0.8**
baz=56
D25A Fairfield 55.96 342 ⇑P **P 15 06 16.2 +0.3**
baz=56
G20A Bridger 55.98 337 ⇑P **P 15 06 15.1 -1.1**
baz=56

IMW	**Indian Meadow**	56.00	334	*e*P	P	15 06 16.1	-0.5
	22nm,1.5s						
E23A	**Ismay**	56.03	340	⇓P	P	15 06 16.0	-0.3
	baz=56,SNR=6.4						
FLWY	**Flagg Ranch**	56.05	335	*e*P	P	15 06 16.1	-0.7
	131nm,2.0s						
D24A	**Glendive**	56.25	341	⇑P	P	15 06 17.8	-0.1
	baz=56,SNR=6.6						
WAKR	**Walker**	56.31	324	*e*P	P	15 06 19.2	+0.4
	18nm,1.4s						
BMN	**Battle Mountai**	56.41	327	*e*P	P	15 06 17.8	-1.6
A29A	**Manning Farm,**	56.45	346	⇑P	P	15 06 19.2	-0.1
	baz=57,SNR=13						
G18A	**Lazy EL Ranch,**	56.59	336	⇓P	P	15 06 20.8	+0.2
	baz=57,SNR=7.4						
A28A	**Rude Farm, Bot**	56.70	345	⇓P	P	15 06 21.3	+0.2
	baz=57						
H16A	**Russell Place,**	56.78	335	⇓P	P	15 06 22.4	+0.3
	baz=57						
F19A	**Roth Farm, Mol**	56.79	337	⇑P	P	15 06 22.1	+0.1
	baz=57,SNR=8.4						
D22A	**Cohagen**	56.89	340	⇑P	P	15 06 22.4	-0.1
	baz=57,SNR=6.8						
QLMT	**Earthquake Lak**	56.96	335	*e*P	P	15 06 24.0	+0.7
	12nm,1.9s						
ULM	**Lac du Bonnet**	56.98	349	*e*P	P	15 06 20.9	-2.1
	20nm,0.7s						
ULM	**Lac du Bonnet**	56.98	349	P	P	15 06 21.8	-1.2
	22nm,0.7s,baz=161,slow=8.0,SNR=30						
GCMT	**Greycliff**	57.02	337	*e*P	P	15 06 23.2	-0.4
	8.7nm,0.6s						
E20A	**Meyer Farm, Mu**	57.03	338	⇑P	P	15 06 23.6	+0.1
	baz=57,SNR=9.6						
PAHR	**Pah Rah Range**	57.09	325	*e*P	P	15 06 24.6	+0.4
	100nm,2.0s						
C23A	**Lambert**	57.13	341	⇓P	P	15 06 24.3	+0.2
	baz=57						
F18A	**Big Timber**	57.14	337	⇓P	P	15 06 24.6	+0.3
	baz=57,SNR=16						
A26A	**Wade Farm, Ken**	57.16	344	⇓P	P	15 06 24.5	+0.1
	baz=57						
E19A	**Rath Farm, Rou**	57.24	338	⇓P	P	15 06 25.0	-0.1
	baz=57,SNR=10.0						
HLID	**Hailey**	57.30	332	*e*P	P	15 06 25.8	+0.1
	14nm,1.0s						
HLID	**Hailey**	57.30	332	⇓P	P	15 06 25.8	+0.1
	baz=58,SNR=18						
C22A	**Vida**	57.31	340	⇑P	P	15 06 25.9	+0.4
	baz=58						
A25A	**Svangstu Ranch**	57.50	343	⇓P	P	15 06 27.3	+0.5
	baz=58						
F17A	**Fitzpatrick Pl**	57.51	336	⇓P	P	15 06 27.3	+0.2
	baz=58,SNR=5.8						
D20A	**Manuel Ranch,**	57.53	339	⇓P	P	15 06 27.2	+0.1
	baz=58,SNR=10.0						
MCMT	**McKenzie Canyo**	57.57	334	*e*P	P	15 06 27.9	+0.2
	24nm,1.8s						
B23A	**Brockton**	57.65	342	⇓P	P	15 06 28.1	+0.3
	baz=58						
BOZ	**Bozeman (W)**	57.70	335	*e*P	P	15 06 27.8	-0.6
	68nm,1.9s						
BEKR	**Beckworth**	57.75	325	*e*P	P	15 06 29.1	+0.2
	14nm,1.4s						
E18A	**Harlowton**	57.76	337	⇑P	P	15 06 28.8	0.0
	baz=58						
C21A	**Desert Coulee**	57.79	340	⇓P	P	15 06 28.9	0.0
	baz=58,SNR=8.5						
D19A	**Cripps Ranch,**	57.87	338	⇑P	P	15 06 29.5	+0.1
	baz=58						
MFID	**Camas Ranch**	57.87	331	⇓P	P	15 06 29.5	-0.1
	baz=58,SNR=9.2						
DLMT	**Dillon**	57.89	334	*e*P	P	15 06 29.8	+0.1
	47nm,1.7s						
C20A	**Veseth Ranch,**	58.01	339	⇓P	P	15 06 30.7	+0.3
	baz=58						
LRM	**Limekiln Ridge**	58.19	335	*e*P	P	15 06 31.5	-0.4
	313nm,1.7s						
D18A	**Linhart Farms,**	58.24	337	⇓P	P	15 06 32.5	+0.4
	baz=58						
C19A	**Slack Wire Ran**	58.41	338	⇓P	P	15 06 33.3	+0.1
	baz=59,SNR=9.5						
D17A	**Six Diamond Ra**	58.55	337	⇑P	P	15 06 34.3	0.0
	baz=59,SNR=9.3						
WVOR	**Wild Horse Val**	58.58	328	*e*P	P	15 06 33.7	-0.9
	68nm,1.7s						
HRY	**Holter Researc**	58.64	336	*e*P	P	15 06 34.7	-0.2
	18nm,0.5s						
A21A	**Bergtoll Ranch**	58.73	341	⇓P	P	15 06 35.7	+0.3
	baz=59						
EGMT	**Eagleton**	58.91	338	*e*P	P	15 06 36.4	-0.3
	11nm,0.7s						
EGMT	**Eagleton**	58.91	338	⇑P	P	15 06 36.8	+0.1
	baz=59,SNR=5.4						
C17A	**Wharram Farm,**	58.97	337	⇓P	P	15 06 37.6	+0.4
	baz=59						
B19A	**Brinkman Farms**	58.98	339	⇑P	P	15 06 37.7	+0.6
	baz=59						
A20A	**Cobblestone Ra**	58.98	340	⇓P	P	15 06 37.5	+0.4
	baz=59						
A19A	**Klindworth Far**	59.30	339	⇑P	P	15 06 39.3	-0.1
	baz=60,SNR=6.4						
KCPM	**Cahto Peak**	59.52	323	*e*P	P	15 06 41.6	+0.4
	25nm,1.5s						
KIPM	**Iron Peak**	59.54	323	*e*P	P	15 06 41.7	+0.4
	65nm,1.7s						
MSO	**Missoula**	59.62	335	⇑P	P	15 06 41.4	-0.3
	baz=60,SNR=9.7						
A18A	**Metzger Ranch,**	59.69	339	⇓P	P	15 06 41.4	-0.6
	baz=60,SNR=9.8						
SLMT	**Seeley Lake**	59.75	335	*e*P	P	15 06 41.6	-1.1
	7.9nm,1.0s						
SWMT	**Swartz Lake**	60.18	335	*e*P	P	15 06 44.3	-1.2
	3.6nm,0.8s						
YBH	**Yreka Blue Hor**	60.32	325	P	P	15 06 45.7	-0.9
YBH	**Yreka Blue Hor**	60.32	325	P	P	15 06 45.7	-0.9
	3.2nm,0.6s,baz=95,slow=4.7,SNR=16						
KHMM	**Horse Mountain**	60.36	324	*e*P	P	15 06 46.5	-0.5
	12nm,0.9s						
YBMT	**Yellow Bay**	60.46	335	*e*P	P	15 06 48.0	+0.6
	13nm,1.0s						
JTMT	**Jette**	60.48	335	*e*P	P	15 06 47.5	-0.1
	60nm,1.9s						
BLMT	**Blacktail Moun**	60.72	335	*e*P	P	15 06 48.2	-1.1
	36nm,1.5s						
BSMT	**Bassoo Peak**	60.78	335	*e*P	P	15 06 49.9	+0.2
	9.1nm,0.8s						
SCHQ	**Schefferville**	61.34	9	P	P	15 06 51.8	-1.3
SCHQ	**Schefferville**	61.34	9	P	P	15 06 51.8	-1.3
	4.9nm,0.7s,baz=175,slow=8.6,SNR=3.5						
WALA	**Waterton Lakes**	61.36	336	*e*P	P	15 06 53.6	0.0
	0.5nm,0.7s						
NEW	**Newport**	62.10	334	⇑P	P	15 06 58.5	+0.1
	baz=62						
LON	**Longmire**	63.21	330	*e*P	P	15 07 05.2	-0.8
	6.2nm,0.8s						
EDM	**Edmonton**	64.49	339	*e*P	P	15 07 13.1	-1.1
NLWA	**Neilton Lookou**	64.68	329	*e*P	P	15 07 16.1	+0.5
	81nm,1.8s						
FCC	**Fort Churchill**	64.91	353	*e*P	P	15 07 15.8	-0.9
	0.5nm,0.7s						
PPT	**Papeete**	67.67	253	LR	LR	15 28 55.1	
	comp=Z,611nm,21.4s,baz=146,slow=29						
PPT2	**Papeete2**	67.67	253	*e*S	S	15 16 31.2	-0.3
	1μm,28.5s						
PPT2	**Papeete2**	67.67	253	*e*LR	LR	15 28 02.5	
	2μm,26.2s,baz=90						
TBI	**Tubuai**	67.80	247	*e*S	S	15 16 33.3	+0.6
	795nm,29.2s						
TBI	**Tubuai**	67.80	247	*e*LR	LR	15 27 56.6	
	851nm,27.0s,baz=84						
YKA	**Yellowknife Ar**	72.46	344	P	P	15 08 02.4	-1.4
YKA	**Yellowknife Ar**	72.46	344	P	P	15 08 02.4	-1.4
	1.8nm,0.5s,baz=145,slow=6.4,SNR=16						
DLBC	**Dease Lake**	74.71	336	*e*P	P	15 08 17.5	+0.4
DBIC	**Dimbokro**	77.23	82	*e*P	P	15 08 30.6	-1.7
DBIC	**Dimbokro**	77.23	82	P	P	15 08 33.4	+1.0
	6.1nm,0.8s,baz=242,slow=6.7,SNR=5.7						
DBIC				LR	LR	15 40 44.8	
	comp=Z,931nm,19.3s,baz=232,slow=34						
RAR	**Rarotonga**	77.30	250	LR	LR	15 33 31.1	
	comp=Z,611nm,19.4s,baz=91,slow=29						
VNA3	**Neumayer Olymp**	78.92	162	*e*P	P	15 08 40.7	0.0
VNA1	**Neumayer--Stat**	79.21	161	*e*P	P	15 08 42.8	+0.6
VNA2	**Neumayer--Watz**	79.56	161	*e*P	P	15 08 42.9	-1.2
VNA2	**Neumayer--Watz**	79.56	161	*e*PcP	PcP	15 08 48.7	-3.3
SNAA	**Sanae**	81.14	162	*e*P	P	15 08 52.4	-0.3
SNAA	**Sanae**	81.14	162	*e*P	P	15 08 52.2	-0.5
	9.1nm,0.9s						
MDT	**Midelt**	81.86	56	LR	LR	15 42 05.1	
	comp=Z,293nm,20.6s,baz=326,slow=33						
INK	**Inuvik**	82.09	343	P	P	15 08 56.7	-0.8
	47nm,1.7s						
SUMG	**Summit**	82.61	12	*i* P	P	15 09 00.1	-0.7
	4.5nm,0.9s						
SUMG	**Summit**	82.61	12	*e*P	P	15 09 00.1	-0.7
EGAK	**Eagle**	82.67	338	*e*P	P	15 08 59.9	-0.8
	154nm,2.2s						
ESDC	**Sonseca Array**	83.82	49	P	P	15 09 07.7	+0.4
ESDC	**Sonseca Array**	83.82	49	P	P	15 09 07.7	+0.4
	2.7nm,0.6s,baz=265,slow=4.5,SNR=16						
ESDC				LR	LR	15 42 34.7	
	comp=Z,290nm,20.1s,baz=250,slow=33						
ESLA	**Sonseca Array**	83.82	49	*e*P	P	15 09 08.1	+0.8
	26nm,1.9s						
TOA0	**Torodi Ar. Sit**	84.44	76	*e*P	P	15 09 10.3	-0.5
TORD	**Torodi Ar. Bea**	84.44	76	P	P	15 09 11.1	+0.2
TORD	**Torodi Ar. Bea**	84.44	76	P	P	15 09 11.1	+0.2
	2.3nm,0.6s,baz=278,slow=4.7,SNR=33						
TORD				LR	LR	15 46 16.2	
	comp=Z,1μm,19.7s,baz=245,slow=35						
ILAR	**Eielson Array**	84.86	337	P	P	15 09 11.3	-0.7
ILAR				PP	PP	15 12 30.2	+1.7
ILAR	**Eielson Array**	84.86	337	P	P	15 09 11.3	-0.7
	0.6nm,0.7s,baz=139,slow=4.4,SNR=7.7						
ILAR				PP	PP	15 12 30.2	+1.7
	0.4nm,0.7s,baz=110,slow=7.5,SNR=5.1						
ILAR				LR	LR	15 52 01.7	
	comp=Z,170nm,19.7s,baz=122,slow=39						
PPLA	**Purkeypile**	86.33	334	*e*P	P	15 09 18.4	-1.1
	21nm,1.6s						
COLD	**Coldfoot**	87.07	339	*e*P	P	15 09 22.9	+0.1
	53nm,2.0s						
IMA2	**Indian Mountai**	87.98	337	*e*P	P	15 09 26.3	-1.1
IM04	**Indian Mountai**	87.99	337	P	P	15 09 26.3	-1.0
SBA	**Scott Base**	89.15	191	*e*P	P	15 09 33.3	+0.7
AFI	**Afiamalu**	89.17	256	LR	LR	15 41 31.3	
	comp=Z,179nm,19.6s,baz=138,slow=30						
TAM	**Tamanrasset**	89.18	67	P	P	15 09 33.9	-0.1
JMIC	**Jan Mayen**	89.65	18	LR	LR	15 47 47.7	
	comp=Z,154nm,19.4s,baz=110,slow=34						
VNDA	**Vanda**	90.25	191	*e*P	P	15 09 38.3	+0.6
	12nm,1.7s						
VNDA	**Vanda**	90.25	191	P	P	15 09 39.0	+1.3
	1.4nm,0.8s,baz=151,slow=2.8,SNR=9.2						
VNDA				LR	LR	15 45 38.4	
	comp=Z,217nm,18.1s,baz=119,slow=33						
RAO	**Raoul Island**	93.09	240	LR	LR	15 41 31.2	
	comp=Z,385nm,20.7s,baz=48,slow=29						
KEST	**Kesra**	93.70	55	LR	LR	15 48 52.9	
	comp=Z,98nm,20.8s,baz=187,slow=34						
DAVOX	**Davos/Dischmat**	94.79	44	LR	LR	15 50 43.8	
	comp=Z,151nm,20.3s,baz=83,slow=34						
NOA	**NORSAR Array B**	96.02	29	LR	LR	15 51 15.9	
	comp=Z,83nm,18.1s,baz=270,slow=34						
NKC	**Novy Kostel**	96.61	40	AMS	AMS	15 49 50.0	
	comp=Z,100nm,20.2s						
SPITS	**Spitsbergen Ar**	96.95	12	LR	LR	15 56 37.8	
	comp=Z,150nm,18.4s,baz=260,slow=37						
CLL	**Collm**	96.97	39	*e*PS	PS	15 22 54.0	-0.6
CLL				*e*SS	SS	15 28 06.0	-0.3
CLL				*e*SSS	SSS	15 31 54.0	
CLL				*e*SSSS		15 35 12.0	
CLL				LmV		15 54 00.0	
	comp=Z,300nm,18.7s						
HFS	**Hagfors**	97.25	30	LR	LR	15 51 45.6	
	comp=Z,123nm,19.3s,baz=266,slow=34						
KHC	**Kasperske Hory**	97.33	41	AMS	AMS	15 48 30.0	
	comp=Z,200nm,23.1s						
GERES	**GERESS Array B**	97.42	42	LR	LR	15 48 23.2	
	comp=Z,156nm,22.0s,baz=250,slow=32						
PRU	**Pruhonice**	97.95	40	AMS	AMS	15 45 40.0	
	comp=Z,300nm,21.3s						
RPZ	**Rata Peaks**	98.80	224	LR	LR	15 46 08.1	
	comp=Z,554nm,19.6s,baz=94,slow=30						
DPC	**Dobruska-Polom**	99.09	40	AMS	AMS	15 51 30.0	
VRAC	**Vranov**	99.31	41	LR	LR	15 49 41.1	
	comp=Z,159nm,20.1s,baz=357,slow=32						
KBZ	**Khabaz**	118.12	43	PKP	**PKPdf**	15 15 25.1	+0.4
KBZ	**Khabaz**	118.12	43	PKP	**PKPdf**	15 15 25.1	+0.4
	comp=Z,1.2nm,0.4s,baz=133,slow=3.0,SNR=3.9						
STKA	**Stephens Creek**	124.77	225	PKP	**PKPdf**	15 15 38.5	+0.5
STKA	**Stephens Creek**	124.77	225	PKP	**PKPdf**	15 15 38.5	+0.5
	comp=Z,2.9nm,0.7s,baz=100,slow=3.9,SNR=9.7						
ABKAR	**Akbulak array**	125.51	30	*e*PKPdf	**PKPdf**	15 15 38.7	0.0
CTA	**Charters Tower**	126.79	240	PKP	**PKPdf**	15 15 42.2	+0.1
CTA	**Charters Tower**	126.79	240	PKP	**PKPdf**	15 15 42.2	+0.1
	comp=Z,2.1nm,0.6s,baz=261,slow=4.4,SNR=6.7						
BVAR	**Borovoye Array**	127.27	21	PKP	**PKPdf**	15 15 41.9	-0.2
BVAR	**Borovoye Array**	127.27	21	PKP	**PKPdf**	15 15 41.9	-0.2
	comp=Z,2.6nm,0.7s,baz=263,slow=1.2,SNR=15						
ZAA0	**Zalesovo Array**	130.42	11	*e*PKPdf	**PKPdf**	15 15 46.7	-1.3
ZALV	**Zalesovo Beam**	130.42	11	PKP	**PKPdf**	15 15 46.9	-1.1
ZALV				PP	**PP**	15 17 59.9	-1.3
ZALV	**Zalesovo Beam**	130.42	11	PKP	**PKPdf**	15 15 46.9	-1.1
	comp=Z,3.5nm,0.6s,baz=318,slow=2.0,SNR=19						
ZALV				PP	**PP**	15 17 59.9	-1.3
	comp=Z,0.3nm,0.4s,baz=349,slow=12,SNR=3.2						
MJAR	**Matsushiro Arr**	132.49	316	PKP	**PKPdf**	15 15 53.2	+0.7
MJAR	**Matsushiro Arr**	132.49	316	PKP	**PKPdf**	15 15 53.2	+0.7
	comp=Z,0.7nm,0.6s,baz=148,slow=1.5,SNR=3.5						
AS31	**Alice Springs**	135.04	228	*e*PKPdf	**PKPdf**	15 15 56.4	-1.3
ASAR	**Alice Springs**	135.04	228	PKPpre	PKPpre	15 15 48.4	
ASAR				PKP	**PKPdf**	15 15 57.0	-0.8
ASAR	**Alice Springs**	135.04	228	PKhKP	PKPpre	15 15 48.4	
	comp=Z,0.7nm,1.0s,baz=127,slow=3.2,SNR=4.8						
ASAR				PKP	**PKPdf**	15 15 57.0	-0.8
	comp=Z,3.1nm,0.8s,baz=113,slow=2.1,SNR=30						
CN2	**Changchun**	135.22	332	*e*PKP	**PKPdf**	15 15 59.5	+2.2
MK31	**Makanchi Array**	136.52	16	*e*PKPdf	**PKPdf**	15 15 58.4	-1.4
MKAR	**Makanchi Array**	136.52	16	PKP	**PKPdf**	15 15 58.7	-1.1
MKAR	**Makanchi Array**	136.52	16	PKP	**PKPdf**	15 15 58.7	-1.1
	comp=Z,2.1nm,0.8s,baz=352,slow=2.5,SNR=16						
WRA	**Warramunga Arr**	136.78	233	PKP	**PKPdf**	15 16 00.4	-0.6
WRA	**Warramunga Arr**	136.78	233	PKP	**PKPdf**	15 16 00.4	-0.6
	comp=Z,5.2nm,0.7s,baz=118,slow=1.9,SNR=33						
EKS2	**Erkin-Say**	136.93	27	*e*PKPdf	**PKPdf**	15 16 01.7	+0.9
SONM	**Songino Array**	137.34	352	PKPpre	PKPpre	15 15 50.2	
SONM				PKP	**PKPdf**	15 16 00.6	-0.8
SONM				PP	**PP**	15 18 46.5	+1.1
SONM	**Songino Array**	137.34	352	PKhKP	PKPpre	15 15 50.2	
	comp=Z,0.7nm,0.8s,baz=42,slow=2.4,SNR=4.4						
SONM				PKP	**PKPdf**	15 16 00.6	-0.8
	comp=Z,2.0nm,0.6s,baz=334,slow=1.0,SNR=11						
SONM				PP	**PP**	15 18 46.5	+1.1
	comp=Z,0.5nm,0.8s,baz=90,slow=1.5,SNR=3.6						
TKM2	**Tokmak 2**	137.52	25	*e*PKPdf	**PKPdf**	15 16 01.4	-0.5
KSRS	**Korea Array**	138.54	324	PKP	**PKPdf**	15 16 03.5	-0.1
	comp=Z,1.7nm,0.6s,baz=2.3,slow=1.5,SNR=10.0						
KSAR	**Wonju Array Be**	138.57	324	PKP	**PKPdf**	15 16 03.5	-0.2
WMQ	**Urumqi**	140.65	13	*e*PKP	**PKPdf**	15 16 09.5	+2.0
WMQ				PP	PP	15 19 12.8	+7.0
WMQ				PKS	**PKSdf**	15 19 43.8	+0.4
WMQ				SS	SS	15 37 35.5	+6.5
WMQ				AMB	AMB		
	comp=Z,18nm,7.0s						
WMQ				LR	LR		
	comp=N,84nm,22.0s						
WMQ				LR	LR		
	comp=E,110nm,23.0s						
WMQ				LR	LR		
	comp=Z,140nm,22.0s						
HHC	**Hu-ho-hao-te**	143.00	344	*e*PKP	**PKPdf**	15 16 11.5	-0.3
HHC				PP	**PP**	15 19 23.8	+3.6
HHC				PKS	**PKSdf**	15 19 45.8	-1.8
HHC				SKS	**SKSdf**	15 23 19.5	-0.4
HHC				SKKS	**SKKSac**	15 26 13.8	+1.2
HHC				SS	**SS**	15 37 59.8	+3.3
HHC				AMB	AMB		
	comp=Z,170nm,9.2s						
HHC				LR	LR		
	comp=N,200nm,20.1s						
HHC				LR	LR		
	comp=E,220nm,20.7s						
HHC				LR	LR		
	comp=Z,240nm,20.9s						
FITZ	**Fitzroy Crossi**	144.54	228	PKP	PKPbc	15 16 13.7	+0.1
FITZ	**Fitzroy Crossi**	144.54	228	PKP	PKPbc	15 16 13.7	+0.1
	comp=Z,9.0nm,0.8s,baz=197,slow=3.8,SNR=16						
GTA	**Gaotai**	146.26	358	PKPbc	**PKPdf**	15 16 17.3	-0.2
GTA				PP	**PP**	15 19 44.3	+4.8
GTA				SKS	**SKSdf**	15 23 21.3	-3.6
GTA				SKKS	**SKKSac**	15 26 29.0	-2.2
GTA				AMB	AMB		
	comp=Z,92nm,9.5s						
GTA				LR	LR		
	comp=N,110nm,22.8s						
GTA				LR	LR		
	comp=E,120nm,21.4s						
GTA				LR	LR		
	comp=Z,170nm,25.7s						
LZH	**Lanzhou**	149.23	352	*e*PKPbc	**PKPdf**	15 16 24.0	+1.4
LZH				PP	**PP**	15 20 01.5	+4.5
LZH				SS	SS	15 39 04.0	-3.2
LZH				AMB	AMB		
	comp=Z,170nm,5.2s						
LZH				LR	LR		
	comp=N,190nm,13.4s						
LZH				LR	LR		
	comp=E,300nm,18.9s						
LZH				LR	LR		
	comp=Z,220nm,19.0s						
XAN	**Xi'an**	150.10	343	PKPbc	**PKPbc**	15 16 27.5	-1.4
XAN				pPKP	**pPKPdf**	15 16 32.8	-0.4
XAN				LR	LR		
	comp=N,120nm,22.5s						
XAN				LR	LR		
	comp=Z,39nm,18.4s						
WHN	**Wuhan**	151.10	331	PKPbc	**PKPdf**	15 16 23.3	-2.1
ENH	**Enshi**	153.38	339	*e*PKPdf	**PKPdf**	15 16 27.7	-1.2
ENH				*e*PKPbc	**PKPbc**	15 16 35.8	-0.7
CD2	**Chengdu**	154.32	350	*e*PKPbc	**PKPdf**	15 16 29.8	-0.4
CD2				sPKP		15 16 44.3	
CD2				PKPab	**PKPab**	15 16 54.3	+2.0
CD2				PP	**PP**	15 20 30.3	+4.4
CD2				SKKS		15 27 16.0	
CD2				SS	**SS**	15 40 05.8	+2.7
CD2				AMB	AMB		
	comp=Z,150nm,8.6s						
CD2				LR	LR		
	comp=E,200nm,17.8s						
CD2				LR	LR		
	comp=Z,140nm,20.2s						
GYA	**Guiyang**	157.85	341	*e*PKP	**PKPdf**	15 16 33.8	-1.3
GYA				PKPab	**PKPab**	15 17 09.0	+1.3
GYA				PKS	**PKSdf**	15 20 05.3	-3.8
GYA				PP	**PP**	15 20 49.0	+3.2
GYA				SKKS		15 27 34.3	
GYA				SS	**SS**	15 40 43.3	+1.6
GYA				AMB	AMB		
	comp=Z,140nm,7.8s						
GYA				LR	LR		
	comp=N,130nm,24.5s						
GYA				LR	LR		
	comp=E,120nm,23.0s						
GYA				LR	LR		
	comp=Z,140nm,24.7s						
KMI	**Kunming**	160.14	349	PKP	**PKPdf**	15 16 37.3	-0.7
KMI				PP	**PP**	15 21 01.5	+3.2
KMI				SKKS		15 27 49.0	
KMI				SS	**SS**	15 41 09.8	+4.0
KMI				AMB	AMB		
	comp=Z,44nm,4.6s						
KMI				LR	LR		
	comp=N,120nm,22.3s						
KMI				LR	LR		
	comp=E,97nm,23.5s						
KMI				LR	LR		
	comp=Z,190nm,18.8s						
QIZ	**Qiongzhong**	162.75	322	PKP	**PKPdf**	15 16 39.8	-0.8
QIZ				PP	**PP**	15 21 12.0	-0.8
QIZ				LR	LR		
	comp=E,48nm,20.4s						
QIZ				LR	LR		
	comp=Z,150nm,21.5s						
CMAR	**Chiang Mai Arr**	167.15	359	PKP	**PKPdf**	15 16 43.8	-0.6
CMAR				PKPab	**PKPab**	15 17 44.9	-3.4
CMAR	**Chiang Mai Arr**	167.15	359	PKP	**PKPdf**	15 16 43.8	-0.6
	comp=Z,0.4nm,0.3s,baz=288,slow=2.4,SNR=5.3						
CMAR				PKPab	**PKPab**	15 17 44.9	-3.4
	comp=Z,0.6nm,0.6s,baz=346,slow=5.8,SNR=4.5						

IDC 27 15:02:49.3±1.1,6°.67S×143°.24E,h0^{km},mb3.7/4,
mb1 3.7/7,mb1mx3.5/18,mbtmp3.6/7,ML2.9/2,Error ellipse: s-maj=28.7km s-min=25.3km az=89.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	4.74	125	Pn	Pn	15 04 02.5	+0.5
	0.8nm,0.3s,baz=297,slow=11,SNR=3.7						
PMG				Sn	Sn	15 04 57.3	-0.3
	0.5nm,0.3s,baz=213,slow=3.0,SNR=3.1						
WRA	**Warramunga Arr**	15.78	212	Pn	Pn	15 06 31.0	-2.0
	0.1nm,0.3s,baz=28,slow=14,SNR=10.0						
ASAR	**Alice Springs**	19.14	207	P	P	15 07 14.2	0.0
	0.1nm,0.3s,baz=33,slow=9.9,SNR=12						
FITZ	**Fitzroy Crossi**	20.59	235	P	P	15 07 30.6	+0.6
	1.1nm,0.5s,baz=75,slow=9.7,SNR=7.3						
MKAR	**Makanchi Array**	75.67	322	P	P	15 14 37.1	+0.5
	0.6nm,0.8s,baz=99,slow=8.0,SNR=4.9						
BVAR	**Borovoye Array**	85.13	325	P	P	15 15 27.3	0.0
	0.7nm,0.6s,baz=101,slow=7.5,SNR=6.0						
ILAR	**Eielson Array**	87.58	24	P	P	15 15 38.4	-0.6
	0.3nm,0.8s,baz=258,slow=4.5,SNR=3.1						

*ISCJB **27** 15:19:54.7±0.4, 14°.09N±0°.05×91°.47W±0°.03, h74^{km}±4

SCIG	Sabancuy	4.89	3	*e*P		Pn	15 21 06.4 -0.2
SCIG				*i* S		Sn	15 22 00.1 -1.6
OXX	Oaxaca	5.92	301	*i* P		Pn	15 21 26.5 +5.7
VHO	Vista Hermosa	5.92	301	*i* P		Pn	15 21 22.4 +1.5
VHO				*i* S		Sn	15 22 27.7 +0.3
TEIG	Tepich	6.83	26	*e*Pn		Pn	15 21 33.0 -0.2
TEIG				S		Sn	15 22 47.1 -2.5
TEIG	Tepich	6.83	26	P		Pn	15 21 32.1 -1.1
	comp=Z,97nm,0.3s,baz=224,slow=0.9,SNR=316						
TEIG				S		Sn	15 22 47.1 -2.5
	baz=37,slow=20,SNR=2.5						
TEIG				LR		LR	15 24 29.8
	comp=Z,703nm,22.0s,baz=188,slow=41						
PNIG	Pinotepa	6.86	291	*e*P		Pn	15 21 33.8 +0.2
PNIG				*i* S		Sn	15 22 51.4 +1.0
TPIG	Tehuac#an	7.15	308	*i* P		Pn	15 21 38.8 +1.1
TPIG				*i* S		Sn	15 22 57.4 -0.3
UTMO	Huajuapan	7.18	302	*e*P		Pn	15 21 39.8 +1.6
UTMO				*i* S		Sn	15 22 56.1 -2.3
732A	Laxson Ranch,	16.61	333	⇓P		P	15 23 47.0 +1.3
	baz=17						
632A	Uvalde	17.20	335	⇓P		P	15 23 54.1 +1.8
	baz=17						
532A	Rocksprings	17.80	335	⇑P		Pn	15 24 00.4 +1.4
	baz=18						
JCT	Junction City	18.07	336	*e*P		Pn	15 24 04.0 +1.8
	comp=Z,9.1nm,1.0s						
JCT	Junction City	18.07	336	⇑P		Pn	15 24 04.1 +1.9
	baz=18						
531A	Rocksprings	18.10	334	⇑P		Pn	15 24 04.8 +2.2
	baz=18						
432A	Menard	18.42	337	P		Pn	15 24 07.6 +1.1
	baz=19						
530A	J-C Ranch, Com	18.44	332	⇑P		Pn	15 24 08.0 +1.3
	baz=19						
431A	Sonora	18.57	334	P		Pn	15 24 09.7 +1.4
	baz=19						
628A	Black Gap, Mar	18.65	327	⇑P		Pn	15 24 10.4 +1.1
	baz=19						
WHTX	Lake Whitney	18.68	344	P		Pn	15 24 11.3 +1.8
	baz=19						
529A	Stev Forest Ra	18.83	330	⇑P		Pn	15 24 12.4 +1.0
	baz=19						
332A	Millersview	18.85	338	⇓P		Pn	15 24 12.5 +0.8
	baz=19,SNR=7.9						
627A	Terlingua Ranc	18.89	326	⇓P		Pn	15 24 13.3 +1.1
	baz=19,SNR=6.5						
TXAR	Lajitas Array	18.95	325	P		Pn	15 24 13.4 +0.5
TXAR				ScP		ScP	15 32 08.0 +2.5
TXAR	Lajitas Array	18.95	325	P		Pn	15 24 13.4 +0.5
	comp=Z,0.2nm,0.3s,baz=147,slow=9.9,SNR=9.9						
TXAR				ScP		ScP	15 32 08.0 +2.5
	comp=Z,0.1nm,0.3s,baz=151,slow=2.9,SNR=4.7						
331A	San Angelo	19.05	336	⇓P		Pn	15 24 14.1 +0.1
	baz=19						
429A	Davenport Ranc	19.09	331	⇑P		Pn	15 24 14.9 +0.4
	baz=19						
232A	Coleman	19.27	338	⇑P		P	15 24 16.0 +1.0
	baz=20,SNR=6.1						
LRAL	Lakeview Retre	19.32	11	P		P	15 24 16.6 +1.2
	comp=Z,35nm,1.2s						
LRAL				*e*			15 24 20.0
527A	Woodward Ranch	19.56	327	⇓P		Pn	15 24 20.1 0.0
	baz=20						
231A	Bronte	19.56	337	⇓P		Pn	15 24 19.9 -0.2
	baz=20						
526A	Mary Lane Ranc	19.75	326	⇑P		Pn	15 24 22.4 +0.1
	baz=20						
329A	Wagon Wheel Ra	19.86	333	P		P	15 24 22.9 +1.4
	baz=20						
ABTX	Abilene, Hawle	19.94	339	⇓P		P	15 24 23.4 +1.1
	baz=20						
426A	McDonald Obser	20.19	327	⇑P		P	15 24 27.2 +1.9
	baz=20,SNR=5.7						
229A	Bryant Ranch,	20.20	334	⇓P		Pn	15 24 27.1 -0.4
	baz=20						
130A	Snyder	20.40	336	⇑P		P	15 24 28.5 +1.2
	baz=21						
MIAR	Mount Ida	20.49	355	*e*P		Pn	15 24 31.3 +0.4
	comp=Z,9.0nm,1.0s						
Z32A	Haskell	20.51	340	⇓P		P	15 24 29.3 +0.8
	baz=21,SNR=7.6						
326A	Caldwell Ranch	20.68	328	⇑P		P	15 24 31.3 +0.9
	baz=21,SNR=8.8						
Z31A	Sharp Cattle R	20.75	339	⇑P		P	15 24 30.9 -0.1
	baz=21						
129A	Stewart Farms,	20.79	335	⇓P		P	15 24 31.6 0.0
	baz=21,SNR=7.5						
425A	Indio Mountain	20.80	325	⇑P		P	15 24 32.7 +1.0
	baz=21,SNR=8.1						
Z30A	Sanderson Ranc	21.07	337	⇓P		P	15 24 34.8 +0.2
	baz=21						
Y32A	R-V Farms, Ver	21.14	341	P		P	15 24 36.3 +1.0
	baz=21						
325A	Bean Ranch, Si	21.24	326	⇑P		P	15 24 37.5 +1.0
	baz=21						
Z29A	Hungry Hill Ra	21.28	336	⇑P		P	15 24 37.5 +0.8
	baz=22						
226B	Tecolote Peak,	21.38	329	⇑P		P	15 24 38.8 +0.8
	baz=22,SNR=7.9						
324A	Moseley Ranch,	21.57	326	P		P	15 24 40.8 +0.8
	baz=22						
225A	Deer Hill, Car	21.74	328	⇓P		P	15 24 42.7 +0.8
	baz=22,SNR=6.9						
Z27A	Tatum	21.96	333	⇑P		P	15 24 44.5 +0.4
	baz=22						
125A	Gardner Draw,	22.10	329	⇑P		P	15 24 46.1 +0.5
	baz=22						
WVT	Waverly	22.21	8	P		P	15 24 46.6 -0.1
	comp=Z,8.6nm,0.9s						
124A	Stringfield Ra	22.54	328	⇓P		P	15 24 51.4 +1.0
	baz=23,SNR=17						
TKL	Tuckaleechee C	22.58	16	P		P	15 24 48.9 -1.8
TKL	Tuckaleechee C	22.58	16	P		P	15 24 48.9 -1.8
	comp=Z,3.2nm,0.5s,baz=166,slow=8.3,SNR=3.0						
TKL				LR		LR	15 34 11.0
	comp=Z,296nm,19.6s,baz=199,slow=38						
Z25A	Roswell	22.63	330	⇑P		P	15 24 52.0 +0.7
	baz=23						
Z24A	Sheeppen Canyo	22.99	329	⇑P		P	15 24 55.9 +0.8
	baz=23						
Y25A	Mesa, Roswell	23.14	331	⇑P		P	15 24 57.8 +1.3
	baz=23						
320A	Kipp Ranch, An	23.27	320	⇓P		P	15 24 59.7 +1.8
	baz=24						
Z23A	Rita Site, Whi	23.38	327	⇑P		P	15 25 01.0 +2.2
	baz=24						
W27A	Bowe Ranch, En	23.40	335	⇓P		P	15 24 59.3 +0.4
	baz=24						
Y24A	Capitan	23.50	330	⇑P		P	15 25 00.9 +0.9
	baz=24,SNR=6.1						
220A	Playas Peak, P	23.67	321	P		P	15 25 02.3 +0.9
	baz=24						
121A	Cookes Peak, D	23.68	324	⇑P		P	15 25 03.3 +1.7
	baz=24						
Z22A	Elephant Butte	23.76	326	⇓P		P	15 25 04.5 +2.2
	baz=24						
319A	Douglas	23.77	319	⇑P		P	15 25 05.3 +2.9
	baz=24						
Y23A	Lovelace Mesa,	23.82	329	P		P	15 25 04.5 +1.7
	baz=24						
120A	U Bar Ranch, L	24.19	322	⇓P		P	15 25 08.2 +2.0
	baz=24						
BNM	Barren Site	24.28	328	*e*P		P	15 25 08.1 +1.1
	comp=Z,4.9nm,1.1s						
Y22A	Socorro	24.29	327	⇓P		P	15 25 09.5 +2.4
	baz=24						
Z20A	Nine Sixteen R	24.57	323	⇑P		P	15 25 11.3 +1.7
	baz=25						
ANMO	Albuquerque	24.82	330	P		P	15 25 12.9 +1.0
ANMO	Albuquerque	24.82	330	P		P	15 25 12.9 +1.0
	comp=Z,1.1nm,0.5s,baz=143,slow=10,SNR=3.7						
Y20A	Horse Springs,	25.03	325	P		P	15 25 15.2 +1.3
	baz=25						
X21A	Alamocita Cree	25.11	327	P		P	15 25 16.6 +1.9
	baz=25						
X20A	Quemado	25.57	326	P		P	15 25 20.6 +1.8
	baz=26						
214A	Organ Pipe Nat	26.45	316	P		P	15 25 28.1 +1.6
	baz=27						
X16A	Lo Mia Camp, P	27.17	322	⇓P		P	15 25 35.3 +2.1
	baz=27						
P23A	Jefferson	28.23	336	⇓P		P	15 25 44.8 +2.1
	baz=28						
PDMCI	Parker Dam,Lak	28.77	318	⇓P		P	15 25 49.7 +2.4
	baz=29						
U15A	North Rim	29.06	324	⇓P		P	15 25 51.8 +1.7
	baz=29						
BC3	Big Chuckawall	29.25	316	⇑P		P	15 25 53.0 +1.4
	baz=29						
IRM	Iron Mountain	29.35	317	⇑P		P	15 25 54.6 +2.2
	baz=30						
N20A	Spence Gulch,	30.45	334	⇑P		P	15 26 04.1 +1.8
	baz=31						
R11A	Troy Canyon, C	32.29	323	⇓P		P	15 26 20.0 +1.6
	baz=32						
PDAR	Pinedale Array	32.60	335	P		P	15 26 21.4 +0.3
PDAR				PcP		PcP	15 29 05.1 -1.1
PDAR	Pinedale Array	32.60	335	P		P	15 26 21.4 +0.3
	comp=Z,0.4nm,0.8s,baz=93,slow=9.2,SNR=2.6						
PDAR				PcP		PcP	15 29 05.1 -1.1
	comp=Z,0.6nm,0.8s,baz=152,slow=6.7,SNR=4.9						
NVAR	Mina Array Bea	33.97	321	P		P	15 26 35.7 +2.6
NVAR				pP		pP	15 26 50.3 +1.2
NVAR				PcP		PcP	15 29 09.8 -0.4
NVAR	Mina Array Bea	33.97	321	P		P	15 26 35.7 +2.6
	comp=Z,5.5nm,0.9s,baz=137,slow=8.1,SNR=25						
NVAR				pP		pP	15 26 50.3 +1.2
	comp=Z,1.4nm,0.5s,baz=130,slow=9.4,SNR=5.4						
NVAR				PcP		PcP	15 29 09.8 -0.4
	comp=Z,1.1nm,0.8s,baz=139,slow=4.8,SNR=5.1						
SAML	Samuel	36.17	128	*e*P		P	15 26 49.9 -2.2
	comp=Z,3.1nm,0.9s						
LPAZ	La Paz	37.94	142	P		P	15 27 07.3 -0.5
LPAZ	La Paz	37.94	142	P		P	15 27 07.3 -0.5
	comp=Z,0.7nm,0.5s,baz=349,slow=5.2,SNR=3.8						
SIV	San Ignacio	42.33	134	P		P	15 27 43.0 -0.5
SIV	San Ignacio	42.33	134	P		P	15 27 43.0 -0.5
	comp=Z,4.3nm,0.7s,baz=315,slow=9.5,SNR=16						
SCHQ	Schefferville	44.98	20	LR		LR	15 47 47.2
	comp=Z,178nm,19.9s,baz=264,slow=37						
YKA	Yellowknife Ar	51.09	346	P		P	15 28 51.2 0.0
YKA	Yellowknife Ar	51.09	346	P		P	15 28 51.2 0.0
	comp=Z,0.4nm,0.5s,baz=154,slow=7.4,SNR=3.0						
CPUP	Villa Florida	52.08	140	P		P	15 28 57.2 -1.8
CPUP	Villa Florida	52.08	140	P		P	15 28 57.2 -1.8
	comp=Z,0.5nm,0.3s,baz=335,slow=4.7,SNR=4.2						
ILAR	Eielson Array	63.00	337	P		P	15 30 14.6 -0.8
ILAR	Eielson Array	63.00	337	P		P	15 30 14.6 -0.8
	comp=Z,0.9nm,0.8s,baz=127,slow=4.9,SNR=8.8						
USHA	Ushuaia	71.34	166	LR		LR	15 54 54.0
	comp=Z,158nm,19.1s,baz=272,slow=29						
JMIC	Jan Mayen	74.50	20	LR		LR	16 04 53.9
	comp=Z,83nm,20.2s,baz=206,slow=36						
NOA	NORSAR Array B	83.83	29	LR		LR	16 06 38.6
	comp=Z,43nm,21.0s,baz=265,slow=34						
WRA	Warramunga Arr	135.94	256	PKP		PKPdf	15 39 09.8 -0.1
WRA				pPKP		pPKPdf	15 39 27.4 -1.5
WRA	Warramunga Arr	135.94	256	PKP		PKPdf	15 39 09.8 -0.1
	comp=Z,0.4nm,0.8s,baz=360,slow=0.9,SNR=5.2						
WRA				pPKP		pPKPdf	15 39 27.4 -1.5
	comp=Z,0.5nm,0.7s,baz=85,slow=2.8,SNR=3.0						
ASAR	Alice Springs	136.20	250	PKP		PKPdf	15 39 08.8 -1.6
ASAR	Alice Springs	136.20	250	PKP		PKPdf	15 39 08.8 -1.6
	comp=Z,0.5nm,1.0s,baz=102,slow=2.0,SNR=5.5						
CM31	Chiang Mai Arr	146.11	342	*e*PKPdf		PKPdf	15 39 28.3 0.0
CMAR	Chiang Mai Arr	146.11	342	PKPbc		PKPdf	15 39 28.4 +0.1
CMAR				pPKPbc		pPKPbc	15 39 46.4 -1.5
CMAR	Chiang Mai Arr	146.11	342	PKPbc		PKPdf	15 39 28.4 +0.1
	comp=Z,5.3nm,0.9s,baz=346,slow=3.9,SNR=29						
CMAR				pPKPbc		pPKPbc	15 39 46.4 -1.5
	comp=Z,2.0nm,0.7s,baz=336,slow=3.3,SNR=4.9						

IDC 27 15:34:39.1±2.1, 33°32S×178°88W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=57.3km s-min=32.2km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.91	212	Pn	Pn	15 36 07.6	-0.3
	2.8nm,0.3s,baz=250,slow=15,SNR=10						
URZ				Sn	Sn	15 37 15.1	-1.3
	6.6nm,0.3s,baz=336,slow=20,SNR=7.9						
ASAR	Alice Springs	42.30	271	P	P	15 42 35.4	+0.6
	0.8nm,0.6s,baz=109,slow=7.7,SNR=24						
WRA	Warramunga Arr	43.55	276	P	P	15 42 44.4	-0.5
	1.0nm,0.9s,baz=115,slow=8.2,SNR=19						
FINES	FINESS Array B	147.59	338	PKPbc	PKPbc	15 54 23.4	-1.2
	1.9nm,0.6s,baz=49,slow=6.3,SNR=7.0						
NOA	NORSAR Array B	151.50	350	PKPbc	PKPbc	15 54 34.5	+0.1
	0.9nm,0.7s,baz=15,slow=4.3,SNR=4.1						

MAN 27 15:35:47, 11°39N×124°28E, h0km, mb4.1, ML2.9, MS2.6, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.47	136	*e*P	Pg	15 35 56.9	+0.9
LLP	Lapu-Lapu	1.11	196	⇓*e*P	Pg	15 36 08.5	+0.1
LLP				*e*S	Sn	15 36 25.9	0.0
MSLP	Maasin	1.38	155	*e*P	Pg	15 36 13.3	-0.1
RCP	Roxas	1.51	276	⇑*e*P	Pn	15 36 13.5	-1.8
RCP				*e*S	Sg	15 36 35.6	-0.1
GUIM	Jordan	1.83	245	*e*P	Pn	15 36 19.9	+0.2
SNPH	Sibulan	2.28	207	*i* S	Sn	15 36 49.6	-5.3

*IDC **27** 15:37:47.2±1.2, 35°01N×26°79E, h0km, mb3.7/7, mb1 3.7/12, mb1mx3.6/30, mbtmp3.6/12, ML3.9/3, Error ellipse: s-maj=29.6km s-min=20.7km az=147.0*
*CSEM **27** 15:37:47.7±0.4, 34°97N×26°86E, h2km, MD3.5, Error ellipse: s-maj=11.9km s-min=3.9km az=166.0*
*DDA **27** 15:37:47.2, 34°70N×26°61E, h60km, MD3.4*
*ISCJB **27** 15:37:47.7±1.1, 34°95N±0°04×26°88E±0°03, h14km±8km, mb3.7/7, Error ellipse: s-maj=7.0km s-min=3.9km az=172.8*
*ATH **27** 15:37:48.4, 35°09N×26°78E, h5km±2km, MD3.5/11*
*ISK **27** 15:37:49.1, 34°93N×26°87E, h59km, ML3.4*

ISC 27 15:37:47.1±1.5, 35°02N±0°05×26°85E±0°03, h0km±10km, n97, σ1§35/108, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.53	280	*e*PB	Pg	15 37 57.1	0.0
ZKR				*e*SB	Sg	15 38 04.2	+0.3
ZKR	Zakros	0.53	280	*e*Pb	Pg	15 37 57.1	0.0
ZKR				*e*Sb	Sg	15 38 04.2	+0.3
KARP	Karpathos	0.58	26	*e*PG	Pg	15 37 58.8	+0.5
KARP				*e*SB	Sg	15 38 06.8	+0.9
KARP	Karpathos	0.58	26	*e*Pg	Pg	15 37 58.8	+0.5
KARP				*e*Sb	Sg	15 38 06.8	+0.9
NPS	Neapolis	1.04	284	*e*PN	Pb	15 38 07.1	-0.8
NPS				*e*SB	Sg	15 38 19.2	-1.3
NPS	Neapolis	1.04	284	*e*Pn	Pb	15 38 07.1	-0.8
NPS				*e*Sb	Sg	15 38 19.2	-1.3
LAST	Lasithi	1.13	277	*e*PG	Pg	15 38 08.0	-0.7
LAST	Lasithi	1.13	277	*e*Pg	Pg	15 38 08.0	-0.7
ARG	Arkhangelos	1.58	41	*e*PB	Pg	15 38 18.0	+0.6
ARG	Arkhangelos	1.58	41	*e*Pb	Pg	15 38 18.0	+0.6
IDI	Anoyia	1.63	280	*e*PB	Pg	15 38 17.7	-0.5
IDI	Anoyia	1.63	280	*e*Pb	Pg	15 38 17.7	-0.5
SIVA	Sivas	1.67	270	*e*PB	Pg	15 38 19.5	+0.4
SIVA	Sivas	1.67	270	*e*Pb	Pg	15 38 19.5	+0.4
DAT	Datca	1.81	19	*e*PN	Pb	15 38 20.1	-0.9
DAT				*e*SN	Sb	15 38 42.8	-1.5
DAT	Datca	1.81	19	*e*Pn	Pb	15 38 20.1	-0.9
DAT				*e*Sn	Sb	15 38 42.8	-1.5
BDRM	Kayabasi	2.10	13	*i* P	Pb	15 38 25.3	-0.7
BDRM	Kayabasi	2.10	13	*i* P	Pb	15 38 25.3	-0.7
VAM	Vamos	2.20	281	*e*PN	Pb	15 38 27.4	-0.3
VAM	Vamos	2.20	281	*e*Pn	Pb	15 38 27.4	-0.3
GVD	Gavdhos	2.27	266	*e*PG	Pb	15 38 29.0	0.0
GVD	Gavdhos	2.27	266	*e*Pg	Pb	15 38 29.0	0.0
APE	Apeiranthos	2.31	333	*e*PN	Pb	15 38 27.5	-2.0
APE	Apeiranthos	2.31	333	*e*PN	Pb	15 38 28.6	-0.9
APE	Apeiranthos	2.31	333	*e*Pn	Pb	15 38 27.5	-2.0
DALY	Dalyan (Mu¨la	2.31	39	*e*PN	Pn	15 38 27.1	+0.7
DALY	Dalyan (Mu¨la	2.31	39	*e*Pn	Pn	15 38 27.1	+0.7
TURN	Turunc	2.33	37	*i* P	Pn	15 38 24.9	-1.8
TURN	Turunc	2.33	37	*i* P	Pn	15 38 24.9	-1.8
MLSB	Milas	2.39	18	*e*PN	Pn	15 38 28.4	+0.9
MLSB	Milas	2.39	18	*e*Pn	Pn	15 38 28.4	+0.9
YER	Yerkesik	2.41	28	*e*PN	Pn	15 38 28.9	+1.1
YER	Yerkesik	2.41	28	*e*Pn	Pn	15 38 28.9	+1.1
FETY	Fethiye	2.43	48	*e*PN	Pn	15 38 28.7	+0.7
FETY	Fethiye	2.43	48	*e*Pn	Pn	15 38 28.7	+0.7
KARN	Karanos	2.43	280	*e*PN	Pb	15 38 29.9	-1.7
KARN	Karanos	2.43	280	*e*Pn	Pb	15 38 29.9	-1.7
AKAS	Kas	2.55	61	*i* P	Pn	15 38 30.9	+1.1
AKAS	Kas	2.55	61	*i* P	Pn	15 38 30.9	+1.1
AYDN	Tasoluk	2.76	17	*i* P	Pb	15 38 34.5	-2.9
AYDN	Tasoluk	2.76	17	*i* P	Pb	15 38 34.5	-2.9
ANKY	Antikythira Is	3.02	287	*e*PN	Pb	15 38 38.9	-2.7
ANKY	Antikythira Is	3.02	287	*e*Pn	Pb	15 38 38.9	-2.7
ELL	Elmali	3.02	54	*e*PN	Pn	15 38 37.1	+0.8
ELL	Elmali	3.02	54	*e*Pn	Pn	15 38 37.1	+0.8
GOLH	Golhisar	3.12	44	*i* P	Pn	15 38 38.9	+1.3
GOLH	Golhisar	3.12	44	*i* P	Pn	15 38 38.9	+1.3
DNZL	Cakiroluk	3.20	33	*i* P	Pn	15 38 40.1	+1.3
DNZL				*i* S	Sb	15 39 26.5	+2.0
DNZL	Cakiroluk	3.20	33	*i* P	Pn	15 38 40.1	+1.3
KYTH	Kithira	3.35	293	*e*PN	Pn	15 38 41.8	+1.1
KYTH	Kithira	3.35	293	*e*Pn	Pn	15 38 41.8	+1.1
IZM	Izmir	3.39	6	*e*PN	Pn	15 38 42.4	+1.2
IZM	Izmir	3.39	6	*e*Pn	Pn	15 38 42.4	+1.2
KULA	Kula-Manisa	3.78	22	*e*PN	Pn	15 38 47.9	+1.3
KULA	Kula-Manisa	3.78	22	*e*Pn	Pn	15 38 47.9	+1.3
DID	Didima	3.83	311	*e*PN	Pn	15 38 48.7	+1.4
DID	Didima	3.83	311	*e*Pn	Pn	15 38 48.7	+1.4
BCK	Bucak	3.88	50	*e*PN	Pn	15 38 49.2	+1.2
BCK	Bucak	3.88	50	*e*Pn	Pn	15 38 49.2	+1.2
KHL	Karahalli	3.94	32	*e*PN	Pn	15 38 49.8	+1.0
KHL	Karahalli	3.94	32	*e*Pn	Pn	15 38 49.8	+1.0
KHAL	Karahalli	3.96	32	*i* P	Pn	15 38 49.4	+0.2
KHAL	Karahalli	3.96	32	*i* P	Pn	15 38 49.4	+0.2
DYR	Agios Nikonas	4.05	297	*e*PN	Pn	15 38 52.2	+1.8
DYR	Agios Nikonas	4.05	297	*e*Pn	Pn	15 38 52.2	+1.8
SUTC	Sutluce-Ispart	4.16	53	*e*PN	Pn	15 38 52.9	+1.1
SUTC	Sutluce-Ispart	4.16	53	*e*Pn	Pn	15 38 52.9	+1.1
LTK	Loutraki	4.33	315	*e*PN	Pn	15 38 56.9	+2.8
LTK	Loutraki	4.33	315	*e*Pn	Pn	15 38 56.9	+2.8
PYL	PYLOS	4.54	296	*e*PN	Pn	15 38 58.8	+1.7
PYL	PYLOS	4.54	296	*e*Pn	Pn	15 38 58.8	+1.7
GAZI	Gazipasa	4.62	73	*i* P	Pn	15 38 56.9	-1.2
GAZI				*i* S	Sn	15 39 48.3	-4.1
GAZI	Gazipasa	4.62	73	*i* P	Pn	15 38 56.9	-1.2
GAZI				*i* S	Sn	15 39 48.3	-4.1
GUR	Goura	4.65	310	*e*PN	Pn	15 39 00.4	+1.7
GUR	Goura	4.65	310	*e*Pn	Pn	15 39 00.4	+1.7
HDMB	Hadim	4.97	65	*e*PN	Pn	15 39 04.0	+0.9
HDMB	Hadim	4.97	65	*e*Pn	Pn	15 39 04.0	+0.9
KONT	Konya--Tatoy	5.32	55	*e*PN	Pn	15 39 08.8	+1.1
KONT	Konya--Tatoy	5.32	55	*e*Pn	Pn	15 39 08.8	+1.1
GELI	Tayfur-Gelibol	5.38	357	*e*PN	Pn	15 39 10.3	+1.8
GELI	Tayfur-Gelibol	5.38	357	*e*Pn	Pn	15 39 10.3	+1.8
KIZT	Kizilcal	5.57	45	*e*PN	Pn	15 39 11.9	+0.6
KIZT	Kizilcal	5.57	45	*e*Pn	Pn	15 39 11.9	+0.6
IKL	Isikli	5.70	76	*e*PN	Pn	15 39 13.7	+0.7
IKL	Isikli	5.70	76	*e*Pn	Pn	15 39 13.7	+0.7
BRTR	Keskin Array B	7.16	47	Pn	Pn	15 39 33.9	+0.8
	0.1nm,0.3s,baz=220,slow=18,SNR=3.2						
BRTR				Sn	Sn	15 40 56.5	+1.2
	0.1nm,0.3s,baz=17,slow=18,SNR=1.6						
MMAI	Mount Meron Ar	7.38	103	Pn	Pn	15 39 37.1	+1.0
	2.1nm,0.3s,baz=312,slow=10.0,SNR=4.5						
MMAI				Sn	Sn	15 40 59.1	-1.5
	1.4nm,0.3s,baz=323,slow=28,SNR=2.1						
EIL	Elat	8.69	126	Pn	Pn	15 39 55.1	+1.2
	0.5nm,0.3s,baz=347,slow=17,SNR=3.8						
EIL				Sn	Sn	15 41 26.8	-5.8
	1.2nm,0.3s,baz=37,slow=18,SNR=3.2						
KBZ	Khabaz	15.13	50	Pn	P	15 41 26.2	-1.2
	0.5nm,0.3s,baz=217,slow=15,SNR=3.0						
GERES	GERESS Array B	16.89	329	Pn	P	15 41 47.5	+0.5
	baz=141,slow=17,SNR=3.4						
TORD	Torodi Ar. Bea	31.48	232	P	P	15 44 09.9	-0.6
	1.0nm,0.4s,baz=36,slow=8.6,SNR=6.9						
BVAR	Borovoye Array	35.45	46	P	P	15 44 45.6	+0.8
	0.3nm,0.5s,baz=232,slow=7.1,SNR=3.5						
AAK	Ala-Archa	37.48	64	P	P	15 45 03.7	+1.2
	1.0nm,0.4s,baz=281,slow=5.2,SNR=2.5						
MKAR	Makanchi Array	42.70	57	P	P	15 45 45.8	+0.2
	1.0nm,0.6s,baz=265,slow=6.1,SNR=4.0						
ZALV	Zalesovo Beam	44.10	46	P	P	15 45 55.9	-0.9
	1.2nm,0.5s,baz=267,slow=8.0,SNR=7.8						
SONM	Songino Array	58.50	51	P	P	15 47 45.3	+0.2
	0.1nm,0.3s,baz=272,slow=9.1,SNR=2.2						
CMAR	Chiang Mai Arr	65.21	84	P	P	15 48 31.8	+1.2

HOWZ	Holdsworth Sta	0.85	43	P*		Pn	15 52 44.6 +0.4
DUWZ	D'Urville Isla	0.95	319	⇑P*		Pn	15 52 46.0 +0.6
DUWZ	D'Urville Isla	0.95	319	P*		Pn	15 52 46.0 +0.6
TMWZ	Te Maipa	0.96	65	P*		Pn	15 52 46.1 +0.5
TMWZ	Te Maipa	0.96	65	P*		Pn	15 52 46.1 +0.5
MRZ	Mangatainoka R	1.07	37	⇓P*		Pn	15 52 47.6 +0.5
MRZ				AML	AML		15 53 07.0
MRZ				AML	AML		15 53 18.0
MRZ	Mangatainoka R	1.07	37	P*		Pn	15 52 47.3 +0.2
NNZ	Nelson	1.07	286	PN		Pn	15 52 47.6 +0.5
NNZ	Nelson	1.07	286	Pn		Pn	15 52 47.8 +0.7
TIWZ	Tintock	1.14	50	P*		Pn	15 52 48.2 +0.1
TIWZ	Tintock	1.14	50	P*		Pn	15 52 48.3 +0.2
KHZ	Kahutara	1.27	225	⇓PN		Pn	15 52 51.0 +1.2
KHZ				AML	AML		15 53 25.5
KHZ				AML	AML		15 53 29.2
KHZ	Kahutara	1.27	225	Pn		Pn	15 52 51.0 +1.2
POWZ	Post Office Ro	1.37	35	PN		Pn	15 52 51.5 +0.3
POWZ	Post Office Ro	1.37	35	Pn		Pn	15 52 51.6 +0.3
THZ	Tophouse	1.40	259	PN		Pn	15 52 52.4 +0.8
THZ	Tophouse	1.40	259	Pn		Pn	15 52 52.5 +0.8
BFZ	Birch Farm	1.42	54	PN		Pn	15 52 51.6 -0.3
BFZ	Birch Farm	1.42	54	Pn		Pn	15 52 51.6 -0.3
DVHZ	Dannevirke	1.63	42	PN		Pn	15 52 54.5 -0.4
DVHZ	Dannevirke	1.63	42	Pn		Pn	15 52 54.5 -0.4
TSZ	Takapari Road	1.73	33	PN		Pn	15 52 56.3 +0.1
TSZ				AML	AML		15 53 29.6
TSZ				AML	AML		15 53 38.4
TSZ	Takapari Road	1.73	33	Pn		Pn	15 52 56.1 -0.2
WAZ	Wanganui	1.77	6	*e*PN		Pb	15 52 59.1 -0.8
WAZ	Wanganui	1.77	6	Pn		Pb	15 52 59.4 -0.5
QRZ	Quartz Range	1.81	292	⇓PN		Pn	15 52 58.7 +1.5
QRZ	Quartz Range	1.81	292	Pn		Pn	15 52 58.5 +1.3
WPHZ	Waipukurau	1.94	42	PN		Pn	15 52 59.1 -0.1
WPHZ	Waipukurau	1.94	42	Pn		Pn	15 52 59.1 -0.1
PNHZ	Pukenui	1.95	35	PN		Pn	15 52 58.9 -0.4
PNHZ	Pukenui	1.95	35	Pn		Pn	15 52 59.2 -0.1
PXZ	Pawanui	2.19	48	PN		Pn	15 53 01.8 -0.8
PXZ				AML	AML		15 53 54.3
PXZ				AML	AML		15 54 03.0
PXZ				AML	AML		15 54 03.0
PXZ				AML	AML		15 54 04.9
PXZ	Pawanui	2.19	48	Pn		Pn	15 53 01.7 -0.8
DSZ	Denniston Nort	2.21	263	PN		Pn	15 53 03.9 +1.0
DSZ	Denniston Nort	2.21	263	Pn		Pn	15 53 03.9 +1.0
LTZ	Lake Taylor	2.23	235	PN		Pn	15 53 03.8 +0.7
LTZ	Lake Taylor	2.23	235	Pn		Pn	15 53 03.8 +0.7
DFE	Dawson Falls	2.25	347	Pn		Pb	15 53 06.8 -1.1
MOVZ	Moawhango	2.25	20	PN		Pn	15 53 04.0 +0.6
MOVZ	Moawhango	2.25	20	Pn		Pn	15 53 04.0 +0.6
BHHZ	Black Hill Sta	2.27	27	*e*PN		Pn	15 53 04.0 +0.3
BHHZ	Black Hill Sta	2.27	27	Pn		Pn	15 52 51.7 -12
PKVZ	Pokaka	2.28	12	PN		Pn	15 53 05.3 +1.5
PKVZ	Pokaka	2.28	12	Pn		Pn	15 53 05.6 +1.8
NEZ	North Egmont	2.30	347	Pn		Pb	15 53 07.8 -1.0
NWEZ	Newall Road	2.34	343	Pn		Pb	15 53 08.0 -1.5
FWVZ	Far West T-bar	2.35	16	PN		Pn	15 53 06.0 +1.1
FWVZ	Far West T-bar	2.35	16	Pn		Pn	15 53 06.2 +1.3
DREZ	Durham Road	2.37	350	Pn		Pb	15 53 09.4 -0.5
KAHZ	Kahuranaki	2.37	44	*e*PN		Pn	15 53 04.0 -1.1
KAHZ	Kahuranaki	2.37	44	Pn		Pn	15 53 04.2 -0.8
VRZ	Vera Road	2.39	0	PN		Pn	15 53 07.1 +1.8
VRZ	Vera Road	2.39	0	Pn		Pn	15 53 07.5 +2.2
PKE	Pukeiti	2.39	346	Pn		Pb	15 53 09.8 -0.6
NGZ	Ngauruhoe	2.43	16	PN		Pn	15 53 07.3 +1.3
NGZ	Ngauruhoe	2.43	16	Pn		Pn	15 53 07.3 +1.3
MHEZ	Mangahewa	2.46	352	Pn		Pb	15 53 10.6 -1.0
WTVZ	West Tongariro	2.49	15	Pn		Pb	15 53 08.1 +1.3
KRVZ	Karewarewa	2.52	16	Pn		Pb	15 53 16.6 +4.0
MCHZ	McNeill Hill	2.56	36	Pn		Pn	15 53 04.8 -2.8
CRLZ	Canterbury Las	2.58	217	*e*PN		Pn	15 53 07.6 -0.3
CRLZ	Canterbury Las	2.58	217	Pn		Pn	15 53 07.9 0.0
MQZ	McQueen's Vall	2.67	215	PN		Pn	15 53 08.7 -0.5
MQZ	McQueen's Vall	2.67	215	Pn		Pn	15 53 08.7 -0.5
BKZ	Black Stump Fm	2.71	30	PN		Pn	15 53 08.8 -0.9
BKZ				AML	AML		15 54 02.0
BKZ				AML	AML		15 54 07.7
BKZ	Black Stump Fm	2.71	30	Pn		Pn	15 53 08.9 -0.9
RATZ	Rangitukua	2.77	17	Pn		Pb	15 53 19.0 +2.3
NMHZ	Naumai	2.89	34	Pn		Pn	15 53 11.7 -0.5
WATZ	Wairara	2.91	15	Pn		Pb	15 53 22.2 +3.0
HIZ	Hauiti	3.00	2	*e*PN		Pn	15 53 15.4 +1.7
HIZ	Hauiti	3.00	2	Pn		Pn	15 53 15.8 +2.0
RAHZ	Arahi	3.16	35	Pn		Pn	15 53 13.3 -2.6
WVZ	Waitaha Valley	3.35	241	Pn		Pn	15 53 18.9 +0.4
KNZ	Kokohu	3.36	43	Pn		Pn	15 53 16.9 -1.7
RPZ	Rata Peaks	3.49	230	Pn		Pn	15 53 20.4 -0.1
RPZ	Rata Peaks	3.49	230	Pn		Pn	15 53 19.5 -0.9
	0.8nm,0.3s,baz=311,slow=6.2,SNR=2.5						
RPZ				Sn		Sn	15 53 58.3 -2.6
	6.2nm,0.3s,baz=328,slow=9.2,SNR=18						
URZ	Urewera	3.73	30	AML	AML		15 54 32.1
URZ				AML	AML		15 54 36.8
URZ	Urewera	3.73	30	Pn		Pn	15 53 22.4 -1.3
URZ	Urewera	3.73	30	Pn		Pn	15 53 22.4 -1.3
	1.6nm,0.3s,baz=75,slow=9.5,SNR=13						
URZ				Sn		Sn	15 54 03.6 -3.1
	6.5nm,0.3s,baz=283,slow=19,SNR=4.0						
TOZ	Tahuroa Road	3.83	9	Pn		Pn	15 53 25.7 +0.6
MWZ	Matawai	3.84	35	*e*PN		Pn	15 53 22.6 -2.6
MWZ				AML	AML		15 54 59.4
MWZ				AML	AML		15 55 03.2
MWZ	Matawai	3.84	35	Pn		Pn	15 53 22.7 -2.5
LBZ	Lake Benmore	4.40	228	Pn		Pn	15 53 33.2 +0.3
MKAZ	Moumakai	4.42	4	Pn		Pn	15 53 34.2 +1.0
ODZ	Otahua Downs	4.62	219	PN		Pn	15 53 35.4 -0.5
ODZ	Otahua Downs	4.62	219	Pn		Pn	15 53 35.8 -0.1
EAZ	Earnscleugh	5.42	225	*e*PN		Pn	15 53 46.8 -0.2
EAZ	Earnscleugh	5.42	225	Pn		Pn	15 53 47.4 +0.4
CTZ	Chatham Island	6.75	112	*e*PN		Pn	15 54 04.5 -0.7
CTZ	Chatham Island	6.75	112	Pn		Pn	15 54 05.8 +0.7
AS31	Alice Springs	38.32	285	*e*P		P	15 59 45.5 -0.9
ASAR	Alice Springs	38.32	285	P		P	15 59 46.0 -0.5
	0.5nm,0.5s,baz=124,slow=6.9,SNR=35						
WRA	Warramunga Arr	40.37	290	P		P	16 00 02.6 -0.8
	0.5nm,0.4s,baz=127,slow=8.4,SNR=18						
QSPA	South Pole Qui	48.61	180	P		P	16 01 10.0 +1.1
	1.4nm,1.0s,baz=42,slow=1.7,SNR=5.2						
LVC	Limon Verde	93.18	124	P		P	16 05 36.3 -3.9
BRTR	Keskin Array B	150.59	280	PKPbc		PKPbc	16 12 16.8 -0.2
	0.5nm,0.7s,baz=129,slow=2.0,SNR=2.8						
TORD	Torodi Ar. Bea	151.09	194	PKPbc		PKPbc	16 12 19.3 +0.6
	0.2nm,0.5s,baz=150,slow=1.7,SNR=3.5						
TORD				PKPab		PKPab	16 12 24.9 -1.4
	0.2nm,0.5s,baz=158,slow=2.7,SNR=3.0						

*IDC **27** 15:57:24.2±3.0,22°.36S×68°.65W,h0km,mb4.0/1, mb1 4.1/3,mb1mx3.7/18,mbtmp4.1/3,ML4.0/1,Error ellipse: s-maj=77.1km s-min=53.2km az=89.0*

*GUC **27** 15:57:42.6±0.6,21°.11S×68°.92W,h129km±4km,ML3.7*

ISC 27 15:57:42.7±1.1,21°.12S±0°.06×68°.8W±0°.2,h130km±12km, n13,σ0°59/15,2C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.61**	**277**	⇓*i*P	**Pn**	**15 58 02.5**	**-0.1**
PB01				*e*S	**Sn**	**15 58 17.1**	**-0.6**
PB01				AML	AML	15 58 19.1	
	comp=E,1μm,0.2s						
PB09	**Plate Boundary**	**0.77**	**209**	⇓*e*P	**Pn**	**15 58 03.8**	**0.0**
PB09				*i* S	**Sn**	**15 58 20.0**	**+0.1**
PB09				AML	AML	15 58 20.6	
	comp=N,6μm,0.4s						
PB07	**Plate Boundary**	**1.15**	**238**	⇓*i*P	**Pn**	**15 58 07.7**	**+0.4**
PB07				*i* S	**Sn**	**15 58 26.5**	**+0.6**
PB07				AML	AML	15 58 27.4	
	comp=N,1μm,0.3s						
PB04	**Plate Boundary**	**1.29**	**208**	⇑*i*P	Pn	15 58 13.8	+5.3
PB04				*i* S	Sn	15 58 37.0	+8.9
PB04				AML	AML	15 58 38.3	
	comp=E,815nm,0.5s						
MACH	**Maria Elena**	**1.37**	**218**	⇑*i*P	**Pn**	**15 58 10.0**	**+0.4**
MACH				*i* S	**Sn**	**15 58 30.3**	**+0.2**
PSGC	**Pisagua**	**1.94**	**321**	⇓*i*P	**Pn**	**15 58 15.9**	**-0.1**
PSGC				*i* S	**Sn**	**15 58 41.2**	**-0.3**
PSGC				AML	AML	15 58 43.5	
	comp=E,320nm,0.6s						
MNMC	**Minimini**	**2.10**	**340**	*e*P	**Pn**	**15 58 18.4**	**+0.2**
MNMC				*i* S	**Sn**	**15 58 46.0**	**+0.5**
MNMC				AML	AML	15 58 53.1	
	comp=E,926nm,0.2s						
CEN1	**Los Morros**	**2.58**	**209**	AML	AML	15 59 02.2	
	comp=N,136nm,0.6s						
PB10	**Plate Boundary**	**2.86**	**213**	AML	AML	15 59 00.5	
	comp=E,463nm,0.4s						
LPAZ	**La Paz**	**4.86**	**8**	Pn	**Pn**	**15 58 55.3**	**+0.8**
	comp=E,2.2nm,0.3s,baz=186,slow=7.5,SNR=42						
SIV	**San Ignacio**	**8.96**	**57**	Pn	Pn	15 59 43.9	-5.3
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**16 09 21.5**	**-1.1**
	comp=E,1.1nm,0.7s,baz=250,slow=5.5,SNR=6.9						
MKAR	**Makanchi Array**	**145.29**	**36**	PKPbc	**PKPab**	**16 17 06.0**	**+0.8**
	comp=E,0.6nm,0.7s,baz=300,slow=4.3,SNR=5.6						

CASC 27 16:10:54.5±1.4,13°.02N×88°.64W,h49km±18km,MD3.7, ML4.0,4C-4D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.54**	**41**	⇓*e*P	Pn	16 11 06.5	0.0
BLLM	**Bellamira**	**0.57**	**42**	⇑*e*P	Pn	16 11 06.7	0.0
SNVI	**San Vicente**	**0.62**	**342**	*e*P	Pn	16 11 07.5	0.0
SNVI				*e*S	Sn	16 11 17.8	+1.0
LFRS	**El Faro**	**0.73**	**326**	⇑*i*P	Pn	16 11 08.5	-0.4
LBRS	**Las Brisas**	**0.82**	**331**	⇓*i*P	Pn	16 11 10.1	+0.1
CNCH	**Conchagua**	**0.82**	**72**	⇑*e*P	Pn	16 11 09.5	-0.6
CNCH				*e*S	Sn	16 11 21.7	+0.4
CAHU	**Cacacuatique**	**0.86**	**29**	⇓*e*P	Pn	16 11 10.3	-0.3
CAHU				*e*S	Sn	16 11 23.0	+0.7
LFU	**La Fuente**	**0.86**	**327**	*e*P	Pn	16 11 10.4	-0.1
LFU				*e*S	Sn	16 11 23.0	+0.8
SNET	**Serv Nac Est T**	**0.88**	**319**	*e*P	Pn	16 11 10.2	-0.6
SNET				*e*S	Sn	16 11 22.9	+0.2
SNET				AML	AML	16 11 24.6	
	comp=Z,4μm,0.3s						
BOQS	**Boqueron**	**0.95**	**319**	⇓*i*P	Pn	16 11 11.7	-0.2
BOQS				*e*S	Sn	16 11 25.2	+0.6
SBLS	**San Blas**	**1.26**	**311**	*e*P	Pn	16 11 15.7	-0.4
SBLS				*e*S	Sn	16 11 32.6	+0.4
SNJE	**San Jose**	**1.27**	**312**	*e*P	Pn	16 11 16.0	-0.1
RTR	**El Retiro**	**1.32**	**312**	⇑*e*P	Pn	16 11 16.7	0.0
RBDL	**Robledal**	**1.49**	**317**	*e*P	Pn	16 11 19.0	-0.2
IXG	**Ixpaco**	**2.11**	**303**	*e*P	Pn	16 11 27.9	+0.3
IXG				*e*S	Sn	16 11 54.4	+1.6
MRL	**Marmol**	**2.28**	**333**	*e*P	Pn	16 11 31.0	+1.1
MRL				*e*S	Sn	16 11 45.9	-11
FUG	**Fuego 3**	**2.57**	**304**	*e*P	Pn	16 11 35.4	+1.4

*ISCJB **27** 16:44:47.7±0.5,6°.86N±0°.05×72°.84W±0°.05,h171km±5km, mb4.3/33,Error ellipse: s-maj=8.1km s-min=7.6km az=150.0*

*NEIC **27** 16:44:47.6±0.3,6°.78N×72°.88W,mb4.4/25,Error ellipse: s-maj=8.0km s-min=5.9km az=68.0*

*IDC **27** 16:44:47.5±0.7,6°.75N×72°.93W,h156km±6km,mb3.8/13, mb1 4.1/14,mb1mx3.8/26,mbtmp3.9/14,Error ellipse: s-maj=14.2km s-min=10.4km az=91.0*

*FUNV **27** 16:44:51.7,7°.00N×72°.88W,h164km,MW4.2*

ISC 27 16:44:47.3±0.5,6°.80N±0°.04×72°.87W±0°.05,h156km±5km, n344,σ0°93/371,mb4.3/33,120C-147D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**28**	⇓*i*P	**Pn**	**16 45 17.0**	**+2.4**
CAPV				*e*S	**Sn**	**16 45 37.3**	**+1.7**
ROSC	**El Rosal**	**2.42**	**217**	*e*Pn	**Pn**	**16 45 28.4**	**+0.4**
ROSC				P	**Pn**	**16 45 28.8**	**+0.7**
ROSC				*e*Sn	**Sn**	**16 45 55.0**	**-4.5**
ROSC				S	**Sn**	**16 45 58.2**	**-1.3**
ROSC	**El Rosal**	**2.42**	**217**	P	**Pn**	**16 45 28.8**	**+0.7**
	137nm,0.3s,baz=95,slow=9.3,SNR=78						
ROSC				S	**Sn**	**16 45 58.2**	**-1.3**
	275nm,0.3s,baz=60,slow=20,SNR=21						
SOCV	**Socops**	**2.48**	**53**	⇓*e*P	**Pn**	**16 45 31.1**	**+2.6**
SOCV				*e*S	**Sn**	**16 45 59.7**	**-0.7**
VIGV	**El Vigia**	**2.52**	**36**	⇓*i*P	**Pn**	**16 45 31.5**	**+2.5**
VIGV				*e*S	**Sn**	**16 45 60.0**	**-1.2**
SDV	**Santo Domingo**	**3.04**	**47**	*e*Pn	**Pn**	**16 45 38.2**	**+2.7**
SDV				*e*Sn	**Sn**	**16 46 11.4**	**-1.5**
ELOV	**Elorza**	**3.37**	**86**	⇓*e*P	Pn	16 45 43.1	+3.5
ELOV				*e*S	**Sn**	**16 46 20.8**	**+0.6**
VIRV	**Villa del Rosa**	**3.71**	**7**	⇓*i*P	**Pn**	**16 45 44.0**	**+0.1**
VIRV				*e*S	**Sn**	**16 46 23.7**	**-4.3**
SANV	**Sanarito**	**4.25**	**51**	*e*P	**Pn**	**16 45 53.2**	**+2.1**
SANV				*e*S	**Sn**	**16 46 38.9**	**-2.0**
CURV	**Curarigua**	**4.30**	**42**	⇓*e*P	**Pn**	**16 45 53.7**	**+2.0**
DABV	**Dabajuro**	**4.65**	**28**	⇓*e*P	**Pn**	**16 45 57.9**	**+1.7**
TEPV	**Terepaima**	**4.81**	**49**	⇓*e*P	**Pn**	**16 46 00.5**	**+2.1**
SIQV	**Siquisique**	**4.88**	**38**	⇓*e*P	**Pn**	**16 46 00.8**	**+1.6**
BAUV	**El Baul**	**5.24**	**66**	⇓*e*P	**Pn**	**16 46 05.1**	**+1.1**
BAUV				*e*S	**Sn**	**16 46 59.7**	**-4.2**
JACV	**Jacura**	**5.84**	**43**	*e*P	**Pn**	**16 46 12.9**	**+1.0**
IMOV	**Isla Los Monje**	**5.85**	**19**	*e*P	**Pn**	**16 46 11.4**	**-0.7**
MONV	**Montecano**	**5.87**	**29**	*e*P	**Pn**	**16 46 12.7**	**+0.4**
TURV	**Turiamo**	**6.16**	**54**	*e*P	**Pn**	**16 46 17.2**	**+1.1**
MERV	**Las Mercedes**	**6.95**	**69**	*e*P	**Pn**	**16 46 27.8**	**+1.1**
BIRV	**Birongo**	**7.48**	**60**	⇓*e*P	**Pn**	**16 46 34.7**	**+0.9**
CUPV	**Cœpira**	**7.72**	**65**	⇓*e*P	**Pn**	**16 46 38.1**	**+1.1**
GUNV	**Guanoco**	**10.37**	**71**	*e*P	**Pn**	**16 47 12.2**	**0.0**
SDDR	**Presa de Saban**	**12.21**	**7**	*e*Pn	**Pn**	**16 47 37.8**	**+1.6**
	16nm,0.7s						
SDDR				*e*Sn	**Sn**	**16 49 46.1**	**-5.2**
CELP	**Cerrillos**	**12.78**	**28**	Pn	**Pn**	**16 47 41.1**	**-2.3**
GTBY	**Guantanamo Bay**	**13.23**	**351**	*e*Pn	**P**	**16 47 52.6**	**-0.8**
	12nm,0.5s						
SAML	**Samuel**	**18.39**	**148**	*e*P	**Pn**	**16 48 51.8**	**-0.7**
	7.1nm,0.6s						
SAML				*e*S	**Sn**	**16 52 16.3**	**-3.2**
TEIG	**Tepich**	**20.03**	**313**	*e*P	**P**	**16 49 08.2**	**0.0**
	48nm,0.8s						
TEIG	**Tepich**	**20.03**	**313**	P	**P**	**16 49 08.9**	**+0.6**
	26nm,0.5s,baz=132,slow=6.6,SNR=20						
LPAZ	**La Paz**	**23.42**	**168**	*e*P	**P**	**16 49 42.4**	**-0.8**
	1.9nm,0.9s						
LPAZ				pP	**pP**	**16 50 13.9**	**+0.9**
LPAZ	**La Paz**	**23.42**	**168**	P	**P**	**16 49 44.2**	**+1.1**
	1.3nm,0.6s,baz=3.2,slow=7.5,SNR=7.6						
LPAZ				pP	**pP**	**16 50 13.9**	**+0.9**
	4.3nm,0.8s,baz=341,slow=15,SNR=8.1						
SIV	**San Ignacio**	**25.48**	**153**	P	**P**	**16 50 01.1**	**-0.2**
SIV				pP	**pP**	**16 50 33.5**	**-0.2**
SIV	**San Ignacio**	**25.48**	**153**	P	**P**	**16 50 01.1**	**-0.2**
	1.0nm,0.7s,baz=318,slow=4.2,SNR=3.5						
SIV				pP	**pP**	**16 50 33.5**	**-0.2**
	3.2nm,0.7s,baz=336,slow=11,SNR=7.5						
TKL	**Tuckaleechee C**	**30.41**	**342**	pP	pP	16 51 18.4	+0.6
TKL	**Tuckaleechee C**	**30.41**	**342**	pP	pP	16 51 18.4	+0.6
	5.4nm,0.7s,baz=108,slow=12,SNR=5.3						
632A	**Uvalde**	**33.95**	**315**	⇓P	**P**	**16 51 15.8**	**-0.1**
	baz=34						
WHTX	**Lake Whitney**	**33.97**	**321**	⇓P	**P**	**16 51 15.9**	**-0.1**
	baz=34						
532A	**Rocksprings**	**34.40**	**316**	⇓P	**P**	**16 51 19.8**	**0.0**
	baz=34,SNR=9.0						
631A	**Perdido Creek**	**34.45**	**314**	⇓P	**P**	**16 51 19.7**	**-0.5**
	baz=34,SNR=5.5						
432A	**Menard**	**34.78**	**317**	⇑P	**P**	**16 51 22.7**	**-0.3**
	baz=35						
531A	**Rocksprings**	**34.87**	**315**	⇑P	**P**	**16 51 23.6**	**-0.3**
	baz=35						
332A	**Millersview**	**35.06**	**318**	⇓P	**P**	**16 51 25.1**	**-0.3**
	baz=35						
431A	**Sonora**	**35.22**	**316**	⇓P	**P**	**16 51 26.6**	**-0.3**
	baz=35						
232A	**Coleman**	**35.31**	**318**	⇑P	**P**	**16 51 27.4**	**-0.2**
	baz=35,SNR=7.5						
530A	**J-C Ranch, Com**	**35.42**	**315**	⇑P	**P**	**16 51 28.3**	**-0.2**
	baz=36,SNR=12						
331A	**San Angelo**	**35.47**	**317**	⇓P	**P**	**16 51 29.8**	**+0.8**
	baz=36						
ABTX	**Abilene, Hawle**	**35.78**	**319**	⇑P	**P**	**16 51 31.5**	**-0.1**
	baz=36						
SFIN	**Scholer Farm**	**35.78**	**341**	⇓P	**P**	**16 51 32.5**	**+1.1**
	baz=36,SNR=8.7						
231A	**Bronte**	**35.78**	**318**	⇑P	**P**	**16 51 31.2**	**-0.4**
	baz=36						
TUL1	**Tulsa**	**35.79**	**327**	⇑P	**P**	**16 51 31.1**	**-0.4**
	baz=36						
529A	**Stev Forest Ra**	**36.03**	**314**	⇑P	**P**	**16 51 33.3**	**-0.5**
	baz=36						
330A	**Mertzon**	**36.04**	**316**	⇑P	**P**	**16 51 33.5**	**-0.4**
	baz=36						
429A	**Davenport Ranc**	**36.08**	**315**	⇓P	**P**	**16 51 34.0**	**-0.2**
	baz=36						
Z32A	**Haskell**	**36.11**	**320**	⇓P	**P**	**16 51 34.7**	**+0.3**
	baz=36,SNR=6.6						
628A	**Black Gap, Mar**	**36.16**	**312**	⇓P	**P**	**16 51 34.6**	**-0.3**
	baz=36						
131A	**Roby**	**36.29**	**319**	⇓P	**P**	**16 51 35.8**	**-0.2**
	baz=36						
528A	**Cox Ranch, San**	**36.46**	**313**	⇓P	**P**	**16 51 37.2**	**-0.3**
	baz=36,SNR=5.6						
627A	**Terlingua Ranc**	**36.52**	**312**	⇑P	**P**	**16 51 37.7**	**-0.2**
	baz=37,SNR=16						
Y32A	**R-V Farms, Ver**	**36.55**	**321**	⇓P	**P**	**16 51 38.1**	**0.0**
	baz=37						
130A	**Snyder**	**36.62**	**318**	⇑P	**P**	**16 51 38.7**	**-0.1**
	baz=37						
329A	**Wagon Wheel Ra**	**36.64**	**316**	⇑P	**P**	**16 51 38.9**	**-0.1**
	baz=37,SNR=6.3						
TXAR	**Lajitas Array**	**36.66**	**312**	P	**P**	**16 51 39.1**	**0.0**
TXAR				PcP	**PcP**	**16 54 00.3**	**+1.5**
TXAR	**Lajitas Array**	**36.66**	**312**	P	**P**	**16 51 39.1**	**0.0**
	3.7nm,0.7s,baz=127,slow=9.0,SNR=38						
TXAR				PcP	**PcP**	**16 54 00.3**	**+1.5**
	0.8nm,0.6s,baz=129,slow=6.2,SNR=6.7						
428A	**Kincaid Ranch,**	**36.70**	**314**	⇓P	**P**	**16 51 39.8**	**+0.3**
	baz=37,SNR=8.7						
Y31A	**Rekieta Farm,**	**37.03**	**321**	⇑P	**P**	**16 51 42.6**	**+0.4**
	baz=37,SNR=12						
527A	**Woodward Ranch**	**37.05**	**313**	⇑P	**P**	**16 51 42.8**	**+0.3**
	baz=37,SNR=8.2						
Z30A	**Sanderson Ranc**	**37.16**	**319**	⇑P	**P**	**16 51 43.1**	**-0.2**
	baz=37,SNR=6.0						
129A	**Stewart Farms,**	**37.24**	**317**	⇓P	**P**	**16 51 44.0**	**0.0**
	baz=37,SNR=7.4						
427A	**Hayter Ranch,**	**37.28**	**314**	⇑P	**P**	**16 51 44.4**	**-0.1**
	baz=37,SNR=11						
X31A	**McDonald Ranch**	**37.30**	**322**	⇓P	**P**	**16 51 44.5**	**0.0**
	baz=37						
526A	**Mary Lane Ranc**	**37.35**	**312**	⇓P	**P**	**16 51 45.2**	**+0.1**
	baz=37,SNR=6.0						
Z29A	**Hungry Hill Ra**	**37.52**	**318**	⇓P	**P**	**16 51 46.2**	**-0.2**
	baz=38,SNR=7.5						
426A	**McDonald Obser**	**37.63**	**313**	⇑P	**P**	**16 51 47.6**	**+0.1**
	baz=38,SNR=10						
W31A	**Holland Ranch,**	**37.65**	**322**	⇑P	**P**	**16 51 47.0**	**-0.3**
	baz=38						
128A	**Castleberry Fa**	**37.66**	**317**	⇑P	**P**	**16 51 47.6**	**+0.1**
	baz=38,SNR=16						
X30A	**Coker Ranch, T**	**37.73**	**321**	⇑P	**P**	**16 51 48.4**	**+0.3**
	baz=38,SNR=8.0						
227A	**Bennet, Jal**	**37.86**	**315**	⇓P	**P**	**16 51 49.0**	**-0.2**
	baz=38						
Y29A	**Porterfield Fa**	**37.87**	**319**	⇑P	**P**	**16 51 49.5**	**+0.2**
	baz=38						
SADO	**Sadowa**	**38.22**	**353**	P	**P**	**16 51 53.3**	**+1.4**
SADO	**Sadowa**	**38.22**	**353**	P	**P**	**16 51 53.3**	**+1.4**
	baz=209,slow=10						
X29A	**Tulia**	**38.26**	**320**	⇓P	**P**	**16 51 52.6**	**0.0**
	baz=38						
Y28A	**McKinney Farm,**	**38.28**	**319**	⇓P	**P**	**16 51 52.7**	**-0.1**
	baz=38						
425A	**Indio Mountain**	**38.39**	**313**	⇓P	**P**	**16 51 53.8**	**0.0**
	baz=38,SNR=8.8						
226B	**Tecolote Peak,**	**38.50**	**315**	⇑P	**P**	**16 51 54.9**	**+0.2**
	baz=39						
Z27A	**Tatum**	**38.56**	**317**	⇑P	**P**	**16 51 55.0**	**-0.2**
	baz=39,SNR=18						
X28A	**D

	baz=42				
S25A	Robets Cordova	42.00 322	⇓P	P	16 52 24.2 +0.7
	baz=42,SNR=10.0				
O28A	Krutsinger Ran	42.09 326	⇓P	P	16 52 24.2 +0.2
	baz=42				
Z20A	Nine Sixteen R	42.22 313	⇑P	P	16 52 26.2 +1.0
	baz=42				
R25A	Fountain Ranch	42.22 322	⇑P	P	16 52 26.0 +0.9
	baz=42				
T24B	San Luis	42.23 320	⇓P	P	16 52 26.9 +1.4
	baz=42,SNR=5.3				
ECSD	EROS Data Cent	42.27 334	eP	P	16 52 24.6 -0.8
	3.2nm,0.4s				
X21A	Alamocita Cree	42.34 315	⇓P	P	16 52 27.4 +1.2
	baz=42,SNR=9.4				
Y20A	Horse Springs,	42.47 314	⇓P	P	16 52 28.6 +1.2
	baz=42,SNR=7.4				
O27A	Beecher Island	42.52 326	⇓P	P	16 52 27.9 +0.4
	baz=43				
V22A	San Miguel Ran	42.55 318	⇑P	P	16 52 29.3 +1.3
	baz=43				
P26A	Davis Ranch, A	42.59 325	⇑P	P	16 52 28.2 +0.1
	baz=43				
SDCO	Great Sand Dun	42.72 321	eP	P	16 52 30.1 +0.7
	5.5nm,0.9s				
R24A	Sanders Place,	42.78 322	⇑P	P	16 52 30.9 +1.2
	baz=43,SNR=5.5				
L29A	Maesberg Ranch	42.79 329	⇓P	P	16 52 30.0 +0.4
	baz=43				
OGNE	Ogallala	42.80 327	⇑P	P	16 52 30.2 +0.4
	baz=43				
X20A	Quemado	42.88 315	⇓P	P	16 52 32.0 +1.3
	baz=43,SNR=7.5				
N27A	Anderson Farm,	42.98 327	⇓P	P	16 52 31.1 -0.1
	baz=43				
P25A	Willow Gulch B	43.03 324	⇓P	P	16 52 32.3 +0.6
	baz=43				
T22A	Edith	43.18 319	⇑P	P	16 52 34.2 +1.2
	baz=43				
Q24A	Divide	43.26 323	⇑P	P	16 52 34.6 +0.8
	baz=43				
U21A	Nageezi	43.34 318	⇓P	P	16 52 35.1 +0.8
	baz=43				
TUC	Tucson	43.45 311	eP	P	16 52 34.7 -0.4
	2.8nm,0.8s				
V20A	Brimhall	43.53 317	⇑P	P	16 52 36.6 +0.7
	baz=44				
S22A	4UR Ranch, Cre	43.56 320	⇓P	P	16 52 36.9 +0.8
	baz=44,SNR=7.2				
L27A	T5 Ranch, Ells	43.76 328	⇑P	P	16 52 37.7 +0.3
	baz=44				
R22A	Saguache, Gunn	43.80 321	⇓P	P	16 52 38.7 +0.6
	baz=44				
BRSD	Miller	43.87 333	⇓P	P	16 52 38.2 0.0
	baz=44,SNR=7.0				
X18A	Snowflake	43.91 314	⇓P	P	16 52 39.8 +1.0
	baz=44				
P23A	Jefferson	43.94 323	⇓P	P	16 52 40.1 +0.9
	baz=44				
W18A	Petrified Fore	44.05 315	⇑P	P	16 52 40.8 +0.8
	baz=44				
ISCO	Idaho Springs	44.07 323	eP	P	16 52 41.0 +0.9
	4.7nm,0.9s				
ISCO	Idaho Springs	44.07 323	⇓P	P	16 52 41.1 +0.9
	baz=44,SNR=6.5				
S21A	Coal Bank Pass	44.13 319	⇓P	P	16 52 41.5 +0.8
	baz=44,SNR=6.2				
J28A	Allard Ranch,	44.17 330	⇓P	P	16 52 40.6 0.0
	baz=44				
Q22A	Crested Butte,	44.28 321	⇑P	P	16 52 42.4 +0.5
	baz=44				
N24A	Carr	44.31 325	⇑P	P	16 52 42.6 +0.7
	baz=44				
MVCO	Mesa Verde	44.33 318	⇑P	P	16 52 42.8 +0.5
	baz=44				
R21A	Cimarron	44.38 320	⇓P	P	16 52 43.9 +1.2
	baz=44				
J27A	Elkhorn Farm,	44.43 329	⇑P	P	16 52 43.0 +0.3
	baz=44				
I28A	Midland	44.56 331	⇓P	P	16 52 43.5 -0.2
	baz=45				
S20A	Disappointment	44.59 319	⇑P	P	16 52 45.1 +0.8
	baz=45,SNR=7.6				
P22A	Eagle	44.63 322	⇑P	P	16 52 44.9 +0.4
	baz=45				
M24A	Cheyenne	44.70 326	⇓P	P	16 52 45.7 +0.7
	baz=45				
R20A	Redvale	44.81 320	⇑P	P	16 52 46.9 +0.9
	baz=45,SNR=5.8				
214A	Organ Pipe Nat	44.83 309	⇑P	P	16 52 46.5 +0.4
	baz=45				
O22A	Kremmling	44.85 323	⇑P	P	16 52 46.8 +0.4
	baz=45,SNR=9.2				
PV01	Paradox Valley	44.90 319	eP	P	16 52 47.5 +0.8
	336nm,0.9s				
X16A	Lo Mia Camp, P	44.92 313	⇓P	P	16 52 48.0 +1.0
	baz=45				
N23A	Red Feather La	44.96 324	⇓P	P	16 52 48.0 +0.8
	baz=45,SNR=7.1				
H28A	Mission Ridge	45.00 332	⇑P	P	16 52 47.2 +0.1
	baz=45				
P21A	Newcastle	45.01 322	⇓P	P	16 52 47.6 0.0
	baz=45				
J26A	Sides Ranch, S	45.02 329	⇑P	P	16 52 48.0 +0.6
	baz=45				
Q20A	Ridgley Place,	45.20 320	⇑P	P	16 52 50.4 +1.4
	baz=45				
M23A	Laramie	45.20 325	⇓P	P	16 52 49.7 +0.6
	baz=45				
WUAZ	Wupatki	45.41 315	eP	P	16 52 51.3 +0.6
	16nm,1.0s				
WUAZ	Wupatki	45.41 315	⇑P	P	16 52 51.7 +1.0
	baz=46,SNR=8.5				
I26A	New Underwood	45.42 330	⇓P	P	16 52 50.4 -0.1
	baz=46				
O21A	Pagoda	45.44 322	⇓P	P	16 52 51.9 +0.9
	baz=46				
E30A	Jud	45.46 335	⇓P	P	16 52 51.0 +0.3
	baz=46				
L23A	Garrett	45.62 326	⇓P	P	16 52 52.8 +0.5
	baz=46				
M22A	Cedar Creek Ra	45.66 324	⇑P	P	16 52 53.5 +0.8
	baz=46				
F28A	McLaughlin	45.78 333	⇑P	P	16 52 53.4 +0.1
	baz=46				
Y14A	Wickenburg	45.85 312	⇓P	P	16 52 54.8 +0.8
	baz=46,SNR=6.6				
D30A	Buchanan	45.88 335	⇓P	P	16 52 54.3 +0.4
	baz=46				
113A	Mohawk Valley,	45.91 310	⇑P	P	16 52 55.4 +1.0
	baz=46				
G27A	Dupree	45.95 332	⇓P	P	16 52 54.9 +0.2
	baz=46				
L22A	Ellis Ranch, M	45.98 325	⇓P	P	16 52 56.3 +1.2
	baz=46				
K23A	Bowen Ranch, D	46.00 326	⇑P	P	16 52 55.7 +0.5
	baz=46				
G26A	Maurine	46.21 331	⇓P	P	16 52 56.4 -0.3
	baz=46				
I24A	Kuemmerle Ranc	46.21 328	⇓P	P	16 52 57.3 +0.6
	baz=46				
C30A	Mose, Pekin	46.24 336	⇓P	P	16 52 57.2 +0.4
	baz=46				
M21A	Separation Pea	46.24 324	⇑P	P	16 52 57.3 0.0
	baz=46				
N20A	Spence Gulch,	46.30 323	⇑P	P	16 52 58.9 +1.2
	baz=46				
F27A	Lemmon	46.36 332	⇓P	P	16 52 58.0 +0.1
	baz=46				
L21A	Rawlins	46.47 324	⇑P	P	16 52 59.3 +0.3
	baz=47				
O19A	Miners Draw (B	46.51 321	⇑P	P	16 52 59.6 +0.4
	baz=47				
U15A	North Rim	46.51 315	⇑P	P	16 53 00.2 +0.8
	baz=47,SNR=10				
G25A	Newell	46.53 330	⇓P	P	16 52 59.3 +0.1
	baz=47				
F26A	Lodgepole	46.65 331	⇑P	P	16 53 00.5 +0.4
	baz=47				
M20A	Sweetwater, Wa	46.65 323	⇓P	P	16 53 00.9 +0.5
	baz=47				
B30A	Myrvik Farm, E	46.79 337	⇓P	P	16 53 02.1 +1.1
	baz=47				
H24A	Dirks Ranch, A	46.79 329	⇓P	P	16 53 01.6 +0.4
	baz=47				
MDND	Maddock	46.81 335	⇓P	P	16 53 01.7 +0.4
	baz=47,SNR=5.7				
K21A	Alcova	46.83 325	⇑P	P	16 53 02.6 +0.9
	baz=47,SNR=8.8				
GLA	Glamis	46.84 310	⇓P	P	16 53 02.8 +1.1
	baz=47				
E26A	Carlson Angus	47.01 332	⇑P	P	16 53 03.4 +0.5
	baz=47				
I22A	9 Mile Ranch,	47.22 327	⇑P	P	16 53 05.0 +0.4
	baz=47				
TMUT	Trail Mountain	47.26 319	eP	P	16 53 06.2 +1.0
	8.3nm,0.5s				
ULM	Lac du Bonnet	47.39 340	P	P	16 53 05.4 -0.2
ULM	Lac du Bonnet	47.39 340	P	P	16 53 05.4 -0.2
	11nm,0.5s,baz=146,slow=7.5,SNR=13				
J21A	Lysite	47.39 326	⇑P	P	16 53 06.4 +0.3
	baz=48				
D26A	Manning	47.41 333	⇑P	P	16 53 06.3 +0.3
	baz=48				
K20A	Yellowstone Ra	47.47 324	⇑P	P	16 53 07.1 +0.4
	baz=48				
MVU	Marysvale	47.51 318	eP	P	16 53 07.9 +0.8
	9.3nm,0.9s				
IRM	Iron Mountain	47.54 311	⇓P	P	16 53 07.9 +0.7
	baz=48				
BC3	Big Chuckawall	47.56 310	⇑P	P	16 53 08.1 +0.7
	baz=48				
B28A	Dugan Ranch, T	47.60 335	⇓P	P	16 53 08.1 +0.7
	baz=48				
I21A	Big Trails, Te	47.61 326	⇑P	P	16 53 07.8 +0.1
	baz=48,SNR=7.8				
H22A	Clearmont	47.62 328	⇑P	P	16 53 08.3 +0.7
	baz=48				
L19A	Farson	47.72 323	⇓P	P	16 53 09.2 +0.5
	baz=48				
J20A	Shoshoni	47.76 325	⇑P	P	16 53 09.4 +0.6
	baz=48,SNR=8.7				
K19A	Absolon Red Bu	47.86 324	⇓P	P	16 53 09.9 +0.2
	baz=48				
C26A	Wahner Farm, P	47.86 334	⇓P	P	16 53 09.9 +0.5
	baz=48				
D25A	Fairfield	47.91 332	⇑P	P	16 53 10.4 +0.6
	baz=48				
A28A	Rude Farm, Bot	47.92 336	⇓P	P	16 53 10.3 +0.4
	baz=48				
B27A	Peters Farms,	47.94 335	⇓P	P	16 53 10.6 +0.6
	baz=48				
E24A	Baker	47.95 331	⇓P	P	16 53 10.5 +0.4
	baz=48				
G22A	Birney	48.01 328	⇑P	P	16 53 10.9 +0.2
	baz=48				
L18A	Fontenelle, Gr	48.02 323	⇑P	P	16 53 11.6 +0.7
	baz=48,SNR=12				
BELC	Belle Mtn. Jos	48.12 310	⇓P	P	16 53 12.0 +0.3
	baz=48				
SCHQ	Schefferville	48.14 5	P	P	16 53 11.7 +0.3
SCHQ	Schefferville	48.14 5	P	P	16 53 11.7 +0.3
	4.3nm,0.9s,baz=213,slow=4.6,SNR=4.7				
I20A	Worland	48.16 326	⇑P	P	16 53 12.3 +0.4
	baz=48,SNR=8.4				
GMRC	Granite Mounta	48.19 311	⇑P	P	16 53 12.4 +0.1
	baz=48				
PDAR	Pinedale Array	48.24 324	P	P	16 53 12.8 +0.1
PDAR	Pinedale Array	48.24 324	P	P	16 53 12.8 +0.1
	2.9nm,0.6s,baz=126,slow=9.2,SNR=24				
J19A	Crowheart	48.25 325	⇓P	P	16 53 12.9 +0.2
	baz=48				
D24A	Glendive	48.36 332	⇓P	P	16 53 13.8 +0.6
	baz=48				
F22A	Rosebud	48.37 329	⇓P	P	16 53 13.8 +0.4
	baz=48				
E23A	Ismay	48.39 330	⇓P	P	16 53 13.7 +0.2
	baz=48				
H20A	Greybull	48.43 327	⇓P	P	16 53 14.2 +0.2
	baz=48				
G21A	Lodge Grass	48.49 328	⇓P	P	16 53 14.7 +0.3
	baz=49				
A26A	Wade Farm, Ken	48.65 335	⇑P	P	16 53 15.8 +0.3
	baz=49				
TUQ	Turquoise Moun	48.66 312	⇑P	P	16 53 16.4 +0.5
	baz=49				
E22A	Miles City	48.67 330	⇑P	P	16 53 15.6 0.0
	baz=49				
B25A	Knox Farm, Ray	48.67 333	⇓P	P	16 53 16.6 +1.0
	baz=49,SNR=6.6				
I19A	Meeteetse	48.70 326	⇓P	P	16 53 16.7 +0.6
	baz=49				
HEC	Hector,Ludlow	48.71 311	⇓P	P	16 53 17.3 +1.1
	baz=49				
HWUT	Hardware Ranch	48.77 321	eP	P	16 53 16.3 -0.4
	3.4nm,0.6s				
DUG	Dugway	48.79 319	⇓P	P	16 53 17.3 +0.5
	baz=49				
G20A	Bridger	49.02 327	⇑P	P	16 53 18.6 +0.1
	baz=49,SNR=9.4				
H19A	Powell	49.09 326	⇓P	P	16 53 19.5 +0.5
	baz=49				
A25A	Svangstu Ranch	49.15 334	⇓P	P	16 53 19.4 +0.2
	baz=49				
C23A	Lambert	49.26 332	⇓P	P	16 53 20.8 +0.8
	baz=49				
GSC	Goldstone	49.26 311	⇓P	P	16 53 21.2 +0.8
	baz=49				
D22A	Cohagen	49.27 330	⇑P	P	16 53 21.4 +1.1
	baz=49,SNR=8.8				
DGMT	Dagmar	49.28 333	⇓P	P	16 53 21.3 +1.1
	baz=49				
BGU	Big Grassy Mou	49.32 320	eP	P	16 53 21.0 +0.2
	10nm,0.8s				
REDW	Red Top Meadow	49.35 324	eP	P	16 53 20.6 -0.5
	14nm,1.0s				
LOHW	Long Hollow	49.36 324	eP	P	16 53 21.6 +0.5
	4.9nm,0.6s				
F20A	Billings	49.37 328	⇑P	P	16 53 21.4 +0.4
	baz=50				
TPAW	Teton Pass	49.49 324	eP	P	16 53 22.3 +0.1
	4.9nm,0.6s				
A24A	Westby	49.53 333	⇓P	P	16 53 23.6 +1.5
	baz=50				
C22A	Vida	49.55 331	⇓P	P	16 53 23.2 +0.9
	baz=50,SNR=5.0				
RRI2	Red Ridge	49.62 323	eP	P	16 53 23.3 +0.1
	10nm,0.6s				
B23A	Brockton	49.64 332	⇓P	P	16 53 24.4 +1.4
	baz=50				
IMW	Indian Meadow	49.72 324	eP	P	16 53 23.7 -0.3
	4.1nm,0.6s				
R11A	Troy Canyon, C	49.73 316	⇓P	P	16 53 25.0 +0.9
	baz=50,SNR=6.5				
H17A	Grant Village	49.81 325	⇑P	P	16 53 25.7 +1.1
	baz=50				
G18A	Lazy EL Ranch,	49.82 327	⇑P	P	16 53 24.9 +0.3
	baz=50				
E20A	Meyer Farm, Mu	49.82 329	⇓P	P	16 53 25.5 +1.1
	baz=50,SNR=9.9				
F19A	Roth Farm, Mol	49.83 327	⇓P	P	16 53 24.8 +0.3
	baz=50				
A23A	Redstone	49.95 333	⇑P	P	16 53 26.7 +1.5
	baz=50,SNR=5.5				
EDW2	Edwards Air Fo	49.98 310	⇑P	P	16 53 26.2 +0.5
	baz=50				
LRMC	Laurel Mountai	49.99 311	⇑P	P	16 53 26.4 +0.4
	baz=50				
B22A	Reddig Ranch S	49.99 332	⇓P	P	16 53 26.9 +1.3
	baz=50,SNR=5.8				
I16A	Newdale	50.03 324	⇑P	P	16 53 27.3 +1.1
	baz=50				
MPMC	Manual Prospec	50.08 312	⇑P	P	16 53 27.0 +0.3
	baz=50				
E19A	Rath Farm, Rou	50.13 328	⇓P	P	16 53 27.6 +0.8
	baz=50				
C21A	Desert Coulee	50.19 330	⇓P	P	16 53 28.2 +1.0
	baz=50				
D20A	Manuel Ranch,	50.21 329	⇑P	P	16 53 27.9 +0.5
	baz=50,SNR=6.6				
F18A	Big Timber	50.27 327	⇑P	P	16 53 28.8 +0.9
	baz=50,SNR=7.0				
H16A	Russell Place,	50.38 325	⇓P	P	16 53 30.0 +1.2
	baz=50				
C20A	Veseth Ranch,	50.56 330	⇑P	P	16 53 31.0 +1.1
	baz=51,SNR=5.3				
B21A	Ellsworth Farm	50.57 331	⇑P	P	16 53 31.3 +1.3
	baz=51				
D19A	Cripps Ranch,	50.64 329	⇑P	P	16 53 31.4 +0.8
	baz=51,SNR=9.1				
F17A	Fitzpatrick Pl	50.79 326	⇑P	P	16 53 32.4 +0.7
	baz=51				
E18A	Harlowton	50.80 328	⇓P	P	16 53 32.7 +0.8
	baz=51				
A21A	Bergtoll Ranch	50.92 332	⇓P	P	16 53 34.2 +1.6
	baz=51,SNR=6.1				
C19A	Slack Wire Ran	51.10 329	⇓P	P	16 53 34.8 +0.8
	baz=51				
VES	Vestal, Richgr	51.18 311	⇓P	P	16 53 36.1 +1.4
	baz=51				
A20A	Cobblestone Ra	51.32 331	⇓P	P	16 53 36.3 +0.7
	baz=51,SNR=8.2				
MCMT	McKenzie Canyo	51.38 324	eP	P	16 53 37.2 +0.9
	2.2nm,0.6s				
B19A	Brinkman Farms	51.53 330	⇓P	P	16 53 38.1 +1.0
	baz=52				
D17A	Six Diamond Ra	51.58 328	⇓P	P	16 53 38.3 +0.6
	baz=52,SNR=5.3				
HLID	Hailey	51.60 322	⇑P	P	16 53 38.4 +0.4
	baz=52,SNR=6.9				
EGMT	Eagleton	51.65 329	⇓P	P	16 53 38.8 +0.7
	baz=52				
SMMC	Simmler	51.66 310	⇓P	P	16 53 39.4 +1.0
	baz=52				
NVAR	Mina Array Bea	51.67 314	P	P	16 53 39.3 +0.7
NVAR			PcP	PcP	16 54 50.8 +0.7
NVAR	Mina Array Bea	51.67 314	P	P	16 53 39.3 +0.7
	1.9nm,0.7s,baz=122,slow=7.0,SNR=17				
NVAR			PcP	PcP	16 54 50.8 +0.7
	0.8nm,0.6s,baz=150,slow=4.7,SNR=4.8				
B18A	Beardsley Farm	51.91 329	⇑P	P	16 53 40.2 +0.2
	baz=52				
HRY	Holter Researc	51.92 327	eP	P	16 53 41.0 +0.8
	1.2nm,0.3s				
C17A	Wharram Farm,	51.92 328	⇑P	P	16 53 40.6 +0.4
	baz=52				
A18A	Metzger Ranch,	52.28 330	⇓P	P	16 53 43.5 +0.8
	baz=52,SNR=5.6				
MFID	Camas Ranch	52.40 321	⇑P	P	16 53 44.3 +0.6
	baz=52,SNR=8.4				
WVOR	Wild Horse Val	53.70 319	eP	P	16 53 53.2 -0.1
	6.1nm,0.9s				
NEW	Newport	55.75 326	⇓P	P	16 54 07.8 -0.1
	baz=56				
SFJD	Kangerlussuaq	62.00 10	P	P	16 54 51.0 +0.5
SFJD	Kangerlussuaq	62.00 10	P	P	16 54 51.0 +0.5
	3.0nm,0.4s,baz=259,slow=16,SNR=4.2				
YKA	Yellowknife Ar	63.37 340	P	P	16 54 59.9 +0.2
YKA	Yellowknife Ar	63.37 340	P	P	16 54 59.9 +0.2
	7.6nm,0.6s,baz=133,slow=6.6,SNR=52				
TORD	Torodi Ar. Bea	73.50 78	P	P	16 56 03.5 -0.1
TORD	Torodi Ar. Bea	73.50 78	P	P	16 56 03.5 -0.1
	0.2nm,0.3s,baz=267,slow=5.8,SNR=4.8				
ILAR	Eielson Array	77.08 335	P	P	16 56 23.4 +0.3
ILAR	Eielson Array	77.08 335	P	P	16 56 23.4 +0.3
	1.1nm,0.7s,baz=110,slow=4.5,SNR=11				
ARCES	ARCESS Array B	86.60 20	P	P	16 57 12.0 -0.8
ARCES	ARCESS Array B	86.60 20	P	P	16 57 12.0 -0.8
	1.0nm,0.8s,baz=316,slow=5.0,SNR=3.8				
ZALV	Zalesovo Beam	116.63 15	PKP	PKPdf	17 03 12.8 0.0
ZALV	Zalesovo Beam	116.63 15	PKP	PKPdf	17 03 12.8 0.0
	0.8nm,0.6s,baz=264,slow=2.9,SNR=4.2				
MKAR	Makanchi Array	122.26 20	PKP	PKPdf	17 03 24.0 +0.1
MKAR	Makanchi Array	122.26 20	PKP	PKPdf	17 03 24.0 +0.1
	0.4nm,0.4s,baz=316,slow=2.4,SNR=5.0				
SONM	Songino Array	125.60 1	PKP	PKPdf	17 03 30.2 -0.3
SONM	Songino Array	125.60 1	PKP	PKPdf	17 03 30.2 -0.3
	0.5nm,0.7s,baz=342,slow=1.1,SNR=4.1				
ASAR	Alice Springs	149.30 234	PKP	PKPdf	17 04 13.4 -0.7
ASAR			PKPbc	PKPbc	17 04 17.9 -0.6
ASAR			pPKPbc	pPKPbc	17 04 59.4 -0.2
ASAR	Alice Springs	149.30 234	PKP	PKPdf	17 04 13.4 -0.7
	2.4nm,0.7s,baz=99,slow=1.6,SNR=11				
ASAR			PKPbc	PKPbc	17 04 17.9 -0.6
	2.9nm,0.7s,baz=120,slow=3.1,SNR=73				
ASAR			pPKPbc	pPKPbc	17 04 59.4 -0.2
	0.5nm,0.5s,baz=106,slow=3.4,SNR=1.9				
WRA	Warramunga Arr	150.54 241	PKP	PKPdf	17 04 15.1 -1.0
WRA			PKPbc	PKPbc	17 04 21.1 -0.5
WRA			pPKPbc	pPKPbc	17 05 02.2 -0.4
WRA	Warramunga Arr	150.54 241	PKP	PKPdf	17 04 15.1 -1.0
	0.3nm,0.6s,baz=101,slow=2.0,SNR=7.1				
WRA			PKPbc	PKPbc	17 04 21.1 -0.5
	2.4nm,0.5s,baz=108,slow=2.5,SNR=100				
WRA			pPKPbc	pPKPbc	17 05 02.2 -0.4
	1.4nm,0.7s,baz=109,slow=2.3,SNR=3.6				
CMAR	Chiang Mai Arr	153.63 18	PKPbc	PKPbc	17 04 29.5 +0.9
CMAR	Chiang Mai Arr	153.63 18	PKPbc	PKPbc	17 04 29.5 +0.9
	1.2nm,0.5s,baz=319,slow=3.3,SNR=13				

*IDC **27** 16:49:45.3±2.3, 12°.13N×88°.13W, h0km, mb3.4/4, mb1 3.9/6, mb1mx3.7/24, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=69.1km s-min=44.0km az=61.0*
*ISCJB **27** 16:49:55.1±1.1, 12°.52N±0°.10×88°.47W±0°.05, h66km±9km, mb3.4/4, Error ellipse: s-maj=16.1km s-min=7.9km az=9.8*
*CASC **27** 16:49:56.3±1.6, 12°.54N×88°.49W, h39km±205km, MD3.7, ML3.8*

ISC 27 16:49:55.8±2.3, 12°.5N±0°.2×88°.46W±0°.06, h54km±17km, n24, σ0°71/29, mb3.5/4, 3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.94	11	⇑eP	Pn	16 50 13.0	-0.1
BLLM	Bellamira	0.96	13	⇑eP	Pn	16 50 13.0	-0.2
BLLM				eS	Sn	16 50 25.7	-0.3
CNCH	Conchagua	0.99	39	eP	Pn	16 50 13.4	-0.2
CNCH				eS	Sn	16 50 26.9	+0.3
SNVI	San Vicente	1.16	342	eP	Pn	16 50 15.5	-0.4
SNVI				eS	Sn	16 50 30.7	-0.2
LFRS	El Faro	1.26	333	eP	Pn	16 50 16.3	-0.9
CAHU	Cacacuatique	1.29	11	⇑eP	Pn	16 50 17.9	+0.3
CAHU				eS	Sn	16 50 34.9	+0.9
LBRS	Las Brisas	1.35	335	eP	Pn	16 50 18.2	-0.2
SNET	Serv Nac Est T	1.40	328	AML	AML	16 50 38.8	
	comp=Z,2μm,0.2s						
BOQS	Boqueron	1.46	327	eP	Pn	16 50 20.0	-0.1
SBLS	San Blas	1.74	320	eP	Pn	16 50 23.6	-0.3
SNJE	San Jose	1.76	321	eP	Pn	16 50 23.9	-0.2
RBDL	Robledal	2.00	324	eP	Pn	16 50 27.3	0.0
HUEN		2.25	94	eP	Pn	16 50 30.7	+0.2
IXG	Ixpaco	2.55	311	eP	Pn	16 50 35.5	+0.6
IXG				eS	Sn	16 51 03.7	-1.2
FUG	Fuego 3	3.02	310	eP	Pn	16 50 42.0	+0.7
FUG				eS	Sn	16 51 17.0	+0.7
TEIG	Tepich	7.68	1	Pn	Pn	16 51 44.8	-0.3
	comp=Z,1.2nm,0.3s,baz=163,slow=8.5,SNR=8.4						
CMIG	Matias Romero	7.70	307	Pn	Pn	16 51 45.6	+0.2
	comp=Z,0.4nm,0.3s,baz=109,slow=11,SNR=3.5						
TXAR	Lajitas Array	21.92	322	P	P	16 54 45.1	+0.3
	comp=Z,0.8nm,0.6s,baz=130,slow=9.6,SNR=6.3						
PDAR	Pinedale Array	35.27	333	P	P	16 56 46.7	+1.1
	comp=Z,0.4nm,0.7s,baz=141,slow=5.8,SNR=2.7						
YKA	Yellowknife Ar	53.31	345	P	P	16 59 08.0	-1.1
	comp=Z,0.7nm,0.7s,baz=141,slow=6.3,SNR=4.1						
ILAR	Eielson Array	65.58	336	P	P	17 00 33.9	+0.2
	comp=Z,0.5nm,0.9s,baz=104,slow=3.8,SNR=4.0						
WRA	Warramunga Arr	138.33	254	PKP	PKPdf	17 09 14.2	-1.9
	comp=Z,0.2nm,0.6s,baz=90,slow=2.4,SNR=3.7						
ASAR	Alice Springs	138.37	248	PKP	PKPdf	17 09 15.5	-0.5
	comp=Z,0.3nm,1.0s,baz=92,slow=3.1,SNR=2.9						
CMAR	Chiang Mai Arr	148.38	347	PKPbc	PKPdf	17 09 34.8	+1.0
	comp=Z,0.5nm,0.8s,baz=337,slow=2.9,SNR=5.1						

*IDC **27** 16:54:15.5±1.0, 29°.82N×79°.85E, h0km, mb3.6/11, mb1 3.6/12, mb1mx3.5/30, mbtmp3.6/12, ML3.7/1, Error ellipse: s-maj=27.2km s-min=18.3km az=39.0*
*NDI **27** 16:54:23.2±3.4, 29°.94N×80°.14E, h69km±20km, ML4.0*

ISC 27 16:54:18.4±1.8, 29°.81N±0°.05×80°.07E±0°.07, h25km±13km, n32, σ2°00/36, mb3.5/12, 2C-1D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	Pithoragarh	0.29	153	eP	Pb	16 54 21.0	-4.4
PTH				eS	Sn	16 54 33.1	+0.3
LGTI	Lohaghat	0.39	156	eP	Pn	16 54 36.1	+7.7
LGTI				eS	Sn	16 54 44.1	+9.2
DDI	Dehra Dun	1.82	287	eP	Pb	16 54 51.3	+0.3
DDI				eS	Sb	16 55 14

SMLA AML AML 16 55 46.3
comp=E,588nm,0.6s
SDNR Sundarnagar 3.16 303 *e*P Pb 16 55 10.0 -3.8
SDNR *e*4 **Sb 16 55 54.6 +2.8**
DHRM DHARAMSHALA 4.05 308 *e*P **Pn 16 55 20.7 +1.8**
DHRM *e*S **Sn 16 56 06.4 +0.8**
DHRM AML AML 16 56 11.6
comp=N,176nm,0.2s
DHRM AML AML 16 56 12.0
comp=E,251nm,0.3s
DLH Dalhousie 4.45 309 *e*P **Pn 16 55 27.0 +2.6**
DLH *e*x **Sn 16 56 18.0 +2.6**
THN Thein Dam 4.56 306 *e*P **Pb 16 55 35.3 -2.3**
THN *e*S Sb 16 56 25.0 -7.0
JBP Jabalpur 6.62 181⇑*e*P Pn 16 56 00.2 +6.2
JBP *e*4 16 57 15.1
CHCP Chirah Chowk 6.95 305 P **Pn 16 55 59.8 +1.2**
BHPL Bhopal 6.96 200 *e*x Pn 16 56 02.1 +3.4
BHPL *e*S **Sn 16 57 16.9 -0.2**
THW Thamme Wali 7.72 295 P **Pn 16 56 09.6 +0.4**
BOK Bokaro 7.93 138 *e*P Pn 16 56 16.5 +4.5
BOK *e*S **Sn 16 57 39.0 -2.1**
CEP Cherat 8.01 302 P **Pn 16 56 13.6 +0.3**
CEP S **Sn 16 57 39.0 -4.2**
LATR Latur 11.78 197 *e*4 **Pn 16 57 06.6 +1.8**
LATR *e*S **Sn 16 59 10.8 -4.8**
HYB Hyderabad 12.41 187 *i*P **Pn 16 57 13.0 -0.5**
HYB *e* 16 59 25.0
KK31 Karatay Array 15.32 333⇓P **Pn 16 57 49.8 -3.0**
comp=E,0.4nm,0.3s,baz=178,slow=18,SNR=10
KK31 S Sn 17 00 29.0 -13
comp=E,1.6nm,0.5s,baz=168,slow=25,SNR=10
MKAR Makanchi Array 17.05 5 P **Pn 16 58 13.8 -1.1**
comp=E,0.2nm,0.3s,baz=183,slow=11,SNR=5.1
CMAR Chiang Mai Arr 20.57 119 P Pn 16 58 58.5 +0.8
comp=E,0.4nm,0.4s,baz=316,slow=11,SNR=5.0
BVAR Borovoye Array 24.26 346 P **P 16 59 32.8 -0.4**
comp=E,0.2nm,0.4s,baz=151,slow=13,SNR=3.4
ZALV Zalesovo Beam 24.37 7 P **P 16 59 33.9 -0.4**
comp=E,0.7nm,0.4s,baz=194,slow=9.6,SNR=5.8
AB31 Akbulak array 24.73 327⇑P **P 16 59 37.2 -0.3**
comp=E,0.9nm,0.7s,baz=127,slow=9.7,SNR=9.9
AKTO Aktyubinsk 26.44 327 P **P 16 59 53.0 0.0**
comp=E,1.0nm,0.5s,baz=135,slow=13,SNR=5.0
SONM Songino Array 27.09 41 P **P 17 00 01.7 +2.6**
comp=E,0.8nm,0.6s,baz=230,slow=10,SNR=8.3
BRTR Keskin Array B 39.03 297 P **P 17 01 43.8 +0.6**
comp=E,0.4nm,0.6s,baz=116,slow=9.8,SNR=2.7
AKASG Malin Array Be 43.05 314 P **P 17 02 16.1 +0.2**
comp=E,0.3nm,0.3s,baz=81,slow=6.7,SNR=2.7
JOF Joensuu 45.41 331 *e*p **P 17 02 34.7 +0.1**
comp=E,0.4nm,0.3s
FINES FINESS Array B 47.21 328 P **P 17 02 49.5 +0.8**
comp=E,0.8nm,0.4s,baz=115,slow=9.0,SNR=16
ARCES ARCESS Array B 50.19 338 P **P 17 03 12.5 +0.9**
comp=E,0.7nm,0.7s,baz=91,slow=7.2,SNR=3.9
TORD Torodi Ar. Bea 73.59 276 P **P 17 05 48.5 -1.4**
comp=E,0.3nm,0.7s,baz=92,slow=4.5,SNR=2.6
ASAR Alice Springs 74.17 130 P **P 17 05 54.9 +1.9**
comp=E,0.2nm,0.5s,baz=319,slow=5.9,SNR=3.3

---

*IDC **27** 17:48:54.6±0.6, 58°.96S×25°.55W, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.3/21, mbtmp4.4/10, ML4.4/1, MS3.8/11, Ms1 3.8/11, ms1mx3.7/19, Error ellipse: s-maj=23.7km s-min=18.4km az=57.0*

ISC 27 17:48:58.5±0.6, 59°.5S±0°.1×25°.5W±0°.2, h32km, n36, σ1§77/26, mb4.4/8, MS3.8/9, 2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.25**	**154**	*e*Pn	**P**	**17 52 11.1**	**-2.4**
VNA1	**Neumayer--Stat**	**13.25**	**154**	*e*Sn	**Sn**	**17 54 33.4**	**+3.4**
VNA2	**Neumayer--Watz**	**13.65**	**154**	*e*Pn	P	17 52 15.1	-2.8
VNA2	**Neumayer--Watz**	**13.65**	**154**	*e*Sn	**Sn**	**17 54 37.9**	**-1.9**
SNAA	**Sanae**	**15.22**	**152**	*e*Pn	**P**	**17 52 36.7**	**+1.2**
SNAA	**Sanae**	**15.22**	**152**	*e*Sn	**Sn**	**17 55 15.0**	**-3.1**
SNAA	**Sanae**	**15.22**	**152**	Pn	**P**	**17 52 36.6**	**+1.1**
	1.7nm,0.3s,baz=319,slow=16,SNR=182						
SNAA				Sn	**Sn**	**17 55 14.8**	**-3.4**
	0.1nm,0.3s,baz=297,slow=18,SNR=5.8						
SNAA				LR	LR	17 57 06.4	
	comp=Z,127nm,20.6s,baz=323,slow=31						
PMSA	**Palmer Station**	**18.51**	**237**	LR	LR	17 59 32.4	
	comp=Z,295nm,18.1s,baz=254,slow=34						
USHA	**Ushuaia**	**23.40**	**263**	P	**P**	**17 54 05.9**	**+1.8**
	14nm,1.0s,baz=114,slow=14,SNR=4.5						
USHA				LR	LR	18 01 16.1	
	comp=Z,317nm,19.6s,baz=26,slow=32						
QSPA	**South Pole Qui**	**30.72**	**180**	P	P	17 55 16.9	+6.6
	6.6nm,0.6s,baz=210,slow=2.3,SNR=134						
PLCA	**Paso Flores**	**33.58**	**284**	P	**P**	**17 55 35.4**	**-0.1**
	2.7nm,1.0s,baz=151,slow=6.3,SNR=3.3						
PLCA				LR	LR	18 07 10.6	
	comp=Z,97nm,18.6s,baz=135,slow=33						
MAW	**Mawson**	**36.86**	**140**	LR	LR	18 11 27.3	
	comp=Z,130nm,20.8s,baz=343,slow=36						
CFAA	**Coronel Fontan**	**39.80**	**295**	P	**P**	**17 56 26.7**	**-1.7**
	0.6nm,0.4s,baz=152,slow=8.4,SNR=11						
VNDA	**Vanda**	**43.13**	**182**	P	P	17 57 01.4	+6.2
	3.7nm,0.5s,baz=185,slow=6.8,SNR=38						
VNDA				LR	LR	18 13 44.1	
	comp=Z,126nm,21.6s,baz=209,slow=34						
BOSA	**Boshof**	**46.12**	**71**	LR	LR	18 11 42.0	
	comp=Z,164nm,20.6s,baz=44,slow=30						
BDFB	**Brasilia**	**46.82**	**330**	LR	LR	18 14 10.0	
	comp=Z,88nm,19.6s,baz=180,slow=33						
LPAZ	**La Paz**	**53.12**	**306**	P	**P**	**17 58 12.1**	**-1.5**
	0.8nm,0.4s,baz=184,slow=8.2,SNR=3.3						
LPAZ				LR	LR	18 17 42.3	
	comp=Z,42nm,20.6s,baz=107,slow=33						
ROSC	**El Rosal**	**74.79**	**309**	LR	LR	18 32 19.0	
	comp=Z,67nm,21.3s,baz=333,slow=35						
TORD	**Torodi Ar. Bea**	**75.69**	**27**	P	**P**	**18 00 40.0**	**-0.4**
	4.3nm,0.6s,baz=198,slow=6.3,SNR=58						
STKA	**Stephens Creek**	**88.32**	**169**	LR	LR	18 43 32.1	
	comp=Z,188nm,18.9s,baz=206,slow=37						
ASAR	**Alice Springs**	**95.41**	**161**	P	**P**	**18 02 22.1**	**+2.4**
	1.1nm,0.6s,baz=185,slow=3.7,SNR=12						
WRA	**Warramunga Arr**	**99.12**	**161**	P	**Pdif**	**18 02 39.2**	**+2.7**
	0.2nm,0.5s,baz=192,slow=4.3,SNR=2.6						
PDAR	**Pinedale Array**	**122.88**	**299**	PKP	**PKPdf**	**18 07 50.7**	**+0.1**
	0.4nm,0.4s,baz=126,slow=5.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**123.00**	**111**	PKP	**PKPdf**	**18 07 51.8**	**+0.5**
	0.8nm,0.8s,baz=230,slow=4.0,SNR=5.1						
ULM	**Lac du Bonnet**	**123.33**	**314**	PKP	**PKPdf**	**18 07 50.0**	**-0.8**
	1.7nm,0.4s,baz=90,slow=5.1,SNR=3.3						
FINES	**FINESS Array B**	**127.04**	**28**	PKP	**PKPdf**	**18 07 57.7**	**+0.1**
	1.3nm,0.5s,baz=149,slow=2.9,SNR=14						
KAF	**Kangasniemi**	**127.68**	**28**	*e*p	PKPdf	18 07 53.2	-5.6
	0.7nm,0.4s						
KK31	**Karatay Array**	**128.69**	**69**	⇓Pn	**Pdif**	**18 04 47.9**	**+0.8**
	1.0nm,0.7s,baz=174,slow=12,SNR=10						
KK31				Lg	Lg	18 05 56.8	
	0.4nm,0.3s,baz=180,slow=16,SNR=11						
JOF	**Joensuu**	**129.59**	**30**	*e*p	**PKPdf**	**18 08 02.5**	**+0.1**
	0.3nm,0.3s						
TKM2	**Tokmak 2**	**131.00**	**73**	⇓Pn	**Pdif**	**18 04 55.9**	**-1.8**
	0.8nm,0.5s						
ARCES	**ARCESS Array B**	**133.84**	**22**	PKP	**PKPdf**	**18 08 10.4**	**+0.1**
	0.9nm,0.4s,baz=198,slow=1.7,SNR=16						
BVAR	**Borovoye Array**	**135.84**	**60**	PKP	**PKPdf**	**18 08 15.0**	**+0.5**
	0.6nm,0.5s,baz=264,slow=1.4,SNR=5.7						
YKA	**Yellowknife Ar**	**139.30**	**315**	PKP	**PKPdf**	**18 08 21.0**	**+0.4**
	1.8nm,0.5s,baz=126,slow=2.5,SNR=21						
ZALV	**Zalesovo Beam**	**143.01**	**67**	PKhKP	PKPpre	18 08 24.4	
	0.4nm,0.4s,baz=225,slow=1.9,SNR=4.3						
SONM	**Songino Array**	**149.91**	**91**	PKPbc	**PKPbc**	**18 08 45.4**	**+1.0**
	2.0nm,0.7s,baz=213,slow=2.9,SNR=16						
ILAR	**Eielson Array**	**152.99**	**306**	PKPbc	**PKPbc**	**18 08 51.3**	**+0.4**
	2.7nm,0.7s,baz=129,slow=2.6,SNR=19						

---

*BKK **27** 17:50:48.8±5.1, 14°.N±16°×9°.2E±4°.1, h10km, M4.7/12, mB5.1/4, mb4.6/12, MLv4.8/3, Mw(mB)4.4/4*
*IDC **27** 17:50:53.8±0.5, 14°.09N×93°.14E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/29, mbtmp4.2/20, ML4.1/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/29, Error ellipse: s-maj=16.7km s-min=13.2km az=59.0*
*ISCJB **27** 17:50:56.4±1.0, 14°.27N±0°.03×93°.05E±0°.03, h23km±8km, mb4.2/27, MS3.9/14, Error ellipse: s-maj=6.0km s-min=5.1km az=144.6*
*BJI **27** 17:50:57.6, 14°.08N×93°.25E, h35km, mB4.6/12, mb4.4/16, Ms4.0/14, Ms7 3.8/13*

ISC 27 17:50:59.6±0.5, 14°.24N±0°.05×93°.06E±0°.05, h36km±1km, h37km: pP-P, n77, σ1§48/85, mb4.2/27, MS3.8/14, 2C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.06**	**187**	*e*P	**Pn**	**17 51 17.4**	**-0.6**
DGPR				*e*S	**Sn**	**17 51 30.6**	**-0.9**
DGPR				AML	AML	17 51 37.6	
	comp=E,9μm,0.2s						
DGPR				AML	AML	17 51 39.5	
	comp=N,7μm,0.2s						
PBA	**Port Blair**	**2.59**	**187**	*e*P	Pn	17 51 38.7	-0.2
PBA				*e*S	Sn	17 52 08.9	-0.3
PBA				AML	AML	17 52 28.3	
	comp=E,1μm,0.6s						
PBA				AML	AML	17 52 28.4	
	comp=N,709nm,0.4s						
UTHA	**Uthaitani**	**6.31**	**77**	P	**Pn**	**17 52 30.9**	**+0.7**
	comp=N,21nm,1.0s,comp=N,414nm						
PHET	**Kaeng Krachan**	**6.53**	**101**	P	**Pn**	**17 52 35.3**	**+2.2**
	comp=N,222nm,0.5s,comp=N,8μm						
CMAR	**Chiang Mai Arr**	**7.04**	**53**	Pn	**Pn**	**17 52 39.2**	**-0.9**
	comp=N,0.8nm,0.3s,baz=241,slow=15,SNR=54						
CMAR				Sn	**Sn**	**17 53 59.3**	**+0.4**
	baz=240,slow=23,SNR=2.6						
CMAR				LR	LR	17 56 03.9	
	comp=N,711nm,19.2s,baz=226,slow=44						
CHTO	**Chiang Mai**	**7.25**	**50**	P	**Pn**	**17 52 43.6**	**+0.5**
	comp=N,25nm,0.7s,comp=N,0.1nm						
LAMP	**Lampang**	**7.61**	**55**	P	**Pn**	**17 52 48.9**	**+0.8**
	comp=N,17nm,1.0s						
PBKT	**Sadao Pong**	**7.97**	**72**	P	**Pn**	**17 52 53.7**	**+0.7**
	comp=N,34nm,0.7s,comp=N,0.1nm						
NAYO	**Nakonayok**	**8.01**	**88**	P	**Pn**	**17 52 54.5**	**+1.0**
	comp=N,104nm,1.1s						
PAYA	**Payao**	**8.27**	**51**	P	**Pn**	**17 52 58.2**	**+1.0**
	comp=N,12nm,0.6s						
LOEI	**Loei**	**8.54**	**67**	P	Pn	17 53 06.1	+5.3
	comp=N,36nm,0.6s						
CHAI	**Chaiyaphum**	**8.78**	**78**	P	**Pn**	**17 53 06.4**	**+2.3**
	comp=N,6.2nm,1.0s						
CHBT	**CHBT**	**9.14**	**98**	P	Pn	17 53 19.8	+11
VIS	**Vishakhapatnam**	**9.98**	**292**	*e*P	**Pn**	**17 53 19.4**	**-1.1**
VIS				*e*S	Sn	17 55 03.1	-8.1
VIS				AML	AML	17 55 06.8	
	comp=N,180nm,1.1s						
VIS				AML	AML	17 55 07.5	
	comp=E,109nm,0.3s						
SKNT	**Sakolnakorn**	**10.87**	**74**	P	Pn	17 53 43.1	+10
SHL	**Shillong**	**11.32**	**355**	*e*P	Pn	17 53 31.4	-7.7
SHL				*e*4		17 55 28.8	
UBPT	**Khong Chiam**	**12.05**	**84**	P	**P**	**17 54 01.6**	**+0.3**
PSI	**Prapat**	**12.76**	**152**	Pn	**Pn**	**17 54 00.2**	**+1.6**
	comp=E,0.6nm,0.3s,baz=313,slow=12,SNR=3.4						
ODAN	**Odare**	**13.63**	**338**	*e*P	**Pn**	**17 54 10.6**	**-0.1**
	comp=E,36nm,0.5s						
TAPN	**Taplejung**	**13.97**	**340**	*e*P	Pn	17 54 05.2	-10
	comp=E,38nm,0.5s						
RAMN	**Ramite**	**14.01**	**336**	*e*P	**Pn**	**17 54 18.3**	**+2.4**
	comp=E,53nm,0.6s						
HYB	**Hyderabad**	**14.31**	**285**	*e*P	**Pn**	**17 54 18.0**	**-1.8**
HYB				*e*S	Sn	17 56 44.0	-13
JIRN	**Jiri**	**14.81**	**335**	*e*P	Pn	17 54 19.2	-7.6
	comp=E,45nm,0.7s						
PKI	**Pulchoki**	**15.06**	**333**	*e*P	**Pn**	**17 54 28.4**	**-1.7**
	comp=E,28nm,0.5s						
PKIN	**Phulchoki**	**15.07**	**333**	*e*P	**Pn**	**17 54 27.8**	**-2.4**
	comp=E,31nm,0.5s						
GUN	**Gumba**	**15.16**	**335**	*e*P	Pn	17 54 21.9	-10
DMN	**Daman**	**15.23**	**332**	*e*P	**Pn**	**17 54 31.7**	**-0.6**
	comp=E,45nm,0.9s						
JBP	**Jabalpur**	**15.23**	**308**⇓	*i*P	P	17 54 43.5	+6.9
JBP				*e*S	**S**	**17 57 32.5**	**-2.9**
KKN	**Kakani**	**15.31**	**333**	*e*P	**Pn**	**17 54 28.8**	**-4.5**
LSA	**Lhasa**	**15.49**	**354**	P	**P**	**17 54 39.0**	**-0.9**
KOLN	**Koldanda**	**16.09**	**328**	*e*P	**P**	**17 54 46.8**	**+0.5**
	comp=E,48nm,0.7s						
LATR	**Latur**	**16.37**	**287**	*e*P	**Pn**	**17 54 44.9**	**-1.8**
LATR				*e*4		17 57 35.8	
DANN	**Dangsing**	**16.49**	**330**	*e*P	Pn	17 54 42.1	-6.4
	comp=E,29nm,0.5s						
QIZ	**Qiongzhong**	**16.77**	**71**	P	**Pn**	**17 54 48.5**	**-3.4**
QIZ				pP	**pP**	**17 54 59.0**	**-4.1**
QIZ				S	**Sn**	**17 57 54.5**	**-2.7**
QIZ				LR	LR		
	comp=N,390nm,22.1s						
QIZ				LR	LR		
	comp=Z,420nm,14.4s						
BHPL	**Bhopal**	**17.29**	**303**	*e*P	**Pn**	**17 54 58.1**	**-0.3**
POO	**Poona**	**18.91**	**286**	*e*4		17 55 30.0	
LZH	**Lanzhou**	**23.81**	**22**	⇑P	**P**	**17 56 11.0**	**+1.6**
LZH				pP	**pP**	**17 56 21.5**	**+2.0**
LZH				sP	sP	17 56 28.5	+4.5
LZH				pmax	pmax		
	comp=Z,110nm,1.6s						
LZH				pmax	pmax		
	comp=Z,220nm,4.0s						
LZH				LR	LR		
	comp=N,230nm,13.2s						
LZH				LR	LR		
	comp=E,450nm,16.1s						
LZH				LR	LR		
	comp=Z,410nm,19.1s						
XAN	**Xi'an**	**24.39**	**33**	P	**P**	**17 56 14.5**	**-0.2**
XAN				pP	**pP**	**17 56 27.5**	**+2.5**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,25nm,7.9s						
XAN				LR	LR		
	comp=N,130nm,19.4s						
XAN				LR	LR		
	comp=E,70nm,20.4s						
XAN				LR	LR		
	comp=Z,54nm,25.5s						
WHN	**Wuhan**	**25.44**	**47**	P	**P**	**17 56 23.5**	**-0.6**
WHN				S	**S**	**18 00 47.3**	**-1.4**
WHN				LR	LR		
	comp=N,1μm,16.5s						
WHN				LR	LR		
	comp=E,460nm,14.8s						
WHN				LR	LR		
	comp=Z,830nm,14.0s						
GTA	**Gaotai**	**25.77**	**12**	*e*P	**P**	**17 56 28.8**	**+1.6**
GTA				pP	**pP**	**17 56 40.0**	**+2.5**
GTA				sP	**sP**	**17 56 43.0**	**+1.1**
GTA				PcP	**PcP**	**17 59 58.3**	**+1.8**
GTA				S	**S**	**18 00 54.0**	**-0.1**
GTA				sS	**sS**	**18 01 09.5**	**-1.6**
GTA				SS	SnSn	18 02 01.5	+10
GTA				ScP	**ScP**	**18 03 35.0**	**+1.7**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,64nm,5.5s						
GTA				LR	LR		
	comp=N,210nm,17.6s						
GTA				LR	LR		
	comp=E,190nm,16.7s						
GTA				LR	LR		
	comp=Z,200nm,17.5s						
HHC	**Hu-ho-hao-te**	**31.04**	**28**	*e*P	**P**	**17 57 15.8**	**+1.6**
HHC				S	**S**	**18 02 15.0**	**-2.0**
HHC				pmax	pmax		
	comp=Z,370nm,4.4s						
MKAR	**Makanchi Array**	**33.69**	**347**	P	**P**	**17 57 38.6**	**+1.4**
	comp=Z,4.0nm,0.7s,baz=164,slow=8.9,SNR=25						
SONM	**Songino Array**	**35.28**	**16**	P	**P**	**17 57 52.4**	**+1.2**
	comp=Z,5.0nm,0.9s,baz=198,slow=9.6,SNR=31						
SONM				PcP	**PcP**	**18 00 22.3**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=209,slow=1.8,SNR=5.1						
KSRS	**Korea Array**	**38.63**	**47**	LR	LR	18 16 01.4	
	comp=Z,136nm,20.4s,baz=235,slow=39						
ZALV	**Zalesovo Beam**	**40.15**	**352**	P	**P**	**17 58 32.7**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=177,slow=8.7,SNR=28						
ZALV				LR	LR	18 19 31.5	
	comp=Z,77nm,19.5s,baz=251,slow=43						
BVAR	**Borovoye Array**	**42.67**	**340**	P	**P**	**17 58 53.6**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=131,slow=8.1,SNR=9.1						
USRK	**Ussuriysk Arra**	**44.58**	**40**	P	**P**	**17 59 08.0**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=252,slow=7.1,SNR=8.1						
USRK				LR	LR	18 20 20.8	
	comp=Z,102nm,18.9s,baz=208,slow=40						
MJAR	**Matsushiro Arr**	**45.92**	**53**	P	**P**	**17 59 19.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=267,slow=9.6,SNR=11						
MJAR				PcP	**PcP**	**18 00 56.1**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=230,slow=3.0,SNR=7.6						
MJAR				LR	LR	18 21 48.0	
	comp=Z,94nm,18.3s,baz=245,slow=40						
WRA	**Warramunga Arr**	**52.94**	**129**	P	**P**	**18 00 10.5**	**-2.3**
	comp=Z,1.9nm,0.7s,baz=304,slow=10,SNR=36						
WRA				PcP	**PcP**	**18 01 20.6**	**-0.8**
	comp=Z,2.7nm,0.5s,baz=318,slow=3.3,SNR=22						
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**18 00 24.9**	**-2.1**
	comp=Z,2.2nm,0.7s,baz=308,slow=6.9,SNR=71						
ASAR				PcP	**PcP**	**18 01 28.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=325,slow=3.9,SNR=7.1						
BRTR	**Keskin Array B**	**57.59**	**308**	P	**P**	**18 00 46.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=119,slow=7.4,SNR=14						
BRTR				LR	LR	18 28 53.0	
	comp=Z,39nm,20.3s,baz=104,slow=40						
PETK	**Petropavlovsk-**	**63.55**	**37**	LR	LR	18 33 53.7	
	comp=Z,52nm,18.5s,baz=68,slow=41						
JOF	**Joensuu**	**64.70**	**334**	*e*p	**P**	**18 01 34.2**	**+0.5**
	comp=Z,0.2nm,0.4s						
STKA	**Stephens Creek**	**65.31**	**135**	P	**P**	**18 01 37.0**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=338,slow=6.0,SNR=8.4						
FINES	**FINESS Array B**	**66.64**	**331**	P	**P**	**18 01 46.5**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=83,slow=6.0,SNR=8.6						
FINES				LR	LR	18 38 06.6	
	comp=Z,73nm,18.5s,baz=180,slow=42						
KAF	**Kangasniemi**	**66.69**	**332**	*e*p	**P**	**18 01 46.9**	**+0.3**
	comp=Z,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**68.96**	**340**	P	**P**	**18 02 01.3**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=88,slow=5.0,SNR=14						
ARCES				LR	LR	18 35 51.6	
	comp=Z,102nm,18.9s,baz=359,slow=39						
OKC	**Ostrava-Krasne**	**69.53**	**318**	*e*P	**P**	**18 02 04.7**	**0.0**
DPC	**Dobruska-Polom**	**70.72**	**319**	*e*P	**P**	**18 02 13.1**	**+1.1**
DPC				*e*pP	**pP**	**18 02 22.8**	**-0.4**
PRU	**Pruhonice**	**71.86**	**318**	*e*P	**P**	**18 02 20.0**	**+1.1**
GERES	**GERESS Array B**	**72.43**	**317**	P	**P**	**18 02 23.1**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=88,slow=4.5,SNR=11						
KHC	**Kasperske Hory**	**72.51**	**317**	*e*P	**P**	**18 02 23.2**	**+0.4**
KHC				*e*pP	**pP**	**18 02 32.9**	**-1.1**
NB2	**NORSAR Subarra**	**73.71**	**330**	P	**P**	**18 02 29.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=89,slow=5.9						
NOA	**NORSAR Array B**	**73.71**	**330**	P	**P**	**18 02 30.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=90,slow=5.9,SNR=4.8						
NOA				LR	LR	18 43 06.4	
	comp=Z,62nm,18.2s,baz=80,slow=42						
LBTB	**Lobatse**	**76.44**	**240**	P	**P**	**18 02 46.8**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=93,slow=4.1,SNR=3.1						
LPG	**La Plagne**	**77.43**	**314**	*e*P	**P**	**18 02 52.2**	**+0.6**
	comp=Z,8.9nm,0.7s						
LPL	**La Plagne**	**77.44**	**314**⇑	*i*P	**P**	**18 02 52.3**	**+0.7**
	comp=Z,8.3nm,0.6s						
MBDF	**Montbardon**	**77.52**	**313**	*e*P	**P**	**18 02 53.6**	**+1.6**
	comp=Z,3.6nm,0.8s						
CABF	**La Chapelle**	**77.74**	**315**	*e*P	**P**	**18 02 52.6**	**-0.5**
BOSA	**Boshof**	**78.13**	**236**	P	**P**	**18 02 56.1**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=76,slow=3.6,SNR=6.2						
BOSA				LR	LR	18 35 41.3	
	comp=Z,91nm,20.8s,baz=1.4,slow=34						
ESDC	**Sonseca Array**	**86.33**	**310**	P	**P**	**18 03 38.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=53,slow=4.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P	**P**	**18 03 47.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=74,slow=4.8,SNR=7.1						
ILAR	**Eielson Array**	**89.27**	**22**	P	**P**	**18 03 51.5**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=296,slow=5.0,SNR=15						
PDAR	**Pinedale Array**	**119.59**	**19**	PKP	**PKPdf**	**18 09 45.0**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=321,slow=0.9,SNR=3.5						
NVAR	**Mina Array Bea**	**119.94**	**28**	PKP	**PKPdf**	**18 09 47.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=309,slow=1.8,SNR=5.7						
TXAR	**Lajitas Array**	**133.77**	**20**	PKP	**PKPdf**	**18 10 13.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=283,slow=0.7,SNR=5.4						
PLCA	**Paso Flores**	**149.97**	**205**	PKPbc	**PKPbc**	**18 10 46.2**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=225,slow=22,SNR=6.4						

PGC 27 17:55:18.4±4.9, 51°.44N×131°.15W, h10km, ML3.5/10, Mw4.1, 6D, 207km Sse of Sandspit, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.20**	**342**	P	Pb	17 55 39.0	-2.3
BNB				⇓S	Sb	17 55 53.5	-3.5
MOBC	**Moresby Island**	**1.79**	**344**	Pn	Pn	17 55 47.4	-2.0
MOBC				⇓Sn	Sn	17 56 09.1	-3.0
DIB	**Dawson Inlet,**	**1.95**	**336**	⇑Pn	Pn	17 55 49.5	-1.9
VIB	**Van Inlet**	**2.01**	**335**	⇓Pn	Pn	17 55 50.5	-2.0
VIB				⇓Sn	Sn	17 56 14.1	-3.7
BBB	**Bella Bella**	**2.03**	**67**	⇓Pn	Pn	17 55 50.8	-1.7
BBB				⇑Sn	Sn	17 56 13.8	-4.1
HOLB	**Holberg**	**2.06**	**112**	⇑Pn	Pn	17 55 52.4	-0.7
HOLB				⇑Sn	Sn	17 56 15.1	-3.8
BNAB	**Bonilla**	**2.08**	**8**	⇑Pn	Pn	17 55 50.2	-3.1
BNAB				⇓Sn	Sn	17 56 16.9	-2.4
PHC	**Port Hardy**	**2.45**	**106**	⇑Pn	Pn	17 55 56.2	-2.1
MAYB	**Maynard**	**2.72**	**111**	⇑Pn	Pn	17 56 00.8	-1

DJA 27 19:00:18.6±1.0, 6°S±7°×10°4E±°, h10km, M4.0/4, MLv4.0/4
ISC 27 19:00:19.7±0.9, 6°29S±0°.09×103°.61E±0°.08, h35km, n19, σ1°36/21, mb4.2/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.17**	**49**	P	**Pn**	**19 00 38.6**	**-0.9**
KASI				S	**Sn**	**19 00 53.7**	**-0.5**
LWLI	**Liwa**	**1.34**	**19**	P	**Pn**	**19 00 42.2**	**+0.1**
LWLI				S	**Sn**	**19 01 00.9**	**+2.1**
BLSI	**Bandar Lampung**	**1.87**	**61**	P	**Pn**	**19 00 51.5**	**+2.3**
KLI	**Kotabumi**	**1.89**	**41**	P	**Pn**	**19 00 51.6**	**+2.2**
MNAI	**Manna**	**2.03**	**341**	P	**Pn**	**19 00 53.3**	**+1.9**
KSI	**Kapahiang**	**2.81**	**339**	P	**Pn**	**19 01 03.7**	**+1.4**
BATI	**Baumata**	**20.22**	**102**	P	**P**	**19 04 52.3**	**+0.4**
	25nm,0.6s,baz=306,slow=3.9,SNR=12						
CMAR	**Chiang Mai Arr**	**25.02**	**349**	P	**P**	**19 05 39.3**	**-1.3**
	3.0nm,0.8s,baz=180,slow=8.8,SNR=31						
WRA	**Warramunga Arr**	**32.77**	**117**	P	**P**	**19 06 49.8**	**0.0**
	0.3nm,0.6s,baz=290,slow=9.7,SNR=6.9						
ASAR	**Alice Springs**	**33.85**	**124**	P	**P**	**19 06 60.0**	**+0.8**
	0.3nm,0.9s,baz=304,slow=8.7,SNR=4.3						
STKA	**Stephens Creek**	**43.63**	**131**	P	**P**	**19 08 21.6**	**+0.7**
	1.0nm,0.5s,baz=177,slow=14,SNR=3.6						
KSRS	**Korea Array**	**49.08**	**26**	P	**P**	**19 09 01.3**	**-2.3**
	1.2nm,0.5s,baz=220,slow=7.4,SNR=7.6						
SONM	**Songino Array**	**53.95**	**2**	P	**P**	**19 09 40.0**	**0.0**
	3.3nm,0.9s,baz=182,slow=8.5,SNR=21						
MKAR	**Makanchi Array**	**56.15**	**342**	P	**P**	**19 09 55.5**	**-0.3**
	1.3nm,0.5s,baz=151,slow=7.7,SNR=5.2						
USRK	**Ussuriysk Arra**	**56.40**	**24**	P	**P**	**19 09 56.6**	**-1.0**
	1.8nm,0.6s,baz=210,slow=3.3,SNR=7.6						
ASAJ	**Asahikawa**	**61.25**	**31**	P	**P**	**19 10 30.2**	**-1.1**
	4.3nm,0.9s,baz=243,slow=14,SNR=2.7						
ZALV	**Zalesovo Beam**	**62.07**	**348**	P	**P**	**19 10 35.8**	**-0.9**
	1.7nm,0.4s,baz=164,slow=5.4,SNR=16						
BVAR	**Borovoye Array**	**65.45**	**339**	P	**P**	**19 10 58.4**	**-0.6**
	0.9nm,0.5s,baz=137,slow=9.3,SNR=8.4						
TXAR	**Lajitas Array**	**145.54**	**45**	PKPbc	**PKPab**	**19 19 55.6**	**+0.2**
	0.7nm,0.5s,baz=264,slow=1.5,SNR=9.4						

IDC 27 19:08:03.5±1.2, 24°.75N×127°.57E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/26, mbtmp3.7/7, ML3.3/1, MS4.3/1, Ms1 4.3/1, ms1mx2.6/41, Error ellipse: s-maj=61.2km s-min=18.7km az=74.0
JMA 27 19:08:06.4±0.3, 24°.88N×127°.77E, h57km, M3.4
ISC 27 19:08:04.4±2.2, 24°.87N±0°.07×127°.73E±0°.07, h11km±14km, n26, σ1°21/31, mb3.6/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.26**	**1**	P	**Pg**	**19 08 28.2**	**-0.5**
JKE	**Kume jima 2**	**1.68**	**330**	P	**Pn**	**19 08 34.4**	**+0.6**
JAGN	**Aguni-jima**	**1.77**	**346**	P	**Pn**	**19 08 35.5**	**+0.6**
JAGN				*e*S	**Sn**	**19 08 56.2**	**-1.2**
JOW	**Kunigami**	**2.01**	**14**	P	**Pn**	**19 08 38.1**	**-0.2**
JOW				*e*S	**Sn**	**19 09 02.2**	**-1.3**
JOGS	**Gusukube**	**2.12**	**267**	P	**Pn**	**19 08 40.6**	**+0.9**
JOGS				S	**Sn**	**19 09 05.6**	**-0.4**
JIH	**Iheya**	**2.17**	**6**	P	**Pn**	**19 08 41.2**	**+0.8**
JIH				*e*S	**Sn**	**19 09 06.1**	**-1.1**
JMJ	**Miyako jima 2**	**2.22**	**269**	P	**Pn**	**19 08 42.2**	**+1.1**
JMJ				*e*S	**Sn**	**19 09 08.2**	**-0.3**
JTJ	**Tarama**	**2.77**	**266**	P	**Pn**	**19 08 49.1**	**+0.4**
JTJ				*e*S	**Sn**	**19 09 20.1**	**-1.9**
JTK	**Tokunoshima**	**3.10**	**20**	P	**Pn**	**19 08 52.9**	**-0.4**
JTK				*e*S	**Sn**	**19 09 27.6**	**-2.7**
JMZ	**Minamidaito 2**	**3.29**	**73**	P	Pn	19 08 52.9	-3.0
JMZ				*e*S	Sn	19 09 27.1	-7.9
JIJ	**Ishigaki jima**	**3.31**	**262**	P	**Pn**	**19 08 56.1**	**0.0**
JIJ				S	**Sn**	**19 09 32.0**	**-3.4**
JKRS	**Kuro-shima**	**3.45**	**260**	P	**Pn**	**19 08 58.8**	**+0.7**
JAMN	**Amaminishikomi**	**3.60**	**21**	P	**Pn**	**19 08 59.9**	**-0.2**
HATJ	**Hateruma jima**	**3.67**	**258**	*e*S	Sn	19 09 40.8	-3.6
IRIF	**Iriomote-Funau**	**3.68**	**263**	P	**Pn**	**19 09 01.7**	**+0.4**
JAM	**Amami Oshima**	**3.90**	**25**	P	**Pn**	**19 09 04.6**	**+0.3**
JZK	**Kikaishima**	**3.97**	**30**	P	**Pn**	**19 09 05.9**	**+0.7**
YOJ	**Yonaguni jima**	**4.32**	**266**	P	**Pn**	**19 09 09.9**	**-0.1**
JNU	**Nakatsue**	**8.67**	**18**	Pn	**Pn**	**19 10 11.5**	**+1.7**
	0.3nm,0.3s,baz=174,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**42.12**	**313**	P	**P**	**19 15 57.1**	**+0.5**
	0.2nm,0.4s,baz=97,slow=9.1,SNR=4.8						
FITZ	**Fitzroy Crossi**	**42.76**	**183**	P	**P**	**19 16 01.1**	**-0.9**
	1.1nm,0.7s,baz=4.4,slow=13,SNR=4.7						
ZALV	**Zalesovo Beam**	**43.06**	**324**	P	**P**	**19 16 04.9**	**+0.7**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=2.6						
WRA	**Warramunga Arr**	**45.01**	**171**	P	**P**	**19 16 19.9**	**-0.1**
	1.7nm,0.7s,baz=351,slow=8.6,SNR=15						
CTA	**Charters Tower**	**48.19**	**156**	LR	LR	19 35 54.3	
	comp=Z,355nm,21.2s,baz=55,slow=35						
ASAR	**Alice Springs**	**48.62**	**172**	P	**P**	**19 16 48.8**	**+0.5**
	0.3nm,0.6s,baz=354,slow=7.5,SNR=7.7						
FINES	**FINESS Array B**	**73.82**	**331**	P	**P**	**19 19 40.1**	**+1.4**
	1.6nm,0.9s,baz=64,slow=3.2,SNR=4.5						

ISCJB 27 19:21:29.3±1.6, 53°.95N±0°.09×163°.32W±0°.07, h23km±11km, mb3.4/3, Error ellipse: s-maj=14.9km s-min=5.1km az=162.6
NEIC 27 19:21:31.4, 54°.04N×163°.35W, h15km, ML3.5(AEIC), After AEIC.
IDC 27 19:21:35.2±5.8, 53°.57N×161°.81W, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.4/30, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=101.6km s-min=33.4km az=91.0
ISC 27 19:21:30.1±2.1, 54°.02N±0°.09×163°.34W±0°.04, h17km±12km, n26, σ1°46/31, mb3.5/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.67**	**340**	P	**Pg**	**19 21 43.4**	**0.0**
SSLS	**Shishaldin Sou**	**0.80**	**331**	P	**Pg**	**19 21 45.6**	**-0.1**
FALS	**False Pass**	**0.84**	**357**	P	**Pb**	**19 21 46.1**	**-0.2**
FALS				S	**Sg**	**19 21 57.6**	**-0.1**
WESE	**West Dahl East**	**0.86**	**303**	P	**Pb**	**19 21 46.3**	**-0.3**
SSLW	**Shishaldin Wes**	**0.88**	**329**	P	**Pb**	**19 21 46.8**	**-0.2**
SSBA	**Shishaldin**	**0.88**	**329**	P	**Pb**	**19 21 46.7**	**-0.3**
SSBA				S	**Sb**	**19 21 59.2**	**+0.7**
DRIA	**Deer Island**	**1.14**	**33**	P	**Pb**	**19 21 49.8**	**-1.5**
DT1	**Dutton Round H**	**1.25**	**29**	P	**Pn**	**19 21 51.7**	**-1.2**
DTNA	**Dutton South F**	**1.30**	**29**	P	**Pn**	**19 21 52.8**	**-0.7**
DOL	**Dolgoi Island**	**1.42**	**37**	P	**Pn**	**19 21 54.6**	**-0.6**
AKUT	**Akutan**	**1.44**	**276**	P	**Pn**	**19 21 54.2**	**-1.1**
AKUT				S	**Sn**	**19 22 13.6**	**-0.2**
ZRO	**Akutan Zero**	**1.56**	**274**	P	**Pn**	**19 21 56.9**	**-0.1**
AKGG	**Akutan Green G**	**1.57**	**278**	P	**Pn**	**19 21 57.2**	**+0.1**
AKGG				S	**Sn**	**19 22 15.9**	**-1.2**
PS4A	**Pavlof South-4**	**1.59**	**32**	P	**Pn**	**19 21 57.4**	**0.0**
LVA	**Lava Point**	**1.59**	**276**	P	**Pn**	**19 21 56.9**	**-0.6**
PVV	**Pavlof Volcano**	**1.63**	**33**	P	**Pn**	**19 21 58.1**	**+0.1**
MTBL	**Makushin Table**	**1.97**	**270**	P	**Pn**	**19 22 02.1**	**-0.7**
MSW	**Makushin Switc**	**2.04**	**268**	P	**Pn**	**19 22 02.5**	**-1.1**
SDPT	**Sand Point**	**2.13**	**50**	P	**Pn**	**19 22 05.0**	**+0.1**
SDPT				S	**Sn**	**19 22 30.5**	**-0.4**
VNWF	**Veniaminof 8**	**3.05**	**44**	P	**Pn**	**19 22 19.4**	**+1.9**
VNHG	**Veniaminof 1**	**3.26**	**46**	P	**Pn**	**19 22 21.3**	**+0.9**
KDAK	**Kodiak Island**	**7.13**	**54**	Pn	**Pn**	**19 23 13.8**	**+0.4**
	0.8nm,0.3s,baz=279,slow=11,SNR=4.3						
KDAK				Sn	**Sn**	**19 24 29.3**	**-4.6**
	0.2nm,0.3s,baz=168,slow=20,SNR=2.0						
ILAR	**Eielson Array**	**13.60**	**31**	Pn	Pn	19 24 45.5	+3.5
	0.1nm,0.3s,baz=220,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**26.40**	**52**	P	**P**	**19 27 09.9**	**+4.6**
	0.4nm,0.6s,baz=270,slow=9.4,SNR=3.3						
NVAR	**Mina Array Bea**	**34.19**	**98**	P	**P**	**19 28 14.5**	**-0.1**
	0.5nm,0.8s,baz=289,slow=8.5,SNR=4.3						
TXAR	**Lajitas Array**	**49.18**	**95**	P	**P**	**19 30 16.7**	**-0.5**
	0.4nm,0.8s,baz=298,slow=5.4,SNR=5.0						

IDC 27 19:23:03.1±2.8, 19°.02N×145°.56E, h233km±28km, mb3.4/14, mb1 3.6/16, mb1mx3.5/28, mbtmp3.4/16, Error ellipse: s-maj=20.8km s-min=8.3km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**8.62**	**339**	P	Pn	19 25 02.6	-1.7
	baz=108,slow=20						
CBIJ				S	S	19 26 35.4	-6.5
	7.3nm,0.3s,baz=162,slow=20,SNR=3.5						
MJAR	**Matsushiro Arr**	**18.62**	**341**	P	P	19 27 03.8	+0.3
	0.9nm,0.3s,baz=171,slow=11,SNR=16						
MJAR				S	S	19 30 22.0	-1.1
	0.3nm,0.3s,baz=127,slow=12,SNR=4.6						
MAT	**Matsushiro**	**18.62**	**341**	P	P	19 27 04.1	+0.6
KSRS	**Korea Array**	**23.99**	**324**	P	P	19 27 56.7	+0.2
	1.4nm,0.8s,baz=152,slow=9.5,SNR=5.4						
CTA	**Charters Tower**	**38.87**	**179**	P	P	19 30 05.8	-0.5
	2.5nm,0.7s,baz=12,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**40.25**	**196**	P	P	19 30 17.8	+0.2
	5.3nm,0.4s,baz=18,slow=8.9,SNR=151						
SONM	**Songino Array**	**42.82**	**321**	P	P	19 30 38.5	+0.2
	0.3nm,0.5s,baz=139,slow=10.0,SNR=6.1						
ASAR	**Alice Springs**	**43.92**	**195**	P	P	19 30 47.0	-0.1
	2.6nm,0.6s,baz=16,slow=7.6,SNR=68						
CMAR	**Chiang Mai Arr**	**44.05**	**277**	P	P	19 30 49.9	+1.5
	0.7nm,0.4s,baz=71,slow=6.2,SNR=6.7						
DZM	**Mont Dzumac**	**45.66**	**152**	P	P	19 31 01.4	+0.4
	4.3nm,0.4s,baz=40,slow=19,SNR=10						
STKA	**Stephens Creek**	**50.75**	**184**	P	P	19 31 37.9	-1.6
	1.4nm,0.6s,baz=98,slow=2.4,SNR=14						
ZALV	**Zalesovo Beam**	**57.69**	**322**	PcP	PcP	19 33 19.4	0.0
	0.3nm,0.5s,baz=114,slow=3.6,SNR=2.6						
MKAR	**Makanchi Array**	**58.15**	**314**	P	P	19 32 32.9	+0.3
	0.4nm,0.7s,baz=104,slow=10.0,SNR=3.6						
ILAR	**Eielson Array**	**63.42**	**26**	P	P	19 33 07.8	+0.1
	0.3nm,0.7s,baz=230,slow=5.6,SNR=2.9						
AKTO	**Aktyubinsk**	**74.04**	**318**	P	P	19 34 13.6	+0.2
	0.4nm,0.3s,baz=69,slow=8.6,SNR=2.7						
ARCES	**ARCESS Array B**	**82.15**	**342**	P	P	19 34 57.6	+0.1
	0.9nm,0.7s,baz=67,slow=6.7,SNR=4.3						
NVAR	**Mina Array Bea**	**83.05**	**52**	P	P	19 35 04.7	+1.6
	0.6nm,0.6s,baz=266,slow=6.3,SNR=6.7						
JOF	**Joensuu**	**83.68**	**335**	*e*p	P	19 34 58.6	-6.8
	0.6nm,0.4s						
FINES	**FINESS Array B**	**86.54**	**335**	P	P	19 35 17.9	-1.8
	1.0nm,0.4s,baz=73,slow=4.4,SNR=16						

DJA 27 20:01:48.6±0.7, 0°S±4°×12°0E±°, h91km±21km, M3.9/7, mb3.9/1, MLv3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**1.50**	**30**	P	Pn	20 02 16.0	+1.6
TOLI				S	Sn	20 02 34.2	+0.3
MRSI	**Marisa**	**2.01**	**71**	P	Pn	20 02 21.6	+0.6
MMSI	**Mamuju**	**2.74**	**204**	P	Pn	20 02 29.1	-1.6
TTSI	**Tana Toraja**	**2.85**	**184**	P	Pn	20 02 33.3	+1.1
TTSI				S	Sn	20 03 07.8	+2.0
LUWI	**Luwuk**	**2.86**	**107**	P	Pn	20 02 32.8	+0.5
LUWI				S	Sn	20 03 07.1	+1.1
GTOI	**Gorontalo**	**3.08**	**75**	P	Pn	20 02 32.5	-2.7
GTOI				S	Sn	20 03 10.2	-1.0
BKSI	**Bulukumba**	**5.11**	**179**	P	Pn	20 03 01.5	-1.3

IDC 27 20:06:37.4±1.3, 34°.03N×25°.24E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.5/28, mbtmp3.5/8, ML3.6/3, MS2.4/1, Ms1 2.4/1, ms1mx1.9/41, Error ellipse: s-maj=30.5km s-min=19.7km az=173.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMAI	**Mount Meron Ar**	**8.54**	**94**	Pn	Pn	20 08 43.2	+0.6
	0.3nm,0.3s,baz=270,slow=13,SNR=3.4						
MMAI				Sn	Sn	20 10 19.1	-0.7
	0.5nm,0.3s,baz=265,slow=27,SNR=3.5						
KEST	**Kesra**	**13.16**	**282**	LR	LR	20 17 03.5	
	comp=Z,16nm,18.1s,baz=228,slow=48						
AKASG	**Malin Array Be**	**16.92**	**9**	Pn	Pn	20 10 35.9	+0.4
	0.8nm,0.3s,baz=200,slow=12,SNR=5.5						
GERES	**GERESS Array B**	**17.12**	**333**	P	P	20 10 39.4	-0.5
	0.1nm,0.3s,baz=144,slow=12,SNR=9.9						
ESDC	**Sonseca Array**	**23.98**	**292**	P	P	20 11 51.8	-1.9
	0.1nm,0.3s,baz=97,slow=12,SNR=3.3						
EKA	**Eskdalemuir Ar**	**29.01**	**326**	P	P	20 12 39.6	+0.9
	0.7nm,0.4s,baz=127,slow=10.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**29.82**	**231**	P	P	20 12 47.1	+0.8
	0.6nm,0.7s,baz=37,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**44.35**	**56**	P	P	20 14 49.5	+0.1
	0.6nm,0.6s,baz=271,slow=6.6,SNR=8.5						
ZALV	**Zalesovo Beam**	**45.74**	**45**	P	P	20 14 59.4	-0.9
	0.4nm,0.4s,baz=281,slow=9.3,SNR=3.2						

NIED 27 20:10:00, 45°.70N×153°.50E, h8km, Mw5.2 Best double couple: M07.69000×10^16 NP1:φs219.00000°, δ53.00000°, λ-111.00000°. NP2:φs72.00000°, δ42.00000°, λ-64.00000°.
DJA 27 20:10:26.1±2.7, 46°N±25°×15°5E±3°9, h10km, M5.4/14, mB5.8/9, mb5.4/14, Mw(mB)5.4/9
IDC 27 20:10:30.7±0.4, 45°.49N×153°.83E, h0km, mb5.1/37, mb1 5.2/42, mb1mx5.2/43, mbtmp5.1/42, ML4.5/5, MS4.5/30, Ms1 4.5/30, ms1mx4.3/42, Error ellipse: s-maj=11.8km s-min=9.5km az=129.0
ISCJB 27 20:10:31.4±0.1, 45°.42N±0°.02×153°.75E±0°.02, h14km, mb5.3/379, MS4.7/147, Error ellipse: s-maj=3.7km s-min=1.8km az=161.4
TEH 27 20:10:32.0, 45°.49N×153°.74E, h3km, ML5.4
BJI 27 20:10:33.0, 45°.45N×153°.34E, h12km, mB5.5/47, mb5.3/60, Ms5.0/76, Ms7 4.9/67
NEIC 27 20:10:33.4±1.5, 45°.50N×153°.73E, h16km±9km, mb5.4/215, MW5.5, Error ellipse: s-maj=3.6km s-min=2.0km az=158.0, Moment Tensor Solution. s27 Moment tensor: Scale 1017Nm; Mrr-1.62; Mθθ1.65; Mφφ-0.02; Mrθ0.71; Mrφ0.51; Mθφ0.33; Best double couple: M01.90000×1017 NP1: φs79.00000°, δ33.00000°, λ-83.00000°. NP2:φs250.00000°, δ57.00000°, λ-95.00000°. Principal axes: T 1.9600, Plg12.0000°, Azm343.0000°; N -0.1600, Plg4.0000°, Azm252.0000°; P -1.7900, Plg77.0000°, Azm144.0000°;
JMA 27 20:10:35.3±0.6, 45°.67N×153°.50E, h30km, M5.8
BKK 27 20:10:35.6±0.8, 45°N±8°×15°4E±1°4, h10km, M5.4/31, mB5.8/23, mb5.5/31, Mw(mB)5.4/23
SKHL 27 20:10:36.6±0.6, 45°.45N×153°.63E, h55km±23km, mb5.7/6, mbh5.6/3, Ms5.2/4, msh5.9/2
MOS 27 20:10:36.9±1.6, 45°.55N×153°.52E, h61km, mb5.6/143, MS4.7/70, Error ellipse: s-maj=8.7km s-min=7.4km az=20.6
GCMT 27 20:10:37.6±0.1, 45°.58N×153°.84E, h12km, MW5.3, Moment Tensor Solution. s57,c100; s99,c210; Moment tensor: Scale 1016Nm; Mrr-6.94±.19; Mθθ4.24±.15; Mφφ2.70±.15; Mrθ4.83±.45; Mrφ5.89±.11; Mθφ-0.78±.37; Best double couple: M09.80000×1016 NP1:φs254.00000°, δ61.00000°, λ-59.00000°. NP2:φs23.00000°, δ41.00000°, λ-133.00000°. Principal axes: T 10.0000, Plg11.0000°, Azm322.0000°; N -0.5000, Plg27.0000°, Azm58.0000°; P -9.5000, Plg61.0000°, Azm212.0000°; Data Used: II IU IC G. Surface waves: sta= 89, comp=173, per= 50.
SZGRF 27 20:10:41.9, 46°.66N×153°.03E, h16km, mb5.2, MS4.6, Kuril Islands, Russia
BGS 27 20:10:46.7±1.9, 46°.09N×149°.92E, h16km, mb5.4
ISC 27 20:10:33.3±0.3, 45°.50N±0°.03×153°.77E±0°.03, h17km±1km, h16km: pP-P, n1407, σ1°16/1515, mb5.4/391, MS4.7/147, 226C-210D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.17**	**269**	*e*PN	**Pn**	**20 11 36.4**	**+0.2**
KUR				*e*S	**Sn**	**20 12 21.4**	**-3.1**
KUR				pmax	pmax		
	comp=E,372nm,0.2s						
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,312nm,0.3s						
KUR				smax	smax		
	comp=E,5μm,0.4s						
KUR				smax	smax		
	comp=N,6μm,0.4s						
KUR	**Kuril'sk**	**4.17**	**269**	*e*P	**Pn**	**20 11 36.4**	**+0.2**
KUR				AMB	AMB	20 11 38.8	
	comp=N,2μm,0.7s						
KUR				AMB	AMB	20 11 39.2	
	comp=N,999μm,0.2s						
KUR				AMB	AMB	20 11 39.2	
	comp=N,372nm,0.2s						
KUR				AMB	AMB	20 11 39.3	
	comp=N,312nm,0.3s						
KUR				*e*S	**Sn**	**20 12 21.5**	**-3.1**
KUR				A	A	20 12 24.4	
	comp=N,7μm,0.6s						
KUR				A	A	20 12 24.4	
	comp=N,9μm,0.6s						
KUR				A	A	20 12 26.0	
	comp=N,45μm,2.5s						
KUR				A	A	20 12 26.0	
	comp=N,19μm,2.5s						
KUR				AMS	AMS	20 13 51.0	
	comp=N,27μm,12.0s						
KUR				AMS	AMS	20 13 51.0	
	comp=N,19μm,10.0s						
KUR				AMS	AMS	20 13 51.0	
	comp=N,31μm,10.0s						
SKR	**Severo-Kuril's**	**5.42**	**16**	*e*PN	Pn	20 11 42.8	-11
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,280nm,0.5s						
SKR				MLR	MLR		
	comp=N,4μm,12.0s						
SKR				MLR	MLR		
	comp=E,2μm,12.0s						
SKR				MLR	MLR		
	comp=Z,9μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**258**	*c iP*N	**Pn**	**20 11 58.4**	**-0.4**
YUK				pmax	pmax		
	comp=E,226nm,0.2s						
YUK				pmax	pmax		
	comp=N,83nm,0.2s						
YUK				pmax	pmax		
	comp=Z,490nm,0.2s						
YUK				MLR	MLR		
	comp=N,1μm,9.0s						
YUK				MLR	MLR		
	comp=E,632nm,11.0s						
YUK				MLR	MLR		
	comp=Z,2μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**5.82**	**258**	⇑*iP*	**Pn**	**20 11 58.5**	**-0.4**
YUK				AMB	AMB	20 12 03.7	
	comp=Z,226nm,0.2s						
YUK				AMB	AMB	20 12 03.7	
	comp=Z,83nm,0.2s						
YUK				AMB	AMB	20 12 03.7	
	comp=Z,490nm,0.2s						
YUK				*i* S	**Sn**	**20 12 59.7**	**-5.4**
YUK				A	A	20 13 07.2	
	comp=Z,2μm,0.5s						
YUK				A	A	20 13 07.2	
	comp=Z,2μm,0.5s						
NEM2	**Nemuro 2**	**6.13**	**253**	⇓P	**Pn**	**20 12 01.1**	**-2.0**
NEM2				*e*S	Sn	20 13 05.4	-7.4
JRA	**Rausu**	**6.36**	**259**	⇓P	**Pn**	**20 12 06.3**	**+0.1**
JRA				*e*S	**Sn**	**20 13 15.8**	**-2.6**
JNK	**Nakash**	**6.75**	**257**	P	**Pn**	**20 12 10.6**	**-1.0**
JNK				*e*S	**Sn**	**20 13 22.7**	**-5.3**
JAK	**Akkeshi**	**6.98**	**252**	P	**Pn**	**20 12 13.2**	**-1.6**
JAK				*e*S	Sn	20 13 25.9	-7.8
JTKR	**Abashiri--Toko**	**7.19**	**261**	⇓P	**Pn**	**20 12 17.9**	**+0.3**
JTKR				*e*S	**Sn**	**20 13 36.7**	**-2.2**
JAR	**Ashorobuto**	**7.49**	**256**	P	**Pn**	**20 12 21.4**	**-0.5**
JAR				*e*S	**Sn**	**20 13 42.6**	**-3.8**
JMP	**Maruseppu**	**7.56**	**262**	P	**Pn**	**20 12 22.9**	**+0.1**
JOB	**Onbets**	**7.60**	**254**	P	**Pn**	**20 12 22.2**	**-1.0**
JOB				*e*S	Sn	20 13 42.9	-6.0
YSS	**Yuzh-Sakhalins**	**7.78**	**285**	*α iP*N	**Pn**	**20 12 28.5**	**+2.8**
YSS				*e*S	**Sn**	**20 13 53.0**	**-0.4**
YSS				pmax	pmax		
	comp=E,370nm,1.0s						
YSS				pmax	pmax		
	comp=Z,450nm,1.0s						
YSS				pmax	pmax		
	comp=N,140nm,0.6s						
YSS				pmax	pmax		
	comp=Z,1μm,7.0s						
YSS				smax	smax		
	comp=N,140nm,0.5s						
YSS				MLR	MLR		
	comp=Z,8μm,16.0s						
YSS				MLR	MLR		
	comp=E,6μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.78**	**285**	⇑*iP*	**Pn**	**20 12 28.5**	**+2.8**
YSS				AMB	AMB	20 12 30.0	
	comp=E,450nm,1.0s						
YSS				AMB	AMB	20 12 30.0	
	comp=E,370nm,1.0s						
YSS				AMB	AMB	20 12 30.0	
	comp=E,140nm,0.6s						
YSS				AMB	AMB	20 12 34.0	
	comp=E,1μm,7.0s						
YSS				*e*S	**Sn**	**20 13 53.0**	**-0.4**
YSS				A	A	20 13 58.0	
	comp=E,140nm,0.5s						
YSS				*e*LR	LR	20 14 46.0	
YSS				AMS	AMS	20 16 28.0	
	comp=E,8μm,16.0s						
YSS				AMS	AMS	20 16 28.0	
	comp=E,6μm,15.0s						
JSE	**Soyaes**	**7.92**	**270**	⇓P	**Pn**	**20 12 29.2**	**+1.6**
JKK2	**Kamakawa 2**	**8.02**	**262**	P	**Pn**	**20 12 29.7**	**+0.6**
JCH	**Churui**	**8.03**	**253**	P	**Pn**	**20 12 27.8**	**-1.4**
JCH				*e*S	Sn	20 13 52.7	-6.9
PEA0B	**Petropavlovsk-**	**8.04**	**17**	*e*P	**Pn**	**20 12 28.1**	**-1.3**
PETK	**Petropavlovsk-**	**8.04**	**17**	PN	**Pn**	**20 12 28.2**	**-1.1**
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK	**Petropavlovsk-**	**8.04**	**17**	Pn	**Pn**	**20 12 28.2**	**-1.1**
PETK				Sn	**Sn**	**20 14 00.7**	**+0.9**
PETK	**Petropavlovsk-**	**8.04**	**17**	Pn	**Pn**	**20 12 28.2**	**-1.1**
	comp=Z,12nm,0.3s,baz=188,slow=14,SNR=89						
PETK				Sn	**Sn**	**20 14 00.7**	**+0.9**
	comp=Z,2.5nm,0.3s,baz=184,slow=20,SNR=2.6						
ASAJ	**Asahikawa**	**8.07**	**264**	*e*Pn	**Pn**	**20 12 30.7**	**+1.0**
ASAJ				Sn	**

UGL AMB AMB 20 12 46.0
comp=N,1μm,5.0s
UGL AMB AMB 20 12 46.0
comp=N,2μm,5.0s
UGL *e*S **Sn** **20 14 14.2 -2.4**
UGL A A 20 14 19.0
comp=N,95nm,0.6s
UGL A A 20 14 19.0
comp=N,370nm,0.6s
UGL *e*L L 20 14 36.0
UGL *e*L L 20 16 29.0
UGL AMS AMS 20 17 22.0
comp=N,8μm,15.0s
UGL AMS AMS 20 17 22.0
comp=N,7μm,15.0s
UGL AMS AMS 20 17 22.0
comp=N,3μm,12.0s
JHR Hokuryu 8.77 263 P **Pn** **20 12 41.1 +1.7**
TYV Tymovskoe 9.16 310 *e*P **Pn** **20 12 45.0 +0.3**
TYV AMB AMB 20 12 47.8
comp=N,189nm,1.0s
TYV AMB AMB 20 12 47.8
comp=N,145nm,0.8s
TYV AMB AMB 20 12 54.0
comp=N,2μm,4.0s
TYV AMB AMB 20 12 54.0
comp=N,2μm,6.0s
TYV AMB AMB 20 12 54.0
comp=N,2μm,8.0s
TYV AMS AMS 20 17 36.0
comp=N,4μm,18.0s
TYV AMS AMS 20 17 36.0
comp=N,10μm,16.0s
TYV AMS AMS 20 17 36.0
comp=N,9μm,16.0s
JEW Eniwo 9.25 258 P **Pn** **20 12 46.4 +0.5**
JEW *e*S Sn 20 14 23.2 -6.3
JNB Noboribetsu 9.66 256 P **Pn** **20 12 50.4 -1.2**
JNB *e*S Sn 20 14 33.0 -6.7
JSK Shakotan 9.75 262 P **Pn** **20 12 53.8 +1.0**
JKB Kayabe 9.91 253 ⇑P **Pn** **20 12 52.9 -2.0**
JKB *e*S Sn 20 14 34.9 -11
JYM2 Yakumo 2 10.26 256 P **Pn** **20 12 58.1 -1.6**
JYM2 *e*S Sn 20 14 46.7 -7.6
JSH Shimam 10.28 259 P **Pn** **20 12 59.8 -0.3**
JANG Nango 10.34 245 P Pn 20 12 57.0 -3.9
JANG *e*S Sn 20 14 43.9 -12
JTH Tanohata 10.37 242 P Pn 20 12 57.2 -4.1
JTH *e*S Sn 20 14 43.5 -14
JTM Tenmabayashi 10.41 248 P **Pn** **20 12 58.8 -2.9**
JTM *e*S Sn 20 14 47.1 -11
JSR Shiriuchi 10.48 252 P **Pn** **20 13 00.5 -2.2**
JSR *e*S Sn 20 14 50.2 -9.5
JOSM Okushiri--Mats 10.88 257 P **Pn** **20 13 06.8 -1.5**
JOSM *e*S Sn 20 15 01.1 -8.5
OFUJ Ofunato 11.02 239 P Pn 20 13 06.2 -3.9
OFUJ *e*S Sn 20 15 00.5 -12
JRG Rokugo 11.46 242 P Pn 20 13 12.7 -3.4
JRG *e*S Sn 20 15 11.7 -12
NKL Nikolayevsk 11.46 317 *e*P **Pn** **20 13 16.0 -0.1**
NKL AMB AMB 20 13 17.5
comp=N,130nm,1.5s
NKL AMB AMB 20 13 23.0
comp=N,700nm,6.0s
NKL AMB AMB 20 13 23.0
comp=N,1μm,6.0s
NKL AMB AMB 20 13 23.0
comp=N,1μm,6.0s
JIO Ouri 11.61 237 P Pn 20 13 14.0 -4.2
JIO *e*S Sn 20 15 11.9 -16
JOG2 Oga 2 11.70 246 P **Pn** **20 13 17.5 -1.9**
TEY Ternei 12.11 274 *e*P **Pn** **20 13 26.2 +1.2**
TEY AMB AMB 20 13 26.9
comp=N,1μm,6.0s
TEY AMB AMB 20 13 26.9
comp=N,1μm,6.0s
TEY AMB AMB 20 13 26.9
comp=N,21nm,0.7s
TEY AMB AMB 20 13 26.9
comp=N,12nm,0.5s
JYA Atsumi 12.51 241 P **Pn** **20 13 27.7 -2.9**
JFK Kawauchi 12.62 234 P Pn 20 13 27.7 -4.4
JFK *e*S Sn 20 15 38.3 -14
HABR Khabarovsk 13.12 290 *e*PN **Pn** **20 13 38.8 -0.1**
HABR pmax pmax
comp=N,42nm,2.5s
HABR pmax pmax
comp=E,65nm,2.5s
HABR MLR MLR
comp=Z,5μm,16.0s
JFY Yanaizu 13.28 237 P Pn 20 13 37.7 -3.3
JFY *e*S Sn 20 15 56.2 -12
FX1 Attu Island--F 14.65 53 *e*Pn **Pn** **20 13 57.6 -2.0**
FX1 *e*Sn Sn 20 16 21.1 -20
FX1 Sn S 20 16 28.2 -32
FX1 Attu Island--F 14.65 53 Pn **Pn** **20 13 57.4 -2.2**
comp=Z,4.6nm,0.3s,baz=125,slow=5.1,SNR=16
FX1 Sn Sn 20 16 28.2 -13
comp=Z,14nm,0.3s,baz=217,slow=20,SNR=9.0
FX1 LR LR 20 19 07.8
comp=Z,2μm,18.7s,baz=286,slow=35
MAT Matsushiro 14.74 238 P **Pn** **20 13 58.0 -3.1**
MAT S **Sn** **20 16 39.0 -5.1**
MJAR Matsushiro Arr 14.74 238 Pn **Pn** **20 13 58.7 -2.4**
MJAR Sn **Sn** **20 16 44.2 +0.2**
MJAR Matsushiro Arr 14.74 238 Pn **Pn** **20 13 58.7 -2.4**
comp=Z,2.3nm,0.3s,baz=32,slow=14,SNR=106
MJAR Sn **Sn** **20 16 44.2 +0.2**
comp=Z,1.5nm,0.3s,baz=24,slow=23,SNR=4.5
MJAR LR LR 20 19 53.8
comp=Z,864nm,18.6s,baz=55,slow=38
SMY Shemya 15.12 54 *e*P **Pn** **20 14 04.6 -1.4**
SMY pmax pmax
comp=Z,254nm,1.0s
SMY Shemya 15.12 54 *e*Pn **Pn** **20 14 04.6 -1.4**
comp=Z,254nm,1.0s
KLR Kul'dur 15.37 292 ⇓*i*P **Pn** **20 14 06.1 -3.2**
KLR *e*S **Sn** **20 16 59.5 +0.4**
KLR pmax pmax
comp=E,160nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s
KLR pmax pmax
comp=E,1μm,8.5s
KLR pmax pmax
comp=Z,2μm,8.5s
KLR MLR MLR
comp=N,2μm,14.0s
KLR MLR MLR
comp=E,5μm,14.0s
KLR MLR MLR
comp=Z,6μm,14.0s
USRK Ussuriysk Arra 15.50 273 Pn **Pn** **20 14 09.8 -1.3**
comp=Z,3.4nm,0.3s,baz=86,slow=12,SNR=83
USRK LR LR 20 20 19.0
comp=Z,1μm,19.7s,baz=73,slow=38
VLA Vladivostok 15.84 269*c i*P **Pn** **20 14 13.2 -2.3**
VLA pmax pmax
comp=Z,233nm,1.7s
MDJ Mudanjiang 17.10 276 P **Pn** **20 14 31.3 -0.1**
MDJ S **Sn** **20 17 42.3 +1.2**
MDJ PcP **PcP** **20 19 16.3 +0.7**
MDJ ScP **ScP** **20 22 53.8 +4.2**
MDJ ScS **ScS** **20 26 31.5 +2.3**
MDJ pmax pmax
comp=Z,100nm,0.7s
MDJ pmax pmax
comp=Z,300nm,3.7s
MDJ LR LR
comp=N,1μm,13.6s
MDJ LR LR
comp=E,2μm,15.2s
MDJ LR LR
comp=Z,3μm,15.2s
MDJ Mudanjiang 17.10 276 *e*P **Pn** **20 14 30.1 -1.3**
comp=Z,382nm,1.1s
SEY Seymchan 17.49 358*ce*P **Pn** **20 14 35.1 -1.1**
ZEA Zeya 18.97 305 *e*P **P** **20 14 52.0 -1.7**
ZEA AMB AMB 20 14 55.6
comp=Z,130nm,1.4s
ZEA AMB AMB 20 14 55.6
comp=Z,140nm,1.4s
ZEA AMB AMB 20 14 55.6
comp=Z,200nm,1.4s
ZEA AMB AMB 20 15 03.0
comp=Z,2μm,8.0s
ZEA AMB AMB 20 15 03.0
comp=Z,1μm,8.0s
ZEA *e*S **Sn** **20 18 26.0 -0.3**
ZEA A A 20 18 33.0
comp=Z,700nm,4.0s
CN2 Changchun 20.18 275 *e*P **P** **20 15 06.0 -1.0**
CN2 *e*PP **PnPn** **20 15 25.0 +1.6**
CN2 *e*S **S** **20 18 46.3 -6.5**
CN2 *e*SS **SnSn** **20 19 14.0 +4.1**
CN2 pmax pmax
comp=Z,150nm,0.9s
CN2 pmax pmax
comp=Z,770nm,4.0s
CN2 LR LR
comp=N,2μm,13.0s
CN2 LR LR
comp=E,3μm,13.0s
CN2 LR LR
comp=Z,3μm,14.0s
CBIJ Chichi jima 20.56 211 P **P** **20 15 10.9 -0.2**
CBIJ Chichi jima 20.56 211 P **P** **20 15 10.9 -0.2**
comp=Z,115nm,0.8s,baz=38,slow=12
KSRS Korea Array 20.90 257 P **P** **20 15 15.9 +1.1**
comp=Z,27nm,0.7s,baz=65,slow=9.5,SNR=93
KSRS LR LR 20 22 40.8
comp=Z,1μm,21.8s,baz=60,slow=35
KSAR Wonju Array Be 20.94 257 P **P** **20 15 15.9 +0.7**
CLNS Chul'man 21.20 313 *e*P **P** **20 15 17.8 -0.1**
CLNS *e* 20 15 36.7
CLNS *e*S **S** **20 19 09.4 -3.4**
CLNS *e* 20 19 20.6
CLNS *e*SS **SnSn** **20 19 35.8 +1.1**
CLNS *e* 20 26 42.2
CLNS pmax pmax
comp=Z,108nm,1.0s
CLNS pmax pmax
comp=E,39nm,1.0s
CLNS pmax pmax
comp=N,78nm,0.9s
CLNS pmax pmax
comp=N,68nm,0.9s
CLNS pmax pmax
comp=E,37nm,1.2s
CLNS pmax pmax
comp=Z,53nm,0.8s
CLNS smax smax
comp=N,79nm,1.5s
CLNS smax smax
comp=E,54nm,1.4s
CLNS MLR MLR
comp=N,1μm,15.0s
CLNS MLR MLR
comp=Z,4μm,13.0s
CLNS MLR MLR
comp=E,3μm,14.0s
JNU Nakatsue 21.51 243 *e*P **P** **20 15 22.5 +1.0**
comp=E,84nm,1.6s
JNU Nakatsue 21.51 243 P **P** **20 15 22.4 +1.0**
comp=E,31nm,0.8s,baz=75,slow=5.5,SNR=18
YAK Yakutsk 21.63 329 *e*P **P** **20 15 19.5 -2.9**
YAK *e* 20 15 37.3
YAK *e*S S 20 19 13.3 -7.8
YAK *e**SS **sS** **20 19 25.9 -2.7**
YAK *e*SS Sn 20 19 34.5 +4.5
YAK *e*SSS SSS 20 19 46.8
YAK pmax pmax
comp=E,38nm,1.5s
YAK pmax pmax
comp=Z,107nm,0.9s
YAK pmax pmax
comp=N,22nm,1.1s
YAK smax smax
comp=N,702nm,3.3s
YAK smax smax
comp=E,2μm,3.0s
YAK MLR MLR
comp=N,890nm,13.0s
YAK MLR MLR
comp=E,1μm,13.0s
YAK MLR MLR
comp=Z,2μm,13.0s
INCN Inchon 21.77 258 P **P** **20 15 26.0 +1.8**
SNR=5.6
INCN Inchon 21.77 258 *e*P **P** **20 15 25.7 +1.4**
comp=Z,92nm,0.9s
SNY Shenyang 22.08 271 ⇑P **P** **20 15 28.5 +1.0**
SNY S **S** **20 19 27.8 -2.4**
SNY pmax pmax
comp=Z,29nm,0.7s
SNY pmax pmax
comp=Z,1μm,6.8s
SNY LR LR
comp=N,990nm,12.5s
SNY LR LR
comp=E,3μm,14.8s
SNY LR LR
comp=Z,3μm,15.3s
HIA Hailar 23.23 292 *e*P **P** **20 15 36.4 -3.1**
comp=Z,118nm,1.2s
HIA LR LR
comp=Z,2μm,19.0s
DL2 Dalian 24.59 266 P **P** **20 15 52.5 0.0**
DL2 S **S** **20 20 14.8 +2.1**
DL2 pmax pmax
comp=Z,87nm,1.7s
DL2 pmax pmax
comp=Z,2μm,4.1s
DL2 LR LR
comp=N,660nm,18.6s
DL2 LR LR
comp=E,650nm,15.2s
DL2 LR LR
comp=Z,710nm,17.6s
CIT Chita 27.03 299 *e*P **P** **20 16 16.3 +1.8**
CIT *e* 20 16 27.2
CIT *e* 20 16 37.3
CIT *e* 20 17 01.9
CIT *e* 20 17 17.1
CIT *e*S **S** **20 20 45.7 -5.7**
CIT pmax pmax
comp=Z,190nm,1.8s
JOW Kunigami 27.57 236 *e*P **P** **20 16 18.7 -0.8**
comp=Z,13nm,0.9s
BJI Beijing 27.95 272 P **P** **20 16 23.0 +0.2**
BJI S **S** **20 21 11.8 +5.9**
BJI pmax pmax
comp=Z,180nm,0.8s
BJI pmax pmax
comp=Z,1μm,5.4s
BJI LR LR
comp=N,2μm,13.6s
BJI LR LR
comp=E,3μm,16.1s
BJI LR LR
comp=Z,2μm,17.0s
BJT Baijiatuau 27.97 272 *e*P **P** **20 16 24.2 +1.3**
comp=Z,90nm,0.6s
BJT LR LR
comp=Z,1μm,20.0s
MIDW Midway 28.60 117 PFAKE 20 16 40.0 +11
MIDW LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 28.80 344*d i*P **P** **20 16 28.9 -1.1**
TIXI pmax pmax
comp=Z,39nm,1.6s
TIXI MLR MLR
comp=Z,2μm,17.0s
TIA Tai'an 29.02 264 ⇓P **P** **20 16 32.8 +0.5**
TIA S **S** **20 21 25.5 +2.7**
TIA pmax pmax
comp=Z,20nm,0.7s
TIA pmax pmax
comp=Z,620nm,9.1s
TIA LR LR
comp=N,750nm,14.1s
TIA LR LR
comp=E,960nm,16.1s
TIA LR LR
comp=Z,1μm,18.8s
SSE Sheshan 29.11 252 P **P** **20 16 33.8 +0.7**
SSE pP **pP** **20 16 43.0 +4.8**
SSE S **S** **20 21 22.0 -2.2**
SSE pmax pmax
comp=Z,43nm,0.8s
SSE pmax pmax
comp=Z,150nm,3.3s
SSE LR LR
comp=N,400nm,19.0s
SSE LR LR
comp=E,520nm,18.9s
SSE LR LR
comp=Z,720nm,16.2s
NJ2 Nanjing 30.10 256 *e*P **P** **20 16 41.0 -0.9**
NJ2 pP **pP** **20 16 45.5 -1.5**
NJ2 sP **sP** **20 16 48.5 -0.6**
NJ2 PP **PnPn** **20 17 39.0 0.0**
NJ2 S **S** **20 21 42.0 +2.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,4.2s
NJ2 LR LR
comp=N,2μm,11.6s
NJ2 LR LR
comp=E,2μm,14.7s
NJ2 LR LR
comp=Z,2μm,14.4s
HHC Hu-ho-hao-te 30.87 277 *e*P **P** **20 16 50.0 +1.2**
HHC PP **PnPn** **20 17 51.5 +2.3**
HHC S **S** **20 21 53.8 +1.9**
HHC PcS **PcS** **20 23 30.8 +1.5**
HHC ScS **ScS** **20 27 26.0 +2.1**
HHC pmax pmax
comp=Z,260nm,1.0s
HHC pmax pmax
comp=Z,2μm,5.2s
HHC LR LR
comp=N,3μm,12.9s
HHC LR LR
comp=E,3μm,13.9s
HHC LR LR
comp=Z,5μm,13.5s
TIY Taiyuan 31.59 271 *e*P **P** **20 16 56.8 +1.7**
TIY PP **PP** **20 18 02.8 -3.6**
TIY S **S** **20 22 06.0 +2.8**
TIY pmax pmax
comp=Z,570nm,3.5s
TIY LR LR
comp=N,710nm,14.2s
TIY LR LR
comp=E,1μm,16.3s
TIY LR LR
comp=Z,1μm,16.8s
ULN Ulaanbaatar 31.76 291 P **P** **20 16 57.1 +0.4**
SNR=36
ULN Ulaanbaatar 31.76 291 *e*P **P** **20 16 56.0 -0.7**
comp=Z,48nm,1.0s
ULN LR LR
comp=Z,829nm,19.0s
ULN Ulaanbaatar 31.76 291 P **P** **20 16 55.5 -1.2**
comp=Z,57nm,1.7s,comp=Z,718nm
BTO Baotou 32.04 277 *e*P **P** **20 16 59.3 +0.2**
SONM Songino Array 32.20 292 P **P** **20 17 00.5 0.0**
SONM PcP **PcP** **20 19 48.8 0.0**
SONM Songino Array 32.20 292 P **P** **20 17 00.5 0.0**
comp=Z,11nm,0.7s,baz=77,slow=6.9,SNR=93
SONM PcP **PcP** **20 19 48.8 0.0**
comp=Z,3.1nm,0.6s,baz=110,slow=2.8,SNR=4.3
SONM LR LR 20 30 46.3
comp=Z,1μm,18.6s,baz=78,slow=38
GUMO Guam 32.69 196 PFAKE 20 17 20.0 +15
GUMO LR LR
comp=Z,643nm,20.0s
IRK Irkutsk 32.71 300 *e*P **P** **20 17 02.2 -2.5**
IRK pmax pmax
comp=Z,57nm,2.3s
TATO Taipei 33.05 243 PFAKE 20 17 20.0 +12
TATO LR LR
comp=Z,1μm,19.0s
SVW2 Sparrevohn 33.07 44 *e*P **P** **20 17 08.8 +1.0**
comp=Z,25nm,0.8s
YHNB Yeheng 33.35 242 PFAKE 20 17 20.0 +9.4
YHNB LR LR
comp=Z,1μm,20.0s
ZAK Zakamensk 33.64 297 *e*P **P** **20 17 12.6 -0.4**
ZAK pmax pmax
comp=Z,51nm,1.3s
WHN Wuhan 34.09 258 ⇓P **P** **20 17 15.0 -1.9**
WHN S **S** **20 22 45.0 +3.1**
WHN pmax pmax
comp=Z,580nm,8.3s
WHN LR LR
comp=N,2μm,13.1s
WHN LR LR
comp=E,800nm,13.1s
WHN LR LR
comp=Z,2μm,17.3s
OHAK Old Harbor 34.20 51 *e*P **P** **20 17 17.0 -0.7**
comp=Z,32nm,0.7s
SSLB Suanglung 34.25 242 *e*P **P** **20 17 17.7 -0.7**
comp=Z,12nm,0.8s
YULB Yu-li 34.33 241 *e*P **P** **20 17 18.8 -0.3**
comp=Z,7.5nm,0.6s
IM04 Indian Mountai 34.51 35 *e*P **P** **20 17 20.5 +0.2**
KDAK Kodiak Island 34.55 50 P **P** **20 17 20.0 -0.7**
comp=Z,669nm,0.7s,SNR=13
KDAK Kodiak Island 34.55 50 *e*P **P** **20 17 20.2 -0.5**
comp=Z,78nm,0.8s
KDAK LR LR
comp=Z,1μm,21.0s
IMA2 Indian Mountai 34.56 35 *e*P **P** **20 17 21.1 +0.3**
SPU Mount Spurr 34.78 44 *e*P **P** **20 17 23.6 +0.8**
MOY Mondy 34.80 300 *e*P **P** **20 17 22.3 -0.8**
MOY pmax pmax
comp=Z,77nm,2.6s
PPLA Purkeypile 34.81 40 *e*P **P** **20 17 24.4 +1.4**
comp=Z,188nm,1.7s
TPUB Ta-pu 34.81 242 *e*P **P** **20 17 22.9 -0.4**
comp=Z,30nm,0.7s
TWG Pinlang 34.89 241 *e*P **P** **20 17 23.1 -0.9**
comp=Z,62nm,0.6s
QZH Quanzhou 34.91 246 ⇓*i*P **P** **20 17 23.0 -1.1**
QZH S **S** **20 22 54.0 -0.8**
QZH pmax pmax
comp=Z,740nm,3.1s
QZH LR LR
comp=N,910nm,13.8s
QZH LR LR
comp=E,1μm,15.2s
QZH LR LR
comp=Z,920nm,15.5s
BPAW Bear Paw Mtn. 35.44 38 *e*P **P** **20 17 29.0 +0.7**
comp=Z,27nm,0.8s
TRF Thorofare Moun 35.70 40 *e*P **P** **20 17 30.9 +0.1**
comp=Z,25nm,0.8s
XAN Xi'an 35.89 267 P **P** **20 17 32.5 0.0**
XAN pP **pP** **20 17 37.8 +0.1**
XAN S **S** **20 23 08.8 -1.0**
XAN PcS **PcS** **20 23 48.5 +1.6**
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,99nm,7.1s
XAN LR LR
comp=N,950nm,16.3s
XAN LR LR
comp=E,400nm,15.3s
XAN LR LR
comp=Z,430nm,16.3s
COLD Coldfoot 36.12 33 *e*P **P** **20 17 34.7 +0.6**
comp=Z,26nm,0.7s
PMR Palmer 36.20 43 *e*P **P** **20 17 37.0 +2.2**
PMR pmax pmax
comp=Z,32nm,0.9s
PMR Palmer 36.20 43 *e*P **P** **20 17 37.0 +2.2**
comp=Z,32nm,0.9s
MCK McKinley 36.32 39 *e*P **P** **20 17 36.4 +0.5**
MCK pmax pmax
comp=Z,33nm,0.9s
MCK McKinley 36.32 39 *e*P **P** **20 17 36.4 +0.5**
comp=Z,32nm,0.9s
SML Sawmill 36.57 42 *e*P **P** **20 17 38.3 +0.2**
SML pmax pmax
comp=Z,35nm,0.7s
SML Sawmill 36.57 42 *e*P **P** **20 17 38.3 +0.2**
comp=Z,35nm,0.7s
COLA College 36.85 37 *e*P **P** **20 17 41.0 +0.7**
COLA MLR MLR
comp=Z,625nm,19.0s
COLA College 36.85 37 *e*P **P** **20 17 41.0 +0.7**
comp=Z,213nm,0.8s

COLA LR LR
comp=Z,625nm,19.0s
ILAR Eielson Array 37.26 38 P **P** **20 17 43.5 -0.3**
ILAR Eielson Array 37.26 38 P **P** **20 17 43.5 -0.3**
comp=Z,10nm,0.9s,baz=251,slow=7.8,SNR=84
ILAR LR LR 20 33 41.6
comp=Z,670nm,18.8s,baz=299,slow=37
ENH Enshi 37.62 262 *e*P **P** **20 17 46.7 -0.6**
comp=Z,24nm,0.7s
PAX Paxson 37.88 40 *e*P **P** **20 17 50.8 +1.6**
PAX pmax pmax
comp=Z,14nm,0.8s
PAX Paxson 37.88 40 *e*P **P** **20 17 50.8 +1.6**
comp=Z,14nm,0.8s
LZH Lanzhou 38.41 274 ⇑P **P** **20 17 55.8 +1.8**
LZH pP **pP** **20 17 58.5 -0.7**
LZH sP **sP** **20 18 01.0 -0.2**
LZH PP **PnPn** **20 19 25.3 +1.7**
LZH S **S** **20 23 50.3 +2.0**
LZH sS **sS** **20 24 00.3 +3.5**
LZH SS SnSn 20 26 24.0 -10
LZH pmax pmax
comp=Z,410nm,1.6s
LZH pmax pmax
comp=Z,730nm,4.0s
LZH LR LR
comp=N,1μm,14.9s
LZH LR LR
comp=E,1μm,14.6s
LZH LR LR
comp=Z,2μm,15.4s
BMRM Bremner River 38.41 44 *e*P **P** **20 17 54.6 +1.0**
comp=Z,43nm,0.8s
MENT Mentasta 38.68 40 *e*P **P** **20 17 57.0 +1.1**
HVS Khovu-Aksy 39.37 301*c i*P **P** **20 18 01.8 0.0**
GZH Guangzhou 39.63 249 P P 20 17 59.8 -4.3
GZH PP **PP** **20 19 35.0 -0.1**
GZH S S 20 23 57.5 -9.0
GZH LR LR
comp=N,1μm,15.0s
GZH LR LR
comp=E,1μm,15.2s
GZH LR LR
comp=Z,3μm,15.1s
GTA Gaotai 39.64 281 ⇓P **P** **20 18 05.8 +1.5**
GTA pP **pP** **20 18 10.3 +0.9**
GTA sP **sP** **20 18 13.0 +1.5**
GTA PP **PnPn** **20 19 40.0 +1.7**
GTA PcP **PcP** **20 20 11.3 +0.3**
GTA S **S** **20 24 10.0 +3.3**
GTA sS **sS** **20 24 17.0 +1.8**
GTA pmax pmax
comp=Z,22nm,0.6s
GTA pmax pmax
comp=Z,980nm,3.7s
GTA LR LR
comp=N,1μm,15.3s
GTA LR LR
comp=E,1μm,13.7s
GTA LR LR
comp=Z,1μm,13.7s
EGAK Eagle 39.71 37 *e*P **P** **20 18 04.3 -0.1**
comp=Z,86nm,0.8s
EGAK LR LR
comp=Z,697nm,19.0s
DAWY Dawson 40.53 38 *e*P **P** **20 18 11.7 +0.5**
CD2 Chengdu 41.25 267⇓*i*P **P** **20 18 17.8 +0.2**
CD2 pP **pP** **20 18 22.3 -0.5**
CD2 sP **sP** **20 18 24.8 0.0**
CD2 PcP **PcP** **20 20 18.0 +1.8**
CD2 S **S** **20 24 31.5 +0.7**
CD2 sS **sS** **20 24 37.8 -1.5**
CD2 SS **SS** **20 27 29.0 -5.0**
CD2 ScS **ScS** **20 28 21.5 +0.3**
CD2 pmax pmax
comp=Z,180nm,1.0s
CD2 pmax pmax
comp=Z,700nm,8.3s
CD2 LR LR
comp=N,860nm,14.2s
CD2 LR LR
comp=E,660nm,14.2s
CD2 LR LR
comp=Z,860nm,14.4s
HYT Haines Junctio 41.87 43 *e*P **P** **20 18 23.9 +1.5**
GYA Guiyang 41.91 259⇑*i*P **P** **20 18 24.0 +0.9**
GYA PP **PnPn** **20 20 03.3 -1.9**
GYA PcP **PcP** **20 20 21.8 +3.3**
GYA ScP **ScP** **20 24 11.0 +3.0**
GYA S **S** **20 24 43.8 +3.0**
GYA SS **SS** **20 27 41.5 -5.9**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.4s
GYA LR LR
comp=N,890nm,17.8s
GYA LR LR
comp=E,630nm,18.4s
GYA LR LR
comp=Z,910nm,17.0s
INK Inuvik 42.47 32 *e*P **P** **20 18 27.9 +0.8**
comp=Z,45nm,0.8s
SKAG Skagway 43.22 45 P P 20 18 38.0 +4.8
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 43.73 307 *e*P **P** **20 18 36.0 -1.4**
ZALV Zalesovo Beam 43.73 307 P **P** **20 18 36.4 -1.0**
ZALV 20 20 23.9
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV MLR MLR
comp=Z,876nm,18.1s
ZALV Zalesovo Beam 43.73 307 P **P** **20 18 36.4 -1.0**
ZALV PcP **PcP** **20 20 23.9 0.0**
ZALV Zalesovo Beam 43.73 307 P **P** **20 18 36.4 -1.0**
comp=Z,9.7nm,0.6s,baz=63,slow=6.7,SNR=45
ZALV PcP **PcP** **20 20 23.9 0.0**
comp=Z,13nm,0.8s,baz=69,slow=3.4,SNR=8.4
ZALV LR LR 20 38 09.8
comp=Z,876nm,18.1s,baz=69,slow=38
NVS Novosibirsk 44.33 309 *e*P **P** **20 18 39.7 -2.4**
NVS *e* 20 20 22.0
NVS *e*S S 20 25 03.3 -12
NVS *e* 20 28 36.4
NVS pmax pmax
comp=Z,69nm,1.9s
NVS pmax pmax
comp=E,70nm,2.2s
NVS smax smax
comp=N,31nm,2.5s
QIZ Qiongzhong 44.80 249 P **P** **20 18 47.3 +1.0**
QIZ PP **PP** **20 20 31.3 +0.3**
QIZ S **S** **20 25 23.3 +0.4**
QIZ pmax pmax
comp=Z,21nm,1.7s
QIZ pmax pmax
comp=Z,250nm,8.1s
QIZ LR LR
comp=N,470nm,16.0s
QIZ LR LR
comp=Z,760nm,15.2s
KMI Kunming 45.48 261 P **P** **20 18 52.0 0.0**
KMI pP **pP** **20 18 57.3 +0.1**
KMI PcP **PcP** **20 20 31.0 +0.2**
KMI PP **PP** **20 20 41.8 +3.4**
KMI S **S** **20 25 32.3 -0.9**
KMI sS **sS** **20 25 42.8 +1.0**
KMI pmax pmax
comp=Z,24nm,1.3s
KMI pmax pmax
comp=Z,310nm,4.0s
KMI LR LR
comp=N,690nm,15.5s
KMI LR LR
comp=E,440nm,15.1s
KMI LR LR
comp=Z,790nm,15.1s
WMQ Urumqi 45.82 293 P **P** **20 18 56.0 +1.7**
WMQ PcP **PcP** **20 20 34.8 +3.3**
WMQ PP **PP** **20 20 43.0 +1.5**
WMQ S **S** **20 25 40.0 +2.6**
WMQ SS **ScS** **20 28 55.5 +6.0**
WMQ pmax pmax
comp=Z,52nm,1.2s
WMQ pmax pmax
comp=Z,1μm,4.0s
WMQ LR LR
comp=N,860nm,17.0s
WMQ LR LR
comp=E,2μm,15.0s
WMQ LR LR
comp=Z,840nm,16.0s
DLBC Dease Lake 46.15 45 *e*P **P** **20 18 58.3 +1.6**
MK31 Makanchi Array 47.94 299 *i*P **P** **20 19 11.1 +0.4**
MK31 pmax pmax
comp=Z,37nm,0.6s
MK31 Makanchi Array 47.94 299 *e*P **P** **20 19 10.9 +0.2**
MKAR Makanchi Array 47.94 299 *i*P **P** **20 19 11.3 +0.6**
MKAR pmax pmax
comp=Z,30nm,0.7s
MKAR Makanchi Array 47.94 299 *e*P **P** **20 19 10.7 0.0**
MKAR PcP **PcP** **20 20 39.2 +0.3**
MKAR Makanchi Array 47.94 299 P **P** **20 19 11.1 +0.4**
comp=Z,30nm,0.7s,baz=69,slow=7.6,SNR=213
MKAR PcP **PcP** **20 20 39.2 +0.3**
comp=Z,6.2nm,0.7s,baz=70,slow=5.4,SNR=1.8
MKAR LR LR 20 41 15.3
comp=Z,924nm,19.1s,baz=65,slow=38
POHA Pohakuloa 48.81 104 *e*P **P** **20 19 19.6 +1.6**
comp=Z,62nm,0.7s
PANO Nakornpanom 49.60 252 P **P** **20 19 24.9 +1.1**
comp=Z,42nm,1.8s
SKNT Sakolnakorn 50.15 252 P **P** **20 19 28.4 +0.4**
comp=Z,80nm,0.9s,comp=Z,1μm
UBPT Khong Chiam 50.38 249 P **P** **20 19 30.5 +0.8**
comp=Z,48nm,1.8s,comp=Z,906nm
UBPT Khong Chiam 50.38 249 P **P** **20 19 30.5 +0.8**
comp=Z,48nm,1.8s,comp=Z,906nm
MYLDM Lahad Datu 50.53 228 P **P** **20 19 32.1 +1.3**
MYLDM Lahad Datu 50.53 228 P **P** **20 19 32.7 +1.9**
comp=Z,44nm,1.7s
LSA Lhasa 50.82 275 P **P** **20 19 34.5 +1.0**
LSA S S 20 26 40.8 -8.3
LSA LR LR
comp=E,730nm,18.1s
LSA LR LR
comp=Z,850nm,18.1s
LSA Lhasa 50.82 275 *e*P **P** **20 19 34.8 +1.3**
LSA pmax pmax
comp=Z,24nm,0.6s
LSA MLR MLR
comp=Z,711nm,20.0s
LSA Lhasa 50.82 275 *e*P **P** **20 19 34.8 +1.3**
comp=Z,24nm,0.6s
LSA LR LR
comp=Z,711nm,20.0s
SDKM Sandakan 50.84 230 P **P** **20 19 33.0 -0.2**
KKM Kota Kinabalu 51.03 231 P **P** **20 19 32.1 -2.6**
PAYA Payao 51.28 258 P **P** **20 19 37.4 +0.9**
comp=Z,9.3nm,0.9s,comp=Z,406nm
TSM Tawau 51.61 228 P **P** **20 19 38.7 -0.2**
YKW3 Yellowknife Ar 51.63 36 *e*P **P** **20 19 38.7 +0.2**
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 51.66 36 P **P** **20 19 39.0 +0.3**
YKA PcP **PcP** **20 20 52.3 +0.2**
YKA Yellowknife Ar 51.66 36 P **P** **20 19 39.0 +0.3**
comp=Z,23nm,0.7s,baz=296,slow=6.9,SNR=38
YKA PcP **PcP** **20 20 52.3 +0.2**
comp=Z,5.3nm,0.8s,baz=308,slow=3.7,SNR=4.9
BVAR Borovoye Array 52.02 310 LR LR 20 42 39.5
comp=Z,571nm,20.9s,baz=57,slow=37
LAMP Lampang 52.02 257 P **P** **20 19 43.0 +1.0**
comp=Z,14nm,0.8s,comp=Z,132nm
BRVK Borovoye 52.06 310 P **P** **20 19 42.6 +0.7**
comp=Z,388nm,0.6s,SNR=23
BRVK Borovoye 52.06 310*c i*P **P** **20 19 41.9 0.0**
BRVK pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 52.06 310 P **P** **20 19 42.4 +0.5**
SNR=29
BRVK Borovoye 52.06 310 *e*P **P** **20 19 41.4 -0.5**
comp=Z,41nm,0.6s
BRVK LR LR
comp=Z,660nm,20.0s
CHAI Chaiyaphum 52.25 253 P **P** **20 19 43.9 +0.2**
comp=Z,16nm,0.8s,comp=Z,142nm
CHTO Chiang Mai 52.29 258 *e*P **P** **20 19 44.5 +0.4**
CHTO pmax pmax
comp=Z,26nm,0.9s
CHTO MLR MLR
comp=Z,511nm,19.0s
CHTO Chiang Mai 52.29 258 P **P** **20 19 45.0 +0.9**
SNR=13
CHTO Chiang Mai 52.29 258 *e*P **P** **20 19 44.5 +0.4**
comp=Z,26nm,0.9s
CHTO LR LR
comp=Z,511nm,19.0s
CHTO Chiang Mai 52.29 258 P **P** **20 19 44.3 +0.2**
comp=Z,46nm,1.0s,comp=Z,734nm
CHTO Chiang Mai 52.29 258 P **P** **20 19 44.3 +0.2**
comp=Z,46nm,1.0s,comp=Z,734nm
PBKT Sadao Pong 52.46 254 P **P** **20 19 45.7 +0.5**
comp=Z,33nm,0.7s
PBKT Sadao Pong 52.46 254 P **P** **20 19 45.8 +0.5**
comp=Z,33nm,0.7s
CM31 Chiang Mai Arr 52.54 258 *e*P **P** **20 19 46.9 +1.0**
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 52.54 258 P **P** **20 19 46.7 +0.8**
CMAR PcP **PcP** **20 20 57.0 +0.9**
CMAR Chiang Mai Arr 52.54 258 P **P** **20 19 46.7 +0.8**
comp=Z,15nm,0.7s,baz=38,slow=7.5,SNR=156
CMAR PcP **PcP** **20 20 57.0 +0.9**
comp=Z,3.5nm,0.8s,baz=18,slow=3.6,SNR=4.5
CMAR LR LR 20 44 37.0
comp=Z,448nm,18.2s,baz=51,slow=39
SHL Shillong 52.81 270 *i* DN **P** **20 19 49.0 +0.9**
comp=Z,7.0nm,0.6s
SHL *i* 4 20 27 25.0
MRSI Marisa 52.88 221 P **P** **20 19 48.5 +0.1**
comp=Z,109nm,1.4s,comp=Z,2μm
KBS Kingsbay 53.81 351 *e*P **P** **20 19 53.1 -1.4**
KBS pmax pmax
comp=Z,32nm,0.8s
KBS Kingsbay 53.81 351 *e*P **P** **20 19 53.1 -1.4**
comp=Z,32nm,0.8s
NAYO Nakonayok 53.83 252 P **P** **20 19 56.4 +1.0**
comp=Z,310nm,1.1s,comp=Z,13μm
LUWI Luwuk 53.85 220 P **P** **20 19 54.3 -1.2**
comp=Z,80nm,0.9s,comp=Z,1μm
ULHL Ulahol 53.92 296 *i*P **P** **20 19 57.2 +1.1**
ULHL Ulahol 53.92 296 P **P** **20 19 57.2 +1.1**
SNR=13
SPA0 Spitsbergen Ar 53.93 350 *e*P **P** **20 19 55.3 -0.1**
SPA0 *e*S **S** **20 27 31.3 +1.7**
SPITS Spitsbergen Ar 53.93 350 P **P** **20 19 55.4 +0.1**
SPITS Spitsbergen Ar 53.93 350 P **P** **20 19 55.4 +0.1**
comp=Z,13nm,0.7s,baz=31,slow=6.7,SNR=14
TKM2 Tokmak 2 53.97 297 *i*P **P** **20 19 57.8 +1.4**
TKM2 Tokmak 2 53.97 297 P **P** **20 19 57.8 +1.4**
SNR=38
TKM2 Tokmak 2 53.97 297 *e*P **P** **20 19 57.8 +1.4**
comp=Z,189nm,1.8s
TKM2 LR LR
comp=Z,732nm,19.0s
NLWA Neilton Lookou 54.19 56 PFAKE 20 20 10.0 +12
NLWA LR LR
comp=Z,442nm,19.0s
UTHA Uthaitani 54.21 255 P **P** **20 19 59.1 +0.9**
comp=Z,13nm,0.7s,comp=Z,106nm
CHBT CHBT 54.29 250 P **P** **20 19 59.9 +1.1**
comp=Z,55nm,1.5s
CHBT CHBT 54.29 250 P **P** **20 19 59.9 +1.1**
comp=Z,55nm,1.5s
CHMS Chumysh 54.46 298 *i*P **P** **20 20 00.9 +1.1**
CHMS Chumysh 54.46 298 P **P** **20 20 00.9 +1.1**
SNR=26
USP Ospenovka 54.47 298 *i*P **P** **20 20 01.2 +1.3**
USP Ospenovka 54.47 298 P **P** **20 20 01.2 +1.3**
SNR=49
KBK Karagaybulak 54.52 297 *i*P **P** **20 20 01.6 +1.2**
KBK Karagaybulak 54.52 297 P **P** **20 20 01.6 +1.2**
SNR=26
FRU Bishkek 54.63 298⇓*e*P **P** **20 20 02.0 +1.0**
FRU *e*S **S** **20 27 40.0 0.0**
FRU pmax pmax
comp=Z,420nm,2.3s
FRU MLR MLR
comp=Z,1μm,15.0s
KZA Kyzart 54.63 297 *i*P **P** **20 20 03.5 +2.0**
KZA Kyzart 54.63 297 P **P** **20 20 03.5 +2.0**
SNR=7.1
TAPN Taplejung 54.64 275 *e*P **P** **20 20 02.4 +0.8**
comp=Z,68nm,0.7s
AAK Ala-Archa 54.81 297*d i*P **P** **20 20 03.4 +0.9**
AAK pmax pmax
comp=Z,35nm,0.7s
AAK Ala-Archa 54.81 297 P **P** **20 20 04.0 +1.5**
SNR=30
AAK Ala-Archa 54.81 297 P **P** **20 20 03.7 +1.2**
SNR=19
AAK Ala-Archa 54.81 297 *e*P **P** **20 20 03.3 +0.8**
comp=Z,45nm,0.9s
AAK LR LR
comp=Z,871nm,19.0s
HNR Honiara 54.95 173 LR LR 20 43 16.7
comp=Z,284nm,18.4s,baz=334,slow=36
PMG Port Moresby 54.97 188 P **P** **20 20 03.4 -0.2**
PMG Port Moresby 54.97 188 P **P** **20 20 03.4 -0.2**
comp=Z,9.6nm,0.7s,baz=340,slow=8.6,SNR=4.2
PMG LR LR 20 41 04.4
comp=Z,232nm,18.3s,baz=13,slow=33
SVE Sverdlovsk 55.07 318⇑*i*P **P** **20 20 04.6 +0.7**
SVE *e*PPP PPP 20 23 21.6
SVE *e*S **S** **20 27 44.3 -1.1**
SVE *e*SS **SS** **20 31 28.3 -0.2**
SVE pmax pmax
comp=Z,58nm,1.2s
SVE MLR MLR
comp=Z,1μm,14.0s
ODAN Odare 55.17 274 *e*P **P** **20 20 05.9 +0.6**
comp=Z,91nm,0.9s
EKS2 Erkin-Say 55.24 298 *e*P **P** **20 20 06.8 +1.2**
EKS2 pmax pmax
comp=Z,44nm,0.8s
EKS2 MLR MLR
comp=Z,1μm,19.0s
EKS2 Erkin-Say 55.24 298 P **P** **20 20 06.8 +1.2**
SNR=31
EKS2 Erkin-Say 55.24 298 *e*P **P** **20 20 06.8 +1.2**
comp=Z,44nm,0.8s
EKS2 LR LR
comp=Z,1μm,19.0s
JIRN Jiri 55.52 276 *e*P **P** **20 20 08.8 +0.8**
comp=Z,152nm,0.6s
KSH Kashi 55.56 294 P P 20 20 12.8 +4.9
KSH PcP **PcP** **20 21 11.8 +4.2**
KSH PP PP 20 22 18.8 +7.0
KSH PcS **PcS** **20 25 09.8 +1.9**
KSH S **S** **20 27 58.5 +5.7**
KSH SS **SS** **20 31 44.3 +7.0**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,880nm,2.8s
KSH LR LR
comp=N,2μm,16.1s
KSH LR LR
comp=E,2μm,15.2s
KSH LR LR
comp=Z,2μm,16.4s
GUN Gumba 55.58 276 *e*P **P** **20 20 09.2 +0.8**
comp=Z,76nm,0.5s
AML Almayashu 55.58 297 *i*P **P** **20 20 09.8 +1.5**
AML Almayashu 55.58 297 P **P** **20 20 09.8 +1.5**
SNR=6.9
RAMN Ramite 55.67 275 *e*P **P** **20 20 09.5 +0.6**
comp=Z,153nm,0.6s
PHET Kaeng Krachan 55.98 252 P **P** **20 20 12.4 +1.5**
comp=Z,245nm,0.7s
KKN Kakani 56.07 277 *e*P **P** **20 20 12.6 +0.8**
comp=Z,96nm,0.7s
PKI Pulchoki 56.12 276 *e*P **P** **20 20 12.6 +0.3**
comp=Z,60nm,0.6s
PKIN Phulchoki 56.12 276 *e*P **P** **20 20 12.6 +0.4**
comp=Z,47nm,0.5s
TBM Table Mountain 56.20 55 P **P** **20 20 12.4 +0.1**
SBUM Sibu 56.22 233 P **P** **20 20 15.2 +2.6**
comp=Z,17nm,1.2s
ARU Arti 56.25 318*c i*P **P** **20 20 12.2 -0.2**
ARU 20 21 04.0
ARU S **S** **20 27 59.6 -1.6**
ARU 20 29 55.8
ARU pmax pmax
comp=Z,83nm,1.2s
ARU MLR MLR
comp=Z,1μm,15.0s
ARU Arti 56.25 318 P **P** **20 20 12.4 0.0**
comp=Z,528nm,0.5s,SNR=45
DMN Daman 56.31 277 *e*P **P** **20 20 14.2 +0.7**
comp=Z,155nm,0.8s
VLL Laurance Lake 56.49 57 P **P** **20 20 15.5 +1.0**
VFP Flag Point 56.70 57 P **P** **20 20 16.8 +0.8**
DANN Dangsing 56.79 278 *e*P **P** **20 20 18.3 +1.3**
comp=Z,110nm,0.5s
EDM Edmonton 56.86 46 *e*P **P** **20 20 16.9 +0.1**
EDM Edmonton 56.86 46 *e*P **P** **20 20 16.9 +0.1**
IRO Indian Ridge 56.95 59 P **P** **20 20 17.8 0.0**
KK31 Karatay Array 57.02 300 *i*P **P** **20 20 18.1 0.0**
KK31 pmax pmax
comp=Z,37nm,0.8s
KKAR Karatay Array 57.02 300 *e*P **P** **20 20 18.7 +0.6**
KKAR Karatay Array 57.02 300 *e*P **P** **20 20 18.7 +0.6**
KOLN Koldanda 57.26 278 *e*P **P** **20 20 21.1 +0.9**
comp=Z,90nm,0.7s
HUMO Hull Mountain 57.30 61 *e*P **P** **20 20 21.2 +1.1**
comp=Z,18nm,1.4s
KRMB Red Mountain 57.31 62 *e*P **P** **20 20 21.8 +1.5**
comp=Z,83nm,2.5s
NEW Newport 57.58 52 *e*P **P** **20 20 22.2 +0.2**
comp=Z,22nm,1.3s
NEW LR LR
comp=Z,510nm,21.0s
NEW Newport 57.58 52 ⇓P **P** **20 20 21.8 -0.2**
baz=57,SNR=5.1
KHMM Horse Mountain 57.79 63 *e*P **P** **20 20 25.4 +1.7**
comp=Z,20nm,0.9s
DAG Danmarks Havn 57.92 358 *e*P P 20 20 27.8 +3.9
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 57.92 358 *i*P P 20 20 27.8 +3.9
comp=Z,6.1nm,0.8s
YBH Yreka Blue Hor 57.94 61 *e*P **P** **20 20 25.5 +0.8**
comp=Z,16nm,0.9s
KSM Kuching 58.10 234 *e*P **P** **20 20 26.9 +0.9**
comp=Z,29nm,0.7s
KSM Kuching 58.10 234 P **P** **20 20 26.9 +0.9**
comp=Z,47nm,0.9s,comp=Z,849nm
LVZ Lovozero 58.10 337*c i*P **P** **20 20 25.6 +0.2**
LVZ pmax pmax
comp=Z,19nm,0.8s
LVZ Lovozero 58.10 337 P **P** **20 20 25.1 -0.3**
comp=Z,243nm,0.7s,SNR=8.2
KIPM Iron Peak 58.55 64 *e*P **P** **20 20 29.9 +0.9**
comp=Z,20nm,0.9s
KCPM Cahto Peak 58.56 64 *e*P **P** **20 20 30.1 +1.0**
comp=Z,12nm,0.9s
APA Apatity 58.67 337⇓*i*P **P** **20 20 30.4 +1.1**
APA *i* 20 21 22.0
APA *i* 20 22 48.0
APA *i* SS SS 20 32 24.0 -0.7
APA MLR MLR
comp=Z,900nm,16.0s
WDC Whiskeytown Da 58.70 62 *e*P **P** **20 20 30.7 +0.8**
WDC pmax pmax
comp=Z,15nm,0.8s
WDC Whiskeytown Da 58.70 62 *e*P **P** **20 20 30.6 +0.8**
comp=Z,14nm,0.8s
KAPI Kappang 58.73 221 *e*P **P** **20 20 29.4 -0.9**
comp=Z,175nm,2.0s
KAPI Kappang 58.73 221 P **P** **20 20 30.2 -0.1**
comp=Z,37nm,1.6s,comp=Z,741nm
WALA Waterton Lakes 58.89 50 *e*P **P** **20 20 31.4 +0.1**
comp=Z,0.7nm,0.8s
LTIM Timbered Crate 59.01 61 P **P** **20 20 33.0 +0.8**
BSMT Bassoo Peak 59.10 52 *e*P **P** **20 20 33.4 +0.6**
SRIT Nakonsritamara 59.16 249 P **P** **20 20 34.9 +1.6**
comp=Z,80nm,0.9s,comp=Z,7μm
ARCES ARCESS Array B 59.19 341 P **P** **20 20 33.0 +0.2**
ARCES ARCESS Array B 59.19 341 P **P** **20 20 33.0 +0.2**
comp=Z,17nm,0.7s,baz=46,slow=7.0,SNR=55
ARCES LR LR 20 48 11.5
comp=Z,369nm,18.5s,baz=30,slow=38
ARE0 ARCESS Array S 59.19 341 *e*P **P** **20 20 32.4 -0.5**
ARE0 *e*S **S** **20 28 39.6 +0.3**
ARE0 ARCESS Array S 59.19 341 *e*P **P** **20 20 33.2 +0.3**
BLMT Blacktail Moun 59.24 51 *e*P **P** **20 20 34.4 +0.5**
BMO Blue Mountains 59.40 56 *e*P **P** **20 20 33.0 -1.8**
comp=Z,11nm,0.8s

BMO LR LR
comp=Z,342nm,20.0s
JTMT Jette 59.44 52 *eP* **P 20 20 35.9 +0.8**
YBMT Yellow Bay 59.52 51 *eP* **P 20 20 36.0 +0.4**
comp=Z,4.1nm,0.6s
AB31 Akbulak array 59.59 311 *i* P **P 20 20 36.4 +0.5**
AB31 pmax pmax
comp=Z,48nm,0.5s
ABKAR Akbulak array 59.59 311 *eP* **P 20 20 36.8 +0.9**
SMLA Simla 59.64 285 *i x* **P 20 20 37.0 +0.5**
SMLA *i 4* 20 28 47.0
TMCR Tamitsa 59.66 333 *eP* **P 20 20 36.8 +0.7**
TMCR pmax pmax
comp=Z,106nm,0.8s
KRAB Krabi 59.70 249 P **P 20 20 38.4 +1.3**
comp=Z,98nm,0.7s,comp=Z,2µm
SWMT Swartz Lake 59.73 52 *eP* **P 20 20 37.8 +0.7**
AKTO Aktyubinsk 59.91 313 *i* P **P 20 20 38.2 +0.1**
AKTO pmax pmax
comp=Z,23nm,0.6s
AKTO Aktyubinsk 59.91 313 P **P 20 20 38.7 +0.6**
AKTO Aktyubinsk 59.91 313 P **P 20 20 38.7 +0.6**
comp=Z,20nm,0.6s,baz=63,slow=7.7,SNR=48
COEN Coen 59.94 192 *eP* **P 20 20 39.0 +0.4**
comp=Z,122nm,0.9s
BHK Bhakra 59.98 286 *ex* pP 20 20 45.0 +0.8
WVOR Wild Horse Val 60.02 59 *eP* **P 20 20 39.3 +0.1**
WVOR pmax pmax
comp=Z,20nm,0.8s
WVOR MLR MLR
comp=Z,308nm,21.0s
WVOR Wild Horse Val 60.02 59 *eP* **P 20 20 39.3 +0.1**
comp=Z,20nm,0.8s
WVOR LR LR
comp=Z,308nm,21.0s
OHCM Honcut 60.08 63 *eP* **P 20 20 39.6 +0.1**
KTK1 Kautokeino 60.11 342 *e* **P 20 20 39.2 0.0**
KTK1 *eP* **pP 20 20 39.5 -5.0**
MSO Missoula 60.16 52 *eP* **P 20 20 40.4 +0.3**
comp=Z,34nm,0.9s
MSO Missoula 60.16 52 ⇑P **P 20 20 40.3 +0.3**
baz=60,SNR=15
SLMT Seeley Lake 60.17 52 *eP* **P 20 20 40.5 +0.3**
BEKR Beckworth 60.47 62 *eP* **P 20 20 42.6 +0.2**
comp=Z,11nm,0.8s
CHMT Chamberlain Mo 60.50 52 *eP* **P 20 20 42.4 -0.1**
KULM Kulim 60.96 246 *eP* **P 20 20 46.4 +0.6**
comp=Z,47nm,0.7s
KULM Kulim 60.96 246 P **P 20 20 47.0 +1.3**
comp=Z,86nm,0.9s
B17A L&G Farms, Che 61.01 49 ⇑P **P 20 20 46.2 +0.4**
baz=61,SNR=12
MFID Camas Ranch 61.10 56 ⇑P **P 20 20 46.8 +0.3**
baz=61,SNR=5.1
NDI New Delhi 61.11 283 *eP* **P 20 20 45.0 -1.6**
NDI *e4* 20 20 50.5
A18A Metzger Ranch, 61.14 48 ⇓P **P 20 20 46.5 -0.1**
baz=61
PAHR Pah Rah Range 61.17 62 *eP* **P 20 20 47.8 +0.7**
comp=Z,28nm,0.8s
IPM Ipoh 61.34 245 *eP* **P 20 20 48.6 +0.3**
comp=Z,33nm,0.9s
HRY Holter Researc 61.40 51 *eP* **P 20 20 49.3 +0.8**
FFC Flin Flon 61.41 40 P **P 20 20 48.0 -0.2**
comp=Z,414nm,0.7s,SNR=17
FFC Flin Flon 61.41 40 *eP* **P 20 20 48.3 +0.1**
FFC pmax pmax
comp=Z,104nm,0.7s
FFC Flin Flon 61.41 40 *eP* **P 20 20 48.3 +0.1**
comp=Z,104nm,0.7s
C17A Wharram Farm, 61.43 50 ⇓P **P 20 20 48.7 +0.1**
baz=61,SNR=16
B18A Beardsley Farm 61.49 49 ⇑P **P 20 20 48.8 -0.2**
baz=61,SNR=18
CMB Columbia Colle 61.55 64 *eP* **P 20 20 50.3 +0.8**
CMB pmax pmax
comp=Z,19nm,0.8s
CMB Columbia Colle 61.55 64 *eP* **P 20 20 50.3 +0.8**
comp=Z,19nm,0.8s
LRM Limekiln Ridge 61.59 52 *eP* **P 20 20 50.3 +0.4**
SAO San Andreas Ge 61.64 65 *eP* P 20 20 54.0 +3.9
SAO pmax pmax
comp=Z,12nm,0.8s
SAO San Andreas Ge 61.64 65 *eP* P 20 20 54.0 +3.9
comp=Z,12nm,0.8s
A19A Klindworth Far 61.71 48 ⇓P **P 20 20 50.0 -0.5**
baz=62
EGMT Eagleton 61.73 49 *eP* **P 20 20 50.6 0.0**
comp=Z,48nm,0.9s
EGMT LR LR
comp=Z,440nm,20.0s
EGMT Eagleton 61.73 49 ⇑P **P 20 20 50.9 +0.2**
baz=62,SNR=5.6
D17A Six Diamond Ra 61.76 50 ⇓P **P 20 20 51.4 +0.4**
baz=62,SNR=24
DLMT Dillon 61.79 53 *eP* **P 20 20 52.2 +1.1**
comp=Z,118nm,2.1s
HLID Hailey 61.84 56 *eP* **P 20 20 52.1 +0.5**
comp=Z,13nm,0.8s
HLID LR LR
comp=Z,360nm,19.0s
HLID Hailey 61.84 56 ⇑P **P 20 20 51.9 +0.3**
baz=62,SNR=18
WAKR Walker 61.86 63 *eP* **P 20 20 52.5 +0.7**
SUMG Summit 61.92 4 *eP* **P 20 20 53.7 +1.8**
SUMG pmax pmax
comp=Z,53nm,0.7s
SUMG Summit 61.92 4 *i* P P 20 20 56.0 +4.1
comp=Z,51nm,0.7s
SUMG Summit 61.92 4 *eP* **P 20 20 53.7 +1.8**
comp=Z,53nm,0.7s
MCMT McKenzie Canyo 61.97 54 *eP* **P 20 20 52.6 +0.1**
comp=Z,3.2nm,0.8s
BMN Battle Mountai 62.06 60 *eP* **P 20 20 53.9 +0.8**
BMN pmax pmax
comp=Z,26nm,0.7s
BMN MLR MLR
comp=Z,350nm,21.0s
BMN Battle Mountai 62.06 60 *eP* **P 20 20 53.9 +0.8**
comp=Z,26nm,0.7s
BMN LR LR
comp=Z,350nm,21.0s
FCC Fort Churchill 62.06 33 *eP* **P 20 20 52.3 -0.3**
FCC pmax pmax
comp=Z,1.0nm,0.8s
FCC Fort Churchill 62.06 33 *eP* **P 20 20 52.3 -0.3**
comp=Z,0.9nm,0.8s
E17A Martinsdale 62.09 51 ⇓P **P 20 20 53.8 +0.6**
baz=62,SNR=30
BOZ Bozeman (W) 62.16 52 *eP* **P 20 20 54.2 +0.5**
BOZ pmax pmax
comp=Z,45nm,1.2s
BOZ Bozeman (W) 62.16 52 *eP* **P 20 20 54.2 +0.5**
comp=Z,45nm,1.2s
A20A Cobblestone Ra 62.17 48 ⇑P **P 20 20 53.8 +0.3**
baz=62,SNR=18
C19A Slack Wire Ran 62.28 49 ⇑P **P 20 20 55.0 +0.6**
baz=62,SNR=36
B20A Solberg Farm, 62.39 48 ⇑P **P 20 20 55.6 +0.5**
baz=62,SNR=5.3
F17A Fitzpatrick Pl 62.54 52 ⇑P **P 20 20 56.5 +0.3**
baz=62,SNR=12
NVAR Mina Array Bea 62.61 62 P **P 20 20 57.5 +0.6**
NVAR Mina Array Bea 62.61 62 P **P 20 20 57.5 +0.6**
comp=Z,30nm,0.7s,baz=291,slow=6.8,SNR=84
A21A Bergtoll Ranch 62.62 47 ⇑P **P 20 20 56.7 +0.2**
baz=62,SNR=32
JOF Joensuu 62.66 334 *eP* **P 20 20 56.4 -0.1**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 62.66 334 *ep* **P 20 20 56.4 -0.1**
comp=Z,8.1nm,0.4s
STEI Steigen 62.68 344 *eP* **P 20 20 55.5 -1.1**
NV11 Mina Array Sit 62.70 62 *eP* **P 20 20 57.7 +0.3**
D19A Cripps Ranch, 62.73 50 ⇑P **P 20 20 57.5 +0.1**
baz=62,SNR=12
QLMT Earthquake Lak 62.77 53 *eP* **P 20 20 58.5 +0.7**
LOF Lofoten 62.84 344 *eP* **P 20 20 57.6 0.0**
C20A Veseth Ranch, 62.85 49 ⇑P **P 20 20 58.9 +0.8**
baz=63,SNR=35
G17A Pierce Place, 62.85 52 ⇑P **P 20 20 58.9 +0.6**
baz=63
H16A Russell Place, 62.95 53 ⇓P **P 20 20 59.4 +0.4**
baz=63
KBL Kabul 62.97 293 *eP* **P 20 20 59.0 -0.3**
KBL pmax pmax
comp=Z,48nm,0.6s
KBL Kabul 62.97 293 *eP* **P 20 20 59.0 -0.3**
comp=Z,48nm,0.6s
F18A Big Timber 63.05 51 ⇑P **P 20 21 00.3 +0.7**
baz=63,SNR=27
ELK Elko 63.07 58 *eP* **P 20 21 00.8 +0.8**
comp=Z,10nm,0.9s
MTUM Tungsten Hills 63.11 63 *eP* **P 20 21 01.1 +0.9**
A22A Carney Farms, 63.13 47 ⇑P **P 20 21 00.3 +0.3**
baz=63,SNR=22
GCMT Greycliff 63.15 51 *eP* **P 20 21 01.0 +0.7**
comp=Z,21nm,1.0s
D20A Manuel Ranch, 63.17 49 ⇑P **P 20 21 01.0 +0.8**
baz=63,SNR=37
E19A Rath Farm, Rou 63.21 50 ⇓P **P 20 21 01.1 +0.5**
baz=63,SNR=22
C21A Desert Coulee 63.26 48 ⇑P **P 20 21 01.2 +0.4**
baz=63,SNR=12
YNR Norris Junctio 63.26 53 *eP* **P 20 21 02.6 +1.4**
comp=Z,22nm,1.0s
YFT Old Faithful 63.34 53 *eP* **P 20 21 02.0 +0.4**
comp=Z,28nm,0.8s
SMMC Simmler 63.46 66 ⇓P **P 20 21 02.7 +0.4**
baz=63
G18A Lazy EL Ranch, 63.50 52 ⇑P **P 20 21 02.9 +0.3**
baz=63
F19A Roth Farm, Mol 63.51 51 ⇑P **P 20 21 03.3 +0.7**
baz=63,SNR=22
H17A Grant Village 63.52 53 ⇑P **P 20 21 04.4 +1.6**
baz=63,SNR=11
B22A Reddig Ranch S 63.53 47 ⇓P **P 20 21 02.5 -0.1**
baz=63
E20A Meyer Farm, Mu 63.54 50 ⇓P **P 20 21 03.0 +0.3**
baz=63
IMW Indian Meadow 63.62 53 *eP* **P 20 21 04.7 +1.1**
comp=Z,21nm,1.0s
FLWY Flag Ranch 63.64 53 *eP* **P 20 21 05.4 +1.8**
comp=Z,22nm,0.9s
RRI2 Red Ridge 63.75 54 *eP* **P 20 21 05.5 +1.1**
comp=Z,57nm,0.8s
RLMT Red Lodge 63.79 52 *eP* **P 20 21 05.2 +0.6**
comp=Z,24nm,0.9s
RLMT LR LR
comp=Z,367nm,20.0s
D21A La Casta Ranch 63.79 49 ⇓P **P 20 21 04.7 +0.3**
baz=64,SNR=5.3
MOOW Moose Ponds 63.83 53 *eP* **P 20 21 05.7 +0.8**
comp=Z,60nm,1.7s
PKM Peak Mountain 63.83 66 ⇑P **P 20 21 05.5 +0.5**
baz=64,SNR=6.3
H18A Shoshone NF, C 63.85 52 ⇓P **P 20 21 05.5 +0.5**
baz=64,SNR=21
TPAW Teton Pass 63.87 54 *eP* **P 20 21 06.4 +1.2**
comp=Z,54nm,0.8s
HVU Hansel Valley 63.89 56 *eP* **P 20 21 06.2 +1.0**
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 63.89 56 *eP* **P 20 21 06.2 +1.0**
comp=Z,12nm,0.8s
C22A Vida 63.94 48 ⇓P **P 20 21 05.5 +0.2**
baz=64
B23A Brockton 63.94 47 ⇑P **P 20 21 05.6 +0.3**
baz=64
F20A Billings 63.97 50 ⇑P **P 20 21 05.5 -0.1**
baz=64
LOHW Long Hollow 63.99 54 *eP* **P 20 21 07.0 +1.1**
comp=Z,125nm,1.8s
SNOW Snow King Moun 64.00 54 *eP* **P 20 21 07.5 +1.5**
comp=Z,15nm,0.7s
REDW Red Top Meadow 64.01 54 *eP* **P 20 21 07.2 +1.1**
comp=Z,43nm,0.9s
GRAC Grapevine Rang 64.08 63 ⇓P **P 20 21 07.3 +0.9**
baz=64,SNR=20
ISA Isabella 64.21 65 *eP* **P 20 21 06.7 -0.6**
ISA pmax pmax
comp=Z,15nm,1.0s
ISA Isabella 64.21 65 *eP* **P 20 21 06.7 -0.6**
comp=Z,15nm,1.0s
ISA Isabella 64.21 65 ⇓P **P 20 21 06.9 -0.4**
baz=64,SNR=7.8
C23A Lambert 64.27 47 ⇑P **P 20 21 07.3 -0.2**
baz=64,SNR=5.0
BGU Big Grassy Mou 64.27 57 *eP* **P 20 21 08.5 +0.7**
comp=Z,5.5nm,0.8s
G20A Bridger 64.31 51 ⇑P **P 20 21 08.0 +0.1**
baz=64,SNR=16
ARVC Arvin 64.32 65 ⇓P **P 20 21 07.9 -0.1**
baz=64
R11A Troy Canyon, C 64.34 61 *eP* **P 20 21 08.6 +0.4**
comp=Z,26nm,0.8s
R11A Troy Canyon, C 64.34 61 ⇑P **P 20 21 08.7 +0.4**
baz=64,SNR=77
DGMT Dagmar 64.34 46 *eP* **P 20 21 08.1 +0.1**
comp=Z,32nm,0.8s
DGMT LR LR
comp=Z,698nm,20.0s
DGMT Dagmar 64.34 46 ⇓P **P 20 21 07.9 -0.1**
baz=64
MOR8 Moi Rana 64.36 343 *eP* **P 20 21 06.2 -1.5**
MOR8 *epP* **pP 20 21 10.5 -2.6**
MOR8 AMB AMB 20 21 13.4
comp=Z,68nm,1.4s
SPUT South Promonto 64.37 56 *eP* **P 20 21 08.8 +0.3**
comp=Z,22nm,1.2s
I18A Diamond G Ranc 64.38 53 ⇑P **P 20 21 08.2 -0.3**
baz=64
LAO LASA Array 64.44 49 *eP* **P 20 21 09.5 +0.8**
comp=Z,36nm,0.9s
LAO LR LR
comp=Z,489nm,21.0s
STOK Stokkvaagen 64.50 344 *eP* **P 20 21 10.6 +2.0**
F21A Absaloka Mine, 64.51 50 ⇑P **P 20 21 09.3 +0.1**
baz=64
A25A Svangstu Ranch 64.58 45 ⇓P **P 20 21 09.4 -0.1**
baz=64
MPMC Manual Prospec 64.59 64 ⇑P **P 20 21 10.0 +0.1**
baz=64,SNR=29
I19A Meeteetse 64.63 52 ⇑P **P 20 21 10.0 -0.1**
baz=64,SNR=16
HWUT Hardware Ranch 64.70 56 *eP* **P 20 21 10.6 +0.1**
comp=Z,18nm,0.8s
HWUT LR LR
comp=Z,323nm,20.0s
FURC Furnace Creek, 64.73 63 P **P 20 21 11.3 +0.7**
baz=64,SNR=19
E22A Miles City 64.75 49 ⇓P **P 20 21 10.7 +0.1**
baz=64
KAF Kangasniemi 64.78 336 *eP* **P 20 21 09.7 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 64.78 336 *ep* **P 20 21 09.7 -0.8**
comp=Z,3.6nm,0.4s
LRMC Laurel Mountai 64.83 64 ⇑P **P 20 21 11.2 -0.2**
baz=65
G21A Lodge Grass 64.85 50 ⇓P **P 20 21 10.9 -0.5**
baz=65
DUG Dugway 64.86 58 *eP* **P 20 21 12.1 +0.5**
DUG pmax pmax
comp=Z,21nm,0.8s
DUG MLR MLR
comp=Z,298nm,19.0s
DUG Dugway 64.86 58 *eP* **P 20 21 12.1 +0.5**
comp=Z,21nm,0.8s
DUG LR LR
comp=Z,298nm,19.0s
DUG Dugway 64.86 58 ⇓P **P 20 21 11.6 0.0**
baz=65,SNR=26
H20A Greybull 64.89 51 ⇓P **P 20 21 11.1 -0.6**
baz=65
B25A Knox Farm, Ray 65.00 46 ⇓P **P 20 21 11.9 -0.3**
baz=65
F22A Rosebud 65.01 50 ⇓P **P 20 21 12.8 +0.4**
baz=65,SNR=5.2
EDW2 Edwards Air Fo 65.01 65 ⇑P **P 20 21 13.0 +0.5**
baz=65,SNR=32
E23A Ismay 65.05 48 ⇓P **P 20 21 12.8 +0.2**
baz=65,SNR=15
J19A Crowheart 65.08 53 ⇓P **P 20 21 13.2 +0.2**
baz=65,SNR=16
BW06 Boulder Array 65.12 54 *eP* **P 20 21 13.0 -0.3**
comp=Z,23nm,0.9s
BW06 LR LR
comp=Z,395nm,20.0s
PDAR Pinedale Array 65.12 54 P **P 20 21 13.3 0.0**
PDAR Pinedale Array 65.12 54 P **P 20 21 13.3 0.0**
comp=Z,16nm,0.9s,baz=278,slow=2.6,SNR=57
D24A Glendive 65.16 47 ⇓P **P 20 21 13.8 +0.5**
baz=65,SNR=19
I20A Worland 65.16 52 ⇑P **P 20 21 14.0 +0.5**
baz=65,SNR=16
CTU Camp Tracy 65.17 57 *eP* **P 20 21 14.2 +0.6**
comp=Z,14nm,0.8s
M17A Scullys Gap (B 65.31 55 ⇑P **P 20 21 14.4 -0.2**
baz=65
H21A Big Horn, Sher 65.32 51 ⇑P **P 20 21 15.0 +0.5**
baz=65,SNR=17
FIA1 FINESS Array S 65.37 335 *eP* **P 20 21 13.5 -0.8**
FINES FINESS Array B 65.37 335 P **P 20 21 14.2 -0.1**
FINES FINESS Array B 65.37 335 P **P 20 21 14.2 -0.1**
comp=Z,22nm,0.6s,baz=33,slow=6.8,SNR=34
FINES LR LR 20 53 38.7
comp=Z,513nm,18.9s,baz=32,slow=40
L18A Fontenelle, Gr 65.38 55 ⇑P **P 20 21 15.2 +0.1**
baz=65,SNR=10
B26A Jensen Ranch, 65.39 45 ⇑P **P 20 21 14.5 -0.3**
baz=65
NLU North Lily Min 65.45 57 *eP* **P 20 21 16.3 +0.8**
comp=Z,15nm,0.8s
SHOC Shoshone 65.45 63 ⇑P **P 20 21 15.5 +0.2**
baz=65
K19A Absolon Red Bu 65.48 53 ⇓P **P 20 21 15.6 -0.1**
baz=65,SNR=19
GSC Goldstone 65.50 64 *eP* **P 20 21 16.1 +0.4**
GSC pmax pmax
comp=Z,13nm,0.8s
GSC Goldstone 65.50 64 *eP* **P 20 21 16.1 +0.4**
comp=Z,13nm,0.8s
GSC Goldstone 65.50 64 ⇓P **P 20 21 15.8 +0.1**
baz=65,SNR=6.5
F23A Volborg 65.50 49 ⇓P **P 20 21 15.7 +0.2**
baz=65,SNR=18
E24A Baker 65.53 48 ⇓P **P 20 21 15.6 -0.1**
baz=65
J20A Shoshoni 65.57 52 ⇓P **P 20 21 16.4 +0.2**
baz=65,SNR=23
CTA Charters Tower 65.62 188 P **P 20 21 16.1 -0.3**
CTA Charters Tower 65.62 188 P **P 20 21 16.1 -0.3**
comp=Z,6.8nm,0.6s,baz=342,slow=5.0,SNR=7.2
CTAO Charters Tower 65.62 188 *eP* **P 20 21 15.8 -0.6**
CTAO pmax pmax
comp=Z,11nm,1.0s
CTAO Charters Tower 65.62 188 *eP* **P 20 21 15.8 -0.6**
comp=Z,11nm,1.0s
BFSC Mount Baldy Ra 65.63 65 ⇓P **P 20 21 16.6 -0.1**
baz=66
DAU Daniels Canyon 65.64 57 *eP* **P 20 21 17.9 +1.0**
DAU Daniels Canyon 65.64 57 *eP* **P 20 21 17.9 +1.0**
L19A Farson 65.66 54 ⇑P **P 20 21 16.7 -0.1**
baz=65,SNR=5.3
MPU Maple Canyon 65.67 57 *eP* **P 20 21 17.9 +1.0**
comp=Z,16nm,0.8s
CIS Catalina Islan 65.68 67 ⇓P **P 20 21 17.4 +0.5**
baz=66
I21A Big Trails, Te 65.71 52 ⇑P **P 20 21 17.4 +0.3**
baz=66,SNR=29
H22A Clearmont 65.72 51 ⇑P **P 20 21 17.3 +0.2**
baz=66
MOS Moscow 65.74 326 *eP* **P 20 21 16.0 -0.8**
MOS *e* 20 21 33.3
MOS *eS* **S 20 29 59.6 -2.4**
MOS pmax pmax
comp=Z,67nm,1.2s
MOS pmax pmax
comp=Z,400nm,3.0s
MOS MLR MLR
comp=Z,1µm,20.0s
SHPR Sheep Range 65.77 62 *eP* **P 20 21 18.0 +0.5**
C26A Wahner Farm, P 65.83 46 ⇑P **P 20 21 17.6 +0.1**
baz=66
G23A Biddle 65.84 50 ⇑P **P 20 21 17.6 -0.2**
baz=66,SNR=9.7
B27A Peters Farms, 65.86 45 ⇓P **P 20 21 17.7 -0.1**
baz=66
K20A Yellowstone Ra 65.88 53 ⇓P **P 20 21 18.0 -0.2**
baz=66,SNR=18
J21A Lysite 65.93 52 ⇓P **P 20 21 18.6 0.0**
baz=66,SNR=13
TUQ Turquoise Moun 65.97 63 ⇓P **P 20 21 19.1 +0.3**
baz=66,SNR=15
A28A Rude Farm, Bot 66.01 44 ⇑P **P 20 21 18.7 -0.1**
baz=66
E25A Miller Ranch, 66.04 47 ⇑P **P 20 21 19.0 0.0**
baz=66
HEC Hector,Ludlow 66.10 64 ⇓P **P 20 21 19.7 +0.1**
baz=66,SNR=15
I22A 9 Mile Ranch, 66.11 51 ⇑P **P 20 21 19.8 +0.2**
baz=66,SNR=22
C27A Sayler Ranch, 66.20 46 ⇑P **P 20 21 20.4 +0.4**
baz=66
CCUT Cedar City 66.21 60 *eP* **P 20 21 21.1 +0.6**
comp=Z,21nm,0.8s
B28A Dugan Ranch, T 66.27 44 ⇑P **P 20 21 20.7 +0.3**
baz=66
MVU Marysvale 66.29 59 *eP* **P 20 21 21.8 +0.8**
comp=Z,8.4nm,0.8s
MVU LR LR
comp=Z,433nm,21.0s
L20A Wamsutter 66.30 54 ⇑P **P 20 21 20.8 -0.1**
baz=66
SFJD Kangerlussuaq 66.31 10 *i* P P 20 21 28.8 +8.5
comp=Z,19nm,0.9s
MURC Murrieta 66.33 66 ⇑P **P 20 21 21.4 +0.3**
baz=66
TMUT Trail Mountain 66.38 58 *eP* **P 20 21 22.1 +0.4**
comp=Z,79nm,1.9s
F25A Bowman 66.39 48 ⇓P **P 20 21 21.4 +0.2**
baz=66
K21A Alcova 66.50 53 ⇑P **P 20 21 22.1 -0.1**
baz=66,SNR=29
A29A Manning Farm, 66.50 43 ⇑P **P 20 21 22.0 +0.1**
baz=66
E26A Carlson Angus 66.54 47 ⇓P **P 20 21 21.8 -0.5**
baz=66
GMRC Granite Mounta 66.55 64 ⇑P **P 20 21 22.7 +0.1**
baz=66,SNR=7.0
H24A Dirks Ranch, A 66.59 50 ⇓P **P 20 21 22.3 -0.4**
baz=66,SNR=22
D27A Center 66.59 46 ⇑P **P 20 21 22.6 +0.1**
baz=66
OBN Obninsk 66.61 326 ⇓*iP* **P 20 21 22.3 -0.1**
OBN *e* 20 23 47.8
OBN *i* S **S 20 30 10.6 -1.9**
OBN *i* SS **SS 20 34 30.0 +1.1**
OBN pmax pmax
comp=Z,68nm,1.3s
OBN MLR MLR
comp=Z,700nm,21.0s
OBN Obninsk 66.61 326 P **P 20 21 22.8 +0.4**
comp=Z,285nm,1.3s,SNR=6.3
LDFC Landfair 66.71 63 *eP* **P 20 21 23.9 +0.4**
comp=Z,47nm,0.9s
M20A Sweetwater, Wa 66.72 54 ⇓P **P 20 21 23.9 +0.3**
baz=66,SNR=15
B29A Wagenman Farm, 66.76 44 ⇑P **P 20 21 23.6 +0.1**
baz=66
C28A Hausauer Farms 66.76 45 ⇑P **P 20 21 23.2 -0.3**
baz=66
PFO Pinyon Flat Ob 66.80 65 *eP* **P 20 21 25.8 +1.6**
comp=Z,91nm,2.4s
PFO Pinyon Flat Ob 66.80 65 ⇓P **P 20 21 23.9 -0.2**
baz=67
AFI Afiamalu 66.83 143 LR LR 20 42 34.2
comp=Z,303nm,21.9s,baz=105,slow=29
BELC Belle Mtn. Jos 66.84 65 ⇑P **P 20 21 24.2 -0.2**
baz=67,SNR=5.5
F26A Lodgepole 66.85 48 ⇑P **P 20 21 24.2 0.0**
baz=67
K22A Casper 66.90 52 ⇑P **P 20 21 24.5 -0.2**
baz=67
G25A Newell 66.90 49 ⇑P **P 20 21 24.2 -0.3**
baz=67
SRU San Rafael 66.91 57 *eP* **P 20 21 25.2 +0.3**
SRU pmax pmax
comp=Z,36nm,0.8s
SRU San Rafael 66.91 57 *eP* **P 20 21 25.2 +0.3**
comp=Z,36nm,0.8s
J23A Dilts Ranch, B 66.94 51 ⇓P **P 20 21 24.9 0.0**
baz=67
O19A Miners Draw (B 66.96 56 ⇑P **P 20 21 24.7 -0.4**
baz=67,SNR=13
N20A Spence Gulch, 67.11 55 ⇑P **P 20 21 26.6 +0.5**
baz=67,SNR=17
M21A Separation Pea 67.11 54 ⇑P **P 20 21 26.2 0.0**
baz=67,SNR=15
I24A Kuemmerle Ranc 67.14 50 ⇑P **P 20 21 26.1 0.0**
baz=67

RWWY **Rawlins** 67.14 53 *e*P P 20 21 26.1 -0.3
comp=Z,21nm,0.8s
ULM **Lac du Bonnet** 67.17 41 *e*P P 20 21 25.8 -0.3
comp=Z,14nm,0.7s
ULM **Lac du Bonnet** 67.17 41 P P 20 21 25.9 -0.2
comp=Z,17nm,0.7s,baz=314,slow=7.1,SNR=11
ULM LR LR 20 51 06.9
comp=Z,380nm,19.5s,baz=300,slow=36
H25A **Fruitdale** 67.18 49 ⇑P P 20 21 26.4 0.0
baz=67
BAR **Barrett** 67.26 66 *e*P P 20 21 27.6 +0.6
comp=Z,18nm,0.8s
G26A **Maurine** 67.26 48 ⇑P P 20 21 26.9 0.0
baz=67,SNR=17
IRM **Iron Mountain** 67.27 64 ⇑P P 20 21 27.2 +0.2
baz=67,SNR=20
MONP **Monument Peak** 67.28 66 ⇑P P 20 21 27.3 -0.1
baz=67
RSSD **Black Hills** 67.28 50 *e*P P 20 21 27.0 -0.2
RSSD pmax pmax
comp=Z,31nm,0.8s
RSSD **Black Hills** 67.28 50 *e*P P 20 21 27.0 -0.2
comp=Z,31nm,0.8s
K23A **Bowen Ranch, D** 67.33 52 ⇑P P 20 21 27.4 -0.1
baz=67
L22A **Ellis Ranch, M** 67.36 53 ⇑P P 20 21 28.3 +0.6
baz=67,SNR=21
VRHR **Novokhopersk** 67.39 321 *e*P P 20 21 26.4 -1.0
VRHR *e*S S 20 30 16.9 -5.2
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR smax smax
comp=N,230nm,3.5s
VRHR smax smax
comp=Z,220nm,3.5s
VRHR smax smax
comp=E,100nm,1.8s
VRHR MLR MLR
comp=N,130nm,16.0s
VRHR MLR MLR
comp=E,150nm,16.0s
VRHR MLR MLR
comp=Z,620nm,16.0s
BC3 **Big Chuckawall** 67.41 65 ⇓P P 20 21 28.3 +0.3
baz=67,SNR=6.3
WRAB **Tennant Creek** 67.47 200 P P 20 21 27.0 -1.2
comp=Z,604nm,0.8s,SNR=52
WRAB **Tennant Creek** 67.47 200 *e*P P 20 21 27.3 -0.9
WRAB pmax pmax
comp=Z,80nm,0.8s
WRAB **Tennant Creek** 67.47 200 *e*P P 20 21 27.3 -0.9
comp=Z,80nm,0.8s
J24A **Dixon Ranch, L** 67.47 51 ⇑P P 20 21 28.4 +0.1
baz=67
P19A **Cripple Cowboy** 67.47 56 ⇑P P 20 21 28.4 -0.1
baz=67,SNR=6.3
WRA **Warramunga Arr** 67.48 200 P P 20 21 27.9 -0.4
WRA ⇑*e* 20 49 51.4
WRA **Warramunga Arr** 67.48 200 P P 20 21 27.9 -0.4
comp=Z,59nm,0.7s,baz=18,slow=6.8,SNR=193
WRA PKP2bc 20 49 51.3
comp=Z,0.9nm,0.8s,baz=196,slow=2.6,SNR=7.7
WRA LR LR 20 50 40.4
comp=Z,146nm,19.2s,baz=150,slow=36
HYB **Hyderabad** 67.49 272 *i*P P 20 21 27.0 -1.6
I25A **Rochford** 67.51 50 ⇑P P 20 21 28.3 -0.4
baz=67,SNR=14
VSU **Vasula** 67.54 333 ⇑*i*P P 20 21 27.7 -0.5
VSU pmax pmax
comp=Z,46nm,1.0s
G27A **Dupree** 67.55 48 ⇑P P 20 21 28.2 -0.4
baz=67,SNR=8.9
O20A **White River Ci** 67.58 55 ⇓P P 20 21 28.7 -0.4
baz=67
N21A **Black Mountain** 67.58 54 ⇑P P 20 21 29.2 0.0
baz=67,SNR=6.3
U15A **North Rim** 67.58 61 ⇓P P 20 21 29.7 +0.4
baz=67,SNR=32
DVTC **Desert V Tower** 67.64 66 ⇑P P 20 21 29.7 +0.3
baz=68
SWSC **Sam W. Stewart** 67.65 65 ⇓P P 20 21 29.9 +0.5
baz=68
IEMG **Emamgholi** 67.66 301 *e*P P 20 21 30.9 +1.1
M22A **Cedar Creek Ra** 67.68 53 ⇑P P 20 21 29.9 +0.1
baz=68,SNR=14
L23A **Garrett** 67.71 52 ⇑P P 20 21 29.6 -0.4
baz=68,SNR=10
K24A **Anderson Ranch** 67.79 51 ⇑P P 20 21 29.9 -0.4
baz=68
F28A **McLaughlin** 67.82 47 ⇑P P 20 21 30.2 -0.1
baz=68
PDMCI **Parker Dam,Lak** 67.82 63 ⇑P P 20 21 30.5 +0.1
baz=68
P20A **De Beque** 67.91 56 ⇑P P 20 21 31.4 +0.2
baz=68,SNR=5.2
E29A **Napoleon** 67.91 46 ⇑P P 20 21 30.6 -0.3
baz=68
Y12C **Blythe** 67.94 64 ⇑P P 20 21 30.9 -0.3
baz=68,SNR=5.3
O21A **Pagoda** 67.97 55 ⇓P P 20 21 31.5 -0.1
baz=68
D30A **Buchanan** 67.98 45 ⇓P P 20 21 31.4 +0.1
baz=68
H27A **Howes** 67.98 48 ⇓P P 20 21 31.3 -0.1
baz=68
M23A **Laramie** 68.13 53 ⇑P P 20 21 32.6 0.0
baz=68
IAKL **Akhelmad** 68.13 300 *e*P P 20 21 33.6 +0.9
N22A **Wattenberg Ran** 68.16 54 ⇓P P 20 21 32.9 +0.1
baz=68
GLA **Glamis** 68.20 65 *e*P P 20 21 33.5 +0.6
GLA pmax pmax
comp=Z,25nm,0.8s
GLA **Glamis** 68.20 65 *e*P P 20 21 33.5 +0.6
comp=Z,25nm,0.8s
GLA **Glamis** 68.20 65 ⇓P P 20 21 33.4 +0.6
baz=68,SNR=5.6
FITZ **Fitzroy Crossi** 68.26 209 *e*P P 20 21 33.7 +0.5
comp=Z,125nm,1.9s
G28A **Parade** 68.28 47 ⇑P P 20 21 32.7 -0.6
baz=68
ISFR **Sfrayin** 68.29 301 *e*P P 20 21 34.6 +0.9
Q20A **Ridgley Place,** 68.32 56 ⇓P P 20 21 33.9 +0.1
baz=68
F29A **Eureka** 68.32 46 ⇓P P 20 21 33.0 -0.4
baz=68
E30A **Jud** 68.32 45 ⇓P P 20 21 32.8 -0.7
baz=68
PV04 **Paradox Valley** 68.33 57 *e*P P 20 21 34.5 +0.6
J26A **Sides Ranch, S** 68.34 50 ⇑P P 20 21 33.6 -0.1
baz=68
I27A **Quinn** 68.38 49 ⇓P P 20 21 34.0 +0.2
baz=68
VSR **Storozhevoye** 68.38 322 *e*P P 20 21 33.8 +0.1
VSR *e*S S 20 30 30.7 -3.3
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
VSR smax smax
comp=N,220nm,4.6s
VSR smax smax
comp=E,250nm,4.6s
VSR smax smax
comp=Z,220nm,4.6s
VSR MLR MLR
comp=N,220nm,20.0s
VSR MLR MLR
comp=E,400nm,20.0s
VSR MLR MLR
comp=Z,810nm,20.0s
K25A **Mack Ranch, Ha** 68.38 51 ⇑P P 20 21 33.9 -0.1
baz=68
N23A **Red Feather La** 68.38 53 ⇑P P 20 21 34.5 +0.2
baz=68,SNR=15
P21A **Newcastle** 68.44 55 ⇓P P 20 21 34.8 +0.3
baz=68,SNR=5.5
H28A **Mission Ridge** 68.50 48 ⇑P P 20 21 34.8 +0.2
baz=68,SNR=16
VORD **Divnogorie** 68.51 322 *e*P P 20 21 34.4 -0.1
VORD *e*S S 20 30 33.9 -1.6
VORD pmax pmax
comp=Z,100nm,1.8s
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,50nm,0.9s
VORD smax smax
comp=N,190nm,2.8s
VORD smax smax
comp=E,200nm,2.8s
VORD smax smax
comp=Z,80nm,2.8s
VORD MLR MLR
comp=N,430nm,20.0s
VORD MLR MLR
comp=E,530nm,20.0s
VORD MLR MLR
comp=Z,750nm,20.0s
O22A **Kremmling** 68.53 54 ⇓P P 20 21 35.3 0.0
baz=68
AGMN **Agassiz Nation** 68.55 42 *e*P P 20 21 34.7 -0.2
comp=Z,31nm,1.0s
AGMN LR LR
comp=Z,521nm,20.0s
M24A **Cheyenne** 68.63 52 ⇑P P 20 21 35.7 +0.1
baz=68
L25A **Engebretsen Ra** 68.64 51 ⇓P P 20 21 35.8 +0.1
baz=68
PV01 **Paradox Valley** 68.70 57 *e*P P 20 21 35.9 -0.4
comp=Z,988nm,0.9s
WUAZ **Wupatki** 68.74 61 *e*P P 20 21 37.0 +0.6
comp=Z,20nm,1.1s
WUAZ **Wupatki** 68.74 61 ⇓P P 20 21 36.9 +0.4
baz=68,SNR=5.3
Y14A **Wickenburg** 68.77 63 ⇓P P 20 21 36.7 +0.3
baz=69,SNR=5.6
R20A **Redvale** 68.78 57 ⇑P P 20 21 37.0 +0.3
baz=69
Q21A **Lamborn Mesa,** 68.82 56 ⇑P P 20 21 37.3 +0.3
baz=69,SNR=5.0
O23A **Lake Granby, G** 68.86 54 ⇑P P 20 21 37.8 +0.6
baz=69,SNR=5.7
I28A **Midland** 68.89 48 ⇑P P 20 21 37.0 0.0
baz=69
SMCO **Snowmass** 68.94 55 *e*P P 20 21 38.0 +0.1
comp=Z,20nm,0.8s
MOL **Molde** 68.95 344 *e*P P 20 21 39.1 +2.1
J27A **Elkhorn Farm,** 68.96 49 ⇑P P 20 21 37.7 +0.1
baz=69
N24A **Carr** 69.03 53 ⇑P P 20 21 38.5 +0.3
baz=69
S20A **Disappointment** 69.03 57 ⇑P P 20 21 38.3 0.0
baz=69,SNR=18
113A **Mohawk Valley,** 69.06 64 ⇓P P 20 21 38.4 +0.3
baz=69,SNR=5.1
R21A **Cimarron** 69.15 56 ⇓P P 20 21 39.5 +0.5
baz=69,SNR=15
Q22A **Crested Butte,** 69.19 56 ⇑P P 20 21 39.7 +0.3
baz=69,SNR=15
J28A **Allard Ranch,** 69.25 49 ⇓P P 20 21 39.3 -0.1
baz=69
ISCO **Idaho Springs** 69.31 54 *e*P P 20 21 40.5 +0.5
ISCO pmax pmax
comp=Z,23nm,0.8s
ISCO MLR MLR
comp=Z,417nm,22.0s
ISCO **Idaho Springs** 69.31 54 *e*P P 20 21 40.5 +0.5
comp=Z,23nm,0.8s
ISCO LR LR
comp=Z,417nm,22.0s
ISCO **Idaho Springs** 69.31 54 ⇓P P 20 21 40.3 +0.3
baz=69,SNR=27
MVCO **Mesa Verde** 69.36 58 *e*P P 20 21 40.6 +0.3
comp=Z,26nm,0.9s
MVCO **Mesa Verde** 69.36 58 ⇓P P 20 21 40.8 +0.4
baz=69,SNR=15
X16A **Lo Mia Camp, P** 69.43 62 ⇓P P 20 21 41.2 +0.4
baz=69,SNR=7.4
P23A **Jefferson** 69.46 55 ⇑P P 20 21 41.3 +0.3
baz=69
S21A **Coal Bank Pass** 69.48 57 ⇑P P 20 21 41.6 +0.5
baz=69,SNR=21
M26A **McRoberts Ranc** 69.56 51 ⇓P P 20 21 41.4 0.0
baz=69
NB2 **NORSAR Subarra** 69.56 342 P P 20 21 40.9 0.0
comp=Z,30nm,0.6s,baz=31,slow=6.5
NB2 **NORSAR Subarra** 69.56 342 P P 20 21 40.9 0.0
baz=31,slow=6.5
NOA **NORSAR Array B** 69.56 342 P P 20 21 41.0 0.0
NOA **NORSAR Array B** 69.56 342 P P 20 21 41.0 0.0
comp=Z,13nm,0.6s,baz=26,slow=6.3,SNR=57
NOA LR LR 20 55 09.1
comp=Z,322nm,18.6s,baz=20,slow=38
L27A **T5 Ranch, Ells** 69.59 50 ⇓P P 20 21 41.3 -0.2
baz=69
K28A **Ten Mile Ranch** 69.67 49 ⇓P P 20 21 41.7 -0.2
baz=69
BRSD **Miller** 69.73 47 *e*P P 20 21 42.0 -0.3
comp=Z,44nm,0.8s
BRSD **Miller** 69.73 47 ⇑P P 20 21 42.1 -0.2
baz=70
NC602 **NORSAR Array S** 69.76 341 *e*P P 20 21 41.7 -0.4
NC602 *e*pP pP 20 21 46.7 -0.8
NC602 *e*S S 20 30 50.7 +0.7
Q23A **Hartsel** 69.78 55 ⇑P P 20 21 43.3 +0.3
baz=70,SNR=6.7
HFS **Hagfors** 69.79 340 P P 20 21 42.3 0.0
HFS **Hagfors** 69.79 340 P P 20 21 42.3 0.0
comp=Z,54nm,0.6s,baz=35,slow=5.4,SNR=67
NAO01 **NORSAR Array S** 69.81 342 *e*P P 20 21 42.5 +0.1
comp=Z,21nm,0.8s
IMON **Monand** 69.81 297 *e*P P 20 21 44.1 +0.9
S22A **4UR Ranch, Cre** 69.98 56 ⇑P P 20 21 44.9 +0.6
baz=70,SNR=32
IDAH **Dahanechah** 69.99 297 *e*P P 20 21 45.0 +0.7
BORG **Borgarnes** 70.03 358 P P 20 21 52.0 +8.3
comp=Z,535nm,1.7s,SNR=5.9
IDID **Didziasalis** 70.06 331 *e*P P 20 21 44.5 +0.5
IDID AMB AMB 20 21 45.5
comp=Z,11nm,1.3s
ISAL **Salakas** 70.06 331 *e*P P 20 21 44.5 +0.5
ISAL AMB AMB 20 21 45.6
comp=Z,11nm,1.2s
T21A **Navajo Lake** 70.08 57 ⇑P P 20 21 45.0 +0.2
baz=70
Q24A **Divide** 70.14 54 ⇓P P 20 21 45.0 -0.2
baz=70
K29A **Lazy Trails An** 70.19 49 ⇑P P 20 21 45.3 +0.2
baz=70
214A **Organ Pipe Nat** 70.20 64 ⇑P P 20 21 45.6 +0.3
baz=70
IIGN **Ignalina** 70.20 331 *e*P P 20 21 45.4 +0.5
IIGN AMB AMB 20 21 46.4
comp=Z,16nm,1.3s
MAK **Makhachkala** 70.24 312 *e*P P 20 21 42.8 -2.5
MAK *e* 20 22 02.7
MAK *e*PPP PPP 20 26 02.9
MAK *e*S S 20 30 56.9 +0.7
MAK *e* 20 31 34.1
MAK pmax pmax
comp=Z,180nm,6.2s
MAK MLR MLR
comp=Z,2μm,14.0s
X18A **Snowflake** 70.27 61 ⇓P P 20 21 46.0 +0.1
baz=70
O26A **Horse Wrangler** 70.30 52 ⇑P P 20 21 46.0 0.0
baz=70
MICGM **Minsk** 70.31 330 *e* P 20 21 44.0 -1.6
P25A **Willow Gulch B** 70.32 53 ⇑P P 20 21 46.2 +0.1
baz=70,SNR=5.8
V20A **Brimhall** 70.32 59 ⇓P P 20 21 46.6 +0.4
baz=70,SNR=5.9
MNK **Minsk** 70.33 330 *e*P P 20 21 44.0 -1.7
N27A **Anderson Farm,** 70.34 52 ⇑P P 20 21 46.3 +0.2
baz=70,SNR=5.5
NACGM **Naroch** 70.38 331 *e* P 20 21 42.0 -4.0
U21A **Nageezi** 70.38 58 ⇓P P 20 21 46.6 0.0
baz=70,SNR=9.5
HYA **Hoyanger** 70.50 344 *e*P P 20 21 47.3 +0.7
HYA *e*pP pP 20 21 52.4 +0.4
OGNE **Ogallala** 70.53 51 *e*P P 20 21 47.4 +0.1
comp=Z,96nm,0.8s
OGNE LR LR
comp=Z,374nm,20.0s
OGNE **Ogallala** 70.53 51 ⇓P P 20 21 47.4 +0.1
baz=70
EIDS **Eidsvold** 70.56 183 *e*P P 20 21 47.9 +0.6
comp=Z,15nm,0.6s
M28A **Bar X Bar Ranc** 70.57 50 ⇓P P 20 21 47.7 +0.2
baz=70
ITEG **Tejag** 70.58 297 *e*P P 20 21 48.7 +0.8
R24A **Sanders Place,** 70.66 55 ⇓P P 20 21 48.3 +0.1
baz=70,SNR=12
Q25A **Bedland, Calha** 70.68 54 ⇑P P 20 21 48.2 -0.2
baz=70
P26A **Davis Ranch, A** 70.75 53 ⇓P P 20 21 48.8 +0.1
baz=70
W20A **Ramah** 70.75 59 ⇓P P 20 21 48.8 -0.1
baz=71
SDCO **Great Sand Dun** 70.76 56 *e*P P 20 21 48.9 -0.1
comp=Z,11nm,0.9s
SDCO LR LR
comp=Z,387nm,20.0s
O27A **Beecher Island** 70.80 52 ⇓P P 20 21 48.6 -0.3
baz=71,SNR=5.3
V21A **Milan** 70.81 58 ⇓P P 20 21 49.1 -0.1
baz=71
EYMN **Ely** 70.83 40 *e*P P 20 21 48.3 -0.6
comp=Z,36nm,1.2s
SUE **Sulen** 70.87 345 *e*P P 20 21 49.5 +0.7
SUE *e*pP pP 20 21 54.9 +0.6
SUE AMS AMS 20 59 48.4
comp=Z,344nm,3.6s
U22A **Llaves** 70.89 57 ⇑P P 20 21 49.8 +0.1
baz=71
T23A **Casias Ranch,** 70.93 56 ⇑P P 20 21 49.9 -0.1
baz=71
N28A **Pribbeno Ranch** 70.97 51 ⇑P P 20 21 49.8 -0.2
baz=71
S24A **Houchin Ranch,** 71.00 55 ⇓P P 20 21 50.8 +0.3
baz=71,SNR=12
Q26A **Hugo** 71.09 54 ⇑P P 20 21 50.9 +0.1
baz=71
IGLO **Ghaloghah** 71.15 303 *e*P P 20 21 52.2 +0.9
X20A **Quemado** 71.15 60 ⇓P P 20 21 52.1 +0.8
baz=71,SNR=24
AS31 **Alice Springs** 71.17 199 *e*P P 20 21 51.5 +0.4
ASAR **Alice Springs** 71.17 199 P P 20 21 51.8 +0.7
ASAR **Alice Springs** 71.17 199 P P 20 21 51.8 +0.7
comp=Z,54nm,0.7s,baz=19,slow=5.3,SNR=638
ASAR LR LR 20 52 37.2
comp=Z,188nm,20.5s,baz=14,slow=36
KONO **Kongsberg** 71.17 342 *e*P P 20 21 51.4 +0.7
KONO AMS AMS 20 58 46.9
comp=Z,755nm,18.0s
KONO **Kongsberg** 71.17 342 *e*P P 20 21 51.2 +0.5
KONO pmax pmax
comp=Z,28nm,1.0s
KONO MLR MLR
comp=Z,377nm,20.0s
KONO **Kongsberg** 71.17 342 *e*P P 20 21 51.2 +0.5
comp=Z,28nm,1.0s
KONO LR LR
comp=Z,377nm,20.0s
V22A **San Miguel Ran** 71.18 58 ⇓P P 20 21 51.8 +0.3
baz=71
P27A **Ficken Ranch,** 71.18 53 ⇓P P 20 21 51.0 -0.3
baz=71
R25A **Fountain Ranch** 71.19 55 ⇑P P 20 21 51.5 +0.2
baz=71
TUC **Tucson** 71.24 63 *e*P P 20 21 52.0 +0.3
TUC **Tucson** 71.24 63 *e*P P 20 21 52.0 +0.3
comp=Z,5.9nm,0.8s
T24B **San Luis** 71.30 56 ⇓P P 20 21 53.0 +0.7
baz=71
ASK **Askoy** 71.32 344 *e*P P 20 21 51.1 -0.5
ASK *e*pP pP 20 21 56.2 -0.8
U23A **El Rito** 71.32 57 ⇓P P 20 21 52.8 +0.5
baz=71
RUND **Rundenannen** 71.35 344 *e*P P 20 21 51.7 -0.1
RUND *e*pP pP 20 21 56.5 -0.8
BER **Bergen** 71.38 344 *e*P P 20 21 52.8 +0.9
BER AMS AMS 21 00 10.1
comp=Z,408nm,6.7s
ECSD **EROS Data Cent** 71.43 46 *e*P P 20 21 51.3 -1.3
comp=Z,23nm,0.8s
ECSD LR LR
comp=Z,639nm,20.0s
EGD **Espegrend** 71.51 344 *e*P P 20 21 52.4 -0.3
EGD *e*pP pP 20 21 56.7 -1.4
EGD AMB AMB 20 21 59.8
comp=Z,99nm,2.2s
KSCO **Kaye Shedlock'** 71.53 53 ⇓P P 20 21 53.2 -0.2
baz=71
R26A **Arlington** 71.56 54 ⇓P P 20 21 53.4 -0.2
baz=71,SNR=5.4
X21A **Alamocita Cree** 71.65 59 ⇓P P 20 21 55.4 +1.1
baz=71,SNR=29
Y20A **Horse Springs,** 71.65 60 ⇑P P 20 21 55.0 +0.6
baz=72,SNR=16
V23A **Ortiz Mt. (NFS** 71.72 58 ⇑P P 20 21 55.9 +1.1
baz=72,SNR=9.2
IANJ **Anjilo** 71.80 302 *e*P P 20 21 55.7 +0.4
U24A **Moreno Valley** 71.80 56 ⇓P P 20 21 55.9 +0.6
baz=72,SNR=5.4
T25A **Trinidad** 71.81 55 ⇑P P 20 21 55.6 +0.3
baz=72,SNR=12
Q28A **Sharon Springs** 71.94 52 ⇑P P 20 21 55.3 -0.6
baz=72
KIV **Kislovodsk** 72.01 315 *e*P P 20 21 57.2 +1.0
KIV *e* 20 22 15.7
KIV *e* 20 24 36.3
KIV *e*PPP PPP 20 26 19.9
KIV *e*S S 20 31 16.5 -0.4
KIV pmax pmax
comp=Z,100nm,1.0s
KIV pmax pmax
comp=Z,263nm,6.4s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV **Kislovodsk** 72.01 315 P P 20 21 57.9 +1.7
comp=Z,517nm,0.8s,SNR=19
Y21A **Point of Rocks** 72.01 60 ⇑P P 20 21 57.2 +0.6
baz=72
S26A **Kim** 72.02 55 ⇑P P 20 21 56.2 -0.2
baz=72
IALA **Alasht** 72.03 303 *e*P P 20 21 57.8 +1.1
BLS5 **Blasjo** 72.05 343 *e*pP pP 20 22 01.5 +0.1
Z20A **Nine Sixteen R** 72.06 61 ⇓P P 20 21 56.9 +0.1
baz=72
P29A **Atwood** 72.06 52 ⇓P P 20 21 56.3 -0.3
baz=72
KBZ **Khabaz** 72.06 315 P P 20 21 57.7 +1.3
KBZ pmax pmax
comp=Z,51nm,0.8s
KBZ MLR MLR
comp=Z,364nm,21.2s
KBZ **Khabaz** 72.06 315 P P 20 21 57.6 +1.3
KBZ **Khabaz** 72.06 315 P P 20 21 57.6 +1.3
comp=Z,51nm,0.8s,baz=63,slow=3.9,SNR=36
KBZ LR LR 20 54 34.5
comp=Z,364nm,21.2s,baz=224,slow=37
LAZ **Ladron** 72.07 59 *e*P P 20 21 57.7 +0.9
comp=Z,9.9nm,1.0s
X22A **Bernardo** 72.07 59 ⇑P P 20 21 57.4 +0.6
baz=72
ANMO **Albuquerque** 72.11 58 *e*P P 20 21 57.2 +0.2
comp=Z,15nm,0.9s
O30A **MW Ranch, Wils** 72.14 51 ⇓P P 20 21 56.7 -0.3
baz=72
W23A **Werner Place,** 72.14 58 ⇑P P 20 21 56.9 -0.4
baz=72
SPMN **St. Paul** 72.22 43 *e*P P 20 21 57.2 -0.1
comp=Z,30nm,0.9s
SPMN **St. Paul** 72.22 43 ⇑P P 20 21 57.2 -0.1
baz=72
ZEI **Tsey** 72.23 313 *e*P P 20 21 57.0 -0.7
ZEI pmax pmax
comp=Z,16nm,1.0s
T26A **Comanche Natio** 72.25 55 ⇑P P 20 21 57.6 -0.3
baz=72,SNR=17
V24A **Rampart Ranch,** 72.28 57 ⇓P P 20 21 58.7 +0.6
baz=72,SNR=5.3
S27A **Las Animas** 72.30 54 ⇑P P 20 21 58.0 -0.1
baz=72
U25A **Circle Dot Ran** 72.32 56 ⇑P P 20 21 58.4 +0.1
baz=72,SNR=14
SUW **Suwalki** 72.32 332 *e*P P 20 21 57.4 -0.3
SUW pmax pmax
comp=Z,80nm,1.1s
SUW **Suwalki** 72.32 332 *e*P P 20 21 57.4 -0.3
comp=Z,80nm,1.1s
SUW **Suwalki** 72.32 332 *e*P P 20 21 57.2 -0.5
SUW *e*pP pP 20 22 01.4 -1.7

SUW *e*PP **PP** **20 24 37.0 -0.8**
SUW LMZ LR 20 51 07.8
DUS Dusheti 72.32 312 P **P** **20 22 00.4 +2.3**
LENM Lemitar 72.33 59 P **P** **20 21 59.1 +0.8**
120A U Bar Ranch, L 72.42 61 ⇓P **P** **20 21 59.3 +0.4**
baz=72,SNR=20
DGRG David-gareji 72.43 312 P P 20 22 04.5 +5.8
R28A Tribune 72.46 53 ⇓P **P** **20 21 58.9 0.0**
baz=72
P30A Selden 72.48 51 ⇑P **P** **20 21 58.8 -0.3**
baz=72
KMY Karmoy 72.48 344 *e*pP pP 20 22 04.0 0.0
Z21A St. Cloud Mine 72.49 60 ⇓P **P** **20 22 00.0 +0.7**
baz=72
X23A Hourglass Bar 72.52 58 ⇑P **P** **20 21 59.9 +0.4**
baz=72,SNR=13
Q29A Oakley 72.54 52 ⇓P **P** **20 21 59.0 -0.4**
baz=72
BNM Barren Site 72.55 59 *e*P **P** **20 22 00.1 +0.4**
comp=Z,20nm,1.4s
W24A Lazy 6 Ranch, 72.55 57 ⇓P **P** **20 22 00.3 +0.6**
baz=72,SNR=26
TBLG Delisi 72.56 312 *e*P **P** **20 22 00.8 +1.4**
TBLG Delisi 72.56 312 P **P** **20 22 00.8 +1.4**
TBLG S **S** **20 31 27.2 +4.0**
V25A Rancho No Teng 72.58 57 ⇓P **P** **20 21 59.6 -0.2**
baz=72
ONI Oni 72.61 313 P **P** **20 22 00.8 +1.0**
U26A Atchley Ranch, 72.71 56 ⇑P **P** **20 22 00.4 -0.3**
baz=72
LRW Lerwick 72.75 347 *e*P P 20 22 05.6 +5.4
LRW AMB AMB 20 22 11.6
comp=Z,107nm,2.6s
R29A Marienthal 72.78 53 ⇓P **P** **20 22 00.4 -0.4**
baz=72,SNR=9.4
319A Douglas 72.81 63 ⇓P **P** **20 22 01.5 +0.3**
baz=73
T27A Campo 72.83 54 ⇓P **P** **20 22 01.1 -0.2**
baz=73
IDMV Damavand 72.84 303 *e*P **P** **20 22 02.2 +0.7**
AKASG Malin Array Be 72.85 327 P **P** **20 22 00.7 -0.2**
AKASG pmax pmax
comp=Z,24nm,0.5s
AKASG MLR MLR
comp=Z,350nm,21.4s
AKASG Malin Array Be 72.85 327 P **P** **20 22 00.7 -0.2**
AKASG Malin Array Be 72.85 327 P **P** **20 22 00.7 -0.2**
comp=Z,23nm,0.5s,baz=34,slow=6.3,SNR=37
AKASG LR LR 20 54 01.6
comp=Z,350nm,21.4s,baz=30,slow=36
KIEV Kiev 72.86 327 *e*P **P** **20 22 00.4 -0.6**
KIEV pmax pmax
comp=Z,51nm,0.7s
KIEV MLR MLR
comp=Z,317nm,20.0s
KIEV Kiev 72.86 327 *e*P **P** **20 22 00.4 -0.6**
comp=Z,51nm,0.7s
KIEV LR LR
comp=Z,317nm,20.0s
S28A Manter 72.93 54 ⇓P **P** **20 22 01.9 +0.1**
baz=73
121A Cookes Peak, D 72.95 61 ⇑P **P** **20 22 02.3 +0.2**
baz=73,SNR=15
Z22A Elephant Butte 72.96 60 ⇑P **P** **20 22 02.3 +0.2**
baz=73,SNR=13
P31A Stockton 72.97 51 ⇑P **P** **20 22 01.3 -0.6**
baz=73,SNR=9.4
X24A Lazy VL Ranch, 72.98 58 ⇑P **P** **20 22 02.6 +0.4**
baz=73
Y23A Lovelace Mesa, 73.04 59 ⇑P **P** **20 22 02.9 +0.3**
baz=73,SNR=24
V26A Tequesquite Ra 73.10 56 ⇓P **P** **20 22 02.9 +0.1**
baz=73
W25A X Bar L Ranch, 73.10 57 ⇑P **P** **20 22 03.0 +0.1**
baz=73,SNR=22
T28A Walsh 73.14 54 ⇑P **P** **20 22 03.0 0.0**
baz=73
MBWA Marble Bar 73.21 213 *e*P **P** **20 22 03.6 +0.3**
comp=Z,238nm,2.3s
COWI Conover 73.28 40 *e*P **P** **20 22 02.8 -0.9**
comp=Z,17nm,0.8s
320A Kipp Ranch, An 73.31 62 ⇓P **P** **20 22 04.0 -0.2**
baz=73
221A Mesquite Ranch 73.31 61 ⇓P **P** **20 22 04.0 -0.2**
baz=73
122A Conniff Cattle 73.32 60 ⇓P **P** **20 22 04.0 -0.2**
baz=73
S29A Ulysses 73.35 53 ⇑P **P** **20 22 04.2 0.0**
baz=73
R30A Dighton 73.35 52 ⇑P **P** **20 22 03.6 -0.6**
baz=73,SNR=10
Z23A Rita Site, Whi 73.40 59 ⇓P **P** **20 22 04.8 +0.2**
baz=73
Y24A Capitan 73.42 58 ⇓P **P** **20 22 04.9 0.0**
baz=73,SNR=27
AKH Akhalkalaki 73.44 313 P **P** **20 22 06.9 +2.1**
X25A Clemmons Ranch 73.46 58 ⇑P **P** **20 22 05.4 +0.3**
baz=73,SNR=25
U28A Mallet 73.59 55 ⇑P **P** **20 22 05.3 -0.4**
baz=73
W26A Owens Ranch, T 73.60 57 ⇓P **P** **20 22 06.2 +0.4**
baz=73
222A Williams Famil 73.66 61 ⇑P **P** **20 22 06.3 0.0**
baz=74
V27A Dan Oppiter Fa 73.68 56 ⇓P **P** **20 22 06.0 -0.3**
baz=74
GNI Garni 73.70 311 *e*P **P** **20 22 07.2 +0.8**
GNI Garni 73.70 311 P **P** **20 22 08.6 +2.3**
SNR=9.0
GNI Garni 73.70 311 *e*P **P** **20 22 07.6 +1.2**
comp=Z,57nm,0.9s
GNI LR LR
comp=Z,453nm,20.0s
S30A Montezuma 73.70 53 ⇓P **P** **20 22 06.1 -0.2**
baz=74
SOC Sochi 73.74 316 *e*P **P** **20 22 06.6 +0.3**
SOC *e* 20 22 20.4
SOC *e*S **SKiKP** **20 31 28.4 -6.4**
SOC pmax pmax
comp=Z,64nm,0.6s
SOC MLR MLR
comp=Z,899nm,16.0s
Y25A Mesa, Roswell 73.86 58 ⇑P **P** **20 22 07.5 +0.1**
baz=74,SNR=18
Z24A Sheeppen Canyo 73.87 59 ⇑P **P** **20 22 07.7 +0.2**
baz=74,SNR=5.0
BSD Bornholm Skovb 73.89 337 *e*P **P** **20 22 07.6 +0.6**
BSD pmax pmax
comp=Z,11nm,1.1s
BSD Bornholm Skovb 73.89 337 *i* P **P** **20 22 07.6 +0.6**
comp=Z,11nm,1.0s
ANN Anapa 73.92 318*d* *i*P **P** **20 22 06.0 -1.3**
ANN *e*S **S** **20 31 38.3 0.0**
ANN *e*SS **SS** **20 36 20.0 -1.6**
ANN pmax pmax
comp=Z,126nm,1.5s
ANN MLR MLR
comp=Z,879nm,14.0s
W27A Bowe Ranch, En 74.03 56 ⇑P **P** **20 22 08.4 +0.1**
baz=74
COP Copenhagen 74.05 338 *e*P P 20 22 12.5 +4.6
COP pmax pmax
comp=Z,18nm,0.7s
COP Copenhagen 74.05 338 *i* P P 20 22 12.5 +4.6
comp=Z,18nm,0.7s
MUD Monsted U'grnd 74.16 340 *i* P P 20 22 12.5 +4.0
MUD pmax pmax
comp=Z,10.0nm,0.8s
MUD Monsted U'grnd 74.16 340 *i* P P 20 22 12.5 +4.0
comp=Z,10nm,0.8s
IRAZ Razeghan 74.19 304 *e*P **P** **20 22 10.5 +1.1**
KARS Kars 74.22 312 *e*P **P** **20 22 09.4 0.0**
124A Stringfield Ra 74.26 59 ⇓P **P** **20 22 09.6 -0.2**
baz=74,SNR=18
S31A Mullinville 74.27 52 ⇓P **P** **20 22 09.1 -0.5**
baz=74
SCHQ Schefferville 74.29 23 P **P** **20 22 09.5 +0.1**
SCHQ Schefferville 74.29 23 P **P** **20 22 09.5 +0.1**
comp=Z,8.3nm,0.8s,baz=0.6,slow=4.4,SNR=5.3
SCHQ LR LR 20 57 11.4
comp=Z,157nm,19.0s,baz=320,slow=38
Z25A Roswell 74.30 59 ⇓P **P** **20 22 09.8 -0.1**
baz=74
BCA Borcka 74.38 314 *e*P **P** **20 22 09.8 -0.3**
Y26A Elida 74.38 57 ⇑P **P** **20 22 10.7 +0.2**
baz=74
W28A Vega 74.39 56 ⇓P **P** **20 22 10.6 +0.1**
baz=74
ARTV Artvin 74.41 313 *i* P **P** **20 22 11.1 +0.6**
LLD Lille Linde 74.42 338 *i* P P 20 22 14.4 +4.4
LLD pmax pmax
comp=Z,32nm,0.7s
LLD Lille Linde 74.42 338 *i* P P 20 22 14.4 +4.4
comp=Z,32nm,0.7s
DBOC Borcka 74.43 314 *i* P **P** **20 22 10.2 -0.2**
DAGI Agilar 74.50 313 *i* P **P** **20 22 11.7 +0.8**
IZEF Zefreh 74.53 301 *e*P **P** **20 22 12.5 +1.1**
224A Cornudas Mount 74.65 60 ⇓P **P** **20 22 12.2 +0.1**
baz=74,SNR=15
DBAD Bademkaya 74.65 313 *i* P **P** **20 22 11.7 -0.1**
IKLH Kolahrood 74.68 302 *e*P **P** **20 22 13.5 +1.2**
DDEM Demirkent 74.72 313 *i* P **P** **20 22 13.4 +1.2**
Z26A Caprock 74.74 58 ⇑P **P** **20 22 12.5 0.0**
baz=74,SNR=44
125A Gardner Draw, 74.77 59 ⇑P **P** **20 22 12.8 +0.2**
baz=75,SNR=25
KSU1 Kansas State U 74.77 49 PFAKE 20 22 20.0 +7.6
KSU1 LR LR
comp=Z,626nm,22.0s
Y27A Causey 74.80 57 ⇑P **P** **20 22 12.8 0.0**
baz=75,SNR=22
W29A Amraillo 74.81 55 ⇓P **P** **20 22 13.1 +0.3**
baz=75
GKP Gorka Klasztor 74.83 335 *e*P **P** **20 22 12.5 0.0**
GKP *e*pP **pP** **20 22 15.2 -2.7**
GKP *e*PcP **PcP** **20 22 24.7 -1.7**
GKP LMZ LR 20 56 04.2
CLDR Caldiran 74.86 311 *e*P **P** **20 22 12.6 -0.7**
X28A Dimmitt 74.92 56 ⇑P **P** **20 22 13.8 +0.3**
baz=75
BEL Belsk 74.93 332 *e*P **P** **20 22 13.8 +0.7**
BEL *e*PcP **PcP** **20 22 26.1 -0.8**
BEL LMZ LR 20 52 50.8
U31A Nine Bar Ranch 74.95 53 ⇓P **P** **20 22 13.9 +0.3**
baz=75
MSTX Muleshoe 74.97 57 *e*P **P** **20 22 13.9 +0.1**
comp=Z,38nm,1.1s
MSTX Muleshoe 74.97 57 ⇓P **P** **20 22 14.1 +0.3**
baz=75
MNTX Cornudas Mount 75.00 60 *e*P **P** **20 22 13.9 0.0**
comp=Z,23nm,1.1s
MNTX LR LR
comp=Z,224nm,19.0s
AGRB Hanur-Agry 75.04 312 *e*P **P** **20 22 16.3 +2.1**
225A Deer Hill, Car 75.05 59 ⇓P **P** **20 22 14.5 +0.1**
baz=75,SNR=10
126A Clayton Basin, 75.16 59 ⇓P **P** **20 22 15.1 +0.2**
baz=75
Z27A Tatum 75.17 58 ⇓P **P** **20 22 15.1 +0.2**
baz=75,SNR=50
JFWS Jewell Farm 75.17 43 *e*P **P** **20 22 13.8 -0.8**
JFWS pmax pmax
comp=Z,17nm,0.8s
JFWS MLR MLR
comp=Z,572nm,19.0s
JFWS Jewell Farm 75.17 43 *e*P **P** **20 22 13.8 -0.8**
comp=Z,17nm,0.8s
JFWS LR LR
comp=Z,572nm,19.0s
X29A Tulia 75.26 56 ⇓P **P** **20 22 15.6 +0.2**
baz=75
Y28A McKinney Farm, 75.32 57 ⇑P **P** **20 22 15.7 -0.1**
baz=75
SIM Simferopol' 75.32 320*de*P **P** **20 22 15.3 -0.2**
SIM *e*S **S** **20 31 54.2 +0.1**
SIM pmax pmax
comp=Z,39nm,0.8s
SIM MLR MLR
comp=Z,400nm,15.0s
MVH1 Achvaich 75.33 348 *e*P P 20 22 20.5 +5.2
V31A Spring Creek L 75.38 54 ⇑P **P** **20 22 16.4 +0.3**
baz=75
226B Tecolote Peak, 75.47 59 ⇑P **P** **20 22 17.0 +0.3**
baz=75,SNR=26
325A Bean Ranch, Si 75.47 60 ⇓P **P** **20 22 17.0 +0.1**
baz=75,SNR=16
LVV L'vov 75.51 329 *e*P **P** **20 22 15.9 -0.5**
LVV *e*S **S** **20 31 51.9 -4.1**
LVV *e*PS PnS 20 32 16.9 -15
LVV *e*SS SS 20 36 36.7 -8.8
LVV *e*SSS SSS 20 39 58.5
LVV MLR MLR
comp=N,340nm,16.0s
LVV MLR MLR
comp=E,250nm,16.0s
LVV MLR MLR
comp=Z,430nm,16.0s
MCD Coleburn Disti 75.52 347 *e*P P 20 22 21.4 +5.0
127A Arkansas Junct 75.53 58 ⇑P **P** **20 22 17.2 +0.2**
baz=75
IPIR Pirpir 75.53 302 *e*P **P** **20 22 19.1 +1.8**
ARMA Armidale 75.58 182 *e*P **P** **20 22 18.2 +1.2**
comp=Z,23nm,0.8s
EZM Erzurum 75.64 313 *e*P **P** **20 22 18.9 +1.2**
Z28A Tucker Farm, M 75.68 57 ⇓P **P** **20 22 17.8 -0.1**
baz=76
MME1 Meikle Cairn 75.73 347 *e*P P 20 22 22.4 +4.8
MDO Dochfour 75.82 348 *e*P P 20 22 23.4 +5.3
425A Indio Mountain 75.88 61 ⇓P **P** **20 22 19.3 +0.2**
baz=76,SNR=41
KAC Achnashellach 75.90 349 *e*P P 20 22 24.2 +5.7
BAYT Ayd¨–ntepe-Bay 75.91 314 *e*P **P** **20 22 18.9 -0.2**
KIS Kishinev 75.97 325 *e*P **P** **20 22 18.0 -1.1**
KIS *e*S **S** **20 31 58.0 -3.2**
KIS *e*L L 20 52 20.0
KIS LRM MLR 21 00 10.0
comp=Z,800nm,16.0s
KIS Kishinev 75.97 325 *e*P **P** **20 22 18.0 -1.1**
KIS *e* 20 22 27.0
KIS *e*S **S** **20 31 58.0 -3.2**
DRUM Mains of Drumt 76.04 347 *e*P P 20 22 24.1 +4.7
DRUM AMB AMB 20 22 27.3
comp=Z,48nm,1.0s
128A Castleberry Fa 76.09 58 ⇓P **P** **20 22 20.3 +0.1**
baz=76,SNR=15
Z29A Hungry Hill Ra 76.10 57 ⇓P **P** **20 22 20.2 -0.1**
baz=76,SNR=12
KPL Plockton 76.10 349 *e*P P 20 22 25.2 +5.5
KPL AMB AMB 20 22 28.6
comp=Z,40nm,1.5s
326A Caldwell Ranch 76.12 59 ⇓P **P** **20 22 20.5 +0.1**
baz=76,SNR=26
X31A McDonald Ranch 76.12 55 ⇓P **P** **20 22 20.3 0.0**
baz=76
HAKT HAKKARI 76.13 310 *i* P **P** **20 22 21.4 +0.8**
Y30A Stafford Cattl 76.13 56 ⇓P **P** **20 22 20.2 -0.2**
baz=76,SNR=9.0
KWP Kalwaria Pacla 76.14 330 *e*P **P** **20 22 20.3 +0.2**
KWP pmax pmax
comp=Z,117nm,1.0s
KWP MLR MLR
comp=Z,640nm,19.0s
KWP Kalwaria Pacla 76.14 330 ⇑*i*P **P** **20 22 20.3 +0.2**
KWP Kalwaria Pacla 76.14 330 *e*P **P** **20 22 20.3 +0.2**
comp=Z,117nm,1.0s
KWP LR LR
comp=Z,640nm,19.0s
KWP Kalwaria Pacla 76.14 330 *e*P **P** **20 22 20.7 +0.6**
KWP *e*pP **pP** **20 22 24.9 -0.6**
KWP *e*PcP **PcP** **20 22 32.7 +0.5**
KWP LMZ LR 20 55 55.5
BSEG Bad Segeberg 76.17 339 *e*P **P** **20 22 20.5 +0.4**
comp=Z,73nm,1.6s
BSEG *e*pP **pP** **20 22 25.2 -0.4**
BSEG Bad Segeberg 76.17 339 *e*P **P** **20 22 20.5 +0.4**
BSEG *e**PP **pP** **20 22 25.2 -0.4**
BSEG pmax pmax
comp=Z,73nm,1.6s
GUMT Gumushane 76.19 314 *e*P **P** **20 22 18.3 -2.4**
ESPY Espiye-Giresun 76.22 315 *e*P **P** **20 22 21.3 +0.5**
IAS Iasi 76.32 326 ⇓P **P** **20 22 21.3 +0.2**
IAS Iasi 76.32 326 ⇓*i*P **P** **20 22 21.3 +0.2**
228A UT Block 9, Go 76.39 58 ⇓P **P** **20 22 21.9 0.0**
baz=76,SNR=10
CUKT Cukurca 76.41 310 *e*P **P** **20 22 21.9 -0.1**
Z30A Sanderson Ranc 76.42 56 ⇑P **P** **20 22 22.1 +0.1**
baz=76,SNR=20
RUE Ruedersdorf 76.53 336 *e*P **P** **20 22 22.5 +0.3**
comp=Z,54nm,1.5s
KELT Kelkit 76.54 314 *i* P **P** **20 22 23.3 +0.5**
426A McDonald Obser 76.54 60 ⇓P **P** **20 22 22.8 -0.2**
baz=76,SNR=21
LEOM Leova 76.63 325 ⇓P **P** **20 22 23.1 +0.2**
LEOM Leova 76.63 325 ⇓*i*P **P** **20 22 23.1 +0.2**
OJC Ojcow 76.64 332 *e*P **P** **20 22 23.0 +0.1**
OJC *e**SP **sP** **20 22 35.0 +4.6**
OJC Ojcow 76.64 332 *e*P **P** **20 22 23.2 +0.3**
comp=Z,44nm,1.2s
BNGB Bing¶l 76.68 313 *e*P **P** **20 22 23.6 +0.2**
ERZN Erzincan 76.72 314 *e*P **P** **20 22 24.6 +0.9**
WMOK Wichita Mounta 76.73 54 *e*P **P** **20 22 23.2 -0.5**
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 76.73 54 *e*P **P** **20 22 23.2 -0.5**
comp=Z,16nm,1.0s
328A Wristen Ranch, 76.78 59 ⇑P **P** **20 22 24.4 +0.3**
baz=77,SNR=48
427A Hayter Ranch, 76.80 59 ⇑P **P** **20 22 24.2 0.0**
baz=77,SNR=20
BUR08 Bucovina Ar. S 76.87 327 *e*P **P** **20 22 24.4 0.0**
KOLS Kolonicke sedl 76.88 330 *e*P **P** **20 22 24.1 -0.2**
KOLS pmax pmax
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 76.88 330 *e*P **P** **20 22 24.1 -0.2**
Y32A R-V Farms, Ver 76.88 55 ⇑P **P** **20 22 24.3 -0.2**
baz=77
BURAR Bucovina Array 76.89 327 ⇓P **P** **20 22 24.9 +0.4**
BURAR Bucovina Array 76.89 327 ⇓*i*P **P** **20 22 24.9 +0.4**
526A Mary Lane Ranc 76.93 60 ⇓P **P** **20 22 25.0 -0.1**
baz=77,SNR=26
229A Bryant Ranch, 76.96 58 ⇑P **P** **20 22 25.3 +0.2**
baz=77,SNR=9.2
Z31A Sharp Cattle R 76.97 56 ⇓P **P** **20 22 25.0 -0.1**
baz=77,SNR=14
130A Snyder 77.01 57 ⇓P **P** **20 22 25.2 -0.1**
baz=77
ESY Stoneypath 77.02 347 *e*P P 20 22 30.7 +5.8
EAB Aberfoyle 77.03 348 *e*P P 20 22 30.4 +5.4
UZH Uzhgorod 77.12 329 *e*P **P** **20 22 25.4 -0.2**
UZH *e* 20 22 37.0
UZH *e* 20 22 43.6
UZH *e*S S 20 32 02.8 -11
UZH *e* 20 32 43.0
UZH MLR MLR
comp=N,240nm,16.0s
UZH MLR MLR
comp=E,500nm,16.0s
UZH MLR MLR
comp=Z,250nm,16.0s
NIE Niedzica 77.15 331 *e*P **P** **20 22 28.6 +2.8**
NIE *e**SP sP 20 22 40.9 +7.6
527A Woodward Ranch 77.17 60 ⇑P **P** **20 22 26.6 +0.2**
baz=77,SNR=26
CRVS Cervenica-Dubn 77.19 330 *e*P **P** **20 22 26.3 +0.2**
CRVS pmax pmax
comp=Z,69nm,2.4s
CRVS Cervenica-Dubn 77.19 330 *e*P **P** **20 22 26.3 +0.2**
KSP Ksiaz 77.23 334⇓*e*P **P** **20 22 26.6 +0.3**
KSP *e**PP **pP** **20 22 30.7 -0.9**
KSP *e*S **S** **20 32 14.5 -0.3**
KSP MLR MLR
comp=Z,2µm,17.9s
KSP Ksiaz 77.23 334 *e*P **P** **20 22 26.5 +0.3**
KSP *e*pP **pP** **20 22 30.8 -0.9**
KSP *e*PcP **PcP** **20 22 38.5 +1.6**
KSP LMZ LR 20 57 03.5
TESR Tescani 77.24 326 ⇓*i*P **P** **20 22 26.4 +0.1**
626A Big Bend Ranch 77.27 61 ⇑P **P** **20 22 27.1 +0.1**
baz=77,SNR=30
131A Roby 77.29 56 ⇑P **P** **20 22 26.7 -0.2**
baz=77,SNR=9.8
GHRR 77.30 325 ⇑*i*P **P** **20 22 27.8 +1.1**
428A Kincaid Ranch, 77.32 59 ⇑P **P** **20 22 27.3 +0.1**
baz=77,SNR=29
DIKM Dikmen 77.35 318 *e*P **P** **20 22 27.3 +0.2**
Z32A Haskell 77.36 55 ⇓P **P** **20 22 26.7 -0.6**
baz=77,SNR=6.9
ERBA Erbaa 77.38 316 *i* P **P** **20 22 28.2 +0.9**
ILIC ilic-Erzincan 77.41 314 *e*P **P** **20 22 28.0 +0.4**
PTK Pertek 77.42 313 *e*P **P** **20 22 29.0 +1.3**
230A Sterling City 77.43 57 ⇓P **P** **20 22 27.6 -0.1**
baz=77
HDIL Hopedale 77.43 44 *e*P **P** **20 22 27.0 -0.5**
comp=Z,79nm,0.6s
HDIL LR LR
comp=Z,230nm,19.0s
TLCR 77.43 324 ⇑P **P** **20 22 28.1 +0.7**
TLCR 77.43 324 ⇑*i*P **P** **20 22 28.1 +0.7**
TRPA Tarpa 77.46 329 ⇓*i*P **P** **20 22 28.2 +0.7**
OKC Ostrava-Krasne 77.52 332 *e*P **P** **20 22 27.7 -0.1**
OKC *e* 20 22 40.2
OKC *e*S **S** **20 32 18.3 +0.3**
OKC MLR MLR
comp=Z,500nm,15.5s
OKC Ostrava-Krasne 77.52 332 *e*P **P** **20 22 27.7 -0.1**
OKC *e*pP **pP** **20 22 32.4 -0.9**
OKC *e*PCP **PcP** **20 22 40.2 +2.1**
OKC *e*S **S** **20 32 18.3 +0.3**
OKC *e*PKKP **PKKPdf** **20 41 13.7 -2.2**
OKC AMS AMS 21 04 30.0
comp=Z,500nm,15.5s
NRDL Niedersach Rie 77.52 338 *e*P **P** **20 22 28.0 +0.3**
comp=Z,53nm,2.0s
NRDL *e*pP **pP** **20 22 32.6 -0.6**
TUL1 Tulsa 77.54 51 ⇑P **P** **20 22 27.8 -0.4**
baz=77
HAVZ Havza 77.58 317 *i* P **P** **20 22 29.5 +1.2**
KEMA Kemaliye 77.59 314 *i* P **P** **20 22 29.7 +1.1**
UPC Upice 77.61 334 *e*P **P** **20 22 28.8 +0.4**
UPC *e* 20 22 33.2
UPC Upice 77.61 334 *e*P **P** **20 22 28.8 +0.4**
UPC *e*pP **pP** **20 22 33.2 -0.6**
PETR Petresti 77.65 325 ⇑*i*P **P** **20 22 30.5 +1.9**
DPC Dobruska-Polom 77.65 334 *e*P **P** **20 22 29.0 +0.4**
DPC pmax pmax
comp=Z,300nm,1.6s
DPC Dobruska-Polom 77.65 334 *i* P **P** **20 22 29.2 +0.6**
DPC *e*pP **pP** **20 22 33.3 -0.8**
DPC *e*PCP **PcP** **20 22 41.9 +3.1**
DPC *e*S **S** **20 32 18.1 -1.4**
DPC *e*PKKP **PKKPdf** **20 41 20.4 +4.7**
DPC AMS AMS 21 02 10.0
DPC Dobruska-Polom 77.65 334 *e*P **P** **20 22 29.0 +0.4**
comp=Z,300nm,1.6s
528A Cox Ranch, San 77.66 60 ⇑P **P** **20 22 29.1 0.0**
baz=78,SNR=13
EKA Eskdalemuir Ar 77.67 347 P **P** **20 22 29.2 +0.6**
EKA Eskdalemuir Ar 77.67 347 P **P** **20 22 29.2 +0.6**
comp=Z,2.1nm,0.5s,baz=24,slow=4.8,SNR=22
ESK Eskdalemuir 77.69 347 P P 20 22 34.4 +5.7
comp=Z,173nm,0.6s,SNR=7.9
ESK Eskdalemuir 77.69 347 *e*P P 20 22 34.3 +5.7
ESK AMB AMB 20 22 34.7
comp=Z,45nm,1.9s
ESK Eskdalemuir 77.69 347 PFAKE 20 22 40.0 +11
ESK LR LR
comp=Z,307nm,19.0s
TXAR Lajitas Array 77.71 61 P **P** **20 22 29.4 0.0**
TXAR Lajitas Array 77.71 61 P **P** **20 22 29.4 0.0**
comp=Z,31nm,0.7s,baz=304,slow=4.1,SNR=236
CFR Carcaliu 77.72 324 ⇑P **P** **20 22 29.4 +0.4**
CFR Carcaliu 77.72 324 ⇑*i*P **P** **20 22 29.4 +0.4**
VRI Vrincioaia 77.73 325 ⇓P **P** **20 22 29.4 +0.2**
VRI Vrincioaia 77.73 325 ⇓*i*P **P** **20 22 29.4 +0.2**
330A Mertzon 77.74 58 ⇑P **P** **20 22 29.4 -0.1**
baz=78,SNR=13
ABTX Abilene, Hawle 77.76 56 ⇑P **P** **20 22 29.7 +0.1**
baz=78
MORC Moravsky Berou 77.76 333 *e*P **P** **20 22 29.7 +0.4**
MORC pmax pmax
comp=Z,20nm,0.9s
MORC Moravsky Berou 77.76 333 *e*P **P** **20 22 29.7 +0.4**
comp=Z,20nm,0.9s
PLOR Plostina 77.78 325 ⇓P **P** **20 22 29.9 +0.5**
PLOR Plostina 77.78 325 ⇓*i*P **P** **20 22 29.9 +0.5**
STKA Stephens Creek 77.80 191 *e*P **P** **20 22 29.7 +0.3**
STKA Stephens Creek 77.80 191 P **P** **20 22 29.5 +0.1**
comp=Z,8.4nm,0.8s,baz=355,slow=7.5,SNR=8.1
STKA LR LR 20 54 13.0
comp=Z,243nm,22.0s,baz=20,slow=34
CLL Collm 77.80 336 *e*P **P** **20 22 29.2 -0.2**
comp=Z,55nm,1.8s
CLL *e*pP **pP** **20 22 34.0 -0.8**
CLL Collm 77.80 336 ⇓*i*P **P** **20 22 29.2 -0.2**
CLL *i* 20 22 38.4
CLL pmax pmax

comp=Z,56nm,1.8s
CLL MLR MLR
comp=Z,300nm,19.4s
CLL Collm 77.80 336 ⇓*i*P **P 20 22 29.2 -0.2**
comp=Z,56nm,1.8s
CLL *i* 20 22 33.0
comp=Z,31nm,0.7s
CLL *i* pP **pP 20 22 35.2 +0.4**
CLL *i* sP **sP 20 22 37.6 +0.8**
CLL *es*PcP 20 22 48.0
CLL *e*(PP) 20 25 14.0
CLL *e*S **S 20 32 24.0 +3.1**
CLL *e*SP **SPn 20 32 59.0 +0.1**
CLL *e*SS SS 20 37 30.0 +10
CLL *e*SSS SSS 20 41 06.0
CLL Lm MLR 20 58 00.0
comp=N,400nm,19.5s
CLL Lm MLR 20 58 00.0
comp=E,200nm,20.2s
CLL Lm MLR 20 58 00.0
comp=Z,300nm,19.4s
SCER sogukcermik 77.82 315 *i* P **P 20 22 31.1 +1.2**
SVSK Karacayir 77.84 315 *e*P **P 20 22 30.7 +0.9**
231A Bronte 77.86 57 ⇓P **P 20 22 29.8 -0.3**
baz=78,SNR=10
429A Davenport Ranc 77.87 59 ⇑P **P 20 22 29.7 -0.5**
baz=78,SNR=22
MARD Mardin 77.88 311 *i* P **P 20 22 31.3 +1.0**
KECS Kecovo 77.89 330 *e*P **P 20 22 30.3 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 77.89 330 *e*P **P 20 22 30.3 +0.4**
BRG Berggiesshubel 77.91 335 *i* P **P 20 22 30.0 0.0**
comp=Z,42nm,2.0s
BRG *e* 20 22 35.9
comp=Z,29nm,1.6s
BRG S **S 20 32 24.0 +1.8**
BRG SS SS 20 37 56.0 +34
BRG
comp=Z,631nm,17.5s
BRG
comp=N,489nm,17.1s
BRG
comp=E,209nm,17.1s
BRG Berggiesshubel 77.91 335 *e*P **P 20 22 30.0 0.0**
comp=Z,42nm,2.0s
BRG Berggiesshubel 77.91 335 *i* P **P 20 22 30.0 0.0**
BRG *e* 20 22 35.9
BRG S **S 20 32 24.0 +1.8**
BRG pmax pmax
comp=Z,42nm,2.0s
BRG MLR MLR
comp=Z,631nm,17.5s
BRG MLR MLR
comp=N,489nm,17.1s
BRG MLR MLR
comp=E,209nm,17.1s
529A Stev Forest Ra 78.03 59 ⇓P **P 20 22 30.8 -0.3**
baz=78,SNR=18
PVCC Panska Ves 78.03 335 *e*P **P 20 22 31.2 +0.5**
PVCC *e* 20 22 35.7
PVCC MLR MLR
comp=Z,700nm,15.1s
PVCC Panska Ves 78.03 335 *e*P **P 20 22 31.2 +0.5**
PVCC *ep*P **pP 20 22 35.7 -0.5**
PVCC AMS AMS 21 02 10.0
comp=Z,700nm,15.1s
FBE Freiberg 78.04 336 *e*P **P 20 22 31.1 +0.4**
comp=Z,43nm,1.6s
FBE *ep*P **pP 20 22 35.6 -0.6**
CLZ Clausthal 78.04 338 *e*P **P 20 22 31.4 +0.6**
comp=Z,76nm,1.4s
CLZ Clausthal 78.04 338 *e*P **P 20 22 31.4 +0.6**
CLZ pmax pmax
comp=Z,76nm,1.4s
628A Black Gap, Mar 78.08 60 ⇑P **P 20 22 31.1 -0.3**
baz=78,SNR=16
IBDR Badra 78.14 305 *i* P **P 20 22 30.0 -1.6**
IBDR *i* S **S 20 32 20.0 -5.2**
430A Baggett Ranch, 78.14 58 ⇓P **P 20 22 31.5 -0.2**
baz=78,SNR=21
TIRR Tirgusor 78.19 323 ⇑P **P 20 22 32.2 +0.6**
TIRR Tirgusor 78.19 323 ⇑*i*P **P 20 22 32.2 +0.6**
TIRR Tirgusor 78.19 323 *e*P **P 20 22 31.9 +0.3**
comp=Z,12nm,0.9s
NEUB Neuenburg 78.23 337 *e*P **P 20 22 31.9 +0.1**
comp=Z,87nm,2.0s
NEUB *ep*P **pP 20 22 36.7 -0.6**
TLB Topalu 78.24 324 ⇑P **P 20 22 32.5 +0.6**
TLB Topalu 78.24 324 ⇑*i*P **P 20 22 32.5 +0.6**
331A San Angelo 78.25 57 ⇑P **P 20 22 32.3 0.0**
baz=78
IBBN Ibbenburen 78.29 339 *e*P **P 20 22 32.5 +0.4**
comp=Z,47nm,1.5s
232A Coleman 78.29 56 ⇓P **P 20 22 32.4 -0.1**
baz=78,SNR=30
MALT Malatya 78.35 313 *e*P **P 20 22 33.0 +0.2**
MALT Malatya 78.35 313 ⇓P **P 20 22 34.5 +1.7**
MALT Malatya 78.35 313 ⇓*i*P **P 20 22 34.5 +1.7**
MLR Muntele Rosu 78.36 325 ⇑*i*P **P 20 22 33.4 +0.6**
MLR Muntele Rosu 78.36 325 P **P 20 22 33.0 +0.3**
MLR Muntele Rosu 78.36 325 P **P 20 22 33.0 +0.3**
comp=Z,2.1nm,0.5s,baz=33,slow=6.4
ISR Istrita 78.42 325 ⇑P **P 20 22 34.0 +1.0**
ISR Istrita 78.42 325 ⇑*i*P **P 20 22 34.0 +1.0**
VYHS Vyhne 78.45 331 *e*P **P 20 22 33.5 +0.4**
VYHS pmax pmax
comp=Z,53nm,2.6s
VYHS Vyhne 78.45 331 *e*P **P 20 22 33.5 +0.4**
PRA Prague 78.48 335 P **P 20 22 34.0 +0.9**
PRA AMS AMS 21 03 30.0
VRAC Vranov 78.48 333 P **P 20 22 33.4 +0.2**
VRAC Vranov 78.48 333 P **P 20 22 33.4 +0.2**
comp=Z,13nm,0.8s,baz=23,slow=5.0,SNR=12
PRU Pruhonice 78.52 335 *e*P **P 20 22 33.7 +0.3**
PRU *e* 20 22 37.4
PRU *e*S **S 20 32 26.0 -2.7**
PRU MLR MLR
comp=Z,500nm,14.0s
PRU Pruhonice 78.52 335 *e*P **P 20 22 33.7 +0.3**
PRU *ep*P **pP 20 22 37.4 -1.5**
PRU *e*S **S 20 32 26.0 -2.7**
PRU *e*PKKP **PKKPdf 20 41 14.8 +0.5**
PRU AMS AMS 21 02 20.0
comp=Z,500nm,14.0s
DRGR 78.52 328 ⇑P **P 20 22 34.2 +0.6**
DRGR 78.52 328 ⇑*i*P **P 20 22 34.2 +0.6**
530A J-C Ranch, Com 78.54 59 ⇓P **P 20 22 34.1 +0.2**
baz=78,SNR=29
ILGA Ilgaz 78.54 318 *i* P **P 20 22 35.7 +1.7**
PSZ Piszkesteto 78.58 330 ⇓P **P 20 22 34.7 +0.8**
PSZ Piszkesteto 78.58 330 ⇓*i*P **P 20 22 34.7 +0.8**
PSZ Piszkesteto 78.58 330 *e*P **P 20 22 34.4 +0.5**
comp=Z,18nm,1.1s
PSZ LR LR
comp=Z,406nm,20.0s
332A Millersview 78.60 57 ⇑P **P 20 22 34.1 -0.1**
baz=78,SNR=19
DARE Darende-Malaty 78.63 314 *e*P **P 20 22 36.7 +2.4**
SFIN Scholer Farm 78.63 43 *e*P **P 20 22 33.8 -0.4**
comp=Z,39nm,0.8s
SFIN Scholer Farm 78.63 43 ⇑P **P 20 22 33.7 -0.4**
baz=78,SNR=8.6
HPK Haverah Park 78.73 345 *e*P P 20 22 38.8 +4.4
HPK AMB AMB 20 22 41.3
comp=Z,97nm,0.7s
TANN Tannenbergstha 78.75 336 *e*P **P 20 22 35.1 +0.4**
comp=Z,30nm,2.0s
TANN *ep*P **pP 20 22 39.4 -0.8**
VOIR 78.76 326 ⇓P **P 20 22 35.7 +0.8**
VOIR 78.76 326 ⇓*i*P **P 20 22 35.7 +0.8**
WERD Werda 78.77 336 *e*P **P 20 22 35.1 +0.3**
comp=Z,20nm,1.6s
WERD *ep*P **pP 20 22 39.5 -0.8**
MOX Moxa 78.78 337 *e*P **P 20 22 35.2 +0.3**
comp=Z,38nm,1.9s
MOX *ep*P **pP 20 22 39.7 -0.7**
MOX Moxa 78.78 337 *e*P **P 20 22 35.2 +0.3**
MOX *e**PP **pP 20 22 39.7 -0.7**
MOX pmax pmax
comp=Z,38nm,1.9s
CORM Corum 78.79 317 *e*P **P 20 22 34.0 -1.2**
GUNZ Gunzen 78.83 336 *e*P **P 20 22 35.6 +0.4**
comp=Z,52nm,2.1s
GUNZ *ep*P **pP 20 22 40.2 -0.5**

WTSB Winterswijk 78.84 340 *e*P **P 20 22 34.2 -0.9**
comp=Z,44nm,1.4s
TREC Trest 78.84 334 *e*P **P 20 22 35.7 +0.5**
TREC *e* 20 22 39.7
TREC MLR MLR
comp=Z,600nm,16.9s
TREC Trest 78.84 334 *e*P **P 20 22 35.7 +0.5**
TREC *ep*P **pP 20 22 39.7 -1.0**
TREC AMS AMS 21 02 50.0
comp=Z,600nm,16.9s
BHD Baghdad 78.90 306 *i* P P 20 22 22.0 -14
BHD *i* PcP pP 20 22 33.0 -8.3
BHD *i* S SKiKP 20 32 04.0 +21
NKC Novy Kostel 78.92 336 *e*P **P 20 22 35.3 -0.3**
NKC *e* 20 22 39.4
NKC *e*S **S 20 32 30.3 -2.8**
NKC MLR MLR
comp=Z,300nm,18.9s
NKC Novy Kostel 78.92 336 *e*P **P 20 22 35.3 -0.3**
NKC *ep*P **pP 20 22 39.4 -1.7**
NKC *e*S **S 20 32 30.3 -2.8**
NKC AMS AMS 21 01 40.0
comp=Z,300nm,18.9s
MTUR Matau 78.93 326 ⇓P **P 20 22 36.1 +0.3**
MTUR Matau 78.93 326 ⇓*i*P **P 20 22 36.1 +0.3**
432A Menard 78.94 57 ⇓P **P 20 22 35.8 -0.3**
baz=79,SNR=14
ARR Arges 78.98 326 ⇑*i*P **P 20 22 38.0 +1.9**
531A Rocksprings 79.00 58 ⇓P **P 20 22 36.3 -0.2**
baz=79,SNR=20
UBBA Unterbreizbach 79.07 338 *e*P **P 20 22 36.6 +0.3**
comp=Z,36nm,2.0s
PINB Pinarbasi 79.09 315 *i* P **P 20 22 37.8 +0.7**
BUG Bochum–Univer 79.21 339 *e*P **P 20 22 37.4 +0.3**
comp=Z,52nm,1.7s
JCT Junction City 79.22 57 *e*P **P 20 22 37.3 -0.3**
JCT pmax pmax
comp=Z,125nm,1.7s
JCT MLR MLR
comp=Z,317nm,19.0s
JCT Junction City 79.22 57 *e*P **P 20 22 37.3 -0.3**
comp=Z,125nm,1.7s
JCT LR LR
comp=Z,317nm,19.0s
JCT Junction City 79.22 57 ⇓P **P 20 22 37.6 -0.1**
baz=79,SNR=14
BNN Bunyan 79.23 315 *e*P **P 20 22 36.0 -1.6**
MANZ Manzenberg 79.24 336 *e*P **P 20 22 37.8 +0.4**
comp=Z,59nm,2.4s
MANZ *ep*P **pP 20 22 42.0 -0.9**
LOT Lotru 79.25 327 ⇓*i*P P 20 22 42.6 +5.0
CDAG Cicekdag 79.35 317 *i* P **P 20 22 38.9 +0.6**
SIRR Siria 79.35 328 ⇑*i*P **P 20 22 38.5 +0.4**
KBI1 Birley Grange 79.38 345 *e*P P 20 22 42.3 +4.2
ROTZ Rotzenmuhle 79.40 336 *e*P **P 20 22 39.1 +0.8**
comp=Z,20nm,1.4s
532A Rocksprings 79.41 58 ⇓P **P 20 22 38.5 -0.2**
baz=79,SNR=23
OLIL Olney 79.42 45 *e*P **P 20 22 38.5 -0.1**
comp=Z,22nm,0.8s
FORT Forrest 79.43 202 *e*P **P 20 22 39.1 +0.7**
WHTX Lake Whitney 79.49 55 ⇑P **P 20 22 39.3 +0.3**
baz=79
631A Perdido Creek 79.53 59 ⇑P **P 20 22 39.3 0.0**
baz=79,SNR=64
PKSG 79.55 331 ⇑*e*P P 20 22 45.5 +6.4
KHC Kasperske Hory 79.57 335 *i* P **P 20 22 39.5 +0.3**
KHC *e* 20 22 43.0
KHC *e*S **S 20 32 37.0 -3.1**
KHC *e* 20 41 11.4
KHC MLR MLR
comp=Z,700nm,14.9s
KHC Kasperske Hory 79.57 335 *i* P **P 20 22 39.5 +0.3**
KHC *ep*P **pP 20 22 43.0 -1.7**
KHC *e*S **S 20 32 37.0 -3.1**
KHC *e*PKKP **PKKPdf 20 41 11.4 -1.3**
KHC AMS AMS 21 02 50.0
comp=Z,700nm,14.9s
KHC Kasperske Hory 79.57 335 *e*P **P 20 22 39.7 +0.5**
comp=Z,58nm,1.5s
BR131 Keskin Array S 79.62 317 *e*P **P 20 22 39.7 -0.1**
comp=Z,5.8nm,0.6s
BRTR Keskin Array B 79.62 317 P **P 20 22 40.2 +0.4**
BRTR Keskin Array B 79.62 317 P **P 20 22 40.2 +0.4**
comp=Z,8.0nm,0.8s,baz=27,slow=1.6,SNR=46
BRTR LR LR 21 02 56.7
comp=Z,172nm,18.9s,baz=71,slow=40
PRD Provadia 79.64 323 *e*P **P 20 22 40.0 +0.4**
SIUC Southern Illin 79.65 46 *e*P **P 20 22 38.2 -1.6**
comp=Z,39nm,0.8s
GZR Gura Zlata 79.67 327 ⇑P **P 20 22 40.1 +0.2**
GZR Gura Zlata 79.67 327 ⇑*i*P **P 20 22 40.1 +0.2**
KMRS Kahramanmaras 79.74 314 *e*P **P 20 22 38.4 -2.0**
GRF Grafenberg Arr 79.75 336 *e*P **P 20 22 41.0 +0.8**
comp=Z,74nm,2.1s
GRF *e*L L 21 00 44.6
comp=Z,264nm,19.1s
GRF Grafenberg Arr 79.75 336 *e*P **P 20 22 41.0 +0.8**
GRF pmax pmax
comp=Z,74nm,2.1s
GRF MLR MLR
comp=Z,300nm,19.1s
GRFO Grafenberg 79.75 336 *e*P **P 20 22 40.9 +0.7**
GRFO pmax pmax
comp=Z,27nm,0.9s
GRFO Grafenberg 79.75 336 *e*P **P 20 22 40.9 +0.7**
comp=Z,27nm,0.9s
WET Wettzell 79.77 335 *e*P **P 20 22 41.1 +0.8**
comp=Z,96nm,2.6s
WET Wettzell 79.77 335 *e*P **P 20 22 41.1 +0.8**
WET pmax pmax
comp=Z,96nm,2.6s
MIAR Mount Ida 79.77 51 PFAKE 20 22 50.0 +9.5
MIAR LR LR
comp=Z,481nm,20.0s
GEC2 GERESS Array S 79.79 334 *e*P **P 20 22 40.4 -0.1**
comp=Z,25nm,2.1s
GEC2 GERESS Array S 79.79 334 *e*P **P 20 22 40.8 +0.3**
GEC2 GERESS Array S 79.79 334 *e*P **P 20 22 40.8 +0.3**
GERES GERESS Array B 79.79 334 P **P 20 22 40.4 -0.1**
GERES GERESS Array B 79.79 334 P **P 20 22 40.4 -0.1**
comp=Z,2.6nm,0.6s,baz=35,slow=5.4,SNR=18
GERES LR LR 21 01 52.5
comp=Z,463nm,18.2s,baz=26,slow=39
PKST T˜'s 79.79 331 ⇑*e*P P 20 22 48.6 +8.2
AYKD Aykdinkavak 79.86 314 *i* P **P 20 22 42.3 +1.3**
ANTO Ankara 79.91 318 ⇓P **P 20 22 42.6 +1.3**
ANTO Ankara 79.91 318 ⇓*i*P **P 20 22 42.5 +1.3**
ANTO Ankara 79.91 318 *e*P **P 20 22 42.3 +1.0**
comp=Z,26nm,0.7s
ANTO LR LR
comp=Z,245nm,19.0s
SOP Sopron 79.91 332 ⇓*e*P P 20 22 47.4 +6.4
BZS Buzias 79.92 328 ⇑P **P 20 22 41.1 0.0**
BZS Buzias 79.92 328 ⇑*i*P **P 20 22 41.1 0.0**
CONA Conrad Observa 79.92 333 ⇑*i*P **P 20 22 41.4 +0.2**
comp=Z,28nm,1.4s,SNR=14
632A Uvalde 79.93 58 ⇓P **P 20 22 41.6 +0.1**
baz=80,SNR=15
KBD Kabd 79.96 301 *e*P **P 20 22 41.8 +0.2**
KBD AMb AMB 20 22 50.5
comp=Z,57nm,0.6s
ANDN Andirin 79.96 314 *i* P **P 20 22 42.6 +1.0**
PMOR Pomariorio Ree 79.98 123 *e*P **P 20 22 41.9 +0.2**
comp=Z,47nm,1.1s
FOEL Foel Wylfa 80.02 346 *e*P P 20 22 46.5 +5.0
TNS Taunus Mts 80.03 338 *e*P **P 20 22 42.1 +0.4**
comp=Z,22nm,1.6s
TNS Taunus Mts 80.03 338 *e*P **P 20 22 42.1 +0.4**
TNS pmax pmax
comp=Z,22nm,1.6s
QRN Al-Qurain 80.14 301 *e*P **P 20 22 42.8 +0.3**
QRN AMb AMB 20 22 51.4
comp=Z,188nm,0.9s
RST Umm Al-Ruwaisa 80.14 302 *e*P **P 20 22 42.4 -0.2**
RST AMb AMB 20 22 51.1
comp=Z,1μm,0.7s
HGN Heimansgroeve 80.16 340 *e*P **P 20 22 42.6 +0.3**
comp=Z,67nm,1.5s
HGN Heimansgroeve 80.16 340 *e*S **ScS 20 33 06.7 +0.1**
NAY Al-Naaiem 80.17 302 *e*P **P 20 22 42.6 -0.2**
NAY AMb AMB 20 22 51.8
comp=Z,3.3nm,0.7s
PARMO Parma 80.18 47 *e*P **P 20 22 43.3 +0.6**
BEBN Eben Emael 80.19 340 P **P 20 22 43.1 +0.6**

SZH Strazhica 80.20 324 *e*P **P 20 22 42.1 -0.6**
RDF Al-Radifah 80.22 301 *e*P **P 20 22 43.6 +0.5**
RDF AMb AMB 20 22 51.2
comp=Z,127nm,0.6s
MEM Membach 80.28 340 P **P 20 22 43.4 +0.4**
comp=Z,21nm,2.0s
KOZT Kozan 80.30 315 *e*P **P 20 22 43.1 -0.3**
HLM1 Long Mynd 80.33 346 *e*P P 20 22 47.8 +4.6
HLM1 AMB AMB 20 22 50.6
comp=Z,25nm,2.2s
732A Laxson Ranch, 80.39 59 ⇓P **P 20 22 44.6 +0.6**
baz=80,SNR=14
NIG Nigde 80.42 316 *e*P **P 20 22 43.4 -0.8**
PKSM Moragy 80.48 330 ⇓P **P 20 22 43.5 -0.6**
PKSM Moragy 80.48 330 ⇓*i*P **P 20 22 43.5 -0.6**
PKSM Moragy 80.48 330 ⇑*e*P **P 20 22 43.8 -0.3**
MOA Molln 80.50 334 ⇓*i*P **P 20 22 44.4 +0.2**
comp=Z,17nm,1.6s
BCLA Clavier 80.63 340 P **P 20 22 45.4 +0.6**
WCI Wyandotte Cave 80.70 44 *e*P **P 20 22 44.9 -0.6**
WCI pmax pmax
comp=Z,37nm,0.8s
WCI Wyandotte Cave 80.70 44 *e*P **P 20 22 44.9 -0.6**
comp=Z,37nm,0.8s
ALLY Alegheny Colle 80.78 38 *e*P **P 20 22 45.7 -0.2**
comp=Z,38nm,0.7s
MCH1 Michaelchurch 80.85 346 *e*P P 20 22 51.2 +5.2
MCH1 AMB AMB 20 22 53.3
comp=Z,52nm,1.2s
KARA Karaisali 80.86 315 *e*P P 20 22 41.8 -4.6
GULE Gulek 80.98 315 *i* P **P 20 22 47.7 +0.5**
MPEP Malo Peshtene 81.01 326 *e*P **P 20 22 46.9 -0.1**
GIVF Givet 81.04 340 *e*P **P 20 22 47.0 0.0**
comp=Z,24nm,0.8s
GIVF Givet 81.04 340 *e*P **P 20 22 47.0 0.0**
GIVF pmax pmax
comp=Z,24nm,0.8s
GIVF Givet 81.04 340 *e*P **P 20 22 47.0 0.0**
comp=Z,24nm,0.8s
PPT Papeete 81.05 126 LR LR 20 54 09.7
comp=Z,404nm,18.4s,baz=182,slow=32
RJOB Jochberg 81.05 335 *e*P **P 20 22 47.6 +0.4**
comp=Z,29nm,1.7s
PPT2 Papeete2 81.06 126 *e*S **S 20 32 51.4 -5.0**
comp=Z,337nm,40.8s
SEYT Eskypehyr 81.09 319 *i* P **P 20 22 47.6 -0.1**
DOU Dourbes 81.10 340 P **P 20 22 47.8 +0.4**
comp=Z,13nm,1.6s
SWN1 Swindon 81.10 345 *e*P P 20 22 53.1 +5.8
SWN1 AMB AMB 20 22 53.8
comp=Z,129nm,1.5s
FUR Furstenfeldbru 81.11 336 *e*P **P 20 22 48.2 +0.7**
comp=Z,34nm,1.5s
FUR Furstenfeldbru 81.11 336 *e*P **P 20 22 48.2 +0.7**
FUR pmax pmax
comp=Z,34nm,1.5s
WLF Walferdange 81.12 339 P **P 20 22 49.5 +2.0**
comp=Z,18nm,2.5s
WLF Walferdange 81.12 339 *e*P **P 20 22 48.0 +0.5**
comp=Z,92nm,2.4s
WLF Walferdange 81.12 339 PFAKE 20 23 00.0 +12
WLF LR LR
comp=Z,453nm,20.0s
STU Stuttgart 81.15 337 *e*P **P 20 22 48.2 +0.5**
comp=Z,43nm,1.8s
STU Stuttgart 81.15 337 *e*P **P 20 22 48.5 +0.8**
STU pmax pmax
comp=Z,43nm,1.3s
STU Stuttgart 81.15 337 *e*P **P 20 22 48.5 +0.8**
comp=Z,43nm,1.3s
TIAR Tiarei 81.17 126 *e*P **P 20 22 49.0 +0.9**
comp=Z,64nm,0.8s
MENF Menca s 81.21 342 *e*P **P 20 22 45.1 -2.8**
BAIF Baives 81.22 341 *e*P **P 20 22 48.2 +0.2**
comp=Z,26nm,0.9s
BAIF Baives 81.22 341 *e*P **P 20 22 48.2 +0.2**
BAIF pmax pmax
comp=Z,26nm,0.9s
BAIF Baives 81.22 341 *e*P **P 20 22 48.2 +0.2**
comp=Z,26nm,0.9s
NATX Nacogdoches 81.25 53 *e*P **P 20 22 48.1 -0.4**
comp=Z,65nm,0.7s
NATX LR LR
comp=Z,526nm,20.0s
SOKA Soboth 81.29 333 ⇑*i*P **P 20 22 48.1 -0.4**
comp=Z,30nm,0.8s,SNR=14
GROS Grobnik 81.33 332 *e*P **P 20 22 47.3 -1.5**
GROS *i* 20 22 56.1
LANF Langenberg 81.33 338 *e*P **P 20 22 49.5 +0.8**
DIM Dimitrovgrad 81.37 324 *e*P **P 20 22 49.6 +0.7**
KBA Koelnbreinsper 81.47 334 *i* P **P 20 22 50.3 +0.6**
comp=Z,49nm,0.7s,SNR=21
PGB Panagyurishte 81.51 325 *e*P **P 20 22 49.7 -0.1**
WVT Waverly 81.58 46 *e*P **P 20 22 48.0 -2.2**
WVT pmax pmax
comp=Z,22nm,0.8s
WVT Waverly 81.58 46 *e*P **P 20 22 48.0 -2.2**
comp=Z,22nm,0.8s
WATA Walderalm 81.77 335 ⇓*i*P **P 20 22 51.6 +0.4**
comp=Z,19nm,0.6s,SNR=9.5
MYKA Terra Mystica 81.78 333 ⇑*i*P **P 20 22 51.2 +0.1**
comp=Z,18nm,0.8s
BFO Black Forest 81.79 338 *e*P **P 20 22 51.3 +0.2**
comp=Z,13nm,1.1s
BFO Black Forest 81.79 338 *e*P **P 20 22 51.3 +0.2**
BFO pmax pmax
comp=Z,13nm,1.1s
BFO Black Forest 81.79 338 *e*P **P 20 22 50.9 -0.2**
comp=Z,25nm,1.2s
BFO LR LR
comp=Z,311nm,19.0s
DIVS Divibare 81.82 328 P **P 20 22 50.7 -0.7**
WTTA Wattenberg 81.82 335 ⇑*i*P **P 20 22 52.0 +0.5**
comp=Z,42nm,0.8s,SNR=11
VTS Vitosha 81.86 325 P **P 20 22 51.6 -0.2**
VTS Vitosha 81.86 325 ⇓P **P 20 22 52.2 +0.4**
VTS Vitosha 81.86 325 *e*P **P 20 22 51.0 -0.8**
VTS Vitosha 81.86 325 ⇓*i*P **P 20 22 52.2 +0.4**
VTS Vitosha 81.86 325 P **P 20 22 51.6 -0.2**
MOTA Moosalm 81.91 335 ⇓*i*P **P 20 22 52.3 +0.4**
comp=Z,42nm,0.9s,SNR=17
KIZK Mersin 81.92 315 *i* P **P 20 22 49.3 -2.6**
HKT Hockley 81.93 55 *e*P **P 20 22 52.9 +0.9**
HKT pmax pmax
comp=Z,34nm,1.8s
HKT Hockley 81.93 55 *e*P **P 20 22 52.9 +0.9**
comp=Z,34nm,1.8s
CDF Champ du Feu 81.99 338 *e*P **P 20 22 52.4 +0.1**
comp=Z,37nm,0.8s
CDF Champ du Feu 81.99 338 *e*P **P 20 22 52.4 +0.1**
CDF pmax pmax
comp=Z,37nm,0.8s
CDF Champ du Feu 81.99 338 *e*P **P 20 22 52.4 +0.1**
comp=Z,37nm,0.8s
LJU Ljubljana 82.01 333 *i* P **P 20 22 52.3 0.0**
OXF Oxford 82.02 48 *e*P **P 20 22 51.9 -0.6**
OXF pmax pmax
comp=Z,52nm,0.8s
OXF MLR MLR
comp=Z,449nm,20.0s
OXF Oxford 82.02 48 *e*P **P 20 22 51.9 -0.6**
comp=Z,52nm,0.8s
OXF LR LR
comp=Z,449nm,20.0s
RDO Rodhopi 82.12 323 P **P 20 22 53.1 +0.2**
RDO Rodhopi 82.12 323 P **P 20 22 53.1 +0.2**
ECH Echery 82.20 338 *e*P **P 20 22 52.8 -0.5**
ECH pmax pmax
comp=Z,18nm,0.8s
ECH MLR MLR
comp=Z,358nm,20.0s
ECH Echery 82.20 338 *e*P **P 20 22 52.8 -0.5**
comp=Z,18nm,0.8s
ECH LR LR
comp=Z,358nm,20.0s
ECH Echery 82.20 338 *e*P **P 20 22 53.8 +0.5**
BOJS Bojanci 82.25 332 *i* P **P 20 22 53.0 -0.5**
PAGF Fort de Pagny 82.26 339 *e*P **P 20 22 54.0 +0.5**
comp=Z,18nm,0.6s
PAGF Fort de Pagny 82.26 339 *e*P **P 20 22 54.0 +0.5**
comp=Z,18nm,0.6s
DAVA Damuels 82.31 336 ⇑*i*P **P 20 22 54.7 +0.7**
comp=Z,26nm,0.7s
PLAL Pickwick Lake 82.35 47 *e*P **P 20 22 53.4 -0.8**
comp=Z,18nm,0.7s
MEZF Maizieres J'vi 82.47 340 *e*P **P 20 22 55.1 +0.5**

comp=Z,38nm,0.6s,baz=24
MEZF Maizieres J'vi 82.47 340 *e*P **P 20 22 55.1 +0.5**
comp=Z,38nm,0.6s
THEF They Montfort 82.50 339 *e*P **P 20 22 55.1 +0.3**
MMB Musomiste 82.50 325 *e*P **P 20 22 54.8 -0.2**
DYA Yadsworthy 82.51 346 *e*P P 20 23 00.6 +5.8
DYA AMB AMB 20 23 01.5
comp=Z,98nm,1.8s
MOF Molkenrain 82.55 338 *e*P **P 20 22 55.1 -0.1**
TRI Trieste 82.56 333 *e*P P 20 22 58.6 +3.5
TRI pmax pmax
comp=Z,86nm,1.8s
TRI Trieste 82.56 333 *e*P P 20 22 58.6 +3.5
comp=Z,86nm,1.8s
SSPA Standing Stone 82.58 37 *e*P **P 20 22 55.0 -0.4**
comp=Z,88nm,1.9s
HAU Haudompre 82.61 339 *e*P **P 20 22 55.3 -0.1**
comp=Z,21nm,0.6s
HAU *e*R
comp=Z,449nm,19.2s
HAU Haudompre 82.61 339 *e*P **P 20 22 55.3 -0.1**
HAU pmax pmax
comp=Z,21nm,0.6s
HAU Haudompre 82.61 339 *e*P **P 20 22 55.3 -0.1**
comp=Z,21nm,0.6s
NVR Nevrokopi 82.64 324 P **P 20 22 55.5 -0.2**
NVR Nevrokopi 82.64 324 P **P 20 22 55.5 -0.2**
HINF Hinteralfeld 82.65 338 *e*P **P 20 22 55.4 -0.3**
HINF Hinteralfeld 82.65 338 *e*P **P 20 22 55.4 -0.3**
HINF Hinteralfeld 82.65 338 *e*P **P 20 22 55.4 -0.3**
SFTF Sexfontaines 82.75 340 *e*P **P 20 22 56.3 +0.2**
comp=Z,55nm,0.6s
SFTF Sexfontaines 82.75 340 *e*P **P 20 22 56.3 +0.2**
comp=Z,55nm,0.6s
DAVOX Davos/Dischmat 82.77 336 P **P 20 22 56.9 +0.4**
DAVOX Davos/Dischmat 82.77 336 P **P 20 22 56.9 +0.4**
comp=Z,10.0nm,1.0s,baz=3.5,slow=5.3,SNR=9.8
FUORN Ofenpass-Fuorn 82.81 336 *e*P **P 20 22 57.9 +1.1**
comp=Z,18nm,0.6s
SRS Serrai 82.95 324 P **P 20 22 56.4 -0.9**
SRS Serrai 82.95 324 P **P 20 22 56.4 -0.9**
SRS Serrai 82.95 324 P **P 20 22 56.4 -0.9**
KNT Kendrikon 83.19 325 P **P 20 22 58.1 -0.4**
KNT Kendrikon 83.19 325 P **P 20 22 58.1 -0.4**
KNT Kendrikon 83.19 325 P **P 20 22 58.1 -0.4**
TUE Stuetta 83.20 336 *e*P **P 20 22 59.6 +0.9**
comp=Z,31nm,1.1s
TUE LR LR
comp=Z,270nm,19.0s
FLN La Foliniere 83.47 343 *e*P **P 20 22 59.5 -0.3**
comp=Z,63nm,0.9s,baz=17
FLN *e*R
comp=Z,360nm,21.2s
FLN La Foliniere 83.47 343 *e*P **P 20 22 59.5 -0.3**
FLN pmax pmax
comp=Z,63nm,0.9s
FLN La Foliniere 83.47 343 *e*P **P 20 22 59.5 -0.3**
comp=Z,63nm,0.9s
CSS Prodhromos 83.52 315 *e*P **P 20 23 00.5 +0.2**
comp=Z,25nm,0.7s
CSS LR LR
comp=Z,212nm,19.0s
LDF La Druitiere 83.56 343 *e*P **P 20 22 59.8 -0.4**
comp=Z,63nm,0.9s
LDF La Druitiere 83.56 343 *e*P **P 20 22 59.8 -0.4**
LDF pmax pmax
comp=Z,63nm,0.9s
LDF La Druitiere 83.56 343 *e*P **P 20 22 59.8 -0.4**
comp=Z,63nm,0.9s
GRG Griva 83.57 325 P **P 20 23 00.1 -0.4**
GRG Griva 83.57 325 P **P 20 23 00.1 -0.4**
GRG Griva 83.57 325 P **P 20 23 00.1 -0.4**
PLG Polygyros 83.63 324 P **P 20 23 00.3 -0.6**
PLG Polygyros 83.63 324 P **P 20 23 00.3 -0.6**
PLG Polygyros 83.63 324 P **P 20 23 00.3 -0.6**
STON Ston 83.72 329 P **P 20 22 59.7 -1.5**
CPCT Cooper Cave 83.76 44 *e*P **P 20 23 01.9 +0.4**
ASF Jabal al Asfar 83.86 310 P **P 20 23 03.1 +0.9**
ASF Jabal al Asfar 83.86 310 P **P 20 23 03.1 +0.9**
comp=Z,9.7nm,0.8s,baz=357,slow=3.3,SNR=20
SENIN Lac Senin/Sane 83.87 337 *e*P **P 20 23 03.0 +0.8**
comp=Z,14nm,0.8s
GRR Gorron 83.90 343 *e*P **P 20 23 02.1 +0.1**
comp=Z,104nm,0.8s
GRR Gorron 83.90 343 *e*P **P 20 23 02.1 +0.1**
GRR pmax pmax
comp=Z,104nm,0.8s
GRR Gorron 83.90 343 *e*P **P 20 23 02.1 +0.1**
comp=Z,104nm,0.8s
LOR Lormes 83.91 340⇓ *i*P **P 20 23 02.1 0.0**
comp=Z,60nm,0.8s,baz=24
LOR *e*R
comp=Z,510nm,22.2s
LOR Lormes 83.91 340⇓ *i*P **P 20 23 02.1 0.0**
comp=Z,60nm,0.8s
AYDN Tasoluk 83.96 320 *i*P **P 20 23 02.6 0.0**
CABF La Chapelle 83.97 338 *e*P **P 20 23 02.8 +0.3**
comp=Z,24nm,0.7s
CABF La Chapelle 83.97 338 *e*P **P 20 23 02.8 +0.3**
CABF pmax pmax
comp=Z,24nm,0.7s
CABF La Chapelle 83.97 338 *e*P **P 20 23 02.8 +0.3**
comp=Z,24nm,0.7s
MMAI Mount Meron Ar 83.99 312 P **P 20 23 03.7 +0.8**
MMAI Mount Meron Ar 83.99 312 P **P 20 23 03.7 +0.8**
comp=Z,30nm,0.6s,baz=40,slow=6.9,SNR=70
SSF Saint Saulge 84.19 340 *e*P **P 20 23 03.5 0.0**
comp=Z,42nm,0.7s
SSF Saint Saulge 84.19 340 *e*P **P 20 23 03.5 0.0**
SSF pmax pmax
comp=Z,42nm,0.7s
SSF Saint Saulge 84.19 340 *e*P **P 20 23 03.5 0.0**
comp=Z,42nm,0.7s
HYF Humbligny 84.20 341 *e*P **P 20 23 03.9 +0.3**
HYF Humbligny 84.20 341 *e*P **P 20 23 03.9 +0.3**
TIR Tirane 84.23 327 *e*P **P 20 23 03.6 -0.2**
TIR MLR MLR
comp=Z,323nm,20.0s
TIR Tirane 84.23 327 *e*P **P 20 23 03.6 -0.2**
TIR LR LR
comp=Z,323nm,20.0s
BLA Blacksburg 84.29 41 PFAKE 20 23 20.0 +16
BLA LR LR
comp=Z,334nm,20.0s
SGMF Saint Gilles 84.36 344 *e*P **P 20 23 04.3 -0.1**
comp=Z,84nm,0.6s
SGMF Saint Gilles 84.36 344 *e*P **P 20 23 04.3 -0.1**
SGMF pmax pmax
comp=Z,84nm,0.6s
SGMF Saint Gilles 84.36 344 *e*P **P 20 23 04.3 -0.1**
comp=Z,84nm,0.6s
ROSF Rostrenen 84.42 345 *e*P **P 20 23 04.6 0.0**
comp=Z,90nm,0.7s
ROSF Rostrenen 84.42 345 *e*P **P 20 23 04.6 0.0**
ROSF pmax pmax
comp=Z,90nm,0.7s
ROSF Rostrenen 84.42 345 *e*P **P 20 23 04.6 0.0**
comp=Z,90nm,0.7s
LRAL Lakeview Retre 84.42 47 *e*P **P 20 23 03.6 -1.4**
comp=Z,13nm,0.8s
LRAL LR LR
comp=Z,250nm,22.0s
AVF Avril sur Loir 84.48 340 *e*P **P 20 23 04.7 -0.3**
comp=Z,54nm,0.8s
AVF Avril sur Loir 84.48 340 *e*P **P 20 23 04.7 -0.3**
AVF pmax pmax
comp=Z,54nm,0.8s
AVF Avril sur Loir 84.48 340 *e*P **P 20 23 04.7 -0.3**
comp=Z,54nm,0.8s
SMF Signal de Mont 84.50 340 *e*P **P 20 23 05.0 -0.1**
comp=Z,86nm,0.9s
SMF Signal de Mont 84.50 340 *e*P **P 20 23 05.0 -0.1**
SMF pmax pmax
comp=Z,86nm,0.9s
SMF Signal de Mont 84.50 340 *e*P **P 20 23 05.0 -0.1**
comp=Z,86nm,0.9s
RSL Roselend 84.68 338 *e*P **P 20 23 06.8 +0.6**
NWAO Narrogin (SRO) 84.80 210 *e*P **P 20 23 07.0 +0.5**
NWAO Narrogin (SRO) 84.80 210 LR LR 20 57 22.3
comp=Z,88nm,21.0s,baz=207,slow=33
QUIF Quistinic 84.80 345 *e*P **P 20 23 06.9 +0.3**
comp=Z,28nm,0.6s
QUIF Quistinic 84.80 345 *e*P **P 20 23 06.9 +0.3**
QUIF pmax pmax
comp=Z,28nm,0.6s
QUIF Quistinic 84.80 345 *e*P **P 20 23 06.9 +0.3**
comp=Z,28nm,0.6s
LPL La Plagne 84.81 337 *e*P **P 20 23 07.8 +0.8**
comp=Z,27nm,0.6s
LPL La Plagne 84.81 337 *e*P **P 20 23 07.8 +0.8**
LPL pmax pmax
comp=Z,27nm,0.6s
LPL La Plagne 84.81 337 *e*P **P 20 23 07.8 +0.8**
comp=Z,27nm,0.6s
LPG La Plagne 84.82 337 *e*P **P 20 23 07.9 +0.8**
comp=Z,31nm,0.7s
LPG La Plagne 84.82 337 *e*P **P 20 23 07.9 +0.8**
LPG pmax pmax
comp=Z,31nm,0.7s
LPG La Plagne 84.82 337 *e*P **P 20 23 07.9 +0.8**
comp=Z,31nm,0.7s
BGF Bois d'Agland 84.82 340 *e*P **P 20 23 06.9 +0.2**
comp=Z,30nm,0.6s
BGF Bois d'Agland 84.82 340 *e*P **P 20 23 06.9 +0.2**
BGF pmax pmax
comp=Z,30nm,0.6s
BGF Bois d'Agland 84.82 340 *e*P **P 20 23 06.9 +0.2**
comp=Z,30nm,0.6s
SMIA Simia 84.99 323 P **P 20 23 06.4 -1.4**
VLC Villacollemand 85.00 334 *e*P **P 20 23 09.4 +1.6**
comp=Z,105nm,1.7s
VLC LR LR
comp=Z,355nm,19.0s
TCF Toulx Ste Croi 85.22 341 *e*P **P 20 23 07.9 -0.9**
comp=Z,53nm,0.9s
TCF Toulx Ste Croi 85.22 341 *e*P **P 20 23 07.9 -0.9**
TCF pmax pmax
comp=Z,53nm,0.9s
TCF Toulx Ste Croi 85.22 341 *e*P **P 20 23 07.9 -0.9**
comp=Z,53nm,0.9s
AGO Saint Agoulin 85.23 340 *e*P **P 20 23 09.7 +0.9**
BNI Bardonecchia 85.25 337 *e*P **P 20 23 09.8 +0.7**
BNI pmax pmax
comp=Z,18nm,0.7s
BNI MLR MLR
comp=Z,363nm,20.0s
BNI Bardonecchia 85.25 337 *e*P **P 20 23 09.8 +0.7**
comp=Z,18nm,0.7s
BNI LR LR
comp=Z,363nm,20.0s
RAYN Ar Rayn 85.43 299 *e*P **P 20 23 10.5 +0.2**
comp=Z,25nm,0.5s
MFF Saint Martin d 85.45 342 *e*P **P 20 23 09.9 0.0**
comp=Z,62nm,0.6s
MFF Saint Martin d 85.45 342 *e*P **P 20 23 09.9 0.0**
MFF pmax pmax
comp=Z,62nm,0.6s
MFF Saint Martin d 85.45 342 *e*P **P 20 23 09.9 0.0**
comp=Z,62nm,0.6s
MBDF Montbardon 85.53 337 *e*P **P 20 23 10.6 +0.1**
comp=Z,44nm,0.6s
MBDF Montbardon 85.53 337 *e*P **P 20 23 10.6 +0.1**
MBDF pmax pmax
comp=Z,44nm,0.6s
MBDF Montbardon 85.53 337 *e*P **P 20 23 10.6 +0.1**
comp=Z,44nm,0.6s
PYM Petit Puy Mans 85.54 340 *e*P **P 20 23 09.4 -1.1**
KMSC Kings Mountain 85.55 42 *e*P **P 20 23 10.5 -0.1**
comp=Z,18nm,0.8s
KMSC Kings Mountain 85.55 42 ⇑P **P 20 23 10.5 -0.1**
baz=85
ORIF Oris-en-Rattie 85.59 338 *e*P **P 20 23 11.3 +0.6**
comp=Z,71nm,0.7s
ORIF *e*R
comp=Z,384nm,21.5s
ORIF Oris-en-Rattie 85.59 338 *e*P **P 20 23 11.3 +0.6**
ORIF pmax pmax
comp=Z,71nm,0.7s
ORIF Oris-en-Rattie 85.59 338 *e*P **P 20 23 11.3 +0.6**
comp=Z,71nm,0.7s
SSB Saint Sauveur 85.60 339 *e*P **P 20 23 10.6 -0.1**
SSB pmax pmax
comp=Z,17nm,0.6s
SSB MLR MLR
comp=Z,305nm,19.0s
SSB Saint Sauveur 85.60 339 *e*P **P 20 23 10.6 -0.1**
comp=Z,17nm,0.6s
SSB LR LR
comp=Z,305nm,19.0s
AQU L'Aquila 85.67 332 *e*P **P 20 23 10.7 -0.4**
comp=Z,48nm,1.1s
AQU LR LR
comp=Z,359nm,19.0s
TBI Tubuai 85.75 130 *e*S **S 20 33 42.5 -0.9**
comp=Z,778nm,34.5s
VIVF Saint-Julien-I 85.96 339 *e*P **P 20 23 13.1 +0.6**
comp=Z,39nm,0.7s
VIVF Saint-Julien-I 85.96 339 *e*P **P 20 23 13.1 +0.6**
VIVF pmax pmax
comp=Z,39nm,0.7s
VIVF Saint-Julien-I 85.96 339 *e*P **P 20 23 13.1 +0.6**
comp=Z,39nm,0.7s
SAOF George 85.99 336 *e*P **P 20 23 12.6 -0.1**
AUTN L'Aution 86.02 336 *e*P **P 20 23 12.4 -0.6**
TOUF Mont Tournerai 86.05 336 *e*P **P 20 23 13.0 -0.2**
OG26 St.-Nazaire-De 86.06 338 *e*P **P 20 23 14.3 +1.3**
LUCF Luceram 86.13 336 *e*P **P 20 23 13.0 -0.5**
SBF Sospel 86.14 336 *e*P **P 20 23 13.1 -0.3**
comp=Z,42nm,0.7s
SBF Sospel 86.14 336 *e*P **P 20 23 13.1 -0.3**
SBF pmax pmax
comp=Z,42nm,0.7s
SBF Sospel 86.14 336 *e*P **P 20 23 13.1 -0.3**
comp=Z,42nm,0.7s
MVIF Mont Vial 86.19 337 *e*P **P 20 23 12.6 -1.2**
REVF Revere 86.27 336 *e*P **P 20 23 13.3 -0.8**
RJF Les Rejaudoux 86.31 341 *e*P **P 20 23 13.4 -0.8**
comp=Z,34nm,0.9s
RJF *e*R
comp=Z,288nm,17.2s
RJF Les Rejaudoux 86.31 341 *e*P **P 20 23 13.4 -0.8**
RJF pmax pmax
comp=Z,35nm,0.9s
RJF Les Rejaudoux 86.31 341 *e*P **P 20 23 13.4 -0.8**
comp=Z,34nm,0.9s
CALN Calern 86.39 337 *e*P **P 20 23 13.9 -0.9**
CAF Calviac 86.54 340 *e*P **P 20 23 15.0 -0.4**
comp=Z,54nm,0.6s
CAF Calviac 86.54 340 *e*P **P 20 23 15.0 -0.4**
CAF pmax pmax
comp=Z,54nm,0.6s
CAF Calviac 86.54 340 *e*P **P 20 23 15.0 -0.4**
comp=Z,54nm,0.6s
SMRF Simiane la Rot 86.54 338 *e*P **P 20 23 15.3 -0.1**
comp=Z,22nm,0.6s
SMRF Simiane la Rot 86.54 338 *e*P **P 20 23 15.3 -0.1**
comp=Z,22nm,0.6s
FRF La Foret Royal 86.64 337 *e*P **P 20 23 15.7 -0.1**
comp=Z,11nm,0.6s
FRF La Foret Royal 86.64 337 *e*P **P 20 23 15.7 -0.1**
FRF pmax pmax
comp=Z,11nm,0.6s
FRF La Foret Royal 86.64 337 *e*P **P 20 23 15.7 -0.1**
comp=Z,11nm,0.6s
LFF La Frestale 86.84 341 *e*P **P 20 23 16.0 -0.7**
comp=Z,57nm,0.6s
LFF La Frestale 86.84 341 *e*P **P 20 23 16.0 -0.7**
LFF pmax pmax
comp=Z,57nm,0.6s
LFF La Frestale 86.84 341 *e*P **P 20 23 16.0 -0.7**
comp=Z,57nm,0.6s
EIL Elat 86.85 310 P **P 20 23 17.0 -0.1**
EIL Elat 86.85 310 P **P 20 23 17.0 -0.1**
comp=Z,5.1nm,0.8s,baz=81,slow=5.5,SNR=5.3
LMR La Mourre 86.88 337 *e*P **P 20 23 17.2 +0.2**
comp=Z,32nm,0.8s
LMR La Mourre 86.88 337 *e*P **P 20 23 17.2 +0.2**
LMR pmax pmax
comp=Z,32nm,0.8s
LMR La Mourre 86.88 337 *e*P **P 20 23 17.2 +0.2**
comp=Z,32nm,0.8s
PGF Pioggiola 86.89 335 *e*P **P 20 23 16.9 -0.3**
comp=Z,36nm,0.7s
PGF Pioggiola 86.89 335 *e*P **P 20 23 16.9 -0.3**
PGF pmax pmax
comp=Z,36nm,0.7s
PGF Pioggiola 86.89 335 *e*P **P 20 23 16.9 -0.3**
comp=Z,36nm,0.7s
LASF Ste Croix 86.90 339 *e*P **P 20 23 16.0 -1.1**
comp=Z,44nm,1.0s
LASF Ste Croix 86.90 339 *e*P **P 20 23 16.0 -1.1**
comp=Z,44nm,1.0s
CUC Castrocucco 86.92 329 *e*P **P 20 23 16.3 -1.0**
comp=Z,28nm,1.7s
CUC LR LR
comp=Z,295nm,20.0s
LAST Lasithi 87.11 320 P P 20 23 22.4 +4.0
MTLF Montolieu 88.00 340 *e*P **P 20 23 21.7 -0.7**
comp=Z,26nm,0.6s
MTLF Montolieu 88.00 340 *e*P **P 20 23 21.7 -0.7**
MTLF pmax pmax
comp=Z,26nm,0.6s
MTLF Montolieu 88.00 340 *e*P **P 20 23 21.7 -0.7**
comp=Z,26nm,0.6s
CEL Celeste 88.42 328 *e*P **P 20 23 23.3 -1.2**
CEL LR LR
comp=Z,338nm,20.0s
EPF Esparros 88.74 341 *e*P **P 20 23 24.7 -1.3**
comp=Z,9.9nm,0.6s
EPF Esparros 88.74 341 *e*P **P 20 23 24.7 -1.3**
EPF pmax pmax
comp=Z,10.0nm,0.6s
EPF Esparros 88.74 341 *e*P **P 20 23 24.7 -1.3**
comp=Z,9.9nm,0.6s
SJPF Ste Jean 89.01 342 *e*P **P 20 23 25.5 -1.7**
comp=Z,8.0nm,0.6s
SJPF Ste Jean 89.01 342 *e*P **P 20 23 25.5 -1.7**
SJPF pmax pmax
comp=Z,8.0nm,0.6s
SJPF Ste Jean 89.01 342 *e*P **P 20 23 25.5 -1.7**
comp=Z,8.0nm,0.6s
ETSF Etsaut 89.07 341 *e*P **P 20 23 27.2 -0.3**
comp=Z,22nm,0.6s
ETSF Etsaut 89.07 341 *e*P **P 20 23 27.2 -0.3**
ETSF pmax pmax
comp=Z,22nm,0.6s
ETSF Etsaut 89.07 341 *e*P **P 20 23 27.2 -0.3**
comp=Z,22nm,0.6s
ESDC Sonseca Array 92.89 343 P **P 20 23 44.2 -1.1**
ESDC Sonseca Array 92.89 343 P **P 20 23 44.2 -1.1**
comp=Z,0.2nm,0.3s,baz=355,slow=4.1,SNR=4.2
ESDC LR LR 21 12 09.6
comp=Z,220nm,18.1s,baz=0.0,slow=40
KEST Kesra 92.99 332 *e*P **P 20 23 45.3 -0.6**
KEST Kesra 92.99 332 P **P 20 23 45.5 -0.4**
comp=Z,2.0nm,1.0s,baz=30,slow=8.1,SNR=3.6
KEST LR LR 21 12 03.6
comp=Z,114nm,18.2s,baz=252,slow=40
PAB San Pablo 93.09 343 PFAKE 20 24 00.0 +14
PAB LR LR
comp=Z,461nm,20.0s
GTBY Guantanamo Bay 101.21 46 PFAKE 20 24 30.0 +6.8
GTBY LR LR
comp=Z,395nm,22.0s
SDDR Presa de Saban 103.91 44 PFAKE 20 24 50.0 +15
SDDR LR LR
comp=Z,291nm,21.0s
TOA0 Torodi Ar. Sit 116.41 329 *e*PKPdf **PKPdf 20 29 14.8 -1.7**
TORD Torodi Ar. Bea 116.41 329 PKP **PKPdf 20 29 15.4 -1.0**
TORD PKKPbc **PKKPbc 20 39 42.7 -0.5**
TORD Torodi Ar. Bea 116.41 329 PKP **PKPdf 20 29 15.4 -1.0**
comp=Z,4.3nm,0.6s,baz=11,slow=1.5,SNR=76
TORD PKKPbc **PKKPbc 20 39 42.7 -0.5**
comp=Z,0.6nm,0.9s,baz=199,slow=3.2,SNR=6.1
VNDA Vanda 122.84 178 PKP **PKPdf 20 29 25.9 -1.0**
VNDA Vanda 122.84 178 PKP **PKPdf 20 29 25.9 -1.0**
comp=Z,2.9nm,0.8s,baz=336,slow=4.1,SNR=12
SBA Scott Base 123.33 177 *e*PKIKP **PKPdf 20 29 26.6 -1.2**
SBA Scott Base 123.33 177 *e*PKPdf **PKPdf 20 29 26.6 -1.2**
DBIC Dimbokro 124.65 334 PKP **PKPdf 20 29 31.6 -0.7**
DBIC Dimbokro 124.65 334 PKP **PKPdf 20 29 31.6 -0.7**
comp=Z,18nm,0.8s,baz=32,slow=2.8,SNR=22
LIC Lamto 125.13 334 *e*PKIKP **PKPdf 20 29 32.0 -1.2**
comp=Z,22nm,0.7s
LIC Lamto 125.13 334 *e*PKPdf **PKPdf 20 29 32.0 -1.2**
LSZ Lusaka 125.53 285 PKP **PKPdf 20 29 33.7 -0.3**
LSZ LR LR
comp=Z,325nm,20.0s
LSZ Lusaka 125.53 285 PKP **PKPdf 20 29 33.7 -0.3**
comp=Z,4.0nm,0.6s,baz=26,slow=5.9,SNR=19
MAW Mawson 131.36 211 PKP **PKPdf 20 29 42.6 -0.7**
MAW Mawson 131.36 211 PKP **PKPdf 20 29 42.6 -0.7**
comp=Z,4.0nm,0.7s,baz=84,slow=4.5,SNR=8.2
SAML Samuel 131.69 53 *e*PKPdf **PKPdf 20 29 43.9 -1.8**
SAML LR LR
comp=Z,146nm,21.0s
LBTB Lobatse 133.90 278 *e*PKPdf **PKPdf 20 29 50.3 +0.7**
LPAZ La Paz 134.50 64 *e*PKPdf **PKPdf 20 29 51.5 -0.1**
LPAZ La Paz 134.50 64 PKP **PKPdf 20 29 51.5 -0.1**
comp=Z,2.6nm,0.8s,baz=359,slow=3.0,SNR=12
QSPA South Pole Qui 135.23 180 PKPpre PKPpre 20 29 41.0
QSPA PKP **PKPdf 20 29 50.6 -0.2**
QSPA South Pole Qui 135.23 180 PKhKP PKPpre 20 29 41.0
comp=Z,2.0nm,0.7s,baz=159,slow=1.6,SNR=7.3
QSPA PKP **PKPdf 20 29 50.6 -0.2**
comp=Z,6.2nm,0.7s,baz=21,slow=0.2,SNR=11
LVC Limon Verde 138.55 71 PFAKE 20 30 10.0 +11
LVC LR LR
comp=Z,255nm,22.0s
SIV San Ignacio 138.57 56 PKPpre PKPpre 20 29 48.1
SIV PKP **PKPdf 20 29 57.7 -0.7**
SIV San Ignacio 138.57 56 PKhKP PKPpre 20 29 48.1
comp=Z,1.3nm,0.5s,baz=270,slow=6.5,SNR=6.0
SIV PKP **PKPdf 20 29 57.7 -0.7**
comp=Z,6.2nm,0.8s,baz=270,slow=3.7,SNR=12
CFAA Coronel Fontan 144.75 82 PKP **PKPab 20 30 07.3 -0.7**
CFAA Coronel Fontan 144.75 82 PKP **PKPab 20 30 07.3 -0.7**
comp=Z,3.6nm,0.6s,baz=291,slow=3.1,SNR=7.8
BDFB Brasilia 145.06 39 PKPbc **PKPbc 20 30 08.9 -0.7**
BDFB Brasilia 145.06 39 PKPbc **PKPbc 20 30 08.9 -0.7**
comp=Z,20nm,0.8s,baz=313,slow=3.5,SNR=16
PLCA Paso Flores 147.61 98 *e*PKPdf **PKPdf 20 30 14.3 +0.6**
PLCA PKPbc **PKPbc 20 30 16.4 0.0**
PLCA Paso Flores 147.61 98 PKPbc **PKPbc 20 30 16.4 0.0**
comp=Z,15nm,0.6s,baz=272,slow=3.2,SNR=44
CPUP Villa Florida 148.66 63 *e*PKPbc **PKPbc 20 30 18.6 -0.9**
CPUP Villa Florida 148.66 63 PKPbc **PKPbc 20 30 19.2 -0.3**
comp=Z,6.2nm,0.5s,baz=298,slow=1.6,SNR=31
MAIT Maitri 148.69 203 *e*P **PKPdf 20 30 15.2 +0.8**
SNAA Sanae 151.47 195 *e*PKPdf **PKPdf 20 30 17.2 -1.7**
SNAA Sanae 151.47 195 *e*PKP **PKPbc 20 30 24.1 -0.9**
SNAA Sanae 151.47 195 *e*pPKPdf **PKPbc 20 30 27.8 +2.8**
SNAA Sanae 151.47 195 *e*sPKPdf sPKPdf 20 30 33.3 +6.7
SNAA Sanae 151.47 195 *e*PP PP 20 34 05.8 +0.9
PMSA Palmer Station 151.68 146 *e*PKPbc **PKPbc 20 30 24.5 -1.1**
TRQA Tornquist 152.49 87 *e*PKPbc **PKPbc 20 30 27.5 -0.9**
TRQA LR LR
comp=Z,232nm,20.0s
VNA2 Neumayer--Watz 152.90 193 *e*PKPdf **PKPdf 20 30 19.8 -1.2**
VNA2 Neumayer--Watz 152.90 193 *e*PKP **PKPbc 20 30 27.8 -0.4**
VNA2 Neumayer--Watz 152.90 193 *e*pPKPdf **PKPbc 20 30 30.0 +1.8**
VNA2 Neumayer--Watz 152.90 193 *e*sPKPdf sPKPdf 20 30 31.7 +3.1
VNA2 Neumayer--Watz 152.90 193 *e*sPKP sPKiKP 20 30 39.8 +3.8
VNA2 Neumayer--Watz 152.90 193 *e*PKPab **PKPab 20 30 42.3 +2.9**
VNA2 Neumayer--Watz 152.90 193 *e*PP PP 20 34 14.4 +1.5
VNA1 Neumayer--Stat 153.28 193 *e*PKP **PKPbc 20 30 28.6 -0.4**
VNA1 Neumayer--Stat 153.28 193 *e*sPKP **PKPab 20 30 41.2 +0.2**

---

*IDC **27** 20:10:41.4±1.2, 34°.20N×25°.84E, h0km, mb3.7/7, mb1 3.6/11, mb1mx3.5/30, mbtmp3.6/11, ML3.7/4, Error ellipse: s-maj=23.2km s-min=22.0km az=44.0*
*ISCJB **27** 20:10:43.4±0.7, 34°.02N±0°.06×26°.10E±0°.05, h26km, mb3.5/7, Error ellipse: s-maj=8.7km s-min=5.4km az=7.4*
*DDA **27** 20:10:54.2, 34°.43N×26°.57E, h29km, MD3.5*
ISC 27 20:10:45.4±1.0, 34°.14N±0°.08×26°.03E±0°.06, h26km, n25, σ2°.06/30, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.99**	**9**	*e*PB	**Pb**	**20 11 06.5**	**+2.6**
LAST	**Lasithi**	**1.12**	**336**	*e*PB	**Pb**	**20 11 07.0**	**+0.8**
NPS	**Neapolis**	**1.18**	**343**	*e*PB	**Pb**	**20 11 08.5**	**+1.4**
SIVA	**Sivas**	**1.34**	**312**	*e*PN	**Pn**	**20 11 09.0**	**+0.6**
KARP	**Karpathos**	**1.69**	**33**	*e*PN	**Pb**	**20 11 17.0**	**+1.1**
VAM	**Vamos**	**1.97**	**311**	*e*PN	**Pn**	**20 11 18.0**	**+0.9**
KARN	**Karanos**	**2.15**	**307**	*e*PN	**Pn**	**20 11 20.5**	**+0.9**
ARG	**Arkhangelos**	**2.70**	**39**	*e*PB	**Pn**	**20 11 30.0**	**+2.9**
TURN	**Turunc**	**3.45**	**37**	*e*P	**Pn**	**20 11 36.0**	**-1.4**
TURN				*i*S	**Sn**	**20 12 11.6**	**-5.8**
AKAS	**Kas**	**3.60**	**53**	*i*P	**Pn**	**20 11 41.5**	**+1.8**
AKAS				*i*S	**Sn**	**20 12 22.7**	**+1.2**
GOLH	**Golhisar**	**4.22**	**42**	*i*P	**Pn**	**20 11 50.5**	**+2.3**
GOLH				*i*S	**Sn**	**20 12 35.5**	**-1.3**
KORT	**Korkueli**	**4.54**	**50**	*e*P	Pn	20 11 56.7	+4.1
KORT				*i*S	**Sn**	**20 12 46.1**	**+1.5**
GAZI	**Gazipasa**	**5.56**	**66**	*i*P	**Pn**	**20 12 05.6**	**-0.9**

GAZI *i* S **Sn** **20 13 04.6 -5.0**
ERMK Ermenek 6.16 64 *e*P **Pn** **20 12 16.9 +2.0**
MMAI Mount Meron Ar 7.90 96 Pn **Pn** **20 12 38.9 +0.2**
0.5nm,0.3s,baz=277,slow=12,SNR=3.5
MMAI Sn **Sn** **20 14 06.9 -0.5**
1.4nm,0.3s,baz=305,slow=23,SNR=5.1
EIL Elat 8.79 118 Pn **Pn** **20 12 51.2 +0.3**
0.5nm,0.3s,baz=284,slow=13,SNR=6.5
AKASG Malin Array Be 16.72 7 Pn **Pn** **20 14 37.9 +0.1**
1.5nm,0.3s,baz=198,slow=11,SNR=3.7
GERES GERESS Array B 17.32 332 Pn **Pn** **20 14 46.1 +0.7**
0.1nm,0.3s,baz=125,slow=8.5,SNR=3.7
HFS Hagfors 27.24 346 P **P** **20 16 25.9 -1.2**
1.1nm,0.7s,baz=156,slow=7.7,SNR=3.5
FINES FINESS Array B 27.33 0 P **P** **20 16 26.4 -1.4**
0.8nm,0.3s,baz=162,slow=10,SNR=12
AKTO Aktyubinsk 28.44 45 P **P** **20 16 38.9 +1.0**
0.7nm,0.5s,baz=326,slow=7.3,SNR=4.1
NOA NORSAR Array B 28.57 345 P **P** **20 16 36.8 -2.2**
0.4nm,0.7s,baz=150,slow=8.5,SNR=3.1
TORD Torodi Ar. Bea 30.41 232 P **P** **20 16 55.1 -0.5**
0.3nm,0.6s,baz=30,slow=9.2,SNR=9.8
ARCES ARCESS Array B 35.45 360 P **P** **20 17 37.5 -1.7**
0.8nm,0.6s,baz=171,slow=8.5,SNR=5.7
MKAR Makanchi Array 43.75 56 P **P** **20 18 49.8 +1.2**
0.2nm,0.6s,baz=269,slow=7.1,SNR=3.7

IDC 27 20:12:17.8±1.5, 9.77°S×76.02°W, h142km±21km, mb3.1/3, mb1 3.2/6, mb1mx3.2/24, mbtmp3.1/6, MS3.4/1, Ms1 3.3/1, ms1mx2.4/9, Error ellipse: s-maj=34.3km s-min=10.3km az=70.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.35**	**200**	P	Pn	20 12 55.7	-1.1
	18nm,0.3s,baz=352,slow=6.7,SNR=29						
NNA				S	Sn	20 13 27.6	+0.8
	92nm,0.3s,baz=342,slow=20,SNR=8.3						
ATAH	**Atahualpa**	**3.52**	**318**	P	Pn	20 13 12.0	-0.1
	4.9nm,0.3s,baz=160,slow=7.1,SNR=26						
ATAH				S	Sn	20 13 54.4	+0.3
	4.2nm,0.3s,baz=96,slow=19,SNR=4.2						
LPAZ	**La Paz**	**10.05**	**131**	P	Pn	20 14 38.6	-0.9
	0.1nm,0.3s,baz=310,slow=7.9,SNR=2.6						
SIV	**San Ignacio**	**15.82**	**115**	P	Pn	20 15 45.5	-7.4
	0.4nm,0.3s,baz=301,slow=12,SNR=5.0						
BDFB	**Brasília**	**27.92**	**105**	LR	LR	20 31 00.3	
	comp=Z,73nm,18.6s,baz=243,slow=40						
TXAR	**Lajitas Array**	**47.14**	**326**	P	P	20 20 35.3	-0.8
	0.4nm,0.6s,baz=155,slow=11,SNR=4.3						
MDT	**Midelt**	**79.99**	**54**	P	P	20 24 13.6	+1.8
	0.6nm,0.5s,baz=255,slow=6.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**80.43**	**75**	P	P	20 24 12.8	-1.6
	0.2nm,0.7s,baz=250,slow=4.3,SNR=4.5						
WRA	**Warramunga Arr**	**137.99**	**225**	PKP	PKPdf	20 31 25.8	-0.8
	0.5nm,0.6s,baz=127,slow=2.0,SNR=3.6						

WEL 27 20:14:12.9±0.3, 45.81°S×166.61°E, h24km±1km, ML3.7/15, 1D, Error ellipse: s-maj=3.4km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.50**	**50**	P*	Pb	20 14 22.5	-0.6
DCZ				S*	Sb	20 14 28.9	-1.2
DCZ				AML	AML	20 14 29.6	
DCZ				AML	AML	20 14 30.0	
DCZ				AML	AML	20 14 35.4	
WHZ	**Wether Hill Ro**	**0.94**	**96**	PN	Pb	20 14 30.0	-0.6
WHZ				SN	Sn	20 14 43.4	+0.1
WHZ				AML	AML	20 14 49.7	
MLZ	**Mavora Lakes**	**1.19**	**68**	‖PN	Pn	20 14 33.6	-0.5
MLZ				AML	AML	20 14 53.7	
MLZ				AML	AML	20 14 55.3	
APZ	**The Paps**	**1.40**	**138**	PN	Pn	20 14 36.6	-0.4
MSZ	**Milford Sound**	**1.47**	**40**	AML	AML	20 15 04.7	
MSZ				AML	AML	20 15 04.7	
MSZ				AML	AML	20 15 07.8	
MSZ				AML	AML	20 15 07.9	
SYZ	**Scrubby Hill**	**1.90**	**114**	PN	Pn	20 14 44.2	+0.3
WKZ	**Wanaka**	**1.96**	**61**	PN	Pb	20 14 46.4	-1.6
WKZ				AML	AML	20 15 16.3	
WKZ				AML	AML	20 15 28.8	
EAZ	**Earnscleugh**	**1.98**	**74**	PN	Pb	20 14 47.4	-1.0
EAZ				AML	AML	20 15 14.9	
EAZ				AML	AML	20 15 15.3	
TUZ	**Tuapeka**	**2.12**	**95**	PN	Pn	20 14 48.1	+1.3
TUZ				AML	AML	20 14 57.8	
TUZ				AML	AML	20 15 18.9	
JCZ	**Jackson Bay**	**2.31**	**42**	*e*PN	Pb	20 14 53.0	-1.0
JCZ				AML	AML	20 15 32.3	
JCZ				AML	AML	20 15 35.2	
LBZ	**Lake Benmore**	**2.90**	**62**	PN	Pn	20 14 58.8	+1.2
LBZ				AML	AML	20 16 25.6	
ODZ	**Otahua Downs**	**2.94**	**76**	PN	Pn	20 14 58.6	+0.5

---

*ISCJB **27** 20:15:45.9±0.3, 10.93°S±0.05°×166.16°E±0.06°, h100km, mb4.4/25, Error ellipse: s-maj=8.0km s-min=7.1km az=13.9*
*NEIC **27** 20:15:47.9±1.1, 10.99°S×166.14°E, h105km±9km, mb4.6/4, Error ellipse: s-maj=8.6km s-min=6.1km az=81.0*
*IDC **27** 20:15:47.7±2.7, 11.02°S×166.15°E, h102km±23km, mb4.2/22, mb1 4.3/25, mb1mx4.3/26, mbtmp4.2/25, MS3.7/2, Ms1 3.7/2, ms1mx3.0/29, Error ellipse: s-maj=17.3km s-min=11.1km az=82.0*
*AUST **27** 20:16:49.4±1.3, 13.21°S×164.65°E, h642km, Error ellipse: s-maj=1.8km s-min=1.6km az=337.0*

ISC 27 20:15:47.2±0.4, 11.03°S±0.06°×166.22°E±0.07°, h100km, n94, σ1§04/103, mb4.4/25, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.38**	**284**	P	**Pn**	**20 17 18.4**	**-0.2**
HNR				S	**Sn**	**20 18 30.2**	**+0.2**
HNR	**Honiara**	**6.38**	**284**	P	**Pn**	**20 17 18.4**	**-0.2**
	108nm,0.3s,baz=102,slow=2.9,SNR=35						
HNR				S	**Sn**	**20 18 30.2**	**+0.2**
	26nm,0.3s,baz=30,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**10.98**	**179**	*e*P	**Pn**	**20 18 21.9**	**+0.6**
DZM				*e*S	**Sn**	**20 20 17.6**	**-4.6**
DZM	**Mont Dzumac**	**10.98**	**179**	P	**Pn**	**20 18 22.3**	**+1.0**
DZM	**Mont Dzumac**	**10.98**	**179**	P	**Pn**	**20 18 22.3**	**+1.0**
	11nm,0.3s,baz=339,slow=12,SNR=92						
DZM				LR	LR	20 22 06.1	
	comp=Z,197nm,19.4s,baz=212,slow=34						
NOUC	**Port Laguerre**	**11.01**	**180**	*e*P	**Pn**	**20 18 24.3**	**+2.7**
NOUC				*e*S	**Sn**	**20 20 20.8**	**-1.9**
PMG	**Port Moresby**	**18.83**	**273**	P	**P**	**20 19 57.5**	**-1.8**
PMG	**Port Moresby**	**18.83**	**273**	P	**P**	**20 19 57.5**	**-1.8**
	0.5nm,0.3s,baz=107,slow=14,SNR=2.4						
EIDS	**Eidsvold**	**20.22**	**223**	*e*P	**P**	**20 20 15.6**	**+1.3**
	16nm,0.6s						
EIDS	**Eidsvold**	**20.22**	**223**	P	**P**	**20 20 15.8**	**+1.5**
	baz=18,SNR=12						
CTA	**Charters Tower**	**21.22**	**242**	P	**P**	**20 20 24.7**	**-0.4**
CTA	**Charters Tower**	**21.22**	**242**	P	**P**	**20 20 24.7**	**-0.4**
	5.9nm,0.8s,baz=62,slow=10,SNR=4.8						
MTSU	**Mount Surprise**	**22.33**	**249**	P	**P**	**20 20 39.1**	**+2.2**
	baz=20,SNR=9.7						
RMQ	**Roma**	**22.53**	**225**	P	**P**	**20 20 40.5**	**+1.5**
	baz=20,SNR=5.8						
ARMA	**Armidale**	**23.58**	**213**	P	**P**	**20 20 50.4**	**+1.3**
	baz=21,SNR=9.0						
NIUE	**Niue**	**24.36**	**112**	P	pP	20 21 22.9	+5.0
	baz=25,SNR=3.0						
STKA	**Stephens Creek**	**30.77**	**224**	P	**P**	**20 21 54.1**	**+0.9**
STKA	**Stephens Creek**	**30.77**	**224**	P	**P**	**20 21 54.1**	**+0.9**
	2.5nm,0.7s,baz=52,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**30.77**	**224**	P	**P**	**20 21 55.1**	**+1.8**
	baz=28,SNR=3.5						
WRA	**Warramunga Arr**	**31.92**	**250**	P	**P**	**20 22 03.0**	**-0.6**
WRA				PcP	**PcP**	**20 24 52.3**	**+0.4**
WRA	**Warramunga Arr**	**31.92**	**250**	P	**P**	**20 22 03.0**	**-0.6**
	15nm,0.7s,baz=84,slow=9.5,SNR=13						
WRA				PcP	**PcP**	**20 24 52.3**	**+0.4**
	1.3nm,0.6s,baz=72,slow=2.4,SNR=5.0						
RPZ	**Rata Peaks**	**32.83**	**174**	P	**P**	**20 22 12.2**	**+1.0**
RPZ	**Rata Peaks**	**32.83**	**174**	P	**P**	**20 22 12.2**	**+1.0**
	27nm,0.6s,baz=24,slow=2.3,SNR=6.7						
ASAR	**Alice Springs**	**33.21**	**243**	PcP	**PcP**	**20 24 55.6**	**+0.2**
ASAR	**Alice Springs**	**33.21**	**243**	PcP	**PcP**	**20 24 55.6**	**+0.2**
	1.9nm,0.7s,baz=79,slow=2.7,SNR=5.3						
KNRA	**Kununurra**	**36.70**	**259**	P	**P**	**20 22 44.9**	**+0.1**
	baz=35,SNR=5.2						
FITZ	**Fitzroy Crossi**	**39.83**	**255**	P	**P**	**20 23 11.2**	**+0.1**
	baz=38,SNR=9.1						
MEEK	**Meekatharra**	**47.37**	**244**	P	**P**	**20 24 12.0**	**+0.5**
	baz=45,SNR=24						
KLBR	**Kellerberrin**	**49.11**	**238**	P	**P**	**20 24 24.4**	**-0.4**
	baz=47,SNR=5.6						
MORW	**Morawa**	**50.04**	**241**	P	**P**	**20 24 32.3**	**+0.4**
	baz=48,SNR=3.2						
MJAR	**Matsushiro Arr**	**54.17**	**332**	P	**P**	**20 25 01.1**	**-1.3**
MJAR	**Matsushiro Arr**	**54.17**	**332**	P	**P**	**20 25 01.1**	**-1.3**
	2.9nm,0.7s,baz=169,slow=8.9,SNR=17						
MAT	**Matsushiro**	**54.18**	**332**	P	**P**	**20 25 00.8**	**-1.6**
JNU	**Nakatsue**	**55.34**	**324**	P	**P**	**20 25 10.3**	**-0.5**
JNU	**Nakatsue**	**55.34**	**324**	P	**P**	**20 25 10.3**	**-0.5**
	12nm,1.0s,baz=237,slow=4.7,SNR=4.0						
KSRS	**Korea Array**	**60.13**	**325**	P	**P**	**20 25 44.5**	**+0.3**
	1.1nm,0.7s,baz=131,slow=7.3,SNR=5.7						
KSAR	**Wonju Array Be**	**60.14**	**325**	P	**P**	**20 25 44.5**	**+0.2**
USRK	**Ussuriysk Arra**	**63.14**	**333**	P	**P**	**20 26 04.8**	**+0.5**
	2.7nm,0.6s,baz=137,slow=5.3,SNR=10						
FX1	**Attu Island--F**	**63.94**	**5**	P	**P**	**20 26 10.1**	**+0.7**
FX1	**Attu Island--F**	**63.94**	**5**	P	**P**	**20 26 10.1**	**+0.7**
	16nm,0.6s,baz=148,slow=3.2,SNR=19						
PETK	**Petropavlovsk-**	**64.30**	**354**	P	**P**	**20 26 12.4**	**+0.6**
PETK	**Petropavlovsk-**	**64.30**	**354**	P	**P**	**20 26 12.4**	**+0.6**
	4.4nm,0.8s,baz=188,slow=7.3,SNR=3.2						
MDJ	**Mudanjiang**	**64.56**	**332**	*e*P	**P**	**20 26 13.6**	**-0.1**
	10nm,1.0s						
VNDA	**Vanda**	**66.51**	**181**	P	**P**	**20 26 25.5**	**-0.3**
VNDA	**Vanda**	**66.51**	**181**	P	**P**	**20 26 25.5**	**-0.3**
	2.8nm,0.8s,baz=348,slow=6.2,SNR=14						
ENH	**Enshi**	**68.25**	**309**	*e*P	**P**	**20 26 37.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**72.53**	**293**	P	**P**	**20 27 03.9**	**0.0**
CMAR	**Chiang Mai Arr**	**72.53**	**293**	P	**P**	**20 27 03.9**	**0.0**
	2.1nm,0.8s,baz=120,slow=4.4,SNR=15						
ULN	**Ulaanbaatar**	**78.56**	**324**	*e*P	**P**	**20 27 37.8**	**-0.1**
	5.2nm,0.9s						
SONM	**Songino Array**	**78.93**	**324**	P	**P**	**20 27 39.9**	**+0.1**
SONM	**Songino Array**	**78.93**	**324**	P	**P**	**20 27 39.9**	**+0.1**
	2.6nm,0.5s,baz=144,slow=5.6,SNR=31						
SONM				LR	LR	21 00 44.1	
	comp=Z,77nm,18.4s,baz=316,slow=34						
QSPA	**South Pole Qui**	**78.97**	**180**	P	**P**	**20 27 39.8**	**0.0**
QSPA	**South Pole Qui**	**78.97**	**180**	P	**P**	**20 27 39.8**	**0.0**
	7.3nm,0.8s,baz=1.9,slow=1.0,SNR=38						
MCK	**McKinley**	**81.98**	**18**	*e*P	**P**	**20 27 56.8**	**+1.1**
ILAR	**Eielson Array**	**83.35**	**18**	P	**P**	**20 28 02.5**	**-0.3**
ILAR	**Eielson Array**	**83.35**	**18**	P	**P**	**20 28 02.5**	**-0.3**
	3.9nm,0.5s,baz=239,slow=5.1,SNR=81						
MAW	**Mawson**	**84.91**	**202**	P	**P**	**20 28 11.0**	**+0.3**
MAW	**Mawson**	**84.91**	**202**	P	**P**	**20 28 11.0**	**+0.3**
	3.0nm,0.8s,baz=117,slow=9.2,SNR=4.3						
EGAK	**Eagle**	**85.21**	**20**	*e*P	**P**	**20 28 12.1**	**0.0**
	12nm,0.7s						
NVAR	**Mina Array Bea**	**85.66**	**50**	P	**P**	**20 28 15.9**	**+0.6**
NVAR	**Mina Array Bea**	**85.66**	**50**	P	**P**	**20 28 15.9**	**+0.6**
	2.2nm,0.8s,baz=230,slow=7.4,SNR=12						
BSMT	**Bassoo Peak**	**90.82**	**41**	*e*P	**P**	**20 28 39.2**	**-0.4**
SYO	**Syowa Base**	**91.93**	**197**	‖*e*P	pP	20 29 13.6	+3.1
PDAR	**Pinedale Array**	**93.20**	**47**	P	**P**	**20 28 51.8**	**+1.0**
PDAR	**Pinedale Array**	**93.20**	**47**	P	**P**	**20 28 51.8**	**+1.0**
	0.8nm,0.9s,baz=247,slow=3.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**93.82**	**324**	P	**P**	**20 28 51.9**	**-1.1**
ZALV	**Zalesovo Beam**	**93.82**	**324**	P	**P**	**20 28 51.9**	**-1.1**
	1.9nm,0.6s,baz=118,slow=4.5,SNR=10						
MKAR	**Makanchi Array**	**93.83**	**317**	P	**P**	**20 28 52.9**	**-0.4**
MKAR				PKKPbc	**PKKPdf**	**20 45 55.8**	**-1.6**
MKAR	**Makanchi Array**	**93.83**	**317**	P	**P**	**20 28 52.9**	**-0.4**
	5.0nm,0.6s,baz=88,slow=6.0,SNR=36						
MKAR				PKKPbc	**PKKPdf**	**20 45 55.8**	**-1.6**
	0.3nm,0.7s,baz=270,slow=4.2,SNR=4.2						
YKA	**Yellowknife Ar**	**94.75**	**27**	P	**P**	**20 28 56.0**	**-1.1**
YKA	**Yellowknife Ar**	**94.75**	**27**	P	**P**	**20 28 56.0**	**-1.1**
	1.0nm,0.5s,baz=255,slow=4.9,SNR=6.3						
TXAR	**Lajitas Array**	**95.42**	**61**	P	**P**	**20 29 01.3**	**+0.2**
TXAR	**Lajitas Array**	**95.42**	**61**	P	**P**	**20 29 01.3**	**+0.2**
	0.3nm,0.6s,baz=246,slow=5.4,SNR=3.6						
ARCES	**ARCESS Array B**	**116.44**	**346**	PKP	**PKPdf**	**20 34 18.0**	**-0.7**
ARCES	**ARCESS Array B**	**116.44**	**346**	PKP	**PKPdf**	**20 34 18.0**	**-0.7**
	2.7nm,0.6s,baz=75,slow=1.9,SNR=19						
JOF	**Joensuu**	**119.09**	**338**	*ep*	**PKPdf**	**20 34 20.1**	**-3.9**
	0.3nm,0.4s						
KAF	**Kangasniemi**	**121.40**	**339**	*ep*	PKPdf	20 34 23.3	-5.1
	1.9nm,0.7s						
FINES	**FINESS Array B**	**121.93**	**339**	PKP	**PKPdf**	**20 34 28.9**	**-0.6**
FINES	**FINESS Array B**	**121.93**	**339**	PKP	**PKPdf**	**20 34 28.9**	**-0.6**
	0.5nm,0.4s,baz=86,slow=1.8,SNR=8.7						
BOSA	**Boshof**	**125.44**	**223**	PKP	**PKPdf**	**20 34 37.9**	**+0.4**
BOSA	**Boshof**	**125.44**	**223**	PKP	**PKPdf**	**20 34 37.9**	**+0.4**
	3.9nm,0.7s,baz=127,slow=2.9,SNR=8.6						
NB2	**NORSAR Subarra**	**126.81**	**345**	PKPdf	**PKPdf**	**20 34 38.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=34,slow=1.9						
NOA	**NORSAR Array B**	**126.81**	**345**	PKP	**PKPdf**	**20 34 38.7**	**-0.2**
NOA	**NORSAR Array B**	**126.81**	**345**	PKP	**PKPdf**	**20 34 38.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=54,slow=2.2,SNR=5.2						
LSZ	**Lusaka**	**130.90**	**239**	PKP	**PKPdf**	**20 34 49.1**	**+1.0**
LSZ	**Lusaka**	**130.90**	**239**	PKP	**PKPdf**	**20 34 49.1**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=79,slow=5.2,SNR=4.4						
GERES	**GERESS Array B**	**135.90**	**334**	PKP	**PKPdf**	**20 34 56.9**	**+0.4**
GERES	**GERESS Array B**	**135.90**	**334**	PKP	**PKPdf**	**20 34 56.9**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=48,slow=2.0,SNR=4.9						
KEST	**Kesra**	**147.69**	**323**	PKPbc	**PKPbc**	**20 35 20.9**	**+0.1**
KEST	**Kesra**	**147.69**	**323**	PKPbc	**PKPbc**	**20 35 20.9**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=34,slow=3.2,SNR=9.7						
ESDC	**Sonseca Array**	**150.17**	**345**	PKPbc	**PKPbc**	**20 35 27.0**	**+0.1**
ESDC				PKPab	**PKPab**	**20 35 33.8**	**+0.7**
ESDC	**Sonseca Array**	**150.17**	**345**	PKPbc	**PKPbc**	**20 35 27.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=8.6,slow=4.0,SNR=7.0						
ESDC				PKPab	**PKPab**	**20 35 33.8**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=11,slow=4.2,SNR=8.2						
TORD	**Torodi Ar. Bea**	**164.72**	**279**	PKP	**PKPdf**	**20 35 40.0**	**-0.3**
TORD				PKPab	**PKPab**	**20 36 35.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**164.72**	**279**	PKP	**PKPdf**	**20 35 40.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=56,slow=1.1,SNR=7.0						
TORD				PKPab	**PKPab**	**20 36 35.6**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=88,slow=4.1,SNR=3.4						

---

*HLW **27** 20:21:56.3, 22.26°N×40.85°E, h17km±4km, Md3.7, Ml0.0*
*IDC **27** 20:22:27.6±0.7, 24.14°N×38.83°E, h0km, mb4.0/18, mb1 4.1/22, mb1mx4.0/33, mbtmp4.0/22, ML3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/32, Error ellipse: s-maj=16.5km s-min=13.0km az=67.0*
*CSEM **27** 20:22:27.5±0.2, 24.16°N×38.86°E, h2km, mb4.4/13, Ms3.7, Error ellipse: s-maj=7.6km s-min=5.9km az=9.0*
*NEIC **27** 20:22:29.2±0.4, 24.17°N×38.78°E, h10km, mb4.7/12, Error ellipse: s-maj=8.1km s-min=7.2km az=224.0*
NEIC Felt [III] at Yanbu' al Bahr and [II] at Medina. Also felt at Badr Hunayn.

ISC 27 20:22:28.9±0.7, 24.14N±0.04°×38.79E±0.04°, h10km±4km, n155, σ1§36/160, mb4.2/33, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOBS		**0.22**	**348**	P	**Pg**	**20 22 31.7**	**-1.8**
YOBS				S	**Sg**	**20 22 35.2**	**-1.4**
YOBS		**0.22**	**348**	P	**Pg**	**20 22 31.7**	**-1.8**
YOBS				S	**Sg**	**20 22 35.2**	**-1.4**
YNBS	**Yanbu' al Bahr**	**0.75**	**285**	P	**Pg**	**20 22 41.2**	**-2.2**
YNBS				S	**Sg**	**20 22 51.5**	**-1.8**
FRJS	**Jabal Farasan**	**1.63**	**161**	P	**Pn**	**20 22 57.9**	**+0.3**
FRJS				S	**Sn**	**20 23 17.5**	**-1.2**
FRJS	**Jabal Farasan**	**1.63**	**161**	P	**Pn**	**20 22 57.9**	**+0.3**
FRJS				S	**Sn**	**20 23 17.5**	**-1.2**
KBRS	**Khaybar**	**1.70**	**15**	P	**Pn**	**20 22 56.3**	**-2.3**
KBRS	**Khaybar**	**1.70**	**15**	P	**Pn**	**20 22 56.3**	**-2.3**
UMJS	**Umm Lajj**	**1.73**	**309**	P	**Pn**	**20 22 57.5**	**-1.6**
UMJS	**Umm Lajj**	**1.73**	**309**	P	**Pn**	**20 22 57.5**	**-1.6**
EMRS	**Mersa Alam**	**3.70**	**284**	P	**Pn**	**20 23 24.0**	**-2.2**
HADB		**3.98**	**288**	P	**Pn**	**20 23 28.3**	**-1.6**
HQSR		**4.31**	**293**	P	**Pn**	**20 23 33.0**	**-1.5**
HSFG		**5.02**	**300**	P	**Pn**	**20 23 43.5**	**-0.8**
HDHB	**Dhahab**	**5.90**	**322**	P	**Pn**	**20 23 56.3**	**0.0**
HKAT	**Jabal Katrina**	**6.13**	**316**	P	**Pn**	**20 23 59.5**	**-0.2**
TR2		**6.21**	**314**	P	**Pn**	**20 24 00.3**	**-0.3**
EIL	**Elat**	**6.49**	**329**	Pn	**Pn**	**20 24 04.2**	**-0.2**
EIL				Lg	Lg	20 25 54.5	
EIL	**Elat**	**6.49**	**329**	Pn	**Pn**	**20 24 04.2**	**-0.2**
	1.0nm,0.3s,baz=110,slow=1.7,SNR=6.2						
EIL				Lg	Lg	20 25 54.5	
	61nm,0.3s,baz=127,slow=20,SNR=13						
EIL				LR	LR	20 26 44.8	
	comp=Z,204nm,19.5s,baz=80,slow=40						
EIL	**Elat**	**6.49**	**329**	Pn	**Pn**	**20 24 04.2**	**-0.2**
EIL				Sn	Sb	20 25 46.8	+7.3
MBRI	**Mt Berech**	**6.61**	**329**	Pn	**Pn**	**20 24 05.8**	**-0.4**
MBRI				Sn	Sb	20 25 50.3	+7.3
HRFI	**Mount Harif**	**6.76**	**331**	Pn	**Pn**	**20 24 09.4**	**+1.2**
HRFI				Sn	Sb	20 25 55.0	+7.7
KRMI	**Paran Flat**	**6.97**	**330**	Pn	**Pn**	**20 24 10.3**	**-0.8**
KRMI				Sn	Sb	20 25 59.0	+5.7
PRNI	**Paran**	**7.04**	**332**	Pn	**Pn**	**20 24 13.5**	**+1.4**
PRNI				Sn	Sb	20 26 03.7	+8.2
ZFRI	**Zfri**	**7.15**	**334**	Pn	**Pn**	**20 24 16.0**	**+2.5**
ZFRI				Sn	Sg	20 26 09.0	-9.4
RMNI	**Mount Ramon**	**7.36**	**332**	Sn	Sb	20 26 10.8	+6.1
MZDA	**Masada**	**7.76**	**338**	Pn	**Pn**	**20 24 24.7**	**+2.8**
MZDA				Sn	Sg	20 26 27.6	-10
KZIT	**Kziot**	**7.79**	**331**	Pn	**Pn**	**20 24 21.0**	**-1.3**
KZIT				Sn	**Sb**	**20 26 19.6**	**+2.8**
DSI	**Dead Sea**	**7.99**	**339**	Sn	Sg	20 26 35.2	-10
ASF	**Jabal al Asfar**	**8.17**	**349**	Pn	**Pn**	**20 24 26.3**	**-1.4**
ASF				Sn	**Sn**	**20 26 03.0**	**+2.8**
ASF				Lg	Lg	20 26 48.1	
ASF	**Jabal al Asfar**	**8.17**	**349**	Pn	**Pn**	**20 24 26.3**	**-1.4**
	2.4nm,0.3s,baz=114,slow=8.3,SNR=12						
ASF				Sn	**Sn**	**20 26 03.0**	**+2.8**
	4.2nm,0.3s,baz=124,slow=15,SNR=3.0						
ASF				Lg	Lg	20 26 48.2	
	18nm,0.3s,baz=295,slow=20,SNR=11						
HMDT	**Nahal Hemdat**	**8.58**	**341**	Sn	Sg	20 26 51.8	-12
MMLI	**Mount Malkishu**	**8.78**	**341**	Sn	Sg	20 26 56.4	-14
RST	**Umm Al-Ruwaisa**	**9.07**	**52**	*e*P	**Pn**	**20 24 37.3**	**-2.6**
RST	**Umm Al-Ruwaisa**	**9.07**	**52**	*e*P	**Pn**	**20 24 37.3**	**-2.6**
NAY	**Al-Naaiem**	**9.11**	**54**	*e*P	**Pn**	**20 24 38.1**	**-2.3**
NAY				AML	AML	20 26 16.4	
	comp=Z,1.4nm,0.6s						
NAY	**Al-Naaiem**	**9.11**	**54**	*e*P	**Pn**	**20 24 38.1**	**-2.3**
RDF	**Al-Radifah**	**9.18**	**57**	*e*P	**Pn**	**20 24 39.6**	**-1.8**
RDF				AML	AML	20 26 25.3	
	comp=Z,64nm,0.7s						
RDF	**Al-Radifah**	**9.18**	**57**	*e*P	**Pn**	**20 24 39.6**	**-1.8**
MMAI	**Mount Meron Ar**	**9.33**	**342**	Pn	**Pn**	**20 24 43.2**	**-0.3**
MMAI				Lg	Lg	20 27 25.0	
MMAI	**Mount Meron Ar**	**9.33**	**342**	Pn	**Pn**	**20 24 43.3**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=153,slow=15,SNR=11						
MMAI				Lg	Lg	20 27 25.0	
	comp=Z,18nm,0.3s,baz=160,slow=29,SNR=8.1						
MMAI	**Mount Meron Ar**	**9.33**	**342**	Pn	**Pn**	**20 24 43.2**	**-0.3**
QRN	**Al-Qurain**	**9.38**	**59**	*e*P	**Pn**	**20 24 42.1**	**-2.0**
QRN				AML	AML	20 26 32.4	
	comp=Z,62nm,0.4s						
KBD	**Kabd**	**9.41**	**56**	*e*P	**Pn**	**20 24 42.2**	**-2.3**
KBD				AML	AML	20 26 11.1	
	comp=Z,14nm,0.6s						
KBD	**Kabd**	**9.41**	**56**	*e*P	**Pn**	**20 24 42.2**	**-2.3**
UMR	**Umm Al-Rimmam**	**9.62**	**54**	*e*P	**Pn**	**20 24 44.8**	**-2.6**
UMR	**Umm Al-Rimmam**	**9.62**	**54**	*e*P	**Pn**	**20 24 44.8**	**-2.6**
BHD	**Baghdad**	**10.33**	**27**	*e*P	Pn	20 24 52.0	-5.2
BHD				*e*S	**Sn**	**20 26 48.0**	**-5.0**
IBDR	**Badra**	**10.91**	**33**	*e*P	Pn	20 24 57.0	-8.1
IBDR				*e*S	Sn	20 26 59.0	-8.3

comp=Z,2.9nm,0.7s,baz=248,slow=6.5,SNR=14
MKAR Makanchi Array 41.34 46 P **P 20 30 15.2 +0.3**
NB2 NORSAR Subarra 41.46 340 P **P 20 30 14.7 -1.0**
comp=Z,2.8nm,1.0s,baz=140,slow=8.6
NB2 NORSAR Subarra 41.46 340 P **P 20 30 14.7 -1.0**
comp=Z,2.8nm,1.0s,baz=140,slow=8.2,SNR=4.2
NOA NORSAR Array B 41.46 340 P **P 20 30 14.4 -1.3**
NOA NORSAR Array B 41.46 340 P **P 20 30 14.4 -1.3**
comp=Z,1.7nm,0.9s,baz=138,slow=8.7,SNR=4.3
NOA NORSAR Array B 41.46 340 P **P 20 30 14.4 -1.3**
EVO Evora 42.03 301 *eP* **P 20 30 20.6 -0.1**
comp=Z,28nm,1.3s
EVOP Sao Brissos 42.12 301 *eP* **P 20 30 20.6 -0.7**
comp=Z,28nm,1.3s
EVOP Sao Brissos 42.12 301 *eP* **P 20 30 20.6 -0.7**
comp=Z,14nm,1.3s
OPO Ambohidratompo 43.23 168 P **P 20 30 30.2 -0.5**
OPO Ambohidratompo 43.23 168 P **P 20 30 30.2 -0.5**
comp=Z,2.2nm,0.7s,baz=280,slow=6.1,SNR=3.6
OPO Ambohidratompo 43.23 168 P **P 20 30 30.2 -0.5**
DBIC Dimbokro 45.29 255 *eP* **P 20 30 46.1 -1.0**
comp=Z,6.8nm,0.6s
DBIC Dimbokro 45.29 255 P **P 20 30 46.7 -0.4**
comp=Z,6.4nm,0.6s,baz=46,slow=8.5,SNR=7.0
DBIC Dimbokro 45.29 255 *eP* **P 20 30 46.1 -1.0**
comp=Z,6.8nm,0.6s
ZALV Zalesovo Beam 45.33 37 P **P 20 30 47.5 +0.5**
ZALV Zalesovo Beam 45.33 37 P **P 20 30 47.5 +0.5**
comp=Z,0.5nm,0.3s,baz=258,slow=7.4,SNR=4.1
ZALV Zalesovo Beam 45.33 37 P **P 20 30 47.5 +0.5**
LIC Lamto 45.64 254 *eP* **P 20 30 49.4 -0.6**
comp=Z,11nm,0.7s,baz=76
LIC Lamto 45.64 254 *eP* **P 20 30 49.4 -0.6**
comp=Z,11nm,0.7s
LIC Lamto 45.64 254 *eP* **P 20 30 49.4 -0.6**
comp=Z,5.4nm,0.7s,baz=76
ARCES ARCESS Array B 46.10 354 P **P 20 30 53.3 +0.4**
ARCES ARCESS Array B 46.10 354 P **P 20 30 53.3 +0.4**
comp=Z,2.3nm,0.8s,baz=160,slow=9.2,SNR=5.3
ARCES ARCESS Array B 46.10 354 P **P 20 30 53.3 +0.4**
LSA Lhasa 46.69 71 *eP* **P 20 31 00.3 +1.6**
comp=Z,1.4nm,0.6s
GTA Gaotai 53.13 58 *eP* **P 20 31 47.0 -0.1**
GTA pP **pP 20 31 51.3 +1.0**
GTA sP **sP 20 31 54.3 +2.8**
GTA pmax pmax
comp=Z,2.0nm,1.0s
BOSA Boshof 54.05 195 P **P 20 31 54.4 +0.7**
BOSA Boshof 54.05 195 P **P 20 31 54.4 +0.7**
comp=Z,3.8nm,1.0s,baz=352,slow=7.1,SNR=2.4
BOSA Boshof 54.05 195 P **P 20 31 54.4 +0.7**
CMAR Chiang Mai Arr 55.97 83 P **P 20 32 08.0 +0.1**
CMAR Chiang Mai Arr 55.97 83 P **P 20 32 08.0 +0.1**
comp=Z,0.4nm,0.6s,baz=292,slow=9.6,SNR=6.4
CMAR Chiang Mai Arr 55.97 83 P **P 20 32 07.9 +0.1**
SONM Songino Array 57.65 48 P **P 20 32 19.2 -0.3**
SONM Songino Array 57.65 48 P **P 20 32 19.2 -0.3**
comp=Z,1.0nm,0.8s,baz=265,slow=7.1,SNR=8.1
SONM Songino Array 57.65 48 P **P 20 32 19.2 -0.3**
USRK Ussuriysk Arra 75.77 48 P **P 20 34 15.4 +0.4**
comp=Z,1.4nm,0.7s,baz=283,slow=6.8,SNR=5.2
YKA Yellowknife Ar 91.09 348 P **P 20 35 35.3 +1.8**
YKA Yellowknife Ar 91.09 348 P **P 20 35 35.3 +1.8**
comp=Z,0.8nm,0.7s,baz=26,slow=5.1,SNR=3.0
YKA Yellowknife Ar 91.09 348 P **P 20 35 35.3 +1.8**

*IDC **27** 20:26:06.0±2.4, 5°.79S×130°.92E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=96.2km s-min=29.1km az=78.0*
*AUST **27** 20:26:11.4, 5°.81S×130°.13E, h20km*
*ISCJB **27** 20:26:16.4±1.1, 6°.11S±0°.06×130°.59E±0°.10, h124km, mb3.2/1, Error ellipse: s-maj=14.8km s-min=6.8km az=24.5*

ISC 27 20:26:15.5±1.1, 6°.00S±0°.06×130°.5E±0°.1, h124km, n12, σ2°49/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.56**	**340**	S		Sn	20 26 51.7	-14
baz=1.3,SNR=10								
TLE	**Tual**	**2.30**	**81**	P		**Pn**	**20 26 54.0**	**+1.1**
baz=2.6,SNR=14								
TLE				S		**Sn**	**20 27 20.9**	**-0.7**
baz=2.6,SNR=12								
FAKI	**Fak Fak**	**3.54**	**30**	P		**Pn**	**20 27 10.6**	**+1.5**
baz=3.6,SNR=3.6								
FAKI				S		**Sn**	**20 27 48.3**	**-2.3**
baz=3.6,SNR=11								
SWI	**Sorong**	**5.16**	**9**	S		**Sn**	**20 28 27.0**	**-2.3**
baz=5.1,SNR=7.2								
MTN	**Manton Dam**	**6.84**	**174**	S		**Sn**	**20 29 08.8**	**-1.0**
baz=7.1,SNR=6.5								
KDU	**Kakadu**	**6.94**	**163**	P		**Pn**	**20 27 56.1**	**+1.4**
baz=7.3,SNR=12								
KDU				S		**Sn**	**20 29 09.9**	**-2.4**
baz=7.3,SNR=5.9								
BATI	**Baumata**	**7.91**	**238**	Pn		Pn	20 28 15.5	+7.6
3.8nm,0.3s,baz=90,slow=3.2,SNR=8.7								
BATI				Sn		Sn	20 29 46.9	+11
2.1nm,0.3s,baz=64,slow=21,SNR=5.6								
KNRA	**Kununurra**	**9.76**	**190**	P		**Pn**	**20 28 35.3**	**+2.6**
baz=10.0,SNR=6.0								
KNRA				S		**Sn**	**20 30 17.3**	**-3.3**
baz=10.0,SNR=4.6								
FITZ	**Fitzroy Crossi**	**12.92**	**201**	Pn		**Pn**	**20 29 15.8**	**+1.2**
0.2nm,0.3s,baz=26,slow=11,SNR=18								
FITZ				Sn		**Sn**	**20 31 32.3**	**-4.7**
0.5nm,0.3s,baz=163,slow=20,SNR=8.7								
WRA	**Warramunga Arr**	**14.37**	**165**	Pn		**Pn**	**20 29 31.9**	**-1.4**
0.1nm,0.3s,baz=350,slow=13,SNR=5.8								
WRA				Sn		Sn	20 32 02.4	-10
0.2nm,0.3s,baz=347,slow=24,SNR=7.4								
ASAR	**Alice Springs**	**17.88**	**170**	P		**Pn**	**20 30 18.1**	**+1.6**
0.0nm,0.3s,baz=356,slow=13,SNR=3.8								
MKAR	**Makanchi Array**	**67.64**	**326**	P		P	20 37 05.4	+6.3
0.2nm,0.5s,baz=116,slow=8.0,SNR=5.0								

*IDC **27** 20:29:32.3±2.3, 5°.68S×130°.31E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=98.1km s-min=28.3km az=77.0*
*AUST **27** 20:29:42.8, 5°.97S×131°.03E, h200km*
*ISCJB **27** 20:29:43.0±0.6, 6°.02S±0°.04×130°.64E±0°.08, h124km, mb3.5/1, Error ellipse: s-maj=11.9km s-min=4.9km az=8.6*

ISC 27 20:29:43.3±0.9, 6°.09S±0°.05×130°.6E±0°.1, h124km, n11, σ2°66/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.71**	**336**	P		Pn	20 30 17.1	+3.7
baz=1.8,SNR=6.0								
TLE	**Tual**	**2.16**	**78**	P		Pn	20 30 23.3	+4.3
baz=1.7,SNR=3.6								
TLE				S		**Sn**	**20 30 46.3**	**-0.1**
baz=1.7,SNR=3.3								
FAKI	**Fak Fak**	**3.55**	**28**	P		**Pn**	**20 30 37.5**	**+0.5**
baz=3.3,SNR=4.3								
FAKI				S		**Sn**	**20 31 15.9**	**-2.6**
baz=3.3,SNR=5.3								
SWI	**Sorong**	**5.23**	**7**	P		**Pn**	**20 30 59.6**	**+0.2**
baz=5.1,SNR=3.9								
SWI				S		**Sn**	**20 31 58.1**	**-0.6**
baz=5.1,SNR=3.4								
MTN	**Manton Dam**	**6.73**	**176**	P		Pn	20 31 23.5	+3.8
baz=6.9,SNR=8.3								
MTN				S		**Sn**	**20 32 37.4**	**+2.4**
baz=6.9,SNR=6.7								
KDU	**Kakadu**	**6.81**	**164**	P		**Pn**	**20 31 23.0**	**+2.2**
baz=6.9,SNR=11								
KDU				S		**Sn**	**20 32 37.0**	**+0.1**
baz=6.9,SNR=5.7								
KNRA	**Kununurra**	**9.70**	**191**	P		**Pn**	**20 32 01.5**	**+1.7**
baz=10.0,SNR=4.6								
FITZ	**Fitzroy Crossi**	**12.89**	**202**	Pn		**Pn**	**20 32 42.8**	**+0.7**
0.1nm,0.3s,baz=21,slow=14,SNR=1.5								
FITZ				Sn		**Sn**	**20 34 59.0**	**-5.1**
0.2nm,0.3s,baz=169,slow=16,SNR=4.7								
WRA	**Warramunga Arr**	**14.24**	**166**	Pn		**Pn**	**20 33 01.2**	**-1.8**
0.2nm,0.3s,baz=344,slow=13,SNR=3.2								
WRA				Sn		**Sn**	**20 35 31.9**	**-5.0**
0.3nm,0.3s,baz=332,slow=24,SNR=5.8								
ASAR	**Alice Springs**	**17.76**	**170**	P		**Pn**	**20 33 45.6**	**+2.7**
0.2nm,0.3s,baz=358,slow=10,SNR=14								
MKAR	**Makanchi Array**	**67.80**	**326**	P		**P**	**20 40 29.1**	**+1.1**
0.3nm,0.4s,baz=111,slow=7.3,SNR=5.9								

FUNV 27 20:37:05.7, 12°.72N×69°.99W, h6km, MW3.5, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MONV	**Montecano**	**0.76**	**179**	⇑	*iP*	Pg	20 37 20.2	-0.1
MONV					*eS*	Sg	20 37 30.4	+0.2
IMOV	**Isla Los Monje**	**0.96**	**248**		*eP*	Pg	20 37 23.1	-1.1
DABV	**Dabajuro**	**1.90**	**200**		*eP*	Pn	20 37 38.1	-0.5
DABV					*eS*	Sn	20 38 01.6	-1.2
JACV	**Jacura**	**1.98**	**145**		*eP*	Pn	20 37 39.3	-0.5
JACV					*eS*	Sn	20 38 03.9	-1.0
SIQV	**Siquisique**	**2.06**	**175**		*eP*	Pn	20 37 40.4	-0.6
QARV	**Quebrada Arrib**	**2.55**	**192**		*eP*	Pn	20 37 47.0	-0.7
QARV					*eS*	Sn	20 38 17.2	-2.0
CURV	**Curarigua**	**2.69**	**179**		*eP*	Pn	20 37 48.7	-0.9
TEPV	**Terepaima**	**2.85**	**164**		*eP*	Pn	20 37 50.9	-0.9
TEPV					*eS*	Sn	20 38 23.5	-3.0
SANV	**Sanarito**	**3.23**	**172**		*eP*	Pn	20 37 56.7	-0.5
VIRV	**Villa del Rosa**	**3.23**	**227**		*eP*	Pn	20 37 55.1	-2.0
VIRV					*eS*	Sn	20 38 33.7	-2.2
VIGV	**El Vigia**	**4.08**	**199**		*eP*	Pn	20 38 07.4	-1.4
BAUV	**El Baul**	**4.21**	**153**		*eP*	Pn	20 38 09.5	-1.0
BAUV					*eS*	Sn	20 38 55.8	-4.3
SOCV	**Socops**	**4.49**	**191**		*eS*	Sn	20 39 03.1	-3.8
CUPV	**Cœpira**	**4.90**	**122**		*eP*	Pn	20 38 17.9	-2.1
CUPV					*eS*	Sn	20 39 12.2	-4.9
CAPV	**Capacho**	**5.34**	**206**		*eP*	Pn	20 38 24.8	-1.4

NNC 27 20:47:31.1±5.4, 37°.19N×69°.14E, h0km, mb3.5, mpv3.2, 4C-1D, Error ellipse: s-maj=68.6km s-min=41.9km az=94.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.00**	**10**	⇑		Pn	20 49 04.3	+3.2
0.6nm,0.3s,baz=197,slow=16,SNR=26								
KK31				⇑		Sn	20 50 17.1	+6.5
0.4nm,0.4s,baz=196,slow=25,SNR=4.6								
TKM2	**Tokmak 2**	**7.56**	**39**	⇑		Pn	20 49 20.4	-2.5
2.4nm,1.3s								
AB31	**Akbulak array**	**13.78**	**334**	⇑		Pn	20 50 48.8	+1.2
0.5nm,0.6s,baz=2.0,slow=27,SNR=11								
AB31				⇓		Sn	20 53 18.8	-2.5
0.2nm,0.5s								

MAN 27 20:50:55, 11°.56N×124°.53E, h29km, mb3.7, ML2.4, MS1.9, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.51**	**171**		*eP*	Pn	20 51 07.2	+0.8
OCLP					*eS*	Sn	20 51 16.0	+1.8
RCP	**Roxas**	**1.75**	**270**	⇑	*eP*	Pn	20 51 23.8	+0.4
GUIM	**Jordan**	**2.12**	**244**		*eP*	Pn	20 51 30.1	+1.6
GUIM					*eS*	Sn	20 51 55.2	+1.4

*ISCJB **27** 21:23:57.0±0.7, 32°.70N±0°.05×48°.19E±0°.06, h15km, Error ellipse: s-maj=8.3km s-min=6.0km az=43.2*
*KISR **27** 21:23:57.6±0.3, 32°.34N×48°.06E, h34km, ML2.9*
*CSEM **27** 21:23:59.9±0.4, 32°.75N×47°.97E, h40km, ML2.7, Error ellipse: s-maj=18.4km s-min=8.0km az=108.0*

ISC 27 21:23:58.5±1.1, 32°.71N±0°.05×48°.00E±0°.06, h15km, n8, σ1°03/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.79**	**283**		*i* Pn	**Pb**	**21 24 31.2**	**+0.3**
IBDR					*eSn*	**Sb**	**21 24 53.0**	**-0.1**
KHMZ	**Khomeyn**	**1.93**	**58**		*eSg*	**Sn**	**21 24 56.1**	**+0.9**
SNGE	**Sanandaj**	**2.44**	**347**		*ePn*	**Pn**	**21 24 37.2**	**-0.8**
ASAO	**Ashtian**	**2.49**	**42**		*ePn*	**Pn**	**21 24 37.8**	**-1.0**
ASAO					*eSg*	**Sn**	**21 25 11.1**	**+2.1**
GHVR	**GHOM**	**3.27**	**56**		*ePn*	**Pn**	**21 24 48.0**	**-1.3**
NAY	**Al-Naaiem**	**3.51**	**191**		*eP*	**Pn**	**21 24 52.5**	**-0.1**
NAY	**Al-Naaiem**	**3.51**	**191**		*eP*	**Pn**	**21 24 52.5**	**-0.1**
QRN	**Al-Qurain**	**3.96**	**181**		*eP*	**Pn**	**21 24 58.5**	**-0.1**
QRN					*eS*	**Sn**	**21 25 44.3**	**-0.6**
QRN					AML	AML	21 25 48.1	
comp=Z,25nm,0.3s								

*ISCJB **27** 21:28:10.8±0.5, 26°.58S±0°.10×67°.75E±0°.10, h10km, mb4.2/16, MS3.7/9, Error ellipse: s-maj=14.7km s-min=12.1km az=26.5*
*IDC **27** 21:28:11.0±0.6, 26°.59S×67°.71E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.1/28, mbtmp4.2/15, MS3.6/9, Ms1 3.6/9, ms1mx3.4/31, Error ellipse: s-maj=18.3km s-min=15.6km az=43.0*
*NEIC **27** 21:28:12.4±0.4, 26°.58S×67°.74E, h10km, mb4.7/2, Error ellipse: s-maj=13.0km s-min=11.2km az=207.0*

ISC 27 21:28:12.7±0.5, 26°.6S±0°.1×67°.7E±0°.1, h10km, n37, σ0°72/35, mb4.3/16, MS3.7/9, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**20.56**	**289**		P	**P**	**21 32 52.3**	**+0.5**
OPO	**Ambohidratompo**	**20.56**	**289**		P	**P**	**21 32 52.3**	**+0.5**
2.3nm,0.8s,baz=135,slow=16,SNR=2.5								
OPO					LR	LR	21 38 44.3	
comp=Z,119nm,20.1s,baz=268,slow=31								
LBTB	**Lobatse**	**37.84**	**263**		P	**P**	**21 35 30.3**	**+0.4**
LBTB	**Lobatse**	**37.84**	**263**		P	**P**	**21 35 30.3**	**+0.4**
3.9nm,1.1s,baz=96,slow=10,SNR=2.5								
MAW	**Mawson**	**41.13**	**183**		P	**P**	**21 35 57.2**	**+0.6**
MAW	**Mawson**	**41.13**	**183**		P	**P**	**21 35 57.2**	**+0.6**
2.5nm,0.8s,baz=4.4,slow=13,SNR=3.2								
MAW					LR	LR	21 48 50.1	
comp=Z,66nm,19.0s,baz=170,slow=30								
NWAO	**Narrogin (SRO)**	**43.12**	**111**		P	**P**	**21 36 14.4**	**+1.0**
5.6nm,0.8s,baz=285,slow=12,SNR=3.6								
CM31	**Chiang Mai Arr**	**54.07**	**37**		*eP*	**P**	**21 37 37.3**	**-0.4**
5.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**54.07**	**37**		P	**P**	**21 37 38.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**54.07**	**37**		P	**P**	**21 37 38.5**	**+0.7**
2.7nm,0.8s,baz=229,slow=7.3,SNR=15								
CMAR					LR	LR	21 58 07.9	
comp=Z,47nm,18.8s,baz=225,slow=33								
ASAR	**Alice Springs**	**59.38**	**103**		P	**P**	**21 38 15.8**	**+0.2**
ASAR	**Alice Springs**	**59.38**	**103**		P	**P**	**21 38 15.8**	**+0.2**
6.0nm,0.7s,baz=250,slow=6.3,SNR=91								
ASAR					LR	LR	22 02 42.6	
comp=Z,145nm,19.5s,baz=182,slow=35								
AS31	**Alice Springs**	**59.38**	**103**		*eP*	**P**	**21 38 15.6**	**0.0**
WRA	**Warramunga Arr**	**60.96**	**99**		P	**P**	**21 38 26.6**	**+0.2**
WRA	**Warramunga Arr**	**60.96**	**99**		P	**P**	**21 38 26.6**	**+0.2**
6.1nm,0.7s,baz=250,slow=6.4,SNR=54								
WRAB	**Tennant Creek**	**60.97**	**99**		*eP*	**P**	**21 38 26.6**	**0.0**
7.0nm,0.8s								
STKA	**Stephens Creek**	**63.53**	**114**		*eP*	**P**	**21 38 43.5**	**+0.1**
STKA	**Stephens Creek**	**63.53**	**114**		P	**P**	**21 38 43.6**	**+0.1**
4.5nm,1.1s,baz=292,slow=7.8,SNR=4.0								
QSPA	**South Pole Qui**	**63.54**	**180**		P	**P**	**21 38 43.2**	**0.0**
QSPA	**South Pole Qui**	**63.54**	**180**		P	**P**	**21 38 43.2**	**0.0**
1.4nm,0.7s,baz=153,slow=1.1,SNR=8.0								
VNDA	**Vanda**	**65.13**	**166**		P	**P**	**21 38 51.7**	**-1.5**
VNDA	**Vanda**	**65.13**	**166**		P	**P**	**21 38 51.7**	**-1.5**
1.0nm,0.7s,baz=263,slow=8.9,SNR=6.8								
BRTR	**Keskin Array B**	**73.24**	**333**		P	**P**	**21 39 44.9**	**+0.9**
BRTR	**Keskin Array B**	**73.24**	**333**		P	**P**	**21 39 44.9**	**+0.9**
1.4nm,0.7s,baz=162,slow=6.9,SNR=10								
BRTR					LR	LR	22 10 45.4	
comp=Z,24nm,18.1s,baz=101,slow=35								
KBZ	**Khabaz**	**73.60**	**341**		LR	LR	22 11 21.1	
comp=Z,50nm,18.1s,baz=32,slow=35								
MKAR	**Makanchi Array**	**74.22**	**10**		P	**P**	**21 39 48.0**	**-1.5**
MKAR	**Makanchi Array**	**74.22**	**10**		P	**P**	**21 39 48.1**	**-1.5**
0.9nm,0.7s,baz=193,slow=5.0,SNR=7.6								
MKAR					LR	LR	22 10 36.5	
comp=Z,46nm,19.3s,baz=185,slow=34								
TORD	**Torodi Ar. Bea**	**75.31**	**293**		P	**P**	**21 39 55.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**75.31**	**293**		P	**P**	**21 39 55.8**	**-0.7**
0.5nm,1.0s,baz=120,slow=5.3,SNR=3.6								
ZAA0	**Zalesovo Array**	**81.56**	**10**		*eP*	**P**	**21 40 29.5**	**-0.7**
ZALV	**Zalesovo Beam**	**81.56**	**10**		P	**P**	**21 40 29.8**	**-0.4**
ZALV	**Zalesovo Beam**	**81.56**	**10**		P	**P**	**21 40 29.7**	**-0.4**
2.6nm,0.7s,baz=191,slow=4.5,SNR=9.9								
ZALV					LR	LR	22 15 06.3	
comp=Z,34nm,20.4s,baz=246,slow=34								
SONM	**Songino Array**	**81.83**	**25**		P	**P**	**21 40 32.1**	**+0.1**
SONM	**Songino Array**	**81.83**	**25**		P	**P**	**21 40 32.1**	**+0.1**
2.2nm,1.0s,baz=219,slow=5.1,SNR=11								
NOA	**NORSAR Array B**	**98.54**	**336**		LR	LR	22 30 07.3	
comp=Z,22nm,18.5s,baz=305,slow=38								
YKA	**Yellowknife Ar**	**144.07**	**2**		PKP	**PKPab**	**21 47 45.1**	**-0.3**
YKA	**Yellowknife Ar**	**144.07**	**2**		PKP	**PKPab**	**21 47 45.1**	**-0.3**
0.6nm,0.6s,baz=355,slow=3.3,SNR=4.1								

*IDC **27** 21:33:34.1±10.0, 37°.77N×70°.53E, h57km±94km, mb3.0/2, mb1 3.4/4, mb1mx3.1/29, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=126.8km s-min=50.0km az=153.0*
*ISCJB **27** 21:33:38.2±0.6, 37°.18N±0°.04×71°.7E±0°.1, h142km, mb3.1/2, Error ellipse: s-maj=13.1km s-min=5.9km az=6.9*
*NNC **27** 21:33:47.6±4.1, 37°.85N×71°.80E, h231km±34km, mb2.7, mpv3.8, Error ellipse: s-maj=39.2km s-min=21.5km az=18.0*

ISC 27 21:33:37.4±0.8, 37°.12N±0°.06×71°.9E±0°.1, h142km, n25, σ2°14/27, 5C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.29**	**180**	⇑		**Pn**	**21 34 30.6**	**+2.2**
CEP						S	21 35 14.0	+6.3
CHCP	**Chirah Chowk**	**3.64**	**162**			**Pn**	**21 34 35.7**	**+3.0**
THW	**Thamme Wali**	**4.32**	**182**			**Pn**	**21 34 43.1**	**+1.4**
AML	**Almayashu**	**5.19**	**15**	P		**Pn**	**21 34 55.9**	**+2.4**
SNR=58								
UCH	**Uchtor**	**5.49**	**21**	P		**Pn**	**21 35 00.2**	**+2.7**
SNR=10								
KZA	**Kyzart**	**5.59**	**27**	P		**Pn**	**21 35 00.8**	**+1.9**
SNR=8.3								
THN	**Thein Dam**	**5.64**	**145**		*eP*	**Pn**	**21 34 58.0**	**-1.2**
THN					*eS*	**Sn**	**21 36 00.6**	**-2.5**
DLH	**Dalhousie**	**5.67**	**143**		*eP*	**Sn**	**21 36 04.0**	**-0.1**
EKS2	**Erkin-Say**	**5.72**	**14**	P		**Pn**	**21 35 02.6**	**+2.3**
SNR=14								
AAK	**Ala-Archa**	**5.86**	**19**	P		**Pn**	**21 35 04.9**	**+2.7**
SNR=27								
KBK	**Karagaybulak**	**6.01**	**22**	P		**Pn**	**21 35 06.9**	**+2.7**
SNR=12								
KK31	**Karatay Array**	**6.07**	**350**	P		**Pn**	**21 35 06.4**	**+1.6**
8.8nm,0.6s,baz=172,slow=12,SNR=131								
KK31						S	**21 36 10.8**	**-2.4**
8.8nm,0.3s,baz=166,slow=18,SNR=20								
ULHL	**Ulahol**	**6.12**	**32**	P		**Pn**	**21 35 07.9**	**+2.1**
SNR=7.4								
CHMS	**Chumysh**	**6.27**	**20**	P		**Pn**	**21 35 09.7**	**+2.1**
SNR=17								
TKM2	**Tokmak 2**	**6.45**	**25**	⇑		**Pn**	**21 35 12.4**	**+2.3**
7.1nm,0.7s								
TKM2				⇓		**Sn**	**21 36 23.0**	**+0.2**
6.6nm,0.7s								
TKM2	**Tokmak 2**	**6.45**	**25**	P		**Pn**	**21 35 12.5**	**+2.3**
SNR=5.8								
USP	**Ospenovka**	**6.46**	**17**	P		**Pn**	**21 35 12.0**	**+2.0**
SNR=13								
MK31	**Makanchi Array**	**12.37**	**35**	P		**Pn**	**21 36 28.9**	**+0.2**
0.6nm,0.5s,baz=221,slow=16,SNR=9.4								
MKAR	**Makanchi Array**	**12.37**	**35**	P		**Pn**	**21 36 29.5**	**+0.8**
0.1nm,0.3s,baz=225,slow=15,SNR=12								
AB31	**Akbulak array**	**14.91**	**328**	P		**P**	**21 37 01.7**	**-1.2**
1.1nm,0.7s,baz=141,slow=13,SNR=14								
AB31						Sn	21 39 34.2	-12
1.2nm,0.5s,baz=150,slow=21,SNR=8.2								
VOSK	**Vostochnaya**	**15.61**	**358**	⇑		**Pn**	**21 37 06.1**	**-3.5**
2.2nm,0.9s								
AKTO	**Aktyubinsk**	**16.61**	**328**	⇑		**P**	**21 37 23.2**	**+1.4**
3.2nm,1.1s								
AKTO				⇑		S	21 40 14.4	-13
2.4nm,1.1s								
ZALV	**Zalesovo Beam**	**19.06**	**24**	P		**P**	**21 37 50.2**	**+1.7**
1.5nm,0.3s,baz=217,slow=10,0,SNR=35								
BRTR	**Keskin Array B**	**29.93**	**287**	P		P	21 39 25.9	-6.1
0.3nm,0.7s,baz=69,slow=9.7,SNR=2.6								
TORD	**Torodi Ar. Bea**	**66.44**	**269**	P		**P**	**21 44 10.9**	**-0.8**
0.1nm,0.4s,baz=60,slow=6.1,SNR=6.8								

IDC 27 21:51:35.4±3.7, 1°.41S×99°.55E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.2/24, mbtmp3.2/5, ML3.5/1, Error ellipse: s-maj=172.8km s-min=22.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.75**	**358**		Pn	P	21 56 07.5	+0.4
0.1nm,0.3s,baz=189,slow=9.1,SNR=3.7								
WRA	**Warramunga Arr**	**38.68**	**121**		P	P	21 59 00.8	-0.4
0.2nm,0.6s,baz=300,slow=9.6,SNR=4.1								
ASAR	**Alice Springs**	**39.96**	**126**		P	P	21 59 12.3	+0.3
0.1nm,0.5s,baz=300,slow=7.4,SNR=3.0								
MKAR	**Makanchi Array**	**50.35**	**345**		P	P	22 00 33.1	-1.1
0.4nm,0.7s,baz=173,slow=7.6,SNR=4.1								
ZALV	**Zalesovo Beam**	**56.51**	**350**		P	P	22 01 20.5	+1.2
0.4nm,0.4s,baz=170,slow=8.8,SNR=3.4								
TXAR	**Lajitas Array**	**144.51**	**36**		PKP	PKPab	22 11 12.7	-0.4
0.2nm,0.6s,baz=328,slow=3.2,SNR=3.6								

**IDC 27 21:59:16.5±2.1, 6°.93S×125°.28E, h549km±31km,

*IDC **27** 22:39:00.9±0.5, 14.'30N×93.'02E, h0km, mb4.3/18, mb1 4.5/20, mb1mx4.3/28, mbtmp4.3/20, ML3.8/2, MS3.5/10, Ms1 3.5/10, ms1mx3.1/48, Error ellipse: s-maj=20.8km s-min=12.9km az=53.0*

*ISCJB **27** 22:39:04.3±0.2, 14.'36N±0.'03×93.'03E±0.'04, h33km, mb4.4/54, MS3.5/10, Error ellipse: s-maj=5.6km s-min=4.2km az=42.6*

*BJI **27** 22:39:05.0, 14.'03N×93.'19E, h60km, mB4.4/8, mb4.3/13, Ms3.6/3, Ms7 3.4/2*

*DJA **27** 22:39:06.5±2.2, 14.°N±8.'×9.°3E±1.°9, h71km±36km, M4.8/8, mB5.2/3, mb4.5/8, MLv4.9/1, Mw(mB)4.6/3*

*NEIC **27** 22:39:06.1±0.2, 14.'34N×93.'02E, h35km, mb4.7/24, Error ellipse: s-maj=6.2km s-min=5.9km az=23.0*

ISC 27 22:39:06.5±0.4, 14.°37N±0.°05×93.°05E±0.°05, h35km, n181, σ1°02/188, mb4.5/54, MS3.3/11, 7C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	1.19	186	eP	Pn	22 39 27.4	+0.8
PBA	Port Blair	2.71	186	eP	Pn	22 39 47.1	-0.5
PHET	Kaeng Krachan 148nm,0.8s	6.56	102	P	Pn	22 40 42.1	+1.6
CMAR	Chiang Mai Arr	6.96	53	Pn	Pn	22 40 46.8	+0.6
CMAR				Sn	Sn	22 42 01.9	-2.3
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=242,slow=14,SNR=12	6.96	53	Pn	Pn	22 40 46.8	+0.6
CMAR				Sn	Sn	22 42 01.9	-2.3
CHTO	Chiang Mai 1.6nm,0.3s,baz=241,slow=26,SNR=6.8	7.17	51	ePn	Pn	22 40 48.1	-0.9
CHTO				eSn	Sn	22 42 05.3	-4.0
CHTO	Chiang Mai 6.0nm,0.5s	7.17	51	P	Pn	22 40 49.5	+0.5
PBKT	Sadao Pong 15nm,0.9s	7.94	73	P	Pn	22 41 00.8	+1.3
BWNR	Bhubaneshwar 17nm,0.7s	9.09	311	e4		22 41 05.0	
BWNR				e4		22 42 36.0	
CHBT	CHBT 13nm,1.0s,610nm	9.16	99	P	Pn	22 41 18.4	+2.1
VIS	Vishakhapatnam comp=Z,92nm,1.3s	9.92	291	eP	Pn	22 41 25.8	-0.9
VIS				AMB	AMB	22 41 37.8	
VIS				i x	x	22 43 09.1	
SHL	Shillong comp=Z,20nm,0.7s	11.20	355	eP	Pn	22 41 43.3	-1.0
SHL				e4		22 43 39.0	
BOK	Bokaro comp=Z,20nm,0.7s	11.56	325	eP	Pn	22 41 48.3	-0.9
BOK				AMB	AMB	22 42 01.7	
KCSI	Kotacane, Aceh comp=Z,39nm,1.0s	11.74	156	P	Pn	22 41 52.2	+0.6
PSI	Prapat	12.87	153	Pn	Pn	22 42 07.5	+0.3
PSI	Prapat comp=Z,0.6nm,0.3s,baz=324,slow=11,SNR=11	12.87	153	Pn	Pn	22 42 07.5	+0.3
PSI				LR	LR	22 46 27.0	
ODAN	Odare comp=Z,133nm,20.3s,baz=22,slow=34	13.51	338	eP	Pn	22 42 15.6	-0.4
TAPN	Taplejung	13.85	340	eP	Pn	22 42 20.2	-0.4
RAMN	Ramite	13.89	335	eP	Pn	22 42 20.4	-0.8
PALK	Pallekele	14.03	241	ePn	Pn	22 42 20.7	-2.3
PALK				eSn	Sn	22 44 42.8	-15
HYB	Hyderabad	14.27	284	i P	P	22 42 34.0	+1.0
HYB				e		22 44 48.0	
HYB				eS	Sn	22 45 02.0	-1.5
HYB	Hyderabad comp=Z,19nm,2.3s	14.27	284	eP	Pn	22 42 25.6	-0.7
HYB				AMB	AMB	22 42 48.2	
JIRN	Jiri comp=N,30nm,0.8s	14.69	335	eP	Pn	22 42 31.1	-1.1
NGP	Nagpur comp=N,26nm,0.4s	14.94	299	ex	S	22 45 39.9	+3.3
NGP				ex	x	22 45 41.3	
PKI	Pulchoki comp=N,26nm,0.4s	14.94	333	eP	Pn	22 42 35.0	-0.6
PKIN	Phulchoki comp=N,26nm,0.4s	14.95	333	eP	Pn	22 42 34.9	-0.7
GUN	Gumba	15.04	335	eP	Pn	22 42 36.0	-0.8
DMN	Daman	15.11	332	eP	Pn	22 42 36.8	-0.9
JBP	Jabalpur	15.15	307	‖ iP	Pn	22 42 37.4	-0.6
JBP				i x	x	22 42 45.8	
JBP	comp=Z,15nm,0.6s			ex	x	22 45 15.7	
KKN	Kakani	15.19	333	eP	Pn	22 42 38.1	-0.6
LSA	Lhasa	15.36	354	P	P	22 42 46.0	+0.5
LSA	Lhasa comp=Z,5.6nm,0.6s	15.36	354	ePn	Pn	22 42 39.0	-2.2
KOLN	Koldanda comp=Z,54nm,0.6s	15.98	328	eP	Pn	22 42 49.0	+0.1
LATR	Latur	16.33	286	ex	x	22 43 02.0	
LATR				ex	x	22 43 03.0	
DANN	Dangsing comp=Z,9.1nm,0.7s	16.37	330	eP	Pn	22 42 54.0	0.0
PPI	Padang Panjang comp=Z,19nm,0.9s	16.43	153	P	Pn	22 42 53.5	-1.0
PDSI	Padang	16.86	154	P	Pn	22 42 58.1	-1.9
BHPL	Bhopal comp=Z,17nm,2.8s	17.21	303	eP	P	22 43 07.1	+1.4
BHPL				AMB	AMB	22 43 09.4	
DDI	Dehra Dun comp=Z,66nm,2.2s	21.05	321	eP	P	22 43 48.1	+0.5
DDI				AMB	AMB	22 43 49.9	
ENH	Enshi comp=Z,5.3nm,0.4s	21.90	41	eP	P	22 43 55.9	-0.9
SMLA	Simla comp=Z,17nm,0.3s	22.16	322	eP	P	22 44 00.8	+1.4
SMLA				AMB	AMB	22 44 17.3	
DHRM	DHARAMSHALA comp=Z,31nm,1.0s	23.47	322	eP	P	22 44 13.9	+0.6
DHRM				AMB	AMB	22 44 14.8	
XAN	Xi'an	24.29	34	P	P	22 44 20.0	-0.8
XAN				pP	pP	22 44 31.3	+0.5
XAN				sP	sP	22 44 37.8	+2.8
XAN	comp=Z,3.0nm,0.8s			pmax	pmax		
XAN	comp=Z,13nm,4.7s			pmax	pmax		
XAN	comp=N,61nm,9.2s			LR	LR		
XAN	comp=E,33nm,14.3s			LR	LR		
GTA	Gaotai	25.65	12	P	P	22 44 34.5	+1.4
GTA				pP	pP	22 44 45.8	+2.7
GTA				sP	sP	22 44 50.3	+2.9
GTA	comp=Z,10.0nm,0.9s			pmax	pmax		
GTA	comp=Z,64nm,4.5s			pmax	pmax		
GTA	comp=N,49nm,16.7s			LR	LR		
GTA	comp=E,100nm,17.6s			LR	LR		
GTA	comp=Z,54nm,17.4s			LR	LR		
HHC	Hu-ho-hao-te	30.93	28	eP	P	22 45 19.5	-0.7
HHC				S	S	22 50 15.8	-6.6
HHC	comp=Z,270nm,4.6s			pmax	pmax		
AAK	Ala-Archa	32.39	334	eP	P	22 45 33.8	+0.7
MK31	Makanchi Array	33.56	347	eP	P	22 45 43.5	+0.4
MKAR	Makanchi Array	33.56	347	P	P	22 45 43.8	+0.6
MKAR	Makanchi Array comp=Z,5.7nm,0.7s,baz=163,slow=9.1,SNR=58	33.56	347	P	P	22 45 43.8	+0.6
MKAR				LR	LR	23 02 57.0	
KKAR	Karatay Array comp=Z,1.8nm,0.7s	34.57	330	eP	P	22 45 49.8	-2.1
SONM	Songino Array	35.16	16	P	P	22 45 57.6	+0.5
SONM				PcP	PcP	22 48 28.1	+0.2
SONM	Songino Array comp=Z,2.0nm,0.8s,baz=201,slow=10,SNR=12	35.16	16	P	P	22 45 57.6	+0.5
SONM				PcP	PcP	22 48 28.1	+0.2
ULN	Ulaanbaatar comp=Z,1.3nm,0.5s	35.37	16	eP	P	22 45 59.0	+0.1
KSAR	Wonju Array Be	38.52	47	P	P	22 46 26.3	+0.6
KSRS	Korea Array comp=Z,1.0nm,0.7s,baz=184,slow=34,SNR=3.9	38.55	47	P	P	22 46 26.3	+0.4
ZAA0	Zalesovo Array	40.02	352	eP	P	22 46 37.8	-0.1
ZALV	Zalesovo Beam	40.02	352	P	P	22 46 38.1	+0.2
ZALV	Zalesovo Beam comp=Z,3.3nm,0.5s,baz=178,slow=8.6,SNR=26	40.02	352	P	P	22 46 38.1	+0.2
ZALV				LR	LR	23 04 54.5	
BVAR	Borovoye Array comp=Z,40nm,20.1s,baz=252,slow=39	42.55	340	LR	LR	23 08 17.9	
	comp=Z,30nm,18.6s,baz=112,slow=41						
ABKAR	Akbulak array comp=Z,9.2nm,0.8s	44.10	329	eP	P	22 47 12.1	+0.8
AKTO	Aktyubinsk comp=Z,30nm,18.7s,baz=331,slow=38	45.81	329	LR	LR	23 08 27.1	
MJAR	Matsushiro Arr comp=Z,50nm,19.3s,baz=220,slow=40	45.85	53	LR	LR	23 09 43.9	
ATD	Arta Tunnel comp=Z,34nm,18.7s,baz=171,slow=32	48.94	273	LR	LR	23 05 11.8	
KBZ	Khabaz	51.69	315	P	P	22 48 10.6	+0.5
KBZ	Khabaz comp=Z,2.3nm,0.9s,baz=187,slow=3.7,SNR=3.7	51.69	315	P	P	22 48 10.6	+0.5
WRA	Warramunga Arr	53.02	129	P	P	22 48 19.0	-1.4
WRA				PcP	PcP	22 49 28.6	-0.2
WRA	Warramunga Arr comp=Z,2.6nm,0.8s,baz=312,slow=8.1,SNR=31	53.02	129	P	P	22 48 19.0	-1.4
WRA				PcP	PcP	22 49 28.6	-0.2
ASAR	Alice Springs	54.99	133	P	P	22 48 33.7	-1.0
ASAR				PcP	PcP	22 49 36.9	+0.6
ASAR	Alice Springs comp=Z,2.0nm,0.6s,baz=309,slow=6.9,SNR=31	54.99	133	P	P	22 48 33.7	-1.0
ASAR				PcP	PcP	22 49 36.9	+0.6
BR131	Keskin Array S comp=Z,3.5nm,0.8s	57.50	308	eP	P	22 48 52.0	-0.6
BRTR	Keskin Array B	57.50	308	P	P	22 48 52.4	-0.2
BRTR	Keskin Array B comp=Z,4.2nm,0.8s,baz=121,slow=7.1,SNR=29	57.50	308	P	P	22 48 52.4	-0.2
CFR	Carcaliu	62.30	314	‖ iP	P	22 49 25.5	+0.3
AKASG	Malin Array Be	62.48	320	P	P	22 49 25.2	-1.1
AKASG	Malin Array Be comp=Z,2.5nm,0.6s,baz=85,slow=5.1,SNR=4.8	62.48	320	P	P	22 49 25.2	-1.1
PGOR	Pogoanele	63.07	313	⇑ iP	PcP	22 50 05.6	-2.4
VRI	Vrincioaia	63.36	314	‖ iP	P	22 49 33.3	+0.9
PLOR	Plostina	63.42	314	⇑ iP	P	22 49 33.9	+1.1
MLR	Muntele Rosu	63.87	314	⇑ iP	P	22 49 36.8	+0.9
JOF	Joensuu comp=Z,1.2nm,0.4s	64.58	333	ep	P	22 49 37.1	-2.9
BURAR	Bucovina Array	64.60	316	⇑ iP	P	22 49 41.3	+0.7
BUR08	Bucovina Ar. S	64.61	316	eP	P	22 49 40.6	-0.1
STKA	Stephens Creek	65.40	135	eP	P	22 49 45.3	-0.5
STKA	Stephens Creek comp=Z,2.1nm,0.5s,baz=318,slow=9.4,SNR=7.8	65.40	135	P	P	22 49 44.8	-1.0
STKA				LR	LR	23 21 03.4	
VTS	Vitosha comp=Z,151nm,18.9s,baz=26,slow=39	65.61	310	‖ iP	P	22 49 47.2	-0.1
KWP	Kalwaria Pacla	66.47	318	‖ iP	P	22 49 52.7	+0.2
KWP	Kalwaria Pacla comp=Z,14nm,1.0s	66.47	318	eP	P	22 49 52.4	-0.1
FIA1	FINESS Array S	66.52	331	eP	P	22 49 51.9	-0.7
FINES	FINESS Array B	66.52	331	P	P	22 49 52.3	-0.3
FINES	FINESS Array B comp=Z,5.0nm,0.5s,baz=99,slow=6.2,SNR=52	66.52	331	P	P	22 49 52.3	-0.3
KAF	Kangasniemi comp=Z,0.4nm,0.3s	66.58	332	ep	P	22 49 52.5	-0.4
CRVS	Cervenica-Dubn	67.22	317	eP	P	22 49 58.0	+0.7
STHS	Stebnicka Huta	67.40	318	eP	P	22 49 57.2	-1.2
ARCES	ARCESS Array B	68.84	340	P	P	22 50 07.1	0.0
ARCES	ARCESS Array B comp=Z,2.6nm,0.6s,baz=102,slow=7.4,SNR=21	68.84	340	P	P	22 50 07.1	0.0
ARCES				LR	LR	23 23 56.8	
VYHS	Vyhne comp=Z,54nm,18.3s,baz=204,slow=39	68.93	317	eP	P	22 50 08.0	-0.1
OKC	Ostrava-Krasne	69.43	318	eP	P	22 50 11.8	+0.7
MORC	Moravsky Berou comp=Z,7.1nm,1.0s	69.82	318	eP	P	22 50 13.7	+0.1
DPC	Dobruska-Polom	70.62	319	i P	P	22 50 18.8	+0.3
KOGS	Kog	70.66	314	i P	P	22 50 18.9	+0.1
CONA	Conrad Observa comp=Z,2.5nm,0.8s	70.91	316	⇑ iP	P	22 50 20.4	+0.1
BOJS	Bojanci	71.38	314	i P	P	22 50 23.0	-0.1
SOKA	Soboth comp=Z,4.4nm,1.2s	71.50	315	⇑ iP	P	22 50 24.0	+0.1
PDKS	Podkum	71.54	314	i P	P	22 50 24.4	+0.3
PRU	Pruhonice	71.76	318	i P	P	22 50 25.8	+0.5
LJU	Ljubljana	71.87	314	i P	P	22 50 26.4	+0.3
CRNS	Crni Vrh	72.05	314	i P	P	22 50 27.2	0.0
BRG	Berggiesshubel comp=Z,5.8nm,0.8s	72.14	319	i P	P	22 50 27.9	+0.4
GERES	GERESS Array B	72.34	317	P	P	22 50 29.1	+0.1
GERES	GERESS Array B comp=Z,4.2nm,0.7s,baz=88,slow=6.4,SNR=49	72.34	317	P	P	22 50 29.1	+0.1
CLL	Collm comp=Z,4.0nm,0.9s	72.72	320	eP	P	22 50 31.0	0.0
NKC	Novy Kostel	73.11	319	eP	P	22 50 33.7	+0.3
NB2	NORSAR Subarra comp=Z,2.2nm,0.6s,baz=86,slow=5.9	73.60	330	P	P	22 50 35.0	-1.1
NOA	NORSAR Array B	73.60	330	P	P	22 50 35.3	-0.8
NOA	NORSAR Array B comp=Z,3.2nm,0.7s,baz=89,slow=5.8,SNR=14	73.60	330	P	P	22 50 35.3	-0.8
NOA				LR	LR	23 25 07.6	
GRF	Grafenberg Arr comp=Z,6.0nm,0.9s	73.92	318	eP	P	22 50 38.5	+0.3
RETA	Reutte comp=Z,9.0nm,1.0s,SNR=7.1	74.37	316	⇑ iP	P	22 50 40.3	-0.6
DAVA	Damuels comp=Z,5.0nm,0.6s,SNR=4.6	74.99	316	i P	P	22 50 44.4	-0.2
CDF	Champ du Feu	76.62	317	eP	P	22 50 52.9	-0.9
CDF	Champ du Feu	76.62	317	eP	P	22 50 52.9	-0.9
SBF	Sospel	77.07	312	eP	P	22 50 55.5	-0.9
SBF	Sospel	77.07	312	eP	P	22 50 55.5	-0.9
HAU	Haudompre	77.28	317	eP	P	22 50 56.5	-1.0
HAU	Haudompre comp=Z,4.5nm,0.7s	77.28	317	eP	P	22 50 56.5	-1.0
LPG	La Plagne comp=Z,4.5nm,0.7s	77.33	314	eP	P	22 50 57.7	-0.4
LPG	La Plagne comp=Z,14nm,0.7s	77.33	314	eP	P	22 50 57.7	-0.4
LPL	La Plagne comp=Z,14nm,0.7s	77.34	314	eP	P	22 50 57.8	-0.3
LPL	La Plagne comp=Z,18nm,0.7s	77.34	314	eP	P	22 50 57.8	-0.3
MBDF	Montbardon comp=Z,18nm,0.7s	77.42	313	eP	P	22 50 58.3	-0.2
MBDF	Montbardon comp=Z,4.2nm,0.6s	77.42	313	eP	P	22 50 58.3	-0.2
CABF	La Chapelle comp=Z,4.2nm,0.6s	77.64	315	eP	P	22 50 59.1	-0.5
CABF	La Chapelle comp=Z,7.3nm,0.7s	77.64	315	eP	P	22 50 59.1	-0.5
FRF	La Foret Royal comp=Z,7.3nm,0.7s	77.67	312	eP	P	22 50 59.1	-0.6
FRF	La Foret Royal comp=Z,7.4nm,0.6s	77.67	312	eP	P	22 50 59.1	-0.6
LMR	La Mourre comp=Z,7.4nm,0.6s	77.80	312	eP	P	22 50 59.7	-0.7
LMR	La Mourre comp=Z,8.3nm,0.8s	77.80	312	eP	P	22 50 59.7	-0.7
ORIF	Oris-en-Rattie comp=Z,8.8nm,0.8s	78.03	313	eP	P	22 51 00.7	-1.1
ORIF	Oris-en-Rattie comp=Z,2.8nm,0.7s	78.03	313	eP	P	22 51 00.7	-1.1
BOSA	Boshof comp=Z,2.8nm,0.7s	78.20	236	P	P	22 51 03.5	+0.6
BOSA	Boshof comp=Z,4.6nm,0.8s,baz=59,slow=2.5,SNR=6.5	78.20	236	P	P	22 51 03.5	+0.6
SMRF	Simiane la Rot comp=Z,8.3nm,0.8s	78.38	313	eP	P	22 51 03.4	-0.3
SMRF	Simiane la Rot comp=Z,8.3nm,0.8s	78.38	313	eP	P	22 51 03.4	-0.3
BAIF	Baives	78.40	319	eP	P	22 51 03.1	-0.5
BAIF	Baives	78.40	319	eP	P	22 51 03.1	-0.5
VIVF	Saint-Julien-l	78.88	314	eP	P	22 51 05.7	-0.7
VIVF	Saint-Julien-l	78.88	314	eP	P	22 51 05.7	-0.7
LOR	Lormes comp=Z,5.2nm,0.7s	79.06	316	eP	P	22 51 06.2	-1.1
LOR	Lormes comp=Z,5.2nm,0.7s	79.06	316	eP	P	22 51 06.2	-1.1
SMF	Signal de Mont comp=Z,5.6nm,0.6s	79.17	315	eP	P	22 51 06.9	-1.0
SMF	Signal de Mont comp=Z,5.6nm,0.6s	79.17	315	eP	P	22 51 06.9	-1.0
AVF	Avril sur Loir	79.48	316	eP	P	22 51 08.5	-1.1
AVF	Avril sur Loir	79.48	316	eP	P	22 51 08.5	-1.1
LASF	Ste Croix comp=Z,6.3nm,0.8s	79.59	313	eP	P	22 51 10.0	-0.3
LASF	Ste Croix comp=Z,6.3nm,0.8s	79.59	313	eP	P	22 51 10.0	-0.3
BGF	Bois d'Agland	79.86	315	eP	P	22 51 10.8	-0.9
BGF	Bois d'Agland	79.86	315	eP	P	22 51 10.8	-0.9
TCF	Toulx Ste Croi comp=Z,17nm,1.1s	80.34	315	eP	P	22 51 13.9	-0.4
TCF	Toulx Ste Croi comp=Z,17nm,1.1s	80.34	315	eP	P	22 51 13.9	-0.4
CAF	Calviac comp=Z,13nm,1.1s	80.70	314	eP	P	22 51 15.8	-0.5
CAF	Calviac comp=Z,13nm,1.1s	80.70	314	eP	P	22 51 15.8	-0.5
MTLF	Montolieu comp=Z,3.7nm,0.8s	80.89	312	eP	P	22 51 16.8	-0.5
MTLF	Montolieu comp=Z,3.7nm,0.8s	80.89	312	eP	P	22 51 16.8	-0.5
LDF	La Druitiere comp=Z,8.1nm,0.7s	81.44	318	eP	P	22 51 19.2	-0.9
LDF	La Druitiere comp=Z,8.1nm,0.7s	81.44	318	eP	P	22 51 19.2	-0.9
MFF	Saint Martin d	81.88	316	eP	P	22 51 21.6	-0.8
MFF	Saint Martin d	81.88	316	eP	P	22 51 21.6	-0.8
ESDC	Sonseca Array	86.25	310	P	P	22 51 43.3	-1.6
ESDC	Sonseca Array comp=Z,0.9nm,0.6s,baz=53,slow=4.7,SNR=7.4	86.25	310	P	P	22 51 43.3	-1.6
TORD	Torodi Ar. Bea	88.09	283	P	P	22 51 54.3	+0.1
TORD	Torodi Ar. Bea comp=Z,3.1nm,0.8s,baz=84,slow=4.1,SNR=18	88.09	283	P	P	22 51 54.3	+0.1
ILAR	Eielson Array	89.16	22	P	P	22 51 57.3	-1.0
ILAR	Eielson Array comp=Z,0.8nm,0.9s,baz=286,slow=4.6,SNR=6.3	89.16	22	P	P	22 51 57.3	-1.0
PDAR	Pinedale Array	119.47	19	PKP	PKPdf	22 57 53.0	-0.1
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=350,slow=1.1,SNR=3.5	119.47	19	PKP	PKPdf	22 57 53.0	-0.1
NVAR	Mina Array Bea	119.83	28	PKP	PKPdf	22 57 55.0	+1.1
NVAR	Mina Array Bea comp=Z,0.6nm,0.7s,baz=243,slow=0.8,SNR=6.1	119.83	28	PKP	PKPdf	22 57 55.0	+1.1
TXAR	Lajitas Array	133.65	20	PKP	PKPdf	22 58 21.4	+1.1
TXAR	Lajitas Array comp=Z,0.4nm,0.6s,baz=188,slow=1.8,SNR=6.4	133.65	20	PKP	PKPdf	22 58 21.4	+1.1
TEIG	Tepich	145.60	2	ePKPdf	PKPbc	22 58 42.2	0.0
CPUP	Villa Florida	149.87	242	PKPbc	PKPbc	22 58 55.2	+1.5
CPUP	Villa Florida comp=Z,1.1nm,0.6s,baz=103,slow=7.2,SNR=5.1	149.87	242	PKPbc	PKPbc	22 58 55.2	+1.5

*IDC **27** 22:49:57.9±4.4, 27.°28N×142.°67E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/25, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=163.8km s-min=28.1km az=74.0*

*ISCJB **27** 22:50:35.3±0.9, 27.°82N±0.°07×140.°8E±0.°2, h350km, mb2.6/2, Error ellipse: s-maj=23.6km s-min=6.9km az=162.5*

*JMA **27** 22:50:36.5±0.1, 27.°82N×140.°71E, h337km, M3.7*

ISC 27 22:50:35.1±1.3, 27.°81N±0.°10×140.°9E±0.°2, h350km, n12, σ2°21/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.36	121	P	Pn	22 51 23.2	+0.7
CBIJ				eS	S	22 52 00.4	-0.1
JHHJ	Haha-jima-NKT	1.65	135	P	Pn	22 51 25.3	+1.2
JHHJ				eS	S	22 52 03.5	+0.1
JHJ2	Mitsune	5.37	350	P	Pn	22 52 00.8	+2.2
BSO1	Boso 1	6.83	1	P	Pn	22 52 17.0	+2.3
BSO1				S	S	22 53 35.2	-0.7
BSO3	Boso 3	6.98	358	P	Pn	22 52 18.7	+1.9
BSO3				S	S	22 53 38.2	-1.5
BSO4	Boso 4	7.18	356	P	Pn	22 52 21.6	+2.3
BSO4				eS	S	22 53 46.2	+2.1
JAG	Ashikaga	8.68	352	eS	S	22 54 12.1	-4.8
JHO	Hitachi	8.78	358	P	Pn	22 52 40.2	+1.8
JHO				eS	S	22 54 16.1	-3.1
KSRS	Korea Array 0.2nm,0.3s,baz=132,slow=13,SNR=4.3	14.54	315	Pn	Pn	22 53 46.0	-0.4
USRK	Ussuriysk Arra 0.2nm,0.3s,baz=131,slow=8.8,SNR=3.5	17.85	339	P	P	22 54 19.9	-0.3
WRA	Warramunga Arr 0.3nm,0.3s,baz=6.5,slow=8.8,SNR=9.0	47.89	188	P	P	22 58 35.8	-3.5
MKAR	Makanchi Array 0.1nm,0.5s,baz=92,slow=9.8,SNR=3.0	49.13	309	P	P	22 58 59.1	+11

*IDC **27** 22:51:26.0±0.5, 1.°41S×99.°51E, h0km, mb4.2/19, mb1 4.4/20, mb1mx4.3/26, mbtmp4.2/20, ML3.8/2, MS3.7/4, Ms1 3.7/4, ms1mx3.0/42, Error ellipse: s-maj=21.5km s-min=13.3km az=56.0*

*NEIC **27** 22:51:27.5±0.2, 1.°43S×99.°53E, h10km, mb4.4/4, Error ellipse: s-maj=10.9km s-min=5.8km az=59.0*

*ISCJB **27** 22:51:28.8±0.3, 1.°45S±0.°04×99.°40E±0.°04, h30km, mb4.4/25, MS3.7/4, Error ellipse: s-maj=6.5km s-min=5.2km az=37.7*

*DJA **27** 22:51:31.5±1.3, 1.°S±3.°×9.°9E±.°, h24km±13km, M4.9/8, mb4.7/6, mB4.7/1, MLv5.0/8, Mw(mB)4.0/1*

ISC 27 22:51:30.7±0.4, 1.°42S±0.°05×99.°48E±0.°06, h30km, n86, σ0°90/89, mb4.3/25, MS3.7/4, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.11	63	P	Pn	22 51 49.7	-0.5
PDSI				S	Sb	22 52 06.4	+1.0
PPI	Padang Panjang	1.33	44	P	Pn	22 51 53.1	-0.1
PPI				S	Sb	22 52 12.6	+0.9
BKNI	Bangkinang	2.33	42	P	Pb	22 52 12.6	+0.4
RGRI	Rengat	3.05	70	P	Pb	22 52 33.2	+8.9
MASI	Maura Aman, Be	3.25	122	P	Pn	22 52 21.1	+1.4
KSI	Kapahiang	3.82	126	P	Pn	22 52 28.6	+0.9
PSI	Prapat	4.23	352	Pn	Pn	22 52 31.0	-2.3
PSI	Prapat 1.3nm,0.3s,baz=212,slow=9.5,SNR=2.2	4.23	352	Pn	Pn	22 52 31.0	-2.3
MNAI	Manna	4.54	130	P	Pn	22 52 38.5	+1.0
KCSI	Kotacane, Aceh 50nm,0.7s,789nm0.3nm	5.20	341	P	Pn	22 52 48.7	+2.2
MYKOM	Kota Tinggi 47nm,0.7s	5.41	54	P	Pn	22 52 50.4	+0.9
LWLI	Liwa 231nm,0.7s,1.1nm	5.81	128	P	Pn	22 52 56.4	+1.4
IPM	Ipoh 37nm,1.1s	6.06	15	P	Pn	22 52 57.5	-0.9
KASI	Kota Agung 97nm,0.7s	6.46	129	P	Pn	22 53 04.1	+0.2
KULM	Kulim	6.77	10	P	Pn	22 53 09.7	+1.6
CMAR	Chiang Mai Arr	19.76	359	P	P	22 55 58.2	-0.2
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=186,slow=10,SNR=13	19.76	359	P	P	22 55 58.2	-0.2
KAPI	Kappang comp=Z,110nm,20.2s,baz=53,slow=38	20.55	100	LR	LR	23 04 29.4	
SHL	Shillong	27.82	345	eP	P	22 57 20.0	+2.3
WRA	Warramunga Arr	38.74	121	P	P	22 58 51.5	-1.2
WRA				PcP	PcP	23 01 04.3	+0.2
WRA	Warramunga Arr 2.0nm,0.5s,baz=304,slow=9.2,SNR=33	38.74	121	P	P	22 58 51.5	-1.2
WRA				PcP	PcP	23 01 04.3	+0.2
WRAB	Tennant Creek 3.4nm,0.6s	38.74	121	eP	P	22 58 51.2	-1.5
AS31	Alice Springs	40.02	126	eP	P	22 59 02.8	-0.5
ASAR	Alice Springs	40.02	126	P	P	22 59 03.1	-0.2
ASAR				PcP	PcP	23 01 08.4	+0.2
ASAR				S	S	23 05 04.8	-2.6
ASAR	Alice Springs 3.4nm,0.7s,baz=306,slow=7.7,SNR=26	40.02	126	P	P	22 59 03.1	-0.2
ASAR				PcP	PcP	23 01 08.4	+0.2
ASAR	1.8nm,1.0s,baz=300,slow=2.7,SNR=6.5			S	S	23 05 04.8	-2.6
KSAR	Wonju Array Be	46.77	31	P	P	22 59 56.8	-0.

RDF	**Al-Radifah**	**58.09**	**306**	*e*P	**P**	**23 01 21.9**	**+0.2**
RDF				AMb	AMB	23 01 29.9	
	comp=Z,37nm,1.1s						
UMR	**Umm Al-Rimmam**	**58.19**	**306**	*e*P	**P**	**23 01 22.2**	**-0.1**
NAY	**Al-Naaiem**	**58.46**	**306**	*e*P	**P**	**23 01 23.9**	**-0.3**
NAY				AMb	AMB	23 01 24.4	
	comp=Z,0.6nm,0.6s						
RST	**Umm Al-Ruwaisa**	**58.75**	**306**	*e*P	**P**	**23 01 25.8**	**-0.5**
RST				AMb	AMB	23 01 26.7	
	comp=Z,108nm,0.7s						
ABKAR	**Abkulak array**	**60.88**	**331**	*e*P	**P**	**23 01 39.6**	**-0.9**
	comp=Z,2.3nm,0.7s						
KMBO	**Kilima Mbogo**	**62.21**	**269**	*e*P	**P**	**23 01 51.8**	**+1.3**
	comp=Z,1.9nm,0.8s						
KMBO	**Kilima Mbogo**	**62.21**	**269**	P	**P**	**23 01 51.9**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=62,slow=13,SNR=8.7						
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**23 02 24.0**	**-0.2**
KBZ	**Khabaz**	**67.53**	**319**	P	**P**	**23 02 24.0**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=121,slow=8.5,SNR=10						
ASF	**Jabal al Asfar**	**67.83**	**306**	LR	LR	23 34 46.0	
	comp=Z,30nm,18.3s,baz=312,slow=38						
EIL	**Elat**	**68.77**	**303**	LR	LR	23 33 06.1	
	comp=Z,57nm,18.5s,baz=308,slow=36						
BRTR	**Keskin Array B**	**72.55**	**312**	P	**P**	**23 02 53.9**	**-1.5**
BRTR	**Keskin Array B**	**72.55**	**312**	P	**P**	**23 02 53.9**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=122,slow=7.0,SNR=8.5						
BOSA	**Boshof**	**75.48**	**241**	LR	LR	23 29 43.7	
	comp=Z,87nm,18.7s,baz=274,slow=30						
TIRR	**Tirgusor**	**77.58**	**316**	⇑*i*P	P	23 03 30.5	+6.5
MLR	**Muntele Rosu**	**79.52**	**317**	⇓*i*P	**P**	**23 03 35.4**	**+0.4**
MLR	**Muntele Rosu**	**79.52**	**317**	P	**P**	**23 03 34.8**	**-0.2**
MLR	**Muntele Rosu**	**79.52**	**317**	P	**P**	**23 03 34.8**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=146,slow=7.3						
BUR08	**Bucovina Ar. S**	**80.50**	**319**	*e*P	**P**	**23 03 40.8**	**+0.6**
BZS	**Buzias**	**82.53**	**316**	⇓*i*P	**P**	**23 03 51.0**	**+0.2**
VNDA	**Vanda**	**82.83**	**169**	P	**P**	**23 03 52.0**	**+0.2**
VNDA	**Vanda**	**82.83**	**169**	P	**P**	**23 03 52.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=296,slow=6.5,SNR=7.2						
FINES	**FINESS Array B**	**83.36**	**332**	P	**P**	**23 03 54.7**	**0.0**
FINES	**FINESS Array B**	**83.36**	**332**	P	**P**	**23 03 54.7**	**0.0**
	comp=Z,2.4nm,0.9s,baz=131,slow=6.4,SNR=7.2						
ARCES	**ARCESS Array B**	**85.75**	**340**	P	**P**	**23 04 07.4**	**+0.6**
ARCES	**ARCESS Array B**	**85.75**	**340**	P	**P**	**23 04 07.4**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=120,slow=5.5,SNR=4.1						
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**23 04 19.8**	**+0.3**
GERES	**GERESS Array B**	**88.27**	**319**	P	**P**	**23 04 19.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=90,slow=4.9,SNR=8.8						
DAVOX	**Davos/Dischmat**	**90.75**	**317**	P	**P**	**23 04 31.4**	**+0.1**
DAVOX	**Davos/Dischmat**	**90.75**	**317**	P	**P**	**23 04 31.4**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=347,slow=19,SNR=3.8						
KEST	**Kesra**	**90.92**	**306**	P	**P**	**23 04 33.0**	**+0.7**
KEST	**Kesra**	**90.92**	**306**	P	**P**	**23 04 33.0**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=345,slow=7.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**97.90**	**283**	P	**P**	**23 05 03.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**97.90**	**283**	P	**P**	**23 05 03.9**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=78,slow=4.9,SNR=2.7						
CPUP	**Villa Florida**	**144.47**	**217**	*e*PKPdf	PKPbc	23 11 03.8	+0.3
CPUP	**Villa Florida**	**144.47**	**217**	PKP	PKPbc	23 11 03.9	+0.4
	comp=Z,5.9nm,0.6s,baz=114,slow=1.8,SNR=28						
TXAR	**Lajitas Array**	**144.55**	**36**	PKP	**PKPdf**	**23 11 04.5**	**-0.7**
TXAR	**Lajitas Array**	**144.55**	**36**	PKP	**PKPdf**	**23 11 04.5**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=223,slow=0.6,SNR=25						
MIAR	**Mount Ida**	**144.86**	**19**	*e*PKPdf	**PKPab**	**23 11 04.4**	**-0.1**
JCT	**Junction City**	**145.80**	**30**	*e*PKPdf	**PKPab**	**23 11 08.1**	**0.0**
TKL	**Tuckaleechee C**	**145.80**	**5**	*e*PKPdf	**PKPdf**	**23 11 06.5**	**-0.5**
TKL				PKPbc	**PKPdf**	**23 11 07.0**	**-0.1**
TKL	**Tuckaleechee C**	**145.80**	**5**	PKPbc	**PKPdf**	**23 11 07.0**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=117,slow=2.3,SNR=5.7						
CPCT	**Cooper Cave**	**145.94**	**6**	*e*PKPdf	**PKPdf**	**23 11 07.3**	**0.0**
LPAZ	**La Paz**	**158.57**	**214**	PKPab	**PKPab**	**23 12 02.1**	**0.0**
LPAZ	**La Paz**	**158.57**	**214**	PKPab	**PKPab**	**23 12 02.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=222,slow=8.2,SNR=3.5						

IDC 27 23:20:34.2±2.2, 1°.82N×127°.16E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=180.0km s-min=26.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**162**	P	P	23 25 36.8	-1.4
	0.2nm,0.4s,baz=341,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**26.17**	**166**	P	P	23 26 11.8	+1.2
	0.1nm,0.3s,baz=346,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**59.36**	**326**	P	P	23 30 38.3	0.0
	0.3nm,0.5s,baz=119,slow=7.8,SNR=6.7						

*THE **27** 23:26:22.5, 35°.05N×26°.77E, h0km±3km, ML2.9/1, Error ellipse: s-maj=11.8km s-min=1.1km az=153.0*
*IDC **27** 23:26:22.9±1.6, 34°.69N×26°.85E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=67.1km s-min=25.2km az=146.0*
*ATH **27** 23:26:22.3, 34°.93N×26°.84E, h5km, MD3.1/6*
*ISK **27** 23:26:22.2, 34°.88N×26°.65E, h58km, ML3.3*
*CSEM **27** 23:26:22.3±0.5, 34°.98N×26°.79E, h2km, ML2.9/1, Error ellipse: s-maj=12.8km s-min=3.3km az=162.0*
*ISCJB **27** 23:26:23.0±1.0, 34°.94N±0°.06×26°.84E±0°.05, h15km±9km, mb3.4/3, Error ellipse: s-maj=11.0km s-min=5.2km az=159.0*

ISC 27 23:26:24.2±1.3, 35°.08N±0°.06×26°.75E±0°.03, h7km±9km, n50, σ1°.03/70, mb3.4/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.44**	**275**	P	**Pg**	**23 26 32.0**	**-0.7**
ZKR				S	**Sg**	**23 26 38.8**	**+0.3**
ZKR	**Zakros**	**0.44**	**275**	*e*PB	**Pg**	**23 26 32.1**	**-0.7**
ZKR				*e*SB	**Sb**	**23 26 40.3**	**-0.9**
ZKR	**Zakros**	**0.44**	**275**	*e*Pb	**Pg**	**23 26 32.1**	**-0.7**
ZKR				S	**Sg**	**23 26 38.8**	**+0.3**
ZKR				*e*Sb	**Sb**	**23 26 40.3**	**-0.9**
KARP	**Karpathos**	**0.57**	**35**	P	**Pg**	**23 26 33.7**	**-1.6**
KARP				S	**Sb**	**23 26 44.4**	**-0.6**
KARP	**Karpathos**	**0.57**	**35**	*e*PB	**Pg**	**23 26 35.3**	**+0.1**
KARP				*e*SB	**Sb**	**23 26 44.8**	**-0.2**
KARP	**Karpathos**	**0.57**	**35**	P	**Pg**	**23 26 33.7**	**-1.6**
KARP	**Karpathos**	**0.57**	**35**	*e*Pb	**Pg**	**23 26 35.3**	**+0.1**
KARP				S	**Sb**	**23 26 44.4**	**-0.6**
NPS	**Neapolis**	**0.95**	**281**	P	**Pg**	**23 26 41.9**	**-0.6**
NPS				S	**Sb**	**23 26 56.5**	**+0.6**
NPS	**Neapolis**	**0.95**	**281**	*e*PN	**Pg**	**23 26 42.6**	**+0.1**
NPS				*e*SB	**Sn**	**23 26 58.0**	**+0.1**
NPS	**Neapolis**	**0.95**	**281**	P	**Pg**	**23 26 41.9**	**-0.6**
NPS	**Neapolis**	**0.95**	**281**	*e*Pn	**Pg**	**23 26 42.6**	**+0.1**
NPS				S	**Sb**	**23 26 56.5**	**+0.6**
NPS				*e*Sb	**Sn**	**23 26 58.0**	**+0.1**
LAST	**Lasithi**	**1.05**	**275**	P	**Pg**	**23 26 42.9**	**-1.4**
LAST				S	**Sb**	**23 26 58.4**	**-0.3**
LAST	**Lasithi**	**1.05**	**275**	*e*PG	**Pg**	**23 26 43.7**	**-0.6**
LAST				*e*SB	**Sn**	**23 27 00.3**	**-0.1**
LAST	**Lasithi**	**1.05**	**275**	P	**Pg**	**23 26 42.9**	**-1.4**
LAST	**Lasithi**	**1.05**	**275**	*e*Pg	**Pg**	**23 26 43.7**	**-0.6**
LAST				S	**Sb**	**23 26 58.4**	**-0.3**
LAST				*e*Sb	**Sn**	**23 27 00.3**	**-0.1**
ARG	**Arkhangelos**	**1.59**	**44**	*e*PB	**Pb**	**23 26 54.1**	**+0.1**
ARG				*e*SB	**Sg**	**23 27 17.0**	**+1.6**
ARG	**Arkhangelos**	**1.59**	**44**	*e*Pb	**Pb**	**23 26 54.1**	**+0.1**
ARG				*e*Sb	**Sg**	**23 27 17.0**	**+1.6**
SIVA	**Sivas**	**1.60**	**268**	*e*PB	**Pb**	**23 26 53.8**	**-0.2**
SIVA	**Sivas**	**1.60**	**268**	*e*Pb	**Pb**	**23 26 53.8**	**-0.2**
DAT	**Datca**	**1.78**	**22**	*e*PN	**Pn**	**23 26 54.7**	**-0.8**
DAT				*e*SN	**Sn**	**23 27 18.6**	**+0.2**
DAT	**Datca**	**1.78**	**22**	*e*Pn	**Pn**	**23 26 54.7**	**-0.8**
DAT				*e*Sn	**Sn**	**23 27 18.6**	**+0.2**
BODT	**Bodrum**	**2.03**	**13**	*e*PN	**Pn**	**23 26 58.0**	**-0.9**
BODT	**Bodrum**	**2.03**	**13**	*e*Pn	**Pn**	**23 26 58.0**	**-0.9**
VAM	**Vamos**	**2.12**	**280**	*e*PN	**Pb**	**23 27 02.9**	**0.0**
VAM	**Vamos**	**2.12**	**280**	*e*Pn	**Pb**	**23 27 02.9**	**0.0**
APE	**Apeiranthos**	**2.22**	**334**	*e*PN	**Pn**	**23 27 00.3**	**-1.2**
APE				*e*SN	**Sn**	**23 27 27.6**	**-1.6**
APE	**Apeiranthos**	**2.22**	**334**	*e*PN	**Pb**	**23 27 05.1**	**+0.4**
APE	**Apeiranthos**	**2.22**	**334**	*e*Pn	**Pn**	**23 27 00.3**	**-1.2**
APE				*e*Sn	**Sn**	**23 27 27.6**	**-1.6**
DALY	**Dalyan (Mu¨la**	**2.32**	**41**	*e*PN	**Pn**	**23 27 02.1**	**-0.6**
DALY	**Dalyan (Mu¨la**	**2.32**	**41**	*e*Pn	**Pn**	**23 27 02.2**	**-0.6**
KARN	**Karanos**	**2.34**	**279**	*e*PG	**Pb**	**23 27 06.7**	**-0.1**
KARN	**Karanos**	**2.34**	**279**	*e*Pg	**Pb**	**23 27 06.7**	**-0.1**
MLSB	**Milas**	**2.36**	**20**	*e*PN	**Pn**	**23 27 02.8**	**-0.6**
MLSB	**Milas**	**2.36**	**20**	*e*Pn	**Pn**	**23 27 02.8**	**-0.6**
YER	**Yerkesik**	**2.40**	**31**	*e*PN	**Pn**	**23 27 03.5**	**-0.4**
YER	**Yerkesik**	**2.40**	**31**	*e*Pn	**Pn**	**23 27 03.5**	**-0.4**
FETY	**Fethiye**	**2.45**	**50**	*e*PN	**Pn**	**23 27 04.1**	**-0.5**
FETY	**Fethiye**	**2.45**	**50**	*e*Pn	**Pn**	**23 27 04.1**	**-0.5**
ELL	**Elmali**	**3.06**	**56**	*e*PN	**Pn**	**23 27 12.6**	**-0.4**
ELL	**Elmali**	**3.06**	**56**	*e*Pn	**Pn**	**23 27 12.6**	**-0.4**
VLI	**Veliai**	**3.50**	**299**	*e*PN	**Pn**	**23 27 22.0**	**+2.9**
VLI	**Veliai**	**3.50**	**299**	*e*Pn	**Pn**	**23 27 22.0**	**+2.9**
SUTC	**Sutluce-Ispart**	**4.18**	**54**	*e*PN	**Pn**	**23 27 28.9**	**+0.4**
SUTC	**Sutluce-Ispart**	**4.18**	**54**	*e*Pn	**Pn**	**23 27 28.9**	**+0.4**
MMAI	**Mount Meron Ar**	**7.47**	**104**	Pn	**Pn**	**23 28 11.6**	**-2.1**
	0.4nm,0.3s,baz=308,slow=14,SNR=4.2						
NVLJ	**Novalja**	**13.14**	**320**	Sg	Sn	23 32 06.9	+9.2
KBZ	**Khabaz**	**15.16**	**50**	Pn	**P**	**23 30 06.5**	**+2.7**
	0.1nm,0.3s,baz=244,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**31.45**	**232**	P	**P**	**23 32 44.9**	**-1.6**
	0.4nm,1.0s,baz=34,slow=8.5,SNR=4.4						
MKAR	**Makanchi Array**	**42.73**	**57**	P	**P**	**23 34 21.0**	**-0.9**
	0.5nm,0.7s,baz=286,slow=7.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**44.12**	**46**	P	**P**	**23 34 35.1**	**+2.0**
	0.6nm,0.4s,baz=266,slow=6.8,SNR=3.5						

IDC 27 23:27:44.8±2.9, 33°.65S×178°.91W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=69.4km s-min=44.3km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.47**	**11**	LR	LR	23 30 13.4	
	comp=Z,206nm,18.1s,baz=97,slow=33						
URZ	**Urewera**	**5.62**	**214**	Pn	Pn	23 29 08.1	-1.4
	3.0nm,0.3s,baz=1.3,slow=0.8,SNR=13						
URZ				Sn	Sn	23 30 10.0	-4.7
	2.9nm,0.3s,baz=165,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**42.27**	**271**	P	P	23 35 40.3	+0.1
	0.7nm,0.7s,baz=113,slow=7.8,SNR=7.0						
WRA	**Warramunga Arr**	**43.55**	**276**	P	P	23 35 50.5	-0.1
	0.7nm,0.4s,baz=115,slow=8.1,SNR=33						
FINES	**FINESS Array B**	**147.89**	**338**	PKPbc	PKPbc	23 47 30.4	-0.6
	3.3nm,1.0s,baz=49,slow=2.6,SNR=8.3						

*CSEM **27** 23:31:33.5, 45°.75N×26°.55E, h165km, MD3.7/4, After BUC*

BUC 27 23:31:33.5±0.8, 45°.75N×26°.55E, h165km±6km, MD3.7/4, 21C-12D, Error ellipse: s-maj=6.9km s-min=3.9km az=11.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.17**	**49**	⇑*i*P	Pn	23 31 55.3	-0.2
VRI	**Vrincioaia**	**0.17**	**49**	⇑*i*P	Pn	23 31 55.3	-0.2
VRI				*i* S	Sn	23 32 09.9	-2.5
VRI	**Vrincioaia**	**0.17**	**49**	⇑*i*P	Pn	23 31 55.3	-0.2
VRI				*i* S	Sn	23 32 09.9	-2.5
ODBI	**Odobesti**	**0.36**	**88**	⇑*i*P	Pn	23 31 55.7	-0.2
ODBI	**Odobesti**	**0.36**	**88**	⇑*i*P	Pn	23 31 55.7	-0.2
ODBI				*i* S	Sn	23 32 12.7	-0.4
ODBI	**Odobesti**	**0.36**	**88**	⇑*i*P	Pn	23 31 55.7	-0.2
ODBI				*i* S	Sn	23 32 12.7	-0.4
PETR	**Petresti**	**0.48**	**93**	S	Sn	23 32 12.6	-1.3
PETR	**Petresti**	**0.48**	**93**	*i* S	Sn	23 32 12.6	-1.3
PETR	**Petresti**	**0.48**	**93**	*i* S	Sn	23 32 12.6	-1.3
MLR	**Muntele Rosu**	**0.50**	**238**	⇑*i*P	Pn	23 31 56.5	-0.2
MLR	**Muntele Rosu**	**0.50**	**238**	⇑*i*P	Pn	23 31 56.5	-0.2
MLR				*i* S	Sn	23 32 12.6	-1.8
MLR	**Muntele Rosu**	**0.50**	**238**	⇑*i*P	Pn	23 31 56.5	-0.2
MLR				*i* S	Sn	23 32 12.6	-1.8
TESR	**Tescani**	**0.76**	**5**	⇑*i*P	Pn	23 31 57.8	-0.1
TESR	**Tescani**	**0.76**	**5**	⇑*i*P	Pn	23 31 57.8	-0.1
TESR				*i* S	Sn	23 32 14.3	-2.5
TESR	**Tescani**	**0.76**	**5**	⇑*i*P	Pn	23 31 57.8	-0.1
TESR				*i* S	Sn	23 32 14.3	-2.5
SULR		**1.09**	**191**	S	Sn	23 32 19.7	-1.4
SULR		**1.09**	**191**	*i* S	Sn	23 32 19.7	-1.4
SULR		**1.09**	**191**	*i* S	Sn	23 32 19.7	-1.4
VOIR		**1.10**	**254**	⇑*i*P	Pn	23 32 00.6	0.0
VOIR		**1.10**	**254**	⇑*i*P	Pn	23 32 00.6	0.0
VOIR				*i* S	Sn	23 32 19.3	-2.0
VOIR		**1.10**	**254**	⇑*i*P	Pn	23 32 00.6	0.0
VOIR				*i* S	Sn	23 32 19.3	-2.0
CFR	**Carcaliu**	**1.26**	**117**	⇑*i*P	Pn	23 32 01.7	-0.1
CFR	**Carcaliu**	**1.26**	**117**	⇑*i*P	Pn	23 32 01.7	-0.1
CFR				*i* S	Sn	23 32 21.2	-2.4
CFR	**Carcaliu**	**1.26**	**117**	⇑*i*P	Pn	23 32 01.7	-0.1
CFR				*i* S	Sn	23 32 21.2	-2.4
LEOM	**Leova**	**1.39**	**58**	S	Sn	23 32 23.6	-2.1
LEOM	**Leova**	**1.39**	**58**	*i* S	Sn	23 32 23.6	-2.1
LEOM	**Leova**	**1.39**	**58**	*i* S	Sn	23 32 23.6	-2.1
HARR	**Harsova**	**1.45**	**137**	⇓*i*P	Pn	23 32 03.4	-0.2
HARR	**Harsova**	**1.45**	**137**	⇓*i*P	Pn	23 32 03.4	-0.2
HARR	**Harsova**	**1.45**	**137**	⇓*i*P	Pn	23 32 03.4	-0.2
TLB	**Topalu**	**1.58**	**137**	⇓*i*P	Pn	23 32 04.8	-0.1
TLB	**Topalu**	**1.58**	**137**	⇓*i*P	Pn	23 32 04.8	-0.1
TLB				*i* S	Sn	23 32 26.9	-2.2
TLB	**Topalu**	**1.58**	**137**	⇓*i*P	Pn	23 32 04.8	-0.1
TLB				*i* S	Sn	23 32 26.9	-2.2
HUMR	**Humele**	**1.65**	**223**	⇓*i*P	Pn	23 32 05.8	+0.1
HUMR	**Humele**	**1.65**	**223**	⇓*i*P	Pn	23 32 05.8	+0.1
HUMR				*i* S	Sn	23 32 27.9	-2.7
HUMR	**Humele**	**1.65**	**223**	⇓*i*P	Pn	23 32 05.8	+0.1
HUMR				*i* S	Sn	23 32 27.9	-2.7
TLCR		**1.69**	**109**	⇑*i*P	Pn	23 32 06.6	+0.5
TLCR		**1.69**	**109**	⇑*i*P	Pn	23 32 06.6	+0.5
TLCR				*i* S	Sn	23 32 29.9	-1.4
TLCR		**1.69**	**109**	⇑*i*P	Pn	23 32 06.6	+0.5
TLCR				*i* S	Sn	23 32 29.9	-1.4
CVD	**Cernavoda**	**1.78**	**143**	S	Sn	23 32 31.0	-2.0
CVD	**Cernavoda**	**1.78**	**143**	*i* S	Sn	23 32 31.0	-2.0
CVD	**Cernavoda**	**1.78**	**143**	*i* S	Sn	23 32 31.0	-2.0
TIRR	**Tirgusor**	**1.85**	**134**	⇓*i*P	Pn	23 32 07.9	+0.1
TIRR	**Tirgusor**	**1.85**	**134**	S	Sn	23 32 31.2	-3.1
TIRR	**Tirgusor**	**1.85**	**134**	⇓*i*P	Pn	23 32 07.9	+0.1
TIRR	**Tirgusor**	**1.85**	**134**	⇓*i*P	Pn	23 32 07.9	+0.1

*ISCJB **27** 23:42:24.7±0.8, 22°.6S±0°.2×179°.8W±0°.2, h579km, mb4.0/6, Error ellipse: s-maj=33.7km s-min=12.7km az=154.0*
*IDC **27** 23:42:24.5±3.1, 22°.06S×179°.95W, h556km±34km, mb3.4/6, mb1 3.7/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=94.2km s-min=19.3km az=156.0*
*AUST **27** 23:42:29.8, 23°.62S×179°.63W, h600km*

ISC 27 23:42:25.2±1.3, 22°.7S±0°.3×179°.6W±0°.2, h579km, n25, σ1°.06/20, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**26.80**	**247**	P	**P**	**23 47 21.4**	**+1.0**
	baz=26,SNR=9.9						
EIDS	**Eidsvold**	**26.86**	**258**	P	**P**	**23 47 20.9**	**0.0**
	baz=27,SNR=4.2						
MGCD	**Mangrove Creek**	**27.82**	**241**	P	**P**	**23 47 30.2**	**+1.0**
	baz=27,SNR=11						
RMQ	**Roma**	**28.96**	**256**	P	P	23 47 40.4	+1.2
	baz=29,SNR=5.3						
CNB	**Canberra Magne**	**29.78**	**238**	P	**P**	**23 47 47.2**	**+1.0**
	baz=29,SNR=7.9						
CMSA	**Cobar Meteorol**	**32.01**	**246**	P	**P**	**23 48 05.1**	**0.0**
	baz=32,SNR=29						
TOO	**Toolangi**	**33.42**	**236**	P	**P**	**23 48 17.3**	**+0.3**
	baz=33,SNR=8.5						
MTSU	**Mount Surprise**	**34.03**	**271**	P	**P**	**23 48 22.6**	**+0.1**
	baz=34,SNR=12						
STKA	**Stephens Creek**	**35.51**	**247**	P	**P**	**23 48 34.5**	**0.0**
	8.0nm,0.5s,baz=83,slow=11,SNR=24						
STKA	**Stephens Creek**	**35.51**	**247**	P	**P**	**23 48 34.8**	**+0.2**
	baz=35,SNR=20						
MANU	**Manus Island**	**38.02**	**298**	S	S	23 54 20.7	+13
	baz=38,SNR=5.8						
BBOO	**Buckleboo**	**40.25**	**246**	P	**P**	**23 49 12.2**	**-0.7**
	baz=40,SNR=24						
ASAR	**Alice Springs**	**42.58**	**259**	P	**P**	**23 49 31.1**	**-0.4**
	8.2nm,0.7s,baz=97,slow=6.8,SNR=85						
WRA	**Warramunga Arr**	**42.84**	**265**	P	**P**	**23 49 32.5**	**-1.0**
	4.0nm,0.2s,baz=100,slow=8.2,SNR=211						
WRA				ScP	**ScP**	**23 54 10.3**	**+2.6**
	1.0nm,0.8s,baz=98,slow=4.0,SNR=6.1						
KDU	**Kakadu**	**46.53**	**274**	P	**P**	**23 50 01.1**	**-0.7**
	baz=47,SNR=12						
FORT	**Forrest**	**47.07**	**248**	P	**P**	**23 50 05.0**	**-0.8**
	baz=47,SNR=7.1						
KNRA	**Kununurra**	**49.04**	**269**	P	**P**	**23 50 20.0**	**-0.5**
	baz=49,SNR=12						
BNDI	**Bandanaira**	**51.96**	**283**	P	P	23 50 57.2	+15
	baz=52,SNR=6.5						
PALU	**Palau**	**53.91**	**298**	P	P	23 51 08.0	+12
	baz=54,SNR=4.3						
PALU				S	S	23 57 34.1	-14
	baz=54,SNR=3.3						
LUWI	**Luwuk**	**59.88**	**283**	S	**S**	**23 59 05.9**	**+1.2**
	baz=60,SNR=4.3						
NVAR	**Mina Array Bea**	**83.62**	**44**	P	P	23 53 54.9	+1.1
	0.3nm,0.4s,baz=224,slow=7.6,SNR=5.3						
TXAR	**Lajitas Array**	**89.49**	**58**	P	P	23 54 22.4	+0.8
	0.7nm,0.9s,baz=205,slow=4.0,SNR=8.7						
PDAR	**Pinedale Array**	**91.56**	**44**	P	**P**	**23 54 31.5**	**+0.3**
	0.5nm,0.8s,baz=224,slow=5.0,SNR=3.5						
FINES	**FINESS Array B**	**137.37**	**342**	PKP	**PKPdf**	**00 00 43.6**	**+0.6**
	2.0nm,0.9s,baz=96,slow=1.4,SNR=5.5						
BRTR	**Keskin Array B**	**147.08**	**309**	PKPbc	**PKPbc**	**00 01 02.1**	**-2.0**
	0.5nm,0.7s,baz=347,slow=4.4,SNR=2.8						

WEL 28 00:49:55.8±0.2, 45°.50S×166°.79E, h18km±1km, ML4.0/19, 1D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.26**	**85**	⇓P*	Pg	00 50 01.5	-0.1
DCZ				S*	Sg	00 50 05.6	0.0
DCZ				AML	AML	00 50 05.7	
DCZ				AML	AML	00 50 06.1	
DCZ				AML	AML	00 50 06.1	
WHZ	**Wether Hill Ro**	**0.90**	**116**	P*	Pb	00 50 12.3	-0.7
WHZ				S*	Sb	00 50 24.6	-0.1
WHZ				AML	AML	00 50 28.4	
MLZ	**Mavora Lakes**	**0.99**	**82**	P*	Pb	00 50 12.6	-1.8
MLZ				S*	Sb	00 50 25.2	-2.0
MLZ				AML	AML	00 50 26.0	
MSZ	**Milford Sound**	**1.15**	**45**	PN	Pg	00 50 17.7	-0.4
MSZ				AML	AML	00 50 34.2	
MSZ				AML	AML	00 50 34.2	
MSZ				AML	AML	00 50 36.3	
MSZ				AML	AML	00 50 36.3	
APZ	**The Paps**	**1.57**	**148**	PN	Pb	00 50 23.8	-0.7
WKZ	**Wanaka**	**1.71**	**68**	PN	Pn	00 50 24.8	0.0
WKZ				AML	AML	00 50 52.9	
WKZ				AML	AML	00 50 52.9	
WKZ				AML	AML	00 50 56.5	
WKZ				AML	AML	00 50 56.5	
EAZ	**Earnscleugh**	**1.79**	**82**	PN	Pn	00 50 26.2	+0.3
EAZ				AML	AML	00 50 54.0	
EAZ				AML	AML	00 50 54.0	
EAZ				AML	AML	00 50 54.4	
EAZ				AML	AML	00 50 54.4	
SYZ	**Scrubby Hill**	**1.94**	**123**	PN	Pn	00 50 29.0	+1.1
JCZ	**Jackson Bay**	**2.00**	**45**	PN	Pn	00 50 29.7	+0.9
JCZ				AML	AML	00 51 00.3	
JCZ				AML	AML	00 51 01.8	
TUZ	**Tuapeka**	**2.04**	**104**	PN	Pn	00 50

couple: $M_0$2.40000×10^{19} NP1:ϕ_s258.00000°, δ36.00000°, λ-138.00000°. NP2:ϕ_s132.00000°, δ67.00000°, λ-62.00000°. Principal axes: T 2.4400, Plg17.0000°, Azm201.0000°; N -0.0800, Plg25.0000°, Azm300.0000°; P -2.3600, Plg58.0000°, Azm81.0000°;

NEIC *Felt [III] at Karangkates, Kupang, Makassar and Namlea and [II] on Bali, Indonesia. Also felt at Mataram. Felt at Dili, Timor-Leste.*

GCMT ***28*** *01:51:25.9±0.1, 7°.09S×123°.46E, h634km, MW6.9, Moment Tensor Solution. s121,c324; s99,c271; Moment tensor: Scale 10^{19}Nm; M_{rr}-1.70±.01; $M_{\theta\theta}$1.96±.02; $M_{\phi\phi}$-0.26±.02; $M_{r\theta}$-0.90±.01; $M_{\theta\phi}$-0.90±.01; $M_{\phi r}$1.58±.01; Best double couple: $M_0$2.70000×10^{19} NP1:ϕ_s136.00000°, δ68.00000°, λ-63.00000°. NP2: ϕ_s263.00000°, δ34.00000°, λ-138.00000°. Principal axes: T 2.7500, Plg19.0000°, Azm207.0000°; N -0.0200, Plg25.0000°, Azm305.0000°; P -2.7300, Plg58.0000°, Azm83.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 120 sta.*

BGS ***28*** *01:51:25.5±1.2, 3°.76S×123°.72E, h642km, mb6.3(NEIC)*

NEIC ***28*** *01:51:32.9±0.0, 7°.43S×123°.61E, h618km, Moment Tensor Solution. s147 Moment tensor: Scale 10^{19}Nm; M_{rr}-1.50; $M_{\theta\theta}$1.77; $M_{\phi\phi}$-0.27; $M_{r\theta}$-0.70; $M_{\theta\phi}$-0.62; $M_{\phi r}$1.44; Best double couple: $M_0$2.40000×10^{19} NP1:ϕ_s260.00000°, δ36.00000°, λ-138.00000°. NP2:ϕ_s135.00000°, δ68.00000°, λ-60.00000°. Principal axes: T 2.2900, Plg17.0000°, Azm203.0000°; N 0.1800, Plg26.0000°, Azm302.0000°; P -2.4600, Plg57.0000°, Azm83.0000°;*

ISC 28 01:51:19.9±0.2, 7°.20S±0°.02×123°.46E±0°.02, h640km±1km, h641km:pP-P, n2221, σ1§39/2780, mb6.3/203, 357C-549D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.87**	**220**	P	**P**	**01 52 36.1**	**-1.3**
BBSI	**Bau Bau**	**1.92**	**332**	P	**P**	**01 52 38.6**	**+0.9**
SOEI	**Soe**	**2.66**	**163**	P	**P**	**01 52 40.7**	**-0.1**
SOEI				S	**S**	**01 53 45.1**	**-1.7**
SOEI	**Soe**	**2.66**	**163**	P	**P**	**01 52 40.5**	**-0.4**
	baz=2.6,SNR=1000						
SOEI				S	**S**	**01 53 46.5**	**-0.2**
	baz=2.6,SNR=12						
BATI	**Baumata**	**2.99**	**176**	P	**P**	**01 52 42.5**	**+0.1**
BATI				S	**S**	**01 53 47.6**	**-2.0**
BATI	**Baumata**	**2.99**	**176**	P	**P**	**01 52 42.7**	**+0.3**
BATI	**Baumata**	**2.99**	**176**	P	**P**	**01 52 42.5**	**+0.1**
	16μm,0.3s,baz=311,slow=1.0,SNR=3165						
BATI				S	**S**	**01 53 47.6**	**-2.0**
	12μm,0.3s,baz=139,slow=19,SNR=13						
KKSI	**Kolaka, Sulawe**	**3.51**	**329**	P	**P**	**01 52 46.0**	**+0.7**
LBFI	**Labuhan Bajo,**	**3.76**	**250**	P	**P**	**01 52 44.7**	**-2.1**
BKSI	**Bulukumba**	**3.81**	**299**	P	**P**	**01 52 47.8**	**+0.7**
WSI	**Waingapu**	**3.98**	**232**	P	**ScS**	**02 04 47.9**	**+4.2**
	8μm,1.8s,136μm						
WSI	**Waingapu**	**3.98**	**232**	P	**P**	**01 52 46.7**	**-1.4**
WSI	**Waingapu**	**3.98**	**232**	P	**P**	**01 52 46.7**	**-1.4**
	baz=4.0,SNR=123						
KAPI	**Kappang**	**4.28**	**300**	P	**P**	**01 52 50.2**	**0.0**
	529μm,0.6s						
KAPI	**Kappang**	**4.28**	**300**	P	**P**	**01 52 50.9**	**+0.6**
	SNR=5994						
KAPI	**Kappang**	**4.28**	**300**	*e*P	**P**	**01 52 50.8**	**+0.6**
KAPI				*e*S	**S**	**01 54 06.4**	**+2.5**
KAPI	**Kappang**	**4.28**	**300**	P	**P**	**01 52 50.6**	**+0.3**
KAPI	**Kappang**	**4.28**	**300**	P	**P**	**01 52 50.5**	**+0.3**
	baz=134,slow=16						
WBSI	**Waikabubak, Su**	**4.70**	**239**	P	**ScS**	**02 04 42.1**	**-2.3**
	1μm,1.1s,27μm						
WBSI	**Waikabubak, Su**	**4.70**	**239**	P	**P**	**01 52 51.1**	**-2.1**
WBSI				S	**S**	**01 54 06.0**	**-3.3**
SPSI	**Sidrap Palu**	**4.88**	**311**	P	**P**	**01 52 54.8**	**+0.3**
SKSI	**Soroako, Sulaw**	**5.10**	**335**	P	**P**	**01 52 57.6**	**+1.3**
	43μm,0.8s,294μm129nm						
NLAI	**Namlea**	**5.35**	**43**	P	**P**	**01 52 56.8**	**-1.3**
	88μm,1.1s,388nm						
NLAI				S	**S**	**01 54 16.7**	**-1.4**
	88μm,1.1s,388nm						
TTSI	**Tana Toraja**	**5.50**	**319**	P	**P**	**01 52 59.3**	**+0.1**
	35μm,0.9s,382μm344μm122nm						
LUWI	**Luwuk**	**6.16**	**354**	P	**P**	**01 53 04.7**	**+0.1**
	56μm,1.0s,506μm680μm191nm						
LUWI	**Luwuk**	**6.16**	**354**	P	**P**	**01 53 05.3**	**+0.7**
	baz=6.2,SNR=1000						
LUWI				S	**S**	**01 54 32.8**	**+2.8**
	baz=6.2,SNR=4.8						
MMSI	**Mamuju**	**6.38**	**314**	P	**P**	**01 53 07.1**	**+0.7**
	41μm,1.1s,462μm499μm156nm						
MSAI	**Masohi**	**6.66**	**55**	P	**P**	**01 53 06.3**	**-2.5**
	8μm,0.8s,77μm30nm						
BNDI	**Bandanaira**	**6.94**	**68**	P	**P**	**01 53 09.4**	**-1.8**
	77μm,0.8s,879μm919μm286nm						
BNDI	**Bandanaira**	**6.94**	**68**	P	**P**	**01 53 10.5**	**-0.8**
	baz=7.0,SNR=695						
BNDI				S	**S**	**01 54 45.5**	**+3.2**
	baz=7.0,SNR=8.2						
MTNI	**Mataram**	**7.36**	**258**	P	**P**	**01 53 13.6**	**-1.3**
	66μm,0.8s,459μm354μm197nm						
LBMI	**Labuha**	**7.67**	**32**	P	**P**	**01 53 17.3**	**-0.4**
	85μm,0.9s,777μm660μm281nm						
KMSI	**Cibinong**	**7.74**	**4**	P	**P**	**01 53 18.6**	**+0.2**
	271μm,1.3s,635μm904nm						
MRSI	**Marisa**	**7.78**	**349**	P	**P**	**01 53 18.0**	**-0.7**
	62μm,1.2s,620μm392μm247nm						
GTOI	**Gorontalo**	**7.80**	**357**	P	**P**	**01 53 19.2**	**+0.3**
	62μm,0.9s,573μm860μm211nm						
SAUI	**Saumlaki**	**7.81**	**96**	P	**P**	**01 53 17.7**	**-1.3**
	36μm,0.9s,397μm283μm196nm						
SRBI	**Singaraja**	**8.22**	**263**	P	**P**	**01 53 21.2**	**-1.5**
	14μm,0.9s,151μm334μm84nm						
DNP	**Denpasar**	**8.30**	**259**	P	**ScS**	**02 04 46.8**	**-1.9**
	6μm,2.1s,136μm						
DNP	**Denpasar**	**8.30**	**259**	P	**P**	**01 53 21.7**	**-1.8**
	40μm,0.9s,463μm523μm391nm						
IGBI	**Denpasar**	**8.39**	**258**	P	**ScS**	**02 04 43.5**	**-5.3**
	3μm,2.1s,78μm						
IGBI	**Denpasar**	**8.39**	**258**	P	**P**	**01 53 22.0**	**-2.3**
	86μm,0.7s,902μm652μm341nm						
TOLI	**Toli-Toli**	**8.69**	**342**	P	**P**	**01 53 26.5**	**-0.6**
	41μm,0.6s,352μm398μm129nm						
BKB	**Balikpapan**	**8.81**	**312**	P	**P**	**01 53 30.7**	**+2.4**
	15μm,1.2s,170μm301μm52nm						
TNTI	**Ternate**	**8.83**	**26**	P	**P**	**01 53 27.1**	**-1.3**
	55μm,1.1s,721μm837μm						
SGKI	**Sangatta, Kali**	**8.83**	**318**	P	P	01 53 37.6	+9.1
NBBI	**Negara**	**8.84**	**262**	P	**ScS**	**02 04 46.8**	**-2.7**
	2μm,1.7s,40μm						
BYJI	**Banyuwangi**	**9.08**	**263**	P	**P**	**01 53 30.2**	**-0.6**
	29μm,1.3s,268μm282μm						
SMKI	**Samarinda**	**9.16**	**317**	P	**P**	**01 53 33.8**	**+2.2**
	10μm,1.2s,127μm						
TLE	**Tual**	**9.35**	**81**	P	**P**	**01 53 31.4**	**-1.9**
	14μm,0.9s,170μm433μm						
TLE	**Tual**	**9.35**	**81**	P	**P**	**01 53 31.9**	**-1.4**
	baz=9.3,SNR=316						
TLE				S	S	01 55 15.8	-7.0
	baz=9.3,SNR=6.7						
BBKI	**Banjar Baru**	**9.35**	**293**	P	**P**	**01 53 34.4**	**+1.0**
	51μm,1.3s,511μm399μm						
MTN	**Manton Dam**	**9.41**	**127**	P	**P**	**01 53 33.7**	**-0.1**
	baz=9.4,SNR=582						
MTN				S	**S**	**01 55 25.3**	**+1.6**
	baz=9.4,SNR=6.1						
KMMI	**Kalianget**	**9.42**	**270**	P	**P**	**01 53 34.3**	**+0.3**
	11μm,1.1s,110μm505μm						
FAKI	**Fak Fak**	**9.73**	**65**	P	**P**	**01 53 35.4**	**-1.6**
	33μm,0.8s,319μm492μm						
FAKI	**Fak Fak**	**9.73**	**65**	P	**P**	**01 53 34.7**	**-2.3**
	baz=9.8,SNR=409						
FAKI				S	**S**	**01 55 26.9**	**-2.5**
	baz=9.8,SNR=18						
BLJI	**Banyuglugur**	**9.80**	**266**	P	**P**	**01 53 35.9**	**-1.7**
	11μm,0.6s,119μm172μm						
KNRA	**Kununurra**	**9.89**	**149**	P	**P**	**01 53 38.6**	**+0.1**
	baz=9.9,SNR=1000						
KNRA				S	**S**	**01 55 31.4**	**-0.7**
	baz=9.9,SNR=12						
GAMI	**Galela, Maluku**	**9.96**	**26**	P	**P**	**01 53 41.0**	**+1.7**
GMJI	**Gumukmas**	**9.98**	**263**	P	**ScS**	**02 04 49.5**	**-2.0**
	1μm,1.1s						
GMJI	**Gumukmas**	**9.98**	**263**	P	**P**	**01 53 36.8**	**-2.6**
	4μm,0.9s,54μm123μm						
SWI	**Sorong**	**10.01**	**51**	P	**P**	**01 53 38.3**	**-1.3**
	62μm,0.9s,443μm744μm						
SWI	**Sorong**	**10.01**	**51**	P	**P**	**01 53 38.8**	**-0.9**
	baz=10.0,SNR=602						
SWI				S	**S**	**01 55 32.0**	**-2.2**
	baz=10.0,SNR=15						
KDU	**Kakadu**	**10.41**	**122**	P	**P**	**01 53 42.8**	**-0.7**
	baz=10,SNR=1000						
MTKI	**Muara Teweh, K**	**10.56**	**306**	P	**P**	**01 53 44.9**	**-0.2**
	10μm,1.3s,136μm						
KMPI	**Kaimana, Papua**	**10.79**	**72**	P	**P**	**01 53 46.5**	**-0.7**
	32μm,0.9s,296μm248μm						
KRKI	**Karangkates**	**10.95**	**264**	P	**ScS**	**02 04 52.4**	**-0.9**
	2μm,1.4s						
KRKI	**Karangkates**	**10.95**	**264**	P	**P**	**01 53 46.8**	**-2.0**
	16μm,0.5s,21μm						
FITZ	**Fitzroy Crossi**	**11.04**	**169**	P	**P**	**01 53 49.3**	**-0.3**
FITZ				S	**S**	**01 55 50.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.04**	**169**	P	**P**	**01 53 49.3**	**-0.3**
FITZ				S	**S**	**01 55 50.9**	**-1.2**
PWJI	**Pagerwojo**	**11.58**	**265**	P	**P**	**01 53 52.0**	**-2.8**
	5μm,1.1s,44μm						
SJI	**Sawahan**	**11.61**	**267**	P	**ScS**	**02 04 54.7**	**-0.2**
	1μm,1.8s						
SJI	**Sawahan**	**11.61**	**267**	P	**P**	**01 53 52.5**	**-2.6**
	5μm,0.7s,82μm						
RKPI	**Ransiki, Papua**	**12.09**	**63**	P	**P**	**01 53 59.1**	**-0.4**
	21μm,0.9s,184μm207μm						
PCJI	**Pacitan**	**12.21**	**265**	P	**P**	**01 53 58.2**	**-2.5**
	7μm,0.7s,81μm						
WOJI	**Wonogiri, Jawa**	**12.45**	**266**	P	**P**	**01 54 00.7**	**-2.1**
	6μm,0.9s,59μm72μm						
PBKI	**Pangkalan Bun**	**12.56**	**290**	P	**P**	**01 54 05.2**	**+1.2**
	45μm,1.0s,368μm126μm						
TSM	**Tawau**	**12.71**	**334**	P	**P**	**01 54 06.1**	**+0.8**
TSM	**Tawau**	**12.71**	**334**	P	**ScP**	**02 01 20.8**	**+0.5**
UGM	**Wanagama**	**12.85**	**266**	*e*P	**P**	**01 54 05.4**	**-1.2**
UGM	**Wanagama**	**12.85**	**266**	P	**ScS**	**02 04 56.1**	**-1.5**
	2μm,1.5s						
UGM	**Wanagama**	**12.85**	**266**	P	**P**	**01 54 05.1**	**-1.5**
	5μm,0.9s,93μm67μm						
UGM	**Wanagama**	**12.85**	**266**	P	**P**	**01 54 05.1**	**-1.5**
	baz=13,SNR=687						
UGM				S	**S**	**01 56 23.1**	**+0.1**
	baz=13,SNR=12						
YOGI	**Yogyakarta**	**13.07**	**266**	P	**ScS**	**02 04 58.5**	**+0.5**
	3μm,1.5s						
YOGI	**Yogyakarta**	**13.07**	**266**	P	**P**	**01 54 07.5**	**-1.2**
	13μm,0.8s,174μm						
MYLDM	**Lahad Datu**	**13.26**	**338**	P	**P**	**01 54 13.0**	**+2.5**
MYLDM	**Lahad Datu**	**13.26**	**338**	P	**ScP**	**02 01 23.2**	**+2.1**
MYLDM	**Lahad Datu**	**13.26**	**338**	P	**P**	**01 54 12.3**	**+1.8**
	9μm,1.0s,174μm386μm						
BJII	**Banjamegara**	**13.64**	**269**	P	**ScS**	**02 05 04.5**	**+4.9**
	986nm,1.5s						
BJII	**Banjamegara**	**13.64**	**269**	P	**P**	**01 54 13.7**	**-0.4**
	9μm,1.5s,88μm155μm						
SRPI	**Serui, Papua**	**13.79**	**68**	P	**P**	**01 54 15.9**	**+0.4**
	25μm,0.8s,217μm91μm						
BAKI	**Biak**	**13.95**	**65**	P	**P**	**01 54 17.5**	**+0.6**
	10μm,1.2s,117μm						
STKI	**Sintang**	**13.96**	**301**	P	**P**	**01 54 18.5**	**+1.4**
	7μm,1.0s,85μm48μm						
SDKM	**Sandakan**	**14.21**	**334**	P	**ScP**	**02 01 22.9**	**+0.1**
KCP	**Kidapawan**	**14.21**	**7**	‖*e*P	**P**	**01 54 19.7**	**+0.3**
TGJI	**Tegal**	**14.24**	**270**	P	**P**	**01 54 19.2**	**-0.4**
	5μm,1.1s,52μm						
MATI	**Mati**	**14.33**	**11**	*e*P	**P**	**01 54 20.5**	**+0.1**
CLJI	**Cilicap**	**14.33**	**267**	P	**P**	**01 54 18.0**	**-2.5**
	5μm,0.8s,54μm						
DAV	**Davao City (W)**	**14.33**	**9**	P	**P**	**01 54 21.1**	**+0.7**
	SNR=730						
DAV	**Davao City (W)**	**14.33**	**9**	⇑*i*P	**P**	**01 54 20.8**	**+0.4**
DAV	**Davao City (W)**	**14.33**	**9**	*e*P	**P**	**01 54 20.9**	**+0.4**
DAV				*e*S	**S**	**01 56 49.6**	**+1.9**
DAV	**Davao City (W)**	**14.33**	**9**	P	**P**	**01 54 20.6**	**+0.1**
	33μm,1.2s,345μm280μm						
MBWA	**Marble Bar**	**14.34**	**194**	P	**P**	**01 54 21.0**	**+0.6**
	SNR=1123						
MBWA	**Marble Bar**	**14.34**	**194**	*e*P	**P**	**01 54 20.9**	**+0.5**
	12μm,0.6s						
MBWA				*e*S	**S**	**01 56 48.0**	**+0.4**
MBWA				*e*ScP	**ScP**	**02 01 22.0**	**-0.8**
BTM	**Bintulu**	**14.63**	**315**	P	**P**	**01 54 26.1**	**+2.9**
BTM	**Bintulu**	**14.63**	**315**	P	**ScP**	**02 01 24.6**	**+1.1**
SBUM	**Sibu**	**14.76**	**310**	P	**P**	**01 54 26.8**	**+2.5**
SBUM	**Sibu**	**14.76**	**310**	P	**ScP**	**02 01 25.3**	**+1.6**
SBUM	**Sibu**	**14.76**	**310**	P	**P**	**01 54 26.3**	**+2.0**
	7μm,1.4s,77μm						
IPIL	**Ipil**	**14.92**	**357**	*e*P	**P**	**01 54 27.7**	**+1.9**
PAGZ	**Pagadian**	**14.95**	**360**	*e*P	**P**	**01 54 28.5**	**+2.4**
KKM	**Kota Kinabalu**	**15.01**	**331**	*e*P	**P**	**01 54 27.5**	**+0.7**
	2μm,0.8s						
KKM				*e*S	**S**	**01 56 58.6**	**-0.4**
KKM				*e*PcP	**PcP**	**01 58 49.7**	**+0.3**
KKM				*e*ScP	**ScP**	**02 01 23.8**	**-0.5**
KKM	**Kota Kinabalu**	**15.01**	**331**	P	**P**	**01 54 27.8**	**+1.0**
KKM	**Kota Kinabalu**	**15.01**	**331**	P	**P**	**01 54 27.8**	**+1.0**
KKM	**Kota Kinabalu**	**15.01**	**331**	P	**ScP**	**02 01 25.0**	**+0.7**
KKM	**Kota Kinabalu**	**15.01**	**331**	P	**P**	**01 54 27.1**	**+0.3**
	4μm,1.1s,51μm124μm						
KKM	**Kota Kinabalu**	**15.01**	**331**	P	**P**	**01 54 27.5**	**+0.7**
	baz=15,SNR=223						
KDM	**Kudat**	**15.51**	**335**	P	**P**	**01 54 32.7**	**+1.5**
KDM	**Kudat**	**15.51**	**335**	P	**ScP**	**02 01 26.4**	**+1.3**
CISI	**Cisompet, Garu**	**15.52**	**268**	P	**ScS**	**02 05 03.2**	**-1.3**
CISI	**Cisompet, Garu**	**15.52**	**268**	P	**P**	**01 54 30.7**	**-0.7**
	23μm,1.6s,254μm103μm						
CISI	**Cisompet, Garu**	**15.52**	**268**	P	**P**	**01 54 31.3**	**-0.1**
	baz=16,SNR=92						
CISI				S	**S**	**01 57 00.6**	**-6.7**
	baz=16,SNR=12						
KSM	**Kuching**	**15.70**	**303**	*e*P	**P**	**01 54 34.9**	**+1.9**
	3μm,0.7s						
KSM				*e*S	**S**	**01 57 11.9**	**+1.8**
KSM				*e*ScP	**ScP**	**02 01 25.6**	**+0.1**
KSM	**Kuching**	**15.70**	**303**	P	**P**	**01 54 35.3**	**+2.3**
KSM	**Kuching**	**15.70**	**303**	P	**ScP**	**02 01 26.4**	**+0.9**
KSM	**Kuching**	**15.70**	**303**	P	**P**	**01 54 34.6**	**+1.6**
	4μm,0.8s,42μm44μm						
KSM	**Kuching**	**15.70**	**303**	P	**P**	**01 54 35.1**	**+2.1**
	baz=16,SNR=494						
KSM				S	S	01 57 17.8	+7.6
	baz=16,SNR=5.1						
LEM	**Lembang**	**15.73**	**270**	P	**P**	**01 54 34.0**	**+0.6**
	9μm,0.8s,107μm126μm						
LEM	**Lembang**	**15.73**	**270**	P	**P**	**01 54 34.4**	**+1.0**
	baz=16,SNR=72						
TPI	**Tanungpandan**	**16.35**	**285**	P	**P**	**01 54 40.7**	**+1.8**
	3μm,1.2s,25μm95μm						
SNPH	**Sibulan**	**16.44**	**359**	*i* P	S	01 57 02.6	-20
WRA	**Warramunga Arr**	**16.48**	**141**	P	**P**	**01 54 40.1**	**+0.1**
WRA				S	**S**	**01 57 21.5**	**-1.3**
WRA				PKiKP	**PKiKP**	**02 06 43.5**	**-1.1**
WRA				*e*		02 29 19.4	
WRA	**Warramunga Arr**	**16.48**	**141**	P	**P**	**01 54 40.1**	**+0.1**
	120nm,0.3s,baz=320,slow=10,SNR=921						
WRA				S	**S**	**01 57 21.5**	**-1.3**
	64nm,0.3s,baz=313,slow=17,SNR=12						
WRA				PKiKP	**PKiKP**	**02 06 43.5**	**-1.1**
	3.9nm,0.3s,baz=308,slow=1.2,SNR=12						
WRA				P3KPbc		02 29 19.4	
	0.4nm,0.3s,baz=147,slow=4.5,SNR=8.7						
WRAB	**Tennant Creek**	**16.48**	**141**	P	**P**	**01 54 40.0**	**-0.1**
	24μm,0.8s						
WRAB	**Tennant Creek**	**16.48**	**141**	*e*P	**P**	**01 54 40.6**	**+0.5**
WRAB				*e*S	**S**	**01 57 20.5**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,3μm,0.8s						
WRAB	**Tennant Creek**	**16.48**	**141**	*e*P	**P**	**01 54 40.6**	**+0.5**
	comp=Z,3μm,0.8s						
WRAB				*e*S	**S**	**01 57 20.5**	**-2.2**
DBJI	**Dramaga**	**16.60**	**271**	P	**P**	**01 54 40.9**	**-0.3**
	comp=Z,6μm,1.1s,comp=Z,60μmcomp=Z,62μm						
TNG	**Tangerang**	**16.73**	**273**	P	**P**	**01 54 42.5**	**+0.1**
	comp=Z,8μm,1.5s,comp=Z,105μm						
SKJI	**Sukabumi**	**16.78**	**270**	P	**P**	**01 54 41.0**	**-1.8**
	comp=Z,15μm,0.7s,comp=Z,138μmcomp=Z,65μm						
TBP	**Tagbilaran**	**16.79**	**1**	*e*P	**P**	**01 54 45.0**	**+2.2**
MMPI	**Merauke**	**16.81**	**95**	P	**P**	**01 54 43.3**	**+0.2**
	comp=Z,10μm,0.8s,comp=Z,140μmcomp=Z,153μm						
MMPI	**Merauke**	**16.81**	**95**	P	**P**	**01 54 44.4**	**+1.3**
	baz=17,SNR=3.3						
MMPI				S	**S**	**01 57 26.8**	**-1.4**
	baz=17,SNR=10						
MSLP	**Maasin**	**17.28**	**5**	*e*P	**P**	**01 54 48.3**	**+1.0**
LLP	**Lapu-Lapu**	**17.41**	**2**	‖*e*P	**P**	**01 54 48.6**	**+0.1**
LLP				*e*S	**S**	**01 57 37.8**	**-0.1**
PPR	**Puerto Princes**	**17.51**	**344**	*e*P	**S**	**01 57 40.8**	**+1.4**
GUIM	**Jordan**	**17.73**	**357**	*e*P	**P**	**01 54 51.0**	**-0.5**
JAY	**Jayapura**	**17.80**	**76**	P	**P**	**01 54 51.4**	**-0.8**
	comp=Z,2μm,0.8s,comp=Z,22μm						
XMI	**Christmas Isla**	**17.85**	**258**	P	**P**	**01 54 52.9**	**+0.3**
	baz=18,SNR=154						
XMI				S	**S**	**01 57 51.3**	**+6.3**
	baz=18,SNR=9.5						
XMIS	**Christmas Isla**	**17.89**	**258**	*e*P	**P**	**01 54 52.7**	**-0.3**
	comp=Z,17μm,0.9s						
XMIS				*e*S	**S**	**01 57 45.1**	**-0.6**
XMIS				*e*ScP	**ScP**	**02 01 30.6**	**+0.5**
XMIS	**Christmas Isla**	**17.89**	**258**	P	**P**	**01 54 52.9**	**-0.1**
	baz=18,SNR=72						
XMIS				S	**S**	**01 57 47.9**	**+2.2**
	baz=18,SNR=9.5						
PPBI	**Pangkal Pinang**	**17.97**	**285**	P	**P**	**01 54 55.6**	**+1.9**
	comp=Z,2μm,0.9s,comp=Z,19μm						
PALU	**Palau**	**18.15**	**37**	P	**P**	**01 54 55.1**	**-0.2**
	baz=18,SNR=21						
OCLP	**Ormoc**	**18.17**	**4**	*e*P	**P**	**01 54 56.3**	**+0.8**
BLSI	**Bandar Lampung**	**18.20**	**275**	P	**P**	**01 54 57.1**	**+1.4**
	comp=Z,2μm,0.9s,comp=Z,13μmcomp=Z,34μm						
KLI	**Kotabumi**	**18.64**	**276**	P	**P**	**01 55 01.4**	**+1.6**
	comp=Z,1μm,0.9s,comp=Z,13μm						
RCP	**Roxas**	**18.65**	**358**	⇑*e*P	**P**	**01 54 58.4**	**-1.4**
KASI	**Kota Agung**	**18.92**	**274**	P	**P**	**01 55 00.4**	**-1.9**
	comp=Z,3μm,1.1s,comp=Z,21μmcomp=Z,46μm						
PMBI	**Palembang**	**19.09**	**282**	P	**P**	**01 55 07.0**	**+3.2**
	comp=Z,4μm,1.1s,comp=Z,36μm						
PMBI	**Palembang**	**19.09**	**282**	P	P	01 55 09.8	+6.0
	baz=19,SNR=5.0						
PMBI				S	**S**	**01 58 07.6**	**+2.8**
	baz=19,SNR=5.3						
AS31	**Alice Springs**	**19.20**	**150**	*e*P	**P**	**01 55 05.5**	**+0.8**
AS31				*e*S	**S**	**01 58 05.2**	**-1.0**
AS31				*e*ScP	**ScP**	**02 01 32.4**	**-0.5**
ASAR	**Alice Springs**	**19.20**	**150**	P	**P**	**01 55 05.5**	**+0.8**
ASAR				S	**S**	**01 58 04.5**	**-1.7**
ASAR				PcP	**PcP**	**01 58 56.3**	**+0.2**
ASAR				ScP	**ScP**	**02 01 31.9**	**-1.0**
ASAR				ScS	**ScS**	**02 05 11.2**	**-4.3**
ASAR				PKiKP	**PKiKP**	**02 06 44.6**	**-1.0**
ASAR				*e*		02 29 06.4	
ASAR	**Alice Springs**	**19.20**	**150**	P	**P**	**01 55 05.5**	**+0.8**
	comp=Z,153nm,0.3s,baz=329,slow=8.4,SNR=3880						
ASAR				S	**S**	**01 58 04.5**	**-1.7**
	comp=Z,99nm,0.3s,baz=327,slow=17,SNR=17						
ASAR				PcP	**PcP**	**01 58 56.3**	**+0.2**
	comp=Z,74nm,0.3s,baz=344,slow=1.2,SNR=6.5						
ASAR				ScP	**ScP**	**02 01 31.9**	**-1.0**
	comp=Z,13nm,0.3s,baz=349,slow=2.3,SNR=7.3						
ASAR				ScS	**ScS**	**02 05 11.2**	**-4.3**
	baz=325,slow=4.5,SNR=4.7						
ASAR				PKiKP	**PKiKP**	**02 06 44.6**	**-1.0**
	comp=Z,3.8nm,0.3s,baz=305,slow=0.7,SNR=6.2						
ASAR				P3KPbc		02 29 06.4	
	comp=Z,1.0nm,0.3s,baz=144,slow=4.1,SNR=23						
LWLI	**Liwa**	**19.41**	**275**	P	**P**	**01 55 05.7**	**-1.2**
	comp=Z,3μm,1.0s,comp=Z,27μm						
MEEK	**Meekatharra**	**19.87**	**193**	P	**P**	**01 55 11.1**	**+0.4**
	baz=20,SNR=1000						
MEEK				S	**S**	**01 58 18.8**	**+2.0**
	baz=20,SNR=6.3						
AUQP	**San Andres**	**20.41**	**358**	*e*P	**P**	**01 55 18.6**	**+3.0**
COEN	**Coen**	**20.50**	**111**	*e*P	**P**	**01 55 16.4**	**0.0**
	comp=Z,28μm,1.3s						
COEN				*e*S	**S**	**01 58 25.1**	**-1.8**
COEN				*e*ScP	**ScP**	**02 01 36.3**	**+0.2**
COEN	**Coen**	**20.50**	**111**	P	**P**	**01 55 16.6**	**+0.1**
	baz=20,SNR=1000						
BOAC	**Boac**	**20.59**	**356**	*e*P	**P**	**01 55 19.0**	**+1.8**
MNAI	**Manna**	**20.59**	**277**	P	**P**	**01 55 17.7**	**+0.4**
	comp=Z,2μm,0.7s,comp=Z,35μm						
MNAI	**Manna**	**20.59**	**277**	P	**P**	**01 55 14.9**	**-2.4**
	baz=21,SNR=41						
GQP	**Guinayangan**	**20.99**	**357**	⇑*i*P	**P**	**01 55 21.0**	**+0.2**
KSI	**Kapahiang**	**21.07**	**279**	P	**P**	**01 55 20.1**	**-1.5**
	comp=Z,776nm,0.9s,comp=Z,17μm						
LQP	**Lukban**	**21.26**	**355**	‖*e*P	**P**	**01 55 23.3**	**-0.1**
LQP	**Lukban**	**21.26**	**355**	*e*P	**ScP**	**02 01 38.6**	**+0.5**
TGY	**Tagaytay City**	**21.31**	**353**	P	**P**	**01 55 24.3**	**+0.6

CTAO				pmax	pmax	
	comp=Z,4μm,1.4s					
CTAO	**Charters Tower**	**25.54**	**122**	*e*P	**P**	**01 56 01.8 +0.8**
	comp=Z,4μm,1.4s					
CTAO				*e*PcP	**PcP**	**01 59 10.1 +0.6**
KULM	**Kulim**	**25.93**	**298**	*e*P	**P**	**01 56 05.1 +0.6**
	comp=Z,749nm,0.7s					
KULM				*e*S	**S**	**01 59 50.8 -1.4**
KULM				*e*ScP	**ScP**	**02 01 51.7 +0.8**
KULM	**Kulim**	**25.93**	**298**	P	**P**	**01 56 05.4 +0.9**
KULM	**Kulim**	**25.93**	**298**	P	**ScP**	**02 01 53.0 +2.2**
KULM	**Kulim**	**25.93**	**298**	P	**P**	**01 56 04.8 +0.3**
	comp=Z,1μm,1.0s,comp=Z,9μm					
NWAO	**Narrogin (SRO)**	**26.24**	**192**	P	**P**	**01 56 08.0 +1.0**
	SNR=117					
NWAO	**Narrogin (SRO)**	**26.24**	**192**	*e*P	**P**	**01 56 08.0 +1.0**
	comp=Z,4μm,0.7s					
NWAO	**Narrogin (SRO)**	**26.24**	**192**	P	**P**	**01 56 07.4 +0.4**
	comp=Z,4μm,0.5s,baz=14,slow=10.0,SNR=3551					
PSI	**Prapat**	**26.43**	**291**	P	**P**	**01 56 09.0 -0.1**
PSI				S	**S**	**01 59 59.7 -0.5**
PSI				ScP	**ScP**	**02 01 51.7 -0.8**
PSI				*e*		02 28 37.5
PSI	**Prapat**	**26.43**	**291**	P	**P**	**01 56 09.0 -0.1**
	comp=Z,485nm,0.9s,baz=98,slow=7.1,SNR=140					
PSI				S	**S**	**01 59 59.7 -0.5**
	comp=Z,566nm,1.0s,baz=246,slow=19,SNR=9.6					
PSI				ScP	**ScP**	**02 01 51.7 -0.8**
	comp=Z,136nm,0.7s,baz=195,slow=5.7,SNR=4.4					
PSI				P3KPbc		02 28 37.5
	comp=Z,20nm,0.7s,baz=295,slow=8.1,SNR=14					
PSI	**Prapat**	**26.43**	**291**	P	**P**	**01 56 09.7 +0.6**
	baz=26,SNR=132					
PSI				S	**S**	**01 59 60.0 -0.3**
	baz=26,SNR=13					
COCO	**West Island**	**26.70**	**257**	*i* P	**P**	**01 56 12.1 +0.9**
COCO	**West Island**	**26.70**	**257**	P	**P**	**01 56 12.1 +0.9**
	SNR=6.5					
COCO	**West Island**	**26.70**	**257**	*e*P	**P**	**01 56 11.9 +0.7**
	comp=Z,666nm,0.8s					
COCO				*e*ScP	**ScP**	**02 01 53.8 +0.7**
COCO	**West Island**	**26.70**	**257**	P	**P**	**01 56 11.8 +0.6**
	comp=Z,1μm,0.9s,comp=Z,19μm					
KCSI	**Kotacane, Aceh**	**27.76**	**292**	P	**P**	**01 56 19.5 -1.0**
	comp=Z,642nm,1.0s,comp=Z,7μm					
RKGY	**Rocky Gully**	**27.92**	**191**	P	**P**	**01 56 23.6 +2.0**
	baz=28,SNR=1000					
BBOO	**Buckleboo**	**28.04**	**157**	*e*P	**P**	**01 56 22.8 +0.2**
	comp=Z,32μm,0.7s					
BBOO				*e*S	**S**	**02 00 25.4 +0.8**
BBOO				*e*ScP	**ScP**	**02 01 57.1 +0.1**
BBOO	**Buckleboo**	**28.04**	**157**	P	**P**	**01 56 23.3 +0.7**
	baz=28,SNR=1000					
BBOO				S	**S**	**02 00 25.0 +0.4**
	baz=28,SNR=16					
SRIT	**Nakonsritamara**	**28.49**	**303**	P	**P**	**01 56 27.9 +1.1**
	comp=Z,3μm,0.9s,comp=Z,25μm					
UBPT	**Khong Chiam**	**28.58**	**321**	P	**P**	**01 56 28.1 +0.6**
	comp=Z,637nm,1.1s,comp=Z,20μm					
UBPT	**Khong Chiam**	**28.58**	**321**	P	**P**	**01 56 28.1 +0.6**
	comp=Z,637nm,1.1s,comp=Z,20μm					
SNSI	**Sinabang, Aceh**	**28.71**	**288**	P	**P**	**01 56 29.5 +0.8**
	comp=Z,2μm,1.0s,comp=Z,23μm					
RABL	**Rabaul**	**28.71**	**86**	P	**P**	**01 56 29.7 +0.9**
	baz=29,SNR=10					
PKDT	**Phuket**	**29.20**	**300**	P	**P**	**01 56 33.4 +0.5**
	comp=Z,754nm,1.0s,comp=Z,7μm					
QIZ	**Qiongzhong**	**29.32**	**333**	P	**P**	**01 56 34.5 +0.7**
QIZ				sP	**sP**	**01 59 26.5 -0.9**
QIZ				S	**S**	**02 00 46.8 +2.2**
QIZ				pmax	pmax	
	comp=Z,370nm,0.6s					
QIZ	**Qiongzhong**	**29.32**	**333**	*e*P	**P**	**01 56 33.9 +0.1**
	comp=Z,433nm,0.6s					
QIZ				*e*ScP	**ScP**	**02 02 01.1 -0.1**
GUMO	**Guam**	**29.64**	**46**	*e*P	**P**	**01 56 35.9 -0.7**
	comp=Z,4μm,1.1s					
GUMO				*e*S	**S**	**02 00 48.0 -1.5**
GUMO				*e*ScP	**ScP**	**02 02 01.5 -0.9**
STKA	**Stephens Creek**	**29.81**	**148**	*e*P	**P**	**01 56 39.2 +1.3**
	comp=Z,1μm,0.8s					
STKA				*e*PcP	**PcP**	**01 59 19.0 -1.0**
STKA				S	**S**	**02 00 51.5 -0.3**
STKA				*e*S	S	02 00 52.1 +0.3
STKA				PKiKP	**PKiKP**	**02 06 50.2 -1.0**
STKA				PKKKP		02 29 29.5
STKA	**Stephens Creek**	**29.81**	**148**	P	**P**	**01 56 39.2 +1.3**
	comp=Z,6μm,0.8s,baz=320,slow=9.4,SNR=1163					
STKA				PcP	**PcP**	**01 59 20.1 +0.1**
	comp=Z,490nm,0.6s,baz=356,slow=6.2,SNR=3.4					
STKA				S	**S**	**02 00 51.5 -0.3**
	comp=Z,1μm,0.9s,baz=190,slow=19,SNR=6.8					
STKA				PKiKP	**PKiKP**	**02 06 50.2 -1.0**
	comp=Z,88nm,1.0s,baz=114,slow=2.4,SNR=6.2					
STKA				P3KP		02 29 29.5
	comp=Z,18nm,1.1s,baz=356,slow=2.5,SNR=2.9					
STKA	**Stephens Creek**	**29.81**	**148**	P	**P**	**01 56 39.3 +1.4**
	baz=30,SNR=1000					
STKA				S	**S**	**02 00 51.8 -0.1**
	baz=30,SNR=17					
TWG	**Pinlang**	**29.93**	**356**	*e*P	**P**	**01 56 37.2 -1.8**
	comp=Z,4μm,0.6s					
TWG				*e*S	**S**	**02 00 52.8 -1.0**
TWG				*e*ScP	**ScP**	**02 02 02.3 -0.9**
TPUB	**Ta-pu**	**30.44**	**355**	*e*P	**P**	**01 56 42.5 -0.8**
	comp=Z,1μm,0.7s					
TPUB				*e*S	**S**	**02 00 58.6 -3.1**
TPUB				*e*ScP	**ScP**	**02 02 05.3 +0.4**
YULB	**Yu-li**	**30.48**	**356**	*e*P	**P**	**01 56 41.2 -2.5**
	comp=Z,721nm,0.7s					
YULB				*e*S	**S**	**02 01 00.4 -1.9**
YULB				*e*ScP	**ScP**	**02 02 03.7 -1.3**
PANO	**Nakornpanom**	**30.54**	**323**	P	**P**	**01 56 45.1 +0.9**
	comp=Z,3μm,1.1s,comp=Z,34μm					
NAYO	**Nakonayok**	**30.65**	**314**	P	**P**	**01 56 45.8 +0.6**
	comp=Z,711nm,1.1s,comp=Z,18μm					
HKC	**Hong Kong Obse**	**30.70**	**343**	P	**P**	**01 56 44.0 -1.5**
RMQ	**Roma**	**30.77**	**132**	P	**P**	**01 56 48.0 +1.8**
	baz=31,SNR=796					
SKNT	**Sakolnakorn**	**30.79**	**321**	P	**P**	**01 56 46.9 +0.5**
	comp=Z,2μm,1.1s,comp=Z,24μm					
BSI	**Banda Aceh**	**30.80**	**293**	P	**P**	**01 56 45.4 -1.2**
	comp=Z,2μm,0.9s,comp=Z,20μm					
SSLB	**Suanglung**	**30.90**	**356**	*e*P	**P**	**01 56 45.9 -1.4**
	comp=Z,696nm,0.8s					
SSLB				*e*S	**S**	**02 01 03.9 -4.8**
SSLB				*e*ScP	**ScP**	**02 02 06.3 -0.2**
PHET	**Kaeng Krachan**	**30.98**	**310**	P	**P**	**01 56 49.0 +0.9**
	comp=Z,1μm,1.0s,comp=Z,16μm					
NACB	**Ninganchiao**	**31.24**	**357**	*e*P	**P**	**01 56 48.1 -2.0**
	comp=Z,870nm,1.1s					
NACB				*e*PcP	**PcP**	**01 59 23.3 -0.6**
NACB				*e*S	**S**	**02 01 08.5 -5.3**
NACB				*e*ScP	**ScP**	**02 02 06.9 -0.7**
CHAI	**Chaiyaphum**	**31.29**	**317**	P	**P**	**01 56 51.4 +0.7**
	comp=Z,357nm,0.9s,comp=Z,4μm					
YHNB	**Yeheng**	**31.74**	**356**	*e*P	**P**	**01 56 52.8 -1.7**
	comp=Z,1μm,1.1s					
YHNB				*e*S	**S**	**02 01 18.0 -3.6**
CMSA	**Cobar Meteorol**	**31.89**	**142**	P	**P**	**01 56 57.3 +1.7**
	baz=32,SNR=1000					
CMSA				S	**S**	**02 01 24.2 +0.6**
	baz=32,SNR=5.9					
EIDS	**Eidsvold**	**31.96**	**128**	*e*P	**P**	**01 56 56.3 0.0**
	comp=Z,743nm,0.8s					
EIDS				*e*PcP	**PcP**	**01 59 26.3 +0.3**
EIDS				*e*ScP	**ScP**	**02 02 09.8 -0.3**
EIDS	**Eidsvold**	**31.96**	**128**	P	**P**	**01 56 56.2 0.0**
	baz=32,SNR=283					
TATO	**Taipei**	**32.04**	**357**	P	**P**	**01 56 55.6 -1.2**
	SNR=30					
TATO	**Taipei**	**32.04**	**357**	*e*P	**P**	**01 56 55.2 -1.7**
	comp=Z,798nm,1.0s					
TATO				*e*ScP	**ScP**	**02 02 10.1 -0.2**
QZH	**Quanzhou**	**32.30**	**352⇑**	*i*P	**P**	**01 56 57.5 -1.5**
QZH				S	**S**	**02 01 26.0 -3.8**
QZH				pmax	pmax	
	comp=Z,1μm,0.8s					
PBKT	**Sadao Pong**	**32.45**	**317**	P	P	01 56 55.9 -4.5
	comp=Z,952nm,1.1s,comp=Z,16μm					
PBKT	**Sadao Pong**	**32.45**	**317**	P	P	01 56 55.5 -4.9
	comp=Z,952nm,1.1s,comp=Z,16μm					
CMBY	**CAMPBELL BAY**	**32.67**	**295**	*ex*	**P**	**01 57 01.0 -1.3**
UTHA	**Uthaitani**	**32.83**	**314**	P	**P**	**01 57 04.2 +0.6**
	comp=Z,344nm,0.8s,comp=Z,3μm					
ARPS	**Mount Arapiles**	**33.87**	**153**	P	**P**	**01 57 13.5 +1.5**
	baz=34,SNR=1000					
ARPS				S	**S**	**02 01 54.3 +1.1**
	baz=34,SNR=7.8					
JOW	**Kunigami**	**34.15**	**8**	*e*P	**P**	**01 57 14.7 +0.2**
	comp=Z,494nm,0.9s					
JOW				*e*pP	**pP**	**01 58 54.5 -2.3**
JOW				*e*S	**S**	**02 01 54.5 -3.2**
JOW				*e*ScP	**ScP**	**02 02 18.1 +0.4**
LAMP	**Lampang**	**34.73**	**318**	P	**P**	**01 57 21.9 +2.5**
	comp=Z,292nm,1.2s,comp=Z,2μm					
ARMA	**Armidale**	**35.08**	**135**	*e*P	**P**	**01 57 25.0 +2.7**
	comp=Z,1μm,1.0s					
ARMA				*e*ScP	**ScP**	**02 02 21.2 -0.1**
ARMA	**Armidale**	**35.08**	**135**	P	**P**	**01 57 25.0 +2.7**
	baz=35,SNR=536					
ARMA				S	S	02 02 17.9 +6.1
	baz=35,SNR=9.5					
CMAR	**Chiang Mai Arr**	**35.15**	**317**	P	**P**	**01 57 23.9 +1.0**
CMAR				PcP	**PcP**	**01 59 37.2 +1.9**
CMAR				ScP	**ScP**	**02 02 22.7 +1.1**
CMAR				PKiKP	**PKiKP**	**02 06 55.1 -0.2**
CMAR				*e*		02 27 58.4
CMAR				PKKKP		02 29 32.3
CMAR				P'P'		02 30 04.4
CMAR	**Chiang Mai Arr**	**35.15**	**317**	P	**P**	**01 57 23.9 +1.0**
	comp=Z,292nm,0.8s,baz=148,slow=6.5,SNR=30					
CMAR				PcP	**PcP**	**01 59 37.2 +1.9**
	comp=Z,281nm,0.6s,baz=166,slow=3.0,SNR=11					
CMAR				ScP	**ScP**	**02 02 22.7 +1.1**
	comp=Z,184nm,0.8s,baz=156,slow=2.5,SNR=6.6					
CMAR				PKiKP	**PKiKP**	**02 06 55.1 -0.2**
	comp=Z,18nm,0.7s,baz=232,slow=2.0,SNR=7.6					
CMAR				P3KPbc		02 27 58.4
	comp=Z,7.2nm,0.8s,baz=311,slow=6.1,SNR=16					
CMAR				P3KP		02 29 32.3
	comp=Z,8.5nm,1.1s,baz=306,slow=2.9,SNR=4.8					
CMAR				PKPPKP	P'P'df	02 30 04.4 -8.9
	comp=Z,8.7nm,1.0s,baz=332,slow=2.6,SNR=5.3					
CHTO	**Chiang Mai**	**35.39**	**317**	*e*P	**P**	**01 57 25.9 +1.0**
CHTO				*e*		01 59 36.7
CHTO				*e*		02 02 22.9
CHTO				pmax	pmax	
	comp=Z,301nm,0.6s					
CHTO	**Chiang Mai**	**35.39**	**317**	*e*P	**P**	**01 57 25.9 +1.0**
	comp=Z,301nm,0.6s					
CHTO				*e*PcP	**PcP**	**01 59 36.7 +0.6**
CHTO				*e*ScP	**ScP**	**02 02 22.9 +0.4**
CHTO	**Chiang Mai**	**35.39**	**317**	P	**P**	**01 57 26.2 +1.3**
	comp=Z,661nm,1.3s					
CHTO	**Chiang Mai**	**35.39**	**317**	P	**P**	**01 57 26.2 +1.3**
	comp=Z,661nm,1.3s					
YNG	**Young**	**35.44**	**143**	P	**P**	**01 57 27.1 +2.0**
	baz=36,SNR=367					
YNG				S	**S**	**02 02 19.6 +2.7**
	baz=36,SNR=14					
PBA	**Port Blair**	**35.84**	**301**	*ex*	P	01 57 27.0 -1.6
HNR	**Honiara**	**36.16**	**96**	P	**P**	**01 57 31.5 +0.2**
HNR				PcP	**PcP**	**01 59 39.7 +1.2**
HNR				ScP	**ScP**	**02 02 26.5 +1.0**
HNR	**Honiara**	**36.16**	**96**	P	**P**	**01 57 31.5 +0.2**
	comp=Z,9μm,1.0s,baz=220,slow=2.6,SNR=78					
HNR				PcP	**PcP**	**01 59 39.7 +1.2**
	comp=Z,2μm,0.9s,baz=280,slow=1.9,SNR=5.2					
HNR				ScP	**ScP**	**02 02 26.5 +1.0**
	comp=Z,2μm,0.9s,baz=202,slow=2.8,SNR=7.3					
TOO	**Toolangi**	**36.25**	**150**	P	**P**	**01 57 34.0 +2.3**
	baz=36,SNR=234					
MGCD	**Mangrove Creek**	**36.42**	**139**	P	**P**	**01 57 35.8 +2.7**
	baz=36,SNR=56					
CAN	**Canberra**	**36.51**	**144**	*e*P	**P**	**01 57 35.6 +1.8**
CAN				*e*		01 59 40.0
CAN				pmax	pmax	
	comp=Z,4μm,0.8s					
CAN	**Canberra**	**36.51**	**144**	*e*P	**P**	**01 57 35.6 +1.8**
	comp=Z,4μm,0.8s					
CAN				*e*PcP	**PcP**	**01 59 40.0 +0.7**
CAN				*e*ScP	**ScP**	**02 02 26.0 -0.4**
CNB	**Canberra Magne**	**36.72**	**143**	P	**P**	**01 57 37.5 +1.9**
	baz=37,SNR=763					
CNB				S	S	02 02 44.8 +9.0
	baz=37,SNR=5.6					
GYA	**Guiyang**	**37.22**	**335**	P	**SKKSdf**	**02 27 49.0 -6.9**
GYA				pmax	pmax	
	comp=Z,20nm,0.7s					
GYA	**Guiyang**	**37.22**	**335⇑**	*i*P	**P**	**01 57 40.0 +0.2**
GYA				PcP	**PcP**	**01 59 44.0 +2.3**
GYA				sP	**sP**	**02 00 36.8 -0.5**
GYA				ScP	**ScP**	**02 02 31.3 +2.0**
GYA				S	**S**	**02 02 44.8 +1.3**
GYA				PcS	**PcS**	**02 03 32.0 +0.5**
GYA				SS	**SS**	**02 06 01.5 -2.9**
GYA				ScS	**ScS**	**02 06 41.0 +1.1**
GYA				pmax	pmax	
	comp=Z,160nm,1.0s					
GYA				pmax	pmax	
	comp=Z,6μm,10.4s					
PATS	**Pohnpei**	**37.46**	**69**	P	**P**	**01 57 42.4 +0.6**
	baz=38,SNR=181					
MILA	**Mila**	**37.81**	**146**	P	**P**	**01 57 46.2 +1.8**
	baz=38,SNR=162					
KMI	**Kunming**	**37.94**	**329**	P	**SKKSdf**	**02 27 50.8 -4.3**
KMI				pmax	pmax	
	comp=Z,29nm,0.8s					
KMI	**Kunming**	**37.94**	**329**	P	**P**	**01 57 48.0 +2.2**
KMI				ScP	**ScP**	**02 02 35.5 +3.3**
KMI				S	**S**	**02 02 58.8 +4.5**
KMI				ScS	**ScS**	**02 06 45.0 +0.7**
KMI				pmax	pmax	
	comp=Z,700nm,1.3s					
SSE	**Sheshan**	**38.14**	**357**	P	**P**	**01 57 48.5 +1.5**
SSE				pmax	pmax	
	comp=Z,1μm,0.6s					
SSE				pmax	pmax	
	comp=Z,3μm,2.8s					
WHN	**Wuhan**	**38.53**	**347⇓**	*i*P	**P**	**01 57 52.0 +1.8**
WHN				PcP	**PcP**	**01 59 44.5 -1.1**
WHN				S	S	02 03 09.0 +6.7
WHN				pmax	pmax	
	comp=Z,1μm,0.8s					
WHN				pmax	pmax	
	comp=Z,10μm,3.0s					
CBIJ	**Chichi jima**	**38.62**	**27**	PKiKP	**PKiKP**	**02 06 55.9 -2.0**
CBIJ	**Chichi jima**	**38.62**	**27**	S	**S**	**02 02 59.0 -4.7**
	baz=279,slow=19					
CBIJ				PKiKP	**PKiKP**	**02 06 55.9 -2.0**
	comp=Z,258nm,1.0s,baz=146,slow=21,SNR=6.2					
NJ2	**Nanjing**	**39.28**	**354**	*e*P	**P**	**01 57 57.5 +1.4**
NJ2				pmax	pmax	
	comp=Z,780nm,0.9s					
ENH	**Enshi**	**39.60**	**341**	*e*P	**P**	**01 57 58.8 0.0**
	comp=Z,520nm,0.7s					
ENH				*e*PP	**PP**	**01 59 47.8 -0.8**
ENH				*e*ScP	**ScP**	**02 02 34.8 -3.6**
ENH				*e*S	**S**	**02 03 17.3 -0.6**
JNU	**Nakatsue**	**40.72**	**10**	*e*P	**P**	**01 58 07.1 -0.5**
	comp=Z,421nm,0.9s					
JNU				*e*PP	**PP**	**01 59 57.6 -1.1**
JNU				ScP	**ScP**	**02 02 42.2 -0.5**
JNU				*e*ScP	**ScP**	**02 02 42.4 -0.2**
JNU				*e*S	**S**	**02 03 32.5 -1.5**
JNU	**Nakatsue**	**40.72**	**10**	ScP	**ScP**	**02 02 42.2 -0.5**
	comp=Z,219nm,0.8s,baz=174,slow=2.2,SNR=4.6					
MOO	**Moorlands**	**40.88**	**153**	P	**P**	**01 58 10.9 +2.2**
	baz=41,SNR=33					
LHI	**Lord Howe Isla**	**41.08**	**131**	P	**P**	**01 58 12.3 +1.8**
	baz=41,SNR=106					
LHI				S	**S**	**02 03 43.4 +4.2**
	baz=41,SNR=4.4					
TAU	**Tasmania Unive**	**41.31**	**153**	*e*P	**P**	**01 58 14.0 +2.0**
TAU				*e*		01 59 55.6
TAU				pmax	pmax	
	comp=Z,902nm,0.8s					
TAU	**Tasmania Unive**	**41.31**	**153**	*e*P	**P**	**01 58 14.0 +2.0**
	comp=Z,902nm,0.8s					
TAU				*e*PcP	**PcP**	**01 59 55.6 +1.1**
TAU				*e*ScP	**ScP**	**02 02 44.7 -0.1**
CD2	**Chengdu**	**42.34**	**335**	*e*P	**P**	**01 58 21.3 +1.0**
CD2				pP	**pP**	**02 00 09.3 +0.4**
CD2				PP	**PP**	**02 00 16.0 +2.4**
CD2				sP	**sP**	**02 01 18.5 -2.2**
CD2				S	**S**	**02 04 00.0 +2.8**
CD2				ScS	**ScS**	**02 07 10.5 -0.1**
CD2				SS	**SS**	**02 07 27.8 +0.4**
CD2				pmax	pmax	
	comp=Z,1μm,1.1s					
XAN	**Xi'an**	**43.27**	**342**	P	**P**	**01 58 27.0 -0.5**
XAN				S	**S**	**02 04 07.0 -3.3**
XAN				ScS	**ScS**	**02 07 16.8 +0.4**
XAN				pmax	pmax	
	comp=Z,460nm,0.9s					
NOUC	**Port Laguerre**	**43.84**	**114**	*e*P	**P**	**01 58 33.5 +1.5**
DZM	**Mont Dzumac**	**43.96**	**114⇓**	*i*P	**P**	**01 58 34.4 +1.3**
	comp=Z,5μm,1.1s					
DZM	**Mont Dzumac**	**43.96**	**114**	*e*P	**P**	**01 58 32.1 -1.0**
DZM	**Mont Dzumac**	**43.96**	**114**	P	**P**	**01 58 34.4 +1.3**
DZM				PKiKP	**PKiKP**	**02 07 03.2 +0.3**
DZM	**Mont Dzumac**	**43.96**	**114**	P	**P**	**01 58 34.4 +1.3**
	comp=Z,2μm,0.9s,baz=311,slow=7.4,SNR=339					
DZM				PKiKP	**PKiKP**	**02 07 03.2 +0.3**
	comp=Z,8.2nm,0.5s,baz=2.1,slow=18,SNR=5.8					
MVNO	**Noumea**	**44.00**	**115**	*e*P	**P**	**01 58 33.0 -0.3**
INCN	**Inchon**	**44.55**	**4**	*e*P	**P**	**01 58 38.3 +1.1**
	comp=Z,260nm,0.8s					
INCN				*e*PcP	**PcP**	**02 00 06.2 +0.4**
INCN				*e*ScP	**ScP**	**02 02 57.8 -0.4**
INCN				*e*S	**S**	**02 04 27.1 -1.1**
KSAR	**Wonju Array Be**	**44.60**	**5**	P	**P**	**01 58 39.0 +1.5**
KSAR				PcP	**PcP**	**02 00 06.8 +0.9**
KSAR				ScP	**ScP**	**02 02 58.8 +0.4**
KSAR				PKiKP	**PKiKP**	**02 07 01.9 -1.0**
KSAR				⇑*e*		02 30 19.2
KSRS	**Korea Array**	**44.62**	**5**	P	**P**	**01 58 39.0 +1.4**
	comp=Z,834nm,0.8s,baz=183,slow=8.1,SNR=46					
KSRS				PcP	**PcP**	**02 00 06.8 +0.9**
	comp=Z,293nm,0.7s,baz=180,slow=3.4,SNR=13					
KSRS				ScP	**ScP**	**02 02 58.7 +0.4**
	comp=Z,207nm,0.9s,baz=181,slow=3.5,SNR=10					
KSRS				PKiKP	**PKiKP**	**02 07 01.9 -1.0**
	comp=Z,5.4nm,0.6s,baz=173,slow=1.1,SNR=5.1					
KSRS				PKP2bc		02 30 19.2
	comp=Z,5.3nm,1.0s,baz=9.9,slow=2.6,SNR=5.1					
SHL	**Shillong**	**44.76**	**318**	*e*P	**S**	**02 04 30.0 -1.9**
SHL				*e*S	**ScS**	**02 07 23.0 -3.7**
PALK	**Pallekele**	**45.00**	**288**	*e*PcP	**PcP**	**02 00 08.8 +0.9**
PALK				*e*ScP	**ScP**	**02 03 01.9 +1.3**
PALK				*e*S	**S**	**02 04 31.5 -3.9**
MAT	**Matsushiro**	**45.66**	**17**	S	**S**	**02 04 42.2 -1.5**
MJAR	**Matsushiro Arr**	**45.66**	**17**	P	**P**	**01 58 45.4 -0.2**
MJAR				PcP	**PcP**	**02 00 10.1 +0.4**
MJAR				ScP	**ScP**	**02 03 02.6 -0.2**
MJAR	**Matsushiro Arr**	**45.66**	**17**	P	**P**	**01 58 45.4 -0.2**
	comp=Z,1μm,0.9s,baz=192,slow=9.0,SNR=533					
MJAR				PcP	**PcP**	**02 00 10.1 +0.4**
	comp=Z,225nm,0.8s,baz=196,slow=4.4,SNR=6.3					
MJAR				ScP	**ScP**	**02 03 02.6 -0.2**
	comp=Z,192nm,0.8s,baz=191,slow=5.0,SNR=12					
DL2	**Dalian**	**45.90**	**358⇑**	*i*P	**P**	**01 58 48.0 +0.7**
DL2				S	**S**	**02 04 52.0 +5.1**
DL2				ScS	**ScS**	**02 07 32.5 -0.7**
DL2				pmax	pmax	
	comp=Z,1μm,0.9s					
DL2				pmax	pmax	
	comp=Z,2μm,9.9s					
BWNR	**Bhubaneshwar**	**46.02**	**307**	*ex*	P	01 58 40.0 -8.6
KWAJ	**Kwajalein Atol**	**46.79**	**71**	*e*P	**P**	**01 58 55.0 +0.6**
KWAJ				*e*		02 00 15.3
KWAJ				pmax	pmax	
	comp=Z,524nm,0.7s					
KWAJ	**Kwajalein Atol**	**46.79**	**71**	*e*P	**P**	**01 58 55.0 +0.6**
	comp=Z,524nm,0.7s					
KWAJ				*e*PcP	**PcP**	**02 00 15.3 +1.1**
NFK	**Norfolk Island**	**47.15**	**123**	P	**P**	**01 58 58.6 +1.6**
	baz=47,SNR=20					
MDRS	**Chennai**	**47.42**	**295**	*ex*	**P**	**01 59 00.2 +1.1**
MDRS				AMB	AMB	01 59 05.5
	comp=Z,1μm,0.6s					
BJI	**Beijing**	**47.48**	**352**	P	**P**	**01 58 59.5 +0.4**
BJI				pP	**pP**	**02 00 51.3 -0.7**
BJI				S	**S**	**02 05 12.3 +3.7**
BJI				pmax	pmax	
	comp=Z,710nm,0.6s					
BJI				pmax	pmax	
	comp=Z,15μm,8.8s					
LSA	**Lhasa**	**48.07**	**321**	*e*P	**P**	**01 59 05.9 +1.6**
LSA				*e*S	**S**	**02 05 16.0 -2.0**
LSA				pmax	pmax	
	comp=Z,724nm,0.4s					
LSA	**Lhasa**	**48.07**	**321**	*e*P	**P**	**01 59 05.8 +1.6**
	comp=Z,724nm,0.4s					
LSA				*e*ScP	**ScP**	**02 03 14.7 +0.9**
LSA				*e*S	**S**	**02 05 16.0 -2.0**
ODAN	**Odare**	**48.66**	**316**	*e*P	**P**	**01 59 09.5 +1.1**
	comp=Z,2μm,0.4s					
TAPN	**Taplejung**	**48.75**	**316**	*e*P	**P**	**01 59 10.4 +1.2**
	comp=Z,3μm,0.3s					
SNY	**Shenyang**	**48.79**	**0**	⇓P	**P**	**01 59 09.3 +0.5**
SNY				pmax	pmax	
	comp=Z,380nm,0.7s					
TRD	**Trivandrum**	**48.91**	**288**	*ex*	**P**	**01 59 10.6 +0.4**
HHC	**Hu-ho-hao-te**	**49.05**	**348**	*e*P	P	01 59 14.3 +3.4
HHC				pP	pP	02 01 06.5 +1.6
HHC				PP	**PP**	**02 01 18.5 +4.4**
HHC				sP	sP	02 02 10.0 -4.9
HHC				S	S	02 05 36.5 +6.3
HHC				sS	sS	02 08 52.3 -4.0
HHC				SS	**SS**	**02 09 19.3 +5.6**
RAMN	**Ramite**	**49.27**	**315**	*e*P	**P**	**01 59 14.4 +1.5**
	comp=Z,4μm,0.6s					
WAKE	**Wake Island**	**50.03**	**58**	*e*P	**P**	**01 59 18.6 +0.4**
	comp=Z,4μm,1.6s					
WAKE				*e*ScP	**ScP**	**02 03 18.4 -3.4**
TARA	**Tarawa**	**50.08**	**82**	*e*P	**P**	**01 59 19.5 +0.8**
	comp=Z,2μm,0.9s					
PKIN	**Phulchoki**	**50.50**	**315**	*e*P	**P**	**01 59 22.9 +1.0**
	comp=Z,1μm,0.4s					
DGAR	**Diego Garcia**	**50.57**	**266**	P	**P**	**01 59 23.0 +0.7**
	comp=Z,34μm,0.7s,SNR=28					
DGAR	**Diego Garcia**	**50.57**	**266**	*e*P	**P**	**01 59 23.2 +0.9**
DGAR				*e*S	**S**	**02 05 51.0 -0.4**
DGAR				pmax	pmax	
	comp=Z,4μm,0.8s	

MDJ ScP **ScP** **02 03 30.5 +1.3**
MDJ PcS **PcS** **02 04 32.3 +0.7**
MDJ S **S** **02 06 08.8 +1.2**
MDJ pmax pmax
comp=Z,240nm,0.7s
MDJ pmax pmax
comp=Z,1μm,3.3s
JBP Jabalpur 52.13 307 *ex* **P** **01 59 33.9 +0.7**
ERM Erimo 52.19 19 *eP* **P** **01 59 35.0 +1.7**
ERM pmax pmax
comp=Z,625nm,1.0s
MNCY Minicoy 52.57 286 *eP* P 01 59 28.5 -8.1
OUZ Omahuta 53.69 129 *eP* **P** **01 59 46.1 +2.1**
comp=Z,822nm,0.8s
OUZ *e*PcP **PcP** **02 00 40.6 +0.9**
OUZ *e*PP **PP** **02 01 55.1 0.0**
OUZ *e*ScP **ScP** **02 03 38.0 +0.5**
ASAJ Asahikawa 53.93 17 P **P** **01 59 45.8 +0.2**
ASAJ S **S** **02 06 33.9 -0.8**
ASAJ P'P' 02 29 32.4
ASAJ Asahikawa 53.93 17 P **P** **01 59 45.8 +0.2**
comp=Z,1μm,0.9s,baz=245,slow=16,SNR=20
ASAJ S **S** **02 06 33.9 -0.8**
comp=Z,192nm,1.1s,baz=119,slow=19,SNR=23
ASAJ PKPPKP P'P'df 02 29 32.4 -16
comp=Z,16nm,1.1s,baz=4.1,slow=4.9,SNR=4.1
MSVF Nonsavu 54.15 107 P **P** **01 59 49.0 +1.3**
comp=Z,21μm,1.0s
MSVF Nonsavu 54.15 107 *eP* **P** **01 59 49.2 +1.4**
MSVF pmax pmax
comp=Z,4μm,1.0s
MSVF Nonsavu 54.15 107 *eP* **P** **01 59 49.2 +1.4**
comp=Z,4μm,1.0s
JHNI Jhansi 54.42 308 *i x* **P** **01 59 47.0 -2.4**
YUK Yuzh-Kuril'sk 54.88 20*d i*P **P** **01 59 52.6 +0.5**
YUK *i* 02 02 55.5
YUK *i* S **S** **02 06 46.6 -0.3**
YUK *i* SS **SS** **02 10 44.6 -0.2**
YUK pmax pmax
comp=Z,7μm,1.2s
YUK pmax pmax
comp=N,1μm,1.2s
YUK pmax pmax
comp=E,930nm,1.2s
YUK pmax pmax
comp=Z,7μm,1.1s
MCQ Macquarie Isla 55.08 156 *eP* **P** **01 59 55.3 +1.9**
MCQ *e* 02 00 45.3
MCQ Macquarie Isla 55.08 156 *eP* **P** **01 59 55.3 +1.9**
MCQ *e*PcP **PcP** **02 00 45.3 +0.6**
MCQ *e*ScP **ScP** **02 03 43.3 +0.2**
MCQ Macquarie Isla 55.08 156 P **P** **01 59 55.5 +2.1**
baz=55,SNR=36
RPZ Rata Peaks 55.18 139 *eP* **P** **01 59 55.3 +0.8**
comp=Z,5μm,0.7s
RPZ *e*PcP **PcP** **02 00 46.2 +0.7**
RPZ *e*S **S** **02 06 54.5 +3.3**
RPZ Rata Peaks 55.18 139 P **P** **01 59 55.2 +0.8**
comp=Z,5μm,0.6s,baz=309,slow=4.2,SNR=846
FUNA Funafuti 55.19 95 *eP* **P** **01 59 55.4 +0.5**
comp=Z,4μm,1.2s
LGTI Lohaghat 55.27 313 *ex* P 01 59 59.1 +4.0
PTH Pithoragarh 55.34 313 *e*4 P 01 59 51.9 -4.0
ODZ Otahua Downs 55.53 141 *eP* **P** **01 59 57.1 +0.3**
comp=Z,411nm,0.8s
KHZ Kahutara 56.28 137 *eP* **P** **02 00 02.3 +0.5**
comp=Z,2μm,0.8s
KHZ *e*PcP **PcP** **02 00 49.8 +0.2**
KHZ *e*pP **pP** **02 02 03.9 +2.7**
KHZ *e*ScP **ScP** **02 03 48.9 +0.2**
KHZ *e*S **S** **02 07 04.8 -0.3**
HIA Hailar 56.33 357 *eP* **P** **02 00 02.6 +0.6**
comp=Z,823nm,1.0s
HIA *e*PcP **PcP** **02 00 49.6 -0.1**
HIA *e*ScP **ScP** **02 03 49.1 +0.4**
HIA *e*S **S** **02 07 03.5 -2.0**
HABR Khabarovsk 56.37 9*d i*P **P** **02 00 03.2 +0.9**
HABR *e* 02 00 49.3
HABR *e**PP **pP** **02 01 58.7 -3.0**
HABR *e* 02 02 17.1
HABR *e**SP **sP** **02 03 06.3 -3.7**
HABR *e*S **S** **02 07 06.3 +0.4**
HABR *e* 02 07 15.5
HABR *e* 02 08 46.1
HABR *e*SS **SS** **02 11 08.2 +0.1**
HABR pmax pmax
comp=E,56nm,1.0s
HABR pmax pmax
comp=N,122nm,1.0s
HABR pmax pmax
comp=Z,360nm,1.0s
HABR pmax pmax
comp=Z,2μm,1.0s
HABR MLR MLR
comp=Z,9μm,16.0s
YSS Yuzh-Sakhalins 56.58 16κ *i*P **P** **02 00 05.0 +1.2**
YSS *e* 02 00 52.0
YSS *e**PP **pP** **02 02 04.0 +0.7**
YSS *e* 02 02 19.0
YSS *e**SP **sP** **02 03 09.0 -2.5**
YSS *i* S **S** **02 07 09.0 +0.3**
YSS pmax pmax
comp=Z,6μm,8.0s
YSS smax smax
comp=N,21μm,12.0s
YSS smax smax
comp=E,25μm,12.0s
YSS MLR MLR
comp=Z,7μm,16.0s
SNZO South Karori 56.65 135 *eP* **P** **02 00 03.9 -0.5**
comp=Z,2μm,0.6s
SNZO *e*pP **pP** **02 02 04.6 +0.7**
SNZO *e*ScP **ScP** **02 03 50.7 +0.3**
SNZO *e*S **S** **02 07 09.7 -0.1**
ULN Ulaanbaatar 56.71 347 *eP* **P** **02 00 05.3 +0.4**
comp=Z,549nm,0.6s
ULN *e*S **S** **02 07 09.6 -1.2**
SONM Songino Array 56.84 346 P **P** **02 00 06.8 +1.1**
SONM P'P' 02 29 25.2
SONM Songino Array 56.84 346 P **P** **02 00 06.8 +1.1**
comp=Z,518nm,0.7s,baz=166,slow=7.9,SNR=32
SONM PKPPKP P'P'df 02 29 25.2 -19
comp=Z,11nm,1.0s,baz=343,slow=5.2,SNR=7.4
NDI New Delhi 57.08 311 *ex* **P** **02 00 05.0 -2.6**
URZ Urewera 57.33 131 *eP* **P** **02 00 09.0 -0.1**
comp=Z,4.7nm,0.7s
URZ *e*PP **PP** **02 02 25.3 -1.9**
URZ *e*ScP **ScP** **02 03 51.6 -1.9**
URZ S **S** **02 07 18.1 -0.6**
URZ P'P' 02 29 22.4
URZ ⇑*e* 02 29 56.6
URZ Urewera 57.33 131 P **P** **02 00 09.2 0.0**
comp=Z,2μm,0.6s,baz=315,slow=1.4,SNR=1071
URZ S **S** **02 07 18.1 -0.6**
comp=Z,52nm,0.8s,baz=18,slow=20,SNR=16
URZ PKPPKP P'P'df 02 29 22.4 -24
comp=Z,15nm,0.9s,baz=112,slow=5.4,SNR=3.8
URZ PKP2bc 02 29 56.6
comp=Z,33nm,0.9s,baz=37,slow=5.1,SNR=5.9
SMLA Simla 58.41 313 *ex* **P** **02 00 17.2 +0.8**
SDNR Sundarnagar 58.75 314 *ex* **P** **02 00 20.0 +1.2**
BHK Bhakra 59.11 313 *e*4 **P** **02 00 22.0 +0.8**
RAO Raoul Island 59.20 120 *eP* **P** **02 00 21.9 +0.1**
RAO *e*PP **PP** **02 02 43.6 -0.1**
CASY Casey 59.66 186 *eP* **P** **02 00 24.7 +0.6**
comp=Z,458nm,1.4s
WMQ Urumqi 60.21 331 *eP* **P** **02 00 29.8 +1.5**
WMQ pP **pP** **02 02 32.0 +1.9**
WMQ PP **PP** **02 02 56.0 +3.5**
WMQ S **S** **02 07 55.0 +0.3**
WMQ ScS **ScS** **02 09 15.8 +0.4**
WMQ SS **SS** **02 12 07.8 -0.5**
WMQ pmax pmax
comp=Z,1μm,1.0s
WMQ pmax pmax
comp=Z,7μm,3.4s
DRV Dumont d'Urvil 60.45 173 P P 02 00 25.0 -4.3
DRV Dumont d'Urvil 60.45 173 PP **pP** **02 02 28.0 -3.3**
DRV S S 02 07 32.0 -25
DRV SS SS 02 11 17.0 -54
DRV L L 02 15 00.0
DRV R 02 21 00.0
PAF Port-aux-Franc 61.15 217 *eP* **P** **02 00 35.2 +1.0**

PAF pmax pmax
comp=Z,2μm,1.2s
PAF Port-aux-Franc 61.15 217 *eP* **P** **02 00 35.2 +1.0**
comp=Z,2μm,1.2s
PAF *e*ScP **ScP** **02 04 09.5 -0.7**
MIR Mirnyy 62.84 193⇑*i*P **P** **02 00 47.0 +2.2**
MIR *e* 02 02 53.0
MIR *e*S **S** **02 08 28.0 +2.1**
MIR pmax pmax
comp=Z,2μm,1.5s
MIR pmax pmax
comp=Z,9μm,10.0s
CLNS Chul'man 63.83 1 *eP* **P** **02 00 51.9 +0.7**
CLNS *e* 02 02 57.8
CLNS *e* 02 09 47.3
CLNS pmax pmax
comp=Z,1μm,0.9s
CLNS pmax pmax
comp=N,752nm,0.9s
CLNS pmax pmax
comp=E,308nm,1.2s
AFI Afiamalu 63.86 102 *eP* **P** **02 00 53.4 +1.0**
comp=E,2μm,0.9s
KSH Kashi 63.91 321 *eP* P 02 00 56.5 +4.2
KSH PP **PP** **02 03 29.5 +4.8**
KSH S **S** **02 08 39.5 -0.6**
KSH SS **SS** **02 13 04.5 -1.4**
KSH pmax pmax
comp=Z,1μm,0.8s
KSH pmax pmax
comp=Z,17μm,4.3s
SKR Severo-Kuril's 64.19 22 *e* pP 02 02 41.0 -17
MK31 Makanchi Array 65.00 330 *eP* **P** **02 00 59.2 +0.4**
MK31 Makanchi Array 65.00 330 *eP* **P** **02 00 59.2 +0.4**
MKAR Makanchi Array 65.00 330 P **P** **02 00 59.7 +0.9**
MKAR S **S** **02 08 53.9 +1.4**
MKAR pmax pmax
comp=Z,661nm,0.6s
MKAR smax smax
comp=N,131nm,1.1s
MKAR Makanchi Array 65.00 330 P **P** **02 00 59.6 +0.9**
MKAR S **S** **02 08 53.9 +1.4**
MKAR P'P' 02 29 28.0
MKAR Makanchi Array 65.00 330 P **P** **02 00 59.6 +0.9**
comp=N,661nm,0.6s,baz=134,slow=6.8,SNR=49
MKAR S **S** **02 08 53.9 +1.4**
comp=N,131nm,1.1s,baz=142,slow=13,SNR=13
MKAR PKPPKP **P'P'df** **02 29 28.0 -4.4**
comp=N,12nm,0.8s,baz=292,slow=3.0,SNR=8.5
NIUE Niue 65.61 108 P **P** **02 01 04.6 +1.5**
baz=66,SNR=31
KZA Kyzart 65.85 323 *i* P **P** **02 01 06.1 +1.4**
KZA Kyzart 65.85 323 P **P** **02 01 06.1 +1.4**
SNR=18
KBL Kabul 66.03 313 *eP* **P** **02 01 05.4 -0.3**
KBL *e**PP **pP** **02 03 12.3 +1.2**
KBL pmax pmax
comp=Z,1μm,0.8s
KBL Kabul 66.03 313 *eP* **P** **02 01 05.3 -0.3**
comp=Z,1μm,0.8s
KBL *e*pP **pP** **02 03 12.3 +1.2**
KBL Kabul 66.03 313 P P 02 00 59.7 -6.0
baz=66,SNR=35
TKM2 Tokmak 2 66.14 323 *i* P **P** **02 01 07.0 +0.8**
TKM2 Tokmak 2 66.14 323 P **P** **02 01 07.1 +0.8**
SNR=8.0
TKM2 Tokmak 2 66.14 323 *eP* **P** **02 01 06.3 +0.1**
comp=Z,681nm,0.9s
AAK Ala-Archa 66.63 323 *eP* **P** **02 01 10.8 +1.6**
AAK pmax pmax
comp=Z,4μm,2.5s
AAK Ala-Archa 66.63 323 P **P** **02 01 10.4 +1.3**
SNR=20
AAK Ala-Archa 66.63 323 *eP* **P** **02 01 09.2 0.0**
comp=Z,784nm,0.8s
AAK *e*pP **pP** **02 03 14.7 -0.2**
AAK *e*S **S** **02 09 09.8 -2.4**
AAK S **S** **02 09 13.7 +1.5**
AAK P'P' 02 29 28.1
AAK Ala-Archa 66.63 323 P **P** **02 01 10.3 +1.1**
comp=Z,577nm,0.6s,baz=122,slow=7.4,SNR=32
AAK S **S** **02 09 13.7 +1.5**
comp=Z,53nm,1.0s,baz=307,slow=19,SNR=11
AAK PKPPKP **P'P'df** **02 29 28.1 -2.2**
comp=Z,44nm,1.1s,baz=204,slow=3.0,SNR=5.9
PETK Petropavlovsk- 66.72 22 P **P** **02 01 10.4 +1.1**
PETK Petropavlovsk- 66.72 22 P **P** **02 01 10.4 +1.1**
PETK Petropavlovsk- 66.72 22 P **P** **02 01 10.4 +1.1**
comp=Z,2μm,0.9s,baz=197,slow=4.5,SNR=53
AML Almayashu 66.83 322 *i* P **P** **02 01 11.8 +1.1**
AML Almayashu 66.83 322 P **P** **02 01 11.8 +1.1**
SNR=22
USP Ospenovka 67.00 323 *i* P **P** **02 01 12.1 +0.9**
USP Ospenovka 67.00 323 P **P** **02 01 12.1 +0.9**
SNR=13
PET Petropavlovsk 67.01 22⇓*i*P **P** **02 01 11.9 +0.9**
PET *e**SP **sP** **02 04 20.2 -3.1**
PET *e*S **S** **02 09 21.5 +5.8**
PET *e*SS **SS** **02 13 49.5 -3.0**
PET pmax pmax
comp=Z,9μm,7.8s
PET pmax pmax
comp=Z,9μm,13.4s
MIDW Midway 67.03 55 *eP* **P** **02 01 12.1 +0.4**
comp=Z,2μm,1.1s
EKS2 Erkin-Say 67.08 322 *eP* **P** **02 01 12.7 +0.8**
EKS2 pmax pmax
comp=Z,478nm,0.9s
EKS2 Erkin-Say 67.08 322 P **P** **02 01 12.9 +1.0**
SNR=17
EKS2 Erkin-Say 67.08 322 *eP* **P** **02 01 12.7 +0.8**
comp=Z,478nm,0.9s
MSEY Mahe Island 67.61 268 P **P** **02 01 17.4 +1.8**
SNR=14
MSEY Mahe Island 67.61 268 *eP* **P** **02 01 15.7 +0.1**
comp=Z,517nm,1.0s
MSEY *e*PcP **PcP** **02 01 37.3 +0.4**
ZALV Zalesovo Beam 69.05 337 P **P** **02 01 23.0 -0.2**
ZALV S **S** **02 09 37.4 -1.7**
ZALV pmax pmax
comp=Z,740nm,0.5s
ZALV smax smax
comp=N,217nm,1.0s
ZALV Zalesovo Beam 69.05 337 P **P** **02 01 23.0 -0.2**
ZALV S **S** **02 09 37.4 -1.7**
ZALV P'P' 02 29 23.6
ZALV Zalesovo Beam 69.05 337 P **P** **02 01 23.0 -0.2**
comp=N,739nm,0.5s,baz=137,slow=5.0,SNR=114
ZALV S **S** **02 09 37.4 -1.7**
comp=N,216nm,1.0s,baz=138,slow=11,SNR=12
ZALV PKPPKP **P'P'df** **02 29 23.6 -1.5**
comp=N,56nm,1.0s,baz=328,slow=4.7,SNR=9.4
YAK Yakutsk 69.19 3*d i*P **P** **02 01 24.4 +0.5**
YAK *e* 02 01 44.7
YAK *e**PP **pP** **02 03 30.8 -0.3**
YAK *e* 02 04 06.2
YAK *e*PPP PPP 02 05 59.4
YAK *e*S **S** **02 09 41.0 +0.5**
YAK *e* 02 10 27.0
YAK *e*SS **SS** **02 14 32.0 +6.5**
YAK *e*SSS SSS 02 17 36.5
YAK pmax pmax
comp=Z,4μm,0.9s
YAK pmax pmax
comp=N,1μm,1.0s
YAK pmax pmax
comp=E,253nm,0.9s
YAK pmax pmax
comp=Z,1μm,3.5s
YAK pmax pmax
comp=N,671nm,2.1s
YAK pmax pmax
comp=E,3μm,8.0s
YAK smax smax
comp=N,15μm,2.4s
YAK smax smax
comp=E,8μm,2.0s
WBK Wadi Bani Khal 69.68 297 P **P** **02 01 29.4 +1.6**
SNR=5.4
WBK Wadi Bani Khal 69.68 297 P pP 02 03 37.4 +2.3
SNR=8.0
WBK Wadi Bani Khal 69.68 297 P **P'P'df** **02 29 22.1 -4.6**
SNR=12
NVS Novosibirsk 70.33 337 *eP* **P** **02 01 29.2 -1.6**
NVS *e*S S 02 09 46.1 -7.5

NVS *e*PS 02 10 21.3
NVS pmax pmax
comp=N,539nm,1.3s
NVS pmax pmax
comp=Z,1μm,1.3s
NVS pmax pmax
comp=E,903nm,1.2s
NVS smax smax
comp=N,2μm,2.0s
NVS smax smax
comp=E,3μm,1.8s
JMDO Jabal Madar 70.38 297 P **P** **02 01 33.1 +1.2**
SNR=6.1
JMDO Jabal Madar 70.38 297 P pP 02 03 41.6 +2.0
SNR=7.5
SMDO Samad 70.62 297 P **P'P'bc** **02 29 20.6 -4.1**
SNR=15
BSY Bisya 71.28 297 P **P'P'bc** **02 29 18.9 -3.6**
SNR=11
HOQ Hoqain 71.42 298 P pP 02 03 48.1 +1.8
SNR=6.4
ARQ Araqi 72.05 297 P **P'P'df** **02 29 19.6 -3.0**
SNR=28
IDAH Dahanechah 72.25 308 *eP* **P** **02 01 44.2 +1.4**
MAW Mawson 72.44 200 P **P** **02 01 43.7 +0.9**
MAW P'P' 02 29 04.7
MAW Mawson 72.44 200 P **P** **02 01 43.7 +0.9**
comp=E,297nm,0.4s,baz=73,slow=6.0,SNR=379
MAW PKPPKP P'P'df 02 29 04.7 -15
comp=E,24nm,0.9s,baz=231,slow=2.2,SNR=5.4
MAW Mawson 72.44 200 P **P** **02 01 43.9 +1.1**
baz=72,SNR=258
RBK Rabkut 72.66 291 P **P** **02 01 46.5 +1.3**
SNR=9.8
UOSS Wadi Hilu 72.78 299 P **P** **02 01 46.0 +0.3**
comp=E,2μm,0.5s,SNR=5.7
HATD Hatta, Dubai 72.81 299 P P 02 01 49.8 +3.9
SNR=9.9
HATD Hatta, Dubai 72.81 299 P pP 02 03 56.8 +1.8
SNR=9.2
HATD Hatta, Dubai 72.81 299 P **P'P'df** **02 29 17.5 -3.6**
SNR=6.5
IKOO Kooshah 72.82 307 *eP* **P** **02 01 47.1 +1.0**
ASHO Ashiyiah 72.84 298 P pP 02 03 57.1 +1.9
SNR=5.5
VNDA Vanda 73.10 172 *eP* **P** **02 01 47.3 +0.8**
comp=E,48nm,0.3s
VNDA *e*pP **pP** **02 03 56.3 +0.6**
VNDA S **S** **02 10 22.3 -1.5**
VNDA *e*S SKiKP 02 10 24.1 +13
VNDA Vanda 73.10 172 P **P** **02 01 47.1 +0.6**
comp=E,253nm,0.7s,baz=317,slow=6.3,SNR=539
VNDA S **S** **02 10 22.3 -1.5**
comp=E,25nm,1.2s,baz=151,slow=19,SNR=7.1
FX1 Attu Island--F 73.15 29 P **P** **02 01 48.2 +1.0**
FX1 PKiKP **PKiKP** **02 07 37.0 -0.4**
FX1 S **S** **02 10 25.9 +0.8**
FX1 Attu Island--F 73.15 29 P **P** **02 01 48.2 +1.0**
comp=E,4μm,1.0s,baz=247,slow=0.4,SNR=23
FX1 PKiKP **PKiKP** **02 07 37.0 -0.4**
comp=E,8.5nm,0.4s,baz=312,slow=4.5,SNR=7.0
FX1 S **S** **02 10 25.9 +0.8**
comp=E,78nm,1.0s,baz=342,slow=20,SNR=21
ITEG Tejag 73.19 307 *eP* **P** **02 01 49.4 +1.3**
IBND Bandar-abas 73.23 301 *eP* **P** **02 01 50.3 +2.1**
NAZ Nazwa, Dubai 73.27 299 P P 02 01 54.3 +5.8
SNR=5.6
SEY Seymchan 73.35 13*d i*P **P** **02 01 48.9 +0.8**
IMYA Miami 73.40 311 *eP* **P** **02 01 50.0 +0.8**
ASUD Al Ashush, Dub 73.46 298 P **P** **02 01 51.3 +1.8**
SNR=11
ASUD Al Ashush, Dub 73.46 298 P pP 02 04 01.3 +2.4
SNR=7.9
ABTO Aybut 73.46 290 P **P** **02 01 50.9 +1.1**
SNR=7.3
ISRO Mashad 73.86 311 *eP* **P** **02 01 51.9 +0.2**
IMOG Moghan 73.88 311 *eP* **P** **02 01 53.0 +0.9**
SBA Scott Base 74.06 171 *eP* **P** **02 01 53.5 +1.6**
SBA pmax pmax
comp=Z,168nm,0.9s
SBA Scott Base 74.06 171 *eP* **P** **02 01 53.5 +1.6**
comp=Z,168nm,0.9s
IPAY Payeh 74.27 311 *eP* **P** **02 01 55.1 +0.9**
IAKL Akhelmad 74.50 311 *eP* **P** **02 01 56.4 +0.9**
ABPO Ambohimpanom 74.71 252 P **P** **02 01 58.9 +2.0**
comp=Z,522nm,1.0s,SNR=12
ABPO Ambohimpanom 74.71 252 *eP* **P** **02 01 57.5 +0.6**
ABPO pmax pmax
comp=Z,654nm,1.4s
ABPO Ambohimpanom 74.71 252 *eP* **P** **02 01 57.5 +0.6**
comp=Z,654nm,1.4s
IKRD Kardeh 74.75 311 *eP* **P** **02 01 54.0 -2.8**
OPO Ambohidratompo 74.77 253 P **P** **02 01 58.1 +0.9**
OPO Ambohidratompo 74.77 253 P **P** **02 01 58.1 +0.9**
comp=Z,570nm,0.8s,baz=84,slow=4.3,SNR=554
IEMG Emamgholi 74.88 312 *eP* **P** **02 01 59.0 +1.4**
BVAR Borovoye Array 74.88 330 P **P** **02 01 57.6 +0.7**
BVAR S **S** **02 10 45.4 +1.5**
BVAR pmax pmax
comp=Z,404nm,0.7s
BVAR smax smax
comp=N,122nm,1.0s
BVAR Borovoye Array 74.88 330 P **P** **02 01 57.6 +0.7**
BVAR S **S** **02 10 45.4 +1.5**
BVAR P'P' 02 29 03.0
BVAR Borovoye Array 74.88 330 P **P** **02 01 57.6 +0.7**
comp=N,404nm,0.7s,baz=120,slow=8.5,SNR=60
BVAR S **S** **02 10 45.4 +1.5**
comp=N,122nm,1.0s,baz=133,slow=15,SNR=9.6
BVAR PKPPKP P'P'df 02 29 03.0 -12
comp=N,6.2nm,0.9s,baz=298,slow=3.1,SNR=4.2
BRVK Borovoye 74.95 330*d i*P **P** **02 01 58.0 +0.7**
BRVK pmax pmax
comp=Z,851nm,1.0s
BRVK Borovoye 74.95 330 *eP* **P** **02 01 57.5 +0.3**
comp=Z,450nm,0.5s
BRVK *e*S **S** **02 10 46.3 +1.7**
RAR Rarotonga 75.12 110 *eP* **P** **02 01 59.7 +0.7**
comp=Z,1μm,1.4s
RAR Rarotonga 75.12 110 P **P** **02 01 59.9 +1.0**
comp=Z,395nm,1.0s,baz=270,slow=8.0,SNR=17
ISFR Sfrayin 75.23 311 *eP* **P** **02 02 01.0 +1.4**
IBAF Bafgh 75.30 305 *eP* **P** **02 02 00.5 +0.6**
IMEH Mehriz 76.02 305 *eP* **P** **02 02 03.9 -0.1**
ICHK Chekchek 76.44 306 *eP* **P** **02 02 06.4 +0.1**
IPAR Pars 76.86 303 *eP* **P** **02 02 09.5 +0.8**
ISAD Sadrabad 76.93 305 *eP* **P** **02 02 09.1 +0.1**
IMND Minoodasht 77.24 311 *eP* **P** **02 02 12.4 +2.2**
ADK Adak 77.81 33 *eP* **P** **02 02 13.3 +0.4**
ADK *e*S **S** **02 11 14.4 -0.5**
ADK Adak 77.81 33 *eP* **P** **02 02 13.3 +0.4**
comp=Z,4μm,0.8s
ADK *e*S **S** **02 11 14.4 -0.5**
IANJ Anjilo 77.81 309 *eP* **P** **02 02 14.4 +0.8**
IGLO Ghaloghah 78.20 309 *eP* **P** **02 02 16.1 +0.5**
IKIA Kiasar 78.22 309 *eP* **P** **02 02 16.7 +0.9**
ISHM Shahmirzad 78.40 309 *eP* **P** **02 02 17.6 +0.8**
ILAS Lasjerd 78.53 308 *eP* **P** **02 02 18.1 +0.7**
ABKAR Akbulak array 78.71 323 *eP* **P** **02 02 17.9 +0.2**
comp=Z,597nm,0.6s
IFIR Firoozkooh 78.77 308 *eP* **P** **02 02 19.5 +0.8**
TIXI Tiksi 78.77 2*d i*P **P** **02 02 16.9 -0.6**
TIXI pmax pmax
comp=Z,807nm,1.0s
ISFB Sefidab 78.80 307 *eP* **P** **02 02 19.6 +0.9**
IALA Alasht 78.86 309 *eP* **P** **02 02 20.3 +1.1**
IDMV Damavand 79.31 308 *eP* **P** **02 02 20.7 -0.9**
IVRN Varamin 79.38 308 *eP* **P** **02 02 22.2 +0.5**
XMAS Kiritimati 79.44 87 *eP* **P** **02 02 24.1 +1.7**
comp=Z,3μm,1.2s
IR3 Iran Long-Peri 80.07 308 *eP* **P** **02 02 26.5 +1.2**
AKTO Aktyubinsk 80.33 324 P **P** **02 02 26.6 +0.4**
AKTO S **S** **02 11 39.8 -1.0**
AKTO pmax pmax
comp=Z,827nm,0.6s
AKTO smax smax
comp=N,41nm,1.1s
AKTO Aktyubinsk 80.33 324 P **P** **02 02 26.6 +0.4**
AKTO S **S** **02 11 39.8 -1.0**
AKTO P'P' 02 28 56.8
AKTO Aktyubinsk 80.33 324 P **P** **02 02 26.6 +0.4**
comp=N,827nm,0.6s,baz=109,slow=7.0,SNR=101
AKTO S **S** **02 11 39.8 -1.0**
comp=N,41nm,1.1s,baz=163,slow=19,SNR=6.8
AKTO PKPPKP P'P'df 02 28 56.8 -9.3

comp=N,6.3nm,1.0s,baz=194,slow=4.2,SNR=3.7
IR5 Iran Long-Peri 80.35 307 *e*P **P 02 02 27.6 +0.8**
IRAZ Razeghan 80.91 307 *e*P **P 02 02 30.9 +1.1**
QRN Al-Qurain 80.91 301 *e*P **P 02 02 30.2 +0.5**
QRN AMb AMB 02 02 35.4
comp=Z,2μm,0.6s
SYO Syowa Base 81.12 201 ⇓*i*X **P 02 02 28.6 -1.3**
SYO Syowa Base 81.12 201⇑*e*P PKKPdf 02 20 58.6 +7.0
KBD Kabd 81.20 301 *e*P **P 02 02 31.4 +0.3**
KBD AMb AMB 02 02 36.4
comp=Z,361nm,0.8s
RDF Al-Radifah 81.27 301 *e*P **P 02 02 32.3 +0.8**
RDF AMb AMB 02 02 37.6
comp=Z,885nm,1.2s
UMR Umm Al-Rimmam 81.27 301 *e*P **P 02 02 31.9 +0.5**
UMR AMb AMB 02 02 36.8
comp=Z,632nm,0.7s
DAMY Dhamar 81.31 286 P **P 02 02 35.2 +2.8**
baz=81,SNR=13
NAY Al-Naaiem 81.60 301 *e*P **P 02 02 33.2 +0.1**
NAY AMb AMB 02 02 38.7
comp=Z,56nm,0.7s
SVE Sverdlovsk 81.66 330*c i*P **P 02 02 33.3 +0.5**
SVE *e*S **S 02 11 49.5 -4.4**
SVE pmax pmax
comp=Z,908nm,0.6s
RST Umm Al-Ruwaisa 81.87 301 *e*P **P 02 02 34.8 +0.3**
RST AMb AMB 02 02 40.7
comp=Z,14μm,0.8s
RAYN Ar Rayn 81.92 295 P **P 02 02 36.5 +1.5**
comp=Z,7μm,0.7s,SNR=63
HON Honolulu 82.02 67 *e*P **P 02 02 36.9 +1.5**
HON Honolulu 82.02 67 *e*P **P 02 02 36.9 +1.5**
KIP Kipapa 82.03 67 *e*P **P 02 02 36.8 +1.3**
KIP Kipapa 82.03 67 *e*P **P 02 02 36.6 +1.2**
comp=Z,916nm,0.9s
ARU Arti 82.51 330*d i*P **P 02 02 37.2 +0.1**
ARU *PP **pP 02 04 51.3 +0.4**
ARU 02 05 52.5
ARU S **S 02 11 58.0 -4.3**
ARU pmax pmax
comp=Z,1μm,1.7s
ARU Arti 82.51 330 P **P 02 02 37.7 +0.6**
comp=Z,5μm,0.4s,SNR=38
ARU Arti 82.51 330 P **PKKPbc 02 20 58.8 -1.5**
comp=Z,1μm,0.4s,SNR=11
IKOM Komasi 82.53 306 *e*P **P 02 02 37.9 0.0**
QSPA South Pole Qui 82.78 180 *e*P **P 02 02 38.9 +0.4**
comp=Z,1μm,2.5s
QSPA *e*pP **pP 02 04 54.6 +2.2**
QSPA S S 02 11 57.5 -7.5
QSPA PKKPbc **PKKPbc 02 20 56.9 -3.8**
QSPA South Pole Qui 82.78 180 P **P 02 02 39.0 +0.5**
comp=Z,201nm,0.7s,baz=331,slow=3.0,SNR=5.9
QSPA S S 02 11 57.5 -7.5
comp=Z,91nm,1.2s,baz=323,slow=20,SNR=21
QSPA PKKPbc **PKKPbc 02 20 56.9 -3.8**
comp=Z,71nm,0.9s,baz=172,slow=2.5,SNR=15
IVIS Veis 83.14 306 *e*P **P 02 02 40.6 -0.3**
ISRB Sarab 83.30 309 *e*P **P 02 02 42.3 +0.6**
IGHG Ghaleghazi 83.32 306 *e*P **P 02 02 41.6 -0.4**
IDHR Dehrash 83.55 306 *e*P **P 02 02 42.5 -0.6**
IBDR Badra 83.56 304 *i*P **P 02 02 44.0 +1.1**
IBDR *i*S S 02 12 06.0 -7.6
IHRS Heris 83.89 310 *e*P **P 02 02 44.8 +0.1**
PUH Pauahi 84.25 70 *e*P **P 02 02 48.1 +1.5**
IFTB Fath-abad 84.32 309 *e*P **P 02 02 47.4 +0.6**
STCH Steam Cracks 84.33 70 *e*P **P 02 02 48.5 +1.5**
TBI Tubuai 84.52 113 ⇓*i*P **P 02 02 49.8 +2.0**
comp=Z,2μm,0.8s
TBI Tubuai 84.52 113 *e*PP PP 02 05 56.5 -19
comp=Z,4μm,33.8s
TBI *e*S **S 02 12 24.5 +1.3**
comp=Z,17μm,30.2s
ITBZ Tabriz 84.56 309 *e*P **P 02 02 48.4 +0.5**
SOKR Solikamsk 84.69 332*c i*P **P 02 02 47.3 -0.4**
SOKR pmax pmax
comp=Z,970nm,1.1s
MAK Makhachkala 84.71 314*d i*P **P 02 02 49.3 +1.1**
MAK *e**PP **pP 02 05 02.8 -0.2**
MAK *e**SP **sP 02 06 06.2 -0.7**
MAK *e* 02 06 18.2
MAK *e*PPP PPP 02 08 16.8
MAK *e*S **SKSac 02 12 14.6 +2.1**
MAK *e*SSS SSS 02 21 56.2
MAK pmax pmax
comp=Z,531nm,0.8s
AKUT Akutan 84.74 34 *e*P **P 02 02 47.6 -0.5**
comp=Z,3μm,1.0s
BHD Baghdad 84.87 304 *i*P **P 02 02 47.0 -2.2**
BHD *i*S S 02 12 16.0 -10
PAE Paea 84.97 107 ⇓*i*P **P 02 02 52.8 +2.8**
comp=Z,226nm,1.1s
ISHB Shabestar 84.97 309 *e*P **P 02 02 50.8 +0.8**
PPT2 Papeete2 84.98 107 ⇓*i*P **P 02 02 53.1 +2.9**
comp=Z,973nm,1.2s
PPT2 Papeete2 84.98 107 *e*PP PP 02 06 13.5 -6.1
PPT2 *e*S **S 02 12 29.2 +1.2**
comp=Z,19μm,30.0s
PPT Papeete 84.98 107 P **P 02 02 52.9 +2.7**
PPT Papeete 84.98 107 P **P 02 02 52.9 +2.7**
comp=Z,582nm,0.7s,baz=311,slow=1.8,SNR=41
TIAR Tiarei 85.20 107 ⇓*i*P **P 02 02 54.1 +2.9**
comp=Z,960nm,0.7s
TVO Taravao 85.27 107 ⇓*i*P **P 02 02 54.6 +3.0**
comp=Z,2μm,1.0s
WNDE Wendo Genet 85.78 278 *i*S S 02 12 23.3 -13
GNI Garni 86.06 311 *e*P **P 02 02 55.6 +0.7**
comp=Z,275nm,0.9s
GNI *e*S **S 02 12 37.4 -0.2**
KMBO Kilima Mbogo 86.10 269 *e*P **P 02 02 55.1 -0.7**
comp=Z,384nm,1.0s
KMBO *e*pP **pP 02 05 12.7 +1.5**
KMBO *e*S **S 02 12 39.8 +0.6**
KMBO PKKPbc **PKKPbc 02 20 53.6 +3.3**
KMBO Kilima Mbogo 86.10 269 PKKPbc PKKPbc 02 20 53.6 +3.3
comp=Z,5.7nm,0.9s,baz=283,slow=5.4,SNR=5.4
FALS False Pass 86.28 34 *e*P **P 02 02 54.6 -0.8**
comp=Z,1μm,1.0s
FALS *e*pP **pP 02 05 11.3 +0.4**
MEH Mehetia 86.38 107 ⇓*i*P **P 02 02 59.3 +2.5**
comp=Z,3μm,1.2s
DYDN Diyadin 86.72 310 *i*P **P 02 02 59.9 +1.8**
PMOR Pomarrio Ree 86.86 105 *e*P **P 02 03 02.0 +3.0**
comp=Z,3μm,1.1s
GEVA Gevas 86.95 309 *i*P **P 02 02 59.6 +0.4**
ZEI Tsey 87.25 314 *e*P **P 02 03 00.7 +0.2**
ZEI pmax pmax
comp=Z,308nm,0.6s
AKH Akhalkalaki 87.25 312 S **ScS 02 12 54.3 +1.4**
KBZ Khabaz 88.16 314 P **P 02 03 05.0 +0.5**
KBZ pmax pmax
comp=Z,194nm,0.8s
KBZ Khabaz 88.16 314 P **P 02 03 05.0 +0.5**
KBZ PKKPbc **PKKPbc 02 20 45.3 -1.0**
KBZ P'P' 02 28 50.5
KBZ Khabaz 88.16 314 P **P 02 03 05.0 +0.5**
comp=Z,194nm,0.8s,baz=102,slow=3.9,SNR=16
KBZ PKKPbc **PKKPbc 02 20 45.3 -1.0**
comp=Z,15nm,0.5s,baz=317,slow=3.8,SNR=28
KBZ PKPPKP **P'P'df 02 28 50.5 -1.8**
comp=Z,14nm,1.0s,baz=244,slow=4.0,SNR=5.4
KIV Kislovodsk 88.35 315 *e*P **P 02 03 06.1 +0.6**
KIV *i* *PP **pP 02 05 24.2 +2.4**
KIV *i* 02 06 54.6
KIV pmax pmax
comp=Z,159nm,1.0s
ARTV Artvin 88.36 312 *i*P **P 02 03 06.7 +0.9**
POGA Pongola 88.37 243⇑*i*P **P 02 03 06.7 +0.8**
POGA AMB AMB 02 03 07.4
comp=Z,543nm,1.1s
DDEM Demirkent 88.44 311 *i*P **P 02 03 06.6 +0.5**
DBOC Borcka 88.59 312 *i*P **P 02 03 07.2 +0.6**
KBSD Kabsdagh 88.67 307 *e*S P 02 03 02.9 -4.2
SFNV Sufian 88.91 307 *e*S **P 02 03 08.8 +0.5**
KSD Kokstad 89.85 239⇑*i*P **P 02 03 14.0 +1.1**
KSD AMB AMB 02 03 14.7
comp=Z,351nm,1.2s
SOC Sochi 90.40 314 *e*P **P 02 03 14.5 -0.4**
SOC *e**PP **pP 02 05 29.5 -2.2**
SOC *e* 02 07 03.8
SOC *e*S **SKSac 02 12 45.8 -0.3**
SOC *e* 02 13 18.8
SOC pmax pmax
comp=Z,221nm,0.9s
VRHR Novokhopersk 90.45 321 *e*P **P 02 03 14.2 -0.7**
VRHR *e**SP 02 05 34.0
VRHR *e*S **S 02 13 12.2 -4.5**
VRHR *e*S **ScS 02 13 14.4 -4.2**
VRHR pmax pmax
comp=N,100nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.6s
VRHR pmax pmax
comp=Z,250nm,0.6s
VRHR smax smax
comp=Z,2μm,2.8s
MSNA Messina 90.46 248⇑*i*P **P 02 03 16.4 +0.7**
MSNA AMB AMB 02 03 17.2
comp=Z,151nm,1.2s
ASF Jabal al Asfar 90.89 302 PKKPbc PKKPbc 02 20 40.3 +1.0
comp=Z,29nm,0.7s,baz=190,slow=1.2,SNR=22
ASF PKPPKP **P'P'df 02 28 46.9 -1.3**
comp=Z,7.3nm,1.0s,baz=76,slow=0.7,SNR=3.4
ERPM east rand prop 91.49 243 *e*P **P 02 03 21.1 +0.5**
ERPM AMB AMB 02 03 22.1
comp=Z,219nm,1.2s
SLR Silverton 91.55 244⇑*i*P **P 02 03 21.2 +0.4**
SLR AMB AMB 02 03 22.1
comp=Z,267nm,1.0s
SEK Senekal 91.73 241⇑*i*P **P 02 03 21.8 +0.2**
SEK AMB AMB 02 03 22.8
comp=Z,207nm,1.2s
GRM Grahamstown 91.86 236⇑*i*P **P 02 03 23.4 +1.5**
GRM AMB AMB 02 03 24.6
comp=Z,250nm,1.2s
VORD Divnogorie 91.88 321 *e*P **P 02 03 20.7 -0.8**
VORD *e**SP **pP 02 05 41.5 +3.0**
VORD *e*S **S 02 13 25.1 -4.2**
VORD pmax pmax
comp=N,130nm,0.7s
VORD pmax pmax
comp=E,100nm,0.7s
VORD pmax pmax
comp=Z,200nm,0.7s
VORD smax smax
comp=N,7μm,4.2s
VORD smax smax
comp=E,8μm,4.2s
VORD smax smax
comp=Z,3μm,4.2s
VSR Storozhevoye 91.99 321*d i*P **P 02 03 21.2 -0.8**
VSR *e**PP **pP 02 05 40.7 +1.6**
VSR pmax pmax
comp=N,100nm,1.1s
VSR pmax pmax
comp=E,420nm,1.1s
VSR pmax pmax
comp=Z,380nm,1.1s
KLOF Kloof 92.05 243 *e*P **P 02 03 23.9 +0.7**
KLOF AMB AMB 02 03 24.5
comp=Z,255nm,1.2s
VOR Voronezh 92.05 322 *e*P **P 02 03 22.0 -0.3**
VOR pmax pmax
comp=Z,620nm,1.4s
PRYS Parys 92.18 243⇑*i*P **P 02 03 23.8 +0.1**
PRYS AMB AMB 02 03 24.7
comp=Z,291nm,1.1s
ANN Anapa 92.21 315*d i*P **P 02 03 22.3 -0.8**
ANN *e**PP **pP 02 05 39.9 -0.3**
ANN *e* 02 07 21.2
ANN *i* 02 12 54.5
ANN pmax pmax
comp=N,112nm,0.8s
ANN pmax pmax
comp=E,84nm,0.8s
ANN pmax pmax
comp=Z,420nm,0.8s
EIL Elat 92.23 299 P P 02 03 28.1 +4.5
baz=92,SNR=6.3
MBAR Mbarara 92.63 269 ⇓*i*P **P 02 03 22.9 -3.1**
MBAR Mbarara 92.63 269 P **P 02 03 23.1 -2.9**
comp=Z,478nm,0.8s,SNR=12
SOE Somerset East 92.75 237 *e*P **P 02 03 27.3 +1.2**
SOE AMB AMB 02 03 28.2
comp=Z,246nm,1.4s
KSR Koster 92.76 244 *e*P **P 02 03 27.6 +1.1**
KSR AMB AMB 02 03 30.3
comp=Z,36nm,2.3s
KDAK Kodiak Island 92.82 32 PKKP **PKKPbc 02 20 31.7 -3.6**
comp=Z,8.2nm,0.4s,baz=64,slow=1.3,SNR=7.3
KIG Kigali 93.13 268⇑*i*P **P 02 03 28.8 +0.5**
KIG AMB AMB 02 03 34.0
comp=Z,73nm,0.9s
BUFB Buffelsbos 93.16 235⇑*i*P **P 02 03 29.2 +1.4**
BUFB AMB AMB 02 03 29.7
comp=Z,210nm,1.4s
LSZ Lusaka 93.17 254⇑*i*P **P 02 03 28.8 +0.4**
LSZ Lusaka 93.17 254 P **P 02 03 29.3 +0.9**
SNR=37
LSZ Lusaka 93.17 254 *e*P **P 02 03 28.7 +0.4**
comp=Z,176nm,0.9s
LSZ *e*pP **pP 02 05 45.6 +0.1**
LSZ *e*sP **sP 02 06 48.7 0.0**
LSZ *e*PP **PP 02 07 21.1 -2.7**
LSZ *e*PKP **PKiKP 02 08 11.4 +0.6**
LSZ S **SKSac 02 13 02.7 -0.1**
LSZ *e*S **ScS 02 13 43.0 -0.1**
LSZ *e*PKKPbc **PKKPbc 02 20 34.1 +1.0**
LSZ Lusaka 93.17 254 PKiKP **PKiKP 02 08 11.2 +0.4**
comp=Z,12nm,0.4s,baz=77,slow=3.0,SNR=10
LSZ S **SKSac 02 13 02.7 -0.1**
comp=Z,11nm,0.9s,baz=309,slow=20,SNR=11
LSZ PKKPbc **PKKPbc 02 20 35.1 +2.0**
comp=Z,66nm,0.6s,baz=344,slow=2.6,SNR=48
HVD Gariep Dam 93.18 239⇑*i*P **P 02 03 28.9 +0.7**
HVD AMB AMB 02 03 29.6
comp=Z,139nm,1.2s
MOS Moscow 93.55 326 *e*P **P 02 03 26.7 -2.3**
MOS *e**PP **pP 02 05 43.0 -3.2**
MOS *e* 02 07 25.7
MOS *i* PPP PPP 02 09 29.7
MOS *e* 02 13 00.3
MOS *i* 02 13 38.5
MOS pmax pmax
comp=Z,1μm,2.3s
MOS pmax pmax
comp=Z,432nm,1.6s
PHNC Paralimni 93.61 305 P **SKSac 02 13 03.0 -1.1**
comp=Z,14nm,1.3s
BOSA Boshof 93.74 241⇑*i*P **P 02 03 31.3 +0.6**
BOSA AMB AMB 02 03 31.9
comp=Z,226nm,1.2s
BOSA Boshof 93.74 241 *e*P **P 02 03 31.0 +0.3**
comp=Z,63nm,1.4s
BOSA *e*pP **pP 02 05 48.5 +0.5**
BOSA *e*PP **PP 02 07 25.8 -1.9**
BOSA PKiKP **PKiKP 02 08 11.3 -0.2**
BOSA PKKPbc **PKKPdf 02 20 29.4 -0.3**
BOSA Boshof 93.74 241 P **P 02 03 31.3 +0.6**
comp=Z,105nm,0.7s,baz=109,slow=4.2,SNR=267
BOSA PKiKP **PKiKP 02 08 11.3 -0.2**
comp=Z,22nm,0.9s,baz=106,slow=1.2,SNR=7.2
BOSA PKKPbc **PKKPdf 02 20 29.4 -0.3**
comp=Z,29nm,0.6s,baz=282,slow=2.7,SNR=14
SNAA Sanae 93.88 195⇑*i*P **P 02 03 31.3 +0.9**
SNAA Sanae 93.88 195 *e*P **P 02 03 30.9 +0.5**
comp=Z,101nm,0.8s
SNAA *e*pP **pP 02 05 47.9 +0.3**
SNAA *e*PP **PP 02 07 29.9 +2.5**
SWZ Schweizer 93.92 242⇑*i*P **P 02 03 32.1 +0.4**
SWZ AMB AMB 02 03 32.8
comp=Z,287nm,1.3s
LBTB Lobatse 94.06 244⇑*i*P **P 02 03 32.9 +0.7**
LBTB AMB AMB 02 03 33.6
comp=Z,183nm,1.1s
LBTB Lobatse 94.06 244 *e*P **P 02 03 32.7 +0.5**
comp=Z,64nm,0.4s
LBTB *e*pP **pP 02 05 50.4 +1.0**
LBTB *e*PP **PP 02 07 29.0 -1.2**
LBTB PKiKP **PKiKP 02 08 12.2 +0.1**
LBTB PKKPbc **PKKPbc 02 20 30.6 -0.5**
LBTB Lobatse 94.06 244 PKiKP **PKiKP 02 08 12.2 +0.1**
comp=Z,9.0nm,0.3s,baz=149,slow=3.6,SNR=17
LBTB PKKPbc **PKKPbc 02 20 30.6 -0.5**
comp=Z,35nm,0.8s,baz=268,slow=5.5,SNR=13
OBN Obninsk 94.07 325*d i*P **P 02 03 30.9 -0.5**
OBN *i* *PP **pP 02 05 49.2 +0.6**
OBN *i* 02 07 28.8
OBN pmax pmax
comp=Z,836nm,1.6s
OBN Obninsk 94.07 325 P **P 02 03 31.8 +0.4**
comp=Z,5μm,0.6s,SNR=17
CSS Prodhromos 94.18 305 P **SKSac 02 13 08.7 +1.5**
CSS Prodhromos 94.18 305 *e*P **P 02 03 31.9 -0.5**
MAMC Mammari 94.29 305 P **SKSac 02 13 06.3 -1.4**
BR131 Keskin Array S 94.41 309 *e*P **P 02 03 32.6 -0.9**
comp=Z,155nm,0.9s
BRTR Keskin Array B 94.41 309 P **P 02 03 32.5 -1.1**
BRTR PKiKP **PKiKP 02 08 11.9 -0.3**
BRTR PKKP **PKKPdf 02 20 30.0 +0.7**
BRTR P'P' 02 28 37.0
BRTR Keskin Array B 94.41 309 P **P 02 03 32.5 -1.1**
comp=Z,84nm,0.6s,baz=123,slow=5.2,SNR=20
BRTR PKiKP **PKiKP 02 08 11.9 -0.3**
comp=Z,9.0nm,0.7s,baz=136,slow=3.2,SNR=7.5
BRTR PKKP **PKKPdf 02 20 30.0 +0.7**
comp=Z,11nm,0.8s,baz=260,slow=1.0,SNR=7.4
BRTR PKPPKP **P'P'df 02 28 37.0 -4.1**
comp=Z,5.4nm,1.0s,baz=197,slow=3.8,SNR=5.0
TMCR Tamitsa 94.43 334 *e*P **P 02 03 30.9 -1.9**
TMCR pmax pmax
comp=Z,369nm,0.8s
SIM Simferopol' 94.57 315 *e*P **P 02 03 34.7 +0.8**
SIM *e**PP **pP 02 05 50.0 -1.2**
SIM *e* 02 07 34.0
SIM *e*PPP PPP 02 09 41.0
SIM pmax pmax
comp=Z,270nm,0.7s
ALFC Alevga 94.80 305 P **SKSac 02 13 07.9 -2.5**
PPCY Paphos 94.98 304 P **SKSac 02 13 09.5 -1.8**
AKMC Akamas 95.00 305 P **SKSac 02 13 08.4 -3.1**
ANTO Ankara 95.07 309 ⇓*i*P **SKSac 02 13 13.9 +2.1**
TAOE Nuku Hiva Isla 95.17 100 *e*P **P 02 03 39.4 +1.9**
comp=Z,278nm,0.9s
TAOE Nuku Hiva Isla 95.17 100 *e*S **S 02 13 57.6 -1.9**
comp=Z,15μm,25.7s
MCK McKinley 95.34 27 *e*P **P 02 03 36.0 -1.0**
MCK pmax pmax
comp=Z,701nm,1.0s
MCK McKinley 95.34 27 *e*P **P 02 03 36.0 -1.0**
comp=Z,701nm,1.0s
COLA College 95.91 25 *e*P **P 02 03 39.1 -0.3**
COLA pmax pmax
comp=Z,752nm,0.9s
COLA College 95.91 25 *e*P **P 02 03 39.1 -0.3**
comp=Z,752nm,0.9s
LVZ Lovozero 96.17 338*d i*P **P 02 03 39.0 -1.7**
LVZ pmax pmax
comp=Z,143nm,1.0s
ILAR Eielson Array 96.31 26 P **P 02 03 40.0 -1.3**
ILAR PKiKP **PKiKP 02 08 13.6 -1.1**
ILAR PKKP **PKKPdf 02 20 21.8 -4.5**
ILAR SKKP 02 23 02.8
ILAR Eielson Array 96.31 26 P **P 02 03 40.0 -1.3**
comp=Z,124nm,1.0s,baz=240,slow=4.7,SNR=15
ILAR PKiKP **PKiKP 02 08 13.6 -1.1**
comp=Z,11nm,0.5s,baz=284,slow=3.5,SNR=10.0
ILAR PKKP **PKKPdf 02 20 21.8 -4.5**
comp=Z,18nm,0.8s,baz=69,slow=1.0,SNR=16
ILAR SKKP 02 23 02.8
comp=Z,14nm,1.0s,baz=77,slow=1.1,SNR=7.4
APA Apatity 96.62 337⇑*i*P **P 02 03 41.4 -1.2**
APA *i* *PP **pP 02 05 58.0 -2.2**
APA *i* 02 07 50.0
APA *i* 02 13 22.0
APA *i*S **S 02 14 06.0 -3.4**
APA *i*SS SS 02 21 18.0 +14
APA MLR MLR
comp=Z,8μm,28.0s
ISP Isparta 96.68 307 P **SKSac 02 13 19.1 -1.1**
ISP Isparta 96.68 307 ⇓*i*P **SKSac 02 13 25.4 +5.2**
SUR Sutherland 96.75 236⇑*i*P **P 02 03 45.6 +1.3**
SUR AMB AMB 02 03 46.8
comp=Z,80nm,1.2s
SUR Sutherland 96.75 236 *e*P **P 02 03 45.7 +1.4**
comp=Z,257nm,1.4s
SUR PKKPbc **PKKPdf 02 20 25.1 +0.6**
SUR Sutherland 96.75 236 PKKPbc PKKPbc 02 20 25.1 +0.7
comp=Z,54nm,0.8s,baz=286,slow=3.7,SNR=15
PAX Paxson 96.85 27 *e*P **P 02 03 44.0 +0.1**
PAX pmax pmax
comp=Z,314nm,1.1s
PAX Paxson 96.85 27 *e*P **P 02 03 44.0 +0.1**
comp=Z,314nm,1.1s
ELIM Elim 97.11 234 *e*P **PP 02 07 51.3 -1.5**
ELIM AMB AMB 02 07 59.3
comp=Z,199nm,1.5s
UPI Upington 97.24 240 *e*P **P 02 03 47.7 +1.3**
UPI AML AML 02 04 05.8
comp=Z,8.1nm,0.7s
JOF Joensuu 97.34 333 *e*P Pdif 02 03 44.4 -1.5
JOF pmax pmax
comp=Z,84nm,0.7s
RKT Rikitea 97.73 114 *e*PP PP 02 07 44.0 -14
comp=Z,3μm,31.2s
RKT *e*S **S 02 14 19.1 -1.5**
comp=Z,12μm,31.5s
CER Ceres 97.76 235⇑*i*P **P 02 03 49.5 +0.9**
CER AMB AMB 02 03 51.6
comp=Z,86nm,1.7s
CVNA Calvinia 97.82 237⇑*i*P **P 02 03 50.3 +1.3**
CVNA AMB AMB 02 03 51.3
comp=Z,148nm,1.3s
AKASG Malin Array Be 98.21 320 P Pdif 02 03 49.1 -0.9
AKASG 02 08 04.8
AKASG S **SKSac 02 13 25.8 -1.2**
AKASG pmax pmax
comp=Z,161nm,0.6s
AKASG pmax pmax
comp=Z,46nm,1.0s
AKASG smax smax
comp=N,20nm,0.9s
AKASG Malin Array Be 98.21 320 P Pdif 02 03 49.1 -0.9
AKASG PP **PP 02 08 04.8 +4.0**
AKASG S **SKSac 02 13 25.8 -1.2**
AKASG PKKPbc **PKKPbc 02 20 18.4 -2.3**
AKASG SKKP 02 22 57.3
AKASG Malin Array Be 98.21 320 P Pdif 02 03 49.1 -0.9
comp=N,108nm,0.6s,baz=70,slow=4.9,SNR=22
AKASG PP **PP 02 08 04.8 +4.0**
comp=N,46nm,1.0s,baz=91,slow=6.0,SNR=4.4
AKASG S **SKSac 02 13 25.8 -1.2**
comp=N,20nm,0.9s,baz=87,slow=5.1,SNR=5.0
AKASG PKKPbc **PKKPbc 02 20 18.4 -2.3**
comp=N,47nm,0.6s,baz=275,slow=3.3,SNR=51
AKASG SKKP 02 22 57.3
comp=N,11nm,0.8s,baz=270,slow=3.3,SNR=7.0
KIEV Kiev 98.22 320 *e*P Pdif 02 03 49.2 -0.9
KIEV *e* 02 08 00.1
KIEV pmax pmax
comp=Z,212nm,0.8s
KIEV Kiev 98.22 320 *e*P Pdif 02 03 49.2 -0.9
comp=Z,212nm,0.8s
KIEV *e*PP **PP 02 08 00.1 -0.8**
02 08 59.0
KIS Kishinev 98.38 316 *e*PsP **P 02 08 00.1 -0.8**
KIS *i* ScS **SKiKP 02 10 50.0 -4.4**
KIS *e*SSS SSS 02 13 03.0
KIS *e*LQ LQ 02 18 17.0
KIS *e*LR LR 02 22 00.0
comp=Z,3μm,11.0s
ARG Arkhangelos 98.50 305 P **SKSac 02 13 34.0 +4.9**
TIRR Tirgusor 98.59 314 ⇓*i*P **SKSac 02 13 35.4 +6.2**
LEOM Leova 98.76 316 ⇓*i*P **SKSac 02 13 27.3 -2.6**
CFR Carcaliu 98.81 315 ⇓*i*P **SKSac 02 13 32.2 +2.0**
IAS Iasi 99.24 317⇑*i*P **SKSac 02 13 37.0 +4.8**
KARP Karpathos 99.26 305 P **SKSac 02 13 30.7 -2.3**
ARCES ARCESS Array B 99.49 339 P **Pdif 02 03 54.6 -0.7**
ARCES PKiKP **PKiKP 02 08 20.1 -0.2**
ARCES S **SKSac 02 13 30.2 -2.4**
ARCES PKKPbc **PKKPbc 02 20 13.7 -4.2**
ARCES ARCESS Array B 99.49 339 P **Pdif 02 03 54.6 -0.7**
comp=Z,122nm,0.8s,baz=89,slow=5.3,SNR=17
ARCES PKiKP **PKiKP 02 08 20.1 -0.2**
comp=Z,20nm,0.6s,baz=111,slow=1.3,SNR=18
ARCES S **SKSac 02 13 30.2 -2.4**
comp=Z,8.8nm,0.8s,baz=97,slow=2.9,SNR=3.3
ARCES PKKPbc **PKKPbc 02 20 13.7 -4.2**
comp=Z,20nm,0.4s,baz=250,slow=3.4,SNR=30
ARE0 ARCESS Array S 99.49 339 *e*P **Pdif 02 03 54.2 -1.1**
ARE0 *e*PKKP **PKKPbc 02 20 13.9 -4.0**
SMG Samos 99.59 307 P **SKSac 02 13 35.4 +1.0**

VSU	Vasula	99.61 328	c	iP	Pdif	02 03 55.3	-0.8
KAF	Kangasniemi	99.67 332	eP		Pdif	02 03 54.6	-1.7
KAF				pmax	pmax		
	comp=Z,70nm,0.7s						
KAF	Kangasniemi	99.67 332	ep		PKiKP	02 08 20.6	-0.1
	comp=Z,42nm,0.7s						
VRI	Vrincioaia	99.81 315	⇓	iP	SKSac	02 13 39.0	+3.9
VRI	Vrincioaia	99.81 315	⇑	iP	PKKPbc	02 20 12.7	-3.5
FINES	FINESS Array B	99.82 331		P	Pdif	02 03 55.6	-1.4
FINES				PKiKP	PKiKP	02 08 21.2	+0.3
FINES				S	SKSac	02 13 33.0	-1.3
FINES				PKKPbc	PKKPbc	02 20 12.9	-3.8
FINES	FINESS Array B	99.82 331		P	Pdif	02 03 55.6	-1.4
	comp=Z,58nm,0.6s,baz=90,slow=4.4,SNR=13						
FINES				PKiKP	PKiKP	02 08 21.2	+0.3
	comp=Z,33nm,0.4s,baz=100,slow=2.9,SNR=22						
FINES				S	SKSac	02 13 33.0	-1.3
	comp=Z,21nm,0.9s,baz=103,slow=6.3,SNR=4.1						
FINES				PKKPbc	PKKPbc	02 20 12.9	-3.8
	comp=Z,8.7nm,0.5s,baz=285,slow=2.5,SNR=9.1						
PLOR	Plostina	99.86 315	⇓	iP	SKSac	02 13 38.2	+2.7
PLOR	Plostina	99.86 315	⇑	iP	PKKPbc	02 20 14.9	-1.2
TESR	Tescani	99.87 316	⇑	iP	SKSac	02 13 36.9	+1.5
TESR	Tescani	99.87 316	⇑	iP	PKKPbc	02 20 14.1	-2.0
JMB	Yambol	99.89 312		P	SKSac	02 13 35.4	-0.2
ZKR	Zakros	100.01 304		P	SKSac	02 13 37.0	+0.4
PRK	Paraskevi	100.07 309		P	SKSac	02 13 36.5	-0.1
SULR		100.14 314	⇓	iP	PKKPbc	02 20 13.4	-1.8
CHOS	Chios island	100.22 308		P	SKSac	02 13 38.4	+0.8
SECR		100.27 314	⇓	iP	SKSac	02 13 35.4	-2.0
KTK1	Kautokeino	100.35 339		eP	Pdif	02 03 58.7	-0.5
KTK1				AMB	AMB	02 03 59.4	
	comp=Z,995nm,1.2s						
KTK1				ePKKP	PKKPbc	02 20 12.8	-2.7
SPA0	Spitsbergen Ar	100.49 348		eP	Pdif	02 03 59.2	-0.5
SPA0				ePKKP	PKKPbc	02 20 12.6	-2.6
SPITS	Spitsbergen Ar	100.49 348		P	Pdif	02 03 58.9	-0.8
SPITS				PKiKP	PKiKP	02 08 22.2	+0.4
SPITS				PKKPbc	PKKPbc	02 20 11.9	-3.3
SPITS	Spitsbergen Ar	100.49 348		P	Pdif	02 03 58.9	-0.8
	comp=Z,223nm,0.6s,baz=95,slow=8.5,SNR=32						
SPITS				PKiKP	PKiKP	02 08 22.2	+0.4
	comp=Z,33nm,0.8s,baz=99,slow=4.5,SNR=7.8						
SPITS				PKKPbc	PKKPbc	02 20 11.9	-3.3
	comp=Z,25nm,0.7s,baz=141,slow=4.8,SNR=26						
NPS	Neapolis	100.51 304		P	SKSac	02 13 35.8	-3.2
APE	Apeiranthos	100.62 306		P	SKSac	02 13 37.4	-2.1
APE	Apeiranthos	100.62 306	⇑	iP	SKSac	02 13 38.6	-0.9
LAST	Lasithi	100.62 304		P	SKSac	02 13 42.2	+2.6
SMTH	Samothraki Isl	100.66 310		P	SKSac	02 13 38.5	-0.9
SANT	Santorini	100.66 306		P	SKSac	02 13 37.8	-1.9
THR3	Thira Island,	100.71 306		P	SKSac	02 13 38.8	-1.0
BURAR	Bucovina Array	100.83 317	⇓	iP	SKSac	02 13 47.2	+7.0
BURAR	Bucovina Array	100.83 317	⇑	iP	PKKPbc	02 20 12.9	-0.6
BUR08	Bucovina Ar. S	100.84 317		ePdif	Pdif	02 04 02.4	+0.4
LIA	Limnos Island	100.92 309		P	SKSac	02 13 39.1	-1.5
VOIR		100.99 315	⇑	iP	SKSac	02 13 43.2	+2.3
VOIR		100.99 315	⇓	iP	PKKPbc	02 20 12.7	-0.3
IDI	Anoyia	101.10 304		P	SKSac	02 13 37.6	-4.3
SIVA	Sivas	101.17 304		P	SKSac	02 13 42.2	+0.2
PLD	Plovdiv	101.28 311		P	SKSac	02 13 40.5	-1.7
PLD	Plovdiv	101.28 311		P	PKKPbc	02 20 10.9	-1.0
ARR	Arges	101.28 315	⇓	iP	SKSac	02 13 43.2	+0.9
ARR	Arges	101.28 315	⇑	iP	PKKPbc	02 20 11.8	-0.3
KAVA	Kavala	101.43 310		P	SKSac	02 13 41.7	-1.3
INK	Inuvik	101.46 22		ePdif	Pdif	02 04 03.9	-0.2
INK				ePKP	PKiKP	02 08 23.6	-0.2
INK				PKiKP	PKiKP	02 08 23.9	+0.1
INK				S	SKSac	02 13 39.6	-2.3
INK				PKKPbc	PKKPbc	02 20 05.4	-6.8
INK				SKKP		02 22 53.8	
INK	Inuvik	101.46 22		P	Pdif	02 04 03.9	-0.2
	comp=Z,43nm,0.8s,baz=310,slow=3.7,SNR=2.4						
INK				PKiKP	PKiKP	02 08 23.9	+0.1
	comp=Z,46nm,0.6s,baz=310,slow=3.3,SNR=28						
INK				S	SKSac	02 13 39.6	-2.3
	comp=Z,46nm,1.0s,baz=150,slow=20,SNR=26						
INK				PKKPbc	PKKPbc	02 20 05.4	-6.8
	comp=Z,10nm,0.5s,baz=92,slow=2.7,SNR=9.0						
INK				SKKP		02 22 53.8	
	comp=Z,40nm,1.2s,baz=91,slow=2.9,SNR=6.3						
MRMA	Marmari	101.54 307		P	SKSac	02 13 44.4	+0.7
VAM	Vamos	101.67 305		P	SKSac	02 13 44.5	+0.1
TRO	Tromso	101.76 340		ePKKP	PKKPbc	02 20 08.5	-2.8
OUR	Ouranopolis	101.84 310		P	SKSac	02 13 43.2	-1.7
OUR	Ouranopolis	101.84 310		P	PKKPbc	02 20 08.9	-1.3
LOT	Lotru	101.89 315	⇑	iP	PKKPbc	02 20 08.8	-1.6
KARN	Karanos	101.90 305		P	SKSac	02 13 44.4	-1.1
NVR	Nevrokopi	101.92 311		P	SKSac	02 13 40.2	-5.2
NVR	Nevrokopi	101.92 311		P	PKKPbc	02 20 09.2	-0.9
NVR	Nevrokopi	101.92 311		eP	PKKPbc	02 20 08.5	-1.6
AOS	Alonnisos	101.93 308		P	SKSac	02 13 45.6	+0.2
AOS	Alonnisos	101.93 308		P	PKKPbc	02 20 09.1	-0.8
AOS	Alonnisos	101.93 308		eP	PKKPbc	02 20 09.5	-0.4
PTL	Penteli	101.95 307		P	SKSac	02 13 46.0	+0.3
ERET	Eretria	101.99 308		P	SKSac	02 13 44.9	-1.0
ATHU	Athens Univers	102.01 307		P	SKSac	02 13 43.6	-2.3
ATH	Athens Observa	102.06 307		P	SKSac	02 13 44.9	-1.2
PAIG	Paliouri	102.08 309		P	SKSac	02 13 44.0	-2.1
PAIG	Paliouri	102.08 309		P	PKKPbc	02 20 06.8	-2.7
PAIG	Paliouri	102.08 309		eP	PKKPbc	02 20 09.0	-0.5
SRS	Serrai	102.13 310		P	SKSac	02 13 43.9	-2.4
SRS	Serrai	102.13 310		P	PKKPbc	02 20 08.4	-1.1
MRKA	Markates	102.16 308		P	SKSac	02 13 46.4	-0.2
MRKA	Markates	102.16 308		P	PKKPbc	02 20 08.5	-0.8
NAIG	Nisos Aigina	102.25 307		eP	PKKPbc	02 20 05.0	-4.0
PLG	Polygyros	102.25 310		P	SKSac	02 13 44.2	-2.8
PLG	Polygyros	102.25 310		P	PKKPbc	02 20 08.5	-0.6
PLG	Polygyros	102.25 310		eP	PKKPbc	02 20 08.5	-0.6
SKIA	Skiathos	102.25 308		P	SKSac	02 13 44.5	-2.5
SOH	Sokhos	102.31 310		P	SKSac	02 13 45.3	-2.0
SOH	Sokhos	102.31 310		P	PKKPbc	02 20 08.1	-0.9
SOH	Sokhos	102.31 310		eP	PKKPbc	02 20 08.0	-0.9
VTS	Vitosha	102.38 312		P	SKSac	02 13 47.4	-0.3
VTS	Vitosha	102.38 312		P	PKKPbc	02 20 08.4	-0.6
VTS	Vitosha	102.38 312	⇓	iP	SKSac	02 13 49.2	+1.5
VTS	Vitosha	102.38 312	⇓	iP	PKKPbc	02 20 08.7	-0.3
ANKY	Antikythira Is	102.40 305		P	SKSac	02 13 45.5	-2.3
KWP	Kalwaria Pacla	102.42 319	⇓	iP	SKSac	02 13 54.9	+7.6
KWP	Kalwaria Pacla	102.42 319	⇓	iP	PKKPbc	02 20 08.8	-0.1
DID	Didima	102.45 307		P	SKSac	02 13 43.3	-4.7
DID	Didima	102.45 307		P	PKKPbc	02 20 06.3	-2.1
DID	Didima	102.45 307		eP	PKKPbc	02 20 06.5	-1.9
SMIA	Simia	102.46 308		P	SKSac	02 13 46.6	-1.4
SMIA	Simia	102.46 308		P	PKKPbc	02 20 08.0	-0.4
XOR	Xorichti	102.46 309		P	SKSac	02 13 45.2	-2.8
XOR	Xorichti	102.46 309		P	PKKPbc	02 20 07.1	-1.3
TSUM	Tsumeb	102.46 249	⇑	iP	Pdif	02 04 10.8	+0.9
TSUM	Tsumeb	102.46 249		ePdif	Pdif	02 04 10.5	+0.6
	comp=Z,24nm,1.0s						
TSUM				ePP	PP	02 08 32.2	-1.1
TSUM				ePKKPbc	PKKPbc	02 20 08.4	+0.3
TSUM				PKKPbc	PKKPdf	02 20 08.6	-5.4
TSUM				ePKKPdf	PKKPdf	02 20 13.7	-0.2
DIDY	Didyma	102.47 307		P	SKSac	02 13 42.2	-6.0
DIDY	Didyma	102.47 307		P	PKKPbc	02 20 06.3	-2.2
HORT	Hortiatis	102.51 310		P	SKSac	02 13 45.9	-2.4
HORT	Hortiatis	102.51 310		P	PKKPbc	02 20 07.7	-0.7
DRGR		102.57 316	⇑	iP	PKKPbc	02 20 07.8	-0.7
GZR	Gura Zlata	102.59 315	⇓	iP	SKSac	02 13 57.1	+8.7
GZR	Gura Zlata	102.59 315	⇓	iP	PKKPbc	02 20 07.9	-0.4
THE	Thessaloniki	102.61 310		P	SKSac	02 13 46.1	-2.4
THE	Thessaloniki	102.61 310		P	PKKPbc	02 20 07.2	-0.8
TRPA	Tarpa	102.61 318	⇓	iP	PKKPbc	02 20 07.7	-0.5
KYTH	Kithira	102.62 305		eP	PKKPbc	02 20 07.5	-0.4
LKR	Lokris	102.62 308		eP	PKKPbc	02 20 07.0	-0.9
KNT	Kendrikon	102.65 310		P	SKSac	02 13 46.7	-2.0
KNT	Kendrikon	102.65 310		P	PKKPbc	02 20 06.9	-1.0
LTK	Loutraki	102.66 307		P	SKSac	02 13 46.6	-2.3
LTK	Loutraki	102.66 307		P	PKKPbc	02 20 06.9	-0.9
LTK	Loutraki	102.66 307		eP	PKKPbc	02 20 07.0	-0.9
VLI	Veliai	102.69 306		P	SKSac	02 13 46.0	-3.1
VLI	Veliai	102.69 306		P	PKKPbc	02 20 07.3	-0.3
VLI	Veliai	102.69 306		eP	PKKPbc	02 19 55.5	-12
ACOR	Acrocorinthos	102.74 307		P	SKSac	02 13 46.2	-3.1
AXAR	Agios Charalam	102.89 308		P	SKSac	02 13 45.9	-4.0
AXAR	Agios Charalam	102.89 308		P	PKKPbc	02 20 06.6	-0.6
VAY	Valandovo	102.89 311		P	SKSac	02 13 46.4	-3.4
VAY	Valandovo	102.89 311		P	PKKPbc	02 20 05.8	-1.4
VAY	Valandovo	102.89 311	⇑	iP	PKKPbc	02 20 01.5	-5.7
LIT	Litokhoron	102.99 309		P	PKKPbc	02 20 06.2	-0.7
LIT	Litokhoron	102.99 309		eP	PKKPbc	02 20 06.0	-0.9
DSF	Desfina	103.00 308		P	SKSac	02 13 44.2	-6.3
DSF	Desfina	103.00 308		P	PKKPbc	02 20 06.2	-0.7
GRG	Griva	103.03 310		P	SKSac	02 13 48.4	-2.1
GRG	Griva	103.03 310		P	PKKPbc	02 20 06.5	-0.4
GRG	Griva	103.03 310		eP	PKKPbc	02 20 07.0	+0.1
VLX	Vlachokerasia	103.13 307		P	SKSac	02 13 49.0	-2.3
VLX	Vlachokerasia	103.13 307		P	PKKPbc	02 20 06.8	+0.3
VLX	Vlachokerasia	103.13 307		eP	PKKPbc	02 20 03.0	-3.5
AGG	Agios Georgios	103.14 308		P	SKSac	02 13 41.6	-10
AGG	Agios Georgios	103.14 308		P	PKKPbc	02 20 05.9	-0.5
AGG	Agios Georgios	103.14 308		eP	PKKPbc	02 20 06.0	-0.5
GUR	Goura	103.15 307		P	SKSac	02 13 48.3	-3.1
DYR	Agios Nikonas	103.18 306		P	SKSac	02 13 44.8	-6.6
DYR	Agios Nikonas	103.18 306		eP	PKKPbc	02 20 06.0	-0.3
CRVS	Cervenica-Dubn	103.28 318		eP	Pdif	02 04 19.6	+6.9
CRVS	Cervenica-Dubn	103.28 318		PDIF	Pdif	02 04 19.6	+6.9
MAKR	Makrakomi, Fth	103.29 308		P	SKSac	02 13 50.6	-1.2
KLV	Kalavryta, Ach	103.30 307		P	SKSac	02 13 50.8	-1.2
KLV	Kalavryta, Ach	103.30 307		eP	PKKPbc	02 20 05.5	-0.5
KALE	Kalithea	103.30 308		P	SKSac	02 13 46.9	-5.0
KALE	Kalithea	103.30 308		eP	PKKPbc	02 20 05.5	-0.5
SIRR	Siria	103.33 316	⇓	iP	PKKPbc	02 20 05.5	-0.7
TRIZ	Trizonia	103.36 308		P	SKSac	02 13 49.3	-2.7
TRIZ	Trizonia	103.36 308		eP	PKKPbc	02 20 05.0	-0.7
THL	Klokotos Trika	103.37 309		P	SKSac	02 13 50.4	-1.6
THL	Klokotos Trika	103.37 309		P	PKKPbc	02 20 05.0	-0.8
THL	Klokotos Trika	103.37 309		eP	PKKPbc	02 20 05.0	-0.8
BZS	Buzias	103.39 315	⇓	iP	PKKPbc	02 20 06.1	+0.2
STEI	Steigen	103.45 338		eP	Pdif	02 04 12.1	-0.9
EFP	Efpalio	103.48 308		P	SKSac	02 13 45.5	-7.1
EFP	Efpalio	103.48 308		eP	PKKPbc	02 19 59.5	-5.9
ITM	Ithomi	103.50 306		P	SKSac	02 13 47.3	-5.5
ITM	Ithomi	103.50 306		eP	PKKPbc	02 20 04.5	-0.8
KZN	Kozani	103.53 310		P	SKSac	02 13 51.5	-1.4
KZN	Kozani	103.53 310		P	PKKPbc	02 20 04.8	-0.6
KZN	Kozani	103.53 310		eP	PKKPbc	02 20 05.0	-0.4
EVR	Evrytania	103.55 308		eP	PKKPbc	02 19 58.5	-6.9
PYL	PYLOS	103.65 306		P	SKSac	02 13 52.2	-1.2
PYL	PYLOS	103.65 306		eP	PKKPbc	02 20 04.0	-0.9
AMT	Artemida-Makis	103.66 307		P	SKSac	02 13 53.1	-0.4
AMT	Artemida-Makis	103.66 307		eP	PKKPbc	02 20 05.0	+0.1
SKO	Skopje	103.71 311		P	SKSac	02 13 55.4	+1.9
SKO	Skopje	103.71 311		P	PKKPbc	02 20 04.8	-0.1
SKO	Skopje	103.71 311	⇑	iP	PKKPbc	02 20 01.6	-3.3
FNA	Florina	103.81 310		P	SKSac	02 13 52.4	-1.8
FNA	Florina	103.81 310		P	PKKPbc	02 20 03.9	-0.7
FNA	Florina	103.81 310		eP	PKKPbc	02 20 04.0	-0.7
RLS	Riolos of Patr	103.84 307		P	SKSac	02 13 55.5	+1.3
RLS	Riolos of Patr	103.84 307		eP	PKKPbc	02 20 04.5	+0.2
BIA	Bitola	103.84 310		P	SKSac	02 13 53.2	-1.1
BIA	Bitola	103.84 310		P	PKKPbc	02 20 03.5	-1.0
BIA	Bitola	103.84 310		iP	PKKPbc	02 20 03.3	-1.2
AXS	Araxos	103.91 307		P	SKSac	02 13 53.2	-1.3
LOF	Lofoten	104.01 339		eP	Pdif	02 04 14.4	-1.0
LOF				ePKKP	PKKPbc	02 19 44.0	-21
NEST	Nestorio	104.08 310		P	SKSac	02 13 55.5	0.0
NEST	Nestorio	104.08 310		P	PKKPbc	02 20 03.2	-0.7
MOR8	Moi Rana	104.19 337		eP	Pdif	02 04 14.8	-1.5
MOR8				AMB	AMB	02 04 17.3	
	comp=Z,107nm,1.6s						
JAN	Janina	104.26 309		P	SKSac	02 13 50.4	-5.8
KBN	Korca	104.27 310		P	SKSac	02 13 53.6	-2.6
KBN	Korca	104.27 310		P	PKKPbc	02 20 03.5	+0.2
KFL	Anninata	104.37 307		P	SKSac	02 13 57.5	+0.8
KFL	Anninata	104.37 307		P	PKKPbc	02 20 01.9	-0.9
PSZ	Piszkesteto	104.40 318		eP	Pdif	02 04 17.5	-0.3
PSZ	Piszkesteto	104.40 318	⇑	iP	PKKPbc	02 20 02.3	-0.8
PSZ	Piszkesteto	104.40 318		ePdif	Pdif	02 04 17.5	-0.3
PSZ				ePKP	PKiKP	02 08 29.6	-0.3
LKD2	Lefkada island	104.45 308		P	PKKPbc	02 20 02.1	-0.5
LKD2	Lefkada island	104.45 308		eP	PKKPbc	02 20 02.5	-0.1
PHP	Peshkopia	104.47 311		P	SKSac	02 13 55.9	-1.2
PHP	Peshkopia	104.47 311		P	PKKPbc	02 20 02.4	-0.3
DIVS	Divibare	104.65 314		P	SKSac	02 13 57.5	-0.3
IGT	Igoumenitsa	104.67 309		P	SKSac	02 13 57.8	-0.1
IGT	Igoumenitsa	104.67 309		P	PKKPbc	02 20 01.4	-0.6
SRN	Sarande	104.91 309		P	SKSac	02 13 58.0	-0.9
TIR	Tirane	104.93 311		P	SKSac	02 13 59.3	+0.3
TIR	Tirane	104.93 311		P	PKKPbc	02 20 01.6	+0.4
VYHS	Vyhne	105.05 318		ePP	PP	02 08 56.4	+5.1
KEK	Kerkira	105.07 309		P	SKSac	02 13 56.7	-3.0
KEK	Kerkira	105.07 309		P	PKKPbc	02 20 00.3	-0.5
KEK	Kerkira	105.07 309		eP	PKKPbc	02 20 00.5	-0.3
PDG	Podgorica	105.31 312		P	SKSac	02 14 00.6	0.0
PDG	Podgorica	105.31 312		P	PKKPbc	02 19 59.5	-0.6
OKC	Ostrava-Krasne	105.34 320		ePKP	PKiKP	02 08 31.9	+0.5
OKC				eSKS	SKSac	02 14 01.7	+1.3
OKC				iPKKP	PKKPbc	02 19 59.8	-0.5
PKSM	Moragy	105.42 316	⇑	iP	PKKPbc	02 19 59.5	-0.4
NSS	Namsos	105.63 335		eP	Pdif	02 04 21.9	-0.8
NSS				ePKKP	PKKPbc	02 19 58.0	-1.8
MORC	Moravsky Berou	105.74 320		ePKP	PKiKP	02 08 32.6	+0.3
KSP	Ksiaz	106.38 321		eP	Pdif	02 04 30.8	+4.4
DPC	Dobruska-Polom	106.44 320		ePKP	PKiKP	02 08 34.4	+0.9
DPC				ex	x	02 08 38.5	
DPC				ex	x	02 09 12.2	
DPC				eSKS	SKSac	02 14 06.6	+1.3
DPC				ex	x	02 17 07.2	
DPC				iPKKP	PKKPbc	02 19 56.5	-0.6
DPC				ex	x	02 20 15.1	
BSD	Bornholm Skovb	106.45 325	⇓	iP	PKiKP	02 08 33.8	+0.5
	comp=Z,49nm,0.9s						
UPC	Upice	106.61 321		ePKP	PKiKP	02 08 34.3	+0.5
UPC				eSKS	SKSac	02 14 07.9	+2.0
UPC				ex	x	02 17 09.8	
UPC				iPKKP	PKKPbc	02 19 55.8	-0.7
UPC				ex	x	02 20 14.3	
NC602	NORSAR Array S	106.89 332		ePKKP	PKKPbc	02 19 53.4	-2.5
NB2	NORSAR Subarra	106.95 332		P	Pdif	02 04 27.7	-1.1
	comp=Z,27nm,0.7s,baz=75,slow=4.4						
NB2	NORSAR Subarra	106.95 332		P	Pdif	02 04 27.7	-1.1
	baz=75,slow=4.4						
NOA	NORSAR Array B	106.95 332		Pdif	Pdif	02 04 28.0	-0.8
NOA				PKiKP	PKiKP	02 08 34.0	-0.1
NOA				PKKPbc	PKKPbc	02 19 52.6	-3.2
NOA	NORSAR Array B	106.95 332		Pdiff	Pdif	02 04 28.0	-0.8
	comp=Z,22nm,0.6s,baz=76,slow=4.5,SNR=8.6						
NOA				PKiKP	PKiKP	02 08 34.0	-0.1
	comp=Z,20nm,0.8s,baz=261,slow=3.2,SNR=7.5						
NOA				PKKPbc	PKKPbc	02 19 52.6	-3.2
	comp=Z,4.7nm,0.5s,baz=259,slow=2.3,SNR=15						
TREC	Trest	107.13 319		ePKP	PKiKP	02 08 35.3	+0.5
TREC				ex	x	02 08 39.5	
TREC				ePP	PP	02 09 13.1	+6.8
TREC				eSKS	SKSac	02 14 11.1	+2.8
TREC				iPKKP	PKKPbc	02 19 54.2	-0.7
TREC				ex	x	02 20 12.2	
NAO01	NORSAR Array S	107.16 332		ePKP	PKiKP	02 08 34.9	+0.4
ARSA	Arzberg	107.42 317	⇓	iPKiKP	PKiKP	02 08 35.3	-0.1
	comp=Z,21nm,0.7s						
RGN	Rugen	107.47 325		ePKP	PKiKP	02 08 35.9	+0.7
PVCC	Panska Ves	107.51 321		ePKP	PKiKP	02 08 36.4	+0.9
PVCC				ex	x	02 08 40.9	
PVCC				ex	x	02 17 15.9	
PVCC				iPKKP	PKKPbc	02 19 52.6	-1.1
PVCC				ex	x	02 20 09.5	
PRU	Pruhonice	107.62 320		ePKP	PKiKP	02 08 36.0	+0.3
PRU				ex	x	02 08 39.9	
PRU				ePP	PP	02 09 12.0	+2.3
PRU				eSKS	SKSac	02 14 11.4	+1.1
PRU				ex	x	02 17 18.2	
PRU				iPKKP	PKKPbc	02 19 52.2	-1.2
PRU				ex	x	02 20 09.8	
RUE	Ruedersdorf	107.63 323		ePKP	PKiKP	02 08 35.8	+0.2
RUE				ePKKPbc	PKKPbc	02 19 52.4	-1.0
PRA	Prague	107.68 320		PKP	PKiKP	02 08 37.0	+1.2
PRA				PP	PP	02 09 13.0	+2.9
PRA				SKS	SKSac	02 14 12.0	+1.5
COP	Copenhagen	107.72 326	⇓	iP	PKiKP	02 08 36.3	+0.7
	comp=Z,31nm,0.8s						
SOKA	Soboth	107.83 317		iPKiKP	PKiKP	02 08 36.8	+0.5
	SNR=9.2						
BRG	Berggiesshubel	107.84 321		iPKP	PKiKP	02 08 36.5	+0.5
	comp=Z,41nm,0.9s						
BRG				i		02 08 41.6	
	comp=Z,55nm,0.9s						
BRG				e	PP	02 09 17.8	+6.5
	comp=Z,68nm,1.5s						
BRG				PP	SKiKP	02 11 14.0	+2.0
BRG				SKKS		02 16 15.0	
BRG				SDIFF		02 17 34.0	
BRG				SP	PS	02 18 45.0	-3.3
BRG							
	comp=Z,6μm,20.1s						
BRG							
	comp=N,4μm,17.3s						
BRG							
	comp=E,5μm,17.3s						
BRG	Berggiesshubel	107.84 321		iP	PKKPbc	02 19 51.9	-0.8
	comp=E,52nm,0.9s						
BRG				i		02 19 57.5	
	comp=E,36nm,0.8s						
BRG				i		02 20 08.9	
	comp=E,80nm,1.2s						
LLD	Lille Linde	107.92 326		iP	PKiKP	02 08 36.8	+0.8
	comp=E,98nm,0.8s						
LLD				i		02 08 41.0	
PMSA	Palmer Station	108.00 177		ePKP	PKiKP	02 08 36.4	+0.4
PMSA				PKKPbc	PKKPbc	02 19 50.0	-2.9
PMSA	Palmer Station	108.00 177		PKiKP	PKiKP	02 08 36.1	+0.2
	comp=E,15nm,0.7s,baz=181,slow=1.6,SNR=11						
PMSA				PKKPbc	PKKPbc	02 19 50.0	-2.9
	comp=E,22nm,0.7s,baz=3.8,slow=1.7,SNR=7.2						
CUC	Castrocucco	108.11 310		ePKP	PKiKP	02 08 36.0	-0.9
KONO	Kongsberg	108.13 331		ePKP	PKKPbc	02 19 49.1	-3.0
MOL	Molde	108.13 334		ePKKP	PKKPbc	02 19 56.2	+4.0
CEL	Celeste	108.21 308		ePKP	PKiKP	02 08 37.2	-0.1
CEL				ePKKPbc	PKKPbc	02 19 49.0	-2.2
LJU	Ljubljana	108.28 316		ePdiff	Pdif	02 04 23.6	-11
LJU				ePP	PP	02 09 20.2	+5.6
LJU				eSKSac	SKSac	02 14 16.2	+3.0
LJU				eSKKSac	SKKSac	02 15 10.5	-0.9
LJU				eSdiff	Sdif	02 15 48.8	+1.1
LJU				eSP	SP	02 17 04.6	-32
CLL	Collm	108.34 322		ePKiKP	PKiKP	02 08 37.0	0.0
	comp=Z,43nm,0.8s						
CLL				i		02 08 41.6	
	comp=Z,53nm,0.7s						
CLL				ePP	PP	02 09 16.0	+1.2
CLL				epPP		02 11 12.0	
CLL				e		02 17 18.0	
CLL				eSP	SP	02 17 36.0	-1.2
CLL				ePS	PS	02 18 49.0	-3.8
CLL			⇓	iPKKPbc	PKKPbc	02 19 50.3	-0.9
	comp=Z,53nm,0.7s						
CLL				ePKKPab	PKKPab	02 20 06.0	+0.2
CLL				epPKKPbc		02 22 14.0	
CLL				eSKKPbc	SKKPbc	02 22 32.0	-2.9
GERES	GERESS Array B	108.37 319		PKiKP	PKiKP	02 08 37.4	+0.1
GERES				PKKPbc	PKKPbc	02 19 49.4	-1.7
GERES				PKKP	PKKPab	02 20 05.5	-0.4
GERES				SKKPbc	SKKPbc	02 22 33.0	-1.8
GERES	GERESS Array B	108.37 319		PKiKP	PKiKP	02 08 37.4	+0.1
	comp=Z,23nm,0.5s,baz=72,slow=2.2,SNR=51						
GERES				PKKPbc	PKKPbc	02 19 49.4	-1.7
	comp=Z,22nm,0.9s,baz=261,slow=1.9,SNR=16						
GERES				PKKP	PKKPab	02 20 05.5	-0.4
	comp=Z,16nm,0.8s,baz=248,slow=2.0,SNR=6.8						
GERES				SKKPbc	SKKPbc	02 22 33.0	-1.8
	comp=Z,3.0nm,0.7s,baz=204,slow=2.2,SNR=4.4					

HUMO *e*SKPdf **SKPdf** **02 11 20.3 -0.3**
KCPM Cahto Peak 112.20 50 *e*PKP **PKiKP** **02 08 45.8 +0.9**
KCPM *e*SKPdf **SKPdf** **02 11 20.5 -0.3**
KIPM Iron Peak 112.26 50 *e*PKP **PKiKP** **02 08 46.0 +1.0**
KIPM *e*SKPdf **SKiKP** **02 11 21.1 +0.1**
YBH Yreka Blue Hor 112.50 48 *e*Pdif **Pdif** **02 04 55.2 +1.2**
YBH *e*PKP **PKiKP** **02 08 45.5 +0.1**
YBH *e*PP **PP** **02 09 42.4 -2.1**
CDF Champ du Feu 112.62 320⇓*i*PKIKP **PKiKP** **02 08 45.0 -0.3**
comp=Z,63nm,0.7s
CDF Champ du Feu 112.62 320⇓*i*PKIKP **PKiKP** **02 08 45.0 -0.3**
CDF Champ du Feu 112.62 320⇓*i*PKPdf **PKiKP** **02 08 45.0 -0.3**
HOPS Hopland 112.70 51 *e*PKP **PKiKP** **02 08 46.6 +0.9**
HOPS *e*PP **PP** **02 09 43.8 -2.2**
HOPS *e*SKPdf **SKiKP** **02 11 22.3 +0.6**
ECH Echery 112.75 319 *e*PKIKP **PKiKP** **02 08 44.9 -0.6**
ECH *e* 02 19 35.8
ECH Echery 112.75 319 *e*PKP **PKiKP** **02 08 44.9 -0.6**
ECH *e*SKPdf **SKiKP** **02 11 22.6 +1.0**
ECH *e*PKKPbc **PKKPbc** **02 19 35.8 -1.3**
ECH *e*PKKPab **PKKPab** **02 19 46.2 -0.1**
ECH Echery 112.75 319 PKP **PKiKP** **02 08 44.6 -0.9**
HGN Heimansgroeve 112.80 322 *e*PKPdf **PKiKP** **02 08 45.2 -0.2**
comp=Z,66nm,0.7s
HGN *e*PP PP 02 09 54.5 +8.4
MEM Membach 112.80 322 PKP **PKiKP** **02 08 45.9 +0.4**
PGF Pioggiola 112.80 313 *e*PKIKP **PKiKP** **02 08 45.9 0.0**
comp=Z,120nm,0.7s
PGF Pioggiola 112.80 313 *e*PKIKP **PKiKP** **02 08 45.9 0.0**
PGF Pioggiola 112.80 313 *e*PKPdf **PKiKP** **02 08 45.9 0.0**
WDC Whiskeytown Da 112.83 49 *e*Pdif **Pdif** **02 04 56.3 +0.9**
WDC *e*PKP **PKiKP** **02 08 46.1 +0.2**
WDC *e*PP **PP** **02 09 46.2 -0.6**
WDC *e*SKPdf **SKPdf** **02 11 21.0 -0.9**
MOF Molkenrain 112.86 319 PKP **PKiKP** **02 08 45.0 -0.8**
BEBN Eben Emael 112.94 322 PKP **PKiKP** **02 08 45.9 +0.2**
LRW Lerwick 112.96 333⇓*e*P **PKiKP** **02 08 45.6 +0.2**
LRW AMB AMB 02 08 51.2
comp=Z,232nm,0.7s
WLF Walferdange 112.98 321 *e*PKIKP **PKiKP** **02 08 45.9 0.0**
WLF *e* 02 09 45.5
WLF Walferdange 112.98 321 *e*PKP **PKiKP** **02 08 45.9 0.0**
WLF *e*PP **PP** **02 09 45.5 -2.0**
WLF *e*SKPdf **SKiKP** **02 11 22.0 +0.1**
MCCM Marconi Confer 112.99 52 *e*PKP **PKiKP** **02 08 46.8 +0.6**
MCCM *e*PP **PP** **02 09 45.1 -2.8**
MCCM *e*SKPdf **SKPdf** **02 11 22.2 -0.1**
HINF Hinteralfeld 113.05 319 *e*PKIKP **PKiKP** **02 08 45.8 -0.3**
comp=Z,289nm,0.6s
HINF Hinteralfeld 113.05 319 *e*PKIKP **PKiKP** **02 08 45.8 -0.3**
HINF Hinteralfeld 113.05 319 *e*PKPdf **PKiKP** **02 08 45.8 -0.3**
VSL Villasalto 113.09 310 *e*PKP **PKiKP** **02 08 46.4 0.0**
VSL *e*PP **PP** **02 09 46.7 -2.0**
VSL *e*SKPdf **SKPdf** **02 11 22.3 -0.1**
LOMF Lomont 113.19 319 PKP **PKiKP** **02 08 45.6 -0.9**
BCLA Clavier 113.28 322 PKP **PKiKP** **02 08 46.7 +0.3**
HAU Haudompre 113.33 319⇓*i*PKIKP **PKiKP** **02 08 46.8 +0.2**
comp=Z,169nm,0.7s
HAU *e*R
comp=Z,9μm,22.5s
HAU Haudompre 113.33 319⇓*i*PKIKP **PKiKP** **02 08 46.8 +0.2**
HAU Haudompre 113.33 319⇓*i*PKPdf **PKiKP** **02 08 46.8 +0.2**
SAC San Andreas 113.44 52 *e*PKIKP **PKiKP** **02 08 47.8 +0.7**
SAC San Andreas 113.44 52 *e*PKP **PKiKP** **02 08 47.8 +0.7**
SAC *e*SKPdf **SKPdf** **02 11 22.8 -0.3**
THEF They Montfort 113.50 320 PKP **PKiKP** **02 08 46.7 -0.2**
SAOF Saorge 113.52 315 PKP **PKiKP** **02 08 46.7 -0.4**
PAGF Fort de Pagny 113.57 320⇓*i*PKIKP **PKiKP** **02 08 47.2 +0.2**
comp=Z,24nm,0.6s
PAGF Fort de Pagny 113.57 320⇓*i*PKPdf **PKiKP** **02 08 47.2 +0.2**
AUTN L'Aution 113.61 315 PKP **PKiKP** **02 08 47.4 -0.2**
SBF Sospel 113.63 315⇓*i*PKIKP **PKiKP** **02 08 47.3 -0.1**
comp=Z,302nm,0.7s
SBF Sospel 113.63 315⇓*i*PKIKP **PKiKP** **02 08 47.3 -0.1**
SBF Sospel 113.63 315⇓*i*PKPdf **PKiKP** **02 08 47.3 -0.1**
GIVF Givet 113.67 322⇓*i*PKIKP **PKiKP** **02 08 47.8 +0.6**
comp=Z,226nm,0.7s
GIVF Givet 113.67 322⇓*i*PKIKP **PKiKP** **02 08 47.8 +0.6**
GIVF Givet 113.67 322⇓*i*PKPdf **PKiKP** **02 08 47.8 +0.6**
LUCF Luceram 113.69 315 PKP **PKiKP** **02 08 47.4 -0.1**
REVF Revere 113.71 315 PKP **PKiKP** **02 08 47.2 -0.3**
LPG La Plagne 113.72 317⇓*i*PKIKP **PKiKP** **02 08 48.0 +0.2**
comp=Z,142nm,0.7s
LPG La Plagne 113.72 317⇓*i*PKIKP **PKiKP** **02 08 48.0 +0.2**
LPG La Plagne 113.72 317⇓*i*PKPdf **PKiKP** **02 08 48.0 +0.2**
KEST Kesra 113.72 306 *e*PKP **PKiKP** **02 08 48.3 +0.5**
KEST *e*PP **PP** **02 09 52.5 -0.8**
KEST PKKPbc **PKKPbc** **02 19 32.6 -0.9**
KEST Kesra 113.72 306 PKiKP **PKiKP** **02 08 48.8 +0.9**
comp=Z,14nm,0.5s,baz=281,slow=1.2,SNR=90
KEST PKKPbc **PKKPbc** **02 19 32.6 -0.9**
comp=Z,12nm,0.7s,baz=263,slow=2.0,SNR=23
LPL La Plagne 113.72 317⇓*i*PKIKP **PKiKP** **02 08 48.0 +0.3**
comp=Z,134nm,0.6s
LPL La Plagne 113.72 317⇓*i*PKIKP **PKiKP** **02 08 48.0 +0.3**
LPL La Plagne 113.72 317⇓*i*PKPdf **PKiKP** **02 08 48.0 +0.3**
TOUF Mont Tournerai 113.73 315 PKP **PKiKP** **02 08 47.1 -0.6**
UCC Uccle 113.73 323 PKP **PKiKP** **02 08 47.8 +0.5**
SUMG Summit 113.76 354 *e*PKIKP **PKiKP** **02 08 47.7 +0.4**
SUMG Summit 113.76 354 *e*PKP **PKiKP** **02 08 47.7 +0.4**
DOU Dourbes 113.81 322 PKP **PKiKP** **02 08 48.0 +0.5**
MVIF Mont Vial 113.83 315 PKP **PKiKP** **02 08 47.5 -0.4**
CABF La Chapelle 113.87 318⇓*i*PKIKP **PKiKP** **02 08 48.2 +0.4**
comp=Z,436nm,0.7s
CABF La Chapelle 113.87 318⇓*i*PKIKP **PKiKP** **02 08 48.2 +0.4**
CABF La Chapelle 113.87 318⇓*i*PKPdf **PKiKP** **02 08 48.2 +0.4**
BNI Bardonecchia 113.88 316 *e*PKIKP **PKiKP** **02 08 47.9 0.0**
BNI *e* 02 09 54.0
BNI Bardonecchia 113.88 316 *e*PKP **PKiKP** **02 08 47.9 0.0**
BNI *e*PP **PP** **02 09 54.0 -0.1**
BNI *e*SKPdf **SKPdf** **02 11 23.5 -0.5**
MBDF Montbardon 113.89 316⇓*i*PKIKP **PKiKP** **02 08 47.7 -0.3**
comp=Z,152nm,0.6s
MBDF Montbardon 113.89 316⇓*i*PKIKP **PKiKP** **02 08 47.7 -0.3**
MBDF Montbardon 113.89 316⇓*i*PKPdf **PKiKP** **02 08 47.7 -0.3**
SURF Saint Ours 113.92 316 PKP **PKiKP** **02 08 48.9 +0.8**
MEZF Maizieres J'vi 114.01 320 *e*PKIKP **PKiKP** **02 08 48.1 +0.2**
comp=Z,99nm,0.5s
MEZF Maizieres J'vi 114.01 320 *e*PKPdf **PKiKP** **02 08 48.1 +0.2**
CALN Calern 114.04 315 PKP **PKiKP** **02 08 48.3 0.0**
BAIF Baives 114.06 322 *e*PKIKP **PKiKP** **02 08 48.2 +0.3**
comp=Z,253nm,0.7s
BAIF Baives 114.06 322 *e*PKIKP **PKiKP** **02 08 48.2 +0.3**
BAIF Baives 114.06 322 *e*PKPdf PKPdf 02 08 48.2 +0.3
SFTF Sexfontaines 114.11 320⇓*i*PKIKP PKPdf 02 08 48.1 0.0
comp=Z,90nm,0.8s
SFTF Sexfontaines 114.11 320⇓*i*PKPdf PKPdf 02 08 48.1 0.0
GDM Grand'Maison 114.22 316 PKP **PKiKP** **02 08 49.0 +0.4**
FRF La Foret Royal 114.26 315⇓*i*PKIKP PKPdf 02 08 48.7 +0.2
comp=Z,171nm,0.7s
FRF La Foret Royal 114.26 315⇓*i*PKIKP PKPdf 02 08 48.7 +0.2
FRF La Foret Royal 114.26 315⇓*i*PKPdf PKPdf 02 08 48.7 +0.2
SAO San Andreas Ge 114.34 53 *e*PKIKP PKPdf 02 08 49.5 +0.6
SAO *e* 02 09 56.3
SAO San Andreas Ge 114.34 53 *e*PKP PKPdf 02 08 49.5 +0.6
SAO *e*PP **PP** **02 09 56.2 -1.2**
SAO *e*SKPdf **SKiKP** **02 11 27.9 +2.9**
SOFL Sornfelli, Far 114.38 337⇓*e*P PKPdf 02 08 48.3 +0.1
SOFL AMB AMB 02 08 54.1
comp=Z,123nm,0.8s
LMR La Mourre 114.41 314⇓*i*PKIKP PKPdf 02 08 48.9 +0.1
comp=Z,82nm,0.7s
LMR La Mourre 114.41 314⇓*i*PKIKP PKPdf 02 08 48.9 +0.1
LMR La Mourre 114.41 314⇓*i*PKPdf PKPdf 02 08 48.9 +0.1
ORIF Oris-en-Rattie 114.46 316⇓*i*PKIKP PKPdf 02 08 49.1 +0.1
comp=Z,167nm,0.5s
ORIF *e*R
comp=Z,7μm,23.0s
ORIF Oris-en-Rattie 114.46 316⇓*i*PKIKP PKPdf 02 08 49.1 +0.1
ORIF Oris-en-Rattie 114.46 316⇓*i*PKPdf PKPdf 02 08 49.1 +0.1
GRN Grenoble 114.47 317 PKP **PKiKP** **02 08 49.6 +0.6**
BEKR Beckworth 114.61 49 *e*Pdif **Pdif** **02 05 04.5 +1.0**
BEKR *e*PKPdf **PKiKP** **02 08 49.9 +0.3**
BEKR *e*PP **PP** **02 09 55.3 -4.1**
BEKR *e*SKPdf **SKPdf** **02 11 25.0 -0.6**
NEW Newport 114.73 40 *e*Pdif **Pdif** **02 05 04.1 +0.4**
NEW *e*PKPdf **PKiKP** **02 08 49.5 +0.2**
NEW Newport 114.73 40 ⇑PKiKP **PKiKP** **02 08 49.8 +0.5**
baz=115
NEW Newport 114.73 40 ⇑PKiKP **PKiKP** **02 08 49.8 +0.5**
baz=115
SMRF Simiane la Rot 114.91 315⇓*i*PKIKP PKPdf 02 08 50.4 +0.6
comp=Z,212nm,0.6s
SMRF Simiane la Rot 114.91 315⇓*i*PKPdf PKPdf 02 08 50.4 +0.6
AEU East Anglia Un 114.92 325⇓*e*P PKPdf 02 08 49.3 -0.1
CMB Columbia Colle 114.94 51 *e*P **Pdif** **02 05 05.9 +1.0**
CMB *e* 02 08 50.4
CMB *e* 02 09 59.5
CMB Columbia Colle 114.94 51 *e*Pdif **Pdif** **02 05 05.9 +1.0**
CMB *e*PKPdf **PKiKP** **02 08 50.4 +0.3**
CMB *e*PP **PP** **02 09 59.5 -2.1**
CMB *e*SKPdf **SKPdf** **02 11 25.9 -0.2**
DRUM Mains of Drumt 115.06 331 *e*P **PKPdf** **02 08 49.5 -0.1**
DRUM AMB AMB 02 08 50.5
comp=Z,128nm,1.0s
MME1 Meikle Cairn 115.11 331⇓*i*P **PKPdf** **02 08 49.1 -0.6**
CMAH Djebel Manchou 115.11 307 P **PKPdf** **02 08 50.0 -0.5**
MCD Coleburn Disti 115.12 332⇓*i*P **PKPdf** **02 08 49.4 -0.3**
ABSA Djebel Ababsia 115.13 307 P **PKPdf** **02 08 51.0 +0.5**
MENF Mencas 115.14 323 PKP **PKiKP** **02 08 50.3 +0.4**
LOR Lormes 115.15 319⇓*i*PKIKP **PKPdf** **02 08 50.3 +0.2**
comp=Z,119nm,0.5s
LOR *e*R
comp=Z,8μm,19.2s
LOR Lormes 115.15 319⇓*i*PKPdf **PKPdf** **02 08 50.3 +0.2**
EDM Edmonton 115.22 34 *e*PKIKP **PKPdf** **02 08 50.3 +0.1**
EDM Edmonton 115.22 34 *e*PKPdf **PKPdf** **02 08 50.2 +0.1**
EDM *e*SKPdf **SKPdf** **02 11 25.9 -0.3**
SSB Saint Sauveur 115.28 317 *e*PKIKP **PKPdf** **02 08 50.6 +0.1**
SSB Saint Sauveur 115.28 317 *e*PKPdf **PKPdf** **02 08 50.6 +0.1**
SSB *e*SKPdf **SKPdf** **02 11 26.4 -0.2**
VIVF Saint-Julien-l 115.30 316 *e*PKIKP **PKPdf** **02 08 50.7 +0.2**
comp=Z,97nm,0.7s
VIVF Saint-Julien-l 115.30 316 *e*PKIKP **PKPdf** **02 08 50.7 +0.2**
VIVF Saint-Julien-l 115.30 316 *e*PKPdf **PKPdf** **02 08 50.7 +0.2**
WVOR Wild Horse Val 115.31 46 *e*P **Pdif** **02 05 07.8 +1.3**
WVOR *e* 02 08 51.3
WVOR Wild Horse Val 115.31 46 *e*Pdif **Pdif** **02 05 07.8 +1.3**
WVOR *e*PKPdf **PKiKP** **02 08 51.3 +0.6**
WVOR *e*SKPdf **SKiKP** **02 11 27.0 +0.1**
SMF Signal de Mont 115.35 318⇓*i*PKIKP **PKPdf** **02 08 50.5 0.0**
comp=Z,74nm,0.5s
SMF Signal de Mont 115.35 318⇓*i*PKIKP **PKPdf** **02 08 50.5 0.0**
SMF Signal de Mont 115.35 318⇓*i*PKPdf **PKPdf** **02 08 50.5 0.0**
PAHR Pah Rah Range 115.38 49 *e*PKPdf **PKPdf** **02 08 51.9 +0.9**
MVH1 Achvaich 115.38 332⇓*i*P **PKPdf** **02 08 49.9 -0.3**
SSF Saint Saulge 115.44 319⇓*i*PKIKP **PKPdf** **02 08 51.0 +0.3**
comp=Z,388nm,0.7s
SSF Saint Saulge 115.44 319⇓*i*PKIKP **PKPdf** **02 08 51.0 +0.3**
SSF Saint Saulge 115.44 319⇓*i*PKPdf **PKPdf** **02 08 51.0 +0.3**
ELSH Elham, Standar 115.53 324⇓*e*P **PKPdf** **02 08 51.4 +0.7**
ELSH AMB AMB 02 08 57.1
comp=Z,561nm,0.7s
CAEH 'Ain El Ouahch 115.53 307 P **PKPdf** **02 08 51.0 -0.2**
ESY Stoneypath 115.58 330⇓*i*P **PKPdf** **02 08 50.8 +0.1**
WAKR Walker 115.59 51 *e*PKPdf **PKPdf** **02 08 52.7 +1.2**
WAKR *e*PP **PP** **02 10 04.3 -1.9**
WAKR *e*SKPdf **SKiKP** **02 11 27.9 +0.2**
BMO Blue Mountains 115.61 43 *e*P **Pdif** **02 05 08.7 +0.9**
BMO *e* 02 08 51.2
BMO Blue Mountains 115.61 43 *e*Pdif **Pdif** **02 05 08.7 +0.9**
BMO *e*PKPdf **PKPdf** **02 08 51.2 0.0**
BMO *e*SKPdf **SKPdf** **02 11 26.2 -1.0**
AVF Avril sur Loir 115.62 319⇓*i*PKIKP **PKPdf** **02 08 51.0 0.0**
comp=Z,197nm,0.7s
AVF Avril sur Loir 115.62 319⇓*i*PKIKP **PKPdf** **02 08 51.0 0.0**
AVF Avril sur Loir 115.62 319⇓*i*PKPdf **PKPdf** **02 08 51.0 0.0**
CKFL Kef-Lekhel 115.71 307 P **PKPdf** **02 08 52.0 +0.3**
MDO Dochfour 115.71 332⇓*i*P **PKPdf** **02 08 50.6 -0.3**
SMMC Simmler 115.74 54 ⇓PKiKP **PKiKP** **02 08 53.3 +1.7**
baz=116
SMMC Simmler 115.74 54 ⇓PKiKP **PKiKP** **02 08 53.3 +1.7**
baz=116
XAL Allendale 115.86 329⇓*e*P **PKPdf** **02 08 51.3 0.0**
EBL Broad Law 115.87 330⇓*i*P **PKPdf** **02 08 51.4 +0.1**
CASM Ain Smara 115.92 307 P **PKPdf** **02 08 52.0 0.0**
HYF Humbligny 115.94 319⇓*i*PKIKP **PKPdf** **02 08 52.2 +0.6**
HYF Humbligny 115.94 319⇓*i*PKPdf **PKPdf** **02 08 52.2 +0.6**
HPK Haverah Park 115.94 327⇓*e*P **PKPdf** **02 08 51.8 +0.3**
HPK AMB AMB 02 08 57.2
comp=Z,218nm,0.7s
PKM Peak Mountain 115.95 55 ⇑PKiKP **PKiKP** **02 08 53.8 +1.5**
baz=116
PKM Peak Mountain 115.95 55 ⇑PKiKP **PKiKP** **02 08 53.8 +1.5**
baz=116
AGO Saint Agoulin 116.00 318 PKP **PKiKP** **02 08 52.0 +0.2**
CTEI Djebel Teioual 116.02 307 P **PKPdf** **02 08 53.0 +0.7**
BGF Bois d'Agland 116.03 319 *e*PKIKP **PKPdf** **02 08 52.4 +0.6**
comp=Z,906nm,0.6s
BGF Bois d'Agland 116.03 319 *e*PKIKP **PKPdf** **02 08 52.4 +0.6**
BGF Bois d'Agland 116.03 319 *e*PKPdf **PKPdf** **02 08 52.4 +0.6**
LASF Ste Croix 116.08 316⇓*i*PKIKP **PKPdf** **02 08 52.3 +0.3**
comp=Z,105nm,0.7s
LASF Ste Croix 116.08 316⇓*i*PKPdf **PKPdf** **02 08 52.3 +0.3**
HMNX Herstmonceux 116.10 324⇓*e*P **PKPdf** **02 08 52.2 +0.5**
HMNX AMB AMB 02 08 53.5
comp=Z,293nm,1.4s
SBC Santa Barbara 116.11 55 ⇓PKiKP **PKiKP** **02 08 53.8 +1.5**
baz=116
SBC Santa Barbara 116.11 55 ⇓PKiKP **PKiKP** **02 08 53.8 +1.5**
baz=116
KAC Achnashellach 116.12 332⇓*i*P **PKPdf** **02 08 51.5 -0.2**
EKA Eskdalemuir Ar 116.13 329 PKKPbc PKKPbc 02 19 23.4 -2.5
EKA Eskdalemuir Ar 116.13 329 PKKPbc PKKPbc 02 19 23.4 -2.5
comp=Z,9.8nm,0.5s,baz=237,slow=2.0,SNR=17
EKA SKKPbc SKKPbc 02 22 11.8 -0.3
comp=Z,3.0nm,0.6s,baz=204,slow=1.6,SNR=3.6
ESK Eskdalemuir 116.16 329⇓*e*P **PKPdf** **02 08 51.7 -0.1**
ESK AMB AMB 02 08 58.2
comp=Z,85nm,0.8s
ESK Eskdalemuir 116.16 329 *i* PKIKP **PKPdf** **02 08 52.2 +0.4**
ESK Eskdalemuir 116.16 329 *e*PKPdf **PKPdf** **02 08 51.5 -0.3**
ESK *e*SKPdf **SKPdf** **02 11 27.8 -0.1**
LBL Lubilhac 116.16 317 PKP **PKiKP** **02 08 52.8 +0.6**
RCTC Rector, Farmer 116.17 53 ⇓PKiKP **PKiKP** **02 08 52.9 +0.5**
baz=116
RCTC Rector, Farmer 116.17 53 ⇓PKiKP **PKiKP** **02 08 52.9 +0.5**
baz=116
PYM Petit Puy Mans 116.17 318 PKP **PKiKP** **02 08 52.6 +0.4**
ECK Cauldkaine Hil 116.18 329⇓*i*P **PKPdf** **02 08 51.9 +0.1**
KBI1 Birley Grange 116.19 327⇓*i*P **PKPdf** **02 08 51.9 -0.1**
MLAC Mammoth Lakes 116.23 52 ⇓PKiKP **PKiKP** **02 08 54.3 +1.5**
baz=116
MLAC Mammoth Lakes 116.23 52 ⇓PKiKP **PKiKP** **02 08 54.3 +1.5**
baz=116
EAB Aberfoyle 116.31 330⇓*i*P **PKPdf** **02 08 52.2 +0.1**
BSMT Bassoo Peak 116.34 40 *e*Pdif **Pdif** **02 05 09.3 -1.8**
BSMT *e*PKPdf **PKPdf** **02 08 52.5 -0.1**
DFRA Djebel Bou Aff 116.35 307 P **PKPdf** **02 08 53.0 +0.1**
KPL Plockton 116.36 332⇓*e*P **PKPdf** **02 08 52.1 0.0**
KPL AMB AMB 02 08 57.0
comp=Z,141nm,0.7s
VES Vestal, Richgr 116.38 54 ⇓PKiKP **PKiKP** **02 08 53.2 +0.4**
baz=116
VES Vestal, Richgr 116.38 54 ⇓PKiKP **PKiKP** **02 08 53.2 +0.4**
baz=116
SKP1 Kophill 116.43 325⇓*e*P **PKPdf** **02 08 51.9 -0.6**
KESW Keswick, Cumbr 116.44 329⇓*e*P **PKPdf** **02 08 52.7 +0.3**
KESW AMB AMB 02 08 58.1
comp=Z,251nm,0.7s
NVAR Mina Array Bea 116.47 51 PKP **PKPdf** **02 08 54.3 +1.0**
NVAR SKP 02 11 29.6
NVAR PKKPbc **PKKPbc** **02 19 23.8 -0.8**
NVAR PKKP 02 22 09.8
NVAR Mina Array Bea 116.47 51 PKP **PKPdf** **02 08 54.3 +1.0**
comp=Z,154nm,0.7s,baz=246,slow=3.5,SNR=226
NVAR SKP 02 11 29.6
comp=Z,48nm,0.8s,baz=270,slow=0.9,SNR=4.8
NVAR PKKPbc **PKKPbc** **02 19 23.8 -0.8**
comp=Z,4.7nm,0.7s,baz=113,slow=4.5,SNR=3.6
NVAR Mina Array Bea 116.47 51 PKKP **SKKPbc** **02 22 09.8 -0.7**
comp=Z,11nm,0.8s,baz=114,slow=4.0,SNR=6.2
TCF Toulx Ste Croi 116.53 318⇓*i*PKIKP **PKPdf** **02 08 53.1 +0.3**
comp=Z,157nm,0.7s
TCF Toulx Ste Croi 116.53 318⇓*i*PKIKP **PKPdf** **02 08 53.1 +0.3**
TCF Toulx Ste Croi 116.53 318⇓*i*PKPdf **PKPdf** **02 08 53.1 +0.3**
BLMT Blacktail Moun 116.56 39 *e*Pdif **Pdif** **02 05 09.5 -2.6**
BLMT *e*PKPdf **PKPdf** **02 08 52.9 -0.2**
NV11 Mina Array Sit 116.59 51 *e*PKPdf **PKPdf** **02 08 54.3 +1.0**
NV11 *e*SKPdf **SKiKP** **02 11 29.6 0.0**
STNC Stoke 116.63 327⇓*e*P **PKPdf** **02 08 53.1 +0.3**
STNC AMB AMB 02 09 00.5
comp=Z,152nm,1.3s
JTMT Jette 116.70 40 *e*PKPdf **PKPdf** **02 08 53.0 -0.3**
BLG Laguna Peak 116.70 55 ⇑PKiKP **PKiKP** **02 08 54.3 +0.7**
baz=117
BLG Laguna Peak 116.70 55 ⇑PKiKP **PKiKP** **02 08 54.3 +0.7**
baz=117
ARVC Arvin 116.71 54 ⇑PKiKP **PKiKP** **02 08 54.8 +1.3**
baz=117
ARVC Arvin 116.71 54 ⇑PKiKP **PKiKP** **02 08 54.8 +1.3**
baz=117
CKHR Kef el Ahmar 116.74 307 P **PKPdf** **02 08 54.0 +0.3**
TIN Tinemaha 116.82 52 ⇑PKiKP **PKiKP** **02 08 55.1 +1.3**
baz=117
TIN Tinemaha 116.82 52 ⇑PKiKP **PKiKP** **02 08 55.1 +1.3**
baz=117
BMN Battle Mountai 116.83 48 *e*PKIKP **PKPdf** **02 08 54.5 +0.7**
BMN *e* 02 10 12.5
BMN Battle Mountai 116.83 48 *e*PKPdf **PKPdf** **02 08 54.5 +0.7**
BMN *e*PP **PP** **02 10 12.5 -2.1**
WOL Wolverton 116.83 325⇓*e*P **PKPdf** **02 08 53.3 +0.1**
WOL AMB AMB 02 08 58.8
comp=Z,318nm,0.8s
YBMT Yellow Bay 116.83 40 *e*PKPdf **PKPdf** **02 08 53.2 -0.3**
OSI Osito Adit 116.89 55 *e*PKPdf **PKPdf** **02 08 54.9 +1.0**
OSI *e*PP **PP** **02 10 12.2 -2.9**
OSI *e*SKPdf **SKPdf** **02 11 29.2 -0.8**
OSI Osito Adit 116.89 55 ⇑PKiKP **PKiKP** **02 08 55.0 +1.1**
baz=117
OSI Osito Adit 116.89 55 ⇑PKiKP **PKiKP** **02 08 55.0 +1.1**
baz=117
ISA Isabella 116.90 54 *e*PKIKP **PKPdf** **02 08 54.6 +0.7**
ISA Isabella 116.90 54 *e*PKPdf **PKPdf** **02 08 54.6 +0.7**
ISA Isabella 116.90 54 ⇑PKiKP **PKiKP** **02 08 54.9 +0.9**
baz=117
ISA Isabella 116.90 54 ⇑PKiKP **PKiKP** **02 08 54.9 +0.9**
baz=117
SSW Stow on the Wo 116.92 326⇓*e*P **PKPdf** **02 08 53.8 +0.4**
SWMT Swartz Lake 116.96 40 *e*PKPdf **PKPdf** **02 08 53.5 -0.2**
SWMT *e*SKPdf **SKPdf** **02 11 29.4 -0.4**
CAF Calviac 117.06 317⇓*i*PKIKP **PKPdf** **02 08 54.6 +0.7**
comp=Z,262nm,0.7s
CAF Calviac 117.06 317⇓*i*PKIKP **PKPdf** **02 08 54.6 +0.7**
CAF Calviac 117.06 317⇓*i*PKPdf **PKPdf** **02 08 54.6 +0.7**
CWC Cottonwood Cre 117.06 53 ⇓PKiKP **PKiKP** **02 08 55.5 +1.1**
baz=117
CWC Cottonwood Cre 117.06 53 ⇓PKiKP **PKiKP** **02 08 55.5 +1.1**
baz=117
SWN1 Swindon 117.08 325⇓*i*P **PKPdf** **02 08 53.9 +0.2**
SWN1 AMB AMB 02 08 59.4
comp=Z,802nm,0.6s
GAL1 Galloway 117.14 329⇓*i*P **PKPdf** **02 08 53.8 +0.2**
GAL1 AMB AMB 02 08 54.3
comp=Z,186nm,0.7s
SJAF Saint Jean de 117.21 314 PKP **PKiKP** **02 08 54.2 -0.1**
LDF La Druitiere 117.23 322⇓*i*PKIKP **PKPdf** **02 08 54.1 0.0**
comp=Z,167nm,0.6s
LDF La Druitiere 117.23 322⇓*i*PKIKP **PKPdf** **02 08 54.1 0.0**
LDF La Druitiere 117.23 322⇓*i*PKPdf **PKPdf** **02 08 54.1 0.0**
MSO Missoula 117.23 41 ⇑PKiKP **PKiKP** **02 08 54.5 +0.2**
baz=117
MSO Missoula 117.23 41 ⇑PKiKP **PKiKP** **02 08 54.5 +0.2**
baz=117
HLM1 Long Mynd 117.25 326⇓*e*P **PKPdf** **02 08 54.0 0.0**
HLM1 AMB AMB 02 08 54.8
comp=Z,106nm,0.9s
FOEL Foel Wylfa 117.26 327⇓*e*P **PKPdf** **02 08 54.2 +0.2**
FOEL AMB AMB 02 09 00.8
comp=Z,136nm,0.7s
DECC Green Verdugo 117.28 55 ⇓PKiKP **PKiKP** **02 08 55.5 +0.8**
baz=117
DECC Green Verdugo 117.28 55 ⇓PKiKP **PKiKP** **02 08 55.5 +0.8**
baz=117
RJF Les Rejaudoux 117.31 318⇓*i*PKIKP **PKPdf** **02 08 54.9 +0.6**
comp=Z,228nm,0.8s
RJF *e*R
comp=Z,7μm,22.2s
RJF Les Rejaudoux 117.31 318⇓*i*PKIKP **PKPdf** **02 08 54.9 +0.6**
RJF Les Rejaudoux 117.31 318⇓*i*PKPdf **PKPdf** **02 08 54.9 +0.6**
SCI San Clemente I 117.32 57 ⇑PKiKP **PKiKP** **02 08 55.5 +0.8**
baz=117
SCI San Clemente I 117.32 57 ⇑PKiKP **PKiKP** **02 08 55.5 +0.8**
baz=117
LRDF Laroque-de-Fa 117.32 315 PKP **PKiKP** **02 08 55.6 +1.1**
CIS Catalina Islan 117.36 56 ⇓PKiKP **PKiKP** **02 08 55.8 +0.9**
baz=117
CIS Catalina Islan 117.36 56 ⇓PKiKP **PKiKP** **02 08 55.8 +0.9**
baz=117
SLMT Seeley Lake 117.38 40 *e*PKPdf **PKPdf** **02 08 54.3 -0.3**
FLN La Foliniere 117.39 322⇓*i*PKIKP **PKPdf** **02 08 54.5 +0.1**
comp=Z,188nm,0.7s
FLN *e*R
comp=Z,8μm,21.0s
FLN La Foliniere 117.39 322⇓*i*PKIKP **PKPdf** **02 08 54.5 +0.1**
FLN La Foliniere 117.39 322⇓*i*PKPdf **PKPdf** **02 08 54.5 +0.1**
USHA Ushuaia 117.40 172 PKP **PKPdf** **02 08 55.3 +1.1**
USHA PKKPbc **PKKPbc** **02 19 19.7 -2.2**
USHA Ushuaia 117.40 172 PKP **PKPdf** **02 08 55.3 +1.1**
comp=Z,226nm,0.5s,baz=165,slow=1.0,SNR=306
USHA PKKPbc **PKKPbc** **02 19 19.7 -2.2**
comp=Z,22nm,0.7s,baz=360,slow=3.2,SNR=10
FMP Fort Macarthur 117.40 56 ⇓PKiKP **PKiKP** **02 08 55.8 +1.0**
baz=117
FMP Fort Macarthur 117.40 56 ⇓PKiKP **PKiKP** **02 08 55.8 +1.0**
baz=117
BORG Borgarnes 117.40 344 *e*PKPdf **PKPdf** **02 08 55.5 +1.6**
BORG PKKPbc **PKKPbc** **02 19 20.9 -0.8**
BORG Borgarnes 117.40 344 PKKPbc PKKPbc 02 19 20.9 -0.8
comp=Z,33nm,0.8s,baz=57,slow=1.3,SNR=8.3
PASC Pasadena Art C 117.41 55 *e*PKPdf **PKPdf** **02 08 55.7 +0.8**
PASC *e*PP **PP** **02 10 17.0 -1.6**
PASC *e*SKPdf **SKiKP** **02 11 31.1 -0.1**
FILF Fillols 117.41 314 PKP **PKiKP** **02 08 55.1 +0.4**
MTLF Montolieu 117.43 315⇓*i*PKIKP **PKPdf** **02 08 54.8 +0.2**
comp=Z,130nm,0.7s
MTLF Montolieu 117.43 315⇓*i*PKIKP **PKPdf** **02 08 54.8 +0.2**
MTLF Montolieu 117.43 315⇓*i*PKPdf **PKPdf** **02 08 54.8 +0.2**
EDW2 Edwards Air Fo 117.44 54 ⇑PKiKP **PKiKP** **02 08 56.3 +1.3**
baz=117
EDW2 Edwards Air Fo 117.44 54 ⇑PKiKP **PKiKP** **02 08 56.3 +1.3**
baz=117
WPM1 Penmaenmawr 117.47 327⇓*i*P **PKPdf** **02 08 54.4 0.0**
GRAC Grapevine Rang 117.50 52 ⇑PKiKP **PKiKP** **02 08 56.5 +1.4**
baz=118
GRAC Grapevine Rang 117.50 52 ⇑PKiKP **PKiKP** **02 08 56.5 +1.4**
baz=118
MWC Mount Wilson 117.50 55 *e*PKIKP **PKPdf** **02 08 56.2 +0.9**
MWC *e* 02 10 17.3
MWC Mount Wilson 117.50 55 *e*PKPdf **PKPdf** **02 08 56.2 +0.9**
MWC *e*PP **PP** **02 10 17.3 -2.2**
MWC *e*SKPdf **SKPdf** **02 11 31.2 -0.1**
MCH1 Michaelchurch 117.54 326 AMB AMB 02 08 58.5
comp=Z,184nm,0.8s
LRMC Laurel Mountai 117.56 54 ⇓PKiKP **PKiKP** **02 08 56.8 +1.4**
baz=118
**LR

baz=118
HLID Hailey 117.97 44 ⇓PKiKP PKiKP 02 08 57.5 +1.5
baz=118
FURC Furnace Creek, 118.02 52 ⇑PKiKP PKiKP 02 08 57.5 +1.6
baz=118
FURC Furnace Creek, 118.02 52 ⇑PKiKP PKiKP 02 08 57.5 +1.6
baz=118
AKET Djebel Ketaf 118.03 307 P PKPdf 02 08 57.0 +0.8
GMM Mts of Mourne 118.07 329 ⇓iP PKPdf 02 08 55.0 -0.5
LPW Lampeter 118.08 326 ⇓eP PKPdf 02 08 55.6 0.0
LPW AMB AMB 02 09 01.2
comp=Z,1μm,0.8s
ELK Elko 118.20 47 ePKPdf PKPdf 02 08 57.5 +0.9
RRX Edison Barstow 118.23 54 ⇑PKiKP PKiKP 02 08 58.0 +1.4
baz=118
RRX Edison Barstow 118.23 54 ⇑PKiKP PKiKP 02 08 58.0 +1.4
baz=118
JSA Saint Aubin 118.24 323 eP PKPdf 02 08 56.0 0.0
JSA AMB AMB 02 08 57.1
comp=Z,124nm,1.2s
GSC Goldstone 118.31 54 ePKIKP PKPdf 02 08 58.1 +1.4
GSC Goldstone 118.31 54 ePKPdf PKPdf 02 08 58.1 +1.4
GSC eSKPdf SKiKP 02 11 33.0 +0.1
GSC Goldstone 118.31 54 ⇓PKiKP PKPdf 02 08 58.2 +1.4
baz=118
GSC Goldstone 118.31 54 ⇓PKiKP PKPdf 02 08 58.2 +1.4
baz=118
MURC Murrieta 118.32 56 ⇓PKiKP PKiKP 02 08 57.7 +0.9
baz=118
MURC Murrieta 118.32 56 ⇓PKiKP PKiKP 02 08 57.7 +0.9
baz=118
ADJB Djebel Djouab 118.35 307 P PKPdf 02 08 57.8 +1.0
BBRC Big Bear Solar 118.42 55 ⇓PKiKP PKiKP 02 08 58.3 +1.1
baz=118
BBRC Big Bear Solar 118.42 55 ⇓PKiKP PKiKP 02 08 58.3 +1.1
baz=118
TAM Tamanrasset 118.49 292 ePKIKP PKPdf 02 08 58.7 +1.2
TAM Tamanrasset 118.49 292 ePKPdf PKPdf 02 08 58.6 +1.2
TAM eSKPdf SKPdf 02 11 32.9 -0.6
TAM ePKKPab PKKPab 02 19 22.3 +1.0
109C Camp Elliot, M 118.53 57 ⇓PKiKP PKiKP 02 08 58.2 +1.1
baz=118
109C Camp Elliot, M 118.53 57 ⇓PKiKP PKiKP 02 08 58.2 +1.1
baz=118
ABA Alger-Bouzarea 118.53 308 P PKPdf 02 08 57.8 +0.8
LRM Limekiln Ridge 118.55 41 ePKPdf PKPdf 02 08 57.3 +0.3
RPN Rapa Nui 118.57 126 ePKPdf PKPdf 02 08 58.6 +1.3
SHOC Shoshone 118.60 53 ⇓PKiKP PKiKP 02 08 58.6 +1.4
baz=119
SHOC Shoshone 118.60 53 ⇓PKiKP PKiKP 02 08 58.6 +1.4
baz=119
MCMT McKenzie Canyo 118.63 42 ePKPdf PKPdf 02 08 58.3 +1.0
B17A L&G Farms, Che 118.67 38 ⇓PKiKP PKiKP 02 08 57.1 +0.1
baz=119
B17A L&G Farms, Che 118.67 38 ⇓PKiKP PKiKP 02 08 57.1 +0.1
baz=119
EMHD Djebel Mahouad 118.73 307 P PKPdf 02 08 58.8 +1.3
DYA Yadsworthy 118.75 325 ⇓iP PKPdf 02 08 57.0 0.0
DYA AMB AMB 02 09 02.5
comp=Z,296nm,0.7s
HEC Hector,Ludlow 118.78 54 ⇓PKiKP PKiKP 02 08 59.0 +1.3
baz=119
HEC Hector,Ludlow 118.78 54 ⇓PKiKP PKiKP 02 08 59.0 +1.3
baz=119
HTL Hartland 118.82 325 ⇓iP PKPdf 02 08 57.5 +0.5
HTL AMB AMB 02 09 02.9
comp=Z,250nm,0.7s
EPF Esparros 118.83 315 ⇓iPKIKP PKPdf 02 08 57.5 +0.1
comp=Z,117nm,0.6s
EPF Esparros 118.83 315 ⇓iPKIKP PKPdf 02 08 57.5 +0.1
EPF Esparros 118.83 315 ⇓iPKPdf PKPdf 02 08 57.5 +0.1
SGMF Saint Gilles 118.85 322 ⇓iPKIKP PKPdf 02 08 57.2 0.0
comp=Z,296nm,0.7s
SGMF Saint Gilles 118.85 322 ⇓iPKPdf PKPdf 02 08 57.2 0.0
RESF Ens 118.90 315 PKP PKiKP 02 08 58.7 +1.0
BAR Barrett 118.92 57 ePKPdf PKPdf 02 08 58.6 +0.7
BAR ePP PP 02 10 24.6 -4.3
BAR eSKPdf SKPdf 02 11 33.9 0.0
PFO Pinyon Flat Ob 118.93 56 ePKPdf PKPdf 02 08 59.1 +1.1
PFO PKP PKPdf 02 08 59.2 +1.3
PFO ePP PP 02 10 27.0 -2.1
PFO eSKPdf SKPdf 02 11 34.0 -0.1
PFO SKP 02 11 34.6
PFO Pinyon Flat Ob 118.93 56 PKP PKPdf 02 08 59.2 +1.3
comp=Z,484nm,0.7s,baz=254,slow=0.8,SNR=417
PFO SKP 02 11 34.6
comp=Z,85nm,1.1s,baz=187,slow=1.0,SNR=3.8
PFO PKKPbc PKKPbc 02 19 15.7 0.0
comp=Z,25nm,1.1s,baz=194,slow=0.8,SNR=4.1
PFO Pinyon Flat Ob 118.93 56 ⇑PKiKP PKPdf 02 08 59.3 +1.3
baz=119
PFO Pinyon Flat Ob 118.93 56 ⇑PKiKP PKPdf 02 08 59.3 +1.3
baz=119
C17A Wharram Farm, 118.95 39 ⇓PKiKP PKPdf 02 08 57.4 -0.1
baz=119
C17A Wharram Farm, 118.95 39 ⇓PKiKP PKPdf 02 08 57.4 -0.1
baz=119
TUQ Turquoise Moun 118.98 53 ⇓PKiKP PKiKP 02 08 59.4 +1.2
baz=119
TUQ Turquoise Moun 118.98 53 ⇓PKiKP PKiKP 02 08 59.4 +1.2
baz=119
A18A Metzger Ranch, 118.99 37 ⇑PKiKP PKiKP 02 08 57.8 +0.2
baz=119
A18A Metzger Ranch, 118.99 37 ⇑PKiKP PKiKP 02 08 57.8 +0.2
baz=119
LABF Labassere 119.01 316 PKP PKiKP 02 08 58.2 +0.4
MONP Monument Peak 119.09 56 ⇓PKiKP PKiKP 02 08 59.9 +1.4
baz=119
MONP Monument Peak 119.09 56 ⇓PKiKP PKiKP 02 08 59.9 +1.4
baz=119
VIEF Viey 119.10 315 PKP PKiKP 02 08 58.8 +0.7
BOZ Bozeman (W) 119.15 41 ePKIKP PKPdf 02 08 59.0 +0.9
BOZ Bozeman (W) 119.15 41 ePKPdf PKPdf 02 08 59.0 +0.9
D17A Six Diamond Ra 119.19 39 ⇓PKiKP PKiKP 02 08 58.3 +0.1
baz=119
D17A Six Diamond Ra 119.19 39 ⇓PKiKP PKiKP 02 08 58.3 +0.1
baz=119
BELC Belle Mtn. Jos 119.22 55 ⇑PKiKP PKiKP 02 09 00.1 +1.5
baz=119
BELC Belle Mtn. Jos 119.22 55 ⇑PKiKP PKiKP 02 09 00.1 +1.5
baz=119
B18A Beardsley Farm 119.25 38 ⇑PKiKP PKiKP 02 08 58.4 +0.3
baz=119
B18A Beardsley Farm 119.25 38 ⇑PKiKP PKiKP 02 08 58.4 +0.3
baz=119
ROSF Rostrenen 119.26 322 ⇓iPKIKP PKPdf 02 08 58.0 0.0
comp=Z,183nm,0.7s
ROSF Rostrenen 119.26 322 ⇓iPKIKP PKPdf 02 08 58.0 0.0
ROSF Rostrenen 119.26 322 ⇓iPKPdf PKPdf 02 08 58.0 0.0
REYF Montagne du Re 119.33 316 PKP PKiKP 02 08 59.2 +0.7
GMRC Granite Mounta 119.33 54 ⇑PKiKP PKiKP 02 09 00.4 +1.6
baz=119
GMRC Granite Mounta 119.33 54 ⇑PKiKP PKiKP 02 09 00.4 +1.6
baz=119
SHPR Sheep Range 119.34 52 ePKPdf PKPdf 02 09 00.4 +1.6
E17A Martinsdale 119.34 40 ⇑PKiKP PKiKP 02 08 59.0 +0.4
baz=119
E17A Martinsdale 119.34 40 ⇑PKiKP PKiKP 02 08 59.0 +0.4
baz=119
QUIF Quistinic 119.36 322 ⇓iPKPdf PKPdf 02 08 58.3 +0.1
comp=Z,221nm,0.7s
QUIF Quistinic 119.36 322 ⇓iPKIKP PKPdf 02 08 58.3 +0.1
QUIF Quistinic 119.36 322 ⇓iPKPdf PKPdf 02 08 58.3 +0.1
DVTC Desert V Tower 119.40 57 ⇓PKiKP PKiKP 02 09 00.5 +1.5
baz=119
DVTC Desert V Tower 119.40 57 ⇓PKiKP PKiKP 02 09 00.5 +1.5
baz=119
EGMT Eagleton 119.42 38 ⇑PKiKP PKiKP 02 08 59.0 +0.5
baz=119
EGMT Eagleton 119.42 38 ⇑PKiKP PKiKP 02 08 59.0 +0.5
baz=119
ETSF Etsaut 119.50 316 ⇓iPKIKP PKPdf 02 08 59.6 +0.9
comp=Z,178nm,0.6s
ETSF Etsaut 119.50 316 ⇓iPKIKP PKPdf 02 08 59.6 +0.9
ETSF Etsaut 119.50 316 ⇓iPKPdf PKPdf 02 08 59.6 +0.9
ATE Arette 119.53 316 PKP PKiKP 02 08 59.4 +0.6
QLMT Earthquake Lak 119.58 42 ePKPdf PKPdf 02 08 59.9 +0.9
SWSC Sam W. Stewart 119.60 56 ⇑PKiKP PKiKP 02 09 00.5 +1.3
baz=120
SWSC Sam W. Stewart 119.60 56 ⇑PKiKP PKiKP 02 09 00.5 +1.3
baz=120
CCA1 Carnmenellis 119.61 325 ⇓iP PKPdf 02 08 58.8 +0.2
CCA1 AMB AMB 02 08 59.4
comp=Z,198nm,0.7s
A19A Klindworth Far 119.65 37 ⇑PKiKP PKiKP 02 08 59.2 +0.3
baz=120
A19A Klindworth Far 119.65 37 ⇑PKiKP PKiKP 02 08 59.2 +0.3
baz=120
ORDF Ordiarp 119.65 316 PKP PKiKP 02 08 59.0 0.0
HVU Hansel Valley 119.68 46 ePKIKP PKPdf 02 09 00.3 +1.1
HVU e 02 10 32.6
HVU Hansel Valley 119.68 46 ePKPdf PKPdf 02 09 00.3 +1.1
HVU ePP PP 02 10 32.6 -1.1
HVU eSKPdf SKPdf 02 11 34.9 -0.3
F17A Fitzpatrick Pl 119.68 41 ⇓PKiKP PKiKP 02 09 00.2 +1.0
baz=120
F17A Fitzpatrick Pl 119.68 41 ⇓PKiKP PKiKP 02 09 00.2 +1.0
baz=120
LDFC Landfair 119.71 54 ePKPdf PKPdf 02 09 00.7 +1.3
LDFC eSKPdf SKPdf 02 11 35.1 -0.3
D18A Linhart Farms, 119.72 39 ⇑PKiKP PKiKP 02 08 59.4 +0.2
baz=120
D18A Linhart Farms, 119.72 39 ⇑PKiKP PKiKP 02 08 59.4 +0.2
baz=120
B19A Brinkman Farms 119.73 37 ⇓PKiKP PKiKP 02 08 59.7 +0.6
baz=120
B19A Brinkman Farms 119.73 37 ⇓PKiKP PKiKP 02 08 59.7 +0.6
baz=120
BC3 Big Chuckawall 119.74 55 ⇑PKiKP PKiKP 02 09 01.0 +1.3
baz=120
BC3 Big Chuckawall 119.74 55 ⇑PKiKP PKiKP 02 09 01.0 +1.3
baz=120
H16A Russell Place, 119.74 42 ⇑PKiKP PKiKP 02 09 00.8 +1.4
baz=120
H16A Russell Place, 119.74 42 ⇑PKiKP PKiKP 02 09 00.8 +1.4
baz=120
LARF Larrau 119.75 316 PKP PKiKP 02 09 00.4 +1.1
BGU Big Grassy Mou 119.76 47 ePKPdf PKPdf 02 09 00.2 +0.8
EBNR Beni Rached 119.83 308 P PKPdf 02 08 59.5 0.0
G17A Pierce Place, 119.85 41 ⇓PKiKP PKiKP 02 09 00.9 +1.3
baz=120
G17A Pierce Place, 119.85 41 ⇓PKiKP PKiKP 02 09 00.9 +1.3
baz=120
OSSF Osses 119.86 316 PKP PKiKP 02 08 59.4 0.0
I16A Newdale 119.88 43 ⇓PKiKP PKiKP 02 09 00.8 +1.1
baz=120
I16A Newdale 119.88 43 ⇓PKiKP PKiKP 02 09 00.8 +1.1
baz=120
IRM Iron Mountain 119.88 55 ⇑PKiKP PKiKP 02 09 01.2 +1.5
baz=120
IRM Iron Mountain 119.88 55 ⇑PKiKP PKiKP 02 09 01.2 +1.5
baz=120
SJPF Ste Jean 119.89 316 ⇓iPKIKP PKPdf 02 09 00.2 +0.8
comp=Z,259nm,0.7s
SJPF Ste Jean 119.89 316 ⇓iPKIKP PKPdf 02 09 00.2 +0.8
SJPF Ste Jean 119.89 316 ⇓iPKPdf PKPdf 02 09 00.2 +0.8
E18A Harlowton 119.91 40 ⇓PKiKP PKiKP 02 09 00.1 +0.5
baz=120
E18A Harlowton 119.91 40 ⇓PKiKP PKiKP 02 09 00.1 +0.5
baz=120
YMR Madison River 119.94 42 ePKPdf PKPdf 02 09 01.3 +1.5
C19A Slack Wire Ran 119.97 38 ⇓PKiKP PKiKP 02 09 00.2 +0.6
baz=120
C19A Slack Wire Ran 119.97 38 ⇓PKiKP PKiKP 02 09 00.2 +0.6
baz=120
ECHA Ech Chlef 119.99 308 P PKPdf 02 08 59.8 +0.1
SPUT South Promonto 120.06 46 ePKPdf PKPdf 02 09 00.7 +0.7
SPUT ePP PP 02 10 31.9 -4.5
YFT Old Faithful 120.11 42 ePKPdf PKPdf 02 09 02.5 +2.5
YNR Norris Junctio 120.11 42 ePKPdf PKPdf 02 09 01.8 +1.7
YNR ePP PP 02 10 37.1 +0.4
DUG Dugway 120.14 47 ⇑PKiKP PKiKP 02 09 01.3 +1.1
baz=120
DUG Dugway 120.14 47 ⇑PKiKP PKiKP 02 09 01.3 +1.1
baz=120
A20A Cobblestone Ra 120.15 37 ⇑PKiKP PKiKP 02 08 60.0 +0.1
baz=120
A20A Cobblestone Ra 120.15 37 ⇑PKiKP PKiKP 02 08 60.0 +0.1
baz=120
SFJD Kangerlussuaq 120.16 357 ePKPdf PKPdf 02 08 58.7 -0.4
SFJD eSKPdf SKPdf 02 11 34.4 -0.8
SFJD PKKPbc PKKPbc 02 19 08.9 -3.1
SFJD Kangerlussuaq 120.16 357 PKKPbc PKKPbc 02 19 08.9 -3.1
comp=Z,19nm,0.7s,baz=199,slow=4.7,SNR=5.1
ETRT Tiaret 120.22 307 P PKPdf 02 09 01.0 +0.6
EANR 'Ain N'Sour 120.25 307 P PKPdf 02 09 00.0 -0.4
B20A Solberg Farm, 120.29 37 ⇑PKiKP PKiKP 02 09 00.8 +0.6
baz=120
B20A Solberg Farm, 120.29 37 ⇑PKiKP PKiKP 02 09 00.8 +0.6
baz=120
F18A Big Timber 120.29 40 ⇓PKiKP PKiKP 02 09 01.3 +1.0
baz=120
F18A Big Timber 120.29 40 ⇓PKiKP PKiKP 02 09 01.3 +1.0
baz=120
H17A Grant Village 120.30 42 ⇑PKiKP PKiKP 02 09 02.6 +2.0
baz=120
H17A Grant Village 120.30 42 ⇑PKiKP PKiKP 02 09 02.6 +2.0
baz=120
D19A Cripps Ranch, 120.31 39 ⇓PKiKP PKiKP 02 09 00.5 +0.2
baz=120
D19A Cripps Ranch, 120.31 39 ⇓PKiKP PKiKP 02 09 00.5 +0.2
baz=120
FLWY Flagg Ranch 120.33 43 ePKPdf PKPdf 02 09 01.8 +1.3
FFC Flin Flon 120.35 29 ePKPdf PKPdf 02 08 59.9 0.0
FFC eSKPdf SKPdf 02 11 35.4 -0.5
LKWY Lake 120.36 42 ePKIKP PKPdf 02 09 02.5 +1.9
LKWY Lake 120.36 42 ePKPdf PKPdf 02 09 02.5 +1.9
LKWY ePP PP 02 10 32.3 -6.0
GLA Glamis 120.37 56 ePKIKP PKPdf 02 09 02.0 +1.3
GLA e 02 10 35.9
GLA Glamis 120.37 56 ePKPdf PKPdf 02 09 02.0 +1.3
GLA ePP PP 02 10 35.9 -2.8
GLA eSKPdf SKPdf 02 11 36.0 -0.7
GLA Glamis 120.37 56 ⇓PKiKP PKPdf 02 09 02.0 +1.3
baz=120
GLA Glamis 120.37 56 ⇓PKiKP PKPdf 02 09 02.0 +1.3
baz=120
TPAW Teton Pass 120.38 43 ePKPdf PKPdf 02 09 01.7 +1.0
TPAW eSKPdf SKPdf 02 11 36.6 -0.1
MOOW Moose Ponds 120.42 43 eP Pdif 02 05 31.7 +2.3
MOOW ePKPdf PKiKP 02 09 01.5 +0.7
MOOW ePP PP 02 10 36.6 -2.2
MOOW eSKPdf SKiKP 02 11 37.2 +0.1
CCUT Cedar City 120.47 51 ePKPdf PKPdf 02 09 02.4 +1.4
CCUT eSKPdf SKiKP 02 11 37.2 -0.2
Y12C Blythe 120.47 55 ⇑PKiKP PKiKP 02 09 02.1 +1.2
baz=120
Y12C Blythe 120.47 55 ⇑PKiKP PKiKP 02 09 02.1 +1.2
baz=120
REDW Red Top Meadow 120.49 43 ePKPdf PKPdf 02 09 01.8 +0.9
REDW eSKPdf SKPdf 02 11 36.8 -0.1
SNOW Snow King Moun 120.52 43 ePKPdf PKPdf 02 09 02.2 +1.2
SNOW eSKPdf SKiKP 02 11 37.3 0.0
AHID Auburn Hatcher 120.53 44 ePKPdf PKPdf 02 09 01.7 +0.8
LOHW Long Hollow 120.57 43 ePKPdf PKPdf 02 09 01.7 +0.7
LOHW eSKPdf SKiKP 02 11 37.6 +0.2
HWUT Hardware Ranch 120.59 46 ePKPdf PKPdf 02 09 01.6 +0.6
C20A Veseth Ranch, 120.62 38 ⇓PKiKP PKiKP 02 09 01.4 +0.6
baz=120
C20A Veseth Ranch, 120.62 38 ⇓PKiKP PKiKP 02 09 01.4 +0.6
baz=120
G18A Lazy EL Ranch, 120.62 41 ⇓PKiKP PKiKP 02 09 01.4 +0.3
baz=121
G18A Lazy EL Ranch, 120.62 41 ⇓PKiKP PKiKP 02 09 01.4 +0.3
baz=121
OJGS Djebel Guires 120.63 307 P PKPdf 02 09 01.0 -0.1
PDMCI Parker Dam,Lak 120.66 54 ⇑PKiKP PKiKP 02 09 02.3 +1.0
baz=121
PDMCI Parker Dam,Lak 120.66 54 ⇑PKiKP PKiKP 02 09 02.3 +1.0
baz=121
W13A Hualapai Mount 120.68 53 ⇑PKiKP PKiKP 02 09 02.8 +1.3
baz=121
W13A Hualapai Mount 120.68 53 ⇑PKiKP PKiKP 02 09 02.8 +1.3
baz=121
A21A Bergtoll Ranch 120.69 36 ⇑PKiKP PKiKP 02 09 01.2 +0.2
baz=121
A21A Bergtoll Ranch 120.69 36 ⇑PKiKP PKiKP 02 09 01.2 +0.2
baz=121
NLU North Lily Min 120.75 48 ePKPdf PKPdf 02 09 02.2 +0.8
CTU Camp Tracy 120.75 47 ePKPdf PKPdf 02 09 02.0 +0.6
H18A Shoshone NF, C 120.80 42 ⇓PKiKP PKiKP 02 09 02.1 +0.6
baz=121
H18A Shoshone NF, C 120.80 42 ⇓PKiKP PKiKP 02 09 02.1 +0.6
baz=121
D20A Manuel Ranch, 120.80 39 ⇓PKiKP PKiKP 02 09 01.5 +0.3
baz=121
D20A Manuel Ranch, 120.80 39 ⇓PKiKP PKiKP 02 09 01.5 +0.3
baz=121
F19A Roth Farm, Mol 120.81 40 ⇓PKiKP PKiKP 02 09 01.8 +0.4
baz=121
F19A Roth Farm, Mol 120.81 40 ⇓PKiKP PKiKP 02 09 01.8 +0.4
baz=121
RLMT Red Lodge 120.89 41 ePKPdf PKPdf 02 09 02.3 +0.8
B21A Ellsworth Farm 120.89 37 ⇓PKiKP PKiKP 02 09 01.9 +0.6
baz=121
B21A Ellsworth Farm 120.89 37 ⇓PKiKP PKiKP 02 09 01.9 +0.6
baz=121
JLU Jordanelle 121.00 47 ePKPdf PKPdf 02 09 02.6 +0.7
MPU Maple Canyon 121.05 47 ePKPdf PKPdf 02 09 02.8 +0.9
E20A Meyer Farm, Mu 121.06 39 ⇑PKiKP PKiKP 02 09 02.1 +0.3
baz=121
E20A Meyer Farm, Mu 121.06 39 ⇑PKiKP PKiKP 02 09 02.1 +0.3
baz=121
MVU Marysvale 121.08 49 ePKPdf PKPdf 02 09 03.8 +1.7
MVU eSKPdf SKiKP 02 11 38.5 -0.1
FCC Fort Churchill 121.08 22 ePKIKP PKPdf 02 09 00.6 -0.5
FCC Fort Churchill 121.08 22 ePKPdf PKPdf 02 09 00.6 -0.5
C21A Desert Coulee 121.12 37 ⇓PKiKP PKiKP 02 09 02.3 +0.5
baz=121
C21A Desert Coulee 121.12 37 ⇓PKiKP PKiKP 02 09 02.3 +0.5
baz=121
DAU Daniels Canyon 121.20 47 ePKIKP PKPdf 02 09 03.3 +0.9
DAU Daniels Canyon 121.20 47 ePKPdf PKPdf 02 09 03.3 +0.9
H19A Powell 121.25 41 ⇑PKiKP PKiKP 02 09 03.4 +1.1
baz=121
H19A Powell 121.25 41 ⇑PKiKP PKiKP 02 09 03.4 +1.1
baz=121
M17A Scullys Gap (B 121.27 45 ⇓PKiKP PKiKP 02 09 03.0 +0.5
baz=121
M17A Scullys Gap (B 121.27 45 ⇓PKiKP PKiKP 02 09 03.0 +0.5
baz=121
A22A Carney Farms, 121.28 36 ⇓PKiKP PKiKP 02 09 02.4 +0.3
baz=121
A22A Carney Farms, 121.28 36 ⇓PKiKP PKiKP 02 09 02.4 +0.3
baz=121
113A Mohawk Valley, 121.31 56 ⇑PKiKP PKiKP 02 09 03.3 +0.7
baz=121
113A Mohawk Valley, 121.31 56 ⇑PKiKP PKiKP 02 09 03.3 +0.7
baz=121
F20A Billings 121.34 40 ⇑PKiKP PKiKP 02 09 02.8 +0.4
baz=121
F20A Billings 121.34 40 ⇑PKiKP PKiKP 02 09 02.8 +0.4
baz=121
EFI East Falkland 121.34 179 ePKIKP PKPdf 02 09 02.2 +0.3
EFI East Falkland 121.34 179 ePKPdf PKPdf 02 09 02.2 +0.3
ODJA Bouhanifia 121.39 307 P PKPdf 02 09 02.0 -0.5
D21A La Casta Ranch 121.52 38 ⇓PKiKP PKiKP 02 09 03.1 +0.5
baz=121
D21A La Casta Ranch 121.52 38 ⇓PKiKP PKiKP 02 09 03.1 +0.5
baz=121
G20A Bridger 121.53 41 ⇑PKiKP PKiKP 02 09 03.5 +0.6
baz=122
G20A Bridger 121.53 41 ⇑PKiKP PKiKP 02 09 03.5 +0.6
baz=122
B22A Reddig Ranch S 121.56 37 ⇓PKiKP PKiKP 02 09 03.5 +0.8
baz=122
B22A Reddig Ranch S 121.56 37 ⇓PKiKP PKiKP 02 09 03.5 +0.8
baz=122
L18A Fontenelle, Gr 121.56 45 ⇓PKiKP PKiKP 02 09 04.0 +0.9
baz=122
L18A Fontenelle, Gr 121.56 45 ⇓PKiKP PKiKP 02 09 04.0 +0.9
baz=122
BW06 Boulder Array 121.59 44 ePKPdf PKPdf 02 09 03.2 +0.2
PDAR Pinedale Array 121.59 44 PKP PKPdf 02 09 03.0 +0.1
PDAR PKKPbc PKKPbc 02 19 05.0 -1.5
PDAR SKKPbc SKKPbc 02 21 51.0 -3.6
PDAR SKKP 02 22 14.1
PDAR Pinedale Array 121.59 44 PKP PKPdf 02 09 03.0 +0.1
comp=Z,106nm,0.5s,baz=191,slow=0.9,SNR=72
PDAR PKKPbc PKKPbc 02 19 05.0 -1.5
comp=Z,16nm,0.5s,baz=105,slow=5.7,SNR=26
PDAR SKKPbc SKKPbc 02 21 51.0 -3.6
comp=Z,12nm,0.9s,baz=107,slow=4.8,SNR=5.5
PDAR SKKP 02 22 14.1
comp=Z,16nm,1.1s,baz=98,slow=5.6,SNR=4.3
TMUT Trail Mountain 121.59 48 ePKPdf PKPdf 02 09 04.3 +1.1
TMUT ePP PP 02 10 45.9 -1.0
TMUT eSKPdf SKPdf 02 11 39.3 +0.1
USTO Oran 121.60 308 P PKPdf 02 09 09.0 +6.2
Y14A Wickenburg 121.66 55 ⇓PKiKP PKiKP 02 09 04.0 +0.7
baz=122
Y14A Wickenburg 121.66 55 ⇓PKiKP PKiKP 02 09 04.0 +0.7
baz=122
E21A Keefer Ranch, 121.70 39 ⇓PKiKP PKiKP 02 09 03.9 +0.9
baz=122
E21A Keefer Ranch, 121.70 39 ⇓PKiKP PKiKP 02 09 03.9 +0.9
baz=122
Q16A Castle Valley 121.73 48 ⇓PKiKP PKiKP 02 09 04.6 +1.1
baz=122
Q16A Castle Valley 121.73 48 ⇓PKiKP PKiKP 02 09 04.6 +1.1
baz=122
Z14A Wintersburg 121.84 55 ⇑PKiKP PKiKP 02 09 04.8 +1.1
baz=122
Z14A Wintersburg 121.84 55 ⇑PKiKP PKiKP 02 09 04.8 +1.1
baz=122
C22A Vida 121.88 37 ⇓PKiKP PKiKP 02 09 04.0 +0.6
baz=122
C22A Vida 121.88 37 ⇓PKiKP PKiKP 02 09 04.0 +0.6
baz=122
A23A Redstone 121.89 35 ⇓PKiKP PKiKP 02 09 03.7 +0.4
baz=122
A23A Redstone 121.89 35 ⇓PKiKP PKiKP 02 09 03.7 +0.4
baz=122
L19A Farson 121.97 44 ⇓PKiKP PKiKP 02 09 04.5 +0.6
baz=122
L19A Farson 121.97 44 ⇓PKiKP PKiKP 02 09 04.5 +0.6
baz=122
D22A Cohagen 121.98 38 ⇑PKiKP PKiKP 02 09 04.5 +1.0
baz=122
D22A Cohagen 121.98 38 ⇑PKiKP PKiKP 02 09 04.5 +1.0
baz=122
F21A Absaloka Mine, 121.98 40 ⇓PKiKP PKiKP 02 09 04.2 +0.6
baz=122
F21A Absaloka Mine, 121.98 40 ⇓PKiKP PKiKP 02 09 04.2 +0.6
baz=122
B23A Brockton 122.07 36 ⇑PKiKP PKiKP 02 09 04.2 +0.6
baz=122
B23A Brockton 122.07 36 ⇑PKiKP PKiKP 02 09 04.2 +0.6
baz=122
LAO LASA Array 122.16 38 ePKPdf PKPdf 02 09 05.2 +1.5
LAO ePP PP 02 10 51.5 +1.6
LAO eSKPdf SKPdf 02 11 38.4 -1.3
G21A Lodge Grass 122.18 40 ⇓PKiKP PKiKP 02 09 04.5 +0.4
baz=122
G21A Lodge Grass 122.18 40 ⇓PKiKP PKiKP 02 09 04.5 +0.4
baz=122
214A Organ Pipe Nat 122.27 57 ⇑PKiKP PKiKP 02 09 05.5 +0.9
baz=122
214A Organ Pipe Nat 122.27 57 ⇑PKiKP PKiKP 02 09 05.5 +0.9
baz=122
C23A Lambert 122.27 37 ⇑PKiKP PKiKP 02 09 05.0 +0.9
baz=122
C23A Lambert 122.27 37 ⇑PKiKP PKiKP 02 09 05.0 +0.9
baz=122
M19A Rock Springs 122.32 45 ⇓PKiKP PKiKP 02 09 05.1 +0.5
baz=122
M19A Rock Springs 122.32 45 ⇓PKiKP PKiKP 02 09 05.1 +0.5
baz=122
OLHC Oulhaca 122.41 307 P PKPdf 02 09 02.0 -2.5
A24A Westby 122.42 35 ⇓PKiKP PKiKP 02 09 04.7 +0.4
baz=122
A24A Westby 122.42 35 ⇓PKiKP PKiKP 02 09 04.7 +0.4
baz=122
E22A Miles City 122.44 38 ⇑PKiKP PKiKP 02 09 05.3 +0.8
baz=122
E22A Miles City 122.44 38 ⇑PKiKP PKiKP 02 09 05.3 +0.8
baz=122
TORD Torodi Ar. Bea 122.48 281 PKP PKPdf 02 09 04.8 -0.3
TORD SKP 02 11 40.2
TORD PKKPbc PKKPbc 02 19 02.6 +0.4
TORD Torodi Ar. Bea 122.48 281 PKP PKPdf 02 09 04.8 -0.3
comp=Z,366nm,0.7s,baz=64,slow=1.9,SNR=21
TORD SKP 02 11 40.2
comp=Z,122nm,0.9s,baz=52,slow=1.7,SNR=8.7
TORD PKKPbc PKKPbc 02 19 02.6 +0.4
comp=Z,28nm,0.6s,baz=301,slow=3.9,SNR=34
DGMT Dagmar 122.53 36 ePKPdf PKPdf 02 09 04.5 +0.1
DGMT Dagmar 122.53 36 ⇓PKiKP PKiKP 02 09 05.0 +0.4
baz=122
DGMT Dagmar 122.53 36 ⇓PKiKP PKiKP 02 09 05.0 +0.4
baz=122
F22A Rosebud 122.54 39 ⇓PKiKP PKiKP 02 09 05.2 +0.5
baz=122
F22A Rosebud 122.54 39 ⇓PKiKP PKiKP 02 09 05.2 +0.5
baz=122
D23A Lindsay 122.56 37 ⇓PKiKP PKiKP 02 09 05.8 +1.1
baz=122
D23A Lindsay 122.56 37 ⇓PKiKP PKiKP 02 09 05.8 +1.1

baz=122
WUAZ Wupatki 122.56 52 ePKPdf PKPdf 02 09 06.0 +1.1
WUAZ Wupatki 122.56 52 ⇓PKiKP PKiKP 02 09 06.3 +1.1
baz=122
WUAZ Wupatki 122.56 52 ⇓PKiKP PKiKP 02 09 06.3 +1.1
baz=122
L20A Wamsutter 122.71 44 ⇑PKiKP PKiKP 02 09 06.0 +0.6
baz=123
L20A Wamsutter 122.71 44 ⇑PKiKP PKiKP 02 09 06.0 +0.6
baz=123
G22A Birney 122.77 40 ⇓PKiKP PKiKP 02 09 05.5 +0.3
baz=123
G22A Birney 122.77 40 ⇓PKiKP PKiKP 02 09 05.5 +0.3
baz=123
X16A Lo Mia Camp, P 122.80 54 ⇓PKiKP PKiKP 02 09 06.9 +1.2
baz=123
X16A Lo Mia Camp, P 122.80 54 ⇓PKiKP PKiKP 02 09 06.9 +1.2
baz=123
E23A Ismay 122.81 38 ⇓PKiKP PKiKP 02 09 06.1 +0.9
baz=123
E23A Ismay 122.81 38 ⇓PKiKP PKiKP 02 09 06.1 +0.9
baz=123
C24A Savage 122.85 37 ⇓PKiKP PKiKP 02 09 06.0 +0.8
baz=123
C24A Savage 122.85 37 ⇓PKiKP PKiKP 02 09 06.0 +0.8
baz=123
A25A Svangstu Ranch 122.91 35 ⇑PKiKP PKiKP 02 09 06.0 +0.7
baz=123
A25A Svangstu Ranch 122.91 35 ⇑PKiKP PKiKP 02 09 06.0 +0.7
baz=123
ESDC Sonseca Array 123.00 313 PKP PKPdf 02 09 05.8 +0.3
ESDC PKKPbc PKKPbc 02 18 59.6 -1.3
ESDC Sonseca Array 123.00 313 PKP PKPdf 02 09 05.8 +0.3
comp=Z,55nm,0.7s,baz=20,slow=3.1,SNR=75
ESDC PKKPbc PKKPbc 02 18 59.6 -1.3
comp=Z,8.9nm,0.6s,baz=268,slow=3.6,SNR=26
ESLA Sonseca Array 123.00 313 ePKPdf PKPdf 02 09 06.1 +0.6
F23A Volborg 123.10 39 ⇓PKiKP PKiKP 02 09 06.1 +0.3
baz=123
F23A Volborg 123.10 39 ⇓PKiKP PKiKP 02 09 06.1 +0.3
baz=123
P19A Cripple Cowboy 123.11 47 ⇑PKiKP PKiKP 02 09 07.4 +1.1
baz=123
P19A Cripple Cowboy 123.11 47 ⇑PKiKP PKiKP 02 09 07.4 +1.1
baz=123
D24A Glendive 123.11 37 ⇓PKiKP PKiKP 02 09 06.7 +0.9
baz=123
D24A Glendive 123.11 37 ⇓PKiKP PKiKP 02 09 06.7 +0.9
baz=123
K21A Alcova 123.21 43 ⇓PKiKP PKiKP 02 09 06.4 +0.1
baz=123
K21A Alcova 123.21 43 ⇓PKiKP PKiKP 02 09 06.4 +0.1
baz=123
B25A Knox Farm, Ray 123.23 35 ⇑PKiKP PKiKP 02 09 06.7 +0.7
baz=123
B25A Knox Farm, Ray 123.23 35 ⇑PKiKP PKiKP 02 09 06.7 +0.7
baz=123
PAB San Pablo 123.32 313 ePKIKP PKPdf 02 09 06.6 +0.4
PAB San Pablo 123.32 313 ePKPdf PKPdf 02 09 06.6 +0.4
PAB ePKKP PKKPab 02 18 59.9 +0.1
G23A Biddle 123.34 40 ⇑PKiKP PKiKP 02 09 06.4 +0.1
baz=123
G23A Biddle 123.34 40 ⇑PKiKP PKiKP 02 09 06.4 +0.1
baz=123
E24A Baker 123.39 38 ⇑PKiKP PKiKP 02 09 07.0 +0.7
baz=123
E24A Baker 123.39 38 ⇑PKiKP PKiKP 02 09 07.0 +0.7
baz=123
L21A Rawlins 123.39 44 ⇓PKiKP PKiKP 02 09 06.8 +0.1
baz=123
L21A Rawlins 123.39 44 ⇓PKiKP PKiKP 02 09 06.8 +0.1
baz=123
J22A Midwest 123.41 42 ⇑PKiKP PKPdf 02 09 06.4 +0.1
baz=123
J22A Midwest 123.41 42 ⇑PKiKP PKPdf 02 09 06.4 +0.1
baz=123
C25A Freed Ranch, W 123.45 36 ⇓PKiKP PKiKP 02 09 07.5 +1.0
baz=123
C25A Freed Ranch, W 123.45 36 ⇓PKiKP PKiKP 02 09 07.5 +1.0
baz=123
A26A Wade Farm, Ken 123.54 34 ⇓PKiKP PKiKP 02 09 07.0 +0.4
baz=124
A26A Wade Farm, Ken 123.54 34 ⇓PKiKP PKiKP 02 09 07.0 +0.4
baz=124
P20A De Beque 123.58 47 ⇓PKiKP PKiKP 02 09 08.0 +0.8
baz=124
P20A De Beque 123.58 47 ⇓PKiKP PKiKP 02 09 08.0 +0.8
baz=124
PV04 Paradox Valley 123.58 48 ePKPdf PKPdf 02 09 07.7 +0.9
RWWY Rawlins 123.61 44 ePKPdf PKPdf 02 09 07.1 +0.2
RWWY eSKPdf SKPdf 02 11 43.1 +0.2
F24A Ekalaka 123.64 39 ⇑PKiKP PKiKP 02 09 06.9 0.0
baz=124
F24A Ekalaka 123.64 39 ⇑PKiKP PKiKP 02 09 06.9 0.0
baz=124
K22A Casper 123.69 43 ⇓PKiKP PKPdf 02 09 07.0 +0.1
baz=124
K22A Casper 123.69 43 ⇓PKiKP PKPdf 02 09 07.0 +0.1
baz=124
D25A Fairfield 123.69 37 ⇓PKiKP PKiKP 02 09 07.8 +0.8
baz=124
D25A Fairfield 123.69 37 ⇓PKiKP PKiKP 02 09 07.8 +0.8
baz=124
B26A Jensen Ranch, 123.70 35 ⇑PKiKP PKiKP 02 09 07.3 +0.4
baz=124
B26A Jensen Ranch, 123.70 35 ⇑PKiKP PKiKP 02 09 07.3 +0.4
baz=124
I23A Meade Ranch, G 123.84 41 ⇓PKiKP PKPdf 02 09 07.1 0.0
baz=124
I23A Meade Ranch, G 123.84 41 ⇓PKiKP PKPdf 02 09 07.1 0.0
baz=124
TUC Tucson 123.86 56 ePKIKP PKPdf 02 09 08.2 +0.7
TUC Tucson 123.86 56 ePKPdf PKPdf 02 09 08.2 +0.7
TUC ePKKPbc PKKPab 02 18 58.1 +0.5
G24A Alzada 123.90 39 ⇑PKiKP PKPdf 02 09 07.1 0.0
baz=124
G24A Alzada 123.90 39 ⇑PKiKP PKPdf 02 09 07.1 0.0
baz=124
X18A Snowflake 123.96 53 ⇑PKiKP PKiKP 02 09 08.9 +0.9
baz=124
X18A Snowflake 123.96 53 ⇑PKiKP PKiKP 02 09 08.9 +0.9
baz=124
W18A Petrified Fore 123.96 52 ⇓PKiKP PKiKP 02 09 09.4 +1.4
baz=124
W18A Petrified Fore 123.96 52 ⇓PKiKP PKiKP 02 09 09.4 +1.4
baz=124
E25A Miller Ranch, 123.97 37 ⇑PKiKP PKiKP 02 09 08.2 +0.7
baz=124
E25A Miller Ranch, 123.97 37 ⇑PKiKP PKiKP 02 09 08.2 +0.7
baz=124
O21A Pagoda 123.98 46 ⇑PKiKP PKiKP 02 09 08.6 +0.6
baz=124
O21A Pagoda 123.98 46 ⇑PKiKP PKiKP 02 09 08.6 +0.6
baz=124
J23A Dilts Ranch, B 124.03 42 ⇓PKiKP PKPdf 02 09 07.7 +0.2
baz=124
J23A Dilts Ranch, B 124.03 42 ⇓PKiKP PKPdf 02 09 07.7 +0.2
baz=124
C26A Wahner Farm, P 124.07 36 ⇓PKiKP PKiKP 02 09 08.3 +0.6
baz=124
C26A Wahner Farm, P 124.07 36 ⇓PKiKP PKiKP 02 09 08.3 +0.6
baz=124
PBRG Braganca 124.16 316 ePKP PKPdf 02 09 08.1 +0.4
F25A Bowman 124.21 38 ⇑PKiKP PKiKP 02 09 08.5 +0.4
baz=124
F25A Bowman 124.21 38 ⇑PKiKP PKiKP 02 09 08.5 +0.4
baz=124
B27A Peters Farms, 124.24 35 ⇓PKiKP PKiKP 02 09 08.2 +0.3
baz=124
B27A Peters Farms, 124.24 35 ⇓PKiKP PKiKP 02 09 08.2 +0.3
baz=124
P21A Newcastle 124.25 47 ⇓PKiKP PKiKP 02 09 09.3 +0.8
baz=124
P21A Newcastle 124.25 47 ⇓PKiKP PKiKP 02 09 09.3 +0.8
baz=124
K23A Bowen Ranch, D 124.25 42 ⇑PKiKP PKPdf 02 09 08.1 +0.1
baz=124
K23A Bowen Ranch, D 124.25 42 ⇑PKiKP PKPdf 02 09 08.1 +0.1
baz=124
MVCO Mesa Verde 124.27 50 ePKPdf PKPdf 02 09 09.4 +1.1
MVCO Mesa Verde 124.27 50 ⇓PKiKP PKiKP 02 09 09.9 +1.2
baz=124
MVCO Mesa Verde 124.27 50 ⇓PKiKP PKiKP 02 09 09.9 +1.2
baz=124
I24A Kuemmerle Ranc 124.43 41 ⇓PKiKP PKPdf 02 09 08.0 -0.3
baz=124
I24A Kuemmerle Ranc 124.43 41 ⇓PKiKP PKPdf 02 09 08.0 -0.3
baz=124

C27A Sayler Ranch, 124.47 35 ⇓PKiKP PKiKP 02 09 09.1 +0.7
baz=124
C27A Sayler Ranch, 124.47 35 ⇓PKiKP PKiKP 02 09 09.1 +0.7
baz=124
A28A Rude Farm, Bot 124.52 34 ⇓PKiKP PKiKP 02 09 08.7 +0.2
baz=124
A28A Rude Farm, Bot 124.52 34 ⇓PKiKP PKiKP 02 09 08.7 +0.2
baz=124
E26A Carlson Angus 124.55 37 ⇑PKiKP PKiKP 02 09 09.0 +0.4
baz=124
E26A Carlson Angus 124.55 37 ⇑PKiKP PKiKP 02 09 09.0 +0.4
baz=124
G25A Newell 124.59 39 ⇑PKiKP PKPdf 02 09 08.4 0.0
baz=124
G25A Newell 124.59 39 ⇑PKiKP PKPdf 02 09 08.4 0.0
baz=124
MVO Moncorvo 124.62 316 ePKP PKPdf 02 09 09.4 +0.8
J24A Dixon Ranch, L 124.64 41 ⇓PKiKP PKPdf 02 09 08.5 -0.1
baz=125
J24A Dixon Ranch, L 124.64 41 ⇓PKiKP PKPdf 02 09 08.5 -0.1
baz=125
O22A Kremmling 124.66 46 ⇑PKiKP PKiKP 02 09 09.4 0.0
baz=125
O22A Kremmling 124.66 46 ⇑PKiKP PKiKP 02 09 09.4 0.0
baz=125
RSSD Black Hills 124.69 40 ePKIKP PKPdf 02 09 08.8 -0.1
RSSD Black Hills 124.69 40 ePKPdf PKPdf 02 09 08.8 -0.1
RSSD eSKPdf SKPdf 02 11 44.8 -0.1
RSSD ePKKPab PKKPab 02 18 54.3 +0.2
SHEL Horse Pasture 124.70 245 ePKIKP PKPdf 02 09 10.8 +1.4
SHEL Horse Pasture 124.70 245 ePKPdf PKPdf 02 09 10.8 +1.4
B28A Dugan Ranch, T 124.72 34 ⇑PKiKP PKiKP 02 09 09.3 +0.4
baz=125
B28A Dugan Ranch, T 124.72 34 ⇑PKiKP PKiKP 02 09 09.3 +0.4
baz=125
M23A Laramie 124.72 44 ⇑PKiKP PKiKP 02 09 09.4 0.0
baz=125
M23A Laramie 124.72 44 ⇑PKiKP PKiKP 02 09 09.4 0.0
baz=125
P22A Eagle 124.72 46 ⇓PKiKP PKiKP 02 09 10.4 +1.0
baz=125
P22A Eagle 124.72 46 ⇓PKiKP PKiKP 02 09 10.4 +1.0
baz=125
SMCO Snowmass 124.72 47 ePKPdf PKPdf 02 09 10.6 +1.3
F26A Lodgepole 124.73 38 ⇑PKiKP PKiKP 02 09 09.3 +0.2
baz=125
F26A Lodgepole 124.73 38 ⇑PKiKP PKiKP 02 09 09.3 +0.2
baz=125
D27A Center 124.77 36 ⇑PKiKP PKiKP 02 09 09.7 +0.6
baz=125
D27A Center 124.77 36 ⇑PKiKP PKiKP 02 09 09.7 +0.6
baz=125
N23A Red Feather La 124.80 45 ⇓PKiKP PKiKP 02 09 10.1 +0.5
baz=125
N23A Red Feather La 124.80 45 ⇓PKiKP PKiKP 02 09 10.1 +0.5
baz=125
K24A Anderson Ranch 124.81 42 ⇓PKiKP PKPdf 02 09 08.9 -0.1
baz=125
K24A Anderson Ranch 124.81 42 ⇓PKiKP PKPdf 02 09 08.9 -0.1
baz=125
W20A Ramah 124.92 52 ⇓PKiKP PKiKP 02 09 11.0 +1.0
baz=125
W20A Ramah 124.92 52 ⇓PKiKP PKiKP 02 09 11.0 +1.0
baz=125
I25A Rochford 124.94 40 ⇓PKiKP PKPdf 02 09 09.2 -0.1
baz=125
I25A Rochford 124.94 40 ⇓PKiKP PKPdf 02 09 09.2 -0.1
baz=125
PHWY Pilot Hill 124.97 44 ePKPdf PKPdf 02 09 09.9 +0.3
PHWY ePP PP 02 11 06.2 -2.8
G26A Maurine 125.04 38 ⇓PKiKP PKPdf 02 09 09.4 +0.2
baz=125
G26A Maurine 125.04 38 ⇓PKiKP PKPdf 02 09 09.4 +0.2
baz=125
T21A Navajo Lake 125.07 49 ⇓PKiKP PKiKP 02 09 11.4 +1.2
baz=125
T21A Navajo Lake 125.07 49 ⇓PKiKP PKiKP 02 09 11.4 +1.2
baz=125
A29A Manning Farm, 125.07 33 ⇓PKiKP PKiKP 02 09 09.4 -0.2
baz=125
A29A Manning Farm, 125.07 33 ⇓PKiKP PKiKP 02 09 09.4 -0.2
baz=125
PCAB Cabril 125.08 317 ePKP PKPdf 02 09 10.1 +0.7
O23A Lake Granby, G 125.08 45 ⇓PKiKP PKiKP 02 09 10.8 +0.6
baz=125
O23A Lake Granby, G 125.08 45 ⇓PKiKP PKiKP 02 09 10.8 +0.6
baz=125
E27A Carson 125.10 37 ⇓PKiKP PKiKP 02 09 10.1 +0.3
baz=125
E27A Carson 125.10 37 ⇓PKiKP PKiKP 02 09 10.1 +0.3
baz=125
X20A Quemado 125.10 53 ⇓PKiKP PKiKP 02 09 11.4 +1.0
baz=125
X20A Quemado 125.10 53 ⇓PKiKP PKiKP 02 09 11.4 +1.0
baz=125
C28A Hausauer Farms 125.10 35 ⇑PKiKP PKiKP 02 09 10.0 +0.3
baz=125
C28A Hausauer Farms 125.10 35 ⇑PKiKP PKiKP 02 09 10.0 +0.3
baz=125
F27A Lemmon 125.11 38 ⇑PKiKP PKiKP 02 09 10.0 +0.2
baz=125
F27A Lemmon 125.11 38 ⇑PKiKP PKiKP 02 09 10.0 +0.2
baz=125
PGAV Gavieira, Arco 125.14 317 ePKP PKPdf 02 09 10.1 +0.5
J25A Sunshine Ranch 125.18 41 ⇓PKiKP PKiKP 02 09 10.0 -0.1
baz=125
J25A Sunshine Ranch 125.18 41 ⇓PKiKP PKiKP 02 09 10.0 -0.1
baz=125
H26A Fairpoint 125.26 39 ⇓PKiKP PKPdf 02 09 09.9 +0.1
baz=125
H26A Fairpoint 125.26 39 ⇓PKiKP PKPdf 02 09 09.9 +0.1
baz=125
B29A Wagenman Farm, 125.27 34 ⇓PKiKP PKiKP 02 09 09.8 -0.2
baz=125
B29A Wagenman Farm, 125.27 34 ⇓PKiKP PKiKP 02 09 09.8 -0.2
baz=125
MTE Manteigas 125.28 315 ePKP PKPdf 02 09 10.6 +0.7
MTE Manteigas 125.28 315 ePKPdf PKPdf 02 09 11.0 +1.1
D28A Regan 125.28 35 ⇓PKiKP PKiKP 02 09 10.1 0.0
baz=125
D28A Regan 125.28 35 ⇓PKiKP PKiKP 02 09 10.1 0.0
baz=125
319A Douglas 125.33 57 ⇓PKiKP PKiKP 02 09 12.1 +1.3
baz=125
319A Douglas 125.33 57 ⇓PKiKP PKiKP 02 09 12.1 +1.3
baz=125
S22A 4UR Ranch, Cre 125.34 48 ⇓PKiKP PKiKP 02 09 12.1 +1.2
baz=125
S22A 4UR Ranch, Cre 125.34 48 ⇓PKiKP PKiKP 02 09 12.1 +1.2
baz=125
Y20A Horse Springs, 125.38 53 ⇑PKiKP PKiKP 02 09 11.9 +1.0
baz=125
Y20A Horse Springs, 125.38 53 ⇑PKiKP PKiKP 02 09 11.9 +1.0
baz=125
PVIS Visu 125.40 316 ePKP PKPdf 02 09 10.6 +0.5
G27A Dupree 125.41 38 ⇓PKiKP PKiKP 02 09 10.2 -0.2
baz=125
G27A Dupree 125.41 38 ⇓PKiKP PKiKP 02 09 10.2 -0.2
baz=125
Z20A Nine Sixteen R 125.44 54 ⇓PKiKP PKiKP 02 09 12.0 +1.0
baz=125
Z20A Nine Sixteen R 125.44 54 ⇓PKiKP PKiKP 02 09 12.0 +1.0
baz=125
PCBR Castelo Branco 125.45 314 ePKP PKPdf 02 09 11.0 +0.9
ISCO Idaho Springs 125.46 46 ⇑PKiKP PKiKP 02 09 11.4 +0.3
baz=125
ISCO Idaho Springs 125.46 46 ⇑PKiKP PKiKP 02 09 11.4 +0.3
baz=125
K25A Mack Ranch, Ha 125.48 42 ⇓PKiKP PKPdf 02 09 10.5 +0.2
baz=125
K25A Mack Ranch, Ha 125.48 42 ⇓PKiKP PKPdf 02 09 10.5 +0.2
baz=125
I26A New Underwood 125.49 40 ⇑PKiKP PKiKP 02 09 10.5 -0.1
baz=125
I26A New Underwood 125.49 40 ⇑PKiKP PKiKP 02 09 10.5 -0.1
baz=125
E28A Huff 125.54 36 ⇑PKiKP PKiKP 02 09 10.6 0.0
baz=126
E28A Huff 125.54 36 ⇑PKiKP PKiKP 02 09 10.6 0.0
baz=126
T22A Edith 125.54 49 ⇑PKiKP PKiKP 02 09 12.5 +1.3
baz=126
T22A Edith 125.54 49 ⇑PKiKP PKiKP 02 09 12.5 +1.3
baz=126
PMRV Marv??o 125.55 314 ePKP PKPdf 02 09 10.8 +0.4
120A U Bar Ranch, L 125.56 55 ⇓PKiKP PKiKP 02 09 12.1 +0.9
baz=126

120A U Bar Ranch, L 125.56 55 ⇓PKiKP PKiKP 02 09 12.1 +0.9
baz=126
N24A Carr 125.56 44 ⇑PKiKP PKiKP 02 09 11.1 +0.1
baz=126
N24A Carr 125.56 44 ⇑PKiKP PKiKP 02 09 11.1 +0.1
baz=126
W21A San Fidel 125.59 52 ⇑PKiKP PKiKP 02 09 12.5 +1.2
baz=126
W21A San Fidel 125.59 52 ⇑PKiKP PKiKP 02 09 12.5 +1.2
baz=126
MDT Midelt 125.62 305 PKKPbc PKKPbc 02 18 51.7 +1.0
MDT Midelt 125.62 305 PKKPbc PKKPbc 02 18 51.7 +1.0
comp=Z,16nm,0.7s,baz=255,slow=6.4,SNR=25
H27A Howes 125.69 39 ⇑PKiKP PKPdf 02 09 10.7 +0.1
baz=126
H27A Howes 125.69 39 ⇑PKiKP PKPdf 02 09 10.7 +0.1
baz=126
X21A Alamocita Cree 125.69 53 ⇑PKiKP PKiKP 02 09 12.7 +1.1
baz=126
X21A Alamocita Cree 125.69 53 ⇑PKiKP PKiKP 02 09 12.7 +1.1
baz=126
PTO Porto 125.71 316 ePKP PKPdf 02 09 11.9 +1.3
O24A Longmont 125.72 45 ⇑PKiKP PKiKP 02 09 11.8 +0.5
baz=126
O24A Longmont 125.72 45 ⇑PKiKP PKiKP 02 09 11.8 +0.5
baz=126
PBAR Barrancos 125.77 312 ePKP PKPdf 02 09 11.6 +0.8
220A Playas Peak, P 125.82 56 ⇑PKiKP PKiKP 02 09 12.5 +0.7
baz=126
220A Playas Peak, P 125.82 56 ⇑PKiKP PKiKP 02 09 12.5 +0.7
baz=126
B30A Myrvik Farm, E 125.83 33 ⇓PKiKP PKPdf 02 09 10.4 -0.2
baz=126
B30A Myrvik Farm, E 125.83 33 ⇓PKiKP PKPdf 02 09 10.4 -0.2
baz=126
F28A McLaughlin 125.86 37 ⇑PKiKP PKiKP 02 09 11.2 -0.1
baz=126
F28A McLaughlin 125.86 37 ⇑PKiKP PKiKP 02 09 11.2 -0.1
baz=126
M25A Palm-Egli Farm 125.87 43 ⇓PKiKP PKiKP 02 09 11.5 -0.1
baz=126
M25A Palm-Egli Farm 125.87 43 ⇓PKiKP PKiKP 02 09 11.5 -0.1
baz=126
V22A San Miguel Ran 125.91 51 ⇓PKiKP PKiKP 02 09 13.3 +1.3
baz=126
V22A San Miguel Ran 125.91 51 ⇓PKiKP PKiKP 02 09 13.3 +1.3
baz=126
LPIG La Paz 125.91 66 PKP PKPdf 02 09 12.0 +0.6
LPIG PP PP 02 11 32.6 +17
LPIG La Paz 125.91 66 PKP PKPdf 02 09 12.0 +0.6
comp=Z,384nm,1.0s,baz=310,slow=1.1,SNR=33
LPIG PP PP 02 11 32.6 +17
comp=Z,101nm,1.0s,baz=248,slow=3.9,SNR=4.5
PESTR Estremoz 125.91 313 ePKP PKPdf 02 09 11.5 +0.4
Y21A Point of Rocks 125.91 53 ⇓PKiKP PKiKP 02 09 13.2 +1.1
baz=126
Y21A Point of Rocks 125.91 53 ⇓PKiKP PKiKP 02 09 13.2 +1.1
baz=126
D29A Pettibone, Tap 125.91 35 ⇑PKiKP PKPdf 02 09 10.7 -0.1
baz=126
D29A Pettibone, Tap 125.91 35 ⇑PKiKP PKPdf 02 09 10.7 -0.1
baz=126
R23A Moffat 125.92 48 ⇓PKiKP PKiKP 02 09 13.1 +1.1
baz=126
R23A Moffat 125.92 48 ⇓PKiKP PKiKP 02 09 13.1 +1.1
baz=126
320A Kipp Ranch, An 125.96 56 ⇑PKiKP PKiKP 02 09 13.0 +1.0
baz=126
320A Kipp Ranch, An 125.96 56 ⇑PKiKP PKiKP 02 09 13.0 +1.0
baz=126
S23A Nye Farm, Mont 125.97 48 ⇑PKiKP PKiKP 02 09 13.3 +1.3
baz=126
S23A Nye Farm, Mont 125.97 48 ⇑PKiKP PKiKP 02 09 13.3 +1.3
baz=126
ULM Lac du Bonnet 126.03 30 ePKPdf PKPdf 02 09 10.7 -0.2
ULM PP PP 02 11 27.6 +13
ULM e 02 11 28.3
ULM SKKPbc SKKPbc 02 21 36.7 -3.3
ULM Lac du Bonnet 126.03 30 PKP PKPdf 02 09 10.9 0.0
comp=Z,308nm,0.6s,baz=310,slow=2.8,SNR=108
ULM PP PP 02 11 27.6 +13
comp=Z,116nm,0.8s,baz=304,slow=4.5,SNR=4.6
ULM SKKPbc SKKPbc 02 21 36.7 -3.3
comp=Z,18nm,1.0s,baz=53,slow=5.1,SNR=3.5
PCAS Casmilo, Conde 126.09 315 ePKP PKPdf 02 09 12.0 +0.6
N25A Grover 126.11 44 ⇓PKiKP PKiKP 02 09 12.1 0.0
baz=126
N25A Grover 126.11 44 ⇓PKiKP PKiKP 02 09 12.1 0.0
baz=126
Z21A St. Cloud Mine 126.12 54 ⇓PKiKP PKiKP 02 09 13.3 +0.9
baz=126
Z21A St. Cloud Mine 126.12 54 ⇓PKiKP PKiKP 02 09 13.3 +0.9
baz=126
E29A Napoleon 126.16 36 ⇓PKiKP PKPdf 02 09 10.9 -0.5
baz=126
E29A Napoleon 126.16 36 ⇓PKiKP PKPdf 02 09 10.9 -0.5
baz=126
C30A Mose, Pekin 126.18 34 ⇓PKiKP PKiKP 02 09 11.7 -0.1
baz=126
C30A Mose, Pekin 126.18 34 ⇓PKiKP PKiKP 02 09 11.7 -0.1
baz=126
G28A Parade 126.18 38 ⇑PKiKP PKiKP 02 09 11.9 -0.1
baz=126
G28A Parade 126.18 38 ⇑PKiKP PKiKP 02 09 11.9 -0.1
baz=126
PTOM Tomar 126.20 315 ePKP PKPdf 02 09 12.4 +0.8
LAZ Ladron 126.21 52 ePKPdf PKPdf 02 09 12.7 +0.7
LAZ ePP PP 02 11 14.6 -2.8
LAZ e 02 11 32.6
121A Cookes Peak, D 126.25 55 ⇑PKiKP PKiKP 02 09 13.7 +1.0
baz=126
121A Cookes Peak, D 126.25 55 ⇑PKiKP PKiKP 02 09 13.7 +1.0
baz=126
X22A Bernardo 126.28 52 ⇑PKiKP PKiKP 02 09 14.0 +1.4
baz=126
X22A Bernardo 126.28 52 ⇑PKiKP PKiKP 02 09 14.0 +1.4
baz=126
PMTG Montargil 126.29 314 ePKP PKPdf 02 09 12.1 +0.3
SDCO Great Sand Dun 126.32 48 ePKPdf PKPdf 02 09 13.2 +0.9
H28A Mission Ridge 126.32 38 ⇓PKiKP PKiKP 02 09 12.1 -0.2
baz=126
H28A Mission Ridge 126.32 38 ⇓PKiKP PKiKP 02 09 12.1 -0.2
baz=126
EVO Evora 126.34 313 ePKIKP PKPdf 02 09 12.7 +0.8
comp=Z,454nm,1.1s
EVO eR
comp=Z,5μm,21.8s
D30A Buchanan 126.36 35 ⇑PKiKP PKPdf 02 09 11.8 +0.2
baz=126
D30A Buchanan 126.36 35 ⇑PKiKP PKPdf 02 09 11.8 +0.2
baz=126
221A Mesquite Ranch 126.40 55 ⇑PKiKP PKiKP 02 09 13.9 +1.0
baz=126
221A Mesquite Ranch 126.40 55 ⇑PKiKP PKiKP 02 09 13.9 +1.0
baz=126
LENM Lemitar 126.42 53 ePKPdf PKPdf 02 09 13.7 +1.3
LENM ePP PP 02 11 17.2 -1.4
EVOP Sao Brissos 126.43 313 ePKIKP PKPdf 02 09 12.7 +0.7
EVOP Sao Brissos 126.43 313 ePKPdf PKPdf 02 09 12.7 +0.7
R24A Sanders Place, 126.43 47 ⇑PKiKP PKiKP 02 09 13.4 +0.6
baz=126
R24A Sanders Place, 126.43 47 ⇑PKiKP PKiKP 02 09 13.4 +0.6
baz=126
PBEJ Beja 126.43 313 ePKP PKPdf 02 09 12.8 +0.7
F29A Eureka 126.44 37 ⇑PKiKP PKPdf 02 09 11.9 0.0
baz=126
F29A Eureka 126.44 37 ⇑PKiKP PKPdf 02 09 11.9 0.0
baz=126
M26A McRoberts Ranc 126.48 43 ⇓PKiKP PKiKP 02 09 12.7 -0.1
baz=126
M26A McRoberts Ranc 126.48 43 ⇓PKiKP PKiKP 02 09 12.7 -0.1
baz=126
Y22A Socorro 126.49 53 ⇓PKiKP PKiKP 02 09 13.8 +0.7
baz=126
Y22A Socorro 126.49 53 ⇓PKiKP PKiKP 02 09 13.8 +0.7
baz=126
ALMR Almeirim 126.50 314 eP PKPdf 02 09 12.0 -0.1
V23A Ortiz Mt. (NFS 126.52 50 ⇑PKiKP PKiKP 02 09 14.9 +1.7
baz=126
V23A Ortiz Mt. (NFS 126.52 50 ⇑PKiKP PKiKP 02 09 14.9 +1.7
baz=126
PVAQ Vaqueiros 126.55 312 ePKP PKPdf 02 09 13.2 +0.9
ANMO Albuquerque 126.57 52 ePKPdf PKPdf 02 09 13.6 +0.9
ANMO ePP PP 02 11 17.6 -2.0
ANMO PP PP 02 11 31.8 +12
ANMO SKKPbc SKKPbc 02 21 36.6 -1.1
ANMO Albuquerque 126.57 52 PKP PKPdf 02 09 13.8 +1.1

comp=Z,482nm,1.1s,baz=276,slow=3.3,SNR=129
ANMO PP PP 02 11 31.8 +12
comp=Z,122nm,1.0s,baz=286,slow=5.2,SNR=8.6
ANMO SKKPbc SKKPbc 02 21 36.6 -1.1
comp=Z,15nm,1.0s,baz=137,slow=5.1,SNR=5.9
S24A Houchin Ranch, 126.58 48 ⇓PKiKP PKiKP 02 09 14.3 +1.0
baz=126
S24A Houchin Ranch, 126.58 48 ⇓PKiKP PKiKP 02 09 14.3 +1.0
baz=126
E30A Jud 126.61 35 ⇑PKiKP PKPdf 02 09 12.3 +0.1
baz=126
E30A Jud 126.61 35 ⇑PKiKP PKPdf 02 09 12.3 +0.1
baz=126
LPM Los Pinos Moun 126.64 52 *e*PKPdf **PKPdf 02 09 13.8 +0.9**
LPM *e*PP **PP 02 11 18.5 -1.6**
BNM Barren Site 126.69 52 *e*PKPdf **PKPdf 02 09 14.0 +1.0**
BNM *e* 02 11 33.2
N26A Koester Ranch, 126.70 44 ⇑PKiKP PKPdf 02 09 12.8 +0.1
baz=127
N26A Koester Ranch, 126.70 44 ⇑PKiKP PKPdf 02 09 12.8 +0.1
baz=127
Z22A Elephant Butte 126.70 54 ⇓PKiKP PKiKP 02 09 14.3 +0.8
baz=127
Z22A Elephant Butte 126.70 54 ⇓PKiKP PKiKP 02 09 14.3 +0.8
baz=127
PBDV Barranco-do-Ve 126.77 312 *e*PKP **PKPdf 02 09 14.2 +1.4**
122A Conniff Cattle 126.84 54 ⇑PKiKP PKiKP 02 09 14.8 +1.0
baz=127
122A Conniff Cattle 126.84 54 ⇑PKiKP PKiKP 02 09 14.8 +1.0
baz=127
PACT Alcochete 126.84 314 *e*PKP **PKPdf 02 09 14.6 +1.8**
PNCL Nicolau / Gran 126.88 313 *e*PKP **PKPdf 02 09 13.8 +0.9**
X23A Hourglass Bar 126.90 52 ⇓PKiKP PKiKP 02 09 14.6 +0.6
baz=127
X23A Hourglass Bar 126.90 52 ⇓PKiKP PKiKP 02 09 14.6 +0.6
baz=127
222A Williams Famil 126.93 55 ⇓PKiKP PKiKP 02 09 14.6 +0.6
baz=127
222A Williams Famil 126.93 55 ⇓PKiKP PKiKP 02 09 14.6 +0.6
baz=127
M27A Reverse DX Ran 126.95 42 ⇓PKiKP PKPdf 02 09 13.3 +0.2
baz=127
M27A Reverse DX Ran 126.95 42 ⇓PKiKP PKPdf 02 09 13.3 +0.2
baz=127
U24A Moreno Valley 126.97 49 ⇑PKiKP PKiKP 02 09 15.2 +1.1
baz=127
U24A Moreno Valley 126.97 49 ⇑PKiKP PKiKP 02 09 15.2 +1.1
baz=127
R25A Fountain Ranch 127.06 47 ⇓PKiKP PKiKP 02 09 14.3 +0.2
baz=127
R25A Fountain Ranch 127.06 47 ⇓PKiKP PKiKP 02 09 14.3 +0.2
baz=127
PMAFR Mafra 127.09 314 *e*PKP **PKPdf 02 09 14.0 +0.7**
LIS Lisbon 127.09 314 *e*P **PKPdf 02 09 13.5 +0.2**
PMST Lisbon--Monsan 127.11 314 *e*PKP **PKPdf 02 09 14.1 +0.8**
S25A Robets Cordova 127.14 48 ⇓PKiKP PKiKP 02 09 14.6 +0.3
baz=127
S25A Robets Cordova 127.14 48 ⇓PKiKP PKiKP 02 09 14.6 +0.3
baz=127
Y23A Lovelace Mesa, 127.21 53 ⇓PKiKP PKiKP 02 09 14.9 +0.4
baz=127
Y23A Lovelace Mesa, 127.21 53 ⇓PKiKP PKiKP 02 09 14.9 +0.4
baz=127
V24A Rampart Ranch, 127.22 50 ⇓PKiKP PKiKP 02 09 15.5 +1.0
baz=127
V24A Rampart Ranch, 127.22 50 ⇓PKiKP PKiKP 02 09 15.5 +1.0
baz=127
PTEO Sao Teotonio 127.24 312 *e*PKP **PKPdf 02 09 14.7 +1.1**
AGMN Agassiz Nation 127.25 32 *e*PKPdf **PKPdf 02 09 12.3 -1.0**
MORF Marmelete 127.28 312 *e*PKP **PKPdf 02 09 14.9 +1.1**
Z23A Rita Site, Whi 127.28 53 ⇑PKiKP PKiKP 02 09 15.4 +0.7
baz=127
Z23A Rita Site, Whi 127.28 53 ⇑PKiKP PKiKP 02 09 15.4 +0.7
baz=127
Q26A Hugo 127.30 46 ⇑PKiKP PKiKP 02 09 14.9 +0.3
baz=127
Q26A Hugo 127.30 46 ⇑PKiKP PKiKP 02 09 14.9 +0.3
baz=127
L28A Connealy Angus 127.31 41 ⇑PKiKP PKiKP 02 09 14.1 -0.3
baz=127
L28A Connealy Angus 127.31 41 ⇑PKiKP PKiKP 02 09 14.1 -0.3
baz=127
123A Bell Site, Whi 127.45 54 ⇓PKiKP PKiKP 02 09 15.8 +0.8
baz=127
123A Bell Site, Whi 127.45 54 ⇓PKiKP PKiKP 02 09 15.8 +0.8
baz=127
OGNE Ogallala 127.46 43 *e*PKPdf **PKPdf 02 09 13.9 -0.2**
OGNE Ogallala 127.46 43 ⇑PKiKP PKPdf 02 09 14.1 0.0
baz=127
OGNE Ogallala 127.46 43 ⇑PKiKP PKPdf 02 09 14.1 0.0
baz=127
PFVI Vila Bisbo 127.47 312 *e*PKP **PKPdf 02 09 15.1 +1.0**
X24A Lazy VL Ranch, 127.49 52 ⇓PKiKP PKiKP 02 09 15.2 0.0
baz=128
X24A Lazy VL Ranch, 127.49 52 ⇓PKiKP PKiKP 02 09 15.2 0.0
baz=128
223A Chaparral, Ant 127.50 55 ⇓PKiKP PKiKP 02 09 15.9 +0.8
baz=128
223A Chaparral, Ant 127.50 55 ⇓PKiKP PKiKP 02 09 15.9 +0.8
baz=128
R26A Arlington 127.60 46 ⇓PKiKP PKiKP 02 09 15.4 +0.3
baz=128
R26A Arlington 127.60 46 ⇓PKiKP PKiKP 02 09 15.4 +0.3
baz=128
U25A Circle Dot Ran 127.63 49 ⇑PKiKP PKiKP 02 09 15.9 +0.5
baz=128
U25A Circle Dot Ran 127.63 49 ⇑PKiKP PKiKP 02 09 15.9 +0.5
baz=128
V25A Rancho No Teng 127.68 50 ⇑PKiKP PKiKP 02 09 16.0 +0.5
baz=128
V25A Rancho No Teng 127.68 50 ⇑PKiKP PKiKP 02 09 16.0 +0.5
baz=128
M28A Bar X Bar Ranc 127.69 42 ⇓PKiKP PKPdf 02 09 14.5 0.0
baz=128
M28A Bar X Bar Ranc 127.69 42 ⇓PKiKP PKPdf 02 09 14.5 0.0
baz=128
Y24A Capitan 127.70 52 ⇑PKiKP PKiKP 02 09 16.0 +0.5
baz=128
Y24A Capitan 127.70 52 ⇑PKiKP PKiKP 02 09 16.0 +0.5
baz=128
BRSD Miller 127.70 38 ⇑PKiKP PKPdf 02 09 14.5 +0.1
baz=128
BRSD Miller 127.70 38 ⇑PKiKP PKPdf 02 09 14.5 +0.1
baz=128
Z24A Sheeppen Canyo 127.95 53 ⇑PKiKP PKiKP 02 09 16.9 +0.9
baz=128
Z24A Sheeppen Canyo 127.95 53 ⇑PKiKP PKiKP 02 09 16.9 +0.9
baz=128
L29A Maesberg Ranch 127.96 41 ⇑PKiKP PKPdf 02 09 14.8 -0.2
baz=128
L29A Maesberg Ranch 127.96 41 ⇑PKiKP PKPdf 02 09 14.8 -0.2
baz=128
R27A Eads 128.08 46 ⇓PKiKP PKiKP 02 09 16.3 +0.3
baz=128
R27A Eads 128.08 46 ⇓PKiKP PKiKP 02 09 16.3 +0.3
baz=128
124A Stringfield Ra 128.08 54 ⇓PKiKP PKiKP 02 09 17.0 +0.6
baz=128
124A Stringfield Ra 128.08 54 ⇓PKiKP PKiKP 02 09 17.0 +0.6
baz=128
X25A Clemmons Ranch 128.11 51 ⇑PKiKP PKiKP 02 09 16.1 -0.2
baz=128
X25A Clemmons Ranch 128.11 51 ⇑PKiKP PKiKP 02 09 16.1 -0.2
baz=128
M29A Burnside Ranch 128.12 42 ⇑PKiKP PKPdf 02 09 15.0 -0.3
baz=128
M29A Burnside Ranch 128.12 42 ⇑PKiKP PKPdf 02 09 15.0 -0.3
baz=128
U26A Atchley Ranch, 128.13 49 ⇑PKiKP PKiKP 02 09 16.6 +0.2
baz=128
U26A Atchley Ranch, 128.13 49 ⇑PKiKP PKiKP 02 09 16.6 +0.2
baz=128
224A Cornudas Mount 128.22 55 ⇑PKiKP PKiKP 02 09 17.0 +0.4
baz=128
224A Cornudas Mount 128.22 55 ⇑PKiKP PKiKP 02 09 17.0 +0.4
baz=128
Y25A Mesa, Roswell 128.29 52 ⇑PKiKP PKiKP 02 09 16.8 +0.2
baz=128
Y25A Mesa, Roswell 128.29 52 ⇑PKiKP PKiKP 02 09 16.8 +0.2
baz=128
Q28A Sharon Springs 128.43 45 ⇑PKiKP PKiKP 02 09 16.6 -0.1
baz=128
Q28A Sharon Springs 128.43 45 ⇑PKiKP PKiKP 02 09 16.6 -0.1
baz=128
324A Moseley Ranch, 128.44 55 ⇓PKiKP PKiKP 02 09 17.3 +0.3
baz=128
324A Moseley Ranch, 128.44 55 ⇓PKiKP PKiKP 02 09 17.3 +0.3
baz=128

MNTX Cornudas Mount 128.44 55 *e*PKPdf **PKPdf 02 09 17.7 +1.6**
Z25A Roswell 128.48 53 ⇑PKiKP PKiKP 02 09 17.5 +0.5
baz=128
Z25A Roswell 128.48 53 ⇑PKiKP PKiKP 02 09 17.5 +0.5
baz=128
DBIC Dimbokro 128.72 273 *e*P PP 02 11 40.0 +6.0
DBIC Dimbokro 128.72 273 *e*PKPdf **PKPdf 02 09 16.6 -0.4**
DBIC PKP **PKPdf 02 09 17.5 +0.4**
DBIC PP PP 02 11 40.0 +6.0
DBIC Dimbokro 128.72 273 PKP PKPdf 02 09 17.5 +0.4
comp=Z,143nm,0.5s,baz=81,slow=3.0,SNR=45
DBIC PP PP 02 11 40.0 +6.0
comp=Z,625nm,1.0s,baz=91,slow=4.8,SNR=60
125A Gardner Draw, 128.73 54 ⇓PKiKP PKiKP 02 09 17.7 +0.1
baz=129
125A Gardner Draw, 128.73 54 ⇓PKiKP PKiKP 02 09 17.7 +0.1
baz=129
X26A CR and CF Fran 128.76 51 ⇑PKiKP PKiKP 02 09 17.3 -0.2
baz=129
X26A CR and CF Fran 128.76 51 ⇑PKiKP PKiKP 02 09 17.3 -0.2
baz=129
225A Deer Hill, Car 128.77 54 ⇓PKiKP PKiKP 02 09 17.9 +0.2
baz=129
225A Deer Hill, Car 128.77 54 ⇓PKiKP PKiKP 02 09 17.9 +0.2
baz=129
U27A Thompson Grove 128.81 48 ⇑PKiKP PKPdf 02 09 17.2 +0.3
baz=129
U27A Thompson Grove 128.81 48 ⇑PKiKP PKPdf 02 09 17.2 +0.3
baz=129
P29A Atwood 128.82 44 ⇓PKiKP PKPdf 02 09 16.8 +0.1
baz=129
P29A Atwood 128.82 44 ⇓PKiKP PKPdf 02 09 16.8 +0.1
baz=129
LIC Lamto 128.85 272 *e*PKIKP **PKPdf 02 09 17.1 -0.2**
comp=Z,459nm,0.6s
LIC *e*R
comp=Z,9μm,21.2s
LIC Lamto 128.85 272 *e*PKPdf **PKPdf 02 09 17.1 -0.2**
325A Bean Ranch, Si 128.88 55 ⇑PKiKP PKPdf 02 09 17.4 +0.2
baz=129
325A Bean Ranch, Si 128.88 55 ⇑PKiKP PKPdf 02 09 17.4 +0.2
baz=129
Y26A Elida 128.97 52 ⇑PKiKP PKPdf 02 09 17.4 +0.2
baz=129
Y26A Elida 128.97 52 ⇑PKiKP PKPdf 02 09 17.4 +0.2
baz=129
425A Indio Mountain 129.04 56 ⇓PKiKP PKPdf 02 09 17.6 +0.2
baz=129
425A Indio Mountain 129.04 56 ⇓PKiKP PKPdf 02 09 17.6 +0.2
baz=129
Z26A Caprock 129.07 53 ⇓PKiKP PKPdf 02 09 17.7 +0.3
baz=129
Z26A Caprock 129.07 53 ⇓PKiKP PKPdf 02 09 17.7 +0.3
baz=129
Q29A Oakley 129.10 45 ⇑PKiKP PKiKP 02 09 17.8 -0.2
baz=129
Q29A Oakley 129.10 45 ⇑PKiKP PKiKP 02 09 17.8 -0.2
baz=129
126A Clayton Basin, 129.24 53 ⇑PKiKP PKiKP 02 09 18.4 -0.1
baz=129
126A Clayton Basin, 129.24 53 ⇑PKiKP PKiKP 02 09 18.4 -0.1
baz=129
X27A F and S Farms, 129.27 51 ⇓PKiKP PKiKP 02 09 18.4 -0.2
baz=129
X27A F and S Farms, 129.27 51 ⇓PKiKP PKiKP 02 09 18.4 -0.2
baz=129
226B Tecolote Peak, 129.31 54 ⇓PKiKP PKiKP 02 09 18.7 0.0
baz=129
226B Tecolote Peak, 129.31 54 ⇓PKiKP PKiKP 02 09 18.7 0.0
baz=129
P30A Selden 129.31 44 ⇓PKiKP PKiKP 02 09 18.1 -0.3
baz=129
P30A Selden 129.31 44 ⇓PKiKP PKiKP 02 09 18.1 -0.3
baz=129
Y27A Causey 129.49 52 ⇑PKiKP PKiKP 02 09 18.9 -0.2
baz=130
Y27A Causey 129.49 52 ⇑PKiKP PKiKP 02 09 18.9 -0.2
baz=130
Q30A Quinter 129.59 44 ⇓PKiKP PKiKP 02 09 18.8 -0.2
baz=130
Q30A Quinter 129.59 44 ⇓PKiKP PKiKP 02 09 18.8 -0.2
baz=130
T29A Hugoton 129.63 47 ⇑PKiKP PKiKP 02 09 19.1 -0.1
baz=130
T29A Hugoton 129.63 47 ⇑PKiKP PKiKP 02 09 19.1 -0.1
baz=130
Z27A Tatum 129.65 52 ⇑PKiKP PKiKP 02 09 19.2 -0.2
baz=130
Z27A Tatum 129.65 52 ⇑PKiKP PKiKP 02 09 19.2 -0.2
baz=130
326A Caldwell Ranch 129.70 55 ⇑PKiKP PKiKP 02 09 19.4 -0.1
baz=130
326A Caldwell Ranch 129.70 55 ⇑PKiKP PKiKP 02 09 19.4 -0.1
baz=130
EYMN Ely 129.71 30 *e*PKPdf **PKPdf 02 09 18.1 0.0**
W28A Vega 129.72 50 ⇓PKiKP PKiKP 02 09 19.6 +0.2
baz=130
W28A Vega 129.72 50 ⇓PKiKP PKiKP 02 09 19.6 +0.2
baz=130
127A Arkansas Junct 129.76 53 ⇓PKiKP PKiKP 02 09 19.4 -0.2
baz=130
127A Arkansas Junct 129.76 53 ⇓PKiKP PKiKP 02 09 19.4 -0.2
baz=130
BGNE Belgrade 129.80 41 ⇓PKiKP PKPdf 02 09 18.6 +0.1
baz=130
BGNE Belgrade 129.80 41 ⇓PKiKP PKPdf 02 09 18.6 +0.1
baz=130
426A McDonald Obser 129.86 56 ⇓PKiKP PKiKP 02 09 20.1 +0.1
baz=130
426A McDonald Obser 129.86 56 ⇓PKiKP PKiKP 02 09 20.1 +0.1
baz=130
P31A Stockton 129.92 43 ⇓PKiKP PKiKP 02 09 19.3 -0.4
baz=130
P31A Stockton 129.92 43 ⇓PKiKP PKiKP 02 09 19.3 -0.4
baz=130
526A Mary Lane Ranc 129.99 57 ⇓PKiKP PKiKP 02 09 19.8 -0.4
baz=130
526A Mary Lane Ranc 129.99 57 ⇓PKiKP PKiKP 02 09 19.8 -0.4
baz=130
X28A Dimmitt 130.01 50 ⇑PKiKP PKiKP 02 09 19.8 -0.2
baz=130
X28A Dimmitt 130.01 50 ⇑PKiKP PKiKP 02 09 19.8 -0.2
baz=130
227A Bennet, Jal 130.03 54 ⇑PKiKP PKiKP 02 09 20.0 -0.1
baz=130
227A Bennet, Jal 130.03 54 ⇑PKiKP PKiKP 02 09 20.0 -0.1
baz=130
327A Balmorhea Ranc 130.08 55 ⇑PKiKP PKiKP 02 09 20.2 0.0
baz=130
327A Balmorhea Ranc 130.08 55 ⇑PKiKP PKiKP 02 09 20.2 0.0
baz=130
626A Big Bend Ranch 130.10 57 ⇑PKiKP PKiKP 02 09 20.0 -0.3
baz=130
626A Big Bend Ranch 130.10 57 ⇑PKiKP PKiKP 02 09 20.0 -0.3
baz=130
W29A Amraillo 130.19 49 ⇓PKiKP PKiKP 02 09 20.1 -0.3
baz=130
W29A Amraillo 130.19 49 ⇓PKiKP PKiKP 02 09 20.1 -0.3
baz=130
Y28A McKinney Farm, 130.19 51 ⇑PKiKP PKiKP 02 09 20.0 -0.4
baz=130
Y28A McKinney Farm, 130.19 51 ⇑PKiKP PKiKP 02 09 20.0 -0.4
baz=130
T30A Plains 130.23 47 ⇓PKiKP PKiKP 02 09 20.4 0.0
baz=130
T30A Plains 130.23 47 ⇓PKiKP PKiKP 02 09 20.4 0.0
baz=130
Z28A Tucker Farm, M 130.31 52 ⇓PKiKP PKPdf 02 09 19.9 +0.1
baz=130
Z28A Tucker Farm, M 130.31 52 ⇓PKiKP PKPdf 02 09 19.9 +0.1
baz=130
427A Hayter Ranch, 130.32 55 ⇑PKiKP PKiKP 02 09 20.9 +0.1
baz=130
427A Hayter Ranch, 130.32 55 ⇑PKiKP PKiKP 02 09 20.9 +0.1
baz=130
527A Woodward Ranch 130.36 56 ⇑PKiKP PKiKP 02 09 20.6 -0.3
baz=130
527A Woodward Ranch 130.36 56 ⇑PKiKP PKiKP 02 09 20.6 -0.3
baz=130
R31A Burdett 130.39 45 ⇑PKiKP PKiKP 02 09 20.1 -0.5
baz=130
R31A Burdett 130.39 45 ⇑PKiKP PKiKP 02 09 20.1 -0.5
baz=130
X29A Tulia 130.41 50 ⇑PKiKP PKiKP 02 09 20.6 -0.3
baz=130
X29A Tulia 130.41 50 ⇑PKiKP PKiKP 02 09 20.6 -0.3
baz=130
128A Castleberry Fa 130.47 53 ⇓PKiKP PKPdf 02 09 20.3 +0.3
baz=130
128A Castleberry Fa 130.47 53 ⇓PKiKP PKPdf 02 09 20.3 +0.3
baz=130
TXAR Lajitas Array 130.55 57 SKPbc SKPab 02 11 46.7 +0.3
TXAR Lajitas Array 130.55 57 SKPbc SKPab 02 11 46.7 +0.3
comp=Z,539nm,1.0s,baz=255,slow=2.7,SNR=38
228A UT Block 9, Go 130.56 54 ⇑PKiKP PKiKP 02 09 20.7 -0.5
baz=130
228A UT Block 9, Go 130.56 54 ⇑PKiKP PKiKP 02 09 20.7 -0.5
baz=130
PLCA Paso Flores 130.59 166 *e*PKPdf **PKPdf 02 09 20.2 +0.2**
PLCA PKP **PKPdf 02 09 20.7 +0.6**
PLCA SKPbc **SKPab 02 11 46.0 -0.2**
PLCA Paso Flores 130.59 166 PKP PKPdf 02 09 20.7 +0.6
comp=Z,132nm,0.6s,baz=207,slow=2.5,SNR=81
PLCA SKPbc **SKPab 02 11 46.0 -0.2**
comp=Z,215nm,1.0s,baz=221,slow=4.1,SNR=16
328A Wristen Ranch, 130.63 55 ⇑PKiKP PKiKP 02 09 20.8 -0.5
baz=131
328A Wristen Ranch, 130.63 55 ⇑PKiKP PKiKP 02 09 20.8 -0.5
baz=131
Y29A Porterfield Fa 130.66 51 ⇑PKiKP PKiKP 02 09 21.1 -0.2
baz=131
Y29A Porterfield Fa 130.66 51 ⇑PKiKP PKiKP 02 09 21.1 -0.2
baz=131
627A Terlingua Ranc 130.75 57 ⇓PKiKP PKiKP 02 09 21.3 -0.4
baz=131
627A Terlingua Ranc 130.75 57 ⇓PKiKP PKiKP 02 09 21.3 -0.4
baz=131
SPMN St. Paul 130.81 34 ⇓PKiKP PKPdf 02 09 20.1 0.0
baz=131
SPMN St. Paul 130.81 34 ⇓PKiKP PKPdf 02 09 20.1 0.0
baz=131
T31A Randall Ranch, 130.82 46 ⇑PKiKP PKiKP 02 09 21.1 -0.4
baz=131
T31A Randall Ranch, 130.82 46 ⇑PKiKP PKiKP 02 09 21.1 -0.4
baz=131
Z29A Hungry Hill Ra 130.85 52 ⇓PKiKP PKPdf 02 09 21.2 +0.4
baz=131
Z29A Hungry Hill Ra 130.85 52 ⇓PKiKP PKPdf 02 09 21.2 +0.4
baz=131
428A Kincaid Ranch, 130.94 55 ⇓PKiKP PKiKP 02 09 22.1 +0.1
baz=131
428A Kincaid Ranch, 130.94 55 ⇓PKiKP PKiKP 02 09 22.1 +0.1
baz=131
W30A Crocket Farms 130.97 49 ⇓PKiKP PKiKP 02 09 21.5 -0.5
baz=131
W30A Crocket Farms 130.97 49 ⇓PKiKP PKiKP 02 09 21.5 -0.5
baz=131
528A Cox Ranch, San 131.03 56 ⇓PKiKP PKiKP 02 09 22.0 -0.3
baz=131
528A Cox Ranch, San 131.03 56 ⇓PKiKP PKiKP 02 09 22.0 -0.3
baz=131
X30A Coker Ranch, T 131.04 50 ⇑PKiKP PKiKP 02 09 21.6 -0.5
baz=131
X30A Coker Ranch, T 131.04 50 ⇑PKiKP PKiKP 02 09 21.6 -0.5
baz=131
628A Black Gap, Mar 131.16 57 ⇓PKiKP PKiKP 02 09 21.9 -0.5
baz=131
628A Black Gap, Mar 131.16 57 ⇓PKiKP PKiKP 02 09 21.9 -0.5
baz=131
229A Bryant Ranch, 131.23 53 ⇓PKiKP PKPdf 02 09 21.8 +0.4
baz=131
229A Bryant Ranch, 131.23 53 ⇓PKiKP PKPdf 02 09 21.8 +0.4
baz=131
Y30A Stafford Cattl 131.25 51 ⇑PKiKP PKiKP 02 09 22.1 -0.4
baz=131
Y30A Stafford Cattl 131.25 51 ⇑PKiKP PKiKP 02 09 22.1 -0.4
baz=131
329A Wagon Wheel Ra 131.26 54 ⇑PKiKP PKiKP 02 09 22.1 -0.5
baz=131
329A Wagon Wheel Ra 131.26 54 ⇑PKiKP PKiKP 02 09 22.1 -0.5
baz=131
Z30A Sanderson Ranc 131.29 52 ⇓PKiKP PKPdf 02 09 21.6 +0.1
baz=131
Z30A Sanderson Ranc 131.29 52 ⇓PKiKP PKPdf 02 09 21.6 +0.1
baz=131
W31A Holland Ranch, 131.44 49 ⇓PKiKP PKiKP 02 09 22.7 -0.1
baz=131
W31A Holland Ranch, 131.44 49 ⇓PKiKP PKiKP 02 09 22.7 -0.1
baz=131
529A Stev Forest Ra 131.51 56 ⇓PKiKP PKPdf 02 09 22.6 +0.5
baz=132
529A Stev Forest Ra 131.51 56 ⇓PKiKP PKPdf 02 09 22.6 +0.5
baz=132
429A Davenport Ranc 131.62 55 ⇓PKiKP PKPdf 02 09 22.8 +0.5
baz=132
429A Davenport Ranc 131.62 55 ⇓PKiKP PKPdf 02 09 22.8 +0.5
baz=132
X31A McDonald Ranch 131.65 49 ⇓PKiKP PKPdf 02 09 22.7 +0.5
baz=132
X31A McDonald Ranch 131.65 49 ⇓PKiKP PKPdf 02 09 22.7 +0.5
baz=132
130A Snyder 131.68 52 ⇑PKiKP PKPdf 02 09 22.3 +0.1
baz=132
130A Snyder 131.68 52 ⇑PKiKP PKPdf 02 09 22.3 +0.1
baz=132
Y31A Rekieta Farm, 131.70 50 ⇑PKiKP PKPdf 02 09 22.5 +0.2
baz=132
Y31A Rekieta Farm, 131.70 50 ⇑PKiKP PKPdf 02 09 22.5 +0.2
baz=132
SCHQ Schefferville 131.79 8 *e*PKPdf **PKPdf 02 09 21.7 0.0**
SCHQ PKP **PKPdf 02 09 22.1 +0.3**
SCHQ SKPbc **SKPbc 02 11 49.4 +0.2**
SCHQ PKKP **PKKPdf 02 19 15.8 -3.3**
SCHQ Schefferville 131.79 8 PKP PKPdf 02 09 22.1 +0.3
comp=Z,428nm,0.8s,baz=345,slow=2.6,SNR=66
SCHQ SKPbc **SKPbc 02 11 49.4 +0.2**
comp=Z,807nm,1.0s,baz=340,slow=5.5,SNR=21
SCHQ PKKP **PKKPdf 02 19 15.8 -3.3**
comp=Z,26nm,0.4s,baz=135,slow=1.8,SNR=24
230A Sterling City 131.82 53 ⇓PKiKP PKPdf 02 09 23.1 +0.5
baz=132
230A Sterling City 131.82 53 ⇓PKiKP PKPdf 02 09 23.1 +0.5
baz=132
330A Mertzon 131.94 54 ⇑PKiKP PKPdf 02 09 23.0 +0.2
baz=132
330A Mertzon 131.94 54 ⇑PKiKP PKPdf 02 09 23.0 +0.2
baz=132
KSU1 Kansas State U 131.99 42 *e*PKPdf **PKPdf 02 09 23.8 +1.2**
KSU1 *e*SKPbc **SKPbc 02 11 50.8 +0.4**
Z31A Sharp Cattle R 132.04 51 ⇑PKiKP PKPdf 02 09 23.4 +0.5
baz=132
Z31A Sharp Cattle R 132.04 51 ⇑PKiKP PKPdf 02 09 23.4 +0.5
baz=132
430A Baggett Ranch, 132.10 55 ⇑PKiKP PKPdf 02 09 23.6 +0.5
baz=132
430A Baggett Ranch, 132.10 55 ⇑PKiKP PKPdf 02 09 23.6 +0.5
baz=132
131A Roby 132.10 52 ⇓PKiKP PKPdf 02 09 23.6 +0.5
baz=132
131A Roby 132.10 52 ⇓PKiKP PKPdf 02 09 23.6 +0.5
baz=132
COWI Conover 132.15 30 *e*PKPdf **PKPdf 02 09 22.7 0.0**
COWI *e*SKPdf **SKPdf 02 11 56.1 -2.4**
530A J-C Ranch, Com 132.23 56 ⇑PKiKP PKiKP 02 09 24.1 -0.4
baz=132
530A J-C Ranch, Com 132.23 56 ⇑PKiKP PKiKP 02 09 24.1 -0.4
baz=132
Y32A R-V Farms, Ver 132.31 50 ⇓PKiKP PKPdf 02 09 24.0 +0.6
baz=132
Y32A R-V Farms, Ver 132.31 50 ⇓PKiKP PKPdf 02 09 24.0 +0.6
baz=132
231A Bronte 132.43 53 ⇓PKiKP PKPdf 02 09 24.1 +0.4
baz=132
231A Bronte 132.43 53 ⇓PKiKP PKPdf 02 09 24.1 +0.4
baz=132
WMOK Wichita Mounta 132.50 49 *e*PKIKP **PKPdf 02 09 23.1 -0.6**
WMOK *e* 02 11 53.0
WMOK Wichita Mounta 132.50 49 *e*PKPdf **PKPdf 02 09 23.1 -0.6**
WMOK *e*SKPab **SKPbc 02 11 53.0 +0.7**
Z32A Haskell 132.56 51 ⇓PKiKP PKPdf 02 09 24.4 +0.5
baz=132
Z32A Haskell 132.56 51 ⇓PKiKP PKPdf 02 09 24.4 +0.5
baz=132
331A San Angelo 132.57 54 ⇓PKiKP PKPdf 02 09 24.3 +0.3
baz=132
331A San Angelo 132.57 54 ⇓PKiKP PKPdf 02 09 24.3 +0.3
baz=132
431A Sonora 132.64 55 ⇓PKiKP PKPdf 02 09 24.5 +0.3
baz=133
431A Sonora 132.64 55 ⇓PKiKP PKPdf 02 09 24.5 +0.3
baz=133
ABTX Abilene, Hawle 132.70 52 ⇑PKiKP PKPdf 02 09 24.6 +0.5
baz=133
ABTX Abilene, Hawle 132.70 52 ⇑PKiKP PKPdf 02 09 24.6 +0.5
baz=133
531A Rocksprings 132.87 55 ⇓PKiKP PKiKP 02 09 25.3 -0.5

	baz=133							
531A	Rocksprings	132.87	55	⇓PKiKP	PKiKP	02 09 25.3	-0.5	
	baz=133							
232A	Coleman	132.98	53	⇑PKiKP	PKPdf	02 09 25.1	+0.3	
	baz=133							
232A	Coleman	132.98	53	⇑PKiKP	PKPdf	02 09 25.1	+0.3	
	baz=133							
332A	Millersview	133.09	53	⇓PKiKP	PKPdf	02 09 25.4	+0.4	
	baz=133							
332A	Millersview	133.09	53	⇓PKiKP	PKPdf	02 09 25.4	+0.4	
	baz=133							
631A	Perdido Creek	133.09	56	⇑PKiKP	PKPdf	02 09 25.3	+0.3	
	baz=133							
631A	Perdido Creek	133.09	56	⇑PKiKP	PKPdf	02 09 25.3	+0.3	
	baz=133							
432A	Menard	133.23	54	⇑PKiKP	PKPdf	02 09 25.5	+0.3	
	baz=133							
432A	Menard	133.23	54	⇑PKiKP	PKPdf	02 09 25.5	+0.3	
	baz=133							
JCT	Junction City	133.36	54	*e*PKiKP	PKPdf	02 09 26.7	+1.2	
JCT	Junction City	133.36	54	*e*PKPdf	PKPdf	02 09 26.7	+1.2	
JCT	Junction City	133.36	54	⇓PKiKP	PKPdf	02 09 26.1	+0.6	
	baz=133							
JCT	Junction City	133.36	54	⇓PKiKP	PKPdf	02 09 26.1	+0.6	
	baz=133							
532A	Rocksprings	133.40	55	⇑PKiKP	PKPdf	02 09 25.9	+0.3	
	baz=133							
532A	Rocksprings	133.40	55	⇑PKiKP	PKPdf	02 09 25.9	+0.3	
	baz=133							
JFWS	Jewell Farm	133.70	34	*e*PKiKP	PKPdf	02 09 25.5	-0.2	
JFWS	Jewell Farm	133.70	34	*e*PKPdf	PKPdf	02 09 25.5	-0.2	
632A	Uvalde	133.71	56	⇓PKiKP	PKPdf	02 09 26.7	+0.6	
	baz=134							
632A	Uvalde	133.71	56	⇓PKiKP	PKPdf	02 09 26.7	+0.6	
	baz=134							
732A	Laxson Ranch,	133.82	57	⇑PKiKP	PKPdf	02 09 27.0	+0.7	
	baz=134							
732A	Laxson Ranch,	133.82	57	⇑PKiKP	PKPdf	02 09 27.0	+0.7	
	baz=134							
TRQA	Tornquist	134.69	174	*e*PKPdf	PKPdf	02 09 27.7	0.0	
PMPST	Porto Santo, M	134.74	310	*e*PKP	PKPdf	02 09 30.2	+2.3	
PMPS	Porto Santo	134.75	310	*e*PKP	PKPdf	02 09 29.6	+1.7	
ASCN	Ascension	135.34	251	*e*PKPpre	PKPpre	02 09 19.5		
ASCN				*e*PKPdf	PKiKP	02 09 31.1	-0.2	
FUL	Funchal	135.35	310	*e*PKP	PKPdf	02 09 31.5	+2.5	
PMOZ	Porto Moniz, M	135.50	310	*e*PKP	PKPdf	02 09 32.5	+3.0	
HDIL	Hopedale	135.76	36	*e*PKPpre	PKPpre	02 09 16.8		
HDIL				*e*PKPdf	PKPdf	02 09 29.3	-0.3	
KVTX	Kingsville	135.94	58	*e*PKPpre	PKPpre	02 09 21.1		
KVTX				*e*PKPdf	PKPdf	02 09 30.2	-0.1	
SLM	Saint Louis	136.38	39	*e*PKHKP	PKPpre	02 09 16.2		
SLM	Saint Louis	136.38	39	*e*PKPpre	PKPpre	02 09 16.2		
SLM				*e*SKPbc	SKPbc	02 12 03.9	-0.4	
SLM				*e*SKPab	SKiKP	02 12 09.8	+0.6	
MIAR	Mount Ida	136.40	46	*e*PKHKP	PKPpre	02 09 18.3		
MIAR				*e*		02 09 31.0		
MIAR	Mount Ida	136.40	46	*e*PKPpre	PKPpre	02 09 18.3		
MIAR				*e*PKPdf	PKPdf	02 09 31.0	+0.1	
MIAR				*e*SKPbc	SKPbc	02 12 04.7	+0.1	
HKT	Hockley	136.75	53	*e*PKHKP	PKPpre	02 09 21.1		
HKT				*e*		02 09 32.2		
HKT	Hockley	136.75	53	*e*PKPpre	PKPpre	02 09 21.1		
HKT				*e*PKPdf	PKPdf	02 09 32.2	+0.5	
NATX	Nacogdoches	136.90	50	*e*PKPpre	PKPpre	02 09 21.7		
NATX				*e*PKPdf	PKPdf	02 09 31.9	-0.1	
SFIN	Scholer Farm	137.15	35	⇓PKiKP	PKPdf	02 09 32.4	+0.2	
	baz=137							
SFIN	Scholer Farm	137.15	35	⇓PKiKP	PKPdf	02 09 32.4	+0.2	
	baz=137							
UALR	University of	137.15	45	*e*PKPpre	PKPpre	02 09 22.2		
UALR				*e*PKPdf	PKPdf	02 09 33.0	+0.7	
SIUC	Southern Illin	137.58	39	*e*PKPpre	PKPpre	02 09 22.6		
SIUC				*e*PKPdf	PKPdf	02 09 33.5	+0.4	
OLIL	Olney	137.63	37	*e*PKPpre	PKPpre	02 09 22.9		
OLIL				*e*PKPdf	PKPdf	02 09 31.7	-1.4	
SADO	Sadowa	137.72	24	SKKPbc	SKKPbc	02 20 58.0	0.0	
	comp=Z,31nm,1.0s,baz=307,slow=2.0,SNR=4.8							
PARMO	Parma	137.86	41	*e*PKPpre	PKPpre	02 09 22.9		
PARMO				*e*PKPdf	PKPdf	02 09 33.8	+0.3	
HBAR	Harrisburg	137.89	43	*e*PKPpre	PKPpre	02 09 23.9		
HBAR				*e*PKPdf	PKPdf	02 09 33.4	-0.3	
HBAR				*e*SKPbc	SKPbc	02 12 08.4	-0.4	
PVMO	Portageville	138.04	41	*e*PKPpre	PKPpre	02 09 30.3		
PVMO				*e*SKP		02 12 08.9		
GNAR	Gosnell	138.09	42	*e*PKPpre	PKPpre	02 09 24.9		
GNAR				*e*PKPdf	PKPdf	02 09 34.3	+0.3	
GNAR				*e*SKP		02 12 09.4		
BLO	Bloomington	138.28	36	*e*PKHKP	PKPpre	02 09 24.6		
BLO				*e*		02 09 34.2		
BLO	Bloomington	138.28	36	*e*PKPpre	PKPpre	02 09 24.6		
BLO				*e*PKPdf	PKPdf	02 09 34.2	-0.1	
BLO				*e*SKPbc	SKPbc	02 12 09.3	-0.5	
BART	Pico Bartolome	138.35	322	*e*PKP	PKPdf	02 09 30.5	-4.1	
BART				*e*SKP		02 12 11.0		
USIN	University of	138.38	38	*e*PKPpre	PKPpre	02 09 24.4		
USIN				*e*PKPdf	PKPdf	02 09 34.6	+0.1	
USIN				*e*SKP		02 12 09.9		
GLAT	Glass	138.40	41	*e*PKPpre	PKPpre	02 09 25.4		
GLAT				*e*PKPdf	PKPdf	02 09 34.7	+0.2	
GLAT				*e*SKP		02 12 10.1		
HALT	Halls	138.57	42	*e*PKPpre	PKPpre	02 09 25.9		
HALT				*e*PKPdf	PKPdf	02 09 35.1	+0.2	
HALT				*e*SKP		02 12 10.2		
CMLA	Cha da Macela	138.58	322	*e*PKP	PKPdf	02 09 32.9	-2.0	
CMLA				*e*SKP		02 12 10.9		
CMLA	Cha da Macela	138.58	322	*e*PKPdf	PKPdf	02 09 35.3	+0.4	
CMLA				*e*SKP		02 12 11.1		
MET	Memphis--Engin	138.62	43	*e*PKPpre	PKPpre	02 09 28.9		
MET				*e*SKP		02 12 11.1		
PSET	Sete Cidades	138.66	322	*e*PKP	PKPdf	02 09 34.9	-0.2	
PSET				*e*SKP		02 12 12.2		
PDA	Ponta Delgada	138.68	322	*e*PKP	PKPdf	02 09 33.5	-1.5	
PDA				*e*SKP		02 12 11.8		
PSMN	Pico do Norte,	138.77	321	*e*PKP	PKPdf	02 09 30.9	-4.3	
PSMN				*e*SKP		02 12 11.4		
WCI	Wyandotte Cave	139.04	37	*e*PKHKP	PKPpre	02 09 26.1		
WCI	Wyandotte Cave	139.04	37	*e*PKPpre	PKPpre	02 09 26.1		
WCI				*e*SKP		02 12 11.3		
PGRA	Graciosa	139.19	325	*e*PKP	PKPdf	02 09 31.5	-4.4	
PGRA				*e*SKP		02 12 12.8		
OXF	Oxford	139.32	43	*e*PKHKP	PKPpre	02 09 27.7		
OXF	Oxford	139.32	43	*e*PKPpre	PKPpre	02 09 27.7		
OXF				*e*SKP		02 12 10.9		
WVT	Waverly	139.42	40	*e*PKPpre	PKPpre	02 09 28.6		
WVT				*e*SKP		02 12 10.7		
PQI	Presque Isle	139.46	12	*e*PKPpre	PKPpre	02 09 27.8		
PQI				*e*PKPdf	PKPdf	02 09 35.7	-0.5	
PMAN	Manadas	139.53	325	*e*PKP	PKPdf	02 09 31.2	-5.3	
PMAN				*e*SKP		02 12 13.2		
LONY	Lake Ozonia	139.54	20	*e*PKPpre	PKPpre	02 09 28.2		
LONY				*e*PKPdf	PKPdf	02 09 36.6	+0.2	
LONY				*e*SKPbc	SKPbc	02 12 12.2	-0.8	
ROSA	Rosais	139.55	325	*e*PKP	PKPdf	02 09 30.8	-5.8	
ROSA				*e*SKP		02 12 12.8		
PID	Ribeirinha	139.67	325	*e*PKP	PKPdf	02 09 35.5	-1.4	
FRNY	Flat Rock	139.68	19	*e*PKPpre	PKPpre	02 09 28.8		
FRNY				*e*PKPdf	PKPdf	02 09 36.0	-0.7	
FRNY				*e*SKPdf	SKPdf	02 12 11.3	-0.7	
VBMS	Vicksburg	139.77	47	*e*PKPpre	PKPpre	02 09 30.6		
VBMS				*e*PKPdf	PKPdf	02 09 37.5	+0.3	
VBMS				*e*SKPbc	SKPbc	02 12 14.5	+0.5	
ALLY	Alegheny Colle	139.80	28	*e*PKPpre	PKPpre	02 09 28.8		
ALLY				*e*PKPdf	PKPdf	02 09 36.1	-0.8	
PICO	Pico	139.81	325	*e*PKP	PKPdf	02 09 35.7	-1.5	
CFAA	Coronel Fontan	139.82	164	PKPpre	PKPpre	02 09 29.8		
CFAA				SKPbc	SKPbc	02 12 13.7	-0.6	
CFAA				SKKPbc	SKKPbc	02 20 48.5	-0.3	
CFAA	Coronel Fontan	139.82	164	PKhKP	PKPpre	02 09 29.8		
	comp=Z,28nm,0.4s,baz=201,slow=2.9,SNR=169							
CFAA				SKPbc	SKPbc	02 12 13.7	-0.6	
	comp=Z,22nm,0.8s,baz=204,slow=2.3,SNR=12							
CFAA				SKKPbc	SKKPbc	02 20 48.5	-0.3	
	comp=Z,2.7nm,0.6s,baz=19,slow=5.8,SNR=14							
PCAN	Candelaria	139.87	325	*e*PKP	PKPdf	02 09 33.0	-4.2	
PCAN				*e*SKP		02 12 13.4		
PCED	Cedros	139.88	325	*e*PKP	PKPdf	02 09 31.4	-5.8	
PCED				*e*SKP		02 12 14.7		
HOR	Horta	139.91	325	*e*PKP	PKPdf	02 09 34.9	-2.3	
CALA	Caldeira	139.91	325	*e*PKP	PKPdf	02 09 34.9	-2.5	
BBTS	Babate	140.08	284	SKPbc	SKPbc	02 12 15.2	-0.1	
BBTS	Babate	140.08	284	SKPbc	SKPbc	02 12 15.2	-0.1	
	comp=Z,265nm,0.9s,baz=169,slow=1.2,SNR=6.6							
NCB	Newcomb	140.24	20	*e*PKPpre	PKPpre	02 09 30.5		
NCB				*e*PKPdf	PKPdf	02 09 38.1	+0.4	
NCB				*e*SKPbc	SKPbc	02 12 14.5	-0.5	
PKME	Peaks-Kenny Pk	140.50	14	*e*PKPpre	PKPpre	02 09 32.1		
PKME				*e*PKPdf	PKPdf	02 09 36.8	-1.3	
PKME				*e*SKPbc	SKPbc	02 12 15.0	-0.5	
MDV	Middlebury	140.56	19	*e*PKPpre	PKPpre	02 09 32.0		
MDV				*e*PKPdf	PKPdf	02 09 38.5	+0.3	
LBNH	Lisbon	140.73	18	*e*PKPpre	PKPpre	02 09 33.2		
LBNH				*e*PKPdf	PKPdf	02 09 38.6	0.0	
LBNH				*e*SKPbc	SKPbc	02 12 15.1	-1.0	
ACCN	Adirondack Com	140.94	20	*e*PKPpre	PKPpre	02 09 33.4		
ACCN				*e*PKPdf	PKPdf	02 09 39.0	0.0	
ACCN				*e*SKPbc	SKPbc	02 12 16.4	-0.3	
WVL	Waterville	141.06	15	*e*PKPdf	PKPdf	02 09 35.2	-3.9	
WVL				*e*SKPbc	SKPbc	02 12 16.6	-0.3	
HNH	Hanover	141.11	18	*e*PKPpre	PKPpre	02 09 34.7		
HNH				*e*SKPbc	SKPbc	02 12 16.8	-0.3	
BINY	Binghamton	141.13	23	*e*PKPpre	PKPpre	02 09 33.9		
BINY				*e*PKPdf	PKPdf	02 09 39.3	-0.1	
BINY				*e*SKPbc	SKPbc	02 12 16.8	-0.5	
CMIG	Matias Romero	141.32	72	PKPpre	PKPpre	02 09 35.8		
CMIG				SKP		02 12 16.1		
CMIG				SKKPbc	SKKPbc	02 20 43.0	+0.2	
CMIG	Matias Romero	141.32	72	PKhKP	PKPpre	02 09 35.8		
	comp=Z,330nm,0.8s,baz=282,slow=3.0,SNR=200							
CMIG				SKP		02 12 16.1		
	comp=Z,103nm,0.9s,baz=254,slow=2.5,SNR=5.5							
CMIG				SKKPbc	SKKPbc	02 20 43.0	+0.2	
	comp=Z,26nm,1.1s,baz=38,slow=3.4,SNR=4.2							
EMMW	East Machias	141.44	13	*e*PKPpre	PKPpre	02 09 35.1		
EMMW				*e*PKPdf	PKPdf	02 09 40.2	+0.5	
EMMW				*e*SKPbc	SKPbc	02 12 17.6	-0.2	
LCO	Las Campanas	141.50	160	*e*PKPpre	PKPpre	02 09 36.8		
LCO				*e*PKPdf	PKPdf	02 09 40.6	-0.1	
LCO				*e*SKPbc	SKPbc	02 12 18.7	-0.2	
MCWV	Mont Chateau	141.50	29	*e*PKPdf	PKPdf	02 09 35.9	-4.1	
MCWV				*e*SKPbc	SKPbc	02 12 18.2	0.0	
FFD	Franklin Falls	141.51	18	*e*PKPdf	PKPdf	02 09 36.5	-3.5	
FFD				*e*SKPbc	SKPbc	02 12 18.0	-0.1	
SSPA	Standing Stone	141.63	27	*e*PKPpre	PKPpre	02 09 35.9		
SSPA				*e*PKPdf	PKPdf	02 09 40.8	+0.5	
SSPA				*e*SKPbc	SKPbc	02 12 18.3	-0.2	
TZTN	Tazewell	141.79	36	*e*PKPpre	PKPpre	02 09 36.3		
TZTN				*e*PKPdf	PKPdf	02 09 40.2	-0.5	
TZTN				*e*SKPbc	SKPbc	02 12 19.0	-0.1	
LRAL	Lakeview Retre	141.81	44	*e*PKPpre	PKPpre	02 09 36.7		
LRAL				*e*PKPdf	PKPdf	02 09 41.2	+0.4	
LRAL				*e*SKPbc	SKPbc	02 12 18.8	-0.4	
CPCT	Cooper Cave	141.93	38	*e*PKPpre	PKPpre	02 09 36.8		
CPCT				*e*PKPdf	PKPdf	02 09 41.5	+0.5	
CPCT				*e*SKPdf	SKPdf	02 12 13.8	-2.3	
TKL	Tuckaleechee C	142.25	38	*e*PKPdf	PKPdf	02 09 38.4	-3.2	
TKL				*e*SKPbc	SKPbc	02 12 20.1	-0.1	
QUA2	Belchertown	142.37	19	*e*PKPdf	PKPdf	02 09 38.9	-2.6	
QUA2				*e*SKPbc	SKPbc	02 12 20.0	-0.2	
HRV	Adam Dziewonsk	142.42	18	*e*PKiKP	PKPdf	02 09 39.7	-1.9	
HRV	Adam Dziewonsk	142.42	18	*e*PKPdf	PKPdf	02 09 39.7	-1.9	
HRV				*e*SKPbc	SKPbc	02 12 20.1	-0.3	
WES	Weston	142.60	18	*e*PKiKP	PKPdf	02 09 39.9	-2.0	
WES	Weston	142.60	18	*e*PKPdf	PKPdf	02 09 39.9	-2.0	
WES				*e*SKPdf	SKPdf	02 12 16.4	-0.6	
WES				*e*SKPbc	SKPbc	02 12 20.4	-0.4	
BRAL	Brewton	142.91	46	*e*PKPdf	PKPdf	02 09 42.0	-0.8	
BRAL				*e*SKPdf	SKPdf	02 12 18.1	+0.2	
BRAL				*e*SKPbc	SKPbc	02 12 21.4	-0.5	
BRYW	Bryant College	142.96	19	*e*PKPdf	PKPdf	02 09 41.1	-1.5	
BRYW				*e*SKPbc	SKPbc	02 12 21.1	-0.6	
BRNJ	Basking Ridge	142.98	23	*e*PKPdf	PKPdf	02 09 41.9	-0.7	
BRNJ				*e*SKPbc	SKPbc	02 12 20.9	-0.9	
YLE	Yale	143.03	21	*e*PKPdf	PKPab	02 09 40.9	+0.2	
BLA	Blacksburg	143.06	33	*e*PKiKP	PKPab	02 09 41.1	+0.1	
BLA	Blacksburg	143.06	33	*e*PKPdf	PKPab	02 09 41.1	+0.1	
BLA				*e*SKPbc	SKPbc	02 12 21.5	-0.7	
SDMD	Soldier's Deli	143.10	27	*e*PKPdf	PKPab	02 09 41.0	0.0	
CPNY	Central Park	143.12	22	*e*PKPdf	PKPbc	02 09 41.5	+0.1	
CPNY				*e*SKPbc	SKPbc	02 12 21.8	-0.3	
VWCC	Virginia Weste	143.28	32	*e*PKPdf	PKPab	02 09 41.2	-0.6	
JSRW	J. Sargeant Re	144.00	29	*e*PKPdf	PKPbc	02 09 43.9	-0.3	
JSRW				*e*SKPbc	SKPbc	02 12 23.7	-0.6	
TIGA	Tifton	145.08	43	⇓PKiKP	PKPbc	02 09 47.4	-0.3	
	baz=145							
TIGA	Tifton	145.08	43	⇓PKiKP	PKPbc	02 09 47.4	-0.3	
	baz=145							
PAYG	Puerto Ayora	145.44	102	*e*PKPbc	PKPbc	02 09 49.8	+0.5	
PAYG				*e*SKPbc	SKiKP	02 12 29.1	+0.3	
CNNC	Cliffs of the	145.89	32	*e*PKPdf	PKPdf	02 09 48.1	+0.3	
CNNC				*e*PKPbc	PKPbc	02 09 50.1	+0.3	
CNNC				*e*PKPab	PKPab	02 09 52.0	+0.1	
TEIG	Tepich	146.64	64	*e*PKPdf	PKPdf	02 09 49.8	+0.3	
TEIG				*e*PKPbc	PKPbc	02 09 52.8	+0.5	
TEIG				*e*PKPab	PKPab	02 09 56.5	+1.1	
CPUP	Villa Florida	146.66	179	*e*PKPdf	PKPdf	02 09 49.9	+0.6	
CPUP				PKP	PKPdf	02 09 50.1	+0.8	
CPUP				PKPbc	PKPbc	02 09 53.0	+0.8	
CPUP				*e*PKPbc	PKPab	02 09 53.1	-2.1	
CPUP	Villa Florida	146.66	179	PKP	PKPdf	02 09 50.1	+0.8	
	comp=Z,210nm,0.3s,baz=171,slow=2.1,SNR=317							
CPUP				PKPbc	PKPbc	02 09 53.0	+0.8	
	comp=Z,208nm,0.4s,baz=162,slow=2.4,SNR=482							
RBDL	Robledal	146.74	75	*e*P	PKPdf	02 09 50.6	+0.6	
RTR	El Retiro	146.81	76	*e*P	PKPdf	02 09 50.7	+0.6	
SACV	Santiago Islan	146.81	286	*e*PKPdf	PKPdf	02 09 50.7	+0.8	
SACV				*e*PKPbc	PKPbc	02 09 53.7	+0.8	
SBLS	San Blas	146.84	76	*e*P	PKPdf	02 09 50.7	+0.5	
BOQS	Boqueron	147.18	76	*e*P	PKPdf	02 09 51.2	+0.4	
LFU	La Fuente	147.34	76	*e*P	PKPdf	02 09 51.7	+0.8	
LFRS	El Faro	147.41	76	*e*P	PKPdf	02 09 51.1	+0.1	
SNVI	San Vicente	147.62	76	*e*P	PKPdf	02 09 51.9	+0.5	
LVC	Limon Verde	147.99	158	*e*PKPdf	PKPdf	02 09 53.6	+1.6	
LVC				*e*PKPbc	PKiKP	02 09 57.5	+0.2	
VSM	San Miguel	148.19	76	*e*P	PKPdf	02 09 53.1	+0.6	
CAHU	Cacacuatique	148.21	76	*e*P	PKPdf	02 09 54.2	+1.8	
BLLM	Bellamira	148.23	76	*e*P	PKPdf	02 09 52.0	-0.3	
DWPF	Disney	148.59	46	*e*PKPdf	PKPdf	02 09 52.9	+0.5	
DWPF				*e*PKPbc	PKiKP	02 09 57.6	-0.4	
DWPF				*e*PKPab	PKPab	02 10 02.3	-0.8	
VCR	Vista de Mar	151.10	82	*e*P	PKPdf	02 09 57.1	+0.2	
JCR	Jicaral	151.63	83	*e*P	PKPdf	02 09 59.0	+1.4	
CAO	Cobano	151.64	83	*e*P	PKPdf	02 09 58.0	+0.4	
JTS	JuntasAbangare	151.76	82	*e*PKPdf	PKPdf	02 09 57.4	-0.3	
JTS				*e*PKPbc	PKiKP	02 10 05.6	+0.6	
NNA	Nana	152.23	133	*e*PKPdf	PKPdf	02 09 58.9	+0.4	
NNA				PKP	PKPdf	02 09 59.8	+1.3	
NNA				*e*PKPbc	PKiKP	02 10 06.3	+0.3	
NNA				PKPbc	PKiKP	02 10 06.4	+0.4	
NNA	Nana	152.23	133	PKP	PKPdf	02 09 59.8	+1.3	
	comp=Z,180nm,0.9s,baz=293,slow=3.2,SNR=102							
NNA				PKPbc	PKiKP	02 10 06.4	+0.4	
	comp=Z,1μm,0.8s,baz=250,slow=4.8,SNR=102							
CGA2	Cerro Gallo 2	152.25	82	*e*P	PKPbc	02 10 07.4	+1.4	
URSC	Urasca	152.94	83	*e*P	PKPdf	02 10 01.1	+1.4	
BUS	Buena Vista	152.97	83	*e*P	PKPdf	02 10 01.0	+0.9	
ACR	Cerro Adams	153.59	85	*e*P	PKPdf	02 10 01.7	+1.3	
BBSR	BB Station	153.83	16	*e*PKPdf	PKPdf	02 10 00.6	+0.4	
BBSR				*e*PKPbc	PKPbc	02 10 07.5	-1.2	
BBSR				*e*PKPab	PKPab	02 10 24.7	-0.4	
ATAH	Atahualpa	153.96	123	PKP	PKPdf	02 10 03.4	+2.0	
ATAH				PKPbc	PKiKP	02 10 11.0	+1.0	
ATAH	Atahualpa	153.96	123	PKP	PKPdf	02 10 03.4	+2.0	
	comp=Z,240nm,0.9s,baz=198,slow=0.8,SNR=173							
ATAH				PKPbc	PKiKP	02 10 11.0	+1.0	
	comp=Z,634nm,0.7s,baz=250,slow=1.3,SNR=66							
CTCR	Cotoan	153.99	84	⇓*i*P	PKPdf	02 10 02.0	+0.9	
LPAZ	La Paz	153.99	154	*e*PKPdf	PKPdf	02 10 02.3	+0.6	
LPAZ				PKP	PKPdf	02 10 02.8	+1.2	
LPAZ				PKPbc	PKiKP	02 10 11.1	+0.8	
LPAZ				*e*PKPbc	PKPbc	02 10 11.3	+1.0	
LPAZ				*e*PKPab	PKPab	02 10 27.8	+0.8	
LPAZ				PKPab	PKPab	02 10 28.1	+1.1	
LPAZ	La Paz	153.99	154	PKP	PKPdf	02 10 02.8	+1.2	
	comp=Z,109nm,0.9s,baz=277,slow=2.4,SNR=330							
LPAZ				PKPbc	PKiKP	02 10 11.1	+0.8	
	comp=Z,131nm,0.5s,baz=209,slow=1.9,SNR=71							
LPAZ				PKPab	PKPab	02 10 28.1	+1.1	
	comp=Z,534nm,0.6s,baz=213,slow=2.6,SNR=22							
BRU2	Volcan	154.06	85	*e*P	PKPdf	02 10 01.9	+0.7	
BRU2				*e*P	PKPbc	02 10 02.1	-7.8	
BRU	Baru	154.19	85	*e*P	PKPdf	02 10 02.5	+0.8	
RCBR	Riachuelo	155.68	238	*e*PKPdf	PKPdf	02 10 03.6	+0.3	
RCBR				*e*PKPab	PKPab	02 10 34.9	+1.2	
BDFB	Brasilia	155.78	200	PKP	PKPdf	02 10 03.7	+0.3	
BDFB	Brasilia	155.78	200	PKP	PKPdf	02 10 03.7	+0.3	
	comp=Z,88nm,0.8s,baz=167,slow=1.1,SNR=131							
SIV	San Ignacio	156.52	169	PKP	PKPdf	02 10 04.6	+0.4	
SIV				PKPab	PKPab	02 10 37.9	+0.8	
SIV	San Ignacio	156.52	169	PKP	PKPdf	02 10 04.6	+0.4	
	comp=Z,81nm,0.8s,baz=190,slow=1.8,SNR=213							
SIV				PKPab	PKPab	02 10 37.9	+0.8	
	comp=Z,410nm,0.5s,baz=210,slow=5.6,SNR=56							
PINA	Piqa, Costa Ab	156.63	83	*e*P	PKPdf	02 10 04.5	+0.2	
BCIP	Isla Barro Col	156.86	84	*e*P	PKPdf	02 10 04.1	-0.6	
BCIP	Isla Barro Col	156.86	84	*e*PKPdf	PKPdf	02 10 04.0	-0.6	
BCIP				*e*PKPab	PKPab	02 10 40.0	+1.0	
GTBY	Guantanamo Bay	157.99	53	*e*PKPdf	PKPdf	02 10 05.8	-0.1	
GTBY				*e*PKPab	PKPab	02 10 44.0	+0.5	
GRTK	Grand Turk	159.97	43	*e*PKPdf	PKPdf	02 10 07.9	-0.2	
GRTK				*e*PKPab	PKPab	02 10 52.7	+0.6	
BESB	Sao Joao Dos P	161.10	224	⇓*i*P	PKPdf	02 10 09.9	+0.3	
BESB				*i*		02 10 14.6		
BESB				*i*		02 10 58.9		
BESB				*i*		02 12 42.2		
BESB				*i*		02 12 48.3		
SDDR	Presa de Saban	161.49	49	*e*PKPdf	PKPdf	02 10 09.3	-0.5	
SDDR				*e*PKPab	PKPab	02 10 59.2	+0.2	
ROSC	El Rosal	162.16	97	*e*PKPdf	PKPdf	02 10 11.5	+0.3	
ROSC				PKP	PKPdf	02 10 11.6	+0.5	
ROSC				*e*PKPab	PKPab	02 11 05.0	+2.3	
ROSC				PKPab	PKPab	02 11 05.1	+2.4	
ROSC	El Rosal	162.16	97	PKP	PKPdf	02 10 11.6	+0.5	
	comp=Z,301nm,0.8s,baz=92,slow=3.8,SNR=172							
ROSC				PKPab	PKPab	02 11 05.1	+2.4	
	comp=Z,316nm,0.7s,baz=141,slow=2.7,SNR=13							
SAML	Samuel	162.64	157	*e*PKPdf	PKPdf	02 10 11.7	+0.6	
SAML				*e*PKPab	PKPab	02 11 03.9	0.0	
AGPR	Aguadilla, PR	164.79	42	*e*PKPdf	PKPdf	02 10 12.0	-0.9	
AGPR				*e*PKPab	PKPab	02 11 13.6	+0.3	
LSP	Las Mesas	165.02	42	*e*PKPdf	PKPdf	02 10 12.1	-1.1	
LSP				*e*PKPab	PKPab	02 11 14.2	-0.2

GTA				Pg	**Pb**	**01 53 12.5 +2.0**
GTA				Sn	**Sn**	**01 53 49.0 +3.7**
GTA				Sg	**Sg**	**01 54 00.0 -2.8**
GTA				smax	smax	
	comp=N,23μm,1.4s					
GTA				smax	smax	
	comp=E,21μm,1.3s					
GTA				LR	LR	
	comp=N,630μm,7.4s					
GTA				LR	LR	
	comp=E,671μm,7.1s					
GTA				LR	LR	
	comp=Z,382μm,10.0s					
LZH	**Lanzhou**	**6.67 101**	⇑	Pn	**Pn**	**01 53 44.8 +0.4**
LZH				Pg	Pb	01 54 06.8 +4.4
LZH				Sn	**Sn**	**01 55 01.0 +0.6**
LZH				Sg	**Sg**	**01 55 35.3 -5.2**
LZH				smax	smax	
	comp=N,40μm,1.3s					
LZH				smax	smax	
	comp=E,26μm,1.2s					
LZH				LR	LR	
	comp=N,269μm,5.6s					
LZH				LR	LR	
	comp=E,309μm,7.8s					
LZH				LR	LR	
	comp=Z,306μm,8.6s					
WMQ	**Urumqi**	**8.67 318**	⇑	*i* P	**Pn**	**01 54 12.0 +0.2**
WMQ				S	**Sn**	**01 55 52.5 +3.0**
WMQ				pmax	pmax	
	comp=Z,12μm,3.0s					
WMQ				LR	LR	
	comp=N,391μm,10.0s					
WMQ				LR	LR	
	comp=E,334μm,8.0s					
WMQ				LR	LR	
	comp=Z,90μm,13.0s					
LSA	**Lhasa**	**8.82 207**		P	**Pn**	**01 54 16.3 +2.0**
LSA				LR	LR	
	comp=N,230μm,12.5s					
LSA				LR	LR	
	comp=E,200μm,13.4s					
LSA				LR	LR	
	comp=Z,460μm,12.1s					
LSA	**Lhasa**	**8.82 207**		*e*P	**Pn**	**01 54 16.2 +2.0**
LSA				pmax	pmax	
	comp=Z,634nm,1.0s					
LSA	**Lhasa**	**8.82 207**		*e*Pn	**Pn**	**01 54 16.2 +1.9**
	comp=Z,634nm,1.0s					
CD2	**Chengdu**	**9.44 133**	⇓	*i* P	**Pn**	**01 54 24.8 +2.5**
CD2				pP		01 54 29.0
CD2				sP		01 54 32.0
CD2				PP	**PnPn**	**01 54 34.3 +4.4**
CD2				S	**Sn**	**01 56 14.3 +5.9**
CD2				sS		01 56 19.0
CD2				pmax	pmax	
	comp=Z,290nm,1.5s					
CD2				pmax	pmax	
	comp=Z,6μm,6.5s					
CD2				LR	LR	
	comp=N,348μm,8.2s					
CD2				LR	LR	
	comp=E,453μm,11.2s					
CD2				LR	LR	
	comp=Z,329μm,9.5s					
XAN	**Xi'an**	**11.28 105**		P	Pn	01 54 44.0 -3.4
XAN				pmax	pmax	
	comp=Z,61nm,1.1s					
XAN				pmax	pmax	
	comp=Z,180nm,5.0s					
XAN				LR	LR	
	comp=N,140μm,13.4s					
XAN				LR	LR	
	comp=E,36μm,11.8s					
XAN				LR	LR	
	comp=Z,47μm,9.8s					
BTO	**Baotou**	**11.46 71**		*e*P	**Pn**	**01 54 48.8 -1.1**
BTO				PP	**PnPn**	**01 55 00.8 +3.2**
BTO				pmax	pmax	
	comp=Z,210nm,1.4s					
BTO				LR	LR	
	comp=N,53μm,15.5s					
BTO				LR	LR	
	comp=E,27μm,11.4s					
TAPN	**Taplejung**	**12.32 216**		*e*P	**Pn**	**01 55 00.8 -1.2**
	comp=E,745nm,1.3s					
SHL	**Shillong**	**12.51 196**		*e*P	**Pn**	**01 55 02.8 -1.6**
SHL				AMB	AMB	01 55 09.5
	comp=Z,348nm,0.3s					
SHL				*ex*	x	01 58 38.0
HHC	**Hu-ho-hao-te**	**12.65 71**		*e*P	**Pn**	**01 55 05.3 -1.0**
HHC				PP	**PnPn**	**01 55 15.8 +1.8**
HHC				S	**Sn**	**01 57 28.0 +0.8**
HHC				SS	**SnSn**	**01 57 41.3 +2.2**
HHC				pmax	pmax	
	comp=Z,900nm,1.5s					
HHC				pmax	pmax	
	comp=Z,12μm,4.6s					
HHC				LR	LR	
	comp=N,191μm,8.9s					
HHC				LR	LR	
	comp=E,135μm,8.9s					
HHC				LR	LR	
	comp=Z,101μm,10.7s					
GUN	**Gumba**	**12.79 223**		*e*P	**Pn**	**01 55 07.4 -1.0**
	comp=Z,2μm,1.0s					
SONM	**Songino Array**	**12.80 34**		Pn	**Pn**	**01 55 09.8 +1.5**
SONM	**Songino Array**	**12.80 34**		Pn	**Pn**	**01 55 09.8 +1.5**
	comp=Z,26nm,0.3s,baz=220,slow=13,SNR=492					
SONM				LR	LR	02 00 25.0
	comp=Z,237μm,20.8s,baz=220,slow=39					
JIRN	**Jiri**	**12.82 222**		*e*P	**Pn**	**01 55 08.2 -0.7**
	comp=Z,1μm,0.7s					
ODAN	**Odare**	**12.89 216**		*e*P	**Pn**	**01 55 07.5 -2.2**
	comp=Z,407nm,1.0s					
ULN	**Ulaanbaatar**	**13.12 35**		P	**Pn**	**01 55 13.7 +0.9**
	SNR=320					
ULN	**Ulaanbaatar**	**13.12 35**		*e*Pn	**Pn**	**01 55 14.1 +1.4**
ULN	**Ulaanbaatar**	**13.12 35**		P	**Pn**	**01 55 15.0 +2.2**
	comp=Z,495nm,1.0s,comp=Z,17μmcomp=Z,101μm					
RAMN	**Ramite**	**13.19 219**		*e*P	**Pn**	**01 55 11.6 -2.2**
	comp=Z,490nm,1.0s					
TIY	**Taiyuan**	**13.21 85**		*e*P	Pn	01 55 09.8 -4.1
TIY				PP	P	01 55 29.0 +5.1
TIY				SS	**S**	**01 58 02.0 -3.5**
TIY				S	**S**	**01 58 03.5 -2.0**
TIY				pmax	pmax	
	comp=Z,4μm,4.6s					
TIY				LR	LR	
	comp=N,86μm,12.8s					
TIY				LR	LR	
	comp=E,95μm,8.4s					
TIY				LR	LR	
	comp=Z,71μm,10.1s					
KKN	**Kakani**	**13.21 225**		*e*P	**Pn**	**01 55 12.5 -1.6**
	comp=Z,365nm,0.6s					
PKI	**Pulchoki**	**13.31 224**		*e*P	**Pn**	**01 55 13.9 -1.7**
	comp=Z,2μm,0.9s					
PKIN	**Phulchoki**	**13.31 224**		*e*P	**Pn**	**01 55 14.2 -1.3**
	comp=Z,768nm,0.9s					
DMN	**Daman**	**13.45 225**		*e*P	**Pn**	**01 55 15.7 -1.7**
	comp=Z,596nm,0.8s					
MK31	**Makanchi Array**	**13.50 317**		Pn	**Pn**	**01 55 15.1 -2.8**
	comp=Z,482nm,0.6s,baz=124,slow=14,SNR=7318					
MK31			⇓	Sn	**Sn**	**01 57 45.5 -2.3**
	comp=Z,2μm,0.8s,baz=120,slow=24,SNR=18					
MK31	**Makanchi Array**	**13.50 317**		*e*P	**Pn**	**01 55 15.7 -2.1**
MK31				*e*		01 57 45.4
MK31	**Makanchi Array**	**13.50 317**		*e*Pn	**Pn**	**01 55 15.7 -2.1**
MK31				*e*Sn	**Sn**	**01 57 45.4 -2.3**
MKAR	**Makanchi Array**	**13.50 317**		P	**Pn**	**01 55 16.2 -1.6**
MKAR						01 57 47.5
MKAR				pmax	pmax	
	comp=Z,56nm,0.3s					
MKAR				smax	smax	
	comp=N,26nm,0.3s					
MKAR				MLR	MLR	
	comp=Z,50μm,19.4s					
MKAR	**Makanchi Array**	**13.50 317**		Pn	**Pn**	**01 55 16.1 -1.6**
MKAR				Sn	**Sn**	**01 57 47.5 -0.3**
MKAR				SKKP		02 27 12.5
MKAR	**Makanchi Array**	**13.50 317**		Pn	**Pn**	**01 55 16.1 -1.6**
	comp=Z,56nm,0.3s,baz=126,slow=14,SNR=677					
MKAR				Sn	**Sn**	**01 57 47.5 -0.3**
	comp=Z,26nm,0.3s,baz=125,slow=23,SNR=17					
MKAR				LR	LR	02 00 30.7
	comp=Z,50μm,19.4s,baz=123,slow=38					
MKAR				SKKP		02 27 12.5
	comp=Z,0.3nm,0.3s,baz=343,slow=2.0,SNR=4.0					
ENH	**Enshi**	**13.56 119**		*e*Pn	**Pn**	**01 55 17.2 -1.5**
	comp=Z,2.1nm,0.6s					
DANN	**Dangsing**	**13.69 231**		*e*P	**Pn**	**01 55 17.9 -2.8**
	comp=Z,289nm,0.8s					
ZAK	**Zakamensk**	**13.80 21**		*e*P	Pn	01 55 25.3 +3.4
ZAK				pmax	pmax	
	comp=Z,2μm,1.4s					
KMI	**Kunming**	**13.85 153**		P	**Pn**	**01 55 22.0 -0.8**
KMI				pP	P	01 55 24.5 -6.7
KMI				PP	**PnPn**	**01 55 33.0 +2.3**
KMI				S	**Sn**	**01 57 58.5 +1.9**
KMI				SS	**S**	**01 58 14.5 -4.4**
KMI				pmax	pmax	
	comp=Z,60nm,1.1s					
KMI				pmax	pmax	
	comp=Z,8μm,8.5s					
KMI				LR	LR	
	comp=N,150μm,7.8s					
KMI				LR	LR	
	comp=E,165μm,10.2s					
KMI				LR	LR	
	comp=Z,202μm,11.0s					
KOLN	**Koldanda**	**14.21 230**		*e*P	Pn	01 55 23.9 -3.8
	comp=Z,548nm,1.1s					
MOY	**Mondy**	**14.48 13**		*e*P	Pn	01 55 34.5 +3.3
MOY				pmax	pmax	
	comp=Z,4μm,1.8s					
GYA	**Guiyang**	**14.49 137**	⇓	*i* P	**Pn**	**01 55 33.3 +1.8**
GYA				PP	**PnPn**	**01 55 45.3 +5.9**
GYA				S	**Sn**	**01 58 16.8 +4.7**
GYA				PcP	**PcP**	**02 00 47.8 +1.5**
GYA				pmax	pmax	
	comp=Z,90nm,0.8s					
GYA				pmax	pmax	
	comp=Z,8μm,12.6s					
GYA				LR	LR	
	comp=N,129μm,12.6s					
GYA				LR	LR	
	comp=E,176μm,15.0s					
GYA				LR	LR	
	comp=Z,154μm,13.6s					
LGTI	**Lohaghat**	**15.30 242**		*ex*	**P**	**01 55 46.1 -0.9**
KNDC	**Almaty**	**15.34 297**	⇓	P	**Pn**	**01 55 40.0 -2.8**
KNDC			⇑	S	**Sn**	**01 58 33.4 +0.9**
AAA	**Alma-Ata**	**15.37 297**	*i*	P	**Pn**	**01 55 40.5 -2.6**
AAA			*i*	S	**Sn**	**01 58 29.8 -3.4**
AAA				pmax	pmax	
	comp=Z,5μm,0.7s					
AAA				smax	smax	
	comp=N,29μm,3.4s					
AAA				MLR	MLR	
	comp=Z,114μm,6.0s					
KSH	**Kashi**	**15.59 283**		P	**Pn**	**01 55 46.8 +0.7**
KSH				sP	**sP**	**01 55 53.5 -1.8**
KSH				PP	**PnPn**	**01 55 59.8 +5.5**
KSH				S	**Sn**	**01 58 38.0 -0.7**
KSH				sS	S	01 58 43.0 -11
KSH				SS	**SnSn**	**01 58 56.0 +4.7**
KSH				pmax	pmax	
	comp=Z,620nm,1.3s					
KSH				pmax	pmax	
	comp=Z,1μm,1.7s					
KSH				LR	LR	
	comp=N,94μm,10.9s					
KSH				LR	LR	
	comp=E,71μm,12.5s					
KSH				LR	LR	
	comp=Z,142μm,12.9s					
ULHL	**Ulahol**	**15.64 293**	*i*	P	**Pn**	**01 55 45.0 -1.9**
ULHL	**Ulahol**	**15.64 293**		P	**Pn**	**01 55 45.0 -1.9**
	SNR=10					
IRK	**Irkutsk**	**15.75 20**		*e*P	**P**	**01 55 50.8 -1.2**
IRK				pmax	pmax	
	comp=Z,8μm,2.0s					
BJI	**Beijing**	**16.08 75**		P	**Pn**	**01 55 53.0 +0.7**
BJI				S	**Sn**	**01 58 52.5 +2.1**
BJI				pmax	pmax	
	comp=Z,830nm,1.6s					
BJI				pmax	pmax	
	comp=Z,6μm,5.2s					
BJI				LR	LR	
	comp=N,209μm,15.9s					
BJI				LR	LR	
	comp=E,83μm,15.3s					
BJI				LR	LR	
	comp=Z,46μm,20.6s					
BOK	**Bokaro**	**16.21 214**		*e*P	**Pn**	**01 55 52.4 -1.7**
TKM2	**Tokmak 2**	**16.24 295**	⇑	P	**Pn**	**01 55 52.1 -2.5**
	comp=Z,2μm,0.9s					
TKM2				S	**Sn**	**01 59 00.5 +5.7**
TKM2	**Tokmak 2**	**16.24 295**	*i*	P	**Pn**	**01 55 53.2 -1.4**
TKM2	**Tokmak 2**	**16.24 295**		P	**Pn**	**01 55 53.2 -1.4**
	SNR=26					
TKM2	**Tokmak 2**	**16.24 295**	*e*Pn		**Pn**	**01 55 51.8 -2.9**
	comp=Z,1μm,0.8s					
TKM2				*e*Sn	**Sn**	**01 58 48.5 -6.3**
KZA	**Kyzart**	**16.34 292**	*i*	P	**Pn**	**01 55 53.4 -2.7**
KZA	**Kyzart**	**16.34 292**		P	**Pn**	**01 55 53.4 -2.7**
	SNR=126					
DDI	**Dehra Dun**	**16.40 249**	*e*P		**Pn**	**01 55 56.3 -0.2**
DDI				AMB	AMB	01 56 01.6
	comp=Z,1μm,2.5s					
SDNR	**Sundarnagar**	**16.64 254**	*e*P		**Pn**	**01 56 00.0 +0.4**
KBK	**Karagaybulak**	**16.66 294**	*i*	P	**Pn**	**01 55 59.3 -0.6**
KBK	**Karagaybulak**	**16.66 294**		P	**Pn**	**01 55 59.3 -0.6**
	SNR=26					
SMLA	**Simla**	**16.66 252**	*i*	P	**Pn**	**01 55 59.0 -0.8**
SMLA				AMB	AMB	01 56 07.6
	comp=Z,2μm,1.3s					
DHRM	**DHARAMSHALA**	**16.84 257**	*e*P		**Pn**	**01 56 00.6 -1.7**
DHRM				AMB	AMB	01 56 10.3
	comp=Z,2μm,1.6s					
CHMS	**Chumysh**	**16.87 295**	*i*	P	**Pn**	**01 56 00.7 -1.7**
CHMS	**Chumysh**	**16.87 295**		P	**Pn**	**01 56 00.7 -1.7**
	SNR=222					
UCH	**Uchtor**	**16.91 292**	*i*	P	**Pn**	**01 56 01.7 -1.6**
UCH	**Uchtor**	**16.91 292**		P	**Pn**	**01 56 01.7 -1.6**
	SNR=45					
FRU	**Bishkek**	**16.93 294**	*e*P		**Pn**	**01 56 02.0 -1.2**
FRU			*e*S		**S**	**01 59 19.0 -2.5**
FRU				pmax	pmax	
	comp=Z,810nm,1.6s					
FRU				MLR	MLR	
	comp=Z,65μm,12.0s					
FRU				MLR	MLR	
	comp=E,100μm,13.0s					
WHN	**Wuhan**	**16.94 109**	⇑	*i* P	**Pn**	**01 55 59.3 -4.0**
WHN				S	**S**	**01 59 16.8 -4.9**
DLH	**Dalhousie**	**16.98 258**	*e*P		**Pn**	**01 56 05.0 +1.0**
AAK	**Ala-Archa**	**16.99 294**	*c*	*i* P	**Pn**	**01 56 01.6 -2.4**
AAK				pmax	pmax	
	comp=Z,2μm,1.3s					
AAK	**Ala-Archa**	**16.99 294**		P	**Pn**	**01 56 01.4 -2.6**
	SNR=657					
AAK	**Ala-Archa**	**16.99 294**		P	**Pn**	**01 56 02.4 -1.6**
	SNR=269					
AAK	**Ala-Archa**	**16.99 294**	*e*Pn		**Pn**	**01 56 01.9 -2.1**
	comp=Z,1μm,1.1s					
AAK	**Ala-Archa**	**16.99 294**		Pn	**Pn**	**01 56 02.0 -2.1**
	comp=Z,4.4nm,0.3s,baz=101,slow=13,SNR=158					
AAK				LR	LR	02 03 26.0
	comp=Z,72μm,18.6s,baz=76,slow=40					
USP	**Ospenovka**	**17.10 296**	*i*	P	**Pn**	**01 56 04.2 -1.1**
USP	**Ospenovka**	**17.10 296**		P	**Pn**	**01 56 04.2 -1.1**
	SNR=14					
BHK	**Bhakra**	**17.10 254**	*ex*		**P**	**01 56 08.2 +1.1**
TIA	**Tai'an**	**17.14 88**	⇑	P	**Pn**	**01 56 03.0 -2.8**
TIA				S	**Sn**	**01 59 20.0 +3.7**
TIA				pmax	pmax	
	comp=Z,610nm,1.7s					
TIA				LR	LR	
	comp=N,27μm,10.1s					
TIA				LR	LR	
	comp=E,107μm,11.9s					
TIA				LR	LR	
	comp=Z,111μm,11.9s					
THN	**Thein Dam**	**17.22 258**	*e*4		P	01 56 02.0 -6.3
THN			*e*4		x	01 57 37.0
AML	**Almayashu**	**17.50 292**	*i*	P	**P**	**01 56 11.6 -0.2**
AML	**Almayashu**	**17.50 292**		P	**P**	**01 56 11.6 -0.2**
	SNR=94					
EKS2	**Erkin-Say**	**17.51 293**	*e*P		**Pn**	**01 56 08.3 -2.2**
EKS2				pmax	pmax	
	comp=Z,610nm,1.1s					
EKS2	**Erkin-Say**	**17.51 293**		P	**Pn**	**01 56 11.0 +0.4**
	SNR=332					
EKS2	**Erkin-Say**	**17.51 293**	*e*Pn		**Pn**	**01 56 08.3 -2.2**
	comp=Z,610nm,1.1s					
NDI	**New Delhi**	**17.90 245**	*ex*		x	01 56 33.4
ZAA0	**Zalesovo Array**	**17.94 339**	*e*Pn		**Pn**	**01 56 14.4 -1.3**
ZALV	**Zalesovo Beam**	**17.94 339**	P		**Pn**	**01 56 14.5 -1.1**
ZALV				pmax	pmax	
	comp=Z,5.0nm,0.3s					
ZALV				MLR	MLR	
	comp=Z,82μm,18.8s					
ZALV	**Zalesovo Beam**	**17.94 339**	P		**Pn**	**01 56 14.5 -1.1**
ZALV				SKKP		02 26 59.0
ZALV				PKKKP		02 32 00.8
ZALV	**Zalesovo Beam**	**17.94 339**	P		**Pn**	**01 56 14.5 -1.1**
	comp=Z,4.5nm,0.3s,baz=153,slow=11,SNR=210					
ZALV				LR	LR	02 03 15.7
	comp=Z,82μm,18.8s,baz=156,slow=38					
ZALV				SKKP		02 26 59.0
	comp=Z,0.9nm,0.3s,baz=316,slow=3.8,SNR=4.7					
ZALV				P3KP		02 32 00.8
	comp=Z,0.1nm,0.3s,baz=307,slow=2.9,SNR=4.6					
CHTO	**Chiang Mai**	**18.99 171**	*e*P		**P**	**01 56 28.0 +0.1**
CHTO				pmax	pmax	
	comp=Z,464nm,1.0s					
CHTO	**Chiang Mai**	**18.99 171**	P		**P**	**01 56 28.2 +0.2**
	SNR=273					
CHTO	**Chiang Mai**	**18.99 171**	*e*P		**P**	**01 56 28.0 +0.1**
	comp=Z,464nm,1.0s					
CHTO	**Chiang Mai**	**18.99 171**	P		**Pn**	**01 56 29.2 +0.6**
	comp=Z,656nm,2.6s,comp=Z,24μmcomp=Z,75μm					
JHNI	**Jhansi**	**19.02 235**	*i* x		**P**	**01 56 25.0 -3.3**
CIT	**Chita**	**19.03 35**	*e*P		**P**	**01 56 28.6 +0.4**
CIT				pmax	pmax	
	comp=Z,3μm,2.3s					
NVS	**Novosibirsk**	**19.18 338**	⇑	*i* P	**P**	**01 56 28.4 -1.4**
NVS				*e*S	**Sn**	**01 59 58.6 -6.8**
NVS				pmax	pmax	
	comp=Z,2μm,1.3s					
NVS				pmax	pmax	
	comp=N,1μm,1.4s					
NVS				pmax	pmax	
	comp=E,1μm,1.5s					
NVS				smax	smax	
	comp=N,885nm,1.9s					
NVS				smax	smax	
	comp=E,1μm,2.0s					
CM31	**Chiang Mai Arr**	**19.34 171**	*e*P		**Pn**	**01 56 32.5 -0.4**
	comp=E,18nm,1.0s					
CMAR	**Chiang Mai Arr**	**19.34 171**	P		**Pn**	**01 56 32.7 -0.2**
CMAR				SKKP		02 27 10.2
CMAR	**Chiang Mai Arr**	**19.34 171**	P		**Pn**	**01 56 32.7 -0.2**
	comp=E,11nm,0.3s,baz=342,slow=11,SNR=205					
CMAR				LR	LR	02 04 39.2
	comp=E,110μm,21.2s,baz=337,slow=39					
CMAR				SKKP		02 27 10.2
	comp=E,0.5nm,0.3s,baz=308,slow=2.2,SNR=4.7					
BWNR	**Bhubaneshwar**	**19.36 209**	*ex*		x	01 56 21.0
NJ2	**Nanjing**	**19.74 100**	*e*P		**P**	**01 56 35.8 -0.3**
NJ2				pP	**pP**	**01 56 39.5 0.0**
NJ2				sP	**sP**	**01 56 42.8 +1.7**
NJ2				PP	**PnPn**	**01 56 54.5 +3.3**
NJ2				pmax	pmax	
	comp=Z,220nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,10μm,8.1s					
JBP	**Jabalpur**	**19.81 228**	⇑	*i* P	**P**	**01 56 37.4 +0.6**
JBP			⇑	*i* P	**Pn**	**01 56 37.5 -0.8**
JBP				*i* x	x	01 56 47.7
	comp=Z,821nm,1.3s					
KK31	**Karatay Array**	**19.95 294**	⇑	P	**P**	**01 56 37.9 -0.5**
	comp=Z,621nm,1.1s,baz=90,slow=11,SNR=2820					
KK31				S	**S**	**02 00 22.5 -0.1**
	comp=Z,96nm,0.7s,baz=42,slow=69,SNR=156					
KK31	**Karatay Array**	**19.95 294**	*i* P		**P**	**01 56 37.8 -0.5**
KK31				pmax	pmax	
	comp=Z,884nm,1.2s					
KKAR	**Karatay Array**	**19.95 294**	*e*P		**P**	**01 56 38.2 -0.1**
KKAR	**Karatay Array**	**19.95 294**	*e*Pn		**P**	**01 56 38.2 -0.1**
DL2	**Dalian**	**20.32 79**	⇑	P	Pn	01 56 43.5 -0.9
DL2				pmax	pmax	
	comp=Z,1μm,1.1s					
DL2				pmax	pmax	
	comp=Z,11μm,6.9s					
DL2				LR	LR	
	comp=N,68μm,13.7s					
DL2				LR	LR	
	comp=Z,35μm,15.2s					
HIA	**Hailar**	**20.82 49**	*e*P		**P**	**01 56 47.4 -0.3**
	comp=Z,1μm,1.5s					
HIA				LR	LR	
	comp=Z,12μm,21.0s					
GZH	**Guangzhou**	**20.95 129**	P		**P**	**01 56 47.0 -2.3**
GZH				S	**S**	**02 00 38.5 -4.1**
GZH				LR	LR	
	comp=N,167μm,10.1s					
GZH				LR	LR	
	comp=E,191μm,9.7s					
GZH				LR	LR	
	comp=Z,380μm,10.5s					
BHPL	**Bhopal**	**21.31 233**	*e*P		**P**	**01 56 51.4 -1.8**
BHPL				AMB	AMB	01 57 00.1
	comp=Z,478nm,1.0s					
SNY	**Shenyang**	**21.75 70**	⇑	P	**P**	**01 56 57.8 +0.1**
SNY				S	**S**	**02 00 58.8 +0.8**
SNY				pmax	pmax	
	comp=Z,880nm,1.6s					
SNY				pmax	pmax	
	comp=Z,9μm,10.6s					
SNY				LR	LR	
	comp=E,26μm,6.3s					
SNY				LR	LR	
	comp=Z,54μm,9.0s					
KBL	**Kabul**	**21.79 270**	*e*P		**P**	**01 56 58.5 +0.1**
KBL				pmax	pmax	
	comp=Z,602nm,0.8s					
KBL	**Kabul**	**21.79 270**	*e*P		**P**	**01 56 58.5 +0.1**
	comp=Z,602nm,0.8s					
NGP	**Nagpur**	**21.92 226**	*e*P		**P**	**01 56 58.0 -1.7**
NGP			*ex*		x	02 00 57.0
SSE	**Sheshan**	**21.95 100**	P		**P**	**01 56 59.8 -0.1**
SSE				pP	**pP**	**01 57 02.5 -0.9**
SSE				S	**S**	**02 01 03.8 +1.8**
SSE				sS	**sS**	**02 01 09.0 +1.4**
SSE				pmax	pmax	
	comp=Z,310nm,1.9s					
SSE				pmax	pmax	
	comp=Z,4μm,3.9s					
SSE				LR	LR	
	comp=N,51μm,13.9s					
SSE				LR	LR	
	comp=E,38μm,13.9s					
SSE				LR	LR	
	comp=Z,41μm,9.4s					
QIZ	**Qiongzhong**	**22.27 143**	P		**P**	**01 57 05.3 +1.8**
QIZ				S	**S**	**02 01 12.3 +3.9**
QIZ				pmax	pmax	
	comp=Z,360nm,1.6s					
QIZ				pmax	pmax	
	comp=Z,6μm,8.8s					
QIZ				LR	LR	
	comp=N,41μm,13.7s					
QIZ				LR	LR	
	comp=E,52μm,14.9s					
QIZ				LR	LR	
	comp=Z,46μm,11.7s					
QIZ	**Qiongzhong**	**22.27 143**	PFAKE			01 57 20.0 +16
QIZ				LR	LR	
	comp=Z,35μm,19.0s					
VIS	**Vishakhapatnam**	**22.67 212**	*e*P		**P**	**01 57 06.9 -0.9**
VOSK	**Vostochnaya**	**22.89 319**	⇑	P	**P**	**01 57 09.3 -0.5**
	comp=Z,2μm,1.1s					
VOSK	**Vostochnaya**	**22.89 319**	P		**P**	**01 57 08.9 -1.0**
VOSK				pmax	pmax	
	comp=Z,2μm,1.1s					
QZH	**Quanzhou**	**23.20 117**	⇑	*i* P	**P**	**01 57 10.5 -2.7**
QZH				S	S	02 01 15.0 -10
QZH				LR	LR	
	comp=N,77μm,10.0s					
QZH				LR	LR	
	comp=E,132μm,12.1s					
QZH				LR	LR	
	comp=Z,156μm,14.0s					
BVA0	**Borovoye Array**	**23.36 319**	⇓	P	**P**	**01 57 13.9 -0.7**

comp=Z,488nm,0.9s,baz=114,slow=9.2,SNR=1733
BVA0 Borovoye Array 23.36 319 *i* P **P 01 57 13.8 -0.8**
BVA0 pmax pmax
comp=Z,624nm,0.9s
BVAR Borovoye Array 23.36 319 P **P 01 57 14.6 0.0**
BVAR pmax pmax
comp=Z,194nm,0.7s
BVAR MLR MLR
comp=Z,90μm,18.2s
BVAR Borovoye Array 23.36 319 P **P 01 57 14.6 0.0**
BVAR Borovoye Array 23.36 319 P **P 01 57 14.6 0.0**
comp=Z,194nm,0.7s,baz=121,slow=11,SNR=190
BVAR LR LR 02 06 48.5
comp=Z,90μm,18.2s,baz=117,slow=38
BRVK Borovoye 23.43 319 ⇑P **P 01 57 15.3 -0.1**
comp=Z,2μm,1.1s
BRVK Borovoye 23.43 319*c i* P **P 01 57 15.1 -0.2**
BRVK pmax pmax
comp=Z,416nm,0.8s
BRVK Borovoye 23.43 319 P **P 01 57 15.6 +0.3**
SNR=280
BRVK Borovoye 23.43 319 *e*P **P 01 57 15.2 -0.1**
comp=Z,930nm,1.1s
BRVK LR LR
comp=Z,108μm,19.0s
INCN Inchon 24.42 81 P **P 01 57 24.2 -0.7**
SNR=26
INCN Inchon 24.42 81 *e*P **P 01 57 23.9 -0.9**
comp=Z,751nm,1.1s
INCN LR LR
comp=Z,24μm,19.0s
DGPR DIGLIPUR 24.52 187 *e*P **P 01 57 24.1 -1.7**
DGPR AMB AMB 01 57 35.3
comp=Z,2μm,4.6s
HYB Hyderabad 25.21 222 *i* P **P 01 57 30.5 -1.7**
comp=Z,260nm,1.0s
HYB *e*S **S 02 01 54.0 -3.4**
HYB Hyderabad 25.21 222 *e*P **P 01 57 31.7 -0.5**
TATO Taipei 25.27 113 PFAKE 01 57 40.0 +7.4
TATO LR LR
comp=Z,29μm,22.0s
YHNB Yeheng 25.37 113 PFAKE 01 57 50.0 +16
YHNB LR LR
comp=Z,77μm,20.0s
KSAR Wonju Array Be 25.40 81 P **P 01 57 32.8 -0.9**
KSRS Korea Array 25.43 81 P **P 01 57 32.8 -1.2**
comp=Z,155nm,0.7s,baz=276,slow=8.9,SNR=166
KSRS LR LR 02 07 14.2
comp=Z,14μm,18.4s,baz=282,slow=36
LATR Latur 25.50 226 *e*P **P 01 57 32.5 -2.2**
LATR *ex* x 01 57 42.9
comp=Z,939nm,1.4s
LATR *ex* x 02 05 53.9
PBA Port Blair 26.04 187 AMB AMB 01 57 52.5
comp=Z,1μm,0.8s
MDJ Mudanjiang 26.27 64 P **P 01 57 41.3 -0.2**
MDJ pP **pP 01 57 44.5 -0.7**
MDJ S **S 02 02 14.3 +0.6**
MDJ sS **sS 02 02 19.0 -0.8**
MDJ ScP **ScP 02 04 47.8 +0.6**
MDJ PcS **PcS 02 04 49.0 +0.4**
MDJ pmax pmax
comp=Z,120nm,1.9s
MDJ pmax pmax
comp=Z,5μm,8.7s
MDJ LR LR
comp=N,35μm,13.8s
MDJ LR LR
comp=E,35μm,13.1s
MDJ LR LR
comp=Z,37μm,10.9s
MDJ Mudanjiang 26.27 64 *e*P **P 01 57 41.1 -0.4**
comp=Z,635nm,1.6s
MDJ LR LR
comp=Z,29μm,21.0s
BHJ Bhuj 26.59 245 *e*P **P 01 57 43.8 -0.7**
BHJ AMB AMB 01 57 53.0
comp=Z,388nm,1.7s
POO Poona 27.03 231 *e*P **P 01 57 48.6 -0.1**
POO AMB AMB 01 57 51.3
comp=Z,316nm,3.3s
CLNS Chul'man 27.21 36*c i*P **P 01 57 50.6 +0.7**
CLNS *e**PP pP 01 58 00.1 +6.5
CLNS *e*PPP PPP 01 58 34.9
CLNS *e* 02 01 05.0
CLNS *e*S **S 02 02 30.5 +2.1**
CLNS *e*SSS SSS 02 04 06.8
CLNS pmax pmax
comp=Z,186nm,2.1s
CLNS pmax pmax
comp=N,118nm,2.3s
CLNS pmax pmax
comp=E,141nm,2.0s
CLNS smax smax
comp=E,24μm,12.8s
CLNS smax smax
comp=N,13μm,12.3s
CLNS MLR MLR
comp=Z,109μm,11.0s
CLNS MLR MLR
comp=E,112μm,13.0s
CLNS MLR MLR
comp=Z,44μm,12.0s
VLA Vladivostok 27.90 67*c i*P **P 01 57 55.5 -0.7**
VLA pmax pmax
comp=Z,174nm,1.7s
USRK Ussuriysk Arra 27.97 65 P **P 01 57 56.1 -0.7**
comp=Z,75nm,1.0s,baz=264,slow=8.5,SNR=59
USRK LR LR 02 10 28.9
comp=Z,12μm,21.4s,baz=273,slow=40
AB31 Akbulak array 28.20 306 ⇑P **P 01 57 59.0 +0.1**
comp=Z,137nm,1.0s,baz=96,slow=11,SNR=1004
AB31 Akbulak array 28.20 306 *i* P **P 01 57 58.0 -0.8**
AB31 pmax pmax
comp=Z,210nm,1.1s
ABKAR Akbulak array 28.20 306 *e*P **P 01 57 59.3 +0.4**
ABKAR *e* 02 28 59.0
KLR Kul'dur 28.30 54κ *i*P P 01 57 56.2 -3.6
KLR *e*S **S 02 02 46.0 +0.3**
KLR pmax pmax
comp=E,260nm,1.8s
KLR pmax pmax
comp=Z,370nm,1.8s
KLR pmax pmax
comp=E,3μm,11.0s
KLR pmax pmax
comp=Z,5μm,11.0s
KLR smax smax
comp=N,12μm,20.0s
KLR smax smax
comp=E,22μm,20.0s
IMYA Miami 28.41 278 *e*P **P 01 58 02.4 +1.4**
JNU Nakatsue 28.88 88 P **P 01 58 03.8 -1.3**
JNU Nakatsue 28.88 88 P **P 01 58 03.8 -1.3**
comp=E,640nm,0.8s,baz=289,slow=4.5,SNR=18
ISRO Mashad 28.91 279 *e*P **P 01 58 07.3 +1.9**
IMOG Moghan 29.06 278 *e*P **P 01 58 08.9 +1.9**
IPAY Payeh 29.25 279 *e*P **P 01 58 10.1 +1.5**
IEMG Emamgholi 29.30 281 *e*P **P 01 58 10.5 +1.4**
GOA Goa 29.40 227 *e*P **P 01 58 09.6 -0.1**
IAKL Akhelmad 29.40 279 *e*P **P 01 58 11.1 +1.1**
IKRD Kardeh 29.55 280 *e*P P 01 58 06.1 -5.2
IDAH Dahanechah 29.62 271 *e*P **P 01 58 12.8 +0.9**
IMON Monand 29.63 272 *e*P **P 01 58 13.8 +1.8**
AKTO Aktyubinsk 29.65 308 ⇑P **P 01 58 11.8 +0.1**
comp=E,524nm,1.1s
AKTO Aktyubinsk 29.65 308 P **P 01 58 10.9 -0.8**
AKTO pmax pmax
comp=Z,524nm,1.1s
AKTO Aktyubinsk 29.65 308 P **P 01 58 12.0 +0.3**
AKTO Aktyubinsk 29.65 308 P **P 01 58 12.0 +0.3**
comp=Z,327nm,0.8s,baz=99,slow=10,SNR=437
ISFR Sfrayin 29.89 281 *e*P **P 01 58 16.2 +1.9**
SVE Sverdlovsk 30.10 321*d i*P **P 01 58 16.2 +0.6**
SVE *e* 01 59 30.2
SVE *e*S **S 02 03 19.6 +5.8**
SVE *e* 02 05 12.8
SVE pmax pmax
comp=Z,494nm,1.0s
SVE pmax pmax
comp=Z,3μm,15.2s
SVE smax smax
comp=E,14μm,21.9s
SVE MLR MLR
comp=Z,69μm,17.0s
SVE MLR MLR

comp=E,47μm,18.0s
HABR Khabarovsk 30.35 56*c i*P **P 01 58 16.6 -1.3**
HABR *e*PPP PPP 01 59 22.3
HABR *e* 02 01 15.4
HABR *e*S **S 02 03 17.4 -0.5**
HABR *e*SS **SnSn 02 04 53.1 +0.5**
HABR *e* 02 08 47.0
HABR pmax pmax
comp=N,51nm,2.8s
HABR pmax pmax
comp=Z,459nm,2.8s
HABR pmax pmax
comp=E,115nm,1.4s
HABR pmax pmax
comp=Z,1μm,3.7s
HABR MLR MLR
comp=Z,62μm,10.0s
IKOO Kooshah 30.41 271 *e*P **P 01 58 20.4 +1.5**
ITEG Tejag 30.46 272 *e*P **P 01 58 20.7 +1.5**
CMBY CAMPBELL BAY 30.56 184 AMB AMB 01 57 08.1
comp=Z,1μm,2.0s
ARU Arti 31.01 319*c i*P **P 01 58 23.6 0.0**
ARU 01 59 20.8
ARU PPP PPP 01 59 37.8
ARU 02 01 19.2
ARU S **S 02 03 30.5 +2.5**
ARU SS **SnSn 02 05 09.3 +1.0**
ARU SSS SSS 02 05 36.4
ARU pmax pmax
comp=Z,719nm,0.8s
ARU MLR MLR
comp=Z,52μm,18.0s
IMND Minoodasht 31.86 282 *e*P P 01 58 35.0 +3.6
KULM Kulim 32.53 171 PFAKE 01 58 50.0 +13
KULM LR LR
comp=Z,69μm,20.0s
SOKR Solikamsk 33.10 324⇑*i*P **P 01 58 42.2 +0.3**
SOKR pmax pmax
comp=Z,420nm,1.3s
SOKR MLR MLR
comp=Z,38μm,18.0s
PALK Pallekele 33.20 208 P **P 01 58 41.5 -1.8**
comp=Z,2μm,1.0s,SNR=28
PALK Pallekele 33.20 208 P **P 01 58 42.1 -1.1**
SNR=16
PALK Pallekele 33.20 208 P **P 01 58 41.7 -1.6**
comp=Z,524nm,1.5s,comp=Z,9μm
PALK Pallekele 33.20 208 *e*P **P 01 58 41.9 -1.3**
comp=Z,509nm,1.1s
IGLO Ghaloghah 33.27 281 *e*P **P 01 58 45.7 +1.7**
IPM Ipoh 33.38 170 *e*P **P 01 58 44.2 -0.6**
comp=Z,792nm,0.7s
IBAF Bafgh 33.44 272 *e*P **P 01 58 46.2 +0.8**
IKIA Kiasar 33.46 281 *e*P **P 01 58 47.5 +1.8**
IANJ Anjilo 33.48 279 *e*P **P 01 58 47.8 +1.9**
TRD Trivandrum 33.65 215 AMB AMB 01 59 16.5
comp=Z,641nm,2.1s
MAT Matsushiro 33.66 79 P **P 01 58 45.5 -1.6**
ISHM Shahmirzad 33.88 280 *e*P **P 01 58 51.9 +2.6**
ICHK Chekchek 34.12 274 *e*P **P 01 58 52.4 +1.0**
IALA Alasht 34.18 281 *e*P **P 01 58 53.5 +1.5**
ILAS Lasjerd 34.26 279 *e*P **P 01 58 54.4 +1.8**
IMEH Mehriz 34.27 272 *e*P **P 01 58 53.3 +0.6**
IFIR Firoozkooh 34.34 280 *e*P **P 01 58 56.0 +2.6**
ISAD Sadrabad 34.81 273 *e*P **P 01 58 58.2 +0.7**
PSI Prapat 34.82 174 LR LR 02 13 29.4
comp=Z,31μm,19.0s,baz=229,slow=37
IDMV Damavand 34.93 280 *e*P **P 01 59 01.0 +2.6**
WBK Wadi Bani Khal 34.93 255 P **P 01 59 00.3 +2.0**
SNR=13
ISFB Sefidab 35.13 278 *e*P **P 01 59 00.8 +0.8**
IVRN Varamin 35.33 279 *e*P **P 01 59 03.0 +1.3**
SMDO Samad 35.39 257 P **P 01 59 03.9 +1.5**
SNR=35
YSS Yuzh-Sakhalins 35.50 60α *i*P **P 01 59 02.8 -0.1**
YSS *e*S **S 02 04 38.0 +0.1**
YSS pmax pmax
comp=Z,3μm,7.0s
YSS pmax pmax
comp=Z,310nm,1.2s
YSS MLR MLR
comp=N,16μm,13.0s
YSS MLR MLR
comp=E,48μm,13.0s
YSS MLR MLR
comp=Z,45μm,13.0s
ASAJ Asahikawa 35.60 64 P **P 01 59 02.8 -1.0**
ASAJ Asahikawa 35.60 64 P **P 01 59 02.8 -1.0**
comp=Z,259nm,1.0s,baz=278,slow=11,SNR=14
ASAJ LR LR 02 14 41.2
comp=Z,35μm,18.4s,baz=301,slow=38
HOQ Hoqain 35.69 258 P **P 01 59 06.5 +1.8**
SNR=19
JMDO Jabal Madar 35.73 256 P **P 01 59 07.1 +2.0**
SNR=18
IR3 Iran Long-Peri 35.74 280 *e*P **P 01 59 06.5 +1.3**
MNCY Minicoy 35.77 221 *i* S **ScP 02 05 12.0 -7.1**
HATD Hatta, Dubai 35.96 261 P P 01 59 13.0 +5.9
SNR=5.1
ASHO Ashiyiah 36.09 261 P **P 01 59 11.0 +2.8**
SNR=20
IPAR Pars 36.11 270 *e*P **P 01 59 09.8 +1.1**
IR5 Iran Long-Peri 36.17 280 *e*P **P 01 59 10.8 +1.9**
BSY Bisya 36.22 257 P **P 01 59 11.6 +2.2**
SNR=33
NAZ Nazwa, Dubai 36.25 261 P **P 01 59 11.6 +2.1**
SNR=29
ERM Erimo 36.28 68*d i*P **P 01 59 08.9 -0.7**
ERM pmax pmax
comp=Z,216nm,1.7s
ERM Erimo 36.28 68 PFAKE 01 59 20.0 +10
ERM LR LR
comp=Z,28μm,19.0s
ARQ Araqi 36.43 258 P **P 01 59 12.9 +1.8**
SNR=56
KKM Kota Kinabalu 36.57 144 *e*P **P 01 59 13.3 +0.8**
comp=Z,285nm,0.7s
IRAZ Razeghan 36.62 281 *e*P **P 01 59 14.6 +1.7**
ASUD Al Ashush, Dub 36.69 261 P **P 01 59 15.7 +2.4**
SNR=13
MAK Makhachkala 36.77 294 *e*P **P 01 59 14.5 +0.7**
MAK *e* 02 00 40.7
MAK *e*PPP PPP 02 00 55.1
MAK *e*S **S 02 04 56.1 -1.3**
MAK pmax pmax
comp=Z,169nm,1.1s
ISRB Sarab 37.69 285 *e*P **P 01 59 22.9 +0.9**
YUK Yuzh-Kuril'sk 37.94 64 *i* P **P 01 59 22.8 -0.9**
YUK *i* 02 00 50.5
YUK *e*S **S 02 05 16.3 +1.1**
YUK pmax pmax
comp=Z,4μm,2.0s
YUK pmax pmax
comp=N,365nm,1.0s
YUK pmax pmax
comp=Z,2μm,1.0s
YUK pmax pmax
comp=E,610nm,1.0s
YUK MLR MLR
comp=N,4μm,19.0s
YUK MLR MLR
comp=E,886nm,19.0s
YUK MLR MLR
comp=Z,15μm,19.0s
TIXI Tiksi 38.03 16*ce*P **P 01 59 23.4 -0.7**
TIXI pmax pmax
comp=Z,2μm,15.2s
IHRS Heris 38.04 286 *e*P **P 01 59 25.9 +1.0**
KSM Kuching 38.43 156 PFAKE 01 59 40.0 +12
KSM LR LR
comp=Z,47μm,21.0s
DGRG David-gareji 38.59 292 P **P 01 59 31.4 +2.1**
IFTB Fath-abad 38.61 286 *e*P **P 01 59 31.1 +1.3**
ITBZ Tabriz 38.75 287 *e*P **P 01 59 32.0 +1.2**
IKOM Komasi 38.89 280 *e*P **P 01 59 33.0 +0.9**
DUS Dusheti 38.96 293 P **P 01 59 34.6 +2.2**
TBLG Delisi 39.00 292 P **PP 02 01 00.0 -2.0**
ISHB Shabestar 39.14 287 *e*P **P 01 59 35.4 +1.3**
IVIS Veis 39.29 281 *e*P **P 01 59 36.5 +1.2**
KZR Kazreti 39.31 292 P **P 01 59 36.7 +1.3**
GNI Garni 39.34 290 *e*P **P 01 59 37.2 +1.5**
GNI Garni 39.34 290 P **P 01 59 38.1 +2.4**
SNR=50
GNI Garni 39.34 290 *e*P **P 01 59 37.4 +1.7**
comp=Z,378nm,1.1s

ZEI Tsey 39.41 294 *e*P P 01 59 33.0 -3.3
ZEI *i* 02 01 05.3
ZEI *e*S **S 02 05 40.0 +2.2**
ZEI pmax pmax
comp=Z,124nm,1.3s
IGHG Ghaleghazi 39.58 281 *e*P **P 01 59 38.9 +1.0**
IDHR Dehrash 39.60 281 *e*P **P 01 59 39.0 +1.0**
ONI Oni 39.77 294 P **P 01 59 40.9 +1.7**
KBZ Khabaz 39.97 296 P **P 01 59 41.2 +0.5**
KBZ 02 01 18.5
KBZ pmax pmax
comp=Z,131nm,0.9s
KBZ pmax pmax
comp=Z,83nm,1.0s
KBZ MLR MLR
comp=Z,18μm,18.3s
KBZ Khabaz 39.97 296 P **P 01 59 41.2 +0.5**
KBZ PP **PnPn 02 01 18.4 +2.7**
KBZ Khabaz 39.97 296 P **P 01 59 41.2 +0.5**
comp=Z,131nm,0.9s,baz=132,slow=4.9,SNR=82
KBZ PP **PnPn 02 01 18.4 +2.7**
comp=Z,83nm,1.0s,baz=36,slow=7.6,SNR=4.0
KBZ LR LR 02 18 58.8
comp=Z,18μm,18.2s,baz=257,slow=40
AKH Akhalkalaki 39.98 292 P **P 01 59 43.4 +2.3**
VRHR Novokhopersk 40.05 307*c i*P **P 01 59 40.8 -0.5**
VRHR *e* 02 01 11.2
VRHR *e*S **S 02 05 45.9 -0.9**
VRHR *e*SS **SS 02 08 41.1 -2.7**
VRHR pmax pmax
comp=N,200nm,1.3s
VRHR pmax pmax
comp=E,790nm,1.3s
VRHR pmax pmax
comp=Z,850nm,1.3s
VRHR pmax pmax
comp=N,150nm,1.0s
VRHR pmax pmax
comp=E,600nm,1.0s
VRHR pmax pmax
comp=Z,660nm,1.0s
VRHR pmax pmax
comp=Z,380nm,2.5s
VRHR pmax pmax
comp=N,230nm,1.3s
VRHR pmax pmax
comp=E,190nm,0.9s
VRHR smax smax
comp=N,1μm,3.1s
VRHR smax smax
comp=E,1μm,3.1s
VRHR smax smax
comp=Z,430nm,1.5s
VRHR MLR MLR
comp=N,5μm,16.0s
VRHR MLR MLR
comp=Z,16μm,16.0s
VRHR MLR MLR
comp=E,13μm,14.0s
KIV Kislovodsk 40.08 296 P **P 01 59 42.5 +0.8**
comp=E,1μm,0.9s,SNR=38
CLDR Caldiran 40.20 289 *e*P **P 01 59 45.1 +2.2**
UMR Umm Al-Rimmam 40.46 273 *e*P **P 01 59 45.5 +0.5**
UMR AMb AMB 01 59 47.8
comp=Z,437nm,1.0s
KARS Kars 40.46 291 *e*P **P 01 59 47.7 +2.7**
IBDR Badra 40.50 279 *i* P P 01 59 41.0 -4.2
IBDR *i* S **S 02 05 53.0 -0.9**
KBD Kabd 40.64 273 *e*P **P 01 59 47.0 +0.6**
KBD AMb AMB 01 59 49.3
comp=Z,246nm,1.0s
QRN Al-Qurain 40.64 272 *e*P **P 01 59 46.7 +0.2**
QRN AMb AMB 01 59 52.4
comp=Z,199nm,1.1s
DAV Davao City (W) 40.73 131 PFAKE 02 00 00.0 +13
DAV LR LR
comp=Z,17μm,19.0s
AGRB Hanur-Agry 40.78 290 *e*P **P 01 59 50.2 +2.4**
RDF Al-Radifah 40.86 272 *e*P **P 01 59 49.0 +0.8**
RDF AMb AMB 01 59 57.6
comp=Z,470nm,1.2s
CUKT Cukurca 40.95 286 *e*P **P 01 59 50.5 +1.4**
NAY Al-Naaiem 40.96 273 *e*P **P 01 59 49.8 +0.6**
NAY AMb AMB 01 59 51.9
comp=Z,29nm,1.0s
RST Umm Al-Ruwaisa 41.05 273 *e*P **P 01 59 49.8 0.0**
RST AMb AMB 01 59 55.0
comp=Z,6μm,0.8s
BCA Borcka 41.35 293 *e*P **P 01 59 52.7 +0.6**
VORD Divnogorie 41.53 307*c i*P **P 01 59 53.3 -0.2**
VORD *e* 02 01 29.2
VORD *e*S **S 02 06 09.0 +0.2**
VORD *e*SS **SS 02 09 12.2 -1.0**
VORD pmax pmax
comp=N,80nm,1.1s
VORD pmax pmax
comp=E,620nm,1.1s
VORD pmax pmax
comp=Z,420nm,1.1s
VORD pmax pmax
comp=Z,1μm,4.1s
VORD pmax pmax
comp=N,390nm,0.8s
VORD pmax pmax
comp=E,270nm,1.0s
VORD smax smax
comp=N,5μm,5.5s
VORD smax smax
comp=Z,2μm,5.5s
VORD smax smax
comp=E,4μm,5.9s
VORD MLR MLR
comp=N,13μm,15.0s
VORD MLR MLR
comp=E,11μm,15.0s
VORD MLR MLR
comp=Z,13μm,15.0s
RBK Rabkut 41.53 253 P **P 01 59 54.7 +0.7**
SNR=11
VOR Voronezh 41.54 309⇑*i*P **P 01 59 52.0 -1.6**
VOR pmax pmax
comp=Z,1μm,1.2s
VSR Storozhevoye 41.59 308*c i*P **P 01 59 54.0 0.0**
VSR *e* 02 01 29.5
VSR *e*S **S 02 06 09.5 -0.3**
VSR *e*SS **SS 02 09 13.6 -0.9**
VSR pmax pmax
comp=N,250nm,1.3s
VSR pmax pmax
comp=E,1μm,1.3s
VSR pmax pmax
comp=Z,1μm,1.3s
VSR pmax pmax
comp=N,220nm,1.1s
VSR pmax pmax
comp=E,2μm,1.1s
VSR pmax pmax
comp=Z,1μm,1.1s
VSR pmax pmax
comp=Z,880nm,3.5s
VSR pmax pmax
comp=N,280nm,0.9s
VSR pmax pmax
comp=E,310nm,0.9s
VSR smax smax
comp=N,1μm,2.6s
VSR smax smax
comp=E,640nm,2.6s
VSR smax smax
comp=Z,2μm,5.2s
VSR MLR MLR
comp=N,12μm,12.0s
VSR MLR MLR
comp=E,13μm,12.0s
VSR MLR MLR
comp=Z,21μm,12.0s
BHD Baghdad 41.65 280 *i* P **P 01 59 54.0 -0.7**
BHD *i* S **S 02 06 12.0 +1.0**
SIRT Sirnak 41.77 287 *e*P **P 01 59 57.4 +1.7**
EZM Erzurum 41.91 291 *e*P **P 01 59 59.7 +2.6**
PZAR Pazar-Rize 41.94 293 *e*P **P 01 59 57.1 +0.1**
SEY Seymchan 42.20 35*c i*P **P 01 59 59.2 +0.4**
SOC Sochi 42.26 296*c i*P **P 01 59 59.8 +0.3**
SOC *e* 02 01 50.4
SOC *i* S **S 02 06 21.3 +1.5**
SOC pmax pmax

comp=Z,204nm,1.0s
SOC pmax pmax
comp=Z,563nm,1.6s
SOC MLR MLR
comp=Z,22μm,16.0s
ABTO Aybut 42.31 253 P **P 02 00 00.5 +0.1**
SNR=18
MOS Moscow 42.37 315 *e*P **P 01 59 58.1 -2.2**
MOS *e* 02 01 55.5
MOS *i*S **S 02 06 21.4 +0.3**
MOS *i*SS SS 02 09 22.2 -7.5
MOS *i*SSS SSS 02 10 07.5
MOS pmax pmax
comp=E,600nm,1.4s
MOS pmax pmax
comp=Z,2μm,1.4s
MOS pmax pmax
comp=N,300nm,1.3s
MOS pmax pmax
comp=E,364nm,1.1s
MOS pmax pmax
comp=Z,2μm,1.1s
MOS pmax pmax
comp=N,294nm,1.2s
MOS smax smax
comp=N,9μm,6.5s
MOS smax smax
comp=E,2μm,4.5s
MOS MLR MLR
comp=N,17μm,13.0s
MOS MLR MLR
comp=E,23μm,13.0s
MOS MLR MLR
comp=Z,31μm,13.0s
BEST Besiri 42.54 288 *i*P **P 02 00 03.8 +1.7**
BNGB Bing ¶‖ 42.67 289 *e*P **P 02 00 05.8 +2.7**
BAYT Ayd´–ntepe-Bay 42.69 292 *e*P **P 02 00 05.3 +1.9**
TMCR Tamitsa 42.89 327 *e*P **P 02 00 04.8 +0.4**
TMCR *e* 02 01 46.3
TMCR *e* 02 01 50.0
TMCR *e*S **S 02 06 28.1 -0.4**
TMCR pmax pmax
comp=Z,739nm,1.4s
OBN Obninsk 42.98 314*c i*P **P 02 00 05.1 -0.1**
OBN *i* 02 01 46.8
OBN *i* 02 01 57.6
OBN *i*S **S 02 06 27.6 -2.5**
OBN *i*SS SS 02 09 29.7 -12
OBN pmax pmax
comp=Z,1μm,1.6s
OBN MLR MLR
comp=Z,29μm,17.0s
OBN Obninsk 42.98 314 P **P 02 00 05.4 +0.2**
comp=Z,3μm,1.0s,SNR=49
MARD Mardin 43.09 287 *i*P **P 02 00 08.0 +1.4**
GUMT Gumushane 43.16 292 *e*P **P 02 00 09.1 +2.0**
EUZM Uzumlu 43.20 291 *i*P **P 02 00 09.6 +2.2**
ERZN Erzincan 43.22 291 *e*P **P 02 00 09.1 +1.5**
MAZI Mazidag 43.29 287 *e*P **P 02 00 09.4 +1.2**
KBSD Kabsdagh 43.36 287 *e*P P 02 00 05.1 -3.5
KBSD Kabsdagh 43.36 287 *e*P P 02 00 04.9 -3.7
ESPY Espiye-Giresun 43.59 293 *e*P **P 02 00 11.5 +1.0**
ANN Anapa 43.62 299 *e*P **P 02 00 09.9 -0.6**
ANN *e* 02 01 51.8
ANN *e*S **S 02 06 39.7 0.0**
ANN *e*SSS SSS 02 10 37.3
ANN pmax pmax
comp=Z,467nm,0.8s
ANN pmax pmax
comp=N,141nm,0.9s
ANN pmax pmax
comp=E,95nm,0.9s
ANN MLR MLR
comp=N,12μm,12.0s
ANN MLR MLR
comp=E,3μm,12.0s
ANN MLR MLR
comp=Z,13μm,12.0s
MZRK Al-Mazaregh 43.66 285 *e*P **P 02 00 11.8 +0.8**
PTK Pertek 43.66 290 *e*P **P 02 00 13.1 +1.9**
SFNV Sufian 43.88 286 *e*P **P 02 00 10.6 -2.2**
SFNV Sufian 43.88 286 *e*P **P 02 00 10.2 -2.6**
SFNV Sufian 43.88 286 *e*P **P 02 00 10.8 -2.0**
SKR Severo-Kuril's 44.01 53 *e*P P 02 00 01.2 -12
SKR pmax pmax
comp=N,1μm,10.0s
SKR pmax pmax
comp=E,2μm,10.0s
SKR pmax pmax
comp=Z,2μm,10.0s
SKR pmax pmax
comp=Z,220nm,1.0s
ELZG Elazig 44.08 289 *i*P **P 02 00 16.5 +2.0**
ILIC ilic-Erzincan 44.11 291 *e*P **P 02 00 15.4 +0.7**
URFA Urfa 44.53 288 *e*P **P 02 00 19.5 +1.5**
MALT Malatya 44.55 289 *e*P **P 02 00 19.4 +1.1**
MALT Malatya 44.55 289 ⇑P **P 02 00 20.1 +1.8**
MALT Malatya 44.55 289 ⇑*i*P **P 02 00 20.1 +1.8**
PEA0B Petropavlovsk- 44.72 49 *e*P **P 02 00 18.8 -0.4**
PETK Petropavlovsk- 44.72 49 P **P 02 00 18.4 -0.9**
PETK pmax pmax
comp=Z,87nm,0.9s
PETK MLR MLR
comp=Z,14μm,19.1s
PETK Petropavlovsk- 44.72 49 P **P 02 00 18.4 -0.9**
PETK Petropavlovsk- 44.72 49 P **P 02 00 18.4 -0.9**
comp=Z,87nm,0.9s,baz=244,slow=3.2,SNR=29
PETK LR LR 02 19 34.3
comp=Z,14μm,19.1s,baz=98,slow=37
RSDY Resadiye-TOKAT 44.76 292 *e*P **P 02 00 20.7 +0.9**
LVZ Lovozero 44.90 332 P **P 02 00 20.2 -0.4**
comp=Z,1μm,1.1s,SNR=40
ATAB Bozova 44.91 288 *i*P **P 02 00 22.7 +1.6**
AKCD Akcadag 44.94 289 *i*P **P 02 00 23.1 +1.7**
RAYN Ar Rayn 45.00 267 *e*P **P 02 00 21.5 -0.4**
comp=Z,144nm,1.4s
SCER sogukcermik 45.06 292 *i*P **P 02 00 23.8 +1.5**
ERBA Erbaa 45.10 293 *i*P **P 02 00 23.6 +1.1**
SVSK Karacayir 45.14 292 *e*P **P 02 00 24.5 +1.8**
DARE Darende-Malaty 45.18 290 *e*P **P 02 00 25.1 +1.8**
PET Petropavlovsk 45.30 49 *e*P **P 02 00 22.4 -1.5**
PET *e*S **S 02 06 58.3 -5.6**
PET pmax pmax
comp=Z,152nm,1.1s
PET pmax pmax
comp=Z,3μm,5.8s
PET pmax pmax
comp=Z,3μm,11.2s
PET MLR MLR
comp=Z,24μm,13.0s
PET MLR MLR
comp=Z,25μm,12.0s
GZT Gaziantep 45.50 288 *i*P **P 02 00 27.4 +1.5**
KVT Kavak 45.50 294 *e*P **P 02 00 27.0 +1.3**
JOF Joensuu 45.76 325 *e*P **P 02 00 27.0 -0.4**
JOF pmax pmax
comp=Z,248nm,0.8s
JOF Joensuu 45.76 325 *e*p **P 02 00 27.0 -0.4**
comp=Z,248nm,0.8s
SIM Simferopol' 45.89 299*c i*P **P 02 00 28.6 -0.1**
SIM *i* 02 02 19.0
SIM *i*PPP PPP 02 03 03.0
SIM *e*S **S 02 07 13.8 +1.1**
SIM *i*SS **ScS 02 10 28.0 +3.7**
SIM pmax pmax
comp=Z,259nm,1.0s
SIM pmax pmax
comp=Z,570nm,8.5s
DIKM Dikmen 45.92 295 *e*P **P 02 00 30.0 +1.1**
KMRS Kahramanmaras 45.95 289 *e*P **P 02 00 30.8 +1.5**
AYKD Aykdinkavak 46.05 289 *i*P **P 02 00 31.1 +1.0**
BOYT Boyabat 46.24 295 *i*P **P 02 00 33.4 +1.8**
BNN Bunyan 46.31 291 *e*P **P 02 00 31.8 -0.5**
BYBT Boyabat 46.32 295 *e*P **P 02 00 33.1 +1.0**
ANDN Andirin 46.34 289 *i*P **P 02 00 34.1 +1.6**
BZK Bozkurt 46.73 296 *e*P **P 02 00 36.4 +1.1**
COBT Iskenderun 46.77 288 *i*P **P 02 00 37.4 +1.5**
CORM Corum 46.80 293 *e*P **P 02 00 37.2 +1.2**
ROOS tl_alroos 46.83 284 *e*P **P 02 00 34.9 -1.3**
CEYT Ceyhan 46.98 289 *e*P **P 02 00 38.4 +1.1**
HTY Hatay 47.00 287 *e*P **P 02 00 37.8 +0.3**
ARNB Al Arnab 47.22 287 *e*P **P 02 00 39.9 +0.6**
ZALF Zalf 47.27 283 *e*P **P 02 00 41.0 +1.3**
ZALF Zalf 47.27 283 *e*P **P 02 00 40.9 +1.2**
ZALF Zalf 47.27 283 *e*P **P 02 00 41.1 +1.5**
MUKL Al Mukalla 47.31 254⇑*e*P **P 02 00 40.4 +0.3**
CANT Cankiri 47.40 294 *e*P **P 02 00 39.8 -0.9**
KARA Karaisali 47.42 289 *e*P **P 02 00 42.1 +1.3**
NIG Nigde 47.47 290 *e*P **P 02 00 43.0 +1.6**
FKH Fakeheh 47.47 285 *e*P **P 02 00 42.5 +1.2**
MARH Ras Al Marh 47.50 284 *e*P **P 02 00 40.4 -1.4**
MARH Ras Al Marh 47.50 284 *e*P **P 02 00 40.4 -1.4**
MARH Ras Al Marh 47.50 284 *e*P **P 02 00 41.1 -0.7**
ELDT Eldivan 47.58 294 *i*P **P 02 00 43.3 +1.1**
GULE Gulek 47.62 289 *i*P **P 02 00 44.4 +1.8**
BR131 Keskin Array S 47.66 293 *e*P **P 02 00 43.0 +0.2**
comp=Z,114nm,0.7s
BRTR Keskin Array B 47.66 293 P **P 02 00 43.1 +0.3**
BRTR SKKP 02 26 35.6
BRTR Keskin Array B 47.66 293 P **P 02 00 43.1 +0.3**
comp=Z,145nm,0.8s,baz=94,slow=7.3,SNR=571
BRTR SKKP 02 26 35.6
comp=Z,3.9nm,0.8s,baz=231,slow=2.3,SNR=4.4
KAMT Kaman 47.72 292 *e*P **P 02 00 43.1 -0.1**
TOTH TOTAH 47.80 284 *e*P **P 02 00 41.9 -1.9**
TOTH TOTAH 47.80 284 *e*P **P 02 00 43.0 -0.8**
SALA Sala 47.81 283 *e*P **P 02 00 44.9 +0.8**
SALA Sala 47.81 283 *e*P **P 02 00 45.7 +1.6**
HWQ Hawqa 47.81 285 *e*P **P 02 00 45.0 +1.0**
QASN Qassioun 47.85 284 *e*P P 02 00 39.4 -4.9
SAFT Safranbolu 47.89 295 *e*P **P 02 00 45.5 +1.2**
AKASG Malin Array Be 47.89 308 P **P 02 00 44.0 -0.2**
AKASG 02 02 14.5
AKASG pmax pmax
comp=Z,224nm,0.8s
AKASG MLR MLR
comp=Z,19μm,18.9s
AKASG Malin Array Be 47.89 308 P **P 02 00 44.0 -0.2**
AKASG PcP **PcP 02 02 14.5 +1.9**
AKASG ScP **ScP 02 06 06.5 -0.3**
AKASG PKKKP 02 30 29.1
AKASG Malin Array Be 47.89 308 P **P 02 00 44.0 -0.2**
comp=Z,224nm,0.8s,baz=63,slow=8.9,SNR=235
AKASG PcP **PcP 02 02 14.5 +1.9**
comp=Z,45nm,0.9s,baz=66,slow=4.9,SNR=4.1
AKASG ScP **ScP 02 06 06.5 -0.3**
comp=Z,18nm,0.7s,baz=78,slow=4.1,SNR=4.6
AKASG LR LR 02 21 33.4
comp=Z,19μm,18.9s,baz=60,slow=37
AKASG P3KP 02 30 29.1
comp=Z,0.6nm,0.4s,baz=265,slow=4.6,SNR=4.1
KIEV Kiev 47.90 308 *e*P **P 02 00 44.1 -0.2**
KIEV pmax pmax
comp=Z,367nm,1.1s
KIEV Kiev 47.90 308 *e*P **P 02 00 44.1 -0.2**
comp=Z,367nm,1.1s
KAPI Kappang 47.98 147 *e*P **P 02 00 46.3 +1.1**
comp=Z,143nm,1.0s
KAPI Kappang 47.98 147 LR LR 02 22 16.1
comp=Z,10μm,18.0s,baz=144,slow=38
MICGM Minsk 48.05 313⇑*i*P **P 02 00 43.0 -2.3**
MNK Minsk 48.07 313*c i*P **P 02 00 43.0 -2.6**
MNK *e* 02 02 34.0
MNK *e*S **S 02 07 42.0 -1.5**
MNK *e*PS 02 08 02.0
MNK *e* 02 10 30.0
MNK *e*SS **SS 02 11 10.0 -2.1**
MNK pmax pmax
comp=Z,5μm,8.0s
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=E,950nm,1.1s
MNK pmax pmax
comp=Z,5μm,10.0s
MNK smax smax
comp=E,14μm,12.0s
MNK smax smax
comp=E,15μm,10.0s
MNK MLR MLR
comp=N,21μm,14.0s
MNK MLR MLR
comp=E,44μm,14.0s
MNK MLR MLR
comp=Z,108μm,18.0s
KAF Kangasniemi 48.09 324 *e*P **P 02 00 45.1 -0.5**
KAF pmax pmax
comp=Z,175nm,0.9s
KAF Kangasniemi 48.09 324 *e*p **P 02 00 45.1 -0.5**
comp=Z,174nm,0.9s
BBAL Bala 48.10 293 *i*P **P 02 00 47.0 +0.8**
BRBR Barbar 48.14 284 *e*P **P 02 00 46.8 +0.2**
AFSR Af´ar-Bala (A 48.17 293 *e*P **P 02 00 47.5 +0.8**
VSU Vasula 48.17 319*c i*P **P 02 00 46.2 0.0**
VSU pmax pmax
comp=Z,885nm,0.8s
BHL Bhannes 48.18 285 *e*P **P 02 00 47.5 +0.7**
RCY Rachaya 48.20 284 *e*P **P 02 00 48.7 +1.7**
ANTO Ankara 48.23 293 *e*P **P 02 00 47.9 +0.7**
ANTO Ankara 48.23 293 *e*P **P 02 00 48.1 +0.9**
ANTO pmax pmax
comp=Z,221nm,1.1s
ANTO Ankara 48.23 293 P **P 02 00 48.3 +1.1**
SNR=74
ANTO Ankara 48.23 293⇓*i*P **P 02 00 48.0 +0.9**
ANTO Ankara 48.23 293 *e*P **P 02 00 48.1 +0.9**
comp=Z,221nm,1.1s
FINES FINESS Array B 48.24 323 P **P 02 00 46.8 +0.1**
FINES FINESS Array B 48.24 323 P **P 02 00 46.8 +0.1**
comp=Z,172nm,0.8s,baz=96,slow=8.5,SNR=185
FINES LR LR 02 21 59.0
comp=Z,35μm,18.0s,baz=276,slow=37
LOD Lodumlu 48.25 293 *e*P **P 02 00 48.3 +1.0**
SULT Sultanhani-AKS 48.25 291 *e*P **P 02 00 48.9 +1.6**
KIZK Mersin 48.38 288 *i*P **P 02 00 48.9 +0.7**
ARCES ARCESS Array B 48.40 334 P **P 02 00 48.1 +0.2**
ARCES PcP **PcP 02 02 13.2 -0.9**
ARCES ARCESS Array B 48.40 334 P **P 02 00 48.1 +0.2**
comp=Z,48nm,0.7s,baz=88,slow=6.5,SNR=192
ARCES PcP **PcP 02 02 13.2 -0.9**
comp=Z,42nm,0.8s,baz=77,slow=4.1,SNR=7.7
ARCES LR LR 02 22 28.5
comp=Z,22μm,18.5s,baz=285,slow=38
ARE0 ARCESS Array S 48.40 334⇑*i*P **P 02 00 48.1 +0.2**
ARE0 *e*PP **PP 02 02 40.6 +0.3**
ARE0 *e*S **S 02 07 47.2 -0.7**
ARE0 *e*SS **SS 02 11 18.4 +1.4**
ARE0 ARCESS Array S 48.40 334 *e*P **P 02 00 48.0 +0.1**
IDID Didziasalis 48.57 315 *e*P **P 02 00 50.0 +0.6**
IDID AMB AMB 02 00 52.0
comp=Z,133nm,0.9s
NACGM Naroch 48.61 314 *e*P P 02 00 46.0 -3.7
EREN Erenkoy 48.70 287 *e*P **P 02 00 51.4 +0.8**
KDZE Karadeniz Ereo 48.76 295 *e*P **P 02 00 49.1 -2.0**
IKL Isikli 48.81 288 *e*P **P 02 00 51.9 +0.4**
IIGN Ignalina 48.86 315 *e*P **P 02 00 52.2 +0.6**
IIGN AMB AMB 02 00 54.3
comp=Z,216nm,0.9s
ISAL Salakas 48.88 315 *e*P **P 02 00 52.4 +0.7**
ISAL AMB AMB 02 00 54.5
comp=Z,126nm,1.1s
KIS Kishinev 48.98 303 *i*P **P 02 00 52.0 -0.7**
comp=Z,1μm,1.2s
KIS Kishinev 48.98 303 *e*PP PP 02 02 46.0 +0.1
comp=Z,3μm,10.0s
KIS Kishinev 48.98 303⇑*i*P **P 02 00 52.0 -0.7**
KIS *e* 02 02 46.0
KIS *e*PPP PPP 02 03 40.0
KIS *e*S **S 02 07 55.0 -1.5**
KIS pmax pmax
comp=Z,1μm,1.2s
KIS pmax pmax
comp=N,320nm,1.6s
KIS pmax pmax
comp=E,530nm,1.4s
KIS pmax pmax
comp=Z,3μm,10.0s
KIS pmax pmax
comp=Z,3μm,10.0s
KIS smax smax
comp=N,7μm,12.0s
KIS smax smax
comp=E,4μm,13.0s
KIS MLR MLR
comp=Z,13μm,13.0s
KIS MLR MLR
comp=N,3μm,11.0s
KIS MLR MLR
comp=E,8μm,16.0s
KIS MLR MLR
comp=Z,13μm,13.0s
KIS Kishinev 48.98 303⇑*i*P **P 02 00 52.9 +0.2**
KIS Kishinev 48.98 303 *i*SS SS 02 11 35.0 +8.0
PHNC Paralimni 49.00 287 P **P 02 00 54.9 +1.9**
comp=Z,1.6nm,0.7s
LADK Ladik-KONYA 49.10 291 *e*P **P 02 00 54.3 +0.4**
KONT Konya--Tatoy 49.19 291 *e*P **P 02 00 55.1 +0.6**
KTK1 Kautokeino 49.19 333⇑*i*P **P 02 00 53.1 -1.0**
KTK1 *e*PP **PP 02 02 45.8 -1.7**
KTK1 *e*S **S 02 07 57.8 -1.2**
KTK1 AMS AMS 02 23 42.3
comp=Z,63μm,10.7s
MDUB Mudurnu 49.20 294 *e*P **P 02 00 55.5 +0.9**
KIZT Kizilcal 49.23 292 *e*P **P 02 00 55.2 +0.4**
ERMK Ermenek 49.24 289 *i*P **P 02 00 55.4 +0.3**
LFK Lefkose 49.28 287 *e*P **P 02 00 55.7 +0.5**
SVRH Sivrihisar-ESK 49.30 293 *e*P **P 02 00 56.0 +0.6**
HDMB Hadim 49.45 290 *e*P **P 02 00 56.9 +0.3**
TLCR 49.46 301⇑P **P 02 00 56.9 +0.6**
TLCR 49.46 301⇑*i*P **P 02 00 56.9 +0.6**
LEOM Leova 49.49 303⇓P **P 02 00 57.3 +0.7**
LEOM Leova 49.49 303⇓*i*P **P 02 00 57.3 +0.7**
CSS Prodhromos 49.55 287 P **P 02 00 57.3 +0.1**
comp=Z,4.1nm,1.0s
CSS Prodhromos 49.55 287 *e*P **P 02 00 57.0 -0.2**
CSS Prodhromos 49.55 287 P **P 02 00 56.8 -0.5**
CSS Prodhromos 49.55 287 *e*P **P 02 00 57.0 -0.2**
comp=Z,282nm,0.9s
MAMC Mammari 49.56 287 P **P 02 00 57.5 +0.2**
COCO West Island 49.60 179 PFAKE 02 01 10.0 +12
COCO LR LR
comp=Z,9μm,21.0s
GUMO Guam 49.67 105 PFAKE 02 01 10.0 +12
GUMO LR LR
comp=Z,6μm,20.0s
GULT Gulveren 49.70 295 *e*P **P 02 00 59.1 +0.6**
IAS Iasi 49.76 304⇑P **P 02 00 59.0 +0.4**
IAS Iasi 49.76 304⇑*i*P **P 02 00 59.0 +0.4**
ESKT Eskisehir 49.76 293 *e*P **P 02 00 59.8 +0.9**
SEYT Eskypehyr 49.76 293 *i*P **P 02 00 58.9 0.0**
LEF Lefka 49.83 287 *e*P **P 02 00 59.7 +0.4**
GAZI Gazipasa 49.84 289 *i*P **P 02 00 59.2 -0.2**
DGAR Diego Garcia 49.85 211 *e*P **P 02 00 59.8 +0.2**
DGAR Diego Garcia 49.85 211 PFAKE 02 01 10.0 +10
DGAR LR LR
comp=Z,12μm,20.0s
EFOR EFORIE 49.90 300⇓*i*P **P 02 01 01.5 +1.8**
CFR Carcaliu 49.92 301⇓P **P 02 00 59.9 0.0**
CFR Carcaliu 49.92 301⇓*i*P **P 02 00 59.9 0.0**
BORA Eskisehir 49.93 294 *i*P **P 02 01 00.5 +0.3**
TIRR Tirgusor 49.94 300 *e*P **P 02 01 00.3 +0.3**
TIRR pmax pmax
comp=Z,111nm,1.2s
TIRR Tirgusor 49.94 300⇑*i*P **P 02 01 00.3 +0.3**
TIRR Tirgusor 49.94 300 *e*P **P 02 01 00.3 +0.3**
comp=Z,111nm,1.2s
BOLV Bolvadin 49.97 292 *i*P **P 02 01 00.7 +0.2**
MANR Mangalia 50.01 299⇓*i*P **P 02 01 02.1 +1.5**
ALFC Alevga 50.03 287 P **P 02 01 00.6 -0.3**
comp=Z,3.7nm,0.7s
SILT Sile 50.10 296 *e*P **P 02 01 02.1 +0.9**
TLB Topalu 50.16 301⇓P **P 02 01 02.0 +0.3**
TLB Topalu 50.16 301⇓*i*P **P 02 01 02.0 +0.3**
GHRR 50.17 303⇓*i*P **P 02 01 02.8 +1.1**
HRT Hereke 50.19 295 *e*P **P 02 01 00.5 -1.6**
ADVT Abdulvahap 50.26 295 *e*P **P 02 01 03.0 +0.4**
CAVI Cavuskoy 50.27 295 *e*P **P 02 01 03.3 +0.6**
BDHA Al Bayda' 50.27 256⇑*e*P **P 02 01 03.5 +0.3**
BDHA AMb AMB 02 01 04.9
comp=Z,285nm,0.7s
AKMC Akamas 50.28 287 P **P 02 01 02.7 -0.1**
PPCY Paphos 50.33 287 P **P 02 01 03.0 -0.1**
PSN Preselentsi 50.33 299 *e*P **P 02 01 04.2 +1.2**
SUTC Sutluce-Ispart 50.37 291 *e*P **P 02 01 03.8 +0.2**
PETR Petresti 50.38 302⇑*i*P **P 02 01 04.8 +1.5**
ALT Altintas 50.46 293 *i*P **P 02 01 07.2 +3.0**
YLV Yalova 50.48 295 *e*P **P 02 01 03.8 -0.5**
KLYT Kilyos 50.49 296 *e*P **P 02 01 05.2 +0.9**
ISK Istanbul-Kandi 50.54 296 *e*P **P 02 01 05.4 +0.8**
TESR Tescani 50.55 303⇑*i*P **P 02 01 04.8 +0.2**
BUY Buyukada 50.57 296 *e*P **P 02 01 02.8 -2.1**
BUY Buyukada 50.57 296 *i*P **P 02 01 05.4 +0.6**
ISP Isparta 50.60 291 *e*P **P 02 01 05.3 0.0**
ISP Isparta 50.60 291 P **P 02 01 05.4 +0.1**
ISP Isparta 50.60 291 ⇑P **P 02 01 05.3 0.0**
ISP Isparta 50.60 291⇑*i*P **P 02 01 05.3 0.0**
ISP Isparta 50.60 291 *e*P **P 02 01 05.5 +0.3**
comp=Z,752nm,0.9s
AMRR Amara 50.63 301 ⇑P **P 02 01 07.3 +2.0**
AMRR Amara 50.63 301⇑*i*P **P 02 01 07.3 +2.0**
GRER 50.65 302⇓*i*P **P 02 01 08.2 +2.8**
GEMT Gemlik 50.66 295 *e*P **P 02 01 05.9 +0.4**
VRI Vrincioaia 50.68 302 ⇑P **P 02 01 06.3 +0.7**
VRI Vrincioaia 50.68 302⇑*i*P **P 02 01 06.3 +0.7**
BCK Bucak 50.68 291 *e*P **P 02 01 05.2 -0.7**
BGKT Bogazkoy 50.71 296 *e*P **P 02 01 06.1 +0.3**
TRO Tromso 50.71 334⇑*i*P **P 02 01 05.5 +0.1**
PLOR Plostina 50.73 302 ⇓P **P 02 01 08.1 +2.0**
PLOR Plostina 50.73 302⇓*i*P **P 02 01 08.1 +2.0**
HAJJ Hajjah 50.77 259⇑*e*P **P 02 01 07.1 +0.3**
HAJJ AMb AMB 02 01 08.6
comp=Z,234nm,0.9s
PGOR Pogoanele 50.78 301⇓*i*P **P 02 01 09.0 +2.6**
SUW Suwalki 50.84 313 *e*P **P 02 01 06.7 0.0**
SUW pmax pmax
comp=Z,495nm,1.0s
SUW Suwalki 50.84 313 *e*P **P 02 01 06.7 0.0**
comp=Z,495nm,1.0s
SUW Suwalki 50.84 313 *e*P **P 02 01 06.5 -0.2**
SUW *e*S **S 02 08 21.5 -0.9**
SUW *e*sS **sS 02 08 28.6 -0.1**
SUW *e*ScS ScS 02 11 05.0 +7.9
SUW LMZ LR 02 23 26.8
ARMT Armutlu 50.85 295 *e*P **P 02 01 04.8 -2.2**
MDNY Mudanya-Bursa 50.90 295 *e*P **P 02 01 04.8 -2.6**
CTYL Yal??k??y-??at 50.95 297 *e*P **P 02 01 08.5 +0.8**
ISR Istrita 51.02 302 ⇓P **P 02 01 10.8 +2.5**
ISR Istrita 51.02 302⇓*i*P **P 02 01 10.8 +2.5**
PRD Provadia 51.02 299 *e*P **P 02 01 09.0 +0.8**
KHL Karahalli 51.15 292 *e*P **P 02 01 07.8 -1.6**
KHAL Karahalli 51.16 293 *i*P **P 02 01 09.4 -0.1**
BURAR Bucovina Array 51.18 305 ⇑P **P 02 01 09.7 +0.2**
BURAR Bucovina Array 51.18 305⇑*i*P **P 02 01 09.7 +0.2**
BUR08 Bucovina Ar. S 51.18 305 *e*P **P 02 01 09.8 +0.3**
SPA0 Spitsbergen Ar 51.28 345⇑*i*P **P 02 01 10.0 +0.3**
SPA0 *e*PP **PP 02 03 05.8 -0.4**
SPA0 *e*S **S 02 08 28.9 +1.1**
SPITS Spitsbergen Ar 51.28 345 P **P 02 01 10.1 +0.4**
SPITS PcP **PcP 02 02 24.1 -0.4**
SPITS Spitsbergen Ar 51.28 345 P **P 02 01 10.1 +0.4**
comp=Z,224nm,1.0s,baz=109,slow=18,SNR=36
SPITS PcP **PcP 02 02 24.1 -0.4**
comp=Z,64nm,0.8s,baz=134,slow=4.2,SNR=7.9
SPITS LR LR 02 25 08.9
comp=Z,17μm,18.9s,baz=90,slow=39
MLR Muntele Rosu 51.31 302⇑*i*P **P 02 01 11.5 +1.0**
KCTX Karacabey (Bur 51.31 295 *e*P **P 02 01 11.1 +0.6**
LVV L'vov 51.34 308⇓*i*P **P 02 01 11.4 +0.9**
LVV *e* 02 03 13.4
LVV *e*PPP PPP 02 04 04.2
LVV *e*S **S 02 08 30.0 +0.6**
LVV MLR MLR
comp=N,11μm,14.0s
LVV MLR MLR
comp=Z,13μm,14.0s
LVV MLR MLR
comp=E,10μm,12.0s
SULR 51.35 301⇑*i*P **P 02 01 12.2 +1.6**
DST Dursunbey 51.35 294 *e*P **P 02 01 11.7 +0.9**
SECR 51.37 302⇓*i*P **P 02 01 13.1 +2.3**
PHSR Pinarhisar 51.44 297 *e*P **P 02 01 12.5 +1.1**
HSP Hornsund 51.45 343 *e*P **P 02 01 11.4 +0.5**
ELL Elmali 51.45 290 *e*P **P 02 01 11.8 +0.1**
DURS Dursunbey 51.46 294 *i*P **P 02 01 11.1 -0.6**
DEMI Demirci 51.48 294 *i*P **P 02 01 12.0 +0.1**
GOLH Golhisar 51.52 291 *i*P **P 02 01 11.8 -0.5**
BNT Bandirma 51.60 295 *e*P **P 02 01 12.1 -0.5**
TKR Tekirdag 51.65 296 *e*P **P 02 01 12.5 -0.5**
CIOR Ciorogarla 51.67 301⇑*i*P **P 02 01 15.3 +2.2**
KULA Kula-Manisa 51.71 293 *e*P **P 02 01 12.1 -1.5**
DENT Denizli 51.72 292 *e*P **P 02 01 13.8 +0.2**

DNZL	Cakiroluk	51.73 292	*i* P	P	02 01 13.2 -0.7
JMB	Yambol	51.83 298	P	P	02 01 15.8 +1.5
JMB	Yambol	51.83 298	P	P	02 01 15.8 +1.5
JMB	Yambol	51.83 298	*e*P	P	02 01 15.8 +1.5
JMB	Yambol	51.83 298	P	P	02 01 15.8 +1.5
TRBA	At Turbah	51.84 256⇑	*e*P	P	02 01 15.2 +0.3
AKAS	Kas	51.87 290	*i* P	P	02 01 13.7 -1.2
GONE	Gonen-Balikesi	51.87 295	*e*P	P	02 01 15.1 +0.5
BALB	Balikesir	51.88 295	*e*P	P	02 01 13.5 -1.2
EDRB	Edirne	51.92 298	*e*P	P	02 01 15.7 +0.7
VOIR		51.93 302	⇑P	P	02 01 15.7 +0.6
VOIR		51.93 302	⇑*i*P	P	02 01 15.7 +0.6
MTUR	Matau	51.98 302	⇓P	P	02 01 16.5 +1.0
MTUR	Matau	51.98 302	⇓*i*P	P	02 01 16.5 +1.0
RKY	Sarkoy-Tekirda	52.01 296	*e*P	P	02 01 14.1 -1.6
SZH	Strazhica	52.01 300	*e*P	P	02 01 15.9 +0.2
BALY	Balya	52.03 295	*i* P	P	02 01 15.9 0.0
KRBG	Karabiga-Canak	52.03 296	*e*P	P	02 01 14.1 -1.7
FETY	Fethiye	52.10 291	*e*P	P	02 01 14.8 -1.7
KBS	Kingsbay	52.15 346	*e*P	P	02 01 16.0 -0.2
KBS			pmax	pmax	
	comp=Z,78nm,0.8s				
KBS			MLR	MLR	
	comp=Z,36μm,19.0s				
KBS	Kingsbay	52.15 346	*e*P	P	02 01 15.9 -0.2
	comp=Z,78nm,0.8s				
KBS			LR	LR	
	comp=Z,36μm,19.0s				
MDB	Medias	52.16 303	⇓*i*P	P	02 01 18.0 +1.3
AKHS	Akhisar	52.20 294	*i* P	P	02 01 17.3 +0.2
AKS	Akhisar	52.20 294	*e*P	P	02 01 15.5 -1.7
STEI	Steigen	52.21 332	⇑*i*P	P	02 01 16.3 -0.4
STEI			AMB	AMB	02 01 22.6
	comp=Z,328nm,1.8s				
KWP	Kalwaria Pacla	52.22 308	*e*P	P	02 01 17.7 +0.6
KWP	Kalwaria Pacla	52.22 308	⇓*i*P	P	02 01 18.6 +1.5
KWP	Kalwaria Pacla	52.22 308	*e*P	P	02 01 17.7 +0.6
	comp=Z,910nm,0.8s				
KWP	Kalwaria Pacla	52.22 308	*e*P	P	02 01 17.9 +0.8
KWP			*e*S	S	02 08 43.0 +1.5
KWP			*e*ScS	ScS	02 11 15.9 +9.1
KWP			LMZ	LR	02 23 16.4
ARR	Arges	52.23 302	⇓*i*P	P	02 01 18.7 +1.4
ZIMR		52.28 300	⇓P	P	02 01 19.0 +1.4
ZIMR		52.28 300	⇓*i*P	P	02 01 19.0 +1.4
DALY	Dalyan (Mu¨la	52.35 291	*e*P	P	02 01 16.1 -2.1
LPK	Lapseki	52.42 296	*e*P	P	02 01 20.0 +1.3
PVL	Pavlikeni	52.45 300	*e*P	P	02 01 20.5 +1.7
YER	Yerkesik	52.51 291	*e*P	P	02 01 16.5 -3.0
AYDN	Tasoluk	52.60 292	*i* P	P	02 01 19.9 -0.3
GELI	Tayfur-Gelibol	52.62 296	*e*P	P	02 01 21.0 +0.8
KOLS	Kolonicke sedl	52.69 307	*e*P	P	02 01 21.1 +0.5
KOLS			pmax	pmax	
	comp=Z,97nm,1.1s				
KOLS	Kolonicke sedl	52.69 307	*e*P	P	02 01 21.1 +0.5
KOLS			*e*S	S	02 08 52.1 +4.1
ALN	Alexandroupoli	52.74 297	P	P	02 01 22.0 +0.9
ALN	Alexandroupoli	52.74 297	P	P	02 01 22.0 +0.9
ALN	Alexandroupoli	52.74 297	P	P	02 01 22.0 +0.9
TRPA	Tarpa	52.76 306	⇑*i*P	P	02 01 22.0 +0.9
UZH	Uzhgorod	52.76 307	*e*P	P	02 01 21.2 +0.1
UZH			*e*		02 01 29.8
UZH			*e*		02 03 19.2
UZH			*e*S	S	02 08 46.0 -2.9
UZH			MLR	MLR	
	comp=N,5μm,14.0s				
UZH			MLR	MLR	
	comp=E,21μm,14.0s				
UZH			MLR	MLR	
	comp=Z,10μm,14.0s				
IZM	Izmir	52.78 293	*e*P	P	02 01 21.8 +0.4
BEL	Belsk	52.78 311	*e*P	P	02 01 21.7 +0.5
BEL			*e*S	S	02 08 52.1 +3.0
BEL			*e*ScS	ScS	02 11 15.0 +4.4
BEL			LMZ	LR	02 24 14.7
LOT	Lotru	52.78 303	⇑*i*P	P	02 01 22.5 +1.0
MOR8	Moi Rana	52.80 330	⇑*i*P	P	02 01 19.9 -1.2
MOR8			AMB	AMB	02 01 24.7
	comp=Z,301nm,1.1s				
LOF	Lofoten	52.81 332	⇑*i*P	P	02 01 20.3 -0.8
LOF			AMB	AMB	02 01 26.4
	comp=Z,628nm,1.4s				
LOF			AMS	AMS	02 25 38.6
	comp=Z,24μm,15.1s				
MLSB	Milas	52.82 292	*e*P	P	02 01 22.2 +0.4
AYVA	Ayvalik	52.85 295	*i* P	P	02 01 22.4 +0.5
KDZ	Kurdzhali	52.92 298	*e*P	P	02 01 23.4 +1.0
EZN	Ezine	52.93 295	*e*P	P	02 01 23.4 +0.9
ARG	Arkhangelos	52.98 290	P	P	02 01 22.4 -0.5
ARG	Arkhangelos	52.98 290	P	P	02 01 22.4 -0.5
ARG	Arkhangelos	52.98 290	*e*PB	P	02 01 23.0 +0.1
ARG	Arkhangelos	52.98 290	P	P	02 01 22.4 -0.5
DRGR		53.05 305	⇓P	P	02 01 24.9 +1.5
DRGR		53.05 305	⇓*i*P	P	02 01 24.9 +1.5
GCAM	G?zelcaml?	53.06 293	*i* P	P	02 01 24.4 +0.9
BDRM	Kayabasi	53.15 292	*i* P	P	02 01 24.0 -0.2
PRK	Paraskevi	53.18 295	P	P	02 01 24.4 +0.1
PRK	Paraskevi	53.18 295	P	P	02 01 24.4 +0.1
PRK	Paraskevi	53.18 295	P	P	02 01 24.4 +0.1
DAT	Datca	53.18 291	*e*P	P	02 01 24.3 -0.3
STHS	Stebnicka Huta	53.19 308	*e*P	P	02 01 25.2 +0.9
STHS			pmax	pmax	
	comp=Z,81nm,1.0s				
STHS	Stebnicka Huta	53.19 308	*e*P	P	02 01 25.2 +0.9
STHS	Stebnicka Huta	53.19 308	*e*SG	SKKSdf	02 30 27.2 -1.0
FLOS	Flostrand	53.19 330	*e*P	P	02 01 23.9 -0.1
FLOS			AMB	AMB	02 01 25.3
	comp=Z,273nm,0.0s				
CRVS	Cervenica-Dubn	53.21 308	*e*P	P	02 01 24.7 +0.3
CRVS			pmax	pmax	
	comp=Z,53nm,1.2s				
CRVS	Cervenica-Dubn	53.21 308	*e*P	P	02 01 24.7 +0.3
DEV	Deva	53.22 304	⇓P	P	02 01 26.1 +1.6
DEV	Deva	53.22 304	⇓*i*P	P	02 01 26.1 +1.6
BODT	Bodrum	53.25 292	*e*P	P	02 01 25.3 +0.4
PLD	Plovdiv	53.26 299	P	P	02 01 25.3 +0.4
PLD	Plovdiv	53.26 299	P	P	02 01 25.3 +0.4
PLD	Plovdiv	53.26 299	*e*P	P	02 01 25.4 +0.5
PLD	Plovdiv	53.26 299	P	P	02 01 25.3 +0.4
SMTH	Samothraki Isl	53.26 296	P	P	02 01 25.1 +0.1
SMTH	Samothraki Isl	53.26 296	*e*PB	P	02 01 25.0 +0.1
SMTH	Samothraki Isl	53.26 296	P	P	02 01 25.1 +0.1
STOK	Stokkvaagen	53.33 330	*e*P	P	02 01 25.0 0.0
STOK			AMB	AMB	02 01 26.5
	comp=Z,219nm,0.4s				
STOK			*e*S	S	02 08 58.2 +2.1
SMG	Samos	53.35 293	P	P	02 01 26.2 +0.6
SMG	Samos	53.35 293	*e*PB	P	02 01 26.5 +0.9
SMG	Samos	53.35 293	P	P	02 01 26.2 +0.6
GZR	Gura Zlata	53.46 303	⇓P	P	02 01 27.1 +0.7
GZR	Gura Zlata	53.46 303	⇓*i*P	P	02 01 27.1 +0.7
PGB	Panagyurishte	53.48 299	*e*P	P	02 01 27.8 +1.2
MPEP	Malo Peshtene	53.49 300	*e*P	P	02 01 27.8 +1.2
CHOS	Chios island	53.66 294	P	P	02 01 28.4 +0.4
CHOS	Chios island	53.66 294	*e*PB	P	02 01 28.5 +0.4
CHOS	Chios island	53.66 294	P	P	02 01 28.4 +0.4
LIA	Limnos Island	53.72 296	P	P	02 01 28.2 -0.1
LIA	Limnos Island	53.72 296	*e*PB	P	02 01 28.0 -0.3
LIA	Limnos Island	53.72 296	P	P	02 01 28.2 -0.1
NIE	Niedzica	53.77 308	⇑*i*P	P	02 01 32.1 +3.5
NIE			*e*S	S	02 09 09.5 +6.8
KAVA	Kavala	53.79 297	P	P	02 01 29.1 +0.3
KAVA	Kavala	53.79 297	P	P	02 01 29.1 +0.3
OJC	Ojcow	53.84 309	⇑*i*P	P	02 01 29.5 +0.5
OJC			*e*S	S	02 09 05.7 +2.1
OJC	Ojcow	53.84 309	*e*P	P	02 01 29.6 +0.5
ATD	Arta Tunnel	53.86 256	LR	LR	02 25 45.8
	comp=Z,9μm,21.3s,baz=285,slow=38				
SIRR	Siria	53.91 304	⇑*i*P	P	02 01 30.8 +1.2
FX1	Attu Island--F	53.92 47	*e*P	P	02 01 28.7 -0.9
FX1	Attu Island--F	53.92 47	P	P	02 01 28.4 -1.2
	comp=Z,45nm,0.5s,baz=317,slow=5.7,SNR=25				
KECS	Kecovo	53.95 307	*e*P	P	02 01 30.9 +1.0
KECS			pmax	pmax	
	comp=Z,59nm,1.1s				
KECS	Kecovo	53.95 307	*e*P	P	02 01 30.9 +1.0
KARP	Karpathos	53.96 290	P	P	02 01 29.7 -0.5
KARP	Karpathos	53.96 290	*e*PN	P	02 01 30.5 +0.3
KARP	Karpathos	53.96 290	P	P	02 01 29.7 -0.5
NVR	Nevrokopi	54.12 298	P	P	02 01 31.6 +0.3
NVR	Nevrokopi	54.12 298	*e*PN	P	02 01 32.0 +0.7
NVR	Nevrokopi	54.12 298	P	P	02 01 31.6 +0.3
MMB	Musomiste	54.13 298	*e*P	P	02 01 31.9 +0.6
VTS	Vitosha	54.13 300	P	P	02 01 32.1 +0.7
VTS	Vitosha	54.13 300	P	P	02 01 32.1 +0.7
VTS	Vitosha	54.13 300	*e*P	P	02 01 32.5 +1.1
VTS	Vitosha	54.13 300	⇑*i*P	P	02 01 32.2 +0.8
VTS	Vitosha	54.13 300	P	P	02 01 32.1 +0.7
NSS	Namsos	54.14 328	⇑*i*P	P	02 01 29.1 -1.9
NSS			AMB	AMB	02 01 32.5
	comp=Z,137nm,1.3s				
NSS			*e*S	S	02 09 08.8 +1.6
NSS			AMS	AMS	02 25 57.8
	comp=Z,8μm,15.2s				
BZS	Buzias	54.15 304	⇑P	P	02 01 31.5 +0.1
BZS	Buzias	54.15 304	⇑*i*P	P	02 01 31.5 +0.1
SRS	Serrai	54.39 298	P	P	02 01 33.2 0.0
SRS	Serrai	54.39 298	P	P	02 01 33.2 0.0
SRS	Serrai	54.39 298	P	P	02 01 33.2 0.0
OUR	Ouranopolis	54.41 297	P	P	02 01 33.5 +0.2
OUR	Ouranopolis	54.41 297	P	P	02 01 33.5 +0.2
OUR	Ouranopolis	54.41 297	P	P	02 01 33.5 +0.2
GKP	Gorka Klasztor	54.45 314	*e*P	P	02 01 33.9 +0.5
GKP			*e*S	S	02 09 14.6 +2.9
GKP			*e*ScS	ScS	02 11 28.2 +5.9
GKP			LMZ	LR	02 25 55.1
KKB	Krupnik	54.47 299	*e*P	P	02 01 34.4 +0.6
SMY	Shemya	54.51 47	*e*P	P	02 01 32.2 -1.6
SMY	Shemya	54.51 47	*e*P	P	02 01 32.2 -1.6
	comp=Z,3μm,0.9s				
PSZ	Piszkesteto	54.51 307	⇑P	P	02 01 34.4 +0.4
PSZ	Piszkesteto	54.51 307	⇑*i*P	P	02 01 34.4 +0.4
PSZ	Piszkesteto	54.51 307	*e*P	P	02 01 34.5 +0.4
	comp=Z,261nm,1.1s				
PSZ			LR	LR	
	comp=Z,14μm,19.0s				
PSZ	Piszkesteto	54.51 307	⇑*e*P	P	02 01 35.2 +1.2
APE	Apeiranthos	54.56 292	P	P	02 01 33.5 -1.0
APE	Apeiranthos	54.56 292	P	P	02 01 33.5 -1.0
APE	Apeiranthos	54.56 292	⇑*i*P	P	02 01 34.0 -0.5
APE	Apeiranthos	54.56 292	P	P	02 01 33.5 -1.0
SOH	Sokhos	54.67 298	P	P	02 01 35.1 -0.2
SOH	Sokhos	54.67 298	P	P	02 01 35.1 -0.2
SOH	Sokhos	54.67 298	*e*PN	P	02 01 35.5 +0.2
SOH	Sokhos	54.67 298	P	P	02 01 35.1 -0.2
PLG	Polygyros	54.77 297	P	P	02 01 36.0 -0.1
PLG	Polygyros	54.77 297	P	P	02 01 36.0 -0.1
PLG	Polygyros	54.77 297	P	P	02 01 36.0 -0.1
PAIG	Paliouri	54.78 296	P	P	02 01 36.0 0.0
PAIG	Paliouri	54.78 296	P	P	02 01 36.0 0.0
PAIG	Paliouri	54.78 296	*e*PN	P	02 01 39.0 +3.0
PAIG	Paliouri	54.78 296	P	P	02 01 36.0 0.0
ZKR	Zakros	54.84 290	P	P	02 01 36.5 -0.1
ZKR	Zakros	54.84 290	*e*PN	P	02 01 36.5 -0.1
ZKR	Zakros	54.84 290	P	P	02 01 36.5 -0.1
KNT	Kendrikon	54.86 298	P	P	02 01 36.6 -0.1
KNT	Kendrikon	54.86 298	P	P	02 01 36.6 -0.1
KNT	Kendrikon	54.86 298	P	P	02 01 36.6 -0.1
PKSN	Nyarlorinc	54.87 306	⇓*e*P	P	02 01 38.1 +1.6
RAC	Raciborz	54.87 310	*e*P	P	02 01 37.7 +1.2
RAC			*e*S	S	02 09 20.3 +2.9
RAC			MLR	MLR	
	comp=Z,49μm,17.0s				
SANT	Santorini	54.89 292	P	P	02 01 35.8 -1.1
SANT	Santorini	54.89 292	*e*PN	P	02 01 36.5 -0.4
SANT	Santorini	54.89 292	*e*P	P	02 01 35.9 -1.0
SANT			LR	LR	
	comp=Z,7μm,20.0s				
THR1	Thera Island	54.89 292	P	P	02 01 35.8 -1.1
THR3	Thira Island,	54.92 292	P	P	02 01 36.2 -0.9
THR3	Thira Island,	54.92 292	P	P	02 01 36.2 -0.9
AOS	Alonnisos	54.93 295	P	P	02 01 37.3 +0.2
AOS	Alonnisos	54.93 295	*e*PN	P	02 01 37.0 -0.1
AOS	Alonnisos	54.93 295	P	P	02 01 37.3 +0.2
HORT	Hortiatis	54.93 297	P	P	02 01 36.0 -1.3
HORT	Hortiatis	54.93 297	P	P	02 01 36.0 -1.3
OKC	Ostrava-Krasne	54.98 309	⇑*i*P	P	02 01 37.9 +0.6
OKC			*e*S	S	02 09 22.5 +3.6
OKC			MLR	MLR	
	comp=Z,29μm,14.3s				
OKC	Ostrava-Krasne	54.98 309	⇑*i*P	P	02 01 37.9 +0.6
OKC			*e*S	S	02 09 22.5 +3.6
OKC			AMS	AMS	02 25 40.0
	comp=Z,29μm,14.3s				
VYHS	Vyhne	54.99 308	*e*P	P	02 01 38.2 +0.8
VYHS			pmax	pmax	
	comp=Z,174nm,1.1s				
VYHS	Vyhne	54.99 308	*e*P	P	02 01 38.2 +0.8
VYHS			*e*S	S	02 09 23.4 +4.3
THE	Thessaloniki	55.02 297	P	P	02 01 37.1 -0.6
THE	Thessaloniki	55.02 297	P	P	02 01 37.1 -0.6
THE	Thessaloniki	55.02 297	P	P	02 01 37.1 -0.6
VAY	Valandovo	55.03 298	P	P	02 01 36.8 -1.0
VAY	Valandovo	55.03 298	P	P	02 01 36.8 -1.0
VAY	Valandovo	55.03 298	⇑*i*P	P	02 01 37.4 -0.5
VAY	Valandovo	55.03 298	P	P	02 01 36.8 -1.0
TBLU	Trondheim	55.19 327	*e*P	P	02 01 33.9 -4.8
TBLU			AMB	AMB	02 01 44.2
	comp=Z,296nm,2.1s				
TBLU			*e*S	S	02 09 21.8 +0.4
TBLU			AMS	AMS	02 25 50.9
	comp=Z,32μm,16.9s				
BUD	Budapest	55.21 306	⇑*e*P	P	02 01 39.9 +0.9
BSD	Bornholm Skovb	55.21 316	*i* P	P	02 01 39.1 +0.2
BSD			*i* S	S	02 09 22.5 +0.7
BSD			pmax	pmax	
	comp=Z,150nm,0.9s				
BSD			MLR	MLR	
	comp=Z,38μm,17.0s				
BSD	Bornholm Skovb	55.21 316	*i* P	P	02 01 39.1 +0.2
	comp=Z,153nm,0.8s				
BSD			*i* S	S	02 09 22.5 +0.7
BSD					
	comp=Z,38μm,16.0s				
SKIA	Skiathos	55.22 296	P	P	02 01 39.5 +0.2
NPS	Neapolis	55.23 290	P	P	02 01 39.1 -0.3
NPS	Neapolis	55.23 290	P	P	02 01 39.1 -0.3
NPS	Neapolis	55.23 290	*e*PN	P	02 01 40.0 +0.6
NPS	Neapolis	55.23 290	P	P	02 01 39.1 -0.3
ERET	Eretria	55.27 295	P	P	02 01 39.7 0.0
GRG	Griva	55.29 298	P	P	02 01 38.6 -1.2
GRG	Griva	55.29 298	P	P	02 01 38.6 -1.2
GRG	Griva	55.29 298	*e*PB	P	02 01 39.5 -0.3
GRG	Griva	55.29 298	P	P	02 01 38.6 -1.2
NC602	NORSAR Array S	55.30 324	*e*P	P	02 01 36.4 -3.1
NC602			*e*S	S	02 09 21.6 -1.3
MRKA	Markates	55.32 295	P	P	02 01 39.8 -0.2
XOR	Xorichti	55.34 296	P	P	02 01 39.6 -0.6
XOR	Xorichti	55.34 296	P	P	02 01 39.6 -0.6
NEO	Neokhori	55.34 296	P	P	02 01 39.8 -0.4
NEO	Neokhori	55.34 296	*e*PN	P	02 01 40.0 -0.2
NEO	Neokhori	55.34 296	P	P	02 01 39.8 -0.4
MORC	Moravsky Berou	55.37 310	*e*P	P	02 01 40.4 +0.2
MORC			pmax	pmax	
	comp=Z,250nm,1.0s				
MORC	Moravsky Berou	55.37 310	*e*P	P	02 01 40.4 +0.2
	comp=Z,250nm,1.0s				
NB2	NORSAR Subarra	55.37 324	P	P	02 01 39.8 -0.2
	comp=Z,163nm,0.8s,baz=72,slow=7.4				
NB2	NORSAR Subarra	55.37 324	P	P	02 01 39.8 -0.2
	baz=72,slow=7.4				
NOA	NORSAR Array B	55.37 324	P	P	02 01 39.5 -0.5
NOA	NORSAR Array B	55.37 324	P	P	02 01 39.5 -0.5
	comp=Z,143nm,0.8s,baz=73,slow=7.2,SNR=175				
NOA			LR	LR	02 26 28.1
	comp=Z,24μm,19.1s,baz=75,slow=37				
LAST	Lasithi	55.38 290	P	P	02 01 40.3 -0.2
LAST	Lasithi	55.38 290	*e*PN	P	02 01 41.0 +0.5
LAST	Lasithi	55.38 290	P	P	02 01 40.3 -0.2
PTL	Penteli	55.38 294	P	P	02 01 40.2 -0.2
PTL	Penteli	55.38 294	*e*PN	P	02 01 40.5 +0.1
PTL	Penteli	55.38 294	P	P	02 01 40.2 -0.2
PKS2	Kecel	55.43 305	⇑*e*P	P	02 01 41.3 +0.7
ATHU	Athens Univers	55.47 294	P	P	02 01 41.0 -0.1
ATHU	Athens Univers	55.47 294	P	P	02 01 41.0 -0.1
ATH	Athens Observa	55.52 294	P	P	02 01 41.4 +0.1
ATH	Athens Observa	55.52 294	P	P	02 01 41.4 +0.1
ATH	Athens Observa	55.52 294	*e*PN	P	02 01 41.5 +0.1
ATH	Athens Observa	55.52 294	P	P	02 01 41.4 +0.1
SMIA	Simia	55.52 295	P	P	02 01 41.2 -0.2
LIT	Litokhoron	55.55 297	P	P	02 01 40.9 -0.8
LIT	Litokhoron	55.55 297	P	P	02 01 40.9 -0.8
LIT	Litokhoron	55.55 297	*e*PN	P	02 01 41.0 -0.8
LIT	Litokhoron	55.55 297	P	P	02 01 40.9 -0.8
SKO	Skopje	55.57 299	P	P	02 01 42.8 +1.0
SKO	Skopje	55.57 299	P	P	02 01 42.8 +1.0
SKO	Skopje	55.57 299	⇑*i*P	P	02 01 43.3 +1.5
SKO	Skopje	55.57 299	P	P	02 01 42.8 +1.0
NAO01	NORSAR Array S	55.58 324	*e*P	P	02 01 40.6 -0.9
	comp=Z,156nm,0.8s				
PKSG		55.64 307	⇑*e*P	P	02 01 43.0 +0.9
CSKK	Cs^‡kako	55.73 307	⇑*e*P	P	02 01 43.6 +0.8
IDI	Anoyia	55.76 291	P	P	02 01 42.3 -1.0
IDI	Anoyia	55.76 291	*e*PN	P	02 01 42.5 -0.8
IDI	Anoyia	55.76 291	*e*P	P	02 01 42.4 -0.8
LKR	Lokris	55.76 295	*e*PN	P	02 01 43.0 -0.1
NAIG	Nisos Aigina	55.77 294	*e*PN	P	02 01 42.0 -1.2
KSP	Ksiaz	55.77 311	⇑*e*P	P	02 01 43.4 +0.4
KSP			*e*		02 03 45.7
KSP			*e*S	S	02 09 27.9 -1.6
KSP			*e*SS	SS	02 13 18.0 +3.6
KSP			MLR	MLR	
	comp=Z,67μm,17.7s				
KSP	Ksiaz	55.77 311	*e*P	P	02 01 43.6 +0.6
KSP			*e*S	S	02 09 27.8 -1.7
KSP			*e*ScS	ScS	02 11 40.5 +8.6
KSP			LMZ	LR	02 26 10.9
DIVS	Divibare	55.77 302	P	P	02 01 43.5 +0.3
SMOL	Smolenice	55.86 308	*e*P	P	02 01 44.8 +1.1
SMOL	Smolenice	55.86 308	*e*P	P	02 01 44.8 +1.1
PKSM	Moragy	55.90 305	⇑P	P	02 01 44.2 +0.2
PKSM	Moragy	55.90 305	⇑*i*P	P	02 01 44.2 +0.2
PKSM	Moragy	55.90 305	⇑*e*P	P	02 01 44.4 +0.4
DPC	Dobruska-Polom	55.92 310	⇑*i*P	P	02 01 45.2 +1.0
DPC			*e*S	S	02 09 34.7 +3.2
DPC	Dobruska-Polom	55.92 310	⇑*i*P	P	02 01 45.2 +1.0
DPC			*e*S	S	02 09 34.7 +3.2
DPC			*e*x	x	02 11 06.9
DPC			AMS	AMS	02 26 20.0
DPC	Dobruska-Polom	55.92 310	*e*P	P	02 01 45.1 +1.0
PKST	T¨'s	55.92 307	⇑*e*P	P	02 01 44.7 +0.6
SIVA	Sivas	55.93 291	P	P	02 01 44.4 0.0
SIVA	Sivas	55.93 291	*e*PN	P	02 01 44.5 0.0
SIVA	Sivas	55.93 291	P	P	02 01 44.4 0.0
AXAR	Agios Charalam	55.96 295	P	P	02 01 44.5 -0.1
AXAR	Agios Charalam	55.96 295	P	P	02 01 44.5 -0.1
KZN	Kozani	55.98 298	P	P	02 01 44.1 -0.7
KZN	Kozani	55.98 298	P	P	02 01 44.1 -0.7
KZN	Kozani	55.98 298	*e*PB	P	02 01 45.0 +0.2
KZN	Kozani	55.98 298	P	P	02 01 44.1 -0.7
BIA	Bitola	56.02 298	P	P	02 01 44.0 -1.0
BIA	Bitola	56.02 298	⇑*i*P	P	02 01 43.8 -1.2
BIA	Bitola	56.02 298	P	P	02 01 44.0 -1.0
LTK	Loutraki	56.04 295	P	P	02 01 43.5 -1.7
LTK	Loutraki	56.04 295	*e*PN	P	02 01 43.5 -1.7
LTK	Loutraki	56.04 295	P	P	02 01 43.5 -1.7
UPC	Upice	56.05 311	⇑*i*P	P	02 01 45.9 +0.9
UPC			*e*x	x	02 11 09.8
DID	Didima	56.05 294	P	P	02 01 43.1 -2.2
DID	Didima	56.05 294	*e*PN	P	02 01 43.0 -2.2
DID	Didima	56.05 294	P	P	02 01 43.1 -2.2
DOMB	Dombas	56.07 325	*e*P	P	02 01 45.3 +0.3
DOMB			AMB	AMB	02 01 46.9
	comp=Z,129nm,1.1s				
FNA	Florina	56.07 298	P	P	02 01 43.8 -1.6
FNA	Florina	56.07 298	P	P	02 01 43.8 -1.6
FNA	Florina	56.07 298	*e*PB	P	02 01 44.5 -0.9
FNA	Florina	56.07 298	P	P	02 01 43.8 -1.6
DIDY	Didyma	56.08 294	P	P	02 01 43.6 -2.0
AGG	Agios Georgios	56.09 296	P	P	02 01 43.7 -1.9
AGG	Agios Georgios	56.09 296	P	P	02 01 43.7 -1.9
AGG	Agios Georgios	56.09 296	*e*PN	P	02 01 44.5 -1.1
AGG	Agios Georgios	56.09 296	P	P	02 01 43.7 -1.9
THL	Klokotos Trika	56.10 297	P	P	02 01 44.9 -0.6
ACOR	Acrocorinthos	56.16 294	P	P	02 01 43.9 -2.2
DSF	Desfina	56.20 295	P	P	02 01 45.1 -1.2
DSF	Desfina	56.20 295	P	P	02 01 45.1 -1.2
VAM	Vamos	56.22 291	P	P	02 01 45.7 -0.8
VAM	Vamos	56.22 291	P	P	02 01 45.7 -0.8
VAM	Vamos	56.22 291	P	P	02 01 45.7 -0.8
MAKR	Makrakomi, Fth	56.24 296	P	P	02 01 45.9 -0.7
MAKR	Makrakomi, Fth	56.24 296	P	P	02 01 45.9 -0.7
RGN	Rugen	56.26 316	*e*P	P	02 01 47.3 +0.9
	comp=Z,573nm,1.1s				
IVA	Berane	56.29 301	*e*P	P	02 01 47.4 +0.4
MSEY	Mahe Island	56.35 231	PFAKE		02 02 00.0 +12
MSEY			LR	LR	
	comp=Z,24μm,21.0s				
PVY	Plav	56.35 301	⇑*i*P	P	02 01 47.7 +0.2
BCI	Bajram Curri	56.37 300	*i* PN	P	02 01 47.4 -0.1
PHP	Peshkopia	56.37 300	P	P	02 01 46.9 -0.7
PHP	Peshkopia	56.37 300	P	P	02 01 46.9 -0.7
PHP	Peshkopia	56.37 300	P	P	02 01 46.9 -0.7
COP	Copenhagen	56.38 318	⇑*i*P	P	02 01 47.8 +0.6
COP			*i* S	S	02 09 39.4 +2.1
COP			pmax	pmax	
	comp=Z,110nm,0.9s				
COP			MLR	MLR	
	comp=Z,22μm,15.0s				
COP	Copenhagen	56.38 318	⇑*i*P	P	02 01 47.8 +0.6
	comp=Z,107nm,0.8s				
COP			*i* S	S	02 09 39.4 +2.1
COP					
	comp=Z,22μm,15.0s				
KARN	Karanos	56.43 291	P	P	02 01 47.4 -0.6
KARN	Karanos	56.43 291	*e*PN	P	02 01 47.5 -0.6
KARN	Karanos	56.43 291	P	P	02 01 47.4 -0.6
NEST	Nestorio	56.45 298	P	P	02 01 47.0 -1.1
PLE	Pljevlja	56.46 302	⇑*i*P	P	02 01 49.0 +0.8
KALE	Kalithea	56.48 295	P	P	02 01 46.9 -1.5
KALE	Kalithea	56.48 295	*e*PN	P	02 01 47.5 -0.9
KALE	Kalithea	56.48 295	P	P	02 01 46.9 -1.5
EVR	Evrytania	56.51 296	P	P	02 01 47.8

PSA1	Psathopyrgos	56.70 295	ePN	P	02 01 51.0	+1.2
SOP	Sopron	56.70 307⇑	eP	P	02 01 50.7	+1.0
KYTH	Kithira	56.71 293	P	P	02 01 48.4	-1.6
KYTH	Kithira	56.71 293	ePN	P	02 01 49.0	-1.0
KYTH	Kithira	56.71 293	P	P	02 01 48.4	-1.6
VLX	Vlachokerasia	56.73 294	P	P	02 01 48.3	-1.9
VLX	Vlachokerasia	56.73 294	ePN	P	02 01 48.5	-1.7
VLX	Vlachokerasia	56.73 294	P	P	02 01 48.3	-1.9
TREC	Trest	56.79 310⇑	iP	P	02 01 51.1	+0.8
TREC			eS	S	02 09 47.5	+4.4
TREC			MLR	MLR		
comp=Z,32µm,14.8s						
TREC	Trest	56.79 310⇑	iP	P	02 01 51.1	+0.8
TREC			eS	S	02 09 47.5	+4.4
TREC			ex	x	02 11 11.0	
TREC			AMS	AMS	02 26 50.0	
comp=Z,32µm,14.8s						
UPM	Unac-Piva	56.84 302⇑	iP	P	02 01 51.0	0.0
JAN	Janina	56.89 297	P	P	02 01 50.8	-0.4
JAN	Janina	56.89 297	P	P	02 01 50.8	-0.4
JAN	Janina	56.89 297	ePB	P	02 01 51.0	-0.2
JAN	Janina	56.89 297	P	P	02 01 50.8	-0.4
PDG	Podgorica	56.90 301	P	P	02 01 51.4	+0.3
TTG	Podgorica	56.90 301⇑	iP	P	02 01 51.5	+0.3
TTG	Podgorica	56.90 301	P	P	02 01 51.4	+0.3
TTG	Podgorica	56.90 301	P	P	02 01 51.4	+0.3
TIR	Tirane	56.90 299	i PN	P	02 01 50.3	-0.9
TIR	Tirane	56.90 299	P	P	02 01 50.8	-0.5
TIR	Tirane	56.90 299	eP	P	02 01 50.7	-0.5
TIR			pmax	pmax		
comp=Z,231nm,0.9s						
TIR			MLR	MLR		
comp=Z,8µm,20.0s						
TIR	Tirane	56.90 299	eP	P	02 01 50.7	-0.5
comp=Z,231nm,0.9s						
TIR			LR	LR		
comp=Z,8µm,20.0s						
PVCC	Panska Ves	56.91 311⇑	iP	P	02 01 52.1	+1.0
PVCC			eS	S	02 09 47.6	+3.0
PVCC			MLR	MLR		
comp=Z,30µm,15.1s						
PVCC	Panska Ves	56.91 311⇑	iP	P	02 01 52.1	+1.0
PVCC			eS	S	02 09 47.6	+3.0
PVCC			ex	x	02 11 03.4	
PVCC			AMS	AMS	02 26 50.0	
comp=Z,30µm,15.1s						
NKY	Niksic	56.93 301	eP	P	02 01 51.8	+0.3
NKME	Niksic	56.97 301	eP	P	02 01 52.0	+0.2
BEHE	Becsehely	57.01 306⇑	eP	P	02 01 52.8	+0.9
DYR	Agios Nikonas	57.02 293	P	P	02 01 50.1	-2.1
DYR	Agios Nikonas	57.02 293	ePN	P	02 01 51.0	-1.2
DRME	Dracevica, Mon	57.04 301⇑	iP	P	02 01 52.5	+0.3
CONA	Conrad Observa	57.05 308	i pP	P	02 01 53.3	+1.1
SNR=137						
CSNA	Conrad Observa	57.05 308	i pP	P	02 01 53.3	+1.0
SNR=132						
ULC	Ulcinj	57.09 300⇑	iP	P	02 01 52.4	-0.2
RLS	Riolos of Patr	57.10 295	P	P	02 01 51.7	-1.0
RLS	Riolos of Patr	57.10 295	P	P	02 01 51.7	-1.0
AXS	Araxos	57.11 295	P	P	02 01 52.0	-0.8
PRU	Pruhonice	57.12 311⇑	iP	P	02 01 53.4	+0.8
PRU			e		02 04 00.6	
PRU			eS	S	02 09 51.5	+4.2
PRU			MLR	MLR		
comp=Z,44µm,14.4s						
PRU	Pruhonice	57.12 311⇑	iP	P	02 01 53.4	+0.8
PRU			ePP	PP	02 04 00.6	+1.4
PRU			eS	S	02 09 51.5	+4.2
PRU			ex	x	02 11 21.0	
PRU			AMS	AMS	02 27 10.0	
comp=Z,44µm,14.4s						
ITM	Ithomi	57.14 294	P	P	02 01 50.9	-2.1
ITM	Ithomi	57.14 294	ePN	P	02 01 51.5	-1.5
ITM	Ithomi	57.14 294	P	P	02 01 50.9	-2.1
AMT	Artemida-Makis	57.15 295	P	P	02 01 51.5	-1.6
AMT	Artemida-Makis	57.15 295	ePN	P	02 01 51.5	-1.6
PRA	Prague	57.15 311	⇑P	P	02 01 54.0	+1.1
PRA			S	S	02 09 52.0	+4.2
PRA			AMS	AMS	02 28 00.0	
BRG	Berggiesshubel	57.16 312⇑	iP	P	02 01 53.4	+0.5
comp=Z,238nm,1.1s						
BRG			e		02 02 15.9	
comp=Z,142nm,1.4s						
BRG			PCP	PcP	02 02 45.0	-2.4
comp=Z,68nm,1.1s						
BRG			PP	PP	02 04 00.1	+0.5
comp=Z,57nm,1.2s						
BRG			S	S	02 09 53.0	+5.1
BRG			SCS	ScS	02 11 49.0	+7.0
BRG			SS	SS	02 14 02.0	+26
BRG						
comp=Z,32µm,14.2s						
BRG						
comp=N,14µm,14.7s						
BRG						
comp=E,28µm,14.7s						
BRG	Berggiesshubel	57.16 312	eP	P	02 01 53.3	+0.5
comp=Z,238nm,1.1s						
BRG	Berggiesshubel	57.16 312⇑	iP	P	02 01 53.4	+0.5
BRG			e		02 02 15.9	
BRG					02 02 45.0	
BRG					02 04 00.1	
BRG			S	S	02 09 53.0	+5.1
BRG			pmax	pmax		
comp=Z,238nm,1.1s						
BRG			MLR	MLR		
comp=Z,32µm,14.2s						
BRG			MLR	MLR		
comp=N,14µm,14.7s						
BRG			MLR	MLR		
comp=E,28µm,14.7s						
BUM	Brajici-Budva	57.20 301⇑	iP	P	02 01 53.6	+0.2
BRY	Bratogost	57.20 302⇑	iP	P	02 01 53.5	0.0
IGT	Igoumenitsa	57.30 297	P	P	02 01 51.0	-3.1
IGT	Igoumenitsa	57.30 297	P	P	02 01 51.0	-3.1
IGT	Igoumenitsa	57.30 297	P	P	02 01 51.0	-3.1
KOGS	Kog	57.35 306	eP	P	02 01 54.4	0.0
LKD2	Lefkada island	57.38 296	P	P	02 01 53.2	-1.5
LKD2	Lefkada island	57.38 296	ePB	P	02 01 53.0	-1.7
LKD2	Lefkada island	57.38 296	P	P	02 01 53.2	-1.5
PYL	PYLOS	57.39 294	P	P	02 01 52.5	-2.3
PYL	PYLOS	57.39 294	ePB	P	02 01 53.0	-1.8
PYL	PYLOS	57.39 294	P	P	02 01 52.5	-2.3
SRN	Sarande	57.40 298	i PN	P	02 01 53.1	-1.7
SRN	Sarande	57.40 298	P	P	02 01 53.5	-1.2
SRN	Sarande	57.40 298	P	P	02 01 53.5	-1.2
HCY	Herceg Novi	57.41 301⇑	iP	P	02 01 54.8	0.0
FBE	Freiberg	57.49 312	eP	P	02 01 56.1	+0.9
comp=Z,260nm,1.1s						
ARSA	Arzberg	57.51 307	i pP	P	02 01 56.0	+0.5
SNR=126						
HOMB	Homborsund	57.54 321⇑	iP	P	02 01 55.2	-0.3
HOMB			AMB	AMB	02 01 57.1	
comp=Z,290nm,1.3s						
HOMB			eS	S	02 09 51.7	-1.0
CLL	Collm	57.56 312	eP	P	02 01 55.8	+0.1
comp=Z,239nm,1.0s						
CLL	Collm	57.56 312⇑	iP	P	02 01 55.9	+0.2
CLL			eS	S	02 09 57.0	+3.9
CLL			pmax	pmax		
comp=Z,240nm,1.0s						
CLL			MLR	MLR		
comp=Z,18µm,18.5s						
CLL	Collm	57.56 312⇑	iP	P	02 01 55.9	+0.2
comp=Z,240nm,1.0s						
CLL			i pP	pP	02 01 59.4	-0.2
comp=Z,245nm,0.9s						
CLL			i PP	PP	02 03 58.3	-4.7
comp=Z,89nm,1.2s						
CLL			e(PcS)		02 06 54.0	
CLL			eS	S	02 09 57.0	+3.9
CLL			eSS	SS	02 13 42.0	-0.5
CLL			e		02 14 42.0	
CLL			eSSS	SSS	02 16 06.0	
CLL			e		02 17 42.0	
CLL			LmV		02 27 00.0	
comp=Z,18µm,18.5s						
CLL			ePKPPKPdP'P'df		02 31 42.0	-6.5
KFL	Anninata	57.57 295	P	P	02 01 54.4	-1.6
KEK	Kerkira	57.61 298	P	P	02 01 54.2	-2.1
KEK	Kerkira	57.61 298	ePB	P	02 01 55.0	-1.3
KEK	Kerkira	57.61 298	P	P	02 01 54.2	-2.1
HYA	Hoyanger	57.65 325⇑	iP	P	02 01 56.3	+0.1
HYA			AMB	AMB	02 02 01.1	
comp=Z,237nm,1.2s						
HYA			eS	S	02 09 54.5	+0.5
HYA			AMS	AMS	02 28 05.0	
comp=Z,16µm,23.9s						
STON	Ston	57.78 302	P	P	02 01 56.7	-0.7
MUD	Monsted U'grnd	57.84 319⇑	iP	P	02 01 58.5	+1.0
MUD			i S	S	02 09 59.8	+3.3
MUD			pmax	pmax		
comp=Z,140nm,1.0s						
MUD			MLR	MLR		
comp=Z,37µm,15.0s						
MUD	Monsted U'grnd	57.84 319⇑	iP	P	02 01 58.5	+1.0
comp=Z,140nm,0.9s						
MUD			i S	S	02 09 59.8	+3.3
MUD						
comp=Z,37µm,15.0s						
PERS	Pernice	58.00 307	i P	P	02 01 59.3	+0.3
PERS			i PcP	pP	02 02 06.0	+3.1
PERS			ePP	PP	02 04 08.1	+0.9
PERS			eS	S	02 10 02.2	+3.0
PERS	Pernice	58.00 307	ePdiff		02 04 18.7	
KHC	Kasperske Hory	58.01 310	eP	P	02 01 59.0	0.0
KHC			e		02 02 08.0	
KHC	Kasperske Hory	58.01 310⇑	eP	P	02 01 59.0	0.0
KHC			ex	x	02 02 08.0	
KHC			ex	x	02 02 26.0	
KHC			ex	x	02 11 12.5	
SOKA	Soboth	58.04 307	i pP	P	02 01 59.7	+0.4
SNR=276						
GEC2	GERESS Array S	58.05 310	eP	P	02 01 59.9	+0.6
comp=Z,164nm,1.1s						
GEC2	GERESS Array S	58.05 310	eP	P	02 01 59.9	+0.6
GEC2			pmax	pmax		
comp=Z,164nm,1.1s						
GERES	GERESS Array B	58.05 310	P	P	02 01 59.7	+0.4
GERES			⇑e		02 31 50.4	
GERES	GERESS Array B	58.05 310	P	P	02 01 59.7	+0.4
comp=Z,70nm,0.9s,baz=68,slow=5.7,SNR=319						
GERES			LR	LR	02 27 47.3	
comp=Z,20µm,20.3s,baz=62,slow=37						
GERES			PKP2bc		02 31 50.4	
comp=Z,1.9nm,0.8s,baz=222,slow=1.8,SNR=6.4						
MOA	Molln	58.08 308	i pP	P	02 02 00.2	+0.7
SNR=60						
BSEG	Bad Segeberg	58.13 316	eP	P	02 02 00.6	+1.0
comp=Z,427nm,1.1s						
BLS5	Blasjo	58.14 323	eP	P	02 01 59.6	-0.1
BLS5			AMB	AMB	02 02 06.6	
comp=Z,215nm,2.1s						
TANN	Tannenbergstha	58.20 312	eP	P	02 02 00.8	+0.5
comp=Z,182nm,1.1s						
NKC	Novy Kostel	58.28 311⇑	iP	P	02 02 01.5	+0.7
NKC			eS	S	02 10 07.4	+4.8
NKC			MLR	MLR		
comp=Z,21µm,14.4s						
NKC	Novy Kostel	58.28 311⇑	iP	P	02 02 01.5	+0.7
NKC			eS	S	02 10 07.4	+4.8
NKC			AMS	AMS	02 28 10.0	
comp=Z,21µm,14.4s						
WERD	Werda	58.28 312	eP	P	02 02 01.4	+0.5
comp=Z,156nm,1.1s						
RUND	Rundenannen	58.29 324	eP	P	02 02 00.3	-0.5
RUND			AMB	AMB	02 02 05.8	
comp=Z,530nm,1.9s						
GUNZ	Gunzen	58.30 312	eP	P	02 02 01.8	+0.8
comp=Z,256nm,1.1s						
NEUB	Neuenburg	58.31 313	eP	P	02 02 01.3	+0.3
comp=Z,348nm,1.1s						
BER	Bergen	58.32 324	eP	P	02 02 00.5	-0.4
BER			AMB	AMB	02 02 07.5	
comp=Z,424nm,0.8s						
BER			eS	S	02 10 03.7	+1.0
BER			AMS	AMS	02 27 45.0	
comp=Z,28µm,14.1s						
SUE	Sulen	58.34 325⇑	iP	P	02 02 00.8	-0.1
SUE			AMB	AMB	02 02 07.1	
comp=Z,248nm,1.4s						
SUE			eS	S	02 10 05.6	+2.7
SUE			AMS	AMS	02 28 25.4	
comp=Z,24µm,16.9s						
ASK	Askoy	58.35 324	eP	P	02 02 00.5	-0.5
ASK			AMB	AMB	02 02 06.8	
comp=Z,403nm,1.2s						
BOJS	Bojanci	58.36 305	i P	P	02 02 02.1	+0.7
BOJS			ePP	PP	02 04 11.0	+0.7
BOJS			eS	S	02 10 06.8	+3.1
BOJS	Bojanci	58.36 305	ePdiff		02 04 21.7	
BOJS			ePP	PKiKP	02 09 13.3	-2.3
BOJS			eSKSac		02 14 14.1	
UDBI	Udbina	58.41 304	P	P	02 02 01.9	0.0
EGD	Espegrend	58.41 324	eP	P	02 02 00.2	-1.3
EGD			AMB	AMB	02 02 05.5	
comp=Z,288nm,2.3s						
OBKA	Obir	58.41 307	i P	P	02 02 02.3	+0.4
SNR=115						
WET	Wettzell	58.43 310	eP	P	02 02 02.7	+0.8
comp=Z,222nm,1.3s						
WET	Wettzell	58.43 310	eP	P	02 02 02.7	+0.8
WET			pmax	pmax		
comp=Z,222nm,1.3s						
MANZ	Manzenberg	58.58 311	eP	P	02 02 03.6	+0.7
comp=Z,193nm,1.4s						
ROTZ	Rotzenmuhle	58.60 311	eP	P	02 02 04.0	+0.9
comp=Z,289nm,1.1s						
LJU	Ljubljana	58.61 306	i P	P	02 02 03.6	+0.4
LJU			i PcP	pP	02 02 09.1	+2.0
LJU			ePP	PP	02 04 12.3	-0.2
LJU			eS	S	02 10 08.8	+1.8
MOX	Moxa	58.62 312	eP	P	02 02 03.6	+0.4
comp=Z,194nm,1.1s						
MOX			eS	S	02 10 10.1	+3.1
MOX			eL	L	02 26 57.5	
comp=Z,12µm,21.3s						
MOX	Moxa	58.62 312	eP	P	02 02 03.6	+0.4
MOX			eS	S	02 10 10.1	+3.1
MOX			pmax	pmax		
comp=Z,194nm,1.1s						
MOX			MLR	MLR		
comp=Z,12µm,21.3s						
STAV	Stavanger	58.68 323	eP	P	02 02 03.1	-0.2
STAV			AMB	AMB	02 02 07.9	
comp=Z,125nm,1.2s						
NRDL	Niedersach Rie	58.78 315	eP	P	02 02 05.2	+1.0
comp=Z,510nm,1.1s						
KMY	Karmoy	58.79 323⇑	iP	P	02 02 04.3	+0.1
KMY			eS	S	02 10 08.9	0.0
TNA	Tin City	58.87 29	eP	P	02 02 05.3	+0.7
comp=Z,503nm,1.4s						
CLZ	Clausthal	58.88 314	eP	P	02 02 05.6	+0.6
comp=Z,470nm,1.1s						
CLZ	Clausthal	58.88 314	eP	P	02 02 05.6	+0.6
CLZ			pmax	pmax		
comp=Z,470nm,1.1s						
DAG	Danmarks Havn	58.90 346⇑	iP	P	02 02 03.6	-1.1
DAG			i S	S	02 10 09.1	-0.7
DAG			MLR	MLR		
comp=Z,20µm,21.0s						
DAG	Danmarks Havn	58.90 346⇑	iP	P	02 02 03.6	-1.1
comp=Z,48nm,1.0s						
DAG			i S	S	02 10 09.1	-0.7
DAG						
comp=Z,19µm,20.0s						
MYKA	Terra Mystica	58.94 307	i P	P	02 02 05.6	+0.1
SNR=59						
KBA	Koelnbreinsper	58.95 308	i pP	P	02 02 06.1	+0.3
SNR=99						
JAVS	Javornik	58.97 306	i P	P	02 02 05.5	-0.3
JAVS			ePP	PP	02 04 15.6	-0.2
JAVS			eS	S	02 10 11.4	-0.5
NVLJ	Novalja	58.98 305	P	P	02 02 05.4	-0.3
VOY	Vojsko	59.02 306⇑	iP	P	02 02 05.7	-0.5
RJOB	Jochberg	59.03 309	eP	P	02 02 07.1	+0.9
comp=Z,263nm,1.4s						
GRF	Grafenberg Arr	59.22 311	eP	P	02 02 08.3	+0.9
comp=Z,427nm,1.1s						
GRF			eS	S	02 10 20.1	+5.2
GRF			eL	L	02 28 23.1	
comp=Z,24µm,19.4s						
GRF	Grafenberg Arr	59.22 311	eP	P	02 02 08.3	+0.9
GRF			eS	S	02 10 20.1	+5.2
GRF			pmax	pmax		
comp=Z,427nm,1.1s						
GRF			MLR	MLR		
comp=Z,24µm,19.4s						
GRFO	Grafenberg	59.22 311	eP	P	02 02 08.4	+1.0
GRFO			pmax	pmax		
comp=Z,257nm,0.8s						
GRFO	Grafenberg	59.22 311	eP	P	02 02 08.3	+1.0
comp=Z,257nm,0.8s						
TRI	Trieste	59.23 306	eP	P	02 02 06.9	-0.6
TRI			pmax	pmax		
comp=Z,201nm,0.9s						
TRI	Trieste	59.23 306	eP	P	02 02 06.9	-0.6
comp=Z,201nm,0.9s						
JMIC	Jan Mayen	59.28 338	eP	P	02 02 08.0	+0.6
JMIC			eS	S	02 10 16.7	+1.7
JMIC	Jan Mayen	59.28 338	LR	LR	02 29 28.9	
comp=Z,18µm,20.5s,baz=232,slow=38						
UBBA	Unterbreizbach	59.49 313	eP	P	02 02 09.4	+0.3
comp=Z,190nm,1.6s						
ABTA	Abfaltersbach	59.61 308	i P	P	02 02 09.7	-0.5
SNR=91						
FUR	Furstenfeldbru	59.80 310	eP	P	02 02 12.4	+1.0
comp=Z,597nm,1.1s						
FUR	Furstenfeldbru	59.80 310	eP	P	02 02 12.4	+1.0
FUR			pmax	pmax		
comp=Z,597nm,1.1s						
WNDE	Wendo Genet	59.86 255	eP	P	02 02 13.6	+1.1
WNDE			eS	S	02 10 18.4	-6.0
WTTA	Wattenberg	59.94 308	i pP	P	02 02 13.0	+0.4
SNR=184						
WATA	Walderalm	59.95 309	i pP	P	02 02 13.0	+0.4
SNR=96						
IBBN	Ibbenburen	60.18 315	eP	P	02 02 14.4	+0.5
comp=Z,287nm,1.3s						
MOTA	Moosalm	60.24 309	i P	P	02 02 14.8	+0.2
SNR=554						
CUC	Castrocucco	60.27 299	eP	P	02 02 14.4	-0.3
comp=Z,322nm,0.9s						
RETA	Reutte	60.39 309	i P	P	02 02 15.9	+0.4
SNR=81						
WIT	Witteveen	60.58 316	eP	P	02 02 18.0	+1.4
comp=Z,909nm,0.9s						
FETA	Feichten	60.61 309	i P	P	02 02 17.3	+0.1
SNR=184						
TNS	Taunus Mts	60.64 313	eP	P	02 02 17.7	+0.5
comp=Z,186nm,1.4s						
TNS	Taunus Mts	60.64 313	eP	P	02 02 17.7	+0.5
TNS			pmax	pmax		
comp=Z,186nm,1.4s						
STU	Stuttgart	60.81 311	eP	P	02 02 18.7	+0.4
comp=Z,270nm,1.1s						
STU	Stuttgart	60.81 311	eP	P	02 02 18.3	0.0
STU			pmax	pmax		
comp=Z,191nm,0.9s						
STU	Stuttgart	60.81 311	eP	P	02 02 18.3	0.0
comp=Z,191nm,0.9s						
BUG	Bochum--Univer	60.81 314	eP	P	02 02 18.8	+0.6
comp=Z,282nm,1.1s						
WTSB	Winterswijk	60.86 315	eP	P	02 02 19.2	+0.7
comp=Z,482nm,1.4s						
AQU	L'Aquila	60.88 303	eP	P	02 02 19.3	+0.4
comp=Z,302nm,1.0s						
AQU			LR	LR		
comp=Z,18µm,19.0s						
CEL	Celeste	60.98 298	eP	P	02 02 19.2	-0.5
comp=Z,438nm,0.9s						
CEL			LR	LR		
comp=Z,10µm,22.0s						
DAVA	Damuels	61.02 309	i P	P	02 02 20.1	+0.1
SNR=45						
DAVOX	Davos/Dischmat	61.24 309	LR	LR	02 30 28.7	
comp=Z,26µm,18.1s,baz=226,slow=38						
LRW	Lerwick	61.39 326⇑	eP	P	02 02 20.9	-1.0
LRW			AMB	AMB	02 02 26.8	
comp=Z,203nm,2.5s						
LRW			AMS	AMS	02 30 00.2	
comp=Z,25µm,17.5s						
BFO	Black Forest	61.52 311	eP	P	02 02 23.3	+0.2
comp=Z,244nm,1.1s						
BFO	Black Forest	61.52 311	eP	P	02 02 23.0	-0.1
BFO			e		02 04 37.3	
BFO			pmax	pmax		
comp=Z,195nm,1.0s						
BFO			MLR	MLR		
comp=Z,16µm,22.0s						
BFO	Black Forest	61.52 311	eP	P	02 02 23.0	-0.1
comp=Z,195nm,1.0s						
BFO			ePP	PP	02 04 37.3	-0.9
BFO			LR	LR		
comp=Z,16µm,22.0s						
LANF	Langenberg	61.55 312	eP	P	02 02 23.4	+0.1
TUE	Stuetta	61.70 308	eP	P	02 02 24.1	-0.6
comp=Z,250nm,0.9s						
TUE			LR	LR		
comp=Z,27µm,19.0s						
HGN	Heimansgroeve	61.87 314	eP	P	02 02 25.7	+0.4
comp=Z,291nm,1.3s						
HGN			eS	S	02 10 46.2	-2.4
MEM	Membach	61.89 314	P	P	02 02 26.2	+0.6
comp=Z,102nm,1.3s						
BEBN	Eben Emael	62.00 314	P	P	02 02 26.6	+0.4
comp=Z,42nm,1.2s						
VLC	Villacollemand	62.06 306	eP	P	02 02 27.1	+0.2
comp=Z,209nm,1.0s						
VLC			ePP	PP	02 04 44.2	+1.1
VLC			LR	LR		
comp=Z,13µm,20.0s						
CDF	Champ du Feu	62.11 311⇑	iP	P	02 02 27.2	0.0
comp=Z,270nm,0.9s						
CDF	Champ du Feu	62.11 311⇑	iP	P	02 02 27.2	0.0
CDF			pmax	pmax		
comp=Z,270nm,0.9s						
CDF	Champ du Feu	62.11 311⇑	iP	P	02 02 27.2	0.0
comp=Z,270nm,0.9s						
WLF	Walferdange	62.22 313	P	P	02 02 28.6	+0.8
comp=Z,295nm,1.4s						
WLF	Walferdange	62.22 313	eP	P	02 02 28.9	+1.1
comp=Z,484nm,1.2s						
WLF	Walferdange	62.22 313	eP	P	02 02 28.5	+0.7
WLF			pmax	pmax		
comp=Z,335nm,1.0s						
WLF			MLR	MLR		
comp=Z,14µm,20.0s						
WLF	Walferdange	62.22 313	eP	P	02 02 28.5	+0.7
comp=Z,335nm,1.0s						
WLF			LR	LR		
comp=Z,14µm,20.0s						
ECH	Echery	62.27 311	eP	P	02 02 28.0	-0.2
ECH			pmax	pmax		
comp=Z,120nm,1.0s						
ECH			MLR	MLR		
comp=Z,15µm,22.0s						
ECH	Echery	62.27 311	eP	P	02 02 28.0	-0.2
comp=Z,120nm,1.0s						
ECH			LR	LR		
comp=Z,15µm,22.0s						
ECH	Echery	62.27 311	eP	P	02 02 28.1	-0.2
BCLA	Clavier	62.38 314	P	P	02 02 29.4	+0.6
comp=Z,58nm,1.2s						
MOF	Molkenrain	62.45 311	eP	P	02 02 29.3	-0.2
HINF	Hinteralfeld	62.63 311⇑	iP	P	02 02 30.6	0.0
comp=Z,355nm,1.1s						
HINF	Hinteralfeld	62.63 311⇑	iP	P	02 02 30.6	0.0
HINF			pmax	pmax		
comp=Z,355nm,1.1s						
HINF	Hinteralfeld	62.63 311⇑	iP	P	02 02 30.6	0.0
comp=Z,355nm,1.1s						
MBWA	Marble Bar	62.71 155	eP	P	02 02 32.3	+1.0
comp=Z,208nm,0.8s						
MBWA			LR	LR		
comp=Z,10µm,20.0s						
GIVF	Givet	62.80 314⇑	iP	P	02 02 32.1	+0.5
comp=Z,329nm,0.9s						
GIVF	Givet	62.80 314⇑	iP	P	02 02 32.1	+0.5
GIVF			pmax	pmax		
comp=Z,329nm,0.9s						
GIVF	Givet	62.80 314⇑	iP	P	02 02 32.1	+0.5
comp=Z,329nm,0.9s						
HAU	Haudompre	62.85 311⇑	iP	P	02 02 32.1	0.0
comp=Z,310nm,1.1s						
HAU			eR			
comp=Z,20µm,21.8s						
HAU	Haudompre	62.85 311⇑	iP	P	02 02 32.1	0.0
HAU			pmax	pmax		
comp=Z,310nm,1.1s						
HAU	Haudompre	62.85 311⇑	iP	P	02 02 32.1	0.0
comp=Z,310nm,1.1s						
LOMF	Lomont	62.86 310	eP	P	02 02 31.9	-0.3
DOU	Dourbes	62.93 314	P	P	02 02 32.9	+0.4
comp=Z,86nm,1.2s						

THEF They Montfort 62.97 311 *eP* **P 02 02 32.9 +0.1**
PAGF Fort de Pagny 62.97 312⇑*iP* **P 02 02 33.5 +0.7**
comp=Z,166nm,1.0s,baz=52
PAGF Fort de Pagny 62.97 312⇑*iP* **P 02 02 33.5 +0.7**
comp=Z,166nm,1.0s
WDD Wield Dalam 63.05 296 *eP* **P 02 02 32.8 -0.8**
comp=Z,315nm,0.9s
WDD LR LR
comp=Z,3µm,21.0s
BAIF Baives 63.17 314⇑*iP* **P 02 02 34.7 +0.6**
comp=Z,338nm,0.9s
BAIF Baives 63.17 314⇑*iP* **P 02 02 34.7 +0.6**
BAIF pmax pmax
comp=Z,338nm,0.9s
BAIF Baives 63.17 314⇑*iP* **P 02 02 34.7 +0.6**
comp=Z,338nm,0.9s
MEZF Maizieres J'vi 63.39 312⇑*iP* **P 02 02 36.1 +0.5**
comp=Z,408nm,1.0s,baz=58
MEZF Maizieres J'vi 63.39 312⇑*iP* **P 02 02 36.1 +0.5**
comp=Z,408nm,1.0s
DRUM Mains of Drumt 63.49 323⇑*eP* **P 02 02 36.1 0.0**
DRUM AMB AMB 02 02 37.0
comp=Z,183nm,1.3s
DRUM AMS AMS 02 31 19.8
comp=Z,15µm,15.5s
MME1 Meikle Cairn 63.52 323⇑*iP* **P 02 02 36.2 -0.2**
MCD Coleburn Disti 63.53 324⇑*iP* **P 02 02 36.8 +0.4**
SFTF Sexfontaines 63.54 312⇑*iP* **P 02 02 36.7 +0.1**
comp=Z,350nm,0.9s,baz=73
SFTF Sexfontaines 63.54 312⇑*iP* **P 02 02 36.7 +0.1**
comp=Z,350nm,0.9s
WAKE Wake Island 63.57 85 PFAKE 02 02 50.0 +13
WAKE LR LR
comp=Z,6µm,19.0s
CABF La Chapelle 63.65 310⇑*iP* **P 02 02 37.3 -0.2**
comp=Z,150nm,1.0s
CABF La Chapelle 63.65 310⇑*iP* **P 02 02 37.3 -0.2**
CABF pmax pmax
comp=Z,151nm,1.0s
CABF La Chapelle 63.65 310⇑*iP* **P 02 02 37.3 -0.2**
comp=Z,150nm,1.0s
PGF Pioggiola 63.70 305⇑*iP* **P 02 02 38.3 +0.4**
comp=Z,770nm,1.2s
PGF Pioggiola 63.70 305⇑*iP* **P 02 02 38.3 +0.4**
PGF pmax pmax
comp=Z,770nm,1.2s
PGF Pioggiola 63.70 305⇑*iP* **P 02 02 38.3 +0.4**
comp=Z,770nm,1.2s
LPG La Plagne 63.76 308⇑*iP* **P 02 02 39.1 +0.7**
comp=Z,494nm,0.9s
LPG La Plagne 63.76 308⇑*iP* **P 02 02 39.1 +0.7**
LPG pmax pmax
comp=Z,494nm,0.9s
LPG La Plagne 63.76 308⇑*iP* **P 02 02 39.1 +0.7**
comp=Z,494nm,0.9s
LPL La Plagne 63.76 308⇑*iP* **P 02 02 39.0 +0.6**
comp=Z,554nm,0.9s
LPL La Plagne 63.76 308⇑*iP* **P 02 02 39.0 +0.6**
LPL pmax pmax
comp=Z,554nm,0.9s
LPL La Plagne 63.76 308⇑*iP* **P 02 02 39.0 +0.6**
comp=Z,554nm,0.9s
IMA2 Indian Mountai 63.77 25 *eP* **P 02 02 38.0 0.0**
MVH1 Achvaich 63.80 324⇑*iP* **P 02 02 37.8 -0.3**
SAOF Saorge 63.96 307 *eP* **P 02 02 39.7 +0.2**
BNI Bardonecchia 64.01 308 *eP* **P 02 02 39.6 -0.3**
BNI pmax pmax
comp=Z,122nm,0.9s
BNI MLR MLR
comp=Z,19µm,20.0s
BNI Bardonecchia 64.01 308 *eP* **P 02 02 39.6 -0.3**
comp=Z,122nm,0.9s
BNI LR LR
comp=Z,19µm,20.0s
AUTN L'Aution 64.03 307 *eP* **P 02 02 40.3 +0.1**
ESY Stoneypath 64.03 322⇑*eP* **P 02 02 39.5 -0.3**
LMK Market Rasen 64.06 319⇑*eP* **P 02 02 40.3 +0.4**
LMK AMB AMB 02 02 46.7
comp=Z,581nm,0.9s
SBF Sospel 64.09 307⇑*iP* **P 02 02 40.6 +0.2**
comp=Z,744nm,0.9s
SBF Sospel 64.09 307⇑*iP* **P 02 02 40.6 +0.2**
SBF pmax pmax
comp=Z,744nm,0.9s
SBF Sospel 64.09 307⇑*iP* **P 02 02 40.6 +0.2**
comp=Z,744nm,0.9s
MENF Mencas 64.10 315 *eP* **P 02 02 39.5 -0.7**
MBDF Montbardon 64.10 308⇑*iP* **P 02 02 40.1 -0.5**
comp=Z,210nm,0.8s
MBDF Montbardon 64.10 308⇑*iP* **P 02 02 40.1 -0.5**
MBDF pmax pmax
comp=Z,210nm,0.8s
MBDF Montbardon 64.10 308⇑*iP* **P 02 02 40.1 -0.5**
comp=Z,210nm,0.8s
MDO Dochfour 64.12 324⇑*iP* **P 02 02 40.1 -0.2**
LUCF Luceram 64.13 307 *eP* **P 02 02 41.0 +0.3**
TOUF Mont Tournerai 64.14 307 *eP* **P 02 02 40.8 -0.1**
REVF Revere 64.19 306 *eP* **P 02 02 41.0 0.0**
SURF Saint Ours 64.19 307⇑*eP* **P 02 02 41.1 -0.1**
COLD Coldfoot 64.23 23 *eP* **P 02 02 41.3 +0.4**
MVIF Mont Vial 64.26 307 *eP* **P 02 02 41.4 -0.2**
GDM Grand'Maison 64.29 308⇑*eP* **P 02 02 42.3 +0.5**
EDI Edinburgh 64.31 322⇑*eP* **P 02 02 40.9 -0.6**
EDI AMB AMB 02 02 42.0
comp=Z,175nm,1.7s
EDI AMS AMS 02 31 56.8
comp=Z,13µm,17.4s
EBL Broad Law 64.32 322⇑*iP* **P 02 02 41.2 -0.4**
XAL Allendale 64.35 321⇑*eP* **P 02 02 41.5 -0.4**
ELSH Elham, Standar 64.39 316⇑*eP* **P 02 02 42.4 +0.3**
ELSH AMS AMS 02 32 14.6
comp=Z,31µm,15.7s
CALN Calern 64.49 307 *eP* **P 02 02 43.3 +0.2**
HPK Haverah Park 64.50 320⇑*eP* **P 02 02 42.6 -0.2**
HPK AMB AMB 02 02 43.7
comp=Z,236nm,1.4s
HPK AMS AMS 02 32 47.1
comp=Z,18µm,15.0s
GRN Grenoble 64.50 308⇑*eP* **P 02 02 43.9 +0.8**
KAC Achnashellach 64.53 324⇑*eP* **P 02 02 42.4 -0.6**
ORIF Oris-en-Rattie 64.57 308⇑*iP* **P 02 02 43.7 +0.1**
comp=Z,399nm,0.9s
ORIF *e*R
comp=Z,36µm,17.8s
ORIF Oris-en-Rattie 64.57 308⇑*iP* **P 02 02 43.7 +0.1**
ORIF pmax pmax
comp=Z,399nm,0.9s
ORIF Oris-en-Rattie 64.57 308⇑*iP* **P 02 02 43.7 +0.1**
comp=Z,399nm,0.9s
EKA Eskdalemuir Ar 64.59 321 LR LR 02 32 15.0
comp=Z,17µm,21.6s,baz=45,slow=37
ESK Eskdalemuir 64.62 321⇑*eP* **P 02 02 43.4 -0.2**
ESK AMB AMB 02 02 45.1
comp=Z,176nm,1.4s
ESK Eskdalemuir 64.62 321 *i* **P P 02 02 44.0 +0.4**
ESK Eskdalemuir 64.62 321 *eP* **P 02 02 43.4 -0.2**
comp=Z,162nm,1.1s
ESK LR LR
comp=Z,18µm,20.0s
ECK Cauldkaine Hil 64.65 321⇑*eP* **P 02 02 42.9 -0.8**
LOR Lormes 64.68 311⇑*iP* **P 02 02 43.6 -0.5**
comp=Z,191nm,0.9s,baz=54
LOR *e*R
comp=Z,22µm,23.0s
LOR Lormes 64.68 311⇑*iP* **P 02 02 43.6 -0.5**
comp=Z,191nm,0.9s
FRF La Foret Royal 64.74 307⇑*iP* **P 02 02 44.4 -0.1**
comp=Z,259nm,1.0s
FRF La Foret Royal 64.74 307⇑*iP* **P 02 02 44.4 -0.1**
FRF pmax pmax
comp=Z,259nm,1.0s
FRF La Foret Royal 64.74 307⇑*iP* **P 02 02 44.4 -0.1**
comp=Z,259nm,1.0s
EAB Aberfoyle 64.74 323⇑*iP* **P 02 02 44.0 -0.4**
KPL Plockton 64.78 324⇑*eP* **P 02 02 44.1 -0.4**
KPL AMS AMS 02 32 01.4
comp=Z,25µm,15.1s
KBI1 Birley Grange 64.79 319⇑*eP* **P 02 02 43.7 -1.1**
VSL Villasalto 64.90 301 *eP* **P 02 02 45.5 -0.1**
comp=Z,202nm,0.9s
VSL LR LR
comp=Z,9µm,21.0s
LMR La Mourre 64.94 306⇑*iP* **P 02 02 45.9 +0.1**
comp=Z,413nm,1.2s
LMR La Mourre 64.94 306⇑*iP* **P 02 02 45.9 +0.1**
LMR pmax pmax
comp=Z,413nm,1.2s
LMR La Mourre 64.94 306⇑*iP* **P 02 02 45.9 +0.1**
comp=Z,413nm,1.2s
KESW Keswick, Cumbr 64.94 321⇑*eP* **P 02 02 45.3 -0.3**
KESW AMB AMB 02 02 46.6
comp=Z,238nm,1.4s
KESW AMS AMS 02 31 58.7
comp=Z,13µm,18.2s
HMNX Herstmonceux 64.96 316⇑*eP* **P 02 02 46.4 +0.6**
HMNX AMB AMB 02 02 47.4
comp=Z,588nm,1.3s
SMF Signal de Mont 64.99 311⇑*iP* **P 02 02 46.1 -0.1**
comp=Z,557nm,0.9s
SMF Signal de Mont 64.99 311⇑*iP* **P 02 02 46.1 -0.1**
SMF pmax pmax
comp=Z,557nm,0.9s
SMF Signal de Mont 64.99 311⇑*iP* **P 02 02 46.1 -0.1**
comp=Z,557nm,0.9s
SSF Saint Saulge 64.99 311⇑*iP* **P 02 02 45.9 -0.3**
comp=Z,226nm,1.2s
SSF Saint Saulge 64.99 311⇑*iP* **P 02 02 45.9 -0.3**
SSF pmax pmax
comp=Z,226nm,1.2s
SSF Saint Saulge 64.99 311⇑*iP* **P 02 02 45.9 -0.3**
comp=Z,226nm,1.2s
PGBU Glenifferbraes 65.00 322⇑*eP* **P 02 02 46.1 +0.1**
PGBU AMB AMB 02 02 53.9
comp=Z,249nm,1.4s
PGBU AMS AMS 02 32 17.9
comp=Z,14µm,14.8s
SKP1 Kophill 65.17 317⇑*iP* **P 02 02 47.1 -0.1**
AVF Avril sur Loir 65.22 311⇑*iP* **P 02 02 47.5 -0.1**
comp=Z,572nm,1.2s
AVF Avril sur Loir 65.22 311⇑*iP* **P 02 02 47.5 -0.1**
AVF pmax pmax
comp=Z,572nm,1.2s
AVF Avril sur Loir 65.22 311⇑*iP* **P 02 02 47.5 -0.1**
comp=Z,572nm,1.2s
SMRF Simiane la Rot 65.22 307⇑*iP* **P 02 02 47.9 +0.2**
comp=Z,140nm,1.0s
SMRF Simiane la Rot 65.22 307⇑*iP* **P 02 02 47.9 +0.2**
comp=Z,140nm,1.0s
STNC Stoke 65.23 319⇑*eP* **P 02 02 47.8 +0.3**
STNC AMB AMB 02 02 53.6
comp=Z,301nm,2.5s
SSB Saint Sauveur 65.23 309 *eP* **P 02 02 47.5 -0.3**
SSB pmax pmax
comp=Z,85nm,0.9s
SSB MLR MLR
comp=Z,12µm,19.0s
SSB Saint Sauveur 65.23 309 *eP* **P 02 02 47.5 -0.3**
comp=Z,85nm,0.9s
SSB LR LR
comp=Z,12µm,19.0s
VIVF Saint-Julien-l 65.35 309⇑*iP* **P 02 02 48.6 0.0**
comp=Z,401nm,1.0s
VIVF Saint-Julien-l 65.35 309⇑*iP* **P 02 02 48.6 0.0**
VIVF pmax pmax
comp=Z,401nm,1.0s
VIVF Saint-Julien-l 65.35 309⇑*iP* **P 02 02 48.6 0.0**
comp=Z,401nm,1.0s
HYF Humbligny 65.41 312⇑*iP* **P 02 02 49.1 +0.2**
HYF Humbligny 65.41 312⇑*iP* **P 02 02 49.1 +0.2**
SUMG Summit 65.57 346 *eP* **P 02 02 49.0 -1.0**
SUMG pmax pmax
comp=Z,362nm,1.3s
SUMG Summit 65.57 346⇑*iP* **P 02 02 49.5 -0.5**
comp=Z,155nm,1.0s
SUMG
comp=Z,18µm,19.0s
SUMG Summit 65.57 346 *eP* **P 02 02 49.0 -1.0**
comp=Z,362nm,1.3s
WOL Wolverton 65.60 317⇑*eP* **P 02 02 49.8 -0.1**
WOL AMB AMB 02 02 51.0
comp=Z,302nm,1.5s
WOL AMS AMS 02 33 34.5
comp=Z,26µm,14.2s
GAL1 Galloway 65.60 321⇑*eP* **P 02 02 49.8 -0.1**
GAL1 AMB AMB 02 02 50.9
comp=Z,174nm,1.5s
GAL1 AMS AMS 02 32 55.8
comp=Z,13µm,16.9s
SSW Stow on the Wo 65.60 318⇑*eP* **P 02 02 49.7 -0.3**
BGF Bois d'Agland 65.63 311⇑*iP* **P 02 02 50.2 -0.1**
comp=Z,256nm,0.9s
BGF Bois d'Agland 65.63 311⇑*iP* **P 02 02 50.2 -0.1**
BGF pmax pmax
comp=Z,256nm,0.9s
BGF Bois d'Agland 65.63 311⇑*iP* **P 02 02 50.2 -0.1**
comp=Z,256nm,0.9s
AGO Saint Agoulin 65.71 310 *eP* **P 02 02 50.3 -0.6**
SWN1 Swindon 65.81 317⇑*eP* **P 02 02 51.0 -0.3**
SWN1 AMB AMB 02 02 52.3
comp=Z,353nm,1.3s
SWN1 AMS AMS 02 33 15.6
comp=Z,26µm,16.8s
FOEL Foel Wylfa 65.85 319⇑*eP* **P 02 02 51.6 0.0**
FOEL AMB AMB 02 02 58.8
comp=Z,342nm,1.0s
FOEL AMS AMS 02 33 40.1
comp=Z,27µm,16.3s
BPAW Bear Paw Mtn. 65.85 26 *eP* **P 02 02 51.7 +0.2**
comp=Z,906nm,1.3s
SBD1 Bryn Du 65.87 319 AMS AMS 02 34 37.6
comp=Z,30µm,15.1s
HLM1 Long Mynd 65.87 319⇑*eP* **P 02 02 51.7 0.0**
HLM1 AMB AMB 02 02 52.8
comp=Z,321nm,1.3s
PYM Petit Puy Mans 65.94 310 *eP* **P 02 02 51.6 -0.8**
WPM1 Penmaenmawr 66.02 320⇑*eP* **P 02 02 52.5 -0.2**
LBL Lubilhac 66.05 309 *eP* **P 02 02 52.3 -0.8**
PPLA Purkeypile 66.14 28 *eP* **P 02 02 53.9 +0.4**
comp=Z,2µm,1.3s
TCF Toulx Ste Croi 66.15 311⇑*iP* **P 02 02 53.9 +0.2**
comp=Z,778nm,1.2s
TCF Toulx Ste Croi 66.15 311⇑*iP* **P 02 02 53.9 +0.2**
TCF pmax pmax
comp=Z,778nm,1.2s
TCF Toulx Ste Croi 66.15 311⇑*iP* **P 02 02 53.9 +0.2**
comp=Z,778nm,1.2s
WME Myndd Eilian 66.15 320⇑*eP* **P 02 02 53.2 -0.3**
MCH1 Michaelchurch 66.20 318⇑*eP* **P 02 02 52.1 -1.7**
MCH1 AMB AMB 02 02 58.2
comp=Z,290nm,1.0s
MCH1 AMS AMS 02 33 33.8
comp=Z,35µm,16.2s
YLL Llanberis 66.22 320⇑*eP* **P 02 02 53.6 -0.3**
LASF Ste Croix 66.25 308⇑*iP* **P 02 02 54.8 +0.5**
comp=Z,471nm,1.1s
LASF Ste Croix 66.25 308⇑*iP* **P 02 02 54.8 +0.5**
comp=Z,471nm,1.1s
WLF1 Llynfaes 66.26 320⇑*eP* **P 02 02 53.2 -1.0**
WLF1 AMB AMB 02 02 55.1
comp=Z,227nm,1.4s
KMBO Kilima Mbogo 66.26 249⇓*iP* **P 02 02 55.8 +0.7**
KMBO Kilima Mbogo 66.26 249 P **P 02 02 55.9 +0.7**
SNR=123
KMBO Kilima Mbogo 66.26 249 P **P 02 02 55.7 +0.7**
KMBO P'P' 02 31 25.7
KMBO LR LR
comp=Z,6µm,22.0s
KMBO Kilima Mbogo 66.26 249 P **P 02 02 55.7 +0.7**
comp=Z,140nm,0.8s,baz=55,slow=8.2,SNR=179
KMBO PKPPKP **P'P'df** **02 31 25.7 -1.9**
comp=Z,12nm,1.2s,baz=302,slow=5.7,SNR=5.5
KMBO Kilima Mbogo 66.26 249 P **P 02 02 56.0 +1.0**
baz=86,SNR=91
LDF La Druitiere 66.36 314⇑*iP* **P 02 02 54.8 -0.1**
comp=Z,299nm,0.9s
LDF La Druitiere 66.36 314⇑*iP* **P 02 02 54.8 -0.1**
LDF pmax pmax
comp=Z,299nm,0.9s
LDF La Druitiere 66.36 314⇑*iP* **P 02 02 54.8 -0.1**
comp=Z,299nm,0.9s
YRC Rhoscolyn 66.37 320⇑*eP* **P 02 02 54.3 -0.6**
YRE Yr Eifl 66.43 320⇑*eP* **P 02 02 54.6 -0.7**
COLA College 66.44 25 *eP* **P 02 02 55.2 +0.1**
COLA MLR MLR
comp=Z,20µm,19.0s
COLA College 66.44 25 *eP* **P 02 02 55.2 +0.1**
comp=Z,2µm,1.0s
COLA LR LR
comp=Z,20µm,19.0s
FLN La Foliniere 66.48 314⇑*iP* **P 02 02 55.5 -0.2**
comp=Z,369nm,1.0s,baz=64
FLN *e*R
comp=Z,26µm,17.8s
FLN La Foliniere 66.48 314⇑*iP* **P 02 02 55.5 -0.2**
FLN pmax pmax
comp=Z,369nm,1.0s
FLN La Foliniere 66.48 314⇑*iP* **P 02 02 55.5 -0.2**
comp=Z,369nm,1.0s
TRF Thorofare Moun 66.49 27 *eP* **P 02 02 55.0 -0.8**
comp=Z,573nm,0.9s
GMM Mts of Mourne 66.54 321⇑*eP* **P 02 02 55.2 -0.8**
LPW Lampeter 66.70 319⇑*eP* **P 02 02 57.0 0.0**
LPW AMB AMB 02 03 01.8
comp=Z,1µm,2.5s
LPW AMS AMS 02 34 11.0
comp=Z,378µm,16.6s
BORG Borgarnes 66.75 335 *eP* **P 02 02 58.3 +1.2**
comp=Z,117nm,1.1s
KEST Kesra 66.79 298 *eP* **P 02 02 58.0 0.0**
KEST ⇑*e* 02 31 30.4
KEST Kesra 66.79 298 P **P 02 02 58.2 +0.2**
comp=Z,43nm,1.0s,baz=347,slow=1.5,SNR=53
KEST PKP2bc 02 31 30.4
comp=Z,3.9nm,1.2s,baz=14,slow=8.3,SNR=3.7
MCK McKinley 66.79 26 *eP* **P 02 02 57.4 -0.1**
MCK pmax pmax
comp=Z,384nm,0.9s
MCK McKinley 66.79 26 *eP* **P 02 02 57.4 -0.1**
comp=Z,384nm,0.9s
ILAR Eielson Array 66.83 24 P **P 02 02 56.9 -0.8**
ILAR P'P' 02 31 23.5
ILAR Eielson Array 66.83 24 P **P 02 02 56.9 -0.8**
comp=Z,113nm,1.0s,baz=293,slow=5.2,SNR=533
ILAR PKPPKP P'P'df 02 31 23.5 -11
comp=Z,4.8nm,1.0s,baz=141,slow=1.0,SNR=5.1
ILAR LR LR 02 35 45.6
comp=Z,21µm,18.4s,baz=262,slow=39
GRR Gorron 66.88 314⇑*iP* **P 02 02 58.2 -0.1**
comp=Z,499nm,0.9s
GRR Gorron 66.88 314⇑*iP* **P 02 02 58.2 -0.1**
GRR pmax pmax
comp=Z,499nm,0.9s
GRR Gorron 66.88 314⇑*iP* **P 02 02 58.2 -0.1**
comp=Z,499nm,0.9s
CAF Calviac 66.93 310⇑*iP* **P 02 02 59.3 +0.6**
comp=Z,331nm,1.1s
CAF Calviac 66.93 310⇑*iP* **P 02 02 59.3 +0.6**
CAF pmax pmax
comp=Z,331nm,1.1s
CAF Calviac 66.93 310⇑*iP* **P 02 02 59.3 +0.6**
comp=Z,331nm,1.1s
SDPT Sand Point 66.94 37 *eP* **P 02 02 57.0 -1.5**
comp=Z,59nm,0.6s
PMG Port Moresby 67.06 123 *eP* **P 02 03 00.5 +0.7**
comp=Z,408nm,1.1s
PMG LR LR
comp=Z,5µm,20.0s
PMG Port Moresby 67.06 123 P **P 02 03 00.4 +0.6**
comp=Z,149nm,0.8s,baz=326,slow=3.6,SNR=3.5
RJF Les Rejaudoux 67.07 310⇑*iP* **P 02 03 00.1 +0.6**
comp=Z,602nm,1.2s
RJF *e*R
comp=Z,17µm,23.0s
RJF Les Rejaudoux 67.07 310⇑*iP* **P 02 03 00.1 +0.6**
RJF pmax pmax
comp=Z,602nm,1.2s
RJF Les Rejaudoux 67.07 310⇑*iP* **P 02 03 00.1 +0.6**
comp=Z,602nm,1.2s
JSA Saint Aubin 67.21 315⇑*eP* **P 02 02 60.0 -0.3**
JSA AMB AMB 02 03 01.2
comp=Z,261nm,1.3s
RSO Redoubt South 67.38 30 *eP* **P 02 03 01.4 -0.1**
comp=Z,842nm,1.0s
MFF Saint Martin d 67.39 312⇑*iP* **P 02 03 01.6 +0.1**
comp=Z,503nm,1.1s
MFF Saint Martin d 67.39 312⇑*iP* **P 02 03 01.6 +0.1**
MFF pmax pmax
comp=Z,503nm,1.1s
MFF Saint Martin d 67.39 312⇑*iP* **P 02 03 01.6 +0.1**
comp=Z,503nm,1.1s
HTL Hartland 67.52 318 AMS AMS 02 34 27.1
comp=Z,33µm,16.7s
DYA Yadsworthy 67.52 317⇑*eP* **P 02 03 02.1 -0.1**
DYA AMB AMB 02 03 02.9
comp=Z,198nm,1.3s
MTLF Montolieu 67.64 308⇑*iP* **P 02 03 03.5 +0.3**
comp=Z,334nm,1.5s
MTLF Montolieu 67.64 308⇑*iP* **P 02 03 03.5 +0.3**
MTLF pmax pmax
comp=Z,334nm,1.5s
MTLF Montolieu 67.64 308⇑*iP* **P 02 03 03.5 +0.3**
comp=Z,334nm,1.5s
LRDF Laroque-de-Fa 67.65 308⇑*eP* **P 02 03 04.7 +1.4**
SJAF Saint Jean de 67.67 307⇑*eP* **P 02 03 03.1 -0.3**
CMAH Djebel Manchou 67.67 300 P **P 02 03 03.0 -0.6**
RES Resolute Bay 67.70 3 P **P 02 03 02.9 -0.2**
RES Resolute Bay 67.70 3 P **P 02 03 02.9 -0.2**
comp=Z,155nm,1.0s,baz=355,slow=4.4
RES LR LR 02 32 48.3
comp=Z,15µm,21.1s,baz=155,slow=36
LFF La Frestale 67.73 310⇑*iP* **P 02 03 04.3 +0.6**
comp=Z,390nm,0.9s
LFF La Frestale 67.73 310⇑*iP* **P 02 03 04.3 +0.6**
LFF pmax pmax
comp=Z,390nm,0.9s
LFF La Frestale 67.73 310⇑*iP* **P 02 03 04.3 +0.6**
comp=Z,390nm,0.9s
ABSA Djebel Ababsia 67.81 299 P **P 02 03 04.0 -0.5**
WRAB Tennant Creek 67.83 141 PFAKE 02 03 20.0 +15
WRAB LR LR
comp=Z,8µm,20.0s
FILF Fillols 67.83 307⇑*eP* **P 02 03 05.1 +0.6**
WRA Warramunga Arr 67.83 141 P **P 02 03 04.6 0.0**
WRA ⇑*e* 02 31 25.1
WRA Warramunga Arr 67.83 141 P **P 02 03 04.6 0.0**
comp=Z,126nm,0.9s,baz=340,slow=6.5,SNR=2.6
WRA PKP2bc 02 31 25.1
comp=Z,8.8nm,1.0s,baz=141,slow=3.7,SNR=7.4
SGMF Saint Gilles 67.92 314⇑*iP* **P 02 03 05.3 +0.5**
comp=Z,606nm,1.2s
SGMF Saint Gilles 67.92 314⇑*iP* **P 02 03 05.3 +0.5**
SGMF pmax pmax
comp=Z,606nm,1.2s
SGMF Saint Gilles 67.92 314⇑*iP* **P 02 03 05.3 +0.5**
comp=Z,606nm,1.2s
CAEH 'Ain El Ouahch 67.98 300 P **P 02 03 05.0 -0.5**
CARF Carcanieres 68.04 308⇑*eP* **P 02 03 05.8 0.0**
PMR Palmer 68.08 28 *eP* **P 02 03 04.9 -0.6**
PMR pmax pmax
comp=Z,469nm,1.1s
PMR Palmer 68.08 28 *eP* **P 02 03 04.9 -0.6**
comp=Z,469nm,1.1s
INK Inuvik 68.13 18 *eP* **P 02 03 05.7 -0.1**
comp=Z,359nm,1.1s
INK Inuvik 68.13 18 P **P 02 03 05.3 -0.5**
comp=Z,146nm,1.0s,baz=319,slow=6.1,SNR=105
INK LR LR 02 36 08.8
comp=Z,8µm,19.8s,baz=236,slow=39
SML Sawmill 68.23 27 *eP* **P 02 03 06.5 -0.1**
SML Sawmill 68.23 27 *eP* **P 02 03 06.5 -0.1**
comp=Z,12nm,0.3s
VALF Valcebollere 68.26 307⇑*eP* **P 02 03 07.8 +0.5**
CKFL Kef-Lekhel 68.27 300 P **P 02 03 06.5 -0.9**
ROSF Rostrenen 68.28 315⇑*iP* **P 02 03 07.5 +0.4**
comp=Z,673nm,1.2s
ROSF Rostrenen 68.28 315⇑*iP* **P 02 03 07.5 +0.4**
ROSF pmax pmax
comp=Z,673nm,1.2s
ROSF Rostrenen 68.28 315⇑*iP* **P 02 03 07.5 +0.4**
comp=Z,673nm,1.2s
CCA1 Carnmenellis 68.35 317⇑*eP* **P 02 03 07.4 -0.1**
CCA1 AMB AMB 02 03 08.3
comp=Z,167nm,2.9s
QUIF Quistinic 68.44 314⇑*iP* **P 02 03 08.4 +0.3**
comp=Z,357nm,0.9s
QUIF Quistinic 68.44 314⇑*iP* **P 02 03 08.4 +0.3**
QUIF pmax pmax
comp=Z,357nm,0.9s
QUIF Quistinic 68.44 314⇑*iP* **P 02 03 08.4 +0.3**
comp=Z,357nm,0.9s
PAX Paxson 68.48 25 *eP* **P 02 03 07.9 -0.4**
PAX pmax pmax
comp=Z,165nm,1.0s
PAX Paxson 68.48 25 *eP* **P 02 03 07.9 -0.4**
comp=Z,165nm,1.0s
CASM Ain Smara 68.50 300 P **P 02 03 08.0 -0.8**
EGAK Eagle 68.64 23 *eP* **P 02 03 09.2 +0.1**
comp=Z,15µm,1.3s

EGAK LR LR
comp=Z,15µm,21.0s
CTEI Djebel Teioual 68.66 300 P **P 02 03 09.0 -0.9**
DFRA Djebel Bou Aff 68.77 300 P **P 02 03 10.0 -0.6**
EPF Esparros 68.98 309⇑ *iP* **P 02 03 11.2 -0.4**
comp=Z,112nm,1.0s
EPF Esparros 68.98 309⇑ *iP* **P 02 03 11.2 -0.4**
EPF pmax pmax
comp=Z,112nm,1.0s
EPF Esparros 68.98 309⇑ *iP* **P 02 03 11.2 -0.4**
comp=Z,112nm,1.0s
KDAK Kodiak Island 69.09 32 P **P 02 03 11.8 -0.1**
comp=Z,3µm,1.2s,SNR=30
KDAK Kodiak Island 69.09 32 *eP* **P 02 03 11.2 -0.8**
comp=Z,1µm,1.4s
KDAK Kodiak Island 69.09 32 P **P 02 03 11.1 -0.8**
comp=Z,3µm,1.2s,SNR=30
KDAK Kodiak Island 69.09 32 P **P 02 03 11.6 -0.3**
comp=Z,333nm,1.0s,baz=291,slow=4.3,SNR=45
KDAK LR LR 02 36 43.5
comp=Z,44µm,18.2s,baz=306,slow=39
KDAK Kodiak Island 69.09 32 S **SKiKP 02 12 59.2 -3.1**
comp=Z,52nm,1.1s,baz=288,slow=20,SNR=6.1
RESF Ens 69.09 308⇑ *eP* **P 02 03 13.2 +0.7**
OHAK Old Harbor 69.13 33 *eP* **P 02 03 11.7 -0.5**
comp=Z,987nm,1.3s
LABF Labassere 69.13 309⇑ *eP* **P 02 03 12.3 -0.3**
VIEF Viey 69.25 309⇑ *eP* **P 02 03 14.1 +0.7**
SET Setif 69.28 300 P **P 02 03 11.0 -2.7**
CKHR Kef el Ahmar 69.30 300 P **P 02 03 14.0 +0.1**
REYF Montagne du Re 69.41 309⇑ *eP* **P 02 03 14.1 -0.2**
ATE Arette 69.59 309⇑ *eP* **P 02 03 15.2 -0.2**
ETSF Etsaut 69.60 309⇑ *iP* **P 02 03 16.2 +0.7**
comp=Z,340nm,0.9s
ETSF Etsaut 69.60 309⇑ *iP* **P 02 03 16.2 +0.7**
ETSF pmax pmax
comp=Z,340nm,0.9s
ETSF Etsaut 69.60 309⇑ *iP* **P 02 03 16.2 +0.7**
comp=Z,340nm,0.9s
DIV Divide 69.61 27 *eP* **P 02 03 15.3 +0.1**
comp=Z,373nm,0.9s
ORDF Ordiarp 69.67 309⇑ *eP* **P 02 03 15.7 -0.1**
DAWY Dawson 69.69 23 *eP* **P 02 03 15.3 -0.3**
LARF Larrau 69.79 309⇑ *eP* **P 02 03 17.2 +0.5**
OSSF Osses 69.84 309⇑ *eP* **P 02 03 17.0 +0.1**
SJPF Ste Jean 69.90 309⇑ *iP* **P 02 03 16.5 -0.8**
comp=Z,234nm,0.9s
SJPF Ste Jean 69.90 309⇑ *iP* **P 02 03 16.5 -0.8**
SJPF pmax pmax
comp=Z,234nm,0.9s
SJPF Ste Jean 69.90 309⇑ *iP* **P 02 03 16.5 -0.8**
comp=Z,234nm,0.9s
VAL Valentia 69.97 321 *eP* **P 02 03 18.5 +1.0**
VAL Valentia 69.97 321⇑ *iS* **S 02 12 30.6 +3.2**
BMRM Bremner River 70.14 27 *eP* **P 02 03 18.7 +0.3**
comp=Z,654nm,1.0s
AKET Djebel Ketaf 70.40 301 P **P 02 03 21.5 +0.8**
ABA Alger-Bouzarea 70.57 302 P **P 02 03 22.0 +0.5**
ADJB Djebel Djouab 70.65 301 P **P 02 03 22.6 +0.5**
ASAR Alice Springs 70.77 143 P **P 02 03 21.8 -0.9**
ASAR P'P' 02 31 21.2
ASAR Alice Springs 70.77 143 P **P 02 03 21.8 -0.9**
comp=Z,37nm,0.6s,baz=326,slow=5.8,SNR=3.5
ASAR PKPPKP P'P'df 02 31 21.2 +5.9
comp=Z,6.5nm,1.0s,baz=143,slow=0.6,SNR=4.1
MBAR Mbarara 70.81 254 LR LR 02 39 01.3
comp=Z,8µm,19.4s,baz=42,slow=40
EMHD Djebel Mahouad 70.95 301 P **P 02 03 24.7 +0.7**
MIDW Midway 71.07 69 PFAKE 02 03 40.0 +15
MIDW LR LR
comp=Z,7µm,20.0s
EBNR Beni Rached 71.86 302 P **P 02 03 30.0 +0.6**
ECHA Ech Chlef 72.05 302 P **P 02 03 31.0 +0.6**
OPO Ambohidratompo 72.22 228 LR LR 02 32 33.5
comp=Z,26µm,18.4s,baz=71,slow=34
EANR 'Ain N'Sour 72.34 302 P **P 02 03 32.4 +0.1**
ETRT Tiaret 72.52 301 P **P 02 03 34.3 +0.9**
ABPO Ambohimpanom 72.54 228 PFAKE 02 03 50.0 +16
ABPO LR LR
comp=Z,18µm,20.0s
SFJD Kangerlussuaq 72.55 347⇑ *iP* **P 02 03 32.0 -0.9**
comp=Z,130nm,0.9s
SFJD
comp=Z,16µm,24.0s
SFJD Kangerlussuaq 72.55 347 *eP* **P 02 03 31.6 -1.3**
comp=Z,285nm,1.1s
SFJD Kangerlussuaq 72.55 347 LR LR 02 38 20.3
comp=Z,20µm,20.1s,baz=28,slow=38
HYT Haines Junctio 72.67 24 *eP* **P 02 03 34.4 +0.5**
NWAO Narrogin (SRO) 73.03 161 LR LR 02 35 03.2
comp=Z,15µm,22.0s,baz=343,slow=35
ESDC Sonseca Array 73.53 308 P **P 02 03 39.3 +0.1**
ESDC Sonseca Array 73.53 308 P **P 02 03 39.3 +0.1**
comp=Z,101nm,0.8s,baz=47,slow=5.5,SNR=222
ESLA Sonseca Array 73.53 308 *eP* **P 02 03 39.4 +0.2**
comp=Z,29nm,0.9s
PAB San Pablo 73.85 308 *eP* **P 02 03 41.2 0.0**
PAB pmax pmax
comp=Z,538nm,0.9s
PAB MLR MLR
comp=Z,13µm,21.0s
PAB San Pablo 73.85 308 *eP* **P 02 03 41.2 0.0**
comp=Z,538nm,0.9s
PAB LR LR
comp=Z,13µm,21.0s
PBRG Braganca 74.00 311 *iP* **P 02 03 42.4 +0.5**
comp=Z,153nm,1.2s
SKAG Skagway 74.42 24 *eP* **P 02 03 45.0 +1.1**
comp=Z,424nm,1.2s
FORT Forrest 74.49 151 *eP* **P 02 03 45.4 +0.7**
comp=Z,1µm,0.9s
MVO Moncorvo 74.55 310 *iP* **P 02 03 45.8 +0.6**
comp=Z,193nm,1.1s
PGAV Gavieira, Arco 74.82 311 *iP* **P 02 03 47.5 +0.7**
comp=Z,239nm,2.7s
PGAV Gavieira, Arco 74.82 311 *ePP* PP 02 06 33.6 0.0
PCAB Cabril 74.83 311 *iP* **P 02 03 47.6 +0.8**
comp=Z,323nm,1.1s
MTE Manteigas 75.32 310 *iP* **P 02 03 50.8 +1.1**
comp=Z,306nm,1.2s
MTE Manteigas 75.32 310 *eP* **P 02 03 50.1 +0.4**
comp=Z,165nm,0.9s
PVIS Viseu 75.35 310 *iP* **P 02 03 50.5 +0.7**
comp=Z,164nm,1.2s
PCBR Castelo Branco 75.62 309 *iP* **P 02 03 51.8 +0.5**
comp=Z,135nm,2.0s
PCBR Castelo Branco 75.62 309 *ePP* PP 02 06 39.2 -1.1
PMRV Marv??o 75.81 309 *iP* **P 02 03 53.2 +0.7**
comp=Z,320nm,1.2s
PCAS Casmilo, Conde 76.11 310 *iP* **P 02 03 54.8 +0.7**
comp=Z,232nm,1.2s
SIT Sitka 76.27 26 *eP* **P 02 03 55.7 +1.1**
SIT pmax pmax
comp=Z,410nm,1.1s
SIT Sitka 76.27 26 *eP* **P 02 03 55.7 +1.1**
comp=Z,410nm,1.1s
PESTR Estremoz 76.28 309 *iP* **P 02 03 55.4 +0.3**
comp=Z,235nm,1.2s
PESTR Estremoz 76.28 309 *ePP* PP 02 06 45.0 -0.9
PTOM Tomar 76.33 310 *iP* **P 02 03 55.9 +0.6**
comp=Z,240nm,1.2s
PBAR Barrancos 76.35 308 *iP* **P 02 03 56.0 +0.5**
comp=Z,252nm,1.2s
PBAR Barrancos 76.35 308 *ePP* PP 02 06 47.3 +0.7
PMTG Montargil 76.55 309 *iP* **P 02 03 57.1 +0.5**
comp=Z,163nm,1.2s
PMTG Montargil 76.55 309 *ePP* PP 02 06 48.2 0.0
TAM Tamanrasset 76.62 288 *eP* **P 02 03 57.8 +0.3**
TAM pmax pmax
comp=Z,96nm,1.0s
TAM MLR MLR
comp=Z,3µm,21.0s
TAM Tamanrasset 76.62 288 *eP* **P 02 03 57.8 +0.3**
comp=Z,96nm,1.0s
TAM LR LR
comp=Z,3µm,21.0s
ALMR Almeirim 76.71 309 *eP* **P 02 03 58.2 +0.7**
ALMR Almeirim 76.71 309 *eP* **P 02 03 58.2 +0.7**
EVO Evora 76.74 309⇑ *iP* **P 02 03 58.8 +1.1**
comp=Z,429nm,1.1s
EVO *eR*
comp=Z,17µm,19.2s
EVOP Sao Brissos 76.81 309⇑ *iP* **P 02 03 58.8 +0.7**
EVOP pmax pmax
comp=Z,429nm,1.1s
EVOP Sao Brissos 76.81 309⇑ *iP* **P 02 03 58.8 +0.7**
comp=Z,429nm,1.1s
DLBC Dease Lake 76.91 23 *eP* **P 02 03 59.4 +1.0**
PBEJ Beja 76.96 308 *iP* **P 02 03 59.8 +0.8**
comp=Z,174nm,1.1s
PACT Alcochete 77.11 309 *eP* **P 02 04 00.3 +0.6**
comp=Z,347nm,1.2s
YKW3 Yellowknife Ar 77.17 14 *eP* **P 02 03 58.9 -0.7**
comp=Z,5.9nm,1.2s
YKA Yellowknife Ar 77.23 14 P **P 02 03 59.0 -1.0**
YKA ⇑*e* 02 31 04.0
YKA Yellowknife Ar 77.23 14 P **P 02 03 59.0 -1.0**
comp=Z,66nm,0.9s,baz=336,slow=5.5,SNR=146
YKA PKP2bc 02 31 04.0
comp=Z,1.9nm,0.9s,baz=160,slow=2.2,SNR=4.1
PVAQ Vaqueiros 77.25 307 *iP* **P 02 04 01.3 +0.7**
comp=Z,214nm,1.2s
PMAFR Mafra 77.27 309 *iP* **P 02 04 01.3 +0.6**
comp=Z,387nm,2.6s
PNCL Nicolau / Gran 77.32 308 *iP* **P 02 04 02.0 +1.0**
comp=Z,227nm,1.1s
LIS Lisbon 77.33 309 *eP* **P 02 04 01.4 +0.4**
LIS AMb AMB 02 04 03.7
comp=Z,339nm,1.4s
LIS *ePP* **PP 02 06 54.9 +0.1**
LIS *eS* **S 02 13 51.0 +0.1**
LIS Lisbon 77.33 309 *eP* **P 02 04 01.4 +0.4**
LIS *e* 02 06 54.9
LIS *eS* **S 02 13 51.0 +0.1**
PMST Lisbon--Monsan 77.34 309 *iP* **P 02 04 02.2 +1.1**
comp=Z,340nm,1.1s
PBDV Barranco-do-Ve 77.48 307 *iP* **P 02 04 02.9 +1.0**
comp=Z,335nm,1.3s
PBDV Barranco-do-Ve 77.48 307 *ePP* PP 02 06 56.1 0.0
PTEO Sao Teotonio 77.79 308 *iP* **P 02 04 04.0 +0.4**
comp=Z,340nm,2.5s
WRAK Wrangell Islan 77.79 25 *eP* **P 02 04 04.6 +1.4**
comp=Z,531nm,1.3s
WRAK LR LR
comp=Z,18µm,19.0s
MORF Marmelete 77.89 308 *iP* **P 02 04 05.0 +0.7**
comp=Z,241nm,1.3s
MORF Marmelete 77.89 308 *eP* **P 02 04 04.2 -0.1**
MORF *e* 02 06 59.8
MORF *eS* **S 02 13 57.8 +0.6**
PFVI Vila Bisbo 78.11 308 *eP* **P 02 04 06.1 +0.7**
comp=Z,304nm,1.1s
PFVI Vila Bisbo 78.11 308 *ePP* PP 02 07 02.0 +0.7
CRAG Craig 78.28 26 *eP* **P 02 04 06.1 +0.1**
comp=Z,341nm,1.2s
RTC Rabat Centre 78.78 304 *eP* **P 02 04 09.6 +0.5**
comp=Z,245nm,0.8s
RTC LR LR
comp=Z,5µm,20.0s
LSZ Lusaka 82.37 244 *eP* **P 02 04 28.5 -0.2**
comp=Z,118nm,1.1s
LSZ LR LR
comp=Z,12µm,20.0s
FCC Fort Churchill 83.58 5 *eP* **P 02 04 32.7 -1.4**
FCC pmax pmax
comp=Z,11nm,1.1s
FCC Fort Churchill 83.58 5 *eP* **P 02 04 32.7 -1.4**
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 85.26 283 P **P 02 04 42.9 -0.5**
TORD Torodi Ar. Bea 85.26 283 P **P 02 04 42.9 -0.5**
comp=Z,76nm,0.9s,baz=35,slow=4.6,SNR=224
PMPST Porto Santo, M 85.42 309 *iP* **P 02 04 44.8 +0.8**
comp=Z,368nm,1.9s
EDM Edmonton 86.02 17 *eP* **P 02 04 46.4 -0.3**
EDM Edmonton 86.02 17 *eP* **P 02 04 46.4 -0.3**
FUL Funchal 86.05 309 *eP* **P 02 04 47.9 +0.8**
comp=Z,292nm,2.6s
PMOZ Po Moniz, M 86.12 309 *iP* **P 02 04 48.8 +1.2**
comp=Z,540nm,1.1s
SCHQ Schefferville 86.66 350 *eP* **P 02 04 48.9 -0.8**
comp=Z,221nm,1.0s
SCHQ Schefferville 86.66 350 P **P 02 04 48.8 -1.0**
comp=Z,98nm,0.9s,baz=14,slow=6.2,SNR=31
SCHQ LR LR 02 46 20.6
comp=Z,10µm,19.5s,baz=24,slow=38
FFC Flin Flon 86.72 10 *eP* **P 02 04 48.9 -1.1**
FFC pmax pmax
comp=Z,685nm,1.4s
FFC MLR MLR
comp=Z,9µm,20.0s
FFC Flin Flon 86.72 10 *eP* **P 02 04 48.9 -1.1**
comp=Z,685nm,1.4s
FFC LR LR
comp=Z,9µm,20.0s
CMLA Cha da Macela 87.45 317 *eP* **P 02 04 54.8 +0.9**
CMLA pmax pmax
comp=Z,92nm,0.9s
CMLA MLR MLR
comp=Z,5µm,21.0s
CMLA Cha da Macela 87.45 317 *eP* **P 02 04 54.8 +0.9**
comp=Z,92nm,0.9s
CMLA LR LR
comp=Z,5µm,21.0s
CAN Canberra 87.81 139 PFAKE 02 05 10.0 +15
CAN LR LR
comp=Z,5µm,22.0s
CMW Cultus Mountai 87.90 24 P **P 02 04 57.0 +1.0**
NLWA Neilton Lookou 88.21 26 PFAKE 02 05 10.0 +13
NLWA LR LR
comp=Z,8µm,20.0s
KIP Kipapa 89.17 63⇑ *iP* **P 02 05 03.0 +0.7**
KIP pmax pmax
comp=Z,306nm,1.2s
KIP Kipapa 89.17 63 PFAKE 02 05 10.0 +7.7
KIP LR LR
comp=Z,8µm,21.0s
BMW Boistfort Moun 89.22 26 P **P 02 05 03.4 +1.2**
BMW Boistfort Moun 89.22 26 P **P 02 05 03.4 +1.2**
RCS Mount Rainier- 89.39 25 P **P 02 05 04.3 +1.0**
TWW Teanaway 89.43 24 P **P 02 05 04.4 +1.1**
LON Longmire 89.47 25 *eP* **P 02 05 03.5 +0.1**
LON pmax pmax
comp=Z,210nm,1.3s
LON Longmire 89.47 25 *eP* **P 02 05 03.5 +0.1**
comp=Z,210nm,1.3s
NEW Newport 89.57 21 PFAKE 02 05 20.0 +16
NEW LR LR
comp=Z,27µm,19.0s
NEW Newport 89.57 21⇑ P **P 02 05 04.4 +0.6**
baz=89,SNR=105
WPW White Pass 89.60 25 P **P 02 05 05.0 +1.0**
WALA Waterton Lakes 89.72 19 *eP* **P 02 05 04.4 -0.2**
comp=Z,7.2nm,1.2s
LBTB Lobatse 90.66 239 *eP* **P 02 05 08.8 -0.4**
comp=Z,40nm,0.9s
YBMT Yellow Bay 90.80 20 *eP* **P 02 05 09.9 +0.2**
comp=Z,238nm,1.1s
COR Corvallis 90.83 27 *eP* **P 02 05 11.2 +1.5**
COR pmax pmax
comp=Z,865nm,1.6s
COR Corvallis 90.83 27 *eP* **P 02 05 11.2 +1.5**
comp=Z,865nm,1.6s
JTMT Jette 90.83 20 *eP* **P 02 05 10.4 +0.5**
comp=Z,47nm,1.2s
VFP Flag Point 90.84 25 P **P 02 05 10.9 +1.0**
A18A Metzger Ranch, 90.84 17⇑ P **P 02 05 09.0 -0.7**
baz=90,SNR=67
A19A Klindworth Far 91.08 16⇓ P **P 02 05 10.6 -0.2**
baz=91,SNR=16
SWMT Swartz Lake 91.13 20 *eP* **P 02 05 11.4 +0.2**
comp=Z,392nm,1.1s
B17A L&G Farms, Che 91.21 17⇓ P **P 02 05 11.0 -0.5**
baz=91,SNR=66
A20A Cobblestone Ra 91.30 15⇑ P **P 02 05 11.4 -0.5**
baz=91,SNR=51
B18A Beardsley Farm 91.35 17⇓ P **P 02 05 11.5 -0.6**
baz=91,SNR=38
A21A Bergtoll Ranch 91.40 15⇓ P **P 02 05 11.6 -0.7**
baz=91,SNR=31
B19A Brinkman Farms 91.48 16⇓ P **P 02 05 12.1 -0.6**
baz=91,SNR=19
SLMT Seeley Lake 91.51 19 *eP* **P 02 05 12.9 -0.1**
comp=Z,92µm,1.2s
A22A Carney Farms, 91.60 14⇑ P **P 02 05 12.5 -0.7**
baz=91,SNR=22
B20A Solberg Farm, 91.70 16⇓ P **P 02 05 12.8 -0.8**
baz=91,SNR=16
EGMT Eagleton 91.70 17 *eP* **P 02 05 13.1 -0.7**
comp=Z,550nm,0.3s
EGMT LR LR
comp=Z,8µm,19.0s
EGMT Eagleton 91.70 17⇑ P **P 02 05 13.1 -0.7**
baz=91,SNR=59
MSO Missoula 91.77 20⇑ P **P 02 05 14.1 0.0**
baz=91,SNR=84
A23A Redstone 91.82 13⇓ P **P 02 05 14.0 -0.2**
baz=91,SNR=6.5
C17A Wharram Farm, 91.83 18⇓ P **P 02 05 13.5 -0.9**
baz=92,SNR=24
ULM Lac du Bonnet 91.86 7 *eP* **P 02 05 12.0 -2.3**
comp=Z,261nm,1.4s
ULM Lac du Bonnet 91.86 7 P **P 02 05 12.0 -2.3**
comp=Z,31nm,0.9s,baz=348,slow=6.6,SNR=19
ULM LR LR 02 47 08.3
comp=Z,14µm,21.6s,baz=26,slow=36
CHMT Chamberlain Mo 91.88 19 *eP* **P 02 05 14.2 -0.6**
comp=Z,570nm,0.8s
B21A Ellsworth Farm 91.92 15⇓ P **P 02 05 14.2 -0.5**
baz=92
KEBM Edson Butte 91.93 28 *eP* **P 02 05 16.0 +1.1**
comp=Z,495nm,1.5s
A24A Westby 92.02 13⇓ P **P 02 05 15.2 0.0**
baz=92,SNR=29
C19A Slack Wire Ran 92.14 16⇓ P **P 02 05 15.4 -0.4**
baz=92,SNR=37
A25A Svangstu Ranch 92.16 12⇓ P **P 02 05 15.9 +0.2**
baz=92,SNR=20
B22A Reddig Ranch S 92.24 14⇑ P **P 02 05 16.5 +0.2**
baz=92,SNR=16
B23A Brockton 92.28 14⇑ P **P 02 05 16.0 -0.4**
baz=92,SNR=23
D17A Six Diamond Ra 92.30 18⇓ P **P 02 05 16.0 -0.6**
baz=92,SNR=56
A26A Wade Farm, Ken 92.37 12⇓ P **P 02 05 16.6 -0.2**
baz=92
C20A Veseth Ranch, 92.39 16⇓ P **P 02 05 16.2 -0.7**
baz=92,SNR=25
DGMT Dagmar 92.42 13 *eP* **P 02 05 16.6 -0.4**
comp=Z,352nm,1.1s
DGMT LR LR
comp=Z,12µm,22.0s
DGMT Dagmar 92.42 13⇑ P **P 02 05 17.0 0.0**
baz=92,SNR=21
HRY Holter Researc 92.43 19 *eP* **P 02 05 17.1 -0.2**
comp=Z,9µm,0.6s
D18A Linhart Farms, 92.47 17⇑ P **P 02 05 17.2 -0.2**
baz=92,SNR=29
C21A Desert Coulee 92.47 15⇑ P **P 02 05 16.6 -0.7**
baz=92,SNR=14
BMO Blue Mountains 92.60 23 PFAKE 02 05 30.0 +12
BMO LR LR
comp=Z,10µm,20.0s
TSUM Tsumeb 92.60 248 *eP* **P 02 05 18.8 +0.5**
comp=Z,33nm,1.0s
TSUM LR LR
comp=Z,9µm,19.0s
A28A Rude Farm, Bot 92.63 11⇓ P **P 02 05 17.6 -0.4**
baz=92,SNR=15
D19A Cripps Ranch, 92.71 17⇑ P **P 02 05 18.2 -0.3**
baz=92,SNR=41
A29A Manning Farm, 92.76 10⇑ P **P 02 05 17.6 -1.0**
baz=92,SNR=37
B25A Knox Farm, Ray 92.79 13⇓ P **P 02 05 19.4 +0.6**
baz=92,SNR=13
C22A Vida 92.80 14⇑ P **P 02 05 18.7 -0.1**
baz=92,SNR=25
B26A Jensen Ranch, 92.85 12⇓ P **P 02 05 19.1 +0.1**
baz=92
A30A Hoffart Farm, 92.87 9⇓ P **P 02 05 18.1 -1.0**
baz=92
C23A Lambert 92.88 14⇑ P **P 02 05 19.3 +0.1**
baz=92,SNR=35
TAU Tasmania Unive 92.89 145 PFAKE 02 05 30.0 +11
TAU LR LR
comp=Z,6µm,21.0s
E17A Martinsdale 92.91 18⇓ P **P 02 05 19.3 -0.2**
baz=92,SNR=30
D20A Manuel Ranch, 92.95 16⇑ P **P 02 05 18.8 -0.8**
baz=93,SNR=24
B27A Peters Farms, 92.97 11⇓ P **P 02 05 19.6 0.0**
baz=93,SNR=16
E18A Harlowton 93.04 17⇓ P **P 02 05 19.9 -0.1**
baz=93,SNR=24
B28A Dugan Ranch, T 93.07 11⇓ P **P 02 05 19.6 -0.3**
baz=93,SNR=19
LRM Limekiln Ridge 93.10 19 *eP* **P 02 05 20.1 -0.4**
comp=Z,1µm,1.4s
B29A Wagenman Farm, 93.19 10⇑ P **P 02 05 20.1 -0.5**
baz=93,SNR=18
D21A La Casta Ranch 93.22 15⇑ P **P 02 05 20.0 -0.8**
baz=93,SNR=12
BOSA Boshof 93.27 236 *eP* **P 02 05 21.3 +0.1**
comp=Z,51nm,1.0s
BOSA Boshof 93.27 236 P **P 02 05 21.5 +0.3**
comp=Z,28nm,0.9s,baz=59,slow=5.0,SNR=2.9
C24A Savage 93.28 14⇑ P **P 02 05 20.9 -0.1**
baz=93
D22A Cohagen 93.31 15⇓ P **P 02 05 21.1 0.0**
baz=93,SNR=21
C25A Freed Ranch, W 93.32 13⇑ P **P 02 05 21.5 +0.4**
baz=93,SNR=15
B30A Myrvik Farm, E 93.35 9⇓ P **P 02 05 20.6 -0.6**
baz=93,SNR=36
E19A Rath Farm, Rou 93.40 17⇓ P **P 02 05 21.4 -0.2**
baz=93,SNR=48
C26A Wahner Farm, P 93.40 12⇑ P **P 02 05 22.0 +0.5**
baz=93
BOZ Bozeman (W) 93.47 19 *eP* **P 02 05 21.9 -0.2**
BOZ pmax pmax
comp=Z,105nm,1.3s
BOZ MLR MLR
comp=Z,11µm,20.0s
BOZ Bozeman (W) 93.47 19 *eP* **P 02 05 21.9 -0.2**
comp=Z,105nm,1.3s
BOZ LR LR
comp=Z,11µm,20.0s
F17A Fitzpatrick Pl 93.47 18⇓ P **P 02 05 22.3 +0.2**
baz=93,SNR=44
D23A Lindsay 93.48 14⇑ P **P 02 05 22.2 +0.2**
baz=93
DLMT Dillon 93.48 20 *eP* **P 02 05 22.0 -0.1**
comp=Z,265nm,1.6s
E20A Meyer Farm, Mu 93.50 16⇑ P **P 02 05 21.8 -0.3**
baz=93,SNR=36
YBH Yreka Blue Hor 93.53 28 LR LR 02 48 15.9
comp=Z,17µm,21.8s,baz=335,slow=36
C27A Sayler Ranch, 93.61 12⇑ P **P 02 05 22.6 +0.1**
baz=93
D24A Glendive 93.70 14⇓ P **P 02 05 23.2 +0.2**
baz=93,SNR=13
E21A Keefer Ranch, 93.70 16⇓ P **P 02 05 23.1 +0.1**
baz=93
F18A Big Timber 93.70 18⇑ P **P 02 05 23.0 -0.1**
baz=93,SNR=58
LAO LASA Array 93.74 15 *eP* **P 02 05 23.2 0.0**
comp=Z,226nm,1.6s
LAO LR LR
comp=Z,18µm,19.0s
C28A Hausauer Farms 93.78 11⇓ P **P 02 05 23.5 +0.2**
baz=93
AGMN Agassiz Nation 93.79 8 *eP* **P 02 05 22.3 -1.0**
comp=Z,120nm,1.1s
AGMN LR LR
comp=Z,15µm,19.0s
GCMT Greycliff 93.82 18 *eP* **P 02 05 23.6 0.0**
comp=Z,43nm,0.9s
D25A Fairfield 93.85 13⇑ P **P 02 05 24.1 +0.4**
baz=94,SNR=17
KHMM Horse Mountain 93.88 29 *eP* **P 02 05 23.2 -0.8**
comp=Z,80nm,1.3s
MCMT McKenzie Canyo 93.91 20 *eP* **P 02 05 24.0 -0.3**
comp=Z,28nm,0.6s
F19A Roth Farm, Mol 93.94 17⇑ P **P 02 05 23.9 -0.2**
baz=94,SNR=42
G17A Pierce Place, 94.00 18⇑ P **P 02 05 24.9 +0.3**
baz=94,SNR=33
E22A Miles City 94.03 15⇑ P **P 02 05 24.0 -0.5**
baz=94,SNR=22
C30A Mose, Pekin 94.06 10⇓ P **P 02 05 23.7 -0.9**
baz=94
E23A Ismay 94.10 14⇓ P **P 02 05 24.9 +0.1**
baz=94
F20A Billings 94.17 17⇓ P **P 02 05 24.9 -0.4**
baz=94,SNR=16
D27A Center 94.19 12⇓ P **P 02 05 25.8 +0.6**
baz=94
E24A Baker 94.24 14⇓ P **P 02 05 25.3 -0.2**
baz=94
D28A Regan 94.26 11⇑ P **P 02 05 25.5 0.0**
baz=94,SNR=22
QLMT Earthquake Lak 94.28 19 *eP* **P 02 05 25.9 0.0**

comp=Z,20nm,1.7s
G18A Lazy EL Ranch, 94.29 18 ⇓P P 02 05 25.2 -0.7
baz=94
DBIC Dimbokro 94.30 282 eP P 02 05 25.8 -0.4
comp=Z,56nm,0.8s
DBIC Dimbokro 94.30 282 P P 02 05 25.7 -0.5
comp=Z,71nm,1.0s,baz=27,slow=7.1,SNR=48
DBIC LR LR 02 55 05.9
comp=Z,6µm,19.4s,baz=292,slow=40
WVOR Wild Horse Val 94.34 25 PFAKE 02 05 40.0 +14
WVOR LR LR
comp=Z,9µm,21.0s
F21A Absaloka Mine, 94.37 16 ⇓P P 02 05 25.5 -0.6
baz=94
KIC Kosan Boka 94.41 281 ePKP2 P 02 05 26.2 -0.5
comp=Z,172nm,0.9s
TIC Toumodi 94.45 282 ePKP2 P 02 05 26.2 -0.7
comp=Z,125nm,1.1s
H16A Russell Place, 94.45 19 ⇑P P 02 05 26.5 -0.1
baz=94
E25A Miller Ranch, 94.46 13 ⇑P P 02 05 26.5 0.0
baz=94
EYMN Ely 94.52 5 eP P 02 05 25.9 -0.7
comp=Z,121nm,1.1s
EYMN LR LR
comp=Z,19µm,19.0s
D29A Pettibone, Tap 94.53 10 ⇓P P 02 05 26.1 -0.7
baz=94,SNR=11
RLMT Red Lodge 94.55 17 eP P 02 05 26.5 -0.6
comp=Z,6µm,1.6s
RLMT LR LR
comp=Z,15µm,20.0s
YMR Madison River 94.55 19 eP P 02 05 28.0 +0.8
comp=Z,105nm,1.5s
YNR Norris Junctio 94.58 19 eP P 02 05 28.4 +1.1
comp=Z,76nm,1.4s
F22A Rosebud 94.60 15 ⇓P P 02 05 26.6 -0.6
baz=94,SNR=21
D30A Buchanan 94.61 10 ⇓P P 02 05 26.3 -0.8
baz=94,SNR=28
HLID Hailey 94.64 22 eP P 02 05 28.1 +0.6
comp=Z,53nm,1.2s
HLID LR LR
comp=Z,9µm,19.0s
HLID Hailey 94.64 22 ⇑P P 02 05 27.3 -0.2
baz=94
E26A Carlson Angus 94.66 13 ⇑P P 02 05 27.4 0.0
baz=94,SNR=8.6
G20A Bridger 94.70 17 ⇓P P 02 05 26.9 -0.8
baz=94,SNR=42
LIC Lamto 94.71 282 eP P 02 05 27.3 -0.8
comp=Z,96nm,0.9s,baz=55
LIC eR
comp=Z,9µm,21.2s
LIC Lamto 94.71 282 ePKP2 P 02 05 27.3 -0.8
comp=Z,137nm,0.9s
LIC Lamto 94.71 282 eP P 02 05 27.3 -0.8
comp=Z,96nm,0.9s
MSVF Nonsavu 94.75 109 PFAKE 02 05 40.0 +12
MSVF LR LR
comp=Z,3µm,20.0s
YFT Old Faithful 94.79 19 eP P 02 05 30.0 +1.7
comp=Z,124nm,1.2s
LKWY Lake 94.79 18 eP P 02 05 29.7 +1.4
LKWY pmax pmax
comp=Z,126nm,1.0s
LKWY MLR MLR
comp=Z,30µm,20.0s
LKWY Lake 94.79 18 eP P 02 05 29.6 +1.4
comp=Z,126nm,1.0s
LKWY LR LR
comp=Z,30µm,20.0s
F23A Volborg 94.83 15 ⇓P P 02 05 27.4 -0.8
baz=94,SNR=13
E28A Huff 94.84 11 ⇑P P 02 05 28.0 -0.2
baz=94
E27A Carson 94.85 12 ⇓P P 02 05 28.0 -0.2
baz=94
H18A Shoshone NF, C 94.87 18 ⇓P P 02 05 28.6 -0.1
baz=94
KIPM Iron Peak 94.90 29 eP P 02 05 28.8 +0.1
comp=Z,56nm,1.0s
F24A Ekalaka 94.90 14 ⇑P P 02 05 28.4 -0.1
baz=94
H17A Grant Village 94.91 19 ⇑P P 02 05 29.4 +0.5
baz=94
G21A Lodge Grass 94.92 16 ⇓P P 02 05 28.4 -0.3
baz=94
F25A Bowman 95.01 13 ⇑P P 02 05 29.3 +0.3
baz=95
E29A Napoleon 95.01 11 ⇓P P 02 05 28.1 -0.8
baz=95,SNR=13
H19A Powell 95.04 17 ⇓P P 02 05 29.5 +0.2
baz=95
G22A Birney 95.13 15 ⇓P P 02 05 29.6 0.0
baz=95
I16A Newdale 95.16 19 ⇓P P 02 05 30.7 +0.8
baz=95
FLWY Flagg Ranch 95.17 19 eP P 02 05 30.6 +0.7
comp=Z,285nm,1.4s
E30A Jud 95.18 10 ⇑P P 02 05 28.7 -1.1
baz=95,SNR=13
F26A Lodgepole 95.22 13 ⇑P P 02 05 29.9 -0.1
baz=95,SNR=16
IMW Indian Meadow 95.28 19 eP P 02 05 31.2 +0.6
comp=Z,144nm,1.2s
F27A Lemmon 95.31 12 ⇑P P 02 05 30.3 -0.1
baz=95,SNR=18
G23A Biddle 95.33 15 ⇓P P 02 05 30.0 -0.5
baz=95
G24A Alzada 95.40 14 ⇑P P 02 05 30.0 -0.9
baz=95,SNR=13
F28A McLaughlin 95.54 12 ⇓P P 02 05 31.3 -0.1
baz=95
LOHW Long Hollow 95.63 19 eP P 02 05 32.6 +0.4
comp=Z,74nm,1.4s
TPAW Teton Pass 95.66 19 eP P 02 05 31.9 -0.4
comp=Z,49nm,1.2s
RRI2 Red Ridge 95.69 19 eP P 02 05 31.9 -0.5
comp=Z,79nm,1.4s
F29A Eureka 95.70 11 ⇓P P 02 05 31.7 -0.5
baz=95
G25A Newell 95.72 14 ⇑P P 02 05 31.7 -0.6
baz=95
SNOW Snow King Moun 95.73 19 eP P 02 05 33.7 +1.0
comp=Z,89nm,1.6s
HOPS Hopland 95.76 29 eP P 02 05 32.6 +0.2
comp=Z,49nm,1.0s
G26A Maurine 95.77 13 ⇓P P 02 05 32.5 0.0
baz=95,SNR=15
REDW Red Top Meadow 95.80 19 eP P 02 05 32.2 -0.7
comp=Z,55nm,1.4s
G27A Dupree 95.81 12 ⇓P P 02 05 32.2 -0.5
baz=95,SNR=21
G28A Parade 96.27 12 ⇓P P 02 05 34.5 -0.2
baz=96
AHID Auburn Hatcher 96.29 20 PFAKE 02 05 50.0 +15
AHID LR LR
comp=Z,10µm,20.0s
PKME Peaks-Kenny Pk 96.35 349 eP P 02 05 35.3 +0.3
comp=Z,159nm,1.5s
PKME LR LR
comp=Z,13µm,20.0s
H26A Fairpoint 96.40 13 ⇓P P 02 05 34.8 -0.5
baz=96
COWI Conover 96.49 3 eP P 02 05 34.6 -1.1
comp=Z,81nm,1.3s
COWI LR LR
comp=Z,15µm,21.0s
I23A Meade Ranch, G 96.50 15 ⇓P P 02 05 35.7 -0.2
baz=96
H27A Howes 96.50 13 ⇓P P 02 05 35.2 -0.6
baz=96
BMN Battle Mountai 96.60 25 eP P 02 05 34.2 -2.3
comp=Z,70nm,1.4s
BMN LR LR
comp=Z,15µm,21.0s
EMMW East Machias 96.61 348 eP P 02 05 35.8 -0.4
comp=Z,93nm,1.1s
RSSD Black Hills 96.64 14 eP P 02 05 36.3 -0.4
comp=Z,123nm,1.2s
H28A Mission Ridge 96.64 12 ⇓P P 02 05 36.1 -0.4
baz=96
BW06 Boulder Array 96.69 18 eP P 02 05 35.9 -1.0
comp=Z,243nm,1.5s
BW06 LR LR
comp=Z,13µm,20.0s
PDAR Pinedale Array 96.69 18 P P 02 05 35.9 -1.1
PDAR P'P' 02 30 32.4
PDAR Pinedale Array 96.69 18 P P 02 05 35.9 -1.1
comp=Z,6.2nm,1.0s,baz=30,slow=2.2,SNR=32
PDAR PKPPKP P'P'df 02 30 32.4 -7.1
comp=Z,1.6nm,0.9s,baz=142,slow=7.5,SNR=3.6
PDAR LR LR 02 53 26.1
comp=Z,11µm,19.0s,baz=22,slow=38
HVU Hansel Valley 96.75 21 eP P 02 05 37.0 -0.1
comp=Z,43nm,1.3s
I24A Kummerle Ranc 96.77 15 ⇓P P 02 05 36.5 -0.6
baz=96
I25A Rochford 96.79 14 ⇑P P 02 05 37.4 0.0
baz=96
J22A Midwest 96.81 16 ⇓P P 02 05 36.7 -0.6
baz=96
I26A New Underwood 96.95 13 ⇓P P 02 05 37.7 -0.2
baz=97
ELK Elko 96.96 23 eP P 02 05 37.7 -0.5
comp=Z,44nm,1.4s
J23A Dilts Ranch, B 97.02 15 ⇑P P 02 05 37.7 -0.6
baz=97
SPMN St. Paul 97.12 6 ⇓P P 02 05 37.4 -1.1
baz=97
BRSD Miller 97.19 11 ⇓P P 02 05 38.1 -0.8
baz=97
HWUT Hardware Ranch 97.25 20 eP Pdif 02 05 40.2 +0.7
comp=Z,85nm,1.4s
HWUT LR LR
comp=Z,9µm,19.0s
J24A Dixon Ranch, L 97.27 15 ⇓P P 02 05 39.2 -0.3
baz=97
SPUT South Promonto 97.28 21 eP P 02 05 39.1 -0.4
comp=Z,102nm,1.7s
FRNY Flat Rock 97.31 352 eP P 02 05 38.6 -0.7
comp=Z,30nm,1.1s
L18A Fontenelle, Gr 97.36 19 ⇑P Pdif 02 05 40.1 +0.1
baz=97
L19A Farson 97.37 19 ⇑P P 02 05 39.6 -0.4
baz=97
K21A Alcova 97.38 17 ⇓P P 02 05 39.7 -0.4
baz=97
J25A Sunshine Ranch 97.39 14 ⇓P P 02 05 39.4 -0.5
baz=97
BGU Big Grassy Mou 97.46 22 eP P 02 05 39.8 -0.6
comp=Z,69nm,1.5s
M17A Scullys Gap (B 97.62 20 ⇓P P 02 05 41.0 -0.1
baz=97
K23A Bowen Ranch, D 97.62 16 ⇑P P 02 05 40.4 -0.7
baz=97
LONY Lake Ozonia 97.63 353 eP P 02 05 40.6 -0.2
comp=Z,118nm,1.2s
LONY LR LR
comp=Z,11µm,20.0s
L20A Wamsutter 97.71 18 ⇓P P 02 05 41.4 -0.1
baz=97
LBNH Lisbon 97.71 351 eP Pdif 02 05 41.3 +0.1
comp=Z,28nm,1.0s
LBNH LR LR
comp=Z,13µm,20.0s
K24A Anderson Ranch 97.82 15 ⇑P P 02 05 41.0 -0.9
baz=97
BBTS Babate 97.95 295 LR LR 02 57 38.5
comp=Z,6µm,19.0s,baz=259,slow=40
M19A Rock Springs 97.98 19 ⇑P P 02 05 42.6 -0.1
baz=98
L21A Rawlins 97.98 17 ⇓P P 02 05 42.4 -0.4
baz=98
NVAR Mina Array Bea 98.03 26 LR LR 02 51 28.6
comp=Z,11µm,20.2s,baz=360,slow=36
NV11 Mina Array Sit 98.08 26 eP P 02 05 43.1 0.0
MDV Middlebury 98.10 352 eP P 02 05 42.4 -0.6
K25A Mack Ranch, Ha 98.12 15 ⇑P P 02 05 43.2 -0.1
baz=98
DUG Dugway 98.20 22 eP P 02 05 43.4 -0.3
DUG pmax pmax
comp=Z,66nm,1.3s
DUG Dugway 98.20 22 eP P 02 05 43.4 -0.3
comp=Z,66nm,1.3s
DUG Dugway 98.20 22 ⇑P Pdif 02 05 44.0 +0.3
baz=98
ECSD EROS Data Cent 98.20 9 eP P 02 05 42.2 -1.3
comp=Z,28nm,1.3s
ECSD LR LR
comp=Z,16µm,19.0s
JLU Jordanelle 98.21 21 eP Pdif 02 05 44.5 +0.6
comp=Z,60nm,1.6s
NCB Newcomb 98.23 353 PFAKE 02 05 50.0 +6.4
NCB LR LR
comp=Z,8µm,19.0s
RWWY Rawlins 98.28 17 eP P 02 05 43.8 -0.3
comp=Z,60nm,1.4s
DAU Daniels Canyon 98.44 21 eP Pdif 02 05 45.2 +0.2
DAU pmax pmax
comp=Z,40nm,1.3s
DAU Daniels Canyon 98.44 21 eP Pdif 02 05 45.2 +0.2
comp=Z,40nm,1.3s
MLAC Mammoth Lakes 98.55 27 ⇑P Pdif 02 05 45.7 +0.2
baz=98
SUR Sutherland 98.62 236 PFAKE 02 06 00.0 +14
SUR LR LR
comp=Z,15µm,22.0s
NLU North Lily Min 98.64 21 eP Pdif 02 05 46.2 +0.4
comp=Z,24nm,1.0s
MPU Marie Canyon 98.71 21 eP Pdif 02 05 46.9 +0.9
comp=Z,33nm,1.4s
ACCN Adirondack Com 98.76 352 eP Pdif 02 05 46.2 +0.2
comp=Z,77nm,1.3s
M23A Laramie 98.83 16 ⇑Pdiff P 02 05 46.5 -0.1
baz=98
M23A Laramie 98.83 16 ⇑Pdiff P 02 05 46.5 -0.1
baz=98
PHWY Pilot Hill 99.05 16 eP Pdif 02 05 47.8 +0.1
comp=Z,64nm,1.3s
M25A Palm-Egli Farm 99.22 15 ⇑Pdiff Pdif 02 05 47.8 -0.4
baz=99
M25A Palm-Egli Farm 99.22 15 ⇑Pdiff Pdif 02 05 47.8 -0.4
baz=99
N23A Red Feather La 99.33 17 ⇑Pdiff Pdif 02 05 49.2 +0.3
baz=99
N23A Red Feather La 99.33 17 ⇑Pdiff Pdif 02 05 49.2 +0.3
baz=99
M26A McRoberts Ranc 99.37 14 ⇓Pdiff Pdif 02 05 48.4 -0.5
baz=99
M26A McRoberts Ranc 99.37 14 ⇓Pdiff Pdif 02 05 48.4 -0.5
baz=99
M27A Reverse DX Ran 99.45 14 ⇑Pdiff Pdif 02 05 49.3 0.0
baz=99
M27A Reverse DX Ran 99.45 14 ⇑Pdiff Pdif 02 05 49.3 0.0
baz=99
TMUT Trail Mountain 99.49 21 eP Pdif 02 05 49.7 0.0
comp=Z,20nm,1.0s
JFWS Jewell Farm 99.61 4 eP Pdif 02 05 49.0 -0.7
JFWS pmax pmax
comp=Z,62nm,1.1s
JFWS MLR MLR
comp=Z,13µm,20.0s
JFWS Jewell Farm 99.61 4 eP Pdif 02 05 49.0 -0.7
comp=Z,62nm,1.1s
JFWS LR LR
comp=Z,13µm,20.0s
O21A Pagoda 99.62 18 ⇓Pdiff Pdif 02 05 50.3 +0.1
baz=99
O21A Pagoda 99.62 18 ⇓Pdiff Pdif 02 05 50.3 +0.1
baz=99
N24A Carr 99.63 16 ⇓Pdiff Pdif 02 05 50.0 0.0
baz=99
N24A Carr 99.63 16 ⇓Pdiff Pdif 02 05 50.0 0.0
baz=99
GRAC Grapevine Rang 99.63 26 ⇓Pdiff Pdif 02 05 50.6 +0.6
baz=99
GRAC Grapevine Rang 99.63 26 ⇓Pdiff Pdif 02 05 50.6 +0.6
baz=99
QUA2 Belchertown 99.70 351 ePdif Pdif 02 05 50.0 -0.1
comp=Z,115nm,1.3s
M28A Bar X Bar Ranc 99.77 13 ⇑Pdiff Pdif 02 05 50.3 -0.3
baz=99
M28A Bar X Bar Ranc 99.77 13 ⇑Pdiff Pdif 02 05 50.3 -0.3
baz=99
P19A Cripple Cowboy 99.78 19 ⇓Pdiff Pdif 02 05 50.8 -0.1
baz=99
P19A Cripple Cowboy 99.78 19 ⇓Pdiff Pdif 02 05 50.8 -0.1
baz=99
N25A Grover 99.81 15 ⇓Pdiff Pdif 02 05 51.0 +0.1
baz=99
N25A Grover 99.81 15 ⇓Pdiff Pdif 02 05 51.0 +0.1
baz=99
Q16A Castle Valley 99.86 21 ⇑Pdiff Pdif 02 05 51.3 +0.1
baz=100
Q16A Castle Valley 99.86 21 ⇑Pdiff Pdif 02 05 51.3 +0.1
baz=100
SRU San Rafael 99.86 20 eP Pdif 02 05 52.0 +0.8
SRU San Rafael 99.86 20 ePdif Pdif 02 05 52.0 +0.8
comp=Z,3µm,2.1s
CWC Cottonwood Cre 99.88 27 ⇓Pdiff Pdif 02 05 51.2 -0.1
baz=100
CWC Cottonwood Cre 99.88 27 ⇓Pdiff Pdif 02 05 51.2 -0.1
baz=100
O22A Kremmling 99.89 17 ⇑Pdiff Pdif 02 05 51.3 -0.1
baz=100
O22A Kremmling 99.89 17 ⇑Pdiff Pdif 02 05 51.3 -0.1
baz=100
MVU Marysvale 99.94 22 ePdif Pdif 02 05 51.8 +0.1
comp=Z,36nm,1.4s
MVU LR LR
comp=Z,11µm,20.0s
BRYW Bryant College 99.95 350 ePdif Pdif 02 05 51.5 +0.2
comp=Z,63nm,1.1s
N26A Koester Ranch, 99.97 15 ⇑Pdiff Pdif 02 05 51.4 -0.1
baz=100
N26A Koester Ranch, 99.97 15 ⇑Pdiff Pdif 02 05 51.4 -0.1
baz=100
O23A Lake Granby, G 99.99 17 ⇓Pdiff Pdif 02 05 52.0 +0.2
baz=100
O23A Lake Granby, G 99.99 17 ⇓Pdiff Pdif 02 05 52.0 +0.2
baz=100
OGNE Ogallala 100.08 14 ePdif Pdif 02 05 52.2 +0.2
comp=Z,17nm,0.8s
OGNE LR LR
comp=Z,11µm,22.0s
BINY Binghamton 100.16 354 PFAKE 02 06 00.0 +7.8
BINY LR LR
comp=Z,12µm,20.0s
O24A Longmont 100.26 16 ⇓Pdiff Pdif 02 05 52.9 0.0
baz=100
O24A Longmont 100.26 16 ⇓Pdiff Pdif 02 05 52.9 0.0
baz=100
P21A Newcastle 100.28 18 ⇑Pdiff Pdif 02 05 53.1 0.0
baz=100
P21A Newcastle 100.28 18 ⇑Pdiff Pdif 02 05 53.1 0.0
baz=100
AFI Afiamalu 100.28 100 PFAKE 02 06 00.0 +6.8
AFI LR LR
comp=Z,3µm,19.0s
BGNE Belgrade 100.28 11 ⇑Pdiff Pdif 02 05 52.3 -0.5
baz=100
BGNE Belgrade 100.28 11 ⇑Pdiff Pdif 02 05 52.3 -0.5
baz=100
FURC Furnace Creek, 100.29 26 ⇓Pdiff Pdif 02 05 52.9 +0.1
baz=100
FURC Furnace Creek, 100.29 26 ⇓Pdiff Pdif 02 05 52.9 +0.1
baz=100
P22A Eagle 100.38 18 ⇓Pdiff Pdif 02 05 53.8 +0.2
baz=100
P22A Eagle 100.38 18 ⇓Pdiff Pdif 02 05 53.8 +0.2
baz=100
ISCO Idaho Springs 100.45 17 eP Pdif 02 05 53.7 -0.3
ISCO pmax pmax
comp=Z,2µm,0.9s
ISCO MLR MLR
comp=Z,16µm,21.0s
ISCO Idaho Springs 100.45 17 ePdif Pdif 02 05 53.7 -0.3
comp=Z,2µm,0.9s
ISCO LR LR
comp=Z,16µm,21.0s
ISCO Idaho Springs 100.45 17 ⇑Pdiff Pdif 02 05 54.0 0.0
baz=100
ISCO Idaho Springs 100.45 17 ⇑Pdiff Pdif 02 05 54.0 0.0
baz=100
CCUT Cedar City 100.47 23 ePdif Pdif 02 05 54.9 +0.9
SMCO Snowmass 100.72 18 ePdif Pdif 02 05 55.9 +0.6
comp=Z,24nm,1.1s
PV04 Paradox Valley 100.97 20 ePdif Pdif 02 05 55.5 -0.6
ALLY Alegheny Colle 100.97 357 ePdif Pdif 02 05 55.3 -0.5
comp=Z,86nm,1.4s
PV01 Paradox Valley 101.30 19 ePdif Pdif 02 05 58.0 +0.3
comp=Z,2µm,1.1s
P29A Atwood 101.59 13 ⇓Pdiff Pdif 02 05 58.2 -0.5
baz=101
P29A Atwood 101.59 13 ⇓Pdiff Pdif 02 05 58.2 -0.5
baz=101
P30A Selden 101.77 13 ⇓Pdiff Pdif 02 05 58.8 -0.7
baz=101
P30A Selden 101.77 13 ⇓Pdiff Pdif 02 05 58.8 -0.7
baz=101
SSPA Standing Stone 101.86 355 ePdif Pdif 02 05 59.7 -0.1
comp=Z,24nm,1.3s
R23A Moffat 101.93 17 ⇑Pdiff Pdif 02 06 00.1 -0.5
baz=102
R23A Moffat 101.93 17 ⇑Pdiff Pdif 02 06 00.1 -0.5
baz=102
Q28A Sharon Springs 101.95 14 ⇑Pdiff Pdif 02 06 00.2 -0.1
baz=102
Q28A Sharon Springs 101.95 14 ⇑Pdiff Pdif 02 06 00.2 -0.1
baz=102
XMAS Kiritimati 101.98 78 PFAKE 02 06 10.0 +9.3
XMAS LR LR
comp=Z,6µm,19.0s
HDIL Hopedale 102.01 4 PFAKE 02 06 10.0 +10
HDIL LR LR
comp=Z,12µm,21.0s
R24A Sanders Place, 102.06 17 ⇓Pdiff Pdif 02 06 00.3 -0.8
baz=102
R24A Sanders Place, 102.06 17 ⇓Pdiff Pdif 02 06 00.3 -0.8
baz=102
MVCO Mesa Verde 102.19 20 ePdif Pdif 02 06 01.7 +0.1
comp=Z,21nm,1.1s
MVCO LR LR
comp=Z,10µm,19.0s
Q29A Oakley 102.27 13 ⇑Pdiff Pdif 02 06 01.3 -0.5
baz=102
Q29A Oakley 102.27 13 ⇑Pdiff Pdif 02 06 01.3 -0.5
baz=102
Q30A Quinter 102.32 13 ⇓Pdiff Pdif 02 06 01.4 -0.6
baz=102
Q30A Quinter 102.32 13 ⇓Pdiff Pdif 02 06 01.4 -0.6
baz=102
R25A Fountain Ranch 102.33 16 ⇑Pdiff Pdif 02 06 01.4 -0.7
baz=102
R25A Fountain Ranch 102.33 16 ⇑Pdiff Pdif 02 06 01.4 -0.7
baz=102
R26A Arlington 102.36 15 ⇓Pdiff Pdif 02 06 01.8 -0.4
baz=102
R26A Arlington 102.36 15 ⇓Pdiff Pdif 02 06 01.8 -0.4
baz=102
SDCO Great Sand Dun 102.43 17 ePdif Pdif 02 06 02.5 -0.2
comp=Z,11nm,1.2s
SDCO LR LR
comp=Z,11µm,21.0s
CIS Catalina Islan 102.46 29 ⇓Pdiff Pdif 02 06 02.6 -0.1
baz=102
CIS Catalina Islan 102.46 29 ⇓Pdiff Pdif 02 06 02.6 -0.1
baz=102
R27A Eads 102.51 15 ⇑Pdiff Pdif 02 06 02.5 -0.4
baz=102
R27A Eads 102.51 15 ⇑Pdiff Pdif 02 06 02.5 -0.4
baz=102
SACV Santiago Islan 102.71 300 PFAKE 02 06 20.0 +16
SACV LR LR
comp=Z,5µm,22.0s
KSU1 Kansas State U 102.76 10 PFAKE 02 06 10.0 +6.1
KSU1 LR LR
comp=Z,15µm,19.0s
MCWV Mont Chateau 102.94 357 PFAKE 02 06 20.0 +15
MCWV LR LR
comp=Z,19µm,19.0s
WUAZ Wupatki 102.95 22 ePdif Pdif 02 06 04.6 -0.4
comp=Z,32nm,1.1s
WUAZ LR LR
comp=Z,10µm,21.0s
PFO Pinyon Flat Ob 103.00 27 PFAKE 02 06 20.0 +15
PFO LR LR
comp=Z,11µm,20.0s
CASY Casey 104.25 174 PFAKE 02 06 20.0 +11
CASY LR LR
comp=Z,5µm,19.0s
RAO Raoul Island 104.56 116 PFAKE 02 06 20.0 +8.2
RAO LR LR
comp=Z,3µm,20.0s
ANMO Albuquerque 104.86 19 ePdif Pdif 02 06 14.5 +0.9
comp=Z,18nm,1.1s
ANMO LR LR
comp=Z,7µm,19.0s
ANMO Albuquerque 104.86 19 Pdiff Pdif 02 06 13.7 +0.1
comp=Z,4.8nm,1.1s,baz=306,slow=3.9,SNR=4.4
LAZ Ladron 105.20 19 ePdif Pdif 02 06 14.7 -0.3
comp=Z,7.1nm,1.2s

LENM	**Lemitar**	**105.47**	**19**	*e*Pdif	**Pdif**	**02 06 17.2**	**+0.9**
	comp=Z,11nm,1.2s						
BNM	**Barren Site**	**105.57**	**19**	*e*Pdif	**Pdif**	**02 06 16.7**	**-0.1**
	comp=Z,15nm,1.4s						
TUC	**Tucson**	**106.11**	**23**	*e*P	**Pdif**	**02 06 20.5**	**+1.5**
TUC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TUC				MLR	MLR		
	comp=Z,7μm,20.0s						
TUC	**Tucson**	**106.11**	**23**	*e*Pdif	**Pdif**	**02 06 20.5**	**+1.5**
	comp=Z,5.6nm,1.0s						
TUC				LR	LR		
	comp=Z,7μm,20.0s						
WVT	**Waverly**	**106.50**	**3**	*e*P	**Pdif**	**02 06 19.6**	**-0.9**
WVT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WVT	**Waverly**	**106.50**	**3**	*e*Pdif	**Pdif**	**02 06 19.6**	**-0.9**
	comp=Z,9.1nm,1.0s						
SNZO	**South Karori**	**106.59**	**130**	PFAKE		02 10 40.0	
SNZO				LR	LR		
	comp=Z,5μm,19.0s						
MSTX	**Muleshoe**	**106.67**	**16**	*e*PKP	**PKiKP**	**02 10 32.0**	**+0.1**
CNNC	**Cliffs of the**	**107.22**	**355**	PFAKE		02 10 40.0	
CNNC				LR	LR		
	comp=Z,13μm,21.0s						
MIAR	**Mount Ida**	**107.63**	**8**	PFAKE		02 10 40.0	
MIAR				LR	LR		
	comp=Z,19μm,21.0s						
OXF	**Oxford**	**108.03**	**4**	PFAKE		02 10 50.0	
OXF				LR	LR		
	comp=Z,13μm,20.0s						
MNTX	**Cornudas Mount**	**108.22**	**19**	*e*Pdif	**Pdif**	**02 06 28.2**	**-0.1**
MNTX				LR	LR		
	comp=Z,7μm,19.0s						
SHEL	**Horse Pasture**	**108.58**	**264**	PFAKE		02 10 50.0	
SHEL				LR	LR		
	comp=Z,6μm,19.0s						
LRAL	**Lakeview Retre**	**109.61**	**2**	PFAKE		02 10 50.0	
LRAL				LR	LR		
	comp=Z,14μm,21.0s						
VBMS	**Vicksburg**	**110.23**	**6**	PFAKE		02 10 50.0	
VBMS				LR	LR		
	comp=Z,14μm,20.0s						
NATX	**Nacogdoches**	**110.25**	**9**	PFAKE		02 10 50.0	
NATX				LR	LR		
	comp=Z,15μm,20.0s						
JCT	**Junction City**	**110.66**	**14**	PFAKE		02 10 50.0	
JCT				LR	LR		
	comp=Z,12μm,19.0s						
ASCN	**Ascension**	**110.72**	**276**	PFAKE		02 10 50.0	
ASCN				LR	LR		
	comp=Z,2μm,21.0s						
TXAR	**Lajitas Array**	**110.91**	**18**	Pdif	**Pdif**	**02 06 37.2**	**-3.1**
TXAR				PKKPbc	PKKPbc	02 21 22.6	-14
TXAR				P'P'		02 30 07.4	
TXAR	**Lajitas Array**	**110.91**	**18**	Pdif	**Pdif**	**02 06 37.2**	**-3.1**
	comp=Z,2.3nm,1.0s,baz=277,slow=3.5,SNR=6.8						
TXAR				PKKPbc	PKKPbc	02 21 22.6	-14
	comp=Z,15nm,0.8s,baz=116,slow=6.1,SNR=11						
TXAR				PKPPKP	**P'P'df**	**02 30 07.4**	**-4.3**
	comp=Z,1.7nm,0.9s,baz=190,slow=4.6,SNR=3.8						
BRAL	**Brewton**	**111.63**	**3**	PFAKE		02 10 50.0	
BRAL				LR	LR		
	comp=Z,14μm,22.0s						
KVTX	**Kingsville**	**113.88**	**13**	PFAKE		02 11 00.0	
KVTX				LR	LR		
	comp=Z,11μm,19.0s						
SYO	**Syowa Base**	**114.11**	**199⇑**	*i*PP	PP	02 11 45.4	+5.5
SYO	**Syowa Base**	**114.11**	**199⇑**	*e*P	**SKKSdf**	**02 29 01.4**	**-1.1**
GRTK	**Grand Turk**	**119.86**	**346**	PFAKE		02 11 10.0	+13
GRTK				LR	LR		
	comp=Z,8μm,22.0s						
VNDA	**Vanda**	**121.60**	**166**	PKP	**PKPdf**	**02 10 59.6**	**+1.0**
VNDA				*e*PKPdf	**PKiKP**	**02 11 00.0**	**+1.2**
VNDA	**Vanda**	**121.60**	**166**	PKP	**PKPdf**	**02 10 59.6**	**+1.0**
	comp=Z,37nm,0.8s,baz=314,slow=3.6,SNR=5.4						
GTBY	**Guantanamo Bay**	**122.07**	**350**	PFAKE		02 11 10.0	+8.6
GTBY				LR	LR		
	comp=Z,7μm,21.0s						
TEIG	**Tepich**	**122.29**	**4**	PFAKE		02 11 10.0	+8.2
TEIG				LR	LR		
	comp=Z,8μm,21.0s						
SBA	**Scott Base**	**122.68**	**166**	*e*PKIKP	**PKPdf**	**02 11 00.2**	**-0.6**
SBA				MLR	MLR		
	comp=Z,3μm,20.0s						
SBA	**Scott Base**	**122.68**	**166**	*e*PKPdf	**PKPdf**	**02 11 00.2**	**-0.6**
SBA				LR	LR		
	comp=Z,3μm,20.0s						
RCBR	**Riachuelo**	**125.89**	**293**	*e*PKPdf	**PKPdf**	**02 11 09.1**	**+0.2**
RCBR				LR	LR		
	comp=Z,5μm,21.0s						
QSPA	**South Pole Qui**	**127.43**	**180**	*e*PKPdf	**PKPdf**	**02 11 09.7**	**-0.5**
QSPA				PKKPab	PKKPdf	02 20 36.5	-48
QSPA				LR	LR		
	comp=Z,6μm,22.0s						
QSPA	**South Pole Qui**	**127.43**	**180**	PKP	**PKPdf**	**02 11 10.0**	**-0.2**
	comp=Z,83nm,0.8s,baz=312,slow=2.5,SNR=5.3						
QSPA				PKKPab	PKKPdf	02 20 36.5	-48
	comp=Z,9.6nm,0.6s,baz=217,slow=1.2,SNR=6.4						
SNAA	**Sanae**	**127.94**	**203**	*e*P	**PKPdf**	**02 11 11.4**	**+0.3**
SNAA	**Sanae**	**127.94**	**203**	*e*PKPdf	**PKPdf**	**02 11 10.2**	**-0.9**
VNA2	**Neumayer--Watz**	**129.35**	**204**	*e*P	**PKPdf**	**02 11 17.1**	**+3.4**
VNA1	**Neumayer--Stat**	**129.63**	**205**	*e*P	**PKPdf**	**02 11 16.4**	**+2.2**
JTS	**JuntasÁbangare**	**132.29**	**1**	PFAKE		02 11 30.0	+8.9
JTS				LR	LR		
	comp=Z,10μm,19.0s						
BCIP	**Isla Barro Col**	**133.23**	**354**	*e*PKPdf	**PKPdf**	**02 11 23.8**	**+1.0**
BCIP				LR	LR		
	comp=Z,6μm,20.0s						
SAML	**Samuel**	**145.66**	**321**	*e*PKPbc	**PKPbc**	**02 11 45.5**	**-0.1**
SIV	**San Ignacio**	**150.26**	**310**	PKPbc	**PKPbc**	**02 11 58.4**	**+0.4**
SIV	**San Ignacio**	**150.26**	**310**	PKPbc	**PKPbc**	**02 11 58.4**	**+0.4**
	comp=Z,145nm,0.9s,baz=94,slow=1.1,SNR=5.1						
PMSA	**Palmer Station**	**150.34**	**197**	*e*PKPbc	**PKPbc**	**02 11 56.2**	**-0.3**
PMSA	**Palmer Station**	**150.34**	**197**	PKPbc	**PKPbc**	**02 11 56.0**	**-0.6**
	comp=Z,126nm,1.0s,baz=127,slow=2.0,SNR=10						
LPA	**La Plata**	**158.64**	**269**	PKP	**PKPab**	**02 12 38.0**	**-1.3**
LPA				PKIKP	**PKPab**	**02 12 40.0**	**+0.7**

*JMA **28** 01:56:21.5±0.2, 43°.09N×147°.54E, h19km, M4.5*
*MOS **28** 01:56:21.2±0.6, 43°.15N×147°.71E, h33km, mb4.5/1, Error ellipse: s-maj=43.8km s-min=34.9km az=101.2*
*SKHL **28** 01:56:22.4±0.3, 43°.15N×147°.68E, h47km±16km, mb6.3/1, mbh5.7/1*

ISC 28 01:56:18.9±3.1, 43°.18N±0°.09×147°.65E±0°.09, h5km±17km, n26, σ1°38/34, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.40**	**278**	P	**Pb**	**01 56 45.5**	**-0.1**
NEM2				*e*S	**Sg**	**01 57 03.1**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.55**	**304**	*i* PN	**Pb**	**01 56 47.8**	**-0.4**
YUK				*i* S	**Sn**	**01 57 07.2**	**-0.5**
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=E,47nm,0.2s						
YUK				pmax	pmax		
	comp=Z,247nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK				smax	smax		
	comp=N,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.55**	**304⇓**	*i*P	**Pb**	**01 56 47.9**	**-0.3**
YUK				AMB	AMB	01 56 48.5	
	comp=N,247nm,0.2s						
YUK				AMB	AMB	01 56 48.5	
	comp=N,27nm,0.2s						
YUK				AMB	AMB	01 56 48.5	
	comp=N,47nm,0.2s						
YUK				*i* S	**Sn**	**01 57 07.3**	**-0.5**
YUK				A	A	01 57 11.3	
	comp=N,3μm,0.4s						
YUK				A	A	01 57 11.3	
	comp=N,1μm,0.4s						
JRA	**Rausu**	**1.98**	**293**	P	**Pb**	**01 56 54.3**	**-1.2**
JRA				*e*S	**Sn**	**01 57 18.4**	**0.0**
KUR	**Kuril'sk**	**2.06**	**4⇓**	*i*PN	**Pn**	**01 56 54.7**	**+0.5**
KUR				*i*		01 57 19.3	
KUR				pmax	pmax		
	comp=N,207nm,0.5s						
KUR				pmax	pmax		
	comp=Z,522nm,0.5s						
KUR				pmax	pmax		
	comp=E,149nm,0.5s						
KUR	**Kuril'sk**	**2.06**	**4⇑**	*i*P	**Pn**	**01 56 55.0**	**+0.8**
KUR				AMB	AMB	01 56 57.3	
	comp=E,830nm,0.4s						
KUR				AMB	AMB	01 56 57.3	
	comp=E,490nm,0.4s						
KUR				AMB	AMB	01 56 57.3	
	comp=E,370nm,0.4s						
KUR				*i* S	**Sn**	**01 57 19.2**	**-1.1**
KUR				A	A	01 57 21.8	
	comp=E,1μm,0.4s						
KUR				A	A	01 57 21.8	
	comp=E,3μm,0.4s						
KUR				A	A	01 57 24.0	
	comp=E,3μm,1.0s						
KUR				A	A	01 57 24.0	
	comp=E,5μm,1.2s						
JAK	**Akkeshi**	**2.17**	**266**	P	**Pn**	**01 56 56.4**	**+0.7**
JAK				*e*S	**Sn**	**01 57 21.5**	**-1.4**
JNK	**Nakash**	**2.17**	**282**	P	**Pn**	**01 56 56.3**	**+0.5**
JNK				*e*S	**Sn**	**01 57 21.9**	**-1.2**
JOB	**Onbets**	**2.81**	**266**	P	**Pn**	**01 57 05.3**	**+0.8**
JOB				*e*S	**Sn**	**01 57 37.1**	**-1.6**
JTKR	**Abashiri--Toko**	**2.83**	**288**	P	**Pn**	**01 57 06.5**	**+1.7**
JTKR				*e*S	**Sn**	**01 57 39.3**	**+0.1**
JAR	**Ashorobuto**	**2.83**	**274**	P	**Pn**	**01 57 06.2**	**+1.3**
JAR				*e*S	**Sn**	**01 57 39.1**	**-0.3**
JCH	**Churui**	**3.20**	**261**	P	**Pn**	**01 57 10.4**	**+0.6**
JCH				*e*S	**Sn**	**01 57 46.3**	**-2.0**
JMP	**Maruseppu**	**3.22**	**286**	P	**Pn**	**01 57 12.3**	**+2.1**
ERM	**Erimo**	**3.51**	**252**	*e*PN	**Pn**	**01 57 16.3**	**+2.1**
JEM	**Erimo**	**3.51**	**252**	P	**Pn**	**01 57 15.9**	**+1.7**
JKK2	**Kamakawa 2**	**3.63**	**283**	P	**Pn**	**01 57 18.1**	**+2.3**
JFR	**Furan**	**3.69**	**271**	P	**Pn**	**01 57 18.5**	**+1.8**
JFR				*e*S	**Sn**	**01 57 59.9**	**-0.8**
JNBK	**Urakawa-nobuka**	**3.71**	**258**	P	**Pn**	**01 57 17.7**	**+0.7**
JSE	**Soyaes**	**4.06**	**298**	P	**Pn**	**01 57 23.8**	**+2.1**
JEW	**Eniwo**	**4.56**	**268**	P	**Pn**	**01 57 30.7**	**+2.2**
YSS	**Yuzh-Sakhalins**	**5.12**	**319**	*e*PN	**Pn**	**01 57 37.8**	**+1.5**
YSS				pmax	pmax		
	comp=E,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.12**	**319**	*e*P	**Pn**	**01 57 37.8**	**+1.5**
TEY	**Ternei**	**8.16**	**287**	*e*P	Pn	01 58 25.0	+7.0
TEY				AMB	AMB	01 58 25.6	
	comp=E,163nm,1.0s						
TEY				AMB	AMB	01 58 25.6	
	comp=E,2μm,4.0s						
TEY				AMB	AMB	01 58 25.6	
	comp=E,1μm,1.4s						
TEY				AMB	AMB	01 58 25.6	
	comp=E,106nm,1.4s						
TEY				AMB	AMB	01 58 25.6	
	comp=E,4μm,4.0s						
SKR	**Severo-Kuril's**	**9.48**	**35**	*e*PN	Pn	01 58 25.5	-11
NKL	**Nikolayevsk**	**11.00**	**337**	*e*P	Pn	01 58 53.0	-3.9
NKL				AMB	AMB	01 58 54.0	
	comp=E,34nm,1.1s						
NKL				AMB	AMB	01 58 54.0	
	comp=E,66nm,1.1s						
NKL				AMB	AMB	01 58 54.0	
	comp=E,220nm,1.1s						
NKL				AMB	AMB	02 00 43.0	
	comp=E,230nm,0.9s						
NKL				AMB	AMB	02 00 43.0	
	comp=E,1μm,0.9s						
VLA	**Vladivostok**	**11.51**	**275**	*i* PN	Pn	01 58 58.6	-5.3

IDC 28 02:06:09.1±5.0, 37°.25N×96°.37E, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/27, mbtmp4.3/5, ML4.1/1, Error ellipse: s-maj=125.5km s-min=36.5km az=115.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.89**	**32**	Pn	Pn	02 09 13.7	-0.1
	1.1nm,0.3s,baz=224,slow=15,SNR=6.3						
KSRS	**Korea Array**	**25.03**	**80**	P	P	02 11 34.5	-0.2
	3.9nm,0.6s,baz=280,slow=9.5,SNR=11						
WRA	**Warramunga Arr**	**67.20**	**141**	P	P	02 17 04.6	-0.5
	4.0nm,1.1s,baz=337,slow=6.8,SNR=5.2						
ASAR	**Alice Springs**	**70.14**	**144**	P	P	02 17 24.4	+0.9
	1.1nm,0.7s,baz=330,slow=6.0,SNR=5.1						
STKA	**Stephens Creek**	**80.71**	**142**	P	P	02 18 23.5	-0.5
	6.4nm,1.1s,baz=315,slow=5.6,SNR=3.4						

NEIC 28 02:09:06.0, 35°.57N×97°.29W, h5km, MN3.5, Macroseismic location., Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL	**Tulsa**	**1.27**	**74**	P	Pg	02 09 24.0	-6.3
TUL				S	Sn	02 09 55.0	+7.2
WMOK	**Wichita Mounta**	**1.47**	**236**	*e*Pn	Pg	02 09 39.5	+5.2
WMOK				Sn	Sg	02 10 00.5	+6.9
KSU1	**Kansas State U**	**3.57**	**9**	*e*Pn	Pn	02 10 01.9	-0.2
KSU1				Sg	Sg	02 11 03.0	+2.2
NATX	**Nacogdoches**	**4.38**	**149**	Pn	Pn	02 10 10.3	-2.9

*IDC **28** 02:14:55.2±0.3, 37°.66N×95°.84E, h0km, mb5.2/52, mb1 5.3/55, mb1mx5.3/55, mbtmp5.2/55, ML4.5/3, Error ellipse: s-maj=10.5km s-min=8.0km az=26.0*
*ISCJB **28** 02:14:55.8±0.1, 37°.66N±0°.02×95°.69E±0°.02, h12km, mb5.4/268, MS5.4/7, Error ellipse: s-maj=2.7km s-min=1.9km az=30.3*
*MOS **28** 02:14:56.1±0.9, 37°.70N×95°.73E, h14km, mb5.7/121, Error ellipse: s-maj=6.5km s-min=3.4km az=130.6*
*NEIC **28** 02:14:56.2±1.6, 37°.65N×95°.71E, h4km±10km, mb5.6/127, Error ellipse: s-maj=3.7km s-min=2.5km az=205.0*
*BJI **28** 02:14:57.1, 37°.70N×95°.84E, h6km, mB5.8/4, mb5.3/43, ML5.2/10, Ms5.5/37, Ms7 5.2/37*
*BKK **28** 02:14:59.6±0.3, 38°N±4°×9°6E±°, h10km, M5.1/39, mB4.9/4, mb5.6/39, Mw(mB)4.2/4*
*DJA **28** 02:14:59.7±0.3, 38°N±4°×9°6E±°, h10km, M5.8/33, mb5.8/33*
*SZGRF **28** 02:15:00.5, 36°.73N×95°.13E, h33km, mb5.5, Qinghai, China*

ISC 28 02:14:57.5±0.2, 37°.68N±0°.03×95°.77E±0°.03, h12km, n928, σ1°15/958, mb5.5/269, MS5.4/7, 58C-41D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.61**	**60**	⇓Pn	**Pn**	**02 15 55.5**	**+2.1**
GTA				Pg	**Pb**	**02 16 03.0**	**+1.6**
GTA				Sn	**Sn**	**02 16 38.0**	**+1.9**
GTA				Sg	**Sg**	**02 16 50.3**	**-3.2**
GTA				smax	smax		
	comp=N,4μm,0.8s						
GTA				smax	smax		
	comp=E,2μm,1.0s						
GTA				LR	LR		
	comp=N,55μm,9.5s						
GTA				LR	LR		
	comp=E,41μm,7.1s						
GTA				LR	LR		
	comp=Z,30μm,8.5s						
LZH	**Lanzhou**	**6.66**	**101**	⇑Pn	**Pn**	**02 16 36.0**	**+0.6**
LZH				Pg	**Pb**	**02 16 54.0**	**+0.6**
LZH				Sn	**Sn**	**02 17 50.8**	**-0.5**
LZH				Sg	Sb	02 18 20.5	+7.5
LZH				smax	smax		
	comp=N,3μm,1.1s						
LZH				smax	smax		
	comp=E,3μm,0.9s						
LZH				LR	LR		
	comp=N,25μm,8.7s						
LZH				LR	LR		
	comp=E,16μm,5.9s						
LZH				LR	LR		
	comp=Z,25μm,10.3s						
WMQ	**Urumqi**	**8.67**	**318**	P	**Pn**	**02 17 02.0**	**-0.9**
WMQ				S	**Sn**	**02 18 42.5**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,210nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,2μm,4.0s						
WMQ				LR	LR		
	comp=N,6μm,24.0s						
WMQ				LR	LR		
	comp=E,16μm,26.0s						
WMQ				LR	LR		
	comp=Z,7μm,20.0s						
LSA	**Lhasa**	**8.84**	**207**	P	**Pn**	**02 17 07.5**	**+2.0**
LSA	**Lhasa**	**8.84**	**207**	*e*P	**Pn**	**02 17 08.2**	**+2.7**
LSA				pmax	pmax		
	comp=Z,367nm,1.5s						
LSA	**Lhasa**	**8.84**	**207**	*e*Pn	**Pn**	**02 17 08.2**	**+2.7**
	comp=Z,367nm,1.5s						
CD2	**Chengdu**	**9.44**	**133**	P	Pn	02 17 16.8	+3.4
CD2				pP		02 17 24.0	
CD2				sP		02 17 28.8	
CD2				S	**Sn**	**02 19 02.8**	**+3.3**
CD2				sS		02 19 13.0	
CD2				pmax	pmax		
	comp=Z,120nm,1.2s						
CD2				LR	LR		
	comp=N,25μm,14.3s						
CD2				LR	LR		
	comp=Z,19μm,15.5s						
XAN	**Xi'an**	**11.27**	**105**	P	**Pn**	**02 17 36.0**	**-2.5**
XAN				pmax	pmax		
	comp=Z,24nm,1.0s						
BTO	**Baotou**	**11.45**	**71**	*e*P	**Pn**	**02 17 40.0**	**-0.9**
BTO				pmax	pmax		
	comp=Z,76nm,1.0s						
TAPN	**Taplejung**	**12.33**	**216**	*e*P	**Pn**	**02 17 54.1**	**+0.8**
	comp=Z,166nm,1.3s						
HHC	**Hu-ho-hao-te**	**12.64**	**71**	*e*P	**Pn**	**02 17 57.3**	**0.0**
HHC				PP	**P**	**02 18 07.8**	**-0.9**
HHC				S	**Sn**	**02 20 19.8**	**+1.8**
HHC				SS	**SnSn**	**02 20 35.3**	**+5.3**
HHC				PcP	**PcP**	**02 23 33.8**	**-1.0**
HHC				ScP	**ScP**	**02 27 06.5**	**-1.2**
HHC				pmax	pmax		
	comp=Z,210nm,0.6s						
HHC				LR	LR		
	comp=N,15μm,10.7s						
HHC				LR	LR		
	comp=E,12μm,10.3s						
HHC				LR	LR		
	comp=Z,16μm,10.8s						
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**02 18 00.9**	**+1.6**
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**02 18 00.9**	**+1.6**
	comp=Z,8.3nm,0.3s,baz=217,slow=14,SNR=69						
GUN	**Gumba**	**12.80**	**223**	*e*P	**Pn**	**02 17 58.2**	**-1.5**
	comp=Z,417nm,1.2s						
JIRN	**Jiri**	**12.83**	**222**	*e*P	**Pn**	**02 17 59.6**	**-0.5**
	comp=Z,763nm,1.6s						
ODAN	**Odare**	**12.90**	**216**	*e*P	**Pn**	**02 18 02.1**	**+1.2**
	comp=Z,300nm,1.5s						
ULN	**Ulaanbaatar**	**13.11**	**35**	*e*Pn	**Pn**	**02 18 04.9**	**+1.2**
ULN	**Ulaanbaatar**	**13.11**	**35**	P	**Pn**	**02 18 06.5**	**+2.8**
	comp=Z,133nm,1.3s						
RAMN	**Ramite**	**13.20**	**219**	*e*P	**Pn**	**02 18 03.5**	**-1.6**
	comp=Z,109nm,0.9s						
KKN	**Kakani**	**13.22**	**225**	*e*P	**Pn**	**02 18 04.3**	**-1.1**
	comp=Z,408nm,1.6s						
PKI	**Pulchoki**	**13.32**	**224**	*e*P	**Pn**	**02 18 05.1**	**-1.7**
	comp=Z,228nm,1.1s						
PKIN	**Phulchoki**	**13.33**	**224**	*e*P	**Pn**	**02 18 06.1**	**-0.7**
	comp=Z,159nm,1.1s						
DMN	**Daman**	**13.46**	**225**	*e*P	**Pn**	**02 18 07.7**	**-0.9**
	comp=Z,495nm,1.5s						
MK31	**Makanchi Array**	**13.50**	**317**	P	**Pn**	**02 18 06.7**	**-2.2**
MK31				pmax	pmax		
	comp=Z,21nm,0.4s						
MK31	**Makanchi Array**	**13.50**	**317**	*e*Pn	**Pn**	**02 18 06.7**	**-2.2**
MKAR	**Makanchi Array**	**13.50**	**317**	P	**Pn**	**02 18 06.4**	**-2.5**
MKAR						02 20 37.1	
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MKAR				smax	smax		
	comp=N,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.50**	**317**	*e*Pn	**Pn**	**02 18 06.9**	**-2.0**
MKAR				Sn	**Sn**	**02 20 37.1**	**-1.7**
MKAR				P'P'		02 55 26.9	
MKAR	**Makanchi Array**	**13.50**	**317**	Pn	**Pn**	**02 18 06.4**	**-2.5**
	comp=N,7.7nm,0.3s,baz=125,slow=14,SNR=76						
MKAR				Sn	**Sn**	**02 20 37.1**	**-1.7**
	comp=N,2.1nm,0.3s,baz=128,slow=26,SNR=4.2						
MKAR				PKPPKP	**P'P'df**	**02 55 26.9**	**+2.1**
	comp=N,0.1nm,0.3s,baz=329,slow=2.5,SNR=3.5						
ENH	**Enshi**	**13.56**	**119**	*e*Pn	**Pn**	**02 18 08.3**	**-1.4**
	comp=N,396nm,1.0s						
DANN	**Dangsing**	**13.70**	**231**	*e*P	**Pn**	**02 18 11.0**	**-0.9**
	comp=N,198nm,1.2s						
ZAK	**Zakamensk**	**13.79**	**21**	*e*P	Pn	02 18 09.5	-3.4
ZAK				pmax	pmax		
	comp=Z,246nm,1.1s						
KMI	**Kunming**	**13.85**	**153**	P	**Pn**	**02 18 15.5**	**+1.6**
KMI				sP		02 18 20.3	
KMI				PP	P	02 18 27.3	+5.0
KMI				S	**Sn**	**02 20 46.8**	**-1.0**
KMI				pmax	pmax		
	comp=Z,32nm,1.1s						
KMI				LR	LR		
	comp=N,10μm,11.0s						
KMI				LR	LR		
	comp=E,9μm,10.4s						
KMI				LR	LR		
	comp=Z,10μm,13.8s						
KOLN	**Koldanda**	**14.22**	**230**	*e*P	**Pn**	**02 18 16.7**	**-2.2**
	comp=Z,95nm,1.2s						
MOY	**Mondy**	**14.47**	**13**	*e*P	**P**	**02 18 26.8**	**-2.1**
MOY				pmax	pmax		
	comp=Z,370nm,1.7s						
GYA	**Guiyang**	**14.49**	**137**	P	**Pn**	**02 18 21.0**	**-1.6**
GYA				PP	**PnPn**	**02 18 34.3**	**+3.8**
GYA				S	**Sn**	**02 21 00.3**	**-2.9**
GYA				PcP	**PcP**	**02 23 39.8**	**+2.4**
GYA				pmax	pmax		
	comp=Z,100nm,1.0s						
GYA				pmax	pmax		
	comp=Z,1μm,14.3s						
GYA				LR	LR		
	comp=N,6μm,11.4s						
GYA				LR	LR		
	comp=E,11μm,12.9s						
GYA				LR	LR		
	comp=Z,7μm,12.0s						
KSH	**Kashi**	**15.59**	**283**	P	**Pn**	**02 18 38.3**	**+1.1**
KSH				sP	**sP**	**02 18 45.3**	**-1.1**
KSH				PP	**PnPn**	**02 18 51.5**	**+6.0**
KSH				S	**Sn**	**02 21 30.5**	**+0.6**
KSH				sS	S	02 21 35.5	-10
KSH				SS	**SnSn**	**02 21 48.5**	**+5.9**
KSH				pmax	pmax		
	comp=Z,130nm,1.4s						
KSH				pmax	pmax		
	comp=Z,8μm,6.0s						
KSH				LR	LR		
	comp=N,9μm,10.9s						
KSH				LR	LR		
	comp=E,5μm,5.5s						
KSH				LR	LR		
	comp=Z,5μm,10.2s						
ULHL	**Ulahol**	**15.65**	**293**	P	Pn	02 18 32.8	-5.2
	SNR=7.0						
IRK	**Irkutsk**	**15.74**	**20**	*e*P	**P**	**02 18 42.4**	**-0.5**
IRK				pmax	pmax		
	comp=Z,997nm,1.2s						
BJI	**Beijing**	**16.07**	**75**	P	**Pn**	**02 18 44.0**	**+0.8**
BJI				S	**Sn**	**02 21 43.3**	**+2.0**
BJI				pmax	pmax		
	comp=Z,430nm,1.3s						
BJI				LR	LR		
	comp=N,14μm,12.5s						
BJI				LR	LR		
	comp=E,12μm,16.0s						
BJI				LR	LR		
	comp=Z,5μm,17.7s						
BOK	**Bokaro**	**16.22**	**214**	*e*P	**Pn**	**02 18 42.8**	**-2.5**
TKM2	**Tokmak 2**	**16.25**	**295**	*i* P	**Pn**	**02 18 43.9**	**-1.9**
TKM2	**Tokmak 2**	**16.25**	**295**	P	**Pn**	**02 18 44.0**	**-1.9**
	SNR=18						
TKM2	**Tokmak 2**	**16.25**	**295**	*e*Pn	**Pn**	**02 18 43.9**	**-1.9**
	comp=Z,185nm,1.0s						
KZA	**Kyzart**	**16.35**	**292**	*i

comp=E,75nm,0.6s
DHRM DHARAMSHALA 16.85 257 *e*P **P 02 18 56.6 +1.1**
DHRM AML AML 02 20 29.9
comp=N,86nm,0.7s
DHRM AML AML 02 20 32.8
comp=E,54nm,0.5s
CHMS Chumysh 16.87 295 *i* P **Pn 02 18 51.6 -1.9**
CHMS Chumysh 16.87 295 P **Pn 02 18 51.6 -1.9**
SNR=10.0
WHN Wuhan 16.94 109 P **Pn 02 18 52.5 -1.8**
WHN S **Sn 02 21 57.5 -5.0**
WHN LR LR
comp=Z,24μm,12.2s
FRU Bishkek 16.94 294 *i* P **Pn 02 18 55.0 +0.7**
DLH Dalhousie 16.99 258 *e*4 **P 02 18 59.0 +1.9**
AAK Ala-Archa 16.99 294 Pn **Pn 02 18 54.1 -1.1**
comp=Z,467nm,0.9s,SNR=13
AAK Ala-Archa 16.99 294 ⇓*i*P **Pn 02 18 55.5 +0.3**
AAK pmax pmax
comp=Z,267nm,1.2s
AAK Ala-Archa 16.99 294 P **Pn 02 18 54.9 -0.2**
SNR=16
AAK Ala-Archa 16.99 294 *e*Pn **Pn 02 18 54.7 -0.5**
comp=Z,73nm,0.9s
AAK Ala-Archa 16.99 294 P **Pn 02 18 55.2 0.0**
comp=Z,1.2nm,0.3s,baz=103,slow=11,SNR=21
USP Ospenovka 17.11 296 *i* P **Pn 02 18 54.3 -2.2**
USP Ospenovka 17.11 296 P **Pn 02 18 54.3 -2.2**
SNR=13
THN Thein Dam 17.23 258 *e*P **Pn 02 18 56.0 -1.9**
AML Almayashu 17.50 292 *i* P **Pn 02 19 01.7 -0.1**
AML Almayashu 17.50 292 P **Pn 02 19 01.7 -0.1**
SNR=12
EKS2 Erkin-Say 17.52 293 *e*P **Pn 02 19 00.4 -1.3**
EKS2 pmax pmax
comp=Z,80nm,1.2s
EKS2 Erkin-Say 17.52 293 P **Pn 02 19 01.1 -0.6**
SNR=13
EKS2 Erkin-Say 17.52 293 *e*Pn **Pn 02 19 00.4 -1.3**
comp=Z,80nm,1.2s
ZALV Zalesovo Beam 17.94 339 *i* P **Pn 02 19 05.8 -0.9**
ZALV pmax pmax
comp=Z,42nm,0.9s
ZALV Zalesovo Beam 17.94 339 P **Pn 02 19 06.0 -0.6**
ZALV P'P' 02 55 04.5
ZALV Zalesovo Beam 17.94 339 P **Pn 02 19 06.0 -0.6**
comp=Z,0.8nm,0.3s,baz=152,slow=11,SNR=27
ZALV PKPPKP P'P'df 02 55 04.5 -19
comp=Z,0.1nm,0.3s,baz=312,slow=5.0,SNR=3.5
CHTO Chiang Mai 19.00 171 *e*P **Pn 02 19 19.6 -0.2**
CHTO pmax pmax
comp=Z,37nm,0.9s
CHTO Chiang Mai 19.00 171 *e*P **Pn 02 19 19.6 -0.2**
comp=Z,37nm,0.9s
CHTO Chiang Mai 19.00 171 P **Pn 02 19 20.6 +0.8**
comp=Z,249nm,0.7s
CHTO Chiang Mai 19.00 171 P **Pn 02 19 20.6 +0.8**
comp=Z,249nm,0.7s
NVS Novosibirsk 19.18 338 *e*P **P 02 19 19.5 -1.3**
NVS *e*S **Sn 02 22 56.9 +0.5**
NVS pmax pmax
comp=N,66nm,1.6s
NVS pmax pmax
comp=Z,201nm,1.6s
NVS pmax pmax
comp=E,127nm,1.5s
NVS smax smax
comp=E,239nm,2.7s
CM31 Chiang Mai Arr 19.35 171 *e*P **Pn 02 19 23.9 -0.2**
comp=E,32nm,0.8s
CMAR Chiang Mai Arr 19.35 171 P **Pn 02 19 24.0 0.0**
CMAR Chiang Mai Arr 19.35 171 P **Pn 02 19 24.0 0.0**
comp=E,2.0nm,0.3s,baz=343,slow=10,SNR=67
LAMP Lampang 19.38 169 P **Pn 02 19 25.6 +1.2**
comp=E,21nm,1.1s,comp=E,269nm
NJ2 Nanjing 19.73 100 *e*P **P 02 19 27.5 +0.4**
NJ2 pP **pP 02 19 32.3 +1.8**
NJ2 sP **sP 02 19 34.5 +2.5**
NJ2 PP **PnPn 02 19 46.3 +4.1**
NJ2 S **S 02 23 03.0 -6.3**
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 LR LR
comp=N,5μm,12.2s
NJ2 LR LR
comp=E,4μm,14.6s
NJ2 LR LR
comp=Z,3μm,13.2s
KK31 Karatay Array 19.96 294 *i* P **P 02 19 29.4 -0.1**
KK31 pmax pmax
comp=Z,124nm,1.1s
KKAR Karatay Array 19.96 294 *e*P **P 02 19 30.2 +0.7**
KKAR Karatay Array 19.96 294 *e*Pn **P 02 19 30.1 +0.7**
DL2 Dalian 20.32 79⇑*i*P Pn 02 19 35.0 -0.4
DL2 S Sn 02 23 25.3 +1.3
DL2 pmax pmax
comp=Z,380nm,1.0s
DL2 pmax pmax
comp=Z,4μm,10.8s
DL2 LR LR
comp=E,5μm,13.7s
DL2 LR LR
comp=Z,5μm,16.7s
LOEI Loei 20.66 165 P Pn 02 19 39.3 -0.3
comp=Z,251nm,1.0s
HIA Hailar 20.80 49 *e*P **P 02 19 39.3 +0.7**
comp=Z,236nm,1.3s
BHPL Bhopal 21.32 233 *e*4 **P 02 19 43.2 -1.2**
BHPL AML AML 02 21 12.0
comp=N,19nm,1.1s
BHPL AML AML 02 21 12.1
comp=E,23nm,0.8s
PBKT Sadao Pong 21.52 166 P **P 02 19 47.6 +1.1**
comp=E,107nm,1.2s
PBKT Sadao Pong 21.52 166 P **P 02 19 47.6 +1.1**
comp=E,107nm,1.2s
KBL Kabul 21.80 270 *e*P **P 02 19 49.7 +0.1**
KBL pmax pmax
comp=Z,199nm,1.4s
KBL Kabul 21.80 270 *e*P **P 02 19 49.6 +0.1**
comp=Z,199nm,1.4s
SKNT Sakolnakorn 21.85 158 P **P 02 19 51.2 +1.1**
comp=Z,347nm,1.4s
NGP Nagpur 21.93 226 *e*4 **P 02 19 46.6 -4.3**
UTHA Uthaitani 22.27 171 P **P 02 19 56.2 +1.7**
comp=Z,50nm,1.2s,comp=Z,410nm
QIZ Qiongzhong 22.28 143 P **P 02 19 55.3 +0.7**
QIZ S **S 02 24 00.3 +0.7**
QIZ pmax pmax
comp=Z,170nm,0.9s
QIZ LR LR
comp=Z,8μm,17.0s
QIZ Qiongzhong 22.28 143 *e*P **P 02 19 54.1 -0.5**
comp=Z,121nm,0.8s
CHAI Chaiyaphum 22.38 164 P **P 02 19 56.2 +0.5**
comp=Z,23nm,1.2s,comp=Z,512nm
VOSK Vostochnaya 22.89 319 P **P 02 19 57.5 -3.5**
VOSK pmax pmax
comp=Z,147nm,1.1s
QZH Quanzhou 23.19 117⇑*i*P **P 02 20 02.5 -1.7**
QZH pmax pmax
comp=Z,750nm,1.8s
CN2 Changchun 23.23 65 *e*P **P 02 20 04.8 +0.4**
CN2 *es*P **sP 02 20 13.5 +4.0**
CN2 *e*S **S 02 24 13.0 -3.2**
CN2 pmax pmax
comp=Z,110nm,1.0s
CN2 pmax pmax
comp=Z,6μm,13.0s
CN2 LR LR
comp=N,10μm,14.0s
CN2 LR LR
comp=E,7μm,14.0s
CN2 LR LR
comp=Z,8μm,16.0s
BVA0 Borovoye Array 23.36 319 P **P 02 20 01.7 -4.0**
BVA0 pmax pmax
comp=Z,84nm,1.4s
BVAR Borovoye Array 23.36 319 P **P 02 20 05.3 -0.4**
BVAR pmax pmax
comp=Z,27nm,0.8s
BVAR Borovoye Array 23.36 319 P **P 02 20 05.3 -0.4**
BVAR Borovoye Array 23.36 319 P **P 02 20 05.3 -0.4**
comp=Z,27nm,0.8s,baz=115,slow=10,SNR=28
BRVK Borovoye 23.43 319 P **P 02 20 06.6 +0.2**
comp=Z,293nm,0.7s,SNR=6.6

BRVK Borovoye 23.43 319⇑*i*P **P 02 20 06.8 +0.4**
BRVK pmax pmax
comp=Z,83nm,1.2s
BRVK Borovoye 23.43 319 *e*P **P 02 20 06.0 -0.4**
comp=Z,194nm,1.6s
UBPT Khong Chiam 23.91 156 P **P 02 20 10.8 -0.5**
comp=Z,290nm,1.1s
UBPT Khong Chiam 23.91 156 P **P 02 20 10.8 -0.5**
comp=Z,290nm,1.1s
INCN Inchon 24.41 81 P **P 02 20 16.8 +1.0**
SNR=5.8
INCN Inchon 24.41 81 *e*P **P 02 20 15.1 -0.8**
comp=Z,141nm,0.8s
PHET Kaeng Krachan 24.90 171 P **P 02 20 22.9 +2.5**
comp=Z,221nm,1.2s
HYB Hyderabad 25.23 222 *i* P **P 02 20 23.0 -0.4**
TATO Taipei 25.26 113 *e*P **P 02 20 25.3 +1.6**
comp=Z,71nm,0.9s
YHNB Yeheng 25.36 113 *e*P **P 02 20 24.9 +0.3**
comp=Z,170nm,1.2s
KSAR Wonju Array Be 25.39 81 P **P 02 20 24.7 0.0**
KSRS Korea Array 25.42 81 P **P 02 20 24.7 -0.3**
comp=Z,119nm,0.9s,baz=276,slow=9.3,SNR=74
CHBT CHBT 25.50 165 P **P 02 20 27.8 +2.0**
comp=Z,238nm,1.0s
CHBT CHBT 25.50 165 P **P 02 20 27.8 +2.0**
comp=Z,238nm,1.0s
SSLB Suanglung 25.59 116 *e*P **P 02 20 27.4 +0.6**
comp=Z,69nm,1.0s
TPUB Ta-pu 25.67 117 *e*P **P 02 20 27.2 -0.1**
comp=Z,80nm,1.0s
NACB Ninganchiao 25.82 114 *e*P **P 02 20 30.2 +1.5**
comp=Z,223nm,1.3s
YULB Yu-li 26.09 116 *e*P **P 02 20 31.2 +0.1**
comp=Z,74nm,1.1s
MDJ Mudanjiang 26.26 64 P **P 02 20 33.0 +0.5**
MDJ pP **pP 02 20 36.0 -0.2**
MDJ sP **sP 02 20 37.5 -0.2**
MDJ S **S 02 25 06.5 +1.8**
MDJ sS **sS 02 25 11.8 +1.1**
MDJ ScP **ScP 02 27 39.0 +0.7**
MDJ PcS **PcS 02 27 40.3 +0.7**
MDJ pmax pmax
comp=Z,24nm,1.1s
MDJ LR LR
comp=N,4μm,12.9s
MDJ LR LR
comp=E,5μm,12.1s
MDJ LR LR
comp=Z,7μm,14.0s
MDJ Mudanjiang 26.26 64 *e*P **P 02 20 32.5 0.0**
comp=Z,22nm,0.9s
TWG Pinlang 26.29 117 *e*P **P 02 20 33.8 +0.8**
comp=Z,1μm,1.7s
POO Poona 27.05 231 *e*P **P 02 20 40.1 +0.3**
USRK Ussuriysk Arra 27.96 65 P **P 02 20 47.9 0.0**
comp=Z,14nm,0.8s,baz=266,slow=8.0,SNR=22
AB31 Akbulak array 28.20 306 *i* P **P 02 20 50.5 +0.6**
AB31 pmax pmax
comp=Z,35nm,0.5s
ABKAR Akbulak array 28.20 306 *e*P **P 02 20 50.8 +0.8**
comp=Z,36nm,0.9s
ABKAR *e* 02 27 44.8
JNU Nakatsue 28.87 88 P **P 02 20 55.0 -1.0**
JNU Nakatsue 28.87 88 P **P 02 20 55.0 -1.0**
comp=Z,16nm,0.8s,baz=128,slow=4.5,SNR=5.9
JOW Kunigami 29.40 102 *e*P **P 02 20 59.9 -0.9**
comp=Z,39nm,0.9s
JOW *e* 02 24 10.9
AKTO Aktyubinsk 29.65 308 P **P 02 21 03.5 +0.7**
AKTO pmax pmax
comp=Z,72nm,0.6s
AKTO Aktyubinsk 29.65 308 P **P 02 21 03.5 +0.7**
AKTO Aktyubinsk 29.65 308 P **P 02 21 03.5 +0.7**
comp=Z,72nm,0.6s,baz=101,slow=6.5,SNR=55
SVE Sverdlovsk 30.10 321 *e*P **P 02 21 07.7 +1.0**
SVE pmax pmax
comp=Z,74nm,1.4s
ARU Arti 31.00 319*d i*P **P 02 21 14.9 +0.2**
ARU S **S 02 26 20.2 +1.2**
ARU SS **SnSn 02 28 04.8 +5.5**
ARU pmax pmax
comp=Z,108nm,1.2s
YAK Yakutsk 32.09 30 *e*P **P 02 21 22.7 -1.4**
YAK pmax pmax
comp=Z,46nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,25nm,1.3s
KULM Kulim 32.54 171 *e*P **P 02 21 27.1 -1.4**
comp=E,112nm,1.6s
KULM Kulim 32.54 171 P **P 02 21 28.9 +0.4**
KTGM Kuala Trenggan 32.89 166 P **P 02 21 32.8 +1.2**
PALK Pallekele 33.21 208 *e*P **P 02 21 35.8 +1.3**
comp=E,86nm,1.3s
PALK Pallekele 33.21 208 P **P 02 21 36.9 +2.4**
comp=E,56nm,1.4s
IPM Ipoh 33.39 170 *e*P **P 02 21 35.7 -0.3**
comp=E,36nm,1.2s
MAT Matsushiro 33.65 79 P **P 02 21 35.6 -2.5**
MJAR Matsushiro Arr 33.65 79 P **P 02 21 35.6 -2.6**
MJAR Matsushiro Arr 33.65 79 P **P 02 21 35.6 -2.6**
comp=E,4.2nm,0.8s,baz=292,slow=8.7,SNR=9.1
FRIM Kepong 34.69 170 P **P 02 21 48.7 +1.5**
YSS Yuzh-Sakhalins 35.49 60 *e*P **P 02 21 53.7 -0.2**
YSS pmax pmax
comp=Z,60nm,1.1s
ASAJ Asahikawa 35.59 65 *e*P **P 02 21 54.8 +0.1**
comp=Z,81nm,0.8s
ASAJ Asahikawa 35.59 65 P **P 02 21 55.0 +0.2**
comp=Z,59nm,0.8s,baz=327,slow=5.1,SNR=27
KDM Kudat 36.10 143 P **P 02 22 00.0 +0.6**
KGM Kluang 36.16 167 P **P 02 22 00.7 +0.8**
MYKOM Kota Tinggi 36.48 166 P **P 02 22 04.1 +1.5**
MYKOM Kota Tinggi 36.48 166 P **P 02 22 05.4 +2.8**
comp=Z,48nm,1.2s
KKM Kota Kinabalu 36.58 144 *e*P **P 02 22 04.2 +0.6**
comp=Z,174nm,1.0s
KKM Kota Kinabalu 36.58 144 P **P 02 22 04.5 +0.9**
KKM Kota Kinabalu 36.58 144 P **P 02 22 04.5 +0.9**
comp=Z,210nm,1.1s
TIXI Tiksi 38.02 16 *e*P **P 02 22 14.5 -0.6**
TIXI pmax pmax
comp=Z,47nm,1.0s
TIXI MLR MLR
comp=Z,14μm,23.0s
SBUM Sibu 38.17 153 P **P 02 22 18.2 +1.2**
SBUM Sibu 38.17 153 P **P 02 22 18.7 +1.7**
comp=Z,302nm,1.7s
MYLDM Lahad Datu 38.42 142 P **P 02 22 21.3 +2.2**
MYLDM Lahad Datu 38.42 142 P **P 02 22 21.4 +2.3**
MYLDM Lahad Datu 38.42 142 P **P 02 22 21.1 +2.0**
comp=Z,631nm,1.1s
KSM Kuching 38.43 156 *e*P **P 02 22 19.4 +0.2**
comp=Z,69nm,1.1s
KSM Kuching 38.43 156 P **P 02 22 20.6 +1.4**
TSM Tawau 38.89 143 P **P 02 22 24.2 +1.2**
GNI Garni 39.34 290 *e*P **P 02 22 27.6 +0.7**
comp=Z,62nm,1.2s
KBZ Khabaz 39.97 296 P **P 02 22 32.2 +0.4**
KBZ pmax pmax
comp=Z,16nm,0.9s
KBZ Khabaz 39.97 296 P **P 02 22 32.2 +0.4**
KBZ Khabaz 39.97 296 P **P 02 22 32.2 +0.4**
comp=Z,16nm,0.9s,baz=98,slow=6.4,SNR=3.0
VRHR Novokhopersk 40.06 307 *e*P **P 02 22 32.1 -0.3**
VRHR pmax pmax
comp=N,50nm,1.3s
VRHR pmax pmax
comp=E,120nm,1.3s
VRHR pmax pmax
comp=Z,130nm,1.3s
KIV Kislovodsk 40.08 296⇑*i*P **P 02 22 34.4 +1.6**
KIV *i* 02 24 09.0
KIV *i* 02 24 40.9
KIV pmax pmax
comp=Z,65nm,1.0s
KIV Kislovodsk 40.08 296 P **P 02 22 34.5 +1.6**
comp=Z,350nm,1.0s,SNR=6.8
DAV Davao City (W) 40.73 131 P P 02 22 41.7 +3.3
SNR=5.8
VORD Divnogorie 41.53 307 *e*P **P 02 22 44.5 -0.1**
VORD pmax pmax
comp=E,90nm,1.0s
VORD pmax pmax

comp=Z,70nm,1.0s
VORD pmax pmax
comp=N,20nm,0.5s
VSR Storozhevoye 41.60 308 *e*P **P 02 22 43.9 -1.2**
VSR pmax pmax
comp=N,60nm,1.2s
VSR pmax pmax
comp=E,290nm,1.2s
VSR pmax pmax
comp=Z,190nm,1.2s
SEY Seymchan 42.19 35 *e*P **P 02 22 49.9 +0.1**
MOS Moscow 42.37 315 *e*P **P 02 22 50.5 -0.9**
MOS pmax pmax
comp=Z,259nm,1.3s
TMCR Tamitsa 42.89 327 *e*P **P 02 22 56.7 +1.3**
TMCR pmax pmax
comp=Z,72nm,1.1s
OBN Obninsk 42.98 314 *e*P **P 02 22 56.6 +0.3**
OBN *i* 02 24 42.9
OBN pmax pmax
comp=Z,110nm,1.0s
OBN Obninsk 42.98 314 P **P 02 22 56.6 +0.3**
comp=Z,474nm,1.3s,SNR=5.7
ANN Anapa 43.62 299 *e*P **P 02 23 01.0 -0.6**
ANN pmax pmax
comp=Z,113nm,1.0s
MRSI Marisa 44.18 141 P **P 02 23 07.4 +1.0**
PCI Palu 44.37 144 P **P 02 23 07.8 -0.1**
GTOI Gorontalo 44.59 139 P **P 02 23 08.7 -1.0**
PETK Petropavlovsk- 44.71 49 P **P 02 23 09.8 -0.5**
PETK pmax pmax
comp=Z,27nm,0.8s
PETK Petropavlovsk- 44.71 49 P **P 02 23 09.8 -0.5**
PETK Petropavlovsk- 44.71 49 P **P 02 23 09.8 -0.5**
comp=Z,28nm,0.8s,baz=258,slow=6.6,SNR=15
LVZ Lovozero 44.90 332 *e*P **P 02 23 11.9 +0.3**
LVZ pmax pmax
comp=Z,53nm,1.2s
RAYN Ar Rayn 45.00 267 *e*P **P 02 23 13.7 +0.6**
comp=Z,16nm,0.9s
APA Apatity 45.31 331 ⇓*i*P P 02 23 22.4 +7.6
APA MLR MLR
comp=Z,7μm,16.0s
MMSI Mamuju 45.54 147 P **P 02 23 19.8 +2.6**
JOF Joensuu 45.76 325 *e*P **P 02 23 19.0 +0.6**
JOF pmax pmax
comp=Z,36nm,0.9s
JOF Joensuu 45.76 325 *e*p **P 02 23 19.0 +0.6**
comp=Z,36nm,0.9s
TTSI Tana Toraja 46.25 146 P **P 02 23 23.9 +1.0**
TNTI Ternate 46.85 134 P **P 02 23 28.3 +0.7**
comp=Z,194nm,1.1s
SPSI Sidrap Palu 47.05 146 P **P 02 23 29.0 -0.1**
SJI Sawahan 47.58 158 P **P 02 23 33.7 +0.4**
SJI Sawahan 47.58 158 P **P 02 23 34.8 +1.5**
comp=Z,501nm,1.3s,comp=Z,2.3nm
BR131 Keskin Array S 47.66 293 *e*P **P 02 23 34.0 +0.1**
comp=Z,14nm,0.8s
BRTR Keskin Array B 47.66 293 P **P 02 23 33.9 0.0**
BRTR Keskin Array B 47.66 293 P **P 02 23 33.9 0.0**
comp=Z,22nm,0.9s,baz=102,slow=6.1,SNR=21
PWJI Pagerwojo 47.87 158 P **P 02 23 35.1 -0.3**
PWJI Pagerwojo 47.87 158 P **P 02 23 35.7 +0.3**
comp=Z,202nm,1.8s,comp=Z,1.0nm
AKASG Malin Array Be 47.89 308 P **P 02 23 34.6 -0.7**
AKASG pmax pmax
comp=Z,50nm,1.0s
AKASG Malin Array Be 47.89 308 P **P 02 23 34.6 -0.7**
AKASG Malin Array Be 47.89 308 P **P 02 23 34.6 -0.7**
comp=Z,50nm,1.0s,baz=69,slow=6.9,SNR=26
KIEV Kiev 47.90 308 *e*P **P 02 23 35.1 -0.3**
KIEV pmax pmax
comp=Z,92nm,1.2s
KIEV Kiev 47.90 308 *e*P **P 02 23 35.1 -0.3**
comp=Z,92nm,1.2s
ASF Jabal al Asfar 47.91 282 P **P 02 23 36.9 +1.1**
ASF Jabal al Asfar 47.91 282 P **P 02 23 36.9 +1.1**
comp=Z,37nm,1.0s,baz=58,slow=2.0,SNR=13
KAPI Kappang 47.98 147 *e*P **P 02 23 35.1 -1.2**
comp=Z,45nm,1.3s
KAPI Kappang 47.98 147 P **P 02 23 35.7 -0.6**
comp=Z,36nm,1.4s,comp=Z,0.2nm
KAPI Kappang 47.98 147 P **P 02 23 36.5 +0.2**
comp=Z,98nm,1.4s
KAPI Kappang 47.98 147 P **P 02 23 35.2 -1.1**
comp=Z,22nm,1.0s,baz=337,slow=11,SNR=6.1
LBMI Labuha 48.08 135 P P 02 23 42.8 +5.7
comp=Z,168nm,0.8s,comp=Z,0.6nm
KAF Kangasniemi 48.09 324 *e*P **P 02 23 35.9 -0.7**
KAF pmax pmax
comp=Z,23nm,0.9s
KAF Kangasniemi 48.09 324 *e*p **P 02 23 35.9 -0.7**
comp=Z,23nm,0.9s
VSU Vasula 48.17 319 *e*P **P 02 23 36.8 -0.5**
VSU pmax pmax
comp=Z,155nm,1.0s
KRKI Karangkates 48.19 158 P **P 02 23 39.4 +1.5**
comp=Z,308nm,1.4s,comp=Z,1.9nm
FINES FINESS Array B 48.24 323 P **P 02 23 37.5 -0.3**
FINES FINESS Array B 48.24 323 P **P 02 23 37.5 -0.3**
comp=Z,22nm,0.8s,baz=101,slow=7.2,SNR=11
ANTO Ankara 48.24 293 *e*P **P 02 23 39.1 +0.8**
ANTO pmax pmax
comp=Z,51nm,1.1s
ANTO Ankara 48.24 293 *e*P **P 02 23 39.1 +0.8**
comp=Z,51nm,1.1s
ARCES ARCESS Array B 48.40 334 P **P 02 23 39.6 +0.6**
ARCES ARCESS Array B 48.40 334 P **P 02 23 39.6 +0.6**
comp=Z,6.7nm,0.7s,baz=83,slow=7.4,SNR=8.7
BKSI Bulukumba 48.42 147 P **P 02 23 39.8 +0.1**
comp=Z,22nm,0.9s,comp=Z,0.2nm
IDID Didziasalis 48.57 315 *e*P **P 02 23 41.4 +0.9**
IDID AMB AMB 02 23 43.4
comp=Z,26nm,1.3s
GMJI Gumukmas 48.60 156 P **P 02 23 41.6 +0.5**
comp=Z,764nm,1.1s,comp=Z,3.2nm
NACGM Naroch 48.61 314 *e* **P 02 23 38.0 -2.8**
MMAI Mount Meron Ar 48.73 284 P **P 02 23 43.1 +1.0**
MMAI Mount Meron Ar 48.73 284 P **P 02 23 43.1 +1.0**
comp=Z,63nm,1.0s,baz=68,slow=9.4,SNR=8.9
IIGN Ignalina 48.86 315 *e*P **P 02 23 43.6 +0.9**
IIGN AMB AMB 02 23 44.4
comp=Z,40nm,1.4s
ISAL Salakas 48.88 315 *e*P **P 02 23 43.9 +1.1**
ISAL AMB AMB 02 23 44.7
comp=Z,25nm,1.2s
KIS Kishinev 48.98 303⇑*i*P **P 02 23 43.0 -0.8**
KIS XM 02 23 44.0
comp=Z,200nm,1.0s
KIS Kishinev 48.98 303⇑*i*P **P 02 23 43.0 -0.8**
KIS *i* 02 23 52.0
KIS pmax pmax
comp=Z,230nm,1.0s
CSS Prodhromos 49.56 287 *e*P **P 02 23 48.4 +0.1**
comp=Z,28nm,1.0s
EIL Elat 50.48 280 P **P 02 23 56.6 +1.2**
EIL Elat 50.48 280 P **P 02 23 56.6 +1.2**
comp=Z,120nm,1.1s,baz=55,slow=6.8,SNR=26
ISP Isparta 50.60 291 P **P 02 23 56.1 -0.3**
ISP Isparta 50.60 291 *e*P **P 02 23 56.5 +0.2**
comp=Z,187nm,1.1s
SUW Suwalki 50.84 313 *e*P **P 02 23 57.7 -0.1**
SUW pmax pmax
comp=Z,134nm,1.1s
SUW Suwalki 50.84 313 *e*P **P 02 23 57.7 -0.1**
comp=Z,134nm,1.1s
SUW Suwalki 50.84 313 *e*P **P 02 23 58.8 +1.0**
BUR08 Bucovina Ar. S 51.18 305 *e*P **P 02 24 00.7 0.0**
SPITS Spitsbergen Ar 51.27 345 P **P 02 24 01.1 +0.4**
SPITS Spitsbergen Ar 51.27 345 P **P 02 24 01.1 +0.4**
comp=Z,27nm,0.9s,baz=242,slow=3.1,SNR=5.9
LVV L'vov 51.34 308 *e*P **P 02 24 02.6 +1.0**
JMB Yambol 51.83 298 P **P 02 24 06.5 +1.1**
JMB Yambol 51.83 298 P **P 02 24 06.5 +1.1**
JMB Yambol 51.83 298 P **P 02 24 06.5 +1.1**
KWP Kalwaria Pacla 52.22 308 *e*P **P 02 24 08.8 +0.6**
KWP pmax pmax
comp=Z,182nm,1.0s
KWP Kalwaria Pacla 52.22 308 *e*P **P 02 24 08.8 +0.6**
comp=Z,182nm,1.0s
KWP Kalwaria Pacla 52.22 308 *e*P **P 02 24 09.6 +1.4**
MMRI Maumere 52.30 146 P **P 02 24 08.2 -0.9**
comp=Z,81nm,1.6s
KOLS Kolonicke sedl 52.69 307 *e*P **P 02 24 12.3 +0.6**
KOLS pmax pmax
comp=Z,186nm,3.0s

KOLS Kolonicke sedl 52.69 307 eP P 02 24 12.3 +0.6
UZH Uzhgorod 52.76 307⇓eP P 02 24 13.0 +0.8
UZH e 02 25 22.0
PRK Paraskevi 53.18 295 P P 02 24 15.3 -0.2
PRK Paraskevi 53.18 295 P P 02 24 15.3 -0.2
PRK Paraskevi 53.18 295 P P 02 24 15.3 -0.2
STHS Stebnicka Huta 53.19 308 eP P 02 24 16.0 +0.6
STHS pmax pmax
comp=Z,15nm,1.1s
STHS Stebnicka Huta 53.19 308 eP P 02 24 16.0 +0.6
PLD Plovdiv 53.26 299 P P 02 24 16.5 +0.5
PLD Plovdiv 53.26 299 P P 02 24 16.5 +0.5
PLD Plovdiv 53.26 299 P P 02 24 16.5 +0.5
SMG Samos 53.35 293 P P 02 24 17.1 +0.3
SMG Samos 53.35 293 P P 02 24 17.1 +0.3
CHOS Chios island 53.66 294 P P 02 24 19.4 +0.3
CHOS Chios island 53.66 294 P P 02 24 19.4 +0.3
LIA Limnos Island 53.72 296 P P 02 24 20.4 +1.0
LIA Limnos Island 53.72 296 P P 02 24 20.4 +1.0
KAVA Kavala 53.79 297 P P 02 24 20.6 +0.7
KAVA Kavala 53.79 297 P P 02 24 20.6 +0.7
OJC Ojcow 53.84 309 eP P 02 24 21.0 +0.8
ATD Arta Tunnel 53.87 256 P P 02 24 21.4 +0.5
ATD Arta Tunnel 53.87 256 P P 02 24 21.4 +0.5
comp=Z,30nm,1.0s,baz=39,slow=6.5,SNR=8.2
FX1 Attu Island--F 53.91 47 eP P 02 24 20.4 -0.2
FX1 Attu Island--F 53.91 47 P P 02 24 19.8 -0.8
comp=Z,73nm,0.9s,baz=296,slow=5.3,SNR=16
KECS Kecovo 53.95 307 eP P 02 24 22.1 +1.1
KECS Kecovo 53.95 307 eP P 02 24 22.1 +1.1
KARP Karpathos 53.97 290 P P 02 24 20.4 -0.9
KARP Karpathos 53.97 290 P P 02 24 20.4 -0.9
NVR Nevrokopi 54.12 298 P P 02 24 22.8 +0.4
NVR Nevrokopi 54.12 298 P P 02 24 22.8 +0.4
VTS Vitosha 54.13 300 P P 02 24 23.6 +1.0
VTS Vitosha 54.13 300 P P 02 24 23.6 +1.0
VTS Vitosha 54.13 300 P P 02 24 23.6 +1.0
SOEI Soe 54.20 145 P P 02 24 22.7 -0.5
comp=Z,97nm,1.2s
BATI Baumata 54.33 145 P P 02 24 23.3 -0.7
BATI Baumata 54.33 145 P P 02 24 23.3 -0.7
comp=Z,28nm,0.4s,baz=323,slow=3.4,SNR=12
SRS Serrai 54.40 298 P P 02 24 24.1 -0.3
SRS Serrai 54.40 298 P P 02 24 24.1 -0.3
SRS Serrai 54.40 298 P P 02 24 24.1 -0.3
OUR Ouranopolis 54.41 297 P P 02 24 24.9 +0.5
OUR Ouranopolis 54.41 297 P P 02 24 24.9 +0.5
OUR Ouranopolis 54.41 297 P P 02 24 24.9 +0.5
PSZ Piszkesteto 54.51 307 eP P 02 24 26.0 +0.8
PSZ pmax pmax
comp=Z,44nm,1.2s
PSZ Piszkesteto 54.51 307 eP P 02 24 26.0 +0.8
comp=Z,44nm,1.2s
APE Apeiranthos 54.56 292 P P 02 24 25.3 -0.3
APE Apeiranthos 54.56 292 P P 02 24 25.3 -0.3
APE Apeiranthos 54.56 292 P P 02 24 25.3 -0.3
SOH Sokhos 54.67 298 P P 02 24 24.9 -1.5
SOH Sokhos 54.67 298 P P 02 24 24.9 -1.5
SOH Sokhos 54.67 298 P P 02 24 24.9 -1.5
PLG Polygyros 54.78 297 P P 02 24 27.4 +0.2
PLG Polygyros 54.78 297 P P 02 24 27.4 +0.2
PLG Polygyros 54.78 297 P P 02 24 27.4 +0.2
PAIG Paliouri 54.78 296 P P 02 24 26.8 -0.3
PAIG Paliouri 54.78 296 P P 02 24 26.8 -0.3
PAIG Paliouri 54.78 296 P P 02 24 26.8 -0.3
SANT Santorini 54.89 292 P P 02 24 26.6 -1.5
SANT Santorini 54.89 292 eP P 02 24 27.1 -0.9
comp=Z,143nm,1.1s
THR1 Thera Island 54.89 292 P P 02 24 27.4 -0.7
THR3 Thira Island, 54.92 292 P P 02 24 27.6 -0.6
THR3 Thira Island, 54.92 292 P P 02 24 27.6 -0.6
AOS Alonnisos 54.93 295 P P 02 24 28.6 +0.4
AOS Alonnisos 54.93 295 P P 02 24 28.6 +0.4
OKC Ostrava-Krasne 54.98 309 eP P 02 24 28.8 +0.4
OKC Ostrava-Krasne 54.98 309 eP P 02 24 28.8 +0.4
VYHS Vyhne 54.99 308 eP P 02 24 29.5 +1.0
VYHS pmax pmax
comp=Z,24nm,1.1s
VYHS Vyhne 54.99 308 eP P 02 24 29.5 +1.0
BSD Bornholm Skovb 55.21 316 i P P 02 24 29.3 -0.7
BSD pmax pmax
comp=Z,16nm,0.9s
BSD Bornholm Skovb 55.21 316 i P P 02 24 29.3 -0.7
comp=Z,16nm,0.9s
SKIA Skiathos 55.23 296 P P 02 24 30.1 -0.3
NPS Neapolis 55.24 290 P P 02 24 30.2 -0.3
NPS Neapolis 55.24 290 P P 02 24 30.2 -0.3
NPS Neapolis 55.24 290 P P 02 24 30.2 -0.3
GRG Griva 55.29 298 P P 02 24 31.1 +0.2
GRG Griva 55.29 298 P P 02 24 31.1 +0.2
GRG Griva 55.29 298 P P 02 24 31.1 +0.2
NEO Neokhori 55.35 296 P P 02 24 30.4 -0.9
NEO Neokhori 55.35 296 P P 02 24 30.4 -0.9
XOR Xorichti 55.35 296 P P 02 24 28.6 -2.7
XOR Xorichti 55.35 296 P P 02 24 28.6 -2.7
MORC Moravsky Berou 55.37 310 eP P 02 24 31.9 +0.6
MORC pmax pmax
comp=Z,53nm,1.2s
MORC Moravsky Berou 55.37 310 eP P 02 24 31.9 +0.6
comp=Z,53nm,1.2s
NB2 NORSAR Subarra 55.37 324 P P 02 24 30.2 -0.9
comp=Z,26nm,0.9s,baz=72,slow=7.4
NB2 NORSAR Subarra 55.37 324 P P 02 24 30.2 -0.9
baz=72,slow=7.4
NOA NORSAR Array B 55.37 324 P P 02 24 30.2 -0.9
NOA NORSAR Array B 55.37 324 P P 02 24 30.2 -0.9
comp=Z,15nm,0.8s,baz=72,slow=7.1,SNR=24
LAST Lasithi 55.38 290 P P 02 24 31.8 +0.2
LAST Lasithi 55.38 290 P P 02 24 31.8 +0.2
PTL Penteli 55.38 294 P P 02 24 30.7 -0.9
PTL Penteli 55.38 294 P P 02 24 30.7 -0.9
ATHU Athens Univers 55.47 294 P P 02 24 32.6 +0.4
ATHU Athens Univers 55.47 294 P P 02 24 32.6 +0.4
ATH Athens Observa 55.52 294 P P 02 24 33.4 +0.9
ATH Athens Observa 55.52 294 P P 02 24 33.4 +0.9
ATH Athens Observa 55.52 294 P P 02 24 33.4 +0.9
SMIA Simia 55.52 295 P P 02 24 32.6 0.0
LIT Litokhoron 55.56 297 P P 02 24 32.8 0.0
LIT Litokhoron 55.56 297 P P 02 24 32.8 0.0
LIT Litokhoron 55.56 297 P P 02 24 32.8 0.0
NAO01 NORSAR Array S 55.58 324 eP P 02 24 32.7 +0.1
comp=Z,14nm,0.8s
IDI Anoyia 55.76 291 P P 02 24 32.1 -2.3
IDI Anoyia 55.76 291 eP P 02 24 33.8 -0.6
comp=Z,79nm,1.0s
KSP Ksiaz 55.77 311 eP P 02 24 34.7 +0.6
DIVS Divibare 55.77 302 P P 02 24 35.8 +1.5
DPC Dobruska-Polom 55.92 310 eP P 02 24 36.1 +0.9
DPC Dobruska-Polom 55.92 310 eP P 02 24 36.1 +0.9
SIVA Sivas 55.94 291 P P 02 24 35.3 -0.2
SIVA Sivas 55.94 291 P P 02 24 35.3 -0.2
AXAR Agios Charalam 55.96 295 P P 02 24 34.4 -1.3
AXAR Agios Charalam 55.96 295 P P 02 24 34.4 -1.3
LTK Loutraki 56.04 295 P P 02 24 33.8 -2.5
LTK Loutraki 56.04 295 P P 02 24 33.8 -2.5
UPC Upice 56.05 311 eP P 02 24 35.9 -0.2
UPC Upice 56.05 311 eP P 02 24 35.9 -0.2
DID Didima 56.06 294 P P 02 24 34.6 -1.8
DID Didima 56.06 294 P P 02 24 34.6 -1.8
AGG Agios Georgios 56.10 296 P P 02 24 35.5 -1.2
AGG Agios Georgios 56.10 296 P P 02 24 35.5 -1.2
AGG Agios Georgios 56.10 296 P P 02 24 35.5 -1.2
THL Klokotos Trika 56.10 297 P P 02 24 36.1 -0.6
ACOR Acrocorinthos 56.17 294 P P 02 24 35.6 -1.6
DSF Desfina 56.20 295 P P 02 24 36.0 -1.5
DSF Desfina 56.20 295 P P 02 24 36.0 -1.5
VAM Vamos 56.22 291 P P 02 24 36.6 -1.0
VAM Vamos 56.22 291 P P 02 24 36.6 -1.0
VAM Vamos 56.22 291 P P 02 24 36.6 -1.0
MAKR Makrakomi, Fth 56.24 296 P P 02 24 36.9 -0.8
MAKR Makrakomi, Fth 56.24 296 P P 02 24 36.9 -0.8
COP Copenhagen 56.38 318 i P P 02 24 39.2 +0.9
COP pmax pmax
comp=Z,16nm,0.9s
COP Copenhagen 56.38 318 i P P 02 24 39.2 +0.9
comp=Z,16nm,0.9s
KARN Karanos 56.44 291 P P 02 24 39.0 -0.1
KARN Karanos 56.44 291 P P 02 24 39.0 -0.1
NEST Nestorio 56.45 298 P P 02 24 37.1 -2.2
KALE Kalithea 56.49 295 P P 02 24 38.3 -1.2
KALE Kalithea 56.49 295 P P 02 24 38.3 -1.2

EVR Evrytania 56.51 296 P P 02 24 38.0 -1.7
EVR Evrytania 56.51 296 P P 02 24 38.0 -1.7
TRIZ Trizonia 56.55 295 P P 02 24 38.5 -1.3
KBN Korca 56.55 298 P P 02 24 40.1 +0.2
KBN Korca 56.55 298 P P 02 24 40.1 +0.2
KBN Korca 56.55 298 P P 02 24 40.1 +0.2
VLI Veliai 56.60 293 P P 02 24 37.7 -2.6
VLI Veliai 56.60 293 P P 02 24 37.7 -2.6
KLV Kalavryta, Ach 56.62 295 P P 02 24 37.9 -2.6
KLV Kalavryta, Ach 56.62 295 P P 02 24 37.9 -2.6
EFP Efpalio 56.64 295 P P 02 24 42.0 +1.5
ANKY Antikythira Is 56.69 292 P P 02 24 41.8 +0.9
ANKY Antikythira Is 56.69 292 P P 02 24 41.8 +0.9
VLX Vlachokerasia 56.73 294 P P 02 24 40.5 -0.8
VLX Vlachokerasia 56.73 294 P P 02 24 40.5 -0.8
TREC Trest 56.79 310 eP P 02 24 41.9 +0.5
TREC Trest 56.79 310 eP P 02 24 41.9 +0.5
JAN Janina 56.89 297 P P 02 24 41.4 -0.9
JAN Janina 56.89 297 P P 02 24 41.4 -0.9
JAN Janina 56.89 297 P P 02 24 41.4 -0.9
TIR Tirane 56.91 299 P P 02 24 42.5 +0.1
TIR Tirane 56.91 299 eP P 02 24 41.9 -0.4
TIR pmax pmax
comp=Z,54nm,1.0s
TIR Tirane 56.91 299 eP P 02 24 41.9 -0.4
comp=Z,54nm,1.0s
PVCC Panska Ves 56.91 311 eP P 02 24 43.0 +0.8
PVCC Panska Ves 56.91 311 eP P 02 24 43.0 +0.8
DYR Agios Nikonas 57.02 293 P P 02 24 41.8 -1.5
CONA Conrad Observa 57.05 308⇑ isP sP 02 24 44.1 -4.6
comp=Z,51nm,1.2s,SNR=6.9
RLS Riolos of Patr 57.11 295 P P 02 24 40.9 -2.9
RLS Riolos of Patr 57.11 295 P P 02 24 40.9 -2.9
AXS Araxos 57.12 295 P P 02 24 42.5 -1.4
PRU Pruhonice 57.12 311 eP P 02 24 44.4 +0.7
PRU Pruhonice 57.12 311 eP P 02 24 44.4 +0.7
ITM Ithomi 57.14 294 P P 02 24 40.9 -3.2
ITM Ithomi 57.14 294 P P 02 24 40.9 -3.2
PRA Prague 57.15 311 P P 02 24 45.0 +1.1
BRG Berggiesshubel 57.16 312 i P P 02 24 44.2 +0.2
comp=Z,53nm,1.3s
BRG Berggiesshubel 57.16 312 eP P 02 24 44.5 +0.5
comp=Z,53nm,1.3s
BRG Berggiesshubel 57.16 312 i P P 02 24 44.2 +0.2
BRG pmax pmax
comp=Z,53nm,1.3s
IGT Igoumenitsa 57.31 297 P P 02 24 44.4 -0.8
IGT Igoumenitsa 57.31 297 P P 02 24 44.4 -0.8
IGT Igoumenitsa 57.31 297 P P 02 24 44.4 -0.8
KOGS Kog 57.35 306 i P P 02 24 45.0 -0.4
LKD2 Lefkada island 57.38 296 P P 02 24 44.4 -1.4
LKD2 Lefkada island 57.38 296 P P 02 24 44.4 -1.4
PYL PYLOS 57.40 294 P P 02 24 43.2 -2.7
PYL PYLOS 57.40 294 P P 02 24 43.2 -2.7
SRN Sarande 57.40 298 P P 02 24 45.0 -0.8
SRN Sarande 57.40 298 P P 02 24 45.0 -0.8
FBE Freiberg 57.49 312 eP P 02 24 47.3 +1.0
comp=Z,60nm,1.3s
ARSA Arzberg 57.51 307⇑ isP sP 02 24 46.8 -5.1
comp=Z,33nm,1.2s,SNR=6.0
CLL Collm 57.56 312 eP P 02 24 47.2 +0.4
comp=Z,38nm,1.0s
CLL Collm 57.56 312⇓ iP P 02 24 47.0 +0.2
CLL pmax pmax
comp=Z,38nm,1.0s
CLL MLR MLR
comp=Z,8µm,20.1s
CLL Collm 57.56 312⇓ iP P 02 24 47.0 +0.2
comp=Z,38nm,1.0s
CLL LmV 02 54 00.0
comp=Z,8µm,20.1s
MUD Monsted U'grnd 57.84 319 i P P 02 24 48.8 +0.2
MUD pmax pmax
comp=Z,22nm,1.0s
MUD Monsted U'grnd 57.84 319 i P P 02 24 48.8 +0.2
comp=Z,22nm,1.0s
MUD i 02 25 58.1
SOKA Soboth 58.04 307 sP sP 02 24 50.8 -4.9
comp=Z,62nm,1.2s,SNR=15
GEC2 GERESS Array S 58.05 310 eP P 02 24 51.7 +1.3
comp=Z,60nm,1.4s
GEC2 GERESS Array S 58.05 310 eP P 02 24 51.7 +1.3
GEC2 pmax pmax
comp=Z,60nm,1.4s
GERES GERESS Array B 58.05 310 P P 02 24 50.6 +0.2
GERES GERESS Array B 58.05 310 P P 02 24 50.6 +0.2
comp=Z,15nm,1.1s,baz=71,slow=6.3,SNR=14
BSEG Bad Segeberg 58.13 316 eP P 02 24 52.3 +1.6
comp=Z,107nm,1.2s
NKC Novy Kostel 58.28 311 eP P 02 24 50.6 -1.3
NKC Novy Kostel 58.28 311 eP P 02 24 50.6 -1.3
WERD Werda 58.28 312 eP P 02 24 52.8 +0.8
comp=Z,30nm,1.2s
GUNZ Gunzen 58.30 312 eP P 02 24 53.3 +1.2
comp=Z,34nm,1.1s
NEUB Neuenburg 58.31 313 eP P 02 24 53.0 +0.9
comp=Z,68nm,1.2s
BOJS Bojanci 58.36 305 i P P 02 24 53.3 +0.8
OBKA Obir 58.41 307 i sP sP 02 24 53.6 -4.8
comp=Z,42nm,1.2s,SNR=7.1
LJU Ljubljana 58.61 306 i P P 02 24 55.3 +1.0
MOX Moxa 58.62 312 eP P 02 24 54.8 +0.5
comp=Z,46nm,1.3s
MOX Moxa 58.62 312 eP P 02 24 54.8 +0.5
MOX pmax pmax
comp=Z,46nm,1.3s
NRDL Niedersach Rie 58.78 315 eP P 02 24 56.5 +1.2
comp=Z,107nm,1.2s
TNA Tin City 58.85 29 eP P 02 24 57.1 +1.5
comp=Z,117nm,1.6s
CLZ Clausthal 58.88 314 eP P 02 24 57.0 +0.9
comp=Z,91nm,1.1s
CLZ Clausthal 58.88 314 eP P 02 24 57.0 +0.9
CLZ pmax pmax
comp=Z,91nm,1.1s
DAG Danmarks Havn 58.89 346 eP P 02 24 55.2 -0.5
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 58.89 346 i P P 02 24 55.2 -0.5
comp=Z,9.6nm,0.9s
JAVS Javornik 58.97 306 i P P 02 24 56.8 -0.1
GRF Grafenberg Arr 59.22 311 eP P 02 24 59.2 +0.7
comp=Z,66nm,1.1s
GRF Grafenberg Arr 59.22 311 eP P 02 24 59.2 +0.7
GRF pmax pmax
comp=Z,66nm,1.1s
GRFO Grafenberg 59.22 311 eP P 02 24 59.5 +1.0
GRFO pmax pmax
comp=Z,72nm,1.1s
GRFO Grafenberg 59.22 311 eP P 02 24 59.5 +1.0
comp=Z,72nm,1.1s
TRI Trieste 59.23 306 eP P 02 24 58.2 -0.4
TRI pmax pmax
comp=Z,45nm,1.1s
TRI Trieste 59.23 306 eP P 02 24 58.2 -0.4
comp=Z,45nm,1.1s
WTTA Wattenberg 59.94 308⇓ isP sP 02 25 03.9 -5.2
comp=Z,87nm,1.2s,SNR=11
WATA Walderalm 59.95 309⇑ ipP P 02 25 03.4 -0.3
comp=Z,51nm,1.1s,SNR=13
IBBN Ibbenburen 60.18 315 eP P 02 25 05.7 +0.7
comp=Z,47nm,1.4s
MOTA Moosalm 60.24 309⇑ ipP P 02 25 05.4 -0.3
comp=Z,69nm,1.0s,SNR=19
CUC Castrocucco 60.27 299 eP P 02 25 05.5 -0.4
comp=Z,76nm,1.0s
RETA Reutte 60.39 309⇓ isP sP 02 25 06.9 -5.0
comp=Z,43nm,1.2s
FETA Feichten 60.61 309⇑ isP sP 02 25 08.7 -4.9
comp=Z,56nm,1.2s,SNR=7.5
STU Stuttgart 60.81 311 eP P 02 25 10.3 +0.9
comp=Z,62nm,1.2s
STU Stuttgart 60.81 311 eP P 02 25 09.6 +0.2
STU pmax pmax
comp=Z,53nm,1.1s
STU Stuttgart 60.81 311 eP P 02 25 09.6 +0.2
comp=Z,53nm,1.1s
BUG Bochum--Univer 60.81 314 eP P 02 25 10.1 +0.8
comp=Z,81nm,1.4s
AQU L'Aquila 60.88 303 eP P 02 25 10.6 +0.5
comp=Z,79nm,1.2s
CEL Celeste 60.98 298 eP P 02 25 10.7 -0.1
comp=Z,136nm,1.1s
DAVA Damuels 61.02 309⇑ ipP P 02 25 10.2 -0.8
comp=Z,24nm,1.1s

FUORN Ofenpass-Fuorn 61.07 308 eP P 02 25 12.0 +0.5
comp=Z,46nm,1.0s
DAVOX Davos/Dischmat 61.24 309 P P 02 25 12.7 +0.1
DAVOX Davos/Dischmat 61.24 309 P P 02 25 12.7 +0.1
comp=Z,43nm,1.0s,baz=81,slow=4.9,SNR=13
BFO Black Forest 61.52 311 P P 02 25 14.4 +0.2
comp=Z,193nm,1.1s,SNR=7.4
BFO Black Forest 61.52 311 eP P 02 25 14.5 +0.2
comp=Z,52nm,1.2s
BFO Black Forest 61.52 311 eP P 02 25 14.7 +0.5
BFO pmax pmax
comp=Z,50nm,1.2s
BFO Black Forest 61.52 311 eP P 02 25 14.7 +0.5
comp=Z,50nm,1.2s
LANF Langenberg 61.55 312 eP P 02 25 15.9 +1.5
TUE Stuetta 61.70 308 eP P 02 25 15.5 -0.2
comp=Z,35nm,1.0s
MEM Membach 61.89 314 P P 02 25 16.4 -0.2
comp=Z,22nm,1.3s
BEBN Eben Emael 62.00 314 P P 02 25 18.3 +0.9
comp=Z,14nm,1.5s
VLC Villacollemand 62.06 306 eP P 02 25 19.5 +1.5
comp=Z,57nm,1.2s
CDF Champ du Feu 62.11 311 eP P 02 25 17.7 -0.6
comp=Z,72nm,1.2s
CDF Champ du Feu 62.11 311 eP P 02 25 17.7 -0.6
CDF pmax pmax
comp=Z,72nm,1.2s
CDF Champ du Feu 62.11 311 eP P 02 25 17.7 -0.6
comp=Z,72nm,1.2s
WLF Walferdange 62.22 313 P P 02 25 20.2 +1.4
comp=Z,60nm,1.5s
WLF Walferdange 62.22 313 eP P 02 25 20.3 +1.4
comp=Z,99nm,1.2s
WLF Walferdange 62.22 313 eP P 02 25 20.4 +1.5
WLF pmax pmax
comp=Z,95nm,1.2s
WLF Walferdange 62.22 313 eP P 02 25 20.4 +1.5
comp=Z,95nm,1.2s
ECH Echery 62.27 311 eP P 02 25 18.5 -0.8
ECH pmax pmax
comp=Z,33nm,1.2s
ECH Echery 62.27 311 eP P 02 25 18.5 -0.8
comp=Z,33nm,1.2s
ECH Echery 62.27 311 eP P 02 25 19.1 -0.2
BCLA Clavier 62.38 314 P P 02 25 20.0 +0.1
comp=Z,13nm,1.4s
HINF Hinteralfeld 62.63 311 eP P 02 25 21.1 -0.6
comp=Z,67nm,1.2s
HINF Hinteralfeld 62.63 311 eP P 02 25 21.1 -0.6
HINF pmax pmax
comp=Z,67nm,1.2s
HINF Hinteralfeld 62.63 311 eP P 02 25 21.1 -0.6
comp=Z,67nm,1.2s
MBWA Marble Bar 62.72 155 eP P 02 25 22.5 +0.1
comp=Z,87nm,1.0s
GIVF Givet 62.80 314 eP P 02 25 22.6 -0.1
comp=Z,111nm,1.3s
GIVF Givet 62.80 314 eP P 02 25 22.6 -0.1
GIVF pmax pmax
comp=Z,111nm,1.3s
GIVF Givet 62.80 314 eP P 02 25 22.6 -0.1
comp=Z,111nm,1.3s
HAU Haudompre 62.85 311 eP P 02 25 22.6 -0.6
comp=Z,80nm,1.2s
HAU Haudompre 62.85 311 eP P 02 25 22.6 -0.6
HAU pmax pmax
comp=Z,80nm,1.2s
HAU Haudompre 62.85 311 eP P 02 25 22.6 -0.6
comp=Z,80nm,1.2s
LOMF Lomont 62.86 310 eP P 02 25 22.6 -0.7
DOU Dourbes 62.93 314 P P 02 25 24.1 +0.5
comp=Z,18nm,1.5s
THEF They Montfort 62.97 311 eP P 02 25 23.7 -0.2
PAGF Fort de Pagny 62.97 312 eP P 02 25 24.0 +0.1
comp=Z,35nm,1.2s
PAGF Fort de Pagny 62.97 312 eP P 02 25 24.0 +0.1
comp=Z,35nm,1.2s
SENIN Lac Senin/Sane 63.02 309 eP P 02 25 24.6 +0.1
comp=Z,35nm,1.1s
WDD Wield Dalam 63.06 296 eP P 02 25 25.1 +0.5
comp=Z,86nm,0.9s
BAIF Baives 63.17 314 eP P 02 25 25.1 -0.1
comp=Z,76nm,1.2s
BAIF Baives 63.17 314 eP P 02 25 25.1 -0.1
BAIF pmax pmax
comp=Z,76nm,1.2s
BAIF Baives 63.17 314 eP P 02 25 25.1 -0.1
comp=Z,76nm,1.2s
MEZF Maizieres J'vi 63.39 312 eP P 02 25 26.6 -0.1
comp=Z,74nm,1.2s
MEZF Maizieres J'vi 63.39 312 eP P 02 25 26.6 -0.1
comp=Z,74nm,1.2s
SFTF Sexfontaines 63.54 312 eP P 02 25 27.1 -0.6
comp=Z,65nm,1.2s
SFTF Sexfontaines 63.54 312 eP P 02 25 27.1 -0.6
comp=Z,65nm,1.2s
CABF La Chapelle 63.65 310 eP P 02 25 27.8 -0.7
comp=Z,74nm,1.3s
CABF La Chapelle 63.65 310 eP P 02 25 27.8 -0.7
CABF pmax pmax
comp=Z,74nm,1.3s
CABF La Chapelle 63.65 310 eP P 02 25 27.8 -0.7
comp=Z,74nm,1.3s
PGF Pioggiola 63.70 305 eP P 02 25 28.8 -0.2
comp=Z,194nm,1.2s
PGF Pioggiola 63.70 305 eP P 02 25 28.8 -0.2
PGF pmax pmax
comp=Z,194nm,1.2s
PGF Pioggiola 63.70 305 eP P 02 25 28.8 -0.2
comp=Z,194nm,1.2s
RSL Roselend 63.75 309 eP P 02 25 29.9 +0.6
LPG La Plagne 63.76 308 eP P 02 25 29.6 +0.1
comp=Z,170nm,1.3s
LPG La Plagne 63.76 308 eP P 02 25 29.6 +0.1
LPG pmax pmax
comp=Z,170nm,1.3s
LPG La Plagne 63.76 308 eP P 02 25 29.6 +0.1
comp=Z,170nm,1.3s
LPL La Plagne 63.76 308 eP P 02 25 29.5 0.0
comp=Z,122nm,1.1s
LPL La Plagne 63.76 308 eP P 02 25 29.5 0.0
LPL pmax pmax
comp=Z,122nm,1.1s
LPL La Plagne 63.76 308 eP P 02 25 29.5 0.0
comp=Z,122nm,1.1s
IMA2 Indian Mountai 63.76 25 eP P 02 25 28.9 -0.1
SAOF Saorge 63.96 307 eP P 02 25 29.3 -1.3
BNI Bardonecchia 64.01 308 eP P 02 25 30.5 -0.5
BNI pmax pmax
comp=Z,45nm,1.2s
BNI Bardonecchia 64.01 308 eP P 02 25 30.5 -0.5
comp=Z,45nm,1.2s
AUTN L'Aution 64.03 307 eP P 02 25 29.7 -1.6
SBF Sospel 64.09 307 eP P 02 25 31.0 -0.5
comp=Z,244nm,1.1s
SBF Sospel 64.09 307 eP P 02 25 31.0 -0.5
SBF pmax pmax
comp=Z,244nm,1.1s
SBF Sospel 64.09 307 eP P 02 25 31.0 -0.5
comp=Z,244nm,1.1s
MBDF Montbardon 64.11 308 eP P 02 25 31.7 0.0
comp=Z,75nm,1.2s
MBDF Montbardon 64.11 308 eP P 02 25 31.7 0.0
MBDF pmax pmax
comp=Z,75nm,1.2s
MBDF Montbardon 64.11 308 eP P 02 25 31.7 0.0
comp=Z,75nm,1.2s
LUCF Luceram 64.14 307 eP P 02 25 30.1 -1.7
TOUF Mont Tournerai 64.14 307 eP P 02 25 30.4 -1.6
REVF Revere 64.19 306 eP P 02 25 31.4 -0.7
COLD Coldfoot 64.22 23 eP P 02 25 32.5 +0.6
comp=Z,104nm,1.0s
OG35 Corcelles 64.23 309 eP P 02 25 31.5 -0.9
MVIF Mont Vial 64.26 307 eP P 02 25 31.6 -1.1
CALN Calern 64.49 307 eP P 02 25 31.9 -2.3
ORIF Oris-en-Rattie 64.57 308 eP P 02 25 34.1 -0.6
comp=Z,60nm,0.9s
ORIF Oris-en-Rattie 64.57 308 eP P 02 25 34.1 -0.6
ORIF pmax pmax
comp=Z,60nm,0.9s
ORIF Oris-en-Rattie 64.57 308 eP P 02 25 34.1 -0.6
comp=Z,60nm,0.9s
EKA Eskdalemuir Ar 64.59 321 P P 02 25 34.1 -0.4
EKA Eskdalemuir Ar 64.59 321 P P 02 25 34.1 -0.4
comp=Z,17nm,1.0s,baz=62,slow=8.1,SNR=11
ESK Eskdalemuir 64.62 321 eP P 02 25 34.9 +0.2

ESK pmax pmax
comp=Z,56nm,1.3s
ESK Eskdalemuir 64.62 321 *eP* **P 02 25 34.9 +0.2**
comp=Z,56nm,1.3s
LOR Lormes 64.68 311 *eP* **P 02 25 34.1 -1.1**
comp=Z,66nm,1.2s,baz=57
LOR Lormes 64.68 311 *eP* **P 02 25 34.1 -1.1**
comp=Z,66nm,1.2s
FRF La Foret Royal 64.74 307 *eP* **P 02 25 34.9 -0.7**
comp=Z,53nm,1.3s
FRF La Foret Royal 64.74 307 *eP* **P 02 25 34.9 -0.7**
FRF pmax pmax
comp=Z,53nm,1.3s
FRF La Foret Royal 64.74 307 *eP* **P 02 25 34.9 -0.7**
comp=Z,53nm,1.3s
LMR La Mourre 64.94 306 *eP* **P 02 25 36.4 -0.5**
comp=Z,115nm,1.3s
LMR La Mourre 64.94 306 *eP* **P 02 25 36.4 -0.5**
LMR pmax pmax
comp=Z,115nm,1.3s
LMR La Mourre 64.94 306 *eP* **P 02 25 36.4 -0.5**
comp=Z,115nm,1.3s
SSF Saint Saulge 64.99 311 *eP* **P 02 25 36.4 -0.8**
comp=Z,54nm,1.3s
SSF Saint Saulge 64.99 311 *eP* **P 02 25 36.4 -0.8**
SSF pmax pmax
comp=Z,54nm,1.3s
SSF Saint Saulge 64.99 311 *eP* **P 02 25 36.4 -0.8**
comp=Z,54nm,1.3s
SMF Signal de Mont 64.99 311 *eP* **P 02 25 36.6 -0.7**
comp=Z,194nm,1.2s
SMF Signal de Mont 64.99 311 *eP* **P 02 25 36.6 -0.7**
SMF pmax pmax
comp=Z,195nm,1.2s
SMF Signal de Mont 64.99 311 *eP* **P 02 25 36.6 -0.7**
comp=Z,194nm,1.2s
AVF Avril sur Loir 65.22 311 *eP* **P 02 25 38.0 -0.7**
comp=Z,122nm,1.3s
AVF Avril sur Loir 65.22 311 *eP* **P 02 25 38.0 -0.7**
AVF pmax pmax
comp=Z,122nm,1.3s
AVF Avril sur Loir 65.22 311 *eP* **P 02 25 38.0 -0.7**
comp=Z,122nm,1.3s
SMRF Simiane la Rot 65.22 307 *eP* **P 02 25 38.5 -0.3**
comp=Z,72nm,1.5s
SMRF Simiane la Rot 65.22 307 *eP* **P 02 25 38.5 -0.3**
comp=Z,72nm,1.5s
VIVF Saint-Julien-l 65.35 309 *eP* **P 02 25 39.1 -0.6**
comp=Z,100nm,1.2s
VIVF Saint-Julien-l 65.35 309 *eP* **P 02 25 39.1 -0.6**
VIVF pmax pmax
comp=Z,100nm,1.2s
VIVF Saint-Julien-l 65.35 309 *eP* **P 02 25 39.1 -0.6**
comp=Z,100nm,1.2s
HYF Humbligny 65.41 312 *eP* **P 02 25 39.5 -0.4**
HYF Humbligny 65.41 312 *eP* **P 02 25 39.5 -0.4**
SUMG Summit 65.57 346 *i P* **P 02 25 40.0 -1.0**
comp=Z,29nm,1.1s
BGF Bois d'Agland 65.64 311 *eP* **P 02 25 40.7 -0.7**
comp=Z,61nm,1.0s
BGF Bois d'Agland 65.64 311 *eP* **P 02 25 40.7 -0.7**
BGF pmax pmax
comp=Z,61nm,1.0s
BGF Bois d'Agland 65.64 311 *eP* **P 02 25 40.7 -0.7**
comp=Z,61nm,1.0s
AGO Saint Agoulin 65.71 310 *eP* **P 02 25 41.3 -0.7**
BPAW Bear Paw Mtn. 65.84 26 *eP* **P 02 25 42.5 +0.1**
comp=Z,88nm,1.1s
SVW2 Sparrevohn 65.88 30 *eP* **P 02 25 42.9 +0.2**
comp=Z,87nm,1.1s
PYM Petit Puy Mans 65.94 310 *eP* **P 02 25 42.0 -1.5**
LBL Lubilhac 66.05 309 *eP* **P 02 25 43.8 -0.4**
PPLA Purkeypile 66.13 28 *eP* **P 02 25 45.1 +0.6**
comp=Z,255nm,1.3s
TCF Toulx Ste Croi 66.15 311 *eP* **P 02 25 44.4 -0.4**
comp=Z,177nm,1.2s
TCF Toulx Ste Croi 66.15 311 *eP* **P 02 25 44.4 -0.4**
TCF pmax pmax
comp=Z,177nm,1.2s
TCF Toulx Ste Croi 66.15 311 *eP* **P 02 25 44.4 -0.4**
comp=Z,177nm,1.2s
LASF Ste Croix 66.25 308 *eP* **P 02 25 45.2 -0.2**
comp=Z,103nm,1.2s
LASF Ste Croix 66.25 308 *eP* **P 02 25 45.2 -0.2**
comp=Z,103nm,1.2s
KMBO Kilima Mbogo 66.27 249 *eP* **P 02 25 46.5 +0.2**
comp=Z,41nm,1.2s
KMBO Kilima Mbogo 66.27 249 P **P 02 25 46.6 +0.4**
comp=Z,24nm,1.0s,baz=37,slow=7.7,SNR=5.5
LDF La Druitiere 66.36 314 *eP* **P 02 25 45.2 -0.8**
comp=Z,96nm,1.2s
LDF La Druitiere 66.36 314 *eP* **P 02 25 45.2 -0.8**
LDF pmax pmax
comp=Z,96nm,1.2s
LDF La Druitiere 66.36 314 *eP* **P 02 25 45.2 -0.8**
comp=Z,96nm,1.2s
COLA College 66.43 25 *eP* **P 02 25 45.6 -0.6**
COLA pmax pmax
comp=Z,113nm,1.0s
COLA College 66.43 25 *eP* **P 02 25 45.6 -0.6**
comp=Z,113nm,1.0s
FLN La Foliniere 66.47 314 *eP* **P 02 25 46.0 -0.8**
comp=Z,121nm,1.4s
FLN La Foliniere 66.47 314 *eP* **P 02 25 46.0 -0.8**
FLN pmax pmax
comp=Z,121nm,1.4s
FLN La Foliniere 66.47 314 *eP* **P 02 25 46.0 -0.8**
comp=Z,121nm,1.4s
TRF Thorofare Moun 66.48 27 *eP* **P 02 25 47.2 +0.4**
comp=Z,43nm,1.2s
MCK McKinley 66.78 26 *eP* **P 02 25 49.6 +1.1**
MCK pmax pmax
comp=Z,17nm,0.8s
MCK McKinley 66.78 26 *eP* **P 02 25 49.6 +1.1**
comp=Z,17nm,0.8s
KEST Kesra 66.79 298 *eP* **P 02 25 49.0 -0.1**
KEST Kesra 66.79 298 P **P 02 25 49.2 +0.1**
comp=Z,15nm,1.1s,baz=309,slow=3.7,SNR=6.8
ILAR Eielson Array 66.81 24 P **P 02 25 47.9 -0.8**
ILAR P'P' 02 54 13.5
ILAR Eielson Array 66.81 24 P **P 02 25 47.9 -0.8**
comp=Z,33nm,0.9s,baz=293,slow=4.8,SNR=65
ILAR PKPPKP P'P'df 02 54 13.5 -12
comp=Z,0.8nm,1.0s,baz=178,slow=4.5,SNR=3.8
GRR Gorron 66.88 314 *eP* **P 02 25 48.6 -0.8**
comp=Z,162nm,1.2s
GRR Gorron 66.88 314 *eP* **P 02 25 48.6 -0.8**
GRR pmax pmax
comp=Z,162nm,1.2s
GRR Gorron 66.88 314 *eP* **P 02 25 48.6 -0.8**
comp=Z,162nm,1.2s
CAF Calviac 66.93 310 *eP* **P 02 25 49.7 -0.1**
comp=Z,84nm,1.2s
CAF Calviac 66.93 310 *eP* **P 02 25 49.7 -0.1**
CAF pmax pmax
comp=Z,84nm,1.2s
CAF Calviac 66.93 310 *eP* **P 02 25 49.7 -0.1**
comp=Z,84nm,1.2s
PMG Port Moresby 67.06 123 *eP* **P 02 25 49.9 -0.9**
comp=Z,95nm,1.1s
PMG Port Moresby 67.06 123 P **P 02 25 51.6 +0.7**
comp=Z,242nm,1.1s
PMG Port Moresby 67.06 123 P **P 02 25 51.2 +0.3**
comp=Z,63nm,1.0s,baz=296,slow=5.1,SNR=14
RJF Les Rejaudoux 67.07 310 *eP* **P 02 25 50.7 +0.1**
comp=Z,106nm,1.3s
RJF Les Rejaudoux 67.07 310 *eP* **P 02 25 50.7 +0.1**
RJF pmax pmax
comp=Z,106nm,1.3s
RJF Les Rejaudoux 67.07 310 *eP* **P 02 25 50.7 +0.1**
comp=Z,106nm,1.3s
SPU Mount Spurr 67.21 29 *eP* **P 02 25 53.5 +2.1**
RSO Redoubt South 67.37 30 *eP* **P 02 25 52.9 +0.4**
comp=Z,195nm,0.9s
MFF Saint Martin d 67.39 312 *eP* **P 02 25 52.1 -0.5**
comp=Z,126nm,1.2s
MFF Saint Martin d 67.39 312 *eP* **P 02 25 52.1 -0.5**
MFF pmax pmax
comp=Z,126nm,1.2s
MFF Saint Martin d 67.39 312 *eP* **P 02 25 52.1 -0.5**
comp=Z,126nm,1.2s
MTLF Montolieu 67.64 308 *eP* **P 02 25 54.0 -0.3**
comp=Z,39nm,1.2s
MTLF Montolieu 67.64 308 *eP* **P 02 25 54.0 -0.3**
MTLF pmax pmax
comp=Z,39nm,1.2s
MTLF Montolieu 67.64 308 *eP* **P 02 25 54.0 -0.3**
comp=Z,39nm,1.2s
RES Resolute Bay 67.70 3 P **P 02 25 53.5 -0.5**
RES Resolute Bay 67.70 3 P **P 02 25 53.5 -0.5**
comp=Z,28nm,0.9s,baz=317,slow=3.8,SNR=4.5
LFF La Frestale 67.73 310 *eP* **P 02 25 54.8 0.0**
comp=Z,117nm,1.2s
LFF La Frestale 67.73 310 *eP* **P 02 25 54.8 0.0**
LFF pmax pmax
comp=Z,117nm,1.2s
LFF La Frestale 67.73 310 *eP* **P 02 25 54.8 0.0**
comp=Z,117nm,1.2s
WRAB Tennant Creek 67.83 141 P **P 02 25 55.5 -0.1**
comp=Z,435nm,1.1s,SNR=15
WRAB Tennant Creek 67.83 141 *eP* **P 02 25 54.4 -1.2**
WRAB pmax pmax
comp=Z,83nm,1.0s
WRAB Tennant Creek 67.83 141 *eP* **P 02 25 54.4 -1.2**
comp=Z,83nm,1.0s
FILF Fillols 67.83 307 *eP* **P 02 25 56.1 +0.5**
WRA Warramunga Arr 67.83 141 P **P 02 25 54.7 -1.0**
WRA P'P' 02 54 13.6
WRA Warramunga Arr 67.83 141 P **P 02 25 54.7 -1.0**
comp=Z,44nm,1.0s,baz=355,slow=7.0,SNR=60
WRA PKPPKP **P'P'df 02 54 13.6 +1.9**
comp=Z,1.9nm,1.2s,baz=145,slow=2.5,SNR=3.9
SGMF Saint Gilles 67.92 314 *eP* **P 02 25 55.7 -0.2**
comp=Z,160nm,1.3s
SGMF Saint Gilles 67.92 314 *eP* **P 02 25 55.7 -0.2**
SGMF pmax pmax
comp=Z,160nm,1.3s
SGMF Saint Gilles 67.92 314 *eP* **P 02 25 55.7 -0.2**
comp=Z,160nm,1.3s
COEN Coen 67.94 130 *eP* **P 02 25 56.8 +0.4**
comp=Z,457nm,1.0s
MRIV Mauritius Mete 67.99 219 *eP* **P 02 25 56.9 +0.3**
CARF Carcanieres 68.04 308 *eP* **P 02 25 56.7 -0.2**
PMR Palmer 68.06 28 *eP* **P 02 25 56.3 -0.3**
PMR pmax pmax
comp=Z,99nm,1.1s
PMR Palmer 68.06 28 *eP* **P 02 25 56.3 -0.3**
comp=Z,99nm,1.1s
INK Inuvik 68.12 18 *eP* **P 02 25 57.3 +0.5**
comp=Z,67nm,1.0s
INK Inuvik 68.12 18 P **P 02 25 56.9 +0.1**
comp=Z,49nm,1.0s,baz=324,slow=6.5,SNR=19
SML Sawmill 68.22 27 *eP* **P 02 25 57.5 -0.2**
SML pmax pmax
comp=Z,92nm,1.2s
SML Sawmill 68.22 27 *eP* **P 02 25 57.5 -0.2**
comp=Z,92nm,1.2s
VALF Valcebollere 68.26 307 *eP* **P 02 25 58.6 +0.2**
ROSF Rostrenen 68.28 315 *eP* **P 02 25 58.1 -0.1**
comp=Z,127nm,1.2s
ROSF Rostrenen 68.28 315 *eP* **P 02 25 58.1 -0.1**
ROSF pmax pmax
comp=Z,127nm,1.2s
ROSF Rostrenen 68.28 315 *eP* **P 02 25 58.1 -0.1**
comp=Z,127nm,1.2s
QUIF Quistinic 68.44 314 *eP* **P 02 25 58.8 -0.4**
comp=Z,129nm,1.2s
QUIF Quistinic 68.44 314 *eP* **P 02 25 58.8 -0.4**
QUIF pmax pmax
comp=Z,129nm,1.2s
QUIF Quistinic 68.44 314 *eP* **P 02 25 58.8 -0.4**
comp=Z,129nm,1.2s
EGAK Eagle 68.63 23 *eP* **P 02 26 00.9 +0.8**
EPF Esparros 68.98 309 *eP* **P 02 26 01.7 -1.0**
comp=Z,31nm,1.2s
EPF Esparros 68.98 309 *eP* **P 02 26 01.7 -1.0**
EPF pmax pmax
comp=Z,31nm,1.2s
EPF Esparros 68.98 309 *eP* **P 02 26 01.7 -1.0**
comp=Z,31nm,1.2s
KDAK Kodiak Island 69.08 32 P **P 02 26 03.9 +1.0**
comp=Z,678nm,0.8s,SNR=5.1
KDAK Kodiak Island 69.08 32 *eP* **P 02 26 03.5 +0.6**
comp=Z,132nm,1.0s
KDAK Kodiak Island 69.08 32 P **P 02 26 02.6 -0.3**
comp=Z,79nm,0.8s,baz=339,slow=5.2,SNR=17
RESF Ems 69.10 308 *eP* **P 02 26 04.2 +0.6**
OHAK Old Harbor 69.12 33 *eP* **P 02 26 03.9 +0.7**
comp=Z,59nm,1.0s
VIEF Viey 69.25 309 *eP* **P 02 26 05.0 +0.5**
DIV Divide 69.59 27 *eP* **P 02 26 07.2 +1.0**
comp=Z,72nm,0.8s
ETSF Etsaut 69.60 309 *eP* **P 02 26 06.7 +0.1**
comp=Z,52nm,1.1s
ETSF Etsaut 69.60 309 *eP* **P 02 26 06.7 +0.1**
ETSF pmax pmax
comp=Z,52nm,1.1s
ETSF Etsaut 69.60 309 *eP* **P 02 26 06.7 +0.1**
comp=Z,52nm,1.1s
DAWY Dawson 69.68 23 *eP* **P 02 26 06.7 0.0**
SJPF Ste Jean 69.90 309 *eP* **P 02 26 07.9 -0.5**
comp=Z,58nm,1.1s
SJPF Ste Jean 69.90 309 *eP* **P 02 26 07.9 -0.5**
SJPF pmax pmax
comp=Z,58nm,1.1s
SJPF Ste Jean 69.90 309 *eP* **P 02 26 07.9 -0.5**
comp=Z,58nm,1.1s
BMRM Brenner River 70.12 27 *eP* **P 02 26 10.3 +0.8**
comp=Z,106nm,1.0s
AS31 Alice Springs 70.77 143 *eP* **P 02 26 13.7 -0.1**
ASAR Alice Springs 70.77 143 P **P 02 26 13.2 -0.6**
ASAR Alice Springs 70.77 143 P **P 02 26 13.2 -0.6**
comp=Z,30nm,0.8s,baz=331,slow=6.3,SNR=77
OPO Ambohidratompo 72.23 228 P **P 02 26 22.1 -0.8**
OPO Ambohidratompo 72.23 228 P **P 02 26 22.1 -0.8**
comp=Z,18nm,1.0s,baz=42,slow=6.5,SNR=10
SFJD Kangerlussuaq 72.55 347 *i P* **P 02 26 23.3 -0.6**
comp=Z,24nm,0.9s
SFJD Kangerlussuaq 72.55 347 P **P 02 26 22.9 -1.0**
SFJD Kangerlussuaq 72.55 347 P **P 02 26 22.9 -1.0**
comp=Z,34nm,1.0s,baz=37,slow=7.9,SNR=8.0
HYT Haines Junctio 72.66 24 *eP* **P 02 26 26.0 +1.1**
NWAO Narrogin (SRO) 73.03 161 *eP* **P 02 26 27.0 -0.1**
comp=Z,64nm,1.0s
NWAO Narrogin (SRO) 73.03 161 P **P 02 26 26.1 -1.1**
comp=Z,58nm,1.0s,baz=333,slow=6.2,SNR=13
ESDC Sonseca Array 73.53 308 P **P 02 26 30.3 0.0**
ESDC Sonseca Array 73.53 308 P **P 02 26 30.3 0.0**
comp=Z,19nm,1.0s,baz=49,slow=5.7,SNR=36
PBRG Branca 74.00 311 *eP* **P 02 26 34.3 +1.3**
comp=Z,32nm,1.4s
SKAG Skagway 74.41 24 *eP* **P 02 26 36.2 +1.2**
comp=Z,66nm,1.0s
FORT Forrest 74.49 152 *eP* **P 02 26 36.2 +0.5**
comp=Z,102nm,0.9s
CTA Charters Tower 74.53 131 P **P 02 26 35.9 -0.3**
CTA Charters Tower 74.53 131 P **P 02 26 35.9 -0.3**
comp=Z,50nm,1.1s,baz=315,slow=9.7,SNR=22
CTAO Charters Tower 74.53 131 *eP* **P 02 26 35.1 -1.1**
CTAO pmax pmax
comp=Z,93nm,1.2s
CTAO Charters Tower 74.53 131 *eP* **P 02 26 35.1 -1.1**
comp=Z,94nm,1.2s
MVO Moncorvo 74.55 310 *eP* **P 02 26 37.0 +0.7**
comp=Z,40nm,1.3s
MTE Manteigas 75.32 310 *eP* **P 02 26 42.0 +1.2**
comp=Z,57nm,1.2s
MTE Manteigas 75.32 310 *eP* **P 02 26 42.1 +1.4**
comp=Z,47nm,1.2s
PVIS Viseu 75.35 310 *eP* **P 02 26 42.4 +1.5**
comp=Z,36nm,1.3s
PCBR Castelo Branco 75.62 309 *eP* **P 02 26 43.1 +0.7**
comp=Z,26nm,1.5s
PMRV Marv??o 75.82 309 *eP* **P 02 26 43.2 -0.4**
comp=Z,60nm,1.2s
PCAS Casmilo, Conde 76.11 310 *eP* **P 02 26 46.3 +1.1**
comp=Z,52nm,1.7s
PESTR Estremoz 76.28 309 *eP* **P 02 26 47.3 +1.1**
comp=Z,30nm,1.2s
PBAR Barrancos 76.35 308 *eP* **P 02 26 47.8 +1.2**
comp=Z,45nm,1.4s
PMTG Montargil 76.55 309 *eP* **P 02 26 49.0 +1.3**
comp=Z,52nm,1.2s
TAM Tamanrasset 76.63 288 *eP* **P 02 26 49.1 +0.5**
TAM pmax pmax
comp=Z,33nm,1.4s
TAM Tamanrasset 76.63 288 *eP* **P 02 26 49.1 +0.5**
comp=Z,32nm,1.4s
EVO Evora 76.74 309 *eP* **P 02 26 49.8 +1.0**
comp=Z,104nm,1.2s
EVOP Sao Brissos 76.81 309 *eP* **P 02 26 49.8 +0.6**
EVOP pmax pmax
comp=Z,104nm,1.2s
EVOP Sao Brissos 76.81 309 *eP* **P 02 26 49.8 +0.6**
comp=Z,104nm,1.2s
DLBC Dease Lake 76.90 23 *eP* **P 02 26 51.0 +1.6**
PBEJ Beja 76.96 308 *eP* **P 02 26 51.0 +0.9**
comp=Z,57nm,1.3s
YKW3 Yellowknife Ar 77.16 14 *eP* **P 02 26 50.2 -0.4**
YKA Yellowknife Ar 77.22 14 P **P 02 26 50.1 -0.9**
YKA Yellowknife Ar 77.22 14 P **P 02 26 50.1 -0.9**
comp=Z,27nm,1.1s,baz=333,slow=5.3,SNR=29
PVAQ Vaqueiros 77.25 307 *eP* **P 02 26 52.6 +0.9**
comp=Z,55nm,1.6s
PNCL Nicolau / Gran 77.32 308 *eP* **P 02 26 53.4 +1.3**
comp=Z,49nm,1.3s
PBDV Barranco-do-Ve 77.48 307 *eP* **P 02 26 53.9 +0.9**
comp=Z,82nm,1.3s
MDT Midelt 78.00 302 P **P 02 26 56.3 +0.2**
MDT Midelt 78.00 302 P **P 02 26 56.3 +0.2**
comp=Z,23nm,1.1s,baz=61,slow=5.8,SNR=12
BBOO Buckleboo 79.54 146 *eP* **P 02 27 04.2 0.0**
comp=Z,310nm,1.1s
STKA Stephens Creek 81.34 142 *eP* **P 02 27 13.4 -0.4**
comp=Z,12nm,1.1s
STKA Stephens Creek 81.34 142 P **P 02 27 13.6 -0.3**
comp=Z,27nm,0.7s,baz=336,slow=7.3,SNR=34
EIDS Eidsvold 81.42 131 *eP* **P 02 27 14.3 -0.1**
comp=Z,99nm,1.5s
LSZ Lusaka 82.38 244 *eP* **P 02 27 18.9 -0.9**
comp=Z,26nm,1.0s
LSZ Lusaka 82.38 244 P **P 02 27 19.7 -0.1**
comp=Z,22nm,1.0s,baz=45,slow=9.5,SNR=13
TORD Torodi Ar. Bea 85.26 283 P **P 02 27 34.0 -0.6**
TORD Torodi Ar. Bea 85.26 283 P **P 02 27 34.0 -0.6**
comp=Z,21nm,1.0s,baz=42,slow=4.0,SNR=23
ARMA Armidale 85.52 134 *eP* **P 02 27 36.3 +0.8**
comp=Z,43nm,1.0s
EDM Edmonton 86.01 17 *eP* **P 02 27 37.9 +0.2**
EDM Edmonton 86.01 17 *eP* **P 02 27 37.9 +0.2**
SCHQ Schefferville 86.66 350 *eP* **P 02 27 40.8 0.0**
SCHQ Schefferville 86.66 350 P **P 02 27 39.5 -1.3**
comp=Z,27nm,0.9s,baz=27,slow=5.5,SNR=10.0
FFC Flin Flon 86.71 10 *eP* **P 02 27 40.1 -0.9**
comp=Z,63nm,1.1s
PGC Sidney 87.25 25 *eP* **P 02 27 45.4 +1.6**
JCW Jim Creek 88.15 24 P **P 02 27 49.3 +1.1**
NLWA Neilton Lookou 88.20 26 *eP* **P 02 27 45.8 -2.6**
RMW Rattlesnake Mo 88.83 24 P **P 02 27 52.8 +1.3**
RMW Rattlesnake Mo 88.83 24 P **P 02 27 52.8 +1.3**
ETW Entiat 89.18 24 P **P 02 27 53.9 +0.7**
TBM Table Mountain 89.48 24 P **P 02 27 56.0 +1.5**
NEW Newport 89.56 21 *eP* **P 02 27 55.8 +0.9**
comp=Z,41nm,1.0s
NEW Newport 89.56 21 ⇑P **P 02 27 55.5 +0.7**
baz=89
WPW White Pass 89.59 25 P **P 02 27 55.8 +0.7**
BLMT Blacktail Moun 90.56 20 *eP* **P 02 28 00.4 +0.7**
REDWA Red Mountain 90.62 24 P **P 02 28 01.7 +1.9**
LBTB Lobatse 90.67 239 *eP* **P 02 28 00.3 0.0**
comp=Z,45nm,1.4s
LBTB Lobatse 90.67 239 P **P 02 27 58.9 -1.4**
comp=Z,9.3nm,0.9s,baz=6.7,slow=4.6,SNR=5.7
YBMT Yellow Bay 90.79 20 *eP* **P 02 28 01.3 +0.6**
comp=Z,42nm,0.9s
COR Corvallis 90.82 27 *eP* **P 02 28 02.9 +2.2**
COR Corvallis 90.82 27 *eP* **P 02 28 02.9 +2.2**
JTMT Jette 90.82 20 *eP* **P 02 28 01.5 +0.6**
comp=Z,58nm,1.0s
A18A Metzger Ranch, 90.83 17 ⇑P **P 02 28 00.6 -0.1**
baz=90
A19A Klindworth Far 91.07 16 ⇑P **P 02 28 01.8 -0.1**
baz=91
B17A L&G Farms, Che 91.20 17 ⇓P **P 02 28 02.5 0.0**
baz=91
A20A Cobblestone Ra 91.29 15 ⇓P **P 02 28 02.3 -0.5**
baz=91
B18A Beardsley Farm 91.34 17 ⇑P **P 02 28 03.1 -0.1**
baz=91
A21A Bergtoll Ranch 91.39 15 ⇑P **P 02 28 03.4 +0.1**
baz=91
A22A Carney Farms, 91.59 14 ⇓P **P 02 28 04.1 -0.2**
baz=91
EGMT Eagleton 91.69 17 *eP* **P 02 28 03.7 -1.1**
comp=Z,55nm,1.6s
EGMT Eagleton 91.69 17 ⇓P **P 02 28 04.9 0.0**
baz=91
MSO Missoula 91.76 20 *eP* **P 02 28 05.6 +0.4**
MSO Missoula 91.76 20 ⇑P **P 02 28 05.5 +0.3**
baz=92
C17A Wharram Farm, 91.82 18 ⇑P **P 02 28 05.5 0.0**
baz=92
ULM Lac du Bonnet 91.85 7 *eP* **P 02 28 04.2 -1.1**
comp=Z,12nm,1.0s
ULM Lac du Bonnet 91.85 7 P **P 02 28 04.0 -1.4**
comp=Z,11nm,1.0s,baz=356,slow=9.2,SNR=4.1
B21A Ellsworth Farm 91.91 15 ⇑P **P 02 28 05.9 +0.2**
baz=92
A24A Westby 92.01 13 ⇑P **P 02 28 06.8 +0.6**
baz=92
C19A Slack Wire Ran 92.13 16 ⇑P **P 02 28 07.1 +0.3**
baz=92
A25A Svangstu Ranch 92.15 12 ⇓P **P 02 28 06.9 +0.1**
baz=92
B22A Reddig Ranch S 92.23 14 ⇑P **P 02 28 07.6 +0.3**
baz=92
B23A Brockton 92.27 14 ⇑P **P 02 28 07.9 +0.4**
baz=92
D17A Six Diamond Ra 92.29 18 ⇑P **P 02 28 08.0 +0.3**
baz=92
A26A Wade Farm, Ken 92.36 12 ⇓P **P 02 28 08.3 +0.4**
baz=92
C20A Veseth Ranch, 92.38 16 ⇑P **P 02 28 08.4 +0.4**
baz=92
DGMT Dagmar 92.41 13 *eP* **P 02 28 07.9 -0.1**
comp=Z,44nm,1.0s
DGMT Dagmar 92.41 13 ⇓P **P 02 28 08.4 +0.3**
baz=92
D18A Linhart Farms, 92.46 17 ⇓P **P 02 28 09.2 +0.7**
baz=92
TSUM Tsumeb 92.61 248 *eP* **P 02 28 09.8 +0.3**
comp=Z,19nm,1.2s
TSUM Tsumeb 92.61 248 P **P 02 28 09.2 -0.2**
comp=Z,14nm,1.1s,baz=54,slow=5.1,SNR=6.6
A28A Rude Farm, Bot 92.62 11 ⇑P **P 02 28 09.5 +0.4**
baz=92
D19A Cripps Ranch, 92.70 17 ⇓P **P 02 28 09.9 +0.4**
baz=92
A29A Manning Farm, 92.75 10 ⇑P **P 02 28 09.4 -0.2**
baz=92
C22A Vida 92.78 14 ⇓P **P 02 28 10.1 +0.3**
baz=92
B26A Jensen Ranch, 92.84 12 ⇑P **P 02 28 10.5 +0.4**
baz=92
C23A Lambert 92.87 14 ⇑P **P 02 28 10.7 +0.5**
baz=92
D20A Manuel Ranch, 92.94 16 ⇓P **P 02 28 10.7 +0.1**
baz=93
E18A Harlowton 93.03 17 ⇓P **P 02 28 11.4 +0.3**
baz=93
B28A Dugan Ranch, T 93.06 11 ⇓P **P 02 28 11.5 +0.4**
baz=93
D21A La Casta Ranch 93.21 15 ⇓P **P 02 28 12.1 +0.3**
baz=93
C24A Savage 93.27 14 ⇓P **P 02 28 12.3 +0.3**
baz=93
BOSA Boshof 93.28 236 *eP* **P 02 28 10.1 -2.2**
comp=Z,37nm,1.4s
BOSA Boshof 93.28 236 P **P 02 28 10.3 -2.0**
comp=Z,18nm,1.2s,baz=54,slow=5.8,SNR=5.9
D22A Cohagen 93.30 15 ⇓P **P 02 28 12.7 +0.5**
baz=93
C25A Freed Ranch, W 93.31 13 ⇑P **P 02 28 12.7 +0.5**
baz=93
B30A Myrvik Farm, E 93.34 9 ⇑P **P 02 28 12.5 +0.2**
baz=93
E19A Rath Farm, Rou 93.39 17 ⇑P **P 02 28 13.0 +0.4**
baz=93
C26A Wahner Farm, P 93.39 12 ⇑P **P 02 28 13.1 +0.5**
baz=93
F17A Fitzpatrick Pl 93.47 18 ⇑P **P 02 28 13.5 +0.4**
baz=93
D23A Lindsay 93.47 14 ⇓P **P 02 28 13.6 +0.6**
baz=93
E20A Meyer Farm, Mu 93.50 16 ⇓P **P 02 28 13.8 +0.6**
baz=93
YBH Yreka Blue Hor 93.51 28 P **P 02 28 14.0 +0.7**
YBH Yreka Blue Hor 93.51 28 P **P 02 28 14.0 +0.7**
comp=Z,2.3nm,1.0s,baz=126,slow=8.7,SNR=3.8
D24A Glendive 93.69 14 ⇑P **P 02 28 14.8 +0.8**
baz=93

F18A	**Big Timber**	93.69	18	⇑P	P	02 28 14.8	+0.7
	baz=93						
D25A	**Fairfield**	93.84	13	⇑P	P	02 28 16.2	+1.5
	baz=94						
F19A	**Roth Farm, Mol**	93.92	17	⇑P	P	02 28 15.6	+0.4
	baz=94						
G17A	**Pierce Place,**	93.99	18	⇑P	P	02 28 15.8	+0.3
	baz=94						
E22A	**Miles City**	94.02	15	⇓P	P	02 28 16.2	+0.6
	baz=94						
E23A	**Ismay**	94.09	14	⇓P	P	02 28 16.6	+0.7
	baz=94						
F20A	**Billings**	94.16	17	⇑P	P	02 28 16.3	+0.1
	baz=94						
D27A	**Center**	94.18	12	⇑P	P	02 28 16.6	+0.4
	baz=94						
E24A	**Baker**	94.23	14	⇑P	P	02 28 17.0	+0.5
	baz=94						
DBIC	**Dimbokro**	94.31	282	*e*P	P	02 28 17.5	+0.2
DBIC	**Dimbokro**	94.31	282	P	P	02 28 17.0	-0.3
	comp=Z,15nm,1.0s,baz=41,slow=4.5,SNR=6.5						
WVOR	**Wild Horse Val**	94.33	25	*e*P	P	02 28 17.4	+0.3
WVOR				pmax	pmax		
	comp=Z,15nm,1.0s						
WVOR	**Wild Horse Val**	94.33	25	*e*P	P	02 28 17.4	+0.3
	comp=Z,15nm,1.0s						
H16A	**Russell Place,**	94.44	19	⇓P	P	02 28 18.5	+0.8
	baz=94						
D29A	**Pettibone, Tap**	94.53	10	⇓P	P	02 28 18.8	+1.0
	baz=94						
F22A	**Rosebud**	94.59	15	⇓P	P	02 28 18.3	+0.1
	baz=94						
D30A	**Buchanan**	94.60	10	⇓P	P	02 28 18.3	+0.1
	baz=94						
HLID	**Hailey**	94.62	22	*e*P	P	02 28 18.4	-0.2
	comp=Z,7.3nm,1.2s						
HLID	**Hailey**	94.62	22	⇓P	P	02 28 19.3	+0.7
	baz=94						
E26A	**Carlson Angus**	94.65	13	⇑P	P	02 28 18.5	+0.1
	baz=94						
G20A	**Bridger**	94.69	17	⇑P	P	02 28 19.0	+0.2
	baz=94						
LIC	**Lamto**	94.72	282	⇑*i*P	P	02 28 19.8	+0.6
	comp=Z,42nm,1.3s						
LIC	**Lamto**	94.72	282	⇑*i*P	P	02 28 19.8	+0.6
	comp=Z,42nm,1.3s						
YFT	**Old Faithful**	94.78	19	*e*P	P	02 28 20.7	+1.4
	comp=Z,13nm,0.9s						
LKWY	**Lake**	94.78	18	*e*P	P	02 28 18.5	-0.8
LKWY				pmax	pmax		
	comp=Z,13nm,0.9s						
LKWY	**Lake**	94.78	18	*e*P	P	02 28 18.5	-0.8
	comp=Z,13nm,0.9s						
E27A	**Carson**	94.84	12	⇑P	P	02 28 20.0	+0.7
	baz=94						
H18A	**Shoshone NF, C**	94.86	18	⇑P	P	02 28 20.2	+0.5
	baz=94						
H17A	**Grant Village**	94.90	19	⇑P	P	02 28 21.0	+1.1
	baz=95						
E29A	**Napoleon**	95.00	11	⇓P	P	02 28 20.7	+0.7
	baz=95						
G22A	**Birney**	95.12	15	⇓P	P	02 28 21.3	+0.6
	baz=95						
I16A	**Newdale**	95.15	19	⇓P	P	02 28 21.7	+0.8
	baz=95						
E30A	**Jud**	95.17	10	⇑P	P	02 28 21.7	+1.0
	baz=95						
F26A	**Lodgepole**	95.21	13	⇑P	P	02 28 21.6	+0.6
	baz=95						
G23A	**Biddle**	95.32	15	⇓P	P	02 28 22.0	+0.4
	baz=95						
MOOW	**Moose Ponds**	95.46	19	*e*P	P	02 28 23.0	+0.6
	comp=Z,8.2nm,1.2s						
LOHW	**Long Hollow**	95.62	19	*e*P	P	02 28 23.5	+0.4
	comp=Z,11nm,1.3s						
TPAW	**Teton Pass**	95.65	19	*e*P	P	02 28 24.1	+0.8
	comp=Z,12nm,1.3s						
BEKR	**Beckworth**	96.01	27	*e*P	P	02 28 26.3	+1.3
RSSD	**Black Hills**	96.63	14	*e*P	P	02 28 27.7	0.0
RSSD				pmax	pmax		
	comp=Z,14nm,1.0s						
RSSD	**Black Hills**	96.63	14	*e*P	P	02 28 27.7	0.0
	comp=Z,14nm,1.0s						
PDAR	**Pinedale Array**	96.68	18	PKKPbc	PKKPbc	02 45 08.5	-1.9
PDAR	**Pinedale Array**	96.68	18	PKKPbc	PKKPbc	02 45 08.5	-1.9
	comp=Z,1.6nm,1.0s,baz=180,slow=2.7,SNR=8.6						
J22A	**Midwest**	96.80	16	⇓P	P	02 28 28.4	0.0
	baz=96						
ELK	**Elko**	96.95	23	*e*P	P	02 28 29.7	+0.5
	comp=Z,4.8nm,1.0s						
HWUT	**Hardware Ranch**	97.24	20	*e*P	Pdif	02 28 31.6	+1.1
	comp=Z,23nm,1.5s						
J25A	**Sunshine Ranch**	97.38	14	⇑P	P	02 28 30.5	-0.5
	baz=97						
K22A	**Casper**	97.51	16	⇑P	P	02 28 31.4	-0.3
	baz=97						
M17A	**Scullys Gap (B**	97.61	20	⇓P	P	02 28 32.1	-0.1
	baz=97						
K24A	**Anderson Ranch**	97.81	15	⇓P	P	02 28 32.5	-0.5
	baz=98						
NVAR	**Mina Array Bea**	98.02	26	P	Pdif	02 28 34.3	+0.1
NVAR	**Mina Array Bea**	98.02	26	P	Pdif	02 28 34.3	+0.1
	comp=Z,2.7nm,0.8s,baz=316,slow=3.8,SNR=6.4						
DUG	**Dugway**	98.19	22	*e*P	Pdif	02 28 35.6	+0.8
DUG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DUG	**Dugway**	98.19	22	*e*P	Pdif	02 28 35.6	+0.8
	comp=Z,8.9nm,1.1s						
DUG	**Dugway**	98.19	22	⇑P	Pdif	02 28 35.1	+0.3
	baz=98						
SUR	**Sutherland**	98.64	236	*e*P	Pdif	02 28 37.4	+0.7
	comp=Z,40nm,1.1s						
GRAC	**Grapevine Rang**	99.62	26	⇑Pdiff	**Pdif**	02 28 41.2	+0.1
	baz=99						
GRAC	**Grapevine Rang**	99.62	26	⇑Pdiff	**Pdif**	02 28 41.2	+0.1
	baz=99						
WCI	**Wyandotte Cave**	104.44	2	*e*P	**Pdif**	02 29 04.1	+1.6
WCI	**Wyandotte Cave**	104.44	2	*e*Pdif	**Pdif**	02 29 04.1	+1.6
ANMO	**Albuquerque**	104.85	19	*e*Pdif	**Pdif**	02 29 06.0	+1.5
TUC	**Tucson**	106.10	23	*e*PKP	**PKiKP**	02 33 22.7	+0.8
WMOK	**Wichita Mounta**	106.69	12	*e*PKP	**PKiKP**	02 33 22.9	0.0
MNTX	**Cornudas Mount**	108.21	19	*e*PKP	**PKiKP**	02 33 26.0	+0.3
JCT	**Junction City**	110.65	14	*e*PKIKP	**PKiKP**	02 33 30.1	-0.3
JCT	**Junction City**	110.65	14	*e*PKP	**PKiKP**	02 33 30.1	-0.3
TXAR	**Lajitas Array**	110.90	18	PP	PP	02 34 05.9	-1.5
TXAR				PKKPbc	**PKKPbc**	02 44 26.8	-1.1
TXAR				PKKP	PKKPdf	02 45 09.1	+25
TXAR	**Lajitas Array**	110.90	18	PP	PP	02 34 05.9	-1.5
	comp=Z,2.0nm,1.1s,baz=345,slow=6.6,SNR=3.4						
TXAR				PKKPbc	**PKKPbc**	02 44 26.8	-1.1
	comp=Z,2.7nm,1.2s,baz=186,slow=2.6,SNR=6.7						
TXAR				PKKP	PKKPdf	02 45 09.1	+25
	comp=Z,1.8nm,0.7s,baz=267,slow=3.3,SNR=11						
VNDA	**Vanda**	121.61	166	PKP	**PKPdf**	02 33 48.8	-1.0
VNDA				*e*PKPdf	**PKiKP**	02 33 49.1	-0.8
VNDA	**Vanda**	121.61	166	PKP	**PKPdf**	02 33 48.8	-1.0
	comp=Z,4.3nm,0.9s,baz=297,slow=4.2,SNR=3.7						
CMIG	**Matias Romero**	124.61	12	PKP	**PKPdf**	02 33 55.6	-1.8
CMIG	**Matias Romero**	124.61	12	PKP	**PKPdf**	02 33 55.6	-1.8
	comp=Z,5.4nm,0.9s,baz=135,slow=2.9,SNR=4.1						
QSPA	**South Pole Qui**	127.44	180	PKP	**PKPdf**	02 33 59.3	-2.0
QSPA				*e*PKPdf	**PKiKP**	02 34 00.1	-1.8
QSPA	**South Pole Qui**	127.44	180	PKP	**PKPdf**	02 33 59.3	-2.0
	comp=Z,40nm,1.1s,baz=285,slow=2.6,SNR=29						
SNAA	**Sanae**	127.95	203	*e*P	**PKPdf**	02 34 01.5	-0.7
SNAA	**Sanae**	127.95	203	*e*PKPdf	**PKPdf**	02 34 01.4	-0.8
VNA2	**Neumayer--Watz**	129.36	204	*e*P	**PKPdf**	02 34 05.4	+0.6
VNA1	**Neumayer--Stat**	129.64	205	*e*P	**PKPdf**	02 34 07.1	+1.8
ROSC	**El Rosal**	136.69	346	*e*PKPdf	**PKPdf**	02 34 20.9	0.0
SAML	**Samuel**	145.66	321	*e*PKPdf	**PKPdf**	02 34 35.7	-0.7
ATAH	**Atahualpa**	149.14	349	PKPbc	**PKPbc**	02 34 47.5	+0.7
ATAH	**Atahualpa**	149.14	349	PKPbc	**PKPbc**	02 34 47.5	+0.7
	comp=Z,32nm,1.0s,baz=320,slow=4.6,SNR=14						
SIV	**San Ignacio**	150.26	310	PKP	**PKPdf**	02 34 43.9	0.0
SIV				PKPbc	**PKPbc**	02 34 47.9	-1.1
SIV	**San Ignacio**	150.26	310	PKP	**PKPdf**	02 34 43.9	0.0
	comp=Z,32nm,1.0s,baz=135,slow=1.4,SNR=13						
SIV				PKPbc	**PKPbc**	02 34 47.9	-1.1
	comp=Z,32nm,1.0s,baz=69,slow=3.4,SNR=29						
PMSA	**Palmer Station**	150.35	197	*e*PKPbc	**PKPbc**	02 34 46.9	-0.8
PMSA	**Palmer Station**	150.35	197	PKPbc	**PKPbc**	02 34 47.2	-0.5
	comp=Z,64nm,1.2s,baz=156,slow=3.7,SNR=10						
NNA	**Nana**	153.58	344	*e*PKPbc	**PKPbc**	02 34 55.9	-0.8
NNA				*e*PKPab	**PKPab**	02 35 08.9	-0.1
NNA	**Nana**	153.58	344	PKPbc	**PKPbc**	02 34 56.4	-0.3
	comp=Z,4.6nm,0.4s,baz=275,slow=3.4,SNR=4.7						
LPAZ	**La Paz**	154.39	322	PKP	**PKPdf**	02 34 48.7	-2.1
LPAZ				*e*PKPdf	PKPbc	02 34 49.8	-9.3
LPAZ				*e*PKPbc	**PKiKP**	02 34 58.9	-0.3
LPAZ	**La Paz**	154.39	322	PKP	**PKPdf**	02 34 48.7	-2.1
	comp=Z,6.1nm,1.2s,baz=348,slow=3.3,SNR=7.9						
CPUP	**Villa Florida**	154.63	289	*e*PKPdf	**PKPdf**	02 34 48.9	-1.2
CPUP				*e*PKPbc	**PKPbc**	02 34 58.4	-0.2
CPUP				*e*PKPab	**PKPab**	02 35 13.4	+0.1
CPUP	**Villa Florida**	154.63	289	PKP	**PKPdf**	02 34 48.6	-1.5
	comp=Z,1.5nm,0.7s,baz=44,slow=5.1,SNR=6.1						
CPUP				PKPbc	**PKPbc**	02 34 56.8	-1.7
	comp=Z,2.5nm,0.7s,baz=29,slow=4.4,SNR=9.7						
LVC	**Limon Verde**	160.02	314	*e*PKPdf	**PKPdf**	02 34 57.3	0.0
LVC				*e*PKPab	**PKPab**	02 35 36.7	-0.2
TRQA	**Tornquist**	162.43	262	*e*PKPdf	**PKPdf**	02 34 59.1	0.0
TRQA				*e*PKPab	**PKPab**	02 35 46.6	-0.3
CFAA	**Coronel Fontan**	165.52	290	PKP	**PKPdf**	02 35 01.6	-0.6
CFAA				PKPab	**PKPab**	02 35 59.8	-0.9
CFAA	**Coronel Fontan**	165.52	290	PKP	**PKPdf**	02 35 01.6	-0.6
	comp=Z,0.8nm,1.1s,baz=69,slow=3.6,SNR=5.8						
CFAA				PKPab	**PKPab**	02 35 59.8	-0.9
	comp=Z,2.1nm,1.1s,baz=58,slow=2.8,SNR=10						
LCO	**Las Campanas**	165.78	303	*e*PKPdf	**PKPdf**	02 35 02.5	-0.2
PLCA	**Paso Flores**	168.96	250	*e*PKPdf	**PKPdf**	02 35 04.2	-0.2
PLCA				PKPab	**PKPab**	02 36 13.9	-1.8
PLCA	**Paso Flores**	168.96	250	PKP	**PKPdf**	02 35 04.1	-0.3
	comp=Z,7.3nm,1.1s,baz=63,slow=7.2,SNR=5.4						
PLCA				PKPab	**PKPab**	02 36 13.9	-1.8
	comp=Z,9.6nm,1.1s,baz=90,slow=4.0,SNR=6.4						

ISCJB ***28*** *02:16:03.9±1.4, 37°.67N±0°.03×95°.76E±0°.03, h1km±8km, mb5.5/237, MS5.0/1, Error ellipse: s-maj=5.0km s-min=3.1km az=28.2*
IDC ***28*** *02:16:05.0±0.3, 37°.64N×95°.84E, h0km, mb5.2/43, mb1 5.2/46, mb1mx5.2/48, mbtmp5.1/46, ML4.6/3, Error ellipse: s-maj=12.4km s-min=9.0km az=38.0*
MOS ***28*** *02:16:06.4±0.8, 37°.69N×95°.78E, h18km, mb5.6/118, Error ellipse: s-maj=7.4km s-min=3.9km az=126.1*
BJI ***28*** *02:16:07.3, 37°.77N×95°.84E, h7km, mB5.6/3, mb5.2/31, ML5.3/5, Ms5.0/1, Ms7 4.9/4*
NEIC ***28*** *02:16:08.0±1.4, 37°.68N×95°.77E, h16km±9km, mb5.6/124, Error ellipse: s-maj=3.5km s-min=2.3km az=215.0*
SZGRF ***28*** *02:16:17.1, 38°.05N×95°.03E, h33km, mb5.5, Qinghai, China*
ISC 28 02:16:07.8±0.6, 37°.70N±0°.04×95°.81E±0°.03, h16km±3km, n560, σ1°.24/586, mb5.5/235, 10C-6D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	6.63	102	Pn	Pn	02 17 49.0	+4.1
LZH				Sg	**Sg**	02 19 36.5	-4.3
LZH				smax	smax		
	comp=N,2μm,0.9s						
LZH				smax	smax		
	comp=E,3μm,0.9s						
LSA	**Lhasa**	8.87	207	*e*P	**Pn**	02 18 18.1	+2.3
LSA	**Lhasa**	8.87	207	*e*Pn	**Pn**	02 18 18.1	+2.3
CD2	**Chengdu**	9.43	134	*e*P	**Pn**	02 18 26.0	+2.8
CD2				pP		02 18 29.0	
CD2				sP		02 18 31.8	
CD2				pmax	pmax		
	comp=Z,90nm,1.4s						
HHC	**Hu-ho-hao-te**	12.61	71	*e*P	**Pn**	02 19 06.5	-0.1
HHC				pP	P	02 19 09.8	-8.3
HHC				sP		02 19 13.0	
HHC				PP	**PnPn**	02 19 16.5	+2.1
HHC				S	**Sn**	02 21 29.5	+2.7
HHC				sS		02 21 33.5	
HHC				SS	**SnSn**	02 21 45.0	+6.3
HHC				pmax	pmax		
	comp=Z,270nm,0.8s						
SONM	**Songino Array**	12.76	34	Pn	**Pn**	02 19 10.5	+1.8
SONM				Sn	Sn	02 21 37.1	+6.7
SONM	**Songino Array**	12.76	34	Pn	**Pn**	02 19 10.5	+1.8
	comp=Z,3.3nm,0.3s,baz=218,slow=15,SNR=4.6						
SONM				Sn	Sn	02 21 37.1	+6.7
	comp=Z,0.9nm,0.3s,baz=218,slow=23,SNR=3.2						
ULN	**Ulaanbaatar**	13.08	35	*e*Pn	P	02 19 19.7	-3.6
MK31	**Makanchi Array**	13.51	317	*e*P	**Pn**	02 19 18.1	-0.8
MK31	**Makanchi Array**	13.51	317	*e*Pn	**Pn**	02 19 18.1	-0.8
MKAR	**Makanchi Array**	13.51	317	*i* P	**Pn**	02 19 17.7	-1.1
MKAR				pmax	pmax		
	comp=Z,39nm,0.6s						
MKAR	**Makanchi Array**	13.51	317	*e*Pn	**Pn**	02 19 16.9	-2.0
MKAR	**Makanchi Array**	13.51	317	Pn	**Pn**	02 19 17.6	-1.3
	comp=Z,6.2nm,0.3s,baz=130,slow=14,SNR=5.5						
ENH	**Enshi**	13.54	119	*e*Pn	**Pn**	02 19 18.5	-0.9
ZAK	**Zakamensk**	13.76	20	*e*P	P	02 19 27.5	-3.4
ZAK				pmax	pmax		
	comp=Z,204nm,1.4s						
KMI	**Kunming**	13.85	153	P	**Pn**	02 19 25.0	+1.2
KMI				PP	P	02 19 35.8	+3.7
KMI				pmax	pmax		
	comp=Z,29nm,0.7s						
MOY	**Mondy**	14.44	13	*e*P	**P**	02 19 38.4	0.0
MOY				pmax	pmax		
	comp=Z,429nm,3.2s						
GYA	**Guiyang**	14.48	138	P	**Pn**	02 19 34.3	+1.9
GYA				S	**Sn**	02 22 15.3	+2.6
GYA				SS	**S**	02 22 31.0	-1.3
GYA				PcP	**PcP**	02 24 49.8	+2.7
GYA				pmax	pmax		
	comp=Z,70nm,0.8s						
GYA				pmax	pmax		
	comp=Z,1μm,8.2s						
KSH	**Kashi**	15.62	283	P	**P**	02 19 52.3	+0.7
KSH				sP	**sP**	02 19 59.3	+1.3
KSH				PP	pP	02 20 04.3	+8.3
KSH				S	**Sn**	02 22 47.3	+7.1
KSH				SS	S	02 23 05.3	+10
KSH				pmax	pmax		
	comp=Z,59nm,1.3s						
KSH				LR	LR		
	comp=Z,4μm,11.4s						
IRK	**Irkutsk**	15.71	20	*e*P	**P**	02 19 51.8	-0.6
IRK				pmax	pmax		
	comp=Z,928nm,1.3s						
BJI	**Beijing**	16.03	75	P	**P**	02 19 56.5	+0.5
BJI				S	**S**	02 22 58.0	-5.6
BJI				pmax	pmax		
	comp=Z,280nm,1.3s						
BOK	**Bokaro**	16.25	214	*e*S	**Pn**	02 19 52.2	-3.4
TKM2	**Tokmak 2**	16.27	295	*e*P	**Pn**	02 19 53.4	-2.5
TKM2				pmax	pmax		
	comp=Z,76nm,0.9s						
TKM2	**Tokmak 2**	16.27	295	*e*Pn	**Pn**	02 19 53.4	-2.5
	comp=Z,76nm,0.9s						
SMLA	**Simla**	16.71	252	*e*4	Pn	02 19 50.6	-11
DHRM	**DHARAMSHALA**	16.88	257	*e*S	**P**	02 20 07.4	+1.6
DHRM				*e*S	**P**	02 20 08.0	+2.2
FRU	**Bishkek**	16.96	294	*i* P	**Pn**	02 20 03.0	-1.4
AAK	**Ala-Archa**	17.01	294	*e*P	**Pn**	02 20 04.5	-0.7
AAK				pmax	pmax		
	comp=Z,148nm,1.2s						
AAK	**Ala-Archa**	17.01	294	*e*Pn	**Pn**	02 20 04.6	-0.6
AAK	**Ala-Archa**	17.01	294	P	**Pn**	02 20 04.9	-0.3
	comp=Z,0.9nm,0.3s,baz=112,slow=11,SNR=2.2						
DLH	**Dalhousie**	17.02	258	*e*4	**P**	02 20 09.0	+1.7
THN	**Thein Dam**	17.26	258	*e*S	**P**	02 20 07.5	-2.1
EKS2	**Erkin-Say**	17.54	293	*e*P	**Pn**	02 20 11.3	-0.5
EKS2				pmax	pmax		
	comp=Z,600nm,2.8s						
EKS2	**Erkin-Say**	17.54	293	*e*Pn	**Pn**	02 20 11.2	-0.5
	comp=Z,600nm,2.8s						
ZALV	**Zalesovo Beam**	17.93	339	P	**P**	02 20 17.1	+0.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	17.93	339	P	**P**	02 20 17.1	+0.2
ZALV	**Zalesovo Beam**	17.93	339	P	**P**	02 20 17.1	+0.2
	comp=Z,1.0nm,0.3s,baz=147,slow=11,SNR=8.0						
CHTO	**Chiang Mai**	19.01	171	*e*P	**Pn**	02 20 29.9	+0.1
CHTO				pmax	pmax		
	comp=Z,35nm,0.8s						
CHTO	**Chiang Mai**	19.01	171	*e*P	**Pn**	02 20 29.9	+0.1
	comp=Z,35nm,0.8s						
NVS	**Novosibirsk**	19.17	337	*e*P	**P**	02 20 28.6	-1.9
NVS				*e*S	**Sn**	02 24 03.4	-2.5
NVS				pmax	pmax		
	comp=E,113nm,1.4s						
NVS				pmax	pmax		
	comp=Z,197nm,1.4s						
NVS				pmax	pmax		
	comp=N,189nm,1.5s						
NVS				smax	smax		
	comp=E,288nm,2.8s						
CM31	**Chiang Mai Arr**	19.36	171	*e*P	**Pn**	02 20 33.9	-0.1
	comp=E,51nm,0.8s						
CMAR	**Chiang Mai Arr**	19.36	171	P	**P**	02 20 33.5	+0.6
CMAR				PcP	**PcP**	02 24 54.5	-0.2
CMAR	**Chiang Mai Arr**	19.36	171	P	**P**	02 20 33.5	+0.6
	comp=E,2.5nm,0.3s,baz=341,slow=9.6,SNR=13						
CMAR				PcP	**PcP**	02 24 54.5	-0.2
	comp=E,0.6nm,0.3s,baz=320,slow=2.6,SNR=6.9						
NJ2	**Nanjing**	19.71	100	*e*P	**Pn**	02 20 40.5	+2.4
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KKAR	**Karatay Array**	19.98	294	*e*P	**P**	02 20 37.2	-2.3
KKAR	**Karatay Array**	19.98	294	*e*P	**P**	02 20 37.2	-2.3
DL2	**Dalian**	20.28	79	⇑P	Pn	02 20 43.8	-1.0
DL2				S	**S**	02 24 30.3	+0.6
DL2				pmax	pmax		
	comp=Z,360nm,1.1s						
DL2				pmax	pmax		
	comp=Z,7μm,12.8s						
DL2				LR	LR		
	comp=E,3μm,13.7s						
DL2				LR	LR		
	comp=Z,5μm,14.7s						
HIA	**Hailar**	20.77	49	*e*P	**P**	02 20 49.1	+1.0
	comp=Z,191nm,1.2s						
BHPL	**Bhopal**	21.36	233	*e*S	**P**	02 20 50.3	-4.3
KBL	**Kabul**	21.82	270	*e*P	**P**	02 20 59.7	0.0
KBL				pmax	pmax		
	comp=Z,42nm,0.8s						
KBL	**Kabul**	21.82	270	*e*P	**P**	02 20 59.7	0.0
	comp=Z,42nm,0.8s						
NGP	**Nagpur**	21.96	226	*e*4	P	02 20 51.1	-10
QZH	**Quanzhou**	23.18	117	⇑*i*P	**P**	02 21 11.5	-2.3
QZH				pmax	pmax		
	comp=Z,660nm,1.8s						
CN2	**Changchun**	23.19	65	*e*P	**P**	02 21 14.0	+0.1
CN2				*e*pP	**pP**	02 21 19.5	+1.1
CN2				*e*sP	**sP**	02 21 22.8	+2.4
CN2				*e*S	**S**	02 25 22.3	-2.7
CN2				pmax	pmax		
	comp=Z,90nm,1.1s						
BVAR	**Borovoye Array**	23.36	319	P	**P**	02 21 15.5	0.0
BVAR				pmax	pmax		
	comp=Z,25nm,0.7s						
BVAR	**Borovoye Array**	23.36	319	P	**P**	02 21 15.5	0.0
BVAR	**Borovoye Array**	23.36	319	P	**P**	02 21 15.5	0.0
	comp=Z,25nm,0.7s,baz=120,slow=10,SNR=4.5						
BRVK	**Borovoye**	23.43	319	*e*P	**P**	02 21 16.1	-0.1
BRVK				pmax	pmax		
	comp=Z,73nm,1.0s						
BRVK	**Borovoye**	23.43	319	*e*P	**P**	02 21 15.9	-0.3
	comp=Z,87nm,1.0s						
INCN	**Inchon**	24.38	81	*e*P	**P**	02 21 25.2	-0.1
	comp=Z,447nm,1.7s						
TATO	**Taipei**	25.24	113	*e*P	**P**	02 21 33.4	+0.2
	comp=Z,192nm,1.3s						
HYB	**Hyderabad**	25.26	222	*i* P	**P**	02 21 33.0	-0.4
YHNB	**Yeheng**	25.34	113	*e*P	**P**	02 21 34.6	+0.4
	comp=Z,171nm,1.2s						
KSAR	**Wonju Array Be**	25.36	81	P	**P**	02 21 34.2	0.0
KSRS	**Korea Array**	25.39	81	P	**P**	02 21 34.2	-0.2
	comp=Z,40nm,0.7s,baz=278,slow=9.1,SNR=9.7						
SSLB	**Suanglung**	25.58	116	*e*P	**P**	02 21 37.0	+0.7
	comp=Z,116nm,1.2s						
TPUB	**Ta-pu**	25.65	117	*e*P	**P**	02 21 37.5	+0.6
	comp=Z,77nm,1.0s						
NACB	**Ninganchiao**	25.80	114	*e*P	**P**	02 21 39.8	+1.5
	comp=Z,270nm,1.4s						
YULB	**Yu-li**	26.07	116	*e*P	**P**	02 21 41.2	+0.5
	comp=Z,140nm,1.4s						
MDJ	**Mudanjiang**	26.22	64	P	**P**	02 21 46.0	+4.0
MDJ				pP	**pP**	02 21 47.3	+0.6
MDJ				sP	**sP**	02 21 48.8	+0.2
MDJ				S	S	02 26 20.8	+7.3
MDJ				ScP	**ScP**	02 28 52.5	+5.0
MDJ				ScS	**ScS**	02 32 42.5	+5.2
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MDJ	**Mudanjiang**	26.22	64	*e*P	**P**	02 21 42.5	+0.6
	comp=Z,127nm,1.6s						
TWG	**Pinlang**	26.27	117	*e*P	**P**	02 21 44.1	+1.5
	comp=Z,470nm,1.2s						
POO	**Poona**	27.08	231	*e*4	**P**	02 21 49.1	-0.8
VLA	**Vladivostok**	27.85	67	*e*P	**P**	02 21 54.1	-2.5
VLA				*e*S	**S**	02 26 39.3	+0.1
VLA				pmax	pmax		
	comp=Z,81nm,1.5s						
USRK	**Ussuriysk Arra**	27.93	65	P	**P**	02 21 57.2	-0.1
	comp=Z,8.6nm,0.7s,baz=265,slow=8.8,SNR=5.6						
JNU	**Nakatsue**	28.84	88	*e*P	**P**	02 22 05.7	+0.1
	comp=Z,96nm,2.1s						
JOW

VSR pmax pmax
comp=E,140nm,1.1s
VSR pmax pmax
comp=Z,140nm,1.1s
SEY Seymchan 42.15 35 *eP* **P 02 23 59.7 +0.5**
MOS Moscow 42.38 315 *eP* **P 02 24 00.3 -0.9**
MOS pmax pmax
comp=Z,276nm,1.3s
TMCR Tamitsa 42.89 327 *eP* **P 02 24 06.2 +1.0**
TMCR pmax pmax
comp=Z,96nm,1.4s
OBN Obninsk 42.99 314⇓ *iP* **P 02 24 05.2 -0.9**
OBN *i* 02 25 56.1
OBN *i* S **S 02 30 28.5 -2.2**
OBN pmax pmax
comp=Z,91nm,1.2s
ANN Anapa 43.64 299 *eP* **P 02 24 10.7 -0.8**
ANN pmax pmax
comp=Z,74nm,0.9s
PETK Petropavlovsk- 44.67 49 P **P 02 24 18.8 -0.9**
PETK 02 26 01.3
PETK pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 44.67 49 P **P 02 24 18.8 -0.9**
PETK PcP **PcP 02 26 01.3 -0.7**
PETK Petropavlovsk- 44.67 49 P **P 02 24 18.8 -0.9**
comp=Z,20nm,0.9s,baz=281,slow=8.3,SNR=6.8
PETK PcP **PcP 02 26 01.3 -0.7**
comp=Z,4.8nm,0.5s,baz=64,slow=3.4,SNR=3.6
SIM Simferopol' 45.91 299 *eP* **P 02 24 30.1 +0.5**
SIM pmax pmax
comp=Z,41nm,1.0s
BR131 Keskin Array S 47.69 293 *eP* **P 02 24 44.0 +0.2**
comp=Z,14nm,0.8s
BRTR Keskin Array B 47.69 293 P **P 02 24 44.1 +0.3**
BRTR Keskin Array B 47.69 293 P **P 02 24 44.1 +0.3**
comp=Z,16nm,0.9s,baz=95,slow=7.2,SNR=9.0
AKASG Malin Array Be 47.91 308 P **P 02 24 44.9 -0.3**
AKASG pmax pmax
comp=Z,45nm,1.0s
AKASG Malin Array Be 47.91 308 P **P 02 24 44.9 -0.3**
AKASG Malin Array Be 47.91 308 P **P 02 24 44.9 -0.3**
comp=Z,34nm,1.0s,baz=68,slow=7.3,SNR=14
KIEV Kiev 47.92 308 *eP* **P 02 24 44.4 -0.8**
KIEV pmax pmax
comp=Z,47nm,1.0s
KIEV Kiev 47.92 308 *eP* **P 02 24 44.4 -0.8**
comp=Z,47nm,1.0s
ASF Jabal al Asfar 47.93 282 P **P 02 24 46.7 +0.9**
ASF Jabal al Asfar 47.93 282 P **P 02 24 46.7 +0.9**
comp=Z,29nm,1.0s,baz=29,slow=2.9,SNR=6.4
KAPI Kappang 47.98 147 *eP* **P 02 24 44.9 -1.2**
comp=Z,51nm,1.2s
KAPI Kappang 47.98 147 P **P 02 24 44.8 -1.2**
comp=Z,23nm,1.0s,baz=324,slow=8.6,SNR=4.1
VSU Vasula 48.17 319 *eP* **P 02 24 46.3 -0.8**
VSU pmax pmax
comp=Z,152nm,1.0s
FINES FINESS Array B 48.24 323 P **P 02 24 47.8 +0.2**
FINES FINESS Array B 48.24 323 P **P 02 24 47.8 +0.2**
comp=Z,22nm,0.9s,baz=78,slow=7.3,SNR=7.5
ANTO Ankara 48.26 293 *eP* **P 02 24 48.5 +0.3**
ANTO pmax pmax
comp=Z,23nm,1.0s
ANTO Ankara 48.26 293 *eP* **P 02 24 48.5 +0.3**
comp=Z,23nm,1.0s
ARCES ARCESS Array B 48.39 334 P **P 02 24 48.9 +0.2**
ARCES ARCESS Array B 48.39 334 P **P 02 24 48.9 +0.2**
comp=Z,10nm,1.0s,baz=94,slow=7.7,SNR=5.1
NACGM Naroch 48.62 314 *e* **P 02 24 48.0 -2.6**
MMAI Mount Meron Ar 48.75 284 P **P 02 24 52.6 +0.6**
MMAI PcP **PcP 02 26 17.5 +0.6**
MMAI Mount Meron Ar 48.75 284 P **P 02 24 52.6 +0.6**
comp=Z,46nm,1.1s,baz=54,slow=9.8,SNR=6.8
MMAI PcP **PcP 02 26 17.5 +0.6**
comp=Z,25nm,1.0s,baz=72,slow=4.7,SNR=6.0
CSS Prodhromos 49.58 287 *eP* **P 02 24 59.0 +0.7**
comp=Z,23nm,0.9s
EIL Elat 50.50 280 P **P 02 25 06.3 +1.0**
EIL Elat 50.50 280 P **P 02 25 06.3 +1.0**
comp=Z,78nm,1.1s,baz=66,slow=6.1,SNR=8.3
ISP Isparta 50.62 291 *eP* **P 02 25 06.7 +0.4**
SUW Suwalki 50.85 313 *eP* **P 02 25 07.6 0.0**
SUW pmax pmax
comp=Z,70nm,0.9s
SUW Suwalki 50.85 313 *eP* **P 02 25 07.6 0.0**
comp=Z,70nm,0.9s
SUW Suwalki 50.85 313 *eP* **P 02 25 08.2 +0.6**
LBFI Labuhan Bajo, 51.16 149 P **P 02 25 10.0 -0.3**
BUR08 Bucovina Ar. S 51.20 305 *eP* **P 02 25 10.0 -0.4**
SPITS Spitsbergen Ar 51.26 345 P **P 02 25 11.0 +0.6**
SPITS Spitsbergen Ar 51.26 345 P **P 02 25 11.0 +0.6**
comp=Z,33nm,1.0s,baz=198,slow=4.2,SNR=5.3
LVV L'vov 51.35 308 *eP* **P 02 25 11.6 +0.2**
KWP Kalwaria Pacla 52.23 308 *eP* **P 02 25 18.6 +0.6**
KWP pmax pmax
comp=Z,161nm,1.0s
KWP Kalwaria Pacla 52.23 308 *eP* **P 02 25 18.6 +0.6**
comp=Z,161nm,1.0s
KWP Kalwaria Pacla 52.23 308 *eP* **P 02 25 18.7 +0.7**
OJC Ojcow 53.86 309 *eP* **P 02 25 30.8 +0.8**
comp=Z,60nm,1.0s
FX1 Attu Island--F 53.87 47 *eP* **P 02 25 28.8 -1.2**
KECS Kecovo 53.97 307 *eP* **P 02 25 31.7 +0.9**
BATI Baumata 54.32 146 P **P 02 25 32.2 -1.5**
BATI Baumata 54.32 146 P **P 02 25 32.2 -1.5**
comp=Z,21nm,0.3s,baz=279,slow=1.1,SNR=3.7
PSZ Piszkesteto 54.52 307 *eP* **P 02 25 35.0 0.0**
PSZ pmax pmax
comp=Z,38nm,1.2s
PSZ Piszkesteto 54.52 307 *eP* **P 02 25 35.0 0.0**
comp=Z,38nm,1.2s
OKC Ostrava-Krasne 54.99 309 *eP* **P 02 25 38.8 +0.6**
OKC Ostrava-Krasne 54.99 309 *eP* **P 02 25 38.8 +0.6**
VYHS Vyhne 55.00 308 *eP* **P 02 25 39.3 +0.9**
NB2 NORSAR Subarra 55.37 324 P **P 02 25 40.4 -0.5**
comp=Z,54nm,1.2s,baz=73,slow=7.4
NB2 NORSAR Subarra 55.37 324 P **P 02 25 40.4 -0.5**
baz=73,slow=7.4
NOA NORSAR Array B 55.37 324 P **P 02 25 40.3 -0.6**
NOA NORSAR Array B 55.37 324 P **P 02 25 40.3 -0.6**
comp=Z,16nm,0.9s,baz=73,slow=7.2,SNR=6.0
MORC Moravsky Berou 55.38 310 *eP* **P 02 25 41.5 +0.4**
MORC pmax pmax
comp=Z,29nm,1.0s
MORC Moravsky Berou 55.38 310 *eP* **P 02 25 41.5 +0.4**
comp=Z,29nm,1.0s
NAO01 NORSAR Array S 55.58 324 *eP* **P 02 25 41.8 -0.5**
comp=Z,29nm,1.0s
KSP Ksiaz 55.78 311 *eP* **P 02 25 44.5 +0.6**
IDI Anoyia 55.78 291 *eP* **P 02 25 43.6 -0.7**
comp=Z,62nm,1.0s
SMOL Smolenice 55.87 308 *eP* **P 02 25 46.4 +1.8**
DPC Dobruska-Polom 55.93 310 *eP* **P 02 25 46.3 +1.3**
DPC Dobruska-Polom 55.93 310 *eP* **P 02 25 46.3 +1.3**
UPC Upice 56.06 311 *eP* **P 02 25 46.9 +1.0**
UPC Upice 56.06 311 *eP* **P 02 25 46.9 +1.0**
KONO Kongsberg 56.55 323 *eP* **P 02 25 49.6 +0.3**
KONO pmax pmax
comp=Z,72nm,1.6s
KONO Kongsberg 56.55 323 *eP* **P 02 25 49.6 +0.3**
comp=Z,72nm,1.6s
RUE Ruedersdorf 56.70 314 *eP* **P 02 25 50.9 +0.5**
comp=Z,63nm,1.2s
TREC Trest 56.80 310 *eP* **P 02 25 52.4 +1.2**
TREC Trest 56.80 310 *eP* **P 02 25 52.4 +1.2**
PVCC Panska Ves 56.92 311 *eP* **P 02 25 53.3 +1.3**
PVCC Panska Ves 56.92 311 *eP* **P 02 25 53.3 +1.3**
TIR Tirane 56.92 299 *eP* **P 02 25 52.3 +0.1**
TIR pmax pmax
comp=Z,43nm,1.0s
TIR Tirane 56.92 299 *eP* **P 02 25 52.3 +0.1**
comp=Z,43nm,1.0s
CONA Conrad Observa 57.06 308⇑ *iP* **P 02 25 52.9 -0.3**
comp=Z,46nm,1.2s,SNR=6.6
PRU Pruhonice 57.13 311 *eP* **P 02 25 54.5 +1.0**
PRU Pruhonice 57.13 311 *eP* **P 02 25 54.5 +1.0**
PRA Prague 57.16 311 P **P 02 25 55.0 +1.3**
BRG Berggiesshubel 57.17 312 *i* P **P 02 25 54.6 +0.9**
comp=Z,56nm,1.3s
BRG Berggiesshubel 57.17 312 *eP* **P 02 25 54.7 +0.9**
comp=Z,56nm,1.3s
BRG Berggiesshubel 57.17 312 *i* P **P 02 25 54.7 +0.9**
BRG pmax pmax
comp=Z,56nm,1.3s
KOGS Kog 57.37 306 *i* P **P 02 25 55.4 +0.2**
FBE Freiberg 57.50 312 *eP* **P 02 25 57.0 +0.9**
comp=Z,57nm,1.2s
ARSA Arzberg 57.53 307⇑ *iP* **P 02 25 56.0 -0.4**
comp=Z,27nm,1.1s,SNR=6.4
CLL Collm 57.56 312 *eP* **P 02 25 57.1 +0.5**
comp=Z,54nm,1.1s
CLL Collm 57.56 312⇓ *iP* **P 02 25 57.1 +0.5**
CLL pmax pmax
comp=Z,54nm,1.1s
CLL Collm 57.56 312⇓ *iP* **P 02 25 57.1 +0.5**
comp=Z,54nm,1.1s
PERS Pernice 58.02 307 *i* P **P 02 26 00.5 +0.6**
SOKA Soboth 58.05 307⇓ *iP* **P 02 26 00.7 +0.5**
comp=Z,58nm,1.2s,SNR=11
GEC2 GERESS Array S 58.06 310 *eP* **P 02 26 01.1 +0.9**
comp=Z,32nm,1.2s
GEC2 GERESS Array S 58.06 310 *eP* **P 02 26 01.1 +0.9**
GEC2 pmax pmax
comp=Z,32nm,1.2s
GERES GERESS Array B 58.06 310 P **P 02 26 00.8 +0.6**
GERES GERESS Array B 58.06 310 P **P 02 26 00.8 +0.6**
comp=Z,15nm,1.0s,baz=67,slow=7.6,SNR=9.9
BSEG Bad Segeberg 58.14 316 *eP* **P 02 26 01.3 +0.8**
comp=Z,95nm,1.2s
TANN Tannenbergstha 58.21 312 *eP* **P 02 26 01.9 +0.7**
comp=Z,51nm,1.3s
NKC Novy Kostel 58.29 311 *eP* **P 02 26 02.5 +0.8**
NKC Novy Kostel 58.29 311 *eP* **P 02 26 02.5 +0.8**
WERD Werda 58.29 312 *eP* **P 02 26 01.9 +0.2**
comp=Z,29nm,1.2s
GUNZ Gunzen 58.31 312 *eP* **P 02 26 02.5 +0.6**
comp=Z,54nm,1.2s
NEUB Neuenburg 58.32 313 *eP* **P 02 26 02.4 +0.6**
comp=Z,68nm,1.1s
BOJS Bojanci 58.37 305 *i* P **P 02 26 03.0 +0.7**
WET Wettzell 58.45 310 *eP* **P 02 26 03.5 +0.7**
comp=Z,20nm,1.1s
WET Wettzell 58.45 310 *eP* **P 02 26 03.5 +0.7**
WET pmax pmax
comp=Z,20nm,1.1s
MANZ Manzenberg 58.59 311 *eP* **P 02 26 04.5 +0.7**
comp=Z,44nm,1.4s
ROTZ Rotzenmuhle 58.61 311 *eP* **P 02 26 05.3 +1.4**
comp=Z,55nm,1.2s
LJU Ljubljana 58.62 306 *i* P **P 02 26 04.5 +0.4**
MOX Moxa 58.63 312 *eP* **P 02 26 04.8 +0.8**
comp=Z,50nm,1.3s
MOX Moxa 58.63 312 *eP* **P 02 26 04.8 +0.8**
MOX pmax pmax
comp=Z,50nm,1.3s
NRDL Niedersach Rie 58.79 315 *eP* **P 02 26 06.2 +1.2**
comp=Z,96nm,1.2s
CLZ Clausthal 58.89 314 *eP* **P 02 26 06.7 +0.8**
comp=Z,84nm,1.1s
CLZ Clausthal 58.89 314 *eP* **P 02 26 06.7 +0.8**
CLZ pmax pmax
comp=Z,84nm,1.1s
JAVS Javornik 58.98 306 *i* P **P 02 26 06.6 -0.1**
RJOB Jochberg 59.05 309 *eP* **P 02 26 08.0 +0.9**
comp=Z,46nm,1.3s
GRF Grafenberg Arr 59.23 311 *eP* **P 02 26 09.3 +1.0**
comp=Z,96nm,1.2s
GRF Grafenberg Arr 59.23 311 *eP* **P 02 26 09.3 +1.0**
GRF pmax pmax
comp=Z,96nm,1.2s
GRFO Grafenberg 59.23 311 *eP* **P 02 26 08.8 +0.5**
GRFO pmax pmax
comp=Z,72nm,1.1s
GRFO Grafenberg 59.23 311 *eP* **P 02 26 08.8 +0.5**
comp=Z,72nm,1.1s
UBBA Unterbreizbach 59.50 313 *eP* **P 02 26 11.1 +1.1**
comp=Z,134nm,2.0s
FUR Furstenfeldbru 59.81 310 *eP* **P 02 26 13.4 +1.1**
comp=Z,126nm,1.1s
FUR Furstenfeldbru 59.81 310 *eP* **P 02 26 13.4 +1.1**
FUR pmax pmax
comp=Z,126nm,1.1s
WTTA Wettenberg 59.95 308⇑ *iP* **P 02 26 13.8 +0.3**
comp=Z,86nm,1.1s,SNR=7.7
WATA Walderalm 59.96 309⇑ *iP* **P 02 26 13.5 0.0**
comp=Z,55nm,1.1s,SNR=10
MOTA Moosalm 60.25 309⇑ *iP* **P 02 26 15.5 -0.1**
comp=Z,66nm,1.0s,SNR=12
CUC Castrocucco 60.29 299 *eP* **P 02 26 15.7 0.0**
comp=Z,54nm,1.0s
RETA Reutte 60.40 309⇓ *iP* **P 02 26 16.8 +0.4**
comp=Z,44nm,1.1s,SNR=5.9
FETA Feichten 60.62 309⇓ *iP* **P 02 26 17.5 -0.5**
comp=Z,54nm,1.1s,SNR=6.2
TNS Taunus Mts 60.65 313 *eP* **P 02 26 18.6 +0.5**
comp=Z,36nm,1.2s
TNS Taunus Mts 60.65 313 *eP* **P 02 26 18.6 +0.5**
TNS pmax pmax
comp=Z,36nm,1.2s
STU Stuttgart 60.82 311 *eP* **P 02 26 19.7 +0.6**
comp=Z,60nm,1.1s
STU Stuttgart 60.82 311 *eP* **P 02 26 19.5 +0.4**
STU pmax pmax
comp=Z,33nm,0.9s
STU Stuttgart 60.82 311 *eP* **P 02 26 19.5 +0.4**
comp=Z,33nm,0.9s
BUG Bochum--Univer 60.82 314 *eP* **P 02 26 19.8 +0.7**
comp=Z,69nm,1.2s
AQU L'Aquila 60.90 303 *eP* **P 02 26 20.3 +0.4**
comp=Z,94nm,1.4s
CEL Celeste 61.00 298 *eP* **P 02 26 19.9 -0.7**
comp=Z,116nm,1.1s
FUORN Ofenpass-Fuorn 61.08 308 *eP* **P 02 26 21.6 +0.4**
comp=Z,50nm,1.0s
DAVOX Davos/Dischmat 61.25 309 P **P 02 26 22.3 0.0**
DAVOX Davos/Dischmat 61.25 309 P **P 02 26 22.3 0.0**
comp=Z,33nm,0.9s,baz=107,slow=7.1,SNR=7.5
BFO Black Forest 61.53 311 *eP* **P 02 26 24.6 +0.6**
comp=Z,49nm,1.2s
BFO Black Forest 61.53 311 *eP* **P 02 26 23.9 -0.1**
BFO pmax pmax
comp=Z,46nm,1.2s
BFO Black Forest 61.53 311 *eP* **P 02 26 23.9 -0.1**
comp=Z,46nm,1.2s
TUE Stuetta 61.71 308 *eP* **P 02 26 25.0 -0.5**
comp=Z,39nm,1.1s
MEM Membach 61.90 314 P **P 02 26 27.1 +0.7**
comp=Z,22nm,1.3s
VLC Villacollemand 62.08 306 *eP* **P 02 26 28.4 +0.6**
comp=Z,38nm,1.0s
CDF Champ du Feu 62.12 311 *eP* **P 02 26 28.0 -0.1**
comp=Z,94nm,1.2s
CDF Champ du Feu 62.12 311 *eP* **P 02 26 28.0 -0.1**
CDF pmax pmax
comp=Z,94nm,1.2s
CDF Champ du Feu 62.12 311 *eP* **P 02 26 28.0 -0.1**
comp=Z,94nm,1.2s
WLF Walferdange 62.23 313 P **P 02 26 30.1 +1.4**
comp=Z,49nm,1.3s
WLF Walferdange 62.23 313 *eP* **P 02 26 30.1 +1.4**
comp=Z,86nm,1.1s
WLF Walferdange 62.23 313 *eP* **P 02 26 29.0 +0.3**
WLF pmax pmax
comp=Z,83nm,1.1s
WLF Walferdange 62.23 313 *eP* **P 02 26 29.0 +0.3**
comp=Z,83nm,1.1s
ECH Echery 62.28 311 *eP* **P 02 26 28.8 -0.3**
ECH pmax pmax
comp=Z,32nm,1.3s
ECH Echery 62.28 311 *eP* **P 02 26 28.8 -0.3**
comp=Z,32nm,1.3s
BCLA Clavier 62.39 314 P **P 02 26 30.3 +0.6**
comp=Z,16nm,1.4s
HINF Hinteralfeld 62.64 311 *eP* **P 02 26 31.4 -0.1**
comp=Z,57nm,1.1s
HINF Hinteralfeld 62.64 311 *eP* **P 02 26 31.4 -0.1**
HINF pmax pmax
comp=Z,57nm,1.1s
HINF Hinteralfeld 62.64 311 *eP* **P 02 26 31.4 -0.1**
comp=Z,57nm,1.1s
MBWA Marble Bar 62.72 155 *eP* **P 02 26 32.0 -0.1**
comp=Z,108nm,1.3s
GIVF Givet 62.80 314 *eP* **P 02 26 32.9 +0.4**
comp=Z,122nm,1.2s
GIVF Givet 62.80 314 *eP* **P 02 26 32.9 +0.4**
GIVF pmax pmax
comp=Z,122nm,1.2s
GIVF Givet 62.80 314 *eP* **P 02 26 32.9 +0.4**
comp=Z,122nm,1.2s
HAU Haudompre 62.86 311 *eP* **P 02 26 32.9 0.0**
comp=Z,43nm,1.1s
HAU Haudompre 62.86 311 *eP* **P 02 26 32.9 0.0**
HAU pmax pmax
comp=Z,43nm,1.1s
HAU Haudompre 62.86 311 *eP* **P 02 26 32.9 0.0**
comp=Z,43nm,1.1s
DOU Dourbes 62.94 314 P **P 02 26 34.2 +0.8**
comp=Z,14nm,1.2s
PAGF Fort de Pagny 62.98 312 *eP* **P 02 26 34.3 +0.6**
comp=Z,53nm,1.3s,baz=48
PAGF Fort de Pagny 62.98 312 *eP* **P 02 26 34.3 +0.6**
comp=Z,53nm,1.3s
SENIN Lac Senin/Sane 63.03 309 *eP* **P 02 26 33.4 -0.9**
comp=Z,35nm,1.1s
BAIF Baives 63.18 314 *eP* **P 02 26 35.4 +0.5**
comp=Z,97nm,1.2s
BAIF Baives 63.18 314 *eP* **P 02 26 35.4 +0.5**
BAIF pmax pmax
comp=Z,97nm,1.2s
BAIF Baives 63.18 314 *eP* **P 02 26 35.4 +0.5**
comp=Z,97nm,1.2s
MEZF Maizieres J'vi 63.40 312 *eP* **P 02 26 36.9 +0.4**
comp=Z,104nm,1.4s
MEZF Maizieres J'vi 63.40 312 *eP* **P 02 26 36.9 +0.4**
comp=Z,104nm,1.4s
SFTF Sexfontaines 63.55 312 *eP* **P 02 26 37.4 -0.1**
comp=Z,77nm,1.2s
SFTF Sexfontaines 63.55 312 *eP* **P 02 26 37.4 -0.1**
comp=Z,77nm,1.2s
CABF La Chapelle 63.66 310 *eP* **P 02 26 38.1 -0.2**
comp=Z,42nm,1.2s
CABF La Chapelle 63.66 310 *eP* **P 02 26 38.1 -0.2**
CABF pmax pmax
comp=Z,42nm,1.2s
CABF La Chapelle 63.66 310 *eP* **P 02 26 38.1 -0.2**
comp=Z,42nm,1.2s
PGF Pioggiola 63.71 305 *eP* **P 02 26 38.8 0.0**
comp=Z,180nm,1.3s
PGF Pioggiola 63.71 305 *eP* **P 02 26 38.8 0.0**
PGF pmax pmax
comp=Z,180nm,1.3s
PGF Pioggiola 63.71 305 *eP* **P 02 26 38.8 0.0**
comp=Z,180nm,1.3s
IMA2 Indian Mountai 63.73 25 *eP* **P 02 26 38.6 +0.1**
LPG La Plagne 63.77 308 *eP* **P 02 26 39.6 +0.3**
comp=Z,147nm,1.1s
LPG La Plagne 63.77 308 *eP* **P 02 26 39.6 +0.3**
LPG pmax pmax
comp=Z,147nm,1.1s
LPG La Plagne 63.77 308 *eP* **P 02 26 39.6 +0.3**
comp=Z,147nm,1.1s
LPL La Plagne 63.77 308 *eP* **P 02 26 39.5 +0.2**
comp=Z,122nm,1.1s
LPL La Plagne 63.77 308 *eP* **P 02 26 39.5 +0.2**
LPL pmax pmax
comp=Z,122nm,1.1s
LPL La Plagne 63.77 308 *eP* **P 02 26 39.5 +0.2**
comp=Z,122nm,1.1s
BNI Bardonecchia 64.02 308 *eP* **P 02 26 40.7 -0.1**
BNI pmax pmax
comp=Z,54nm,1.3s
BNI Bardonecchia 64.02 308 *eP* **P 02 26 40.7 -0.1**
comp=Z,54nm,1.3s
SBF Sospel 64.11 307 *eP* **P 02 26 41.0 -0.3**
comp=Z,180nm,1.1s
SBF Sospel 64.11 307 *eP* **P 02 26 41.0 -0.3**
SBF pmax pmax
comp=Z,180nm,1.1s
SBF Sospel 64.11 307 *eP* **P 02 26 41.0 -0.3**
comp=Z,180nm,1.1s
MBDF Montbardon 64.12 308 *eP* **P 02 26 41.8 +0.3**
comp=Z,70nm,1.3s
MBDF Montbardon 64.12 308 *eP* **P 02 26 41.8 +0.3**
MBDF pmax pmax
comp=Z,70nm,1.3s
MBDF Montbardon 64.12 308 *eP* **P 02 26 41.8 +0.3**
comp=Z,70nm,1.3s
COLD Coldfoot 64.19 23 *eP* **P 02 26 42.9 +1.5**
comp=Z,76nm,1.0s
ORIF Oris-en-Rattie 64.58 308 *eP* **P 02 26 44.1 -0.4**
comp=Z,76nm,1.0s
ORIF Oris-en-Rattie 64.58 308 *eP* **P 02 26 44.1 -0.4**
ORIF pmax pmax
comp=Z,76nm,1.0s
ORIF Oris-en-Rattie 64.58 308 *eP* **P 02 26 44.1 -0.4**
comp=Z,76nm,1.0s
EKA Eskdalemuir Ar 64.59 321 P **P 02 26 43.8 -0.4**
EKA Eskdalemuir Ar 64.59 321 P **P 02 26 43.8 -0.4**
comp=Z,26nm,1.1s,baz=57,slow=8.0,SNR=8.0
ESK Eskdalemuir 64.62 321 *eP* **P 02 26 43.6 -0.8**
ESK pmax pmax
comp=Z,39nm,1.3s
ESK Eskdalemuir 64.62 321 *eP* **P 02 26 43.6 -0.8**
comp=Z,39nm,1.3s
LOR Lormes 64.69 311 *eP* **P 02 26 44.4 -0.6**
comp=Z,83nm,1.3s,baz=54
LOR Lormes 64.69 311 *eP* **P 02 26 44.4 -0.6**
comp=Z,83nm,1.3s
FRF La Foret Royal 64.75 307 *eP* **P 02 26 44.9 -0.5**
comp=Z,79nm,1.5s
FRF La Foret Royal 64.75 307 *eP* **P 02 26 44.9 -0.5**
FRF pmax pmax
comp=Z,79nm,1.5s
FRF La Foret Royal 64.75 307 *eP* **P 02 26 44.9 -0.5**
comp=Z,79nm,1.5s
LMR La Mourre 64.95 306 *eP* **P 02 26 46.4 -0.3**
comp=Z,96nm,1.2s
LMR La Mourre 64.95 306 *eP* **P 02 26 46.4 -0.3**
LMR pmax pmax
comp=Z,97nm,1.2s
LMR La Mourre 64.95 306 *eP* **P 02 26 46.4 -0.3**
comp=Z,96nm,1.2s
SMF Signal de Mont 65.00 311 *eP* **P 02 26 46.8 -0.3**
comp=Z,184nm,1.2s
SMF Signal de Mont 65.00 311 *eP* **P 02 26 46.8 -0.3**
SMF pmax pmax
comp=Z,184nm,1.2s
SMF Signal de Mont 65.00 311 *eP* **P 02 26 46.8 -0.3**
comp=Z,184nm,1.2s
SSF Saint Saulge 65.00 311 *eP* **P 02 26 46.6 -0.4**
comp=Z,67nm,1.3s
SSF Saint Saulge 65.00 311 *eP* **P 02 26 46.6 -0.4**
SSF pmax pmax
comp=Z,67nm,1.3s
SSF Saint Saulge 65.00 311 *eP* **P 02 26 46.6 -0.4**
comp=Z,67nm,1.3s
AVF Avril sur Loir 65.23 311 *eP* **P 02 26 48.3 -0.2**
comp=Z,132nm,1.2s
AVF Avril sur Loir 65.23 311 *eP* **P 02 26 48.3 -0.2**
AVF pmax pmax
comp=Z,132nm,1.2s
AVF Avril sur Loir 65.23 311 *eP* **P 02 26 48.3 -0.2**
comp=Z,132nm,1.2s
SMRF Simiane la Rot 65.23 307 *eP* **P 02 26 48.5 -0.1**
comp=Z,50nm,1.3s
SMRF Simiane la Rot 65.23 307 *eP* **P 02 26 48.5 -0.1**
comp=Z,50nm,1.3s
VIVF Saint-Julien-l 65.37 309 *eP* **P 02 26 49.1 -0.4**
comp=Z,90nm,1.2s
VIVF Saint-Julien-l 65.37 309 *eP* **P 02 26 49.1 -0.4**
VIVF pmax pmax
comp=Z,91nm,1.2s
VIVF Saint-Julien-l 65.37 309 *eP* **P 02 26 49.1 -0.4**
comp=Z,90nm,1.2s
HYF Humbligny 65.42 312 *eP* **P 02 26 49.9 +0.2**
HYF Humbligny 65.42 312 *eP* **P 02 26 49.9 +0.2**
SUMG Summit 65.56 346 *eP* **P 02 26 49.6 -1.1**
SUMG pmax pmax
comp=Z,70nm,1.3s
SUMG Summit 65.56 346 *eP* **P 02 26 49.6 -1.1**
comp=Z,70nm,1.3s
SUMG Summit 65.56 346 *i* **P 02 26 49.3 -1.4**
BGF Bois d'Agland 65.64 311 *eP* **P 02 26 51.0 -0.2**
comp=Z,49nm,1.0s
BGF Bois d'Agland 65.64 311 *eP* **P 02 26 51.0 -0.2**
BGF pmax pmax
comp=Z,49nm,1.0s
BGF Bois d'Agland 65.64 311 *eP* **P 02 26 51.0 -0.2**
comp=Z,49nm,1.0s
BPAW Bear Paw Mtn. 65.81 26 *eP* **P 02 26 52.5 +0.5**
comp=Z,143nm,1.4s
SVW2 Sparrevohn 65.84 30 *eP* **P 02 26 54.0 +1.8**
comp=Z,63nm,1.1s
PPLA Purkeypile 66.10 28 *eP* **P 02 26 55.5 +1.5**
comp=Z,287nm,1.4s
TCF Toulx Ste Croi 66.16 311 *eP* **P 02 26 54.7 +0.1**
comp=Z,149nm,1.1s
TCF Toulx Ste Croi 66.16 311 *eP* **P 02 26 54.7 +0.1**

TCF pmax pmax
comp=Z,149nm,1.1s
TCF Toulx Ste Croi 66.16 311 *eP* **P 02 26 54.7 +0.1**
comp=Z,149nm,1.1s
LASF Ste Croix 66.26 308 *eP* **P 02 26 55.2 0.0**
comp=Z,124nm,1.2s
LASF Ste Croix 66.26 308 *eP* **P 02 26 55.2 0.0**
comp=Z,124nm,1.2s
KMBO Kilima Mbogo 66.31 249 *eP* **P 02 26 56.6 +0.4**
comp=Z,35nm,1.3s
KMBO Kilima Mbogo 66.31 249 P **P 02 26 55.5 -0.6**
comp=Z,20nm,1.1s,baz=22,slow=11,SNR=5.9
LDF La Druitiere 66.36 314 *eP* **P 02 26 55.5 -0.3**
comp=Z,78nm,1.2s
LDF La Druitiere 66.36 314 *eP* **P 02 26 55.5 -0.3**
LDF pmax pmax
comp=Z,78nm,1.2s
LDF La Druitiere 66.36 314 *eP* **P 02 26 55.5 -0.3**
comp=Z,78nm,1.2s
COLA College 66.40 25 *eP* **P 02 26 56.8 +1.1**
COLA pmax pmax
comp=Z,81nm,1.0s
COLA College 66.40 25 *eP* **P 02 26 56.8 +1.1**
comp=Z,81nm,1.0s
TRF Thorofare Moun 66.45 27 *eP* **P 02 26 56.3 0.0**
comp=Z,68nm,1.5s
FLN La Foliniere 66.48 314 *eP* **P 02 26 56.3 -0.2**
comp=Z,77nm,1.2s,baz=51
FLN La Foliniere 66.48 314 *eP* **P 02 26 56.3 -0.2**
FLN pmax pmax
comp=Z,77nm,1.2s
FLN La Foliniere 66.48 314 *eP* **P 02 26 56.3 -0.2**
comp=Z,77nm,1.2s
ILAR Eielson Array 66.78 24 P **P 02 26 58.0 -0.2**
ILAR Eielson Array 66.78 24 P **P 02 26 58.0 -0.2**
comp=Z,23nm,0.9s,baz=291,slow=5.9,SNR=12
KEST Kesra 66.81 298 *eP* **P 02 26 58.6 -0.3**
KEST Kesra 66.81 298 P **P 02 26 59.1 +0.1**
comp=Z,8.7nm,1.1s,baz=51,slow=10,SNR=3.6
GRR Gorron 66.89 314 *eP* **P 02 26 58.9 -0.2**
comp=Z,172nm,1.1s
GRR Gorron 66.89 314 *eP* **P 02 26 58.9 -0.2**
GRR pmax pmax
comp=Z,172nm,1.1s
GRR Gorron 66.89 314 *eP* **P 02 26 58.9 -0.2**
comp=Z,172nm,1.1s
CAF Calviac 66.94 310 *eP* **P 02 27 00.1 +0.5**
comp=Z,68nm,1.2s
CAF Calviac 66.94 310 *eP* **P 02 27 00.1 +0.5**
CAF pmax pmax
comp=Z,68nm,1.2s
CAF Calviac 66.94 310 *eP* **P 02 27 00.1 +0.5**
comp=Z,68nm,1.2s
PMG Port Moresby 67.05 123 *eP* **P 02 27 00.8 +0.3**
comp=Z,89nm,1.2s
PMG Port Moresby 67.05 123 P **P 02 27 01.6 +1.1**
PMG Port Moresby 67.05 123 P **P 02 27 00.4 -0.1**
comp=Z,69nm,1.2s,baz=338,slow=5.4,SNR=6.6
RJF Les Rejaudoux 67.08 310 *eP* **P 02 27 01.0 +0.6**
comp=Z,154nm,1.3s
RJF Les Rejaudoux 67.08 310 *eP* **P 02 27 01.0 +0.6**
RJF pmax pmax
comp=Z,154nm,1.3s
RJF Les Rejaudoux 67.08 310 *eP* **P 02 27 01.0 +0.6**
comp=Z,154nm,1.3s
SPU Mount Spurr 67.18 29 *eP* **P 02 27 01.8 +1.0**
RSO Redoubt South 67.34 30 *eP* **P 02 27 02.9 +0.8**
MFF Saint Martin d 67.40 312 *eP* **P 02 27 02.4 0.0**
comp=Z,146nm,1.3s
MFF Saint Martin d 67.40 312 *eP* **P 02 27 02.4 0.0**
MFF pmax pmax
comp=Z,146nm,1.3s
MFF Saint Martin d 67.40 312 *eP* **P 02 27 02.4 0.0**
comp=Z,146nm,1.3s
MTLF Montolieu 67.66 308 *eP* **P 02 27 04.0 -0.1**
comp=Z,63nm,1.4s
MTLF Montolieu 67.66 308 *eP* **P 02 27 04.0 -0.1**
MTLF pmax pmax
comp=Z,63nm,1.4s
MTLF Montolieu 67.66 308 *eP* **P 02 27 04.0 -0.1**
comp=Z,63nm,1.4s
LFF La Frestale 67.74 310 *eP* **P 02 27 05.1 +0.6**
comp=Z,101nm,1.1s
LFF La Frestale 67.74 310 *eP* **P 02 27 05.1 +0.6**
LFF pmax pmax
comp=Z,101nm,1.1s
LFF La Frestale 67.74 310 *eP* **P 02 27 05.1 +0.6**
comp=Z,101nm,1.1s
WRAB Tennant Creek 67.83 141 *eP* **P 02 27 05.1 -0.2**
WRAB pmax pmax
comp=Z,61nm,1.0s
WRAB Tennant Creek 67.83 141 *eP* **P 02 27 05.1 -0.2**
comp=Z,61nm,1.0s
WRA Warramunga Arr 67.83 141 P **P 02 27 04.7 -0.6**
WRA Warramunga Arr 67.83 141 P **P 02 27 04.7 -0.6**
comp=Z,38nm,1.0s,baz=340,slow=6.2,SNR=14
SGMF Saint Gilles 67.93 314 *eP* **P 02 27 06.0 +0.3**
comp=Z,167nm,1.3s
SGMF Saint Gilles 67.93 314 *eP* **P 02 27 06.0 +0.3**
SGMF pmax pmax
comp=Z,167nm,1.3s
SGMF Saint Gilles 67.93 314 *eP* **P 02 27 06.0 +0.3**
comp=Z,167nm,1.3s
COEN Coen 67.93 130 *eP* **P 02 27 06.0 -0.1**
comp=Z,429nm,1.1s
PMR Palmer 68.03 28 *eP* **P 02 27 06.1 0.0**
PMR pmax pmax
comp=Z,64nm,1.4s
PMR Palmer 68.03 28 *eP* **P 02 27 06.0 0.0**
comp=Z,64nm,1.4s
INK Inuvik 68.10 18 *eP* **P 02 27 06.5 +0.1**
comp=Z,90nm,1.6s
INK Inuvik 68.10 18 P **P 02 27 06.4 +0.1**
comp=Z,31nm,1.0s,baz=335,slow=6.5,SNR=6.8
SML Sawmill 68.19 27 *eP* **P 02 27 07.5 +0.3**
SML pmax pmax
comp=Z,58nm,1.2s
SML Sawmill 68.19 27 *eP* **P 02 27 07.5 +0.3**
comp=Z,58nm,1.2s
ROSF Rostrenen 68.29 315 *eP* **P 02 27 08.3 +0.3**
comp=Z,204nm,1.3s
ROSF Rostrenen 68.29 315 *eP* **P 02 27 08.3 +0.3**
ROSF pmax pmax
comp=Z,204nm,1.3s
ROSF Rostrenen 68.29 315 *eP* **P 02 27 08.3 +0.3**
comp=Z,204nm,1.3s
PAX Paxson 68.44 26 *eP* **P 02 27 08.7 -0.1**
PAX pmax pmax
comp=Z,23nm,0.9s
PAX Paxson 68.44 26 *eP* **P 02 27 08.7 -0.1**
comp=Z,23nm,0.9s
QUIF Quistinic 68.45 314 *eP* **P 02 27 09.1 +0.1**
comp=Z,126nm,1.2s
QUIF Quistinic 68.45 314 *eP* **P 02 27 09.1 +0.1**
QUIF pmax pmax
comp=Z,126nm,1.2s
QUIF Quistinic 68.45 314 *eP* **P 02 27 09.1 +0.1**
comp=Z,126nm,1.2s
EGAK Eagle 68.60 23 *eP* **P 02 27 10.5 +0.9**
comp=Z,65nm,1.0s
EPF Esparros 68.99 309 *eP* **P 02 27 11.7 -0.8**
comp=Z,43nm,1.3s
EPF Esparros 68.99 309 *eP* **P 02 27 11.7 -0.8**
EPF pmax pmax
comp=Z,43nm,1.3s
EPF Esparros 68.99 309 *eP* **P 02 27 11.7 -0.8**
comp=Z,43nm,1.3s
KDAK Kodiak Island 69.04 32 *eP* **P 02 27 12.7 +0.3**
comp=Z,85nm,1.0s
KDAK Kodiak Island 69.04 32 P **P 02 27 12.4 -0.1**
comp=Z,53nm,0.8s,baz=299,slow=3.1,SNR=8.1
DIV Divide 69.56 27 *eP* **P 02 27 15.9 +0.1**
comp=Z,60nm,0.9s
ETSF Etsaut 69.62 309 *eP* **P 02 27 16.7 +0.3**
comp=Z,45nm,1.0s
ETSF Etsaut 69.62 309 *eP* **P 02 27 16.7 +0.3**
ETSF pmax pmax
comp=Z,45nm,1.0s
ETSF Etsaut 69.62 309 *eP* **P 02 27 16.7 +0.3**
comp=Z,45nm,1.0s
DAWY Dawson 69.65 23 *eP* **P 02 27 16.2 0.0**
SJPF Ste Jean 69.91 309 *eP* **P 02 27 18.2 0.0**
comp=Z,53nm,1.1s
SJPF Ste Jean 69.91 309 *eP* **P 02 27 18.2 0.0**
SJPF pmax pmax
comp=Z,53nm,1.1s
SJPF Ste Jean 69.91 309 *eP* **P 02 27 18.2 0.0**
comp=Z,53nm,1.1s
BMRM Bremner River 70.09 27 *eP* **P 02 27 19.4 +0.4**
comp=Z,81nm,1.2s
AS31 Alice Springs 70.77 143 *eP* **P 02 27 23.2 -0.3**
ASAR Alice Springs 70.77 143 P **P 02 27 23.2 -0.3**
ASAR Alice Springs 70.77 143 P **P 02 27 23.2 -0.3**
comp=Z,22nm,0.8s,baz=332,slow=6.1,SNR=16
OPO Ambohidratompo 72.26 228 P **P 02 27 32.6 -0.2**
OPO Ambohidratompo 72.26 228 P **P 02 27 32.6 -0.2**
comp=Z,14nm,0.9s,baz=31,slow=5.9,SNR=7.0
SFJD Kangerlussuaq 72.53 347 *eP* **P 02 27 33.0 -0.6**
comp=Z,52nm,1.2s
SFJD Kangerlussuaq 72.53 347 P **P 02 27 32.5 -1.0**
comp=Z,31nm,1.0s,baz=29,slow=6.8,SNR=4.5
SFJD Kangerlussuaq 72.53 347 *i* **P 02 27 32.6 -1.0**
HYT Haines Junctio 72.63 24 *eP* **P 02 27 34.9 +0.5**
NWAO Narrogin (SRO) 73.04 161 *eP* **P 02 27 35.7 -1.2**
comp=Z,39nm,0.9s
NWAO Narrogin (SRO) 73.04 161 P **P 02 27 35.9 -1.0**
comp=Z,36nm,0.8s,baz=322,slow=5.4,SNR=8.2
ESDC Sonseca Array 73.55 308 P **P 02 27 40.2 0.0**
ESDC Sonseca Array 73.55 308 P **P 02 27 40.2 0.0**
comp=Z,20nm,1.0s,baz=45,slow=5.8,SNR=16
PAB San Pablo 73.86 308 *eP* **P 02 27 41.2 -0.8**
PAB pmax pmax
comp=Z,151nm,1.1s
PAB San Pablo 73.86 308 *eP* **P 02 27 41.2 -0.8**
comp=Z,151nm,1.1s
PBRG Braganca 74.01 311 *eP* **P 02 27 43.1 +0.3**
comp=Z,34nm,1.4s
SKAG Skagway 74.38 24 *eP* **P 02 27 46.0 +1.4**
comp=Z,55nm,1.1s
FORT Forrest 74.49 152 *eP* **P 02 27 45.2 -0.2**
comp=Z,61nm,0.8s
CTA Charters Tower 74.52 131 P **P 02 27 45.6 -0.2**
CTA Charters Tower 74.52 131 P **P 02 27 45.6 -0.2**
comp=Z,32nm,1.0s,baz=316,slow=9.0,SNR=12
CTAO Charters Tower 74.52 131 *eP* **P 02 27 45.4 -0.5**
CTAO pmax pmax
comp=Z,64nm,1.1s
CTAO Charters Tower 74.52 131 *eP* **P 02 27 45.4 -0.5**
comp=Z,64nm,1.1s
MVO Moncorvo 74.56 310 *eP* **P 02 27 47.0 +0.9**
comp=Z,43nm,1.1s
MTE Manteigas 75.33 310 *eP* **P 02 27 51.7 +1.2**
comp=Z,60nm,1.5s
MTE Manteigas 75.33 310 *eP* **P 02 27 51.8 +1.2**
comp=Z,47nm,1.2s
PVIS Viseu 75.36 310 *eP* **P 02 27 51.3 +0.7**
comp=Z,67nm,1.7s
PMRV Marv??o 75.83 309 *eP* **P 02 27 54.0 +0.7**
comp=Z,78nm,1.3s
PCAS Casmilo, Conde 76.13 310 *eP* **P 02 27 55.9 +0.9**
comp=Z,77nm,1.6s
PESTR Estremoz 76.29 309 *eP* **P 02 27 56.2 +0.2**
comp=Z,49nm,1.4s
PTOM Tomar 76.34 310 *eP* **P 02 27 56.8 +0.6**
comp=Z,61nm,1.5s
PBAR Barrancos 76.36 308 *eP* **P 02 27 57.1 +0.7**
comp=Z,44nm,1.2s
TAM Tamanrasset 76.65 288 *eP* **P 02 27 58.6 +0.1**
TAM pmax pmax
comp=Z,19nm,1.1s
TAM Tamanrasset 76.65 288 *eP* **P 02 27 58.6 +0.1**
comp=Z,19nm,1.1s
EVO Evora 76.76 309 *eP* **P 02 27 59.7 +1.1**
comp=Z,95nm,1.2s
EVOP Sao Brissos 76.83 309 *eP* **P 02 27 59.7 +0.7**
EVOP pmax pmax
comp=Z,95nm,1.2s
EVOP Sao Brissos 76.83 309 *eP* **P 02 27 59.7 +0.7**
comp=Z,95nm,1.2s
DLBC Dease Lake 76.87 23 *eP* **P 02 28 00.9 +1.9**
PBEJ Beja 76.97 308 *eP* **P 02 28 01.0 +1.2**
comp=Z,39nm,1.6s
YKW3 Yellowknife Ar 77.13 14 *eP* **P 02 27 59.4 -0.8**
YKA Yellowknife Ar 77.19 14 P **P 02 28 00.7 +0.1**
YKA Yellowknife Ar 77.19 14 P **P 02 28 00.7 +0.1**
comp=Z,13nm,1.1s,baz=336,slow=5.4,SNR=10
PVAQ Vaqueiros 77.26 307 *eP* **P 02 28 02.2 +0.8**
comp=Z,36nm,2.0s
PNCL Nicolau / Gran 77.33 308 *eP* **P 02 28 02.9 +1.1**
comp=Z,50nm,1.3s
PBDV Barranco-do-Ve 77.49 307 *eP* **P 02 28 04.0 +1.2**
comp=Z,87nm,1.3s
MDT Midelt 78.02 302 P **P 02 28 05.5 -0.4**
MDT Midelt 78.02 302 P **P 02 28 05.5 -0.4**
comp=Z,18nm,1.0s,baz=72,slow=5.7,SNR=5.8
BBOO Buckleboo 79.54 146 *eP* **P 02 28 13.3 -0.5**
comp=Z,756nm,1.6s
STKA Stephens Creek 81.34 142 *eP* **P 02 28 23.2 -0.3**
comp=Z,7.1nm,0.9s
STKA Stephens Creek 81.34 142 P **P 02 28 22.7 -0.8**
comp=Z,25nm,0.8s,baz=336,slow=6.7,SNR=9.1
EIDS Eidsvold 81.41 131 *eP* **P 02 28 23.9 -0.2**
comp=Z,133nm,1.8s
LSZ Lusaka 82.41 244 *eP* **P 02 28 29.3 -0.4**
comp=Z,35nm,1.4s
LSZ Lusaka 82.41 244 P **P 02 28 29.1 -0.6**
comp=Z,10nm,0.8s,baz=69,slow=9.9,SNR=5.0
FCC Fort Churchill 83.55 5 *eP* **P 02 28 33.6 -1.2**
FCC Fort Churchill 83.55 5 *eP* **P 02 28 33.6 -1.2**
comp=Z,2.2nm,1.6s
TORD Torodi Ar. Bea 85.29 283 P **P 02 28 43.8 -0.6**
TORD Torodi Ar. Bea 85.29 283 P **P 02 28 43.8 -0.6**
comp=Z,16nm,1.1s,baz=50,slow=4.9,SNR=7.7
ARMA Armidale 85.51 134 *eP* **P 02 28 46.0 +0.8**
comp=Z,37nm,1.0s
SCHQ Schefferville 86.64 350 P **P 02 28 49.3 -1.2**
SCHQ Schefferville 86.64 350 P **P 02 28 49.3 -1.2**
comp=Z,22nm,1.0s,baz=36,slow=6.3,SNR=4.7
FFC Flin Flon 86.69 10 *eP* **P 02 28 49.2 -1.4**
comp=Z,54nm,1.2s
NLWA Neilton Lookou 88.17 26 *eP* **P 02 29 00.0 +2.0**
comp=Z,33nm,1.0s
NEW Newport 89.53 21 *eP* **P 02 29 05.7 +1.3**
comp=Z,26nm,1.0s
BLMT Blacktail Moun 90.53 20 *eP* **P 02 29 10.4 +1.1**
LBTB Lobatse 90.71 239 *eP* **P 02 29 09.6 -0.6**
comp=Z,24nm,1.2s
YBMT Yellow Bay 90.76 20 *eP* **P 02 29 10.4 +0.2**
comp=Z,32nm,1.1s
JTMT Jette 90.80 20 *eP* **P 02 29 11.4 +1.0**
comp=Z,36nm,1.0s
EGMT Eagleton 91.67 17 *eP* **P 02 29 13.7 -0.7**
comp=Z,64nm,1.7s
ULM Lac du Bonnet 91.83 7 *eP* **P 02 29 13.3 -1.6**
comp=Z,18nm,1.1s
ULM Lac du Bonnet 91.83 7 P **P 02 29 13.5 -1.4**
comp=Z,12nm,1.1s,baz=334,slow=7.1,SNR=3.0
DGMT Dagmar 92.38 13 *eP* **P 02 29 16.7 -1.0**
comp=Z,35nm,1.0s
BMO Blue Mountains 92.56 23 *eP* **P 02 29 18.1 -0.5**
comp=Z,26nm,1.4s
HUMO Hull Mountain 92.63 28 *eP* **P 02 29 21.4 +2.5**
comp=Z,64nm,1.5s
BOSA Boshof 93.32 236 *eP* **P 02 29 21.1 -1.1**
comp=Z,27nm,1.3s
BOZ Bozeman (W) 93.43 19 *eP* **P 02 29 23.3 +0.6**
BOZ pmax pmax
comp=Z,31nm,1.6s
BOZ Bozeman (W) 93.43 19 *eP* **P 02 29 23.3 +0.6**
comp=Z,31nm,1.6s
YBH Yreka Blue Hor 93.48 28 P **P 02 29 22.1 -0.8**
YBH Yreka Blue Hor 93.48 28 P **P 02 29 22.1 -0.8**
comp=Z,2.9nm,1.0s,baz=188,slow=19,SNR=4.5
WVOR Wild Horse Val 94.30 25 *eP* **P 02 29 27.0 +0.3**
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR Wild Horse Val 94.30 25 *eP* **P 02 29 27.0 +0.3**
comp=Z,12nm,1.0s
DBIC Dimbokro 94.33 282 *eP* **P 02 29 26.8 -0.3**
comp=Z,23nm,1.0s
DBIC Dimbokro 94.33 282 P **P 02 29 25.5 -1.6**
comp=Z,13nm,0.9s,baz=34,slow=5.1,SNR=6.3
WDC Whiskeytown Da 94.55 28 *eP* P 02 29 24.1 -3.6
WDC pmax pmax
comp=Z,26nm,1.5s
WDC Whiskeytown Da 94.55 28 *eP* P 02 29 24.1 -3.6
comp=Z,26nm,1.5s
LIC Lamto 94.74 282 *eP* **P 02 29 28.4 -0.6**
comp=Z,9.1nm,0.7s
LIC Lamto 94.74 282 *eP* **P 02 29 28.4 -0.6**
comp=Z,9.1nm,0.7s
MOOW Moose Ponds 95.43 19 *eP* **P 02 29 32.9 +0.9**
comp=Z,16nm,1.4s
RSSD Black Hills 96.60 14 *eP* **P 02 29 37.3 0.0**
RSSD pmax pmax
comp=Z,43nm,1.6s
RSSD Black Hills 96.60 14 *eP* **P 02 29 37.3 0.0**
comp=Z,43nm,1.6s
PDAR Pinedale Array 96.65 19 PKKP 02 46 17.9
comp=Z,0.7nm,0.7s,baz=134,slow=3.9,SNR=4.7
PDAR Pinedale Array 96.65 19 PKKP **PKKPbc 02 46 17.9 -2.2**
ELK Elko 96.92 23 *eP* **P 02 29 39.6 +0.8**
comp=Z,15nm,1.6s
SPUT South Promonto 97.24 21 *eP* Pdif 02 29 40.5 +0.3
comp=Z,22nm,1.5s
NVAR Mina Array Bea 97.98 26 P Pdif 02 29 44.5 +0.8
NVAR PKKP **PKKPbc 02 46 14.6 -1.8**
NVAR Mina Array Bea 97.98 26 P Pdif 02 29 44.5 +0.8
comp=Z,1.7nm,0.8s,baz=317,slow=3.8,SNR=3.7
NVAR PKKP **PKKPbc 02 46 14.6 -1.8**
comp=Z,0.2nm,0.3s,baz=193,slow=3.7,SNR=3.7
DUG Dugway 98.16 22 *eP* Pdif 02 29 45.0 +0.7
DUG pmax pmax
comp=Z,22nm,1.7s
DUG Dugway 98.16 22 *eP* Pdif 02 29 45.0 +0.6
comp=Z,22nm,1.7s
WCI Wyandotte Cave 104.42 2 *eP* **Pdif 02 30 12.3 +0.2**
WCI Wyandotte Cave 104.42 2 *eP*Pdif **Pdif 02 30 12.2 +0.2**
ANMO Albuquerque 104.82 19 *eP*Pdif **Pdif 02 30 15.6 +1.4**
TUC Tucson 106.07 23 *eP*KP **PKiKP 02 34 31.6 +0.1**
TXAR Lajitas Array 110.87 18 SKKPbc SKKPbc 02 49 12.9 -4.6
comp=Z,0.3nm,0.5s,baz=292,slow=2.8,SNR=3.6
TXAR Lajitas Array 110.87 18 SKKPbc SKKPbc 02 49 12.9 -4.6
PMOR Pomariorio Ree 119.75 86 *eP*'P'df **Pdif 02 31 16.9 -3.5**
comp=Z,167nm,1.4s
PPT2 Papeete2 119.87 90 *eP*'P'df **Pdif 02 31 24.7 +3.7**
comp=Z,401nm,1.4s
PAE Paea 119.91 90 *eP*'P'df **Pdif 02 31 24.5 +3.5**
comp=Z,109nm,1.3s
TIAR Tiarei 120.03 90 *eP*'P'df **Pdif 02 31 23.7 +2.0**
comp=Z,305nm,1.2s
TVO Taravao 120.23 90 *eP*'P'df **Pdif 02 31 20.3 -2.3**
comp=Z,486nm,1.3s
MEH Mehetia 121.22 89 *eP*'P'df **Pdif 02 31 19.8 -7.1**
comp=Z,315nm,1.4s
VNDA Vanda 121.62 166 *e*Pdif **Pdif 02 31 28.0 +0.7**
VNDA PKP **PKPdf 02 34 57.8 -1.7**
VNDA SKKPbc SKKPbc 02 48 51.4 -0.2
VNDA Vanda 121.62 166 PKP **PKPdf 02 34 57.8 -1.7**
comp=Z,3.3nm,0.8s,baz=318,slow=4.8,SNR=4.1
VNDA SKKPbc SKKPbc 02 48 51.4 -0.2
comp=Z,2.4nm,1.1s,baz=310,slow=5.6,SNR=4.4
QSPA South Pole Qui 127.46 180 PKP **PKPdf 02 35 09.8 -1.2**
QSPA *e*PKPdf **PKiKP 02 35 10.4 -1.2**
QSPA South Pole Qui 127.46 180 PKP **PKPdf 02 35 09.8 -1.2**
comp=Z,28nm,1.1s,baz=339,slow=1.1,SNR=6.4
SNAA Sanae 127.98 203 *eP* **PKPdf 02 35 12.0 +0.1**
SNAA Sanae 127.98 203 *eP* **Sdif 02 45 26.6 +8.5**
SNAA Sanae 127.98 203 *e*PKPdf **PKPdf 02 35 12.0 +0.1**
VNA2 Neumayer--Watz 129.39 204 *eP* **PKPdf 02 35 14.5 0.0**
VNA2 Neumayer--Watz 129.39 204 *eP* **Sdif 02 45 34.0 +4.2**
VNA1 Neumayer--Stat 129.67 205 *eP* **PKPdf 02 35 16.4 +1.4**
VNA1 Neumayer--Stat 129.67 205 *eP* **Sdif 02 45 36.4 +4.3**
ROSC El Rosal 136.68 346 *e*PKPdf **PKPdf 02 35 31.2 +0.6**
OTAV Otavalo 141.88 351 *e*PKPdf **PKPdf 02 35 40.3 +0.2**
SAML Samuel 145.66 321 *e*PKPdf **PKPdf 02 35 46.0 -0.1**
ATAH Atahualpa 149.13 349 PKPbc **PKPbc 02 35 57.3 +0.8**
ATAH Atahualpa 149.13 349 PKPbc **PKPbc 02 35 57.3 +0.8**
comp=Z,22nm,0.9s,baz=25,slow=2.9,SNR=7.2
SIV San Ignacio 150.27 310 PKPbc **PKPbc 02 35 58.0 -0.8**
SIV San Ignacio 150.27 310 PKPbc **PKPbc 02 35 58.0 -0.8**
comp=Z,22nm,0.9s,baz=57,slow=2.6,SNR=7.9
PMSA Palmer Station 150.38 197 *e*PKPbc **PKPbc 02 35 56.9 -0.6**
PMSA Palmer Station 150.38 197 PKPbc **PKPbc 02 35 56.7 -0.8**
comp=Z,57nm,1.2s,baz=187,slow=2.8,SNR=6.8
NNA Nana 153.57 344 *e*PKPdf **PKPdf 02 35 58.7 0.0**
NNA *e*PKPbc **PKiKP 02 36 06.7 +0.3**
NNA *e*PKPab **PKPab 02 36 18.7 0.0**
LPAZ La Paz 154.40 322 *e*PKPdf **PKPdf 02 36 00.3 -0.2**
LPAZ *e*PKPbc **PKPbc 02 36 08.6 -0.1**
LPAZ *e*PKPab **PKPab 02 36 22.9 0.0**
LPAZ La Paz 154.40 322 PKP **PKPdf 02 36 00.3 -0.2**
comp=Z,9.0nm,1.2s,baz=0.0,slow=3.0,SNR=6.0
CPUP Villa Florida 154.65 289 *e*PKPdf **PKPdf 02 35 59.2 -0.5**
CPUP PKPbc **PKPbc 02 36 06.7 -1.5**
CPUP *e*PKPbc **PKiKP 02 36 07.2 -1.0**
CPUP *e*PKPab **PKPab 02 36 22.5 -0.5**
CPUP Villa Florida 154.65 289 PKPbc **PKPbc 02 36 06.7 -1.5**
comp=Z,1.9nm,0.6s,baz=31,slow=4.2,SNR=4.4
LVC Limon Verde 160.03 315 *e*PKPdf **PKPdf 02 36 06.9 0.0**
LVC *e*PKPab **PKPab 02 36 46.6 0.0**
TRQA Tornquist 162.46 262 *e*PKPdf **PKPdf 02 36 09.0 +0.2**
CFAA Coronel Fontan 165.54 290 PKPab **PKPab 02 37 09.9 -0.5**
CFAA Coronel Fontan 165.54 290 PKPab **PKPab 02 37 09.9 -0.5**
comp=Z,1.8nm,1.1s,baz=32,slow=3.8,SNR=6.4
LCO Las Campanas 165.80 304 *e*PKPdf **PKPdf 02 36 12.6 +0.2**
LCO *e*PKPab **PKPab 02 37 10.9 -1.0**
PLCA Paso Flores 168.99 250 PKPab **PKPab 02 37 24.4 -1.1**
PLCA Paso Flores 168.99 250 PKPab **PKPab 02 37 24.4 -1.1**
comp=Z,4.1nm,1.1s,baz=170,slow=5.6,SNR=3.5

BUL ***28*** *02:19:39.4±1.5,0°.03S×30°.07E,h0km±62km,MD3.9*
PRE ***28*** *02:19:44.5±3.1,0°.48N×30°.74E,h10km,ML3.7*
ISC 28 02:19:46.2±3.4,0°.3N±0°.2×30°.8E±0°.1,h10km,n6,σ2°12/11,
1D,Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**0.88**	**183**	‖ *iP*	**Pn**	**02 20 05.4**	**+0.5**
MBAR				*eS*	**Sn**	**02 20 19.9**	**+2.0**
MBAR	**Mbarara**	**0.88**	**183**	*i P*	**Pn**	**02 20 05.4**	**+0.5**
MBAR				*i* S	Sn	02 20 24.4	+6.5
KIG	**Kigali**	**2.35**	**198**	*eP*	**Pn**	**02 20 24.0**	**-1.0**
KIG				*eS*	**Sb**	**02 20 57.3**	**-0.6**
KIG				AML	AML	02 21 12.2	
comp=Z,380nm,0.4s							
KMBO	**Kilima Mbogo**	**6.62**	**102**	*eP*	**Pn**	**02 21 26.5**	**+2.5**
KMBO				*eS*	**Sn**	**02 22 35.3**	**-4.4**
KMBO	**Kilima Mbogo**	**6.62**	**102**	*i P*	**Pn**	**02 21 23.8**	**-0.2**
KMBO				*i* S	**Sn**	**02 22 41.6**	**+1.9**
DODT	**Dodoma, Tanzan**	**8.12**	**142**	*i P*	**Pn**	**02 21 43.9**	**-0.6**
DODT				*i* S	**Sn**	**02 23 16.6**	**0.0**

IDC 28 02:19:51.6±7.9,15°.72S×172°.95W,h0km,mb4.2/2,
mb1 4.4/3,mb1mx4.0/21,mbtmp4.2/3,MS3.8/1,Ms1 3.8/1,
ms1mx3.3/44,Error ellipse: s-maj=337.2km
s-min=27.3km az=137.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**32**	Pn	Pn	02 20 28.1	-0.5
55nm,0.3s,baz=177,slow=2.3,SNR=50							
AFI				Sn	Sn	02 20 47.5	-8.4
404nm,0.3s,baz=53,slow=22,SNR=34							
AFI				LR	LR	02 21 10.7	
comp=Z,3μm,21.1s,baz=265,slow=37							
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	02 28 48.3	-1.4
2.0nm,0.6s,baz=95,slow=6.4,SNR=7.9							
ASAR	**Alice Springs**	**50.43**	**252**	P	P	02 28 52.0	+0.6
1.0nm,0.3s,baz=88,slow=8.2,SNR=9.3							
BRTR	**Keskin Array B**	**146.68**	**321**	PKPbc	PKPbc	02 39 36.0	0.0
1.8nm,1.0s,baz=46,slow=4.2,SNR=5.5							

ISCJB ***28*** *02:30:16.3±0.3,37°.64N±0°.05×95°.78E±0°.05,h10km,*
mb4.4/35,MS3.2/1,Error ellipse: s-maj=7.7km
s-min=5.7km az=28.1
IDC ***28*** *02:30:16.1±0.7,37°.65N×95°.92E,h0km,mb4.0/13,*
mb1 4.1/16,mb1mx4.0/30,mbtmp4.0/16,ML4.2/3,MS3.3/1,
Ms1 3.3/1,ms1mx3.3/53,Error ellipse: s-maj=27.7km
s-min=14.3km az=45.0
BJI ***28*** *02:30:17.8,37°.77N×95°.77E,h7km,mb4.2/2,ML4.1/7*
NEIC ***28*** *02:30:18.1±0.3,37°.66N×95°.79E,h10km,mb4.6/22,Error*
ellipse: s-maj=8.3km s-min=5.7km az=46.0
ISC 28 02:30:18.2±0.4,37°.61N±0°.06×95°.73E±0°.05,h10km,n87,
σ1°07/88,mb4.5/35,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.67**	**60**	Pn	**Pn**	**02 31 17.3**	**+2.1**
GTA				Pg	**Pb**	**02 31 23.3**	**0.0**
GTA				Sn	**Sn**	**02 31 58.8**	**+0.2**
GTA				Sg	**Sb**	**02 32 09.0**	**+1.1**
GTA				smax	smax		
comp=N,81nm,0.8s							

GTA smax smax
comp=E,91nm,0.8s
LZH Lanzhou 6.69 101 *e*Pn **Pn 02 31 58.0 +1.4**
LZH Pg Pb 02 32 18.8 +4.2
LZH Sg Sg 02 33 45.3 -7.5
LZH smax smax
comp=N,130nm,1.2s
LZH smax smax
comp=E,91nm,0.8s
WMQ Urumqi 8.69 318 *e*P **Pn 02 32 24.0 0.0**
WMQ S Sn 02 33 56.0 -6.1
WMQ smax smax
comp=N,32nm,1.1s
WMQ smax smax
comp=E,70nm,0.8s
LSA Lhasa 8.77 207 *e*Pn **Pn 02 32 27.5 +2.1**
SONM Songino Array 12.86 34 Pn **Pn 02 33 21.9 +0.8**
SONM Songino Array 12.86 34 Pn **Pn 02 33 21.9 +0.8**
comp=E,0.5nm,0.3s,baz=218,slow=15,SNR=8.2
ULN Ulaanbaatar 13.18 35 *e*Pn Pn 02 33 20.1 -5.5
MK31 Makanchi Array 13.52 317 *e*Pn **Pn 02 33 28.4 -1.6**
MKAR Makanchi Array 13.52 317 Pn **Pn 02 33 27.7 -2.4**
MKAR Makanchi Array 13.52 317 Pn **Pn 02 33 27.7 -2.4**
comp=E,1.5nm,0.3s,baz=126,slow=14,SNR=34
ENH Enshi 13.56 119 *e*P **Pn 02 33 29.5 -1.1**
comp=E,20nm,1.1s
TKM2 Tokmak 2 16.24 295 *e*P **Pn 02 34 05.8 -0.8**
comp=E,12nm,0.7s
AAK Ala-Archa 16.98 294 *e*P **P 02 34 20.1 +2.3**
comp=E,7.1nm,0.9s
EKS2 Erkin-Say 17.51 294 *e*P **Pn 02 34 23.3 +0.8**
comp=E,5.9nm,0.9s
ZAA0 Zalesovo Array 17.98 339 *e*P **Pn 02 34 27.6 -0.5**
ZALV Zalesovo Beam 17.98 339 P **Pn 02 34 27.9 -0.2**
ZALV Zalesovo Beam 17.98 339 P **Pn 02 34 27.9 -0.2**
comp=E,0.2nm,0.3s,baz=156,slow=10,SNR=3.7
CMAR Chiang Mai Arr 19.29 171 P **Pn 02 34 44.0 -0.2**
CMAR Chiang Mai Arr 19.29 171 P **Pn 02 34 44.0 -0.2**
comp=E,0.6nm,0.3s,baz=340,slow=9.8,SNR=7.3
KBL Kabul 21.76 270 *e*P **P 02 35 10.0 -0.2**
comp=E,4.8nm,0.6s
BVAR Borovoye Array 23.38 319 P **P 02 35 27.0 +0.2**
BVAR Borovoye Array 23.38 319 P **P 02 35 27.0 +0.2**
comp=E,2.3nm,0.5s,baz=108,slow=9.3,SNR=8.6
BRVK Borovoye 23.45 319 *e*P **P 02 35 27.3 -0.2**
comp=E,3.6nm,0.6s
KSAR Wonju Array Be 25.44 80 P **P 02 35 44.4 -1.7**
KSRS Korea Array 25.47 80 P **P 02 35 44.4 -2.0**
comp=E,1.8nm,0.6s,baz=277,slow=8.4,SNR=6.8
ABKAR Akbulak array 28.21 306 *e*P **P 02 36 10.0 -1.0**
comp=E,2.8nm,0.9s
AKTO Aktyubinsk 29.66 308 P **P 02 36 24.7 +0.9**
AKTO Aktyubinsk 29.66 308 P **P 02 36 24.7 +0.9**
comp=E,4.1nm,0.8s,baz=102,slow=9.9,SNR=8.8
TGY Tagaytay City 32.41 130 LR LR 02 49 01.3
comp=E,51nm,20.4s,baz=97,slow=35
KULM Kulim 32.49 171 *e*P **P 02 36 49.5 +0.6**
comp=E,33nm,1.4s
GNI Garni 39.33 290 *e*P **P 02 37 46.9 -0.8**
comp=E,15nm,1.1s
BRTR Keskin Array B 47.66 293 P **P 02 38 55.0 +0.2**
BRTR Keskin Array B 47.66 293 P **P 02 38 55.0 +0.2**
comp=E,1.2nm,0.7s,baz=92,slow=7.7,SNR=8.1
AKASG Malin Array Be 47.90 308 P **P 02 38 56.4 0.0**
AKASG Malin Array Be 47.90 308 P **P 02 38 56.4 0.0**
comp=E,0.9nm,0.6s,baz=64,slow=8.6,SNR=2.5
FINES FINESS Array B 48.26 323 P **P 02 38 58.8 -0.1**
FINES FINESS Array B 48.26 323 P **P 02 38 58.8 -0.1**
comp=E,1.9nm,0.9s,baz=100,slow=6.6,SNR=4.3
ARCES ARCESS Array B 48.44 334 PcP **PcP 02 40 25.7 -0.6**
ARCES ARCESS Array B 48.44 334 PcP **PcP 02 40 25.7 -0.6**
comp=E,2.7nm,1.0s,baz=94,slow=3.8,SNR=4.8
BUR08 Bucovina Ar. S 51.19 305 *e*P **P 02 39 22.8 +1.2**
KWP Kalwaria Pacla 52.23 308 *e*P **P 02 39 30.6 +1.4**
comp=E,14nm,1.0s
MORC Moravsky Berou 55.38 310 *e*P **P 02 39 50.8 -1.5**
comp=E,1.7nm,0.8s
NB2 NORSAR Subarra 55.40 324 P **P 02 39 51.4 -0.9**
comp=Z,0.7nm,0.6s,baz=71,slow=7.4
NOA NORSAR Array B 55.40 324 P **P 02 39 51.4 -0.9**
NOA NORSAR Array B 55.40 324 P **P 02 39 51.4 -0.9**
comp=Z,1.5nm,0.8s,baz=74,slow=7.5,SNR=5.7
NAO01 NORSAR Array S 55.60 324 *e*P **P 02 39 54.9 +1.1**
comp=Z,8.3nm,1.0s
CLL Collm 57.57 312 *e*P **P 02 40 08.0 +0.2**
CDF Champ du Feu 62.12 311 *e*P **P 02 40 40.1 +0.7**
CDF Champ du Feu 62.12 311 *e*P **P 02 40 40.1 +0.7**
LPG La Plagne 63.77 308 *e*P **P 02 40 51.5 +0.9**
comp=Z,24nm,1.4s
LPG La Plagne 63.77 308 *e*P **P 02 40 51.5 +0.9**
comp=Z,24nm,1.4s
LPL La Plagne 63.77 308 *e*P **P 02 40 51.2 +0.7**
comp=Z,9.3nm,1.1s
LPL La Plagne 63.77 308 *e*P **P 02 40 51.2 +0.7**
comp=Z,9.3nm,1.1s
BNI Bardonecchia 64.02 308 *e*P **P 02 40 51.8 -0.2**
comp=Z,12nm,1.5s
SBF Sospel 64.10 307 *e*P **P 02 40 52.7 +0.2**
comp=Z,21nm,1.2s
SBF Sospel 64.10 307 *e*P **P 02 40 52.7 +0.2**
comp=Z,21nm,1.2s
COLD Coldfoot 64.30 23 *e*P **P 02 40 53.0 -0.3**
comp=Z,4.5nm,1.0s
ORIF Oris-en-Rattie 64.58 308 *e*P **P 02 40 56.4 +0.7**
comp=Z,4.3nm,0.8s
ORIF Oris-en-Rattie 64.58 308 *e*P **P 02 40 56.4 +0.7**
comp=Z,4.3nm,0.8s
SMF Signal de Mont 65.01 311 *e*P **P 02 41 00.0 +1.7**
SMF Signal de Mont 65.01 311 *e*P **P 02 41 00.0 +1.7**
VIVF Saint-Julien-l 65.36 309 *e*P **P 02 41 00.8 +0.1**
comp=Z,11nm,1.1s
VIVF Saint-Julien-l 65.36 309 *e*P **P 02 41 00.8 +0.1**
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 65.91 26 *e*P **P 02 41 04.2 +0.3**
comp=Z,3.1nm,0.8s
TCF Toulx Ste Croi 66.16 311 *e*P **P 02 41 07.0 +1.2**
TCF Toulx Ste Croi 66.16 311 *e*P **P 02 41 07.0 +1.2**
LASF Ste Croix 66.26 308 *e*P **P 02 41 07.7 +1.2**
comp=Z,17nm,1.2s
LASF Ste Croix 66.26 308 *e*P **P 02 41 07.7 +1.2**
comp=Z,17nm,1.2s
ILAR Eielson Array 66.89 24 P **P 02 41 09.0 -1.1**
ILAR Eielson Array 66.89 24 P **P 02 41 09.0 -1.1**
comp=Z,0.8nm,0.8s,baz=294,slow=5.0,SNR=6.0
WRA Warramunga Arr 67.81 141 P **P 02 41 13.8 -2.7**
WRA PP PP 02 43 37.0 -9.3
WRA Warramunga Arr 67.81 141 P **P 02 41 13.8 -2.7**
comp=Z,1.4nm,1.0s,baz=330,slow=5.7,SNR=4.8
WRA PP PP 02 43 37.0 -9.3
comp=Z,0.7nm,0.7s,baz=322,slow=8.4,SNR=3.5
INK Inuvik 68.19 18 *e*P **P 02 41 18.4 +0.2**
comp=Z,3.1nm,0.8s
ROSF Rostrenen 68.30 315 *e*P **P 02 41 18.5 -0.8**
comp=Z,242nm,2.0s
ROSF Rostrenen 68.30 315 *e*P **P 02 41 18.5 -0.8**
comp=Z,242nm,2.0s
EGAK Eagle 68.70 23 *e*P **P 02 41 20.0 -1.5**
comp=Z,15nm,1.5s
ASAR Alice Springs 70.75 143 P **P 02 41 35.1 +0.5**
ASAR Alice Springs 70.75 143 P **P 02 41 35.1 +0.5**
comp=Z,1.8nm,0.9s,baz=333,slow=6.2,SNR=4.4
ESDC Sonseca Array 73.54 308 P **P 02 41 51.4 0.0**
ESDC Sonseca Array 73.54 308 P **P 02 41 51.4 0.0**
comp=Z,0.5nm,0.5s,baz=49,slow=6.3,SNR=5.8
FORT Forrest 74.45 151 *e*P **P 02 41 57.1 +0.6**
comp=Z,22nm,1.0s
YKA Yellowknife Ar 77.29 14 P **P 02 42 12.0 -0.3**
YKA Yellowknife Ar 77.29 14 P **P 02 42 12.0 -0.3**
comp=Z,0.4nm,0.8s,baz=338,slow=4.7,SNR=2.9
STKA Stephens Creek 81.31 142 P **P 02 42 33.8 -0.9**
STKA Stephens Creek 81.31 142 P **P 02 42 33.8 -0.9**
comp=Z,2.4nm,0.7s,baz=329,slow=8.0,SNR=5.5
LIC Lamto 94.69 281 *e*P **P 02 43 39.3 -0.8**
comp=Z,4.4nm,0.6s
LIC Lamto 94.69 281 *e*P **P 02 43 39.3 -0.8**
comp=Z,4.4nm,0.6s

ISCJB ***28*** *02:32:17.6±0.6, 37°.68N±0°.07×95°.84E±0°.07, h12km, mb3.8/8, Error ellipse: s-maj=11.0km s-min=7.7km az=13.7*
IDC ***28*** *02:32:17.7±0.9, 37°.61N×95°.90E, h0km, mb3.8/7, mb1 3.9/11, mb1mx3.7/31, mbtmp3.8/11, ML3.9/4, Error ellipse: s-maj=28.3km s-min=17.6km az=45.0*
NEIC ***28*** *02:32:19.2±0.6, 37°.67N×95°.82E, h10km, mb4.0/3, Error ellipse: s-maj=12.6km s-min=9.4km az=211.0*

ISC 28 02:32:19.4±0.7, 37°.67N±0°.08×95°.89E±0°.06, h12km, n31, σ1§32/33, mb3.9/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.54**	**59**	Pn	**Pb**	**02 33 23.0**	**+1.1**
GTA				Pg	**Pg**	**02 33 28.8**	**+1.7**
GTA				Sn	**Sb**	**02 34 02.3**	**-2.6**
GTA				Sg	**Sg**	**02 34 11.5**	**-1.4**
GTA				smax	smax		
	comp=N,77nm,0.8s						
GTA				smax	smax		
	comp=E,76nm,1.0s						
WMQ	**Urumqi**	**8.74**	**317**	*e*Pn	**Pn**	**02 34 25.3**	**-0.3**
WMQ				Sn	Sn	02 35 56.8	-7.3
WMQ				smax	smax		
	comp=N,30nm,0.8s						
WMQ				smax	smax		
	comp=E,24nm,1.0s						
SONM	**Songino Array**	**12.75**	**34**	Pn	**Pn**	**02 35 22.3**	**+1.8**
SONM	**Songino Array**	**12.75**	**34**	Pn	**Pn**	**02 35 22.3**	**+1.8**
	comp=E,0.5nm,0.3s,baz=219,slow=15,SNR=6.2						
ULN	**Ulaanbaatar**	**13.06**	**35**	*e*Pn	**Pn**	**02 35 24.2**	**-0.7**
MK31	**Makanchi Array**	**13.57**	**316**	*e*Pn	**Pn**	**02 35 29.4**	**-2.3**
MKAR	**Makanchi Array**	**13.57**	**316**	Pn	**Pn**	**02 35 29.0**	**-2.6**
MKAR	**Makanchi Array**	**13.57**	**316**	Pn	**Pn**	**02 35 29.0**	**-2.6**
	comp=E,0.4nm,0.3s,baz=131,slow=14,SNR=6.0						
TKM2	**Tokmak 2**	**16.34**	**295**	*e*P	**Pn**	**02 36 07.8**	**-0.9**
	comp=E,7.6nm,0.8s						
AAK	**Ala-Archa**	**17.08**	**294**	*e*P	**Pn**	**02 36 18.1**	**-0.1**
	comp=E,7.5nm,1.0s						
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**P**	**02 36 29.6**	**+0.1**
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**P**	**02 36 29.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=139,slow=11,SNR=2.2						
CMAR	**Chiang Mai Arr**	**19.33**	**171**	P	**Pn**	**02 36 45.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.33**	**171**	P	**Pn**	**02 36 45.0**	**-0.6**
	comp=E,0.7nm,0.3s,baz=342,slow=10,SNR=4.7						
BVAR	**Borovoye Array**	**23.42**	**319**	P	**P**	**02 37 29.0**	**+0.8**
BVAR	**Borovoye Array**	**23.42**	**319**	P	**P**	**02 37 29.0**	**+0.8**
	comp=E,1.0nm,0.6s,baz=115,slow=9.7,SNR=4.0						
KSAR	**Wonju Array Be**	**25.30**	**81**	P	**P**	**02 37 46.8**	**+1.0**
KSRS	**Korea Array**	**25.33**	**81**	P	**P**	**02 37 46.8**	**+0.8**
	comp=E,2.3nm,0.5s,baz=279,slow=9.8,SNR=6.6						
ABKAR	**Akbulak array**	**28.28**	**306**	*e*P	**P**	**02 38 12.8**	**+0.3**
AKTO	**Aktyubinsk**	**29.73**	**308**	P	**P**	**02 38 26.9**	**+1.5**
AKTO	**Aktyubinsk**	**29.73**	**308**	P	**P**	**02 38 26.9**	**+1.5**
	comp=E,1.5nm,0.7s,baz=85,slow=12,SNR=4.2						
BRTR	**Keskin Array B**	**47.76**	**293**	P	**P**	**02 40 56.1**	**-0.4**
BRTR	**Keskin Array B**	**47.76**	**293**	P	**P**	**02 40 56.1**	**-0.4**
	comp=E,0.5nm,0.7s,baz=103,slow=8.1,SNR=3.1						
KWP	**Kalwaria Pacla**	**52.29**	**308**	*e*P	**P**	**02 41 31.0**	**+0.3**
	comp=E,5.8nm,1.0s						
ILAR	**Eielson Array**	**66.78**	**24**	P	**P**	**02 43 09.5**	**-0.8**
ILAR	**Eielson Array**	**66.78**	**24**	P	**P**	**02 43 09.5**	**-0.8**
	comp=E,0.2nm,0.9s,baz=296,slow=5.3,SNR=4.5						
ILAR				PKKP	PKKPdf	03 02 55.4	-24
	comp=E,2.1nm,1.0s,baz=104,slow=3.0,SNR=13						
WRA	**Warramunga Arr**	**67.77**	**141**	PKPPKP		03 11 19.0	
	comp=E,2.7nm,0.7s,baz=142,slow=4.1,SNR=17						
ASAR	**Alice Springs**	**70.71**	**143**	P	**P**	**02 43 35.5**	**+0.2**
ASAR	**Alice Springs**	**70.71**	**143**	P	**P**	**02 43 35.5**	**+0.2**
	comp=E,0.5nm,0.4s,baz=336,slow=6.7,SNR=5.6						
ASAR				PKPPKP	P'P'df	03 11 05.2	-23
	comp=E,2.8nm,0.7s,baz=144,slow=4.5,SNR=30						
STKA	**Stephens Creek**	**81.28**	**142**	P	**P**	**02 44 34.3**	**-1.0**
STKA	**Stephens Creek**	**81.28**	**142**	P	**P**	**02 44 34.3**	**-1.0**
	comp=E,1.1nm,0.9s,baz=350,slow=6.1,SNR=3.3						

CASC 28 02:35:22.8±3.4, 9°.67N×84°.87W, h0km±6km, MD3.8, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO	**Cobano**	**0.24**	**278**	*i* P	Pg	02 35 28.8	+1.4
JCR	**Jicaral**	**0.30**	**307⇑**	*e*P	Pb	02 35 30.5	-0.7
JCR			⇓	*e*S	Sb	02 35 37.5	+0.6
CGA2	**Cerro Gallo 2**	**0.53**	**49**	*e*P	Pb	02 35 34.7	-0.4
CGA2				*e*S	Sb	02 35 44.6	+1.2
QCR	**Quepos**	**0.73**	**109**	*e*P	Pg	02 35 37.3	+0.5
QCR				*e*S	Sb	02 35 47.8	-1.2
CEDE	**Laguna Cede˜–o**	**0.83**	**11**	*i* P	Pb	02 35 40.4	+0.1
SJS	**Escuela Geolog**	**0.84**	**71**	*e*P	Pg	02 35 39.8	+0.6
SJS				*e*S	Sb	02 35 53.2	+0.6
VCR	**Vista de Mar**	**0.88**	**301**	*e*P	Pg	02 35 40.2	+0.3
VCR				*e*S	Sb	02 35 54.0	+0.4
AMAS	**Alto Masis**	**0.95**	**352**	*i* P	Pb	02 35 41.8	-0.5
AMAS				*i* S	Sb	02 35 55.6	+0.1
CUI	**Cuipilapa**	**1.03**	**343**	*i* P	Pg	02 35 43.1	+0.4
COLC	**Colonia**	**1.05**	**341**	*i* P	Pg	02 35 43.2	+0.2
HORNC	**Hornillas**	**1.08**	**343**	*i* P	Pg	02 35 43.9	+0.1
URSC	**Urasca**	**1.08**	**81⇓**	*e*P	Pg	02 35 43.8	0.0
LIM1	**Limonal**	**1.09**	**340**	*i* P	Pg	02 35 43.9	0.0
LIM1				*i* S	Sb	02 35 59.9	+0.2
BUS	**Buena Vista**	**1.10**	**96**	*e*P	Pg	02 35 43.8	-0.7
BUS				*e*S	Sg	02 35 59.8	+0.7
MESS	**Mesas**	**1.11**	**343**	*i* P	Pg	02 35 44.5	+0.2
NY14	**Universidad de**	**1.18**	**326**	*i* P	Pg	02 35 45.6	+0.2
GPS3	**Bodega del ICE**	**1.19**	**336**	*i* P	Pg	02 35 45.4	-0.4
GPS1	**Guardaparques**	**1.20**	**337**	*i* P	Pg	02 35 45.7	-0.3
LAPC	**Finca la Perla**	**1.23**	**333**	*i* P	Pg	02 35 45.9	-0.6
LAPC				*i* S	Sb	02 36 03.0	-0.5
GBS3	**Finca Las lm˜¡**	**1.25**	**332**	*i* P	Pg	02 35 46.0	-0.9
GB1A	**Borinquen Arri**	**1.26**	**335**	*i* P	Pg	02 35 46.5	-0.6
CTCR	**Cotoan**	**2.21**	**110**	*e*P	Pn	02 35 59.3	-1.8
CTCR				*e*S	Sg	02 36 33.7	-0.8
BRU2	**Volcan**	**2.31**	**112**	*e*P	Pn	02 36 03.3	+0.9
BRU2				*e*S	Sg	02 36 39.6	+2.0
CNI	**Changuinola**	**2.33**	**96**	*e*P	Pn	02 36 00.7	-1.7
CNI				*e*S	Sb	02 36 34.3	-0.7
TBS2		**2.35**	**112**	*e*P	Pn	02 36 00.5	-2.4
TBS2				*e*S	Sn	02 36 30.1	-2.5
BRU	**Baru**	**2.43**	**110**	*e*P	Pn	02 36 06.0	+1.6
BRU				*e*S	Sg	02 36 40.5	-1.5

IDC ***28*** *02:42:27.9±0.5, 37°.61N×95°.80E, h0km, mb4.1/20, mb1 4.2/24, mb1mx4.1/34, mbtmp4.1/24, ML4.1/4, Error ellipse: s-maj=19.7km s-min=11.8km az=42.0*
ISCJB ***28*** *02:42:28.4±0.2, 37°.64N±0°.04×95°.78E±0°.03, h12km, mb4.3/47, Error ellipse: s-maj=5.5km s-min=3.4km az=28.3*
MOS ***28*** *02:42:28.2±0.8, 37°.62N×95°.79E, h12km, mb4.4/30, Error ellipse: s-maj=10.0km s-min=6.4km az=120.1*
NEIC ***28*** *02:42:29.8±0.2, 37°.63N×95°.77E, h10km, mb4.4/23, Error ellipse: s-maj=6.2km s-min=3.6km az=224.0*
BJI ***28*** *02:42:29.6, 37°.66N×95°.78E, h6km, mB4.4/2, mb4.5/12, ML4.3/7, Ms4.2/2, Ms7 4.0/3*

ISC 28 02:42:30.2±0.3, 37°.64N±0°.04×95°.70E±0°.04, h12km, n133, σ1§10/148, mb4.4/47, 1C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.68**	**60**	Pn	**Pn**	**02 43 29.0**	**+2.0**
GTA				Pg	**Pb**	**02 43 35.5**	**+0.3**
GTA				Sn	**Sn**	**02 44 11.0**	**+0.6**
GTA				Sg	**Sb**	**02 44 20.8**	**+1.0**
GTA				LR	LR		
	comp=N,2μm,10.4s						
GTA				LR	LR		
	comp=E,2μm,9.5s						
GTA				LR	LR		
	comp=Z,3μm,11.9s						
LZH	**Lanzhou**	**6.71**	**101**	*e*Pn	**Pn**	**02 44 08.3**	**-0.4**
LZH				Pg	Pg	02 44 31.3	-7.4
LZH				Sn	**Sn**	**02 45 25.0**	**-0.2**
LZH				Sg	Sg	02 45 57.5	-8.1
LZH				smax	smax		
	comp=N,170nm,0.8s						
LZH				smax	smax		
	comp=E,230nm,1.0s						
WMQ	**Urumqi**	**8.66**	**318**	P	**Pn**	**02 44 37.0**	**+1.6**
WMQ				S	**Sn**	**02 46 09.0**	**-4.0**
WMQ				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**8.78**	**207**	*e*P	**Pn**	**02 44 40.6**	**+3.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LSA	**Lhasa**	**8.78**	**207**	*e*Pn	**Pn**	**02 44 40.6**	**+3.2**
	comp=Z,9.8nm,0.9s						
CD2	**Chengdu**	**9.46**	**133**	*e*P	**Pn**	**02 44 47.3**	**+1.0**
CD2				pP		02 44 50.3	
CD2				sP		02 44 53.8	
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CD2				pmax	pmax		
	comp=Z,120nm,5.8s						
XAN	**Xi'an**	**11.31**	**105**	P	Pn	02 45 08.5	-3.2
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**12.71**	**70**	*e*P	**Pn**	**02 45 30.5**	**-0.3**
HHC				pP	P	02 45 33.5	-8.6
HHC				sP		02 45 36.8	
HHC				PP	**PnPn**	**02 45 40.5**	**+2.0**
HHC				S	**Sn**	**02 47 52.5**	**+0.2**
HHC				sS		02 47 57.8	
HHC				SS	**SnSn**	**02 48 08.0**	**+3.8**
HHC				LR	LR		
	comp=Z,570nm,10.0s						
SONM	**Songino Array**	**12.85**	**34**	Pn	**Pn**	**02 45 33.7**	**+0.9**
SONM	**Songino Array**	**12.85**	**34**	Pn	**Pn**	**02 45 33.7**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=217,slow=15,SNR=19						
ULN	**Ulaanbaatar**	**13.18**	**36**	*e*Pn	**Pn**	**02 45 38.6**	**+1.4**
MK31	**Makanchi Array**	**13.49**	**317**	*e*P	**Pn**	**02 45 40.2**	**-1.2**
MK31				*e*		02 48 09.0	
MK31	**Makanchi Array**	**13.49**	**317**	*e*Pn	**Pn**	**02 45 40.2**	**-1.2**
MK31				*e*Sn	**Sn**	**02 48 09.0**	**-2.3**
MKAR	**Makanchi Array**	**13.49**	**317**	P	**Pn**	**02 45 41.0**	**-0.4**
MKAR						02 48 10.2	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.49**	**317**	Pn	**Pn**	**02 45 41.0**	**-0.4**
MKAR				Sn	**Sn**	**02 48 10.2**	**-1.1**
MKAR	**Makanchi Array**	**13.49**	**317**	Pn	**Pn**	**02 45 41.0**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=127,slow=15,SNR=66						
MKAR				Sn	**Sn**	**02 48 10.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=122,slow=26,SNR=7.0						
ENH	**Enshi**	**13.59**	**119**	*e*Pn	**Pn**	**02 45 41.1**	**-1.8**
	comp=Z,29nm,1.0s						
ZAK	**Zakamensk**	**13.85**	**21**	*e*P	**P**	**02 45 56.2**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s						
GYA	**Guiyang**	**14.50**	**137**	P	**Pn**	**02 45 53.5**	**-1.9**
GYA				PP	**PnPn**	**02 46 07.3**	**+4.0**
GYA				S	**Sn**	**02 48 37.0**	**+0.8**
GYA				SS	**S**	**02 48 55.3**	**-0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,40nm,7.1s						
TKM2	**Tokmak 2**	**16.21**	**295**	*e*P	**Pn**	**02 46 18.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	**16.21**	**295**	*e*Pn	**Pn**	**02 46 18.2**	**+0.2**
	comp=Z,7.5nm,0.6s						
AAK	**Ala-Archa**	**16.95**	**294**	*e*P	**P**	**02 46 29.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.8s						
AAK	**Ala-Archa**	**16.95**	**294**	*e*Pn	**Pn**	**02 46 28.0**	**+0.6**
	comp=Z,6.7nm,0.9s						
AAK	**Ala-Archa**	**16.95**	**294**	P	**Pn**	**02 46 28.7**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=104,slow=12,SNR=8.7						
WHN	**Wuhan**	**16.98**	**109**	P	**P**	**02 46 27.8**	**-1.6**
EKS2	**Erkin-Say**	**17.48**	**294**	*e*P	**Pn**	**02 46 34.8**	**+0.9**
EKS2				pmax	pmax		
	comp=Z,46nm,2.6s						
EKS2	**Erkin-Say**	**17.48**	**294**	*e*Pn	**Pn**	**02 46 34.8**	**+0.9**
	comp=Z,46nm,2.6s						
ZALV	**Zalesovo Beam**	**17.95**	**339**	P	**P**	**02 46 40.3**	**+0.3**
ZALV	**Zalesovo Beam**	**17.95**	**339**	P	**P**	**02 46 40.3**	**+0.3**
ZALV	**Zalesovo Beam**	**17.95**	**339**	P	**P**	**02 46 40.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=146,slow=10,SNR=8.7						
CHTO	**Chiang Mai**	**18.97**	**171**	*e*P	**Pn**	**02 46 51.6**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**18.97**	**171**	*e*P	**Pn**	**02 46 51.6**	**-0.6**
	comp=Z,3.9nm,0.6s						
NVS	**Novosibirsk**	**19.19**	**338**	*e*P	**P**	**02 46 51.9**	**-1.7**
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,18nm,1.3s						
NVS				pmax	pmax		
	comp=N,12nm,1.5s						
CM31	**Chiang Mai Arr**	**19.32**	**171**	*e*P	**Pn**	**02 46 56.3**	**-0.1**
	comp=N,3.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P	**Pn**	**02 46 56.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P	**Pn**	**02 46 56.1**	**-0.3**
	comp=N,0.5nm,0.3s,baz=342,slow=10,SNR=18						
KKAR	**Karatay Array**	**19.92**	**294**	*e*P	**P**	**02 47 03.1**	**+1.3**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KKAR	**Karatay Array**	**19.92**	**294**	*e*P	**P**	**02 47 03.1**	**+1.3**
	comp=Z,8.7nm,1.2s						
KBL	**Kabul**	**21.74**	**270**	*e*P	**P**	**02 47 22.5**	**+0.8**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBL	**Kabul**	**21.74**	**270**	*e*P	**P**	**02 47 22.5**	**+0.8**
	comp=Z,4.2nm,0.6s						
QIZ	**Qiongzhong**	**22.28**	**142**	*e*P	**P**	**02 47 27.0**	**-0.4**
	comp=Z,29nm,1.4s						
CN2	**Changchun**	**23.29**	**65**	*e*P	**P**	**02 47 37.5**	**-0.3**
BVAR	**Borovoye Array**	**23.35**	**319**	P	**P**	**02 47 38.4**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**23.35**	**319**	P	**P**	**02 47 38.4**	**+0.1**
BVAR	**Borovoye Array**	**23.35**	**319**	P	**P**	**02 47 38.4**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=116,slow=9.8,SNR=14						
BRVK	**Borovoye**	**23.42**	**319**	*e*P	**P**	**02 47 40.2**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,13nm,2.5s						
BRVK	**Borovoye**	**23.42**	**319**	*e*P	**P**	**02 47 39.9**	**+0.9**
	comp=Z,3.9nm,0.7s						
YHNB	**Yeheng**	**25.40**	**113**	*e*P	**P**	**02 47 56.9**	**-0.8**
	comp=Z,5.9nm,0.5s						
KSAR	**Wonju Array Be**	**25.46**	**81**	P	**P**	**02 47 57.1**	**-0.9**
KSRS	**Korea Array**	**25.48**	**80**	P	**P**	**02 47 57.1**	**-1.1**
	comp=Z,4.9nm,0.6s,baz=279,slow=9.3,SNR=17						
SSLB	**Suanglung**	**25.63**	**115**	*e*P	P	02 47 53.7	-6.0
	comp=Z,5.6nm,0.7s						
NACB	**Ninganchiao**	**25.86**	**114**	*e*P	**P**	**02 48 00.5**	**-1.3**
	comp=Z,12

comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,8.0nm,0.6s
OBN Obninsk 42.97 314 *eP* **P 02 50 29.1 +0.2**
OBN pmax pmax
comp=Z,7.0nm,1.2s
BRTR Keskin Array B 47.63 293 P **P 02 51 07.0 +0.6**
BRTR Keskin Array B 47.63 293 P **P 02 51 07.0 +0.6**
comp=Z,1.4nm,0.7s,baz=100,slow=6.0,SNR=7.1
AKASG Malin Array Be 47.87 308 P **P 02 51 07.5 -0.3**
AKASG Malin Array Be 47.87 308 P **P 02 51 07.5 -0.3**
AKASG Malin Array Be 47.87 308 P **P 02 51 07.5 -0.3**
comp=Z,0.4nm,0.3s,baz=69,slow=7.4,SNR=4.4
KIEV Kiev 47.88 308 *eP* **P 02 51 08.1 +0.2**
FINES FINESS Array B 48.23 323 P **P 02 51 10.4 -0.1**
FINES FINESS Array B 48.23 323 P **P 02 51 10.4 -0.1**
comp=Z,1.6nm,0.7s,baz=80,slow=8.6,SNR=5.5
ARCES ARCESS Array B 48.41 334 P **P 02 51 11.7 0.0**
ARCES PcP **PcP 02 52 37.4 -0.5**
ARCES ARCESS Array B 48.41 334 P **P 02 51 11.7 0.0**
comp=Z,1.8nm,1.0s,baz=80,slow=7.7,SNR=9.1
ARCES PcP **PcP 02 52 37.4 -0.5**
comp=Z,1.9nm,0.9s,baz=90,slow=4.5,SNR=6.0
BUR08 Bucovina Ar. S 51.16 305 *eP* **P 02 51 33.1 0.0**
KWP Kalwaria Pacla 52.20 308 *eP* **P 02 51 41.4 +0.7**
KWP pmax pmax
comp=Z,10.0nm,0.8s
KWP Kalwaria Pacla 52.20 308 *eP* **P 02 51 41.4 +0.7**
comp=Z,9.5nm,0.8s
PSZ Piszkesteto 54.49 307 *eP* **P 02 51 59.7 +2.1**
comp=Z,4.6nm,0.9s
MORC Moravsky Berou 55.35 310 *eP* **P 02 52 03.5 -0.3**
MORC pmax pmax
comp=Z,1.0nm,0.8s
MORC Moravsky Berou 55.35 310 *eP* **P 02 52 03.5 -0.3**
comp=Z,1.5nm,0.8s
NB2 NORSAR Subarra 55.37 324 P **P 02 52 03.2 -0.6**
comp=Z,2.4nm,0.9s,baz=73,slow=7.4
NOA NORSAR Array B 55.37 324 P **P 02 52 03.5 -0.3**
NOA NORSAR Array B 55.37 324 P **P 02 52 03.5 -0.3**
comp=Z,1.3nm,0.8s,baz=72,slow=7.2,SNR=5.8
CLL Collm 57.54 312 *eP* **P 02 52 20.0 +0.6**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 57.54 312 *eP* **P 02 52 20.0 +0.6**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 58.03 310 P **P 02 52 23.7 +0.7**
GERES GERESS Array B 58.03 310 P **P 02 52 23.7 +0.7**
comp=Z,1.0nm,0.9s,baz=63,slow=6.7,SNR=6.2
GRFO Grafenberg 59.20 311 *eP* **P 02 52 31.3 +0.3**
GRFO pmax pmax
comp=Z,5.0nm,0.9s
GRFO Grafenberg 59.20 311 *eP* **P 02 52 31.2 +0.3**
comp=Z,4.6nm,0.9s
DAVOX Davos/Dischmat 61.22 309 P **P 02 52 45.3 +0.2**
DAVOX Davos/Dischmat 61.22 309 P **P 02 52 45.3 +0.2**
comp=Z,2.4nm,0.7s,baz=97,slow=8.1,SNR=4.0
LPG La Plagne 63.74 308 *eP* **P 02 53 02.7 +0.6**
comp=Z,7.5nm,0.9s
LPG La Plagne 63.74 308 *eP* **P 02 53 02.7 +0.6**
LPG pmax pmax
comp=Z,8.0nm,0.9s
LPG La Plagne 63.74 308 *eP* **P 02 53 02.7 +0.6**
comp=Z,7.5nm,0.9s
LPL La Plagne 63.74 308 *eP* **P 02 53 02.6 +0.6**
LPL La Plagne 63.74 308 *eP* **P 02 53 02.6 +0.6**
LPL La Plagne 63.74 308 *eP* **P 02 53 02.6 +0.6**
COLD Coldfoot 64.28 23 *eP* **P 02 53 04.6 -0.3**
comp=Z,6.1nm,1.0s
ILAR Eielson Array 66.87 24 P **P 02 53 21.2 -0.5**
ILAR Eielson Array 66.87 24 P **P 02 53 21.2 -0.5**
comp=Z,1.5nm,0.8s,baz=298,slow=5.4,SNR=14
WRAB Tennant Creek 67.84 141 *eP* **P 02 53 27.8 -0.6**
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WRAB Tennant Creek 67.84 141 *eP* **P 02 53 27.8 -0.6**
comp=Z,8.8nm,1.1s
WRA Warramunga Arr 67.84 141 P **P 02 53 27.3 -1.1**
WRA Warramunga Arr 67.84 141 P **P 02 53 27.3 -1.1**
comp=Z,2.8nm,0.9s,baz=341,slow=6.4,SNR=15
INK Inuvik 68.17 18 *eP* **P 02 53 29.1 -0.7**
comp=Z,4.5nm,1.0s
DAWY Dawson 69.73 23 *eP* **P 02 53 39.6 -0.1**
ASAR Alice Springs 70.78 143 P **P 02 53 46.4 -0.2**
ASAR Alice Springs 70.78 143 P **P 02 53 46.4 -0.2**
comp=Z,2.3nm,0.8s,baz=332,slow=6.2,SNR=23
ESDC Sonseca Array 73.51 307 P **P 02 54 03.1 +0.2**
ESDC Sonseca Array 73.51 307 P **P 02 54 03.1 +0.2**
comp=Z,0.7nm,0.5s,baz=40,slow=6.6,SNR=6.8
CTA Charters Tower 74.55 131 P **P 02 54 08.2 -0.8**
CTA Charters Tower 74.55 131 P **P 02 54 08.2 -0.8**
comp=Z,2.8nm,0.7s,baz=329,slow=8.0,SNR=4.2
EVO Evora 76.72 308 *eP* **P 02 54 22.3 +0.9**
comp=Z,12nm,1.0s
EVOP Sao Brissos 76.79 309 *eP* **P 02 54 22.3 +0.5**
EVOP pmax pmax
comp=Z,12nm,1.0s
EVOP Sao Brissos 76.79 309 *eP* **P 02 54 22.3 +0.5**
comp=Z,12nm,1.0s
YKA Yellowknife Ar 77.27 14 P **P 02 54 23.0 -1.0**
YKA Yellowknife Ar 77.27 14 P **P 02 54 23.0 -1.0**
comp=Z,0.5nm,0.7s,baz=334,slow=5.5,SNR=3.9
STKA Stephens Creek 81.35 142 P **P 02 54 45.3 -1.2**
STKA Stephens Creek 81.35 142 P **P 02 54 45.3 -1.2**
comp=Z,2.7nm,0.8s,baz=324,slow=4.8,SNR=4.8
LSZ Lusaka 82.31 244 *eP* **P 02 54 52.6 +0.5**
comp=Z,2.3nm,0.8s
LSZ Lusaka 82.31 244 P **P 02 54 52.0 -0.1**
comp=Z,1.2nm,0.6s,baz=77,slow=2.6,SNR=4.5
TORD Torodi Ar. Bea 85.22 283 P **P 02 55 06.3 -0.8**
TORD Torodi Ar. Bea 85.22 283 P **P 02 55 06.3 -0.8**
comp=Z,1.3nm,1.0s,baz=42,slow=4.9,SNR=5.3
VNDA Vanda 121.58 166 PKP **PKPdf 03 01 19.9 -2.5**
VNDA Vanda 121.58 166 PKP **PKPdf 03 01 19.9 -2.5**
comp=Z,0.5nm,0.6s,baz=291,slow=7.8,SNR=3.5
QSPA South Pole Qui 127.41 180 *e*PKPdf **PKPdf 03 01 33.4 -0.5**
SAML Samuel 145.65 321 *e*PKPbc **PKPdf 03 02 08.9 -0.1**
SIV San Ignacio 150.24 310 PKPbc **PKPbc 03 02 20.8 -0.9**
SIV San Ignacio 150.24 310 PKPbc **PKPbc 03 02 20.8 -0.9**
comp=Z,1.4nm,0.6s,baz=98,slow=3.2,SNR=6.9
LVC Limon Verde 160.01 314 *e*PKPdf **PKPdf 03 02 30.1 +0.1**

HLW ***28*** *02:48:34.4,35°.13N×32°.97E,h10km±4km,Md3.5,Ml0.0*
ISK ***28*** *02:48:36.3,34°.66N×33°.03E,h18km,ML3.3*
NSSC ***28*** *02:48:36.2±3.4,34°.27N×32°.56E,h38km±999km,ML2.3*
ISCJB ***28*** *02:48:37.3±0.4,34°.67N±0°.02×32°.99E±0°.03,h25km±3km, Error ellipse: s-maj=4.3km s-min=3.3km az=42.5*
CSEM ***28*** *02:48:37.9±0.1,34°.71N×32°.99E,h15km,Mw3.3,Error ellipse: s-maj=3.4km s-min=2.6km az=57.0*
DDA ***28*** *02:48:38.0,34°.96N×33°.05E,h9km,MD3.2*
NIC ***28*** *02:48:38.1±0.2,34°.77N×33°.03E,h20km,ML3.5,MW3.3*
NIC Felt earthquake; Maximum Intensity 2; Felt I= II MM at Limassol.

ISC 28 02:48:37.7±1.1,34°.68N±0°.03×33°.03E±0°.02,h19km±3km, n86,σ1¶26/119,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.14**	**303**	P	**Pg**	**02 48 42.6**	**+0.6**
SZAC	**Souni-Zanaja**	**0.14**	**303**	P	**Pg**	**02 48 42.6**	**+0.6**
CSS	**Prodhromos**	**0.38**	**42**	P	**Pg**	**02 48 45.1**	**-0.6**
	32nm,0.2s						
CSS				S	**Sg**	**02 48 50.6**	**-0.5**
CSS	**Prodhromos**	**0.38**	**42**	*e*PG	**Pg**	**02 48 44.9**	**-0.7**
CSS				*e*SG	**Sg**	**02 48 50.5**	**-0.5**
CSS	**Prodhromos**	**0.38**	**42**	P	**Pg**	**02 48 45.1**	**-0.6**
	32nm,0.2s						
CSS				S	**Sg**	**02 48 50.6**	**-0.5**
LEF	**Lefka**	**0.45**	**346**	*e*PG	**Pg**	**02 48 46.1**	**-0.9**
LEF				*e*SG	**Sb**	**02 48 54.1**	**+0.6**
LEF	**Lefka**	**0.45**	**346**	*e*Pg	**Pg**	**02 48 46.1**	**-0.9**
LEF				*e*Sg	**Sb**	**02 48 54.2**	**+0.6**
AKIN	**Ak¯-nc¯-lar- K**	**0.49**	**47**	*e*PG	**Pg**	**02 48 47.4**	**-0.3**
AKIN				*e*SG	**Sg**	**02 48 54.4**	**-0.1**
AKIN	**Ak¯-nc¯-lar- K**	**0.49**	**47**	*e*Pg	**Pg**	**02 48 47.4**	**-0.3**
AKIN				*e*Sg	**Sg**	**02 48 54.4**	**-0.1**
MAMC	**Mammari**	**0.52**	**18**	P	**Pg**	**02 48 47.2**	**-0.9**
MAMC	**Mammari**	**0.52**	**18**	P	**Pg**	**02 48 47.2**	**-0.9**
ALFC	**Alevga**	**0.59**	**324**	P	**Pb**	**02 48 48.3**	**-1.1**
	53nm,0.3s						
ALFC				S	**Sb**	**02 48 56.9**	**-0.5**
ALFC	**Alevga**	**0.59**	**324**	P	**Pb**	**02 48 48.3**	**-1.1**
	53nm,0.3s						
ALFC				S	**Sb**	**02 48 56.9**	**-0.5**
PPCY	**Paphos**	**0.60**	**290**	P	**Pb**	**02 48 49.4**	**-0.1**
PPCY	**Paphos**	**0.60**	**290**	P	**Pb**	**02 48 49.4**	**-0.1**
AKMC	**Akamas**	**0.67**	**301**	P	**Pb**	**02 48 50.4**	**-0.4**
AKMC	**Akamas**	**0.67**	**301**	P	**Pb**	**02 48 50.4**	**-0.4**
LFK	**Lefkose**	**0.73**	**35**	*e*PG	**Pb**	**02 48 51.5**	**-0.4**
LFK	**Lefkose**	**0.73**	**35**	*e*Pg	**Pb**	**02 48 51.5**	**-0.4**
PHNC	**Paralimni**	**0.89**	**68**	P	**Pn**	**02 48 56.1**	**+0.9**
	10nm,0.6s						
PHNC				S	**Sn**	**02 49 08.3**	**+0.6**
PHNC	**Paralimni**	**0.89**	**68**	P	**Pn**	**02 48 56.1**	**+0.9**
	10nm,0.6s						
PHNC				S	**Sn**	**02 49 08.3**	**+0.6**
EREN	**Erenkoy**	**1.27**	**48**	*e*PN	**Pn**	**02 49 00.1**	**-0.3**
EREN	**Erenkoy**	**1.27**	**48**	*e*Pn	**Pn**	**02 49 00.1**	**-0.3**
IKL	**Isikli**	**1.65**	**19**	*e*PN	**Pn**	**02 49 04.6**	**-1.1**
IKL	**Isikli**	**1.65**	**19**	*e*Pn	**Pn**	**02 49 04.6**	**-1.1**
GAZI	**Gazipasa**	**1.66**	**340**	*i* P	**Pn**	**02 49 04.7**	**-1.1**
GAZI				*i* S	**Sn**	**02 49 24.5**	**-2.1**
GAZI	**Gazipasa**	**1.66**	**340**	*i* P	**Pn**	**02 49 04.7**	**-1.1**
GAZI				*i* S	**Sn**	**02 49 24.5**	**-2.1**
ERMK	**Ermenek**	**1.96**	**357**	*i* P	**Pn**	**02 49 09.9**	**-0.3**
ERMK				*i* S	**Sn**	**02 49 33.5**	**-0.9**
ERMK	**Ermenek**	**1.96**	**357**	*i* P	**Pn**	**02 49 09.9**	**-0.3**
ERMK				*i* S	**Sn**	**02 49 33.5**	**-0.9**
HDMB	**Hadim**	**2.32**	**349**	*e*PN	**Pn**	**02 49 15.6**	**+0.4**
HDMB	**Hadim**	**2.32**	**349**	*e*Pn	**Pn**	**02 49 15.6**	**+0.4**
HWQ	**Hawqa**	**2.45**	**99**	*e*P	**Pn**	**02 49 17.3**	**+0.5**
HWQ	**Hawqa**	**2.45**	**99**	*e*P	**Pn**	**02 49 17.3**	**+0.5**
RCY	**Rachaya**	**2.61**	**116**	*e*P	**Pn**	**02 49 19.1**	**0.0**
RCY	**Rachaya**	**2.61**	**116**	*e*P	**Pn**	**02 49 19.1**	**0.0**
BRBR	**Barbar**	**2.74**	**117**	*e*P	**Pn**	**02 49 19.8**	**-1.1**
BRBR				*e*S	**Sn**	**02 49 52.5**	**-1.1**
BRBR				AML	AML	02 49 55.5	
	comp=E,33nm,0.4s						
BRBR				AML	AML	02 49 58.8	
	comp=N,31nm,0.4s						
BRBR	**Barbar**	**2.74**	**117**	*e*P	**Pn**	**02 49 19.8**	**-1.1**
	SNR=90						
BRBR				*e*S	**Sn**	**02 49 52.5**	**-1.1**
	comp=N,31nm,0.4s,SNR=90						
GULE	**Gulek**	**2.96**	**28**	*i* P	**Pn**	**02 49 25.8**	**+1.9**
GULE				*i* S	**Sn**	**02 50 01.9**	**+2.9**
GULE	**Gulek**	**2.96**	**28**	*i* P	**Pn**	**02 49 25.8**	**+1.9**
GULE				*i* S	**Sn**	**02 50 01.9**	**+2.9**
KARA	**Karaisali**	**3.06**	**32**	*e*PN	**Pn**	**02 49 25.4**	**+0.3**
KARA	**Karaisali**	**3.06**	**32**	*e*Pn	**Pn**	**02 49 25.4**	**+0.3**
TCHB	**Talchebab**	**3.17**	**128**	*e*P	**Pn**	**02 49 23.7**	**-2.9**
TCHB				*e*S	**Sn**	**02 50 01.4**	**-2.6**
TCHB				AML	AML	02 50 08.3	
	comp=E,57nm,0.4s						
TCHB				AML	AML	02 50 09.1	
	comp=N,55nm,0.3s						
TCHB	**Talchebab**	**3.17**	**128**	*e*P	**Pn**	**02 49 23.7**	**-2.9**
	SNR=90						
TCHB				*e*S	**Sn**	**02 50 01.4**	**-2.6**
	comp=N,55nm,0.3s,SNR=90						
CEYT	**Ceyhan**	**3.21**	**43**	*e*PN	**Pn**	**02 49 28.2**	**+1.1**
CEYT	**Ceyhan**	**3.21**	**43**	*e*Pn	**Pn**	**02 49 28.2**	**+1.1**
COBT	**Iskenderun**	**3.21**	**54**	*i* P	**Pn**	**02 49 29.0**	**+1.7**
COBT				*i* S	**Sn**	**02 50 08.4**	**+3.2**
COBT	**Iskenderun**	**3.21**	**54**	*i* P	**Pn**	**02 49 29.0**	**+1.7**
COBT				*i* S	**Sn**	**02 50 08.4**	**+3.2**
SUTC	**Sutluce-Ispart**	**3.24**	**330**	*e*PN	**Pn**	**02 49 28.1**	**+0.4**
SUTC	**Sutluce-Ispart**	**3.24**	**330**	*e*Pn	**Pn**	**02 49 28.1**	**+0.4**
ELL	**Elmali**	**3.27**	**310**	*e*PN	**Pn**	**02 49 28.6**	**+0.5**
ELL	**Elmali**	**3.27**	**310**	*e*Pn	**Pn**	**02 49 28.6**	**+0.5**
KONT	**Konya--Tatoy**	**3.30**	**351**	*e*PN	**Pn**	**02 49 29.1**	**+0.6**
KONT	**Konya--Tatoy**	**3.30**	**351**	*e*Pn	**Pn**	**02 49 29.1**	**+0.6**
BCK	**Bucak**	**3.41**	**325**	*e*PN	**Pn**	**02 49 29.9**	**0.0**
BCK	**Bucak**	**3.41**	**325**	*e*Pn	**Pn**	**02 49 29.9**	**0.0**
SULT	**Sultanhani-AKS**	**3.54**	**6**	*e*PN	**Pn**	**02 49 31.6**	**-0.1**
SULT	**Sultanhani-AKS**	**3.54**	**6**	*e*Pn	**Pn**	**02 49 31.6**	**-0.1**
LADK	**Ladik-KONYA**	**3.55**	**352**	*e*PN	**Pn**	**02 49 32.7**	**+0.7**
LADK	**Ladik-KONYA**	**3.55**	**352**	*e*Pn	**Pn**	**02 49 32.7**	**+0.7**
KOZT	**Kozan**	**3.60**	**38**	*e*PN	**Pn**	**02 49 33.7**	**+1.2**
KOZT	**Kozan**	**3.60**	**38**	*e*Pn	**Pn**	**02 49 33.7**	**+1.2**
NIG	**Nigde**	**3.66**	**20**	*e*PN	**Pn**	**02 49 34.0**	**+0.4**
NIG	**Nigde**	**3.66**	**20**	*e*Pn	**Pn**	**02 49 34.0**	**+0.4**
SALA	**Sala**	**3.66**	**121**	*e*P	**Pn**	**02 49 35.6**	**+2.1**
SALA				*e*S	**Sn**	**02 50 14.0**	**-2.4**
SALA				AML	AML	02 50 24.7	
	comp=E,1.7nm,0.3s						
SALA				AML	AML	02 50 27.8	
	comp=N,13nm,0.7s						
SALA	**Sala**	**3.66**	**121**	*e*P	**Pn**	**02 49 35.6**	**+2.1**
	SNR=90						
SALA				*e*S	**Sn**	**02 50 14.0**	**-2.4**
	comp=N,13nm,0.7s,SNR=90						
RSH		**3.75**	**171**	P	**Pn**	**02 49 35.8**	**+1.1**
FETY	**Fethiye**	**3.76**	**302**	*e*PN	**Pn**	**02 49 35.2**	**+0.5**
FETY	**Fethiye**	**3.76**	**302**	*e*Pn	**Pn**	**02 49 35.2**	**+0.5**
GOLH	**Golhisar**	**3.80**	**313**	*i* P	**Pn**	**02 49 36.6**	**+1.3**
GOLH				*i* S	**Sn**	**02 50 20.6**	**+1.1**
GOLH	**Golhisar**	**3.80**	**313**	*i* P	**Pn**	**02 49 36.6**	**+1.3**
GOLH				*i* S	**Sn**	**02 50 20.6**	**+1.1**
ZALF	**Zalf**	**3.99**	**115**	*e*P	**Pn**	**02 49 39.7**	**+1.7**
ZALF				*e*S	**Sn**	**02 50 24.8**	**+0.5**
ZALF				AML	AML	02 50 34.5	
	comp=N,6.4nm,0.3s						
ZALF	**Zalf**	**3.99**	**115**	*e*P	**Pn**	**02 49 39.7**	**+1.7**
	SNR=90						
ZALF				*e*S	**Sn**	**02 50 24.8**	**+0.5**
	comp=N,6.4nm,0.3s,SNR=90						
AMAG	**Maghara**	**4.03**	**178**	P	**Pn**	**02 49 39.4**	**+0.9**
AYKD	**Aykdinkavak**	**4.10**	**47**	*i* P	**Pn**	**02 49 40.3**	**+0.8**
AYKD				*i* S	**Sn**	**02 50 27.8**	**+0.8**
YER	**Yerkesik**	**4.56**	**304**	*e*PN	**Pn**	**02 49 46.1**	**+0.3**
YER	**Yerkesik**	**4.56**	**304**	*e*Pn	**Pn**	**02 49 46.1**	**+0.3**
KHL	**Karahalli**	**4.60**	**323**	*e*PN	**Pn**	**02 49 47.3**	**+0.9**
KHL	**Karahalli**	**4.60**	**323**	*e*Pn	**Pn**	**02 49 47.3**	**+0.9**
AFSR	**Af¯ar-Bala (A**	**4.76**	**0**	*e*PN	**Pn**	**02 49 49.9**	**+1.3**
AFSR	**Af¯ar-Bala (A**	**4.76**	**0**	*e*Pn	**Pn**	**02 49 49.9**	**+1.3**
HNKL	**Nakhl**	**4.80**	**170**	P	**Pn**	**02 49 50.3**	**+1.2**
HNKL				S	**Sn**	**02 50 47.7**	**+3.4**
SUZ		**4.83**	**182**	P	**Pn**	**02 49 50.4**	**+1.0**
AYDN	**Tasoluk**	**5.12**	**307**	*i* P	**Pn**	**02 49 52.4**	**-1.0**
AYDN				*i* S	**Sn**	**02 50 50.9**	**-1.1**
AYDN	**Tasoluk**	**5.12**	**307**	*i* P	**Pn**	**02 49 52.4**	**-1.0**
AYDN				*i* S	**Sn**	**02 50 50.9**	**-1.1**
HKAT	**Jabal Katrina**	**6.19**	**172**	P	**Pn**	**02 50 09.2**	**+0.8**
AWBH		**7.25**	**210**	P	**Pn**	**02 50 22.2**	**-0.5**

IDC 28 02:48:59.0±3.0,1°.31S×99°.61E,h0km,mb3.9/4,mb1 4.0/6, mb1mx3.7/25,mbtmp3.9/6,ML3.5/2,MS3.8/1,Ms1 3.8/1, ms1mx3.1/43,Error ellipse: s-maj=132.6km s-min=19.7km az=58.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.14**	**350**	Pn	Pn	02 50 02.3	-1.3
	0.5nm,0.3s,baz=153,slow=14,SNR=2.2						
PSI				LR	LR	02 51 19.3	
	comp=Z,1μm,20.2s,baz=171,slow=35						
CMAR	**Chiang Mai Arr**	**19.65**	**358**	P	P	02 53 29.6	0.0
	0.2nm,0.3s,baz=191,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**38.67**	**121**	P	P	02 56 24.3	-0.5
	0.4nm,0.5s,baz=302,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**39.97**	**126**	P	P	02 56 35.9	+0.3
	0.2nm,0.3s,baz=306,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**50.27**	**345**	P	P	02 57 57.1	0.0
	2.0nm,0.4s,baz=149,slow=8.3,SNR=23						
ZALV	**Zalesovo Beam**	**56.42**	**350**	P	P	02 58 42.1	-0.1
	2.3nm,0.6s,baz=156,slow=7.3,SNR=10						
TXAR	**Lajitas Array**	**144.38**	**36**	PKP	PKPbc	03 08 36.9	+0.5
	0.9nm,0.6s,baz=248,slow=1.0,SNR=12						

IDC ***28*** *02:52:46.2±0.5,9°.28S×154°.18E,h0km,mb4.7/21, mb1 4.8/21,mb1mx4.8/24,mbtmp4.7/21,MS4.5/1, Ms1 4.5/1,ms1mx3.4/32,Error ellipse: s-maj=18.3km s-min=13.9km az=95.0*
NEIC ***28*** *02:52:48.0±0.2,9°.20S×154°.17E,h10km,mb5.1/38,Error ellipse: s-maj=7.6km s-min=6.4km az=103.0*
BJI ***28*** *02:52:48.9,9°.55S×153°.88E,h21km,mB5.3/7,mb4.9/33, Ms5.4/14,Ms7 5.1/14*
ISCJB ***28*** *02:52:50.1±0.3,9°.30S±0°.04×154°.17E±0°.05,h33km, mb5.0/80,MS5.0/2,Error ellipse: s-maj=6.7km s-min=5.9km az=5.2*
MOS ***28*** *02:52:50.6±1.1,9°.20S×154°.01E,h33km,mb5.1/22,Error ellipse: s-maj=11.7km s-min=9.2km az=90.7*
BKK ***28*** *02:52:52.4±0.3,10°.5±6°.×15°.4E±°.,h10km,M5.1/25, mB6.0/2,mb5.2/25,MLv5.0/1,Mw(mB)5.7/2*
DJA ***28*** *02:53:10.5±1.5,9°.5±6°.×15°.5E±°.,h248km±20km,M5.0/14, mB6.2/2,mb5.0/14,Mw(mB)5.9/2*

ISC 28 02:52:52.3±0.3,9°.37S±0°.05×154°.26E±0°.06,h35km,n227, σ1¶71/225,mb5.0/80,6C,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.61**	**91**	LR	LR	02 55 59.2	
	comp=Z,4μm,19.4s,baz=318,slow=34						
PMG	**Port Moresby**	**7.01**	**269**	*e*Pn	**Pn**	**02 54 32.8**	**+0.3**
PMG	**Port Moresby**	**7.01**	**269**	Pn	**Pn**	**02 54 34.1**	**+1.6**
	1.1nm,0.3s,baz=91,slow=12,SNR=7.4						
COEN	**Coen**	**11.78**	**246**	*e*Pn	**Pn**	**02 55 37.7**	**-0.2**
CTA	**Charters Tower**	**13.17**	**215**	Pn	**P**	**02 56 08.1**	**+1.5**
CTA	**Charters Tower**	**13.17**	**215**	Pn	**P**	**02 56 08.1**	**+1.5**
	0.5nm,0.3s,baz=39,slow=14,SNR=29						
CTAO	**Charters Tower**	**13.17**	**215**	*e*P	**Pn**	**02 55 59.0**	**+2.0**
CTAO	**Charters Tower**	**13.17**	**215**	*e*Pn	**Pn**	**02 55 59.0**	**+2.0**
EIDS	**Eidsvold**	**16.20**	**190**	*e*Pn	**Pn**	**02 56 37.4**	**0.0**
	56nm,1.1s						
NOUC	**Port Laguerre**	**17.15**	**139**	*e*P	**P**	**02 56 53.8**	**+3.1**
DZM	**Mont Dzumac**	**17.22**	**139**	*e*P	**P**	**02 56 52.0**	**+0.4**
	216nm,1.4s						
DZM	**Mont Dzumac**	**17.22**	**139**	*e*P	**P**	**02 56 51.6**	**0.0**
DZM	**Mont Dzumac**	**17.22**	**139**	Pn	**P**	**02 56 53.6**	**+2.0**
DZM	**Mont Dzumac**	**17.22**	**139**	Pn	**P**	**02 56 53.6**	**+2.0**
	1.1nm,0.3s,baz=338,slow=11,SNR=12						
ARMA	**Armidale**	**21.09**	**186**	*e*P	**P**	**02 57 35.3**	**+1.4**
	61nm,0.9s						
TARA	**Tarawa**	**21.43**	**61**	*e*P	**P**	**02 57 36.8**	**-0.7**
	204nm,1.2s						
RKPI	**Ransiki, Papua**	**21.45**	**290**	P	P	02 57 42.7	+4.9
	256nm,1.2s,40μm						
TLE	**Tual**	**21.65**	**278**	P	**P**	**02 57 43.7**	**+3.7**
	199nm,1.2s						
WRAB	**Tennant Creek**	**21.91**	**239**	P	**P**	**02 57 41.0**	**-1.7**
	312nm,0.6s,SNR=16						
WRAB	**Tennant Creek**	**21.91**	**239**	*e*P	**P**	**02 57 41.2**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,32nm,0.6s						
WRAB	**Tennant Creek**	**21.91**	**239**	*e*P	**P**	**02 57 41.2**	**-1.5**
	comp=Z,32nm,0.6s						
WRA	**Warramunga Arr**	**21.93**	**239**	P	**P**	**02 57 40.7**	**-2.2**
WRA	**Warramunga Arr**	**21.93**	**239**	P	**P**	**02 57 40.7**	**-2.2**
	comp=Z,17nm,0.8s,baz=62,slow=9.3,SNR=20						
AS31	**Alice Springs**	**24.10**	**231**	*e*P	**P**	**02 58 03.8**	**-1.0**
ASAR	**Alice Springs**	**24.10**	**231**	P	**P**	**02 58 03.7**	**-1.2**
ASAR	**Alice Springs**	**24.10**	**231**	P	**P**	**02 58 03.7**	**-1.2**
	comp=Z,11nm,1.0s,baz=53,slow=8.3,SNR=38						
SWI	**Sorong**	**24.40**	**289**	P	P	02 58 14.0	+6.4
MSVF	**Nonsavu**	**24.55**	**112**	*e*P	**P**	**02 58 11.7**	**+2.5**
MSVF				pmax	pmax		
	comp=Z,112nm,1.5s						
MSVF	**Nonsavu**	**24.55**	**112**	*e*P	**P**	**02 58 11.7**	**+2.5**
	comp=Z,112nm,1.5s						
GUMO	**Guam**	**24.64**	**338**	*e*P	**P**	**02 58 12.6**	**+2.9**
	comp=Z,377nm,1.4s						
BNDI	**Bandanaira**	**24.64**	**280**	P	**P**	**02 58 10.2**	**+0.3**
	comp=Z,180nm,1.2s,comp=Z,4μm						
STKA	**Stephens Creek**	**25.30**	**206**	*e*P	**P**	**02 58 14.9**	**-0.7**
	comp=Z,5.5nm,1.1s						
STKA	**Stephens Creek**	**25.30**	**206**	P	**P**	**02 58 14.6**	**-1.0**
	comp=Z,14nm,0.9s,baz=9.7,slow=10,SNR=16						
CAN	**Canberra**	**26.28**	**190**	*e*P	**P**	**02 58 25.3**	**+0.8**
CAN				pmax	pmax		
	comp=Z,45nm,1.4s						
CAN	**Canberra**	**26.28**	**190**	*e*P	**P**	**02 58 25.3**	**+0.8**
	comp=Z,45nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.09**	**250**	P	**P**	**02 58 48.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**29.09**	**250**	P	**P**	**02 58 48.3**	**-1.6**
	comp=Z,14nm,0.9s						
BATI	**Baumata**	**30.16**	**266**	P	**P**	**02 58 59.5**	**+0.1**
BATI	**Baumata**	**30.16**	**266**	P	**P**	**02 58 59.5**	**+0.1**
	comp=Z,36nm,0.8s,baz=138,slow=2.6,SNR=5.2						
MMRI	**Maumere**	**31.63**	**269**	P	**P**	**02 59 15.3**	**+2.9**
	comp=Z,83nm,0.8s						
BBSI	**Bau Bau**	**31.65**	**275**	P	P	02 59 19.8	+7.2
FORT	**Forrest**	**32.39**	**225**	*e*P	**P**	**02 59 17.2**	**-1.6**
	comp=Z,33nm,0.8s						
GTOI	**Gorontalo**	**32.66**	**286**	P	**P**	**02 59 22.0**	**+0.5**
	comp=Z,53nm,1.1s						
SKSI	**Soroako, Sulaw**	**33.42**	**280**	P	**P**	**02 59 27.9**	**-0.3**
	comp=Z,59nm,1.0s						
LBFI	**Labuhan Bajo,**	**33.96**	**269**	P	P	02 59 39.1	+6.3
BKSI	**Bulukumba**	**34.08**

GYA LR LR
comp=E,880nm,20.5s
GYA LR LR
comp=Z,790nm,22.4s
PBKT Sadao Pong 58.67 296 P P 03 02 50.5 +3.8
comp=Z,11nm,1.4s
LOEI Loei 58.77 297 P **P** **03 02 44.8 -2.6**
CN2 Changchun 59.03 336 *eP* **P** **03 02 51.8 +3.1**
CN2 *eP* **pP** **03 03 02.0 +2.6**
CN2 *eS* **S** **03 10 56.8 +3.7**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
NANT Nan 59.77 298 P **P** **03 02 55.8 +1.5**
comp=Z,54nm,1.0s
LAMP Lampang 60.59 297 P P 03 03 04.2 +4.2
comp=Z,6.9nm,1.0s
KMI Kunming 60.77 306 P **P** **03 03 03.0 +1.7**
KMI PcP **PcP** **03 03 46.3 +1.2**
KMI pmax pmax
comp=Z,17nm,1.0s
XAN Xi'an 60.93 317 P **P** **03 02 59.0 -3.0**
CMAR Chiang Mai Arr 61.17 297 P **P** **03 03 02.7 -1.2**
CMAR Chiang Mai Arr 61.17 297 P **P** **03 03 02.7 -1.2**
comp=Z,4.7nm,0.9s,baz=118,slow=5.0,SNR=17
CHTO Chiang Mai 61.31 297 *eP* **P** **03 03 03.6 -1.2**
CHTO pmax pmax
comp=Z,19nm,1.2s
CHTO Chiang Mai 61.31 297 *eP* **P** **03 03 03.6 -1.2**
comp=Z,19nm,1.2s
CHTO Chiang Mai 61.31 297 P **P** **03 03 06.1 +1.3**
comp=Z,14nm,0.8s
KLR Kul'dur 61.61 343 *eP* **P** **03 03 03.7 -2.5**
PET Petropavlovsk 62.26 3 *eP* **P** **03 03 10.4 -0.1**
CD2 Chengdu 62.82 312 *eP* P 03 03 18.3 +3.5
CD2 S **S** **03 11 44.5 +2.6**
CD2 pmax pmax
comp=Z,30nm,1.2s
HHC Hu-ho-hao-te 63.59 325 *eP* **P** **03 03 22.8 +3.0**
HHC pP **pP** **03 03 33.0 +2.5**
HHC PP PP 03 05 45.3 +5.3
HHC PcS 03 08 00.5
HHC S **S** **03 11 54.5 +3.2**
HHC ScS **SKSac** **03 13 10.0 -0.7**
HHC SS **SS** **03 16 04.5 +5.1**
HHC pmax pmax
comp=Z,48nm,1.1s
HHC LR LR
comp=N,920nm,16.9s
HHC LR LR
comp=E,1μm,17.3s
HHC LR LR
comp=Z,2μm,16.9s
CASY Casey 64.13 198 *eP* **P** **03 03 22.6 -0.1**
comp=Z,21nm,1.5s
LZH Lanzhou 65.51 317 P **P** **03 03 32.5 0.0**
LZH pP **pP** **03 03 40.5 -2.8**
LZH sP **sP** **03 03 45.8 -1.6**
LZH pmax pmax
comp=Z,80nm,1.4s
LZH pmax pmax
comp=Z,410nm,5.0s
VNDA Vanda 68.25 178 *eP* **P** **03 03 49.2 +0.1**
comp=Z,13nm,1.7s
VNDA Vanda 68.25 178 P **P** **03 03 49.4 +0.3**
comp=Z,1.8nm,0.9s,baz=325,slow=7.5,SNR=6.4
SBA Scott Base 68.77 177 *eP* **P** **03 03 54.3 +2.0**
SBA Scott Base 68.77 177 *eP* **P** **03 03 54.3 +2.0**
ULN Ulaanbaatar 70.62 328 *eP* **P** **03 04 05.3 +1.0**
comp=Z,16nm,1.1s
SONM Songino Array 70.94 328 P **P** **03 04 05.3 -0.9**
SONM Songino Array 70.94 328 P **P** **03 04 05.3 -0.9**
comp=Z,6.7nm,1.1s,baz=139,slow=6.4,SNR=20
LSA Lhasa 72.02 305 *eP* **P** **03 04 13.0 -0.6**
LSA Lhasa 72.02 305 *eP* **P** **03 04 13.0 -0.6**
ZAK Zakamensk 74.12 329 *eP* **P** **03 04 22.4 -2.7**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
PALK Pallekele 75.12 280 *eP* **P** **03 04 31.9 +0.3**
comp=Z,22nm,0.9s
MOY Mondy 76.05 329 *eP* P 03 04 40.5 +4.3
WMQ Urumqi 80.06 318 *eP* **P** **03 05 01.5 +2.9**
WMQ pmax pmax
comp=Z,12nm,1.6s
QSPA South Pole Qui 80.62 180 *eP* **P** **03 05 01.1 -0.2**
comp=Z,31nm,1.2s
MAW Mawson 81.94 203 P **P** **03 05 08.0 -0.1**
MAW Mawson 81.94 203 P **P** **03 05 08.0 -0.1**
comp=Z,4.6nm,0.6s,baz=80,slow=8.5,SNR=7.9
TIXI Tiksi 82.59 352 *eP* **P** **03 05 11.5 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
IM04 Indian Mountai 84.18 19 *eP* **P** **03 05 18.0 -1.6**
IMA2 Indian Mountai 84.27 19 *eP* **P** **03 05 19.6 -0.6**
MCK McKinley 84.51 22 *eP* **P** **03 05 20.1 -1.3**
MCK pmax pmax
comp=Z,39nm,1.1s
MCK McKinley 84.51 22 *eP* **P** **03 05 20.1 -1.3**
comp=Z,39nm,1.1s
MK31 Makanchi Array 84.70 319 *eP* **P** **03 05 21.3 -1.4**
MK31 Makanchi Array 84.70 319 *eP* **P** **03 05 21.3 -1.4**
MKAR Makanchi Array 84.70 319 *ceP* **P** **03 05 20.8 -1.9**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 84.70 319 P **P** **03 05 20.9 -1.8**
MKAR Makanchi Array 84.70 319 P **P** **03 05 20.9 -1.8**
comp=Z,4.0nm,0.9s,baz=108,slow=5.3,SNR=25
COLA College 85.54 21 *eP* **P** **03 05 24.7 -1.7**
COLA pmax pmax
comp=Z,29nm,0.8s
COLA College 85.54 21 *eP* **P** **03 05 24.7 -1.7**
comp=Z,29nm,0.8s
ZAA0 Zalesovo Array 85.73 326 *eP* **P** **03 05 25.0 -2.7**
ZALV Zalesovo Beam 85.73 326 *i P* **P** **03 05 25.2 -2.4**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 85.73 326 P **P** **03 05 24.8 -2.9**
ZALV Zalesovo Beam 85.73 326 P **P** **03 05 24.8 -2.9**
comp=Z,3.0nm,0.7s,baz=108,slow=6.1,SNR=12
ILAR Eielson Array 85.83 22 P **P** **03 05 25.8 -2.2**
ILAR Eielson Array 85.83 22 P **P** **03 05 25.8 -2.2**
comp=Z,1.7nm,0.8s,baz=248,slow=5.6,SNR=18
NVS Novosibirsk 86.92 327 *eP* P 03 05 29.8 -3.7
NVS pmax pmax
comp=E,11nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s
NVS pmax pmax
comp=N,7.0nm,1.2s
KSH Kashi 86.99 311 *eP* **P** **03 05 37.5 +3.1**
KSH pmax pmax
comp=Z,3.0nm,0.5s
KSH pmax pmax
comp=Z,660nm,9.9s
EGAK Eagle 87.97 23 *eP* **P** **03 05 38.3 -0.1**
comp=Z,14nm,1.0s
TKM2 Tokmak 2 88.12 314 *eP* **P** **03 05 36.7 -3.1**
TKM2 pmax pmax
comp=Z,8.0nm,1.2s
TKM2 Tokmak 2 88.12 314 *eP* **P** **03 05 36.7 -3.1**
comp=Z,7.8nm,1.2s
AAK Ala-Archa 88.84 313 *eP* **P** **03 05 41.2 -2.0**
AAK pmax pmax
comp=Z,40nm,2.5s
AAK Ala-Archa 88.84 313 *eP* **P** **03 05 42.2 -1.0**
comp=Z,12nm,1.3s
EKS2 Erkin-Say 89.36 313 *eP* **P** **03 05 44.5 -1.1**
EKS2 pmax pmax
comp=Z,8.0nm,1.2s
EKS2 Erkin-Say 89.36 313 *eP* **P** **03 05 44.5 -1.1**
comp=Z,7.9nm,1.2s
SYO Syowa Base 89.86 199⇑ *eP* P 03 05 45.2 -2.0
KKAR Karatay Array 91.80 313 *eP* P 03 05 53.5 -3.3
KKAR pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 91.80 313 *eP* P 03 05 53.5 -3.3
comp=Z,8.9nm,1.1s
INK Inuvik 92.18 21 *eP* **P** **03 05 57.3 -0.6**
comp=Z,9.4nm,1.3s
BVAR Borovoye Array 93.74 323 P **P** **03 06 05.0 -0.5**
BVAR Borovoye Array 93.74 323 P **P** **03 06 05.0 -0.5**
BVAR Borovoye Array 93.74 323 P **P** **03 06 05.0 -0.5**
comp=Z,2.0nm,1.0s,baz=104,slow=4.6,SNR=6.8
NVAR Mina Array Bea 93.75 52 P **P** **03 06 07.2 +1.0**
comp=Z,3.1nm,0.9s,baz=249,slow=6.7,SNR=17
BRVK Borovoye 93.81 323 *eP* **P** **03 06 05.7 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,1.2s
BRVK Borovoye 93.81 323 *eP* **P** **03 06 06.7 +0.9**
comp=Z,4.6nm,1.1s
SNAA Sanae 97.71 187 *eP* **P** **03 06 22.6 -0.8**
comp=Z,1.7nm,0.9s
YKA Yellowknife Ar 98.76 28 P **P** **03 06 27.6 -0.4**
YKA Yellowknife Ar 98.76 28 P **P** **03 06 27.6 -0.4**
comp=Z,1.1nm,0.8s,baz=272,slow=4.5,SNR=6.4
NB2 NORSAR Subarra 121.67 340 PKPdf PKPdf 03 11 35.5 -6.7
comp=Z,1.7nm,0.9s,baz=39,slow=1.9
NOA NORSAR Array B 121.67 340 PKP **PKPdf** **03 11 40.0 -2.2**
NOA NORSAR Array B 121.67 340 PKP **PKPdf** **03 11 40.0 -2.2**
comp=Z,0.5nm,0.7s,baz=50,slow=2.0,SNR=3.4
BUR08 Bucovina Ar. S 122.66 321 *e*PKPdf **PKPdf** **03 11 45.0 +0.3**
MORC Moravsky Berou 126.07 327 *e*PKIKP **PKPdf** **03 11 50.8 -0.2**
MORC Moravsky Berou 126.07 327 *e*PKPdf **PKPdf** **03 11 50.8 -0.2**
LVC Limon Verde 127.10 128 *e*PKPdf **PKPdf** **03 11 54.4 +0.3**
BRG Berggiesshubel 127.32 329 *e*PKP **PKPdf** **03 11 53.0 -0.3**
comp=Z,3.8nm,1.1s
BRG *e* 03 11 58.0
comp=Z,7.2nm,1.0s
BRG Berggiesshubel 127.32 329 *e*PKIKP **PKPdf** **03 11 53.0 -0.3**
BRG *e* 03 11 58.0
BRG pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 127.52 330 *i* PKIKP **PKPdf** **03 11 58.4 +4.8**
CLL Collm 127.52 330 *i* (pPKiKP) **PKPdf** **03 11 58.4 +4.8**
comp=Z,7.0nm,1.1s
GERES GERESS Array B 128.67 327 PKP **PKPdf** **03 11 55.6 -0.5**
GERES GERESS Array B 128.67 327 PKP **PKPdf** **03 11 55.6 -0.5**
comp=Z,0.6nm,0.7s,baz=66,slow=2.4,SNR=11
SOKA Soboth 129.18 325⇑ *i*PKiKP **PKPdf** **03 11 56.5 -0.6**
comp=Z,3.3nm,1.1s
ABTA Abfaltersbach 130.56 326⇑ *i*PKPdf **PKPdf** **03 11 58.5 -1.2**
comp=Z,5.4nm,1.8s
WTTA Wattenberg 130.73 327⇑ *i*PKiKP **PKPdf** **03 11 59.5 -0.6**
comp=Z,6.7nm,1.1s
ESK Eskdalemuir 130.82 343 *e*PKIKP **PKPdf** **03 12 00.2 +0.4**
ESK Eskdalemuir 130.82 343 *e*PKPdf **PKPdf** **03 12 00.2 +0.4**
LPAZ La Paz 130.91 121 PKP **PKPdf** **03 12 02.0 +0.1**
LPAZ *e*PKPdf **PKiKP** **03 12 02.2 -0.6**
LPAZ La Paz 130.91 121 PKP **PKPdf** **03 12 02.0 +0.1**
comp=Z,4.6nm,1.2s,baz=353,slow=3.5,SNR=7.9
FETA Feichten 131.37 327⇑ *i*sPKiKP **PKiKP** **03 12 05.2 +2.9**
comp=Z,4.7nm,1.0s
AQU L'Aquila 132.52 321 *e*PKPdf **PKPdf** **03 12 03.3 -0.2**
CPUP Villa Florida 133.08 140 PKP **PKPdf** **03 12 04.6 -0.4**
CPUP *e*PKPdf **PKiKP** **03 12 04.8 -1.3**
CPUP Villa Florida 133.08 140 PKP **PKPdf** **03 12 04.6 -0.4**
comp=Z,1.7nm,0.7s,baz=242,slow=2.1,SNR=7.1
LPL La Plagne 134.45 328 *e*PKIKP **PKPdf** **03 12 05.9 -1.4**
comp=Z,17nm,1.3s
LPL La Plagne 134.45 328 *e*PKIKP **PKPdf** **03 12 05.9 -1.4**
LPL La Plagne 134.45 328 *e*PKPdf **PKPdf** **03 12 05.9 -1.4**
LPG La Plagne 134.46 328 *e*PKIKP **PKPdf** **03 12 06.0 -1.4**
comp=Z,8.5nm,1.0s
LPG La Plagne 134.46 328 *e*PKIKP **PKPdf** **03 12 06.0 -1.4**
LPG La Plagne 134.46 328 *e*PKPdf **PKPdf** **03 12 06.0 -1.4**
LOR Lormes 134.65 332 *e*PKIKP **PKPdf** **03 12 06.0 -1.3**
comp=Z,28nm,1.4s
LOR Lormes 134.65 332 *e*PKPdf **PKPdf** **03 12 06.0 -1.3**
BNI Bardonecchia 134.79 328 *e*PKIKP **PKPdf** **03 12 07.7 -0.1**
BNI Bardonecchia 134.79 328 *e*PKPdf **PKPdf** **03 12 07.7 -0.1**
SSF Saint Saulge 134.96 332 *e*PKIKP **PKPdf** **03 12 06.7 -1.2**
comp=Z,36nm,1.3s
SSF Saint Saulge 134.96 332 *e*PKIKP **PKPdf** **03 12 06.7 -1.2**
SSF Saint Saulge 134.96 332 *e*PKPdf **PKPdf** **03 12 06.7 -1.2**
PGF Pioggiola 135.09 323 *e*PKIKP **PKPdf** **03 12 06.7 -1.7**
comp=Z,29nm,1.2s
PGF Pioggiola 135.09 323 *e*PKIKP **PKPdf** **03 12 06.7 -1.7**
PGF Pioggiola 135.09 323 *e*PKPdf **PKPdf** **03 12 06.7 -1.7**
ORIF Oris-en-Rattie 135.30 328 *e*PKIKP **PKPdf** **03 12 07.1 -1.6**
comp=Z,6.1nm,0.8s
ORIF Oris-en-Rattie 135.30 328 *e*PKIKP **PKPdf** **03 12 07.1 -1.6**
ORIF Oris-en-Rattie 135.30 328 *e*PKPdf **PKPdf** **03 12 07.1 -1.6**
SDV Santo Domingo 135.70 87 *e*PKPdf **PKPdf** **03 12 10.4 -0.1**
FRF La Foret Royal 135.79 326 *e*PKIKP **PKPdf** **03 12 08.1 -1.4**
comp=Z,16nm,1.2s
FRF La Foret Royal 135.79 326 *e*PKIKP **PKPdf** **03 12 08.1 -1.4**
FRF La Foret Royal 135.79 326 *e*PKPdf **PKPdf** **03 12 08.1 -1.4**
VIVF Saint-Julien-l 135.97 329 *e*PKIKP **PKPdf** **03 12 08.6 -1.3**
comp=Z,9.2nm,1.0s
VIVF Saint-Julien-l 135.97 329 *e*PKIKP **PKPdf** **03 12 08.6 -1.3**
VIVF Saint-Julien-l 135.97 329 *e*PKPdf **PKPdf** **03 12 08.6 -1.3**
LMR La Mourre 136.02 326 *e*PKIKP **PKPdf** **03 12 08.5 -1.5**
comp=Z,18nm,1.3s
LMR La Mourre 136.02 326 *e*PKIKP **PKPdf** **03 12 08.5 -1.5**
LMR La Mourre 136.02 326 *e*PKPdf **PKPdf** **03 12 08.5 -1.5**
SAML Samuel 138.51 115 *e*PKPdf **PKPdf** **03 12 14.9 -0.6**
ESDC Sonseca Array 144.10 331 PKP **PKPab** **03 12 21.4 -1.0**
ESDC Sonseca Array 144.10 331 PKP **PKPab** **03 12 21.4 -1.0**
comp=Z,0.3nm,0.4s,baz=23,slow=2.7,SNR=5.7
MVO Moncorvo 144.26 335 *e*PKP **PKPab** **03 12 22.6 -0.3**
PVIS Viseu 144.99 336 *e*PKP **PKPab** **03 12 25.3 -0.3**
PCBR Castelo Branco 145.56 335 *e*PKP **PKPdf** **03 12 27.2 0.0**
PCAS Casmilo, Conde 145.80 336 *e*PKP **PKPdf** **03 12 27.7 0.0**
PMRV Marv??o 145.87 334 *e*PKP **PKPdf** **03 12 27.9 +0.1**
BDFB Brasilia 146.77 138 PKPbc **PKPdf** **03 12 30.1 0.0**
BDFB Brasilia 146.77 138 PKPbc **PKPdf** **03 12 30.1 0.0**
comp=Z,10nm,0.8s,baz=214,slow=3.7,SNR=18
EVO Evora 146.88 334 *e*PKIKP **PKPdf** **03 12 27.5 -2.0**
comp=Z,40nm,1.3s
EVOP Sao Brissos 146.93 334 *e*PKIKP **PKPdf** **03 12 27.5 -2.1**
EVOP Sao Brissos 146.93 334 *e*PKPdf **PKPdf** **03 12 27.5 -2.1**
TAM Tamanrasset 147.22 298 *e*PKP2 **PKPbc** **03 12 32.6 -0.4**
TAM Tamanrasset 147.22 298 *e*PKPbc **PKPbc** **03 12 32.6 -0.4**
TORD Torodi Ar. Bea 152.84 281 PKPbc **PKPbc** **03 12 45.2 -1.5**
TORD Torodi Ar. Bea 152.84 281 PKPbc **PKPbc** **03 12 45.2 -1.5**
comp=Z,3.7nm,0.8s,baz=72,slow=1.7,SNR=19

*ISCJB **28** 03:02:39.8±0.6, 37°.86N±0°.08×95°.87E±0°.08, h10km, mb3.7/11, Error ellipse: s-maj=13.4km s-min=7.3km az=32.5*
*IDC **28** 03:02:40.1±0.7, 37°.84N×95°.88E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/29, mbtmp3.7/12, Error ellipse: s-maj=28.2km s-min=16.9km az=47.0*
ISC 28 03:02:41.2±0.7, 37°.81N±0°.08×95°.98E±0°.05, h10km, n17, σ1°23/21, mb3.7/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.40**	**61**	Pn	**Pb**	**03 03 43.0**	**+1.3**
GTA				Pg	**Pg**	**03 03 47.5**	**+1.0**
GTA				Sn	**Sb**	**03 04 21.8**	**-1.4**
GTA				Sg	**Sg**	**03 04 28.3**	**-2.3**
GTA				smax	smax		
	comp=N,43nm,0.6s						
GTA				smax	smax		
	comp=E,36nm,0.8s						
LZH	**Lanzhou**	**6.53**	**103**	*e*Pn	Pn	03 04 21.0	+3.5
LZH				Pg	**Pg**	**03 04 44.0**	**-2.3**
LZH				Sg	**Sg**	**03 06 12.5**	**+1.6**
LZH				smax	smax		
	comp=N,25nm,0.5s						
LZH				smax	smax		
	comp=E,31nm,0.7s						
WMQ	**Urumqi**	**8.68**	**316**	*e*Pn	**Pn**	**03 04 47.3**	**+0.4**
WMQ				Sn	Sn	03 06 17.3	-7.6
WMQ				smax	smax		
	comp=N,29nm,1.1s						
WMQ				smax	smax		
	comp=E,30nm,0.8s						
SONM	**Songino Array**	**12.59**	**34**	Pn	Pn	03 05 45.8	+5.3
	comp=E,0.4nm,0.3s,baz=218,slow=15,SNR=6.5						
MKAR	**Makanchi Array**	**13.52**	**316**	Pn	**Pn**	**03 05 51.5**	**-1.4**
	comp=E,0.6nm,0.3s,baz=124,slow=13,SNR=13						
MKAR				Sn	**Sn**	**03 08 22.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=123,slow=24,SNR=4.5						
CMAR	**Chiang Mai Arr**	**19.46**	**172**	P	**Pn**	**03 07 08.2**	**-1.0**
	baz=339,slow=9.5,SNR=4.3						
BVAR	**Borovoye Array**	**23.36**	**319**	P	**P**	**03 07 49.5**	**-0.2**
	comp=E,0.7nm,0.5s,baz=122,slow=11,SNR=3.9						
AKTO	**Aktyubinsk**	**29.69**	**307**	P	**P**	**03 08 47.6**	**+0.5**
	comp=E,0.7nm,0.6s,baz=100,slow=11,SNR=3.9						
PETK	**Petropavlovsk-**	**44.50**	**49**	P	**P**	**03 10 53.5**	**+0.9**
	comp=E,9.3nm,1.1s,baz=296,slow=7.9,SNR=3.0						
BRTR	**Keskin Array B**	**47.76**	**293**	P	**P**	**03 11 18.9**	**+0.2**
	comp=E,0.7nm,0.7s,baz=111,slow=5.5,SNR=4.2						
FINES	**FINESS Array B**	**48.23**	**323**	P	**P**	**03 11 21.9**	**+0.1**
	comp=E,1.0nm,0.8s,baz=74,slow=15,SNR=3.3						
NOA	**NORSAR Array B**	**55.35**	**324**	P	**P**	**03 12 14.6**	**-0.4**
	comp=E,0.7nm,0.7s,baz=47,slow=6.5,SNR=3.4						
ILAR	**Eielson Array**	**66.62**	**25**	P	**P**	**03 13 31.5**	**0.0**
	comp=E,0.5nm,0.8s,baz=309,slow=6.0,SNR=7.0						
WRA	**Warramunga Arr**	**67.84**	**141**	P	**P**	**03 13 40.6**	**+0.9**
	comp=E,0.5nm,0.9s,baz=344,slow=6.3,SNR=3.0						
ASAR	**Alice Springs**	**70.78**	**143**	P	**P**	**03 13 59.5**	**+1.6**
	comp=E,0.2nm,0.4s,baz=328,slow=6.5,SNR=3.2						
ESDC	**Sonseca Array**	**73.58**	**308**	P	**P**	**03 14 14.8**	**+0.2**
	comp=E,0.1nm,0.3s,baz=31,slow=3.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**85.39**	**283**	P	**P**	**03 15 18.4**	**-0.8**
	comp=E,0.2nm,0.5s,baz=72,slow=4.4,SNR=3.6						

IDC 28 03:06:00.3±1.5, 37°.58N×95°.71E, h0km, mb3.4/3, mb1 3.8/7, mb1mx3.5/31, mbtmp3.6/7, ML3.6/4, Error ellipse: s-maj=33.8km s-min=28.3km az=63.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.90**	**34**	Pn	Pn	03 09 06.5	+1.5
	0.2nm,0.3s,baz=218,slow=16,SNR=4.4						
MKAR	**Makanchi Array**	**13.54**	**317**	Pn	Pn	03 09 11.6	-2.1
	0.5nm,0.3s,baz=122,slow=14,SNR=13						
ZALV	**Zalesovo Beam**	**18.01**	**339**	P	P	03 10 12.3	-0.1
	0.7nm,0.3s,baz=168,slow=9.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**19.26**	**171**	P	Pn	03 10 27.1	-0.3
	0.0nm,0.3s,baz=344,slow=9.6,SNR=4.5						
BVAR	**Borovoye Array**	**23.40**	**319**	P	P	03 11 10.2	-0.5
	0.7nm,0.8s,baz=116,slow=12,SNR=2.7						
BRTR	**Keskin Array B**	**47.66**	**293**	P	P	03 14 38.3	-0.3
	0.3nm,0.7s,baz=87,slow=7.4,SNR=2.2						
ILAR	**Eielson Array**	**66.92**	**24**	P	P	03 16 53.7	-0.4
	0.8nm,0.8s,baz=288,slow=5.2,SNR=9.5						

IDC 28 03:11:36.5±8.3, 21°.72N×143°.21E, h323km±49km, mb3.3/5, mb1 3.4/6, mb1mx3.0/28, mbtmp3.4/6, Error ellipse: s-maj=90.3km s-min=36.4km az=176.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.44**	**350**	P	Pn	03 13 00.0	+0.2
	9.4nm,0.3s,baz=299,slow=23,SNR=16						
CBIJ				S	S	03 14 07.5	+0.3
	4.0nm,0.3s,baz=313,slow=19,SNR=4.3						
ILAR	**Eielson Array**	**62.01**	**27**	P	P	03 21 22.4	-0.5
	0.3nm,0.7s,baz=248,slow=5.5,SNR=8.2						
BVAR	**Borovoye Array**	**62.67**	**319**	P	P	03 21 27.3	-0.1
	1.3nm,0.3s,baz=90,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**76.43**	**28**	P	P	03 22 51.3	+0.7
	0.7nm,0.5s,baz=288,slow=6.0,SNR=6.5						
ARCES	**ARCESS Array B**	**78.91**	**342**	P	P	03 23 04.8	+0.7
	2.8nm,0.9s,baz=72,slow=9.1,SNR=8.9						
FINES	**FINESS Array B**	**83.17**	**334**	P	P	03 23 25.5	-1.1
	0.6nm,0.4s,baz=70,slow=5.4,SNR=9.1						

*ISCJB **28** 03:15:14.2±0.3, 37°.57N±0°.05×95°.71E±0°.04, h12km, mb4.0/24, Error ellipse: s-maj=7.4km s-min=4.6km az=19.4*
*IDC **28** 03:15:14.0±0.6, 37°.57N×95°.81E, h0km, mb4.0/14, mb1 4.2/19, mb1mx4.0/34, mbtmp4.1/19, ML4.0/5, Error ellipse: s-maj=23.5km s-min=12.2km az=45.0*
*NEIC **28** 03:15:15.7±0.3, 37°.60N×95°.76E, h10km, mb4.3/12, Error ellipse: s-maj=7.4km s-min=4.4km az=220.0*
*BJI **28** 03:15:15.8, 37°.71N×95°.82E, h7km, mb3.9/3, ML3.9/7, Ms3.9/3*
ISC 28 03:15:15.8±0.5, 37°.61N±0°.06×95°.70E±0°.04, h12km, n65, σ1°35/73, mb4.2/24, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.69**	**60**	Pn	**Pn**	**03 16 14.5**	**+1.6**
GTA				Pg	**Pb**	**03 16 21.3**	**+0.2**
GTA				Sn	**Sn**	**03 16 57.3**	**+0.9**
GTA				Sg	**Sb**	**03 17 06.3**	**+0.4**
GTA				smax	smax		
	comp=N,100nm,0.9s						
GTA				smax	smax		
	comp=E,70nm,1.0s						
GTA				LR	LR		
	comp=N,710nm,5.1s						
GTA				LR	LR		
	comp=E,770nm,6.8s						
LZH	**Lanzhou**	**6.70**	**101**	⇑Pn	**Pn**	**03 16 56.3**	**+2.1**
LZH				Pg	Pg	03 17 18.3	-5.9
LZH				Sn	**Sn**	**03 18 12.0**	**+1.4**
LZH				Sg	**Sg**	**03 18 46.0**	**-5.0**
LZH				smax	smax		
	comp=N,120nm,0.9s						
LZH				smax	smax		
	comp=E,120nm,0.9s						
WMQ	**Urumqi**	**8.69**	**318**	P	**Pn**	**03 17 22.5**	**+1.2**
WMQ				S	**Sn**	**03 18 55.0**	**-4.2**
WMQ				smax	smax		
	comp=N,66nm,0.7s						
WMQ				smax	smax		
	comp=E,65nm,0.9s						
SONM	**Songino Array**	**12.88**	**34**	Pn	**Pn**	**03 18 19.9**	**+1.1**
SONM				Lg	Lg	03 21 56.5	
SONM	**Songino Array**	**12.88**	**34**	Pn	**Pn**	**03 18 19.9**	**+1.1**
	comp=E,0.6nm,0.3s,baz=218,slow=15,SNR=24						
SONM				Lg	Lg	03 21 56.5	
	comp=E,0.1nm,0.3s,baz=213,slow=31,SNR=2.5						
ULN	**Ulaanbaatar**	**13.20**	**35**	*e*Pn	**Pn**	**03 18 23.3**	**+0.1**
MK31	**Makanchi Array**	**13.52**	**317**	*e*Pn	**Pn**	**03 18 26.6**	**-0.8**
MKAR	**Makanchi Array**	**13.52**	**317**	Pn	**Pn**	**03 18 25.7**	**-1.6**
MKAR				Sn	**Sn**	**03 20 53.4**	**-4.0**
MKAR	**Makanchi Array**	**13.52**	**317**	Pn	**Pn**	**03 18 25.7**	**-1.6**
	comp=E,0.3nm,0.3s,baz=133,slow=12,SNR=35						
MKAR				Sn	**Sn**	**03 20 53.4**	**-4.0**
	comp=E,0.1nm,0.3s,baz=125,slow=12,SNR=6.9						
ENH	**Enshi**	**13.57**	**119**	*e*Pn	**Pn**	**03 18 26.3**	**-2.0**
	comp=E,6.2nm,0.6s						
TKM2	**Tokmak 2**	**16.23**	**295**	*e*P	**Pn**	**03 19 02.7**	**-1.1**
	comp=E,10.0nm,0.8s						
AAK	**Ala-Archa**	**16.97**	**294**	*e*P	**P**	**03 19 14.6**	**-0.4**
	comp=E,5.9nm,0.8s						
AAK	**Ala-Archa**	**16.97**	**294**	P	**P**	**03 19 14.7**	**-0.4**
	comp=E,0.9nm,0.3s,baz=54,slow=5.2,SNR=6.9						
EKS2	**Erkin-Say**	**17.49**	**294**	*e*P	**Pn**	**03 19 20.7**	**+1.0**
	comp=E,3.4nm,0.9s						
ZAA0	**Zalesovo Array**	**17.98**	**339**	*e*P	**Pn**	**03 19 25.0**	**-0.5**
ZALV	**Zalesovo Beam**	**17.98**	**339**	P	**Pn**	**03 19 25.1**	**-0.4**
ZALV	**Zalesovo Beam**	**17.98**	**339**	P	**Pn**	**03 19 25.1**	**-0.4**
	comp=E,0.2nm,0.3s,baz=150,slow=12,SNR=12						
CHTO	**Chiang Mai**	**18.94**	**170**	*e*P	**P**	**03 19 37.0**	**+0.3**
	comp=E,2.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.29**	**171**	P	**P**	**03 19 39.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.29**	**171**	P	**P**	**03 19 39.9**	**-0.7**
	comp=E,0.7nm,0.3s,baz=341,slow=10,SNR=9.5						
KKAR	**Karatay Array**	**19.93**	**294**	*e*P	**P**	**03 19 48.5**	**+1.0**
	comp=E,1.7nm,0.6s						
KBL	**Kabul**	**21.74**	**270**	*e*P	**P**	**03 20 08.4**	**+1.1**
	comp=E,5.8nm,0.7s						
BVAR	**Borovoye Array**	**23.37**	**319**	P	**P**	**03 20 25.0**	**+0.9**
BVAR	**Borovoye Array**	**23.37**	**319**	P	**P**	**03 20 25.0**	**+0.9**
	comp=E,1.2nm,0.6s,baz=113,slow=11,SNR=6.9						
BRVK	**Borovoye**	**23.44**	**319**	*e*P	**P**	**03 20 25.3**	**+0.5**
	comp=E,7.3nm,1.0s						
KSAR	**Wonju Array Be**	**25.46**	**80**	P	**P**	**03 20 43.3**	**-0.3**
KSRS	**Korea Array**	**25.49**	**80**	P	**P**	**03 20 43.3**	**-0.6**
	comp=E,5.0nm,0.7s,baz=272,slow=10,SNR=16						
YULB	**Yu-li**	**26.11**	**116**	*e*P	**P**	**03 20 50.5**	**+0.9**
	comp=E,4.1nm,0.6s						
ABKAR	**Akbulak array**	**28.20**	**306**	*e*P	**P**	**03 21 09.3**	**+1.1**
	comp=E,1.2nm,0.7s						
AKTO	**Aktyubinsk**	**29.

comp=E,0.8nm,0.7s,baz=107,slow=4.8,SNR=3.3
KWP Kalwaria Pacla 52.22 308 *e*P **P 03 24 27.6 +1.1**
comp=E,4.7nm,0.9s
MORC Moravsky Berou 55.37 310 *e*P **P 03 24 50.5 +0.9**
comp=E,1.2nm,0.7s
NB2 NORSAR Subarra 55.39 324 P **P 03 24 49.5 -0.1**
comp=Z,0.1nm,0.6s,baz=75,slow=7.4
NOA NORSAR Array B 55.39 324 P **P 03 24 49.5 -0.1**
NOA NORSAR Array B 55.39 324 P **P 03 24 49.5 -0.1**
comp=Z,0.8nm,0.6s,baz=73,slow=7.2,SNR=4.7
FITZ Fitzroy Crossi 62.17 148 P **P 03 25 36.9 -0.1**
FITZ Fitzroy Crossi 62.17 148 P **P 03 25 36.9 -0.1**
comp=Z,2.1nm,0.9s
LPG La Plagne 63.76 308 *e*P **P 03 25 49.0 +1.2**
comp=Z,2.0nm,0.6s
LPG La Plagne 63.76 308 *e*P **P 03 25 49.0 +1.2**
comp=Z,2.0nm,0.6s
LPL La Plagne 63.76 308 *e*P **P 03 25 48.9 +1.1**
comp=Z,2.0nm,0.6s
LPL La Plagne 63.76 308 *e*P **P 03 25 48.9 +1.1**
comp=Z,2.0nm,0.6s
ORIF Oris-en-Rattie 64.57 308 *e*P **P 03 25 53.5 +0.6**
comp=Z,2.8nm,0.6s
ORIF Oris-en-Rattie 64.57 308 *e*P **P 03 25 53.5 +0.6**
comp=Z,2.8nm,0.6s
ILAR Eielson Array 66.90 24 P **P 03 26 07.2 -0.3**
ILAR Eielson Array 66.90 24 P **P 03 26 07.2 -0.3**
comp=Z,1.0nm,0.7s,baz=292,slow=5.8,SNR=11
WRA Warramunga Arr 67.82 141 P **P 03 26 13.3 -0.5**
WRA Warramunga Arr 67.82 141 P **P 03 26 13.3 -0.5**
comp=Z,1.3nm,0.8s,baz=341,slow=6.3,SNR=12
AS31 Alice Springs 70.75 143 *e*P **P 03 26 32.1 +0.1**
ASAR Alice Springs 70.75 143 P **P 03 26 31.9 -0.1**
ASAR Alice Springs 70.75 143 P **P 03 26 31.9 -0.1**
comp=Z,1.9nm,0.7s,baz=330,slow=6.1,SNR=23
ESDC Sonseca Array 73.53 307 P **P 03 26 48.9 +0.3**
ESDC Sonseca Array 73.53 307 P **P 03 26 48.9 +0.3**
comp=Z,0.7nm,0.5s,baz=59,slow=6.0,SNR=5.7
STKA Stephens Creek 81.32 142 P **P 03 27 31.3 -0.8**
STKA Stephens Creek 81.32 142 P **P 03 27 31.3 -0.8**
comp=Z,1.7nm,0.5s,baz=321,slow=8.7,SNR=9.5
TORD Torodi Ar. Bea 85.22 283 P **P 03 27 52.7 0.0**
TORD Torodi Ar. Bea 85.22 283 P **P 03 27 52.7 0.0**
comp=Z,0.8nm,1.0s,baz=40,slow=3.6,SNR=5.9

---

*IDC **28** 03:40:39.8±8.2, 36°.05N×142°.97E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/25, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=186.1km s-min=59.1km az=169.0*
*JMA **28** 03:40:47.6±0.3, 36°.69N×142°.37E, h23km±5km, M3.5*
ISC 28 03:40:44.4±2.1, 36°.67N±0°.04×142°.38E±0°.08, h1km±12km, **n16,** σ1°.35/27, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.34**	**289**	P	**Pg**	**03 41 10.4**	**+0.4**
JFK	**Kawauchi**	**1.39**	**300**	P	**Pg**	**03 41 11.7**	**+0.7**
JFK				*e*S	**Sb**	**03 41 28.2**	**-1.3**
JHO	**Hitachi**	**1.46**	**268**	P	**Pg**	**03 41 12.7**	**+0.4**
JHO				*e*S	**Sg**	**03 41 31.2**	**0.0**
JMM	**Marumori**	**1.74**	**314**	P	**Pb**	**03 41 16.7**	**-0.4**
JMM				*e*S	**Sb**	**03 41 38.7**	**-0.8**
JFT	**Otama**	**1.84**	**298**	P	**Pb**	**03 41 18.4**	**-0.4**
JFT				*e*S	**Sn**	**03 41 40.8**	**-0.3**
JIO	**Ouri**	**1.96**	**336**	P	**Pb**	**03 41 19.8**	**-1.1**
JIO				*e*S	**Sn**	**03 41 42.7**	**-1.3**
BSO1	**Boso 1**	**2.31**	**210**	P	**Pb**	**03 41 25.7**	**-0.9**
BSO1				S	**Sb**	**03 41 53.5**	**-2.0**
JAG	**Ashikaga**	**2.37**	**265**	P	**Pb**	**03 41 26.2**	**-1.7**
JAG				*e*S	**Sn**	**03 41 54.5**	**+0.3**
JMK	**Ichinoseki**	**2.46**	**338**	P	**Pb**	**03 41 27.2**	**-2.1**
JMK				*e*S	**Sn**	**03 41 56.2**	**0.0**
JYK	**Kaneyama**	**2.75**	**325**	P	**Pb**	**03 41 31.7**	**-2.7**
JYK				*e*S	**Sn**	**03 42 05.1**	**+1.4**
JRY	**Ryogami san**	**2.88**	**258**	P	**Pn**	**03 41 33.2**	**+1.7**
JRY				*e*S	**Sn**	**03 42 06.0**	**-0.9**
JOM	**Ohasama**	**2.93**	**343**	P	**Pn**	**03 41 33.8**	**+1.7**
JOM				*e*S	**Sn**	**03 42 07.0**	**-0.9**
JOD2	**Odawara 2**	**3.02**	**243**	P	**Pn**	**03 41 35.3**	**+1.9**
JOD2				*e*S	**Sn**	**03 42 08.8**	**-1.4**
MJAR	**Matsushiro Arr**	**3.36**	**269**	Pn	Pb	03 41 41.1	-3.6
	4.9nm,0.3s,baz=97,slow=11,SNR=36						
MJAR				Sn	**Sb**	**03 42 25.9**	**-0.3**
	1.9nm,0.3s,baz=132,slow=16,SNR=5.4						
SONM	**Songino Array**	**28.63**	**304**	P	P	03 46 45.1	+2.6
	0.8nm,0.7s,baz=104,slow=9.1,SNR=6.2						
MKAR	**Makanchi Array**	**44.97**	**303**	P	**P**	**03 49 01.9**	**+0.8**
	0.2nm,0.6s,baz=90,slow=8.6,SNR=2.9						

GUC 28 04:00:25.5±1.1, 23°.02S×69°.92W, h17km±17km, **ML3.6, 5C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.45**	**215**	⇑*i*P	Pn	04 00 37.2	-0.2
CEN1				*i* S	Sn	04 00 46.7	+1.6
CEN1				AML	AML	04 00 49.0	
	comp=E,3μm,0.4s						
PB10	**Plate Boundary**	**0.76**	**230**	⇑*i*P	Pb	04 00 39.1	-1.2
PB10				*i* S	Sb	04 00 48.8	-1.7
PB10				AML	AML	04 00 51.9	
	comp=N,8μm,0.8s						
ANCH	**Antofagasta**	**0.80**	**214**	⇑*i*P	Pb	04 00 40.7	-0.2
ANCH				*i* S	Sb	04 00 50.4	-1.0
PB04	**Plate Boundary**	**0.85**	**28**	⇑*i*P	Pb	04 00 38.7	-3.1
PB04				*i* S	Sb	04 00 48.1	-4.9
PB04				AML	AML	04 00 50.9	
	comp=N,5μm,0.6s						
PB07	**Plate Boundary**	**1.29**	**1**	⇓*i*P	Pn	04 00 47.8	-1.3
PB07				*i* S	Sb	04 01 04.8	-1.2
PB07				AML	AML	04 01 06.4	
	comp=E,3μm,0.7s						
PB09	**Plate Boundary**	**1.37**	**27**	⇑*i*P	Pb	04 00 50.9	-0.1
PB09				*e*S	Sb	04 01 08.8	+0.4
PB09				AML	AML	04 01 10.9	
	comp=E,3μm,0.2s						

IDC 28 04:03:06.2±15.0, 37°.36N×95°.62E, h0km, **mb1 3.6/3, mb1mx3.3/29, mbtmp3.6/3, ML3.7/3, Error ellipse: s-maj=193.1km s-min=53.5km az=4.0, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**13.12**	**34**	Pn	Pn	04 06 14.7	+0.7
	0.3nm,0.3s,baz=216,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**13.65**	**318**	Pn	Pn	04 06 16.8	-4.2
	0.4nm,0.3s,baz=125,slow=14,SNR=20						
MKAR				Sn	Sn	04 08 44.2	-9.2
	0.2nm,0.3s,baz=122,slow=24,SNR=8.8						
ZALV	**Zalesovo Beam**	**18.19**	**339**	P	Pn	04 07 19.2	-0.8
	0.3nm,0.3s,baz=143,slow=10,SNR=3.7						

---

*AUST **28** 04:07:48.9±2.6, 16°.79S×174°.19W, h1km, Error ellipse: s-maj=1.2km s-min=0.8km az=334.0*
*BKK **28** 04:07:50.2±0.4, 17°.S±7°×17°.4W±°, h10km, M5.3/14, mb5.3/14*
*DJA **28** 04:07:59.2±1.2, 17°.S±7°×17°.4W±°, h91km±13km, M6.3/12, mb5.1/12, MLv6.9/1*
*ISCJB **28** 04:08:01.6±0.1, 16°.93S±0°.04×174°.01W±0°.03, h136km, mb5.0/180, Error ellipse: s-maj=6.2km s-min=3.6km az=148.7*
*MOS **28** 04:08:01.9±1.1, 16°.71S×173°.79W, h126km, mb5.1/38, Error ellipse: s-maj=11.0km s-min=7.2km az=59.0*
*IDC **28** 04:08:02.8±0.4, 16°.97S×173°.99W, h134km±3km, mb4.7/30, mb1 4.8/31, mb1mx4.8/32, mbtmp4.7/31, MS3.9/3, Ms1 3.9/3, ms1mx3.6/31, Error ellipse: s-maj=11.3km s-min=8.1km az=129.0*
*NEIC **28** 04:08:03.0±0.1, 16°.88S×174°.04W, mb5.1/136, Error ellipse: s-maj=5.2km s-min=2.8km az=145.0*
*SZGRF **28** 04:08:05.3, 16°.44S×173°.37W, h134km, Tonga Islands*
ISC 28 04:08:02.9±0.2, 16°.91S±0°.05×173°.94W±0°.04, h138km±1km, **h138**km**:pP-P, n1074,** σ0°.97/1238, **mb5.1**/178, **241C-219D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.64**	**35**	*e*Pn	Pn	04 08 52.7	-5.6
AFI				S	Sn	04 09 30.2	-11
AFI				*e*Sn		04 09 30.3	
AFI	**Afiamalu**	**3.64**	**35**	P	Pn	04 08 52.7	-5.6
	737nm,0.3s,baz=58,slow=1.6,SNR=684						
AFI				S	Sn	04 09 30.2	-11
	1μm,0.3s,baz=215,slow=23,SNR=16						
NIUE	**Niue**	**4.38**	**120**	P	Pn	04 09 03.6	-4.4
	baz=4.7,SNR=683						
NIUE				S	Sn	04 09 49.3	-9.1
	baz=4.7,SNR=32						
MSVF	**Nonsavu**	**7.70**	**263**	Pn	Pn	04 09 56.0	+3.6
	2μm,0.9s,SNR=32						
MSVF	**Nonsavu**	**7.70**	**263**	*e*P	Pn	04 09 56.7	+4.3
MSVF	**Nonsavu**	**7.70**	**263**	*e*Pn	Pn	04 09 56.7	+4.3
RAO	**Raoul Island**	**12.82**	**196**	*e*Pn	Pn	04 10 54.8	-5.4
	747nm,0.6s						
RAO				*e*Sn	Sn	04 13 10.1	-12
RAO	**Raoul Island**	**12.82**	**196**	P	Pn	04 10 54.7	-5.4
	167nm,0.3s,baz=267,slow=20,SNR=14						
RAO				S	Sn	04 13 10.7	-11
	80nm,0.3s,baz=52,slow=19,SNR=4.8						
RAO				LR	LR	04 15 07.0	
	comp=Z,350nm,20.0s,baz=161,slow=33						
RAR	**Rarotonga**	**14.06**	**110**	*e*Pn	Pn	04 11 12.8	-3.3
RAR				*e*Sn	**Sn**	**04 13 47.3**	**-4.3**
RAR	**Rarotonga**	**14.06**	**110**	P	Pn	04 11 12.5	-3.6
	6.8nm,0.3s,baz=270,slow=5.3,SNR=12						
RAR				S	Sn	04 13 41.1	-11
	6.2nm,0.3s,baz=90,slow=18,SNR=3.8						
RAR				LR	LR	04 16 08.5	
	comp=Z,623nm,18.5s,baz=270,slow=34						
DZM	**Mont Dzumac**	**19.19**	**251**	*e*P	**Pn**	**04 12 18.8**	**+0.2**
	123nm,1.4s						
DZM	**Mont Dzumac**	**19.19**	**251**	P	**P**	**04 12 16.8**	**+0.6**
DZM	**Mont Dzumac**	**19.19**	**251**	P	**P**	**04 12 16.8**	**+0.6**
	0.7nm,0.3s,baz=88,slow=18,SNR=9.4						
OUZ	**Omahuta**	**21.36**	**209**	*e*P	**P**	**04 12 40.1**	**+0.8**
	43nm,1.0s						
TARA	**Tarawa**	**22.30**	**323**	*e*P	**P**	**04 12 49.3**	**0.0**
	332nm,1.3s						
URZ	**Urewera**	**22.68**	**199**	*e*P	**P**	**04 12 52.1**	**-0.5**
	113nm,0.6s						
URZ				*e*S	**S**	**04 16 51.0**	**+0.7**
URZ	**Urewera**	**22.68**	**199**	P	**P**	**04 12 51.3**	**-1.3**
	109nm,0.5s,baz=20,slow=2.8,SNR=80						
URZ				S	**S**	**04 16 48.8**	**-1.5**
	9.7nm,0.5s,baz=254,slow=20,SNR=6.2						
PPT	**Papeete**	**23.27**	**95**	P	**P**	**04 12 57.5**	**-1.0**
PPT	**Papeete**	**23.27**	**95**	P	**P**	**04 12 57.5**	**-1.0**
	43nm,0.9s,baz=15,slow=12,SNR=3.5						
PPT				LR	LR	04 19 45.3	
	comp=Z,300nm,19.5s,baz=131,slow=30						
TVO	**Taravao**	**23.58**	**96**	*e*P	**P**	**04 13 00.3**	**-1.0**
	56nm,0.8s						
TBI	**Tubuai**	**23.84**	**110**	*e*P	**P**	**04 13 04.9**	**+1.4**
	531nm,1.2s						
XMAS	**Kiritimati**	**24.89**	**42**	*e*P	**P**	**04 13 13.1**	**-0.1**
	123nm,0.9s						
PMOR	**Pomariorio Ree**	**25.11**	**89**	⇓*i*P	**P**	**04 13 14.5**	**-0.6**
	328nm,1.2s						
KHZ	**Kahutara**	**27.59**	**200**	*e*P	**P**	**04 13 38.2**	**+1.1**
	45nm,0.8s						
RPZ	**Rata Peaks**	**29.59**	**202**	*e*P	**P**	**04 13 56.4**	**+1.5**
	24nm,0.6s						
RPZ	**Rata Peaks**	**29.59**	**202**	P	**P**	**04 13 53.1**	**-1.9**
	9.5nm,0.6s,baz=309,slow=6.5,SNR=2.9						
EIDS	**Eidsvold**	**33.62**	**250**	*e*P	**P**	**04 14 29.1**	**-1.2**
	11nm,0.8s						
EIDS				*e*pP	**pP**	**04 15 02.7**	**+2.5**
ARMA	**Armidale**	**34.14**	**241**	*e*P	**P**	**04 14 34.5**	**-0.5**
	30nm,0.6s						
ARMA				*e*pP	**pP**	**04 15 06.0**	**+1.2**
ARMA	**Armidale**	**34.14**	**241**	P	**P**	**04 14 34.5**	**-0.5**
	baz=34,SNR=35						
MGCD	**Mangrove Creek**	**35.38**	**236**	P	**P**	**04 14 45.0**	**-0.4**
	baz=35,SNR=6.2						
RMQ	**Roma**	**35.84**	**248**	P	**P**	**04 14 49.8**	**+0.3**
	baz=36,SNR=5.9						
CNB	**Canberra Magne**	**37.43**	**234**	P	**P**	**04 15 02.3**	**-0.6**
	baz=37,SNR=5.4						
CAN	**Canberra**	**37.71**	**234**	*e*P	**P**	**04 15 04.1**	**-1.2**
CAN				*e**PP	**pP**	**04 15 36.0**	**+0.4**
CAN				pmax	pmax		
	comp=Z,13nm,1.0s						
CAN	**Canberra**	**37.71**	**234**	*e*P	**P**	**04 15 04.1**	**-1.2**
	comp=Z,12nm,1.0s						
CAN				*e*pP	**pP**	**04 15 36.0**	**+0.4**
CTA	**Charters Tower**	**37.82**	**259**	P	**P**	**04 15 05.0**	**-1.3**
CTA				pP	**pP**	**04 15 36.2**	**-0.5**
CTA	**Charters Tower**	**37.82**	**259**	P	**P**	**04 15 05.0**	**-1.3**
	comp=Z,7.3nm,0.8s,baz=91,slow=10,SNR=11						
CTA				pP	**pP**	**04 15 36.2**	**-0.5**
	comp=Z,14nm,0.8s,baz=80,slow=11,SNR=5.4						
CTAO	**Charters Tower**	**37.82**	**259**	*e*P	**P**	**04 15 05.0**	**-1.3**
CTAO				*e**PP	**pP**	**04 15 36.9**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,21nm,0.8s						
CTAO	**Charters Tower**	**37.82**	**259**	*e*P	**P**	**04 15 05.0**	**-1.3**
	comp=Z,21nm,0.8s						
CTAO				*e*pP	**pP**	**04 15 36.9**	**+0.2**
PMG	**Port Moresby**	**38.55**	**276**	*e*P	**P**	**04 15 11.8**	**-0.7**
	comp=Z,35nm,1.1s						
PMG	**Port Moresby**	**38.55**	**276**	P	P	04 15 16.7	+4.2
	comp=Z,30nm,1.1s						
PMG	**Port Moresby**	**38.55**	**276**	P	**P**	**04 15 13.1**	**+0.6**
	comp=Z,26nm,1.0s,baz=159,slow=8.3,SNR=3.9						
CMSA	**Cobar Meteorol**	**39.36**	**241**	P	**P**	**04 15 18.1**	**-0.9**
	baz=39,SNR=38						
MTSU	**Mount Surprise**	**39.77**	**262**	P	**P**	**04 15 25.3**	**+2.7**
	baz=40,SNR=3.9						
TOO	**Toolangi**	**41.12**	**232**	P	**P**	**04 15 32.7**	**-0.8**
	baz=41,SNR=6.0						
KIP	**Kipapa**	**41.17**	**23**	*e*P	**P**	**04 15 34.9**	**+1.0**
KIP	**Kipapa**	**41.17**	**23**	*e*P	**P**	**04 15 34.9**	**+1.0**
	comp=Z,150nm,1.0s						
COEN	**Coen**	**41.39**	**268**	*e*P	**P**	**04 15 35.7**	**-0.2**
COEN	**Coen**	**41.39**	**268**	P	**P**	**04 15 36.7**	**+0.8**
	baz=41,SNR=6.6						
STKA	**Stephens Creek**	**42.85**	**241**	*e*P	**P**	**04 15 47.0**	**-0.6**
	comp=Z,6.7nm,0.9s						
STKA				pP	**pP**	**04 16 17.6**	**-0.9**
STKA				*e*pP	**pwP**	**04 16 19.3**	**+0.8**
STKA	**Stephens Creek**	**42.85**	**241**	P	**P**	**04 15 47.0**	**-0.6**
	comp=Z,27nm,0.9s,baz=86,slow=9.2,SNR=41						
STKA				pP	**pP**	**04 16 17.6**	**-0.9**
	comp=Z,18nm,0.8s,baz=90,slow=9.7,SNR=4.6						
STKA	**Stephens Creek**	**42.85**	**241**	P	**P**	**04 15 47.0**	**-0.6**
	baz=43,SNR=31						
ARPS	**Mount Arapiles**	**43.68**	**234**	P	**P**	**04 15 53.4**	**-0.8**
	baz=44,SNR=6.4						
BBOO	**Buckleboo**	**47.62**	**241**	*e*P	**P**	**04 16 24.1**	**-1.1**
	comp=Z,996nm,1.0s						
BBOO				*e*pP	**pP**	**04 16 54.8**	**-1.9**
BBOO	**Buckleboo**	**47.62**	**241**	P	**P**	**04 16 24.3**	**-0.9**
	baz=47,SNR=16						
WRAB	**Tennant Creek**	**49.00**	**258**	P	**P**	**04 16 34.0**	**-1.9**
	comp=Z,79nm,0.6s,SNR=7.5						
WRAB	**Tennant Creek**	**49.00**	**258**	*e*P	**P**	**04 16 34.1**	**-1.9**
WRAB				*e**PP	**pP**	**04 17 07.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**49.00**	**258**	*e*P	**P**	**04 16 34.1**	**-1.9**
	comp=Z,17nm,0.8s						
WRAB				*e*pP	**pP**	**04 17 07.4**	**-0.2**
WRA	**Warramunga Arr**	**49.01**	**258**	P	**P**	**04 16 34.4**	**-1.7**
WRA				pP	**pP**	**04 17 06.2**	**-1.5**
WRA				PcP	**PcP**	**04 17 58.4**	**+0.4**
WRA	**Warramunga Arr**	**49.01**	**258**	P	**P**	**04 16 34.4**	**-1.7**
	comp=Z,4.2nm,0.4s,baz=95,slow=7.1,SNR=91						
WRA				pP	**pP**	**04 17 06.2**	**-1.5**
	comp=Z,6.7nm,0.5s,baz=92,slow=7.0,SNR=5.2						
WRA				PcP	**PcP**	**04 17 58.4**	**+0.4**
	comp=Z,6.4nm,0.7s,baz=88,slow=3.0,SNR=4.7						
AS31	**Alice Springs**	**49.16**	**253**	*e*P	**P**	**04 16 36.0**	**-1.2**
AS31				*e*pP	**pP**	**04 17 08.4**	**-0.5**
ASAR	**Alice Springs**	**49.17**	**253**	P	**P**	**04 16 36.0**	**-1.2**
ASAR				pP	**pP**	**04 17 08.4**	**-0.4**
ASAR				S	**S**	**04 23 28.0**	**-4.5**
ASAR	**Alice Springs**	**49.17**	**253**	P	**P**	**04 16 36.0**	**-1.2**
	comp=Z,99nm,0.6s,baz=88,slow=8.5,SNR=909						
ASAR				pP	**pP**	**04 17 08.4**	**-0.4**
	comp=Z,82nm,0.7s,baz=88,slow=8.7,SNR=10						
ASAR				S	**S**	**04 23 28.0**	**-4.5**
	comp=Z,0.9nm,0.9s,baz=80,slow=16,SNR=6.5						
KNRA	**Kununurra**	**54.84**	**263**	P	**P**	**04 17 18.3**	**-1.0**
	baz=55,SNR=8.7						
SOEI	**Soe**	**60.35**	**268**	P	**P**	**04 17 59.6**	**+1.5**
	baz=60,SNR=16						
BATI	**Baumata**	**60.82**	**268**	P	**P**	**04 18 02.3**	**+1.2**
BATI	**Baumata**	**60.82**	**268**	P	**P**	**04 18 02.3**	**+1.2**
	comp=Z,34nm,0.7s,baz=268,slow=2.0,SNR=5.8						
SBA	**Scott Base**	**61.71**	**185**	*e*P	**P**	**04 18 08.8**	**+2.8**
SBA				*e**PP	**pP**	**04 18 38.5**	**-0.5**
SBA				pmax	pmax		
	comp=Z,37nm,0.8s						
SBA	**Scott Base**	**61.71**	**185**	*e*P	**P**	**04 18 08.8**	**+2.8**
	comp=Z,37nm,0.8s						
SBA				*e*pP	**pP**	**04 18 38.5**	**-0.5**
VNDA	**Vanda**	**61.83**	**186**	*e*P	**P**	**04 18 09.0**	**+2.2**
	comp=Z,21nm,0.9s						
VNDA				*e*pP	**pP**	**04 18 38.6**	**-1.3**
VNDA	**Vanda**	**61.83**	**186**	P	**P**	**04 18 08.6**	**+1.8**
	comp=Z,3.5nm,0.7s,baz=11,slow=6.4,SNR=26						
VNDA				pP	**pP**	**04 18 38.5**	**-1.3**
	comp=Z,15nm,0.8s,baz=357,slow=6.3,SNR=14						
MBWA	**Marble Bar**	**62.45**	**255**	*e*P	**P**	**04 18 11.3**	**-0.7**
	comp=Z,28nm,1.1s						
MBWA				*e*pP	**pP**	**04 18 44.7**	**-0.3**
MEEK	**Meekatharra**	**62.77**	**248**	P	**P**	**04 18 12.8**	**-1.2**
	baz=62,SNR=8.1						
KLBR	**Kellerberrin**	**63.09**	**243**	P	**P**	**04 18 15.3**	**-0.7**
	baz=63,SNR=5.9						
BLDU	**Ballidu**	**64.06**	**244**	P	**P**	**04 18 21.4**	**-1.0**
	baz=64,SNR=7.1						
KAPI	**Kappang**	**65.90**	**272**	*e*P	**P**	**04 18 33.6**	**-0.9**
	comp=Z,19nm,1.0s						
KAPI	**Kappang**	**65.90**	**272**	P	**P**	**04 18 33.6**	**-0.9**
	comp=Z,3.5nm,0.4s,baz=115,slow=11,SNR=3.3						
ATKA	**Atka Island**	**68.82**	**360**	*e*P	**P**	**04 18 52.0**	**0.0**
	comp=Z,3μm,0.9s						
CASY	**Casey**	**68.83**	**205**	*e*P	**P**	**04 18 52.5**	**+0.5**
	comp=Z,20nm,1.0s						
CASY				*e*pP	**pP**	**04 19 24.4**	**-1.2**
MJAR	**Matsushiro Arr**	**69.76**	**320**	P	**P**	**04 18 57.8**	**-0.4**
MJAR	**Matsushiro Arr**	**69.76**	**320**	P	**P**	**04 18 57.8**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=165,slow=6.0,SNR=27						
MAT	**Matsushiro**	**69.76**	**320**	P	**P**	**04 18 58.3**	**+0.1**
SMY	**Shemya**	**70.12**	**352**	*e*P	**P**	**04 19 00.0**	**0.0**
SMY				pmax	pmax		
	comp=Z,125nm,0.9s						
SMY	**Shemya**	**70.12**	**352**	*e*P	**P**	**04 18 60.0**	**0.0**
	comp=Z,125nm,0.9s						
MYLDM	**Lahad Datu**	**70.25**	**282**	P	**P**	**04 19 04.2**	**+2.6**
	comp=Z,29nm,1.3s						
FX1	**Attu Island--F**	**70.39**	**352**	P	**P**	**04 19 01.6**	**-0.1**
	comp=Z,48nm,0.7s,baz=154,slow=3.6,SNR=20						
JNU	**Nakatsue**	**72.46**	**314**	*e*P	**P**	**04 19 14.8**	**+0.3**
	comp=Z,13nm,0.9s						
JNU	**Nakatsue**	**72.46**	**314**	P	**P**	**04 19 14.7**	**+0.1**
	comp=Z,29nm,0.9s,baz=63,slow=3.3,SNR=11						
SCI	**San Clemente I**	**72.52**	**46**	⇓P	**P**	**04 19 15.8**	**+0.9**
	baz=73						
ASAJ	**Asahikawa**	**72.55**	**329**	*e*P	**P**	**04 19 16.1**	**+1.3**
	comp=Z,24nm,0.8s						
ASAJ	**Asahikawa**	**72.55**	**329**	P	**P**	**04 19 15.8**	**+1.0**
	comp=Z,48nm,0.8s,baz=207,slow=7.1,SNR=28						
KKM	**Kota Kinabalu**	**72.68**	**282**	*e*P	**P**	**04 19 16.6**	**+0.2**
	comp=Z,11nm,0.7s						
KKM	**Kota Kinabalu**	**72.68**	**282**	P	**P**	**04 19 17.4**	**+1.0**
	baz=72,SNR=5.6						
PKM	**Peak Mountain**	**72.75**	**44**	⇑P	**P**	**04 19 17.5**	**+1.0**
	baz=73,SNR=8.4						
CIS	**Catalina Islan**	**72.86**	**46**	⇑P	**P**	**04 19 17.5**	**+0.6**
	baz=73						
SMMC	**Simmler**	**72.87**	**44**	⇑P	**P**	**04 19 18.0**	**+1.0**
	baz=73,SNR=14						
PTRM	**Twissleman Ran**	**72.93**	**43**	*e*P	**P**	**04 19 18.8**	**+1.4**
QSPA	**South Pole Qui**	**73.14**	**180**	*e*P	**P**	**04 19 19.5**	**+1.3**
	comp=Z,67nm,1.0s						
QSPA				*e*pP	**pP**	**04 19 52.1**	**-0.1**
HOPS	**Hopland**	**73.16**	**39**	*e*P	**P**	**04 19 19.4**	**+0.8**
	comp=Z,67nm,1.2s						
KCPM	**Cahto Peak**	**73.30**	**38**	*e*P	**P**	**04 19 20.6**	**+1.1**
	comp=Z,35nm,1.3s						
OSI	**Osito Adit**	**73.32**	**45**	⇓P	**P**	**04 19 20.6**	**+0.9**
	baz=74						
DECC	**Green Verdugo**	**73.38**	**46**	⇑P	**P**	**04 19 21.0**	**+1.0**
	baz=74						
KIPM	**Iron Peak**	**73.43**	**38**	*e*P	**P**	**04 19 21.1**	**+0.8**
	comp=Z,42nm,1.1s						
ARVC	**Arvin**	**73.54**	**45**	⇑P	**P**	**04 19 21.6**	**+0.7**
	baz=74,SNR=6.1						
MWC	**Mount Wilson**	**73.56**	**46**	*e*P	**P**	**04 19 21.3**	**+0.1**
MWC				*e**PP	**pP**	**04 19 55.0**	**-0.2**
MWC				pmax	pmax		
	comp=Z,36nm,0.8s						
MWC	**Mount Wilson**	**73.56**	**46**	*e*P	**P**	**04 19 21.3**	**+0.1**
	comp=Z,36nm,0.8s						
MWC				*e*pP	**pP**	**04 19 55.0**	**-0.2**
BAR	**Barrett**	**73.67**	**48**	*e*P	**P**	**04 19 22.4**	**+0.7**
	comp=Z,12nm,1.0s						
VES	**Vestal, Richgr**	**73.78**	**44**	⇑P	**P**	**04 19 22.7**	**+0.5**
	baz=74,SNR=14						
MURC	**Murrieta**	**73.80**	**47**	⇑P	**P**	**04 19 23.0**	**+0.5**
	baz=74,SNR=6.8						
BFSC	**Mount Baldy Ra**	**73.84**	**46**	⇓P	**P**	**04 19 23.0**	**+0.2**
	baz=74,SNR=8.6						
PEA0B	**Petropavlovsk-**	**73.91**	**343**	*e*P	**P**	**04 19 22.6**	**0.0**
PETK	**Petropavlov

NACB Ninganchiao 74.98 301 eP P 04 19 29.4 -0.1
comp=Z,29nm,0.8s
MLAC Mammoth Lakes 74.98 42 ⇓P P 04 19 30.4 +0.9
baz=75
MTUM Tungstone Hills 75.00 43 eP P 04 19 30.5 +1.0
GSC Goldstone 75.01 45 eP P 04 19 30.0 +0.5
GSC e*PP pP 04 20 03.1 -0.6
GSC pmax pmax
comp=Z,36nm,1.0s
GSC Goldstone 75.01 45 eP P 04 19 30.0 +0.5
comp=Z,36nm,1.0s
GSC epP pP 04 20 03.1 -0.6
GSC Goldstone 75.01 45 ⇓P P 04 19 30.2 +0.7
baz=75,SNR=29
TIN Tinemaha 75.05 43 ⇓P P 04 19 30.6 +0.9
baz=75,SNR=10
BC3 Big Chuckawall 75.05 47 ⇓P P 04 19 30.5 +0.7
baz=75,SNR=14
HEC Hector,Ludlow 75.08 46 ⇓P P 04 19 30.3 +0.4
baz=75,SNR=41
YBH Yreka Blue Hor 75.11 37 eP P 04 19 31.0 +1.1
comp=Z,60nm,0.9s
YBH epP pP 04 20 04.3 +0.2
WAKR Walker 75.11 41 eP P 04 19 31.0 +0.8
GLA Glamis 75.18 48 eP P 04 19 31.9 +1.5
GLA pmax pmax
comp=Z,32nm,1.1s
GLA Glamis 75.18 48 eP P 04 19 31.9 +1.5
comp=Z,32nm,1.1s
GLA Glamis 75.18 48 ⇓P P 04 19 31.3 +0.8
baz=75,SNR=6.2
SSLB Suanglung 75.34 301 eP P 04 19 30.9 -0.7
comp=Z,11nm,0.8s
LBCM Butte Creek Ri 75.35 39 P P 04 19 31.9 +0.5
BEKR Beckworth 75.35 40 eP P 04 19 31.7 +0.3
comp=Z,17nm,0.9s
YHNB Yeheng 75.38 302 eP P 04 19 31.9 +0.1
comp=Z,17nm,0.8s
TPUB Ta-pu 75.39 300 eP P 04 19 30.9 -1.0
comp=Z,32nm,0.8s
TATO Taipei 75.43 302 eP P 04 19 32.4 +0.5
comp=Z,39nm,0.9s
GMRC Granite Mounta 75.51 46 ⇓P P 04 19 32.9 +0.5
baz=76,SNR=19
HUMO Hull Mountain 75.53 36 eP P 04 19 33.5 +1.3
comp=Z,40nm,1.0s
IRM Iron Mountain 75.54 47 ⇓P P 04 19 33.4 +1.0
baz=76,SNR=25
GRAC Grapevine Rang 75.58 44 ⇑P P 04 19 33.5 +0.9
baz=76,SNR=41
FURC Furnace Creek, 75.62 44 ⇑P P 04 19 33.5 +0.7
baz=76,SNR=28
TUQ Turquoise Moun 75.69 46 ⇓P P 04 19 33.9 +0.5
baz=76,SNR=28
SHOC Shoshone 75.70 45 ⇑P P 04 19 33.9 +0.5
baz=76,SNR=27
Y12C Blythe 75.76 48 ⇓P P 04 19 34.3 +0.6
baz=76,SNR=12
113A Mohawk Valley, 75.79 49 ⇓P P 04 19 34.6 +0.7
baz=76,SNR=7.9
NVAR Mina Array Bea 75.79 42 P P 04 19 34.8 +0.7
NVAR pP pP 04 20 07.3 -1.0
NVAR Mina Array Bea 75.79 42 P P 04 19 34.8 +0.7
comp=Z,44nm,0.8s,baz=226,slow=9.6,SNR=300
NVAR pP pP 04 20 07.3 -1.0
comp=Z,11nm,1.0s,baz=224,slow=8.6,SNR=2.4
PAHR Pah Rah Range 75.86 40 eP P 04 19 35.1 +0.8
comp=Z,36nm,0.9s
NV11 Mina Array Sit 75.89 42 eP P 04 19 35.1 +0.6
NV11 epP pP 04 20 07.9 -0.8
LDFC Landfair 76.05 46 eP P 04 19 37.1 +1.6
comp=Z,63nm,1.0s
214A Organ Pipe Nat 76.07 50 ⇓P P 04 19 36.4 +0.8
baz=76,SNR=13
PDMCI Parker Dam,Lak 76.32 47 ⇑P P 04 19 37.5 +0.7
baz=76,SNR=15
KDAK Kodiak Island 76.50 12 P P 04 19 37.9 +0.6
KDAK Kodiak Island 76.50 12 P P 04 19 37.9 +0.6
comp=Z,24nm,0.9s,baz=274,slow=2.3,SNR=7.7
Z14A Wintersburg 76.69 49 ⇓P P 04 19 39.8 +0.8
baz=77,SNR=7.3
SHPR Sheep Range 76.79 45 eP P 04 19 40.5 +0.9
SHPR epP pP 04 20 13.6 -0.3
KSM Kuching 76.81 276 eP P 04 19 41.0 +0.9
comp=Z,41nm,1.1s
KSM Kuching 76.81 276 P P 04 19 41.3 +1.2
comp=Z,38nm,1.1s
KSRS Korea Array 76.88 316 P P 04 19 41.6 +1.8
comp=Z,17nm,1.0s,baz=130,slow=6.2,SNR=37
KSAR Wonju Array Be 76.89 316 P P 04 19 41.6 +1.6
W13A Hualapai Mount 76.92 47 ⇓P P 04 19 41.1 +0.6
baz=77
Y14A Wickenburg 76.94 48 ⇑P P 04 19 41.3 +0.9
baz=77
R11A Troy Canyon, C 77.51 43 eP P 04 19 44.1 +0.5
R11A Troy Canyon, C 77.51 43 ⇑P P 04 19 44.3 +0.6
baz=78
BMN Battle Mountai 77.63 41 eP P 04 19 45.1 +0.9
BMN e*PP pP 04 20 18.8 +0.2
BMN pmax pmax
comp=Z,37nm,0.8s
BMN Battle Mountai 77.63 41 eP P 04 19 45.1 +0.9
comp=Z,36nm,0.8s
BMN epP pP 04 20 18.8 +0.2
TUC Tucson 77.74 51 eP P 04 19 45.6 +0.6
TUC e*PP pP 04 20 17.6 -1.7
TUC pmax pmax
comp=Z,21nm,1.0s
TUC Tucson 77.74 51 eP P 04 19 45.5 +0.6
comp=Z,21nm,1.0s
TUC epP pP 04 20 17.6 -1.7
WVOR Wild Horse Val 77.93 38 eP P 04 19 45.8 0.0
WVOR pmax pmax
comp=Z,44nm,1.0s
WVOR Wild Horse Val 77.93 38 eP P 04 19 45.8 0.0
comp=Z,44nm,1.0s
XMIS Christmas Isla 77.93 263 P P 04 19 53.8 +7.5
baz=78,SNR=3.6
NLWA Neilton Lookou 78.15 32 eP P 04 19 48.1 +1.4
comp=Z,46nm,1.0s
USRK Ussuriysk Arra 78.28 323 P P 04 19 47.9 +0.4
comp=Z,8.4nm,0.9s,baz=98,slow=2.7,SNR=12
X16A Lo Mia Camp, P 78.30 48 ⇓P P 04 19 49.4 +1.3
baz=78,SNR=41
TDL Tradedollar La 78.33 34 P P 04 19 48.7 +0.8
319A Douglas 78.42 52 ⇑P P 04 19 49.9 +1.1
baz=79,SNR=21
OSD Olympics--Snow 78.52 32 P P 04 19 50.3 +1.3
CCUT Cedar City 78.56 45 eP P 04 19 50.7 +1.1
comp=Z,30nm,0.9s
CCUT epP pP 04 20 24.9 +0.9
U15A North Rim 78.71 46 ⇑P P 04 19 51.7 +1.2
baz=79
HDW Hoodsport 78.73 32 P P 04 19 50.9 +0.8
LON Longmire 78.80 34 eP P 04 19 50.6 +0.2
LON pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 78.80 34 eP P 04 19 50.6 +0.2
comp=Z,10nm,0.8s
WUAZ Wupatki 78.89 48 eP P 04 19 52.1 +0.8
comp=Z,31nm,1.2s
WUAZ Wupatki 78.89 48 ⇓P P 04 19 52.6 +1.2
baz=79
WPW White Pass 78.91 34 P P 04 19 51.5 +0.4
320A Kipp Ranch, An 78.97 52 ⇓P P 04 19 53.4 +1.5
baz=79,SNR=14
RSO Redoubt South 78.98 11 eP P 04 19 51.3 0.0
ELK Elko 79.05 41 eP P 04 19 52.7 +0.5
comp=Z,25nm,0.8s
ELK epP pP 04 20 26.9 +0.3
PGC Sidney 79.19 31 eP P 04 19 52.7 +0.4
comp=Z,3.8nm,0.8s
PGC epP pP 04 20 28.2 +1.4
220A Playas Peak, P 79.24 52 ⇑P P 04 19 54.5 +1.2
baz=79,SNR=25
NAC Naches 79.32 34 P P 04 19 54.1 +0.9
X18A Snowflake 79.43 49 ⇓P P 04 19 55.6 +1.3
baz=80
120A U Bar Ranch, L 79.45 51 ⇓P P 04 19 55.6 +1.1
baz=80,SNR=7.9
CMW Cultus Mountai 79.72 32 P P 04 19 56.5 +1.1
Z20A Nine Sixteen R 79.75 51 ⇑P P 04 19 57.4 +1.3
baz=80,SNR=19
SPU Mount Spurr 79.78 11 eP P 04 19 55.0 -0.3
REDWA Red Mountain 79.80 35 P P 04 19 56.8 +1.0
MDW Midway 79.82 35 P P 04 19 56.9 +1.0
MDW Midway 79.82 35 P P 04 19 56.9 +1.0
MVU Marysvale 79.83 45 eP P 04 19 57.8 +1.4
comp=Z,24nm,0.9s
MVU epP pP 04 20 31.9 +0.9
221A Mesquite Ranch 79.85 52 ⇓P P 04 19 57.8 +1.3
baz=80,SNR=5.5
W18A Petrified Fore 79.86 49 eP P 04 19 58.7 +2.1
W18A Petrified Fore 79.86 49 ⇑P P 04 19 57.7 +1.1
baz=80
MDJ Mudanjiang 79.91 323 P P 04 19 57.5 +1.2
MDJ pmax pmax
comp=Z,26nm,1.7s
MDJ pmax pmax
comp=Z,84nm,2.7s
MDJ Mudanjiang 79.91 323 eP P 04 19 57.6 +1.2
comp=Z,44nm,1.4s
121A Cookes Peak, D 80.08 52 ⇓P P 04 19 58.9 +1.0
baz=80,SNR=15
ETW Entiat 80.12 34 P P 04 19 58.2 +0.5
BMO Blue Mountains 80.14 37 eP P 04 19 57.7 -0.1
comp=Z,27nm,1.0s
BMO epP pP 04 20 32.5 +0.2
MFID Camas Ranch 80.18 39 ⇑P P 04 19 58.9 +0.8
baz=80
Y20A Horse Springs, 80.28 50 ⇓P P 04 20 00.5 +1.5
baz=80,SNR=24
DUG Dugway 80.31 43 eP P 04 19 59.3 +0.4
DUG pmax pmax
comp=Z,11nm,0.8s
DUG Dugway 80.31 43 eP P 04 19 59.3 +0.4
comp=Z,11nm,0.8s
DUG Dugway 80.31 43 ⇓P P 04 19 59.5 +0.6
baz=80
WTV Waterville 80.38 34 P P 04 19 59.4 +0.5
222A Williams Famil 80.41 52 ⇓P P 04 20 00.6 +1.0
baz=81,SNR=6.9
X20A Quemado 80.49 50 ⇑P P 04 20 01.3 +1.2
baz=81,SNR=14
Z21A St. Cloud Mine 80.52 51 ⇑P P 04 20 01.9 +1.7
baz=81,SNR=29
BGU Big Grassy Mou 80.56 42 eP P 04 20 00.9 +0.7
comp=Z,7.8nm,1.0s
NJ2 Nanjing 80.66 307 eP P 04 20 02.0 +1.3
NJ2 pmax pmax
comp=Z,20nm,0.8s
NLU North Lily Min 80.67 43 eP P 04 20 02.0 +1.1
comp=Z,5.2nm,0.9s
PMR Palmer 80.70 12 eP P 04 20 00.5 +0.3
PMR pmax pmax
comp=Z,30nm,1.0s
PMR Palmer 80.70 12 eP P 04 20 00.5 +0.3
comp=Z,30nm,1.0s
Q16A Castle Valley 80.74 45 ⇓P P 04 20 02.4 +1.1
baz=81
122A Conniff Cattle 80.75 52 ⇑P P 04 20 02.9 +1.6
baz=81,SNR=6.3
W20A Ramah 80.76 49 ⇑P P 04 20 02.8 +1.4
baz=81,SNR=37
Y21A Point of Rocks 80.84 50 ⇑P P 04 20 03.4 +1.4
baz=81,SNR=18
223A Chaparral, Ant 80.87 53 ⇓P P 04 20 03.3 +1.2
baz=81
TMUT Trail Mountain 80.91 44 eP P 04 20 03.7 +1.4
comp=Z,37nm,0.9s
TMUT epP pP 04 20 37.8 +0.9
X21A Alamocita Cree 80.96 50 ⇑P P 04 20 03.8 +1.2
baz=81,SNR=9.8
DIV Divide 80.98 13 eP P 04 20 02.3 +0.5
comp=Z,48nm,1.0s
MPU Maple Canyon 80.99 44 eP P 04 20 03.9 +1.3
comp=Z,10nm,0.9s
Z22A Elephant Butte 81.03 51 ⇑P P 04 20 04.1 +1.3
baz=81,SNR=13
SML Sawmill 81.05 12 eP P 04 20 02.6 +0.5
SML pmax pmax
comp=Z,10.0nm,1.4s
SML Sawmill 81.05 12 eP P 04 20 02.6 +0.5
comp=Z,10nm,1.4s
BMRM Bremner River 81.10 14 eP P 04 20 03.1 +0.6
comp=Z,57nm,1.1s
V20A Brimhall 81.10 48 ⇑P P 04 20 04.2 +0.9
baz=81
HLID Hailey 81.12 39 eP P 04 20 04.0 +0.9
comp=Z,32nm,0.9s
HLID epP pP 04 20 38.2 +0.5
HLID Hailey 81.12 39 ⇑P P 04 20 04.1 +1.0
baz=81,SNR=5.8
HVU Hansel Valley 81.17 42 eP P 04 20 04.2 +0.8
HVU e*PP pP 04 20 38.4 +0.3
HVU pmax pmax
comp=Z,24nm,0.8s
HVU Hansel Valley 81.17 42 eP P 04 20 04.2 +0.8
comp=Z,24nm,0.8s
HVU epP pP 04 20 38.4 +0.3
SRU San Rafael 81.28 45 eP P 04 20 04.6 +0.5
SRU e*PP pP 04 20 38.6 -0.2
SRU pmax pmax
comp=Z,18nm,0.9s
SRU San Rafael 81.28 45 eP P 04 20 04.6 +0.5
comp=Z,18nm,0.9s
SRU epP pP 04 20 38.5 -0.2
U20A Newcomb 81.33 48 ⇑P P 04 20 05.3 +0.8
baz=82,SNR=6.9
Y22A Socorro 81.33 51 ⇓P P 04 20 05.5 +1.0
baz=82,SNR=6.6
324A Moseley Ranch, 81.35 54 ⇑P P 04 20 05.5 +0.9
baz=82
W21A San Fidel 81.37 49 ⇑P P 04 20 06.0 +1.3
baz=82
JLU Jordanelle 81.41 43 eP P 04 20 04.9 0.0
comp=Z,11nm,0.8s
LAZ Ladron 81.42 50 eP P 04 20 06.2 +1.3
comp=Z,18nm,1.8s
LAZ epP pP 04 20 40.2 +0.6
DAU Daniels Canyon 81.44 43 eP P 04 20 06.2 +1.1
DAU Daniels Canyon 81.44 43 eP P 04 20 06.2 +1.1
425A Indio Mountain 81.45 54 ⇓P P 04 20 06.3 +1.1
baz=82,SNR=26
KLR Kul'dur 81.50 327 eP P 04 20 02.0 -2.8
KLR pmax pmax
comp=Z,50nm,1.6s
MNTX Cornudas Mount 81.54 53 eP P 04 20 05.9 +0.5
comp=Z,14nm,1.3s
MNTX epP pP 04 20 39.0 -1.1
X22A Bernardo 81.56 50 ⇑P P 04 20 07.2 +1.6
baz=82
Z23A Rita Site, Whi 81.58 52 ⇓P P 04 20 07.2 +1.5
baz=82
224A Cornudas Mount 81.59 53 ⇑P P 04 20 07.0 +1.1
baz=82,SNR=14
626A Big Bend Ranch 81.60 56 ⇓P P 04 20 07.0 +1.1
baz=82,SNR=14
V21A Milan 81.70 49 ⇓P P 04 20 07.8 +1.3
baz=82
325A Bean Ranch, Si 81.71 54 ⇑P P 04 20 06.9 +0.3
baz=82,SNR=21
MVCO Mesa Verde 81.74 47 eP P 04 20 06.6 -0.1
comp=Z,38nm,1.8s
MVCO Mesa Verde 81.74 47 ⇓P P 04 20 07.4 +0.7
baz=82,SNR=5.9
LPM Los Pinos Moun 81.75 51 eP P 04 20 07.5 +0.9
526A Mary Lane Ranc 81.85 55 ⇑P P 04 20 08.3 +1.0
baz=82,SNR=20
HWUT Hardware Ranch 81.86 42 eP P 04 20 06.8 -0.2
comp=Z,24nm,1.4s
TXAR Lajitas Array 81.88 56 P P 04 20 08.4 +1.1
TXAR pP pP 04 20 42.8 +0.8
TXAR Lajitas Array 81.88 56 P P 04 20 08.4 +1.1
comp=Z,7.3nm,1.0s,baz=216,slow=6.2,SNR=44
TXAR pP pP 04 20 42.8 +0.8
comp=Z,1.9nm,0.9s,baz=180,slow=3.6,SNR=2.3
CN2 Changchun 81.91 320 eP P 04 20 07.8 +0.8
CN2 epP pP 04 20 43.0 +1.3
CN2 eS S 04 30 08.5 -0.8
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
124A Stringfield Ra 81.92 52 ⇓P P 04 20 08.7 +1.0
baz=82,SNR=5.0
W22A Albuquerque 81.92 50 ⇑P P 04 20 09.3 +1.7
baz=82
U21A Nageezi 81.97 48 ⇑P P 04 20 09.1 +1.2
baz=82,SNR=21
Y23A Lovelace Mesa, 82.01 51 ⇑P P 04 20 08.9 +0.8
baz=82,SNR=5.3
PV04 Paradox Valley 82.03 46 eP P 04 20 08.5 +0.5
PV04 epP pP 04 20 44.1 +1.4
PV01 Paradox Valley 82.13 46 eP P 04 20 08.9 +0.3
comp=Z,3μm,1.0s
PV01 epP pP 04 20 43.2 -0.2
S20A Disappointment 82.13 47 ⇓P P 04 20 09.7 +1.0
baz=82,SNR=26
225A Deer Hill, Car 82.14 53 ⇑P P 04 20 09.7 +0.9
baz=82,SNR=8.0
426A McDonald Obser 82.15 55 ⇑P P 04 20 09.7 +0.9
baz=82,SNR=14
627A Terlingua Ranc 82.15 56 ⇓P P 04 20 10.1 +1.3
baz=82,SNR=17
ANMO Albuquerque 82.16 50 eP P 04 20 09.8 +0.9
comp=Z,43nm,1.5s
ANMO epP pP 04 20 42.4 -1.2
TRF Thorofare Moun 82.20 10 eP P 04 20 07.6 -0.7
comp=Z,52nm,0.8s
NEW Newport 82.24 34 eP P 04 20 08.7 0.0
comp=Z,13nm,0.9s
NEW Newport 82.24 34 ⇓P P 04 20 08.5 -0.3
baz=82,SNR=11
527A Woodward Ranch 82.26 55 ⇑P P 04 20 10.1 +0.8
baz=82,SNR=10
Z24A Sheeppen Canyo 82.26 52 ⇑P P 04 20 10.2 +0.8
baz=82
V22A San Miguel Ran 82.27 49 ⇑P P 04 20 10.3 +0.8
baz=82,SNR=10.0
R20A Redvale 82.29 46 ⇑P P 04 20 10.1 +0.6
baz=82,SNR=14
T21A Navajo Lake 82.32 48 ⇓P P 04 20 10.5 +0.9
baz=82,SNR=8.4
SKAG Skagway 82.33 19 eP P 04 20 08.7 -0.1
comp=Z,65nm,1.6s
TNA Tin City 82.35 3 eP P 04 20 09.4 +0.7
comp=Z,184nm,1.5s
M17A Scullys Gap (B 82.37 43 ⇓P P 04 20 10.0 +0.2
baz=83
S21A Coal Bank Pass 82.45 47 ⇓P P 04 20 11.3 +0.9
baz=83,SNR=54
326A Caldwell Ranch 82.46 54 ⇑P P 04 20 11.0 +0.6
baz=83
Y24A Capitan 82.47 51 ⇑P P 04 20 11.3 +0.9
baz=83,SNR=16
W23A Werner Place, 82.48 50 ⇓P P 04 20 11.5 +1.0
baz=83,SNR=13
125A Gardner Draw, 82.50 53 ⇓P P 04 20 11.6 +1.0
baz=83,SNR=5.1
U22A Llaves 82.52 49 ⇓P P 04 20 11.6 +0.9
baz=83,SNR=6.7
628A Black Gap, Mar 82.56 56 ⇓P P 04 20 11.7 +0.8
baz=83,SNR=5.8
P19A Cripple Cowboy 82.57 45 ⇓P P 04 20 11.5 +0.6
baz=83,SNR=16
226B Tecolote Peak, 82.64 53 ⇓P P 04 20 12.1 +0.9
baz=83,SNR=14
BPAW Bear Paw Mtn. 82.68 10 eP P 04 20 09.6 -1.0
comp=Z,38nm,1.6s
PAX Paxson 82.69 13 eP P 04 20 10.9 +0.1
PAX pmax pmax
comp=Z,18nm,1.1s
PAX Paxson 82.69 13 eP P 04 20 10.9 +0.1
comp=Z,18nm,1.1s
MCK McKinley 82.70 11 eP P 04 20 10.6 -0.1
MCK e*PP pP 04 20 45.8 +0.3
MCK pmax pmax
comp=Z,63nm,0.9s
MCK McKinley 82.70 11 eP P 04 20 10.6 -0.1
comp=Z,63nm,0.9s
MCK epP pP 04 20 45.8 +0.3
Q20A Ridgley Place, 82.71 46 ⇓P P 04 20 12.4 +0.8
baz=83,SNR=41
427A Hayter Ranch, 82.71 55 ⇑P P 04 20 12.6 +0.9
baz=83,SNR=13
V23A Ortiz Mt. (NFS 82.72 49 ⇑P P 04 20 13.3 +1.5
baz=83,SNR=25
Z25A Roswell 82.73 52 ⇓P P 04 20 12.8 +1.1
baz=83,SNR=9.9
AHID Auburn Hatcher 82.75 41 eP P 04 20 11.9 +0.2
comp=Z,21nm,0.9s
X24A Lazy VL Ranch, 82.75 51 ⇓P P 04 20 12.4 +0.5
baz=83,SNR=7.0
MCMT McKenzie Canyo 82.75 39 eP P 04 20 12.3 +0.6
comp=Z,14nm,0.9s
MCMT epP pP 04 20 47.1 +0.7
T22A Edith 82.78 48 ⇓P P 04 20 12.9 +0.9
baz=83,SNR=12
HYT Haines Junctio 82.80 17 eP P 04 20 11.8 +0.3
O19A Miners Draw (B 82.80 44 ⇑P P 04 20 12.4 +0.4
baz=83,SNR=18
P20A De Beque 82.91 45 ⇑P P 04 20 13.3 +0.7
baz=83,SNR=60
RRI2 Red Ridge 82.91 41 eP P 04 20 13.3 +0.7
comp=Z,55nm,1.0s
528A Cox Ranch, San 82.91 56 ⇑P P 04 20 13.7 +0.9
baz=83,SNR=7.0
R21A Cimarron 82.95 47 ⇑P P 04 20 14.0 +1.1
baz=83,SNR=49
U23A El Rito 82.98 49 ⇓P P 04 20 14.0 +1.0
baz=83,SNR=35
126A Clayton Basin, 82.99 53 ⇓P P 04 20 14.0 +1.0
baz=83
L18A Fontenelle, Gr 83.00 42 ⇓P P 04 20 13.3 +0.3
baz=83,SNR=8.5
Y25A Mesa, Roswell 83.02 52 ⇑P P 04 20 13.9 +0.7
baz=83,SNR=20
MENT Mentasta 83.03 13 eP P 04 20 12.8 +0.3
W24A Lazy 6 Ranch, 83.05 50 ⇓P P 04 20 14.1 +0.7
baz=83,SNR=20
I16A Newdale 83.08 40 ⇑P P 04 20 14.4 +1.0
baz=83,SNR=35
Q21A Lamborn Mesa, 83.15 46 ⇓P P 04 20 14.9 +1.1
baz=83,SNR=20
S22A 4UR Ranch, Cre 83.17 47 ⇓P P 04 20 15.1 +1.0
baz=83,SNR=56
DLMT Dillon 83.19 39 eP P 04 20 14.5 +0.7
comp=Z,34nm,0.9s
DLMT epP pP 04 20 49.1 +0.5
MSO Missoula 83.19 37 eP P 04 20 13.6 -0.2
comp=Z,49nm,1.4s
MSO Missoula 83.19 37 ⇑P P 04 20 13.5 -0.2
baz=83,SNR=25
REDW Red Top Meadow 83.21 41 eP P 04 20 14.7 +0.6
comp=Z,64nm,1.2s
TPAW Teton Pass 83.21 41 eP P 04 20 14.6 +0.5
comp=Z,40nm,0.9s
428A Kincaid Ranch, 83.22 55 ⇓P P 04 20 15.7 +1.4
baz=83
Z26A Caprock 83.28 52 ⇑P P 04 20 15.1 +0.5
baz=84,SNR=24
BSMT Bassoo Peak 83.28 36 eP P 04 20 14.2 -0.1
X25A Clemmons Ranch 83.31 51 ⇑P P 04 20 15.3 +0.6
baz=84
O20A White River Ci 83.31 45 ⇓P P 04 20 15.3 +0.6
baz=84,SNR=20
SNOW Snow King Moun 83.32 41 eP P 04 20 15.5 +0.8
comp=Z,55nm,0.9s
SNOW epP pP 04 20 49.8 +0.3
529A Stev Forest Ra 83.35 56 ⇓P P 04 20 15.5 +0.6
baz=84,SNR=7.3
M19A Rock Springs 83.37 43 ⇑P P 04 20 15.2 +0.2
baz=84,SNR=20
V24A Rampart Ranch, 83.38 50 ⇑P P 04 20 15.8 +0.7
baz=84,SNR=14
328A Wristen Ranch, 83.39 55 ⇑P P 04 20 15.9 +0.8
baz=84
T23A Casias Ranch, 83.41 48 ⇓P P 04 20 16.1 +0.8
baz=84,SNR=12
IMW Indian Meadow 83.43 40 eP P 04 20 16.0 +0.7
comp=Z,41nm,0.8s
IMW epP pP 04 20 50.7 +0.6
R22A Saguache, Gunn 83.44 47 ⇑P P 04 20 16.9 +1.4
baz=84
MOOW Moose Ponds 83.47 41 eP P 04 20 15.8 +0.4
comp=Z,15nm,1.1s
LOHW Long Hollow 83.49 41 eP P 04 20 16.0 +0.4
comp=Z,26nm,1.0s
JTMT Jette 83.51 36 eP P 04 20 15.2 -0.2
WHN Wuhan 83.51 304 P P 04 20 17.5 +1.9
LRM Limekiln Ridge 83.52 38 eP P 04 20 16.0 +0.4
L19A Farson 83.53 43 ⇓P P 04 20 16.2 +0.4
baz=84,SNR=38
SWMT Swartz Lake 83.54 36 eP P 04 20 14.7 -0.9
P21A Newcastle 83.56 46 ⇓P P 04 20 16.6 +0.6
baz=84,SNR=24
QLMT Earthquake Lak 83.61 39 eP P 04 20 17.4 +1.3
QLMT epP pP 04 20 52.3 +1.4
BLMT Blacktail Moun 83.61 36 eP P 04 20 15.1 -0.9

Q22A	Crested Butte,	83.62	46	⇓P		P	04 20 17.2 +0.8
	baz=84,SNR=33						
N20A	Spence Gulch,	83.63	44	⇑P		P	04 20 16.9 +0.6
	baz=84,SNR=32						
CHMT	Chamberlain Mo	83.64	37	eP		P	04 20 16.1 -0.1
H16A	Russell Place,	83.65	40	⇓P		P	04 20 17.7 +1.3
	baz=84,SNR=90						
I17A	Pilgrim Ck.	83.67	41	⇑P		P	04 20 17.4 +1.0
	baz=84,SNR=7.7						
FLWY	Flagg Ranch	83.67	40	eP		P	04 20 17.4 +0.9
	comp=Z,56nm,0.9s						
U24A	Moreno Valley	83.67	49	⇑P		P	04 20 17.9 +1.1
	baz=84,SNR=9.0						
Y26A	Elida	83.67	52	⇓P		P	04 20 17.1 +0.5
	baz=84,SNR=10.0						
SLMT	Seeley Lake	83.68	37	eP		P	04 20 15.3 -1.0
YBMT	Yellow Bay	83.72	36	eP		P	04 20 15.2 -1.3
	comp=Z,5.2nm,0.9s						
SMCO	Snowmass	83.73	46	eP		P	04 20 17.8 +0.7
	comp=Z,41nm,1.0s						
SMCO				epP		pP	04 20 51.5 -0.4
BW06	Boulder Array	83.73	42	eP		P	04 20 16.4 -0.4
	comp=Z,33nm,0.9s						
BW06				epP		pP	04 20 51.3 -0.3
PDAR	Pinedale Array	83.73	42	P		P	04 20 16.7 -0.1
PDAR				pP		pP	04 20 51.2 -0.4
PDAR	Pinedale Array	83.73	42	P		P	04 20 16.7 -0.1
	comp=Z,29nm,0.8s,baz=212,slow=3.1,SNR=213						
PDAR				pP		pP	04 20 51.2 -0.4
	comp=Z,11nm,0.8s,baz=212,slow=4.2,SNR=4.7						
S23A	Nye Farm, Mont	83.73	48	⇓P		P	04 20 18.4 +1.4
	baz=84						
W25A	X Bar L Ranch,	83.75	50	⇑P		P	04 20 17.2 +0.2
	baz=84,SNR=17						
YFT	Old Faithful	83.78	40	eP		P	04 20 19.1 +2.1
	comp=Z,35nm,1.1s						
429A	Davenport Ranc	83.81	56	⇑P		P	04 20 17.7 +0.4
	baz=84,SNR=16						
YMR	Madison River	83.81	40	eP		P	04 20 18.3 +1.2
	comp=Z,26nm,0.7s						
SEY	Seymchan	83.84	345	⇑/P		P	04 20 16.7 +0.2
228A	UT Block 9, Go	83.86	54	⇑P		P	04 20 18.2 +0.6
	baz=84						
O21A	Pagoda	83.87	45	⇑P		P	04 20 17.7 +0.1
	baz=84,SNR=11						
Z27A	Tatum	83.88	53	⇑P		P	04 20 18.0 +0.4
	baz=84,SNR=11						
T24B	San Luis	83.89	48	⇓P		P	04 20 18.8 +1.0
	baz=84,SNR=11						
V25A	Rancho No Teng	83.91	50	⇓P		P	04 20 18.5 +0.7
	baz=84,SNR=18						
H17A	Grant Village	83.91	40	⇓P		P	04 20 19.3 +1.7
	baz=84,SNR=23						
BOZ	Bozeman (W)	83.91	39	eP		P	04 20 17.8 +0.2
BOZ				e*PP		pP	04 20 51.5 -0.9
BOZ				pmax		pmax	
	comp=Z,28nm,1.0s						
BOZ	Bozeman (W)	83.91	39	eP		P	04 20 17.8 +0.2
	comp=Z,28nm,1.0s						
BOZ				epP		pP	04 20 51.5 -0.9
COLA	College	83.94	11	eP		P	04 20 17.0 +0.1
COLA				pmax		pmax	
	comp=Z,106nm,0.9s						
COLA	College	83.94	11	eP		P	04 20 17.0 +0.1
	comp=Z,106nm,0.9s						
X26A	CR and CF Fran	83.95	51	⇑P		P	04 20 18.7 +0.8
	baz=84						
M20A	Sweetwater, Wa	84.00	44	⇓P		P	04 20 18.7 +0.5
	baz=84,SNR=21						
YNR	Norris Junctio	84.01	40	eP		P	04 20 19.0 +0.9
	comp=Z,29nm,1.2s						
ILAR	Eielson Array	84.02	11	P		P	04 20 17.1 -0.4
ILAR				pP		pP	04 20 52.1 -0.2
ILAR	Eielson Array	84.02	11	P		P	04 20 17.1 -0.4
	comp=Z,16nm,1.0s,baz=212,slow=5.9,SNR=69						
ILAR				pP		pP	04 20 52.1 -0.2
	comp=Z,2.5nm,0.6s,baz=237,slow=6.6,SNR=1.7						
IM04	Indian Mountai	84.02	8	eP		P	04 20 17.7 +0.3
I18A	Diamond G Ranc	84.03	41	⇓P		P	04 20 18.6 +0.3
	baz=84,SNR=18						
530A	J-C Ranch, Com	84.06	56	⇑P		P	04 20 19.2 +0.7
	baz=84						
P22A	Eagle	84.07	46	⇑P		P	04 20 19.0 +0.4
	baz=84,SNR=20						
R23A	Moffat	84.08	47	⇑P		P	04 20 19.2 +0.5
	baz=84,SNR=12						
329A	Wagon Wheel Ra	84.08	55	⇑P		P	04 20 19.3 +0.7
	baz=84,SNR=8.9						
N21A	Black Mountain	84.09	44	⇓P		P	04 20 19.5 +0.8
	baz=84,SNR=42						
LKWY	Lake	84.10	40	eP		P	04 20 20.8 +2.1
LKWY				pmax		pmax	
	comp=Z,42nm,1.0s						
LKWY	Lake	84.10	40	eP		P	04 20 20.8 +2.1
	comp=Z,42nm,1.0s						
SDCO	Great Sand Dun	84.11	48	eP		P	04 20 18.9 +0.1
	comp=Z,14nm,1.2s						
IMA2	Indian Mountai	84.12	8	eP		P	04 20 18.3 +0.2
L20A	Wamsutter	84.14	43	⇓P		P	04 20 19.6 +0.7
	baz=84,SNR=29						
128A	Castleberry Fa	84.15	54	⇓P		P	04 20 19.6 +0.6
	baz=84,SNR=14						
Y27A	Causey	84.16	52	⇑P		P	04 20 19.3 +0.3
	baz=84,SNR=22						
W26A	Owens Ranch, T	84.21	51	⇓P		P	04 20 19.9 +0.7
	baz=84						
K19A	Absolon Red Bu	84.21	42	⇓P		P	04 20 18.9 -0.2
	baz=84,SNR=20						
S24A	Houchin Ranch,	84.27	48	⇓P		P	04 20 20.4 +0.7
	baz=84,SNR=15						
G17A	Pierce Place,	84.28	39	⇓P		P	04 20 20.6 +1.2
	baz=84,SNR=7.8						
J19A	Crowheart	84.30	42	⇑P		P	04 20 19.7 +0.1
	baz=84,SNR=31						
U25A	Circle Dot Ran	84.30	49	⇓P		P	04 20 20.2 +0.5
	baz=84,SNR=9.9						
HRY	Holter Researc	84.35	38	eP		P	04 20 20.0 +0.3
HRY				epP		pP	04 20 54.3 -0.3
631A	Perdido Creek	84.38	57	⇑P		P	04 20 20.7 +0.6
	baz=85,SNR=15						
430A	Baggett Ranch,	84.39	56	⇑P		P	04 20 21.0 +0.8
	baz=85						
Q23A	Hartsel	84.39	47	⇑P		P	04 20 21.3 +1.0
	baz=85						
229A	Bryant Ranch,	84.41	54	⇓P		P	04 20 21.1 +0.9
	baz=85						
WALA	Waterton Lakes	84.44	35	eP		P	04 20 19.6 -0.5
	comp=Z,0.6nm,1.0s						
WALA				epP		pP	04 20 55.0 0.0
K20A	Yellowstone Ra	84.46	42	⇑P		P	04 20 20.1 -0.3
	baz=85,SNR=18						
O22A	Kremmling	84.47	45	⇑P		P	04 20 21.0 +0.3
	baz=85,SNR=21						
MSTX	Muleshoe	84.49	52	eP		P	04 20 21.2 +0.6
	comp=Z,95nm,1.6s						
MSTX	Muleshoe	84.49	52	⇑P		P	04 20 21.2 +0.6
	baz=85,SNR=21						
V26A	Tequesquite Ra	84.50	50	⇑P		P	04 20 21.1 +0.5
	baz=85						
Z28A	Tucker Farm, M	84.50	53	⇓P		P	04 20 21.2 +0.5
	baz=85,SNR=11						
X27A	F and S Farms,	84.52	51	⇓P		P	04 20 21.4 +0.6
	baz=85,SNR=6.2						
M21A	Separation Pea	84.60	44	⇓P		P	04 20 21.4 +0.2
	baz=85,SNR=21						
P23A	Jefferson	84.60	46	⇓P		P	04 20 22.0 +0.6
	baz=85						
R24A	Sanders Place,	84.60	48	⇓P		P	04 20 21.9 +0.7
	baz=85,SNR=5.7						
732A	Laxson Ranch,	84.61	58	⇑P		P	04 20 22.3 +1.1
	baz=85						
H18A	Shoshone NF, C	84.61	40	⇓P		P	04 20 21.6 +0.4
	baz=85,SNR=19						
T25A	Trinidad	84.62	49	⇓P		P	04 20 21.5 +0.2
	baz=85,SNR=6.7						
F17A	Fitzpatrick Pl	84.63	39	⇓P		P	04 20 22.1 +0.9
	baz=85,SNR=20						
330A	Mertzon	84.68	55	⇓P		P	04 20 21.9 +0.3
	baz=85						
531A	Rocksprings	84.70	56	⇓P		P	04 20 22.4 +0.7
	baz=85						
I19A	Meeteetse	84.71	41	⇑P		P	04 20 22.2 +0.6
	baz=85,SNR=24						
W27A	Bowe Ranch, En	84.72	51	⇓P		P	04 20 21.9 0.0
	baz=85,SNR=13						
RWWY	Rawlins	84.74	44	eP		P	04 20 22.0 +0.1
	comp=Z,49nm,1.0s						
L21A	Rawlins	84.76	43	⇑P		P	04 20 22.0 0.0
	baz=85,SNR=11						
U26A	Atchley Ranch,	84.78	50	⇓P		P	04 20 22.5 +0.3
	baz=85,SNR=9.2						
E17A	Martinsdale	84.80	38	⇑P		P	04 20 22.4 +0.4
	baz=85,SNR=8.8						
S25A	Robets Cordova	84.83	48	⇑P		P	04 20 22.6 +0.2
	baz=85,SNR=11						
N22A	Wattenberg Ran	84.83	45	⇓P		P	04 20 22.9 +0.5
	baz=85,SNR=32						
431A	Sonora	84.85	56	⇓P		P	04 20 23.0 +0.5
	baz=85						
Y28A	McKinney Farm,	84.86	52	⇓P		P	04 20 23.3 +0.8
	baz=85						
Q24A	Divide	84.90	47	⇓P		P	04 20 23.6 +0.8
	baz=85						
230A	Sterling City	84.92	55	⇓P		P	04 20 23.2 +0.4
	baz=85						
O23A	Lake Granby, G	84.92	45	⇓P		P	04 20 23.5 +0.6
	baz=85,SNR=8.5						
ISCO	Idaho Springs	84.95	46	eP		P	04 20 23.8 +0.7
ISCO				pmax		pmax	
	comp=Z,4.0nm,0.9s						
ISCO	Idaho Springs	84.95	46	eP		P	04 20 23.8 +0.7
	comp=Z,4.3nm,0.9s						
ISCO	Idaho Springs	84.95	46	⇑P		P	04 20 23.7 +0.6
	baz=85						
J20A	Shoshoni	84.96	42	⇓P		P	04 20 23.3 +0.5
	baz=85,SNR=9.4						
G18A	Lazy EL Ranch,	84.99	40	⇑P		P	04 20 23.6 +0.6
	baz=85,SNR=19						
DAWY	Dawson	85.00	14	eP		P	04 20 22.8 +0.3
Z29A	Hungry Hill Ra	85.01	53	⇑P		P	04 20 23.4 +0.1
	baz=85,SNR=9.2						
M22A	Cedar Creek Ra	85.01	44	⇑P		P	04 20 23.3 0.0
	baz=85,SNR=13						
H19A	Powell	85.03	40	⇑P		P	04 20 24.0 +0.8
	baz=85,SNR=14						
632A	Uvalde	85.05	57	⇑P		P	04 20 24.3 +0.8
	baz=85						
RLMT	Red Lodge	85.08	40	eP		P	04 20 23.7 +0.2
	comp=Z,23nm,1.0s						
R25A	Fountain Ranch	85.15	48	⇓P		P	04 20 24.5 +0.6
	baz=85						
X28A	Dimmitt	85.15	52	⇑P		P	04 20 24.3 +0.3
	baz=85,SNR=6.4						
K21A	Alcova	85.15	43	⇑P		P	04 20 24.0 +0.1
	baz=85,SNR=14						
GCMT	Greycliff	85.17	39	eP		P	04 20 24.4 +0.6
	comp=Z,25nm,1.3s						
V27A	Dan Oppiter Fa	85.18	51	⇑P		P	04 20 25.0 +0.9
	baz=85						
532A	Rocksprings	85.19	57	⇓P		P	04 20 24.8 +0.6
	baz=85,SNR=5.7						
F18A	Big Timber	85.20	39	⇓P		P	04 20 24.6 +0.7
	baz=85,SNR=12						
EGAK	Eagle	85.20	13	eP		P	04 20 23.9 +0.5
	comp=Z,45nm,1.0s						
I20A	Worland	85.22	41	⇑P		P	04 20 24.3 +0.3
	baz=85,SNR=31						
N23A	Red Feather La	85.22	45	⇑P		P	04 20 24.8 +0.4
	baz=85,SNR=12						
T26A	Comanche Natio	85.22	49	⇑P		P	04 20 24.9 +0.5
	baz=85						
331A	San Angelo	85.23	55	⇑P		P	04 20 24.7 +0.3
	baz=85						
D17A	Six Diamond Ra	85.25	38	⇓P		P	04 20 24.8 +0.6
	baz=86,SNR=33						
Y29A	Porterfield Fa	85.28	53	⇑P		P	04 20 24.9 +0.3
	baz=86,SNR=14						
130A	Snyder	85.32	54	⇓P		P	04 20 25.1 +0.4
	baz=86,SNR=7.0						
J21A	Lysite	85.36	42	⇑P		P	04 20 25.4 +0.5
	baz=86,SNR=53						
L22A	Ellis Ranch, M	85.41	44	⇓P		P	04 20 25.6 +0.4
	baz=86,SNR=15						
E18A	Harlowton	85.41	38	⇓P		P	04 20 25.7 +0.7
	baz=86,SNR=16						
JCT	Junction City	85.41	56	eP		P	04 20 25.8 +0.5
JCT				pmax		pmax	
	comp=Z,5.0nm,0.8s						
JCT	Junction City	85.41	56	eP		P	04 20 25.8 +0.5
	comp=Z,4.7nm,0.8s						
JCT	Junction City	85.41	56	⇓P		P	04 20 25.5 +0.3
	baz=86						
C17A	Wharram Farm,	85.45	37	⇑P		P	04 20 25.5 +0.4
	baz=86,SNR=66						
O24A	Longmont	85.46	46	⇓P		P	04 20 26.3 +0.9
	baz=86						
Z30A	Sanderson Ranc	85.47	53	⇑P		P	04 20 25.6 +0.1
	baz=86,SNR=12						
U27A	Thompson Grove	85.47	50	⇑P		P	04 20 26.3 +0.8
	baz=86						
X29A	Tulia	85.49	52	⇓P		P	04 20 26.2 +0.6
	baz=86						
S26A	Kim	85.50	49	⇓P		P	04 20 26.2 +0.5
	baz=86						
Q25A	Bedland, Calha	85.51	47	⇑P		P	04 20 26.2 +0.4
	baz=86						
H20A	Greybull	85.56	41	⇑P		P	04 20 25.6 -0.1
	baz=86,SNR=8.0						
231A	Bronte	85.56	55	⇑P		P	04 20 26.0 0.0
	baz=86,SNR=14						
432A	Menard	85.57	56	⇑P		P	04 20 26.3 +0.3
	baz=86						
M23A	Laramie	85.62	44	⇓P		P	04 20 26.8 +0.5
	baz=86						
V28A	Channing	85.63	51	⇓P		P	04 20 26.8 +0.5
	baz=86						
K22A	Casper	85.64	43	⇑P		P	04 20 26.6 +0.4
	baz=86						
F19A	Roth Farm, Mol	85.64	39	⇑P		P	04 20 26.4 +0.3
	baz=86,SNR=18						
I21A	Big Trails, Te	85.68	42	⇑P		P	04 20 26.1 -0.3
	baz=86,SNR=18						
COLD	Coldfoot	85.71	9	eP		P	04 20 26.6 +0.8
	comp=Z,56nm,1.5s						
COLD				epP		pP	04 21 05.8 +5.0
PHWY	Pilot Hill	85.73	45	eP		P	04 20 27.1 +0.2
	comp=Z,4.3nm,0.9s						
B17A	L&G Farms, Che	85.78	37	⇑P		P	04 20 26.6 0.0
	baz=86,SNR=14						
G20A	Bridger	85.78	40	⇓P		P	04 20 27.3 +0.5
	baz=86						
D18A	Linhart Farms,	85.79	38	⇓P		P	04 20 27.4 +0.5
	baz=86,SNR=8.2						
131A	Roby	85.80	54	⇑P		P	04 20 27.2 +0.1
	baz=86,SNR=7.4						
332A	Millersview	85.80	56	⇑P		P	04 20 27.6 +0.4
	baz=86,SNR=20						
W29A	Amraillo	85.81	52	⇓P		P	04 20 28.0 +0.8
	baz=86						
R26A	Arlington	85.81	48	⇓P		P	04 20 26.9 -0.2
	baz=86,SNR=11						
T27A	Campo	85.81	49	⇑P		P	04 20 28.0 +0.8
	baz=86						
P25A	Willow Gulch B	85.82	47	⇑P		P	04 20 27.4 +0.1
	baz=86,SNR=6.3						
Y30A	Stafford Cattl	85.88	53	⇓P		P	04 20 28.0 +0.4
	baz=86						
U28A	Mallet	85.89	50	⇓P		P	04 20 28.8 +1.2
	baz=86						
N24A	Carr	85.91	45	⇑P		P	04 20 28.0 +0.4
	baz=86,SNR=6.4						
L23A	Garrett	85.93	44	⇑P		P	04 20 27.7 -0.1
	baz=86,SNR=11						
Q26A	Hugo	86.02	47	⇓P		P	04 20 28.6 +0.4
	baz=86						
E19A	Rath Farm, Rou	86.03	39	⇑P		P	04 20 28.5 +0.5
	baz=86,SNR=14						
232A	Coleman	86.07	55	⇑P		P	04 20 28.8 +0.3
	baz=86,SNR=20						
F20A	Billings	86.10	40	⇓P		P	04 20 29.4 +1.0
	baz=86						
O25A	Wiggins	86.11	46	⇑P		P	04 20 29.2 +0.5
	baz=86						
X30A	Coker Ranch, T	86.12	52	⇓P		P	04 20 29.3 +0.6
	baz=86						
BJI	Beijing	86.13	314	P		P	04 20 29.5 +1.0
BJI				pmax		pmax	
	comp=Z,39nm,0.9s						
V29A	Stinnett	86.20	51	⇓P		P	04 20 30.3 +1.2
	baz=86						
MAW	Mawson	86.20	199	P		P	04 20 29.5 +1.0
MAW	Mawson	86.20	199	P		P	04 20 29.5 +1.0
	comp=Z,5.8nm,0.7s,baz=137,slow=5.0,SNR=3.9						
MAW	Mawson	86.20	199	P		P	04 20 29.6 +1.2
	baz=86,SNR=5.4						
H21A	Big Horn, Sher	86.22	41	⇓P		P	04 20 29.5 +0.5
	baz=86						
M24A	Cheyenne	86.23	45	⇓P		P	04 20 30.0 +0.8
	baz=86						
Z31A	Sharp Cattle R	86.23	54	⇑P		P	04 20 29.6 +0.4
	baz=86,SNR=11						
I22A	9 Mile Ranch,	86.24	42	⇑P		P	04 20 29.4 +0.2
	baz=86,SNR=6.1						
EGMT	Eagleton	86.24	37	eP		P	04 20 28.0 -1.0
	comp=Z,27nm,1.1s						
EGMT	Eagleton	86.24	37	⇓P		P	04 20 29.5 +0.5
	baz=86						
R27A	Eads	86.27	48	⇓P		P	04 20 29.8 +0.4
	baz=86						
K23A	Bowen Ranch, D	86.27	43	⇑P		P	04 20 29.7 +0.4
	baz=86						
T28A	Walsh	86.28	50	⇑P		P	04 20 29.5 0.0
	baz=86						
D19A	Cripps Ranch,	86.32	38	⇑P		P	04 20 30.0 +0.6
	baz=86,SNR=19						
ABTX	Abilene, Hawle	86.36	54	⇓P		P	04 20 30.3 +0.4
	baz=86,SNR=19						
Y31A	Rekieta Farm,	86.39	53	⇓P		P	04 20 30.7 +0.7
	baz=87						
B18A	Beardsley Farm	86.41	37	⇓P		P	04 20 30.1 +0.3
	baz=87,SNR=11						
E20A	Meyer Farm, Mu	86.45	39	⇑P		P	04 20 30.5 +0.5
	baz=87,SNR=8.8						
C19A	Slack Wire Ran	86.51	38	⇓P		P	04 20 30.9 +0.6
	baz=87,SNR=29						
IPM	Ipoh	86.55	276	eP		P	04 20 31.7 +0.5
	comp=Z,13nm,0.8s						
A18A	Metzger Ranch,	86.64	36	⇓P		P	04 20 30.9 0.0
	baz=87,SNR=26						
KSCO	Kaye Shedlock'	86.69	48	⇑P		P	04 20 31.7 +0.2
	baz=87,SNR=5.5						
D20A	Manuel Ranch,	86.73	39	⇑P		P	04 20 31.9 +0.5
	baz=87,SNR=12						
M25A	Palm-Egli Farm	86.73	45	⇓P		P	04 20 32.1 +0.4
	baz=87						
Z32A	Haskell	86.75	54	⇓P		P	04 20 32.2 +0.5
	baz=87,SNR=25						
K24A	Anderson Ranch	86.79	44	⇓P		P	04 20 33.0 +1.1
	baz=87						
B19A	Brinkman Farms	86.92	37	⇓P		P	04 20 32.7 +0.4
	baz=87,SNR=6.9						
R28A	Tribune	87.00	49	⇑P		P	04 20 32.8 -0.1
	baz=87,SNR=12						
EDM	Edmonton	87.04	32	eP		P	04 20 32.4 -0.3
EDM				e*PP		pP	04 21 07.8 0.0
EDM				e			04 23 54.1
EDM	Edmonton	87.04	32	eP		P	04 20 32.4 -0.3
EDM				epP		pP	04 21 07.8 0.0
EDM				ePP		PP	04 23 54.1 -4.1
Y32A	R-V Farms, Ver	87.04	53	⇓P		P	04 20 33.6 +0.5
	baz=87,SNR=7.3						
N26A	Koester Ranch,	87.04	46	⇑P		P	04 20 33.8 +0.7
	baz=87						
E21A	Keefer Ranch,	87.11	39	⇑P		P	04 20 33.9 +0.7
	baz=87,SNR=8.7						
L25A	Engebretsen Ra	87.11	44	⇑P		P	04 20 34.1 +0.7
	baz=87						
C20A	Veseth Ranch,	87.11	38	⇓P		P	04 20 33.8 +0.6
	baz=87,SNR=16						
W31A	Holland Ranch,	87.11	52	⇓P		P	04 20 33.9 +0.4
	baz=87						
KULM	Kulim	87.15	276	eP		P	04 20 33.8 -0.3
	comp=Z,29nm,1.2s						
J24A	Dixon Ranch, L	87.16	43	⇓P		P	04 20 34.1 +0.5
	baz=87						
S29A	Ulysses	87.20	49	⇑P		P	04 20 34.7 +0.7
	baz=87						
F22A	Rosebud	87.25	40	⇓P		P	04 20 34.8 +0.9
	baz=88						
A19A	Klindworth Far	87.27	37	⇑P		P	04 20 34.3 +0.3
	baz=88,SNR=12						
Q28A	Sharon Springs	87.28	48	⇓P		P	04 20 34.9 +0.6
	baz=88						
O27A	Beecher Island	87.28	47	⇓P		P	04 20 34.8 +0.5
	baz=88						
ENH	Enshi	87.29	303	eP		P	04 20 35.5 +1.1
	comp=Z,11nm,0.8s						
K25A	Mack Ranch, Ha	87.37	44	⇓P		P	04 20 35.1 +0.5
	baz=88						
D21A	La Casta Ranch	87.40	39	⇓P		P	04 20 35.2 +0.5
	baz=88,SNR=8.3						
V31A	Spring Creek L	87.42	52	⇑P		P	04 20 36.2 +1.3
	baz=88						
B20A	Solberg Farm,	87.45	37	⇑P		P	04 20 35.2 +0.4
	baz=88,SNR=12						
N27A	Anderson Farm,	87.50	46	⇑P		P	04 20 35.9 +0.6
	baz=88						
R29A	Marienthal	87.51	49	⇓P		P	04 20 36.1 +0.8
	baz=88						
G23A	Biddle	87.53	41	⇑P		P	04 20 35.3 0.0
	baz=88,SNR=5.5						
P28A	Saint Francis	87.54	47	⇓P		P	04 20 36.1 +0.7
	baz=88						
S30A	Montezuma	87.69	50	⇓P		P	04 20 37.3 +1.1
	baz=88						
LAO	LASA Array	87.69	40	eP		P	04 20 37.1 +1.1
	comp=Z,18nm,0.8s						
A20A	Cobblestone Ra	87.72	37	⇑P		P	04 20 36.4 +0.3
	baz=88,SNR=29						
E22A	Miles City	87.75	40	⇓P		P	04 20 37.2 +0.9
	baz=88						
F23A	Volborg	87.76	41	⇓P		P	04 20 36.4 0.0
	baz=88,SNR=8.9						
Q29A	Oakley	87.81	48	⇑P		P	04 20 37.3 +0.5
	baz=88						
WHTX	Lake Whitney	87.84	56	⇑P		P	04 20 37.6 +0.7
	baz=88						
H24A	Dirks Ranch, A	87.86	42	⇓P		P	04 20 36.4 -0.4
	baz=88,SNR=18						
K26A	Motz Farm, Whi	87.87	44	⇓P		P	04 20 37.2 +0.2
	baz=88,SNR=6.1						
RSSD	Black Hills	87.92	43	eP		P	04 20 36.8 -0.5
RSSD				pmax		pmax	
	comp=Z,13nm,0.9s						
RSSD	Black Hills	87.92	43	eP		P	04 20 36.8 -0.5
	comp=Z,13nm,0.9s						
D22A	Cohagen	87.94	39	⇓P		P	04 20 37.8 +0.6
	baz=88,SNR=5.4						
B21A	Ellsworth Farm	88.03	38	⇓P		P	04 20 38.2 +0.7
	baz=88,SNR=15						
T31A	Randall Ranch,	88.05	50	⇓P		P	04 20 38.3 +0.4
	baz=88						
PSI	Prapat	88.07	273	P		P	04 20 38.9 +0.2
PSI	Prapat	88.07	273	P		P	04 20 38.9 +0.2
	comp=Z,16nm,1.1s,baz=139,slow=5.2,SNR=6.3						
PSI	Prapat	88.07	273	P		P	04 20 38.9 +0.2
	baz=88,SNR=6.4						
I25A	Rochford	88.07	43	⇑P		P	04 20 37.8 -0.3
	baz=88,SNR=13						
R30A	Dighton	88.08	49	⇑P		P	04 20 38.9 +0.9
	baz=88						
HIA	Hailar	88.09

F24A	Ekalaka	88.41	41	⇑P		P	04 20 39.9 +0.5
	baz=89						
HKT	Hockley	88.42	58	eP		P	04 20 40.5 +0.9
HKT				pmax	pmax		
	comp=Z,47nm,2.1s						
HKT	Hockley	88.42	58	eP		P	04 20 40.5 +0.9
	comp=Z,47nm,2.1s						
H25A	Fruitdale	88.42	42	⇑P		P	04 20 40.3 +0.8
	baz=89						
O29A	4D Ranch, Culb	88.44	47	⇑P		P	04 20 40.7 +1.0
	baz=89						
K27A	Flueckinger Fa	88.50	44	⇓P		P	04 20 41.3 +1.3
	baz=89						
D23A	Lindsay	88.54	39	⇑P		P	04 20 40.9 +1.0
	baz=89,SNR=7.1						
B22A	Reddig Ranch S	88.58	38	⇑P		P	04 20 40.8 +0.7
	baz=89,SNR=14						
P30A	Selden	88.59	48	⇓P		P	04 20 41.3 +0.9
	baz=89						
R31A	Burdett	88.62	49	⇓P		P	04 20 41.5 +0.9
	baz=89						
G25A	Newell	88.78	42	⇑P		P	04 20 41.2 0.0
	baz=89						
E24A	Baker	88.81	40	⇓P		P	04 20 41.6 +0.3
	baz=89						
C23A	Lambert	88.83	39	⇓P		P	04 20 42.1 +0.8
	baz=89,SNR=12						
J27A	Elkhorn Farm,	88.88	44	⇑P		P	04 20 42.0 +0.3
	baz=89,SNR=9.4						
PLCA	Paso Flores	88.88	132	eP		P	04 20 43.4 +1.5
	comp=Z,4.3nm,1.0s						
PLCA	Paso Flores	88.88	132	P		P	04 20 43.9 +2.0
	comp=Z,2.1nm,0.9s,baz=351,slow=4.2,SNR=3.3						
A22A	Carney Farms,	88.94	38	⇑P		P	04 20 42.6 +0.7
	baz=89						
H26A	Fairpoint	88.95	43	⇓P		P	04 20 42.4 +0.5
	baz=89						
D24A	Glendive	89.05	40	⇑P		P	04 20 43.5 +1.1
	baz=89						
F25A	Bowman	89.07	41	⇑P		P	04 20 43.4 +0.8
	baz=89						
K28A	Ten Mile Ranch	89.09	45	⇑P		P	04 20 43.5 +0.9
	baz=89						
XAN	Xi'an	89.09	306	P		P	04 20 44.0 +1.1
XAN				pP		pP	04 21 18.0 -0.1
XAN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
C24A	Savage	89.17	39	⇑P		P	04 20 43.5 +0.6
	baz=89,SNR=8.1						
I27A	Quinn	89.19	43	⇓P		P	04 20 43.4 +0.3
	baz=89						
B23A	Brockton	89.25	38	⇑P		P	04 20 43.9 +0.7
	baz=89,SNR=18						
G26A	Maurine	89.34	42	⇑P		P	04 20 44.6 +0.8
	baz=90						
E25A	Miller Ranch,	89.35	41	⇑P		P	04 20 44.6 +0.7
	baz=90						
H27A	Howes	89.41	43	⇓P		P	04 20 44.8 +0.7
	baz=90						
J28A	Allard Ranch,	89.46	44	⇓P		P	04 20 44.7 +0.3
	baz=90,SNR=5.2						
F26A	Lodgepole	89.53	41	⇓P		P	04 20 45.4 +0.7
	baz=90						
A23A	Redstone	89.54	38	⇓P		P	04 20 45.7 +1.1
	baz=90						
HHC	Hu-ho-hao-te	89.67	313	eP		P	04 20 46.3 +0.8
HHC				pP		pP	04 21 20.0 -0.8
HHC				sP		sP	04 21 35.0 -0.3
HHC				PP		PP	04 24 20.5 +0.8
HHC				SKS		SKSac	04 30 59.5 -3.8
HHC				S		S	04 31 23.5 -1.9
HHC				sS		sS	04 32 24.0 -2.4
HHC				SS		SS	04 37 25.0 -0.6
HHC				pmax	pmax		
	comp=Z,110nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1μm,6.3s						
D25A	Fairfield	89.68	40	⇑P		P	04 20 46.1 +0.8
	baz=90,SNR=5.3						
DGMT	Dagmar	89.72	39	eP		P	04 20 46.6 +1.1
	comp=Z,63nm,1.0s						
DGMT	Dagmar	89.72	39	⇓P		P	04 20 46.2 +0.7
	baz=90,SNR=13						
G27A	Dupree	89.81	42	⇓P		P	04 20 45.8 -0.1
	baz=90,SNR=9.5						
K29A	Lazy Trails An	89.81	45	⇓P		P	04 20 46.0 -0.1
	baz=90,SNR=5.3						
INK	Inuvik	89.85	14	eP		P	04 20 45.2 -0.3
	comp=Z,62nm,1.5s						
E26A	Carlson Angus	89.93	41	⇑P		P	04 20 47.6 +1.1
	baz=90						
F27A	Lemmon	89.96	42	⇓P		P	04 20 47.5 +0.9
	baz=90						
C25A	Freed Ranch, W	89.96	40	⇓P		P	04 20 47.8 +1.1
	baz=90						
A24A	Westby	90.04	38	⇑P		P	04 20 47.3 +0.3
	baz=90,SNR=9.3						
H28A	Mission Ridge	90.11	43	⇓P		P	04 20 48.1 +0.7
	baz=90						
PBKT	Sadao Pong	90.19	287	P		P	04 20 50.3 +2.0
	comp=Z,16nm,1.5s						
PBKT	Sadao Pong	90.19	287	P		P	04 20 50.5 +2.2
	comp=Z,16nm,1.5s						
B25A	Knox Farm, Ray	90.26	39	⇓P		P	04 20 49.0 +1.0
	baz=90						
YAK	Yakutsk	90.29	337	eP		P	04 20 45.7 -2.0
YAK				pmax	pmax		
	comp=Z,24nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
G28A	Parade	90.34	43	⇑P		P	04 20 49.3 +0.8
	baz=90						
E27A	Carson	90.47	41	⇑P		P	04 20 49.0 -0.1
	baz=91,SNR=6.8						
A25A	Svangstu Ranch	90.57	39	⇑P		P	04 20 50.7 +1.3
	baz=91						
C26A	Wahner Farm, P	90.72	40	⇑P		P	04 20 51.1 +1.0
	baz=91						
F28A	McLaughlin	90.72	42	⇓P		P	04 20 50.6 +0.4
	baz=91						
D27A	Center	90.78	41	⇓P		P	04 20 50.8 +0.4
	baz=91						
BGNE	Belgrade	90.78	47	⇑P		P	04 20 51.5 +1.0
	baz=91						
B26A	Jensen Ranch,	90.86	39	⇓P		P	04 20 51.7 +0.9
	baz=91						
SYO	Syowa Base	91.02	191	⇑eP		P	04 20 50.0 -1.2
SYO	Syowa Base	91.02	191	⇑epP		pP	04 21 24.0 -2.4
E28A	Huff	91.08	41	⇑P		P	04 20 52.0 +0.2
	baz=91						
A26A	Wade Farm, Ken	91.20	39	⇑P		P	04 20 52.6 +0.3
	baz=91,SNR=6.9						
KMI	Kunming	91.21	296	P		P	04 20 55.3 +2.1
KMI				pP		pP	04 21 34.3 +5.8
KMI				sP		sP	04 21 45.5 +2.5
KMI				pmax	pmax		
	comp=Z,19nm,0.9s						
F29A	Eureka	91.34	42	⇓P		P	04 20 52.5 -0.6
	baz=92,SNR=7.5						
SNAA	Sanae	91.43	177	eP		P	04 20 53.8 +0.7
SNAA	Sanae	91.43	177	epP		pP	04 21 27.1 -1.3
SNAA	Sanae	91.43	177	eP		P	04 20 53.9 +0.7
	comp=Z,13nm,1.0s						
SNAA				epP		pP	04 21 26.8 -1.6
B27A	Peters Farms,	91.47	40	⇑P		P	04 20 53.7 +0.1
	baz=92						
YKA	Yellowknife Ar	91.68	24	P		P	04 20 54.0 -0.1
YKA				PP		PP	04 24 30.3 -4.5
YKA	Yellowknife Ar	91.68	24	P		P	04 20 54.0 -0.1
	comp=Z,6.9nm,1.1s,baz=234,slow=4.2,SNR=25						
YKA				PP		PP	04 24 30.3 -4.5
	comp=Z,0.7nm,0.8s,baz=244,slow=7.5,SNR=4.1						
C28A	Hausauer Farms	91.73	40	⇑P		P	04 20 55.1 +0.3
	baz=92						
E29A	Napoleon	91.75	42	⇑P		P	04 20 54.9 0.0
	baz=92						
VNA2	Neumayer--Watz	91.89	176	eP		P	04 20 56.4 +1.2
VNA2	Neumayer--Watz	91.89	176	epP		pP	04 21 28.5 -2.0
JTS	JuntasÁbangare	91.98	80	eP		P	04 20 57.3 +0.6
	comp=Z,314nm,1.6s						
JTS				epP		pP	04 21 32.2 +0.2
VNA1	Neumayer--Stat	92.10	175	eP		P	04 20 57.7 +1.6
VNA1	Neumayer--Stat	92.10	175	epP		pP	04 21 31.1 -0.3
CD2	Chengdu	92.16	302	eP		P	04 20 57.5 +0.3
CD2				pP		pP	04 21 33.0 +0.5
CD2				sP		sP	04 21 48.3 +1.3
CD2				PP		PP	04 24 42.0 +2.6
CD2				SKS		SKSac	04 31 15.0 -2.8
CD2				S		S	04 31 44.8 -3.5
CD2				SS		SS	04 38 01.3 -0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
E30A	Jud	92.19	42	⇓P		P	04 20 56.7 -0.2
	baz=92						
MDND	Maddock	92.27	40	eP		P	04 20 57.4 +0.1
MDND	Maddock	92.27	40	⇓P		P	04 20 56.9 -0.4
	baz=92,SNR=6.0						
A28A	Rude Farm, Bot	92.27	39	⇓P		P	04 20 57.3 0.0
	baz=92,SNR=7.4						
MAIT	Maitri	92.45	182	eP		P	04 20 55.3 -2.4
D30A	Buchanan	92.52	41	⇓P		P	04 20 58.3 -0.1
	baz=93						
CMAR	Chiang Mai Arr	92.60	288	P		P	04 21 01.1 +1.7
CMAR	Chiang Mai Arr	92.60	288	P		P	04 21 01.1 +1.7
	comp=Z,6.5nm,0.8s,baz=97,slow=2.7,SNR=32						
B29A	Wagenman Farm,	92.66	40	⇑P		P	04 20 58.9 -0.2
	baz=93						
ECSD	EROS Data Cent	92.69	45	eP		P	04 20 59.7 +0.4
	comp=Z,4.0nm,0.9s						
CHTO	Chiang Mai	92.70	289	eP		P	04 21 01.1 +1.2
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
CHTO	Chiang Mai	92.70	289	eP		P	04 21 01.1 +1.2
	comp=Z,12nm,0.9s						
CHTO	Chiang Mai	92.70	289	P		P	04 21 01.3 +1.4
CHTO	Chiang Mai	92.70	289	P		P	04 21 01.3 +1.4
	comp=Z,21nm,1.1s						
A29A	Manning Farm,	92.91	40	⇑P		P	04 20 59.8 -0.4
	baz=93,SNR=22						
C30A	Mose, Pekin	92.91	41	⇓P		P	04 20 59.9 -0.3
	baz=93						
LCO	Las Campanas	93.01	121	eP		P	04 21 01.9 +0.3
	comp=Z,7.5nm,1.0s						
B30A	Myrvik Farm, E	93.29	40	⇓P		P	04 21 01.4 -0.5
	baz=94						
A30A	Hoffart Farm,	93.48	40	⇓P		P	04 21 02.2 -0.6
	baz=94,SNR=13						
FFC	Flin Flon	93.64	34	eP		P	04 21 03.2 -0.2
FFC	Flin Flon	93.64	34	eP		P	04 21 03.2 -0.2
LZH	Lanzhou	93.70	306	eP		P	04 21 06.0 +1.6
LZH				pP		pP	04 21 42.0 +2.3
LZH				sP		sP	04 21 56.8 +2.6
LZH				pmax	pmax		
	comp=Z,33nm,1.2s						
LZH				pmax	pmax		
	comp=Z,150nm,5.0s						
AGMN	Agassiz Nation	94.77	41	eP		P	04 21 08.2 -0.6
	comp=Z,19nm,1.1s						
ULN	Ulaanbaatar	95.21	318	eP		P	04 21 11.0 +0.1
	comp=Z,8.5nm,0.8s						
ULM	Lac du Bonnet	95.42	39	P		P	04 21 10.7 -1.0
ULM	Lac du Bonnet	95.42	39	P		P	04 21 10.7 -1.0
	comp=Z,7.8nm,0.9s,baz=256,slow=5.6,SNR=5.7						
SONM	Songino Array	95.62	318	P		P	04 21 12.4 -0.4
SONM				PP		PP	04 25 01.9 -4.3
SONM	Songino Array	95.62	318	P		P	04 21 12.4 -0.4
	comp=Z,2.3nm,0.8s,baz=153,slow=4.4,SNR=7.9						
SONM				PP		PP	04 25 01.9 -4.3
	comp=Z,2.0nm,1.0s,baz=118,slow=6.2,SNR=7.9						
SPMN	St. Paul	95.75	45	⇑P		P	04 21 12.8 -0.5
	baz=96						
TIXI	Tiksi	96.31	344	eP		P	04 21 13.3 -1.9
TIXI				pmax	pmax		
	comp=Z,13nm,1.3s						
COWI	Conover	98.47	44	eP		Pdif	04 21 25.7 +0.1
	comp=Z,14nm,1.0s						
FCC	Fort Churchill	99.14	31	eP		Pdif	04 21 27.8 -0.4
FCC	Fort Churchill	99.14	31	eP		Pdif	04 21 27.8 -0.4
	comp=Z,0.4nm,1.1s						
SAML	Samuel	106.89	105	ePKP			04 26 14.1
SAML				ePP		PP	04 26 30.6 -0.7
ZALV	Zalesovo Beam	110.09	322	PKIKP		PKiKP	04 26 17.5 -0.5
ZALV	Zalesovo Beam	110.09	322	PKiKP		PKiKP	04 26 17.4 -0.5
ZALV	Zalesovo Beam	110.09	322	PKiKP		PKiKP	04 26 17.4 -0.5
	comp=Z,1.6nm,0.6s,baz=90,slow=1.5,SNR=3.8						
MK31	Makanchi Array	111.51	314	ePKIKP		PKiKP	04 26 20.4 -0.5
MK31	Makanchi Array	111.51	314	ePKP		PKiKP	04 26 20.4 -0.5
MKAR	Makanchi Array	111.51	314	c iPKIKP		PKiKP	04 26 20.7 -0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	111.51	314	PKiKP		PKiKP	04 26 20.6 -0.3
MKAR	Makanchi Array	111.51	314	PKiKP		PKiKP	04 26 20.6 -0.3
	comp=Z,2.0nm,0.5s,baz=163,slow=0.2,SNR=23						
TKM2	Tokmak 2	116.23	310	ePKIKP		PKPdf	04 26 29.2 -1.2
TKM2	Tokmak 2	116.23	310	ePKPdf		PKPdf	04 26 29.2 -1.2
EKS2	Erkin-Say	117.58	310	ePKIKP		PKPdf	04 26 32.7 -0.2
EKS2	Erkin-Say	117.58	310	ePKPdf		PKPdf	04 26 32.6 -0.2
VOSK	Vostochnaya	118.44	321	PKIKP		PKPdf	04 26 33.4 -0.6
VOSK				pmax	pmax		
	comp=Z,22nm,1.1s						
BVA0	Borovoye Array	118.75	322	i PKIKP		PKPdf	04 26 34.1 -0.5
BVA0				pmax	pmax		
	comp=Z,11nm,0.9s						
BVAR	Borovoye Array	118.75	322	PKIKP		PKPdf	04 26 34.7 +0.2
BVAR							04 27 09.3
BVAR	Borovoye Array	118.75	322	PKP		PKPdf	04 26 34.7 +0.2
BVAR				pPKP		pPKPdf	04 27 09.3 -2.2
BVAR	Borovoye Array	118.75	322	PKP		PKPdf	04 26 34.7 +0.2
	comp=Z,8.7nm,0.8s,baz=99,slow=2.0,SNR=29						
BVAR				pPKP		pPKPdf	04 27 09.3 -2.2
	comp=Z,2.3nm,0.9s,baz=106,slow=3.2,SNR=2.9						
BRVK	Borovoye	118.80	322	c i PKIKP		PKPdf	04 26 33.9 -0.8
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
BRVK	Borovoye	118.80	322	ePKPdf		PKPdf	04 26 34.4 -0.3
KBL	Kabul	121.48	300	ePKIKP		PKPdf	04 26 41.1 +0.4
KBL	Kabul	121.48	300	ePKPdf		PKPdf	04 26 41.1 +0.4
ARU	Arti	124.34	328	i PKIKP		PKPdf	04 26 45.3 +0.1
ARU							04 28 30.4
ARU							04 33 33.6
ARCES	ARCESS Array B	126.02	352	PKP		PKPdf	04 26 48.4 +0.3
ARCES				pPKP		pPKPdf	04 27 22.7 -2.3
ARCES	ARCESS Array B	126.02	352	PKP		PKPdf	04 26 48.4 +0.3
	comp=Z,11nm,0.7s,baz=336,slow=2.7,SNR=25						
ARCES				pPKP		pPKPdf	04 27 22.7 -2.3
	comp=Z,7.8nm,1.1s,baz=36,slow=2.3,SNR=2.6						
AB31	Akbulak array	126.03	319	i PKIKP		PKPdf	04 26 48.6 0.0
AB31				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ABKAR	Akbulak array	126.03	319	ePKPdf		PKPdf	04 26 48.9 +0.3
AKTO	Aktyubinsk	126.84	321	PKIKP		PKPdf	04 26 50.3 +0.1
AKTO	Aktyubinsk	126.84	321	PKP		PKPdf	04 26 50.2 +0.1
AKTO	Aktyubinsk	126.84	321	PKP		PKPdf	04 26 50.2 +0.1
	comp=Z,3.7nm,0.9s,baz=74,slow=4.6,SNR=11						
SUR	Sutherland	128.99	196	ePKPdf		PKPdf	04 26 56.1 +0.9
BOSA	Boshof	131.08	203	PKP		PKPdf	04 26 59.2 0.0
BOSA	Boshof	131.08	203	PKP		PKPdf	04 26 59.2 0.0
	comp=Z,2.3nm,0.7s,baz=330,slow=20,SNR=4.4						
FINES	FINESS Array B	133.29	347	PKP		PKPdf	04 27 02.5 +0.4
FINES	FINESS Array B	133.29	347	PKP		PKPdf	04 27 02.5 +0.4
	comp=Z,5.4nm,0.8s,baz=82,slow=4.0,SNR=13						
NB2	NORSAR Subarra	135.77	356	PKP		PKPdf	04 26 56.6 -10
	comp=Z,2.6nm,1.0s,baz=17,slow=2.6						
NOA	NORSAR Array B	135.77	356	PKP		PKPdf	04 27 07.0 +0.1
NOA	NORSAR Array B	135.77	356	PKP		PKPdf	04 27 07.0 +0.1
	comp=Z,3.6nm,0.9s,baz=13,slow=4.1,SNR=5.7						
KBZ	Khabaz	138.99	319	PKIKP		PKPdf	04 27 15.7 +2.5
KBZ	Khabaz	138.99	319	PKP		PKPdf	04 27 15.7 +2.5
KBZ	Khabaz	138.99	319	PKP		PKPdf	04 27 15.7 +2.5
	comp=Z,3.7nm,1.0s,baz=99,slow=2.1,SNR=5.7						
LSZ	Lusaka	141.28	216	ePKPdf		PKPdf	04 27 16.9 -1.4
AKASG	Malin Array Be	141.52	336	PKHKP		PKPpre	04 27 12.7
AKASG	Malin Array Be	141.52	336	PKPpre		PKPpre	04 27 12.7
AKASG	Malin Array Be	141.52	336	PKhKP		PKPpre	04 27 12.7
	comp=Z,3.5nm,0.7s,baz=35,slow=4.1,SNR=7.4						
KIEV	Kiev	141.53	336	ePKPdf		PKPdf	04 27 12.2 -5.3
MARD	Mardin	143.31	311	i P		PKPbc	04 27 19.1 +0.3
KEMA	Kemaliye	144.04	315	i P		PKPdf	04 27 22.3 -0.3
LVV	L'vov	144.10	340	ePKIKP		PKPab	04 27 20.0 -0.1
KMBO	Kilima Mbogo	144.40	243	ePKPdf		PKPdf	04 27 23.8 -0.3
KMBO				PKP		PKPbc	04 27 24.2 +1.4
KMBO				pPKP		pPKPdf	04 27 58.2 -2.9
KMBO	Kilima Mbogo	144.40	243	PKP		PKPdf	04 27 24.2 +0.1
	comp=Z,26nm,0.8s,baz=65,slow=5.5,SNR=66						
KMBO				pPKP		pPKPdf	04 27 58.2 -2.9
	comp=Z,7.8nm,0.8s,baz=61,slow=4.8,SNR=2.9						
MALT	Malatya	144.54	313	⇑PKIKP		PKPdf	04 27 24.0 +0.5
MALT	Malatya	144.54	313	⇑i P		PKPdf	04 27 24.0 +0.5
KIS	Kishinev	144.59	333	ePKP		PKPab	04 27 21.0 -1.0
IBBN	Ibbenburen	144.66	358	ePKPbc		PKPdf	04 27 22.6 -0.4
KWP	Kalwaria Pacla	144.69	341	⇑PKIKP		PKPbc	04 27 22.8 +0.4
KWP	Kalwaria Pacla	144.69	341	⇑i P		PKPbc	04 27 22.8 +0.4
KWP	Kalwaria Pacla	144.69	341	ePKPdf		PKPab	04 27 22.3 0.0
KWP	Kalwaria Pacla	144.69	341	ePKP		PKPbc	04 27 22.8 +0.4
AKCD	Akcadag	144.90	314	i P		PKPdf	04 27 25.3 +1.2
OJC	Ojcow	144.98	345	i PKIKP		PKPbc	04 27 23.3 0.0
CLZ	Clausthal	144.98	355	ePKPbc		PKPdf	04 27 23.7 0.0
CLZ	Clausthal	144.98	355	ePKIKP		PKPdf	04 27 23.7 0.0
WTSB	Winterswijk	145.02	359	ePKPdf		PKPdf	04 27 23.6 -0.1
	comp=Z,57nm,0.8s						
KSP	Ksiaz	145.17	349	⇑PKIKP		PKPab	04 27 24.5 +0.5
KSP				e			04 27 58.8
KSP	Ksiaz	145.17	349	ePKP		PKPab	04 27 24.6 +0.5
CLL	Collm	145.24	352	ePKPbc		PKPdf	04 27 24.1 0.0
CLL	Collm	145.24	352	⇑PKP2		PKPdf	04 27 24.1 0.0
CLL				pmax	pmax		
	comp=Z,72nm,1.0s						
CLL	Collm	145.24	352	⇑PKPbc		PKPdf	04 27 24.1 0.0
	comp=Z,72nm,1.0s						
CLL				epPKPdf		pPKPdf	04 27 59.0 -2.0
CLL				esPKPdf		sPKPdf	04 28 16.0 +0.9
LEOM	Leova	145.24	333	⇓PKIKP		PKPab	04 27 25.2 +0.8
LEOM	Leova	145.24	333	⇓i P		PKPab	04 27 25.2 +0.8
STHS	Stebnicka Huta	145.32	343	ePKIKP		PKPab	04 27 25.4 +0.8
STHS	Stebnicka Huta	145.32	343	ePKP		PKPab	04 27 25.4 +0.8
KOLS	Kolonicke sedl	145.44	341	ePKP2		PKPab	04 27 25.2 +0.1
KOLS	Kolonicke sedl	145.44	341	ePKP		PKPab	04 27 25.2 +0.1
NEUB	Neuenburg	145.48	354	ePKPbc		PKPab	04 27 25.1 0.0
NEUB				epPKPbc	pPKPbc		04 28 00.7 -0.5
BRG	Berggiesshubel	145.53	351	⇑i PKP		PKPab	04 27 25.6 +0.2
	comp=Z,103nm,1.5s						
BRG				pPKP		pPKPdf	04 28 01.1 -0.5
	comp=Z,8.3nm,0.8s						
BRG	Berggiesshubel	145.53	351	ePKPbc		PKPab	04 27 25.3 -0.1
BRG				epPKPbc	pPKPbc		04 28 01.0 -0.4
BRG	Berggiesshubel	145.53	351	⇑i PKP2		PKPab	04 27 25.5 +0.2
BRG				pmax	pmax		
	comp=Z,103nm,1.5s						
BUG	Bochum--Univer	145.54	359	ePKPbc		PKPab	04 27 25.2 -0.1
BUG				epPKPbc	pPKPbc		04 28 01.0 -0.3
BUR08	Bucovina Ar. S	145.54	337	ePKPbc		PKPab	04 27 26.1 +0.4
UPC	Upice	145.54	349	i PKP2		PKPab	04 27 26.0 +0.6
UPC	Upice	145.54	349	i PKP		PKPab	04 27 26.0 +0.6
UPC				epPKP		pPKPdf	04 28 01.8 +0.2
BURAR	Bucovina Array	145.56	337	⇑PKP2		PKPab	04 27 26.1 +0.4
BURAR	Bucovina Array	145.56	337	⇑i P		PKPab	04 27 26.1 +0.4
FBE	Freiberg	145.57	352	ePKPbc		PKPab	04 27 25.8 +0.3
NIE	Niedzica	145.57	343	i PKP2		PKPab	04 27 27.6 +2.0
GZT	Gaziantep	145.60	313	i P		PKPab	04 27 27.0 +0.7
DPC	Dobruska-Polom	145.63	348	i PKP2		PKPab	04 27 26.4 +0.6
DPC	Dobruska-Polom	145.63	348	i PKP		PKPab	04 27 26.4 +0.6
DPC				epPKP		pPKPdf	04 28 01.7 -0.1
UZH	Uzhgorod	145.70	341	ePKP2		PKPab	04 27 26.2 +0.2
CRVS	Cervenica-Dubn	145.71	342	ePKP2		PKPab	04 27 26.2 +0.1
CRVS	Cervenica-Dubn	145.71	342	ePKP		PKPab	04 27 26.2 +0.1
OKC	Ostrava-Krasne	145.73	346	i PKP2		PKPab	04 27 26.5 +0.4
OKC	Ostrava-Krasne	145.73	346	i PKP		PKPab	04 27 26.5 +0.4
OKC				epPKP		pPKPdf	04 28 01.6 -0.3
CTKT	Corum	145.74	319	i P		PKPab	04 27 27.6 +0.9
PVCC	Panska Ves	145.77	350	i PKP2		PKPab	04 27 26.5 +0.2
PVCC	Panska Ves	145.77	350	i PKP		PKPab	04 27 26.5 +0.2
PVCC				epPKP		pPKPdf	04 28 02.4 +0.4
TESR	Tescani	145.89	334	⇑i P		PKPbc	04 27 26.3 +0.1
MORC	Moravsky Berou	145.93	347	ePKP2		PKPab	04 27 26.7 -0.3
MORC	Moravsky Berou	145.93	347	ePKPbc		PKPab	04 27 26.7 -0.3
GHRR		145.93	333	⇑i P		PKPbc	04 27 26.5 +0.2
TLCR		145.97	331	⇑PKP2		PKPab	04 27 26.9 -0.3
TLCR		145.97	331	⇑i P		PKPab	04 27 26.9 -0.3
UBBA	Unterbreizbach	146.03	356	ePKPbc		PKPab	04 27 26.8 -0.3
MOX	Moxa	146.05	354	ePKPbc		PKPab	04 27 27.0 -0.4
MOX				epPKPbc	pPKPbc		04 28 02.7 -0.3
MOX	Moxa	146.05	354	ePKP2		PKPab	04 27 27.0 -0.4
TRPA	Tarpa	146.06	340	⇓i P		PKPab	04 27 27.1 -0.3
AYKD	Aykdinkavak	146.10	313	i P		PKPab	04 27 28.5 +0.4
ILGA	Ilgaz	146.14	321	i P		PKPab	04 27 28.9 +0.6
WERD	Werda	146.17	353	ePKPbc		PKPab	04 27 27.5 -0.3
TANN	Tannenbergstha	146.18	353	ePKPbc		PKPab	04 27 27.6 -0.3
BEBN	Eben Emael	146.19	0	PKP		PKPab	04 27 27.6 -0.2
KUZU	Kuzuini	146.21	312	i P		PKPab	04 27 28.6 +0.1
HGN	Heimansgroeve	146.23	0	ePKPdf		PKPbc	04 27 27.5 +0.4
	comp=Z,150nm,1.6s						
P

ANTO	Ankara	147.42	320	*e*PKPdf	PKPdf	04 27 28.7	+0.4
ANTO				*e*PKPbc	PKiKP	04 27 32.0	-1.0
ANTO				*e*PKPab	PKPab	04 27 35.2	+2.1
VOIR		147.42	335 ⇑	PKP2	PKPab	04 27 32.2	-0.8
VOIR		147.42	335 ⇑	*i*P	PKPab	04 27 32.2	-0.8
GEC2	GERESS Array S	147.55	351	*e*PKPbc	PKPbc	04 27 31.6	+0.6
GEC2				*ep*PKPbc	pPKPbc	04 28 06.8	-0.7
GEC2	GERESS Array S	147.55	351	*e*PKP2	PKPbc	04 27 31.6	+0.6
GERES	GERESS Array B	147.55	351	PKP	PKPdf	04 27 28.2	0.0
GERES				PKPbc	PKPbc	04 27 31.4	+0.5
GERES				pPKPbc	pPKPbc	04 28 06.9	-0.6
GERES	GERESS Array B	147.55	351	PKP	PKPdf	04 27 28.2	0.0
	comp=Z,9.8nm,0.9s,baz=9.5,slow=1.2,SNR=40						
GERES				PKPbc	PKPbc	04 27 31.4	+0.5
	comp=Z,9.9nm,0.9s,baz=29,slow=3.0,SNR=51						
GERES				pPKPbc	pPKPbc	04 28 06.9	-0.6
	comp=Z,4.9nm,0.8s,baz=1.9,slow=4.0,SNR=4.7						
GULE	Gulek	147.57	314	*i*P	PKPbc	04 27 32.4	+0.8
ZALF	Zalf	147.62	305	*e*P	PKPbc	04 27 31.7	+0.1
ARR	Arges	147.65	335 ⇑	*i*P	PKPab	04 27 32.8	-1.1
ROSF	Rostrenen	147.74	12	*e*PKIKP	PKPdf	04 27 29.2	+0.8
FLN	La Foliniere	147.79	8	*e*PKIKP	PKPdf	04 27 28.8	+0.3
	comp=Z,67nm,1.2s						
DEV	Deva	147.88	338 ⇓	PKIKP	PKPdf	04 27 28.8	+0.1
DEV	Deva	147.88	338 ⇓	*i*P	PKPdf	04 27 28.8	+0.1
SGMF	Saint Gilles	147.95	11	*e*PKIKP	PKPdf	04 27 29.7	+1.0
LANF	Langenberg	147.98	358	PKP	PKPbc	04 27 32.7	+0.7
LDF	La Druitiere	148.00	8	*e*PKIKP	PKPdf	04 27 29.0	+0.2
CONA	Conrad Observa	148.04	348 ⇑	*i*PKiKP	PKiKP	04 27 33.3	-0.7
	comp=Z,44nm,1.0s,SNR=19						
GRR	Gorron	148.10	9	*e*PKIKP	PKPdf	04 27 29.6	+0.6
SOP	Sopron	148.12	347 ⇑	*e*	PKPbc	04 27 33.3	+0.9
STU	Stuttgart	148.12	356	*e*PKPbc	PKPbc	04 27 33.3	+0.9
STU	Stuttgart	148.12	356	*e*PKP2	PKPbc	04 27 33.6	+1.2
STU	Stuttgart	148.12	356	*e*PKPbc	PKPbc	04 27 33.6	+1.2
STU				*e*PKPab	PKPab	04 27 36.3	+0.7
PRD	Provadia	148.13	330	*e*P	PKPbc	04 27 33.1	+0.5
QUIF	Quistinic	148.16	12	*e*PKIKP	PKPdf	04 27 29.9	+0.8
GZR	Gura Zlata	148.34	337 ⇓	PKIKP	PKPdf	04 27 34.0	+0.8
GZR	Gura Zlata	148.34	337 ⇓	*i*P	PKPbc	04 27 34.0	+0.8
KIZK	Mersin	148.41	314	*i*P	PKPbc	04 27 33.9	+0.4
MOA	Molln	148.42	349 ⇓	*i*PKiKP	PKPbc	04 27 33.8	+0.6
	comp=Z,28nm,0.9s,SNR=14						
BRBR	Barbar	148.50	307	*e*P	PKPbc	04 27 34.8	+0.6
FUR	Furstenfeldbru	148.54	353	*e*PKPbc	PKPbc	04 27 34.3	+0.8
FUR				*ep*PKPbc	pPKPbc	04 28 09.5	-0.6
FUR	Furstenfeldbru	148.54	353	*e*PKP2	PKPbc	04 27 34.3	+0.8
BZS	Buzias	148.56	339 ⇑	PKIKP	PKPdf	04 27 30.9	+1.1
BZS	Buzias	148.56	339 ⇑	*i*P	PKPdf	04 27 30.9	+1.1
BFO	Black Forest	148.61	357	*e*PKPbc	PKPbc	04 27 34.4	+0.7
BFO				*ep*PKPbc	pPKPbc	04 28 09.7	-0.6
BFO	Black Forest	148.61	357	*e*PKP2	PKPbc	04 27 34.0	+0.3
BFO	Black Forest	148.61	357	*e*PKPbc	PKPbc	04 27 34.0	+0.3
BFO				*e*PKPab	PKPab	04 27 38.2	+0.6
KDHN	Kadinhani	148.64	319	*i*P	PKPbc	04 27 34.7	+0.5
ZIMR		148.72	332 ⇑	PKP2	PKPab	04 27 39.0	+0.9
ZIMR		148.72	332 ⇑	*i*P	PKPab	04 27 39.0	+0.9
ARSA	Arzberg	148.75	348 ⇑	*i*PKPbc	PKPbc	04 27 34.2	+0.1
	comp=Z,23nm,1.0s,SNR=10						
RJOB	Jochberg	148.76	351	*e*PKPbc	PKPbc	04 27 34.7	+0.5
RJOB				*ep*PKPbc	pPKPbc	04 28 10.4	-0.4
ECH	Echery	148.77	359	*e*PKP2	PKPbc	04 27 34.2	+0.1
ECH	Echery	148.77	359	*e*PKPbc	PKPbc	04 27 34.2	+0.1
ECH				*e*PKPab	PKPab	04 27 38.5	+0.3
ECH	Echery	148.77	359	PKP	PKPbc	04 27 34.7	+0.6
SZH	Strazhica	148.77	331	*e*P	PKPbc	04 27 34.6	+0.4
THEF	They Montfort	148.77	0	PKP	PKPbc	04 27 34.7	+0.6
TCHB	Talchebab	148.78	306	*e*P	PKPbc	04 27 35.6	+0.9
SEYT	Eskypehyr	148.81	321	*i*P	PKPbc	04 27 35.4	+0.8
BORA	Eskisehir	148.82	322	*i*P	PKPbc	04 27 35.0	+0.4
BUY	Buyukada	148.93	325	*i*P	PKPbc	04 27 35.3	+0.6
PKSM	Moragy	148.96	343 ⇑	PKP2	PKPbc	04 27 34.9	+0.3
PKSM	Moragy	148.96	343 ⇑	*i*P	PKPbc	04 27 34.9	+0.3
PKSM	Moragy	148.96	343 ⇑	*e*	PKPbc	04 27 34.9	+0.3
JMB	Yambol	149.08	330	P	PKPbc	04 27 36.1	+1.1
JMB	Yambol	149.08	330	PKP2	PKPbc	04 27 36.1	+1.1
JMB	Yambol	149.08	330	P	PKPbc	04 27 36.1	+1.1
MOF	Molkenrain	149.13	359	PKP	PKPbc	04 27 35.1	0.0
HINF	Hinteralfeld	149.17	359	*e*PKIKP	PKPdf	04 27 31.6	+0.8
ERMK	Ermenek	149.18	315	*i*P	PKPbc	04 27 36.5	+0.8
RETA	Reutte	149.26	354	*i*PKiKP	PKiKP	04 27 36.1	-0.5
	comp=Z,29nm,0.8s,SNR=13						
KBA	Koelnbreinsper	149.32	350 ⇑	*i*PKPbc	PKPbc	04 27 35.2	-0.5
	comp=Z,24nm,0.8s,SNR=13						
WATA	Walderalm	149.32	353 ⇑	*i*PKiKP	PKPbc	04 27 36.0	+0.4
	comp=Z,12nm,0.6s,SNR=6.4						
MOTA	Moosalm	149.37	353 ⇑	*i*PKiKP	PKPbc	04 27 36.2	+0.4
	comp=Z,50nm,1.1s,SNR=16						
WTTA	Wattenberg	149.38	353 ⇓	*i*PKiKP	PKPbc	04 27 36.4	+0.5
	comp=Z,51nm,0.7s,SNR=20						
SOKA	Soboth	149.40	348 ⇑	*i*PKPbc	PKPbc	04 27 35.8	0.0
	comp=Z,40nm,1.1s,SNR=16						
PERS	Pernice	149.42	348	*i*PKPbc	PKPbc	04 27 35.6	-0.2
PERS				*i*pPKPbc	pPKPbc	04 28 11.2	-1.3
DAVA	Damuels	149.54	355 ⇑	*i*PKiKP	PKiKP	04 27 36.8	-0.5
	comp=Z,61nm,0.9s,SNR=17						
HYF	Humbligny	149.60	5	*e*PKIKP	PKPdf	04 27 32.5	+1.0
LOMF	Lomont	149.64	359	PKP	PKPbc	04 27 37.1	+0.7
OBKA	Obir	149.66	348 ⇑	*i*PKPbc	PKPbc	04 27 36.3	-0.2
	comp=Z,13nm,0.8s,SNR=8.6						
MPEP	Malo Peshtene	149.66	334	*e*P	PKPbc	04 27 37.0	+0.5
MYKA	Terra Mystica	149.71	350 ⇑	*i*PKPbc	PKPbc	04 27 36.3	-0.3
	comp=Z,25nm,0.7s,SNR=17						
FETA	Feichten	149.73	354 ⇓	*i*PKiKP	PKiKP	04 27 37.2	-0.4
	comp=Z,59nm,0.9s,SNR=41						
CSS	Prodhromos	149.75	312	*e*PKPdf	PKPdf	04 27 32.8	+0.7
CSS				*e*PKPbc	PKPbc	04 27 37.1	+0.1
CSS				*e*PKPab	PKPab	04 27 43.6	+0.9
ABTA	Abfaltersbach	149.77	351 ⇑	*i*PKPbc	PKPbc	04 27 36.7	0.0
	comp=Z,80nm,0.9s,SNR=26						
GAZI	Gazipasa	149.80	315	*i*P	PKPbc	04 27 36.3	-0.8
SSF	Saint Saulge	149.86	3	*e*PKIKP	PKPdf	04 27 32.7	+0.8
	comp=Z,49nm,1.4s						
MFF	Saint Martin d	149.95	9	*e*PKIKP	PKPdf	04 27 32.6	+0.6
LJU	Ljubljana	150.11	348	*i*PKPdf	PKPdf	04 27 32.2	-0.1
LJU				*i*PKPbc	PKPbc	04 27 37.7	+0.2
LJU				*i*pPKPbc	pPKPbc	04 28 14.8	+0.7
AVF	Avril sur Loir	150.12	4	*e*PKIKP	PKPdf	04 27 32.9	+0.6
DURS	Dursunbey	150.15	324	*i*P	PKPbc	04 27 38.0	+0.1
VOY	Vojsko	150.24	349	*e*PKPdf	PKPdf	04 27 33.2	+0.6
VOY				*e*PKPbc	PKPbc	04 27 37.7	-0.2
VOY				*e*		04 27 41.1	
VOY				*ep*PKPbc	pPKPbc	04 28 11.0	-3.6
KDZ	Kurdzhali	150.26	330	*e*P	PKPbc	04 27 38.0	0.0
SMF	Signal de Mont	150.29	3	*e*PKIKP	PKPdf	04 27 33.4	+0.8
BGF	Bois d'Agland	150.32	4	*e*PKIKP	PKPdf	04 27 33.7	+1.1
JAVS	Javornik	150.34	349	*i*PKPdf	PKPdf	04 27 32.8	0.0
JAVS				*i*PKPbc	PKPbc	04 27 38.1	-0.1
JAVS				*i*pPKPbc	pPKPbc	04 28 13.3	-1.5
KHAL	Karahalli	150.36	321	*i*P	PKPbc	04 27 39.0	+0.5
CABF	La Chapelle	150.38	360	*e*PKIKP	PKPdf	04 27 34.4	+1.6
TUE	Stuetta	150.40	355	*e*PKPdf	PKPdf	04 27 33.1	+0.1
TUE				*e*PKPbc	PKPbc	04 27 38.7	+0.3
TUE				*e*PKPab	PKPab	04 27 45.6	+0.5
DIVS	Divibare	150.45	339	P	PKPbc	04 27 38.9	+0.5
BOJS	Bojanci	150.47	347	*i*PKPdf	PKPdf	04 27 33.4	+0.5
BOJS				*i*PKPbc	PKiKP	04 27 39.1	+0.1
BOJS				*ep*PKPbc	pPKPbc	04 28 14.3	-0.7
VTS	Vitosha	150.51	334	P	PKPbc	04 27 39.0	+0.3
VTS	Vitosha	150.51	334	PKIKP	PKPbc	04 27 39.0	+0.3
VTS	Vitosha	150.51	334	*e*P	PKPbc	04 27 38.7	0.0
VTS	Vitosha	150.51	334 ⇑	*i*P	PKPbc	04 27 39.5	+0.8
VTS	Vitosha	150.51	334	P	PKPbc	04 27 39.0	+0.3
BALY	Balya	150.53	325	*i*P	PKPbc	04 27 38.9	+0.2
TCF	Toulx Ste Croi	150.53	5	*e*PKIKP	PKPdf	04 27 33.6	+0.6
	comp=Z,12nm,0.8s						
TRI	Trieste	150.57	349	*e*PKIKP	PKPdf	04 27 33.7	+0.7
TRI				*e*		04 27 44.3	
TRI	Trieste	150.57	349	*e*PKPdf	PKPdf	04 27 33.7	+0.7
TRI				*e*PKPbc	PKPbc	04 27 38.5	0.0
TRI				*e*PKPab	PKPab	04 27 44.3	-1.3
AGO	Saint Agoulin	150.84	4	PKP	PKPdf	04 27 33.0	-0.5
OG35	Corcelles	150.95	1	PKP	PKPdf	04 27 40.3	+0.8
MMB	Musomiste	151.09	332	*e*P	PKPbc	04 27 39.4	-0.6
PYM	Petit Puy Mans	151.13	4	PKP	PKPdf	04 27 35.3	+1.3
KKB	Krupnik	151.16	333	*e*P	PKPbc	04 27 40.4	+0.3
NVR	Nevrokopi	151.22	331	P	PKPbc	04 27 40.0	-0.3
NVR	Nevrokopi	151.22	331	P	PKPbc	04 27 40.0	-0.3
RSL	Roselend	151.30	359	PKP	PKPbc	04 27 41.3	+0.8
RJF	Les Rejaudoux	151.44	7	*e*PKIKP	PKPdf	04 27 35.0	+0.6
	comp=Z,20nm,1.0s						
LPL	La Plagne	151.47	359	*e*PKIKP	PKPdf	04 27 35.8	+1.1
LPG	La Plagne	151.49	359	*e*PKIKP	PKPdf	04 27 36.3	+1.5
AKAS	Kas	151.60	317	*i*P	PKPbc	04 27 41.7	+0.3
LBL	Lubilhac	151.67	4	PKP	PKPdf	04 27 36.3	+1.5
SSB	Saint Sauveur	151.69	2	*e*PKIKP	PKPdf	04 27 35.6	+0.8
SSB				*e*		04 27 50.9	
SSB	Saint Sauveur	151.69	2	*e*PKPdf	PKPdf	04 27 35.6	+0.8
SSB				*e*PKPbc	PKiKP	04 27 41.9	+0.3
SSB				*e*PKPab	PKPab	04 27 50.9	+0.6
SSB	Saint Sauveur	151.69	2	PKP	PKPbc	04 27 42.2	+1.0
SKO	Skopje	151.75	335	P	PKPbc	04 27 42.6	+1.2
SKO	Skopje	151.75	335	PKIKP	PKPbc	04 27 42.6	+1.2
SKO	Skopje	151.75	335	P	PKPbc	04 27 42.6	+1.2
AYDN	Tasoluk	151.79	321	*i*P	PKPbc	04 27 42.5	+0.8
CAF	Calviac	151.87	6	*e*PKIKP	PKPdf	04 27 36.0	+0.9
BNI	Bardonecchia	151.94	359	*e*PKIKP	PKPdf	04 27 36.7	+1.4
BNI	Bardonecchia	151.94	359	*e*PKPdf	PKPdf	04 27 36.7	+1.4
BNI				*e*PKPbc	PKiKP	04 27 43.2	+1.0
BNI				*e*PKPab	PKPab	04 27 53.0	+1.4
OUR	Ouranopolis	151.97	330	P	PKPbc	04 27 41.6	-0.3
OUR	Ouranopolis	151.97	330	PKIKP	PKPbc	04 27 41.6	-0.3
OUR	Ouranopolis	151.97	330	P	PKPbc	04 27 41.6	-0.3
ORIF	Oris-en-Rattie	152.08	0	*e*PKIKP	PKPdf	04 27 36.5	+1.0
VIVF	Saint-Julien-l	152.12	2	*e*PKIKP	PKPdf	04 27 36.6	+1.1
PAIG	Paliouri	152.43	330	P	PKPbc	04 27 45.6	+2.6
PAIG	Paliouri	152.43	330	PKIKP	PKPbc	04 27 45.6	+2.6
PAIG	Paliouri	152.43	330	P	PKPbc	04 27 45.6	+2.6
PCAB	Cabril	152.48	23	*e*PKP	PKPbc	04 27 43.4	+0.3
LASF	Ste Croix	152.86	3	*e*PKIKP	PKPdf	04 27 37.8	+1.2
	comp=Z,24nm,1.1s						
PBRG	Braganca	152.86	21	*e*PKP	PKPbc	04 27 44.4	+0.4
TOUF	Mont Tournerai	152.96	358	PKP	PKPbc	04 27 44.0	-0.3
AUTN	L'Aution	152.98	358	PKP	PKPbc	04 27 43.8	-0.6
SAOF	Saorge	152.98	358	PKP	PKPbc	04 27 44.4	+0.3
SMRF	Simiane la Rot	153.02	1	*e*PKIKP	PKPdf	04 27 38.2	+1.4
LUCF	Luceram	153.08	358	PKP	PKPbc	04 27 44.2	-0.2
MVIF	Mont Vial	153.08	358	PKP	PKPbc	04 27 44.8	+0.3
XOR	Xorichti	153.10	330	P	PKPbc	04 27 45.5	+1.0
XOR	Xorichti	153.10	330	P	PKPbc	04 27 45.5	+1.0
SBF	Sospel	153.11	358	*e*PKIKP	PKPdf	04 27 38.8	+1.8
NEST	Nestorio	153.22	334	P	PKPab	04 27 57.1	0.0
REVF	Revere	153.23	358	PKP	PKPbc	04 27 44.8	+0.1
CALN	Calern	153.24	359	PKP	PKPbc	04 27 45.1	+0.3
LARF	Larrau	153.27	12	PKP	PKPbc	04 27 45.5	+0.7
ATE	Arette	153.28	11	PKP	PKPbc	04 27 45.0	+0.2
MVO	Moncorvo	153.32	22	*e*PKP	PKPbc	04 27 45.3	+0.3
MVO				*e*P	PKPab	04 27 57.3	-0.1
PVIS	Viseu	153.38	24	*e*PKP	PKPbc	04 27 45.2	0.0
PVIS				*e*P	PKPab	04 27 58.3	+0.6
MTLF	Montolieu	153.45	6	*e*PKIKP	PKPdf	04 27 38.3	+0.9
	comp=Z,8.8nm,1.1s						
ETSF	Etsaut	153.49	11	*e*PKIKP	PKPdf	04 27 39.0	+1.4
	comp=Z,19nm,1.1s						
EPF	Esparros	153.51	9	*e*PKIKP	PKPdf	04 27 38.5	+0.9
LMR	La Mourre	153.66	359	*e*PKIKP	PKPdf	04 27 38.3	+0.6
AGG	Agios Georgios	153.78	330	P	PKPdf	04 27 37.7	-0.4
AGG	Agios Georgios	153.78	330	PKIKP	PKPdf	04 27 37.7	-0.4
AGG	Agios Georgios	153.78	330	P	PKPdf	04 27 37.7	-0.4
MTE	Manteigas	153.79	24	*e*PKP	PKPbc	04 27 46.4	+0.3
AQU	L'Aquila	153.88	348	*e*PKPbc	PKPbc	04 27 46.7	+0.5
PTOM	Tomar	154.10	26	*e*PKP	PKPbc	04 27 47.2	+0.6
PTOM				*e*P	PKPab	04 28 00.9	+0.2
PCBR	Castelo Branco	154.30	25	*e*PKP	PKPbc	04 27 47.0	-0.1
PGF	Pioggiola	154.32	355	*e*PKIKP	PKPdf	04 27 40.6	+1.8
	comp=Z,15nm,0.9s						
RLS	Riolos of Patr	154.96	330	P	PKPab	04 28 03.8	-0.6
RLS	Riolos of Patr	154.96	330	P	PKPab	04 28 03.8	-0.6
ESDC	Sonseca Array	155.70	19	PKP	PKPdf	04 27 41.1	+0.4
ESDC				PKPbc	PKPab	04 27 50.8	-17
ESDC				PKPab	PKPab	04 28 08.5	+1.0
ESDC	Sonseca Array	155.70	19	PKP	PKPdf	04 27 41.1	+0.4
	comp=Z,0.1nm,0.3s,baz=320,slow=3.1,SNR=5.6						
ESDC				PKPbc	PKPab	04 27 50.8	-17
	comp=Z,1.2nm,0.5s,baz=338,slow=2.8,SNR=10						
ESDC				PKPab	PKPab	04 28 08.5	+1.0
	comp=Z,5.6nm,0.9s,baz=332,slow=3.7,SNR=14						
KEST	Kesra	161.03	352	PKP	PKPdf	04 27 47.8	+0.5
KEST				*e*PKPdf	PKPdf	04 27 48.0	+0.7
KEST				PKPab	PKPab	04 28 30.5	-0.2
KEST				*e*PKPab	PKPab	04 28 30.6	-0.1
KEST	Kesra	161.03	352	PKP	PKPdf	04 27 47.8	+0.5
	comp=Z,1.3nm,0.9s,baz=2.0,slow=8.1,SNR=4.4						
KEST				PKPab	PKPab	04 28 30.5	-0.2
	comp=Z,3.3nm,1.0s,baz=294,slow=3.5,SNR=6.6						
DBIC	Dimbokro	165.25	132	PKP	PKPdf	04 27 51.5	-0.3
DBIC				*e*PKPdf	PKPdf	04 27 51.8	0.0
DBIC				*e*PKPab	PKPab	04 28 50.6	+0.7
DBIC	Dimbokro	165.25	132	PKP	PKPdf	04 27 51.5	-0.3
	comp=Z,4.0nm,0.9s,baz=232,slow=8.3,SNR=3.5						
TAM	Tamanrasset	174.13	5	*e*PKIKP	PKPdf	04 27 57.8	+0.8
TAM				*e*		04 29 29.8	
TAM	Tamanrasset	174.13	5	*e*PKPdf	PKPdf	04 27 57.8	+0.8
TAM				*e*PKPab	PKPab	04 29 29.8	+0.9
TORD	Torodi Ar. Bea	174.36	131	PKP	PKPdf	04 27 56.3	-0.8
TORD				PKPab	PKPab	04 29 31.1	+0.9
TORD	Torodi Ar. Bea	174.36	131	PKP	PKPdf	04 27 56.3	-0.8
	comp=Z,5.8nm,0.9s,baz=334,slow=1.3,SNR=27						
TORD				PKPab	PKPab	04 29 31.1	+0.9
	comp=Z,1.4nm,0.7s,baz=270,slow=3.2,SNR=5.3						

IGQ 28 04:10:22.2, 1°.22N×78°.53W, h13^{km}±111^{km}, Mb4.0, Ms3.8, 1C-10D, Error ellipse: s-maj=4.8km s-min=3.0km az=4.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LITE	Lita	0.44	158	S	Sb	04 10 38.7	+0.1
LITE	Lita	0.44	158	P	Pb	04 10 32.3	+0.3
COTA	Cotacachi	0.90	168 ⇓	P	Pb	04 10 40.3	0.0
OTAV	Otavalo	0.97	176	P	Pb	04 10 41.2	-0.4
OTAV	Otavalo	0.97	176	S	Sb	04 10 54.1	-0.7
CAYA	Cayambe	1.26	155	P	Pn	04 10 45.8	-0.4
ANGU	Angureal	1.27	156	S	Sg	04 11 05.0	+0.3
ANGU	Angureal	1.27	156	P	Pb	04 10 47.0	+0.2
CAYR	Refugio Cayamb	1.30	156	P	Pn	04 10 47.0	0.0
PINO	Pino	1.37	183 ⇑	P	Pb	04 10 48.2	-0.3
GGP	Refugio Guagua	1.38	183 ⇓	P	Pb	04 10 48.5	-0.3
TERV	Terraza Guagua	1.38	183 ⇓	P	Pb	04 10 48.7	0.0
JUA2	San Juan 2	1.42	183	P	Pb	04 10 49.0	-0.3
CHAR	Charly	1.55	146	P	Pb	04 10 51.1	-0.3
CONE	Cono NE Rev Vo	1.55	145	P	Pn	04 10 50.3	+0.2
LAV4	Lava4-Reventad	1.58	145 ⇓	P	Pb	04 10 51.5	-0.2
ANTI	Antisana	1.69	168 ⇓	P	Pb	04 10 53.8	-0.3
PITA	Cotopaxi Volc	1.76	177	P	Pb	04 10 54.9	-0.2
MAG1	Magdalena	1.79	224	P	Pn	04 10 53.8	+0.9
NAS2	Nasa	1.85	178	P	Pb	04 10 56.5	-0.1
VC1	Cotopaxi 1	1.85	176 ⇓	P	Pb	04 10 56.3	-0.4
BREF	Cotopaxi Volca	1.87	177 ⇓	S	Sn	04 11 17.7	-1.3
BREF	Cotopaxi Volca	1.87	177 ⇓	P	Pb	04 10 56.9	-0.3
COV1	Cotopaxi Volc	1.87	174	S	Sn	04 11 17.9	-1.1
COV1	Cotopaxi Volc	1.87	174	P	Pb	04 10 57.1	-0.1
BNAS	Cotopaxi Volca	1.88	179 ⇓	P	Pb	04 10 57.2	+0.1
CAMI	Rancho Maria	1.88	179	P	Pb	04 10 57.3	+0.2
BTAM	Cotopaxi Volca	1.88	176 ⇓	P	Pb	04 10 57.0	-0.2
TAMB	Tambo	1.90	175	P	Pb	04 10 57.1	-0.5
BMOR	Cotopaxi Volca	1.93	178	P	Pb	04 10 57.6	-0.5
JAMA	Jama	2.23	229	P	Pn	04 11 00.6	+1.6
PISA	Pisayambo	2.26	176	P	Pb	04 11 03.8	+0.2
PECV	Mancha de Ca P	2.50	218	P	Pg	04 11 08.7	-1.5
BULB	Ulba Tungurahu	2.64	177	P	Pb	04 11 09.0	-0.9
ULBA	Ulba	2.65	177	P	Pb	04 11 08.9	-1.2
IGUA	Igualata	2.69	182	P	Pb	04 11 10.7	-0.3
BMAS	Trigal station	2.70	179	P	Pb	04 11 10.2	-0.7
ARRY	Arrayan	2.70	178	P	Pb	04 11 10.2	-0.8
RIOE	Riobamba	2.95	182	P	Pb	04 11 14.2	-1.0

MOS ***28*** *04:12:23.6±0.8, 56°.42N×161°.60E, h68^{km}, mb4.0/8, Error ellipse: s-maj=17.7km s-min=8.0km az=79.0*
IDC ***28*** *04:12:23.8±3.7, 56°.42N×161.29E, h49^{km}±37^{km}, mb3.6/11, mb1 3.9/12, mb1mx3.7/27, mbtmp3.6/12, ML4.1/1, Error ellipse: s-maj=22.2km s-min=17.4km az=144.0*
ISCJB ***28*** *04:12:24.5±0.3, 56°.36N±0°.02×161°.61E±0°.05, h75^{km}±2^{km}, mb3.8/12, Error ellipse: s-maj=5.0km s-min=3.4km az=30.2*
KRSC ***28*** *04:12:24.6±0.7, 56°.32N×161°.61E, h70^{km}±50^{km}, ML4.5*
ISC 28 04:12:25.8±0.7, 56°.35N±0°.03×161°.60E±0°.03, h68^{km}±5^{km}, n70, σ1^{s}21/107, mb3.9/12, Near east coast of Kamchatka

Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMKR	Semkarok	0.24	343	*i*P	Pn	04 12 36.4	-0.1
SMKR				*i*S	Sn	04 12 44.7	+0.4
BDR	Baidarnaya	0.31	315	*i*P	Pn	04 12 36.7	-0.2
BDR				*i*S	Sn	04 12 44.9	-0.1
SRKR	Sorokina	0.39	322	P	Pn	04 12 37.3	-0.2
SRKR				*i*S	Sn	04 12 46.5	+0.4
KLY	Klyuchi	0.53	266	PN	Pn	04 12 37.0	-1.7
KLY				S	Sn	04 12 46.2	-1.9
KLY	Klyuchi	0.53	266	*i*P	Pn	04 12 37.0	-1.7
KLY				*i*S	Sn	04 12 46.2	-1.9
CIRR	Tsirk	0.53	244	*i*P	Pn	04 12 38.5	-0.4
ZLN	Zelenaya	0.56	233	P	Pn	04 12 38.9	-0.2
LGNR	Loginova	0.57	242	*i*P	Pn	04 12 39.1	-0.4
LGNR				*i*S	Sn	04 12 49.5	0.0
KRSR	Krestovskiy	0.59	257	*i*P	Pn	04 12 38.7	-0.8
KRSR				*i*S	Sn	04 12 48.9	-0.6
BZGR	Bezymyannyi-Gr	0.65	231	P	Pn	04 12 40.0	-0.1
BZGR				*i*S	Sn	04 12 51.0	+0.4
KBTR	Krutoberegovo	0.70	101	PN	Pn	04 12 40.3	-0.2
KBTR				S	Sn	04 12 52.0	+0.7
KBTR	Krutoberegovo	0.70	101	*i*P	Pn	04 12 40.3	-0.2
KBTR				*i*S	Sn	04 12 52.0	+0.7
BZWR	Bezymyannyi-We	0.73	238	*i*P	Pn	04 12 40.8	-0.2
BZWR				*i*S	Sn	04 12 52.2	-0.1
BZMR	Bezymyannaya	0.75	236	*i*P	Pn	04 12 41.0	-0.2
BZMR				*i*S	Sn	04 12 52.7	+0.1
KIRR	Kirishev	0.81	241	*i*P	Pn	04 12 41.6	-0.4
K

GTA			Sn	Sn	04 14 21.3	-1.2
GTA			Sg	Sb	04 14 28.8	-3.0
GTA			smax	smax		
	comp=N,220nm,1.0s					
GTA			smax	smax		
	comp=E,130nm,1.4s					
GTA			LR	LR		
	comp=N,1μm,7.1s					
GTA			LR	LR		
	comp=E,1μm,5.7s					
GTA			LR	LR		
	comp=Z,930nm,8.0s					
LZH	**Lanzhou**	**6.75 101**	*e*Pn	Pn	04 14 15.5	-5.7
LZH			Pg	Pb	04 14 35.8	-3.6
LZH			Sn	**Sn**	**04 15 33.3**	**-4.9**
LZH			Sg	**Sb**	**04 16 02.0**	**+1.9**
LZH			smax	smax		
	comp=N,130nm,1.2s					
LZH			smax	smax		
	comp=E,130nm,1.0s					
LZH			LR	LR		
	comp=N,740nm,7.6s					
LZH			LR	LR		
	comp=E,510nm,8.2s					
LZH			LR	LR		
	comp=Z,420nm,8.4s					
WMQ	**Urumqi**	**8.61 318**	P	**Pn**	**04 14 47.3**	**+0.8**
WMQ			S	**Sn**	**04 16 21.0**	**-2.6**
LSA	**Lhasa**	**8.81 207**	P	**Pn**	**04 14 51.0**	**+1.3**
LSA	**Lhasa**	**8.81 207**	*e*P	**Pn**	**04 14 51.7**	**+2.0**
LSA	**Lhasa**	**8.81 207**	*e*Pn	**Pn**	**04 14 51.7**	**+2.0**
HHC	**Hu-ho-hao-te**	**12.72 71**	*e*P	**Pn**	**04 15 43.5**	**+0.6**
HHC			S	**Sn**	**04 18 05.8**	**+1.2**
SONM	**Songino Array**	**12.83 34**	Pn	**Pn**	**04 15 45.1**	**+0.7**
SONM			Lg	Lg	04 19 07.9	
SONM	**Songino Array**	**12.83 34**	Pn	**Pn**	**04 15 45.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=219,slow=15,SNR=12					
SONM			Lg	Lg	04 19 07.9	
	comp=Z,0.1nm,0.3s,baz=235,slow=28,SNR=2.8					
MK31	**Makanchi Array**	**13.43 317**	Pn	**Pn**	**04 15 50.5**	**-2.1**
	comp=Z,7.6nm,0.6s,baz=128,slow=13,SNR=81					
MK31			Sn	**Sn**	**04 18 19.5**	**-2.4**
	comp=Z,19nm,0.8s,baz=125,slow=26,SNR=4.1					
MK31	**Makanchi Array**	**13.43 317**	P	**Pn**	**04 15 50.4**	**-2.1**
MK31			pmax	pmax		
	comp=Z,8.0nm,0.6s					
MK31	**Makanchi Array**	**13.43 317**	*e*Pn	**Pn**	**04 15 50.3**	**-2.3**
MK31			*e*S	Sn	04 18 11.9	-10
MKAR	**Makanchi Array**	**13.43 317**	P	**Pn**	**04 15 50.5**	**-2.0**
MKAR					04 18 19.9	
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.3s					
MKAR			smax	smax		
	comp=N,1.0nm,0.3s					
MKAR	**Makanchi Array**	**13.43 317**	Pn	**Pn**	**04 15 50.5**	**-2.0**
MKAR			Sn	**Sn**	**04 18 19.9**	**-2.0**
MKAR	**Makanchi Array**	**13.43 317**	Pn	**Pn**	**04 15 50.5**	**-2.0**
	comp=N,2.0nm,0.3s,baz=129,slow=13,SNR=92					
MKAR			Sn	**Sn**	**04 18 19.9**	**-2.0**
	comp=N,0.8nm,0.3s,baz=123,slow=26,SNR=22					
ENH	**Enshi**	**13.64 119**	*e*Pn	**Pn**	**04 15 53.1**	**-2.3**
ZAK	**Zakamensk**	**13.81 21**	*e*P	**P**	**04 16 07.3**	**+1.1**
ZAK			pmax	pmax		
	comp=Z,10.0nm,1.1s					
MOY	**Mondy**	**14.47 13**	*e*P	**P**	**04 16 16.2**	**+2.6**
GYA	**Guiyang**	**14.56 137**	P	**Pn**	**04 16 07.5**	**-0.6**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KSH	**Kashi**	**15.51 283**	P	**Pn**	**04 16 21.8**	**+1.1**
KSH			sP	**sP**	**04 16 28.8**	**-0.5**
KSH			PP	**PnPn**	**04 16 33.5**	**+4.6**
KSH			S	**Sn**	**04 19 11.8**	**-0.8**
KSH			sS	S	04 19 16.0	-12
KSH			SS	**SnSn**	**04 19 28.5**	**+3.3**
KSH			pmax	pmax		
	comp=Z,7.0nm,0.6s					
KSH			pmax	pmax		
	comp=Z,74nm,3.5s					
KSH			LR	LR		
	comp=N,150nm,6.6s					
KSH			LR	LR		
	comp=E,200nm,5.9s					
KSH			LR	LR		
	comp=Z,380nm,17.9s					
TKM2	**Tokmak 2**	**16.16 295**	P	**Pn**	**04 16 27.2**	**-2.2**
TKM2	**Tokmak 2**	**16.16 295**	*e*P	**Pn**	**04 16 27.4**	**-1.9**
TKM2			*e*S	**Sn**	**04 19 27.0**	**-1.7**
TKM2			pmax	pmax		
	comp=Z,30nm,0.8s					
TKM2	**Tokmak 2**	**16.16 295**	*e*Pn	**Pn**	**04 16 27.4**	**-1.9**
	comp=Z,30nm,0.8s					
TKM2			*e*S	**Sn**	**04 19 27.0**	**-1.7**
AAK	**Ala-Archa**	**16.91 294⇑**	*e*P	**Pn**	**04 16 38.6**	**-0.1**
AAK			pmax	pmax		
	comp=Z,35nm,0.8s					
AAK	**Ala-Archa**	**16.91 294**	*e*Pn	**Pn**	**04 16 37.6**	**-1.1**
AAK	**Ala-Archa**	**16.91 294**	Pn	**Pn**	**04 16 39.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=97,slow=6.1,SNR=14					
WHN	**Wuhan**	**17.02 109**	*e*P	**P**	**04 16 43.0**	**+1.1**
EKS2	**Erkin-Say**	**17.43 293**	*e*P	**Pn**	**04 16 44.2**	**-1.0**
EKS2	**Erkin-Say**	**17.43 293**	*e*Pn	**Pn**	**04 16 44.2**	**-1.0**
ZAA0	**Zalesovo Array**	**17.90 339**	*e*Pn	**Pn**	**04 16 49.1**	**-1.6**
ZALV	**Zalesovo Beam**	**17.90 339**	*i* P	**P**	**04 16 52.2**	**+0.8**
ZALV			pmax	pmax		
	comp=Z,6.0nm,0.9s					
ZALV	**Zalesovo Beam**	**17.90 339**	P	**Pn**	**04 16 49.8**	**-1.0**
ZALV	**Zalesovo Beam**	**17.90 339**	P	**Pn**	**04 16 49.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=20					
CHTO	**Chiang Mai**	**19.02 170**	*e*P	**P**	**04 17 03.9**	**-0.1**
CHTO			pmax	pmax		
	comp=Z,3.0nm,0.6s					
CHTO	**Chiang Mai**	**19.02 170**	*e*P	**P**	**04 17 03.9**	**-0.1**
	comp=Z,3.2nm,0.6s					
NVS	**Novosibirsk**	**19.14 338**	*e*P	**P**	**04 17 04.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.38 171**	P	**P**	**04 17 08.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.38 171**	P	**P**	**04 17 08.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=343,slow=10,SNR=11					
KK31	**Karatay Array**	**19.87 294**	⇑P	**P**	**04 17 13.5**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=100,slow=11,SNR=37					
KK31	**Karatay Array**	**19.87 294**	*i* P	**P**	**04 17 13.7**	**+0.5**
KK31			pmax	pmax		
	comp=Z,3.0nm,0.6s					
KKAR	**Karatay Array**	**19.87 294**	*e*P	**P**	**04 17 12.8**	**-0.4**
KKAR			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KKAR	**Karatay Array**	**19.87 294**	*e*P	**P**	**04 17 12.8**	**-0.4**
	comp=Z,4.8nm,0.7s					
KBL	**Kabul**	**21.71 270**	*e*P	**P**	**04 17 33.4**	**+0.1**
KBL			pmax	pmax		
	comp=Z,13nm,0.7s					
KBL	**Kabul**	**21.71 270**	*e*P	**P**	**04 17 33.4**	**+0.1**
	comp=Z,13nm,0.7s					
QIZ	**Qiongzhong**	**22.34 142**	P	**P**	**04 17 40.5**	**+0.6**
QIZ			S	**S**	**04 21 46.0**	**+0.4**
QIZ			LR	LR		
	comp=Z,390nm,17.5s					
QIZ	**Qiongzhong**	**22.34 142**	*e*P	**P**	**04 17 39.0**	**-1.0**
	comp=Z,7.3nm,0.7s					
VOSK	**Vostochnaya**	**22.83 319**	⇑P	**P**	**04 17 44.5**	**-0.4**
	comp=Z,23nm,0.9s					
VOSK	**Vostochnaya**	**22.83 319**	P	**P**	**04 17 43.9**	**-1.0**
VOSK			pmax	pmax		
	comp=Z,23nm,0.9s					
BVA0	**Borovoye Array**	**23.29 319**	P	**P**	**04 17 49.2**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=108,slow=10,SNR=34					
BVA0	**Borovoye Array**	**23.29 319**	*i* P	**P**	**04 17 49.1**	**-0.5**
BVA0			pmax	pmax		
	comp=Z,5.0nm,0.8s					
BVAR	**Borovoye Array**	**23.29 319**	P	**P**	**04 17 49.2**	**-0.5**
BVAR	**Borovoye Array**	**23.29 319**	P	**P**	**04 17 49.2**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=117,slow=11,SNR=18					
BRVK	**Borovoye**	**23.36 319**	P	**P**	**04 17 49.7**	**-0.6**
BRVK	**Borovoye**	**23.36 319**	*ce*P	**P**	**04 17 49.9**	**-0.5**
BRVK			pmax	pmax		
	comp=Z,10.0nm,1.2s					
BRVK	**Borovoye**	**23.36 319**	*e*P	**P**	**04 17 49.7**	**-0.6**
	comp=Z,6.2nm,0.7s					
YHNB	**Yeheng**	**25.45 113**	*e*P	**P**	**04 18 11.8**	**+1.7**
	comp=Z,4.7nm,0.6s					
KSAR	**Wonju Array Be**	**25.48 81**	P	**P**	**04 18 10.0**	**-0.1**
KSRS	**Korea Array**	**25.51 81**	P	**P**	**04 18 10.0**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=270,slow=9.8,SNR=9.7					
AB31	**Akbulak array**	**28.12 306**	P	**P**	**04 18 33.9**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=99,slow=11,SNR=15					
AB31	**Akbulak array**	**28.12 306**	*i* P	**P**	**04 18 33.8**	**-0.1**
ABKAR	**Akbulak array**	**28.12 306**	*e*P	**P**	**04 18 34.0**	**+0.1**
	comp=Z,2.7nm,0.8s					
AKTO	**Aktyubinsk**	**29.57 308**	P	**P**	**04 18 46.7**	**0.0**
AKTO	**Aktyubinsk**	**29.57 308**	P	**P**	**04 18 47.1**	**+0.3**
AKTO			pmax	pmax		
	comp=Z,7.0nm,0.8s					
AKTO	**Aktyubinsk**	**29.57 308**	P	**P**	**04 18 47.0**	**+0.3**
AKTO	**Aktyubinsk**	**29.57 308**	P	**P**	**04 18 47.0**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=97,slow=8.7,SNR=21					
ARU	**Arti**	**30.94 319**	*d i* P	**P**	**04 18 58.9**	**+0.2**
ARU					04 19 54.9	
ARU			S	**S**	**04 24 04.7**	**+1.8**
ARU			SS	**ScP**	**04 25 38.9**	**+1.3**
ARU			pmax	pmax		
	comp=Z,16nm,1.2s					
YAK	**Yakutsk**	**32.12 30**	*e*P	**P**	**04 19 10.9**	**+1.8**
ASAJ	**Asahikawa**	**35.66 65**	*e*P	**P**	**04 19 42.0**	**+2.0**
	comp=Z,8.7nm,1.1s					
KKM	**Kota Kinabalu**	**36.64 144**	*e*P	**P**	**04 19 48.2**	**-0.5**
	comp=Z,17nm,1.0s					
TIXI	**Tiksi**	**38.03 16⇓**	*e*P	**P**	**04 19 59.0**	**-0.8**
TIXI			pmax	pmax		
	comp=Z,6.0nm,1.7s					
KBZ	**Khabaz**	**39.88 296**	P	**P**	**04 20 16.3**	**+0.6**
KBZ			pmax	pmax		
	comp=Z,2.0nm,0.8s					
KBZ	**Khabaz**	**39.88 296**	P	**P**	**04 20 16.3**	**+0.6**
KBZ	**Khabaz**	**39.88 296**	P	**P**	**04 20 16.3**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=64,slow=7.8,SNR=5.8					
VRHR	**Novokhopersk**	**39.98 307**	*e*P	**P**	**04 20 15.6**	**-0.8**
VRHR			pmax	pmax		
	comp=N,20nm,0.6s					
VRHR			pmax	pmax		
	comp=E,10.0nm,0.6s					
VRHR			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KIV	**Kislovodsk**	**40.00 296⇑**	*i* P	**P**	**04 20 18.0**	**+1.2**
KIV			pmax	pmax		
	comp=Z,12nm,1.0s					
NAY	**Al-Naaiem**	**40.88 273**	*e*P	**P**	**04 20 24.5**	**+0.3**
NAY			AMb	AMB	04 20 25.9	
	comp=Z,1.1nm,1.3s					
RST	**Umm Al-Ruwaisa**	**40.97 273**	*e*P	**P**	**04 20 24.7**	**-0.2**
RST			AMb	AMB	04 20 25.9	
	comp=Z,203nm,0.7s					
VORD	**Divnogorie**	**41.46 307**	*e*P	**P**	**04 20 28.1**	**-0.5**
VORD			pmax	pmax		
	comp=N,10.0nm,0.8s					
VORD			pmax	pmax		
	comp=E,10.0nm,0.8s					
VORD			pmax	pmax		
	comp=Z,9.0nm,0.8s					
VSR	**Storozhevoye**	**41.52 308**	*e*P	**P**	**04 20 28.8**	**-0.3**
VSR			pmax	pmax		
	comp=E,20nm,1.0s					
VSR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
VSR			pmax	pmax		
	comp=N,7.0nm,0.9s					
OBN	**Obninsk**	**42.91 314**	*e*P	**P**	**04 20 39.7**	**-0.7**
OBN			pmax	pmax		
	comp=Z,4.0nm,0.8s					
LVZ	**Lovozero**	**44.84 332⇓**	*e*P	**P**	**04 20 54.9**	**-1.0**
LVZ			pmax	pmax		
	comp=Z,3.0nm,1.0s					
BR131	**Keskin Array S**	**47.58 293**	*e*P	**P**	**04 21 18.2**	**+0.2**
	comp=Z,3.4nm,0.6s					
BRTR	**Keskin Array B**	**47.58 293**	P	**P**	**04 21 18.1**	**+0.2**
BRTR	**Keskin Array B**	**47.58 293**	P	**P**	**04 21 18.1**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=96,slow=7.4,SNR=26					
AKASG	**Malin Array Be**	**47.82 308**	*ce*P	**P**	**04 21 19.2**	**-0.1**
AKASG			pmax	pmax		
	comp=Z,5.0nm,0.8s					
AKASG	**Malin Array Be**	**47.82 308**	P	**P**	**04 21 19.3**	**-0.1**
AKASG	**Malin Array Be**	**47.82 308**	P	**P**	**04 21 19.3**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=72,slow=6.7,SNR=6.8					
KIEV	**Kiev**	**47.83 308**	*e*P	**P**	**04 21 18.6**	**-0.9**
KIEV			pmax	pmax		
	comp=Z,6.0nm,0.9s					
KIEV	**Kiev**	**47.83 308**	*e*P	**P**	**04 21 18.6**	**-0.9**
	comp=Z,6.1nm,0.9s					
FINES	**FINESS Array B**	**48.17 323**	P	**P**	**04 21 21.6**	**-0.4**
FINES	**FINESS Array B**	**48.17 323**	P	**P**	**04 21 21.6**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=120,slow=11,SNR=8.8					
ARCES	**ARCESS Array B**	**48.35 334**	P	**P**	**04 21 23.1**	**-0.1**
ARCES			PcP	**PcP**	**04 22 48.8**	**-1.0**
ARCES	**ARCESS Array B**	**48.35 334**	P	**P**	**04 21 23.1**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=90,slow=8.5,SNR=8.1					
ARCES			PcP	**PcP**	**04 22 48.8**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=99,slow=4.0,SNR=5.2					
BUR08	**Bucovina Ar. S**	**51.10 305**	*e*P	**P**	**04 21 44.4**	**-0.3**
KWP	**Kalwaria Pacla**	**52.14 308**	*e*P	**P**	**04 21 52.6**	**+0.3**
KWP			pmax	pmax		
	comp=Z,22nm,1.0s					
KWP	**Kalwaria Pacla**	**52.14 308**	*e*P	**P**	**04 21 52.6**	**+0.3**
	comp=Z,22nm,1.0s					
MORC	**Moravsky Berou**	**55.29 309**	*e*P	**P**	**04 22 15.5**	**+0.1**
MORC			pmax	pmax		
	comp=Z,3.0nm,0.9s					
MORC	**Moravsky Berou**	**55.29 309**	*e*P	**P**	**04 22 15.4**	**+0.1**
	comp=Z,3.2nm,0.9s					
NB2	**NORSAR Subarra**	**55.31 324**	P	**P**	**04 22 14.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=73,slow=7.4					
NOA	**NORSAR Array B**	**55.31 324**	P	**P**	**04 22 14.6**	**-0.8**
NOA	**NORSAR Array B**	**55.31 324**	P	**P**	**04 22 14.6**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=74,slow=7.2,SNR=7.9					
NAO01	**NORSAR Array S**	**55.52 324**	*e*P	**P**	**04 22 17.8**	**+1.0**
	comp=Z,6.5nm,1.0s					
DPC	**Dobruska-Polom**	**55.84 310**	*e*P	**P**	**04 22 20.0**	**+0.6**
DPC	**Dobruska-Polom**	**55.84 310**	*e*P	**P**	**04 22 20.0**	**+0.6**
CLL	**Collm**	**57.48 312**	*e*P	**P**	**04 22 31.0**	**+0.1**
GERES	**GERESS Array B**	**57.97 310**	P	**P**	**04 22 34.4**	**-0.2**
GERES	**GERESS Array B**	**57.97 310**	P	**P**	**04 22 34.4**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=65,slow=7.5,SNR=7.3					
CEL	**Celeste**	**60.90 298**	*e*P	**P**	**04 22 54.5**	**-0.3**
	comp=Z,8.3nm,0.9s					
BFO	**Black Forest**	**61.44 311**	*e*P	**P**	**04 22 58.1**	**-0.3**
BFO			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BFO	**Black Forest**	**61.44 311**	*e*P	**P**	**04 22 58.1**	**-0.3**
	comp=Z,2.5nm,0.7s					
ECH	**Echery**	**62.20 311**	*e*P	**P**	**04 23 03.8**	**+0.3**
ECH			pmax	pmax		
	comp=Z,8.0nm,1.2s					
ECH	**Echery**	**62.20 311**	*e*P	**P**	**04 23 03.8**	**+0.3**
	comp=Z,7.9nm,1.2s					
PGF	**Pioggiola**	**63.62 305**	*e*P	**P**	**04 23 13.1**	**0.0**
	comp=Z,45nm,1.3s					
PGF	**Pioggiola**	**63.62 305**	*e*P	**P**	**04 23 13.1**	**0.0**
PGF	**Pioggiola**	**63.62 305**	*e*P	**P**	**04 23 13.1**	**0.0**
	comp=Z,45nm,1.3s					
LPG	**La Plagne**	**63.68 308**	*e*P	**P**	**04 23 13.8**	**+0.1**
	comp=Z,7.0nm,0.8s					
LPG	**La Plagne**	**63.68 308**	*e*P	**P**	**04 23 13.8**	**+0.1**
LPG			pmax	pmax		
	comp=Z,7.0nm,0.8s					
LPG	**La Plagne**	**63.68 308**	*e*P	**P**	**04 23 13.8**	**+0.1**
	comp=Z,7.0nm,0.8s					
LPL	**La Plagne**	**63.68 308**	*e*P	**P**	**04 23 13.8**	**+0.2**
LPL	**La Plagne**	**63.68 308**	*e*P	**P**	**04 23 13.8**	**+0.2**
LPL	**La Plagne**	**63.68 308**	*e*P	**P**	**04 23 13.8**	**+0.2**
BNI	**Bardonecchia**	**63.94 308**	*e*P	**P**	**04 23 16.4**	**+1.2**
BNI			pmax	pmax		
	comp=Z,2.0nm,0.8s					
BNI	**Bardonecchia**	**63.94 308**	*e*P	**P**	**04 23 16.4**	**+1.2**
	comp=Z,2.2nm,0.8s					
SBF	**Sospel**	**64.02 306**	*e*P	**P**	**04 23 15.0**	**-0.7**
SBF	**Sospel**	**64.02 306**	*e*P	**P**	**04 23 15.0**	**-0.7**
SBF	**Sospel**	**64.02 306**	*e*P	**P**	**04 23 15.0**	**-0.7**
MBDF	**Montbardon**	**64.03 308**	*e*P	**P**	**04 23 14.4**	**-1.4**
	comp=Z,11nm,1.1s					
MBDF	**Montbardon**	**64.03 308**	*e*P	**P**	**04 23 14.4**	**-1.4**
MBDF			pmax	pmax		
	comp=Z,11nm,1.1s					
MBDF	**Montbardon**	**64.03 308**	*e*P	**P**	**04 23 14.4**	**-1.4**
	comp=Z,11nm,1.1s					
COLD	**Coldfoot**	**64.25 23**	*e*P	**P**	**04 23 16.2**	**-0.5**
	comp=Z,5.8nm,1.0s					
ORIF	**Oris-en-Rattie**	**64.50 308**	*e*P	**P**	**04 23 18.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**64.50 308**	*e*P	**P**	**04 23 18.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**64.50 308**	*e*P	**P**	**04 23 18.3**	**-0.5**
LMR	**La Mourre**	**64.86 306**	*e*P	**P**	**04 23 20.6**	**-0.5**
LMR	**La Mourre**	**64.86 306**	*e*P	**P**	**04 23 20.6**	**-0.5**
LMR	**La Mourre**	**64.86 306**	*e*P	**P**	**04 23 20.6**	**-0.5**
SMF	**Signal de Mont**	**64.92 311**	*e*P	**P**	**04 23 20.7**	**-0.8**
SMF	**Signal de Mont**	**64.92 311**	*e*P	**P**	**04 23 20.7**	**-0.8**
SMF	**Signal de Mont**	**64.92 311**	*e*P	**P**	**04 23 20.7**	**-0.8**
SMRF	**Simiane la Rot**	**65.14 307**	*e*P	**P**	**04 23 22.8**	**-0.2**
SMRF	**Simiane la Rot**	**65.14 307**	*e*P	**P**	**04 23 22.8**	**-0.2**
AVF	**Avril sur Loir**	**65.14 311**	*e*P	**P**	**04 23 22.2**	**-0.7**
	comp=Z,22nm,1.3s					
AVF	**Avril sur Loir**	**65.14 311**	*e*P	**P**	**04 23 22.2**	**-0.7**
AVF			pmax	pmax		
	comp=Z,22nm,1.3s					
AVF	**Avril sur Loir**	**65.14 311**	*e*P	**P**	**04 23 22.2**	**-0.7**
	comp=Z,22nm,1.3s					
VIVF	**Saint-Julien-l**	**65.28 308**	*e*P	**P**	**04 23 23.3**	**-0.6**
VIVF	**Saint-Julien-l**	**65.28 308**	*e*P	**P**	**04 23 23.3**	**-0.6**
VIVF	**Saint-Julien-l**	**65.28 308**	*e*P	**P**	**04 23 23.3**	**-0.6**
LASF	**Ste Croix**	**66.17 308**	*e*P	**P**	**04 23 26.7**	**-2.9**
LASF	**Ste Croix**	**66.17 308**	*e*P	**P**	**04 23 26.7**	**-2.9**
COLA	**College**	**66.45 25**	*e*P	**P**	**04 23 30.2**	**-0.8**
COLA			pmax	pmax		
	comp=Z,14nm,0.7s					
COLA	**College**	**66.45 25**	*e*P	**P**	**04 23 30.2**	**-0.8**
	comp=Z,14nm,0.7s					
ILAR	**Eielson Array**	**66.84 24**	P	**P**	**04 23 32.2**	**-1.3**
ILAR	**Eielson Array**	**66.84 24**	P	**P**	**04 23 32.2**	**-1.3**
	comp=Z,3.6nm,1.1s,baz=303,slow=5.1,SNR=6.6					
CAF	**Calviac**	**66.85 310**	*e*P	**P**	**04 23 34.0**	**0.0**
CAF	**Calviac**	**66.85 310**	*e*P	**P**	**04 23 34.0**	**0.0**
CAF	**Calviac**	**66.85 310**	*e*P	**P**	**04 23 34.0**	**0.0**
RJF	**Les Rejaudoux**	**66.99 310**	*e*P	**P**	**04 23 34.8**	**0.0**
RJF	**Les Rejaudoux**	**66.99 310**	*e*P	**P**	**04 23 34.8**	**0.0**
RJF	**Les Rejaudoux**	**66.99 310**	*e*P	**P**	**04 23 34.8**	**0.0**
WRA	**Warramunga Arr**	**67.90 141**	P	**P**	**04 23 38.9**	**-1.9**
WRA	**Warramunga Arr**	**67.90 141**	P	**P**	**04 23 38.9**	**-1.9**
	comp=Z,2.5nm,1.0s,baz=340,slow=6.5,SNR=8.3					
ROSF	**Rostrenen**	**68.21 315**	*e*P	**P**	**04 23 42.1**	**-0.3**
ROSF	**Rostrenen**	**68.21 315**	*e*P	**P**	**04 23 42.1**	**-0.3**
ROSF	**Rostrenen**	**68.21 315**	*e*P	**P**	**04 23 42.1**	**-0.3**
ASAR	**Alice Springs**	**70.83 143**	P	**P**	**04 23 58.0**	**-0.8**
ASAR	**Alice Springs**	**70.83 143**	P	**P**	**04 23 58.0**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=330,slow=6.4,SNR=13					
ESDC	**Sonseca Array**	**73.46 307**	P	**P**	**04 24 14.7**	**+0.1**
ESDC	**Sonseca Array**	**73.46 307**	P	**P**	**04 24 14.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=49,slow=5.4,SNR=5.3					
TAM	**Tamanrasset**	**76.54 288**	*e*P	**P**	**04 24 32.9**	**+0.1**
TAM			pmax	pmax		
	comp=Z,2.0nm,1.0s					
TAM	**Tamanrasset**	**76.54 288**	*e*P	**P**	**04 24 32.9**	**+0.1**
	comp=Z,2.2nm,1.0s					
STKA	**Stephens Creek**	**81.40 142**	P	**P**	**04 24 56.7**	**-2.2**
STKA	**Stephens Creek**	**81.40 142**	P	**P**	**04 24 56.7**	**-2.2**
	comp=Z,1.7nm,0.5s,baz=316,slow=8.7,SNR=7.8					
LSZ	**Lusaka**	**82.31 244**	*e*P	**P**	**04 25 03.8**	**-0.3**
	comp=Z,2.2nm,0.7s					
TORD	**Torodi Ar. Bea**	**85.17 283**	P	**P**	**04 25 18.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**85.17 283**	P	**P**	**04 25 18.1**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=45,slow=3.1,SNR=12					
NEW	**Newport**	**89.58 21**	*e*P	**P**	**04 25 38.9**	**-0.7**
	comp=Z,2.2nm,0.9s					
JTMT	**Jette**	**90.84 20**	*e*P	**P**	**04 25 46.0**	**+0.4**
SAML	**Samuel**	**145.59 321**	*e*PKPbc	**PKPdf**	**04 32 19.9**	**-1.0**
LPAZ	**La Paz**	**154.33 322**	*e*PKPbc	**PKPbc**	**04 32 40.0**	**-3.7**
LPAZ			*e*PKPab	**PKPab**	**04 32 59.8**	**+2.2**
CPUP	**Villa Florida**	**154.54 289**	*e*PKPdf	**PKPdf**	**04 32 35.6**	**+1.0**
LVC	**Limon Verde**	**159.95 314**	*e*PKPdf	**PKPdf**	**04 32 43.7**	**+1.8**
LVC			*e*PKPab	**PKPab**	**04 33 21.0**	**-0.3**

AUST ***28*** *04:22:58.5, 5.′48S×129.°52E, h200km*
ISCJB ***28*** *04:23:01.6±0.8, 5.′57S±0.′05×129.°62E±0.°07, h200km, mb3.8/1, Error ellipse: s-maj=10.6km s-min=5.8km az=16.4.*
IDC ***28*** *04:23:06.3±4.2, 5.′80S×129.°88E, h181km±53km, mb3.5/1, mb1 3.9/4, mb1mx3.4/20, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/24, Error ellipse: s-maj=74.2km s-min=40.5km az=93.0*

ISC 28 04:22:58.4±0.9, 5.′53S±0.′05×129.°51E±0.°08, h200km, n16, σ3.°50/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.08**	**21**	S	**Sn**	**04 23 56.6**	**+4.3**
	baz=1.0,SNR=5.0						
TLE	**Tual**	**3.21**	**92**	P	Pn	04 23 53.5	+2.9
	baz=3.2,SNR=93						
TLE				S	**Sn**	**04 24 32.9**	**+1.6**
	baz=3.2,SNR=6.4						
FAKI	**Fak Fak**	**3.77**	**47**	P	**Pn**	**04 23 58.1**	**+0.8**
	baz=3.7,SNR=24						
FAKI				S	**Sn**	**04 24 38.6**	**-5.0**
	baz=3.7,SNR=22						
SWI	**Sorong**	**4.96**	**21**	P	**Pn**	**04 24 13.9**	**+1.6**
	baz=4.9,SNR=9.7						
SWI				S	**Sn**	**04 25 05.9**	**-4.7**
	baz=4.9,SNR=9.4						
BATI	**Baumata**	**7.42**	**231**	LR	LR	04 27 36.3	
	comp=Z,645nm,21.0s,baz=257,slow=36						
MTN	**Manton Dam**	**7.44**	**168**	P	**Pn**	**04

IDC **28** *04:28:39.6±0.4,37.°68N×95.°90E,h0km,mb4.5/33, mb1 4.6/37,mb1mx4.6/41,mbtmp4.5/37,ML4.5/4,Error ellipse: s-maj=15.2km s-min=9.8km az=28.0*
BJI **28** *04:28:39.2,37.°72N×95.°79E,h7km,mB4.8/11,mb4.6/33, ML4.5/8,Ms4.4/31,Ms7 4.2/31*
ISCJB **28** *04:28:39.7±0.1,37.°63N±0.°02×95.°72E±0.°02,h10km, mb4.8/158,MS4.0/3,Error ellipse: s-maj=3.4km s-min=2.5km az=20.8*
MOS **28** *04:28:41.0±0.8,37.°67N×95.°79E,h19km,mb5.0/70,Error ellipse: s-maj=7.9km s-min=4.1km az=127.6*
NEIC **28** *04:28:41.8±1.4,37.°67N×95.°76E,h12km±8km,mb4.9/74, Error ellipse: s-maj=3.9km s-min=2.6km az=216.0*
NNC **28** *04:28:44.1±3.0,38.°26N×95.°55E,h0km,mb4.5,Error ellipse: s-maj=111.2km s-min=28.6km az=49.0*
BKK **28** *04:28:44.2±0.3,38.°N±5.°×9.°6E±.°,h10km,M4.8/15,mB5.5/2, mb4.8/15,Mw(mB)4.9/2*
DJA **28** *04:28:47.9±1.1,38.°N±6.°×9.°6E±.°,h50km±13km,M4.8/14, mB5.5/2,mb4.8/14,Mw(mB)4.9/2*
SZGRF **28** *04:28:54.9,38.°64N×94.°99E,h33km,mb4.8,Qinghai, China*

ISC 28 04:28:41.5±0.2,37.°67N±0.°04×95.°67E±0.°03,h10km,n456, σ1§**16**/487,**mb4.9**/159,**MS3.9**/3,**33C-14D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.68**	**61**	Pn	**Pn**	**04 29 39.8**	**+1.1**
GTA				Pg	**Pb**	**04 29 47.0**	**+0.2**
GTA				Sn	**Sn**	**04 30 23.5**	**+1.3**
GTA				Sg	**Sb**	**04 30 34.8**	**+3.3**
GTA				smax	smax		
	comp=N,360nm,0.8s						
GTA				smax	smax		
	comp=E,280nm,1.1s						
GTA				LR	LR		
	comp=N,3μm,8.3s						
GTA				LR	LR		
	comp=E,3μm,6.6s						
GTA				LR	LR		
	comp=Z,3μm,8.8s						
LZH	**Lanzhou**	**6.74**	**101**	Pn	**Pn**	**04 30 20.5**	**-0.1**
LZH				Sn	**Sn**	**04 31 36.8**	**-0.7**
LZH				Sg	Sg	04 32 10.8	-7.0
LZH				smax	smax		
	comp=N,360nm,1.0s						
LZH				smax	smax		
	comp=E,510nm,1.2s						
LZH				LR	LR		
	comp=N,3μm,5.0s						
LZH				LR	LR		
	comp=E,1μm,5.2s						
LZH				LR	LR		
	comp=Z,2μm,8.6s						
WMQ	**Urumqi**	**8.63**	**318**	P	**Pn**	**04 30 47.5**	**+1.1**
WMQ				S	**Sn**	**04 32 21.5**	**-2.3**
WMQ				smax	smax		
	comp=N,180nm,1.2s						
WMQ				smax	smax		
	comp=E,150nm,0.8s						
LSA	**Lhasa**	**8.79**	**207**	P	**Pn**	**04 30 51.8**	**+2.6**
LSA	**Lhasa**	**8.79**	**207**	*e*P	**Pn**	**04 30 52.1**	**+3.0**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s						
LSA	**Lhasa**	**8.79**	**207**	*e*Pn	**Pn**	**04 30 52.1**	**+3.0**
	comp=Z,28nm,0.8s						
CD2	**Chengdu**	**9.49**	**133**	P	**Pn**	**04 31 00.5**	**+2.2**
CD2				pP		04 31 03.5	
CD2				sP		04 31 06.3	
CD2				PP	**PnPn**	**04 31 08.3**	**+2.4**
CD2				S	**Sn**	**04 32 48.0**	**+2.9**
CD2				sS		04 32 52.8	
CD2				SS	**SnSn**	**04 33 01.3**	**+4.6**
CD2				pmax	pmax		
	comp=Z,20nm,1.1s						
CD2				pmax	pmax		
	comp=Z,120nm,4.0s						
CD2				LR	LR		
	comp=N,1μm,9.5s						
CD2				LR	LR		
	comp=Z,1μm,8.2s						
XAN	**Xi'an**	**11.34**	**105**	P	**ScS**	**04 44 26.0**	**+0.1**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
XAN	**Xi'an**	**11.34**	**105**	P	Pn	04 31 19.5	-4.2
BTO	**Baotou**	**11.52**	**71**	*e*P	**Pn**	**04 31 24.0**	**-2.2**
SHL	**Shillong**	**12.49**	**196**	*e*P	**Pn**	**04 31 38.5**	**-1.0**
SHL				AMB	AMB	04 31 40.6	
	comp=Z,18nm,0.6s						
HHC	**Hu-ho-hao-te**	**12.72**	**71**	*e*P	**Pn**	**04 31 42.3**	**-0.2**
HHC				pP		04 31 45.5	
HHC				sP		04 31 48.8	
HHC				PP	**PnPn**	**04 31 52.5**	**+2.3**
HHC				S	**Sn**	**04 34 04.5**	**+0.3**
HHC				sS		04 34 09.8	
HHC				SS	**SnSn**	**04 34 19.5**	**+3.3**
HHC				LR	LR		
	comp=N,1μm,7.2s						
HHC				LR	LR		
	comp=E,1μm,9.8s						
HHC				LR	LR		
	comp=Z,1μm,7.5s						
GUN	**Gumba**	**12.74**	**223**	*e*P	**Pn**	**04 31 42.6**	**-0.5**
	comp=Z,76nm,1.0s						
JIRN	**Jiri**	**12.77**	**221**	*e*P	**Pn**	**04 31 43.4**	**-0.2**
	comp=Z,91nm,0.7s						
SONM	**Songino Array**	**12.84**	**34**	Pn	**Pn**	**04 31 44.7**	**+0.5**
SONM				Lg	Lg	04 35 03.5	
SONM	**Songino Array**	**12.84**	**34**	Pn	**Pn**	**04 31 44.7**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=219,slow=15,SNR=30						
SONM				Lg	Lg	04 35 03.5	
	comp=Z,0.2nm,0.3s,baz=215,slow=33,SNR=3.5						
RAMN	**Ramite**	**13.15**	**218**	*e*P	**Pn**	**04 31 47.1**	**-1.5**
KKN	**Kakani**	**13.16**	**225**	*e*P	**Pn**	**04 31 48.5**	**-0.3**
	comp=Z,49nm,1.0s						
ULN	**Ulaanbaatar**	**13.16**	**36**	*e*Pn	**Pn**	**04 31 49.8**	**+1.1**
ULN	**Ulaanbaatar**	**13.16**	**36**	P	**Pn**	**04 31 49.9**	**+1.3**
	comp=Z,15nm,0.9s						
PKI	**Pulchoki**	**13.26**	**224**	*e*P	**Pn**	**04 31 49.2**	**-1.0**
	comp=Z,89nm,1.2s						
PKIN	**Phulchoki**	**13.27**	**224**	*e*P	**Pn**	**04 31 49.6**	**-0.6**
	comp=Z,25nm,0.7s						
DMN	**Daman**	**13.40**	**225**	*e*P	**Pn**	**04 31 51.6**	**-0.4**
	comp=Z,130nm,1.4s						
MK31	**Makanchi Array**	**13.46**	**317**	⇑Pn	**Pn**	**04 31 51.1**	**-1.4**
	comp=Z,15nm,0.6s,baz=121,slow=13,SNR=162						
MK31				⇑Sn	**Sn**	**04 34 20.6**	**-1.4**
	comp=Z,12nm,0.6s,baz=120,slow=26						
MK31	**Makanchi Array**	**13.46**	**317**	*e*P	**Pn**	**04 31 50.8**	**-1.7**
MK31				*e*		04 34 20.7	
MK31	**Makanchi Array**	**13.46**	**317**	*e*Pn	**Pn**	**04 31 50.8**	**-1.7**
MK31				*e*Sn	**Sn**	**04 34 20.7**	**-1.4**
MKAR	**Makanchi Array**	**13.46**	**317**	*e*P	**Pn**	**04 31 51.0**	**-1.5**
MKAR	**Makanchi Array**	**13.46**	**317**	*e*Pn	**Pn**	**04 31 51.0**	**-1.5**
MKAR				Sn	Sn	04 34 14.8	-7.3
MKAR	**Makanchi Array**	**13.46**	**317**	Pn	**Pn**	**04 31 50.9**	**-1.5**
	comp=Z,3.9nm,0.3s,baz=128,slow=14,SNR=130						
MKAR				Sn	Sn	04 34 14.8	-7.3
	comp=Z,0.4nm,0.3s,baz=140,slow=16,SNR=2.8						
ENH	**Enshi**	**13.62**	**119**	*e*Pn	**Pn**	**04 31 53.1**	**-1.7**
	comp=Z,62nm,1.1s						
ZAK	**Zakamensk**	**13.83**	**21**	*e*P	**Pn**	**04 32 00.1**	**+2.5**
ZAK				pmax	pmax		
	comp=Z,41nm,1.3s						
KMI	**Kunming**	**13.88**	**152**	P	P	04 32 03.5	-3.4
KMI				sP		04 32 07.3	
KMI				PP	**PnPn**	**04 32 12.0**	**+5.5**
KMI				S	**Sn**	**04 34 37.5**	**+4.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				LR	LR		
	comp=N,320nm,7.2s						
KMI				LR	LR		
	comp=E,340nm,7.4s						
KMI				LR	LR		
	comp=Z,230nm,6.1s						
MOY	**Mondy**	**14.49**	**13**	*e*P	Pn	04 32 10.0	+3.3
GYA	**Guiyang**	**14.54**	**137**	P	**Pn**	**04 32 05.0**	**-2.4**
GYA				PP	**PnPn**	**04 32 16.3**	**+0.9**
GYA				S	**Sn**	**04 34 44.5**	**-4.2**
GYA				SS	**SnSn**	**04 35 00.5**	**-0.7**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.5s						
GYA				LR	LR		
	comp=N,2μm,8.2s						
GYA				LR	LR		
	comp=E,2μm,12.1s						
GYA				LR	LR		
	comp=Z,3μm,11.8s						
TLY	**Talaya**	**15.10**	**19***c*	*i*P	**P**	**04 32 22.2**	**+2.1**
TLY				pmax	pmax		
	comp=Z,37nm,1.4s						
TLY				MLR	MLR		
	comp=Z,427nm,10.0s						
KSH	**Kashi**	**15.52**	**283**	P	**Pn**	**04 32 22.0**	**+1.5**
KSH				sP	**sP**	**04 32 29.0**	**0.0**
KSH				PP	**PnPn**	**04 32 34.3**	**+5.6**
KSH				S	**Sn**	**04 35 13.5**	**+1.0**
KSH				pmax	pmax		
	comp=Z,30nm,1.6s						
KSH				LR	LR		
	comp=N,190nm,3.8s						
KSH				LR	LR		
	comp=E,210nm,3.5s						
KSH				LR	LR		
	comp=Z,160nm,7.2s						
BJI	**Beijing**	**16.14**	**75**	P	**P**	**04 32 32.5**	**+0.8**
BJI				pmax	pmax		
	comp=Z,41nm,1.3s						
BOK	**Bokaro**	**16.17**	**214**	*e*P	**Pn**	**04 32 28.5**	**-0.4**
BOK				AMB	AMB	04 32 29.3	
	comp=Z,15nm,1.1s						
TKM2	**Tokmak 2**	**16.18**	**295**	P	**Pn**	**04 32 27.5**	**-1.7**
TKM2	**Tokmak 2**	**16.18**	**295**	*e*P	**Pn**	**04 32 27.6**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,28nm,0.8s						
TKM2	**Tokmak 2**	**16.18**	**295**	*e*Pn	**Pn**	**04 32 27.6**	**-1.6**
	comp=Z,28nm,0.8s						
SMLA	**Simla**	**16.60**	**252**	*e*P	**Pn**	**04 32 35.5**	**+1.2**
SMLA				AMB	AMB	04 32 38.2	
	comp=Z,50nm,1.3s						
DHRM	**DHARAMSHALA**	**16.77**	**257**	*e*P	**Pn**	**04 32 38.2**	**+1.5**
DHRM				AMB	AMB	04 32 42.7	
	comp=Z,65nm,1.3s						
FRU	**Bishkek**	**16.87**	**294**	*e*P	**Pn**	**04 32 36.0**	**-1.7**
AAK	**Ala-Archa**	**16.92**	**294***ce*P		**Pn**	**04 32 39.8**	**+1.3**
AAK				pmax	pmax		
	comp=Z,28nm,0.8s						
AAK	**Ala-Archa**	**16.92**	**294**	*e*Pn	**P**	**04 32 40.1**	**-0.4**
	comp=Z,14nm,0.9s						
AAK	**Ala-Archa**	**16.92**	**294**	P	**P**	**04 32 40.3**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=99,slow=7.5,SNR=9.2						
WHN	**Wuhan**	**17.01**	**109**	P	**Pn**	**04 32 37.8**	**-1.7**
EKS2	**Erkin-Say**	**17.45**	**293**	*e*P	**P**	**04 32 46.3**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,15nm,1.2s						
EKS2	**Erkin-Say**	**17.45**	**293**	*e*P	**P**	**04 32 46.2**	**-0.1**
	comp=Z,14nm,1.2s						
ZAA0	**Zalesovo Array**	**17.92**	**339**	*e*Pn	**Pn**	**04 32 49.6**	**-1.0**
ZALV	**Zalesovo Beam**	**17.92**	**339**	P	**Pn**	**04 32 49.7**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**17.92**	**339**	P	**Pn**	**04 32 49.7**	**-1.0**
ZALV	**Zalesovo Beam**	**17.92**	**339**	P	**Pn**	**04 32 49.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=145,slow=11,SNR=28						
CHTO	**Chiang Mai**	**19.00**	**170**	*e*P	**P**	**04 33 03.9**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,30nm,1.6s						
CHTO	**Chiang Mai**	**19.00**	**170**	*e*P	**P**	**04 33 03.9**	**+0.5**
	comp=Z,30nm,1.6s						
CHTO	**Chiang Mai**	**19.00**	**170**	P	**Pn**	**04 33 04.4**	**+0.3**
	comp=Z,13nm,1.2s						
CHTO	**Chiang Mai**	**19.00**	**170**	P	**Pn**	**04 33 04.5**	**+0.3**
	comp=Z,13nm,1.2s						
NVS	**Novosibirsk**	**19.16**	**338**	*e*P	**P**	**04 33 03.5**	**-1.4**
NVS				*e*S	**S**	**04 36 45.0**	**+3.1**
NVS				pmax	pmax		
	comp=N,35nm,1.4s						
NVS				pmax	pmax		
	comp=Z,45nm,1.4s						
NVS				pmax	pmax		
	comp=E,24nm,1.5s						
NVS				smax	smax		
	comp=E,49nm,2.7s						
CM31	**Chiang Mai Arr**	**19.35**	**171**	*e*P	**P**	**04 33 06.8**	**-0.4**
	comp=E,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.35**	**171**	P	**P**	**04 33 07.8**	**+0.6**
CMAR				PcP	**PcP**	**04 37 28.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**19.35**	**171**	P	**P**	**04 33 07.8**	**+0.6**
	comp=E,1.2nm,0.3s,baz=342,slow=10,SNR=41						
CMAR				PcP	**PcP**	**04 37 28.1**	**-1.2**
	comp=E,0.2nm,0.3s,baz=315,slow=2.8,SNR=9.0						
NJ2	**Nanjing**	**19.81**	**99**	*e*P	**Pn**	**04 33 13.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KK31	**Karatay Array**	**19.89**	**294**	P	**P**	**04 33 10.5**	**-2.5**
	comp=Z,2.4nm,0.5s,baz=87,slow=11,SNR=34						
KKAR	**Karatay Array**	**19.89**	**294**	*e*P	**P**	**04 33 14.0**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKAR	**Karatay Array**	**19.89**	**294**	*e*P	**P**	**04 33 14.0**	**+1.0**
	comp=Z,7.4nm,0.8s						
BHPL	**Bhopal**	**21.26**	**233**	*e*P	**P**	**04 33 28.9**	**+0.9**
BHPL				AMB	AMB	04 33 32.3	
	comp=Z,21nm,1.0s						
PBKT	**Sadao Pong**	**21.53**	**166**	P	**P**	**04 33 31.8**	**+1.0**
	comp=Z,21nm,0.9s						
PBKT	**Sadao Pong**	**21.53**	**166**	P	**P**	**04 33 31.6**	**+0.8**
	comp=Z,21nm,0.9s						
KBL	**Kabul**	**21.72**	**270**	*e*P	**P**	**04 33 33.4**	**+0.4**
KBL				pmax	pmax		
	comp=Z,16nm,0.9s						
KBL	**Kabul**	**21.72**	**270**	*e*P	**P**	**04 33 33.4**	**+0.4**
	comp=Z,16nm,0.9s						
SNY	**Shenyang**	**21.81**	**70**	⇑P	**P**	**04 33 31.5**	**-2.2**
SNY				pmax	pmax		
	comp=Z,43nm,1.1s						
SNY				LR	LR		
	comp=N,340nm,18.6s						
SNY				LR	LR		
	comp=E,530nm,18.6s						
SNY				LR	LR		
	comp=Z,590nm,26.0s						
SKNT	**Sakolnakorn**	**21.87**	**158**	P	**P**	**04 33 34.8**	**+0.2**
	comp=Z,67nm,0.9s						
QIZ	**Qiongzhong**	**22.32**	**142**	P	**P**	**04 33 39.5**	**+0.2**
QIZ				S	**S**	**04 37 45.8**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,23nm,0.8s						
QIZ				LR	LR		
	comp=Z,420nm,20.9s						
QIZ	**Qiongzhong**	**22.32**	**142**	*e*P	**P**	**04 33 38.4**	**-0.9**
	comp=Z,25nm,1.0s						
VOSK	**Vostochnaya**	**22.85**	**319**	⇑P	**P**	**04 33 44.1**	**-0.6**
	comp=Z,28nm,1.1s						
VOSK	**Vostochnaya**	**22.85**	**319**	P	**P**	**04 33 44.1**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,28nm,1.1s						
CN2	**Changchun**	**23.30**	**65**	*e*P	**P**	**04 33 48.5**	**-1.0**
CN2				*es*P	**sP**	**04 33 57.3**	**+3.6**
CN2				*e*S	**S**	**04 37 56.8**	**-5.1**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,450nm,18.0s						
CN2				LR	LR		
	comp=E,470nm,18.0s						
CN2				LR	LR		
	comp=Z,580nm,14.0s						
BVA0	**Borovoye Array**	**23.31**	**319**	⇑P	**P**	**04 33 49.2**	**-0.4**
	comp=Z,13nm,0.9s,baz=118,slow=9.3,SNR=36						
BVA0	**Borovoye Array**	**23.31**	**319**	*i*P	**P**	**04 33 49.1**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,13nm,1.0s						
BVAR	**Borovoye Array**	**23.31**	**319**	P	**P**	**04 33 49.5**	**0.0**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	**Borovoye Array**	**23.31**	**319**	P	**P**	**04 33 49.5**	**0.0**
BVAR	**Borovoye Array**	**23.31**	**319**	*i*P	**P**	**04 33 49.5**	**0.0**
	comp=Z,5.5nm,0.6s,baz=121,slow=12,SNR=33						
BRVK	**Borovoye**	**23.38**	**319**	⇑P	**P**	**04 33 49.7**	**-0.6**
	comp=Z,32nm,1.2s						
BRVK	**Borovoye**	**23.38**	**319***d*	*i*P	**P**	**04 33 50.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s						
BRVK	**Borovoye**	**23.38**	**319**	*e*P	**P**	**04 33 50.2**	**-0.1**
	comp=Z,22nm,1.2s						
UBPT	**Khong Chiam**	**23.93**	**156**	P	**P**	**04 33 55.0**	**-0.7**
	comp=Z,48nm,0.9s,comp=Z,699nm						
UBPT	**Khong Chiam**	**23.93**	**156**	P	**P**	**04 33 55.1**	**-0.7**
	comp=Z,48nm,1.0s,comp=Z,699nm						
DGPR	**DIGLIPUR**	**24.51**	**186**	*ex*	x	04 33 50.4	
DGPR				AMB	AMB	04 34 10.6	
	comp=Z,59nm,0.5s						
HYB	**Hyderabad**	**25.17**	**221**	*e*P	**P**	**04 34 05.8**	**-1.3**
HYB				AMB	AMB	04 34 14.1	
	comp=Z,25nm,2.2s						
YHNB	**Yeheng**	**25.43**	**113**	*e*P	**P**	**04 34 09.5**	**0.0**
	comp=Z,31nm,1.3s						
LATR	**Latur**	**25.45**	**226**	*e*P	**P**	**04 34 08.7**	**-0.9**
LATR				AMB	AMB	04 34 10.7	
	comp=Z,27nm,1.1s						
KSAR	**Wonju Array Be**	**25.47**	**81**	P	**P**	**04 34 08.0**	**-1.8**
KSRS	**Korea Array**	**25.50**	**81**	P	**P**	**04 34 08.0**	**-2.0**
	comp=Z,8.9nm,0.6s,baz=278,slow=9.5,SNR=28						
SSLB	**Suanglung**	**25.66**	**115**	*e*P	**P**	**04 34 11.5**	**-0.1**
	comp=Z,15nm,1.1s						
TPUB	**Ta-pu**	**25.73**	**117**	*e*P	**P**	**04 34 11.7**	**-0.5**
	comp=Z,19nm,1.2s						
NACB	**Ninganchiao**	**25.89**	**114**	*e*P	**P**	**04 34 13.3**	**-0.3**
	comp=Z,42nm,1.2s						
YULB	**Yu-li**	**26.15**	**116**	*e*P	**P**	**04 34 16.3**	**+0.3**
	comp=Z,13nm,1.1s						
MDJ	**Mudanjiang**	**26.33**	**64**	P	**P**	**04 34 18.5**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,58nm,2.7s						
USRK	**Ussuriysk Arra**	**28.04**	**65**	P	**P**	**04 34 31.8**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=265,slow=15,SNR=4.2						
AB31	**Akbulak array**	**28.14**	**306**	⇑P	**P**	**04 34 33.9**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=97,slow=8.5,SNR=41						
AB31	**Akbulak array**	**28.14**	**306**	*i* P	**P**	**04 34 33.9**	**+0.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**28.14**	**306**	*e*P	**P**	**04 34 34.3**	**+0.6**
	comp=Z,9.5nm,1.0s						
AKTO	**Aktyubinsk**	**29.59**	**308**	⇑P	**P**	**04 34 46.8**	**+0.2**
	comp=Z,16nm,0.9s						
AKTO	**Aktyubinsk**	**29.59**	**308**	P	**P**	**04 34 46.7**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,16nm,0.9s						
AKTO	**Aktyubinsk**	**29.59**	**308**	P	**P**	**04 34 47.5**	**+1.0**
AKTO				PcP	**PcP**	**04 37 50.5**	**-0.6**
AKTO	**Aktyubinsk**	**29.59**	**308**	P	**P**	**04 34 47.5**	**+1.0**
	comp=Z,12nm,0.8s,baz=97,slow=7.9,SNR=32						
AKTO				PcP	**PcP**	**04 37 50.5**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=135,slow=1.4,SNR=3.5						
ARU	**Arti**	**30.96**	**319***d*	*i*P	**P**	**04 34 59.0**	**+0.4**
ARU						04 35 57.5	
ARU				S	**S**	**04 40 05.3**	**+2.5**
ARU				SS	**SnSn**	**04 41 43.7**	**+1.1**
ARU				pmax	pmax		
	comp=Z,17nm,0.8s						
ASAJ	**Asahikawa**	**35.66**	**64**	*e*P	**P**	**04 35 38.8**	**-0.9**
	comp=Z,12nm,1.1s						
ASAJ	**Asahikawa**	**35.66**	**64**	P	**P**	**04 35 38.5**	**-1.2**
	comp=Z,14nm,0.9s,baz=287,slow=7.8,SNR=5.9						
KKM	**Kota Kinabalu**	**36.61**	**144**	*e*P	**P**	**04 35 47.8**	**-0.4**
	comp=Z,22nm,0.8s						
KKM	**Kota Kinabalu**	**36.61**	**144**	P	**P**	**04 35 48.4**	**+0.2**
	comp=Z,35nm,0.9s						
TIXI	**Tiksi**	**38.05**	**16**⇓	*e*P	**P**	**04 35 58.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SBUM	**Sibu**	**38.20**	**153**	P	**P**	**04 36 02.3**	**+0.8**
	comp=Z,12nm,0.9s						
KSM	**Kuching**	**38.45**	**156**	*e*P	**P**	**04 36 02.6**	**-1.0**
	comp=Z,12nm,1.0s						
MYLDM	**Lahad Datu**	**38.46**	**142**	P	**P**	**04 36 05.4**	**+1.7**
	comp=Z,89nm,1.2s,comp=Z,1μm						
GNI	**Garni**	**39.27**	**290**	*e*P	**P**	**04 36 10.4**	**-0.2**
	comp=Z,11nm,0.9s						
KBZ	**Khabaz**	**39.90**	**296**	P	**P**	**04 36 17.5**	**+2.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KBZ	**Khabaz**	**39.90**	**296**	P	**P**	**04 36 17.4**	**+2.0**
KBZ	**Khabaz**	**39.90**	**296**	P	**P**	**04 36 17.4**	**+2.0**
	comp=Z,2.9nm,0.8s,baz=92,slow=9.6,SNR=4.2						
VRHR	**Novokhopersk**	**40.00**	**307**	*e*P	**P**	**04 36 16.5**	**+0.3**
VRHR				pmax	pmax		
	comp=Z,30nm,1.0s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.5s						
KIV	**Kislovodsk**	**40.01**	**296***c*	*i*P	**P**	**04 36 18.0**	**+1.4**
KIV				*e*		04 37 51.3	
KIV				*e*		04 38 21.7	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORD	**Divnogorie**	**41.48**	**307**	*e*P	**P**	**04 36 29.0**	**+0.6**
VORD				pmax	pmax		
	comp=N,8.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.4s						
VSR	**Storozhevoye**	**41.54**	**308**	*e*P	**P**	**04 36 29.3**	**+0.4**
VSR				pmax	pmax		
	comp=Z,30nm,0.8s						
VSR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,40nm,0.9s						
MOS	**Moscow**	**42.33**	**315**	*e*P	P	04 36 31.9	-3.4
TMCR	**Tamitsa**	**42.85**	**327**	*e*P	**P**	**04 36 39.2**	**-0.3**
TMCR				pmax	pmax		
	comp=Z,11nm,0.4s						
OBN	**Obninsk**	**42.93**	**314**	*e*P	**P**	**04 36 40.1**	**-0.1**
OBN				*e*		04 38 31.7	
OBN				pmax	pmax		
	comp=Z,30nm,1.1s						
PETK	**Petropavlovsk-**	**44.77**	**49**	P	**P**	**04 36 55.1**	**0.0**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PETK	**Petropavlovsk-**	**44.77**	**49**	P	**P**	**04 36 55.1**	**0.0**
PETK	**Petropavlovsk-**	**44.77**	**49**	P	**P**	**04 36 55.1**	**0.0**
	comp=Z,7.2nm,0.9s,baz=249,slow=12,SNR=4.1						
LVZ	**Lovozero**	**44.87**	**332***ce*P		**P**	**04 36 56.0**	**+0.3**
LVZ				pmax	pmax		
	comp=Z,21nm,1.7s						
BR131	**Keskin Array S**	**47.60**	**293**	*e*P	**P**	**04 37 18.0**	**+0.4**
	comp=Z,3.6nm,0.5s						
BRTR	**Keskin Array B**	**47.60**	**293**	P	**P**	**04 37 18.3**	**+0.6**
BRTR	**Keskin Array B**	**47.60**	**293**	P	**P**	**04 37 18.3**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=106,slow=6.7,SNR=29						
ASF	**Jabal al Asfar**	**47.83**	**282**	P	**P**	**04 37 21.8**	**+2.2**
ASF	**Jabal al Asfar**	**47.83**	**282**	P	**P**	**04 37 21.8**	**+2.2**
	comp=Z,9.8nm,1.1s,baz=32,slow=3.8,SNR=6.8						
AKASG	**Malin Array Be**	**47.84**	**308***ce*P		**P**	**04 37 19.2**	**0.0**
AKASG				pmax	pmax		
	comp

IDID Didziasalis 48.52 315 *eP* **P 04 37 25.1 +0.7**
IDID AMB AMB 04 37 27.3
comp=Z,4.8nm,1.1s

MMAI Mount Meron Ar 48.65 284 P **P 04 37 28.0 +2.1**
MMAI Mount Meron Ar 48.65 284 P **P 04 37 28.0 +2.1**
comp=Z,3.3nm,0.6s,baz=84,slow=8.7,SNR=4.3

IIGN Ignalina 48.81 315 *eP* **P 04 37 27.3 +0.6**
IIGN AMB AMB 04 37 28.7
comp=Z,7.7nm,0.9s

ISAL Salakas 48.83 315 *eP* **P 04 37 27.3 +0.6**
CFR Carcaliu 49.86 301 ⇓P **P 04 37 35.9 +1.1**
CFR Carcaliu 49.86 301 ⇓*i*P **P 04 37 35.9 +1.1**
TLB Topalu 50.10 301 ⇑P **P 04 37 37.9 +1.3**
TLB Topalu 50.10 301 ⇑*i*P **P 04 37 37.9 +1.3**
EIL Elat 50.40 280 P **P 04 37 40.0 +0.9**
EIL Elat 50.40 280 P **P 04 37 40.0 +0.9**
comp=Z,20nm,1.1s,baz=26,slow=6.1,SNR=8.2

TESR Tescani 50.49 303 ⇓*i*P **P 04 37 40.8 +1.2**
VRI Vrincioaia 50.62 302 ⇓P **P 04 37 42.6 +2.0**
VRI Vrincioaia 50.62 302 ⇓*i*P **P 04 37 42.6 +2.0**
PLOR Plostina 50.67 302 ⇑P **P 04 37 42.9 +1.9**
PLOR Plostina 50.67 302 ⇑*i*P **P 04 37 42.9 +1.9**
ISR Istrita 50.96 302 ⇑P **P 04 37 45.9 +2.7**
ISR Istrita 50.96 302 ⇑*i*P **P 04 37 45.9 +2.7**
BURAR Bucovina Array 51.12 305 ⇑P **P 04 37 45.6 +1.2**
BURAR Bucovina Array 51.12 305 ⇑*i*P **P 04 37 45.6 +1.2**
BUR08 Bucovina Ar. S 51.12 305 *eP* **P 04 37 45.0 +0.5**
MLR Muntele Rosu 51.25 302 ⇑*i*P **P 04 37 47.0 +1.5**
MLR Muntele Rosu 51.25 302 P **P 04 37 46.8 +1.3**
MLR Muntele Rosu 51.25 302 P **P 04 37 46.8 +1.3**
comp=Z,1.5nm,0.8s,baz=96,slow=6.0,SNR=14

LVV L'vov 51.28 308 *eP* **P 04 37 46.4 +0.9**
VOIR 51.87 302 ⇓P **P 04 37 50.6 +0.6**
VOIR 51.87 302 ⇓*i*P **P 04 37 50.6 +0.6**
KWP Kalwaria Pacla 52.16 308 *eP* **P 04 37 52.9 +0.8**
KWP Kalwaria Pacla 52.16 308 ⇑*i*P **P 04 37 53.0 +0.8**
KWP Kalwaria Pacla 52.16 308 *eP* **P 04 37 52.9 +0.8**
comp=Z,35nm,0.9s

KWP Kalwaria Pacla 52.16 308 *eP* **P 04 37 53.2 +1.1**
ARR Arges 52.17 302 ⇑*i*P **P 04 37 52.5 +0.2**
KOLS Kolonicke sedl 52.63 307 *eP* **P 04 37 56.7 +1.1**
KOLS pmax pmax
comp=Z,54nm,2.9s

KOLS Kolonicke sedl 52.63 307 *eP* **P 04 37 56.7 +1.1**
STHS Stebnicka Huta 53.14 308 *eP* **P 04 38 00.1 +0.8**
STHS pmax pmax
comp=Z,3.0nm,1.0s

STHS Stebnicka Huta 53.14 308 *eP* **P 04 38 00.1 +0.8**
OJC Ojcow 53.79 309 *eP* **P 04 38 04.9 +0.8**
OJC Ojcow 53.79 309 *eP* **P 04 38 05.0 +0.9**
comp=Z,20nm,1.1s

VTS Vitosha 54.06 300 ⇓P **P 04 38 08.3 +1.9**
VTS Vitosha 54.06 300 ⇓*i*P **P 04 38 08.3 +1.9**
BZS Buzias 54.10 304 ⇑P **P 04 38 08.1 +1.7**
BZS Buzias 54.10 304 ⇑*i*P **P 04 38 08.1 +1.7**
VYHS Vyhne 54.93 308 *eP* **P 04 38 13.9 +1.5**
VYHS pmax pmax
comp=Z,7.0nm,1.2s

VYHS Vyhne 54.93 308 *eP* **P 04 38 13.9 +1.5**
MORC Moravsky Berou 55.31 310 *eP* **P 04 38 15.9 +0.7**
MORC pmax pmax
comp=Z,7.0nm,1.0s

MORC Moravsky Berou 55.31 310 *eP* **P 04 38 15.9 +0.7**
comp=Z,7.2nm,1.0s

NB2 NORSAR Subarra 55.33 324 P **P 04 38 14.4 -0.7**
comp=Z,9.1nm,1.1s,baz=72,slow=7.4

NOA NORSAR Array B 55.33 324 P **P 04 38 15.1 -0.1**
NOA NORSAR Array B 55.33 324 P **P 04 38 15.1 -0.1**
comp=Z,4.1nm,0.8s,baz=73,slow=7.2,SNR=11

NAO01 NORSAR Array S 55.54 324 *eP* **P 04 38 16.0 -0.6**
comp=Z,12nm,1.0s

DPC Dobruska-Polom 55.86 310 *i*P **P 04 38 19.9 +0.7**
DPC Dobruska-Polom 55.86 310 *i*P **P 04 38 19.9 +0.7**
DPC Dobruska-Polom 55.86 310 *eP* **P 04 38 20.2 +1.1**
comp=Z,51nm,0.9s

UPC Upice 56.00 311 *i*P **P 04 38 20.9 +0.8**
UPC Upice 56.00 311 *i*P **P 04 38 20.9 +0.8**
PVCC Panska Ves 56.85 311 *i*P **P 04 38 27.3 +1.1**
PVCC Panska Ves 56.85 311 *i*P **P 04 38 27.3 +1.1**
CONA Conrad Observa 56.99 308 ⇓*i*pP **P 04 38 28.4 +1.1**
comp=Z,8.5nm,1.0s

PRU Pruhonice 57.06 311 *i*P **P 04 38 29.0 +1.4**
PRU Pruhonice 57.06 311 *i*P **P 04 38 29.0 +1.4**
BRG Berggiesshubel 57.11 312 *eP* **P 04 38 27.6 -0.3**
comp=Z,6.9nm,1.0s

BRG Berggiesshubel 57.11 312 *eP* **P 04 38 28.2 +0.3**
comp=Z,7.0nm,1.0s

BRG Berggiesshubel 57.11 312 *eP* **P 04 38 27.6 -0.3**
BRG pmax pmax
comp=Z,7.0nm,1.0s

CLL Collm 57.50 312 *eP* **P 04 38 31.6 +0.9**
comp=Z,9.0nm,0.9s

CLL Collm 57.50 312 *i*P **P 04 38 31.0 +0.3**
CLL pmax pmax
comp=Z,9.0nm,0.9s

CLL Collm 57.50 312 *i*P **P 04 38 31.0 +0.3**
comp=Z,9.0nm,0.9s

CLL *ep*P **pP 04 38 34.0 +0.1**
PERS Pernice 57.95 307 *i*P **P 04 38 34.5 +0.5**
SOKA Soboth 57.98 307 ⇑*i*P **P 04 38 34.8 +0.5**
comp=Z,9.6nm,0.9s,SNR=8.3

GEC2 GERESS Array S 57.99 310 *eP* **P 04 38 35.4 +1.1**
comp=Z,6.0nm,1.1s

GEC2 GERESS Array S 57.99 310 *eP* **P 04 38 35.4 +1.1**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s

GEC2 GERESS Array S 57.99 310 *eP* **P 04 38 35.4 +1.1**
GERES GERESS Array B 57.99 310 P **P 04 38 35.1 +0.8**
GERES GERESS Array B 57.99 310 P **P 04 38 35.1 +0.8**
comp=Z,2.3nm,0.9s,baz=72,slow=6.0,SNR=18

BSEG Bad Segeberg 58.08 316 *eP* **P 04 38 35.3 +0.6**
comp=Z,19nm,1.0s

TANN Tannenbergstha 58.15 312 *eP* **P 04 38 36.2 +0.8**
comp=Z,11nm,1.4s

BOJS Bojanci 58.30 305 *i*P **P 04 38 37.3 +0.9**
WET Wettzell 58.38 310 *eP* **P 04 38 38.0 +1.0**
comp=Z,7.0nm,1.3s

WET Wettzell 58.38 310 *eP* **P 04 38 38.0 +1.0**
WET pmax pmax
comp=Z,7.0nm,1.3s

ROTZ Rotzenmuhle 58.55 311 *eP* **P 04 38 39.3 +1.2**
comp=Z,11nm,1.2s

LJU Ljubljana 58.55 306 *i*P **P 04 38 37.2 -1.0**
MOX Moxa 58.56 312 *eP* **P 04 38 38.9 +0.7**
comp=Z,9.0nm,1.2s

MOX Moxa 58.56 312 *eP* **P 04 38 38.9 +0.7**
MOX pmax pmax
comp=Z,9.0nm,1.2s

NRDL Niedersach Rie 58.73 315 *eP* **P 04 38 40.3 +1.1**
comp=Z,18nm,1.0s

CLZ Clausthal 58.83 314 *eP* **P 04 38 40.8 +0.7**
comp=Z,17nm,1.0s

CLZ Clausthal 58.83 314 *eP* **P 04 38 40.8 +0.7**
CLZ pmax pmax
comp=Z,17nm,1.0s

JAVS Javornik 58.91 306 *i*P **P 04 38 41.1 +0.3**
RJOB Jochberg 58.98 309 *eP* **P 04 38 42.9 +1.7**
comp=Z,4.0nm,0.8s

GRF Grafenberg Arr 59.17 311 *eP* **P 04 38 44.2 +1.8**
comp=Z,11nm,0.6s

GRF Grafenberg Arr 59.17 311 *eP* **P 04 38 44.2 +1.8**
GRF pmax pmax
comp=Z,11nm,0.6s

FUR Furstenfeldbru 59.74 310 *eP* **P 04 38 47.3 +0.9**
comp=Z,26nm,1.2s

FUR Furstenfeldbru 59.74 310 *eP* **P 04 38 47.3 +0.9**
FUR pmax pmax
comp=Z,26nm,1.2s

WTTA Wattenberg 59.89 308 ⇑*i*P **P 04 38 48.1 +0.5**
comp=Z,18nm,1.1s,SNR=6.4

MOTA Moosalm 60.19 309 ⇑*i*P **P 04 38 49.7 0.0**
comp=Z,19nm,1.0s,SNR=10.0

CUC Castrocucco 60.21 299 *eP* **P 04 38 50.5 +0.8**
comp=Z,13nm,0.9s

FETA Feichten 60.55 308 ⇑*i*P **P 04 38 51.6 -0.5**
comp=Z,10nm,1.1s

CEL Celeste 60.92 298 *eP* **P 04 38 54.9 +0.3**
comp=Z,20nm,0.9s

FUORN Ofenpass-Fuorn 61.01 308 *eP* **P 04 38 55.8 +0.4**
comp=Z,11nm,1.0s

DAVOX Davos/Dischmat 61.18 309 P **P 04 38 57.1 +0.6**
DAVOX Davos/Dischmat 61.18 309 P **P 04 38 57.1 +0.6**
comp=Z,11nm,0.9s,baz=85,slow=3.0,SNR=10

BFO Black Forest 61.46 311 *eP* **P 04 38 59.0 +0.8**
comp=Z,12nm,1.2s

BFO Black Forest 61.46 311 *eP* **P 04 38 59.0 +0.8**
BFO pmax pmax
comp=Z,12nm,1.2s

BFO Black Forest 61.46 311 *eP* **P 04 38 59.2 +1.0**
comp=Z,12nm,1.2s

TUE Stuetta 61.65 308 *eP* **P 04 38 59.8 +0.2**
comp=Z,7.0nm,0.8s

MEM Membach 61.84 314 P **P 04 39 02.6 +2.0**
CDF Champ du Feu 62.06 311 *eP* **P 04 39 02.2 -0.1**
comp=Z,19nm,1.1s

CDF Champ du Feu 62.06 311 *eP* **P 04 39 02.2 -0.1**
CDF pmax pmax
comp=Z,19nm,1.1s

CDF Champ du Feu 62.06 311 *eP* **P 04 39 02.2 -0.1**
comp=Z,19nm,1.1s

WLF Walferdange 62.17 313 P **P 04 39 04.4 +1.5**
comp=Z,11nm,1.1s

WLF Walferdange 62.17 313 *eP* **P 04 39 04.6 +1.8**
comp=Z,18nm,1.0s

WLF Walferdange 62.17 313 *eP* **P 04 39 03.5 +0.6**
WLF pmax pmax
comp=Z,17nm,1.0s

WLF Walferdange 62.17 313 *eP* **P 04 39 03.5 +0.6**
comp=Z,17nm,1.0s

ECH Echery 62.22 311 *eP* **P 04 39 03.6 +0.4**
ECH pmax pmax
comp=Z,5.0nm,0.9s

ECH Echery 62.22 311 *eP* **P 04 39 03.6 +0.4**
comp=Z,5.0nm,0.9s

HINF Hinteralfeld 62.58 311 *eP* **P 04 39 05.5 -0.2**
comp=Z,14nm,1.0s

HINF Hinteralfeld 62.58 311 *eP* **P 04 39 05.5 -0.2**
HINF pmax pmax
comp=Z,14nm,1.0s

HINF Hinteralfeld 62.58 311 *eP* **P 04 39 05.5 -0.2**
comp=Z,14nm,1.0s

MBWA Marble Bar 62.74 155 *eP* **P 04 39 05.4 -1.5**
comp=Z,24nm,1.3s

GIVF Givet 62.74 314 *eP* **P 04 39 07.1 +0.4**
GIVF Givet 62.74 314 *eP* **P 04 39 07.1 +0.4**
GIVF Givet 62.74 314 *eP* **P 04 39 07.1 +0.4**
DOU Dourbes 62.88 314 P **P 04 39 08.4 +0.9**
PAGF Fort de Pagny 62.92 312 *eP* **P 04 39 08.6 +0.7**
comp=Z,4.8nm,0.6s

PAGF Fort de Pagny 62.92 312 *eP* **P 04 39 08.6 +0.7**
comp=Z,4.8nm,0.6s

SENIN Lac Senin/Sane 62.96 309 *eP* **P 04 39 08.8 +0.3**
comp=Z,5.9nm,0.9s

BAIF Baives 63.12 314 *eP* **P 04 39 09.7 +0.6**
BAIF Baives 63.12 314 *eP* **P 04 39 09.7 +0.6**
BAIF Baives 63.12 314 *eP* **P 04 39 09.7 +0.6**
MEZF Maizieres J'vi 63.34 312 *eP* **P 04 39 11.3 +0.6**
MEZF Maizieres J'vi 63.34 312 *eP* **P 04 39 11.3 +0.6**
CABF La Chapelle 63.59 310 *eP* **P 04 39 13.3 +0.8**
CABF La Chapelle 63.59 310 *eP* **P 04 39 13.3 +0.8**
CABF La Chapelle 63.59 310 *eP* **P 04 39 13.3 +0.8**
PGF Pioggiola 63.64 305 *eP* **P 04 39 13.4 +0.5**
comp=Z,20nm,1.0s

PGF Pioggiola 63.64 305 *eP* **P 04 39 13.4 +0.5**
PGF pmax pmax
comp=Z,20nm,1.0s

PGF Pioggiola 63.64 305 *eP* **P 04 39 13.4 +0.5**
comp=Z,20nm,1.0s

LPG La Plagne 63.70 308 *eP* **P 04 39 14.2 +0.7**
comp=Z,25nm,1.0s

LPG La Plagne 63.70 308 *eP* **P 04 39 14.2 +0.7**
LPG pmax pmax
comp=Z,25nm,1.0s

LPG La Plagne 63.70 308 *eP* **P 04 39 14.2 +0.7**
comp=Z,25nm,1.0s

LPL La Plagne 63.70 308 *eP* **P 04 39 14.1 +0.7**
comp=Z,26nm,1.0s

LPL La Plagne 63.70 308 *eP* **P 04 39 14.1 +0.7**
LPL pmax pmax
comp=Z,26nm,1.0s

LPL La Plagne 63.70 308 *eP* **P 04 39 14.1 +0.7**
comp=Z,26nm,1.0s

IMA2 Indian Mountai 63.80 25 *eP* **P 04 39 13.2 -0.4**
BNI Bardonecchia 63.95 308 *eP* **P 04 39 15.6 +0.7**
BNI pmax pmax
comp=Z,8.0nm,1.2s

BNI Bardonecchia 63.95 308 *eP* **P 04 39 15.6 +0.7**
comp=Z,8.1nm,1.2s

SBF Sospel 64.03 306 *eP* **P 04 39 15.6 +0.2**
comp=Z,37nm,1.0s

SBF Sospel 64.03 306 *eP* **P 04 39 15.6 +0.2**
SBF Sospel 64.03 306 *eP* **P 04 39 15.6 +0.2**
comp=Z,37nm,1.0s

MBDF Montbardon 64.05 308 *eP* **P 04 39 15.2 -0.4**
comp=Z,15nm,1.0s

MBDF Montbardon 64.05 308 *eP* **P 04 39 15.2 -0.4**
MBDF pmax pmax
comp=Z,15nm,1.0s

MBDF Montbardon 64.05 308 *eP* **P 04 39 15.2 -0.4**
comp=Z,15nm,1.0s

COLD Coldfoot 64.26 23 *eP* **P 04 39 16.4 0.0**
comp=Z,15nm,0.9s

ORIF Oris-en-Rattie 64.52 308 *eP* **P 04 39 18.6 0.0**
comp=Z,16nm,1.0s

ORIF Oris-en-Rattie 64.52 308 *eP* **P 04 39 18.6 0.0**
ORIF pmax pmax
comp=Z,16nm,1.0s

ORIF Oris-en-Rattie 64.52 308 *eP* **P 04 39 18.6 0.0**
comp=Z,16nm,1.0s

LOR Lormes 64.63 311 *eP* **P 04 39 18.7 -0.5**
LOR Lormes 64.63 311 *eP* **P 04 39 18.7 -0.5**
FRF La Foret Royal 64.68 306 *eP* **P 04 39 19.5 -0.1**
FRF La Foret Royal 64.68 306 *eP* **P 04 39 19.5 -0.1**
FRF La Foret Royal 64.68 306 *eP* **P 04 39 19.5 -0.1**
LMR La Mourre 64.88 306 *eP* **P 04 39 21.0 +0.2**
comp=Z,13nm,1.0s

LMR La Mourre 64.88 306 *eP* **P 04 39 21.0 +0.2**
LMR pmax pmax
comp=Z,13nm,1.0s

LMR La Mourre 64.88 306 *eP* **P 04 39 21.0 +0.2**
comp=Z,13nm,1.0s

SMF Signal de Mont 64.94 311 *eP* **P 04 39 21.1 -0.1**
comp=Z,39nm,1.1s

SMF Signal de Mont 64.94 311 *eP* **P 04 39 21.1 -0.1**
SMF Signal de Mont 64.94 311 *eP* **P 04 39 21.1 -0.1**
comp=Z,39nm,1.1s

SSF Saint Saulge 64.94 311 *eP* **P 04 39 21.0 -0.2**
comp=Z,25nm,1.3s

SSF Saint Saulge 64.94 311 *eP* **P 04 39 21.0 -0.2**
SSF pmax pmax
comp=Z,25nm,1.3s

SSF Saint Saulge 64.94 311 *eP* **P 04 39 21.0 -0.2**
comp=Z,25nm,1.3s

AVF Avril sur Loir 65.16 311 *eP* **P 04 39 22.6 0.0**
comp=Z,12nm,1.0s

AVF Avril sur Loir 65.16 311 *eP* **P 04 39 22.6 0.0**
AVF pmax pmax
comp=Z,12nm,1.0s

AVF Avril sur Loir 65.16 311 *eP* **P 04 39 22.6 0.0**
comp=Z,12nm,1.0s

VIVF Saint-Julien-l 65.30 308 *eP* **P 04 39 23.7 +0.1**
comp=Z,26nm,1.2s

VIVF Saint-Julien-l 65.30 308 *eP* **P 04 39 23.7 +0.1**
VIVF pmax pmax
comp=Z,26nm,1.2s

VIVF Saint-Julien-l 65.30 308 *eP* **P 04 39 23.7 +0.1**
comp=Z,26nm,1.2s

BGF Bois d'Agland 65.58 311 *eP* **P 04 39 25.2 -0.2**
comp=Z,31nm,1.1s

BGF Bois d'Agland 65.58 311 *eP* **P 04 39 25.2 -0.2**
BGF pmax pmax
comp=Z,31nm,1.1s

BGF Bois d'Agland 65.58 311 *eP* **P 04 39 25.2 -0.2**
comp=Z,31nm,1.1s

BPAW Bear Paw Mtn. 65.88 26 *eP* **P 04 39 27.3 +0.2**
comp=Z,42nm,1.5s

TCF Toulx Ste Croi 66.10 311 *eP* **P 04 39 28.9 +0.2**
comp=Z,39nm,1.1s

TCF Toulx Ste Croi 66.10 311 *eP* **P 04 39 28.9 +0.2**
TCF Toulx Ste Croi 66.10 311 *eP* **P 04 39 28.9 +0.2**
comp=Z,39nm,1.1s

PPLA Purkeypile 66.17 28 *eP* **P 04 39 29.7 +0.6**
comp=Z,25nm,1.1s

LASF Ste Croix 66.19 308 *eP* **P 04 39 29.8 +0.4**
comp=Z,25nm,1.1s

LASF Ste Croix 66.19 308 *eP* **P 04 39 29.8 +0.4**
comp=Z,25nm,1.1s

KMBO Kilima Mbogo 66.20 249 *eP* **P 04 39 31.2 +1.2**
comp=Z,11nm,1.4s

KMBO Kilima Mbogo 66.20 249 P **P 04 39 31.2 +1.2**
comp=Z,2.7nm,0.9s,baz=229,slow=23,SNR=4.5

LDF La Druitiere 66.31 314 *eP* **P 04 39 29.6 -0.4**
LDF La Druitiere 66.31 314 *eP* **P 04 39 29.6 -0.4**
LDF La Druitiere 66.31 314 *eP* **P 04 39 29.6 -0.4**
FLN La Foliniere 66.43 314 *eP* **P 04 39 30.7 0.0**
comp=Z,25nm,1.0s

FLN La Foliniere 66.43 314 *eP* **P 04 39 30.7 0.0**
FLN pmax pmax
comp=Z,25nm,1.0s

FLN La Foliniere 66.43 314 *eP* **P 04 39 30.7 0.0**
comp=Z,25nm,1.0s

COLA College 66.47 25 *eP* **P 04 39 31.0 +0.3**
COLA College 66.47 25 *eP* **P 04 39 31.0 +0.3**
TRF Thorofare Moun 66.53 27 *eP* **P 04 39 31.1 -0.3**
comp=Z,16nm,1.3s

KEST Kesra 66.72 298 *eP* **P 04 39 33.7 +0.7**
KEST Kesra 66.72 298 P **P 04 39 33.4 +0.4**
comp=Z,1.8nm,0.9s,baz=296,slow=9.5,SNR=4.3

GRR Gorron 66.83 314 *eP* **P 04 39 33.3 0.0**
comp=Z,38nm,1.1s

GRR Gorron 66.83 314 *eP* **P 04 39 33.3 0.0**
GRR pmax pmax
comp=Z,38nm,1.1s

GRR Gorron 66.83 314 *eP* **P 04 39 33.3 0.0**
comp=Z,38nm,1.1s

ILAR Eielson Array 66.86 24 P **P 04 39 32.3 -0.9**
ILAR PP **PP 04 41 57.3 -2.6**
ILAR Eielson Array 66.86 24 P **P 04 39 32.3 -0.9**
comp=Z,6.1nm,1.0s,baz=293,slow=5.2,SNR=34

ILAR PP **PP 04 41 57.3 -2.6**
comp=Z,1.1nm,1.1s,baz=306,slow=8.6,SNR=4.3

CAF Calviac 66.87 310 *eP* **P 04 39 34.4 +0.7**
comp=Z,14nm,1.1s

CAF Calviac 66.87 310 *eP* **P 04 39 34.4 +0.7**
CAF pmax pmax
comp=Z,15nm,1.1s

CAF Calviac 66.87 310 *eP* **P 04 39 34.4 +0.7**
comp=Z,14nm,1.1s

RJF Les Rejaudoux 67.01 310 *eP* **P 04 39 35.3 +0.7**
comp=Z,25nm,1.1s

RJF Les Rejaudoux 67.01 310 *eP* **P 04 39 35.3 +0.7**
RJF pmax pmax
comp=Z,25nm,1.1s

RJF Les Rejaudoux 67.01 310 *eP* **P 04 39 35.3 +0.7**
comp=Z,25nm,1.1s

PMG Port Moresby 67.12 123 *eP* **P 04 39 35.3 -0.3**
comp=Z,41nm,1.4s

MFF Saint Martin d 67.34 312 *eP* **P 04 39 36.7 +0.1**
comp=Z,52nm,1.4s

MFF Saint Martin d 67.34 312 *eP* **P 04 39 36.7 +0.1**
MFF pmax pmax
comp=Z,52nm,1.4s

MFF Saint Martin d 67.34 312 *eP* **P 04 39 36.7 +0.1**
comp=Z,52nm,1.4s

RSO Redoubt South 67.42 30 *eP* **P 04 39 37.4 +0.2**
MTLF Montolieu 67.59 308 *eP* **P 04 39 38.6 +0.3**
comp=Z,9.5nm,1.2s

MTLF Montolieu 67.59 308 *eP* **P 04 39 38.6 +0.3**
MTLF pmax pmax
comp=Z,10.0nm,1.2s

MTLF Montolieu 67.59 308 *eP* **P 04 39 38.6 +0.3**
comp=Z,9.5nm,1.2s

LFF La Frestale 67.67 310 *eP* **P 04 39 39.4 +0.7**
comp=Z,37nm,1.0s

LFF La Frestale 67.67 310 *eP* **P 04 39 39.4 +0.7**
LFF pmax pmax
comp=Z,37nm,1.0s

LFF La Frestale 67.67 310 *eP* **P 04 39 39.4 +0.7**
comp=Z,37nm,1.0s

SGMF Saint Gilles 67.87 314 *eP* **P 04 39 40.2 +0.3**
comp=Z,60nm,1.2s

SGMF Saint Gilles 67.87 314 *eP* **P 04 39 40.2 +0.3**
SGMF pmax pmax
comp=Z,60nm,1.2s

SGMF Saint Gilles 67.87 314 *eP* **P 04 39 40.2 +0.3**
comp=Z,60nm,1.2s

WRAB Tennant Creek 67.88 141 *eP* **P 04 39 38.5 -1.7**
WRAB pmax pmax
comp=Z,17nm,1.1s

WRAB Tennant Creek 67.88 141 *eP* **P 04 39 38.5 -1.7**
comp=Z,16nm,1.1s

WRA Warramunga Arr 67.88 141 P **P 04 39 39.2 -1.0**
WRA Warramunga Arr 67.88 141 P **P 04 39 39.2 -1.0**
comp=Z,8.1nm,0.9s,baz=339,slow=6.6,SNR=31

PMR Palmer 68.11 28 *eP* **P 04 39 40.3 -0.9**
PMR pmax pmax
comp=Z,21nm,1.4s

PMR Palmer 68.11 28 *eP* **P 04 39 40.3 -0.9**
comp=Z,21nm,1.4s

ROSF Rostrenen 68.23 315 *eP* **P 04 39 42.3 +0.1**
ROSF Rostrenen 68.23 315 *eP* **P 04 39 42.3 +0.1**
ROSF Rostrenen 68.23 315 *eP* **P 04 39 42.3 +0.1**
SML Sawmill 68.26 27 *eP* **P 04 39 42.3 +0.1**
SML pmax pmax
comp=Z,21nm,1.5s

SML Sawmill 68.26 27 *eP* **P 04 39 42.3 +0.1**
comp=Z,21nm,1.5s

QUIF Quistinic 68.39 314 *eP* **P 04 39 43.6 +0.4**
QUIF Quistinic 68.39 314 *eP* **P 04 39 43.6 +0.4**
QUIF Quistinic 68.39 314 *eP* **P 04 39 43.6 +0.4**
EGAK Eagle 68.67 23 *eP* **P 04 39 44.7 +0.1**
comp=Z,22nm,1.3s

KDAK Kodiak Island 69.12 32 P **P 04 39 45.9 -1.7**
KDAK Kodiak Island 69.12 32 P **P 04 39 45.9 -1.7**
comp=Z,8.2nm,0.7s,baz=326,slow=15,SNR=3.2

ETSF Etsaut 69.55 309 *eP* **P 04 39 51.2 +0.6**
comp=Z,18nm,1.1s

ETSF Etsaut 69.55 309 *eP* **P 04 39 51.2 +0.6**
ETSF pmax pmax
comp=Z,18nm,1.1s

ETSF Etsaut 69.55 309 *eP* **P 04 39 51.2 +0.6**
comp=Z,18nm,1.1s

DIV Divide 69.64 27 *eP* **P 04 39 50.8 -0.1**
comp=Z,14nm,0.8s

DAWY Dawson 69.71 23 *eP* **P 04 39 51.0 -0.3**
AS31 Alice Springs 70.81 143 *eP* **P 04 39 57.8 -0.6**
ASAR Alice Springs 70.81 143 P **P 04 39 57.7 -0.7**
ASAR Alice Springs 70.81 143 P **P 04 39 57.7 -0.7**
comp=Z,5.6nm,0.8s,baz=329,slow=6.0,SNR=45

HYT Haines Junctio 72.70 24 *eP* **P 04 40 09.6 +0.1**
ESDC Sonseca Array 73.48 307 P **P 04 40 14.9 +0.6**
ESDC Sonseca Array 73.48 307 P **P 04 40 14.9 +0.6**
comp=Z,3.1nm,0.7s,baz=53,slow=5.9,SNR=21

CTA Charters Tower 74.58 131 P **P 04 40 20.1 -0.8**
CTA Charters Tower 74.58 131 P **P 04 40 20.1 -0.8**
comp=Z,8.8nm,1.1s,baz=318,slow=6.5,SNR=6.3

CTAO Charters Tower 74.58 131 *eP* **P 04 40 20.1 -0.8**
CTAO pmax pmax
comp=Z,14nm,1.3s

CTAO Charters Tower 74.58 131 *eP* **P 04 40 20.1 -0.8**
comp=Z,14nm,1.3s

TAM Tamanrasset 76.56 288 *eP* **P 04 40 32.9 +0.4**
TAM pmax pmax
comp=Z,3.0nm,1.0s

TAM Tamanrasset 76.56 288 *eP* **P 04 40 32.9 +0.4**
comp=Z,3.5nm,1.0s

EVO Evora 76.69 308 ⇑*i*P **P 04 40 33.8 +1.0**
comp=Z,19nm,1.0s

EVOP Sao Brissos 76.76 309 ⇑*i*P **P 04 40 33.8 +0.6**
EVOP pmax pmax
comp=Z,19nm,1.0s

EVOP Sao Brissos 76.76 309 ⇑*i*P **P 04 40 33.8 +0.6**
comp=Z,19nm,1.0s

YKA Yellowknife Ar 77.25 14 P **P 04 40 34.3 -1.2**
YKA Yellowknife Ar 77.25 14 P **P 04 40 34.3 -1.2**
comp=Z,3.7nm,1.1s,baz=337,slow=5.5,SNR=14

MDT Midelt 77.94 302 P **P 04 40 40.4 +0.3**
MDT Midelt 77.94 302 P **P 04 40 40.4 +0.3**
comp=Z,4.3nm,1.0s,baz=38,slow=4.3,SNR=5.3

STKA Stephens Creek 81.38 142 *eP* **P 04 40 57.4 -1.0**
comp=Z,8.2nm,1.8s

STKA Stephens Creek 81.38 142 P **P 04 40 56.8 -1.5**
comp=Z,4.0nm,0.6s,baz=339,slow=7.5,SNR=14

EIDS Eidsvold 81.47 131 *eP* **P 04 40 58.9 -0.1**
comp=Z,30nm,1.7s

LSZ Lusaka 82.30 244 *eP* **P 04 41 04.0 +0.2**
comp=Z,4.0nm,0.9s

TORD Torodi Ar. Bea 85.19 283 P **P 04 41 18.2 -0.3**
TORD Torodi Ar. Bea 85.19 283 P **P 04 41 18.2 -0.3**
comp=Z,3.3nm,0.9s,baz=45,slow=4.5,SNR=15

EDM Edmonton 86.05 17 *eP* **P 04 41 21.9 -0.3**
EDM Edmonton 86.05 17 *eP* **P 04 41 21.9 -0.3**
FFC Flin Flon 86.73 10 *eP* **P 04 41 24.4 -1.1**
FFC pmax pmax
comp=Z,31nm,1.4s

FFC Flin Flon 86.73 10 *eP* **P 04 41 24.4 -1.1**
comp=Z,31nm,1.4s

NEW	**Newport**	**89.60**	**21**	*e*P	**P**	**04 41 39.8**	**+0.4**
	comp=Z,8.5nm,1.3s						
BLMT	**Blacktail Moun**	**90.59**	**20**	*e*P	**P**	**04 41 44.6**	**+0.4**
BSMT	**Bassoo Peak**	**90.63**	**20**	*e*P	**P**	**04 41 44.5**	**+0.2**
	comp=Z,4.0nm,1.1s						
YBMT	**Yellow Bay**	**90.82**	**19**	*e*P	**P**	**04 41 44.8**	**-0.4**
	comp=Z,11nm,1.2s						
JTMT	**Jette**	**90.86**	**20**	*e*P	**P**	**04 41 45.1**	**-0.3**
SWMT	**Swartz Lake**	**91.15**	**20**	*e*P	**P**	**04 41 46.9**	**+0.2**
SLMT	**Seeley Lake**	**91.53**	**19**	*e*P	**P**	**04 41 48.2**	**-0.3**
MSO	**Missoula**	**91.79**	**20**	*e*P	**P**	**04 41 49.9**	**+0.2**
	comp=Z,10nm,1.4s						
DGMT	**Dagmar**	**92.44**	**13**	*e*P	**P**	**04 41 52.4**	**-0.1**
TSUM	**Tsumeb**	**92.53**	**248**	*e*P	**P**	**04 41 52.5**	**-0.9**
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**93.21**	**236**	*e*P	**P**	**04 41 55.1**	**-1.3**
	comp=Z,7.6nm,1.0s						
DBIC	**Dimbokro**	**94.23**	**282**	P	**P**	**04 42 00.7**	**-0.6**
DBIC	**Dimbokro**	**94.23**	**282**	P	**P**	**04 42 00.7**	**-0.6**
	comp=Z,4.7nm,1.0s,baz=177,slow=22,SNR=4.2						
WVOR	**Wild Horse Val**	**94.37**	**25**	*e*P	**P**	**04 42 01.3**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WVOR	**Wild Horse Val**	**94.37**	**25**	*e*P	**P**	**04 42 01.3**	**-0.4**
	comp=Z,3.0nm,1.1s						
LIC	**Lamto**	**94.64**	**281**	*e*P	**P**	**04 42 02.4**	**-0.8**
LIC	**Lamto**	**94.64**	**281**	*e*P	**P**	**04 42 02.4**	**-0.8**
IMW	**Indian Meadow**	**95.30**	**19**	*e*P	**P**	**04 42 06.7**	**+0.6**
	comp=Z,3.8nm,1.1s						
PDAR	**Pinedale Array**	**96.72**	**18**	P	**P**	**04 42 12.3**	**-0.1**
PDAR	**Pinedale Array**	**96.72**	**18**	P	**P**	**04 42 12.3**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=68,slow=3.2,SNR=3.1						
NVAR	**Mina Array Bea**	**98.06**	**26**	P	**P**	**04 42 18.5**	**-0.1**
NVAR	**Mina Array Bea**	**98.06**	**26**	P	**P**	**04 42 18.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=305,slow=3.2,SNR=3.2						
DUG	**Dugway**	**98.22**	**22**	*e*P	Pdif	04 42 20.1	+0.8
DUG	**Dugway**	**98.22**	**22**	*e*P	Pdif	04 42 20.1	+0.8
CCUT	**Cedar City**	**100.49**	**23**	*e*Pdif	**Pdif**	**04 42 27.5**	**-2.0**
VNDA	**Vanda**	**121.61**	**166**	*e*PKPdf	**PKPdf**	**04 47 33.0**	**-1.2**
VNDA	**Vanda**	**121.61**	**166**	PKPdf	**PKPdf**	**04 47 32.9**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=312,slow=4.7,SNR=6.0						
QSPA	**South Pole Qui**	**127.43**	**180**	*e*PKPdf	**PKPdf**	**04 47 44.3**	**-1.3**
SNAA	**Sanae**	**127.91**	**203**	*e*PKPdf	**PKPdf**	**04 47 46.2**	**-0.2**
SAML	**Samuel**	**145.62**	**321**	*e*PKPbc	**PKPdf**	**04 48 20.2**	**-0.5**
LPAZ	**La Paz**	**154.35**	**322**	*e*PKPdf	**PKPdf**	**04 48 34.3**	**-0.7**
CPUP	**Villa Florida**	**154.56**	**289**	*e*PKPbc	**PKPbc**	**04 48 41.5**	**-1.2**
CPUP	**Villa Florida**	**154.56**	**289**	PKPbc	**PKPbc**	**04 48 41.5**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=52,slow=5.6,SNR=5.4						
TRQA	**Tornquist**	**162.35**	**262**	*e*PKPab	**PKPab**	**04 49 30.1**	**-0.7**

ISCJB ***28*** *04:39:30.2±0.8, 34°.82N±0°.04×26°.88E±0°.02, h2km±6km, mb3.6/7, Error ellipse: s-maj=6.0km s-min=3.1km az=176.4*
CSEM ***28*** *04:39:31.0±0.3, 34°.79N×26°.83E, h2km, ML3.5/1, Error ellipse: s-maj=9.1km s-min=3.3km az=173.0*
ATH ***28*** *04:39:31.2, 34°.89N×26°.86E, h10km±2km, MD3.7/14*
THE ***28*** *04:39:32.2, 34°.84N×26°.75E, h0km±1km, ML3.5/1, Error ellipse: s-maj=4.2km s-min=1.3km az=166.0*
DDA ***28*** *04:39:33.2, 34°.83N×26°.78E, h17km, MD3.6*
ISK ***28*** *04:39:33.7, 34°.83N×26°.98E, h44km, ML3.6*
IDC ***28*** *04:39:39.0±2.4, 34°.81N×26°.95E, h64km±27km, mb3.3/5, mb1 3.4/10, mb1mx3.3/30, mbtmp3.2/10, ML3.4/4, Error ellipse: s-maj=21.1km s-min=18.1km az=178.0*
ISC 28 04:39:31.7±1.5, 34°.83N±0°.05×26°.83E±0°.03, h4km±10km, n154, σ1§28/168, mb3.9/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.58**	**300**	P	**Pg**	**04 39 41.8**	**-1.0**
ZKR				S	**Sg**	**04 39 50.6**	**+0.3**
ZKR	**Zakros**	**0.58**	**300**	*e*PB	**Pg**	**04 39 42.1**	**-0.7**
ZKR				*e*SB	**Sg**	**04 39 50.1**	**-0.2**
ZKR	**Zakros**	**0.58**	**300**	P	**Pg**	**04 39 41.8**	**-1.0**
ZKR	**Zakros**	**0.58**	**300**	*e*Pb	**Pg**	**04 39 42.1**	**-0.7**
ZKR				*e*Sb	**Sg**	**04 39 50.1**	**-0.2**
KARP	**Karpathos**	**0.77**	**21**	*e*PB	Pb	04 39 43.8	-3.8
KARP				*e*SB	**Sb**	**04 39 54.6**	**-3.9**
KARP	**Karpathos**	**0.77**	**21**	*e*Pb	Pb	04 39 43.8	-3.8
KARP				*e*Sb	**Sb**	**04 39 54.6**	**-3.9**
NPS	**Neapolis**	**1.09**	**294**	P	**Pb**	**04 39 52.0**	**-1.1**
NPS				S	**Sg**	**04 40 07.3**	**+0.7**
NPS	**Neapolis**	**1.09**	**294**	*e*PN	**Pb**	**04 39 52.2**	**-0.9**
NPS	**Neapolis**	**1.09**	**294**	P	**Pb**	**04 39 52.0**	**-1.1**
NPS				S	**Sg**	**04 40 07.3**	**+0.7**
LAST	**Lasithi**	**1.16**	**287**	P	**Pn**	**04 39 52.6**	**-2.1**
LAST				S	**Sg**	**04 40 09.3**	**+0.4**
LAST	**Lasithi**	**1.16**	**287**	*e*PB	**Pn**	**04 39 53.2**	**-1.6**
LAST	**Lasithi**	**1.16**	**287**	P	**Pn**	**04 39 52.6**	**-2.1**
LAST	**Lasithi**	**1.16**	**287**	*e*Pb	**Pn**	**04 39 53.2**	**-1.6**
LAST				S	**Sg**	**04 40 09.3**	**+0.4**
IDI	**Anoyia**	**1.66**	**287**	P	**Pn**	**04 39 59.7**	**-1.9**
IDI	**Anoyia**	**1.66**	**287**	*e*PB	**Pb**	**04 40 02.9**	**+0.1**
IDI	**Anoyia**	**1.66**	**287**	P	**Pn**	**04 39 59.7**	**-1.9**
IDI	**Anoyia**	**1.66**	**287**	*e*Pb	**Pb**	**04 40 02.9**	**+0.1**
SIVA	**Sivas**	**1.67**	**277**	P	**Pn**	**04 39 59.4**	**-2.3**
SIVA	**Sivas**	**1.67**	**277**	*e*PB	**Pb**	**04 40 03.3**	**+0.3**
SIVA	**Sivas**	**1.67**	**277**	P	**Pn**	**04 39 59.4**	**-2.3**
SIVA	**Sivas**	**1.67**	**277**	*e*Pb	**Pb**	**04 40 03.3**	**+0.3**
ARG	**Arkhangelos**	**1.74**	**37**	P	**Pn**	**04 40 02.9**	**+0.2**
ARG				S	**Sn**	**04 40 25.8**	**+0.4**
ARG	**Arkhangelos**	**1.74**	**37**	*e*PB	**Pn**	**04 40 02.9**	**+0.2**
ARG				*e*SB	**Sb**	**04 40 26.5**	**0.0**
ARG	**Arkhangelos**	**1.74**	**37**	P	**Pn**	**04 40 02.9**	**+0.2**
ARG				S	**Sn**	**04 40 25.8**	**+0.4**
ARG				*e*Sb	**Sb**	**04 40 26.5**	**0.0**
SANT	**Santorini**	**1.90**	**324**	P	**Pn**	**04 40 03.8**	**-1.2**
SANT				S	**Sb**	**04 40 29.0**	**-2.1**
SANT	**Santorini**	**1.90**	**324**	*e*PN	**Pn**	**04 40 04.6**	**-0.4**
SANT				*e*SN	**Sb**	**04 40 29.4**	**-1.7**
SANT	**Santorini**	**1.90**	**324**	P	**Pn**	**04 40 03.8**	**-1.2**
SANT	**Santorini**	**1.90**	**324**	*e*Pn	**Pn**	**04 40 04.6**	**-0.4**
SANT				S	**Sb**	**04 40 29.0**	**-2.1**
THR3	**Thira Island,**	**1.96**	**324**	P	**Pn**	**04 40 05.5**	**-0.2**
THR3	**Thira Island,**	**1.96**	**324**	P	**Pn**	**04 40 05.5**	**-0.2**
DAT	**Datca**	**1.99**	**18**	*e*PN	**Pn**	**04 40 05.8**	**-0.5**
DAT				*e*SN	**Sn**	**04 40 27.9**	**-3.9**
DAT	**Datca**	**1.99**	**18**	*e*Pn	**Pn**	**04 40 05.8**	**-0.5**
DAT				*e*Sn	**Sn**	**04 40 27.9**	**-3.9**
VAM	**Vamos**	**2.23**	**286**	P	**Pn**	**04 40 09.0**	**-0.4**
VAM	**Vamos**	**2.23**	**286**	*e*PG	**Pb**	**04 40 12.6**	**0.0**
VAM	**Vamos**	**2.23**	**286**	P	**Pn**	**04 40 09.0**	**-0.4**
VAM	**Vamos**	**2.23**	**286**	*e*Pg	**Pb**	**04 40 12.6**	**0.0**
BODT	**Bodrum**	**2.26**	**10**	*e*PN	**Pn**	**04 40 09.8**	**-0.1**
BODT	**Bodrum**	**2.26**	**10**	*e*Pn	**Pn**	**04 40 09.8**	**-0.1**
BDRM	**Kayabasi**	**2.29**	**12**	*i* P	**Pn**	**04 40 09.4**	**-0.9**
BDRM				*i* S	**Sb**	**04 40 40.2**	**-2.0**
BDRM	**Kayabasi**	**2.29**	**12**	*i* P	**Pn**	**04 40 09.4**	**-0.9**
BDRM				*i* S	**Sb**	**04 40 40.2**	**-2.0**
KARN	**Karanos**	**2.45**	**284**	*e*PG	**Pb**	**04 40 15.7**	**-0.7**
KARN	**Karanos**	**2.45**	**284**	*e*Pg	**Pb**	**04 40 15.7**	**-0.7**
APE	**Apeiranthos**	**2.47**	**335**	*e*PN	**Pn**	**04 40 13.2**	**+0.4**
APE	**Apeiranthos**	**2.47**	**335**	P	**Pn**	**04 40 11.6**	**-1.2**
APE				S	**Sn**	**04 40 43.1**	**-0.4**
APE	**Apeiranthos**	**2.47**	**335**	*e*PB	**Pn**	**04 40 12.5**	**-0.3**
APE	**Apeiranthos**	**2.47**	**335**	P	**Pn**	**04 40 11.6**	**-1.2**
APE	**Apeiranthos**	**2.47**	**335**	*e*Pb	**Pn**	**04 40 12.5**	**-0.3**
APE	**Apeiranthos**	**2.47**	**335**	*e*Pn	**Pn**	**04 40 13.2**	**+0.4**
APE				S	**Sn**	**04 40 43.1**	**-0.4**
DALY	**Dalyan (Mu¨la**	**2.48**	**36**	*e*PN	**Pn**	**04 40 12.2**	**-0.6**
DALY	**Dalyan (Mu¨la**	**2.48**	**36**	*e*Pn	**Pn**	**04 40 12.2**	**-0.6**
TURN	**Turunc**	**2.50**	**35**	*i* P	**Pn**	**04 40 10.2**	**-2.9**
TURN				*i* S	**Sn**	**04 40 41.8**	**-2.3**
TURN	**Turunc**	**2.50**	**35**	*i* P	**Pn**	**04 40 10.2**	**-2.9**
TURN				*i* S	**Sn**	**04 40 41.8**	**-2.3**
FETY	**Fethiye**	**2.57**	**45**	*e*PN	**Pn**	**04 40 13.6**	**-0.6**
FETY	**Fethiye**	**2.57**	**45**	*e*Pn	**Pn**	**04 40 13.6**	**-0.6**
MLSB	**Milas**	**2.58**	**17**	*e*PN	**Pn**	**04 40 14.1**	**-0.2**
MLSB	**Milas**	**2.58**	**17**	*e*Pn	**Pn**	**04 40 14.1**	**-0.2**
YER	**Yerkesik**	**2.59**	**27**	*e*PN	**Pn**	**04 40 14.1**	**-0.3**
YER	**Yerkesik**	**2.59**	**27**	*e*Pn	**Pn**	**04 40 14.1**	**-0.3**
KSL	**Kastellorizon**	**2.61**	**59**	*e*PB	**Pn**	**04 40 14.5**	**-0.1**
AKAS	**Kas**	**2.66**	**57**	*i* P	**Pn**	**04 40 15.7**	**+0.2**
AKAS	**Kas**	**2.66**	**57**	*i* P	**Pn**	**04 40 15.7**	**+0.2**
AYDN	**Tasoluk**	**2.95**	**16**	*i* P	**Pn**	**04 40 19.6**	**+0.2**
AYDN	**Tasoluk**	**2.95**	**16**	*i* P	**Pn**	**04 40 19.6**	**+0.2**
ANKY	**Antikythira Is**	**3.06**	**291**	*e*PN	**Pn**	**04 40 22.0**	**+1.1**
ANKY	**Antikythira Is**	**3.06**	**291**	*e*Pn	**Pn**	**04 40 22.0**	**+1.1**
GOLH	**Golhisar**	**3.27**	**42**	*i* P	**Pn**	**04 40 24.7**	**+0.9**
GOLH	**Golhisar**	**3.27**	**42**	*i* P	**Pn**	**04 40 24.7**	**+0.9**
DNZL	**Cakiroluk**	**3.37**	**31**	*i* P	**Pn**	**04 40 25.4**	**+0.1**
DNZL	**Cakiroluk**	**3.37**	**31**	*i* P	**Pn**	**04 40 25.4**	**+0.1**
KYTH	**Kithira**	**3.42**	**296**	*e*PN	**Pn**	**04 40 26.6**	**+0.9**
KYTH	**Kithira**	**3.42**	**296**	*e*Pn	**Pn**	**04 40 26.6**	**+0.9**
DENT	**Denizli**	**3.42**	**31**	*e*PN	**Pn**	**04 40 26.4**	**+0.6**
DENT	**Denizli**	**3.42**	**31**	*e*Pn	**Pn**	**04 40 26.4**	**+0.6**
VLI	**Veliai**	**3.68**	**302**	P	**Pn**	**04 40 29.2**	**-0.2**
VLI	**Veliai**	**3.68**	**302**	*e*PN	**Pn**	**04 40 30.2**	**+0.8**
VLI	**Veliai**	**3.68**	**302**	P	**Pn**	**04 40 29.2**	**-0.2**
VLI	**Veliai**	**3.68**	**302**	*e*Pn	**Pn**	**04 40 30.2**	**+0.8**
MANT	**Manisa**	**3.91**	**20**	*i* P	**Pn**	**04 40 33.7**	**+0.9**
MANT	**Manisa**	**3.91**	**20**	*i* P	**Pn**	**04 40 33.7**	**+0.9**
KULA	**Kula-Manisa**	**3.96**	**21**	*e*PN	**Pn**	**04 40 32.9**	**-0.5**
KULA	**Kula-Manisa**	**3.96**	**21**	*e*Pn	**Pn**	**04 40 32.9**	**-0.5**
NAIG	**Nisos Aigina**	**3.98**	**318**	*e*PN	**Pn**	**04 40 33.9**	**+0.4**
NAIG	**Nisos Aigina**	**3.98**	**318**	*e*Pn	**Pn**	**04 40 33.9**	**+0.4**
KHL	**Karahalli**	**4.11**	**31**	*e*PN	**Pn**	**04 40 36.2**	**+0.9**
KHL	**Karahalli**	**4.11**	**31**	*e*Pn	**Pn**	**04 40 36.2**	**+0.9**
AKS	**Akhisar**	**4.12**	**11**	*e*PN	**Pn**	**04 40 35.9**	**+0.5**
AKS	**Akhisar**	**4.12**	**11**	*e*Pn	**Pn**	**04 40 35.9**	**+0.5**
DYR	**Agios Nikonas**	**4.13**	**299**	*e*PN	Pn	04 40 38.4	+2.8
DYR	**Agios Nikonas**	**4.13**	**299**	*e*Pn	Pn	04 40 38.4	+2.8
KHAL	**Karahalli**	**4.13**	**30**	*i* P	**Pn**	**04 40 35.0**	**-0.7**
KHAL	**Karahalli**	**4.13**	**30**	*i* P	**Pn**	**04 40 35.0**	**-0.7**
ISP	**Isparta**	**4.22**	**44**	*e*PN	**Pn**	**04 40 37.4**	**+0.5**
ISP	**Isparta**	**4.22**	**44**	*e*Pn	**Pn**	**04 40 37.4**	**+0.5**
SUTC	**Sutluce-Ispart**	**4.29**	**51**	*e*PN	**Pn**	**04 40 37.0**	**-0.9**
SUTC	**Sutluce-Ispart**	**4.29**	**51**	*e*Pn	**Pn**	**04 40 37.0**	**-0.9**
GUR	**Goura**	**4.77**	**312**	*e*PN	**Pn**	**04 40 45.5**	**+1.1**
GUR	**Goura**	**4.77**	**312**	*e*Pn	**Pn**	**04 40 45.5**	**+1.1**
AOS	**Alonnisos**	**4.94**	**332**	*e*PN	**Pn**	**04 40 48.5**	**+1.9**
AOS	**Alonnisos**	**4.94**	**332**	*e*Pn	**Pn**	**04 40 48.5**	**+1.9**
DURS	**Dursunbey**	**4.94**	**15**	*i* P	**Pn**	**04 40 46.3**	**-0.5**
DURS	**Dursunbey**	**4.94**	**15**	*i* P	**Pn**	**04 40 46.3**	**-0.5**
BALY	**Balya**	**4.94**	**7**	*i* P	**Pn**	**04 40 47.0**	**+0.2**
BALY	**Balya**	**4.94**	**7**	*i* P	**Pn**	**04 40 47.0**	**+0.2**
DSF	**Desfina**	**4.97**	**317**	P	**Pn**	**04 40 46.2**	**-1.0**
DSF	**Desfina**	**4.97**	**317**	P	**Pn**	**04 40 46.2**	**-1.0**
LEF	**Lefka**	**4.99**	**85**	*e*PN	**Pn**	**04 40 45.7**	**-1.6**
LEF	**Lefka**	**4.99**	**85**	*e*Pn	**Pn**	**04 40 45.7**	**-1.6**
HDMB	**Hadim**	**5.06**	**63**	*e*PN	**Pn**	**04 40 47.8**	**-0.8**
HDMB	**Hadim**	**5.06**	**63**	*e*Pn	**Pn**	**04 40 47.8**	**-0.8**
KALE	**Kalithea**	**5.18**	**315**	P	**Pn**	**04 40 49.7**	**-0.4**
KALE	**Kalithea**	**5.18**	**315**	P	**Pn**	**04 40 49.7**	**-0.4**
GONE	**Gonen-Balikesi**	**5.25**	**7**	*e*PN	**Pn**	**04 40 51.9**	**+0.9**
GONE	**Gonen-Balikesi**	**5.25**	**7**	*e*Pn	**Pn**	**04 40 51.9**	**+0.9**
CSS	**Prodhromos**	**5.35**	**87**	*e*PN	**Pn**	**04 40 51.4**	**-0.9**
CSS	**Prodhromos**	**5.35**	**87**	*e*Pn	**Pn**	**04 40 51.4**	**-0.9**
KONT	**Konya--Tatoy**	**5.44**	**54**	*e*PN	**Pn**	**04 40 54.2**	**+0.6**
KONT	**Konya--Tatoy**	**5.44**	**54**	*e*Pn	**Pn**	**04 40 54.2**	**+0.6**
KIZT	**Kizilcal**	**5.72**	**44**	*e*PN	**Pn**	**04 40 58.3**	**+0.7**
KIZT	**Kizilcal**	**5.72**	**44**	*e*Pn	**Pn**	**04 40 58.3**	**+0.7**
IKL	**Isikli**	**5.77**	**74**	*e*PN	**Pn**	**04 40 58.0**	**0.0**
IKL	**Isikli**	**5.77**	**74**	*e*Pn	**Pn**	**04 40 58.0**	**0.0**
BRTR	**Keskin Array B**	**7.30**	**46**	P	**Pn**	**04 41 22.1**	**+2.8**
	0.1nm,0.3s,baz=210,slow=14,SNR=4.5						
MMAI	**Mount Meron Ar**	**7.35**	**102**	S	**Sn**	**04 42 42.2**	**-1.7**
	1.3nm,0.3s,baz=253,slow=18,SNR=2.2						
EIL	**Elat**	**8.59**	**125**	P	Pn	04 41 40.7	+3.9
	0.2nm,0.3s,baz=313,slow=17,SNR=4.7						
EIL				S	**Sn**	**04 43 11.4**	**-2.7**
	1.1nm,0.3s,baz=329,slow=17,SNR=6.5						
ASF	**Jabal al Asfar**	**8.82**	**105**	P	Pn	04 41 43.3	+3.3
	0.2nm,0.3s,baz=196,slow=15,SNR=3.1						
MLR	**Muntele Rosu**	**10.67**	**357**	P	Pn	04 42 09.7	+4.3
	baz=244,slow=7.6,SNR=3.4						
KBZ	**Khabaz**	**15.27**	**50**	P	**P**	**04 43 14.4**	**+1.4**
	0.1nm,0.3s,baz=270,slow=11,SNR=2.1						
PGF	**Pioggiola**	**15.89**	**304**	*e*P	**P**	**04 43 20.2**	**+0.1**
	13nm,0.9s						
PGF	**Pioggiola**	**15.89**	**304**	*e*P	**P**	**04 43 20.2**	**+0.1**
	13nm,0.9s						
AKASG	**Malin Array Be**	**15.96**	**6**	P	**P**	**04 43 23.6**	**+3.0**
	0.8nm,0.3s,baz=194,slow=11,SNR=2.9						
GERES	**GERESS Array B**	**17.05**	**329**	P	**P**	**04 43 33.3**	**+0.5**
	0.3nm,0.3s,baz=140,slow=13,SNR=4.2						
SBF	**Sospel**	**17.47**	**307**	*e*P	**P**	**04 43 38.9**	**+1.4**
	6.9nm,0.7s						
SBF	**Sospel**	**17.47**	**307**	*e*P	**P**	**04 43 38.9**	**+1.4**
	6.0nm,0.7s						
LPG	**La Plagne**	**18.63**	**311**	*e*P	**Pn**	**04 43 53.4**	**+2.6**
	7.9nm,0.9s						
LPL	**La Plagne**	**18.65**	**311**	*e*P	**Pn**	**04 43 54.0**	**+3.1**
CABF	**La Chapelle**	**19.57**	**313**	*e*P	**Pn**	**04 44 02.6**	**+0.7**
	6.4nm,0.6s						
CABF	**La Chapelle**	**19.57**	**313**	*e*P	**Pn**	**04 44 02.6**	**+0.7**
	6.0nm,0.6s						
PAGF	**Fort de Pagny**	**20.80**	**318**	*e*P	Pn	04 44 15.9	-0.4
PAGF	**Fort de Pagny**	**20.80**	**318**	*e*P	Pn	04 44 15.9	-0.4
SMF	**Signal de Mont**	**20.96**	**311**	*e*P	Pn	04 44 16.6	-1.6
	28nm,1.2s						
SMF	**Signal de Mont**	**20.96**	**311**	*e*P	Pn	04 44 16.6	-1.6
	28nm,1.2s						
LOR	**Lormes**	**21.23**	**313**	*e*P	**P**	**04 44 20.2**	**+1.7**
LOR	**Lormes**	**21.23**	**313**	*e*P	**P**	**04 44 20.2**	**+1.7**
AVF	**Avril sur Loir**	**21.32**	**311**	*e*P	**P**	**04 44 21.8**	**+2.3**
	6.1nm,0.8s						
AVF	**Avril sur Loir**	**21.32**	**311**	*e*P	**P**	**04 44 21.8**	**+2.3**
	6.0nm,0.8s						
SSF	**Saint Saulge**	**21.35**	**312**	*e*P	**P**	**04 44 20.7**	**+0.9**
	18nm,0.9s						
SSF	**Saint Saulge**	**21.35**	**312**	*e*P	**P**	**04 44 20.7**	**+0.9**
	17nm,0.9s						
MFF	**Saint Martin d**	**23.47**	**308**	*e*P	**P**	**04 44 42.1**	**-0.1**
MFF	**Saint Martin d**	**23.47**	**308**	*e*P	**P**	**04 44 42.1**	**-0.1**
ESDC	**Sonseca Array**	**24.91**	**290**	P	**P**	**04 44 56.0**	**+0.2**
	0.1nm,0.2s,baz=80,slow=8.9,SNR=2.9						
AKTO	**Aktyubinsk**	**27.48**	**46**	P	**P**	**04 45 19.2**	**+0.3**
	0.7nm,0.5s,baz=277,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**31.35**	**233**	P	**P**	**04 45 55.1**	**+1.6**
	1.3nm,0.6s,baz=29,slow=9.9,SNR=5.0						
BVAR	**Borovoye Array**	**35.59**	**46**	P	**P**	**04 46 29.8**	**-0.3**
	0.2nm,0.3s,baz=246,slow=6.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**44.25**	**46**	P	**P**	**04 47 40.8**	**-1.2**
	0.7nm,0.4s,baz=250,slow=7.8,SNR=2.8						

IDC ***28*** *04:41:45.0±0.5, 37°.68N×95°.74E, h0km, mb4.1/21, mb1 4.3/25, mb1mx4.2/36, mbtmp4.2/25, ML4.4/4, Error ellipse: s-maj=23.4km s-min=12.0km az=44.0*
ISCJB ***28*** *04:41:44.9±0.3, 37°.69N±0°.04×95°.64E±0°.04, h10km, mb4.3/50, Error ellipse: s-maj=6.3km s-min=4.0km az=19.4*
BJI ***28*** *04:41:45.6, 37°.71N×95°.70E, h7km, mB4.5/3, mb4.5/7, ML4.3/6, Ms3.9/7, Ms7 3.6/8*
NEIC ***28*** *04:41:46.9±0.2, 37°.71N×95°.60E, h10km, mb4.6/15, Error ellipse: s-maj=5.7km s-min=4.2km az=221.0*
MOS ***28*** *04:41:47.5±0.7, 37°.65N×95°.62E, h29km, mb4.6/33, Error ellipse: s-maj=9.7km s-min=5.7km az=120.4*
NNC ***28*** *04:41:52.0±1.0, 38°.19N×95°.00E, h0km, mb4.3, Error ellipse: s-maj=51.8km s-min=9.5km az=50.0*
ISC 28 04:41:47.0±0.4, 37°.73N±0°.05×95°.59E±0°.04, h10km, n168, σ1§17/185, mb4.3/50, 6C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.71**	**62**	Pn	**Pn**	**04 42 47.0**	**+2.4**
GTA				Pg	**Pb**	**04 42 53.5**	**+0.7**
GTA				Sn	**Sn**	**04 43 28.0**	**-0.5**
GTA				Sg	**Sb**	**04 43 38.5**	**+0.5**
GTA				smax	smax		
	comp=N,120nm,0.7s						
GTA				smax	smax		
	comp=E,83nm,1.1s						
GTA				LR	LR		
	comp=N,970nm,6.5s						
GTA				LR	LR		
	comp=E,810nm,6.3s						
GTA				LR	LR		
	comp=Z,720nm,9.4s						
LZH	**Lanzhou**	**6.82**	**101**	Pn	**Pn**	**04 43 27.8**	**+0.6**
LZH				Pg	Pb	04 43 49.8	+4.1
LZH				Sn	**Sn**	**04 44 44.0**	**-1.0**
LZH				Sg	Sg	04 45 16.3	-10
LZH				smax	smax		
	comp=N,150nm,1.0s						
LZH				smax	smax		
	comp=E,120nm,0.8s						
LZH				LR	LR		
	comp=Z,470nm,8.1s						
WMQ	**Urumqi**	**8.53**	**318**	P	**Pn**	**04 43 51.8**	**+1.1**
WMQ				S	**Sn**	**04 45 23.8**	**-3.2**
WMQ				pmax	pmax		
	comp=Z,38nm,0.8s						
LSA	**Lhasa**	**8.82**	**206**	P	**Pn**	**04 43 56.8**	**+1.8**
LSA	**Lhasa**	**8.82**	**206**	*e*P	**Pn**	**04 43 56.0**	**+1.0**
LSA				pmax	pmax		
	comp=Z,12nm,1.0s						
LSA	**Lhasa**	**8.82**	**206**	*e*Pn	**Pn**	**04 43 56.0**	**+1.0**
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**12.83**	**35**	Pn	**Pn**	**04 44 51.3**	**+1.8**
SONM	**Songino Array**	**12.83**	**35**	Pn	**Pn**	**04 44 51.3**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=218,slow=15,SNR=28						
ULN	**Ulaanbaatar**	**13.16**	**36**	*e*Pn	**Pn**	**04 44 55.9**	**+1.9**
	comp=Z,3.2nm,0.6s						
MK31	**Makanchi Array**	**13.36**	**317**	Pn	**Pn**	**04 44 55.7**	**-1.0**
	comp=Z,11nm,0.3s,baz=129,slow=14,SNR=307						
MK31				Sn	**Sn**	**04 47 22.5**	**-2.7**
	comp=Z,9.1nm,0.7s,baz=131,slow=18,SNR=13						
MK31	**Makanchi Array**	**13.36**	**317**	*e*P	**Pn**	**04 44 55.6**	**-1.0**
MK31						04 47 22.5	
MK31				pmax	pmax		
	comp=Z,11nm,0.4s						
MK31				smax	smax		
	comp=Z,9.0nm,0.7s						
MK31	**Makanchi Array**	**13.36**	**317**	*e*Pn	**Pn**	**04 44 55.7**	**-1.0**
MK31				*e*Sn	**Sn**	**04 47 20.4**	**-4.9**
MKAR	**Makanchi Array**	**13.36**	**317**	*i* P	**Pn**	**04 44 55.7**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,23nm,0.5s						
MKAR	**Makanchi Array**	**13.36**	**317**	Pn	**Pn**	**04 44 55.4**	**-1.3**
MKAR				Sn	**Sn**	**04 47 21.3**	**-4.0**
MKAR	**Makanchi Array**	**13.36**	**317**	Pn	**Pn**	**04 44 55.4**	**-1.3**
	comp=Z,7.9nm,0.3s,baz=126,slow=14,SNR=163						
MKAR				Sn	**Sn**	**04 47 21.3**	**-4.0**
	comp=Z,0.7nm,0.3s,baz=130,slow=24,SNR=8.3						
ENH	**Enshi**	**13.71**	**119**	*e*Pn	**Pn**	**04 45 00.2**	**-1.4**
ZAK	**Zakamensk**	**13.79**	**21**	*e*P	**Pn**	**04 45 05.3**	**+2.7**
ZAK				pmax

VSR	Storozhevoye	41.45 308	eP	P	04 49 34.0	+0.3
OBN	Obninsk	42.84 314	eP	P	04 49 45.3	+0.4
OBN			pmax	pmax		
	comp=Z,7.0nm,0.9s					
BR131	Keskin Array S	47.51 293	eP	P	04 50 23.2	+0.7
	comp=Z,3.0nm,0.7s					
BRTR	Keskin Array B	47.51 293	P	P	04 50 23.3	+0.8
BRTR	Keskin Array B	47.51 293	P	P	04 50 23.3	+0.8
	comp=Z,2.4nm,0.6s,baz=98,slow=6.8,SNR=12					
AKASG	Malin Array Be	47.74 308	eP	P	04 50 25.6	+1.7
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.5s					
AKASG	Malin Array Be	47.74 308	P	P	04 50 23.5	-0.4
AKASG	Malin Array Be	47.74 308	P	P	04 50 23.5	-0.4
	comp=Z,1.6nm,0.5s,baz=63,slow=8.6,SNR=4.9					
KIEV	Kiev	47.75 308	eP	P	04 50 24.1	+0.1
KIEV			pmax	pmax		
	comp=Z,2.0nm,0.5s					
KIEV	Kiev	47.75 308	eP	P	04 50 24.1	+0.1
	comp=Z,2.1nm,0.5s					
FINES	FINESS Array B	48.10 323	P	P	04 50 26.7	+0.2
FINES	FINESS Array B	48.10 323	P	P	04 50 26.7	+0.2
	comp=Z,1.8nm,0.6s,baz=92,slow=8.8,SNR=7.7					
ARCES	ARCESS Array B	48.28 334	P	P	04 50 28.2	+0.3
ARCES			PcP	PcP	04 51 54.2	-0.4
ARCES	ARCESS Array B	48.28 334	P	P	04 50 28.2	+0.3
	comp=Z,1.2nm,0.7s,baz=81,slow=8.0,SNR=11					
ARCES			PcP	PcP	04 51 54.2	-0.4
	comp=Z,1.4nm,0.6s,baz=100,slow=3.5,SNR=10.0					
BUR08	Bucovina Ar. S	51.03 305	eP	P	04 50 50.1	+0.9
HFS	Hagfors	54.30 322	P	P	04 51 12.9	-0.2
HFS	Hagfors	54.30 322	P	P	04 51 12.9	-0.2
	comp=Z,2.2nm,0.7s,baz=134,slow=10,SNR=9.1					
MORC	Moravsky Berou	55.22 309	eP	P	04 51 20.3	+0.3
MORC			pmax	pmax		
	comp=Z,2.0nm,0.7s					
MORC	Moravsky Berou	55.22 309	eP	P	04 51 20.3	+0.3
	comp=Z,2.4nm,0.7s					
NB2	NORSAR Subarra	55.24 324	P	P	04 51 19.7	-0.3
	comp=Z,1.3nm,0.5s,baz=71,slow=7.4					
NOA	NORSAR Array B	55.24 324	P	P	04 51 20.0	0.0
NOA	NORSAR Array B	55.24 324	P	P	04 51 20.0	0.0
	comp=Z,1.4nm,0.5s,baz=72,slow=7.2,SNR=7.1					
CLL	Collm	57.41 312	eP	P	04 51 36.0	+0.5
GERES	GERESS Array B	57.90 309	P	P	04 51 40.1	+0.9
GERES	GERESS Array B	57.90 309	P	P	04 51 40.1	+0.9
	comp=Z,0.4nm,0.5s,baz=46,slow=7.6,SNR=4.2					
DAVOX	Davos/Dischmat	61.09 308	P	P	04 52 02.0	+0.7
DAVOX	Davos/Dischmat	61.09 308	P	P	04 52 02.0	+0.7
	comp=Z,4.9nm,0.5s,baz=349,slow=16,SNR=11					
HAU	Haudompre	62.70 311	eP	P	04 52 11.4	-0.6
HAU	Haudompre	62.70 311	eP	P	04 52 11.4	-0.6
HAU	Haudompre	62.70 311	eP	P	04 52 11.4	-0.6
BAIF	Baives	63.02 314	eP	P	04 52 14.0	0.0
BAIF	Baives	63.02 314	eP	P	04 52 14.0	0.0
BAIF	Baives	63.02 314	eP	P	04 52 14.0	0.0
SFTF	Sexfontaines	63.39 312	eP	P	04 52 16.0	-0.5
	comp=Z,9.1nm,0.6s					
SFTF	Sexfontaines	63.39 312	eP	P	04 52 16.0	-0.5
	comp=Z,9.1nm,0.6s					
PGF	Pioggiola	63.55 305	eP	P	04 52 17.8	0.0
	comp=Z,13nm,1.0s					
PGF	Pioggiola	63.55 305	eP	P	04 52 17.8	0.0
PGF			pmax	pmax		
	comp=Z,13nm,1.0s					
PGF	Pioggiola	63.55 305	eP	P	04 52 17.8	0.0
	comp=Z,13nm,1.0s					
LPG	La Plagne	63.61 308	eP	P	04 52 18.5	+0.2
	comp=Z,5.2nm,0.6s					
LPG	La Plagne	63.61 308	eP	P	04 52 18.5	+0.2
LPG			pmax	pmax		
	comp=Z,5.0nm,0.6s					
LPG	La Plagne	63.61 308	eP	P	04 52 18.5	+0.2
	comp=Z,5.2nm,0.6s					
LPL	La Plagne	63.61 308	eP	P	04 52 19.1	+0.8
	comp=Z,4.6nm,0.4s					
LPL	La Plagne	63.61 308	eP	P	04 52 19.1	+0.8
LPL			pmax	pmax		
	comp=Z,5.0nm,0.4s					
LPL	La Plagne	63.61 308	eP	P	04 52 19.1	+0.8
	comp=Z,4.6nm,0.4s					
BNI	Bardonecchia	63.86 308	eP	P	04 52 20.1	+0.2
BNI			pmax	pmax		
	comp=Z,2.0nm,0.7s					
BNI	Bardonecchia	63.86 308	eP	P	04 52 20.1	+0.2
	comp=Z,2.2nm,0.7s					
SBF	Sospel	63.94 306	eP	P	04 52 20.0	-0.3
	comp=Z,9.5nm,0.6s					
SBF	Sospel	63.94 306	eP	P	04 52 20.0	-0.3
SBF			pmax	pmax		
	comp=Z,10.0nm,0.6s					
SBF	Sospel	63.94 306	eP	P	04 52 20.0	-0.3
	comp=Z,9.5nm,0.6s					
MBDF	Montbardon	63.95 308	eP	P	04 52 19.5	-1.0
MBDF	Montbardon	63.95 308	eP	P	04 52 19.5	-1.0
MBDF	Montbardon	63.95 308	eP	P	04 52 19.5	-1.0
COLD	Coldfoot	64.23 23	eP	P	04 52 22.0	+0.2
	comp=Z,4.0nm,0.9s					
ORIF	Oris-en-Rattie	64.42 308	eP	P	04 52 23.6	+0.1
	comp=Z,5.3nm,0.6s					
ORIF	Oris-en-Rattie	64.42 308	eP	P	04 52 23.6	+0.1
ORIF			pmax	pmax		
	comp=Z,5.0nm,0.6s					
ORIF	Oris-en-Rattie	64.42 308	eP	P	04 52 23.6	+0.1
	comp=Z,5.3nm,0.6s					
EKA	Eskdalemuir Ar	64.45 321	P	P	04 52 23.4	+0.1
EKA	Eskdalemuir Ar	64.45 321	P	P	04 52 23.4	+0.1
	comp=Z,0.5nm,0.4s,baz=60,slow=5.8,SNR=3.5					
FRF	La Foret Royal	64.59 306	eP	P	04 52 23.8	-0.7
FRF	La Foret Royal	64.59 306	eP	P	04 52 23.8	-0.7
FRF	La Foret Royal	64.59 306	eP	P	04 52 23.8	-0.7
LMR	La Mourre	64.78 306	eP	P	04 52 25.2	-0.5
	comp=Z,3.5nm,0.5s					
LMR	La Mourre	64.78 306	eP	P	04 52 25.2	-0.5
LMR			pmax	pmax		
	comp=Z,4.0nm,0.5s					
LMR	La Mourre	64.78 306	eP	P	04 52 25.2	-0.5
	comp=Z,3.5nm,0.5s					
SMF	Signal de Mont	64.85 310	eP	P	04 52 25.5	-0.6
SMF	Signal de Mont	64.85 310	eP	P	04 52 25.5	-0.6
SMF	Signal de Mont	64.85 310	eP	P	04 52 25.5	-0.6
BPAW	Bear Paw Mtn.	65.86 26	eP	P	04 52 31.1	-1.3
	comp=Z,4.0nm,0.8s					
LASF	Ste Croix	66.10 308	eP	P	04 52 34.2	-0.1
LASF	Ste Croix	66.10 308	eP	P	04 52 34.2	-0.1
LDF	La Druitiere	66.21 314	eP	P	04 52 34.1	-0.8
	comp=Z,5.4nm,0.5s					
LDF	La Druitiere	66.21 314	eP	P	04 52 34.1	-0.8
LDF			pmax	pmax		
	comp=Z,5.0nm,0.5s					
LDF	La Druitiere	66.21 314	eP	P	04 52 34.1	-0.8
	comp=Z,5.4nm,0.5s					
COLA	College	66.44 25	eP	P	04 52 36.3	+0.2
COLA	College	66.44 25	eP	P	04 52 36.3	+0.2
	comp=Z,20nm,0.8s					
GRR	Gorron	66.74 314	eP	P	04 52 37.6	-0.6
	comp=Z,10nm,0.5s					
GRR	Gorron	66.74 314	eP	P	04 52 37.6	-0.6
GRR			pmax	pmax		
	comp=Z,10.0nm,0.5s					
GRR	Gorron	66.74 314	eP	P	04 52 37.6	-0.6
	comp=Z,10nm,0.5s					
ILAR	Eielson Array	66.83 24	P	P	04 52 38.4	-0.2
ILAR	Eielson Array	66.83 24	P	P	04 52 38.4	-0.2
	comp=Z,1.7nm,0.8s,baz=290,slow=5.6,SNR=19					
WRA	Warramunga Arr	67.97 141	P	P	04 52 44.7	-1.6
WRA	Warramunga Arr	67.97 141	P	P	04 52 44.7	-1.6
	comp=Z,2.4nm,0.9s,baz=341,slow=6.7,SNR=12					
PMR	Palmer	68.08 28	eP	P	04 52 46.5	0.0
PMR			pmax	pmax		
	comp=Z,8.0nm,0.9s					
PMR	Palmer	68.08 28	eP	P	04 52 46.5	0.0
	comp=Z,8.5nm,0.9s					
ASAR	Alice Springs	70.91 143	P	P	04 53 03.6	-0.8
ASAR	Alice Springs	70.91 143	P	P	04 53 03.6	-0.8
	comp=Z,1.8nm,0.7s,baz=327,slow=5.8,SNR=15					
ESDC	Sonseca Array	73.38 307	P	P	04 53 19.6	+0.3
ESDC	Sonseca Array	73.38 307	P	P	04 53 19.6	+0.3
	comp=Z,0.6nm,0.4s,baz=41,slow=6.2,SNR=7.1					
FORT	Forrest	74.61 151	eP	P	04 53 27.4	+1.2
	comp=Z,11nm,0.8s					
CTAO	Charters Tower	74.68 131	eP	P	04 53 27.4	+0.5
CTAO			pmax	pmax		
	comp=Z,13nm,1.2s					
CTAO	Charters Tower	74.68 131	eP	P	04 53 27.4	+0.5
	comp=Z,13nm,1.2s					
TAM	Tamanrasset	76.47 288	eP	P	04 53 37.7	+0.2
TAM	Tamanrasset	76.47 288	eP	P	04 53 37.7	+0.2
YKA	Yellowknife Ar	77.20 14	P	P	04 53 40.2	-0.5
YKA	Yellowknife Ar	77.20 14	P	P	04 53 40.2	-0.5
	comp=Z,0.2nm,0.3s,baz=333,slow=5.1,SNR=8.3					
MDT	Midelt	77.85 302	P	P	04 53 46.3	+1.2
MDT	Midelt	77.85 302	P	P	04 53 46.3	+1.2
	comp=Z,1.6nm,1.0s,baz=40,slow=9.6,SNR=2.7					
STKA	Stephens Creek	81.47 142	P	P	04 54 02.7	-1.7
STKA	Stephens Creek	81.47 142	P	P	04 54 02.7	-1.7
	comp=Z,4.4nm,0.7s,baz=324,slow=6.1,SNR=9.0					
TORD	Torodi Ar. Bea	85.11 283	P	P	04 54 23.4	-0.2
TORD	Torodi Ar. Bea	85.11 283	P	P	04 54 23.4	-0.2
	comp=Z,0.7nm,0.7s,baz=42,slow=4.8,SNR=6.7					
DBIC	Dimbokro	94.15 282	P	P	04 55 06.0	-0.5
DBIC	Dimbokro	94.15 282	P	P	04 55 06.0	-0.5
	comp=Z,1.4nm,0.6s,baz=16,slow=7.4,SNR=3.2					
SAML	Samuel	145.52 321	ePKPbc	PKPdf	05 01 25.6	-0.4

*ISCJB **28** 04:46:05.6±0.4, 37.°64N±0.°05×95.°66E±0.°05, h10km, mb4.1/24, Error ellipse: s-maj=7.9km s-min=5.9km az=18.2*
*IDC **28** 04:46:05.9±0.6, 37.°66N×95.°78E, h0km, mb3.9/15, mb1 4.0/19, mb1mx3.9/33, mbtmp3.9/19, ML4.0/4, Error ellipse: s-maj=24.4km s-min=13.6km az=46.0*
*NEIC **28** 04:46:07.4±0.3, 37.°67N×95.°69E, h10km, mb4.4/9, Error ellipse: s-maj=7.7km s-min=4.7km az=46.0*
*BJI **28** 04:46:08.1, 37.°66N×95.°70E, h7km, mb4.0/1, ML3.9/5, Ms3.5/3, Ms7 3.4/2*

ISC 28 04:46:07.4±0.5, 37.°65N±0.°06×95.°60E±0.°05, h10km, n57, σ0.9 94/64, mb4.0/24, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.74	61	Pn	Pn	04 47 05.5	+0.2
GTA				Pg	Pb	04 47 12.8	-0.8
GTA				Sn	Sn	04 47 49.3	-0.2
GTA				Sg	Sb	04 48 01.0	+1.9
GTA				smax	smax		
	comp=N,64nm,0.7s						
GTA				smax	smax		
	comp=E,48nm,0.7s						
GTA				LR	LR		
	comp=N,330nm,5.1s						
GTA				LR	LR		
	comp=E,380nm,6.3s						
SONM	Songino Array	12.89	34	Pn	Pn	04 49 11.2	+0.5
SONM	Songino Array	12.89	34	Pn	Pn	04 49 11.2	+0.5
	comp=E,0.6nm,0.3s,baz=218,slow=16,SNR=7.1						
MK31	Makanchi Array	13.43 317	ePn	Pn	Pn	04 49 17.8	-0.2
MKAR	Makanchi Array	13.43 317	Pn	Pn	Pn	04 49 16.8	-1.2
MKAR				Sn	Sn	04 51 44.3	-2.9
MKAR	Makanchi Array	13.43 317	Pn	Pn	Pn	04 49 16.8	-1.2
	comp=E,1.6nm,0.3s,baz=122,slow=14,SNR=10						
MKAR				Sn	Sn	04 51 44.3	-2.9
	comp=E,0.4nm,0.3s,baz=110,slow=18,SNR=5.7						
TKM2	Tokmak 2	16.13 295	ePn	Pn	Pn	04 49 54.8	+0.4
AAK	Ala-Archa	16.87 294	eP	Pn	Pn	04 50 05.1	+1.3
	comp=E,4.6nm,0.8s						
EKS2	Erkin-Say	17.40 294	eP	P	P	04 50 11.5	-0.1
ZAA0	Zalesovo Array	17.91 339	eP	Pn	Pn	04 50 15.8	-0.6
ZALV	Zalesovo Beam	17.91 339	P	Pn	Pn	04 50 16.7	+0.3
ZALV	Zalesovo Beam	17.91 339	P	Pn	Pn	04 50 16.7	+0.3
	comp=E,0.2nm,0.3s,baz=155,slow=11,SNR=8.6						
CHTO	Chiang Mai	19.00 170	eP	P	P	04 50 28.7	-0.6
	comp=E,2.4nm,0.6s						
CMAR	Chiang Mai Arr	19.35 170	P	Pn	Pn	04 50 34.5	+0.4
CMAR	Chiang Mai Arr	19.35 170	P	Pn	Pn	04 50 34.5	+0.4
	comp=E,0.3nm,0.3s,baz=339,slow=7.9,SNR=5.9						
BVAR	Borovoye Array	23.29 319	P	P	P	04 51 15.8	+0.7
BVAR	Borovoye Array	23.29 319	P	P	P	04 51 15.8	+0.7
	comp=E,1.0nm,0.5s,baz=119,slow=12,SNR=6.0						
BRVK	Borovoye	23.36 319	eP	P	P	04 51 16.3	+0.5
	comp=E,4.4nm,0.9s						
KSAR	Wonju Array Be	25.53 80	P	P	P	04 51 36.0	-0.1
KSRS	Korea Array	25.56 80	P	P	P	04 51 36.0	-0.3
	comp=E,1.7nm,0.6s,baz=269,slow=9.8,SNR=7.4						
ABKAR	Akbulak array	28.11 306	eP	P	P	04 51 59.8	+0.6
	comp=E,0.9nm,0.7s						
AKTO	Aktyubinsk	29.55 308	P	P	P	04 52 12.9	+0.9
AKTO	Aktyubinsk	29.55 308	P	P	P	04 52 12.9	+0.9
	comp=E,2.4nm,0.6s,baz=101,slow=7.5,SNR=10						
KKM	Kota Kinabalu	36.64 144	eP	P	P	04 53 13.9	-0.3
GNI	Garni	39.22 290	eP	P	P	04 53 36.9	+0.9
	comp=E,8.0nm,0.8s						
BRTR	Keskin Array B	47.55 293	P	P	P	04 54 44.5	+1.3
BRTR	Keskin Array B	47.55 293	P	P	P	04 54 44.5	+1.3
	comp=E,1.1nm,0.6s,baz=100,slow=6.7,SNR=6.4						
AKASG	Malin Array Be	47.80 308	P	P	P	04 54 46.0	+1.3
AKASG	Malin Array Be	47.80 308	P	P	P	04 54 46.0	+1.3
	comp=E,0.6nm,0.4s,baz=67,slow=7.1,SNR=3.1						
KIEV	Kiev	47.81 308	eP	P	P	04 54 44.7	-0.1
	comp=E,4.6nm,1.2s						
ARCES	ARCESS Array B	48.36 334	P	P	P	04 54 49.2	+0.3
ARCES			PcP	PcP	PcP	04 56 15.1	-0.2
ARCES	ARCESS Array B	48.36 334	P	P	P	04 54 49.2	+0.3
	comp=E,3.7nm,1.1s,baz=79,slow=6.5,SNR=5.8						
ARCES			PcP	PcP	PcP	04 56 15.1	-0.2
	comp=E,0.6nm,0.7s,baz=91,slow=3.6,SNR=5.3						
KWP	Kalwaria Pacla	52.12 308	eP	P	P	04 55 18.4	+0.7
	comp=E,15nm,1.1s						
HFS	Hagfors	54.37 322	P	P	P	04 55 34.9	+0.9
HFS	Hagfors	54.37 322	P	P	P	04 55 34.9	+0.9
	comp=E,1.5nm,0.7s,baz=113,slow=6.9,SNR=2.7						
NOA	NORSAR Array B	55.31 324	P	P	P	04 55 40.8	-0.1
NOA	NORSAR Array B	55.31 324	P	P	P	04 55 40.8	-0.1
	comp=E,0.8nm,0.7s,baz=72,slow=7.0,SNR=2.7						
GERES	GERESS Array B	57.96 310	P	P	P	04 56 01.4	+1.5
GERES	GERESS Array B	57.96 310	P	P	P	04 56 01.4	+1.5
	comp=E,0.3nm,0.2s,baz=101,slow=5.6,SNR=4.0						
COLD	Coldfoot	64.30 23	eP	P	P	04 56 42.9	+0.3
	comp=E,5.7nm,1.1s						
BPAW	Bear Paw Mtn.	65.92 26	eP	P	P	04 56 52.7	-0.5
	comp=E,5.3nm,1.1s						
COLA	College	66.51 25	eP	P	P	04 56 55.7	-1.1
	comp=E,44nm,1.2s						
ILAR	Eielson Array	66.89 24	P	P	P	04 56 58.8	-0.6
ILAR	Eielson Array	66.89 24	P	P	P	04 56 58.8	-0.6
	comp=E,1.1nm,1.0s,baz=288,slow=4.5,SNR=5.4						
WRA	Warramunga Arr	67.90 141	P	P	P	04 57 05.5	-0.8
WRA	Warramunga Arr	67.90 141	P	P	P	04 57 05.5	-0.8
	comp=E,0.7nm,1.0s,baz=323,slow=5.2,SNR=4.0						
ASAR	Alice Springs	70.84 143	P	P	P	04 57 24.1	-0.3
ASAR	Alice Springs	70.84 143	P	P	P	04 57 24.1	-0.3
	comp=E,0.6nm,0.6s,baz=330,slow=5.9,SNR=7.7						
CTAO	Charters Tower	74.62 131	eP	P	P	04 57 46.4	-0.5
	comp=E,6.5nm,1.1s						
YKA	Yellowknife Ar	77.28 14	P	P	P	04 58 00.7	-0.8
YKA	Yellowknife Ar	77.28 14	P	P	P	04 58 00.7	-0.8
	comp=E,0.3nm,0.7s,baz=334,slow=5.1,SNR=3.6						
STKA	Stephens Creek	81.41 142	P	P	P	04 58 23.6	-0.7
STKA	Stephens Creek	81.41 142	P	P	P	04 58 23.6	-0.7
	comp=E,0.8nm,0.5s,baz=311,slow=11,SNR=2.8						
TORD	Torodi Ar. Bea	85.13 283	P	P	P	04 58 44.5	+0.3
TORD	Torodi Ar. Bea	85.13 283	P	P	P	04 58 44.5	+0.3
	comp=E,0.7nm,0.9s,baz=40,slow=6.2,SNR=4.4						
SAML	Samuel	145.59 321	ePKPbc	PKPdf	05 05 45.7	-0.7
CPUP	Villa Florida	154.50 288	ePKPbc	PKPbc	05 06 07.2	-1.2

*IDC **28** 05:08:17.3±1.6, 30.°98S×177.°41W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/18, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx3.0/32, Error ellipse: s-maj=36.6km s-min=25.0km az=124.0*
*ISCJB **28** 05:08:20.3±1.1, 31.°06S±0.°07×177.°5W±0.°2, h27km, mb4.1/7, MS3.7/1, Error ellipse: s-maj=23.0km s-min=9.6km az=3.2*
*NEIC **28** 05:08:22.6±1.1, 30.°94S×177.°44W, h35km, mb4.5/4, Error ellipse: s-maj=24.9km s-min=15.4km az=102.0*

ISC 28 05:08:21.6±1.1, 31.°07S±0.°07×177.°5W±0.°2, h27km, n18, σ1.9 64/20, mb4.2/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.84 349	ePn	Pn	Pn	05 08 48.8	-2.6
RAO				Sn	Sn	05 09 13.8	0.0
RAO	Raoul Island	1.84 349	Pn	Pn	Pn	05 08 49.4	-2.0
	146nm,0.3s,baz=86,slow=20,SNR=26						
RAO				Sn	Sn	05 09 13.8	0.0
	281nm,0.3s,baz=57,slow=22,SNR=7.9						
URZ	Urewera	8.43 210	ePn	Pn	Pn	05 10 21.9	0.0
URZ			eSn	Sn	Sn	05 11 53.3	-2.8
URZ	Urewera	8.43 210	Pn	Pn	Pn	05 10 16.9	-5.0
	0.4nm,0.3s,baz=319,slow=20,SNR=4.3						
URZ			Sn	Sn	Sn	05 11 52.5	-3.6
	4.3nm,0.3s,baz=143,slow=9.3,SNR=11						
HNR	Honiara	30.05 311	LR	LR	LR	05 23 50.5	
	comp=Z,198nm,21.8s,baz=196,slow=31						
CTAO	Charters Tower	34.31 280	eP	P	P	05 15 08.3	+2.3
	9.0nm,1.0s						
STKA	Stephens Creek	34.73 258	eP	P	P	05 15 11.2	+1.7
	1.2nm,1.1s						
STKA	Stephens Creek	34.73 258	P	P	P	05 15 10.6	+1.0
	1.5nm,0.5s,baz=80,slow=8.0,SNR=6.4						
ASAR	Alice Springs	43.49 267	P	P	P	05 16 23.1	+0.2
ASAR	Alice Springs	43.49 267	P	P	P	05 16 23.1	+0.2
	0.5nm,0.3s,baz=114,slow=7.7,SNR=9.6						
WRAB	Tennant Creek	44.53 273	eP	P	P	05 16 31.6	+0.4
	4.0nm,0.8s						
WRA	Warramunga Arr	44.53 273	P	P	P	05 16 31.6	+0.3
WRA	Warramunga Arr	44.53 273	P	P	P	05 16 31.6	+0.3
	2.1nm,0.6s,baz=111,slow=8.2,SNR=40						
QSPA	South Pole Qui	59.05 180	eP	P	P	05 18 20.9	+1.9
	6.9nm,1.0s						
NVAR	Mina Array Bea	88.45 42	P	P	P	05 21 11.2	-0.4
NVAR	Mina Array Bea	88.45 42	P	P	P	05 21 11.2	-0.4
	0.3nm,0.8s,baz=224,slow=7.6,SNR=2.8						
FINES	FINESS Array B	145.91 340	PKPbc	PKPdf	05 27 56.7	-0.5
FINES	FINESS Array B	145.91 340	PKPbc	PKPdf	05 27 56.7	-0.5
	3.3nm,0.9s,baz=60,slow=3.6,SNR=12						

MEX 28 05:18:42.6±1.3, 17.°42N×96.°78W, h76km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.34 172	eP	Pn	Pn	05 18 54.0	-1.1
VHO				i S	Sn	05 19 03.2	-1.0
UTMO	Huajuapan	1.06 293	eP	Pn	Pn	05 19 01.4	-1.1
UTMO				i S	Sn	05 19 15.3	-2.0
TPIG	Tehuac#an	1.14 331	eP	Pn	Pn	05 19 01.8	-1.7
TPIG				i S	Sn	05 19 16.7	-2.3
PNIG	Pinotepa	1.64 232	eP	Pn	Pn	05 19 07.7	-2.0
PNIG				i S	Sn	05 19 27.6	-2.7
HUIG	Huatulco	1.76 158	i P	Pn	Pn	05 19 10.8	-0.5
HUIG				i S	Sn	05 19 31.6	-1.4
CMIG	Matias Romero	1.84 100	eP	Pn	Pn	05 19 10.7	-1.7
CMIG				i S	Sn	05 19 32.5	-2.5
PPM	Popocatepetl	2.40 313	eP	Pn	Pn	05 19 19.7	-0.8
PPM				i S	Sn	05 19 48.0	-1.5
YAIG	Yautepec	2.61 304	eP	Pn	Pn	05 19 22.6	-0.2
YAIG				i S	Sn	05 19 51.7	-2.0
MEIG	Mezcala	2.75 281	eP	Pn	Pn	05 19 24.6	-0.1
MEIG				eS	Sn	05 19 54.4	-2.6
PLIG	Platanillo	2.77 291	eP	Pn	Pn	05 19 24.8	-0.1
PLIG				i S	Sn	05 19 54.8	-2.6
PCIG		3.82 116	eP	Pn	Pn	05 19 37.9	-1.1
PCIG				i S	Sn	05 20 21.7	-1.0
ZIIG	Zihuatanejo	4.47 273	i P	Pn	Pn	05 19 47.3	-0.6

*IDC **28** 05:27:09.2±0.8, 5.°60S×129.°27E, h0km, mb4.0/7, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/30, Error ellipse: s-maj=40.4km s-min=15.6km az=61.0*
*ISCJB **28** 05:27:11.5±0.3, 5.°59S±0.°03×129.°56E±0.°04, h33km, mb4.1/12, Error ellipse: s-maj=6.2km s-min=4.3km az=8.3*
*DJA **28** 05:27:13.4±0.7, 5.°5±3.°×13.°0E±.°, h19km±8km, M4.7/5, mb4.8/3, mB5.8/2, MLv4.6/5, Mw(mB)5.3/2*
*AUST **28** 05:27:13.2±0.8, 5.°54S×129.°56E, h37km, Error ellipse: s-maj=0.9km s-min=0.6km az=274.0*
*NEIC **28** 05:27:14.4±0.5, 5.°65S×129.°40E, h35km, mb4.4/11, Error ellipse: s-maj=13.5km s-min=8.3km az=55.0*

ISC 28 05:27:14.0±0.5, 5.°42S±0.°05×129.°52E±0.°06, h35km, n64, σ1.9 43/50, mb4.2/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.97	23	P	Pn	05 27 29.0	-2.1
BNDI				S	Sn	05 27 40.7	-2.9
BNDI	Bandanaira	0.97	23	P	Pn	05 27 29.1	-2.1
	baz=1.1,SNR=44						
BNDI				S	Sn	05 27 42.8	-0.9
	baz=1.1,SNR=12						
MSAI	Masohi	2.14 344		S	Sn	05 28 12.3	-0.3
SAUI	Saumlaki	3.10 145		P	Pn	05 28 00.5	+0.1
TLE	Tual	3.21 94		P	Pn	05 28 02.2	+0.3
NLAI	Namlea	3.25 312		P	Pn	05 28 07.5	+5.1
FAKI	Fak Fak	3.68 48		P	Pn	05 28 08.7	+0.3
FAKI				S	Sn	05 28 52.1	+1.4
FAKI	Fak Fak	3.68 48		P	Pn	05 28 08.7	+0.3
	baz=3.8,SNR=9.3						
FAKI				S	Sn	05 28 51.9	+1.2
	baz=3.8,SNR=5.9						
SWI	Sorong	4.85 21		P	Pn	05 28 25.9	+1.4
	baz=5.0,SNR=5.5						
SWI				S	Sn	05 29 24.4	+5.0
	baz=5.0,SNR=3.3						
RKPI	Ransiki, Papua	6.05 50		P	Pn	05 28 41.1	0.0
	98nm,0.9s,18μm1.6nm						
SOEI	Soe	6.76 230		P	Pn	05 28 50.7	-0.2
	86nm,1.1s						
SOEI	Soe	6.76 230		P	Pn	05 28 51.9	+1.1
	baz=6.7,SNR=5.9						
BATI	Baum

baz=22,SNR=4.1
CTA Charters Tower 21.85 133 P **P 05 32 04.2 +0.5**
CTA Charters Tower 21.85 133 P **P 05 32 04.2 +0.5**
9.9nm,0.9s,baz=317,slow=16,SNR=11
CTAO Charters Tower 21.85 133 *e*P **P 05 32 05.8 +2.1**
22nm,1.0s
FORT Forrest 25.26 183 *e*P **P 05 32 35.6 -1.3**
36nm,0.9s
FORT Forrest 25.26 183 P **P 05 32 38.0 +1.1**
baz=25,SNR=8.7
STKA Stephens Creek 28.65 158 *e*P **P 05 33 09.2 +1.7**
0.6nm,0.6s
STKA Stephens Creek 28.65 158 P **P 05 33 08.1 +0.6**
0.7nm,0.4s,baz=342,slow=14,SNR=2.8
CMSA Cobar Meteorol 30.08 152 P P 05 33 28.8 +8.7
baz=30,SNR=5.8
CMAR Chiang Mai Arr 38.37 309 P **P 05 34 30.9 -1.2**
CMAR Chiang Mai Arr 38.37 309 P **P 05 34 30.9 -1.2**
0.9nm,0.5s,baz=137,slow=8.6,SNR=8.8
CHTO Chiang Mai 38.57 309 *e*P **P 05 34 34.8 +1.0**
3.6nm,0.8s
ULN Ulaanbaatar 56.62 342 *e*P P 05 36 55.7 +2.0
4.4nm,0.9s
SONM Songino Array 56.80 342 P **P 05 36 56.3 +1.4**
SONM Songino Array 56.80 342 P **P 05 36 56.3 +1.4**
1.5nm,0.9s,baz=162,slow=8.1,SNR=7.9
MK31 Makanchi Array 66.65 327 *e*P **P 05 38 01.5 +0.3**
MKAR Makanchi Array 66.65 327 P **P 05 38 02.3 +1.1**
MKAR Makanchi Array 66.65 327 P **P 05 38 02.3 +1.1**
2.0nm,0.7s,baz=130,slow=7.6,SNR=26
EKS2 Erkin-Say 69.51 319 *e*P **P 05 38 20.4 +1.0**
2.2nm,0.8s
ZALV Zalesovo Beam 69.97 334 P **P 05 38 22.3 +0.6**
ZALV Zalesovo Beam 69.97 334 P **P 05 38 22.3 +0.6**
2.4nm,0.8s,baz=104,slow=6.3,SNR=9.8
VNDA Vanda 74.06 173 P **P 05 38 46.1 +0.2**
VNDA Vanda 74.06 173 P **P 05 38 46.1 +0.2**
0.5nm,0.8s,baz=304,slow=7.0,SNR=2.8
ABKAR Akbulak array 80.98 322 *e*P **P 05 39 25.9 +0.9**
1.2nm,0.8s

KRSC 28 05:33:54.8±0.9, 53°.13N×160°.22E, h42km±22km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.12**	**255**	*e*P	Pn	05 34 01.7	-0.1
SPN				*e*S	Sn	05 34 06.5	-0.1
NLC	**Nalytchevo**	**0.53**	**275**	P	Pn	05 34 06.0	0.0
NLC				S	Sn	05 34 14.1	+0.2
SDLR	**Sedlovaya**	**0.82**	**281**	P	Pn	05 34 10.3	+0.3
SDLR				*e*S	Sn	05 34 21.7	+0.6
UGLR	**Uglovaya**	**0.84**	**276**	P	Pn	05 34 10.9	+0.5
UGLR				*e*S	Sn	05 34 22.6	+0.9
SMAR	**Somma**	**0.86**	**279**	P	Pn	05 34 10.9	+0.1
SMAR				*e*S	Sn	05 34 22.5	0.0
AVH	**Avacha**	**0.90**	**279**	P	Pn	05 34 11.7	+0.6
AVH				*e*S	Sn	05 34 23.8	+0.7
KRER	**Koryakskii**	**0.90**	**282**	P	Pn	05 34 11.7	+0.4
KRER				*e*S	Sn	05 34 24.1	+0.8
PET	**Petropavlovsk**	**0.95**	**264**	*e*P	Pn	05 34 11.6	-0.1
PET				*e*S	Sn	05 34 23.6	-0.4
KOK	**Koryaka**	**0.97**	**280**	P	Pn	05 34 12.3	+0.3
KOK				*e*S	Sn	05 34 24.8	+0.1
KRX	**Arik**	**0.97**	**284**	P	Pn	05 34 12.3	+0.1
KRX				*e*S	Sn	05 34 24.6	-0.3
KII	**Karymskiy**	**1.02**	**333**	*e*P	Pn	05 34 13.3	+0.6
KII				*e*S	Sn	05 34 26.8	+0.9
RUS	**Russkaya**	**1.25**	**237**	P	Pn	05 34 15.4	-0.4
RUS				*e*S	Sn	05 34 30.3	-1.1
MTVR	**Mutnovka**	**1.40**	**243**	*i* P	Pn	05 34 18.1	+0.1
MTVR				*e*S	Sn	05 34 35.5	+0.2
GRL	**Gorelyy**	**1.43**	**247**	*e*P	Pn	05 34 18.8	+0.4
GNL	**Ganaly**	**1.48**	**293**	P	Pn	05 34 19.9	+0.9
ASAK	**Asacha**	**1.60**	**243**	*i* P	Pn	05 34 21.4	+0.8
ASAK				*e*S	Sn	05 34 40.5	+0.4
MKZ	**Mys Kozlova**	**1.69**	**31**	*e*P	Pn	05 34 21.4	-0.3
MKZ				*e*S	Sn	05 34 41.0	-1.1
APC	**Apacha**	**1.86**	**265**	*e*P	Pn	05 34 25.9	+1.8
APC				*e*S	Sn	05 34 48.8	+2.4
TUMR	**Tumrok**	**2.16**	**359**	*e*P	Pn	05 34 30.1	+1.7
MIPR	**Malaya Ipel'ka**	**2.27**	**249**	*e*P	Pn	05 34 31.1	+1.3
MIPR				*e*S	Sn	05 34 57.7	+1.1
KMNR	**Kamenistaya**	**2.63**	**0**	P	Pn	05 34 36.6	+1.7
PAU	**Pauzhetka**	**2.67**	**233**	P	Pn	05 34 37.2	+1.9
PAU				S	Sn	05 35 08.2	+1.8
KPT	**Kopyto**	**2.84**	**0**	P	Pn	05 34 39.6	+1.8
ESO	**Esso**	**2.94**	**343**	*e*P	Pn	05 34 40.7	+1.7
KBTR	**Krutoberegovo**	**3.43**	**25**	*e*P	Pn	05 34 47.1	+1.4
BKI	**Bering**	**3.97**	**56**	*e*S	Sn	05 35 34.2	-4.0

IDC 28 05:41:12.3±1.0, 37°.64N×95°.91E, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.7/31, mbtmp3.7/10, ML3.8/4, Error ellipse: s-maj=33.5km s-min=18.9km az=65.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**12.77**	**34**	Pn	Pn	05 44 16.9	+1.7
	0.3nm,0.3s,baz=216,slow=16,SNR=6.5						
MKAR	**Makanchi Array**	**13.61**	**317**	Pn	Pn	05 44 23.1	-3.4
	0.6nm,0.3s,baz=124,slow=14,SNR=24						
MKAR				Sn	Sn	05 46 51.9	-6.5
	0.1nm,0.3s,baz=125,slow=25,SNR=7.2						
ZALV	**Zalesovo Beam**	**18.02**	**338**	P	Pn	05 45 22.9	-1.0
	0.1nm,0.3s,baz=156,slow=11,SNR=7.6						
CMAR	**Chiang Mai Arr**	**19.29**	**171**	P	Pn	05 45 40.5	+0.8
	0.2nm,0.3s,baz=343,slow=10,SNR=5.3						
BVAR	**Borovoye Array**	**23.46**	**319**	P	P	05 46 23.5	+0.3
	0.6nm,0.5s,baz=97,slow=12,SNR=3.8						
KSRS	**Korea Array**	**25.32**	**81**	P	P	05 46 40.7	+0.1
	0.6nm,0.3s,baz=276,slow=9.9,SNR=3.3						
ILAR	**Eielson Array**	**66.81**	**24**	P	P	05 52 05.0	-0.3
	0.9nm,1.1s,baz=288,slow=4.2,SNR=4.5						
WRA	**Warramunga Arr**	**67.74**	**141**	P	P	05 52 11.3	-0.4
	0.9nm,1.0s,baz=339,slow=6.7,SNR=3.8						
ASAR	**Alice Springs**	**70.68**	**143**	P	P	05 52 30.0	0.0
	0.4nm,0.6s,baz=343,slow=5.9,SNR=3.9						
STKA	**Stephens Creek**	**81.24**	**142**	P	P	05 53 29.4	-0.6
	1.0nm,0.8s,baz=352,slow=7.1,SNR=2.9						

IDC ***28*** *05:47:48.3±3.9, 29°.93N×130°.58E, h22km±25km, mb4.5/27, mb1 4.6/31, mb1mx4.6/35, mbtmp4.5/31, ML4.0/3, MS4.7/26, Ms1 4.7/26, ms1mx4.5/36, Error ellipse: s-maj=14.1km s-min=10.5km az=82.0*
JMA ***28*** *05:47:49.9±0.1, 29°.87N×130°.70E, h36km±2km, M5.0*
JMA Felt II J1.
MOS ***28*** *05:47:50.0±1.1, 29°.89N×130°.46E, h47km, mb5.1/63, MS5.1/23, Error ellipse: s-maj=7.8km s-min=4.7km az=110.3*
ISCJB ***28*** *05:47:51.0±0.3, 29°.91N±0°.02×130°.55E±0°.03, h52km±2km, mb4.9/148, MS4.9/49, Error ellipse: s-maj=4.4km s-min=3.0km az=36.1*
NEIC ***28*** *05:47:53.9±0.6, 29°.92N×130°.53E, h65km±5km, mb4.9/65, MW5.2(NIED), Error ellipse: s-maj=5.5km s-min=3.9km az=133.0*
NEIC Recorded [2 JMA] on Tanega-shima and [1 JMA] on Akuseki-jima, Kuchinoerabu-jima, Kuchino-shima, Nakano-shima and Yaku-shima. Also recorded [1 JMA] in Kagoshima, Kyushu.
BJI ***28*** *05:47:53.0, 29°.92N×130°.57E, h76km, mB5.1/41, mb4.7/51, Ms4.8/57, Ms7 4.8/53*
SZGRF ***28*** *05:47:57.7, 30°.68N×129°.03E, h33km, mb5.1, Kyushu, Japan*
NIED ***28*** *05:48:00, 29°.90N×130°.70E, h38km, Mw5.2 Best double couple: M0 7.52000×10^16 NP1:φ=30.00000°, δ71.00000°, λ93.00000°. NP2:φ=202.00000°, δ19.00000°, λ83.00000°.*
DJA ***28*** *05:48:05.1±4.0, 30°.N±13°×13°.0E±4°.2, h136km±17km, M4.7/6, mB5.3/4, mb4.7/6, Mw(mB)4.7/4*
ISC 28 05:47:53.6±0.4, 29°.92N±0°.03×130°.66E±0°.04, h67km±2km, h66km:pP-P, n543, σ1°38/592, mb4.9/158, 100C-93D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKC	**Kuchinoerabu**	**0.67**	**324**	P	Pn	05 48 03.9	-4.1
JKC				S	**Sn**	**05 48 14.1**	**-4.5**
JNN	**Nakanoshima**	**0.68**	**264**	P	Pn	05 48 03.6	-4.5
JNN				S	**Sn**	**05 48 13.0**	**-5.8**
JTN	**Tanegashima 3**	**0.79**	**21**	P	Pn	05 48 05.2	-4.2
JTN				S	**Sn**	**05 48 16.3**	**-4.7**
JTSR	**Tashiro 2**	**1.27**	**10**	P	**Pn**	**05 48 12.4**	**-3.1**
JTSR				*e*S	**Sn**	**05 48 30.4**	**-1.4**
JSU	**Suzuyama**	**1.59**	**354**	P	**Pn**	**05 48 16.7**	**-3.1**
JSU				*e*S	**Sn**	**05 48 37.9**	**-1.6**
JNAR	**Kushima--Naru**	**1.69**	**18**	P	**Pn**	**05 48 18.7**	**-2.4**
JNAR				S	**Sn**	**05 48 40.0**	**-1.8**
JZK	**Kikaishima**	**1.70**	**201**	P	**Pn**	**05 48 18.4**	**-2.8**
JAM	**Amami Oshima**	**1.76**	**212**	P	**Pn**	**05 48 18.9**	**-3.1**
JAM				S	**Sn**	**05 48 40.3**	**-3.1**
JAMN	**Amaminishikomi**	**2.11**	**218**	P	Pn	05 48 23.4	-3.3
JZO	**Okuchi**	**2.22**	**359**	P	**Pn**	**05 48 25.8**	**-2.4**
JTK	**Tokunoshima**	**2.60**	**216**	P	**Pn**	**05 48 30.4**	**-2.9**
JNU	**Nakatsue**	**3.20**	**3**	*e*Pn	**Pn**	**05 48 40.0**	**-1.7**
JNU				Sn	**Sn**	**05 49 18.2**	**-0.4**
JNU	**Nakatsue**	**3.20**	**3**	P	**Pn**	**05 48 39.9**	**-1.7**
JNU	**Nakatsue**	**3.20**	**3**	Pn	**Pn**	**05 48 39.2**	**-2.4**
29nm,0.3s,baz=177,slow=7.3,SNR=116							
JNU				Sn	**Sn**	**05 49 18.2**	**-0.4**
27nm,0.3s,baz=222,slow=13,SNR=8.3							
JOW	**Kunigami**	**3.72**	**215**	*e*Pn	Pn	05 48 44.4	-4.2
JFA	**Akaike**	**3.79**	**2**	P	**Pn**	**05 48 48.5**	**-1.0**
KSAR	**Wonju Array Be**	**7.85**	**344**	Pn	**Pn**	**05 49 45.6**	**+0.5**
KSAR				Lg	Lg	05 51 39.3	
KSRS	**Korea Array**	**7.86**	**344**	Pn	**Pn**	**05 49 45.6**	**+0.5**
1.8nm,0.3s,baz=162,slow=14,SNR=24							
KSRS				Lg	Lg	05 51 39.3	
baz=167,slow=34,SNR=3.3							
KSRS				LR	LR	05 53 05.1	
comp=Z,6μm,18.1s,baz=160,slow=40							
SSE	**Sheshan**	**8.25**	**281**	P	**Pn**	**05 49 50.5**	**-0.1**
SSE				pmax	pmax		
comp=Z,47nm,0.7s							
SSE				pmax	pmax		
comp=Z,210nm,4.6s							
INCN	**Inchon**	**8.26**	**337**	*e*Pn	**Pn**	**05 49 52.8**	**+2.1**
MAT	**Matsushiro**	**9.14**	**42**	P	**Pn**	**05 50 01.2**	**-1.6**
MJAR	**Matsushiro Arr**	**9.14**	**42**	Pn	**Pn**	**05 50 01.3**	**-1.5**
MJAR				Lg	Lg	05 52 52.2	
MJAR	**Matsushiro Arr**	**9.14**	**42**	Pn	**Pn**	**05 50 01.3**	**-1.5**
comp=Z,3.3nm,0.3s,baz=233,slow=14,SNR=17							
MJAR				Lg	Lg	05 52 52.2	
comp=Z,0.8nm,0.3s,baz=243,slow=23,SNR=2.6							
TATO	**Taipei**	**9.51**	**241**	*e*Pn	**Pn**	**05 50 09.9**	**+2.0**
comp=Z,109nm,1.0s							
YHNB	**Yeheng**	**9.77**	**240**	*e*Pn	**Pn**	**05 50 10.1**	**-1.4**
comp=Z,88nm,1.0s							
NACB	**Ninganchiao**	**9.89**	**237**	*e*Pn	Pn	05 50 17.6	+4.5
comp=Z,204nm,1.6s							
NJ2	**Nanjing**	**10.35**	**285**	*e*P	**Pn**	**05 50 19.0**	**-0.3**
NJ2				pmax	pmax		
comp=Z,20nm,1.0s							
NJ2				LR	LR		
comp=N,4μm,13.1s							
NJ2				LR	LR		
comp=E,6μm,15.2s							
NJ2				LR	LR		
comp=Z,7μm,17.3s							
CBIJ	**Chichi jima**	**10.52**	**103**	Pn	Pn	05 50 17.9	-3.7
CBIJ				Sn	Sn	05 52 09.7	-8.2
CBIJ	**Chichi jima**	**10.52**	**103**	Pn	Pn	05 50 17.9	-3.7
CBIJ				Sn	Sn	05 52 09.7	-8.2
comp=Z,4.3nm,0.3s,baz=127,slow=20,SNR=2.7							
CBIJ				LR	LR	05 53 49.9	
comp=Z,3μm,21.5s,baz=344,slow=34							
YULB	**Yu-li**	**10.59**	**234**	*e*Pn	**Pn**	**05 50 21.3**	**-1.4**
comp=Z,24nm,0.9s							
SSLB	**Suanglung**	**10.59**	**237**	*e*Pn	**Pn**	**05 50 23.3**	**+0.7**
TWG	**Pinlang**	**11.12**	**233**	*e*Pn	**Pn**	**05 50 30.7**	**+0.9**
TPUB	**Ta-pu**	**11.13**	**236**	*e*Pn	Pn	05 50 35.7	+5.8
QZH	**Quanzhou**	**11.80**	**248**	⇑*i*P	**Pn**	**05 50 36.3**	**-2.8**
QZH				S	Sn	05 52 56.3	+7.1
QZH				LR	LR		
comp=N,3μm,12.4s							
QZH				LR	LR		
comp=E,2μm,12.3s							
QZH				LR	LR		
comp=Z,6μm,21.5s							
TIA	**Tai'an**	**12.96**	**302**	*e*P	**Pn**	**05 50 55.5**	**+0.6**
TIA				LR	LR		
comp=N,3μm,14.3s							
TIA				LR	LR		
comp=E,5μm,15.5s							
TIA				LR	LR		
comp=Z,6μm,16.7s							
SNY	**Shenyang**	**13.19**	**336**	⇑P	**Pn**	**05 50 58.8**	**+0.9**
SNY				pmax	pmax		
comp=Z,39nm,2.4s							
WHN	**Wuhan**	**14.11**	**277**	P	**Pn**	**05 51 09.5**	**-0.8**
WHN				LR	LR		
comp=N,1μm,7.1s							
WHN				LR	LR		
comp=E,8μm,17.1s							
WHN				LR	LR		
comp=Z,6μm,19.6s							
USRK	**Ussuriysk Arra**	**14.30**	**4**	Pn	**P**	**05 51 18.2**	**+0.4**
comp=Z,2.7nm,0.3s,baz=181,slow=10.0,SNR=32							
USRK				LR	LR	05 56 59.3	
comp=Z,2μm,18.7s,baz=168,slow=39							
CN2	**Changchun**	**14.47**	**345**	*e*P	**P**	**05 51 17.8**	**-1.9**
CN2				*e*pP	Pn	05 51 29.0	+14
CN2				*e*S	**Sn**	**05 53 56.0**	**+2.2**
CN2				pmax	pmax		
comp=Z,20nm,1.3s							
CN2				pmax	pmax		
comp=Z,400nm,8.0s							
CN2				LR	LR		
comp=N,5μm,16.0s							
CN2				LR	LR		
comp=E,1μm,16.0s							
CN2				LR	LR		
comp=Z,5μm,19.0s							
MDJ	**Mudanjiang**	**14.70**	**357**	P	**Pn**	**05 51 16.8**	**-1.0**
MDJ				pP	P	05 51 28.0	+5.7
MDJ				sP		05 51 38.3	
MDJ				S	**Sn**	**05 53 57.3**	**-2.1**
MDJ				ScP	**ScP**	**05 59 53.8**	**-0.1**
MDJ				PcS	**PcS**	**06 00 01.5**	**+0.7**
MDJ				pmax	pmax		
comp=Z,12nm,1.5s							
MDJ				pmax	pmax		
comp=Z,170nm,4.7s							
MDJ				LR	LR		
comp=N,1μm,20.3s							
MDJ				LR	LR		
comp=E,930nm,16.8s							
MDJ				LR	LR		
comp=Z,2μm,18.2s							
BJI	**Beijing**	**15.56**	**314**	P	**P**	**05 51 31.8**	**-0.1**
BJI				S	**Sn**	**05 54 19.5**	**-0.9**
BJI				pmax	pmax		
comp=Z,71nm,1.7s							
BJI				pmax	pmax		
comp=Z,600nm,4.2s							
BJI				LR	LR		
comp=N,4μm,19.0s							
BJI				LR	LR		
comp=E,3μm,16.6s							
BJI				LR	LR		
comp=Z,3μm,21.9s							
ERM	**Erimo**	**15.73**	**37**	*e*P	**P**	**05 51 33.0**	**-0.8**
ERM				pmax	pmax		
comp=Z,68nm,1.3s							
ERM	**Erimo**	**15.73**	**37**	*e*P	**P**	**05 51 33.0**	**-0.8**
comp=Z,68nm,1.3s							
GZH	**Guangzhou**	**16.91**	**250**	P	Pn	05 51 40.5	-5.5
GZH				S	Sn	05 54 43.8	-10
GZH				LR	LR		
comp=N,3μm,16.0s							
GZH				LR	LR		
comp=E,4μm,20.0s							
GZH				LR	LR		
comp=Z,7μm,18.3s							
ASAJ	**Asahikawa**	**17.05**	**31**	*e*P	**Pn**	**05 51 43.8**	**-3.8**
comp=Z,48nm,1.8s							
ASAJ	**Asahikawa**	**17.05**	**31**	P	**Pn**	**05 51 44.2**	**-3.4**
comp=Z,0.8nm,0.3s,baz=190,slow=9.6,SNR=8.5							
ASAJ				LR	LR	05 58 25.5	
comp=Z,3μm,21.9s,baz=258,slow=37							
ENH	**Enshi**	**18.32**	**276**	*e*P	**P**	**05 52 02.4**	**-0.2**
comp=Z,62nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**18.56**	**36**	*d i*P	**Pn**	**05 52 07.4**	**+1.5**
YUK				S	**S**	**05 55 33.9**	**+1.2**
YUK				pmax	pmax		
comp=Z,70nm,0.9s							
YUK				pmax	pmax		
comp=N,53nm,0.9s							
YUK				pmax	pmax		
comp=E,32nm,0.9s							
YUK				pmax	pmax		
comp=Z,323nm,2.0s							
YUK				MLR	MLR		
comp=N,280nm,17.0s							
YUK				MLR	MLR		
comp=Z,974nm,17.0s							
HABR	**Khabarovsk**	**18.84**	**9**	*e*P	Pn	05 52 22.2	+13
HABR				S	**S**	**05 55 37.4**	**-1.0**
HABR				pmax	pmax		
comp=Z,42nm,1.3s							
HABR				MLR	MLR		
comp=Z,1μm,17.0s							
XAN	**Xi'an**	**18.88**	**288**	P	**P**	**05 52 07.8**	**-0.9**
XAN				pP	**pP**	**05 52 21.3**	**-1.3**
XAN				pmax	pmax		
comp=Z,22nm,1.3s							
XAN				pmax	pmax		
comp=Z,100nm,5.3s							
XAN				LR	LR		
comp=N,1μm,15.3s							
XAN				LR	LR		
comp=E,590nm,17.3s							
XAN				LR	LR		
comp=Z,550nm,20.4s							
HHC	**Hu-ho-hao-te**	**18.97**	**310**	*e*P	**P**	**05 52 09.3**	**-0.3**
HHC				pP	**pP**	**05 52 23.8**	**+0.3**
HHC				PP	**PnPn**	**05 52 29.0**	**+3.6**
HHC				sP	**sP**	**05 52 34.3**	**+2.3**
HHC				S	S	05 55 34.0	-7.5
HHC				SS	**SnSn**	**05 56 01.5**	**+3.7**
HHC				PcS	**PcS**	**06 00 10.0**	**+0.2**
HHC				pmax	pmax		
comp=Z,40nm,0.7s							
HHC				pmax	pmax		
comp=Z,1μm,5.1s							
HHC				LR	LR		
comp=N,3μm,12.9s							
HHC				LR	LR		
comp=E,5μm,12.2s							
HHC				LR	LR		
comp=Z,6μm,12.5s							
KLR	**Kul'dur**	**19.31**	**2**	*e*P	P	05 52 06.5	-6.6
KLR				MLR	MLR		
comp=Z,1μm,14.0s							
YSS	**Yuzh-Sakhalins**	**19.43**	**26**	*e*P	**Pn**	**05 52 17.5**	**+1.2**
YSS				*e*S	**S**	**05 55 48.0**	**-2.6**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
YSS				MLR	MLR		
comp=Z,1μm,18.0s							
YSS				MLR	MLR		
comp=E,1μm,17.0s							
BTO	**Baotou**	**19.89**	**308**	*e*P	**P**	**05 52 20.0**	**+0.3**
KUR	**Kuril'sk**	**20.43**	**37**	*e*P	**P**	**05 52 20.8**	**-4.5**
KUR				pmax	pmax		
comp=N,173nm,1.5s							
KUR				pmax	pmax		
comp=Z,194nm,1.5s							
KUR				pmax	pmax		
comp=E,37nm,0.8s							
KUR				MLR	MLR		
comp=E,1μm,19.0s							
KUR				MLR	MLR		
comp=Z,684nm,19.0s							
KUR				MLR	MLR		
comp=N,712nm,19.0s							
GYA	**Guiyang**	**21.42**	**267**	⇓*i*P	**P**	**05 52 36.8**	**+0.5**
GYA				pP	**pP**	**05 52 53.3**	**+2.9**
GYA				sP	sP	05 53 03.8	+5.0
GYA				S	**S**	**05 56 25.3**	**-5.2**
GYA				PcP	**PcP**	**05 56 38.5**	**+0.9**
GYA				sS	**sS**	**05 56 51.3**	**-2.3**
GYA				SS	**SnSn**	**05 57 04.5**	**+6.6**
GYA				ScP	**ScP**	**06 00 08.8**	**0.0**
GYA				PcS	**PcS**	**06 00 16.5**	**+0.4**
GYA				pmax	pmax		
comp=Z,20nm,1.0s							
GYA				pmax	pmax		
comp=Z,80nm,5.6s							
GYA				LR	LR		
comp=N,1μm,14.9s							
GYA				LR	LR		
comp=E,2μm,17.7s							
GYA				LR	LR		
comp=Z,3μm,18.3s							
QIZ	**Qiongzhong**	**21.79**	**245**	P	**P**	**05 52 40.0**	**-0.1**
QIZ				pP	**pP**	**05 52 54.8**	**+0.4**
QIZ				sP	**sP**	**05 53 03.8**	**+1.1**
QIZ				S	**S**	**05 56 36.8**	**-0.8**
QIZ				pmax	pmax		
comp=Z,110nm,7.2s							
QIZ				LR	LR		
comp=N,1μm,22.7s							
QIZ				LR	LR		
comp=Z,2μm,20.3s							
QIZ	**Qiongzhong**	**21.79**	**245**	*e*P	**P**	**05 52 40.2**	**+0.1**
comp=Z,14nm,1.0s							
CD2	**Chengdu**	**23.20**	**279**	*e*P	**P**	**05 52 54.5**	**-0.4**
CD2				pP	**pP**	**05 53 09.8**	**+0.3**
CD2				sP	**sP**	**05 53 19.0**	**+1.2**
CD2				PP	**PnPn**	**05 53 26.8**	**+3.5**
CD2				S	S	05 56 55.5	-6.2
CD2				sS	Sn	05 57 22.8	-1.5
CD2				SS	**SnSn**	**05 57 45.3**	**+3.9**
CD2				pmax	pmax		
comp=Z,130nm,1.3s							
CD2				pmax	pmax		
comp=Z,700nm,4.0s							
CD2				LR	LR		
comp=N,2μm,15.6s							
CD2				LR	LR		
comp=E,2μm,15.6s							
CD2				LR	LR		
comp=Z,3μm,14.2s							
LZH	**Lanzhou**	**23.27**	**292**	*e*P	**P**	**05 52 55.5**	**-0.2**
LZH				pP	**pP**	**05 53 10.8**	**+0.4**
LZH				sP	**sP**	**05 53 20.0**	**+1.4**
LZH				S	**S**	**05 56 57.0**	**-6.0**
LZH				SS	**SnSn**	**05 57 45.0**	**+1.7**
LZH				pmax	pmax		
comp=Z,91nm,1.4s							
LZH				pmax	pmax		
comp=Z,330nm,4.8s							
LZH				LR	LR		
comp=N,1μm,10.0s							
LZH				LR	LR		
comp=E,3μm,13.1s							
LZH				LR	LR		
comp=Z,6μm,16.3s							
KMI	**Kunming**	**25.18**	**266**	P	**P**	**05 53 13.5**	**+0.2**
KMI				pP	**pP**	**05 53 31.8**	**+2.7**
KMI				sP	sP	05 53 41.5	+4.5
KMI				PP	**PnPn**	**05 53 54.3**	**+3.7**
KMI				S	**S**	**05 57 29.0**	**-5.0**
KMI				sS	**sS**	**05 58 00.8**	**-0.4**
KMI				SS	**SnSn**	**05 58 35.0**	**+4.8**
KMI				pmax	pmax		
comp=Z,20nm,0.8s							
KMI				pmax	pmax		
comp=Z,250nm,6.4s							
KMI				LR	LR		
comp=N,980nm,14.1s							
KMI				LR	LR		
comp=E,2μm,15.5s							
KMI				LR	LR		
comp=Z,2μm,15.2s							
ULN	**Ulaanbaatar**	**25.50**	**321**	*e*P	**P**	**05 53 14.7**	**-1.2**
comp=Z,25nm,0.8s							
ULN	**Ulaanbaatar**	**25.50**	**321**	P	**P**	**05 53 14.9**	**-1.0**
comp=Z,28nm,1.4s,comp=Z,576nm							
SONM	**Songino Array**	**25.85**	**321**	P	**P**	**05 53 17.7**	**-1.2**
SONM	**Songino Array**	**25.85**	**321**	P	**P**	**05 53 17.7**	**-1.2**
comp=Z,23nm,0.8s,baz=137,slow=10.0,SNR=42							
SONM				LR	LR	06 05 03.6	
comp=Z,3μm,18.1s,baz=129,slow=40							
GTA	**Gaotai**	**26.97**	**299**	⇓P	**P**	**05 53 28.5**	**-0.7**
GTA				PP	**PnPn**	**05 54 15.8**	**+1.1**
GTA				PcP	**PcP**	**05 56 50.5**	**+1.1**
GTA				S	**S**	**05 58 02.0**	**+0.2**
GTA				SS	**SnSn**	**05 59 19.8**	**+6.4**

GTA			pmax	pmax	
	comp=Z,6.0nm,1.2s				
GTA			pmax	pmax	
	comp=Z,290nm,5.5s				
GTA			LR	LR	
	comp=N,960nm,19.5s				
GTA			LR	LR	
	comp=E,2μm,19.0s				
GTA			LR	LR	
	comp=Z,2μm,19.5s				
SDKM	**Sandakan**	**27.28 210**	P	**P**	**05 53 32.4 +0.3**
UBPT	**Khong Chiam**	**27.35 243**	P	**P**	**05 53 32.2 -0.4**
	comp=Z,14nm,1.2s,comp=Z,540nm				
ZAK	**Zakamensk**	**28.98 323⇑**	*i*P	**P**	**05 53 45.9 -1.0**
ZAK			pmax	pmax	
	comp=Z,9.0nm,1.3s				
TLY	**Talaya**	**29.55 325**	*e*P	**P**	**05 53 50.8 -1.1**
TLY			*e*		05 54 56.4
TLY			pmax	pmax	
	comp=Z,10.0nm,0.6s				
TLY			MLR	MLR	
	comp=Z,2μm,17.0s				
IRK	**Irkutsk**	**29.59 326**	*e*P	P	05 53 40.7 -12
IRK			pmax	pmax	
	comp=Z,46nm,1.7s				
PBKT	**Sadao Pong**	**30.23 251**	P	**P**	**05 53 57.4 -0.8**
PETK	**Petropavlovsk-**	**30.45 33**	P	**P**	**05 53 59.8 +0.1**
PETK			pmax	pmax	
	comp=Z,4.0nm,0.7s				
PETK			MLR	MLR	
	comp=Z,513nm,19.7s				
PETK	**Petropavlovsk-**	**30.45 33**	P	**P**	**05 53 59.8 +0.1**
PETK	**Petropavlovsk-**	**30.45 33**	P	**P**	**05 53 59.8 +0.1**
	comp=Z,3.7nm,0.7s,baz=208,slow=5.9,SNR=3.0				
PETK			LR	LR	06 06 30.9
	comp=Z,513nm,19.6s,baz=227,slow=37				
CHTO	**Chiang Mai**	**30.83 256**	*e*P	**P**	**05 54 02.6 -0.9**
CHTO			pmax	pmax	
	comp=Z,7.0nm,0.7s				
CHTO	**Chiang Mai**	**30.83 256**	*e*P	**P**	**05 54 02.5 -0.9**
	comp=Z,6.6nm,0.7s				
CHTO	**Chiang Mai**	**30.83 256**	P	**P**	**05 54 03.0 -0.5**
	comp=Z,11nm,0.7s				
PET	**Petropavlovsk**	**30.85 34**	*i* P	**P**	**05 54 04.0 +0.8**
CMAR	**Chiang Mai Arr**	**31.00 256**	P	**P**	**05 54 04.3 -0.6**
CMAR			PcP	**PcP**	**05 57 01.4 +1.7**
CMAR	**Chiang Mai Arr**	**31.00 256**	P	**P**	**05 54 04.3 -0.6**
	comp=Z,1.1nm,0.5s,baz=23,slow=7.8,SNR=7.9				
CMAR			PcP	**PcP**	**05 57 01.4 +1.7**
	comp=Z,0.9nm,0.5s,baz=84,slow=0.7,SNR=4.3				
CMAR			LR	LR	06 08 17.3
	comp=Z,1μm,18.7s,baz=192,slow=40				
LSA	**Lhasa**	**34.16 280**	P	**P**	**05 54 33.5 +0.4**
LSA	**Lhasa**	**34.16 280**	*e*P	**P**	**05 54 33.7 +0.6**
LSA			pmax	pmax	
	comp=Z,9.0nm,0.8s				
LSA	**Lhasa**	**34.16 280**	*e*P	**P**	**05 54 33.7 +0.6**
	comp=Z,9.1nm,0.8s				
KSM	**Kuching**	**34.27 218**	P	P	05 54 46.3 +13
SHL	**Shillong**	**34.48 272**	*e*P	**P**	**05 54 33.0 -2.5**
KTGM	**Kuala Trenggan**	**35.66 232**	P	**P**	**05 54 46.9 +1.3**
SEY	**Seymchan**	**35.88 17**	*de*P	**P**	**05 54 47.2 +0.3**
WMQ	**Urumqi**	**36.65 304**	P	**P**	**05 54 54.5 +0.7**
WMQ			pP	**pP**	**05 55 12.8 +2.6**
WMQ			PP	**PnPn**	**05 56 20.5 +1.7**
WMQ			S	**S**	**06 00 30.3 -1.9**
WMQ			sS	**sS**	**06 00 58.3 -1.8**
WMQ			SS	**SnSn**	**06 03 01.5 -6.6**
WMQ			ScS	**ScS**	**06 04 59.5 -3.7**
WMQ			pmax	pmax	
	comp=Z,13nm,1.5s				
WMQ			pmax	pmax	
	comp=Z,150nm,4.0s				
WMQ			LR	LR	
	comp=N,560nm,21.0s				
WMQ			LR	LR	
	comp=E,850nm,20.0s				
WMQ			LR	LR	
	comp=Z,1μm,20.0s				
KULM	**Kulim**	**37.43 235**	P	**P**	**05 55 01.4 +0.8**
TAPN	**Taplejung**	**37.62 277**	*e*P	**P**	**05 55 02.3 -0.2**
IPM	**Ipoh**	**37.73 234**	*e*P	**P**	**05 55 02.1 -1.0**
	comp=Z,52nm,1.3s				
IPM	**Ipoh**	**37.73 234**	P	**P**	**05 55 02.4 -0.7**
IPM	**Ipoh**	**37.73 234**	P	**P**	**05 55 04.4 +1.2**
ODAN	**Ödare**	**38.02 276**	*e*P	**P**	**05 55 05.6 -0.2**
	comp=Z,57nm,0.5s				
JIRN	**Jiri**	**38.85 278**	*e*P	**P**	**05 55 13.1 +0.1**
	comp=Z,69nm,0.4s				
GUN	**Gumba**	**39.06 278**	*e*P	**P**	**05 55 14.8 +0.1**
	comp=Z,199nm,0.7s				
PKI	**Pulchoki**	**39.55 278**	*e*P	**P**	**05 55 18.4 -0.3**
	comp=Z,78nm,0.8s				
PKIN	**Phulchoki**	**39.56 278**	*e*P	**P**	**05 55 18.2 -0.5**
	comp=Z,45nm,0.7s				
KKN	**Kakani**	**39.61 278**	*e*P	**P**	**05 55 19.0 0.0**
	comp=Z,68nm,0.6s				
DMN	**Daman**	**39.80 278**	*e*P	**P**	**05 55 20.4 -0.3**
	comp=Z,47nm,0.7s				
PSI	**Prapat**	**40.39 234**	P	**P**	**05 55 25.4 -0.1**
PSI	**Prapat**	**40.39 234**	P	**P**	**05 55 25.4 -0.1**
	comp=Z,6.1nm,0.6s,baz=17,slow=6.7,SNR=8.6				
BATI	**Baumata**	**40.45 191**	P	**P**	**05 55 23.5 -2.3**
BATI	**Baumata**	**40.45 191**	P	**P**	**05 55 23.5 -2.3**
	comp=Z,33nm,0.8s,baz=100,slow=5.2,SNR=3.6				
BATI			LR	LR	06 11 27.5
	comp=Z,279nm,20.6s,baz=144,slow=35				
ZAA0	**Zalesovo Array**	**40.73 319**	*e*P	**P**	**05 55 26.7 -1.0**
ZALV	**Zalesovo Beam**	**40.73 319**	P	**P**	**05 55 27.1 -0.6**
ZALV					05 57 27.6
ZALV			pmax	pmax	
	comp=Z,4.0nm,0.4s				
ZALV			pmax	pmax	
	comp=Z,2.0nm,0.7s				
ZALV			MLR	MLR	
	comp=Z,2μm,18.1s				
ZALV	**Zalesovo Beam**	**40.73 319**	P	**P**	**05 55 27.1 -0.6**
ZALV			PcP	**PcP**	**05 57 27.6 -0.3**
ZALV	**Zalesovo Beam**	**40.73 319**	P	**P**	**05 55 27.1 -0.6**
	comp=Z,4.2nm,0.4s,baz=104,slow=8.0,SNR=27				
ZALV			PcP	**PcP**	**05 57 27.6 -0.3**
	comp=Z,2.2nm,0.7s,baz=104,slow=3.0,SNR=3.9				
ZALV			LR	LR	06 13 58.3
	comp=Z,2μm,18.1s,baz=70,slow=39				
DANN	**Dangsing**	**40.77 280**	*e*P	**P**	**05 55 28.6 -0.2**
	comp=Z,49nm,0.5s				
MK31	**Makanchi Array**	**40.81 308**	*i* P	**P**	**05 55 28.0 -0.6**
MK31			pmax	pmax	
	comp=Z,9.0nm,0.5s				
MK31	**Makanchi Array**	**40.81 308**	*e*P	**P**	**05 55 28.2 -0.4**
MKAR	**Makanchi Array**	**40.81 308**	*e*P	**P**	**05 55 28.0 -0.6**
MKAR					05 57 28.2
MKAR	**Makanchi Array**	**40.81 308**	*e*P	**P**	**05 55 28.0 -0.6**
MKAR			PcP	**PcP**	**05 57 28.2 -0.2**
MKAR			ScP	**ScP**	**06 01 16.8 +4.6**
MKAR	**Makanchi Array**	**40.81 308**	P	**P**	**05 55 27.8 -0.8**
	comp=Z,11nm,0.5s,baz=92,slow=10,SNR=166				
MKAR			PcP	**PcP**	**05 57 28.2 -0.2**
	comp=Z,1.4nm,0.6s,baz=68,slow=5.0,SNR=3.3				
MKAR			ScP	**ScP**	**06 01 16.8 +4.6**
	comp=Z,0.5nm,0.7s,baz=85,slow=7.4,SNR=4.4				
MKAR			LR	LR	06 14 47.3
	comp=Z,487nm,19.2s,baz=95,slow=40				
KOLN	**Koldanda**	**41.05 279**	*e*P	**P**	**05 55 30.8 -0.2**
	comp=Z,30nm,0.4s				
PYUN	**Piuthan**	**41.49 280**	*e*P	**P**	**05 55 34.6 0.0**
	comp=Z,128nm,0.8s				
TIXI	**Tiksi**	**41.80 359⇓**	*e*P	**P**	**05 55 36.2 0.0**
TIXI			pmax	pmax	
	comp=Z,29nm,1.7s				
NVS	**Novosibirsk**	**41.88 320**	*e*P	**P**	**05 55 35.2 -1.9**
NVS			*e*		05 55 48.2
NVS			*e*		05 57 23.1
NVS			pmax	pmax	
	comp=Z,21nm,1.5s				
NVS			pmax	pmax	
	comp=E,13nm,1.4s				
ULHL	**Ulahol**	**44.97 301**	P	**P**	**05 56 02.7 +0.3**
	SNR=6.0				
KSH	**Kashi**	**45.35 297**	P	P	05 56 09.0 +3.6
KSH			sP	sP	05 56 36.0 +6.1
KSH			PP	**PP**	**05 57 56.8 +4.3**
KSH			S	**S**	**06 02 43.8 +2.2**
KSH			sS	sS	06 03 15.8 +5.7
KSH			SS	**ScS**	**06 05 58.8 +2.9**
KSH			pmax	pmax	
	comp=Z,4.0nm,0.5s				
KSH			pmax	pmax	
	comp=Z,140nm,5.1s				
KSH			LR	LR	
	comp=N,510nm,13.9s				
KSH			LR	LR	
	comp=E,1μm,15.3s				
KSH			LR	LR	
	comp=Z,900nm,15.4s				
TKM2	**Tokmak 2**	**45.42 302**	*e*P	**P**	**05 56 06.1 +0.1**
TKM2			pmax	pmax	
	comp=Z,135nm,1.8s				
TKM2	**Tokmak 2**	**45.42 302**	P	**P**	**05 56 06.7 +0.7**
	SNR=36				
TKM2	**Tokmak 2**	**45.42 302**	*e*P	**P**	**05 56 06.1 +0.1**
	comp=Z,135nm,1.8s				
KZA	**Kyzart**	**45.71 301**	P	**P**	**05 56 10.4 +1.8**
	SNR=6.4				
KBK	**Karagaybulak**	**45.90 302**	P	**P**	**05 56 11.0 +1.2**
	SNR=5.2				
CHMS	**Chumysh**	**46.03 302**	P	**P**	**05 56 11.6 +1.0**
	SNR=12				
FRU	**Bishkek**	**46.14 302⇓**	*i*P	**P**	**05 56 12.0 +0.5**
FRU			pmax	pmax	
	comp=Z,80nm,2.0s				
FRU			MLR	MLR	
	comp=Z,1μm,18.0s				
USP	**Ospenovka**	**46.20 303**	P	**P**	**05 56 12.2 +0.2**
	SNR=15				
AAK	**Ala-Archa**	**46.24 302**	*d i*P	**P**	**05 56 12.7 +0.3**
AAK			pmax	pmax	
	comp=Z,46nm,1.7s				
AAK	**Ala-Archa**	**46.24 302**	P	**P**	**05 56 13.1 +0.6**
	SNR=5.3				
AAK	**Ala-Archa**	**46.24 302**	*e*P	**P**	**05 56 12.7 +0.3**
	comp=Z,40nm,1.7s				
AAK	**Ala-Archa**	**46.24 302**	P	**P**	**05 56 12.9 +0.5**
	comp=Z,3.7nm,0.4s,baz=106,slow=6.8,SNR=13				
UCH	**Uchtor**	**46.25 301**	P	**P**	**05 56 14.6 +1.8**
	SNR=5.5				
NDI	**New Delhi**	**46.26 282**	*e*P	**P**	**05 56 10.0 -2.6**
EKS2	**Erkin-Say**	**46.77 302**	*e*P	**P**	**05 56 16.7 +0.2**
EKS2			pmax	pmax	
	comp=Z,30nm,1.6s				
EKS2	**Erkin-Say**	**46.77 302**	P	**P**	**05 56 16.6 +0.1**
	SNR=12				
EKS2	**Erkin-Say**	**46.77 302**	*e*P	**P**	**05 56 16.7 +0.2**
	comp=Z,30nm,1.6s				
FITZ	**Fitzroy Crossi**	**47.98 186**	P	**P**	**05 56 26.1 +0.2**
FITZ	**Fitzroy Crossi**	**47.98 186**	P	**P**	**05 56 26.1 +0.2**
	comp=Z,5.4nm,0.5s,baz=16,slow=8.4				
VOSK	**Vostochnaya**	**48.66 316**	P	**P**	**05 56 29.8 -1.1**
VOSK			pmax	pmax	
	comp=Z,25nm,1.0s				
BVA0	**Borovoye Array**	**49.04 316**	*i* P	**P**	**05 56 33.2 -0.5**
BVA0			pmax	pmax	
	comp=Z,41nm,0.7s				
BVAR	**Borovoye Array**	**49.04 316**	P	**P**	**05 56 33.3 -0.4**
BVAR			pmax	pmax	
	comp=Z,35nm,0.5s				
BVAR			MLR	MLR	
	comp=Z,2μm,18.0s				
BVAR	**Borovoye Array**	**49.04 316**	P	**P**	**05 56 33.3 -0.4**
BVAR	**Borovoye Array**	**49.04 316**	P	**P**	**05 56 33.3 -0.4**
	comp=Z,34nm,0.5s,baz=95,slow=10,SNR=198				
BVAR			LR	LR	06 19 19.0
	comp=Z,2μm,18.0s,baz=95,slow=39				
BRVK	**Borovoye**	**49.10 316**	*ce*P	**P**	**05 56 33.4 -0.8**
BRVK			pmax	pmax	
	comp=Z,36nm,0.5s				
BRVK	**Borovoye**	**49.10 316**	*e*P	**P**	**05 56 33.5 -0.7**
	comp=Z,71nm,0.4s				
KK31	**Karatay Array**	**49.12 303**	*i* P	**P**	**05 56 34.4 -0.2**
KK31			pmax	pmax	
	comp=Z,15nm,0.4s				
KKAR	**Karatay Array**	**49.12 303**	*e*P	**P**	**05 56 34.8 +0.2**
KKAR			pmax	pmax	
	comp=Z,26nm,0.4s				
KKAR	**Karatay Array**	**49.12 303**	*e*P	**P**	**05 56 34.8 +0.2**
	comp=Z,26nm,0.4s				
WRAB	**Tennant Creek**	**49.69 175**	*e*P	**P**	**05 56 38.2 -0.7**
WRAB			pmax	pmax	
	comp=Z,11nm,1.0s				
WRAB	**Tennant Creek**	**49.69 175**	*e*P	**P**	**05 56 38.2 -0.7**
	comp=Z,11nm,1.0s				
WRA	**Warramunga Arr**	**49.70 175**	P	**P**	**05 56 38.2 -0.8**
WRA			PcP	**PcP**	**05 58 00.4 +1.0**
WRA	**Warramunga Arr**	**49.70 175**	P	**P**	**05 56 38.2 -0.8**
	comp=Z,2.4nm,0.8s,baz=354,slow=8.4,SNR=17				
WRA			PcP	**PcP**	**05 58 00.4 +1.0**
	comp=Z,1.1nm,0.6s,baz=353,slow=4.6,SNR=2.9				
CTAO	**Charters Tower**	**51.94 161**	*e*P	**P**	**05 56 57.0 +1.2**
CTAO			pmax	pmax	
	comp=Z,12nm,0.9s				
CTAO	**Charters Tower**	**51.94 161**	*e*P	**P**	**05 56 57.0 +1.2**
	comp=Z,12nm,0.9s				
AS31	**Alice Springs**	**53.37 176**	*e*P	**P**	**05 57 06.7 +0.3**
ASAR	**Alice Springs**	**53.37 176**	P	**P**	**05 57 06.5 0.0**
ASAR			PcP	**PcP**	**05 58 14.4 +1.4**
ASAR	**Alice Springs**	**53.37 176**	P	**P**	**05 57 06.5 0.0**
	comp=Z,2.1nm,0.8s,baz=6.6,slow=9.3,SNR=20				
ASAR			PcP	**PcP**	**05 58 14.4 +1.4**
	comp=Z,1.5nm,0.7s,baz=0.0,slow=5.1,SNR=3.1				
ASAR			LR	LR	06 18 36.3
	comp=Z,374nm,21.5s,baz=342,slow=35				
SVE	**Sverdlovsk**	**54.72 321⇑**	*e*P	**P**	**05 57 15.9 0.0**
SVE			pmax	pmax	
	comp=Z,55nm,1.4s				
SVE			MLR	MLR	
	comp=Z,3μm,18.0s				
AB31	**Akbulak array**	**55.75 312**	*i* P	**P**	**05 57 22.8 -0.7**
AB31			pmax	pmax	
	comp=Z,8.0nm,0.5s				
ABKAR	**Akbulak array**	**55.75 312**	*e*P	**P**	**05 57 23.1 -0.3**
	comp=Z,8.5nm,0.5s				
ARU	**Arti**	**55.88 320**	*d i*P	**P**	**05 57 23.9 -0.4**
ARU			*PP	**pP**	**05 57 43.2 +1.6**
ARU					05 58 20.3
ARU					05 59 26.2
ARU			S	**S**	**06 05 07.0 +0.4**
ARU			pmax	pmax	
	comp=Z,83nm,1.7s				
ARU			MLR	MLR	
	comp=Z,3μm,18.0s				
AKTO	**Aktyubinsk**	**56.83 313**	P	**P**	**05 57 30.7 -0.4**
AKTO			pmax	pmax	
	comp=Z,6.0nm,0.7s				
AKTO			MLR	MLR	
	comp=Z,3μm,19.4s				
AKTO	**Aktyubinsk**	**56.83 313**	P	**P**	**05 57 30.7 -0.4**
AKTO	**Aktyubinsk**	**56.83 313**	P	**P**	**05 57 30.7 -0.4**
	comp=Z,5.5nm,0.7s,baz=76,slow=9.2,SNR=13				
AKTO			LR	LR	06 23 53.3
	comp=Z,3μm,19.4s,baz=267,slow=38				
IM04	**Indian Mountai**	**57.22 28**	*e*P	**P**	**05 57 34.4 +0.7**
IMA2	**Indian Mountai**	**57.26 28**	*e*P	**P**	**05 57 34.6 +0.6**
PPLA	**Purkeypile**	**58.03 32**	*e*P	**P**	**05 57 40.8 +1.2**
	comp=Z,53nm,1.4s				
BPAW	**Bear Paw Mtn.**	**58.48 30**	*e*P	**P**	**05 57 43.5 +1.0**
	comp=Z,40nm,1.8s				
COLD	**Coldfoot**	**58.62 27**	*e*P	**P**	**05 57 44.5 +1.1**
	comp=Z,34nm,2.0s				
MCK	**McKinley**	**59.42 31**	*e*P	**P**	**05 57 49.3 +0.3**
MCK			pmax	pmax	
	comp=Z,233nm,2.8s				
MCK	**McKinley**	**59.42 31**	*e*P	**P**	**05 57 49.3 +0.3**
	comp=Z,233nm,2.8s				
COLA	**College**	**59.77 29**	*e*P	**P**	**05 57 52.5 +1.2**
COLA			pmax	pmax	
	comp=Z,33nm,0.6s				
COLA	**College**	**59.77 29**	*e*P	**P**	**05 57 52.5 +1.2**
	comp=Z,33nm,0.6s				
ILAR	**Eielson Array**	**60.19 29**	P	**P**	**05 57 53.8 -0.4**
ILAR	**Eielson Array**	**60.19 29**	P	**P**	**05 57 53.8 -0.4**
	comp=Z,3.5nm,0.6s,baz=264,slow=5.5,SNR=51				
ILAR			LR	LR	06 24 01.9
	comp=Z,252nm,18.1s,baz=122,slow=36				
DZM	**Mont Dzumac**	**62.10 142**	*e*S	S	06 06 35.6 +7.6
	comp=Z,391nm,28.1s				
DZM	**Mont Dzumac**	**62.10 142**	*e*LR	LR	06 16 40.6
	comp=Z,650nm,25.0s				
STKA	**Stephens Creek**	**62.33 169**	*e*P	**P**	**05 58 09.2 +0.2**
	comp=Z,2.2nm,0.8s				
STKA	**Stephens Creek**	**62.33 169**	P	**P**	**05 58 08.9 0.0**
	comp=Z,3.2nm,0.5s,baz=343,slow=8.4,SNR=18				
STKA			LR	LR	06 24 16.5
	comp=Z,416nm,20.5s,baz=130,slow=35				
EGAK	**Eagle**	**62.60 29**	*e*P	**P**	**05 58 10.9 +0.4**
	comp=Z,78nm,2.3s				
TMCR	**Tamitsa**	**64.62 331**	*e*P	**P**	**05 58 21.7 -2.0**
TMCR			*e*		05 58 54.2
TMCR			*e*		06 00 46.8
TMCR			pmax	pmax	
	comp=Z,20nm,0.6s				
INK	**Inuvik**	**64.67 24**	*e*P	**P**	**05 58 23.8 -0.2**
	comp=Z,4.6nm,0.6s				
VRHR	**Novokhopersk**	**66.77 317**	*e*P	**P**	**05 58 36.3 -1.6**
VRHR			pmax	pmax	
	comp=N,10.0nm,0.5s				
VRHR			pmax	pmax	
	comp=Z,10.0nm,0.5s				
VRHR			pmax	pmax	
	comp=E,20nm,0.6s				
ARCES	**ARCESS Array B**	**67.37 338**	P	**P**	**05 58 40.1 -1.3**
ARCES	**ARCESS Array B**	**67.37 338**	P	**P**	**05 58 40.1 -1.3**
	comp=E,2.2nm,0.5s,baz=62,slow=7.6,SNR=19				
ARCES			LR	LR	06 33 28.3
	comp=E,1μm,18.9s,baz=53,slow=41				
MOS	**Moscow**	**67.46 322**	*e*P	**P**	**05 58 39.7 -2.5**
MOS			*e*		05 59 10.2
MOS			pmax	pmax	
	comp=Z,46nm,1.0s				
MOS			MLR	MLR	
	comp=Z,2μm,17.0s				
JOF	**Joensuu**	**67.87 331**	*e*P	**P**	**05 58 42.8 -1.8**
JOF			pmax	pmax	
	comp=Z,8.0nm,0.5s				
JOF	**Joensuu**	**67.87 331**	*e*p	**P**	**05 58 42.8 -1.8**
	comp=Z,8.0nm,0.5s				
ZEI	**Tsey**	**68.16 308**	*e*P	**P**	**05 58 45.5 -1.6**
ZEI			pmax	pmax	
	comp=Z,9.0nm,0.5s				
VSR	**Storozhevoye**	**68.19 317**	*e*P	**P**	**05 58 45.4 -1.4**
VSR			pmax	pmax	
	comp=Z,20nm,1.4s				
VSR			pmax	pmax	
	comp=N,6.0nm,0.4s				
VSR			pmax	pmax	
	comp=E,20nm,1.1s				
VORD	**Divnogorie**	**68.20 317**	*e*P	P	05 58 43.3 -3.6
VORD			pmax	pmax	
	comp=Z,9.0nm,0.4s				
VORD			pmax	pmax	
	comp=N,20nm,0.7s				
VORD			pmax	pmax	
	comp=E,10.0nm,0.6s				
OBN	**Obninsk**	**68.25 322**	*c i*P	**P**	**05 58 46.3 -0.8**
OBN			*e*		05 59 08.5
OBN			pmax	pmax	
	comp=Z,14nm,1.5s				
OBN			MLR	MLR	
	comp=Z,900nm,19.0s				
KBZ	**Khabaz**	**68.50 309**	P	**P**	**05 58 49.0 +0.1**
KBZ			pmax	pmax	
	comp=Z,9.0nm,0.8s				
KBZ	**Khabaz**	**68.50 309**	P	**P**	**05 58 49.0 +0.1**
KBZ	**Khabaz**	**68.50 309**	P	**P**	**05 58 49.0 +0.1**
	comp=Z,9.4nm,0.8s,baz=111,slow=2.8,SNR=12				
KBZ			LR	LR	06 34 34.0
	comp=Z,476nm,18.4s,baz=269,slow=41				
KIV	**Kislovodsk**	**68.56 309**	*d i*P	**P**	**05 58 49.4 0.0**
KIV			*i*		05 59 10.4
KIV			pmax	pmax	
	comp=Z,65nm,1.6s				
KAF	**Kangasniemi**	**70.32 331**	*e*P	**P**	**05 58 56.8 -3.0**
KAF			pmax	pmax	
	comp=Z,7.0nm,0.6s				
KAF	**Kangasniemi**	**70.32 331**	*e*p	**P**	**05 58 56.8 -3.0**
	comp=Z,6.5nm,0.6s				
FIA1	**FINESS Array S**	**70.72 330**	*e*P	**P**	**05 59 00.7 -1.5**
FINES	**FINESS Array B**	**70.72 330**	P	**P**	**05 59 01.0 -1.2**
FINES	**FINESS Array B**	**70.72 330**	P	**P**	**05 59 01.0 -1.2**
	comp=Z,4.1nm,0.5s,baz=66,slow=5.9,SNR=49				
FINES			LR	LR	06 33 41.5
	comp=Z,922nm,18.1s,baz=56,slow=39				
ANN	**Anapa**	**71.72 312**	*e*P	**P**	**05 59 06.9 -1.6**
ANN			*e*PP	**PcP**	**05 59 27.4 +0.1**
ANN			*e*S	**S**	**06 08 22.4 -0.9**
ANN			pmax	pmax	
	comp=Z,77nm,1.7s				
ANN			MLR	MLR	
	comp=N,600nm,20.0s				
ANN			MLR	MLR	
	comp=E,257nm,20.0s				
ANN			MLR	MLR	
	comp=Z,814nm,20.0s				
VSU	**Vasula**	**71.80 328**	*d i*P	**P**	**05 59 08.1 -0.7**
VSU			pmax	pmax	
	comp=Z,35nm,0.8s				
MICGM	**Minsk**	**73.08 324⇑**	*e*P	**P**	**05 59 15.0 -1.5**
MNK	**Minsk**	**73.10 324⇑**	*e*P	**P**	**05 59 15.0 -1.6**
MNK			pmax	pmax	
	comp=Z,40nm,1.0s				
MNK			MLR	MLR	
	comp=Z,3μm,10.0s				
MNK			MLR	MLR	
	comp=E,3μm,10.0s				
MALT	**Malatya**	**73.75 305**	⇑P	**P**	**05 59 21.1 +0.2**
MALT	**Malatya**	**73.75 305**	⇑*i*P	**P**	**05 59 21.1 +0.2**
AKASG	**Malin Array Be**	**74.12 320**	P	**P**	**05 59 21.5 -1.2**
AKASG			pmax	pmax	
	comp=Z,3.0nm,0.4s				
AKASG			MLR	MLR	
	comp=Z,1μm,20.0s				
AKASG	**Malin Array Be**	**74.12 320**	P	**P**	**05 59 21.5 -1.2**
AKASG	**Malin Array Be**	**74.12 320**	P	**P**	**05 59 21.5 -1.2**
	comp=Z,3.0nm,0.4s,baz=50,slow=6.2,SNR=10				
AKASG			LR	LR	06 34 38.2
	comp=Z,1μm,19.9s,baz=80,slow=38				
KIEV	**Kiev**	**74.14 320**	*e*P	**P**	**05 59 21.5 -1.2**
KIEV			pmax	pmax	
	comp=Z,36nm,1.6s				
KIEV	**Kiev**	**74.14 320**	*e*P	**P**	**05 59 21.5 -1.2**
	comp=Z,36nm,1.6s				
YKW3	**Yellowknife Ar**	**74.25 26**	*e*P	**P**	**05 59 23.7 +0.5**
	comp=Z,0.1nm,0.7s				
YKA	**Yellowknife Ar**	**74.29 26**	P	**P**	**05 59 24.0 +0.6**
YKA	**Yellowknife Ar**	**74.29 26**	P	**P**	**05 59 24.0 +0.6**
	comp=Z,4.6nm,0.6s,baz=300,slow=5.8,SNR=63				
RAYN	**Ar Rayn**	**74.68 289**	*e*P	**P**	**05 59 25.3 -1.1**
	comp=Z,29nm,1.2s				
SUW	**Suwalki**	**75.72 324**	*e*P	**P**	**05 59 31.0 -0.8**
KIS	**Kishinev**	**76.12 316**	*e*P	**PcP**	**05 59 47.0 +0.8**
KIS			LRM	MLR	06 35 52.0
	comp=Z,300nm,14.0s				
KIS	**Kishinev**	**76.12 316**	*e*P	P	05 59 47.0 +13
KIS			*e*		06 09 34.0
KIS			MLR	MLR	
	comp=Z,700nm,15.0s				
KIS			MLR	MLR	
	comp=N,300nm,14.0s				
KIS			MLR	MLR	
	comp=E,500nm,19.0s				
KIS			MLR	MLR	
	comp=Z,700nm,20.0s				
BR131	**Keskin Array S**	**76.46 308**	*e*P	**P**	**05 59 36.2 -0.4**
	comp=Z,4.7nm,0.6s				
BRTR	**Keskin Array B**	**76.46 308**	P	**P**	**05 59 36.0 -0.5**
BRTR	**Keskin Array B**	**76.46 308**	P	**P**	**05 59 36.0 -0.5**
	comp=Z,5.4nm,0.6s,baz=103,slow=3.9,SNR=21				
BRTR			LR	LR	06 36 08.6
	comp=Z,216nm,20.9s,baz=284,slow=38				
NB2	**NORSAR Subarra**	**76.95 334**	P	**P**	**05 59 37.2 -1.5**
	comp=Z,4.0nm,0.6s,baz=50,slow=5.9				
NOA	**NORSAR Array B**	**76.95 334**	P	**P**	**05 59 37.7 -1.1**
NOA	**NORSAR Array B**	**76.95 334**	P	**P**	**05 59 37.7 -1.1**
	comp=Z,4.7nm,0.6s,baz=50,slow=5.6,SNR=14				
NOA			LR	LR	06 38 40.4
	comp=Z,522nm,18.0s,baz=55,slow=40				
CFR	**Carcaliu**	**77.43 315**	⇑P	**P**	**05 59 40.7 -0.9**
CFR	**Carcaliu**	**77.43 315**	⇑*i*P	**P**	**05 59 40.7 -0.9**
LVV	**L'vov**	**77.46 321**	*e*P	**P**	**05 59 41.0 -0.7**
SUMG	**Summit**	**77.51 357**	*e*P	**P**	**05 59 42.4 +0.3**
SUMG			pmax	pmax	
	comp=Z,28nm,1.2s				
SUMG	**Summit**	**77.51 357**	*i* P	**P**	**05 59 42.4 +0.3**
	comp=Z,13nm,0.9s				
SUMG	**Summit**	**77.51 357**

TESR	Tescani	77.66	317	⇓iP	P	05 59 42.3	-0.6
TLB	Topalu	77.78	314	⇑P	P	05 59 43.4	-0.2
TLB	Topalu	77.78	314	⇑iP	P	05 59 43.3	-0.3
BUR08	Bucovina Ar. S	77.93	318	eP	P	05 59 44.1	-0.5
BURAR	Bucovina Array	77.94	318	⇑P	P	05 59 44.2	-0.4
BURAR	Bucovina Array	77.94	318	⇑iP	P	05 59 44.2	-0.4
VRI	Vrincioaia	77.94	316	⇑P	P	05 59 44.6	+0.1
VRI	Vrincioaia	77.94	316	⇑iP	P	05 59 44.6	+0.1
KWP	Kalwaria Pacla	78.29	321	eP	P	05 59 46.5	+0.1
MLR	Muntele Rosu	78.60	316	⇓iP	P	05 59 47.0	-1.3
KOLS	Kolonicke sedl	78.90	320	eP	P	05 59 49.4	-0.4
KOLS	comp=Z,4.0nm,0.8s			pmax	pmax		
KOLS	Kolonicke sedl	78.90	320	eP	P	05 59 49.4	-0.4
BSD	Bornholm Skovb	79.08	328	iP	P	05 59 49.3	-1.2
BSD	comp=Z,18nm,1.0s			pmax	pmax		
BSD	comp=Z,730nm,14.0s			MLR	MLR		
BSD	Bornholm Skovb	79.08	328	iP	P	05 59 49.3	-1.2
BSD	comp=Z,18nm,0.9s						
BSD	comp=Z,730nm,14.0s						
VOIR		79.17	316	⇑P	P	05 59 50.7	-0.7
VOIR		79.17	316	⇑iP	P	05 59 50.7	-0.7
TRPA	Tarpa	79.19	320	⇓iP	P	05 59 51.2	-0.1
STHS	Stebnicka Huta	79.20	321	eP	P	05 59 51.9	+0.5
STHS	comp=Z,7.0nm,1.4s			pmax	pmax		
STHS	Stebnicka Huta	79.20	321	eP	P	05 59 51.9	+0.5
CRVS	Cervenica-Dubn	79.37	321	eP	P	05 59 52.1	-0.2
CRVS	comp=Z,9.0nm,1.4s			pmax	pmax		
CRVS	Cervenica-Dubn	79.37	321	eP	P	05 59 52.1	-0.2
TNR	Turnu Rosu	79.52	317	⇓P	P	05 59 51.6	-1.6
TNR	Turnu Rosu	79.52	317	⇓iP	P	05 59 51.6	-1.6
OJC	Ojcow	79.53	322	eP	P	05 59 53.3	+0.2
OJC	Ojcow	79.53	322	eP	P	05 59 53.3	+0.2
NIE	Niedzica	79.71	322	eP	P	05 59 56.3	+2.1
DRGR		79.82	318	⇑P	P	05 59 54.7	-0.2
DRGR		79.82	318	⇑iP	P	05 59 54.7	-0.2
KECS	Kecovo	80.14	321	eP	P	05 59 57.3	+0.8
KECS	comp=Z,3.0nm,0.8s			pmax	pmax		
KECS	Kecovo	80.14	321	eP	P	05 59 57.3	+0.8
EDM	Edmonton	80.35	33	eP	P	05 59 58.5	+0.9
EDM	Edmonton	80.35	33	eP	P	05 59 58.5	+0.9
GZR	Gura Zlata	80.54	317	⇓P	P	05 59 58.3	-0.5
GZR	Gura Zlata	80.54	317	⇓iP	P	05 59 58.3	-0.5
OKC	Ostrava-Krasne	80.62	323	eP	P	05 59 59.6	+0.6
OKC	comp=Z,600nm,15.7s			MLR	MLR		
OKC	Ostrava-Krasne	80.62	323	eP	P	05 59 59.6	+0.6
OKC				ePCP	PcP	06 00 03.2	-2.5
OKC				AMS	AMS	06 40 20.0	
PSZ	comp=Z,600nm,15.7s Piszkesteto	80.78	320	eP	P	06 00 00.5	+0.5
PSZ	comp=Z,16nm,1.2s			pmax	pmax		
PSZ	Piszkesteto	80.78	320	eP	P	06 00 00.5	+0.5
MORC	comp=Z,16nm,1.2s Moravsky Berou	80.97	323	eP	P	06 00 00.7	-0.3
MORC	comp=Z,27nm,1.7s			pmax	pmax		
MORC	Moravsky Berou	80.97	323	eP	P	06 00 00.7	-0.3
KSP	comp=Z,27nm,1.7s Ksiaz	80.99	324	eP	P	06 00 01.0	0.0
KSP	comp=Z,2µm,17.0s			MLR	MLR		
KSP	Ksiaz	80.99	324	eP	P	06 00 02.0	+1.0
VYHS	Vyhne	81.03	321	eP	P	06 00 01.2	-0.1
VYHS	comp=Z,9.0nm,1.3s			pmax	pmax		
VYHS	Vyhne	81.03	321	eP	P	06 00 01.2	-0.1
DPC	Dobruska-Polom	81.27	324	eP	P	06 00 02.9	+0.4
DPC	Dobruska-Polom	81.27	324	eP	P	06 00 02.9	+0.4
DPC				ePCP	PcP	06 00 06.7	-1.9
DPC				AMS	AMS	06 39 20.0	
DPC	Dobruska-Polom	81.27	324	eP	P	06 00 02.9	+0.4
NEW	comp=Z,142nm,1.7s Newport	81.39	39	eP	P	06 00 03.6	+0.4
NEW	comp=Z,6.3nm,1.0s Newport	81.39	39	⇓P	P	06 00 03.5	+0.3
PVCC	baz=81 Panska Ves	82.05	325	AMS	AMS	06 39 40.0	
BRG	comp=Z,1µm,14.2s Berggiesshubel	82.15	325	eP	P	06 00 06.6	-0.5
BRG	comp=Z,128nm,3.2s						
BRG	comp=Z,1µm,16.0s						
BRG	comp=N,600nm,19.5s						
BRG	comp=E,583nm,19.5s						
BRG	Berggiesshubel	82.15	325	eP	P	06 00 06.6	-0.5
BRG	comp=Z,128nm,3.2s			pmax	pmax		
BRG	comp=Z,1µm,16.0s			MLR	MLR		
BRG	comp=N,600nm,19.5s			MLR	MLR		
BRG	comp=E,583nm,19.5s			MLR	MLR		
CLL	Collm	82.34	326	eP	P	06 00 07.5	-0.5
CLL	comp=Z,12nm,1.0s			pmax	pmax		
CLL	comp=Z,12nm,1.0s						
CLL	comp=Z,1µm,18.3s			MLR	MLR		
CLL	Collm	82.34	326	iP	P	06 00 07.6	-0.5
CLL	comp=Z,12nm,1.0s						
CLL				iPcP	PcP	06 00 11.5	-1.6
CLL				ePP	PP	06 03 17.0	+0.1
CLL				LV		06 41 00.0	
TREC	comp=Z,1µm,18.3s Trest	82.34	323	AMS	AMS	06 39 40.0	
PRU	comp=Z,800nm,17.7s Pruhonice	82.39	324	eP	P	06 00 08.5	+0.1
PRU	comp=Z,1µm,16.4s			MLR	MLR		
PRU	Pruhonice	82.39	324	eP	P	06 00 08.5	+0.1
PRU	comp=Z,1µm,16.4s			AMS	AMS	06 40 10.0	
WALA	Waterton Lakes	82.62	37	eP	P	06 00 10.5	+0.7
BSMT	comp=Z,0.3nm,1.1s Bassoo Peak	82.89	38	eP	P	06 00 12.6	+1.4
CONA	Conrad Observa	82.97	322	⇑iP	P	06 00 11.9	+0.4
TANN	comp=Z,13nm,0.9s Tannenbergstha	83.17	325	eP	P	06 00 12.7	+0.2
CLZ	comp=Z,29nm,1.8s Clausthal	83.25	327	eP	P	06 00 12.9	+0.1
CLZ	comp=Z,42nm,1.3s Clausthal	83.25	327	eP	P	06 00 12.9	+0.1
CLZ				pmax	pmax		
BMO	comp=Z,42nm,1.3s Blue Mountains	83.28	42	eP	P	06 00 13.9	+0.7
NKC	comp=Z,6.4nm,0.9s Novy Kostel	83.29	325	AMS	AMS	06 41 40.0	
MOX	comp=Z,900nm,15.7s Moxa	83.44	326	eP	P	06 00 13.7	-0.1
MOX	comp=Z,15nm,1.5s Moxa	83.44	326	eP	P	06 00 13.7	-0.1
MOX	comp=Z,15nm,1.5s			pmax	pmax		
SWMT	Swartz Lake	83.52	38	eP	P	06 00 15.5	+1.0
GEC2	GERESS Array S	83.54	324	eP	P	06 00 13.9	-0.6
GEC2	comp=Z,9.0nm,1.3s GERESS Array S	83.54	324	eP	P	06 00 14.1	-0.4
GEC2	GERESS Array S	83.54	324	eP	P	06 00 14.1	-0.4
GERES	comp=Z,2µm,1.3s GERESS Array B	83.54	324	P	P	06 00 14.2	-0.2
GERES	GERESS Array B	83.54	324	P	P	06 00 14.2	-0.2
GERES	comp=Z,0.8nm,0.5s,baz=42,slow=4.2,SNR=12			LR	LR	06 41 11.8	
ARSA	comp=Z,1µm,18.7s,baz=44,slow=38 Arzberg	83.57	322	⇓iP	P	06 00 14.8	+0.3
ROTZ	comp=Z,6.7nm,1.0s Rotzenmuhle	83.71	325	eP	P	06 00 15.1	-0.1
WET	comp=Z,19nm,1.4s Wettzell	83.77	324	eP	P	06 00 15.1	-0.4
WET	comp=Z,24nm,1.9s Wettzell	83.77	324	eP	P	06 00 15.1	-0.4
WET				pmax	pmax		
MOA	comp=Z,24nm,1.9s Molln	83.87	323	⇓iP	P	06 00 15.2	-0.9
WVOR	comp=Z,12nm,1.2s Wild Horse Val	83.90	44	eP	P	06 00 17.0	+0.5
WVOR				pmax	pmax		
WVOR	comp=Z,4.0nm,0.8s Wild Horse Val	83.90	44	eP	P	06 00 17.0	+0.5
SLMT	comp=Z,4.2nm,0.8s Seeley Lake	83.96	38	eP	P	06 00 17.3	+0.6
MSO	Missoula	83.97	39	⇑P	P	06 00 17.0	+0.3
UBBA	baz=84 Unterbreizbach	84.10	327	eP	P	06 00 16.9	-0.1
FCC	comp=Z,38nm,2.2s Fort Churchill	84.14	22	eP	P	06 00 17.4	+0.3
FCC	Fort Churchill	84.14	22	eP	P	06 00 17.4	+0.3
PERS	comp=Z,0.4nm,0.9s Pernice	84.16	321	iP	P	06 00 17.1	-0.6
SOKA	Soboth	84.18	321	⇑iP	P	06 00 17.5	-0.3
GRF	comp=Z,31nm,1.2s Grafenberg Arr	84.25	325	eP	P	06 00 17.7	-0.2
GRF	comp=Z,52nm,1.5s Grafenberg Arr	84.25	325	eP	P	06 00 17.7	-0.2
GRF				pmax	pmax		
BEKR	comp=Z,52nm,1.5s Beckworth	84.29	47	eP	P	06 00 18.1	-0.5
FFC	comp=Z,3.1nm,0.9s Flin Flon	84.34	28	eP	P	06 00 18.9	+0.6
FFC	Flin Flon	84.34	28	eP	P	06 00 18.9	+0.6
OBKA	comp=Z,151nm,2.0s Obir	84.55	321	⇑iP	P	06 00 18.4	-1.3
B17A	comp=Z,18nm,1.7s L&G Farms, Che	84.70	36	⇓P	P	06 00 20.6	+0.3
RJOB	baz=84,SNR=6.7 Jochberg	84.71	323	eP	P	06 00 19.9	-0.5
A18A	comp=Z,20nm,1.6s Metzger Ranch,	84.78	35	⇓P	P	06 00 21.2	+0.5
BOJS	baz=85,SNR=6.4 Bojanci	84.79	320	eP	P	06 00 20.0	-0.7
VISS	Visnje	84.83	321	iP	P	06 00 20.8	-0.2
KBA	Koelnbreinsper	84.84	322	⇓iP	P	06 00 21.4	+0.2
BUG	comp=Z,8.2nm,0.7s Bochum--Univer	84.95	328	eP	P	06 00 21.2	-0.2
MYKA	comp=Z,32nm,1.5s Terra Mystica	84.96	322	⇑iP	P	06 00 20.5	-1.1
MFID	comp=Z,14nm,1.6s Camas Ranch	84.99	42	⇑P	P	06 00 22.3	+0.4
PAHR	baz=85,SNR=7.2 Pah Rah Range	85.00	47	eP	P	06 00 23.1	+1.0
C17A	comp=Z,9.1nm,1.0s Wharram Farm,	85.15	37	⇓P	P	06 00 22.6	0.0
B18A	baz=85 Beardsley Farm	85.16	36	⇓P	P	06 00 23.0	+0.4
HRY	baz=85 Holter Researc	85.18	38	eP	P	06 00 24.0	+1.2
JAVS	Javornik	85.20	321	iP	P	06 00 22.4	-0.5
VOY	Vojsko	85.20	321	eP	P	06 00 21.8	-1.1
CMB	Columbia Colle	85.31	49	eP	P	06 00 24.2	+0.6
CMB	comp=Z,5.0nm,0.8s			pmax	pmax		
CMB	Columbia Colle	85.31	49	eP	P	06 00 24.2	+0.6
A19A	comp=Z,4.9nm,0.8s Klindworth Far	85.32	35	⇑P	P	06 00 23.8	+0.4
LRM	baz=85 Limekiln Ridge	85.41	39	eP	P	06 00 26.2	+2.1
EGMT	Eagleton	85.41	36	eP	P	06 00 24.8	+0.9
EGMT	comp=Z,9.1nm,0.9s Eagleton	85.41	36	⇓P	P	06 00 24.0	+0.1
ABTA	baz=85 Abfaltersbach	85.49	323	⇑iP	P	06 00 23.8	-0.5
D17A	comp=Z,4.3nm,0.7s Six Diamond Ra	85.50	37	⇓P	P	06 00 24.5	0.0
B19A	baz=85 Brinkman Farms	85.54	35	⇓P	P	06 00 24.9	+0.4
DLMT	baz=85 Dillon	85.62	39	eP	P	06 00 26.2	+1.2
WAKR	comp=Z,16nm,1.1s Walker	85.66	48	eP	P	06 00 26.8	+1.3
HLID	Hailey	85.71	41	eP	P	06 00 27.3	+1.6
HLID	comp=Z,7.5nm,0.9s Hailey	85.71	41	⇑P	P	06 00 26.9	+1.3
A20A	baz=86,SNR=16 Cobblestone Ra	85.76	34	⇑P	P	06 00 25.8	+0.2
E17A	baz=86 Martinsdale	85.85	38	⇑P	P	06 00 27.4	+1.1
D18A	baz=86,SNR=7.5 Linhart Farms,	85.93	36	⇑P	P	06 00 26.9	+0.3
C19A	baz=86 Slack Wire Ran	85.96	36	⇓P	P	06 00 27.4	+0.7
BOZ	baz=86 Bozeman (W)	85.96	39	eP	P	06 00 27.1	+0.3
BOZ	comp=Z,4.0nm,0.9s			pmax	pmax		
BOZ	Bozeman (W)	85.96	39	eP	P	06 00 27.1	+0.3
B20A	comp=Z,3.6nm,0.9s Solberg Farm,	86.01	35	⇑P	P	06 00 27.2	+0.4
A21A	baz=86 Bergtoll Ranch	86.17	34	⇑P	P	06 00 28.2	+0.6
E18A	baz=86,SNR=7.1 Harlowton	86.28	37	⇓P	P	06 00 29.2	+0.9
F17A	baz=86,SNR=5.5 Fitzpatrick Pl	86.32	38	⇓P	P	06 00 29.1	+0.5
D19A	baz=86 Cripps Ranch,	86.42	36	⇓P	P	06 00 29.7	+0.7
NVAR	baz=86,SNR=6.2 Mina Array Bea	86.43	47	P	P	06 00 30.4	+1.1
NVAR	Mina Array Bea	86.43	47	P	P	06 00 30.4	+1.1
C20A	comp=Z,2.6nm,0.7s,baz=298,slow=5.3,SNR=32 Veseth Ranch,	86.50	35	⇑P	P	06 00 29.8	+0.5
B21A	baz=86 Ellsworth Farm	86.51	34	⇑P	P	06 00 29.7	+0.4
G17A	baz=86 Pierce Place,	86.65	38	⇑P	P	06 00 30.6	+0.4
A22A	baz=86 Carney Farms,	86.66	33	⇑P	P	06 00 30.5	+0.5
FUORN	baz=86 Ofenpass-Fuorn	86.75	323	eP	P	06 00 33.1	+2.4
H16A	comp=Z,9.6nm,1.2s Russell Place,	86.77	39	⇑P	P	06 00 31.6	+0.7
F18A	baz=87 Big Timber	86.82	37	⇑P	P	06 00 31.6	+0.7
D20A	baz=87 Manuel Ranch,	86.85	36	⇑P	P	06 00 31.7	+0.7
GCMT	baz=87,SNR=5.5 Greycliff	86.92	38	eP	P	06 00 32.3	+0.8
E19A	comp=Z,3.9nm,0.9s Rath Farm, Rou	86.94	37	⇓P	P	06 00 32.2	+0.7
ELK	baz=87,SNR=6.6 Elko	86.95	44	eP	P	06 00 32.5	+0.6
B22A	comp=Z,3.4nm,1.0s Reddig Ranch S	87.09	34	⇓P	P	06 00 32.5	+0.3
A23A	baz=87 Redstone	87.17	33	⇑P	P	06 00 32.8	+0.4
I16A	baz=87 Newdale	87.17	40	⇓P	P	06 00 34.0	+1.2
E20A	baz=87 Meyer Farm, Mu	87.25	36	⇓P	P	06 00 33.8	+0.8
F19A	baz=87,SNR=7.7 Roth Farm, Mol	87.26	37	⇑P	P	06 00 33.6	+0.6
LKWY	baz=87 Lake	87.33	39	eP	P	06 00 36.0	+2.4
LKWY				pmax	pmax		
LKWY	comp=Z,14nm,1.0s Lake	87.33	39	eP	P	06 00 36.0	+2.4
D21A	comp=Z,14nm,1.0s La Casta Ranch	87.44	35	⇑P	P	06 00 34.2	+0.3
IMW	baz=87 Indian Meadow	87.46	40	eP	P	06 00 36.3	+2.0
B23A	comp=Z,9.7nm,1.1s Brockton	87.46	33	⇓P	P	06 00 34.4	+0.5
PKM	baz=87 Peak Mountain	87.47	51	⇑P	P	06 00 34.6	+0.2
C22A	baz=87 Vida	87.53	34	⇑P	P	06 00 34.0	-0.3
RRI2	baz=87 Red Ridge	87.60	40	eP	P	06 00 36.6	+1.6
H18A	comp=Z,6.8nm,1.0s Shoshone NF, C	87.65	38	⇓P	P	06 00 35.6	+0.5
TPAW	baz=88 Teton Pass	87.72	40	eP	P	06 00 37.2	+1.7
D22A	comp=Z,9.6nm,1.2s Cohagen	87.79	35	⇓P	P	06 00 36.1	+0.6
LOHW	baz=88 Long Hollow	87.83	40	eP	P	06 00 37.1	+1.1
DGMT	comp=Z,4.1nm,1.1s Dagmar	87.84	33	eP	P	06 00 36.8	+1.1
DGMT	comp=Z,13nm,1.0s Dagmar	87.84	33	⇓P	P	06 00 36.0	+0.3
	baz=88						
SNOW	Snow King Moun	87.84	40	eP	P	06 00 37.2	+1.1
REDW	comp=Z,4.0nm,1.0s Red Top Meadow	87.86	40	eP	P	06 00 38.7	+2.6
A25A	comp=Z,92nm,3.0s Svangstu Ranch	88.01	32	⇓P	P	06 00 37.2	+0.7
H19A	baz=88 Powell	88.02	38	⇑P	P	06 00 37.0	+0.2
G20A	baz=88 Bridger	88.06	37	⇑P	P	06 00 37.3	+0.4
BGU	baz=88 Big Grassy Mou	88.16	43	eP	P	06 00 38.6	+1.1
R11A	comp=Z,4.3nm,1.1s Troy Canyon, C	88.19	46	eP	P	06 00 39.4	+1.7
R11A	comp=Z,28nm,2.3s Troy Canyon, C	88.19	46	⇓P	P	06 00 38.2	+0.4
I18A	baz=88 Diamond G Ranc	88.21	39	⇓P	P	06 00 38.2	+0.4
D23A	baz=88 Lindsay	88.26	34	⇓P	P	06 00 38.3	+0.6
MPMC	baz=88 Manual Prospec	88.34	49	⇓P	P	06 00 39.1	+0.6
B25A	baz=88 Knox Farm, Ray	88.47	33	⇓P	P	06 00 39.0	+0.3
FURC	baz=88 Furnace Creek,	88.51	48	⇑P	P	06 00 40.2	+1.2
A26A	baz=88 Wade Farm, Ken	88.53	32	⇑P	P	06 00 39.8	+0.8
LRMC	baz=88 Laurel Mountai	88.56	49	⇓P	P	06 00 40.0	+0.5
HWUT	baz=88 Hardware Ranch	88.58	42	eP	P	06 00 41.0	+1.5
G21A	comp=Z,8.9nm,1.1s Lodge Grass	88.58	37	⇑P	P	06 00 39.8	+0.4
H20A	baz=88 Greybull	88.67	38	⇑P	P	06 00 40.3	+0.5
E23A	baz=88 Ismay	88.68	35	⇑P	P	06 00 40.4	+0.7
F22A	baz=88 Rosebud	88.70	36	⇓P	P	06 00 40.4	+0.6
DUG	baz=88 Dugway	88.74	43	eP	P	06 00 41.8	+1.5
DUG				pmax	pmax		
DUG	comp=Z,6.0nm,1.2s Dugway	88.74	43	eP	P	06 00 41.8	+1.5
DUG	comp=Z,6.1nm,1.2s Dugway	88.74	43	⇓P	P	06 00 40.9	+0.7
C25A	baz=89 Freed Ranch, W	88.82	33	⇑P	P	06 00 41.2	+0.8
CEL	baz=89 Celeste	88.87	314	eP	P	06 00 41.2	+0.4
J19A	comp=Z,16nm,0.8s Crowheart	88.91	39	⇑P	P	06 00 41.6	+0.6
I20A	baz=89 Worland	88.96	38	⇓P	P	06 00 41.7	+0.5
BW06	baz=89 Boulder Array	88.96	40	eP	P	06 00 41.6	+0.2
PDAR	comp=Z,3.9nm,1.1s Pinedale Array	88.96	40	P	P	06 00 41.9	+0.5
PDAR	Pinedale Array	88.96	40	P	P	06 00 41.9	+0.5
H21A	comp=Z,1.8nm,0.9s,baz=306,slow=1.4,SNR=13 Big Horn, Sher	89.08	37	⇓P	P	06 00 42.0	+0.2
F23A	baz=89 Volborg	89.17	36	⇑P	P	06 00 42.7	+0.7
M17A	baz=89 Scullys Gap (B	89.18	41	⇑P	P	06 00 42.8	+0.4
GSC	baz=89 Goldstone	89.24	49	⇓P	P	06 00 43.4	+0.8
L18A	baz=89 Fontenelle, Gr	89.25	41	⇑P	P	06 00 43.5	+0.8
C26A	baz=89 Wahner Farm, P	89.28	32	⇑P	P	06 00 43.3	+0.8
K19A	baz=89 Absolon Red Bu	89.32	39	⇓P	P	06 00 43.8	+0.8
A28A	baz=89 Rude Farm, Bot	89.32	31	⇑P	P	06 00 43.6	+0.9
J20A	baz=89 Shoshoni	89.38	39	⇓P	P	06 00 44.2	+1.0
I21A	baz=89 Big Trails, Te	89.50	38	⇑P	P	06 00 44.2	+0.4
L19A	baz=89 Farson	89.51	40	⇓P	P	06 00 44.6	+0.6
DAU	baz=89 Daniels Canyon	89.52	42	eP	P	06 00 45.7	+1.5
DAU				pmax	pmax		
DAU	comp=Z,7.0nm,1.1s Daniels Canyon	89.52	42	eP	P	06 00 45.7	+1.5
G23A	comp=Z,6.7nm,1.1s Biddle	89.54	36	⇓P	P	06 00 44.3	+0.5
F24A	baz=89 Ekalaka	89.56	35	⇑P	P	06 00 44.8	+0.9
B28A	baz=89 Dugan Ranch, T	89.62	31	⇓P	P	06 00 44.2	+0.2
D26A	baz=89 Manning	89.70	33	⇑P	P	06 00 44.8	+0.3
K20A	baz=90 Yellowstone Ra	89.70	39	⇑P	P	06 00 45.2	+0.4
J21A	baz=90 Lysite	89.73	38	⇓P	P	06 00 45.5	+0.6
TUQ	baz=90 Turquoise Moun	89.73	49	⇑P	P	06 00 45.6	+0.6
A29A	baz=90 Manning Farm,	89.77	30	⇓P	P	06 00 45.5	+0.8
HEC	baz=90 Hector,Ludlow	89.83	49	⇑P	P	06 00 46.7	+1.3
I22A	baz=90 9 Mile Ranch,	89.87	37	⇑P	P	06 00 46.4	+1.0
G24A	baz=90 Alzada	89.94	35	⇓P	P	06 00 46.6	+0.9
F25A	baz=90 Bowman	89.99	34	⇓P	P	06 00 46.9	+1.0
B29A	baz=90 Wagenman Farm,	90.06	31	⇓P	P	06 00 46.9	+0.8
PPT	baz=90 Papeete	90.10	110	LR	LR	06 34 07.5	
PPT2	comp=Z,146nm,20.1s,baz=53,slow=31 Papeete2	90.11	110	eLR	LR	06 29 46.4	
L20A	comp=Z,395nm,27.2s Wamsutter	90.14	40	⇓P	P	06 00 47.9	+1.0
A30A	baz=90 Hoffart Farm,	90.16	30	⇑P	P	06 00 47.6	+1.0
ULM	baz=90 Lac du Bonnet	90.17	28	eP	P	06 00 47.0	+0.5
ULM	comp=Z,15nm,1.0s Lac du Bonnet	90.17	28	P	P	06 00 47.2	+0.7
MVU	comp=Z,8.0nm,0.8s,baz=327,slow=5.9,SNR=6.2 Marysvale	90.17	44	eP	P	06 00 49.0	+1.9
J22A	comp=Z,2.3nm,0.8s Midwest	90.20	38	⇓P	P	06 00 47.7	+0.7
H24A	baz=90 Dirks Ranch, A	90.28	36	⇓P	P	06 00 47.8	+0.5
GMRC	baz=90 Granite Mounta	90.30	49	⇑P	P	06 00 48.6	+1.0
K21A	baz=90 Alcova	90.32	39	⇓P	P	06 00 48.2	+0.5
MDND	baz=90 Maddock	90.41	31	eP	P	06 00 48.9	+1.1
MDND	comp=Z,20nm,0.9s Maddock	90.41	31	⇓P	P	06 00 48.5	+0.8
F26A	baz=90 Lodgepole	90.43	34	⇓P	P	06 00 48.7	+0.8
D28A	baz=90 Regan	90.45	32	⇑P	P	06 00 48.6	+0.7
B30A	baz=90 Myrvik Farm, E	90.52	30	⇑P	P	06 00 48.5	+0.3
Q16A	baz=90 Castle Valley	90.53	43	⇓P	P	06 00 49.7	+0.9
E27A	baz=90 Carson	90.55	33	⇑P	P	06 00 49.0	+0.5
BELC	baz=90 Belle Mtn. Jos	90.55	50	⇓P	P	06 00 49.7	+0.8
L21A	baz=90 Rawlins	90.70	39	⇓P	P	06 00 49.4	-0.1
SRU	baz=90 San Rafael	90.79	43	eP	P	06 00 51.3	+1.4
SRU				pmax	pmax		
SRU	comp=Z,7.0nm,0.7s San Rafael	90.79	43	eP	P	06 00 51.3	+1.4
O19A	comp=Z,6.9nm,0.7s Miners Draw (B	90.83	41	⇓P	P	06 00 50.9	+0.8
H25A	baz=91 Fruitdale	90.85	35	⇓P	P	06 00 51.1	+1.1
G26A	baz=91 Maurine	90.87	34	⇓P	P	06 00 50.9	+0.9
N20A	baz=91 Spence Gulch,	90.97	41	⇓P	P	06 00 51.5	+0.7
RSSD	baz=91 Black Hills	90.98	36	eP	P	06 00 52.7	+2.0
RSSD				pmax	pmax		

comp=Z,7.0nm,0.9s
RSSD Black Hills 90.98 36 *e*P **P 06 00 52.7 +2.0**
comp=Z,7.1nm,0.9s
G27A Dupree 91.13 34 ⇑P **P 06 00 52.1 +0.9**
baz=91
I25A Rochford 91.21 36 ⇓P **P 06 00 52.5 +0.7**
baz=91
W13A Hualapai Mount 91.26 48 ⇓P **P 06 00 52.9 +0.7**
baz=91
H26A Fairpoint 91.27 35 ⇑P **P 06 00 52.6 +0.7**
baz=91
F28A McLaughlin 91.33 33 ⇓P **P 06 00 52.9 +0.8**
baz=91
D30A Buchanan 91.34 31 ⇓P **P 06 00 52.9 +0.8**
baz=91
E29A Napoleon 91.34 32 ⇓P **P 06 00 52.9 +0.7**
baz=91
P19A Cripple Cowboy 91.36 42 ⇓P **P 06 00 53.4 +0.9**
baz=91
U15A North Rim 91.44 46 ⇑P **P 06 00 53.8 +0.7**
baz=91
O20A White River Ci 91.45 41 ⇑P **P 06 00 53.7 +0.7**
baz=91
L23A Garrett 91.51 38 ⇑P **P 06 00 53.7 +0.4**
baz=91
M22A Cedar Creek Ra 91.51 39 ⇑P **P 06 00 53.8 +0.5**
baz=91
J25A Sunshine Ranch 91.62 36 ⇑P **P 06 00 54.0 +0.4**
baz=91
I26A New Underwood 91.64 35 ⇓P **P 06 00 54.3 +0.7**
baz=91
E30A Jud 91.73 32 ⇑P **P 06 00 54.4 +0.5**
baz=92
P20A De Beque 91.78 42 ⇓P **P 06 00 55.4 +0.9**
baz=92
M23A Laramie 91.94 39 ⇑P **P 06 00 55.7 +0.4**
baz=92
N22A Wattenberg Ran 92.00 40 ⇑P **P 06 00 56.2 +0.6**
baz=92
I27A Quinn 92.02 35 ⇑P **P 06 00 56.2 +0.8**
baz=92
J26A Sides Ranch, S 92.05 36 ⇓P **P 06 00 56.6 +1.1**
baz=92
H28A Mission Ridge 92.09 34 ⇑P **P 06 00 56.6 +1.0**
baz=92
PV10 Paradox Valley 92.15 43 *e*P **P 06 00 58.5 +2.1**
comp=Z,218nm,0.8s
Q20A Ridgley Place, 92.20 42 ⇑P **P 06 00 57.5 +1.0**
baz=92
N23A Red Feather La 92.22 39 ⇓P **P 06 00 57.3 +0.7**
baz=92
PV04 Paradox Valley 92.22 43 *e*P **P 06 00 58.6 +2.0**
P21A Newcastle 92.31 41 ⇑P **P 06 00 57.9 +0.9**
baz=92
O22A Kremmling 92.39 40 ⇓P **P 06 00 58.4 +0.9**
baz=92
M24A Cheyenne 92.43 38 ⇑P **P 06 00 58.4 +1.0**
baz=92
Y14A Wickenburg 92.55 48 ⇑P **P 06 00 58.8 +0.8**
baz=92
PV01 Paradox Valley 92.59 43 *e*P **P 06 00 59.5 +1.2**
comp=Z,767nm,1.1s
P22A Eagle 92.65 41 ⇑P **P 06 00 59.8 +1.2**
baz=92
R20A Redvale 92.66 43 ⇑P **P 06 00 60.0 +1.3**
baz=92
Q21A Lamborn Mesa, 92.70 42 ⇑P **P 06 01 00.0 +1.2**
baz=92
113A Mohawk Valley, 92.78 50 ⇑P **P 06 01 00.1 +1.1**
baz=93
S20A Disappointment 92.91 43 ⇑P **P 06 01 01.0 +1.2**
baz=93
R21A Cimarron 93.03 42 ⇑P **P 06 01 01.1 +0.8**
baz=93
Q22A Crested Butte, 93.06 41 ⇑P **P 06 01 01.4 +0.8**
baz=93
MVCO Mesa Verde 93.24 43 ⇑P **P 06 01 01.8 +0.4**
baz=93
X16A Lo Mia Camp, P 93.25 47 ⇓P **P 06 01 02.1 +0.7**
baz=93
S21A Coal Bank Pass 93.36 43 ⇓P **P 06 01 03.2 +1.2**
baz=93
214A Organ Pipe Nat 93.92 50 ⇓P **P 06 01 05.3 +1.0**
baz=94
V20A Brimhall 94.20 44 ⇑P **P 06 01 06.6 +0.8**
baz=94
SCHQ Schefferville 94.26 10 LR LR 06 44 49.0
comp=Z,296nm,19.2s,baz=36,slow=36
U21A Nageezi 94.27 43 ⇓P **P 06 01 06.7 +0.7**
baz=94
KEST Kesra 94.51 316 LR LR 06 52 18.7
comp=Z,208nm,19.2s,baz=176,slow=41
R24A Sanders Place, 94.52 41 ⇑P **P 06 01 07.8 +0.6**
baz=94
TUC Tucson 95.02 48 *e*P **P 06 01 10.9 +1.5**
TUC pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 95.02 48 *e*P **P 06 01 10.8 +1.5**
comp=Z,2.3nm,0.8s
U24A Moreno Valley 95.69 42 ⇓P **P 06 01 13.7 +1.0**
baz=96
ESDC Sonseca Array 98.92 326 P Pdif 06 01 27.8 +0.9
ESDC Sonseca Array 98.92 326 P Pdif 06 01 27.8 +0.9
comp=Z,0.4nm,0.4s,baz=45,slow=4.7,SNR=3.5
ESDC LR LR 06 54 33.0
comp=Z,362nm,18.6s,baz=0.0,slow=40
TXAR Lajitas Array 101.55 46 P **Pdif 06 01 39.6 +0.8**
TXAR Lajitas Array 101.55 46 P **Pdif 06 01 39.6 +0.8**
comp=Z,0.4nm,0.6s,baz=308,slow=3.1,SNR=5.8
TORD Torodi Ar. Bea 114.81 303 PKP PKPdf 06 06 26.9 -0.5
TORD Torodi Ar. Bea 114.81 303 PKP PKPdf 06 06 26.9 -0.5
comp=Z,0.5nm,0.5s,baz=33,slow=1.4,SNR=5.6
DBIC Dimbokro 123.92 303 PKP **PKPdf 06 06 45.0 +0.1**
DBIC Dimbokro 123.92 303 PKP **PKPdf 06 06 45.0 +0.1**
comp=Z,3.1nm,0.7s,baz=100,slow=5.0,SNR=7.9
NNA Nana 148.86 61 *e*PKPbc **PKPbc 06 07 34.3 -0.2**
LPAZ La Paz 158.08 56 *e*PKPdf **PKPdf 06 07 45.1 +0.8**

*ISCJB **28** 05:58:28.0±0.4, 37.°76N±0.°05×95.°82E±0.°04, h10km, mb3.8/13, Error ellipse: s-maj=7.5km s-min=5.0km az=6.6*
*IDC **28** 05:58:28.3±0.7, 37.°71N×95.°86E, h0km, mb3.8/11, mb1 4.0/15, mb1mx3.9/31, mbtmp3.9/15, ML4.4/3, Error ellipse: s-maj=25.8km s-min=14.8km az=44.0*
*BJI **28** 05:58:30.0, 37.°74N×95.°64E, h7km, mb4.1/5, ML4.1/6, Ms3.8/4, Ms7 3.6/3*
*NEIC **28** 05:58:30.6±4.0, 37.°75N×95.°73E, h15km±27km, mb4.0/4, Error ellipse: s-maj=13.4km s-min=8.8km az=47.0*
ISC 28 05:58:30.4±0.5,**37.°76N**±0.°06×**95.°61E**±0.°04,**h10km,n44,**
σ1°**91**/47,**mb3.9**/13,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.69**	**62**	Pn	**Pn**	**05 59 29.5**	**+1.9**
GTA				Pg	**Pb**	**05 59 37.3**	**+1.6**
GTA				Sn	**Sn**	**06 00 13.5**	**+2.4**
GTA				Sg	**Sg**	**06 00 25.3**	**-3.5**
GTA				smax	smax		
	comp=N,100nm,1.0s						
GTA				smax	smax		
	comp=E,98nm,0.8s						
GTA				LR	LR		
	comp=N,800nm,5.8s						
GTA				LR	LR		
	comp=E,710nm,5.5s						
GTA				LR	LR		
	comp=Z,770nm,8.3s						
LZH	**Lanzhou**	**6.81**	**102**	*e*Pn	**Pn**	**06 00 09.8**	**-0.7**
LZH				Pg	**Pb**	**06 00 28.3**	**-0.6**
LZH				Sn	**Sn**	**06 01 24.8**	**-3.3**
LZH				Sg	**Sb**	**06 01 55.3**	**+5.0**
LZH				smax	smax		
	comp=N,98nm,1.0s						
LZH				smax	smax		
	comp=E,150nm,1.0s						
WMQ	**Urumqi**	**8.52**	**318**	P	**Pn**	**06 00 34.3**	**+0.5**
WMQ				S	**Sn**	**06 02 06.3**	**-3.8**
WMQ				LR	LR		
	comp=N,130nm,17.0s						
WMQ				LR	LR		
	comp=E,300nm,19.0s						
LSA	**Lhasa**	**8.85**	**206**	*e*Pn	**Pn**	**06 00 40.1**	**+1.3**
	comp=E,5.3nm,0.7s						
SONM	**Songino Array**	**12.80**	**35**	Pn	**Pn**	**06 01 34.2**	**+1.8**
SONM	**Songino Array**	**12.80**	**35**	Pn	**Pn**	**06 01 34.2**	**+1.8**
	comp=E,1.3nm,0.3s,baz=219,slow=16,SNR=15						
MK31	**Makanchi Array**	**13.35**	**317**	*e*Pn	Pn	06 01 38.2	-1.6
MKAR	**Makanchi Array**	**13.35**	**317**	Pn	**Pn**	**06 01 38.4**	**-1.5**
MKAR				Sn	**Sn**	**06 04 05.6**	**-2.7**
MKAR	**Makanchi Array**	**13.35**	**317**	Pn	**Pn**	**06 01 38.4**	**-1.5**
	comp=E,1.9nm,0.3s,baz=124,slow=14,SNR=37						
MKAR				Sn	**Sn**	**06 04 05.6**	**-2.7**
	comp=E,0.4nm,0.3s,baz=123,slow=25,SNR=11						
ENH	**Enshi**	**13.71**	**119**	*e*Pn	Pn	06 01 42.3	-2.6
	comp=E,10nm,0.8s						
TKM2	**Tokmak 2**	**16.09**	**295**	*e*P	**Pn**	**06 02 16.5**	**-0.3**
	comp=E,5.7nm,0.4s						
AAK	**Ala-Archa**	**16.84**	**293**	*e*P	**Pn**	**06 02 29.6**	**+3.3**
	comp=E,5.9nm,1.0s						
AAK	**Ala-Archa**	**16.84**	**293**	P	**Pn**	**06 02 28.7**	**+2.4**
	comp=E,0.6nm,0.3s,baz=73,slow=2.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**17.81**	**339**	P	**Pn**	**06 02 39.2**	**+1.1**
ZALV	**Zalesovo Beam**	**17.81**	**339**	P	**Pn**	**06 02 39.2**	**+1.1**
	comp=E,0.0nm,0.3s,baz=147,slow=14,SNR=2.3						
CMAR	**Chiang Mai Arr**	**19.45**	**170**	P	**P**	**06 02 57.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**19.45**	**170**	P	**P**	**06 02 57.5**	**+0.4**
	comp=E,0.8nm,0.3s,baz=352,slow=8.7,SNR=5.7						
NJ2	**Nanjing**	**19.88**	**100**	*e*P	**P**	**06 02 58.5**	**-3.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BVAR	**Borovoye Array**	**23.21**	**319**	P	**P**	**06 03 37.4**	**+0.1**
BVAR	**Borovoye Array**	**23.21**	**319**	P	**P**	**06 03 37.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=126,slow=11,SNR=5.3						
BRVK	**Borovoye**	**23.28**	**319**	*e*P	**P**	**06 03 37.5**	**-0.5**
	comp=Z,2.2nm,0.5s						
KSAR	**Wonju Array Be**	**25.51**	**81**	P	**P**	**06 03 57.2**	**-1.7**
KSRS	**Korea Array**	**25.54**	**81**	P	**P**	**06 03 57.2**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=272,slow=9.9,SNR=7.8						
AKTO	**Aktyubinsk**	**29.49**	**308**	P	**P**	**06 04 35.1**	**+0.6**
AKTO	**Aktyubinsk**	**29.49**	**308**	P	**P**	**06 04 35.1**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=142,slow=12,SNR=2.7						
BRTR	**Keskin Array B**	**47.51**	**293**	P	**P**	**06 07 08.1**	**+2.2**
BRTR	**Keskin Array B**	**47.51**	**293**	P	**P**	**06 07 08.1**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=96,slow=7.6,SNR=3.9						
ARCES	**ARCESS Array B**	**48.26**	**334**	PcP	**PcP**	**06 08 37.3**	**-0.6**
ARCES	**ARCESS Array B**	**48.26**	**334**	PcP	**PcP**	**06 08 37.3**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=86,slow=3.7,SNR=5.8						
ILAR	**Eielson Array**	**66.79**	**24**	P	**P**	**06 09 21.4**	**-0.2**
ILAR	**Eielson Array**	**66.79**	**24**	P	**P**	**06 09 21.4**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=302,slow=5.5,SNR=12						
WRAB	**Tennant Creek**	**67.98**	**141**	*e*P	**P**	**06 09 28.3**	**-1.4**
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**67.98**	**141**	P	P	06 09 27.7	-2.0
WRA	**Warramunga Arr**	**67.98**	**141**	P	P	06 09 27.7	-2.0
	comp=Z,1.1nm,0.8s,baz=339,slow=6.4,SNR=7.6						
ASAR	**Alice Springs**	**70.92**	**143**	P	**P**	**06 09 46.5**	**-1.4**
ASAR	**Alice Springs**	**70.92**	**143**	P	**P**	**06 09 46.5**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=322,slow=5.7,SNR=8.4						
ESDC	**Sonseca Array**	**73.38**	**307**	P	**P**	**06 10 03.6**	**+1.1**
ESDC	**Sonseca Array**	**73.38**	**307**	P	**P**	**06 10 03.6**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=32,slow=6.8,SNR=2.8						
YKA	**Yellowknife Ar**	**77.17**	**14**	P	**P**	**06 10 23.1**	**-0.7**
YKA	**Yellowknife Ar**	**77.17**	**14**	P	**P**	**06 10 23.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=333,slow=5.2,SNR=7.1						
STKA	**Stephens Creek**	**81.49**	**142**	P	P	06 10 45.7	-2.0
STKA	**Stephens Creek**	**81.49**	**142**	P	P	06 10 45.7	-2.0
	comp=Z,1.5nm,0.6s,baz=326,slow=13,SNR=4.0						
TORD	**Torodi Ar. Bea**	**85.11**	**283**	P	**P**	**06 11 07.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**85.11**	**283**	P	**P**	**06 11 07.2**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=43,slow=6.7,SNR=3.0						

*IDC **28** 06:12:46.0±1.9, 37.°47N×95.°77E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/28, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=59.8km s-min=30.7km az=58.0*
*BJI **28** 06:12:47.4, 37.°74N×95.°63E, h7km, ML3.7/6, Ms3.4/2, Ms7 3.2/2*
ISC 28 06:12:46.3±1.3,**37.°60N**±0.°10×**95.°45E**±0.°07,**h10km,n5,**
σ2°**15**/11,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.87**	**61**	Pn	**Pn**	**06 13 47.3**	**+1.3**
GTA				Pg	**Pb**	**06 13 54.8**	**+0.1**
GTA				Sn	**Sn**	**06 14 30.3**	**-1.3**
GTA				Sg	**Sb**	**06 14 40.8**	**-0.9**
GTA				smax	smax		
	comp=N,36nm,1.2s						
GTA				smax	smax		
	comp=E,40nm,0.8s						
GTA				LR	LR		
	comp=N,280nm,9.5s						
GTA				LR	LR		
	comp=E,380nm,8.1s						
GTA				LR	LR		
	comp=Z,230nm,7.1s						
LZH	**Lanzhou**	**6.90**	**100**	Pg	**Pb**	**06 14 46.0**	**-0.3**
LZH				Sn	**Sn**	**06 15 41.8**	**-4.4**
LZH				Sg	**Sb**	**06 16 12.3**	**+3.5**
LZH				smax	smax		
	comp=N,31nm,0.6s						
LZH				smax	smax		
	comp=E,56nm,0.8s						
SONM	**Songino Array**	**13.00**	**35**	Pn	**Pn**	**06 15 51.8**	**+0.7**
	comp=E,0.6nm,0.3s,baz=219,slow=16,SNR=11						
MKAR	**Makanchi Array**	**13.38**	**317**	Pn	**Pn**	**06 15 55.8**	**-0.5**
	comp=E,0.5nm,0.3s,baz=126,slow=14,SNR=9.2						
MKAR				Sn	**Sn**	**06 18 25.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=127,slow=24,SNR=9.3						
ASAR	**Alice Springs**	**70.86**	**143**	P	**P**	**06 24 03.3**	**-0.1**
	comp=E,0.2nm,0.5s,baz=331,slow=5.6,SNR=3.6						

*ATH **28** 06:31:33.5, 38.°59N×26.°96E, h4km±3km, MD3.2/6*
*THE **28** 06:31:34.9, 38.°56N×26.°74E, h26km±3km, Error ellipse: s-maj=4.3km s-min=0.8km az=261.0*
*ISK **28** 06:31:37.2, 38.°62N×26.°83E, h23km, MD3.5*
*CSEM **28** 06:31:37.5±0.1, 38.°60N×26.°75E, h20km, MD3.4, Error ellipse: s-maj=3.9km s-min=2.9km az=99.0*
*ISCJB **28** 06:31:37.8±0.4, 38.°61N±0.°02×26.°76E±0.°04, h25km±4km, Error ellipse: s-maj=4.9km s-min=3.7km az=176.7*
*DDA **28** 06:31:38.5, 38.°60N×26.°85E, h4km, MD3.4*
ISC 28 06:31:37.6±1.1,**38.°61N**±0.°02×**26.°81E**±0.°02,**h18**km±3km,
n95,σ0°**78**/105,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.30**	**214**	*i* P	**Pg**	**06 31 44.4**	**+0.2**
URLA				*i* S	**Sb**	**06 31 50.5**	**+1.5**
URLA	**Izmir**	**0.30**	**214**	*i* P	**Pg**	**06 31 44.4**	**+0.2**
URLA				*i* S	**Sb**	**06 31 50.5**	**+1.5**
IZM	**Izmir**	**0.41**	**120**	*e*PG	**Pg**	**06 31 46.3**	**+0.1**
IZM				*e*SG	**Sb**	**06 31 52.6**	**+0.1**
IZM	**Izmir**	**0.41**	**120**	*e*Pg	**Pg**	**06 31 46.3**	**+0.1**
IZM				*e*Sg	**Sb**	**06 31 52.6**	**+0.1**
CHOS	**Chios island**	**0.63**	**250**	P	Pb	06 31 45.9	-4.2
CHOS	**Chios island**	**0.63**	**250**	*e*PG	**Pb**	**06 31 47.6**	**-2.5**
CHOS	**Chios island**	**0.63**	**250**	P	Pb	06 31 45.9	-4.2
CHOS	**Chios island**	**0.63**	**250**	*e*Pg	**Pb**	**06 31 47.6**	**-2.5**
AYVA	**Ayvalik**	**0.70**	**353**	*i* P	**Pn**	**06 31 53.0**	**+0.3**
AYVA				*i* S	**Sn**	**06 32 03.6**	**+0.5**
AYVA	**Ayvalik**	**0.70**	**353**	*i* P	**Pn**	**06 31 53.0**	**+0.3**
PRK	**Paraskevi**	**0.76**	**327**	P	Pb	06 31 49.1	-3.2
PRK	**Paraskevi**	**0.76**	**327**	*e*PG	**Pb**	**06 31 49.4**	**-2.9**
PRK	**Paraskevi**	**0.76**	**327**	P	Pb	06 31 49.1	-3.2
PRK	**Paraskevi**	**0.76**	**327**	*e*Pg	**Pb**	**06 31 49.4**	**-2.9**
AKS	**Akhisar**	**0.83**	**71**	*e*PG	**Pb**	**06 31 53.7**	**+0.2**
AKS				*e*SG	**Sg**	**06 32 05.5**	**+0.6**
AKS	**Akhisar**	**0.83**	**71**	*e*Pg	**Pb**	**06 31 53.7**	**+0.2**
AKS				*e*Sg	**Sg**	**06 32 05.5**	**+0.6**
AKHS	**Akhisar**	**0.83**	**71**	*i* P	**Pn**	**06 31 54.3**	**-0.1**
AKHS				*i* S	**Sn**	**06 32 05.9**	**-0.3**
AKHS	**Akhisar**	**0.83**	**71**	*i* P	**Pn**	**06 31 54.3**	**-0.1**
AKHS				*i* S	**Sn**	**06 32 05.9**	**-0.3**
SMG	**Samos**	**0.90**	**178**	P	Pb	06 31 50.1	-4.6
SMG	**Samos**	**0.90**	**178**	*e*PG	Pb	06 31 50.2	-4.5
SMG	**Samos**	**0.90**	**178**	*e*Pg	Pb	06 31 50.2	-4.5
GCAM	**G?zelcaml?**	**0.97**	**160**	*i* P	**Pg**	**06 31 56.8**	**+0.4**
GCAM				*i* S	**Sn**	**06 32 09.7**	**+0.2**
GCAM	**G?zelcaml?**	**0.97**	**160**	*i* P	**Pg**	**06 31 56.8**	**+0.4**
GCAM				*i* S	**Sn**	**06 32 09.7**	**+0.2**
AYDN	**Tasoluk**	**1.27**	**138**	*i* P	**Pg**	**06 32 02.2**	**+0.1**
AYDN				*i* S	**Sb**	**06 32 16.6**	**-0.4**
AYDN	**Tasoluk**	**1.27**	**138**	*i* P	**Pg**	**06 32 02.2**	**+0.1**
AYDN				*i* S	**Sb**	**06 32 16.6**	**-0.4**
EZN	**Ezine**	**1.27**	**343**	*e*PN	**Pn**	**06 31 59.8**	**-0.6**
EZN	**Ezine**	**1.27**	**343**	*e*Pn	**Pn**	**06 31 59.8**	**-0.6**
BALY	**Balya**	**1.29**	**29**	*i* P	**Pg**	**06 32 03.5**	**+0.8**
BALY				*i* S	**Sn**	**06 32 17.6**	**-0.1**
BALB	**Balikesir**	**1.32**	**39**	*e*PN	**Pn**	**06 32 00.7**	**-0.6**
BALB	**Balikesir**	**1.32**	**39**	*e*Pn	**Pn**	**06 32 00.6**	**-0.6**
BOZC	**Bozcaada**	**1.36**	**335**	*i* P	**Pg**	**06 32 04.9**	**+0.9**
BOZC				*i* S	**Sg**	**06 32 23.8**	**+2.1**
MANT	**Manisa**	**1.38**	**94**	*i* P	**Pg**	**06 32 05.1**	**+0.8**
MANT				*i* S	**Sg**	**06 32 21.9**	**-0.4**
KULA	**Kula-Manisa**	**1.46**	**93**	*e*PN	**Pn**	**06 32 02.4**	**-0.7**
KULA	**Kula-Manisa**	**1.46**	**93**	*e*Pn	**Pn**	**06 32 02.4**	**-0.7**
MLSB	**Milas**	**1.52**	**149**	*e*PN	**Pn**	**06 32 03.7**	**-0.2**
MLSB	**Milas**	**1.52**	**149**	*e*Pn	**Pn**	**06 32 03.7**	**-0.2**
DEMI	**Demirci**	**1.55**	**73**	*i* P	**Pg**	**06 32 08.0**	**+0.4**
DEMI				*i* S	**Sg**	**06 32 28.5**	**+0.7**
BODT	**Bodrum**	**1.59**	**165**	*e*PN	**Pn**	**06 32 04.8**	**-0.1**
BODT	**Bodrum**	**1.59**	**165**	*e*Pn	**Pn**	**06 32 04.8**	**-0.1**
BDRM	**Kayabasi**	**1.62**	**162**	*i* P	**Pg**	**06 32 10.4**	**+1.6**
BDRM				*i* S	**Sb**	**06 32 27.9**	**+0.7**
DURS	**Dursunbey**	**1.63**	**52**	*i* P	**Pg**	**06 32 08.5**	**-0.5**
DURS				*i* S	**Sb**	**06 32 27.2**	**-0.3**
DST	**Dursunbey**	**1.73**	**54**	*e*PN	**Pn**	**06 32 06.3**	**-0.5**
DST	**Dursunbey**	**1.73**	**54**	*e*Pn	**Pn**	**06 32 06.3**	**-0.5**
LPK	**Lapseki**	**1.76**	**359**	*e*PN	**Pn**	**06 32 07.2**	**0.0**
LPK	**Lapseki**	**1.76**	**359**	*e*Pn	**Pn**	**06 32 07.2**	**0.0**
LIA	**Limnos Island**	**1.80**	**316**	*e*PG	**Pn**	**06 32 08.4**	**+0.7**
LIA	**Limnos Island**	**1.80**	**316**	*e*Pg	**Pn**	**06 32 08.4**	**+0.7**
GELI	**Tayfur-Gelibol**	**1.81**	**352**	*e*PN	**Pn**	**06 32 08.3**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.81**	**352**	*e*Pn	**Pn**	**06 32 08.3**	**+0.5**
KRBG	**Karabiga-Canak**	**1.82**	**12**	*e*PN	**Pn**	**06 32 07.9**	**-0.1**
KRBG	**Karabiga-Canak**	**1.82**	**12**	*e*Pn	**Pn**	**06 32 07.9**	**-0.1**
APE	**Apeiranthos**	**1.84**	**214**	*e*PN	**Pn**	**06 32 07.9**	**-0.4**
APE	**Apeiranthos**	**1.84**	**214**	P	Pn	06 32 02.9	-5.4
APE	**Apeiranthos**	**1.84**	**214**	*e*PB	**Pn**	**06 32 08.7**	**+0.4**
APE	**Apeiranthos**	**1.84**	**214**	P	Pn	06 32 02.9	-5.4
APE	**Apeiranthos**	**1.84**	**214**	*e*Pn	**Pn**	**06 32 07.9**	**-0.4**
APE	**Apeiranthos**	**1.84**	**214**	*e*Pb	**Pn**	**06 32 08.7**	**+0.4**
YER	**Yerkesik**	**1.88**	**141**	*e*PN	**Pn**	**06 32 08.5**	**-0.4**
YER	**Yerkesik**	**1.88**	**141**	*e*Pn	**Pn**	**06 32 08.5**	**-0.4**
BNT	**Bandirma**	**1.95**	**26**	*e*PN	**Pn**	**06 32 09.4**	**-0.3**
BNT	**Bandirma**	**1.95**	**26**	*e*Pn	**Pn**	**06 32 09.4**	**-0.3**
DAT	**Datca**	**1.97**	**162**	*e*PN	**Pn**	**06 32 10.4**	**+0.2**
DAT	**Datca**	**1.97**	**162**	*e*Pn	**Pn**	**06 32 10.4**	**+0.2**
KCTX	**Karacabey (Bur**	**2.04**	**35**	*e*PN	**Pn**	**06 32 10.6**	**-0.5**
KCTX	**Karacabey (Bur**	**2.04**	**35**	*e*Pn	**Pn**	**06 32 10.6**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.10**	**8**	*e*PN	**Pn**	**06 32 12.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.10**	**8**	*e*Pn	**Pn**	**06 32 12.0**	**+0.2**
SMTH	**Samothraki Isl**	**2.10**	**332**	*e*PG	**Pn**	**06 32 13.4**	**+1.5**
SMTH	**Samothraki Isl**	**2.10**	**332**	*e*Pg	**Pn**	**06 32 13.4**	**+1.5**
KHL	**Karahalli**	**2.15**	**97**	*e*PN	**Pn**	**06 32 12.2**	**-0.4**
KHL	**Karahalli**	**2.15**	**97**	*e*Pn	**Pn**	**06 32 12.2**	**-0.4**
ORLT	**Orhaneli**	**2.16**	**48**	*e*PN	**Pn**	**06 32 12.2**	**-0.6**
ORLT	**Orhaneli**	**2.16**	**48**	*e*Pn	**Pn**	**06 32 12.2**	**-0.6**
DALY	**Dalyan (Mu¨la**	**2.31**	**140**	*e*PN	**Pn**	**06 32 15.2**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.31**	**140**	*e*Pn	**Pn**	**06 32 15.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.38**	**42**	*e*PN	**Pn**	**06 32 16.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.38**	**42**	*e*Pn	**Pn**	**06 32 16.0**	**+0.3**
ARMT	**Armutlu**	**2.52**	**38**	*e*PN	**Pn**	**06 32 17.5**	**-0.1**
ARMT	**Armutlu**	**2.52**	**38**	*e*Pn	**Pn**	**06 32 17.5**	**-0.1**
GEMT	**Gemlik**	**2.59**	**45**	*e*PN	**Pn**	**06 32 18.9**	**+0.3**
GEMT	**Gemlik**	**2.59**	**45**	*e*Pn	**Pn**	**06 32 18.9**	**+0.3**
FETY	**Fethiye**	**2.67**	**137**	*e*PN	**Pn**	**06 32 20.6**	**+0.9**
FETY	**Fethiye**	**2.67**	**137**	*e*Pn	**Pn**	**06 32 20.7**	**+0.9**
YLV	**Yalova**	**2.78**	**45**	*e*PN	**Pn**	**06 32 21.4**	**+0.1**
YLV	**Yalova**	**2.78**	**45**	*e*Pn	**Pn**	**06 32 21.4**	**+0.1**
SLVT	**Silivri**	**2.83**	**22**	*e*PN	**Pn**	**06 32 22.1**	**+0.2**
SLVT	**Silivri**	**2.83**	**22**	*e*Pn	**Pn**	**06 32 22.1**	**+0.2**
ADVT	**Abdulvahap**	**2.91**	**50**	*e*PN	**Pn**	**06 32 23.2**	**+0.3**
ADVT	**Abdulvahap**	**2.91**	**50**	*e*Pn	**Pn**	**06 32 23.3**	**+0.3**
EDRB	**Edirne**	**3.23**	**359**	*e*PN	**Pn**	**06 32 28.0**	**+0.5**
EDRB	**Edirne**	**3.23**	**359**	*e*Pn	**Pn**	**06 32 28.0**	**+0.5**
GULT	**Gulveren**	**3.40**	**56**	*e*PN	**Pn**	**06 32 29.9**	**+0.2**
GULT	**Gulveren**	**3.40**	**56**	*e*Pn	**Pn**	**06 32 30.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**3.77**	**76**	*e*PN	**Pn**	**06 32 35.3**	**+0.4**
SVRH	**Sivrihisar-ESK**	**3.77**	**76**	*e*Pn	**Pn**	**06 32 35.3**	**+0.4**

BJI 28 06:32:57.7, 37.°65N×95.°81E, h7km, ML3.7/8, Ms3.4/1, Ms7 3.4/1, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.60**	**60**	Pn	Pn	06 33 56.8	+2.7
GTA				Pg	Pg	06 34 04.5	-2.4
GTA				Sn	Sn	06 34 40.5	+3.5
GTA				Sg	Sg	06 34 49.8	-3.9
GTA				smax	smax		
	comp=N,19nm,0.6s						
GTA				smax	smax		
	comp=E,19nm,0.6s						
LZH	**Lanzhou**	**6.63**	**101**	*e*Pn	Pn	06 34 40.0	+4.3
LZH				Sn	Sn	06 35 56.3	+4.6
LZH				Sg	Sg	06 36 27.8	-3.1
LZH				smax	smax		
	comp=N,38nm,0.9s						
LZH				smax	smax		
	comp=E,43nm,1.0s						
WMQ	**Urumqi**	**8.71**	**318**	P	Pn	06 35 03.5	-0.7
WMQ				smax	smax		
	comp=N,28nm,0.7s						
WMQ				smax	smax		
	comp=E,15nm,0.8s						

*IDC **28** 06:35:04.4±0

STKA			PcP	**PcP**	**06 43 50.5**	**+1.0**
	3.1nm,0.4s,baz=52,slow=3.9,SNR=7.7					
STKA			ScP	**ScP**	**06 47 12.0**	**+4.4**
	1.4nm,0.6s,baz=54,slow=8.7,SNR=4.1					
STKA	**Stephens Creek**	**29.75 228**	P	**P**	**06 40 53.5**	**+1.2**
	baz=30,SNR=26					
WRAB	**Tennant Creek**	**32.01 254**	*eP*	**P**	**06 41 11.4**	**-0.8**
	7.4nm,0.7s					
WRA	**Warramunga Arr**	**32.02 254**	P	**P**	**06 41 11.9**	**-0.4**
WRA			pP	pP	06 41 53.9	-8.2
WRA			ScP	ScP	06 47 21.4	+5.9
WRA	**Warramunga Arr**	**32.02 254**	P	**P**	**06 41 11.9**	**-0.4**
	7.6nm,0.5s,baz=86,slow=9.2,SNR=137					
WRA			pP	pP	06 41 53.9	-8.2
	1.0nm,0.7s,baz=86,slow=9.3,SNR=1.9					
WRA			ScP	ScP	06 47 21.4	+5.9
	2.3nm,1.0s,baz=85,slow=3.8,SNR=10.0					
AS31	**Alice Springs**	**33.02 247**	*eP*	**P**	**06 41 20.7**	**-0.3**
ASAR	**Alice Springs**	**33.02 247**	P	**P**	**06 41 20.7**	**-0.3**
ASAR			PcP	**PcP**	**06 43 59.0**	**+0.5**
ASAR			ScP	**ScP**	**06 47 24.4**	**+5.6**
ASAR	**Alice Springs**	**33.02 247**	P	**P**	**06 41 20.7**	**-0.3**
	12nm,0.5s,baz=76,slow=9.2,SNR=191					
ASAR			PcP	**PcP**	**06 43 59.0**	**+0.5**
	1.8nm,0.7s,baz=73,slow=3.9,SNR=9.0					
ASAR			ScP	**ScP**	**06 47 24.4**	**+5.6**
	2.9nm,0.8s,baz=82,slow=3.4,SNR=22					
KDU	**Kakadu**	**33.74 267**	P	**P**	**06 41 27.7**	**+0.5**
	baz=34,SNR=11					
BBOO	**Buckleboo**	**34.29 230**	P	**P**	**06 41 32.3**	**+0.7**
	baz=34,SNR=7.9					
MTN	**Manton Dam**	**35.03 267**	P	**P**	**06 41 38.3**	**+0.1**
	baz=35,SNR=4.5					
KNRA	**Kununurra**	**37.16 262**	P	**P**	**06 41 56.5**	**+0.3**
	baz=37,SNR=19					
SWI	**Sorong**	**37.62 286**	P	P	06 42 01.9	+1.8
	baz=38,SNR=4.0					
PALU	**Palau**	**38.41 301**	S	S	06 47 58.6	+16
	baz=38,SNR=4.4					
FORT	**Forrest**	**39.86 238**	*eP*	**P**	**06 42 18.6**	**+0.2**
	25nm,0.6s					
FITZ	**Fitzroy Crossi**	**40.13 258**	*eP*	**P**	**06 42 21.1**	**+0.3**
	14nm,1.0s					
FITZ	**Fitzroy Crossi**	**40.13 258**	P	**P**	**06 42 21.0**	**+0.1**
	2.5nm,0.3s,baz=83,slow=8.1					
FITZ	**Fitzroy Crossi**	**40.13 258**	P	**P**	**06 42 21.3**	**+0.5**
	baz=40,SNR=11					
MBWA	**Marble Bar**	**45.76 253**	*eP*	**P**	**06 43 06.9**	**+1.0**
	71nm,1.5s					
MEEK	**Meekatharra**	**47.17 246**	P	**P**	**06 43 17.5**	**+0.8**
	baz=47,SNR=4.5					
KLBR	**Kellerberrin**	**48.63 240**	P	**P**	**06 43 27.6**	**-0.1**
	baz=48,SNR=6.1					
MJAR	**Matsushiro Arr**	**56.67 332**	P	**P**	**06 44 25.4**	**-0.9**
MJAR	**Matsushiro Arr**	**56.67 332**	P	**P**	**06 44 25.4**	**-0.9**
	1.6nm,0.5s,baz=168,slow=7.5,SNR=4.0					
ASAJ	**Asahikawa**	**61.45 340**	P	P	06 45 00.1	+1.2
ASAJ	**Asahikawa**	**61.45 340**	P	P	06 45 00.1	+1.2
	5.9nm,0.5s,baz=239,slow=6.6,SNR=4.8					
VNDA	**Vanda**	**64.17 181**	*eP*	**P**	**06 45 17.1**	**+0.7**
	9.2nm,1.6s					
VNDA	**Vanda**	**64.17 181**	P	**P**	**06 45 17.1**	**+0.7**
	1.0nm,0.6s,baz=354,slow=6.1,SNR=13					
SBA	**Scott Base**	**64.45 180**	*eP*	P	06 45 20.2	+2.1
	5.8nm,1.1s					
FX1	**Attu Island--F**	**66.22 4**	P	**P**	**06 45 29.6**	**0.0**
FX1	**Attu Island--F**	**66.22 4**	P	**P**	**06 45 29.6**	**0.0**
	5.1nm,0.5s,baz=262,slow=4.9,SNR=8.3					
PETK	**Petropavlovsk-**	**66.73 354**	P	**P**	**06 45 33.6**	**+0.7**
PETK	**Petropavlovsk-**	**66.73 354**	P	**P**	**06 45 33.6**	**+0.7**
	6.0nm,0.8s,baz=180,slow=8.6,SNR=5.2					
MDJ	**Mudanjiang**	**67.05 332**	P	P	06 45 36.5	+1.4
MDJ			pmax	pmax		
	comp=Z,10.0nm,1.8s					
MDJ			pmax	pmax		
	comp=Z,38nm,2.9s					
PPI	**Padang Panjang**	**67.27 275**	P	P	06 45 41.4	+4.2
	baz=67,SNR=3.5					
CN2	**Changchun**	**68.44 329**	*eP*	P	06 45 52.5	+8.7
GYA	**Guiyang**	**70.84 304**	*eP*	P	06 46 01.3	+2.3
GYA			PP	PP	06 48 43.5	+3.7
GYA			S	**S**	**06 54 51.0**	**-2.8**
GYA			SKS	SKSac	06 55 29.3	-8.1
GYA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
HHC	**Hu-ho-hao-te**	**74.48 320**	*eP*	P	06 46 21.5	+1.4
HHC			S	**S**	**06 55 32.0**	**-2.3**
HHC			SKS	**SKSac**	**06 55 57.0**	**-7.1**
HHC			ScS	**SKKSac**	**06 56 02.0**	**-2.4**
HHC			SS	**SS**	**07 00 27.5**	**+0.5**
HHC			pmax	pmax		
	comp=Z,42nm,1.1s					
HHC			pmax	pmax		
	comp=Z,180nm,5.3s					
HHC			LR	LR		
	comp=N,290nm,16.8s					
HHC			LR	LR		
	comp=E,240nm,16.8s					
HHC			LR	LR		
	comp=Z,300nm,16.4s					
CD2	**Chengdu**	**75.09 307**	*eP*	P	06 46 25.5	+1.8
CD2			pmax	pmax		
	comp=Z,20nm,1.2s					
CD2			pmax	pmax		
	comp=Z,100nm,5.8s					
SONM	**Songino Array**	**81.35 324**	P	**P**	**06 46 58.2**	**+0.6**
SONM	**Songino Array**	**81.35 324**	P	**P**	**06 46 58.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=137,slow=3.2,SNR=5.0					
ILAR	**Eielson Array**	**85.32 18**	P	**P**	**06 47 15.9**	**-1.4**
ILAR			pP	pP	06 48 08.4	-8.9
ILAR	**Eielson Array**	**85.32 18**	P	**P**	**06 47 15.9**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=244,slow=4.7,SNR=50					
ILAR			pP	pP	06 48 08.4	-8.9
	comp=Z,2.8nm,0.9s,baz=240,slow=6.0,SNR=7.1					
NVAR	**Mina Array Bea**	**86.53 49**	P	**P**	**06 47 23.8**	**-0.2**
NVAR	**Mina Array Bea**	**86.53 49**	P	**P**	**06 47 23.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=233,slow=7.7,SNR=4.2					
SYO	**Syowa Base**	**89.92 197⇑**	*eP*	P	06 47 35.0	-4.2
WMQ	**Urumqi**	**91.70 315**	*eP*	**P**	**06 47 48.5**	**+0.5**
MKAR	**Makanchi Array**	**96.15 317**	P	**P**	**06 48 08.8**	**+0.6**
MKAR			pP	pP	06 48 59.8	-9.3
MKAR	**Makanchi Array**	**96.15 317**	P	**P**	**06 48 08.8**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=88,slow=6.4,SNR=16					
MKAR			pP	pP	06 48 59.8	-9.3
	comp=Z,0.5nm,0.7s,baz=81,slow=7.6,SNR=3.3					
ZALV	**Zalesovo Beam**	**96.24 324**	P	**P**	**06 48 08.1**	**-0.3**
ZALV	**Zalesovo Beam**	**96.24 324**	P	**P**	**06 48 08.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=118,slow=5.4,SNR=3.8					
YKA	**Yellowknife Ar**	**96.44 27**	P	**P**	**06 48 07.5**	**-1.7**
YKA			pP	pP	06 49 00.3	-10
YKA	**Yellowknife Ar**	**96.44 27**	P	**P**	**06 48 07.4**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=261,slow=4.8,SNR=6.9					
YKA			pP	pP	06 49 00.3	-10
	comp=Z,0.5nm,0.8s,baz=246,slow=5.0,SNR=5.2					
ARCES	**ARCESS Array B**	**118.94 346**	PKP	**PKPdf**	**06 53 26.8**	**-0.1**
ARCES	**ARCESS Array B**	**118.94 346**	PKP	**PKPdf**	**06 53 26.8**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=68,slow=2.2,SNR=25					
BOSA	**Boshof**	**124.28 221**	PKP	**PKPdf**	**06 53 38.9**	**+0.2**
BOSA	**Boshof**	**124.28 221**	PKP	**PKPdf**	**06 53 38.9**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=180,slow=22,SNR=5.7					
FINES	**FINESS Array B**	**124.44 339**	PKP	**PKPdf**	**06 53 37.3**	**-0.4**
FINES	**FINESS Array B**	**124.44 339**	PKP	**PKPdf**	**06 53 37.3**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=342,slow=3.1,SNR=5.8					
NOA	**NORSAR Array B**	**129.31 345**	PKP	**PKPdf**	**06 53 47.3**	**+0.2**
NOA	**NORSAR Array B**	**129.31 345**	PKP	**PKPdf**	**06 53 47.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=38,slow=2.5,SNR=3.0					
HFS	**Hagfors**	**129.42 343**	PKP	**PKPdf**	**06 53 48.3**	**+1.1**
HFS	**Hagfors**	**129.42 343**	PKP	**PKPdf**	**06 53 48.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=58,slow=5.6,SNR=3.7					
BDFB	**Brasilia**	**134.83 129**	PKP	**PKPdf**	**06 53 59.5**	**+0.6**
BDFB	**Brasilia**	**134.83 129**	PKP	**PKPdf**	**06 53 59.5**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=236,slow=3.6,SNR=3.2					
GERES	**GERESS Array B**	**138.40 334**	PKP	**PKPdf**	**06 54 05.2**	**+0.6**
GERES	**GERESS Array B**	**138.40 334**	PKP	**PKPdf**	**06 54 05.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=103,slow=4.2,SNR=4.0					
BNI	**Bardonecchia**	**144.34 336**	*e*PKPdf	**PKPdf**	**06 54 15.1**	**-0.3**
KEST	**Kesra**	**150.09 322**	*e*PKPbc	**PKPbc**	**06 54 31.0**	**+0.6**
KEST	**Kesra**	**150.09 322**	PKPbc	**PKPbc**	**06 54 31.4**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=292,slow=1.8,SNR=13					
ESDC	**Sonseca Array**	**152.68 345**	PKPbc	**PKPbc**	**06 54 36.5**	**+0.4**
ESDC			PKPab	**PKPab**	**06 54 47.9**	**+0.2**
ESDC	**Sonseca Array**	**152.68 345**	PKPbc	**PKPbc**	**06 54 36.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=43,slow=2.4,SNR=6.2					
ESDC			PKPab	**PKPab**	**06 54 47.9**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=18,slow=3.5,SNR=4.5					
TORD	**Torodi Ar. Bea**	**165.81 271**	PKP	**PKPdf**	**06 54 44.7**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=353,slow=2.5,SNR=3.6					
TORD	**Torodi Ar. Bea**	**165.81 271**	PKP	**PKPdf**	**06 54 44.7**	**+0.2**

IDC 28 06:38:31.3±2.1, 13°.36N×91°.99E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=63.7km s-min=26.9km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.39**	**52**	Pn	Pn	06 40 33.8	-0.6
	0.4nm,0.3s,baz=243,slow=16,SNR=3.1						
MKAR	**Makanchi Array**	**34.31**	**348**	P	P	06 45 19.5	0.0
	0.4nm,0.6s,baz=161,slow=7.7,SNR=4.4						
FITZ	**Fitzroy Crossi**	**45.60**	**132**	P	P	06 46 53.2	-0.4
	0.5nm,0.5s,baz=278,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**53.22**	**128**	P	P	06 47 51.6	-0.3
	0.5nm,0.6s,baz=303,slow=9.5,SNR=6.8						
ASAR	**Alice Springs**	**55.09**	**132**	P	P	06 48 06.0	+0.4
	0.5nm,0.4s,baz=307,slow=6.8,SNR=6.6						

IDC 28 06:40:26.8±1.0, 15°.68N×146°.01E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/26, mbtmp4.0/8, Error ellipse: s-maj=29.2km s-min=26.6km az=64.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.21**	**198**	P	P	06 47 39.6	-0.5
	0.3nm,0.6s,baz=20,slow=8.3,SNR=4.8						
SONM	**Songino Array**	**45.70**	**323**	P	P	06 48 51.3	+1.6
	0.8nm,0.8s,baz=120,slow=5.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**60.59**	**324**	P	P	06 50 38.2	-0.9
	0.6nm,0.4s,baz=110,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**60.78**	**315**	P	P	06 50 40.8	+0.2
	0.9nm,0.3s,baz=90,slow=8.4,SNR=28						
ILAR	**Eielson Array**	**66.22**	**26**	P	P	06 51 15.7	-0.5
	0.6nm,0.4s,baz=252,slow=5.8,SNR=16						
BVAR	**Borovoye Array**	**68.99**	**321**	P	P	06 51 33.4	-0.6
	3.3nm,0.3s,baz=101,slow=8.8,SNR=17						
YKA	**Yellowknife Ar**	**80.50**	**28**	P	P	06 52 39.9	-0.6
	0.5nm,0.5s,baz=285,slow=5.1,SNR=10.0						
NVAR	**Mina Array Bea**	**84.76**	**52**	P	P	06 53 04.7	+1.1
	0.5nm,0.5s,baz=270,slow=4.9,SNR=5.4						
LPAZ	**La Paz**	**147.19**	**96**	PKPbc	PKPbc	07 00 13.7	-0.1
	0.9nm,0.4s,baz=320,slow=2.6,SNR=9.4						

CASC 28 06:59:30.9±2.2, 14°.34N×90°.44W, h14km±8km, MD3.5, 4C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.17**	**288⇑**	*iP*	Pg	06 59 34.6	-0.7
NBG	**Las Nubes**	**0.26**	**20⇑**	*eP*	Pg	06 59 36.6	-0.2
NBG				*eS*	Sg	06 59 41.1	+0.2
FUG	**Fuego 3**	**0.41**	**285⇑**	*iP*	Pg	06 59 38.4	-0.9
RBDL	**Robledal**	**0.76**	**107**	*eP*	Pg	06 59 45.2	-0.8
RTR	**El Retiro**	**0.89**	**120**	*eP*	Pg	06 59 47.4	-1.0
RTR				*eS*	Sg	06 59 59.8	-0.3
SBLS	**San Blas**	**0.93**	**122**	*eP*	Pb	06 59 48.6	-0.7
SNJE	**San Jose**	**0.93**	**120**	*eP*	Pb	06 59 48.5	-0.7
SNJE				*eS*	Sb	07 00 01.1	-0.6
MRL	**Marmol**	**1.02**	**45**	*eP*	Pb	06 59 50.4	-0.2
MRL				*eS*	Sg	07 00 04.6	+0.2
JAT	**Jato**	**1.16**	**269⇑**	*eP*	Pb	06 59 52.9	+0.1
BOQS	**Boqueron**	**1.27**	**118**	*eP*	Pn	06 59 54.7	0.0
BOQS				*eS*	Sb	07 00 11.0	-0.5
SNET	**Serv Nac Est T**	**1.34**	**119**	*eP*	Pn	06 59 54.3	-1.1
SNET				*eP*	Pb	06 59 55.0	-0.9
SNET				*eS*	Sb	07 00 12.6	-0.5
LFU	**La Fuente**	**1.41**	**114**	*eP*	Pn	06 59 56.7	+0.3
LFU				*eS*	Sn	07 00 14.6	-0.4
LBRS	**Las Brisas**	**1.48**	**114**	*eP*	Pn	06 59 57.7	+0.3
LBRS				*eS*	Sn	07 00 15.4	-1.1
LFRS	**El Faro**	**1.51**	**118**	*eP*	Pn	06 59 57.7	-0.1
LFRS				*eS*	Sn	07 00 17.0	-0.5

MEX 28 07:16:19.0±0.7, 15°.78N×91°.29W, h20km, MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.96**	**302**	*eP*	Pb	07 16 34.0	-3.3
CCIG				*i S*	Sb	07 16 46.6	-3.1
THIG		**1.28**	**228**	*i P*	Pn	07 16 38.5	-3.3
THIG				*i S*	Sn	07 16 54.5	-3.9
PCIG		**1.86**	**268**	*eP*	Pn	07 16 46.8	-3.0
PCIG				*i S*	Sn	07 17 08.0	-4.7
TGIG		**2.03**	**300**	*i P*	Pn	07 16 51.1	-1.1
TGIG				*i S*	Sn	07 17 14.0	-3.0
CMIG	**Matias Romero**	**3.69**	**291**	*eP*	Pn	07 17 13.5	-1.5
CMIG				*i S*	Sn	07 17 54.9	-3.1

*GUC **28** 07:19:45.4±0.8, 22°.48S×70°.24W, h38km±2km, ML4.1*
*ISCJB **28** 07:19:46.4±0.7, 22°.46S±0°.05×70°.3W±0°.1, h46km±9km, mb3.8/4, Error ellipse: s-maj=17.4km s-min=5.2km az=21.1*
*IDC **28** 07:19:53.4±2.5, 22°.25S×69°.91W, h84km±22km, mb3.5/4, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, MS3.2/2, Ms1 3.3/2, ms1mx2.9/16, Error ellipse: s-maj=27.9km s-min=20.3km az=88.0*

ISC 28 07:19:47.1±1.1, 22°.41S±0°.05×70°.4W±0°.1, h39km±3km, n16, σ1§80/20, mb3.8/4, 1C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB07	**Plate Boundary**	**0.83**	**36⇓**	*iP*	**Pn**	**07 20 00.9**	**-1.6**
PB07				*i S*	**Sn**	**07 20 12.1**	**-1.7**
PB07				AML	AML	07 20 13.2	
	comp=N,13μm,0.7s						
PB04	**Plate Boundary**	**0.86**	**81⇓**	*iP*	Pn	07 19 52.6	-10
PB04				*i S*	Sn	07 19 57.4	-17
PB04				AML	AML	07 19 58.0	
	comp=E,46μm,0.4s						
CEN1	**Los Morros**	**0.99**	**169⇓**	*iP*	**Pn**	**07 20 04.8**	**+0.1**
CEN1				*i S*	**Sn**	**07 20 19.6**	**+2.1**
CEN1				AML	AML	07 20 23.1	
	comp=E,3μm,0.3s						
PB10	**Plate Boundary**	**1.11**	**187⇑**	*iP*	**Pn**	**07 20 04.5**	**-1.7**
PB10				*i S*	**Sn**	**07 20 19.1**	**-1.1**
PB10				AML	AML	07 20 26.3	
	comp=N,15μm,0.2s						
PB09	**Plate Boundary**	**1.24**	**61⇓**	*iP*	**Pn**	**07 20 07.2**	**-1.0**
PB09				*i S*	**Sn**	**07 20 23.1**	**-0.7**
PB09				AML	AML	07 20 26.4	
	comp=E,18μm,0.8s						
ANCH	**Antofagasta**	**1.27**	**180**	*eP*	**Pn**	**07 20 07.0**	**-1.3**
ANCH				*i S*	**Sn**	**07 20 22.4**	**-1.6**
PB01	**Plate Boundary**	**1.61**	**32⇓**	*iP*	**Pn**	**07 20 12.4**	**-0.6**
PB01				*i S*	**Sn**	**07 20 33.7**	**+1.1**
LPAZ	**La Paz**	**6.46**	**20**	P	**Pn**	**07 21 23.0**	**+2.7**
	comp=E,1.7nm,0.3s,baz=169,slow=4.2,SNR=62						
LPAZ				LR	LR	07 24 10.2	
	comp=E,183nm,19.7s,baz=306,slow=42						
CFAA	**Coronel Fontan**	**9.36**	**169**	P	Pn	07 22 06.5	+7.0
	comp=E,0.5nm,0.3s,baz=348,slow=15,SNR=32						
CFAA				S	Sn	07 23 50.7	+7.2
	comp=E,0.1nm,0.3s,baz=210,slow=20,SNR=3.2						
SIV	**San Ignacio**	**10.88**	**56**	P	**Pn**	**07 22 19.5**	**-1.0**
	comp=E,4.2nm,0.3s,baz=252,slow=12,SNR=56						
CPUP	**Villa Florida**	**12.54**	**111**	P	**Pn**	**07 22 45.1**	**+2.1**
	comp=E,0.4nm,0.3s,baz=273,slow=12,SNR=12						
CPUP				LR	LR	07 28 06.3	
	comp=E,158nm,20.7s,baz=354,slow=40						
BDFB	**Brasilia**	**22.20**	**76**	P	**P**	**07 24 37.0**	**-3.4**
	comp=E,2.0nm,0.5s,baz=228,slow=12,SNR=6.3						
NVAR	**Mina Array Bea**	**75.36**	**323**	P	**P**	**07 31 28.6**	**+1.7**
	comp=E,0.4nm,0.8s,baz=107,slow=3.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**78.97**	**71**	P	**P**	**07 31 45.8**	**-1.6**
	comp=E,1.9nm,0.4s,baz=259,slow=5.4,SNR=26						
YKA	**Yellowknife Ar**	**91.59**	**341**	P	**P**	**07 32 50.5**	**+1.1**
	comp=E,0.2nm,0.5s,baz=145,slow=5.5,SNR=3.3						
MKAR	**Makanchi Array**	**147.18**	**36**	PKPbc	**PKPbc**	**07 39 25.8**	**-0.3**
	comp=E,1.0nm,0.6s,baz=320,slow=3.2,SNR=7.2						

BUC 28 07:40:43.7±0.4, 45°.28N×25°.30E, h20km±4km, MD1.8/2, 6C-2D, Error ellipse: s-maj=3.2km s-min=2.1km az=352.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.18**	**254⇑**	*iP*	Pg	07 40 48.9	+0.2
MTUR	**Matau**	**0.18**	**254⇑**	*iP*	Pg	07 40 48.9	+0.2
VOIR		**0.24**	**312⇓**	*iP*	Pg	07 40 49.8	+0.2
VOIR				*i S*	Sb	07 40 52.4	-1.0
VOIR		**0.24**	**312⇓**	*iP*	Pg	07 40 49.8	+0.2
VOIR				*i S*	Sb	07 40 52.4	-1.0
ARR	**Arges**	**0.48**	**281⇑**	*iP*	Pg	07 40 54.1	+0.4
ARR	**Arges**	**0.48**	**281⇑**	*iP*	Pg	07 40 54.1	+0.4
ARR				*i S*	Sg	07 41 00.3	0.0
MLR	**Muntele Rosu**	**0.50**	**64⇑**	*iP*	Pg	07 40 54.2	+0.1
MLR				S	Sb	07 40 59.8	-1.3
MLR	**Muntele Rosu**	**0.50**	**64⇑**	*iP*	Pg	07 40 54.2	+0.1
MLR				*i S*	Sb	07 40 59.8	-1.3

IDC 28 07:47:16.4±1.8, 37°.55N×95°.87E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/28, mbtmp3.5/4, ML3.2/3, 1C, Error ellipse: s-maj=64.6km s-min=29.0km az=64.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.85**	**34**	Pn	Pn	07 50 20.8	+0.3
	0.1nm,0.3s,baz=224,slow=9.9,SNR=3.9						
MKAR	**Makanchi Array**	**13.65**	**317**	Pn	Pn	07 50 27.4	-3.8
	0.4nm,0.3s,baz=123,slow=14,SNR=21						
MKAR				Sn	Sn	07 52 57.3	-6.3
	0.1nm,0.3s,baz=118,slow=25,SNR=3.8						
ZALV	**Zalesovo Beam**	**18.09**	**339**	P	Pn	07 51 28.4	-0.5
	0.0nm,0.3s,baz=146,slow=8.5,SNR=3.6						
DCPH	**Dipolog City**	**38.07**	**132⇑**	*eP*	P	07 54 34.9	-2.0
ASAR	**Alice Springs**	**70.62**	**143**	P	P	07 58 33.8	0.0
	0.3nm,0.7s,baz=328,slow=6.1,SNR=3.7						

MEX 28 07:48:47.1±1.1, 20°.46N×105°.52W, h15km±20km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUVA	**Puert Vallarta**	**0.32**	**59**	*i P*	Pg	07 48 53.1	-0.7
PUVA				*i S*	Sg	07 48 57.3	-1.2
CJM	**Chamela**	**1.06**	**155**	*eP*	Pb	07 49 03.2	-3.9
CJM				*i S*	Sb	07 49 16.1	-4.6
ANIG	**Ahuacatlan**	**1.10**	**58**	*eP*	Pb	07 49 05.5	-2.6
ANIG				*i S*	Sb	07 49 18.0	-4.4
R15V		**1.93**	**131**	*eP*	Pn	07 49 16.0	-3.5
R15V				*i S*	Sn	07 49 38.9	-4.7
EZ5V		**2.05**	**118**	*eP*	Pn	07 49 18.6	-2.8
EZ5V				*i S*	Sn	07 49 43.0	-4.0

*ISCJB **28** 08:00:38.1±0.6, 37°.75N±0°.08×95°.65E±0°.06, h12km, mb3.7/11, MS3.7/2, Error ellipse: s-maj=11.3km s-min=6.4km az=19.8*
*IDC **28** 08:00:38.0±0.8, 37°.65N×95°.90E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/30, mbtmp3.8/11, ML3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx2.7/47, Error ellipse: s-maj=34.5km s-min=16.0km az=44.0*
*BJI **28** 08:00:41.2, 37°.63N×95°.77E, h7km, mb3.5/1, ML3.7/6, Ms3.4/2, Ms7 3.1/3*
*NNC **28** 08:00:44.7±2.5, 38°.14N×95°.13E, h0km, mb3.6, Error ellipse: s-maj=96.4km s-min=21.5km az=51.0*

ISC 28 08:00:40.3±0.8, 37°.75N±0°.09×95°.71E±0°.05, h12km, n23, σ1§96/28, mb3.9/11, 4C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.62**	**61**	Pn	Pn	08 01 39.3	+3.0
GTA				Pg	**Pb**	**08 01 45.3**	**+1.0**
GTA				Sn	**Sn**	**08 02 19.0**	**-0.1**
GTA				Sg	**Sb**	**08 02 26.0**	**-2.3**
GTA				smax	smax		
	comp=N,37nm,1.1s						
GTA				smax	smax		
	comp=E,36nm,1.1s						
GTA				LR	LR		
	comp=N,330nm,8.5s						
GTA				LR	LR		
	comp=E,290nm,7.6s						
GTA				LR	LR		
	comp=Z,220nm,8.1s						
LZH	**Lanzhou**	**6.73**	**102**	*e*Pg	Pg	08 02 44.8	-4.3
LZH				Sn	**Sn**	**08 03 41.3**	**+5.6**
LZH				Sg	**Sg**	**08 04 12.8**	**-3.4**
LZH				smax	smax		
	comp=N,32nm,0.7s						
LZH				smax	smax		
	comp=E,51nm,0.9s						
LZH				LR	LR		
	comp=N,170nm,8.2s						
LZH				LR	LR		
	comp=E,150nm,6.8s						
WMQ	**Urumqi**	**8.58**	**317**	Pn	**Pn**	**08 02 44.0**	**-0.4**
WMQ				Sn	**Sn**	**08 04 18.3**	**-2.9**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				smax	smax		
	comp=N,33nm,0.8s						
WMQ				smax	smax		
	comp=E,36nm,0.7s						
SONM	**Songino Array**	**12.76**	**34**	Pn	**Pn**	**08 03 44.2

*IDC **28** 08:06:51.1±0.8, 12°.58S×166°.63E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, ML5.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/33, Error ellipse: s-maj=23.5km s-min=17.0km az=118.0*
*ISCJB **28** 08:06:58.2±0.5, 12°.52S±0°.06×166°.38E±0°.07, h59km, mb4.3/22, MS3.6/5, Error ellipse: s-maj=10.0km s-min=8.5km az=164.3*
*NEIC **28** 08:06:58.8±2.5, 12°.53S×166°.47E, h54km±20km, mb4.4/11, Error ellipse: s-maj=18.2km s-min=9.9km az=96.0*
*AUST **28** 08:07:00.9, 11°.96S×166°.46E, h100km*

ISC 28 08:06:59.5±0.6, 12°.52S±0°.08×166°.46E±0°.09, h59km, n65, σ0°99/62, mb4.3/22, MS3.7/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.09**	**295**	Pn	**Pn**	**08 08 40.1**	**-0.6**
HNR				Sn	**Sn**	**08 09 59.3**	**-0.6**
HNR	**Honiara**	**7.09**	**295**	Pn	**Pn**	**08 08 40.1**	**-0.6**
	24nm,0.3s,baz=294,slow=5.5,SNR=4.5						
HNR				Sn	**Sn**	**08 09 59.3**	**-0.6**
	19nm,0.3s,baz=342,slow=20,SNR=4.1						
PMG	**Port Moresby**	**19.20**	**277**	LR	LR	08 16 38.0	
	comp=Z,78nm,21.8s,baz=89,slow=30						
EIDS	**Eidsvold**	**19.34**	**226**	*eP*	**Pn**	**08 11 21.5**	**-0.3**
	6.8nm,0.6s						
EIDS	**Eidsvold**	**19.34**	**226**	P	**Pn**	**08 11 22.6**	**+0.9**
	baz=20,SNR=5.4						
LHI	**Lord Howe Isla**	**20.11**	**199**	P	**P**	**08 11 28.3**	**-0.2**
	baz=21,SNR=4.2						
CTA	**Charters Tower**	**20.79**	**246**	P	**P**	**08 11 36.6**	**+0.6**
CTA	**Charters Tower**	**20.79**	**246**	P	**P**	**08 11 36.6**	**+0.6**
	1.1nm,0.3s,baz=45,slow=4.3,SNR=2.5						
AFI	**Afiamalu**	**21.23**	**96**	LR	LR	08 18 05.5	
	comp=Z,168nm,18.5s,baz=106,slow=32						
MANU	**Manus Island**	**21.58**	**297**	S	S	08 15 30.4	-10
	baz=21,SNR=10						
RMQ	**Roma**	**21.68**	**228**	P	**P**	**08 11 47.7**	**+2.3**
	baz=22,SNR=5.4						
RAO	**Raoul Island**	**22.10**	**141**	LR	LR	08 17 22.0	
	comp=Z,107nm,20.2s,baz=110,slow=29						
ARMA	**Armidale**	**22.49**	**215**	*eP*	**P**	**08 11 54.1**	**-0.1**
	13nm,1.0s						
ARMA	**Armidale**	**22.49**	**215**	P	**P**	**08 11 54.7**	**+0.5**
	baz=23,SNR=5.8						
URZ	**Urewera**	**27.34**	**162**	LR	LR	08 20 47.1	
	comp=Z,196nm,18.6s,baz=357,slow=31						
STKA	**Stephens Creek**	**29.89**	**226**	*eP*	**P**	**08 13 01.5**	**-0.2**
	4.4nm,1.5s						
STKA	**Stephens Creek**	**29.89**	**226**	P	**P**	**08 13 01.7**	**0.0**
	4.3nm,0.8s,baz=35,slow=7.9,SNR=9.3						
STKA	**Stephens Creek**	**29.89**	**226**	P	**P**	**08 13 02.6**	**+0.8**
	baz=30,SNR=5.9						
WRAB	**Tennant Creek**	**31.66**	**252**	*eP*	**P**	**08 13 16.3**	**-1.2**
	5.2nm,1.2s						
WRA	**Warramunga Arr**	**31.67**	**252**	P	**P**	**08 13 16.4**	**-1.2**
WRA	**Warramunga Arr**	**31.67**	**252**	P	**P**	**08 13 16.4**	**-1.2**
	0.6nm,0.5s,baz=84,slow=8,SNR=12						
AS31	**Alice Springs**	**32.79**	**246**	*eP*	**P**	**08 13 26.1**	**-1.4**
ASAR	**Alice Springs**	**32.79**	**246**	P	**P**	**08 13 26.2**	**-1.2**
ASAR				ScP	ScP	08 19 58.6	+7.9
ASAR	**Alice Springs**	**32.79**	**246**	P	**P**	**08 13 26.2**	**-1.2**
	0.8nm,0.6s,baz=66,slow=9.9,SNR=14						
ASAR				ScP	ScP	08 19 58.6	+7.9
	0.3nm,0.6s,baz=70,slow=1.7,SNR=4.5						
ASAR				LR	LR	08 25 13.1	
	comp=Z,180nm,19.4s,baz=169,slow=34						
BBOO	**Buckleboo**	**34.37**	**229**	P	**P**	**08 13 41.2**	**+0.2**
	baz=35,SNR=11						
FITZ	**Fitzroy Crossi**	**39.70**	**257**	P	**P**	**08 14 27.4**	**+1.0**
	baz=40,SNR=3.1						
MEEK	**Meekatharra**	**46.95**	**245**	P	**P**	**08 15 25.3**	**+0.5**
	baz=47,SNR=5.1						
MORW	**Morawa**	**49.55**	**242**	P	**P**	**08 15 45.1**	**+0.3**
	baz=50,SNR=3.5						
MJAR	**Matsushiro Arr**	**55.59**	**332**	P	**P**	**08 16 28.8**	**-0.4**
MJAR	**Matsushiro Arr**	**55.59**	**332**	P	**P**	**08 16 28.8**	**-0.4**
	3.4nm,1.1s,baz=169,slow=5.9,SNR=7.4						
JNU	**Nakatsue**	**56.67**	**324**	*eP*	**P**	**08 16 37.8**	**+0.7**
	5.9nm,0.7s						
JNU	**Nakatsue**	**56.67**	**324**	P	**P**	**08 16 37.0**	**-0.1**
	15nm,0.7s,baz=107,slow=2.8,SNR=9.0						
KSRS	**Korea Array**	**61.48**	**326**	P	**P**	**08 17 11.1**	**+1.0**
	3.2nm,0.7s,baz=138,slow=7.3,SNR=13						
KSAR	**Wonju Array Be**	**61.49**	**326**	P	**P**	**08 17 11.1**	**+0.9**
USRK	**Ussuriysk Arra**	**64.56**	**333**	P	**P**	**08 17 32.0**	**+1.5**
	2.5nm,0.7s,baz=102,slow=5.8,SNR=7.4						
VNDA	**Vanda**	**65.05**	**181**	*eP*	**P**	**08 17 33.7**	**+0.5**
	1.1nm,0.8s						
VNDA	**Vanda**	**65.05**	**181**	P	**P**	**08 17 33.0**	**-0.2**
	0.8nm,0.8s,baz=354,slow=9.2,SNR=3.5						
VNDA				LR	LR	08 41 19.6	
	comp=Z,63nm,21.4s,baz=284,slow=32						
CASY	**Casey**	**65.27**	**202**	*eP*	**P**	**08 17 33.8**	**-1.1**
	3.1nm,0.9s						
SBA	**Scott Base**	**65.34**	**180**	*eP*	**P**	**08 17 36.2**	**+1.1**
	4.0nm,0.9s						
ENH	**Enshi**	**69.36**	**309**	*eP*	**P**	**08 18 01.4**	**0.0**
	13nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.34**	**294**	P	**P**	**08 18 26.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**73.34**	**294**	P	**P**	**08 18 26.8**	**+1.3**
	5.8nm,0.7s,baz=126,slow=4.6,SNR=20						
QSPA	**South Pole Qui**	**77.50**	**180**	*eP*	**P**	**08 18 48.1**	**-0.6**
	9.1nm,0.9s						
ULN	**Ulaanbaatar**	**79.89**	**324**	*eP*	**P**	**08 19 03.1**	**+1.0**
	10nm,0.8s						
SONM	**Songino Array**	**80.26**	**324**	P	**P**	**08 19 05.1**	**+1.0**
SONM	**Songino Array**	**80.26**	**324**	P	**P**	**08 19 05.1**	**+1.0**
	3.5nm,0.7s,baz=137,slow=5.9,SNR=16						
ILAR	**Eielson Array**	**84.68**	**18**	P	**P**	**08 19 25.4**	**-1.2**
ILAR	**Eielson Array**	**84.68**	**18**	P	**P**	**08 19 25.4**	**-1.2**
	0.5nm,0.6s,baz=249,slow=4.5,SNR=8.4						
NVAR	**Mina Array Bea**	**86.44**	**50**	P	**P**	**08 19 37.6**	**+1.4**
NVAR	**Mina Array Bea**	**86.44**	**50**	P	**P**	**08 19 37.6**	**+1.4**
	0.6nm,0.7s,baz=238,slow=8.5,SNR=5.9						
PDAR	**Pinedale Array**	**94.03**	**47**	P	**P**	**08 20 09.3**	**-2.5**
PDAR	**Pinedale Array**	**94.03**	**47**	P	**P**	**08 20 09.3**	**-2.5**
	0.2nm,0.6s,baz=306,slow=6.3,SNR=2.3						
MK31	**Makanchi Array**	**95.06**	**317**	*eP*	**P**	**08 20 16.2**	**+0.1**
MKAR	**Makanchi Array**	**95.06**	**317**	P	**P**	**08 20 16.7**	**+0.6**
MKAR	**Makanchi Array**	**95.06**	**317**	P	**P**	**08 20 16.7**	**+0.6**
	7.7nm,0.7s,baz=96,slow=6.3,SNR=73						
ZALV	**Zalesovo Beam**	**95.15**	**324**	P	**P**	**08 20 15.8**	**-0.5**
ZALV	**Zalesovo Beam**	**95.15**	**324**	P	**P**	**08 20 15.8**	**-0.5**
	2.1nm,0.7s,baz=108,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**117.92**	**345**	PKP	**PKPdf**	**08 25 38.2**	**-0.7**
ARCES	**ARCESS Array B**	**117.92**	**345**	PKP	**PKPdf**	**08 25 38.2**	**-0.7**
	0.6nm,0.5s,baz=57,slow=1.3,SNR=9.8						
KEST	**Kesra**	**149.00**	**322**	PKPbc	**PKPbc**	**08 26 42.1**	**+0.6**
KEST	**Kesra**	**149.00**	**322**	PKPbc	**PKPbc**	**08 26 42.1**	**+0.6**
	2.7nm,0.7s,baz=260,slow=4.0,SNR=9.9						
TORD	**Torodi Ar. Bea**	**165.13**	**274**	PKPab	**PKPab**	**08 27 56.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**165.13**	**274**	PKPab	**PKPab**	**08 27 56.1**	**+0.7**
	4.3nm,0.9s,baz=81,slow=4.7,SNR=22						
DBIC	**Dimbokro**	**169.65**	**237**	PKPab	**PKPab**	**08 28 14.8**	**-0.5**
DBIC	**Dimbokro**	**169.65**	**237**	PKPab	**PKPab**	**08 28 14.8**	**-0.5**
	2.5nm,0.7s,baz=162,slow=13,SNR=3.7						

MEX 28 08:11:11.3±1.0, 16°.00N×96°.88W, h6km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.77**	**107**	*eP*	Pg	08 11 23.9	-2.3
HUIG				*i* S	Sg	08 11 36.0	-0.3
VHO	**Vista Hermosa**	**1.07**	**7**	*i* P	Pg	08 11 29.5	-2.7
VHO				*i* S	Sg	08 11 42.9	-3.5
PNIG	**Pinotepa**	**1.26**	**288**	*eP*	Pn	08 11 32.1	-3.4
PNIG				*i* S	Sg	08 11 47.0	-5.1
UTMO	**Huajuapan**	**2.02**	**334**	*i* P	Pn	08 11 43.0	-3.3
UTMO				*i* S	Sn	08 12 07.0	-5.1
CMIG	**Matias Romero**	**2.20**	**60**	*i* P	Pn	08 11 44.8	-3.6
CMIG				*i* S	Sn	08 12 11.0	-4.9
TPIG	**Tehuac#an**	**2.45**	**349**	*i* P	Pn	08 11 49.1	-3.0
TPIG				*i* S	Sn	08 12 17.3	-5.2

*BER **28** 08:11:49.6±3.4, 59°.29N×27°.03E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **28** 08:11:49.1±1.1, 59°.28N×26°.93E, ML2.3*
*CSEM **28** 08:11:50.0±0.3, 59°.25N×26°.90E, h2km, ML2.3, Error ellipse: s-maj=8.0km s-min=5.0km az=86.0, Mining explosion.*
*IDC **28** 08:11:51.7±2.0, 59°.42N×27°.10E, h0km, mb1 3.1/4, mb1mx2.9/28, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=17.9km s-min=9.8km az=119.0*
*HEL **28** 08:11:51.7±0.8, 59°.40N×26°.95E, h0km, ML1.9, Explosion*

ISC 28 08:11:48.9±0.9, 59°.27N±0°.03×26°.95E±0°.03, h0km, n39, σ1°74/56, 1D, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.82**	**188**	Pg	**Pg**	**08 12 05.0**	**+0.6**
VSU				Lg	Lg	08 12 16.2	
VSU	**Vasula**	**0.82**	**188**	Pg	**Pg**	**08 12 05.0**	**+0.6**
VSU				Lg	Lg	08 12 16.2	
VSU	**Vasula**	**0.82**	**188**	Pg	**Pg**	**08 12 05.0**	**+0.6**
VSU	**Vasula**	**0.82**	**188**	*eP*	**Pg**	**08 12 05.7**	**+1.2**
	SNR=90						
VSU				*e*S	**Sg**	**08 12 16.0**	**+1.0**
	639nm,0.7s,SNR=90						
VJF	**Virojoki**	**1.31**	**13**	PG	**Pg**	**08 12 12.6**	**-1.4**
VJF				SG	**Sg**	**08 12 29.8**	**-1.1**
VJF				MSG		08 12 29.8	
	comp=Z,8.2nm,0.1s						
VJF				RG	Rg	08 12 33.5	
VJF	**Virojoki**	**1.31**	**13**	Pg	**Pg**	**08 12 12.6**	**-1.4**
VJF				Sg	**Sg**	**08 12 29.8**	**-1.1**
MEF	**Metsahovi**	**1.60**	**307**	PG	**Pg**	**08 12 19.6**	**0.0**
MEF				SG	**Sg**	**08 12 41.2**	**+0.8**
MEF				MSG		08 12 41.2	
	comp=Z,5.5nm,0.1s						
MEF	**Metsahovi**	**1.60**	**307**	*eP*	**Pg**	**08 12 19.6**	**0.0**
	SNR=50						
MEF				*e*S	**Sg**	**08 12 40.1**	**-0.3**
	comp=Z,46nm,0.9s,SNR=50						
MEF				Sg	**Sg**	**08 12 41.2**	**+0.8**
MTSE	**Matsula**	**1.71**	**252**	PG	**Pg**	**08 12 22.0**	**+0.3**
MTSE				SG	**Sg**	**08 12 44.1**	**+0.2**
MTSE	**Matsula**	**1.71**	**252**	Pg	**Pg**	**08 12 22.0**	**+0.3**
FIA0	**FINESS Array S**	**2.23**	**349**	Pn	**Pn**	**08 12 27.6**	**+0.6**
	baz=165,slow=18						
FIA0				Lg	Lg	08 12 58.0	
	baz=160,slow=28						
FIA0	**FINESS Array S**	**2.23**	**349**	Pn	**Pn**	**08 12 27.6**	**+0.6**
	baz=165,slow=18						
FIA0				Lg	Lg	08 12 58.0	
	baz=160,slow=28						
FIA0	**FINESS Array S**	**2.23**	**349**	PN	**Pn**	**08 12 28.1**	**+1.2**
	baz=167						
FIA0				SG	**Sn**	**08 12 56.1**	**+1.0**
FIA0				MSG		08 12 56.1	
	comp=Z,10nm,0.5s						
FIA0				RG	Rg	08 13 09.3	
FIA0	**FINESS Array S**	**2.23**	**349**	Pn	**Pn**	**08 12 27.5**	**+0.6**
	baz=165,slow=18,SNR=5.7						
FIA0				Lg	Lg	08 12 58.0	
	baz=160,slow=25,SNR=24						
FINES	**FINESS Array B**	**2.23**	**349**	Pn	**Pn**	**08 12 27.4**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=166,slow=16,SNR=27						
FINES				Lg	Lg	08 12 57.7	
	comp=Z,5.4nm,0.3s,baz=165,slow=28,SNR=32						
FINES				Rg	Rg	08 13 10.0	
	comp=Z,80nm,1.1s,baz=167,slow=29,SNR=15						
KAF	**Kangasniemi**	**2.87**	**354**	PN	**Pn**	**08 12 37.0**	**+1.2**
KAF				SG	**Sn**	**08 13 11.5**	**+0.5**
KAF				MSG		08 13 11.5	
	comp=Z,7.5nm,0.4s						
KAF	**Kangasniemi**	**2.87**	**354**	Pn	**Pn**	**08 12 37.0**	**+1.2**
SLIT	**Slitere, Latvi**	**2.95**	**238**	*eP*	**Pb**	**08 12 41.7**	**-0.5**
	SNR=50						
KEF	**Keuruu**	**3.08**	**342**	PN	**Pn**	**08 12 41.0**	**+2.2**
KEF				SG	**Sn**	**08 13 18.8**	**+2.6**
KEF				MSG		08 13 18.8	
	comp=Z,1.8nm,0.4s						
KEF	**Keuruu**	**3.08**	**342**	Pn	**Pn**	**08 12 40.9**	**+2.2**
RAF	**Rauma**	**3.13**	**306**	PN	**Pn**	**08 12 42.2**	**+2.8**
	baz=116						
RAF				SG	**Sb**	**08 13 21.5**	**-2.5**
RAF				MSG		08 13 21.5	
	comp=Z,1.3nm,0.2s						
RAF	**Rauma**	**3.13**	**306**	Pn	**Pn**	**08 12 42.2**	**+2.8**
RAF				*e*S	**Sn**	**08 13 20.2**	**+2.7**
	comp=Z,10.0nm,0.3s,SNR=50						
SUF	**Sumiainen**	**3.48**	**354**	PN	**Pn**	**08 12 46.1**	**+1.9**
SUF				SG	**Sb**	**08 13 35.0**	**+0.8**
SUF				MSG		08 13 35.0	
	comp=Z,4.3nm,0.4s						
SUF	**Sumiainen**	**3.48**	**354**	Pn	**Pn**	**08 12 46.1**	**+1.9**
AAL	**Aland**	**3.64**	**287**	SG	**Sg**	**08 13 45.2**	**-0.4**
AAL	**Aland**	**3.64**	**287**	Sg	**Sg**	**08 13 45.2**	**-0.4**
JOF	**Joensuu**	**4.23**	**28**	PN	**Pn**	**08 12 55.0**	**+0.5**
JOF				SG	**Sb**	**08 13 58.6**	**+3.0**
JOF				MSG		08 13 58.6	
	comp=Z,3.3nm,0.4s						
JOF	**Joensuu**	**4.23**	**28**	Pn	**Pn**	**08 12 55.0**	**+0.5**
MICGM	**Minsk**	**4.81**	**174**	‖ *e*P	**Sg**	**08 14 19.0**	**-4.2**
HFS	**Hagfors**	**6.76**	**283**	Pn	**Pn**	**08 13 26.8**	**-2.5**
	baz=106,slow=12						
HFS				Sn	**Sn**	**08 14 43.0**	**-4.0**
	baz=96,slow=22						
HFS				Lg	Lg	08 15 17.7	
	baz=80,slow=22						
HFS	**Hagfors**	**6.76**	**283**	Pn	**Pn**	**08 13 26.8**	**-2.5**
	baz=106,slow=12						
HFS				Sn	**Sn**	**08 14 43.0**	**-4.0**
	baz=96,slow=22						
HFS				Lg	Lg	08 15 17.7	
	baz=80,slow=22						
HFS	**Hagfors**	**6.76**	**283**	Pn	**Pn**	**08 13 30.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=120,slow=17,SNR=2.7						
HFS				Sn	**Sn**	**08 14 46.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=104,slow=27,SNR=6.0						
HFS				Lg	Lg	08 15 22.8	
	comp=Z,1.0nm,0.3s,baz=90,slow=31,SNR=8.0						
NB2	**NORSAR Subarra**	**8.05**	**289**	Pn	**Pn**	**08 13 45.6**	**-1.3**
NB2				Lg	Lg	08 16 00.4	
	baz=92,slow=37						
NB2	**NORSAR Subarra**	**8.05**	**289**	Pn	**Pn**	**08 13 45.6**	**-1.3**
NB2				Lg	Lg	08 16 00.4	
	baz=92,slow=37						
NB2	**NORSAR Subarra**	**8.05**	**289**	Pn	**Pn**	**08 13 45.6**	**-1.3**
NB2				Lg	Lg	08 16 00.4	
	baz=92,slow=31,SNR=3.3						
NOA	**NORSAR Array B**	**8.05**	**289**	Pn	**Pn**	**08 13 46.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=113,slow=18,SNR=2.3						
NOA				Lg	Lg	08 16 00.3	
	comp=Z,0.5nm,0.3s,baz=149,slow=21,SNR=5.5						
ARA0	**ARCESS Array S**	**10.33**	**357**	Pn	**Pn**	**08 14 16.0**	**-2.0**
	baz=172,slow=16						
ARA0	**ARCESS Array S**	**10.33**	**357**	Pn	**Pn**	**08 14 16.0**	**-2.0**
	baz=172,slow=16						
ARCES	**ARCESS Array B**	**10.33**	**357**	Pn	**Pn**	**08 14 16.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=7.8						
ARCES				Sn	Sn	08 16 06.1	-8.3
	comp=Z,0.1nm,0.3s,baz=173,slow=22,SNR=3.3						
ARCES				Lg	Lg	08 17 07.7	
	comp=Z,0.4nm,0.3s,baz=157,slow=36,SNR=5.3						

BUC 28 08:12:04.1±1.1, 46°.00N×22°.87E, h10km±8km, MD2.4/2, 9C-2D, Error ellipse: s-maj=9.5km s-min=8.1km az=55.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	**Deva**	**0.12**	**167**	⇑ *i* P	Pg	08 12 06.9	-0.1
DEV				S	Sg	08 12 09.8	+0.8
DEV	**Deva**	**0.12**	**167**	⇑ *i* P	Pg	08 12 06.9	-0.1
DEV				*i* S	Sg	08 12 09.8	+0.8
GZR	**Gura Zlata**	**0.61**	**186**	⇑ *i* P	Pb	08 12 16.7	-0.2
GZR	**Gura Zlata**	**0.61**	**186**	⇑ *i* P	Pb	08 12 16.7	-0.2
GZR				*i* S	Sb	08 12 25.7	+0.2
DRGR		**0.80**	**352**	‖ *i* P	Pb	08 12 20.9	+0.6
DRGR		**0.80**	**352**	‖ *i* P	Pb	08 12 20.9	+0.6
DRGR				*i* S	Sb	08 12 31.4	+0.2
LOT	**Lotru**	**0.84**	**131**	⇑ *i* P	Pb	08 12 20.8	-0.1
LOT	**Lotru**	**0.84**	**131**	⇑ *i* P	Pb	08 12 20.8	-0.1
LOT				*i* S	Sb	08 12 32.7	+0.4
BZS	**Buzias**	**0.95**	**247**	⇑ *i* P	Pg	08 12 22.5	0.0
BZS	**Buzias**	**0.95**	**247**	⇑ *i* P	Pg	08 12 22.5	0.0
BZS				*i* S	Sn	08 12 37.2	+0.1
VOIR		**1.63**	**109**	⇑ *i* P	Pb	08 12 33.8	-0.5
VOIR				*i* S	Sg	08 12 56.4	-0.3

IDC 28 08:13:40.1±7.6, 19°.91S×177°.16W, h422km±194km, mb3.2/4, mb1 3.4/5, mbtmp3.3/5, Error ellipse: s-maj=142.2km s-min=104.2km az=95.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.88**	**42**	P	P	08 15 34.2	-0.2
	2.6nm,0.3s,baz=0.0,slow=20,SNR=4.0						
AFI				S	S	08 16 56.1	-12
	1.8nm,0.3s,baz=50,slow=18,SNR=6.6						
CTA	**Charters Tower**	**34.33**	**263**	P	P	08 19 50.0	+0.2
	2.7nm,0.4s,baz=174,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**38.75**	**244**	P	P	08 20 26.3	-0.1
	0.9nm,0.7s,baz=108,slow=9.6,SNR=6.0						
ASAR	**Alice Springs**	**45.42**	**256**	P	P	08 21 19.6	0.0
	2.2nm,0.6s,baz=95,slow=8.3,SNR=46						
WRA	**Warramunga Arr**	**45.46**	**261**	P	P	08 21 19.3	-0.6
	0.4nm,0.4s,baz=97,slow=7.8,SNR=9.4						

*MOS **28** 08:19:35.3±0.6, 50°.13N×156°.71E, h5km, mb4.2/1, Error ellipse: s-maj=81.4km s-min=26.7km az=85.0*

KRSC 28 08:19:35.3±0.2, 50°.13N×156°.71E, h5km±5km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.67**	**326**	*e*PN	Pg	08 19 40.0	-8.2
SKR				pmax	pmax		
	comp=N,70nm,0.4s						
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR	**Severo-Kuril's**	**0.67**	**326**	*i* P	Pb	08 19 49.0	-0.5
SKR				*i* S	Sb	08 20 00.2	+1.1
PAU	**Pauzhetka**	**1.34**	**3**	PN	Pn	08 20 00.6	-0.1
PAU				S	Sn	08 20 20.0	+1.2
PAU	**Pauzhetka**	**1.34**	**3**	*e*P	Pn	08 20 00.6	-0.1
PAU				*e*S	Sn	08 20 20.0	+1.2
MIPR	**Malaya Ipel'ka**	**2.15**	**1**	*e*P	Pn	08 20 11.2	-0.6
MIPR				S	Sn	08 20 37.8	-1.1
ASAK	**Asacha**	**2.38**	**18**	*e*P	Pn	08 20 16.6	+1.6
ASAK				S	Sn	08 20 45.7	+1.1
MTVR	**Mutnovka**	**2.53**	**21**	*e*P	Pn	08 20 18.4	+1.2
MTVR				*e*S	Sn	08 20 50.5	+1.9
RUS	**Russkaya**	**2.57**	**25**	PN	Pn	08 20 18.0	+0.5
RUS				S	Sn	08 20 49.8	+0.7
RUS	**Russkaya**	**2.57**	**25**	*e*P	Pn	08 20 18.0	+0.5
RUS				*e*S	Sn	08 20 49.8	+0.7
APC	**Apacha**	**2.81**	**6**	P	Pn	08 20 22.0	+1.1
UGLR	**Uglovaya**	**3.35**	**22**	P	Pn	08 20 30.4	+1.9
AVH	**Avacha**	**3.38**	**21**	P	Pn	08 20 30.8	+1.9
KOK	**Koryaka**	**3.39**	**20**	P	Pn	08 20 31.0	+2.1
SMAR	**Somma**	**3.40**	**22**	P	Pn	08 20 31.3	+2.1
KRER	**Koryakskii**	**3.42**	**21**	P	Pn	08 20 30.3	+0.7
SDLR	**Sedlovina**	**3.43**	**22**	*e*P	Pn	08 20 31.5	+1.9
SDLR				S	Sn	08 21 11.0	+0.3
KRX	**Arik**	**3.45**	**20**	P	Pn	08 20 32.1	+2.2
NLC	**Nalytchevo**	**3.46**	**27**	S	Sn	08 21 10.2	-0.9
SPN	**Mys Shipunski**	**3.62**	**34**	PN	Pn	08 20 33.3	+1.3
SPN	**Mys Shipunski**	**3.62**	**34**	P	Pn	08 20 33.3	+1.3
SPN				S	Sn	08 21 15.8	+0.8
GNL	**Ganaly**	**3.65**	**12**	*e*P	Pn	08 20 34.0	+1.4
KBTR	**Krutoberegovo**	**7.11**	**29**	PN	Pn	08 21 22.4	+2.6
KBTR	**Krutoberegovo**	**7.11**	**29**	P	Pn	08 21 22.4	+2.6

*DDA **28** 08:24:45.2, 34°.59N×26°.36E, h27km, MD3.5*
*ATH **28** 08:24:49.7, 34°.82N×26°.93E, h5km±5km, MD3.4/11*
*IDC **28** 08:24:51.5±1.2, 35°.03N×26°.81E, h0km, mb3.8/4, mb1 3.7/10, mb1mx3.6/29, mbtmp3.6/10, ML3.6/6, Error ellipse: s-maj=27.6km s-min=20.6km az=152.0*
*ISCJB **28** 08:24:52.3±0.8, 34°.95N±0°.04×26°.85E±0°.03, h15km±7km, mb3.9/5, Error ellipse: s-maj=6.4km s-min=3.8km az=171.5*
*CSEM **28** 08:24:53.1±0.2, 35°.11N×26°.79E, h2km, ML3.5/1, Error ellipse: s-maj=6.5km s-min=2.5km az=168.0*
*ISK **28** 08:24:54.6, 35°.10N×26°.85E, h29km, MD3.9*
*THE **28** 08:24:54.3, 35°.06N×26°.68E, h0km±1km, ML3.5/1, Error ellipse: s-maj=6.2km s-min=1.6km az=162.0*

ISC 28 08:24:52.9±1.3, 35°.07N±0°.04×26°.78E±0°.02, h6km±9km, n113, σ1°26/146, mb3.9/5, 1C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.46**	**276**	P	**Pg**	**08 25 01.7**	**-0.1**
ZKR				S	**Sb**	**08 25 09.5**	**-1.1**
ZKR	**Zakros**	**0.46**	**276**	⇑ *i* PB	Pg	**08 25 01.7**	**-0.1**
ZKR	**Zakros**	**0.46**	**276**	P	**Pg**	**08 25 01.7**	**-0.1**
ZKR				S	**Sb**	**08 25 09.5**	**-1.1**
KARP	**Karpathos**	**0.57**	**33**	*e*PG	**Pg**	**08 25 03.6**	**-0.4**
KARP				*e*SB	**Sb**	**08 25 15.4**	**+1.5**
KARP	**Karpathos**	**0.57**	**33**	*e*Pg	**Pg**	**08 25 03.6**	**-0.4**
KARP				*e*Sb	**Sb**	**08 25 15.4**	**+1.

AKAS				*i* S	Sn	08 26 08.4	+1.2
SMG	**Samos**	**2.64**	**1**	*e*PN	Pb	08 25 39.5	-1.1
SMG	**Samos**	**2.64**	**1**	*e*Pn	Pb	08 25 39.5	-1.1
AYDN	**Tasoluk**	**2.74**	**19**	*i* P	Pn	08 25 37.2	-0.3
AYDN				*i* S	Sg	08 26 19.1	-1.8
AYDN	**Tasoluk**	**2.74**	**19**	*i* P	Pn	08 25 37.2	-0.3
ELL	**Elmali**	**3.05**	**56**	*e*PN	Pn	08 25 41.2	-0.6
ELL	**Elmali**	**3.05**	**56**	*e*Pn	Pn	08 25 41.2	-0.6
GOLH	**Golhisar**	**3.12**	**45**	*i* P	Pn	08 25 44.2	+1.4
GOLH				*i* S	Sb	08 26 26.3	-1.1
GOLH	**Golhisar**	**3.12**	**45**	*i* P	Pn	08 25 44.2	+1.4
DNZL	**Cakiroluk**	**3.19**	**34**	*i* P	Pn	08 25 44.6	+0.7
DNZL				*i* S	Sb	08 26 30.4	+0.9
DNZL	**Cakiroluk**	**3.19**	**34**	*i* P	Pn	08 25 44.6	+0.7
KYTH	**Kithira**	**3.28**	**293**	P	Pn	08 25 45.3	+0.4
KYTH	**Kithira**	**3.28**	**293**	P	Pn	08 25 45.3	+0.4
IZM	**Izmir**	**3.35**	**7**	*e*PN	Pn	08 25 45.7	-0.2
IZM	**Izmir**	**3.35**	**7**	*e*Pn	Pn	08 25 45.7	-0.2
MANT	**Manisa**	**3.71**	**22**	*i* P	Pn	08 25 51.4	+0.5
MANT				*i* S	Sn	08 26 38.7	+3.7
MANT	**Manisa**	**3.71**	**22**	*i* P	Pn	08 25 51.4	+0.5
MANT				*i* S	Sn	08 26 38.7	+3.7
DID	**Didima**	**3.76**	**311**	P	Pn	08 25 52.9	+1.4
DID	**Didima**	**3.76**	**311**	P	Pn	08 25 52.9	+1.4
KULA	**Kula-Manisa**	**3.76**	**23**	*e*PN	Pn	08 25 51.5	-0.1
KULA	**Kula-Manisa**	**3.76**	**23**	*e*Pn	Pn	08 25 51.5	-0.1
BCK	**Bucak**	**3.90**	**51**	*e*PN	Pn	08 25 53.6	+0.2
BCK	**Bucak**	**3.90**	**51**	*e*Pn	Pn	08 25 53.6	+0.2
KHL	**Karahalli**	**3.93**	**33**	*e*PN	Pn	08 25 54.1	+0.2
KHL	**Karahalli**	**3.93**	**33**	*e*Pn	Pn	08 25 54.1	+0.2
KHAL	**Karahalli**	**3.95**	**33**	*i* P	Pn	08 25 54.5	+0.3
KHAL				*i* S	Sn	08 26 41.6	+0.6
KHAL	**Karahalli**	**3.95**	**33**	*i* P	Pn	08 25 54.5	+0.3
KHAL				*i* S	Sn	08 26 41.6	+0.6
SUTC	**Sutluce-Ispart**	**4.17**	**54**	*e*PN	Pn	08 25 57.3	0.0
SUTC	**Sutluce-Ispart**	**4.17**	**54**	*e*Pn	Pn	08 25 57.3	0.0
BALY	**Balya**	**4.71**	**8**	*i* P	Pn	08 26 04.7	+0.1
BALY				*i* S	Sn	08 26 57.6	-2.1
BALY	**Balya**	**4.71**	**8**	*i* P	Pn	08 26 04.7	+0.1
BALY				*i* S	Sn	08 26 57.6	-2.1
HDMB	**Hadim**	**5.00**	**66**	*e*PN	Pn	08 26 09.3	+0.6
HDMB	**Hadim**	**5.00**	**66**	*e*Pn	Pn	08 26 09.3	+0.6
LEF	**Lefka**	**5.01**	**88**	*e*PN	Pn	08 26 08.7	0.0
LEF	**Lefka**	**5.01**	**88**	*e*Pn	Pn	08 26 08.7	0.0
GONE	**Gonen-Balikesi**	**5.02**	**8**	*e*PN	Pn	08 26 09.8	+1.0
GONE	**Gonen-Balikesi**	**5.02**	**8**	*e*Pn	Pn	08 26 09.8	+1.0
KONT	**Konya--Tatoy**	**5.34**	**56**	*e*PN	Pn	08 26 13.9	+0.7
KONT	**Konya--Tatoy**	**5.34**	**56**	*e*Pn	Pn	08 26 13.9	+0.7
CSS	**Prodhromos**	**5.38**	**89**	*e*PN	Pn	08 26 15.5	+1.7
CSS	**Prodhromos**	**5.38**	**89**	*e*Pn	Pn	08 26 15.5	+1.7
KIZT	**Kizilcal**	**5.58**	**46**	*e*PN	Pn	08 26 17.3	+0.7
KIZT	**Kizilcal**	**5.58**	**46**	*e*Pn	Pn	08 26 17.3	+0.7
IKL	**Isikli**	**5.75**	**76**	*e*PN	Pn	08 26 19.2	+0.5
IKL	**Isikli**	**5.75**	**76**	*e*Pn	Pn	08 26 19.2	+0.5
BRTR	**Keskin Array B**	**7.17**	**48**	Pn	Pn	08 26 37.9	-0.6
	0.1nm,0.3s,baz=225,slow=14,SNR=3.2						
BRTR				Sn	Sn	08 28 02.9	+2.5
	0.1nm,0.3s,baz=215,slow=26,SNR=3.7						
MMAI	**Mount Meron Ar**	**7.45**	**104**	Pn	Pn	08 26 40.9	-1.3
	2.7nm,0.3s,baz=297,slow=9.5,SNR=5.2						
MMAI				Sn	Sn	08 28 02.5	-4.6
	1.5nm,0.3s,baz=277,slow=12,SNR=2.9						
EIL	**Elat**	**8.76**	**126**	Pn	Pn	08 26 58.3	-1.9
	0.5nm,0.3s,baz=337,slow=13,SNR=3.3						
EIL				Sn	Sn	08 28 32.5	-6.7
	1.3nm,0.3s,baz=274,slow=22,SNR=3.7						
ASF	**Jabal al Asfar**	**8.92**	**106**	Pn	Pn	08 27 03.1	+0.6
	0.3nm,0.3s,baz=176,slow=6.8,SNR=2.7						
KBZ	**Khabaz**	**15.15**	**50**	Pn	Pn	08 28 29.2	+1.8
	0.1nm,0.3s,baz=197,slow=17,SNR=2.0						
GERES	**GERESS Array B**	**16.82**	**329**	Pn	P	08 28 50.9	-0.4
	0.2nm,0.3s,baz=150,slow=10,SNR=3.4						
MBDF	**Montbardon**	**18.09**	**308**	*e*P	P	08 29 07.0	+1.6
	7.1nm,0.8s						
LPG	**La Plagne**	**18.45**	**310**	*e*P	Pn	08 29 13.6	+4.1
CABF	**La Chapelle**	**19.38**	**313**	*e*P	P	08 29 18.5	-1.0
SMF	**Signal de Mont**	**20.77**	**311**	*e*P	Pn	08 29 38.4	+1.5
	5.7nm,0.5s						
SSF	**Saint Saulge**	**21.16**	**312**	*e*P	P	08 29 39.0	+0.3
	21nm,1.0s						
TORD	**Torodi Ar. Bea**	**31.46**	**232**	P	P	08 31 14.7	-0.7
	1.2nm,0.5s,baz=30,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**42.72**	**57**	P	P	08 32 50.4	-0.4
	1.4nm,0.7s,baz=280,slow=6.6,SNR=16						
ZALV	**Zalesovo Beam**	**44.11**	**46**	P	P	08 33 00.6	-1.3
	0.7nm,0.3s,baz=271,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**58.52**	**51**	P	P	08 34 49.5	-0.6
	0.3nm,0.4s,baz=292,slow=7.6,SNR=3.0						

MEX 28 08:25:54.3±0.6, 16°.43N×98°.92W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.76**	**93**	*i* P	Pg	08 26 07.4	-1.6
PNIG				*i* S	Sg	08 26 18.7	-0.2
ACX	**Acapulco**	**1.00**	**296**	*i* P	Pg	08 26 05.0	-8.6
ACX				*i* S	Sg	08 26 19.1	-7.5
UTMO	**Huajuapan**	**1.75**	**37**	*e*P	Pn	08 26 21.5	-4.1
UTMO				*i* S	Sn	08 26 43.1	-5.4
PLIG	**Platanillo**	**2.03**	**344**	*e*P	Pn	08 26 25.6	-3.7
PLIG				*i* S	Sn	08 26 50.7	-4.4
VHO	**Vista Hermosa**	**2.19**	**73**	*i* P	Pn	08 26 28.6	-3.0
VHO				*i* S	Sn	08 26 54.9	-4.4
YAIG	**Yautepec**	**2.42**	**357**	*e*P	Pn	08 26 31.9	-2.9
YAIG				*i* S	Sn	08 27 01.2	-3.8
PPM	**Popocatepetl**	**2.63**	**6**	*e*P	Pn	08 26 35.3	-2.9
PPM				*i* S	Sn	08 27 07.4	-3.6

DJA 28 08:35:59.1±0.5, 8°S±3°.×10°.7E±°, h36km±6km, M4.1/10, MLv4.1/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.60**	**63**	P	Pn	08 36 13.0	+1.7
CISI				S	Sn	08 36 20.0	+0.2
LEM	**Lembang**	**1.05**	**19**	P	Pn	08 36 17.3	-0.2
LEM				S	Sn	08 36 32.3	+1.2
SKJI	**Sukabumi**	**1.09**	**319**	P	Pn	08 36 17.5	-0.3
SKJI				S	Sn	08 36 31.1	-0.6
DBJI	**Dramaga**	**1.37**	**337**	P	Pn	08 36 22.1	+0.3
DBJI				S	Sn	08 36 38.9	+0.2
CLJI	**Cilicap**	**1.72**	**86**	P	Pn	08 36 28.7	+2.2
CLJI				S	Sn	08 36 47.4	+0.1
BJII	**Banjamegara**	**2.46**	**79**	P	Pn	08 36 39.1	+2.3
BJII				S	Sn	08 37 04.6	-1.1
UGM	**Wanagama**	**3.21**	**92**	P	Pn	08 36 47.7	+0.6
PCJI	**Pacitan**	**3.88**	**96**	P	Pn	08 36 56.7	+0.5

IDC 28 08:41:30.1±2.7, 2°.96N×127°.25E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.7/24, mbtmp4.0/5, Error ellipse: s-maj=91.3km s-min=49.8km az=79.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.99**	**184**	P	P	08 46 14.5	-0.7
	2.1nm,0.5s,baz=17,slow=8.6,SNR=18						
WRA	**Warramunga Arr**	**23.80**	**163**	P	P	08 46 44.1	-0.7
	4.4nm,0.6s,baz=343,slow=10,SNR=59						
ASAR	**Alice Springs**	**27.25**	**167**	P	P	08 47 16.2	+0.1
	0.7nm,0.5s,baz=350,slow=7.7,SNR=22						
ASAR				PcP	PcP	08 50 36.3	-0.1
	0.3nm,0.7s,baz=351,slow=1.9,SNR=4.4						
STKA	**Stephens Creek**	**37.23**	**160**	P	P	08 48 44.0	+0.5
	1.0nm,0.3s,baz=326,slow=8.2,SNR=11						
VNDA	**Vanda**	**82.60**	**173**	P	P	08 53 54.7	+0.1
	0.3nm,0.4s,baz=328,slow=6.9,SNR=2.8						

NNC ***28*** *08:46:39.8±3.2, 40°.40N×79°.01E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=32.1km s-min=16.7km az=8.0*
BJI ***28*** *08:46:39.5, 40°.20N×78°.79E, h18km, mB4.2/2, mb3.8/5, ML3.8/9, Ms3.6/3, Ms7 3.4/2*
IDC ***28*** *08:46:41.5±3.9, 40°.35N×78°.67E, h25km±25km, mb3.7/7, mb1 3.9/10, mb1mx3.6/30, mbtmp3.7/10, ML3.5/3, MS3.3/9, Ms1 3.3/9, ms1mx3.0/47, Error ellipse: s-maj=23.8km s-min=16.5km az=173.0*
ISC 28 08:46:39.6±0.6, 40°.30N±0°.05×78°.78E±0°.05, h10km, n40, σ2°25/36, mb3.9/7, MS3.3/6, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.30**	**251**	Pn	**Pg**	**08 47 24.3**	**+0.7**
KSH				Sn	Sg	08 48 02.3	+8.9
KSH				smax	smax		
	comp=N,440nm,0.7s						
KSH				smax	smax		
	comp=E,640nm,0.6s						
ULHL	**Ulahol**	**2.73**	**316**	P	**Pb**	**08 47 28.2**	**-0.4**
	SNR=83						
KZA	**Kyzart**	**3.20**	**305**	P	**Pn**	**08 47 32.5**	**+2.2**
	SNR=26						
KNDC	**Almaty**	**3.21**	**336**	⇑Pg	**Pg**	**08 47 38.7**	**-2.5**
	comp=E,172nm,0.7s						
KNDC				⇓Lg	Lg	08 48 21.4	
	comp=E,818nm,0.8s						
TKM2	**Tokmak 2**	**3.54**	**319**	⇓Pn	Pb	08 47 38.8	-3.7
	comp=E,167nm,1.1s						
TKM2				⇑Lg	Lg	08 48 32.9	
	comp=E,154nm,0.7s						
TKM2	**Tokmak 2**	**3.54**	**319**	P	Pn	08 47 38.3	+3.5
	SNR=49						
KBK	**Karagaybulak**	**3.72**	**311**	P	Pb	08 47 42.0	-3.4
	SNR=9.3						
UCH	**Uchtor**	**3.75**	**302**	P	**Pb**	**08 47 47.6**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**3.98**	**307**	P	**Pb**	**08 47 51.7**	**+1.8**
	SNR=37						
AAK	**Ala-Archa**	**3.98**	**307**	Pn	**Pn**	**08 47 43.0**	**+2.3**
	comp=E,1.3nm,0.3s,baz=121,slow=10,SNR=9.7						
AAK				Pg	**Pb**	**08 47 51.1**	**+1.3**
	comp=E,5.3nm,0.3s,baz=128,slow=12,SNR=10						
AAK				Lg	Lg	08 48 46.1	
	comp=E,8.9nm,0.3s,baz=339,slow=18,SNR=6.2						
AAK				LR	LR	08 49 25.9	
	comp=E,367nm,20.2s,baz=62,slow=42						
CHMS	**Chumysh**	**4.05**	**313**	P	**Pb**	**08 47 52.8**	**+1.8**
	SNR=41						
AML	**Almayashu**	**4.25**	**297**	P	**Pb**	**08 47 55.9**	**+1.2**
	SNR=9.0						
USP	**Ospenovka**	**4.36**	**314**	P	**Pb**	**08 47 58.0**	**+1.7**
	SNR=57						
EKS2	**Erkin-Say**	**4.44**	**304**	P	Pn	08 47 51.0	+3.9
	SNR=9.9						
KK31	**Karatay Array**	**6.79**	**297**	⇑Pg	**Pb**	**08 48 40.9**	**+3.2**
	comp=E,8.2nm,0.7s,baz=109,slow=13,SNR=51						
KK31				⇓Lg	Lg	08 50 14.8	
	comp=E,33nm,1.1s,baz=118,slow=27,SNR=5.4						
MK31	**Makanchi Array**	**6.97**	**20**	Pn	**Pn**	**08 48 23.3**	**+1.5**
	comp=E,1.9nm,0.5s,baz=204,slow=12,SNR=98						
MK31				⇑Lg	Lg	08 50 19.7	
	comp=E,9.7nm,0.6s						
MKAR	**Makanchi Array**	**6.97**	**20**	Pn	**Pn**	**08 48 23.3**	**+1.5**
	comp=E,2.3nm,0.3s,baz=202,slow=13,SNR=123						
MKAR				Lg	Lg	08 50 24.2	
	comp=E,0.5nm,0.3s,baz=183,slow=23,SNR=4.0						
WMQ	**Urumqi**	**7.51**	**59**	Pn	**Pn**	**08 48 28.3**	**-0.9**
WMQ				Sn	**Sn**	**08 49 50.0**	**-4.3**
WMQ				smax	smax		
	comp=N,40nm,1.0s						
WMQ				smax	smax		
	comp=E,30nm,0.9s						
CHCP	**Chirah Chowk**	**7.96**	**215**	P	**Pn**	**08 48 35.8**	**+0.4**
DLH	**Dalhousie**	**8.07**	**197**	*e*P	**Sn**	**08 50 05.0**	**-3.4**
CEP	**Cherat**	**8.48**	**222**	P	**Pn**	**08 48 42.1**	**-0.5**
CEP				S	**Sn**	**08 50 15.0**	**-3.4**
THW	**Thamme Wali**	**9.39**	**219**	P	**Pn**	**08 48 53.1**	**-1.8**
VOSK	**Vostochnaya**	**13.53**	**339**	⇓Pn	**Pn**	**08 49 50.5**	**-0.9**
	comp=E,5.5nm,1.0s						
VOSK				⇑Lg	Lg	08 53 43.1	
	comp=E,73nm,1.8s						
BVA0	**Borovoye Array**	**13.96**	**339**	⇑Pn	**Pn**	**08 49 59.0**	**+1.7**
	comp=E,4.2nm,0.8s,baz=135,slow=11,SNR=7.2						
BVA0				⇓Lg	Lg	08 53 58.9	
	comp=E,36nm,1.4s,baz=143,slow=26,SNR=4.8						
BVAR	**Borovoye Array**	**13.96**	**339**	Pn	**Pn**	**08 49 57.7**	**+0.4**
	comp=E,0.2nm,0.3s,baz=146,slow=11,SNR=6.4						
BVAR				Lg	Lg	08 53 59.1	
	comp=E,0.1nm,0.3s,baz=152,slow=25,SNR=3.6						
BVAR				LR	LR	08 55 33.5	
	comp=E,140nm,20.9s,baz=271,slow=38						
ZALV	**Zalesovo Beam**	**14.25**	**15**	Pn	**Pn**	**08 50 00.1**	**-1.1**
	comp=E,0.2nm,0.3s,baz=195,slow=13,SNR=7.7						
GTA	**Gaotai**	**16.18**	**86**	*e*P	**P**	**08 50 30.3**	**0.0**
GTA				pP	**pP**	**08 50 37.0**	**+3.9**
GTA				sP	**sP**	08 50 41.5	+7.1
GTA				S	**Sn**	**08 53 33.3**	**+6.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,67nm,7.6s						
GTA				LR	LR		
	comp=N,140nm,15.7s						
GTA				LR	LR		
	comp=E,140nm,15.7s						
GTA				LR	LR		
	comp=Z,160nm,14.7s						
AKTO	**Aktyubinsk**	**17.71**	**312**	P	**P**	**08 50 48.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=124,slow=13,SNR=3.8						
AKTO				LR	LR	08 58 18.1	
	comp=Z,82nm,18.9s,baz=131,slow=40						
SONM	**Songino Array**	**21.14**	**60**	P	**P**	**08 51 25.3**	**+0.6**
	comp=Z,4.8nm,0.9s,baz=256,slow=10,SNR=25						
KBZ	**Khabaz**	**26.75**	**289**	LR	LR	09 03 27.6	
	comp=Z,47nm,20.1s,baz=210,slow=38						
CMAR	**Chiang Mai Arr**	**27.85**	**136**	P	**P**	**08 52 30.4**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=319,slow=11,SNR=4.4						
BRTR	**Keskin Array B**	**34.29**	**284**	P	**P**	**08 53 25.8**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=64,slow=5.6,SNR=4.5						
FINES	**FINESS Array B**	**38.03**	**322**	P	**P**	**08 53 57.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=126,slow=7.1,SNR=2.0						
FINES				LR	LR	09 09 43.7	
	comp=Z,44nm,20.0s,baz=265,slow=36						
HFS	**Hagfors**	**44.03**	**319**	LR	LR	09 13 53.9	
	comp=Z,60nm,20.5s,baz=108,slow=37						
NOA	**NORSAR Array B**	**45.18**	**321**	LR	LR	09 14 29.0	
	comp=Z,49nm,21.0s,baz=0.0,slow=37						
SPITS	**Spitsbergen Ar**	**45.30**	**345**	LR	LR	09 16 27.7	
	comp=Z,16nm,20.1s,baz=175,slow=40						
DAVOX	**Davos/Dischmat**	**48.91**	**302**	LR	LR	09 17 37.2	
	comp=Z,81nm,19.1s,baz=284,slow=38						
ILAR	**Eielson Array**	**69.33**	**19**	P	**P**	**08 57 45.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=321,slow=5.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**71.81**	**272**	P	**P**	**08 58 01.1**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=46,slow=5.7,SNR=7.8						
YKA	**Yellowknife Ar**	**76.99**	**6**	P	**P**	**08 58 30.8**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=343,slow=5.9,SNR=7.0						

SZGRF ***28*** *08:54:43.6, 51°.48N×165°.15W, h33km, mb5.1, South of Aleutian Islands*
IDC ***28*** *08:54:46.4±3.6, 52°.93N×167°.17W, h12km±21km, mb4.5/39, mb1 4.6/41, mb1mx4.6/45, mbtmp4.5/41, ML4.2/2, MS3.9/20, Ms1 4.0/20, ms1mx3.7/44, Error ellipse: s-maj=14.5km s-min=8.3km az=177.0*
MOS ***28*** *08:54:47.9±1.0, 52°.94N×167°.10W, h33km, mb5.2/60, Error ellipse: s-maj=8.1km s-min=4.7km az=85.6*
ISCJB ***28*** *08:54:48.6±0.5, 52°.79N±0°.04×167°.10W±0°.03, h42km±3km, mb4.7/181, MS4.0/27, Error ellipse: s-maj=6.1km s-min=2.9km az=1.7*
NEIC ***28*** *08:54:50.3±0.4, 52°.86N×167°.12W, h42km±3km, mb4.8/106, ML4.5(AEIC), Error ellipse: s-maj=5.0km s-min=2.5km az=180.0*
BJI ***28*** *08:54:52.3, 53°.39N×167°.76W, h51km, mB4.9/13, mb4.8/32, Ms4.6/13, Ms7 4.4/13*
ISC 28 08:54:51.2±0.4, 52°.83N±0°.06×167°.16W±0°.03, h52km±2km, h52km:pP-P, n834, σ0°.995/895, mb4.9/190, MS4.1/27, 260C-182D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.73**	**322**	P	**Pn**	**08 55 03.1**	**-2.3**
OKFG				S	**Sn**	**08 55 16.1**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**0.77**	**317**	P	**Pn**	**08 55 04.4**	**-1.5**
OKSO	**Okmok South**	**0.80**	**312**	P	**Pn**	**08 55 04.0**	**-2.3**
OKSO				S	**Sn**	**08 55 18.2**	**+0.8**
OKSP	**Okmok Steeple**	**0.80**	**302**	P	**Pn**	**08 55 04.4**	**-1.9**
OKCE	**Okmok Cone E**	**0.85**	**315**	P	**Pn**	**08 55 05.2**	**-1.7**
OKCE				S	**Sn**	**08 55 19.2**	**+0.7**
MREP	**Makushin Rep't**	**1.01**	**14**	P	**Pn**	**08 55 06.9**	**-2.2**
NIKH	**Nikolski High**	**1.03**	**278**	P	**Pn**	**08 55 06.8**	**-2.6**
NIKH				S	**Sn**	**08 55 24.9**	**+2.0**
MCIR	**Makushin Cirqu**	**1.13**	**8**	P	**Pn**	**08 55 09.0**	**-1.8**
MTBL	**Makushin Table**	**1.18**	**14**	P	**Pn**	**08 55 09.0**	**-2.4**
ZRO	**Akutan Zero**	**1.45**	**29**	P	**Pn**	**08 55 13.1**	**-1.9**
AKRB	**Akutan Reef Bi**	**1.46**	**26**	P	**Pn**	**08 55 13.1**	**-2.0**
AKRB				S	**Sn**	**08 55 36.0**	**+3.0**
LVA	**Lava Point**	**1.49**	**26**	P	**Pn**	**08 55 14.4**	**-1.2**
AKGG	**Akutan Green G**	**1.54**	**27**	P	**Pn**	**08 55 14.7**	**-1.5**
AKUT	**Akutan**	**1.55**	**32**	P	**Pn**	**08 55 14.0**	**-2.2**
AKUT				S	**Sn**	**08 55 35.2**	**0.0**
WESE	**West Dahl East**	**2.25**	**42**	P	**Pn**	**08 55 24.1**	**-1.8**
SSBA	**Shishaldin**	**2.65**	**42**	P	**Pn**	**08 55 29.6**	**-1.8**
SSLW	**Shishaldin Wes**	**2.65**	**42**	P	**Pn**	**08 55 29.7**	**-1.7**
BRPK	**Brown Peak**	**2.73**	**47**	P	**Pn**	**08 55 30.5**	**-1.9**
FALS	**False Pass**	**3.01**	**46**	P	**Pn**	**08 55 34.9**	**-1.4**
FALS				S	**Sn**	**08 56 11.6**	**+0.7**
DRIA	**Deer Island**	**3.60**	**52**	P	**Pn**	**08 55 42.3**	**-2.1**
DT1	**Dutton Round H**	**3.67**	**50**	P	**Pn**	**08 55 43.4**	**-2.0**
PS4A	**Pavlof South-4**	**4.01**	**49**	P	**Pn**	**08 55 48.3**	**-1.7**
SDPT	**Sand Point**	**4.67**	**55**	P	**Pn**	**08 55 56.5**	**-2.6**
SPIA	**Saint Paul Isl**	**4.70**	**339**	P	**Pn**	**08 56 00.8**	**+1.3**
VNWF	**Veniaminof 8**	**5.54**	**50**	P	**Pn**	**08 56 10.0**	**-1.0**
GSCK	**Great Sitkin C**	**5.57**	**265**	P	**Pn**	**08 56 11.3**	**-0.1**
ADK	**Adak**	**5.91**	**265**	P	**Pn**	**08 56 16.5**	**+0.5**
ADK	**Adak**	**5.91**	**265**	P	**Pn**	**08 56 16.5**	**+0.5**
CHGN	**Chignik**	**6.16**	**52**	*e*Pn	**Pn**	**08 56 18.3**	**-1.1**
AMKA	**Amchitka**	**8.46**	**265**	P	**Pn**	**08 56 51.5**	**+0.5**
OHAK	**Old Harbor**	**9.10**	**56**	*e*Pn	**Pn**	**08 56 57.0**	**-2.5**
KDAK	**Kodiak Island**	**9.67**	**53**	*e*Pn	**Pn**	**08 57 04.9**	**-2.5**
KDAK				Sn	Sn	08 58 44.0	-10
KDAK	**Kodiak Island**	**9.67**	**53**	Pn	Pn	08 57 03.3	-4.1
	3.1nm,0.3s,baz=99,slow=10,SNR=13						
KDAK				Sn	Sn	08 58 44.0	-10
	0.4nm,0.3s,baz=348,slow=20,SNR=2.0						
SVW2	**Sparrevohn**	**10.40**	**33**	*e*Pn	**Pn**	**08 57 16.2**	**-1.3**
RSO	**Redoubt South**	**10.99**	**40**	*e*Pn	**Pn**	**08 57 26.2**	**+0.5**
SPU	**Mount Spurr**	**11.71**	**38**	*e*Pn	**Pn**	**08 57 36.1**	**+0.8**
FX1	**Attu Island--F**	**11.89**	**278**	*e*Pn	**Pn**	**08 57 38.9**	**+1.1**
FX1	**Attu Island--F**	**11.89**	**278**	Pn	**Pn**	**08 57 37.9**	**0.0**
	3.7nm,0.3s,baz=59,slow=9.4,SNR=13						
TNA	**Tin City**	**12.77**	**359**	*e*Pn	**Pn**	**08 57 50.9**	**+1.2**
PPLA	**Purkeypile**	**12.82**	**32**	*e*Pn	**Pn**	**08 57 52.8**	**+2.3**
PMR	**Palmer**	**13.09**	**41**	*e*P	**Pn**	**08 57 54.2**	**+0.2**
PMR	**Palmer**	**13.09**	**41**	*e*Pn	**Pn**	**08 57 54.2**	**+0.2**
SML	**Sawmill**	**13.53**	**41**	*e*P	**Pn**	**08 57 58.0**	**-2.1**
SML	**Sawmill**	**13.53**	**41**	*e*Pn	**Pn**	**08 57 58.0**	**-2.1**
TRF	**Thorofare Moun**	**13.82**	**33**	*e*Pn	**Pn**	**08 58 05.1**	**+0.9**
BPAW	**Bear Paw Mtn.**	**14.06**	**30**	*e*Pn	**Pn**	**08 58 07.4**	**+0.2**
	24nm,0.9s						
DIV	**Divide**	**14.26**	**46**	*e*Pn	**Pn**	**08 58 09.7**	**-0.3**
MCK	**McKinley**	**14.46**	**34**	*e*P	**Pn**	**08 58 14.3**	**+1.7**
MCK	**McKinley**	**14.46**	**34**	*e*Pn	**Pn**	**08 58 14.2**	**+1.7**
BMRM	**Bremner River**	**14.71**	**47**	*e*Pn	**Pn**	**08 58 13.9**	**-1.9**
IM04	**Indian Mountai**	**14.78**	**22**	*e*P	**P**	**08 58 20.9**	**-0.7**
IMA2	**Indian Mountai**	**14.88**	**22**	*e*Pn	**Pn**	**08 58 20.1**	**+1.9**
PAX	**Paxson**	**15.28**	**40**	*e*P	**Pn**	**08 58 21.0**	**-2.3**
PAX				pmax	pmax		
	comp=Z,14nm,0.6s						
PAX	**Paxson**	**15.28**	**40**	*e*Pn	**Pn**	**08 58 21.0**	**-2.3**
	comp=Z,14nm,0.6s						
COLA	**College**	**15.57**	**32**	*e*P	**Pn**	**08 58 25.5**	**-1.4**
COLA				pmax	pmax		
	comp=Z,47nm,1.5s						
COLA	**College**	**15.57**	**32**	*e*Pn	**Pn**	**08 58 25.5**	**-1.4**
	comp=Z,47nm,1.5s						
ILAR	**Eielson Array**	**15.82**	**33**	Pn	**Pn**	**08 58 27.7**	**-2.4**
ILAR				PcP	**PcP**	**09 03 25.1**	**-0.9**
ILAR	**Eielson Array**	**15.82**	**33**	Pn	**Pn**	**08 58 27.7**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=240,slow=10,S

HLID	Hailey	35.62	83	⇑P	P	09 01 43.9	+0.1
	baz=36,SNR=5.1						
C17A	Wharram Farm,	35.65	75	⇓P	P	09 01 43.1	-0.8
	baz=36						
B18A	Beardsley Farm	35.85	73	⇓P	P	09 01 45.3	-0.3
	baz=36,SNR=8.1						
MCMT	McKenzie Canyo	35.87	81	eP	P	09 01 46.0	-0.1
D17A	Six Diamond Ra	35.93	76	⇓P	P	09 01 46.4	0.0
	baz=36						
EGMT	Eagleton	36.04	74	eP	P	09 01 47.3	0.0
	comp=Z,22nm,1.1s						
EGMT	Eagleton	36.04	74	⇓P	P	09 01 46.9	-0.4
	baz=36,SNR=5.9						
BOZ	Bozeman (W)	36.16	79	eP	P	09 01 48.1	-0.3
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOZ	Bozeman (W)	36.16	79	eP	P	09 01 48.1	-0.3
	comp=Z,1.8nm,0.6s						
A19A	Klindworth Far	36.19	72	⇓P	P	09 01 48.3	-0.2
	baz=36						
E17A	Martinsdale	36.19	77	⇑P	P	09 01 48.5	-0.2
	baz=36,SNR=6.1						
B19A	Brinkman Farms	36.30	73	⇑P	P	09 01 49.3	-0.1
	baz=36,SNR=6.2						
NVAR	Mina Array Bea	36.34	93	P	P	09 01 51.0	+0.9
NVAR				PcP	PcP	09 04 14.6	+1.0
NVAR	Mina Array Bea	36.34	93	P	P	09 01 51.0	+0.9
	comp=Z,3.5nm,0.6s,baz=300,slow=8.7,SNR=42						
NVAR				PcP	PcP	09 04 14.6	+1.0
	comp=Z,0.9nm,0.5s,baz=272,slow=3.8,SNR=7.5						
D18A	Linhart Farms,	36.43	75	⇓P	P	09 01 50.6	-0.1
	baz=36						
MLAC	Mammoth Lakes	36.53	95	⇑P	P	09 01 51.4	-0.3
	baz=36						
F17A	Fitzpatrick Pl	36.60	78	⇑P	P	09 01 51.4	-0.7
	baz=36						
C19A	Slack Wire Ran	36.60	74	⇑P	P	09 01 52.3	+0.3
	baz=36,SNR=12						
A20A	Cobblestone Ra	36.68	72	⇑P	P	09 01 52.3	-0.4
	baz=36,SNR=6.7						
E18A	Harlowton	36.69	76	⇓P	P	09 01 52.5	-0.4
	baz=36						
ELK	Elko	36.76	88	eP	P	09 01 53.8	+0.1
	comp=Z,2.7nm,1.0s						
B20A	Solberg Farm,	36.84	72	⇓P	P	09 01 53.8	-0.3
	baz=37,SNR=5.1						
G17A	Pierce Place,	36.86	78	⇓P	P	09 01 54.0	-0.4
	baz=37						
H16A	Russell Place,	36.89	80	⇓P	P	09 01 54.2	-0.6
	baz=37						
D19A	Cripps Ranch,	36.99	75	⇓P	P	09 01 55.4	+0.1
	baz=37,SNR=7.8						
YMR	Madison River	37.08	80	eP	P	09 01 56.6	+0.3
	comp=Z,11nm,0.9s						
F18A	Big Timber	37.16	77	⇓P	P	09 01 56.2	-0.6
	baz=37						
A21A	Bergtoll Ranch	37.20	71	⇑P	P	09 01 56.8	-0.3
	baz=37						
I16A	Newdale	37.21	81	⇑P	P	09 01 57.4	0.0
	baz=37						
C20A	Veseth Ranch,	37.22	73	⇓P	P	09 01 57.2	0.0
	baz=37,SNR=13						
SMMC	Simmler	37.36	99	⇓P	P	09 01 58.4	-0.1
	baz=37						
E19A	Rath Farm, Rou	37.41	76	⇓P	P	09 01 59.0	+0.1
	baz=37,SNR=6.5						
B21A	Ellsworth Farm	37.43	72	⇑P	P	09 01 58.7	-0.3
	baz=37,SNR=8.5						
D20A	Manuel Ranch,	37.46	74	⇑P	P	09 01 59.4	+0.1
	baz=37,SNR=6.7						
H17A	Grant Village	37.46	80	eP	P	09 02 01.4	+1.8
H17A				epP	pP	09 02 17.3	+4.2
H17A	Grant Village	37.46	80	⇑P	P	09 01 59.6	0.0
	baz=37						
LKWY	Lake	37.48	79	eP	P	09 02 00.8	+1.1
LKWY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LKWY	Lake	37.48	79	eP	P	09 02 00.8	+1.1
	comp=Z,6.0nm,0.8s						
IMW	Indian Meadow	37.52	81	eP	P	09 02 00.4	+0.2
	comp=Z,58nm,2.7s						
VES	Vestal, Richgr	37.56	97	⇑P	P	09 02 00.5	+0.4
	baz=37						
G18A	Lazy EL Ranch,	37.56	78	⇑P	P	09 01 59.9	-0.4
	baz=37						
RRI2	Red Ridge	37.61	82	eP	P	09 02 01.8	+0.9
	comp=Z,7.1nm,1.0s						
F19A	Roth Farm, Mol	37.64	77	⇓P	P	09 02 00.7	-0.2
	baz=38						
C21A	Desert Coulee	37.69	73	⇓P	P	09 02 01.0	-0.2
	baz=38,SNR=6.4						
PKM	Peak Mountain	37.76	99	⇓P	P	09 02 02.8	+0.8
	baz=38						
E20A	Meyer Farm, Mu	37.77	75	⇓P	P	09 02 01.9	-0.1
	baz=38						
A22A	Carney Farms,	37.78	70	⇑P	P	09 02 01.9	-0.1
	baz=38						
GRAC	Grapevine Rang	37.82	94	⇓P	P	09 02 03.5	+1.0
	baz=38						
RLMT	Red Lodge	37.84	78	eP	P	09 02 01.6	-1.1
	comp=Z,6.9nm,0.9s						
H18A	Shoshone NF, C	37.85	79	⇑P	P	09 02 03.0	+0.1
	baz=38						
SNOW	Snow King Moun	37.88	81	eP	P	09 02 04.2	+1.0
	comp=Z,2.9nm,0.8s						
LOHW	Long Hollow	37.89	81	eP	P	09 02 03.5	+0.4
	comp=Z,1.3nm,0.7s						
R11A	Troy Canyon, C	38.03	91	eP	P	09 02 04.4	0.0
	comp=Z,2.3nm,0.9s						
R11A	Troy Canyon, C	38.03	91	⇓P	P	09 02 04.8	+0.4
	baz=38						
ISA	Isabella	38.04	97	eP	P	09 02 04.5	+0.1
ISA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ISA	Isabella	38.04	97	eP	P	09 02 04.5	+0.1
	comp=Z,5.4nm,1.0s						
ISA	Isabella	38.04	97	⇑P	P	09 02 04.6	+0.3
	baz=38						
B22A	Reddig Ranch S	38.08	72	⇓P	P	09 02 04.6	0.0
	baz=38						
SBC	Santa Barbara	38.13	100	⇓P	P	09 02 05.2	+0.2
	baz=38						
F20A	Billings	38.14	76	⇑P	P	09 02 05.0	-0.1
	baz=38						
D21A	La Casta Ranch	38.14	74	⇓P	P	09 02 04.9	-0.2
	baz=38						
H19A	Powell	38.26	78	⇓P	P	09 02 06.2	0.0
	baz=38						
I18A	Diamond G Ranc	38.31	80	⇑P	P	09 02 06.6	-0.1
	baz=38						
E21A	Keefer Ranch,	38.37	75	⇓P	P	09 02 06.9	-0.1
	baz=38						
MPMC	Manual Prospec	38.37	96	⇑P	P	09 02 07.7	+0.5
	baz=38						
A23A	Redstone	38.39	70	⇑P	P	09 02 06.9	-0.2
	baz=38,SNR=7.8						
G20A	Bridger	38.41	77	⇑P	P	09 02 07.1	-0.4
	baz=38,SNR=5.6						
C22A	Vida	38.43	72	⇑P	P	09 02 07.1	-0.3
	baz=38						
FURC	Furnace Creek,	38.48	95	⇓P	P	09 02 08.6	+0.7
	baz=38,SNR=6.9						
DUG	Dugway	38.57	87	eP	P	09 02 09.5	+0.7
DUG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
DUG	Dugway	38.57	87	eP	P	09 02 09.5	+0.7
	comp=Z,9.9nm,1.4s						
DUG	Dugway	38.57	87	⇓P	P	09 02 08.9	+0.1
	baz=38						
D22A	Cohagen	38.57	73	⇑P	P	09 02 08.6	-0.1
	baz=38,SNR=12						
B23A	Brockton	38.58	71	⇓P	P	09 02 08.5	-0.2
	baz=38,SNR=8.8						
I19A	Meeteetse	38.61	79	⇓P	P	09 02 09.0	-0.2
	baz=38						
C23A	Lambert	38.80	72	⇑P	P	09 02 10.6	+0.1
	baz=39,SNR=11						
EDW2	Edwards Air Fo	38.86	97	⇓P	P	09 02 11.6	+0.4
	baz=39						
A24A	Westby	38.91	70	⇓P	P	09 02 11.3	-0.1
	baz=39,SNR=12						
H20A	Greybull	38.95	78	⇑P	P	09 02 11.5	-0.3
	baz=39						
BW06	Boulder Array	39.00	81	eP	P	09 02 11.7	-0.8
	comp=Z,4.8nm,0.7s						
PDAR	Pinedale Array	39.00	81	P	P	09 02 12.2	-0.3
PDAR				ScP	S	09 08 08.8	+1.1
PDAR	Pinedale Array	39.00	81	P	P	09 02 12.2	-0.3
	comp=Z,4.9nm,0.6s,baz=292,slow=4.3,SNR=50						
PDAR				ScP	S	09 08 08.8	+1.1
	comp=Z,0.8nm,1.0s,baz=318,slow=2.0,SNR=4.1						
G21A	Lodge Grass	39.01	76	⇓P	P	09 02 12.0	-0.4
	baz=39,SNR=7.9						
J19A	Crowheart	39.01	80	⇓P	P	09 02 13.2	+0.7
	baz=39						
DGMT	Dagmar	39.03	70	⇓P	P	09 02 12.1	-0.3
	baz=39						
M17A	Scullys Gap (B	39.09	84	⇓P	P	09 02 13.0	-0.3
	baz=39						
D23A	Lindsay	39.12	73	⇑P	P	09 02 13.4	+0.2
	baz=39						
I20A	Worland	39.17	79	⇑P	P	09 02 13.8	0.0
	baz=39						
L18A	Fontenelle, Gr	39.20	83	⇓P	P	09 02 14.1	0.0
	baz=39						
SHOC	Shoshone	39.21	95	⇓P	P	09 02 14.6	+0.6
	baz=39						
F22A	Rosebud	39.26	75	⇑P	P	09 02 14.4	-0.1
	baz=39						
GSC	Goldstone	39.29	96	eP	P	09 02 15.0	+0.2
GSC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GSC	Goldstone	39.29	96	eP	P	09 02 15.0	+0.2
	comp=Z,6.3nm,0.8s						
GSC	Goldstone	39.29	96	⇑P	P	09 02 15.1	+0.2
	baz=39						
DAU	Daniels Canyon	39.38	85	eP	P	09 02 16.2	+0.4
DAU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DAU	Daniels Canyon	39.38	85	eP	P	09 02 16.2	+0.4
	comp=Z,3.8nm,0.9s						
C24A	Savage	39.38	72	⇓P	P	09 02 15.8	+0.4
	baz=39,SNR=8.5						
K19A	Absolon Red Bu	39.39	81	⇓P	P	09 02 15.2	-0.5
	baz=39,SNR=13						
A25A	Svangstu Ranch	39.40	69	⇓P	P	09 02 15.1	-0.4
	baz=39						
E23A	Ismay	39.43	74	⇑P	P	09 02 16.0	+0.2
	baz=39						
BFSC	Mount Baldy Ra	39.50	98	⇓P	P	09 02 17.1	+0.5
	baz=39						
L19A	Farson	39.51	82	⇓P	P	09 02 16.7	-0.1
	baz=39						
J20A	Shoshoni	39.54	79	⇓P	P	09 02 16.8	-0.1
	baz=39						
G22A	Birney	39.55	76	⇓P	P	09 02 16.5	-0.4
	baz=39						
FCC	Fort Churchill	39.60	51	eP	P	09 02 17.0	0.0
FCC	Fort Churchill	39.60	51	eP	P	09 02 17.0	0.0
	comp=Z,0.4nm,0.6s						
D24A	Glendive	39.66	72	⇓P	P	09 02 18.4	+0.7
	baz=40,SNR=13						
B25A	Knox Farm, Ray	39.72	70	⇑P	P	09 02 18.1	-0.1
	baz=40,SNR=5.6						
TUQ	Turquoise Moun	39.73	95	⇓P	P	09 02 19.0	+0.4
	baz=40						
I21A	Big Trails, Te	39.75	78	⇓P	P	09 02 17.8	-0.8
	baz=40,SNR=5.1						
K20A	Yellowstone Ra	39.79	80	⇓P	P	09 02 18.5	-0.5
	baz=40						
F23A	Volborg	39.79	75	⇑P	P	09 02 18.3	-0.6
	baz=40,SNR=7.3						
J21A	Lysite	39.92	79	⇓P	P	09 02 19.8	-0.3
	baz=40						
BBRC	Big Bear Solar	39.93	97	⇑P	P	09 02 20.3	0.0
	baz=40						
C25A	Freed Ranch, W	39.96	71	⇓P	P	09 02 19.9	-0.3
	baz=40						
E24A	Baker	39.97	73	⇑P	P	09 02 20.1	-0.2
	baz=40						
MVU	Marysvale	39.98	88	eP	P	09 02 21.1	+0.4
	comp=Z,2.1nm,1.1s						
A26A	Wade Farm, Ken	40.03	69	⇑P	P	09 02 20.1	-0.7
	baz=40,SNR=6.6						
G23A	Biddle	40.09	75	⇑P	P	09 02 20.9	-0.5
	baz=40						
USRK	Ussuriysk Arra	40.11	283	P	P	09 02 21.1	-0.3
	comp=Z,0.9nm,0.6s,baz=57,slow=9.5,SNR=5.2						
I22A	9 Mile Ranch,	40.18	78	⇑P	P	09 02 21.8	-0.4
	baz=40						
D25A	Fairfield	40.22	72	⇓P	P	09 02 22.2	-0.2
	baz=40						
F24A	Ekalaka	40.28	74	⇑P	P	09 02 22.9	0.0
	baz=40						
GMRC	Granite Mounta	40.34	96	⇓P	P	09 02 23.6	0.0
	baz=40						
K21A	Alcova	40.46	80	⇓P	P	09 02 23.9	-0.7
	baz=40,SNR=5.4						
E25A	Miller Ranch,	40.53	72	⇑P	P	09 02 25.0	0.0
	baz=40,SNR=7.0						
C26A	Wahner Farm, P	40.56	70	⇑P	P	09 02 25.0	-0.2
	baz=40						
M20A	Sweetwater, Wa	40.57	82	⇓P	P	09 02 25.2	-0.3
	baz=40						
G24A	Alzada	40.59	75	⇑P	P	09 02 25.2	-0.3
	baz=40						
SRU	San Rafael	40.62	86	eP	P	09 02 26.2	+0.2
SRU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SRU	San Rafael	40.62	86	eP	P	09 02 26.2	+0.2
	comp=Z,3.7nm,0.7s						
PFO	Pinyon Flat Ob	40.66	98	P	P	09 02 26.4	+0.1
PFO	Pinyon Flat Ob	40.66	98	P	P	09 02 26.4	+0.1
	comp=Z,2.0nm,0.8s,baz=349,slow=10,SNR=2.7						
PFO	Pinyon Flat Ob	40.66	98	⇑P	P	09 02 26.3	+0.1
	baz=40						
BELC	Belle Mtn. Jos	40.66	97	⇑P	P	09 02 26.5	+0.2
	baz=40						
B27A	Peters Farms,	40.73	69	⇓P	P	09 02 26.6	0.0
	baz=40						
O19A	Miners Draw (B	40.73	84	⇓P	P	09 02 26.9	0.0
	baz=41,SNR=25						
L21A	Rawlins	40.78	81	⇑P	P	09 02 26.9	-0.3
	baz=41,SNR=8.9						
D26A	Manning	40.80	71	⇓P	P	09 02 26.8	-0.3
	baz=41						
F25A	Bowman	40.81	73	⇓P	P	09 02 27.1	-0.2
	baz=41						
K22A	Casper	40.88	79	⇓P	P	09 02 27.5	-0.5
	baz=41						
N20A	Spence Gulch,	40.92	83	⇓P	P	09 02 28.5	0.0
	baz=41,SNR=7.7						
M21A	Separation Pea	41.00	81	⇓P	P	09 02 28.2	-0.9
	baz=41						
A28A	Rude Farm, Bot	41.02	68	⇓P	P	09 02 28.6	-0.4
	baz=41,SNR=7.0						
MJAR	Matsushiro Arr	41.05	269	P	P	09 02 30.1	+0.8
MJAR				PcP	PcP	09 04 29.2	+1.0
MJAR	Matsushiro Arr	41.05	269	P	P	09 02 30.1	+0.8
	comp=Z,13nm,0.8s,baz=52,slow=7.4,SNR=44						
MJAR				PcP	PcP	09 04 29.2	+1.0
	comp=Z,1.9nm,0.8s,baz=74,slow=2.4,SNR=5.4						
MJAR				LR	LR	09 17 10.9	
	comp=Z,130nm,21.9s,baz=220,slow=33						
MAT	Matsushiro	41.05	269	P	P	09 02 30.1	+0.8
E26A	Carlson Angus	41.09	72	⇑P	P	09 02 29.3	-0.2
	baz=41						
B28A	Dugan Ranch, T	41.21	68	⇓P	P	09 02 30.2	-0.3
	baz=41,SNR=6.5						
P19A	Cripple Cowboy	41.23	85	⇑P	P	09 02 31.3	+0.3
	baz=41,SNR=21						
G25A	Newell	41.25	74	⇓P	P	09 02 30.6	-0.2
	baz=41						
U15A	North Rim	41.28	91	⇓P	P	09 02 32.1	+0.6
	baz=41,SNR=5.6						
D27A	Center	41.28	71	⇓P	P	09 02 31.3	+0.3
	baz=41						
MDJ	Mudanjiang	41.28	285	P	P	09 02 30.5	-0.6
MDJ				pmax	pmax		
	comp=Z,13nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,48nm,3.0s						
L22A	Ellis Ranch, M	41.30	80	⇓P	P	09 02 31.6	0.0
	baz=41						
F26A	Lodgepole	41.31	73	⇑P	P	09 02 31.3	-0.1
	baz=41						
K23A	Bowen Ranch, D	41.35	79	⇓P	P	09 02 31.6	-0.3
	baz=41						
O20A	White River Ci	41.37	83	eP	P	09 02 31.9	-0.2
O20A	White River Ci	41.37	83	⇑P	P	09 02 32.2	+0.1
	baz=41,SNR=23						
N21A	Black Mountain	41.42	82	⇓P	P	09 02 31.9	-0.6
	baz=41,SNR=17						
H25A	Fruitdale	41.47	75	⇓P	P	09 02 32.2	-0.5
	baz=41						
RSSD	Black Hills	41.50	76	eP	P	09 02 32.0	-1.1
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.6s						
RSSD	Black Hills	41.50	76	eP	P	09 02 32.0	-1.1
	comp=Z,3.2nm,0.6s						
M22A	Cedar Creek Ra	41.58	81	⇓P	P	09 02 33.5	-0.4
	baz=41						
A29A	Manning Farm,	41.60	67	⇓P	P	09 02 33.1	-0.5
	baz=41,SNR=9.6						
E27A	Carson	41.63	71	⇑P	P	09 02 33.7	-0.2
	baz=41,SNR=6.6						
G26A	Maurine	41.67	74	⇓P	P	09 02 33.8	-0.5
	baz=42,SNR=9.3						
P20A	De Beque	41.67	84	⇓P	P	09 02 33.9	-0.6
	baz=42,SNR=9.3						
F27A	Lemmon	41.68	72	⇑P	P	09 02 33.9	-0.5
	baz=42,SNR=7.0						
L23A	Garrett	41.69	79	⇓P	P	09 02 34.0	-0.7
	baz=42,SNR=9.7						
I25A	Rochford	41.73	76	⇓P	P	09 02 34.0	-1.0
	baz=42						
B29A	Wagenman Farm,	41.77	68	⇑P	P	09 02 34.6	-0.5
	baz=42						
D28A	Regan	41.78	70	⇓P	P	09 02 34.9	-0.2
	baz=42,SNR=7.8						
O21A	Pagoda	41.78	83	⇓P	P	09 02 34.9	-0.6
	baz=42,SNR=11						
H26A	Fairpoint	41.95	74	⇑P	P	09 02 36.0	-0.6
	baz=42						
MDND	Maddock	41.97	69	⇑P	P	09 02 36.3	-0.4
	baz=42						
PV10	Paradox Valley	41.99	86	eP	P	09 02 37.5	+0.2
	comp=Z,134nm,0.7s						
G27A	Dupree	42.01	73	⇑P	P	09 02 36.6	-0.5
	baz=42						
GLA	Glamis	42.02	97	⇑P	P	09 02 36.6	-0.7
	baz=42						
N22A	Wattenberg Ran	42.03	81	⇑P	P	09 02 37.2	-0.4
	baz=42,SNR=5.9						
E28A	Huff	42.05	71	⇓P	P	09 02 37.2	-0.1
	baz=42						
PV04	Paradox Valley	42.06	86	eP	P	09 02 37.3	-0.4
Q20A	Ridgley Place,	42.07	85	⇑P	P	09 02 37.1	-0.7
	baz=42,SNR=9.5						
A30A	Hoffart Farm,	42.11	67	⇑P	P	09 02 37.4	-0.4
	baz=42						
P21A	Newcastle	42.22	84	⇑P	P	09 02 38.9	-0.2
	baz=42,SNR=7.8						
I26A	New Underwood	42.24	75	⇓P	P	09 02 39.0	0.0
	baz=42						
N23A	Red Feather La	42.28	81	⇓P	P	09 02 39.1	-0.5
	baz=42						
H27A	Howes	42.35	74	⇑P	P	09 02 39.1	-0.7
	baz=42						
B30A	Myrvik Farm, E	42.35	67	⇑P	P	09 02 39.6	-0.2
	baz=42						
O22A	Kremmling	42.37	82	⇓P	P	09 02 39.6	-0.8
	baz=42						
F28A	McLaughlin	42.39	72	⇓P	P	09 02 39.6	-0.6
	baz=42						
PV01	Paradox Valley	42.42	86	eP	P	09 02 40.4	-0.4
WUAZ	Wupatki	42.44	91	eP	P	09 02 41.6	+0.8
	comp=Z,4.6nm,0.9s						
WUAZ	Wupatki	42.44	91	⇓P	P	09 02 41.1	+0.3
	baz=42						
R20A	Redvale	42.51	86	⇑P	P	09 02 40.9	-0.5
	baz=42,SNR=8.7						
P22A	Eagle	42.59	83	⇓P	P	09 02 41.7	-0.5
	baz=42						
M24A	Cheyenne	42.60	80	⇓P	P	09 02 41.6	-0.4
	baz=42						
I27A	Quinn	42.69	75	⇓P	P	09 02 42.0	-0.6
	baz=42						
L25A	Engebretsen Ra	42.70	78	⇓P	P	09 02 42.4	-0.4
	baz=42						
O23A	Lake Granby, G	42.72	82	⇓P	P	09 02 43.0	-0.2
	baz=42						
SMCO	Snowmass	42.73	84	eP	P	09 02 43.5	+0.1
	comp=Z,10nm,1.5s						
ULM	Lac du Bonnet	42.74	64	P	P	09 02 40.9	-2.0
ULM				PcP	PcP	09 04 32.5	-1.1
ULM	Lac du Bonnet	42.74	64	P	P	09 02 40.9	-2.0
	comp=Z,2.1nm,0.4s,baz=308,slow=14,SNR=5.0						
ULM				PcP	PcP	09 04 32.5	-1.1
	comp=Z,3.9nm,0.6s,baz=322,slow=5.2,SNR=4.0						
ULM				LR	LR	09 21 47.5	
	comp=Z,141nm,20.1s,baz=334,slow=38						
S20A	Disappointment	42.75	86	⇑P	P	09 02 43.1	-0.3
	baz=43,SNR=16						
K26A	Motz Farm, Whi	42.84	77	⇓P	P	09 02 43.1	-0.7
	baz=43						
D30A	Buchanan	42.85	69	⇑P	P	09 02 43.1	-0.7
	baz=43						
R21A	Cimarron	42.89	85	⇑P	P	09 02 44.4	-0.2
	baz=43						
F29A	Eureka	42.96	71	⇑P	P	09 02 44.1	-0.7
	baz=43						
Q22A	Crested Butte,	42.97	84	⇑P	P	09 02 45.0	-0.3
	baz=43,SNR=14						
MVCO	Mesa Verde	43.06	87	eP	P	09 02 45.1	-0.8
	comp=Z,5.5nm,0.9s						
MVCO	Mesa Verde	43.06	87	⇓P	P	09 02 45.6	-0.4
	baz=43						
E30A	Jud	43.11	70	⇓P	P	09 02 45.0	-1.0
	baz=43						
X16A	Lo Mia Camp, P	43.13	92	⇑P	P	09 02 46.5	0.0
	baz=43						
ISCO	Idaho Springs	43.16	82	eP	P	09 02 47.4	+0.6
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ISCO	Idaho Springs	43.16	82	eP	P	09 02 47.4	+0.6
	comp=Z,1.2nm,0.6s						
ISCO	Idaho Springs	43.16	82	⇓P	P	09 02 46.5	-0.3
	baz=43						
J27A	Elkhorn Farm,	43.20	76	⇑P	P	09 02 45.7	-1.1
	baz=43						
S21A	Coal Bank Pass	43.20	86	⇑P	P	09 02 47.1	0.0
	baz=43,SNR=9.1						
I28A	Midland	43.25	74	⇓P	P	09 02 46.4	-0.7
	baz=43						
O24A	Longmont	43.28	81	⇑P	P	09 02 46.9	-0.6
	baz=43						
P23A	Jefferson	43.29	83	⇑P	P	09 02 47.6	-0.2
	baz=43						
R22A	Saguache, Gunn	43.46	85	⇓P	P	09 02 48.5	-0.8
	baz=43						
J28A	Allard Ranch,	43.55	75	⇓P	P	09 02 49.2	-0.4
	baz=43						
Q23A	Hartsel	43.59	83	⇓P	P	09 02 50.6	+0.3
	baz=43						
M26A	McRoberts Ranc	43.60	78	⇑P	P	09 02 50.0	-0.1
	baz=43						
S22A	4UR Ranch, Cre	43.73	85	⇑P	P	09 02 51.4	0.0
	baz=44,SNR=5.8						
T21A	Navajo Lake	43.79	87	⇓P	P	09 02 51.9	+0.1
	baz=44						
AGMN	Agassiz Nation	43.81	66	eP	P	09 02 50.7	-0.8
	comp=Z,174nm,2.9s						
O25A	Wiggins	43.86	81	⇓P	P	09 02 52.3	+0.1
	baz=44						
N26A	Koester Ranch,	43.95	79	⇓P	P	09 02 53.1	+0.2
	baz=44						
Q24A	Divide

P25A	Willow Gulch B	44.20	81	⇑P	P	09 02 55.2	+0.2
	baz=44						
O26A	Horse Wrangler	44.26	80	⇑P	P	09 02 55.3	-0.1
	baz=44						
BRSD	Miller	44.27	72	eP	P	09 02 54.7	-0.6
	comp=Z,24nm,0.6s						
BRSD	Miller	44.27	72	⇑P	P	09 02 54.7	-0.6
	baz=44						
N27A	Anderson Farm,	44.37	79	⇑P	P	09 02 56.0	-0.2
	baz=44						
W20A	Ramah	44.44	89	⇓P	P	09 02 56.8	-0.2
	baz=44						
R24A	Sanders Place,	44.45	83	⇑P	P	09 02 57.2	+0.1
	baz=44						
K29A	Lazy Trails An	44.48	75	⇑P	P	09 02 56.5	-0.6
	baz=44						
V21A	Milan	44.51	88	⇑P	P	09 02 57.5	-0.1
	baz=44						
SDCO	Great Sand Dun	44.53	84	eP	P	09 02 58.1	+0.4
	comp=Z,38nm,2.5s						
Q25A	Bedland, Calha	44.54	82	⇓P	P	09 02 57.2	-0.6
	baz=44						
OGNE	Ogallala	44.58	78	⇓P	P	09 02 57.6	-0.4
	baz=44						
U22A	Llaves	44.61	87	⇑P	P	09 02 58.5	+0.1
	baz=44,SNR=6.3						
P26A	Davis Ranch, A	44.67	81	⇓P	P	09 02 58.8	+0.1
	baz=44,SNR=11						
T23A	Casias Ranch,	44.67	85	⇑P	P	09 02 58.8	-0.1
	baz=44						
S24A	Houchin Ranch,	44.77	84	⇓P	P	09 02 59.8	+0.1
	baz=45,SNR=6.5						
O27A	Beecher Island	44.79	79	⇑P	P	09 02 59.2	-0.4
	baz=45,SNR=6.0						
L29A	Maesberg Ranch	44.81	76	⇓P	P	09 02 59.5	-0.2
	baz=45						
X20A	Quemado	44.84	90	⇑P	P	09 03 01.0	+0.8
	baz=45,SNR=6.9						
V22A	San Miguel Ran	44.88	87	⇓P	P	09 03 00.4	-0.1
	baz=45						
Q26A	Hugo	44.97	82	⇑P	P	09 03 01.1	0.0
	baz=45						
TUC	Tucson	44.98	94	eP	P	09 03 01.5	+0.3
TUC				pmax	pmax		
	comp=Z,52nm,2.6s						
TUC	Tucson	44.98	94	eP	P	09 03 01.5	+0.3
	comp=Z,52nm,2.6s						
N28A	Pribbeno Ranch	45.04	78	⇓P	P	09 03 01.8	+0.3
	baz=45						
U23A	El Rito	45.04	86	⇓P	P	09 03 02.1	+0.4
	baz=45,SNR=22						
T24B	San Luis	45.05	85	⇑P	P	09 03 02.0	+0.1
	baz=45						
S25A	Robets Cordova	45.23	84	⇓P	P	09 03 03.1	-0.1
	baz=45						
X21A	Alamocita Cree	45.33	89	⇑P	P	09 03 04.9	+0.8
	baz=45,SNR=11						
Y20A	Horse Springs,	45.34	90	⇑P	P	09 03 04.8	+0.6
	baz=45						
R26A	Arlington	45.41	82	⇑P	P	09 03 04.4	-0.2
	baz=45,SNR=6.6						
V23A	Ortiz Mt. (NFS	45.43	87	⇑P	P	09 03 05.4	+0.5
	baz=45,SNR=7.4						
KSCO	Kaye Shedlock'	45.45	81	eP	P	09 03 05.0	+0.1
KSCO				epP	pP	09 03 24.8	+6.1
KSCO	Kaye Shedlock'	45.45	81	⇑P	P	09 03 04.9	0.0
	baz=45						
W22A	Albuquerque	45.47	88	⇑P	P	09 03 05.3	+0.2
	baz=45						
U24A	Moreno Valley	45.54	85	⇑P	P	09 03 06.1	+0.3
	baz=45						
T25A	Trinidad	45.58	84	⇑P	P	09 03 06.2	+0.1
	baz=45,SNR=6.7						
P28A	Saint Francis	45.61	80	⇓P	P	09 03 05.8	-0.3
	baz=45,SNR=6.8						
Y21A	Point of Rocks	45.70	90	⇑P	P	09 03 07.5	+0.4
	baz=46						
Z20A	Nine Sixteen R	45.75	91	⇑P	P	09 03 07.6	+0.2
	baz=46						
LAZ	Ladron	45.76	89	eP	P	09 03 08.3	+0.9
X22A	Bernardo	45.76	89	⇑P	P	09 03 07.8	+0.4
	baz=46						
ANMO	Albuquerque	45.80	88	eP	P	09 03 07.6	-0.2
	comp=Z,110nm,0.7s						
ANMO				PcP	PcP	09 04 45.6	+1.1
ANMO	Albuquerque	45.80	88	P	P	09 03 07.1	-0.6
	comp=Z,1.4nm,0.8s,baz=330,slow=7.9,SNR=8.3						
ANMO				PcP	PcP	09 04 45.6	+1.1
	comp=Z,2.5nm,0.8s,baz=303,slow=4.5,SNR=6.3						
R27A	Eads	45.81	82	⇓P	P	09 03 07.4	-0.3
	baz=46,SNR=5.1						
O29A	4D Ranch, Culb	45.83	78	⇓P	P	09 03 07.5	-0.3
	baz=46						
S26A	Kim	45.84	83	⇓P	P	09 03 07.4	-0.6
	baz=46,SNR=7.1						
W23A	Werner Place,	45.84	87	⇓P	P	09 03 08.2	0.0
	baz=46						
Q28A	Sharon Springs	45.89	80	⇓P	P	09 03 08.0	-0.3
	baz=46						
V24A	Rampart Ranch,	46.00	86	⇓P	P	09 03 09.6	+0.2
	baz=46,SNR=9.9						
ECSD	EROS Data Cent	46.05	72	eP	P	09 03 07.7	-1.7
	comp=Z,6.3nm,0.6s						
T26A	Comanche Natio	46.05	83	⇓P	P	09 03 09.0	-0.8
	baz=46						
U25A	Circle Dot Ran	46.07	85	⇑P	P	09 03 09.7	-0.2
	baz=46,SNR=12						
P29A	Atwood	46.08	79	⇑P	P	09 03 09.3	-0.4
	baz=46,SNR=6.5						
120A	U Bar Ranch, L	46.12	92	⇓P	P	09 03 11.0	+0.7
	baz=46						
S27A	Las Animas	46.14	82	⇑P	P	09 03 10.0	-0.3
	baz=46						
Y22A	Socorro	46.18	89	⇓P	P	09 03 11.2	+0.5
	baz=46,SNR=14						
Z21A	St. Cloud Mine	46.18	91	⇑P	P	09 03 11.4	+0.6
	baz=46						
BNM	Barren Site	46.24	89	eP	P	09 03 12.1	+0.8
O30A	MW Ranch, Wils	46.24	78	⇑P	P	09 03 10.8	-0.2
	baz=46,SNR=6.9						
W24A	Lazy 6 Ranch,	46.26	87	⇑P	P	09 03 11.3	-0.1
	baz=46						
V25A	Rancho No Teng	46.32	86	⇓P	P	09 03 11.9	0.0
	baz=46,SNR=5.1						
R28A	Tribune	46.37	81	⇓P	P	09 03 11.7	-0.3
	baz=46						
U26A	Atchley Ranch,	46.48	84	⇓P	P	09 03 12.8	-0.2
	baz=46,SNR=7.8						
Q29A	Oakley	46.51	80	⇑P	P	09 03 12.6	-0.6
	baz=46						
P30A	Selden	46.53	79	⇑P	P	09 03 12.8	-0.4
	baz=46,SNR=7.4						
BGNE	Belgrade	46.59	75	eP	P	09 03 13.1	-0.6
	comp=Z,22nm,0.7s						
BGNE	Belgrade	46.59	75	⇑P	P	09 03 13.0	-0.7
	baz=46,SNR=6.1						
220A	Playas Peak, P	46.63	93	⇑P	P	09 03 14.8	+0.5
	baz=46						
Z22A	Elephant Butte	46.64	90	⇑P	P	09 03 14.8	+0.4
	baz=46						
121A	Cookes Peak, D	46.65	91	⇑P	P	09 03 14.7	+0.3
	baz=46						
KSRS	Korea Array	46.68	278	P	P	09 03 15.4	+1.1
	comp=Z,8.5nm,0.8s,baz=51,slow=7.6,SNR=23						
KSRS				PcP	PcP	09 04 48.2	+1.0
	comp=Z,1.8nm,0.7s,baz=58,slow=3.0,SNR=4.2						
KSRS				LR	LR	09 21 08.8	
	comp=Z,71nm,20.1s,baz=39,slow=34						
KSAR	Wonju Array Be	46.71	278	P	P	09 03 15.4	+0.8
KSAR				PcP	PcP	09 04 48.2	+0.8
R29A	Marienthal	46.71	80	⇑P	P	09 03 14.3	-0.4
	baz=46,SNR=8.6						
Y23A	Lovelace Mesa,	46.73	89	⇑P	P	09 03 15.2	+0.1
	baz=47,SNR=6.6						
S28A	Manter	46.80	82	⇑P	P	09 03 15.4	0.0
	baz=47,SNR=6.0						
W25A	X Bar L Ranch,	46.83	86	⇓P	P	09 03 15.9	+0.1
	baz=47,SNR=8.7						
V26A	Tequesquite Ra	46.85	85	⇑P	P	09 03 15.9	0.0
	baz=47,SNR=11						
Q30A	Quinter	46.91	79	⇓P	P	09 03 16.6	+0.3
	baz=47						
T28A	Walsh	46.98	82	⇓P	P	09 03 16.8	0.0
	baz=47						
122A	Conniff Cattle	47.01	91	⇑P	P	09 03 18.1	+1.0
	baz=47						
U27A	Thompson Grove	47.01	84	⇓P	P	09 03 17.3	+0.1
	baz=47						
320A	Kipp Ranch, An	47.03	93	⇓P	P	09 03 17.9	+0.5
	baz=47,SNR=5.7						
Z23A	Rita Site, Whi	47.08	89	⇑P	P	09 03 18.1	+0.3
	baz=47						
Y24A	Capitan	47.11	88	⇑P	P	09 03 18.0	0.0
	baz=47,SNR=6.3						
SPMN	St. Paul	47.31	68	⇑P	P	09 03 18.2	-1.0
	baz=47						
R30A	Dighton	47.32	80	⇓P	P	09 03 19.1	-0.4
	baz=47						
W26A	Owens Ranch, T	47.34	86	⇑P	P	09 03 19.4	-0.3
	baz=47						
222A	Williams Famil	47.36	91	⇓P	P	09 03 19.9	0.0
	baz=47						
Q31A	Ellis	47.38	79	⇓P	P	09 03 19.4	-0.5
	baz=47						
U28A	Mallet	47.40	83	⇑P	P	09 03 19.4	-0.8
	baz=47						
V27A	Dan Oppiter Fa	47.45	84	⇑P	P	09 03 20.4	-0.1
	baz=47						
Z24A	Sheeppen Canyo	47.56	89	⇑P	P	09 03 21.7	+0.1
	baz=47,SNR=7.2						
Y25A	Mesa, Roswell	47.56	88	⇓P	P	09 03 21.8	+0.3
	baz=47						
S30A	Montezuma	47.63	81	⇑P	P	09 03 21.5	-0.4
	baz=47						
X26A	CR and CF Fran	47.67	86	⇓P	P	09 03 22.2	-0.1
	baz=48,SNR=8.2						
R31A	Burdett	47.77	79	⇓P	P	09 03 22.6	-0.3
	baz=48						
JNU	Nakatsue	47.80	271	eP	P	09 03 23.7	+0.4
	comp=Z,14nm,1.1s						
JNU	Nakatsue	47.80	271	P	P	09 03 24.1	+0.9
	comp=Z,17nm,0.9s,baz=40,slow=4.8,SNR=9.3						
U29A	Oasis Ranch, S	47.93	82	⇑P	P	09 03 23.5	-0.7
	baz=48						
124A	Stringfield Ra	47.94	89	⇑P	P	09 03 24.5	0.0
	baz=48						
Z25A	Roswell	47.99	88	⇓P	P	09 03 24.5	-0.3
	baz=48,SNR=5.6						
X27A	F and S Farms,	48.04	86	⇑P	P	09 03 24.5	-0.6
	baz=48						
Y26A	Elida	48.09	87	⇑P	P	09 03 25.1	-0.5
	baz=48						
W28A	Vega	48.16	84	⇑P	P	09 03 25.2	-0.9
	baz=48						
S31A	Mullinville	48.23	80	⇑P	P	09 03 25.7	-0.8
	baz=48						
U30A	WK&E Inc. Balk	48.25	82	⇑P	P	09 03 26.1	-0.6
	baz=48						
224A	Cornudas Mount	48.34	90	⇑P	P	09 03 27.6	+0.1
	baz=48,SNR=8.3						
Z26A	Caprock	48.44	88	⇓P	P	09 03 28.1	-0.2
	baz=48,SNR=14						
125A	Gardner Draw,	48.45	89	⇑P	P	09 03 28.6	+0.2
	baz=48						
T31A	Randall Ranch,	48.46	81	⇓P	P	09 03 27.9	-0.3
	baz=48						
KBS	Kingsbay	48.50	0	⇓eP	P	09 03 28.6	+0.6
KBS				pmax	pmax		
	comp=Z,14nm,1.2s						
Y27A	Causey	48.52	86	⇑P	P	09 03 28.4	-0.5
	baz=48,SNR=5.6						
X28A	Dimmitt	48.67	85	⇑P	P	09 03 29.3	-0.7
	baz=48						
MNTX	Cornudas Mount	48.68	90	eP	P	09 03 30.6	+0.5
	comp=Z,4.2nm,0.8s						
MSTX	Muleshoe	48.70	86	eP	P	09 03 30.0	-0.2
	comp=Z,27nm,1.6s						
MSTX	Muleshoe	48.70	86	⇑P	P	09 03 29.9	-0.3
	baz=48						
225A	Deer Hill, Car	48.74	89	⇓P	P	09 03 31.0	+0.4
	baz=49,SNR=8.4						
324A	Moseley Ranch,	48.80	91	⇑P	P	09 03 30.6	-0.5
	baz=49						
U31A	Nine Bar Ranch	48.84	82	⇑P	P	09 03 30.7	-0.5
	baz=49						
126A	Clayton Basin,	48.85	88	⇑P	P	09 03 31.2	-0.1
	baz=49,SNR=5.8						
Z27A	Tatum	48.88	87	⇑P	P	09 03 31.0	-0.6
	baz=49,SNR=6.3						
X29A	Tulia	49.02	85	⇑P	P	09 03 32.3	-0.3
	baz=49						
DAG	Danmarks Havn	49.13	9	iP	P	09 03 32.1	-0.7
DAG				pmax	pmax		
	comp=Z,15nm,1.0s						
DAG	Danmarks Havn	49.13	9	iP	P	09 03 32.1	-0.7
	comp=Z,15nm,1.0s						
226B	Tecolote Peak,	49.16	89	⇑P	P	09 03 33.9	+0.1
	baz=49						
325A	Bean Ranch, Si	49.16	90	⇓P	P	09 03 34.1	+0.2
	baz=49,SNR=9.8						
127A	Arkansas Junct	49.23	88	⇑P	P	09 03 34.8	+0.5
	baz=49						
SPITS	Spitsbergen Ar	49.23	359	P	P	09 03 33.1	-0.5
SPITS				PcP	PcP	09 04 56.1	+0.3
SPITS	Spitsbergen Ar	49.23	359	P	P	09 03 33.1	-0.5
	comp=Z,2.0nm,0.4s,baz=31,slow=5.0,SNR=20						
SPITS				PcP	PcP	09 04 56.1	+0.3
	comp=Z,5.2nm,0.8s,baz=77,slow=6.5,SNR=4.2						
V31A	Spring Creek L	49.24	82	⇑P	P	09 03 34.4	+0.2
	baz=49						
Z28A	Tucker Farm, M	49.40	86	⇓P	P	09 03 35.3	-0.3
	baz=49						
Y29A	Porterfield Fa	49.44	85	⇓P	P	09 03 35.5	-0.3
	baz=49						
425A	Indio Mountain	49.57	91	⇑P	P	09 03 37.3	+0.4
	baz=49,SNR=5.1						
W31A	Holland Ranch,	49.58	83	⇑P	P	09 03 36.8	-0.1
	baz=49						
128A	Castleberry Fa	49.80	87	⇓P	P	09 03 38.3	-0.3
	baz=50,SNR=9.0						
326A	Caldwell Ranch	49.80	89	⇑P	P	09 03 38.8	+0.2
	baz=50						
Z29A	Hungry Hill Ra	49.83	86	⇓P	P	09 03 38.3	-0.5
	baz=50,SNR=8.2						
Y30A	Stafford Cattl	49.89	85	⇑P	P	09 03 38.9	-0.4
	baz=50						
X31A	McDonald Ranch	49.93	83	⇑P	P	09 03 39.1	-0.4
	baz=50						
SUMG	Summit	49.93	18	eP	P	09 03 39.5	0.0
SUMG				pmax	pmax		
	comp=Z,32nm,0.9s						
SUMG	Summit	49.93	18	⇑iP	P	09 03 39.5	0.0
	comp=Z,28nm,0.8s						
SUMG	Summit	49.93	18	eP	P	09 03 39.5	0.0
	comp=Z,32nm,0.9s						
228A	UT Block 9, Go	50.08	88	⇓P	P	09 03 40.0	-0.7
	baz=50						
Z30A	Sanderson Ranc	50.16	85	⇓P	P	09 03 40.7	-0.6
	baz=50,SNR=9.8						
426A	McDonald Obser	50.23	90	⇑P	P	09 03 41.7	-0.3
	baz=50,SNR=7.4						
328A	Wristen Ranch,	50.47	89	⇑P	P	09 03 43.1	-0.6
	baz=50						
427A	Hayter Ranch,	50.48	89	⇓P	P	09 03 43.6	-0.2
	baz=50,SNR=6.2						
WMOK	Wichita Mounta	50.58	82	eP	P	09 03 43.8	-0.6
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMOK	Wichita Mounta	50.58	82	eP	P	09 03 43.8	-0.6
	comp=Z,4.6nm,0.7s						
526A	Mary Lane Ranc	50.62	91	⇑P	P	09 03 44.8	-0.1
	baz=50,SNR=6.7						
Y32A	R-V Farms, Ver	50.68	84	⇓P	P	09 03 44.6	-0.6
	baz=50						
Z31A	Sharp Cattle R	50.73	85	⇑P	P	09 03 45.2	-0.4
	baz=51						
130A	Snyder	50.74	86	⇓P	P	09 03 45.2	-0.5
	baz=51						
527A	Woodward Ranch	50.85	90	⇓P	P	09 03 46.3	-0.4
	baz=51,SNR=7.1						
329A	Wagon Wheel Ra	50.90	88	⇑P	P	09 03 46.3	-0.6
	baz=51,SNR=5.6						
626A	Big Bend Ranch	50.96	91	⇑P	P	09 03 47.3	-0.1
	baz=51,SNR=8.6						
428A	Kincaid Ranch,	51.01	89	⇑P	P	09 03 47.8	0.0
	baz=51,SNR=12						
131A	Roby	51.03	85	⇑P	P	09 03 47.2	-0.6
	baz=51						
230A	Sterling City	51.14	87	⇓P	P	09 03 47.9	-0.8
	baz=51,SNR=9.1						
Z32A	Haskell	51.14	84	⇓P	P	09 03 47.7	-1.0
	baz=51,SNR=6.4						
528A	Cox Ranch, San	51.34	90	⇓P	P	09 03 50.0	-0.3
	baz=51,SNR=7.9						
SFJD	Kangerlussuaq	51.36	27	iP	P	09 03 49.8	0.0
	comp=Z,14nm,0.7s						
SFJD	Kangerlussuaq	51.36	27	eP	P	09 03 49.8	0.0
	comp=Z,178nm,2.1s						
TXAR	Lajitas Array	51.40	91	P	P	09 03 50.6	-0.1
TXAR	Lajitas Array	51.40	91	P	P	09 03 50.6	-0.1
	comp=Z,5.4nm,0.7s,baz=298,slow=5.3,SNR=36						
TXAR				LR	LR	09 25 48.3	
	comp=Z,114nm,19.2s,baz=355,slow=36						
330A	Mertzon	51.44	87	⇑P	P	09 03 49.6	-1.3
	baz=51						
627A	Terlingua Ranc	51.48	91	⇑P	P	09 03 51.1	-0.3
	baz=51,SNR=8.3						
ABTX	Abilene, Hawle	51.52	85	eP	P	09 03 51.1	-0.3
ABTX	Abilene, Hawle	51.52	85	⇓P	P	09 03 50.9	-0.6
	baz=51						
429A	Davenport Ranc	51.56	88	⇓P	P	09 03 50.9	-0.9
	baz=51,SNR=6.7						
TUL1	Tulsa	51.57	79	⇑P	P	09 03 50.5	-1.3
	baz=51						
231A	Bronte	51.59	86	⇑P	P	09 03 51.1	-0.9
	baz=51						
529A	Stev Forest Ra	51.71	89	⇓P	P	09 03 52.5	-0.5
	baz=52						
628A	Black Gap, Mar	51.76	90	⇓P	P	09 03 53.0	-0.4
	baz=52,SNR=15						
430A	Baggett Ranch,	51.84	88	⇑P	P	09 03 53.4	-0.6
	baz=52,SNR=8.4						
ULN	Ulaanbaatar	51.85	301	eP	P	09 03 53.8	-0.2
	comp=Z,7.7nm,0.6s						
331A	San Angelo	51.96	87	⇑P	P	09 03 53.7	-1.2
	baz=52,SNR=5.8						
232A	Coleman	52.03	86	⇑P	P	09 03 54.2	-1.1
	baz=52						
ZAK	Zakamensk	52.15	306	⇑iP	P	09 03 55.3	-0.7
ZAK				e		09 05 08.1	
SONM	Songino Array	52.21	302	P	P	09 03 56.5	-0.1
SONM				PcP	PcP	09 05 08.6	+1.1
SONM	Songino Array	52.21	302	P	P	09 03 56.5	-0.1
	comp=Z,2.2nm,0.6s,baz=51,slow=5.3,SNR=16						
SONM				PcP	PcP	09 05 08.6	+1.1
	comp=Z,1.8nm,0.5s,baz=74,slow=2.4,SNR=7.3						
530A	J-C Ranch, Com	52.23	88	⇑P	P	09 03 56.5	-0.4
	baz=52,SNR=12						
431A	Sonora	52.30	87	⇑P	P	09 03 56.5	-0.8
	baz=52,SNR=16						
332A	Millersview	52.33	86	⇑P	P	09 03 56.6	-0.9
	baz=52,SNR=5.4						
432A	Menard	52.65	87	⇓P	P	09 03 59.1	-0.8
	baz=52						
531A	Rocksprings	52.70	88	⇓P	P	09 03 59.3	-1.0
	baz=52,SNR=6.1						
JCT	Junction City	52.93	87	eP	P	09 04 01.2	-0.8
JCT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JCT	Junction City	52.93	87	eP	P	09 04 01.2	-0.8
	comp=Z,8.2nm,0.6s						
JCT	Junction City	52.93	87	⇓P	P	09 04 00.9	-1.0
	baz=53,SNR=5.1						
532A	Rocksprings	53.12	87	⇓P	P	09 04 02.0	-1.4
	baz=53						
631A	Perdido Creek	53.22	89	⇓P	P	09 04 02.8	-1.3
	baz=53,SNR=6.2						
WHTX	Lake Whitney	53.28	84	⇓P	P	09 04 04.3	-0.2
	baz=53						
632A	Uvalde	53.63	88	⇓P	P	09 04 06.3	-0.8
	baz=54						
SFIN	Scholer Farm	53.63	69	⇑P	P	09 04 06.0	-0.9
	baz=53						
HHC	Hu-ho-hao-te	54.00	292	eP	P	09 04 07.8	-2.0
HHC				pP	pP	09 04 23.5	-0.5
HHC				sP	sP	09 04 30.5	+0.6
HHC				PP	PP	09 06 11.0	-0.2
HHC				PcS	PcS	09 09 10.5	-3.3
HHC				S	S	09 11 36.3	-5.5
HHC				sS	sS	09 12 03.3	-2.2
HHC				ScS	ScS	09 13 48.0	-6.3
HHC				SS	SKiKP	09 15 17.0	0.0
HHC				pmax	pmax		
	comp=Z,37nm,1.1s						
HHC				pmax	pmax		
	comp=Z,220nm,5.4s						
HHC				LR	LR		
	comp=N,170nm,16.9s						
HHC				LR	LR		
	comp=E,220nm,17.5s						
HHC				LR	LR		
	comp=Z,220nm,17.6s						
732A	Laxson Ranch,	54.08	89	⇑P	P	09 04 09.7	-0.7
	baz=54						
SCHQ	Schefferville	54.17	45	eP	P	09 04 11.3	+0.7
	comp=Z,100nm,1.6s						
SCHQ	Schefferville	54.17	45	P	P	09 04 10.6	-0.1
	comp=Z,13nm,0.9s,baz=316,slow=9.8,SNR=7.0						
SCHQ				LR	LR	09 27 17.6	
	comp=Z,221nm,18.4s,baz=330,slow=36						
OLIL	Olney	54.17	71	eP	P	09 04 09.1	-1.8
	comp=Z,8.3nm,0.6s						
SIUC	Southern Illin	54.22	73	eP	P	09 04 09.7	-1.5
	comp=Z,8.2nm,0.7s						
PARMO	Parma	54.62	74	eP	P	09 04 11.8	-2.4
USIN	University of	54.94	72	eP	P	09 04 14.9	-1.6
	comp=Z,24nm,0.7s						
HKT	Hockley	55.71	84	⇓eP	P	09 04 21.6	-0.4
NJ2	Nanjing	55.81	279	eP	P	09 04 21.5	-1.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WVT	Waverly	56.11	73	eP	P	09 04 23.5	-1.4
WVT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WVT	Waverly	56.11	73	eP	P	09 04 23.5	-1.4
	comp=Z,6.3nm,0.6s						
OXF	Oxford	56.32	76	eP	P	09 04 25.2	-1.2
OXF	Oxford	56.32	76	eP	P	09 04 25.2	-1.2
	comp=Z,27nm,0.6s						
PLAL	Pickwick Lake	56.77	75	eP	P	09 04 27.9	-1.7
PTN	Potsdam (NY)	57.35	58	eP	P	09 04 32.8	-0.8
PTN	Potsdam (NY)	57.35	58	eP	P	09 04 32.8	-0.8
LONY	Lake Ozonia	57.52	58	eP	P	09 04 33.1	-1.7
	comp=Z,7.0nm,0.8s						
ARCES	ARCESS Array B	57.59	355	P	P	09 04 34.1	-0.8
ARCES				PcP	PcP	09 05 28.1	+0.4
ARCES	ARCESS Array B	57.59	355	P	P	09 04 34.1	-0.8
	comp=Z,5.9nm,0.8s,baz=7.5,slow=10,SNR=21						
ARCES				PcP	PcP	09 05 28.1	+0.4
	comp=Z,4.7nm,0.7s,baz=17,slow=4.5,SNR=6.9						
ARCES				LR	LR	09 32 48.8	
	comp=Z,104nm,18.6s,baz=182,slow=40						
ZALV	Zalesovo Beam	57.98	318	iP	P	09 04 37.5	-0.4
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	Zalesovo Beam	57.98	318	P	P	09 04 37.4	-0.4
ZALV				PcP	PcP	09 05 30.4	+1.0
ZALV	Zalesovo Beam	57.98	318	P	P	09 04 37.4	-0.4
	comp=Z,3.8nm,0.5s,baz=40,slow=6.3,SNR=14						
ZALV				PcP	PcP	09 05 30.4	+1

GTA				LR	LR	
	comp=N,130nm,16.1s					
GTA				LR	LR	
	comp=E,180nm,16.1s					
GTA				LR	LR	
	comp=Z,210nm,15.2s					
TMCR	**Tamitsa**	**61.71**	**348**	*e*P	**P**	**09 05 02.6 -0.6**
TMCR				*e*		09 05 47.6
TMCR				*e*		09 07 18.9
TMCR				pmax	pmax	
	comp=Z,20nm,1.1s					
ENH	**Enshi**	**62.65**	**285**	*e*P	**P**	**09 05 10.5 +0.4**
	comp=Z,8.3nm,0.5s					
JOF	**Joensuu**	**63.68**	**351**	*e*P	**P**	**09 05 15.2 -1.2**
JOF				pmax	pmax	
	comp=Z,8.0nm,0.4s					
JOF	**Joensuu**	**63.68**	**351**	*e*p	**P**	**09 05 15.2 -1.2**
	comp=Z,7.8nm,0.4s					
SVE	**Sverdlovsk**	**63.90**	**333⇑**	*e*P	**P**	**09 05 16.2 -1.7**
SVE				pmax	pmax	
	comp=Z,26nm,0.9s					
BVAR	**Borovoye Array**	**64.10**	**325**	P	**P**	**09 05 19.3 -0.1**
BVAR						09 05 54.8
BVAR	**Borovoye Array**	**64.10**	**325**	P	**P**	**09 05 19.3 -0.1**
BVAR				PcP	**PcP**	**09 05 54.8 +0.7**
BVAR	**Borovoye Array**	**64.10**	**325**	P	**P**	**09 05 19.3 -0.1**
	comp=Z,2.9nm,0.5s,baz=60,slow=7.2,SNR=16					
BVAR				PcP	**PcP**	**09 05 54.8 +0.7**
	comp=Z,3.1nm,0.5s,baz=46,slow=3.1,SNR=7.6					
BVAR				LR	LR	09 36 41.7
	comp=Z,170nm,18.5s,baz=305,slow=39					
BRVK	**Borovoye**	**64.11**	**326**	*de*P	**P**	**09 05 19.6 +0.2**
BRVK				pmax	pmax	
	comp=Z,6.0nm,1.0s					
BRVK	**Borovoye**	**64.11**	**326**	*e*P	**P**	**09 05 18.7 -0.7**
	comp=Z,6.2nm,0.9s					
WMQ	**Urumqi**	**64.29**	**309**	*e*P	**P**	**09 05 24.0 +3.1**
WMQ				LR	LR	
	comp=N,130nm,22.0s					
WMQ				LR	LR	
	comp=E,110nm,27.0s					
WMQ				LR	LR	
	comp=Z,100nm,21.0s					
MK31	**Makanchi Array**	**64.45**	**315**	*e*P	**P**	**09 05 20.8 -1.0**
MK31	**Makanchi Array**	**64.45**	**315**	*e*P	**P**	**09 05 20.8 -1.0**
MKAR	**Makanchi Array**	**64.45**	**315**	*i* P	**P**	**09 05 20.8 -1.0**
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.3s					
MKAR	**Makanchi Array**	**64.45**	**315**	P	**P**	**09 05 20.9 -0.9**
MKAR	**Makanchi Array**	**64.45**	**315**	P	**P**	**09 05 20.9 -0.9**
	comp=Z,1.0nm,0.3s,baz=62,slow=6.8,SNR=18					
MKAR				LR	LR	09 35 19.5
	comp=Z,111nm,18.1s,baz=4.9,slow=38					
ARU	**Arti**	**64.81**	**334**	*c i*P	**P**	**09 05 23.4 -0.5**
ARU				S	**S**	**09 14 03.0 +2.6**
ARU				pmax	pmax	
	comp=Z,18nm,0.8s					
KAF	**Kangasniemi**	**64.90**	**353**	*e*P	**P**	**09 05 23.1 -1.3**
KAF				pmax	pmax	
	comp=Z,17nm,0.5s					
KAF	**Kangasniemi**	**64.90**	**353**	*e*p	**P**	**09 05 23.1 -1.3**
	comp=Z,16nm,0.5s					
CD2	**Chengdu**	**65.50**	**289**	*e*P	**P**	**09 05 29.8 +0.9**
CD2				pP	**pP**	**09 05 44.3 +0.9**
CD2				sP	**sP**	**09 05 50.3 +1.0**
CD2				PP	**PP**	**09 07 56.0 +2.9**
CD2				S	**S**	**09 14 08.3 -1.5**
CD2				sS	**sS**	**09 14 32.8 -1.3**
CD2				SS	**SS**	**09 18 23.5 0.0**
CD2				pmax	pmax	
	comp=Z,30nm,0.8s					
CD2				pmax	pmax	
	comp=Z,120nm,5.8s					
CD2				LR	LR	
	comp=N,210nm,14.2s					
CD2				LR	LR	
	comp=Z,300nm,17.8s					
FINES	**FINESS Array B**	**65.58**	**353**	P	**P**	**09 05 28.2 -0.6**
FINES	**FINESS Array B**	**65.58**	**353**	P	**P**	**09 05 28.2 -0.6**
	comp=Z,13nm,0.6s,baz=20,slow=7.7,SNR=26					
FINES				LR	LR	09 33 20.6
	comp=Z,134nm,18.9s,baz=16,slow=35					
NB2	**NORSAR Subarra**	**66.47**	**1**	P	**P**	**09 05 34.2 -0.4**
	comp=Z,2.4nm,0.6s,baz=360,slow=6.2					
NOA	**NORSAR Array B**	**66.47**	**1**	P	**P**	**09 05 34.2 -0.4**
NOA	**NORSAR Array B**	**66.47**	**1**	P	**P**	**09 05 34.2 -0.4**
	comp=Z,5.2nm,0.9s,baz=0.6,slow=6.4,SNR=11					
NOA				LR	LR	09 31 27.3
	comp=Z,63nm,21.6s,baz=345,slow=33					
GYA	**Guiyang**	**67.14**	**284⇑**	*i*P	**P**	**09 05 40.5 +1.0**
GYA				pP	**pP**	**09 05 54.8 +0.8**
GYA				sP	**sP**	**09 06 01.5 +1.6**
GYA				PP	**PP**	**09 08 10.0 +2.5**
GYA				ScP		09 10 05.3
GYA				PcS		09 10 11.0
GYA				S	**S**	**09 14 27.5 -2.4**
GYA				sS	**sS**	**09 14 51.8 -2.5**
GYA				SKS	**SKSac**	**09 15 29.0 -3.4**
GYA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
GYA				pmax	pmax	
	comp=Z,80nm,5.2s					
HFS	**Hagfors**	**67.38**	**360**	P	**P**	**09 05 39.9 -0.5**
HFS	**Hagfors**	**67.38**	**360**	P	**P**	**09 05 39.9 -0.5**
	comp=Z,8.2nm,0.4s,baz=28,slow=3.5,SNR=41					
VSU	**Vasula**	**68.49**	**352**	*d i*P	**P**	**09 05 47.1 -0.2**
VSU				pmax	pmax	
	comp=Z,78nm,1.0s					
PMOR	**Pomariorio Ree**	**69.58**	**160**	*e*T	T	10 21 50.0
	comp=Z,2.1nm,0.3s					
AKTO	**Aktyubinsk**	**70.27**	**331**	P	**P**	**09 05 58.5 +0.1**
AKTO	**Aktyubinsk**	**70.27**	**331**	P	**P**	**09 05 58.5 +0.1**
AKTO	**Aktyubinsk**	**70.27**	**331**	P	**P**	**09 05 58.5 +0.1**
	comp=Z,10nm,0.7s,baz=47,slow=6.3,SNR=45					
TKM2	**Tokmak 2**	**70.41**	**316**	*e*P	**P**	**09 05 59.6 -0.1**
TKM2				pmax	pmax	
	comp=Z,4.0nm,0.6s					
TKM2	**Tokmak 2**	**70.41**	**316**	*e*P	**P**	**09 05 59.6 -0.1**
	comp=Z,3.6nm,0.6s					
KMI	**Kunming**	**70.45**	**286**	P	**P**	**09 06 01.0 +0.8**
KMI				pmax	pmax	
	comp=Z,17nm,0.7s					
OBN	**Obninsk**	**70.64**	**346**	*e*P	**P**	**09 06 00.0 -0.6**
OBN				*i* *PP	**PcP**	**09 06 18.9 -2.4**
OBN				*e*		09 08 34.6
OBN				*e*SS	SS	09 19 38.4 -2.8
OBN				pmax	pmax	
	comp=Z,24nm,1.2s					
OBN				MLR	MLR	
	comp=Z,100nm,19.0s					
ABKAR	**Akbulak array**	**70.73**	**329**	*e*P	**P**	**09 06 01.5 +0.2**
	comp=Z,12nm,0.8s					
QIZ	**Qiongzhong**	**70.88**	**276**	*e*P	**P**	**09 06 03.7 +1.1**
	comp=Z,7.0nm,0.8s					
AAK	**Ala-Archa**	**71.10**	**317**	*ce*P	**P**	**09 06 04.1 +0.2**
AAK				pmax	pmax	
	comp=Z,23nm,0.7s					
AAK	**Ala-Archa**	**71.10**	**317**	*e*P	**P**	**09 06 04.5 +0.6**
	comp=Z,10nm,0.8s					
AAK	**Ala-Archa**	**71.10**	**317**	P	**P**	**09 06 04.7 +0.8**
	comp=Z,10nm,0.8s,baz=96,slow=2.1,SNR=18					
EKS2	**Erkin-Say**	**71.38**	**317**	*e*P	**P**	**09 06 05.8 +0.3**
EKS2				pmax	pmax	
	comp=Z,8.0nm,0.8s					
EKS2	**Erkin-Say**	**71.38**	**317**	*e*P	**P**	**09 06 05.8 +0.3**
	comp=Z,8.0nm,0.8s					
PPT	**Papeete**	**71.75**	**162**	LR	LR	09 32 35.6
	comp=Z,142nm,19.9s,baz=106,slow=32					
PPT2	**Papeete2**	**71.77**	**162**	*e*LR	LR	09 27 54.2
	comp=Z,174nm,22.5s,baz=338					
KKAR	**Karatay Array**	**72.33**	**319**	*e*P	**P**	**09 06 11.3 +0.3**
KKAR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
KKAR	**Karatay Array**	**72.33**	**319**	*e*P	**P**	**09 06 11.3 +0.3**
	comp=Z,9.6nm,0.8s					
KSH	**Kashi**	**73.04**	**314**	P	**P**	**09 06 18.5 +3.0**
KSH				sP	sP	09 06 42.5 +6.5
KSH				PP	PP	09 09 04.5 +6.5
KSH				S	**S**	**09 15 39.8 +1.2**
KSH				sS	sS	09 16 09.0 +5.7
KSH				SS	**SS**	**09 20 25.0 +5.9**
KSH				pmax	pmax	
	comp=Z,18nm,0.6s					
KSH				pmax	pmax	
	comp=Z,72nm,4.7s					
KSH				LR	LR	
	comp=N,120nm,6.2s					
KSH				LR	LR	
	comp=E,130nm,9.7s					
KSH				LR	LR	
	comp=Z,100nm,4.9s					
SUW	**Suwalki**	**73.18**	**354**	*e*P	**P**	**09 06 15.3 -0.5**
SUW				pmax	pmax	
	comp=Z,56nm,0.8s					
SUW	**Suwalki**	**73.18**	**354**	*e*P	**P**	**09 06 15.3 -0.5**
	comp=Z,56nm,0.8s					
SUW	**Suwalki**	**73.18**	**354**	*e*P	**P**	**09 06 15.2 -0.5**
LSA	**Lhasa**	**73.45**	**297**	P	**P**	**09 06 19.5 +1.1**
LSA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
LSA	**Lhasa**	**73.45**	**297**	*e*P	**P**	**09 06 19.6 +1.1**
LSA				pmax	pmax	
	comp=Z,5.0nm,0.4s					
LSA	**Lhasa**	**73.45**	**297**	*e*P	**P**	**09 06 19.6 +1.1**
	comp=Z,5.5nm,0.4s					
VRHR	**Novokhopersk**	**73.64**	**342**	*e*P	**P**	**09 06 17.0 -1.6**
VRHR				pmax	pmax	
	comp=Z,20nm,0.6s					
VRHR				pmax	pmax	
	comp=N,10.0nm,0.8s					
VRHR				pmax	pmax	
	comp=E,10.0nm,0.5s					
VSR	**Storozhevoye**	**73.98**	**343**	*e*P	**P**	**09 06 20.1 -0.5**
VSR				pmax	pmax	
	comp=Z,20nm,0.6s					
VSR				pmax	pmax	
	comp=N,10.0nm,0.9s					
VSR				pmax	pmax	
	comp=E,10.0nm,1.2s					
VORD	**Divnogorie**	**74.20**	**343**	*e*P	**P**	**09 06 20.9 -0.9**
VORD				pmax	pmax	
	comp=E,7.0nm,0.6s					
VORD				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VORD				pmax	pmax	
	comp=N,8.0nm,0.5s					
AKASG	**Malin Array Be**	**75.92**	**349**	*ce*P	**P**	**09 06 30.8 -0.9**
AKASG				pmax	pmax	
	comp=Z,18nm,0.5s					
AKASG	**Malin Array Be**	**75.92**	**349**	P	**P**	**09 06 30.9 -0.8**
AKASG	**Malin Array Be**	**75.92**	**349**	P	**P**	**09 06 30.9 -0.8**
	comp=Z,18nm,0.5s,baz=14,slow=6.1,SNR=30					
KIEV	**Kiev**	**75.92**	**349**	*e*P	**P**	**09 06 30.5 -1.3**
KIEV				pmax	pmax	
	comp=Z,21nm,0.7s					
KIEV	**Kiev**	**75.92**	**349**	*e*P	**P**	**09 06 30.5 -1.3**
	comp=Z,22nm,0.7s					
CLL	**Collm**	**76.23**	**360**	*i* P	**P**	**09 06 33.4 -0.1**
CLL				*e*		09 06 39.0
CLL				pmax	pmax	
	comp=Z,9.0nm,0.7s					
CLL	**Collm**	**76.23**	**360**	*i* P	**P**	**09 06 33.4 -0.1**
	comp=Z,9.0nm,0.7s					
KSP	**Ksiaz**	**76.66**	**358**	*e*P	**P**	**09 06 36.1 +0.1**
KSP	**Ksiaz**	**76.66**	**358**	*e*P	**P**	**09 06 36.5 +0.5**
MEM	**Membach**	**76.77**	**4**	P	**P**	**09 06 36.7 +0.1**
	comp=Z,9.4nm,1.6s					
UPC	**Upice**	**77.00**	**358**	*e*P	**P**	**09 06 38.2 +0.3**
UPC	**Upice**	**77.00**	**358⇑**	*e*P	**P**	**09 06 38.2 +0.3**
TAPN	**Taplejung**	**77.15**	**298**	*e*P	**P**	**09 06 39.8 +0.3**
	comp=Z,28nm,0.7s					
DPC	**Dobruska-Polom**	**77.15**	**358⇑**	*i*P	**P**	**09 06 39.4 +0.6**
DPC	**Dobruska-Polom**	**77.15**	**358⇑**	*i*P	**P**	**09 06 39.4 +0.6**
OJC	**Ojcow**	**77.15**	**355**	*e*P	**P**	**09 06 39.1 +0.3**
DOU	**Dourbes**	**77.21**	**5**	P	**P**	**09 06 39.2 +0.1**
	comp=Z,21nm,3.2s					
GIVF	**Givet**	**77.22**	**5**	*e*P	**P**	**09 06 39.2 +0.1**
GIVF	**Givet**	**77.22**	**5**	*e*P	**P**	**09 06 39.2 +0.1**
GIVF	**Givet**	**77.22**	**5**	*e*P	**P**	**09 06 39.2 +0.1**
BAIF	**Baives**	**77.22**	**6⇑**	*i*P	**P**	**09 06 39.5 +0.4**
	comp=Z,10nm,0.5s					
BAIF	**Baives**	**77.22**	**6⇑**	*i*P	**P**	**09 06 39.5 +0.4**
BAIF				pmax	pmax	
	comp=Z,10.0nm,0.5s					
BAIF	**Baives**	**77.22**	**6⇑**	*i*P	**P**	**09 06 39.5 +0.4**
	comp=Z,10nm,0.5s					
LVV	**L'vov**	**77.28**	**353**	*e*P	**P**	**09 06 39.2 -0.3**
TBI	**Tubuai**	**77.41**	**163**	*e*LR	LR	09 30 38.0
	comp=Z,155nm,23.2s					
PRU	**Pruhonice**	**77.54**	**359**	*e*P	**P**	**09 06 41.1 +0.1**
PRU	**Pruhonice**	**77.54**	**359⇑**	*e*P	**P**	**09 06 41.1 +0.1**
KWP	**Kalwaria Pacla**	**77.57**	**353**	*e*P	**P**	**09 06 41.9 +0.8**
OKC	**Ostrava-Krasne**	**77.61**	**356**	*e*P	**P**	**09 06 41.5 +0.2**
OKC	**Ostrava-Krasne**	**77.61**	**356⇑**	*e*P	**P**	**09 06 41.5 +0.2**
GUN	**Gumba**	**77.67**	**300**	*e*P	**P**	**09 06 43.0 +0.5**
	comp=Z,61nm,0.9s					
MORC	**Moravsky Berou**	**77.69**	**357**	*e*P	**P**	**09 06 42.0 +0.2**
MORC				pmax	pmax	
	comp=Z,6.0nm,0.8s					
MORC	**Moravsky Berou**	**77.69**	**357**	*e*P	**P**	**09 06 42.0 +0.2**
	comp=Z,5.7nm,0.8s					
JIRN	**Jiri**	**77.71**	**300**	*e*P	**P**	**09 06 43.4 +0.7**
	comp=Z,56nm,0.9s					
ODAN	**Odare**	**77.71**	**298**	*e*P	**P**	**09 06 42.7 +0.1**
	comp=Z,10nm,0.7s					
CMAR	**Chiang Mai Arr**	**77.82**	**284**	P	**P**	**09 06 44.1 +1.2**
CMAR	**Chiang Mai Arr**	**77.82**	**284**	P	**P**	**09 06 44.1 +1.2**
	comp=Z,1.6nm,0.5s,baz=20,slow=7.0,SNR=8.0					
GRF	**Grafenberg Arr**	**77.84**	**1**	*e*P	**P**	**09 06 43.4 +0.7**
	comp=Z,15nm,0.7s					
GRF	**Grafenberg Arr**	**77.84**	**1**	*e*P	**P**	**09 06 43.4 +0.7**
GRF				pmax	pmax	
	comp=Z,15nm,0.7s					
STHS	**Stebnicka Huta**	**77.88**	**354**	*e*P	**P**	**09 06 44.2 +1.3**
STHS				pmax	pmax	
	comp=Z,19nm,0.7s					
STHS	**Stebnicka Huta**	**77.88**	**354**	*e*P	**P**	**09 06 44.2 +1.3**
DZM	**Mont Dzumac**	**78.05**	**205**	*e*LR	LR	09 31 03.1
	comp=Z,226nm,22.0s					
RAMN	**Ramite**	**78.06**	**299**	*e*P	**P**	**09 06 44.9 +0.4**
	comp=Z,53nm,0.8s					
KKN	**Kakani**	**78.08**	**300**	*e*P	**P**	**09 06 44.8 +0.2**
	comp=Z,9.9nm,0.5s					
VRAC	**Vranov**	**78.19**	**357**	P	**P**	**09 06 45.0 +0.5**
VRAC	**Vranov**	**78.19**	**357**	P	**P**	**09 06 45.0 +0.5**
	comp=Z,10nm,0.6s,baz=6.1,slow=7.1,SNR=8.5					
PKI	**Pulchoki**	**78.19**	**300**	*e*P	**P**	**09 06 45.4 +0.1**
	comp=Z,41nm,1.0s					
KOLS	**Kolonicke sedl**	**78.29**	**354**	*e*P	**P**	**09 06 45.7 +0.5**
KOLS				pmax	pmax	
	comp=Z,5.0nm,0.7s					
KOLS	**Kolonicke sedl**	**78.29**	**354**	*e*P	**P**	**09 06 45.7 +0.5**
DMN	**Daman**	**78.32**	**300**	*e*P	**P**	**09 06 46.5 +0.5**
	comp=Z,30nm,1.0s					
LDF	**La Druitiere**	**78.35**	**9⇑**	*i*P	**P**	**09 06 45.3 -0.2**
	comp=Z,18nm,0.6s					
LDF	**La Druitiere**	**78.35**	**9⇑**	*i*P	**P**	**09 06 45.3 -0.2**
LDF				pmax	pmax	
	comp=Z,19nm,0.6s					
LDF	**La Druitiere**	**78.35**	**9⇑**	*i*P	**P**	**09 06 45.3 -0.2**
	comp=Z,18nm,0.6s					
CRVS	**Cervenica-Dubn**	**78.38**	**354**	*e*P	**P**	**09 06 46.2 +0.6**
CRVS				pmax	pmax	
	comp=Z,5.0nm,0.7s					
CRVS	**Cervenica-Dubn**	**78.38**	**354**	*e*P	**P**	**09 06 46.2 +0.6**
KHC	**Kasperske Hory**	**78.41**	**360**	*e*P	**P**	**09 06 46.0 +0.2**
KHC	**Kasperske Hory**	**78.41**	**360⇑**	*e*P	**P**	**09 06 46.0 +0.2**
DANN	**Dangsing**	**78.42**	**302**	*e*P	**P**	**09 06 47.2 +0.6**
	comp=Z,77nm,0.7s					
GRR	**Gorron**	**78.48**	**9**	*e*P	**P**	**09 06 46.3 +0.1**
	comp=Z,13nm,0.7s					
GRR	**Gorron**	**78.48**	**9**	*e*P	**P**	**09 06 46.3 +0.1**
GRR				pmax	pmax	
	comp=Z,13nm,0.7s					
GRR	**Gorron**	**78.48**	**9**	*e*P	**P**	**09 06 46.3 +0.1**
	comp=Z,13nm,0.7s					
GERES	**GERESS Array B**	**78.70**	**359**	P	**P**	**09 06 47.8 +0.3**
GERES	**GERESS Array B**	**78.70**	**359**	P	**P**	**09 06 47.8 +0.3**
	comp=Z,3.4nm,0.7s,baz=4.9,slow=4.7,SNR=22					
GERES				LR	LR	09 45 10.7
	comp=Z,70nm,18.1s,baz=200,slow=38					
PAGF	**Fort de Pagny**	**78.81**	**5⇑**	*i*P	**P**	**09 06 48.6 +0.6**
	comp=Z,9.3nm,0.7s					
PAGF	**Fort de Pagny**	**78.81**	**5⇑**	*i*P	**P**	**09 06 48.6 +0.6**
	comp=Z,9.3nm,0.7s					
KECS	**Kecovo**	**78.85**	**355**	*e*P	**P**	**09 06 48.8 +0.6**
KECS				pmax	pmax	
	comp=Z,9.0nm,0.7s					
KECS	**Kecovo**	**78.85**	**355**	*e*P	**P**	**09 06 48.8 +0.6**
VYHS	**Vyhne**	**78.92**	**356**	*e*P	**P**	**09 06 49.4 +0.8**
VYHS				pmax	pmax	
	comp=Z,12nm,1.3s					
VYHS	**Vyhne**	**78.92**	**356**	*e*P	**P**	**09 06 49.4 +0.8**
KOLN	**Koldanda**	**78.97**	**302**	*e*P	**P**	**09 06 49.9 +0.4**
CDF	**Champ du Feu**	**79.02**	**4⇑**	*i*P	**P**	**09 06 49.5 +0.2**
	comp=Z,8.1nm,0.7s					
CDF	**Champ du Feu**	**79.02**	**4⇑**	*i*P	**P**	**09 06 49.5 +0.2**
CDF				pmax	pmax	
	comp=Z,8.0nm,0.7s					
CDF	**Champ du Feu**	**79.02**	**4⇑**	*i*P	**P**	**09 06 49.5 +0.2**
	comp=Z,8.1nm,0.7s					
TRPA	**Tarpa**	**79.08**	**353⇓**	*i*P	**P**	**09 06 50.5 +1.1**
SFTF	**Sexfontaines**	**79.12**	**5**	*e*P	**P**	**09 06 50.0 +0.3**
SFTF	**Sexfontaines**	**79.12**	**5**	*e*P	**P**	**09 06 50.0 +0.3**
ECH	**Echery**	**79.21**	**4**	*e*P	**P**	**09 06 50.1 -0.2**
ECH				pmax	pmax	
	comp=Z,9.0nm,1.0s					
ECH	**Echery**	**79.21**	**4**	*e*P	**P**	**09 06 50.1 -0.2**
	comp=Z,8.9nm,1.0s					
ZST	**Bratislava**	**79.28**	**357**	*e*P	**P**	**09 06 51.0 +0.4**
ZST	**Bratislava**	**79.28**	**357**	*e*P	**P**	**09 06 51.0 +0.4**
BUR08	**Bucovina Ar. S**	**79.35**	**352**	*e*P	**P**	**09 06 51.0 -0.1**
BURAR	**Bucovina Array**	**79.37**	**352⇓**	*i*P	**P**	**09 06 51.5 +0.3**
HAU	**Haudompre**	**79.39**	**4⇑**	*i*P	**P**	**09 06 51.4 +0.2**
	comp=Z,11nm,0.7s					
HAU				*e*R		
	comp=Z,117nm,18.2s					
HAU	**Haudompre**	**79.39**	**4⇑**	*i*P	**P**	**09 06 51.4 +0.2**
HAU				pmax	pmax	
	comp=Z,11nm,0.7s					
HAU	**Haudompre**	**79.39**	**4⇑**	*i*P	**P**	**09 06 51.4 +0.2**
	comp=Z,11nm,0.7s					
PSZ	**Piszkesteto**	**79.45**	**355**	*e*P	**P**	**09 06 51.7 +0.1**
PSZ				pmax	pmax	
	comp=Z,14nm,1.1s					
PSZ	**Piszkesteto**	**79.45**	**355⇑**	*i*P	**P**	**09 06 52.5 +0.9**
PSZ	**Piszkesteto**	**79.45**	**355**	*e*P	**P**	**09 06 51.7 +0.1**
	comp=Z,14nm,1.1s					
CONA	**Conrad Observa**	**79.58**	**358**	*i* P	**P**	**09 06 53.3 +0.9**
	comp=Z,12nm,0.8s,SNR=7.6					
HINF	**Hinteralfeld**	**79.60**	**4**	*e*P	**P**	**09 06 52.4 0.0**
HINF	**Hinteralfeld**	**79.60**	**4**	*e*P	**P**	**09 06 52.4 0.0**
HINF	**Hinteralfeld**	**79.60**	**4**	*e*P	**P**	**09 06 52.4 0.0**
LOR	**Lormes**	**79.98**	**6⇑**	*i*P	**P**	**09 06 54.7 +0.3**
	comp=Z,15nm,0.8s					
LOR				*e*R		
	comp=Z,98nm,17.2s					
LOR	**Lormes**	**79.98**	**6⇑**	*i*P	**P**	**09 06 54.7 +0.3**
	comp=Z,15nm,0.8s					
SSF	**Saint Saulge**	**80.16**	**6⇑**	*i*P	**P**	**09 06 55.8 +0.4**
	comp=Z,15nm,0.5s					
SSF	**Saint Saulge**	**80.16**	**6⇑**	*i*P	**P**	**09 06 55.8 +0.4**
SSF				pmax	pmax	
	comp=Z,15nm,0.5s					
SSF	**Saint Saulge**	**80.16**	**6⇑**	*i*P	**P**	**09 06 55.8 +0.4**
	comp=Z,15nm,0.5s					
MOTA	**Moosalm**	**80.19**	**1⇑**	*i*P	**P**	**09 06 56.3 +0.6**
	comp=Z,11nm,0.9s					
KBL	**Kabul**	**80.21**	**316**	*e*P	**P**	**09 06 55.2 -0.9**
KBL				pmax	pmax	
	comp=Z,3.0nm,0.6s					
KBL	**Kabul**	**80.21**	**316**	*e*P	**P**	**09 06 55.1 -0.9**
	comp=Z,3.1nm,0.6s					
KIV	**Kislovodsk**	**80.22**	**339**	*ce*P	**P**	**09 06 56.8 +0.9**
KIV				*i* *PP	**pP**	**09 07 11.2 +0.4**
KIV				pmax	pmax	
	comp=Z,21nm,0.8s					
KIV				MLR	MLR	
	comp=Z,100nm,17.0s					
ARSA	**Arzberg**	**80.27**	**358⇑**	*i*P	**P**	**09 06 57.1 +1.1**
	comp=Z,8.7nm,0.6s,SNR=6.9					
WTTA	**Wattenberg**	**80.28**	**1⇑**	*i*P	**P**	**09 06 57.0 +0.8**
	comp=Z,12nm,0.5s					
MFF	**Saint Martin d**	**80.32**	**9⇑**	*i*P	**P**	**09 06 56.7 +0.5**
	comp=Z,67nm,1.0s					
MFF	**Saint Martin d**	**80.32**	**9⇑**	*i*P	**P**	**09 06 56.7 +0.5**
MFF	**Saint Martin d**	**80.32**	**9⇑**	*i*P	**P**	**09 06 56.7 +0.5**
	comp=Z,67nm,1.0s					
KBZ	**Khabaz**	**80.39**	**338**	P	**P**	**09 06 58.0 +1.4**
KBZ	**Khabaz**	**80.39**	**338**	P	**P**	**09 06 58.0 +1.4**
KBZ	**Khabaz**	**80.39**	**338**	P	**P**	**09 06 58.0 +1.4**
	comp=Z,11nm,0.9s,baz=299,slow=1.4,SNR=20					
DRGR		**80.39**	**353⇑**	*i*P	**P**	**09 06 56.7 0.0**
AVF	**Avril sur Loir**	**80.42**	**7⇑**	*i*P	**P**	**09 06 57.0 +0.2**
	comp=Z,22nm,0.7s					
AVF	**Avril sur Loir**	**80.42**	**7⇑**	*i*P	**P**	**09 06 57.0 +0.2**
AVF				pmax	pmax	
	comp=Z,22nm,0.7s					
AVF	**Avril sur Loir**	**80.42**	**7⇑**	*i*P	**P**	**09 06 57.0 +0.2**
	comp=Z,22nm,0.7s					
KBA	**Koelnbreinsper**	**80.47**	**360**	*i* P	**P**	**09 06 58.5 +1.3**
	comp=Z,36nm,0.9s,SNR=21					
FETA	**Feichten**	**80.51**	**1⇑**	*i*P	**P**	**09 06 58.3 +0.8**
	comp=Z,20nm,1.0s,SNR=11					
SMF	**Signal de Mont**	**80.60**	**6⇑**	*i*P	**P**	**09 06 58.0 +0.2**
	comp=Z,24nm,0.7s					
SMF	**Signal de Mont**	**80.60**	**6⇑**	*i*P	**P**	**09 06 58.0 +0.2**
SMF				pmax	pmax	
	comp=Z,24nm,0.7s					
SMF	**Signal de Mont**	**80.60**	**6⇑**	*i*P	**P**	**09 06 58.0 +0.2**
	comp=Z,24nm,0.7s					
DAVOX	**Davos/Dischmat**	**80.73**	**2**	P	**P**	**09 06 59.8 +1.1**
DAVOX	**Davos/Dischmat**	**80.73**	**2**	P	**P**	**09 06 59.8 +1.1**
	comp=Z,12nm,0.6s,baz=337,slow=4.1,SNR=15					
CABF	**La Chapelle**	**80.77**	**5⇑**	*i*P	**P**	**09 06 59.5 +0.8**
	comp=Z,21nm,0.8s					
CABF	**La Chapelle**	**80.77**	**5⇑**	*i*P	**P**	**09 06 59.5 +0.8**
CABF				pmax	pmax	
	comp=Z,21nm,0.8s					
CABF	**La Chapelle**	**80.77**	**5⇑**	*i*P	**P**	**09 06 59.5 +0.8**
	comp=Z,21nm,0.8s					
ABTA	**Abfaltersbach**	**80.80**	**0⇑**	*i*P	**P**	**09 06 59.3 +0.4**
	comp=Z,13nm,1.0s					
TCF	**Toulx Ste Croi**	**80.84**	**7⇑**	*i*P	**P**	**09 06 59.2 +0.1**
	comp=Z,16nm,0.8s					
TCF	**Toulx Ste Croi**	**80.84**	**7⇑**	*i*P	**P**	**09 06 59.2 +0.1**
TCF				pmax	pmax	

CAF	**Calviac**	**82.18**	**8**	*e*P	**P**	**09 07 06.7 +0.5**
	comp=Z,36nm,0.9s					
BNI	**Bardonecchia**	**82.35**	**4**	*e*P	**P**	**09 07 08.8 +1.6**
BNI				pmax	pmax	
	comp=Z,21nm,0.9s					
BNI	**Bardonecchia**	**82.35**	**4**	*e*P	**P**	**09 07 08.8 +1.6**
	comp=Z,21nm,0.9s					
VIVF	**Saint-Julien-l**	**82.44**	**6**	*e*P	**P**	**09 07 08.3 +0.8**
	comp=Z,11nm,0.6s					
VIVF	**Saint-Julien-l**	**82.44**	**6**	*e*P	**P**	**09 07 08.3 +0.8**
VIVF				pmax	pmax	
	comp=Z,11nm,0.6s					
VIVF	**Saint-Julien-l**	**82.44**	**6**	*e*P	**P**	**09 07 08.3 +0.8**
	comp=Z,11nm,0.6s					
ORIF	**Oris-en-Rattie**	**82.44**	**5⇑**	*i*P	**P**	**09 07 08.7 +1.1**
ORIF				*e*R		
	comp=Z,20nm,0.9s					
ORIF	**Oris-en-Rattie**	**82.44**	**5⇑**	*i*P	**P**	**09 07 08.7 +1.1**
ORIF				pmax	pmax	
	comp=Z,20nm,0.9s					
ORIF	**Oris-en-Rattie**	**82.44**	**5⇑**	*i*P	**P**	**09 07 08.7 +1.1**
	comp=Z,20nm,0.9s					
MBDF	**Montbardon**	**82.68**	**4⇑**	*i*P	**P**	**09 07 10.5 +1.6**
	comp=Z,39nm,0.7s					
MBDF	**Montbardon**	**82.68**	**4⇑**	*i*P	**P**	**09 07 10.5 +1.6**
MBDF				pmax	pmax	
	comp=Z,39nm,0.7s					
MBDF	**Montbardon**	**82.68**	**4⇑**	*i*P	**P**	**09 07 10.5 +1.6**
	comp=Z,39nm,0.7s					
GNI	**Garni**	**83.35 336**		LR	LR	09 49 30.8
	comp=Z,76nm,18.4s,baz=182,slow=39					
SMRF	**Simiane la Rot**	**83.37**	**5⇑**	*i*P	**P**	**09 07 13.9 +1.6**
	comp=Z,14nm,0.8s					
SMRF	**Simiane la Rot**	**83.37**	**5⇑**	*i*P	**P**	**09 07 13.9 +1.6**
	comp=Z,14nm,0.8s					
SBF	**Sospel**	**83.57**	**4⇑**	*i*P	**P**	**09 07 14.1 +0.7**
	comp=Z,36nm,0.8s					
SBF	**Sospel**	**83.57**	**4⇑**	*i*P	**P**	**09 07 14.1 +0.7**
SBF				pmax	pmax	
	comp=Z,37nm,0.8s					
SBF	**Sospel**	**83.57**	**4⇑**	*i*P	**P**	**09 07 14.1 +0.7**
	comp=Z,36nm,0.8s					
MTLF	**Montolieu**	**83.77**	**8⇑**	*i*P	**P**	**09 07 15.2 +0.8**
	comp=Z,10nm,0.6s					
MTLF	**Montolieu**	**83.77**	**8⇑**	*i*P	**P**	**09 07 15.2 +0.8**
MTLF				pmax	pmax	
	comp=Z,10nm,0.6s					
MTLF	**Montolieu**	**83.77**	**8⇑**	*i*P	**P**	**09 07 15.2 +0.8**
	comp=Z,10nm,0.6s					
EPF	**Esparros**	**83.91**	**9**	*e*P	**P**	**09 07 15.2 +0.1**
	comp=Z,10nm,0.8s					
EPF	**Esparros**	**83.91**	**9**	*e*P	**P**	**09 07 15.2 +0.1**
EPF				pmax	pmax	
	comp=Z,10.0nm,0.8s					
EPF	**Esparros**	**83.91**	**9**	*e*P	**P**	**09 07 15.2 +0.1**
	comp=Z,10nm,0.8s					
ETSF	**Etsaut**	**83.95**	**10**	*e*P	**P**	**09 07 16.4 +1.0**
	comp=Z,23nm,0.9s					
ETSF	**Etsaut**	**83.95**	**10**	*e*P	**P**	**09 07 16.4 +1.0**
ETSF				pmax	pmax	
	comp=Z,23nm,0.9s					
ETSF	**Etsaut**	**83.95**	**10**	*e*P	**P**	**09 07 16.4 +1.0**
	comp=Z,23nm,0.9s					
VTS	**Vitosha**	**84.53 352**	**⇓**	*i*P	**P**	**09 07 18.6 +0.1**
PGF	**Pioggiola**	**84.94**	**3⇑**	*i*P	**P**	**09 07 21.3 +0.9**
	comp=Z,63nm,0.9s					
PGF	**Pioggiola**	**84.94**	**3⇑**	*i*P	**P**	**09 07 21.3 +0.9**
PGF	**Pioggiola**	**84.94**	**3⇑**	*i*P	**P**	**09 07 21.3 +0.9**
	comp=Z,63nm,0.9s					
ANTO	**Ankara**	**86.06 345**		*e*P	**P**	**09 07 27.2 +1.1**
ANTO				pmax	pmax	
	comp=Z,11nm,0.8s					
ANTO	**Ankara**	**86.06 345**		*e*P	**P**	**09 07 27.2 +1.1**
	comp=Z,11nm,0.8s					
BR131	**Keskin Array S**	**86.07 344**		*e*P	**P**	**09 07 27.2 +1.1**
	comp=Z,11nm,0.8s					
BRTR	**Keskin Array B**	**86.07 344**		P	**P**	**09 07 27.4 +1.2**
BRTR	**Keskin Array B**	**86.07 344**		P	**P**	**09 07 27.4 +1.2**
	comp=Z,12nm,0.9s,baz=44,slow=2.6,SNR=49					
BRTR				LR	LR	09 49 59.2
	comp=Z,47nm,20.3s,baz=93,slow=38					
ESDC	**Sonseca Array**	**86.72**	**13**	P	**P**	**09 07 29.2 0.0**
ESDC	**Sonseca Array**	**86.72**	**13**	P	**P**	**09 07 29.2 0.0**
	comp=Z,1.7nm,0.6s,baz=346,slow=4.4,SNR=7.1					
WRA	**Warramunga Arr**	**88.35 233**		P	**P**	**09 07 36.9 -0.2**
WRA	**Warramunga Arr**	**88.35 233**		P	**P**	**09 07 36.9 -0.2**
	comp=Z,1.2nm,0.7s,baz=35,slow=5.7,SNR=14					
FITZ	**Fitzroy Crossi**	**91.25 241**		*e*P	**P**	**09 07 50.7 +0.1**
	comp=Z,5.5nm,1.1s					
ASAR	**Alice Springs**	**91.73 232**		P	**P**	**09 07 53.2 +0.4**
ASAR	**Alice Springs**	**91.73 232**		P	**P**	**09 07 53.2 +0.4**
	comp=Z,1.0nm,0.8s,baz=26,slow=4.4,SNR=11					
NNA	**Nana**	**99.63**	**97**	LR	LR	09 52 35.1
	comp=Z,22nm,20.3s,baz=139,slow=35					
TORD	**Torodi Ar. Bea**	**113.59**	**12**	PKiKP	**PKiKP**	**09 13 23.6 -0.1**
TORD	**Torodi Ar. Bea**	**113.59**	**12**	PKiKP	**PKiKP**	**09 13 23.6 -0.1**
	comp=Z,1.1nm,0.6s,baz=346,slow=2.6,SNR=15					
KMBO	**Kilima Mbogo**	**124.60 330**		PKP	**PKPdf**	**09 13 46.6 +1.5**
KMBO	**Kilima Mbogo**	**124.60 330**		PKP	**PKPdf**	**09 13 46.6 +1.5**
	comp=Z,2.1nm,0.8s,baz=21,slow=4.7,SNR=5.9					
QSPA	**South Pole Qui**	**142.60 180**		PKPpre	PKPpre	09 14 12.8
QSPA	**South Pole Qui**	**142.60 180**		PKhKP	PKPpre	09 14 12.7
	comp=Z,1.7nm,0.4s,baz=304,slow=1.2,SNR=21					
LBTB	**Lobatse**	**150.59 336**		*e*PKPbc	**PKPbc**	**09 14 37.8 +0.7**
MAW	**Mawson**	**152.08 219**		PKPbc	**PKPbc**	**09 14 39.9 +0.9**
MAW	**Mawson**	**152.08 219**		PKPbc	**PKPbc**	**09 14 39.9 +0.9**
	comp=Z,9.3nm,0.8s,baz=30,slow=1.2,SNR=9.8					

*CSEM **28** 09:04:32.5, 42°.36N×13°.34E, h11km, MD1.9/9, After ROM*
ROM 28 09:04:32.5±0.1, 42°.36N×13°.34E, h11km, Md1.9/9, MI1.4/3, 2C-2D, Error ellipse: s-maj=2.0km s-min=1.6km az=136.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**99⇓**	*i*Pg	Pg	09 04 35.1	+0.4
AQU				Sg	Sg	09 04 36.6	+0.3
	367nm,0.2s						
AQU	**L'Aquila**	**0.04**	**99⇓**	*i*Pg	Pg	09 04 35.1	+0.4
AQU				Sg	Sg	09 04 36.6	+0.3
	367nm,0.2s						
FIAM	**Fiamignano**	**0.19**	**241⇑**	*i*Pg	Pg	09 04 37.3	+0.5
FIAM				Sg	Sg	09 04 40.5	+0.8
	34nm,0.5s						
FIAM	**Fiamignano**	**0.19**	**241⇑**	*i*Pg	Pg	09 04 37.3	+0.5
FIAM				Sg	Sg	09 04 40.5	+0.8
	34nm,0.5s						
FAGN	**Fagnano**	**0.20**	**118**	Pg	Pb	09 04 37.9	-0.4
FAGN				Sg	Sg	09 04 41.1	+1.2
FAGN	**Fagnano**	**0.20**	**118**	Pg	Pb	09 04 37.9	-0.4
FAGN				Sg	Sg	09 04 41.1	+1.2
TERO	**Teramo**	**0.33**	**36**	Pg	Pg	09 04 39.1	-0.1
TERO				Sg	Sg	09 04 43.9	+0.3
	31nm,0.3s						
TERO	**Teramo**	**0.33**	**36**	Pg	Pg	09 04 39.1	-0.1
TERO				Sg	Sg	09 04 43.9	+0.3
	31nm,0.3s						
VCEL	**Villa Celiera**	**0.37**	**85**	Pg	Pb	09 04 40.7	-0.6
VCEL	**Villa Celiera**	**0.37**	**85**	Pg	Pb	09 04 40.7	-0.6
CERT	**Cerreto**	**0.49**	**213**	Pg	Pg	09 04 42.3	+0.1
CERT	**Cerreto**	**0.49**	**213**	Pg	Pg	09 04 42.3	+0.1
NRCA	**Norcia**	**0.50**	**340**	Pg	Pg	09 04 42.6	+0.1
	7.0nm,0.1s						
NRCA	**Norcia**	**0.50**	**340**	Pg	Pg	09 04 42.6	+0.1
	7.0nm,0.1s						

*BJI **28** 09:28:00.0, 3°.97S×100°.09E, h35km, mB5.1/29, mb4.9/38, Ms4.9/35, Ms7 4.7/31*
*IDC **28** 09:28:01.2±0.4, 3°.37S×100°.01E, h0km, mb4.5/28, mb1 4.6/30, mb1mx4.6/32, mbtmp4.5/30, ML4.1/2, MS4.0/17, Ms1 4.0/17, ms1mx3.7/39, Error ellipse: s-maj=15.5km s-min=9.8km az=51.0*
*DJA **28** 09:28:01.7±0.9, 4°S±5°×10°0E±°, h10km, M5.1/30, mB5.5/19, mb5.2/30, MLv5.4/17, Mw(mB)5.0/19, Mwp7.4/1*
*ISCJB **28** 09:28:02.1±1.0, 3°.43S±0°.03×100°.00E±0°.04, h18km±7km, mb4.8/78, MS4.3/32, Error ellipse: s-maj=6.9km s-min=4.1km az=141.8*
*NEIC **28** 09:28:02.7±0.2, 3°.38S×100°.08E, h10km, mb4.9/20, Error ellipse: s-maj=7.6km s-min=5.0km az=56.0*
*MOS **28** 09:28:04.7±1.0, 3°.29S×100°.07E, h33km, mb5.1/24, Error ellipse: s-maj=13.5km s-min=6.4km az=109.9*
*AUST **28** 09:28:06.5±2.7, 3°.50S×100°.17E, h22km, Error ellipse: s-maj=2.9km s-min=0.8km az=245.0*
ISC 28 09:28:03.5±0.8, 3°.34S±0°.04×100°.04E±0°.05, h16km±4km, n528, σ1°18/526, mb4.9/86, MS4.3/32, 124C-142D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**2.20**	**85**	P	**Pb**	**09 28 40.5**	**-2.6**
KSI	**Kapahiang**	**2.56**	**97**	P	**Pb**	**09 28 46.9**	**-2.3**
PPI	**Padang Panjang**	**2.89**	**7**	P	**Pn**	**09 28 49.4**	**+0.4**
PPI	**Padang Panjang**	**2.89**	**7**	P	**Pn**	**09 28 49.5**	**+0.6**
	baz=3.1,SNR=24						
EGSI	**Enggano, Bengk**	**2.99**	**132**	P	**Pn**	**09 28 49.3**	**-1.1**
EGSI				S	**Sn**	**09 29 24.5**	**-1.4**
MNAI	**Manna**	**3.08**	**109**	P	Pg	09 29 07.1	+4.5
MNAI	**Manna**	**3.08**	**109**	P	**Pn**	**09 28 52.9**	**+1.3**
	baz=2.9,SNR=23						
RGRI	**Rengat**	**3.75**	**38**	P	**Pn**	**09 29 02.1**	**+1.2**
BKNI	**Bangkinang**	**3.78**	**15**	P	**Pn**	**09 29 01.7**	**+0.5**
BKNI	**Bangkinang**	**3.78**	**15**	P	**Pb**	**09 29 07.9**	**-2.0**
	baz=3.9,SNR=5.6						
LWLI	**Liwa**	**4.34**	**113**	P	**Pn**	**09 29 09.5**	**+0.5**
PMBI	**Palembang**	**4.74**	**85**	P	**Pg**	**09 29 33.5**	**-0.9**
KASI	**Kota Agung**	**4.94**	**116**	P	**Pn**	**09 29 16.9**	**-0.3**
KLI	**Kotabumi**	**5.03**	**108**	P	Pn	09 29 20.3	+1.8
	333nm,0.8s,6μm2.7nm						
BLSI	**Bandar Lampung**	**5.56**	**111**	P	Pn	09 29 27.6	+1.8
	452nm,0.7s,1.3nm						
PPBI	**Pangkal Pinang**	**6.20**	**79**	P	**Pn**	**09 29 36.1**	**+1.6**
	84nm,1.1s,1.2nm						
PSI	**Prapat**	**6.21**	**350**	Pn	**Pn**	**09 29 32.9**	**-1.8**
PSI	**Prapat**	**6.21**	**350**	Pn	**Pn**	**09 29 32.9**	**-1.8**
	1.0nm,0.3s,baz=168,slow=12,SNR=3.5						
PSI	**Prapat**	**6.21**	**350**	P	Pg	09 29 58.2	-4.2
	baz=6.3,SNR=6.4						
KGM	**Kluang**	**6.25**	**32**	P	**Pn**	**09 29 36.9**	**+1.7**
MYKOM	**Kota Tinggi**	**6.36**	**37**	P	Pn	09 29 39.8	+3.1
MYKOM	**Kota Tinggi**	**6.36**	**37**	P	**Pn**	**09 29 39.2**	**+2.5**
	97nm,0.9s,0.7nm						
FRIM	**Kepong**	**6.72**	**14**	P	**Pn**	**09 29 43.4**	**+1.6**
SNSI	**Sinabang, Aceh**	**6.81**	**327**	P	Pb	09 29 53.5	-8.2
TNG	**Tangerang**	**7.16**	**113**	P	**Pn**	**09 29 48.1**	**+0.5**
	2μm,0.7s,7.3nm						
KCSI	**Kotacane, Aceh**	**7.19**	**342**	P	Pb	09 30 00.2	-7.9
DBJI	**Dramaga**	**7.40**	**116**	P	**Pn**	**09 29 51.4**	**+0.3**
	325nm,0.8s,4μm1.1nm						
SKJI	**Sukabumi**	**7.44**	**120**	P	**Pn**	**09 29 51.2**	**-0.3**
	537nm,0.7s,5μm						
IPM	**Ipoh**	**7.83**	**7**	*e*Pn	Pn	09 29 59.8	+2.8
IPM				*e*Sn	**Sn**	**09 31 21.5**	**-3.9**
IPM	**Ipoh**	**7.83**	**7**	P	**Pn**	**09 29 59.2**	**+2.3**
IPM	**Ipoh**	**7.83**	**7**	P	**Pn**	**09 29 58.8**	**+1.8**
	66nm,1.1s,857nm0.4nm						
LEM	**Lembang**	**8.30**	**115**	P	**Pn**	**09 30 04.8**	**+1.3**
	385nm,0.7s,3μm						
LEM	**Lembang**	**8.30**	**115**	P	Pn	09 30 05.3	+1.8
	baz=8.1,SNR=7.1						
KULM	**Kulim**	**8.60**	**4**	*e*Pn	**Pn**	**09 30 08.2**	**+0.7**
KULM	**Kulim**	**8.60**	**4**	P	Pn	09 30 12.5	+5.1
KULM	**Kulim**	**8.60**	**4**	P	Pn	09 30 23.1	+16
CISI	**Cisompet, Garu**	**8.80**	**119**	P	**Pn**	**09 30 08.3**	**-1.9**
	990nm,0.6s,8μm3.3nm						
CISI	**Cisompet, Garu**	**8.80**	**119**	P	**Pn**	**09 30 08.6**	**-1.7**
	baz=8.6,SNR=23						
CISI				S	**Sn**	**09 31 45.1**	**-4.0**
	baz=8.6,SNR=3.6						
XMI	**Christmas Isla**	**9.01**	**142**	S	**Sn**	**09 31 49.6**	**-4.8**
	baz=8.8,SNR=4.1						
XMIS	**Christmas Isla**	**9.01**	**142**	P	Pn	09 30 08.0	-5.2
	baz=8.8,SNR=3.3						
KTGM	**Kuala Trenggan**	**9.15**	**20**	P	Pn	09 30 18.1	+3.1
BJII	**Banjamegara**	**10.41**	**113**	P	**Pn**	**09 30 32.4**	**0.0**
	63nm,1.3s,2μm						
KSM	**Kuching**	**11.32**	**65**	*e*Pn	**Pn**	**09 30 41.7**	**-3.1**
KSM	**Kuching**	**11.32**	**65**	P	Pn	09 30 48.7	+3.8
KSM	**Kuching**	**11.32**	**65**	P	Pn	09 31 03.3	+18
	baz=11,SNR=6.3						
UGM	**Wanagama**	**11.37**	**114**	*e*Pn	**Pn**	**09 30 45.5**	**-0.1**
UGM	**Wanagama**	**11.37**	**114**	P	**Pn**	**09 30 44.7**	**-0.9**
	baz=11,SNR=7.3						
PCJI	**Pacitan**	**12.08**	**114**	P	**Pn**	**09 30 56.2**	**+1.0**
	80nm,1.2s						
SJI	**Sawahan**	**12.46**	**111**	P	**Pn**	**09 31 00.0**	**-0.4**
	71nm,1.1s,8μm						
PWJI	**Pagerwojo**	**12.59**	**112**	P	**Pn**	**09 31 01.2**	**-1.0**
	96nm,0.9s,22μm						
SBUM	**Sibu**	**13.46**	**65**	P	P	09 31 18.1	-5.3
SBUM	**Sibu**	**13.46**	**65**	P	Pn	09 31 17.7	+3.6
	41nm,1.1s,710nm						
KMMI	**Kalianget**	**14.35**	**105**	P	**Pn**	**09 31 27.3**	**+1.1**
	88nm,1.2s						
BBKI	**Banjar Baru**	**14.77**	**91**	P	**P**	**09 31 38.6**	**+0.6**
MTKI	**Muara Teweh, K**	**15.03**	**81**	P	P	09 31 45.8	+5.0
SRBI	**Singaraja**	**15.81**	**108**	P	**Pn**	**09 31 45.8**	**+0.1**
	63nm,0.7s						
KKM	**Kota Kinabalu**	**18.65**	**60**	*e*Pn	**P**	**09 32 20.2**	**-0.8**
	48nm,0.9s						
KKM	**Kota Kinabalu**	**18.65**	**60**	P	**Pn**	**09 32 22.7**	**+1.4**
KKM	**Kota Kinabalu**	**18.65**	**60**	P	**Pn**	**09 32 22.9**	**+1.5**
	60nm,1.0s,689nm						
KKM	**Kota Kinabalu**	**18.65**	**60**	P	**Pn**	**09 32 22.8**	**+1.4**
	baz=19,SNR=6.4						
MMSI	**Mamuju**	**18.85**	**89**	P	Pn	09 32 36.6	+13
TSM	**Tawau**	**19.36**	**67**	P	**Pn**	**09 32 30.9**	**+1.0**
KDM	**Kudat**	**19.62**	**59**	P	**Pn**	**09 32 34.1**	**+1.2**
SPSI	**Sidrap Palu**	**19.70**	**92**	P	**Pn**	**09 32 33.3**	**-0.6**
	67nm,1.0s,898nm						
KAPI	**Kappang**	**19.73**	**95**	*e*P	**P**	**09 32 31.6**	**-1.1**
	177nm,1.3s						
KAPI	**Kappang**	**19.73**	**95**	P	**Pn**	**09 32 32.7**	**-1.5**
	108nm,1.1s,1μm						
KAPI	**Kappang**	**19.73**	**95**	P	**P**	**09 32 31.7**	**-1.1**
	3.0nm,0.3s,baz=268,slow=11,SNR=19						
TTSI	**Tana Toraja**	**19.75**	**90**	P	**Pn**	**09 32 34.1**	**-0.4**
	48nm,1.4s,2μm						
PBKT	**Sadao Pong**	**19.81**	**3**	P	Pn	09 32 40.5	+5.4
BKSI	**Bukukumba**	**20.12**	**96**	P	Pn	09 32 37.1	-1.8
	211nm,1.1s,2μm						
MYLDM	**Lahad Datu**	**20.29**	**65**	P	Pn	09 32 41.6	+0.8
MYLDM	**Lahad Datu**	**20.29**	**65**	P	Pn	09 32 41.7	+0.8
	84nm,1.0s,1μm						
WSI	**Waingapu**	**21.07**	**108**	S	**S**	**09 36 42.5**	**+0.9**
	baz=21,SNR=4.2						
SKSI	**Soroako, Sulaw**	**21.28**	**88**	P	**P**	**09 32 45.5**	**-4.2**
	721nm,1.1s,29μm						
KKSI	**Kolaka, Sulawe**	**21.58**	**93**	P	P	09 32 57.2	+4.4
	100nm,0.8s,20μm						
CM31	**Chiang Mai Arr**	**21.69**	**357**	*e*P	**P**	**09 32 55.0**	**+1.1**
	22nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.69**	**357**	P	**P**	**09 32 54.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**21.69**	**357**	P	**P**	**09 32 54.4**	**+0.5**
	9.7nm,0.7s,baz=186,slow=9.1,SNR=6.8						
CHTO	**Chiang Mai**	**22.05**	**357**	*e*P	**P**	**09 32 58.2**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**22.05**	**357**	*e*P	**P**	**09 32 58.2**	**+0.5**
	comp=Z,12nm,0.8s						
MRSI	**Marisa**	**22.21**	**81**	P	**P**	**09 33 02.0**	**+2.4**
	comp=Z,40nm,1.2s						
GTOI	**Gorontalo**	**23.30**	**81**	P	**P**	**09 33 10.9**	**-0.1**
	comp=Z,141nm,1.0s,comp=Z,1μm						
QIZ	**Qiongzhong**	**24.23**	**23**	P	**P**	**09 33 20.5**	**+0.6**
QIZ				S	**S**	**09 37 38.5**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,14nm,1.8s						
QIZ				LR	LR		
	comp=N,730nm,11.4s						
QIZ				LR	LR		
	comp=E,880nm,11.4s						
QIZ				LR	LR		
	comp=Z,1μm,12.8s						
QIZ	**Qiongzhong**	**24.23**	**23**	*e*P	**P**	**09 33 20.8**	**+0.9**
	comp=Z,16nm,0.9s						
BATI	**Baumata**	**24.41**	**107**	P	**P**	**09 33 20.2**	**-1.4**
BATI	**Baumata**	**24.41**	**107**	P	**P**	**09 33 20.2**	**-1.4**
	comp=Z,31nm,0.6s,baz=346,slow=4.2,SNR=3.2						
SOEI	**Soe**	**24.88**	**106**	P	P	09 33 30.8	+4.8
	comp=Z,40nm,1.3s						
KMI	**Kunming**	**28.42**	**5**	P	**P**	**09 33 59.5**	**+1.6**
KMI				pP	pP	09 34 09.8	+7.1
KMI				sP	sP	09 34 14.5	+10
KMI				PP	**PP**	**09 34 57.3**	**-4.9**
KMI				S	**S**	**09 38 45.3**	**+0.6**
KMI				sS	sS	09 39 04.0	+11
KMI				SS	SnSn	09 40 16.0	+13
KMI				pmax	pmax		
	comp=Z,24nm,1.1s						
KMI				LR	LR		
	comp=N,750nm,13.2s						
KMI				LR	LR		
	comp=E,1μm,12.0s						
KMI				LR	LR		
	comp=Z,820nm,14.6s						
FITZ	**Fitzroy Crossi**	**29.05**	**122**	*e*P	**P**	**09 34 03.2**	**-0.1**
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**29.05**	**122**	P	**P**	**09 34 03.2**	**-0.1**
	comp=Z,12nm,0.8s,baz=304,slow=5.5,SNR=25						
FITZ	**Fitzroy Crossi**	**29.05**	**122**	P	**P**	**09 34 03.2**	**-0.1**
	baz=29,SNR=11						
HYB	**Hyderabad**	**29.58**	**315**	*i*P	**P**	**09 34 10.0**	**+1.9**
SHL	**Shillong**	**29.81**	**345**	*e*P	**P**	**09 34 08.0**	**-2.2**
GYA	**Guiyang**	**30.31**	**12**	*e*P	**P**	**09 34 16.8**	**+2.3**
GYA				pP	pP	09 34 26.5	+7.1
GYA				sP	sP	09 34 32.0	+11
GYA				PP	**PnPn**	**09 35 16.8**	**+4.0**
GYA				PcP	**PcP**	**09 37 16.5**	**+1.6**
GYA				S	**S**	**09 39 13.3**	**-1.0**
GYA				sS	sS	09 39 31.0	+8.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,540nm,17.9s						
GYA				LR	LR		
	comp=E,430nm,18.7s						
GYA				LR	LR		
	comp=Z,520nm,17.3s						
KNRA	**Kununurra**	**30.81**	**115**	P	**P**	**09 34 18.0**	**-0.9**
	baz=31,SNR=10.0						
ODAN	**Odare**	**32.42**	**339**	*e*P	**P**	**09 34 33.2**	**-0.1**
	comp=Z,79nm,1.0s						
TAPN	**Taplejung**	**32.75**	**339**	*e*P	**P**	**09 34 37.3**	**+1.1**
	comp=Z,121nm,0.9s						
JIRN	**Jiri**	**33.59**	**337**	*e*P	**P**	**09 34 43.9**	**+0.2**
	comp=Z,91nm,0.9s						
GUN	**Gumba**	**33.94**	**337**	*e*P	**P**	**09 34 47.5**	**+0.9**
	comp=Z,81nm,0.7s						
LSA	**Lhasa**	**33.94**	**346**	P	**P**	**09 34 48.0**	**+1.2**
LSA	**Lhasa**	**33.94**	**346**	*e*P	**P**	**09 34 48.7**	**+1.9**
LSA				pmax	pmax		
	comp=Z,39nm,1.0s						
LSA	**Lhasa**	**33.94**	**346**	*e*P	**P**	**09 34 48.7**	**+1.9**
	comp=Z,39nm,1.0s						
DMN	**Daman**	**33.98**	**336**	*e*P	**P**	**09 34 47.1**	**+0.2**
	comp=Z,48nm,1.0s						
KKN	**Kakani**	**34.07**	**336**	*e*P	**P**	**09 34 48.2**	**+0.6**
	comp=Z,48nm,0.8s						
CD2	**Chengdu**	**34.25**	**6**	*e*P	**P**	**09 34 50.8**	**+1.9**
CD2				pP	pP	09 35 01.3	+7.5
CD2				sP	sP	09 35 04.8	+9.0
CD2				PP	**PP**	**09 36 06.8**	**+0.1**
CD2				S	**S**	**09 40 15.0**	**-0.4**
CD2				sS	sS	09 40 31.8	+8.4
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,210nm,5.8s						
CD2				LR	LR		
	comp=N,1μm,10.6s						
CD2				LR	LR		
	comp=E,1μm,19.0s						
CD2				LR	LR		
	comp=Z,1μm,13.2s						
ENH	**Enshi**	**34.62**	**14**	*e*P	**P**	**09 34 52.7**	**+0.5**
	comp=Z,30nm,0.8s						
KOLN	**Koldanda**	**34.76**	**334**	*e*P	**P**	**09 34 54.3**	**+0.7**
	comp=Z,36nm,0.7s						
DANN	**Dangsing**	**35.19**	**335**	*e*P	**P**	**09 34 58.2**	**+0.8**
	comp=Z,48nm,0.5s						
WHN	**Wuhan**	**36.36**	**21**	P	**P**	**09 35 07.5**	**+0.4**
WHN				S	**S**	**09 40 53.5**	**+5.7**
WHN				LR	LR		
	comp=N,1μm,10.7s						
WHN				LR	LR		
	comp=E,1μm,10.7s						
WHN				LR	LR		
	comp=Z,2μm,14.7s						
WRA	**Warramunga Arr**	**37.29**	**119**	P	**P**	**09 35 14.8**	**-0.4**
WRA				PcP	**PcP**	**09 37 34.8**	**+0.1**
WRA	**Warramunga Arr**	**37.29**	**119**	P	**P**	**09 35 14.8**	**-0.4**
	comp=Z,8.3nm,0.6s,baz=294,slow=9.4,SNR=46						
WRA				PcP	**PcP**	**09 37 34.8**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=303,slow=2.3,SNR=4.4						
WRAB	**Tennant Creek**	**37.30**	**119**	*e*P	**P**	**09 35 14.7**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRAB	**Tennant Creek**	**37.30**	**119**	*e*P	**P**	**09 35 14.7**	**-0.6**
	comp=Z,10nm,0.6s						
XAN	**Xi'an**	**38.11**	**12**	P	**P**	**09 35 22.0**	**0.0**
XAN				pP	pP	09 35 32.5	+5.6
XAN				sP	sP	09 35 37.5	+8.6
XAN				S	**S**	**09 41 13.0**	**-1.5**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN				pmax	pmax	

BJI Beijing 45.64 17 P **P 09 36 24.5 +1.1**
BJI S **S 09 43 07.0 +1.4**
BJI pmax pmax
comp=Z,17nm,0.5s
BJI pmax pmax
comp=Z,130nm,4.5s
BJI LR LR
comp=N,640nm,14.8s
BJI LR LR
comp=E,310nm,17.0s
BJI LR LR
comp=Z,280nm,23.7s
MTSU Mount Surprise 45.76 112 P **P 09 36 25.1 +0.4**
baz=46,SNR=7.5
JNU Nakatsue 46.54 36 *e*P **P 09 36 31.9 +1.2**
JNU Nakatsue 46.54 36 P **P 09 36 31.3 +0.7**
comp=Z,6.3nm,0.5s,baz=192,slow=5.5,SNR=9.5
JNU LR LR 09 55 11.9
comp=Z,142nm,19.4s,baz=228,slow=35
MANU Manus Island 47.29 90 S S 09 43 09.0 -21
baz=47,SNR=3.7
CTAO Charters Tower 48.00 114 *e*P **P 09 36 42.8 +0.5**
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 48.00 114 *e*P **P 09 36 42.8 +0.5**
comp=Z,30nm,1.1s
KSH Kashi 48.06 335 P **P 09 36 41.8 -0.7**
KSH sP sP 09 36 55.8 +6.4
KSH PP **PP 09 38 33.8 -1.0**
KSH S S 09 43 33.3 -7.2
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,75nm,4.5s
KSH LR LR
comp=N,90nm,5.5s
KSH LR LR
comp=E,72nm,4.4s
KSH LR LR
comp=Z,91nm,5.0s
KSAR Wonju Array Be 48.12 30 P **P 09 36 43.8 +0.9**
KSRS Korea Array 48.15 30 P **P 09 36 43.8 +0.7**
comp=Z,2.5nm,0.7s,baz=227,slow=8.2,SNR=11
KSRS LR LR 09 59 25.0
comp=Z,99nm,18.9s,baz=238,slow=39
STKA Stephens Creek 48.24 131 *e*P **P 09 36 44.3 +0.4**
comp=Z,6.5nm,1.2s
STKA Stephens Creek 48.24 131 P **P 09 36 44.6 +0.7**
comp=Z,17nm,0.7s,baz=303,slow=7.7,SNR=54
STKA Stephens Creek 48.24 131 P **P 09 36 44.5 +0.6**
baz=48,SNR=32
WMQ Urumqi 48.25 348 P **P 09 36 45.8 +2.0**
WMQ pP pP 09 36 57.0 +8.2
WMQ PcP **PcP 09 38 12.8 +2.0**
WMQ PP **PP 09 38 36.8 +0.4**
WMQ S **S 09 43 41.0 -1.9**
WMQ sS sS 09 43 59.0 +7.9
WMQ SS **SS 09 47 06.0 -6.6**
WMQ pmax pmax
comp=Z,41nm,1.0s
WMQ pmax pmax
comp=Z,64nm,2.8s
WMQ LR LR
comp=N,110nm,29.0s
WMQ LR LR
comp=E,130nm,24.5s
TKM2 Tokmak 2 51.08 337 *e*P **P 09 37 05.9 +0.3**
TKM2 pmax pmax
comp=Z,18nm,0.8s
TKM2 Tokmak 2 51.08 337 *e*P **P 09 37 05.9 +0.3**
comp=Z,18nm,0.8s
CMSA Cobar Meteorol 51.24 128 P **P 09 37 07.9 +1.1**
baz=51,SNR=33
SONM Songino Array 51.27 5 P **P 09 37 08.2 +1.4**
SONM Songino Array 51.27 5 P **P 09 37 08.2 +1.4**
comp=Z,7.1nm,0.6s,baz=190,slow=8.7,SNR=31
SONM LR LR 10 01 53.6
comp=Z,264nm,18.1s,baz=189,slow=40
AAK Ala-Archa 51.27 336 *ce*P **P 09 37 08.3 +1.3**
AAK pmax pmax
comp=Z,31nm,2.5s
AAK Ala-Archa 51.27 336 *e*P **P 09 37 08.2 +1.3**
comp=Z,6.6nm,0.7s
AAK Ala-Archa 51.27 336 P **P 09 37 08.1 +1.1**
comp=Z,2.0nm,0.4s,baz=218,slow=21,SNR=5.4
ULN Ulaanbaatar 51.37 6 *e*P **P 09 37 09.3 +1.7**
comp=Z,24nm,0.9s
FRU Bishkek 51.39 336 *e*P **P 09 37 08.0 +0.3**
FRU *e* 09 37 16.0
EKS2 Erkin-Say 51.59 335 *e*P **P 09 37 10.3 +1.0**
EKS2 pmax pmax
comp=Z,24nm,0.9s
EKS2 Erkin-Say 51.59 335 *e*P **P 09 37 10.3 +1.0**
comp=Z,24nm,0.9s
RMQ Roma 51.97 121 P **P 09 37 14.2 +1.8**
baz=52,SNR=7.6
CN2 Changchun 52.20 23 *e*P **P 09 37 13.8 +0.2**
CN2 *e*pP pP 09 37 23.8 +5.1
CN2 *e*S **S 09 44 34.5 -3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,270nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,230nm,18.0s
MK31 Makanchi Array 52.33 345 *e*P **P 09 37 15.4 +0.8**
MK31 Makanchi Array 52.33 345 *e*P **P 09 37 15.4 +0.8**
MKAR Makanchi Array 52.33 345 *ce*P **P 09 37 15.3 +0.7**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 52.33 345 P **P 09 37 15.4 +0.8**
MKAR Makanchi Array 52.33 345 P **P 09 37 15.4 +0.8**
comp=Z,6.9nm,0.5s,baz=147,slow=8.3,SNR=38
MKAR LR LR 10 03 26.0
comp=Z,108nm,20.4s,baz=164,slow=41
MAT Matsushiro 53.29 38 P **P 09 37 20.8 -1.1**
MJAR Matsushiro Arr 53.29 38 P **P 09 37 21.6 -0.3**
MJAR Matsushiro Arr 53.29 38 P **P 09 37 21.7 -0.3**
comp=Z,1.7nm,0.6s,baz=177,slow=16,SNR=7.1
MJAR LR LR 09 59 10.9
comp=Z,62nm,18.5s,baz=175,slow=35
KKAR Karatay Array 53.36 333 *e*P **P 09 37 23.4 +1.1**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 53.36 333 *e*P **P 09 37 23.4 +1.1**
comp=Z,2.9nm,0.6s
EIDS Eidsvold 53.66 119 *e*P **P 09 37 25.7 +0.9**
comp=Z,13nm,1.0s
EIDS Eidsvold 53.66 119 P **P 09 37 25.6 +0.7**
baz=54,SNR=5.5
YNG Young 54.43 130 P **P 09 37 31.5 +1.2**
baz=54,SNR=19
MDJ Mudanjiang 54.57 26 P **P 09 37 32.8 +1.7**
MDJ pP pP 09 37 41.8 +5.6
MDJ sP sP 09 37 45.5 +7.4
MDJ ScP **ScP 09 42 30.5 -1.7**
MDJ PcS **PcS 09 42 35.0 +1.3**
MDJ S **S 09 45 11.0 +1.0**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ LR LR
comp=N,310nm,17.0s
MDJ LR LR
comp=E,300nm,18.3s
MDJ LR LR
comp=Z,400nm,16.6s
TLY Talaya 54.90 3 *e*P P 09 37 36.9 +3.5
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,444nm,18.0s
USRK Ussuriysk Arra 55.32 28 P **P 09 37 37.2 +0.7**
comp=Z,18nm,0.6s,baz=222,slow=4.9,SNR=70
USRK LR LR 10 05 32.7
comp=Z,236nm,18.1s,baz=106,slow=41
ARMA Armidale 55.60 125 *e*P **P 09 37 41.0 +2.1**
comp=Z,8.8nm,0.9s
ARMA Armidale 55.60 125 P **P 09 37 41.0 +2.1**
baz=55,SNR=6.5
ZALV Zalesovo Beam 58.49 350 P **P 09 37 59.2 +0.4**
ZALV Zalesovo Beam 58.49 350 P **P 09 37 59.2 +0.4**
ZALV Zalesovo Beam 58.49 350 P **P 09 37 59.2 +0.4**
comp=Z,12nm,0.6s,baz=186,slow=5.9,SNR=36
KLR Kul'dur 59.14 24 *e*P P 09 38 00.0 -3.4
NVS Novosibirsk 59.63 349 *e*P **P 09 38 04.0 -2.7**
NVS *e*S **S 09 46 12.6 -3.7**
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=E,12nm,1.4s
NVS smax smax
comp=E,10.0nm,1.6s
ASAJ Asahikawa 60.69 34 P **P 09 38 15.2 +1.0**
ASAJ Asahikawa 60.69 34 P **P 09 38 15.2 +1.0**
comp=E,5.2nm,0.5s,baz=339,slow=23,SNR=12
VOSK Vostochnaya 61.00 340 P **P 09 38 15.5 -0.7**
VOSK pmax pmax
comp=Z,6.0nm,0.6s
BVA0 Borovoye Array 61.45 340 *i* P **P 09 38 18.0 -1.2**
BVA0 pmax pmax
comp=Z,7.0nm,0.5s
BVAR Borovoye Array 61.45 340 P **P 09 38 18.6 -0.6**
BVAR Borovoye Array 61.45 340 P **P 09 38 18.6 -0.6**
BVAR Borovoye Array 61.45 340 P **P 09 38 18.6 -0.6**
comp=Z,3.6nm,0.5s,baz=141,slow=9.2,SNR=22
BVAR LR LR 10 06 08.5
comp=Z,65nm,20.4s,baz=308,slow=37
BRVK Borovoye 61.52 340 *ce*P **P 09 38 18.8 -0.8**
BRVK *i* *PP pP 09 38 28.4 +3.7
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 61.52 340 *e*P **P 09 38 19.4 -0.2**
comp=Z,5.7nm,0.4s
YSS Yuzh-Sakhalins 62.59 32⇑ *i*P **P 09 38 28.0 +1.0**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,300nm,14.0s
KMBO Kilima Mbogo 62.77 270 P **P 09 38 30.8 +1.6**
KMBO Kilima Mbogo 62.77 270 P **P 09 38 30.8 +1.6**
comp=Z,0.6nm,0.3s,baz=41,slow=18,SNR=2.4
AB31 Akbulak array 62.83 332 *i* P **P 09 38 27.6 -0.9**
AB31 pmax pmax
comp=Z,15nm,0.7s
ABKAR Akbulak array 62.83 332 *e*P **P 09 38 28.2 -0.4**
comp=Z,15nm,0.7s
AKTO Aktyubinsk 64.55 332 P **P 09 38 39.1 -0.8**
AKTO Aktyubinsk 64.55 332 P **P 09 38 39.1 -0.8**
AKTO Aktyubinsk 64.55 332 P **P 09 38 39.1 -0.8**
comp=Z,2.2nm,0.8s,baz=124,slow=8.5,SNR=6.6
AKTO LR LR 10 10 44.7
comp=Z,67nm,19.8s,baz=1.4,slow=40
DZM Mont Dzumac 66.90 112 LR LR 10 11 10.5
comp=Z,153nm,19.1s,baz=182,slow=39
SVE Sverdlovsk 67.94 338 *e*P **P 09 39 01.8 +0.4**
SVE pmax pmax
comp=Z,27nm,1.0s
ZEI Tsey 68.27 319 *e*P P 09 39 07.6 +3.5
ZEI pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 68.45 337 *d i*P **P 09 39 04.3 -0.4**
ARU 09 41 32.3
ARU PPP PPP 09 43 14.0
ARU S **S 09 48 05.9 +0.2**
ARU pmax pmax
comp=Z,9.0nm,1.2s
MAW Mawson 69.00 194 P **P 09 39 08.0 +0.1**
MAW Mawson 69.00 194 P **P 09 39 08.0 +0.1**
comp=Z,1.8nm,0.6s,baz=40,slow=4.9,SNR=4.5
MAW LR LR 10 03 00.5
comp=Z,235nm,21.2s,baz=64,slow=30
YAK Yakutsk 69.02 14 *e*P **P 09 39 05.1 -3.0**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
KIV Kislovodsk 69.58 320 *c i*P **P 09 39 11.6 -0.5**
KIV *e* 09 39 31.4
KIV pmax pmax
comp=Z,9.0nm,1.0s
VRHR Novokhopersk 73.46 326 *e*P **P 09 39 34.2 -1.0**
VRHR *e*PP **pP 09 39 40.6 +0.2**
VRHR pmax pmax
comp=Z,40nm,1.6s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.9s
PETK Petropavlovsk- 73.99 32 P **P 09 39 38.4 +0.1**
PETK Petropavlovsk- 73.99 32 P **P 09 39 38.4 +0.1**
PETK Petropavlovsk- 73.99 32 P **P 09 39 38.4 +0.1**
comp=E,3.5nm,0.8s,baz=333,slow=0.3,SNR=4.2
PETK LR LR 10 17 46.6
comp=E,31nm,18.1s,baz=79,slow=40
RPZ Rata Peaks 74.01 135 LR LR 10 10 04.5
comp=E,244nm,19.1s,baz=110,slow=34
BRTR Keskin Array B 74.26 313 P **P 09 39 39.3 -1.1**
BRTR Keskin Array B 74.26 313 P **P 09 39 39.3 -1.1**
comp=E,1.7nm,0.6s,baz=142,slow=7.1,SNR=9.6
BRTR LR LR 10 13 25.5
comp=E,33nm,18.9s,baz=99,slow=37
PET Petropavlovsk 74.46 32 *i* P **P 09 39 41.6 +0.6**
VSR Storozhevoye 74.90 325 *e*P **P 09 39 43.2 -0.4**
VSR *e*PP **pP 09 39 48.8 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,7.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.8s
BOSA Boshof 75.05 241 P **P 09 39 45.3 +0.1**
BOSA Boshof 75.05 241 P **P 09 39 45.3 +0.1**
comp=E,4.1nm,1.1s,baz=122,slow=19,SNR=3.5
SEY Seymchan 76.85 22⇑ *e*P **P 09 39 54.3 -0.2**
TIXI Tiksi 77.17 9 *de*P **P 09 39 56.3 +0.2**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 77.95 328⇑ *i*P **P 09 40 00.5 -0.3**
OBN *i* 09 40 06.6
OBN pmax pmax
comp=Z,20nm,1.2s
AKASG Malin Array Be 80.57 322 *i* P P 09 40 22.2 +7.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 80.57 322 P **P 09 40 14.7 -0.6**
AKASG Malin Array Be 80.57 322 P **P 09 40 14.7 -0.6**
comp=Z,0.4nm,0.3s,baz=87,slow=4.9,SNR=3.9
KIEV Kiev 80.58 322 *e*P **P 09 40 15.3 0.0**
VNDA Vanda 80.84 169 P **P 09 40 16.1 -0.1**
VNDA Vanda 80.84 169 P **P 09 40 16.1 -0.1**
comp=Z,1.6nm,1.1s,baz=306,slow=3.5,SNR=5.0
VNDA LR LR 10 08 09.7
comp=Z,122nm,20.4s,baz=304,slow=30
TMCR Tamitsa 81.19 337 *e*P **P 09 40 18.7 +0.5**
TMCR *e* 09 40 25.1
TMCR *e* 09 43 24.6
TMCR pmax pmax
comp=Z,7.0nm,0.6s
BUR08 Bucovina Ar. S 82.31 319 *e*P **P 09 40 25.6 +0.9**
VSU Vasula 84.18 330⇑ *e*P **P 09 40 33.9 0.0**
VSU pmax pmax
comp=Z,19nm,0.7s
KOLS Kolonicke sedl 84.50 320 *e*P **P 09 40 36.4 +0.6**
KOLS Kolonicke sedl 84.50 320 *e*P **P 09 40 36.4 +0.6**
CRVS Cervenica-Dubn 85.02 320 *e*P **P 09 40 40.5 +2.1**
CRVS Cervenica-Dubn 85.02 320 *e*P **P 09 40 40.5 +2.1**
STHS Stebnicka Huta 85.25 320 *e*P **P 09 40 40.7 +1.1**
STHS Stebnicka Huta 85.25 320 *e*P **P 09 40 40.7 +1.1**
FINES FINESS Array B 85.31 332 P **P 09 40 40.0 +0.4**
FINES FINESS Array B 85.31 332 P **P 09 40 40.0 +0.4**
comp=Z,1.6nm,0.5s,baz=120,slow=5.3,SNR=10
FINES LR LR 10 24 21.4
comp=Z,74nm,20.1s,baz=228,slow=40
KECS Kecovo 85.58 319 *e*P **P 09 40 42.3 +1.1**
KECS Kecovo 85.58 319 *e*P **P 09 40 42.3 +1.1**
VYHS Vyhne 86.66 319 *e*P **P 09 40 45.8 -0.8**
VYHS Vyhne 86.66 319 *e*P **P 09 40 45.8 -0.8**
ARCES ARCESS Array B 87.74 340 P **P 09 40 51.8 +0.4**
ARCES ARCESS Array B 87.74 340 P **P 09 40 51.8 +0.4**
comp=Z,1.8nm,0.6s,baz=92,slow=7.3,SNR=8.3
ARCES LR LR 10 23 39.6
comp=Z,86nm,21.6s,baz=100,slow=38
GERES GERESS Array B 90.08 319 P **P 09 41 03.4 +0.4**
GERES GERESS Array B 90.08 319 P **P 09 41 03.4 +0.4**
comp=Z,2.5nm,0.8s,baz=86,slow=5.5,SNR=7.2
NOA NORSAR Array B 92.33 331 LR LR 10 26 13.2
comp=Z,45nm,19.1s,baz=0.0,slow=38
KEST Kesra 92.50 305 *e*P **P 09 41 15.9 +1.5**
KEST Kesra 92.50 305 P **P 09 41 15.2 +0.7**
comp=Z,1.8nm,0.8s,baz=139,slow=3.9,SNR=5.3
YKA Yellowknife Ar 115.64 17 PKP **PKPdf 09 46 43.9 -0.9**
YKA Yellowknife Ar 115.64 17 PKP **PKPdf 09 46 43.9 -0.9**
comp=Z,0.3nm,0.7s,baz=325,slow=1.2,SNR=4.9
SCHQ Schefferville 127.57 350 PKP **PKPdf 09 47 08.0 0.0**
SCHQ Schefferville 127.57 350 PKP **PKPdf 09 47 08.0 0.0**
comp=Z,2.0nm,0.7s,baz=7.6,slow=15,SNR=3.6
MSO Missoula 127.63 29⇓PKiKP **PKiKP 09 47 08.6 -0.5**
baz=128
MSO Missoula 127.63 29⇓PKiKP **PKiKP 09 47 08.6 -0.5**
baz=128
A18A Metzger Ranch, 127.91 25⇑PKiKP **PKiKP 09 47 09.2 -0.2**
baz=128
A18A Metzger Ranch, 127.91 25⇑PKiKP **PKiKP 09 47 09.2 -0.2**
baz=128
A19A Klindworth Far 128.36 24⇓PKiKP **PKiKP 09 47 10.2 -0.2**
baz=128
A19A Klindworth Far 128.36 24⇓PKiKP **PKiKP 09 47 10.2 -0.2**
baz=128
C17A Wharram Farm, 128.51 26⇓PKiKP **PKiKP 09 47 10.7 -0.1**
baz=128
C17A Wharram Farm, 128.51 26⇓PKiKP **PKiKP 09 47 10.7 -0.1**
baz=128
B19A Brinkman Farms 128.65 24⇑PKiKP **PKiKP 09 47 10.9 0.0**
baz=128
B19A Brinkman Farms 128.65 24⇑PKiKP **PKiKP 09 47 10.9 0.0**
baz=128
A20A Cobblestone Ra 128.72 23⇓PKiKP **PKiKP 09 47 11.1 0.0**
baz=129
A20A Cobblestone Ra 128.72 23⇓PKiKP **PKiKP 09 47 11.1 0.0**
baz=129
D17A Six Diamond Ra 128.91 27⇑PKiKP **PKiKP 09 47 11.3 -0.3**
baz=129
D17A Six Diamond Ra 128.91 27⇑PKiKP **PKiKP 09 47 11.3 -0.3**
baz=129
A21A Bergtoll Ranch 129.03 23⇓PKiKP **PKiKP 09 47 11.6 -0.1**
baz=129
A21A Bergtoll Ranch 129.03 23⇓PKiKP **PKiKP 09 47 11.6 -0.1**
baz=129
C19A Slack Wire Ran 129.17 25⇑PKiKP **PKiKP 09 47 12.2 +0.2**
baz=129
C19A Slack Wire Ran 129.17 25⇑PKiKP **PKiKP 09 47 12.2 +0.2**
baz=129
E17A Martinsdale 129.35 27⇑PKiKP **PKiKP 09 47 12.5 -0.1**
baz=129
E17A Martinsdale 129.35 27⇑PKiKP **PKiKP 09 47 12.5 -0.1**
baz=129
B21A Ellsworth Farm 129.45 23⇓PKiKP **PKiKP 09 47 12.7 +0.2**
baz=129
B21A Ellsworth Farm 129.45 23⇓PKiKP **PKiKP 09 47 12.7 +0.2**
baz=129
C20A Veseth Ranch, 129.62 24⇓PKiKP **PKiKP 09 47 13.1 +0.1**
baz=130
C20A Veseth Ranch, 129.62 24⇓PKiKP **PKiKP 09 47 13.1 +0.1**
baz=130
F17A Fitzpatrick Pl 129.85 28⇑PKiKP **PKiKP 09 47 13.5 -0.1**
baz=130
F17A Fitzpatrick Pl 129.85 28⇑PKiKP **PKiKP 09 47 13.5 -0.1**
baz=130
C21A Desert Coulee 129.90 24⇓PKiKP **PKiKP 09 47 13.7 +0.2**
baz=130
C21A Desert Coulee 129.90 24⇓PKiKP **PKiKP 09 47 13.7 +0.2**
baz=130
D20A Manuel Ranch, 130.06 25⇑PKiKP **PKiKP 09 47 14.0 +0.2**
baz=130
D20A Manuel Ranch, 130.06 25⇑PKiKP **PKiKP 09 47 14.0 +0.2**
baz=130
B23A Brockton 130.19 22⇓PKiKP **PKiKP 09 47 14.3 +0.3**
baz=130
B23A Brockton 130.19 22⇓PKiKP **PKiKP 09 47 14.3 +0.3**
baz=130
E19A Rath Farm, Rou 130.28 26⇓PKiKP **PKiKP 09 47 14.5 +0.2**
baz=130
E19A Rath Farm, Rou 130.28 26⇓PKiKP **PKiKP 09 47 14.5 +0.2**
baz=130
F18A Big Timber 130.29 27⇓PKiKP **PKiKP 09 47 14.6 +0.2**
baz=130
F18A Big Timber 130.29 27⇓PKiKP **PKiKP 09 47 14.6 +0.2**
baz=130
C22A Vida 130.44 23⇑PKiKP **PKiKP 09 47 14.9 +0.3**
baz=130
C22A Vida 130.44 23⇑PKiKP **PKiKP 09 47 14.9 +0.3**
baz=130
H16A Russell Place, 130.47 29⇑PKiKP **PKiKP 09 47 15.1 +0.1**
baz=130
H16A Russell Place, 130.47 29⇑PKiKP **PKiKP 09 47 15.1 +0.1**
baz=130
DGMT Dagmar 130.47 21⇓PKiKP **PKiKP 09 47 15.1 +0.5**
baz=130
DGMT Dagmar 130.47 21⇓PKiKP **PKiKP 09 47 15.1 +0.5**
baz=130
NVAR Mina Array Bea 130.60 40 PKP **PKPdf 09 47 15.8 +1.2**
NVAR Mina Array Bea 130.60 40 PKP **PKPdf 09 47 15.8 +1.2**
comp=Z,1.0nm,0.6s,baz=295,slow=2.5,SNR=12
D22A Cohagen 130.81 23⇓PKiKP **PKiKP 09 47 15.2 -0.2**
baz=131
D22A Cohagen 130.81 23⇓PKiKP **PKiKP 09 47 15.2 -0.2**
baz=131
D23A Lindsay 131.18 23⇓PKiKP **PKiKP 09 47 15.5 -0.6**
baz=131
D23A Lindsay 131.18 23⇓PKiKP **PKiKP 09 47 15.5 -0.6**
baz=131
ULM Lac du Bonnet 131.36 14 PKP **PKPdf 09 47 15.6 +0.3**
ULM Lac du Bonnet 131.36 14 PKP **PKPdf 09 47 15.6 +0.3**
comp=Z,1.9nm,0.6s,baz=353,slow=4.5,SNR=3.3
G20A Bridger 131.49 27⇓PKiKP **PKiKP 09 47 16.4 -0.4**
baz=131
G20A Bridger 131.49 27⇓PKiKP **PKiKP 09 47 16.4 -0.4**
baz=131
A29A Manning Farm, 131.69 17⇑PKiKP **PKiKP 09 47 17.0 0.0**
baz=132
A29A Manning Farm, 131.69 17⇑PKiKP **PKiKP 09 47 17.0 0.0**
baz=132
R11A Troy Canyon, C 132.36 38⇑PKiKP **PKiKP 09 47 18.7 -0.2**
baz=132
R11A Troy Canyon, C 132.36 38⇑PKiKP **PKiKP 09 47 18.7 -0.2**
baz=132
MPMC Manual Prospec 132.49 42⇓PKiKP **PKiKP 09 47 18.6 -0.6**
baz=132
MPMC Manual Prospec 132.49 42⇓PKiKP **PKiKP 09 47 18.6 -0.6**
baz=132
MDND Maddock 132.54 18⇓PKiKP **PKiKP 09 47 18.7 0.0**
baz=132
MDND Maddock 132.54 18⇓PKiKP **PKiKP 09 47 18.7 0.0**
baz=132
J19A Crowheart 132.59 29⇓PKiKP **PKiKP 09 47 18.5 -0.7**
baz=132
J19A Crowheart 132.59 29⇓PKiKP **PKiKP 09 47 18.5 -0.7**
baz=132
PDAR Pinedale Array 132.72 30 PKP **PKPdf 09 47 19.7 +1.3**
PDAR Pinedale Array 132.72 30 PKP **PKPdf 09 47 19.7 +1.3**
comp=Z,0.6nm,0.9s,baz=47,slow=1.6,SNR=3.6
EDW2 Edwards Air Fo 132.80 44⇓PKiKP **PKiKP 09 47 19.8 +0.1**
baz=133
EDW2 Edwards Air Fo 132.80 44⇓PKiKP **PKiKP 09 47 19.8 +0.1**
baz=133
DUG Dugway 132.81 35⇓PKiKP **PKiKP 09 47 19.7 0.0**
baz=133
DUG Dugway 132.81 35⇓PKiKP **PKiKP 09 47 19.7 0.0**
baz=133
J20A Shoshoni 132.99 28⇓PKiKP **PKiKP 09 47 19.2 -0.7**
baz=133
J20A Shoshoni 132.99 28⇓PKiKP **PKiKP 09 47 19.2 -0.7**
baz=133
I21A Big Trails, Te 133.00 27⇑PKiKP **PKiKP 09 47 19.1 -0.9**
baz=133
I21A Big Trails, Te 133.00 27⇑PKiKP **PKiKP 09 47 19.1 -0.9**
baz=133
K19A Absolon Red Bu 133.03 29⇓PKiKP **PKiKP 09 47 19.3 -0.8**
baz=133
K19A Absolon Red Bu 133.03 29⇓PKiKP **PKiKP 09 47 19.3 -0.8**
baz=133
F26A Lodgepole 133.24 22⇓PKiKP **PKiKP 09 47 20.5 +0.2**
baz=133
F26A Lodgepole 133.24 22⇓PKiKP **PKiKP 09 47 20.5 +0.2**
baz=133
K20A Yellowstone Ra 133.40 29⇑PKiKP **PKiKP 09 47 20.0 -0.9**
baz=133
K20A Yellowstone Ra 133.40 29⇑PKiKP **PKiKP 09 47 20.0 -0.9**
baz=133
H24A Dirks Ranch, A 133.43 24⇓PKiKP **PKiKP 09 47 19.9 -0.9**
baz=133
H24A Dirks Ranch, A 133.43 24⇓PKiKP **PKiKP 09 47 19.9 -0.9**
baz=133

G25A	Newell	133.51	23	⇓PKiKP	PKiKP	09 47 20.1	-0.8
	baz=133						
G25A	Newell	133.51	23	⇓PKiKP	PKiKP	09 47 20.1	-0.8
	baz=133						
F28A	McLaughlin	133.91	20	⇑PKiKP	PKiKP	09 47 21.7	+0.1
	baz=134						
F28A	McLaughlin	133.91	20	⇑PKiKP	PKiKP	09 47 21.7	+0.1
	baz=134						
G27A	Dupree	133.92	21	⇓PKiKP	PKiKP	09 47 21.6	-0.1
	baz=134						
G27A	Dupree	133.92	21	⇓PKiKP	PKiKP	09 47 21.6	-0.1
	baz=134						
PFO	Pinyon Flat Ob	134.56	44	⇑PKiKP	PKiKP	09 47 22.8	-0.6
	baz=134						
PFO	Pinyon Flat Ob	134.56	44	⇑PKiKP	PKiKP	09 47 22.8	-0.6
	baz=134						
M21A	Separation Pea	134.67	29	⇑PKiKP	PKiKP	09 47 23.0	-0.6
	baz=135						
M21A	Separation Pea	134.67	29	⇑PKiKP	PKiKP	09 47 23.0	-0.6
	baz=135						
N20A	Spence Gulch,	134.80	30	⇓PKiKP	PKiKP	09 47 22.8	-1.1
	baz=135						
N20A	Spence Gulch,	134.80	30	⇓PKiKP	PKiKP	09 47 22.8	-1.1
	baz=135						
BC3	Big Chuckawall	135.23	43	⇑PKiKP	PKiKP	09 47 24.4	-0.4
	baz=135						
BC3	Big Chuckawall	135.23	43	⇑PKiKP	PKiKP	09 47 24.4	-0.4
	baz=135						
N21A	Black Mountain	135.23	30	⇑PKiKP	PKiKP	09 47 24.2	-0.6
	baz=135						
N21A	Black Mountain	135.23	30	⇑PKiKP	PKiKP	09 47 24.2	-0.6
	baz=135						
P19A	Cripple Cowboy	135.31	32	⇑PKiKP	PKiKP	09 47 24.3	-0.6
	baz=135						
P19A	Cripple Cowboy	135.31	32	⇑PKiKP	PKiKP	09 47 24.3	-0.6
	baz=135						
O20A	White River Ci	135.33	31	⇓PKiKP	PKiKP	09 47 24.2	-0.7
	baz=135						
O20A	White River Ci	135.33	31	⇓PKiKP	PKiKP	09 47 24.2	-0.7
	baz=135						
J28A	Allard Ranch,	135.85	22	⇓PKiKP	PKiKP	09 47 25.2	-0.5
	baz=136						
J28A	Allard Ranch,	135.85	22	⇓PKiKP	PKiKP	09 47 25.2	-0.5
	baz=136						
M24A	Cheyenne	135.97	27	⇑PKiKP	PKiKP	09 47 25.1	-1.1
	baz=136						
M24A	Cheyenne	135.97	27	⇑PKiKP	PKiKP	09 47 25.1	-1.1
	baz=136						
O23A	Lake Granby, G	136.44	29	⇑PKiKP	PKiKP	09 47 26.1	-1.2
	baz=136						
O23A	Lake Granby, G	136.44	29	⇑PKiKP	PKiKP	09 47 26.1	-1.2
	baz=136						
S20A	Disappointment	136.95	33	⇓PKiKP	PKiKP	09 47 28.1	-0.2
	baz=137						
S20A	Disappointment	136.95	33	⇓PKiKP	PKiKP	09 47 28.1	-0.2
	baz=137						
MVCO	Mesa Verde	137.31	34	⇓PKiKP	PKiKP	09 47 28.9	-0.1
	baz=137						
MVCO	Mesa Verde	137.31	34	⇓PKiKP	PKiKP	09 47 28.9	-0.1
	baz=137						
S21A	Coal Bank Pass	137.38	33	⇓PKiKP	PKiKP	09 47 29.2	-0.1
	baz=137						
S21A	Coal Bank Pass	137.38	33	⇓PKiKP	PKiKP	09 47 29.2	-0.1
	baz=137						
X16A	Lo Mia Camp, P	137.43	40	⇑PKiKP	PKiKP	09 47 28.4	-0.9
	baz=137						
X16A	Lo Mia Camp, P	137.43	40	⇑PKiKP	PKiKP	09 47 28.4	-0.9
	baz=137						
P25A	Willow Gulch B	137.82	28	⇓PKiKP	PKiKP	09 47 29.7	-0.3
	baz=138						
P25A	Willow Gulch B	137.82	28	⇓PKiKP	PKiKP	09 47 29.7	-0.3
	baz=138						
214A	Organ Pipe Nat	138.02	44	⇓PKiKP	PKiKP	09 47 29.8	-0.6
	baz=138						
214A	Organ Pipe Nat	138.02	44	⇓PKiKP	PKiKP	09 47 29.8	-0.6
	baz=138						
P26A	Davis Ranch, A	138.17	27	⇑PKiKP	PKiKP	09 47 29.6	-1.1
	baz=138						
P26A	Davis Ranch, A	138.17	27	⇑PKiKP	PKiKP	09 47 29.6	-1.1
	baz=138						
T22A	Edith	138.34	33	⇑PKiKP	PKiKP	09 47 31.0	-0.2
	baz=138						
T22A	Edith	138.34	33	⇑PKiKP	PKiKP	09 47 31.0	-0.2
	baz=138						
R24A	Sanders Place,	138.36	30	⇑PKiKP	PKiKP	09 47 30.2	-0.9
	baz=138						
R24A	Sanders Place,	138.36	30	⇑PKiKP	PKiKP	09 47 30.2	-0.9
	baz=138						
T23A	Casias Ranch,	138.79	32	⇓PKiKP	PKiKP	09 47 31.9	-0.2
	baz=139						
T23A	Casias Ranch,	138.79	32	⇓PKiKP	PKiKP	09 47 31.9	-0.2
	baz=139						
R26A	Arlington	139.12	29	⇓PKiKP	PKiKP	09 47 32.2	-0.4
	baz=139						
R26A	Arlington	139.12	29	⇓PKiKP	PKiKP	09 47 32.2	-0.4
	baz=139						
S25A	Robets Cordova	139.14	30	⇓PKiKP	PKiKP	09 47 32.3	-0.5
	baz=139						
S25A	Robets Cordova	139.14	30	⇓PKiKP	PKiKP	09 47 32.3	-0.5
	baz=139						
S26A	Kim	139.65	29	⇓PKiKP	PKiKP	09 47 33.2	-0.5
	baz=140						
S26A	Kim	139.65	29	⇓PKiKP	PKiKP	09 47 33.2	-0.5
	baz=140						
V23A	Ortiz Mt. (NFS	139.66	34	⇑PKiKP	PKiKP	09 47 33.7	-0.2
	baz=140						
V23A	Ortiz Mt. (NFS	139.66	34	⇑PKiKP	PKiKP	09 47 33.7	-0.2
	baz=140						
X21A	Alamocita Cree	139.66	37	⇓PKiKP	PKiKP	09 47 33.1	-0.9
	baz=140						
X21A	Alamocita Cree	139.66	37	⇓PKiKP	PKiKP	09 47 33.1	-0.9
	baz=140						
Q29A	Oakley	139.77	26	⇓PKiKP	PKiKP	09 47 32.9	-0.9
	baz=140						
Q29A	Oakley	139.77	26	⇓PKiKP	PKiKP	09 47 32.9	-0.9
	baz=140						
T26A	Comanche Natio	139.94	30	⇑PKiKP	PKiKP	09 47 33.9	-0.5
	baz=140						
T26A	Comanche Natio	139.94	30	⇑PKiKP	PKiKP	09 47 33.9	-0.5
	baz=140						
Z20A	Nine Sixteen R	140.07	39	⇓PKiKP	PKiKP	09 47 34.9	+0.2
	baz=140						
Z20A	Nine Sixteen R	140.07	39	⇓PKiKP	PKiKP	09 47 34.9	+0.2
	baz=140						
U25A	Circle Dot Ran	140.12	31	⇑PKiKP	PKiKP	09 47 33.9	-0.9
	baz=140						
U25A	Circle Dot Ran	140.12	31	⇑PKiKP	PKiKP	09 47 33.9	-0.9
	baz=140						
V24A	Rampart Ranch,	140.17	33	⇓PKiKP	PKiKP	09 47 34.1	-0.8
	baz=140						
V24A	Rampart Ranch,	140.17	33	⇓PKiKP	PKiKP	09 47 34.1	-0.8
	baz=140						
120A	U Bar Ranch, L	140.42	40	⇑PKiKP	PKiKP	09 47 35.1	-0.4
	baz=140						
120A	U Bar Ranch, L	140.42	40	⇑PKiKP	PKiKP	09 47 35.1	-0.4
	baz=140						
121A	Cookes Peak, D	140.97	39	⇑PKiKP	PKiKP	09 47 35.9	-0.7
	baz=141						
121A	Cookes Peak, D	140.97	39	⇑PKiKP	PKiKP	09 47 35.9	-0.7
	baz=141						
Z22A	Elephant Butte	140.98	37	⇑PKiKP	PKiKP	09 47 35.9	-0.7
	baz=141						
Z22A	Elephant Butte	140.98	37	⇑PKiKP	PKiKP	09 47 35.9	-0.7
	baz=141						
320A	Kipp Ranch, An	141.28	41	⇑PKiKP	PKiKP	09 47 36.4	-0.8
	baz=141						
320A	Kipp Ranch, An	141.28	41	⇑PKiKP	PKiKP	09 47 36.4	-0.8
	baz=141						
Y24A	Capitan	141.40	35	⇑PKiKP	PKiKP	09 47 37.0	-0.5
	baz=141						
Y24A	Capitan	141.40	35	⇑PKiKP	PKiKP	09 47 37.0	-0.5
	baz=141						
V27A	Dan Oppiter Fa	141.43	30	⇓PKiKP	PKiKP	09 47 37.0	-0.4
	baz=141						
V27A	Dan Oppiter Fa	141.43	30	⇓PKiKP	PKiKP	09 47 37.0	-0.4
	baz=141						
Y25A	Mesa, Roswell	141.83	34	⇓PKiKP	PKiKP	09 47 38.2	-0.1
	baz=142						
Y25A	Mesa, Roswell	141.83	34	⇓PKiKP	PKiKP	09 47 38.2	-0.1
	baz=142						
W27A	Bowe Ranch, En	141.85	31	⇑PKiKP	PKiKP	09 47 38.2	-0.1
	baz=142						
W27A	Bowe Ranch, En	141.85	31	⇑PKiKP	PKiKP	09 47 38.2	-0.1
	baz=142						
Z24A	Sheeppen Canyo	141.87	36	⇑PKiKP	PKiKP	09 47 38.1	-0.4
	baz=142						
Z24A	Sheeppen Canyo	141.87	36	⇑PKiKP	PKiKP	09 47 38.1	-0.4
	baz=142						
Z25A	Roswell	142.28	35	⇓PKiKP	PKiKP	09 47 39.0	-0.2
	baz=142						
Z25A	Roswell	142.28	35	⇓PKiKP	PKiKP	09 47 39.0	-0.2
	baz=142						
Z27A	Tatum	143.10	33	⇓PKPdf	PKPdf	09 47 35.8	-1.9
	baz=143						
Z27A	Tatum	143.10	33	⇓PKPdf	PKPdf	09 47 35.8	-1.9
	baz=143						
CPUP	Villa Florida	143.26	215	PKP	PKPdf	09 47 38.3	+0.4
CPUP	Villa Florida	143.26	215	PKP	PKPdf	09 47 38.3	+0.4
	comp=Z,0.3nm,0.3s,baz=102,slow=8.4,SNR=3.1						
W31A	Holland Ranch,	143.29	28	⇓PKPdf	PKPdf	09 47 35.9	-1.9
	baz=143						
W31A	Holland Ranch,	143.29	28	⇓PKPdf	PKPdf	09 47 35.9	-1.9
	baz=143						
226B	Tecolote Peak,	143.47	36	⇓PKPdf	PKPdf	09 47 36.9	-1.4
	baz=143						
226B	Tecolote Peak,	143.47	36	⇓PKPdf	PKPdf	09 47 36.9	-1.4
	baz=143						
CFAA	Coronel Fontan	143.50	197	PKP	PKPdf	09 47 36.3	-2.0
CFAA	Coronel Fontan	143.50	197	PKP	PKPdf	09 47 36.3	-2.0
	comp=Z,0.1nm,0.4s,baz=124,slow=3.8,SNR=3.7						
127A	Arkansas Junct	143.50	34	⇑PKPdf	PKPdf	09 47 37.2	-1.2
	baz=143						
127A	Arkansas Junct	143.50	34	⇑PKPdf	PKPdf	09 47 37.2	-1.2
	baz=143						
325A	Bean Ranch, Si	143.50	37	⇓PKPdf	PKPdf	09 47 37.1	-1.4
	baz=143						
325A	Bean Ranch, Si	143.50	37	⇓PKPdf	PKPdf	09 47 37.1	-1.4
	baz=143						
Y29A	Porterfield Fa	143.51	31	⇓PKPdf	PKPdf	09 47 37.1	-1.2
	baz=143						
Y29A	Porterfield Fa	143.51	31	⇓PKPdf	PKPdf	09 47 37.1	-1.2
	baz=143						
Z28A	Tucker Farm, M	143.57	33	⇓PKPdf	PKPdf	09 47 37.0	-1.4
	baz=144						
Z28A	Tucker Farm, M	143.57	33	⇓PKPdf	PKPdf	09 47 37.0	-1.4
	baz=144						
X31A	McDonald Ranch	143.73	29	⇑PKPdf	PKPbc	09 47 36.6	+0.6
	baz=144						
X31A	McDonald Ranch	143.73	29	⇑PKPdf	PKPbc	09 47 36.6	+0.6
	baz=144						
Y30A	Stafford Cattl	143.89	30	⇑PKPdf	PKPdf	09 47 37.3	-1.6
	baz=144						
Y30A	Stafford Cattl	143.89	30	⇑PKPdf	PKPdf	09 47 37.3	-1.6
	baz=144						
425A	Indio Mountain	143.90	38	⇑PKPdf	PKPdf	09 47 38.1	-1.0
	baz=144						
425A	Indio Mountain	143.90	38	⇑PKPdf	PKPdf	09 47 38.1	-1.0
	baz=144						
Z29A	Hungry Hill Ra	143.96	32	⇓PKPdf	PKPdf	09 47 37.7	-1.4
	baz=144						
Z29A	Hungry Hill Ra	143.96	32	⇓PKPdf	PKPdf	09 47 37.7	-1.4
	baz=144						
128A	Castleberry Fa	144.03	33	⇓PKPdf	PKPdf	09 47 37.9	-1.4
	baz=144						
128A	Castleberry Fa	144.03	33	⇓PKPdf	PKPdf	09 47 37.9	-1.4
	baz=144						
227A	Bennet, Jal	144.03	35	⇑PKPdf	PKPdf	09 47 37.9	-1.3
	baz=144						
227A	Bennet, Jal	144.03	35	⇑PKPdf	PKPdf	09 47 37.9	-1.3
	baz=144						
326A	Caldwell Ranch	144.13	36	⇑PKPdf	PKPdf	09 47 38.2	-1.3
	baz=144						
326A	Caldwell Ranch	144.13	36	⇑PKPdf	PKPdf	09 47 38.2	-1.3
	baz=144						
Y31A	Rekieta Farm,	144.14	29	⇓PKPdf	PKPdf	09 47 38.2	-1.1
	baz=144						
Y31A	Rekieta Farm,	144.14	29	⇓PKPdf	PKPdf	09 47 38.2	-1.1
	baz=144						
WMOK	Wichita Mounta	144.20	27	*e*PKIKP	PKPbc	09 47 37.2	-0.3
WMOK	Wichita Mounta	144.20	27	*e*P	PKPbc	09 47 37.2	-0.3
Z30A	Sanderson Ranc	144.24	31	⇑PKPdf	PKPdf	09 47 38.1	-1.4
	baz=144						
Z30A	Sanderson Ranc	144.24	31	⇑PKPdf	PKPdf	09 47 38.1	-1.4
	baz=144						
228A	UT Block 9, Go	144.34	34	⇓PKPdf	PKPdf	09 47 38.7	-1.1
	baz=144						
228A	UT Block 9, Go	144.34	34	⇓PKPdf	PKPdf	09 47 38.7	-1.1
	baz=144						
TUL1	Tulsa	144.44	22	⇓PKPdf	PKPbc	09 47 38.1	0.0
	baz=144						
TUL1	Tulsa	144.44	22	⇓PKPdf	PKPbc	09 47 38.1	0.0
	baz=144						
Y32A	R-V Farms, Ver	144.50	28	⇓PKPdf	PKPbc	09 47 38.4	-0.1
	baz=144						
Y32A	R-V Farms, Ver	144.50	28	⇓PKPdf	PKPbc	09 47 38.4	-0.1
	baz=144						
426A	McDonald Obser	144.57	37	⇓PKPdf	PKPdf	09 47 39.7	-0.7
	baz=144						
426A	McDonald Obser	144.57	37	⇓PKPdf	PKPdf	09 47 39.7	-0.7
	baz=144						
Z31A	Sharp Cattle R	144.71	30	⇑PKPdf	PKPdf	09 47 39.4	-1.0
	baz=145						
Z31A	Sharp Cattle R	144.71	30	⇑PKPdf	PKPdf	09 47 39.4	-1.0
	baz=145						
SIUC	Southern Illin	144.75	13	*e*PKPdf	PKPdf	09 47 39.6	-0.7
328A	Wristen Ranch,	144.77	35	⇓PKPdf	PKPdf	09 47 40.2	-0.4
	baz=145						
328A	Wristen Ranch,	144.77	35	⇓PKPdf	PKPdf	09 47 40.2	-0.4
	baz=145						
WCI	Wyandotte Cave	144.80	9	*e*PKIKP	PKPbc	09 47 39.2	-0.1
WCI	Wyandotte Cave	144.80	9	*e*PKPdf	PKPbc	09 47 39.2	0.0
427A	Hayter Ranch,	144.81	36	⇑PKPdf	PKPdf	09 47 40.0	-0.6
	baz=145						
427A	Hayter Ranch,	144.81	36	⇑PKPdf	PKPdf	09 47 40.0	-0.6
	baz=145						
130A	Snyder	144.86	32	⇓PKPdf	PKPdf	09 47 39.9	-0.7
	baz=145						
130A	Snyder	144.86	32	⇓PKPdf	PKPdf	09 47 39.9	-0.7
	baz=145						
229A	Bryant Ranch,	144.89	33	⇑PKPdf	PKPdf	09 47 40.1	-0.6
	baz=145						
229A	Bryant Ranch,	144.89	33	⇑PKPdf	PKPdf	09 47 40.1	-0.6
	baz=145						
526A	Mary Lane Ranc	144.96	38	⇑PKPdf	PKPdf	09 47 40.9	-0.2
	baz=145						
526A	Mary Lane Ranc	144.96	38	⇑PKPdf	PKPdf	09 47 40.9	-0.2
	baz=145						
Z32A	Haskell	145.05	29	⇓PKPdf	PKPdf	09 47 40.5	-0.4
	baz=145						
Z32A	Haskell	145.05	29	⇓PKPdf	PKPdf	09 47 40.5	-0.4
	baz=145						
131A	Roby	145.10	31	⇑PKPdf	PKPdf	09 47 40.9	-0.2
	baz=145						
131A	Roby	145.10	31	⇑PKPdf	PKPdf	09 47 40.9	-0.2
	baz=145						
329A	Wagon Wheel Ra	145.16	34	⇑PKPdf	PKPdf	09 47 41.4	+0.2
	baz=145						
329A	Wagon Wheel Ra	145.16	34	⇑PKPdf	PKPdf	09 47 41.4	+0.2
	baz=145						
527A	Woodward Ranch	145.19	38	⇓PKPdf	PKPdf	09 47 41.7	+0.3
	baz=145						
527A	Woodward Ranch	145.19	38	⇓PKPdf	PKPdf	09 47 41.7	+0.3
	baz=145						
626A	Big Bend Ranch	145.28	39	⇓PKPdf	PKPdf	09 47 42.1	+0.5
	baz=145						
626A	Big Bend Ranch	145.28	39	⇓PKPdf	PKPdf	09 47 42.1	+0.5
	baz=145						
428A	Kincaid Ranch,	145.32	36	⇓PKPdf	PKPdf	09 47 42.1	+0.5
	baz=145						
428A	Kincaid Ranch,	145.32	36	⇓PKPdf	PKPdf	09 47 42.1	+0.5
	baz=145						
230A	Sterling City	145.33	33	⇓PKPdf	PKPdf	09 47 41.6	+0.1
	baz=145						
230A	Sterling City	145.33	33	⇓PKPdf	PKPdf	09 47 41.6	+0.1
	baz=145						
ABTX	Abilene, Hawle	145.52	30	⇓PKPdf	PKPab	09 47 41.9	-0.1
	baz=145						
ABTX	Abilene, Hawle	145.52	30	⇓PKPdf	PKPab	09 47 41.9	-0.1
	baz=145						
PARMO	Parma	145.64	14	*e*PKPdf	PKPab	09 47 42.0	-0.2
TXAR	Lajitas Array	145.73	39	PKPbc	PKPab	09 47 43.5	+0.5
TXAR	Lajitas Array	145.73	39	PKPbc	PKPab	09 47 43.5	+0.5
	comp=Z,4.7nm,0.6s,baz=267,slow=0.9,SNR=82						
529A	Stev Forest Ra	146.04	36	⇓PKiKP	PKPab	09 47 44.5	+0.5
	baz=146						
529A	Stev Forest Ra	146.04	36	⇓PKiKP	PKPab	09 47 44.5	+0.5
	baz=146						
628A	Black Gap, Mar	146.10	38	⇑PKiKP	PKPab	09 47 44.8	+0.5
	baz=146						
628A	Black Gap, Mar	146.10	38	⇑PKiKP	PKPab	09 47 44.8	+0.5
	baz=146						
232A	Coleman	146.10	31	⇓PKiKP	PKPab	09 47 44.5	+0.3
	baz=146						
232A	Coleman	146.10	31	⇓PKiKP	PKPab	09 47 44.5	+0.3
	baz=146						
430A	Baggett Ranch,	146.11	34	⇑PKiKP	PKPab	09 47 44.3	0.0
	baz=146						
430A	Baggett Ranch,	146.11	34	⇑PKiKP	PKPab	09 47 44.3	0.0
	baz=146						
331A	San Angelo	146.15	33	⇑PKiKP	PKPab	09 47 44.6	+0.1
	baz=146						
331A	San Angelo	146.15	33	⇑PKiKP	PKPab	09 47 44.6	+0.1
	baz=146						
332A	Millersview	146.45	32	⇓PKiKP	PKPab	09 47 45.6	0.0
	baz=146						
332A	Millersview	146.45	32	⇓PKiKP	PKPab	09 47 45.6	0.0
	baz=146						
530A	J-C Ranch, Com	146.53	35	⇑PKiKP	PKPab	09 47 45.8	-0.1
	baz=146						
530A	J-C Ranch, Com	146.53	35	⇑PKiKP	PKPab	09 47 45.8	-0.1
	baz=146						
431A	Sonora	146.53	33	⇑PKiKP	PKPab	09 47 45.7	-0.2
	baz=146						
431A	Sonora	146.53	33	⇑PKiKP	PKPab	09 47 45.7	-0.2
	baz=146						
WVT	Waverly	146.57	12	*e*PKP2	PKPbc	09 47 44.8	0.0
WVT	Waverly	146.57	12	*e*PKPbc	PKPbc	09 47 44.8	0.0
TZTN	Tazewell	146.80	5	*e*PKPbc	PKPbc	09 47 45.3	-0.2
432A	Menard	146.83	32	⇑PKiKP	PKPab	09 47 46.5	-0.6
	baz=147						
432A	Menard	146.83	32	⇑PKiKP	PKPab	09 47 46.5	-0.6
	baz=147						
531A	Rocksprings	146.97	34	⇑PKiKP	PKPab	09 47 47.1	-0.5
	baz=147						
531A	Rocksprings	146.97	34	⇑PKiKP	PKPab	09 47 47.1	-0.5
	baz=147						
JCT	Junction City	147.13	33	*e*PKP2	PKPdf	09 47 44.7	+0.2
JCT	Junction City	147.13	33	*e*PKPdf	PKPdf	09 47 44.7	+0.2
JCT				*e*PKPbc	PKPab	09 47 47.5	-0.7
JCT				*e*PKPab	PKiKP	09 47 48.8	-0.3
JCT	Junction City	147.13	33	⇓PKiKP	PKPab	09 47 47.5	-0.7
	baz=147						
JCT	Junction City	147.13	33	⇓PKiKP	PKPab	09 47 47.5	-0.7
	baz=147						
532A	Rocksprings	147.35	33	⇑PKiKP	PKPab	09 47 48.0	-1.2
	baz=147						
532A	Rocksprings	147.35	33	⇑PKiKP	PKPab	09 47 48.0	-1.2
	baz=147						
631A	Perdido Creek	147.52	35	⇑PKiKP	PKPab	09 47 48.4	-1.3
	baz=147						
631A	Perdido Creek	147.52	35	⇑PKiKP	PKPab	09 47 48.4	-1.3
	baz=147						
TKL	Tuckaleechee C	147.65	6	*e*PKPbc	PKPbc	09 47 47.1	-0.8
TKL				*e*PKPab	PKPab	09 47 50.4	+0.3
CPCT	Cooper Cave	147.78	7	*e*PKPdf	PKPdf	09 47 46.0	+0.6
CPCT				*e*PKPbc	PKPbc	09 47 48.3	+0.1
632A	Uvalde	147.89	34	⇑PKiKP	PKiKP	09 47 49.6	-1.1
	baz=148						
632A	Uvalde	147.89	34	⇑PKiKP	PKiKP	09 47 49.6	-1.1
	baz=148						
LVC	Limon Verde	152.04	202	*e*PKPbc	PKPbc	09 48 00.1	+0.7
SIV	San Ignacio	153.21	224	PKPbc	PKPbc	09 48 00.8	-1.0
SIV	San Ignacio	153.21	224	PKPbc	PKPbc	09 48 00.8	-1.0
	comp=Z,1.0nm,0.6s,baz=152,slow=5.0,SNR=4.6						

*ISCJB **28** 09:33:24.7±0.6, 37°.67N±0°.07×95°.81E±0°.09, h12km, mb3.7/6, Error ellipse: s-maj=10.6km s-min=9.7km az=166.2*
*IDC **28** 09:33:24.8±0.8, 37°.65N×95°.90E, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.7/30, mbtmp3.7/10, ML3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=32.1km s-min=18.7km az=58.0*
*BJI **28** 09:33:27.4, 37°.65N×95°.73E, h7km, ML3.5/6, Ms3.5/2, Ms7 3.2/2*

ISC 28 09:33:26.4±0.8, 37°.67N±0°.09×95°.89E±0°.07, h12km, n12, σ1§44/15, mb3.9/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.53**	**59**	Pn	**Pb**	**09 34 26.5**	**-2.4**
GTA				Pg	**Pg**	**09 34 32.3**	**-1.8**
GTA				Sn	**Sn**	**09 35 05.0**	**+2.0**
GTA				Sg	**Sb**	**09 35 13.5**	**+1.7**
GTA				smax	smax		
	comp=N,43nm,0.7s						
GTA				smax	smax		
	comp=E,33nm,0.9s						
GTA				LR	LR		
	comp=N,510nm,8.1s						
GTA				LR	LR		
	comp=E,300nm,6.6s						
GTA				LR	LR		
	comp=Z,220nm,9.0s						
WMQ	**Urumqi**	**8.74**	**317**	*e*P	**Pn**	**09 35 33.3**	**+0.7**
SONM	**Songino Array**	**12.74**	**34**	Pn	**Pn**	**09 36 29.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=219,slow=16,SNR=5.6						
SONM				LR	LR	09 41 55.0	
	comp=Z,68nm,20.3s,baz=229,slow=40						
MKAR	**Makanchi Array**	**13.57**	**316**	Pn	**Pn**	**09 36 36.6**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=124,slow=14,SNR=28						
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**P**	**09 37 37.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=3.6						
CMAR	**Chiang Mai Arr**	**19.33**	**171**	P	**Pn**	**09 37 53.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=342,slow=9.8,SNR=6.7						
BRTR	**Keskin Array B**	**47.75**	**293**	P	**P**	**09 42 03.8**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=99,slow=

AVNT				*i* S	Sn	09 50 48.6	-0.1
DARE	**Darende-Malaty**	**1.78**	**51**	*e*PN	Pn	09 50 34.6	+0.9
SULT	**Sultanhani-AKS**	**1.89**	**293**	*e*PN	Pn	09 50 35.2	0.0
SULT	**Sultanhani-AKS**	**1.89**	**293**	*e*Pn	Pn	09 50 35.2	0.0
AKCD	**Akcadag**	**1.93**	**64**	*e*P	Pn	09 50 36.1	+0.2
AKCD				*e*S	Sb	09 51 02.4	0.0
AKCD	**Akcadag**	**1.93**	**64**	*e*P	Pn	09 50 36.1	+0.2
AKCD				*e*S	Sb	09 51 02.4	0.0
IKL	**Isikli**	**2.04**	**234**	*e*PN	Pn	09 50 38.5	+1.3
IKL	**Isikli**	**2.04**	**234**	*e*Pn	Pn	09 50 38.5	+1.3
YOZ	**Yozgat**	**2.19**	**352**	*e*PN	Pn	09 50 40.8	+1.4
YOZ	**Yozgat**	**2.19**	**352**	*e*Pn	Pn	09 50 40.8	+1.4
MALT	**Malatya**	**2.31**	**68**	*e*PN	Pn	09 50 42.1	+1.1
MALT	**Malatya**	**2.31**	**68**	*e*Pn	Pn	09 50 42.1	+1.1
HDMB	**Hadim**	**2.63**	**260**	*e*PN	Pn	09 50 46.5	+1.0
HDMB	**Hadim**	**2.63**	**260**	*e*Pn	Pn	09 50 46.5	+1.0
SVSK	**Karacayir**	**2.65**	**22**	*e*PN	Pn	09 50 47.4	+1.9
SVSK	**Karacayir**	**2.65**	**22**	*e*Pn	Pn	09 50 47.4	+1.9
LADK	**Ladik-KONYA**	**2.75**	**286**	*e*PN	Pn	09 50 48.5	+1.4
LADK	**Ladik-KONYA**	**2.75**	**286**	*e*Pn	Pn	09 50 48.5	+1.4
CORM	**Corum**	**2.84**	**343**	*e*PN	Pn	09 50 49.8	+1.5
CORM	**Corum**	**2.84**	**343**	*e*Pn	Pn	09 50 49.8	+1.5
ILIC	**ilic-Erzincan**	**2.99**	**48**	*e*PN	Pn	09 50 52.1	+1.7
ILIC	**ilic-Erzincan**	**2.99**	**48**	*e*Pn	Pn	09 50 52.1	+1.7
PTK	**Pertek**	**3.23**	**63**	*e*PN	Pn	09 50 55.8	+2.1
PTK	**Pertek**	**3.23**	**63**	*e*Pn	Pn	09 50 55.8	+2.1
SUTC	**Sutluce-Ispart**	**3.75**	**272**	*e*PN	Pn	09 51 02.9	+2.0
SUTC	**Sutluce-Ispart**	**3.75**	**272**	*e*Pn	Pn	09 51 02.9	+2.0

IDC 28 10:10:49.8±9.1, 18°.55S×176°.63W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, Error ellipse: s-maj=399.7km s-min=38.7km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.18**	**260**	P	P	10 19 16.4	-0.4
	0.6nm,0.4s,baz=96,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**46.25**	**255**	P	P	10 19 17.5	+0.2
	1.3nm,0.7s,baz=89,slow=7.8,SNR=23						
ILAR	**Eielson Array**	**86.14**	**12**	P	P	10 23 32.4	0.0
	0.4nm,1.1s,baz=218,slow=4.7,SNR=4.4						

*IDC **28** 10:13:56.6±0.4, 37°.69N×95°.85E, h0km, mb4.5/29, mb1 4.6/32, mb1mx4.6/34, mbtmp4.5/32, ML4.4/3, MS3.5/9, Ms1 3.6/9, ms1mx3.3/36, Error ellipse: s-maj=15.0km s-min=10.2km az=37.0*

*ISCJB **28** 10:13:57.3±0.1, 37°.68N±0°.02×95°.74E±0°.02, h12km, mb4.7/96, MS3.6/6, Error ellipse: s-maj=3.4km s-min=2.6km az=11.3*

*NEIC **28** 10:13:58.7±0.2, 37°.70N×95°.73E, h10km, mb4.8/30, Error ellipse: s-maj=5.8km s-min=4.2km az=42.0*

*BJI **28** 10:13:59.0, 37°.67N×95°.79E, h7km, mB4.7/18, mb4.7/31, ML4.6/7, Ms4.4/33, Ms7 4.2/28*

*MOS **28** 10:13:59.4±0.8, 37°.68N×95°.74E, h28km, mb4.9/49, Error ellipse: s-maj=7.8km s-min=4.5km az=126.1*

*NNC **28** 10:14:01.1±5.8, 38°.84N×96°.30E, h0km, mb4.7, Error ellipse: s-maj=201.5km s-min=58.0km az=45.0*

*DJA **28** 10:14:01.9±0.3, 38°N±5°×9°6E±°, h15km, M4.7/12, mB5.2/6, mb4.8/12, Mw(mB)4.6/6*

*SZGRF **28** 10:14:06.6, 37°.80N×95°.16E, h33km, mb5.0, Qinghai, China*

ISC 28 10:13:59.2±0.3, 37°.72N±0°.04×95°.79E±0°.03, h12km, n310, σ1§35/342, mb4.8/101, MS3.5/6, 19C-11D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.58**	**61**	Pn	**Pn**	**10 14 57.0**	**+2.4**
GTA				Pg	**Pb**	**10 15 04.0**	**+1.6**
GTA				Sn	**Sn**	**10 15 37.5**	**+0.7**
GTA				Sg	**Sb**	**10 15 46.8**	**+1.0**
GTA				smax	smax		
	comp=N,540nm,0.7s						
GTA				smax	smax		
	comp=E,500nm,0.7s						
GTA				LR	LR		
	comp=N,3μm,9.5s						
GTA				LR	LR		
	comp=E,3μm,6.7s						
GTA				LR	LR		
	comp=Z,2μm,8.5s						
LZH	**Lanzhou**	**6.66**	**102**	⇓Pn	**Pn**	**10 15 37.5**	**+0.6**
LZH				Pg	Pb	10 15 59.5	+4.6
LZH				Sn	**Sn**	**10 16 53.8**	**+1.0**
LZH				Sg	**Sg**	**10 17 28.8**	**-4.0**
LZH				smax	smax		
	comp=N,490nm,1.0s						
LZH				smax	smax		
	comp=E,400nm,0.8s						
LZH				LR	LR		
	comp=N,2μm,4.0s						
LZH				LR	LR		
	comp=E,1μm,5.6s						
LZH				LR	LR		
	comp=Z,2μm,5.7s						
WMQ	**Urumqi**	**8.65**	**317**	P	**Pn**	**10 16 04.5**	**+0.4**
WMQ				sP		10 16 10.0	
WMQ				LR	LR		
	comp=N,380nm,17.0s						
WMQ				LR	LR		
	comp=E,280nm,16.0s						
LSA	**Lhasa**	**8.88**	**207**	P	**Pn**	**10 16 09.5**	**+1.7**
LSA	**Lhasa**	**8.88**	**207**	*e*P	**Pn**	**10 16 09.3**	**+1.5**
LSA				*e*		10 17 47.6	
LSA				pmax	pmax		
	comp=Z,45nm,1.0s						
LSA	**Lhasa**	**8.88**	**207**	*e*Pn	**Pn**	**10 16 09.2**	**+1.5**
	comp=Z,45nm,1.0s						
LSA				*e*Sn	**Sn**	**10 17 47.6**	**-0.4**
CD2	**Chengdu**	**9.46**	**134**	P	**Pn**	**10 16 18.3**	**+3.0**
CD2				pP		10 16 21.5	
CD2				sP		10 16 24.3	
CD2				PP	**PnPn**	**10 16 26.3**	**+3.4**
CD2				S	Sn	10 18 08.8	+7.1
CD2				sS		10 18 11.5	
CD2				SS	**SnSn**	**10 18 20.0**	**+6.7**
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
CD2				pmax	pmax		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,1μm,7.2s						
CD2				LR	LR		
	comp=E,1μm,8.2s						
CD2				LR	LR		
	comp=Z,1μm,7.2s						
XAN	**Xi'an**	**11.27**	**105**	P	Pn	10 16 36.3	-3.7
XAN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
XAN				LR	LR		
	comp=N,350nm,8.2s						
XAN				LR	LR		
	comp=E,170nm,9.1s						
XAN				LR	LR		
	comp=Z,190nm,9.1s						
BTO	**Baotou**	**11.42**	**71**	*e*P	**Pn**	**10 16 41.5**	**-0.6**
SHL	**Shillong**	**12.56**	**196**	*e*P	**Pn**	**10 16 55.0**	**-2.9**
SHL				*ex*	x	10 21 26.0	
HHC	**Hu-ho-hao-te**	**12.61**	**71**	*e*P	**Pn**	**10 16 57.5**	**-1.0**
HHC				PP	**P**	**10 17 08.5**	**-1.5**
HHC				S	**Sn**	**10 19 20.0**	**+1.1**
HHC				SS	**SnSn**	**10 19 33.3**	**+2.4**
HHC				PcS	**PcS**	**10 26 07.3**	**-3.4**
HHC				ScS	**ScS**	**10 29 41.3**	**-4.2**
HHC				LR	LR		
	comp=N,890nm,9.5s						
HHC				LR	LR		
	comp=E,490nm,8.9s						
HHC				LR	LR		
	comp=Z,690nm,10.1s						
SONM	**Songino Array**	**12.75**	**34**	Pn	**Pn**	**10 17 01.8**	**+1.5**
SONM	**Songino Array**	**12.75**	**34**	Pn	**Pn**	**10 17 01.8**	**+1.5**
	comp=Z,4.5nm,0.3s,baz=219,slow=14,SNR=68						
SONM				LR	LR	10 22 13.9	
	comp=Z,518nm,19.3s,baz=222,slow=39						
GUN	**Gumba**	**12.84**	**223**	*e*P	**Pn**	**10 17 02.0**	**+0.1**
	comp=Z,80nm,1.2s						
JIRN	**Jiri**	**12.88**	**222**	*e*P	**Pn**	**10 17 01.4**	**-1.0**
	comp=Z,65nm,0.8s						
ODAN	**Odare**	**12.95**	**216**	*e*P	**Pn**	**10 17 05.8**	**+2.6**
ULN	**Ulaanbaatar**	**13.07**	**36**	*e*Pn	**Pn**	**10 17 07.7**	**+3.0**
ULN	**Ulaanbaatar**	**13.07**	**36**	P	Pn	10 17 07.9	+3.2
	comp=Z,27nm,0.8s,comp=Z,328nm						
RAMN	**Ramite**	**13.25**	**218**	*e*P	**Pn**	**10 17 07.2**	**-0.1**
KKN	**Kakani**	**13.27**	**225**	*e*P	**Pn**	**10 17 06.5**	**-1.1**
	comp=Z,11nm,0.4s						
PKI	**Pulchoki**	**13.37**	**224**	*e*P	**Pn**	**10 17 08.2**	**-0.8**
	comp=Z,55nm,1.1s						
PKIN	**Phulchoki**	**13.37**	**224**	*e*P	**Pn**	**10 17 08.5**	**-0.5**
	comp=Z,20nm,0.7s						
MK31	**Makanchi Array**	**13.48**	**317**	⇓Pn	**Pn**	**10 17 08.2**	**-2.0**
	comp=Z,13nm,0.5s,baz=122,slow=14,SNR=329						
MK31				⇑Sn	**Sn**	**10 19 38.4**	**-1.5**
	comp=Z,26nm,0.9s,baz=110,slow=27,SNR=7.8						
MK31	**Makanchi Array**	**13.48**	**317**	*e*P	**Pn**	**10 17 08.0**	**-2.2**
MK31				*e*		10 19 38.4	
MK31	**Makanchi Array**	**13.48**	**317**	*e*Pn	**Pn**	**10 17 08.0**	**-2.2**
MK31				*e*Sn	**Sn**	**10 19 38.4**	**-1.5**
MKAR	**Makanchi Array**	**13.48**	**317**	*e*P	**Pn**	**10 17 08.2**	**-2.0**
MKAR						10 19 37.9	
MKAR	**Makanchi Array**	**13.48**	**317**	*e*Pn	**Pn**	**10 17 08.2**	**-2.0**
MKAR				Sn	**Sn**	**10 19 37.9**	**-2.0**
MKAR	**Makanchi Array**	**13.48**	**317**	Pn	**Pn**	**10 17 08.1**	**-2.1**
	comp=Z,5.8nm,0.3s,baz=128,slow=14,SNR=134						
MKAR				Sn	**Sn**	**10 19 37.9**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=125,slow=25,SNR=8.0						
MKAR				LR	LR	10 22 50.3	
	comp=Z,142nm,18.0s,baz=121,slow=39						
DMN	**Daman**	**13.51**	**225**	*e*P	**Pn**	**10 17 09.8**	**-1.0**
	comp=Z,99nm,1.4s						
ENH	**Enshi**	**13.57**	**119**	*e*Pn	**Pn**	**10 17 10.2**	**-1.2**
	comp=Z,77nm,1.0s						
DANN	**Dangsing**	**13.74**	**231**	*e*P	Pn	10 17 17.7	+3.6
ZAK	**Zakamensk**	**13.74**	**21**	*e*P	**Pn**	**10 17 16.9**	**+3.1**
ZAK				pmax	pmax		
	comp=Z,50nm,1.2s						
KMI	**Kunming**	**13.88**	**153**	P	P	10 17 20.0	-4.3
KMI				S	**Sn**	**10 19 55.0**	**+4.8**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				LR	LR		
	comp=N,350nm,6.0s						
KMI				LR	LR		
	comp=E,420nm,6.0s						
MOY	**Mondy**	**14.42**	**13**	*e*P	P	10 17 33.8	+3.8
MOY				pmax	pmax		
	comp=Z,67nm,1.6s						
GYA	**Guiyang**	**14.51**	**138**	⇓*i*P	**Pn**	**10 17 22.5**	**-2.0**
GYA				PP	**PnPn**	**10 17 33.8**	**+1.4**
GYA				S	**Sn**	**10 20 02.0**	**-3.4**
GYA				PcP	**PcP**	**10 22 40.5**	**+1.4**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.4s						
GYA				LR	LR		
	comp=N,2μm,12.1s						
GYA				LR	LR		
	comp=E,2μm,9.0s						
GYA				LR	LR		
	comp=Z,2μm,7.5s						
TLY	**Talaya**	**15.02**	**19**	*e*P	**P**	**10 17 35.5**	**-1.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,395nm,9.0s						
KSH	**Kashi**	**15.60**	**283**	P	**Pn**	**10 17 40.3**	**+1.4**
KSH				sP	**sP**	**10 17 47.3**	**-0.8**
KSH				PP	**PnPn**	**10 17 52.3**	**+5.2**
KSH				S	**Sn**	**10 20 33.0**	**+1.4**
KSH				sS	S	10 20 38.0	-9.1
KSH				SS	**SnSn**	**10 20 51.0**	**+6.7**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,110nm,3.2s						
KSH				LR	LR		
	comp=N,290nm,3.7s						
KSH				LR	LR		
	comp=E,220nm,3.0s						
KSH				LR	LR		
	comp=Z,190nm,4.2s						
ULHL	**Ulahol**	**15.64**	**293**	*i* P	**Pn**	**10 17 37.4**	**-2.2**
ULHL	**Ulahol**	**15.64**	**293**	P	**Pn**	**10 17 37.4**	**-2.2**
	SNR=5.2						
IRK	**Irkutsk**	**15.69**	**20**	*e*P	**Pn**	**10 17 41.3**	**+1.3**
IRK				pmax	pmax		
	comp=Z,162nm,1.3s						
BJI	**Beijing**	**16.04**	**75**	P	**Pn**	**10 17 45.3**	**+0.8**
BJI				S	**Sn**	**10 20 44.8**	**+2.5**
BJI				pmax	pmax		
	comp=Z,62nm,1.2s						
BJI				pmax	pmax		
	comp=Z,220nm,3.8s						
BJI				LR	LR		
	comp=N,520nm,18.5s						
BJI				LR	LR		
	comp=E,290nm,19.2s						
TKM2	**Tokmak 2**	**16.24**	**295**	⇓P	**Pn**	**10 17 45.1**	**-2.2**
	comp=E,47nm,0.8s						
TKM2	**Tokmak 2**	**16.24**	**295**	*i* P	**Pn**	**10 17 45.7**	**-1.6**
TKM2	**Tokmak 2**	**16.24**	**295**	P	**Pn**	**10 17 45.7**	**-1.6**
	SNR=29						
TKM2	**Tokmak 2**	**16.24**	**295**	*e*Pn	**Pn**	**10 17 45.3**	**-2.0**
	comp=E,45nm,0.8s						
TKM2				*e*Sn	Sn	10 20 39.5	-8.0
KZA	**Kyzart**	**16.34**	**292**	*i* P	**Pn**	**10 17 47.9**	**-0.9**
KZA	**Kyzart**	**16.34**	**292**	P	**Pn**	**10 17 47.9**	**-0.9**
	SNR=6.2						
KBK	**Karagaybulak**	**16.66**	**294**	*i* P	**Pn**	**10 17 51.5**	**-1.1**
KBK	**Karagaybulak**	**16.66**	**294**	P	**Pn**	**10 17 51.5**	**-1.1**
	SNR=7.8						
DHRM	**DHARAMSHALA**	**16.87**	**257**	*e*P	Pn	10 17 43.2	-12
DHRM				AMB	AMB	10 18 03.1	
	comp=Z,53nm,2.6s						
FRU	**Bishkek**	**16.93**	**294**	*e*P	**Pn**	**10 17 54.0**	**-1.9**
WHN	**Wuhan**	**16.94**	**110**	P	**P**	**10 17 58.3**	**+0.4**
WHN				S	**S**	**10 21 10.0**	**-4.3**
WHN				LR	LR		
	comp=N,770nm,10.9s						
WHN				LR	LR		
	comp=E,930nm,8.2s						
WHN				LR	LR		
	comp=Z,1μm,9.1s						
AAK	**Ala-Archa**	**16.98**	**293**	*ce*P	**Pn**	**10 17 55.9**	**-0.8**
AAK	**Ala-Archa**	**16.98**	**293**	P	**Pn**	**10 17 56.4**	**-0.3**
	SNR=10						
AAK	**Ala-Archa**	**16.98**	**293**	*e*Pn	**Pn**	**10 17 55.1**	**-1.6**
	comp=Z,20nm,1.0s						
AAK	**Ala-Archa**	**16.98**	**293**	P	**Pn**	**10 17 55.8**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=94,slow=9.1,SNR=15						
AAK				LR	LR	10 24 26.5	
	comp=Z,94nm,19.7s,baz=80,slow=37						
USP	**Ospenovka**	**17.10**	**296**	*i* P	**Pn**	**10 17 56.1**	**-1.9**
USP	**Ospenovka**	**17.10**	**296**	P	**Pn**	**10 17 56.1**	**-1.9**
	SNR=15						
EKS2	**Erkin-Say**	**17.51**	**293**	*e*P	**Pn**	**10 18 03.4**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,14nm,1.0s						
EKS2	**Erkin-Say**	**17.51**	**293**	P	**Pn**	**10 18 03.5**	**+0.3**
	SNR=9.9						
EKS2	**Erkin-Say**	**17.51**	**293**	*e*Pn	**Pn**	**10 18 03.4**	**+0.2**
	comp=Z,14nm,1.0s						
ZAA0	**Zalesovo Array**	**17.90**	**339**	*e*Pn	**Pn**	**10 18 07.5**	**-0.3**
ZALV	**Zalesovo Beam**	**17.90**	**339**	*i* P	**Pn**	**10 18 07.3**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZALV	**Zalesovo Beam**	**17.90**	**339**	P	**Pn**	**10 18 07.1**	**-0.7**
ZALV	**Zalesovo Beam**	**17.90**	**339**	P	**Pn**	**10 18 07.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=152,slow=12,SNR=21						
ZALV				LR	LR	10 25 06.5	
	comp=Z,159nm,18.5s,baz=229,slow=37						
CHTO	**Chiang Mai**	**19.04**	**171**	*e*P	**Pn**	**10 18 21.7**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,34nm,1.6s						
CHTO	**Chiang Mai**	**19.04**	**171**	*e*P	**Pn**	**10 18 21.7**	**-0.2**
	comp=Z,34nm,1.6s						
CHTO	**Chiang Mai**	**19.04**	**171**	P	**Pn**	**10 18 21.8**	**-0.2**
	comp=Z,13nm,1.2s						
NVS	**Novosibirsk**	**19.14**	**337**	*e*P	**P**	**10 18 22.0**	**0.0**
NVS				*e*S	**S**	**10 21 59.3**	**+0.6**
NVS				pmax	pmax		
	comp=Z,31nm,1.1s						
NVS				pmax	pmax		
	comp=N,14nm,0.9s						
NVS				pmax	pmax		
	comp=E,12nm,0.7s						
NVS				smax	smax		
	comp=N,24nm,1.8s						
CM31	**Chiang Mai Arr**	**19.39**	**171**	*e*P	**Pn**	**10 18 26.4**	**+0.2**
	comp=N,6.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.39**	**171**	P	**P**	**10 18 25.4**	**+0.3**
CMAR				PcP	**PcP**	**10 22 46.6**	**0.0**
CMAR	**Chiang Mai Arr**	**19.39**	**171**	P	**P**	**10 18 25.4**	**+0.3**
	comp=N,0.9nm,0.3s,baz=342,slow=10,SNR=40						
CMAR				PcP	**PcP**	**10 22 46.6**	**0.0**
	comp=N,0.4nm,0.3s,baz=311,slow=2.7,SNR=7.9						
CMAR				LR	LR	10 26 26.9	
	comp=N,269nm,18.3s,baz=218,slow=39						
NJ2	**Nanjing**	**19.73**	**100**	*e*P	**P**	**10 18 26.5**	**-2.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2	**Nanjing**	**19.73**	**100**	*e*P	**P**	**10 18 28.5**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KK31	**Karatay Array**	**19.95**	**294**	⇑P	**P**	**10 18 31.4**	**+0.4**
	comp=Z,28nm,1.1s,baz=91,slow=11,SNR=103						
KK31	**Karatay Array**	**19.95**	**294**	*i* P	**P**	**10 18 31.4**	**+0.4**
KK31				pmax	pmax		
	comp=Z,15nm,0.8s						
KKAR	**Karatay Array**	**19.95**	**294**	*e*P	**P**	**10 18 30.4**	**-0.6**
KKAR	**Karatay Array**	**19.95**	**294**	*e*P	**P**	**10 18 30.4**	**-0.6**
HIA	**Hailar**	**20.76**	**49**	*e*P	Pn	10 18 44.0	+1.8
	comp=Z,40nm,1.2s						
PBKT	**Sadao Pong**	**21.56**	**166**	P	**P**	**10 18 47.7**	**-0.8**
	comp=Z,24nm,1.0s,comp=Z,2μm						
SNY	**Shenyang**	**21.71**	**70**	⇑P	**P**	**10 18 50.0**	**+0.1**
SNY				S	Sn	10 22 57.8	-1.2
SNY				pmax	pmax		
	comp=Z,48nm,1.0s						
SNY				pmax	pmax		
	comp=Z,120nm,9.4s						
SNY				LR	LR		
	comp=E,200nm,3.1s						
SNY				LR	LR		
	comp=Z,290nm,8.8s						
KBL	**Kabul**	**21.81**	**270**	*e*P	**P**	**10 18 51.5**	**+0.1**
KBL				pmax	pmax		
	comp=Z,57nm,1.5s						
KBL	**Kabul**	**21.81**	**270**	*e*P	**P**	**10 18 51.5**	**+0.1**
	comp=Z,57nm,1.5s						
QIZ	**Qiongzhong**	**22.30**	**143**	P	**P**	**10 18 56.0**	**-0.5**
QIZ				S	**S**	**10 23 04.0**	**+2.3**
QIZ				pmax	pmax		
	comp=Z,24nm,1.1s						
QIZ				LR	LR		
	comp=Z,110nm,9.3s						
QIZ	**Qiongzhong**	**22.30**	**143**	*e*P	**P**	**10 18 56.0**	**-0.5**
	comp=Z,20nm,0.9s						
VOSK	**Vostochnaya**	**22.87**	**319**	⇓P	**P**	**10 19 02.0**	**-0.3**
	comp=Z,31nm,1.0s						
VOSK	**Vostochnaya**	**22.87**	**319**	P	**P**	**10 19 01.4**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,40nm,1.2s						
CN2	**Changchun**	**23.20**	**65**	*e*P	**P**	**10 19 06.5**	**+0.8**
CN2				*e*sP	**sP**	**10 19 15.3**	**+4.5**
CN2				*e*S	**S**	**10 23 14.8**	**-2.5**
CN2				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,290nm,12.0s						
CN2				LR	LR		
	comp=Z,320nm,16.0s						
QZH	**Quanzhou**	**23.20**	**117**	⇓*i*P	**P**	**10 19 04.0**	**-1.9**
QZH				S	S	10 23 10.0	-7.6
QZH				LR	LR		
	comp=N,370nm,7.5s						
QZH				LR	LR		
	comp=E,430nm,9.3s						
BVA0	**Borovoye Array**	**23.33**	**319**	⇑P	**P**	**10 19 06.8**	**-0.3**
	comp=E,10.0nm,0.7s,baz=118,slow=11,SNR=48						
BVA0	**Borovoye Array**	**23.33**	**319**	*i* P	**P**	**10 19 06.7**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,13nm,0.7s						
BVAR	**Borovoye Array**	**23.33**	**319**	P	**P**	**10 19 06.9**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,139nm,20.0s						
BVAR	**Borovoye Array**	**23.33**	**319**	P	**P**	**10 19 06.9**	**-0.1**
BVAR	**Borovoye Array**	**23.33**	**319**	P	**P**	**10 19 06.9**	**-0.1**
	comp=Z,9.3nm,0.6s,baz=120,slow=12,SNR=36						
BVAR				LR	LR	10 28 40.4	
	comp=Z,138nm,20.0s,baz=117,slow=38						
BRVK	**Borovoye**	**23.40**	**319**	⇑P	**P**	**10 19 07.5**	**-0.3**
	comp=Z,18nm,0.6s						
BRVK	**Borovoye**	**23.40**	**319**	*ce*P	**P**	**10 19 07.8**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,16nm,0.8s						
BRVK	**Borovoye**	**23.40**	**319**	*e*P	**P**	**10 19 07.9**	**+0.2**
	comp=Z,20nm,0.9s						
UBPT	**Khong Chiam**	**23.94**	**156**	P	**P**	**10 19 12.6**	**-0.6**
	comp=Z,50nm,1.0s,comp=Z,660nm						
HYB	**Hyderabad**	**25.27**	**222**	*i* P	**P**	**10 19 25.0**	**-0.4**
KSAR	**Wonju Array Be**	**25.37**	**81**	P	**P**	**10 19 26.2**	**0.0**
KSRS	**Korea Array**	**25.40**	**81**	P	**P**	**10 19 26.2**	**-0.2**
	comp=Z,14nm,0.5s,baz=280,slow=9.3,SNR=57						
KSRS				LR	LR	10 30 15.5	
	comp=Z,84nm,20.2s,baz=280,slow=39						
CHBT	**CHBT**	**25.54**	**165**	P	**P**	**10 19 29.9**	**+2.1**
	comp=Z,26nm,1.1s,comp=Z,1μm						
SSLB	**Suanglung**	**25.60**	**116**	*e*P	**P**	**10 19 28.6**	**+0.2**
	comp=Z,14nm,1.0s						
NACB	**Ninganchiao**	**25.82**	**114**	*e*P	**P**	**10 19 31.6**	**+1.3**
	comp=Z,28nm,1.0s						
YULB	**Yu-li**	**26.09**	**116**	*e*P	**P**	**10 19 33.2**	**+0.4**
	comp=Z,21nm,1.4s						
MDJ	**Mudanjiang**	**26.23**	**64**	P	**P**	**10 19 34.0**	**+0.2**
MDJ				pP	**pP**	**10 19 37.0**	**-0.5**
MDJ				S	**S**	**10 24 07.0**	**+1.2**
MDJ				sS	**sS**	**10 24 12.5**	**+0.7**
MDJ				ScP	**ScP**	**10 26 40.0**	**+0.2**
MDJ				PcS	**PcS**	**10 26 41.0**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				LR	LR		
	comp=N,180nm,8.7s						
MDJ				LR	LR		
	comp=E,220nm,9.2s						
MDJ				LR	LR		
	comp=Z,280nm,11.2s						
USRK	**Ussuriysk Arra**	**27.94**	**65**	P	**P**	**10 19 48.2**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=265,slow=7.2,SNR=7.8						
AB31	**Akbulak array**	**28.19**	**306**	⇑P	**P**	**10 19 51.7**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=97,slow=10,SNR=26						
AB31	**Akbulak array**	**28.19**	**306**	*i* P	**P**	**10 19 51.7**	**+0.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ABKAR	**Akbulak array**	**28.19**	**306**	*e*P	**P**	**10 19 51.8**	**+0.4**
	comp=

comp=Z,93nm,1.1s,comp=Z,886nm
KBZ Khabaz 39.96 296 P P 10 21 33.0 -0.3
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 39.96 296 P P 10 21 33.0 -0.3
KBZ Khabaz 39.96 296 P P 10 21 33.0 -0.3
comp=Z,2.0nm,0.8s,baz=76,slow=4.2,SNR=4.3
VRHR Novokhopersk 40.04 307 *eP* **P 10 21 33.5 -0.4**
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.3s
KIV Kislovodsk 40.07 296 *deP* **P 10 21 35.7 +1.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s
NAY Al-Naaiem 40.98 273 *eP* **P 10 21 42.3 +0.3**
NAY AMb AMB 10 21 43.4
comp=Z,1.4nm,1.4s
RST Umm Al-Ruwaisa 41.07 273 *eP* **P 10 21 42.6 -0.1**
RST AMb AMB 10 21 44.1
comp=Z,255nm,1.3s
VORD Divnogorie 41.52 307 *eP* **P 10 21 45.8 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,1.1s
VSR Storozhevoye 41.58 308 *eP* **P 10 21 46.7 +0.1**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=E,30nm,0.9s
TMCR Tamitsa 42.86 327 *eP* **P 10 21 58.1 +1.3**
TMCR *e* 10 23 39.6
TMCR pmax pmax
comp=Z,18nm,0.5s
OBN Obninsk 42.96 314 *eP* **P 10 21 58.1 +0.3**
OBN *i* 10 23 40.5
OBN *i* 10 23 51.6
OBN pmax pmax
comp=Z,44nm,1.6s
ANN Anapa 43.61 299 *eP* P 10 21 56.6 -6.6
ANN pmax pmax
comp=Z,28nm,1.3s
PETK Petropavlovsk- 44.67 49 P **P 10 22 11.3 -0.2**
PETK pmax pmax
comp=Z,6.0nm,0.8s
PETK MLR MLR
comp=Z,22nm,20.2s
PETK Petropavlovsk- 44.67 49 P **P 10 22 11.3 -0.2**
PETK Petropavlovsk- 44.67 49 P **P 10 22 11.3 -0.2**
comp=Z,5.7nm,0.8s,baz=228,slow=3.3,SNR=10
PETK LR LR 10 42 21.5
comp=Z,22nm,20.2s,baz=80,slow=38
LVZ Lovozero 44.86 332‖ *eP* **P 10 22 12.5 -0.5**
LVZ pmax pmax
comp=Z,14nm,1.7s
JOF Joensuu 45.73 325 *eP* **P 10 22 19.3 -0.5**
JOF pmax pmax
comp=Z,7.0nm,0.5s
JOF Joensuu 45.73 325 *ep* **P 10 22 19.3 -0.5**
comp=Z,6.7nm,0.5s
BR131 Keskin Array S 47.66 293 *eP* **P 10 22 35.9 +0.4**
comp=Z,2.4nm,0.4s
BRTR Keskin Array B 47.66 293 P **P 10 22 35.9 +0.4**
BRTR Keskin Array B 47.66 293 P **P 10 22 35.9 +0.4**
comp=Z,4.5nm,0.6s,baz=112,slow=6.3,SNR=18
AKASG Malin Array Be 47.88 308 *ceP* **P 10 22 37.0 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 47.88 308 P **P 10 22 35.7 -1.1**
AKASG Malin Array Be 47.88 308 P **P 10 22 35.7 -1.1**
comp=Z,3.2nm,0.6s,baz=70,slow=6.8,SNR=13
KIEV Kiev 47.89 308 *eP* **P 10 22 36.8 -0.1**
KIEV pmax pmax
comp=Z,21nm,1.3s
KIEV Kiev 47.89 308 *eP* **P 10 22 36.8 -0.1**
comp=Z,21nm,1.3s
KAF Kangasniemi 48.06 324 *eP* **P 10 22 36.9 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 48.06 324 *ep* **P 10 22 36.9 -1.1**
comp=Z,4.2nm,0.6s
VSU Vasula 48.14 319⇑ *eP* **P 10 22 38.7 0.0**
VSU pmax pmax
comp=Z,63nm,1.7s
FINES FINESS Array B 48.21 323 P **P 10 22 38.7 -0.5**
FINES FINESS Array B 48.21 323 P **P 10 22 38.7 -0.5**
comp=Z,5.8nm,0.7s,baz=89,slow=9.0,SNR=18
ARCES ARCESS Array B 48.36 334 P **P 10 22 40.8 +0.5**
ARCES PcP **PcP 10 24 06.0 -0.7**
ARCES ARCESS Array B 48.36 334 P **P 10 22 40.8 +0.5**
comp=Z,2.9nm,0.6s,baz=80,slow=7.7,SNR=27
ARCES PcP **PcP 10 24 06.0 -0.7**
comp=Z,2.1nm,0.7s,baz=104,slow=4.0,SNR=6.4
ISP Isparta 50.60 291 *iP* **P 10 22 57.9 -0.1**
LVV L'vov 51.32 308 *eP* **P 10 23 03.4 +0.3**
KOLS Kolonicke sedl 52.67 307 *eP* **P 10 23 14.1 +0.9**
KOLS Kolonicke sedl 52.67 307 *eP* **P 10 23 14.1 +0.9**
STHS Stebnicka Huta 53.17 308 *eP* **P 10 23 17.8 +0.9**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 53.17 308 *eP* **P 10 23 17.8 +0.9**
KECS Kecovo 53.94 307 *eP* **P 10 23 24.2 +1.7**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 53.94 307 *eP* **P 10 23 24.1 +1.6**
VYHS Vyhne 54.97 308 *eP* **P 10 23 31.1 +1.1**
VYHS pmax pmax
comp=Z,16nm,1.7s
VYHS Vyhne 54.97 308 *eP* **P 10 23 31.1 +1.1**
NB2 NORSAR Subarra 55.34 324 P **P 10 23 32.1 -0.4**
comp=Z,3.4nm,0.6s,baz=72,slow=7.4
NOA NORSAR Array B 55.34 324 P **P 10 23 31.9 -0.6**
NOA NORSAR Array B 55.34 324 P **P 10 23 31.9 -0.6**
comp=Z,4.0nm,0.6s,baz=72,slow=7.1,SNR=13
NOA LR LR 10 48 08.7
comp=Z,55nm,18.7s,baz=85,slow=37
DPC Dobruska-Polom 55.90 310 *iP* **P 10 23 37.5 +0.8**
DPC Dobruska-Polom 55.90 310 *iP* **P 10 23 37.5 +0.8**
UPC Upice 56.03 311 *iP* **P 10 23 38.3 +0.7**
UPC Upice 56.03 311 *iP* **P 10 23 38.3 +0.7**
PVCC Panska Ves 56.89 311 *iP* **P 10 23 43.5 -0.2**
PVCC Panska Ves 56.89 311 *iP* **P 10 23 43.5 -0.2**
CONA Conrad Observa 57.03 308⇑ *ipP* **P 10 23 46.0 +1.1**
comp=Z,8.7nm,1.1s,SNR=5.6
BRG Berggiesshubel 57.14 312 *eP* **P 10 23 46.5 +1.0**
comp=Z,18nm,1.6s
BRG Berggiesshubel 57.14 312 *eP* **P 10 23 46.5 +1.0**
BRG pmax pmax
comp=Z,18nm,1.6s
CLL Collm 57.53 312 *eP* **P 10 23 48.0 -0.2**
CLL *e* 10 23 52.0
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 57.53 312 *eP* **P 10 23 48.0 -0.2**
comp=Z,14nm,1.3s
CLL *ep*P **pP 10 23 52.0 -0.1**
PERS Pernice 57.99 307 *iP* **P 10 23 51.8 +0.2**
SOKA Soboth 58.03 307 *iP* **P 10 23 52.2 +0.4**
comp=Z,9.1nm,1.1s,SNR=6.7
GERES GERESS Array B 58.03 310 P **P 10 23 52.3 +0.4**
GERES GERESS Array B 58.03 310 P **P 10 23 52.3 +0.4**
comp=Z,4.6nm,1.2s,baz=74,slow=6.1,SNR=9.6
BOJS Bojanci 58.34 305 *iP* **P 10 23 55.0 +1.0**
OBKA Obir 58.40 307⇑ *ipP* **P 10 23 54.7 +0.2**
comp=Z,6.5nm,1.1s
VISS Visnje 58.49 306 *iP* **P 10 23 55.4 +0.3**
JAVS Javornik 58.95 306 *iP* **P 10 23 58.1 -0.3**
GRF Grafenberg Arr 59.20 311 *eP* **P 10 24 00.5 +0.6**
comp=Z,21nm,1.3s
GRF Grafenberg Arr 59.20 311 *eP* **P 10 24 00.5 +0.6**
GRF pmax pmax
comp=Z,21nm,1.3s
ABTA Abfaltersbach 59.59 308⇑ *iP* **P 10 24 01.3 -1.5**
comp=Z,4.4nm,0.9s
WTTA Wattenberg 59.93 308⇑ *ipP* **P 10 24 05.6 +0.4**
comp=Z,21nm,1.2s,SNR=6.5
MOTA Moosalm 60.22 309⇑ *ipP* **P 10 24 07.1 -0.1**
comp=Z,6.9nm,0.7s

FETA Feichten 60.59 309⇑ *ipP* **P 10 24 09.8 +0.1**
comp=Z,13nm,1.4s,SNR=6.1
CEL Celeste 60.97 298 *eP* **P 10 24 12.5 +0.2**
comp=Z,30nm,1.3s
BFO Black Forest 61.50 311 *iP* **P 10 24 17.4 +1.7**
WLF Walferdange 62.20 313 P **P 10 24 21.0 +0.7**
comp=Z,18nm,1.8s
FITZ Fitzroy Crossi 62.23 148 P **P 10 24 19.6 -1.1**
FITZ Fitzroy Crossi 62.23 148 P **P 10 24 19.6 -1.1**
comp=Z,5.7nm,0.9s,baz=350,slow=5.3,SNR=9.1
PGF Pioggiola 63.69 305 *eP* **P 10 24 30.2 -0.3**
PGF Pioggiola 63.69 305 *eP* **P 10 24 30.2 -0.3**
PGF Pioggiola 63.69 305 *eP* **P 10 24 30.2 -0.3**
IMA2 Indian Mountai 63.71 25 *eP* **P 10 24 30.8 +0.5**
LPG La Plagne 63.74 308 *eP* **P 10 24 31.0 0.0**
LPG La Plagne 63.74 308 *eP* **P 10 24 31.0 0.0**
LPG La Plagne 63.74 308 *eP* **P 10 24 31.0 0.0**
LPL La Plagne 63.74 308 *eP* **P 10 24 30.9 -0.1**
LPL La Plagne 63.74 308 *eP* **P 10 24 30.9 -0.1**
LPL La Plagne 63.74 308 *eP* **P 10 24 30.9 -0.1**
SBF Sospel 64.08 306 *eP* **P 10 24 32.4 -0.6**
comp=Z,37nm,0.9s
SBF Sospel 64.08 306 *eP* **P 10 24 32.4 -0.6**
SBF Sospel 64.08 306 *eP* **P 10 24 32.4 -0.6**
MBDF Montbardon 64.09 308 *eP* **P 10 24 31.9 -1.3**
comp=Z,9.8nm,0.9s
MBDF Montbardon 64.09 308 *eP* **P 10 24 31.9 -1.3**
MBDF Montbardon 64.09 308 *eP* **P 10 24 31.9 -1.3**
COLD Coldfoot 64.18 23 *eP* **P 10 24 34.4 +1.2**
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 64.56 308 *eP* **P 10 24 35.5 -0.7**
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 64.56 308 *eP* **P 10 24 35.5 -0.7**
ORIF Oris-en-Rattie 64.56 308 *eP* **P 10 24 35.5 -0.7**
SSF Saint Saulge 64.97 311 *eP* **P 10 24 37.6 -1.1**
SSF Saint Saulge 64.97 311 *eP* **P 10 24 37.6 -1.1**
SSF Saint Saulge 64.97 311 *eP* **P 10 24 37.6 -1.1**
SMF Signal de Mont 64.97 311 *eP* **P 10 24 37.9 -0.9**
comp=Z,51nm,1.2s
SMF Signal de Mont 64.97 311 *eP* **P 10 24 37.9 -0.9**
SMF Signal de Mont 64.97 311 *eP* **P 10 24 37.9 -0.9**
AVF Avril sur Loir 65.20 311 *eP* **P 10 24 39.3 -0.9**
AVF Avril sur Loir 65.20 311 *eP* **P 10 24 39.3 -0.9**
AVF Avril sur Loir 65.20 311 *eP* **P 10 24 39.3 -0.9**
SMRF Simiane la Rot 65.20 307 *eP* **P 10 24 39.9 -0.4**
SMRF Simiane la Rot 65.20 307 *eP* **P 10 24 39.9 -0.4**
VIVF Saint-Julien-l 65.34 309 *eP* **P 10 24 40.5 -0.7**
comp=Z,41nm,1.4s
VIVF Saint-Julien-l 65.34 309 *eP* **P 10 24 40.5 -0.7**
VIVF Saint-Julien-l 65.34 309 *eP* **P 10 24 40.5 -0.7**
BPAW Bear Paw Mtn. 65.79 26 *eP* **P 10 24 44.6 +0.8**
comp=Z,29nm,1.3s
PPLA Purkeypile 66.08 28 *eP* **P 10 24 46.6 +0.7**
comp=Z,58nm,1.4s
TCF Toulx Ste Croi 66.13 311 *eP* **P 10 24 45.8 -0.5**
comp=Z,26nm,1.1s
TCF Toulx Ste Croi 66.13 311 *eP* **P 10 24 45.8 -0.5**
TCF Toulx Ste Croi 66.13 311 *eP* **P 10 24 45.8 -0.5**
LASF Ste Croix 66.23 308 *eP* **P 10 24 46.5 -0.4**
comp=Z,36nm,1.2s
LASF Ste Croix 66.23 308 *eP* **P 10 24 46.5 -0.4**
KMBO Kilima Mbogo 66.30 249 P **P 10 24 48.0 0.0**
KMBO Kilima Mbogo 66.30 249 P **P 10 24 48.0 0.0**
comp=Z,2.3nm,0.7s,baz=38,slow=23,SNR=4.4
COLA College 66.38 25 *eP* **P 10 24 48.2 +0.7**
COLA College 66.38 25 *eP* **P 10 24 48.2 +0.7**
comp=Z,92nm,1.2s
ILAR Eielson Array 66.77 24 P **P 10 24 49.8 -0.2**
ILAR Eielson Array 66.77 24 P **P 10 24 49.8 -0.2**
comp=Z,4.9nm,0.7s,baz=294,slow=5.1,SNR=55
KEST Kesra 66.78 298 P **P 10 24 50.7 0.0**
KEST Kesra 66.78 298 P **P 10 24 50.7 0.0**
comp=Z,1.1nm,0.8s,baz=342,slow=6.2,SNR=3.9
CAF Calviac 66.91 310 *eP* **P 10 24 51.2 -0.1**
CAF Calviac 66.91 310 *eP* **P 10 24 51.2 -0.1**
CAF Calviac 66.91 310 *eP* **P 10 24 51.2 -0.1**
RJF Les Rejaudoux 67.05 310 *eP* **P 10 24 52.0 -0.1**
RJF Les Rejaudoux 67.05 310 *eP* **P 10 24 52.0 -0.1**
RJF Les Rejaudoux 67.05 310 *eP* **P 10 24 52.0 -0.1**
RSO Redoubt South 67.33 30 *eP* **P 10 24 55.0 +1.2**
comp=Z,49nm,0.9s
MFF Saint Martin d 67.37 312 *eP* **P 10 24 54.2 +0.1**
comp=Z,90nm,0.6s
MFF Saint Martin d 67.37 312 *eP* **P 10 24 54.2 +0.1**
MFF Saint Martin d 67.37 312 *eP* **P 10 24 54.2 +0.1**
WRAB Tennant Creek 67.86 141 *eP* **P 10 24 56.6 -0.8**
WRAB pmax pmax
comp=Z,14nm,1.1s
WRAB Tennant Creek 67.86 141 *eP* **P 10 24 56.6 -0.8**
comp=Z,14nm,1.1s
WRA Warramunga Arr 67.86 141 P **P 10 24 56.2 -1.2**
WRA Warramunga Arr 67.86 141 P **P 10 24 56.2 -1.2**
comp=Z,8.2nm,1.0s,baz=333,slow=6.0,SNR=38
INK Inuvik 68.08 18 *eP* **P 10 24 58.7 +0.5**
comp=Z,18nm,1.3s
SML Sawmill 68.17 27 *eP* **P 10 24 59.3 +0.4**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 68.17 27 *eP* **P 10 24 59.3 +0.4**
comp=Z,6.7nm,0.8s
EGAK Eagle 68.58 23 *eP* **P 10 25 02.1 +0.7**
comp=Z,20nm,1.1s
KDAK Kodiak Island 69.03 32 P **P 10 25 03.4 -0.9**
KDAK Kodiak Island 69.03 32 P **P 10 25 03.4 -0.9**
comp=Z,16nm,0.7s,baz=271,slow=21,SNR=7.6
AS31 Alice Springs 70.80 143 *eP* **P 10 25 14.9 -0.7**
ASAR Alice Springs 70.80 143 P **P 10 25 15.0 -0.6**
ASAR Alice Springs 70.80 143 P **P 10 25 15.0 -0.6**
comp=Z,5.8nm,0.8s,baz=328,slow=6.0,SNR=70
ESDC Sonseca Array 73.52 308 P **P 10 25 32.2 +0.4**
ESDC Sonseca Array 73.52 308 P **P 10 25 32.2 +0.4**
comp=Z,2.7nm,0.7s,baz=43,slow=5.6,SNR=9.4
CTA Charters Tower 74.55 131 P **P 10 25 37.4 -0.6**
CTA Charters Tower 74.55 131 P **P 10 25 37.4 -0.6**
baz=322,slow=9.6
TAM Tamanrasset 76.63 288 *eP* **P 10 25 50.5 +0.3**
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 76.63 288 *eP* **P 10 25 50.5 +0.3**
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 77.17 14 P **P 10 25 52.0 -0.3**
YKA Yellowknife Ar 77.17 14 P **P 10 25 52.0 -0.3**
comp=Z,1.0nm,0.4s,baz=337,slow=5.5,SNR=12
STKA Stephens Creek 81.37 142 P **P 10 26 14.2 -1.4**
STKA Stephens Creek 81.37 142 P **P 10 26 14.2 -1.4**
comp=Z,4.7nm,0.6s,baz=323,slow=6.9,SNR=10
TOA0 Torodi Ar. Sit 85.27 283 *eP* **P 10 26 35.5 -0.6**
TORD Torodi Ar. Bea 85.27 283 P **P 10 26 35.8 -0.4**
TORD Torodi Ar. Bea 85.27 283 P **P 10 26 35.8 -0.4**
comp=Z,3.0nm,0.9s,baz=39,slow=4.4,SNR=15
SCHQ Schefferville 86.61 350 P **P 10 26 41.4 -0.8**
SCHQ Schefferville 86.61 350 P **P 10 26 41.4 -0.8**
comp=Z,6.0nm,0.8s,baz=340,slow=2.2,SNR=4.2
BLMT Blacktail Moun 90.51 20 *eP* **P 10 27 02.3 +1.2**
comp=Z,10nm,1.0s
BSMT Bassoo Peak 90.54 20 *eP* **P 10 27 02.5 +1.3**
comp=Z,2.9nm,1.0s
SWMT Swartz Lake 91.07 20 *eP* **P 10 27 04.4 +0.8**
comp=Z,11nm,1.4s
SLMT Seeley Lake 91.45 19 *eP* **P 10 27 05.7 +0.3**
comp=Z,14nm,1.4s
ULM Lac du Bonnet 91.80 7 P **P 10 27 04.5 -2.3**
ULM Lac du Bonnet 91.80 7 P **P 10 27 04.5 -2.3**
comp=Z,2.6nm,0.6s,baz=6.4,slow=2.6,SNR=3.7
DBIC Dimbokro 94.31 282 P **P 10 27 17.8 -1.1**
DBIC Dimbokro 94.31 282 P **P 10 27 17.8 -1.1**
comp=Z,1.8nm,0.5s,baz=299,slow=4.3,SNR=3.7
MSVF Nonsvu 94.74 109‖ *eP* **P 10 27 20.3 -0.5**
PDAR Pinedale Array 96.63 19 P **P 10 27 27.4 -2.0**
PDAR Pinedale Array 96.63 19 P **P 10 27 27.4 -2.0**
comp=Z,0.4nm,0.8s,baz=54,slow=4.6,SNR=2.7
NVAR Mina Array Bea 97.97 26 P Pdif 10 27 36.0 +0.4
NVAR Mina Array Bea 97.97 26 P Pdif 10 27 36.0 +0.4
comp=Z,0.3nm,0.6s,baz=304,slow=3.4,SNR=4.2
VNDA Vanda 121.65 166 PKP **PKPdf 10 32 50.0 -1.5**
VNDA Vanda 121.65 166 PKP **PKPdf 10 32 50.0 -1.5**
comp=Z,0.9nm,0.8s,baz=330,slow=2.9,SNR=4.0
QSPA South Pole Qui 127.49 180 PKP **PKPdf 10 33 01.7 -1.3**
QSPA South Pole Qui 127.49 180 PKP **PKPdf 10 33 01.7 -1.3**
comp=Z,2.9nm,0.7s,baz=279,slow=1.5,SNR=40
SNAA Sanae 128.00 203 *eP* **PKPdf 10 33 03.6 -0.3**
SNAA Sanae 128.00 203 *ei* **PKiKP 10 33 08.3 +3.8**
VNA2 Neumayer--Watz 129.41 204 *eP* **PKPdf 10 33 06.5 0.0**
VNA2 Neumayer--Watz 129.41 204 *ei* **PKiKP 10 33 09.4 +2.2**

SAML Samuel 145.63 321 *e*PKPdf **PKPdf 10 33 37.8 -0.1**
CPUP Villa Florida 154.62 289 PKPbc **PKPbc 10 33 58.8 -1.3**
CPUP Villa Florida 154.62 289 PKPbc **PKPbc 10 33 58.8 -1.3**
comp=Z,1.0nm,0.5s,baz=37,slow=4.6,SNR=5.6

JMA 28 10:18:21.8±0.3, 44°.05N×148°.04E, h83km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.80**	**248**	P		Pn	Pn	10 18 51.5	+0.4
NEM2				*e*S		Sn	Sn	10 19 13.5	+0.1
JRA	**Rausu**	**2.11**	**268**	P		Pn	Pn	10 18 55.6	+0.4
JRA				*e*S		Sn	Sn	10 19 21.7	+1.1
JNK	**Nakash**	**2.45**	**260**	*e*S		Sn	Sn	10 19 29.5	+0.7
JAK	**Akkeshi**	**2.65**	**248**	P		Pn	Pn	10 19 02.7	+0.3
JAK				*e*S		Sn	Sn	10 19 33.9	+0.3
JTKR	**Abashiri--Toko**	**2.98**	**270**	P		Pn	Pn	10 19 06.9	0.0
JAR	**Ashorobuto**	**3.19**	**258**	P		Pn	Pn	10 19 10.8	+1.1
JAR				*e*S		Sn	Sn	10 19 47.9	+1.2
JCH	**Churui**	**3.70**	**249**	P		Pn	Pn	10 19 16.9	+0.2
JCH				*e*S		Sn	Sn	10 19 58.4	-0.7
JFR	**Furan**	**4.05**	**259**	P		Pn	Pn	10 19 22.7	+1.2
JNBK	**Urakawa-nobuka**	**4.25**	**247**	P		Pn	Pn	10 19 24.0	-0.1
JNBK				*e*S		Sn	Sn	10 20 11.8	-0.8
JKB	**Kayabe**	**5.58**	**250**	P		Pn	Pn	10 19 42.0	-0.2
JKB				*e*S		Sn	Sn	10 20 41.7	-3.1
JOT	**Ohata**	**5.80**	**245**	*e*S		Sn	Sn	10 20 46.0	-4.3
JANG	**Nango**	**6.08**	**235**	P		Pn	Pn	10 19 48.2	-0.9
JANG				*e*S		Sn	Sn	10 20 53.1	-4.1

IDC 28 10:34:06.4±1.9, 37°.55N×95°.75E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/28, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=59.6km s-min=27.8km az=58.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.90**	**34**	P		Pn	Pn	10 37 12.0	+0.8
	0.6nm,0.3s,baz=217,slow=16,SNR=9.4								
MKAR	**Makanchi Array**	**13.58**	**317**	Pn		Pn	Pn	10 37 16.0	-4.3
	1.0nm,0.3s,baz=125,slow=14,SNR=39								
MKAR				Sn		Sn	Sn	10 39 43.0	-8.9
	0.1nm,0.3s,baz=124,slow=24,SNR=10.0								
ZALV	**Zalesovo Beam**	**18.05**	**339**	P		Pn	Pn	10 38 17.5	-1.0
	0.3nm,0.3s,baz=142,slow=7.3,SNR=2.7								
ASAR	**Alice Springs**	**70.68**	**143**	P		P	P	10 45 24.1	0.0
	0.3nm,0.7s,baz=338,slow=6.5,SNR=4.2								

IDC 28 10:35:07.0±4.0, 20°.04S×178°.46W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=172.9km s-min=33.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.60**	**244**	P		P	P	10 42 23.3	-0.3
	2.1nm,1.1s,baz=90,slow=12,SNR=2.6								
ASAR	**Alice Springs**	**44.20**	**256**	P		P	P	10 43 18.1	-0.2
	1.1nm,0.5s,baz=95,slow=7.9,SNR=31								
WRA	**Warramunga Arr**	**44.23**	**262**	P		P	P	10 43 18.5	0.0
	0.5nm,0.3s,baz=95,slow=8.2,SNR=34								
ILAR	**Eielson Array**	**87.97**	**13**	P		P	P	10 47 58.4	0.0
	0.3nm,0.8s,baz=220,slow=5.2,SNR=3.3								

---

*ISCJB **28** 10:39:39.9±0.4, 37°.61N±0°.05×95°.69E±0°.05, h10km, mb3.8/14, Error ellipse: s-maj=7.6km s-min=4.8km az=25.0*
*IDC **28** 10:39:40.3±0.7, 37°.64N×95°.78E, h0km, mb3.9/11, mb1 4.0/15, mb1mx3.8/31, mbtmp3.8/15, ML3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/45, Error ellipse: s-maj=24.5km s-min=15.0km az=47.0*
*NEIC **28** 10:39:41.9±0.3, 37°.63N×95°.73E, h10km, mb4.1/4, Error ellipse: s-maj=8.5km s-min=5.3km az=47.0*
*BJI **28** 10:39:42.6, 37°.75N×95°.82E, h10km, mB4.2/2, mb4.3/3, ML3.9/8, Ms3.6/5, Ms7 3.3/6*
ISC 28 10:39:41.8±0.5, 37°.63N±0°.06×95°.66E±0°.05, h10km, n42, σ1°13/49, mb4.0/14, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.72**	**60**	Pn		**Pn**	**Pn**	**10 40 41.0**	**+1.6**
GTA					Pg	**Pb**	**Pb**	**10 40 47.8**	**+0.2**
GTA					Sn	**Sn**	**Sn**	**10 41 22.8**	**-0.5**
GTA					Sg	**Sb**	**Sb**	**10 41 32.8**	**0.0**
GTA					smax	smax			
	comp=N,75nm,0.9s								
GTA					smax	smax			
	comp=E,45nm,1.1s								
GTA					LR	LR			
	comp=N,370nm,9.0s								
GTA					LR	LR			
	comp=E,660nm,6.2s								
GTA					LR	LR			
	comp=Z,580nm,7.6s								
LZH	**Lanzhou**	**6.74**	**101**	Pn		**Pn**	**Pn**	**10 41 22.0**	**+1.0**
LZH					Pg	Pb	Pb	10 41 44.3	+5.1
LZH					Sn	**Sn**	**Sn**	**10 42 37.3**	**-0.7**
LZH					Sg	Sg	Sg	10 43 09.5	-8.7
LZH					smax	smax			
	comp=N,57nm,0.9s								
LZH					smax	smax			
	comp=E,57nm,0.8s								
WMQ	**Urumqi**	**8.65**	**318**	P		**Pn**	**Pn**	**10 41 47.5**	**+0.4**
WMQ				pP		pP	pP	10 41 50.8	
WMQ				S		**Sn**	**Sn**	**10 43 26.0**	**+1.4**
WMQ				pmax		pmax			
	comp=Z,55nm,2.7s								
WMQ				smax		smax			
	comp=N,26nm,0.7s								
WMQ				smax		smax			
	comp=E,28nm,0.8s								
WMQ				LR		LR			
	comp=N,46nm,18.0s								
WMQ				LR		LR			
	comp=E,37nm,16.0s								
WMQ				LR		LR			
	comp=Z,28nm,14.0s								
LSA	**Lhasa**	**8.75**	**207**	Pn		**Pn**	**Pn**	**10 41 49.3**	**+0.4**
SONM	**Songino Array**	**12.88**	**34**	Pn		**Pn**	**Pn**	**10 42 45.7**	**+0.6**
SONM	**Songino Array**	**12.88**	**34**	Pn		**Pn**	**Pn**	**10 42 45.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=219,slow=15,SNR=7.0								
SONM				LR		LR	LR	10 48 08.3	
	comp=Z,55nm,21.9s,baz=189,slow=40								
MK31	**Makanchi Array**	**13.48**	**317**	*e*Pn		**Pn**	**Pn**	**10 42 53.0**	**-0.1**
MKAR	**Makanchi Array**	**13.48**	**317**	Pn		**Pn**	**Pn**	**10 42 52.2**	**-0.8**
MKAR				Sn		**Sn**	**Sn**	**10 45 18.9**	**-3.9**
MKAR	**Makanchi Array**	**13.48**	**317**	Pn		**Pn**	**Pn**	**10 42 52.2**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=125,slow=14,SNR=18								
MKAR				Sn		**Sn**	**Sn**	**10 45 18.9**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=124,slow=27,SNR=5.6								
ENH	**Enshi**	**13.62**	**119**	*e*Pn		**Pn**	**Pn**	**10 42 53.6**	**-1.4**
	comp=Z,4.9nm,0.4s								
TKM2	**Tokmak 2**	**16.19**	**295**	*e*Pn		**Pn**	**Pn**	**10 43 29.7**	**+0.2**
	comp=Z,7.9nm,0.8s								
AAK	**Ala-Archa**	**16.93**	**294**	P		**Pn**	**Pn**	**10 43 39.4**	**+0.5**
AAK	**Ala-Archa**	**16.93**	**294**	P		**Pn**	**Pn**	**10 43 39.4**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=198,slow=9.6,SNR=2.3								
ZALV	**Zalesovo Beam**	**17.95**	**339**	P		**Pn**	**Pn**	**10 43 51.4**	**0.0**
ZALV	**Zalesovo Beam**	**17.95**	**339**	P		**Pn**	**Pn**	**10 43 51.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=142,slow=13,SNR=4.0								
CMAR	**Chiang Mai Arr**	**19.31**	**171**	P		**Pn**	**Pn**	**10 44 08.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.31**	**171**	P		**Pn**	**Pn**	**10 44 08.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=341,slow=9.8,SNR=10								
BVAR	**Borovoye Array**	**23.33**	**319**	P		**P**	**P**	**10 44 50.7**	**+0.7**
BVAR	**Borovoye Array**	**23.33**	**319**	P		**P**	**P**	**10 44 50.7**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=116,slow=6.6,SNR=3.3								
KSAR	**Wonju Array Be**	**25.49**	**80**	P		**P**	**P**	**10 45 09.7**	**-0.5**
KSRS	**Korea Array**	**25.52**	**80**	P		**P**	**P**	**10 45 09.7**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=279,slow=9.6,SNR=7.8								
ABKAR	**Akbulak array**	**28.16**	**306**	*e*P		**P**	**P**	**10 45 36.3**	**+2.2**
	comp=Z,0.3nm,0.4s								
AKTO	**Aktyubinsk**	**29.61**	**308**	P		**P**	**P**	**10 45 47.1**	**+0.2**
AKTO	**Aktyubinsk**	**29.61**	**308**	P		**P**	**P**	**10 45 47.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=79,slow=9.1,SNR=8.3								
BRTR	**Keskin Array B**	**47.60**	**293**	P		**P**	**P**	**10 48 19.1**	**+1.0**
BRTR	**Keskin Array B**	**

FITZ	Fitzroy Crossi	62.20	147	eP		P	10 50 03.0 -0.6
	comp=Z,3.5nm,1.1s						
ILAR	Eielson Array	66.90	24	P		P	10 50 32.6 -1.2
ILAR	Eielson Array	66.90	24	P		P	10 50 32.6 -1.2
	comp=Z,0.8nm,0.9s,baz=292,slow=4.6,SNR=7.4						
WRAB	Tennant Creek	67.85	141	eP		P	10 50 40.5 +0.2
	comp=Z,1.7nm,0.8s						
WRA	Warramunga Arr	67.85	141	P		P	10 50 39.3 -1.1
WRA	Warramunga Arr	67.85	141	P		P	10 50 39.3 -1.1
	comp=Z,1.1nm,0.9s,baz=341,slow=6.4,SNR=6.5						
ASAR	Alice Springs	70.79	143	P		P	10 50 59.0 +0.4
ASAR	Alice Springs	70.79	143	P		P	10 50 59.0 +0.4
	comp=Z,0.9nm,0.6s,baz=328,slow=5.9,SNR=15						
YKA	Yellowknife Ar	77.29	14	P		P	10 51 36.4 +0.4
YKA	Yellowknife Ar	77.29	14	P		P	10 51 36.4 +0.4
	comp=Z,0.5nm,0.8s,baz=337,slow=3.7,SNR=3.7						
STKA	Stephens Creek	81.36	142	P		P	10 51 57.9 -0.7
STKA	Stephens Creek	81.36	142	P		P	10 51 57.9 -0.7
	comp=Z,1.0nm,0.6s,baz=329,slow=5.9,SNR=3.9						
TORD	Torodi Ar. Bea	85.18	283	P		P	10 52 19.3 +0.5
TORD	Torodi Ar. Bea	85.18	283	P		P	10 52 19.3 +0.5
	comp=Z,0.8nm,1.1s,baz=50,slow=4.7,SNR=2.7						

*ISCJB **28** 10:47:25.4±0.4,36°.53N±0°.03×71°.31E±0°.07,h150km, mb3.7/11,Error ellipse: s-maj=8.1km s-min=3.8km az=159.1*
*IDC **28** 10:47:26.5±3.7,36°.42N×71°.33E,h156km±32km,mb3.5/11, mb1 3.7/16,mb1mx3.5/31,mbtmp3.6/16,Error ellipse: s-maj=24.8km s-min=15.1km az=15.0*
*NNC **28** 10:47:32.6±11.0,37°.03N×70°.93E,h162km±112km,mb3.3, mpv4.2,Error ellipse: s-maj=94.8km s-min=52.9km az=18.0*

ISC 28 10:47:26.1±0.6,36°.53N±0°.06×71°.34E±0°.08,h150km,n45, σ1§74/43,mb3.6/11,7C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.74	170	⇓P	Pn	10 48 17.8	+7.5
CEP				S	Sn	10 48 54.0	+9.5
CHCP	Chirah Chowk	3.27	151	P	Pn	10 48 24.6	+7.6
THW	Thamme Wali	3.74	175	⇓P	Pn	10 48 30.0	+7.0
SARP	Sargodha	4.72	166	P	Pn	10 48 41.7	+5.8
SARP				S	Sn	10 49 34.0	+3.7
THN	Thein Dam	5.45	137	eP	Pn	10 48 50.0	+4.5
THN				eS	Sn	10 49 48.8	+1.3
DLH	Dalhousie	5.51	135	eP	Pn	10 48 53.0	+6.5
DLH				e4		10 49 55.0	
AML	Almayashu	5.89	17	P	Pn	10 48 53.1	+1.5
	SNR=27						
UCH	Uchtor	6.20	22	P	Pn	10 48 59.0	+3.2
	SNR=8.3						
KZA	Kyzart	6.32	27	P	Pn	10 48 58.0	+0.6
	SNR=18						
EKS2	Erkin-Say	6.41	16	P	Pn	10 48 59.9	+1.5
	SNR=15						
AAK	Ala-Archa	6.57	21	P	Pn	10 49 02.2	+1.8
	SNR=45						
AAK	Ala-Archa	6.57	21	P	Pn	10 49 02.1	+1.6
	14nm,0.3s,baz=198,slow=7.0,SNR=44						
AAK				S	Sn	10 50 11.4	-2.9
	4.1nm,0.3s,baz=132,slow=22,SNR=8.9						
KK31	Karatay Array	6.60	355	⇓P	Pn	10 49 02.3	+1.6
	10nm,0.4s,baz=182,slow=13,SNR=147						
KK31				⇑S	Sn	10 50 11.1	-3.8
	118nm,0.9s,baz=187,slow=23,SNR=4.6						
BHK	Bhakra	6.61	139	ex	Sn	10 50 24.0	+8.6
CHMS	Chumysh	6.98	21	P	Pn	10 49 06.5	+0.8
	SNR=17						
USP	Ospenovka	7.16	19	P	Pn	10 49 08.8	+0.6
	SNR=13						
TKM2	Tokmak 2	7.18	26	⇓P	Pn	10 49 09.9	+1.2
	7.8nm,0.6s						
TKM2				⇓S	Sn	10 50 26.8	-2.3
	23nm,0.8s						
TKM2	Tokmak 2	7.18	26	P	Pn	10 49 09.9	+1.2
	SNR=14						
SMLA	Simla	7.24	136	i P	Pn	10 49 13.7	+4.3
SMLA				i S	Sn	10 50 31.9	+1.5
SMLA				i S	Sn	10 50 32.1	+1.7
KHET	Khetri	9.23	155	eS	Sn	10 51 17.0	-1.5
KHET				AML	AML	10 51 22.5	
	comp=E,115nm,0.1s						
KHET				AML	AML	10 51 23.0	
	comp=N,176nm,0.1s						
NDI	New Delhi	9.26	146	e4		10 49 52.0	
NDI				eS	Sn	10 51 14.0	-5.0
AYAN	Aya Nagar	9.39	147	eS	Sn	10 51 20.3	-1.8
SONA	Sohna	9.57	148	eS	Sn	10 51 24.8	-1.7
SONA				AML	AML	10 51 29.3	
	comp=E,30nm,0.1s						
SONA				AML	AML	10 51 30.5	
	comp=N,20nm,0.2s						
MK31	Makanchi Array	13.11	35	⇑P	Pn	10 50 27.4	+0.8
	comp=N,0.9nm,0.4s,baz=222,slow=13,SNR=21						
MKAR	Makanchi Array	13.11	35	P	Pn	10 50 27.7	+1.1
	comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=13						
AB31	Akbulak array	15.19	330	⇑P	P	10 50 55.5	+1.2
	comp=N,1.4nm,0.3s,baz=142,slow=10,SNR=67						
AB31				⇓S	Sn	10 53 30.7	-11
	comp=N,1.2nm,0.5s,baz=158,slow=23,SNR=2.7						
VOSK	Vostochnaya	16.20	359	⇑P	Pn	10 51 04.7	-0.4
	comp=N,2.3nm,0.8s						
BVA0	Borovoye Array	16.51	358	⇑P	P	10 51 07.2	-1.6
	comp=N,1.4nm,0.5s,baz=156,slow=10,SNR=10						
BVAR	Borovoye Array	16.51	358	P	P	10 51 09.6	+0.8
	comp=N,0.9nm,0.3s,baz=146,slow=9.3,SNR=8.7						
BRVK	Borovoye	16.55	358	⇑P	P	10 51 07.8	-1.4
	comp=N,7.6nm,1.0s						
AKTO	Aktyubinsk	16.89	330	⇑P	P	10 51 14.0	+1.0
	comp=N,12nm,0.9s						
AKTO				⇓S	S	10 54 14.2	-7.0
	comp=N,4.1nm,0.8s						
AKTO	Aktyubinsk	16.89	330	P	Pn	10 51 14.4	+0.9
	comp=N,1.7nm,0.3s,baz=138,slow=9.8,SNR=21						
AKTO				S	S	10 54 16.1	-5.0
	comp=N,0.2nm,0.3s,baz=168,slow=20,SNR=4.7						
ZALV	Zalesovo Beam	19.78	24	P	P	10 51 44.9	+0.5
	comp=N,1.8nm,0.3s,baz=224,slow=12,SNR=8.2						
GNI	Garni	21.14	288	P	P	10 51 59.7	+0.3
	comp=N,12nm,0.5s,baz=154,slow=23,SNR=4.3						
SONM	Songino Array	28.09	55	P	P	10 53 04.8	+1.1
	comp=N,0.4nm,0.5s,baz=258,slow=9.4,SNR=4.2						
AKASG	Malin Array Be	33.14	309	P	P	10 53 48.5	+0.6
	comp=N,1.4nm,0.4s,baz=79,slow=8.3,SNR=3.3						
FINES	FINESS Array B	37.61	326	P	P	10 54 26.9	+0.9
	comp=N,1.3nm,0.4s,baz=119,slow=7.7,SNR=14						
ARCES	ARCESS Array B	41.23	337	P	P	10 54 56.6	+0.9
	comp=N,1.6nm,0.5s,baz=117,slow=8.7,SNR=18						
NB2	NORSAR Subarra	44.52	323	P	P	10 55 22.6	+0.2
	comp=Z,1.7nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.52	323	P	P	10 55 22.8	+0.4
	comp=Z,3.0nm,0.6s,baz=96,slow=7.7,SNR=8.9						
TORD	Torodi Ar. Bea	65.99	269	P	P	10 57 55.8	-1.0
	comp=Z,0.2nm,0.4s,baz=51,slow=5.5,SNR=6.6						
ILAR	Eielson Array	74.68	16	P	P	10 58 48.1	-0.5
	comp=Z,0.6nm,1.0s,baz=315,slow=3.7,SNR=4.1						
YKA	Yellowknife Ar	81.21	3	P	P	10 59 24.7	0.0
	comp=Z,0.6nm,0.5s,baz=348,slow=5.4,SNR=5.8						
WRA	Warramunga Arr	81.77	122	P	P	10 59 28.1	-0.2
	comp=Z,0.4nm,0.5s,baz=322,slow=4.7,SNR=5.7						
ASAR	Alice Springs	84.05	125	P	P	10 59 39.6	-0.3
	comp=Z,0.7nm,0.7s,baz=315,slow=5.1,SNR=11						

IDC 28 10:51:09.3±4.6,5°.39S×153°.80E,h114km±39km,mb3.4/7, mb1 3.6/8,mb1mx3.4/20,mbtmp3.4/8,MS3.0/1,Ms1 3.0/1, ms1mx2.5/19,Error ellipse: s-maj=30.5km s-min=20.1km az=51.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.30	124	LR	LR	10 55 37.4	
	comp=Z,118nm,19.3s,baz=346,slow=37						
PMG	Port Moresby	7.70	238	P	Pn	10 52 59.4	+0.6
	1.5nm,0.3s,baz=70,slow=12,SNR=4.7						
PMG				S	Sn	10 54 24.0	-0.4
	0.9nm,0.3s,baz=34,slow=20,SNR=2.7						
DZM	Mont Dzumac	20.61	145	P	P	10 55 39.4	-0.3
	4.8nm,0.4s,baz=0.0,slow=20,SNR=17						
WRA	Warramunga Arr	23.82	231	P	P	10 56 12.5	+0.4
	1.9nm,0.6s,baz=54,slow=9.6,SNR=35						
ASAR	Alice Springs	26.41	225	P	P	10 56 35.6	+0.2
	0.3nm,0.6s,baz=57,slow=9.0,SNR=8.9						
CMAR	Chiang Mai Arr	59.02	295	P	P	11 00 57.3	-0.4
	0.5nm,0.4s,baz=126,slow=4.6,SNR=3.0						
SONM	Songino Array	67.35	327	P	P	11 01 53.1	+0.8
	0.2nm,0.3s,baz=161,slow=8.2,SNR=2.7						
VNDA	Vanda	72.21	178	P	P	11 02 21.5	+0.1
	0.7nm,0.6s,baz=341,slow=4.8,SNR=5.3						
MKAR	Makanchi Array	81.42	319	P	P	11 03 13.0	-0.7
	0.3nm,0.5s,baz=97,slow=7.5,SNR=2.7						
TORD	Torodi Ar. Bea	151.43	288	PKPbc	PKPbc	11 10 50.5	-0.4
	0.7nm,0.6s,baz=88,slow=2.5,SNR=7.5						
TORD				PKPab	PKPab	11 10 59.2	-0.3
	0.9nm,0.7s,baz=71,slow=3.0,SNR=6.2						

*NIED **28** 11:00:00,29°.90N×130°.70E,h26km,Mw4.5 Best double couple: M0:6.32000×10^15 NP1:φs33.00000°,δ77.00000°, λ94.00000°. NP2:φs194.00000°,δ14.00000°,λ72.00000°.*
*MOS **28** 11:00:09.3±1.3,29°.93N×130°.68E,h37km,mb4.7/20, MS4.1/10,Error ellipse: s-maj=16.0km s-min=6.7km az=114.4*
*JMA **28** 11:00:11.6±0.1,29°.88N×130°.71E,h39km±2km,M4.4*
JMA Felt I J1.
*ISCJB **28** 11:00:12.1±0.4,29°.93N±0°.03×130°.61E±0°.05,h56km±3km, mb4.5/44,MS4.0/24,Error ellipse: s-maj=7.5km s-min=4.2km az=25.7*
*NEIC **28** 11:00:13.5±0.8,29°.92N×130°.59E,h54km±7km,mb4.5/6, MW4.5(NIED),Error ellipse: s-maj=9.7km s-min=6.4km az=103.0*
NEIC Recorded [1 JMA] on Kuchino-shima, Tanega-shima and Yaku-shima.
*IDC **28** 11:00:14.7±2.3,29°.96N×130°.57E,h65km±19km,mb4.0/21, mb1 4.1/23,mb1mx4.1/29,mbtmp4.0/23,MS3.8/18, Ms1 3.8/18,ms1mx3.6/33,Error ellipse: s-maj=17.3km s-min=13.4km az=82.0*
*BJI **28** 11:00:15.2,30°.15N×130°.60E,h74km,mB4.5/25,mb4.4/35, Ms4.1/30,Ms7 3.9/30*

ISC 28 11:00:13.2±0.5,29°.93N±0°.04×130°.64E±0°.04,h50km±4km, n136,σ1§68/156,mb4.4/44,MS4.0/25,7C-4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	Kuchinoerabu	0.66	324	P	Pn	11 00 25.7	-0.7
JNN	Nakanoshima	0.67	263	P	Pn	11 00 25.3	-1.3
JNN				S	Sn	11 00 35.4	-0.9
JTN	Tanegashima 3	0.78	22	P	Pn	11 00 26.8	-1.2
JTN				S	Sn	11 00 38.1	-0.7
JTSR	Tashiro 2	1.26	11	P	Pn	11 00 33.9	-0.6
JTSR				S	Sn	11 00 50.1	-0.2
JSU	Suzuyama	1.58	354	P	Pn	11 00 38.4	-0.5
JNAR	Kushima--Naru	1.69	19	P	Pn	11 00 40.0	-0.2
JNAR				eS	Sn	11 01 02.1	+1.5
JZK	Kikaishima	1.71	200	P	Pn	11 00 39.8	-0.8
JZK				S	Sn	11 01 02.6	+1.3
JAM	Amami Oshima	1.76	211	P	Pn	11 00 40.4	-0.9
JNU	Nakatsue	3.19	4	ePn	Pn	11 01 00.7	-0.2
JNU				S	Sn	11 01 39.4	+1.6
JNU	Nakatsue	3.19	4	P	Pn	11 01 01.5	+0.5
	15nm,0.3s,baz=178,slow=5.2,SNR=165						
JNU				S	Sn	11 01 39.4	+1.6
	18nm,0.3s,baz=155,slow=9.8,SNR=5.8						
JNU				LR	LR	11 01 44.5	
	comp=Z,213nm,18.1s,baz=346,slow=28						
JOW	Kunigami	3.72	215	ePn	Pn	11 01 07.2	-0.9
KSAR	Wonju Array Be	7.84	344	P	Pn	11 02 05.5	+1.0
KSRS	Korea Array	7.84	344	P	Pn	11 02 05.5	+0.9
	1.4nm,0.3s,baz=162,slow=14,SNR=17						
KSRS				LR	LR	11 05 26.2	
	comp=Z,694nm,18.2s,baz=160,slow=40						
MAT	Matsushiro	9.14	42	P	Pn	11 02 11.8	-11
YHNB	Yeheng	9.76	240	ePn	Pn	11 02 31.8	+0.8
	18nm,1.1s						
NJ2	Nanjing	10.34	285	eP	Pn	11 02 40.5	+1.7
NJ2				S	Sn	11 04 31.0	-2.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,630nm,12.1s						
NJ2				LR	LR		
	comp=E,850nm,11.8s						
NJ2				LR	LR		
	comp=Z,840nm,10.4s						
SSLB	Suanglung	10.59	237	ePn	Pn	11 02 41.7	-0.6
WHN	Wuhan	14.10	277	P	P	11 03 47.8	+11
WHN				S	S	11 06 21.0	-3.0
WHN				LR	LR		
	comp=N,690nm,17.8s						
WHN				LR	LR		
	comp=E,700nm,15.4s						
WHN				LR	LR		
	comp=Z,760nm,21.4s						
USRK	Ussuriysk Arra	14.29	4	P	P	11 03 39.9	+1.4
	comp=Z,1.1nm,0.3s,baz=183,slow=10,SNR=18						
USRK				LR	LR	11 09 20.0	
	comp=Z,202nm,20.0s,baz=179,slow=38						
CN2	Changchun	14.45	345	eP	P	11 03 42.0	+1.6
CN2				ePP	pP	11 03 53.3	
CN2				eS	Sn	11 06 16.0	+2.4
CN2				pmax	pmax		
	comp=Z,40nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,530nm,15.0s						
CN2				LR	LR		
	comp=E,210nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,20.0s						
MDJ	Mudanjiang	14.69	357	P	Pn	11 03 36.0	-1.9
MDJ				pP	P	11 03 46.5	+3.5
MDJ				sP		11 03 58.5	
MDJ				S	Sn	11 06 12.5	-6.8
MDJ				ScP	ScP	11 12 17.0	-0.2
MDJ				PcS	PcS	11 12 24.5	+2.1
MDJ				ScS	ScS	11 15 54.5	-0.3
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,47nm,3.2s						
MDJ				LR	LR		
	comp=N,200nm,18.1s						
MDJ				LR	LR		
	comp=E,130nm,18.1s						
MDJ				LR	LR		
	comp=Z,250nm,18.9s						
BJI	Beijing	15.55	314	P	Pn	11 03 47.5	-1.6
BJI				S	Sn	11 06 34.0	-6.2
BJI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,120nm,4.3s						
BJI				LR	LR		
	comp=N,450nm,19.2s						
BJI				LR	LR		
	comp=E,510nm,15.5s						
BJI				LR	LR		
	comp=Z,300nm,26.6s						
ASAJ	Asahikawa	17.05	31	P	Pn	11 04 03.3	-4.7
ASAJ	Asahikawa	17.05	31	P	Pn	11 04 03.3	-4.7
	comp=Z,0.4nm,0.3s,baz=252,slow=3.2,SNR=3.1						
ASAJ				LR	LR	11 10 46.3	
	comp=Z,325nm,22.0s,baz=320,slow=37						
ENH	Enshi	18.31	276	eP	Pn	11 04 26.6	+3.0
XAN	Xi'an	18.87	288	P	Pn	11 04 29.3	-1.1
XAN				pP	pP	11 04 40.8	0.0
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,26nm,8.4s						
XAN				LR	LR		
	comp=N,160nm,14.7s						
XAN				LR	LR		
	comp=Z,73nm,15.7s						
HHC	Hu-ho-hao-te	18.95	310	eP	Pn	11 04 30.5	-0.8
HHC				pP	pP	11 04 45.0	+3.3
HHC				PP	PnPn	11 04 48.8	+4.0
HHC				S	Sn	11 07 51.3	-12
HHC				SS	SnSn	11 08 18.0	+0.8
HHC				PcP	PcP	11 08 58.0	+3.6
HHC				ScP	ScP	11 12 24.8	-1.2
HHC				PcS	PcS	11 12 33.0	+1.6
HHC				pmax	pmax		
	comp=Z,51nm,0.6s						
HHC				pmax	pmax		
	comp=Z,270nm,4.2s						
HHC				LR	LR		
	comp=N,570nm,12.2s						
HHC				LR	LR		
	comp=E,650nm,11.7s						
HHC				LR	LR		
	comp=Z,830nm,12.4s						
KLR	Kul'dur	19.30	2	eP	P	11 04 28.5	-5.3
YSS	Yuzh-Sakhalins	19.43	26	eP	Pn	11 04 41.0	+4.2
GYA	Guiyang	21.41	267	P	P	11 04 57.5	+0.5
GYA				pP	pP	11 05 14.0	+5.4
GYA				PP	PnPn	11 05 23.5	+5.0
GYA				sP	sP	11 05 26.3	+11
GYA				S	S	11 08 41.5	-11
GYA				PcP	PcP	11 09 02.5	+3.3
GYA				PcS	PcS	11 12 32.0	-5.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,70nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,18.1s						
GYA				LR	LR		
	comp=E,910nm,16.7s						
GYA				LR	LR		
	comp=Z,1μm,16.4s						
QIZ	Qiongzhong	21.78	245	P	P	11 05 05.3	+4.4
QIZ				pP	pP	11 05 19.3	+6.7
QIZ				S	S	11 09 03.5	+4.3
QIZ				pmax	pmax		
	comp=Z,63nm,7.3s						
QIZ				LR	LR		
	comp=Z,240nm,22.2s						
CD2	Chengdu	23.19	279	eP	P	11 05 16.5	+0.8
CD2				pP	pP	11 05 33.5	+5.9
CD2				sP	sP	11 05 42.5	+8.7
CD2				PP	PnPn	11 05 49.0	+6.2
CD2				S	S	11 09 16.5	-7.4
CD2				sS	Sn	11 09 45.0	+0.6
CD2				SS	SnSn	11 10 05.5	+4.5
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
CD2				pmax	pmax		
	comp=Z,180nm,4.2s						
CD2				LR	LR		
	comp=N,260nm,17.8s						
CD2				LR	LR		
	comp=E,270nm,20.2s						
CD2				LR	LR		
	comp=Z,430nm,14.2s						
LZH	Lanzhou	23.26	292	eP	P	11 05 09.5	-7.0
LZH				pP	pP	11 05 26.0	-2.4
LZH				sP	sP	11 05 37.5	+2.9
LZH				S	S	11 09 09.5	-16
LZH				sS	sS	11 09 38.0	-8.4
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
LZH				pmax	pmax		
	comp=Z,77nm,4.0s						
LZH				LR	LR		
	comp=N,150nm,10.1s						
LZH				LR	LR		
	comp=E,620nm,16.9s						
LZH				LR	LR		
	comp=Z,630nm,17.1s						
KMI	Kunming	25.17	266	P	P	11 05 34.3	0.0
KMI				pP	pP	11 05 48.5	+1.5
KMI				S	S	11 09 50.0	-6.2
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				LR	LR		
	comp=N,140nm,16.2s						
KMI				LR	LR		
	comp=E,240nm,14.9s						
KMI				LR	LR		
	comp=Z,280nm,14.3s						
ULN	Ulaanbaatar	25.49	321	eP	P	11 05 37.7	+0.8
	comp=Z,9.7nm,0.9s						
SONM	Songino Array	25.83	321	P	P	11 05 38.7	-1.2
SONM	Songino Array	25.83	321	P	P	11 05 38.7	-1.2
	comp=Z,3.9nm,0.4s,baz=127,slow=10,SNR=30						
SONM				LR	LR	11 17 24.8	
	comp=Z,351nm,18.2s,baz=128,slow=40						
GTA	Gaotai	26.95	299	eP	P	11 05 51.0	+0.9
GTA				pP	pP	11 06 08.3	+5.4
GTA				sP	sP	11 06 17.8	+8.9
GTA				PP	PnPn	11 06 40.0	+5.8
GTA				S	S	11 10 21.8	-2.1
GTA				sS	sS	11 10 51.8	+6.2
GTA				SS	SnSn	11 11 40.0	+7.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,57nm,6.2s						
GTA				LR	LR		
	comp=N,130nm,18.5s						
GTA				LR	LR		
	comp=E,190nm,18.1s						
GTA				LR	LR		
	comp=Z,260nm,18.0s						
ZAK	Zakamensk	28.97	323	⇓iP	P	11 06 07.7	-0.2
ZAK				e		11 06 19.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
PETK	Petropavlovsk-	30.45	33	LR	LR	11 17 24.8	
	comp=Z,83nm,22.0s,baz=79,slow=34						
CMAR	Chiang Mai Arr	30.99	256	P	P	11 06 25.4	-0.6
CMAR				PcP	PcP	11 09 21.4	+0.2
CMAR	Chiang Mai Arr	30.99	256	P	P	11 06 25.4	-0.6
	comp=Z,0.9nm,0.5s,baz=50,slow=7.2,SNR=5.5						
CMAR				PcP	PcP	11 09 21.4	+0.2
	comp=Z,1.0nm,0.6s,baz=42,slow=1.5,SNR=5.5						
CMAR				LR	LR	11 20 39.4	
	comp=Z,158nm,18.4s,baz=326,slow=40						
WMQ	Urumqi	36.64	304	P	P	11 07 15.3	+0.4
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WMQ				LR	LR		
	comp=N,110nm,21.0s						
WMQ				LR	LR		
	comp=E,170nm,14.0s						
WMQ				LR	LR		
	comp=Z,130nm,21.0s						
TAPN	Taplejung	37.61	277	eP	P	11 07 24.4	+0.8
	comp=Z,7.9nm,0.4s						
ODAN	Odare	38.01	276	eP	P	11 07 26.8	-0.1
	comp=Z,17nm,0.4s						
RAMN	Ramite	38.67	277	eP	P	11 07 32.0	-0.5
	comp=Z,18nm,0.4s						
JIRN	Jiri	38.84	278	eP	P	11 07 34.3	+0.2
	comp=Z,38nm,0.7s						
GUN	Gumba	39.05	278	eP	P	11 07 36.4	+0.6
	comp=Z,107nm,0.8s						
PKI	Pulchoki	39.53	278	eP	P	11 07 40.0	+0.2
	comp=Z,15nm,0.4s						
PKIN	Phulchoki	39.54	278	eP	P	11 07 39.8	0.0
KKN	Kakani	39.59	278	eP	P	11 07 40.1	0.0
	comp=Z,40nm,0.7s						
DMN	Daman	39.79	278	eP	P	11 07 41.9	+0.1
ZALV	Zalesovo Beam	40.71	319	i P	P	11 07 48.5	-0.3
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	Zalesovo Beam	40.71	319	P	P	11 07 48.3	-0.5
ZALV	Zalesovo Beam	40.71	319	P	P	11 07 48.3	-0.5
	comp=Z,1.6nm,0.3s,baz=101,slow=7.7,SNR=5.5						
ZALV				LR	LR	11 26 28.6	
	comp=Z,184nm,18.1s,baz=249,slow=39						
DANN	Dangsing	40.76	280	eP	P	11 07 50.0	+0.1
	comp=Z,15nm,0.4s						
MK31	Makanchi Array	40.80	308	eP	P	11 07 49.2	-0.5
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK31	Makanchi Array	40.80	308	eP	P	11 07 49.1	-0.5
MKAR	Makanchi Array	40.80	308	eP	P	11 07 48.7	-0.9
MKAR						11 09 49.5	
MKAR	Makanchi Array	40.80	308	eP	P	11 07 48.7	-0.9
MKAR				PcP	PcP	11 09 49.5	-0.5
MKAR	Makanchi Array	40.80	308	P	P	11 07 49.9	+0.2
	comp=Z,7.7nm,0.6s,baz=93,slow=10,SNR=76						
MKAR				PcP	PcP	11 09 49.5	-0.5
	comp=Z,1.

comp=Z,14nm,0.5s
NVS Novosibirsk 41.86 320 *e*P P 11 07 54.8 -3.4
TKM2 Tokmak 2 45.40 302 *e*P **P 11 08 28.0 +0.9**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 45.40 302 *e*P **P 11 08 28.0 +0.9**
comp=Z,9.7nm,0.6s
TKM2 Tokmak 2 45.40 302 ⇑S **P 11 08 27.7 +0.6**
comp=Z,4.8nm,0.6s
AAK Ala-Archa 46.22 302 LR LR 11 29 26.5
comp=Z,60nm,18.8s,baz=238,slow=38
VOSK Vostochnaya 48.65 316 ⇑P **P 11 08 51.5 -0.5**
comp=Z,6.1nm,0.7s
VOSK Vostochnaya 48.65 316 P **P 11 08 50.8 -1.2**
VOSK pmax pmax
comp=Z,5.0nm,0.6s
BVA0 Borovoye Array 49.02 316 ⇑P **P 11 08 54.8 -0.2**
comp=Z,9.7nm,0.5s,baz=91,slow=9.8,SNR=48
BVA0 Borovoye Array 49.02 316 *i* P **P 11 08 54.7 -0.2**
BVA0 pmax pmax
comp=Z,13nm,0.5s
BVAR Borovoye Array 49.02 316 P **P 11 08 55.0 +0.1**
BVAR pmax pmax
comp=Z,17nm,0.5s
BVAR Borovoye Array 49.02 316 P **P 11 08 55.0 +0.1**
BVAR Borovoye Array 49.02 316 P **P 11 08 55.0 +0.1**
comp=Z,16nm,0.5s,baz=97,slow=9.9,SNR=53
BRVK Borovoye 49.09 316 ⇓P **P 11 08 55.2 -0.2**
comp=Z,22nm,0.4s
BRVK Borovoye 49.09 316 *c i*P **P 11 08 55.2 -0.2**
BRVK pmax pmax
comp=Z,21nm,1.0s
WRAB Tennant Creek 49.70 175⇑*e*P **P 11 09 01.3 +1.0**
WRA Warramunga Arr 49.71 175 P **P 11 08 59.4 -1.1**
WRA Warramunga Arr 49.71 175 P **P 11 08 59.4 -1.1**
comp=Z,1.0nm,0.8s,baz=353,slow=8.0,SNR=5.9
ASAR Alice Springs 53.38 176 P **P 11 09 28.6 +0.8**
ASAR Alice Springs 53.38 176 P **P 11 09 28.6 +0.8**
comp=Z,0.4nm,0.6s,baz=11,slow=13,SNR=10
SVE Sverdlovsk 54.70 321⇑*e*P **P 11 09 37.4 +0.3**
SVE pmax pmax
comp=Z,20nm,0.9s
SVE MLR MLR
comp=Z,446nm,21.0s
ABKAR Akbulak array 55.74 312 *e*P **P 11 09 44.5 -0.2**
comp=Z,1.5nm,0.4s
ARU Arti 55.87 320 *d i*P **P 11 09 45.1 -0.4**
ARU 11 11 45.5
ARU S **S 11 17 25.8 -3.3**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU MLR MLR
comp=Z,341nm,18.0s
AKTO Aktyubinsk 56.81 313 P **P 11 09 52.1 -0.3**
AKTO pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 56.81 313 P **P 11 09 52.0 -0.3**
AKTO Aktyubinsk 56.81 313 P **P 11 09 52.0 -0.3**
comp=Z,4.0nm,0.8s,baz=73,slow=8.8,SNR=5.9
COLA College 59.76 29⇓*e*P **P 11 10 13.7 +1.1**
ILAR Eielson Array 60.18 29 P **P 11 10 15.1 -0.5**
ILAR Eielson Array 60.18 29 P **P 11 10 15.1 -0.5**
comp=Z,1.5nm,0.8s,baz=274,slow=5.6,SNR=18
MENT Mentasta 61.86 31 *e*P **P 11 10 28.1 +1.0**
STKA Stephens Creek 62.34 169 P **P 11 10 30.4 -0.1**
STKA Stephens Creek 62.34 169 P **P 11 10 30.4 -0.1**
comp=Z,1.3nm,0.6s,baz=5.5,slow=21,SNR=5.3
STKA LR LR 11 36 43.0
comp=Z,111nm,21.7s,baz=24,slow=35
ARCES ARCESS Array B 67.36 338 P **P 11 11 01.4 -1.3**
ARCES ARCESS Array B 67.36 338 P **P 11 11 01.4 -1.3**
comp=Z,2.9nm,0.9s,baz=64,slow=8.2,SNR=8.3
ARCES LR LR 11 45 39.9
comp=Z,141nm,18.6s,baz=283,slow=40
JOF Joensuu 67.86 331 *e*P P 11 11 02.8 -3.1
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 67.86 331 *e*p P 11 11 02.8 -3.1
comp=Z,5.3nm,0.6s
OBN Obninsk 68.23 322 *e*P **P 11 11 07.2 -1.2**
OBN pmax pmax
comp=Z,5.0nm,1.2s
OBN MLR MLR
comp=Z,100nm,19.0s
KBZ Khabaz 68.49 309 P **P 11 11 10.2 0.0**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 68.49 309 P **P 11 11 10.2 0.0**
KBZ Khabaz 68.49 309 P **P 11 11 10.2 0.0**
comp=Z,5.2nm,0.9s,baz=347,slow=2.5,SNR=7.8
KBZ LR LR 11 46 54.6
comp=Z,51nm,18.6s,baz=187,slow=41
KIV Kislovodsk 68.55 309 *e*P **P 11 11 10.5 -0.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KAF Kangasniemi 70.31 331 *e*P **P 11 11 18.8 -2.3**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 70.31 331 *e*p **P 11 11 18.8 -2.3**
comp=Z,1.9nm,0.5s
FINES FINESS Array B 70.71 330 P **P 11 11 22.3 -1.3**
FINES FINESS Array B 70.71 330 P **P 11 11 22.3 -1.3**
comp=Z,1.8nm,0.4s,baz=63,slow=5.5,SNR=24
FINES LR LR 11 45 54.0
comp=Z,136nm,18.3s,baz=30,slow=39
ANN Anapa 71.70 312 *e*P P 11 11 37.2 +7.3
ANN pmax pmax
comp=Z,33nm,1.0s
AKASG Malin Array Be 74.11 320 *c e*P **P 11 11 42.5 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 74.11 320 P **P 11 11 42.3 -1.7**
AKASG Malin Array Be 74.11 320 P **P 11 11 42.3 -1.7**
comp=Z,1.4nm,0.3s,baz=56,slow=6.5,SNR=4.5
AKASG LR LR 11 46 59.7
comp=Z,120nm,19.8s,baz=180,slow=38
YKA Yellowknife Ar 74.28 26 P **P 11 11 45.0 +0.2**
YKA Yellowknife Ar 74.28 26 P **P 11 11 45.0 +0.2**
comp=Z,1.9nm,0.7s,baz=301,slow=5.6,SNR=12
RAYN Ar Rayn 74.66 288 *e*P **P 11 11 48.4 +0.6**
comp=Z,5.4nm,1.0s
BR131 Keskin Array S 76.45 308 *e*P **P 11 11 57.8 -0.1**
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 76.45 308 P **P 11 11 57.3 -0.6**
BRTR Keskin Array B 76.45 308 P **P 11 11 57.3 -0.6**
comp=Z,3.5nm,0.8s,baz=88,slow=4.3,SNR=14
NOA NORSAR Array B 76.94 334 P **P 11 11 58.5 -1.7**
NOA NORSAR Array B 76.94 334 P **P 11 11 58.5 -1.7**
comp=Z,4.2nm,0.9s,baz=48,slow=5.5,SNR=9.7
NOA LR LR 11 50 43.8
comp=Z,39nm,18.8s,baz=90,slow=39
CRVS Cervenica-Dubn 79.35 321 *e*P **P 11 12 12.0 -1.7**
CRVS Cervenica-Dubn 79.35 321 *e*P **P 11 12 12.0 -1.7**
KECS Kecovo 80.12 321 *e*P **P 11 12 16.7 -1.2**
KECS Kecovo 80.12 321 *e*P **P 11 12 16.7 -1.2**
VYHS Vyhne 81.02 321 *e*P **P 11 12 23.4 +0.7**
VYHS Vyhne 81.02 321 *e*P **P 11 12 23.4 +0.7**
CLL Collm 82.32 326 *e*P **P 11 12 29.0 -0.4**
CLL MLR MLR
comp=Z,200nm,18.5s
CLL Collm 82.32 326 *e*P **P 11 12 29.0 -0.4**
CLL *e* 11 12 32.0
CLL LmV 11 53 00.0
comp=Z,200nm,18.5s
GERES GERESS Array B 83.52 324 P **P 11 12 35.6 -0.2**
GERES GERESS Array B 83.52 324 P **P 11 12 35.7 -0.2**
comp=Z,0.5nm,0.5s,baz=20,slow=4.3,SNR=5.1
GERES LR LR 11 53 42.0
comp=Z,118nm,18.2s,baz=307,slow=38
HLID Hailey 85.72 41 *e*P **P 11 12 47.9 +0.7**
comp=Z,27nm,2.4s
NVAR Mina Array Bea 86.43 47 P **P 11 12 51.6 +0.8**
NVAR Mina Array Bea 86.43 47 P **P 11 12 51.6 +0.8**
comp=Z,0.8nm,0.7s,baz=290,slow=5.4,SNR=11
PDAR Pinedale Array 88.96 40 P **P 11 13 02.0 -0.9**
PDAR Pinedale Array 88.96 40 P **P 11 13 02.0 -0.9**
comp=Z,0.8nm,0.9s,baz=323,slow=2.2,SNR=7.0
ULM Lac du Bonnet 90.17 28 P **P 11 13 08.4 +0.3**
ULM Lac du Bonnet 90.17 28 P **P 11 13 08.4 +0.3**
comp=Z,3.0nm,0.6s,baz=332,slow=7.9,SNR=3.7
ESDC Sonseca Array 98.91 326 LR LR 12 07 39.8
comp=Z,76nm,18.7s,baz=160,slow=41

ISCJB ***28*** *11:05:06.0±1.0, 36°.03N±0°.05×70°.2E±0°.2, h124km, Error ellipse: s-maj=18.7km s-min=5.8km az=164.2*
NNC ***28*** *11:05:11.0±7.6, 36°.29N×70°.40E, h166km±72km, mb3.5, mpv3.7, Error ellipse: s-maj=61.5km s-min=43.1km az=23.0*

ISC 28 11:05:06.7±1.2, 36°.02N±0°.08×70°.1E±0°.2, h124km, n12, σ2.03/15, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.64**	**146**	⇑P	**Pn**	**11 05 48.7**	**+0.1**
CEP				S	**Sn**	**11 06 20.0**	**-0.8**
CHCP	**Chirah Chowk**	**3.50**	**131**	P	**Pn**	**11 05 59.6**	**-0.2**
SARP	**Sargodha**	**4.61**	**152**	P	**Pn**	**11 06 14.0**	**-0.5**
AML	**Almayashu**	**6.71**	**23**	P	**Pn**	**11 06 42.7**	**-0.3**
SNR=6.4							
KK31	**Karatay Array**	**7.08**	**2**	P	**Pn**	**11 06 47.5**	**-0.3**
2.0nm,0.3s,baz=192,slow=14,SNR=50							
KK31				⇓S	**Sn**	**11 08 07.4**	**+0.7**
11nm,0.6s,baz=192,slow=23,SNR=14							
EKS2	**Erkin-Say**	**7.21**	**22**	P	**Pn**	**11 06 50.0**	**+0.3**
SNR=6.3							
KZA	**Kyzart**	**7.25**	**32**	P	**Pn**	**11 06 51.1**	**+0.7**
SNR=11							
ULHL	**Ulahol**	**7.83**	**36**	P	**Pn**	**11 06 58.1**	**+0.1**
SNR=6.2							
USP	**Ospenovka**	**7.99**	**24**	P	**Pn**	**11 06 59.6**	**-0.3**
SNR=7.3							
TKM2	**Tokmak 2**	**8.09**	**30**	⇓P	**Pn**	**11 07 00.7**	**-0.9**
1.9nm,0.5s							
AB31	**Akbulak array**	**15.18**	**334**	⇓P	**Pn**	**11 08 35.5**	**+1.1**
6.2nm,0.5s							
AB31				⇑S	**Sn**	**11 11 16.6**	**-5.7**
1.4nm,0.7s,baz=162,slow=23,SNR=4.0							
AKTO	**Aktyubinsk**	**16.86**	**332**	⇑P	**P**	**11 08 58.7**	**+3.6**
4.6nm,1.1s							

JMA 28 11:08:03.1±0.2, 32°.87N×140°.75E, h54km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.82**	**287**	P	Pn	11 08 18.9	+0.3
JHJ2				S	Sn	11 08 30.2	+0.3
JHCJ	**Hachijojimakas**	**0.83**	**284**	P	Pn	11 08 18.9	+0.3
JHCJ				S	Sn	11 08 29.3	-0.7
JMY	**Miyakejima3**	**1.58**	**320**	P	Pn	11 08 29.6	+0.7
JMY				*e*S	Sn	11 08 49.0	+0.7
BSO1	**Boso 1**	**1.79**	**6**	P	Pn	11 08 31.5	+0.6
JKO	**Kozu shima**	**1.88**	**315**	P	Pn	11 08 33.8	+0.9
JKO				S	Sn	11 08 55.8	+0.3
BSO3	**Boso 3**	**1.94**	**354**	P	Pn	11 08 34.0	+0.7
BSO3				*e*S	Sn	11 08 57.3	+1.1
JIM2	**Oshima 3**	**2.15**	**330**	P	Pn	11 08 37.1	+0.6
JIM2				*e*S	Sn	11 09 01.9	-0.1
JOD2	**Odawara 2**	**2.76**	**330**	P	Pn	11 08 45.8	+0.9
JOD2				*e*S	Sn	11 09 15.9	-1.1
SHZ3	**Shizuoka 3**	**3.04**	**317**	P	Pn	11 08 51.2	+2.4
JYN	**Shimob**	**3.20**	**326**	P	Pn	11 08 53.1	+2.2
JRY	**Ryogami san**	**3.49**	**335**	P	Pn	11 08 56.6	+1.7
JRY				S	Sn	11 09 36.2	+1.2
MAT	**Matsushiro**	**4.22**	**331**	P	Pn	11 09 07.8	+2.9
MAT				S	Sn	11 09 56.3	+3.4

IDC 28 11:57:15.9±2.1, 13°.75N×92°.58E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=62.9km s-min=28.4km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.70**	**52**	Pn	Pn	11 59 09.0	-0.3
0.3nm,0.3s,baz=234,slow=14,SNR=3.4							
MKAR	**Makanchi Array**	**34.05**	**347**	P	P	12 04 01.6	-0.2
0.3nm,0.4s,baz=162,slow=9.2,SNR=4.2							
WRA	**Warramunga Arr**	**53.00**	**128**	P	P	12 06 34.8	0.0
0.4nm,0.8s,baz=302,slow=9.2,SNR=4.4							
ASAR	**Alice Springs**	**54.91**	**132**	P	P	12 06 48.9	0.0
0.2nm,0.4s,baz=311,slow=7.1,SNR=12							

PRE 28 12:07:52.7±2.8, 21°.00S×33°.48E, h10km, ML4.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.48**	**247**	*e*P	Pn	12 08 49.1	+2.1
MSNA				*e*S	Sn	12 09 28.2	-0.2
MSNA				AML	AML	12 09 51.6	
comp=Z,193nm,0.5s							
POGA	**Pongola**	**6.56**	**195**	*e*P	Pn	12 09 30.7	+1.3
POGA				*e*S	Sn	12 10 41.8	-2.6
POGA				AML	AML	12 11 31.8	
comp=Z,44nm,0.5s							
SLR	**Silverton**	**6.71**	**224**	*e*P	Pn	12 09 32.5	+1.0
SLR				*e*S	Sn	12 10 47.1	-1.1
SLR				AML	AML	12 11 31.4	
comp=Z,66nm,0.5s							
ERPM	**east rand prop**	**7.16**	**221**	*e*P	Pn	12 09 37.7	-0.1
ERPM				*e*S	Sn	12 10 54.8	-4.7
ERPM				AML	AML	12 11 51.8	
comp=Z,54nm,0.7s							
LSZ	**Lusaka**	**7.60**	**318**	*e*P	Pn	12 09 46.0	+2.2
LSZ				*e*S	Sn	12 11 06.7	-3.4
LSZ	**Lusaka**	**7.60**	**318**	*e*P	Pn	12 09 47.6	+3.8
LSZ				*e*S	Sn	12 11 02.8	-7.4
KSR	**Koster**	**7.74**	**230**	*e*P	Pn	12 09 47.2	+1.6
KSR				*e*S	Sn	12 11 11.0	-2.6
KSR				AML	AML	12 12 04.2	
comp=Z,56nm,0.5s							
PRYS	**Parys**	**8.13**	**222**	*e*P	Pn	12 09 51.5	+0.5
PRYS				*e*S	Sn	12 11 18.6	-4.7
PRYS				AML	AML	12 12 19.4	
comp=Z,14nm,0.5s							
PRYS	**Parys**	**8.13**	**222**	*e*P	Pn	12 09 51.0	0.0
PRYS				*e*S	Sn	12 11 15.1	-8.2
PRYS				AML	AML	12 12 19.2	
comp=Z,26nm,0.5s							
LBTB	**Lobatse**	**8.29**	**240**	*e*P	Pn	12 09 53.6	+0.4
LBTB				*e*S	Sn	12 11 23.2	-3.8
LBTB				AML	AML	12 12 22.0	
comp=Z,35nm,0.5s							
LBTB	**Lobatse**	**8.29**	**240**	*e*P	Pn	12 09 50.6	-2.6
LBTB				*e*S	Sn	12 11 14.6	-12
LBTB				AML	AML	12 12 22.0	
comp=Z,35nm,0.5s							
SWZ	**Schweizer**	**9.66**	**229**	*e*P	Pn	12 10 11.9	-0.1
SWZ				*e*S	Sn	12 11 54.4	-6.3
SWZ				AML	AML	12 13 10.8	
comp=Z,26nm,0.6s							
SWZ	**Schweizer**	**9.66**	**229**	*e*P	Pn	12 10 11.9	-0.1
SWZ				*e*S	Sn	12 11 47.5	-13
SWZ				AML	AML	12 12 18.2	
comp=Z,13nm,0.6s							
KSD	**Kokstad**	**10.18**	**200**	*e*S	Sn	12 12 06.4	-7.2
KSD				AML	AML	12 13 16.4	
comp=Z,26nm,0.5s							
BOSA	**Boshof**	**10.64**	**223**	*e*P	Pn	12 10 24.5	-0.9
BOSA				*e*S	Sn	12 12 18.8	-6.0
BOSA				AML	AML	12 13 34.2	
comp=Z,19nm,0.7s							
BOSA	**Boshof**	**10.64**	**223**	*e*P	Pn	12 10 25.1	-0.3
BOSA				*e*S	Sn	12 12 15.2	-10
BOSA				AML	AML	12 13 34.0	
comp=Z,19nm,0.7s							
HVD	**Gariep Dam**	**11.96**	**215**	*e*P	Pn	12 10 47.2	+3.7
HVD				*e*S	Sn	12 12 49.9	-7.3
HVD				AML	AML	12 14 19.4	
comp=Z,14nm,0.7s							
GRM	**Grahamstown**	**13.74**	**205**	*e*P	Pn	12 11 08.1	+0.5
GRM				*e*S	Sn	12 13 34.5	-5.9
GRM				AML	AML	12 15 37.5	
comp=Z,6.1nm,0.8s							
TSUM	**Tsumeb**	**15.04**	**274**	*e*S	Sn	12 14 04.0	-8.5
SUR	**Sutherland**	**16.00**	**222**	*e*P	Pn	12 11 38.7	+0.5
SUR				*e*S	Sn	12 14 27.9	-8.0
SUR				AML	AML	12 16 28.6	
comp=Z,5.3nm,0.7s							
SUR	**Sutherland**	**16.00**	**222**	*e*P	P	12 11 40.3	-1.5
SUR				*e*S	Sn	12 14 20.6	-15
SUR				AML	AML	12 14 40.4	
comp=Z,2.6nm,0.8s							
CVNA	**Calvinia**	**16.12**	**227**	*e*P	P	12 11 41.3	-1.6
CVNA				*e*S	Sn	12 14 30.6	-8.0
CVNA				AML	AML	12 16 18.8	
comp=Z,11nm,0.7s							

AUST ***28*** *12:15:36.3, 5°.00S×122°.00E, h60km*
IDC ***28*** *12:16:30.1±1.7, 8°.62S×125°.04E, h0km, mb3.3/1, mb1 4.0/6, mb1mx3.7/22, mbtmp3.8/6, ML3.9/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/13, Error ellipse: s-maj=34.6km s-min=22.0km az=80.0*
DJA ***28*** *12:16:35.7±1.3, 9°.S±3°×12°.4E±°, h6km±12km, M3.8/4, MLv3.8/4*

ISC 28 12:16:35.1±1.8, 8°.69S±0°.07×124°.67E±0°.07, h32km±15km, n17, σ1.58/20, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.13**	**201**	P	**Pb**	**12 16 55.8**	**-0.5**
SOEI				S	**Sn**	**12 17 12.4**	**+2.9**
SOEI	**Soe**	**1.13**	**201**	P	**Pn**	**12 16 52.9**	**-2.0**
baz=5.3,SNR=98							
BATI	**Baumata**	**1.81**	**213**	P	**Pb**	**12 17 06.4**	**-1.3**
BATI				S	**Sb**	**12 17 31.7**	**+1.8**
BATI	**Baumata**	**1.81**	**213**	Pn	**Pb**	**12 17 06.6**	**-1.1**
37nm,0.3s,baz=65,slow=0.6,SNR=17							
BATI				Sn	**Sb**	**12 17 32.2**	**+2.3**
27nm,0.3s,baz=29,slow=19,SNR=12							
MMRI	**Maumere**	**2.41**	**271**	P	**Pn**	**12 17 12.9**	**+0.5**
MMRI				S	**Sn**	**12 17 42.2**	**+1.4**
BBSI	**Bau Bau**	**3.80**	**327**	P	**Pn**	**12 17 32.1**	**+0.5**
BBSI				S	**Sn**	**12 18 16.8**	**+1.5**
WSI	**Waingapu**	**4.43**	**257**	P	Pb	12 17 47.1	-5.1
baz=5.0,SNR=3.6							
LBFI	**Labuhan Bajo,**	**4.74**	**272**	P	**Pn**	**12 17 45.0**	**+0.6**
LBFI				S	**Sn**	**12 18 37.2**	**-1.1**
KAPI	**Kappang**	**6.10**	**306**	Pn	Pn	12 18 06.4	+3.2
0.3nm,0.3s,baz=120,slow=16,SNR=2.5							
KAPI				LR	LR	12 21 04.0	
comp=Z,59nm,18.1s,baz=80,slow=43							
MTN	**Manton Dam**	**7.57**	**124**	P	**Pn**	**12 18 24.3**	**+0.9**
baz=12,SNR=23							
KNRA	**Kununurra**	**8.01**	**150**	P	**Pn**	**12 18 29.4**	**0.0**
baz=13,SNR=20							
KDU	**Kakadu**	**8.63**	**118**	P	**Pn**	**12 18 38.9**	**+1.0**
baz=13,SNR=8.5							
FITZ	**Fitzroy Crossi**	**9.40**	**174**	Pn	**Pn**	**12 18 47.4**	**-1.1**
1.5nm,0.3s,baz=357,slow=12,SNR=54							
FITZ				Sn	Sn	12 20 26.8	-6.5
2.5nm,0.3s,baz=83,slow=16,SNR=17							
FITZ	**Fitzroy Crossi**	**9.40**	**174**	P	**Pn**	**12 18 47.5**	**-1.0**
baz=14,SNR=35							
WRA	**Warramunga Arr**	**14.58**	**141**	Pn	Pn	12 19 55.5	-3.9
1.4nm,0.3s,baz=320,slow=13,SNR=119							
WRA				Sn	Sn	12 22 28.6	-11
0.7nm,0.3s,baz=317,slow=25,SNR=10							
ASAR	**Alice Springs**	**17.32**	**150**	P	**Pn**	**12 20 32.3**	**-2.4**
0.3nm,0.3s,baz=318,slow=10,SNR=30							
ASAR				S	Sn	12 23 36.7	-10
0.2nm,0.3s,baz=314,slow=20,SNR=11							
MKAR	**Makanchi Array**	**66.88**	**330**	P	**P**	**12 27 24.5**	**+0.3**
0.1nm,0.5s,baz=133,slow=8.5,SNR=2.7							

IDC 28 12:37:44.4±1.9, 0°.05N×126°.20E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/22, mbtmp3.8/3, Error ellipse: s-maj=161.9km s-min=26.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.41**	**159**	P	P	12 42 33.8	-0.3
2.8nm,0.6s,baz=337,slow=11,SNR=60							
ASAR	**Alice Springs**	**24.73**	**163**	P	P	12 43 08.0	+0.2
0.9nm,0.3s,baz=345,slow=12,SNR=75							
MKAR	**Makanchi Array**	**60.29**	**327**	P	P	12 47 54.9	-0.1
0.3nm,0.5s,baz=121,slow=6.8,SNR=5.0							

IDC 28 12:44:36.2±8.0, 12°.81N×144°.61E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, MS4.0/1, Ms1 4.0/1, ms1mx2.5/21, Error ellipse: s-maj=301.9km s-min=29.0km az=80.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**14.40**	**351**	LR	LR	12 52 16.1	
comp=Z,691nm,21.7s,baz=354,slow=32							
WRA	**Warramunga Arr**	**34.08**	**197**	P	P	12 51 22.8	+0.2
0.5nm,0.7s,baz=22,slow=10,SNR=11							
ASAR	**Alice Springs**	**37.73**	**196**	P	P	12 51 53.5	-0.4
0.2nm,0.5s,baz=15,slow=13,SNR=8.1							
MKAR	**Makanchi Array**	**61.88**	**316**	P	P	12 54 57.5	0.0
0.1nm,0.5s,baz=111,slow=7.9,SNR=2.5							

IDC 28 12:59:28.8±1.2, 37°.62N×95°.78E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/29, mbtmp3.4/7, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/32, Error ellipse: s-maj=36.6km s-min=21.9km az=55.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.84**	**34**	Pn	Pn	13 02 33.9	+1.2
0.1nm,0.3s,baz=220,slow=14,SNR=4.2							
SONM				LR	LR	13 07 53.7	
comp=Z,38nm,19.1s,baz=221,slow=39							
MKAR	**Makanchi Array**	**13.55**	**317**	Pn	Pn	13 02 40.2	-2.1
0.3nm,0.3s,baz=130,slow=14,SNR=12							
MKAR				Sn	Sn	13 05 10.8	-2.8
0.1nm,0.3s,baz=124,slow=23,SNR=4.6							
BVAR	**Borovoye Array**	**23.40**	**319**	P	P	13 04 38.5	-0.7
0.4nm,0.5s,baz=120,slow=8.7,SNR=3.5							
KSRS	**Korea Array**	**25.43**	**80**	P	P	13 04 57.9	-0.2
0.6nm,0.5s,baz=281,slow=8.6,SNR=2.6							
ILAR	**Eielson Array**	**66.87**	**24**	P	P	13 10 21.9	-0.3
0.3nm,0.8s,baz=309,slow=4.5,SNR=4.0							
WRA	**Warramunga Arr**	**67.79**	**141**	P	P	13 10 28.1	-0.5
0.4nm,0.9s,baz=341,slow=8.1,SNR=3.3							
ASAR	**Alice Springs**	**70.72**	**143**	P	P	13 10 47.5	+0.8
0.2nm,0.6s,baz=329,slow=6.5,SNR=6.3							

IDC 28 13:13:22.8±1.5, 37°.51N×95°.90E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/28, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=51.1km s-min=30.1km az=48.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.87**	**33**	Pn	Pn	13 16 27.3	+0.1
0.3nm,0.3s,baz=218,slow=15,SNR=5.1							
MKAR	**Makanchi Array**	**13.69**	**317**	Pn	Pn	13 16 33.0	-5.1
0.3nm,0.3s,baz=129,slow=14,SNR=18							
MKAR				Sn	Sn	13 19 01.6	-9.4
0.1nm,0.3s,baz=125,slow=24,SNR=5.7							
ASAR	**Alice Springs**	**70.58**	**143**	P	P	13 24 40.0	0.0
0.1nm,0.5s,baz=331,slow=6.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**85.39**	**283**	P	P	13 26 02.5	0.0
0.1nm,0.4s,baz=35,slow=3.6,SNR=3.2							

WEL 28 13:15:43.5±0.3, 45°.51S×166°.48E, h20km±1km, ML4.0/20, 1C, Error ellipse: s-maj=2.8km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**86**	P*	Pb	13 15 52.6	-0.5
DCZ				S*	Sb	13 15 59.6	-0.1
DCZ				AML	AML	13 15 59.8	
DCZ				AML	AML	13 15 60.0	
WHZ	**Wether Hill Ro**	**1.10**	**111**	PN	Pn	13 16 03.1	-0.7
WHZ				SN	Sn	13 16 18.7	+0.3
WHZ				AML	AML	13 16 26.6	
MLZ	**Mavora Lakes**	**1.20**	**83**	PN	Pn	13 16 04.2	-1.1
MLZ				AML	AML	13 16 20.6	
MLZ				AML	AML	13 16 30.4	
MSZ	**Milford Sound**	**1.32**	**51**	PN	Pn	13 16 07.0	+0.2
MSZ				SN	Sg	13 16 26.9	+0.5
MSZ				AML	AML	13 16 30.2	
MSZ				AML	AML	13 16 30.2	
MSZ				AML	AML	13 16 34.4	
APZ	**The Paps**	**1.69**	**142**	PN	Pn	13 16 12.7	+0.8
APZ				SN	Sb	13 16 34.2	-0.6
WKZ	**Wanaka**	**1.92**	**70**	PN	Pn	13 16 16.4	+1.3
WKZ				AML	AML	13 16 45.7	
WKZ				AML	AML	13 16 45.9	

WKZ				AML	AML	13 16 45.9	
EAZ	**Earnscleugh**	**2.01**	**83**	PN	Pn	13 16 17.7	+1.4
EAZ				AML	AML	13 16 48.5	
EAZ				AML	AML	13 16 52.1	
SYZ	**Scrubby Hill**	**2.12**	**120**	⇑PN	Pb	13 16 20.0	-1.2
JCZ	**Jackson Bay**	**2.17**	**49**	PN	Pn	13 16 19.8	+1.2
JCZ				AML	AML	13 16 57.1	
JCZ				AML	AML	13 17 01.1	
TUZ	**Tuapeka**	**2.25**	**103**	PN	Pb	13 16 21.7	-1.7
TUZ				AML	AML	13 16 55.0	
TUZ				AML	AML	13 16 57.9	
LBZ	**Lake Benmore**	**2.86**	**68**	PN	Pn	13 16 28.5	+0.5
LBZ				AML	AML	13 17 11.5	
LBZ				AML	AML	13 17 19.2	
ODZ	**Otahua Downs**	**2.98**	**82**	PN	Pn	13 16 30.0	+0.4
FOZ	**Fox Glacier**	**3.01**	**51**	AML	AML	13 17 24.8	
FOZ				AML	AML	13 17 24.9	
RPZ	**Rata Peaks**	**3.73**	**63**	PN	Pn	13 16 41.0	+1.1
RPZ				AML	AML	13 17 46.1	
RPZ				AML	AML	13 18 02.0	
WVZ	**Waitaha Valley**	**3.91**	**53**	AML	AML	13 16 55.6	
WVZ				AML	AML	13 17 42.4	
MQZ	**McQueen's Vall**	**4.76**	**70**	PN	Pn	13 16 54.7	+0.6
DSZ	**Denniston Nort**	**5.39**	**48**	PN	Pn	13 17 03.0	+0.1
DSZ				AML	AML	13 18 06.1	
DSZ				AML	AML	13 18 15.3	
THZ	**Tophouse**	**5.98**	**53**	PN	Pn	13 17 13.0	+2.0
THZ				AML	AML	13 17 42.6	
QRZ	**Quartz Range**	**6.44**	**45**	PN	Pn	13 17 18.5	+1.4

IDC 28 13:17:41.8±4.2, 6°68S×147°22E, h108km±44km, mb3.1/3, mb1 3.3/5, mb1mx3.1/15, mbtmp3.1/5, Error ellipse: s-maj=47.3km s-min=34.4km az=129.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.71**	**181**	P	Pn	13 18 24.3	+0.4
	30nm,0.3s,baz=348,slow=9.3,SNR=108						
PMG				S	Sn	13 18 57.1	+0.8
	7.8nm,0.3s,baz=323,slow=20,SNR=9.9						
WRA	**Warramunga Arr**	**18.17**	**222**	P	P	13 21 44.7	-1.4
	0.1nm,0.3s,baz=47,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**21.19**	**216**	P	P	13 22 18.1	-0.7
	0.3nm,0.4s,baz=52,slow=9.0,SNR=15						
CMAR	**Chiang Mai Arr**	**53.76**	**299**	P	P	13 26 53.2	-0.2
	0.5nm,0.5s,baz=116,slow=6.3,SNR=3.2						
ILAR	**Eielson Array**	**86.02**	**23**	P	P	13 30 09.0	-0.9
	0.3nm,0.7s,baz=255,slow=5.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**145.46**	**283**	PKPbc	PKPab	13 37 09.2	+0.4
	0.5nm,0.4s,baz=68,slow=3.9,SNR=12						

*ISCJB **28** 13:24:50.6±0.5, 37°78N±0°05×95°91E±0°05, h12km, mb3.8/10, Error ellipse: s-maj=8.0km s-min=5.9km az=12.5*
*IDC **28** 13:24:50.7±0.7, 37°63N×95°89E, h0km, mb3.9/10, mb1 3.9/14, mb1mx3.8/31, mbtmp3.8/14, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/38, Error ellipse: s-maj=25.5km s-min=14.9km az=48.0*
*BJI **28** 13:24:52.8, 37°70N×95°80E, h7km, mB4.4/1, mb4.4/6, ML3.9/8, Ms3.5/7, Ms7 3.3/7*
ISC 28 13:24:52.1±0.6, 37°75N±0°06×95°91E±0°05, h12km, n18, σ2°01/25, mb4.0/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.48**	**60**	Pn	**Pb**	**13 25 51.5**	**-2.2**
GTA				Pg	**Pg**	**13 25 58.3**	**-0.5**
GTA				Sn	**Sb**	**13 26 34.0**	**-2.0**
GTA				Sg	**Sg**	**13 26 45.5**	**+1.6**
GTA				smax	smax		
	comp=N,100nm,0.8s						
GTA				smax	smax		
	comp=E,63nm,0.7s						
GTA				LR	LR		
	comp=N,480nm,7.1s						
GTA				LR	LR		
	comp=E,490nm,6.2s						
GTA				LR	LR		
	comp=Z,450nm,8.5s						
LZH	**Lanzhou**	**6.57**	**102**	*e*Pn	Pn	13 26 32.5	+3.9
LZH				Pg	**Pg**	**13 26 55.5**	**-2.3**
LZH				Sn	**Sn**	**13 27 48.5**	**+5.0**
LZH				Sg	**Sg**	**13 28 21.5**	**-1.4**
LZH				smax	smax		
	comp=N,62nm,0.8s						
LZH				smax	smax		
	comp=E,68nm,0.8s						
LZH				LR	LR		
	comp=E,180nm,8.0s						
LZH				LR	LR		
	comp=Z,180nm,7.1s						
WMQ	**Urumqi**	**8.70**	**317**	*e*P	**Pn**	**13 26 58.8**	**+1.0**
WMQ				S	**Sn**	**13 28 30.5**	**-5.3**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				smax	smax		
	comp=N,23nm,1.2s						
WMQ				smax	smax		
	comp=E,25nm,1.2s						
WMQ				LR	LR		
	comp=N,54nm,27.0s						
WMQ				LR	LR		
	comp=E,56nm,27.0s						
WMQ				LR	LR		
	comp=Z,31nm,14.0s						
SONM	**Songino Array**	**12.67**	**34**	Pn	**Pn**	**13 27 53.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=223,slow=14,SNR=3.6						
SONM				LR	LR	13 33 08.5	
	comp=Z,73nm,20.4s,baz=14,slow=39						
MKAR	**Makanchi Array**	**13.53**	**316**	Pn	**Pn**	**13 28 02.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=128,slow=14,SNR=22						
MKAR				Sn	**Sn**	**13 30 34.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=130,slow=25,SNR=6.1						
GYA	**Guiyang**	**14.47**	**138**	*e*P	**Pn**	**13 28 17.0**	**+0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZALV	**Zalesovo Beam**	**17.91**	**338**	P	**P**	**13 29 02.2**	**+0.7**
	baz=144,slow=10,SNR=8.2						
CMAR	**Chiang Mai Arr**	**19.40**	**171**	P	**Pn**	**13 29 19.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=341,slow=10,0,SNR=16						
BVAR	**Borovoye Array**	**23.38**	**319**	P	**P**	**13 30 01.9**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=97,slow=9.7,SNR=3.7						
KSRS	**Korea Array**	**25.30**	**81**	P	**P**	**13 30 20.1**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=280,slow=9.6,SNR=12						
AKTO	**Aktyubinsk**	**29.69**	**308**	P	**P**	**13 30 59.2**	**+1.5**
	comp=Z,1.4nm,0.4s,baz=126,slow=7.9,SNR=5.0						
BRTR	**Keskin Array B**	**47.74**	**293**	P	**P**	**13 33 29.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=90,slow=7.4,SNR=4.5						
FINES	**FINESS Array B**	**48.25**	**323**	P	**P**	**13 33 33.5**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=38,slow=7.0,SNR=3.1						
ILAR	**Eielson Array**	**66.70**	**25**	P	**P**	**13 35 43.2**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=298,slow=6.2,SNR=7.6						
WRA	**Warramunga Arr**	**67.82**	**141**	P	**P**	**13 35 49.2**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=340,slow=6.9,SNR=6.0						
ASAR	**Alice Springs**	**70.76**	**143**	P	**P**	**13 36 09.2**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=330,slow=6.3,SNR=20						
STKA	**Stephens Creek**	**81.33**	**142**	P	**P**	**13 37 06.7**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=342,slow=3.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**85.36**	**283**	P	**P**	**13 37 29.4**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=72,slow=4.7,SNR=3.4						

IDC 28 13:25:26.0±6.0, 1°59S×99°32E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=297.9km s-min=30.3km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.79**	**120**	P	P	13 32 52.4	-0.4
	0.2nm,0.6s,baz=295,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**40.04**	**126**	P	P	13 33 03.4	+0.1
	0.2nm,0.6s,baz=302,slow=7.8,SNR=7.0						
MKAR	**Makanchi Array**	**50.46**	**345**	P	P	13 34 25.5	-0.1
	0.1nm,0.3s,baz=160,slow=8.4,SNR=4.0						

IDC 28 13:48:27.5±1.9, 37°85N×95°99E, h0km, mb3.1/1, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx1.9/12, Error ellipse: s-maj=56.6km s-min=31.4km az=77.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.55**	**34**	Pn	Pn	13 51 27.4	-0.1
	0.1nm,0.3s,baz=223,slow=16,SNR=2.7						
MKAR	**Makanchi Array**	**13.49**	**316**	Pn	Pn	13 51 35.8	-4.4
	0.5nm,0.3s,baz=124,slow=14,SNR=14						
MKAR				Sn	Sn	13 54 03.7	-7.2
	0.1nm,0.3s,baz=126,slow=27,SNR=4.2						
CMAR	**Chiang Mai Arr**	**19.50**	**172**	P	P	13 52 56.1	-0.2
	baz=342,slow=10,SNR=2.4						
KSRS	**Korea Array**	**25.23**	**81**	LR	LR	14 04 43.5	
	comp=Z,10.0nm,21.8s,baz=220,slow=39						
ASAR	**Alice Springs**	**70.81**	**143**	P	P	13 59 46.1	+0.1
	0.2nm,0.7s,baz=333,slow=6.7,SNR=4.0						

IDC 28 13:50:06.3±3.7, 2°16S×99°48E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=164.6km s-min=23.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.36**	**120**	P	P	13 57 28.2	-1.2
	0.2nm,0.6s,baz=304,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	**39.58**	**126**	P	P	13 57 40.5	+0.8
	0.2nm,0.6s,baz=303,slow=8.2,SNR=5.5						
SONM	**Songino Array**	**50.16**	**6**	P	P	13 59 04.0	+0.3
	0.4nm,0.6s,baz=186,slow=10.0,SNR=3.6						
MKAR	**Makanchi Array**	**51.05**	**345**	P	P	13 59 10.1	-0.2
	0.4nm,0.7s,baz=153,slow=8.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**57.23**	**350**	P	P	13 59 55.1	-0.2
	0.5nm,0.3s,baz=144,slow=8.2,SNR=3.3						
TXAR	**Lajitas Array**	**145.14**	**37**	PKP	PKPbc	14 09 46.2	0.0
	0.2nm,0.5s,baz=241,slow=0.9,SNR=3.1						

IDC 28 14:04:22.8±4.0, 1°77S×141°30E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, Error ellipse: s-maj=138.7km s-min=30.8km az=88.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.30**	**200**	P	P	14 08 49.1	-0.5
	0.1nm,0.3s,baz=24,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**22.92**	**198**	P	P	14 09 28.8	+0.1
	0.2nm,0.7s,baz=25,slow=10,SNR=8.0						
MKAR	**Makanchi Array**	**70.65**	**321**	P	P	14 15 40.5	+0.1
	0.2nm,0.5s,baz=125,slow=7.1,SNR=4.3						

*ISCJB **28** 14:30:50.2±0.4, 36°28S±0°06×110°8W±0°1, h10km, mb4.6/37, MS4.6/20, Error ellipse: s-maj=14.3km s-min=7.8km az=169.5*
*IDC **28** 14:30:50.2±0.6, 36°22S×110°80W, h0km, mb4.4/11, mb1 4.5/11, mb1mx4.4/20, mbtmp4.4/11, MS4.4/16, Ms1 4.4/16, ms1mx4.4/18, Error ellipse: s-maj=20.0km s-min=17.5km az=82.0*
*NEIC **28** 14:30:51.9±0.3, 36°28S×110°81W, h10km, mb4.9/29, Error ellipse: s-maj=13.3km s-min=8.8km az=79.0*
*GCMT **28** 14:30:55.7±0.2, 36°44S×110°94W, h15km±1km, MW5.2, Moment Tensor Solution. s55,c85; s95,c165; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.11±.15; $M_{\theta\theta}$-4.32±.15; $M_{\phi\phi}$4.43±.16; $M_{r\theta}$-1.21±.40; $M_{r\phi}$5.49±.13; $M_{\theta\phi}$0.67±.43; Best double couple: $M_0$7.20000×10^{16} NP1:ϕ_s161.00000°, δ83.00000°, λ-172.00000°. NP2:ϕ_s70.00000°, δ82.00000°, λ-7.00000°. Principal axes: T 7.0800, Plg1.0000°, Azm296.0000°; N 0.1600, Plg79.0000°, Azm202.0000°; P -7.2300, Plg11.0000°, Azm26.0000°; Data Used: II IU IC G CN.*
ISC 28 14:30:52.0±0.3, 36°31S±0°08×110°74W±0°08, h10km, n280, σ1°02/283, mb4.7/37, MS4.7/20, 76C-99D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.23**	**8**	*e*Pn	**Pn**	**14 33 07.0**	**+1.8**
RKT	**Rikitea**	**24.73**	**295**	*e*LR	LR	14 42 12.8	
	4μm,27.0s,baz=128						
RKT	**Rikitea**	**24.73**	**295**	*e*T	T	15 01 17.0	
	1.7nm,0.3s						
USHA	**Ushuaia**	**34.27**	**136**	P	**P**	**14 37 37.8**	**-0.2**
USHA	**Ushuaia**	**34.27**	**136**	P	**P**	**14 37 37.8**	**-0.2**
	15nm,0.9s,baz=340,slow=5.9,SNR=3.8						
CFAA	**Coronel Fontan**	**35.36**	**95**	P	**P**	**14 37 48.5**	**+0.6**
CFAA	**Coronel Fontan**	**35.36**	**95**	P	**P**	**14 37 48.5**	**+0.6**
	0.4nm,0.7s,baz=250,slow=6.4,SNR=6.6						
CFAA				LR	LR	14 47 56.3	
	comp=Z,62nm,20.9s,baz=254,slow=29						
TBI	**Tubuai**	**35.75**	**280**	*e*S	S	14 43 21.4	-6.9
	102nm,32.5s						
TBI				*e*LR	LR	14 47 17.9	
	3μm,26.5s,baz=114						
MEH	**Mehetia**	**37.67**	**289**	*e*T	T	15 17 34.1	
	91nm,0.2s						
LVC	**Limon Verde**	**38.60**	**81**	*e*P	**P**	**14 38 17.0**	**+1.3**
	17nm,1.3s						
TIAR	**Tiarei**	**38.84**	**288**	*e*T	T	15 19 02.4	
	9.6nm,0.2s						
PPT2	**Papeete2**	**38.99**	**288**	*e*S	**S**	**14 44 12.3**	**-5.5**
	183nm,24.2s						
PPT2				*e*LQ	LQ	14 47 12.6	
	449nm,27.0s						
PPT2				*e*LR	LR	14 48 40.0	
	3μm,26.2s,baz=130						
PPT	**Papeete**	**39.01**	**288**	LR	LR	14 49 43.0	
	comp=Z,1μm,18.6s,baz=116,slow=29						
ATAH	**Atahualpa**	**41.41**	**53**	P	**P**	**14 38 40.4**	**+1.1**
ATAH	**Atahualpa**	**41.41**	**53**	P	**P**	**14 38 40.4**	**+1.1**
	5.5nm,0.8s,baz=226,slow=12,SNR=3.4						
LPAZ	**La Paz**	**42.67**	**74**	*e*P	**P**	**14 38 50.0**	**+0.2**
	16nm,1.2s						
LPAZ	**La Paz**	**42.67**	**74**	P	**P**	**14 38 50.6**	**+0.8**
	11nm,1.1s,baz=236,slow=5.5,SNR=20						
LPAZ				LR	LR	14 53 06.6	
	comp=Z,240nm,19.5s,baz=50,slow=31						
CPUP	**Villa Florida**	**46.20**	**93**	*e*P	**P**	**14 39 16.1**	**-1.2**
	17nm,1.0s						
CPUP	**Villa Florida**	**46.20**	**93**	P	**P**	**14 39 16.0**	**-1.2**
	0.5nm,0.4s,baz=239,slow=9.5,SNR=4.0						
CPUP				LR	LR	14 55 31.9	
	comp=Z,730nm,18.0s,baz=226,slow=32						
SAML	**Samuel**	**50.97**	**70**	*e*P	**P**	**14 39 53.6**	**-0.5**
	4.3nm,1.2s						
SBA	**Scott Base**	**53.24**	**195**	*e*P	**P**	**14 40 12.4**	**+2.3**
	23nm,1.8s						
ROSC	**El Rosal**	**53.26**	**48**	LR	LR	14 58 41.8	
	comp=Z,263nm,19.1s,baz=205,slow=31						
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**14 40 16.3**	**+0.9**
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**14 40 16.3**	**+0.9**
	5.5nm,1.0s,baz=123,slow=5.4,SNR=8.9						
VNDA	**Vanda**	**54.31**	**196**	*e*P	**P**	**14 40 18.6**	**+0.6**
	7.5nm,1.5s						
VNDA	**Vanda**	**54.31**	**196**	P	**P**	**14 40 19.3**	**+1.3**
	1.9nm,1.1s,baz=60,slow=5.9,SNR=3.8						
VNDA				LR	LR	14 59 08.1	
	comp=Z,426nm,18.6s,baz=94,slow=31						
BDFB	**Brasilia**	**59.03**	**87**	P	**P**	**14 40 51.8**	**-0.7**
BDFB	**Brasilia**	**59.03**	**87**	P	**P**	**14 40 51.8**	**-0.7**
	2.7nm,0.5s,baz=205,slow=18,SNR=5.3						
BDFB				LR	LR	15 03 46.8	
	comp=Z,517nm,19.9s,baz=40,slow=34						
VNA1	**Neumayer–Stat**	**60.16**	**158**	*e*P	**P**	**14 41 00.7**	**+1.3**
VNA2	**Neumayer–Watz**	**60.30**	**158**	*e*P	**P**	**14 41 00.5**	**+0.1**
SNAA	**Sanae**	**61.27**	**160**	*e*P	**P**	**14 41 07.2**	**+0.1**
SNAA	**Sanae**	**61.27**	**160**	*e*P	**P**	**14 41 06.6**	**-0.5**
	26nm,1.3s						
TXAR	**Lajitas Array**	**65.63**	**7**	P	**P**	**14 41 35.9**	**-0.4**
TXAR	**Lajitas Array**	**65.63**	**7**	P	**P**	**14 41 35.9**	**-0.4**
	5.6nm,1.3s,baz=185,slow=7.4,SNR=10						
TXAR				LR	LR	15 05 39.1	
	comp=Z,206nm,20.1s,baz=180,slow=32						
627A	**Terlingua Ranc**	**65.78**	**7**	⇑P	**P**	**14 41 37.4**	**+0.1**
	baz=66,SNR=6.1						
626A	**Big Bend Ranch**	**65.81**	**6**	⇑P	**P**	**14 41 37.3**	**-0.1**
	baz=66,SNR=5.7						
628A	**Black Gap, Mar**	**65.86**	**8**	⇑P	**P**	**14 41 37.8**	**0.0**
	baz=66						
632A	**Uvalde**	**66.27**	**10**	⇑P	**P**	**14 41 40.1**	**-0.2**
	baz=67						
526A	**Mary Lane Ranc**	**66.31**	**6**	⇑P	**P**	**14 41 40.3**	**-0.4**
	baz=67						
527A	**Woodward Ranch**	**66.44**	**7**	⇓P	**P**	**14 41 41.4**	**-0.2**
	baz=67,SNR=9.0						
528A	**Cox Ranch, San**	**66.54**	**8**	⇑P	**P**	**14 41 41.8**	**-0.4**
	baz=67						
529A	**Stev Forest Ra**	**66.56**	**8**	⇓P	**P**	**14 41 42.1**	**-0.2**
	baz=67,SNR=6.5						
530A	**J-C Ranch, Com**	**66.69**	**9**	⇓P	**P**	**14 41 43.0**	**-0.1**
	baz=67,SNR=10						
531A	**Rocksprings**	**66.81**	**10**	⇓P	**P**	**14 41 43.7**	**-0.1**
	baz=67,SNR=5.6						
532A	**Rocksprings**	**66.86**	**10**	⇑P	**P**	**14 41 43.8**	**-0.4**
	baz=67,SNR=5.9						
426A	**McDonald Obser**	**66.92**	**6**	⇓P	**P**	**14 41 44.2**	**-0.5**
	baz=67						
425A	**Indio Mountain**	**66.96**	**5**	⇓P	**P**	**14 41 44.4**	**-0.5**
	baz=67,SNR=6.4						
429A	**Davenport Ranc**	**67.09**	**8**	⇓P	**P**	**14 41 45.3**	**-0.3**
	baz=67						
428A	**Kincaid Ranch,**	**67.11**	**8**	⇓P	**P**	**14 41 45.3**	**-0.5**
	baz=67						
427A	**Hayter Ranch,**	**67.16**	**7**	⇓P	**P**	**14 41 45.4**	**-0.7**
	baz=68,SNR=6.0						
JCT	**Junction City**	**67.22**	**10**	*e*P	**P**	**14 41 45.8**	**-0.7**
	24nm,1.3s						
JCT	**Junction City**	**67.22**	**10**	⇓P	**P**	**14 41 45.3**	**-1.1**
	baz=68						
431A	**Sonora**	**67.31**	**9**	⇓P	**P**	**14 41 46.4**	**-0.6**
	baz=68,SNR=5.0						
320A	**Kipp Ranch, An**	**67.32**	**2**	⇑P	**P**	**14 41 47.0**	**-0.2**
	baz=68						
430A	**Baggett Ranch,**	**67.33**	**9**	⇑P	**P**	**14 41 46.6**	**-0.6**
	baz=68						
325A	**Bean Ranch, Si**	**67.54**	**5**	⇑P	**P**	**14 41 47.8**	**-0.8**
	baz=68,SNR=9.1						
324A	**Moseley Ranch,**	**67.57**	**5**	⇓P	**P**	**14 41 48.2**	**-0.6**
	baz=68,SNR=6.7						
328A	**Wristen Ranch,**	**67.74**	**7**	⇑P	**P**	**14 41 48.8**	**-0.9**
	baz=68						
220A	**Playas Peak, P**	**67.89**	**2**	⇑P	**P**	**14 41 50.0**	**-0.7**
	baz=68						
214A	**Organ Pipe Nat**	**67.93**	**358**	⇑P	**P**	**14 41 50.8**	**-0.1**
	baz=68						
329A	**Wagon Wheel Ra**	**67.94**	**8**	⇑P	**P**	**14 41 50.5**	**-0.5**
	baz=68						
330A	**Mertzon**	**67.95**	**9**	⇓P	**P**	**14 41 50.6**	**-0.5**
	baz=68						
221A	**Mesquite Ranch**	**68.02**	**3**	⇑P	**P**	**14 41 51.2**	**-0.3**
	baz=68						
332A	**Millersview**	**68.12**	**10**	⇓P	**P**	**14 41 51.5**	**-0.6**
	baz=68						
224A	**Cornudas Mount**	**68.20**	**5**	⇓P	**P**	**14 41 51.9**	**-0.9**
	baz=68,SNR=16						
TUC	**Tucson**	**68.26**	**360**	*e*P	**P**	**14 41 53.1**	**+0.1**
	14nm,1.6s						
225A	**Deer Hill, Car**	**68.28**	**5**	⇓P	**P**	**14 41 52.9**	**-0.4**
	baz=69						
226B	**Tecolote Peak,**	**68.31**	**6**	⇓P	**P**	**14 41 52.6**	**-0.7**
	baz=69						
120A	**U Bar Ranch, L**	**68.52**	**2**	⇑P	**P**	**14 41 54.8**	**+0.1**
	baz=69						
121A	**Cookes Peak, D**	**68.54**	**3**	⇑P	**P**	**14 41 54.4**	**-0.5**
	baz=69						
124A	**Stringfield Ra**	**68.83**	**5**	⇑P	**P**	**14 41 56.5**	**-0.2**
	baz=69,SNR=6.7						
125A	**Gardner Draw,**	**68.84**	**6**	⇓P	**P**	**14 41 55.9**	**-0.8**
	baz=69,SNR=7.8						
128A	**Castleberry Fa**	**69.00**	**7**	⇓P	**P**	**14 41 57.4**	**-0.2**
	baz=69,SNR=5.3						
MONP	**Monument Peak**	**69.04**	**355**	⇓P	**P**	**14 41 57.7**	**-0.3**
	baz=69,SNR=7.8						
Z20A	**Nine Sixteen R**	**69.09**	**2**	⇑P	**P**	**14 41 58.3**	**+0.1**
	baz=69						
GLA	**Glamis**	**69.10**	**356**	⇓P	**P**	**14 41 58.0**	**-0.2**
	baz=69						
Z22A	**Elephant Butte**	**69.29**	**3**	⇑P	**P**	**14 41 59.2**	**-0.3**
	baz=70,SNR=5.8						
Z21A	**St. Cloud Mine**	**69.31**	**3**	⇓P	**P**	**14 41 59.7**	**0.0**
	baz=70						
Z24A	**Sheeppen Canyo**	**69.46**	**5**	⇓P	**P**	**14 42 00.8**	**+0.2**
	baz=70						
Z26A	**Caprock**	**69.50**	**6**	⇓P	**P**	**14 42 00.3**	**-0.4**
	baz=70						
Z27A	**Tatum**	**69.62**	**7**	⇑P	**P**	**14 42 01.0**	**-0.5**
	baz=70						
BC3	**Big Chuckawall**	**69.74**	**356**	⇓P	**P**	**14 42 02.4**	**+0.2**
	baz=70,SNR=12						
PFO	**Pinyon Flat Ob**	**69.76**	**355**	*e*P	**P**	**14 42 02.6**	**+0.2**
	33nm,1.5s						
PFO	**Pinyon Flat Ob**	**69.76**	**355**	⇑P	**P**	**14 42 02.5**	**+0.2**
	baz=70,SNR=6.8						
Y20A	**Horse Springs,**	**69.89**	**2**	⇑P	**P**	**14 42 03.2**	**0.0**
	baz=70						
Y14A	**Wickenburg**	**69.91**	**358**	⇓P	**P**	**14 42 03.4**	**+0.2**
	baz=70						
Z31A	**Sharp Cattle R**	**69.97**	**9**	⇑P	**P**	**14 42 03.4**	**-0.1**
	baz=70						
Y22A	**Socorro**	**69.97**	**3**	⇓P	**P**	**14 42 03.7**	**0.0**
	baz=70						
Y21A	**Point of Rocks**	**70.01**	**3**	⇑P	**P**	**14 42 04.4**	**+0.3**
	baz=70						
Y23A	**Lovelace Mesa,**	**70.01**	**4**	⇑P	**P**	**14 42 04.0**	**0.0**
	baz=70						
Y24A	**Capitan**	**70.05**	**5**	⇑P	**P**	**14 42 04.0**	**-0.1**
	baz=70						
Y25A	**Mesa, Roswell**	**70.09**	**5**	⇓P	**P**	**14 42 04.2**	**-0.2**
	baz=70						
BELC	**Belle Mtn. Jos**	**70.12**	**355**	⇓P	**P**	**14 42 04.8**	**+0.3**
	baz=70,SNR=9.2						
Y27A	**Causey**	**70.19**	**7**	⇑P	**P**	**14 42 04.6**	**-0.3**
	baz=70,SNR=9.1						
BNM	**Barren Site**	**70.20**	**4**	*e*P	**P**	**14 42 06.1**	**+0.9**
	3.6nm,1.1s						
IRM	**Iron Mountain**	**70.22**	**356**	⇓P	**P**	**14 42 05.1**	**0.0**
	baz=71,SNR=8.3						
Y28A	**McKinney Farm,**	**70.30**	**7**	⇓P	**P**	**14 42 05.8**	**+0.2**
	baz=71						
MSTX	**Muleshoe**	**70.31**	**7**	⇑P	**P**	**14 42 05.5**	**-0.2**
	baz=71						
PDMCI	**Parker Dam,Lak**	**70.31**	**357**	⇑P	**P**	**14 42 06.4**	**+0.9**
	baz=71						
X16A	**Lo Mia Camp, P**	**70.36**	**359**	⇓P	**P**	**14 42 06.6**	**+0.4**
	ba

DZM *e*LR LR 15 04 00.6
350nm,24.6s
LRMC Laurel Mountai 71.71 354 ⇓P **P 14 42 14.3 +0.1**
baz=72,SNR=6.6
V20A Brimhall 71.77 2 ⇓P **P 14 42 14.7 0.0**
baz=72
ISA Isabella 71.96 353 *e*P **P 14 42 14.7 -0.9**
26nm,1.5s
ISA Isabella 71.96 353 ⇓P **P 14 42 15.9 +0.3**
baz=72,SNR=6.5
V25A Rancho No Teng 72.00 5 ⇓P **P 14 42 15.9 -0.1**
baz=72,SNR=6.8
SHOC Shoshone 72.02 355 ⇓P **P 14 42 16.4 +0.4**
baz=72,SNR=6.6
V26A Tequesquite Ra 72.03 6 ⇑P **P 14 42 15.8 -0.3**
baz=72
MPMC Manual Prospec 72.27 354 ⇑P **P 14 42 18.0 +0.3**
baz=73,SNR=15
U15A North Rim 72.38 359 ⇑P **P 14 42 18.5 +0.1**
baz=73,SNR=7.0
U23A El Rito 72.39 4 ⇓P **P 14 42 18.6 +0.2**
baz=73
U22A Llaves 72.41 3 ⇓P **P 14 42 19.0 +0.5**
baz=73
U21A Nageezi 72.42 3 ⇓P **P 14 42 18.3 -0.3**
baz=73
SHPR Sheep Range 72.56 356 *e*P **P 14 42 19.6 +0.3**
57nm,1.7s
U25A Circle Dot Ran 72.58 5 ⇓P **P 14 42 19.3 -0.1**
baz=73
U26A Atchley Ranch, 72.62 6 ⇓P **P 14 42 19.6 -0.1**
baz=73
FURC Furnace Creek, 72.63 355 ⇑P **P 14 42 20.1 +0.6**
baz=73
CWC Cottonwood Cre 72.70 354 ⇓P **P 14 42 20.7 +0.5**
baz=73,SNR=6.9
SYO Syowa Base 72.72 169⇓*e*P **P 14 42 18.6 -1.2**
SYO Syowa Base 72.72 169⇓*e*sP sP 14 42 23.8 -0.4
U27A Thompson Grove 72.73 7 ⇓P **P 14 42 20.8 +0.6**
baz=73
T22A Edith 73.04 3 ⇓P **P 14 42 21.8 -0.4**
baz=73,SNR=5.1
U30A WK&E Inc. Balk 73.07 8 ⇓P **P 14 42 22.3 +0.1**
baz=73
T24B San Luis 73.17 4 ⇓P **P 14 42 23.1 0.0**
baz=74
MVCO Mesa Verde 73.18 2 *e*P **P 14 42 22.7 -0.3**
38nm,1.8s
MVCO Mesa Verde 73.18 2 ⇓P **P 14 42 22.9 -0.1**
baz=74
TUL1 Tulsa 73.18 13 ⇑P **P 14 42 23.2 +0.4**
baz=74
T25A Trinidad 73.31 5 ⇓P **P 14 42 23.7 -0.1**
baz=74
T28A Walsh 73.49 7 ⇑P **P 14 42 24.7 0.0**
baz=74
CCUT Cedar City 73.53 358 *e*P **P 14 42 24.1 -0.9**
32nm,1.7s
S21A Coal Bank Pass 73.65 2 ⇑P **P 14 42 26.2 +0.3**
baz=74
S24A Houchin Ranch, 73.75 5 ⇑P **P 14 42 26.9 +0.4**
baz=74
S22A 4UR Ranch, Cre 73.77 3 ⇑P **P 14 42 27.1 +0.5**
baz=74,SNR=7.3
S25A Robets Cordova 73.83 5 ⇓P **P 14 42 26.6 -0.2**
baz=74
S26A Kim 73.86 6 ⇑P **P 14 42 26.7 -0.3**
baz=74
PV01 Paradox Valley 74.10 2 *e*P **P 14 42 27.9 -0.5**
R20A Redvale 74.16 2 ⇑P **P 14 42 28.9 +0.2**
baz=74,SNR=6.0
S30A Montezuma 74.19 8 ⇓P **P 14 42 29.3 +0.5**
baz=74
R22A Saguache, Gunn 74.25 3 ⇓P **P 14 42 29.8 +0.4**
baz=75
R23A Moffat 74.27 4 ⇑P **P 14 42 29.5 0.0**
baz=75
R25A Fountain Ranch 74.32 5 ⇓P **P 14 42 30.1 +0.5**
baz=75
R21A Cimarron 74.36 3 ⇑P **P 14 42 30.1 +0.1**
baz=75
R11A Troy Canyon, C 74.42 356 ⇑P **P 14 42 31.0 +0.8**
baz=75,SNR=8.0
R26A Arlington 74.54 6 ⇓P **P 14 42 31.2 +0.3**
baz=75
R27A Eads 74.58 6 ⇑P **P 14 42 31.5 +0.4**
baz=75
NV11 Mina Array Sit 74.68 354 *e*P **P 14 42 31.3 -0.4**
NVAR Mina Array Bea 74.69 354 P **P 14 42 32.1 +0.2**
NVAR Mina Array Bea 74.69 354 P **P 14 42 32.1 +0.2**
4.8nm,1.1s,baz=186,slow=7.1,SNR=22
R28A Tribune 74.73 7 ⇑P **P 14 42 32.3 +0.4**
baz=75
R30A Dighton 74.85 9 ⇓P **P 14 42 33.1 +0.5**
baz=75
Q16A Castle Valley 74.85 360 ⇓P **P 14 42 33.1 +0.3**
baz=75
WAKR Walker 74.87 353 *e*P **P 14 42 33.9 +1.0**
33nm,1.7s
Q22A Crested Butte, 74.88 3 ⇓P **P 14 42 33.5 +0.4**
baz=75
R29A Marienthal 74.89 8 ⇓P **P 14 42 33.2 +0.4**
baz=75
Q25A Bedland, Calha 75.09 5 ⇑P **P 14 42 34.6 +0.5**
baz=75
SMCO Snowmass 75.19 3 *e*P **P 14 42 35.5 +0.5**
11nm,1.4s
P23A Jefferson 75.44 4 ⇓P **P 14 42 36.9 +0.6**
baz=76
P22A Eagle 75.62 3 ⇓P **P 14 42 37.7 +0.5**
baz=76
ISCO Idaho Springs 75.88 4 *e*P **P 14 42 39.0 +0.2**
2.7nm,1.0s
DUG Dugway 76.15 358 *e*P **P 14 42 37.1 -3.0**
27nm,2.0s
DUG Dugway 76.15 358 ⇑P **P 14 42 40.7 +0.5**
baz=76
O22A Kremmling 76.19 3 ⇓P **P 14 42 41.1 +0.5**
baz=76
MAW Mawson 76.30 177 *e*P **P 14 42 41.2 +0.6**
2.5nm,1.4s
MAW Mawson 76.30 177 P **P 14 42 41.4 +0.8**
4.8nm,0.9s,baz=220,slow=7.5,SNR=4.8
MAW LR LR 15 15 21.9
comp=Z,364nm,20.6s,baz=185,slow=35
DAU Daniels Canyon 76.35 360 *e*P **P 14 42 40.8 -0.7**
59nm,1.8s
N20A Spence Gulch, 76.80 2 ⇓P **P 14 42 44.4 +0.5**
baz=77
N22A Wattenberg Ran 76.83 3 ⇓P **P 14 42 44.6 +0.5**
baz=77
N24A Carr 76.95 5 ⇓P **P 14 42 45.5 +0.8**
baz=77
N23A Red Feather La 76.95 4 ⇓P **P 14 42 45.4 +0.6**
baz=77
M22A Cedar Creek Ra 77.43 3 ⇓P **P 14 42 47.4 0.0**
baz=78
M20A Sweetwater, Wa 77.46 2 ⇓P **P 14 42 47.5 -0.1**
baz=78
M23A Laramie 77.54 4 ⇑P **P 14 42 47.9 -0.1**
baz=78
L21A Rawlins 77.96 3 ⇓P **P 14 42 49.4 -1.0**
baz=78
L20A Wamsutter 77.97 2 ⇑P **P 14 42 49.7 -0.7**
baz=78
L19A Farson 78.04 1 ⇓P **P 14 42 50.2 -0.6**
baz=78
L22A Ellis Ranch, M 78.06 3 ⇓P **P 14 42 50.4 -0.5**
baz=78
L23A Garrett 78.18 4 ⇑P **P 14 42 51.1 -0.5**
baz=78
K20A Yellowstone Ra 78.62 2 ⇓P **P 14 42 52.6 -1.3**
baz=79
K21A Alcova 78.63 3 ⇓P **P 14 42 52.9 -1.1**
baz=79
K22A Casper 78.67 3 ⇑P **P 14 42 53.1 -1.2**
baz=79
BW06 Boulder Array 78.70 1 *e*P **P 14 42 52.3 -2.2**
13nm,1.4s
PDAR Pinedale Array 78.70 1 P **P 14 42 52.9 -1.6**
PDAR Pinedale Array 78.70 1 P **P 14 42 52.9 -1.6**
2.4nm,0.8s,baz=172,slow=4.5,SNR=13
PDAR LR LR 15 12 24.0
comp=Z,210nm,18.4s,baz=186,slow=32
K19A Absolon Red Bu 78.77 1 ⇑P **P 14 42 54.0 -0.8**
baz=79
K25A Mack Ranch, Ha 78.79 5 ⇑P **P 14 42 54.5 -0.3**
baz=79
K23A Bowen Ranch, D 78.82 4 ⇓P **P 14 42 55.0 0.0**
baz=79
J19A Crowheart 79.21 1 ⇓P **P 14 42 57.4 +0.2**
baz=80
J20A Shoshoni 79.32 2 ⇑P **P 14 42 57.6 -0.1**
baz=80
J21A Lysite 79.33 2 ⇓P **P 14 42 57.5 -0.3**
baz=80
HLID Hailey 79.56 357 *e*P **P 14 42 58.1 -0.9**
22nm,1.6s
HLID Hailey 79.56 357 ⇓P **P 14 42 59.6 +0.5**
baz=80
I18A Diamond G Ranc 79.64 1 ⇓P **P 14 42 59.6 0.0**
baz=80
I21A Big Trails, Te 79.80 3 ⇓P **P 14 43 00.3 0.0**
baz=80
I20A Worland 79.92 2 ⇑P **P 14 43 01.5 +0.6**
baz=80
I22A 9 Mile Ranch, 79.92 3 ⇑P **P 14 43 01.3 +0.4**
baz=80
I19A Meeteetse 79.98 1 ⇑P **P 14 43 02.3 +0.9**
baz=80
I25A Rochford 80.20 5 ⇓P **P 14 43 02.7 +0.1**
baz=81
H18A Shoshone NF, C 80.61 1 ⇑P **P 14 43 04.7 -0.1**
baz=81
ECSD EROS Data Cent 80.69 10 *e*P **P 14 43 03.3 -1.7**
11nm,1.3s
MCMT McKenzie Canyo 80.78 358 *e*P **P 14 43 05.9 +0.2**
3.9nm,1.6s
G20A Bridger 81.18 2 ⇑P **P 14 43 07.2 -0.5**
baz=82
G23A Biddle 81.28 4 ⇑P **P 14 43 08.6 +0.5**
baz=82
F23A Volborg 81.79 4 ⇓P **P 14 43 11.4 +0.5**
baz=82
F17A Fitzpatrick Pl 81.83 0 ⇑P **P 14 43 11.9 +0.7**
baz=82
F18A Big Timber 81.84 1 ⇓P **P 14 43 11.5 +0.4**
baz=82
E19A Rath Farm, Rou 82.41 1 ⇓P **P 14 43 14.6 +0.5**
baz=83
E18A Harlowton 82.50 1 ⇓P **P 14 43 15.2 +0.6**
baz=83
D22A Cohagen 83.18 3 ⇓P **P 14 43 18.3 +0.3**
baz=84
C19A Slack Wire Ran 83.68 1 ⇑P **P 14 43 22.0 +1.4**
baz=84
BSMT Bassoo Peak 83.86 357 *e*P **P 14 43 21.0 -0.7**
STKA Stephens Creek 84.19 235 LR LR 15 14 23.5
comp=Z,222nm,21.6s,baz=24,slow=31
B17A L&G Farms, Che 84.22 360 ⇑P **P 14 43 25.5 +2.2**
baz=85
A21A Bergtoll Ranch 84.99 3 ⇓P **P 14 43 28.2 +1.0**
baz=85
ULM Lac du Bonnet 87.18 9 LR LR 15 18 46.3
comp=Z,263nm,20.2s,baz=219,slow=33
ASAR Alice Springs 94.69 236 LR LR 15 22 49.1
comp=Z,170nm,20.9s,baz=134,slow=33
WRA Warramunga Arr 96.91 239 LR LR 15 24 25.1
comp=Z,212nm,18.2s,baz=120,slow=33
NWAO Narrogin (SRO) 97.81 219 LR LR 15 17 26.2
comp=Z,132nm,20.4s,baz=171,slow=29
SCHQ Schefferville 98.29 24 LR LR 15 23 19.7
comp=Z,356nm,21.9s,baz=246,slow=32
TORD Torodi Ar. Bea 115.69 92 PP PP 14 50 40.6 +2.6
TORD Torodi Ar. Bea 115.69 92 PP PP 14 50 40.6 +2.6
0.6nm,0.9s,baz=232,slow=7.1,SNR=3.6
MDJ Mudanjiang 134.28 300 PKP **PKPdf 14 50 11.0 +1.3**
CN2 Changchun 137.06 298 *e*PKP **PKPdf 14 50 18.5 +3.6**
CN2 PP PP 14 53 06.5 +7.0
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
NJ2 Nanjing 139.11 279 *e*PKP **PKPdf 14 50 19.5 +0.4**
FINES FINESS Array B 143.13 33 PKPpre PKPpre 14 50 20.4
FINES PKP **PKPdf 14 50 25.3 -0.1**
FINES FINESS Array B 143.13 33 PKhKP PKPpre 14 50 20.4
comp=Z,3.0nm,0.9s,baz=316,slow=5.3,SNR=4.6
FINES PKP **PKPdf 14 50 25.3 -0.1**
comp=Z,2.9nm,0.9s,baz=330,slow=2.2,SNR=4.9
ARR Arges 145.43 61 ⇓*i*P **PKPbc 14 50 29.7 -0.3**
VOIR 145.72 61 ⇓*i*P **PKPdf 14 50 30.5 0.0**
BURAR Bucovina Array 145.79 57 ⇑*i*P **PKPab 14 50 31.4 -0.1**
MLR Muntele Rosu 146.35 61 ⇑*i*P **PKPbc 14 50 32.3 -0.6**
GYA Guiyang 146.77 264 PKPbc **PKPdf 14 50 33.0 0.0**
GYA PP **PP 14 53 59.8 +0.8**
GYA PKS **PKSdf 14 54 07.0 -1.5**
GYA SKKS 15 00 48.8
GYA SS **SS 15 12 59.8 +0.9**
GYA AMB AMB
comp=Z,90nm,7.6s
GYA LR LR
comp=N,120nm,22.9s
GYA LR LR
comp=E,110nm,23.3s
GYA LR LR
comp=Z,130nm,24.6s
HHC Hu-ho-hao-te 146.85 291 *e*PKPbc **PKPdf 14 50 32.8 +0.2**
HHC PP **PP 14 54 03.3 +4.0**
HHC PKS **PKSdf 14 54 06.8 -1.2**
HHC SKS **SKSdf 14 57 36.3 -5.2**
HHC SKKS **SKKSac 15 00 48.8 -2.0**
HHC SS **SS 15 13 02.5 +2.9**
HHC LR LR
comp=N,300nm,20.2s
HHC LR LR
comp=E,430nm,21.4s
HHC LR LR
comp=Z,400nm,22.6s
VRI Vrincioaia 146.89 60 ⇓*i*P **PKPbc 14 50 34.0 -0.3**
XAN Xi'an 147.65 278 PKPbc **PKPdf 14 50 35.0 +0.9**
XAN pPKP **PKPab 14 50 40.8 +1.7**
AKASG Malin Array Be 148.02 51 PKPbc **PKPdf 14 50 34.8 +0.8**
AKASG Malin Array Be 148.02 51 PKPbc **PKPdf 14 50 34.8 +0.8**
comp=Z,2.9nm,0.8s,baz=268,slow=3.9,SNR=7.4
TIRR Tirgusor 148.11 62 ⇓*i*P **PKPbc 14 50 37.3 -0.3**
KIS Kishinev 148.27 58 *e*PKP **PKPdf 14 50 35.0 +0.4**
CMAR Chiang Mai Arr 148.39 244 PKPbc **PKPbc 14 50 37.9 -1.3**
CMAR Chiang Mai Arr 148.39 244 PKPbc **PKPbc 14 50 37.9 -1.3**
comp=Z,1.0nm,0.3s,baz=170,slow=2.4,SNR=16
CHTO Chiang Mai 148.62 244 *e*PKPdf **PKPdf 14 50 36.8 +0.7**
KMI Kunming 149.28 258 PKPbc **PKPbc 14 50 40.0 -1.6**
ULN Ulaanbaatar 149.96 304 *e*PKPbc **PKPbc 14 50 40.4 -2.1**
SONM Songino Array 150.40 305 PKPbc **PKPbc 14 50 41.6 -1.9**
SONM Songino Array 150.40 305 PKPbc **PKPbc 14 50 41.6 -1.9**
comp=Z,4.3nm,1.1s,baz=132,slow=2.2,SNR=13
CD2 Chengdu 150.87 269 *e*PKPbc **PKPdf 14 50 39.3 -0.1**
CD2 PP **PP 14 54 26.5 +3.7**
CD2 SKKS 15 01 13.5
CD2 SS **SS 15 13 45.5 +0.7**
CD2 AMB AMB
comp=Z,140nm,10.4s
BR131 Keskin Array S 151.84 72 PKPdf **PKPdf 14 50 39.9 -0.8**
BRTR Keskin Array B 151.84 72 PKP **PKPdf 14 50 38.3 -2.4**
BRTR PKPbc **PKPbc 14 50 44.8 -2.3**
BRTR Keskin Array B 151.84 72 PKP **PKPdf 14 50 38.3 -2.4**
comp=Z,1.3nm,1.0s,baz=251,slow=3.8,SNR=5.2
BRTR PKPbc **PKPbc 14 50 44.8 -2.3**
comp=Z,4.6nm,1.1s,baz=354,slow=1.4,SNR=10
GTA Gaotai 155.73 287 PKP **PKPdf 14 50 42.8 -3.4**
GTA pPKP **pPKPdf 14 50 47.3 -2.4**
GTA sPKP 14 50 50.0
GTA PKPab **PKPab 14 51 11.8 -1.0**
GTA PP **PP 14 54 51.8 +1.5**
GTA SS SS 15 14 39.8 +1.8
GTA AMB AMB
comp=Z,70nm,8.5s
GTA LR LR
comp=N,150nm,21.9s
GTA LR LR
comp=E,170nm,21.4s
GTA LR LR
comp=Z,190nm,20.0s
KBZ Khabaz 158.55 62 PKP **PKPdf 14 50 50.0 +0.6**
KBZ Khabaz 158.55 62 PKP **PKPdf 14 50 50.0 +0.6**
comp=Z,0.7nm,0.4s,baz=225,slow=1.4,SNR=2.3
ZALV Zalesovo Beam 159.30 333 PKP **PKPdf 14 50 50.8 +0.8**
ZALV PKPab **PKPab 14 51 26.1 -1.3**
ZALV Zalesovo Beam 159.30 333 PKP **PKPdf 14 50 50.8 +0.8**
comp=Z,0.3nm,0.3s,baz=346,slow=1.8,SNR=3.4
ZALV PKPab **PKPab 14 51 26.1 -1.3**
comp=Z,0.4nm,0.3s,baz=49,slow=6.5,SNR=2.9
BVAR Borovoye Array 163.26 358 PKP **PKPdf 14 50 52.9 -1.3**
BVAR Borovoye Array 163.26 358 PKP **PKPdf 14 50 52.9 -1.3**
comp=Z,0.3nm,0.4s,baz=45,slow=2.4,SNR=3.5
ABKAR Akbulak array 165.38 25 *e*PKPdf **PKPdf 14 50 57.0 +0.8**
MKAR Makanchi Array 165.70 321 PKP **PKPdf 14 50 56.6 0.0**
MKAR PKPab **PKPab 14 51 55.6 -0.2**
MKAR Makanchi Array 165.70 321 PKP **PKPdf 14 50 56.6 0.0**
comp=Z,0.6nm,1.0s,baz=20,slow=3.9,SNR=4.4
MKAR PKPab **PKPab 14 51 55.6 -0.2**
comp=Z,0.4nm,0.9s,baz=49,slow=4.4,SNR=2.6

IDC 28 14:38:52.8±1.1,**37°.65N×95°.89E,h0**km,**mb3.5**/5,
mb1 3.7/9,**mb1mx3.5**/30,**mbtmp3.5**/9,**ML3.7**/3,**MS2.8**/1,
Ms1 2.8/1,**ms1mx2.2**/36,**Error ellipse: s-maj=32.9km**
s-min=18.7km az=64.0,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.76**	**34**	Pn	Pn	14 41 55.7	0.0
	baz=222,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**13.59**	**317**	Pn	Pn	14 42 03.9	-3.0
	0.4nm,0.3s,baz=125,slow=14,SNR=23						
MKAR				Sn	Sn	14 44 32.8	-5.7
	0.1nm,0.3s,baz=118,slow=25,SNR=6.4						
AAK	**Ala-Archa**	**17.09**	**294**	LR	LR	14 51 07.5	
	comp=Z,35nm,20.0s,baz=236,slow=43						
ZALV	**Zalesovo Beam**	**18.00**	**338**	P	Pn	14 43 04.2	-0.1
	0.1nm,0.3s,baz=138,slow=15,SNR=4.6						
CMAR	**Chiang Mai Arr**	**19.30**	**171**	P	Pn	14 43 20.4	0.0
	0.2nm,0.3s,baz=342,slow=11,SNR=9.5						
BVAR	**Borovoye Array**	**23.44**	**319**	P	P	14 44 03.2	-0.4
	0.4nm,0.5s,baz=101,slow=7.5,SNR=3.1						
KSRS	**Korea Array**	**25.33**	**81**	P	P	14 44 21.4	+0.1
	1.2nm,0.5s,baz=278,slow=9.1,SNR=6.7						
ILAR	**Eielson Array**	**66.80**	**24**	P	P	14 49 45.9	0.0
	0.3nm,0.8s,baz=302,slow=6.0,SNR=3.6						
WRA	**Warramunga Arr**	**67.75**	**141**	P	P	14 49 51.7	-0.7
	0.6nm,1.0s,baz=337,slow=8.1,SNR=3.6						
ASAR	**Alice Springs**	**70.69**	**143**	P	P	14 50 10.8	+0.2
	0.4nm,0.7s,baz=328,slow=5.4,SNR=8.1						

---

*IDC **28** 15:04:55.7±1.0,41°.92N×83°.12E,h0km,mb3.5/4,*
mb1 3.7/6,mb1mx3.4/28,mbtmp3.5/6,ML3.3/2,Error
ellipse: s-maj=29.1km s-min=15.0km az=70.0
*BJI **28** 15:04:59.0,41°.86N×82°.99E,h5km,ML3.6/10*
*NNC **28** 15:05:03.5±9.8,42°.32N×83°.15E,h16km±36km,mb3.6,*
mpv3.4,Error ellipse: s-maj=78.4km s-min=17.9km
az=135.0
ISC 28 15:05:01.2±1.0,**42°.03N**±0°.07×**83°.67E**±0°.07,**h10**km,**n17,**
σ2°.**90**/14,**mb3.4**/5,**4C-7D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**3.46**	**58**	Pg	**Pg**	**15 06 08.3**	**+0.9**
WMQ				Sn	**Sg**	**15 06 54.0**	**+1.8**
WMQ				smax	smax		
	comp=N,110nm,0.9s						
WMQ				smax	smax		
	comp=E,130nm,0.9s						
MK31	**Makanchi Array**	**4.86**	**349**	⇓Pn	**Pn**	**15 06 13.2**	**-1.2**
	comp=E,0.8nm,0.3s,baz=189,slow=12,SNR=122						
MK31				Pg	**Pb**	**15 06 26.9**	**+0.4**
	comp=E,4.2nm,0.3s,baz=170,slow=16,SNR=21						
MK31				⇑Lg	Lg	15 07 32.2	
	comp=E,26nm,0.5s,baz=170,slow=26,SNR=6.7						
MKAR	**Makanchi Array**	**4.86**	**349**	Pn	**Pn**	**15 06 12.9**	**-1.5**
	comp=E,1.0nm,0.3s,baz=177,slow=14,SNR=69						
MKAR				Pg	**Pb**	**15 06 26.2**	**-0.2**
	comp=E,7.0nm,0.3s,baz=171,slow=16,SNR=42						
MKAR				Sn	**Sn**	**15 07 08.5**	**-2.2**
	comp=E,4.4nm,0.3s,baz=186,slow=24,SNR=5.5						
MKAR				Lg	Lg	15 07 32.0	
	comp=E,7.7nm,0.3s,baz=166,slow=27,SNR=5.6						
TKM2	**Tokmak 2**	**6.03**	**281**	⇓Pn	Pn	15 06 24.7	-6.0
	comp=E,1.0nm,0.3s						
TKM2				⇓Pg	Pb	15 06 43.9	-2.6
	comp=E,12nm,0.8s						
TKM2				⇓Lg	Lg	15 07 57.9	
	comp=E,24nm,0.6s						
KSH	**Kashi**	**6.36**	**249**	Pg	**Pb**	**15 06 52.0**	**0.0**
KSH				Sg	**Sb**	**15 08 14.0**	**+5.9**
KSH				smax	smax		
	comp=N,32nm,0.7s						
KSH				smax	smax		
	comp=E,29nm,0.7s						
AAK	**Ala-Archa**	**6.82**	**278**	Pg	Pb	15 06 54.2	-5.7
	comp=E,0.7nm,0.3s,baz=121,slow=12,SNR=3.5						
AAK				Lg	Lg	15 08 16.8	
	comp=E,0.4nm,0.3s,baz=342,slow=20,SNR=2.6						
KK31	**Karatay Array**	**9.77**	**281**	⇑Pn	**Pn**	**15 07 21.2**	**-0.5**
	comp=E,0.7nm,0.5s,baz=86,slow=15,SNR=6.3						
KK31				⇓Lg	Lg	15 09 55.8	
	comp=E,2.2nm,0.6s,baz=94,slow=27,SNR=4.9						
ZALV	**Zalesovo Beam**	**11.95**	**3**	Pn	Pn	15 07 48.5	-3.0
	comp=E,0.2nm,0.3s,baz=186,slow=14,SNR=5.1						
ZALV				Sn	**Sn**	**15 10 10.3**	**+5.6**
	comp=E,0.1nm,0.3s,baz=211,slow=28,SNR=2.8						
ZALV				Lg	Lg	15 11 20.1	
	comp=E,0.2nm,0.3s,baz=183,slow=24,SNR=3.6						
VOSK	**Vostochnaya**	**13.70**	**326**	⇓Pn	Pn	15 08 10.4	-4.9
	comp=E,1.4nm,0.9s						
VOSK				⇑Lg	Lg	15 12 00.3	
	comp=E,14nm,1.9s						
BVA0	**Borovoye Array**	**14.16**	**325**	⇓Lg	Lg	15 12 20.8	
	comp=E,18nm,2.2s						
BVAR	**Borovoye Array**	**14.16**	**325**	Pn	Pn	15 08 17.2	-4.5
	comp=E,0.1nm,0.3s,baz=149,slow=9.9,SNR=2.1						
BVAR				Lg	Lg	15 12 18.2	
	comp=E,0.2nm,0.3s,baz=122,slow=24,SNR=2.8						
AB31	**Akbulak array**	**18.04**	**302**	⇑Pn	**Pn**	**15 09 08.9**	**-3.0**
	comp=E,0.3nm,0.4s,baz=105,slow=9.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**26.87**	**146**	P	**P**	**15 10 40.1**	**-2.0**
	comp=E,0.7nm,0.5s,baz=326,slow=9.6,SNR=7.3						
ARCES	**ARCESS Array B**	**40.30**	**332**	P	**P**	**15 12 37.1**	**-1.0**
	comp=E,3.2nm,1.0s,baz=84,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**75.39**	**275**	P	P	15 16 38.8	-6.6
	comp=E,0.1nm,0.4s,baz=50,slow=4.9,SNR=2.7						
WRA	**Warramunga Arr**	**77.41**	**132**	P	P	15 16 53.9	-2.7
	comp=E,0.3nm,0.9s,baz=327,slow=5.2,SNR=4.3						
ASAR	**Alice Springs**	**80.18**	**134**	P	P	15 17 08.9	-2.8
	comp=E,0.2nm,0.5s,baz=320,slow=5.1,SNR=5.4						

IDC 28 15:07:14.1±3.6,**1°.98S×99°.14E,h0**km,**mb3.3**/4,**mb1 3.6**/4,
mb1mx3.3/24,**mbtmp3.3**/4,**MS3.9**/1,**Ms1 3.9**/1,
ms1mx2.7/14,**Error ellipse: s-maj=142.2km**
s-min=24.0km az=58.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.31**	**359**	P	P	15 11 52.3	+0.5
	0.4nm,0.4s,baz=190,slow=9.1,SNR=3.4						
WRA	**Warramunga Arr**	**38.74**	**120**	P	P	15 14 40.0	-0.6
	0.5nm,0.5s,baz=296,slow=8.5,SNR=9.7						
ASAR	**Alice Springs**	**39.96**	**126**	P	P	15 14 50.8	+0.1
	0.2nm,0.5s,baz=300,slow=8.1,SNR=9.1						
JNU	**Nakatsue**	**46.00**	**38**	LR	LR	15 34 58.9	
	comp=Z,158nm,22.0s,baz=45,slow=36						
MKAR	**Makanchi Array**	**50.78**	**345**	P	P	15 16 15.5	-0.7
	0.3nm,0.5s,baz=144,slow=8.3,SNR=3.5						
TXAR	**Lajitas Array**	**145.20**	**36**	PKPbc	PKPbc	15 26 53.9	-0.3
	0.4nm,0.5s,baz=300,slow=0.7,SNR=5.8						

---

*ISCJB **28** 15:30:31.5±0.6,37°.74N±0°.06×96°.00E±0°.06,h10km,*
mb3.7/10,Error ellipse: s-maj=9.1km s-min=6.3km az=4.6
*IDC **28** 15:30:31.9±0.7,37°.67N×95°.84E,h0km,mb3.7/10,*
mb1 3.8/12,mb1mx3.7/30,mbtmp3.7/12,ML3.7/2,Error
ellipse: s-maj=29.6km s-min=15.7km az=47.0
*BJI **28** 15:30:34.5,37°.65N×95°.93E,h8km,mb3.9/3,ML3.6/8,*
Ms3.5/2,Ms7 3.1/3
ISC 28 15:30:33.5±0.7,**37°.78N**±0°.08×**95°.96E**±0°.05,**h10**km,**n17,**
σ1°.**47**/21,**mb3.8**/10,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.43**	**60**	Pn	**Pb**	**15 31 33.0**	**-1.4**
GTA				Pg	**Pg**	**15 31 39.5**	**+0.3**
GTA				Sn	**Sb**	**15 32 14.5**	**-1.7**
GTA				Sg	**Sg**	**15 32 25.0**	**+1.3**
GTA				smax	smax		
	comp=N,37nm,0.7s						
GTA				smax	smax		

	comp=E,33nm,0.8s						
GTA				LR	LR		
	comp=N,290nm,8.6s						
GTA				LR	LR		
	comp=E,240nm,5.2s						
GTA				LR	LR		
	comp=Z,150nm,10.0s						
LZH	**Lanzhou**	**6.54**	**103**	*e*Pn	Pn	15 32 14.0	+4.1
LZH				Sg	**Sg**	**15 34 04.5**	**+1.2**
LZH				smax	smax		
	comp=N,21nm,0.5s						
LZH				smax	smax		
	comp=E,45nm,0.6s						
WMQ	**Urumqi**	**8.70**	**317**	P	**Pn**	**15 32 41.3**	**+1.9**
WMQ				S	**Sn**	**15 34 20.8**	**+3.3**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				smax	smax		
	comp=N,28nm,0.8s						
WMQ				smax	smax		
	comp=E,29nm,0.8s						
SONM	**Songino Array**	**12.62**	**34**	Pn	Pn	15 33 37.9	+4.7
	comp=E,0.4nm,0.3s,baz=217,slow=15,SNR=14						
MKAR	**Makanchi Array**	**13.53**	**316**	Pn	**Pn**	**15 33 43.9**	**-1.6**
	comp=E,0.4nm,0.3s,baz=128,slow=14,SNR=25						
MKAR				Sn	**Sn**	**15 36 12.7**	**-3.1**
	comp=E,0.1nm,0.3s,baz=124,slow=25,SNR=6.4						
ZALV	**Zalesovo Beam**	**17.90**	**338**	P	**P**	**15 34 43.6**	**+0.6**
	comp=E,0.1nm,0.3s,baz=145,slow=11,SNR=6.4						
CMAR	**Chiang Mai Arr**	**19.43**	**171**	P	**P**	**15 35 00.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=340,slow=10,SNR=11						
BVAR	**Borovoye Array**	**23.38**	**319**	P	**P**	**15 35 42.4**	**+0.3**
	comp=E,0.8nm,0.6s,baz=115,slow=11,SNR=6.0						
KSRS	**Korea Array**	**25.26**	**81**	P	**P**	**15 36 00.8**	**+1.0**
	comp=E,0.9nm,0.6s,baz=276,slow=9.8,SNR=5.0						
AKTO	**Aktyubinsk**	**29.70**	**307**	P	**P**	**15 36 39.6**	**+0.1**
	comp=E,1.4nm,0.7s,baz=98,slow=5.7,SNR=4.1						
BRTR	**Keskin Array B**	**47.76**	**293**	P	**P**	**15 39 10.7**	**-0.3**
	comp=E,0.6nm,0.6s,baz=90,slow=7.4,SNR=4.1						
FINES	**FINESS Array B**	**48.24**	**323**	P	**P**	**15 39 14.2**	**+0.1**
	comp=E,0.9nm,0.8s,baz=125,slow=19,SNR=2.7						
NOA	**NORSAR Array B**	**55.37**	**324**	P	**P**	**15 40 07.5**	**+0.1**
	comp=E,0.7nm,0.6s,baz=59,slow=9.4,SNR=2.7						
ILAR	**Eielson Array**	**66.66**	**25**	P	**P**	**15 41 24.9**	**+1.0**
	comp=E,0.6nm,0.8s,baz=300,slow=5.4,SNR=7.7						
WRA	**Warramunga Arr**	**67.82**	**141**	P	**P**	**15 41 31.2**	**-0.7**
	comp=E,0.7nm,0.9s,baz=340,slow=6.8,SNR=4.2						
ASAR	**Alice Springs**	**70.77**	**143**	P	**P**	**15 41 50.0**	**-0.1**
	comp=E,0.3nm,0.6s,baz=328,slow=5.9,SNR=8.4						
TORD	**Torodi Ar. Bea**	**85.38**	**283**	P	**P**	**15 43 10.5**	**-0.9**
	comp=E,0.3nm,0.5s,baz=48,slow=5.7,SNR=3.3						

IDC 28 15:50:44.0±1.8, 1°.97N×124°.56E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=185.3km s-min=24.6km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**157**	P	P	15 55 58.5	-0.2
	0.7nm,0.6s,baz=335,slow=10,SNR=15						
ASAR	**Alice Springs**	**27.06**	**161**	P	P	15 56 28.5	+0.1
	0.2nm,0.8s,baz=334,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**57.79**	**327**	P	P	16 00 37.1	-0.1
	0.1nm,0.4s,baz=123,slow=8.9,SNR=3.2						

CASC 28 15:54:24.2±2.7, 11°.65N×86°.48W, h62km±30km, MD3.7, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.54**	**349**	*e*P	Pn	15 54 36.8	+0.1
COPN				*e*S	Sn	15 54 46.5	+0.6
MGAN	**Managua**	**0.55**	**25**	*e*P	Pn	15 54 37.1	+0.3
MGAN				*e*S	Sn	15 54 47.0	+0.9
HUEN		**0.75**	**24**	‖*e*P	Pn	15 54 39.4	+0.2
HUEN				*e*S	Sn	15 54 50.3	+0.1
CNGN	**Cerro Negro**	**0.87**	**346**	*e*P	Pn	15 54 41.2	+0.4
CNGN				*e*S	Sn	15 54 53.7	+0.7
GBS3	**Finca Las Im¯¡**	**1.32**	**130**	*i* P	Pn	15 54 46.9	+0.3
GB1A	**Borinquen Arri**	**1.35**	**128**	*i* P	Pn	15 54 46.6	-0.4
MESS	**Mesas**	**1.55**	**125**	*i* P	Pn	15 54 50.0	+0.3
MESS				*i* S	Sn	15 55 08.2	-0.8
VCR	**Vista de Mar**	**1.73**	**151**	*e*P	Pn	15 54 54.0	+1.8
VCR				*e*S	Sn	15 55 18.7	+5.3
AMAS	**Alto Masis**	**1.79**	**125**	*i* P	Pn	15 54 53.1	+0.1
CNCH	**Conchagua**	**2.09**	**321**	*e*P	Pn	15 54 57.7	+0.6
JCR	**Jicaral**	**2.24**	**143**	*e*P	Pn	15 54 57.9	-1.2
JCR				*e*S	Sn	15 55 23.3	-2.4
VSM	**San Miguel**	**2.49**	**316**	*e*P	Pn	15 55 03.9	+1.2
CGA2	**Cerro Gallo 2**	**2.56**	**129**	*e*P	Pn	15 55 06.1	+2.6
CGA2				*e*S	Sn	15 55 38.2	+4.5
LFRS	**El Faro**	**3.19**	**308**	*e*P	Pn	15 55 12.8	+0.7
LFRS				*e*S	Sn	15 55 49.2	+0.1
BUS	**Buena Vista**	**3.39**	**128**	*e*P	Pn	15 55 13.8	-1.5
BUS				*e*S	Sn	15 55 51.5	-3.2

MDD ***28*** *16:06:54.0±1.8, 37°.08N×14°.19W, h0km, mb4.0/7, Error ellipse: s-maj=21.6km s-min=12.5km az=135.0, PRXIMO*
INMG ***28*** *16:06:57.7±1.2, 37°.19N×14°.55W, h10km, ML2.5, Error ellipse: s-maj=10.4km s-min=3.2km az=124.0*
CSEM ***28*** *16:06:59.9±0.5, 37°.39N×13°.77W, h10km, ML3.1/24, Error ellipse: s-maj=8.8km s-min=7.7km az=123.0*
ISC 28 16:06:56.3±3.7, 37°.28N±0°.09×14°.0W±0°.2, h10km, n80, σ1§56/122, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.05**	**64**	*e*Pn	**Pn**	**16 08 00.1**	**+1.7**
PMAFR				*e*Sn	**Sn**	**16 08 46.8**	**+0.9**
PMAFR				A	A	16 08 54.3	
	18nm,0.6s						
PMAFR	**Mafra**	**4.05**	**64**	Pn	**Pn**	**16 07 60.0**	**+1.6**
	9.4nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**16 08 45.7**	**-0.2**
	11nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**4.05**	**64**	*e*Pn	**Pn**	**16 08 00.1**	**+1.7**
PMAFR				*e*Sn	**Sn**	**16 08 46.8**	**+0.9**
	18nm,0.6s						
PFVI	**Vila Bisbo**	**4.11**	**91**	*e*Pn	**Pn**	**16 08 00.3**	**+1.2**
PFVI				*e*Sn	**Sn**	**16 08 45.3**	**-1.9**
PFVI				A	A	16 08 51.1	
	7.0nm,0.8s						
PFVI	**Vila Bisbo**	**4.11**	**91**	Pn	**Pn**	**16 08 00.3**	**+1.2**
	1.4nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**16 08 43.0**	**-4.1**
	8.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.11**	**91**	Pn	**Pn**	**16 08 00.3**	**+1.2**
	1.4nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**16 08 45.3**	**-1.9**
	7.0nm,0.8s						
PTEO	**Sao Teotonio**	**4.18**	**85**	*e*Pn	**Pn**	**16 08 01.3**	**+1.2**
PTEO	**Sao Teotonio**	**4.18**	**85**	Pn	**Pn**	**16 08 01.3**	**+1.2**
PTEO	**Sao Teotonio**	**4.18**	**85**	Pn	**Pn**	**16 08 01.3**	**+1.2**
MORF	**Marmelete**	**4.24**	**88**	*e*Pn	**Pn**	**16 08 02.5**	**+1.5**
MORF				*e*Sn	**Sn**	**16 08 50.9**	**+0.4**
MORF				A	A	16 08 54.1	
	2.7nm,0.2s						
MORF	**Marmelete**	**4.24**	**88**	Pn	**Pn**	**16 08 02.5**	**+1.5**
MORF				Sn	**Sn**	**16 08 50.9**	**+0.4**
	2.7nm,0.2s						
MORF	**Marmelete**	**4.24**	**88**	Pn	**Pn**	**16 08 02.5**	**+1.5**
MORF				*e*Sn	**Sn**	**16 08 50.9**	**+0.4**
	2.7nm,0.2s						
PNCL	**Nicolau / Gran**	**4.39**	**77**	*e*Pn	**Pn**	**16 08 04.7**	**+1.7**
PNCL				*e*Sn	**Sn**	**16 08 54.9**	**+0.7**
PNCL				A	A	16 09 03.2	
	2.7nm,0.5s						
PNCL	**Nicolau / Gran**	**4.39**	**77**	*e*Pn	**Pn**	**16 08 04.7**	**+1.7**
PNCL				*e*Sn	**Sn**	**16 08 54.9**	**+0.7**
	2.7nm,0.5s						
MOE	**Montemor**	**4.61**	**73**	*e*Pn	**Pn**	**16 08 07.5**	**+1.5**
MOE				*e*Sn	**Sn**	**16 09 01.1**	**+1.5**
MOE	**Montemor**	**4.61**	**73**	Pn	**Pn**	**16 08 07.5**	**+1.5**
MOE				Sn	**Sn**	**16 09 01.1**	**+1.5**
MOE	**Montemor**	**4.61**	**73**	Pn	**Pn**	**16 08 07.5**	**+1.5**
MOE				Sn	**Sn**	**16 09 01.1**	**+1.5**
PMPST	**Porto Santo, M**	**4.62**	**206**	A	A	16 08 42.0	
	20nm,0.7s						
PMPST				*e*Sn	Sn	16 08 43.2	-17
PMPS	**Porto Santo**	**4.64**	**205**	*e*Sn	Sn	16 08 43.8	-17
PMPS	**Porto Santo**	**4.64**	**205**	Sn	Sn	16 08 43.2	-17
PMPS	**Porto Santo**	**4.64**	**205**	Sn	Sn	16 08 43.2	-17
PCVE	**Castro Verde**	**4.73**	**84**	*e*Pn	**Pn**	**16 08 08.9**	**+1.2**
PCVE				*e*Sn	**Sn**	**16 09 02.4**	**-0.2**
PCVE				A	A	16 09 11.8	
	2.6nm,0.8s						
PCVE	**Castro Verde**	**4.73**	**84**	Pn	**Pn**	**16 08 08.9**	**+1.2**
PCVE				Sn	**Sn**	**16 09 02.4**	**-0.2**
	2.6nm,0.8s						
PCVE	**Castro Verde**	**4.73**	**84**	Pn	**Pn**	**16 08 08.9**	**+1.2**
PCVE				*e*Sn	**Sn**	**16 09 02.4**	**-0.2**
	2.6nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.81**	**89**	*e*Pn	**Pn**	**16 08 10.7**	**+1.8**
PBDV				*e*Sn	**Sn**	**16 09 04.3**	**-0.4**
PBDV				A	A	16 09 09.8	
	4.1nm,0.9s						
PBDV	**Barranco-do-Ve**	**4.81**	**89**	Pn	**Pn**	**16 08 10.7**	**+1.8**
PBDV				Sn	**Sn**	**16 09 04.3**	**-0.4**
	4.1nm,0.9s						
PBDV	**Barranco-do-Ve**	**4.81**	**89**	Pn	**Pn**	**16 08 10.7**	**+1.8**
PBDV				*e*Sn	**Sn**	**16 09 04.3**	**-0.4**
	4.1nm,0.9s						
PMTG	**Montargil**	**4.86**	**67**	*e*Pn	**Pn**	**16 08 10.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**16 09 05.9**	**+0.1**
PMTG				A	A	16 09 13.4	
	3.6nm,0.7s						
PMTG	**Montargil**	**4.86**	**67**	*e*Pn	**Pn**	**16 08 10.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**16 09 05.9**	**+0.1**
	3.6nm,0.7s						
EVO	**Evora**	**4.87**	**73**	*e*Sn	**Sn**	**16 09 07.0**	**+1.0**
EVO	**Evora**	**4.87**	**73**	Sn	**Sn**	**16 09 07.0**	**+1.0**
EVO	**Evora**	**4.87**	**73**	Sn	**Sn**	**16 09 07.0**	**+1.0**
PTOM	**Tomar**	**4.95**	**60**	*e*Sn	**Sn**	**16 09 08.2**	**+0.3**
PTOM				A	A	16 09 20.0	
	6.6nm,1.0s						
PTOM	**Tomar**	**4.95**	**60**	Sn	**Sn**	**16 09 08.2**	**+0.3**
	3.3nm,1.0s						
PTOM	**Tomar**	**4.95**	**60**	*e*Sn	**Sn**	**16 09 08.2**	**+0.3**
	6.6nm,1.0s						
PVAQ	**Vaqueiros**	**4.98**	**87**	*e*Pn	**Pn**	**16 08 12.4**	**+1.3**
PVAQ				*e*Sn	**Sn**	**16 09 09.6**	**+0.8**
PVAQ				A	A	16 09 14.1	
	3.7nm,0.8s						
PVAQ	**Vaqueiros**	**4.98**	**87**	Pn	**Pn**	**16 08 12.4**	**+1.3**
PVAQ				Sn	**Sn**	**16 09 09.6**	**+0.8**
	3.7nm,0.8s						
PVAQ	**Vaqueiros**	**4.98**	**87**	Pn	**Pn**	**16 08 12.4**	**+1.3**
PVAQ				*e*Sn	**Sn**	**16 09 09.6**	**+0.8**
	3.7nm,0.8s						
PCAS	**Casmilo, Conde**	**5.09**	**55**	*e*Sn	**Sn**	**16 09 11.0**	**-0.6**
PCAS				A	A	16 09 25.9	
	4.8nm,0.5s						
PCAS	**Casmilo, Conde**	**5.09**	**55**	*e*Sn	**Sn**	**16 09 11.0**	**-0.6**
	4.8nm,0.5s						
EGRO	**El Granado**	**5.17**	**85**	Pn	**Pn**	**16 08 15.5**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**16 09 10.7**	**-2.7**
	1.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.17**	**85**	Pn	**Pn**	**16 08 15.5**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**16 09 10.7**	**-2.7**
	1.4nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**5.27**	**71**	*e*Pn	**Pn**	**16 08 17.3**	**+2.1**
PESTR				*e*Sn	**Sn**	**16 09 16.1**	**+0.1**
PESTR				A	A	16 09 38.0	
	3.2nm,0.6s						
PESTR	**Estremoz**	**5.27**	**71**	Pn	**Pn**	**16 08 17.3**	**+2.1**
PESTR				Sn	**Sn**	**16 09 16.1**	**+0.1**
	3.2nm,0.6s						
PESTR	**Estremoz**	**5.27**	**71**	Pn	**Pn**	**16 08 17.3**	**+2.1**
PESTR				*e*Sn	**Sn**	**16 09 16.1**	**+0.1**
	3.2nm,0.6s						
PBAR	**Barrancos**	**5.56**	**79**	*e*Pn	**Pn**	**16 08 20.5**	**+1.4**
PBAR				*e*Sn	**Sn**	**16 09 23.4**	**+0.3**
PBAR				A	A	16 09 25.8	
	1.6nm,0.4s						
PBAR	**Barrancos**	**5.56**	**79**	Pn	**Pn**	**16 08 20.5**	**+1.4**
PBAR				Sn	**Sn**	**16 09 23.4**	**+0.3**
	1.6nm,0.4s						
PBAR	**Barrancos**	**5.56**	**79**	Pn	**Pn**	**16 08 20.5**	**+1.4**
PBAR				*e*Sn	**Sn**	**16 09 23.4**	**+0.3**
	1.6nm,0.4s						
PMRV	**Marv??o**	**5.59**	**65**	*e*Pn	**Pn**	**16 08 20.7**	**+1.1**
PMRV				*e*Sn	**Sn**	**16 09 23.7**	**-0.2**
PMRV				A	A	16 09 31.7	
	2.7nm,0.3s						
PMRV	**Marv??o**	**5.59**	**65**	Pn	**Pn**	**16 08 20.7**	**+1.1**
PMRV				Sn	**Sn**	**16 09 23.7**	**-0.2**
	2.7nm,0.3s						
PMRV	**Marv??o**	**5.59**	**65**	Pn	**Pn**	**16 08 20.7**	**+1.1**
PMRV				*e*Sn	**Sn**	**16 09 23.7**	**-0.2**
	2.7nm,0.3s						
EBAD	**Badajoz**	**5.68**	**73**	Pn	**Pn**	**16 08 22.0**	**+1.2**
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**16 09 23.8**	**-2.3**
	2.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.68**	**73**	Pn	**Pn**	**16 08 22.0**	**+1.2**
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**16 09 23.8**	**-2.3**
	2.8nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.69**	**61**	*e*Sn	**Sn**	**16 09 26.6**	**+0.4**
PCBR	**Castelo Branco**	**5.69**	**61**	Sn	**Sn**	**16 09 26.6**	**+0.4**
PCBR	**Castelo Branco**	**5.69**	**61**	Sn	**Sn**	**16 09 26.6**	**+0.4**
EMIN	**Mina Concepcio**	**5.82**	**83**	Pn	**Pn**	**16 08 23.5**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**16 09 27.0**	**-2.4**
	1.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.82**	**83**	Pn	**Pn**	**16 08 23.5**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**16 09 27.0**	**-2.4**
	1.4nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.33**	**38**	Sn	**Sn**	**16 09 40.3**	**-1.8**
	2.4nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.33**	**38**	Sn	**Sn**	**16 09 40.3**	**-1.8**
	2.4nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**6.38**	**44**	*e*Sn	**Sn**	**16 09 42.3**	**-0.9**
PCAB	**Cabril**	**6.38**	**44**	Sn	**Sn**	**16 09 42.3**	**-0.9**
PCAB	**Cabril**	**6.38**	**44**	Sn	**Sn**	**16 09 42.3**	**-0.9**
PGAV	**Gavieira, Arco**	**6.42**	**41**	*e*Pn	**Pn**	**16 08 31.9**	**+0.9**
PGAV				*e*Sn	**Sn**	**16 09 42.5**	**-1.8**
PGAV				A	A	16 09 47.1	
	4.4nm,0.6s						
PGAV	**Gavieira, Arco**	**6.42**	**41**	*e*Pn	**Pn**	**16 08 31.9**	**+0.9**
PGAV				*e*Sn	**Sn**	**16 09 42.5**	**-1.8**
	4.4nm,0.6s						
ELOB	**Lobios**	**6.46**	**43**	Sn	**Sn**	**16 09 42.6**	**-2.8**
	2.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.46**	**43**	Sn	**Sn**	**16 09 42.6**	**-2.8**
	2.5nm,0.1s,SNR=7.9						
ESPR	**Espera**	**6.50**	**91**	Sn	**Sn**	**16 09 42.6**	**-3.5**
	8.3nm,0.2s,SNR=4.0						
ESPR	**Espera**	**6.50**	**91**	Sn	**Sn**	**16 09 42.6**	**-3.5**
	8.3nm,0.2s,SNR=4.0						
MVO	**Moncorvo**	**6.63**	**52**	*e*Pn	**Pn**	**16 08 35.5**	**+1.6**
MVO				*e*Sn	**Sn**	**16 09 47.8**	**-1.8**
MVO				A	A	16 09 48.5	
	3.5nm,0.6s						
MVO	**Moncorvo**	**6.63**	**52**	Pn	**Pn**	**16 08 35.2**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
MVO				Sn	Sn	16 09 45.9	-3.7
	3.0nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.63**	**52**	Pn	**Pn**	**16 08 35.2**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**16 09 47.8**	**-1.8**
	3.5nm,0.6s						
EPLA	**Plasencia**	**6.77**	**63**	Sn	**Sn**	**16 09 50.5**	**-2.3**
	0.6nm,0.1s,SNR=21						
EPLA	**Plasencia**	**6.77**	**63**	Sn	**Sn**	**16 09 50.5**	**-2.3**
	0.6nm,0.1s,SNR=21						
ECAB	**El Cabril**	**6.83**	**81**	Sn	**Sn**	**16 09 51.8**	**-2.5**
	0.7nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**6.83**	**81**	Sn	**Sn**	**16 09 51.8**	**-2.5**
	0.7nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.26**	**48**	Sn	**Sn**	**16 10 02.4**	**-2.7**
	3.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.26**	**48**	Sn	**Sn**	**16 10 02.4**	**-2.7**
	3.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.49**	**80**	Pn	**Pn**	**16 08 45.2**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**16 10 08.2**	**-2.5**
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.49**	**80**	Pn	**Pn**	**16 08 45.2**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**16 10 08.2**	**-2.5**
	1.0nm,0.2s,SNR=7.9						

ATH ***28*** *16:09:16.7, 33°.91N×23°.94E, h17km±7km, MD3.5/5*
ISCJB ***28*** *16:09:23.1±0.6, 34°.18N±0°.04×24°.27E±0°.09, h30km, mb3.7/4, Error ellipse: s-maj=11.3km s-min=5.2km az=173.7*
CSEM ***28*** *16:09:24.0±0.5, 34°.25N×24°.20E, h20km, MD3.5, Error ellipse: s-maj=18.3km s-min=6.7km az=85.0*
HLW ***28*** *16:09:25.9, 34°.36N×24°.15E, h28km±34km, Md4.2, Ml0.0*
IDC ***28*** *16:09:27.1±4.6, 34°.47N×24°.19E, h57km±47km, mb3.6/4, mb1 3.5/6, mb1mx3.2/29, mbtmp3.4/6, ML3.5/2, Error ellipse: s-maj=36.8km s-min=24.6km az=131.0*
ISC 28 16:09:24.1±0.8, 34°.28N±0°.05×24°.28E±0°.08, h30km, n28, σ1§27/29, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.85**	**31**	*e*PN	**Pn**	**16 09 41.5**	**+1.4**
SIVA				*e*SN	Sb	16 09 59.9	+8.4
SIVA	**Sivas**	**0.85**	**31**	*e*Pn	**Pn**	**16 09 41.5**	**+1.4**
SIVA				*e*Sn	Sb	16 09 59.9	+8.4
IDI	**Anoyia**	**1.12**	**26**	*e*PN	**Pb**	**16 09 46.5**	**+1.6**
IDI	**Anoyia**	**1.12**	**26**	*e*Pn	**Pb**	**16 09 46.5**	**+1.6**
VAM	**Vamos**	**1.12**	**357**	*e*PN	**Pn**	**16 09 44.8**	**+1.0**
VAM	**Vamos**	**1.12**	**357**	*e*Pn	**Pn**	**16 09 44.8**	**+1.0**
KARN	**Karanos**	**1.16**	**345**	*e*PN	**Pn**	**16 09 45.0**	**+0.7**
KARN	**Karanos**	**1.16**	**345**	*e*Pn	**Pn**	**16 09 45.0**	**+0.7**
LAST	**Lasithi**	**1.32**	**48**	*e*PN	**Pb**	**16 09 49.3**	**+1.0**
LAST	**Lasithi**	**1.32**	**48**	*e*Pn	**Pb**	**16 09 49.3**	**+1.0**
NPS	**Neapolis**	**1.47**	**48**	*e*PB	**Pn**	**16 09 50.0**	**+1.4**
NPS	**Neapolis**	**1.47**	**48**	*e*Pb	**Pn**	**16 09 50.0**	**+1.4**
SLUM		**2.89**	**164**	P	**Pn**	**16 10 09.5**	**+1.4**
HMAT	**Matruh**	**3.97**	**142**	P	**Pn**	**16 10 24.5**	**+1.6**
SWA2		**5.12**	**168**	P	**Pn**	**16 10 39.5**	**+0.7**
SWA2				S	**Sn**	**16 11 36.0**	**-0.9**
HSAF	**As Saff**	**7.73**	**125**	P	**Pn**	**16 11 15.9**	**+1.2**
GLL	**Jalalah**	**7.86**	**125**	P	**Pn**	**16 11 17.2**	**+0.7**
HFRF	**Wahat Farafira**	**7.91**	**153**	P	**Pn**	**16 11 17.7**	**+0.6**
SUZ		**8.50**	**119**	P	**Pn**	**16 11 26.3**	**+1.1**
BRTR	**Keskin Array B**	**9.25**	**51**	P	**Pn**	**16 11 36.5**	**+1.0**
	0.1nm,0.3s,baz=243,slow=7.9,SNR=2.5						
MMAI	**Mount Meron Ar**	**9.36**	**95**	S	**Sn**	**16 13 18.9**	**-2.4**
	1.6nm,0.3s,baz=267,slow=27,SNR=5.6						
HDK1	**Dakhla**	**9.78**	**152**	P	**Pn**	**16 11 42.9**	**+0.2**
HDK2	**Wahat Dakhilah**	**10.73**	**156**	P	**Pn**	**16 11 55.5**	**-0.3**
GERES	**GERESS Array B**	**16.54**	**335**	P	**Pn**	**16 13 14.2**	**+0.4**
	0.2nm,0.3s,baz=163,slow=10,SNR=4.4						
HFS	**Hagfors**	**26.77**	**348**	P	**P**	**16 14 59.3**	**-1.7**
	1.1nm,0.4s,baz=162,slow=10,SNR=6.4						
TORD	**Torodi Ar. Bea**	**29.37**	**230**	P	**P**	**16 15 25.4**	**+0.8**
	0.4nm,0.4s,baz=35,slow=8.5,SNR=5.9						
ARCES	**ARCESS Array B**	**35.31**	**1**	P	**P**	**16 16 14.1**	**-2.0**
	2.1nm,0.9s,baz=183,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**44.86**	**56**	P	**P**	**16 17 35.5**	**-0.1**
	0.4nm,0.5s,baz=265,slow=8.4,SNR=7.9						

IDC 28 16:21:47.3±2.0, 55°.39S×28°.22W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, MS4.0/3, Ms1 4.0/3, ms1mx3.1/24, Error ellipse: s-maj=75.9km s-min=35.8km az=11.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**35.94**	**312**	P	P	16 28 48.4	-0.8
	0.3nm,0.3s,baz=135,slow=11,SNR=3.9						
SIV	**San Ignacio**	**46.70**	**314**	LR	LR	16 48 40.0	
	comp=Z,110nm,20.3s,slow=34						
LPAZ	**La Paz**	**49.52**	**306**	P	P	16 30 40.7	+0.4
	1.2nm,0.6s,baz=146,slow=3.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**72.78**	**31**	P	P	16 33 17.4	+0.1
	1.2nm,0.6s,baz=205,slow=5.3,SNR=15						
CMIG	**Matias Romero**	**91.36**	**299**	LR	LR	17 09 31.1	
	comp=Z,133nm,21.8s,baz=3.7,slow=31						
KEST	**Kesra**	**96.29**	**30**	LR	LR	17 14 57.4	
	comp=Z,56nm,18.4s,baz=299,slow=33						
ILAR	**Eielson Array**	**149.24**	**313**	PKPbc	PKPbc	16 41 36.0	-0.3
	1.4nm,0.7s,baz=129,slow=2.5,SNR=6.1						
SONM	**Songino Array**	**151.27**	**86**	PKPbc	PKPbc	16 41 41.3	-0.5
	0.6nm,0.5s,baz=226,slow=2.2,SNR=5.5						

ISCJB ***28*** *16:28:

LSA	**Lhasa**	**8.82 207**	P	Pn	16 30 51.5	+2.3
LSA			S	**Sn**	**16 32 26.0**	**-2.7**
LSA			pmax	pmax		
	comp=Z,80nm,1.2s					
LSA			LR	LR		
	comp=N,2μm,12.1s					
LSA			LR	LR		
	comp=E,4μm,12.1s					
LSA			LR	LR		
	comp=Z,6μm,12.6s					
CD2	**Chengdu**	**9.45 133**	P	Pn	16 31 00.0	+2.6
CD2			pP		16 31 03.3	
CD2			sP		16 31 06.5	
CD2			PP	**PnPn**	**16 31 08.5**	**+3.5**
CD2			S	**Sn**	**16 32 47.5**	**+4.0**
CD2			sS		16 32 52.3	
CD2			SS	**SnSn**	**16 33 00.8**	**+5.7**
CD2			pmax	pmax		
	comp=Z,50nm,1.1s					
CD2			pmax	pmax		
	comp=Z,210nm,5.2s					
CD2			LR	LR		
	comp=N,12μm,5.9s					
CD2			LR	LR		
	comp=E,7μm,7.2s					
CD2			LR	LR		
	comp=Z,10μm,7.8s					
XAN	**Xi'an**	**11.29 105**	P	**Pn**	**16 31 19.5**	**-3.1**
XAN			pmax	pmax		
	comp=Z,11nm,0.9s					
XAN			LR	LR		
	comp=N,4μm,10.7s					
XAN			LR	LR		
	comp=E,670nm,11.4s					
XAN			LR	LR		
	comp=Z,2μm,9.9s					
BTO	**Baotou**	**11.47 71**	*e*P	**Pn**	**16 31 24.5**	**-0.6**
BTO			pmax	pmax		
	comp=Z,26nm,1.8s					
TAPN	**Taplejung**	**12.31 216**	*e*P	**Pn**	**16 31 37.3**	**+0.4**
	comp=Z,149nm,1.2s					
SHL	**Shillong**	**12.50 196**	*e*P	**Pn**	**16 31 37.6**	**-1.8**
SHL			AMB	AMB	16 31 42.1	
	comp=Z,52nm,1.2s					
SHL			*ex*	x	16 35 40.0	
HHC	**Hu-ho-hao-te**	**12.66 71**	*e*P	**Pn**	**16 31 41.5**	**0.0**
HHC			sP		16 31 47.0	
HHC			PP	**PnPn**	**16 31 52.0**	**+2.8**
HHC			S	**Sn**	**16 34 04.0**	**+1.6**
HHC			SS	**SnSn**	**16 34 17.5**	**+3.1**
HHC			pmax	pmax		
	comp=Z,100nm,1.1s					
HHC			pmax	pmax		
	comp=Z,870nm,4.5s					
HHC			LR	LR		
	comp=N,8μm,7.7s					
HHC			LR	LR		
	comp=E,6μm,7.7s					
HHC			LR	LR		
	comp=Z,6μm,8.9s					
GUN	**Gumba**	**12.78 223**	*e*P	**Pn**	**16 31 42.0**	**-1.3**
	comp=Z,555nm,1.1s					
JIRN	**Jiri**	**12.81 222**	*e*P	**Pn**	**16 31 43.1**	**-0.7**
	comp=Z,497nm,1.0s					
SONM	**Songino Array**	**12.81 34**	Pn	**Pn**	**16 31 44.8**	**+1.3**
SONM			Lg	Lg	16 35 13.9	
SONM	**Songino Array**	**12.81 34**	Pn	**Pn**	**16 31 44.8**	**+1.3**
	comp=Z,2.4nm,0.3s,baz=220,slow=13,SNR=60					
SONM			Lg	Lg	16 35 13.9	
	comp=Z,0.2nm,0.3s,baz=213,slow=34,SNR=3.9					
SONM			LR	LR	16 37 07.9	
	comp=Z,3μm,20.9s,baz=218,slow=40					
ODAN	**Odare**	**12.88 216**	*e*P	**Pn**	**16 31 43.9**	**-0.7**
	comp=Z,59nm,0.9s					
ULN	**Ulaanbaatar**	**13.13 36**	Pn	Pn	16 31 50.8	+2.9
	SNR=41					
ULN	**Ulaanbaatar**	**13.13 36**⇑	*e*Pn	**Pn**	**16 31 49.5**	**+1.6**
	comp=Z,37nm,0.8s					
ULN	**Ulaanbaatar**	**13.13 36**	P	Pn	16 31 51.0	+3.1
	comp=Z,62nm,1.2s,comp=Z,1μm					
RAMN	**Ramite**	**13.18 218**	*e*P	**Pn**	**16 31 46.9**	**-1.8**
	comp=Z,150nm,1.0s					
KKN	**Kakani**	**13.20 225**	*e*P	**Pn**	**16 31 46.9**	**-2.1**
	comp=Z,375nm,1.6s					
TIY	**Taiyuan**	**13.22 85**	*e*P	Pn	16 31 53.0	+3.9
TIY			PP	**P**	**16 31 57.3**	**-1.7**
TIY			S	**Sn**	**16 34 11.0**	**-4.9**
TIY			pmax	pmax		
	comp=Z,110nm,1.2s					
TIY			LR	LR		
	comp=N,4μm,6.2s					
TIY			LR	LR		
	comp=E,6μm,8.2s					
TIY			LR	LR		
	comp=Z,6μm,10.1s					
PKI	**Pulchoki**	**13.30 224**	*e*P	**Pn**	**16 31 48.7**	**-1.7**
	comp=Z,482nm,1.1s					
PKIN	**Phulchoki**	**13.30 224**	*e*P	**Pn**	**16 31 48.8**	**-1.6**
	comp=Z,167nm,1.0s					
DMN	**Daman**	**13.44 225**	*e*P	**Pn**	**16 31 50.3**	**-2.0**
	comp=Z,587nm,1.5s					
MK31	**Makanchi Array**	**13.50 317**	Pn	**Pn**	**16 31 50.3**	**-2.5**
	comp=Z,42nm,0.6s,baz=121,slow=12,SNR=857					
MK31			⇓Sn	**Sn**	**16 34 18.4**	**-4.2**
	comp=Z,75nm,0.9s,baz=123,slow=25,SNR=9.8					
MK31	**Makanchi Array**	**13.50 317**	*e*P	**Pn**	**16 31 50.0**	**-2.8**
MK31	**Makanchi Array**	**13.50 317**	*e*Pn	**Pn**	**16 31 50.0**	**-2.8**
MKAR	**Makanchi Array**	**13.50 317**	P	**Pn**	**16 31 50.0**	**-2.8**
MKAR			pmax	pmax		
	comp=Z,8.0nm,0.3s					
MKAR			MLR	MLR		
	comp=Z,846nm,19.5s					
MKAR	**Makanchi Array**	**13.50 317**	Pn	**Pn**	**16 31 50.0**	**-2.8**
MKAR			Sn	**Sn**	**16 34 19.7**	**-2.9**
MKAR			Lg	Lg	16 35 50.3	
MKAR	**Makanchi Array**	**13.50 317**	Pn	**Pn**	**16 31 50.0**	**-2.8**
	comp=Z,7.5nm,0.3s,baz=126,slow=13,SNR=207					
MKAR			Sn	**Sn**	**16 34 19.7**	**-2.9**
	comp=Z,1.4nm,0.3s,baz=123,slow=24,SNR=7.6					
MKAR			Lg	Lg	16 35 50.3	
	baz=146,slow=24,SNR=2.4					
MKAR			LR	LR	16 37 01.3	
	comp=Z,846nm,19.4s,baz=124,slow=37					
HVS	**Khovu-Aksy**	**13.55 354**⇓	*e*P	**Pn**	**16 31 54.0**	**+0.5**
HVS			pmax	pmax		
	comp=Z,266nm,2.1s					
ENH	**Enshi**	**13.57 119**	*e*Pn	**Pn**	**16 31 52.5**	**-1.3**
DANN	**Dangsing**	**13.68 231**	*e*P	**Pn**	**16 31 53.3**	**-2.3**
	comp=Z,123nm,1.1s					
ZAK	**Zakamensk**	**13.81 21**	*e*P	Pn	16 31 59.9	+2.8
ZAK			*e*		16 34 39.1	
ZAK			pmax	pmax		
	comp=Z,190nm,1.2s					
KMI	**Kunming**	**13.85 153**	P	**Pn**	**16 31 58.8**	**+1.0**
KMI			sP		16 32 02.5	
KMI			PP	P	16 32 09.8	+3.6
KMI			S	**Sn**	**16 34 29.5**	**-2.1**
KMI			SS	**SnSn**	**16 34 46.8**	**+2.8**
KMI			pmax	pmax		
	comp=Z,18nm,1.1s					
KMI			pmax	pmax		
	comp=Z,140nm,3.1s					
KMI			LR	LR		
	comp=N,2μm,8.1s					
KMI			LR	LR		
	comp=E,2μm,7.9s					
KMI			LR	LR		
	comp=Z,2μm,7.4s					
KOLN	**Koldanda**	**14.20 229**	*e*P	**Pn**	**16 31 59.4**	**-3.2**
	comp=Z,102nm,1.0s					
MOY	**Mondy**	**14.48 13**	*e*P	P	16 32 09.6	-3.4
MOY			pmax	pmax		
	comp=Z,313nm,2.7s					
GYA	**Guiyang**	**14.49 137**⇑	*i*P	**Pn**	**16 32 05.0**	**-1.6**
GYA			PP	**PnPn**	**16 32 16.5**	**+2.0**
GYA			S	**Sn**	**16 34 49.0**	**+1.8**
GYA			SS	**SnSn**	**16 35 00.5**	**+0.8**
GYA			PcP	**PcP**	**16 37 23.0**	**+1.7**
GYA			pmax	pmax		
	comp=Z,30nm,1.0s					
GYA			pmax	pmax		
	comp=Z,130nm,5.1s					
GYA			LR	LR		
	comp=N,3μm,9.0s					
GYA			LR	LR		
	comp=E,3μm,9.6s					
GYA			LR	LR		
	comp=Z,4μm,13.4s					
TLY	**Talaya**	**15.08 19***c*	*i*P	**Pn**	**16 32 15.6**	**+1.3**
TLY			pmax	pmax		
	comp=Z,77nm,1.0s					
TLY			MLR	MLR		
	comp=Z,3μm,10.0s					
TLY	**Talaya**	**15.08 19**	P	**P**	**16 32 17.7**	**-1.9**
	comp=Z,242nm,1.2s,SNR=14					
AAA	**Alma-Ata**	**15.36 297**	*i*P	**Pn**	**16 32 16.5**	**-1.5**
AAA			pmax	pmax		
	comp=Z,1μm,1.0s					
AAA			MLR	MLR		
	comp=Z,3μm,4.0s					
KSH	**Kashi**	**15.57 283**	P	**P**	**16 32 22.0**	**-3.2**
KSH			PP	**PnPn**	**16 32 33.8**	**+4.6**
KSH			S	**Sn**	**16 35 13.8**	**+0.4**
KSH			pmax	pmax		
	comp=Z,240nm,1.5s					
KSH			LR	LR		
	comp=N,3μm,9.3s					
KSH			LR	LR		
	comp=E,2μm,7.2s					
KSH			LR	LR		
	comp=Z,5μm,13.2s					
ULHL	**Ulahol**	**15.64 293**	*i*P	**Pn**	**16 32 18.8**	**-3.0**
ULHL	**Ulahol**	**15.64 293**	P	**Pn**	**16 32 18.8**	**-3.0**
	SNR=33					
IRK	**Irkutsk**	**15.76 20**	*e*P	**P**	**16 32 25.6**	**-1.4**
IRK			pmax	pmax		
	comp=Z,846nm,2.2s					
BJI	**Beijing**	**16.09 75**	P	**P**	**16 32 28.3**	**-2.4**
BJI			S	**Sn**	**16 35 27.8**	**+2.2**
BJI			pmax	pmax		
	comp=Z,160nm,1.7s					
BJI			pmax	pmax		
	comp=Z,700nm,3.5s					
BJI			LR	LR		
	comp=N,7μm,15.5s					
BJI			LR	LR		
	comp=E,3μm,10.1s					
BJI			LR	LR		
	comp=Z,2μm,22.5s					
BOK	**Bokaro**	**16.20 214**	*ex*	P	16 32 24.9	-7.2
BOK			AMB	AMB	16 32 28.8	
	comp=Z,46nm,0.8s					
TKM2	**Tokmak 2**	**16.24 295**	P	**Pn**	**16 32 26.4**	**-3.2**
TKM2	**Tokmak 2**	**16.24 295**	*i*P	**Pn**	**16 32 27.3**	**-2.2**
TKM2	**Tokmak 2**	**16.24 295**	P	**Pn**	**16 32 27.4**	**-2.2**
	SNR=122					
TKM2	**Tokmak 2**	**16.24 295**	*e*Pn	**Pn**	**16 32 26.3**	**-3.2**
	comp=Z,111nm,0.8s					
KZA	**Kyzart**	**16.34 292**	*i*P	**Pn**	**16 32 28.5**	**-2.5**
KZA	**Kyzart**	**16.34 292**	P	**Pn**	**16 32 28.5**	**-2.5**
	SNR=17					
DDI	**Dehra Dun**	**16.39 249**	*e*P	**Pn**	**16 32 31.0**	**-0.3**
DDI			AMB	AMB	16 32 35.8	
	comp=Z,367nm,1.1s					
KBK	**Karagaybulak**	**16.65 294**	*i*P	**Pn**	**16 32 32.8**	**-2.0**
KBK	**Karagaybulak**	**16.65 294**	P	**Pn**	**16 32 32.8**	**-2.0**
	SNR=39					
SMLA	**Simla**	**16.65 252**	*i*P	**Pn**	**16 32 33.6**	**-1.1**
SMLA			AMB	AMB	16 32 37.9	
	comp=Z,392nm,1.0s					
DHRM	**DHARAMSHALA**	**16.82 257**	*e*P	**Pn**	**16 32 35.8**	**-1.3**
DHRM			AMB	AMB	16 32 41.8	
	comp=Z,382nm,0.9s					
CHMS	**Chumysh**	**16.86 295**	*i*P	Pn	16 32 32.4	-4.9
CHMS	**Chumysh**	**16.86 295**	P	Pn	16 32 32.4	-4.9
	SNR=10					
FRU	**Bishkek**	**16.93 294**⇓	*i*P	**Pn**	**16 32 37.0**	**-1.1**
FRU			*e*S	**S**	**16 35 52.0**	**-4.3**
FRU			pmax	pmax		
	comp=Z,150nm,2.0s					
WHN	**Wuhan**	**16.95 109**	⇑P	**Pn**	**16 32 36.5**	**-1.9**
WHN			S	**Sn**	**16 35 40.5**	**-6.2**
WHN			LR	LR		
	comp=N,10μm,7.2s					
WHN			LR	LR		
	comp=E,5μm,7.2s					
WHN			LR	LR		
	comp=Z,15μm,10.1s					
DLH	**Dalhousie**	**16.97 258**	*ex*	**P**	**16 32 42.0**	**+1.2**
AAK	**Ala-Archa**	**16.98 294***c*	*i*P	**Pn**	**16 32 36.9**	**-2.1**
AAK			pmax	pmax		
	comp=Z,195nm,1.3s					
AAK	**Ala-Archa**	**16.98 294**	Pn	**Pn**	**16 32 37.3**	**-1.6**
	SNR=61					
AAK	**Ala-Archa**	**16.98 294**	P	**Pn**	**16 32 37.7**	**-1.2**
	SNR=39					
AAK	**Ala-Archa**	**16.98 294**	*e*Pn	**Pn**	**16 32 36.8**	**-2.1**
AAK			Lg	Lg	16 37 48.6	
AAK	**Ala-Archa**	**16.98 294**	Pn	**Pn**	**16 32 37.1**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=96,slow=13,SNR=31					
AAK			Lg	Lg	16 37 48.6	
	comp=Z,0.3nm,0.3s,baz=233,slow=10,SNR=2.3					
AAK			LR	LR	16 40 47.8	
	comp=Z,944nm,21.1s,baz=78,slow=43					
BHK	**Bhakra**	**17.09 254**	*ex*	**Pn**	**16 32 40.0**	**-0.3**
USP	**Ospenovka**	**17.09 296**	*i*P	**Pn**	**16 32 39.0**	**-1.2**
USP	**Ospenovka**	**17.09 296**	P	**Pn**	**16 32 39.0**	**-1.2**
	SNR=26					
TIA	**Tai'an**	**17.15 88**	⇓P	**Pn**	**16 32 39.0**	**-2.0**
TIA			pmax	pmax		
	comp=Z,70nm,1.3s					
TIA			LR	LR		
	comp=N,3μm,11.1s					
TIA			LR	LR		
	comp=E,2μm,8.0s					
TIA			LR	LR		
	comp=Z,3μm,9.4s					
AML	**Almayashu**	**17.49 292**	*i*P	**P**	**16 32 47.2**	**+0.5**
AML	**Almayashu**	**17.49 292**	P	**P**	**16 32 47.2**	**+0.5**
	SNR=34					
EKS2	**Erkin-Say**	**17.50 293**	*e*P	**P**	**16 32 45.1**	**-1.5**
EKS2			pmax	pmax		
	comp=Z,51nm,1.0s					
EKS2	**Erkin-Say**	**17.50 293**	P	**P**	**16 32 46.8**	**+0.2**
	SNR=19					
EKS2	**Erkin-Say**	**17.50 293**	*e*Pn	**P**	**16 32 45.1**	**-1.5**
	comp=Z,51nm,1.0s					
NDI	**New Delhi**	**17.89 245**	*ex*	Pn	16 32 44.0	-6.2
ZAA0	**Zalesovo Array**	**17.94 339**	*e*Pn	**Pn**	**16 32 49.4**	**-1.3**
ZALV	**Zalesovo Beam**	**17.94 339**	P	**Pn**	**16 32 49.7**	**-1.0**
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ZALV	**Zalesovo Beam**	**17.94 339**	P	**Pn**	**16 32 49.6**	**-1.0**
ZALV			Lg	Lg	16 38 00.9	
ZALV	**Zalesovo Beam**	**17.94 339**	P	**Pn**	**16 32 49.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=153,slow=10.0,SNR=47					
ZALV			Lg	Lg	16 38 00.9	
	comp=Z,0.1nm,0.3s,baz=171,slow=19,SNR=3.7					
BHGR	**Bahadurgarh**	**18.09 246**	*e*P	**P**	**16 32 52.3**	**-0.6**
SONA	**Sohna**	**18.23 244**	*e*P	**Pn**	**16 32 52.6**	**-1.8**
SONA			AMB	AMB	16 32 54.5	
	comp=Z,52nm,1.1s					
AGRA	**Agra**	**18.25 240**	*ex*	P	16 32 49.9	-4.8
AGRA			AMB	AMB	16 32 51.9	
	comp=Z,68nm,1.3s					
CHTO	**Chiang Mai**	**18.99 171**	*e*P	**Pn**	**16 33 03.0**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,41nm,1.0s					
CHTO	**Chiang Mai**	**18.99 171**	P	**Pn**	**16 33 04.1**	**+0.4**
	SNR=24					
CHTO	**Chiang Mai**	**18.99 171**	*e*P	**Pn**	**16 33 03.0**	**-0.6**
	comp=Z,41nm,1.0s					
CHTO	**Chiang Mai**	**18.99 171**	P	**Pn**	**16 33 03.8**	**+0.2**
	comp=Z,69nm,1.9s,comp=Z,1μm					
NVS	**Novosibirsk**	**19.18 338**⇓	*i*P	**P**	**16 33 04.0**	**-0.8**
NVS			*e*S	**Sn**	**16 36 38.3**	**-2.0**
NVS			pmax	pmax		
	comp=Z,84nm,0.9s					
NVS			pmax	pmax		
	comp=N,53nm,0.8s					
NVS			pmax	pmax		
	comp=E,55nm,1.1s					
NVS			smax	smax		
	comp=E,134nm,2.1s					
NVS			smax	smax		
	comp=N,109nm,2.4s					
KHET	**Khetri**	**19.26 246**	*e*P	**Pn**	**16 33 05.2**	**-1.6**
KHET			AMB	AMB	16 33 07.3	
	comp=Z,161nm,1.2s					
CM31	**Chiang Mai Arr**	**19.34 171**	*e*P	**Pn**	**16 33 07.1**	**-0.7**
	comp=Z,39nm,0.9s					
CMAR	**Chiang Mai Arr**	**19.34 171**	P	**Pn**	**16 33 07.7**	**-0.1**
CMAR			PcP	**PcP**	**16 37 29.4**	**+0.5**
CMAR			ScP	**ScP**	**16 41 06.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**19.34 171**	P	**Pn**	**16 33 07.7**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=342,slow=10.0,SNR=121					
CMAR			PcP	**PcP**	**16 37 29.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=311,slow=2.2,SNR=14					
CMAR			ScP	**ScP**	**16 41 06.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=344,slow=2.9,SNR=8.8					
CMAR			LR	LR	16 41 09.8	
	comp=Z,1μm,20.9s,baz=350,slow=39					
NJ2	**Nanjing**	**19.75 100**	*e*P	**Pn**	**16 33 11.5**	**-1.2**
NJ2			pP	**pP**	**16 33 15.3**	**+0.4**
NJ2			sP	**sP**	**16 33 18.5**	**+1.9**
NJ2			PP	**PnPn**	**16 33 30.3**	**+3.9**
NJ2			S	**S**	**16 36 48.0**	**-5.5**
NJ2			pmax	pmax		
	comp=Z,30nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,250nm,7.1s					
NJ2			LR	LR		
	comp=N,2μm,15.6s					
NJ2			LR	LR		
	comp=E,2μm,17.4s					
NJ2			LR	LR		
	comp=Z,3μm,16.2s					
KK31	**Karatay Array**	**19.94 294**⇓	P	**Pn**	**16 33 13.3**	**-1.6**
	comp=Z,168nm,1.4s,baz=92,slow=11,SNR=266					
KK31			S	**Sn**	**16 37 01.4**	**+2.4**
KK31	**Karatay Array**	**19.94 294**	*i*P	**Pn**	**16 33 13.3**	**-1.6**
KK31			pmax	pmax		
	comp=Z,168nm,1.4s					
KKAR	**Karatay Array**	**19.94 294**	*e*P	**Pn**	**16 33 13.4**	**-1.5**
KKAR			pmax	pmax		
	comp=Z,124nm,1.3s					
KKAR	**Karatay Array**	**19.94 294**	*e*P	**Pn**	**16 33 13.4**	**-1.5**
	comp=Z,124nm,1.3s					
DL2	**Dalian**	**20.34 79**	P	Pn	16 33 18.5	-1.0
DL2			S	Sn	16 37 09.8	+1.4
DL2			pmax	pmax		
	comp=Z,110nm,0.9s					
DL2			pmax	pmax		
	comp=Z,470nm,3.8s					
DL2			LR	LR		
	comp=N,1μm,14.6s					
DL2			LR	LR		
	comp=E,1μm,15.2s					
DL2			LR	LR		
	comp=Z,2μm,15.4s					
HIA	**Hailar**	**20.83 49**	*e*P	**P**	**16 33 23.2**	**+0.4**
GZH	**Guangzhou**	**20.96 129**	P	**P**	**16 33 22.3**	**-2.0**
GZH			S	**S**	**16 37 11.0**	**-6.6**
GZH			LR	LR		
	comp=N,6μm,11.8s					
GZH			LR	LR		
	comp=E,8μm,12.4s					
GZH			LR	LR		
	comp=Z,13μm,12.2s					
BHPL	**Bhopal**	**21.30 233**	*ex*	**P**	**16 33 23.4**	**-4.7**
BHPL			AMB	AMB	16 33 27.6	
	comp=Z,90nm,2.3s					
PBKT	**Sadao Pong**	**21.51 166**	P	**P**	**16 33 32.1**	**+1.8**
	comp=Z,70nm,1.2s,comp=Z,952nm					
SNY	**Shenyang**	**21.76 70**	⇑P	**P**	**16 33 33.0**	**+0.2**
SNY			S	Sn	16 37 39.0	-3.5
SNY			pmax	pmax		
	comp=Z,82nm,1.2s					
SNY			pmax	pmax		
	comp=Z,170nm,3.5s					
SNY			LR	LR		
	comp=N,8μm,18.8s					
SNY			LR	LR		
	comp=Z,2μm,16.8s					
KBL	**Kabul**	**21.78 270**	*e*P	**P**	**16 33 33.2**	**-0.1**
KBL			pmax	pmax		
	comp=Z,252nm,1.2s					
KBL	**Kabul**	**21.78 270**	*e*P	**P**	**16 33 33.2**	**-0.1**
	comp=Z,252nm,1.2s					
NGP	**Nagpur**	**21.91 226**	*e*P	**P**	**16 33 32.2**	**-2.4**
NGP			AMB	AMB	16 33 36.7	
	comp=Z,103nm,1.2s					
SSE	**Sheshan**	**21.96 100**	P	**P**	**16 33 35.8**	**+0.8**
SSE			pP	**pP**	**16 33 38.5**	**-0.3**
SSE			sP	**sP**	**16 33 40.3**	**-0.2**
SSE			S	**S**	**16 37 39.5**	**+2.4**
SSE			sS	Sn	16 37 44.3	-3.1
SSE			pmax	pmax		
	comp=Z,30nm,0.9s					
SSE			pmax	pmax		
	comp=Z,160nm,3.9s					
SSE			LR	LR		
	comp=N,660nm,8.5s					
SSE			LR	LR		
	comp=E,1μm,8.5s					
SSE			LR	LR		
	comp=Z,2μm,8.6s					
QIZ	**Qiongzhong**	**22.28 143**	P	**P**	**16 33 38.5**	**-0.1**
QIZ			S	**S**	**16 37 45.5**	**+2.1**
QIZ			pmax	pmax		
	comp=Z,33nm,1.0s					
QIZ			LR	LR		
	comp=N,2μm,10.9s					
QIZ			LR	LR		
	comp=E,2μm,14.1s					
QIZ			LR	LR		
	comp=Z,2μm,11.6s					
VIS	**Vishakhapatnam**	**22.66 212**	*e*P	**P**	**16 33 41.8**	**-0.9**
VIS			AMB	AMB	16 33 45.5	
	comp=Z,57nm,0.5s					
VOSK	**Vostochnaya**	**22.89 319**	⇑P	**P**	**16 33 44.0**	**-0.9**
	comp=Z,123nm,1.1s					
VOSK			S	**S**	**16 37 55.9**	**+1.8**
VOSK	**Vostochnaya**	**22.89 319**	P	**P**	**16 33 43.9**	**-0.9**
VOSK			pmax	pmax		
	comp=Z,123nm,1.2s					
QZH	**Quanzhou**	**23.20 117**⇑	*i*P	**P**	**16 33 46.0**	**-2.3**
QZH			S	S	16 37 48.3	-12
QZH			pmax	pmax		
	comp=Z,120nm,0.9s					
QZH			LR	LR		
	comp=N,4μm,11.2s					
QZH			LR	LR		
	comp=E,4μm,10.9s					
QZH			LR	LR		
	comp=Z,5μm,10.0s					
CN2	**Changchun**	**23.25 65**	*e*P	**P**	**16 33 49.0**	**+0.4**
CN2			*es*P	sP	16 33 57.8	+3.7
CN2			*e*S	**S**	**16 37 57.3**	**-3.0**
CN2			pmax	pmax		
	comp=Z,50nm,1.4s					
CN2			pmax	pmax		
	comp=Z,200nm,3.0s					
CN2			LR	LR		
	comp=N,2μm,11.0s					
CN2			LR	LR		
	comp=E,2μm,11.0s					
CN2			LR	LR		
	comp=Z,2μm,12.0s					
BVA0	**Borovoye Array**	**23.35 319**	P	**P**	**16 33 49.2**	**-0.3**
	comp=Z,59nm,0.8s,baz=107,slow=11,SNR=154					
BVA0			S	**S**	**16 38 05.2**	**+3.3**
BVA0	**Borovoye Array**	**23.35 319**	*i*P	**P**	**16 33 49.2**	**-0.3**
BVA0			pmax	pmax		
	comp=Z,59nm,0.9s					
BVAR	**Borovoye Array**	**23.35 319**	P	**P**	**16 33 49.4**	**-0.1**
BVAR					16 37 37.0	
BVAR			pmax	pmax		
	comp=Z,31nm,0.7s					
BVAR			MLR	MLR		
	comp=Z,2μm,18.7s					
BVAR	**Borovoye Array**	**23.35 319**	P	**P**	**16 33 49.4**	**-0.1**
BVAR			PcP	**PcP**	**16 37 37.0**	**+0.9**
BVAR			Lg	Lg	16 41 03.4	
BVAR	**Borovoye Array**	**23.35 319**	P	**P**	**16 33 49.4**	**-0.1**
	comp=Z,31nm,0.7s,baz=118,slow=10,SNR=78					
BVAR			PcP	**PcP**	**16 37 37.0**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=106,slow=3.1,SNR=4.2					
BVAR			Lg	Lg	16 41 03.4	
	comp=Z,5.7nm,1.2s,baz=142,slow=31,SNR=2.3					
BVAR			LR	LR	16 43 32.8	
	comp=Z,2μm,18.7s,baz=117,slow=38					
BRVK	**Borovoye**	**23.43 319**	P	**P**	**16 33 50.6**	**+0.4**
	comp=Z,343nm,0.8s,SNR=24					
BRVK	**Borovoye**	**23.43 319**	⇑P	**P**	**16 33 50.2**	**0.0**
	comp=Z,76nm,0.9s					
BRVK			S	**S**	**16 38 06.6**	**+3.6**
BRVK	**Borovoye**	**23.43 319***d*	*i*P	**P**	**16 33 50.4**	**+0.2**

BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 23.43 319 P P 16 33 50.8 +0.5
SNR=28
BRVK Borovoye 23.43 319⇑ eP P 16 33 49.6 -0.6
comp=Z,45nm,0.8s
UBPT Khong Chiam 23.90 156 P P 16 33 55.8 +0.7
comp=Z,134nm,1.1s,comp=Z,2μm
INCN Inchon 24.43 81 eP P 16 33 59.5 -0.5
comp=Z,32nm,0.7s
DGPR DIGLIPUR 24.52 187 eP P 16 33 58.2 -2.6
DGPR AMB AMB 16 34 05.4
comp=Z,176nm,2.6s
PHET Kaeng Krachan 24.89 171 P P 16 34 05.7 +1.5
comp=Z,182nm,1.0s
HYB Hyderabad 25.20 222 *i* P **P 16 34 05.5 -1.6**
HYB *e*sP **sP 16 34 15.0 +2.3**
HYB *e*S **S 16 38 32.0 -0.1**
HYB Hyderabad 25.20 222 *e*P **P 16 34 03.6 -3.5**
HYB AMB AMB 16 34 08.3
comp=Z,46nm,1.5s
YHNB Yeheng 25.38 113 *e*P **P 16 34 09.0 +0.3**
comp=Z,65nm,1.0s
KSAR Wonju Array Be 25.42 81 P **P 16 34 08.3 -0.5**
KSRS Korea Array 25.44 81 P **P 16 34 08.3 -0.8**
comp=Z,26nm,0.8s,baz=279,slow=9.3,SNR=42
KSRS LR LR 16 45 47.9
comp=Z,670nm,18.5s,baz=281,slow=41
LATR Latur 25.49 226 *e*P **P 16 34 07.8 -1.8**
LATR *e*x x 16 34 09.9
comp=Z,193nm,1.2s
CHBT CHBT 25.50 165 P **P 16 34 12.1 +2.5**
comp=Z,51nm,1.6s,comp=Z,771nm
SSLB Suanglung 25.61 115 *e*P **P 16 34 10.7 0.0**
comp=Z,49nm,1.1s
TPUB Ta-pu 25.68 117 *e*P **P 16 34 11.3 -0.1**
comp=Z,36nm,1.0s
NACB Ninganchiao 25.83 114 *e*P **P 16 34 13.5 +0.8**
comp=Z,75nm,1.0s
PBA Port Blair 26.04 187 *e*x x 16 34 09.8
PBA AMB AMB 16 34 11.1
comp=Z,91nm,1.8s
YULB Yu-li 26.10 116 *e*P **P 16 34 15.2 +0.1**
comp=Z,44nm,1.1s
MDJ Mudanjiang 26.28 64 P **P 16 34 17.0 +0.4**
MDJ pP **pP 16 34 19.8 -0.8**
MDJ S **S 16 38 50.3 +1.5**
MDJ sS **sS 16 38 55.5 +0.1**
MDJ ScP **ScP 16 41 23.0 +0.9**
MDJ PcS **PcS 16 41 24.3 +0.7**
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ LR LR
comp=N,1μm,9.1s
MDJ LR LR
comp=E,2μm,11.6s
MDJ LR LR
comp=Z,2μm,10.6s
MDJ Mudanjiang 26.28 64 *e*P **P 16 34 16.9 +0.3**
comp=Z,13nm,1.1s
TWG Pinlang 26.30 117 *e*P **P 16 34 18.0 +1.1**
comp=Z,428nm,1.3s
POO Poona 27.02 231 *e*P **P 16 34 22.4 -1.1**
POO ⇑ *i*P **pP 16 34 23.0 -4.6**
comp=Z,130nm,1.0s
POO AMB AMB 16 34 25.4
comp=Z,82nm,0.4s
VLA Vladivostok 27.92 67⇑ *e*P **P 16 34 30.7 -0.6**
VLA S **S 16 39 16.2 +1.6**
VLA pmax pmax
comp=Z,126nm,2.1s
USRK Ussuriysk Arra 27.99 65 P **P 16 34 31.1 -0.9**
comp=Z,4.8nm,0.7s,baz=273,slow=7.7,SNR=9.0
USRK LR LR 16 45 30.7
comp=Z,408nm,18.9s,baz=261,slow=36
AB31 Akbulak array 28.19 306 P **P 16 34 34.9 +1.2**
comp=Z,19nm,0.8s,baz=97,slow=11,SNR=122
AB31 Akbulak array 28.19 306 *i* P **P 16 34 34.9 +1.2**
AB31 pmax pmax
comp=Z,19nm,0.9s
ABKAR Akbulak array 28.19 306 *e*P **P 16 34 33.9 +0.2**
comp=Z,18nm,0.9s
KLR Kul'dur 28.32 54 *e*P P 16 34 31.2 -3.6
KLR *e* 16 40 57.5
KLR MLR MLR
comp=N,2μm,10.0s
KLR MLR MLR
comp=Z,3μm,10.0s
JNU Nakatsue 28.89 88 P **P 16 34 38.5 -1.7**
JNU PcP **PcP 16 37 48.6 -0.7**
JNU Nakatsue 28.89 88 P **P 16 34 38.5 -1.7**
comp=Z,7.4nm,1.1s,baz=242,slow=4.0,SNR=3.0
JNU PcP **PcP 16 37 48.6 -0.7**
comp=Z,11nm,0.9s,baz=77,slow=3.1,SNR=4.7
JNU LR LR 16 46 59.4
comp=Z,1μm,19.4s,baz=292,slow=38
AKTO Aktyubinsk 29.64 308 ⇑P **P 16 34 47.2 +0.6**
comp=Z,50nm,0.9s
AKTO Aktyubinsk 29.64 308 P **P 16 34 47.1 +0.6**
AKTO pmax pmax
comp=Z,50nm,0.9s
AKTO Aktyubinsk 29.64 308 P **P 16 34 47.2 +0.6**
AKTO Aktyubinsk 29.64 308 P **P 16 34 47.2 +0.6**
comp=Z,37nm,0.8s,baz=93,slow=8.9,SNR=109
AKTO LR LR 16 47 21.3
comp=Z,662nm,19.8s,baz=106,slow=38
SVE Sverdlovsk 30.10 321 *e*P **P 16 34 51.5 +0.9**
SVE *e*S S 16 39 42.8 -5.8
SVE pmax pmax
comp=Z,44nm,0.9s
SVE MLR MLR
comp=Z,919nm,13.0s
ARU Arti 31.00 319 *d i*P **P 16 34 58.9 +0.4**
ARU PPP PPP 16 36 07.3
ARU 16 37 56.4
ARU S **S 16 40 04.0 +1.2**
ARU SS **SnSn 16 41 40.8 -2.3**
ARU pmax pmax
comp=Z,78nm,0.8s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 31.00 319 P **P 16 34 58.7 +0.2**
comp=Z,523nm,0.8s,SNR=12
YAK Yakutsk 32.11 30 *e*P **P 16 35 08.3 +0.1**
YAK *e**PP pP 16 35 16.6 +4.4
YAK *e* 16 36 14.0
YAK *e* 16 37 55.2
YAK *e*S **S 16 40 20.0 0.0**
YAK *e*SS **SnSn 16 42 09.6 -0.3**
YAK *e* 16 45 34.4
YAK pmax pmax
comp=Z,26nm,1.2s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,119nm,5.9s
YAK pmax pmax
comp=N,74nm,4.8s
YAK pmax pmax
comp=E,121nm,4.1s
YAK smax smax
comp=N,131nm,3.0s
YAK smax smax
comp=E,136nm,3.5s
YAK MLR MLR
comp=Z,608nm,10.0s
YAK MLR MLR
comp=N,333nm,10.0s
YAK MLR MLR
comp=E,529nm,10.0s
SOKR Solikamsk 33.09 324 *c i*P **P 16 35 17.3 +0.6**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,850nm,24.0s
PALK Pallekele 33.20 208 *e*P **P 16 35 18.7 +0.5**
comp=Z,37nm,0.9s
PALK Pallekele 33.20 208 P P 16 35 22.6 +4.4
MJAR Matsushiro Arr 33.67 79 P **P 16 35 20.2 -2.1**
MJAR PcP **PcP 16 38 01.4 -0.6**
MJAR Matsushiro Arr 33.67 79 P **P 16 35 20.2 -2.1**
comp=Z,2.4nm,0.8s,baz=297,slow=9.8,SNR=5.7
MJAR PcP **PcP 16 38 01.4 -0.6**
comp=Z,4.7nm,1.0s,baz=288,slow=3.3,SNR=10.0

FRIM Kepong 34.68 170 P P 16 35 34.2 +3.1
SMDO Samad 35.38 257 P P 16 35 40.0 +2.7
SNR=7.0
YSS Yuzh-Sakhalins 35.51 60 *e*P **P 16 35 37.9 -0.1**
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,1μm,12.0s
YSS MLR MLR
comp=E,1μm,12.0s
KGM Kluang 36.15 167 P **P 16 35 45.0 +1.3**
KGM Kluang 36.15 167 P **P 16 35 45.3 +1.6**
NAZ Nazwa, Dubai 36.24 261 P P 16 35 48.4 +4.0
SNR=7.0
ARQ Araqi 36.42 258 P P 16 35 48.8 +2.8
SNR=9.4
KKM Kota Kinabalu 36.58 144 *e*P **P 16 35 47.9 +0.4**
comp=E,66nm,1.1s
KKM Kota Kinabalu 36.58 144 P **P 16 35 49.1 +1.6**
KKM Kota Kinabalu 36.58 144 P **P 16 35 48.6 +1.1**
comp=E,63nm,1.1s,comp=E,525nm
ASUD Al Ashush, Dub 36.68 261 P P 16 35 51.8 +3.6
SNR=5.8
MAK Makhachkala 36.76 294 *e*P **P 16 35 48.5 -0.2**
MAK *e* 16 37 09.1
MAK *e*S **S 16 41 31.0 -1.1**
MAK pmax pmax
comp=Z,201nm,1.6s
MAK MLR MLR
comp=Z,845nm,12.0s
BTM Bintulu 37.80 151 P **P 16 35 55.3 -2.5**
BTM Bintulu 37.80 151 P P 16 36 00.0 +2.3
YUK Yuzh-Kuril'sk 37.95 64 *e*P **P 16 35 55.9 -2.9**
YUK *e* 16 37 24.7
YUK *e*PPP PPP 16 37 49.9
YUK S **S 16 41 45.1 -5.1**
YUK MLR MLR
comp=Z,682nm,16.0s
TIXI Tiksi 38.03 16 *c e*P **P 16 35 59.8 +0.7**
TIXI pmax pmax
comp=Z,31nm,1.0s
SBUM Sibu 38.17 153 P P 16 36 02.8 +1.9
SBUM Sibu 38.17 153 P P 16 36 03.0 +2.1
SBUM Sibu 38.17 153 P P 16 36 02.9 +2.1
comp=Z,31nm,1.4s
MYLDM Lahad Datu 38.42 142 P P 16 36 06.8 +3.8
MYLDM Lahad Datu 38.42 142 P P 16 36 06.8 +3.8
MYLDM Lahad Datu 38.42 142 P P 16 36 06.2 +3.2
comp=Z,247nm,1.2s,comp=Z,2μm
KSM Kuching 38.43 156 P P 16 36 06.4 +3.4
DGRG David-gareji 38.58 292 P P 16 36 06.9 +2.7
DUS Dusheti 38.95 293 P P 16 36 09.9 +2.6
TBLG Delisi 38.99 292 P P 16 36 10.9 +3.3
TBLG Delisi 38.99 292 P P 16 36 10.9 +3.3
GUDG Gudauri 39.04 294 P **P 16 36 10.3 +2.0**
GNI Garni 39.33 290 P P 16 36 14.9 +4.2
SNR=5.7
GNI Garni 39.33 290 *e*P P 16 36 13.4 +2.8
comp=Z,64nm,1.4s
GNI Garni 39.33 290 P P 16 36 13.4 +2.8
comp=Z,11nm,0.8s,baz=306,slow=2.8,SNR=6.7
ONI Oni 39.76 294 P P 16 36 17.0 +2.9
KBZ Khabaz 39.96 296 P **P 16 36 16.4 +0.9**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KBZ MLR MLR
comp=Z,823nm,18.1s
KBZ Khabaz 39.96 296 P **P 16 36 16.4 +0.9**
KBZ Khabaz 39.96 296 P **P 16 36 16.4 +0.9**
comp=Z,10nm,1.1s,baz=96,slow=6.4,SNR=17
KBZ LR LR 16 55 16.9
comp=Z,823nm,18.1s,baz=266,slow=40
AKH Akhalkalaki 39.97 292 P P 16 36 18.8 +2.8
VRHR Novokhopersk 40.05 307 *e*P **P 16 36 16.8 +0.6**
VRHR pmax pmax
comp=Z,70nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,70nm,1.0s
KIV Kislovodsk 40.07 296 *d i*P **P 16 36 17.4 +0.8**
KIV *i* 16 37 54.1
KIV *i* 16 38 14.2
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,800nm,16.0s
KIV Kislovodsk 40.07 296 P P 16 36 19.6 +3.0
comp=Z,167nm,1.1s,SNR=6.0
IBDR Badra 40.49 279 *e*P **P 16 36 20.0 -0.1**
IBDR *i* S **S 16 42 25.0 -3.6**
KBD Kabd 40.62 273 *e*P **P 16 36 22.0 +0.7**
KBD AMb AMB 16 36 24.7
comp=Z,34nm,1.5s
HAKT HAKKARI 40.78 286 *i* P **P 16 36 24.6 +1.9**
RDF Al-Radifah 40.84 272 *e*P **P 16 36 24.0 +0.9**
RDF AMb AMB 16 36 26.8
comp=Z,66nm,1.3s
NAY Al-Naaiem 40.95 273 *e*P **P 16 36 24.5 +0.5**
NAY AMb AMB 16 36 27.3
comp=Z,4.8nm,1.2s
RST Umm Al-Ruwaisa 41.04 273 *e*P **P 16 36 25.1 +0.4**
RST AMb AMB 16 36 27.5
comp=Z,875nm,1.0s
ARTV Artvin 41.17 292 *i* P P 16 36 28.6 +2.6
DBOC Borcka 41.33 293 *i* P P 16 36 29.3 +2.3
DBAD Bademkaya 41.38 292 *i* P P 16 36 29.9 +2.4
VORD Divnogorie 41.52 307 *e*P **P 16 36 29.2 +0.8**
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,60nm,0.8s
VSR Storozhevoye 41.59 308 *e*P **P 16 36 30.0 +1.1**
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=Z,90nm,0.8s
VSR pmax pmax
comp=E,140nm,0.9s
BHD Baghdad 41.64 280 *e*P P 16 36 23.0 -6.6
BHD *i* S S 16 42 36.0 -10
ERZM Erzurum 41.90 291 *i* P P 16 36 35.6 +3.6
SEY Seymchan 42.21 35 ⇓ *e*P P 16 36 37.1 +3.3
SOC Sochi 42.25 296 *e*P **P 16 36 35.8 +1.3**
SOC *e* 16 38 14.6
SOC *e*S **S 16 42 55.7 +1.2**
SOC pmax pmax
comp=Z,34nm,0.9s
SOC MLR MLR
comp=Z,547nm,17.0s
MOS Moscow 42.37 315 *e*P **P 16 36 35.0 -0.2**
MOS *e*S **S 16 42 58.2 +2.3**
MOS pmax pmax
comp=Z,200nm,0.9s
MOS MLR MLR
comp=Z,800nm,20.0s
KOPT Kop Dagi 42.52 291 *i* P P 16 36 40.1 +3.1
TMCR Tamitsa 42.89 327 *e*P **P 16 36 39.3 0.0**
TMCR *e* 16 38 20.2
TMCR pmax pmax
comp=Z,62nm,1.4s
OBN Obninsk 42.98 314 *c i*P **P 16 36 41.4 +1.2**
OBN *i* 16 38 20.5
OBN *i* 16 38 31.9
OBN *e*S **S 16 43 03.6 -1.3**
OBN *i* SS SS 16 46 05.8 -11
OBN pmax pmax
comp=Z,89nm,1.2s
OBN MLR MLR
comp=Z,1μm,20.0s
ANN Anapa 43.61 299 *e*P **P 16 36 46.1 +0.7**
ANN *e**PP **pP 16 36 49.5 -0.1**
ANN *e*S **S 16 43 17.8 +3.4**
ANN *e*SS **ScS 16 46 38.5 -6.1**
ANN *e*SSS SSS 16 47 11.3
ANN pmax pmax
comp=Z,68nm,1.0s
ANN MLR MLR
comp=E,181nm,18.0s
ANN MLR MLR
comp=Z,483nm,18.0s
GTOI Gorontalo 44.59 139 P **P 16 36 53.4 -0.2**
comp=Z,120nm,1.1s,comp=Z,1μm

PETK Petropavlovsk- 44.73 49 P **P 16 36 54.2 -0.2**
PETK 16 38 36.5
PETK pmax pmax
comp=Z,13nm,1.0s
PETK MLR MLR
comp=Z,149nm,19.2s
PETK Petropavlovsk- 44.73 49 P **P 16 36 54.2 -0.2**
PETK PcP **PcP 16 38 36.5 0.0**
PETK Petropavlovsk- 44.73 49 P **P 16 36 54.2 -0.2**
comp=Z,11nm,0.8s,baz=229,slow=2.0,SNR=8.4
PETK PcP **PcP 16 38 36.5 0.0**
comp=Z,6.0nm,0.9s,baz=228,slow=3.6,SNR=4.0
PETK LR LR 16 55 33.8
comp=Z,149nm,19.2s,baz=96,slow=36
LVZ Lovozero 44.90 332 *c e*P **P 16 36 55.9 +0.4**
LVZ pmax pmax
comp=Z,16nm,1.0s
RAYN Ar Rayn 44.98 267 P **P 16 36 57.5 +0.7**
comp=Z,64nm,1.4s,SNR=6.0
ERBA Erbaa 45.09 293 *i* P **P 16 36 59.1 +1.6**
GZT Gaziantep 45.49 288 *i* P P 16 37 02.9 +2.1
MMSI Mamuju 45.54 147 P **P 16 37 02.2 +1.1**
comp=Z,44nm,1.6s
SLMH Al Salmeh 45.60 287 *e*P **P 16 37 03.4 +1.9**
JOF Joensuu 45.76 325 *e*P **P 16 37 02.2 -0.1**
JOF pmax pmax
comp=Z,28nm,0.8s
JOF Joensuu 45.76 325 *e*p **P 16 37 02.2 -0.1**
comp=Z,28nm,0.8s
SIM Simferopol' 45.88 299 *c i*P **P 16 37 04.9 +1.3**
SIM pmax pmax
comp=Z,49nm,0.6s
SIM MLR MLR
comp=E,160nm,18.1s
PUL Pulkovo 46.23 320 ⇓ *e*P **P 16 37 06.0 -0.1**
PUL pmax pmax
comp=Z,104nm,0.8s
TTSI Tana Toraja 46.25 146 P **P 16 37 08.2 +1.4**
comp=Z,36nm,1.4s,comp=Z,501nm
ANDN Andirin 46.34 289 *i* P **P 16 37 08.4 +1.0**
SKSI Soroako, Sulaw 46.50 143 P P 16 37 11.0 +2.2
comp=Z,15nm,1.2s
CTKT Corum 46.54 294 *i* P **P 16 37 10.8 +1.7**
TNTI Ternate 46.85 134 P **P 16 37 12.0 +0.5**
comp=Z,110nm,1.3s,comp=Z,1μm
SPSI Sidrap Palu 47.05 146 P **P 16 37 14.1 +1.1**
comp=Z,71nm,1.2s,comp=Z,759nm
AVNT Avonos 47.06 291 *i* P **P 16 37 14.4 +1.3**
ILGA Ilgaz 47.19 294 *i* P **P 16 37 16.3 +2.1**
ZALF Zalf 47.26 283 *e*P **P 16 37 16.5 +1.9**
MARH Ras Al Marh 47.49 284 *e*P **P 16 37 18.4 +1.7**
SJI Sawahan 47.58 158 P P 16 37 19.7 +2.5
comp=Z,40nm,1.8s
BR131 Keskin Array S 47.65 293 *e*P **P 16 37 17.7 0.0**
comp=Z,11nm,0.7s
BRTR Keskin Array B 47.65 293 P **P 16 37 18.1 +0.4**
BRTR Keskin Array B 47.65 293 P **P 16 37 18.1 +0.4**
comp=Z,12nm,0.7s,baz=98,slow=6.7,SNR=76
BRTR LR LR 17 00 25.0
comp=Z,277nm,20.0s,baz=252,slow=40
TOTH TOTAH 47.78 284 *e*P **P 16 37 18.1 -0.6**
AKASG Malin Array Be 47.88 308 P **P 16 37 19.4 +0.3**
AKASG pmax pmax
comp=Z,30nm,0.8s
AKASG MLR MLR
comp=Z,326nm,20.4s
AKASG Malin Array Be 47.88 308 P **P 16 37 19.4 +0.3**
AKASG Malin Array Be 47.88 308 P **P 16 37 19.4 +0.3**
comp=Z,30nm,0.8s,baz=67,slow=7.6,SNR=41
AKASG LR LR 16 57 43.0
comp=Z,326nm,20.4s,baz=70,slow=36
ASF Jabal al Asfar 47.89 282 P P 16 37 21.9 +2.3
ASF Jabal al Asfar 47.89 282 P P 16 37 21.9 +2.3
comp=Z,16nm,0.8s,baz=37,slow=3.9,SNR=34
KIEV Kiev 47.90 308 *e*P **P 16 37 19.2 0.0**
KIEV pmax pmax
comp=Z,44nm,1.0s
KIEV Kiev 47.90 308 *e*P **P 16 37 19.2 0.0**
comp=Z,44nm,1.0s
KAPI Kappang 47.98 147 *e*P **P 16 37 17.2 -3.0**
comp=Z,24nm,1.1s
MNK Minsk 48.07 313 ⇓ *e*P **P 16 37 20.0 -0.5**
MNK pmax pmax
comp=Z,130nm,1.0s
MNK MLR MLR
comp=Z,2μm,10.0s
MNK MLR MLR
comp=E,1μm,8.0s
LBMI Labuha 48.08 135 P **P 16 37 22.5 +1.4**
comp=E,98nm,1.0s,comp=E,1μm
KAF Kangasniemi 48.09 324 *e*P **P 16 37 20.2 -0.3**
KAF pmax pmax
comp=Z,15nm,0.8s
KAF Kangasniemi 48.09 324 *e*p **P 16 37 20.2 -0.3**
comp=Z,14nm,0.8s
BRBR Barbar 48.13 284 *e*P P 16 37 24.0 +2.4
VSU Vasula 48.16 319 *c i*P **P 16 37 22.2 +1.0**
VSU pmax pmax
comp=Z,138nm,0.8s
ANTO Ankara 48.23 293 *e*P **P 16 37 22.4 +0.4**
ANTO pmax pmax
comp=Z,64nm,1.4s
ANTO Ankara 48.23 293 P P 16 37 24.5 +2.5
SNR=8.5
ANTO Ankara 48.23 293 *e*P **P 16 37 22.4 +0.4**
comp=Z,64nm,1.4s
FIA1 FINESS Array S 48.23 323 *e*P **P 16 37 21.6 -0.1**
FINES FINESS Array B 48.23 323 P **P 16 37 21.6 -0.1**
FINES FINESS Array B 48.23 323 P **P 16 37 21.6 -0.1**
comp=Z,20nm,0.8s,baz=96,slow=7.7,SNR=60
FINES LR LR 16 58 10.3
comp=Z,406nm,18.5s,baz=89,slow=37
ARCES ARCESS Array B 48.40 334 P **P 16 37 23.4 +0.5**
ARCES PcP **PcP 16 38 48.8 -0.3**
ARCES ARCESS Array B 48.40 334 P **P 16 37 23.4 +0.5**
comp=Z,7.4nm,0.9s,baz=71,slow=6.2,SNR=11
ARCES PcP **PcP 16 38 48.8 -0.3**
comp=Z,1.8nm,0.6s,baz=97,slow=4.2,SNR=6.0
ARCES LR LR 16 59 45.6
comp=Z,272nm,18.1s,baz=98,slow=38
BKSI Bulukumba 48.42 147 P **P 16 37 25.1 +1.5**
comp=Z,19nm,2.0s,comp=Z,405nm
MMAI Mount Meron Ar 48.71 284 P P 16 37 28.1 +2.2
MMAI PcP **PcP 16 38 52.5 +1.5**
MMAI Mount Meron Ar 48.71 284 P P 16 37 28.1 +2.2
comp=Z,35nm,1.1s,baz=61,slow=8.7,SNR=24
MMAI PcP **PcP 16 38 52.5 +1.5**
comp=Z,8.1nm,0.9s,baz=56,slow=3.4,SNR=5.1
IIGN Ignalina 48.85 315 *e*P **P 16 37 28.5 +1.9**
IIGN AMB AMB 16 37 30.1
comp=Z,23nm,0.9s
ISAL Salakas 48.87 315 *e*P **P 16 37 28.5 +1.8**
ISAL AMB AMB 16 37 29.4
comp=Z,19nm,0.8s
KIS Kishinev 48.97 303 ⇓ *i*P **P 16 37 28.0 +0.4**
comp=Z,200nm,1.0s
KIS LRM MLR 16 59 57.0
comp=Z,500nm,15.0s
KIS Kishinev 48.97 303 ⇓ *i*P **P 16 37 28.0 +0.4**
KIS *e* 16 47 19.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=Z,500nm,15.0s
KIS MLR MLR
comp=Z,600nm,16.0s
CSS Prodhromos 49.54 287 *e*P **P 16 37 32.6 +0.4**
comp=Z,16nm,0.7s
SEYT Eskypehyr 49.76 293 *i* P **P 16 37 34.7 +0.9**
PSN Preselentsi 50.32 299 P P 16 37 40.2 +2.3
SWI Sorong 50.45 131 P **P 16 37 37.5 -1.6**
ISP Isparta 50.59 291 *e*P **P 16 37 41.2 +1.0**
ISP pmax pmax
comp=Z,69nm,1.1s
ISP Isparta 50.59 291 ⇑ *i*P **P 16 37 41.4 +1.2**
ISP Isparta 50.59 291 *e*P **P 16 37 41.1 +1.0**
comp=Z,69nm,1.1s
VRI Vrincioaia 50.67 302 ⇑P P 16 37 42.9 +2.4
VRI Vrincioaia 50.67 302 ⇑ *i*P P 16 37 42.9 +2.4
PLOR Plostina 50.73 302 ⇑P P 16 37 43.5 +2.5
PLOR Plostina 50.73 302 ⇑ *i*P P 16 37 43.5 +2.5
SUW Suwalki 50.84 313 *e*P **P 16 37 42.2 +0.5**
SUW pmax pmax
comp=Z,22nm,0.4s
SUW Suwalki 50.84 313 *e*P **P 16 37 42.2 +0.5**
comp=Z,22nm,0.4s

SUW	**Suwalki**	50.84 313	eP	P	16 37 43.1 +1.4
ISR	**Istrita**	51.01 302	⇑P	P	16 37 46.7 +3.5
ISR	**Istrita**	51.01 302	⇑iP	P	16 37 46.7 +3.5
PRD	**Provadia**	51.01 299	P	P	16 37 44.7 +1.6
LBFI	**Labuhan Bajo,**	51.15 149	P	P	16 37 44.3 -0.1
	comp=Z,183nm,1.2s,comp=Z,2µm				
BURAR	**Bucovina Array**	51.17 305	⇑P	P	16 37 46.0 +1.6
BURAR	**Bucovina Array**	51.17 305	⇑iP	P	16 37 46.0 +1.6
BUR08	**Bucovina Ar. S**	51.17 305	eP	P	16 37 44.9 +0.4
SPITS	**Spitsbergen Ar**	51.28 345	LR	LR	17 01 21.5
	comp=Z,315nm,20.0s,baz=50,slow=38				
MLR	**Muntele Rosu**	51.30 302	⇑iP	P	16 37 47.6 +2.1
LVV	**L'vov**	51.33 308	eP	P	16 37 47.0 +1.6
LVV			MLR	MLR	
	comp=E,300nm,14.0s				
LVV			MLR	MLR	
	comp=Z,300nm,14.0s				
LVV			MLR	MLR	
	comp=N,100nm,13.0s				
SZH	**Strazhica**	52.01 300	P	P	16 37 52.1 +1.5
KWP	**Kalwaria Pacla**	52.21 308	eP	P	16 37 54.3 +2.3
KOLS	**Kolonicke sedl**	52.68 307	eP	P	16 37 57.2 +1.7
KOLS			pmax	pmax	
	comp=Z,15nm,1.0s				
KOLS	**Kolonicke sedl**	52.68 307	eP	P	16 37 57.2 +1.7
RKPI	**Ransiki, Papua**	52.73 129	P	P	16 37 55.6 -0.7
	comp=Z,60nm,1.0s,comp=Z,4µm				
TRPA	**Tarpa**	52.75 306	⇑iP	P	16 37 58.1 +2.1
UZH	**Uzhgorod**	52.76 307	eP	P	16 37 57.6 +1.5
UZH			e		16 38 05.4
UZH			e		16 38 13.0
LOT	**Lotru**	52.77 303	⇑iP	P	16 37 57.2 +0.8
CRVS	**Cervenica-Dubn**	53.20 308	eP	P	16 38 00.9 +1.5
CRVS			pmax	pmax	
	comp=Z,6.0nm,0.9s				
CRVS	**Cervenica-Dubn**	53.20 308	eP	P	16 38 00.9 +1.5
MPEP	**Malo Peshtene**	53.48 300	P	P	16 38 03.2 +1.7
NIE	**Niedzica**	53.76 308	eP	P	16 38 08.0 +4.5
OJC	**Ojcow**	53.84 309	eP	P	16 38 05.3 +1.3
KECS	**Kecovo**	53.95 307	eP	P	16 38 06.8 +2.0
KECS			pmax	pmax	
	comp=Z,9.0nm,0.9s				
KECS	**Kecovo**	53.95 307	eP	P	16 38 06.8 +2.0
MMB	**Musomiste**	54.12 298	P	P	16 38 07.5 +1.3
VTS	**Vitosha**	54.12 300	⇑P	P	16 38 08.5 +2.1
VTS	**Vitosha**	54.12 300	P	P	16 38 08.2 +1.8
VTS	**Vitosha**	54.12 300	⇑iP	P	16 38 08.4 +2.1
SOEI	**Soe**	54.20 145	P	P	16 38 06.4 -0.7
	comp=Z,40nm,1.2s				
HFS	**Hagfors**	54.43 322	LR	LR	17 01 27.2
	comp=Z,254nm,18.3s,baz=262,slow=36				
KKB	**Krupnik**	54.47 299	P	P	16 38 10.5 +1.8
PSZ	**Piszkesteto**	54.50 307	eP	P	16 38 10.7 +1.7
PSZ			pmax	pmax	
	comp=Z,22nm,1.2s				
PSZ	**Piszkesteto**	54.50 307	eP	P	16 38 10.7 +1.7
	comp=Z,22nm,1.2s				
PSZ	**Piszkesteto**	54.50 307	⇓eP	P	16 38 10.6 +1.6
SANT	**Santorini**	54.88 292	eP	P	16 38 12.1 +0.2
	comp=Z,99nm,1.2s				
OKC	**Ostrava-Krasne**	54.97 309	iP	P	16 38 13.9 +1.7
OKC			MLR	MLR	
	comp=Z,500nm,15.2s				
OKC	**Ostrava-Krasne**	54.97 309	iP	P	16 38 13.9 +1.7
OKC			AMS	AMS	17 02 30.0
	comp=Z,500nm,15.2s				
VYHS	**Vyhne**	54.98 308	eP	P	16 38 14.8 +2.4
VYHS			pmax	pmax	
	comp=Z,20nm,1.0s				
VYHS	**Vyhne**	54.98 308	eP	P	16 38 14.8 +2.4
MORC	**Moravsky Berou**	55.36 310	eP	P	16 38 15.6 +0.5
MORC			pmax	pmax	
	comp=Z,24nm,0.9s				
MORC	**Moravsky Berou**	55.36 310	eP	P	16 38 15.6 +0.5
	comp=Z,24nm,0.9s				
NB2	**NORSAR Subarra**	55.37 324	P	P	16 38 14.8 -0.2
	comp=Z,17nm,0.8s,baz=73,slow=7.4				
NB2	**NORSAR Subarra**	55.37 324	P	P	16 38 14.8 -0.2
	baz=73,slow=7.4				
NOA	**NORSAR Array B**	55.37 324	P	P	16 38 14.8 -0.2
NOA	**NORSAR Array B**	55.37 324	P	P	16 38 14.8 -0.2
	comp=Z,17nm,0.8s,baz=75,slow=7.5,SNR=53				
NOA			LR	LR	17 01 20.8
	comp=Z,223nm,20.0s,baz=90,slow=35				
NAO01	**NORSAR Array S**	55.58 324	eP	P	16 38 16.0 -0.4
	comp=Z,12nm,0.8s				
PKSG		55.63 307	⇑eP	P	16 38 19.2 +2.1
IDI	**Anoyia**	55.75 291	eP	P	16 38 17.6 -0.6
	comp=Z,31nm,0.8s				
KSP	**Ksiaz**	55.76 311	eP	P	16 38 19.5 +1.6
KSP			MLR	MLR	
	comp=Z,2µm,19.8s				
KSP	**Ksiaz**	55.76 311	eP	P	16 38 19.7 +1.8
SMOL	**Smolenice**	55.85 308	eP	P	16 38 21.0 +2.3
SMOL	**Smolenice**	55.85 308	eP	P	16 38 21.0 +2.3
PKSM	**Moragy**	55.89 305	⇑P	P	16 38 20.0 +1.1
PKSM	**Moragy**	55.89 305	⇑iP	P	16 38 20.0 +1.1
PKSM	**Moragy**	55.89 305	⇓eP	P	16 38 20.3 +1.4
DPC	**Dobruska-Polom**	55.91 310	iP	P	16 38 20.1 +1.0
DPC	**Dobruska-Polom**	55.91 310	iP	P	16 38 20.1 +1.0
DPC			AMS	AMS	17 02 40.0
UPC	**Upice**	56.04 311	iP	P	16 38 21.9 +1.9
UPC	**Upice**	56.04 311	iP	P	16 38 21.9 +1.9
VRAC	**Vranov**	56.10 309	LR	LR	17 03 17.7
	comp=Z,454nm,18.9s,baz=67,slow=37				
ZST	**Bratislava**	56.17 308	eP	P	16 38 22.6 +1.7
ZST	**Bratislava**	56.17 308	eP	P	16 38 22.6 +1.7
IVA	**Berane**	56.29 301	⇓iP	P	16 38 23.6 +1.7
PLE	**Pljevlja**	56.45 302	⇓iP	P	16 38 24.8 +1.6
RUE	**Ruedersdorf**	56.69 314	eP	P	16 38 26.4 +1.9
	comp=Z,43nm,0.9s				
SOP	**Sopron**	56.69 307	⇓eP	P	16 38 26.6 +2.0
TREC	**Trest**	56.78 310	iP	P	16 38 27.4 +2.1
TREC			MLR	MLR	
	comp=Z,600nm,15.0s				
TREC	**Trest**	56.78 310	iP	P	16 38 27.4 +2.1
TREC			AMS	AMS	17 03 00.0
	comp=Z,600nm,15.0s				
UPM	**Unac-Piva**	56.83 302	⇓iP	P	16 38 27.2 +1.3
TTG	**Podgorica**	56.89 301	eP	P	16 38 27.8 +1.7
PVCC	**Panska Ves**	56.90 311	iP	P	16 38 27.4 +1.3
PVCC			MLR	MLR	
	comp=Z,700nm,21.7s				
PVCC	**Panska Ves**	56.90 311	iP	P	16 38 27.4 +1.3
PVCC			AMS	AMS	17 03 00.0
	comp=Z,700nm,21.7s				
NKME	**Niksic**	56.97 301	⇓iP	P	16 38 28.1 +1.4
BEHE	**Becsehely**	57.00 306	⇓eP	P	16 38 28.7 +1.9
DRME	**Dracevica, Mon**	57.03 301	⇓iP	P	16 38 28.5 +1.4
CONA	**Conrad Observa**	57.04 308	⇑ipP	pP	16 38 28.5 -2.9
	comp=Z,25nm,0.9s,SNR=11				
ULC	**Ulcinj**	57.08 300	⇓iP	P	16 38 28.3 +0.8
PRU	**Pruhonice**	57.11 311	iP	P	16 38 29.3 +1.8
PRU			MLR	MLR	
	comp=Z,700nm,20.9s				
PRU	**Pruhonice**	57.11 311	iP	P	16 38 29.3 +1.8
PRU			AMS	AMS	17 03 10.0
	comp=Z,700nm,20.9s				
PRA	**Prague**	57.15 311	P	P	16 38 30.0 +2.2
BRG	**Berggiesshubel**	57.15 312	iP	P	16 38 29.5 +1.7
	comp=Z,24nm,0.9s				
BRG	**Berggiesshubel**	57.15 312	eP	P	16 38 29.6 +1.8
	comp=Z,24nm,0.9s				
BRG	**Berggiesshubel**	57.15 312	iP	P	16 38 29.5 +1.7
BRG			pmax	pmax	
	comp=Z,24nm,0.9s				
BUM	**Brajici-Budva**	57.19 301	⇓iP	P	16 38 29.5 +1.2
BRY	**Bratogost**	57.19 302	eP	P	16 38 29.3 +0.9
HCY	**Herceg Novi**	57.40 301	⇓iP	P	16 38 30.7 +1.0
FBE	**Freiberg**	57.48 312	eP	P	16 38 32.3 +2.1
	comp=Z,24nm,0.9s				
ARSA	**Arzberg**	57.51 307	⇑ipP	pP	16 38 31.4 -3.3
	comp=Z,17nm,0.9s,SNR=6.5				
CLL	**Collm**	57.55 312	eP	P	16 38 32.2 +1.6
	comp=Z,25nm,0.9s				
CLL	**Collm**	57.55 312	iP	P	16 38 31.3 +0.7
CLL			pmax	pmax	
	comp=Z,25nm,0.9s				
CLL			MLR	MLR	
	comp=Z,600nm,19.1s				
JAY	**Jayapura**	57.69 123	P	P	16 38 33.2 +1.1
	comp=Z,20nm,1.3s				
PERS	**Pernice**	58.00 307	iP	P	16 38 35.3 +1.4
KHC	**Kasperske Hory**	58.01 310	eP	P	16 38 34.4 +0.5
KHC			pmax	pmax	
	comp=Z,8.0nm,0.9s				
KHC	**Kasperske Hory**	58.01 310	iP	P	16 38 35.8 +1.8
KHC			ex	x	16 38 47.2
KHC			ePCP	PcP	16 39 27.5 +1.6
KHC			AMS	AMS	17 03 40.0
	comp=Z,700nm,17.0s				
KHC	**Kasperske Hory**	58.01 310	eP	P	16 38 34.4 +0.5
	comp=Z,7.7nm,0.9s				
SOKA	**Soboth**	58.03 307	⇑ipP	P	16 38 34.7 +0.5
	comp=Z,31nm,0.9s,SNR=22				
GEC2	**GERESS Array S**	58.04 310	eP	P	16 38 36.2 +1.9
	comp=Z,17nm,1.0s				
GEC2	**GERESS Array S**	58.04 310	eP	P	16 38 36.2 +1.9
GEC2			pmax	pmax	
	comp=Z,17nm,1.0s				
GERES	**GERESS Array B**	58.04 310	P	P	16 38 34.8 +0.5
GERES	**GERESS Array B**	58.04 310	P	P	16 38 34.8 +0.5
	comp=Z,7.6nm,0.8s,baz=69,slow=7.3,SNR=62				
GERES			LR	LR	17 04 27.1
	comp=Z,592nm,20.8s,baz=62,slow=37				
MOA	**Molln**	58.07 308	⇑ipP	pP	16 38 35.4 -3.2
	comp=Z,15nm,0.8s,SNR=7.7				
BSEG	**Bad Segeberg**	58.12 316	eP	P	16 38 37.0 +2.4
	comp=Z,47nm,0.9s				
TANN	**Tannenbergstha**	58.20 312	eP	P	16 38 37.2 +1.9
	comp=Z,18nm,0.9s				
WERD	**Werda**	58.28 312	eP	P	16 38 37.7 +1.9
	comp=Z,16nm,0.9s				
GUNZ	**Gunzen**	58.29 312	eP	P	16 38 37.9 +2.0
	comp=Z,28nm,0.9s				
NEUB	**Neuenburg**	58.30 313	eP	P	16 38 37.9 +2.0
	comp=Z,34nm,0.8s				
BOJS	**Bojanci**	58.35 305	iP	P	16 38 37.3 +1.0
OBKA	**Obir**	58.41 307	⇑ipP	pP	16 38 38.1 -3.0
	SNR=11				
WET	**Wettzell**	58.43 310	eP	P	16 38 39.0 +2.1
	comp=Z,19nm,1.1s				
WET	**Wettzell**	58.43 310	eP	P	16 38 39.0 +2.1
WET			pmax	pmax	
	comp=Z,19nm,1.1s				
VISS	**Visnje**	58.50 306	iP	P	16 38 38.9 +1.5
MANZ	**Manzenberg**	58.57 311	eP	P	16 38 39.9 +2.0
	comp=Z,8.0nm,0.9s				
ROTZ	**Rotzenmuhle**	58.59 311	eP	P	16 38 40.5 +2.5
	comp=Z,27nm,0.9s				
MOX	**Moxa**	58.61 312	eP	P	16 38 40.1 +2.0
	comp=Z,16nm,1.0s				
MOX			eL	L	17 04 41.4
	comp=Z,647nm,18.6s				
MOX	**Moxa**	58.61 312	eP	P	16 38 40.1 +2.0
MOX			pmax	pmax	
	comp=Z,16nm,1.0s				
MOX			MLR	MLR	
	comp=Z,600nm,18.6s				
NRDL	**Niedersach Rie**	58.78 315	eP	P	16 38 41.5 +2.4
	comp=Z,49nm,1.0s				
CLZ	**Clausthal**	58.88 314	eP	P	16 38 42.2 +2.2
	comp=Z,54nm,0.8s				
CLZ	**Clausthal**	58.88 314	eP	P	16 38 42.2 +2.2
CLZ			pmax	pmax	
	comp=Z,54nm,0.8s				
MYKA	**Terra Mystica**	58.94 307	⇓iP	P	16 38 40.8 +0.3
	comp=Z,11nm,0.8s,SNR=5.6				
KBA	**Koelnbreinsper**	58.94 308	⇑ipP	P	16 38 41.1 +0.4
	comp=Z,9.9nm,0.8s,SNR=6.4				
JAVS	**Javornik**	58.96 306	iP	P	16 38 41.4 +0.6
VOY	**Vojsko**	59.01 306	eP	P	16 38 41.8 +0.7
RJOB	**Jochberg**	59.03 309	eP	P	16 38 43.2 +2.1
	comp=Z,19nm,1.2s				
GRF	**Grafenberg Arr**	59.21 311	eP	P	16 38 44.6 +2.3
	comp=Z,52nm,0.9s				
GRF			eL	L	17 05 01.4
	comp=Z,844nm,18.8s				
GRF	**Grafenberg Arr**	59.21 311	eP	P	16 38 44.6 +2.3
GRF			pmax	pmax	
	comp=Z,52nm,0.9s				
GRF			MLR	MLR	
	comp=Z,800nm,18.8s				
GRFO	**Grafenberg**	59.21 311	eP	P	16 38 43.9 +1.6
GRFO			pmax	pmax	
	comp=Z,42nm,0.8s				
GRFO	**Grafenberg**	59.21 311	eP	P	16 38 43.9 +1.6
	comp=Z,42nm,0.8s				
ABTA	**Abfaltersbach**	59.60 308	⇑iP	P	16 38 45.1 -0.1
	comp=Z,16nm,1.0s,SNR=7.3				
FUR	**Furstenfeldbru**	59.79 310	eP	P	16 38 48.5 +2.2
	comp=Z,71nm,0.9s				
FUR	**Furstenfeldbru**	59.79 310	eP	P	16 38 48.5 +2.2
FUR			pmax	pmax	
	comp=Z,71nm,0.9s				
WTTA	**Wattenberg**	59.94 308	⇑ipP	P	16 38 47.8 +0.3
	comp=Z,49nm,0.9s,SNR=16				
WATA	**Walderalm**	59.94 309	⇓ipP	P	16 38 48.1 +0.5
	comp=Z,25nm,0.9s,SNR=8.3				
IBBN	**Ibbenburen**	60.18 315	eP	P	16 38 50.9 +2.1
	comp=Z,20nm,0.8s				
MOTA	**Moosalm**	60.23 309	⇓ipP	P	16 38 50.0 +0.4
	comp=Z,42nm,0.9s,SNR=23				
CUC	**Castrocucco**	60.26 299	eP	P	16 38 50.4 +0.7
	comp=Z,42nm,0.9s				
RETA	**Reutte**	60.38 309	⇑ipP	pP	16 38 51.7 -3.0
	comp=Z,24nm,0.9s,SNR=9.3				
FETA	**Feichten**	60.60 309	⇑ipP	pP	16 38 52.9 -3.4
	comp=Z,27nm,0.9s,SNR=14				
TNS	**Taunus Mts**	60.64 313	eP	P	16 38 54.1 +2.0
	comp=Z,23nm,1.6s				
TNS	**Taunus Mts**	60.64 313	eP	P	16 38 54.1 +2.0
TNS			pmax	pmax	
	comp=Z,23nm,1.6s				
STU	**Stuttgart**	60.80 311	eP	P	16 38 55.2 +2.0
	comp=Z,29nm,0.7s				
BUG	**Bochum--Univer**	60.81 314	eP	P	16 38 55.4 +2.2
	comp=Z,26nm,0.9s				
CEL	**Celeste**	60.97 298	eP	P	16 38 55.8 +1.2
	comp=Z,74nm,1.0s				
DAVA	**Damuels**	61.01 309	⇑ipP	pP	16 38 55.7 -3.4
	comp=Z,14nm,0.8s				
DAVOX	**Davos/Dischmat**	61.23 309	LR	LR	17 06 34.5
	comp=Z,540nm,18.7s,baz=264,slow=37				
BFO	**Black Forest**	61.51 311	eP	P	16 38 59.6 +1.5
	comp=Z,21nm,0.9s				
BFO	**Black Forest**	61.51 311	P	P	16 38 59.6 +1.5
	comp=Z,113nm,0.9s,SNR=5.8				
BFO	**Black Forest**	61.51 311	eP	P	16 38 59.6 +1.5
BFO			pmax	pmax	
	comp=Z,21nm,0.9s				
BFO	**Black Forest**	61.51 311	eP	P	16 38 59.3 +1.2
	comp=Z,10nm,0.8s				
LANF	**Langenberg**	61.54 312	eP	P	16 38 59.7 +1.5
TUE	**Stuetta**	61.69 308	eP	P	16 38 59.1 -0.4
	comp=Z,23nm,0.8s				
MEM	**Membach**	61.88 314	P	P	16 39 02.2 +1.7
	comp=Z,10nm,1.2s				
CDF	**Champ du Feu**	62.11 311	eP	P	16 39 02.2 +0.1
	comp=Z,36nm,0.9s				
CDF	**Champ du Feu**	62.11 311	eP	P	16 39 02.2 +0.1
CDF	**Champ du Feu**	62.11 311	eP	P	16 39 02.2 +0.1
WLF	**Walferdange**	62.22 313	P	P	16 39 05.0 +2.2
	comp=Z,28nm,1.6s				
ECH	**Echery**	62.26 311	eP	P	16 39 02.8 -0.3
ECH			pmax	pmax	
	comp=Z,6.0nm,0.8s				
ECH	**Echery**	62.26 311	eP	P	16 39 02.8 -0.3
	comp=Z,6.1nm,0.8s				
ECH	**Echery**	62.26 311	eP	P	16 39 04.4 +1.3
BCLA	**Clavier**	62.37 314	P	P	16 39 05.6 +1.8
	comp=Z,26nm,3.0s				
HINF	**Hinteralfeld**	62.62 311	eP	P	16 39 05.5 -0.1
	comp=Z,36nm,1.0s				
HINF	**Hinteralfeld**	62.62 311	eP	P	16 39 05.5 -0.1
HINF	**Hinteralfeld**	62.62 311	eP	P	16 39 05.5 -0.1
MBWA	**Marble Bar**	62.71 155	eP	P	16 39 06.5 +0.2
	comp=Z,54nm,1.1s				
GIVF	**Givet**	62.79 314	eP	P	16 39 07.1 +0.5
	comp=Z,37nm,0.9s				
GIVF	**Givet**	62.79 314	eP	P	16 39 07.1 +0.5
GIVF	**Givet**	62.79 314	eP	P	16 39 07.1 +0.5
HAU	**Haudompre**	62.84 311	eP	P	16 39 07.1 +0.1
	comp=Z,33nm,1.0s				
HAU			eR		
	comp=Z,648nm,21.5s				
HAU	**Haudompre**	62.84 311	eP	P	16 39 07.1 +0.1
HAU	**Haudompre**	62.84 311	eP	P	16 39 07.1 +0.1
LOMF	**Lomont**	62.85 310	eP	P	16 39 08.5 +1.4
DOU	**Dourbes**	62.92 314	P	P	16 39 09.3 +1.9
	comp=Z,22nm,3.2s				
THEF	**They Montfort**	62.96 311	eP	P	16 39 09.4 +1.7
PAGF	**Fort de Pagny**	62.97 312	eP	P	16 39 08.5 +0.7
	comp=Z,32nm,1.2s				
PAGF	**Fort de Pagny**	62.97 312	eP	P	16 39 08.5 +0.7
BAIF	**Baives**	63.16 314	eP	P	16 39 09.6 +0.6
	comp=Z,52nm,0.9s				
BAIF	**Baives**	63.16 314	eP	P	16 39 09.6 +0.6
BAIF	**Baives**	63.16 314	eP	P	16 39 09.6 +0.6
MEZF	**Maizieres J'vi**	63.39 312	eP	P	16 39 11.2 +0.7
	comp=Z,30nm,0.7s				
MEZF	**Maizieres J'vi**	63.39 312	eP	P	16 39 11.2 +0.7
OG01	**Vacheresse**	63.41 309	eP	P	16 39 12.3 +1.5
SFTF	**Sexfontaines**	63.53 312	eP	P	16 39 11.6 +0.1
SFTF	**Sexfontaines**	63.53 312	eP	P	16 39 11.6 +0.1
CABF	**La Chapelle**	63.64 310	eP	P	16 39 12.3 -0.1
	comp=Z,17nm,0.8s				
CABF	**La Chapelle**	63.64 310	eP	P	16 39 12.3 -0.1
CABF	**La Chapelle**	63.64 310	eP	P	16 39 12.3 -0.1
PGF	**Pioggiola**	63.69 305	eP	P	16 39 13.3 +0.5
	comp=Z,82nm,1.0s				
PGF	**Pioggiola**	63.69 305	eP	P	16 39 13.3 +0.5
PGF	**Pioggiola**	63.69 305	eP	P	16 39 13.3 +0.5
RSL	**Roselend**	63.74 309	eP	P	16 39 15.2 +2.1
LPG	**La Plagne**	63.75 308	eP	P	16 39 14.1 +0.7
	comp=Z,76nm,0.9s				
LPG	**La Plagne**	63.75 308	eP	P	16 39 14.1 +0.7
LPG	**La Plagne**	63.75 308	eP	P	16 39 14.1 +0.7
LPL	**La Plagne**	63.75 308	eP	P	16 39 14.0 +0.7
	comp=Z,67nm,0.9s				
LPL	**La Plagne**	63.75 308	eP	P	16 39 14.0 +0.7
LPL	**La Plagne**	63.75 308	eP	P	16 39 14.0 +0.7
IMA2	**Indian Mountai**	63.78 25	eP	P	16 39 13.2 +0.1
IM04	**Indian Mountai**	63.80 25	eP	P	16 39 11.9 -1.1
SAOF	**Saorge**	63.95 307	eP	P	16 39 15.6 +1.2
BNI	**Bardonecchia**	64.00 308	eP	P	16 39 15.6 +0.7
BNI			pmax	pmax	
	comp=Z,24nm,1.2s				
BNI	**Bardonecchia**	64.00 308	eP	P	16 39 15.6 +0.7
	comp=Z,24nm,1.2s				
AUTN	**L'Aution**	64.03 307	eP	P	16 39 19.3 +4.2
SBF	**Sospel**	64.08 307	eP	P	16 39 15.5 +0.2
	comp=Z,99nm,0.8s				
SBF	**Sospel**	64.08 307	eP	P	16 39 15.5 +0.2
SBF	**Sospel**	64.08 307	eP	P	16 39 15.5 +0.2
MBDF	**Montbardon**	64.10 308	eP	P	16 39 15.0 -0.5
	comp=Z,35nm,0.9s				
MBDF	**Montbardon**	64.10 308	eP	P	16 39 15.0 -0.5
MBDF	**Montbardon**	64.10 308	eP	P	16 39 15.0 -0.5
TOUF	**Mont Tournerai**	64.13 307	eP	P	16 39 16.3 +0.5
COLD	**Coldfoot**	64.24 23	eP	P	16 39 16.4 +0.5
	comp=Z,43nm,0.8s				
ORIF	**Oris-en-Rattie**	64.56 308	eP	P	16 39 18.6 +0.1
	comp=Z,41nm,0.8s				
ORIF			eR		
	comp=Z,672nm,21.0s				
ORIF	**Oris-en-Rattie**	64.56 308	eP	P	16 39 18.6 +0.1
ORIF	**Oris-en-Rattie**	64.56 308	eP	P	16 39 18.6 +0.1
LOR	**Lormes**	64.68 311	eP	P	16 39 18.6 -0.5
	comp=Z,30nm,1.0s				
LOR			eR		
	comp=Z,557nm,22.8s				
LOR	**Lormes**	64.68 311	eP	P	16 39 18.6 -0.5
FRF	**La Foret Royal**	64.73 307	eP	P	16 39 19.4 -0.1
	comp=Z,28nm,1.0s				
FRF	**La Foret Royal**	64.73 307	eP	P	16 39 19.4 -0.1
FRF	**La Foret Royal**	64.73 307	eP	P	16 39 19.4 -0.1
VSL	**Villasalto**	64.89 301	eP	P	16 39 20.5 -0.1
LMR	**La Mourre**	64.93 306	eP	P	16 39 20.8 +0.1
	comp=Z,121nm,1.6s				
LMR	**La Mourre**	64.93 306	eP	P	16 39 20.8 +0.1
LMR	**La Mourre**	64.93 306	eP	P	16 39 20.8 +0.1
SMF	**Signal de Mont**	64.99 311	eP	P	16 39 21.1 0.0
	comp=Z,88nm,0.9s				
SMF	**Signal de Mont**	64.99 311	eP	P	16 39 21.1 0.0
SMF	**Signal de Mont**	64.99 311	eP	P	16 39 21.1 0.0
SSF	**Saint Saulge**	64.99 311	eP	P	16 39 20.8 -0.3
	comp=Z,10nm,0.8s				
SSF	**Saint Saulge**	64.99 311	eP	P	16 39 20.8 -0.3
SSF	**Saint Saulge**	64.99 311	eP	P	16 39 20.8 -0.3
AVF	**Avril sur Loir**	65.21 311	eP	P	16 39 22.5 0.0
	comp=Z,50nm,1.0s				
AVF	**Avril sur Loir**	65.21 311	eP	P	16 39 22.5 0.0
AVF	**Avril sur Loir**	65.21 311	eP	P	16 39 22.5 0.0
SMRF	**Simiane la Rot**	65.21 307	eP	P	16 39 23.0 +0.4
	comp=Z,36nm,1.2s				
SMRF	**Simiane la Rot**	65.21 307	eP	P	16 39 23.0 +0.4
VIVF	**Saint-Julien-l**	65.35 309	eP	P	16 39 23.7 +0.2
	comp=Z,55nm,1.1s				
VIVF	**Saint-Julien-l**	65.35 309	eP	P	16 39 23.7 +0.2
VIVF	**Saint-Julien-l**	65.35 309	eP	P	16 39 23.7 +0.2
SUMG	**Summit**	65.58 346	eP	P	16 39 24.0 -1.0
SUMG			pmax	pmax	
	comp=Z,19nm,1.0s				
SUMG	**Summit**	65.58 346	iP	P	16 39 24.6 -0.4
	comp=Z,13nm,1.0s				
SUMG	**Summit**	65.58 346	eP	P	16 39 24.0 -1.0
	comp=Z,19nm,1.0s				
BGF	**Bois d'Agland**	65.63 311	eP	P	16 39 25.2 -0.1
	comp=Z,34nm,0.9s				
BGF	**Bois d'Agland**	65.63 311	eP	P	16 39 25.2 -0.1
BGF	**Bois d'Agland**	65.63 311	eP	P	16 39 25.2 -0.1
AGO	**Saint Agoulin**	65.71 310	eP	P	16 39 27.1 +1.3
BPAW	**Bear Paw Mtn.**	65.86 26	eP	P	16 39 26.6 +0.1
	comp=Z,42nm,1.1s				
PYM	**Petit Puy Mans**	65.93 310	eP	P	16 39 28.7 +1.4
LBL	**Lubilhac**	66.04 309	eP	P	16 39 29.2 +1.2
TCF	**Toulx Ste Croi**	66.14 311	eP	P	16 39 28.9 +0.3
	comp=Z,67nm,1.0s				
TCF	**Toulx Ste Croi**	66.14 311	eP	P	16 39 28.9 +0.3
TCF	**Toulx Ste Croi**	66.14 311	eP	P	16 39 28.9 +0.3
PPLA	**Purkeypile**	66.15 28	eP	P	16 39 29.2 +0.7
	comp=Z,40nm,0.8s				
LASF	**Ste Croix**	66.24 308	eP	P	16 39 29.7 +0.4
	comp=Z,54nm,0.9s				
LASF	**Ste Croix**	66.24 308	eP	P	16 39 29.7 +0.4
KMBO	**Kilima Mbogo**	66.25 249	P	P	16 39 31.9 +1.9
	SNR=6.8				
KMBO	**Kilima Mbogo**	66.25 249	eP	P	16 39 30.4 +0.4
	comp=Z,28nm,1.3s				
KMBO	**Kilima Mbogo**	66.25 249	P	P	16 39 30.6 +0.7
	comp=Z,21nm,1.2s,baz=35,slow=9.7,SNR=15				
LDF	**La Druitiere**	66.35 314	eP	P	16 39 29.8 -0.1
	comp=Z,35nm,0.8s				
LDF	**La Druitiere**	66.35 314	eP	P	16 39 29.8 -0.1
LDF	**La Druitiere**	66.35 314	eP	P	16 39 29.8 -0.1
COLA	**College**	66.45 25	eP	P	16 39 30.5 +0.3
COLA	**College**	66.45 25	eP	P	16 39 30.5 +0.3

PMG	Port Moresby	67.07 123	P		P	16 39 36.6 +1.8
	comp=Z,55nm,1.2s					
MFF	Saint Martin d	67.39 312	eP		P	16 39 36.6 +0.1
	comp=Z,41nm,1.0s					
MFF	Saint Martin d	67.39 312	eP		P	16 39 36.6 +0.1
MFF	Saint Martin d	67.39 312	eP		P	16 39 36.6 +0.1
MTLF	Montolieu	67.64 308	eP		P	16 39 38.5 +0.4
	comp=Z,18nm,0.9s					
MTLF	Montolieu	67.64 308	eP		P	16 39 38.5 +0.4
MTLF	Montolieu	67.64 308	eP		P	16 39 38.5 +0.4
LFF	La Frestale	67.72 310	eP		P	16 39 39.3 +0.7
	comp=Z,43nm,0.8s					
LFF	La Frestale	67.72 310	eP		P	16 39 39.3 +0.7
LFF	La Frestale	67.72 310	eP		P	16 39 39.3 +0.7
WRAB	Tennant Creek	67.83 141	P		P	16 39 39.2 -0.3
	comp=Z,292nm,1.1s,SNR=27					
WRAB	Tennant Creek	67.83 141	eP		P	16 39 39.0 -0.6
WRAB			pmax	pmax		
	comp=Z,69nm,1.1s					
WRAB	Tennant Creek	67.83 141	eP		P	16 39 39.0 -0.6
	comp=Z,69nm,1.1s					
WRA	Warramunga Arr	67.84 141	P		P	16 39 39.0 -0.6
WRA	Warramunga Arr	67.84 141	P		P	16 39 39.0 -0.6
	comp=Z,33nm,1.0s,baz=340,slow=6.7,SNR=66					
SGMF	Saint Gilles	67.91 314	eP		P	16 39 40.3 +0.5
	comp=Z,70nm,1.1s					
SGMF	Saint Gilles	67.91 314	eP		P	16 39 40.3 +0.5
SGMF	Saint Gilles	67.91 314	eP		P	16 39 40.3 +0.5
COEN	Coen	67.95 130	eP		P	16 39 39.9 -0.4
	comp=Z,242nm,1.1s					
PMR	Palmer	68.08 28	eP		P	16 39 40.8 +0.2
PMR			pmax	pmax		
	comp=Z,39nm,1.0s					
PMR	Palmer	68.08 28	eP		P	16 39 40.8 +0.2
	comp=Z,39nm,1.0s					
INK	Inuvik	68.14 18	eP		P	16 39 40.4 -0.5
	comp=Z,30nm,1.0s					
SML	Sawmill	68.24 27	eP		P	16 39 41.4 -0.3
SML			pmax	pmax		
	comp=Z,25nm,1.0s					
SML	Sawmill	68.24 27	eP		P	16 39 41.4 -0.3
	comp=Z,25nm,1.0s					
VALF	Valcebollere	68.25 307	eP		P	16 39 43.8 +1.6
ROSF	Rostrenen	68.27 315	eP		P	16 39 42.6 +0.6
	comp=Z,105nm,1.2s					
ROSF	Rostrenen	68.27 315	eP		P	16 39 42.6 +0.6
ROSF	Rostrenen	68.27 315	eP		P	16 39 42.6 +0.6
QUIF	Quistinic	68.44 314	eP		P	16 39 43.3 +0.2
	comp=Z,116nm,1.2s					
QUIF	Quistinic	68.44 314	eP		P	16 39 43.3 +0.2
QUIF	Quistinic	68.44 314	eP		P	16 39 43.3 +0.2
PAX	Paxson	68.49 25	eP		P	16 39 43.1 -0.2
PAX			pmax	pmax		
	comp=Z,17nm,0.9s					
PAX	Paxson	68.49 25	eP		P	16 39 43.1 -0.2
	comp=Z,17nm,0.9s					
EGAK	Eagle	68.65 23	eP		P	16 39 44.2 +0.1
	comp=Z,43nm,0.9s					
EPF	Esparros	68.97 309	eP		P	16 39 46.2 -0.4
	comp=Z,15nm,0.9s					
EPF	Esparros	68.97 309	eP		P	16 39 46.2 -0.4
EPF	Esparros	68.97 309	eP		P	16 39 46.2 -0.4
KDAK	Kodiak Island	69.09 32	eP		P	16 39 46.0 -1.0
	comp=Z,47nm,1.0s					
MENT	Mentasta	69.10 25	eP		P	16 39 52.0 +4.9
VIEF	Viey	69.24 309	eP		P	16 39 50.3 +2.0
ETSF	Etsaut	69.60 309	eP		P	16 39 51.2 +0.7
	comp=Z,28nm,1.1s					
ETSF	Etsaut	69.60 309	eP		P	16 39 51.2 +0.7
ETSF	Etsaut	69.60 309	eP		P	16 39 51.2 +0.7
DIV	Divide	69.61 27	eP		P	16 39 50.4 +0.1
	comp=Z,29nm,0.8s					
DAWY	Dawson	69.69 23	eP		P	16 39 50.6 -0.1
SJPF	Ste Jean	69.89 309	eP		P	16 39 51.3 -0.9
	comp=Z,74nm,1.4s					
SJPF	Ste Jean	69.89 309	eP		P	16 39 51.3 -0.9
SJPF	Ste Jean	69.89 309	eP		P	16 39 51.3 -0.9
BMRM	Bremner River	70.14 27	eP		P	16 39 53.4 -0.1
	comp=Z,59nm,1.0s					
AS31	Alice Springs	70.77 143	eP		P	16 39 57.2 -0.5
ASAR	Alice Springs	70.77 143	P		P	16 39 57.6 -0.1
ASAR	Alice Springs	70.77 143	P		P	16 39 57.6 -0.1
	comp=Z,30nm,1.1s,baz=329,slow=5.5,SNR=68					
SFJD	Kangerlussuaq	72.55 347	*i* P		P	16 40 07.5 -0.3
	comp=Z,11nm,0.9s					
SFJD	Kangerlussuaq	72.55 347	LR		LR	17 16 23.6
	comp=Z,212nm,18.4s,baz=21,slow=40					
HYT	Haines Junctio	72.68 24	eP		P	16 40 09.5 +0.6
ESDC	Sonseca Array	73.53 308	P		P	16 40 14.7 +0.5
ESDC	Sonseca Array	73.53 308	P		P	16 40 14.7 +0.5
	comp=Z,10nm,0.8s,baz=46,slow=5.8,SNR=45					
ESLA	Sonseca Array	73.53 308	eP		P	16 40 15.4 +1.2
	comp=Z,1.8nm,0.8s					
PBRG	Braganca	73.99 311	eP		P	16 40 18.7 +1.8
	comp=Z,28nm,1.9s					
FORT	Forrest	74.49 151	eP		P	16 40 20.1 +0.4
	comp=Z,88nm,1.0s					
CTAO	Charters Tower	74.54 131	eP		P	16 40 19.7 -0.5
CTAO			pmax	pmax		
	comp=Z,58nm,1.1s					
CTAO	Charters Tower	74.54 131	eP		P	16 40 19.7 -0.5
	comp=Z,58nm,1.1s					
MVO	Moncorvo	74.55 310	eP		P	16 40 22.3 +2.1
	comp=Z,31nm,2.1s					
MVO	Moncorvo	74.55 310	eLQ		LQ	17 05 45.5
MVO			eLR		LR	17 10 28.7
	comp=Z,219nm,20.0s					
PGAV	Gavieira, Arco	74.81 311	eP		P	16 40 24.3 +2.6
	comp=Z,56nm,1.6s					
PGAV	Gavieira, Arco	74.81 311	eLR		LR	17 08 54.8
	comp=Z,170nm,18.0s					
MTE	Manteigas	75.32 310	eP		P	16 40 26.1 +1.5
	comp=Z,35nm,1.3s					
PVIS	Viseu	75.34 310	eP		P	16 40 27.4 +2.7
	comp=Z,26nm,2.0s					
PMRV	Marv??o	75.81 309	eP		P	16 40 28.0 +0.6
	comp=Z,47nm,1.7s					
HNR	Honiara	76.01 114	LR		LR	17 12 31.1
	comp=Z,128nm,21.3s,baz=272,slow=35					
PCAS	Casmilo, Conde	76.11 310	eP		P	16 40 30.4 +1.3
	comp=Z,68nm,1.6s					
TAM	Tamanrasset	76.61 288	eP		P	16 40 33.5 +1.1
TAM			pmax	pmax		
	comp=Z,20nm,1.4s					
TAM	Tamanrasset	76.61 288	eP		P	16 40 33.5 +1.1
	comp=Z,20nm,1.4s					
EVO	Evora	76.74 308	eP		P	16 40 34.9 +2.2
	comp=Z,38nm,1.0s					
EVO			eR			
	comp=Z,233nm,20.5s					
EVO	Evora	76.74 308	eP		P	16 40 34.8 +2.1
	comp=Z,44nm,1.8s					
EVOP	Sao Brissos	76.81 309	eP		P	16 40 34.9 +1.9
EVOP	Sao Brissos	76.81 309	eP		P	16 40 34.9 +1.9
DLBC	Dease Lake	76.92 23	eP		P	16 40 34.0 +0.6
DLBC	Dease Lake	76.92 23	LR		LR	17 18 27.1
	comp=Z,387nm,19.4s,baz=141,slow=39					
YKW3	Yellowknife Ar	77.17 14	eP		P	16 40 33.9 -0.7
	comp=Z,0.2nm,0.9s					
YKA	Yellowknife Ar	77.23 14	P		P	16 40 34.5 -0.5
YKA	Yellowknife Ar	77.23 14	P		P	16 40 34.4 -0.5
	comp=Z,10nm,1.0s,baz=337,slow=5.4,SNR=14					
PVAQ	Vaqueiros	77.24 307	eP		P	16 40 37.8 +2.3
	comp=Z,23nm,1.5s					
PVAQ	Vaqueiros	77.24 307	eLQ		LQ	17 01 25.6
PVAQ			eLR		LR	17 07 39.8
	comp=Z,257nm,20.0s					
PCVE	Castro Verde	77.30 308	eP		P	16 40 38.3 +2.4
	comp=Z,42nm,1.4s					
PFVI	Vila Bisbo	78.10 308	eP		P	16 40 43.0 +2.7
	comp=Z,101nm,2.0s					
BBOO	Buckleboo	79.54 146	eP		P	16 40 47.0 -1.0
STKA	Stephens Creek	81.34 142	eP		P	16 40 57.1 -0.6
	comp=Z,7.3nm,1.0s					
STKA	Stephens Creek	81.34 142	P		P	16 40 57.3 -0.5
	comp=Z,41nm,1.1s,baz=331,slow=5.9,SNR=39					
EIDS	Eidsvold	81.43 131	eP		P	16 40 57.9 -0.4
	comp=Z,52nm,1.2s					
LSZ	Lusaka	82.36 244	eP		P	16 41 03.7 +0.2
	comp=Z,26nm,1.4s					
BBB	Bella Bella	82.69 25	LR		LR	17 20 21.5
	comp=Z,248nm,19.0s,baz=95,slow=38					
FCC	Fort Churchill	83.58 5	eP		P	16 41 07.9 -1.2
FCC			pmax	pmax		
	comp=Z,1.0nm,1.1s					
FCC	Fort Churchill	83.58 5	eP		P	16 41 07.9 -1.2
	comp=Z,0.8nm,1.1s					
TOA0	Torodi Ar. Sit	85.25 283	eP		P	16 41 19.3 +0.9
TORD	Torodi Ar. Bea	85.25 283	P		P	16 41 18.2 -0.2
TORD			PP		PP	16 44 37.0 +1.1
TORD	Torodi Ar. Bea	85.25 283	P		P	16 41 18.2 -0.2
	comp=Z,10nm,1.0s,baz=45,slow=4.5,SNR=39					
TORD			PP		PP	16 44 37.0 +1.1
	comp=Z,4.0nm,1.2s,baz=64,slow=7.3,SNR=4.1					
TORD			LR		LR	17 26 22.2
	comp=Z,192nm,18.9s,baz=110,slow=41					
ARMA	Armidale	85.53 134	eP		P	16 41 19.2 -0.3
	comp=Z,29nm,1.0s					
EDM	Edmonton	86.03 17	eP		P	16 41 21.7 0.0
EDM	Edmonton	86.03 17	eP		P	16 41 21.7 0.0
SCHQ	Schefferville	86.66 350	P		P	16 41 24.6 -0.1
SCHQ	Schefferville	86.66 350	P		P	16 41 24.6 -0.1
	comp=Z,16nm,0.9s,baz=53,slow=3.8,SNR=7.9					
SCHQ			LR		LR	17 21 49.7
	comp=Z,140nm,20.0s,baz=18,slow=37					
FFC	Flin Flon	86.72 10	eP		P	16 41 24.0 -1.0
FFC			pmax	pmax		
	comp=Z,18nm,0.9s					
FFC	Flin Flon	86.72 10	eP		P	16 41 24.0 -1.0
	comp=Z,18nm,0.9s					
LON	Longmire	89.47 25	eP		P	16 41 38.3 -0.1
LON			pmax	pmax		
	comp=Z,9.0nm,0.8s					
LON	Longmire	89.47 25	eP		P	16 41 38.3 -0.1
	comp=Z,8.6nm,0.8s					
NEW	Newport	89.58 21	eP		P	16 41 39.3 +0.5
	comp=Z,14nm,1.0s					
BLMT	Blacktail Moun	90.58 20	eP		P	16 41 44.3 +0.6
	comp=Z,38nm,1.0s					
BSMT	Bassoo Peak	90.61 20	eP		P	16 41 44.4 +0.5
	comp=Z,16nm,1.1s					
LBTB	Lobatse	90.65 239	eP		P	16 41 44.8 +0.7
	comp=Z,9.0nm,1.0s					
YBMT	Yellow Bay	90.81 20	eP		P	16 41 44.9 +0.3
	comp=Z,20nm,1.0s					
JTMT	Jette	90.84 20	eP		P	16 41 44.7 -0.1
	comp=Z,21nm,1.0s					
SWMT	Swartz Lake	91.14 20	eP		P	16 41 46.3 +0.1
	comp=Z,16nm,1.0s					
SLMT	Seeley Lake	91.52 19	eP		P	16 41 47.8 -0.2
	comp=Z,34nm,1.4s					
EGMT	Eagleton	91.71 17	eP		P	16 41 48.2 -0.5
	comp=Z,13nm,1.1s					
ULM	Lac du Bonnet	91.86 7	P		P	16 41 48.1 -1.2
ULM	Lac du Bonnet	91.86 7	P		P	16 41 48.1 -1.2
	comp=Z,4.5nm,0.8s,baz=12,slow=6.0,SNR=4.3					
ULM			LR		LR	17 25 28.2
	comp=Z,229nm,19.5s,baz=32,slow=37					
CHMT	Chamberlain Mo	91.88 19	eP		P	16 41 49.4 -0.4
	comp=Z,5.1nm,1.1s					
DGMT	Dagmar	92.42 13	eP		P	16 41 52.5 +0.5
	comp=Z,18nm,0.9s					
BMO	Blue Mountains	92.60 23	eP		P	16 41 52.9 -0.1
	comp=Z,3.8nm,0.9s					
BOSA	Boshof	93.26 236	P		P	16 41 56.4 +0.3
BOSA	Boshof	93.26 236	P		P	16 41 56.4 +0.3
	comp=Z,4.8nm,1.0s,baz=47,slow=8.0,SNR=3.9					
BOZ	Bozeman (W)	93.48 19	eP		P	16 41 57.4 +0.3
BOZ			pmax	pmax		
	comp=Z,5.0nm,1.0s					
BOZ	Bozeman (W)	93.48 19	eP		P	16 41 57.4 +0.3
	comp=Z,4.5nm,1.0s					
YBH	Yreka Blue Hor	93.53 28	LR		LR	17 25 09.6
	comp=Z,220nm,19.8s,baz=324,slow=36					
MCMT	McKenzie Canyo	93.92 20	eP		P	16 41 59.7 +0.5
	comp=Z,1.5nm,0.9s					
DBIC	Dimbokro	94.29 282	eP		P	16 42 01.1 0.0
	comp=Z,8.6nm,0.8s					
DBIC	Dimbokro	94.29 282	P		P	16 42 01.8 +0.6
	comp=Z,8.3nm,0.9s,baz=122,slow=2.3,SNR=7.3					
WVOR	Wild Horse Val	94.35 25	eP		P	16 42 01.4 +0.3
WVOR			pmax	pmax		
	comp=Z,8.0nm,1.0s					
WVOR	Wild Horse Val	94.35 25	eP		P	16 42 01.4 +0.3
	comp=Z,8.1nm,1.0s					
PDAR	Pinedale Array	96.70 18	P		P	16 42 11.9 0.0
PDAR			PKKP		PKKPbc	16 58 55.0 +0.7
PDAR	Pinedale Array	96.70 18	P		P	16 42 11.9 0.0
	comp=Z,0.8nm,0.8s,baz=29,slow=3.4,SNR=5.7					
PDAR			PKKP		PKKPbc	16 58 55.0 +0.7
	comp=Z,1.5nm,1.2s,baz=90,slow=1.9,SNR=4.2					
PDAR			LR		LR	17 33 30.5
	comp=Z,150nm,18.2s,baz=350,slow=40					
SADO	Sadowa	97.81 356	LR		LR	17 27 50.7
	comp=Z,216nm,20.1s,baz=22,slow=36					
NVAR	Mina Array Bea	98.03 26	P		Pdif	16 42 19.3 +1.2
NVAR	Mina Array Bea	98.03 26	P		Pdif	16 42 19.3 +1.2
	comp=Z,1.5nm,0.9s,baz=358,slow=3.1,SNR=9.3					
TXAR	Lajitas Array	110.92 18	PKiKP		PKiKP	16 47 13.9 -1.0
TXAR			PKKP		PKKPab	16 58 24.1 -1.4
TXAR	Lajitas Array	110.92 18	PKiKP		PKiKP	16 47 13.9 -1.0
	comp=Z,0.6nm,0.9s,baz=340,slow=1.5,SNR=4.9					
TXAR			PKKP		PKKPab	16 58 24.1 -1.4
	comp=Z,0.6nm,1.0s,baz=160,slow=2.9,SNR=4.0					
SYO	Syowa Base	114.10 199	epP		PS	16 57 56.0 +4.4
VNDA	Vanda	121.60 166	PKP		PKPdf	16 47 33.0 -0.6
VNDA	Vanda	121.60 166	PKP		PKPdf	16 47 33.0 -0.6
	comp=Z,3.3nm,0.9s,baz=299,slow=4.7,SNR=14					
TEIG	Tepich	122.30 4	PKPpre		PKPpre	16 47 33.8
TEIG	Tepich	122.30 4	PKhKP		PKPpre	16 47 33.8
	comp=Z,1.3nm,0.3s,baz=0.0,slow=9.1,SNR=2.1					
MAIT	Maitri	123.14 203	eP		PKPdf	16 47 34.6 -2.1
CMIG	Matias Romero	124.63 12	PKP		PKPdf	16 47 42.0 +0.6
CMIG	Matias Romero	124.63 12	PKP		PKPdf	16 47 42.0 +0.6
	comp=Z,2.4nm,0.7s,baz=73,slow=4.7,SNR=4.0					
QSPA	South Pole Qui	127.43 180	ePKPdf		PKPdf	16 47 43.7 -1.5
QSPA			PKP		PKPdf	16 47 44.9 -0.3
QSPA	South Pole Qui	127.43 180	PKP		PKPdf	16 47 44.9 -0.3
	comp=Z,19nm,1.0s,baz=288,slow=1.8,SNR=17					
SNAA	Sanae	127.93 203	eP		PKPdf	16 47 47.8 +1.8
VNA2	Neumayer--Watz	129.34 204	eP		PKPdf	16 47 49.8 +1.2
BDFB	Brasilia	141.23 295	PKP		PKPdf	16 48 15.0 +2.5
BDFB	Brasilia	141.23 295	PKP		PKPdf	16 48 15.0 +2.5
	comp=Z,2.3nm,0.7s,baz=129,slow=14,SNR=2.8					
SAML	Samuel	145.66 321	ePKPdf		PKPbc	16 48 19.6 -0.9
ATAH	Atahualpa	149.15 349	PKPbc		PKPbc	16 48 30.2 -0.5
ATAH	Atahualpa	149.15 349	PKPbc		PKPbc	16 48 30.2 -0.5
	comp=Z,17nm,0.8s,baz=4.5,slow=1.5,SNR=9.4					
SIV	San Ignacio	150.25 310	PKP		PKPdf	16 48 28.1 +0.3
SIV			PKPbc		PKiKP	16 48 33.2 -0.5
SIV	San Ignacio	150.25 310	PKP		PKPdf	16 48 28.1 +0.3
	comp=Z,6.3nm,1.0s,baz=93,slow=2.2,SNR=5.3					
SIV			PKPbc		PKiKP	16 48 33.2 -0.5
	comp=Z,15nm,0.8s,baz=85,slow=5.1,SNR=12					
PMSA	Palmer Station	150.33 197	ePKPbc		PKPbc	16 48 32.4 +0.8
LPAZ	La Paz	154.39 322	PKP		PKPdf	16 48 34.9 +0.3
LPAZ	La Paz	154.39 322	PKP		PKPdf	16 48 34.9 +0.3
	comp=Z,1.0nm,0.7s,baz=37,slow=15,SNR=4.3					
CPUP	Villa Florida	154.61 289	PKP		PKPdf	16 48 33.5 -0.4
CPUP			PKPbc		PKiKP	16 48 42.9 +0.5
CPUP			PKPab		PKPab	16 48 57.2 +0.1
CPUP	Villa Florida	154.61 289	PKP		PKPdf	16 48 33.5 -0.4
	comp=Z,0.3nm,0.4s,baz=37,slow=5.7,SNR=2.2					
CPUP			PKPbc		PKiKP	16 48 42.9 +0.5
	comp=Z,1.7nm,0.6s,baz=4.4,slow=2.0,SNR=6.9					
CPUP			PKPab		PKPab	16 48 57.2 +0.1
	comp=Z,2.2nm,0.7s,baz=24,slow=6.1,SNR=4.4					
CFAA	Coronel Fontan	165.50 290	PKP		PKPdf	16 48 46.5 +0.5
CFAA			PKPab		PKPab	16 49 45.1 +0.6
CFAA	Coronel Fontan	165.50 290	PKP		PKPdf	16 48 46.5 +0.5
	comp=Z,0.1nm,0.4s,baz=135,slow=5.7,SNR=3.6					
CFAA			PKPab		PKPab	16 49 45.1 +0.6
	comp=Z,0.4nm,0.7s,baz=54,slow=4.4,SNR=6.5					

*IDC **28** 16:31:12.4±5.2, 1°.33S×99°.59E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=256.7km s-min=29.6km az=53.0*
*ISCJB **28** 16:31:14.6±1.3, 1°.5S±0°.1×99°.4E±0°.1, h30km, mb3.3/3, Error ellipse: s-maj=21.0km s-min=11.9km az=43.1*
*DJA **28** 16:31:18.1±1.3, 1°.5±9°.×10°.0E±°., h10km, M3.7/3, MLv3.7/3*
ISC 28 16:31:16.2±1.6, 1°.3S±0°.1×99°.4E±0°.1, h30km, n7, σ0°78/9, mb3.2/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	Padang	1.11	67	P	Pb	16 31 36.5	-0.3
PDSI				S	Sb	16 31 51.6	+0.7
PPI	Padang Panjang	1.30	47	P	Pb	16 31 39.1	-0.9
PPI				S	Sb	16 31 56.8	+0.5
SDSI	Sungai Dareh	2.03	78	P	Pb	16 31 52.3	-0.1
BKNI	Bangkinang	2.30	44	P	Pb	16 31 56.4	-0.7
WRA	Warramunga Arr	38.81	121	P	P	16 38 37.9	-0.8
	0.3nm,0.7s,baz=297,slow=8.3,SNR=8.5						
ASAR	Alice Springs	40.09	126	P	P	16 38 49.2	-0.2
	0.5nm,1.1s,baz=300,slow=7.9,SNR=4.8						
MKAR	Makanchi Array	50.25	345	P	P	16 40 10.6	+0.9
	0.5nm,0.6s,baz=156,slow=8.2,SNR=4.5						

*IGQ **28** 16:33:29.4, 2°.32S×79°.77W, h16km±50km, Mb4.5, Ms4.3, Error ellipse: s-maj=2.3km s-min=1.8km az=2.7*
*ISCJB **28** 16:33:32.3±0.6, 2°.37S±0°.03×79°.82W±0°.05, h44km, mb3.7/10, MS3.5/1, Error ellipse: s-maj=7.8km s-min=4.2km az=5.4*
*IDC **28** 16:33:42.3±3.6, 2°.87S×78°.09W, h99km±38km, mb3.5/8, mb1 3.9/10, mb1mx3.7/23, mbtmp3.7/10, MS3.3/2, Ms1 3.2/2, ms1mx2.8/27, Error ellipse: s-maj=50.0km s-min=16.4km az=62.0*
ISC 28 16:33:31.3±0.8, 2°.44S±0°.04×79°.77W±0°.06, h44km, n62, σ1°82/53, mb3.6/5, 13C-9D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CATE	Catamayo	1.56	165	⇓S	Sn	16 34 19.1	+3.1
CATE	Catamayo	1.56	165	⇓P	Pn	16 33 59.7	+2.9
BMAS	Trigal station	1.59	54	⇑S	Sn	16 34 17.3	+0.4
BMAS	Trigal station	1.59	54	⇑P	Pn	16 33 58.1	+0.7
BIL2	Estacion Bilba	1.60	52	P	Pn	16 33 58.5	+1.1
BPAT	Tungurahua Vol	1.63	55	⇑S	Sn	16 34 19.2	+1.2
BPAT	Tungurahua Vol	1.63	55	⇑P	Pn	16 33 58.8	+0.9
JUI6	Juive	1.65	52	P	Pn	16 33 58.9	+0.8
RETU	Refugio	1.65	53	P	Pn	16 33 59.4	+1.1
PECV	Mancha de Ca P	1.68	350	S	Sn	16 34 17.8	-0.7
PECV	Mancha de Ca P	1.68	350	P	Pn	16 33 59.6	+1.4
BULB	Ulba Tungurahu	1.68	54	⇑P	Pn	16 33 59.7	+1.0
BULB	Ulba Tungurahu	1.68	54	⇑S	Sn	16 34 19.0	-0.2
RUN5	Runtun	1.69	53	P	Pn	16 33 59.6	+1.0
BRUN	Tungurahua Vol	1.69	53	⇑S	Sn	16 34 19.1	-0.3
BRUN	Tungurahua Vol	1.69	53	⇑P	Pn	16 33 59.6	+0.8
PISA	Pisayambo	1.95	45	⇓P	Pn	16 34 03.8	+1.4
PAST	Pastocalle	2.07	33	P	Pn	16 34 07.1	+3.1
BMOR	Cotopaxi Volca	2.14	38	S	Sn	16 34 33.7	+2.9
BMOR	Cotopaxi Volca	2.14	38	P	Pn	16 34 06.9	+1.8
CAMI	Rancho Maria	2.16	36	P	Pn	16 34 07.0	+1.7
MOV1	Cotopaxi Vol s	2.17	38	P	Pn	16 34 06.6	+1.1
BNAS	Cotopaxi Volca	2.18	36	⇑P	Pn	16 34 07.0	+1.5
BREF	Cotopaxi Volca	2.20	37	⇑S	Sn	16 34 36.0	+3.6
BREF	Cotopaxi Volca	2.20	37	⇑P	Pn	16 34 07.6	+1.6
NAS2	Nasa	2.21	36	P	Pn	16 34 07.8	+1.9
JAMA	Jama	2.21	349	⇓P	Pn	16 34 04.5	-1.1
BTAM	Cotopaxi Volca	2.23	38	⇑P	Pn	16 34 07.4	+1.1
TAMB	Tambo	2.23	39	P	Pn	16 34 07.8	+1.5
VC1	Cotopaxi 1	2.25	37	P	Pn	16 34 08.0	+1.5
COV1	Cotopaxi Volc	2.27	39	P	Pn	16 34 07.6	+0.7
PITA	Cotopaxi Volc	2.30	36	P	Pn	16 34 08.8	+1.7
MAG1	Magdalena	2.35	360	⇑P	Pn	16 34 07.1	-0.4
JUA2	San Juan 2	2.50	28	P	Pn	16 34 11.1	+1.2
TERV	Terraza Guagua	2.53	27	⇓P	Pn	16 34 11.7	+1.2
GGP	Refugio Guagua	2.54	28	⇓P	Pn	16 34 11.7	+1.1
PINO	Pino	2.55	27	⇓P	Pn	16 34 11.6	+0.9
ANTI	Antisana	2.55	39	P	Pn	16 34 11.6	+0.8
YANA	Yana	2.60	27	S	Sn	16 34 43.1	+1.1
YANA	Yana	2.60	27	P	Pn	16 34 12.4	+1.1
GOLV	Golondrinas	2.71	13	P	Pn	16 34 10.4	-2.0
OTAV	Otavalo	2.97	26	⇓P	Pn	16 34 17.0	+0.6
CAYR	Refugio Cayamb	3.01	36	P	Pn	16 34 19.2	+2.2
CAYA	Cayambe	3.06	35	⇓P	Pn	16 34 19.0	+1.3
COTA	Cotacachi	3.10	27	P	Pn	16 34 19.5	+1.2
CHAR	Charly	3.14	42	P	Pn	16 34 19.9	+1.2
LAV4	Lava4-Reventad	3.16	43	P	Pn	16 34 19.8	+0.8
CONE	Cono NE Rev Vo	3.17	42	P	Pn	16 34 19.9	+0.8
ATAH	Atahualpa	4.86	164	P	Pn	16 34 45.5	+3.1
	18nm,0.3s,baz=360,slow=10,SNR=57						
ATAH				S	Sn	16 35 43.5	+5.9
	26nm,0.3s,baz=293,slow=17,SNR=4.3						
ATAH				LR	LR	16 36 08.8	
	comp=Z,183nm,19.2s,baz=330,slow=34						
NNA	Nana	9.92	163	P	Pn	16 35 51.7	+0.2
	21nm,0.3s,baz=325,slow=12,SNR=49						
NNA				S	Sn	16 37 37.8	-3.8
	67nm,0.3s,baz=207,slow=18,SNR=26						
LPAZ	La Paz	17.90	141	P	Pn	16 37 35.8	-2.1
	0.4nm,0.3s,baz=325,slow=12,SNR=18						
SIV	San Ignacio	22.81	127	P	P	16 38 27.0	-3.7
	3.6nm,0.8s,baz=292,slow=8.0,SNR=11						
TEIG	Tepich	24.02	340	P	sP	16 38 56.4	-2.9
	6.7nm,1.0s,baz=165,slow=12,SNR=2.8						
CFAA	Coronel Fontan	30.98	161	P	P	16 39 43.1	-1.6
	0.2nm,0.6s,baz=327,slow=9.1,SNR=4.5						
CPUP	Villa Florida	32.07	140	P	P	16 39 50.7	-3.5
	0.2nm,0.3s,baz=291,slow=5.9,SNR=3

NEIC Felt [II] at Banda Aceh.
DJA ***28*** *16:45:19.1±1.0,5°N±3°×9°5E±°, h28km±6km, M5.0/20, mB5.4/17, mb5.2/20, MLv5.1/5, Mw(mB)4.9/17, Mwp6.5/1*
GCMT ***28*** *16:45:20.5±0.3,5°.29N×94°.41E, h50km±1km, MW5.0, Moment Tensor Solution. s42,c58; s61,c82; Moment tensor: Scale 10¹⁶Nm; Mrr4.55±.20; Mθθ-0.92±.14; Mφφ-3.63±.16; Mrθ1.80±.10; Mrφ1.12±.11; Mθφ-0.83±.12; Best double couple: M0=4.70000×10¹⁶ NP1:φs145.00000°, δ56.00000°, λ74.00000°. NP2:φs352.00000°, δ37.00000°, λ112.00000°. Principal axes: T 5.1200, Plg74.0000°, Azm11.0000°; N -0.8500, Plg13.0000°, Azm154.0000°; P -4.2700, Plg10.0000°, Azm247.0000°; Data Used: IU II IC G CN.*

ISC 28 16:45:18.7±0.3,5°.48N±0°.03×94°.60E±0°.04, h56km±1km, h56km:pP-P, n777, σ1§13/916, mb5.2/181, MS4.2/39, 202C-131D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.69**	**89**	P	**Pn**	**16 45 32.0**	**-0.6**
BSI				S	**Sn**	**16 45 41.9**	**-0.9**
CMBY	**CAMPBELL BAY**	**1.66**	**336**	*e*P	**Pn**	**16 45 46.5**	**+1.0**
CMBY				AMB	AMB	16 45 51.6	
	comp=Z,2μm,0.3s						
SNSI	**Sinabang, Aceh**	**3.50**	**151**	P	**Pn**	**16 46 07.9**	**-2.8**
KCSI	**Kotacane, Aceh**	**3.71**	**122**	P	**Pn**	**16 46 14.0**	**+0.5**
KCSI				S	**Sn**	**16 47 00.3**	**+4.2**
TSI	**Tuntungan**	**4.41**	**116**	P	Pn	16 46 27.1	+4.0
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**16 46 32.9**	**+0.6**
PSI				S	**Sn**	**16 47 27.7**	**-1.8**
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**16 46 32.9**	**+0.6**
	comp=Z,9.4nm,0.3s,baz=302,slow=12,SNR=34						
PSI				S	**Sn**	**16 47 27.7**	**-1.8**
	comp=Z,8.2nm,0.3s,baz=298,slow=15,SNR=3.9						
PSI				LR	LR	16 48 47.5	
	comp=Z,2μm,21.5s,baz=104,slow=41						
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**16 46 33.4**	**+1.2**
	baz=5.2,SNR=27						
KULM	**Kulim**	**6.02**	**92**	*e*P	**Pn**	**16 46 44.9**	**-0.4**
	comp=Z,138nm,0.8s						
KULM	**Kulim**	**6.02**	**92**	P	**Pn**	**16 46 45.7**	**+0.4**
KULM	**Kulim**	**6.02**	**92**	P	**Pn**	**16 46 45.0**	**-0.2**
	comp=Z,168nm,0.9s,comp=Z,3μmcomp=Z,0.9nm						
SKLT	**Songkhla**	**6.21**	**74**	P	**Pn**	**16 46 47.5**	**-0.3**
	comp=Z,328nm,0.7s,comp=Z,3μmcomp=Z,1.0nm						
PBA	**Port Blair**	**6.40**	**343**	*e*P	Pn	16 46 50.2	-0.3
PBA				AMB	AMB	16 46 55.2	
	comp=Z,73nm,2.3s						
IPM	**Ipoh**	**6.48**	**99**	*e*Pn	**Pn**	**16 46 50.5**	**-1.0**
	comp=Z,60nm,0.6s						
IPM				*e*Sn	**Sn**	**16 48 01.4**	**-2.6**
IPM	**Ipoh**	**6.48**	**99**	P	**Pn**	**16 46 51.1**	**-0.4**
IPM	**Ipoh**	**6.48**	**99**	P	**Pn**	**16 46 50.7**	**-0.8**
	comp=Z,120nm,0.9s,comp=Z,2μmcomp=Z,0.6nm						
FRIM	**Kepong**	**7.35**	**107**	P	**Pn**	**16 47 03.7**	**+0.3**
DGPR	**DIGLIPUR**	**7.82**	**348**	*e*P	**Pn**	**16 47 09.6**	**-0.2**
DGPR				*e*S	**Sn**	**16 48 39.4**	**+2.4**
BKNI	**Bangkinang**	**8.22**	**128**	P	Pn	16 47 25.1	+10
PPI	**Padang Panjang**	**8.26**	**135**	P	**Pn**	**16 47 17.5**	**+1.6**
	comp=Z,94nm,0.9s,comp=Z,868nm						
PPI	**Padang Panjang**	**8.26**	**135**	P	**Pn**	**16 47 18.6**	**+2.7**
	baz=8.3,SNR=4.0						
KTGM	**Kuala Trenggan**	**8.49**	**91**	P	**Pn**	**16 47 20.3**	**+1.2**
PDSI	**Padang**	**8.64**	**137**	P	**Pn**	**16 47 23.4**	**+2.3**
	comp=Z,136nm,0.8s,comp=Z,2μm						
PHET	**Kaeng Krachan**	**8.89**	**34**	P	**Pn**	**16 47 27.6**	**+3.1**
	comp=Z,318nm,0.9s,comp=Z,6μmcomp=Z,283μm						
KGM	**Kluang**	**9.35**	**111**	P	**Pn**	**16 47 29.2**	**-1.6**
MYKOM	**Kota Tinggi**	**9.93**	**111**	P	**Pn**	**16 47 39.4**	**+0.7**
MYKOM	**Kota Tinggi**	**9.93**	**111**	P	Pn	16 47 45.6	+6.8
CHBT	**CHBT**	**10.50**	**46**	P	**Pn**	**16 47 48.9**	**+2.3**
	comp=Z,250nm,0.9s,comp=Z,2μm						
KSI	**Kapahiang**	**12.08**	**138**	P	**P**	**16 48 17.6**	**-1.7**
PBKT	**Sadao Pong**	**12.66**	**29**	P	Pn	16 48 20.0	+3.9
	comp=Z,64nm,1.0s,comp=Z,854nm						
MNAI	**Manna**	**12.85**	**139**	P	**Pn**	**16 48 16.4**	**-2.4**
	baz=13,SNR=5.2						
CM31	**Chiang Mai Arr**	**13.57**	**18**	*e*Pn	**Pn**	**16 48 31.6**	**+3.0**
	comp=Z,60nm,0.7s						
CMAR	**Chiang Mai Arr**	**13.57**	**18**	P	**P**	**16 48 32.9**	**-3.0**
CMAR				ScP	**ScP**	**16 57 19.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**13.57**	**18**	P	**P**	**16 48 32.9**	**-3.0**
	comp=Z,3.3nm,0.3s,baz=210,slow=14,SNR=80						
CMAR				LR	LR	16 53 43.1	
	comp=Z,523nm,18.2s,baz=206,slow=37						
CMAR				ScP	**ScP**	**16 57 19.5**	**-0.7**
	baz=238,slow=3.3,SNR=4.8						
CHTO	**Chiang Mai**	**13.91**	**17**	*e*P	**Pn**	**16 48 33.9**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,86nm,0.8s						
CHTO	**Chiang Mai**	**13.91**	**17**	*e*Pn	**Pn**	**16 48 33.9**	**+0.8**
	comp=Z,86nm,0.8s						
CHTO	**Chiang Mai**	**13.91**	**17**	P	**Pn**	**16 48 35.9**	**+2.8**
	comp=Z,154nm,0.9s,comp=Z,1μm						
PALK	**Pallekele**	**13.93**	**278**	Pn	**Pn**	**16 48 34.4**	**+1.0**
	comp=Z,287nm,0.7s,SNR=20						
PALK	**Pallekele**	**13.93**	**278**	*e*Pn	**Pn**	**16 48 33.4**	**0.0**
	comp=Z,34nm,0.6s						
PALK				*e*Sn	Sn	16 50 52.8	-14
LWLI	**Liwa**	**14.07**	**138**	P	P	16 48 50.0	+8.5
UBPT	**Khong Chiam**	**14.45**	**47**	P	**Pn**	**16 48 42.6**	**+2.4**
	comp=Z,93nm,1.1s						
KASI	**Kota Agung**	**14.74**	**138**	P	P	16 48 59.6	+11
KSM	**Kuching**	**16.17**	**104**	*e*Pn	**P**	**16 49 04.3**	**-0.5**
	comp=Z,50nm,1.0s						
KSM	**Kuching**	**16.17**	**104**	P	**P**	**16 49 05.7**	**+1.0**
KSM	**Kuching**	**16.17**	**104**	P	**P**	**16 49 04.8**	**+0.1**
	comp=Z,46nm,1.1s						
KSM	**Kuching**	**16.17**	**104**	P	**P**	**16 49 05.9**	**+1.2**
	baz=16,SNR=12						
VIS	**Vishakhapatnam**	**16.41**	**319**	*i* P	**Pn**	**16 49 05.2**	**-0.3**
VIS				*e*P	**P**	**16 49 05.7**	**-1.7**
VIS				AMB	AMB	16 49 10.6	
	comp=Z,65nm,0.9s						
VIS				*i* x	x	16 51 58.4	
STKI	**Sintang**	**17.69**	**107**	P	**P**	**16 49 22.9**	**+1.4**
	comp=Z,36nm,1.0s,comp=Z,9μm						
SBUM	**Sibu**	**17.83**	**99**	P	**P**	**16 49 24.0**	**+1.0**
SBUM	**Sibu**	**17.83**	**99**	P	**Pn**	**16 49 21.7**	**-1.3**
	comp=Z,25nm,1.2s						
CISI	**Cisompet, Garu**	**18.48**	**134**	P	**Pn**	**16 49 33.2**	**+2.3**
	baz=19,SNR=4.0						
BTM	**Bintulu**	**18.57**	**96**	P	**Pn**	**16 49 33.5**	**+1.5**
HYB	**Hyderabad**	**19.68**	**308**	*i* P	**Pn**	**16 49 44.5**	**-0.7**
HYB				*e*S	**S**	**16 53 17.0**	**-5.5**
HYB	**Hyderabad**	**19.68**	**308**	*e*P	**P**	**16 49 44.0**	**+0.7**
HYB				AMB	AMB	16 49 47.6	
	comp=Z,33nm,0.2s						
BOK	**Bokaro**	**20.05**	**336**	*e*P	Pn	16 49 48.6	-0.9
BOK				AMB	AMB	16 49 50.6	
	comp=Z,124nm,1.3s						
QIZ	**Qiongzhong**	**20.05**	**46**	P	Pn	16 49 49.5	0.0
QIZ				sP	sP	16 50 05.8	-1.1
QIZ				S	**S**	**16 53 29.3**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,30nm,1.1s						
QIZ				LR	LR		
	comp=N,910nm,14.9s						
QIZ				LR	LR		
	comp=Z,1μm,19.0s						
SHL	**Shillong**	**20.14**	**353**	*e*P	**P**	**16 49 47.1**	**-1.4**
KMI	**Kunming**	**21.03**	**21**	P	**P**	**16 50 00.5**	**+2.4**
KMI				pP	**pP**	**16 50 12.3**	**+1.6**
KMI				sP	**sP**	**16 50 18.8**	**+1.0**
KMI				S	**S**	**16 53 48.5**	**-1.0**
KMI				sS	**sS**	**16 54 09.8**	**-0.1**
KMI				pmax	pmax		
	comp=Z,65nm,1.0s						
KMI				pmax	pmax		
	comp=Z,260nm,6.7s						
KMI				LR	LR		
	comp=N,420nm,15.6s						
KMI				LR	LR		
	comp=E,550nm,15.4s						
KMI				LR	LR		
	comp=Z,690nm,22.4s						
KKM	**Kota Kinabalu**	**21.51**	**87**	*e*P	**P**	**16 50 00.3**	**-2.9**
	comp=Z,57nm,1.2s						
KKM	**Kota Kinabalu**	**21.51**	**87**	P	**P**	**16 50 05.0**	**+1.8**
KKM	**Kota Kinabalu**	**21.51**	**87**	P	**P**	**16 50 04.3**	**+1.1**
	comp=Z,48nm,1.3s,comp=Z,769nm						
KKM	**Kota Kinabalu**	**21.51**	**87**	P	**P**	**16 50 05.4**	**+2.2**
	baz=22,SNR=5.9						
LATR	**Latur**	**21.80**	**308**	*e*P	**P**	**16 50 05.8**	**-0.4**
LATR				*ex*	x	16 53 58.2	
BBKI	**Banjar Baru**	**22.08**	**113**	P	**P**	**16 50 09.8**	**+0.5**
	comp=Z,234nm,0.8s,comp=Z,2μm						
KDM	**Kudat**	**22.14**	**85**	P	**P**	**16 50 11.9**	**+2.0**
ODAN	**Odare**	**22.34**	**343**	*e*P	**P**	**16 50 12.2**	**0.0**
	comp=Z,78nm,0.6s						
RAMN	**Ramite**	**22.67**	**341**	*e*P	**P**	**16 50 16.0**	**+0.3**
	comp=Z,95nm,0.8s						
TAPN	**Taplejung**	**22.72**	**344**	*e*P	**P**	**16 50 15.5**	**-0.7**
	comp=Z,52nm,0.5s						
JIRN	**Jiri**	**23.46**	**341**	*e*P	**P**	**16 50 23.7**	**0.0**
	comp=Z,139nm,0.8s						
PKI	**Pulchoki**	**23.64**	**339**	*e*P	**P**	**16 50 24.5**	**-0.9**
	comp=Z,80nm,0.8s						
PKIN	**Phulchoki**	**23.66**	**339**	*e*P	**P**	**16 50 25.0**	**-0.4**
	comp=Z,58nm,0.7s						
DMN	**Daman**	**23.79**	**339**	*e*P	**P**	**16 50 26.1**	**-0.5**
	comp=Z,81nm,0.6s						
MYLDM	**Lahad Datu**	**23.80**	**90**	P	**P**	**16 50 28.3**	**+1.8**
MYLDM	**Lahad Datu**	**23.80**	**90**	P	**P**	**16 50 27.2**	**+0.7**
	comp=Z,54nm,1.5s,comp=Z,908nm						
GUN	**Gumba**	**23.80**	**341**	*e*P	**P**	**16 50 25.8**	**-1.0**
	comp=Z,142nm,0.8s						
GYA	**Guiyang**	**23.83**	**28⇑**	*i*P	**P**	**16 50 27.3**	**+0.5**
GYA				pP	**pP**	**16 50 41.5**	**+0.9**
GYA				sP	**sP**	**16 50 48.5**	**+1.2**
GYA				PP	**PnPn**	**16 51 03.5**	**+6.2**
GYA				PcP	**PcP**	**16 54 09.5**	**+0.5**
GYA				S	**S**	**16 54 39.0**	**+0.1**
GYA				sS	**sS**	**16 55 01.3**	**-1.2**
GYA				SS	**SnSn**	**16 55 31.5**	**+8.8**
GYA				ScP	**ScP**	**16 57 43.3**	**+0.5**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,160nm,6.1s						
GYA				LR	LR		
	comp=N,2μm,11.5s						
GYA				LR	LR		
	comp=E,1μm,13.0s						
GYA				LR	LR		
	comp=Z,3μm,17.1s						
KKN	**Kakani**	**23.89**	**339**	*e*P	**P**	**16 50 26.9**	**-0.6**
	comp=Z,84nm,0.8s						
POO	**Poona**	**24.05**	**304**	*e*P	**P**	**16 50 30.3**	**+1.5**
BHPL	**Bhopal**	**24.21**	**319**	*e*P	**P**	**16 50 30.4**	**+0.1**
LSA	**Lhasa**	**24.31**	**353**	P	**P**	**16 50 31.0**	**-0.6**
KOLN	**Koldanda**	**24.51**	**336**	*e*P	**P**	**16 50 34.0**	**+0.9**
	comp=Z,211nm,0.6s						
SRBI	**Singaraja**	**24.58**	**123**	P	**P**	**16 50 34.6**	**+0.9**
	comp=Z,217nm,0.9s,comp=Z,2μm						
DANN	**Dangsing**	**24.96**	**337**	*e*P	**P**	**16 50 38.1**	**+0.8**
	comp=Z,195nm,0.6s						
GZH	**Guangzhou**	**25.16**	**44**	P	P	16 50 45.0	+6.1
MMSI	**Mamuju**	**25.60**	**108**	P	**P**	**16 50 44.7**	**+1.7**
	comp=Z,100nm,1.2s,comp=Z,1μm						
CD2	**Chengdu**	**26.72**	**18**	P	**P**	**16 50 52.5**	**-0.4**
CD2				pP	**pP**	**16 51 06.8**	**-0.1**
CD2				sP	**sP**	**16 51 13.3**	**-0.3**
CD2				PP	**PnPn**	**16 51 39.8**	**+3.1**
CD2				PcP	**PcP**	**16 54 15.3**	**0.0**
CD2				S	**S**	**16 55 23.8**	**-0.9**
CD2				sS	**sS**	**16 55 46.8**	**-1.8**
CD2				SS	**SnSn**	**16 56 39.8**	**+6.7**
CD2				ScS	**ScS**	**17 01 38.8**	**-2.8**
CD2				pmax	pmax		
	comp=Z,60nm,0.9s						
CD2				pmax	pmax		
	comp=Z,140nm,4.2s						
CD2				LR	LR		
	comp=N,330nm,14.2s						
CD2				LR	LR		
	comp=E,520nm,19.0s						
CD2				LR	LR		
	comp=Z,390nm,16.6s						
KAPI	**Kappang**	**27.19**	**112**	*e*P	**P**	**16 50 55.7**	**-1.7**
	comp=Z,31nm,0.8s						
KAPI	**Kappang**	**27.19**	**112**	P	**P**	**16 50 55.8**	**-1.5**
	comp=Z,22nm,0.6s,baz=159,slow=14,SNR=11						
KAPI				LR	LR	17 02 35.2	
	comp=Z,304nm,19.3s,baz=143,slow=38						
BKSI	**Bulukumba**	**27.65**	**112**	P	**P**	**16 51 01.6**	**+0.2**
	comp=Z,120nm,0.8s,comp=Z,889nm						
GTOI	**Gorontalo**	**28.76**	**99**	P	**P**	**16 51 10.5**	**-0.9**
LUWI	**Luwuk**	**28.87**	**102**	P	**P**	**16 51 12.6**	**+0.3**
	baz=29,SNR=4.4						
DDI	**Dehra Dun**	**29.21**	**330**	AMB	AMB	16 49 31.3	
	comp=Z,31nm,1.7s						
SMLA	**Simla**	**30.31**	**329**	*e*P	**P**	**16 51 25.4**	**+0.6**
WHN	**Wuhan**	**31.09**	**34**	P	**P**	**16 51 32.5**	**+0.8**
WHN				S	**S**	**16 56 35.3**	**+2.0**
WHN				pmax	pmax		
	comp=Z,60nm,1.1s						
WHN				LR	LR		
	comp=N,1μm,13.0s						
WHN				LR	LR		
	comp=E,860nm,13.6s						
WHN				LR	LR		
	comp=Z,2μm,14.9s						
XAN	**Xi'an**	**31.37**	**23**	P	**P**	**16 51 33.5**	**-0.7**
XAN				pP	**pP**	**16 51 49.0**	**+0.7**
XAN				sP	**sP**	**16 51 56.8**	**+1.8**
XAN				S	S	16 56 28.8	-8.9
XAN				pmax	pmax		
	comp=Z,23nm,0.9s						
XAN				pmax	pmax		
	comp=Z,50nm,10.3s						
XAN				LR	LR		
	comp=N,340nm,19.4s						
XAN				LR	LR		
	comp=Z,180nm,21.4s						
LZH	**Lanzhou**	**31.62**	**14**	⇑P	**P**	**16 51 36.3**	**-0.2**
LZH				pP	**pP**	**16 51 50.0**	**-0.7**
LZH				sP	**sP**	**16 51 55.0**	**-2.3**
LZH				S	**S**	**16 56 43.0**	**+1.2**
LZH				sS	**sS**	**16 57 06.0**	**+0.2**
LZH				ScP	**ScP**	**16 58 07.8**	**+1.4**
LZH				pmax	pmax		
	comp=Z,43nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,4.0s						
DHRM	**DHARAMSHALA**	**31.65**	**330**	*e*P	**P**	**16 51 37.2**	**+0.3**
DHRM				AMB	AMB	16 51 58.2	
	comp=Z,34nm,0.9s						
SOEI	**Soe**	**33.21**	**117**	P	**P**	**16 51 53.6**	**+2.9**
	baz=33,SNR=3.6						
GTA	**Gaotai**	**34.10**	**7**	⇑P	**P**	**16 51 58.5**	**+0.4**
GTA				pP	**pP**	**16 52 13.8**	**+1.4**
GTA				sP	**sP**	**16 52 20.5**	**+1.5**
GTA				PP	**PnPn**	**16 53 14.5**	**+1.2**
GTA				PcP	**PcP**	**16 54 35.5**	**+0.9**
GTA				S	**S**	**16 57 19.5**	**-0.7**
GTA				sS	**sS**	**16 57 41.5**	**-2.9**
GTA				ScP	**ScP**	**16 58 16.3**	**+1.4**
GTA				ScS	**ScS**	**17 02 16.0**	**-1.2**
GTA				pmax	pmax		
	comp=Z,58nm,0.8s						
GTA				pmax	pmax		
	comp=Z,78nm,7.6s						
GTA				LR	LR		
	comp=N,260nm,20.9s						
GTA				LR	LR		
	comp=E,170nm,17.1s						
GTA				LR	LR		
	comp=Z,320nm,22.3s						
AAI	**Ambon**	**34.77**	**104**	P	**P**	**16 52 03.4**	**-0.7**
	baz=35,SNR=3.4						
NJ2	**Nanjing**	**34.83**	**38**	*e*P	**P**	**16 52 05.5**	**+1.2**
NJ2				S	**S**	**16 57 34.0**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,60nm,1.0s						
NJ2				LR	LR		
	comp=N,1μm,21.1s						
NJ2				LR	LR		
	comp=E,530nm,17.3s						
NJ2				LR	LR		
	comp=Z,1μm,17.4s						
SWI	**Sorong**	**37.15**	**99**	P	**P**	**16 52 23.6**	**-0.9**
	baz=37,SNR=9.1						
KSH	**Kashi**	**37.83**	**336**	P	**P**	**16 52 29.5**	**-0.5**
KSH				sP	**sP**	**16 52 52.5**	**+1.5**
KSH				PP	**PnPn**	**16 54 00.3**	**+1.3**
KSH				S	**S**	**16 58 13.3**	**-4.0**
KSH				sS	**sS**	**16 58 39.3**	**-2.3**
KSH				SS	SnSn	17 00 52.3	-10
KSH				pmax	pmax		
	comp=Z,29nm,0.8s						
KSH				pmax	pmax		
	comp=Z,510nm,6.6s						
KSH				LR	LR		
	comp=N,260nm,6.6s						
KSH				LR	LR		
	comp=E,160nm,5.3s						
KSH				LR	LR		
	comp=Z,170nm,6.7s						
HHC	**Hu-ho-hao-te**	**38.36**	**21**	*e*P	**P**	**16 52 35.5**	**+1.1**
HHC				pP	**pP**	**16 52 48.8**	**0.0**
HHC				sP	**sP**	**16 52 54.3**	**-1.1**
HHC				PcP	**PcP**	**16 54 46.0**	**-1.2**
HHC				S	**ScP**	**16 58 28.5**	**-2.0**
HHC				sS	**sS**	**16 58 51.0**	**+1.5**
HHC				SS	**SnSn**	**17 01 11.3**	**-3.9**
HHC				ScS	**ScS**	**17 02 39.3**	**-1.3**
HHC				pmax	pmax		
	comp=Z,96nm,0.8s						
HHC				pmax	pmax		
	comp=Z,280nm,6.3s						
HHC				LR	LR		
	comp=N,780nm,16.1s						
HHC				LR	LR		
	comp=E,890nm,15.6s						
HHC				LR	LR		
	comp=Z,1μm,15.7s						
FAKI	**Fak Fak**	**38.52**	**102**	P	**P**	**16 52 34.7**	**-1.4**
	baz=39,SNR=5.9						
FITZ	**Fitzroy Crossi**	**38.56**	**128**	PcP	**PcP**	**16 54 48.1**	**0.0**
FITZ	**Fitzroy Crossi**	**38.56**	**128**	PcP	**PcP**	**16 54 48.1**	**0.0**
	baz=336,slow=3.7						
FITZ				LR	LR	17 08 19.3	
	comp=Z,297nm,21.5s,baz=311,slow=36						
FITZ	**Fitzroy Crossi**	**38.56**	**128**	P	**P**	**16 52 34.7**	**-1.5**
	baz=39,SNR=18						
WMQ	**Urumqi**	**38.66**	**352**	P	**P**	**16 52 38.5**	**+1.6**
WMQ				sP	**sP**	**16 52 56.0**	**-1.9**
WMQ				PP	**PnPn**	**16 54 12.0**	**+3.1**
WMQ				S	**ScP**	**16 58 32.0**	**+0.4**
WMQ				sS	**sS**	**16 58 54.0**	**0.0**
WMQ				SS	**SS**	**17 01 15.0**	**-6.9**
WMQ				pmax	pmax		
	comp=Z,31nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.4s						
WMQ				LR	LR		
	comp=N,120nm,26.0s						
WMQ				LR	LR		
	comp=E,300nm,29.0s						
WMQ				LR	LR		
	comp=Z,220nm,25.0s						
BJI	**Beijing**	**39.51**	**26**	P	**P**	**16 52 45.5**	**+1.6**
BJI				S	**S**	**16 58 45.8**	**+3.6**
BJI				pmax	pmax		
	comp=Z,90nm,1.0s						
BJI				pmax	pmax		
	comp=Z,190nm,3.5s						
BJI				LR	LR		
	comp=N,320nm,20.6s						
BJI				LR	LR		
	comp=E,260nm,20.1s						
BJI				LR	LR		
	comp=Z,330nm,30.4s						
KNRA	**Kununurra**	**39.83**	**122**	P	**P**	**16 52 45.0**	**-1.8**
	baz=40,SNR=7.5						
ULHL	**Ulahol**	**40.08**	**339**	*i* P	**P**	**16 52 50.1**	**+1.2**
ULHL	**Ulahol**	**40.08**	**339**	P	**P**	**16 52 50.1**	**+1.2**
	SNR=61						
KZA	**Kyzart**	**40.31**	**338**	*i* P	**P**	**16 52 52.5**	**+1.5**
KZA	**Kyzart**	**40.31**	**338**	P	**P**	**16 52 52.5**	**+1.5**
	SNR=12						
MTN	**Manton Dam**	**40.61**	**117**	P	**P**	**16 52 51.5**	**-1.9**
	baz=41,SNR=26						
UCH	**Uchtor**	**40.72**	**337**	*i* P	**P**	**16 52 56.0**	**+1.6**
UCH	**Uchtor**	**40.72**	**337**	P	**P**	**16 52 56.0**	**+1.6**
	SNR=14						
TKM2	**Tokmak 2**	**40.91**	**339**	*i* P	**P**	**16 52 56.7**	**+1.0**
TKM2	**Tokmak 2**	**40.91**	**339**	P	**P**	**16 52 56.7**	**+1.0**
	SNR=66						
TKM2	**Tokmak 2**	**40.91**	**339**	*e*P	**P**	**16 52 56.6**	**+1.0**
	comp=Z,33nm,0.6s						
KBK	**Karagaybulak**	**40.92**	**338**	*i* P	**P**	**16 52 57.8**	**+2.0**
KBK	**Karagaybulak**	**40.92**	**338**	P	**P**	**16 52 57.8**	**+2.0**
	SNR=98						
AML	**Almayashu**	**40.96**	**336**	*i* P	**P**	**16 52 58.1**	**+1.7**
AML	**Almayashu**	**40.96**	**336**	P	**P**	**16 52 58.1**	**+1.7**
	SNR=12						
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**16 52 58.8**	**+1.7**
	comp=Z,332nm,0.7s,SNR=23						
AAK	**Ala-Archa**	**41.07**	**337***c*	*i*P	**P**	**16 52 58.3**	**+1.3**
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**16 52 58.7**	**+1.7**
	SNR=42						
AAK	**Ala-Archa**	**41.07**	**337**	*e*P	**P**	**16 52 58.2**	**+1.3**
	comp=Z,55nm,0.9s						
FRU	**Bishkek**	**41.19**	**338⇑**	*i*P	**P**	**16 52 59.0**	**+1.1**
FRU				*i*		16 53 14.0	
FRU				*e*		16 54 34.0	
FRU				pmax	pmax		
	comp=Z,140nm,2.0s						
CHMS	**Chumysh**	**41.28**	**338**	*i* P	**P**	**16 52 59.5**	**+0.9**
CHMS	**Chumysh**	**41.28**	**338**	P	**P**	**16 52 59.5**	**+0.9**
	SNR=19						
DL2	**Dalian**	**41.30**	**32**	P	**P**	**16 53 00.3**	**+1.6**
DL2				pmax	pmax		
	comp=Z,120nm,0.8s						
EKS2	**Erkin-Say**	**41.37**	**337**	*e*P	**P**	**16 53 00.8**	**+1.3**
EKS2				pmax	pmax		
	comp=Z,45nm,0.8s						
EKS2	**Erkin-Say**	**41.37**	**337**	P	**P**	**16 53 01.2**	**+1.8**
	SNR=75						
EKS2	**Erkin-Say**	**41.37**	**337**	*e*P	**P**	**16 53 00.8**	**+1.3**
	comp=Z,45nm,0.8s						
USP	**Ospenovka**	**41.61**	**338**	*i* P	**P**	**16 53 02.6**	**+1.3**
USP	**Ospenovka**	**41.61**	**338**	P	**P**	**16 53 02.6**	**+1.3**
	SNR=89						
KDU	**Kakadu**	**41.74**	**116**	P	**P**	**16 53 01.5**	**-1.2**
	baz=42,SNR=6.8						
MK31	**Makanchi Array**	**42.51**	**347**	*i* P	**P**	**16 53 08.6**	**+0.1**
MK31				pmax	pmax		
	comp=Z,17nm,0.5s						
MK31	**Makanchi Array**	**42.51**	**347**	*e*P	**P**	**16 53 08.6**	**+0.1**
MKAR	**Makanchi Array**	**42.51**	**347**	P	**P**	**16 53 09.0**	**+0.5**
MKAR	**Makanchi Array**	**42.51**	**347**	P	**P**	**16 53 09.0**	**+0.5**
MKAR	**Makanchi Array**	**42.51**	**347**	P	**P**	**16 53 09.0**	**+0.5**
	comp=Z,30nm,0.7s,baz=163,slow=8.5,SNR=311						
MKAR				LR	LR	17 13 30.7	
	comp=Z,139nm,21.4s,baz=156,slow=40						
KK31	**Karatay Array**	**43.09**	**334**	*i* P	**P**	**16 53 14.1**	**+0.8**
KK31				pmax	pmax		
	comp=Z,10.0nm

ZAK e 16 55 08.5
HVS Khovu-Aksy 45.51 359c iP **P 16 53 32.5 -0.1**
MOY Mondy 46.34 5 eP **P 16 53 39.1 0.0**
WRA Warramunga Arr 46.53 124 P **P 16 53 40.1 -0.9**
WRA S **S 17 00 25.2 -0.6**
WRA Warramunga Arr 46.53 124 P **P 16 53 40.1 -0.9**
comp=Z,19nm,0.6s,baz=301,slow=10.0,SNR=255
WRA S **S 17 00 25.2 -0.6**
comp=Z,1.3nm,1.0s,baz=298,slow=16,SNR=3.5
WRAB Tennant Creek 46.53 124 eP **P 16 53 40.0 -1.0**
WRAB pmax pmax
comp=Z,69nm,1.0s
WRAB Tennant Creek 46.53 124 eP **P 16 53 40.0 -1.0**
comp=Z,69nm,1.0s
TLY Talaya 46.66 8 eP **P 16 53 42.5 +1.0**
TLY pmax pmax
comp=Z,19nm,1.0s
TLY MLR MLR
comp=Z,228nm,18.0s
CN2 Changchun 46.82 31 eP **P 16 53 43.0 +0.1**
CN2 epP **pP 16 53 58.5 +0.9**
CN2 eS **S 17 00 28.0 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,370nm,19.0s
CN2 LR LR
comp=E,290nm,19.0s
CN2 LR LR
comp=Z,280nm,19.0s
IRK Irkutsk 47.29 8 eP **P 16 53 46.4 0.0**
IRK pmax pmax
comp=Z,53nm,2.6s
AS31 Alice Springs 48.05 129 eP **P 16 53 51.9 -1.0**
ASAR Alice Springs 48.05 129 P **P 16 53 52.1 -0.7**
ASAR S **S 17 00 43.7 -3.8**
ASAR Alice Springs 48.05 129 P **P 16 53 52.1 -0.7**
comp=Z,16nm,0.8s,baz=300,slow=7.5,SNR=243
ASAR S **S 17 00 43.7 -3.8**
comp=Z,2.2nm,0.9s,baz=289,slow=14,SNR=14
CIT Chita 48.97 15 eP **P 16 53 59.8 +0.3**
CIT e 16 54 16.2
CIT e 16 55 19.3
ZAA0 Zalesovo Array 48.97 352 eP **P 16 53 59.5 +0.2**
ZALV Zalesovo Beam 48.97 352 P **P 16 53 59.8 +0.5**
ZALV S **S 17 00 59.6 +0.2**
ZALV Zalesovo Beam 48.97 352 P **P 16 53 59.8 +0.5**
ZALV ScP **ScP 16 59 13.4 +0.3**
ZALV S **S 17 00 59.6 +0.2**
ZALV Zalesovo Beam 48.97 352 P **P 16 53 59.8 +0.5**
comp=Z,50nm,0.7s,baz=180,slow=6.8,SNR=237
ZALV ScP **ScP 16 59 13.4 +0.3**
comp=Z,2.6nm,0.9s,baz=197,slow=2.5,SNR=4.2
ZALV S **S 17 00 59.6 +0.2**
comp=Z,1.3nm,0.6s,baz=181,slow=14,SNR=4.7
ZALV LR LR 17 18 48.6
comp=Z,92nm,18.8s,baz=248,slow=41
MDJ Mudanjiang 49.54 33 P **P 16 54 04.8 +0.9**
MDJ pP **pP 16 54 18.3 -0.4**
MDJ sP **sP 16 54 24.3 -0.9**
MDJ ScP **ScP 16 59 16.8 +1.0**
MDJ PcS **PcS 16 59 22.5 +0.9**
MDJ S **S 17 01 09.5 +1.8**
MDJ sS **sS 17 01 33.3 +0.5**
MDJ pmax pmax
comp=Z,33nm,1.5s
MDJ pmax pmax
comp=Z,100nm,2.6s
MDJ LR LR
comp=N,190nm,20.5s
MDJ LR LR
comp=E,310nm,20.0s
MDJ LR LR
comp=Z,280nm,24.3s
NVS Novosibirsk 50.06 351⇑iP **P 16 54 06.4 -1.2**
NVS e*PP **pP 16 54 18.7 -3.8**
NVS eS **S 17 01 14.9 +0.3**
NVS pmax pmax
comp=Z,45nm,1.1s
NVS pmax pmax
comp=N,25nm,0.9s
NVS pmax pmax
comp=E,25nm,1.3s
NVS smax smax
comp=E,23nm,1.7s
NVS smax smax
comp=N,11nm,1.6s
KBD Kabd 50.15 304 eP **P 16 54 09.7 +1.0**
KBD AMb AMB 16 54 10.7
comp=Z,42nm,0.9s
RDF Al-Radifah 50.19 303 eP **P 16 54 10.2 +1.2**
RDF AMb AMB 16 54 12.4
comp=Z,52nm,0.8s
MAT Matsushiro 50.45 46 P **P 16 54 10.3 -0.6**
MAT S S 17 01 04.6 -16
MJAR Matsushiro Arr 50.45 46 P **P 16 54 11.0 +0.1**
MJAR PcP **PcP 16 55 28.3 -0.3**
MJAR Matsushiro Arr 50.45 46 P **P 16 54 11.0 +0.1**
comp=Z,4.2nm,0.8s,baz=226,slow=7.5,SNR=17
MJAR PcP **PcP 16 55 28.3 -0.3**
comp=Z,4.8nm,1.0s,baz=240,slow=2.5,SNR=6.3
MJAR LR LR 17 17 24.4
comp=Z,396nm,20.0s,baz=250,slow=38
RAYN Ar Rayn 50.51 296 P **P 16 54 13.0 +1.4**
comp=Z,109nm,0.6s,SNR=9.2
NAY Al-Naaiem 50.55 304 eP **P 16 54 12.6 +0.8**
NAY AMb AMB 16 54 13.6
comp=Z,2.3nm,0.8s
USRK Ussuriysk Arra 50.59 34 P **P 16 54 11.8 0.0**
comp=Z,7.8nm,0.7s,baz=245,slow=6.0,SNR=18
USRK LR LR 17 18 14.8
comp=Z,382nm,18.4s,baz=195,slow=39
RST Umm Al-Ruwaisa 50.83 304 eP **P 16 54 14.4 +0.5**
RST AMb AMB 16 54 16.4
comp=Z,668nm,0.8s
BVA0 Borovoye Array 51.39 342 iP **P 16 54 17.6 -0.1**
BVA0 pmax pmax
comp=Z,71nm,1.0s
BVAR Borovoye Array 51.39 342 P **P 16 54 18.2 +0.5**
BVAR S **S 17 01 32.2 -0.9**
BVAR Borovoye Array 51.39 342 P **P 16 54 18.2 +0.5**
BVAR S **S 17 01 32.2 -0.9**
BVAR Borovoye Array 51.39 342 P **P 16 54 18.2 +0.5**
comp=Z,33nm,0.8s,baz=140,slow=9.4,SNR=188
BVAR S **S 17 01 32.2 -0.9**
comp=Z,2.0nm,0.8s,baz=158,slow=17,SNR=7.3
BVAR LR LR 17 20 18.0
comp=Z,67nm,19.9s,baz=279,slow=41
BRVK Borovoye 51.45 341 P **P 16 54 18.9 +0.8**
comp=Z,336nm,0.6s,SNR=23
BRVK Borovoye 51.45 341c iP **P 16 54 18.5 +0.4**
BRVK pmax pmax
comp=Z,97nm,1.7s
BRVK Borovoye 51.45 341 eP **P 16 54 18.4 +0.4**
comp=Z,88nm,1.1s
COEN Coen 51.92 112 P **P 16 54 21.2 -1.1**
baz=52,SNR=4.9
AB31 Akbulak array 52.54 332 iP **P 16 54 26.8 +0.5**
AB31 pmax pmax
comp=Z,31nm,0.7s
ABKAR Akbulak array 52.54 332 eP **P 16 54 26.9 +0.6**
comp=Z,39nm,0.9s
KLR Kul'dur 53.71 29 eP **P 16 54 31.8 -3.1**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s
AKTO Aktyubinsk 54.26 332 P **P 16 54 39.2 +0.3**
AKTO Aktyubinsk 54.26 332 P **P 16 54 39.1 +0.3**
AKTO Aktyubinsk 54.26 332 P **P 16 54 39.1 +0.3**
comp=Z,15nm,0.6s,baz=122,slow=7.9,SNR=45
AKTO LR LR 17 23 41.5
comp=Z,130nm,18.4s,baz=238,slow=42
MTSU Mount Surprise 54.36 117 P **P 16 54 39.9 -0.3**
baz=54,SNR=4.5
CTAO Charters Tower 56.76 118 eP **P 16 54 56.2 -1.2**
CTAO pmax pmax
comp=Z,10.0nm,1.0s
CTAO Charters Tower 56.76 118 eP **P 16 54 56.2 -1.2**
comp=Z,9.8nm,1.0s
ASAJ Asahikawa 56.93 40 LR LR 17 20 52.2
comp=Z,224nm,19.1s,baz=17,slow=38
KMBO Kilima Mbogo 57.65 265 eP **P 16 55 05.4 +1.4**
comp=Z,4.9nm,0.8s
KMBO Kilima Mbogo 57.65 265 P **P 16 55 05.4 +1.4**
comp=Z,2.1nm,0.6s,baz=62,slow=17,SNR=7.7
SVE Sverdlovsk 57.78 339⇓eP **P 16 55 04.5 +0.6**
SVE pmax pmax
comp=Z,52nm,0.8s
MZRK Al-Mazaregh 57.90 309 eP **P 16 55 02.7 -2.5**
ZEI Tsey 58.10 318 eP **P 16 55 06.4 -0.3**
ZEI pmax pmax
comp=Z,14nm,0.5s
STKA Stephens Creek 58.14 133 P **P 16 55 06.3 -0.6**
STKA Stephens Creek 58.14 133 P **P 16 55 06.3 -0.6**
comp=Z,5.5nm,0.7s,baz=307,slow=7.3,SNR=17
STKA LR LR 17 20 24.1
comp=Z,248nm,21.0s,baz=6.2,slow=36
STKA Stephens Creek 58.14 133 P **P 16 55 06.4 -0.6**
baz=58,SNR=12
ARU Arti 58.26 337c iP **P 16 55 07.2 -0.1**
ARU 16 55 58.0
ARU 16 57 17.6
ARU S **S 17 03 06.1 +1.0**
ARU SS **SS 17 06 53.3 -4.3**
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 58.26 337 P **P 16 55 07.1 -0.2**
comp=Z,173nm,1.0s,SNR=9.0
YSS Yuzh-Sakhalins 58.39 37⇑eP **P 16 55 09.2 +0.8**
YSS pmax pmax
comp=Z,70nm,1.1s
SFNV Sufian 58.50 310 eP **P 16 55 10.4 +1.0**
KBZ Khabaz 59.16 318 P **P 16 55 13.9 +0.1**
KBZ Khabaz 59.16 318 P **P 16 55 13.8 +0.1**
KBZ Khabaz 59.16 318 P **P 16 55 13.8 +0.1**
comp=Z,13nm,0.9s,baz=124,slow=6.5,SNR=36
KIV Kislovodsk 59.40 319c iP **P 16 55 15.6 +0.1**
KIV i *PP **pP 16 55 30.4 -0.4**
KIV e 16 56 03.1
KIV pmax pmax
comp=Z,36nm,1.0s
KIV Kislovodsk 59.40 319 P **P 16 55 15.1 -0.4**
comp=Z,208nm,0.9s,SNR=5.7
ZALF Zalf 59.73 305 eP **P 16 55 17.0 -1.0**
ROOS tl alroos 60.08 306 eP **P 16 55 21.5 +1.1**
MALT Malatya 60.36 311⇑P **P 16 55 23.3 +1.0**
MALT Malatya 60.36 311⇑iP **P 16 55 23.3 +1.0**
HAWK Haweek 60.88 307 eP **P 16 55 23.4 -2.5**
CMSA Cobat Meteorol 61.02 131 P **P 16 55 26.7 -0.1**
baz=61,SNR=47
EIL Elat 61.02 301 P **P 16 55 28.4 +1.6**
baz=61,SNR=8.6
SOKR Solikamsk 61.20 339d iP **P 16 55 27.7 +0.3**
SOKR pmax pmax
comp=Z,30nm,1.1s
RMQ Roma 61.29 124 P **P 16 55 29.4 +0.7**
baz=61,SNR=5.6
YAK Yakutsk 62.11 18c iP **P 16 55 32.5 -1.0**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,7.0nm,1.0s
VRHR Novokhopersk 63.15 326 eP **P 16 55 39.6 -1.0**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.8s
ANN Anapa 63.20 318 eP **P 16 55 38.4 -2.7**
ANN pmax pmax
comp=Z,19nm,1.3s
TOO Toolangi 63.81 137 P **P 16 55 46.5 +1.2**
baz=64,SNR=4.6
BR131 Keskin Array S 64.34 312 eP **P 16 55 48.3 -0.6**
comp=Z,7.9nm,0.7s
BR131 e **pP 16 56 04.1 -0.2**
BRTR Keskin Array B 64.34 312 P **P 16 55 48.5 -0.5**
BRTR pP **pP 16 56 04.2 -0.2**
BRTR Keskin Array B 64.34 312 P **P 16 55 48.5 -0.5**
comp=Z,11nm,0.8s,baz=128,slow=7.5,SNR=82
BRTR pP **pP 16 56 04.2 -0.2**
comp=Z,8.8nm,0.7s,baz=128,slow=6.9,SNR=11
BRTR LR LR 17 25 12.3
comp=Z,54nm,19.8s,baz=360,slow=37
VORD Divnogorie 64.42 325 eP **P 16 55 47.4 -1.6**
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,30nm,0.6s
VORD pmax pmax
comp=Z,30nm,0.6s
VSR Storozhevoye 64.60 325 eP **P 16 55 48.7 -1.4**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,30nm,1.0s
SIM Simferopol' 65.48 317c iP **P 16 55 55.5 -0.5**
SIM S **S 17 04 40.2 +3.5**
SIM pmax pmax
comp=Z,26nm,0.8s
ISP Isparta 66.26 309 eP **P 16 56 00.8 -0.6**
ISP pmax pmax
comp=Z,49nm,1.1s
ISP Isparta 66.26 309 eP **P 16 56 00.8 -0.6**
comp=Z,49nm,1.1s
MOS Moscow 67.35 329 eP **P 16 56 05.4 -2.3**
MOS e 16 56 18.6
MOS e 17 05 39.7
MOS pmax pmax
comp=Z,76nm,0.7s
MOS pmax pmax
comp=Z,75nm,0.7s
OBN Obninsk 67.64 328c iP **P 16 56 09.0 -0.5**
OBN i *PP **pP 16 56 25.1 0.0**
OBN i 16 56 37.1
OBN pmax pmax
comp=Z,71nm,1.6s
LSZ Lusaka 68.93 251 eP **P 16 56 19.6 +1.1**
comp=Z,5.5nm,1.1s
ZKR Zakros 69.21 305 eP **P 16 56 20.5 +0.7**
TIRR Tirgusor 69.27 316 eP **P 16 56 18.9 -1.0**
TIRR pmax pmax
comp=Z,21nm,1.3s
TIRR Tirgusor 69.27 316⇑P **P 16 56 19.8 -0.1**
TIRR Tirgusor 69.27 316⇑iP **P 16 56 19.8 -0.1**
TIRR Tirgusor 69.27 316 eP **P 16 56 18.9 -1.0**
comp=Z,21nm,1.3s
TIXI Tiksi 69.47 11c iP **P 16 56 19.5 -1.2**
TIXI pmax pmax
comp=Z,19nm,0.6s
TLB Topalu 69.55 316⇓P **P 16 56 22.0 +0.3**
TLB Topalu 69.55 316⇓iP **P 16 56 22.0 +0.3**
KIS Kishinev 69.59 318 eP **P 16 56 21.0 -0.9**
KIS Kishinev 69.59 318 eP **P 16 56 21.0 -0.9**
KIS e 16 56 36.0
PETK Petropavlovsk- 69.68 35 P **P 16 56 21.2 -1.1**
PETK Petropavlovsk- 69.68 35 P **P 16 56 21.2 -1.1**
PETK Petropavlovsk- 69.68 35 P **P 16 56 21.2 -1.1**
comp=Z,5.9nm,1.0s,baz=219,slow=6.7,SNR=3.6
PETK LR LR 17 27 29.8
comp=Z,141nm,19.2s,baz=246,slow=36
LAST Lasithi 69.81 305 eP **P 16 56 24.5 +0.8**
AKASG Malin Array Be 70.31 322 P **P 16 56 25.1 -1.1**
AKASG Malin Array Be 70.31 322 P **P 16 56 25.1 -1.1**
AKASG Malin Array Be 70.31 322 P **P 16 56 25.1 -1.1**
comp=Z,9.5nm,0.6s,baz=87,slow=5.0,SNR=19
IDI Anoyia 70.31 305 eP **P 16 56 27.3 +0.6**
comp=Z,25nm,0.6s
SMTH Samothraki Isl 70.57 311 eP **P 16 56 27.9 -0.2**
VRI Vrincioaia 70.74 317⇑P **P 16 56 30.0 +1.0**
VRI Vrincioaia 70.74 317⇑iP **P 16 56 30.0 +1.0**
PLOR Plostina 70.79 317⇓P **P 16 56 30.6 +1.2**
PLOR Plostina 70.79 317⇓iP **P 16 56 30.6 +1.2**
VAM Vamos 70.88 305 eP **P 16 56 31.4 +1.3**
SEY Seymchan 70.90 24⇓eP **P 16 56 29.1 -0.5**
TESR Tescani 70.93 317⇓iP **P 16 56 30.9 +0.7**
TMCR Tamitsa 71.00 337 eP **P 16 56 30.0 -0.1**
TMCR e 16 56 47.3
TMCR e 16 59 12.9
TMCR pmax pmax
comp=Z,34nm,1.0s
SECR 71.02 316⇑iP **P 16 56 32.3 +1.6**
KARN Karanos 71.11 305 eP **P 16 56 32.3 +0.8**
MLR Muntele Rosu 71.20 316⇓iP **P 16 56 32.9 +0.9**
RZN Rozhen 71.38 312 P **P 16 56 33.1 -0.1**
ANKY Antikythira Is 71.66 306 eP **P 16 56 35.9 +1.1**
VOIR 71.81 316⇓P **P 16 56 35.5 -0.1**
VOIR 71.81 316⇓iP **P 16 56 35.5 -0.1**
DID Didima 71.91 308 eP **P 16 56 35.1 -1.2**
ARR Arges 72.08 316⇑iP **P 16 56 37.2 0.0**
BURAR Bucovina Array 72.12 318⇑P **P 16 56 38.5 +1.1**
BURAR Bucovina Array 72.12 318⇑iP **P 16 56 38.5 +1.1**
MPEP Malo Peshtene 72.36 314 P **P 16 56 38.5 -0.3**
DYR Agios Nikonas 72.54 307 eP **P 16 56 39.8 -0.3**
KKB Krupnik 72.61 312 P **P 16 56 39.5 -0.9**
VTS Vitosha 72.63 313⇑P **P 16 56 40.7 +0.1**
VTS Vitosha 72.63 313 P **P 16 56 39.5 -1.1**
VTS Vitosha 72.63 313⇑iP **P 16 56 40.7 +0.1**
LOT Lotru 72.69 316⇓iP **P 16 56 40.9 0.0**
KLV Kalavryta, Ach 72.83 308 eP **P 16 56 41.2 -0.6**
NACGM Naroch 72.87 326 e P 16 56 37.0 -4.6
ITM Ithomi 72.91 307 eP **P 16 56 41.9 -0.3**
TRIZ Trizonia 72.93 308 eP **P 16 56 41.2 -1.0**
IDID Didziasalis 73.00 326 eP **P 16 56 42.7 +0.3**
IDID AMB AMB 16 56 44.3
comp=Z,9.0nm,1.4s
PYL PYLOS 73.03 307 eP **P 16 56 42.3 -0.6**
THL Klokotos Trika 73.11 310 eP **P 16 56 42.7 -0.6**
JOF Joensuu 73.19 335 eP **P 16 56 42.6 -0.7**
JOF pmax pmax
comp=Z,15nm,0.8s
JOF Joensuu 73.19 335 ep **P 16 56 42.6 -0.7**
comp=Z,15nm,0.8s
IIGN Ignalina 73.30 326 eP **P 16 56 44.4 +0.3**
IIGN AMB AMB 16 56 45.9
comp=Z,10nm,1.4s
ISAL Salakas 73.41 327 eP **P 16 56 45.0 +0.3**
LBTB Lobatse 73.52 242 eP **P 16 56 47.1 +1.0**
comp=Z,18nm,1.0s
LBTB ePcP **PcP 16 57 03.3 +1.3**
DRGR 73.65 317⇑P **P 16 56 47.4 +1.0**
DRGR 73.65 317⇑iP **P 16 56 47.4 +1.0**
VSU Vasula 73.87 330c iP **P 16 56 46.8 -0.5**
VSU pmax pmax
comp=Z,38nm,0.7s
LVZ Lovozero 73.95 340c eP **P 16 56 47.4 -0.3**
LVZ pmax pmax
comp=Z,15nm,0.7s
TRPA Tarpa 73.99 318⇑iP **P 16 56 48.9 +0.6**
BZS Buzias 74.21 316⇓P **P 16 56 50.0 +0.3**
BZS Buzias 74.21 316⇓iP **P 16 56 50.0 +0.3**
UZH Uzhgorod 74.23 319⇓iP **P 16 56 50.2 +0.5**
UZH e 16 56 57.6
KOLS Kolonicke sedl 74.30 319 eP **P 16 56 50.9 +0.8**
KOLS pmax pmax
comp=Z,15nm,1.0s
KOLS Kolonicke sedl 74.30 319 eP **P 16 56 50.9 +0.8**
KOLS epP **pP 16 57 05.8 -0.1**
SUW Suwalki 74.70 325 eP **P 16 56 50.9 -1.4**
SUW pmax pmax
comp=Z,81nm,1.1s
SUW Suwalki 74.70 325 eP **P 16 56 50.9 -1.4**
comp=Z,81nm,1.1s
BOSA Boshof 74.72 239 eP **P 16 56 54.0 +0.8**
comp=Z,28nm,1.1s
BOSA pP **pP 16 57 10.1 +1.3**
BOSA Boshof 74.72 239 P **P 16 56 54.3 +1.2**
comp=Z,5.2nm,0.9s,baz=167,slow=21,SNR=10.0
BOSA pP **pP 16 57 10.1 +1.3**
comp=Z,18nm,1.0s,baz=127,slow=3.6,SNR=8.2
BOSA LR LR 17 23 36.6
comp=Z,283nm,20.8s,baz=44,slow=31
CRVS Cervenica-Dubn 74.82 319 eP **P 16 56 54.0 +0.8**
CRVS pmax pmax
comp=Z,30nm,1.4s
CRVS Cervenica-Dubn 74.82 319 eP **P 16 56 54.0 +0.8**
CRVS epP **pP 16 57 09.6 +0.7**
CRVS Cervenica-Dubn 74.82 319 eP **P 16 56 54.0 +0.8**
comp=Z,30nm,1.4s
FIA1 FINESS Array S 75.03 332 eP **P 16 56 53.7 -0.4**
FIA1 e **pP 16 57 08.7 -1.1**
FINES FINESS Array B 75.03 332 P **P 16 56 53.8 -0.3**
FINES pP **pP 16 57 09.6 -0.2**
FINES FINESS Array B 75.03 332 P **P 16 56 53.8 -0.3**
comp=Z,6.5nm,0.6s,baz=104,slow=5.7,SNR=47
FINES pP **pP 16 57 09.6 -0.2**
comp=Z,6.6nm,0.6s,baz=104,slow=8.0,SNR=7.2
KAF Kangasniemi 75.12 333 eP **P 16 56 53.8 -0.7**
KAF pmax pmax
comp=Z,21nm,0.9s
KAF Kangasniemi 75.12 333 ep **P 16 56 53.8 -0.7**
comp=Z,21nm,0.9s
KECS Kecovo 75.40 319 eP **P 16 56 56.9 +0.4**
KECS pmax pmax
comp=Z,9.0nm,0.8s
KECS Kecovo 75.40 319 eP **P 16 56 56.9 +0.4**
KECS epP **pP 16 57 12.7 +0.5**
KECS Kecovo 75.40 319 eP **P 16 56 56.9 +0.4**
comp=Z,9.0nm,0.8s
NIE Niedzica 75.65 320 eP **P 16 57 00.9 +3.0**
PSZ Piszkesteto 75.71 318⇓P **P 16 56 59.2 +0.8**
PSZ Piszkesteto 75.71 318⇓iP **P 16 56 59.2 +0.8**
PSZ Piszkesteto 75.71 318 eP **P 16 56 56.7 -1.6**
comp=Z,13nm,0.9s
PSZ Piszkesteto 75.71 318⇑eP **P 16 56 58.6 +0.2**
PSZ Piszkesteto 75.71 318⇑eP **P 16 56 58.6 +0.2**
OJC Ojcow 76.09 320 eP **P 16 57 01.0 +0.6**
OJC e 16 57 12.9
MAW Mawson 76.30 192 LR LR 17 25 00.5
comp=Z,215nm,21.6s,baz=356,slow=31
PKSM Moragy 76.35 316⇑eP **P 16 57 02.0 +0.1**
VYHS Vyhne 76.49 318 eP **P 16 57 03.1 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 76.49 318 eP **P 16 57 03.1 +0.4**
VYHS epP **pP 16 57 18.5 0.0**
PKST T''s 76.88 317⇑eP **P 16 57 05.4 +0.5**
OKC Ostrava-Krasne 77.10 320 eP **P 16 57 06.4 +0.3**
OKC Ostrava-Krasne 77.10 320 eP **P 16 57 06.4 +0.3**
ZST Bratislava 77.60 318 eP **P 16 57 09.0 +0.1**
ZST Bratislava 77.60 318 eP **P 16 57 09.0 +0.1**
ARCES ARCESS Array B 77.66 340 P **P 16 57 09.2 +0.3**
ARCES pP **pP 16 57 23.9 -0.7**
ARCES PP **PP 17 00 05.8 +1.3**
ARCES ARCESS Array B 77.66 340 P **P 16 57 09.2 +0.3**
comp=Z,24nm,0.9s,baz=95,slow=5.7,SNR=79
ARCES pP **pP 16 57 23.9 -0.7**
comp=Z,7.3nm,0.6s,baz=93,slow=6.5,SNR=5.8
ARCES PP **PP 17 00 05.8 +1.3**
comp=Z,5.3nm,0.9s,baz=82,slow=8.7,SNR=4.2
ARCES LR LR 17 37 20.7
comp=Z,113nm,18.5s,baz=117,slow=40
CEL Celeste 77.76 308 eP **P 16 57 10.4 +0.3**
comp=Z,22nm,0.9s
CUC Castrocucco 77.91 310 eP **P 16 57 08.0 -2.9**
comp=Z,7.3nm,0.9s
SOP Sopron 77.92 317⇑eP **P 16 57 11.4 +0.7**
SOP Sopron 77.92 317⇑eP **P 16 57 11.4 +0.7**
DPC Dobruska-Polom 78.32 320 eP **P 16 57 14.2 +1.2**
DPC e 16 57 29.9
DPC Dobruska-Polom 78.32 320 eP **P 16 57 14.2 +1.2**
DPC epP **pP 16 57 29.9 +1.1**
KSP Ksiaz 78.39 321⇑eP **P 16 57 14.2 +1.0**
KSP e*PP **pP 16 57 29.8 +0.7**
KSP Ksiaz 78.39 321 eP **P 16 57 14.4 +1.2**
CONA Conrad Observa 78.41 318⇑iP **P 16 57 14.0 +0.5**
comp=Z,11nm,1.1s,SNR=5.4
UPC Upice 78.53 320 eP **P 16 57 15.2 +1.1**
UPC e 16 57 26.5
UPC Upice 78.53 320 eP **P 16 57 15.2 +1.1**
UPC Upice 78.53 320 eSG **PcP 16 57 26.5 +3.5**
ARSA Arzberg 78.58 317⇑iP **P 16 57 15.3 +0.9**
comp=Z,25nm,1.3s,SNR=6.7
BOJS Bojanci 78.65 315 iP **P 16 57 15.2 +0.4**
FX1 Attu Island--F 78.75 37 eP **P 16 57 14.3 -0.9**
TREC Trest 78.77 319 eP **P 16 57 15.9 +0.5**
TREC Trest 78.77 319 eP **P 16 57 15.9 +0.5**
PERS Pernice 78.82 316 iP **P 16 57 16.5 +0.7**
SOKA Soboth 78.88 316 iP **P 16 57 17.1 +0.9**
comp=Z,39nm,1.3s,SNR=19
VISS Visnje 78.95 315 iP **P 16 57 16.9 +0.5**
OBKA Obir 79.20 316⇑iP **P 16 57 18.8 +0.9**
comp=Z,17nm,0.9s,SNR=9.6
PRU Pruhonice 79.43 320 eP **P 16 57 19.5 +0.5**
PRU Pruhonice 79.43 320 eP **P 16 57 19.5 +0.5**
MOA Molln 79.47 318⇑iP **P 16 57 19.5 +0.2**
comp=Z,8.1nm,0.9s

JAVS **Javornik** 79.50 316 *i* P **P** 16 57 19.2 -0.4
VOY **Vojsko** 79.63 316 *e*P **P** 16 57 20.3 0.0
VOY *e* 16 57 36.2
MYKA **Terra Mystica** 79.83 316⇑ *i*P **P** 16 57 21.9 +0.6
comp=Z,9.6nm,0.8s,SNR=8.4
BRG **Berggiesshubel** 79.88 321⇑ *i*P **P** 16 57 22.0 +0.6
comp=Z,14nm,1.0s
BRG *e* 16 57 34.1
comp=Z,28nm,1.6s
BRG
comp=Z,704nm,14.2s
BRG
comp=N,415nm,16.0s
BRG
comp=E,610nm,16.0s
BRG **Berggiesshubel** 79.88 321 *e*P **P** 16 57 22.0 +0.6
comp=Z,44nm,1.8s
BRG *e*pP **pP** 16 57 38.4 +1.2
BRG **Berggiesshubel** 79.88 321⇑ *i*P **P** 16 57 22.0 +0.6
BRG *e* 16 57 34.1
BRG pmax pmax
comp=Z,14nm,1.0s
BRG MLR MLR
comp=Z,704nm,14.2s
BRG MLR MLR
comp=N,415nm,16.0s
BRG MLR MLR
comp=E,610nm,16.0s
GEC2 **GERESS Array S** 79.91 319 *e*P **P** 16 57 22.5 +0.7
comp=Z,27nm,1.0s
GEC2 **GERESS Array S** 79.91 319 *e*P **P** 16 57 22.5 +0.7
GEC2 pmax pmax
comp=Z,27nm,1.0s
GERES **GERESS Array B** 79.91 319 P **P** 16 57 22.4 +0.7
GERES **GERESS Array B** 79.91 319 P **P** 16 57 22.4 +0.7
comp=Z,14nm,0.7s,baz=96,slow=5.2,SNR=135
KHC **Kasperske Hory** 80.00 319 *e*P **P** 16 57 22.4 +0.2
KHC *e* 16 57 30.8
KHC **Kasperske Hory** 80.00 319 *e*P **P** 16 57 22.4 +0.2
KHC *e*PCP **PcP** 16 57 30.8 +1.3
KHC *es*P **sP** 16 57 44.0 -0.3
KHC **Kasperske Hory** 80.00 319 *e*P **P** 16 57 20.8 -1.4
comp=Z,6.1nm,0.7s
KBA **Koelnbreinsper** 80.06 317 *i* P **P** 16 57 22.6 0.0
comp=Z,12nm,1.1s,SNR=6.7
FBE **Freiberg** 80.25 321 *e*P **P** 16 57 24.0 +0.6
comp=Z,72nm,2.0s
RJOB **Jochberg** 80.46 317 *e*P **P** 16 57 24.6 -0.1
comp=Z,13nm,0.9s
WET **Wettzell** 80.46 319 *e*P **P** 16 57 25.1 +0.5
comp=Z,16nm,1.0s
WET **Wettzell** 80.46 319 *e*P **P** 16 57 25.1 +0.5
WET pmax pmax
comp=Z,16nm,1.0s
CLL **Collm** 80.49 321⇑ *i*P **P** 16 57 24.8 +0.1
CLL *i* *PP **pP** 16 57 41.1 +0.5
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL **Collm** 80.49 321⇑ *i*P **P** 16 57 24.8 +0.1
comp=Z,7.0nm,0.9s
CLL *i* pP **pP** 16 57 41.1 +0.5
CLL *i* sP **sP** 16 57 45.0 -1.8
ABTA **Abfaltersbach** 80.61 316⇑ *i*P **P** 16 57 25.4 -0.2
comp=Z,14nm,1.3s
HFS **Hagfors** 80.74 330 P **P** 16 57 25.4 -0.4
HFS **Hagfors** 80.74 330 P **P** 16 57 25.4 -0.4
comp=Z,2.9nm,0.5s,baz=116,slow=6.6,SNR=7.6
HFS LR LR 17 40 26.0
comp=Z,88nm,18.1s,baz=96,slow=41
TANN **Tannenbergstha** 80.79 320 *e*P **P** 16 57 26.8 +0.4
comp=Z,11nm,1.4s
GUNZ **Gunzen** 80.87 320 *e*P **P** 16 57 27.3 +0.5
comp=Z,15nm,1.2s
WERD **Werda** 80.89 320 *e*pP pP 16 57 43.8 +1.0
ROTZ **Rotzenmuhle** 80.93 319 *e*P **P** 16 57 28.2 +1.1
comp=Z,51nm,1.9s
MANZ **Manzenberg** 81.00 320 *e*P **P** 16 57 28.2 +0.7
comp=Z,22nm,1.2s
WTTA **Wattenberg** 81.23 317 *i* P **P** 16 57 28.8 -0.1
comp=Z,23nm,0.9s,SNR=7.9
NEUB **Neuenburg** 81.26 321 *e*P **P** 16 57 29.1 +0.3
comp=Z,26nm,1.1s
WATA **Walderalm** 81.27 317⇓ *i*P **P** 16 57 28.8 -0.3
comp=Z,6.5nm,0.6s,SNR=5.2
MOX **Moxa** 81.34 320 *e*P **P** 16 57 29.6 +0.4
comp=Z,14nm,1.4s
MOX **Moxa** 81.34 320 *e*P **P** 16 57 29.6 +0.4
MOX pmax pmax
comp=Z,14nm,1.4s
FUR **Furstenfeldbru** 81.49 318 *e*P **P** 16 57 30.5 +0.4
comp=Z,25nm,0.9s
FUR **Furstenfeldbru** 81.49 318 *e*P **P** 16 57 30.5 +0.4
FUR pmax pmax
comp=Z,25nm,0.9s
GRF **Grafenberg Arr** 81.56 319 *e*pP pP 16 57 47.2 +0.8
MOTA **Moosalm** 81.59 317⇑ *i*P **P** 16 57 30.6 -0.3
comp=Z,14nm,0.7s,SNR=8.7
RETA **Reutte** 81.83 317 *i* P **P** 16 57 32.0 0.0
comp=Z,18nm,0.7s,SNR=9.3
FETA **Feichten** 81.84 317⇑ *i*P **P** 16 57 32.4 +0.2
comp=Z,11nm,0.8s,SNR=6.6
NB2 **NORSAR Subarra** 82.03 331 P **P** 16 57 30.2 -2.5
comp=Z,3.5nm,0.9s,baz=96,slow=5.3
NOA **NORSAR Array B** 82.03 331 P **P** 16 57 31.5 -1.2
NOA **NORSAR Array B** 82.03 331 P **P** 16 57 31.5 -1.2
comp=Z,2.3nm,0.8s,baz=94,slow=5.4,SNR=4.2
NOA LR LR 17 39 46.8
comp=Z,60nm,19.8s,baz=185,slow=40
CLZ **Clausthal** 82.15 321 *e*P **P** 16 57 34.2 +0.7
comp=Z,102nm,2.1s
CLZ **Clausthal** 82.15 321 *e*P **P** 16 57 34.2 +0.7
CLZ pmax pmax
comp=Z,102nm,2.1s
SPITS **Spitsbergen Ar** 82.26 348 P **P** 16 57 30.8 -2.7
SPITS **Spitsbergen Ar** 82.26 348 P **P** 16 57 30.8 -2.7
comp=Z,25nm,0.8s,baz=65,slow=11,SNR=3.7
DAVA **Damuels** 82.42 317⇑ *i*P **P** 16 57 35.7 +0.5
comp=Z,19nm,1.2s,SNR=5.3
TUE **Stuetta** 82.79 316 *e*P **P** 16 57 36.0 -1.2
comp=Z,10nm,0.8s
VSL **Villasalto** 82.86 309 *e*P **P** 16 57 35.7 -1.8
comp=Z,19nm,1.0s
KEST **Kesra** 82.98 305 *e*P **P** 16 57 37.8 -0.4
KEST **Kesra** 82.98 305 P **P** 16 57 39.8 +1.5
comp=Z,7.2nm,0.9s,baz=36,slow=1.2,SNR=20
PGF **Pioggiola** 83.09 312⇑ *i*P **P** 16 57 38.9 +0.2
comp=Z,16nm,0.8s
PGF **Pioggiola** 83.09 312⇑ *i*P **P** 16 57 38.9 +0.2
PGF pmax pmax
comp=Z,16nm,0.8s
PGF **Pioggiola** 83.09 312⇑ *i*P **P** 16 57 38.9 +0.2
comp=Z,16nm,0.8s
KBS **Kingsbay** 83.24 349 *de*P **P** 16 57 38.8 +0.2
KBS pmax pmax
comp=Z,10.0nm,1.0s
SYO **Syowa Base** 83.27 197⇓ *e*P **P** 16 57 39.0 +0.2
SYO **Syowa Base** 83.27 197⇑ *e*P **SKKSac** 17 08 02.0 +1.7
RPZ **Rata Peaks** 84.05 135 LR LR 17 33 02.0
comp=Z,170nm,19.0s,baz=294,slow=34
CDF **Champ du Feu** 84.16 318⇑ *i*P **P** 16 57 43.6 -0.4
comp=Z,13nm,0.8s
CDF **Champ du Feu** 84.16 318⇑ *i*P **P** 16 57 43.6 -0.4
CDF pmax pmax
comp=Z,13nm,0.8s
CDF **Champ du Feu** 84.16 318⇑ *i*P **P** 16 57 43.6 -0.4
comp=Z,13nm,0.8s
SBF **Sospel** 84.20 313⇑ *i*P **P** 16 57 44.4 +0.1
comp=Z,51nm,0.8s
SBF **Sospel** 84.20 313⇑ *i*P **P** 16 57 44.4 +0.1
SBF pmax pmax
comp=Z,51nm,0.8s
SBF **Sospel** 84.20 313⇑ *i*P **P** 16 57 44.4 +0.1
comp=Z,51nm,0.8s
ECH **Echery** 84.25 318 *e*P **P** 16 57 44.1 -0.3
ECH **Echery** 84.25 318 *e*P **P** 16 57 44.1 -0.3
HINF **Hinteralfeld** 84.46 317 *e*P **P** 16 57 45.6 +0.1
HINF **Hinteralfeld** 84.46 317 *e*P **P** 16 57 45.6 +0.1
HINF **Hinteralfeld** 84.46 317 *e*P **P** 16 57 45.6 +0.1
LPG **La Plagne** 84.62 315⇑ *i*P **P** 16 57 46.9 +0.2
comp=Z,32nm,0.9s
LPG **La Plagne** 84.62 315⇑ *i*P **P** 16 57 46.9 +0.2
LPG pmax pmax
comp=Z,32nm,0.9s
LPG **La Plagne** 84.62 315⇑ *i*P **P** 16 57 46.9 +0.2
comp=Z,32nm,0.9s
LPL **La Plagne** 84.64 315⇑ *i*P **P** 16 57 46.9 +0.2
comp=Z,33nm,0.8s
LPL **La Plagne** 84.64 315⇑ *i*P **P** 16 57 46.9 +0.2
LPL pmax pmax
comp=Z,33nm,0.8s
LPL **La Plagne** 84.64 315⇑ *i*P **P** 16 57 46.9 +0.2
comp=Z,33nm,0.8s
MBDF **Montbardon** 84.64 314⇑ *i*P **P** 16 57 46.1 -0.5
comp=Z,9.1nm,0.6s
MBDF *e*pP **pP** 16 58 01.6 -1.0
MBDF **Montbardon** 84.64 314⇑ *i*P **P** 16 57 46.1 -0.5
MBDF *e*PP **pP** 16 58 01.6 -1.0
MBDF pmax pmax
comp=Z,9.0nm,0.6s
MBDF **Montbardon** 84.64 314⇑ *i*P **P** 16 57 46.1 -0.5
comp=Z,9.1nm,0.6s
MBDF *e*pP **pP** 16 58 01.6 -1.0
BNI **Bardonecchia** 84.69 315 *e*P **P** 16 57 46.5 -0.4
BNI pmax pmax
comp=Z,11nm,0.8s
BNI **Bardonecchia** 84.69 315 *e*P **P** 16 57 46.5 -0.4
comp=Z,11nm,0.8s
FRF **La Foret Royal** 84.78 313⇑ *i*P **P** 16 57 47.5 +0.4
comp=Z,38nm,0.8s
FRF *e*pP **pP** 16 58 03.2 0.0
FRF **La Foret Royal** 84.78 313⇑ *i*P **P** 16 57 47.5 +0.4
FRF *e*PP **pP** 16 58 03.2 0.0
FRF pmax pmax
comp=Z,38nm,0.8s
FRF **La Foret Royal** 84.78 313⇑ *i*P **P** 16 57 47.5 +0.4
comp=Z,38nm,0.8s
FRF *e*pP **pP** 16 58 03.2 0.0
HAU **Haudompre** 84.80 318⇑ *i*P **P** 16 57 46.9 -0.3
comp=Z,32nm,0.8s
HAU **Haudompre** 84.80 318⇑ *i*P **P** 16 57 46.9 -0.3
HAU pmax pmax
comp=Z,32nm,0.8s
HAU **Haudompre** 84.80 318⇑ *i*P **P** 16 57 46.9 -0.3
comp=Z,32nm,0.8s
LMR **La Mourre** 84.89 313⇑ *i*P **P** 16 57 48.0 +0.3
comp=Z,50nm,1.1s
LMR **La Mourre** 84.89 313⇑ *i*P **P** 16 57 48.0 +0.3
LMR pmax pmax
comp=Z,50nm,1.1s
LMR **La Mourre** 84.89 313⇑ *i*P **P** 16 57 48.0 +0.3
comp=Z,50nm,1.1s
CABF **La Chapelle** 85.03 316⇑ *i*P **P** 16 57 48.7 +0.2
comp=Z,42nm,1.1s
CABF *e*pP **pP** 16 58 04.4 -0.1
CABF **La Chapelle** 85.03 316⇑ *i*P **P** 16 57 48.7 +0.2
CABF *e*PP **pP** 16 58 04.4 -0.1
CABF pmax pmax
comp=Z,42nm,1.1s
CABF **La Chapelle** 85.03 316⇑ *i*P **P** 16 57 48.7 +0.2
comp=Z,42nm,1.1s
CABF *e*pP **pP** 16 58 04.4 -0.1
PAGF **Fort de Pagny** 85.19 318 *e*P **P** 16 57 49.5 +0.4
PAGF **Fort de Pagny** 85.19 318 *e*P **P** 16 57 49.5 +0.4
ORIF **Oris-en-Rattie** 85.26 315 *e*P **P** 16 57 49.5 -0.2
comp=Z,7.8nm,0.6s
ORIF **Oris-en-Rattie** 85.26 315 *e*P **P** 16 57 49.5 -0.2
ORIF pmax pmax
comp=Z,8.0nm,0.6s
ORIF **Oris-en-Rattie** 85.26 315 *e*P **P** 16 57 49.5 -0.2
comp=Z,7.8nm,0.6s
SMRF **Simiane la Rot** 85.53 314⇑ *i*P **P** 16 57 51.8 +0.8
SMRF **Simiane la Rot** 85.53 314⇑ *i*P **P** 16 57 51.8 +0.8
SFTF **Sexfontaines** 85.66 318⇑ *i*P **P** 16 57 51.4 -0.1
comp=Z,25nm,0.7s
SFTF **Sexfontaines** 85.66 318⇑ *i*P **P** 16 57 51.4 -0.1
comp=Z,25nm,0.7s
GIVF **Givet** 85.69 320 *e*P **P** 16 57 52.0 +0.4
GIVF **Givet** 85.69 320 *e*P **P** 16 57 52.0 +0.4
GIVF **Givet** 85.69 320 *e*P **P** 16 57 52.0 +0.4
BAIF **Baives** 86.09 320 *e*P **P** 16 57 53.1 -0.4
comp=Z,12nm,0.7s
BAIF **Baives** 86.09 320 *e*P **P** 16 57 53.1 -0.4
BAIF pmax pmax
comp=Z,12nm,0.7s
BAIF **Baives** 86.09 320 *e*P **P** 16 57 53.1 -0.4
comp=Z,12nm,0.7s
VIVF **Saint-Julien-l** 86.12 315⇑ *i*P **P** 16 57 54.1 +0.2
comp=Z,22nm,1.0s
VIVF *e*pP **pP** 16 58 09.6 -0.3
VIVF **Saint-Julien-l** 86.12 315⇑ *i*P **P** 16 57 54.1 +0.2
VIVF *e*PP **pP** 16 58 09.6 -0.3
VIVF pmax pmax
comp=Z,23nm,1.0s
VIVF **Saint-Julien-l** 86.12 315⇑ *i*P **P** 16 57 54.1 +0.2
comp=Z,22nm,1.0s
VIVF *e*pP **pP** 16 58 09.6 -0.3
SSB **Saint Sauveur** 86.19 315 *e*P **P** 16 57 53.2 -1.0
SSB **Saint Sauveur** 86.19 315 *e*P **P** 16 57 53.2 -1.0
LOR **Lormes** 86.52 317⇑ *i*P **P** 16 57 55.6 -0.1
comp=Z,21nm,0.9s
LOR *e*pP **pP** 16 58 11.2 -0.6
LOR **Lormes** 86.52 317⇑ *i*P **P** 16 57 55.6 -0.1
comp=Z,21nm,0.9s
LOR *e*pP **pP** 16 58 11.2 -0.6
SMF **Signal de Mont** 86.58 316⇑ *i*P **P** 16 57 55.9 -0.1
comp=Z,19nm,0.9s
SMF *e*pP **pP** 16 58 11.5 -0.6
SMF **Signal de Mont** 86.58 316⇑ *i*P **P** 16 57 55.9 -0.1
SMF *e*PP **pP** 16 58 11.5 -0.6
SMF pmax pmax
comp=Z,19nm,0.9s
SMF **Signal de Mont** 86.58 316⇑ *i*P **P** 16 57 55.9 -0.1
comp=Z,19nm,0.9s
SMF *e*pP **pP** 16 58 11.5 -0.6
LASF **Ste Croix** 86.76 314 *e*P **P** 16 57 56.7 -0.3
comp=Z,8.4nm,0.8s
LASF *e*pP **pP** 16 58 13.2 +0.1
LASF **Ste Croix** 86.76 314 *e*P **P** 16 57 56.7 -0.3
comp=Z,8.4nm,0.8s
LASF *e*pP **pP** 16 58 13.2 +0.1
SSF **Saint Saulge** 86.78 317 *e*P **P** 16 57 57.3 +0.3
comp=Z,14nm,0.9s
SSF **Saint Saulge** 86.78 317 *e*P **P** 16 57 57.3 +0.3
SSF pmax pmax
comp=Z,15nm,0.9s
SSF **Saint Saulge** 86.78 317 *e*P **P** 16 57 57.3 +0.3
comp=Z,14nm,0.9s
AVF **Avril sur Loir** 86.90 317⇑ *i*P **P** 16 57 57.5 -0.1
comp=Z,17nm,1.1s
AVF **Avril sur Loir** 86.90 317⇑ *i*P **P** 16 57 57.5 -0.1
AVF pmax pmax
comp=Z,17nm,1.0s
AVF **Avril sur Loir** 86.90 317⇑ *i*P **P** 16 57 57.5 -0.1
comp=Z,17nm,1.0s
TAM **Tamanrasset** 87.06 292 *e*P **P** 16 57 57.9 -1.1
TAM pmax pmax
comp=Z,13nm,1.2s
TAM **Tamanrasset** 87.06 292 *e*P **P** 16 57 57.9 -1.1
comp=Z,13nm,1.2s
BGF **Bois d'Agland** 87.27 316 *e*P **P** 16 57 59.7 +0.3
BGF **Bois d'Agland** 87.27 316 *e*P **P** 16 57 59.7 +0.3
BGF **Bois d'Agland** 87.27 316 *e*P **P** 16 57 59.7 +0.3
URZ **Urewera** 87.50 129 P **P** 16 57 59.3 -1.3
URZ **Urewera** 87.50 129 P **P** 16 57 59.3 -1.3
comp=Z,9.3nm,1.0s,baz=202,slow=19,SNR=2.9
TCF **Toulx Ste Croi** 87.73 316 *e*P **P** 16 58 01.9 +0.3
TCF **Toulx Ste Croi** 87.73 316 *e*P **P** 16 58 01.9 +0.3
TCF **Toulx Ste Croi** 87.73 316 *e*P **P** 16 58 01.9 +0.3
CAF **Calviac** 87.97 315 *e*P **P** 16 58 02.6 -0.2
comp=Z,9.8nm,0.9s
CAF *e*pP **pP** 16 58 19.0 +0.1
CAF **Calviac** 87.97 315 *e*P **P** 16 58 02.6 -0.2
CAF *e*PP **pP** 16 58 19.0 +0.1
CAF pmax pmax
comp=Z,10.0nm,0.9s
CAF **Calviac** 87.97 315 *e*P **P** 16 58 02.6 -0.2
comp=Z,9.8nm,0.9s
CAF *e*pP **pP** 16 58 19.0 +0.1
MTLF **Montolieu** 88.01 313 *e*P **P** 16 58 03.5 +0.5
comp=Z,11nm,0.9s
MTLF **Montolieu** 88.01 313 *e*P **P** 16 58 03.5 +0.5
MTLF pmax pmax
comp=Z,11nm,0.9s
MTLF **Montolieu** 88.01 313 *e*P **P** 16 58 03.5 +0.5
comp=Z,11nm,0.9s
TNA **Tin City** 88.14 24 *e*P **P** 16 58 00.7 -2.4
comp=Z,29nm,1.3s
LDF **La Druitiere** 89.05 319 *e*P **P** 16 58 07.9 +0.1
LDF *e*pP **pP** 16 58 23.6 -0.3
LDF **La Druitiere** 89.05 319 *e*P **P** 16 58 07.9 +0.1
LDF *e*PP **pP** 16 58 23.6 -0.3
LDF **La Druitiere** 89.05 319 *e*P **P** 16 58 07.9 +0.1
LDF *e*pP **pP** 16 58 23.6 -0.3
ETSF **Etsaut** 90.08 313⇑ *i*P **P** 16 58 11.3 -1.5
comp=Z,16nm,0.8s
ETSF **Etsaut** 90.08 313⇑ *i*P **P** 16 58 11.3 -1.5
ETSF pmax pmax
comp=Z,16nm,0.8s
ETSF **Etsaut** 90.08 313⇑ *i*P **P** 16 58 11.3 -1.5
comp=Z,16nm,0.8s
VNDA **Vanda** 90.51 168 P **P** 16 58 14.0 0.0
VNDA **Vanda** 90.51 168 P **P** 16 58 14.0 0.0
comp=Z,1.2nm,1.0s,baz=288,slow=5.2,SNR=5.2
VNDA LR LR 17 35 09.5
comp=Z,123nm,19.2s,baz=303,slow=33
SJPF **Ste Jean** 90.54 313 *e*P **P** 16 58 15.9 +1.0
SJPF **Ste Jean** 90.54 313 *e*P **P** 16 58 15.9 +1.0
SJPF **Ste Jean** 90.54 313 *e*P **P** 16 58 15.9 +1.0
ALE **Alert** 91.50 357 P **P** 16 58 19.0 +0.4
comp=Z,90nm,0.6s,SNR=6.5
TORD **Torodi Ar. Bea** 91.59 283 P **P** 16 58 20.7 +0.4
TORD **Torodi Ar. Bea** 91.59 283 P **P** 16 58 20.7 +0.4
comp=Z,3.7nm,1.0s,baz=79,slow=4.2,SNR=14
ESDC **Sonseca Array** 93.10 310 P **P** 16 58 27.7 +0.9
ESDC **Sonseca Array** 93.10 310 P **P** 16 58 27.7 +0.9
comp=Z,1.8nm,0.5s,baz=58,slow=4.2,SNR=12
IM04 **Indian Mountai** 93.64 22 *e*P **P** 16 58 28.4 -0.4
IMA2 **Indian Mountai** 93.64 22 *e*P **P** 16 58 28.2 -0.7
MDT **Midelt** 94.77 303 LR LR 17 43 11.9
comp=Z,123nm,19.1s,baz=116,slow=37
ILAR **Eielson Array** 96.77 22 P **P** 16 58 41.3 -1.7
ILAR **Eielson Array** 96.77 22 P **P** 16 58 41.3 -1.7
comp=Z,1.0nm,0.7s,baz=297,slow=3.9,SNR=11
ILAR LR LR 17 43 34.6
comp=Z,124nm,18.4s,baz=303,slow=36
NEW **Newport** 119.68 24 ⇓P **PKPdf** 17 04 02.4 -0.2
baz=120
A18A **Metzger Ranch,** 121.76 19 ⇓P **PKPdf** 17 04 06.4 -0.2
baz=122
B17A **L&G Farms, Che** 122.00 20 ⇑P **PKPdf** 17 04 07.1 0.0
baz=122
MSO **Missoula** 122.10 23 ⇓P **PKPdf** 17 04 07.3 -0.1
baz=122
B18A **Beardsley Farm** 122.25 19 ⇑P **PKPdf** 17 04 07.6 0.0
baz=122
A20A **Cobblestone Ra** 122.39 17 ⇓P **PKPdf** 17 04 07.7 -0.1
baz=122
EGMT **Eagleton** 122.58 19 *e*PKPdf **PKPdf** 17 04 07.6 -0.7
EGMT **Eagleton** 122.58 19 ⇑P **PKPdf** 17 04 08.8 +0.5
baz=122,SNR=11
C17A **Wharram Farm,** 122.58 20 ⇓P **PKPdf** 17 04 08.6 +0.3
baz=122
A21A **Bergtoll Ranch** 122.58 17 ⇑P **PKPdf** 17 04 08.2 0.0
baz=122
B20A **Solberg Farm,** 122.76 18 ⇑P **PKPdf** 17 04 08.7 +0.1
baz=122
A22A **Carney Farms,** 122.87 16 ⇑P **PKPdf** 17 04 09.1 +0.3
baz=123
D17A **Six Diamond Ra** 123.02 20 ⇑P **PKPdf** 17 04 09.0 -0.2
baz=123
C19A **Slack Wire Ran** 123.06 19 ⇓P **PKPdf** 17 04 09.5 +0.3
baz=123,SNR=14
C20A **Veseth Ranch,** 123.41 18 ⇑P **PKPdf** 17 04 09.9 +0.1
baz=123
A24A **Westby** 123.43 15 ⇓P **PKPdf** 17 04 10.2 +0.4
baz=123
E17A **Martinsdale** 123.55 21 ⇑P **PKPdf** 17 04 10.3 0.0
baz=123
B23A **Brockton** 123.60 16 ⇑P **PKPdf** 17 04 10.8 +0.6
baz=123
D19A **Cripps Ranch,** 123.62 19 ⇑P **PKPdf** 17 04 10.4 +0.1
baz=123,SNR=7.2
ULM **Lac du Bonnet** 123.75 8 PKP **PKPdf** 17 04 09.8 -0.6
ULM **Lac du Bonnet** 123.75 8 PKP **PKPdf** 17 04 09.8 -0.6
comp=Z,10nm,0.7s,baz=6.5,slow=2.7,SNR=12
E18A **Harlowton** 123.79 20 ⇓P **PKPdf** 17 04 10.8 +0.1
baz=124
DGMT **Dagmar** 123.80 15 ⇑P **PKPdf** 17 04 11.4 +0.9
baz=124
D20A **Manuel Ranch,** 123.92 19 ⇑P **PKPdf** 17 04 11.2 +0.4
baz=124
A26A **Wade Farm, Ken** 123.92 13 ⇓P **PKPdf** 17 04 11.1 +0.4
baz=124
MFID **Camas Ranch** 124.09 26 ⇑P **PKPdf** 17 04 11.2 -0.1
baz=124
F17A **Fitzpatrick Pl** 124.10 21 ⇑P **PKPdf** 17 04 11.6 +0.2
baz=124
C23A **Lambert** 124.15 16 ⇑P **PKPdf** 17 04 11.8 +0.6
baz=124
E19A **Rath Farm, Rou** 124.27 19 ⇑P **PKPdf** 17 04 11.8 +0.2
baz=124,SNR=6.3
A28A **Rude Farm, Bot** 124.30 12 ⇓P **PKPdf** 17 04 11.5 0.0
baz=124
D21A **La Casta Ranch** 124.30 18 ⇑P **PKPdf** 17 04 11.8 +0.3
baz=124
F18A **Big Timber** 124.44 20 ⇑P **PKPdf** 17 04 12.2 +0.3
baz=124
E20A **Meyer Farm, Mu** 124.44 19 ⇑P **PKPdf** 17 04 12.5 +0.7
baz=124
D22A **Cohagen** 124.46 17 ⇓P **PKPdf** 17 04 12.5 +0.7
baz=124
A29A **Manning Farm,** 124.49 11 ⇑P **PKPdf** 17 04 12.1 +0.3
baz=124
HLID **Hailey** 124.58 25 *e*PKPdf **PKPdf** 17 04 11.4 -1.0
HLID **Hailey** 124.58 25 ⇑P **PKPdf** 17 04 12.8 +0.4
baz=124
D23A **Lindsay** 124.72 16 ⇑P **PKPdf** 17 04 13.3 +0.9
baz=124
F19A **Roth Farm, Mol** 124.75 20 ⇓P **PKPdf** 17 04 12.8 +0.3
baz=124
B29A **Wagenman Farm,** 124.90 11 ⇑P **PKPdf** 17 04 13.2 +0.6
baz=125
H16A **Russell Place,** 124.91 22 ⇓P **PKPdf** 17 04 13.8 +0.8
baz=125
F20A **Billings** 125.06 19 ⇑P **PKPdf** 17 04 13.4 +0.3
baz=125
E22A **Miles City** 125.17 17 ⇓P **PKPdf** 17 04 13.8 +0.5
baz=125
E23A **Ismay** 125.31 17 ⇑P **PKPdf** 17 04 14.3 +0.8
baz=125
H18A **Shoshone NF, C** 125.52 21 ⇓P **PKPdf** 17 04 14.8 +0.6
baz=125
E24A **Baker** 125.53 16 ⇑P **PKPdf** 17 04 14.9 +1.0
baz=125
G20A **Bridger** 125.55 20 ⇓P **PKPdf** 17 04 14.2 +0.1
baz=125,SNR=7.7
D26A **Manning** 125.58 14 ⇑P **PKPdf** 17 04 14.8 +0.8
baz=125
F22A **Rosebud** 125.68 18 ⇓P **PKPdf** 17 04 15.1 +0.8
baz=126
H19A **Powell** 125.76 21 ⇓P **PKPdf** 17 04 16.0 +1.5
baz=126
E25A **Miller Ranch,** 125.83 15 ⇑P **PKPdf** 17 04 15.0 +0.5
baz=126
D28A **Regan** 125.86 13 ⇓P **PKPdf** 17 04 14.9 +0.4
baz=126
F23A **Volborg** 125.98 17 ⇓P **PKPdf** 17 04 15.2 +0.3
baz=126
RRI2 **Red Ridge** 126.03 23 *e*PKPdf **PKPdf** 17 04 14.8 -0.5
LOHW **Long Hollow** 126.08 23 *e*PKPdf **PKPdf** 17 04 15.2 -0.1
E26A **Carlson Angus** 126.10 15 ⇑P **PKPdf** 17 04 15.5 +0.5
baz=126
G22A **Birney** 126.17 18 ⇓P **PKPdf** 17 04 16.1 +0.9
baz=126
REDW **Red Top Meadow** 126.20 23 *e*PKPdf **PKPdf** 17 04 15.8 +0.2
I18A **Diamond G Ranc** 126.30 22 ⇑P **PKPdf** 17 04 15.8 0.0
baz=126
I19A **Meeteetse** 126.31 21 ⇓P **PKPdf** 17 04 16.0 +0.3
baz=126
F25A **Bowman** 126.34 16 ⇓P **PKPdf** 17 04 16.1 +0.6
baz=126
G23A **Biddle** 126.46 17 ⇑P **PKPdf** 17 04 16.1 +0.3
baz=126
F26A **Lodgepole** 126.62 15 ⇓P **PKPdf** 17 04 16.5 +0.5
baz=126
I20A **Worland** 126.69 20 ⇓P **PKPdf** 17 04 16.5 +0.2
baz=126,SNR=5.4
NVAR **Mina Array Bea** 126.70 32 PKP **PKPdf** 17 04 17.6 +0.9
NVAR **Mina Array Bea** 126.70 32 PKP **PKPdf** 17 04 17.6 +0.9
comp=Z,4.3nm,0.8s,baz=277,slow=2.0,SNR=11
H22A **Clearmont** 126.71 19 ⇑P **PKPdf** 17 04 16.8 +0.5
baz=126
F27A **Lemmon** 126.76 14 ⇓P **PKPdf** 17 04 16.6 +0.4
baz=126
NV11 **Mina Array Sit** 126.78 32 *e*PKPdf **PKPdf** 17 04 17.7 +1.0
E30A **Jud** 126.87 12 ⇓P **PKPdf** 17 04 16.5 0.0
baz=127
I21A **Big Trails, Te** 127.10 20 ⇑P **PKPdf** 17 04 17.2 0.0

baz=127,SNR=10
H24A Dirks Ranch, A 127.12 17 ⇓P PKPdf 17 04 16.8 -0.3
baz=127
G26A Maurine 127.16 15 ⇑P PKPdf 17 04 17.3 +0.2
baz=127
PDAR Pinedale Array 127.20 22 PKP PKPdf 17 04 17.4 -0.1
PDAR Pinedale Array 127.20 22 PKP PKPdf 17 04 17.4 -0.1
comp=Z,4.3nm,0.9s,baz=89,slow=1.8,SNR=30
J20A Shoshoni 127.23 21 ⇓P PKPdf 17 04 17.3 -0.1
baz=127
G27A Dupree 127.25 15 ⇓P PKPdf 17 04 17.4 +0.2
baz=127
I22A 9 Mile Ranch, 127.30 19 ⇑P PKPdf 17 04 17.5 0.0
baz=127
F29A Eureka 127.31 13 ⇓P PKPdf 17 04 17.4 +0.1
baz=127
K19A Absolon Red Bu 127.42 22 ⇓P PKPdf 17 04 18.0 +0.1
baz=127
J21A Lysite 127.46 20 ⇓P PKPdf 17 04 18.0 +0.1
baz=127
H26A Fairpoint 127.74 16 ⇑P PKPdf 17 04 19.0 +0.8
baz=128
L18A Fontenelle, Gr 127.74 23 ⇓P PKPdf 17 04 19.0 +0.5
baz=128
K20A Yellowstone Ra 127.75 21 ⇓P PKPdf 17 04 18.8 +0.3
baz=128
G28A Parade 127.78 14 ⇑P PKPdf 17 04 18.8 +0.6
baz=128
RSSD Black Hills 127.84 17 *e*PKIKP PKPdf 17 04 18.4 -0.2
RSSD Black Hills 127.84 17 *e*PKPdf PKPdf 17 04 18.4 -0.2
L19A Farson 127.85 23 ⇓P PKPdf 17 04 19.1 +0.4
baz=128
M17A Scullys Gap (B 127.87 24 ⇓P PKPdf 17 04 19.1 +0.4
baz=128
I24A Kuemmerle Ranc 127.91 18 ⇓P PKPdf 17 04 19.1 +0.4
baz=128
DUG Dugway 128.01 27 *e*PKIKP PKPdf 17 04 19.3 +0.3
DUG Dugway 128.01 27 *e*PKPdf PKPdf 17 04 19.2 +0.3
DUG Dugway 128.01 27 ⇑P PKPdf 17 04 19.7 +0.7
baz=128
I25A Rochford 128.02 17 ⇓P PKPdf 17 04 19.3 +0.3
baz=128
K21A Alcova 128.16 20 ⇓P PKPdf 17 04 19.1 -0.1
baz=128,SNR=6.3
R11A Troy Canyon, C 128.16 30 ⇑P PKPdf 17 04 20.1 +0.7
baz=128
I26A New Underwood 128.26 16 ⇓P PKPdf 17 04 20.1 +0.9
baz=128
L20A Wamsutter 128.31 22 ⇓P PKPdf 17 04 20.0 +0.4
baz=128
J24A Dixon Ranch, L 128.38 18 ⇓P PKPdf 17 04 20.0 +0.4
baz=128
K22A Casper 128.39 20 ⇓P PKPdf 17 04 19.9 +0.2
baz=128
M19A Rock Springs 128.44 23 ⇓P PKPdf 17 04 20.2 +0.3
baz=128
I27A Quinn 128.44 15 ⇑P PKPdf 17 04 19.8 +0.3
baz=128
J25A Sunshine Ranch 128.58 17 ⇑P PKPdf 17 04 20.3 +0.4
baz=128
K23A Bowen Ranch, D 128.59 19 ⇓P PKPdf 17 04 19.9 -0.2
baz=128
L21A Rawlins 128.70 21 ⇑P PKPdf 17 04 20.2 -0.1
baz=128,SNR=10.0
M20A Sweetwater, Wa 128.82 22 ⇑P PKPdf 17 04 21.0 +0.5
baz=129
J26A Sides Ranch, S 128.86 17 ⇓P PKPdf 17 04 20.6 +0.2
baz=129
MPMC Manual Prospec 128.88 34 ⇑P PKPdf 17 04 21.7 +0.9
baz=129
L22A Ellis Ranch, M 128.97 20 ⇓P PKPdf 17 04 21.4 +0.6
baz=129
RWWY Rawlins 129.00 21 *e*PKPdf PKPdf 17 04 20.8 -0.2
M21A Separation Pea 129.02 21 ⇓P PKPdf 17 04 21.3 +0.3
baz=129,SNR=9.7
SPMN St. Paul 129.09 7 ⇓P PKPdf 17 04 21.4 +0.8
baz=129
L23A Garrett 129.14 19 ⇓P PKPdf 17 04 20.9 -0.2
baz=129
J28A Allard Ranch, 129.25 15 ⇑P PKPdf 17 04 22.1 +1.0
baz=129
K25A Mack Ranch, Ha 129.27 18 ⇓P PKPdf 17 04 21.9 +0.6
baz=129
N20A Spence Gulch, 129.36 22 ⇑P PKPdf 17 04 22.7 +1.0
baz=129,SNR=7.1
EDW2 Edwards Air Fo 129.46 35 ⇑P PKPdf 17 04 22.7 +0.9
baz=129
L25A Engebretsen Ra 129.66 18 ⇑P PKPdf 17 04 23.0 +1.0
baz=129
N21A Black Mountain 129.70 22 ⇑P PKPdf 17 04 22.8 +0.5
baz=130
M23A Laramie 129.71 20 ⇓P PKPdf 17 04 22.7 +0.4
baz=130
Q16A Castle Valley 129.79 26 ⇓P PKPdf 17 04 23.1 +0.7
baz=130
O20A White River Ci 129.97 23 ⇓P PKPdf 17 04 23.2 +0.4
baz=130
ECSD EROS Data Cent 129.97 11 *e*PKPdf PKPdf 17 04 21.6 -0.9
M24A Cheyenne 130.01 19 ⇑P PKPdf 17 04 23.4 +0.6
baz=130
N22A Wattenberg Ran 130.05 21 ⇓P PKPdf 17 04 23.6 +0.6
baz=130
P19A Cripple Cowboy 130.11 24 ⇓P PKPdf 17 04 23.9 +0.8
baz=130
N23A Red Feather La 130.15 20 ⇑P PKPdf 17 04 23.4 +0.2
baz=130
HEC Hector,Ludlow 130.43 34 ⇓P PKPdf 17 04 24.7 +1.1
baz=130
P20A De Beque 130.46 23 ⇓P PKPdf 17 04 24.9 +1.2
baz=130
O22A Kremmling 130.58 21 ⇓P PKPdf 17 04 24.4 +0.3
baz=130
O23A Lake Granby, G 130.76 21 ⇓P PKPdf 17 04 25.0 +0.5
baz=130
GMRC Granite Mounta 130.83 33 ⇓P PKPdf 17 04 25.5 +1.0
baz=131
P22A Eagle 131.00 22 ⇑P PKPdf 17 04 25.7 +0.9
baz=131
BELC Belle Mtn. Jos 131.22 34 ⇑P PKPdf 17 04 25.6 +0.4
baz=131
U15A North Rim 131.29 29 ⇓P PKPdf 17 04 26.6 +1.1
baz=131
P23A Jefferson 131.53 21 ⇑P PKPdf 17 04 26.5 +0.6
baz=131
IRM Iron Mountain 131.57 33 ⇑P PKPdf 17 04 26.8 +1.0
baz=131
O26A Horse Wrangler 131.60 18 ⇓P PKPdf 17 04 26.0 +0.2
baz=131
O27A Beecher Island 131.91 18 ⇑P PKPdf 17 04 27.0 +0.6
baz=132
Q23A Hartsel 131.95 21 ⇓P PKPdf 17 04 27.3 +0.6
baz=132
P25A Willow Gulch B 131.99 20 ⇓P PKPdf 17 04 27.3 +0.7
baz=132
P26A Davis Ranch, A 132.21 19 ⇑P PKPdf 17 04 27.8 +0.8
baz=132
S21A Coal Bank Pass 132.28 24 ⇑P PKPdf 17 04 29.0 +1.7
baz=132
U20A Newcomb 133.06 26 ⇑P PKPdf 17 04 30.1 +1.4
baz=133
R25A Fountain Ranch 133.18 20 ⇑P PKPdf 17 04 29.1 +0.3
baz=133
X16A Lo Mia Camp, P 133.31 30 ⇓P PKPdf 17 04 31.0 +1.8
baz=133
R26A Arlington 133.32 20 ⇓P PKPdf 17 04 29.7 +0.7
baz=133
U21A Nageezi 133.39 25 ⇑P PKPdf 17 04 30.7 +1.3
baz=133
Q29A Oakley 133.55 17 ⇑P PKPdf 17 04 29.8 +0.4
baz=133
R27A Eads 133.55 19 ⇓P PKPdf 17 04 29.8 +0.3
baz=133
S25A Robets Cordova 133.56 21 ⇑P PKPdf 17 04 29.8 +0.2
baz=133
W18A Petrified Fore 133.57 28 ⇓P PKPdf 17 04 30.2 +0.5
baz=133
V20A Brimhall 133.57 26 ⇑P PKPdf 17 04 30.5 +0.8
baz=133
Q30A Quinter 133.68 16 ⇓P PKPdf 17 04 30.2 +0.5
baz=134
R28A Tribune 133.81 18 ⇓P PKPdf 17 04 30.3 +0.3
baz=134
S26A Kim 133.93 20 ⇓P PKPdf 17 04 30.5 +0.3
baz=134
T25A Trinidad 134.03 21 ⇑P PKPdf 17 04 30.6 0.0
baz=134
W20A Ramah 134.12 27 ⇑P PKPdf 17 04 31.4 +0.6
baz=134
V22A San Miguel Ran 134.14 25 ⇓P PKPdf 17 04 31.2 +0.3
baz=134
V23A Ortiz Mt. (NFS 134.58 24 ⇑P PKPdf 17 04 31.7 +0.1
baz=134
X20A Quemado 134.61 27 ⇑P PKPdf 17 04 31.5 -0.2
baz=134
T27A Campo 134.69 20 ⇑P PKPdf 17 04 32.7 +1.0
baz=134
U25A Circle Dot Ran 134.69 22 ⇓P PKPdf 17 04 33.3 +1.5
baz=134
U26A Atchley Ranch, 134.94 21 ⇑P PKPdf 17 04 33.1 +0.9
baz=135
V24A Rampart Ranch, 134.96 23 ⇓P PKPdf 17 04 33.5 +1.2
baz=135
X21A Alamocita Cree 135.01 26 ⇓P PKPdf 17 04 33.3 +0.8
baz=135
T29A Hugoton 135.06 18 ⇑P PKPdf 17 04 33.5 +1.2
baz=135
V25A Rancho No Teng 135.11 22 ⇑P PKPdf 17 04 33.3 +0.7
baz=135
Y20A Horse Springs, 135.19 27 ⇓P PKPdf 17 04 33.4 +0.5
baz=135
W24A Lazy 6 Ranch, 135.35 24 ⇓P PKPdf 17 04 33.8 +0.7
baz=135
T30A Plains 135.39 17 ⇓P PKPdf 17 04 33.7 +0.8
baz=135
V26A Tequesquite Ra 135.45 21 ⇑P PKPdf 17 04 33.8 +0.7
baz=135
W25A X Bar L Ranch, 135.72 23 ⇑P PKPdf 17 04 34.2 +0.5
baz=136
Z20A Nine Sixteen R 135.75 28 ⇓P PKPdf 17 04 34.5 +0.7
baz=136
Y22A Socorro 135.80 26 ⇑P PKPdf 17 04 35.0 +1.1
baz=136
U30A WK&E Inc. Balk 135.83 18 ⇓P PKPdf 17 04 34.8 +1.0
baz=136
W26A Owens Ranch, T 136.09 22 ⇓P PKPdf 17 04 34.5 +0.2
baz=136
Y23A Lovelace Mesa, 136.20 25 ⇓P PKPdf 17 04 35.2 +0.6
baz=136
120A U Bar Ranch, L 136.20 29 ⇑P PKPdf 17 04 35.4 +0.7
baz=136
W27A Bowe Ranch, En 136.37 21 ⇓P PKPdf 17 04 35.0 +0.2
baz=136,SNR=5.7
Z22A Elephant Butte 136.38 27 ⇓P PKPdf 17 04 35.7 +0.7
baz=136
Y24A Capitan 136.46 24 ⇓P PKPdf 17 04 35.7 +0.5
baz=136
X26A CR and CF Fran 136.55 22 ⇓P PKPdf 17 04 35.5 +0.3
baz=136
121A Cookes Peak, D 136.61 28 ⇑P PKPdf 17 04 36.0 +0.5
baz=136
Z23A Rita Site, Whi 136.69 26 ⇓P PKPdf 17 04 36.0 +0.5
baz=136
Y25A Mesa, Roswell 136.76 24 ⇑P PKPdf 17 04 36.3 +0.6
baz=137
V31A Spring Creek L 136.78 17 ⇓P PKPdf 17 04 36.0 +0.5
baz=137
220A Playas Peak, P 136.78 29 ⇓P PKPdf 17 04 36.0 +0.3
baz=137
Z24A Sheeppen Canyo 137.00 25 ⇓P PKPdf 17 04 37.5 +1.3
baz=137
320A Kipp Ranch, An 137.24 30 ⇓P PKPdf 17 04 36.9 +0.3
baz=137
Z25A Roswell 137.32 24 ⇑P PKPdf 17 04 37.6 +1.0
baz=137
MSTX Muleshoe 137.46 22 ⇓P PKPdf 17 04 37.3 +0.4
baz=137
124A Stringfield Ra 137.51 25 ⇑P PKPdf 17 04 38.0 +0.8
baz=137
Z26A Caprock 137.62 23 ⇑P PKPdf 17 04 37.8 +0.6
baz=137
Z27A Tatum 137.88 22 ⇑P PKPdf 17 04 38.8 +1.1
baz=138
125A Gardner Draw, 137.88 25 ⇓P PKPdf 17 04 38.1 +0.3
baz=138
MNTX Cornudas Mount 138.40 26 *e*PKPdf PKPdf 17 04 38.6 +0.1
Z29A Hungry Hill Ra 138.48 21 ⇓P PKPdf 17 04 38.9 +0.1
baz=138
324A Moseley Ranch, 138.58 26 ⇑P PKPdf 17 04 38.8 -0.2
baz=138
226B Tecolote Peak, 138.59 24 ⇓P PKPdf 17 04 39.2 +0.2
baz=138
Z31A Sharp Cattle R 138.95 19 ⇑P PKPdf 17 04 39.9 +0.3
baz=139
TKL Tuckaleechee C 139.05 358 PKP PKPdf 17 04 39.8 +0.2
TKL Tuckaleechee C 139.05 358 PKP PKPdf 17 04 39.8 +0.2
comp=Z,4.6nm,0.6s,baz=53,slow=5.2,SNR=4.6
Z32A Haskell 139.18 18 ⇑P PKPdf 17 04 40.4 +0.5
baz=139
326A Caldwell Ranch 139.33 25 ⇓P PKPdf 17 04 40.1 -0.3
baz=139
425A Indio Mountain 139.36 26 ⇑P PKPdf 17 04 40.6 +0.1
baz=139
KMSC Kings Mountain 139.41 355 ⇑P PKPdf 17 04 40.4 +0.1
baz=139
MIAR Mount Ida 139.44 10 *e*PKIKP PKPdf 17 04 40.1 -0.2
MIAR Mount Ida 139.44 10 *e*PKPdf PKPdf 17 04 40.1 -0.2
131A Roby 139.47 20 ⇓P PKPdf 17 04 41.1 +0.5
baz=139
328A Wristen Ranch, 139.75 23 ⇑P PKPdf 17 04 41.4 +0.4
baz=140
ABTX Abilene, Hawle 139.75 19 ⇓P PKPdf 17 04 41.5 +0.4
baz=140
426A McDonald Obser 139.87 25 ⇓P PKPdf 17 04 41.7 +0.1
baz=140
230A Sterling City 139.93 21 ⇓P PKPdf 17 04 41.9 +0.5
baz=140
330A Mertzon 140.34 21 ⇑P PKPdf 17 04 42.8 +0.6
baz=140
526A Mary Lane Ranc 140.37 26 ⇓P PKPdf 17 04 43.8 +1.4
baz=140
428A Kincaid Ranch, 140.38 24 ⇓P PKPdf 17 04 43.2 +0.9
baz=140
232A Coleman 140.43 19 ⇑P PKPdf 17 04 43.5 +1.2
baz=140
331A San Angelo 140.70 21 ⇓P PKPdf 17 04 42.9 +0.1
baz=140
429A Davenport Ranc 140.78 23 ⇑P PKPdf 17 04 43.0 +0.1
baz=141
626A Big Bend Ranch 140.79 26 ⇓P PKPdf 17 04 43.7 +0.6
baz=141
528A Cox Ranch, San 140.83 24 ⇑P PKPdf 17 04 43.8 +0.6
baz=141
332A Millersview 140.87 20 ⇓P PKPdf 17 04 43.9 +0.9
baz=141
430A Baggett Ranch, 140.88 22 ⇑P PKPdf 17 04 44.0 +0.8
baz=141
529A Stev Forest Ra 141.09 24 ⇑P PKPdf 17 04 44.4 +0.8
baz=141
TXAR Lajitas Array 141.18 26 PKPpre PKPpre 17 04 37.6
TXAR PKP **PKPdf 17 04 43.6 -0.2**
TXAR PP PP 17 07 50.2 +5.6
TXAR Lajitas Array 141.18 26 PKhKP PKPpre 17 04 37.6
comp=Z,1.3nm,0.7s,baz=92,slow=0.1,SNR=5.8
TXAR PKP **PKPdf 17 04 43.6 -0.2**
comp=Z,2.4nm,0.6s,baz=163,slow=0.4,SNR=15
TXAR PP PP 17 07 50.2 +5.6
comp=Z,0.9nm,0.9s,baz=348,slow=5.3,SNR=3.9
627A Terlingua Ranc 141.20 25 ⇑P PKPdf 17 04 44.1 +0.2
baz=141
431A Sonora 141.20 21 ⇑P PKPdf 17 04 44.1 +0.3
baz=141
432A Menard 141.31 20 ⇑P PKPdf 17 04 43.9 0.0
baz=141
628A Black Gap, Mar 141.38 25 ⇓P PKPdf 17 04 44.8 +0.7
baz=141
530A J-C Ranch, Com 141.41 22 ⇑P PKPdf 17 04 45.1 +0.9
baz=141,SNR=5.5
JCT Junction City 141.67 20 *e*PKIKP PKPdf 17 04 44.7 +0.2
JCT Junction City 141.67 20 *e*PKPdf PKPdf 17 04 44.7 +0.2
JCT Junction City 141.67 20 ⇓P PKPdf 17 04 45.0 +0.4
baz=142,SNR=5.6
531A Rocksprings 141.69 21 ⇓P PKPdf 17 04 45.3 +0.7
baz=142
631A Perdido Creek 142.36 22 ⇑P PKPdf 17 04 46.5 +0.7
baz=142
CPUP Villa Florida 146.12 229 *e*PKPdf PKPdf 17 04 52.4 +0.1
CPUP PKPbc **PKPbc 17 04 53.1 -0.2**
CPUP Villa Florida 146.12 229 PKPbc PKPbc 17 04 53.1 -0.2
comp=Z,3.8nm,0.7s,baz=103,slow=3.8,SNR=12
MTP Monte Pirata 149.47 321 *e*PKPbc PKPbc 17 05 02.0 -0.5
LRS Lares 150.12 323 *e*PKPdf PKPdf 17 04 59.3 +0.2
LRS *e*PKPbc **PKPbc 17 05 04.0 -0.2**
CELP Cerrillos 150.12 322 *e*PKPdf PKPdf 17 04 59.2 +0.1
CELP *e*PKPbc **PKPbc 17 05 04.2 0.0**
OBIP Obispado Ponce 150.16 322 *e*PKPbc PKPbc 17 05 04.3 +0.1
TEIG Tepich 154.29 6 PKPbc PKPbc 17 05 13.4 -0.2
TEIG PKPab **PKPab 17 05 26.5 -0.9**
TEIG Tepich 154.29 6 PKPbc PKPbc 17 05 13.4 -0.2
comp=Z,9.5nm,0.9s,baz=16,slow=7.3,SNR=6.7
TEIG PKPab **PKPab 17 05 26.5 -0.9**
comp=Z,13nm,0.7s,baz=311,slow=4.9,SNR=7.4
LPAZ La Paz 159.95 236 *e*PKPdf PKPdf 17 05 13.4 +0.1
LPAZ PKP **PKPdf 17 05 13.6 +0.3**
LPAZ PKPab **PKPab 17 05 53.9 +1.0**
LPAZ La Paz 159.95 236 PKP PKPdf 17 05 13.6 +0.3
comp=Z,1.9nm,0.8s,baz=73,slow=2.3,SNR=8.3
LPAZ PKPab **PKPab 17 05 53.9 +1.0**
comp=Z,3.1nm,0.9s,baz=23,slow=4.7,SNR=6.2

---

*IPEC **28** 16:56:33.6±0.2, 50.°06N×18.°47E, h0km±3km, ML1.4/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*PRU **28** 16:56:34.9, 50.°04N×18.°40E, h0km*
*WAR **28** 16:56:34.6, 50.°04N×18.°46E*
CSEM 28 16:56:00.8±0.5, 51.°88N×19.°27E, h2km, ML1.4/3, Error ellipse: s-maj=16.3km s-min=7.4km az=144.0, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**2.16**	**200**	*e*PG	Pb	16 56 39.9	-0.8
OKC				*e*SG	Pg	16 56 44.4	+2.1
	comp=Z,14nm,0.4s						
MORC	**Moravsky Berou**	**2.37**	**208**	*e*Pg	Pg	16 56 46.3	-0.1
DPC	**Dobruska-Polom**	**2.41**	**232**	*e*PG	Pg	16 56 59.9	+13
DPC				*e*SG	Sg	16 57 18.5	+0.2
DPC	**Dobruska-Polom**	**2.41**	**232**	Sg	Sg	16 57 18.5	+0.2
VRAC	**Vranov**	**3.09**	**215**	*e*Pg	Pg	16 57 00.0	0.0
	baz=58						
KWP	**Kalwaria Pacla**	**3.13**	**135**	*e*P	Pn	16 56 49.7	-1.5
KWP	**Kalwaria Pacla**	**3.13**	**135**	*e*P	Pn	16 56 49.8	-1.4
SUW	**Suwalki**	**3.19**	**46**	*e*P	Pn	16 56 52.1	+0.2
SUW	**Suwalki**	**3.19**	**46**	*e*P	Pn	16 56 52.1	+0.2
PRU	**Pruhonice**	**3.54**	**240**	*e*SG	Sg	16 57 53.3	-1.3
PRU	**Pruhonice**	**3.54**	**240**	Sg	Sg	16 57 53.3	-1.3

---

*AUST **28** 16:57:32.7±0.0, 21.°94S×178.°58W, h629km±1km, Error ellipse: s-maj=3.9km s-min=2.6km az=32.0*
*ISCJB **28** 16:57:39.9±2.0, 22.°6S±0.°1×179.°9E±0.°3, h600km, mb3.8/8, Error ellipse: s-maj=39.5km s-min=13.1km az=166.0*
*IDC **28** 16:57:40.6±6.9, 22.°50S×179.°96E, h593km±80km, mb3.1/8, mb1 3.2/9, mb1mx3.1/22, mbtmp3.2/9, Error ellipse: s-maj=52.8km s-min=42.0km az=68.0*
ISC 28 16:57:40.4±2.4, 22.°6S±0.°1×180.°0W±0.°3, h600km, n16, σ1§56/16, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.84**	**188**	P	**P**	**17 00 56.9**	**+0.8**
	0.9nm,0.3s,baz=360,slow=2.2,SNR=7.1						
URZ				S	**S**	**17 03 31.9**	**-3.7**
	0.1nm,0.3s,baz=162,slow=20,SNR=3.5						
CNB	**Canberra Magne**	**29.56**	**238**	P	**P**	**17 03 00.4**	**+2.1**
	baz=31,SNR=5.6						
CTA	**Charters Tower**	**31.51**	**268**	P	**P**	**17 03 15.6**	**+0.4**
	3.4nm,0.5s,baz=89,slow=9.1,SNR=7.4						
RABL	**Rabaul**	**32.57**	**300**	P	**P**	**17 03 21.4**	**-2.8**
	baz=33,SNR=6.1						
STKA	**Stephens Creek**	**35.25**	**246**	P	**P**	**17 03 47.1**	**+0.8**
	0.7nm,0.4s,baz=87,slow=8.1,SNR=8.7						
STKA	**Stephens Creek**	**35.25**	**246**	P	**P**	**17 03 47.8**	**+1.4**
	baz=37,SNR=6.3						
ASAR	**Alice Springs**	**42.29**	**259**	P	**P**	**17 04 43.2**	**+0.2**
	1.1nm,0.5s,baz=91,slow=7.7,SNR=30						
WRA	**Warramunga Arr**	**42.53**	**265**	P	**P**	**17 04 44.5**	**-0.5**
	0.9nm,0.3s,baz=96,slow=8.1,SNR=74						
KDU	**Kakadu**	**46.20**	**274**	P	**P**	**17 05 12.7**	**-0.5**
	baz=47,SNR=8.5						
KNRA	**Kununurra**	**48.73**	**269**	P	**P**	**17 05 32.0**	**0.0**
	baz=50,SNR=4.8						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**17 05 48.9**	**+0.6**
	1.2nm,0.6s,baz=86,slow=3.5,SNR=10						
FITZ	**Fitzroy Crossi**	**50.96**	**265**	P	**P**	**17 05 48.8**	**+0.6**
	baz=52,SNR=3.9						
NWAO	**Narrogin (SRO)**	**55.81**	**245**	P	**P**	**17 06 22.1**	**-0.2**
	10nm,1.1s,baz=85,slow=12,SNR=3.0						
WSI	**Waingapu**	**58.46**	**272**	P	P	17 06 36.3	-4.2
	baz=60,SNR=4.4						
JNU	**Nakatsue**	**72.55**	**318**	P	**P**	**17 08 08.1**	**+0.2**
	3.9nm,0.8s,baz=122,slow=8.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**89.08**	**290**	P	**P**	**17 09 34.4**	**+1.1**
	0.5nm,0.9s,baz=111,slow=2.0,SNR=4.1						

---

*ISCJB **28** 17:00:36.9±0.6, 66.°96N±0.°03×20.°9E±0.°1, h0km, Error ellipse: s-maj=6.4km s-min=4.5km az=21.0*
*HEL **28** 17:00:39.8±0.3, 67.°11N×20.°83E, h0km, ML2.4, Suspected explosion*
*IDC **28** 17:00:39.6±0.9, 66.°99N×21.°61E, h0km, mb1 3.0/4, mb1mx2.9/28, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=15.4km s-min=7.8km az=110.0*
ISC 28 17:00:38.1±1.0, 67.°03N±0.°04×20.°95E±0.°05, h0km, n13, σ1§02/21, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**1.10**	**21**	*e*P	**Pg**	**17 00 58.4**	**-0.6**
HEF	**Hetta**	**1.72**	**36**	*e*P	**Pn**	**17 01 09.3**	**+0.1**
HEF				*e*S	**Sn**	**17 01 32.2**	**+0.2**
KIF	**Kilpisjarvi**	**1.98**	**358**	*e*P	**Pb**	**17 01 14.3**	**-0.6**
KIF				MSG		17 01 48.9	
	comp=Z,42nm,0.2s						
RNF	**Rovaniemi**	**2.05**	**100**	*e*P	**Pb**	**17 01 15.4**	**-0.6**
RNF				*e*S	**Sg**	**17 01 43.3**	**-0.5**
SGF	**Sodankyl**	**2.21**	**77**	*e*P	**Pb**	**17 01 17.8**	**-1.0**
SGF				*e*SG	**Sg**	**17 01 48.7**	**-0.1**
OUL	**Oulu**	**2.81**	**132**	*e*P	**Pb**	**17 01 27.6**	**-1.4**
OUL				*e*SG	**Sg**	**17 02 08.6**	**+0.5**
ARA0	**ARCESS Array S**	**3.03**	**32**	*e*P	**Pn**	**17 01 28.0**	**+0.8**
ARCES	**ARCESS Array B**	**3.03**	**32**	Pn	**Pn**	**17 01 27.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=27						
ARCES				Sn	**Sn**	**17 02 04.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=215,slow=20,SNR=5.1						
VRF	**Varrio**	**3.42**	**74**	*e*P	**Pn**	**17 01 35.5**	**+2.9**
VRF				*e*SB	**Sb**	**17 02 22.1**	**+0.6**
VRF				MSG		17 02 34.0	
	comp=Z,5.8nm,0.2s						
MSF	**Maaselka**	**3.43**	**105**	*e*P	**Pn**	**17 01 33.5**	**+0.7**
FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**17 02 08.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=15						
FINES				Sn	**Sn**	**17 03 17.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=342,slow=27,SNR=2.6						
FINES				Lg	Lg	17 03 42.5	
	comp=Z,0.1nm,0.3s,baz=344,slow=29,SNR=2.6						
NOA	**NORSAR Array B**	**7.37**	**220**	Pn	**Pn**	**17 02 28.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=48,slow=8.8,SNR=2.4						
NOA				Sn	Sn	17 03 44.2	-6.8
	comp=Z,0.1nm,0.3s,baz=35,slow=9.1,SNR=2.3						
NOA				Lg	Lg	17 04 26.5	
	comp=Z,0.1nm,0.3s,baz=22,slow=18,SNR=2.6						
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**17 02 31.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=4.3						
HFS				Sn	**Sn**	**17 03 57.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=31,SNR=2.8						
HFS				Lg	Lg	17 04 39.5	
	comp=Z,0.1nm,0.3s,baz=25,slow=32,SNR=2.3						

IDC 28 17:02:50.4±4.3, 5.°49S×149.°46E, h153km±29km, mb3.3/5, mb1 3.4/6, mb1mx3.3/18, mbtmp3.3/6, Error ellipse: s-maj=92.8km s-min=22.5km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.51**	**210**	P	Pn	17 03 56.2	-1.2
	3.9nm,0.3s,baz=32,slow=9.5,SNR=12						
PMG				S	Sn	17 04 50.9	+1.3
	10.0nm,0.3s,baz=160,slow=22,SNR=8.8						
WRA	**Warramunga Arr**	**20.56**	**224**	P	P	17 07 17.1	-0.1
	1.5nm,0.4s,baz=49,slow=10,SNR=28						
WRA				pP	pP	17 07 43.5	-0.7
	0.9nm,0.7s,baz=49,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**23.47**	**218**	P	P	17 07 46.0	-0.4
	0.4nm,0.4s,baz=48,slow=8.7,SNR=31						
FITZ	**Fitzroy Crossi**	**26.43**	**240**	P	P	17 08 13.3	+0.2
	1.3nm,0.4s,baz=54,slow=8.6,SNR=22						
KSRS	**Korea Array**	**47.21**	**337**	P	P	17 11 08.2	+0.4
	1.4nm,0.9s,baz=145,slow=5.8,SNR=4.1						

SONM Songino Array 65.18 330 P P 17 13 15.0 -0.3
0.5nm,0.5s,baz=141,slow=6.1,SNR=3.6

*ISCJB **28** 17:09:16.6±0.2, 43°.59N±0°.01×105°.31W±0°.02, h0km, mb4.2/1, MS4.3/3, Error ellipse: s-maj=2.1km s-min=2.0km az=170.4*
*NEIC **28** 17:09:16.4±0.4, 43°.62N×105°.16W, h0km, ML3.1, Error ellipse: s-maj=6.4km s-min=5.2km az=169.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.
*IDC **28** 17:09:17.9±1.6, 44°.12N×105°.82W, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.4/28, mbtmp3.8/3, ML3.4/2, MS4.2/3, Ms1 4.2/3, ms1mx3.1/45, Error ellipse: s-maj=57.2km s-min=8.6km az=146.0*

ISC 28 17:09:16.7±0.7, 43°.61N±0°.02×105°.32W±0°.02, h0km, n205, σ1.9 00/230, MS4.4/3, 90C-76D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B** baz=0.4,SNR=622	**0.27**	**221**	P	**Pg**	**17 09 22.4**	**+0.7**
J23A	baz=0.4			⇑S	**Sg**	**17 09 25.6**	**+0.5**
J23A	**Dilts Ranch, B** baz=0.4,SNR=622	**0.27**	**221**	P	**Pg**	**17 09 22.4**	**+0.7**
J23A	baz=0.4			⇑S	**Sg**	**17 09 25.6**	**+0.5**
I23A	**Meade Ranch, G** baz=0.4,SNR=34	**0.37**	**343**	P	**Pg**	**17 09 25.1**	**+1.3**
I23A	**Meade Ranch, G** baz=0.4,SNR=34	**0.37**	**343**	P	**Pg**	**17 09 25.1**	**+1.3**
J24A	**Dixon Ranch, L** baz=0.5,SNR=209	**0.55**	**120**	P	**Pg**	**17 09 27.4**	**+0.2**
J24A	baz=0.5			⇑S	**Sg**	**17 09 35.7**	**+1.4**
J24A	**Dixon Ranch, L** baz=0.5,SNR=209	**0.55**	**120**	P	**Pg**	**17 09 27.4**	**+0.2**
J24A	baz=0.5			⇑S	**Sg**	**17 09 35.7**	**+1.4**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=651	**0.56**	**63**	P	**Pg**	**17 09 27.7**	**+0.3**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=651	**0.56**	**63**	P	**Pg**	**17 09 27.7**	**+0.3**
I22A	**9 Mile Ranch,** baz=1.0,SNR=156	**0.89**	**289**	P	**Pg**	**17 09 34.1**	**+0.3**
I22A	**9 Mile Ranch,** baz=1.0,SNR=156	**0.89**	**289**	P	**Pg**	**17 09 34.1**	**+0.3**
K24A	**Anderson Ranch** baz=0.9,SNR=66	**0.95**	**157**	⇑P	**Pg**	**17 09 34.4**	**-0.6**
K24A	**Anderson Ranch** baz=0.9,SNR=66	**0.95**	**157**	⇑P	**Pg**	**17 09 34.4**	**-0.6**
H23A	**Clabaugh Cattl** baz=1.0,SNR=20	**0.96**	**356**	⇓P	**Pg**	**17 09 34.9**	**-0.1**
H23A	**Clabaugh Cattl** baz=1.0,SNR=20	**0.96**	**356**	⇓P	**Pg**	**17 09 34.9**	**-0.1**
RSSD	**Black Hills**	**1.06**	**60**	*e*Pg	**Pg**	**17 09 36.0**	**-0.9**
J25A	**Sunshine Ranch** baz=1.0,SNR=112	**1.12**	**100**	⇑P	**Pg**	**17 09 37.6**	**-0.5**
J25A	**Sunshine Ranch** baz=1.0,SNR=112	**1.12**	**100**	⇑P	**Pg**	**17 09 37.6**	**-0.5**
I25A	**Rochford** baz=1.1,SNR=125	**1.22**	**70**	P	**Pg**	**17 09 39.4**	**-0.6**
I25A	**Rochford** baz=1.1,SNR=125	**1.22**	**70**	P	**Pg**	**17 09 39.4**	**-0.6**
H22A	**Clearmont** baz=1.3,SNR=46	**1.24**	**323**	⇑P	**Pg**	**17 09 40.5**	**+0.1**
H22A	**Clearmont** baz=1.3,SNR=46	**1.24**	**323**	⇑P	**Pg**	**17 09 40.5**	**+0.1**
H24A	**Dirks Ranch, A** baz=1.2,SNR=71	**1.27**	**25**	⇑P	**Pg**	**17 09 40.1**	**-0.9**
H24A	baz=1.2			⇑S	**Sb**	**17 09 58.8**	**+0.4**
H24A	**Dirks Ranch, A** baz=1.2,SNR=71	**1.27**	**25**	⇑P	**Pg**	**17 09 40.1**	**-0.9**
H24A	baz=1.2			⇑S	**Sb**	**17 09 58.8**	**+0.4**
K22A	**Casper** baz=1.4,SNR=96	**1.30**	**223**	⇑P	**Pg**	**17 09 40.6**	**-1.0**
K22A	baz=1.4			⇓S	**Sb**	**17 09 59.6**	**+0.2**
K22A	**Casper** baz=1.4,SNR=96	**1.30**	**223**	⇑P	**Pg**	**17 09 40.6**	**-1.0**
K22A	baz=1.4			⇓S	**Sb**	**17 09 59.6**	**+0.2**
I21A	**Big Trails, Te** baz=1.6,SNR=330	**1.45**	**279**	P	**Pn**	**17 09 43.2**	**-1.0**
I21A	baz=1.6			⇑S	**Sn**	**17 10 04.2**	**+0.2**
I21A	**Big Trails, Te** baz=1.6,SNR=330	**1.45**	**279**	P	**Pn**	**17 09 43.2**	**-1.0**
I21A	baz=1.6			⇑S	**Sn**	**17 10 04.2**	**+0.2**
K25A	**Mack Ranch, Ha** baz=1.4,SNR=194	**1.45**	**133**	Pb	**Pn**	**17 09 44.4**	**+0.1**
K25A	baz=1.4			⇓S	**Sg**	**17 10 04.1**	**+0.9**
K25A	**Mack Ranch, Ha** baz=1.4,SNR=194	**1.45**	**133**	Pb	**Pn**	**17 09 44.4**	**+0.1**
K25A	baz=1.4			⇓S	**Sg**	**17 10 04.1**	**+0.9**
L23A	**Garrett** baz=1.6,SNR=192	**1.52**	**191**	P	**Pn**	**17 09 44.2**	**-1.0**
L23A	**Garrett** baz=1.6,SNR=192	**1.52**	**191**	P	**Pn**	**17 09 44.2**	**-1.0**
J21A	**Lysite** baz=1.7,SNR=106	**1.57**	**261**	⇑P	**Pn**	**17 09 45.3**	**-0.7**
J21A	**Lysite** baz=1.7,SNR=106	**1.57**	**261**	⇑P	**Pn**	**17 09 45.3**	**-0.7**
L24A	**Wheatland** baz=1.6,SNR=15	**1.59**	**170**	⇓P	**Pn**	**17 09 45.6**	**-0.6**
L24A	**Wheatland** baz=1.6,SNR=15	**1.59**	**170**	⇓P	**Pn**	**17 09 45.6**	**-0.6**
G23A	**Biddle** baz=1.6,SNR=57	**1.60**	**358**	⇑P	**Pn**	**17 09 46.6**	**+0.3**
G23A	**Biddle** baz=1.6,SNR=57	**1.60**	**358**	⇑P	**Pn**	**17 09 46.6**	**+0.3**
H25A	**Fruitdale** baz=1.5,SNR=6.0	**1.60**	**50**	⇑P	**Pn**	**17 09 45.8**	**-0.5**
H25A	baz=1.5			⇑S	**Sg**	**17 10 08.5**	**+0.3**
H25A	**Fruitdale** baz=1.5,SNR=6.0	**1.60**	**50**	⇑P	**Pn**	**17 09 45.8**	**-0.5**
H25A	baz=1.5			⇑S	**Sg**	**17 10 08.5**	**+0.3**
H21A	**Big Horn, Sher** baz=1.7,SNR=39	**1.61**	**310**	⇓P	**Pn**	**17 09 46.8**	**+0.3**
H21A	**Big Horn, Sher** baz=1.7,SNR=39	**1.61**	**310**	⇓P	**Pn**	**17 09 46.8**	**+0.3**
J26A	**Sides Ranch, S** baz=1.5,SNR=14	**1.66**	**99**	⇑P	**Pn**	**17 09 47.1**	**0.0**
J26A	baz=1.5			⇓S	**Sb**	**17 10 09.8**	**+0.3**
J26A	**Sides Ranch, S** baz=1.5,SNR=14	**1.66**	**99**	⇑P	**Pn**	**17 09 47.1**	**0.0**
J26A	baz=1.5			⇓S	**Sb**	**17 10 09.8**	**+0.3**
K21A	**Alcova** baz=1.8,SNR=155	**1.72**	**236**	⇑P	**Pn**	**17 09 48.0**	**0.0**
K21A	baz=1.8			⇓S	**Sn**	**17 10 11.3**	**+0.5**
K21A	**Alcova** baz=1.8,SNR=155	**1.72**	**236**	⇑P	**Pn**	**17 09 48.0**	**0.0**
K21A	baz=1.8			⇓S	**Sn**	**17 10 11.3**	**+0.5**
L25A	**Engebretsen Ra** baz=1.7,SNR=146	**1.76**	**145**	⇑Pb	**Pn**	**17 09 49.3**	**+0.8**
L25A	baz=1.7			⇓S	**Sn**	**17 10 11.3**	**-0.3**
L25A	**Engebretsen Ra** baz=1.7,SNR=146	**1.76**	**145**	⇑Pb	**Pn**	**17 09 49.3**	**+0.8**
L25A	baz=1.7			⇓S	**Sn**	**17 10 11.3**	**-0.3**
G22A	**Birney** baz=1.8,SNR=73	**1.76**	**337**	⇑P	**Pn**	**17 09 49.1**	**+0.6**
G22A	**Birney** baz=1.8,SNR=73	**1.76**	**337**	⇑P	**Pn**	**17 09 49.1**	**+0.6**
L22A	**Ellis Ranch, M** baz=1.8,SNR=126	**1.77**	**208**	⇑P	**Pn**	**17 09 48.6**	**-0.3**
L22A	baz=1.8			⇓S	**Sn**	**17 10 12.6**	**+0.4**
L22A	**Ellis Ranch, M** baz=1.8,SNR=126	**1.77**	**208**	⇑P	**Pn**	**17 09 48.6**	**-0.3**
L22A	baz=1.8			⇓S	**Sn**	**17 10 12.6**	**+0.4**
K26A	**Motz Farm, Whi** baz=1.7,SNR=34	**1.81**	**119**	⇓P	**Pn**	**17 09 49.4**	**+0.3**
K26A	**Motz Farm, Whi** baz=1.7,SNR=34	**1.81**	**119**	⇓P	**Pn**	**17 09 49.4**	**+0.3**
I26A	**New Underwood** baz=1.7,SNR=12	**1.83**	**76**	⇑P	**Pn**	**17 09 50.1**	**+0.7**
I26A	baz=1.7			⇑Sb	**Sg**	**17 10 16.0**	**+0.6**
I26A	**New Underwood** baz=1.7,SNR=12	**1.83**	**76**	⇑P	**Pn**	**17 09 50.1**	**+0.7**
I26A	baz=1.7			⇑Sb	**Sg**	**17 10 16.0**	**+0.6**
G24A	**Alzada** baz=1.8,SNR=8.8	**1.84**	**20**	⇓P	**Pn**	**17 09 50.4**	**+0.8**
G24A	baz=1.8			⇓Sb	**Sg**	**17 10 16.9**	**+1.1**
G24A	**Alzada** baz=1.8,SNR=8.8	**1.84**	**20**	⇓P	**Pn**	**17 09 50.4**	**+0.8**
G24A	baz=1.8			⇓Sb	**Sg**	**17 10 16.9**	**+1.1**
J20A	**Shoshoni** baz=2.1,SNR=64	**2.03**	**264**	⇓Pb	**Pb**	**17 09 54.4**	**-0.2**
J20A	baz=2.1			⇑Sb	**Sg**	**17 10 22.5**	**+0.6**
J20A	**Shoshoni** baz=2.1,SNR=64	**2.03**	**264**	⇓Pb	**Pb**	**17 09 54.4**	**-0.2**
J20A	baz=2.1			⇑Sb	**Sg**	**17 10 22.5**	**+0.6**
I20A	**Worland** baz=2.2,SNR=134	**2.07**	**281**	P	**Pn**	**17 09 53.9**	**+1.1**
I20A	**Worland** baz=2.2,SNR=134	**2.07**	**281**	P	**Pn**	**17 09 53.9**	**+1.1**
G25A	**Newell** baz=2.0,SNR=10	**2.09**	**40**	⇑P	**Pn**	**17 09 54.0**	**+1.0**
G25A	**Newell** baz=2.0,SNR=10	**2.09**	**40**	⇑P	**Pn**	**17 09 54.0**	**+1.0**
H26A	**Fairpoint** baz=2.0,SNR=15	**2.09**	**60**	⇑Pb	**Pb**	**17 09 55.5**	**0.0**
H26A	**Fairpoint** baz=2.0,SNR=15	**2.09**	**60**	⇑Pb	**Pb**	**17 09 55.5**	**0.0**
G21A	**Lodge Grass** baz=2.2,SNR=105	**2.11**	**321**	⇑P	**Pn**	**17 09 53.9**	**+0.6**
G21A	baz=2.2			⇑Sb	**Sg**	**17 10 25.1**	**+0.6**
G21A	**Lodge Grass** baz=2.2,SNR=105	**2.11**	**321**	⇑P	**Pn**	**17 09 53.9**	**+0.6**
G21A	baz=2.2			⇑Sb	**Sg**	**17 10 25.1**	**+0.6**
F23A	**Volborg** baz=2.1,SNR=35	**2.12**	**358**	⇑P	**Pn**	**17 09 53.6**	**+0.2**
F23A	**Volborg** baz=2.1,SNR=35	**2.12**	**358**	⇑P	**Pn**	**17 09 53.6**	**+0.2**
H20A	**Greybull** baz=2.2,SNR=24	**2.13**	**295**	⇓P	**Pn**	**17 09 54.0**	**+0.4**
H20A	**Greybull** baz=2.2,SNR=24	**2.13**	**295**	⇓P	**Pn**	**17 09 54.0**	**+0.4**
M23A	**Laramie** baz=2.2,SNR=51	**2.16**	**188**	⇓P	**Pn**	**17 09 54.9**	**+0.8**
M23A	**Laramie** baz=2.2,SNR=51	**2.16**	**188**	⇓P	**Pn**	**17 09 54.9**	**+0.8**
M24A	**Cheyenne** baz=2.2,SNR=26	**2.17**	**170**	⇓P	**Pn**	**17 09 55.3**	**+1.1**
M24A	**Cheyenne** baz=2.2,SNR=26	**2.17**	**170**	⇓P	**Pn**	**17 09 55.3**	**+1.1**
L21A	**Rawlins** baz=2.3,SNR=13	**2.23**	**223**	⇓P	**Pn**	**17 09 56.1**	**+1.0**
L21A	**Rawlins** baz=2.3,SNR=13	**2.23**	**223**	⇓P	**Pn**	**17 09 56.1**	**+1.0**
F22A	**Rosebud** baz=2.3,SNR=51	**2.28**	**343**	⇓P	**Pn**	**17 09 55.8**	**+0.2**
F22A	**Rosebud** baz=2.3,SNR=51	**2.28**	**343**	⇓P	**Pn**	**17 09 55.8**	**+0.2**
PHWY	**Pilot Hill**	**2.30**	**183**	*e*Pn	**Pn**	**17 09 56.4**	**+0.2**
M25A	**Palm-Egli Farm** baz=2.3,SNR=8.6	**2.36**	**156**	⇓P	**Pn**	**17 09 58.1**	**+1.2**
M25A	**Palm-Egli Farm** baz=2.3,SNR=8.6	**2.36**	**156**	⇓P	**Pn**	**17 09 58.1**	**+1.2**
RWWY	**Rawlins**	**2.37**	**217**	*e*Pn	**Pn**	**17 09 58.8**	**+1.7**
M22A	**Cedar Creek Ra** baz=2.5,SNR=102	**2.40**	**204**	⇓P	**Pn**	**17 09 58.7**	**+1.4**
M22A	**Cedar Creek Ra** baz=2.5,SNR=102	**2.40**	**204**	⇓P	**Pn**	**17 09 58.7**	**+1.4**
K20A	**Yellowstone Ra** baz=2.5,SNR=95	**2.41**	**248**	⇓P	**Pn**	**17 09 58.9**	**+1.4**
K20A	**Yellowstone Ra** baz=2.5,SNR=95	**2.41**	**248**	⇓P	**Pn**	**17 09 58.9**	**+1.4**
K27A	**Flueckinger Fa** baz=2.3	**2.43**	**111**	⇓P	**Pn**	**17 09 58.7**	**+1.0**
K27A	**Flueckinger Fa** baz=2.3	**2.43**	**111**	⇓P	**Pn**	**17 09 58.7**	**+1.0**
M21A	**Separation Pea** baz=2.6,SNR=109	**2.50**	**218**	P	**Pn**	**17 10 00.8**	**+1.9**
M21A	**Separation Pea** baz=2.6,SNR=109	**2.50**	**218**	P	**Pn**	**17 10 00.8**	**+1.9**
H27A	**Howes** baz=2.4,SNR=7.0	**2.55**	**65**	⇓P	**Pn**	**17 10 01.4**	**+2.1**
H27A	**Howes** baz=2.4,SNR=7.0	**2.55**	**65**	⇓P	**Pn**	**17 10 01.4**	**+2.1**
G26A	**Maurine** baz=2.5	**2.58**	**48**	⇑P	**Pn**	**17 10 01.3**	**+1.6**
G26A	**Maurine** baz=2.5	**2.58**	**48**	⇑P	**Pn**	**17 10 01.3**	**+1.6**
G20A	**Bridger** baz=2.7,SNR=73	**2.63**	**309**	P	**Pn**	**17 10 00.8**	**+0.3**
G20A	**Bridger** baz=2.7,SNR=73	**2.63**	**309**	P	**Pn**	**17 10 00.8**	**+0.3**
F25A	**Bowman** baz=2.6,SNR=12	**2.67**	**29**	⇑P	**Pn**	**17 10 01.9**	**+0.9**
F25A	**Bowman** baz=2.6,SNR=12	**2.67**	**29**	⇑P	**Pn**	**17 10 01.9**	**+0.9**
K19A	**Absolon Red Bu** baz=2.8,SNR=20	**2.70**	**254**	⇑P	**Pn**	**17 10 02.4**	**+0.9**
K19A	**Absolon Red Bu** baz=2.8,SNR=20	**2.70**	**254**	⇑P	**Pn**	**17 10 02.4**	**+0.9**
I19A	**Meeteetse** baz=2.8,SNR=14	**2.70**	**280**	⇓P	**Pn**	**17 10 03.1**	**+1.6**
I19A	**Meeteetse** baz=2.8,SNR=14	**2.70**	**280**	⇓P	**Pn**	**17 10 03.1**	**+1.6**
L20A	**Wamsutter** baz=2.8,SNR=50	**2.74**	**235**	P	**Pn**	**17 10 04.3**	**+2.3**
L20A	**Wamsutter** baz=2.8,SNR=50	**2.74**	**235**	P	**Pn**	**17 10 04.3**	**+2.3**
N23A	**Red Feather La** baz=2.8,SNR=62	**2.75**	**190**	P	**Pn**	**17 10 03.5**	**+1.2**
N23A	**Red Feather La** baz=2.8,SNR=62	**2.75**	**190**	P	**Pn**	**17 10 03.5**	**+1.2**
H19A	**Powell** baz=2.9,SNR=11	**2.85**	**293**	⇓P	**Pn**	**17 10 04.9**	**+1.4**
H19A	**Powell** baz=2.9,SNR=11	**2.85**	**293**	⇓P	**Pn**	**17 10 04.9**	**+1.4**
F20A	**Billings** baz=3.0,SNR=24	**2.98**	**318**	⇑P	**Pn**	**17 10 05.0**	**-0.3**
F20A	**Billings** baz=3.0,SNR=24	**2.98**	**318**	⇑P	**Pn**	**17 10 05.0**	**-0.3**
G27A	**Dupree** baz=2.9,SNR=15	**3.00**	**53**	⇓P	**Pn**	**17 10 06.2**	**+0.7**
G27A	**Dupree** baz=2.9,SNR=15	**3.00**	**53**	⇓P	**Pn**	**17 10 06.2**	**+0.7**
LAO	**LASA Array**	**3.15**	**349**	*e*Pn	**Pb**	**17 10 11.5**	**-2.1**
E25A	**Miller Ranch,** baz=3.1,SNR=10	**3.20**	**24**	⇓P	**Pn**	**17 10 09.6**	**+1.3**
E25A	**Miller Ranch,** baz=3.1,SNR=10	**3.20**	**24**	⇓P	**Pn**	**17 10 09.6**	**+1.3**
PDAR	**Pinedale Array**	**3.21**	**256**	Pn	**Pn**	**17 10 09.3**	**+0.7**
PDAR				Lg	Lg	17 10 54.5	
PDAR	**Pinedale Array** 2.3nm,0.3s,baz=70,slow=16,SNR=36	**3.21**	**256**	Pn	**Pn**	**17 10 09.3**	**+0.7**
PDAR	7.3nm,0.3s,baz=62,slow=31,SNR=11			Lg	Lg	17 10 54.5	
BW06	**Boulder Array**	**3.21**	**256**	*e*Pn	**Pn**	**17 10 08.7**	**+0.1**
RLMT	**Red Lodge**	**3.21**	**300**	*e*Pn	**Pn**	**17 10 08.4**	**-0.2**
I18A	**Diamond G Ranc** baz=3.4,SNR=9.1	**3.27**	**273**	⇑P	**Pn**	**17 10 11.7**	**+2.3**
I18A	**Diamond G Ranc** baz=3.4,SNR=9.1	**3.27**	**273**	⇑P	**Pn**	**17 10 11.7**	**+2.3**
H18A	**Shoshone NF, C** baz=3.4,SNR=17	**3.31**	**290**	⇑P	**Pn**	**17 10 11.0**	**+1.1**
H18A	**Shoshone NF, C** baz=3.4,SNR=17	**3.31**	**290**	⇑P	**Pn**	**17 10 11.0**	**+1.1**
F19A	**Roth Farm, Mol** baz=3.5,SNR=16	**3.43**	**312**	P	**Pn**	**17 10 12.2**	**+0.7**
F19A	**Roth Farm, Mol** baz=3.5,SNR=16	**3.43**	**312**	P	**Pn**	**17 10 12.2**	**+0.7**
G18A	**Lazy EL Ranch,** baz=3.6,SNR=28	**3.49**	**301**	⇑P	**Pn**	**17 10 13.3**	**+1.0**
G18A	**Lazy EL Ranch,** baz=3.6,SNR=28	**3.49**	**301**	⇑P	**Pn**	**17 10 13.3**	**+1.0**
E26A	**Carlson Angus** baz=3.4	**3.51**	**34**	⇑P	**Pn**	**17 10 13.5**	**+1.0**
E26A	**Carlson Angus**	**3.51**	**34**	⇑P	**Pn**	**17 10 13.5**	**+1.0**
N20A	**Spence Gulch,** baz=3.6	**3.53**	**219**	⇑P	**Pn**	**17 10 14.0**	**+1.0**
N20A	**Spence Gulch,** baz=3.6	**3.53**	**219**	⇑P	**Pn**	**17 10 14.0**	**+1.0**
D23A	**Lindsay** baz=3.6,SNR=9.2	**3.57**	**1**	⇓P	**Pn**	**17 10 15.1**	**+1.7**
D23A	**Lindsay** baz=3.6,SNR=9.2	**3.57**	**1**	⇓P	**Pn**	**17 10 15.1**	**+1.7**
OGNE	**Ogallala**	**3.60**	**136**	*e*Pn	**Pn**	**17 10 13.6**	**-0.3**
E19A	**Rath Farm, Rou** baz=3.8,SNR=35	**3.77**	**320**	⇓P	**Pn**	**17 10 16.7**	**+0.5**
E19A	**Rath Farm, Rou** baz=3.8,SNR=35	**3.77**	**320**	⇓P	**Pn**	**17 10 16.7**	**+0.5**
GCMT	**Greycliff**	**3.79**	**307**	*e*Pn	**Pn**	**17 10 17.7**	**+1.2**
ISCO	**Idaho Springs**	**3.81**	**183**	*e*Pn	**Pn**	**17 10 16.2**	**-0.7**
LOHW	**Long Hollow**	**3.84**	**272**	*e*Pn	**Pn**	**17 10 19.4**	**+2.2**
F18A	**Big Timber** baz=4.0,SNR=25	**3.89**	**308**	⇑P	**Pn**	**17 10 19.1**	**+1.3**
F18A	**Big Timber** baz=4.0,SNR=25	**3.89**	**308**	⇑P	**Pn**	**17 10 19.1**	**+1.3**
FLWY	**Flagg Ranch**	**3.92**	**279**	*e*Pg	**Pg**	**17 10 29.8**	**-2.1**
MOOW	**Moose Ponds**	**3.94**	**274**	*e*Pn	**Pn**	**17 10 19.9**	**+1.3**
SNOW	**Snow King Moun**	**3.96**	**270**	Pn	**Pn**	**17 10 21.4**	**+2.5**
D26A	**Manning** baz=3.9,SNR=9.9	**3.98**	**30**	⇑P	**Pn**	**17 10 19.7**	**+0.7**
D26A	**Manning** baz=3.9,SNR=9.9	**3.98**	**30**	⇑P	**Pn**	**17 10 19.7**	**+0.7**
D20A	**Manuel Ranch,** baz=4.0,SNR=8.4	**4.01**	**331**	⇑P	**Pn**	**17 10 19.7**	**+0.2**
D20A	**Manuel Ranch,** baz=4.0,SNR=8.4	**4.01**	**331**	⇑P	**Pn**	**17 10 19.7**	**+0.2**
REDW	**Red Top Meadow**	**4.04**	**268**	Pn	**Pn**	**17 10 22.2**	**+2.3**
IMW	**Indian Meadow**	**4.08**	**276**	*e*Pn	**Pn**	**17 10 21.7**	**+1.0**
TPAW	**Teton Pass**	**4.10**	**270**	*e*Pn	**Pn**	**17 10 22.5**	**+1.7**
C23A	**Lambert** baz=4.2,SNR=17	**4.20**	**1**	⇑P	**Pn**	**17 10 23.2**	**+1.2**
C23A	**Lambert** baz=4.2,SNR=17	**4.20**	**1**	⇑P	**Pn**	**17 10 23.2**	**+1.2**
P26A	**Davis Ranch, A** baz=4.3,SNR=23	**4.30**	**159**	⇓P	**Pn**	**17 10 23.5**	**0.0**
P26A	**Davis Ranch, A** baz=4.3,SNR=23	**4.30**	**159**	⇓P	**Pn**	**17 10 23.5**	**0.0**
D19A	**Cripps Ranch,** baz=4.4,SNR=15	**4.36**	**326**	⇓P	**Pn**	**17 10 25.3**	**+1.1**
D19A	**Cripps Ranch,** baz=4.4,SNR=15	**4.36**	**326**	⇓P	**Pn**	**17 10 25.3**	**+1.1**
RRI2	**Red Ridge**	**4.38**	**269**	*e*Pn	**Pn**	**17 10 25.9**	**+1.2**
E18A	**Harlowton** baz=4.5,SNR=19	**4.40**	**314**	⇓P	**Pn**	**17 10 25.4**	**+0.6**
E18A	**Harlowton** baz=4.5,SNR=19	**4.40**	**314**	⇓P	**Pn**	**17 10 25.4**	**+0.6**
F17A	**Fitzpatrick Pl** baz=4.5,SNR=16	**4.45**	**303**	⇓P	**Pn**	**17 10 26.9**	**+1.4**
F17A	**Fitzpatrick Pl** baz=4.5,SNR=16	**4.45**	**303**	⇓P	**Pn**	**17 10 26.9**	**+1.4**
P27A	**Ficken Ranch,** baz=4.5,SNR=12	**4.54**	**152**	⇓P	**Pn**	**17 10 27.0**	**+0.3**
P27A	**Ficken Ranch,** baz=4.5,SNR=12	**4.54**	**152**	⇓P	**Pn**	**17 10 27.0**	**+0.3**
QLMT	**Earthquake Lak**	**4.56**	**288**	*e*Pn	**Pn**	**17 10 28.9**	**+1.8**
SMCO	**Snowmass**	**4.59**	**196**	*e*Pg	**Pb**	**17 10 40.2**	**+1.9**
E17A	**Martinsdale** baz=4.9,SNR=7.6	**4.86**	**308**	⇑P	**Pn**	**17 10 32.0**	**+0.8**
E17A	**Martinsdale** baz=4.9,SNR=7.6	**4.86**	**308**	⇑P	**Pn**	**17 10 32.0**	**+0.8**
C19A	**Slack Wire Ran** baz=4.9,SNR=13	**4.89**	**329**	⇑P	**Pn**	**17 10 32.1**	**+0.7**
C19A	**Slack Wire Ran** baz=4.9,SNR=13	**4.89**	**329**	⇑P	**Pn**	**17 10 32.1**	**+0.7**
DGMT	**Dagmar**	**4.93**	**9**	*e*Pn	**Pn**	**17 10 33.6**	**+1.6**
BOZ	**Bozeman (W)** 2.6nm,0.4s	**4.95**	**297**	Pn	**Pn**	**17 10 30.1**	**-2.2**
HWUT	**Hardware Ranch** 6.7nm,0.4s	**5.03**	**249**	*e*Pn	**Pn**	**17 10 34.0**	**+0.5**
D17A	**Six Diamond Ra** baz=5.2,SNR=21	**5.19**	**315**	⇓P	**Pn**	**17 10 36.0**	**+0.4**
D17A	**Six Diamond Ra** baz=5.2,SNR=21	**5.19**	**315**	⇓P	**Pn**	**17 10 36.0**	**+0.4**
EGMT	**Eagleton** 7.8nm,0.5s	**5.40**	**326**	*e*Pn	**Pn**	**17 10 39.1**	**+0.6**
DAU	**Daniels Canyon** 3.9nm,0.4s	**5.45**	**236**	Pn	**Pn**	**17 10 39.9**	**+0.4**
R26A	**Arlington** baz=5.5,SNR=50	**5.48**	**164**	⇑P	**Pn**	**17 10 39.7**	**0.0**
R26A	**Arlington** baz=5.5,SNR=50	**5.48**	**164**	⇑P	**Pn**	**17 10 39.7**	**0.0**
R25A	**Fountain Ranch** baz=5.5,SNR=9.0	**5.51**	**171**	⇑P	**Pn**	**17 10 40.2**	**+0.1**
R25A	**Fountain Ranch** baz=5.5,SNR=9.0	**5.51**	**171**	⇑P	**Pn**	**17 10 40.2**	**+0.1**
C17A	**Wharram Farm,** baz=5.6,SNR=10.0	**5.55**	**318**	⇓P	**Pn**	**17 10 41.2**	**+0.6**
C17A	**Wharram Farm,** baz=5.6,SNR=10.0	**5.55**	**318**	⇓P	**Pn**	**17 10 41.2**	**+0.6**
MCMT	**McKenzie Canyo** 1.4nm,0.4s	**5.55**	**285**	*e*Pn	Pn	17 10 37.0	-3.8
HRY	**Holter Researc** 7.0nm,0.4s	**5.56**	**306**	*e*Pn	**Pn**	**17 10 42.0**	**+1.3**
R27A	**Eads** baz=5.6,SNR=9.2	**5.64**	**159**	⇓P	**Pn**	**17 10 42.4**	**+0.5**
R27A	**Eads** baz=5.6,SNR=9.2	**5.64**	**159**	⇓P	**Pn**	**17 10 42.4**	**+0.5**
SPUT	**South Promonto**	**5.75**	**249**	*e*Pn	**Pn**	**17 10 45.0**	**+1.6**
PV04	**Paradox Valley**	**5.87**	**209**	*e*Pn	**Pn**	**17 10 45.2**	**+0.1**
SRU	**San Rafael** 5.7nm,0.4s	**5.96**	**223**	*e*Pn	**Pn**	**17 10 46.7**	**+0.4**
S25A	**Robets Cordova** baz=6.0,SNR=6.0	**5.97**	**173**	⇑P	**Pn**	**17 10 46.6**	**+0.1**
S25A	**Robets Cordova** baz=6.0,SNR=6.0	**5.97**	**173**	⇑P	**Pn**	**17 10 46.6**	**+0.1**
S26A	**Kim** baz=6.1,SNR=10	**6.14**	**166**	⇓P	**Pn**	**17 10 48.7**	**-0.1**
S26A	**Kim** baz=6.1,SNR=10	**6.14**	**166**	⇓P	**Pn**	**17 10 48.7**	**-0.1**
ECSD	**EROS Data Cent** 3.0nm,0.4s	**6.31**	**86**	Pn	Pn	17 10 47.7	-3.3
T27A	**Campo** baz=6.8,SNR=7.1	**6.83**	**162**	⇑P	**Pn**	**17 10 58.0**	**-0.2**
T27A	**Campo** baz=6.8,SNR=7.1	**6.83**	**162**	⇑P	**Pn**	**17 10 58.0**	**-0.2**
ULM	**Lac du Bonnet**	**9.26**	**41**	Pn	**Pn**	**17 11 29.0**	**-2.4**
ULM				Lg	Lg	17 14 02.5	
ULM	**Lac du Bonnet** 1.6nm,0.3s,baz=237,slow=11,SNR=5.9	**9.26**	**41**	Pn	**Pn**	**17 11 29.0**	**-2.4**
ULM	0.5nm,0.3s,baz=180,slow=2.0,SNR=3.3			Lg	Lg	17 14 02.5	
FINES	**FINESS Array B**	**68.17**	**23**	P	**P**	**17 20 17.4**	**-0.8**
FINES	**FINESS Array B** 1.2nm,0.8s,baz=334,slow=5.1,SNR=2.9	**68.17**	**23**	P	**P**	**17 20 17.4**	**-0.8**
PPT	**Papeete** comp=Z,88nm,18.5s,baz=181,slow=33	**73.14**	**224**	LR	LR	17 49 45.1	
BDFB	**Brasilia** comp=Z,159nm,18.3s,baz=226,slow=39	**78.82**	**124**	LR	LR	18 01 28.0	
CPUP	**Villa Florida** comp=Z,143nm,18.4

0.5nm,0.3s,baz=84,slow=21,SNR=8.8
PPT2 Papeete2 29.15 82 eLR LR 17 23 30.2
155nm,24.5s
STKA Stephens Creek 34.53 249 P P 17 23 14.2 +1.0
0.7nm,0.4s,baz=126,slow=17,SNR=3.6
ASAR Alice Springs 41.96 261 P P 17 24 13.9 -0.2
0.1nm,0.3s,baz=93,slow=7.7,SNR=11
WRA Warramunga Arr 42.39 267 P P 17 24 17.1 -0.4
0.5nm,0.5s,baz=104,slow=8.3,SNR=23
WRA ScP ScP 17 29 03.7 -0.5
0.6nm,0.9s,baz=93,slow=3.8,SNR=4.8
TXAR Lajitas Array 90.72 58 P P 17 29 17.9 +0.8
0.2nm,0.5s,baz=213,slow=6.5,SNR=3.9
ARCES ARCESS Array B 132.46 348 PKP PKPdf 17 35 24.6 +0.4
2.4nm,1.0s,baz=72,slow=2.9,SNR=3.7
HFS Hagfors 143.12 349 PKP PKPab 17 35 41.2 -0.3
1.9nm,0.4s,baz=60,slow=3.5,SNR=20
AKASG Malin Array Be 145.47 327 PKPbc PKPdf 17 35 48.5 +0.2
0.4nm,0.3s,baz=44,slow=3.9,SNR=2.4
BRTR Keskin Array B 147.94 306 PKPbc PKPbc 17 35 56.0 -0.8
0.2nm,0.4s,baz=343,slow=4.5,SNR=3.4
MMAI Mount Meron Ar 147.96 294 PKPbc PKPbc 17 35 57.4 +0.5
1.1nm,0.5s,baz=70,slow=5.4,SNR=5.0
EKA Eskdalemuir Ar 149.10 4 PKPbc PKPbc 17 35 58.3 -0.7
0.8nm,0.6s,baz=7.1,slow=2.9,SNR=2.9

MEX 28 17:39:49.0±0.3, 15°.50N×93°.72W, h69km±4km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.53**	**67**	eP	Pn	17 40 00.6	-1.3
PCIG				i S	Sn	17 40 09.8	-1.7
TGIG		**1.40**	**24**	eP	Pn	17 40 11.2	-1.4
TGIG				i S	Sn	17 40 28.6	-1.8
CCIG	**Comitan**	**1.71**	**63**	eP	Pn	17 40 15.8	-1.2
CCIG				i S	Sn	17 40 36.3	-1.9
HUIG	**Huatulco**	**2.31**	**277**	eP	Pn	17 40 23.4	-1.4
HUIG				i S	Sn	17 40 50.8	-1.5

*CSEM **28** 17:59:04.7±0.2, 38°.05N×0°.82W, h10km, ML2.0, Error ellipse: s-maj=5.1km s-min=3.5km az=131.0*
*SFS **28** 17:59:32.0, 35°.84N×4°.69W, h78km, ML2.6*
MDD 28 17:59:05.4±0.5, 38°.00N×0°.76W, h11km±1km, mbLg2.0/6, 5C, Error ellipse: s-maj=6.6km s-min=3.4km az=129.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.41**	**248**	⇑Pg	Pg	17 59 12.7	-0.8
EMUR	4.7nm,0.1s,SNR=18			Lg	Lg	17 59 18.2	
EMUR	**La Murta**	**0.41**	**248**	Pg	Pg	17 59 12.7	-0.8
EMUR	4.7nm,0.1s,SNR=18			Lg	Lg	17 59 18.2	
CART	**Cartagena**	**0.45**	**205**	⇑Pg	Pg	17 59 14.5	+0.2
CART				Lg	Lg	17 59 18.9	
CART	**Cartagena**	**0.45**	**205**	i P	Pg	17 59 14.5	+0.2
CART				eS	Sg	17 59 18.9	-1.3
EBEN	**Beniarda**	**0.82**	**31**	⇑Pg	Pg	17 59 19.9	-1.5
EBEN	5.4nm,0.4s,SNR=18			Lg	Lg	17 59 31.5	
EBEN	**Beniarda**	**0.82**	**31**	Pg	Pg	17 59 19.9	-1.5
EBEN	5.4nm,0.4s,SNR=18			Lg	Lg	17 59 31.5	
ETOB	**Tobarra**	**0.89**	**317**	⇑Pg	Pg	17 59 21.7	-1.0
ETOB	13nm,0.2s,SNR=18			Lg	Lg	17 59 34.6	
ETOB	**Tobarra**	**0.89**	**317**	Pg	Pg	17 59 21.7	-1.0
ETOB	13nm,0.2s,SNR=18			Lg	Lg	17 59 34.6	
EHUE	**Huescar**	**1.46**	**263**	⇑Pg	Pn	17 59 31.8	0.0
EHUE	2.1nm,0.2s,SNR=18			Lg	Lg	17 59 51.0	
EHUE	**Huescar**	**1.46**	**263**	Pg	Pn	17 59 31.8	0.0
EHUE	2.1nm,0.2s,SNR=18			Lg	Lg	17 59 51.0	
EVIA	**Vianos**	**1.51**	**296**	Pg	Pn	17 59 32.7	+0.1
EVIA	44nm,0.4s,SNR=18			Lg	Lg	17 59 51.8	
EVIA	**Vianos**	**1.51**	**296**	Pg	Pn	17 59 32.7	+0.1
EVIA	44nm,0.4s,SNR=18			Lg	Lg	17 59 51.8	
EQES	**Quesada**	**1.83**	**265**	Pn	Pn	17 59 36.9	-0.2
EQES	5.6nm,0.2s,SNR=21			Pg	Pg	17 59 40.8	0.0
EQES	17nm,0.4s,SNR=19			Lg	Lg	18 00 02.0	
EQES	**Quesada**	**1.83**	**265**	Pn	Pn	17 59 36.9	-0.2
EBER	**Berja**	**2.02**	**238**	Pn	Pn	17 59 39.0	-0.6
EBER	0.9nm,0.2s,SNR=6.0			Sn	Sn	18 00 03.7	-1.3
EBER	**Berja**	**2.02**	**238**	Pn	Pn	17 59 39.0	-0.7
EBER	0.9nm,0.2s,SNR=6.0			Sn	Sn	18 00 03.7	-1.4
EMOS	**Mosqueruela**	**2.37**	**5**	Pn	Pn	17 59 43.7	-0.9
EMOS	0.2nm,0.1s,SNR=7.9			Sn	Sn	18 00 10.3	-3.6
EMOS	**Mosqueruela**	**2.37**	**5**	Pn	Pn	17 59 43.7	-0.9
EMOS	0.2nm,0.1s,SNR=7.9			Sn	Sn	18 00 10.3	-3.6
EBAN	**Banos Encina**	**2.39**	**275**	Pn	Pn	17 59 43.3	-1.2
EBAN	**Banos Encina**	**2.39**	**275**	Pn	Pn	17 59 43.3	-1.3
ERON	**Agron**	**2.61**	**249**	Pn	Pn	17 59 47.4	-0.3
ERON	**Agron**	**2.61**	**249**	Pn	Pn	17 59 47.4	-0.3
ESDC	**Sonseca Array**	**3.01**	**305**	Pg	Pb	18 00 00.5	+1.4
ESDC	2.3nm,0.3s,baz=123,slow=30,SNR=14			Lg	Lg	18 00 40.2	
ESDC	**Sonseca Array**	**3.01**	**305**	Pg	Pb	18 00 00.5	+1.4
ESDC	2.3nm,0.3s,baz=123,slow=30,SNR=14			Lg	Lg	18 00 40.2	
EADA	**Adamuz**	**3.01**	**274**	Pn	Pn	17 59 50.9	-2.3
EADA	0.6nm,0.2s,SNR=7.9			Pg	Pb	18 00 00.7	+1.6
EADA	0.2nm,0.2s,SNR=7.9			Sn	Sn	18 00 27.5	-1.8
EADA	**Adamuz**	**3.01**	**274**	Pn	Pn	17 59 50.9	-2.3
ETOS	**Mallorca**	**3.30**	**57**	Pn	Pn	17 59 56.7	-0.5
ETOS	**Mallorca**	**3.30**	**57**	Pn	Pn	17 59 56.7	-0.5
ECAB	**El Cabril**	**3.68**	**273**	Pn	Pn	18 00 00.0	-2.2
ECAB	**El Cabril**	**3.68**	**273**	Pn	Pn	18 00 00.0	-2.3

*CSEM **28** 17:59:33.2±0.4, 35°.98N×4°.75W, h75km±4km, mb2.6/6, Error ellipse: s-maj=8.4km s-min=4.6km az=169.0*
MDD 28 17:59:32.1±2.1, 35°.84N×4°.69W, h78km±16km, mb2.6/6, 2C, Error ellipse: s-maj=20.0km s-min=11.4km az=173.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.72**	**355**	⇑P	Pn	17 59 47.6	-0.4
EMIJ	1.0nm,0.1s,SNR=18			S	Sn	17 59 58.9	-0.9
EMIJ	**Mijas**	**0.72**	**355**	P	Pn	17 59 47.6	-0.4
EMIJ	1.0nm,0.1s,SNR=18			S	Sn	17 59 58.9	-0.8
EGUA	**Guajares**	**1.34**	**42**	S	Sn	18 00 10.6	-2.3
EGUA	**Guajares**	**1.34**	**42**	S	Sn	18 00 10.6	-2.2
ECAB	**El Cabril**	**2.31**	**345**	P	Pn	18 00 07.2	-0.8
ECAB	0.7nm,0.1s,SNR=5.7			S	Sn	18 00 33.0	-2.6
ECAB	**El Cabril**	**2.31**	**345**	P	Pn	18 00 07.2	-0.9
ECAB	0.7nm,0.1s,SNR=5.7			S	Sn	18 00 33.0	-2.6
EADA	**Adamuz**	**2.32**	**2**	P	Pn	18 00 08.0	-0.4
EADA	0.4nm,0.1s,SNR=7.9			S	Sn	18 00 34.1	-2.0
EADA	**Adamuz**	**2.32**	**2**	P	Pn	18 00 08.0	-0.3
EADA	0.4nm,0.1s,SNR=7.9			S	Sn	18 00 34.1	-2.0
EQES	**Quesada**	**2.35**	**33**	S	Sn	18 00 35.6	-1.2
EQES	**Quesada**	**2.35**	**33**	S	Sn	18 00 35.6	-1.2
EMIN	**Mina Concepcio**	**2.50**	**321**	⇑P	Pn	18 00 09.9	-0.7
EMIN	0.4nm,0.1s,SNR=7.9			S	Sn	18 00 37.5	-2.7
EMIN	**Mina Concepcio**	**2.50**	**321**	P	Pn	18 00 09.9	-0.7
EMIN	0.4nm,0.1s,SNR=7.9			S	Sn	18 00 37.5	-2.6
EGRO	**El Granado**	**2.81**	**308**	P	Pn	18 00 14.0	-0.9
EGRO	2.0nm,0.2s,SNR=7.9			S	Sn	18 00 45.4	-2.4
EGRO	**El Granado**	**2.81**	**308**	P	Pn	18 00 14.0	-0.8
EGRO	2.0nm,0.2s,SNR=7.9			S	Sn	18 00 45.4	-2.3
PVAQ	**Vaqueiros**	**2.89**	**303**	eS	Sn	18 00 47.2	-2.5
PVAQ	1.5nm,0.2s			A	A	18 00 48.3	
PVAQ	**Vaqueiros**	**2.89**	**303**	S	Sn	18 00 47.2	-2.5
PVAQ	**Vaqueiros**	**2.89**	**303**	S	Sn	18 00 47.2	-2.5
PBAR	**Barrancos**	**2.99**	**322**	eP	Pn	18 00 16.7	-0.6
PBAR				eS	Sn	18 00 49.7	-2.5
PBAR	**Barrancos**	**2.99**	**322**	Pn	Pn	18 00 16.7	-0.6
PBAR	**Barrancos**	**2.99**	**322**	Pn	Pn	18 00 16.7	-0.6
PCVE	**Castro Verde**	**3.23**	**305**	eP	Pn	18 00 19.8	-0.8
PCVE				eS	Sn	18 00 55.9	-2.1
PCVE	**Castro Verde**	**3.23**	**305**	P	Pn	18 00 19.8	-0.8
PCVE				S	Sn	18 00 55.9	-2.1
PCVE	**Castro Verde**	**3.23**	**305**	P	Pn	18 00 19.8	-0.8
PCVE				S	Sn	18 00 55.9	-2.1
EBAD	**Badajoz**	**3.45**	**328**	P	Pn	18 00 22.9	-0.7
EBAD	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.45**	**328**	P	Pn	18 00 22.9	-0.6
EBAD	0.7nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.80**	**323**	eP	Pn	18 00 27.9	-0.5
PESTR	**Estremoz**	**3.80**	**323**	Pn	Pn	18 00 27.9	-0.5
PESTR	**Estremoz**	**3.80**	**323**	eP	Pn	18 00 27.9	-0.5

*ISCJB **28** 18:51:12.1±0.5, 35°.11N±0°.06×135°.69E±0°.07, h372km±4km, mb2.8/5, Error ellipse: s-maj=10.1km s-min=8.4km az=33.1*
*JMA **28** 18:51:13.4±0.1, 35°.18N×135°.63E, h362km±1km, M2.7*
*IDC **28** 18:51:13.0±1.1, 35°.07N×135°.73E, h366km±13km, mb2.7/5, mb1 3.0/10, mb1mx2.9/31, mbtmp2.9/10, Error ellipse: s-maj=19.4km s-min=14.2km az=79.0*
ISC 28 18:51:12.9±0.8, 35°.16N±0°.07×135°.64E±0°.07, h362km±7km, n23, σ0°.78/31, mb2.7/5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.23**	**301**	P	**Pn**	**18 51 58.6**	**+0.5**
JWT				S	**S**	**18 52 34.1**	**-0.4**
JWY	**Kouya**	**0.94**	**182**	P	**Pn**	**18 52 00.5**	**+0.5**
JWY				S	**S**	**18 52 37.1**	**-0.7**
JGM	**Miyama**	**1.03**	**58**	P	**Pn**	**18 52 00.7**	**+0.6**
JGM				eS	**S**	**18 52 38.3**	**+0.2**
JIE	**Ise**	**1.17**	**131**	P	**Pn**	**18 52 01.4**	**+0.7**
JIE				S	**S**	**18 52 39.1**	**0.0**
JKG	**Kaga**	**1.25**	**27**	P	**Pn**	**18 52 01.4**	**+0.5**
JWZ	**Kozaga**	**1.63**	**178**	P	**Pn**	**18 52 03.4**	**+0.2**
JWZ				S	**S**	**18 52 42.8**	**-0.7**
JAI	**Aioi**	**1.68**	**216**	P	**Pn**	**18 52 03.8**	**+0.4**
JMN	**Monobe**	**2.04**	**226**	P	**Pn**	**18 52 06.3**	**+0.5**
JHS	**Saijyo**	**2.08**	**266**	P	**Pn**	**18 52 06.6**	**+0.7**
JHS				S	**S**	**18 52 48.9**	**+0.3**
TK02	**Tokai 2**	**2.13**	**124**	P	**Pn**	**18 52 07.1**	**+1.1**
MAT	**Matsushiro**	**2.50**	**56**	P	**Pn**	**18 52 09.2**	**+0.2**
MAT				S	**S**	**18 52 56.0**	**+1.8**
MJAR	**Matsushiro Arr**	**2.50**	**56**	P	**Pn**	**18 52 09.4**	**+0.4**
MJAR	0.9nm,0.3s,baz=238,slow=5.8,SNR=18			S	**S**	**18 52 53.5**	**-0.7**
JRY	**Ryogami san**	**2.79**	**71**	P	**Pn**	**18 52 11.7**	**+0.3**
JNU	**Nakatsue**	**4.44**	**244**	P	**Pn**	**18 52 28.1**	**+0.9**
KSRS	**Korea Array**	**6.64**	**292**	P	**P**	**18 52 53.0**	**+0.5**
USRK	**Ussuriysk Arra**	**9.45**	**344**	P	**P**	**18 53 25.4**	**-0.1**
USRK	1.8nm,0.3s,baz=157,slow=11,SNR=27			S	**S**	**18 55 09.7**	**-2.0**
CBIJ	**Chichi jima**	**9.80**	**143**	P	Pn	18 53 23.0	-5.6
CBIJ	2.7nm,0.3s,baz=287,slow=19,SNR=5.2			S	S	18 55 08.6	-11
ASAJ	**Asahikawa**	**10.42**	**29**	P	**Pn**	**18 53 35.6**	**-0.1**
ASAJ	1.4nm,0.3s,baz=239,slow=33,SNR=28			S	S	18 55 25.0	-7.9
SONM	**Songino Array**	**25.13**	**309**	P	**P**	**18 56 07.0**	**+0.6**
MKAR	**Makanchi Array**	**41.18**	**303**	P	**P**	**18 58 24.0**	**+0.7**
ILAR	**Eielson Array**	**53.55**	**31**	P	**P**	**18 59 57.4**	**+0.2**
WRA	**Warramunga Arr**	**54.82**	**181**	P	**P**	**19 00 05.8**	**-1.0**
ASAR	**Alice Springs**	**58.53**	**182**	P	**P**	**19 00 31.8**	**-0.9**

MEX 28 19:00:16.2±0.4, 15°.66N×96°.00W, h7km±4km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.15**	**318**	i P	Pg	19 00 19.1	-0.3
HUIG				i S	Sg	19 00 21.4	-0.2
VHO	**Vista Hermosa**	**1.57**	**334**	eP	Pn	19 00 41.8	-3.0
VHO				eS	Sn	19 01 00.2	-5.4
PNIG	**Pinotepa**	**2.17**	**290**	eP	Pn	19 00 49.2	-3.6
PNIG				eS	Sn	19 01 15.8	-4.1

SKHL 28 19:06:35.3±0.7, 54°.79N×135°.48E, h10km, mb3.8/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**2.28**	**222**	ePn	Pn	19 07 13.7	+0.7
EKMR				ePg	Pb	19 07 16.9	+0.3
EKMR	27nm,0.3s			AMB	AMB	19 07 19.0	
EKMR	22nm,0.3s			AMB	AMB	19 07 19.0	
EKMR	36nm,0.3s			AMB	AMB	19 07 19.0	
EKMR				eSn	Sn	19 07 41.2	0.0
EKMR				eSg	Sg	19 07 47.5	-1.2
EKMR	110nm,0.6s			A	A	19 07 50.3	
EKMR	150nm,0.6s			A	A	19 07 50.3	
EKMR	81nm,0.6s			A	A	19 07 50.3	
NKL	**Nikolayevsk**	**3.48**	**116**	erx	rx	19 07 42.0	
NKL				eSg	Sg	19 08 25.0	-2.1
NKL	52nm,0.8s			A	A	19 08 29.0	
BMKR	**Bomnak**	**3.85**	**272**	ePn	Pn	19 07 34.7	+0.2
BMKR				erx	rx	19 07 43.0	
BMKR				ePg	Pb	19 07 44.2	+1.0
BMKR	6.0nm,0.4s			AMB	AMB	19 07 45.8	
BMKR	8.0nm,0.4s			AMB	AMB	19 07 45.8	
BMKR				eSn	Sn	19 08 19.2	-0.6
BMKR				eSg	Sg	19 08 34.9	-3.9
BMKR	42nm,0.4s			A	A	19 08 40.9	
BMKR	55nm,0.4s			A	A	19 08 40.9	
BMKR	26nm,0.4s			A	A	19 08 40.9	
GRNR	**Gornyy**	**4.07**	**172**	erx	rx	19 07 52.5	
GRNR				eSg	Sg	19 08 43.0	-3.0
GRNR	30nm,0.5s			A	A	19 08 50.0	
ZEA	**Zeya**	**4.94**	**261**	ePg	Pg	19 08 06.5	-3.4
ZEA				eSg	Sg	19 09 10.0	-3.8
ZEA	30nm,0.7s			A	A	19 09 14.1	
KROS	**Kirovskiy**	**4.96**	**269**	ePn	Pn	19 07 49.8	0.0
KROS				ePg	Pb	19 08 04.5	+2.3
KROS	3.0nm,0.5s			AMB	AMB	19 08 06.6	
KROS				eSg	Sg	19 09 09.0	-5.5
KROS	56nm,0.9s			A	A	19 09 15.0	
KROS	19nm,0.9s			A	A	19 09 15.0	
KLR	**Kul'dur**	**6.03**	**204**	eSn	Sn	19 09 12.8	-0.6
KLR				eSg	Sg	19 09 41.8	-6.8

IDC 28 19:09:06.1±3.5, 5°.67S×145°.92E, h78km±29km, mb3.2/3, mb1 3.5/5, mb1mx3.2/19, mbtmp3.4/5, Error ellipse: s-maj=27.3km s-min=24.2km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.91**	**162**	P	Pn	19 10 04.9	+1.0
PMG	8.0nm,0.3s,baz=355,slow=12,SNR=32			S	Sn	19 10 47.9	-0.7
WRA	**Warramunga Arr**	**18.11**	**217**	P	Pn	19 13 14.0	+1.4
WRA	0.5nm,0.3s,baz=32,slow=11,SNR=61			S	S	19 16 36.0	+1.2
ASAR	**Alice Springs**	**21.31**	**212**	P	P	19 13 47.3	+0.6
ASAR	1.4nm,0.7s,baz=34,slow=11,SNR=21			S	S	19 17 39.3	0.0
FITZ	**Fitzroy Crossi**	**23.34**	**236**	P	P	19 14 07.4	-0.5
STKA	**Stephens Creek**	**26.39**	**188**	P	P	19 14 35.2	0.0

IDC 28 19:19:20.8±1.3, 14°.60N×145°.97E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.5/26, mbtmp3.5/7, Error ellipse: s-maj=48.0km s-min=21.7km az=90.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.18**	**199**	P	P	19 26 26.0	+0.6
ASAR	**Alice Springs**	**39.82**	**197**	P	P	19 26 55.2	-0.9
SONM	**Songino Array**	**46.54**	**324**	P	P	19 27 50.2	-0.2
ZALV	**Zalesovo Beam**	**61.44**	**324**	P	P	19 29 39.5	+0.5
MKAR	**Makanchi Array**	**61.52**	**316**	P	P	19 29 39.6	-0.1
ILAR	**Eielson Array**	**67.21**	**25**	P	P	19 30 16.6	0.0
BVAR	**Borovoye Array**	**69.81**	**321**	P	P	19 30 32.7	-0.4

*IDC **28** 19:23:21.2±1.6, 24°.23S×66°.82W, h164km±15km, mb3.4/3, mb1 3.8/7, mb1mx3.5/19, mbtmp3.6/7, Error ellipse: s-maj=22.0km s-min=13.0km az=95.0*
*GUC **28** 19:23:25.4±0.5, 23°.88S×67°.41W, h230km, ML4.6*
ISC 28 19:23:25.1±1.4, 23°.94S±0°.09×67°.1W±0°.1, h214km±17km, n19, σ1°.25/23, mb3.7/3, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.75**	**307**	⇑iP	Pn	19 24 18.5	+5.8
PB04				i S	S	19 24 58.7	+9.2
PB04	comp=E,705nm,0.4s			AML	AML	19 25 02.1	
CEN1	**Los Morros**	**2.89**	**280**	⇓iP	**Pn**	**19 24 14.9**	**+0.7**
CEN1				i S	**S**	**19 24 53.3**	**+0.9**
CEN1	comp=N,273nm,0.6s			AML	AML	19 24 55.2	
PB09	**Plate Boundary**	**2.90**	**317**	eP	**Pn**	**19 24 15.7**	**+1.2**
PB09				eS	**S**	**19 24 54.5**	**+1.6**
PB09	comp=N,2μm,0.5s			AML	AML	19 24 55.8	
PB10	**Plate Boundary**	**3.19**	**277**	⇑iP	**Pn**	**19 24 17.2**	**-0.4**
PB10				i S	**S**	**19 24 57.0**	**-1.4**
PB10	comp=E,738nm,0.4s			AML	AML	19 25 01.8	
PB07	**Plate Boundary**	**3.38**	**310**	⇑iP	**Pn**	**19 24 20.6**	**+0.4**
PB07				i S	**S**	**19 25 02.3**	**-0.6**
PB07	comp=E,771nm,0.5s			AML	AML	19 25 03.9	
PSGC	**Pisagua**	**5.15**	**326**	eP	**Pn**	**19 24 41.0**	**-0.9**
PSGC				eS	**S**	**19 25 39.5**	**-2.9**
MNMC	**Minimini**	**5.32**	**334**	eP	**Pn**	**19 24 44.6**	**+0.4**
MNMC				eS	**S**	**19 25 46.4**	**-0.1**
LPAZ	**La Paz**	**7.68**	**353**	P	**Pn**	**19 25 16.4**	**+1.6**
LPAZ	comp=E,1.2nm,0.3s,baz=155,slow=9.8,SNR=30			S	**S**	**19 26 42.2**	**0.0**
CFAA	**Coronel Fontan**	**7.70**	**187**	P	Pn	19 25 08.5	-5.9
CFAA	comp=E,0.3nm,0.3s,baz=11,slow=12,SNR=27			S	S	19 26 28.8	-13
SIV	**San Ignacio**	**9.73**	**37**	P	**Pn**	**19 25 39.2**	**-1.7**
PLCA	**Paso Flores**	**16.99**	**189**	P	**P**	**19 27 07.3**	**-1.7**
BDFB	**Brasilia**	**19.76**	**69**	P	**P**	**19 27 38.3**	**-0.9**
TXAR	**Lajitas Array**	**63.57**	**324**	P	P	19 33 37.7	+4.5
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	**19 34 52.7**	**0.0**
BOSA	**Boshof**	**80.85**	**117**	P	**P**	**19 35 15.9**	**+0.2**
ASAR	**Alice Springs**	**128.47**	**205**	PKP	**PKPdf**	**19 42 08.2**	**+1.1**
WRA	**Warramunga Arr**	**131.63**	**207**	PKP	**PKPdf**	**19 42 14.6**	**+1.4**
ZALV	**Zalesovo Beam**	**143.39**	**28**	PKP	**PKPdf**	**19 42 34.0**	**+0.3**
MKAR	**Makanchi Array**	**146.54**	**39**	PKPbc	**PKPab**	**19 42 43.4**	**+0.7**

*IDC **28** 19:29:19.5±2.1, 39°.19N×71°.78E, h0km, mb3.5/2, mb1 3.5/6, mb1mx3.3/30, mbtmp3.5/6, ML3.3/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/32, Error ellipse: s-maj=38.6km s-min=15.3km az=147.0*
*ISCJB **28** 19:29:22.5±1.3, 39°.1N±0°.1×71°.55E±0°.08, h34km, mb3.5/2, Error ellipse: s-maj=15.2km s-min=8.3km az=164.0*
*NNC **28** 19:29:22.6±3.8, 39°.35N×71°.52E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=35.8km s-min=16.7km az=175.0*
ISC 28 19:29:24.1±1.6, 39°.2N±0°.1×71°.47E±0°.09, h34km, n18, σ1°.43/21, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.41**	**29**	P	**Pn**	**19 30 15.2**	**+0.1**

	SNR=11								
KK31	**Karatay Array**	**4.00**	**350**	⇓Pn		**Pn**	**19 30 25.9**	**+3.0**
	1.5nm,0.3s,baz=164,slow=12,SNR=75								
KK31				⇑Lg		Lg	19 31 24.7		
	11nm,0.5s,baz=158,slow=25,SNR=8.0								
AAK	**Ala-Archa**	**4.15**	**33**	P		**Pn**	**19 30 26.3**	**+1.2**
	SNR=11								
AAK	**Ala-Archa**	**4.15**	**33**	Pn		**Pn**	**19 30 26.1**	**+1.0**
	2.5nm,0.3s,baz=191,slow=8.6,SNR=11								
AAK				Sn		**Sn**	**19 31 13.1**	**+0.6**
	0.5nm,0.3s,baz=282,slow=21,SNR=1.6								
KBK	**Karagaybulak**	**4.37**	**36**	P		**Pn**	**19 30 29.2**	**+1.1**
	SNR=7.7								
CHMS	**Chumysh**	**4.56**	**32**	P		**Pn**	**19 30 31.2**	**+0.6**
	SNR=9.1								
USP	**Ospenovka**	**4.69**	**28**	P		**Pn**	**19 30 32.5**	**+0.1**
	SNR=8.8								
ULHL	**Ulahol**	**4.75**	**48**	P		**Pn**	**19 30 32.7**	**-0.8**
	SNR=6.2								
TKM2	**Tokmak 2**	**4.88**	**38**	⇑Pn		**Pn**	**19 30 34.9**	**-0.3**
	2.1nm,0.5s								
TKM2				⇓Sn		**Sn**	**19 31 31.3**	**+0.8**
	6.6nm,0.7s								
TKM2	**Tokmak 2**	**4.88**	**38**	P		**Pn**	**19 30 35.0**	**-0.1**
	SNR=6.3								
MKAR	**Makanchi Array**	**10.99**	**43**	Pn		**Pn**	**19 31 58.4**	**-0.4**
	0.0nm,0.3s,baz=235,slow=15,SNR=3.3								
AB31	**Akbulak array**	**13.02**	**324**	⇑Pn		**Pn**	**19 32 25.1**	**-1.4**
	0.6nm,0.7s,baz=29,slow=21,SNR=13								
AB31				⇑Sn		**Sn**	**19 34 48.0**	**-2.1**
	1.1nm,0.7s,baz=131,slow=25,SNR=5.2								
BVAR	**Borovoye Array**	**13.88**	**357**	LR		LR	19 37 33.5		
	comp=Z,18nm,19.8s,baz=109,slow=36								
AKTO	**Aktyubinsk**	**14.74**	**324**	⇑Pn		**P**	**19 32 52.8**	**-2.8**
	1.6nm,0.9s								
AKTO				⇓Sn		**Sn**	**19 35 33.9**	**+2.0**
	1.6nm,1.0s								
AKTO	**Aktyubinsk**	**14.74**	**324**	Pn		**Pn**	**19 32 49.6**	**-0.3**
	0.1nm,0.3s,baz=126,slow=17,SNR=3.3								
ZALV	**Zalesovo Beam**	**17.35**	**27**	P		**Pn**	**19 33 22.5**	**-0.9**
	0.6nm,0.3s,baz=217,slow=11,SNR=15								
FINES	**FINESS Array B**	**35.51**	**324**	P		**P**	**19 36 18.4**	**+1.1**
	0.6nm,0.7s,baz=128,slow=11,SNR=2.6								
TORD	**Torodi Ar. Bea**	**66.17**	**268**	P		**P**	**19 40 10.0**	**+1.5**
	0.2nm,0.6s,baz=53,slow=7.2,SNR=3.2								

IDC 28 19:34:16.1±0.9, 37°.63N×95°.80E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/29, mbtmp3.5/9, ML3.5/3, MS3.4/2, Ms1 3.4/2, ms1mx2.6/34, Error ellipse: s-maj=28.0km s-min=18.7km az=51.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.81**	**34**	Pn	Pn	19 37 20.5	+0.8
	0.2nm,0.3s,baz=217,slow=15,SNR=7.3						
MKAR	**Makanchi Array**	**13.55**	**317**	Pn	Pn	19 37 26.8	-2.8
	0.3nm,0.3s,baz=124,slow=14,SNR=18						
MKAR				Sn	Sn	19 39 54.2	-6.7
	0.1nm,0.3s,baz=124,slow=26,SNR=11						
AAK	**Ala-Archa**	**17.03**	**294**	LR	LR	19 45 45.5	
	comp=Z,35nm,19.3s,baz=71,slow=40						
CMAR	**Chiang Mai Arr**	**19.30**	**171**	P	Pn	19 38 43.8	+0.2
	0.1nm,0.3s,baz=342,slow=10,SNR=8.4						
BVAR	**Borovoye Array**	**23.40**	**319**	P	P	19 39 25.9	-0.6
	0.6nm,0.6s,baz=112,slow=12,SNR=5.0						
KSRS	**Korea Array**	**25.41**	**80**	P	P	19 39 46.2	+1.0
	0.9nm,0.5s,baz=279,slow=10,SNR=3.3						
BRTR	**Keskin Array B**	**47.70**	**293**	P	P	19 42 55.1	+0.4
	0.3nm,0.5s,baz=91,slow=4.9,SNR=3.3						
ILAR	**Eielson Array**	**66.84**	**24**	P	P	19 45 08.6	-0.8
	0.4nm,0.9s,baz=231,slow=5.7,SNR=3.5						
WRA	**Warramunga Arr**	**67.79**	**141**	P	P	19 45 15.2	-0.7
	0.3nm,0.8s,baz=329,slow=7.8,SNR=3.2						
KDAK	**Kodiak Island**	**69.10**	**32**	LR	LR	20 16 54.5	
	comp=Z,100nm,18.0s,baz=31,slow=37						
ASAR	**Alice Springs**	**70.72**	**143**	P	P	19 45 33.9	-0.2
	0.5nm,0.7s,baz=335,slow=6.4,SNR=9.3						

IDC 28 19:48:26.8±14.0, 29°.54S×177°.82W, h380km±119km, mb3.0/3, mb1 3.1/4, mb1mx2.9/18, mbtmp3.0/4, Error ellipse: s-maj=412.4km s-min=43.2km az=91.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.30**	**343**	P	Pn	19 49 14.4	+0.2
	41nm,0.3s,baz=307,slow=20,SNR=4.4						
RAO				S	S	19 49 41.1	-11
	87nm,0.3s,baz=261,slow=21,SNR=3.9						
URZ	**Urewera**	**9.66**	**205**	P	Pn	19 50 40.2	-0.4
	0.7nm,0.3s,baz=356,slow=19,SNR=5.1						
URZ				S	S	19 52 18.0	-12
	1.5nm,0.3s,baz=264,slow=19,SNR=7.0						
STKA	**Stephens Creek**	**34.83**	**256**	P	P	19 54 43.6	+0.1
	1.1nm,0.8s,baz=115,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**43.32**	**266**	P	P	19 55 52.9	-0.2
	0.4nm,0.5s,baz=101,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**44.23**	**271**	P	P	19 56 00.1	-0.2
	1.0nm,0.4s,baz=110,slow=8.1,SNR=41						

*ISCJB **28** 19:51:27.4±0.6, 37°.64N±0°.07×95°.67E±0°.07, h10km, mb3.6/8, Error ellipse: s-maj=10.8km s-min=7.3km az=13.3*

*IDC **28** 19:51:28.1±0.8, 37°.53N×95°.50E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.6/32, mbtmp3.6/12, ML3.7/4, MS2.7/1, Ms1 2.7/1, ms1mx2.1/37, Error ellipse: s-maj=33.4km s-min=16.2km az=54.0*

*BJI **28** 19:51:30.4, 37°.75N×95°.77E, h8km, mb3.9/2, ML3.7/7, Ms3.6/4, Ms7 3.4/4*

ISC 28 19:51:30.1±0.7, 37°.78N±0°.08×95°.55E±0°.05, h10km, n15, σ2°.07/21, mb3.8/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.71**	**63**	Pn	**Pn**	**19 52 30.0**	**+2.4**
GTA				Pg	**Pb**	**19 52 35.5**	**-0.3**
GTA				Sn	**Sn**	**19 53 08.8**	**-2.7**
GTA				Sg	**Sb**	**19 53 16.8**	**-4.2**
GTA				smax	smax		
	comp=N,36nm,0.7s						
GTA				smax	smax		
	comp=E,26nm,0.9s						
GTA				LR	LR		
	comp=N,300nm,8.9s						
GTA				LR	LR		
	comp=E,250nm,6.0s						
GTA				LR	LR		
	comp=Z,180nm,6.7s						
LZH	**Lanzhou**	**6.85**	**102**	*e*Pg	**Pb**	**19 53 29.0**	**-0.3**
LZH				Sn	**Sn**	**19 54 26.8**	**-2.1**
LZH				Sg	**Sb**	**19 54 55.0**	**+3.7**
LZH				smax	smax		
	comp=N,42nm,0.9s						
LZH				smax	smax		
	comp=E,43nm,0.8s						
LZH				LR	LR		
	comp=N,280nm,7.2s						
LZH				LR	LR		
	comp=E,130nm,7.7s						
LZH				LR	LR		
	comp=Z,180nm,6.2s						
SONM	**Songino Array**	**12.80**	**35**	Pn	**Pn**	**19 54 34.1**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=220,slow=15,SNR=16						
SONM				LR	LR	20 00 05.0	
	comp=Z,33nm,18.9s,baz=76,slow=40						
MKAR	**Makanchi Array**	**13.31**	**317**	Pn	**Pn**	**19 54 38.4**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=122,slow=14,SNR=66						
MKAR				Sn	**Sn**	**19 57 04.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=124,slow=25,SNR=7.5						
ZALV	**Zalesovo Beam**	**17.78**	**339**	P	**P**	**19 55 39.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=134,slow=8.5,SNR=3.5						
CMAR	**Chiang Mai Arr**	**19.48**	**170**	P	**P**	**19 55 55.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=356,slow=12,SNR=4.1						
BVAR	**Borovoye Array**	**23.16**	**319**	P	**P**	**19 56 37.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=137,slow=17,SNR=2.8						
AKTO	**Aktyubinsk**	**29.45**	**308**	P	**P**	**19 57 33.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=90,slow=10,SNR=3.0						
BRTR	**Keskin Array B**	**47.47**	**293**	P	**P**	**20 00 06.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=74,slow=7.5,SNR=2.9						
FINES	**FINESS Array B**	**48.05**	**323**	P	**P**	**20 00 09.7**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=120,slow=22,SNR=3.0						
NOA	**NORSAR Array B**	**55.18**	**324**	P	**P**	**20 01 02.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=71,slow=8.1,SNR=2.7						
ILAR	**Eielson Array**	**66.79**	**24**	P	**P**	**20 02 23.8**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=297,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	**68.03**	**141**	P	**P**	**20 02 27.7**	**-2.0**
	comp=Z,0.7nm,1.0s,baz=330,slow=6.8,SNR=2.7						
ASAR	**Alice Springs**	**70.96**	**143**	P	**P**	**20 02 46.3**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=315,slow=5.7,SNR=4.3						
SIV	**San Ignacio**	**150.06**	**310**	PKPbc	**PKPbc**	**20 11 20.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=135,slow=1.5,SNR=3.6						

IDC 28 19:54:22.1±15.0, 1°.19S×99°.98E, h118km±138km, mb3.3/6, mb1 3.3/7, mb1mx3.1/24, mbtmp3.2/7, ML4.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/16, Error ellipse: s-maj=116.1km s-min=15.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.55**	**357**	P	P	19 58 41.0	+0.3
	0.3nm,0.3s,baz=185,slow=10.0,SNR=6.5						
BATI	**Baumata**	**25.19**	**112**	LR	LR	20 11 59.4	
	comp=Z,99nm,18.5s,baz=183,slow=42						
WRA	**Warramunga Arr**	**38.42**	**121**	P	P	20 01 31.7	-0.8
	0.3nm,0.4s,baz=302,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**39.75**	**127**	P	P	20 01 43.4	-0.1
	0.4nm,0.5s,baz=300,slow=7.8,SNR=16						
STKA	**Stephens Creek**	**49.70**	**132**	P	P	20 03 03.6	+1.2
	0.7nm,0.6s,baz=304,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**50.25**	**344**	P	P	20 03 07.0	+0.7
	0.4nm,0.6s,baz=158,slow=8.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**56.38**	**349**	P	P	20 03 50.3	-0.5
	0.6nm,0.5s,baz=173,slow=10,SNR=3.8						
FINES	**FINESS Array B**	**83.39**	**332**	P	P	20 06 34.9	-1.1
	1.2nm,0.9s,baz=107,slow=4.6,SNR=4.3						
TXAR	**Lajitas Array**	**144.07**	**37**	PKP	PKPdf	20 13 45.5	+0.8
	0.3nm,0.4s,baz=204,slow=2.0,SNR=5.7						
CFAA	**Coronel Fontan**	**145.52**	**198**	PKPbc	PKPdf	20 13 46.5	-0.6
	0.2nm,0.4s,baz=137,slow=4.0,SNR=5.2						

*IDC **28** 20:05:13.4±0.7, 10°.01S×160°.95E, h0km, mb4.1/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, ML4.4/1, MS3.8/9, Ms1 3.8/9, ms1mx3.4/32, Error ellipse: s-maj=18.7km s-min=15.5km az=104.0*

*NEIC **28** 20:05:19.8±1.2, 10°.01S×160°.86E, h43km±10km, mb4.5/12, Error ellipse: s-maj=10.2km s-min=8.0km az=92.0*

*ISCJB **28** 20:05:20.8±0.4, 9°.99S±0°.05×160°.78E±0°.07, h67km, mb4.2/26, Error ellipse: s-maj=9.3km s-min=7.7km az=3.2*

*AUST **28** 20:05:30.7, 10°.21S×160°.48E, h100km*

ISC 28 20:05:22.3±0.5, 9°.99S±0°.07×160°.84E±0°.09, h67km, n74, σ1°.18/63, mb4.3/26, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.04**	**302**	Pn	Pn	20 05 37.5	-3.6
HNR				Sn	**Sn**	**20 05 52.6**	**-2.5**
HNR	**Honiara**	**1.04**	**302**	Pn	Pn	20 05 37.5	-3.6
	943nm,0.3s,baz=169,slow=16,SNR=300						
HNR				Sn	**Sn**	**20 05 52.6**	**-2.5**
	3μm,0.3s,baz=190,slow=15,SNR=12						
DZM	**Mont Dzumac**	**13.16**	**157**	*e*LR	LR	20 11 15.8	
	262nm,25.6s						
DZM	**Mont Dzumac**	**13.16**	**157**	Pn	**Pn**	**20 08 24.0**	**-2.5**
DZM	**Mont Dzumac**	**13.16**	**157**	Pn	**Pn**	**20 08 24.0**	**-2.5**
	0.5nm,0.3s,baz=168,slow=23,SNR=11						
PMG	**Port Moresby**	**13.50**	**271**	LR	LR	20 13 14.6	
	comp=Z,391nm,21.9s,baz=98,slow=35						
PATS	**Pohnpei**	**16.90**	**351**	P	P	20 09 25.5	+10
	baz=17,SNR=3.3						
CTA	**Charters Tower**	**17.29**	**233**	P	**Pn**	**20 09 18.3**	**-1.0**
CTA	**Charters Tower**	**17.29**	**233**	P	**Pn**	**20 09 18.3**	**-1.0**
	0.8nm,0.3s,baz=60,slow=13,SNR=26						
CTAO	**Charters Tower**	**17.29**	**233**	*e*P	**Pn**	**20 09 18.0**	**-1.3**
	33nm,0.9s						
COEN	**Coen**	**17.72**	**255**	*e*P	**P**	**20 09 24.1**	**-0.7**
	132nm,1.1s						
COEN	**Coen**	**17.72**	**255**	P	**Pn**	**20 09 26.5**	**+1.8**
	baz=17,SNR=6.6						
EIDS	**Eidsvold**	**17.89**	**210**	*e*P	**Pn**	**20 09 27.5**	**+0.9**
	14nm,0.8s						
EIDS	**Eidsvold**	**17.89**	**210**	P	**Pn**	**20 09 27.9**	**+1.3**
	baz=18,SNR=4.2						
MTSU	**Mount Surprise**	**17.95**	**241**	P	**Pn**	**20 09 29.2**	**+1.8**
	baz=18,SNR=13						
RMQ	**Roma**	**20.00**	**213**	P	**P**	**20 09 50.9**	**+1.3**
	baz=20,SNR=8.1						
LHI	**Lord Howe Isla**	**21.49**	**184**	S	**S**	**20 14 03.5**	**+3.2**
	baz=21,SNR=3.5						
AFI	**Afiamalu**	**27.06**	**101**	LR	LR	20 19 43.4	
	comp=Z,222nm,18.7s,baz=131,slow=32						
WRAB	**Tennant Creek**	**27.40**	**246**	*e*P	**P**	**20 11 03.0**	**+1.3**
	21nm,1.3s						
WRA	**Warramunga Arr**	**27.41**	**246**	P	**P**	**20 11 01.0**	**-0.8**
WRA	**Warramunga Arr**	**27.41**	**246**	P	**P**	**20 11 01.0**	**-0.8**
	2.0nm,0.6s,baz=74,slow=9.6,SNR=30						
STKA	**Stephens Creek**	**28.14**	**216**	P	**P**	**20 11 08.3**	**+0.1**
STKA	**Stephens Creek**	**28.14**	**216**	P	**P**	**20 11 08.3**	**+0.1**
	1.7nm,0.7s,baz=28,slow=15,SNR=2.6						
STKA	**Stephens Creek**	**28.14**	**216**	P	P	20 11 13.6	+5.4
	baz=28,SNR=6.4						
AS31	**Alice Springs**	**29.08**	**239**	*e*P	**P**	**20 11 16.2**	**-0.5**
ASAR	**Alice Springs**	**29.08**	**239**	P	**P**	**20 11 15.8**	**-1.0**
ASAR	**Alice Springs**	**29.08**	**239**	P	**P**	**20 11 15.8**	**-1.0**
	0.7nm,0.7s,baz=62,slow=10,SNR=14						
ASAR				LR	LR	20 22 57.0	
	comp=Z,298nm,19.0s,baz=100,slow=36						
URZ	**Urewera**	**31.72**	**155**	LR	LR	20 21 24.1	
	comp=Z,124nm,20.6s,baz=32,slow=31						
KNRA	**Kununurra**	**31.76**	**256**	P	**P**	**20 11 40.2**	**-0.2**
	baz=31,SNR=5.0						
BBOO	**Buckleboo**	**32.22**	**221**	*e*P	**P**	**20 11 42.2**	**-2.0**
	423nm,1.2s						
FITZ	**Fitzroy Crossi**	**35.04**	**253**	*e*P	**P**	**20 12 07.8**	**-1.1**
	3.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**35.04**	**253**	P	**P**	**20 12 08.8**	**-0.1**
	baz=35,SNR=9.9						
BATI	**Baumata**	**36.59**	**266**	P	**P**	**20 12 23.4**	**+1.1**
BATI	**Baumata**	**36.59**	**266**	P	**P**	**20 12 23.4**	**+1.1**
	9.5nm,0.7s,baz=78,slow=9.3,SNR=3.2						
PPT	**Papeete**	**48.63**	**105**	LR	LR	20 31 53.9	
	comp=Z,89nm,19.2s,baz=5.4,slow=33						
PPT2	**Papeete2**	**48.63**	**105**	*e*LR	LR	20 27 43.5	
	121nm,22.5s						
TBI	**Tubuai**	**49.20**	**112**	*e*LR	LR	20 27 54.2	
	127nm,26.5s						
MJAR	**Matsushiro Arr**	**50.94**	**336**	P	**P**	**20 14 16.3**	**-0.8**
MJAR	**Matsushiro Arr**	**50.94**	**336**	P	**P**	**20 14 16.3**	**-0.8**
	0.6nm,0.6s,baz=172,slow=9.2,SNR=6.3						
ASAJ	**Asahikawa**	**56.34**	**344**	P	**P**	**20 14 56.6**	**+0.3**
ASAJ	**Asahikawa**	**56.34**	**344**	P	**P**	**20 14 56.6**	**+0.3**
	4.8nm,0.6s,baz=180,slow=4.0,SNR=6.2						
KSRS	**Korea Array**	**56.38**	**329**	P	**P**	**20 14 57.5**	**+0.8**
	1.7nm,0.8s,baz=122,slow=6.5,SNR=3.6						
KSRS				LR	LR	20 39 50.4	
	comp=Z,24nm,18.2s,baz=174,slow=37						
KSAR	**Wonju Array Be**	**56.39**	**329**	P	**P**	**20 14 57.5**	**+0.7**
USRK	**Ussuriysk Arra**	**59.94**	**336**	P	**P**	**20 15 21.3**	**-0.2**
	2.3nm,0.7s,baz=198,slow=5.0,SNR=6.1						
ENH	**Enshi**	**63.52**	**311**	*e*P	**P**	**20 15 46.3**	**+0.4**
	2.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**67.28**	**295**	P	**P**	**20 16 11.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**67.28**	**295**	P	**P**	**20 16 11.3**	**+0.9**
	0.4nm,0.7s,baz=149,slow=3.2,SNR=6.1						
VNDA	**Vanda**	**67.52**	**180**	*e*P	**P**	**20 16 10.2**	**-0.7**
	1.6nm,0.9s						
VNDA	**Vanda**	**67.52**	**180**	P	**P**	**20 16 10.6**	**-0.3**
	0.8nm,0.8s,baz=350,slow=7.4,SNR=5.0						
ULN	**Ulaanbaatar**	**74.66**	**326**	*e*P	**P**	**20 16 56.0**	**+1.2**
	3.7nm,0.9s						
SONM	**Songino Array**	**75.01**	**325**	P	**P**	**20 16 57.5**	**+0.8**
SONM	**Songino Array**	**75.01**	**325**	P	**P**	**20 16 57.5**	**+0.8**
	1.6nm,0.7s,baz=140,slow=5.5,SNR=10						
QSPA	**South Pole Qui**	**80.01**	**180**	*e*P	**P**	**20 17 23.6**	**-0.8**
	7.0nm,1.1s						
MCK	**McKinley**	**82.75**	**20**	*e*P	**P**	**20 17 38.0**	**-0.6**
	17nm,1.1s						
MAW	**Mawson**	**83.87**	**202**	P	**P**	**20 17 44.6**	**+0.3**
MAW	**Mawson**	**83.87**	**202**	P	**P**	**20 17 44.6**	**+0.3**
	6.2nm,0.7s,baz=95,slow=6.3,SNR=13						
MAW	**Mawson**	**83.87**	**202**	P	**P**	**20 17 44.6**	**+0.3**
	baz=83,SNR=6.4						
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**20 17 45.6**	**0.0**
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**20 17 45.6**	**0.0**
	0.7nm,0.6s,baz=262,slow=5.0,SNR=9.5						
YBH	**Yreka Blue Hor**	**86.65**	**47**	LR	LR	20 52 26.4	
	comp=Z,53nm,19.0s,baz=321,slow=33						
DLBC	**Dease Lake**	**87.82**	**29**	LR	LR	20 57 16.0	
	comp=Z,81nm,18.2s,baz=274,slow=36						
NVAR	**Mina Array Bea**	**89.07**	**51**	P	**P**	**20 18 11.3**	**+0.6**
NVAR	**Mina Array Bea**	**89.07**	**51**	P	**P**	**20 18 11.3**	**+0.6**
	0.8nm,0.7s,baz=233,slow=6.7,SNR=7.0						
MK31	**Makanchi Array**	**89.47**	**318**	P	**P**	**20 18 12.9**	**+0.8**
MKAR	**Makanchi Array**	**89.47**	**318**	P	**P**	**20 18 13.2**	**+1.1**
MKAR	**Makanchi Array**	**89.47**	**318**	P	**P**	**20 18 13.2**	**+1.1**
	0.5nm,0.6s,baz=112,slow=3.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**89.90**	**325**	P	**P**	**20 18 13.7**	**-0.2**
ZALV	**Zalesovo Beam**	**89.90**	**325**	P	**P**	**20 18 13.7**	**-0.2**
	0.2nm,0.3s,baz=134,slow=4.2,SNR=2.6						
ZALV				LR	LR	20 57 24.3	
	comp=Z,25nm,18.7s,baz=340,slow=35						
TUC	**Tucson**	**93.90**	**58**	*e*P	**P**	**20 18 35.4**	**+2.3**
	2.7nm,0.8s						
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**20 18 42.3**	**-0.7**
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**20 18 42.3**	**-0.7**
	1.1nm,0.6s,baz=257,slow=4.6,SNR=2.9						
SNAA	**Sanae**	**97.80**	**185**	P	**P**	**20 18 49.1**	**-0.9**
	5.3nm,1.4s						
ESDC	**Sonseca Array**	**147.48**	**338**	PKPbc	**PKPab**	**20 25 00.9**	**-0.3**
ESDC	**Sonseca Array**	**147.48**	**338**	PKPbc	**PKPab**	**20 25 00.9**	**-0.3**
	0.2nm,0.3s,baz=28,slow=5.2,SNR=3.5						

IDC 28 20:13:14.8±1.1, 28°.59N×139°.56E, h476km±18km, mb2.7/3, mb1 2.8/5, mb1mx2.5/25, mbtmp2.7/5, Error ellipse: s-maj=52.3km s-min=20.5km az=67.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.76**	**122**	P	P	20 14 23.4	+1.2
	baz=198,slow=20						
CBIJ				S	S	20 15 17.1	+0.1
	18nm,0.3s,baz=114,slow=23,SNR=28						
JNU	**Nakatsue**	**8.72**	**303**	P	P	20 15 18.4	+0.2
	0.1nm,0.3s,baz=103,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**48.52**	**187**	P	P	20 21 13.6	+0.2
	0.5nm,0.3s,baz=4.1,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**52.24**	**187**	P	P	20 21 40.2	-0.6
	0.2nm,0.9s,baz=4.4,slow=8.0,SNR=4.7						
FINES	**FINESS Array B**	**75.57**	**333**	P	P	20 24 09.4	-0.1
	0.5nm,0.6s,baz=86,slow=7.2,SNR=4.0						

IDC 28 20:19:43.9±2.0, 37°.67N×95°.68E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.3/31, mbtmp3.3/6, ML3.5/4, Error ellipse: s-maj=47.4km s-min=27.7km az=70.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.84**	**34**	Pn	Pn	20 22 48.3	+0.4
	0.2nm,0.3s,baz=216,slow=15,SNR=4.8						
MKAR	**Makanchi Array**	**13.46**	**317**	Pn	Pn	20 22 54.1	-2.1
	0.3nm,0.3s,baz=122,slow=14,SNR=15						
MKAR				Sn	Sn	20 25 21.3	-5.2
	0.0nm,0.3s,baz=121,slow=26,SNR=7.6						
ZALV	**Zalesovo Beam**	**17.92**	**339**	P	Pn	20 23 54.1	-0.3
	0.1nm,0.3s,baz=137,slow=11,SNR=2.4						
CMAR	**Chiang Mai Arr**	**19.35**	**171**	P	P	20 24 11.1	+0.1
	0.1nm,0.3s,baz=338,slow=11,SNR=5.8						
BVAR	**Borovoye Array**	**23.32**	**319**	P	P	20 24 52.7	-0.8
	0.3nm,0.5s,baz=114,slow=9.6,SNR=3.0						
BRTR	**Keskin Array B**	**47.60**	**293**	P	P	20 28 21.6	-0.1
	0.5nm,0.7s,baz=44,slow=4.4,SNR=3.1						

*ISCJB **28** 20:23:36.5±0.1, 43°.95N±0°.01×105°.30W±0°.02, h0km, mb4.0/8, Error ellipse: s-maj=1.7km s-min=1.5km az=154.1*

*NEIC **28** 20:23:36.6±0.2, 44°.01N×105°.16W, h0km, ML3.7, Error ellipse: s-maj=3.3km s-min=3.1km az=204.0, Suspected Mining explosion.*

NEIC 40 km [25 miles] SE of Gillette.

*IDC **28** 20:23:36.8±0.7, 44°.06N×105°.54W, h0km, mb3.9/8, mb1 4.0/14, mb1mx3.9/32, mbtmp3.8/14, ML3.6/6, Error ellipse: s-maj=17.2km s-min=6.6km az=143.0*

ISC 28 20:23:36.9±0.5, 43°.96N±0°.02×105°.29W±0°.02, h0km, n480, σ1°.02/504, mb4.1/8, 160C-162D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.13**	**271**	⇓P	**Pg**	**20 23 40.8**	**+1.5**
	baz=0.2,SNR=1000						
I23A	**Meade Ranch, G**	**0.13**	**271**	⇓P	**Pg**	**20 23 40.8**	**+1.5**
	baz=0.2,SNR=1000						
I24A	**Kuemmerle Ranc**	**0.49**	**101**	⇑P	**Pg**	**20 23 47.1**	**+0.9**

baz=1.5,SNR=1000
I21A ⇓S Sg 20 24 24.3 +0.7
baz=1.5
G24A Alzada 1.50 24 P Pn 20 24 05.8 +0.6
baz=1.4,SNR=82
G24A Alzada 1.50 24 P Pn 20 24 05.8 +0.6
baz=1.4,SNR=82
K22A Casper 1.59 215 P Pn 20 24 06.2 -0.1
baz=1.7,SNR=1000
K22A Casper 1.59 215 P Pn 20 24 06.2 -0.1
baz=1.7,SNR=1000
J21A Lysite 1.68 249 P Pn 20 24 07.5 -0.2
baz=1.8,SNR=821
J21A ⇑S Sn 20 24 30.1 0.0
baz=1.8
J21A Lysite 1.68 249 P Pn 20 24 07.5 -0.2
baz=1.8,SNR=821
J21A ⇑S Sn 20 24 30.1 0.0
baz=1.8
K25A Mack Ranch, Ha 1.70 142 ⇑P Pn 20 24 08.4 +0.5
baz=1.7,SNR=377
K25A Mack Ranch, Ha 1.70 142 ⇑P Pn 20 24 08.4 +0.5
baz=1.7,SNR=377
J26A Sides Ranch, S 1.73 111 ⇓P Pn 20 24 08.9 +0.7
baz=1.7,SNR=306
J26A ⇓S Sb 20 24 32.8 +0.9
baz=1.7
J26A Sides Ranch, S 1.73 111 ⇓P Pn 20 24 08.9 +0.7
baz=1.7,SNR=306
J26A ⇓S Sb 20 24 32.8 +0.9
baz=1.7
I26A New Underwood 1.75 87 ⇑P Pb 20 24 10.0 +0.1
baz=1.7,SNR=179
I26A New Underwood 1.75 87 ⇑P Pb 20 24 10.0 +0.1
baz=1.7,SNR=179
F23A Volborg 1.77 357 P Pn 20 24 09.7 +1.0
baz=1.7,SNR=551
F23A Volborg 1.77 357 P Pn 20 24 09.7 +1.0
baz=1.7,SNR=551
G25A Newell 1.82 47 ⇓P Pb 20 24 10.9 -0.1
baz=1.7,SNR=184
G25A Newell 1.82 47 ⇓P Pb 20 24 10.9 -0.1
baz=1.7,SNR=184
G21A Lodge Grass 1.87 313 P Pn 20 24 11.1 +0.9
baz=1.9,SNR=316
G21A ⇓S Sb 20 24 35.7 -0.1
baz=1.9
G21A Lodge Grass 1.87 313 P Pn 20 24 11.1 +0.9
baz=1.9,SNR=316
G21A ⇓S Sb 20 24 35.7 -0.1
baz=1.9
L23A Garrett 1.87 189 ⇑P Pn 20 24 10.4 +0.1
baz=1.9,SNR=863
L23A ⇓S Sn 20 24 35.4 +0.7
baz=1.9
L23A Garrett 1.87 189 ⇑P Pn 20 24 10.4 +0.1
baz=1.9,SNR=863
L23A ⇓S Sn 20 24 35.4 +0.7
baz=1.9
H26A Fairpoint 1.92 69 ⇓P Pb 20 24 12.9 +0.1
baz=1.8
H26A Fairpoint 1.92 69 ⇓P Pb 20 24 12.9 +0.1
baz=1.8
L24A Wheatland 1.93 172 P Pn 20 24 11.9 +0.8
baz=2.0,SNR=231
L24A ⇑S Sn 20 24 37.3 +1.2
baz=2.0
L24A Wheatland 1.93 172 P Pn 20 24 11.9 +0.8
baz=2.0,SNR=231
L24A ⇑S Sn 20 24 37.3 +1.2
baz=2.0
F22A Rosebud 1.95 340 P Pn 20 24 11.8 +0.6
baz=1.9,SNR=208
F22A Rosebud 1.95 340 P Pn 20 24 11.8 +0.6
baz=1.9,SNR=208
K21A Alcova 1.95 228 P Pn 20 24 12.2 +0.8
baz=2.0,SNR=1000
K21A ⇑S Sn 20 24 37.8 +1.1
baz=2.0
K21A Alcova 1.95 228 P Pn 20 24 12.2 +0.8
baz=2.0,SNR=1000
K21A ⇑S Sn 20 24 37.8 +1.1
baz=2.0
F24A Ekalaka 1.98 17 ⇓P Pn 20 24 12.7 +1.0
baz=1.9
F24A Ekalaka 1.98 17 ⇓P Pn 20 24 12.7 +1.0
baz=1.9
K26A Motz Farm, Whi 1.99 128 P Pn 20 24 12.9 +1.1
baz=1.9,SNR=315
K26A Motz Farm, Whi 1.99 128 P Pn 20 24 12.9 +1.1
baz=1.9,SNR=315
H20A Greybull 2.02 286 ⇑P Pn 20 24 12.8 +0.5
baz=2.1,SNR=95
H20A Greybull 2.02 286 ⇑P Pn 20 24 12.8 +0.5
baz=2.1,SNR=95
L25A Engebretsen Ra 2.05 151 ⇓P Pn 20 24 14.1 +1.4
baz=2.0,SNR=74
L25A Engebretsen Ra 2.05 151 ⇓P Pn 20 24 14.1 +1.4
baz=2.0,SNR=74
I20A Worland 2.05 271 P Pn 20 24 13.6 +0.9
baz=2.1,SNR=347
I20A Worland 2.05 271 P Pn 20 24 13.6 +0.9
baz=2.1,SNR=347
L22A Ellis Ranch, M 2.10 204 ⇓P Pn 20 24 14.1 +0.6
baz=2.2,SNR=230
L22A Ellis Ranch, M 2.10 204 ⇓P Pn 20 24 14.1 +0.6
baz=2.2,SNR=230
J20A Shoshoni 2.12 254 ⇓P Pn 20 24 15.3 +1.6
baz=2.2
J20A Shoshoni 2.12 254 ⇓P Pn 20 24 15.3 +1.6
baz=2.2
F21A Absaloka Mine, 2.27 326 P Pn 20 24 16.1 +0.3
baz=2.3,SNR=14
F21A Absaloka Mine, 2.27 326 P Pn 20 24 16.1 +0.3
baz=2.3,SNR=14
I27A Quinn 2.34 86 ⇓P Pn 20 24 17.8 +1.2
baz=2.2
I27A Quinn 2.34 86 ⇓P Pn 20 24 17.8 +1.2
baz=2.2
G26A Maurine 2.34 54 P Pn 20 24 18.2 +1.6
baz=2.2,SNR=422
G26A Maurine 2.34 54 P Pn 20 24 18.2 +1.6
baz=2.2,SNR=422
F25A Bowman 2.36 33 ⇑P Pn 20 24 18.6 +1.7
baz=2.3,SNR=41
F25A Bowman 2.36 33 ⇑P Pn 20 24 18.6 +1.7
baz=2.3,SNR=41
H27A Howes 2.40 73 ⇑P Pn 20 24 19.0 +1.6
baz=2.3,SNR=82
H27A ⇓Sb Sg 20 24 54.0 0.0
baz=2.3
H27A Howes 2.40 73 ⇑P Pn 20 24 19.0 +1.6
baz=2.3,SNR=82
H27A ⇓Sb Sg 20 24 54.0 0.0
baz=2.3
G20A Bridger 2.44 302 ⇑P Pn 20 24 18.4 +0.3
baz=2.5,SNR=459
G20A Bridger 2.44 302 ⇑P Pn 20 24 18.4 +0.3
baz=2.5,SNR=459
J27A Elkhorn Farm, 2.49 105 ⇑P Pn 20 24 20.7 +2.0
baz=2.4
J27A Elkhorn Farm, 2.49 105 ⇑P Pn 20 24 20.7 +2.0
baz=2.4
M23A Laramie 2.51 187 ⇓P Pn 20 24 19.7 +0.6
baz=2.6,SNR=106
M23A Laramie 2.51 187 ⇓P Pn 20 24 19.7 +0.6
baz=2.6,SNR=106
L21A Rawlins 2.51 218 P Pn 20 24 20.2 +1.1
baz=2.6,SNR=417
L21A Rawlins 2.51 218 P Pn 20 24 20.2 +1.1
baz=2.6,SNR=417
L26A Underwood Farm 2.51 139 ⇑P Pn 20 24 19.9 +0.8
baz=2.5
L26A Underwood Farm 2.51 139 ⇑P Pn 20 24 19.9 +0.8
baz=2.5
M24A Cheyenne 2.51 172 P Pn 20 24 20.8 +1.7
baz=2.6,SNR=735
M24A ⇑Sb Sg 20 24 56.8 -0.8
baz=2.6
M24A Cheyenne 2.51 172 P Pn 20 24 20.8 +1.7
baz=2.6,SNR=735
M24A ⇑Sb Sg 20 24 56.8 -0.8
baz=2.6
E22A Miles City 2.52 350 P Pn 20 24 19.6 +0.5
baz=2.5,SNR=37
E22A Miles City 2.52 350 P Pn 20 24 19.6 +0.5
baz=2.5,SNR=37
E23A Ismay 2.54 360 ⇓P Pn 20 24 20.3 +0.9
baz=2.5,SNR=47
E23A Ismay 2.54 360 ⇓P Pn 20 24 20.3 +0.9
baz=2.5,SNR=47
K27A Flueckinger Fa 2.56 118 ⇓P Pn 20 24 20.6 +1.0
baz=2.5,SNR=40
K27A ⇓Sb Sg 20 24 58.0 -0.9
baz=2.5
K27A Flueckinger Fa 2.56 118 ⇓P Pn 20 24 20.6 +1.0
baz=2.5,SNR=40
K27A ⇓Sb Sg 20 24 58.0 -0.9
baz=2.5
K20A Yellowstone Ra 2.58 241 ⇑P Pn 20 24 21.7 +1.7
baz=2.7
K20A Yellowstone Ra 2.58 241 ⇑P Pn 20 24 21.7 +1.7
baz=2.7
F26A Lodgepole 2.65 44 ⇑P Pn 20 24 22.8 +1.8
baz=2.6
F26A Lodgepole 2.65 44 ⇑P Pn 20 24 22.8 +1.8
baz=2.6
PHWY Pilot Hill 2.66 183 ePn Pn 20 24 21.4 +0.2
RWWY Rawlins 2.67 213 ePn Pn 20 24 22.7 +1.3
I19A Meeteetse 2.67 273 ⇑P Pn 20 24 22.4 +1.0
baz=2.8,SNR=51
I19A Meeteetse 2.67 273 ⇑P Pn 20 24 22.4 +1.0
baz=2.8,SNR=51
M25A Palm-Egli Farm 2.68 160 ⇓P Pn 20 24 23.1 +1.7
baz=2.7,SNR=26
M25A Palm-Egli Farm 2.68 160 ⇓P Pn 20 24 23.1 +1.7
baz=2.7,SNR=26
E24A Baker 2.69 15 P Pn 20 24 22.9 +1.4
baz=2.6,SNR=88
E24A Baker 2.69 15 P Pn 20 24 22.9 +1.4
baz=2.6,SNR=88
M22A Cedar Creek Ra 2.73 201 ⇑P Pn 20 24 23.9 +1.8
baz=2.8
M22A Cedar Creek Ra 2.73 201 ⇑P Pn 20 24 23.9 +1.8
baz=2.8
F20A Billings 2.74 313 P Pn 20 24 22.4 +0.2
baz=2.8,SNR=235
F20A Billings 2.74 313 P Pn 20 24 22.4 +0.2
baz=2.8,SNR=235
H19A Powell 2.75 286 ⇑P Pn 20 24 23.0 +0.7
baz=2.8,SNR=31
H19A Powell 2.75 286 ⇑P Pn 20 24 23.0 +0.7
baz=2.8,SNR=31
G27A Dupree 2.79 58 ⇑P Pn 20 24 23.9 +1.1
baz=2.7,SNR=30
G27A Dupree 2.79 58 ⇑P Pn 20 24 23.9 +1.1
baz=2.7,SNR=30
M21A Separation Pea 2.80 214 ⇑P Pn 20 24 25.0 +1.8
baz=2.9
M21A Separation Pea 2.80 214 ⇑P Pn 20 24 25.0 +1.8
baz=2.9
LAO LASA Array 2.81 347 ePn Pn 20 24 23.2 +0.1
J19A Crowheart 2.82 257 ⇑P Pn 20 24 25.1 +1.7
baz=2.9
J19A ⇓Sb Sb 20 25 04.3 +1.0
baz=2.9
J19A Crowheart 2.82 257 ⇑P Pn 20 24 25.1 +1.7
baz=2.9
J19A ⇓Sb Sb 20 25 04.3 +1.0
baz=2.9
K19A Absolon Red Bu 2.83 248 ⇓P Pn 20 24 24.4 +0.9
baz=2.9
K19A Absolon Red Bu 2.83 248 ⇓P Pn 20 24 24.4 +0.9
baz=2.9
E25A Miller Ranch, 2.87 27 ⇓P Pn 20 24 25.8 +1.9
baz=2.8
E25A Miller Ranch, 2.87 27 ⇓P Pn 20 24 25.8 +1.9
baz=2.8
L27A T5 Ranch, Ells 2.87 130 ⇑P Pn 20 24 24.4 +0.4
baz=2.8
L27A T5 Ranch, Ells 2.87 130 ⇑P Pn 20 24 24.4 +0.4
baz=2.8
E21A Keefer Ranch, 2.88 335 ⇓P Pn 20 24 23.9 -0.1
baz=2.9,SNR=10.0
E21A Keefer Ranch, 2.88 335 ⇓P Pn 20 24 23.9 -0.1
baz=2.9,SNR=10.0
M26A McRoberts Ranc 2.95 147 ⇓P Pn 20 24 26.0 +0.9
baz=2.9,SNR=22
M26A McRoberts Ranc 2.95 147 ⇓P Pn 20 24 26.0 +0.9
baz=2.9,SNR=22
L20A Wamsutter 2.97 230 ⇓P Pn 20 24 27.6 +2.2
baz=3.1
L20A Wamsutter 2.97 230 ⇓P Pn 20 24 27.6 +2.2
baz=3.1
J28A Allard Ranch, 2.99 99 ⇓P Pn 20 24 27.1 +1.6
baz=2.9
J28A Allard Ranch, 2.99 99 ⇓P Pn 20 24 27.1 +1.6
baz=2.9
F27A Lemmon 3.01 49 ⇑P Pn 20 24 26.8 +1.0
baz=2.9,SNR=9.0
F27A Lemmon 3.01 49 ⇑P Pn 20 24 26.8 +1.0
baz=2.9,SNR=9.0
RLMT Red Lodge 3.07 294 ePn Pn 20 24 27.7 +0.9
N23A Red Feather La 3.10 189 P Pn 20 24 28.7 +1.5
baz=3.2,SNR=145
N23A Red Feather La 3.10 189 P Pn 20 24 28.7 +1.5
baz=3.2,SNR=145
N24A Carr 3.14 174 ⇑P Pn 20 24 28.7 +0.9
baz=3.2,SNR=18
N24A Carr 3.14 174 ⇑P Pn 20 24 28.7 +0.9
baz=3.2,SNR=18
E26A Carlson Angus 3.21 37 ⇓P Pn 20 24 30.0 +1.4
baz=3.1,SNR=17
E26A Carlson Angus 3.21 37 ⇓P Pn 20 24 30.0 +1.4
baz=3.1,SNR=17
F19A Roth Farm, Mol 3.21 307 ⇑P Pn 20 24 29.4 +0.6
baz=3.3,SNR=74
F19A Roth Farm, Mol 3.21 307 ⇑P Pn 20 24 29.4 +0.6
baz=3.3,SNR=74
D23A Lindsay 3.22 1 ⇓P Pn 20 24 29.9 +1.2
baz=3.2,SNR=45
D23A Lindsay 3.22 1 ⇓P Pn 20 24 29.9 +1.2
baz=3.2,SNR=45
H18A Shoshone NF, C 3.22 284 ⇓P Pn 20 24 29.1 +0.1
baz=3.3,SNR=68
H18A Shoshone NF, C 3.22 284 ⇓P Pn 20 24 29.1 +0.1
baz=3.3,SNR=68
D24A Glendive 3.23 12 ⇓P Pn 20 24 30.5 +1.6
baz=3.2
D24A Glendive 3.23 12 ⇓P Pn 20 24 30.5 +1.6
baz=3.2
M27A Reverse DX Ran 3.23 138 ⇓P Pn 20 24 29.7 +0.8
baz=3.2
M27A Reverse DX Ran 3.23 138 ⇓P Pn 20 24 29.7 +0.8
baz=3.2
E20A Meyer Farm, Mu 3.24 323 P Pn 20 24 29.0 0.0
baz=3.3,SNR=14
E20A Meyer Farm, Mu 3.24 323 P Pn 20 24 29.0 0.0
baz=3.3,SNR=14
D22A Cohagen 3.25 349 ⇓P Pn 20 24 29.8 +0.6
baz=3.2,SNR=37
D22A Cohagen 3.25 349 ⇓P Pn 20 24 29.8 +0.6
baz=3.2,SNR=37
M20A Sweetwater, Wa 3.26 222 ⇓P Pn 20 24 31.1 +1.7
baz=3.4
M20A Sweetwater, Wa 3.26 222 ⇓P Pn 20 24 31.1 +1.7
baz=3.4
N25A Grover 3.27 164 ⇑P Pn 20 24 30.2 +0.8
baz=3.3
N25A Grover 3.27 164 ⇑P Pn 20 24 30.2 +0.8
baz=3.3
N22A Wattenberg Ran 3.27 196 ⇓P Pn 20 24 31.3 +1.6
baz=3.3,SNR=25
N22A Wattenberg Ran 3.27 196 ⇓P Pn 20 24 31.3 +1.6
baz=3.3,SNR=25
I18A Diamond G Ranc 3.29 267 ⇑P Pn 20 24 31.0 +1.2
baz=3.4,SNR=49
I18A Diamond G Ranc 3.29 267 ⇑P Pn 20 24 31.0 +1.2
baz=3.4,SNR=49
G28A Parade 3.32 69 ⇑P Pn 20 24 31.2 +1.1
baz=3.2
G28A Parade 3.32 69 ⇑P Pn 20 24 31.2 +1.1
baz=3.2
D21A La Casta Ranch 3.33 340 ⇑P Pn 20 24 30.9 +0.6
baz=3.3
D21A La Casta Ranch 3.33 340 ⇑P Pn 20 24 30.9 +0.6
baz=3.3
PDAR Pinedale Array 3.33 251 Pn Pn 20 24 31.1 +0.6
PDAR Pg Pb 20 24 36.5 -0.5
PDAR Lg Lg 20 25 18.3
PDAR Pinedale Array 3.33 251 Pn Pn 20 24 31.1 +0.6
4.3nm,0.3s,baz=68,slow=15,SNR=49
PDAR Pg Pb 20 24 36.5 -0.5
21nm,0.3s,baz=64,slow=19,SNR=134
PDAR Lg Lg 20 25 18.3
57nm,0.3s,baz=64,slow=31,SNR=17
BW06 Boulder Array 3.33 251 ePn Pn 20 24 31.3 +0.9
G18A Lazy EL Ranch, 3.34 295 ⇑P Pn 20 24 31.3 +0.8
baz=3.4,SNR=51
G18A Lazy EL Ranch, 3.34 295 ⇑P Pn 20 24 31.3 +0.8
baz=3.4,SNR=51
L28A Connealy Angus 3.38 124 ⇑P Pn 20 24 31.9 +0.9
baz=3.3,SNR=15
L28A Connealy Angus 3.38 124 ⇑P Pn 20 24 31.9 +0.9
baz=3.3,SNR=15
D25A Fairfield 3.48 23 ⇓P Pn 20 24 34.4 +2.1
baz=3.4
D25A Fairfield 3.48 23 ⇓P Pn 20 24 34.4 +2.1
baz=3.4
L19A Farson 3.51 240 ⇑P Pn 20 24 34.4 +1.5
baz=3.6
L19A Farson 3.51 240 ⇑P Pn 20 24 34.4 +1.5
baz=3.6
E19A Rath Farm, Rou 3.52 317 P Pn 20 24 32.9 +0.1
baz=3.5,SNR=31
E19A Rath Farm, Rou 3.52 317 P Pn 20 24 32.9 +0.1
baz=3.5,SNR=31
N21A Black Mountain 3.60 208 ⇓P Pn 20 24 35.9 +1.8
baz=3.7,SNR=40
N21A Black Mountain 3.60 208 ⇓P Pn 20 24 35.9 +1.8
baz=3.7,SNR=40
E27A Carson 3.61 46 ⇓P Pn 20 24 35.0 +0.9
baz=3.5
E27A Carson 3.61 46 ⇓P Pn 20 24 35.0 +0.9
baz=3.5
GCMT Greycliff 3.61 302 ePn Pn 20 24 34.9 +0.7
C24A Savage 3.62 9 ⇓P Pn 20 24 36.0 +1.7
baz=3.6
C24A Savage 3.62 9 ⇓P Pn 20 24 36.0 +1.7
baz=3.6
F18A Big Timber 3.70 303 ⇑P Pn 20 24 36.3 +0.9
baz=3.7,SNR=60
F18A Big Timber 3.70 303 ⇑P Pn 20 24 36.3 +0.9
baz=3.7,SNR=60
D20A Manuel Ranch, 3.72 328 ⇓P Pn 20 24 35.8 +0.2
baz=3.7,SNR=44
D20A Manuel Ranch, 3.72 328 ⇓P Pn 20 24 35.8 +0.2
baz=3.7,SNR=44
LKWY Lake 3.72 281 ePn Pn 20 24 37.8 +2.0
N27A Anderson Farm, 3.75 146 P Pn 20 24 37.2 +1.2
baz=3.7,SNR=49
N27A Anderson Farm, 3.75 146 P Pn 20 24 37.2 +1.2
baz=3.7,SNR=49
O23A Lake Granby, G 3.77 187 ⇓P Pn 20 24 38.2 +1.7
baz=3.8
O23A Lake Granby, G 3.77 187 ⇓P Pn 20 24 38.2 +1.7
baz=3.8
C22A Vida 3.81 354 ⇑P Pn 20 24 38.6 +1.7
baz=3.8
C22A Vida 3.81 354 ⇑P Pn 20 24 38.6 +1.7
baz=3.8
N20A Spence Gulch, 3.82 216 P Pn 20 24 38.6 +1.5
baz=3.9,SNR=90
N20A Spence Gulch, 3.82 216 P Pn 20 24 38.6 +1.5
baz=3.9,SNR=90
H17A Grant Village 3.83 278 ePn Pn 20 24 38.9 +1.6
O24A Longmont 3.84 178 ⇓P Pn 20 24 38.5 +1.2
baz=3.9,SNR=15
O24A Longmont 3.84 178 ⇓P Pn 20 24 38.5 +1.2
baz=3.9,SNR=15
C23A Lambert 3.85 1 ⇑P Pn 20 24 39.1 +1.8
baz=3.8,SNR=223
C23A Lambert 3.85 1 ⇑P Pn 20 24 39.1 +1.8
baz=3.8,SNR=223
OGNE Ogallala 3.86 140 ePn Pn 20 24 38.0 +0.5
OGNE Ogallala 3.86 140 ⇓P Pn 20 24 38.4 +0.9
baz=3.8,SNR=14
OGNE Ogallala 3.86 140 ⇓P Pn 20 24 38.4 +0.9
baz=3.8,SNR=14
M28A Bar X Bar Ranc 3.86 130 ⇑P Pn 20 24 38.5 +1.0
baz=3.8,SNR=26
M28A Bar X Bar Ranc 3.86 130 ⇑P Pn 20 24 38.5 +1.0
baz=3.8,SNR=26
LOHW Long Hollow 3.87 267 ePn Pn 20 24 38.9 +1.2
FLWY Flagg Ranch 3.91 274 ePn Pn 20 24 39.4 +1.1
O22A Kremmling 3.91 194 ⇑P Pn 20 24 39.6 +1.1
baz=4.0,SNR=47
O22A Kremmling 3.91 194 ⇑P Pn 20 24 39.6 +1.1
baz=4.0,SNR=47
O25A Wiggins 3.94 167 ⇓P Pn 20 24 39.8 +1.1
baz=4.0,SNR=24
O25A Wiggins 3.94 167 ⇓P Pn 20 24 39.8 +1.1
baz=4.0,SNR=24
YNR Norris Junctio 3.94 283 ePn Pn 20 24 40.5 +1.7
MOOW Moose Ponds 3.95 269 ePn Pn 20 24 40.1 +1.2
O26A Horse Wrangler 3.99 158 P Pn 20 24 40.2 +0.8
baz=4.0,SNR=23
O26A Horse Wrangler 3.99 158 P Pn 20 24 40.2 +0.8
baz=4.0,SNR=23
SNOW Snow King Moun 3.99 265 ePn Pn 20 24 40.9 +1.4
L29A Maesberg Ranch 4.00 117 ⇑P Pn 20 24 40.8 +1.3
baz=3.9,SNR=9.9
L29A Maesberg Ranch 4.00 117 ⇑P Pn 20 24 40.8 +1.3
baz=3.9,SNR=9.9
C25A Freed Ranch, W 4.01 20 ⇑P Pn 20 24 41.3 +1.7
baz=3.9
C25A Freed Ranch, W 4.01 20 ⇑P Pn 20 24 41.3 +1.7
baz=3.9
YFT Old Faithful 4.02 279 ePn Pn 20 24 41.9 +2.0
L18A Fontenelle, Gr 4.04 241 ⇓P Pn 20 24 41.0 +0.9
baz=4.1
L18A Fontenelle, Gr 4.04 241 ⇓P Pn 20 24 41.0 +0.9
baz=4.1
C21A Desert Coulee 4.07 343 ⇑P Pn 20 24 40.8 +0.4
baz=4.0
C21A Desert Coulee 4.07 343 ⇑P Pn 20 24 40.8 +0.4
baz=4.0
D19A Cripps Ranch, 4.08 323 P Pn 20 24 40.8 +0.2
baz=4.1,SNR=37
D19A Cripps Ranch, 4.08 323 P Pn 20 24 40.8 +0.2
baz=4.1,SNR=37
REDW Red Top Meadow 4.08 264 ePn Pn 20 24 39.5 -1.2
IMW Indian Meadow 4.08 271 ePn Pn 20 24 41.1 +0.3
D27A Center 4.11 39 ⇓P Pn 20 24 41.5 +0.5
baz=4.0
D27A Center 4.11 39 ⇓P Pn 20 24 41.5 +0.5
baz=4.0
G17A Pierce Place, 4.12 291 ⇑P Pn 20 24 41.3 0.0
baz=4.2
G17A Pierce Place, 4.12 291 ⇑P Pn 20 24 41.3 0.0
baz=4.2
TPAW Teton Pass 4.13 265 ePn Pn 20 24 42.4 +1.0
YMR Madison River 4.14 282 Pn Pn 20 24 42.4 +0.9
ISCO Idaho Springs 4.16 183 ePn Pn 20 24 42.9 +0.9
ISCO Idaho Springs 4.16 183 ⇓P Pn 20 24 43.0 +1.1
baz=4.2,SNR=47
ISCO Idaho Springs 4.16 183 ⇓P Pn 20 24 43.0 +1.1
baz=4.2,SNR=47
E28A Huff 4.17 50 ⇓P Pn 20 24 42.4 +0.7
baz=4.1,SNR=6.6
E28A Huff 4.17 50 ⇓P Pn 20 24 42.4 +0.7
baz=4.1,SNR=6.6
E18A Harlowton 4.18 310 ⇓P Pn 20 24 42.6 +0.6
baz=4.2,SNR=16
E18A Harlowton 4.18 310 ⇓P Pn 20 24 42.6 +0.6
baz=4.2,SNR=16
C20A Veseth Ranch, 4.21 334 ⇓P Pn 20 24 42.9 +0.6
baz=4.2,SNR=14
C20A Veseth Ranch, 4.21 334 ⇓P Pn 20 24 42.9 +0.6
baz=4.2,SNR=14
M29A Burnside Ranch 4.22 125 ⇓P Pn 20 24 43.5 +1.0
baz=4.2,SNR=7.9
M29A Burnside Ranch 4.22 125 ⇓P Pn 20 24 43.5 +1.0
baz=4.2,SNR=7.9
F17A Fitzpatrick Pl 4.28 299 ⇑P Pn 20 24 44.8 +1.4
baz=4.3
F17A Fitzpatrick Pl 4.28 299 ⇑P Pn 20 24 44.8 +1.4
baz=4.3
N28A Pribbeno Ranch 4.29 138 ⇓P Pn 20 24 44.0 +0.6
baz=4.3
N28A Pribbeno Ranch 4.29 138 ⇓P Pn 20 24 44.0 +0.6
baz=4.3
O27A Beecher Island 4.31 150 ⇑P Pn 20 24 44.6 +0.9
baz=4.3,SNR=31
O27A Beecher Island 4.31 150 ⇑P Pn 20 24 44.6 +0.9
baz=4.3,SNR=31
B22A Reddig Ranch S 4.37 354 ⇓P Pn 20 24 45.6 +1.1
baz=4.3,SNR=5.6
B22A Reddig Ranch S 4.37 354 ⇓P Pn 20 24 45.6 +1.1
baz=4.3,SNR=5.6
O20A White River Ci 4.41 211 ePn Pn 20 24 46.2 +1.0
O20A White River Ci 4.41 211 ⇓P Pn 20 24 46.6 +1.4
baz=4.5,SNR=35
O20A White River Ci 4.41 211 ⇓P Pn 20 24 46.6 +1.4
baz=4.5,SNR=35

RRI2	Red Ridge	4.42 264	ePn	Pn	20 24 46.3 +0.9
P24A	Kohler Place, baz=4.5	4.45 176	⇑P	Pn	20 24 46.9 +1.2
P24A	Kohler Place, baz=4.5	4.45 176	⇑P	Pn	20 24 46.9 +1.2
C26A	Wahner Farm, P baz=4.4,SNR=9.7	4.46 29	⇑P	Pn	20 24 47.3 +1.5
C26A	Wahner Farm, P baz=4.4,SNR=9.7	4.46 29	⇑P	Pn	20 24 47.3 +1.5
QLMT	Earthquake Lak	4.49 283	ePn	Pn	20 24 46.9 +0.6
P22A	Eagle baz=4.6	4.50 195	⇑P	Pn	20 24 47.6 +1.2
P22A	Eagle baz=4.6	4.50 195	⇑P	Pn	20 24 47.6 +1.2
B23A	Brockton baz=4.5,SNR=22	4.51 3	⇓P	Pn	20 24 48.1 +1.6
B23A	Brockton baz=4.5,SNR=22	4.51 3	⇓P	Pn	20 24 48.1 +1.6
P25A	Willow Gulch B baz=4.6,SNR=22	4.52 169	⇓P	Pn	20 24 47.6 +0.9
P25A	Willow Gulch B baz=4.6,SNR=22	4.52 169	⇓P	Pn	20 24 47.6 +0.9
B25A	Knox Farm, Ray baz=4.5	4.56 18	⇓P	Pn	20 24 48.9 +1.8
B25A	Knox Farm, Ray baz=4.5	4.56 18	⇓P	Pn	20 24 48.9 +1.8
DGMT	Dagmar	4.58 9	ePn	Pn	20 24 48.8 +1.5
DGMT	Dagmar baz=4.5	4.58 9	⇓P	Pn	20 24 48.8 +1.5
DGMT	Dagmar baz=4.5	4.58 9	⇓P	Pn	20 24 48.8 +1.5
BRSD	Miller	4.58 82	ePn	Pn	20 24 44.1 -3.3
BRSD	Miller baz=4.5	4.58 82	⇑P	Pn	20 24 48.6 +1.2
BRSD	Miller baz=4.5	4.58 82	⇑P	Pn	20 24 48.6 +1.2
C27A	Sayler Ranch, baz=4.5	4.59 34	⇓P	Pn	20 24 48.4 +0.9
C27A	Sayler Ranch, baz=4.5	4.59 34	⇓P	Pn	20 24 48.4 +0.9
P23A	Jefferson baz=4.7,SNR=17	4.60 185	⇑P	Pn	20 24 49.3 +1.4
P23A	Jefferson baz=4.7,SNR=17	4.60 185	⇑P	Pn	20 24 49.3 +1.4
C19A	Slack Wire Ran baz=4.6	4.60 326	⇓P	Pn	20 24 48.1 +0.4
C19A	Slack Wire Ran baz=4.6	4.60 326	⇓P	Pn	20 24 48.1 +0.4
P26A	Davis Ranch, A baz=4.6,SNR=50	4.63 161	⇑P	Pn	20 24 48.8 +0.6
P26A	Davis Ranch, A baz=4.6,SNR=50	4.63 161	⇑P	Pn	20 24 48.8 +0.6
D28A	Regan baz=4.5	4.63 44	⇓P	Pn	20 24 48.6 +0.6
D28A	Regan baz=4.5	4.63 44	⇓P	Pn	20 24 48.6 +0.6
O19A	Miners Draw (B baz=4.7,SNR=95	4.64 219	⇓P	Pn	20 24 49.3 +1.0
O19A	Miners Draw (B baz=4.7,SNR=95	4.64 219	⇓P	Pn	20 24 49.3 +1.0
O28A	Krutsinger Ran baz=4.6,SNR=11	4.64 144	⇓P	Pn	20 24 48.5 +0.2
O28A	Krutsinger Ran baz=4.6,SNR=11	4.64 144	⇓P	Pn	20 24 48.5 +0.2
E17A	Martinsdale baz=4.7	4.66 304	⇑P	Pn	20 24 49.6 +0.9
E17A	Martinsdale baz=4.7	4.66 304	⇑P	Pn	20 24 49.6 +0.9
M30A	Dale-Ortello V baz=4.6	4.67 119	⇓P	Pn	20 24 50.2 +1.6
M30A	Dale-Ortello V baz=4.6	4.67 119	⇓P	Pn	20 24 50.2 +1.6
M17A	Scullys Gap (B baz=4.8	4.68 240	⇓P	Pn	20 24 49.9 +1.0
M17A	Scullys Gap (B baz=4.8	4.68 240	⇓P	Pn	20 24 49.9 +1.0
BOZ	Bozeman (W)	4.82 293	ePn	Pn	20 24 50.1 -0.7
P27A	Ficken Ranch, baz=4.8,SNR=35	4.84 154	P	Pn	20 24 51.7 +0.6
P27A	Ficken Ranch, baz=4.8,SNR=35	4.84 154	P	Pn	20 24 51.7 +0.6
B20A	Solberg Farm, baz=4.9	4.87 338	⇑P	Pn	20 24 51.8 +0.5
B20A	Solberg Farm, baz=4.9	4.87 338	⇑P	Pn	20 24 51.8 +0.5
B26A	Jensen Ranch, baz=4.8	4.90 25	⇑P	Pn	20 24 52.6 +0.8
B26A	Jensen Ranch, baz=4.8	4.90 25	⇑P	Pn	20 24 52.6 +0.8
SMCO	Snowmass 31nm,0.4s	4.94 195	ePn	Pn	20 24 54.6 +1.9
D17A	Six Diamond Ra baz=5.0,SNR=168	4.96 312	P	Pn	20 24 53.0 +0.3
D17A	Six Diamond Ra baz=5.0,SNR=168	4.96 312	P	Pn	20 24 53.0 +0.3
N30A	Hueftle Ranch, baz=4.9	4.97 128	⇑P	Pn	20 24 53.6 +0.8
N30A	Hueftle Ranch, baz=4.9	4.97 128	⇑P	Pn	20 24 53.6 +0.8
Q24A	Divide baz=5.0,SNR=6.4	4.99 179	⇓P	Pn	20 24 53.8 +0.5
Q24A	Divide baz=5.0,SNR=6.4	4.99 179	⇓P	Pn	20 24 53.8 +0.5
A24A	Westby baz=5.0,SNR=18	5.05 10	⇓P	Pn	20 24 55.2 +1.4
A24A	Westby baz=5.0,SNR=18	5.05 10	⇓P	Pn	20 24 55.2 +1.4
A22A	Carney Farms, baz=5.0,SNR=8.8	5.05 355	⇓P	Pn	20 24 54.5 +0.6
A22A	Carney Farms, baz=5.0,SNR=8.8	5.05 355	⇓P	Pn	20 24 54.5 +0.6
Q23A	Hartsel baz=5.1,SNR=8.8	5.07 185	⇑P	Pn	20 24 55.0 +0.6
Q23A	Hartsel baz=5.1,SNR=8.8	5.07 185	⇑P	Pn	20 24 55.0 +0.6
O29A	4D Ranch, Culb baz=5.1	5.08 137	⇓P	Pn	20 24 54.4 +0.1
O29A	4D Ranch, Culb baz=5.1	5.08 137	⇓P	Pn	20 24 54.4 +0.1
Q25A	Bedland, Calha baz=5.1,SNR=13	5.10 171	⇑P	Pn	20 24 55.3 +0.6
Q25A	Bedland, Calha baz=5.1,SNR=13	5.10 171	⇑P	Pn	20 24 55.3 +0.6
P28A	Saint Francis baz=5.1,SNR=8.9	5.12 148	⇑P	Pn	20 24 55.0 +0.2
P28A	Saint Francis baz=5.1,SNR=8.9	5.12 148	⇑P	Pn	20 24 55.0 +0.2
EGMT	Eagleton 101nm,0.5s	5.12 324	ePn	Pn	20 24 54.9 0.0
EGMT	Eagleton baz=5.1,SNR=24	5.12 324	⇑P	Pn	20 24 55.1 +0.2
EGMT	Eagleton baz=5.1,SNR=24	5.12 324	⇑P	Pn	20 24 55.1 +0.2
P19A	Cripple Cowboy baz=5.2,SNR=24	5.13 214	⇓P	Pn	20 24 56.7 +1.6
P19A	Cripple Cowboy baz=5.2,SNR=24	5.13 214	⇓P	Pn	20 24 56.7 +1.6
A21A	Bergtoll Ranch baz=5.1,SNR=9.2	5.16 348	⇑P	Pn	20 24 55.5 +0.2
A21A	Bergtoll Ranch baz=5.1,SNR=9.2	5.16 348	⇑P	Pn	20 24 55.5 +0.2
E30A	Jud baz=5.1	5.17 58	⇓P	Pn	20 24 55.3 -0.2
E30A	Jud baz=5.1	5.17 58	⇓P	Pn	20 24 55.3 -0.2
HWUT	Hardware Ranch 49nm,0.5s	5.18 245	ePn	Pn	20 24 56.3 +0.5
Q26A	Hugo baz=5.2,SNR=11	5.20 165	P	Pn	20 24 56.9 +0.8
Q26A	Hugo baz=5.2,SNR=11	5.20 165	P	Pn	20 24 56.9 +0.8
C17A	Wharram Farm, baz=5.3,SNR=16	5.30 316	⇑P	Pn	20 24 58.2 +0.8
C17A	Wharram Farm, baz=5.3,SNR=16	5.30 316	⇑P	Pn	20 24 58.2 +0.8
KSCO	Kaye Shedlock'	5.33 157	ePn	Pn	20 24 57.9 0.0
KSCO	Kaye Shedlock' baz=5.3,SNR=17	5.33 157	P	Pn	20 24 58.3 +0.5
KSCO	Kaye Shedlock' baz=5.3,SNR=17	5.33 157	P	Pn	20 24 58.3 +0.5
HRY	Holter Researc 63nm,0.4s	5.37 303	ePn	Pn	20 24 58.9 +0.6
DLMT	Dillon 18nm,0.6s	5.40 288	ePn	Pn	20 24 59.4 +0.7
LRM	Limekiln Ridge 133nm,0.5s	5.42 293	ePn	Pn	20 24 59.4 +0.2
B18A	Beardsley Farm baz=5.4	5.42 326	⇑P	Pn	20 24 59.1 +0.1
B18A	Beardsley Farm baz=5.4	5.42 326	⇑P	Pn	20 24 59.1 +0.1
O30A	MW Ranch, Wils baz=5.4	5.42 132	⇑P	Pn	20 24 59.2 +0.2
O30A	MW Ranch, Wils baz=5.4	5.42 132	⇑P	Pn	20 24 59.2 +0.2
A26A	Wade Farm, Ken baz=5.3,SNR=13	5.43 23	⇓P	Pn	20 24 59.3 +0.3
A26A	Wade Farm, Ken baz=5.3,SNR=13	5.43 23	⇓P	Pn	20 24 59.3 +0.3
P29A	Atwood baz=5.4,SNR=7.5	5.44 142	⇑P	Pn	20 24 59.2 0.0
P29A	Atwood baz=5.4,SNR=7.5	5.44 142	⇑P	Pn	20 24 59.2 0.0
MCMT	McKenzie Canyo 8.1nm,0.5s	5.49 282	ePn	Pn	20 25 03.2 +3.1
Q28A	Sharon Springs baz=5.5,SNR=8.4	5.54 151	⇑P	Pn	20 25 01.0 +0.4
Q28A	Sharon Springs baz=5.5,SNR=8.4	5.54 151	⇑P	Pn	20 25 01.0 +0.4
JLU	Jordanelle 25nm,0.5s	5.67 236	ePn	Pn	20 25 02.9 +0.3
DAU	Daniels Canyon 40nm,0.4s	5.67 233	ePn	Pn	20 25 03.2 +0.5
R24A	Sanders Place, baz=5.8,SNR=17	5.72 179	⇑P	Pn	20 25 04.6 +1.3
R24A	Sanders Place, baz=5.8,SNR=17	5.72 179	⇑P	Pn	20 25 04.6 +1.3
B17A	L&G Farms, Che baz=5.8	5.78 320	⇑P	Pn	20 25 04.3 +0.4
B17A	L&G Farms, Che baz=5.8	5.78 320	⇑P	Pn	20 25 04.3 +0.4
CTU	Camp Tracy 28nm,0.4s	5.79 238	ePn	Pn	20 25 05.2 +1.0
R26A	Arlington baz=5.8,SNR=96	5.82 166	P	Pn	20 25 05.0 +0.5
R26A	Arlington baz=5.8,SNR=96	5.82 166	P	Pn	20 25 05.0 +0.5
BGNE	Belgrade	5.84 113	ePn	Pn	20 25 04.6 -0.2
R25A	Fountain Ranch baz=5.9,SNR=22	5.86 172	⇑P	Pn	20 25 05.2 +0.2
R25A	Fountain Ranch baz=5.9,SNR=22	5.86 172	⇑P	Pn	20 25 05.2 +0.2
SPUT	South Promonto 20nm,0.6s	5.91 246	ePn	Pn	20 25 06.6 +0.8
HVU	Hansel Valley 20nm,0.6s	5.92 251	ePn	Pn	20 25 06.5 +0.6
R27A	Eads baz=6.0,SNR=25	5.97 161	⇑P	Pn	20 25 07.3 +0.7
R27A	Eads baz=6.0,SNR=25	5.97 161	⇑P	Pn	20 25 07.3 +0.7
MPU	Maple Canyon 46nm,0.6s	6.15 232	ePn	Pn	20 25 09.6 +0.5
PV04	Paradox Valley	6.19 207	ePn	Pn	20 25 11.0 +1.3
R28A	Tribune baz=6.2,SNR=15	6.19 154	⇓P	Pn	20 25 09.5 -0.1
R28A	Tribune baz=6.2,SNR=15	6.19 154	⇓P	Pn	20 25 09.5 -0.1
SDCO	Great Sand Dun 8.3nm,0.4s	6.21 182	ePn	Pn	20 25 10.6 +0.6
SRU	San Rafael 57nm,0.3s	6.24 221	ePn	Pn	20 25 10.6 +0.3
Q30A	Quinter baz=6.2,SNR=5.3	6.26 141	⇑P	Pn	20 25 10.3 -0.2
Q30A	Quinter baz=6.2,SNR=5.3	6.26 141	⇑P	Pn	20 25 10.3 -0.2
ECSD	EROS Data Cent 61nm,0.5s	6.28 89	ePn	Pn	20 25 10.4 -0.3
PV01	Paradox Valley 1μm,0.5s	6.32 204	ePn	Pn	20 25 12.8 +1.3
S25A	Robets Cordova baz=6.4,SNR=44	6.33 174	⇑P	Pn	20 25 11.5 0.0
S25A	Robets Cordova baz=6.4,SNR=44	6.33 174	⇑P	Pn	20 25 11.5 0.0
CHMT	Chamberlain Mo 12nm,0.5s	6.33 301	ePn	Pn	20 25 12.2 +0.6
TMUT	Trail Mountain 57nm,0.5s	6.43 226	ePn	Pn	20 25 14.1 +1.1
NLU	North Lily Min 6.5nm,0.4s	6.45 234	ePn	Pn	20 25 14.3 +1.1
S26A	Kim baz=6.5,SNR=32	6.48 167	P	Pn	20 25 13.9 +0.3
S26A	Kim baz=6.5,SNR=32	6.48 167	P	Pn	20 25 13.9 +0.3
BGU	Big Grassy Mou 5.9nm,0.5s	6.48 245	ePn	Pn	20 25 13.6 0.0
S27A	Las Animas baz=6.6	6.53 163	⇓P	Pn	20 25 14.2 0.0
S27A	Las Animas baz=6.6	6.53 163	⇓P	Pn	20 25 14.2 0.0
HLID	Hailey 8.9nm,0.8s	6.62 270	Pn	Pn	20 25 17.5 +1.9
SLMT	Seeley Lake 15nm,0.6s	6.63 303	ePn	Pn	20 25 14.7 -0.9
Q31A	Ellis baz=6.6	6.64 136	⇓P	Pn	20 25 15.8 +0.1
Q31A	Ellis baz=6.6	6.64 136	⇓P	Pn	20 25 15.8 +0.1
Q16A	Castle Valley	6.70 223	ePn	Pn	20 25 17.6 +0.9
Q16A	Castle Valley baz=6.8,SNR=35	6.70 223	⇑P	Pn	20 25 17.3 +0.7
Q16A	Castle Valley baz=6.8,SNR=35	6.70 223	⇑P	Pn	20 25 17.3 +0.7
MSO	Missoula baz=6.8,SNR=8.4	6.73 298	⇑P	Pn	20 25 17.4 +0.4
MSO	Missoula baz=6.8,SNR=8.4	6.73 298	⇑P	Pn	20 25 17.4 +0.4
DUG	Dugway 12nm,0.5s	6.74 239	ePn	Pn	20 25 17.7 +0.5
DUG	Dugway baz=6.8,SNR=44	6.74 239	⇑P	Pn	20 25 17.6 +0.4
DUG	Dugway baz=6.8,SNR=44	6.74 239	⇑P	Pn	20 25 17.6 +0.4
T25A	Trinidad baz=6.9,SNR=10.0	6.84 174	⇑P	Pn	20 25 19.3 +0.6
T25A	Trinidad baz=6.9,SNR=10.0	6.84 174	⇑P	Pn	20 25 19.3 +0.6
T24B	San Luis baz=6.9,SNR=11	6.89 181	⇓P	Pn	20 25 20.4 +1.1
T24B	San Luis baz=6.9,SNR=11	6.89 181	⇓P	Pn	20 25 20.4 +1.1
SWMT	Swartz Lake 11nm,0.5s	7.05 303	ePn	Pn	20 25 21.8 +0.4
R31A	Burdett baz=7.1,SNR=10	7.14 141	⇑P	Pn	20 25 22.5 -0.1
R31A	Burdett baz=7.1,SNR=10	7.14 141	⇑P	Pn	20 25 22.5 -0.1
T27A	Campo baz=7.2,SNR=12	7.16 163	⇑P	Pn	20 25 22.7 -0.2
T27A	Campo baz=7.2,SNR=12	7.16 163	⇑P	Pn	20 25 22.7 -0.2
MVCO	Mesa Verde 18nm,0.4s	7.17 201	ePn	Pn	20 25 24.5 +1.3
YBMT	Yellow Bay 24nm,0.6s	7.23 306	ePn	Pn	20 25 24.9 +1.1
T28A	Walsh baz=7.3,SNR=8.9	7.25 159	⇓P	Pn	20 25 23.8 -0.3
T28A	Walsh baz=7.3,SNR=8.9	7.25 159	⇓P	Pn	20 25 23.8 -0.3
JTMT	Jette 6.9nm,0.4s	7.33 304	ePn	Pn	20 25 26.1 +0.9
BLMT	Blacktail Moun 11nm,0.3s	7.51 306	ePn	Pn	20 25 27.5 -0.3
MVU	Marysvale 12nm,0.4s	7.54 226	ePn	Pn	20 25 28.3 +0.1
U25A	Circle Dot Ran baz=7.6,SNR=5.6	7.58 175	⇑P	Pn	20 25 29.1 +0.3
U25A	Circle Dot Ran baz=7.6,SNR=5.6	7.58 175	⇑P	Pn	20 25 29.1 +0.3
BSMT	Bassoo Peak 6.4nm,0.6s	7.68 304	ePn	Pn	20 25 30.6 +0.4
WALA	Waterton Lakes 0.6nm,0.9s	7.83 314	ePn	Pn	20 25 31.4 -0.7
AGMN	Agassiz Nation 43nm,0.5s	7.85 53	ePn	Pn	20 25 30.9 -1.3
ELK	Elko 3.4nm,0.8s	8.04 250	ePn	Pn	20 25 36.4 +1.3
KSU1	Kansas State U 80nm,0.6s	8.12 124	ePn	Pn	20 25 32.3 -3.6
CCUT	Cedar City 23nm,0.4s	8.86 226	ePn	Pn	20 25 48.0 +1.7
ULM	Lac du Bonnet 10nm,0.5s	8.98 42	ePn	Pn	20 25 45.9 -1.9
ULM			Lg	Lg	20 28 16.9
ULM	Lac du Bonnet 3.4nm,0.3s,baz=229,slow=12,SNR=14	8.98 42	Pn	Pn	20 25 46.3 -1.5
ULM			Lg	Lg	20 28 16.9
	2.3nm,0.3s,baz=146,slow=22,SNR=2.0				
ANMO	Albuquerque	9.05 186	Pn	Pn	20 25 49.3 +0.4
ANMO			Pg		20 26 25.1
ANMO	Albuquerque 0.2nm,0.3s,baz=349,slow=10,SNR=2.7	9.05 186	Pn	Pn	20 25 49.3 +0.4
ANMO			Pg		20 26 25.1
U15A	North Rim baz=9.3,SNR=24	9.23 218	⇓P	Pn	20 25 51.5 +0.1
U15A	North Rim baz=9.3,SNR=24	9.23 218	⇓P	Pn	20 25 51.5 +0.1
W18A	Petrified Fore	9.47 203	ePn	Pn	20 25 56.3 +1.7
R11A	Troy Canyon, C	9.57 238	ePn	Pn	20 25 57.2 +1.1
WUAZ	Wupatki 23nm,0.6s	9.64 211	ePn	Pn	20 25 56.5 -0.4
WMOK	Wichita Mounta 16nm,0.6s	10.49 149	ePn	Pn	20 26 05.3 -3.2
SHPR	Sheep Range 6.4nm,0.6s	10.59 229	ePn	Pn	20 26 11.5 +1.5
TUL1	Tulsa	10.84 135	ePn	Pn	20 26 10.4 -2.9
FFC	Flin Flon 34nm,0.7s	10.99 10	ePn	Pn	20 26 13.7 -1.5
NVAR	Mina Array Bea	11.25 245	Pn	Pn	20 26 21.5 +2.5
NVAR	Mina Array Bea 0.2nm,0.3s,baz=59,slow=12,SNR=15	11.25 245	Pn	Pn	20 26 21.5 +2.5
TXAR	Lajitas Array	14.65 174	Pn	Pn	20 27 07.0 +1.6
TXAR			Lg	Lg	20 31 17.1
TXAR	Lajitas Array 0.1nm,0.3s,baz=351,slow=11,SNR=4.5	14.65 174	Pn	Pn	20 27 07.1 +1.6
TXAR			Lg	Lg	20 31 17.2
YKA	Yellowknife Ar	19.35 347	P	P	20 28 00.3 -3.3
YKA	Yellowknife Ar 0.2nm,0.3s,baz=156,slow=12,SNR=2.6	19.35 347	P	P	20 28 00.3 -3.3
ILAR	Eielson Array	31.08 327	P	P	20 29 53.2 -3.2
ILAR			PcP	PcP	20 32 51.1 -0.6
ILAR	Eielson Array 0.6nm,0.8s,baz=75,slow=10,SNR=3.1	31.08 327	P	P	20 29 53.2 -3.2
ILAR			PcP	PcP	20 32 51.1 -0.6
ARCES	ARCESS Array B	61.21 18	P	P	20 33 52.6 -0.3
ARCES	ARCESS Array B 0.8nm,0.6s,baz=338,slow=8.8,SNR=5.4	61.21 18	P	P	20 33 52.6 -0.3
FINES	FINESS Array B	67.83 23	P	P	20 34 36.0 -0.3
FINES	FINESS Array B 1.0nm,0.6s,baz=20,slow=6.1,SNR=7.5	67.83 23	P	P	20 34 36.0 -0.3
GERES	GERESS Array B	73.26 37	P	P	20 35 10.3 +0.5
GERES	GERESS Array B 0.2nm,0.5s,baz=353,slow=6.9,SNR=2.9	73.26 37	P	P	20 35 10.3 +0.5
ZALV	Zalesovo Beam	82.09 354	P	P	20 35 58.0 -0.8
ZALV	Zalesovo Beam 1.2nm,0.5s,baz=359,slow=6.1,SNR=7.3	82.09 354	P	P	20 35 58.0 -0.8
BVAR	Borovoye Array	83.32 3	P	P	20 36 05.2 -0.1
BVAR	Borovoye Array 1.0nm,0.6s,baz=350,slow=2.8,SNR=5.8	83.32 3	P	P	20 36 05.2 -0.1
SONM	Songino Array	84.43 339	P	P	20 36 11.5 +0.3
SONM	Songino Array 0.4nm,0.6s,baz=66,slow=3.5,SNR=3.5	84.43 339	P	P	20 36 11.5 +0.3
MKAR	Makanchi Array	89.38 355	P	P	20 36 34.6 -0.6
MKAR	Makanchi Array 1.9nm,0.7s,baz=7.8,slow=4.3,SNR=21	89.38 355	P	P	20 36 34.6 -0.6

IDC 28 20:40:02.4±4.0, 17°.60S×179°.61E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.5/4, MS4.1/1, Ms1 4.1/1, ms1mx2.8/17, Error ellipse: s-maj=172.4km s-min=35.4km az=139.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 1.9nm,1.0s,baz=73,slow=17,SNR=2.7	37.13	240	P	P	20 47 15.4	+0.5
WRA	Warramunga Arr 0.2nm,0.5s,baz=95,slow=8.5,SNR=6.3	42.83	259	P	P	20 48 02.1	-0.4
ASAR	Alice Springs 0.7nm,0.7s,baz=91,slow=8.4,SNR=8.2	43.05	254	P	P	20 48 03.9	-0.5
BATI	Baumata comp=Z,147nm,18.7s,baz=278,slow=32	54.64	270	LR	LR	21 09 20.3	
ILAR	Eielson Array 0.2nm,0.4s,baz=208,slow=6.2,SNR=4.2	86.02	14	P	P	20 52 44.3	0.0

IDC 28 20:42:51.2±1.6, 17°.70S×175°.16W, h221km±17km, mb3.6/11, mb1 3.9/12, mb1mx3.7/23, mbtmp3.7/12, Error ellipse: s-maj=18.9km s-min=12.2km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 23nm,0.3s,baz=33,slow=3.9,SNR=12	4.98	41	P	Pn	20 44 08.0	+1.9
AFI				S	S	20 45 02.4	-2.7
DZM	Mont Dzumac 0.3nm,0.3s,baz=134,slow=18,SNR=4.5	17.84	253	P	Pn	20 46 47.8	+1.3
URZ	Urewera 10nm,0.3s,baz=353,slow=3.6,SNR=20	21.57	197	P	P	20 47 23.4	0.0
URZ				S	S	20 51 04.9	-2.4
RPZ	Rata Peaks 3.1nm,0.5s,baz=45,slow=7.1,SNR=2.5	28.43	201	P	P	20 48 24.7	-0.7
STKA	Stephens Creek 1.7nm,0.4s,baz=75,slow=11,SNR=13	41.45	242	P	P	20 50 17.4	+0.8
WRA	Warramunga Arr 3.8nm,0.7s,baz=97,slow=6.6,SNR=85	47.72	259	P	P	20 51 05.6	-0.6
ASAR	Alice Springs 19nm,0.7s,baz=88,slow=8.8,SNR=199	47.83	254	P	P	20 51 07.2	+0.2
ASAR				PcP	PcP	20 52 30.4	-1.8
FITZ	Fitzroy Crossi 0.9nm,0.7s,baz=94,slow=4.9,SNR=5.3	56.12	260	P	P	20 52 06.9	-1.2
VNDA	Vanda 1.8nm,1.0s,baz=124,slow=8.0,SNR=4.8	60.93	186	P	P	20 52 41.6	+1.3
NVAR	Mina Array Bea 2.6nm,0.7s,baz=6.5,slow=5.5,SNR=19	77.16	42	P	P	20 54 20.9	0.0
TXAR	Lajitas Array 0.5nm,0.7s,baz=224,slow=10,SNR=4.2	83.28	56	P	P	20 54 54.4	+0.8
PDAR	Pinedale Array 0.1nm,0.5s,baz=235,slow=4.4,SNR=3.9	85.09	42	P	P	20 55 01.9	-0.7
CMAR	Chiang Mai Arr 0.5nm,0.9s,baz=242,slow=3.2,SNR=3.9	91.75	289	P	P	20 55 35.8	+1.5
BRTR	Keskin Array B 0.6nm,0.8s,baz=130,slow=2.5,SNR=6.3	146.79	317	PKPbc	PKPbc	21 02 07.4	-0.2
	0.6nm,0.8s,baz=70,slow=1.4,SNR=3.8						

IDC 28 20:52:53.5±3.7, 3°.34S×147°.80E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, MS3.7/4, Ms1 3.8/4, ms1mx3.2/22, Error ellipse: s-maj=115.1km s-min=46.0km az=108.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 6.1nm,1.1s,baz=45,slow=9.7,SNR=20	21.09	217	P	P	20 57 40.3	+0.6
ASAR	Alice Springs 1.2nm,0.7s,baz=39,slow=7.5,SNR=15	24.27	212	P	P	20 58 13.6	+0.9
ASAR				LR	LR	21 07 15.3	
DZM	Mont Dzumac comp=Z,313nm,19.3s,baz=360,slow=33	25.97	137	LR	LR	21 07 16.3	
FITZ	Fitzroy Crossi 1.6nm,0.9s,baz=58,slow=13,SNR=3.0	26.20	234	P	P	20 58 28.6	-1.5
CMAR	Chiang Mai Arr comp=Z,26nm,18.3s,baz=165,slow=38	52.75	296	LR	LR	21 25 53.2	
NVAR	Mina Array Bea comp=Z,80nm,20.9s,baz=125,slow=30	95.11	52	LR	LR	21 40 53.5	
TORD	Torodi Ar. Bea 0.4nm,0.8s,baz=58,slow=2.2,SNR=2.8	145.12	288	PKPbc	PKPbc	21 12 32.8	-0.7

IDC 28 20:54:00.9±4.7, 0°.92S×100°.19E, h134km±32km, mb3.4/3, mb1 3.2/5, mb1mx3.0/25, mbtmp3.1/5, Error ellipse: s-maj=116.3km s-min=20.8km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat 0.8nm,0.3s,baz=172,slow=15,SNR=2.7	3.91	341	P	Pn	20 54 58.3	-1.4
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=186,slow=8.4,SNR=3.3	19.29	356	P	P	20 58 16.4	+0.9
WRA	Warramunga Arr 0.7nm,0.9s,baz=304,slow=8.9,SNR=3.4	38.38	122	P	P	21 01 09.0	-0.5
WRA				PcP	PcP	21 03 21.2	+0.7
MKAR	Makanchi Array 0.2nm,0.8s,baz=292,slow=5.0,SNR=3.0	50.05	344	P	P	21 02 41.3	-0.6
ZALV	Zalesovo Beam 0.8nm,0.6s,baz=149,slow=8.1,SNR=12	56.15	349	P	P	21 03 26.3	-0.1

0.8nm,0.5s,baz=178,slow=4.5,SNR=4.5
TXAR Lajitas Array 143.73 37 PKP PKPbc 21 13 19.2 +0.3
0.3nm,0.8s,baz=268,slow=6.9,SNR=3.3

---

*IDC **28** 20:56:08.2±2.1, 0.°61S×134.°21E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, ML3.8/2, MS3.8/2, Ms1 3.7/2, ms1mx2.8/33, Error ellipse: s-maj=94.1km s-min=22.7km az=77.0*
*ISCJB **28** 20:56:11.6±1.3, 0.°7S±0.°1×133.°9E±0.°1, h32km, mb3.7/3, MS3.9/2, Error ellipse: s-maj=19.3km s-min=12.9km az=41.5*
*AUST **28** 20:56:20.1±1.5, 1.°02S×133.°62E, h93km, Error ellipse: s-maj=2.7km s-min=1.3km az=28.0*
ISC 28 20:56:13.7±1.2, 0.°7S±0.°1×133.°84E±0.°09, h32km, n16, σ1§57/14, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.58**	**265**	P	**Pn**	**20 56 54.6**	**+1.3**
	baz=2.4,SNR=12						
FAKI	**Fak Fak**	**2.76**	**215**	P	**Pn**	**20 56 57.8**	**+2.0**
	baz=2.3,SNR=45						
TLE	**Tual**	**5.08**	**192**	P	**Pn**	**20 57 30.8**	**+3.1**
	baz=4.7,SNR=5.7						
MMPI	**Merauke**	**10.14**	**140**	P	**Pn**	**20 58 38.0**	**+0.8**
	baz=10.0,SNR=3.5						
KDU	**Kakadu**	**12.04**	**186**	P	**Pn**	**20 59 03.8**	**+0.6**
	baz=12,SNR=12						
MTN	**Manton Dam**	**12.41**	**192**	P	**Pn**	**20 59 08.9**	**+0.6**
	baz=12,SNR=6.0						
MANU	**Manus Island**	**13.60**	**96**	S	**S**	**21 02 17.2**	**+0.3**
	baz=14,SNR=7.5						
KNRA	**Kununurra**	**15.75**	**198**	P	**Pn**	**20 59 52.4**	**-0.9**
	baz=15,SNR=13						
WSI	**Waingapu**	**16.18**	**236**	P	**Pn**	**20 59 56.6**	**-2.2**
	baz=16,SNR=4.3						
FITZ	**Fitzroy Crossi**	**19.13**	**204**	P	**Pn**	**21 00 35.4**	**+0.1**
	0.1nm,0.3s,baz=29,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**19.18**	**179**	P	**P**	**21 00 33.8**	**-1.1**
	0.5nm,0.3s,baz=351,slow=12,SNR=37						
ASAR	**Alice Springs**	**22.88**	**180**	P	**P**	**21 01 14.2**	**-0.6**
	1.5nm,0.7s,baz=7.7,slow=11,SNR=21						
STKA	**Stephens Creek**	**31.92**	**167**	P	**P**	**21 02 35.0**	**-1.5**
	0.9nm,0.7s,baz=343,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**65.22**	**324**	P	**P**	**21 06 52.9**	**+0.7**
	0.6nm,0.5s,baz=111,slow=8.4,SNR=11						
KBZ	**Khabaz**	**91.12**	**314**	LR	LR	21 57 34.3	
	comp=Z,31nm,18.1s,baz=93,slow=40						
FINES	**FINESS Array B**	**99.00**	**332**	LR	LR	21 57 00.7	
	comp=Z,48nm,18.1s,baz=113,slow=37						

---

*NIED **28** 21:33:00, 36.°70N×142.°40E, h20km, Mw3.6 Best double couple: M0:2.54000×10^14 NP1:φs=17.00000°, δ67.00000°, λ.88.00000°. NP2:φs=202.00000°, δ23.00000°, λ.94.00000°.*
*JMA **28** 21:33:32.6±0.5, 36.°70N×142.°38E, h16km, M3.5*
*IDC **28** 21:33:55.6±10.0, 35.°16N×136.°93E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/25, mbtmp3.4/4, Error ellipse: s-maj=404.5km s-min=25.2km az=62.0*
ISC 28 21:33:40.1±1.3, 36.°97N±0.°07×141.°65E±0.°09, h9km, n16, σ1§39/16, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.70**	**281**	P	**Pn**	**21 33 56.2**	**0.0**
JFK	**Kawauchi**	**0.74**	**303**	P	**Pn**	**21 33 57.4**	**+0.7**
JHO	**Hitachi**	**0.94**	**248**	P	**Pg**	**21 33 58.2**	**0.0**
JMM	**Marumori**	**1.13**	**323**	P	**Pb**	**21 34 02.1**	**+0.4**
JFT	**Otama**	**1.19**	**298**	P	**Pg**	**21 34 04.2**	**+1.4**
JIO	**Ouri**	**1.50**	**351**	P	**Pn**	**21 34 05.7**	**-1.5**
JOU	**Okura**	**1.60**	**331**	P	**Pn**	**21 34 09.4**	**+0.8**
JFY	**Yanaizu**	**1.62**	**286**	P	**Pb**	**21 34 10.4**	**+0.3**
JAG	**Ashikaga**	**1.85**	**254**	P	**Pn**	**21 34 11.9**	**-0.1**
BSO1	**Boso 1**	**2.38**	**194**	P	Pn	21 34 11.5	-7.2
BSO1				S	Sn	21 34 39.7	-8.0
JRY	**Ryogami san**	**2.41**	**248**	P	**Pn**	**21 34 18.8**	**-1.0**
MAT	**Matsushiro**	**2.80**	**262**	P	**Pn**	**21 34 26.8**	**+1.7**
MAT				S	**Sb**	**21 35 02.6**	**-2.1**
SONM	**Songino Array**	**27.98**	**304**	P	**P**	**21 39 30.6**	**-0.6**
	0.7nm,0.6s,baz=111,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**21 41 48.2**	**-2.1**
	0.2nm,0.6s,baz=92,slow=8.8,SNR=3.9						
WRA	**Warramunga Arr**	**57.02**	**188**	P	**P**	**21 43 27.3**	**+1.0**
	0.2nm,0.4s,baz=1.6,slow=7.5,SNR=7.1						
ASAR	**Alice Springs**	**60.75**	**188**	P	**P**	**21 43 54.5**	**+2.4**
	0.2nm,0.6s,baz=19,slow=5.9,SNR=2.6						

---

*IDC **28** 21:42:19.3±0.6, 63.°67N×148.°73W, h0km, mb3.9/14, mb1 4.1/17, mb1mx4.0/29, mbtmp3.9/17, ML3.7/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/47, Error ellipse: s-maj=15.3km s-min=9.9km az=113.0*
*NEIC **28** 21:42:20.0, 63.°47N×148.°33W, h12km, ML4.0(AEIC), MW3.9(USGS), After AEIC.*
NEIC Felt at Cantwell.
*ISCJB **28** 21:42:20.5±0.3, 63.°51N±0.°02×148.°41W±0.°05, h23km±3km, mb3.9/16, MS3.4/3, Error ellipse: s-maj=3.4km s-min=2.9km az=2.4*
ISC 28 21:42:19.8±0.7, 63.°48N±0.°02×148.°35W±0.°02, h13km±4km, n113, σ1§25/118, mb3.9/16, MS3.3/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.24**	**251**	P	**Pb**	**21 42 25.2**	**-0.8**
RND				S	**Sg**	**21 42 29.3**	**+0.9**
MCK	**McKinley**	**0.36**	**314**	P	**Pb**	**21 42 27.4**	**-0.8**
MCK				S	**Sb**	**21 42 32.9**	**-0.8**
DHY	**Denali Highway**	**0.60**	**132**	P	**Pg**	**21 42 30.8**	**-0.9**
DHY				S	**Sg**	**21 42 38.8**	**-0.8**
HUR	**Hurricane**	**0.77**	**229**	P	**Pb**	**21 42 35.1**	**-0.1**
BWN	**Browne**	**0.85**	**325**	P	**Pb**	**21 42 35.9**	**-0.5**
BWN				S	**Sg**	**21 42 46.9**	**-0.4**
TRF	**Thorofare Moun**	**0.87**	**269**	P	**Pg**	**21 42 35.7**	**-0.9**
TRF				S	**Sb**	**21 42 48.2**	**-0.3**
WRH	**Wood River Hil**	**1.00**	**7**	P	**Pn**	**21 42 38.9**	**-0.7**
WRH				S	**Sb**	**21 42 52.3**	**+0.3**
HDA	**Harding Lake**	**1.11**	**33**	P	**Pg**	**21 42 40.6**	**-0.6**
HDA				S	**Sg**	**21 42 55.2**	**-0.5**
NEA	**Nenana**	**1.14**	**344**	P	**Pg**	**21 42 41.4**	**-0.4**
DDM	**Donnelly Dome**	**1.15**	**74**	P	**Pg**	**21 42 41.2**	**-0.7**
KTH	**Kantishna Hill**	**1.15**	**275**	P	**Pn**	**21 42 41.4**	**-0.4**
CCB	**Clear Creek Bu**	**1.19**	**11**	P	**Pb**	**21 42 42.0**	**-0.3**
BPAW	**Bear Paw Mtn.**	**1.32**	**299**	P	**Pb**	**21 42 43.9**	**-0.6**
CUT	**Chulitna**	**1.39**	**220**	P	**Pg**	**21 42 45.3**	**-1.3**
PAX	**Paxson**	**1.40**	**110**	P	**Pn**	**21 42 44.2**	**-1.0**
COLA	**College**	**1.41**	**9**	P	**Pb**	**21 42 45.3**	**-0.7**
ILAR	**Eielson Array**	**1.44**	**26**	Pn	**Pn**	**21 42 45.5**	**-0.2**
ILAR				Sn	**Sn**	**21 43 04.2**	**-0.3**
ILAR	**Eielson Array**	**1.44**	**26**	Pn	**Pn**	**21 42 45.5**	**-0.2**
	125nm,0.3s,baz=209,slow=16,SNR=1692						
ILAR				Sn	**Sn**	**21 43 04.2**	**-0.3**
	492nm,0.3s,baz=210,slow=26,SNR=53						
IL1	**Eielson Array**	**1.44**	**26**	P	**Pn**	**21 42 45.5**	**-0.1**
MDM	**Murphy Dome**	**1.48**	**2**	P	**Pb**	**21 42 46.4**	**-0.9**
GLM	**Gilmore Dome**	**1.57**	**15**	P	**Pn**	**21 42 47.4**	**0.0**
CAST	**Castle Rocks**	**1.68**	**269**	P	**Pn**	**21 42 49.0**	**0.0**
SML	**Sawmill**	**1.68**	**180**	P	**Pn**	**21 42 48.8**	**-0.2**
SCM	**Sheep Creek Mo**	**1.72**	**164**	P	**Pn**	**21 42 49.4**	**-0.2**
CHUM	**Lake Minchumin**	**1.81**	**285**	P	**Pn**	**21 42 50.8**	**+0.2**
HARP	**HAARP**	**1.82**	**125**	P	**Pb**	**21 42 51.9**	**-1.0**
PPLA	**Purkeypile**	**1.84**	**253**	P	**Pb**	**21 42 52.5**	**-0.9**
MLY	**Manley**	**1.87**	**327**	P	**Pn**	**21 42 51.7**	**+0.1**
PMR	**Palmer**	**1.93**	**191**	P	**Pn**	**21 42 52.5**	**+0.1**
SCRK	**Sand Creek**	**2.00**	**74**	P	**Pn**	**21 42 53.8**	**+0.3**
SKT	**Skwentna**	**2.10**	**226**	P	**Pn**	**21 42 55.3**	**+0.6**
MENT	**Mentasta**	**2.17**	**103**	*e*Pn	**Pb**	**21 42 57.4**	**-1.6**
MENT				*e*Sn	**Sb**	**21 43 26.4**	**+0.6**
KLU	**Klutina**	**2.30**	**149**	P	**Pn**	**21 42 58.2**	**+0.8**
SUA	**Susitna One**	**2.31**	**210**	P	**Pb**	**21 42 58.9**	**-2.6**
WASW	**Wrangell South**	**2.48**	**127**	P	**Pb**	**21 43 02.4**	**-2.0**
VLZ	**Valdez**	**2.54**	**157**	P	**Pb**	**21 43 02.2**	**-3.1**
STLK	**Strandline Lak**	**2.57**	**221**	P	**Pn**	**21 43 02.4**	**+1.2**
JPK	**Jack Peak**	**2.57**	**161**	P	**Pn**	**21 43 02.3**	**+1.1**
DIV	**Divide**	**2.65**	**152**	P	Pb	21 43 03.8	-3.4
SPU	**Mount Spurr**	**2.88**	**218**	P	**Pn**	**21 43 07.3**	**+1.7**
SPBG	**Spurr Blockage**	**2.91**	**222**	P	**Pn**	**21 43 07.7**	**+1.8**
BGL	**Barrier Glacie**	**2.92**	**222**	P	**Pn**	**21 43 08.0**	**+2.0**
CKL	**Chakachamna La**	**2.95**	**221**	P	**Pn**	**21 43 08.1**	**+1.6**
BMRM	**Bremner River**	**3.08**	**144**	P	**Pn**	**21 43 09.4**	**+1.2**
SLKM	**Skilak Lake**	**3.12**	**197**	P	**Pn**	**21 43 10.9**	**+2.2**
EYAK	**Cordova Ski Ar**	**3.19**	**156**	P	**Pn**	**21 43 11.4**	**+1.8**
MCARA	**McCarthy VSAT**	**3.25**	**128**	P	Pn	21 43 12.9	+2.4
FYU	**Fort Yukon**	**3.37**	**22**	P	**Pn**	**21 43 12.9**	**+0.9**
GOAT	**Goat Mountain**	**3.38**	**148**	P	Pb	21 43 15.3	-4.2
EGAK	**Eagle**	**3.41**	**64**	P	**Pn**	**21 43 12.8**	**+0.1**
IM3	**Indian Mountai**	**3.41**	**320**	P	**Pn**	**21 43 13.0**	**+0.3**
IMA2	**Indian Mountai**	**3.46**	**321**	P	**Pn**	**21 43 13.8**	**+0.4**
RDT	**Redoubt**	**3.49**	**215**	P	**Pn**	**21 43 15.9**	**+2.1**
TT01	**Tatalina**	**3.52**	**264**	P	**Pn**	**21 43 14.7**	**+0.4**
RAGM	**Ragged Mountai**	**3.56**	**149**	*e*Pn	**Pb**	**21 43 20.3**	**-2.3**
RAGM				*e*Sn	**Sn**	**21 43 57.8**	**+1.1**
PTPK	**Patty Peak**	**3.58**	**127**	P	Pn	21 43 17.6	+2.4
RSO	**Redoubt South**	**3.68**	**216**	*e*Pn	**Pb**	**21 43 22.0**	**-2.7**
BALM	**Baldy**	**3.73**	**128**	P	Pn	21 43 19.7	+2.5
KIAG	**Kiagnia River**	**3.81**	**130**	P	**Pn**	**21 43 20.1**	**+1.8**
COLD	**Coldfoot**	**3.84**	**349**	P	**Pn**	**21 43 19.6**	**+1.1**
BARN	**Barnard Glacie**	**3.96**	**125**	P	**Pn**	**21 43 22.6**	**+2.1**
DAWY	**Dawson**	**4.02**	**78**	P	**Pn**	**21 43 21.8**	**+0.7**
SVW2	**Sparrevohn**	**4.14**	**238**	P	**Pn**	**21 43 24.4**	**+1.7**
GRNC	**Granite Creek**	**4.15**	**129**	P	**Pn**	**21 43 24.7**	**+1.7**
BM3	**Burnt Mountain**	**4.25**	**20**	P	**Pn**	**21 43 24.9**	**+0.7**
KAPH	**Katmai Pasha**	**5.70**	**213**	P	**Pn**	**21 43 46.3**	**+2.1**
HYT	**Haines Junctio**	**5.74**	**113**	P	**Pn**	**21 43 46.8**	**+2.0**
KDAK	**Kodiak Island**	**6.09**	**202**	Pn	**Pn**	**21 43 49.0**	**-0.3**
KDAK				Sn	**Sn**	**21 44 58.2**	**-0.6**
KDAK	**Kodiak Island**	**6.09**	**202**	Pn	**Pn**	**21 43 49.0**	**-0.3**
	1.6nm,0.3s,baz=42,slow=13,SNR=6.7						
KDAK				Sn	**Sn**	**21 44 58.2**	**-0.6**
	3.4nm,0.3s,baz=318,slow=20,SNR=5.8						
KABR	**Katmai Barrier**	**6.27**	**214**	P	**Pn**	**21 43 53.4**	**+1.4**
CAHL	**Cahill**	**6.42**	**215**	P	**Pn**	**21 43 55.6**	**+1.6**
OHAK	**Old Harbor**	**6.74**	**203**	P	**Pn**	**21 43 59.2**	**+0.8**
INK	**Inuvik**	**7.75**	**45**	*e*Pn	**Pn**	**21 44 10.1**	**-2.0**
INK				*e*Sg	**Sg**	**21 46 25.2**	**-2.9**
INK	**Inuvik**	**7.75**	**45**	Pn	**Pn**	**21 44 12.1**	**0.0**
	2.3nm,0.3s,baz=241,slow=17,SNR=11						
INK				Sn	**Sn**	**21 45 37.0**	**-2.6**
	1.6nm,0.3s,baz=235,slow=11,SNR=2.2						
INK				LR	LR	21 48 00.1	
	comp=Z,68nm,19.1s,baz=50,slow=44						
TNA	**Tin City**	**8.68**	**293**	P	**Pn**	**21 44 24.8**	**-0.1**
YKA	**Yellowknife Ar**	**15.26**	**78**	Pn	**Pn**	**21 45 55.8**	**+1.2**
YKA	**Yellowknife Ar**	**15.26**	**78**	Pn	**Pn**	**21 45 55.8**	**+1.2**
	0.2nm,0.3s,baz=290,slow=11,SNR=3.6						
BBB	**Bella Bella**	**15.54**	**127**	LR	LR	21 52 11.0	
	comp=Z,73nm,20.8s,baz=275,slow=38						
RES	**Resolute Bay**	**21.17**	**36**	P	**P**	**21 47 06.0**	**+1.7**
RES	**Resolute Bay**	**21.17**	**36**	P	**P**	**21 47 06.0**	**+1.7**
	1.9nm,0.7s,baz=241,slow=13,SNR=3.0						
YBH	**Yreka Blue Hor**	**26.43**	**133**	LR	LR	21 56 53.7	
	comp=Z,81nm,19.2s,baz=108,slow=33						
PDAR	**Pinedale Array**	**30.44**	**114**	P	**P**	**21 48 34.3**	**+2.3**
PDAR	**Pinedale Array**	**30.44**	**114**	P	**P**	**21 48 34.3**	**+2.3**
	1.5nm,0.8s,baz=323,slow=6.7,SNR=10.0						
NVAR	**Mina Array Bea**	**30.88**	**130**	P	P	21 48 38.5	+2.6
NVAR	**Mina Array Bea**	**30.88**	**130**	P	P	21 48 38.5	+2.6
	1.1nm,0.7s,baz=320,slow=8.3,SNR=4.0						
ANMO	**Albuquerque**	**38.37**	**118**	P	P	21 49 45.2	+4.6
ANMO	**Albuquerque**	**38.37**	**118**	P	P	21 49 45.2	+4.6
	1.1nm,0.6s,baz=71,slow=3.4,SNR=3.5						
TXAR	**Lajitas Array**	**44.42**	**119**	P	**P**	**21 50 32.6**	**+2.4**
TXAR	**Lajitas Array**	**44.42**	**119**	P	**P**	**21 50 32.6**	**+2.4**
	0.3nm,0.6s,baz=334,slow=5.1,SNR=3.1						
ARCES	**ARCESS Array B**	**47.19**	**3**	P	**P**	**21 50 50.9**	**-0.6**
ARCES	**ARCESS Array B**	**47.19**	**3**	P	**P**	**21 50 50.9**	**-0.6**
	2.5nm,1.0s,baz=9.5,slow=11,SNR=3.3						
CN2	**Changchun**	**50.37**	**290**	*e*P	**P**	**21 51 15.8**	**-0.4**
SONM	**Songino Array**	**54.49**	**307**	P	**P**	**21 51 47.7**	**+0.8**
SONM	**Songino Array**	**54.49**	**307**	P	**P**	**21 51 47.7**	**+0.8**
	0.3nm,0.5s,baz=4.9,slow=5.1,SNR=2.7						
FINES	**FINESS Array B**	**55.32**	**3**	P	**P**	**21 51 52.2**	**-0.2**
FINES	**FINESS Array B**	**55.32**	**3**	P	**P**	**21 51 52.2**	**-0.2**
	1.3nm,0.7s,baz=358,slow=9.8,SNR=11						
ZALV	**Zalesovo Beam**	**55.82**	**325**	P	**P**	**21 51 55.4**	**-0.8**
ZALV	**Zalesovo Beam**	**55.82**	**325**	P	**P**	**21 51 55.4**	**-0.8**
	0.4nm,0.3s,baz=31,slow=6.5,SNR=3.0						
ZALV				LR	LR	22 18 35.3	
	comp=Z,21nm,18.3s,baz=59,slow=39						
MKAR	**Makanchi Array**	**63.02**	**323**	LR	LR	22 22 28.3	
	comp=Z,36nm,19.8s,baz=355,slow=38						
GTA	**Gaotai**	**64.17**	**307**	*e*P	**P**	**21 52 51.5**	**-2.4**
GTA				pP	**pP**	**21 52 58.0**	**0.0**
GTA				sP	**sP**	**21 53 00.5**	**+1.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**64.54**	**342**	P	**P**	**21 52 55.7**	**-0.3**
AKTO	**Aktyubinsk**	**64.54**	**342**	P	**P**	**21 52 55.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=12,slow=6.1,SNR=4.2						
AKASG	**Malin Array Be**	**66.14**	**2**	P	**P**	**21 53 06.1**	**-0.2**
AKASG	**Malin Array Be**	**66.14**	**2**	P	**P**	**21 53 06.1**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=350,slow=4.9,SNR=3.7						
GERES	**GERESS Array B**	**67.12**	**13**	P	**P**	**21 53 13.2**	**+0.4**
GERES	**GERESS Array B**	**67.12**	**13**	P	**P**	**21 53 13.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=345,slow=4.6,SNR=5.8						
GYA	**Guiyang**	**73.02**	**295**	*e*P	**P**	**21 53 48.0**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ESDC	**Sonseca Array**	**73.35**	**28**	P	**P**	**21 53 51.2**	**+0.2**
ESDC	**Sonseca Array**	**73.35**	**28**	P	**P**	**21 53 51.2**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=342,slow=5.9,SNR=14						
KEST	**Kesra**	**79.53**	**18**	P	**P**	**21 54 26.8**	**+0.7**
KEST	**Kesra**	**79.53**	**18**	P	**P**	**21 54 26.8**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=5.4,slow=3.0,SNR=4.5						
BOSA	**Boshof**	**144.88**	**10**	PKP	**PKPdf**	**22 01 55.3**	**-0.8**
BOSA	**Boshof**	**144.88**	**10**	PKP	**PKPdf**	**22 01 55.3**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=298,slow=3.7,SNR=3.7						
COEN	**Coen**	**37.11**	**270**	P	**P**	**22 24 58.3**	**+0.8**
	baz=37,SNR=4.8						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**22 25 11.1**	**+0.9**
	12nm,0.6s,baz=84,slow=7.1,SNR=7.0						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**22 25 11.1**	**+0.9**
	baz=39,SNR=4.3						
BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**22 25 48.2**	**+0.2**
	baz=44,SNR=6.2						
WRA	**Warramunga Arr**	**44.66**	**259**	P	**P**	**22 25 56.3**	**-1.2**
	4.8nm,0.5s,baz=94,slow=7.0,SNR=113						
WRA				PcP	**PcP**	**22 27 27.8**	**-0.4**
	0.7nm,0.4s,baz=93,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**44.83**	**254**	P	**P**	**22 25 58.5**	**-0.2**
	46nm,0.6s,baz=88,slow=8.4,SNR=692						
ASAR				PcP	**PcP**	**22 27 28.4**	**-0.5**
	1.1nm,0.4s,baz=105,slow=3.9,SNR=4.1						
KDU	**Kakadu**	**47.57**	**269**	P	**P**	**22 26 19.3**	**-0.2**
	baz=48,SNR=5.8						
MTN	**Manton Dam**	**48.81**	**268**	P	**P**	**22 26 28.2**	**-0.6**
	baz=49,SNR=7.5						
KNRA	**Kununurra**	**50.51**	**264**	P	**P**	**22 26 40.7**	**-0.6**
	baz=50,SNR=11						
MEEK	**Meekatharra**	**58.48**	**249**	P	**P**	**22 27 35.9**	**-1.2**
	baz=58,SNR=7.4						
KLBR	**Kellerberrin**	**58.89**	**243**	P	**P**	**22 27 38.8**	**-1.0**
	baz=59,SNR=13						
NWAO	**Narrogin (SRO)**	**59.28**	**242**	P	**P**	**22 27 41.5**	**-0.8**
	5.3nm,0.8s,baz=102,slow=9.3,SNR=3.8						
WSI	**Waingapu**	**59.88**	**269**	P	P	22 27 52.5	+5.9
	baz=60,SNR=3.4						
UGM	**Wanagama**	**69.66**	**268**	P	**P**	**22 28 48.0**	**-0.3**
	baz=70,SNR=4.3						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**22 29 44.5**	**+2.1**
	0.8nm,0.6s,baz=225,slow=9.1,SNR=7.5						
MAW	**Mawson**	**83.98**	**200**	P	**P**	**22 30 05.1**	**-0.2**
	1.2nm,0.6s,baz=141,slow=6.5,SNR=5.4						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**22 30 11.2**	**-2.6**
	0.4nm,0.5s,baz=224,slow=5.0,SNR=5.8						
TXAR	**Lajitas Array**	**85.92**	**58**	P	**P**	**22 30 17.1**	**+1.5**
	0.8nm,0.7s,baz=232,slow=4.4,SNR=10						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**22 30 23.2**	**+1.5**
	0.6nm,0.5s,baz=225,slow=4.2,SNR=7.3						
CMAR	**Chiang Mai Arr**	**88.85**	**290**	P	**P**	**22 30 29.1**	**-0.3**
	0.9nm,0.3s,baz=109,slow=3.0,SNR=5.1						
MKAR	**Makanchi Array**	**109.05**	**314**	PKiKP	**PKiKP**	**22 35 59.3**	**-1.2**
	0.3nm,0.5s,baz=161,slow=1.2,SNR=4.5						
BVAR	**Borovoye Array**	**116.75**	**321**	PKP	**PKPdf**	**22 36 14.1**	**-0.9**
	0.5nm,0.3s,baz=119,slow=5.3,SNR=2.9						
BRTR	**Keskin Array B**	**144.70**	**315**	PKP	PKPbc	22 37 07.4	-0.8
	1.3nm,0.6s,baz=111,slow=3.7,SNR=9.4						
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**22 37 15.8**	**+0.2**
	0.9nm,0.6s,baz=14,slow=3.4,SNR=9.3						

---

*ISCJB **28** 22:18:32.5±0.7, 17.°9S±0.°1×178.°5W±0.°1, h547km, mb4.0/12, Error ellipse: s-maj=20.4km s-min=12.8km az=154.2*
*IDC **28** 22:18:37.0±3.1, 18.°01S×178.°55W, h590km±36km, mb3.5/12, mb1 3.7/13, mb1mx3.5/23, mbtmp3.5/13, Error ellipse: s-maj=24.2km s-min=18.2km az=167.0*
*AUST **28** 22:18:38.8, 17.°55S×178.°50W, h600km*
ISC 28 22:18:32.8±0.7, 17.°8S±0.°2×178.°4W±0.°1, h547km, n33, σ1§11/31, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.87**	**251**	P	**P**	**22 21 42.8**	**+1.7**
	0.7nm,0.3s,baz=91,slow=18,SNR=8.6						
URZ	**Urewera**	**20.78**	**190**	P	**P**	**22 22 35.2**	**-0.8**
	3.5nm,0.5s,baz=308,slow=10.0,SNR=3.5						
RMQ	**Roma**	**31.56**	**248**	P	**P**	**22 24 12.0**	**+1.1**
	baz=32,SNR=4.3						
CTA	**Charters Tower**	**33.47**	**260**	P	**P**	**22 24 27.1**	**-0.1**
	4.5nm,0.6s,baz=85,slow=11,SNR=6.0						
CNB	**Canberra Magne**	**33.51**	**232**	P	**P**	**22 24 28.7**	**+1.3**
	baz=34,SNR=6.9						
PATS	**Pohnpei**	**33.57**	**315**	P	P	22 24 23.2	-4.9
	baz=34,SNR=3.7						
YNG	**Young**	**33.87**	**234**	S	S	22 29 23.7	+7.4
	baz=34,SNR=6.2						
PMG	**Port Moresby**	**34.44**	**279**	P	**P**	**22 24 36.8**	**+1.4**
	24nm,0.7s,baz=81,slow=2.9,SNR=5.0						
MTSU	**Mount Surprise**	**35.43**	**264**	P	**P**	**22 24 43.7**	**+0.1**
	baz=35,SNR=7.8						

KRSC 28 22:05:48.6±1.5, 48.°70N×157.°91E, h5km±5km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.30**	**330**	P	Pn	22 06 28.7	+1.6
MIPR	**Malaya Ipel'ka**	**3.66**	**349**	P	Pn	22 06 46.8	+1.0
ASAK	**Asacha**	**3.69**	**360**	*e*P	Pn	22 06 47.9	+1.6
RUS	**Russkaya**	**3.76**	**6**	*e*P	Pn	22 06 48.3	+1.1
RUS				*i* S	Sn	22 07 32.6	+0.9
MTVR	**Mutnovka**	**3.79**	**3**	*e*P	Pn	22 06 49.3	+1.4
MTVR				*i* S	Sn	22 07 34.2	+1.2
UGLR	**Uglovaya**	**4.55**	**7**	P	Pn	22 07 00.9	+2.7
AVH	**Avacha**	**4.60**	**6**	*e*P	Pn	22 07 01.5	+2.6
SPN	**Mys Shipunski**	**4.60**	**16**	P	Pn	22 07 01.4	+2.6
SPN				*i* S	Sn	22 07 53.5	+0.9
SMAR	**Somma**	**4.60**	**7**	P	Pn	22 07 01.6	+2.5
KOK	**Koryaka**	**4.62**	**5**	P	Pn	22 07 01.5	+2.3
SDLR	**Sedlovina**	**4.62**	**7**	*e*P	Pn	22 07 01.0	+1.7
KRX	**Arik**	**4.69**	**5**	P	Pn	22 07 02.7	+2.5
GNL	**Ganaly**	**5.00**	**0**	*e*P	Pn	22 07 06.2	+1.8
MKZ	**Mys Kozlova**	**6.33**	**21**	*e*P	Pn	22 07 25.2	+2.8
KBTR	**Krutoberegovo**	**8.09**	**20**	P	Pn	22 07 50.3	+3.6

---

*ISCJB **28** 22:20:06.7±0.8, 34.°16S±0.°06×150.°29E±0.°08, h10km, Error ellipse: s-maj=11.9km s-min=5.7km az=40.2*
*AUST **28** 22:20:08.6±5.9, 34.°17S×150.°39E, h28km, Error ellipse: s-maj=2.0km s-min=0.9km az=

comp=Z,13nm,0.1s
YSS Yuzh-Sakhalins 4.61 350⇑ *e*PN **Pn** **22 25 54.0 +1.3**
YSS *e*S **Sn** **22 26 45.0 +0.1**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax smax
comp=E,90nm,1.0s
MAJO Matsushiro 7.34 219 *e*PN **Pn** **22 26 29.3 -1.0**
MAJO Matsushiro 7.34 219 *e*Pn **Pn** **22 26 29.3 -1.0**
MAT Matsushiro 7.34 219 P **Pn** **22 26 29.2 -1.1**
MAT S **Sn** **22 27 52.8 +0.5**
MJAR Matsushiro Arr 7.34 219 P **Pn** **22 26 29.3 -1.0**
comp=E,1.6nm,0.3s,baz=28,slow=13,SNR=71
MJAR LR LR 22 30 04.0
comp=E,368nm,19.8s,baz=40,slow=44
HABR Khabarovsk 8.68 317 *e*PN **Pn** **22 26 49.3 +0.7**
HABR pmax pmax
comp=Z,58nm,1.4s
USRK Ussuriysk Arra 8.87 286 P Pn 22 26 55.1 +4.0
comp=Z,0.2nm,0.3s,baz=80,slow=16,SNR=2.4
USRK LR LR 22 30 37.8
comp=Z,113nm,19.0s,baz=19,slow=40
MDJ Mudanjiang 10.63 287 P **Pn** **22 27 14.5 -0.8**
MDJ sP 22 27 29.8
MDJ S **Sn** **22 29 11.3 -1.6**
MDJ ScP **ScP** **22 36 45.3 +1.5**
MDJ PcS **PcS** **22 36 50.0 +1.2**
MDJ ScS **ScS** **22 40 20.0 +1.3**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,21nm,2.8s
MDJ LR LR
comp=N,170nm,24.4s
MDJ LR LR
comp=E,91nm,21.1s
MDJ LR LR
comp=Z,140nm,21.9s
KLR Kul'dur 10.88 313 *e*PN **Pn** **22 27 18.8 +0.2**
KSRS Korea Array 13.23 253 LR LR 22 32 30.9
comp=Z,104nm,21.8s,baz=160,slow=35
CN2 Changchun 13.56 282 *e*P **Pn** **22 27 55.8 +0.5**
CN2 *e*pP **P** **22 28 04.0 +0.8**
CN2 *e*S **Sn** **22 30 24.0 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,11.0s
CN2 LR LR
comp=E,200nm,11.0s
CN2 LR LR
comp=Z,200nm,12.0s
JNU Nakatsue 13.86 232 *e*Pn **Pn** **22 27 59.2 -0.2**
JNU *e*PcP **PcP** **22 33 19.4 +0.1**
JNU Nakatsue 13.86 232 LR LR 22 33 19.5
comp=Z,167nm,21.0s,baz=141,slow=37
PEA0 Petropavlovsk- 14.12 36 *e*Pn Pn 22 27 59.6 -3.2
PETK Petropavlovsk- 14.12 36 P **Pn** **22 28 00.7 -2.1**
PETK MLR MLR
comp=Z,77nm,18.4s
PETK Petropavlovsk- 14.12 36 P **Pn** **22 28 00.7 -2.1**
comp=Z,0.4nm,0.3s,baz=212,slow=13,SNR=3.6
PETK LR LR 22 34 41.4
comp=Z,77nm,18.4s,baz=76,slow=42
BJI Beijing 20.96 273 P **P** **22 29 24.5 -0.1**
BJI S **S** **22 33 15.5 0.0**
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI pmax pmax
comp=Z,56nm,5.3s
SEY Seymchan 21.14 11⇑ *e*P **P** **22 29 24.0 -2.4**
FX1 Attu Island--F 22.16 52 *e*P **P** **22 29 39.3 +1.9**
FX1 Attu Island--F 22.16 52 P **P** **22 29 38.0 +0.6**
comp=Z,28nm,0.8s,baz=72,slow=16,SNR=8.6
FX1 pP **pP** **22 29 48.5 0.0**
comp=Z,17nm,0.8s,baz=48,slow=19,SNR=3.6
NJ2 Nanjing 22.40 251 *e*P **P** **22 29 40.0 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 24.16 277 *e*P **P** **22 29 56.8 -0.6**
HHC pP **pP** **22 30 09.0 -0.6**
HHC sP **sP** **22 30 15.0 -0.2**
HHC PP **PnPn** **22 30 32.8 +4.4**
HHC PcP **PcP** **22 33 40.5 +3.3**
HHC S **S** **22 34 08.5 -3.8**
HHC SS **SnSn** **22 35 01.5 +4.6**
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,89nm,4.1s
HHC LR LR
comp=N,170nm,15.5s
HHC LR LR
comp=E,160nm,13.1s
HHC LR LR
comp=Z,160nm,14.3s
ULN Ulaanbaatar 26.39 295 *e*P **P** **22 30 17.6 -0.1**
SONA1 Songino Array 26.82 295 *e*P **P** **22 30 21.4 -0.2**
SONA0 Songino Array 26.83 295 *e*P **P** **22 30 21.8 +0.2**
SONA0 *e*pP **pP** **22 30 34.4 +0.6**
SONM Songino Array 26.83 295 P **P** **22 30 21.8 +0.2**
comp=Z,3.1nm,1.1s,baz=84,slow=8.0,SNR=8.4
SONM pP **pP** **22 30 34.4 +0.6**
comp=Z,1.3nm,0.8s,baz=99,slow=11,SNR=4.0
SONM LR LR 22 42 08.5
comp=Z,79nm,18.9s,baz=18,slow=39
ZAK Zakamensk 28.83 300 *e*P **P** **22 30 38.8 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
GTA Gaotai 33.18 280 *e*P **P** **22 31 19.8 +1.9**
GTA pP **pP** **22 31 27.3 -2.9**
GTA pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 33.91 264 *e*P **P** **22 31 24.5 +0.3**
CD2 sP **sP** **22 31 42.5 +0.4**
CD2 PP **PnPn** **22 32 38.8 +0.8**
CD2 S **S** **22 36 44.3 -1.2**
CD2 sS **sS** **22 37 05.0 -1.3**
CD2 SS **SnSn** **22 38 52.3 -2.1**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,30nm,4.8s
CD2 LR LR
comp=N,110nm,16.6s
CD2 LR LR
comp=Z,100nm,10.6s
GYA Guiyang 34.29 254 P **P** **22 31 28.0 +0.4**
GYA pP **pP** **22 31 40.5 +0.5**
GYA sP **sP** **22 31 47.8 +2.3**
GYA PP **PnPn** **22 32 43.8 +0.9**
GYA S **S** **22 36 51.3 -0.3**
GYA sS **sS** **22 37 13.0 +0.6**
GYA ScP **ScP** **22 37 44.3 +0.1**
GYA PcS **PcS** **22 37 52.0 +2.3**
GYA ScS **ScS** **22 41 44.5 -2.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,330nm,16.5s
GYA LR LR
comp=E,240nm,17.0s
GYA LR LR
comp=Z,380nm,17.1s
HVS Khovu-Aksy 34.87 302⇑ *e*P **P** **22 31 33.0 +0.7**
HVS pmax pmax
comp=Z,16nm,1.0s
ZAA0 Zalesovo Array 39.92 308 *e*P **P** **22 32 14.1 -0.8**
ZAA0 *e*PcP **PcP** **22 34 19.6 +0.1**
ZALV Zalesovo Beam 39.92 308 *i* P **P** **22 32 14.8 -0.1**
ZALV pmax pmax
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 39.92 308 P **P** **22 32 14.4 -0.6**
comp=Z,4.6nm,1.0s,baz=81,slow=9.2,SNR=12
ZALV pP **pP** **22 32 27.2 -0.3**
comp=Z,2.2nm,0.8s,baz=90,slow=8.2,SNR=5.1
ZALV PcP **PcP** **22 34 19.6 0.0**
comp=Z,1.7nm,0.6s,baz=93,slow=2.6,SNR=6.4
ZALV LR LR 22 51 56.3
comp=Z,24nm,18.1s,baz=257,slow=41
WMQ Urumqi 40.38 292 *e*P **P** **22 32 20.3 +1.3**
WMQ pmax pmax
comp=Z,4.0nm,1.2s
WMQ LR LR
comp=N,76nm,23.0s
WMQ LR LR
comp=E,34nm,23.0s
WMQ LR LR
comp=Z,40nm,17.0s
MK32 Makanchi Array 43.10 298 *e*P **P** **22 32 41.0 -0.1**
MK32 *e*pP **pP** **22 32 52.0 -1.8**
MK32 *e*PP **PcP** **22 34 30.4 +0.2**
MKAR Makanchi Array 43.10 298 *e*P **P** **22 32 40.7 -0.4**
MKAR Makanchi Array 43.10 298 *e*P **P** **22 32 40.7 -0.4**
MKAR Makanchi Array 43.10 298 P **P** **22 32 41.0 -0.1**
comp=Z,2.2nm,0.9s,baz=79,slow=8.8,SNR=12
MKAR pP **pP** **22 32 52.0 -1.8**
comp=Z,2.5nm,0.7s,baz=84,slow=8.0,SNR=9.2
MKAR PcP **PcP** **22 34 30.4 +0.2**
comp=Z,0.7nm,0.8s,baz=74,slow=5.2,SNR=3.0
MK01 Makanchi Array 43.10 298 *e*P **P** **22 32 40.8 -0.3**
COLA College 43.53 35‖ *e*P **P** **22 32 45.7 +1.4**
IL1 Eielson Array 43.95 35 *e*P **P** **22 32 47.1 -0.5**
ILAR Eielson Array 43.95 35 P **P** **22 32 47.5 -0.2**
comp=Z,4.1nm,0.9s,baz=273,slow=5.9,SNR=28
ILAR pP **pP** **22 33 00.4 0.0**
comp=Z,6.0nm,1.0s,baz=269,slow=7.6,SNR=12
ILB Eielson Array 43.95 35 *e*P **P** **22 32 47.5 -0.2**
ILB *e*pP **pP** **22 33 00.4 0.0**
CMAR Chiang Mai Arr 44.87 252 LR LR 22 53 27.5
comp=Z,30nm,19.4s,baz=205,slow=38
VOSK Vostochnaya 48.27 309 *e*P **P** **22 33 22.1 +0.3**
VOSK pmax pmax
comp=Z,5.0nm,1.0s
VOSK Vostochnaya 48.27 309 *e*P **P** **22 33 22.1 +0.3**
comp=Z,4.6nm,1.0s
BVAR Borovoye Array 48.51 309 P **P** **22 33 23.7 0.0**
BVAR *PP **pP** **22 33 36.2 -0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 48.51 309 P **P** **22 33 23.7 0.0**
comp=Z,0.7nm,0.4s,baz=80,slow=11,SNR=7.9
BVAR pP **pP** **22 33 36.2 -0.3**
comp=Z,1.6nm,0.6s,baz=58,slow=9.0,SNR=4.6
BRVK Borovoye 48.56 309‖ *e*P **P** **22 33 24.0 0.0**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
HYT Haines Junctio 48.88 40 *e*P **P** **22 33 27.4 +0.9**
TKM2 Tokmak 2 48.93 295 *e*P **P** **22 33 27.2 -0.1**
TKM2 pmax pmax
comp=Z,30nm,2.4s
TKM2 Tokmak 2 48.93 295 *e*P **P** **22 33 27.2 -0.1**
comp=Z,30nm,2.4s
KSH Kashi 50.13 291 *e*P P 22 33 40.0 +3.7
DLBC Dease Lake 53.25 41 *e*P **P** **22 33 58.3 -0.9**
ARU Arti 53.69 317 *c i*P **P** **22 34 02.2 -0.2**
ARU S **S** **22 41 34.0 +1.3**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ABKAR Akbulak array 56.03 308 *e*P **P** **22 34 18.8 -0.7**
AKTO Aktyubinsk 56.59 310 P **P** **22 34 23.4 -0.1**
AKTO *PP **pP** **22 34 38.4 +1.9**
AKTO pmax pmax
comp=Z,1.0nm,0.7s
AKTO pmax pmax
comp=Z,2.0nm,0.9s
AKTO Aktyubinsk 56.59 310 P **P** **22 34 23.4 -0.1**
comp=Z,1.1nm,0.6s,baz=55,slow=11,SNR=5.3
AKTO pP **pP** **22 34 38.4 +1.9**
comp=Z,2.3nm,0.9s,baz=61,slow=8.5,SNR=4.5
ARA0 ARCESS Array S 59.65 339 *e*P **P** **22 34 44.5 0.0**
ARCES ARCESS Array B 59.65 339 P **P** **22 34 44.5 0.0**
comp=Z,1.0nm,0.8s,baz=67,slow=9.3,SNR=5.0
ARCES LR LR 23 02 16.9
comp=Z,44nm,20.8s,baz=209,slow=38
JOF Joensuu 62.14 331 *e*P **P** **22 35 00.2 -1.3**
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 62.14 331 *e*p **P** **22 35 00.2 -1.3**
comp=Z,3.8nm,0.8s
SP2 Seward Park 2 62.56 50 *e*P **P** **22 35 04.0 -0.5**
WRA Warramunga Arr 62.67 190 *e*P **P** **22 35 04.5 -1.0**
WRA *e*pP **pP** **22 35 18.3 -0.4**
WRA Warramunga Arr 62.67 190 P **P** **22 35 04.5 -1.0**
comp=Z,1.8nm,0.8s,baz=9.5,slow=7.3,SNR=10
WRA pP **pP** **22 35 18.3 -0.4**
comp=Z,2.3nm,0.9s,baz=11,slow=6.9,SNR=5.8
WRA LR LR 23 00 42.8
comp=Z,53nm,18.9s,baz=180,slow=34
KAF Kangasniemi 64.42 332 *e*P **P** **22 35 14.4 -2.2**
KAF pmax pmax
comp=Z,7.0nm,1.0s
KAF Kangasniemi 64.42 332 *e*p **P** **22 35 14.4 -2.2**
comp=Z,7.2nm,1.0s
FIA0 FINESS Array S 64.96 332 *e*P **P** **22 35 19.0 -1.1**
FIA0 *e*PP **pP** **22 35 33.1 -0.3**
FIA0 FINESS Array S 64.96 332 *e*P **P** **22 35 19.0 -1.1**
FIA0 *e*pP **pP** **22 35 33.1 -0.3**
FINES FINESS Array B 64.96 332 P **P** **22 35 19.0 -1.1**
comp=Z,5.3nm,0.6s,baz=42,slow=7.8,SNR=27
FINES pP **pP** **22 35 33.1 -0.3**
comp=Z,2.9nm,0.7s,baz=56,slow=6.4,SNR=4.0
FINES LR LR 23 06 12.6
comp=Z,87nm,19.5s,baz=57,slow=38
OBN Obninsk 64.96 323 *c e*P **P** **22 35 19.7 -0.5**
OBN *i* 22 35 49.0
OBN *e* 22 37 46.3
OBN pmax pmax
comp=Z,24nm,2.5s
OBN MLR MLR
comp=Z,100nm,17.0s
NEW Newport 64.98 47 *e*P **P** **22 35 20.2 -0.4**
comp=Z,31nm,2.2s
SUMG Summit 65.30 1 *i* P **P** **22 35 22.5 -0.1**
comp=Z,5.8nm,0.8s
E09A Wood Farm, Sta 65.45 49 *e*P **P** **22 35 23.8 +0.2**
comp=Z,4.9nm,0.8s
YBH Yreka Blue Hor 65.60 55 P **P** **22 35 25.1 +0.4**
comp=Z,1.7nm,0.8s,baz=278,slow=16,SNR=3.8
AS12 Alice Springs 66.40 190 *e*P **P** **22 35 29.4 -0.3**
AS12 *e*pP **pP** **22 35 42.3 -0.8**
ASAR Alice Springs 66.40 190 P **P** **22 35 29.4 -0.3**
comp=Z,0.6nm,0.8s,baz=10,slow=5.6,SNR=6.2
ASAR pP **pP** **22 35 42.3 -0.8**
comp=Z,1.2nm,0.9s,baz=5.3,slow=5.1,SNR=6.9
SWMT Swartz Lake 67.11 46 *e*P **P** **22 35 34.5 +0.2**
FFC Flin Flon 68.16 35 *e*P **P** **22 35 40.2 -0.4**
FFC pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 68.16 35 *e*P **P** **22 35 40.2 -0.4**
comp=Z,20nm,1.1s
HRY Holter Researc 68.77 46 *e*P **P** **22 35 44.7 0.0**
KIV Kislovodsk 68.86 311 *c e*P **P** **22 35 46.4 +1.1**
KIV *i* 22 35 59.3
KIV *e*S **S** **22 44 41.7 -4.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 68.88 310 P **P** **22 35 45.6 +0.3**
KBZ *PP **pP** **22 35 59.8 +1.2**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 68.88 310 *e*P **P** **22 35 45.6 +0.3**
KBZ *e*pP **pP** **22 35 59.8 +1.2**
KBZ Khabaz 68.88 310 P **P** **22 35 45.6 +0.3**
comp=Z,3.6nm,0.8s,baz=26,slow=3.5,SNR=9.5
KBZ pP **pP** **22 35 59.8 +1.2**
comp=Z,2.1nm,0.6s,baz=14,slow=3.9,SNR=4.8
LRM Limekiln Ridge 69.00 47 *e*P **P** **22 35 46.5 +0.2**
DLMT Dillon 69.22 47 *e*P **P** **22 35 47.9 +0.3**
comp=Z,35nm,2.1s
NB2 NORSAR Subarra 69.96 338 P **P** **22 35 50.8 -0.9**
comp=Z,3.0nm,0.8s,baz=33,slow=6.5
NB200 NORSAR Array S 69.96 338 *e*P **P** **22 35 51.0 -0.7**
NOA NORSAR Array B 69.96 338 P **P** **22 35 51.0 -0.7**
comp=Z,4.5nm,0.8s,baz=35,slow=6.1,SNR=10
NOA LR LR 23 10 38.1
comp=Z,30nm,19.1s,baz=5.0,slow=39
NV01 Mina Array Sit 70.29 56 *e*P **P** **22 35 53.6 -0.8**
NVAR Mina Array Bea 70.29 56 P **P** **22 35 55.2 +0.8**
comp=Z,2.5nm,0.7s,baz=290,slow=6.6,SNR=20
NVAR pP **pP** **22 36 09.2 +1.4**
comp=Z,1.9nm,0.7s,baz=295,slow=5.7,SNR=9.1
H17A Grant Village 70.94 47 *e*P **P** **22 35 59.5 +1.2**
RRI2 Red Ridge 71.22 48 *e*P **P** **22 36 00.5 +0.4**
comp=Z,4.7nm,0.8s
AKASG Malin Array Be 71.22 322 P **P** **22 35 58.9 -0.6**
AKASG *PP **pP** **22 36 12.2 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.22 322 P **P** **22 35 58.9 -0.6**
comp=Z,0.6nm,0.3s,baz=37,slow=5.4,SNR=6.4
AKASG pP **pP** **22 36 12.2 -0.8**
comp=Z,0.8nm,0.4s,baz=41,slow=6.1,SNR=1.8
AKBB Malin Array Si 71.22 322 *e*P **P** **22 35 58.9 -0.6**
AKBB *e*PP **pP** **22 36 12.2 -0.8**
AKBB Malin Array Si 71.22 322 *e*P **P** **22 35 58.9 -0.6**
AKBB *e*pP **pP** **22 36 12.2 -0.8**
KIEV Kiev 71.23 322‖ *e*P **P** **22 35 58.9 -0.7**
MOOW Moose Ponds 71.27 48 *e*P **P** **22 36 00.6 +0.3**
comp=Z,53nm,2.8s
TPAW Teton Pass 71.33 48 *e*P **P** **22 36 01.8 +1.2**
comp=Z,28nm,2.1s
MARC Maricopa 71.80 59 *e*P **P** **22 36 02.8 -0.6**
BW06 Boulder Array 72.57 48 *e*P **P** **22 36 07.5 -0.6**
PD31 Pinedale Array 72.57 48 *e*P **P** **22 36 08.1 0.0**
PD31 *e*pP **pP** **22 36 22.2 +0.6**
PDAR Pinedale Array 72.57 48 P **P** **22 36 08.1 0.0**
comp=Z,1.0nm,0.6s,baz=234,slow=1.9,SNR=8.8
PDAR pP **pP** **22 36 22.2 +0.6**
comp=Z,1.7nm,0.6s,baz=268,slow=1.8,SNR=11
BUR04 Bucovina Ar. S 75.27 322 *e*P **P** **22 36 23.0 -0.6**
KOLS Kolonicke sedl 75.58 325 *e*P **P** **22 36 25.3 +0.1**
KOLS *e* 22 36 31.0
KOLS Kolonicke sedl 75.58 325 *e*P **P** **22 36 25.3 +0.1**
KOLS *e* 22 36 31.0
PV10 Paradox Valley 75.82 51 *e*P **P** **22 36 27.9 +0.7**
CRVS Cervenica-Dubn 75.95 325 *e*P P 22 36 33.0 +5.6
CRVS Cervenica-Dubn 75.95 325 *e* P 22 36 33.0 +5.6
PV05 Paradox Valley 75.99 51 *e*P **P** **22 36 27.2 -0.9**
BR101 Keskin Array S 76.71 312 *e*P **P** **22 36 32.1 +0.1**
BRTR Keskin Array B 76.71 312 P **P** **22 36 32.1 +0.1**
comp=Z,0.7nm,0.8s,baz=94,slow=5.2,SNR=5.2
CLL Collm 77.36 331 *i* P **P** **22 36 34.6 -0.7**
CLL *i* *PP **pP** **22 36 48.2 -0.6**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 77.36 331 *i* P **P** **22 36 34.6 -0.7**
comp=Z,5.0nm,0.9s
CLL *i* pP **pP** **22 36 48.2 -0.6**
CLL Lm MLR 23 13 00.0
comp=Z,100nm,19.5s
VYHS Vyhne 77.36 326 *e*P **P** **22 36 35.9 +0.5**
VYHS Vyhne 77.36 326 *e*P **P** **22 36 35.8 +0.4**
GERES GERESS Array B 79.12 329 P **P** **22 36 44.1 -1.1**
comp=Z,0.3nm,0.3s,baz=44,slow=5.5,SNR=6.7
GERES pP **pP** **22 36 58.3 -0.5**
comp=Z,0.5nm,0.7s,baz=39,slow=6.8,SNR=3.2
GERES LR LR 23 14 54.5
comp=Z,57nm,18.1s,baz=139,slow=38
ANMO Albuquerque 79.69 52 *e*P **P** **22 36 48.4 -0.3**
comp=Z,45nm,3.0s
ANMO Albuquerque 79.69 52 P **P** **22 36 49.5 +0.8**
comp=Z,0.9nm,0.9s,baz=320,slow=3.9,SNR=3.6
CDF Champ du Feu 81.81 332 *e*P **P** **22 37 00.8 +1.2**
LPL La Plagne 84.49 331 *e*P **P** **22 37 14.4 +0.8**
comp=Z,8.5nm,1.0s
SMF Signal de Mont 84.50 334 *e*P **P** **22 37 14.8 +1.4**
comp=Z,5.1nm,0.7s
AVF Avril sur Loir 84.53 334 *e*P **P** **22 37 13.5 0.0**
comp=Z,6.4nm,0.8s
LTX Lajitas 85.36 54 *e*P **P** **22 37 18.3 +0.2**
LTX *e*PP **pP** **22 37 31.9 0.0**
LTX Lajitas 85.36 54 *e*P **P** **22 37 18.3 +0.2**
LTX *e*pP **pP** **22 37 31.9 0.0**
TX31 Lajitas Ar. Si 85.36 54 *e*P **P** **22 37 17.8 -0.3**
TXAR Lajitas Array 85.36 54 P **P** **22 37 18.3 +0.2**
comp=Z,1.8nm,0.8s,baz=298,slow=3.8,SNR=20
TXAR pP **pP** **22 37 31.9 0.0**
comp=Z,1.1nm,0.7s,baz=292,slow=3.7,SNR=7.0
SNAA Sanae 146.46 198 *e*PKPdf PKPab 22 44 35.4 +14
VNA2 Neumayer--Watz 148.02 197 *e*PKPdf **PKPbc** **22 44 25.1 +0.4**
VNA2 Neumayer--Watz 148.02 197 *e*PKPbc **PKPab** **22 44 27.5 -0.1**
VNA2 Neumayer--Watz 148.02 197 *e*PKiKP **PKPab** **22 44 30.0 +2.4**
BDFB Brasilia 151.41 25 PKPbc **PKPbc** **22 44 34.5 -0.3**
comp=Z,0.9nm,0.4s,baz=252,slow=6.1,SNR=3.4
BDFB pPKPbc **pPKPbc** **22 44 50.6 +1.6**
comp=Z,1.1nm,0.4s,baz=290,slow=15,SNR=2.4

NIED ***28*** *22:39:00, 36.70N×142.30E, h17km, Mw3.5 Best double couple: M0 1.81000×10^14 NP1:φs 14.00000°, δ66.00000°, λ82.00000°. NP2:φs 213.00000°, δ25.00000°, λ107.00000°.*

JMA 28 22:39:20.9±0.4, 36.72N×142.34E, h25km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.29**	**288**	P	Pn	22 39 43.1	-0.4
JFK	**Kawauchi**	**1.34**	**299**	P	Pn	22 39 44.3	+0.2
JHO	**Hitachi**	**1.43**	**266**	P	Pn	22 39 45.8	+0.6
CHOJ	**Chosi**	**1.57**	**230**	P	Pn	22 39 48.2	+1.0
JMM	**Marumori**	**1.68**	**313**	P	Pn	22 39 49.2	+0.5
JFT	**Otama**	**1.79**	**297**	P	Pn	22 39 51.3	+1.1
JIO	**Ouri**	**1.90**	**336**	P	Pn	22 39 52.8	+1.1
JOU	**Okura**	**2.12**	**321**	P	Pb	22 39 56.8	-1.8
JFY	**Yanaizu**	**2.22**	**289**	P	Pn	22 39 57.6	+1.5
BSO1	**Boso 1**	**2.34**	**209**	P	Pn	22 39 58.3	+1.2
JAG	**Ashikaga**	**2.34**	**264**	P	Pn	22 39 58.9	+1.1
JRY	**Ryogami san**	**2.86**	**257**	P	Pn	22 40 05.9	+0.9
MAT	**Matsushiro**	**3.33**	**268**	P	Pn	22 40 14.0	+2.6
MAT				S	Sb	22 40 57.6	-1.8

IDC 28 23:04:47.6±4.4, 1.98S×152.31E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.5/18, mbtmp3.9/2, Error ellipse: s-maj=191.7km s-min=48.3km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**223**	P	P	23 10 14.5	+0.7
	1.2nm,0.4s,baz=48,slow=9.3,SNR=8.8						
ASAR	**Alice Springs**	**27.97**	**218**	P	P	23 10 39.4	-0.8
	0.6nm,0.3s,baz=49,slow=8.6,SNR=16						
TORD	**Torodi Ar. Bea**	**148.88**	**292**	PKPbc	PKPbc	23 24 38.0	-0.5
	0.7nm,0.9s,baz=90,slow=2.4,SNR=3.3						

ISCJB ***28*** *23:15:41.6±0.5, 37.65N±0.07×95.62E±0.06, h10km, mb3.8/10, MS3.0/2, Error ellipse: s-maj=10.9km s-min=5.6km az=23.8*

IDC ***28*** *23:15:41.9±0.8, 37.64N×95.68E, h0km, mb3.8/10, mb1 4.0/15, mb1mx3.8/32, mbtmp3.9/15, ML4.0/5, MS2.9/4, Ms1 2.9/4, ms1mx2.6/42, Error ellipse: s-maj=25.9km s-min=15.2km az=43.0*

BJI ***28*** *23:15:41.8, 37.73N×95.70E, h5km, mB4.3/2, mb4.2/6, ML4.0/7, Ms3.7/8, Ms7 3.4/6*

ISC 28 23:15:43.6±0.6, 37.70N±0.07×95.57E±0.05, h10km, n19, σ1§66/26, mb3.9/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.74**	**62**	Pn	**Pn**	**23 16 43.5**	**+1.9**
GTA				Pg	**Pb**	**23 16 49.3**	**-0.6**
GTA				Sn	**Sn**	**23 17 26.3**	**+0.6**
GTA				Sg	**Sb**	**23 17 34.0**	**-1.3**
GTA				smax	smax		
	comp=N,48nm,0.7s						
GTA				smax	smax		
	comp=E,39nm,0.9s						
GTA				LR	LR		
	comp=N,560nm,10.4s						
GTA				LR	LR		
	comp=E,330nm,6.2s						
GTA				LR	LR		
	comp=Z,340nm,10.0s						
LZH	**Lanzhou**	**6.83**	**101**	*e*Pn	**Pn**	**23 17 24.0**	**0.0**
LZH				Pg	**Pb**	**23 17 44.8**	**+2.4**
LZH				Sn	**Sn**	**23 18 41.5**	**-0.3**
LZH				Sg	Sb	23 19 10.5	+6.5
LZH				smax	smax		
	comp=N,82nm,1.2s						
LZH				smax	smax		

comp=E,77nm,1.0s
LZH LR LR
comp=N,530nm,5.0s
LZH LR LR
comp=E,220nm,8.2s
LZH LR LR
comp=Z,250nm,6.4s
WMQ Urumqi 8.54 318 P Pn 23 17 49.3 +1.8
WMQ sP 23 17 55.8
WMQ S **Sn 23 19 27.8 +3.9**
WMQ sS **SnSn 23 19 34.5 -1.0**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ smax smax
comp=N,35nm,0.8s
WMQ smax smax
comp=E,54nm,0.8s
SONM Songino Array 12.86 35 Pn **Pn 23 18 45.8 -0.8**
comp=E,0.2nm,0.3s,baz=220,slow=15,SNR=3.5
SONM LR LR 23 24 34.4
comp=E,39nm,20.6s,baz=51,slow=41
MKAR Makanchi Array 13.37 317 Pn **Pn 23 18 52.4 -1.1**
comp=E,1.8nm,0.3s,baz=125,slow=14,SNR=91
MKAR Sn **Sn 23 21 17.5 -4.7**
comp=E,0.1nm,0.3s,baz=134,slow=28,SNR=2.5
AAK Ala-Archa 16.83 294 Pn **P 23 19 41.1 -0.6**
comp=E,0.4nm,0.3s,baz=117,slow=7.6,SNR=7.2
ZALV Zalesovo Beam 17.86 339 P **Pn 23 19 51.0 -1.0**
comp=E,0.1nm,0.3s,baz=153,slow=10.0,SNR=14
ZALV LR LR 23 26 52.2
comp=E,29nm,18.2s,baz=69,slow=37
CMAR Chiang Mai Arr 19.40 170 P **P 23 20 08.0 -1.8**
comp=E,0.7nm,0.3s,baz=342,slow=11,SNR=7.0
BVAR Borovoye Array 23.23 319 P **P 23 20 51.4 +0.6**
comp=E,1.9nm,0.6s,baz=117,slow=10,SNR=15
BVAR LR LR 23 30 36.0
comp=E,24nm,19.8s,baz=293,slow=38
KSRS Korea Array 25.58 81 P **P 23 21 12.7 -0.1**
comp=E,1.3nm,0.6s,baz=280,slow=10,SNR=3.4
AKTO Aktyubinsk 29.50 308 P **P 23 21 48.3 +0.4**
comp=E,0.7nm,0.3s,baz=101,slow=3.6,SNR=3.5
BRTR Keskin Array B 47.51 293 P **P 23 24 20.4 +1.3**
comp=E,0.6nm,0.5s,baz=91,slow=7.6,SNR=6.5
FINES FINESS Array B 48.12 323 P **P 23 24 23.6 +0.3**
comp=E,0.9nm,0.7s,baz=123,slow=7.0,SNR=5.5
ARCES ARCESS Array B 48.30 334 LR LR
comp=E,27nm,18.2s,baz=190,slow=37 23 45 29.7
NOA NORSAR Array B 55.25 324 P **P 23 25 17.0 +0.3**
comp=E,0.9nm,0.6s,baz=72,slow=7.0,SNR=3.2
ILAR Eielson Array 66.86 24 P **P 23 26 35.0 -0.3**
comp=E,0.6nm,0.7s,baz=291,slow=5.6,SNR=8.1
ASAR Alice Springs 70.89 143 P **P 23 27 00.5 -0.4**
comp=E,0.5nm,0.8s,baz=332,slow=5.9,SNR=8.0
STKA Stephens Creek 81.46 142 P **P 23 27 59.8 -1.1**
comp=E,1.0nm,0.5s,baz=318,slow=12,SNR=3.4
TORD Torodi Ar. Bea 85.10 283 P **P 23 28 20.3 +0.2**
comp=E,0.3nm,0.8s,baz=47,slow=4.1,SNR=4.1

---

*IDC **28** 23:26:25.7±0.9, 2°.82S×140°.52E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/18, mbtmp4.1/7, ML4.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=37.2km s-min=15.7km az=95.0*
*AUST **28** 23:26:25.1±64.0, 3°.01S×140°.99E, h1km, Error ellipse: s-maj=2.5km s-min=1.9km az=36.0*
ISC 28 23:26:26.5±1.8, 2°.97S±0°.08×141°.0E±0°.2, h23km, n14, σ2§26/9, mb3.9/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**5.49**	**186**	P	**Pn**	**23 27 45.4**	**-1.6**
MMPI	baz=5.5,SNR=3.4			S	**Sb**	**23 29 09.4**	**+2.2**
	baz=5.5,SNR=3.7						
FAKI	**Fak Fak**	**8.72**	**270**	P	**Pn**	**23 28 31.1**	**-0.3**
	baz=8.7,SNR=4.2						
KDU	**Kakadu**	**12.81**	**221**	P	Pn	23 29 29.2	+1.8
	baz=13,SNR=17						
MTN	**Manton Dam**	**13.83**	**224**	P	**Pn**	**23 29 41.8**	**+0.6**
	baz=14,SNR=21						
KNRA	**Kununurra**	**17.44**	**223**	P	**P**	**23 30 32.2**	**+2.6**
	baz=18,SNR=5.8						
WRA	**Warramunga Arr**	**18.07**	**201**	P	P	23 30 39.7	+3.1
	1.5nm,0.3s,baz=24,slow=12,SNR=54						
WRA				S	**Sn**	**23 33 53.7**	**-3.7**
	0.2nm,0.3s,baz=19,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**21.68**	**198**	P	P	23 31 19.7	+3.8
	3.7nm,0.6s,baz=30,slow=9.1,SNR=45						
ASAR				S	Sn	23 35 19.6	-4.9
	1.2nm,1.0s,baz=18,slow=20,SNR=4.4						
ASAR				LR	LR	23 40 30.3	
	comp=Z,103nm,18.5s,baz=354,slow=39						
CMAR	**Chiang Mai Arr**	**46.55**	**299**	P	**P**	**23 34 51.8**	**-1.0**
	2.1nm,0.3s,baz=118,slow=7.0,SNR=6.8						
MKAR	**Makanchi Array**	**71.39**	**322**	P	**P**	**23 37 45.0**	**+0.2**
	0.4nm,0.6s,baz=92,slow=10,SNR=6.0						
VNDA	**Vanda**	**75.33**	**175**	P	P	23 38 11.2	+3.7
	0.5nm,0.5s,baz=324,slow=3.3,SNR=3.6						
ILAR	**Eielson Array**	**85.13**	**24**	P	P	23 39 02.8	+2.3
	0.2nm,0.6s,baz=263,slow=5.4,SNR=2.7						
QSPA	**South Pole Qui**	**86.98**	**180**	P	P	23 39 13.1	+3.3
	2.5nm,1.0s,baz=67,slow=4.2,SNR=11						
LPAZ	**La Paz**	**145.44**	**125**	PKPbc	PKPab	23 46 09.4	+4.7
	0.9nm,0.6s,baz=234,slow=3.4,SNR=5.2						
DBIC	**Dimbokro**	**145.77**	**277**	PKPbc	**PKPab**	**23 46 06.3**	**+1.1**
	2.8nm,0.7s,baz=98,slow=0.7,SNR=3.6						

---

*ISCJB **28** 23:47:60.0±1.1, 60°.2S±0°.2×28°.9W±0°.7, h10km, mb4.0/2, Error ellipse: s-maj=55.1km s-min=14.8km az=150.7*
*IDC **28** 23:48:03.2±1.8, 59°.57S×28°.57W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/15, mbtmp4.0/2, Error ellipse: s-maj=72.6km s-min=43.3km az=10.0*
ISC 28 23:48:02.7±1.1, 60°.2S±0°.2×28°.7W±0°.3, h10km, n9, σ2§11/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.44**	**150**	*e*Pn	**Pn**	**23 51 13.1**	**+0.1**
VNA2	**Neumayer--Watz**	**13.84**	**150**	*e*Pn	**Pn**	**23 51 17.7**	**-0.8**
VNA2	**Neumayer--Watz**	**13.84**	**150**	*e*Sn	Sn	23 53 36.7	-15
SNAA	**Sanae**	**15.46**	**149**	*e*Pn	**Pn**	**23 51 39.9**	**-0.6**
SNAA	**Sanae**	**15.46**	**149**	*e*Sn	Sn	23 54 17.1	-14
LPAZ	**La Paz**	**52.24**	**310**	P	**P**	**23 57 12.9**	**-1.6**
	1.0nm,0.4s,baz=144,slow=9.5,SNR=8.0						
TORD	**Torodi Ar. Bea**	**77.03**	**30**	P	**P**	**23 59 55.0**	**-0.5**
	0.5nm,0.3s,baz=197,slow=6.2,SNR=17						
SONM	**Songino Array**	**151.47**	**95**	PKPbc	**PKPbc**	**00 07 56.2**	**+0.4**
	0.4nm,0.7s,baz=207,slow=2.6,SNR=3.4						
ILAR	**Eielson Array**	**152.08**	**306**	PKPbc	**PKPbc**	**00 08 00.2**	**+3.7**
	0.1nm,0.4s,baz=149,slow=2.0,SNR=2.7						

---

*AUST **29** 00:06:42.6, 11°.99S×168°.48E, h0km*
*ISCJB **29** 00:07:12.0±0.8, 13°.08S±0°.10×167°.3E±0°.1, h180km, mb4.1/10, Error ellipse: s-maj=17.7km s-min=13.5km az=7.7*
*IDC **29** 00:07:14.8±1.8, 13°.17S×167°.16E, h192km±14km, mb3.9/10, mb1 4.0/11, mb1mx3.8/21, mbtmp3.9/11, Error ellipse: s-maj=19.0km s-min=15.6km az=99.0*
ISC 29 00:07:13.1±0.7, 13°.1S±0°.1×167°.2E±0°.2, h180km, n28, σ1§01/31, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.99**	**185**	P	**Pn**	**00 09 20.7**	**+1.1**
	3.4nm,0.3s,baz=99,slow=23,SNR=26						
EIDS	**Eidsvold**	**19.52**	**229**	P	**P**	**00 11 28.1**	**+1.2**
	baz=21,SNR=7.9						
CTA	**Charters Tower**	**21.27**	**248**	P	**P**	**00 11 45.8**	**+0.2**
	7.2nm,0.8s,baz=80,slow=11,SNR=6.3						
RMQ	**Roma**	**21.88**	**230**	P	**P**	**00 11 52.5**	**+0.7**
	baz=24,SNR=14						
ARMA	**Armidale**	**22.50**	**217**	P	**P**	**00 11 58.5**	**+0.7**
	baz=24,SNR=6.8						
MTSU	**Mount Surprise**	**22.62**	**254**	P	**P**	**00 12 00.2**	**+1.2**
	baz=24,SNR=14						
URZ	**Urewera**	**26.59**	**162**	P	**P**	**00 12 34.6**	**-0.1**
	2.9nm,0.3s,baz=309,slow=6.5,SNR=10						
STKA	**Stephens Creek**	**30.06**	**227**	P	**P**	**00 13 05.6**	**+0.1**
	6.4nm,0.5s,baz=41,slow=8.6,SNR=21						
STKA				PcP	**PcP**	**00 16 02.6**	**-0.3**
	1.3nm,0.4s,baz=76,slow=8.3,SNR=3.8						
STKA				ScP	**ScP**	**00 19 25.1**	**-3.2**
	0.7nm,0.4s,baz=14,slow=4.2,SNR=3.2						
STKA	**Stephens Creek**	**30.06**	**227**	P	**P**	**00 13 05.7**	**+0.1**
	baz=32,SNR=17						
WRA	**Warramunga Arr**	**32.22**	**253**	P	**P**	**00 13 23.7**	**-1.0**
	1.7nm,0.5s,baz=84,slow=9.0,SNR=11						
WRA				ScP	**ScP**	**00 19 34.4**	**-1.4**
	0.5nm,0.7s,baz=89,slow=3.6,SNR=5.8						
ASAR	**Alice Springs**	**33.26**	**247**	P	**P**	**00 13 32.5**	**-1.2**
	3.7nm,0.5s,baz=77,slow=9.1,SNR=84						
ASAR				ScP	**ScP**	**00 19 37.6**	**-1.7**
	1.6nm,0.8s,baz=85,slow=3.7,SNR=12						
KDU	**Kakadu**	**33.87**	**267**	S	S	00 19 11.1	+21
	baz=35,SNR=4.3						
BBOO	**Buckleboo**	**34.59**	**230**	P	**P**	**00 13 44.4**	**-0.5**
	baz=36,SNR=6.1						
MTN	**Manton Dam**	**35.16**	**266**	S	ScP	00 19 57.2	+11
	baz=36,SNR=6.7						
KNRA	**Kununurra**	**37.32**	**261**	P	**P**	**00 14 08.2**	**-0.1**
	baz=39,SNR=6.2						
MEEK	**Meekatharra**	**47.41**	**246**	P	**P**	**00 15 29.6**	**-0.1**
	baz=49,SNR=8.2						
VNDA	**Vanda**	**64.52**	**181**	P	**P**	**00 17 29.7**	**-0.5**
	0.8nm,0.6s,baz=357,slow=5.1,SNR=13						
SONM	**Songino Array**	**81.14**	**323**	P	**P**	**00 19 10.1**	**+1.6**
	0.4nm,0.5s,baz=114,slow=3.5,SNR=2.9						
ILAR	**Eielson Array**	**84.96**	**18**	P	**P**	**00 19 27.8**	**+0.1**
	3.2nm,0.5s,baz=241,slow=5.0,SNR=63						
MKAR	**Makanchi Array**	**95.97**	**317**	P	**P**	**00 20 20.3**	**+0.6**
	0.7nm,0.6s,baz=91,slow=5.7,SNR=9.6						
ZALV	**Zalesovo Beam**	**96.03**	**324**	P	**P**	**00 20 20.0**	**+0.3**
	0.2nm,0.3s,baz=123,slow=5.5,SNR=3.8						
ARCES	**ARCESS Array B**	**118.64**	**346**	PKP	**PKPdf**	**00 25 38.8**	**-0.3**
	1.3nm,0.4s,baz=77,slow=2.1,SNR=21						
FINES	**FINESS Array B**	**124.16**	**339**	PKP	**PKPdf**	**00 25 49.9**	**+0.1**
	0.6nm,0.4s,baz=86,slow=1.2,SNR=10						
BRTR	**Keskin Array B**	**131.38**	**312**	SKPab	**SKPbc**	**00 29 12.3**	**-0.6**
	0.5nm,0.6s,baz=101,slow=4.8,SNR=3.7						
GERES	**GERESS Array B**	**138.14**	**334**	PKP	**PKPdf**	**00 26 16.9**	**+0.1**
	0.4nm,0.6s,baz=48,slow=2.0,SNR=5.3						
GERES				SKPbc	**SKPbc**	**00 29 33.2**	**-0.9**
	0.3nm,0.4s,baz=41,slow=1.8,SNR=5.0						
KEST	**Kesra**	**149.88**	**322**	PKPbc	**PKPbc**	**00 26 43.1**	**+0.6**
	1.5nm,0.7s,baz=176,slow=4.8,SNR=5.9						
ESDC	**Sonseca Array**	**152.37**	**345**	PKPbc	**PKPbc**	**00 26 48.8**	**+0.6**
	0.7nm,0.6s,baz=8.5,slow=2.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**165.90**	**272**	PKP	**PKPdf**	**00 26 56.9**	**-0.5**
	0.4nm,0.9s,baz=80,slow=3.5,SNR=2.5						

---

*IDC **29** 00:17:20.4±1.9, 31°.24N×138°.79E, h375km±32km, mb2.9/4, mb1 3.0/5, mb1mx2.8/25, mbtmp3.0/5, Error ellipse: s-maj=75.3km s-min=18.8km az=72.0*
*ISCJB **29** 00:17:21.2±0.7, 31°.01N±0°.05×138°.6E±0°.1, h394km, mb3.0/4, Error ellipse: s-maj=15.2km s-min=6.4km az=179.6*
*JMA **29** 00:17:21.3±0.2, 31°.12N×139°.16E, h439km, M3.2*
ISC 29 00:17:21.9±0.9, 31°.03N±0°.06×138°.8E±0°.2, h394km, n14, σ1§99/20, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.25**	**22**	P	**Pn**	**00 18 22.0**	**+3.1**
BSO3	**Boso 3**	**4.03**	**20**	P	**Pn**	**00 18 36.0**	**+2.5**
BSO3				*e*S	**S**	**00 19 32.9**	**+1.3**
BSO1	**Boso 1**	**4.05**	**26**	P	**Pn**	**00 18 35.2**	**+1.8**
BSO1				*e*S	**S**	**00 19 32.1**	**+0.5**
BSO4	**Boso 4**	**4.16**	**18**	*e*S	**S**	**00 19 34.3**	**+0.1**
JOD2	**Odawara 2**	**4.23**	**3**	*e*S	**S**	**00 19 37.0**	**+1.3**
CBIJ	**Chichi jima**	**4.91**	**142**	P	**Pn**	**00 18 43.3**	**+0.5**
CBIJ				*e*S	**S**	**00 19 47.7**	**-0.8**
CBIJ	**Chichi jima**	**4.91**	**142**	P	**Pn**	**00 18 43.4**	**+0.5**
	baz=270,slow=20						
CBIJ				S	**S**	**00 19 48.0**	**-0.4**
	14nm,0.3s,baz=276,slow=22,SNR=11						
JRY	**Ryogami san**	**4.98**	**1**	*e*S	**S**	**00 19 47.7**	**-1.8**
JAG	**Ashikaga**	**5.41**	**6**	P	**Pn**	**00 18 47.4**	**-0.4**
JAG				*e*S	**S**	**00 19 52.8**	**-5.0**
JHO	**Hitachi**	**5.76**	**14**	P	**Pn**	**00 18 52.1**	**+0.5**
JHO				*e*S	**S**	**00 20 02.1**	**-2.5**
MKAR	**Makanchi Array**	**45.72**	**307**	P	**P**	**00 25 04.5**	**-1.0**
	0.3nm,0.3s,baz=97,slow=9.5,SNR=8.2						
WRA	**Warramunga Arr**	**50.86**	**185**	P	**P**	**00 25 45.3**	**+0.9**
	0.4nm,0.4s,baz=0.7,slow=7.4,SNR=5.9						
ASAR	**Alice Springs**	**54.59**	**186**	P	**P**	**00 26 13.7**	**+2.3**
	0.1nm,0.4s,baz=22,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**00 28 09.2**	**-0.9**
	2.1nm,0.9s,baz=60,slow=9.1,SNR=7.8						

IDC 29 00:19:22.8±34.0, 20°.57S×177°.63W, h373km±294km, mb3.4/4, mb1 3.6/4, mb1mx3.2/18, mbtmp3.4/4, Error ellipse: s-maj=168.5km s-min=111.1km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.07**	**244**	P	P	00 26 07.4	+0.1
	1.3nm,0.6s,baz=80,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**44.84**	**257**	P	P	00 27 01.6	-0.1
	6.3nm,0.8s,baz=88,slow=8.3,SNR=48						
ASAR				PcP	PcP	00 28 34.8	-1.5
	0.1nm,0.3s,baz=115,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**44.93**	**262**	P	P	00 27 01.9	-0.6
	1.6nm,0.6s,baz=95,slow=6.9,SNR=15						
FITZ	**Fitzroy Crossi**	**53.36**	**262**	P	P	00 28 05.6	0.0
	0.8nm,0.4s,baz=136,slow=6.6,SNR=12						
AKASG	**Malin Array Be**	**143.24**	**331**	PKP	PKPab	00 38 10.2	+0.2
	2.6nm,0.5s,baz=43,slow=4.8,SNR=7.6						
BRTR	**Keskin Array B**	**147.14**	**312**	PKPbc	PKPbc	00 38 22.9	0.0
	0.6nm,0.5s,baz=143,slow=5.1,SNR=6.1						
MMAI	**Mount Meron Ar**	**148.15**	**300**	PKPbc	PKPbc	00 38 26.1	+0.4
	1.7nm,0.4s,baz=52,slow=5.4,SNR=7.9						

---

*ISCJB **29** 00:21:00.2±0.3, 23°.43N±0°.01×121°.59E±0°.02, h27km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=35.2*
*TAP **29** 00:21:00.5, 23°.44N×121°.51E, h31km, ML3.8, C*
*JMA **29** 00:21:02.1±0.3, 23°.47N×121°.68E, h87km, M2.7*
ISC 29 00:21:00.2±0.9, 23°.42N±0°.02×121°.57E±0°.02, h28km±7km, n56, σ0§85/108, 14C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHY	**Hungye**	**0.24**	**291**	⇑*i*P	**Pb**	**00 21 06.8**	**0.0**
	baz=292						
EHY				*i* S	**Sb**	**00 21 11.1**	**-0.1**
	baz=292						
TWF1	**Yuli**	**0.26**	**256**	⇑*i*P	**Pb**	**00 21 07.1**	**+0.2**
	baz=258						
TWF1				S	**Sb**	**00 21 11.6**	**+0.1**
	baz=258						
TEGC	**Jichi Village**	**0.29**	**354**	*e*P	**Pn**	**00 21 08.1**	**-0.5**
	baz=13						
TEGC				*e*S	**Sn**	**00 21 15.0**	**+0.9**
	baz=13						
CHKT	**Chengkung**	**0.37**	**211**	⇑*i*P	**Pn**	**00 21 09.0**	**-0.7**
	baz=190						
CHKT				*i* S	**Sn**	**00 21 15.3**	**-0.7**
	baz=190						
ESL	**Shilin**	**0.41**	**342**	⇑*i*P	**Pb**	**00 21 08.9**	**-0.3**
	baz=342						
ESL				*e*S	**Sb**	**00 21 15.9**	**+0.6**
	baz=342						
ELDTW	**Lidau**	**0.56**	**246**	*e*P	**Pb**	**00 21 10.7**	**-0.9**
	baz=240						
ELDTW				*e*S	**Sb**	**00 21 17.6**	**-1.7**
	baz=240						
HWA	**Hwalien**	**0.56**	**3**	*e*P	**Pb**	**00 21 11.7**	**+0.2**
	baz=23						
HWA				*e*S	**Sn**	**00 21 20.8**	**+0.1**
	baz=23						
YUS	**Yu-Shan**	**0.57**	**277**	⇑*i*P	**Pb**	**00 21 11.9**	**-0.2**
	baz=283						
YUS				S	**Sb**	**00 21 19.3**	**-0.9**
	baz=283						
TWD	**Chiawan**	**0.66**	**2**	P	**Pb**	**00 21 12.8**	**-0.4**
	baz=355						
TWD				*e*S	**Sn**	**00 21 23.0**	**-0.2**
	baz=355						
ALS	**Alishan**	**0.71**	**278**	⇑*i*P	**Pb**	**00 21 14.2**	**-0.1**
	baz=276						
ALS				S	**Sb**	**00 21 23.2**	**-0.6**
	baz=276						
TWG	**Pinlang**	**0.75**	**218**	*e*P	**Pb**	**00 21 13.4**	**-1.3**
	baz=212						
TWG				*e*S	**Sb**	**00 21 22.9**	**-1.7**
	baz=212						
TTN	**Taitung**	**0.77**	**211**	*e*P	**Pn**	**00 21 15.0**	**-0.2**
	baz=205						
TTN				*e*S	**Sn**	**00 21 26.8**	**+1.1**
	baz=205						
SMLT	**Sun Moon Lake**	**0.77**	**307**	⇑*i*P	**Pb**	**00 21 14.7**	**-0.4**
	baz=313						
SMLT				S	**Sb**	**00 21 25.3**	**0.0**
	baz=313						
WHF	**Hehuan Shan**	**0.78**	**339**	⇑*i*P	**Pb**	**00 21 14.5**	**-0.9**
	baz=344						
WHF				*e*S	**Sb**	**00 21 24.9**	**-0.9**
	baz=344						
TYC	**Yuchr**	**0.81**	**307**	⇑*i*P	**Pb**	**00 21 15.4**	**-0.4**
	baz=308						
TYC				*e*S	**Sn**	**00 21 26.7**	**-0.2**
	baz=308						
CHN5	**Tsauling**	**0.84**	**282**	⇑*i*P	**Pn**	**00 21 16.4**	**+0.2**
	baz=285						
CHN5				*i* S	**Sn**	**00 21 28.0**	**+0.3**
	baz=285						
TWT	**Tachien**	**0.91**	**337**	⇑*i*P	**Pb**	**00 21 17.1**	**-0.3**
	baz=339						
TWT				*e*S	**Sb**	**00 21 27.9**	**-1.4**
	baz=339						
WNT	**Mingjian**	**0.93**	**300**	*e*P	**Pn**	**00 21 17.9**	**+0.5**
	baz=300						
WNT				*e*S	**Sn**	**00 21 30.0**	**+0.1**
	baz=300						
WGK	**Gukeng**	**0.96**	**286**	P	**Pn**	**00 21 18.2**	**+0.3**
	baz=285						
WGK				S	**Sn**	**00 21 31.1**	**+0.5**
	baz=285						
SGST	**Jiashian**	**0.97**	**250**	*e*P	**Pn**	**00 21 18.5**	**+0.5**
	baz=237						
SGST				*e*S	**Sn**	**00 21 31.8**	**+1.0**
	baz=237						
CHN1	**Nanshi**	**0.99**	**257**	⇑*i*P	**Pn**	**00 21 18.7**	**+0.5**
	baz=254						
CHN1				S	**Sn**	**00 21 32.4**	**+1.2**
	baz=254						
CHN2	**Minshiung**	**1.01**	**277**	*e*P	**Pn**	**00 21 18.8**	**+0.2**
	baz=275						
CHN2				*e*S	**Sn**	**00 21 33.2**	**+1.4**
	baz=275						
ENA	**Nanau**	**1.02**	**9**	*e*P	**Pb**	**00 21 18.0**	**-1.2**
	baz=1.0						
ENA				*e*S	**Sb**	**00 21 30.9**	**-1.4**
	baz=1.0						
NNS	**Nan Shan**	**1.03**	**350**	*e*P	**Pb**	**00 21 18.9**	**-0.7**
	baz=6.0						
NNS				*e*S	**Sb**	**00 21 31.6**	**-1.3**
	baz=6.0						
CHY	**Chiayi**	**1.06**	**275**	*e*P	**Pn**	**00 21 19.9**	**+0.7**
	baz=284						
CHY				*e*S	**Sn**	**00 21 33.6**	**+0.7**
	baz=284						
TCU	**Taichung**	**1.09**	**312**	P	**Pb**	**00 21 20.7**	**+0.1**
	baz=313						
TCU				*e*S	**Sn**	**00 21 34.9**	**+1.0**
	baz=313						
CHN3	**Shinhua**	**1.16**	**253**	*e*P	**Pb**	**00 21 21.7**	**+0.1**
	baz=264						
CHN3				*e*S	**Sn**	**00 21 38.4**	**+3.0**
	baz=264						
TWQ1	**Liyutan**	**1.18**	**322**	⇑*i*P	**Pb**	**00 21 22.3**	**+0.3**
	baz=323						
TWQ1				*e*S	**Sn**	**00 21 38.0**	**+2.0**
	baz=323						
TWM1	**Shoushan**	**1.21**	**241**	*e*P	**Pb**	**00 21 22.6**	**+0.1**
	baz=238						
TWC	**Suao**	**1.21**	**12**	*e*P	**Pn**	**00 21 21.8**	**+0.5**
	baz=28						
TWC				*e*S	**Sb**	**00 21 37.2**	**-0.6**
	baz=28						
ENTT	**Nioudou**	**1.22**	**360**	*e*P	**Pn**	**00 21 21.2**	**-0.2**
	baz=5.0						
ENTT				*e*S	**Sb**	**00 21 36.8**	**-1.2**
	baz=5.0						
TAW	**Tawu**	**1.23**	**211**	*e*P	**Pb**	**00 21 22.4**	**-0.3**
	baz=207						
NSY	**Sanyi**	**1.24**	**323**	*e*P	**Pb**	**00 21 22.6**	**-0.4**
	baz=325						
NSY				*e*S	**Sn**	**00 21 39.4**	**+1.9**
	baz=325						
WTCT	**Ta-ch'eng**	**1.26**	**291**	*e*P	**Pb**	**00 21 22.6**	**-0.8**
	baz=290						
WTCT				*e*S	**Sb**	**00 21 39.2**	**0.0**
	baz=290						
NSK	**Sanguang**	**1.27**	**351**	⇑*i*P	**Pn**	**00 21 22.4**	**+0.2**
	baz=7.0						
NSK				*e*S	**Sn**	**00 21 38.0**	**-0.3**
	baz=7.0						
SCLT	**Jiali**	**1.29**	**259**	*e*P	**Pb**	**00 21 23.9**	**+0.1**
	baz=257						
SCLT				*e*S	**Sb**	**00 21 40.3**	**+0.4**
	baz=257						
TWE	**Neicheng**	**1.30**	**4**	*e*P	**Pn**	**00 21 22.6**	**+0.1**
	baz=9.0						
TWE				*e*S	**Sn**	**00 21 38.8**	**-0.2**
	baz=9.0						
NSTT	**Nanjuang**	**1.31**	**337**	*e*P	**Pb**	**00 21 23.9**	**-0.4**
	baz=339						
NSTT				*e*S	**Sn**	**00 21 39.9**	**+0.6**
	baz=339						
SCZT	**Fangliau**	**1.36**	**220**	*e*P	**Pb**	**00 21 24.2**	**-0.9**
	baz=215						
SCZT				*e*S	**Sb**	**00 21 42.9**	**+0.9**
	baz=215						
TWA	**Mucha**	**1.56**	**0**	*e*P	**Pn**	**00 21 26.0**	**0.0**
	baz=5.0						
TWA				*e*S	**Sn**	**00 21 45.6**	**+0.2**
	baz=5.0						
HEN	**Hengchun**	**1.60**	**209**	*e*P	**Pb**	**00 21 28.3**	**-0.9**
	baz=196						
TWB1	**Santiao Chiao**	**1.63**	**13**	*e*P	**Pn**	**00 21 27.6**	**+0.6**
	baz=5.0						
TWB1				*e*S	**Sn**	**00 21 47.7**	**+0.7**
	baz=5.0						
TWK1	**Hengchun**	**1.63**	**206**	*e*P	**Pn**	**00 21 27.2**	**+0.2**
	baz=204						
TWK1				*e*S	**Sn**	**00 21 48.4**	**+1.3**
	baz=204						
TSEB	**Hengchuen, Pin**	**1.63**	**202**	*e*P	**Pn**	**00 21 28.1**	**+1.0**
	baz=202						
TSEB				*e*S	**Sb**	**00 21 49.1**	**-0.8**
	baz=202						
NWF	**Wu-fen Shan**	**1.66**	**7**	*e*P	**Pn**	**00 21 28.3**	**+0.8**
	baz=11						
NWF				*e*S	**Sn**	**00 21 48.2**	**+0.3**
	baz=11						
YOJ	**Yonaguni jima**	**1.68**	**51**	P	**Pn**	**00 21 29.0**	**+1.3**
YOJ				*e*S	**Sn**	**00 21 49.1**	**+0.8**
TWS1	**Kuangyinshan**	**1.68**	**355**	*e*P	**P

mpv3.6, Error ellipse: s-maj=18.3km s-min=13.9km az=37.0

ISC 29 00:33:01.2±1.7, 38°.2N±0°.1×71°.24E±0°.09, h10km, n22, σ1§60/23, mb3.7/6, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.32**	**25**	P	**Pn**	**00 34 07.7**	**+0.4**
	SNR=14						
EKS2	**Erkin-Say**	**4.83**	**23**	P	**Pn**	**00 34 17.2**	**+3.2**
	SNR=12						
KK31	**Karatay Array**	**4.89**	**354**	Pn	**Pn**	**00 34 14.8**	**-0.1**
	2.6nm,0.3s,baz=180,slow=13,SNR=118						
KK31				⇓Pg	**Pb**	**00 34 30.2**	**+3.2**
	3.8nm,0.3s,baz=163,slow=16,SNR=7.8						
KK31				⇑Sn	**Sn**	**00 35 09.8**	**-1.8**
	14nm,0.5s,baz=178,slow=22,SNR=3.9						
KK31				⇓Lg	Lg	00 35 31.4	
	28nm,0.6s,baz=163,slow=30,SNR=4.9						
AAK	**Ala-Archa**	**5.05**	**28**	Pn	**Pn**	**00 34 17.7**	**+0.6**
	1.0nm,0.3s,baz=177,slow=6.5,SNR=6.5						
AAK				Sn	**Sn**	**00 35 13.0**	**-2.5**
	baz=252,slow=20,SNR=2.1						
CHMS	**Chumysh**	**5.46**	**28**	P	**Pn**	**00 34 23.6**	**+1.0**
	SNR=10						
USP	**Ospenovka**	**5.60**	**25**	P	**Pn**	**00 34 25.2**	**+0.6**
	SNR=9.3						
TKM2	**Tokmak 2**	**5.74**	**34**	⇑Pn	**Pn**	**00 34 27.9**	**+1.3**
	9.4nm,0.7s						
TKM2				⇑Lg	Lg	00 36 03.2	
	11nm,0.7s						
TKM2	**Tokmak 2**	**5.74**	**34**	P	**Pn**	**00 34 28.2**	**+1.7**
	SNR=9.0						
MK31	**Makanchi Array**	**11.81**	**40**	Pn	**Pn**	**00 35 48.9**	**-0.7**
	4.9nm,1.0s,baz=228,slow=11,SNR=26						
MKAR	**Makanchi Array**	**11.81**	**40**	Pn	**Pn**	**00 35 49.0**	**-0.6**
	0.1nm,0.3s,baz=225,slow=10,SNR=27						
MKAR				Sn	**Sn**	**00 38 02.7**	**+1.3**
	0.2nm,0.3s,baz=185,slow=24,SNR=6.7						
AB31	**Akbulak array**	**13.69**	**327**	Pn	Pn	00 36 12.9	-2.4
	0.7nm,0.5s,baz=143,slow=12,SNR=25						
AB31				Sn	**Sn**	**00 38 47.0**	**-0.4**
	2.4nm,0.6s,baz=152,slow=22,SNR=8.4						
BVAR	**Borovoye Array**	**14.80**	**358**	Pn	Pn	00 36 28.0	-2.5
	0.1nm,0.3s,baz=183,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**15.40**	**327**	⇑Pn	**Pn**	**00 36 38.1**	**-0.4**
	6.8nm,1.1s						
AKTO				⇓Sn	**Sn**	**00 39 29.0**	**-0.1**
	2.9nm,0.7s						
AKTO	**Aktyubinsk**	**15.40**	**327**	Pn	**Pn**	**00 36 37.2**	**-1.3**
	0.1nm,0.3s,baz=135,slow=14,SNR=2.3						
AKTO				Sn	**Sn**	**00 39 27.2**	**-1.9**
	0.1nm,0.3s,baz=170,slow=23,SNR=6.8						
ZALV	**Zalesovo Beam**	**18.27**	**26**	P	**Pn**	**00 37 12.4**	**-2.2**
	0.2nm,0.3s,baz=221,slow=12,SNR=8.5						
KBZ	**Khabaz**	**22.03**	**293**	P	**P**	**00 37 57.0**	**+1.3**
	1.3nm,0.8s,baz=79,slow=5.0,SNR=3.7						
EIL	**Elat**	**31.13**	**265**	LR	LR	00 55 01.5	
	comp=Z,52nm,18.4s,baz=66,slow=42						
FINES	**FINESS Array B**	**36.16**	**325**	P	P	00 40 02.1	-1.3
	1.9nm,0.6s,baz=111,slow=7.9,SNR=11						
ARCES	**ARCESS Array B**	**39.62**	**337**	P	P	00 40 31.2	-1.4
	1.5nm,0.8s,baz=113,slow=9.3,SNR=4.2						
ARCES				LR	LR	00 56 45.3	
	comp=Z,35nm,18.4s,baz=72,slow=36						
NOA	**NORSAR Array B**	**43.12**	**322**	P	**P**	**00 41 00.9**	**-0.5**
	0.9nm,0.7s,baz=93,slow=8.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.96**	**268**	P	P	00 43 45.4	-2.5
	0.5nm,0.7s,baz=51,slow=4.2,SNR=8.5						
ILAR	**Eielson Array**	**73.06**	**16**	P	**P**	**00 44 30.2**	**-0.8**
	0.3nm,0.8s,baz=304,slow=2.8,SNR=4.5						

IDC 29 01:26:59.4±4.8, 20°.33S×178°.51W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=213.9km s-min=34.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.43**	**244**	P	P	01 34 14.3	-0.2
	2.5nm,0.9s,baz=79,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**44.09**	**257**	P	P	01 35 09.7	0.0
	0.7nm,0.6s,baz=94,slow=7.5,SNR=7.3						
WRA	**Warramunga Arr**	**44.15**	**262**	P	P	01 35 09.9	-0.2
	0.3nm,0.3s,baz=98,slow=7.7,SNR=4.9						
ILAR	**Eielson Array**	**88.26**	**13**	P	P	01 39 52.1	0.0
	0.2nm,0.6s,baz=220,slow=7.9,SNR=3.1						

*CSEM **29** 01:28:42.9, 46°.26N×7°.80E, h2km, ML0.5/4, After ZUR*

ZUR 29 01:28:42.9, 46°.26N×7°.80E, h2km±1km, ML0.5/4, 10C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBD2	**Leukerbad 2**	**0.16**	**316**	⇑*i*Pg	Pg	01 28 46.4	0.0
LKBD2				*e*Sg	Sg	01 28 48.5	-0.2
LKBD2	**Leukerbad 2**	**0.16**	**316**	⇑*i*Pg	Pg	01 28 46.4	0.0
LKBD2				*e*Sg	Sg	01 28 48.5	-0.2
LKBD	**Leukerbad**	**0.18**	**316**	⇑*i*Pg	Pg	01 28 46.6	0.0
	8.9nm,0.4s						
LKBD				*i* Sg	Sg	01 28 49.0	-0.1
	8.9nm,0.4s						
LKBD	**Leukerbad**	**0.18**	**316**	⇑*i*Pg	Pg	01 28 46.6	0.0
	8.9nm,0.4s						
LKBD				*i* Sg	Sg	01 28 49.0	-0.1
	8.9nm,0.4s						
MMK	**Mattmark**	**0.24**	**152**	⇑*i*Pg	Pg	01 28 48.0	+0.2
	45nm,0.1s						
MMK				*i* Sg	Sg	01 28 51.0	-0.1
	45nm,0.1s						
MMK	**Mattmark**	**0.24**	**152**	⇑*i*Pg	Pg	01 28 48.0	+0.2
	45nm,0.1s						
MMK				*i* Sg	Sg	01 28 51.0	-0.1
	45nm,0.1s						
SENIN	**Lac Senin/Sane**	**0.36**	**287**	*e*Pg	Pg	01 28 50.4	+0.1
	4.5nm,1.6s						
SENIN	**Lac Senin/Sane**	**0.36**	**287**	*e*Pg	Pg	01 28 50.4	+0.1
	4.5nm,1.6s						
WIMIS	**Wimmis**	**0.42**	**343**	⇑*i*Pg	Pg	01 28 51.4	+0.2
	8.9nm,1.0s						
WIMIS	**Wimmis**	**0.42**	**343**	⇑*i*Pg	Pg	01 28 51.4	+0.2
	8.9nm,1.0s						
HASLI	**Hasliberg/Brie**	**0.55**	**26**	*e*Pg	Pg	01 28 53.8	+0.1
HASLI				*e*Sg	Sg	01 29 01.2	+0.2
HASLI	**Hasliberg/Brie**	**0.55**	**26**	*e*Pg	Pg	01 28 53.8	+0.1
HASLI				*e*Sg	Sg	01 29 01.2	+0.2
BNALP	**Bannalp**	**0.75**	**35**	⇑*i*Pg	Pg	01 28 57.5	0.0
BNALP	**Bannalp**	**0.75**	**35**	⇑*i*Pg	Pg	01 28 57.5	0.0

ROM 29 01:30:15.4±0.1, 42°.61N×13°.15E, h10km, Md1.4/3, MI0.6/2, Error ellipse: s-maj=1.4km s-min=0.3km az=178.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.08**	**268**	Pg	Pg	01 30 18.2	+0.3
LNSS				Sg	Sg	01 30 20.0	+0.4
	41nm,0.2s						
NRCA	**Norcia**	**0.23**	**354**	Pg	Pg	01 30 20.9	+0.7
NRCA				Sg	Sg	01 30 24.9	+1.5
	9.0nm,0.1s						

IDC 29 01:39:38.7±1.5, 2°.55S×140°.91E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.5/4, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.5/15, Error ellipse: s-maj=67.5km s-min=26.1km az=100.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.44**	**200**	P	Pn	01 43 55.4	-0.6
	0.3nm,0.3s,baz=24,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**22.06**	**197**	P	P	01 44 35.2	-0.2
	0.7nm,0.5s,baz=30,slow=10,SNR=9.6						
CMAR	**Chiang Mai Arr**	**46.28**	**299**	LR	LR	02 09 51.5	
	comp=Z,21nm,18.5s,baz=45,slow=39						
MKAR	**Makanchi Array**	**71.01**	**322**	P	P	01 50 58.3	-0.2
	0.3nm,0.7s,baz=116,slow=3.4,SNR=3.6						
ILAR	**Eielson Array**	**84.78**	**24**	P	P	01 52 15.2	+0.5
	0.3nm,0.7s,baz=235,slow=3.2,SNR=3.4						

*IDC **29** 01:40:31.5±2.0, 26°.74N×55°.74E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.8/28, mbtmp3.8/13, MS2.8/1, Ms1 2.8/1, ms1mx2.2/43, Error ellipse: s-maj=42.6km s-min=21.0km az=157.0*

*KISR **29** 01:40:33.8±0.6, 27°.17N×55°.33E, h34km±999km, ML3.9*

*CSEM **29** 01:40:35.6±1.2, 26°.92N×55°.61E, h2km, ML3.4, Error ellipse: s-maj=37.5km s-min=8.6km az=164.0*

ISC 29 01:40:35.3±1.3, 27°.0N±0°.2×55°.66E±0°.06, h12km, n28, σ1§15/34, mb3.9/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**51**	*e*Pg	**Pb**	**01 40 47.7**	**+0.1**
GHIR	**Ghir-Karzin**	**2.68**	**298**	*e*Pn	**Pb**	**01 41 21.6**	**-1.7**
KRBR	**Kerman**	**3.10**	**18**	*e*Pn	**Pb**	**01 41 27.8**	**-2.7**
NASN	**Na'in**	**6.26**	**337**	*e*Pn	Pn	01 42 11.7	+3.9
QRN	**Al-Qurain**	**7.06**	**286**	*e*P	**Pn**	**01 42 19.7**	**+1.2**
QRN				*e*S	**Sn**	**01 43 39.1**	**+0.4**
QRN				AML	AML	01 43 40.0	
	comp=Z,21nm,0.3s						
RDF	**Al-Radifah**	**7.42**	**287**	*e*P	**Pn**	**01 42 24.3**	**+0.9**
RDF				*e*S	**Sn**	**01 43 47.8**	**+0.3**
RDF				AML	AML	01 43 49.4	
	comp=Z,18nm,0.4s						
RDF	**Al-Radifah**	**7.42**	**287**	*e*P	**Pn**	**01 42 24.3**	**+0.9**
RDF				*e*S	**Sn**	**01 43 47.8**	**+0.3**
UMR	**Umm Al-Rimmam**	**7.44**	**292**	*e*P	**Pn**	**01 42 25.3**	**+1.6**
UMR				*e*S	**Sn**	**01 43 48.1**	**0.0**
UMR				AML	AML	01 43 50.8	
	comp=Z,24nm,0.3s						
UMR	**Umm Al-Rimmam**	**7.44**	**292**	*e*P	**Pn**	**01 42 25.3**	**+1.6**
UMR				*e*S	**Sn**	**01 43 48.1**	**0.0**
MIB	**Mutribah**	**7.83**	**293**	*e*P	**Pn**	**01 42 30.7**	**+1.6**
MIB				*e*S	**Sn**	**01 43 58.0**	**+0.3**
MIB				AML	AML	01 43 58.5	
	comp=Z,22nm,0.5s						
MIB	**Mutribah**	**7.83**	**293**	*e*P	**Pn**	**01 42 30.7**	**+1.6**
MIB				*e*S	**Sn**	**01 43 58.0**	**+0.3**
RST	**Umm Al-Ruwaisa**	**8.03**	**290**	*e*P	**Pn**	**01 42 33.0**	**+1.2**
RST	**Umm Al-Ruwaisa**	**8.03**	**290**	*e*P	**Pn**	**01 42 33.0**	**+1.2**
KBZ	**Khabaz**	**19.61**	**331**	P	**Pn**	**01 45 07.2**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=143,slow=9.1,SNR=7.7						
AAK	**Ala-Archa**	**21.86**	**40**	LR	LR	01 54 14.2	
	comp=Z,24nm,18.5s,baz=84,slow=37						
BRTR	**Keskin Array B**	**22.26**	**310**	P	**P**	**01 45 33.3**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=134,slow=13,SNR=6.4						
AKTO	**Aktyubinsk**	**23.44**	**4**	P	**P**	**01 45 45.4**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=178,slow=8.3,SNR=10						
BVAR	**Borovoye Array**	**28.20**	**19**	P	**P**	**01 46 27.4**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=198,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**28.80**	**40**	P	**P**	**01 46 33.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=222,slow=8.6,SNR=5.9						
AKASG	**Malin Array Be**	**31.05**	**327**	P	**P**	**01 46 53.2**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=136,slow=8.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**34.41**	**31**	P	**P**	**01 47 22.2**	**0.0**
	comp=Z,1.9nm,0.4s,baz=244,slow=8.5,SNR=13						
GERES	**GERESS Array B**	**38.97**	**315**	P	**P**	**01 48 01.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=109,slow=7.2,SNR=5.4						
FINES	**FINESS Array B**	**39.72**	**338**	P	**P**	**01 48 07.6**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=144,slow=11,SNR=20						
FINES				PcP	**PcP**	**01 50 12.8**	**-0.9**
	comp=Z,4.2nm,1.2s,baz=146,slow=8.1,SNR=3.6						
NOA	**NORSAR Array B**	**45.19**	**331**	P	**P**	**01 48 51.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=118,slow=8.0,SNR=3.0						
ARCES	**ARCESS Array B**	**46.02**	**346**	P	**P**	**01 48 59.1**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=144,slow=8.4,SNR=5.6						
ESDC	**Sonseca Array**	**50.54**	**300**	P	**P**	**01 49 33.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=65,slow=7.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**52.17**	**266**	P	**P**	**01 49 44.7**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=69,slow=7.4,SNR=30						
ILAR	**Eielson Array**	**86.83**	**9**	P	**P**	**01 53 18.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=322,slow=4.2,SNR=9.0						

IDC 29 01:58:51.9±9.5, 13°.33S×166°.77E, h193km±105km, mb3.3/4, mb1 3.4/5, mb1mx3.1/19, mbtmp3.3/5, Error ellipse: s-maj=97.3km s-min=52.8km az=145.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.70**	**182**	P	Pn	02 00 54.4	-0.1
	0.2nm,0.3s,baz=336,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**29.56**	**227**	P	P	02 04 38.8	+0.1
	1.6nm,0.8s,baz=80,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**31.72**	**254**	P	P	02 04 57.9	0.0
	0.2nm,0.5s,baz=85,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**32.74**	**247**	P	P	02 05 06.7	-0.2
	0.6nm,0.5s,baz=74,slow=9.2,SNR=13						
MKAR	**Makanchi Array**	**95.86**	**317**	P	P	02 11 56.4	-0.2
	0.3nm,0.6s,baz=88,slow=6.7,SNR=4.1						

IDC 29 02:07:28.8±15.0, 12°.35N×85°.94W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=278.8km s-min=68.5km az=171.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**9.85**	**300**	Pn	Pn	02 09 50.6	-1.2
	0.3nm,0.3s,baz=116,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**23.61**	**318**	P	P	02 12 42.1	+0.4
	1.4nm,0.8s,baz=134,slow=9.9,SNR=21						
PDAR	**Pinedale Array**	**36.58**	**330**	P	P	02 14 36.0	-0.8
	0.5nm,0.6s,baz=122,slow=12,SNR=4.3						
ULM	**Lac du Bonnet**	**38.66**	**350**	P	P	02 14 54.0	-0.1
	2.8nm,0.8s,baz=165,slow=12,SNR=3.1						
NVAR	**Mina Array Bea**	**38.76**	**318**	P	P	02 14 55.9	+0.5
	0.5nm,0.8s,baz=134,slow=6.4,SNR=4.2						

*IDC **29** 02:20:03.2±1.1, 54°.38N×161°.66W, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/30, mbtmp3.7/12, ML3.8/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/41, Error ellipse: s-maj=28.4km s-min=19.1km az=1.0*

*NEIC **29** 02:20:10.2, 54°.53N×161°.58W, h15km, ML3.8(AEIC), After AEIC.*

ISC 29 02:20:06.0±1.6, 54°.38N±0°.07×161°.48W±0°.05, h17km±9km, n44, σ1§43/54, mb3.9/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.80**	**344**	P	**Pn**	**02 20 22.9**	**+0.3**
DOL				S	**Sg**	**02 20 30.7**	**-1.7**
DT1	**Dutton Round H**	**0.87**	**328**	P	**Pn**	**02 20 23.9**	**+0.4**
DTNA	**Dutton South F**	**0.89**	**330**	P	**Pn**	**02 20 24.4**	**+0.6**
DTNA				S	**Sg**	**02 20 34.0**	**-1.2**
PS4A	**Pavlof South-4**	**0.99**	**348**	P	**Pn**	**02 20 26.1**	**+0.9**
PVV	**Pavlof Volcano**	**1.01**	**350**	P	**Pn**	**02 20 26.5**	**+1.0**
PVV				S	**Sn**	**02 20 40.8**	**+1.5**
SDPT	**Sand Point**	**1.13**	**30**	P	**Pg**	**02 20 27.7**	**-0.3**
SDPT				S	**Sb**	**02 20 42.9**	**+1.3**
FALS	**False Pass**	**1.22**	**294**	P	**Pg**	**02 20 29.8**	**+0.2**
FALS				S	**Sg**	**02 20 47.4**	**+1.7**
BRPK	**Brown Peak**	**1.34**	**282**	P	**Pg**	**02 20 31.9**	**0.0**
ISNN	**Isanotski Nort**	**1.41**	**290**	P	**Pg**	**02 20 33.7**	**+0.5**
SSLS	**Shishaldin Sou**	**1.50**	**284**	P	**Pg**	**02 20 34.9**	**-0.1**
SSBA	**Shishaldin**	**1.59**	**286**	P	**Pg**	**02 20 36.0**	**-0.6**
VNWF	**Veniaminof 8**	**2.09**	**31**	P	**Pb**	**02 20 44.0**	**+0.5**
VNFG	**Veniaminof 2**	**2.21**	**29**	P	**Pb**	**02 20 45.5**	**-0.1**
VNHG	**Veniaminof 1**	**2.27**	**35**	P	**Pb**	**02 20 46.4**	**-0.2**
CHGN	**Chignik**	**2.60**	**41**	*e*Pn	**Pn**	**02 20 48.8**	**+1.5**
CHGN				*e*Sg	**Sb**	**02 21 25.6**	**+1.8**
ANPK	**Aniakchak Peak**	**3.12**	**36**	P	**Pn**	**02 20 56.8**	**+2.4**
KDAK	**Kodiak Island**	**6.04**	**52**	*e*Pn	**Pn**	**02 21 36.1**	**+1.7**
KDAK				*e*Sg	**Sb**	**02 23 06.9**	**+4.4**
KDAK	**Kodiak Island**	**6.04**	**52**	Pn	**Pn**	**02 21 33.8**	**-0.6**
	1.1nm,0.3s,baz=186,slow=9.2,SNR=4.4						
KDAK				Sn	**Sn**	**02 22 38.2**	**-4.7**
	0.9nm,0.3s,baz=32,slow=9.5,SNR=2.7						
DIV	**Divide**	**10.76**	**45**	*e*Pn	**Pn**	**02 22 39.7**	**+0.6**
IMA2	**Indian Mountai**	**12.34**	**15**	*e*Pn	**Pn**	**02 23 01.8**	**+1.0**
ILAR	**Eielson Array**	**12.74**	**29**	Pn	**Pn**	**02 23 03.2**	**-2.9**
ILAR				Sn	**Sn**	**02 25 28.5**	**+1.2**
ILAR	**Eielson Array**	**12.74**	**29**	Pn	**Pn**	**02 23 03.2**	**-2.9**
	0.2nm,0.3s,baz=222,slow=13,SNR=9.3						
ILAR				Sn	**Sn**	**02 25 28.5**	**+1.2**
	0.1nm,0.3s,baz=209,slow=24,SNR=3.6						
ILAR				LR	LR	02 28 36.9	
	comp=Z,88nm,19.2s,baz=223,slow=40						
DLBC	**Dease Lake**	**17.77**	**64**	LR	LR	02 30 23.0	
	comp=Z,63nm,18.0s,baz=276,slow=35						
INK	**Inuvik**	**19.09**	**32**	P	**P**	**02 24 26.6**	**-0.9**
INK	**Inuvik**	**19.09**	**32**	P	**P**	**02 24 26.6**	**-0.9**
	0.3nm,0.3s,baz=247,slow=10,SNR=6.1						
INK				LR	LR	02 32 28.7	
	comp=Z,85nm,20.8s,baz=163,slow=39						
PETK	**Petropavlovsk-**	**23.94**	**284**	P	**P**	**02 25 18.7**	**-0.3**
PETK	**Petropavlovsk-**	**23.94**	**284**	P	**P**	**02 25 18.7**	**-0.3**
	2.4nm,0.5s,baz=89,slow=12,SNR=5.5						
PDAR	**Pinedale Array**	**35.47**	**87**	P	**P**	**02 27 02.5**	**+0.9**
PDAR	**Pinedale Array**	**35.47**	**87**	P	**P**	**02 27 02.5**	**+0.9**
	0.2nm,0.5s,baz=322,slow=5.7,SNR=2.5						
TXAR	**Lajitas Array**	**48.13**	**97**	P	**P**	**02 28 46.0**	**+0.9**
TXAR				PcP	**PcP**	**02 30 12.1**	**-0.2**
TXAR	**Lajitas Array**	**48.13**	**97**	P	**P**	**02 28 46.0**	**+0.9**
	0.1nm,0.4s,baz=299,slow=5.6,SNR=3.1						
TXAR				PcP	**PcP**	**02 30 12.1**	**-0.2**
	0.2nm,0.5s,baz=291,slow=2.7,SNR=4.4						
SONM	**Songino Array**	**54.22**	**304**	P	**P**	**02 29 30.7**	**+0.2**
SONM	**Songino Array**	**54.22**	**304**	P	**P**	**02 29 30.7**	**+0.2**
	0.3nm,0.4s,baz=60,slow=6.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**58.99**	**321**	LR	LR	02 58 03.4	
	comp=Z,43nm,18.4s,baz=63,slow=39						
FINES	**FINESS Array B**	**64.37**	**356**	P	**P**	**02 30 39.0**	**-1.2**
FINES	**FINESS Array B**	**64.37**	**356**	P	**P**	**02 30 39.0**	**-1.2**
	1.1nm,0.5s,baz=27,slow=4.7,SNR=9.2						
AKASG	**Malin Array Be**	**74.91**	**353**	P	**P**	**02 31 44.4**	**-1.0**
AKASG	**Malin Array Be**	**74.91**	**353**	P	**P**	**02 31 44.4**	**-1.0**
	1.9nm,0.6s,baz=6.1,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**77.07**	**3**	P	**P**	**02 31 57.5**	**-0.4**
GERES	**GERESS Array B**	**77.07**	**3**	P	**P**	**02 31 57.5**	**-0.4**
	0.4nm,0.7s,baz=14,slow=6.2,SNR=4.9						
ESDC	**Sonseca Array**	**84.35**	**17**	P	**P**	**02 32 37.1**	**+0.2**
ESDC	**Sonseca Array**	**84.35**	**17**	P	**P**	**02 32 37.1**	**+0.2**
	0.4nm,0.6s,baz=341,slow=5.7,SNR=4.3						
BRTR	**Keskin Array B**	**85.37**	**348**	P	**P**	**02 32 42.1**	**-0.1**
BRTR	**Keskin Array B**	**85.37**	**348**	P	**P**	**02 32 42.1**	**-0.1**
	0.6nm,0.7s,baz=70,slow=1.4,SNR=3.8						

*AUST **29** 02:25:23.8, 5°.25S×148°.59E, h0km*

*IDC **29** 02:25:40.0±1.1, 6°.47S×147°.65E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=34.6km s-min=19.3km az=99.0*

*ISCJB **29** 02:25:47.8±1.1, 6°.64S±0°.07×147°.3E±0°.1, h63km, mb4.0/8, Error ellipse: s-maj=20.0km s-min=9.7km az=174.6*

ISC 29 02:25:48.8±1.0, 6°.64S±0°.08×147°.5E±0°.1, h63km, n19, σ1§33/19, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.77**	**186**	Pn	**Pn**	**02 26 30.4**	**-0.4**
	25nm,0.3s,baz=32,slow=7.1,SNR=31						
PMG				Sn	**Sn**	**02 27 03.2**	**+0.2**
	30nm,0.3s,baz=204,slow=20,SNR=3.6						
PMG				LR	LR	02 27 46.7	
	comp=Z,212nm,21.4s,baz=81,slow=43						
COEN	**Coen**	**8.40**	**210**	P	**Pn**	**02 27 48.2**	**+0.3**
	baz=10,SNR=5.3						
COEN				S	**Sn**	**02 29 18.7**	**-2.6**
	baz=10,SNR=6.5						
MTSU	**Mount Surprise**	**11.83**	**195**	P	**Pn**	**02 28 35.8**	**+1.0**
	baz=14,SNR=9.8						
FAKI	**Fak Fak**	**15.59**	**283**	S	**S**	**02 32 30.2**	**+1.4**
	baz=16,SNR=3.1						
KDU	**Kakadu**	**15.94**	**247**	P	**Pn**	**02 29 27.8**	**-1.4**
	baz=18,SNR=6.1						
WRA	**Warramunga Arr**	**18.36**	**223**	P	**P**	**02 29 57.6**	**-0.9**
	0.8nm,0.3s,baz=50,slow=11,SNR=8.2						
KNRA	**Kununurra**	**20.40**	**242**	P	**P**	**02 30 20.1**	**-0.6**
	baz=22,SNR=5.0						
ASAR	**Alice Springs**	**21.36**	**216**	P	**P**	**02 30 31.2**	**+0.2**
	2.5nm,0.5s,baz=50,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**24.13**	**240**	P	**P**	**02 30 58.6**	**-0.4**
	3.7nm,0.4s,baz=66,slow=8.8						
STKA	**Stephens Creek**	**25.70**	**192**	P	**P**	**02 31 14.8**	**+1.6**
	2.4nm,0.7s,baz=343,slow=6.5,SNR=5.1						
MEEK	**Meekatharra**	**33.89**	**231**	P	**P**	**02 32 25.6**	**-0.2**
	baz=36,SNR=5.2						
NWAO	**Narrogin (SRO)**	**38.37**	**223**	P	**P**	**02 33 04.1**	**+0.2**
	19nm,1.1s,baz=83,slow=8.1,SNR=2.7						
KSRS	**Korea Array**	**47.50**	**339**	LR	LR	02 53 16.4	
	comp=Z,11nm,19.5s,baz=30,slow=35						
CMAR	**Chiang Mai Arr**	**53.95**	**298**	P	**P**	**02 35 08.1**	**+1.6**
	1.5nm,0.5s,baz=120,slow=5.7,

Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.99**	**227**	*e*P	Pg	02 50 01.3	-0.4
MRL				*e*S	Sb	02 50 16.7	+0.2
RBDL	**Robledal**	**1.77**	**204⇑**	*e*P	Pn	02 50 13.9	-0.8
RBDL				*e*S	Sb	02 50 39.5	+0.4
NBG	**Las Nubes**	**1.78**	**230**	*e*P	Pb	02 50 16.3	-0.1
RTR	**El Retiro**	**1.96**	**201**	*e*P	Pn	02 50 16.9	-0.3
RTR				*e*S	Sg	02 50 45.6	-0.2
SNJE	**San Jose**	**1.97**	**199**	*e*P	Pn	02 50 17.0	-0.4
LFU	**La Fuente**	**1.99**	**185**	*e*P	Pn	02 50 16.8	-0.7
SBLS	**San Blas**	**2.00**	**199**	*e*P	Pn	02 50 17.6	-0.3
BOQS	**Boqueron**	**2.02**	**189**	*e*P	Pn	02 50 17.9	-0.3
CAHU	**Cacaouatique**	**2.08**	**160**	*e*P	Pn	02 50 18.5	-0.4
LFRS	**El Faro**	**2.11**	**183**	*e*P	Pn	02 50 19.4	+0.1

IDC 29 03:02:18.1±18.0, 15°.59S×176°.31W, h274km±182km, mb3.1/5, mb1 3.5/5, mb1mx3.2/18, mbtmp3.1/5, Error ellipse: s-maj=109.0km s-min=33.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.07**	**257**	P	P	03 10 21.9	-1.3
	0.5nm,0.6s,baz=94,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**47.39**	**252**	P	P	03 10 26.3	+0.7
	1.4nm,0.3s,baz=87,slow=7.9,SNR=22						
NVAR	**Mina Array Bea**	**76.36**	**43**	P	P	03 13 37.9	+0.1
	0.2nm,0.4s,baz=232,slow=10,SNR=3.0						
TXAR	**Lajitas Array**	**83.06**	**57**	P	P	03 14 13.3	-0.4
	0.2nm,0.7s,baz=208,slow=6.7,SNR=4.1						
ILAR	**Eielson Array**	**83.20**	**12**	P	P	03 14 13.7	+0.2
	0.6nm,0.4s,baz=215,slow=5.3,SNR=27						
BRTR	**Keskin Array B**	**144.49**	**318**	PKP	PKPbc	03 21 21.6	0.0
	0.7nm,0.8s,baz=94,slow=1.7,SNR=3.9						

*ISCJB **29** 03:25:28.0±0.4, 59°.15S±0°.06×16°.4W±0°.2, h10km, mb4.3/18, MS3.9/12, Error ellipse: s-maj=12.3km s-min=8.3km az=152.3*

*IDC **29** 03:25:28.6±0.6, 59°.03S×16°.41W, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, MS4.0/11, Ms1 4.0/11, ms1mx3.8/19, Error ellipse: s-maj=21.0km s-min=16.0km az=50.0*

*NEIC **29** 03:25:29.3±5.2, 59°.09S×16°.40W, h7km±32km, mb4.4/9, Error ellipse: s-maj=10.4km s-min=7.8km az=214.0*

ISC 29 03:25:29.9±0.5, 59°.09S±0°.08×16°.4W±0°.1, h10km, n53, σ0°.78/45, mb4.3/18, MS4.0/12, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.09**	**167**	*e*Pn	**Pn**	**03 28 21.8**	**-0.1**
VNA2	**Neumayer--Watz**	**12.45**	**166**	*e*Pn	**Pn**	**03 28 25.7**	**-1.2**
VNA2	**Neumayer--Watz**	**12.45**	**166**	*e*Sn	Sn	03 30 33.2	-12
SNAA	**Sanae**	**13.78**	**162**	*e*Pn	**Pn**	**03 28 43.4**	**-1.6**
SNAA	**Sanae**	**13.78**	**162**	*e*Sn	Sn	03 31 04.9	-13
SNAA	**Sanae**	**13.78**	**162**	*e*Pn	**Pn**	**03 28 43.6**	**-1.4**
	54nm,0.7s						
QSPA	**South Pole Qui**	**31.15**	**180**	*e*P	**P**	**03 31 48.8**	**+0.2**
	3.1nm,0.7s						
QSPA	**South Pole Qui**	**31.15**	**180**	P	**P**	**03 31 49.0**	**+0.4**
	4.0nm,0.8s,baz=221,slow=3.2,SNR=25						
MAW	**Mawson**	**34.11**	**138**	P	**P**	**03 32 15.4**	**+1.3**
MAW	**Mawson**	**34.11**	**138**	P	**P**	**03 32 15.4**	**+1.3**
	4.9nm,0.6s,baz=250,slow=9.8,SNR=7.4						
MAW				LR	LR	03 43 58.2	
	comp=Z,337nm,21.5s,baz=266,slow=32						
TRQA	**Tornquist**	**35.82**	**285**	*e*P	**P**	**03 32 29.2**	**-0.1**
	14nm,1.2s						
PLCA	**Paso Flores**	**38.16**	**274**	LR	LR	03 47 50.4	
	comp=Z,119nm,18.1s,baz=316,slow=35						
BOSA	**Boshof**	**41.65**	**62**	*e*P	**P**	**03 33 18.7**	**+0.3**
	8.3nm,1.0s						
BOSA	**Boshof**	**41.65**	**62**	P	**P**	**03 33 18.2**	**-0.1**
	5.2nm,1.2s,baz=204,slow=12,SNR=3.8						
BOSA				LR	LR	03 46 45.3	
	comp=Z,116nm,20.1s,baz=166,slow=31						
CPUP	**Villa Florida**	**43.30**	**301**	*e*P	**P**	**03 33 30.7**	**-0.9**
	7.5nm,0.8s						
CPUP	**Villa Florida**	**43.30**	**301**	P	**P**	**03 33 32.4**	**+0.7**
	0.4nm,0.4s,baz=107,slow=11,SNR=3.6						
CPUP				LR	LR	03 48 03.5	
	comp=Z,141nm,21.5s,baz=142,slow=31						
VNDA	**Vanda**	**43.64**	**179**	P	**P**	**03 33 35.5**	**+1.7**
VNDA	**Vanda**	**43.64**	**179**	P	**P**	**03 33 35.5**	**+1.7**
	4.8nm,1.2s,baz=200,slow=8.1,SNR=10						
VNDA				LR	LR	03 51 28.3	
	comp=Z,148nm,19.8s,baz=280,slow=36						
CFAA	**Coronel Fontan**	**44.05**	**285**	P	**P**	**03 33 37.0**	**-0.7**
CFAA	**Coronel Fontan**	**44.05**	**285**	P	**P**	**03 33 37.0**	**-0.7**
	0.3nm,0.6s,baz=162,slow=7.5,SNR=10						
CFAA				LR	LR	03 48 47.8	
	comp=Z,10nm,20.6s,baz=144,slow=32						
LBTB	**Lobatse**	**44.90**	**59**	P	**P**	**03 33 44.8**	**+0.2**
LBTB	**Lobatse**	**44.90**	**59**	P	**P**	**03 33 44.8**	**+0.2**
	4.5nm,0.9s,baz=238,slow=11,SNR=4.9						
BDFB	**Brasilia**	**49.24**	**318**	P	**P**	**03 34 18.9**	**+0.4**
BDFB	**Brasilia**	**49.24**	**318**	P	**P**	**03 34 18.9**	**+0.4**
	1.0nm,0.4s,baz=149,slow=3.8,SNR=3.6						
BDFB				LR	LR	03 51 45.3	
	comp=Z,309nm,19.2s,baz=321,slow=32						
LVC	**Limon Verde**	**51.86**	**291**	*e*P	**P**	**03 34 39.2**	**+0.7**
	2.2nm,0.6s						
SIV	**San Ignacio**	**54.02**	**303**	P	**P**	**03 34 53.8**	**-0.5**
SIV	**San Ignacio**	**54.02**	**303**	P	**P**	**03 34 53.8**	**-0.5**
	1.0nm,0.8s,baz=166,slow=12,SNR=2.3						
LSZ	**Lusaka**	**54.61**	**56**	*e*P	**P**	**03 34 58.3**	**-0.3**
	5.3nm,1.1s						
LPAZ	**La Paz**	**56.93**	**296**	*e*P	**P**	**03 35 16.1**	**+0.3**
	4.4nm,1.1s						
LPAZ	**La Paz**	**56.93**	**296**	P	**P**	**03 35 15.5**	**-0.3**
	0.8nm,0.6s,baz=171,slow=10.0,SNR=6.8						
LPAZ				LR	LR	03 58 01.1	
	comp=Z,96nm,21.3s,baz=86,slow=34						
SAML	**Samuel**	**61.22**	**305**	*e*P	**P**	**03 35 45.0**	**+0.1**
	3.5nm,1.1s						
DBIC	**Dimbokro**	**66.19**	**13**	*e*P	**P**	**03 36 17.8**	**+0.3**
	18nm,1.3s						
DBIC	**Dimbokro**	**66.19**	**13**	LR	LR	03 57 57.0	
	comp=Z,93nm,19.5s,baz=155,slow=30						
KMBO	**Kilima Mbogo**	**71.17**	**58**	*e*P	**P**	**03 36 48.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.47**	**18**	P	**P**	**03 37 02.3**	**0.0**
TORD	**Torodi Ar. Bea**	**73.47**	**18**	P	**P**	**03 37 02.3**	**0.0**
	3.2nm,0.7s,baz=198,slow=6.5,SNR=17						
ROSC	**El Rosal**	**78.41**	**300**	LR	LR	04 12 46.8	
	comp=Z,72nm,18.4s,baz=20,slow=36						
TAM	**Tamanrasset**	**82.56**	**20**	*e*P	**P**	**03 37 58.9**	**+0.9**
STKA	**Stephens Creek**	**87.54**	**161**	P	**P**	**03 38 17.4**	**-0.3**
STKA	**Stephens Creek**	**87.54**	**161**	P	**P**	**03 38 17.4**	**-0.3**
	4.3nm,0.9s,baz=167,slow=6.1,SNR=4.4						
STKA				LR	LR	04 15 14.5	
	comp=Z,139nm,18.8s,baz=205,slow=34						
ASAR	**Alice Springs**	**93.97**	**153**	P	**P**	**03 38 47.0**	**-0.9**
ASAR	**Alice Springs**	**93.97**	**153**	P	**P**	**03 38 47.0**	**-0.9**
	0.6nm,0.8s,baz=198,slow=3.3,SNR=5.5						
PPT2	**Papeete2**	**94.58**	**224**	*e*LR	LR	03 38 02.6	
	47nm,25.0s						
ESDC	**Sonseca Array**	**98.94**	**10**	LR	LR	04 17 55.4	
	comp=Z,54nm,21.7s,baz=180,slow=32						
DZM	**Mont Dzumac**	**99.11**	**183**	*e*LR	LR	03 54 48.3	
	366nm,25.8s						
FINES	**FINESS Array B**	**124.62**	**23**	PKP	**PKPdf**	**03 44 27.8**	**-0.1**
FINES	**FINESS Array B**	**124.62**	**23**	PKP	**PKPdf**	**03 44 27.8**	**-0.1**
	1.5nm,0.9s,baz=131,slow=5.7,SNR=4.3						
TKM2	**Tokmak 2**	**126.45**	**66**	*e*PKPdf	**PKPdf**	**03 44 31.6**	**-0.7**
SONM	**Songino Array**	**145.20**	**83**	PKPbc	**PKPbc**	**03 45 05.7**	**-0.7**
SONM	**Songino Array**	**145.20**	**83**	PKPbc	**PKPbc**	**03 45 05.7**	**-0.7**
	0.8nm,0.7s,baz=233,slow=5.2,SNR=5.3						
INK	**Inuvik**	**151.96**	**315**	*e*PKPbc	**PKPbc**	**03 45 23.1**	**-0.2**
INK	**Inuvik**	**151.96**	**315**	PKPbc	**PKPbc**	**03 45 24.0**	**+0.7**
	3.0nm,1.0s,baz=79,slow=3.4,SNR=3.8						
COLA	**College**	**156.99**	**305**	*e*PKPdf	**PKPdf**	**03 45 23.2**	**-0.7**

*NEIC **29** 03:26:38.6±1.0, 42°.96N×126°.47W, h10km, ML2.6, Error ellipse: s-maj=13.6km s-min=6.3km az=71.0*

*IDC **29** 03:26:41.3±3.4, 43°.89N×125°.31W, h0km, mb2.8/2, mb1 3.3/4, mb1mx3.2/28, mbtmp2.9/4, ML3.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/9, Error ellipse: s-maj=192.9km s-min=16.3km az=54.0*

ISC 29 03:26:37.6±2.4, 43°.02N±0°.05×126°.39W±0°.10, h3km±13km, n28, σ1°.38/36, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.52**	**95**	P	**Pn**	**03 27 05.6**	**-0.1**
KBO	**Bosley Butte**	**1.79**	**116**	*e*Pn	**Pn**	**03 27 10.0**	**+0.4**
KBO				*e*Sn	**Sn**	**03 27 31.4**	**-1.4**
RNO	**Roman Nose**	**2.12**	**64**	P	**Pn**	**03 27 14.5**	**+0.4**
UMPQ	**Umpqua Communi**	**2.25**	**82**	P	**Pn**	**03 27 16.1**	**+0.3**
KRMB	**Red Mountain**	**2.37**	**128**	*e*Pn	**Pn**	**03 27 17.5**	**-0.1**
KRMB				*e*Sn	**Sn**	**03 27 47.0**	**-0.3**
KTRM	**Thompson Ridge**	**2.49**	**116**	P	**Pn**	**03 27 19.9**	**+0.7**
HUMO	**Hull Mountain**	**2.56**	**98**	*e*Pn	**Pn**	**03 27 21.0**	**+0.9**
HUMO				*e*Pg	**Pg**	**03 27 26.8**	**+0.2**
HUMO				*e*Sn	**Sn**	**03 27 50.1**	**-1.7**
COR	**Corvallis**	**2.73**	**54**	*e*Pn	**Pn**	**03 27 23.0**	**+0.7**
COR				*e*Sn	**Sn**	**03 27 55.9**	**+0.1**
KHMM	**Horse Mountain**	**2.92**	**136**	*e*Pn	**Pn**	**03 27 26.3**	**+1.2**
KHMM				*e*Sn	**Sn**	**03 27 59.6**	**-1.3**
YBH	**Yreka Blue Hor**	**3.01**	**114**	*e*Pn	**Pn**	**03 27 28.2**	**+1.8**
YBH				*e*Sn	**Sn**	**03 28 00.9**	**-2.1**
YBH				Sn	**Sn**	**03 28 04.8**	**+1.8**
YBH	**Yreka Blue Hor**	**3.01**	**114**	Pn	**Pn**	**03 27 28.2**	**+1.8**
	2.7nm,0.3s,baz=311,slow=13,SNR=33						
YBH				Sn	**Sn**	**03 28 04.8**	**+1.8**
	1.2nm,0.3s,baz=184,slow=17,SNR=3.3						
IRO	**Indian Ridge**	**3.16**	**70**	P	**Pn**	**03 27 29.9**	**+1.4**
H04A	**Detroit Lake**	**3.46**	**60**	P	**Pn**	**03 27 33.9**	**+1.4**
HUOR	**Husband**	**3.48**	**70**	P	**Pn**	**03 27 34.6**	**+1.8**
BKCOR	**Black Crater**	**3.63**	**68**	P	**Pn**	**03 27 36.6**	**+1.7**
TDL	**Tradedollar La**	**4.46**	**40**	P	**Pn**	**03 27 48.0**	**+1.6**
NLWA	**Neilton Lookou**	**4.72**	**21**	*e*Pn	**Pn**	**03 27 51.0**	**+1.3**
NLWA				*e*Pg	**Pg**	03 28 06.3	-1.6
NLWA				*e*Sn	**Sn**	**03 28 45.7**	**+0.7**
NLWA				*e*Sg	**Sg**	**03 29 07.4**	**-1.7**
LON	**Longmire**	**4.95**	**40**	*e*Pn	**Pn**	**03 27 54.8**	**+1.9**
	24nm,0.6s						
PGC	**Sidney**	**5.99**	**19**	*e*Pn	**Pn**	**03 28 08.5**	**+1.3**
PGC				*e*Sn	**Sn**	**03 29 13.4**	**-2.8**
BMO	**Blue Mountains**	**6.81**	**71**	*e*Pn	**Pn**	**03 28 19.8**	**+1.3**
	1.4nm,0.5s						
NVAR	**Mina Array Bea**	**7.66**	**124**	Pn	Pn	03 28 36.6	+6.3
NVAR	**Mina Array Bea**	**7.66**	**124**	Pn	Pn	03 28 36.6	+6.3
	0.1nm,0.3s,baz=294,slow=13,SNR=3.9						
PFO	**Pinyon Flat Ob**	**12.20**	**137**	LR	LR	03 34 30.1	
	comp=Z,89nm,19.3s,baz=163,slow=38						
TXAR	**Lajitas Array**	**22.78**	**119**	P	**P**	**03 31 41.2**	**-0.2**
TXAR	**Lajitas Array**	**22.78**	**119**	P	**P**	**03 31 41.2**	**-0.2**
	0.1nm,0.6s,baz=315,slow=8.9,SNR=2.4						
LPIG	**La Paz**	**23.07**	**140**	LR	LR	03 41 39.5	
	comp=Z,18nm,20.0s,baz=276,slow=39						
ILAR	**Eielson Array**	**24.68**	**339**	P	**P**	**03 31 59.1**	**-0.4**
ILAR	**Eielson Array**	**24.68**	**339**	P	**P**	**03 31 59.1**	**-0.4**
	0.5nm,1.0s,baz=151,slow=8.2,SNR=3.0						

WEL 29 04:03:05.8±0.5, 45°.46S×166°.35E, h20km±3km, ML4.2/16, Error ellipse: s-maj=4.2km s-min=1.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.57**	**92**	P*	Pb	04 03 16.3	-0.7
DCZ				S*	Sb	04 03 24.0	-0.6
DCZ				AML	AML	04 03 24.4	
DCZ				AML	AML	04 03 24.5	
DCZ				AML	AML	04 03 24.5	
WHZ	**Wether Hill Ro**	**1.20**	**112**	PN	Pn	04 03 27.4	-0.2
WHZ				SN	Sn	04 03 43.4	0.0
WHZ				AML	AML	04 03 50.1	
MLZ	**Mavora Lakes**	**1.29**	**86**	PN	Pn	04 03 28.2	-0.6
MLZ				AML	AML	04 03 48.5	
MLZ				AML	AML	04 03 50.3	
MSZ	**Milford Sound**	**1.37**	**55**	PN	Pb	04 03 31.1	+0.3
MSZ				SN	Sg	04 03 50.0	-0.2
MSZ				AML	AML	04 03 56.6	
MSZ				AML	AML	04 03 56.7	
APZ	**The Paps**	**1.79**	**141**	PN	Pb	04 03 37.0	-0.9
WKZ	**Wanaka**	**1.99**	**72**	AML	AML	04 04 15.8	
WKZ				AML	AML	04 04 21.4	
EAZ	**Earnscleugh**	**2.10**	**85**	PN	Pb	04 03 42.3	-1.0
EAZ				AML	AML	04 04 11.4	
EAZ				AML	AML	04 04 11.4	
EAZ				AML	AML	04 04 14.1	
JCZ	**Jackson Bay**	**2.21**	**52**	AML	AML	04 04 19.0	
JCZ				AML	AML	04 04 21.0	
SYZ	**Scrubby Hill**	**2.23**	**120**	*e*PN	Pn	04 03 42.1	+0.5
TUZ	**Tuapeka**	**2.35**	**103**	PN	Pb	04 03 48.1	+0.5
TUZ				AML	AML	04 04 20.9	
TUZ				AML	AML	04 04 22.7	
LBZ	**Lake Benmore**	**2.93**	**70**	PN	Pn	04 03 53.6	+2.3
LBZ				AML	AML	04 04 41.5	
LBZ				AML	AML	04 04 46.1	
ODZ	**Otahua Downs**	**3.06**	**84**	PN	Pn	04 03 54.6	+1.5
ODZ				SN	Sn	04 04 31.5	+2.2
RPZ	**Rata Peaks**	**3.79**	**64**	PN	Pn	04 04 04.7	+1.5
RPZ				AML	AML	04 04 59.2	
RPZ				AML	AML	04 05 10.4	
WVZ	**Waitaha Valley**	**3.95**	**54**	AML	AML	04 05 16.6	
WVZ				AML	AML	04 05 20.7	
QRZ	**Quartz Range**	**6.47**	**46**	PN	Pn	04 04 43.4	+3.5

IDC 29 04:11:00.6±1.9, 16°.42N×95°.31E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/27, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=41.7km s-min=24.5km az=55.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.02**	**59**	Pn	Pn	04 12 04.8	+1.3
	1.5nm,0.3s,baz=244,slow=14,SNR=27						
CMAR				Sn	Sn	04 12 49.8	-1.6
	1.9nm,0.3s,baz=245,slow=28,SNR=11						
MKAR	**Makanchi Array**	**32.16**	**343**	P	P	04 17 30.0	0.0
	0.3nm,0.5s,baz=152,slow=9.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**38.34**	**350**	P	P	04 18 23.3	+0.3
	0.8nm,0.5s,baz=170,slow=8.8,SNR=3.2						
WRA	**Warramunga Arr**	**52.69**	**132**	P	P	04 20 16.5	-0.7
	0.4nm,0.7s,baz=317,slow=7.6,SNR=4.6						

*BJI **29** 04:13:38.9, 1°.39S×98°.01E, h36km, mB5.1/35, mb5.0/51, Ms4.7/44, Ms7 4.5/40*

*ISCJB **29** 04:13:39.5±0.9, 0°.95S±0°.03×97°.96E±0°.03, h15km±6km, mb4.9/97, MS4.2/24, Error ellipse: s-maj=5.5km s-min=4.0km az=135.9*

*IDC **29** 04:13:39.0±0.5, 0°.94S×97°.94E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.6/28, mbtmp4.6/24, ML4.8/2, MS3.9/9, Ms1 3.9/9, ms1mx3.5/36, Error ellipse: s-maj=16.4km s-min=11.8km az=60.0*

*MOS **29** 04:13:42.6±1.1, 0°.83S×97°.98E, h33km, mb5.2/38, Error ellipse: s-maj=11.0km s-min=5.3km az=114.1*

*DJA **29** 04:13:43.6±0.7, 1°.5±5°.×9°.8E±°., h30km, M5.2/11, mb5.4/10, mB5.5/10, MLv5.3/11, Mw(mB)5.0/10*

*TEH **29** 04:13:44.0, 0°.96S×97°.94E, h35km, ML4.9*

*AUST **29** 04:13:44.1, 0°.91S×98°.00E, h35km*

*NEIC **29** 04:13:44.2±0.8, 0°.94S×97°.97E, h36km±6km, mb5.0/40, Error ellipse: s-maj=6.3km s-min=4.4km az=54.0*

ISC 29 04:13:44.2±0.3, 0°.96S±0°.04×97°.95E±0°.05, h35km±3km, h35km:pP-P, n334, σ1°.20/364, mb5.0/97, MS4.3/24, 15C-15D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.50**	**78**	P	**Pn**	**04 14 21.5**	**-0.9**
PPI	**Padang Panjang**	**2.50**	**78**	P	**Pn**	**04 14 21.4**	**-1.0**
	baz=2.4,SNR=90						
PDSI	**Padang**	**2.51**	**89**	P	**Pn**	**04 14 21.5**	**-1.1**
PDSI				S	Sn	04 14 42.2	-10
BKNI	**Bangkinang**	**3.34**	**67**	P	**Pn**	**04 14 34.0**	**0.0**
BKNI	**Bangkinang**	**3.34**	**67**	P	**Pn**	**04 14 34.6**	**+0.6**
	baz=3.3,SNR=5.1						
SNSI	**Sinabang, Aceh**	**3.72**	**334**	P	**Pn**	**04 14 39.0**	**-0.2**
SNSI				S	**Sn**	**04 15 19.9**	**-2.0**
PSI	**Prapat**	**3.86**	**15**	Pn	**Pn**	**04 14 38.5**	**-2.8**
PSI	**Prapat**	**3.86**	**15**	Pn	**Pn**	**04 14 38.5**	**-2.8**
	47nm,0.3s,baz=203,slow=4.9,SNR=131						
PSI	**Prapat**	**3.86**	**15**	P	**Pn**	**04 14 38.5**	**-2.8**
	baz=3.7,SNR=97						
KCSI	**Kotacane, Aceh**	**4.46**	**358**	P	**Pn**	**04 14 46.5**	**-2.9**
TSI	**Tuntungan**	**4.48**	**8**	P	**Pn**	**04 14 52.7**	**+3.1**
MASI	**Maura Aman, Be**	**4.80**	**117**	P	**Pn**	**04 14 54.6**	**+0.5**
KSI	**Kapahiang**	**5.35**	**120**	P	**Pn**	**04 15 00.8**	**-0.9**
	1μm,0.8s,13μm4.8nm						
MNAI	**Manna**	**6.03**	**124**	*e*Pn	**Pn**	**04 15 10.1**	**-0.9**
MNAI	**Manna**	**6.03**	**124**	P	**Pn**	**04 15 09.6**	**-1.4**
	2μm,0.8s,16μm5.3nm						
MNAI	**Manna**	**6.03**	**124**	P	**Pn**	**04 15 09.9**	**-1.1**
	baz=6.0,SNR=74						
MNAI				S	**Sn**	**04 16 16.8**	**-2.1**
	baz=6.0,SNR=4.9						
KGM	**Kluang**	**6.13**	**61**	P	**Pn**	**04 15 12.0**	**-0.4**
EGSI	**Enggano, Bengk**	**6.14**	**135**	P	**Pn**	**04 15 10.2**	**-2.2**
IPM	**Ipoh**	**6.22**	**30**	*e*Pn	**Pn**	**04 15 14.2**	**+0.6**
IPM	**Ipoh**	**6.22**	**30**	P	**Pn**	**04 15 14.3**	**+0.7**
IPM	**Ipoh**	**6.22**	**30**	P	**Pn**	**04 15 14.0**	**+0.4**
	469nm,0.8s,3μm1.3nm						
BTDF	**Bukit Timah Da**	**6.26**	**68**	P	**Pn**	**04 15 13.5**	**-0.7**
	baz=6.2,SNR=6.5						
BTDF				P	**Pn**	**04 15 13.5**	**-0.7**
	baz=6.2,SNR=6.5						
MYKOM	**Kota Tinggi**	**6.50**	**65**	P	**Pn**	**04 15 17.3**	**-0.1**
MYKOM	**Kota Tinggi**	**6.50**	**65**	P	**Pn**	**04 15 16.3**	**-1.1**
	102nm,0.6s,1μm0.6nm						
KULM	**Kulim**	**6.77**	**23**	*e*Pn	**Pn**	**04 15 20.2**	**-1.0**
KULM	**Kulim**	**6.77**	**23**	P	**Pn**	**04 15 20.9**	**-0.3**
KULM	**Kulim**	**6.77**	**23**	P	**Pn**	**04 15 20.6**	**-0.6**
	217nm,0.8s,2μm0.7nm						
LWLI	**Liwa**	**7.31**	**124**	P	**Pn**	**04 15 27.6**	**-1.1**
	614nm,0.7s,6μm2.5nm						
KLI	**Kotabumi**	**7.91**	**119**	P	Pn	04 15 43.3	+6.5
KASI	**Kota Agung**	**7.95**	**125**	P	**Pn**	**04 15 34.8**	**-2.6**
KTGM	**Kuala Trenggan**	**8.11**	**40**	P	**Pn**	**04 15 39.2**	**-0.4**
PPBI	**Pangkal Pinang**	**8.27**	**98**	P	**Pn**	**04 15 41.3**	**-0.4**
SKLT	**Songkhla**	**8.51**	**18**	P	**Pn**	**04 15 43.9**	**-1.1**
	100nm,1.0s,1μm						
TPI	**Tanjungpandan**	**9.86**	**101**	P	**Pn**	**04 16 03.5**	**-0.1**
	84nm,1.3s,668nm						
LEM	**Lembang**	**11.26**	**121**	P	Pn	04 16 34.4	+11
CISI	**Cisompet, Garu**	**11.81**	**124**	P	**Pn**	**04 16 32.2**	**+1.8**
	129nm,0.5s,2μm						
CISI	**Cisompet, Garu**	**11.81**	**124**	P	**Pn**	**04 16 28.7**	**-1.7**
	baz=12,SNR=5.6						
CISI				S	Sn	04 18 30.6	-11
	baz=12,SNR=3.6						
KSM	**Kuching**	**12.59**	**79**	*e*Pn	**Pn**	**04 16 42.0**	**+1.1**
KSM	**Kuching**	**12.59**	**79**	P	**Pn**	**04 16 41.7**	**+0.7**
KSM	**Kuching**	**12.59**	**79**	P	**Pn**	**04 16 42.1**	**+1.1**
KSM	**Kuching**	**12.59**	**79**	P	**Pn**	**04 16 42.1**	**+1.1**
	baz=12,SNR=6.2						
SBUM	**Sibu**	**14.66**	**77**	*e*Pn	**Pn**	**04 17 09.5**	**+0.2**
SBUM	**Sibu**	**14.66**	**77**	P	**Pn**	**04 17 10.1**	**+0.8**
BTM	**Bintulu**	**15.68**	**75**	P	**Pn**	**04 17 23.1**	**+0.4**
PALK	**Pallekele**	**19.05**	**296**	*e*P	**Pn**	**04 18 04.4**	**-0.3**
	50nm,1.1s						
CM31	**Chiang Mai Arr**	**19.32**	**3**	*e*P	**P**	**04 18 06.9**	**+0.3**
	9.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.32**	**3**	P	**P**	**04 18 06.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.32**	**3**	P	**P**	**04 18 06.2**	**-0.4**
	1.4nm,0.3s,baz=194,slow=10,SNR=68						
KKM	**Kota Kinabalu**	**19.52**	**69**	*e*P	**P**	**04 18 08.6**	**-0.3**
	110nm,0.9s						
KKM	**Kota Kinabalu**	**19.52**	**69**	P	**P**	**04 18 08.7**	**-0.1**
KKM	**Kota Kinabalu**	**19.52**	**69**	P	**P**	**04 18 08.6**	**-0.3**
	baz=20,SNR=18						
CHTO	**Chiang Mai**	**19.68**	**3**	*e*P	**P**	**04 18 09.8**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,21nm,0.8s						
CHTO	**Chiang Mai**	**19.68**	**3**	*e*P	**P**	**04 18 09.8**	**-0.7**
	comp=Z,21nm,0.8s						
KDM	**Kudat**	**20.40**	**67**	P	**P**	**04 18 18.1**	**-0.3**
TSM	**Tawau**	**20.58**	**75**	P	**P**	**04 18 19.3**	**-1.0**
KAPI	**Kappang**	**22.14**	**101**	*e*P	**P**	**04 18 36.4**	**-0.7**
KAPI	**Kappang**	**22.14**	**101**	P	**P**	**04 18 36.4**	**-0.7**
	comp=Z,26nm,0.9s,baz=299,slow=6.6,SNR=7.3						
QIZ	**Qiongzhong**	**23.05**	**30**	P	**P**	**04 18 46.0**	**-0.7**
QIZ				S	**S**	**04 22 56.5**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,20nm,1.3s						
QIZ	

comp=N,740nm,12.0s
CD2 LR LR
comp=E,880nm,12.0s
CD2 LR LR
comp=Z,810nm,9.5s
PYUN Piuthan 32.27 335 *eP* **P 04 20 10.5 +0.5**
TPUB Ta-pu 32.69 41 *eP* **P 04 20 12.4 -1.1**
comp=Z,49nm,0.9s
ENH Enshi 32.95 19 *eP* **P 04 20 15.1 -0.6**
comp=Z,49nm,0.8s
YULB Yu-li 33.19 42 *eP* **P 04 20 17.8 -0.1**
comp=Z,22nm,0.8s
SSLB Suanglung 33.24 41 *eP* **P 04 20 18.1 -0.2**
comp=Z,53nm,0.9s
KNRA Kununurra 33.73 117 P **P 04 20 20.6 -2.0**
baz=34,SNR=4.1
NACB Ninganchiao 33.93 41 *eP* **P 04 20 24.6 +0.4**
comp=Z,53nm,1.0s
YHNB Yeheng 34.13 40 *eP* **P 04 20 25.8 -0.4**
comp=Z,18nm,0.7s
TATO Taipei 34.42 40 *eP* **P 04 20 28.7 +0.2**
comp=Z,57nm,0.7s
WHN Wuhan 35.01 25 ⇑P **P 04 20 34.0 +0.5**
WHN S **S 04 26 04.5 +1.1**
WHN LR LR
comp=N,850nm,12.6s
WHN LR LR
comp=E,610nm,13.7s
WHN LR LR
comp=Z,1μm,11.4s
XAN Xi'an 36.31 15 P **P 04 20 44.5 -0.2**
XAN pP **pP 04 20 55.0 +0.2**
XAN sP **sP 04 21 00.0 +1.0**
XAN S **S 04 26 23.5 +0.1**
XAN pmax pmax
comp=Z,26nm,0.9s
XAN LR LR
comp=N,220nm,11.0s
XAN LR LR
comp=E,100nm,12.5s
XAN LR LR
comp=Z,120nm,14.0s
NWAO Narrogin (SRO) 36.60 152 P **P 04 20 47.0 -0.2**
NWAO Narrogin (SRO) 36.60 152 P **P 04 20 47.0 -0.2**
comp=Z,11nm,0.8s,baz=305,slow=8.5,SNR=2.9
LZH Lanzhou 37.27 8 *eP* **P 04 20 53.8 +0.8**
LZH pP **pP 04 21 03.3 +0.2**
LZH sP **sP 04 21 08.5 +1.2**
LZH PP **PnPn 04 22 21.0 +1.9**
LZH PcP **PcP 04 23 12.0 -0.2**
LZH *eS* **S 04 26 38.3 +0.1**
LZH sS **sS 04 26 53.3 -1.6**
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.6s
LZH LR LR
comp=N,190nm,11.6s
LZH LR LR
comp=E,490nm,11.8s
LZH LR LR
comp=Z,700nm,14.1s
JOW Kunigami 40.21 44 *eP* **P 04 21 17.2 -0.4**
comp=Z,11nm,0.7s
GTA Gaotai 40.22 2 *eP* **P 04 21 17.5 -0.1**
GTA pP **pP 04 21 26.5 -1.3**
GTA sP **sP 04 21 31.5 -0.5**
GTA PP **PnPn 04 22 55.8 +1.4**
GTA PcP **PcP 04 23 22.0 +0.7**
GTA S **S 04 27 22.8 +0.3**
GTA sS **sS 04 27 39.0 -0.3**
GTA SS **SS 04 30 16.5 -5.1**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=N,250nm,11.4s
GTA LR LR
comp=E,350nm,17.5s
GTA LR LR
comp=Z,270nm,12.3s
WRA Warramunga Arr 40.28 120 P **P 04 21 17.5 -0.9**
WRA Warramunga Arr 40.28 120 P **P 04 21 17.5 -0.9**
comp=Z,27nm,0.8s,baz=300,slow=8.9,SNR=156
WRAB Tennant Creek 40.29 120 *eP* **P 04 21 17.3 -1.1**
WRAB pmax pmax
comp=Z,30nm,0.8s
WRAB Tennant Creek 40.29 120 *eP* **P 04 21 17.3 -1.1**
comp=Z,30nm,0.8s
FORT Forrest 41.16 139 *eP* **P 04 21 25.5 +0.1**
comp=Z,32nm,0.8s
AS31 Alice Springs 41.52 126 *eP* **P 04 21 28.3 -0.3**
ASAR Alice Springs 41.52 126 P **P 04 21 28.4 -0.1**
ASAR Alice Springs 41.52 126 P **P 04 21 28.4 -0.1**
comp=Z,5.2nm,0.6s,baz=294,slow=8.1,SNR=72
BTO Baotou 42.81 14 *eP* **P 04 21 38.5 -0.4**
HHC Hu-ho-hao-te 43.42 15 *eP* **P 04 21 45.3 +1.5**
HHC pP **pP 04 21 55.3 +1.3**
HHC sP **sP 04 21 59.0 +0.8**
HHC PP **PcP 04 23 29.3 -2.5**
HHC S **S 04 28 12.0 +2.1**
HHC sS **sS 04 28 29.0 +2.3**
HHC SS **SS 04 31 19.5 -5.3**
HHC pmax pmax
comp=Z,69nm,1.1s
HHC pmax pmax
comp=Z,380nm,5.0s
HHC LR LR
comp=N,880nm,16.0s
HHC LR LR
comp=E,1μm,15.3s
HHC LR LR
comp=Z,690nm,12.3s
BJI Beijing 44.08 20 P **P 04 21 49.5 +0.6**
BJI S **S 04 28 22.5 +3.3**
BJI pmax pmax
comp=Z,47nm,0.9s
BJI pmax pmax
comp=Z,120nm,3.6s
BJI LR LR
comp=N,280nm,12.8s
BJI LR LR
comp=E,280nm,15.5s
BJI LR LR
comp=Z,71nm,18.1s
KSH Kashi 45.04 336 P **P 04 21 55.5 -1.3**
KSH sP **sP 04 22 09.5 -1.7**
KSH PP **PP 04 23 41.5 -1.0**
KSH S S 04 28 28.5 -5.0
KSH pmax pmax
comp=Z,4.0nm,0.2s
KSH pmax pmax
comp=Z,31nm,3.8s
KSH LR LR
comp=N,86nm,5.0s
KSH LR LR
comp=E,76nm,5.4s
KSH LR LR
comp=Z,87nm,4.3s
WMQ Urumqi 45.52 350⇓ *iP* **P 04 22 01.8 +1.3**
WMQ sP **sP 04 22 16.8 +1.9**
WMQ PP **PP 04 23 47.3 -0.2**
WMQ pmax pmax
comp=Z,57nm,0.9s
WMQ LR LR
comp=N,68nm,20.0s
WMQ LR LR
comp=Z,76nm,20.0s
JNU Nakatsue 45.96 39 *eP* **P 04 22 03.7 -0.4**
comp=Z,14nm,1.1s
JNU Nakatsue 45.96 39 LR LR 04 43 29.1
comp=Z,118nm,18.3s,baz=345,slow=39
KSAR Wonju Array Be 47.19 33 P **P 04 22 13.3 -0.3**
KSRS Korea Array 47.22 33 P **P 04 22 13.3 -0.5**
comp=Z,14nm,0.7s,baz=224,slow=8.1,SNR=21
KSRS LR LR 04 42 50.8
comp=Z,97nm,18.1s,baz=71,slow=37
TKM2 Tokmak 2 48.09 338 *eP* **P 04 22 20.9 +0.1**
TKM2 pmax pmax
comp=Z,16nm,1.0s
TKM2 Tokmak 2 48.09 338 *eP* **P 04 22 20.9 +0.1**
comp=Z,16nm,1.0s
AAK Ala-Archa 48.27 337 *eP* **P 04 22 22.2 +0.1**
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 48.27 337 *eP* **P 04 22 22.2 +0.1**
comp=Z,12nm,1.3s
EKS2 Erkin-Say 48.58 336 *eP* **P 04 22 25.3 +0.8**
EKS2 pmax pmax
comp=Z,13nm,0.9s
EKS2 Erkin-Say 48.58 336 *eP* **P 04 22 25.2 +0.8**
comp=Z,13nm,0.9s
MTSU Mount Surprise 48.60 113 P **P 04 22 24.8 -0.2**
baz=49,SNR=9.0
SONM Songino Array 49.16 8 P **P 04 22 29.4 +0.6**
SONM Songino Array 49.16 8 P **P 04 22 29.4 +0.6**
comp=Z,20nm,0.8s,baz=191,slow=8.9,SNR=105
ULN Ulaanbaatar 49.27 8 *eP* **P 04 22 30.0 +0.3**
comp=Z,50nm,0.8s
MK31 Makanchi Array 49.51 346 *iP* **P 04 22 31.4 0.0**
MK31 pmax pmax
comp=Z,23nm,0.7s
MK31 Makanchi Array 49.51 346 *eP* **P 04 22 31.3 -0.1**
MKAR Makanchi Array 49.51 346 P **P 04 22 31.5 +0.1**
MKAR Makanchi Array 49.51 346 P **P 04 22 31.5 +0.1**
MKAR Makanchi Array 49.51 346 P **P 04 22 31.5 +0.1**
comp=Z,24nm,0.6s,baz=153,slow=8.2,SNR=241
KK31 Karatay Array 50.32 334 *iP* **P 04 22 37.1 -0.5**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 50.32 334 *eP* **P 04 22 37.2 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 50.32 334 *eP* **P 04 22 37.2 -0.4**
comp=Z,4.1nm,0.8s
CTAO Charters Tower 50.89 115 *eP* **P 04 22 42.2 -0.1**
CTAO pmax pmax
comp=Z,21nm,0.8s
CTAO Charters Tower 50.89 115 *eP* **P 04 22 42.2 -0.1**
comp=Z,21nm,0.8s
CN2 Changchun 50.90 26 *eP* **P 04 22 41.0 -0.9**
CN2 *eS* **S 04 29 54.5 -1.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=N,250nm,16.0s
CN2 LR LR
comp=E,260nm,16.0s
CN2 LR LR
comp=Z,250nm,16.0s
ZAK Zakamensk 51.35 4 *eP* **P 04 22 45.5 +0.2**
ZAK *e* 04 22 52.1
ZAK pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 51.37 131 *eP* **P 04 22 45.8 +0.1**
comp=Z,5.6nm,1.2s
STKA Stephens Creek 51.37 131 P **P 04 22 45.9 +0.3**
comp=Z,8.2nm,0.8s,baz=305,slow=5.0,SNR=9.5
STKA Stephens Creek 51.37 131 P **P 04 22 46.5 +0.9**
baz=51,SNR=7.3
IBAF Bafgh 51.57 313 *eP* **P 04 22 47.1 -0.3**
IPAY Payeh 51.90 320 *eP* **P 04 22 49.7 -0.2**
HVS Khovu-Aksy 52.03 357 *dP* **P 04 22 50.1 -0.3**
HVS pmax pmax
comp=Z,63nm,1.2s
IAKL Akhelmad 52.15 320 *eP* P 04 22 56.7 +4.9
IMEH Mehriz 52.17 312 *eP* P 04 22 49.0 -3.0
IKRD Kardeh 52.41 320 *eP* P 04 22 47.7 -5.9
TLY Talaya 52.67 4 *eP* **P 04 22 56.1 +1.1**
TLY *eS* S 04 30 11.1 -9.2
TLY pmax pmax
comp=Z,17nm,0.9s
TLY MLR MLR
comp=Z,207nm,13.0s
ICHK Chekchek 52.75 313 *eP* **P 04 22 56.4 +0.1**
OPO Ambohidratompo 52.76 247 P **P 04 22 56.0 -0.5**
OPO Ambohidratompo 52.76 247 P **P 04 22 56.0 -0.5**
comp=Z,7.4nm,0.9s,baz=83,slow=9.9,SNR=6.5
ISAD Sadrabad 53.12 312 *eP* P 04 23 06.0 +6.9
MDJ Mudanjiang 53.40 28 P **P 04 23 01.3 +0.8**
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,110nm,5.7s
MDJ LR LR
comp=N,150nm,24.3s
MDJ LR LR
comp=E,220nm,20.8s
MDJ LR LR
comp=Z,430nm,16.2s
USRK Ussuriysk Arra 54.25 30 P **P 04 23 06.7 0.0**
comp=Z,22nm,0.8s,baz=228,slow=6.4,SNR=30
USRK LR LR 04 50 04.0
comp=Z,149nm,19.7s,baz=343,slow=40
CMSA Cobar Meteorol 54.35 129 P **P 04 23 08.7 +1.0**
baz=54,SNR=11
RMQ Roma 54.99 122 P **P 04 23 13.7 +1.2**
baz=55,SNR=4.3
ZAA0 Zalesovo Array 55.80 351 *eP* **P 04 23 17.5 -0.2**
ZALV Zalesovo Beam 55.80 351 *iP* **P 04 23 17.6 -0.1**
ZALV pmax pmax
comp=Z,31nm,0.7s
ZALV Zalesovo Beam 55.80 351 P **P 04 23 17.6 -0.1**
ZALV Zalesovo Beam 55.80 351 P **P 04 23 17.6 -0.1**
comp=Z,31nm,0.7s,baz=178,slow=6.0,SNR=110
ZALV LR LR 04 47 48.9
comp=Z,67nm,20.6s,baz=255,slow=37
EIDS Eidsvold 56.64 120 *eP* **P 04 23 24.5 +0.1**
comp=Z,12nm,1.1s
EIDS Eidsvold 56.64 120 P **P 04 23 25.0 +0.6**
baz=57,SNR=4.3
NVS Novosibirsk 56.92 350⇑ *iP* **P 04 23 24.0 -1.7**
NVS *e* 04 23 31.0
NVS pmax pmax
comp=Z,26nm,1.1s
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=E,18nm,1.2s
KLR Kul'dur 57.85 26 *eP* P 04 23 29.4 -3.0
KLR pmax pmax
comp=Z,38nm,1.4s
VOSK Vostochnaya 58.08 341 P **P 04 23 32.5 -1.4**
VOSK pmax pmax
comp=Z,14nm,0.8s
BVA0 Borovoye Array 58.53 341 *iP* **P 04 23 35.6 -1.4**
BVA0 pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 58.59 341 *cePP* **P 04 23 36.1 -1.4**
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 58.59 341 *eP* **P 04 23 36.2 -1.3**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 58.59 341 *eP* **P 04 23 36.2 -1.3**
comp=Z,15nm,1.0s
AB31 Akbulak array 59.76 332 *iP* **P 04 23 44.3 -1.4**
AB31 pmax pmax
comp=Z,11nm,0.7s
ABKAR Akbulak array 59.76 332 *eP* **P 04 23 44.1 -1.5**
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 60.69 269 *eP* **P 04 23 53.4 +0.4**
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 60.69 269 P **P 04 23 53.9 +0.9**
comp=Z,1.2nm,0.4s,baz=44,slow=11,SNR=4.8
AKTO Aktyubinsk 61.48 332 P **P 04 23 55.4 -2.0**
AKTO pmax pmax
comp=Z,11nm,1.2s
DGRG David-gareji 63.53 318 P **P 04 24 14.1 +2.8**
TBLG Delisi 64.08 318 P **P 04 24 15.4 +0.5**
TBLG Delisi 64.08 318 P **P 04 24 15.4 +0.5**
KZR Kazreti 64.14 318 P P 04 24 26.3 +11
GUDG Gudauri 64.59 319 P P 04 24 10.0 -8.5
AKH Akhalkalaki 64.78 317 P P 04 24 28.3 +8.7
SVE Sverdlovsk 64.96 338 *eP* **P 04 24 19.6 -0.7**
SVE pmax pmax
comp=Z,22nm,1.1s
ZEI Tsey 65.11 319 *eP* **P 04 24 21.3 -0.6**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
ONI Oni 65.32 319 P P 04 24 19.7 -3.4
ARU Arti 65.45 337 *dP* **P 04 24 22.7 -0.8**
ARU 04 26 43.6
ARU S **S 04 33 07.1 +1.4**
ARU pmax pmax
comp=Z,14nm,1.2s
KBZ Khabaz 66.19 319 P **P 04 24 28.6 +0.1**
KBZ Khabaz 66.19 319 P **P 04 24 28.6 +0.1**
KBZ Khabaz 66.19 319 P **P 04 24 28.6 +0.1**
comp=Z,6.0nm,0.8s,baz=139,slow=5.9,SNR=16
KIV Kislovodsk 66.43 320⇓ *eP* **P 04 24 29.9 -0.3**
KIV *i* 04 24 37.6
KIV *e* 04 25 05.2
KIV pmax pmax
comp=Z,18nm,1.7s
EIL Elat 67.24 303 P **P 04 24 36.0 +0.4**
EIL Elat 67.24 303 P **P 04 24 36.0 +0.4**
comp=Z,2.6nm,0.7s,baz=60,slow=11,SNR=3.7
EIL LR LR 04 55 55.3
comp=Z,110nm,18.1s,baz=62,slow=38
YAK Yakutsk 67.28 16 *eP* **P 04 24 32.8 -2.3**
YAK pmax pmax
comp=Z,64nm,1.0s
YAK pmax pmax
comp=N,22nm,1.4s
YAK pmax pmax
comp=E,17nm,1.1s
SOKR Solikamsk 68.36 339 *cP* **P 04 24 41.7 -0.2**
SOKR pmax pmax
comp=Z,20nm,1.2s
LSZ Lusaka 70.24 254 *eP* **P 04 24 53.9 -0.7**
comp=Z,9.4nm,1.4s
VRHR Novokhopersk 70.33 326 *eP* **P 04 24 52.8 -1.5**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.3s
MAW Mawson 70.79 193 P **P 04 24 58.1 +1.3**
MAW Mawson 70.79 193 P **P 04 24 58.1 +1.3**
comp=E,4.7nm,0.4s,baz=56,slow=3.6,SNR=3.5
BR131 Keskin Array S 71.12 313 *eP* **P 04 24 57.7 -1.9**
comp=E,2.0nm,0.8s
BRTR Keskin Array B 71.12 313 P **P 04 24 58.6 -1.0**
BRTR Keskin Array B 71.12 313 P **P 04 24 58.6 -1.0**
comp=E,1.5nm,0.7s,baz=132,slow=6.4,SNR=9.6
VORD Divnogorie 71.58 325 *eP* **P 04 25 00.3 -1.6**
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,1.0s
VSR Storozhevoye 71.77 326 *eP* **P 04 25 01.3 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,9.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.5s
LBTB Lobatse 73.62 244 *eP* **P 04 25 14.4 -0.3**
comp=E,4.6nm,0.9s
BOSA Boshof 74.37 241 P **P 04 25 21.9 +2.8**
BOSA Boshof 74.37 241 P **P 04 25 21.9 +2.8**
comp=E,2.4nm,0.8s,baz=55,slow=7.0,SNR=3.3
BOSA LR LR 04 51 45.8
comp=E,80nm,18.8s,baz=260,slow=31
OBN Obninsk 74.84 328⇓ *eP* **P 04 25 20.5 -0.5**
OBN *e*PP* **pP 04 25 30.3 -1.6**
OBN *e*SP* **sP 04 25 34.6 -1.3**
OBN pmax pmax
comp=Z,7.0nm,0.4s
TIXI Tiksi 75.17 10 *cePP* **P 04 25 21.8 -0.8**
TIXI pmax pmax
comp=Z,46nm,1.2s
TIXI MLR MLR
comp=Z,460nm,24.0s
SEY Seymchan 75.45 23⇓ *eP* **P 04 25 24.6 +0.2**
AKASG Malin Array Be 77.42 323 P **P 04 25 34.3 -1.5**
AKASG Malin Array Be 77.42 323 P **P 04 25 34.3 -1.5**
AKASG Malin Array Be 77.42 323 P **P 04 25 34.3 -1.5**
comp=Z,2.4nm,0.7s,baz=87,slow=5.3,SNR=4.5
KIEV Kiev 77.43 323 *eP* **P 04 25 34.2 -1.7**
KIEV pmax pmax
comp=Z,12nm,1.3s
KIEV Kiev 77.43 323 *eP* **P 04 25 34.2 -1.7**
comp=Z,12nm,1.3s
VRI Vrincioaia 77.71 317 ⇑P **P 04 25 37.7 +0.1**
VRI Vrincioaia 77.71 317 ⇑ *iP* **P 04 25 37.7 +0.1**
PLOR Plostina 77.75 317 ⇓P **P 04 25 37.4 -0.5**
PLOR Plostina 77.75 317 ⇓ *iP* **P 04 25 37.4 -0.5**
TESR Tescani 77.92 318 ⇓ *iP* **P 04 25 37.6 -1.1**
MLR Muntele Rosu 78.15 317 ⇓ *iP* **P 04 25 40.3 +0.1**
TMCR Tamitsa 78.19 337 *eP* **P 04 25 39.7 -0.1**
TMCR *e* 04 25 48.0
TMCR pmax pmax
comp=Z,24nm,1.2s
SYO Syowa Base 78.20 198⇑ *eP* **P 04 25 40.0 +0.2**
VOIR 78.75 317 ⇓P **P 04 25 42.5 -0.9**
VOIR 78.75 317 ⇓ *iP* **P 04 25 42.5 -0.9**
ARR Arges 79.02 317 ⇓ *iP* **P 04 25 43.3 -1.6**
BURAR Bucovina Array 79.14 319 ⇑P **P 04 25 45.9 +0.4**
BURAR Bucovina Array 79.14 319 ⇑ *iP* **P 04 25 45.9 +0.4**
BUR08 Bucovina Ar. S 79.15 319 *eP* **P 04 25 46.1 +0.4**
VTS Vitosha 79.45 314 ⇓P P 04 25 40.1 -7.4
VTS Vitosha 79.45 314 ⇓ *iP* P 04 25 40.0 -7.4
DRGR 80.62 318 ⇑P **P 04 25 53.6 0.0**
DRGR 80.62 318 ⇑ *iP* **P 04 25 53.6 0.0**
KWP Kalwaria Pacla 81.20 320 ⇑P **P 04 25 56.3 -0.2**
KWP Kalwaria Pacla 81.20 320 ⇑ *iP* **P 04 25 56.3 -0.2**
KOLS Kolonicke sedl 81.34 320 *eP* **P 04 25 57.6 +0.3**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 81.34 320 *eP* **P 04 25 57.6 +0.3**
CRVS Cervenica-Dubn 81.86 320 *eP* **P 04 26 03.0 +3.0**
CRVS pmax pmax
comp=Z,9.0nm,1.7s
CRVS Cervenica-Dubn 81.86 320 *eP* **P 04 26 03.0 +3.0**
FINES FINESS Array B 82.25 333 P **P 04 26 01.1 -0.7**
FINES FINESS Array B 82.25 333 P **P 04 26 01.1 -0.7**
comp=Z,5.2nm,1.0s,baz=130,slow=7.7,SNR=7.4
KECS Kecovo 82.42 319 *eP* **P 04 26 05.6 +2.6**
KECS Kecovo 82.42 319 *eP* **P 04 26 05.6 +2.6**
PSZ Piszkesteto 82.71 318 *eP* **P 04 26 04.0 -0.6**
PSZ pmax pmax
comp=Z,3.0nm,0.8s
PSZ Piszkesteto 82.71 318 *eP* **P 04 26 04.0 -0.6**
comp=Z,3.3nm,0.8s
VYHS Vyhne 83.50 319 *eP* **P 04 26 09.3 +0.7**
VYHS Vyhne 83.50 319 *eP* **P 04 26 09.3 +0.7**
VNDA Vanda 83.57 169 *eP* **P 04 26 08.6 +0.3**
comp=Z,2.3nm,0.9s
VNDA Vanda 83.57 169 P **P 04 26 09.1 +0.8**
comp=Z,2.2nm,0.8s,baz=292,slow=8.2,SNR=7.7
RAO Raoul Island 84.41 119 LR LR 05 01 30.3
comp=Z,128nm,21.3s,baz=90,slow=34
ARCES ARCESS Array B 84.81 340 P **P 04 26 14.9 +0.1**
ARCES ARCESS Array B 84.81 340 P **P 04 26 14.9 +0.1**
comp=Z,2.4nm,0.8s,baz=108,slow=4.0,SNR=6.3
ARCES LR LR 05 11 08.1
comp=Z,55nm,19.3s,baz=88,slow=41
DPC Dobruska-Polom 85.39 321 *eP* P 04 26 27.4 +9.3
DPC Dobruska-Polom 85.39 321 *epP* P 04 26 27.4 +9.3
AQU L'Aquila 86.61 312 *eP* **P 04 26 23.6 -0.8**
comp=Z,18nm,0.9s
GERES GERESS Array B 86.92 319 P **P 04 26 25.1 -0.7**
GERES GERESS Array B 86.92 319 P **P 04 26 25.1 -0.7**
comp=Z,0.6nm,0.7s,baz=116,slow=3.1,SNR=7.5
CLL Collm 87.58 321 *eP* **P 04 26 28.0 -0.8**
CLL Collm 87.58 321 *eP* **P 04 26 28.0 -0.8**
NOA NORSAR Array B 89.25 331 LR LR 05 11 10.9
comp=Z,60nm,19.4s,baz=50,slow=39
KEST Kesra 89.42 306 *eP* **P 04 26 38.5 +0.6**
KEST Kesra 89.42 306 P **P 04 26 39.6 +1.6**
comp=Z,0.9nm,0.8s,baz=185,slow=8.3,SNR=3.5
PGF Pioggiola 89.87 312 *eP* **P 04 26 40.7 +0.8**
comp=Z,48nm,1.2s
PGF Pioggiola 89.87 312 *eP* **P 04 26 40.7 +0.8**
PGF pmax pmax
comp=Z,48nm,1.2s
PGF Pioggiola 89.87 312 *eP* **P 04 26 40.7 +0.8**
comp=Z,48nm,1.2s
SBF Sospel 91.03 314 *eP* **P 04 26 45.6 +0.3**
comp=Z,55nm,1.1s
SBF Sospel 91.03 314 *eP* **P 04 26 45.6 +0.3**
SBF pmax pmax
comp=Z,55nm,1.1s
SBF Sospel 91.03 314 *eP* **P 04 26 45.6 +0.3**
comp=Z,55nm,1.1s
MBDF Montbardon 91.51 315 *eP* **P 04 26 48.0 +0.4**
MBDF Montbardon 91.51 315 *eP* **P 04 26 48.0 +0.4**
MBDF Montbardon 91.51 315 *eP* **P 04 26 48.0 +0.4**
LPG La Plagne 91.52 315 *eP* **P 04 26 47.5 -0.3**
comp=Z,11nm,0.9s

LPG	La Plagne	91.52	315	*eP*		P	04 26 47.5	-0.3
LPG				pmax	pmax			
comp=Z,11nm,0.9s								
LPG	La Plagne	91.52	315	*eP*		P	04 26 47.5	-0.3
comp=Z,11nm,0.9s								
LPL	La Plagne	91.54	315	*eP*		P	04 26 47.5	-0.3
comp=Z,19nm,1.1s								
LPL	La Plagne	91.54	315	*eP*		P	04 26 47.5	-0.3
LPL				pmax	pmax			
comp=Z,19nm,1.1s								
LPL	La Plagne	91.54	315	*eP*		P	04 26 47.5	-0.3
comp=Z,19nm,1.1s								
BNI	Bardonecchia	91.58	315	*eP*		P	04 26 48.1	+0.2
BNI				pmax	pmax			
comp=Z,10.0nm,1.2s								
BNI	Bardonecchia	91.58	315	*eP*		P	04 26 48.1	+0.2
comp=Z,10.0nm,1.2s								
WLF	Walferdange	91.90	319	*eP*		P	04 26 48.1	-0.9
WLF				pmax	pmax			
comp=Z,8.0nm,0.9s								
WLF	Walferdange	91.90	319	*eP*		P	04 26 48.1	-0.9
comp=Z,8.4nm,0.9s								
CABF	La Chapelle	91.98	316	*eP*		P	04 26 51.0	+1.4
comp=Z,38nm,1.2s								
CABF	La Chapelle	91.98	316	*eP*		P	04 26 51.0	+1.4
CABF				pmax	pmax			
comp=Z,38nm,1.2s								
CABF	La Chapelle	91.98	316	*eP*		P	04 26 51.0	+1.4
comp=Z,38nm,1.2s								
ORIF	Oris-en-Rattie	92.14	315	*eP*		P	04 26 51.1	+0.7
comp=Z,26nm,1.4s								
ORIF	Oris-en-Rattie	92.14	315	*eP*		P	04 26 51.1	+0.7
ORIF				pmax	pmax			
comp=Z,26nm,1.4s								
ORIF	Oris-en-Rattie	92.14	315	*eP*		P	04 26 51.1	+0.7
comp=Z,26nm,1.4s								
TAM	Tamanrasset	92.61	293	*eP*		P	04 26 53.6	+0.5
TAM				pmax	pmax			
comp=Z,6.0nm,1.3s								
TAM	Tamanrasset	92.61	293	*eP*		P	04 26 53.6	+0.5
comp=Z,5.6nm,1.3s								
LOR	Lormes	93.49	317	*eP*		P	04 26 57.2	+0.7
LOR	Lormes	93.49	317	*eP*		P	04 26 57.2	+0.7
IM04	Indian Mountai	98.25	23	*eP*		P	04 27 17.2	-0.5
ILAR	Eielson Array	101.38	23	PP		PP	04 31 35.5	-5.6
ILAR	Eielson Array	101.38	23	PP		PP	04 31 35.5	-5.6
comp=Z,0.3nm,0.9s,baz=302,slow=7.5,SNR=4.9								
NEW	Newport	124.00	28	*e*PKPdf		PKPdf	04 32 40.1	+1.0
WVOR	Wild Horse Val	127.27	34	*e*PKIKP		PKPdf	04 32 46.0	+0.4
WVOR	Wild Horse Val	127.27	34	*e*PKPdf		PKPdf	04 32 46.0	+0.4
BOZ	Bozeman (W)	128.45	26	*e*PKIKP		PKPdf	04 32 48.5	+0.6
BOZ	Bozeman (W)	128.45	26	*e*PKPdf		PKPdf	04 32 48.5	+0.6
HLID	Hailey	128.71	30	*e*PKPdf		PKPdf	04 32 48.5	+0.1
ULM	Lac du Bonnet	129.50	11	PKP		PKPdf	04 32 48.3	-1.2
ULM				*e*PKPdf		PKiKP	04 32 48.7	-1.5
ULM	Lac du Bonnet	129.50	11	PKP		PKPdf	04 32 48.3	-1.2
comp=Z,4.1nm,0.9s,baz=23,slow=4.7,SNR=3.5								
NVAR	Mina Array Bea	130.06	37	PKP		PKPdf	04 32 52.7	+1.4
NVAR	Mina Array Bea	130.06	37	PKP		PKPdf	04 32 52.7	+1.4
comp=Z,0.7nm,0.7s,baz=239,slow=2.7,SNR=5.0								
BW06	Boulder Array	131.63	27	*e*PKPdf		PKPdf	04 32 54.4	+0.3
PDAR	Pinedale Array	131.63	27	PKP		PKPdf	04 32 54.4	+0.3
PDAR	Pinedale Array	131.63	27	PKP		PKPdf	04 32 54.4	+0.3
comp=Z,0.3nm,0.8s,baz=43,slow=1.7,SNR=3.6								
DUG	Dugway	131.98	32	*e*PKIKP		PKPdf	04 32 55.2	+0.5
DUG	Dugway	131.98	32	*e*PKPdf		PKPdf	04 32 55.2	+0.5
SDCO	Great Sand Dun	137.50	28	*e*PKPdf		PKPdf	04 33 05.5	+0.2
KSCO	Kaye Shedlock'	137.71	24	*e*PKPdf		PKPdf	04 33 05.2	-0.2
ANMO	Albuquerque	139.24	31	*e*PKPdf		PKPdf	04 33 09.0	+0.6
MNTX	Cornudas Mount	142.31	34	*e*PKPdf		PKPdf	04 33 13.9	+0.1
WMOK	Wichita Mounta	142.94	23	*e*PKIKP		PKPdf	04 33 10.3	-4.6
WMOK	Wichita Mounta	142.94	23	*e*PKPdf		PKPdf	04 33 10.2	-4.6
CPUP	Villa Florida	143.87	220	*e*PKPdf		PKPbc	04 33 14.6	+0.2
CPUP				PKP		PKPab	04 33 14.9	+1.1
CPUP	Villa Florida	143.87	220	PKP		PKPbc	04 33 14.9	+0.5
comp=Z,5.9nm,0.9s,baz=106,slow=2.8,SNR=18								
ABTX	Abilene, Hawle	144.41	26	*e*PKPdf		PKPab	04 33 15.4	-0.2
TZTN	Tazewell	144.57	2	*e*PKPdf		PKPab	04 33 15.4	-0.7
WVT	Waverly	144.60	8	*e*PKIKP		PKPab	04 33 15.4	-0.8
WVT	Waverly	144.60	8	*e*PKPdf		PKPab	04 33 15.4	-0.8
MIAR	Mount Ida	144.90	17	*e*PKIKP		PKPab	04 33 17.2	-0.1
MIAR	Mount Ida	144.90	17	*e*PKPdf		PKPab	04 33 17.2	-0.1
UALR	University of	145.01	15	*e*PKPdf		PKPab	04 33 17.4	-0.4
TXAR	Lajitas Array	145.06	34	PKPbc		PKPdf	04 33 18.7	-0.1
TXAR	Lajitas Array	145.06	34	PKPbc		PKPdf	04 33 18.7	-0.1
comp=Z,12nm,0.7s,baz=255,slow=1.3,SNR=151								
TKL	Tuckaleechee C	145.44	2	*e*PKPbc		PKPbc	04 33 18.1	-1.0
CPCT	Cooper Cave	145.61	4	*e*PKPbc		PKPdf	04 33 18.5	-1.0
OXF	Oxford	145.92	11	*e*PKP2		PKPdf	04 33 20.1	+0.1
OXF	Oxford	145.92	11	*e*PKPbc		PKPdf	04 33 20.1	+0.1
KMSC	Kings Mountain	145.99	359	*e*PKPbc		PKPdf	04 33 19.9	-0.2
JCT	Junction City	146.15	28	*e*PKP2		PKPbc	04 33 21.2	-0.4
JCT	Junction City	146.15	28	*e*PKPbc		PKPbc	04 33 21.2	-0.4
NATX	Nacogdoches	147.13	20	*e*PKPbc		PKPab	04 33 23.8	-0.5
HKT	Hockley	148.33	23	*e*PKP2		PKPbc	04 33 28.0	+0.5
HKT	Hockley	148.33	23	*e*PKPbc		PKPbc	04 33 28.0	+0.5
LVC	Limon Verde	153.30	208	*e*PKPbc		PKPbc	04 33 40.7	+0.8
LPAZ	La Paz	158.03	218	*e*PKPdf		PKPdf	04 33 39.7	+0.4
LPAZ				*e*PKPab		PKPab	04 34 12.8	+0.3
LPAZ	La Paz	158.03	218	PKPab		PKPab	04 34 13.3	+0.8
SAML	Samuel	158.78	242	*e*PKPdf		PKPdf	04 33 38.1	-1.4

ISCJB ***29*** *04:35:02.8±0.6,27°.44N±0°.06×140°.4E±0°.2,h450km, mb3.5/8, Error ellipse: s-maj=19.3km s-min=7.6km az=171.3*
IDC ***29*** *04:35:03.6±1.5,27°.34N×139°.92E,h432km±16km,mb3.2/8, mb1 3.5/9,mb1mx3.2/24,mbtmp3.3/9,Error ellipse: s-maj=27.4km s-min=14.8km az=84.0*
JMA ***29*** *04:35:04.5±0.2,27°.55N×140°.36E,h436km, M4.1*
ISC 29 04:35:04.4±0.8,27°.46N±0°.09×140°.4E±0°.2,h450km,n21, σ1§88/23,mb3.4/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.63	102	P	P	04 36 02.4	-0.6
CBIJ				*e*S	S	04 36 47.5	-3.1
CBIJ	Chichi jima	1.63	102	P	P	04 36 02.5	-0.6
baz=282,slow=18							
CBIJ				S	S	04 36 46.8	-3.9
75nm,0.3s,baz=263,slow=23,SNR=19							
JHHJ	Haha-jima-NKT	1.79	117	*e*S	S	04 36 50.2	-1.8
JHJ2	Mitsune	5.66	355	*e*S	S	04 37 45.2	-4.1
BSO1	Boso 1	7.19	4	P	P	04 36 51.1	+0.7
BSO3	Boso 3	7.32	1	P	P	04 36 53.1	+1.0
BSO3				*e*S	S	04 38 18.7	-1.8
BSO4	Boso 4	7.51	360	*e*S	S	04 38 22.3	-2.2
JOD2	Odawara 2	7.86	352	P	P	04 36 58.3	+0.1
JHO	Hitachi	9.13	1	P	P	04 37 12.8	+0.9
WRA	Warramunga Arr	47.48	188	P	P	04 42 56.5	-0.8
0.7nm,0.3s,baz=6.2,slow=7.6,SNR=25							
MKAR	Makanchi Array	49.02	309	P	P	04 43 08.1	-0.5
0.2nm,0.4s,baz=89,slow=10,SNR=4.0							
ASAR	Alice Springs	51.21	188	P	P	04 43 24.3	-0.7
0.3nm,0.4s,baz=1.6,slow=4.3,SNR=8.7							
ARCES	ARCESS Array B	72.67	340	P	P	04 45 45.6	+0.7
5.5nm,1.0s,baz=64,slow=8.2,SNR=6.6							
FINES	FINESS Array B	76.91	333	P	P	04 46 09.2	+0.3
2.8nm,0.3s,baz=71,slow=5.1,SNR=61							
NVAR	Mina Array Bea	81.54	51	P	P	04 46 37.6	+3.3
0.3nm,0.4s,baz=306,slow=5.4,SNR=3.1							
NB2	NORSAR Subarra	82.68	338	P	P	04 46 38.8	-0.7
comp=Z,0.9nm,0.5s,baz=48,slow=4.6							
NOA	NORSAR Array B	82.68	338	P	P	04 46 39.1	-0.3
comp=Z,1.2nm,0.7s,baz=47,slow=4.7,SNR=4.1							
TXAR	Lajitas Array	96.65	52	P	P	04 47 48.2	+2.5
comp=Z,0.1nm,0.6s,baz=339,slow=2.0,SNR=2.6							
TORD	Torodi Ar. Bea	123.14	310	PKP	PKPdf	04 53 09.9	+0.1
comp=Z,0.2nm,0.5s,baz=7.7,slow=1.9,SNR=5.3							
PLCA	Paso Flores	151.32	125	PKPbc	PKPbc	04 54 07.7	+1.4
comp=Z,0.5nm,0.4s,baz=226,slow=3.9,SNR=5.8							
LPAZ	La Paz	151.36	73	PKPbc	PKPbc	04 54 10.1	+2.3
comp=Z,1.0nm,0.6s,baz=270,slow=4.4,SNR=7.9							

IDC 29 04:40:10.7±553.0,29°.37N×78°.91W,h0km,Error ellipse: s-maj=219.8km s-min=156.9km az=154.0,Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I10CA	LAC DU BONNET	24.50	333	*i*		07 02 10.0	
baz=142,slow=294,SNR=4.5							
I18DK	QAANAAQ INFRAS	48.40	3	*i*		09 10 47.6	
baz=190,slow=330,SNR=1.2							
I09BR	BRASILIA INFRA	53.78	142	*i*		09 56 00.0	
baz=326,slow=322,SNR=0.6							
I53US	FAIRBANKS INFR	54.90	331	*i*		10 00 10.0	
baz=96,slow=335,SNR=1.3							

MAN ***29*** *04:46:47,5°.01N×126°.48E,h48km, mb5.4, ML4.4, MS4.7*
BJI ***29*** *04:46:48.4,4°.90N×126°.39E,h73km, mB5.0/29, mb4.9/45, Ms4.5/24, Ms7 4.1/27*
MOS ***29*** *04:46:48.7±1.3,5°.31N×126°.28E,h48km, mb5.3/39, Error ellipse: s-maj=12.2km s-min=5.5km az=117.8*
IDC ***29*** *04:46:51.6±1.4,5°.32N×126°.27E,h57km±12km, mb4.5/26, mb1 4.6/27,mb1mx4.6/30,mbtmp4.5/27,MS3.9/26, Ms1 3.9/26,ms1mx3.8/35,Error ellipse: s-maj=15.8km s-min=9.1km az=79.0*
ISCJB ***29*** *04:46:51.9±0.4,5°.34N±0°.02×126°.44E±0°.03,h78km±3km, mb4.9/106,Error ellipse: s-maj=5.6km s-min=3.5km az=166.1*
NEIC ***29*** *04:46:52.7±0.7,5°.30N×126°.37E,h69km±6km, mb4.8/42, Error ellipse: s-maj=6.7km s-min=3.8km az=72.0*
TEH ***29*** *04:46:53.0,5°.35N×126°.48E,h65km, ML4.9*
DJA ***29*** *04:46:53.5±0.4,5°N±3°×12°6E±°,h51km±4km, M5.2/36, mB5.7/18, mb5.1/36, MLv5.3/7, Mw(mB)5.2/18*
ISC 29 04:46:52.6±0.4,5°.31N±0°.03×126°.35E±0°.05,h65km±2km, n336,σ1§54/395,mb5.0/106,12C-6D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.59	299	*i* P	Pn	04 47 15.9	-2.8
GSPH				*e*S	Sn	04 47 35.6	-2.8
MATI	Mati	1.62	357	*e*P	Pn	04 47 18.0	-1.1
MATI				*e*S	Sn	04 47 42.0	+3.0
DAV	Davao City (W)	1.91	336	*e*Pn	Pn	04 47 23.3	+0.5
DAV	Davao City (W)	1.91	336	P	Pn	04 47 24.2	+1.3
DMPH	Davao City--Mi	1.95	335	⇑*e*P	Pn	04 47 23.6	+0.2
DMPH				*e*S	Sn	04 47 50.0	+3.1
KCP	Kidapawan	2.10	323	⇑*e*P	Pn	04 47 25.1	-0.4
KCP				*e*S	Sn	04 47 55.3	+4.7
CGP	Cagayan de Oro	3.53	332	⇑*e*P	Pn	04 47 45.8	+0.9
CGP				*e*S	Sn	04 48 28.9	+3.5
PAGZ	Pagadian	3.88	311	*e*P	Pn	04 47 50.2	+0.4
DCPH	Dipolog City	4.40	318	⇑*e*P	Pn	04 48 01.0	+4.0
IPIL	Ipil	4.49	303	*e*P	Pn	04 47 58.8	+0.7
ZMPH	Zamboanga City	4.56	291	⇑*e*P	Pn	04 47 58.7	-0.4
ZMPH				*e*S	Sn	04 48 49.8	-1.1
TNTI	Ternate	4.62	167	*e*Pn	Pn	04 47 58.1	-1.9
TNTI	Ternate	4.62	167	P	Pn	04 47 58.9	-1.1
MSLP	Maasin	5.01	343	*e*P	Pn	04 48 07.1	+1.8
KMSI	Cibinong	5.27	207	P	Pn	04 48 09.7	+0.9
858nm,0.6s,14μm6.9nm							
GTOI	Gorontalo	5.72	216	P	Pn	04 48 13.6	-1.3
LBMI	Labuha	6.02	169	P	Pn	04 48 21.6	+2.5
391nm,0.9s,4μm1.9nm							
GUIM	Jordan	6.46	325	*e*P	Pn	04 48 27.9	+2.8
MRSI	Marisa	6.51	223	P	Pn	04 48 25.8	-0.1
TOLI	Toli-Toli	6.93	233	P	Pn	04 48 30.6	-1.0
RCP	Roxas	7.16	330	⇑*e*P	Pn	04 48 35.8	+1.1
LUWI	Luwuk	7.25	210	P	Pn	04 48 38.5	+2.5
912nm,1.1s,8μm2.9nm							
MYLDM	Lahad Datu	7.82	269	P	Pn	04 48 46.4	+2.7
MYLDM	Lahad Datu	7.82	269	P	Pn	04 48 46.3	+2.7
196nm,1.1s,2μm0.6nm							
SWI	Sorong	7.86	141	P	Pn	04 48 46.2	+2.0
96nm,0.7s,1μm0.4nm							
TSM	Tawau	8.51	264	P	Pn	04 48 52.9	-0.2
NLAI	Namlea	8.53	175	P	Pn	04 48 52.5	-0.9
218nm,0.6s,4μm							
AAI	Ambon	9.13	168	P	Pn	04 49 10.1	+8.5
SKSI	Soroako, Sulaw	9.26	213	P	Pn	04 49 06.9	+3.4
292nm,1.2s,23μm							
KKM	Kota Kinabalu	10.11	275	*e*Pn	Pn	04 49 17.2	+2.1
KKM	Kota Kinabalu	10.11	275	P	Pn	04 49 17.3	+2.1
KKM	Kota Kinabalu	10.11	275	P	Pn	04 49 26.8	+12
TGY	Tagaytay City	10.23	329	P	Pn	04 49 18.1	+1.4
TGY	Tagaytay City	10.23	329	P	Pn	04 49 18.1	+1.4
8.5nm,0.3s,baz=151,slow=19,SNR=1.7							
RKPI	Ransiki, Papua	10.35	131	P	Pn	04 49 25.6	+7.3
TTSI	Tana Toraja	10.56	218	P	Pn	04 49 23.3	+2.1
105nm,1.0s,985nm							
MMSI	Mamuju	10.88	223	P	Pn	04 49 34.4	+8.8
SPSI	Sidrap Palu	11.32	216	P	Pn	04 49 33.3	+1.7
46nm,1.0s,2μm							
BAKI	Biak	11.70	123	P	Pn	04 49 37.9	+1.2
467nm,1.1s,5μm							
KAPI	Kappang	12.19	213	*e*Pn	Pn	04 49 44.2	+0.7
KAPI	Kappang	12.19	213	P	Pn	04 49 44.2	+0.7
57nm,1.3s,622nm							
KAPI	Kappang	12.19	213	P	Pn	04 49 43.8	+0.3
1.9nm,0.3s,baz=28,slow=14,SNR=13							
KAPI				LR	LR	04 55 10.7	
comp=Z,472nm,19.1s,baz=49,slow=41							
BKSI	Bulukumba	12.26	211	P	P	04 49 53.0	-1.5
TLE	Tual	12.61	150	P	Pn	04 49 49.7	+0.5
129nm,1.0s							
BTM	Bintulu	13.39	262	P	P	04 50 04.5	-2.6
SBUM	Sibu	14.38	259	*e*Pn	P	04 50 17.0	-1.1
SBUM	Sibu	14.38	259	P	P	04 50 17.9	-0.2
SBUM	Sibu	14.38	259	P	P	04 50 17.4	-0.7
BBKI	Banjar Baru	14.43	233	P	P	04 50 19.6	+1.0
SOEI	Soe	15.11	188	P	P	04 50 36.5	+10
LBFI	Labuhan Bajo,	15.14	205	P	P	04 50 35.6	+9.1
BATI	Baumata	15.65	190	P	P	04 50 32.6	+0.4
BATI				S	S	04 53 30.4	-3.2
BATI	Baumata	15.65	190	P	P	04 50 35.7	+3.5
BATI	Baumata	15.65	190	P	P	04 50 32.6	+0.4
6.0nm,0.3s,baz=89,slow=0.7,SNR=4.3							
BATI				S	S	04 53 30.4	-3.2
3.2nm,0.3s,baz=247,slow=7.7,SNR=3.1							
STKI	Sintang	15.74	251	P	P	04 50 39.4	+6.2
KSM	Kuching	16.46	257	*e*P	P	04 50 43.7	+2.5
41nm,0.8s							
KSM	Kuching	16.46	257	P	P	04 50 43.9	+2.8
KSM	Kuching	16.46	257	P	P	04 50 44.4	+3.2
PBKI	Pangkalan Bun	16.69	242	P	P	04 50 56.4	+13
MTNI	Mataram	17.18	216	P	P	04 50 51.6	+2.5
88nm,1.0s							
SRBI	Singaraja	17.34	220	P	P	04 51 05.4	+15
YULB	Yu-li	18.62	345	*e*P	P	04 51 03.8	-1.2
9.6nm,0.6s							
GMJI	Gumukmas	18.65	224	P	Pn	04 51 14.3	+8.0
TPUB	Ta-pu	18.71	343	*e*P	P	04 51 05.2	-0.8
25nm,0.6s							
SSLB	Suanglung	19.09	345	*e*P	P	04 51 10.3	+0.2
SJI	Sawahan	19.48	228	P	Pn	04 51 18.8	+2.5
61nm,0.8s							
PWJI	Pagerwojo	19.65	228	P	Pn	04 51 20.5	+2.3
41nm,0.9s,10μm							
YHNB	Yeheng	19.83	347	*e*P	P	04 51 18.7	+0.4
26nm,0.9s							
TPI	Tanjungpandan	20.32	247	P	Pn	04 51 28.2	+2.0
28nm,1.3s							
QIZ	Qiongzhong	21.09	312	P	P	04 51 32.0	+0.1
QIZ				sP	sP	04 51 52.5	-1.3
QIZ				S	S	04 55 24.0	+0.8
QIZ				pmax	pmax		
comp=Z,10.0nm,1.2s							
QIZ				LR	LR		
comp=Z,440nm,20.8s							
QIZ	Qiongzhong	21.09	312	*e*P	P	04 51 32.0	+0.1
comp=Z,38nm,1.3s							
JOW	Kunigami	21.48	5	*e*P	P	04 51 38.7	+2.9
comp=Z,19nm,0.8s							
PPBI	Pangkal Pinang	21.51	250	P	P	04 51 40.0	+3.6
comp=Z,39nm,1.4s,comp=Z,4μm							
LEM	Lembang	22.25	237	P	P	04 51 51.3	+6.8
CBJI	Citeko	22.69	239	P	P	04 51 56.0	+7.0
MYKOM	Kota Tinggi	22.72	262	P	P	04 51 51.5	+2.2
MYKOM	Kota Tinggi	22.72	262	P	P	04 51 51.6	+2.2
comp=Z,106nm,1.2s,comp=Z,1μm							
UBPT	Khong Chiam	22.78	297	P	P	04 51 49.7	-0.3
comp=Z,30nm,0.9s							
KTGM	Kuala Trenggan	23.11	271	P	P	04 51 45.6	-7.8
KGM	Kluang	23.21	263	P	P	04 51 56.5	+2.2
FITZ	Fitzroy Crossi	23.28	182	P	P	04 51 53.7	-1.1
FITZ				S	S	04 55 59.6	-2.6
FITZ				ScP	ScP	04 59 14.3	+1.1
FITZ	Fitzroy Crossi	23.28	182	P	P	04 51 53.7	-1.1
comp=Z,14nm,0.4s,baz=15,slow=8.2,SNR=44							
FITZ				S	S	04 55 59.6	-2.6
comp=Z,4.6nm,0.8s,baz=61,slow=13,SNR=2.5							
FITZ				ScP	ScP	04 59 14.3	+1.1
comp=Z,4.2nm,0.7s,baz=320,slow=1.0,SNR=7.1							
LWLI	Liwa	24.51	246	P	P	04 52 10.7	+4.4
comp=Z,232nm,0.8s,comp=Z,5μm							
CHBT	CHBT	24.83	289	P	P	04 52 10.5	+1.5
comp=Z,64nm,1.4s,comp=Z,3μm							
IPM	Ipoh	25.24	269	*e*P	P	04 52 12.6	-0.2
comp=Z,60nm,1.1s							
IPM	Ipoh	25.24	269	P	P	04 52 13.3	+0.4
IPM	Ipoh	25.24	269	P	P	04 52 14.8	+1.9
comp=Z,52nm,1.2s							
KSI	Kapahiang	25.34	250	P	P	04 52 20.9	+7.1
PMG	Port Moresby	25.38	125	*e*P	P	04 52 12.7	-1.3
comp=Z,18nm,1.0s							
PMG	Port Moresby	25.38	125	LR	LR	05 01 46.3	
comp=Z,183nm,18.5s,baz=109,slow=35							
COEN	Coen	25.41	139	*e*P	P	04 52 13.0	-1.3
MASI	Maura Aman, Be	25.50	251	P	P	04 52 18.4	+3.1
comp=Z,358nm,0.9s,comp=Z,4μm							
KULM	Kulim	25.59	271	*e*P	P	04 52 16.5	+0.5
comp=Z,127nm,1.5s							
KULM	Kulim	25.59	271	P	P	04 52 16.7	+0.8
KULM	Kulim	25.59	271	P	P	04 52 19.7	+3.7
comp=Z,43nm,1.4s							
SKLT	Songkhla	25.64	275	P	P	04 52 19.6	+3.2
comp=Z,32nm,0.7s,comp=Z,1μm							
WRAB	Tennant Creek	26.29	163	*e*P	P	04 52 21.1	-1.2
WRAB				pmax	pmax		
comp=Z,56nm,0.9s							
WRAB	Tennant Creek	26.29	163	*e*P	P	04 52 21.1	-1.2
comp=Z,56nm,0.9s							
WRA	Warramunga Arr	26.30	163	P	P	04 52 20.7	-1.6
WRA				PcP	PcP	04 55 47.4	+0.1
WRA				S	S	04 56 57.2	+6.6
WRA				ScP	ScP	04 59 20.1	-1.6
WRA	Warramunga Arr	26.30	163	P	P	04 52 20.7	-1.6
comp=Z,19nm,0.5s,baz=342,slow=10.0,SNR=150							
WRA				PcP	PcP	04 55 47.4	+0.1
comp=Z,2.1nm,0.6s,baz=327,slow=2.2,SNR=8.9							
WRA				S	S	04 56 57.2	+6.6
comp=Z,12nm,1.2s,baz=337,slow=19,SNR=7.0							
WRA				ScP	ScP	04 59 20.1	-1.6
comp=Z,1.3nm,0.6s,baz=337,slow=3.1,SNR=6.1							
CBIJ	Chichi jima	26.40	33	P	P	04 52 21.3	-1.8
CBIJ	Chichi jima	26.40	33	P	P	04 52 21.3	-1.8
comp=Z,47nm,0.5s,baz=262,slow=14							
PPI	Padang Panjang	26.54	258	P	P	04 52 27.3	+2.7
comp=Z,58nm,1.0s							
PDSI	Padang	26.58	257	P	P	04 52 31.0	+6.0
MBWA	Marble Bar	27.10	194	*e*P	P	04 52 29.6	+0.2
comp=Z,25nm,1.0s							
PBKT	Sadao Pong	27.27	296	P	P	04 52 32.7	+1.6
comp=Z,23nm,0.7s							
PSI	Prapat	27.47	266	P	P	04 52 32.8	-0.3
PSI				PcP	PcP	04 55 50.1	-0.3
PSI				ScP	ScP	04 59 25.5	0.0
PSI	Prapat	27.47	266	P	P	04 52 32.8	-0.3
comp=Z,13nm,0.7s,baz=78,slow=4.9,SNR=9.5							
PSI				PcP	PcP	04 55 50.1	-0.3
comp=Z,12nm,0.8s,baz=227,slow=1.0,SNR=7.6							
PSI				ScP	ScP	04 59 25.5	0.0
comp=Z,1.9nm,0.4s,baz=121,slow=5.9,SNR=2.6							
PSI				LR	LR	05 04 15.3	
comp=Z,241nm,21.6s,baz=251,slow=38							
NJ2	Nanjing	27.51	346	*e*P	P	04 52 34.5	+1.5
NJ2				pmax	pmax		
comp=Z,19nm,0.8s							
WHN	Wuhan	27.52	337	⇓P	P	04 52 37.0	+3.8
WHN				pP	pP	04 52 45.8	-3.0
JNU	Nakatsue	27.99	8	*e*P	P	04 52 36.4	-1.0
comp=Z,9.2nm,0.9s							
JNU	Nakatsue	27.99	8	P	P	04 52 36.7	-0.7
comp=Z,16nm,0.8s,baz=255,slow=4.7,SNR=9.0							
JNU				LR	LR	05 03 43.8	
comp=Z,107nm,20.1s,baz=159,slow=36							
GYA	Guiyang	28.21	320	P	P	04 52 39.3	-0.2
GYA				pP	pP	04 52 54.0	-1.2
GYA				PP	PnPn	04 53 31.0	+0.1
GYA				PcP	PcP	04 55 53.0	+1.0
GYA				S	S	04 57 20.3	-0.6

comp=Z,130nm,3.5s
BJI LR LR
comp=N,97nm,26.3s
BJI LR LR
comp=E,110nm,26.3s
BJI LR LR
comp=Z,97nm,24.4s
FORT Forrest 35.93 177 *e*P **P 04 53 46.9 0.0**
comp=Z,47nm,0.8s
HNR Honiara 36.55 114 LR LR 05 06 34.0
comp=Z,201nm,21.9s,baz=315,slow=32
LZH Lanzhou 36.96 329 *e*P **P 04 53 56.3 +0.5**
LZH pP **pP 04 54 11.8 0.0**
LZH sP **sP 04 54 18.0 -1.4**
LZH PP **PnPn 04 55 26.5 +4.5**
LZH PcP **PcP 04 56 17.8 +1.8**
LZH *e*S **S 04 59 38.5 +1.9**
LZH sS **sS 05 00 06.0 +2.2**
LZH SS **SnSn 05 02 12.5 -2.7**
LZH pmax pmax
comp=Z,34nm,1.0s
LZH pmax pmax
comp=Z,100nm,4.2s
LZH LR LR
comp=N,1μm,12.3s
LZH LR LR
comp=E,1μm,12.9s
LZH LR LR
comp=Z,1μm,14.3s
HHC Hu-ho-hao-te 37.78 342 *e*P **P 04 54 03.0 +0.3**
HHC pP **pP 04 54 18.0 -0.7**
HHC sP **sP 04 54 25.5 -0.8**
HHC PP **PnPn 04 55 34.5 +2.7**
HHC S **S 04 59 50.5 +1.6**
HHC SS **SnSn 05 02 30.3 -4.7**
HHC pmax pmax
comp=Z,43nm,1.1s
HHC pmax pmax
comp=Z,310nm,6.0s
HHC LR LR
comp=N,290nm,16.7s
HHC LR LR
comp=E,680nm,15.7s
HHC LR LR
comp=Z,270nm,15.7s
CN2 Changchun 38.34 359 *e*P **P 04 54 07.8 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,430nm,18.0s
CN2 LR LR
comp=E,290nm,18.0s
CN2 LR LR
comp=Z,110nm,17.0s
SHL Shillong 38.65 305 *e*P **P 04 54 10.0 -0.2**
EIDS Eidsvold 38.83 143 *e*P **P 04 54 10.2 -1.4**
comp=Z,16nm,0.8s
BBOO Buckleboo 39.02 167 *e*P **P 04 54 14.6 +1.6**
comp=Z,264nm,0.6s
USRK Ussuriysk Arra 39.05 6 P **P 04 54 13.8 +0.8**
comp=Z,19nm,0.6s,baz=185,slow=6.9,SNR=48
MDJ Mudanjiang 39.25 4 P **P 04 54 15.8 +1.1**
MDJ pP **pP 04 54 31.5 +0.6**
MDJ sP **sP 04 54 38.3 -0.1**
MDJ pmax pmax
comp=Z,55nm,0.9s
MDJ pmax pmax
comp=Z,120nm,8.7s
MDJ LR LR
comp=E,94nm,36.2s
MDJ LR LR
comp=Z,100nm,26.8s
MDJ Mudanjiang 39.25 4 *e*P **P 04 54 15.7 +0.9**
comp=Z,39nm,0.8s
STKA Stephens Creek 39.74 160 *e*P **P 04 54 18.7 -0.3**
comp=Z,5.3nm,0.8s
STKA Stephens Creek 39.74 160 P **P 04 54 19.9 +1.0**
comp=Z,12nm,0.7s,baz=324,slow=8.7,SNR=13
STKA LR LR 05 10 34.8
comp=Z,263nm,20.0s,baz=129,slow=36
LSA Lhasa 41.12 310 P **P 04 54 31.5 +0.4**
LSA pmax pmax
comp=Z,10.0nm,1.1s
LSA Lhasa 41.12 310 *e*P **P 04 54 32.2 +1.1**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 41.12 310 *e*P **P 04 54 32.1 +1.1**
comp=Z,11nm,0.6s
ASAJ Asahikawa 41.20 18 *e*P **P 04 54 31.5 +0.6**
comp=Z,9.4nm,0.7s
ASAJ Asahikawa 41.20 18 P **P 04 54 32.0 +1.1**
comp=Z,28nm,0.7s,baz=173,slow=12,SNR=13
GTA Gaotai 41.55 329 ⇑P **P 04 54 33.5 -0.6**
GTA pP **pP 04 54 48.8 -1.5**
GTA sP **sP 04 54 56.0 -1.8**
GTA PP **PP 04 56 12.0 +0.8**
GTA PcP **PcP 04 56 31.3 +0.9**
GTA S **S 05 00 45.0 -0.5**
GTA SS **SS 05 03 47.0 -5.5**
GTA pmax pmax
comp=Z,11nm,0.6s
GTA pmax pmax
comp=Z,100nm,5.3s
GTA LR LR
comp=N,190nm,16.7s
GTA LR LR
comp=E,260nm,17.8s
GTA LR LR
comp=Z,180nm,17.2s
TAPN Taplejung 42.79 305 *e*P **P 04 54 44.9 +0.4**
comp=Z,49nm,0.7s
ODAN Odare 42.86 304 *e*P **P 04 54 45.3 +0.3**
comp=Z,56nm,0.7s
ARMA Armidale 42.99 147 *e*P **P 04 54 45.4 -0.4**
comp=Z,14nm,0.8s
RAMN Ramite 43.54 304 *e*P **P 04 54 50.9 +0.4**
comp=Z,54nm,0.7s
YSS Yuzh-Sakhalins 43.83 16⇑*e*P **P 04 54 54.0 +1.8**
KLR Kul'dur 44.00 5 *e*P **P 04 54 50.5 -3.0**
KLR pmax pmax
comp=Z,32nm,1.0s
JIRN Jiri 44.15 305 *e*P **P 04 54 55.8 +0.3**
comp=Z,84nm,0.6s
HIA Hailar 44.16 354 *e*P **P 04 54 55.5 +0.7**
comp=Z,50nm,1.1s
GUN Gumba 44.50 305 *e*P **P 04 54 58.6 +0.3**
comp=Z,128nm,0.6s
PKI Pulchoki 44.76 304 *e*P **P 04 55 00.1 -0.2**
comp=Z,23nm,0.7s
PKIN Phulchoki 44.77 304 *e*P **P 04 55 00.7 +0.3**
comp=Z,17nm,0.7s
KKN Kakani 44.95 305 *e*P **P 04 55 01.5 -0.2**
comp=Z,34nm,0.7s
DMN Daman 45.02 304 *e*P **P 04 55 02.5 +0.1**
PALK Pallekele 45.40 275 *e*P **P 04 55 06.6 +1.4**
comp=Z,51nm,1.4s
ULN Ulaanbaatar 45.51 342 *e*P **P 04 55 05.7 0.0**
comp=Z,15nm,0.8s
ULN Ulaanbaatar 45.51 342 P **P 04 55 05.7 0.0**
SONM Songino Array 45.69 341 P **P 04 55 06.9 -0.3**
SONM PcP **PcP 04 56 44.0 -0.3**
SONM Songino Array 45.69 341 P **P 04 55 06.9 -0.3**
comp=Z,7.1nm,0.6s,baz=152,slow=9.0,SNR=26
SONM PcP **PcP 04 56 44.0 -0.3**
comp=Z,4.6nm,0.7s,baz=147,slow=2.3,SNR=7.3
SONM LR LR 05 15 22.4
comp=Z,95nm,19.7s,baz=168,slow=38
KOLN Koldanda 46.32 304 *e*P **P 04 55 12.7 +0.1**
comp=Z,90nm,0.6s
DANN Dangsing 46.40 305 *e*P **P 04 55 13.1 -0.2**
comp=Z,94nm,0.6s
PYUN Piuthan 46.95 304 *e*P **P 04 55 17.9 +0.5**
comp=Z,56nm,0.5s
DZM Mont Dzumac 47.76 126 *e*LR LR 05 09 00.6
comp=Z,325nm,28.0s
DZM Mont Dzumac 47.76 126 P **P 04 55 22.2 -1.4**
DZM Mont Dzumac 47.76 126 P **P 04 55 22.2 -1.4**
comp=Z,6.2nm,0.7s,baz=239,slow=10,SNR=5.6
HYB Hyderabad 48.24 289 *i* P **P 04 55 27.0 -0.4**
ZAK Zakamensk 48.91 341 *e*P **P 04 55 33.9 +1.8**
ZAK *e* 04 56 55.3
ZAK pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 49.92 342 *e*P **P 04 55 42.5 +2.8**
TLY pmax pmax
comp=Z,14nm,0.7s
TLY MLR MLR
comp=Z,81nm,19.0s
MOY Mondy 50.77 340 *e*P **P 04 55 46.7 +0.5**
MOY pmax pmax
comp=Z,18nm,1.9s
WMQ Urumqi 51.22 325 P **P 04 55 49.5 -0.2**
WMQ pP **pP 04 56 05.3 -1.1**
WMQ PcP **PcP 04 57 04.0 -0.2**
WMQ pmax pmax
comp=Z,16nm,1.2s
WMQ pmax pmax
comp=Z,120nm,4.0s
WMQ LR LR
comp=N,260nm,29.5s
WMQ LR LR
comp=Z,200nm,29.0s
CLNS Chul'man 51.40 359 *e*P **P 04 55 51.2 +0.5**
CLNS pmax pmax
comp=Z,25nm,0.7s
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,1.0s
HVS Khovu-Aksy 53.15 335 *d i*P **P 04 56 03.7 -0.2**
HVS pmax pmax
comp=Z,95nm,1.6s
PETK Petropavlovsk- 54.12 23 P **P 04 56 11.5 +0.6**
PETK Petropavlovsk- 54.12 23 P **P 04 56 11.4 +0.6**
PETK Petropavlovsk- 54.12 23 P **P 04 56 11.4 +0.6**
comp=Z,15nm,0.8s,baz=200,slow=7.7,SNR=9.3
PETK LR LR 05 15 45.7
comp=Z,28nm,20.2s,baz=74,slow=32
MK31 Makanchi Array 56.05 325 *e*P **P 04 56 23.9 -1.0**
MK31 pmax pmax
comp=Z,12nm,0.6s
MK31 Makanchi Array 56.05 325 *e*P **P 04 56 23.8 -1.0**
MKAR Makanchi Array 56.05 325 P **P 04 56 24.0 -0.9**
MKAR 04 57 21.8
MKAR Makanchi Array 56.05 325 P **P 04 56 23.9 -0.9**
MKAR PcP **PcP 04 57 21.8 -0.6**
MKAR ScP **ScP 05 01 15.4 -0.8**
MKAR Makanchi Array 56.05 325 P **P 04 56 23.9 -0.9**
comp=Z,11nm,0.6s,baz=124,slow=8.0,SNR=135
MKAR PcP **PcP 04 57 21.8 -0.6**
comp=Z,8.1nm,0.8s,baz=116,slow=5.3,SNR=7.1
MKAR ScP **ScP 05 01 15.4 -0.8**
comp=Z,1.2nm,0.8s,baz=104,slow=5.1,SNR=5.5
MKAR LR LR 05 21 55.5
comp=Z,160nm,19.2s,baz=113,slow=38
YAK Yakutsk 56.65 2 *e*P **P 04 56 27.9 -0.9**
YAK pmax pmax
comp=Z,59nm,0.8s
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
KSH Kashi 56.66 315 P **P 04 56 30.5 +0.9**
KSH sP **sP 04 56 53.3 -0.5**
KSH PP **PP 04 58 39.3 +3.1**
KSH S **S 05 04 14.3 -3.1**
KSH SS **SS 05 08 04.5 -1.5**
KSH pmax pmax
comp=Z,22nm,1.2s
KSH pmax pmax
comp=Z,81nm,3.9s
KSH LR LR
comp=N,160nm,6.1s
KSH LR LR
comp=E,110nm,5.9s
KSH LR LR
comp=Z,67nm,6.7s
KZA Kyzart 58.20 317 *i* P **P 04 56 41.0 +0.3**
KZA Kyzart 58.20 317 P **P 04 56 41.0 +0.3**
SNR=6.3
TKM2 Tokmak 2 58.32 318 *e*P **P 04 56 40.4 -0.9**
TKM2 pmax pmax
comp=Z,20nm,1.1s
TKM2 Tokmak 2 58.32 318 P **P 04 56 40.6 -0.6**
SNR=12
TKM2 Tokmak 2 58.32 318 *e*P **P 04 56 40.4 -0.9**
comp=Z,20nm,1.1s
KBK Karagaybulak 58.64 318 *i* P **P 04 56 43.6 +0.1**
KBK Karagaybulak 58.64 318 P **P 04 56 43.6 +0.1**
SNR=8.0
AAK Ala-Archa 58.94 317 *d i*P **P 04 56 45.2 -0.3**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 58.94 317 *e*P **P 04 56 45.3 -0.3**
comp=Z,8.4nm,0.9s
ZAA0 Zalesovo Array 59.01 333 *e*P **P 04 56 43.7 -1.9**
ZALV Zalesovo Beam 59.01 333 *i* P **P 04 56 44.0 -1.5**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 59.01 333 P **P 04 56 44.1 -1.5**
ZALV PcP **PcP 04 57 32.5 -1.4**
ZALV Zalesovo Beam 59.01 333 P **P 04 56 44.1 -1.5**
comp=Z,3.6nm,0.4s,baz=122,slow=6.5,SNR=16
ZALV PcP **PcP 04 57 32.5 -1.4**
comp=Z,6.4nm,0.8s,baz=151,slow=3.4,SNR=5.6
ZALV LR LR 05 24 37.5
comp=Z,48nm,18.0s,baz=71,slow=38
USP Ospenovka 59.19 318 *i* P **P 04 56 46.2 -0.9**
USP Ospenovka 59.19 318 P **P 04 56 46.2 -0.9**
SNR=23
AML Almayashu 59.28 317 *i* P **P 04 56 48.2 0.0**
AML Almayashu 59.28 317 P **P 04 56 48.2 0.0**
SNR=14
EKS2 Erkin-Say 59.43 317 *e*P **P 04 56 48.5 -0.4**
EKS2 pmax pmax
comp=Z,13nm,0.9s
EKS2 Erkin-Say 59.43 317 P **P 04 56 48.3 -0.6**
SNR=17
EKS2 Erkin-Say 59.43 317 *e*P **P 04 56 48.5 -0.4**
comp=Z,14nm,0.9s
NVS Novosibirsk 60.30 333 *e*P **P 04 56 51.5 -2.8**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.7s
NVS pmax pmax
comp=Z,9.0nm,0.7s
SEY Seymchan 60.59 13⇓*e*P **P 04 56 57.1 +0.9**
FX1 Attu Island--F 60.91 30 *e*P **P 04 56 59.1 +0.5**
KK31 Karatay Array 61.82 317 *i* P **P 04 57 03.9 -1.1**
KK31 pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 61.82 317 *e*P **P 04 57 03.7 -1.3**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 61.82 317 *e*P **P 04 57 03.6 -1.3**
comp=Z,9.2nm,0.7s
VOSK Vostochnaya 65.34 327 P **P 04 57 26.3 -1.7**
VOSK pmax pmax
comp=Z,12nm,0.7s
BVA0 Borovoye Array 65.80 327 *i* P **P 04 57 29.5 -1.4**
BVA0 pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 65.87 327 *c i*P **P 04 57 29.9 -1.4**
BRVK *i* *PP pP 04 57 43.2 -5.5
BRVK pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 65.87 327 *e*P **P 04 57 30.1 -1.2**
comp=Z,23nm,0.8s
TIXI Tiksi 66.27 1 *d i*P **P 04 57 33.6 0.0**
TIXI pmax pmax
comp=Z,33nm,1.7s
IDAH Dahanechah 67.39 303 *e*P **P 04 57 40.5 -1.3**
IMON Monand 67.63 304 *e*P **P 04 57 42.4 -0.9**
IMYA Miami 67.78 307 *e*P **P 04 57 43.3 -0.8**
ITEG Tejag 68.35 303 *e*P P 04 57 44.7 -3.0
IKRD Kardeh 69.11 307 *e*P P 04 57 46.6 -5.9
AB31 Akbulak array 70.69 320 *i* P **P 04 58 00.2 -1.4**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 70.69 320 *e*P **P 04 58 00.1 -1.5**
comp=Z,14nm,0.7s
AKTO Aktyubinsk 72.19 321 P **P 04 58 09.4 -1.2**
AKTO pmax pmax
comp=Z,22nm,0.7s
CASY Casey 72.33 187 *e*P **P 04 58 11.6 +0.5**
comp=Z,10.0nm,0.8s
SVE Sverdlovsk 72.42 328⇑*i*P **P 04 58 11.0 -0.8**
SVE pmax pmax
comp=Z,31nm,0.8s
IPAR Pars 72.89 299 *e*P **P 04 58 13.6 -2.0**
ARU Arti 73.40 328 *c i*P **P 04 58 15.8 -1.8**
ARU S **SKiKP 05 07 43.7 +0.9**
ARU pmax pmax
comp=Z,27nm,0.8s
GNI Garni 80.18 310 *e*P **P 04 58 56.7 +0.2**
comp=Z,4.9nm,0.5s
ZEI Tsey 80.88 312 *e*P **P 04 58 58.3 -1.9**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
IM04 Indian Mountai 81.05 24 *e*P **P 04 59 00.5 +0.2**
IMA2 Indian Mountai 81.10 24 *e*P **P 04 59 01.1 +0.4**
PPLA Purkeypile 81.40 27 *e*P **P 04 59 02.4 0.0**
comp=Z,3.9nm,0.4s
KBZ Khabaz 81.62 313 P **P 04 59 01.9 -1.8**
KBZ Khabaz 81.62 313 P **P 04 59 01.9 -1.8**
KBZ Khabaz 81.62 313 P **P 04 59 01.9 -1.8**
comp=Z,2.5nm,0.8s,baz=176,slow=5.8,SNR=5.5
KBZ LR LR 05 39 52.1
comp=Z,54nm,20.5s,baz=275,slow=39
BPAW Bear Paw Mtn. 82.04 26 *e*P **P 04 59 06.2 +0.6**
comp=Z,22nm,1.1s
VRHR Novokhopersk 82.58 321 *e*P **P 04 59 05.6 -3.0**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,6.0nm,0.4s
COLD Coldfoot 82.59 23 *e*P **P 04 59 09.4 +1.0**
comp=E,8.0nm,0.7s
MCK McKinley 82.92 27 *e*P **P 04 59 10.0 -0.2**
MCK pmax pmax
comp=Z,34nm,1.2s
MCK McKinley 82.92 27 *e*P **P 04 59 10.0 -0.2**
comp=Z,34nm,1.2s
COLA College 83.44 25 *e*P **P 04 59 12.7 -0.1**
COLA pmax pmax
comp=Z,21nm,0.8s
COLA College 83.44 25 *e*P **P 04 59 12.7 -0.1**
comp=Z,21nm,0.8s
ILAR Eielson Array 83.85 25 P **P 04 59 14.1 -0.8**
ILAR Eielson Array 83.85 25 P **P 04 59 14.1 -0.8**
comp=Z,2.0nm,0.6s,baz=240,slow=5.1,SNR=25
VORD Divnogorie 84.05 321 *e*P **P 04 59 15.1 -1.1**
VORD pmax pmax
comp=Z,8.0nm,0.6s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,80nm,0.7s
VSR Storozhevoye 84.13 321 *e*P **P 04 59 16.0 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
TMCR Tamitsa 84.52 334 *e*P **P 04 59 17.3 -0.9**
TMCR *e* 05 02 33.9
VNDA Vanda 85.03 173 *e*P **P 04 59 20.2 -0.4**
comp=E,3.9nm,0.8s
VNDA Vanda 85.03 173 P **P 04 59 20.6 0.0**
comp=E,4.3nm,0.9s,baz=321,slow=6.8,SNR=10
VNDA LR LR 05 36 21.1
comp=E,57nm,18.5s,baz=342,slow=35
MAW Mawson 85.10 200 P **P 04 59 19.7 -1.4**
MAW Mawson 85.10 200 P **P 04 59 19.7 -1.4**
comp=E,2.4nm,0.6s,baz=24,slow=7.4,SNR=4.8
MAW LR LR 05 33 10.3
comp=E,52nm,18.2s,baz=41,slow=33
ANN Anapa 85.53 314 *e*P **P 04 59 21.3 -2.4**
ANN pmax pmax
comp=Z,18nm,0.9s
OBN Obninsk 85.56 325⇓*e*P **P 04 59 22.6 -1.0**
OBN *e**PP pP 04 59 35.1 -6.5
OBN *e**SP sP 04 59 39.5 -9.2
OBN pmax pmax
comp=Z,39nm,1.7s
PPT Papeete 85.96 108 LR LR 05 30 39.8
comp=Z,179nm,19.0s,baz=314,slow=30
PPT2 Papeete2 85.96 108 *e*LR LR 05 26 39.5
comp=Z,184nm,26.8s
TBI Tubuai 86.77 114 *e*LR LR 05 27 03.4
comp=Z,144nm,29.2s
JOF Joensuu 87.61 333 *e*P **P 04 59 33.1 -0.4**
JOF pmax pmax
comp=Z,17nm,0.7s
JOF Joensuu 87.61 333 *e*p **P 04 59 33.1 -0.4**
comp=Z,17nm,0.7s
EIL Elat 88.61 300 P **P 04 59 39.6 +0.6**
EIL Elat 88.61 300 P **P 04 59 39.6 +0.6**
comp=Z,2.0nm,0.6s,baz=35,slow=12,SNR=2.7
EIL LR LR 05 43 03.8
comp=Z,49nm,20.0s,baz=101,slow=38
BRTR Keskin Array B 88.72 310 P **P 04 59 38.0 -1.5**
BRTR Keskin Array B 88.72 310 P **P 04 59 38.0 -1.5**
comp=Z,1.6nm,0.8s,baz=120,slow=4.0,SNR=7.0
BRTR LR LR 05 43 09.9
comp=Z,34nm,20.0s,baz=232,slow=38
INK Inuvik 88.84 21 *e*P **P 04 59 39.1 -0.1**
comp=Z,9.3nm,1.1s
ARCES ARCESS Array B 88.84 340 P **P 04 59 38.5 -0.8**
ARCES ARCESS Array B 88.84 340 P **P 04 59 38.5 -0.8**
comp=Z,16nm,0.7s,baz=83,slow=5.3,SNR=29
ARCES LR LR 05 41 20.1
comp=Z,58nm,18.6s,baz=53,slow=37
ARE0 ARCESS Array S 88.84 340 *e*P **P 04 59 38.1 -1.2**
KMBO Kilima Mbogo 89.20 269 *e*P **P 04 59 42.4 0.0**
comp=Z,5.4nm,1.1s
KMBO Kilima Mbogo 89.20 269 P **P 04 59 40.0 -2.5**
comp=Z,0.8nm,0.4s,baz=90,slow=1.3,SNR=3.1
KAF Kangasniemi 90.03 332 *e*P **P 04 59 43.7 -1.2**
KAF pmax pmax
comp=Z,12nm,0.7s
KAF Kangasniemi 90.03 332 *e*p **P 04 59 43.7 -1.2**
comp=Z,12nm,0.7s
FINES FINESS Array B 90.27 332 P **P 04 59 44.9 -1.2**
FINES FINESS Array B 90.27 332 P **P 04 59 44.9 -1.2**
comp=Z,7.4nm,0.6s,baz=54,slow=4.9,SNR=43
FINES LR LR 05 43 45.3
comp=Z,88nm,18.9s,baz=206,slow=38
AKASG Malin Array Be 90.43 321 LR LR 05 42 42.0
comp=Z,59nm,18.7s,baz=65,slow=37
KIEV Kiev 90.44 321 *e*P **P 04 59 45.4 -1.7**
KIEV Kiev 90.44 321 *e*P **P 04 59 45.4 -1.7**
BUR08 Bucovina Ar. S 93.58 318 *e*P **P 05 00 01.0 -0.8**
SYO Syowa Base 93.76 201⇑*e*P **P 05 00 00.7 -1.3**
CRVS Cervenica-Dubn 95.72 320 *e*P **P 05 00 10.1 -1.4**
CRVS Cervenica-Dubn 95.72 320 *e*P **P 05 00 10.1 -1.4**
HFS Hagfors 96.45 332 LR LR 05 44 53.5
comp=Z,100nm,21.7s,baz=91,slow=36
NB2 NORSAR Subarra 97.21 334 P **P 05 00 15.9 -2.1**
comp=Z,4.4nm,0.7s,baz=65,slow=4.6
NB2 NORSAR Subarra 97.21 334 P **P 05 00 15.9 -2.1**
baz=65,slow=4.6
NOA NORSAR Array B 97.21 334 P **P 05 00 16.3 -1.8**
NOA NORSAR Array B 97.21 334 P **P 05 00 16.3 -1.8**
comp=Z,6.0nm,0.7s,baz=66,slow=4.6,SNR=21
NOA LR LR 05 46 05.6
comp=Z,114nm,21.3s,baz=75,slow=37
MORC Moravsky Berou 97.94 322 *e*P **P 05 00 21.4 -0.2**
MORC pmax pmax
comp=Z,1.0nm,0.7s
MORC Moravsky Berou 97.94 322 *e*P **P 05 00 21.4 -0.2**
comp=Z,1.3nm,0.7s
JMIC Jan Mayen 98.24 346 LR LR 05 49 26.0
comp=Z,77nm,19.2s,baz=70,slow=38
VRAC Vranov 98.67 321 LR LR 05 47 47.5
comp=Z,59nm,18.5s,baz=53,slow=37
LSZ Lusaka 99.24 255 *e*P **Pdif 05 00 28.2 0.0**
CLL Collm 100.14 324 *e*P **Pdif 05 00 30.0 -1.3**
CLL Collm 100.14 324 *e*Pdif **Pdif 05 00 30.0 -1.3**
GERES GERESS Array B 100.62 322 P **Pdif 05 00 31.9 -1.7**
GERES GERESS Array B 100.62 322 P **Pdif 05 00 31.9 -1.7**
comp=Z,0.3nm,0.6s,baz=120,slow=2.2,SNR=4.0
NVAR Mina Array Bea 106.13 48 PKKPbc PKKPbc 05 16 32.5 -0.5
NVAR PKKPab **PKKPab 05 16 47.9 -1.4**
NVAR Mina Array Bea 106.13 48 PKKPbc PKKPbc 05 16 32.5 -0.5
comp=Z,0.3nm,0.6s,baz=104,slow=6.3,SNR=3.7
NVAR PKKPab **PKKPab 05 16 47.9 -1.4**
comp=Z,0.6nm,0.6s,baz=134,slow=4.6,SNR=4.9
PDAR Pinedale Array 110.41 41 PKKPab PKKPab 05 16 27.5 -2.9
PDAR Pinedale Array 110.41 41 PKKPab PKKPab 05 16 27.5 -2.9
comp=Z,0.8nm,0.8s,baz=106,slow=6.7,SNR=5.8
SCHQ Schefferville 119.07 9 PKP **PKPdf 05 05 33.5 -0.6**
SCHQ Schefferville 119.07 9 PKP **PKPdf 05 05 33.5 -0.6**

comp=Z,3.3nm,0.8s,baz=315,slow=10.0,SNR=3.2
TXAR Lajitas Array 120.92 51 PKP **PKPdf 05 05 39.0 +0.5**
TXAR PKKPab **PKKPbc 05 15 41.0 -1.6**
TXAR Lajitas Array 120.92 51 PKP **PKPdf 05 05 39.0 +0.5**
comp=Z,0.5nm,0.7s,baz=187,slow=2.0,SNR=9.0
TXAR PKKPab **PKKPbc 05 15 41.0 -1.6**
comp=Z,0.6nm,0.7s,baz=130,slow=6.1,SNR=7.4
TORD Torodi Ar. Bea 122.06 289 PKP **PKPdf 05 05 40.2 -0.6**
TORD PKKPab **PKKPab 05 15 39.4 +0.6**
TORD Torodi Ar. Bea 122.06 289 PKP **PKPdf 05 05 40.2 -0.6**
comp=Z,6.5nm,0.6s,baz=56,slow=1.7,SNR=63
TORD PKKPab **PKKPab 05 15 39.4 +0.6**
comp=Z,0.8nm,1.0s,baz=274,slow=4.0,SNR=4.0
JCT Junction City 123.31 48 *e*PKIKP **PKPdf 05 05 43.3 +0.3**
JCT Junction City 123.31 48 *e*P **PKPdf 05 05 43.3 +0.3**
WVT Waverly 127.80 35 *e*PKIKP **PKPdf 05 05 50.9 -0.4**
WVT Waverly 127.80 35 *e*PKPdf **PKPdf 05 05 50.9 -0.4**
KIC Kosan Boka 129.82 283 *e*PKP1 **PKPdf 05 05 56.4 +0.6**
comp=Z,40nm,1.0s
DBIC Dimbokro 129.86 283 *e*PKPdf **PKPdf 05 05 56.4 +0.5**
DBIC PKP **PKPdf 05 05 56.6 +0.8**
DBIC Dimbokro 129.86 283 PKP **PKPdf 05 05 56.6 +0.8**
comp=Z,6.3nm,0.7s,baz=106,slow=2.4,SNR=8.4
TIC Toumodi 130.03 283 *e*PKP1 **PKPdf 05 05 57.1 +0.9**
comp=Z,151nm,2.0s
LIC Lamto 130.12 283 *e*PKP1 **PKPdf 05 05 57.3 +1.0**
comp=Z,35nm,0.6s
PLCA Paso Flores 141.61 159 PKP **PKPdf 05 06 17.5 +0.4**
PLCA *e*PKPdf **PKiKP 05 06 17.7 -2.2**
PLCA Paso Flores 141.61 159 PKP **PKPdf 05 06 17.5 +0.4**
comp=Z,2.2nm,0.7s,baz=9.5,slow=6.1,SNR=5.3
JTS JuntasAbangare 145.18 64 *e*PKPbc **PKPab 05 06 23.5 -0.2**
TRQA Tornquist 146.54 168 *e*PKPbc **PKPbc 05 06 27.1 0.0**
BCIP Isla Barro Col 150.20 61 *e*PKPbc **PKPbc 05 06 37.6 +0.3**
CFAA Coronel Fontan 150.49 154 PKP **PKPdf 05 06 32.9 +0.6**
CFAA PKPbc **PKPbc 05 06 37.5 -0.2**
CFAA Coronel Fontan 150.49 154 PKP **PKPdf 05 06 32.9 +0.6**
comp=Z,0.7nm,0.6s,baz=217,slow=5.1,SNR=3.7
CFAA PKPbc **PKPbc 05 06 37.5 -0.2**
comp=Z,1.7nm,0.6s,baz=236,slow=3.5,SNR=47
LCO Las Campanas 151.43 148 *e*PKPbc **PKPbc 05 06 40.7 +0.5**
CPUP Villa Florida 158.81 171 PKP **PKPdf 05 06 44.4 +0.6**
CPUP PKPab **PKPab 05 07 20.1 +0.6**
CPUP Villa Florida 158.81 171 PKP **PKPdf 05 06 44.4 +0.6**
comp=Z,1.3nm,0.8s,baz=243,slow=9.0,SNR=4.5
CPUP PKPab **PKPab 05 07 20.1 +0.6**
comp=Z,2.2nm,0.8s,baz=135,slow=1.4,SNR=3.0
LPAZ La Paz 162.09 129 *e*PKPdf **PKPdf 05 06 48.5 0.0**
LPAZ PKPab **PKPab 05 07 36.8 +1.7**
LPAZ La Paz 162.09 129 PKP **PKPdf 05 06 48.8 +0.4**
comp=Z,1.3nm,0.9s,baz=270,slow=1.0,SNR=5.3
LPAZ PKPab **PKPab 05 07 36.8 +1.7**
comp=Z,1.3nm,0.8s,baz=212,slow=7.2,SNR=2.3
SIV San Ignacio 167.13 146 PKP **PKPdf 05 06 52.5 +0.4**
SIV PKPab **PKPab 05 07 58.3 +1.9**
SIV San Ignacio 167.13 146 PKP **PKPdf 05 06 52.5 +0.4**
comp=Z,1.4nm,0.8s,baz=236,slow=2.8,SNR=4.2
SIV PKPab **PKPab 05 07 58.3 +1.9**
comp=Z,1.2nm,0.8s,baz=225,slow=7.1,SNR=2.5
SAML Samuel 169.88 111 *e*PKPdf **PKPdf 05 06 53.4 -0.6**
SAML *e*PKPab **PKPab 05 08 08.3 -0.5**

IDC 29 04:47:25.9±2.8, 18°.49S×177°.00W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/18, mbtmp4.1/3, Error ellipse: s-maj=306.4km s-min=32.6km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.85**	**260**	P	P	04 55 50.0	-0.3
1.3nm,0.3s,baz=97,slow=6.8,SNR=6.5							
ASAR	**Alice Springs**	**45.93**	**255**	P	P	04 55 50.8	-0.1
1.9nm,0.5s,baz=86,slow=8.3,SNR=7.4							
TXAR	**Lajitas Array**	**85.18**	**57**	P	P	05 00 04.7	0.0
0.5nm,0.8s,baz=226,slow=6.1,SNR=6.1							

*IDC **29** 05:30:38.3±0.9, 12°.07N×143°.91E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/25, mbtmp4.0/11, MS3.4/8, Ms1 3.5/8, ms1mx3.2/32, Error ellipse: s-maj=32.5km s-min=18.8km az=86.0*
*ISCJB **29** 05:30:40.8±0.5, 11°.98N±0°.07×143°.8E±0°.1, h26km, mb4.2/14, MS3.4/8, Error ellipse: s-maj=16.3km s-min=8.1km az=27.8*
*NEIC **29** 05:30:44.0±1.8, 12°.00N×143°.86E, h38km±18km, mb4.7/3, Error ellipse: s-maj=18.8km s-min=10.7km az=96.0*

ISC 29 05:30:42.3±0.7, 12°.06N±0°.09×143°.9E±0°.1, h26km, n29, σ1§03/27, mb4.1/14, MS3.4/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.78**	**31**	*e*Pn	**Pb**	**05 31 13.8**	**-0.4**
GUMO				*e*Sn	**Sb**	**05 31 35.3**	**-0.8**
PMG	**Port Moresby**	**21.57**	**171**	P	**P**	**05 35 28.4**	**-1.6**
PMG	**Port Moresby**	**21.57**	**171**	P	**P**	**05 35 28.4**	**-1.6**
17nm,0.9s,baz=8.1,slow=7.1,SNR=4.1							
PMG				LR	LR	05 43 17.3	
comp=Z,117nm,18.6s,baz=217,slow=35							
JNU	**Nakatsue**	**24.13**	**332**	LR	LR	05 44 38.6	
comp=Z,42nm,20.2s,baz=146,slow=35							
HNR	**Honiara**	**26.63**	**143**	LR	LR	05 44 12.4	
comp=Z,97nm,20.2s,baz=98,slow=30							
KSRS	**Korea Array**	**29.07**	**333**	LR	LR	05 47 43.6	
comp=Z,39nm,18.5s,baz=347,slow=35							
WRAB	**Tennant Creek**	**33.16**	**197**	*e*P	**P**	**05 37 16.5**	**-0.3**
18nm,1.5s							
WRA	**Warramunga Arr**	**33.17**	**197**	P	**P**	**05 37 16.3**	**-0.6**
WRA	**Warramunga Arr**	**33.17**	**197**	P	**P**	**05 37 16.3**	**-0.6**
0.5nm,0.7s,baz=19,slow=9.8,SNR=6.1							
WRA				LR	LR	05 50 53.9	
comp=Z,100nm,21.6s,baz=35,slow=37							
ASAR	**Alice Springs**	**36.84**	**195**	P	**P**	**05 37 49.6**	**+1.1**
ASAR	**Alice Springs**	**36.84**	**195**	P	**P**	**05 37 49.6**	**+1.1**
0.4nm,0.7s,baz=17,slow=9.1,SNR=4.1							
CM31	**Chiang Mai Arr**	**43.77**	**284**	*e*P	**P**	**05 38 46.5**	**+0.3**
8.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P	**P**	**05 38 46.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**43.77**	**284**	P	**P**	**05 38 46.0**	**-0.1**
1.4nm,0.3s,baz=100,slow=7.4,SNR=4.0							
CMAR				LR	LR	05 57 05.5	
comp=Z,40nm,18.8s,baz=5.0,slow=36							
SONM	**Songino Array**	**47.47**	**326**	P	**P**	**05 39 14.6**	**-0.5**
SONM	**Songino Array**	**47.47**	**326**	P	**P**	**05 39 14.6**	**-0.5**
0.6nm,0.7s,baz=145,slow=7.4,SNR=4.9							
SONM				LR	LR	06 00 05.3	
comp=Z,93nm,18.9s,baz=164,slow=37							
MKAR	**Makanchi Array**	**61.96**	**317**	P	**P**	**05 41 00.9**	**+0.9**
MKAR	**Makanchi Array**	**61.96**	**317**	P	**P**	**05 41 00.9**	**+0.9**
1.0nm,0.9s,baz=91,slow=12,SNR=3.7							
ZALV	**Zalesovo Beam**	**62.34**	**325**	P	**P**	**05 41 02.2**	**-0.2**
ZALV	**Zalesovo Beam**	**62.34**	**325**	P	**P**	**05 41 02.2**	**-0.2**
0.7nm,0.5s,baz=107,slow=9.2,SNR=2.3							
ZALV				LR	LR	06 09 18.3	
comp=Z,46nm,19.3s,baz=69,slow=37							
ILAR	**Eielson Array**	**70.33**	**25**	P	**P**	**05 41 52.9**	**-0.6**
ILAR	**Eielson Array**	**70.33**	**25**	P	**P**	**05 41 52.9**	**-0.6**
0.4nm,0.5s,baz=247,slow=5.8,SNR=7.9							
NEW	**Newport**	**86.98**	**41**	*e*P	**P**	**05 43 26.3**	**+0.9**
5.4nm,1.3s							
ARCES	**ARCESS Array B**	**88.25**	**342**	P	**P**	**05 43 31.1**	**0.0**
ARCES	**ARCESS Array B**	**88.25**	**342**	P	**P**	**05 43 31.1**	**0.0**
4.8nm,1.0s,baz=84,slow=7.4,SNR=7.7							
NVAR	**Mina Array Bea**	**88.59**	**51**	P	**P**	**05 43 35.8**	**+2.2**
NVAR	**Mina Array Bea**	**88.59**	**51**	P	**P**	**05 43 35.8**	**+2.2**
0.7nm,0.8s,baz=256,slow=7.1,SNR=5.3							
FINES	**FINESS Array B**	**92.15**	**335**	P	**P**	**05 43 48.2**	**-1.1**
FINES	**FINESS Array B**	**92.15**	**335**	P	**P**	**05 43 48.2**	**-1.1**
0.9nm,0.6s,baz=70,slow=4.6,SNR=8.3							

IDC 29 05:47:04.3±2.1, 43°.42N×129°.20W, h0km, mb3.6/4, mb1 3.7/9, mb1mx3.5/30, mbtmp3.5/9, ML3.2/5, MS3.2/6, Ms1 3.2/6, ms1mx2.9/31, Error ellipse: s-maj=41.8km s-min=19.1km az=46.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**5.08**	**107**	Pn	Pn	05 48 20.6	-1.3
0.2nm,0.3s,baz=321,slow=14,SNR=3.2							
YBH				LR	LR	05 50 10.1	
comp=Z,375nm,19.0s,baz=342,slow=37							
BBB	**Bella Bella**	**8.80**	**4**	Pn	Pn	05 49 10.5	-2.1
0.2nm,0.3s,baz=209,slow=9.6,SNR=3.5							
NVAR	**Mina Array Bea**	**9.64**	**117**	Pn	Pn	05 49 26.1	+1.6
0.0nm,0.3s,baz=296,slow=15,SNR=3.7							
PFO	**Pinyon Flat Ob**	**13.97**	**130**	LR	LR	05 55 18.3	
comp=Z,65nm,18.3s,baz=151,slow=35							
PDAR	**Pinedale Array**	**14.37**	**86**	Pn	P	05 50 33.8	-2.7
0.0nm,0.3s,baz=272,slow=8.3,SNR=4.5							
ANMO	**Albuquerque**	**19.51**	**108**	P	P	05 51 33.6	+0.2
0.1nm,0.3s,baz=315,slow=4.3,SNR=2.3							
ANMO				LR	LR	05 59 21.5	
comp=Z,110nm,21.0s,baz=140,slow=38							
YKA	**Yellowknife Ar**	**20.94**	**19**	P	Pn	05 51 49.9	-0.9
3.3nm,0.8s,baz=198,slow=10,SNR=4.2							
ILAR	**Eielson Array**	**23.60**	**341**	P	P	05 52 19.3	+2.8
0.2nm,0.7s,baz=153,slow=8.1,SNR=2.7							
ULM	**Lac du Bonnet**	**23.66**	**62**	P	P	05 52 17.5	+0.3
3.5nm,0.7s,baz=251,slow=13,SNR=2.7							
ULM				LR	LR	06 01 09.4	
comp=Z,55nm,18.8s,baz=332,slow=36							
LPIG	**La Paz**	**24.76**	**135**	LR	LR	06 01 58.8	
comp=Z,58nm,20.4s,baz=33,slow=36							
TXAR	**Lajitas Array**	**24.78**	**116**	P	P	05 52 28.6	+0.7
0.8nm,1.1s,baz=304,slow=7.4,SNR=3.9							
TXAR				LR	LR	06 02 05.8	
comp=Z,49nm,19.1s,baz=180,slow=36							
SONM	**Songino Array**	**76.78**	**325**	P	P	05 58 57.4	-0.2
0.5nm,0.5s,baz=72,slow=4.1,SNR=3.7							

IDC 29 05:49:49.5±3.1, 35°.51S×179°.57E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=70.3km s-min=34.9km az=115.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.38**	**215**	Pn	Pn	05 50 43.0	-0.5
4.6nm,0.3s,baz=25,slow=3.6,SNR=14							
URZ				Sn	Sn	05 51 26.0	+1.7
7.5nm,0.3s,baz=162,slow=20,SNR=10							
ASAR	**Alice Springs**	**41.10**	**274**	P	P	05 57 35.6	+0.3
0.2nm,0.4s,baz=116,slow=7.7,SNR=7.2							
WRA	**Warramunga Arr**	**42.56**	**279**	P	P	05 57 46.6	-0.7
0.7nm,0.5s,baz=119,slow=7.6,SNR=5.1							
FINES	**FINESS Array B**	**149.09**	**335**	PKPbc	PKPbc	06 09 38.4	-0.4
1.2nm,0.8s,baz=49,slow=5.8,SNR=4.7							

WEL 29 06:10:28.5±0.4, 46°.22S×165°.76E, h12km, ML3.7/14, 1C, Error ellipse: s-maj=4.6km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.22**	**53**	P*	Pn	06 10 49.8	-1.6
DCZ				AML	AML	06 11 07.3	
DCZ				AML	AML	06 11 07.3	
DCZ				AML	AML	06 11 07.5	
DCZ				AML	AML	06 11 07.6	
WHZ	**Wether Hill Ro**	**1.56**	**79**	PN	Pn	06 10 55.3	-0.7
WHZ				*e*SN	Sn	06 11 15.1	-1.0
WHZ				AML	AML	06 11 18.2	
APZ	**The Paps**	**1.66**	**113**	PN	Pn	06 10 56.4	-1.0
APZ				*e*SN	Sn	06 11 17.2	-1.4
MLZ	**Mavora Lakes**	**1.90**	**64**	↑PN	Pn	06 11 01.3	+0.6
MLZ				AML	AML	06 11 28.4	
MLZ				AML	AML	06 11 29.1	
MSZ	**Milford Sound**	**2.17**	**45**	PN	Pn	06 11 05.3	+0.9
MSZ				AML	AML	06 11 43.5	
MSZ				AML	AML	06 11 44.4	
SYZ	**Scrubby Hill**	**2.36**	**99**	PN	Pn	06 11 06.8	-0.2
EAZ	**Earnscleugh**	**2.67**	**70**	PN	Pn	06 11 12.8	+1.4
EAZ				AML	AML	06 11 50.7	
EAZ				AML	AML	06 11 50.7	
EAZ				AML	AML	06 11 53.3	
WKZ	**Wanaka**	**2.68**	**60**	PN	Pn	06 11 13.5	+2.0
WKZ				AML	AML	06 11 47.3	
WKZ				AML	AML	06 11 49.3	
TUZ	**Tuapeka**	**2.71**	**86**	PN	Pn	06 11 12.1	+0.4
TUZ				AML	AML	06 11 48.5	
TUZ				AML	AML	06 11 55.9	
JCZ	**Jackson Bay**	**3.02**	**46**	PN	Pn	06 11 18.0	+1.9
JCZ				AML	AML	06 12 10.1	
JCZ				AML	AML	06 12 12.6	
LBZ	**Lake Benmore**	**3.62**	**61**	PN	Pn	06 11 24.7	+0.4
LBZ				SN	Sn	06 12 05.8	-1.2
ODZ	**Otahua Downs**	**3.62**	**73**	PN	Pn	06 11 23.4	-1.0
FOZ	**Fox Glacier**	**3.85**	**48**	PN	Pn	06 11 29.2	+1.8

*NOU **29** 06:10:28.2±0.9, 17°.70S×168°.24E, h30km, MD3.3, ML3.3*
*BJI **29** 06:10:29.5, 19°.05S×169°.61E, h218km, mB4.7/8, mb4.6/18*
*ISCJB **29** 06:10:31.1±0.3, 18°.65S±0°.05×169°.08E±0°.05, h201km, mb4.5/44, Error ellipse: s-maj=8.8km s-min=4.3km az=40.0*
*IDC **29** 06:10:34.1±1.4, 18°.86S×169°.09E, h224km±14km, mb4.1/14, mb1 4.3/15, mb1mx4.1/20, mbtmp4.1/15, Error ellipse: s-maj=23.6km s-min=11.3km az=149.0*
*NEIC **29** 06:10:34.5±1.0, 18°.69S×169°.08E, h226km±9km, mb4.7/27, Error ellipse: s-maj=12.2km s-min=6.3km az=158.0*
*AUST **29** 06:10:34.8, 19°.00S×168°.95E, h200km*

ISC 29 06:10:32.6±0.4, 18°.75S±0°.06×169°.13E±0°.07, h201km, n132, σ1§58/127, mb4.5/44, 2C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.99**	**212**	*e*P	**Pn**	**06 11 34.5**	**+0.3**
BAYA				*e*S	**S**	**06 12 23.6**	**+1.5**
DZM	**Mont Dzumac**	**4.15**	**217**	P	**Pn**	**06 11 37.7**	**+1.3**
DZM				S	**S**	**06 12 26.5**	**+0.5**
DZM	**Mont Dzumac**	**4.15**	**217**	P	**Pn**	**06 11 37.7**	**+1.3**
25nm,0.3s,baz=56,slow=16,SNR=99							
DZM				S	**S**	**06 12 26.5**	**+0.5**
39nm,0.3s,baz=24,slow=21,SNR=8.7							
NORM	**Noumea**	**4.26**	**215**	*e*P	**Pn**	**06 11 37.8**	**+0.2**
NOUC	**Port Laguerre**	**4.26**	**218**	*e*P	Pn	06 11 35.9	-1.7
NOUC				*e*S	**S**	**06 12 27.3**	**-1.0**
NOUC				AMP		06 12 51.1	
comp=Z,119nm,0.0s							
MSVF	**Nonsavu**	**8.53**	**85**	*e*Pn	**Pn**	**06 12 35.5**	**+2.6**
OUZ	**Omahuta**	**16.88**	**167**	*e*P	**P**	**06 14 17.9**	**+1.9**
comp=Z,30nm,1.4s							
EIDS	**Eidsvold**	**17.97**	**245**	*e*P	**P**	**06 14 29.8**	**+1.7**
comp=Z,25nm,0.8s							
EIDS	**Eidsvold**	**17.97**	**245**	P	**P**	**06 14 30.1**	**+2.0**
baz=18,SNR=13							
ARMA	**Armidale**	**19.67**	**231**	*e*P	**P**	**06 14 48.2**	**+1.6**
comp=Z,7.7nm,0.7s							
RMQ	**Roma**	**20.30**	**244**	P	**P**	**06 14 55.1**	**+1.9**
baz=20,SNR=13							
TARA	**Tarawa**	**20.33**	**11**	*e*P	**P**	**06 14 52.3**	**-1.3**
comp=Z,73nm,0.8s							
CTA	**Charters Tower**	**21.62**	**263**	P	**P**	**06 15 06.8**	**-0.3**
CTA	**Charters Tower**	**21.62**	**263**	P	**P**	**06 15 06.8**	**-0.3**
comp=Z,16nm,0.8s,baz=90,slow=12,SNR=20							
CTAO	**Charters Tower**	**21.62**	**263**	*e*P	**P**	**06 15 07.3**	**+0.2**
comp=Z,19nm,0.8s							
PMG	**Port Moresby**	**23.23**	**291**	*e*P	**P**	**06 15 20.3**	**-1.8**
comp=Z,29nm,1.1s							
PMG	**Port Moresby**	**23.23**	**291**	P	**P**	**06 15 21.6**	**-0.5**
comp=Z,21nm,0.8s,baz=121,slow=8.8,SNR=5.8							
MTSU	**Mount Surprise**	**23.55**	**268**	P	**P**	**06 15 25.9**	**+0.8**
baz=23,SNR=29							
CNB	**Canberra Magne**	**24.05**	**223**	P	**P**	**06 15 30.8**	**+1.2**
baz=24,SNR=8.1							
CMSA	**Cobar Meteorol**	**24.68**	**234**	P	**P**	**06 15 35.4**	**+0.3**
baz=24,SNR=7.0							
COEN	**Coen**	**25.35**	**277**	*e*P	**P**	**06 15 41.9**	**+0.5**
comp=Z,166nm,1.4s							
STKA	**Stephens Creek**	**28.02**	**237**	*e*P	**P**	**06 16 05.6**	**+0.5**
comp=Z,1.0nm,0.7s							
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**06 16 04.9**	**-0.2**
comp=Z,4.7nm,0.7s,baz=82,slow=9.1,SNR=10							
STKA	**Stephens Creek**	**28.02**	**237**	P	**P**	**06 16 05.7**	**+0.6**
baz=28,SNR=5.0							
WRAB	**Tennant Creek**	**32.81**	**262**	*e*P	**P**	**06 16 45.7**	**-1.6**
comp=Z,8.2nm,0.9s							
WRA	**Warramunga Arr**	**32.82**	**262**	P	**P**	**06 16 45.8**	**-1.5**
WRA				PcP	**PcP**	**06 19 26.5**	**-1.1**
WRA				S	S	06 21 40.4	-9.3
WRA	**Warramunga Arr**	**32.82**	**262**	P	**P**	**06 16 45.8**	**-1.5**
comp=Z,9.3nm,0.9s,baz=88,slow=8.5,SNR=78							
WRA				PcP	**PcP**	**06 19 26.5**	**-1.1**
comp=Z,0.7nm,0.7s,baz=90,slow=3.1,SNR=3.5							
WRA				S	S	06 21 40.4	-9.3
comp=Z,1.7nm,1.0s,baz=92,slow=14,SNR=2.7							
AS31	**Alice Springs**	**33.15**	**255**	*e*P	**P**	**06 16 49.4**	**-0.8**
ASAR	**Alice Springs**	**33.15**	**255**	P	**P**	**06 16 49.4**	**-0.9**
ASAR				S	**S**	**06 21 50.4**	**-4.5**
ASAR	**Alice Springs**	**33.15**	**255**	P	**P**	**06 16 49.4**	**-0.9**
comp=Z,26nm,0.4s,baz=82,slow=8.8,SNR=523							
ASAR				S	**S**	**06 21 50.4**	**-4.5**
comp=Z,2.0nm,0.9s,baz=82,slow=18,SNR=11							
MTN	**Manton Dam**	**36.98**	**273**	P	**P**	**06 17 22.6**	**-0.4**
baz=37,SNR=3.8							
KNRA	**Kununurra**	**38.63**	**268**	P	**P**	**06 17 35.9**	**-0.9**
baz=38,SNR=8.0							
FITZ	**Fitzroy Crossi**	**41.19**	**264**	*e*P	**P**	**06 17 57.7**	**-0.2**
comp=Z,14nm,0.9s							
FITZ	**Fitzroy Crossi**	**41.19**	**264**	P	**P**	**06 17 57.7**	**-0.2**
baz=41,SNR=13							
SOEI	**Soe**	**44.29**	**275**	P	P	06 18 18.3	-4.7
baz=44,SNR=3.2							
MBWA	**Marble Bar**	**46.35**	**258**	*e*P	**P**	**06 18 38.5**	**-0.4**
comp=Z,11nm,0.8s							
MEEK	**Meekatharra**	**47.02**	**251**	P	**P**	**06 18 43.4**	**-0.7**
baz=47,SNR=8.6							
LUWI	**Luwuk**	**48.73**	**286**	P	P	06 19 07.6	+10
baz=49,SNR=3.6							
LUWI				S	**S**	**06 25 50.0**	**+5.3**
baz=49,SNR=4.0							
MJAR	**Matsushiro Arr**	**62.28**	**332**	P	**P**	**06 20 32.2**	**-1.2**
MJAR	**Matsushiro Arr**	**62.28**	**332**	P	**P**	**06 20 32.2**	**-1.2**
comp=Z,3.1nm,0.7s,baz=173,slow=7.6,SNR=8.7							
BKNI	**Bangkinang**	**69.41**	**278**	P	P	06 21 17.0	-2.3
baz=69,SNR=4.0							
NJ2	**Nanjing**	**69.79**	**316**	*e*P	**P**	**06 21 23.8**	**+2.5**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Arra**	**71.26**	**333**	P	**P**	**06 21 28.6**	**-1.3**
comp=Z,2.8nm,0.7s,baz=99,slow=10,SNR=6.2							
PETK	**Petropavlovsk-**	**72.24**	**353**	P	**P**	**06 21 35.3**	**-0.2**
PETK	**Petropavlovsk-**	**72.24**	**353**	P	**P**	**06 21 35.3**	**-0.2**
comp=Z,16nm,0.7s,baz=160,slow=9.5,SNR=16							
MDJ	**Mudanjiang**	**72.65**	**332**	P	**P**	**06 21 38.0**	**-0.1**
MDJ				pP	**pP**	**06 22 25.0**	**-0.9**
MDJ				sP	**sP**	**06 22 49.3**	**+2.0**
MDJ				S	**S**	**06 30 48.0**	**+1.5**
MDJ				pmax	pmax		
comp=Z,7.0nm,1.2s							
MDJ				pmax	pmax		
comp=Z,61nm,4.3s							
CN2	**Changchun**	**73.99**	**329**	*e*P	**P**	**06 21 48.8**	**+2.8**
GYA	**Guiyang**	**75.46**	**305**	*e*P	**P**	**06 21 55.0**	**0.0**
GYA				pP	**pP**	**06 22 47.0**	**+3.9**
GYA				sP	sP	06 23 10.0	+5.6
GYA				PP	**PP**	**06 24 48.8**	**+1.6**
GYA				S	**S**	**06 31 15.3**	**-3.6**
GYA				SKS	SKSac	06 31 39.5	-6.5
GYA				pmax	pmax		
comp=Z,10.0nm,1.0s							
XAN	**Xi'an**	**77.71**	**312**	P	**P**	**06 22 06.8**	**-0.5**
XAN				pmax	pmax		
comp=Z,3.0nm,1.2s							
KMI	**Kunming**	**77.93**	**302**	P	**P**	**06 22 09.3**	**+0.3**
KMI				pmax	pmax		
comp=Z,16nm,0.6s							
CMAR	**Chiang Mai Arr**	**78.21**	**294**	P	**P**	**06 22 11.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**78.21**	**294**	P	**P**	**06 22 11.1**	**+0.7**
comp=Z,2.3nm,0.7s,baz=130,slow=4.4,SNR=12							
HHC	**Hu-ho-hao-te**	**79.79**	**319**	*e*P	P	06 22 15.8	-2.8
HHC				pP	pP	06 23 09.5	+2.3
HHC				sP	sP	06 23 33.0	+4.6
HHC				PP	**PP**	**06 25 21.5**	**-1.6**
HHC				S	S	06 31 58.5	-6.2
HHC				sS	sS	06 33 32.0	+2.6
HHC				SS	**SS**	**06 37 19.0**	**+0.1**
HHC				pmax	pmax		
comp=Z,33nm,1.0s							
HHC				pmax	pmax		
comp=Z,190nm,5.1s							
HHC				LR	LR		
comp=N,250nm,17.5s							
HHC				LR	LR		
comp=E,580nm,16.7s							
HHC				LR	LR		
comp=Z,230nm,17.4s							
CD2	**Chengdu**	**79.86**	**307**	*e*P	**P**	**06 22 18.5**	**-0.6**
CD2				pP	**pP**	**06 23 10.8**	**+3.1**
CD2				sP	**sP**	**06 23 33.8**	**+4.8**
CD2				pmax	pmax		
comp=Z,10.0nm,1.4s							
CD2				pmax	pmax		
comp=Z,40nm,6.8s							
LZH	**Lanzhou**	**82.33**	**312**	*e*P	**P**	**06 22 33.0**	**+0.8**
LZH				sP	**sP**	**06 23 47.0**	**+4.8**
LZH				pmax	pmax		
comp=Z,11nm,1.0s							
ULN	**Ulaanbaatar**	**86.42**	**323**	*e*P	**P**	**06 22 51.6**	**-0.8**
comp=Z,9.5nm,1.0s							
GTA	**Gaotai**	**86.72**	**313**	*e*P	**P**	**06 22 53.5**	**-0.6**
GTA				sP	**sP**	**06 24 07.8**	**+3.3**
GTA				pmax	pmax		
comp=Z,5.0nm,1.1s							
SONM	**Songino Array**	**86.77**	**323**	P	**P**	**06 22 53.5**	**-0.6**
SONM	**Songino Array**	**86.77**	**323**	P	**P**	**06 22 53.5**	**-0.6**
comp=Z,4.5nm,0.8s,baz=151,slow=5.5,SNR=27							
CMB	**Columbia Colle**	**86.91**	**48**	*e*P	**P**	**06 22 54.4**	**-0.6**
comp=Z,8.4nm,0.9s							
ISA	**Isabella**	**87.25**	**51**	*e*P	**P**	**06 22 55.5**	**-1.2**
comp=Z,3.5nm,0.8s							
HUMO

CRVS	Cervenica-Dubn	140.21	327	*e*PKP	PKPdf	06 29 33.0	-4.3
TANN	Tannenbergstha	143.35	335	*e*PKP	PKPab	06 29 38.6	-0.8
WERD	Werda	143.38	335	*e*PKP	PKPab	06 29 39.2	-0.3
GUNZ	Gunzen	143.44	335	*e*PKP	PKPab	06 29 39.3	-0.4
NKC	Novy Kostel	143.49	335	*e*PKP	PKPab	06 29 39.6	-0.3
MANZ	Manzenberg	143.82	335	*e*PKP	PKPab	06 29 40.3	-0.9
KHC	Kasperske Hory	143.86	333	*e*PKP	PKPab	06 29 40.7	-0.7
KHC	Kasperske Hory	143.86	333	*e*PKPdf	PKPab	06 29 40.4	-1.0
ROTZ	Rotzenmuhle	143.95	334	*e*PKP	PKPab	06 29 41.0	-0.7
GEC2	GERESS Array S	144.02	332	*e*PKP	PKPab	06 29 41.3	-0.8
GERES	GERESS Array B	144.02	332	PKP	PKPab	06 29 41.1	-1.0
GERES	GERESS Array B	144.02	332	PKP	PKPab	06 29 41.1	-1.0
	comp=Z,2.8nm,0.8s,baz=46,slow=3.9,SNR=21						
WET	Wettzell	144.15	333	*e*PKP	**PKPab**	**06 29 41.3**	**-1.2**
ARSA	Arzberg	144.31	329⇑	*i*PKPdf	**PKPab**	**06 29 42.4**	**-0.8**
	comp=Z,9.4nm,1.1s,SNR=6.5						
GRF	Grafenberg Arr	144.41	335	*e*PKP	**PKPab**	**06 29 42.5**	**-1.0**
MOA	Molln	144.49	330⇑	*i*PKPdf	**PKPab**	**06 29 42.9**	**-1.0**
	comp=Z,18nm,0.7s,SNR=11						
KOGS	Kog	144.49	327	*e*PKPbc	**PKPab**	**06 29 42.2**	**-1.7**
PERS	Pernice	144.94	328	*i* PKPbc	PKPbc	06 29 44.0	-1.5
SOKA	Soboth	144.95	328	*i* PKPdf	PKPbc	06 29 44.1	-1.5
	comp=Z,11nm,0.6s,SNR=15						
TNS	Taunus Mts	145.02	338	*e*PKP	PKPbc	06 29 43.5	-2.1
RJOB	Jochberg	145.25	332	*e*PKP	**PKPdf**	**06 29 45.2**	**-1.1**
BOJS	Bojanci	145.64	327	*i* PKPbc	**PKPdf**	**06 29 46.6**	**-0.4**
LJU	Ljubljana	145.64	328	*e*PKPbc	**PKPdf**	**06 29 46.2**	**-0.8**
MYKA	Terra Mystica	145.66	330⇓	*i*PKPab	**PKPdf**	**06 29 45.9**	**-1.2**
	comp=Z,9.0nm,0.7s,SNR=5.5						
CRNS	Crni Vrh	145.75	328	*i* PKPbc	**PKPdf**	**06 29 46.3**	**-0.9**
STU	Stuttgart	145.94	336	*e*PKP	**PKPdf**	**06 29 47.0**	**-0.4**
WLF	Walferdange	146.27	340	*e*PKP	**PKPdf**	**06 29 48.7**	**+0.8**
MOTA	Moosalm	146.29	333⇓	*i*PKPab	**PKPdf**	**06 29 48.1**	**-0.2**
	comp=Z,7.8nm,0.7s,SNR=5.5						
BFO	Black Forest	146.63	336	*e*PKP	**PKPdf**	**06 29 48.9**	**+0.3**
BFO	Black Forest	146.63	336	*e*PKPbc	**PKPdf**	**06 29 48.9**	**+0.3**
TUE	Stuetta	147.73	333	*e*PKPbc	**PKPdf**	**06 29 52.6**	**+1.8**
TORD	Torodi Ar. Bea	166.70	247	PKP	**PKPdf**	**06 30 12.9**	**-2.0**
TORD	Torodi Ar. Bea	166.70	247	PKP	**PKPdf**	**06 30 12.9**	**-2.0**
	comp=Z,1.8nm,0.9s,baz=99,slow=0.5,SNR=6.8						

BJI ***29*** *06:53:35.8, 19°.10S×174°.30W, h5km, mB5.2/8, mb5.1/12, Ms5.2/4, Ms7 4.8/4*
ISCJB ***29*** *06:53:39.8±0.3, 19°.02S±0°.08×174°.58W±0°.07, h10km, mb4.7/42, MS4.0/9, Error ellipse: s-maj=13.0km s-min=6.3km az=141.7*
IDC ***29*** *06:53:39.5±0.7, 19°.01S×174°.53W, h0km, mb4.3/10, mb1 4.6/11, mb1mx4.4/22, mbtmp4.3/11, ML2.6/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=33.2km s-min=16.2km az=135.0*
NEIC ***29*** *06:53:41.4±0.2, 18°.96S×174°.55W, h10km, mb4.6/27, Error ellipse: s-maj=10.2km s-min=4.3km az=135.0*
AUST ***29*** *06:53:48.1±0.9, 19°.07S×173°.64W, h121km, Error ellipse: s-maj=1.8km s-min=1.3km az=4.0*
ISC 29 06:53:42.5±1.2, 18°.95S±0°.10×174°.49W±0°.09, h17km±7km, n205, σ1$00/211, mb4.7/42, MS3.7/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.32**	**92**	P	Pn	06 54 41.6	-5.9
	baz=3.5,SNR=44						
NIUE				S	Sn	06 55 21.1	-16
	baz=3.5,SNR=13						
AFI	**Afiamalu**	**5.65**	**28**	*e*Pn	**Pn**	**06 55 06.0**	**+0.2**
AFI				Sn	Sn	06 56 02.6	-7.7
AFI				*e*Sn	Sb	06 56 05.7	-23
AFI	**Afiamalu**	**5.65**	**28**	Pn	**Pn**	**06 55 06.0**	**+0.2**
	10nm,0.3s,baz=103,slow=10,SNR=11						
AFI				Sn	Sn	06 56 02.6	-7.7
	51nm,0.3s,baz=18,slow=20,SNR=12						
RAR	**Rarotonga**	**14.01**	**102**	*e*Pn	Pn	06 56 54.4	-6.0
RAR	**Rarotonga**	**14.01**	**102**	Pn	Pn	06 56 54.0	-6.3
	12nm,0.3s,baz=270,slow=9.3,SNR=9.2						
RAR				LR	LR	07 00 36.6	
	comp=Z,208nm,19.3s,baz=91,slow=30						
DZM	**Mont Dzumac**	**18.13**	**257**	*e*LR	LR	07 02 15.0	
	336nm,23.9s						
DZM	**Mont Dzumac**	**18.13**	**257**	P	**P**	**06 57 58.3**	**+4.3**
DZM	**Mont Dzumac**	**18.13**	**257**	P	**P**	**06 57 58.3**	**+4.3**
	1.1nm,0.3s,baz=78,slow=18,SNR=22						
OUZ	**Omahuta**	**19.34**	**211**	*e*P	**P**	**06 58 06.7**	**-0.4**
	14nm,1.2s						
URZ	**Urewera**	**20.59**	**199**	*e*P	**P**	**06 58 18.7**	**-2.0**
	32nm,0.9s						
URZ				S	S	07 01 56.8	-13
URZ	**Urewera**	**20.59**	**199**	P	**P**	**06 58 18.7**	**-2.0**
	20nm,0.4s,baz=7.6,slow=3.0,SNR=35						
URZ				S	S	07 01 56.8	-13
	4.4nm,0.8s,baz=90,slow=20,SNR=5.1						
PPT2	**Papeete2**	**23.69**	**91**	*e*LR	LR	07 04 28.8	
	282nm,26.8s						
PPT	**Papeete**	**23.70**	**91**	LR	LR	07 04 31.9	
	comp=Z,140nm,21.3s,baz=168,slow=28						
TBI	**Tubuai**	**23.74**	**105**	*e*LR	LR	07 04 16.4	
	182nm,30.8s						
KHZ	**Kahutara**	**25.50**	**201**	*e*P	**P**	**06 59 10.3**	**+0.3**
	14nm,0.8s						
RPZ	**Rata Peaks**	**27.52**	**203**	*e*P	**P**	**06 59 29.8**	**+1.5**
	15nm,0.6s						
RPZ	**Rata Peaks**	**27.52**	**203**	P	**P**	**06 59 30.6**	**+2.3**
	13nm,0.5s,baz=261,slow=1.3,SNR=12						
EIDS	**Eidsvold**	**32.46**	**252**	*e*P	**P**	**07 00 11.2**	**-1.0**
	2.7nm,0.4s						
CTAO	**Charters Tower**	**36.96**	**262**	*e*P	**P**	**07 00 51.1**	**-0.1**
	14nm,0.8s						
MTSU	**Mount Surprise**	**39.00**	**264**	P	**P**	**07 01 08.3**	**-0.1**
	baz=40,SNR=11						
COEN	**Coen**	**40.83**	**270**	*e*P	**P**	**07 01 24.2**	**+0.6**
	50nm,0.8s						
COEN	**Coen**	**40.83**	**270**	P	**P**	**07 01 24.2**	**+0.6**
	baz=42,SNR=5.9						
STKA	**Stephens Creek**	**41.44**	**243**	P	**P**	**07 01 29.1**	**+0.6**
STKA	**Stephens Creek**	**41.44**	**243**	P	**P**	**07 01 29.1**	**+0.6**
	1.8nm,0.5s,baz=89,slow=5.7,SNR=3.6						
STKA				LR	LR	07 16 47.8	
	comp=Z,94nm,18.3s,baz=154,slow=34						
WRAB	**Tennant Creek**	**48.10**	**260**	*e*P	**P**	**07 02 20.2**	**-1.6**
	7.3nm,0.8s						
AS31	**Alice Springs**	**48.10**	**255**	*e*P	**P**	**07 02 21.4**	**-0.3**
ASAR	**Alice Springs**	**48.10**	**255**	P	**P**	**07 02 20.5**	**-1.3**
ASAR				PcP	**PcP**	**07 03 48.4**	**-1.1**
ASAR				S	S	07 09 12.3	-7.7
ASAR	**Alice Springs**	**48.10**	**255**	P	**P**	**07 02 20.5**	**-1.3**
	7.6nm,0.6s,baz=93,slow=8.1,SNR=83						
ASAR				PcP	**PcP**	**07 03 48.4**	**-1.1**
	1.5nm,0.6s,baz=101,slow=4.0,SNR=5.6						
ASAR				S	S	07 09 12.3	-7.7
	0.8nm,0.8s,baz=100,slow=15,SNR=6.2						
ASAR				LR	LR	07 20 48.0	
	comp=Z,83nm,20.3s,baz=265,slow=34						
WRA	**Warramunga Arr**	**48.11**	**260**	P	**P**	**07 02 20.4**	**-1.4**
WRA				PcP	**PcP**	**07 03 49.1**	**-0.3**
WRA	**Warramunga Arr**	**48.11**	**260**	P	**P**	**07 02 20.4**	**-1.4**
	5.0nm,0.7s,baz=98,slow=7.8,SNR=78						
WRA				PcP	**PcP**	**07 03 49.1**	**-0.3**
	0.6nm,0.5s,baz=94,slow=3.3,SNR=2.7						
KDU	**Kakadu**	**51.26**	**269**	P	**P**	**07 02 45.6**	**-0.3**
	baz=52,SNR=4.5						
MTN	**Manton Dam**	**52.49**	**268**	P	**P**	**07 02 54.6**	**-0.4**
	baz=53,SNR=5.8						
KNRA	**Kununurra**	**54.08**	**264**	P	**P**	**07 03 06.4**	**-0.4**
	baz=55,SNR=4.8						
PALU	**Palau**	**56.68**	**293**	P	**P**	**07 03 23.6**	**-1.9**
	baz=58,SNR=3.2						
SBA	**Scott Base**	**59.65**	**185**	*e*P	**P**	**07 03 45.2**	**-0.1**
	2.3nm,0.8s						
VNDA	**Vanda**	**59.76**	**186**	*e*P	**P**	**07 03 45.4**	**-0.7**
	1.4nm,0.9s						
VNDA	**Vanda**	**59.76**	**186**	P	**P**	**07 03 45.6**	**-0.5**
	1.4nm,0.9s,baz=344,slow=6.3,SNR=8.5						
MJAR	**Matsushiro Arr**	**71.00**	**321**	LR	LR	07 29 31.2	
	comp=Z,30nm,20.8s,baz=255,slow=30						
EDW2	**Edwards Air Fo**	**75.77**	**45**	P	**P**	**07 05 28.1**	**+0.4**
	baz=76						
ISA	**Isabella**	**75.91**	**44**	*e*P	**P**	**07 05 29.1**	**+0.7**
	2.7nm,1.1s						
ISA	**Isabella**	**75.91**	**44**	P	**P**	**07 05 28.9**	**+0.4**
	baz=76						
LRMC	**Laurel Mountai**	**76.32**	**45**	P	**P**	**07 05 31.4**	**+0.5**
	baz=77						
BELC	**Belle Mtn. Jos**	**76.63**	**47**	P	**P**	**07 05 32.9**	**+0.2**
	baz=77						
MPMC	**Manual Prospec**	**76.79**	**44**	P	**P**	**07 05 33.6**	**0.0**
	baz=77						
FURC	**Furnace Creek,**	**77.44**	**44**	P	**P**	**07 05 37.2**	**+0.2**
	baz=78						
TUQ	**Turquoise Moun**	**77.48**	**46**	P	**P**	**07 05 37.6**	**+0.1**
	baz=78						
NVAR	**Mina Array Bea**	**77.65**	**42**	P	**P**	**07 05 39.0**	**+0.6**
NVAR	**Mina Array Bea**	**77.65**	**42**	P	**P**	**07 05 39.0**	**+0.6**
	1.9nm,0.7s,baz=223,slow=9.1,SNR=19						
KSRS	**Korea Array**	**77.98**	**317**	LR	LR	07 38 41.7	
	comp=Z,21nm,18.0s,baz=135,slow=35						
Y14A	**Wickenburg**	**78.68**	**48**	P	**P**	**07 05 44.3**	**+0.3**
	baz=79						
R11A	**Troy Canyon, C**	**79.34**	**43**	*e*P	**P**	**07 05 47.4**	**-0.4**
R11A	**Troy Canyon, C**	**79.34**	**43**	P	**P**	**07 05 47.6**	**-0.1**
	baz=80						
TUC	**Tucson**	**79.44**	**51**	*e*P	**P**	**07 05 48.8**	**+0.5**
	2.9nm,1.2s						
X16A	**Lo Mia Camp, P**	**80.04**	**48**	P	**P**	**07 05 52.6**	**+1.0**
	baz=80						
CCUT	**Cedar City**	**80.37**	**45**	*e*P	**P**	**07 05 54.2**	**+0.8**
	3.1nm,1.1s						
U15A	**North Rim**	**80.49**	**46**	P	**P**	**07 05 55.2**	**+1.1**
	baz=81						
J08A	**Circle Bar Ran**	**80.50**	**38**	*e*P	**P**	**07 05 54.4**	**+0.6**
	60nm,2.9s						
WUAZ	**Wupatki**	**80.65**	**48**	P	**P**	**07 05 55.9**	**+1.1**
	baz=81						
220A	**Playas Peak, P**	**80.90**	**52**	P	**P**	**07 05 56.8**	**+0.5**
	baz=81						
MDJ	**Mudanjiang**	**81.21**	**323**	P	**P**	**07 05 58.3**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,56nm,4.0s						
G08A	**Pilot Rock**	**81.40**	**36**	*e*P	**P**	**07 05 59.3**	**+0.7**
	comp=Z,4.1nm,0.8s						
121A	**Cookes Peak, D**	**81.75**	**52**	P	**P**	**07 06 01.5**	**+0.7**
	baz=82						
Y20A	**Horse Springs,**	**81.98**	**50**	P	**P**	**07 06 02.7**	**+0.6**
	baz=82						
DUG	**Dugway**	**82.16**	**43**	P	**P**	**07 06 02.8**	**+0.1**
	baz=82						
X20A	**Quemado**	**82.20**	**50**	P	**P**	**07 06 04.3**	**+1.1**
	baz=82						
Z21A	**St. Cloud Mine**	**82.21**	**51**	P	**P**	**07 06 04.5**	**+1.3**
	baz=82						
W20A	**Ramah**	**82.48**	**49**	P	**P**	**07 06 05.6**	**+0.9**
	baz=83,SNR=5.4						
Q16A	**Castle Valley**	**82.55**	**45**	P	**P**	**07 06 05.9**	**+1.0**
	baz=83						
Z22A	**Elephant Butte**	**82.70**	**51**	P	**P**	**07 06 06.5**	**+0.8**
	baz=83						
TMUT	**Trail Mountain**	**82.73**	**44**	*e*P	**P**	**07 06 06.7**	**+0.8**
	comp=Z,6.1nm,0.9s						
F10A	**Beach Ranch, E**	**82.78**	**36**	*e*P	**P**	**07 06 05.8**	**0.0**
	comp=Z,1.1nm,1.3s						
324A	**Moseley Ranch,**	**82.98**	**54**	P	**P**	**07 06 07.3**	**+0.1**
	baz=83						
HLID	**Hailey**	**83.02**	**39**	*e*P	**P**	**07 06 07.5**	**+0.4**
	comp=Z,3.9nm,0.8s						
HLID	**Hailey**	**83.02**	**39**	P	**P**	**07 06 07.9**	**+0.8**
	baz=83,SNR=10						
Y22A	**Socorro**	**83.02**	**51**	P	**P**	**07 06 07.7**	**+0.3**
	baz=83						
425A	**Indio Mountain**	**83.06**	**54**	P	**P**	**07 06 08.0**	**+0.4**
	baz=83,SNR=5.6						
SRU	**San Rafael**	**83.08**	**45**	*e*P	**P**	**07 06 08.4**	**+0.8**
	comp=Z,5.1nm,0.8s						
CN2	**Changchun**	**83.14**	**321**	*e*P	**P**	**07 06 09.0**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
626A	**Big Bend Ranch**	**83.17**	**56**	P	**P**	**07 06 08.5**	**+0.3**
	baz=83						
224A	**Cornudas Mount**	**83.23**	**53**	P	**P**	**07 06 09.2**	**+0.7**
	baz=83,SNR=5.5						
325A	**Bean Ranch, Si**	**83.33**	**54**	P	**P**	**07 06 09.1**	**+0.1**
	baz=84						
526A	**Mary Lane Ranc**	**83.43**	**55**	P	**P**	**07 06 09.6**	**0.0**
	baz=84						
TXAR	**Lajitas Array**	**83.44**	**56**	P	**P**	**07 06 09.8**	**+0.2**
TXAR	**Lajitas Array**	**83.44**	**56**	P	**P**	**07 06 09.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=221,slow=8.2,SNR=11						
124A	**Stringfield Ra**	**83.57**	**52**	P	**P**	**07 06 10.9**	**+0.5**
	baz=84						
Y23A	**Lovelace Mesa,**	**83.69**	**51**	P	**P**	**07 06 11.4**	**+0.5**
	baz=84						
PV09	**Paradox Valley**	**83.71**	**46**	*e*P	**P**	**07 06 11.8**	**+0.8**
HWUT	**Hardware Ranch**	**83.71**	**42**	*e*P	**P**	**07 06 10.2**	**-0.6**
	comp=Z,2.3nm,0.7s						
PV10	**Paradox Valley**	**83.71**	**46**	*e*P	**P**	**07 06 10.8**	**-0.1**
	comp=Z,89nm,0.8s						
U21A	**Nageezi**	**83.71**	**48**	P	**P**	**07 06 11.6**	**+0.6**
	baz=84,SNR=12						
627A	**Terlingua Ranc**	**83.72**	**56**	P	**P**	**07 06 11.4**	**+0.4**
	baz=84						
426A	**McDonald Obser**	**83.75**	**55**	P	**P**	**07 06 11.8**	**+0.5**
	baz=84						
225A	**Deer Hill, Car**	**83.78**	**53**	P	**P**	**07 06 11.8**	**+0.5**
	baz=84						
PV04	**Paradox Valley**	**83.81**	**46**	*e*P	**P**	**07 06 11.8**	**+0.4**
527A	**Woodward Ranch**	**83.84**	**55**	P	**P**	**07 06 11.7**	**0.0**
	baz=84						
ANMO	**Albuquerque**	**83.87**	**50**	*e*P	**P**	**07 06 12.1**	**+0.3**
	comp=Z,7.4nm,1.3s						
S20A	**Disappointment**	**83.91**	**47**	P	**P**	**07 06 12.4**	**+0.4**
	baz=84						
PV01	**Paradox Valley**	**83.91**	**46**	*e*P	**P**	**07 06 12.0**	**0.0**
	comp=Z,602nm,1.2s						
Z24A	**Sheeppen Canyo**	**83.92**	**52**	P	**P**	**07 06 12.1**	**0.0**
	baz=84						
628A	**Black Gap, Mar**	**84.12**	**56**	P	**P**	**07 06 13.3**	**+0.3**
	baz=84						
Y24A	**Capitan**	**84.14**	**51**	P	**P**	**07 06 13.9**	**+0.7**
	baz=84,SNR=7.1						
125A	**Gardner Draw,**	**84.15**	**53**	P	**P**	**07 06 14.0**	**+0.9**
	baz=84						
W23A	**Werner Place,**	**84.19**	**50**	P	**P**	**07 06 13.6**	**+0.2**
	baz=84						
NEW	**Newport**	**84.21**	**34**	P	**P**	**07 06 12.8**	**-0.2**
	baz=84						
M17A	**Scullys Gap (B**	**84.22**	**43**	P	**P**	**07 06 13.1**	**-0.3**
	baz=84						
S21A	**Coal Bank Pass**	**84.22**	**47**	P	**P**	**07 06 14.3**	**+0.7**
	baz=84,SNR=6.9						
226B	**Tecolote Peak,**	**84.26**	**53**	P	**P**	**07 06 13.7**	**0.0**
	baz=84						
427A	**Hayter Ranch,**	**84.31**	**55**	P	**P**	**07 06 14.2**	**+0.2**
	baz=84						
P19A	**Cripple Cowboy**	**84.38**	**45**	P	**P**	**07 06 14.7**	**+0.4**
	baz=85						
Z25A	**Roswell**	**84.39**	**52**	P	**P**	**07 06 14.8**	**+0.4**
	baz=85						
X24A	**Lazy VL Ranch,**	**84.44**	**51**	P	**P**	**07 06 14.8**	**+0.1**
	baz=85						
V23A	**Ortiz Mt. (NFS**	**84.44**	**49**	P	**P**	**07 06 15.8**	**+1.1**
	baz=85,SNR=7.9						
Q20A	**Ridgley Place,**	**84.50**	**46**	P	**P**	**07 06 15.4**	**+0.5**
	baz=85,SNR=5.7						
T22A	**Edith**	**84.53**	**48**	P	**P**	**07 06 15.4**	**+0.3**
	baz=85						
O19A	**Miners Draw (B**	**84.62**	**44**	P	**P**	**07 06 15.6**	**+0.1**
	baz=85						
MCMT	**McKenzie Canyo**	**84.66**	**39**	*e*P	**P**	**07 06 15.8**	**+0.2**
	comp=Z,3.4nm,1.1s						
U23A	**El Rito**	**84.71**	**49**	P	**P**	**07 06 16.6**	**+0.6**
	baz=85,SNR=6.8						
P20A	**De Beque**	**84.71**	**45**	P	**P**	**07 06 16.5**	**+0.6**
	baz=85,SNR=6.3						
R21A	**Cimarron**	**84.73**	**47**	P	**P**	**07 06 16.9**	**+0.8**
	baz=85,SNR=5.2						
W24A	**Lazy 6 Ranch,**	**84.75**	**50**	P	**P**	**07 06 16.7**	**+0.4**
	baz=85,SNR=7.4						
428A	**Kincaid Ranch,**	**84.81**	**55**	P	**P**	**07 06 16.9**	**+0.3**
	baz=85						
529A	**Stev Forest Ra**	**84.92**	**56**	P	**P**	**07 06 16.8**	**-0.2**
	baz=85						
S22A	**4UR Ranch, Cre**	**84.93**	**47**	P	**P**	**07 06 17.6**	**+0.4**
	baz=85,SNR=7.1						
Z26A	**Caprock**	**84.93**	**52**	P	**P**	**07 06 17.4**	**+0.3**
	baz=85,SNR=9.5						
I16A	**Newdale**	**84.96**	**40**	P	**P**	**07 06 17.9**	**+0.8**
	baz=85,SNR=10.0						
REDW	**Red Top Meadow**	**85.08**	**41**	*e*P	**P**	**07 06 18.0**	**+0.2**
	comp=Z,3.4nm,1.1s						
V24A	**Rampart Ranch,**	**85.09**	**50**	P	**P**	**07 06 18.7**	**+0.7**
	baz=85,SNR=5.9						
TPAW	**Teton Pass**	**85.09**	**41**	*e*P	**P**	**07 06 18.0**	**+0.1**
	comp=Z,7.1nm,1.2s						
DLMT	**Dillon**	**85.10**	**39**	*e*P	**P**	**07 06 17.7**	**0.0**
	comp=Z,3.9nm,1.0s						
O20A	**White River Ci**	**85.12**	**45**	*e*P	**P**	**07 06 18.3**	**+0.3**
O20A	**White River Ci**	**85.12**	**45**	P	**P**	**07 06 18.4**	**+0.4**
	baz=85						
Y26A	**Elida**	**85.34**	**52**	P	**P**	**07 06 19.4**	**+0.2**
	baz=86,SNR=7.0						
L19A	**Farson**	**85.38**	**43**	P	**P**	**07 06 19.2**	**-0.1**
	baz=86						
429A	**Davenport Ranc**	**85.39**	**56**	P	**P**	**07 06 19.4**	**0.0**
	baz=86						
Q22A	**Crested Butte,**	**85.41**	**46**	P	**P**	**07 06 19.8**	**+0.2**
	baz=86						
W25A	**X Bar L Ranch,**	**85.45**	**51**	P	**P**	**07 06 19.4**	**-0.2**
	baz=86						
N20A	**Spence Gulch,**	**85.45**	**44**	P	**P**	**07 06 19.6**	**-0.1**
	baz=86						
228A	**UT Block 9, Go**	**85.48**	**54**	P	**P**	**07 06 20.1**	**+0.3**
	baz=86						
Z27A	**Tatum**	**85.53**	**53**	P	**P**	**07 06 20.4**	**+0.3**
	baz=86						
H16A	**Russell Place,**	**85.55**	**40**	P	**P**	**07 06 20.9**	**+0.8**
	baz=86,SNR=6.4						
PDAR	**Pinedale Array**	**85.59**	**42**	P	**P**	**07 06 19.9**	**-0.4**
PDAR	**Pinedale Array**	**85.59**	**42**	P	**P**	**07 06 19.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=219,slow=4.1,SNR=13						
PDAR				LR	LR	07 39 16.8	
	comp=Z,43nm,18.4s,baz=78,slow=32						
V25A	**Rancho No Teng**	**85.61**	**50**	P	**P**	**07 06 20.6**	**0.0**
	baz=86						
530A	**J-C Ranch, Com**	**85.62**	**56**	P	**P**	**07 06 20.5**	**0.0**
	baz=86						
329A	**Wagon Wheel Ra**	**85.68**	**55**	P	**P**	**07 06 20.5**	**-0.4**
	baz=86						
128A	**Castleberry Fa**	**85.78**	**54**	P	**P**	**07 06 21.6**	**+0.3**
	baz=86,SNR=5.7						
Y27A	**Causey**	**85.81**	**52**	P	**P**	**07 06 21.8**	**+0.3**
	baz=86,SNR=9.2						
BOZ	**Bozeman (W)**	**85.82**	**39**	*e*P	**P**	**07 06 21.3**	**0.0**
	comp=Z,4.5nm,1.3s						
N21A	**Black Mountain**	**85.91**	**44**	P	**P**	**07 06 22.0**	**+0.1**
	baz=86						
COLA	**College**	**86.03**	**11**	*e*P	**P**	**07 06 22.1**	**+0.5**
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**86.11**	**11**	P	**P**	**07 06 22.1**	**0.0**
ILAR	**Eielson Array**	**86.11**	**11**	P	**P**	**07 06 22.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=230,slow=6.3,SNR=21						
732A	**Laxson Ranch,**	**86.13**	**58**	P	**P**	**07 06 23.5**	**+0.5**
	baz=86						
Z28A	**Tucker Farm, M**	**86.14**	**53**	P	**P**	**07 06 23.3**	**+0.2**
	baz=86						
MSTX	**Muleshoe**	**86.14**	**52**	*e*P	**P**	**07 06 23.2**	**0.0**
MSTX	**Muleshoe**	**86.14**	**52**	P	**P**	**07 06 23.2**	**0.0**
	baz=86,SNR=8.1						
531A	**Rocksprings**	**86.25**	**57**	P	**P**	**07 06 23.7**	**+0.1**
	baz=86						
O22A	**Kremmling**	**86.27**	**45**	P	**P**	**07 06 23.6**	**-0.2**
	baz=86						
330A	**Mertzon**	**86.27**	**55**	P	**P**	**07 06 23.2**	**-0.6**
	baz=86						
HRY	**Holter Researc**	**86.28**	**38**	*e*P	**P**	**07 06 23.8**	**+0.3**
W27A	**Bowe Ranch, En**	**86.41**	**51**	P	**P**	**07 06 24.3**	**-0.1**
	baz=87						
M21A	**Separation Pea**	**86.42**	**44**	P	**P**	**07 06 23.4**	**-1.1**
	baz=87						
U26A	**Atchley Ranch,**	**86.50**	**50**	P	**P**	**07 06 24.4**	**-0.5**
	baz=87						
Y28A	**McKinney Farm,**	**86.51**	**53**	P	**P**	**07 06 24.6**	**-0.3**
	baz=87						
F17A	**Fitzpatrick Pl**	**86.54**	**39**	P	**P**	**07 06 25.6**	**+0.8**
	baz=87						
632A	**Uvalde**	**86.59**	**57**	P	**P**	**07 06 25.5**	**+0.2**
	baz=87						
N22A	**Wattenberg Ran**	**86.64**	**45**	P	**P**	**07 06 25.7**	**+0.1**
	baz=87						
532A	**Rocksprings**	**86.75**	**57**	P	**P**	**07 06 25.7**	**-0.4**
	baz=87						
Y29A	**Porterfield Fa**	**86.92**	**53**	P	**P**	**07 06 26.9**	**0.0**
	baz=87						
Z30A	**Sanderson Ranc**	**87.09**	**53**	P	**P**	**07 06 27.2**	**-0.5**
	baz=87						
BJI	**Beijing**	**87.16**	**314**	P	**P**	**07 06 28.0**	**+0.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
D17A	**Six Diamond Ra**	**87.18**	**38**	P	**P**	**07 06 28.1**	**+0.2**
	baz=87						
332A	**Millersview**	**87.38**	**56**	P	**P**	**07 06 28.8**	**-0.3**
	baz=88						
C17A	**Wharram Farm,**	**87.39**	**37**	P	**P**	**07 06 28.9**	**+0.1**
	baz=88						
M23A	**Laramie**	**87.44**	**45**	P	**P**	**07 06 29.1**	**-0.3**
	baz=88						
232A	**Coleman**	**87.66**

	comp=Z,140nm,14.6s						
MDND	**Maddock**	94.15	41	P	P	07 06 59.9	-0.4
	baz=94						
LZH	**Lanzhou**	94.48	306	*e*P	P	07 06 59.5	-2.8
LZH				pP	PcP	07 07 05.3	+2.6
LZH				sP	PcP	07 07 08.5	+5.8
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
A29A	**Manning Farm,**	94.80	40	P	P	07 07 03.0	-0.3
	baz=95						
KOLS	**Kolonicke sedl**	147.17	339	*e*PKP	PKPab	07 13 26.3	-0.1
CLL	**Collm**	147.17	351	*e*PKPbc	PKPbc	07 13 24.0	-0.6
CRVS	**Cervenica-Dubn**	147.46	340	*e*PKP	PKPab	07 13 28.0	+0.5
BRTR	**Keskin Array B**	148.12	316	PKPbc	PKPbc	07 13 26.5	-1.3
BRTR	**Keskin Array B**	148.12	316	PKPbc	PKPbc	07 13 26.5	-1.3
	comp=Z,0.5nm,0.4s,baz=129,slow=3.9,SNR=3.4						
KECS	**Kecovo**	148.14	341	*e*PKP	PKPab	07 13 28.9	-1.3
GERES	**GERESS Array B**	149.45	349	PKPbc	PKPbc	07 13 30.9	0.0
GERES	**GERESS Array B**	149.45	349	PKPbc	PKPbc	07 13 30.9	0.0
	comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=5.2						

*NEIC **29** 07:24:39.1, 37°.34S×177°.43E, h131km, MG4.1(WEL), After WEL.*

WEL 29 07:24:39.1±0.3, 37°.33S×177°.43E, h131km±3km, ML4.1/9, 3C-2D, Error ellipse: s-maj=2.0km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**109**	⇑PN	Pn	07 24 59.7	0.0
MXZ				SN	Sn	07 25 15.8	+0.4
MXZ				AML	AML	07 25 17.0	
MXZ				AML	AML	07 25 17.0	
MXZ				AML	AML	07 25 17.0	
MXZ	**Matakaoa Point**	**0.74**	**109**	Pn	Pn	07 24 59.8	0.0
MXZ				Sn	Sn	07 25 15.8	+0.4
OPRZ	**Ohinepanea**	**0.86**	**233**	⇓PN	Pn	07 25 00.6	-0.2
OPRZ	**Ohinepanea**	**0.86**	**233**	Pn	Pn	07 25 00.6	-0.2
URZ	**Urewera**	**0.96**	**195**	PN	Pn	07 25 01.5	-0.2
URZ				SN	Sn	07 25 18.6	-0.3
URZ				AML	AML	07 25 19.2	
URZ	**Urewera**	**0.96**	**195**	Pn	Pn	07 25 01.2	-0.4
URZ				Sn	Sn	07 25 18.6	-0.3
PUZ	**Puketiti**	**0.99**	**139**	PN	Pn	07 25 01.9	-0.1
PUZ				AML	AML	07 25 20.6	
PUZ				AML	AML	07 25 26.8	
PUZ	**Puketiti**	**0.99**	**139**	Pn	Pn	07 25 01.9	-0.1
MWZ	**Matawai**	**1.01**	**176**	⇑PN	Pn	07 25 02.0	-0.2
MWZ				SN	Sn	07 25 20.0	+0.3
MWZ				AML	AML	07 25 20.6	
MWZ				AML	AML	07 25 20.6	
MWZ				AML	AML	07 25 20.6	
MWZ	**Matawai**	**1.01**	**176**	Pn	Pn	07 25 02.0	-0.2
MWZ				Sn	Sn	07 25 20.0	+0.3
TGRZ	**Tauranga**	**1.01**	**246**	PN	Pn	07 25 02.1	0.0
TGRZ	**Tauranga**	**1.01**	**246**	Pn	Pn	07 25 02.1	0.0
TARZ	**Mount Tarawera**	**1.16**	**219**	PN	Pn	07 25 04.2	+0.5
TARZ	**Mount Tarawera**	**1.16**	**219**	Pn	Pn	07 25 04.2	+0.5
RRRZ	**Republican Roa**	**1.24**	**215**	PN	Pn	07 25 04.9	+0.5
RRRZ	**Republican Roa**	**1.24**	**215**	Pn	Pn	07 25 04.9	+0.5
CNGZ	**Carnagh Statio**	**1.31**	**152**	PN	Pn	07 25 05.5	+0.4
CNGZ	**Carnagh Statio**	**1.31**	**152**	Pn	Pn	07 25 05.5	+0.4
PRRZ	**Plateau Road**	**1.43**	**215**	Pn	Pn	07 25 06.4	0.0
KUZ	**Kuaotunu**	**1.49**	**293**	PN	Pn	07 25 06.7	-0.4
KUZ	**Kuaotunu**	**1.49**	**293**	Pn	Pn	07 25 06.5	-0.6
ALRZ	**Allen Road**	**1.50**	**215**	PN	Pn	07 25 07.3	0.0
ALRZ	**Allen Road**	**1.50**	**215**	Pn	Pn	07 25 07.3	+0.1
TOZ	**Tahuroa Road**	**1.58**	**255**	PN	Pn	07 25 08.7	+0.6
TOZ	**Tahuroa Road**	**1.58**	**255**	Pn	Pn	07 25 08.7	+0.6
RAHZ	**Arahi**	**1.61**	**190**	⇑PN	Pn	07 25 08.3	-0.2
RAHZ				SN	Sn	07 25 30.8	-0.1
RAHZ	**Arahi**	**1.61**	**190**	Pn	Pn	07 25 08.3	-0.2
RAHZ				Sn	Sn	07 25 30.9	-0.1
PRGZ	**Paritu Road**	**1.63**	**167**	PN	Pn	07 25 08.3	-0.5
PRGZ	**Paritu Road**	**1.63**	**167**	Pn	Pn	07 25 08.3	-0.5
KNZ	**Kokohu**	**1.70**	**174**	PN	Pn	07 25 08.9	-0.5
KNZ	**Kokohu**	**1.70**	**174**	Pn	Pn	07 25 08.9	-0.5
MKAZ	**Moumakai**	**1.82**	**276**	⇓PN	Pn	07 25 11.5	+0.6
MKAZ	**Moumakai**	**1.82**	**276**	Pn	Pn	07 25 11.5	+0.6
NMHZ	**Naumai**	**1.83**	**195**	PN	Pn	07 25 10.8	-0.3
NMHZ	**Naumai**	**1.83**	**195**	Pn	Pn	07 25 11.1	-0.1
MHGZ	**Mahia Peninsul**	**1.86**	**168**	PN	Pn	07 25 11.1	-0.3
MHGZ	**Mahia Peninsul**	**1.86**	**168**	Pn	Pn	07 25 11.1	-0.3
BKZ	**Black Stump Fm**	**1.98**	**202**	PN	Pn	07 25 11.8	-1.1
BKZ				AML	AML	07 25 40.8	
BKZ				AML	AML	07 25 40.8	
BKZ	**Black Stump Fm**	**1.98**	**202**	Pn	Pn	07 25 11.8	-1.1
MCHZ	**McNeill Hill**	**2.19**	**195**	PN	Pn	07 25 14.9	-0.5
MCHZ	**McNeill Hill**	**2.19**	**195**	Pn	Pn	07 25 14.6	-0.8
KRVZ	**Karewarewa**	**2.26**	**218**	PN	Pn	07 25 11.8	-4.6
OTVZ	**Oturere**	**2.30**	**217**	PN	Pn	07 25 16.6	-0.3
OTVZ	**Oturere**	**2.30**	**217**	Pn	Pn	07 25 16.6	-0.3
NGZ	**Ngauruhoe**	**2.34**	**217**	PN	Pn	07 25 17.4	-0.1
NGZ	**Ngauruhoe**	**2.34**	**217**	Pn	Pn	07 25 17.4	-0.1
CKHZ	**Cape Kidnapper**	**2.34**	**187**	PN	Pn	07 25 16.1	-1.2
CKHZ				SN	Sn	07 25 45.9	-0.8
CKHZ	**Cape Kidnapper**	**2.34**	**187**	Pn	Pn	07 25 16.2	-1.1
CKHZ				Sn	Sn	07 25 44.5	-2.2
TWVZ	**Taurewa**	**2.34**	**221**	Pn	Pn	07 25 17.3	-0.2
TUVZ	**Tukino**	**2.39**	**215**	PN	Pn	07 25 17.4	-0.6
TUVZ	**Tukino**	**2.39**	**215**	Pn	Pn	07 25 17.4	-0.6
BHHZ	**Black Hill Sta**	**2.41**	**206**	PN	Pn	07 25 17.0	-1.2
BHHZ	**Black Hill Sta**	**2.41**	**206**	Pn	Pn	07 25 17.0	-1.2
MOVZ	**Moawhango**	**2.46**	**212**	PN	Pn	07 25 17.5	-1.4
MOVZ	**Moawhango**	**2.46**	**212**	Pn	Pn	07 25 17.5	-1.4
WNVZ	**Wahianoa**	**2.46**	**215**	PN	Pn	07 25 18.2	-0.8
WNVZ	**Wahianoa**	**2.46**	**215**	Pn	Pn	07 25 18.2	-0.8
KAHZ	**Kahuranaki**	**2.50**	**190**	PN	Pn	07 25 18.0	-1.3
KAHZ	**Kahuranaki**	**2.50**	**190**	Pn	Pn	07 25 18.0	-1.3
MTVZ	**Mangateitei**	**2.57**	**216**	PN	Pn	07 25 19.4	-0.8
MTVZ	**Mangateitei**	**2.57**	**216**	Pn	Pn	07 25 19.4	-0.8
PXZ	**Pawanui**	**2.73**	**189**	PN	Pn	07 25 20.2	-2.0
PXZ				AML	AML	07 25 54.2	
PXZ				AML	AML	07 25 54.3	
PXZ				AML	AML	07 25 54.3	
PXZ				AML	AML	07 25 54.3	
PXZ	**Pawanui**	**2.73**	**189**	Pn	Pn	07 25 20.2	-2.0
PNHZ	**Pukenui**	**2.75**	**200**	PN	Pn	07 25 20.4	-2.2
PNHZ	**Pukenui**	**2.75**	**200**	Pn	Pn	07 25 20.4	-2.2
WPHZ	**Waipukurau**	**2.84**	**196**	PN	Pn	07 25 21.6	-2.0
WPHZ	**Waipukurau**	**2.84**	**196**	Pn	Pn	07 25 21.6	-2.0
TSZ	**Takapari Road**	**2.96**	**202**	PN	Pn	07 25 22.9	-2.3
TSZ	**Takapari Road**	**2.96**	**202**	Pn	Pn	07 25 22.9	-2.3
PRHZ	**Porangahau**	**3.00**	**192**	PN	Pn	07 25 23.5	-2.2
PRHZ	**Porangahau**	**3.00**	**192**	Pn	Pn	07 25 23.5	-2.2
WAZ	**Wanganui**	**3.09**	**218**	PN	Pn	07 25 26.1	-0.8
WAZ	**Wanganui**	**3.09**	**218**	Pn	Pn	07 25 26.2	-0.7
DVHZ	**Dannevirke**	**3.13**	**198**	PN	Pn	07 25 24.8	-2.5
DVHZ	**Dannevirke**	**3.13**	**198**	Pn	Pn	07 25 24.8	-2.5
POWZ	**Post Office Ro**	**3.32**	**202**	PN	Pn	07 25 27.4	-2.5
POWZ	**Post Office Ro**	**3.32**	**202**	Pn	Pn	07 25 27.4	-2.5
BFZ	**Birch Farm**	**3.47**	**195**	PN	Pn	07 25 28.8	-3.0
BFZ	**Birch Farm**	**3.47**	**195**	Pn	Pn	07 25 28.8	-3.0
MRZ	**Mangatainoka R**	**3.63**	**203**	PN	Pn	07 25 30.7	-3.2
MRZ				AML	AML	07 26 12.6	
MRZ				AML	AML	07 26 12.6	
MRZ	**Mangatainoka R**	**3.63**	**203**	Pn	Pn	07 25 30.7	-3.2
TIWZ	**Tintock**	**3.65**	**199**	PN	Pn	07 25 31.5	-2.6
TIWZ	**Tintock**	**3.65**	**199**	Pn	Pn	07 25 31.5	-2.6
HOWZ	**Holdsworth Sta**	**3.86**	**202**	PN	Pn	07 25 33.3	-3.7
HOWZ	**Holdsworth Sta**	**3.86**	**202**	Pn	Pn	07 25 33.3	-3.7
OGWZ	**Otaki Gorge**	**3.90**	**206**	PN	Pn	07 25 34.4	-3.1
OGWZ	**Otaki Gorge**	**3.90**	**206**	Pn	Pn	07 25 34.4	-3.1
TMWZ	**Te Maipa**	**3.96**	**197**	PN	Pn	07 25 34.7	-3.6
TMWZ	**Te Maipa**	**3.96**	**197**	Pn	Pn	07 25 34.7	-3.6
KIW	**Kapiti Island**	**4.04**	**208**	PN	Pn	07 25 35.7	-3.6
KIW	**Kapiti Island**	**4.04**	**208**	Pn	Pn	07 25 35.7	-3.6
CAW	**Cannon Point**	**4.20**	**205**	PN	Pn	07 25 37.5	-3.9
CAW	**Cannon Point**	**4.20**	**205**	Pn	Pn	07 25 37.5	-3.9
TRWZ	**Traveller**	**4.28**	**198**	PN	Pn	07 25 38.8	-3.8
TRWZ				AML	AML	07 26 28.4	
TRWZ	**Traveller**	**4.28**	**198**	Pn	Pn	07 25 38.8	-3.8
PAWZ	**Paruwai Farm**	**4.33**	**200**	AML	AML	07 26 29.3	
MSWZ	**Moikau Station**	**4.42**	**202**	PN	Pn	07 25 40.0	-4.3
MSWZ	**Moikau Station**	**4.42**	**202**	Pn	Pn	07 25 40.0	-4.3
SNZO	**South Karori**	**4.50**	**207**	PN	Pn	07 25 41.4	-4.0
SNZO	**South Karori**	**4.50**	**207**	Pn	Pn	07 25 41.4	-4.0
PLWZ	**Palliser**	**4.56**	**201**	PN	Pn	07 25 41.7	-4.6
PLWZ	**Palliser**	**4.56**	**201**	Pn	Pn	07 25 41.7	-4.6
TCW	**Tory Channel**	**4.59**	**211**	PN	Pn	07 25 42.4	-4.1
TCW	**Tory Channel**	**4.59**	**211**	Pn	Pn	07 25 42.4	-4.1
TUWZ	**Tuamarina**	**4.91**	**212**	PN	Pn	07 25 46.5	-4.3
TUWZ	**Tuamarina**	**4.91**	**212**	Pn	Pn	07 25 46.5	-4.3
NNZ	**Nelson**	**5.00**	**218**	PN	Pn	07 25 48.4	-3.7
NNZ	**Nelson**	**5.00**	**218**	Pn	Pn	07 25 48.4	-3.7
QRZ	**Quartz Range**	**5.17**	**226**	PN	Pn	07 25 52.2	-2.2
QRZ	**Quartz Range**	**5.17**	**226**	Pn	Pn	07 25 51.2	-3.2
THZ	**Tophouse**	**5.64**	**217**	PN	Pn	07 25 57.3	-3.5
THZ	**Tophouse**	**5.64**	**217**	Pn	Pn	07 25 57.3	-3.5
KHZ	**Kahutara**	**5.90**	**209**	PN	Pn	07 25 59.3	-4.8
KHZ	**Kahutara**	**5.90**	**209**	Pn	Pn	07 25 59.3	-4.8
LTZ	**Lake Taylor**	**6.73**	**214**	PN	Pn	07 26 12.4	-3.0
LTZ	**Lake Taylor**	**6.73**	**214**	Pn	Pn	07 26 12.4	-3.0
CTZ	**Chatham Island**	**7.84**	**147**	PN	Pn	07 26 33.6	+3.4
CTZ	**Chatham Island**	**7.84**	**147**	Pn	Pn	07 26 32.2	+2.0

*IDC **29** 07:31:51.6±0.6, 59°.18S×24°.97W, h0km, mb4.4/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.4/10, MS3.8/7, Ms1 3.8/7, ms1mx3.5/29, Error ellipse: s-maj=19.7km s-min=17.0km az=39.0*
*ISCJB **29** 07:31:53.2±0.5, 59°.37S±0°.08×24°.8W±0°.2, h27km, mb4.3/14, MS3.8/7, Error ellipse: s-maj=14.1km s-min=10.1km az=146.7*
*NEIC **29** 07:31:56.9±0.3, 59°.18S×24°.94W, h35km, mb4.6/8, Error ellipse: s-maj=12.9km s-min=10.9km az=195.0*

ISC 29 07:31:55.4±0.5, 59°.31S±0°.10×24°.9W±0°.1, h27km, n50, σ1§22/45, mb4.5/14, MS3.8/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.31**	**155**	*e*Pn	Pn	07 35 00.7	-1.5
VNA2	**Neumayer--Watz**	**13.71**	**155**	*e*Pn	Pn	07 35 05.1	-2.6
VNA2	**Neumayer--Watz**	**13.71**	**155**	*e*Sn	Sn	07 37 26.2	-13
SNAA	**Sanae**	**15.26**	**153**	*e*Pn	Pn	07 35 26.2	-2.6
SNAA	**Sanae**	**15.26**	**153**	*e*Sn	Sn	07 38 03.1	-14
SNAA	**Sanae**	**15.26**	**153**	*e*P	Pn	07 35 26.1	-2.6
	23nm,0.5s						
USHA	**Ushuaia**	**23.74**	**262**	P	P	07 37 06.1	+1.1
USHA	**Ushuaia**	**23.74**	**262**	P	P	07 37 06.1	+1.1
	11nm,0.9s,baz=101,slow=10,SNR=3.3						
USHA				LR	LR	07 44 25.2	
	comp=Z,508nm,18.4s,baz=35,slow=32						
QSPA	**South Pole Qui**	**30.93**	**180**	*e*P	P	07 38 11.0	+1.3
	19nm,1.2s						
QSPA	**South Pole Qui**	**30.93**	**180**	P	P	07 38 10.7	+1.0
	5.1nm,0.7s,baz=211,slow=5.6,SNR=19						
PLCA	**Paso Flores**	**33.85**	**283**	P	P	07 38 33.7	-1.6
PLCA	**Paso Flores**	**33.85**	**283**	P	P	07 38 33.7	-1.6
	3.4nm,1.1s,baz=178,slow=3.6,SNR=3.3						
PLCA				LR	LR	07 51 37.5	
	comp=Z,60nm,19.7s,baz=136,slow=35						
MAW	**Mawson**	**36.82**	**140**	P	P	07 39 01.1	+0.7
MAW	**Mawson**	**36.82**	**140**	P	P	07 39 01.1	+0.7
	7.1nm,0.7s,baz=246,slow=8.2,SNR=14						
MAW				LR	LR	07 54 27.0	
	comp=Z,143nm,19.8s,baz=225,slow=37						
CFAA	**Coronel Fontan**	**40.00**	**294**	P	P	07 39 27.0	-0.7
CFAA	**Coronel Fontan**	**40.00**	**294**	P	P	07 39 27.0	-0.7
	0.3nm,0.6s,baz=160,slow=7.5,SNR=12						
VNDA	**Vanda**	**43.36**	**182**	*e*P	P	07 39 56.3	+1.7
	4.4nm,1.0s						
VNDA	**Vanda**	**43.36**	**182**	P	P	07 39 57.0	+2.4
	3.8nm,1.0s,baz=194,slow=7.4,SNR=14						
VNDA				LR	LR	07 55 30.1	
	comp=Z,90nm,21.0s,baz=172,slow=33						
BOSA	**Boshof**	**45.75**	**71**	*e*P	P	07 40 13.8	-0.5
	8.6nm,0.8s						
BOSA	**Boshof**	**45.75**	**71**	P	P	07 40 14.1	-0.3
	9.4nm,0.9s,baz=218,slow=8.5,SNR=14						
BOSA				LR	LR	07 56 13.1	
	comp=Z,152nm,18.9s,baz=49,slow=32						
LBTB	**Lobatse**	**48.94**	**68**	*e*P	P	07 40 38.5	-0.6
	11nm,0.8s						
SIV	**San Ignacio**	**50.70**	**313**	LR	LR	07 59 07.1	
	comp=Z,172nm,19.4s,slow=32						
LPAZ	**La Paz**	**53.25**	**305**	*e*P	P	07 41 10.8	-1.4
	0.7nm,0.4s						
LPAZ	**La Paz**	**53.25**	**305**	P	P	07 41 10.5	-1.8
	0.3nm,0.5s,baz=124,slow=8.3,SNR=3.3						
LSZ	**Lusaka**	**58.54**	**65**	*e*P	P	07 41 49.1	-0.4
	6.9nm,0.9s						
DBIC	**Dimbokro**	**67.70**	**22**	P	P	07 42 50.2	+0.2
DBIC	**Dimbokro**	**67.70**	**22**	P	P	07 42 50.2	+0.2
	3.4nm,0.6s,baz=169,slow=8.4,SNR=4.2						
DBIC				LR	LR	08 04 58.6	
	comp=Z,41nm,19.1s,baz=329,slow=29						
TORD	**Torodi Ar. Bea**	**75.36**	**27**	P	P	07 43 37.0	+0.8
TORD	**Torodi Ar. Bea**	**75.36**	**27**	P	P	07 43 37.0	+0.8
	14nm,0.7s,baz=195,slow=6.2,SNR=94						
STKA	**Stephens Creek**	**88.46**	**169**	*e*P	P	07 44 47.6	+2.6
	1.0nm,0.8s						
ASAR	**Alice Springs**	**95.50**	**161**	P	P	07 45 17.2	-0.6
ASAR	**Alice Springs**	**95.50**	**161**	P	P	07 45 17.2	-0.6
	0.9nm,1.0s,baz=192,slow=4.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**122.78**	**110**	PKP	PKPdf	07 50 48.5	0.0
CMAR	**Chiang Mai Arr**	**122.78**	**110**	PKP	PKPdf	07 50 48.5	0.0
	0.9nm,0.3s,baz=240,slow=4.1,SNR=6.6						
NVAR	**Mina Array Bea**	**123.72**	**290**	PKP	PKPdf	07 50 52.0	+2.0
NVAR	**Mina Array Bea**	**123.72**	**290**	PKP	PKPdf	07 50 52.0	+2.0
	0.5nm,0.7s,baz=135,slow=3.2,SNR=5.1						
ABKAR	**Akbulak array**	**128.20**	**56**	*e*PKPdf	PKPdf	07 50 57.7	-0.2
AKTO	**Aktyubinsk**	**128.29**	**54**	PKP	PKPdf	07 50 58.1	+0.1
AKTO	**Aktyubinsk**	**128.29**	**54**	PKP	PKPdf	07 50 58.1	+0.1
	2.2nm,0.8s,baz=162,slow=4.0,SNR=7.3						
YKA	**Yellowknife Ar**	**139.38**	**315**	PKP	PKPdf	07 51 20.3	+1.9
YKA	**Yellowknife Ar**	**139.38**	**315**	PKP	PKPdf	07 51 20.3	+1.9
	1.0nm,0.6s,baz=131,slow=2.2,SNR=6.0						
INK	**Inuvik**	**149.06**	**317**	*e*PKPbc	PKPbc	07 51 39.5	+0.3
SONM	**Songino Array**	**149.60**	**90**	PKPbc	PKPbc	07 51 41.4	0.0
SONM	**Songino Array**	**149.60**	**90**	PKPbc	PKPbc	07 51 41.4	0.0
	5.5nm,0.9s,baz=224,slow=2.5,SNR=24						
DAWY	**Dawson**	**149.82**	**307**	*e*PKPbc	PKPbc	07 51 41.2	-0.1
MENT	**Mentasta**	**151.21**	**304**	*e*PKPbc	PKPbc	07 51 45.4	+0.8
ILAR	**Eielson Array**	**153.13**	**306**	PKPbc	PKPbc	07 51 49.2	+0.4
ILAR	**Eielson Array**	**153.13**	**306**	PKPbc	PKPbc	07 51 49.2	+0.4
	2.9nm,1.0s,baz=146,slow=1.2,SNR=16						
COLA	**College**	**153.55**	**306**	*e*PKPab	PKPab	07 52 01.8	-0.7
BPAW	**Bear Paw Mtn.**	**154.67**	**304**	*e*PKPbc	PKPbc	07 51 52.1	-0.1

DJA 29 07:45:37.8±0.6, 1°.N±9°.×12°.2E±°, h10km±4km, M3.9/3, mb5.7/2, mB6.3/2, MLv3.0/3, Mw(mB)6.0/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.23**	**226**	P	Pg	07 45 43.3	+0.7
MRSI				S	Sg	07 45 47.8	+1.9
GTOI	**Gorontalo**	**0.90**	**90**	P	Pg	07 45 51.8	-3.4
GTOI				S	Sg	07 46 03.3	-3.6
MMSI	**Mamuju**	**4.60**	**224**	P	Pn	07 46 47.6	+0.1
WSI	**Waingapu**	**10.40**	**190**	P	Pn	07 48 06.2	-0.9
	781nm,0.5s,13μm						
STKI	**Sintang**	**10.65**	**267**	P	Pn	07 48 09.8	-0.8

IDC 29 07:47:37.2±39.0, 5°.88N×126°.82E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, Error ellipse: s-maj=653.5km s-min=156.4km az=161.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.71**	**164**	P	P	07 53 18.4	0.0
	0.9nm,0.6s,baz=344,slow=10,SNR=10						
ASAR	**Alice Springs**	**30.17**	**167**	P	P	07 53 49.5	+0.2
	0.3nm,0.5s,baz=355,slow=7.9,SNR=9.8						
STKA	**Stephens Creek**	**40.11**	**160**	P	P	07 55 14.4	-0.4
	2.1nm,0.6s,baz=333,slow=9.0,SNR=3.3						

*BJI **29** 07:52:07.4, 16°.38S×71°.03W, h146km, mB5.0/9*
*NEIC **29** 07:52:10.2±0.7, 15°.41S×70°.22W, h151km±6km, mb4.9/114, Error ellipse: s-maj=6.6km s-min=3.7km az=59.0*
*ISCJB **29** 07:52:13.2±0.2, 15°.44S±0°.04×70°.38W±0°.04, h193km, mb4.7/139, Error ellipse: s-maj=6.7km s-min=4.0km az=135.5*
*IDC **29** 07:52:13.5±0.8, 15°.49S×70°.47W, h182km±6km, mb4.2/18, mb1 4.3/24, mb1mx4.3/28, mbtmp4.2/24, MS3.6/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=12.3km s-min=8.5km az=48.0*

ISC 29 07:52:14.6±0.3, 15°.50S±0°.05×70°.38W±0°.06, h193km, n693, σ0§84/703, mb4.7/139, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.31**	**110**	*e*Pn	Pn	07 52 57.3	+0.8
LPAZ				*e*Sn	Sn	07 53 29.5	+0.4
LPAZ	**La Paz**	**2.31**	**110**	P	Pn	07 52 57.4	+0.9
	53nm,0.3s,baz=297,slow=9.4,SNR=2106						
LPAZ				S	Sn	07 53 29.1	0.0
	68nm,0.3s,baz=193,slow=23,SNR=31						
NNA	**Nana**	**7.18**	**298**	*e*Pn	Pn	07 53 53.0	-4.2
NNA				*e*Sn	Sn	07 55 11.3	-7.3
NNA	**Nana**	**7.18**	**298**	P	Pn	07 53 53.5	-3.7
	14nm,0.3s,baz=135,slow=10,SNR=83						
NNA				S	Sn	07 55 10.8	-7.8
	27nm,0.3s,baz=212,slow=6.4,SNR=4.2						
LVC	**Limon Verde**	**7.21**	**169**	*e*Pn	Pn	07 53 54.7	-3.2
LVC				*e*Sn	Sn	07 55 11.2	-8.5
SIV	**San Ignacio**	**8.98**	**94**	P	Pn	07 54 20.4	-0.3
SIV				S	Sn	07 56 01.6	+0.2
SIV	**San Ignacio**	**8.98**	**94**	P	Pn	07 54 20.4	-0.3
	3.0nm,0.3s,baz=280,slow=14,SNR=133						
SIV				S	Sn	07 56 01.6	+0.2
	1.1nm,0.3s,baz=241,slow=5.9,SNR=8.0						
SAML	**Samuel**	**9.58**	**48**	*e*Pn	Pn	07 54 28.1	-0.5
	35nm,0.9s						
ATAH	**Atahualpa**	**11.43**	**316**	P	Pn	07 54 51.5	-1.4
ATAH	**Atahualpa**	**11.43**	**316**	P	Pn	07 54 51.5	-1.4
	0.3nm,0.3s,baz=129,slow=12,SNR=10						
LCO	**Las Campanas**	**13.45**	**181**	*e*Pn	Pn	07 55 14.5	-3.7
LCO				*e*Sn	Sn	07 57 38.7	-10
CFAA	**Coronel Fontan**	**16.16**	**173**	P	Pn	07 55 50.6	-0.5
CFAA				S	S	07 58 35.0	-15
CFAA	**Coronel Fontan**	**16.16**	**173**	P	Pn	07 55 50.6	-0.5
	0.3nm,0.3s,baz=348,slow=13,SNR=73						
CFAA				S	S	07 58 35.0	-15
	0.0nm,0.3s,baz=220,slow=17,SNR=3.7						
CPUP	**Villa Florida**	**16.26**	**134**	*e*P	P	07 55 50.2	-1.7
	104nm,0.9s						
CPUP	**Villa Florida**	**16.26**	**134**	P	P	07 55 50.5	-1.4
	2.5nm,0.3s,baz=293,slow=11,SNR=53						
ROSC	**El Rosal**	**20.60**	**349**	*e*P	P	07 56 38.2	-1.1
ROSC	**El Rosal**	**20.60**	**349**	LR	LR	08 04 44.1	
	comp=Z,98nm,19.7s,baz=163,slow=36						
BDFB	**Brasilia**	**21.55**	**93**	*e*P	P	07 56 49.2	+0.1
BDFB	**Brasilia**	**21.55**	**93**	P	P	07 56 49.2	+0.1
	8.6nm,0.7s,baz=261,slow=12,SNR=21						
BDFB				LR	LR	08 05 50.1	
	comp=Z,111nm,19.0s,baz=113,slow=38						
TRQA	**Tornquist**	**23.67**	**163**	*e*P	P	07 57 07.6	-1.0
	72nm,1.5s						
SDV	**Santo Domingo**	**24.23**	**359**	*e*P	P	07 57 13.7	-0.3
	24nm,1.0s						
PLCA	**Paso Flores**	**25.14**	**180**	*e*P	P	07 57 21.1	-1.0
	24nm,0.8s						
PLCA	**Paso Flores**	**25.14**	**180**	P	P	07 57 21.4	-0.6
	15nm,0.9s,baz=0.9,slow=11,SNR=22						
BCIP	**Isla Barro Col**	**26.23**	**338**	*e*P	P

ABTX	Abilene, Hawle baz=56,SNR=46	55.44	330	P	P	08 01 29.3 +0.1
428A	Kincaid Ranch, baz=56,SNR=14	55.48	326	P	P	08 01 29.7 +0.1
WCI	Wyandotte Cave 10nm,0.4s	55.49	345	eP	P	08 01 27.2 -2.3
527A	Woodward Ranch baz=56,SNR=18	55.53	325	P	P	08 01 29.9 -0.3
230A	Sterling City baz=56,SNR=16	55.57	328	P	P	08 01 30.1 -0.2
USIN	University of 100nm,1.8s	55.60	343	eP	P	08 01 28.6 -1.7
329A	Wagon Wheel Ra baz=56,SNR=34	55.70	327	P	P	08 01 31.1 -0.1
526A	Mary Lane Ranc baz=56,SNR=19	55.74	324	P	P	08 01 31.6 +0.1
SIUC	Southern Illin 139nm,0.6s	55.81	342	eP	P	08 01 30.6 -1.2
131A	Roby baz=56,SNR=38	55.84	329	P	P	08 01 32.2 +0.1
Z32A	Haskell baz=56,SNR=20	55.92	331	P	P	08 01 32.5 -0.1
427A	Hayter Ranch, baz=56,SNR=11	55.96	326	P	P	08 01 33.1 0.0
229A	Bryant Ranch, baz=56,SNR=9.6	55.99	328	P	P	08 01 33.1 -0.1
328A	Wristen Ranch, baz=56,SNR=26	56.05	326	P	P	08 01 33.5 -0.1
130A	Snyder baz=56,SNR=14	56.06	329	P	P	08 01 33.6 -0.1
426A	McDonald Obser baz=56,SNR=20	56.17	325	P	P	08 01 34.5 -0.2
Z31A	Sharp Cattle R baz=56,SNR=51	56.25	330	P	P	08 01 34.9 -0.1
Y32A	R-V Farms, Ver baz=57	56.48	331	P	P	08 01 37.5 +1.0
TUL1	Tulsa	56.50	335	eP	P	08 01 36.4 -0.2
TUL1	Tulsa baz=57,SNR=37	56.50	335	P	P	08 01 36.5 -0.2
228A	UT Block 9, Go baz=57,SNR=17	56.52	327	P	P	08 01 36.5 -0.4
326A	Caldwell Ranch baz=57,SNR=6.2	56.63	325	P	P	08 01 37.8 0.0
Z30A	Sanderson Ranc baz=57,SNR=48	56.70	329	P	P	08 01 37.9 -0.3
WMOK	Wichita Mounta 20nm,0.5s	56.78	332	eP	P	08 01 38.1 -0.6
425A	Indio Mountain baz=57,SNR=16	56.79	324	P	P	08 01 38.9 0.0
227A	Bennet, Jal baz=57,SNR=22	56.80	327	P	P	08 01 39.3 +0.4
Y31A	Rekieta Farm, baz=57,SNR=56	56.83	330	P	P	08 01 39.1 0.0
128A	Castleberry Fa baz=57,SNR=18	56.85	328	P	P	08 01 39.0 -0.4
Z29A	Hungry Hill Ra baz=57,SNR=28	56.97	329	P	P	08 01 39.4 -0.7
Y30A	Stafford Cattl baz=57,SNR=15	57.06	330	P	P	08 01 40.5 -0.3
325A	Bean Ranch, Si baz=58,SNR=21	57.22	325	P	P	08 01 41.8 -0.2
X31A	McDonald Ranch baz=58,SNR=55	57.24	331	P	P	08 01 41.9 0.0
CLNB	Carlsbad 4.1nm,0.8s	57.31	326	eP	P	08 01 42.7 +0.2
226B	Tecolote Peak, baz=58	57.32	326	P	P	08 01 43.2 +0.6
Z28A	Tucker Farm, M baz=58,SNR=15	57.33	328	P	P	08 01 42.1 -0.6
127A	Arkansas Junct baz=58,SNR=13	57.35	327	P	P	08 01 42.5 -0.3
Y29A	Porterfield Fa baz=58,SNR=31	57.43	329	P	P	08 01 43.0 -0.4
X30A	Coker Ranch, T baz=58,SNR=21	57.52	330	P	P	08 01 43.6 -0.3
GDL2	Guadalupe Moun	57.52	326	eP	P	08 01 44.2 +0.2
324A	Moseley Ranch, baz=58,SNR=24	57.56	324	P	P	08 01 43.5 -0.9
126A	Clayton Basin, baz=58,SNR=19	57.68	326	P	P	08 01 45.4 +0.3
W31A	Holland Ranch, baz=58,SNR=10	57.68	331	P	P	08 01 44.6 -0.5
MNTX	Cornudas Mount 14nm,1.0s	57.70	325	eP	P	08 01 43.9 -1.2
225A	Deer Hill, Car baz=58,SNR=29	57.70	325	P	P	08 01 45.4 0.0
SFIN	Scholer Farm	57.72	345	eP	P	08 01 42.8 -2.3
Y28A	McKinney Farm, baz=58,SNR=18	57.76	329	P	P	08 01 45.0 -0.6
Z27A	Tatum baz=58,SNR=81	57.78	328	P	P	08 01 45.5 -0.3
X29A	Tulia baz=58,SNR=25	57.91	330	P	P	08 01 46.3 -0.4
125A	Gardner Draw, baz=58,SNR=16	58.03	326	P	P	08 01 47.0 -0.6
224A	Cornudas Mount baz=58,SNR=40	58.06	325	P	P	08 01 47.4 -0.5
MSTX	Muleshoe	58.07	328	eP	P	08 01 47.0 -0.8
MSTX	Muleshoe baz=58,SNR=41	58.07	328	P	P	08 01 47.4 -0.4
V31A	Spring Creek L baz=58,SNR=25	58.12	332	P	P	08 01 48.5 +0.4
Z26A	Caprock baz=58,SNR=27	58.14	327	P	P	08 01 48.1 -0.2
Y27A	Causey baz=58,SNR=60	58.20	328	P	P	08 01 48.4 -0.4
X28A	Dimmitt baz=58,SNR=9.5	58.22	329	P	P	08 01 48.3 -0.5
W29A	Amraillo baz=59,SNR=12	58.43	330	P	P	08 01 49.8 -0.5
124A	Stringfield Ra baz=59,SNR=20	58.50	325	P	P	08 01 50.8 -0.2
Z25A	Roswell baz=59,SNR=32	58.54	326	P	P	08 01 50.8 -0.3
Y26A	Elida baz=59,SNR=6.1	58.57	328	P	P	08 01 50.9 -0.5
U31A	Nine Bar Ranch baz=59,SNR=6.3	58.62	332	P	P	08 01 52.0 +0.5
X27A	F and S Farms, baz=59,SNR=9.8	58.77	329	P	P	08 01 52.5 -0.2
W28A	Vega baz=59,SNR=7.4	58.81	330	P	P	08 01 52.9 0.0
Z24A	Sheeppen Canyo baz=59,SNR=41	58.93	326	P	P	08 01 53.8 -0.1
222A	Williams Famil baz=59,SNR=22	58.97	324	P	P	08 01 54.2 +0.1
Y25A	Mesa, Roswell baz=59,SNR=18	59.02	327	P	P	08 01 54.0 -0.5
X26A	CR and CF Fran baz=59,SNR=52	59.05	328	P	P	08 01 54.6 -0.1
W27A	Bowe Ranch, En baz=59,SNR=16	59.08	329	P	P	08 01 54.5 -0.3
U30A	WK&E Inc. Balk baz=59,SNR=6.2	59.12	332	P	P	08 01 55.1 +0.2
T31A	Randall Ranch, baz=59,SNR=27	59.15	333	P	P	08 01 55.3 +0.2
V28A	Channing baz=60,SNR=22	59.22	330	P	P	08 01 56.1 +0.4
320A	Kipp Ranch, An baz=60,SNR=7.6	59.24	322	P	P	08 01 56.5 +0.4
MDV	Middlebury 28µm,0.5s	59.26	358	eP	P	08 01 54.6 -1.0
221A	Mesquite Ranch baz=60,SNR=5.8	59.29	323	P	P	08 01 57.0 +0.7
U29A	Oasis Ranch, S baz=60	59.34	331	P	P	08 01 57.2 +0.7
Z23A	Rita Site, Whi baz=60,SNR=13	59.35	325	P	P	08 01 57.0 +0.3
122A	Conniff Cattle baz=60,SNR=8.4	59.36	324	P	P	08 01 57.6 +0.8
W26A	Owens Ranch, T baz=60,SNR=7.7	59.45	328	P	P	08 01 57.4 0.0
X25A	Clemmons Ranch baz=60,SNR=17	59.47	327	P	P	08 01 57.1 -0.4
T30A	Plains baz=60	59.49	332	P	P	08 01 57.8 +0.3
S31A	Mullinville baz=60,SNR=15	59.50	333	P	P	08 01 58.0 +0.5
V27A	Dan Oppiter Fa baz=60,SNR=16	59.52	330	P	P	08 01 57.7 -0.1
KSU1	Kansas State U 98nm,0.9s	59.59	337	eP	P	08 01 57.1 -1.0
220A	Playas Peak, P baz=60,SNR=23	59.65	323	P	P	08 01 59.1 +0.3
121A	Cookes Peak, D baz=60,SNR=17	59.68	324	P	P	08 01 59.7 +0.7
319A	Douglas baz=60,SNR=9.8	59.72	322	P	P	08 01 59.8 +0.5
U28A	Mallet baz=60	59.73	330	P	P	08 01 58.9 -0.2
Z22A	Elephant Butte baz=60,SNR=22	59.75	325	P	P	08 01 59.9 +0.4
Y23A	Lovelace Mesa, baz=60,SNR=15	59.76	326	P	P	08 01 59.4 -0.2
W25A	X Bar L Ranch, baz=60,SNR=27	59.91	328	P	P	08 02 00.1 -0.4
X24A	Lazy VL Ranch, baz=60,SNR=9.8	59.91	327	P	P	08 02 00.6 0.0
T29A	Hugoton baz=60,SNR=15	59.92	332	P	P	08 02 00.7 +0.2
S30A	Montezuma baz=60,SNR=8.1	59.95	333	P	P	08 02 00.8 +0.2
V26A	Tequesquite Ra baz=60,SNR=40	60.02	329	P	P	08 02 01.4 +0.2
U27A	Thompson Grove baz=60,SNR=19	60.05	330	P	P	08 02 01.3 0.0
R31A	Burdett baz=60	60.08	334	P	P	08 02 01.7 +0.3
120A	U Bar Ranch, L baz=60,SNR=7.1	60.18	323	P	P	08 02 03.0 +0.6
Z21A	St. Cloud Mine baz=60,SNR=16	60.18	324	P	P	08 02 03.2 +0.8
S29A	Ulysses baz=60,SNR=29	60.22	332	P	P	08 02 02.9 +0.4
BNM	Barren Site 11nm,0.8s	60.23	326	eP	P	08 02 02.5 -0.3
Y22A	Socorro baz=60,SNR=9.8	60.26	325	P	P	08 02 03.1 +0.2
T28A	Walsh baz=60,SNR=18	60.27	331	P	P	08 02 02.6 -0.2
X23A	Hourglass Bar baz=61,SNR=8.6	60.32	326	P	P	08 02 03.6 +0.2
LPM	Los Pinos Moun	60.36	326	eP	P	08 02 04.1 +0.5
W24A	Lazy 6 Ranch, baz=61,SNR=23	60.39	327	P	P	08 02 03.7 -0.1
R30A	Dighton baz=61,SNR=17	60.40	333	P	P	08 02 03.9 +0.2
V25A	Rancho No Teng baz=61,SNR=25	60.47	328	P	P	08 02 04.2 -0.1
U26A	Atchley Ranch, baz=61,SNR=36	60.47	329	P	P	08 02 04.4 +0.1
T27A	Campo baz=61,SNR=41	60.51	331	P	P	08 02 04.5 0.0
S28A	Manter baz=61,SNR=52	60.55	332	P	P	08 02 04.9 +0.2
Z20A	Nine Sixteen R baz=61,SNR=16	60.56	323	P	P	08 02 05.6 +0.6
Q31A	Ellis baz=61,SNR=12	60.63	334	P	P	08 02 05.3 +0.2
LAZ	Ladron 16nm,1.3s	60.70	325	eP	P	08 02 06.6 +0.6
Y21A	Point of Rocks baz=61,SNR=26	60.70	325	P	P	08 02 06.8 +0.8
X22A	Bernardo baz=61	60.71	326	P	P	08 02 07.5 +1.5
V24A	Rampart Ranch, baz=61,SNR=20	60.72	328	P	P	08 02 05.9 -0.2
ANMO	Albuquerque 12nm,0.9s	60.74	326	eP	P	08 02 06.2 0.0
W23A	Werner Place, baz=61,SNR=14	60.74	327	P	P	08 02 06.2 0.0
U25A	Circle Dot Ran baz=61,SNR=39	60.80	329	P	P	08 02 06.8 +0.2
R29A	Marienthal baz=61,SNR=16	60.89	333	P	P	08 02 07.2 +0.2
JFWS	Jewell Farm 19nm,0.7s	60.92	343	eP	P	08 02 05.6 -1.4
Q30A	Quinter baz=61	60.95	334	P	P	08 02 08.0 +0.6
T26A	Comanche Natio baz=61,SNR=18	61.02	330	P	P	08 02 08.3 +0.3
Y20A	Horse Springs, baz=61,SNR=12	61.02	324	P	P	08 02 08.8 +0.6
P31A	Stockton baz=61,SNR=36	61.05	335	P	P	08 02 08.4 +0.4
W22A	Albuquerque baz=61	61.06	326	P	P	08 02 09.2 +0.9
X21A	Alamocita Cree baz=61,SNR=16	61.09	325	P	P	08 02 09.3 +0.7
R28A	Tribune baz=61,SNR=13	61.13	332	P	P	08 02 08.6 0.0
V23A	Ortiz Mt. (NFS baz=61,SNR=21	61.20	327	P	P	08 02 09.9 +0.5
U24A	Moreno Valley baz=62,SNR=15	61.25	328	P	P	08 02 10.7 +1.0
TUC	Tucson 7.3nm,1.2s	61.28	321	eP	P	08 02 09.0 -0.8
S26A	Kim baz=62,SNR=32	61.31	330	P	P	08 02 10.4 +0.5
T25A	Trinidad baz=62,SNR=15	61.39	329	P	P	08 02 11.0 +0.5
P30A	Selden baz=62,SNR=11	61.44	334	P	P	08 02 10.8 +0.2
W21A	San Fidel baz=62	61.51	326	P	P	08 02 12.2 +0.8
R27A	Eads baz=62,SNR=11	61.53	331	P	P	08 02 11.3 -0.1
X20A	Quemado baz=62	61.56	325	P	P	08 02 12.1 +0.4
U23A	El Rito baz=62,SNR=20	61.66	328	P	P	08 02 12.9 +0.5
V22A	San Miguel Ran baz=62,SNR=40	61.72	327	P	P	08 02 13.3 +0.5
Q28A	Sharon Springs baz=62,SNR=14	61.73	333	P	P	08 02 12.8 +0.2
P29A	Atwood baz=62	61.78	334	P	P	08 02 13.7 +0.8
T24B	San Luis baz=62,SNR=21	61.81	329	P	P	08 02 14.3 +0.9
S25A	Robets Cordova baz=62,SNR=25	61.81	330	P	P	08 02 13.7 +0.4
R26A	Arlington baz=62,SNR=24	61.85	331	P	P	08 02 13.8 +0.3
O30A	MW Ranch, Wils baz=62,SNR=25	61.89	335	P	P	08 02 13.8 +0.1
W20A	Ramah baz=62,SNR=16	61.99	325	P	P	08 02 15.1 +0.5
V21A	Milan baz=62,SNR=7.2	62.02	326	P	P	08 02 15.7 +0.8
U22A	Llaves baz=62,SNR=9.9	62.04	327	P	P	08 02 15.7 +0.8
KSCO	Kaye Shedlock'	62.04	332	eP	P	08 02 14.8 +0.1
KSCO	Kaye Shedlock' baz=62,SNR=17	62.04	332	P	P	08 02 15.4 +0.6
P28A	Saint Francis baz=62,SNR=10	62.11	333	P	P	08 02 15.8 +0.6
T23A	Casias Ranch, baz=62,SNR=20	62.12	328	P	P	08 02 15.9 +0.4
R25A	Fountain Ranch baz=62,SNR=13	62.12	330	P	P	08 02 15.4 +0.1
O29A	4D Ranch, Culb baz=62,SNR=26	62.16	334	P	P	08 02 15.8 +0.4
S24A	Houchin Ranch, baz=62,SNR=7.8	62.17	329	P	P	08 02 16.4 +0.5
BGNE	Belgrade	62.18	337	eP	P	08 02 15.3 -0.1
BGNE	Belgrade	62.18	337	P	P	08 02 15.6 +0.1
214A	Organ Pipe Nat baz=62,SNR=46	62.28	320	P	P	08 02 17.2 +0.8
X18A	Snowflake baz=62,SNR=10	62.37	324	P	P	08 02 17.7 +0.6
Q26A	Hugo baz=63,SNR=14	62.38	331	P	P	08 02 17.6 +0.6
SDCO	Great Sand Dun baz=63,SNR=19	62.40	329	eP	P	08 02 17.5 +0.2
N30A	Huefile Ranch, baz=63,SNR=7.1	62.43	335	P	P	08 02 17.9 +0.7
P27A	Ficken Ranch, baz=63,SNR=8.0	62.46	332	P	P	08 02 18.2 +0.7
V20A	Brimhall baz=63,SNR=7.9	62.47	326	P	P	08 02 18.0 +0.3
U21A	Nageezi baz=63,SNR=15	62.50	327	P	P	08 02 18.5 +0.5
T22A	Edith baz=63,SNR=14	62.55	328	P	P	08 02 19.2 +0.9
O28A	Krutsinger Ran baz=63,SNR=22	62.58	333	P	P	08 02 18.8 +0.6
R24A	Sanders Place, baz=63,SNR=10	62.59	330	P	P	08 02 19.4 +1.0
N29A	Votaw Ranch, W baz=63,SNR=11	62.66	335	P	P	08 02 19.4 +0.6
Q25A	Bedland, Calha baz=63,SNR=9.2	62.71	331	P	P	08 02 19.6 +0.2
T21A	Navajo Lake baz=63,SNR=5.1	62.86	327	P	P	08 02 21.0 +0.6
R23A	Moffat baz=63,SNR=9.9	62.91	329	P	P	08 02 21.3 +0.6
U20A	Newcomb baz=63	62.92	326	P	P	08 02 21.9 +1.2
O27A	Beecher Island baz=63	62.94	333	P	P	08 02 22.5 +1.8
N28A	Pribbeno Ranch baz=63	62.94	334	P	P	08 02 21.0 +0.4
S22A	4UR Ranch, Cre baz=63,SNR=15	63.07	328	P	P	08 02 22.2 +0.4
P25A	Willow Gulch B baz=63	63.15	331	P	P	08 02 23.0 +0.9
X16A	Lo Mia Camp, P baz=63,SNR=26	63.15	323	P	P	08 02 23.1 +0.8
Q24A	Divide baz=63,SNR=8.9	63.18	330	P	P	08 02 22.9 +0.4
M29A	Burnside Ranch baz=64,SNR=9.2	63.21	335	P	P	08 02 23.5 +1.1
Z14A	Wintersburg baz=64,SNR=5.2	63.32	321	P	P	08 02 24.0 +0.8
O26A	Horse Wrangler baz=64,SNR=8.6	63.35	332	P	P	08 02 24.2 +0.9
OGNE	Ogallala baz=64,SNR=12	63.36	334	P	P	08 02 24.1 +0.8
R22A	Saguache, Gunn baz=64,SNR=7.9	63.40	329	P	P	08 02 24.4 +0.4
113A	Mohawk Valley, baz=64,SNR=14	63.43	320	P	P	08 02 24.4 +0.5
M28A	Bar X Bar Ranc baz=64,SNR=5.8	63.45	334	P	P	08 02 25.2 +1.2
N27A	Anderson Farm, baz=64,SNR=6.8	63.47	333	P	P	08 02 24.5 +0.4
Q23A	Hartsel baz=64,SNR=6.8	63.47	330	P	P	08 02 25.0 +0.6
S21A	Coal Bank Pass baz=64,SNR=12	63.50	327	P	P	08 02 24.9 +0.3
P24A	Kohler Place, baz=64	63.50	331	P	P	08 02 25.2 +0.7
MVCO	Mesa Verde 30nm,1.3s	63.53	327	eP	P	08 02 24.9 +0.1
MVCO	Mesa Verde baz=64,SNR=19	63.53	327	P	P	08 02 25.1 +0.3
ECSD	EROS Data Cent 94nm,1.3s	63.64	339	eP	P	08 02 24.3 -0.8
L29A	Maesberg Ranch baz=64,SNR=18	63.65	335	P	P	08 02 26.0 +0.8
Y14A	Wickenburg baz=64,SNR=9.1	63.75	321	P	P	08 02 26.7 +0.6
SPMN	St. Paul	63.77	343	eP	P	08 02 24.4 -1.4
N26A	Koester Ranch, baz=64	63.78	333	P	P	08 02 26.9 +0.7
P23A	Jefferson baz=64,SNR=12	63.84	330	P	P	08 02 27.6 +0.8
WUAZ	Wupatki 31nm,1.3s	63.89	323	eP	P	08 02 27.6 +0.5
WUAZ	Wupatki baz=64,SNR=14	63.89	323	P	P	08 02 27.9 +0.8
R21A	Cimarron baz=64,SNR=16	63.91	328	P	P	08 02 27.8 +0.5
S20A	Disappointment baz=64,SNR=28	63.92	327	P	P	08 02 28.2 +0.9
Q22A	Crested Butte, baz=64,SNR=11	63.97	329	P	P	08 02 28.4 +0.7
M27A	Reverse DX Ran baz=64	63.99	334	P	P	08 02 28.5 +1.0
L28A	Connealy Angus baz=64	64.02	335	P	P	08 02 28.8 +1.1
O24A	Longmont baz=64,SNR=6.8	64.06	331	P	P	08 02 28.8 +0.8
ISCO	Idaho Springs 15nm,1.1s	64.06	330	eP	P	08 02 28.6 +0.3
ISCO	Idaho Springs baz=64,SNR=19	64.06	330	P	P	08 02 28.9 +0.6
R20A	Redvale baz=64,SNR=21	64.20	327	P	P	08 02 29.9 +0.8
SMCO	Snowmass 16nm,0.8s	64.24	329	eP	P	08 02 30.1 +0.6
PV01	Paradox Valley 2µm,0.8s	64.26	327	eP	P	08 02 29.8 +0.3
M26A	McRoberts Ranc baz=64	64.27	333	P	P	08 02 30.3 +0.9
Q21A	Lamborn Mesa, baz=64,SNR=7.3	64.28	328	P	P	08 02 30.2 +0.7
GLA	Glamis baz=64	64.28	319	P	P	08 02 30.3 +0.8
PV15	Paradox Valley	64.37	327	eP	P	08 02 30.9 +0.6
P22A	Eagle baz=65,SNR=13	64.45	329	P	P	08 02 31.2 +0.5
PV05	Paradox Valley	64.50	327	eP	P	08 02 31.4 +0.4
O23A	Lake Granby, G baz=65,SNR=22	64.53	330	P	P	08 02 31.9 +0.6
N24A	Carr baz=65,SNR=10	64.53	332	P	P	08 02 32.1 +1.0
Y12C	Blythe baz=65	64.56	320	P	P	08 02 32.4 +1.2
PV04	Paradox Valley	64.63	327	eP	P	08 02 32.0 +0.2
M25A	Palm-Egli Farm baz=65	64.64	333	P	P	08 02 32.6 +0.7
PV10	Paradox Valley 141nm,0.9s	64.69	327	eP	P	08 02 31.6 -0.6
PDMCI	Parker Dam,Lak baz=65	64.69	321	P	P	08 02 32.8 +0.8
L26A	Underwood Farm baz=65	64.70	334	P	P	08 02 33.4 +1.2
Q20A	Ridgley Place, baz=65,SNR=8.3	64.73	328	P	P	08 02 32.8 +0.3
P21A	Newcastle baz=65,SNR=28	64.74	329	P	P	08 02 33.5 +0.9
O22A	Kremmling baz=65,SNR=23	64.79	330	P	P	08 02 33.1 +0.1
PV09	Paradox Valley	64.83	327	eP	P	08 02 33.8 +0.6
DVTC	Desert V Tower baz=65	64.83	318	P	P	08 02 33.7 +0.6
K27A	Flueckinger Fa baz=65,SNR=21	64.90	335	P	P	08 02 34.1 +0.7
M24A	Cheyenne baz=65,SNR=11	65.02	332	P	P	08 02 35.1 +0.9
U15A	North Rim baz=65,SNR=23	65.06	324	P	P	08 02 35.7 +0.9
BC3	Big Chuckawall baz=65,SNR=7.1	65.07	319	P	P	08 02 35.5 +0.8
N23A	Red Feather La baz=65,SNR=7.2	65.08	331	P	P	08 02 35.2 +0.5
BRSD	Miller	65.09	338	eP	P	08 02 34.1 -0.4
BRSD	Miller baz=65,SNR=21	65.09	338	P	P	08 02 34.6 +0.1
J28A	Allard Ranch, baz=65,SNR=34	65.09	336	P	P	08 02 35.1 +0.5
PHWY	Pilot Hill 12nm,0.8s	65.17	332	eP	P	08 02 36.0 +0.6
L25A	Engebretsen Ra baz=65	65.19	333	P	P	08 02 36.4 +1.1
MONP	Monument Peak baz=65	65.19	318	P	P	08 02 36.4 +0.8
P20A	De Beque baz=65	65.19	328	P	P	08 02 36.2 +0.8
IRM	Iron Mountain baz=65	65.22	320	P	P	08 02 36.3 +0.8
BAR	Barrett 12nm,1.3s	65.22	318	eP	P	08 02 36.3 +0.8
N22A	Wattenberg Ran baz=66,SNR=12	65.25	331	P	P	08 02 36.5 +0.6
J27A	Elkhorn Farm, baz=66,SNR=48	65.26	335	P	P	08 02 36.6 +0.9
O21A	Pagoda baz=66	65.28	329	P	P	08 02 36.8 +0.7
K26A	Motz Farm, Whi baz=66,SNR=7.6	65.29	334	P	P	08 02 36.7 +0.8
M23A	Laramie baz=66	65.42	331	P	P	08 02 37.9 +1.0
L24A	Wheatland baz=66	65.52	332	P	P	08 02 38.1 +0.6
I28A	Midland baz=66	65.55	336	P	P	08 02 37.8 +0.4
P19A	Cripple Cowboy baz=66,SNR=27	65.59	328	P	P	08 02 38.6 +0.6
O20A	White River Ci	65.60	329	eP	P	08 02 38.3 +0.3
O20A	White River Ci baz=66,SNR=16	65.60	329	P	P	08 02 38.7 +0.6
109C	Camp Elliot, M baz=66	65.63	318	P	P	08 02 39.0 +0.9
BELC	Belle Mtn. Jos baz=66,SNR=5.8	65.64	319	P	P	08 02 39.2 +0.9
PFO	Pinyon Flat Ob baz=66,SNR=5.3	65.67	319	P	P	08 02 39.5 +0.9
N21A	Black Mountain baz=66,SNR=7.6	65.72	330	P	P	08 02 39.8 +0.9
J26A	Sides Ranch, S baz=66,SNR=30	65.75	334	P	P	08 02 39.9 +1.1

M22A	Cedar Creek Ra	65.78 331	P	P	08 02 39.9 +0.6
	baz=66,SNR=13				
EYMN	Ely	65.91 345	eP	P	08 02 38.6 -1.1
	8.2nm,0.6s				
L23A	Garrett	65.93 332	P	P	08 02 40.4 +0.2
	baz=66,SNR=13				
GMRC	Granite Mounta	65.94 320	P	P	08 02 41.1 +0.9
	baz=66,SNR=11				
I27A	Quinn	65.96 336	P	P	08 02 40.6 +0.6
	baz=66,SNR=44				
SRU	San Rafael	66.01 327	eP	P	08 02 41.0 +0.3
	12nm,0.6s				
K24A	Anderson Ranch	66.01 333	P	P	08 02 41.4 +0.8
	baz=66,SNR=19				
H28A	Mission Ridge	66.06 337	P	P	08 02 41.3 +0.6
	baz=66				
J25A	Sunshine Ranch	66.12 334	P	P	08 02 42.1 +0.9
	baz=66,SNR=12				
N20A	Spence Gulch,	66.14 329	P	P	08 02 42.1 +0.6
	baz=66,SNR=24				
MURC	Murrieta	66.14 318	P	P	08 02 42.6 +1.1
	baz=66				
O19A	Miners Draw (B	66.17 328	P	P	08 02 42.1 +0.5
	baz=66,SNR=54				
L22A	Ellis Ranch, M	66.20 331	P	P	08 02 43.1 +1.2
	baz=66,SNR=8.2				
Q16A	Castle Valley	66.21 326	eP	P	08 02 42.1 +0.1
Q16A	Castle Valley	66.21 326	P	P	08 02 42.6 +0.6
	baz=66,SNR=17				
I26A	New Underwood	66.25 335	P	P	08 02 42.5 +0.6
	baz=66,SNR=21				
RWWY	Rawlins	66.29 331	eP	P	08 02 43.4 +0.9
	108nm,2.1s				
M21A	Separation Pea	66.30 330	P	P	08 02 43.1 +0.5
	baz=66,SNR=5.1				
G28A	Parade	66.36 337	P	P	08 02 42.9 +0.4
	baz=67,SNR=43				
VNA1	Neumayer--Stat	66.38 161	eP	P	08 02 44.1 +1.8
VNA1	Neumayer--Stat	66.38 161	el		08 03 30.0
HEC	Hector,Ludlow	66.39 320	P	P	08 02 43.8 +0.7
	baz=67				
BBRC	Big Bear Solar	66.39 319	P	P	08 02 43.8 +0.5
	baz=67				
K23A	Bowen Ranch, D	66.40 332	P	P	08 02 43.6 +0.6
	baz=67,SNR=9.6				
H27A	Howes	66.44 336	P	P	08 02 43.6 +0.5
	baz=67,SNR=38				
J24A	Dixon Ranch, L	66.44 333	P	P	08 02 44.3 +1.1
	baz=67,SNR=7.5				
CCUT	Cedar City	66.46 324	eP	P	08 02 45.0 +1.4
	16nm,0.9s				
MVU	Marysvale	66.48 325	eP	P	08 02 44.5 +0.7
	16nm,0.9s				
TMUT	Trail Mountain	66.51 326	eP	P	08 02 44.7 +0.7
	8.3nm,0.6s				
TUQ	Turquoise Moun	66.54 321	P	P	08 02 44.9 +0.9
	baz=67,SNR=8.5				
L21A	Rawlins	66.58 331	P	P	08 02 44.9 +0.6
	baz=67,SNR=5.8				
F29A	Eureka	66.60 338	P	P	08 02 44.3 +0.2
	baz=67,SNR=54				
I25A	Rochford	66.60 334	P	P	08 02 45.4 +1.0
	baz=67,SNR=89				
M20A	Sweetwater, Wa	66.61 330	P	P	08 02 44.9 +0.4
	baz=67,SNR=11				
H26A	Fairpoint	66.70 335	P	P	08 02 45.1 +0.3
	baz=67,SNR=18				
K22A	Casper	66.72 332	P	P	08 02 45.6 +0.5
	baz=67,SNR=18				
VNA2	Neumayer--Watz	66.75 161	eP	P	08 02 45.3 +0.6
VNA2	Neumayer--Watz	66.75 161	el		08 03 31.0
SHPR	Sheep Range	66.79 322	eP	P	08 02 46.6 +0.9
RSSD	Black Hills	66.81 334	eP	P	08 02 46.5 +0.8
	18nm,0.6s				
BFSC	Mount Baldy Ra	66.85 319	P	P	08 02 46.6 +0.5
	baz=67,SNR=5.8				
I24A	Kuemmerle Ranc	66.85 334	P	P	08 02 46.9 +1.0
	baz=67,SNR=10.0				
E30A	Jud	66.85 339	P	P	08 02 46.0 +0.3
	baz=67,SNR=31				
F28A	McLaughlin	66.97 337	P	P	08 02 47.2 +0.8
	baz=67,SNR=53				
GSC	Goldstone	66.99 320	eP	P	08 02 47.7 +0.8
	18nm,1.3s				
GSC	Goldstone	66.99 320	P	P	08 02 48.0 +1.1
	baz=67,SNR=9.7				
G27A	Dupree	67.00 336	P	P	08 02 47.0 +0.3
	baz=67,SNR=39				
H25A	Fruitdale	67.04 335	P	P	08 02 47.3 +0.4
	baz=67,SNR=35				
K21A	Alcova	67.04 331	P	P	08 02 47.7 +0.5
	baz=67,SNR=27				
SHOC	Shoshone	67.06 321	P	P	08 02 47.9 +0.7
	baz=67,SNR=6.9				
L20A	Wamsutter	67.08 330	P	P	08 02 47.8 +0.3
	baz=67,SNR=19				
MWC	Mount Wilson	67.09 318	eP	P	08 02 48.4 +0.7
	17nm,1.1s				
E29A	Napoleon	67.16 339	P	P	08 02 47.7 +0.1
	baz=67,SNR=17				
G26A	Maurine	67.19 336	P	P	08 02 48.1 +0.3
	baz=67,SNR=83				
MPU	Maple Canyon	67.25 327	eP	P	08 02 49.2 +0.6
	18nm,1.0s				
DECC	Green Verdugo	67.28 318	P	P	08 02 50.0 +1.3
	baz=68				
J22A	Midwest	67.30 332	P	P	08 02 49.0 +0.3
	baz=68				
D30A	Buchanan	67.33 339	P	P	08 02 48.7 +0.1
	baz=68,SNR=51				
DAU	Daniels Canyon	67.34 327	eP	P	08 02 50.0 +0.8
NLU	North Lily Min	67.45 326	eP	P	08 02 49.9 +0.1
	19nm,1.3s				
AGMN	Agassiz Nation	67.45 342	eP	P	08 02 48.6 -0.7
	54nm,0.8s				
F27A	Lemmon	67.45 337	P	P	08 02 49.9 +0.4
	baz=68,SNR=62				
EDW2	Edwards Air Fo	67.46 319	P	P	08 02 50.5 +0.7
	baz=68,SNR=7.1				
H24A	Dirks Ranch, A	67.53 334	P	P	08 02 50.2 +0.1
	baz=68,SNR=31				
E28A	Huff	67.55 338	P	P	08 02 50.9 +0.8
	baz=68,SNR=48				
D29A	Pettibone, Tap	67.57 339	P	P	08 02 50.2 +0.1
	baz=68,SNR=15				
K20A	Yellowstone Ra	67.57 331	P	P	08 02 50.6 +0.2
	baz=68,SNR=32				
JLU	Jordanelle	67.58 327	eP	P	08 02 51.2 +0.5
	11nm,0.8s				
L19A	Farson	67.64 330	P	P	08 02 51.5 +0.6
	baz=68,SNR=19				
LRMC	Laurel Mountai	67.66 320	P	P	08 02 52.0 +0.9
	baz=68,SNR=5.3				
F26A	Lodgepole	67.68 336	P	P	08 02 51.7 +0.8
	baz=68,SNR=68				
I22A	9 Mile Ranch,	67.68 333	P	P	08 02 51.6 +0.5
	baz=68,SNR=33				
J21A	Lysite	67.69 332	P	P	08 02 51.8 +0.6
	baz=68,SNR=16				
E27A	Carson	67.74 337	P	P	08 02 51.9 +0.6
	baz=68,SNR=51				
H23A	Clabaugh Cattl	67.74 334	P	P	08 02 52.1 +0.7
	baz=68				
C30A	Mose, Pekin	67.75 340	P	P	08 02 51.4 +0.2
	baz=68,SNR=52				
FURC	Furnace Creek,	67.79 321	P	P	08 02 53.0 +1.3
	baz=68,SNR=25				
M17A	Scullys Gap (B	67.82 328	P	P	08 02 52.1 0.0
	baz=68,SNR=24				
L18A	Fontenelle, Gr	67.84 329	P	P	08 02 52.6 +0.4
	baz=68,SNR=27				
MPMC	Manual Prospec	67.91 320	P	P	08 02 53.2 +0.4
	baz=68,SNR=11				
K19A	Absolon Red Bu	67.94 330	P	P	08 02 52.8 0.0
	baz=68,SNR=19				
G24A	Alzada	67.95 335	P	P	08 02 53.4 +0.8
	baz=68,SNR=37				
I21A	Big Trails, Te	67.98 332	P	P	08 02 53.3 +0.4
	baz=68,SNR=38				
J20A	Shoshoni	67.99 331	P	P	08 02 53.9 +0.9
	baz=68,SNR=9.4				
DUG	Dugway	68.01 326	eP	P	08 02 54.0 +0.9
	25nm,1.3s				
DUG	Dugway	68.01 326	P	P	08 02 54.1 +0.9
	baz=68,SNR=22				
D28A	Regan	68.03 338	P	P	08 02 53.6 +0.6
	baz=68,SNR=19				
F25A	Bowman	68.05 336	P	P	08 02 53.9 +0.7
	baz=68,SNR=29				
E26A	Carlson Angus	68.12 337	P	P	08 02 54.3 +0.7
	baz=68,SNR=52				
LIC	Lamto	68.22 77	eP	P	08 02 53.9 -1.0
	26nm,0.7s				
PDAR	Pinedale Array	68.24 330	P	P	08 02 54.4 -0.3
PDAR	Pinedale Array	68.24 330	P	P	08 02 54.4 -0.3
	6.1nm,0.5s,baz=126,slow=8.2,SNR=98				
BW06	Boulder Array	68.24 330	eP	P	08 02 54.2 -0.5
	5.7nm,0.5s				
G23A	Biddle	68.25 334	P	P	08 02 55.0 +0.4
	baz=68,SNR=41				
MDND	Maddock	68.25 339	eP	P	08 02 55.1 +0.8
MDND	Maddock	68.25 339	P	P	08 02 55.2 +0.8
	baz=68,SNR=18				
ISA	Isabella	68.27 319	eP	P	08 02 55.9 +1.0
	14nm,1.0s				
ISA	Isabella	68.27 319	P	P	08 02 56.0 +1.1
	baz=68,SNR=14				
R11A	Troy Canyon, C	68.28 323	eP	P	08 02 56.0 +1.1
R11A	Troy Canyon, C	68.28 323	P	P	08 02 56.0 +1.1
	baz=68,SNR=19				
D27A	Center	68.30 338	P	P	08 02 55.5 +0.8
	baz=68,SNR=5.5				
B30A	Myrvik Farm, E	68.35 340	P	P	08 02 54.9 -0.1
	baz=69,SNR=41				
TIC	Toumodi	68.36 76	eP	P	08 02 58.3 +2.5
	4.6nm,0.2s				
J19A	Crowheart	68.38 331	P	P	08 02 55.5 +0.1
	baz=69,SNR=21				
HWUT	Hardware Ranch	68.38 328	eP	P	08 02 55.2 -0.3
	10nm,0.5s				
F24A	Ekalaka	68.38 335	P	P	08 02 55.6 +0.2
	baz=69,SNR=64				
SNAA	Sanae	68.38 162	eP	P	08 02 55.3 +0.3
SNAA	Sanae	68.38 162	el		08 03 41.5
SNAA	Sanae	68.38 162	eP	P	08 02 55.1 +0.1
	13nm,1.0s				
C28A	Hausauer Farms	68.41 339	P	P	08 02 55.7 +0.3
	baz=69,SNR=21				
GRAC	Grapevine Rang	68.44 321	P	P	08 02 57.1 +1.3
	baz=69,SNR=6.1				
I20A	Worland	68.47 332	P	P	08 02 56.5 +0.6
	baz=69,SNR=5.2				
E25A	Miller Ranch,	68.50 336	P	P	08 02 57.0 +0.9
	baz=69,SNR=31				
H21A	Big Horn, Sher	68.51 333	P	P	08 02 56.3 +0.1
	baz=69,SNR=11				
CWC	Cottonwood Cre	68.52 320	P	P	08 02 57.5 +1.1
	baz=69,SNR=8.0				
DBIC	Dimbokro	68.53 76	P	P	08 02 56.6 -0.1
DBIC	Dimbokro	68.53 76	P	P	08 02 56.6 -0.1
	6.1nm,0.5s,baz=228,slow=7.1,SNR=11				
KIC	Kosan Boka	68.53 77	eP	P	08 02 56.2 -0.6
	35nm,0.9s				
D26A	Manning	68.57 337	P	P	08 02 57.0 +0.6
	baz=69				
SPUT	South Promonto	68.62 327	eP	P	08 02 57.0 0.0
	19nm,1.2s				
PKM	Peak Mountain	68.64 318	P	P	08 02 58.6 +1.3
	baz=69,SNR=8.8				
BGU	Big Grassy Mou	68.65 327	eP	P	08 02 57.8 +0.6
	17nm,1.4s				
G22A	Birney	68.65 334	P	P	08 02 57.1 +0.1
	baz=69,SNR=18				
F23A	Volborg	68.68 334	P	P	08 02 57.4 +0.3
	baz=69,SNR=61				
B29A	Wagenman Farm,	68.70 340	P	P	08 02 57.0 -0.2
	baz=69,SNR=58				
VES	Vestal, Richgr	68.76 319	P	P	08 02 58.6 +0.9
	baz=69,SNR=5.9				
A30A	Hoffart Farm,	68.77 341	P	P	08 02 57.1 -0.4
	baz=69,SNR=17				
C27A	Sayler Ranch,	68.81 338	P	P	08 02 58.3 +0.5
	baz=69,SNR=19				
H20A	Greybull	68.83 332	P	P	08 02 58.1 0.0
	baz=69,SNR=16				
E24A	Baker	68.91 336	P	P	08 02 59.6 +1.0
	baz=69,SNR=20				
I19A	Meeteetse	68.94 331	P	P	08 02 59.2 +0.3
	baz=69,SNR=7.4				
TIN	Tinemaha	69.00 321	P	P	08 03 00.5 +1.1
	baz=69				
D25A	Fairfield	69.01 337	P	P	08 03 00.3 +1.1
	baz=69,SNR=30				
SMMC	Simmler	69.02 318	P	P	08 03 00.8 +1.4
	baz=69,SNR=7.6				
B28A	Dugan Ranch, T	69.03 339	P	P	08 02 59.9 +0.7
	baz=69,SNR=36				
G21A	Lodge Grass	69.05 333	P	P	08 02 59.8 +0.3
	baz=69,SNR=15				
A29A	Manning Farm,	69.06 340	P	P	08 02 59.1 -0.2
	baz=69,SNR=74				
I18A	Diamond G Ranc	69.07 330	P	P	08 03 00.3 +0.5
	baz=69,SNR=25				
F22A	Rosebud	69.08 334	P	P	08 03 00.0 +0.4
	baz=69,SNR=15				
C26A	Wahner Farm, P	69.11 338	P	P	08 03 00.6 +0.9
	baz=69,SNR=56				
HVU	Hansel Valley	69.13 327	eP	P	08 03 00.5 +0.4
	10nm,0.7s				
RCTC	Rector, Farmer	69.16 319	P	P	08 03 00.5 +0.3
	baz=69				
ULM	Lac du Bonnet	69.20 343	eP	P	08 02 58.8 -1.3
	45nm,0.6s				
ULM	Lac du Bonnet	69.20 343	P	P	08 02 59.1 -1.0
	48nm,0.6s,baz=155,slow=5.6,SNR=69				
ULM			LR	LR	08 32 14.5
	comp=Z,48nm,18.9s,baz=62,slow=35				
E23A	Ismay	69.26 335	P	P	08 03 01.0 +0.3
	baz=70,SNR=22				
B27A	Peters Farms,	69.30 339	P	P	08 03 01.4 +0.5
	baz=70,SNR=12				
REDW	Red Top Meadow	69.31 330	eP	P	08 03 01.5 +0.2
	7.9nm,0.6s				
SNOW	Snow King Moun	69.34 330	eP	P	08 03 02.0 +0.5
	11nm,0.6s				
D24A	Glendive	69.37 336	P	P	08 03 02.5 +1.1
	baz=70				
LOHW	Long Hollow	69.38 330	eP	P	08 03 01.8 +0.1
	7.8nm,0.6s				
A28A	Rude Farm, Bot	69.39 339	P	P	08 03 01.8 +0.4
	baz=70,SNR=13				
MTUM	Tungsten Hills	69.40 321	eP	P	08 03 03.1 +1.2
H19A	Powell	69.42 332	P	P	08 03 02.1 +0.3
	baz=70				
C25A	Freed Ranch, W	69.45 337	P	P	08 03 03.0 +1.2
	baz=70,SNR=38				
TPAW	Teton Pass	69.46 330	eP	P	08 03 02.7 +0.5
	8.5nm,0.8s				
E22A	Miles City	69.48 335	P	P	08 03 02.2 +0.2
	baz=70,SNR=11				
F21A	Absaloka Mine,	69.48 333	P	P	08 03 02.5 +0.4
	baz=70,SNR=6.2				
G20A	Bridger	69.49 332	P	P	08 03 02.2 -0.1
	baz=70,SNR=17				
RRI2	Red Ridge	69.53 329	eP	P	08 03 03.2 +0.5
	27nm,0.8s				
MOOW	Moose Ponds	69.55 330	eP	P	08 03 03.0 +0.3
	5.8nm,0.8s				
I17A	Pilgrim Ck.	69.59 330	P	P	08 03 04.1 +1.1
	baz=70,SNR=12				
ELK	Elko	69.72 325	eP	P	08 03 04.3 +0.5
	3.5nm,0.8s				
H18A	Shoshone NF, C	69.73 331	P	P	08 03 04.3 +0.5
	baz=70,SNR=36				
MLAC	Mammoth Lakes	69.74 321	P	P	08 03 05.1 +1.0
	baz=70				
C24A	Savage	69.75 336	P	P	08 03 04.5 +0.9
	baz=70,SNR=26				
IMW	Indian Meadow	69.75 330	eP	P	08 03 04.5 +0.4
	12nm,0.6s				
A27A	Ledoux Ranch,	69.76 339	P	P	08 03 04.6 +0.9
	baz=70				
D23A	Lindsay	69.77 335	P	P	08 03 04.9 +1.1
	baz=70				
FLWY	Flagg Ranch	69.78 330	eP	P	08 03 04.9 +0.8
	35nm,1.0s				
LAO	LASA Array	69.79 335	eP	P	08 03 04.6 +0.7
	22nm,0.6s				
B25A	Knox Farm, Ray	69.88 337	P	P	08 03 05.4 +1.0
	baz=70,SNR=26				
RLMT	Red Lodge	69.89 332	eP	P	08 03 04.9 +0.1
	9.2nm,0.4s				
F20A	Billings	69.91 333	P	P	08 03 05.4 +0.7
	baz=70,SNR=6.4				
NVAR	Mina Array Bea	69.93 322	P	P	08 03 06.0 +0.7
NVAR			PP	PP	08 05 42.2 -0.6
	3.7nm,0.8s,baz=143,slow=6.9,SNR=33				
NVAR			PP	PP	08 05 42.2 -0.6
	0.7nm,0.9s,baz=123,slow=6.6,SNR=2.8				
H17A	Grant Village	69.95 330	eP	P	08 03 06.6 +1.4
H17A	Grant Village	69.95 330	P	P	08 03 06.8 +1.6
	baz=70,SNR=5.7				
LKWY	Lake	70.00 331	eP	P	08 03 06.9 +1.4
	17nm,0.8s				
A26A	Wade Farm, Ken	70.00 338	P	P	08 03 05.6 +0.5
	baz=70,SNR=32				
I16A	Newdale	70.00 330	P	P	08 03 06.1 +0.7
	baz=70,SNR=11				
E21A	Keefer Ranch,	70.03 334	P	P	08 03 06.2 +0.8
	baz=70,SNR=26				
SCHQ	Schefferville	70.11 2	P	P	08 03 05.5 -0.2
SCHQ	Schefferville	70.11 2	P	P	08 03 05.5 -0.2
	5.0nm,0.7s,baz=219,slow=7.7,SNR=8.8				
YFT	Old Faithful	70.12 330	eP	P	08 03 07.7 +1.5
	9.0nm,0.8s				
D22A	Cohagen	70.14 335	P	P	08 03 07.0 +1.0
	baz=70,SNR=88				
G18A	Lazy EL Ranch,	70.17 332	P	P	08 03 07.0 +0.5
	baz=70,SNR=32				
YNR	Norris Junctio	70.24 331	eP	P	08 03 08.0 +1.1
	8.4nm,0.6s				
C23A	Lambert	70.27 336	P	P	08 03 07.7 +0.9
	baz=70,SNR=22				
F19A	Roth Farm, Mol	70.31 332	P	P	08 03 07.7 +0.5
	baz=70,SNR=20				
YMR	Madison River	70.34 330	eP	P	08 03 08.6 +1.0
	15nm,0.8s				
D21A	La Casta Ranch	70.41 334	P	P	08 03 08.6 +0.9
	baz=71,SNR=53				
A25A	Svangstu Ranch	70.42 338	P	P	08 03 08.3 +0.7
	baz=71,SNR=18				
DGMT	Dagmar	70.43 337	eP	P	08 03 08.7 +0.9
	81nm,0.9s				
DGMT	Dagmar	70.43 337	P	P	08 03 08.8 +1.1
	baz=71,SNR=13				
E20A	Meyer Farm, Mu	70.45 333	P	P	08 03 08.7 +0.7
	baz=71,SNR=40				
H16A	Russell Place,	70.50 330	P	P	08 03 09.6 +1.1
	baz=71,SNR=24				
C22A	Vida	70.50 335	P	P	08 03 09.0 +0.8
	baz=71				
GCMT	Greycliff	70.58 332	eP	P	08 03 09.2 +0.3
	13nm,0.7s				
WAKR	Walker	70.66 321	eP	P	08 03 10.8 +1.2
QLMT	Earthquake Lak	70.68 330	eP	P	08 03 11.2 +1.6
F18A	Big Timber	70.69 332	P	P	08 03 10.2 +0.7
	baz=71,SNR=25				
E19A	Rath Farm, Rou	70.70 333	P	P	08 03 10.4 +0.9
	baz=71,SNR=33				
G17A	Pierce Place,	70.72 331	P	P	08 03 10.9 +1.1
	baz=71				
B23A	Brockton	70.73 336	P	P	08 03 10.7 +1.1
	baz=71,SNR=19				
A24A	Westby	70.73 337	P	P	08 03 10.9 +1.3
	baz=71				
D20A	Manuel Ranch,	70.91 334	P	P	08 03 11.3 +0.6
	baz=71,SNR=35				
CMB	Columbia Colle	70.95 320	eP	P	08 03 11.9 +0.7
	12nm,1.4s				
B22A	Reddig Ranch S	70.99 336	P	P	08 03 12.1 +0.9
	baz=71,SNR=22				
C21A	Desert Coulee	71.06 335	P	P	08 03 12.3 +0.7
	baz=71,SNR=47				
A23A	Redstone	71.09 337	P	P	08 03 12.7 +1.0
	baz=71,SNR=14				
F17A	Fitzpatrick Pl	71.12 332	P	P	08 03 13.1 +0.9
	baz=71,SNR=9.6				
HLID	Hailey	71.24 328	eP	P	08 03 13.0 0.0
	12nm,1.0s				
HLID	Hailey	71.24 328	P	P	08 03 13.8 +0.9
	baz=72,SNR=24				
E18A	Harlowton	71.29 332	P	P	08 03 13.9 +0.8
	baz=72,SNR=14				
D19A	Cripps Ranch,	71.29 333	P	P	08 03 13.6 +0.5
	baz=72,SNR=26				
C20A	Veseth Ranch,	71.34 334	P	P	08 03 13.6 +0.3
	baz=72,SNR=13				
MCMT	McKenzie Canyo	71.36 330	eP	P	08 03 14.9 +1.1
	5.3nm,0.9s				
BOZ	Bozeman (W)	71.38 331	eP	P	08 03 13.8 +0.1
	3.8nm,0.6s				
PAHR	Pah Rah Range	71.40 322	eP	P	08 03 15.3 +1.4
	28nm,0.9s				
B21A	Ellsworth Farm	71.50 335	P	P	08 03 15.3 +1.1
	baz=72,SNR=32				
A22A	Carney Farms,	71.52 336	P	P	08 03 15.1 +0.7
	baz=72,SNR=28				
DLMT	Dillon	71.63 330	eP	P	08 03 15.8 +0.6
	68nm,2.3s				
E17A	Martinsdale	71.63 332	P	P	08 03 15.9 +0.7
	baz=72,SNR=18				
D18A	Linhart Farms,	71.72 333	P	P	08 03 16.3 +0.7
	baz=72				
C19A	Slack Wire Ran	71.80 334	P	P	08 03 16.8 +0.7
	baz=72,SNR=25				
MFID	Camas Ranch	71.88 327	P	P	08 03 17.7 +1.0
	baz=72,SNR=21				
LRM	Limekiln Ridge	71.90 330	eP	P	08 03 17.3 +0.4
A21A	Bergtoll Ranch	71.92 336	P	P	08 03 17.2 +0.6
	baz=72,SNR=13				
B20A	Solberg Farm,	71.92 335	P	P	08 03 17.1 +0.4
	baz=72,SNR=28				
D17A	Six Diamond Ra	72.08 332	P	P	08 03 18.3 +0.5
	baz=72,SNR=18				
A20A	Cobblestone Ra	72.23 335	P	P	08 03 19.0 +0.5
	baz=72,SNR=24				
HRY	Holter Researc	72.27 331	eP	P	08 03 20.0 +1.1
EGMT	Eagleton	72.33 333	eP	P	08 03 19.3 +0.1
	44nm,1.0s				
EGMT	Eagleton	72.33 333	P	P	08 03 19.6 +0.4
	baz=73,SNR=22				
OHCM	Honcut	72.43 321	eP	P	08 03 21.0 +1.2
C17A	Wharram Farm,	72.47 333	P	P	08 03 20.7 +0.6
	baz=73,SNR=6.2				
A19A	Klindworth Far	72.60 335	P	P	08 03 21.1 +0.3
	baz=73,SNR=23				
B18A	Beardsley Farm	72.62 334	P	P	08 03 21.6 +0.7
	baz=73,SNR=24				
B17A	L&G Farms, Che	72.99 333	P	P	08 03 23.2 +0.2
	baz=73,SNR=9.1				
A18A	Metzger Ranch,	73.06 334	P	P	08 03 23.7 +0.3
	baz=73,SNR=23				
CHMT	Chamberlain Mo	73.08 331	eP	P	08 03 24.7 +0.9
J08A	Circle Bar Ran	73.26 325	eP	P	08 03 25.5 +0.7
	3.5nm,0.6s				
MSO	Missoula	73.34 330	eP	P	08 03 26.1 +1.0
	12nm,1.1s				
MSO	Missoula	73.34 330	P	P	08 03 26.2 +1.0
	baz=74,SNR=6.4				
SLMT	Seeley Lake	73.43 331	eP	P	08 03 26.5 +0.7
	4.7nm,0.7s				
BMO	Blue Mountains	73.64 327	eP	P	08 03 27.1 +0.1
	6.1nm,0.7s				
SWMT	Swartz Lake	73.86 331	eP	P	08 03 29.0 +0.8
JTMT	Jette	74.16 331	eP	P	08 03 30.7 +0.7
BSMT	Bassoo Peak	74.47 331	eP	P	08 03 32.7 +0.8
QSPA	South Pole Qui	74.66 180	eP	P	08 03 32.9 +0.2
	9.9nm,1.1s				
G08A	Pilot Rock	74.80 327	eP	P	08 03 34.4 +0.7
	9.0nm,1.0s				
FFC	Flin Flon	74.92 342	eP	P	08 03 33.6 -0.4
	30nm,0.8s				
WALA	Waterton Lakes	74.94 332	eP	P	08 03 34.6 +0.2
	0.2nm,0.9s				
VIPM	Ingram Point	75.18 325	P	P	08 03 37.3 +1.3
E09A	Wood Farm, Sta	75.19 328	eP	P	08 03 36.6 +0.9
	12nm,0.8s				
NEW	Newport	75.88 330	eP	P	08 03 39.6 -0.2
	44nm,2.4s				
NEW	Newport	75.88 330	P	P	08 03 39.5 -0.2
	baz=76				
GBB	Gable Butte	76.02 327	P	P	08 03 41.8 +1.3
H04A	Detroit Lake	76.16 325	eP	P	08 03 42.1 +0.8
	9.8nm,0.6s				
FCC	Fort Churchill	76.50 348	eP	P	08 03 42.2 -0.6
	0.4nm,0.6s				
TORD	Torodi Ar. Bea	76.76 72	P	P	08 03 45.4 +0.1
TORD	Torodi Ar. Bea	76.76 72	P	P	08 03 45.4 +0.1
	6.7nm,0.5s,baz=267,slow=4.4,SNR=76				
TORD			LR	LR	08 36 44.4
	comp=Z,56nm,18.2s,baz=150,slow=35				
WPW	White Pass	77.08 327	P	P	08 03 47.5 +0.9
EDM	Edmonton	77.76 335	eP	P	08 03 49.4 -0.6

JCW	Jim Creek	78.24	328	P		P	08 03 52.8	0.0
CMW	Cultus Mountai	78.48	328	P		P	08 03 54.6	+0.4
HDW	Hoodsport	78.48	327	P		P	08 03 55.1	+0.9
MDT	Midelt	79.05	51	P		P	08 03 59.2	+1.5
MDT	Midelt	79.05	51	P		P	08 03 59.2	+1.5
2.8nm,1.0s,baz=272,slow=4.7,SNR=4.1								
EVOP	Sao Brissos	79.21	45	eP		P	08 03 59.6	+1.3
31nm,1.0s								
EVO	Evora	79.28	45	eP		P	08 03 59.6	+0.9
31nm,1.0s								
PGC	Sidney	79.31	327	eP		P	08 03 59.7	+1.2
0.6nm,0.6s								
SBA	Scott Base	81.45	190	eP		P	08 04 10.8	+1.2
4.4nm,1.1s								
VNDA	Vanda	82.49	190	P		P	08 04 16.2	+1.2
VNDA	Vanda	82.49	190	P		P	08 04 16.2	+1.2
1.1nm,0.6s,baz=130,slow=6.8,SNR=7.8								
SYO	Syowa Base	82.59	160‖	eP		P	08 04 14.4	-1.2
ESDC	Sonseca Array	82.60	46	P		P	08 04 17.1	+0.8
ESDC	Sonseca Array	82.60	46	P		P	08 04 17.1	+0.8
1.0nm,0.4s,baz=253,slow=5.4,SNR=14								
ESLA	Sonseca Array	82.60	46	eP		P	08 04 16.9	+0.6
3.9nm,1.0s								
TAM	Tamanrasset	83.43	64	eP		P	08 04 22.3	+1.3
1.9nm,0.5s								
YKA	Yellowknife Ar	85.09	341	P		P	08 04 28.3	+0.1
YKA	Yellowknife Ar	85.09	341	P		P	08 04 28.3	+0.1
29nm,0.8s,baz=134,slow=4.6,SNR=51								
ETSF	Etsaut	86.32	44	eP		P	08 04 34.5	-0.4
6.5nm,0.7s								
ETSF	Etsaut	86.32	44	eP		P	08 04 34.5	-0.4
6.5nm,0.7s								
EPF	Esparros	86.97	44	eP		P	08 04 36.3	-1.7
EPF	Esparros	86.97	44	eP		P	08 04 36.3	-1.7
BOSA	Boshof	87.52	119	P		P	08 04 41.5	+0.3
BOSA	Boshof	87.52	119	P		P	08 04 41.5	+0.3
1.1nm,0.4s,baz=235,slow=4.4,SNR=4.0								
LFF	La Frestale	88.02	42	eP		P	08 04 41.7	-1.2
LFF	La Frestale	88.02	42	eP		P	08 04 41.7	-1.2
MFF	Saint Martin d	88.14	40	eP		P	08 04 43.5	+0.1
MFF	Saint Martin d	88.14	40	eP		P	08 04 43.5	+0.1
DLBC	Dease Lake	88.25	333	eP		P	08 04 45.0	+1.2
MTLF	Montolieu	88.35	44	eP		P	08 04 43.3	-1.2
5.9nm,0.7s								
MTLF	Montolieu	88.35	44	eP		P	08 04 43.3	-1.2
5.9nm,0.7s								
CAF	Calviac	88.87	43	eP		P	08 04 45.7	-1.3
7.9nm,0.8s								
CAF	Calviac	88.87	43	eP		P	08 04 45.7	-1.3
7.9nm,0.8s								
LDF	La Druitiere	88.99	39	eP		P	08 04 45.8	-1.6
7.8nm,0.7s								
LDF	La Druitiere	88.99	39	eP		P	08 04 45.8	-1.6
7.8nm,0.7s								
TCF	Toulx Ste Croi	89.50	41	eP		P	08 04 48.7	-1.2
TCF	Toulx Ste Croi	89.50	41	eP		P	08 04 48.7	-1.2
BGF	Bois d'Agland	90.01	41	eP		P	08 04 50.7	-1.5
20nm,0.8s								
BGF	Bois d'Agland	90.01	41	eP		P	08 04 50.7	-1.5
20nm,0.8s								
SUMG	Summit	90.38	9	eP		P	08 04 54.0	+0.2
7.5nm,0.9s								
AVF	Avril sur Loir	90.42	41	eP		P	08 04 52.3	-1.8
4.8nm,0.7s								
AVF	Avril sur Loir	90.42	41	eP		P	08 04 52.3	-1.8
4.8nm,0.7s								
MAW	Mawson	90.45	164	eP		P	08 04 54.5	+0.6
1.5nm,1.0s								
MAW	Mawson	90.45	164	P		P	08 04 52.9	-1.0
6.6nm,1.0s,baz=243,slow=4.0,SNR=7.9								
SMF	Signal de Mont	90.68	42	eP		P	08 04 53.8	-1.5
7.3nm,0.7s								
SMF	Signal de Mont	90.68	42	eP		P	08 04 53.8	-1.5
7.3nm,0.7s								
LOR	Lormes	90.92	41	eP		P	08 04 54.4	-2.0
LOR	Lormes	90.92	41	eP		P	08 04 54.4	-2.0
ORIF	Oris-en-Rattie	91.39	44	eP		P	08 04 58.2	-0.5
5.9nm,0.7s								
ORIF	Oris-en-Rattie	91.39	44	eP		P	08 04 58.2	-0.5
5.9nm,0.7s								
SFTF	Sexfontaines	92.01	40	eP		P	08 04 59.8	-1.6
SFTF	Sexfontaines	92.01	40	eP		P	08 04 59.8	-1.6
LPL	La Plagne	92.16	43	eP		P	08 05 01.2	-1.3
LPL	La Plagne	92.16	43	eP		P	08 05 01.2	-1.3
PAGF	Fort de Pagny	92.56	40	eP		P	08 05 02.7	-1.2
PAGF	Fort de Pagny	92.56	40	eP		P	08 05 02.7	-1.2
INK	Inuvik	94.85	341	eP		P	08 05 13.6	-0.3
13nm,1.0s								
GERES	GERESS Array B	97.68	42	P		P	08 05 26.6	-0.9
GERES	GERESS Array B	97.68	42	P		P	08 05 26.6	-0.9
0.1nm,0.3s,baz=199,slow=3.7,SNR=3.8								
ILAR	Eielson Array	98.25	335	P		P	08 05 28.1	-1.4
ILAR				PP		PP	08 09 24.9	-6.9
ILAR	Eielson Array	98.25	335	P		P	08 05 28.1	-1.4
0.6nm,0.7s,baz=154,slow=2.9,SNR=8.7								
ILAR				PP		PP	08 09 24.9	-6.9
1.4nm,0.9s,baz=105,slow=6.3,SNR=11								
VYHS	Vyhne	100.92	43	PDIF		Pdif	08 05 39.8	-2.0
CRVS	Cervenica-Dubn	102.71	43	PDIF		Pdif	08 05 49.0	-0.7
ABKAR	Akbulak array	127.55	39	ePKPdf		PKPdf	08 10 58.2	+1.7
ASAR	Alice Springs	134.41	212	PKP		PKPdf	08 11 09.8	-0.7
ASAR				SKPbc		SKPbc	08 14 21.6	-0.7
ASAR	Alice Springs	134.41	212	PKP		PKPdf	08 11 09.8	-0.7
0.3nm,0.5s,baz=133,slow=1.7,SNR=8.6								
ASAR				SKPbc		SKPbc	08 14 21.6	-0.7
1.0nm,0.5s,baz=132,slow=3.8,SNR=6.1								
ZAA0	Zalesovo Array	137.01	21	ePKPdf		PKPdf	08 11 13.6	-0.7
ZALV	Zalesovo Beam	137.01	21	PKP		PKPdf	08 11 13.6	-0.7
ZALV				SKP			08 14 32.5	
ZALV	Zalesovo Beam	137.01	21	PKP		PKPdf	08 11 13.6	-0.7
4.6nm,0.5s,baz=298,slow=3.0,SNR=18								
ZALV				SKP			08 14 32.5	
4.2nm,0.7s,baz=322,slow=4.4,SNR=13								
WRA	Warramunga Arr	137.21	215	PKP		PKPdf	08 11 15.8	+0.1
WRA				SKPbc		SKPbc	08 14 30.6	-0.3
WRA	Warramunga Arr	137.21	215	PKP		PKPdf	08 11 15.8	+0.1
0.5nm,0.4s,baz=146,slow=1.8,SNR=15								
WRA				SKPbc		SKPbc	08 14 30.6	-0.3
1.7nm,0.6s,baz=139,slow=2.7,SNR=5.3								
EKS2	Erkin-Say	139.09	41	ePKPdf		PKPdf	08 11 20.2	+1.5
MKAR	Makanchi Array	141.39	30	PKPpre		PKPpre	08 11 16.8	
MKAR				PKP		PKPdf	08 11 23.4	+0.9
MKAR				SKPbc		SKiKP	08 14 43.4	+0.1
MKAR	Makanchi Array	141.39	30	PKhKP		PKPpre	08 11 16.8	
0.3nm,0.4s,baz=328,slow=2.9,SNR=6.8								
MKAR				PKP		PKPdf	08 11 23.4	+0.9
1.7nm,0.7s,baz=316,slow=2.5,SNR=9.6								
MKAR				SKPbc		SKiKP	08 14 43.4	+0.1
2.5nm,0.9s,baz=302,slow=2.5,SNR=6.1								
HIA	Hailar	145.32	348	ePKPdf		PKPab	08 11 30.1	+0.2
USRK	Ussuriysk Arra	145.66	331	PKPbc		PKPdf	08 11 30.1	0.0
6.3nm,0.6s,baz=20,slow=2.8,SNR=20								
MDJ	Mudanjiang	146.41	334	PKPbc		PKPbc	08 11 33.0	+0.1
MDJ				PP		PP	08 14 59.0	+2.4
MDJ				AMB		AMB		
comp=Z,100nm,4.8s								
MJAR	Matsushiro Arr	147.05	315	PKPbc		PKPbc	08 11 35.5	+0.5
MJAR	Matsushiro Arr	147.05	315	PKPbc		PKPbc	08 11 35.5	+0.5
comp=Z,12nm,0.7s,baz=100,slow=1.5,SNR=37								
MAT	Matsushiro	147.05	315	PKP		PKPbc	08 11 34.7	-0.3
SONM	Songino Array	147.65	4	PKPbc		PKPbc	08 11 37.6	+1.2
SONM	Songino Array	147.65	4	PKPbc		PKPbc	08 11 37.6	+1.2
comp=Z,23nm,0.7s,baz=322,slow=1.8,SNR=95								
ULN	Ulaanbaatar	147.66	3	ePKPbc		PKPbc	08 11 37.6	+1.1
KSRS	Korea Array	152.77	327	PKPbc		PKPbc	08 11 48.8	-0.1
comp=Z,3.8nm,0.9s,baz=38,slow=1.5,SNR=6.6								
KSAR	Wonju Array Be	152.80	327	PKPbc		PKPbc	08 11 48.8	-0.2
GTA	Gaotai	154.67	18	PKPbc		PKPbc	08 11 50.5	-2.6
GTA				pPKP		PKPab	08 12 21.3	+13
GTA				sPKP			08 12 36.5	
HHC	Hu-ho-hao-te	154.68	357	ePKP		PKPdf	08 11 38.8	-5.6
HHC				pPKP		PKPab	08 12 21.5	+13
HHC				sPKP			08 12 38.0	
HHC				PKS		PKSdf	08 15 11.3	-7.3
HHC				AMB		AMB		
comp=Z,93nm,7.8s								
HHC				LR		LR		
comp=N,200nm,21.5s								
HHC				LR		LR		
comp=E,380nm,21.5s								
HHC				LR		LR		
comp=Z,180nm,20.7s								
CD2	Chengdu	163.75	18	ePKP		PKPdf	08 11 53.8	-1.3
CD2				PP		PP	08 16 34.5	+1.6
CD2				SKKS			08 23 06.8	
CD2				AMB		AMB		
comp=Z,120nm,10.2s								
CD2				LR		LR		
comp=N,130nm,21.0s								
CD2				LR		LR		
comp=Z,150nm,22.4s								
GYA	Guiyang	168.75	14	ePKP		PKPdf	08 11 58.0	-1.2
GYA				sPKP			08 12 50.8	
GYA				PKPab		PKPab	08 13 11.5	+1.2
GYA				PKS		PKSdf	08 15 30.5	-1.4
GYA				PP		PP	08 17 01.8	+3.2
GYA				AMB		AMB		
comp=Z,110nm,7.9s								

MAN ***29*** *08:06:20,6°.07N×126°.77E,h0km,mb5.3,ML4.3,MS4.5*
AUST ***29*** *08:06:21.7,6°.00N×127°.01E,h35km*
IDC ***29*** *08:06:22.2±2.2,6°.24N±126°.96E,h54km±19km,mb4.2/19, mb1 4.3/20,mb1mx4.2/27,mbtmp4.2/20,ML3.7/1,MS3.6/8, Ms1 3.6/8,ms1mx3.2/32,Error ellipse: s-maj=22.5km s-min=10.4km az=80.0*
DJA ***29*** *08:06:22.4±1.2,6°.N±8°×.12°.7E±1°.2,h30km,M5.1/6, mB5.5/4,mb5.2/6,MLv5.1/5,Mw(mB)5.0/4*
ISCJB ***29*** *08:06:22.4±0.6,6°.04N±0°.03×126°.88E±0°.06,h64km±5km, mb4.5/37,Error ellipse: s-maj=9.8km s-min=4.0km az=160.3*
NEIC ***29*** *08:06:23.6±1.6,6°.17N×126°.90E,h66km±14km,mb4.6/9, Error ellipse: s-maj=17.8km s-min=7.7km az=73.0*
BJI ***29*** *08:06:23.1,5°.99N×126°.72E,h71km,mB4.7/7,mb4.6/19, Ms3.8/6,Ms7 3.6/7*
ISC 29 08:06:23.8±0.5,6°.10N±0°.04×126°.87E±0°.06,h66km±3km, n129,σ1°32/154,mb4.5/36,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.04	324	eP	Pn	08 06 39.9	-2.7
MATI				eS	Sn	08 06 55.7	-0.9
DAV	Davao City (W)	1.60	307	ePn	Pn	08 06 50.1	0.0
DAV				eSn	Sn	08 07 11.6	+1.8
DAV	Davao City (W)	1.60	307	P	Pn	08 06 49.7	-0.4
DMPH	Davao City--Mi	1.67	306‖	eP	Pn	08 06 50.4	-0.6
DMPH				eS	Sn	08 07 12.6	+1.2
GSPH	General Santos	1.91	270	/ S	Sn	08 07 14.1	-3.2
KCP	Kidapawan	1.98	297‖	eP	Pn	08 06 53.5	-1.8
KCP				/ S	Sn	08 07 20.0	+0.9
BUKP	Musuan	2.52	315	eP	Pn	08 07 02.0	-0.5
BUTP	Butuan	3.11	337	eP	Pn	08 07 12.2	+1.7
CGP	Cagayan de Oro	3.18	318‖	eP	Pn	08 07 13.0	+1.4
CGP				eS	Sn	08 07 50.5	+2.2
PAGZ	Pagadian	3.87	297	eP	Pn	08 07 22.6	+1.7
MSLP	Maasin	4.48	334	eP	Pn	08 07 33.4	+4.1
TNTI	Ternate	5.31	175	P	Pn	08 07 41.7	+1.0
352nm,0.9s,6μm1.4nm							
GTOI	Gorontalo	6.65	215	P	Pn	08 07 58.8	-0.2
180nm,0.6s,2μm0.7nm							
LBMI	Labuha	6.72	175	P	Pn	08 07 58.0	-2.0
265nm,0.5s,1.0nm							
MRSI	Marisa	7.44	222	P	Pn	08 08 10.0	+0.2
140nm,0.6s,1μm0.5nm							
LUWI	Luwuk	8.18	210	P	Pn	08 08 10.2	-10
LUWI	Luwuk	8.18	210	P	Pn	08 08 19.5	-0.5
baz=8.2,SNR=3.5							
SWI	Sorong	8.19	147	P	Pn	08 08 19.0	-1.0
baz=8.1,SNR=3.6							
SWI				S	Sn	08 10 16.1	+25
baz=8.1,SNR=5.9							
SKSI	Soroako, Sulaw	10.19	213	P	Pn	08 08 47.3	-0.2
27nm,0.9s,18μm							
TTSI	Tana Toraja	11.49	218	P	Pn	08 09 06.0	+0.8
KAPI	Kappang	13.12	213	P	Pn	08 09 26.6	-0.8
KAPI	Kappang	13.12	213	P	Pn	08 09 26.6	-0.8
0.4nm,0.3s,baz=15,slow=14,SNR=6.8							
BATI	Baumata	16.51	191	LR	LR	08 17 04.3	
comp=Z,255nm,18.7s,baz=159,slow=38							
MTN	Manton Dam	19.29	167	P	P	08 10 43.4	-0.1
baz=19,SNR=16							
KDU	Kakadu	19.48	163	P	P	08 10 45.1	-0.4
baz=20,SNR=6.4							
QIZ	Qiongzhong	20.98	309	P	P	08 11 02.5	+0.7
QIZ				pP	pP	08 11 15.0	-0.8
QIZ				S	S	08 14 53.5	+1.4
QIZ				pmax	pmax		
comp=Z,5.0nm,1.1s							
QIZ				LR	LR		
comp=Z,200nm,19.5s							
KNRA	Kununurra	21.71	175	P	P	08 11 09.9	+0.2
baz=22,SNR=16							
FITZ	Fitzroy Crossi	24.07	183	eP	P	08 11 34.5	+1.2
comp=Z,4.3nm,0.5s							
FITZ	Fitzroy Crossi	24.07	183	P	P	08 11 33.6	+0.3
comp=Z,2.7nm,0.5s,baz=9.8,slow=8.4,SNR=12							
FITZ	Fitzroy Crossi	24.07	183	P	P	08 11 33.6	+0.3
baz=24,SNR=3.9							
CBIJ	Chichi jima	25.47	33	P	P	08 11 43.7	-2.3
CBIJ	Chichi jima	25.47	33	P	P	08 11 43.7	-2.3
comp=Z,47nm,0.4s,baz=247,slow=7.7,SNR=13							
COEN	Coen	25.67	141	eP	P	08 11 47.1	-0.8
comp=Z,38nm,0.6s							
COEN	Coen	25.67	141	P	P	08 11 49.8	+1.9
baz=26,SNR=6.3							
NJ2	Nanjing	26.89	345	eP	P	08 12 00.8	+2.2
NJ2				pmax	pmax		
comp=Z,19nm,1.3s							
WRAB	Tennant Creek	26.89	164	eP	P	08 11 59.8	+0.9
comp=Z,12nm,0.8s							
WRA	Warramunga Arr	26.90	164	P	P	08 11 59.9	+1.0
WRA				ScP	ScP	08 18 55.5	+0.9
WRA	Warramunga Arr	26.90	164	P	P	08 11 59.9	+1.0
comp=Z,2.7nm,0.5s,baz=344,slow=10,SNR=61							
WRA				ScP	ScP	08 18 55.5	+0.9
comp=Z,0.6nm,0.9s,baz=349,slow=3.4,SNR=3.5							
WHN	Wuhan	27.02	336	P	P	08 12 03.8	+4.0
RABL	Rabaul	27.25	111	S	S	08 16 13.2	-24
baz=27,SNR=4.8							
GYA	Guiyang	27.95	319	eP	P	08 12 09.5	+1.1
GYA				pP	pP	08 12 25.5	+1.3
GYA				sP	sP	08 12 34.8	+2.8
GYA				PP	PnPn	08 13 02.0	+3.3
GYA				S	S	08 16 47.0	-0.9
GYA				sS	sS	08 17 15.3	+0.2
GYA				SS	SnSn	08 18 11.8	+3.7
GYA				ScP	ScP	08 18 57.0	-0.9
GYA				ScS	ScS	08 22 47.5	-3.0
GYA				pmax	pmax		
comp=Z,10.0nm,0.8s							
PSI	Prapat	28.04	265	LR	LR	08 26 22.8	
comp=Z,112nm,19.0s,baz=47,slow=43							
MTSU	Mount Surprise	29.60	145	P	P	08 12 25.1	+2.1
baz=30,SNR=4.1							
CMAR	Chiang Mai Arr	29.86	297	P	P	08 12 26.5	+1.1
CMAR				PcP	PcP	08 15 27.8	+0.5
CMAR	Chiang Mai Arr	29.86	297	P	P	08 12 26.5	+1.1
comp=Z,1.2nm,0.3s,baz=124,slow=6.6,SNR=7.7							
CMAR				PcP	PcP	08 15 27.8	+0.5
comp=Z,1.9nm,0.8s,baz=118,slow=0.5,SNR=9.0							
CMAR				LR	LR	08 24 50.0	
comp=Z,81nm,19.2s,baz=149,slow=37							
AS31	Alice Springs	30.37	167	eP	P	08 12 30.5	+0.7
ASAR	Alice Springs	30.37	167	P	P	08 12 30.7	+0.9
ASAR				PcP	PcP	08 15 28.1	-0.4
ASAR				ScP	ScP	08 19 06.2	+0.8
ASAR	Alice Springs	30.37	167	P	P	08 12 30.7	+0.9
comp=Z,1.2nm,0.4s,baz=342,slow=6.9,SNR=35							
ASAR				PcP	PcP	08 15 28.1	-0.4
comp=Z,0.6nm,0.4s,baz=349,slow=2.4,SNR=5.4							
ASAR				ScP	ScP	08 19 06.2	+0.8
comp=Z,0.3nm,0.5s,baz=343,slow=2.9,SNR=5.2							
KSRS	Korea Array	31.23	2	LR	LR	08 25 57.1	
comp=Z,49nm,18.3s,baz=182,slow=38							
MAT	Matsushiro	32.03	17	P	P	08 12 40.4	-3.9
MJAR	Matsushiro Arr	32.03	17	LR	LR	08 25 19.9	
comp=Z,59nm,20.0s,baz=160,slow=36							
XAN	Xi'an	32.40	331	P	P	08 12 48.8	+1.3
XAN				pmax	pmax		
comp=Z,6.0nm,0.7s							
CD2	Chengdu	32.85	322	eP	P	08 12 53.8	+2.2
CD2				pP	pP	08 13 09.8	+2.2
CD2				sP	sP	08 13 17.8	+2.5
CD2				pmax	pmax		
comp=Z,10.0nm,0.8s							
MEEK	Meekatharra	33.51	193	P	P	08 12 57.2	0.0
baz=34,SNR=7.3							
BJI	Beijing	35.14	346	P	P	08 13 12.3	+1.2
BJI				S	S	08 18 42.0	+2.6
BJI				pmax	pmax		
comp=Z,28nm,0.8s							
BJI				pmax	pmax		
comp=Z,69nm,5.4s							
BJI				LR	LR		
comp=N,120nm,24.4s							
BJI				LR	LR		
comp=E,110nm,24.5s							
BJI				LR	LR		
comp=Z,46nm,20.2s							
MORW	Morawa	36.48	196	P	P	08 13 23.0	+0.2
baz=37,SNR=3.9							
CN2	Changchun	37.57	358	eP	P	08 13 34.5	+2.6
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
BLDU	Ballidu	37.78	194	P	P	08 13 33.8	0.0
baz=38,SNR=11							
MDJ	Mudanjiang	38.44	3	P	P	08 13 40.5	+1.3
MDJ				sP	sP	08 14 03.3	+0.2
MDJ				S	ScP	08 19 32.5	-1.3
MDJ				pmax	pmax		
comp=Z,6.0nm,0.8s							
MDJ				pmax	pmax		
comp=Z,55nm,4.6s							
MDJ				LR	LR		
comp=N,38nm,33.1s							
MDJ				LR	LR		
comp=Z,40nm,25.7s							
KLBR	Kellerberrin	38.47	193	P	P	08 13 40.1	+0.5
baz=39,SNR=11							
BBOO	Buckleboo	39.67	168	P	P	08 13 49.9	+0.3
baz=40,SNR=5.9							
NWAO	Narrogin (SRO)	39.87	193	eP	P	08 13 51.8	+0.5
comp=Z,8.8nm,0.3s							
NWAO	Narrogin (SRO)	39.87	193	P	P	08 13 52.1	+0.8
comp=Z,9.1nm,0.3s,baz=30,slow=9.2,SNR=27							
STKA	Stephens Creek	40.29	160	eP	P	08 13 54.6	-0.1
comp=Z,1.5nm,0.8s							
STKA	Stephens Creek	40.29	160	P	P	08 13 54.6	-0.1
comp=Z,4.8nm,0.6s,baz=338,slow=9.1,SNR=8.7							
STKA	Stephens Creek	40.29	160	P	P	08 13 56.6	+1.8
baz=40,SNR=5.1							
GTA	Gaotai	41.16	328	eP	P	08 14 02.5	+0.4
GTA				pP	pP	08 14 19.3	+0.9
GTA				sP	sP	08 14 26.5	+0.5
GTA				PcP	PcP	08 16 03.5	+3.2
GTA				S	S	08 20 11.3	+0.4
GTA				sS	sS	08 20 37.0	-1.7
GTA				pmax	pmax		
comp=Z,5.0nm,0.7s							
GTA				pmax	pmax		
comp=Z,69nm,3.9s							
GTA				LR	LR		
comp=N,130nm,20.6s							
GTA				LR	LR		
comp=E,170nm,19.1s							
GTA				LR	LR		
comp=Z,210nm,18.2s							
ODAN	Odare	42.85	303	eP	PcP	08 16 06.1	-0.2
RAMN	Ramite	43.54	303	eP	PcP	08 16 09.2	+0.6
GUN	Gumba	44.48	304	eP	PcP	08 16 11.0	-1.0
PKI	Pulchoki	44.75	303	eP	PcP	08 16 13.4	+0.5
comp=Z,25nm,0.6s							
PKIN	Phulchoki	44.76	303	eP	PcP	08 16 13.5	+0.7
ULN	Ulaanbaatar	44.93	341	eP	P	08 14 32.6	+0.2
comp=Z,11nm,0.9s							
KKN	Kakani	44.94	304	eP	PcP	08 16 13.6	+0.2
comp=Z,17nm,0.7s							
DMN	Daman	45.02	303	eP	PcP	08 16 14.6	+0.9
comp=Z,18nm,0.7s							
SONM	Songino Array	45.12	341	P	P	08 14 34.1	+0.3
SONM				PcP	PcP	08 16 14.8	+1.4
SONM	Songino Array	45.12	341	P	P	08 14 34.1	+0.3
comp=Z,4.9nm,0.9s,baz=162,slow=8.5,SNR=12							
SONM				PcP	PcP	08 16 14.8	+1.4
comp=Z,1.7nm,0.8s,baz=137,slow=4.0,SNR=5.0							
KOLN	Koldanda	46.33	303	eP	PcP	08 16 18.3	+0.1
comp=Z,7.2nm,0.6s							
DANN	Dangsing	46.39	304	eP	PcP	08 16 18.8	+0.3
comp=Z,23nm,0.6s							
WMQ	Urumqi	50.89	324	eP	P	08 15 19.3	+0.9
WMQ				LR	LR		
comp=N,60nm,24.0s							
WMQ				LR	LR		
comp=Z,100nm,22.0s							
PETK	Petropavlovsk-	53.20	23	P	P	08 15 34.0	-1.4
PETK	Petropavlovsk-	53.20	23	P	P	08 15 34.0	-1.4
comp=Z,5.5nm,1.0s,baz=214,slow=10.0,SNR=2.7							
MKAR	Makanchi Array	55.71	324	P	P	08 15 52.8	-0.9
MKAR				PcP	PcP	08 16 51.4	-1.0
MKAR	Makanchi Array	55.71	324	P	P	08 15 52.8	-0.9
comp=Z,3.8nm,0.4s,baz=119,slow=7.3,SNR=32							
MKAR				PcP	PcP	08 16 51.4	-1.0
comp=Z,5.0nm,0.8s,baz=119,slow=4.3,SNR=8.6							
MKAR				LR	LR	08 41 32.3	
comp=Z,51nm,18.5s,baz=174,slow=38							
TKM2	Tokmak 2	58.09	318	eP	P	08 16 12.3	+1.5
comp=Z,2.8nm,0.7s							
ZAA0	Zalesovo Array	58.56	332	eP	P	08 16 14.3	+0.7
ZALV	Zalesovo Beam	58.56	332	P	P	08 16 11.5	-2.1
ZALV				PcP	PcP	08 17 03.3	0.0
ZALV	Zalesovo Beam	58.56	332	P	P	08 16 11.5	-2.1
comp=Z,2.8nm,0.5s,baz=120,slow=6.9,SNR=7.7							
ZALV				PcP	PcP	08 17 03.3	0.0
comp=Z,2.1nm,0.6s,baz=172,slow=1.7,SNR=6.1							
ZALV				LR	LR	08 42 43.6	
comp=Z,50nm,18.1s,baz=63,slow=37							
EKS2	Erkin-Say	59.22	317	eP	P	08 16 20.3	+1.7
comp=Z,4.9nm,0.7s							

CPUP	**Villa Florida**	**159.48 169**	PKPab	**PKPab**	**08 26 52.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=112,slow=5.4,SNR=3.3					
BDFB	**Brasilia**	**169.27 208**	PKPab	**PKPab**	**08 27 37.3**	**+0.2**
BDFB	**Brasilia**	**169.27 208**	PKPab	**PKPab**	**08 27 37.3**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=148,slow=2.7,SNR=5.0					

IDC 29 08:13:32.1±4.4, 29°.84N×143°.46E, h38km±39km, mb3.8/3, mb1 3.9/5, mb1mx3.4/25, mbtmp3.8/5, ML3.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=66.2km s-min=22.1km az=95.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.95**	**203**	Pn	Pn	08 14 16.4	-0.1
	baz=351,slow=19						
CBIJ				Sn	Sn	08 14 45.0	-5.6
	51nm,0.3s,baz=287,slow=19,SNR=11						
CBIJ				LR	LR	08 15 21.7	
	comp=Z,346nm,20.2s,baz=280,slow=37						
MJAR	**Matsushiro Arr**	**8.00**	**328**	Pn	Pn	08 15 25.6	-0.3
	1.7nm,0.3s,baz=144,slow=10,SNR=14						
ASAJ	**Asahikawa**	**14.27**	**357**	LR	LR	08 22 56.7	
	comp=Z,32nm,20.4s,baz=192,slow=40						
PETK	**Petropavlovsk-**	**25.49**	**20**	P	P	08 18 56.5	-0.1
	6.8nm,0.9s,baz=216,slow=7.0,SNR=3.9						
WRA	**Warramunga Arr**	**50.26**	**191**	P	P	08 22 24.6	-0.1
	0.3nm,0.3s,baz=6.4,slow=8.3,SNR=15						
BRTR	**Keskin Array B**	**84.96**	**313**	P	P	08 26 03.7	+0.1
	0.9nm,0.7s,baz=59,slow=4.7,SNR=3.8						

*ISCJB **29** 08:21:03.5±0.6, 59°.38S±0°.10×24°.7W±0°.3, h10km, mb4.1/10, MS3.5/2, Error ellipse: s-maj=21.3km s-min=10.2km az=150.0*
*IDC **29** 08:21:03.4±0.6, 59°.23S×24°.80W, h0km, mb4.1/8, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, MS3.6/2, Ms1 3.5/2, ms1mx3.1/20, Error ellipse: s-maj=25.0km s-min=18.7km az=62.0*
*NEIC **29** 08:21:08.6±0.5, 59°.38S×24°.71W, h35km, mb4.6/3, Error ellipse: s-maj=20.8km s-min=11.9km az=55.0*
ISC 29 08:21:04.9±0.5, 59°.3S±0°.1×24°.7W±0°.1, h10km, n36, σ1°.20/37, mb4.2/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.26**	**156**	*e*P	**Pn**	**08 24 13.5**	**+0.7**
VNA2	**Neumayer--Watz**	**13.65**	**155**	*e*P	**Pn**	**08 24 16.6**	**-1.7**
SNAA	**Sanae**	**15.21**	**153**	*e*P	**Pn**	**08 24 38.5**	**-0.9**
SNAA	**Sanae**	**15.21**	**153**	*e*P	**Pn**	**08 24 37.9**	**-1.5**
	21nm,0.6s						
QSPA	**South Pole Qui**	**30.92**	**180**	*e*P	**P**	**08 27 22.8**	**+1.3**
	10nm,1.0s						
QSPA	**South Pole Qui**	**30.92**	**180**	P	**P**	**08 27 23.2**	**+1.7**
	3.1nm,0.6s,baz=196,slow=3.3,SNR=46						
PLCA	**Paso Flores**	**33.95**	**283**	P	**P**	**08 27 47.9**	**-0.3**
	2.6nm,0.6s						
PLCA	**Paso Flores**	**33.95**	**283**	P	P	08 27 57.2	+9.1
	2.0nm,0.7s,baz=135,slow=5.1,SNR=3.8						
PLCA				LR	LR	08 41 40.9	
	comp=Z,78nm,18.4s,baz=306,slow=36						
MAW	**Mawson**	**36.75**	**140**	P	**P**	**08 28 12.3**	**+0.5**
MAW	**Mawson**	**36.75**	**140**	P	**P**	**08 28 12.3**	**+0.5**
	3.2nm,0.6s,baz=260,slow=8.1,SNR=6.2						
MAW				LR	LR	08 41 53.7	
	comp=Z,94nm,20.5s,baz=64,slow=34						
CFAA	**Coronel Fontan**	**40.09**	**294**	P	**P**	**08 28 39.3**	**-1.1**
CFAA	**Coronel Fontan**	**40.09**	**294**	P	**P**	**08 28 39.3**	**-1.1**
	0.3nm,0.7s,baz=135,slow=9.8,SNR=3.0						
VNDA	**Vanda**	**43.35**	**182**	P	**P**	**08 29 07.8**	**+1.3**
VNDA	**Vanda**	**43.35**	**182**	P	**P**	**08 29 07.8**	**+1.3**
	2.4nm,0.9s,baz=178,slow=5.4,SNR=11						
BDFB	**Brasilia**	**46.86**	**329**	P	**P**	**08 29 37.5**	**+2.4**
BDFB	**Brasilia**	**46.86**	**329**	P	**P**	**08 29 37.5**	**+2.4**
	2.1nm,0.8s,baz=163,slow=11,SNR=3.3						
LBTB	**Lobatse**	**48.85**	**68**	P	**P**	**08 29 50.7**	**+0.2**
LBTB	**Lobatse**	**48.85**	**68**	P	**P**	**08 29 50.7**	**+0.2**
	2.6nm,0.7s,baz=187,slow=3.3,SNR=3.1						
LPAZ	**La Paz**	**53.34**	**305**	P	**P**	**08 30 25.2**	**+0.3**
LPAZ	**La Paz**	**53.34**	**305**	P	**P**	**08 30 25.2**	**+0.3**
	0.3nm,0.5s,baz=140,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.33**	**27**	P	**P**	**08 32 48.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**75.33**	**27**	P	**P**	**08 32 48.5**	**+0.4**
	3.7nm,0.5s,baz=199,slow=6.3,SNR=33						
ASAR	**Alice Springs**	**95.46**	**160**	P	**P**	**08 34 28.3**	**-1.4**
ASAR	**Alice Springs**	**95.46**	**160**	P	**P**	**08 34 28.3**	**-1.4**
	0.6nm,0.9s,baz=183,slow=4.0,SNR=5.4						
PDAR	**Pinedale Array**	**123.15**	**299**	PKP	**PKPdf**	**08 39 59.6**	**-1.5**
PDAR	**Pinedale Array**	**123.15**	**299**	PKP	**PKPdf**	**08 39 59.6**	**-1.5**
	0.1nm,0.3s,baz=146,slow=5.2,SNR=3.1						
NVAR	**Mina Array Bea**	**123.82**	**289**	PKP	**PKPdf**	**08 40 03.0**	**+0.6**
NVAR	**Mina Array Bea**	**123.82**	**289**	PKP	**PKPdf**	**08 40 03.0**	**+0.6**
	0.2nm,0.7s,baz=139,slow=3.0,SNR=2.5						
YKA	**Yellowknife Ar**	**139.46**	**314**	PKP	**PKPdf**	**08 40 29.6**	**-1.3**
YKA	**Yellowknife Ar**	**139.46**	**314**	PKP	**PKPdf**	**08 40 29.6**	**-1.3**
	0.9nm,0.8s,baz=138,slow=2.1,SNR=4.1						
SONM	**Songino Array**	**149.50**	**90**	PKPbc	**PKPbc**	**08 40 52.6**	**-0.8**
SONM	**Songino Array**	**149.50**	**90**	PKPbc	**PKPbc**	**08 40 52.6**	**-0.8**
	5.4nm,1.3s,baz=194,slow=4.4,SNR=5.3						
ILAR	**Eielson Array**	**153.21**	**306**	PKPbc	**PKPbc**	**08 41 00.8**	**-0.5**
ILAR				PKPab	**PKPab**	**08 41 11.9**	**-1.3**
ILAR	**Eielson Array**	**153.21**	**306**	PKPbc	**PKPbc**	**08 41 00.8**	**-0.5**
	0.9nm,0.9s,baz=163,slow=4.1,SNR=7.7						
ILAR				PKPab	**PKPab**	**08 41 11.9**	**-1.3**
	3.3nm,0.8s,baz=134,slow=0.5,SNR=23						
TRF	**Thorofare Moun**	**154.29**	**303**	*e*PKPbc	**PKPbc**	**08 41 05.0**	**+1.2**
BPAW	**Bear Paw Mtn.**	**154.76**	**304**	*e*PKPbc	**PKPbc**	**08 41 04.2**	**-0.5**

*ISK **29** 08:29:12.8, 37°.24N×28°.19E, h2km, MD2.4*
*DDA **29** 08:29:13.3, 37°.22N×28°.19E, h7km, ML2.7*
CSEM 29 08:29:13.5±0.1, 37°.22N×28°.20E, h10km, MD2.4, Error ellipse: s-maj=4.2km s-min=2.8km az=25.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.10**	**142**	PG	Pg	08 29 16.0	-0.3
YER				SG	Sg	08 29 18.3	+0.1
YER	**Yerkesik**	**0.10**	**142**	*i* Pg	Pg	08 29 16.0	-0.2
YER				*i* Sg	Sg	08 29 18.3	+0.1
MLSB	**Milas**	**0.35**	**283**	*e*PG	Pg	08 29 20.5	0.0
MLSB				*e*SG	Sg	08 29 25.4	+0.2
MLSB	**Milas**	**0.35**	**283**	*e*Pg	Pg	08 29 20.5	0.0
MLSB				*e*Sg	Sg	08 29 25.4	+0.2
TURN	**Turunc**	**0.47**	**137**	*i* P	Pg	08 29 21.9	-0.8
TURN	**Turunc**	**0.47**	**137**	*i* P	Pg	08 29 21.9	-0.8
AYDN	**Tasoluk**	**0.51**	**330**	*i* P	Pg	08 29 23.6	-0.1
AYDN				*i* S	Sg	08 29 30.6	+0.1
AYDN	**Tasoluk**	**0.51**	**330**	*i* P	Pg	08 29 23.6	0.0
AYDN				*i* S	Sg	08 29 30.6	+0.1
DALY	**Dalyan (Mu¨la**	**0.54**	**138**	*e*PG	Pb	08 29 25.0	0.0
DALY	**Dalyan (Mu¨la**	**0.54**	**138**	*e*Pg	Pb	08 29 25.0	0.0
BDRM	**Kayabasi**	**0.62**	**256**	*i* P	Pg	08 29 25.7	0.0
BDRM	**Kayabasi**	**0.62**	**256**	*i* P	Pg	08 29 25.7	0.0
DAT	**Datca**	**0.70**	**226**	*e*PG	Pg	08 29 27.3	+0.1
DAT	**Datca**	**0.70**	**226**	*e*Pg	Pg	08 29 27.3	+0.1
BODT	**Bodrum**	**0.73**	**258**	*e*PG	Pg	08 29 27.7	+0.1
BODT	**Bodrum**	**0.73**	**258**	*e*Pg	Pg	08 29 27.7	0.0
DNZL	**Cakiroluk**	**0.82**	**55**	*i* P	Pg	08 29 29.7	0.0
DNZL	**Cakiroluk**	**0.82**	**55**	*i* P	Pg	08 29 29.7	+0.1

IDC 29 08:30:54.7±1.1, 12°.95N×120°.10E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/26, mbtmp3.4/5, 1C, Error ellipse: s-maj=24.4km s-min=14.4km az=106.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.41**	**35**	*e*P	Pn	08 31 21.4	-0.3
TGY				*i* S	Sg	08 31 38.9	-1.3
TGY	**Tagaytay City**	**1.41**	**35**	Pg	Pn	08 31 21.4	-0.4
	391nm,0.3s,baz=191,slow=16,SNR=37						
TGY				Lg	Lg	08 31 39.6	
	582nm,0.3s,baz=354,slow=23,SNR=12						
WRA	**Warramunga Arr**	**35.56**	**157**	P	P	08 37 53.4	-0.6
	0.3nm,0.8s,baz=337,slow=9.5,SNR=3.5						
SONM	**Songino Array**	**36.62**	**344**	P	P	08 38 02.0	-0.9
	1.0nm,0.6s,baz=160,slow=9.9,SNR=5.9						
ASAR	**Alice Springs**	**38.81**	**160**	P	P	08 38 21.9	+0.3
	0.3nm,0.8s,baz=338,slow=7.0,SNR=2.9						
MKAR	**Makanchi Array**	**46.29**	**324**	P	P	08 39 22.8	+0.6
	0.3nm,0.5s,baz=133,slow=6.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**50.49**	**327**	P	P	08 39 54.1	-0.4
	0.3nm,0.3s,baz=120,slow=7.9,SNR=4.1						

*NEIC **29** 09:14:58.8, 18°.59N×66°.24W, h64km, MD2.5(RSPR), After RSPR.*
RSPR 29 09:14:58.8, 18°.59N×66°.24W, h64km±7km, MD2.5/3, 11C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.48**	**131**	*e*P	Pn	09 15 11.1	+0.1
CBYP	**Canovanas**	**0.48**	**131**	*e*S	Sn	09 15 18.9	-0.9
CBYP	**Canovanas**	**0.48**	**131**	*e*P	Pn	09 15 06.5	-4.5
CBYP	**Canovanas**	**0.48**	**131**	*e*P	Pn	09 15 11.1	+0.1
CBYP				*e*S	Sn	09 15 18.9	-0.9
SJG	**San Juan**	**0.48**	**170**	Pn	Pn	09 15 10.9	0.0
AOPR	**Arecibo Observ**	**0.55**	**244**	*e*P	Pn	09 15 11.9	+0.3
AOPR	**Arecibo Observ**	**0.55**	**244**	*e*S	Sn	09 15 20.2	-0.6
AOPR	**Arecibo Observ**	**0.55**	**244**	*e*P	Pn	09 15 09.7	-1.8
AOPR	**Arecibo Observ**	**0.55**	**244**	*e*P	Pn	09 15 11.9	+0.3
AOPR				*e*S	Sn	09 15 20.1	-0.8
AOPR				*e*S		09 15 20.2	
HUMP	**Col San Antoni**	**0.58**	**140**	*e*P	Pn	09 15 10.8	-1.1
HUMP	**Col San Antoni**	**0.58**	**140**	*e*P	Pn	09 15 10.8	-1.1
HUMP				*e*S	Sn	09 15 21.3	-0.1
OBIP	**Obispado Ponce**	**0.65**	**213**	Pn	Pn	09 15 13.9	+1.3
LRS	**Lares**	**0.65**	**243**	Pn	Pn	09 15 11.4	-1.3
MTP	**Monte Pirata**	**0.82**	**127**	*e*P	Pn	09 15 13.2	-1.5
MTP	**Monte Pirata**	**0.82**	**127**	*e*P	Pn	09 15 13.2	-1.5
MTP	**Monte Pirata**	**0.82**	**127**	*e*S	Sn	09 15 25.4	-1.0
MTP	**Monte Pirata**	**0.82**	**127**	*e*P	Pn	09 15 13.2	-1.5
MTP				*e*S	Sn	09 15 25.4	-1.0
MTP				*e*S		09 15 25.9	
AGPR	**Aguadilla, PR**	**0.84**	**262**	*e*Pn	Pn	09 15 13.1	-1.8

*MAN **29** 09:22:48, 9°.98N×125°.43E, h33km, mb5.3, ML4.3, MS4.6*
MAN INTENSITY V- HINUNANGAN S. LEYTE; INTENSITY IV - ST BERNARD & CABALIAN(SAN JUAN) SOUTERN LEYTE; INTENSITY III - LAYTE AND ABUYOG LEYTE; INTENSITY II - TACLOBAN CITY; PALO LEYTE.
*ISCJB **29** 09:22:53.2±0.4, 10°.25N±0°.04×125°.24E±0°.05, h30km, mb4.1/17, MS3.8/15, Error ellipse: s-maj=8.0km s-min=5.6km az=156.9*
*NEIC **29** 09:22:55.9±0.4, 10°.32N×125°.40E, h35km, mb4.2/3, Error ellipse: s-maj=17.0km s-min=6.8km az=76.0*
NEIC Felt [V PIVS] at Hinunangan; [IV PIVS] at Saint Bernard and San Juan; [III PIVS] at Abuyog, Leyte and Sogod; [II PIVS] at Palo and Tacloban.
*IDC **29** 09:22:58.9±7.9, 10°.28N×125°.33E, h66km±78km, mb3.9/15, mb1 4.0/15, mb1mx3.8/27, mbtmp3.9/15, MS3.7/16, Ms1 3.8/16, ms1mx3.6/47, Error ellipse: s-maj=27.5km s-min=11.5km az=74.0*
ISC 29 09:22:55.1±0.5, 10°.25N±0°.05×125°.19E±0°.07, h30km, n55, σ0°.99/42, mb4.2/17, MS3.8/15, 3C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**1.21**	**273**	*e*P	**Pn**	**09 23 13.8**	**-2.2**
LLP				*e*S	**Sn**	**09 23 31.3**	**0.0**
TBP	**Tagbilaran**	**1.42**	**247**	*e*P	Pn	09 23 09.0	-10
CGP	**Cagayan de Oro**	**1.85**	**195**	*i* P	Pn	09 23 15.7	-9.0
CGP				*i* S	Sn	09 23 22.9	-24
SNPH	**Sibulan**	**2.12**	**245**	*i* P	Pn	09 23 13.8	-15
SNPH				*i* S	Sn	09 23 43.6	-10
CNP	**Catarman**	**2.31**	**347**	*e*P	**Pn**	**09 23 29.4**	**-1.7**
CNP				*e*S	**Sn**	**09 24 00.2**	**+1.8**
DCPH	**Dipolog City**	**2.45**	**228**	*e*P	**Pn**	**09 23 32.0**	**-1.0**
RCP	**Roxas**	**2.73**	**299**	*e*P	**Pn**	**09 23 36.5**	**-0.5**
DAV	**Davao City (W)**	**3.18**	**173**	Pn	**Pn**	**09 23 43.3**	**+0.2**
PVCP	**Virac**	**3.48**	**343**	*e*P	**Pn**	**09 23 47.0**	**-0.2**
OTRP	**Odiongan**	**3.75**	**304**	*e*P	**Pn**	**09 23 50.4**	**-0.6**
AUQP	**San Andres**	**3.92**	**321**	*e*P	**Pb**	**09 24 02.4**	**-1.2**
SJMP	**San Jose**	**4.56**	**299**	*e*P	**Pn**	**09 24 02.5**	**+0.5**
KAPI	**Kappang**	**16.10**	**200**	LR	LR	09 33 06.2	
	comp=Z,251nm,20.4s,baz=26,slow=38						
BATI	**Baumata**	**20.38**	**184**	P	Pn	09 27 32.0	+0.3
BATI	**Baumata**	**20.38**	**184**	P	Pn	09 27 32.0	+0.3
	30nm,0.6s,baz=124,slow=7.3,SNR=2.5						
BATI				LR	LR	09 36 15.8	
	comp=Z,328nm,21.2s,baz=100,slow=39						
JNU	**Nakatsue**	**23.36**	**12**	LR	LR	09 35 52.5	
	comp=Z,109nm,20.8s,baz=44,slow=33						
CMAR	**Chiang Mai Arr**	**26.68**	**291**	P	**P**	**09 28 33.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**26.68**	**291**	P	**P**	**09 28 33.0**	**+1.3**
	1.9nm,0.9s,baz=101,slow=7.5,SNR=7.0						
CMAR				LR	LR	09 39 02.7	
	comp=Z,146nm,20.3s,baz=6.9,slow=36						
KSAR	**Wonju Array Be**	**27.18**	**5**	P	**P**	**09 28 35.8**	**-0.3**
KSRS	**Korea Array**	**27.20**	**5**	P	**P**	**09 28 35.8**	**-0.4**
	2.3nm,0.7s,baz=184,slow=11,SNR=5.8						
FITZ	**Fitzroy Crossi**	**28.17**	**179**	P	**P**	**09 28 45.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**28.17**	**179**	P	**P**	**09 28 45.4**	**+0.4**
	3.6nm,1.0s,baz=30,slow=12,SNR=4.3						
WRAB	**Tennant Creek**	**31.32**	**163**	*e*P	**P**	**09 29 13.9**	**+1.0**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**31.32**	**163**	P	**P**	**09 29 12.3**	**-0.7**
WRA	**Warramunga Arr**	**31.32**	**163**	P	**P**	**09 29 12.3**	**-0.7**
	0.8nm,0.5s,baz=329,slow=11,SNR=11						
USRK	**Ussuriysk Arra**	**34.34**	**9**	P	**P**	**09 29 39.5**	**+0.4**
	2.5nm,0.7s,baz=193,slow=6.9,SNR=6.9						
ASAR	**Alice Springs**	**34.77**	**166**	P	**P**	**09 29 43.6**	**+0.6**
ASAR	**Alice Springs**	**34.77**	**166**	P	**P**	**09 29 43.7**	**+0.6**
	1.5nm,0.5s,baz=342,slow=7.0,SNR=31						
SHL	**Shillong**	**35.03**	**300**	*ex*	**P**	**09 29 46.5**	**+0.9**
ASAJ	**Asahikawa**	**36.96**	**21**	LR	LR	09 44 38.2	
	comp=Z,62nm,21.6s,baz=105,slow=35						
SONM	**Songino Array**	**40.68**	**341**	P	**P**	**09 30 33.6**	**+0.8**
SONM	**Songino Array**	**40.68**	**341**	P	**P**	**09 30 33.7**	**+0.8**
	1.1nm,0.8s,baz=155,slow=9.3,SNR=3.1						
SONM				LR	LR	09 49 39.5	
	comp=Z,116nm,18.1s,baz=249,slow=39						
STKA	**Stephens Creek**	**44.73**	**160**	P	**P**	**09 31 04.4**	**-1.4**
STKA	**Stephens Creek**	**44.73**	**160**	P	**P**	**09 31 04.4**	**-1.4**
	1.8nm,0.3s,baz=345,slow=12,SNR=2.7						
PETK	**Petropavlovsk-**	**50.10**	**25**	P	**P**	**09 31 46.1**	**-1.2**
PETK	**Petropavlovsk-**	**50.10**	**25**	P	**P**	**09 31 46.1**	**-1.2**
	5.0nm,1.0s,baz=229,slow=5.3,SNR=2.8						
PETK				LR	LR	09 49 49.3	
	comp=Z,51nm,20.5s,baz=58,slow=32						
MKAR	**Makanchi Array**	**51.41**	**323**	P	**P**	**09 31 56.9**	**-0.4**
MKAR	**Makanchi Array**	**51.41**	**323**	P	**P**	**09 31 56.9**	**-0.4**
	1.0nm,0.7s,baz=130,slow=8.5,SNR=6.8						
DZM	**Mont Dzumac**	**51.66**	**129**	P	**P**	**09 31 59.5**	**-0.1**
DZM	**Mont Dzumac**	**51.66**	**129**	P	**P**	**09 31 59.5**	**-0.1**
	6.1nm,1.0s,baz=305,slow=7.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**54.14**	**332**	P	**P**	**09 32 17.3**	**0.0**
ZALV	**Zalesovo Beam**	**54.14**	**332**	P	**P**	**09 32 17.3**	**0.0**
	1.0nm,0.3s,baz=121,slow=6.9,SNR=2.9						
ZALV				LR	LR	09 55 49.4	
	comp=Z,81nm,21.3s,baz=82,slow=36						
KKAR	**Karatay Array**	**57.51**	**315**	*e*P	**P**	**09 32 42.9**	**+1.2**
	0.4nm,0.7s,baz=283,slow=4.2,SNR=4.2						
BVAR	**Borovoye Array**	**61.08**	**326**	LR	LR	10 00 22.0	
	comp=Z,72nm,20.7s,baz=279,slow=37						
ILAR	**Eielson Array**	**79.92**	**26**	P	**P**	**09 34 59.5**	**-1.4**
ILAR	**Eielson Array**	**79.92**	**26**	P	**P**	**09 34 59.5**	**-1.4**
	0.4nm,0.7s,baz=283,slow=4.2,SNR=4.2						
ARCES	**ARCESS Array B**	**83.84**	**340**	LR	LR	10 15 03.7	
	comp=Z,58nm,21.6s,baz=93,slow=37						
BR131	**Keskin Array S**	**84.72**	**309**	P	**P**	**09 35 28.1**	**+1.3**
	1.7nm,0.3s						
BRTR	**Keskin Array B**	**84.72**	**309**	LR	LR	10 13 59.5	
	comp=Z,30nm,21.4s,baz=253,slow=36						
EIL	**Elat**	**85.21**	**299**	LR	LR	10 21 43.5	
	comp=Z,50nm,19.2s,baz=273,slow=41						
FINES	**FINESS Array B**	**85.41**	**332**	LR	LR	10 16 20.9	
	comp=Z,94nm,19.7s,baz=162,slow=38						
VNDA	**Vanda**	**90.04**	**173**	P	**P**	**09 35 52.0**	**+0.7**
VNDA	**Vanda**	**90.04**	**173**	P	**P**	**09 35 52.0**	**+0.7**
	2.9nm,1.1s,baz=318,slow=6.5,SNR=3.7						
VNDA				LR	LR	10 11 47.9	
	comp=Z,58nm,20.9s,baz=327,slow=32						
NOA	**NORSAR Array B**	**92.31**	**334**	LR	LR	10 20 08.7	
	comp=Z,67nm,18.4s,baz=60,slow=37						
VRAC	**Vranov**	**94.12**	**322**	LR	LR	10 18 41.1	
	comp=Z,67nm,20.2s,baz=270,slow=36						

*TEH **29** 09:37:13.8, 26°.86N×55°.73E, h6km, ML3.6*
*ISCJB **29** 09:37:14.4±0.3, 26°.84N±0°.03×55°.72E±0°.04, h14km, mb3.7/14, Error ellipse: s-maj=5.4km s-min=4.2km az=170.0*

*KISR **29** 09:37:15.2±0.7, 28°.12N×55°.70E, h15km±999km, ML3.9*
*CSEM **29** 09:37:16.9±0.3, 26°.80N×55°.87E, h20km, ML3.0, Error ellipse: s-maj=12.3km s-min=7.3km az=81.0*
*IDC **29** 09:37:22.5±9.1, 26°.81N×55°.70E, h80km±78km, mb3.4/13, mb1 3.6/15, mb1mx3.5/31, mbtmp3.5/15, ML3.9/2, Error ellipse: s-maj=46.0km s-min=18.1km az=157.0*
ISC 29 09:37:14.6±0.6, 26°.82N±0°.04×55°.78E±0°.04, h14km, n48, σ1°.37/41, mb3.8/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.68**	**31**	*e*Pg	**Pn**	**09 37 28.5**	**-1.4**
IBND	**Bandar-abas**	**0.92**	**47**	*e*Pg	**Pn**	**09 37 32.5**	**-0.7**
IBND				*e*Sg	**Sn**	**09 37 46.1**	**-0.1**
IBND				*e*		09 37 51.1	
	comp=Z,17μm,0.1s						
IBND	**Bandar-abas**	**0.92**	**47**	*e*Pg	**Pn**	**09 37 32.5**	**-0.7**
IBND				*e*Sg	**Sn**	**09 37 46.1**	**-0.1**
BANOM	**Banah**	**1.01**	**152**	P	**Pb**	**09 37 32.4**	**-1.5**
	SNR=50						
BANOM				S	**Sb**	**09 37 46.8**	**-0.2**
NAZ	**Nazwa, Dubai**	**1.83**	**183**	P	**Pb**	**09 37 47.8**	**0.0**
HATD	**Hatta, Dubai**	**2.01**	**171**	P	**Pn**	**09 37 49.6**	**+1.4**
FAQ	**Al Faqa, Dubai**	**2.07**	**185**	P	**Pb**	**09 37 51.1**	**-0.9**
ASHO	**Ashiyiah**	**2.14**	**173**	P	**Pn**	**09 37 51.8**	**+1.8**
	SNR=8.9						
ASUD	**Al Ashush, Dub**	**2.22**	**191**	P	**Pb**	**09 37 53.4**	**-1.2**
GHIR	**Ghir-Karzin**	**2.88**	**301**	*e*Pn	**Pb**	**09 38 05.7**	**-0.1**
KRBR	**Kerman**	**3.27**	**15**	*e*Pn	Pb	09 38 08.3	-4.3
KRBR				*e*Sg	**Sb**	**09 38 49.4**	**-2.9**
ISRV	**Sarvestan**	**3.47**	**318**	*e*Pn	Pn	09 38 10.9	+2.4
ISRV				*e*		09 39 15.4	
	comp=Z,550nm,0.3s						
ISRV	**Sarvestan**	**3.47**	**318**	*e*Pn	Pn	09 38 10.9	+2.4
IPAR	**Pars**	**3.85**	**322**	*e*Pn	Pn	09 38 16.1	+2.3
IPAR				*e*		09 39 06.5	
	comp=Z,590nm,0.3s						
IPAR	**Pars**	**3.85**	**322**	*e*Pn	Pn	09 38 16.1	+2.3
IMEH	**Mehriz**	**4.67**	**348**	*e*Pn	Pn	09 38 28.1	+3.2
IMEH				*e*		09 38 28.7	
	comp=Z,304nm,0.2s						
IMEH	**Mehriz**	**4.67**	**348**	*e*Pn	Pn	09 38 28.1	+3.2
IBAF	**Bafgh**	**4.76**	**358**	*e*Pn	**Pn**	**09 38 28.0**	**+1.9**
IBAF				*e*		09 38 29.2	
	comp=Z,196nm,0.2s						
IBAF	**Bafgh**	**4.76**	**358**	*e*Pn	**Pn**	**09 38 28.0**	**+1.9**
ISAD	**Sadrabad**	**5.39**	**341**	*e*Pn	Pn	09 38 37.7	+2.8
ISAD				*e*		09 39 53.0	
	comp=Z,402nm,0.0s						
ISAD	**Sadrabad**	**5.39**	**341**	*e*Pn	Pn	09 38 37.7	+2.8
ICHK	**Chekchek**	**5.54**	**348**	*e*Pn	Pn	09 38 39.4	+2.6
ICHK				*e*		09 38 43.4	
	comp=Z,180nm,0.1s						
ICHK	**Chekchek**	**5.54**	**348**	*e*Pn	Pn	09 38 39.4	+2.6
IGAR	**Gharneh**	**6.45**	**331**	*e*Pn	**Pn**	**09 38 51.2**	**+1.9**
IGAR				*e*		09 38 55.6	
	comp=Z,278nm,0.1s						
NASN	**Na'in**	**6.49**	**337**	*e*Pn	Pn	09 38 52.7	+2.6
QRN	**Al-Qurain**	**7.22**	**287**	*e*P	**Pn**	**09 39 00.7**	**+0.9**
QRN				*e*S	**Sn**	**09 40 19.3**	**-2.3**
QRN				AML	AML	09 40 21.4	
	comp=Z,26nm,0.3s						
IPIR	**Pirpir**	**7.22**	**325**	*e*Pn	Pn	09 39 02.4	+2.3
IPIR	**Pirpir**	**7.22**	**325**	*e*Pn	Pn	09 39 02.4	+2.3
RDF	**Al-Radifah**	**7.58**	**288**	*e*P	**Pn**	**09 39 05.3**	**+0.6**
RDF				*e*S	**S

MKZ	Mys Kozlova	1.14	53	eP	Pn	10 10 01.8	+2.4
MKZ				eS	Sn	10 10 18.2	+3.3
PET	Petropavlovsk	1.25	227	eP	Pn	10 10 02.2	+1.4
PET				eS	Sn	10 10 19.0	+1.7
GNL	Ganaly	1.33	263	eP	Pn	10 10 03.0	+0.9
GNL				eS	Sn	10 10 20.6	+1.0
TUMR	Tumrok	1.41	359	eP	Pn	10 10 04.1	+1.1
RUS	Russkaya	1.76	215	eP	Pn	10 10 08.2	+0.8
RUS				eS	Sn	10 10 29.4	+0.2
GRL	Gorelyy	1.83	224	eP	Pn	10 10 10.6	+2.0
GRL				eS	Sn	10 10 33.8	+2.6
MTVR	Mutnovka	1.84	221	eP	Pn	10 10 10.0	+1.3
MTVR				eS	Sn	10 10 32.7	+1.3
KMNR	Kamenistaya	1.88	1	eP	Pn	10 10 10.1	+0.9
ASAK	Asacha	2.03	223	eP	Pn	10 10 12.7	+1.6
ASAK				eS	Sn	10 10 37.6	+1.8
APC	Apacha	2.04	243	eP	Pn	10 10 12.2	+1.0
APC				eS	Sn	10 10 36.4	+0.6
BZMR	Bezymyannaya	2.07	5	eP	Pn	10 10 13.9	+2.2
BZMR				eS	Sn	10 10 39.6	+2.8
KIRR	Kirishev	2.08	3	eP	Pn	10 10 13.4	+1.5
BZGR	Bezymyannyi-Gr	2.09	8	eP	Pn	10 10 14.5	+2.6
KPT	Kopyto	2.09	1	eP	Pn	10 10 13.6	+1.6
BZWR	Bezymyannyi-We	2.10	5	eP	Pn	10 10 14.1	+1.9
ZLN	Zelenaya	2.17	9	eP	Pn	10 10 15.2	+2.1
ESO	Esso	2.22	338	eP	Pn	10 10 13.8	+0.2
CIRR	Tsirk	2.27	8	eP	Pn	10 10 16.7	+2.3
KRSR	Krestovskiy	2.35	5	eP	Pn	10 10 17.3	+1.8
SRDR	Sredinnyy	2.46	354	eP	Pn	10 10 17.4	+0.6
MIPR	Malaya Ipel'ka	2.61	233	eP	Pn	10 10 20.0	+1.2
KBTR	Krutoberegovo	2.79	32	eP	Pn	10 10 23.9	+2.7
KBTR				eS	Sn	10 10 57.5	+3.7
BKI	Bering	3.63	66	S	Sn	10 11 14.7	+0.5

IDC ***29*** *10:11:09.7±0.7, 43°.61N×128°.02W, h0km, mb4.2/23, mb1 4.2/28, mb1mx4.2/38, mbtmp4.1/28, ML3.5/5, MS4.4/27, Ms1 4.4/27, ms1mx4.2/53, Error ellipse: s-maj=21.7km s-min=10.7km az=38.0*

MOS ***29*** *10:11:13.1±0.9, 43°.90N×128°.59W, h10km, mb5.5/54, Error ellipse: s-maj=6.2km s-min=5.0km az=120.1*

BJI ***29*** *10:11:13.8, 43°.90N×128°.60W, h10km, mB5.4/28, mb5.1/33, Ms5.0/25, Ms7 4.7/28*

ISCJB ***29*** *10:11:14.6±1.1, 43°.91N±0°.03×128°.53W±0°.04, h16km±7km, mb5.0/117, MS4.5/37, Error ellipse: s-maj=6.5km s-min=3.6km az=43.3*

NEIC ***29*** *10:11:14.9±0.3, 43°.89N×128°.68W, h10km, mb5.2/88, Error ellipse: s-maj=5.9km s-min=2.8km az=37.0*

SZGRF ***29*** *10:11:15.9, 43°.93N×128°.98W, h10km, mb5.0, Off coast of Oregon, United States*

GCMT ***29*** *10:11:15.5±0.2, 43°.90N×128°.74W, h12km, MW5.1, Moment Tensor Solution. s55,c74; s99,c182; Moment tensor: Scale 10^16Nm; Mrr=5.67±.10; Mθθ0.00±.10; Mφφ5.68±.08; Mrθ1.43±.36; Mrφ0.45±.08; Mθφ=0.01±.27; Best double couple: M0=5.90000×10^16 NP1:φs198.00000°, δ47.00000°, λ-71.00000°. NP2:φs351.00000°, δ46.00000°, λ-109.00000°. Principal axes: T 5.7200, Plg1.0000°, Azm275.0000°; N 0.3000, Plg13.0000°, Azm5.0000°; P -6.0100, Plg77.0000°, Azm182.0000°; Data Used: II IU IC CN G. Surface waves from 100 sta.*

ISC 29 10:11:16.4±0.5, 43°.94N±0°.05×128°.54W±0°.04, h18km±2km, n801, σ1°.13/777, mb5.2/117, MS4.5/37, 2C-7D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.24	108	eP	Pn	10 12 03.9	-2.5
KBO	Bosley Butte	3.60	117	ePn	Pn	10 12 05.5	-5.8
COR	Corvallis	3.82	78	eP	Pn	10 12 12.9	-1.3
COR				e		10 12 55.9	
COR	Corvallis	3.82	78	ePn	Pn	10 12 12.9	-1.3
COR				eSn	Sn	10 12 55.9	-2.7
KRMB	Red Mountain	4.18	124	ePn	Pn	10 12 18.8	-0.5
HUMO	Hull Mountain	4.29	106	Pn	Pn	10 12 19.4	-1.4
HUMO				eSn	Sn	10 13 09.0	-1.3
RVW	Rose Valley	4.67	60	P	Pn	10 12 17.0	-8.9
KHMM	Horse Mountain	4.69	129	ePn	Pn	10 12 27.6	+1.2
KHMM				eSn	Sb	10 13 35.0	+0.6
NLWA	Neilton Lookou	4.76	42	ePn	Pn	10 12 26.9	-0.4
YBH	Yreka Blue Hor	4.82	115	ePn	Pn	10 12 27.7	-0.4
YBH				eSn	Sn	10 13 21.8	-1.7
YBH	Yreka Blue Hor	4.82	115	Pn	Pn	10 12 16.0	-12
	0.3nm,0.3s,baz=294,slow=14,SNR=10						
YBH				LR	LR	10 13 40.1	
	comp=Z,2μm,18.2s,baz=334,slow=35						
FL2	Flat Top 2	4.93	61	P	Pn	10 12 20.8	-8.9
MTMW	Mount Mitchell	4.95	63	P	Pn	10 12 21.4	-8.5
LON	Longmire	5.51	57	eP	Pn	10 12 29.0	-8.6
LON				pmax	pmax		
	comp=Z,74nm,0.8s						
LON	Longmire	5.51	57	ePn	Pn	10 12 28.9	-8.6
	comp=Z,74nm,0.8s						
WDC	Whiskeytown Da	5.57	125	P	Pn	10 12 40.1	+1.7
WDC				e		10 13 42.9	
WDC				pmax	pmax		
	comp=Z,113nm,1.4s						
WDC	Whiskeytown Da	5.57	125	Pn	Pn	10 12 40.0	+1.7
	comp=Z,113nm,1.4s						
WDC				eSn	Sn	10 13 42.9	+0.9
PGC	Sidney	5.88	35	ePn	Pn	10 12 41.8	-0.8
	comp=Z,4.5nm,1.0s						
HOPS	Hopland	6.42	138	ePn	Pn	10 12 49.8	-0.2
	comp=Z,171nm,1.4s						
BEKR	Beckworth	7.33	121	ePn	Pn	10 13 01.7	-1.0
	comp=Z,33nm,1.5s						
BEKR				eSg	Sg	10 15 15.8	+4.3
WVOR	Wild Horse Val	7.39	98	eP	Pn	10 13 02.7	-0.8
WVOR				pmax	pmax		
	comp=Z,62nm,1.3s						
WVOR	Wild Horse Val	7.39	98	ePn	Pn	10 13 02.7	-0.8
	comp=Z,62nm,1.3s						
PAHR	Pah Rah Range	8.04	119	Pn	Pn	10 13 12.4	+0.1
	comp=Z,260nm,1.5s						
BMO	Blue Mountains	8.10	80	ePn	Pn	10 13 13.2	0.0
	comp=Z,62nm,1.4s						
BBB	Bella Bella	8.26	2	Pn	Pn	10 13 13.1	-2.1
BBB	Bella Bella	8.26	2	Pn	Pn	10 13 13.1	-2.1
	comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=5.5						
CMB	Columbia Colle	8.53	131	eP	Pn	10 13 18.8	-0.2
CMB				pmax	pmax		
	comp=Z,486nm,1.9s						
CMB	Columbia Colle	8.53	131	ePn	Pn	10 13 18.8	-0.2
	comp=Z,486nm,1.9s						
WAKR	Walker	8.74	125	ePn	Pn	10 13 21.5	-0.5
	comp=Z,76nm,1.3s						
NEW	Newport	9.03	57	Pn	Pn	10 13 26.9	+1.1
	comp=Z,42nm,1.1s						
NEW	Newport	9.03	57	P	Pn	10 13 23.7	-2.1
	baz=9.1,SNR=7.9						
BMN	Battle Mountai	9.10	109	eP	Pn	10 13 29.3	+2.3
BMN				pmax	pmax		
	comp=Z,48nm,1.4s						
BMN	Battle Mountai	9.10	109	ePn	Pn	10 13 29.2	+2.3
	comp=Z,48nm,1.4s						
NVAR	Mina Array Bea	9.47	122	Pn	Pn	10 13 22.9	-9.2
NVAR	Mina Array Bea	9.47	122	Pn	Pn	10 13 23.0	-9.2
	comp=Z,0.0nm,0.3s,baz=304,slow=15,SNR=3.5						
NVAR				LR	LR	10 17 09.7	
	comp=Z,4μm,20.3s,baz=244,slow=40						
NV11	Mina Array Sit	9.56	122	ePn	Pn	10 13 33.6	+0.4
MLAC	Mammoth Lakes	9.68	127	P	Pn	10 13 35.1	+0.2
	baz=9.7						
HLID	Hailey	10.23	87	ePn	Pn	10 13 43.2	+0.7
	comp=Z,71nm,1.4s						
HLID	Hailey	10.23	87	P	Pn	10 13 44.3	+1.9
	baz=10,SNR=32						
ELK	Elko	10.35	103	ePn	Pn	10 13 45.0	+0.9
	comp=Z,92nm,1.8s						
BSMT	Bassoo Peak	10.35	63	ePn	Pn	10 13 46.5	+2.4
	comp=Z,24nm,0.9s						
JTMT	Jette	10.65	64	ePn	Pn	10 13 49.0	+0.9
	comp=Z,31nm,1.3s						
MSO	Missoula	10.67	69	P	Pn	10 13 49.1	+0.7
	baz=11						
BLMT	Blacktail Moun	10.67	63	ePn	Pn	10 13 48.8	+0.3
	comp=Z,15nm,0.8s						
SWMT	Swartz Lake	10.77	66	ePn	Pn	10 13 51.0	+1.3
	comp=Z,32nm,1.3s						
YBMT	Yellow Bay	10.86	64	ePn	Pn	10 13 52.8	+1.9
	comp=Z,13nm,1.0s						
VES	Vestal, Richgr	10.86	135	P	Pn	10 13 51.5	+0.6
	baz=11,SNR=11						
GRAC	Grapevine Rang	10.97	125	P	Pn	10 13 53.6	+1.3
	baz=11,SNR=11						
SLMT	Seeley Lake	11.05	67	Pn	Pn	10 13 47.4	-6.2
	comp=Z,34nm,1.0s						
CHMT	Chamberlain Mo	11.15	69	Pn	Pn	10 13 54.5	-0.5
	comp=Z,26nm,1.4s						
R11A	Troy Canyon, C	11.24	115	ePn	Pn	10 13 57.9	+1.6
MCMT	McKenzie Canyo	11.27	80	ePn	Pn	10 13 52.5	-4.2
	comp=Z,8.1nm,1.0s						
WALA	Waterton Lakes	11.30	58	ePn	Pn	10 13 55.9	-1.1
	comp=Z,0.8nm,0.9s						
ISA	Isabella	11.31	134	eP	Pn	10 13 57.3	+0.1
ISA				pmax	pmax		
	comp=Z,151nm,1.6s						
ISA	Isabella	11.31	134	ePn	Pn	10 13 57.3	+0.1
	comp=Z,151nm,1.6s						
ISA	Isabella	11.31	134	P	Pn	10 13 58.5	+1.3
	baz=11,SNR=21						
DLMT	Dillon	11.45	77	ePn	Pn	10 14 00.9	+1.8
	comp=Z,48nm,1.4s						
ARVC	Arvin	11.55	136	P	Pn	10 14 00.7	+0.4
	baz=12,SNR=6.6						
MPMC	Manual Prospec	11.55	129	P	Pn	10 14 00.8	+0.2
	baz=12,SNR=26						
LRM	Limekiln Ridge	11.57	75	ePn	Pn	10 14 00.9	+0.1
	comp=Z,109nm,1.0s						
FURC	Furnace Creek,	11.63	126	P	Pn	10 14 01.2	-0.1
	baz=12,SNR=21						
HVU	Hansel Valley	11.77	95	eP	Pn	10 14 04.5	+1.0
HVU				pmax	pmax		
	comp=Z,72nm,1.6s						
HVU	Hansel Valley	11.77	95	ePn	Pn	10 14 04.5	+1.0
	comp=Z,72nm,1.6s						
BGU	Big Grassy Mou	11.85	99	Pn	Pn	10 14 04.3	-0.2
	comp=Z,75nm,1.4s						
OSI	Osito Adit	12.01	137	ePn	Pn	10 14 07.2	+0.5
	comp=Z,125nm,1.7s						
HRY	Holter Researc	12.08	71	ePn	Pn	10 14 08.8	+1.0
	comp=Z,18nm,1.3s						
BOZ	Bozeman (W)	12.14	76	eP	Pn	10 14 10.4	+1.9
BOZ				pmax	pmax		
	comp=Z,14nm,1.2s						
BOZ	Bozeman (W)	12.14	76	ePn	Pn	10 14 10.4	+1.9
	comp=Z,14nm,1.2s						
SPUT	South Promonto	12.14	97	ePn	Pn	10 14 08.8	+0.2
	comp=Z,66nm,1.6s						
EDW2	Edwards Air Fo	12.17	134	P	Pn	10 14 08.9	0.0
	baz=12,SNR=13						
DUG	Dugway	12.27	102	eP	Pn	10 14 10.8	+0.5
DUG				pmax	pmax		
	comp=Z,43nm,1.2s						
DUG	Dugway	12.27	102	ePn	Pn	10 14 10.8	+0.5
	comp=Z,43nm,1.2s						
DUG	Dugway	12.27	102	P	Pn	10 14 10.3	0.0
	baz=12,SNR=7.6						
QLMT	Earthquake Lak	12.28	80	ePn	Pn	10 14 10.8	+0.4
	comp=Z,13nm,1.6s						
I16A	Newdale	12.30	84	P	Pn	10 14 10.9	+0.2
	baz=12						
SHOC	Shoshone	12.36	126	P	Pn	10 14 12.5	+1.1
	baz=12,SNR=19						
H16A	Russell Place,	12.41	80	P	Pn	10 14 12.4	+0.2
	baz=12,SNR=16						
GSC	Goldstone	12.49	130	eP	Pn	10 14 13.9	+0.7
GSC				pmax	pmax		
	comp=Z,168nm,1.6s						
GSC	Goldstone	12.49	130	ePn	Pn	10 14 13.9	+0.7
	comp=Z,168nm,1.6s						
GSC	Goldstone	12.49	130	P	Pn	10 14 14.0	+0.7
	baz=12,SNR=14						
RRI2	Red Ridge	12.49	87	Pn	Pn	10 14 14.8	+1.4
	comp=Z,44nm,1.4s						
YMR	Madison River	12.62	81	ePn	Pn	10 14 15.9	+0.8
	comp=Z,157nm,1.7s						
SHPR	Sheep Range	12.62	121	ePn	Pn	10 14 16.3	+1.1
	comp=Z,88nm,1.6s						
PASC	Pasadena Art C	12.63	137	Pn	Pn	10 14 20.8	+5.7
	comp=Z,163nm,1.7s						
MWC	Mount Wilson	12.65	137	eP	Pn	10 14 15.9	+0.3
MWC				pmax	pmax		
	comp=Z,148nm,1.7s						
MWC	Mount Wilson	12.65	137	ePn	Pn	10 14 15.9	+0.3
	comp=Z,148nm,1.7s						
HWUT	Hardware Ranch	12.69	95	ePn	Pn	10 14 17.5	+1.4
	comp=Z,47nm,1.2s						
IMW	Indian Meadow	12.70	84	ePn	Pn	10 14 18.5	+2.3
	comp=Z,33nm,1.3s						
YFT	Old Faithful	12.72	82	ePn	Pn	10 14 19.2	+2.6
	comp=Z,198nm,1.7s						
E17A	Martinsdale	12.72	72	P	Pn	10 14 17.7	+1.2
	baz=13						
WRAK	Wrangell Islan	12.73	350	ePn	Pn	10 14 14.8	-1.5
	comp=Z,63nm,1.1s						
TPAW	Teton Pass	12.74	86	ePn	Pn	10 14 19.9	+3.1
	comp=Z,77nm,1.4s						
G17A	Pierce Place,	12.76	78	P	Pn	10 14 17.9	+1.0
	baz=13						
YNR	Norris Junctio	12.82	80	Pn	Pn	10 14 22.6	+4.8
	comp=Z,115nm,1.7s						
F17A	Fitzpatrick Pl	12.83	75	P	Pn	10 14 18.1	+0.3
	baz=13						
REDW	Red Top Meadow	12.83	86	ePn	Pn	10 14 18.8	+0.8
	comp=Z,95nm,1.4s						
BFSC	Mount Baldy Ra	12.84	135	P	Pn	10 14 18.3	+0.1
	baz=13						
FLWY	Flagg Ranch	12.85	83	ePn	Pn	10 14 21.1	+2.9
	comp=Z,64nm,1.4s						
MOOW	Moose Ponds	12.85	85	ePn	Pn	10 14 20.9	+2.6
	comp=Z,28nm,1.5s						
SNOW	Snow King Moun	12.88	86	ePn	Pn	10 14 21.1	+2.4
	comp=Z,154nm,1.9s						
NLU	North Lily Min	12.88	102	ePn	Pn	10 14 19.6	+0.9
	comp=Z,30nm,1.2s						
TUQ	Turquoise Moun	12.89	127	P	Pn	10 14 18.9	+0.1
	baz=13,SNR=34						
H17A	Grant Village	12.91	82	ePn	Pn	10 14 21.0	+1.9
H17A	Grant Village	12.91	82	P	Pn	10 14 19.5	+0.4
	baz=13						
D17A	Six Diamond Ra	12.92	69	P	Pn	10 14 20.1	+1.0
	baz=13,SNR=15						
LOHW	Long Hollow	12.97	85	ePn	Pn	10 14 20.8	+0.9
	comp=Z,28nm,1.3s						
LKWY	Lake	13.02	81	eP	Pn	10 14 22.1	+1.4
LKWY				pmax	pmax		
	comp=Z,144nm,1.9s						
LKWY	Lake	13.02	81	ePn	Pn	10 14 22.1	+1.4
	comp=Z,144nm,1.9s						
B17A	L&G Farms, Che	13.05	64	P	Pn	10 14 22.0	+1.2
	baz=13						
JLU	Jordanelle	13.09	99	ePn	Pn	10 14 24.6	+3.0
	comp=Z,41nm,1.6s						
HEC	Hector,Ludlow	13.10	130	P	Pn	10 14 21.6	+0.1
	baz=13,SNR=8.7						
CCUT	Cedar City	13.15	114	ePn	Pn	10 14 23.9	+1.6
	comp=Z,145nm,1.8s						
MPU	Maple Canyon	13.17	101	Pn	Pn	10 14 22.9	+0.2
	comp=Z,32nm,1.2s						
DAU	Daniels Canyon	13.29	99	eP	Pn	10 14 24.7	+0.3
DAU				pmax	pmax		
	comp=Z,38nm,1.3s						
DAU	Daniels Canyon	13.29	99	ePn	Pn	10 14 24.7	+0.3
	comp=Z,38nm,1.3s						
M17A	Scullys Gap (B	13.38	94	P	Pn	10 14 27.5	+2.1
	baz=13,SNR=5.5						
E18A	Harlowton	13.38	72	P	Pn	10 14 27.1	+1.6
	baz=14						
MVU	Marysvale	13.43	108	ePn	Pn	10 14 30.4	+4.2
	comp=Z,156nm,1.4s						
F18A	Big Timber	13.48	75	P	Pn	10 14 27.2	+0.4
	baz=14						
GMRC	Granite Mounta	13.51	128	P	Pn	10 14 27.1	-0.1
	baz=14						
GCMT	Greycliff	13.52	76	ePn	Pn	10 14 28.9	+1.7
	comp=Z,63nm,1.5s						
D18A	Linhart Farms,	13.52	70	P	Pn	10 14 28.6	+1.3
	baz=14,SNR=6.5						
I18A	Diamond G Ranc	13.53	84	P	Pn	10 14 28.5	+1.0
	baz=14						
H18A	Shoshone NF, C	13.54	80	P	Pn	10 14 29.0	+1.3
	baz=14,SNR=6.0						
MURC	Murrieta	13.58	136	P	Pn	10 14 29.0	+0.9
	baz=14						
G18A	Lazy EL Ranch,	13.59	78	P	Pn	10 14 29.5	+1.3
	baz=14						
LDFC	Landfair	13.62	126	ePn	Pn	10 14 29.0	+0.4
	comp=Z,471nm,1.6s						
EDM	Edmonton	13.66	42	eP	Pn	10 14 28.4	-0.7
EDM	Edmonton	13.66	42	ePn	Pn	10 14 28.4	-0.7
EGMT	Eagleton	13.68	66	ePn	Pn	10 14 32.2	+2.8
	comp=Z,89nm,1.2s						
EGMT	Eagleton	13.68	66	P	Pn	10 14 30.1	+0.7
	baz=14						
L18A	Fontenelle, Gr	13.71	92	P	Pn	10 14 30.5	+0.5
	baz=14,SNR=13						
B18A	Beardsley Farm	13.74	65	P	Pn	10 14 30.2	0.0
	baz=14,SNR=5.6						
TMUT	Trail Mountain	13.77	104	ePn	Pn	10 14 32.7	+1.8
	comp=Z,222nm,1.6s						
RLMT	Red Lodge	13.80	78	ePn	Pn	10 14 32.7	+1.5
	comp=Z,26nm,1.2s						
A18A	Metzger Ranch,	13.81	62	P	Pn	10 14 31.6	+0.4
	baz=14,SNR=18						
BW06	Boulder Array	13.86	88	ePn	Pn	10 14 33.8	+1.7
	comp=Z,49nm,1.8s						
PDAR	Pinedale Array	13.87	88	Pn	Pn	10 14 25.1	-7.0
PDAR	Pinedale Array	13.87	88	Pn	Pn	10 14 25.1	-7.0
	comp=Z,0.0nm,0.3s,baz=286,slow=13,SNR=3.4						
PDAR				LR	LR	10 20 03.8	
	comp=Z,4μm,18.7s,baz=278,slow=40						
BELC	Belle Mtn. Jos	13.90	131	P	Pn	10 14 33.1	+0.6
	baz=14,SNR=5.8						
PFO	Pinyon Flat Ob	13.96	134	Pn	Pn	10 14 36.0	+2.7
	comp=Z,99nm,1.8s,SNR=7.8						
PFO	Pinyon Flat Ob	13.96	134	ePn	Pn	10 14 36.7	+3.4
	comp=Z,98nm,1.6s						
PFO	Pinyon Flat Ob	13.96	134	Pn	Pn	10 14 24.6	-8.7
	comp=Z,0.1nm,0.3s,baz=273,slow=15,SNR=2.9						
PFO				LR	LR	10 19 35.0	
	comp=Z,2μm,19.2s,baz=316,slow=38						
Q16A	Castle Valley	13.96	105	ePn	Pn	10 14 36.3	+2.9
Q16A	Castle Valley	13.96	105	P	Pn	10 14 36.5	+3.1
	baz=14,SNR=14						
F19A	Roth Farm, Mol	14.02	75	P	Pn	10 14 37.2	+3.1
	baz=14,SNR=13						
I19A	Meeteetse	14.07	83	P	Pn	10 14 35.4	+0.4
	baz=14,SNR=11						
C19A	Slack Wire Ran	14.10	68	P	Pn	10 14 35.1	-0.1
	baz=14,SNR=20						
J19A	Crowheart	14.14	86	P	Pn	10 14 36.8	+1.0
	baz=14,SNR=11						
D19A	Cripps Ranch,	14.14	70	P	Pn	10 14 36.9	+1.1
	baz=14,SNR=20						
L19A	Farson	14.15	91	P	Pn	10 14 36.9	+0.8
	baz=14,SNR=11						
109C	Camp Elliot, M	14.20	137	P	Pn	10 14 36.6	+0.1
	baz=14						
IRM	Iron Mountain	14.25	129	P	Pn	10 14 38.4	+1.1
	baz=14						
B19A	Brinkman Farms	14.29	65	P	Pn	10 14 39.4	+1.6
	baz=14						
SRU	San Rafael	14.32	103	eP	Pn	10 14 36.6	-1.8
SRU				pmax	pmax		
	comp=Z,248nm,1.2s						
SRU	San Rafael	14.32	103	ePn	Pn	10 14 36.6	-1.8
	comp=Z,248nm,1.2s						
K19A	Absolon Red Bu	14.37	88	P	Pn	10 14 39.9	+0.9
	baz=14						
M19A	Rock Springs	14.45	93	P	Pn	10 14 41.1	+1.0
	baz=14,SNR=10						
BC3	Big Chuckawall	14.46	131	P	Pn	10 14 41.0	+0.8
	baz=14,SNR=28						
U15A	North Rim	14.49	116	P	Pn	10 14 41.0	+0.2
	baz=14,SNR=12						
A19A	Klindworth Far	14.52	63	P	Pn	10 14 42.2	+1.3
	baz=15,SNR=20						
MONP	Monument Peak	14.54	135	P	Pn	10 14 40.9	-0.5
	baz=15,SNR=13						
G20A	Bridger	14.54	78	P	Pn	10 14 43.0	+1.7
	baz=15,SNR=8.6						
DLBC	Dease Lake	14.55	357	Pn	Pn	10 14 41.8	+0.5
DLBC	Dease Lake	14.55	357	Pn	Pn	10 14 41.8	+0.5
	comp=Z,0.1nm,0.3s,baz=189,slow=15,SNR=2.9						
F20A	Billings	14.58	76	P	Pn	10 14 42.9	+1.1
	baz=15						
BAR	Barrett	14.58	136	ePn	Pn	10 14 41.7	0.0
	comp=Z,82nm,1.5s						
E20A	Meyer Farm, Mu	14.61	73	P	Pn	10 14 43.1	+1.0
	baz=15						
D20A	Manuel Ranch,	14.64	70	P	Pn	10 14 43.6	+1.0
	baz=15						
I20A	Worland	14.71	83	P	Pn	10 14 43.5	0.0
	baz=15,SNR=15						
PDMCI	Parker Dam,Lak	14.73	126	P	Pn	10 14 43.9	+0.2
	baz=15						
H20A	Greybull	14.74	81	P	Pn	10 14 44.6	+0.6
	baz=15						
K20A	Yellowstone Ra	14.76	88	P	Pn	10 14 44.1	-0.3
	baz=15,SNR=6.1						
C20A	Veseth Ranch,	14.80	68	P	Pn	10 14 45.4	+0.8
	baz=15						
SWSC	Sam W. Stewart	14.82	134	P	Pn	10 14 45.1	+0.2
	baz=15,SNR=6.6						
J20A	Shoshoni	14.82	85	P	Pn	10 14 45.2	+0.1
	baz=15						
O19A	Miners Draw (B	14.86	97	P	Pn	10 14 45.8	+0.2
	baz=15,SNR=6.0						
DVTC	Desert V Tower	14.88	135	P	Pn	10 14 47.0	+1.1
	baz=15,SNR=6.7						
Y12C	Blythe	14.90	128	P	Pn	10 14 46.2	+0.1
	baz=15						
L20A	Wamsutter	14.91	90	P	Pn	10 14 46.8	+0.3
	baz=15,SNR=15						
A20A	Cobblestone Ra	15.04	64	P	Pn	10 14 48.5	+0.6
	baz=15,SNR=13						
M20A	Sweetwater, Wa	15.16	92	P	Pn	10 14 49.8	+0.1
	baz=15						
P19A	Cripple Cowboy	15.20	100	P	Pn	10 14 49.8	-0.5
	baz=15,SNR=12						
G21A	Lodge Grass	15.25	78	P	Pn	10 14 51.2	+0.3
	baz=15						
GLA	Glamis	15.25	131	eP	Pn	10 14 50.4	-0.4
GLA				pmax	pmax		
	comp=Z,164nm,1.6s						
GLA	Glamis	15.25	131	ePn	Pn	10 14 50.4	-0.4
	comp=Z,164nm,1.6s						
GLA	Glamis	15.25	131	P	Pn	10 14 50.7	-0.1
	baz=15						
J21A	Lysite	15.28	85	P	Pn	10 14 52.4	+1.1
	baz=15,SNR=8.5						
N20A	Spence Gulch,	15.30	95	P	Pn	10 14 51.5	-0.1
	baz=15,SNR=14						
I21A	Big Trails, Te	15.32	83	P	Pn	10 14 51.5

baz=16,SNR=9.1
J22A Midwest 15.97 84 P P 10 15 02.3 -1.3
baz=16,SNR=18
113A Mohawk Valley, 16.05 129 P Pn 10 15 01.2 0.0
baz=16,SNR=12
O21A Pagoda 16.07 96 P Pn 10 15 01.6 0.0
baz=16,SNR=14
K22A Casper 16.08 87 P Pn 10 15 01.9 +0.3
baz=16
SKAG Skagway 16.09 347 ePn P 10 15 03.9 -0.8
comp=Z,109nm,1.5s
Z14A Wintersburg 16.09 126 P Pn 10 15 02.5 +0.9
baz=16
PV01 Paradox Valley 16.13 104 ePn Pn 10 15 03.5 +1.1
comp=Z,11µm,1.4s
B22A Reddig Ranch S 16.21 66 P Pn 10 15 03.2 0.0
baz=16,SNR=24
C22A Vida 16.23 68 P Pn 10 15 03.8 +0.5
baz=16,SNR=8.8
R20A Redvale 16.24 104 P Pn 10 15 03.6 -0.1
baz=16,SNR=17
L22A Ellis Ranch, M 16.28 89 P Pn 10 15 03.9 -0.3
baz=16
X16A Lo Mia Camp, P 16.29 120 P Pn 10 15 05.7 +1.3
baz=16,SNR=17
M22A Cedar Creek Ra 16.33 91 P Pn 10 15 04.8 -0.1
baz=16
P21A Newcastle 16.34 98 P Pn 10 15 03.8 -1.2
baz=16
A22A Carney Farms, 16.36 64 P Pn 10 15 05.4 +0.4
baz=16,SNR=19
S20A Disappointment 16.42 105 P Pn 10 15 06.3 +0.3
baz=16,SNR=27
F23A Volborg 16.50 76 P Pn 10 15 07.6 +0.7
baz=17,SNR=10
G23A Biddle 16.54 78 P Pn 10 15 07.5 +0.2
baz=17,SNR=10.0
E23A Ismay 16.56 73 P P 10 15 08.9 -1.2
baz=17
N22A Wattenberg Ran 16.61 93 P Pn 10 15 08.1 -0.4
baz=17,SNR=15
MVCO Mesa Verde 16.62 107 ePn Pn 10 15 08.7 +0.1
comp=Z,197nm,1.5s
MVCO Mesa Verde 16.62 107 P Pn 10 15 09.2 +0.6
baz=17,SNR=14
D23A Lindsay 16.64 71 P Pn 10 15 09.5 +0.8
baz=17
C23A Lambert 16.70 68 P P 10 15 10.7 -0.9
baz=17,SNR=15
K23A Bowen Ranch, D 16.70 86 P Pn 10 15 10.2 +0.6
baz=17
R21A Cimarron 16.74 102 P Pn 10 15 08.9 -1.2
baz=17,SNR=20
O22A Kremmling 16.75 95 P Pn 10 15 10.7 +0.3
baz=17,SNR=22
L23A Garrett 16.79 88 P Pn 10 15 10.2 -0.5
baz=17
P22A Eagle 16.81 97 P Pn 10 15 11.1 +0.2
baz=17
SMCO Snowmass 16.81 99 ePn Pn 10 15 10.9 -0.3
comp=Z,48nm,1.3s
S21A Coal Bank Pass 16.89 105 P Pn 10 15 12.7 +0.6
baz=17,SNR=23
W18A Petrified Fore 16.94 115 ePn Pn 10 15 13.3 +0.7
W18A Petrified Fore 16.94 115 P P 10 15 14.4 -0.1
baz=17,SNR=8.2
M23A Laramie 16.94 90 P Pn 10 15 12.6 -0.1
baz=17
N23A Red Feather La 16.95 93 P Pn 10 15 12.1 -0.7
baz=17,SNR=11
Q22A Crested Butte, 16.99 100 P Pn 10 15 13.1 -0.2
baz=17,SNR=12
A23A Redstone 17.03 65 P P 10 15 14.3 -0.9
baz=17,SNR=9.1
U20A Newcomb 17.04 109 P Pn 10 15 14.0 +0.2
baz=17
X18A Snowflake 17.16 117 P Pn 10 15 16.6 +1.2
baz=17,SNR=9.6
F24A Ekalaka 17.17 75 P Pn 10 15 15.2 -0.1
baz=17,SNR=15
H24A Dirks Ranch, A 17.17 79 P Pn 10 15 15.2 -0.1
baz=17,SNR=29
PHWY Pilot Hill 17.18 91 ePn Pn 10 15 14.1 -1.6
comp=Z,95nm,1.7s
O23A Lake Granby, G 17.19 95 P Pn 10 15 16.4 +0.6
baz=17,SNR=17
C24A Savage 17.19 69 P Pn 10 15 15.5 -0.1
baz=17,SNR=15
214A Organ Pipe Nat 17.20 129 P Pn 10 15 15.7 +0.1
baz=17
G24A Alzada 17.21 77 P Pn 10 15 16.2 +0.4
baz=17,SNR=19
I24A Kuemmerle Ranc 17.23 82 P P 10 15 18.4 +0.8
baz=17,SNR=13
D24A Glendive 17.24 71 P P 10 15 17.6 0.0
baz=17
E24A Baker 17.25 73 P P 10 15 18.0 +0.4
baz=17,SNR=7.9
J24A Dixon Ranch, L 17.29 84 P P 10 15 18.7 +0.5
baz=17,SNR=14
R22A Saguache, Gunn 17.36 102 P Pn 10 15 17.9 -0.1
baz=17,SNR=15
V20A Brimhall 17.39 111 P Pn 10 15 19.0 +0.7
baz=17,SNR=12
T21A Navajo Lake 17.40 106 P Pn 10 15 18.7 +0.4
baz=17,SNR=15
DGMT Dagmar 17.42 66 Pn P 10 15 18.9 -0.7
comp=Z,1µm,2.3s
DGMT Dagmar 17.42 66 P Pn 10 15 18.5 +0.1
baz=18,SNR=8.1
S22A 4UR Ranch, Cre 17.53 103 P Pn 10 15 19.6 -0.5
baz=18,SNR=16
P23A Jefferson 17.55 97 P Pn 10 15 19.8 -0.5
baz=18,SNR=18
ISCO Idaho Springs 17.55 96 eP Pn 10 15 19.3 -1.0
ISCO pmax pmax
comp=Z,437nm,2.1s
ISCO Idaho Springs 17.55 96 ePn Pn 10 15 19.3 -1.0
comp=Z,437nm,2.1s
ISCO Idaho Springs 17.55 96 P Pn 10 15 19.4 -1.0
baz=18,SNR=32
M24A Cheyenne 17.59 90 P Pn 10 15 20.2 -0.5
baz=18
A24A Westby 17.60 65 P P 10 15 21.2 -0.4
baz=18,SNR=9.6
U21A Nageezi 17.60 108 P Pn 10 15 21.1 +0.2
baz=18,SNR=13
RSSD Black Hills 17.61 81 eP P 10 15 22.4 +0.5
RSSD pmax pmax
comp=Z,188nm,1.8s
RSSD Black Hills 17.61 81 eP P 10 15 22.4 +0.5
comp=Z,188nm,1.8s
Q23A Hartsel 17.74 99 P Pn 10 15 21.5 -1.1
baz=18,SNR=12
N24A Carr 17.74 92 P Pn 10 15 22.4 -0.1
baz=18,SNR=9.5
HYT Haines Junctio 17.75 345 eP Pn 10 15 20.0 -2.5
W20A Ramah 17.75 113 P Pn 10 15 23.3 +0.5
baz=18,SNR=11
T22A Edith 17.83 105 P Pn 10 15 23.6 -0.1
baz=18,SNR=10.0
O24A Longmont 17.83 94 P P 10 15 24.4 +0.1
baz=18,SNR=15
I25A Rochford 17.84 81 P P 10 15 24.8 +0.4
baz=18,SNR=28
H25A Fruitdale 17.86 79 P P 10 15 24.9 +0.4
baz=18,SNR=17
E25A Miller Ranch, 17.87 73 P P 10 15 24.8 +0.2
baz=18,SNR=20
J25A Sunshine Ranch 17.89 83 P Pn 10 15 24.4 0.0
baz=18,SNR=11
D25A Fairfield 17.93 71 P P 10 15 26.1 +0.9
baz=18
V21A Milan 17.95 110 P Pn 10 15 25.6 +0.4
baz=18,SNR=7.6
C25A Freed Ranch, W 17.99 69 P P 10 15 26.9 +1.0
baz=18,SNR=13
K25A Mack Ranch, Ha 18.00 86 P P 10 15 26.1 0.0
baz=18
R23A Moffat 18.04 101 P P 10 15 27.3 +0.6
baz=18,SNR=15
X20A Quemado 18.10 114 P Pn 10 15 27.2 +0.2
baz=18,SNR=19
TUC Tucson 18.12 124 eP Pn 10 15 26.6 -0.6
TUC pmax pmax
comp=Z,390nm,2.5s
TUC Tucson 18.12 124 eP Pn 10 15 26.6 -0.6
comp=Z,390nm,2.5s

S23A Nye Farm, Mont 18.13 102 P P 10 15 28.1 +0.4
baz=18,SNR=21
U22A Llaves 18.18 107 P P 10 15 28.8 +0.5
baz=18,SNR=9.2
Q24A Divide 18.20 98 P P 10 15 29.0 +0.5
baz=18,SNR=15
W21A San Fidel 18.33 112 P P 10 15 31.3 +1.5
baz=18,SNR=18
V22A San Miguel Ran 18.39 108 P Pn 10 15 30.9 +0.4
baz=18,SNR=24
F26A Lodgepole 18.41 75 P Pn 10 15 32.0 +1.5
baz=18,SNR=18
T23A Casias Ranch, 18.42 104 P Pn 10 15 31.3 +0.3
baz=18,SNR=21
H26A Fairpoint 18.44 79 P P 10 15 30.7 -0.2
baz=18,SNR=18
I26A New Underwood 18.46 81 P Pn 10 15 32.3 +1.1
baz=18,SNR=24
SDCO Great Sand Dun 18.47 102 eP P 10 15 31.0 -0.5
comp=Z,282nm,1.7s
G26A Maurine 18.50 77 P Pn 10 15 32.1 +0.5
baz=18,SNR=11
O25A Wiggins 18.52 93 P Pn 10 15 32.2 +0.2
baz=19
E26A Carlson Angus 18.52 73 P Pn 10 15 32.5 +0.5
baz=19,SNR=14
R24A Sanders Place, 18.53 100 P Pn 10 15 32.8 +0.5
baz=19,SNR=15
D26A Manning 18.53 71 P Pn 10 15 32.8 +0.7
baz=19
Y20A Horse Springs, 18.57 116 P P 10 15 33.0 +0.4
baz=19,SNR=22
X21A Alamocita Cree 18.63 114 P Pn 10 15 34.0 +0.5
baz=19,SNR=26
U23A El Rito 18.66 106 P Pn 10 15 34.4 +0.5
baz=19,SNR=18
P25A Willow Gulch B 18.70 95 P P 10 15 34.0 +0.1
baz=19,SNR=19
B26A Jensen Ranch, 18.72 67 P Pn 10 15 34.5 +0.2
baz=19
S24A Houchin Ranch, 18.72 102 P P 10 15 33.8 -0.4
baz=19,SNR=16
C26A Wahner Farm, P 18.78 69 P Pn 10 15 36.9 +1.9
baz=19,SNR=9.3
F27A Lemmon 18.86 75 P Pn 10 15 36.1 +0.1
baz=19,SNR=12
Q25A Bedland, Calha 18.87 97 P P 10 15 35.5 -0.2
baz=19,SNR=13
T24B San Luis 18.87 103 P P 10 15 36.2 +0.3
baz=19,SNR=17
A26A Wade Farm, Ken 18.89 65 P Pn 10 15 37.2 +0.9
baz=19
Z20A Nine Sixteen R 18.93 118 P Pn 10 15 37.7 +0.5
baz=19
H27A Howes 18.93 79 P Pn 10 15 37.1 +0.2
baz=19,SNR=21
N26A Koester Ranch, 18.94 91 P Pn 10 15 37.6 +0.5
baz=19
G27A Dupree 18.96 76 P P 10 15 36.5 0.0
baz=19,SNR=16
Y21A Point of Rocks 18.97 114 P P 10 15 37.2 +0.3
baz=19,SNR=16
V23A Ortiz Mt. (NFS 18.98 108 P Pn 10 15 38.1 +0.4
baz=19,SNR=21
I27A Quinn 19.03 80 P Pn 10 15 38.5 +0.4
baz=19,SNR=18
O26A Horse Wrangler 19.06 92 P Pn 10 15 39.4 +0.8
baz=19
LAZ Ladron 19.08 113 eP Pn 10 15 39.2 +0.2
comp=Z,361nm,2.4s
X22A Bernardo 19.11 112 P Pn 10 15 39.9 +0.6
baz=19
E27A Carson 19.14 73 P Pn 10 15 40.2 +0.7
baz=19,SNR=11
K27A Flueckinger Fa 19.16 85 P Pn 10 15 40.4 +0.7
baz=19,SNR=18
C27A Sayler Ranch, 19.18 69 P Pn 10 15 41.1 +1.3
baz=19,SNR=10.0
J27A Elkhorn Farm, 19.21 83 P Pn 10 15 40.9 +0.6
baz=19,SNR=20
ANMO Albuquerque 19.23 110 eP P 10 15 40.3 +0.5
comp=Z,168nm,1.8s
ANMO Albuquerque 19.23 110 LR LR 10 23 28.6
comp=Z,4µm,18.9s,baz=125,slow=39
S25A Robets Cordova 19.26 101 P Pn 10 15 41.0 -0.1
baz=19,SNR=9.5
P26A Davis Ranch, A 19.27 94 P Pn 10 15 41.2 0.0
baz=19,SNR=13
120A U Bar Ranch, L 19.28 119 P Pn 10 15 41.3 0.0
baz=19,SNR=9.5
W23A Werner Place, 19.32 109 P P 10 15 40.7 0.0
baz=19,SNR=18
LENM Lemitar 19.33 113 P Pn 10 15 43.4 +1.4
comp=Z,60nm,1.4s
M27A Reverse DX Ran 19.34 88 P Pn 10 15 41.8 -0.1
baz=19
B27A Peters Farms, 19.37 67 P Pn 10 15 41.5 -0.6
baz=19,SNR=14
Q26A Hugo 19.39 96 P Pn 10 15 42.6 0.0
baz=19,SNR=9.7
A27A Redoux Ranch, 19.42 65 P Pn 10 15 44.5 +1.9
baz=20
N27A Anderson Farm, 19.44 90 P Pn 10 15 42.8 -0.4
baz=20
LPM Los Pinos Moun 19.48 112 eP P 10 15 43.4 +1.0
comp=Z,74nm,1.5s
Y22A Socorro 19.48 114 P P 10 15 42.1 -0.3
baz=20,SNR=18
T25A Trinidad 19.52 102 P Pn 10 15 44.2 0.0
baz=20,SNR=28
BMRM Bremner River 19.57 336 P Pn 10 15 49.7 +5.3
comp=Z,92nm,1.4s
BNM Barren Site 19.57 113 eP Pn 10 15 44.7 -0.2
comp=Z,307nm,2.2s
V24A Rampart Ranch, 19.61 107 P P 10 15 44.8 +0.8
baz=20,SNR=6.6
I28A Midland 19.67 80 P P 10 15 44.7 +0.4
baz=20
H28A Mission Ridge 19.68 78 P Pn 10 15 45.4 -0.5
baz=20
319A Douglas 19.68 123 P P 10 15 44.4 -0.2
baz=20,SNR=9.6
R26A Arlington 19.69 98 P Pn 10 15 46.3 +0.2
baz=20,SNR=25
G28A Parade 19.70 77 P Pn 10 15 45.9 -0.2
baz=20,SNR=14
J28A Allard Ranch, 19.73 82 P P 10 15 45.1 +0.2
baz=20,SNR=18
E28A Huff 19.74 73 P Pn 10 15 46.2 -0.3
baz=20,SNR=24
OGNE Ogallala 19.76 90 eP P 10 15 45.9 +0.5
comp=Z,162nm,1.4s
OGNE Ogallala 19.76 90 P P 10 15 45.8 +0.5
baz=20
220A Playas Peak, P 19.78 121 P P 10 15 45.2 -0.5
baz=20,SNR=15
W24A Lazy 6 Ranch, 19.80 108 P P 10 15 45.9 0.0
baz=20,SNR=8.1
D28A Regan 19.81 71 P P 10 15 46.2 +0.4
baz=20,SNR=11
P27A Ficken Ranch, 19.83 94 P Pn 10 15 47.4 -0.3
baz=20,SNR=12
121A Cookes Peak, D 19.83 118 P Pn 10 15 47.7 -0.2
baz=20,SNR=17
U25A Circle Dot Ran 19.87 104 P P 10 15 47.5 +0.7
baz=20,SNR=8.1
C28A Hausauer Farms 19.93 69 P Pn 10 15 48.8 0.0
baz=20,SNR=14
S26A Kim 19.96 100 P P 10 15 48.3 +0.6
baz=20,SNR=13
B28A Dugan Ranch, T 19.96 67 P P 10 15 47.8 +0.3
baz=20,SNR=21
KSCO Kaye Shedlock' 19.99 95 eP P 10 15 48.7 +0.7
KSCO Kaye Shedlock' 19.99 95 P P 10 15 47.1 -0.8
baz=20,SNR=20
DIV Divide 20.04 335 eP Pn 10 15 50.9 +0.7
comp=Z,100nm,1.4s
A28A Rude Farm, Bot 20.05 66 P P 10 15 48.7 +0.2
baz=20,SNR=16
T26A Comanche Natio 20.08 101 P P 10 15 49.7 +0.7
baz=20,SNR=5.7
Y23A Lovelace Mesa, 20.09 112 P P 10 15 49.3 +0.2
baz=20,SNR=16
R27A Eads 20.16 97 P P 10 15 50.6 +0.8
baz=20,SNR=30
320A Kipp Ranch, An 20.17 122 P P 10 15 50.6 +0.7
baz=20,SNR=14
221A Mesquite Ranch 20.18 119 P P 10 15 50.0 0.0

baz=20
N28A Pribbeno Ranch 20.20 90 P P 10 15 50.7 +0.6
baz=20
O28A Krutsinger Ran 20.21 92 P Pn 10 15 51.7 -0.6
baz=20,SNR=12
122A Conniff Cattle 20.22 116 P P 10 15 51.3 +0.8
baz=20,SNR=6.9
FFC Flin Flon 20.27 48 P P 10 15 51.1 +0.4
comp=Z,806nm,0.9s,SNR=7.8
FFC Flin Flon 20.27 48 eP Pn 10 15 52.8 +0.1
FFC pmax pmax
comp=Z,316nm,1.0s
FFC Flin Flon 20.27 48 eP Pn 10 15 52.8 +0.1
comp=Z,316nm,1.0s
YKA Yellowknife Ar 20.29 19 P P 10 15 43.7 -7.2
YKA Yellowknife Ar 20.29 19 P P 10 15 43.7 -7.2
comp=Z,2.2nm,0.7s,baz=211,slow=12,SNR=5.1
U26A Atchley Ranch, 20.34 103 P P 10 15 53.2 +1.3
baz=20,SNR=6.9
S27A Las Animas 20.34 99 P P 10 15 52.9 +1.1
baz=20,SNR=20
YKW3 Yellowknife Ar 20.35 19 eP P 10 15 52.1 +0.6
comp=Z,3.2nm,1.4s
Z23A Rita Site, Whi 20.37 114 P P 10 15 52.2 0.0
baz=20
F29A Eureka 20.39 75 P Pn 10 15 54.0 -0.2
baz=20,SNR=24
KDAK Kodiak Island 20.40 321 eP Pn 10 15 54.4 +0.2
comp=Z,69nm,1.1s
KDAK Kodiak Island 20.40 321 P Pn 10 15 53.6 -0.5
comp=Z,18nm,1.0s,baz=159,slow=12,SNR=3.6
KDAK LR LR 10 21 53.4
comp=Z,2µm,19.0s,baz=138,slow=31
P28A Saint Francis 20.41 93 P Pn 10 15 54.6 -0.1
baz=20,SNR=12
OHAK Old Harbor 20.43 319 P Pn 10 15 54.1 -0.5
comp=Z,304nm,1.6s
W25A X Bar L Ranch, 20.45 107 P P 10 15 53.2 +0.3
baz=20,SNR=20
MDND Maddock 20.46 69 eP Pn 10 15 55.2 +0.2
MDND Maddock 20.46 69 P Pn 10 15 54.3 -0.7
baz=20
E29A Napoleon 20.46 72 P Pn 10 15 54.9 -0.3
baz=20,SNR=16
D29A Pettibone, Tap 20.48 71 P Pn 10 15 55.2 0.0
baz=20,SNR=14
Y24A Capitan 20.50 111 P P 10 15 54.2 +0.5
baz=20,SNR=18
222A Williams Famil 20.54 118 P Pn 10 15 56.0 -0.3
baz=21,SNR=8.7
Q28A Sharon Springs 20.55 94 P Pn 10 15 55.6 -0.7
baz=21
M29A Burnside Ranch 20.59 87 P P 10 15 54.9 +0.6
baz=21
V26A Tequesquite Ra 20.61 105 P P 10 15 55.4 +0.7
baz=21,SNR=12
B29A Wagenman Farm, 20.64 67 P Pn 10 15 55.9 -1.2
baz=21,SNR=19
X25A Clemmons Ranch 20.68 109 P P 10 15 56.2 +0.7
baz=21,SNR=11
A29A Manning Farm, 20.73 66 P P 10 15 55.5 -0.4
baz=21,SNR=16
123A Bell Site, Whi 20.74 115 P P 10 15 56.2 0.0
baz=21
T27A Campo 20.75 100 P P 10 15 56.8 +0.6
baz=21,SNR=17
R28A Tribune 20.84 96 P P 10 15 57.3 +0.1
baz=21,SNR=26
Z24A Sheeppen Canyo 20.91 113 P P 10 15 57.9 -0.1
baz=21,SNR=13
O29A 4D Ranch, Culb 20.91 91 P Pn 10 15 59.8 -0.7
baz=21,SNR=9.5
MENT Mentasta 20.97 340 eP Pn 10 15 60.0 -0.9
U27A Thompson Grove 20.98 102 P P 10 15 58.6 0.0
baz=21,SNR=21
W26A Owens Ranch, T 21.00 106 P P 10 15 58.8 0.0
baz=21,SNR=15
P29A Atwood 21.00 92 P P 10 16 00.2 +1.4
baz=21,SNR=14
Y25A Mesa, Roswell 21.01 110 P P 10 15 59.0 0.0
baz=21,SNR=20
D30A Buchanan 21.05 71 P P 10 15 59.6 +0.4
baz=21,SNR=10
DAWY Dawson 21.09 347 eP P 10 16 00.6 +1.0
S28A Manter 21.10 98 P P 10 16 00.4 +0.4
baz=21,SNR=13
T28A Walsh 21.15 100 P P 10 16 00.9 +0.3
baz=21,SNR=7.7
BRSD Miller 21.17 78 eP P 10 16 01.1 +0.6
BRSD Miller 21.17 78 P P 10 16 01.5 +0.9
baz=21,SNR=14
C30A Mose, Pekin 21.22 69 P P 10 16 01.8 +0.7
baz=21,SNR=12
124A Stringfield Ra 21.23 114 P P 10 16 01.8 +0.2
baz=21
X26A CR and CF Fran 21.26 108 P P 10 16 01.8 +0.1
baz=21,SNR=22
R29A Marienthal 21.30 96 P P 10 16 01.3 -0.7
baz=21,SNR=26
V27A Dan Oppiter Fa 21.30 104 P P 10 16 02.0 0.0
baz=21,SNR=19
B30A Myrvik Farm, E 21.32 67 P P 10 16 02.8 +0.7
baz=21,SNR=17
A30A Hoffart Farm, 21.35 66 P P 10 16 03.7 +1.3
baz=21,SNR=16
SML Sawmill 21.36 334 eP P 10 16 05.1 +2.6
SML pmax pmax
comp=Z,19nm,1.2s
SML Sawmill 21.36 334 eP P 10 16 05.1 +2.6
comp=Z,19nm,1.2s
Z25A Roswell 21.37 112 P P 10 16 02.8 -0.1
baz=21,SNR=19
U28A Mallet 21.42 102 P P 10 16 02.5 -1.0
baz=22,SNR=15
O30A MW Ranch, Wils 21.43 90 P P 10 16 04.0 +0.6
baz=22,SNR=11
PAX Paxson 21.44 339 P P 10 16 04.4 +1.1
PAX pmax pmax
comp=Z,70nm,1.4s
PAX Paxson 21.44 339 P P 10 16 04.4 +1.1
comp=Z,70nm,1.4s
PMR Palmer 21.46 333 eP P 10 16 04.7 +1.2
PMR pmax pmax
comp=Z,246nm,1.8s
PMR Palmer 21.46 333 eP P 10 16 04.7 +1.2
comp=Z,246nm,1.8s
W27A Bowe Ranch, En 21.50 106 P P 10 16 04.6 +0.4
baz=22,SNR=14
P30A Selden 21.51 92 P P 10 16 05.3 +1.0
baz=22,SNR=9.1
224A Cornudas Mount 21.58 116 P P 10 16 04.8 -0.4
baz=22,SNR=14
Y26A Elida 21.60 109 P P 10 16 05.4 +0.1
baz=22,SNR=11
S29A Ulysses 21.64 98 P P 10 16 06.6 +0.9
baz=22,SNR=17
X27A F and S Farms, 21.70 107 P P 10 16 06.5 +0.2
baz=22,SNR=12
T29A Hugoton 21.72 99 P P 10 16 07.2 +0.6
baz=22,SNR=13
V28A Channing 21.73 103 P P 10 16 06.2 -0.5
baz=22,SNR=14
Q30A Quinter 21.74 93 P P 10 16 06.7 0.0
baz=22
125A Gardner Draw, 21.79 113 P P 10 16 07.8 +0.4
baz=22,SNR=12
Z26A Caprock 21.87 111 P P 10 16 08.8 +0.5
baz=22,SNR=20
MNTX Cornudas Mount 21.91 116 eP P 10 16 11.2 +2.5
comp=Z,48nm,1.5s
R30A Dighton 21.97 95 P P 10 16 10.4 +1.2
baz=22,SNR=17
324A Moseley Ranch, 22.02 117 P P 10 16 10.0 +0.1
baz=22
225A Deer Hill, Car 22.02 114 P P 10 16 11.4 +1.4
baz=22,SNR=12
RSO Redoubt South 22.02 327 eP P 10 16 10.5 +0.8
comp=Z,112nm,1.1s
EGAK Eagle 22.05 346 eP P 10 16 11.1 +1.2
comp=Z,99nm,1.8s
U29A Oasis Ranch, S 22.06 100 P P 10 16 10.0 -0.2
baz=22
Y27A Causey 22.07 108 P P 10 16 10.4 0.0
baz=22,SNR=17
S30A Montezuma 22.11 97 P P 10 16 11.9 +1.2
baz=22,SNR=16
P31A Stockton 22.15 91 P P 10 16 11.1 0.0
baz=22

MSTX **Muleshoe** 22.29 108 eP P 10 16 13.3 +0.5
MSTX **Muleshoe** 22.29 108 P P 10 16 12.3 -0.5
baz=22,SNR=9.5
T30A **Plains** 22.32 98 P P 10 16 14.1 +1.1
baz=22,SNR=9.2
Q31A **Ellis** 22.32 93 P P 10 16 13.6 +0.5
baz=22
Z27A **Tatum** 22.36 110 P P 10 16 14.8 +1.3
baz=22,SNR=7.5
BGNE **Belgrade** 22.43 86 eP P 10 16 15.1 +1.0
BGNE **Belgrade** 22.43 86 P P 10 16 14.2 +0.1
baz=22
U30A **WK&E Inc. Balk** 22.47 100 P P 10 16 15.8 +1.2
baz=22,SNR=22
226B **Tecolote Peak,** 22.47 114 P P 10 16 14.6 -0.1
baz=22,SNR=14
R31A **Burdett** 22.51 95 P P 10 16 15.1 +0.1
baz=22,SNR=24
CHGN **Chignik** 22.59 314 eP P 10 16 17.0 +1.3
Y28A **McKinney Farm,** 22.69 107 P P 10 16 16.4 -0.6
baz=23,SNR=17
425A **Indio Mountain** 22.77 117 P P 10 16 19.3 +1.4
baz=23,SNR=15
X29A **Tulia** 22.77 105 P P 10 16 17.2 -0.7
baz=23,SNR=12
V30A **Spur Ranch, Mi** 22.81 101 P P 10 16 18.7 +0.5
baz=23,SNR=7.2
S31A **Mullinville** 22.82 96 P P 10 16 18.1 -0.2
baz=23,SNR=16
T31A **Randall Ranch,** 22.91 97 P P 10 16 18.4 -0.7
baz=23,SNR=20
Z28A **Tucker Farm, M** 22.95 109 P P 10 16 20.6 +0.9
baz=23,SNR=8.4
ECSD **EROS Data Cent** 22.96 79 eP P 10 16 21.0 +1.4
comp=Z,87nm,1.2s
AGMN **Agassiz Nation** 22.96 68 eP P 10 16 20.3 +0.7
comp=Z,92nm,1.4s
ULM **Lac du Bonnet** 22.99 63 P P 10 16 11.9 -7.9
ULM **Lac du Bonnet** 22.99 63 P P 10 16 11.9 -7.9
comp=Z,1.9nm,0.5s,baz=266,slow=7.8,SNR=3.8
ULM LR LR 10 25 27.0
comp=Z,2µm,19.1s,baz=58,slow=38
MCK **McKinley** 23.00 337 eP P 10 16 19.6 -0.3
MCK pmax pmax
comp=Z,130nm,1.5s
MCK **McKinley** 23.00 337 eP P 10 16 19.6 -0.3
comp=Z,130nm,1.5s
326A **Caldwell Ranch** 23.08 115 P P 10 16 21.9 +0.8
baz=23,SNR=15
U31A **Nine Bar Ranch** 23.11 99 P P 10 16 21.0 -0.3
baz=23
Y29A **Porterfield Fa** 23.11 107 P P 10 16 21.2 -0.2
baz=23
W30A **Crocket Farms** 23.18 103 P P 10 16 21.1 -0.9
baz=23
TRF **Thorofare Moun** 23.19 335 eP P 10 16 22.6 +0.7
comp=Z,109nm,1.5s
128A **Castleberry Fa** 23.27 110 P P 10 16 23.7 +0.7
baz=23,SNR=8.8
ILAR **Eielson Array** 23.28 340 P P 10 16 23.1 +0.4
ILAR **Eielson Array** 23.28 340 P P 10 16 23.1 +0.4
comp=Z,2.6nm,1.0s,baz=150,slow=6.6,SNR=13
ILAR LR LR 10 24 07.2
comp=Z,821nm,18.4s,baz=163,slow=33
X30A **Coker Ranch, T** 23.35 105 P P 10 16 23.7 -0.1
baz=23
PPLA **Purkeypile** 23.40 332 eP P 10 16 24.8 +0.7
comp=Z,672nm,1.8s
V31A **Spring Creek L** 23.40 101 P P 10 16 25.9 +1.6
baz=23,SNR=16
SDPT **Sand Point** 23.40 310 eP P 10 16 27.5 +3.5
comp=Z,716nm,1.8s
Z29A **Hungry Hill Ra** 23.43 108 P P 10 16 23.9 -0.7
baz=24
426A **McDonald Obser** 23.46 116 P P 10 16 25.2 +0.1
baz=24,SNR=18
228A **UT Block 9, Go** 23.50 111 P P 10 16 25.5 +0.3
baz=24
COLA **College** 23.60 339 eP P 10 16 26.8 +1.0
COLA pmax pmax
comp=Z,1µm,2.1s
COLA **College** 23.60 339 eP P 10 16 26.8 +1.0
comp=Z,1µm,2.1s
W31A **Holland Ranch,** 23.62 102 P P 10 16 25.4 -1.0
baz=24,SNR=13
Y30A **Stafford Cattl** 23.64 106 P P 10 16 27.0 +0.4
baz=24
427A **Hayter Ranch,** 23.75 115 P P 10 16 27.1 -0.7
baz=24,SNR=11
328A **Wristen Ranch,** 23.81 113 P P 10 16 28.8 +0.6
baz=24
BPAW **Bear Paw Mtn.** 23.88 336 eP P 10 16 28.5 0.0
comp=Z,56nm,1.2s
X31A **McDonald Ranch** 23.88 103 P P 10 16 28.2 -0.7
baz=24,SNR=21
Y31A **Rekieta Farm,** 24.04 105 P P 10 16 30.0 -0.4
baz=24,SNR=14
527A **Woodward Ranch** 24.08 117 P P 10 16 30.6 -0.3
baz=24,SNR=8.0
229A **Bryant Ranch,** 24.12 111 P P 10 16 31.2 +0.1
baz=24
626A **Big Bend Ranch** 24.14 118 P P 10 16 30.9 -0.5
baz=24,SNR=9.8
329A **Wagon Wheel Ra** 24.30 112 P P 10 16 32.4 -0.4
baz=24
KSU1 **Kansas State U** 24.30 90 eP P 10 16 34.9 +2.2
comp=Z,95nm,1.1s
428A **Kincaid Ranch,** 24.31 114 P P 10 16 33.0 +0.1
baz=24,SNR=14
130A **Snyder** 24.32 108 P P 10 16 33.3 +0.3
baz=24,SNR=12
Z31A **Sharp Cattle R** 24.47 106 P P 10 16 34.7 +0.3
baz=24,SNR=14
INK **Inuvik** 24.57 356 P P 10 16 34.2 -0.7
INK **Inuvik** 24.57 356 P P 10 16 34.2 -0.7
comp=Z,8.6nm,1.1s,baz=172,slow=12,SNR=3.9
INK LR LR 10 25 41.8
comp=Z,271nm,18.8s,baz=147,slow=35
TXAR **Lajitas Array** 24.59 118 P P 10 16 26.2 -9.3
TXAR PcP PcP 10 20 09.7 -3.4
TXAR **Lajitas Array** 24.59 118 P P 10 16 26.2 -9.3
comp=Z,0.4nm,0.8s,baz=300,slow=8.2,SNR=5.6
TXAR PcP PcP 10 20 09.7 -3.4
comp=Z,1.8nm,1.0s,baz=188,slow=0.9,SNR=5.3
TXAR LR LR 10 26 47.7
comp=Z,2µm,19.7s,baz=350,slow=39
528A **Cox Ranch, San** 24.60 115 P P 10 16 35.5 -0.2
baz=25,SNR=11
230A **Sterling City** 24.64 110 P P 10 16 35.9 0.0
baz=25,SNR=16
131A **Roby** 24.67 108 P P 10 16 36.7 +0.5
baz=25,SNR=18
WMOK **Wichita Mounta** 24.67 102 eP P 10 16 36.1 0.0
WMOK pmax pmax
comp=Z,152nm,1.1s
WMOK **Wichita Mounta** 24.67 102 eP P 10 16 36.1 0.0
comp=Z,152nm,1.1s
627A **Terlingua Ranc** 24.69 117 P P 10 16 36.0 -0.5
baz=25,SNR=16
LPIG **La Paz** 24.79 137 LR LR 10 26 32.6
comp=Z,654nm,18.2s,baz=82,slow=38
330A **Mertzon** 24.89 111 P P 10 16 36.8 -1.4
baz=25,SNR=9.1
429A **Davenport Ranc** 24.89 113 P P 10 16 37.7 -0.5
baz=25,SNR=13
Z32A **Haskell** 24.94 105 P P 10 16 38.5 -0.1
baz=25,SNR=19
628A **Black Gap, Mar** 24.99 117 P P 10 16 39.8 +0.7
baz=25,SNR=12
529A **Stev Forest Ra** 25.00 115 P P 10 16 40.1 +0.9
baz=25,SNR=18
231A **Bronte** 25.15 109 P P 10 16 39.5 -1.0
baz=25,SNR=11
ABTX **Abilene, Hawle** 25.21 107 P P 10 16 42.2 +1.2
ABTX **Abilene, Hawle** 25.21 107 P P 10 16 40.5 -0.6
baz=25,SNR=11
430A **Baggett Ranch,** 25.23 112 P P 10 16 40.9 -0.4
baz=25,SNR=12
SPMN **St. Paul** 25.36 74 eP P 10 16 43.8 +1.6
SPMN **St. Paul** 25.36 74 P P 10 16 41.4 -0.9
baz=25
331A **San Angelo** 25.45 110 P P 10 16 42.7 -0.6
baz=26,SNR=10
530A **J-C Ranch, Com** 25.57 113 P P 10 16 43.8 -0.5
baz=26,SNR=11
431A **Sonora** 25.72 112 P P 10 16 45.8 +0.1
baz=26,SNR=14
FCC **Fort Churchill** 25.77 43 eP P 10 16 48.5 +2.8
FCC **Fort Churchill** 25.77 43 eP P 10 16 48.5 +2.8
comp=Z,2.3nm,1.4s
EYMN **Ely** 25.90 68 eP P 10 16 49.5 +2.3
comp=Z,42nm,1.1s
IM04 **Indian Mountai** 26.05 337 eP P 10 16 49.3 +0.9
COLD **Coldfoot** 26.07 341 eP P 10 16 49.3 +0.8
comp=Z,89nm,1.8s
531A **Rocksprings** 26.08 112 P P 10 16 48.3 -0.7
baz=26
IMA2 **Indian Mountai** 26.09 337 eP P 10 16 49.5 +0.7
IMA2 ePcP PcP 10 20 16.0 +0.1
432A **Menard** 26.15 110 P P 10 16 49.5 -0.1
baz=26,SNR=9.3
TUL1 **Tulsa** 26.23 97 eP P 10 16 50.9 +0.7
TUL1 **Tulsa** 26.23 97 P P 10 16 49.0 -1.2
baz=26
JCT **Junction City** 26.39 111 eP P 10 16 50.6 -1.1
JCT pmax pmax
comp=Z,86nm,1.6s
JCT **Junction City** 26.39 111 eP P 10 16 50.6 -1.1
comp=Z,86nm,1.6s
JCT **Junction City** 26.39 111 P P 10 16 51.1 -0.6
baz=26,SNR=9.3
532A **Rocksprings** 26.54 112 P P 10 16 53.5 +0.4
baz=27,SNR=13
631A **Perdido Creek** 26.55 114 P P 10 16 52.5 -0.6
baz=27,SNR=8.1
WHTX **Lake Whitney** 27.09 106 eP P 10 17 01.8 +3.8
WHTX **Lake Whitney** 27.09 106 P P 10 16 58.5 +0.5
baz=27,SNR=12
732A **Laxson Ranch,** 27.39 114 P P 10 17 01.8 +1.1
baz=27
JFWS **Jewell Farm** 27.67 79 eP P 10 17 05.6 +2.5
JFWS pmax pmax
comp=Z,58nm,1.4s
JFWS **Jewell Farm** 27.67 79 eP P 10 17 05.6 +2.5
comp=Z,58nm,1.4s
MIAR **Mount Ida** 28.48 97 eP P 10 17 11.8 +1.4
MIAR pmax pmax
comp=Z,198nm,1.6s
MIAR **Mount Ida** 28.48 97 eP P 10 17 11.8 +1.4
comp=Z,198nm,1.6s
SLM **Saint Louis** 29.08 87 eP P 10 17 16.9 +1.2
SLM pmax pmax
comp=Z,24nm,0.4s
SLM **Saint Louis** 29.08 87 eP P 10 17 16.9 +1.2
comp=Z,24nm,0.4s
UALR **University of** 29.25 96 eP P 10 17 20.6 +3.3
comp=Z,32nm,1.4s
HKT **Hockley** 29.42 107 eP P 10 17 20.8 +2.1
HKT e 10 18 23.5
HKT pmax pmax
comp=Z,102nm,1.9s
HKT **Hockley** 29.42 107 eP P 10 17 20.8 +2.1
comp=Z,102nm,1.9s
HKT ePP PP 10 18 23.5 -1.6
SIUC **Southern Illin** 30.18 88 eP P 10 17 27.0 +1.5
comp=Z,68nm,1.4s
OLIL **Olney** 30.58 86 eP P 10 17 27.3 -1.7
comp=Z,142nm,1.4s
SFIN **Scholer Farm** 30.70 82 eP P 10 17 31.4 +1.3
SFIN **Scholer Farm** 30.70 82 P P 10 17 31.3 +1.3
baz=31,SNR=6.9
USIN **University of** 31.20 87 eP P 10 17 35.1 +0.6
comp=Z,111nm,1.1s
OXF **Oxford** 31.49 94 P P 10 17 36.3 -0.7
OXF pmax pmax
comp=Z,170nm,1.1s
OXF **Oxford** 31.49 94 P P 10 17 36.2 -0.7
comp=Z,170nm,1.1s
BLO **Bloomington** 31.55 84 eP P 10 17 38.6 +1.1
BLO pmax pmax
comp=Z,60nm,1.1s
BLO **Bloomington** 31.55 84 eP P 10 17 38.6 +1.1
comp=Z,60nm,1.1s
VBMS **Vicksburg** 31.87 99 eP P 10 17 42.7 +2.4
comp=Z,40nm,1.0s
WVT **Waverly** 31.87 90 eP P 10 17 41.8 +1.4
WVT pmax pmax
comp=Z,23nm,1.1s
WVT **Waverly** 31.87 90 eP P 10 17 41.8 +1.4
comp=Z,23nm,1.1s
LRAL **Lakeview Retre** 33.97 94 eP P 10 18 00.4 +1.7
comp=Z,41nm,1.4s
RES **Resolute Bay** 34.27 15 P P 10 17 59.2 -1.6
RES **Resolute Bay** 34.27 15 P P 10 17 59.2 -1.6
comp=Z,6.3nm,0.9s,baz=233,slow=11,SNR=5.2
CPCT **Cooper Cave** 34.57 89 eP P 10 18 05.5 +1.5
AMKA **Amchitka** 35.26 301 eP P 10 18 08.2 -1.5
comp=Z,90nm,1.0s
MCWV **Mont Chateau** 36.13 80 eP P 10 18 19.2 +1.9
comp=Z,74nm,1.4s
BLA **Blacksburg** 36.73 84 eP P 10 18 24.6 +2.0
BLA pmax pmax
comp=Z,48nm,1.4s
BLA **Blacksburg** 36.73 84 eP P 10 18 24.6 +2.0
comp=Z,48nm,1.4s
KMSC **Kings Mountain** 37.02 87 P P 10 18 25.1 +0.1
baz=37
VWCC **Virginia Weste** 37.04 83 eP P 10 18 27.1 +2.1
TIGA **Tifton** 37.26 94 P P 10 18 28.1 +1.1
baz=37
FRB **Frobisher Bay** 38.74 38 LR LR 10 33 57.1
comp=Z,355nm,21.7s,baz=76,slow=35
LBNH **Lisbon** 39.96 69 eP P 10 18 48.6 -1.0
LBNH pmax pmax
comp=Z,42nm,1.2s
LBNH **Lisbon** 39.96 69 eP P 10 18 48.6 -1.0
comp=Z,42nm,1.2s
SCHQ **Scheffervlle** 40.35 52 LR LR 10 34 55.0
comp=Z,538nm,19.2s,baz=33,slow=35
TEIG **Tepich** 40.95 112 eP P 10 18 59.0 +1.1
comp=Z,30nm,1.2s
PET **Petropavlovsk** 47.15 308 eP P 10 19 43.0 -4.3
PET pmax pmax
comp=Z,100nm,12.4s
SEY **Seymchan** 47.35 322⇓eP P 10 19 49.0 +0.2
PETK **Petropavlovsk-** 47.67 308 P P 10 19 50.2 -1.2
PETK **Petropavlovsk-** 47.67 308 P P 10 19 50.2 -1.2
PETK **Petropavlovsk-** 47.67 308 P P 10 19 50.2 -1.2
comp=Z,5.4nm,0.8s,baz=84,slow=15,SNR=4.5
PETK LR LR 10 37 10.7
comp=Z,419nm,20.6s,baz=269,slow=32
SUMG **Summit** 48.78 24 eP P 10 19 59.7 -0.4
SUMG pmax pmax
comp=Z,25nm,1.1s
SUMG **Summit** 48.78 24 i P P 10 20 00.6 +0.5
comp=Z,12nm,1.0s
SUMG **Summit** 48.78 24 eP P 10 19 59.7 -0.4
comp=Z,25nm,1.1s
YAK **Yakutsk** 57.30 327 eP P 10 21 06.1 +3.5
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,21nm,1.4s
ASAJ **Asahikawa** 60.66 304 P P 10 21 24.2 -2.0
ASAJ **Asahikawa** 60.66 304 P P 10 21 24.2 -2.0
comp=E,11nm,0.8s,baz=61,slow=12,SNR=3.3
PMOR **Pomariorio Ree** 61.26 201 eT T 11 27 27.0
CLNS **Chul'man** 62.33 324 eP P 10 21 42.6 +5.3
CLNS pmax pmax
comp=Z,7.0nm,0.9s
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS pmax pmax
comp=E,14nm,1.1s
KLR **Kul'dur** 63.75 314 eP P 10 21 49.7 +2.9
KLR pmax pmax
comp=Z,62nm,1.6s
PPT **Papeete** 64.17 202 LR LR 10 42 31.4
comp=Z,183nm,20.2s,baz=351,slow=29
PPT2 **Papeete2** 64.19 202 eLR LR 10 40 55.4
comp=Z,240nm,27.2s
ARCES **ARCESS Array B** 65.24 10 LR LR 10 47 53.5
comp=Z,85nm,22.0s,baz=252,slow=34
USRK **Ussuriysk Arra** 66.74 309 P P 10 22 04.5 -1.8
comp=Z,3.5nm,0.9s,baz=85,slow=6.4,SNR=7.1
USRK LR LR 10 48 45.5
comp=Z,251nm,21.4s,baz=20,slow=34
MDJ **Mudanjiang** 67.80 311 P P 10 22 11.5 -1.5
MDJ PP PP 10 24 40.0 -2.1
MDJ S S 10 31 10.3 +0.3
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,110nm,7.9s
MDJ LR LR
comp=N,220nm,36.6s
MDJ LR LR
comp=E,290nm,35.6s
MDJ LR LR
comp=Z,490nm,35.6s
MJAR **Matsushiro Arr** 67.86 300 P P 10 22 11.3 -2.3
MJAR **Matsushiro Arr** 67.86 300 P P 10 22 11.3 -2.3
comp=Z,1.6nm,0.8s,baz=49,slow=6.6,SNR=6.1
MAT **Matsushiro** 67.86 300 P P 10 22 17.6 +4.1
MAT eS S 10 31 30.0 +19
APA **Apatity** 67.98 7⇓eP P 10 22 16.0 +2.3
TBI **Tubuai** 69.65 200 eS S 10 31 32.7 +0.6
comp=Z,40nm,27.0s
TBI **Tubuai** 69.65 200 eLR LR 10 43 19.0
comp=Z,172nm,31.0s
NB2 **NORSAR Subarra** 70.39 20 P P 10 22 28.3 -0.5
comp=Z,19nm,1.2s,baz=334,slow=5.9
NB2 **NORSAR Subarra** 70.39 20 P P 10 22 28.3 -0.5
baz=334,slow=5.9
NOA **NORSAR Array B** 70.39 20 P P 10 22 26.3 -2.5
NOA **NORSAR Array B** 70.39 20 P P 10 22 26.3 -2.5
comp=Z,2.2nm,1.0s,baz=330,slow=5.9,SNR=3.1
CN2 **Changchun** 70.57 312 eP P 10 22 31.8 +1.6
CN2 eS S 10 31 42.8 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,280nm,18.0s
CN2 LR LR
comp=E,220nm,18.0s
CN2 LR LR
comp=Z,270nm,19.0s
TMCR **Tamitsa** 71.72 6 eP P 10 22 43.4 +6.6
TMCR e 10 22 59.7
TMCR pmax pmax
comp=Z,51nm,1.3s
SNY **Shenyang** 72.93 312 ⇑P P 10 22 45.0 +0.6
SNY S SKiKP 10 32 14.3 -2.0
SNY pmax pmax
comp=Z,200nm,4.6s
SNY LR LR
comp=N,260nm,24.0s
SNY LR LR
comp=E,230nm,27.6s
SNY LR LR
comp=Z,310nm,22.5s
FINES **FINESS Array B** 72.98 12 P P 10 22 42.2 -2.1
FINES **FINESS Array B** 72.98 12 P P 10 22 42.2 -2.1
comp=Z,4.8nm,0.9s,baz=356,slow=7.6,SNR=7.1
KSRS **Korea Array** 73.49 306 P P 10 22 46.5 -1.3
comp=Z,1.2nm,0.7s,baz=51,slow=5.4,SNR=3.9
KSRS LR LR 10 50 44.7
comp=Z,149nm,18.8s,baz=234,slow=32
KSAR **Wonju Array Be** 73.52 306 P P 10 22 46.5 -1.5
IRK **Irkutsk** 73.93 329 eP P 10 22 44.7 -5.5
IRK pmax pmax
comp=Z,116nm,2.1s
TLY **Talaya** 74.61 329 eP P 10 22 54.7 +0.5
TLY e 10 23 01.7
TLY eS S 10 32 52.7 +24
TLY eSS SS 10 37 16.1 +1.4
TLY pmax pmax
comp=Z,24nm,1.5s
TLY **Talaya** 74.61 329 P P 10 22 54.4 +0.2
comp=Z,157nm,1.2s,SNR=7.0
MOY **Mondy** 75.58 331 eP P 10 23 00.1 +0.2
MOY pmax pmax
comp=Z,60nm,3.2s
ROSF **Rostrenen** 76.31 34 eP P 10 23 03.3 -0.6
comp=Z,143nm,1.6s
ROSF **Rostrenen** 76.31 34 eP P 10 23 03.3 -0.6
ROSF pmax pmax
comp=Z,143nm,1.6s
ROSF **Rostrenen** 76.31 34 eP P 10 23 03.3 -0.6
comp=Z,143nm,1.6s
ULN **Ulaanbaatar** 76.33 325 eP P 10 23 04.3 0.0
comp=Z,70nm,1.6s
SONM **Songino Array** 76.62 325 P P 10 23 04.9 -1.0
SONM PP PP 10 26 02.8 +5.3
SONM **Songino Array** 76.62 325 P P 10 23 04.9 -1.0
comp=Z,7.4nm,1.0s,baz=50,slow=3.5,SNR=26
SONM PP PP 10 26 02.8 +5.3
comp=Z,3.4nm,1.2s,baz=45,slow=6.5,SNR=4.6
SONM LR LR 10 56 25.0
comp=Z,478nm,21.2s,baz=35,slow=35
SGMF **Saint Gilles** 76.66 34 eP P 10 23 05.3 -0.6
comp=Z,177nm,1.8s
SGMF **Saint Gilles** 76.66 34 eP P 10 23 05.3 -0.6
SGMF pmax pmax
comp=Z,177nm,1.8s
SGMF **Saint Gilles** 76.66 34 eP P 10 23 05.3 -0.6
comp=Z,177nm,1.8s
QUIF **Quistinic** 76.69 34 eP P 10 23 05.6 -0.4
comp=Z,114nm,1.5s
QUIF **Quistinic** 76.69 34 eP P 10 23 05.6 -0.4
QUIF pmax pmax
comp=Z,114nm,1.5s
QUIF **Quistinic** 76.69 34 eP P 10 23 05.6 -0.4
comp=Z,114nm,1.5s
FLN **La Foliniere** 77.07 32 eP P 10 23 07.7 -0.5
comp=Z,194nm,1.9s
FLN eR
comp=Z,244nm,19.2s
FLN **La Foliniere** 77.07 32 eP P 10 23 07.7 -0.5
FLN pmax pmax
comp=Z,194nm,1.9s
FLN **La Foliniere** 77.07 32 eP P 10 23 07.7 -0.5
comp=Z,194nm,1.9s
GRR **Gorron** 77.23 33 eP P 10 23 09.0 -0.1
comp=Z,103nm,1.4s
GRR **Gorron** 77.23 33 eP P 10 23 09.0 -0.1
GRR pmax pmax
comp=Z,103nm,1.4s
GRR **Gorron** 77.23 33 eP P 10 23 09.0 -0.1
comp=Z,103nm,1.4s
LDF **La Druitiere** 77.35 32 eP P 10 23 09.4 -0.3
comp=Z,176nm,1.8s
LDF **La Druitiere** 77.35 32 eP P 10 23 09.4 -0.3
LDF pmax pmax
comp=Z,176nm,1.8s
LDF **La Druitiere** 77.35 32 eP P 10 23 09.4 -0.3
comp=Z,176nm,1.8s
BAIF **Baives** 77.72 29 eP P 10 23 11.4 -0.4
comp=Z,63nm,1.4s
BAIF **Baives** 77.72 29 eP P 10 23 11.4 -0.4
BAIF pmax pmax
comp=Z,63nm,1.4s
BAIF **Baives** 77.72 29 eP P 10 23 11.4 -0.4
comp=Z,63nm,1.4s
GIVF **Givet** 77.90 29 eP P 10 23 12.4 -0.4
GIVF **Givet** 77.90 29 eP P 10 23 12.4 -0.4
GIVF **Givet** 77.90 29 eP P 10 23 12.4 -0.4
NVS **Novosibirsk** 77.95 342⇓iP P 10 23 11.0 -2.0
NVS pmax pmax
comp=Z,60nm,1.4s
NVS pmax pmax
comp=N,31nm,1.8s
NVS pmax pmax
comp=E,26nm,1.5s
BJI **Beijing** 78.10 315 P P 10 23 15.8 +1.7
BJI S S 10 33 09.0 +1.7
BJI SS SS 10 38 11.5 +3.6
BJI pmax pmax
comp=Z,14nm,0.5s
BJI pmax pmax
comp=Z,110nm,4.2s
BJI LR LR
comp=N,190nm,20.3s
BJI LR LR
comp=E,260nm,22.5s
BJI LR LR
comp=Z,290nm,25.5s
ZAA0 **Zalesovo Array** 78.40 341 eP P 10 23 14.7 -0.8
ZALV **Zalesovo Beam** 78.40 341 i P P 10 23 15.1 -0.4
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV **Zalesovo Beam** 78.40 341 P P 10 23 14.3 -1.2
ZALV **Zalesovo Beam** 78.40 341 P P 10 23 14.3 -1.2
comp=Z,1.7nm,0.8s,baz=18,slow=5.2,SNR=7.4
ZALV LR LR 11 01 48.9
comp=Z,247nm,18.1s,baz=249,slow=39
HVS **Khovu-Aksy** 78.46 334⇑eP P 10 23 15.9 -0.1
HVS pmax pmax

comp=Z,40nm,1.3s
MFF Saint Martin d 78.96 33 eP P 10 23 18.2 -0.5
comp=Z,82nm,1.6s
MFF Saint Martin d 78.96 33 eP P 10 23 18.2 -0.5
MFF pmax pmax
comp=Z,82nm,1.6s
MFF Saint Martin d 78.96 33 eP P 10 23 18.2 -0.5
comp=Z,82nm,1.6s
SVE Sverdlovsk 79.31 355⇓ eP P 10 23 20.0 -0.4
SVE pmax pmax
comp=Z,28nm,1.4s
MEZF Maizieres J'vi 79.34 29 eP P 10 23 20.2 -0.5
comp=Z,157nm,1.8s
MEZF Maizieres J'vi 79.34 29 eP P 10 23 20.2 -0.5
comp=Z,157nm,1.8s
CLL Collm 79.44 23 eP P 10 23 21.0 -0.3
CLL e 10 23 28.0
CLL e 10 23 31.0
CLL pmax pmax
comp=Z,12nm,1.3s
CLL Collm 79.44 23 eP P 10 23 21.0 -0.3
comp=Z,12nm,1.3s
CLL e(pP) **pP 10 23 28.0 +0.8**
CLL e 10 23 31.0
CLL e(PPP) 10 28 00.0
CLL ePPPP 10 29 18.0
CLL eS **S 10 33 24.0 +2.7**
CLL LmV 10 58 00.0
comp=Z,100nm,21.7s
PAGF Fort de Pagny 79.53 29 eP P 10 23 21.5 -0.3
PAGF Fort de Pagny 79.53 29 eP P 10 23 21.5 -0.3
SFTF Sexfontaines 79.58 30 eP P 10 23 21.6 -0.5
SFTF Sexfontaines 79.58 30 eP P 10 23 21.6 -0.5
HHC Hu-ho-hao-te 79.78 318 eP P 10 23 22.8 -0.7
HHC pP **pP 10 23 27.8 -1.6**
HHC sP **sP 10 23 30.0 -1.6**
HHC PP **PP 10 26 25.5 +1.4**
HHC S **S 10 33 24.0 -1.5**
HHC SS **SS 10 38 34.3 +0.9**
HHC pmax pmax
comp=Z,62nm,1.0s
HHC pmax pmax
comp=Z,300nm,6.4s
HHC LR LR
comp=N,440nm,17.2s
HHC LR LR
comp=E,470nm,16.2s
HHC LR LR
comp=Z,490nm,17.3s
ARU Arti 79.82 356 d iP P 10 23 22.1 -1.1
ARU S **S 10 33 24.9 -0.2**
ARU pmax pmax
comp=Z,12nm,1.2s
LOR Lormes 79.94 31 eP P 10 23 23.7 -0.4
comp=Z,59nm,1.4s
LOR eR
comp=Z,276nm,20.0s
LOR Lormes 79.94 31 eP P 10 23 23.7 -0.4
comp=Z,59nm,1.4s
SSF Saint Saulge 79.99 31 eP P 10 23 23.8 -0.5
comp=Z,79nm,1.5s
SSF Saint Saulge 79.99 31 eP P 10 23 23.8 -0.5
SSF pmax pmax
comp=Z,79nm,1.5s
SSF Saint Saulge 79.99 31 eP P 10 23 23.8 -0.5
comp=Z,79nm,1.5s
BRG Berggiesshubel 80.10 23 i P P 10 23 24.7 -0.2
comp=Z,18nm,1.6s
BRG e 10 23 31.8
comp=Z,27nm,1.5s
BRG
comp=Z,414nm,16.8s
BRG
comp=N,333nm,14.3s
BRG
comp=E,281nm,14.3s
BRG Berggiesshubel 80.10 23 i P P 10 23 24.7 -0.2
BRG e 10 23 31.8
BRG pmax pmax
comp=Z,18nm,1.6s
BRG MLR MLR
comp=Z,414nm,16.8s
BRG MLR MLR
comp=N,333nm,14.3s
BRG MLR MLR
comp=E,281nm,14.3s
TCF Toulx Ste Croi 80.14 32 eP P 10 23 24.5 -0.7
comp=E,37nm,1.2s
TCF Toulx Ste Croi 80.14 32 eP P 10 23 24.5 -0.7
TCF pmax pmax
comp=Z,37nm,1.2s
TCF Toulx Ste Croi 80.14 32 eP P 10 23 24.5 -0.7
comp=Z,37nm,1.2s
AVF Avril sur Loir 80.16 31 eP P 10 23 24.7 -0.5
comp=Z,42nm,1.3s
AVF Avril sur Loir 80.16 31 eP P 10 23 24.7 -0.5
AVF pmax pmax
comp=Z,42nm,1.3s
AVF Avril sur Loir 80.16 31 eP P 10 23 24.7 -0.5
comp=Z,42nm,1.3s
BGF Bois d'Agland 80.16 32 eP P 10 23 24.5 -0.8
comp=Z,100nm,1.6s
BGF Bois d'Agland 80.16 32 eP P 10 23 24.5 -0.8
BGF pmax pmax
comp=Z,100nm,1.6s
BGF Bois d'Agland 80.16 32 eP P 10 23 24.5 -0.8
comp=Z,100nm,1.6s
CDF Champ du Feu 80.19 28 eP P 10 23 25.0 -0.5
comp=Z,43nm,1.3s
CDF Champ du Feu 80.19 28 eP P 10 23 25.0 -0.5
CDF pmax pmax
comp=Z,43nm,1.3s
CDF Champ du Feu 80.19 28 eP P 10 23 25.0 -0.5
comp=Z,43nm,1.3s
NKC Novy Kostel 80.24 24 eP P 10 23 32.8 +7.1
NKC Novy Kostel 80.24 24 epP P 10 23 32.8 +7.1
GRF Grafenberg Arr 80.35 25 eP P 10 23 26.5 +0.3
comp=Z,33nm,1.6s
GRF Grafenberg Arr 80.35 25 eP P 10 23 26.5 +0.3
GRF pmax pmax
comp=Z,33nm,1.6s
SMF Signal de Mont 80.46 31 eP P 10 23 25.9 -1.0
comp=Z,54nm,1.4s
SMF Signal de Mont 80.46 31 eP P 10 23 25.9 -1.0
SMF pmax pmax
comp=Z,55nm,1.4s
SMF Signal de Mont 80.46 31 eP P 10 23 25.9 -1.0
comp=Z,54nm,1.4s
OBN Obninsk 80.51 9 P **P 10 23 27.0 +0.1**
OBN *PP pP 10 23 28.0 -4.9
OBN e 10 23 33.1
OBN pmax pmax
comp=Z,39nm,1.7s
HINF Hinterlafeld 80.55 29 eP P 10 23 26.7 -0.7
comp=Z,61nm,1.5s
HINF Hinterlafeld 80.55 29 eP P 10 23 26.7 -0.7
HINF pmax pmax
comp=Z,61nm,1.5s
HINF Hinterlafeld 80.55 29 eP P 10 23 26.7 -0.7
comp=Z,61nm,1.5s
PVCC Panska Ves 80.59 23 eP P 10 23 31.3 +3.8
PVCC Panska Ves 80.59 23 eP P 10 23 31.3 +3.8
LFF La Frestale 80.68 34 eP P 10 23 27.5 -0.6
LFF La Frestale 80.68 34 eP P 10 23 27.5 -0.6
LFF La Frestale 80.68 34 eP P 10 23 27.5 -0.6
RJF Les Rejaudoux 80.69 33 eP P 10 23 27.2 -0.9
comp=Z,45nm,1.3s
RJF eR
comp=Z,215nm,19.8s
RJF Les Rejaudoux 80.69 33 eP P 10 23 27.2 -0.9
RJF pmax pmax
comp=Z,45nm,1.3s
RJF Les Rejaudoux 80.69 33 eP P 10 23 27.2 -0.9
comp=Z,45nm,1.3s
KSP Ksiaz 80.78 22 eP P 10 23 28.4 -0.1
PRA Prague 80.96 23 P **P 10 23 30.0 +0.5**
PRU Pruhonice 81.06 23 eP P 10 23 29.7 -0.3
PRU e 10 23 36.7
PRU Pruhonice 81.06 23 eP P 10 23 29.7 -0.3
PRU epP **pP 10 23 36.7 +0.7**
CAF Calviac 81.22 33 eP P 10 23 30.1 -0.9
comp=Z,27nm,1.2s
CAF Calviac 81.22 33 eP P 10 23 30.1 -0.9
CAF pmax pmax
comp=Z,27nm,1.2s
CAF Calviac 81.22 33 eP P 10 23 30.1 -0.9
comp=Z,27nm,1.2s
DPC Dobruska-Polom 81.23 22 eP P 10 23 30.8 -0.2
DPC e 10 23 38.1
DPC Dobruska-Polom 81.23 22 eP P 10 23 30.8 -0.2
DPC epP **pP 10 23 38.1 +1.2**
CABF La Chapelle 81.31 30 eP P 10 23 31.3 -0.3
comp=Z,59nm,1.5s
CABF La Chapelle 81.31 30 eP P 10 23 31.3 -0.3
CABF pmax pmax
comp=Z,59nm,1.5s
CABF La Chapelle 81.31 30 eP P 10 23 31.3 -0.3
comp=Z,59nm,1.5s
SJPF Ste Jean 81.36 36 eP P 10 23 30.6 -1.2
comp=Z,35nm,1.2s
SJPF Ste Jean 81.36 36 eP P 10 23 30.6 -1.2
SJPF pmax pmax
comp=Z,35nm,1.2s
SJPF Ste Jean 81.36 36 eP P 10 23 30.6 -1.2
comp=Z,35nm,1.2s
LPAZ La Paz 81.38 122 eP P 10 23 33.2 +0.4
comp=Z,9.5nm,1.3s
LPAZ La Paz 81.38 122 P P 10 23 27.1 -5.7
comp=Z,0.5nm,0.7s,baz=328,slow=19,SNR=2.2
KHC Kasperske Hory 81.56 24 eP P 10 23 33.0 +0.3
KHC e 10 23 39.5
KHC Kasperske Hory 81.56 24 eP P 10 23 33.0 +0.3
KHC epP **pP 10 23 39.5 +0.8**
GERES GERESS Array B 81.85 24 P **P 10 23 32.2 -2.1**
GERES GERESS Array B 81.85 24 P **P 10 23 32.2 -2.1**
comp=Z,0.6nm,0.8s,baz=328,slow=3.6,SNR=2.0
BRVK Borovoye 82.03 349⇓ iP P 10 23 34.8 -0.3
BRVK pmax pmax
comp=Z,21nm,2.5s
BRVK Borovoye 82.03 349 eP P 10 23 34.7 -0.4
comp=Z,13nm,0.9s
BVAR Borovoye Array 82.05 349 P **P 10 23 34.4 -0.8**
BVAR Borovoye Array 82.05 349 P **P 10 23 34.4 -0.8**
BVAR Borovoye Array 82.05 349 P **P 10 23 34.4 -0.8**
comp=Z,2.9nm,1.0s,baz=29,slow=3.3,SNR=8.4
BVAR LR LR 11 05 15.3
comp=Z,132nm,18.7s,baz=240,slow=39
VRAC Vranov 82.25 22 P **P 10 23 34.5 -1.9**
VRAC Vranov 82.25 22 P **P 10 23 34.5 -1.9**
comp=Z,1.4nm,0.7s,baz=304,slow=12,SNR=3.5
VRAC LR LR 10 58 37.0
comp=Z,119nm,21.9s,baz=336,slow=35
NJ2 Nanjing 82.57 308 eP P 10 23 42.5 +4.2
NJ2 pP pP 10 23 48.3 +4.1
NJ2 sP sP 10 23 52.0 +5.7
NJ2 S **SKSac 10 33 58.3 -0.3**
NJ2 sS **ScS 10 34 10.0 +0.3**
NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 pmax pmax
comp=Z,80nm,4.5s
NJ2 LR LR
comp=Z,1μm,19.8s
KURK Kurchatov 82.81 343 P **P 10 23 39.0 -0.2**
KURK Kurchatov 82.81 343 P **P 10 23 39.0 -0.2**
ESDC Sonseca Array 82.92 40 P **P 10 23 38.3 -1.8**
ESDC Sonseca Array 82.92 40 P **P 10 23 38.3 -1.8**
comp=Z,1.0nm,0.7s,baz=331,slow=5.0,SNR=4.7
KURBB Kurchatov Arra 82.92 343 P **P 10 23 39.0 -0.8**
comp=Z,3.7nm,0.9s,baz=17,slow=4.7,SNR=16
VYHS Vyhne 83.59 21 eP P 10 23 43.1 -0.2
VYHS pmax pmax
comp=Z,10.0nm,1.7s
VYHS Vyhne 83.59 21 eP P 10 23 43.1 -0.2
AKASG Malin Array Be 83.78 14 P **P 10 23 42.6 -1.6**
AKASG Malin Array Be 83.78 14 P **P 10 23 42.6 -1.6**
AKASG Malin Array Be 83.78 14 P **P 10 23 42.6 -1.6**
comp=Z,1.9nm,0.7s,baz=336,slow=4.3,SNR=5.2
AKASG LR LR 11 01 47.4
comp=Z,84nm,18.4s,baz=250,slow=36
CRVS Cervenica-Dubn 83.87 19 eP P 10 23 44.7 -0.1
CRVS pmax pmax
comp=Z,16nm,1.7s
CRVS Cervenica-Dubn 83.87 19 eP P 10 23 44.7 -0.1
KECS Kecovo 84.03 20 eP P 10 23 45.3 -0.2
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 84.03 20 eP P 10 23 45.3 -0.2
KOLS Kolonicke sedl 84.04 19 eP P 10 23 45.8 +0.2
KOLS pmax pmax
comp=Z,94nm,3.2s
KOLS Kolonicke sedl 84.04 19 eP P 10 23 45.8 +0.2
UZH Uzhgorod 84.32 19 eP P 10 23 43.0 -4.0
PSZ Piszkesteto 84.40 21 eP P 10 23 47.9 +0.4
PSZ pmax pmax
comp=Z,15nm,1.1s
PSZ Piszkesteto 84.40 21 eP P 10 23 47.9 +0.4
comp=Z,15nm,1.1s
MKAR Makanchi Array 85.63 339 P **P 10 23 51.8 -1.9**
MKAR 10 27 12.4
MKAR Makanchi Array 85.63 339 P **P 10 23 51.8 -1.9**
MKAR PP **PP 10 27 12.3 +0.7**
MKAR Makanchi Array 85.63 339 P **P 10 23 51.8 -1.9**
comp=Z,1.1nm,0.9s,baz=18,slow=4.9,SNR=4.3
MKAR PP **PP 10 27 12.3 +0.7**
comp=Z,0.2nm,0.3s,baz=133,slow=30,SNR=4.2
MKAR LR LR 11 04 31.0
comp=Z,365nm,19.8s,baz=17,slow=37
AKTO Aktyubinsk 85.84 356 P **P 10 23 53.2 -1.4**
AKTO Aktyubinsk 85.84 356 P **P 10 23 53.2 -1.4**
AKTO Aktyubinsk 85.84 356 P **P 10 23 53.2 -1.4**
comp=Z,0.7nm,0.3s,baz=33,slow=5.4,SNR=3.8
WHN Wuhan 86.24 310 ⇓P **P 10 23 59.5 +2.6**
GTA Gaotai 86.26 325 eP P 10 24 03.0 +6.0
GTA pP pP 10 24 07.8 +4.8
GTA sP sP 10 24 10.0 +4.9
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,98nm,5.7s
GTA LR LR
comp=N,310nm,18.8s
GTA LR LR
comp=E,220nm,18.6s
GTA LR LR
comp=Z,440nm,21.6s
XAN Xi'an 86.41 315 P P 10 24 03.0 +5.2
XAN S **S 10 34 36.0 +3.1**
XAN pmax pmax
comp=Z,6.0nm,1.8s
XAN pmax pmax
comp=Z,29nm,4.9s
XAN LR LR
comp=N,120nm,23.5s
XAN LR LR
comp=E,56nm,24.5s
XAN LR LR
comp=Z,71nm,22.5s
WMQ Urumqi 86.83 335 eP P 10 24 03.3 +3.6
WMQ pmax pmax
comp=Z,17nm,1.8s
WMQ LR LR
comp=N,150nm,22.0s
WMQ LR LR
comp=E,140nm,22.0s
WMQ LR LR
comp=Z,180nm,18.0s
ABKAR Abkulak array 86.89 354 eP P 10 23 59.5 -0.2
comp=Z,17nm,1.3s
LZH Lanzhou 87.23 320 eP P 10 24 01.5 -0.4
LZH pP **PcP 10 24 04.0 0.0**
LZH SKS S 10 34 24.0 -17
LZH eS **SKKSac 10 34 36.0 -1.7**
LZH SS **SS 10 40 22.5 -1.2**
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,190nm,5.5s
LZH LR LR
comp=N,270nm,18.0s
LZH LR LR
comp=E,500nm,19.4s
LZH LR LR
comp=Z,430nm,19.9s
DZM Mont Dzumac 88.58 237 LR LR 10 58 48.2
comp=Z,362nm,18.6s,baz=235,slow=32
TKM2 Tokmak 2 90.87 343 eP P 10 24 18.5 -0.5
TKM2 pmax pmax
comp=Z,15nm,1.1s
TKM2 Tokmak 2 90.87 343 eP P 10 24 18.4 -0.5
comp=Z,15nm,1.1s
AAK Ala-Archa 91.38 343 eP P 10 24 20.8 -0.5
AAK pmax pmax
comp=Z,7.0nm,1.0s
CD2 Chengdu 91.51 317 eP P 10 24 23.5 +1.6
CD2 pP **pP 10 24 28.5 +0.6**
CD2 sP **sP 10 24 30.8 +0.7**
CD2 PP **PP 10 28 03.5 +4.3**
CD2 SKS **SKSac 10 34 54.3 +0.5**
CD2 S **S 10 35 19.8 -1.1**
CD2 sS **ScS 10 35 27.3 +3.5**
CD2 SS **SS 10 41 28.0 +2.3**
CD2 pmax pmax
comp=Z,20nm,1.4s
CD2 pmax pmax
comp=Z,120nm,6.8s
CD2 LR LR
comp=N,180nm,21.4s
CD2 LR LR
comp=Z,190nm,20.2s
PMG Port Moresby 92.38 259 LR LR 10 57 25.3
comp=Z,388nm,21.0s,baz=248,slow=30
GYA Guiyang 93.62 312 eP P 10 24 32.0 +0.1
GYA PP **PP 10 28 19.3 +3.3**
GYA SKS S 10 35 04.8 -35
GYA S **ScS 10 35 37.0 -4.6**
GYA SS **SS 10 41 57.0 +0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=N,540nm,20.4s
GYA LR LR
comp=E,560nm,21.1s
GYA LR LR
comp=Z,680nm,23.0s
BDFB Brasilia 94.05 108 LR LR 11 11 00.7
comp=Z,483nm,19.1s,baz=295,slow=38
KMI Kunming 96.76 315 P **P 10 24 47.3 +1.0**
KMI S **S 10 36 07.0 -0.6**
KMI SS **SS 10 42 45.3 +4.1**
KMI LR LR
comp=Z,230nm,29.3s
QIZ Qiongzhong 97.71 306 P **P 10 24 49.5 -0.9**
QIZ S **S 10 36 17.3 +1.9**
QIZ LR LR
comp=Z,100nm,38.2s
WRA Warramunga Arr 108.58 260 PP PP 10 30 10.0 0.0
WRA Warramunga Arr 108.58 260 PP PP 10 30 10.0 0.0
comp=Z,2.2nm,1.3s,baz=52,slow=5.9,SNR=4.6
VNDA Vanda 128.33 195 PKP **PKPdf 10 30 18.1 -2.1**
VNDA ePKPdf **PKiKP 10 30 20.7 -0.2**
VNDA Vanda 128.33 195 PKP **PKPdf 10 30 18.1 -2.1**
comp=Z,1.4nm,1.1s,baz=13,slow=3.9,SNR=4.1
VNA2 Neumayer--Watz 140.88 154 ePKiKP **PKiKP 10 30 47.0 +0.5**
SNAA Sanae 142.12 155 ePKiKP **PKPdf 10 30 46.8 +0.7**

CASC 29 10:14:41.8±1.3, 13°.05N×90°.93W, h0km±93km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.40**	**3**	eP	Pn	10 15 07.8	-1.0
JAT	**Jato**	**1.44**	**332**	eP	Pn	10 15 08.7	-0.4
SBLS	**San Blas**	**1.50**	**58**	eP	Pn	10 15 09.2	-1.0
RTR	**El Retiro**	**1.51**	**56**	eP	Pn	10 15 09.4	-0.9
RBDL	**Robledal**	**1.61**	**49**	eP	Pn	10 15 11.1	-0.6
NBG	**Las Nubes**	**1.63**	**20**	eP	Pn	10 15 12.3	+0.1
BOQS	**Boqueron**	**1.74**	**67**	eP	Pn	10 15 13.3	-0.3
LFRS	**El Faro**	**1.91**	**72**	eP	Pn	10 15 16.2	+0.5
MRL	**Marmol**	**2.34**	**31**	eP	Pn	10 15 22.7	+0.9

IDC 29 10:20:00.6±1.5, 43°.95N×128°.01W, h0km, mb3.6/5, mb1 3.5/9, mb1mx3.5/31, mbtmp3.4/9, ML3.6/3, Error ellipse: s-maj=43.5km s-min=15.6km az=41.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**4.48**	**118**	Pn	Pn	10 21 10.9	+1.0
	0.3nm,0.3s,baz=311,slow=14,SNR=6.5						
YBH				Sn	Sb	10 22 09.0	-6.0
	0.2nm,0.3s,baz=323,slow=19,SNR=3.0						
BBB	**Bella Bella**	**8.24**	**360**	Pn	Pn	10 22 01.5	+0.2
	0.1nm,0.3s,baz=153,slow=9.0,SNR=2.0						
NVAR	**Mina Array Bea**	**9.16**	**124**	Pn	Pn	10 22 15.7	+1.4
	0.0nm,0.3s,baz=293,slow=12,SNR=2.6						
PDAR	**Pinedale Array**	**13.48**	**89**	Pn	Pn	10 23 18.1	+4.6
	0.1nm,0.3s,baz=266,slow=8.9,SNR=2.7						
YKA	**Yellowknife Ar**	**20.16**	**18**	P	P	10 24 35.0	-1.2
	1.3nm,0.8s,baz=205,slow=11,SNR=2.8						
ILAR	**Eielson Array**	**23.40**	**340**	P	P	10 25 10.8	+0.1
	0.3nm,0.8s,baz=137,slow=14,SNR=4.0						
TXAR	**Lajitas Array**	**24.26**	**119**	P	P	10 25 22.7	+3.2
	0.6nm,1.0s,baz=312,slow=5.9,SNR=3.4						
SONM	**Sonqino Array**	**76.83**	**326**	P	P	10 31 54.0	-0.2
	1.5nm,0.9s,baz=54,slow=4.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**78.52**	**341**	P	P	10 32 03.4	+0.1
	0.4nm,0.5s,baz=24,slow=5.1,SNR=2.9						
BVAR	**Borovoye Array**	**82.11**	**349**	P	P	10 32 23.2	+0.4
	0.4nm,0.5s,baz=48,slow=6.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**83.02**	**343**	P	P	10 32 27.5	+0.1
	1.1nm,0.2s,baz=19,slow=4.5,SNR=4.6						

---

*IDC **29** 10:24:04.3±1.5, 43°.79N×128°.43W, h0km, mb3.8/6, mb1 3.9/12, mb1mx3.8/34, mbtmp3.8/12, ML3.2/7, MS3.6/9, Ms1 3.6/9, ms1mx3.3/59, Error ellipse: s-maj=34.1km s-min=12.9km az=50.0*

*BJI **29** 10:24:05.0, 44°.00N×128°.40W, h10km, mB5.3/5, mb4.9/6, Ms4.9/3, Ms7 4.4/3*

*ISCJB **29** 10:24:06.6±0.5, 44°.04N±0°.04×128°.34W±0°.06, h13km, mb4.4/13, MS3.6/8, Error ellipse: s-maj=6.3km s-min=4.6km az=150.4*

*NEIC **29** 10:24:08.0±0.8, 44°.02N×128°.38W, h10km, mb4.4/17, Error ellipse: s-maj=11.0km s-min=6.1km az=65.0*

*GCMT **29** 10:24:11.7±0.3, 43°.88N×128°.68W, h19km±1km, MW5.0, Moment Tensor Solution. s19,c22; s80,c119; Moment tensor: Scale 10^{16}Nm; M_{rr}~3.63±.25; $M_{\theta\theta}$0.58±.14; $M_{\phi\phi}$3.05±.15; $M_{r\theta}$0.04±.35; $M_{\theta\phi}$0.37±.07; $M_{\phi r}$~0.44±.26; Best double couple: $M_0$3.40000×10^{16} NP1:ϕ_s7.00000°, δ49.00000°, λ-92.00000°. NP2:ϕ_s190.00000°, δ41.00000°, λ-88.00000°. Principal axes: T 3.1300, Plg4.0000°, Azm98.0000°; N 0.5300, Plg1.0000°, Azm8.0000°; P -3.6600, Plg86.0000°, Azm257.0000°; Data Used: IU II IC G CN.*

ISC 29 10:24:07.0±0.6, 43°.92N±0°.07×128°.50W±0°.06, h13km, n274, σ1°.08/275, mb4.7/13, MS3.5/8, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.21**	**108**	Pn	**Pn**	**10 24 55.1**	**-2.1**
KMOR	**Kings Mountain**	**3.96**	**63**	P	**Pn**	**10 25 06.2**	**-1.3**
RVW	**Rose Valley**	**4.65**	**59**	P	**Pn**	**10 25 15.3**	**-1.5**
NLWA	**Neilton Lookou**	**4.75**	**41**	Pn	**Pn**	**10 25 18.9**	**+0.6**
NLWA				eSg	**Sg**	**10 26 38.2**	**-1.3**
YBH	**Yreka Blue Hor**	**4.79**	**115**	Pn	**Pn**	**10 25 16.8**	**-2.1**
YBH				Sn	**Sn**	**10 26 14.8**	**+0.6**
YBH	**Yreka Blue Hor**	**4.79**	**115**	Pn	**Pn**	**10 25 16.8**	**-2.1**
	0.3nm,0.3s,baz=290,slow=11,SNR=9.7						
YBH				Sn	**Sn**	**10 26 14.8**	**+0.6**
	0.3nm,0.3s,baz=97,slow=16,SNR=2.1						
LVP	**Lakeview Peak**	**4.83**	**61**	P	**Pn**	**10 25 17.8**	**-1.5**
FL2	**Flat Top 2**	**4.92**	**60**	P	**Pn**	**10 25 19.2**	**-1.4**
MTMW	**Mount Mitchell**	**4.93**	**63**	P	**Pn**	**10 25 19.8**	**-1.1**
BPO	**Bald Peter**	**4.95**	**79**	P	**Pn**	**10 25 19.5**	**-1.6**
HSR	**South Ridge**	**5.01**	**61**	P	Pn	10 25 18.7	-3.3
STD	**Studebaker Rid**	**5.01**	**60**	P	**Pn**	**10 25 21.0**	**-1.0**
TDL	**Tradedollar La**	**5.07**	**59**	P	**Pn**	**10 25 21.4**	**-1.3**
ASR	**Mount Adams--S**	**5.38**	**63**	P	**Pn**	**10 25 26.1**	**-0.9**
LON	**Longmire**	**5.50**	**57**	ePn	**Pn**	**10 25 27.0**	**-1.6**
	16nm,0.6s						
WPW	**White Pass**	**5.63**	**58**	P	**Pn**	**10 25 29.3**	**-1.2**
WVOR	**Wild Horse Val**	**7.36**	**98**	ePn	**Pn**	**10 25 52.6**	**-1.7**
	11nm,1.1s						
PAHR	**Pah Rah Range**	**8.00**	**119**	ePn	**Pn**	**10 26 05.5**	**+2.5**
	55nm,1.5s						
BBB	**Bella Bella**	**8.27**	**2**	Pn	**Pn**	**10 26 07.6**	**+1.1**
BBB	**Bella Bella**	**8.27**	**2**	Pn	**Pn**	**10 26 07.6**	**+1.1**
	0.3nm,0.3s,baz=173,slow=8.5,SNR=7.2						

CMB	Columbia Colle	8.50	131	ePn	Pn	10 26 10.9	+1.1
	106nm,1.9s						
WAKR	Walker	8.71	125	ePn	Pn	10 26 14.3	+1.4
	26nm,1.5s						
NVAR	Mina Array Bea	9.44	122	Pn	Pn	10 26 22.1	-0.8
NVAR	Mina Array Bea	9.44	122	Pn	Pn	10 26 22.1	-0.8
	0.0nm,0.3s,baz=299,slow=11,SNR=7.7						
HLID	Hailey	10.20	87	ePn	Pn	10 26 34.1	+0.8
	21nm,1.8s						
HLID	Hailey	10.20	87	P	Pn	10 26 32.9	-0.4
	baz=10,SNR=5.2						
ELK	Elko	10.32	103	ePn	Pn	10 26 36.5	+1.6
	15nm,1.6s						
VES	Vestal, Richgr	10.83	135	P	Pn	10 26 43.5	+1.8
	baz=11						
SLMT	Seeley Lake	11.03	67	ePn	Pn	10 26 43.2	-1.3
	6.5nm,1.1s						
CHMT	Chamberlain Mo	11.13	69	Pn	Pn	10 26 46.6	+0.7
	4.9nm,1.2s						
R11A	Troy Canyon, C	11.21	115	P	Pn	10 26 47.5	+0.4
	baz=11						
MCMT	McKenzie Canyo	11.24	80	ePn	Pn	10 26 46.6	-1.0
	8.9nm,1.7s						
ISA	Isabella	11.28	134	ePn	Pn	10 26 49.3	+1.3
	21nm,1.3s						
ISA	Isabella	11.28	134	P	Pn	10 26 49.4	+1.4
	baz=11						
DLMT	Dillon	11.43	77	Pn	Pn	10 26 52.1	+2.2
ARVC	Arvin	11.52	136	P	Pn	10 26 53.3	+2.1
	baz=12						
MPMC	Manual Prospec	11.52	129	P	Pn	10 26 52.6	+1.3
	baz=12						
FURC	Furnace Creek,	11.60	126	P	Pn	10 26 54.3	+2.2
	baz=12						
BGU	Big Grassy Mou	11.82	99	ePn	Pn	10 26 56.4	+1.0
	13nm,1.5s						
EDW2	Edwards Air Fo	12.14	135	P	Pn	10 27 00.5	+0.8
	baz=12						
DUG	Dugway	12.24	102	P	Pn	10 27 01.8	+0.7
	baz=12						
SHOC	Shoshone	12.33	126	P	Pn	10 27 03.9	+1.7
	baz=12						
H16A	Russell Place,	12.39	80	P	Pn	10 27 02.9	-0.3
	baz=12						
GSC	Goldstone	12.46	130	ePn	Pn	10 27 04.6	+0.6
	67nm,1.9s						
GSC	Goldstone	12.46	130	P	Pn	10 27 04.6	+0.6
	baz=12						
RRI2	Red Ridge	12.46	87	Pn	Pn	10 27 06.1	+1.8
	13nm,1.4s						
SHPR	Sheep Range	12.59	121	Pn	Pn	10 27 06.6	+0.6
	4.9nm,1.1s						
HWUT	Hardware Ranch	12.66	95	ePn	Pn	10 27 09.1	+2.2
	35µm,0.8s						
E17A	Martinsdale	12.70	72	P	Pn	10 27 06.7	-0.7
	baz=12						
TPAW	Teton Pass	12.71	86	Pn	Pn	10 27 09.7	+2.1
	7.9nm,1.3s						
FLWY	Flagg Ranch	12.82	83	ePn	Pn	10 27 09.6	+0.5
	52nm,1.8s						
TUQ	Turquoise Moun	12.86	127	P	Pn	10 27 11.2	+1.7
	baz=13,SNR=13						
HEC	Hector,Ludlow	13.07	130	P	Pn	10 27 13.5	+1.1
	baz=13,SNR=5.8						
DAU	Daniels Canyon	13.26	99	Pn	Pn	10 27 17.4	+2.1
	35nm,1.9s						
MVU	Marysvale	13.40	108	ePn	Pn	10 27 19.5	+2.5
	57nm,1.5s						
GMRC	Granite Mounta	13.48	128	P	Pn	10 27 20.9	+2.9
	baz=14						
I18A	Diamond G Ranc	13.50	84	P	Pn	10 27 18.0	-0.3
	baz=13						
B18A	Beardsley Farm	13.72	64	P	Pn	10 27 20.8	-0.4
	baz=14						
PDAR	Pinedale Array	13.84	88	Pn	Pn	10 27 23.8	+0.8
PDAR	Pinedale Array	13.84	88	Pn	Pn	10 27 23.8	+0.8
	0.0nm,0.3s,baz=277,slow=13,SNR=5.2						
PDAR				LR	LR	10 32 46.1	
	comp=Z,322nm,20.1s,baz=329,slow=38						
BELC	Belle Mtn. Jos	13.87	131	P	Pn	10 27 25.9	+2.5
	baz=14						
PFO	Pinyon Flat Ob	13.92	134	Pn	Pn	10 27 23.4	-0.7
PFO	Pinyon Flat Ob	13.92	134	Pn	Pn	10 27 23.4	-0.7
	0.2nm,0.3s,baz=299,slow=13,SNR=3.5						
PFO				LR	LR	10 32 08.6	
	comp=Z,229nm,18.7s,baz=316,slow=35						
Q16A	Castle Valley	13.93	105	ePn	P	10 27 34.8	+2.4
C19A	Slack Wire Ran	14.08	67	P	Pn	10 27 26.2	+0.1
	baz=14						
D19A	Cripps Ranch,	14.12	70	P	Pn	10 27 26.3	-0.4
	baz=14						
L19A	Farson	14.13	91	P	Pn	10 27 26.3	-0.6
	baz=14						
B19A	Brinkman Farms	14.28	65	P	Pn	10 27 27.8	-0.9
	baz=14						
SRU	San Rafael	14.29	103	eP	P	10 27 38.9	+2.5
	45nm,1.2s						
BC3	Big Chuckawall	14.43	131	P	Pn	10 27 33.1	+2.1
	baz=14						
U15A	North Rim	14.46	116	P	Pn	10 27 32.7	+1.2
	baz=14						
MONP	Monument Peak	14.51	135	P	Pn	10 27 32.6	+0.5
	baz=14						
DLBC	Dease Lake	14.57	357	Pn	Pn	10 27 35.3	+2.6
DLBC	Dease Lake	14.57	357	Pn	Pn	10 27 35.3	+2.6
	0.0nm,0.3s,baz=156,slow=20,SNR=1.8						
K20A	Yellowstone Ra	14.74	88	P	Pn	10 27 35.1	-0.2
	baz=15						
O19A	Miners Draw (B	14.83	97	P	Pn	10 27 36.9	+0.4
	baz=15						
L20A	Wamsutter	14.88	90	P	Pn	10 27 37.1	-0.1
	baz=15						
J21A	Lysite	15.26	85	P	Pn	10 27 41.9	-0.3
	baz=15						
N20A	Spence Gulch,	15.27	95	P	Pn	10 27 41.8	-0.6
	baz=15,SNR=6.9						
O20A	White River Ci	15.52	97	P	Pn	10 27 46.3	+0.7
	baz=15						
B21A	Ellsworth Farm	15.54	66	P	Pn	10 27 44.2	-1.4
	baz=15						
L21A	Rawlins	15.60	90	P	Pn	10 27 47.1	+0.4
	baz=16						
WUAZ	Wupatki	15.60	117	ePn	P	10 27 49.9	-1.0
	79nm,1.8s						
A21A	Bergtoll Ranch	15.69	64	P	Pn	10 27 47.1	-0.6
	baz=16						
M21A	Separation Pea	15.69	91	P	Pn	10 27 48.0	+0.1
	baz=16						
PV04	Paradox Valley	15.75	104	ePn	Pn	10 27 49.5	+0.9
N21A	Black Mountain	15.83	94	P	Pn	10 27 50.5	+0.8
	baz=16,SNR=6.7						
Q20A	Ridgley Place,	15.93	101	P	Pn	10 27 51.1	+0.1
	baz=16						
J22A	Midwest	15.94	84	P	Pn	10 27 51.2	+0.1
	baz=16						
O21A	Pagoda	16.04	96	P	Pn	10 27 52.5	0.0
	baz=16						
K22A	Casper	16.05	87	P	Pn	10 27 52.3	-0.2
	baz=16						
PV01	Paradox Valley	16.10	104	ePn	Pn	10 27 53.8	+0.6
	2µm,1.4s						
R20A	Redvale	16.21	104	P	Pn	10 27 54.9	+0.3
	baz=16						
X16A	Lo Mia Camp, P	16.25	120	P	Pn	10 27 55.4	+0.3
	baz=16,SNR=8.0						
L22A	Ellis Ranch, M	16.26	89	P	Pn	10 27 55.0	-0.2
	baz=16						
P21A	Newcastle	16.31	98	P	Pn	10 27 55.6	-0.3
	baz=16						
A22A	Carney Farms,	16.35	64	P	Pn	10 27 55.5	-0.6
	baz=16						
S20A	Disappointment	16.39	105	P	Pn	10 27 57.5	+0.6
	baz=16,SNR=8.1						
N22A	Wattenberg Ran	16.58	93	P	Pn	10 27 59.1	-0.3
	baz=16,SNR=6.7						
MVCO	Mesa Verde	16.59	107	ePn	Pn	10 28 00.2	+0.8
	103nm,1.9s						
MVCO	Mesa Verde	16.59	107	P	Pn	10 27 59.7	+0.2
	baz=16						
R21A	Cimarron	16.71	102	P	Pn	10 28 00.4	-0.6
	baz=17						
O22A	Kremmling	16.73	95	P	Pn	10 28 01.1	-0.1
	baz=17,SNR=7.5						
P22A	Eagle	16.78	97	P	Pn	10 28 02.6	+0.8
	baz=17						
SMCO	Snowmass	16.78	99	ePn	P	10 28 04.1	-0.2
	22nm,1.7s						
S21A	Coal Bank Pass	16.86	105	P	Pn	10 28 04.0	+1.0
	baz=17,SNR=12						
N23A	Red Feather La	16.92	92	P	Pn	10 28 03.2	-0.5
	baz=17						
F24A	Ekalaka	17.14	75	P	Pn	10 28 05.6	-0.6
	baz=17						
H24A	Dirks Ranch, A	17.14	79	P	Pn	10 28 06.0	-0.3
	baz=17						
C24A	Savage	17.17	69	P	Pn	10 28 05.4	-1.1
	baz=17						
R22A	Saguache, Gunn	17.33	102	P	Pn	10 28 09.2	+0.3
	baz=17,SNR=7.2						
V20A	Brimhall	17.36	111	P	Pn	10 28 09.0	-0.1
	baz=17,SNR=5.6						
DGMT	Dagmar	17.40	66	eP	P	10 28 12.4	+1.8
	3.8nm,0.9s						
S22A	4UR Ranch, Cre	17.50	103	P	Pn	10 28 10.9	-0.1
	baz=17,SNR=7.0						
P23A	Jefferson	17.52	97	P	Pn	10 28 10.6	-0.7
	baz=17						
ISCO	Idaho Springs	17.52	96	eP	Pn	10 28 11.8	+0.6
	71nm,1.9s						
ISCO	Idaho Springs	17.52	96	P	Pn	10 28 10.7	-0.6
	baz=17						
U21A	Nageezi	17.57	108	P	Pn	10 28 12.0	+0.2
	baz=18,SNR=16						
RSSD	Black Hills	17.59	81	eP	P	10 28 13.7	+0.8
	62nm,2.0s						
N24A	Carr	17.71	92	P	Pn	10 28 13.6	+0.2
	baz=18						
W20A	Ramah	17.72	113	P	Pn	10 28 14.7	+1.0
	baz=18						
T22A	Edith	17.80	105	P	Pn	10 28 15.4	+0.8
	baz=18,SNR=23						
O24A	Longmont	17.80	94	P	Pn	10 28 14.7	+0.2
	baz=18						
I25A	Rochford	17.82	81	P	P	10 28 15.6	+0.2
	baz=18						
H25A	Fruitdale	17.83	79	P	Pn	10 28 14.4	-0.4
	baz=18						
E25A	Miller Ranch,	17.85	73	P	Pn	10 28 14.8	-0.2
	baz=18						
R23A	Moffat	18.01	101	P	P	10 28 18.1	+0.4
	baz=18,SNR=5.6						
X20A	Quemado	18.07	114	P	P	10 28 20.1	+1.8
	baz=18,SNR=9.4						
TUC	Tucson	18.09	124	eP	P	10 28 19.4	+1.1
	34nm,1.8s						
S23A	Nye Farm, Mont	18.10	102	P	P	10 28 19.6	+0.9
	baz=18,SNR=7.1						
U22A	Llaves	18.15	107	P	P	10 28 20.1	+0.9
	baz=18,SNR=20						
V22A	San Miguel Ran	18.36	108	P	Pn	10 28 21.8	+0.3
	baz=18,SNR=8.7						
F26A	Lodgepole	18.38	75	P	P	10 28 21.6	+0.1
	baz=18						
T23A	Casias Ranch,	18.39	104	P	P	10 28 22.4	+0.5
	baz=18						
J26A	Sides Ranch, S	18.40	83	P	P	10 28 22.1	+0.4
	baz=18						
H26A	Fairpoint	18.42	79	P	Pn	10 28 21.7	-0.3
	baz=18,SNR=5.4						
I26A	New Underwood	18.44	81	P	Pn	10 28 22.1	-0.1
	baz=18						
SDCO	Great Sand Dun	18.44	102	eP	P	10 28 22.4	0.0
	63nm,1.7s						
G26A	Maurine	18.47	77	P	Pn	10 28 22.7	+0.1
	baz=18						
Y20A	Horse Springs,	18.54	116	P	Pn	10 28 25.2	+1.6
	baz=18						
X21A	Alamocita Cree	18.60	114	P	Pn	10 28 25.2	+0.8
	baz=18						
U23A	El Rito	18.63	106	P	Pn	10 28 25.8	+1.0
	baz=18,SNR=9.8						
P25A	Willow Gulch B	18.67	95	P	P	10 28 25.2	+0.3
	baz=18						
S24A	Houchin Ranch,	18.69	102	P	P	10 28 25.7	+0.5
	baz=19						
Q25A	Bedland, Calha	18.84	97	P	Pn	10 28 27.5	+0.2
	baz=19						
T24B	San Luis	18.84	103	P	Pn	10 28 27.7	+0.3
	baz=19						
Z20A	Nine Sixteen R	18.90	118	P	Pn	10 28 28.6	+0.6
	baz=19						
H27A	Howes	18.91	79	P	Pn	10 28 27.8	-0.1
	baz=19						
G27A	Dupree	18.93	76	P	Pn	10 28 27.9	-0.3
	baz=19						
Y21A	Point of Rocks	18.93	114	P	Pn	10 28 30.6	+2.1
	baz=19,SNR=7.5						
V23A	Ortiz Mt. (NFS	18.95	108	P	Pn	10 28 29.9	+1.4
	baz=19,SNR=14						
I27A	Quinn	19.01	80	P	Pn	10 28 29.0	-0.1
	baz=19						
O26A	Horse Wrangler	19.03	92	P	Pn	10 28 29.5	+0.1
	baz=19						
LAZ	Ladron	19.05	113	eP	Pn	10 28 30.7	+0.8
	8.0nm,1.2s						
J27A	Elkhorn Farm,	19.18	83	P	Pn	10 28 31.6	+0.3
	baz=19						
ANMO	Albuquerque	19.20	110	eP	Pn	10 28 32.6	+1.0
ANMO	Albuquerque	19.20	110	P	P	10 28 30.4	-0.2
	0.1nm,0.3s,baz=313,slow=12,SNR=4.3						
ANMO				LR	LR	10 36 00.7	
	comp=Z,252nm,21.1s,baz=356,slow=38						
S25A	Robets Cordova	19.23	101	P	Pn	10 28 32.5	+0.5
	baz=19						
P26A	Davis Ranch, A	19.24	94	P	Pn	10 28 32.7	+0.6
	baz=19						
120A	U Bar Ranch, L	19.25	119	P	Pn	10 28 32.9	+0.7
	baz=19						
W23A	Werner Place,	19.29	109	P	Pn	10 28 33.4	+0.7
	baz=19						
LENM	Lemitar	19.30	113	P	Pn	10 28 39.9	+7.0
	20nm,1.4s						
Q26A	Hugo	19.36	96	P	P	10 28 33.0	+0.6
	baz=19						
LPM	Los Pinos Moun	19.45	112	eP	Pn	10 28 35.1	+0.5
	26nm,1.7s						
Y22A	Sorrro	19.45	114	P	Pn	10 28 34.7	+0.2
	baz=19,SNR=6.5						
T25A	Trinidad	19.49	102	P	P	10 28 34.6	+0.8
	baz=19,SNR=11						
BNM	Barren Site	19.54	113	eP	Pn	10 28 36.1	+0.3
	36nm,1.7s						
V24A	Rampart Ranch,	19.58	107	P	Pn	10 28 36.4	+0.1
	baz=20,SNR=17						
H28A	Mission Ridge	19.65	78	P	P	10 28 36.0	+0.6
	baz=20						
R26A	Arlington	19.66	98	P	P	10 28 36.4	+0.7
	baz=20						
E28A	Huff	19.72	73	P	P	10 28 36.5	+0.4
	baz=20						
220A	Playas Peak, P	19.75	121	P	P	10 28 38.0	+1.3
	baz=20						
W24A	Lazy 6 Ranch,	19.77	108	P	Pn	10 28 39.0	+0.5
	baz=20,SNR=15						
121A	Cookes Peak, D	19.80	118	P	Pn	10 28 38.9	+0.2
	baz=20,SNR=6.9						
U25A	Circle Dot Ran	19.84	104	P	Pn	10 28 39.5	+0.2
	baz=20,SNR=18						
Z22A	Elephant Butte	19.86	115	P	P	10 28 38.9	+0.9
	baz=20						
B28A	Dugan Ranch, T	19.95	67	P	P	10 28 39.0	+0.5
	baz=20						
A28A	Rude Farm, Bot	20.03	66	P	P	10 28 39.5	-0.1
	baz=20						
T26A	Comanche Natio	20.05	101	P	Pn	10 28 41.4	-0.5
	baz=20,SNR=15						
Y23A	Lovelace Mesa,	20.05	112	P	Pn	10 28 41.8	-0.1
	baz=20,SNR=7.5						
R27A	Eads	20.13	97	P	P	10 28 41.0	+0.3
	baz=20,SNR=7.8						
320A	Kipp Ranch, An	20.14	122	P	P	10 28 41.3	+0.4
	baz=20						
221A	Mesquite Ranch	20.15	119	P	P	10 28 42.4	+1.4
	baz=20						
O28A	Krutsinger Ran	20.18	92	P	P	10 28 41.7	+0.4
	baz=20						
122A	Conniff Cattle	20.19	116	P	P	10 28 42.5	+1.0
	baz=20						
FFC	Flin Flon	20.26	48	eP	P	10 28 42.0	+0.1
	92nm,1.4s						
YKA	Yellowknife Ar	20.30	19	P	P	10 28 42.2	0.0
YKA	Yellowknife Ar	20.30	19	P	P	10 28 42.2	0.0
	5.0nm,0.9s,baz=206,slow=11,SNR=7.5						
U26A	Atchley Ranch,	20.31	103	P	P	10 28 43.5	+0.7
	baz=20,SNR=14						
S27A	Las Animas	20.32	99	P	P	10 28 43.8	+1.0
	baz=20						
Z23A	Rita Site, Whi	20.34	114	P	P	10 28 44.4	+1.3
	baz=20						
W25A	X Bar L Ranch,	20.41	107	P	P	10 28 45.4	+1.5
	baz=20,SNR=11						
KDAK	Kodiak Island	20.43	321	LR	LR	10 34 24.4	
	comp=Z,426nm,20.7s,baz=117,slow=30						
Y24A	Capitan	20.47	111	P	P	10 28 45.3	+0.7
	baz=20						
V26A	Tequesquite Ra	20.58	105	P	P	10 28 47.1	+1.4
	baz=20,SNR=28						
X25A	Clemmons Ranch	20.65	109	P	P	10 28 48.0	+1.5
	baz=21,SNR=14						
T27A	Campo	20.72	100	P	P	10 28 48.5	+1.4
	baz=21,SNR=11						
R28A	Tribune	20.82	96	P	P	10 28 48.7	+0.5
	baz=21,SNR=5.5						
Z24A	Sheeppen Canyo	20.88	113	P	P	10 28 50.3	+1.3
	baz=21,SNR=8.5						
U27A	Thompson Grove	20.95	102	P	P	10 28 49.8	+0.1
	baz=21,SNR=8.2						
W26A	Owens Ranch, T	20.96	106	P	P	10 28 51.2	+1.3
	baz=21,SNR=9.6						
P29A	Atwood	20.97	92	P	P	10 28 50.3	+0.5
	baz=21						
Y25A	Mesa, Roswell	20.98	110	P	P	10 28 50.9	+0.9
	baz=21						
MENT	Mentasta	20.99	340	eP	Pn	10 28 54.8	+2.3
DAWY	Dawson	21.11	347	eP	P	10 28 55.6	+4.4
T28A	Walsh	21.12	100	P	P	10 28 52.6	+1.1
	baz=21,SNR=15						
BRSD	Miller	21.15	78	eP	P	10 28 52.7	+1.1
124A	Stringfield Ra	21.20	114	P	P	10 28 52.8	+0.3
	baz=21						
X26A	CR and CF Fran	21.23	108	P	P	10 28 53.5	+0.9
	baz=21,SNR=5.6						
R29A	Marienthal	21.27	96	P	P	10 28 53.8	+0.8
	baz=21,SNR=6.2						
A30A	Hoffart Farm,	21.33	66	P	P	10 28 53.8	+0.2
	baz=21,SNR=5.3						
Z25A	Roswell	21.34	112	P	P	10 28 54.8	+1.0
	baz=21						
U28A	Mallet	21.39	102	P	P	10 28 54.7	+0.3
	baz=21,SNR=6.0						
O30A	MW Ranch, Wils	21.40	90	P	P	10 28 54.6	+0.2
	baz=21						
W27A	Bowe Ranch, En	21.47	106	P	P	10 28 56.1	+0.9
	baz=21						
224A	Cornudas Mount	21.55	116	P	P	10 28 56.3	+0.1
	baz=22,SNR=5.4						
S29A	Ulysses	21.61	98	P	P	10 28 57.4	+0.6
	baz=22						
125A	Gardner Draw,	21.75	113	P	P	10 28 59.8	+1.5
	baz=22,SNR=7.7						
Z26A	Caprock	21.84	111	P	P	10 29 00.6	+1.3
	baz=22,SNR=9.4						
MNTX	Cornudas Mount	21.88	116	eP	P	10 29 01.9	+2.3
	9.4nm,1.4s						
R30A	Dighton	21.94	95	P	P	10 29 00.4	+0.2
	baz=22						
225A	Deer Hill, Car	21.99	114	P	P	10 29 02.3	+1.4
	baz=22						
Y27A	Causey	22.04	108	P	P	10 29 01.3	-0.2
	baz=22						
MSTX	Muleshoe	22.26	108	eP	P	10 29 06.0	+2.3
MSTX	Muleshoe	22.26	108	P	P	10 29 04.8	+1.1
	baz=22						
Z27A	Tatum	22.33	110	P	P	10 29 05.5	+0.9
	baz=22,SNR=12						
226B	Tecolote Peak,	22.44	114	P	P	10 29 06.6	+0.9
	baz=22						
R31A	Burdett	22.48	94	P	P	10 29 06.5	+0.5
	baz=22						
Y28A	McKinney Farm,	22.66	107	P	P	10 29 08.4	+0.4
	baz=23,SNR=10						
425A	Indio Mountain	22.74	117	P	P	10 29 09.8	+0.9
	baz=23						
X29A	Tulia	22.74	105	P	P	10 29 08.7	-0.1
	baz=23						
T31A	Randall Ranch,	22.88	97	P	P	10 29 10.0	-0.2
	baz=23						
ULM	Lac du Bonnet	22.97	62	P	P	10 29 11.3	+0.3
ULM	Lac du Bonnet	22.97	62	P	P	10 29 11.3	+0.3
	4.2nm,0.8s,baz=285,slow=11,SNR=3.9						
ULM				LR	LR	10 38 07.5	
	comp=Z,111nm,18.6s,baz=314,slow=37						
326A	Caldwell Ranch	23.05	115	P	P	10 29 13.9	+1.9
	baz=23						
ILAR	Eielson Array	23.30	340	P	P	10 29 13.9	-0.4
ILAR	Eielson Array	23.30	340	P	P	10 29 13.9	-0.4
	0.7nm,0.8s,baz=156,slow=9.0,SNR=7.7						
ILAR				LR	LR	10 37 25.6	
	comp=Z,124nm,19.3s,baz=131,slow=34						
X30A	Coker Ranch, T	23.32	105	P	P	10 29 14.3	-0.5
	baz=23						
PPLA	Purkeypile	23.43	332	eP	P	10 29 17.0	+1.3
	90nm,1.7s						
W31A	Holland Ranch,	23.59	102	P	P	10 29 17.4	0.0
	baz=24						
427A	Hayter Ranch,	23.72	115	P	P	10 29 19.9	+1.1
	baz=24						
X31A	McDonald Ranch	23.85	103	P	P	10 29 20.4	+0.5
	baz=24						
Y31A	Rekieta Farm,	24.01	105	P	P	10 29 21.8	+0.3
	baz=24						
527A	Woodward Ranch	24.05	117	P	P	10 29 22.4	+0.5
	baz=24						
626A	Big Bend Ranch	24.11	118	P	P	10 29 22.6	+0.1
	baz=24,SNR=5.5						
428A	Kincaid Ranch,	24.27	114	P	P	10 29 24.3	+0.3
	baz=24,SNR=5.3						
Z31A	Sharp Cattle R	24.44	106	P	P	10 29 25.8	+0.3
	baz=24						
TXAR	Lajitas Array	24.56	118	P	P	10 29 25.6	-1.0
TXAR	Lajitas Array	24.56	118	P	P	10 29 25.6	-1.0
	3.9nm,1.2s,baz=308,slow=6.2,SNR=11						
TXAR				LR	LR	10 40 32.3	
	comp=Z,116nm,18.4s,baz=330,slow=40						
528A	Cox Ranch, San	24.57	115	P	P	10 29 27.8	+1.1
	baz=24,SNR=7.2						
230A	Sterling City	24.61	110	P	P	10 29 27.3	+0.3
	baz=24						
WMOK	Wichita Mounta	24.64	102	eP	P	10 29 27.7	+0.5
	30nm,1.1s						
LPIG	La Paz	24.76	137	LR	LR	10 37 34.3	
	comp=Z,120nm,20.3s,baz=102,slow=33						
330A	Mertzon	24.86	111	P	P	10 29 29.6	+0.4
	baz=25						
429A	Davenport Ranc	24.86	113	P	P	10 29 29.9	+0.6
	baz=25,SNR=6.1						
Z32A	Haskell	24.91	105	P	P	10 29 30.1	+0.4
	baz=25,SNR=5.9						
628A	Black Gap, Mar	24.95	117	P	P	10 29 30.4	+0.2
	baz=25						
529A	Stev Forest Ra	24.97	115	P	P	10 29 30.7	+0.5
	baz=25,SNR=7.5						
430A	Baggett Ranch,	25.20	112	P	P	10 29 32.5	+0.2
	baz=25						
331A	San Angelo	25.42	110	P	P	10 29 34.5	+0.2
	baz=25						
530A	J-C Ranch, Com	25.54	113	P	P	10 29 35.6	+0.3
	baz=26						
431A	Sonora	25.68	112	P	P	10 29 36.4	-0.3
	baz=26						
531A	Rocksprings	26.05	112	P	P	10 29 40.2	+0.1
	baz=26						
532A	Rocksprings	26.50	112	P	P	10 29 45.1	+0.9
	baz=26						
MIAR	Mount Ida	28.45	97	P	P	10 30 05.8	+4.3
	20nm,1.4s						
RES	Resolute Bay	34.27	15	P	P	10 30 53.0	+0.7
RES	Resolute Bay	34.27	15	P	P	10 30 53.0	+0.7
	3.8nm,0.8s,baz=218,slow=6.3,SNR=4.9			

SONM	**Songino Array**	**76.65 325**	P	**P**	**10 35 57.5**	**0.0**
SONM	**Songino Array**	**76.65 325**	P	**P**	**10 35 57.5**	**0.0**
	comp=Z,1.9nm,0.9s,baz=62,slow=4.2,SNR=8.9					
BJI	**Beijing**	**78.13 315**	P	**P**	**10 36 05.8**	**+0.1**
BJI			pmax	pmax		
	comp=Z,13nm,0.6s					
HHC	**Hu-ho-hao-te**	**79.81 318**	*e*P	**P**	**10 36 13.8**	**-1.3**
HHC			pP	**pP**	**10 36 18.5**	**-0.9**
HHC			sP	**sP**	**10 36 20.8**	**-0.1**
HHC			PP	**PP**	**10 39 16.0**	**+0.3**
HHC			S	**S**	**10 46 14.8**	**-3.0**
HHC			SS	**SS**	**10 51 25.0**	**-0.7**
HHC			pmax	pmax		
	comp=Z,38nm,0.9s					
HHC			pmax	pmax		
	comp=Z,220nm,5.5s					
HHC			LR	LR		
	comp=N,190nm,18.6s					
HHC			LR	LR		
	comp=E,190nm,16.9s					
HHC			LR	LR		
	comp=Z,170nm,17.7s					
CD2	**Chengdu**	**91.54 317**	*e*P	**P**	**10 37 14.5**	**+1.0**
CD2			pmax	pmax		
	comp=Z,10.0nm,1.2s					

CASC ***29*** *10:42:34.7±1.2, 14°.15N×94°.90W, h35km±999km, MD4.5, ML4.2*

IDC ***29*** *10:42:43.2±0.5, 14°.58N×93°.69W, h0km, mb4.8/27, mb1 4.9/30, mb1mx4.9/34, mbtmp4.8/30, ML4.6/3, MS4.6/27, Ms1 4.6/27, ms1mx4.5/33, Error ellipse: s-maj=19.7km s-min=11.2km az=59.0*

NEIC ***29*** *10:42:44.0±0.2, 14°.58N×93°.61W, h4km, mb5.4/115, MW5.4, Error ellipse: s-maj=5.0km s-min=2.9km az=222.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}1.11; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-0.67; $M_{r\theta}$0.94; $M_{r\phi}$0.52; $M_{\theta\phi}$~1.00; Best double couple: $M_0$1.80000×10^{17} NP1: ϕ_s138.00000°, δ71.00000°, λ88.00000°. NP2: ϕ_s324.00000°, δ19.00000°, λ96.00000°. Principal axes: T 1.7700, Plg64.0000°, Azm44.0000°; N -0.0300, Plg2.0000°, Azm138.0000°; P -1.7400, Plg25.0000°, Azm229.0000°;*

NEIC Felt at Villahermosa.

MOS ***29*** *10:42:44.3±0.9, 14°.74N×93°.65W, h33km, mb5.5/76, MS4.9/7 Error ellipse: s-maj=7.4km s-min=4.3km az=94.2*

MEX ***29*** *10:42:45.9±2.8, 14°.41N×94°.13W, h16km±35km, MD5.3*

ISCJB ***29*** *10:42:48.0±1.0, 14°.78N±0°.03×93°.71W±0°.03, h32km±6km, mb5.1/205, MS4.7/39, Error ellipse: s-maj=6.1km s-min=3.1km az=36.3*

GCMT ***29*** *10:42:48.7±0.2, 14°.61N×94°.03W, h12km, MW5.2, Moment Tensor Solution. s72,c112; s95,c168; Moment tensor: Scale 10^{16}Nm; M_{rr}6.13±.11; $M_{\theta\theta}$-4.06±.10; $M_{\phi\phi}$-2.06±.12; $M_{r\theta}$4.99±.30; $M_{r\phi}$2.74±.09; $M_{\theta\phi}$~4.47±.31; Best double couple: $M_0$9.00000×10^{16} NP1: ϕ_s130.00000°, δ69.00000°, λ94.00000°. NP2: ϕ_s300.00000°, δ21.00000°, λ81.00000°. Principal axes: T 9.1300, Plg66.0000°, Azm46.0000°; N -0.1900, Plg3.0000°, Azm309.0000°; P -8.9300, Plg24.0000°, Azm217.0000°; Data Used: IU II IC G CN.*

BJI ***29*** *10:42:49.5, 14°.70N×93°.60W, h45km, mB5.3/7, Ms5.2/8, Ms7 4.9/8*

SZGRF ***29*** *10:42:50.7, 14°.86N×93°.64W, h33km, mb5.4, MS4.9, Near coast of Chiapas, Mexico*

ISC 29 10:42:50.3±0.6, 14°.73N±0°.04×93°.80W±0°.04, h47km±4km, n959, σ1$42/1017, mb5.2/211, MS4.8/39, 19C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.50**	**83**	*i* P	**Pn**	**10 43 13.2**	**-1.4**
THIG				*i* S	**Sn**	**10 43 36.1**	**+3.0**
JAT	**Jato**	**2.13**	**101⇑**	*e*P	**Pn**	**10 43 23.1**	**-0.4**
CCIG	**Comitan**	**2.23**	**46**	*e*P	**Pn**	**10 43 26.6**	**+1.7**
CCIG				*i* S	**Sn**	**10 43 55.9**	**+4.6**
HUIG	**Huatulco**	**2.46**	**295**	*e*P	Pn	10 43 20.8	-7.0
HUIG				*i* S	Sn	10 43 47.4	-9.3
CMIG	**Matias Romero**	**2.57**	**336**	*e*P	**Pn**	**10 43 27.6**	**-1.8**
CMIG				*i* S	**Sn**	**10 43 58.6**	**-0.9**
CMIG	**Matias Romero**	**2.57**	**336**	Pn	**Pn**	**10 43 27.6**	**-1.8**
CMIG				Sn	**Sn**	**10 43 58.9**	**-0.6**
CMIG	**Matias Romero**	**2.57**	**336**	Pn	**Pn**	**10 43 27.6**	**-1.8**
	47nm,0.3s,baz=156,slow=11,SNR=676						
CMIG				Sn	**Sn**	**10 43 58.9**	**-0.6**
	144nm,0.3s,baz=141,slow=17,SNR=12						
FUG	**Fuego 3**	**2.88**	**95**	*e*P	**Pn**	**10 43 33.2**	**-0.6**
PCG	**Pacaya**	**3.11**	**96**	*e*P	**Pn**	**10 43 36.8**	**-0.3**
TUIG	**Tuzandepetl**	**3.34**	**350**	*e*P	**Pn**	**10 43 39.4**	**-0.6**
TUIG				*i* S	**Sn**	**10 44 19.2**	**+0.7**
NBG	**Las Nubes**	**3.35**	**92**	*e*P	**Pn**	**10 43 41.3**	**+1.0**
VHO	**Vista Hermosa**	**3.66**	**310**	*e*P	**Pn**	**10 43 42.7**	**-1.9**
VHO				*i* S	**Sn**	**10 44 24.0**	**-2.6**
MRL	**Marmol**	**3.99**	**85**	*e*P	**Pn**	**10 43 50.0**	**+1.0**
RTR	**El Retiro**	**4.11**	**101**	*e*P	**Pn**	**10 43 49.8**	**-1.0**
SBLS	**San Blas**	**4.14**	**102**	*e*P	**Pn**	**10 43 49.9**	**-1.4**
SNJE	**San Jose**	**4.16**	**101**	*e*P	**Pn**	**10 43 49.6**	**-1.8**
PNIG	**Pinotepa**	**4.49**	**292**	*e*P	Pn	10 43 49.3	-6.5
PNIG				*i* S	Sn	10 44 38.0	-8.7
BOQS	**Boqueron**	**4.49**	**102**	*e*P	**Pn**	**10 43 54.3**	**-1.7**
SNET	**Serv Nac Est T**	**4.55**	**103**	*e*P	**Pn**	**10 43 54.6**	**-2.1**
SNET				*e*S	Sn	10 44 58.0	+10
SNET				AML	AML	10 45 19.6	
	comp=Z,440nm,0.8s						
LFRS	**El Faro**	**4.73**	**103**	*e*P	**Pn**	**10 43 57.9**	**-1.3**
SCIG	**Sabancuy**	**4.90**	**30**	*e*P	**Pn**	**10 44 01.5**	**0.0**
SCIG				*e*S	Sn	10 45 03.4	+6.5
PPM	**Popocatepetl**	**6.32**	**314**	*i* P	Pn	10 44 16.6	-4.8
PPM				*i* S	**Sn**	**10 45 29.0**	**-3.5**
MEIG	**Mezcala**	**6.43**	**300**	*i* P	Pn	10 44 17.4	-5.1
PLIG	**Platanillo**	**6.57**	**304**	*i* P	Pn	10 44 18.9	-5.5
PLIG				*i* S	Sn	10 45 31.3	-6.8
CAIG	**El Cayaco**	**6.64**	**291**	*i* P	Pn	10 44 19.0	-6.3
DEIG	**Demacu**	**7.46**	**319**	*i* P	**Pn**	**10 44 34.3**	**-2.5**
TEIG	**Tepich**	**7.59**	**43**	*e*Pn	**Pn**	**10 44 36.9**	**-1.5**
TEIG				*e*Sn	**Sn**	**10 46 01.9**	**-1.3**
TEIG				Sn	Sn	10 46 02.9	-0.3
TEIG	**Tepich**	**7.59**	**43**	Pn	**Pn**	**10 44 36.7**	**-1.6**
	comp=Z,40nm,0.3s,baz=249,slow=8.7,SNR=125						
TEIG				Sn	**Sn**	**10 46 02.9**	**-0.3**
	comp=Z,17nm,0.3s,baz=49,slow=23,SNR=3.2						
TEIG				LR	LR	10 47 59.7	
	comp=Z,13μm,20.1s,baz=202,slow=42						
ZIIG	**Zihuatanejo**	**7.90**	**292**	*i* P	Pn	10 44 38.7	-3.9
JTS	**JuntasAbangare**	**9.70**	**116**	*e*Pn	**Pn**	**10 45 06.1**	**-1.2**
ZAIG	**Zacatecas**	**11.52**	**315**	*i* P	**Pn**	**10 45 32.9**	**+0.4**
MAIG	**Mazatlaan**	**14.60**	**307**	*i* P	**Pn**	**10 46 13.3**	**-0.7**
732A	**Laxson Ranch,**	**15.06**	**339**	P	**Pn**	**10 46 20.3**	**+0.2**
	baz=15,SNR=16						
HKT	**Hockley**	**15.27**	**353**	*e*P	**Pn**	**10 46 21.1**	**-1.5**
HKT				pmax	pmax		
	comp=Z,223nm,1.8s						
HKT	**Hockley**	**15.27**	**353**	*e*Pn	**Pn**	**10 46 21.1**	**-1.5**
	comp=Z,223nm,1.8s						
631A	**Perdido Creek**	**15.90**	**338**	P	**Pn**	**10 46 30.5**	**-0.4**
	baz=16,SNR=24						
MTDJ	**Mount Denham**	**15.98**	**75**	*e*Pn	**Pn**	**10 46 32.5**	**+0.4**
	comp=Z,194nm,1.4s						
532A	**Rocksprings**	**16.33**	**341**	P	**Pn**	**10 46 36.6**	**+0.3**
	baz=17,SNR=66						
531A	**Rocksprings**	**16.57**	**339**	P	**Pn**	**10 46 39.5**	**+0.1**
	baz=17						
JCT	**Junction City**	**16.62**	**342**	*e*P	**Pn**	**10 46 39.7**	**-0.4**
JCT				*e*S	**S**	**10 49 54.1**	**+0.9**
JCT				pmax	pmax		
	comp=Z,163nm,1.2s						
JCT	**Junction City**	**16.62**	**342**	*e*Pn	**Pn**	**10 46 39.7**	**-0.4**
	comp=Z,163nm,1.2s						
JCT				*e*S	**S**	**10 49 54.1**	**+0.9**
JCT	**Junction City**	**16.62**	**342**	P	**Pn**	**10 46 40.4**	**+0.3**
	baz=17,SNR=40						
530A	**J-C Ranch, Com**	**16.84**	**337**	P	**Pn**	**10 46 43.6**	**+0.7**
	baz=17,SNR=54						
628A	**Black Gap, Mar**	**16.92**	**332**	P	**P**	**10 46 44.8**	**-0.4**
	baz=17,SNR=74						
NATX	**Nacogdoches**	**16.97**	**357**	*e*Pn	**Pn**	**10 46 44.4**	**0.0**
	comp=Z,407nm,1.7s						
432A	**Menard**	**16.99**	**342**	P	**P**	**10 46 45.3**	**-0.6**
	baz=17,SNR=42						
431A	**Sonora**	**17.07**	**340**	P	**P**	**10 46 46.3**	**-0.6**
	baz=17,SNR=64						
627A	**Terlingua Ranc**	**17.12**	**330**	P	**P**	**10 46 47.8**	**+0.2**
	baz=17,SNR=99						
TXAR	**Lajitas Array**	**17.16**	**330**	P	**P**	**10 46 47.5**	**-0.5**
TXAR				PcP	**PcP**	**10 51 28.5**	**-0.7**
TXAR	**Lajitas Array**	**17.16**	**330**	P	**P**	**10 46 47.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=153,slow=11,SNR=40						
TXAR				PcP	**PcP**	**10 51 28.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=161,slow=5.0,SNR=3.6						
TXAR				LR	LR	10 53 47.8	
	comp=Z,1μm,18.6s,baz=290,slow=38						
TX31	**Lajitas Ar. Si**	**17.16**	**330**	*e*Pn	**Pn**	**10 46 46.8**	**0.0**
529A	**Stev Forest Ra**	**17.17**	**335**	P	**Pn**	**10 46 47.2**	**+0.3**
	baz=17,SNR=35						
BRAL	**Brewton**	**17.35**	**20**	*e*Pn	**P**	**10 46 50.3**	**+0.4**
	comp=Z,284nm,1.1s						
430A	**Baggett Ranch,**	**17.38**	**338**	P	**P**	**10 46 50.8**	**+0.4**
	baz=18,SNR=72						
528A	**Cox Ranch, San**	**17.45**	**333**	P	**P**	**10 46 51.4**	**+0.2**
	baz=18,SNR=70						
429A	**Davenport Ranc**	**17.48**	**336**	P	**P**	**10 46 51.7**	**+0.2**
	baz=18,SNR=91						
WHTX	**Lake Whitney**	**17.51**	**350**	*e*Pn	**Pn**	**10 46 51.2**	**+0.2**
WHTX	**Lake Whitney**	**17.51**	**350**	P	**Pn**	**10 46 51.2**	**+0.2**
	baz=18,SNR=14						
626A	**Big Bend Ranch**	**17.57**	**329**	P	**P**	**10 46 53.2**	**+0.7**
	baz=18,SNR=69						
331A	**San Angelo**	**17.59**	**341**	P	**P**	**10 46 52.5**	**-0.1**
	baz=18,SNR=75						
VBMS	**Vicksburg**	**17.67**	**9⇑**	*e*Pn	**Pn**	**10 46 51.2**	**-1.7**
	comp=Z,156nm,1.0s						
527A	**Woodward Ranch**	**17.81**	**331**	P	**P**	**10 46 56.3**	**+1.2**
	baz=18,SNR=112						
428A	**Kincaid Ranch,**	**17.89**	**334**	P	**P**	**10 46 57.2**	**+1.2**
	baz=18,SNR=104						
330A	**Mertzon**	**17.92**	**339**	P	**P**	**10 46 57.1**	**+0.8**
	baz=18,SNR=51						
LPIG	**La Paz**	**18.13**	**303**	LR	LR	10 54 27.2	
	comp=Z,3μm,18.6s,baz=120,slow=38						
231A	**Bronte**	**18.13**	**342**	P	**Pn**	**10 46 59.2**	**+0.5**
	baz=18,SNR=50						
329A	**Wagon Wheel Ra**	**18.29**	**337**	P	**Pn**	**10 47 01.5**	**+0.9**
	baz=19,SNR=28						
427A	**Hayter Ranch,**	**18.31**	**333**	P	**Pn**	**10 47 02.3**	**+1.4**
	baz=19,SNR=26						
230A	**Sterling City**	**18.34**	**340**	P	**Pn**	**10 47 01.8**	**+0.5**
	baz=19,SNR=51						
426A	**McDonald Obser**	**18.44**	**331**	P	**Pn**	**10 47 04.1**	**+1.4**
	baz=19,SNR=64						
328A	**Wristen Ranch,**	**18.52**	**335**	P	**Pn**	**10 47 04.3**	**+0.9**
	baz=19,SNR=43						
ABTX	**Abilene, Hawle**	**18.59**	**344⇑**	*e*Pn	**Pn**	**10 47 04.1**	**-0.2**
ABTX				*e*S	S	10 50 42.2	+8.9
ABTX	**Abilene, Hawle**	**18.59**	**344**	P	**Pn**	**10 47 04.9**	**+0.6**
	baz=19,SNR=54						
229A	**Bryant Ranch,**	**18.66**	**338**	P	**Pn**	**10 47 06.2**	**+1.1**
	baz=19,SNR=24						
131A	**Roby**	**18.85**	**343**	P	**Pn**	**10 47 07.4**	**+0.1**
	baz=19,SNR=51						
130A	**Snyder**	**18.95**	**341**	P	**Pn**	**10 47 08.7**	**+0.1**
	baz=19,SNR=22						
326A	**Caldwell Ranch**	**18.96**	**332**	P	**Pn**	**10 47 09.5**	**+0.7**
	baz=19,SNR=33						
425A	**Indio Mountain**	**19.00**	**329**	P	**Pn**	**10 47 09.9**	**+0.6**
	baz=19,SNR=44						
228A	**UT Block 9, Go**	**19.08**	**337**	P	**Pn**	**10 47 10.3**	**+0.1**
	baz=19,SNR=44						
TIGA	**Tifton**	**19.08**	**28**	*e*P	**P**	**10 47 07.1**	**-1.8**
TIGA				*e*S	**S**	**10 50 38.0**	**-5.0**
TIGA	**Tifton**	**19.08**	**28**	P	**P**	**10 47 08.5**	**-0.5**
	baz=19						
Z32A	**Haskell**	**19.20**	**345**	P	**Pn**	**10 47 11.4**	**-0.1**
	baz=20,SNR=55						
LRAL	**Lakeview Retre**	**19.25**	**18**	*e*P	**P**	**10 47 10.0**	**-0.7**
	comp=Z,62nm,0.9s						
LRAL				*e*S	**S**	**10 50 39.7**	**-6.6**
227A	**Bennet, Jal**	**19.27**	**335**	P	**Pn**	**10 47 12.9**	**+0.5**
	baz=20,SNR=36						
Z31A	**Sharp Cattle R**	**19.38**	**344**	P	**Pn**	**10 47 13.1**	**-0.6**
	baz=20,SNR=55						
128A	**Castleberry Fa**	**19.49**	**338**	P	**Pn**	**10 47 15.0**	**-0.1**
	baz=20,SNR=56						
226B	**Tecolote Peak,**	**19.69**	**333**	P	**Pn**	**10 47 17.6**	**+0.1**
	baz=20,SNR=40						
CLNB	**Carlsbad**	**19.73**	**334**	*e*P	**Pn**	**10 47 17.8**	**-0.1**
	comp=Z,19nm,1.1s						
MIAR	**Mount Ida**	**19.73**	**1**	*e*P	**P**	**10 47 15.7**	**-0.3**
MIAR				*e*S	**S**	**10 50 49.5**	**-6.5**
MIAR				pmax	pmax		
	comp=Z,83nm,0.8s						
MIAR	**Mount Ida**	**19.73**	**1**	*e*P	**P**	**10 47 15.7**	**-0.3**
	comp=Z,83nm,0.8s						
MIAR				*e*S	**S**	**10 50 49.5**	**-6.5**
324A	**Moseley Ranch,**	**19.78**	**329**	P	**Pn**	**10 47 17.9**	**-0.7**
	baz=20,SNR=28						
Z29A	**Hungry Hill Ra**	**19.80**	**340**	P	**P**	**10 47 17.5**	**+0.6**
	baz=20,SNR=95						
GDL2	**Guadalupe Moun**	**19.89**	**333**	*e*P	**Pn**	**10 47 19.3**	**-0.5**
	comp=Z,36nm,1.0s						
MNTX	**Cornudas Mount**	**19.94**	**330⇑**	*i*P	**P**	**10 47 19.0**	**+0.6**
	comp=Z,36nm,0.9s						
UALR	**University of**	**20.00**	**4**	*e*P	**P**	**10 47 19.0**	**0.0**
	comp=Z,432nm,1.9s						
225A	**Deer Hill, Car**	**20.02**	**332**	P	Pn	10 47 20.8	-0.7
	baz=20,SNR=33						
Y31A	**Rekieta Farm,**	**20.02**	**344**	P	**P**	**10 47 20.1**	**+0.9**
	baz=20,SNR=66						
Z28A	**Tucker Farm, M**	**20.06**	**339**	P	Pn	10 47 20.8	-1.0
	baz=20,SNR=28						
OXF	**Oxford**	**20.09**	**11**	*e*P	**P**	**10 47 20.1**	**+0.1**
OXF				pmax	pmax		
	comp=Z,199nm,1.0s						
OXF	**Oxford**	**20.09**	**11**	*e*P	**P**	**10 47 20.1**	**+0.1**
	comp=Z,199nm,1.0s						
Y30A	**Stafford Catl**	**20.12**	**343**	P	**P**	**10 47 21.3**	**+0.9**
	baz=20,SNR=48						
126A	**Clayton Basin,**	**20.12**	**334**	P	Pn	10 47 21.6	-1.0
	baz=20,SNR=28						
224A	**Cornudas Mount**	**20.32**	**330**	P	**P**	**10 47 23.7**	**+1.1**
	baz=21,SNR=65						
Y29A	**Porterfield Fa**	**20.34**	**341**	P	Pn	10 47 24.2	-1.0
	baz=21,SNR=46						
Z27A	**Tatum**	**20.38**	**337**	P	Pn	10 47 24.5	-1.2
	baz=21,SNR=343						
125A	**Gardner Draw,**	**20.41**	**333**	P	**P**	**10 47 24.6**	**+1.1**
	baz=21,SNR=75						
WMOK	**Wichita Mounta**	**20.42**	**348⇑**	*e*P	**P**	**10 47 23.4**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,61nm,1.1s						
WMOK	**Wichita Mounta**	**20.42**	**348⇑**	*e*P	**P**	**10 47 23.4**	**-0.2**
	comp=Z,61nm,1.1s						
Y28A	**McKinney Farm,**	**20.57**	**340**	P	**P**	**10 47 26.2**	**+0.9**
	baz=21,SNR=252						
X31A	**McDonald Ranch**	**20.59**	**345**	P	**P**	**10 47 26.3**	**+0.9**
	baz=21,SNR=83						
X30A	**Coker Ranch, T**	**20.65**	**343**	P	**P**	**10 47 26.9**	**+0.9**
	baz=21,SNR=108						
Z26A	**Caprock**	**20.65**	**335**	P	**P**	**10 47 27.1**	**+1.0**
	baz=21,SNR=115						
124A	**Stringfield Ra**	**20.80**	**331**	P	**P**	**10 47 29.2**	**+1.3**
	baz=21						
MSTX	**Muleshoe**	**20.81**	**339**	*e*P	**P**	**10 47 28.0**	**+0.2**
MSTX	**Muleshoe**	**20.81**	**339**	P	**P**	**10 47 28.4**	**+0.5**
	baz=21,SNR=98						
Y27A	**Causey**	**20.87**	**338**	P	**P**	**10 47 29.1**	**+0.6**
	baz=21,SNR=179						
X29A	**Tulia**	**20.89**	**341**	P	**P**	**10 47 29.4**	**+0.8**
	baz=21,SNR=104						
OTAV	**Otavalo**	**20.92**	**132**	*e*P	**P**	**10 47 29.7**	**+0.1**
	comp=Z,30nm,1.1s						
HBAR	**Harrisburg**	**20.93**	**7**	*e*P	**P**	**10 47 28.6**	**-0.3**
HBAR				*e*S	Sn	10 51 24.7	-2.8
Z25A	**Roswell**	**20.96**	**334**	P	**P**	**10 47 30.6**	**+1.1**
	baz=21,SNR=62						
W31A	**Holland Ranch,**	**21.11**	**346**	P	**P**	**10 47 31.6**	**+0.6**
	baz=21,SNR=35						
123A	**Bell Site, Whi**	**21.13**	**330**	P	**P**	**10 47 32.9**	**+1.6**
	baz=21,SNR=22						
222A	**Williams Famil**	**21.13**	**327**	P	**P**	**10 47 32.8**	**+1.4**
	baz=21,SNR=44						
Y26A	**Elida**	**21.16**	**336**	P	**P**	**10 47 32.8**	**+1.1**
	baz=21,SNR=24						
TUL1	**Tulsa**	**21.17**	**356**	*e*P	**P**	**10 47 31.9**	**+0.3**
TUL1	**Tulsa**	**21.17**	**356**	P	**P**	**10 47 32.2**	**+0.7**
	baz=21,SNR=10						
Z24A	**Sheeppen Canyo**	**21.29**	**332**	P	**P**	**10 47 35.0**	**+1.9**
	baz=22,SNR=112						
320A	**Kipp Ranch, An**	**21.34**	**323**	P	**P**	**10 47 35.9**	**+2.3**
	baz=22,SNR=62						
GNAR	**Gosnell**	**21.42**	**8**	*e*P	**P**	**10 47 35.1**	**+0.9**
	comp=Z,2μm,1.2s						
221A	**Mesquite Ranch**	**21.42**	**326**	P	**P**	**10 47 37.0**	**+2.5**
	baz=22,SNR=17						
HALT	**Halls**	**21.47**	**10**	*e*P	**P**	**10 47 36.0**	**+1.2**
W29A	**Amraillo**	**21.50**	**342**	P	**P**	**10 47 36.0**	**+0.7**
	baz=22,SNR=77						
Y25A	**Mesa, Roswell**	**21.50**	**335**	P	**P**	**10 47 37.0**	**+1.6**
	baz=22,SNR=96						
ROSC	**El Rosal**	**21.53**	**115**	*e*P	**P**	**10 47 38.3**	**+2.3**
ROSC	**El Rosal**	**21.53**	**115**	P	**P**	**10 47 36.5**	**+0.5**
	comp=Z,59nm,0.9s,baz=98,slow=20,SNR=40						
X27A	**F and S Farms,**	**21.53**	**339**	P	**P**	**10 47 36.3**	**+0.7**
	baz=22,SNR=78						
122A	**Conniff Cattle**	**21.55**	**328**	P	**P**	**10 47 37.8**	**+2.0**
	baz=22						
Z23A	**Rita Site, Whi**	**21.63**	**331**	P	**P**	**10 47 38.6**	**+1.9**
	baz=22						
V31A	**Spring Creek L**	**21.65**	**347**	P	**P**	**10 47 37.4**	**+0.7**
	baz=22,SNR=41						
X26A	**CR and CF Fran**	**21.71**	**337**	P	**P**	**10 47 39.0**	**+1.4**
	baz=22,SNR=30						
220A	**Playas Peak, P**	**21.76**	**324**	P	**P**	**10 47 40.1**	**+2.0**
	baz=22,SNR=58						
W28A	**Vega**	**21.80**	**341**	P	**P**	**10 47 39.2**	**+0.8**
	baz=22,SNR=25						
319A	**Douglas**	**21.81**	**322**	P	**P**	**10 47 40.2**	**+1.7**
	baz=22,SNR=21						
Y24A	**Capitan**	**21.82**	**333**	P	**P**	**10 47 40.5**	**+1.7**
	baz=22,SNR=122						
121A	**Cookes Peak, D**	**21.83**	**327**	P	**P**	**10 47 41.7**	**+2.8**
	baz=22,SNR=111						
GLAT	**Glass**	**21.83**	**10**	P	**P**	**10 47 38.3**	**-0.3**
GLAT				*e*		10 51 36.1	
V30A	**Spur Ranch, Mi**	**21.84**	**345**	P	**P**	**10 47 40.1**	**+1.3**
	baz=22,SNR=12						
W27A	**Bowe Ranch, En**	**21.90**	**339**	P	**P**	**10 47 40.0**	**+0.5**
	baz=22,SNR=70						
SDDR	**Presa de Saban**	**21.95**	**76**	*e*P	**P**	**10 47 39.5**	**-0.7**
	comp=Z,61nm,1.0s						
WVT	**Waverly**	**21.97**	**13**	*e*P	**P**	**10 47 38.7**	**-1.5**
WVT				pmax	pmax		
	comp=Z,66nm,1.2s						
WVT	**Waverly**	**21.97**	**13**	*e*P	**P**	**10 47 38.7**	**-1.5**
	comp=Z,66nm,1.2s						
Z22A	**Elephant Butte**	**21.98**	**329**	P	**P**	**10 47 42.5**	**+2.1**
	baz=22,SNR=62						
X25A	**Clemmons Ranch**	**22.02**	**335**	P	**P**	**10 47 41.9**	**+1.0**
	baz=22,SNR=54						
Y23A	**Lovelace Mesa,**	**22.10**	**332**	P	**P**	**10 47 43.6**	**+1.7**
	baz=22,SNR=91						
PARMO	**Parma**	**22.14**	**9**	*e*P	**P**	**10 47 42.2**	**+0.2**
V29A	**Stinnett**	**22.16**	**343**	P	**P**	**10 47 43.7**	**+1.4**
	baz=22,SNR=12						
W26A	**Owens Ranch, T**	**22.17**	**338**	P	**P**	**10 47 43.6**	**+1.1**
	baz=22,SNR=16						
U31A	**Nine Bar Ranch**	**22.22**	**347**	P	**P**	**10 47 43.5**	**+0.6**
	baz=22,SNR=11						
CPCT	**Cooper Cave**	**22.25**	**20**	*e*P	**P**	**10 47 43.1**	**-0.2**
V28A	**Channing**	**22.26**	**342**	P	**P**	**10 47 44.0**	**+0.7**
	baz=22,SNR=56						
120A	**U Bar Ranch, L**	**22.30**	**325**	P	**P**	**10 47 45.9**	**+2.0**
	baz=23,SNR=47						
X24A	**Lazy VL Ranch,**	**22.37**	**334**	P	**P**	**10 47 46.0**	**+1.3**
	baz=23,SNR=26						
V27A	**Dan Oppiter Fa**	**22.45**	**340**	P	**P**	**10 47 46.6**	**+1.1**
	baz=23,SNR=30						
Y22A	**Socorro**	**22.53**	**330**	P	**P**	**10 47 48.2**	**+1.7**
	baz=23,SNR=72						
W25A	**X Bar L Ranch,**	**22.54**	**337**	P	**P**	**10 47 47.8**	**+1.3**
	baz=23,SNR=81						
BNM	**Barren Site**	**22.55**	**331**	*e*P	**P**	**10 47 48.3**	**+1.7**
U30A	**WK&E Inc. Balk**	**22.56**	**345**	P	**P**	**10 47 47.8**	**+1.3**
	baz=23,SNR=31						
Y22D	**IRIS PASSCAL I**	**22.62**	**331**	P	**P**	**10 47 49.3**	**+2.0**
	baz=23						
U29A	**Oasis Ranch, S**	**22.64**	**344**	P	**P**	**10 47 48.4**	**+0.9**
	baz=23						
LPM	**Los Pinos Moun**	**22.68**	**332**	*e*P	**P**	**10 47 49.7**	**+1.7**
	comp=Z,46nm,1.2s						
TKL	**Tuckaleechee C**	**22.70**	**22**	*e*P	**P**	**10 47 48.5**	**+0.5**
TKL	**Tuckaleechee C**	**22.70**	**22**	P	**P**	**10 47 47.8**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=180,slow=15,SNR=5.0						
TKL				LR	LR	10 58 47.3	
	comp=Z,2μm,18.1s,baz=200,slow=42						
Z20A	**Nine Sixteen R**	**22.71**	**326**	P	**P**	**10 47 50.3**	**+2.1**
	baz=23,SNR=37						
LENM	**Lemitar**	**22.72**	**331**	*e*P	**P**	**10 47 50.2**	**+1.7**
	comp=Z,40nm,1.0s						
V26A	**Tequesquite Ra**	**22.81**	**339**	P	**P**	**10 47 49.8**	**+0.5**
	baz=23,SNR=38						
U28A	**Mallet**	**22.84**	**342**	P	**P**	**10 47 50.2**	**+0.7**
	baz=23,S

baz=24,SNR=12
T26A Comanche Natio 24.00 340 P P 10 48 02.0 +1.2
baz=24,SNR=27
R31A Burdett 24.01 349 P P 10 48 01.3 +0.6
baz=24,SNR=27
SLM Saint Louis 24.02 7 eP P 10 47 59.8 -0.9
SLM pmax pmax
comp=Z,133nm,1.6s
SLM Saint Louis 24.02 7 eP P 10 47 59.8 -0.9
comp=Z,133nm,1.6s
V22A San Miguel Ran 24.15 333 P P 10 48 03.7 +1.4
baz=24,SNR=37
R30A Dighton 24.15 347 P P 10 48 02.9 +0.8
baz=24,SNR=63
U23A El Rito 24.20 335 P P 10 48 04.7 +2.0
baz=24,SNR=47
W20A Ramah 24.24 330 P P 10 48 05.3 +2.2
baz=24,SNR=47
T25A Trinidad 24.24 339 P P 10 48 05.4 +2.4
baz=24,SNR=48
S27A Las Animas 24.25 342 P P 10 48 04.0 +1.0
baz=24,SNR=25
WCI Wyandotte Cave 24.33 14 eP P 10 48 03.2 -0.4
WCI pmax pmax
comp=Z,62nm,0.8s
WCI Wyandotte Cave 24.33 14 eP P 10 48 03.2 -0.4
comp=Z,62nm,0.8s
WCI epP pP 10 48 17.2 +1.3
S26A Kim 24.36 341 P P 10 48 05.6 +1.5
baz=25,SNR=27
V21A Milan 24.38 332 P P 10 48 06.6 +2.2
baz=25,SNR=12
214A Organ Pipe Nat 24.40 318 P P 10 48 05.8 +1.5
baz=25,SNR=23
KSU1 Kansas State U 24.41 355 eP P 10 48 03.6 -0.6
comp=Z,65nm,0.9s
OLIL Olney 24.44 11 eP P 10 48 03.6 -0.9
comp=Z,66nm,0.8s
R29A Marienthal 24.48 346 P P 10 48 06.3 +1.2
baz=25,SNR=62
U22A Llaves 24.52 334 P P 10 48 07.7 +2.1
baz=25,SNR=27
X18A Snowflake 24.52 326 P P 10 48 08.2 +2.6
baz=25,SNR=21
T24B San Luis 24.52 337 P P 10 48 08.4 +2.7
baz=25,SNR=16
R28A Tribune 24.57 345 P P 10 48 06.9 +1.0
baz=25,SNR=20
Q31A Ellis 24.68 350 P P 10 48 07.3 +0.4
baz=25,SNR=14
S25A Robets Cordova 24.71 339 P P 10 48 09.3 +1.9
baz=25,SNR=37
T23A Casias Ranch, 24.75 336 P P 10 48 09.6 +1.8
baz=25,SNR=12
V20A Brimhall 24.76 331 P P 10 48 09.9 +2.1
baz=25,SNR=25
R27A Eads 24.78 343 P P 10 48 09.8 +2.0
baz=25,SNR=22
Q30A Quinter 24.81 348 P P 10 48 09.3 +1.2
baz=25
W18A Petrified Fore 24.85 328 eP P 10 48 10.3 +1.7
W18A Petrified Fore 24.85 328 P P 10 48 11.0 +2.4
baz=25
U21A Nageezi 24.91 333 P P 10 48 11.2 +2.1
baz=25,SNR=27
S24A Houchin Ranch, 24.97 338 P P 10 48 11.8 +2.0
baz=25,SNR=17
R26A Arlington 24.98 342 P P 10 48 12.1 +2.4
baz=25,SNR=24
T22A Edith 25.08 335 P P 10 48 13.1 +2.3
baz=25,SNR=27
R25A Fountain Ranch 25.11 340 P P 10 48 12.8 +2.0
baz=25,SNR=40
SDCO Great Sand Dun 25.17 338 eP P 10 48 13.3 +1.8
SDCO ePcP PcP 10 51 45.9 +1.3
comp=Z,37nm,1.3s
BLO Bloomington 25.18 13 eP P 10 48 11.1 -0.2
BLO pmax pmax
comp=Z,37nm,0.7s
BLO Bloomington 25.18 13 eP P 10 48 11.1 -0.2
comp=Z,37nm,0.7s
P31A Stockton 25.18 350 P P 10 48 12.0 +0.7
baz=25,SNR=31
Q28A Sharon Springs 25.25 345 P P 10 48 13.4 +1.3
baz=26,SNR=38
U20A Newcomb 25.25 331 P P 10 48 14.2 +2.0
baz=26
X16A Lo Mia Camp, P 25.25 324 P P 10 48 14.2 +1.9
baz=26,SNR=38
S23A Nye Farm, Mont 25.32 337 P P 10 48 15.2 +2.3
baz=26,SNR=10
T21A Navajo Lake 25.32 334 P P 10 48 15.3 +2.4
baz=26,SNR=14
P30A Selden 25.36 348 P P 10 48 13.9 +0.9
baz=26,SNR=63
KSCO Kaye Shedlock' 25.41 344 eP P 10 48 15.4 +1.8
KSCO Kaye Shedlock' 25.41 344 P P 10 48 15.4 +1.8
baz=26,SNR=12
Z14A Wintersburg 25.41 320 P P 10 48 15.8 +2.3
baz=26,SNR=5.7
R24A Sanders Place, 25.46 339 P P 10 48 16.3 +2.2
baz=26,SNR=22
113A Mohawk Valley, 25.54 318 P P 10 48 16.1 +1.4
baz=26,SNR=19
P29A Atwood 25.56 347 P P 10 48 16.1 +1.2
baz=26,SNR=56
VWCC Virginia Weste 25.58 26 eP P 10 48 14.8 -0.2
Q26A Hugo 25.58 342 P P 10 48 16.9 +1.8
baz=26,SNR=31
S22A 4UR Ranch, Cre 25.68 336 P P 10 48 18.1 +1.9
baz=26,SNR=16
R23A Moffat 25.68 338 P P 10 48 18.2 +2.0
baz=26,SNR=39
P28A Saint Francis 25.72 346 P P 10 48 17.8 +1.5
baz=26,SNR=76
Q25A Bedland, Calha 25.79 341 P P 10 48 18.7 +1.5
baz=26,SNR=29
Y14A Wickenburg 25.84 321 P P 10 48 19.0 +1.6
baz=26,SNR=29
P27A Ficken Ranch, 25.91 344 P P 10 48 19.5 +1.4
baz=26,SNR=31
MVCO Mesa Verde 25.93 332 eP P 10 48 20.2 +1.8
comp=Z,47nm,1.1s
MVCO Mesa Verde 25.93 332 P P 10 48 20.3 +1.9
baz=26,SNR=26
O30A MW Ranch, Wils 25.94 349 P P 10 48 19.0 +0.7
baz=26,SNR=19
S21A Coal Bank Pass 26.00 334 P P 10 48 20.8 +1.6
baz=26,SNR=25
WUAZ Wupatki 26.03 326 eP P 10 48 21.0 +1.7
comp=Z,76nm,1.0s
WUAZ ePcP PcP 10 51 47.3 +0.8
WUAZ Wupatki 26.03 326 P P 10 48 21.1 +1.9
baz=26,SNR=37
O29A 4D Ranch, Culb 26.03 348 P P 10 48 20.3 +1.2
baz=26,SNR=15
R22A Saguache, Gunn 26.07 336 P P 10 48 21.8 +2.1
baz=26,SNR=25
P26A Davis Ranch, A 26.12 343 P P 10 48 21.8 +1.7
baz=26,SNR=31
Q24A Divide 26.13 340 P P 10 48 22.2 +1.9
baz=26,SNR=6.8
SFIN Scholer Farm 26.22 12 eP P 10 48 19.9 -0.8
SFIN Scholer Farm 26.22 12 P P 10 48 20.1 -0.6
baz=26,SNR=5.8
O28A Krutsinger Ran 26.25 346 P P 10 48 23.4 +2.4
baz=26,SNR=15
Q23A Hartsel 26.32 338 P P 10 48 24.3 +2.4
baz=27,SNR=17
P25A Willow Gulch B 26.32 342 P P 10 48 23.3 +1.5
baz=27,SNR=9.2
S20A Disappointment 26.38 333 P P 10 48 24.6 +2.1
baz=27,SNR=25
GLA Glamis 26.41 317 eP P 10 48 23.2 +0.6
GLA e 10 51 46.8
GLA pmax pmax
comp=Z,47nm,1.2s
GLA Glamis 26.41 317 eP P 10 48 23.2 +0.6
comp=Z,47nm,1.2s
GLA ePcP PcP 10 51 46.8 -0.5
GLA Glamis 26.41 317 P P 10 48 24.2 +1.6
baz=27
O27A Beecher Island 26.48 345 P P 10 48 24.6 +1.4
baz=27,SNR=15
R21A Cimarron 26.50 335 P P 10 48 25.2 +1.6
baz=27,SNR=10
N30A Hueftle Ranch, 26.55 349 P P 10 48 25.2 +1.4
baz=27
P24A Kohler Place, 26.55 341 P P 10 48 25.3 +1.3
baz=27
ATAH Atahualpa 26.56 144 P P 10 48 24.9 +0.4
ATAH Atahualpa 26.56 144 P P 10 48 24.9 +0.4
comp=Z,14nm,0.8s,baz=336,slow=6.6,SNR=13
ATAH LR LR 10 55 58.2
comp=Z,558nm,18.2s,baz=149,slow=30
Y12C Blythe 26.66 319 P P 10 48 26.5 +1.7
baz=27,SNR=6.3
N29A Votaw Ranch, W 26.67 348 P P 10 48 26.3 +1.5
baz=27
Q22A Crested Butte, 26.68 337 P P 10 48 26.8 +1.6
baz=27,SNR=13
R20A Redvale 26.69 334 P P 10 48 27.5 +2.2
baz=27,SNR=14
PV01 Paradox Valley 26.73 333 eP P 10 48 27.3 +1.7
comp=Z,6µm,1.2s
N28A Pribbeno Ranch 26.73 347 P P 10 48 26.6 +1.2
baz=27,SNR=9.7
P23A Jefferson 26.73 339 P P 10 48 27.7 +1.9
baz=27,SNR=21
PDMCI Parker Dam,Lak 26.78 320 P P 10 48 27.6 +1.8
baz=27,SNR=13
BGNE Belgrade 26.85 353 eP P 10 48 26.9 +0.4
BGNE Belgrade 26.85 353 P P 10 48 27.0 +0.5
baz=27
O25A Wiggins 26.86 342 P P 10 48 28.8 +2.1
baz=27,SNR=10.0
PV15 Paradox Valley 26.86 334 eP P 10 48 29.1 +2.2
JSRW J. Sargeant Re 26.89 29 eP P 10 48 28.4 +1.7
Q21A Lamborn Mesa, 26.91 336 P P 10 48 29.1 +1.9
baz=27,SNR=19
PV05 Paradox Valley 26.91 333 eP P 10 48 28.9 +1.6
SMCO Snowmass 26.97 337 eP P 10 48 29.8 +1.7
comp=Z,41nm,1.3s
SWSC Sam W. Stewart 26.98 316 P P 10 48 29.3 +1.5
baz=27,SNR=8.0
DVTC Desert V Tower 27.02 315 P P 10 48 29.3 +1.1
baz=27
ISCO Idaho Springs 27.04 340 eP P 10 48 30.0 +1.5
ISCO pmax pmax
comp=Z,26nm,0.9s
ISCO Idaho Springs 27.04 340 eP P 10 48 30.0 +1.5
comp=Z,26nm,0.9s
ISCO Idaho Springs 27.04 340 P P 10 48 30.1 +1.7
baz=27,SNR=36
N27A Anderson Farm, 27.07 345 P P 10 48 30.4 +1.8
baz=27,SNR=18
OGNE Ogallala 27.09 346 eP P 10 48 30.1 +1.4
comp=Z,77nm,1.0s
OGNE Ogallala 27.09 346 P P 10 48 30.3 +1.6
baz=27,SNR=7.0
PV04 Paradox Valley 27.09 333 eP P 10 48 30.8 +2.0
O24A Longmont 27.16 341 P P 10 48 31.1 +1.7
baz=27,SNR=7.4
BC3 Big Chuckawall 27.20 318 P P 10 48 31.5 +1.8
baz=28,SNR=41
U15A North Rim 27.20 326 P P 10 48 32.0 +2.1
baz=28,SNR=28
P22A Eagle 27.26 338 P P 10 48 31.9 +1.5
baz=28,SNR=12
M29A Burnside Ranch 27.28 349 P P 10 48 32.0 +1.6
baz=28
Q20A Ridgley Place, 27.30 335 P P 10 48 32.4 +1.6
baz=28
IRM Iron Mountain 27.32 319 P P 10 48 32.7 +1.9
baz=28,SNR=12
M28A Bar X Bar Ranc 27.37 348 P P 10 48 33.4 +2.2
baz=28
MONP Monument Peak 27.38 315 P P 10 48 32.9 +1.4
baz=28,SNR=6.5
BAR Barrett 27.43 315 eP P 10 48 33.6 +1.8
comp=Z,18nm,1.3s
P21A Newcastle 27.46 337 P P 10 48 34.0 +1.9
baz=28,SNR=6.0
O23A Lake Granby, G 27.51 340 P P 10 48 34.5 +1.8
baz=28,SNR=12
O22A Kremmling 27.68 339 P P 10 48 35.5 +1.3
baz=28,SNR=8.1
BELC Belle Mtn. Jos 27.77 318 P P 10 48 36.6 +1.7
baz=28,SNR=15
P20A De Beque 27.81 335 P P 10 48 36.9 +1.6
baz=28,SNR=19
PFO Pinyon Flat Ob 27.83 316 P P 10 48 37.0 +1.6
PFO Pinyon Flat Ob 27.83 316 P P 10 48 37.0 +1.6
comp=Z,7.9nm,0.9s,baz=129,slow=5.2,SNR=8.6
PFO LR LR 11 00 40.3
comp=Z,601nm,18.7s,baz=134,slow=38
PFO Pinyon Flat Ob 27.83 316 P P 10 48 37.2 +1.8
baz=28,SNR=5.9
LDFC Landfair 27.89 320 eP P 10 48 38.8 +2.8
comp=Z,96nm,1.1s
KNB Kanab 27.92 326 eP P 10 48 38.4 +2.1
KNB pmax pmax
comp=Z,27nm,0.8s
KNB Kanab 27.92 326 eP P 10 48 38.4 +2.1
comp=Z,27nm,0.8s
GMRC Granite Mounta 28.04 319 P P 10 48 39.1 +1.8
baz=28,SNR=22
O21A Pagoda 28.07 337 P P 10 48 40.4 +2.7
baz=28,SNR=7.2
N23A Red Feather La 28.14 340 P P 10 48 39.8 +1.5
baz=28,SNR=8.2
P19A Cripple Cowboy 28.16 335 P P 10 48 39.8 +1.4
baz=28,SNR=9.3
N22A Wattenberg Ran 28.22 339 P P 10 48 40.6 +1.6
baz=28,SNR=28
JFWS Jewell Farm 28.25 6 eP P 10 48 37.8 -1.2
JFWS pmax pmax
comp=Z,34nm,1.0s
JFWS Jewell Farm 28.25 6 eP P 10 48 37.8 -1.2
comp=Z,34nm,1.0s
O20A White River Ci 28.29 336 eP P 10 48 41.3 +1.8
O20A White River Ci 28.29 336 P P 10 48 41.4 +1.9
baz=29,SNR=10
M24A Cheyenne 28.31 342 P P 10 48 41.2 +1.5
baz=29
MURC Murrieta 28.32 316 P P 10 48 41.1 +1.4
baz=29
PHWY Pilot Hill 28.35 341 eP P 10 48 41.8 +1.6
comp=Z,123nm,2.3s
L26A Underwood Farm 28.37 345 P P 10 48 41.6 +1.4
baz=29
SRU San Rafael 28.40 332 eP P 10 48 42.0 +1.5
SRU e 10 51 52.7
SRU pmax pmax
comp=Z,15nm,1.0s
SRU San Rafael 28.40 332 eP P 10 48 42.0 +1.5
comp=Z,16nm,1.0s
SRU ePcP PcP 10 51 52.7 +0.6
HEC Hector,Ludlow 28.50 319 P P 10 48 43.5 +2.2
baz=29,SNR=18
BBRC Big Bear Solar 28.53 317 P P 10 48 43.7 +1.9
baz=29
Q16A Castle Valley 28.55 331 eP P 10 48 43.5 +1.6
Q16A Castle Valley 28.55 331 P P 10 48 43.8 +2.0
baz=29,SNR=26
N21A Black Mountain 28.56 338 P P 10 48 44.4 +2.4
baz=29,SNR=20
M23A Laramie 28.58 341 P P 10 48 44.1 +1.9
baz=29
CCUT Cedar City 28.61 326 eP P 10 48 44.7 +2.3
comp=Z,22nm,0.9s
CCUT ePcP PcP 10 51 54.4 +1.7
TUQ Turquoise Moun 28.63 320 P P 10 48 44.4 +1.8
baz=29,SNR=17
K28A Ten Mile Ranch 28.64 348 P P 10 48 43.7 +1.3
baz=29
L25A Engebretsen Ra 28.71 344 P P 10 48 45.0 +1.8
baz=29
MVU Marysvale 28.73 329 eP P 10 48 45.1 +1.6
comp=Z,14nm,1.2s
MVU ePcP PcP 10 51 54.6 +1.5
M22A Cedar Creek Ra 28.81 340 P P 10 48 46.7 +2.5
baz=29,SNR=13
K27A Flueckinger Fa 28.81 347 P P 10 48 45.0 +1.0
baz=29
TMUT Trail Mountain 28.86 331 eP P 10 48 46.5 +1.7
comp=Z,19nm,0.9s
TMUT ePcP PcP 10 51 54.4 +1.0
L24A Wheatland 28.87 343 P P 10 48 46.5 +1.8
baz=29
SHPR Sheep Range 28.88 323 eP P 10 48 46.5 +1.7
SHPR epP pP 10 48 56.7 -0.4
SHPR ePcP PcP 10 51 54.7 +1.3
N20A Spence Gulch, 28.90 337 P P 10 48 46.9 +1.9
baz=29,SNR=19
BFSC Mount Baldy Ra 29.00 316 P P 10 48 47.4 +1.5
baz=29,SNR=10
ECSD EROS Data Cent 29.01 356 eP P 10 48 44.7 -1.0
comp=Z,46nm,0.8s
GSC Goldstone 29.09 319 eP P 10 48 48.8 +2.2
GSC pmax pmax
comp=Z,140nm,2.7s
GSC Goldstone 29.09 319 eP P 10 48 48.8 +2.2
comp=Z,140nm,2.7s
GSC Goldstone 29.09 319 P P 10 48 48.9 +2.2
baz=29,SNR=6.3
SHOC Shoshone 29.15 320 P P 10 48 48.8 +1.8
baz=29,SNR=5.5
L23A Garrett 29.16 342 P P 10 48 48.8 +1.5
baz=29,SNR=24
M21A Separation Pea 29.25 339 P P 10 48 50.6 +2.5
baz=30,SNR=32
MWC Mount Wilson 29.26 316 eP P 10 48 49.9 +1.6
MWC pmax pmax
comp=Z,34nm,1.3s
MWC Mount Wilson 29.26 316 eP P 10 48 49.9 +1.6
comp=Z,34nm,1.3s
RWWY Rawlins 29.27 339 eP P 10 48 50.3 +2.0
comp=Z,101nm,1.1s
J27A Elkhorn Farm, 29.29 348 P P 10 48 50.0 +1.8
baz=30,SNR=6.2
J28A Allard Ranch, 29.30 349 P P 10 48 49.2 +0.9
baz=30,SNR=15
L22A Ellis Ranch, M 29.32 341 P P 10 48 50.9 +2.3
baz=30,SNR=7.9
M20A Sweetwater, Wa 29.44 338 P P 10 48 51.8 +2.0
baz=30,SNR=5.3
DECC Green Verdugo 29.46 316 P P 10 48 52.3 +2.4
baz=30,SNR=6.2
L21A Rawlins 29.57 339 P P 10 48 52.4 +1.5
baz=30,SNR=24
J26A Sides Ranch, S 29.58 346 P P 10 48 52.5 +1.7
baz=30,SNR=17
EDW2 Edwards Air Fo 29.61 317 P P 10 48 52.6 +1.5
baz=30,SNR=8.4
MPU Maple Canyon 29.64 332 eP P 10 48 53.1 +1.6
comp=Z,14nm,1.0s
MPU ePcP PcP 10 51 56.2 +1.0
K23A Bowen Ranch, D 29.73 342 P P 10 48 53.7 +1.5
baz=30
LRMC Laurel Mountai 29.77 318 P P 10 48 54.4 +1.8
baz=30,SNR=5.9
DAU Daniels Canyon 29.79 333 eP P 10 48 54.9 +1.9
DAU Daniels Canyon 29.79 333 eP P 10 48 54.9 +1.9
NLU North Lily Min 29.79 331 eP P 10 48 54.7 +1.8
comp=Z,13nm,1.0s
NLU ePcP PcP 10 51 56.8 +1.1
J25A Sunshine Ranch 29.82 345 P P 10 48 54.7 +1.7
baz=30
I28A Midland 29.84 349 P P 10 48 53.9 +0.8
baz=30
FURC Furnace Creek, 29.87 321 P P 10 48 55.5 +2.2
baz=30,SNR=16
K22A Casper 29.91 341 P P 10 48 55.4 +1.6
baz=30,SNR=14
BRSD Miller 29.94 353 eP P 10 48 54.2 +0.3
BRSD Miller 29.94 353 P P 10 48 54.2 +0.3
baz=30,SNR=11
L20A Wamsutter 29.95 338 P P 10 48 55.6 +1.3
baz=30,SNR=8.5
J24A Dixon Ranch, L 29.99 344 P P 10 48 56.5 +2.0
baz=30
MPMC Manual Prospec 30.00 319 P P 10 48 56.3 +1.5
baz=30,SNR=27
JLU Jordanelle 30.02 333 eP P 10 48 56.6 +1.7
comp=Z,10nm,1.1s
I27A Quinn 30.08 348 P P 10 48 56.3 +1.1
baz=30,SNR=17
K21A Alcova 30.12 340 P P 10 48 57.1 +1.3
baz=30,SNR=8.2
I26A New Underwood 30.21 347 P P 10 48 58.2 +1.8
baz=30,SNR=5.5
ARVC Arvin 30.31 317 P P 10 48 59.5 +2.3
baz=31,SNR=5.7
DUG Dugway 30.33 330 eP P 10 48 59.4 +1.8
DUG e 10 51 57.6
DUG pmax pmax
comp=Z,50nm,1.8s
DUG Dugway 30.33 330 eP P 10 48 59.4 +1.8
comp=Z,50nm,1.8s
DUG ePcP PcP 10 51 57.6 +0.7
DUG Dugway 30.33 330 P P 10 48 59.8 +2.2
baz=31,SNR=11
ISA Isabella 30.39 318 eP P 10 49 00.0 +1.9
ISA pmax pmax
comp=Z,142nm,2.7s
ISA Isabella 30.39 318 eP P 10 49 00.0 +1.9
comp=Z,142nm,2.7s
ISA Isabella 30.39 318 P P 10 48 59.7 +1.7
baz=31,SNR=7.2
R11A Troy Canyon, C 30.40 325 eP P 10 49 00.3 +2.1
R11A Troy Canyon, C 30.40 325 P P 10 49 00.5 +2.2
baz=31,SNR=20
I25A Rochford 30.40 346 P P 10 48 59.7 +1.5
baz=31,SNR=8.0
M17A Scullys Gap (B 30.40 334 P P 10 48 59.5 +1.2
baz=31,SNR=8.6
L19A Farson 30.41 337 P P 10 48 59.5 +1.2
baz=31
SPMN St. Paul 30.41 1 eP P 10 48 57.1 -1.0
SPMN St. Paul 30.41 1 P P 10 48 57.5 -0.5
baz=31,SNR=18
I24A Kuemmerle Ranc 30.47 344 P P 10 49 00.6 +1.9
baz=31
K20A Yellowstone Ra 30.52 339 P P 10 49 00.3 +1.1
baz=31,SNR=11
L18A Fontenelle, Gr 30.52 336 P P 10 49 00.7 +1.4
baz=31,SNR=8.9
RSSD Black Hills 30.57 345 eP P 10 49 01.1 +1.4
RSSD e 10 51 57.9
RSSD pmax pmax
comp=Z,10.0nm,1.0s
RSSD Black Hills 30.57 345 eP P 10 49 01.1 +1.4
comp=Z,9.7nm,1.0s
RSSD ePcP PcP 10 51 57.9 +0.3
J22A Midwest 30.58 342 P P 10 49 01.1 +1.3
baz=31,SNR=9.6
H27A Howes 30.63 348 P P 10 49 00.9 +0.9
baz=31,SNR=13
H26A Fairpoint 30.75 347 P P 10 49 02.3 +1.2
baz=31,SNR=10.0
J21A Lysite 30.83 340 P P 10 49 03.7 +1.7
baz=31,SNR=37
PKM Peak Mountain 30.84 315 P P 10 49 03.8 +1.6
baz=31,SNR=6.5
G28A Parade 30.84 350 P P 10 49 02.7 +0.8
baz=31
K19A Absolon Red Bu 30.85 338 P P 10 49 03.0 +0.9
baz=31,SNR=14
HWUT Hardware Ranch 30.89 334 eP P 10 49 04.2 +1.6
comp=Z,21nm,1.1s
VES Vestal, Richgr 30.89 317 P P 10 49 05.1 +2.7
baz=31,SNR=11
H25A Fruitdale 30.94 346 P P 10 49 04.3 +1.5
baz=31,SNR=21
BGU Big Grassy Mou 31.01 331 eP P 10 49 05.3 +1.7
comp=Z,17nm,1.1s
BGU ePcP PcP 10 51 59.5 +0.7
I22A 9 Mile Ranch, 31.02 342 P P 10 49 05.3 +1.7
baz=31,SNR=9.0
SPUT South Promonto 31.04 332 eP P 10 49 05.8 +1.9
comp=Z,26nm,1.2s
SPUT ePcP PcP 10 51 59.6 +0.7
J20A Shoshoni 31.04 340 P P 10 49 06.0 +2.2
baz=31,SNR=11
BW06 Boulder Array 31.06 337 eP P 10 49 04.9 +0.8
comp=Z,9.1nm,1.0s
PDAR Pinedale Array 31.06 337 P P 10 49 05.0 +0.9
PDAR PcP PcP 10 51 58.4 -0.5
PDAR Pinedale Array 31.06 337 P P 10 49 05.0 +0.9
comp=Z,4.6nm,1.0s,baz=140,slow=9.4,SNR=21
PDAR PcP PcP 10 51 58.4 -0.5
comp=Z,2.0nm,0.9s,baz=117,slow=5.2,SNR=3.5
PDAR LR LR 11 02 36.0
comp=Z,911nm,18.2s,baz=158,slow=38
TIN Tinemaha 31.09 320 P P 10 49 06.7 +2.4
baz=31
I21A Big Trails, Te 31.20 341 P P 10 49 06.5 +1.3
baz=32,SNR=13
SMMC Simmler 31.20 316 P P 10 49 07.1 +1.9
baz=32
RCTC Rector, Farmer 31.27 318 P P 10 49 07.4 +1.6

baz=32,SNR=15
H24A Dirks Ranch, A 31.28 345 P P 10 49 07.3 +1.5
baz=32,SNR=17
J19A Crowheart 31.30 338 P P 10 49 07.3 +1.2
baz=32,SNR=16
G27A Dupree 31.32 349 P P 10 49 06.8 +0.7
baz=32,SNR=9.4
G26A Maurine 31.36 348 P P 10 49 07.4 +0.9
baz=32,SNR=6.8
F29A Eureka 31.42 352 P P 10 49 06.9 0.0
baz=32,SNR=13
HVU Hansel Valley 31.57 332 *e*P **P 10 49 10.4 +1.9**
HVU pmax pmax
comp=Z,79nm,1.5s
HVU Hansel Valley 31.57 332 *e*P **P 10 49 10.4 +1.9**
comp=Z,79nm,1.5s
I20A Worland 31.59 340 P P 10 49 10.6 +2.0
baz=32,SNR=32
H22A Clearmont 31.62 343 P P 10 49 10.2 +1.3
baz=32,SNR=14
G24A Alzada 31.80 346 P P 10 49 11.8 +1.4
baz=32,SNR=11
MLAC Mammoth Lakes 31.83 320 P P 10 49 12.9 +1.9
baz=32,SNR=10
H21A Big Horn, Sher 31.86 342 P P 10 49 12.1 +1.2
baz=32,SNR=17
F26A Lodgepole 31.91 348 P P 10 49 12.3 +1.0
baz=32,SNR=19
G23A Biddle 31.92 344 P P 10 49 12.5 +1.1
baz=32,SNR=22
NV11 Mina Array Sit 31.93 322 *e*P **P 10 49 13.9 +2.2**
NV11 *e*PcP **PcP 10 52 02.6 +1.3**
ELK Elko 31.95 328 *e*P **P 10 49 14.0 +2.1**
comp=Z,18nm,0.9s
ELK *e*PcP **PcP 10 52 02.5 +1.1**
I19A Meeteetse 31.96 339 P P 10 49 13.8 +1.9
baz=32,SNR=29
I18A Diamond G Ranc 31.96 338 P P 10 49 13.6 +1.6
baz=32,SNR=17
NVAR Mina Array Bea 32.02 322 P P 10 49 14.9 +2.4
NVAR PcP **PcP 10 52 02.4 +0.8**
NVAR Mina Array Bea 32.02 322 P P 10 49 14.9 +2.4
comp=Z,29nm,0.9s,baz=142,slow=8.8,SNR=191
NVAR PcP **PcP 10 52 02.4 +0.8**
comp=Z,3.9nm,0.8s,baz=133,slow=3.5,SNR=5.8
H20A Greybull 32.02 341 P P 10 49 13.7 +1.2
baz=32,SNR=48
REDW Red Top Meadow 32.06 336 *e*P **P 10 49 14.4 +1.5**
comp=Z,181nm,1.6s
SNOW Snow King Moun 32.11 336 *e*P **P 10 49 15.1 +1.8**
comp=Z,64nm,1.1s
E29A Napoleon 32.12 352 P P 10 49 12.9 -0.2
baz=32,SNR=11
F25A Bowman 32.15 347 P P 10 49 14.8 +1.4
baz=32,SNR=8.5
LOHW Long Hollow 32.18 337 *e*P **P 10 49 15.2 +1.4**
comp=Z,124nm,1.7s
G22A Birney 32.18 343 P P 10 49 14.7 +0.9
baz=32,SNR=11
TPAW Teton Pass 32.21 336 *e*P **P 10 49 15.8 +1.5**
RRI2 Red Ridge 32.23 336 *e*P **P 10 49 15.8 +1.4**
E27A Carson 32.27 350 P P 10 49 15.2 +0.7
baz=32,SNR=11
E28A Huff 32.27 351 P P 10 49 15.2 +0.8
baz=32,SNR=7.3
F24A Ekalaka 32.29 346 P P 10 49 15.7 +1.0
baz=33,SNR=11
MOOW Moose Ponds 32.35 337 *e*P **P 10 49 16.8 +1.4**
F23A Volborg 32.41 345 P P 10 49 16.7 +1.0
baz=33,SNR=19
I17A Pilgrim Ck. 32.43 337 P P 10 49 17.8 +1.7
baz=33,SNR=12
G21A Lodge Grass 32.45 342 P P 10 49 17.1 +1.0
baz=33,SNR=9.8
E26A Carlson Angus 32.47 349 P P 10 49 17.6 +1.4
baz=33,SNR=24
H19A Powell 32.51 340 P P 10 49 18.9 +2.2
baz=33,SNR=39
IMW Indian Meadow 32.55 337 *e*P **P 10 49 18.3 +1.1**
comp=Z,42nm,1.5s
IMW *e*PcP **PcP 10 52 03.9 +0.9**
D30A Buchanan 32.55 354 P P 10 49 16.9 0.0
baz=33,SNR=8.2
D29A Pettibone, Tap 32.60 353 P P 10 49 17.1 -0.2
baz=33,SNR=5.8
FLWY Flagg Ranch 32.61 337 *e*P **P 10 49 19.3 +1.6**
comp=Z,17nm,0.9s
FLWY *e*PcP **PcP 10 52 04.4 +1.3**
E25A Miller Ranch, 32.68 348 P P 10 49 19.2 +1.2
baz=33,SNR=31
F22A Rosebud 32.69 344 P P 10 49 19.0 +0.9
baz=33
I16A Newdale 32.74 336 P P 10 49 20.5 +1.7
baz=33,SNR=15
WAKR Walker 32.75 321 *e*P **P 10 49 21.2 +2.2**
comp=Z,57nm,1.7s
G20A Bridger 32.75 341 P P 10 49 19.5 +0.7
baz=33,SNR=22
H18A Shoshone NF, C 32.75 339 P P 10 49 20.7 +1.8
baz=33,SNR=106
BMN Battle Mountai 32.76 326 *e*P **P 10 49 21.2 +2.2**
BMN pmax pmax
comp=Z,22nm,0.9s
BMN Battle Mountai 32.76 326 *e*P **P 10 49 21.2 +2.2**
comp=Z,22nm,0.9s
H17A Grant Village 32.83 338 *e*P **P 10 49 22.0 +2.3**
H17A Grant Village 32.83 338 P P 10 49 22.2 +2.5
baz=33,SNR=11
D28A Regan 32.86 351 P P 10 49 20.1 +0.5
baz=33,SNR=22
LKWY Lake 32.92 338 *e*P **P 10 49 22.3 +1.9**
LKWY pmax pmax
comp=Z,53nm,1.5s
LKWY Lake 32.92 338 *e*P **P 10 49 22.2 +1.9**
comp=Z,53nm,1.5s
D27A Center 32.92 350 P P 10 49 20.8 +0.7
baz=33,SNR=5.6
E24A Baker 32.93 347 P P 10 49 21.6 +1.3
baz=33,SNR=12
YFT Old Faithful 32.98 337 *e*P **P 10 49 23.9 +3.0**
comp=Z,25nm,1.1s
YFT *e*PP **PP 10 50 38.0 +1.9**
YFT *e*PcP **PcP 10 52 06.3 +2.2**
D26A Manning 33.00 349 P P 10 49 21.9 +1.1
baz=33
RLMT Red Lodge 33.01 340 *e*P **P 10 49 22.4 +1.2**
comp=Z,88nm,1.0s
CMB Columbia Colle 33.04 320 *e*P **P 10 49 23.1 +1.8**
CMB Columbia Colle 33.04 320 *e*P **P 10 49 23.1 +1.8**
C30A Mose, Pekin 33.11 354 P P 10 49 21.6 -0.1
baz=33,SNR=29
E23A Ismay 33.11 345 P P 10 49 22.8 +1.0
baz=33,SNR=9.4
YNR Norris Junctio 33.15 338 *e*P **P 10 49 24.8 +2.4**
comp=Z,29nm,1.2s
YMR Madison River 33.21 337 *e*P **P 10 49 25.1 +2.2**
comp=Z,98nm,1.5s
F20A Billings 33.25 342 P P 10 49 24.2 +1.1
baz=34,SNR=12
G18A Lazy EL Ranch, 33.28 340 P P 10 49 24.8 +1.3
baz=34,SNR=26
D25A Fairfield 33.29 348 P P 10 49 24.9 +1.5
baz=34,SNR=26
C28A Hausauer Farms 33.34 352 P P 10 49 24.1 +0.3
baz=34,SNR=9.2
H16A Russell Place, 33.35 337 P P 10 49 26.1 +2.0
baz=34,SNR=22
MDND Maddock 33.37 353 *e*P **P 10 49 24.5 +0.5**
MDND Maddock 33.37 353 P P 10 49 24.4 +0.4
baz=34,SNR=7.0
D24A Glendive 33.46 347 P P 10 49 26.3 +1.4
baz=34,SNR=28
PAHR Pah Rah Range 33.49 323 *e*P **P 10 49 27.2 +1.9**
comp=Z,14nm,0.9s
C27A Sayler Ranch, 33.51 351 P P 10 49 26.2 +1.0
baz=34,SNR=16
AGMN Agassiz Nation 33.52 358 *e*P **P 10 49 24.4 -0.8**
comp=Z,37nm,0.8s
LAO LASA Array 33.52 344 *e*P **P 10 49 26.1 +0.8**
comp=Z,106nm,1.8s
LAO *e*PcP **PcP 10 52 05.9 +0.5**
QLMT Earthquake Lak 33.52 337 *e*P **P 10 49 28.2 +2.6**
comp=Z,7.1nm,1.5s
F19A Roth Farm, Mol 33.55 341 P P 10 49 26.7 +1.0
baz=34,SNR=20
E21A Keefer Ranch, 33.61 343 P P 10 49 27.1 +0.9
baz=34,SNR=6.9

G17A Pierce Place, 33.69 338 P P 10 49 30.1 +3.1
baz=34,SNR=13
C26A Wahner Farm, P 33.71 350 P P 10 49 27.8 +0.7
baz=34,SNR=13
HLID Hailey 33.72 333 *e*P **P 10 49 28.9 +1.6**
HLID Hailey 33.72 333 P P 10 49 28.9 +1.6
baz=34,SNR=38
D23A Lindsay 33.72 346 P P 10 49 28.6 +1.5
baz=34
GCMT Greycliff 33.73 340 *e*P **P 10 49 28.4 +1.1**
C25A Freed Ranch, W 33.81 349 P P 10 49 28.9 +1.0
baz=34,SNR=12
B30A Myrvik Farm, E 33.83 355 P P 10 49 28.1 0.0
baz=34,SNR=18
F18A Big Timber 33.84 340 P P 10 49 29.6 +1.3
baz=34,SNR=36
C24A Savage 33.88 347 P P 10 49 30.0 +1.5
baz=34,SNR=41
E20A Meyer Farm, Mu 33.88 342 P P 10 49 29.8 +1.2
baz=34,SNR=26
D22A Cohagen 33.93 345 P P 10 49 30.2 +1.2
baz=34,SNR=59
B29A Wagenman Farm, 33.95 353 P P 10 49 29.4 +0.3
baz=34,SNR=52
B28A Dugan Ranch, T 34.06 352 P P 10 49 30.7 +0.7
baz=34,SNR=22
D21A La Casta Ranch 34.07 344 P P 10 49 31.7 +1.5
baz=34,SNR=16
MCMT McKenzie Canyo 34.07 336 *e*P **P 10 49 32.9 +2.4**
B27A Peters Farms, 34.14 351 P P 10 49 31.8 +1.1
baz=34,SNR=7.6
F17A Fitzpatrick Pl 34.17 339 P P 10 49 33.3 +2.2
baz=34,SNR=83
BEKR Beckworth 34.17 322 *e*P **P 10 49 33.1 +1.9**
comp=Z,16nm,1.2s
MFID Camas Ranch 34.25 331 P P 10 49 33.8 +2.0
baz=34,SNR=8.9
B26A Jensen Ranch, 34.27 350 P P 10 49 32.8 +0.9
baz=34,SNR=5.7
BOZ Bozeman (W) 34.29 338 *e*P **P 10 49 33.7 +1.5**
BOZ pmax pmax
comp=Z,20nm,1.1s
BOZ Bozeman (W) 34.29 338 *e*P **P 10 49 33.7 +1.5**
comp=Z,20nm,1.1s
C23A Lambert 34.30 346 P P 10 49 33.5 +1.3
baz=35,SNR=26
A30A Hoffart Farm, 34.32 355 P P 10 49 32.0 -0.2
baz=35,SNR=42
B25A Knox Farm, Ray 34.33 349 P P 10 49 33.6 +1.3
baz=35,SNR=8.2
A29A Manning Farm, 34.39 354 P P 10 49 32.9 0.0
baz=35,SNR=58
D20A Manuel Ranch, 34.41 343 P P 10 49 34.7 +1.5
baz=35
C22A Vida 34.42 346 P P 10 49 34.7 +1.5
baz=35,SNR=61
DLMT Dillon 34.42 336 *e*P **P 10 49 35.5 +2.2**
E18A Harlowton 34.49 340 P P 10 49 35.4 +1.5
baz=35,SNR=41
A28A Rude Farm, Bot 34.50 352 P P 10 49 34.0 +0.2
baz=35,SNR=23
D19A Cripps Ranch, 34.70 342 P P 10 49 36.8 +1.2
baz=35,SNR=35
E17A Martinsdale 34.72 339 P P 10 49 37.4 +1.5
baz=35,SNR=18
DGMT Dagmar 34.72 348 *e*P **P 10 49 36.7 +1.0**
DGMT Dagmar 34.72 348 P P 10 49 36.8 +1.0
baz=35,SNR=12
A26A Wade Farm, Ken 34.74 350 P P 10 49 36.5 +0.6
baz=35,SNR=29
LRM Limekiln Ridge 34.75 337 *e*P **P 10 49 37.6 +1.4**
comp=Z,210nm,1.1s
C21A Desert Coulee 34.80 344 P P 10 49 37.9 +1.5
baz=35,SNR=34
WVOR Wild Horse Val 34.93 327 *e*P **P 10 49 39.2 +1.5**
WVOR *e* 10 52 11.3
WVOR pmax pmax
comp=Z,55nm,1.2s
WVOR Wild Horse Val 34.93 327 *e*P **P 10 49 39.2 +1.5**
comp=Z,55nm,1.2s
WVOR *e*PcP **PcP 10 52 11.3 +1.7**
C20A Veseth Ranch, 34.94 343 P P 10 49 39.2 +1.5
baz=35,SNR=16
B22A Reddig Ranch S 34.96 346 P P 10 49 39.2 +1.4
baz=35,SNR=41
D18A Linhart Farms, 35.01 341 P P 10 49 40.0 +1.6
baz=35,SNR=48
A24A Westby 35.12 348 P P 10 49 40.5 +1.3
baz=35,SNR=14
C19A Slack Wire Ran 35.26 342 P P 10 49 42.0 +1.5
baz=36,SNR=11
D17A Six Diamond Ra 35.26 340 P P 10 49 42.1 +1.5
baz=36,SNR=41
HRY Holter Researc 35.27 338 *e*P **P 10 49 42.0 +1.4**
comp=Z,21nm,0.9s
A23A Redstone 35.33 347 P P 10 49 42.5 +1.6
baz=36,SNR=21
B21A Ellsworth Farm 35.33 345 P P 10 49 42.5 +1.5
baz=36,SNR=20
ULM Lac du Bonnet 35.47 358 P P 10 49 40.6 -1.4
comp=Z,7.1nm,0.8s
ULM PcP **PcP 10 52 10.6 -0.2**
ULM Lac du Bonnet 35.47 358 P P 10 49 40.6 -1.4
comp=Z,16nm,0.7s,baz=174,slow=9.1,SNR=22
ULM PcP **PcP 10 52 10.6 -0.2**
comp=Z,5.4nm,0.8s,baz=155,slow=2.9,SNR=3.3
ULM LR LR 11 06 41.4
comp=Z,610nm,18.7s,baz=338,slow=40
A22A Carney Farms, 35.59 346 P P 10 49 44.6 +1.4
baz=36,SNR=15
EGMT Eagleton 35.73 342 *e*P **P 10 49 46.0 +1.5**
EGMT Eagleton 35.73 342 P P 10 49 46.1 +1.5
baz=36,SNR=18
A21A Bergtoll Ranch 35.83 345 P P 10 49 46.9 +1.6
baz=36,SNR=26
B19A Brinkman Farms 35.88 343 P P 10 49 47.4 +1.7
baz=36
CHMT Chamberlain Mo 35.97 337 *e*P **P 10 49 47.5 +0.8**
comp=Z,9.2nm,0.8s
A20A Cobblestone Ra 35.98 344 P P 10 49 48.2 +1.6
baz=36,SNR=11
BMO Blue Mountains 36.03 331 *e*P **P 10 49 47.4 +0.3**
comp=Z,54nm,1.8s
BMO *e*PcP **PcP 10 52 13.4 +0.6**
B18A Beardsley Farm 36.07 342 P P 10 49 48.8 +1.4
baz=36,SNR=15
MSO Missoula 36.16 336 P P 10 49 49.5 +1.3
baz=36,SNR=15
A19A Klindworth Far 36.25 343 P P 10 49 50.3 +1.4
baz=36,SNR=30
B17A L&G Farms, Che 36.30 341 P P 10 49 50.4 +1.0
baz=37,SNR=10
SLMT Seeley Lake 36.33 337 *e*P **P 10 49 50.5 +0.7**
comp=Z,8.7nm,0.8s
A18A Metzger Ranch, 36.56 342 P P 10 49 52.6 +1.1
baz=37,SNR=29
YBH Yreka Blue Hor 36.73 323 LR LR 11 06 35.0
comp=Z,2μm,19.7s,baz=148,slow=39
SWMT Swartz Lake 36.74 337 *e*P **P 10 49 53.9 +0.7**
comp=Z,14nm,0.9s
SWMT *e*PP **PnPn 10 51 18.5 +0.7**
KHMM Horse Mountain 36.82 321 *e*P **P 10 49 55.6 +1.6**
comp=Z,28nm,0.9s
YBMT Yellow Bay 37.04 337 *e*P **P 10 49 56.9 +1.1**
comp=Z,12nm,0.8s
JTMT Jette 37.05 337 *e*P **P 10 49 56.8 +1.0**
comp=Z,10nm,0.9s
JTMT *e*PcP **PcP 10 52 16.3 +0.5**
BLMT Blacktail Moun 37.30 337 *e*P **P 10 49 59.3 +1.3**
comp=Z,24nm,1.1s
BSMT Bassoo Peak 37.33 337 *e*P **P 10 49 59.5 +1.2**
comp=Z,10nm,1.1s
WALA Waterton Lakes 38.01 338 *e*P **P 10 50 05.0 +1.1**
comp=Z,2.0nm,1.8s
KEBM Edson Butte 38.38 323 *e*P **P 10 50 09.3 +2.3**
comp=Z,94nm,1.1s
SAML Samuel 38.41 126 *e*P **P 10 50 05.1 -2.4**
comp=Z,11nm,0.9s
SAML *e*PcP **PcP 10 52 20.2 -0.2**
NEW Newport 38.59 335 *e*P **P 10 50 09.2 +0.6**
comp=Z,6.6nm,0.7s
NEW Newport 38.59 335 P P 10 50 09.3 +0.6
baz=39,SNR=13
LON Longmire 39.57 330 *e*P **P 10 50 18.3 +1.3**
LON *e* 10 52 24.0
LON pmax pmax
comp=Z,19nm,0.8s

LON Longmire 39.57 330 *e*P **P 10 50 18.3 +1.3**
comp=Z,19nm,0.8s
LON *e*PcP **PcP 10 52 24.0 +0.4**
LPAZ La Paz 39.91 140 P P 10 50 19.5 -1.2
comp=Z,3.7nm,0.9s
LPAZ La Paz 39.91 140 P P 10 50 19.5 -1.2
comp=Z,3.4nm,0.8s,baz=336,slow=8.4,SNR=20
FFC Flin Flon 40.42 353 P P 10 50 24.2 +0.5
comp=Z,82nm,1.3s,SNR=5.6
FFC Flin Flon 40.42 353 *e*P **P 10 50 23.9 +0.2**
FFC pmax pmax
comp=Z,31nm,1.0s
FFC Flin Flon 40.42 353 *e*P **P 10 50 23.9 +0.2**
comp=Z,32nm,1.0s
NLWA Neilton Lookou 41.04 329 *e*P **P 10 50 30.7 +1.7**
comp=Z,20nm,0.9s
EDM Edmonton 41.40 342 *e*P **P 10 50 32.6 +0.7**
EDM Edmonton 41.40 342 *e*P **P 10 50 32.6 +0.7**
FCC Fort Churchill 43.96 360 *e*P **P 10 50 52.2 -0.3**
FCC Fort Churchill 43.96 360 *e*P **P 10 50 52.2 -0.3**
comp=Z,3.7nm,1.6s
SCHQ Schefferville 45.17 22 P P 10 51 03.1 +0.8
SCHQ PcP **PcP 10 52 42.1 +0.2**
SCHQ Schefferville 45.17 22 P P 10 51 03.1 +0.8
comp=Z,5.3nm,0.9s,baz=221,slow=8.2,SNR=3.7
SCHQ PcP **PcP 10 52 42.1 +0.2**
comp=Z,5.7nm,0.8s,baz=184,slow=2.6,SNR=3.4
SCHQ LR LR 11 11 25.3
comp=Z,2μm,18.8s,baz=245,slow=38
BBB Bella Bella 46.28 331 LR LR 11 10 56.2
comp=Z,437nm,18.9s,baz=335,slow=36
LCO Las Campanas 48.88 153 *e*P **P 10 51 30.7 -1.1**
comp=Z,9.7nm,0.8s
YKA Yellowknife Ar 49.93 348 P P 10 51 39.5 +0.5
YKA PcP **PcP 10 52 57.5 -1.3**
YKA Yellowknife Ar 49.93 348 P P 10 51 39.5 +0.5
comp=Z,29nm,0.7s,baz=151,slow=7.4,SNR=68
YKA PcP **PcP 10 52 57.4 -1.3**
comp=Z,2.6nm,0.8s,baz=141,slow=4.0,SNR=4.2
YKW3 Yellowknife Ar 49.99 348 *e*P **P 10 51 40.0 +0.5**
comp=Z,0.5nm,0.8s
DLBC Dease Lake 51.29 337 *e*P **P 10 51 52.0 +2.5**
DLBC Dease Lake 51.29 337 P P 10 51 52.0 +2.5
comp=Z,19nm,1.0s,baz=132,slow=6.9,SNR=19
FRB Frobisher Bay 52.02 14 P P 10 51 53.7 -1.0
FRB Frobisher Bay 52.02 14 P P 10 51 53.7 -1.0
comp=Z,20nm,0.8s,baz=220,slow=8.7,SNR=10
FRB LR LR 11 15 30.8
comp=Z,718nm,18.4s,baz=210,slow=38
CPUP Villa Florida 54.07 139 P P 10 52 08.3 -2.1
comp=Z,11nm,0.8s
CPUP Villa Florida 54.07 139 P P 10 52 08.3 -2.1
comp=Z,4.2nm,0.8s,baz=311,slow=7.7,SNR=15
CPUP LR LR 11 14 50.9
comp=Z,303nm,19.6s,baz=323,slow=36
BDFB Brasilia 54.38 122 P P 10 52 11.9 -1.0
BDFB Brasilia 54.38 122 P P 10 52 11.9 -1.0
comp=Z,20nm,0.8s,baz=286,slow=9.2,SNR=28
RKT Rikitea 55.12 228 *e*S **S 11 00 02.7 +4.9**
comp=Z,482nm,26.2s
RKT *e*LR LR 11 08 25.5
comp=Z,1μm,28.0s,baz=46
RKT Rikitea 55.12 228 *e*T T 11 51 47.0
HYT Haines Junctio 55.74 336 *e*P **P 10 52 24.6 +2.5**
HYT *e*pP **pP 10 52 37.0 +1.7**
DAWY Dawson 58.36 338 *e*P **P 10 52 40.9 +0.4**
PLCA Paso Flores 59.25 160 P P 10 52 45.4 -1.5
PLCA Paso Flores 59.25 160 P P 10 52 45.4 -1.5
comp=Z,5.5nm,1.1s,baz=295,slow=4.6,SNR=2.9
INK Inuvik 59.26 344 *e*P **P 10 52 47.2 +0.7**
comp=Z,169nm,1.8s
INK Inuvik 59.26 344 P P 10 52 47.4 +0.9
comp=Z,16nm,0.7s,baz=131,slow=7.2,SNR=24
INK LR LR 11 18 45.5
comp=Z,119nm,19.4s,baz=150,slow=36
DIV Divide 59.32 334 *e*P **P 10 52 48.5 +1.2**
DIV *e*pP **pP 10 53 00.2 -0.3**
DIV *e*PcP **PcP 10 53 33.0 -1.9**
MENT Mentasta 59.36 336 *e*P **P 10 52 48.6 +1.1**
EGAK Eagle 59.40 339 *e*P **P 10 52 48.3 +0.7**
comp=Z,11nm,0.9s
RES Resolute Bay 59.96 360 P P 10 52 51.4 0.0
RES Resolute Bay 59.96 360 P P 10 52 51.4 0.0
comp=Z,16nm,0.9s,baz=193,slow=9.4,SNR=15
RES LR LR 11 21 20.7
comp=Z,378nm,18.2s,baz=70,slow=39
PAX Paxson 60.07 336 *e*P **P 10 52 53.3 +0.9**
PAX *e* 10 53 37.9
PAX pmax pmax
comp=Z,163nm,2.0s
PAX Paxson 60.07 336 *e*P **P 10 52 53.3 +0.9**
comp=Z,163nm,2.0s
PAX *e*PcP **PcP 10 53 37.9 0.0**
TRQA Tornquist 60.40 151 *e*P **P 10 52 53.4 -1.5**
comp=Z,20nm,1.4s
SML Sawmill 60.73 334 *e*P **P 10 52 56.0 -0.8**
SML pmax pmax
comp=Z,15nm,1.5s
SML Sawmill 60.73 334 *e*P **P 10 52 56.0 -0.8**
comp=Z,15nm,1.5s
ILAR Eielson Array 61.49 337 P P 10 53 02.4 +0.5
ILAR PcP **PcP 10 53 43.6 +0.2**
ILAR Eielson Array 61.49 337 P P 10 53 02.4 +0.5
comp=Z,19nm,0.9s,baz=143,slow=4.4,SNR=124
ILAR PcP **PcP 10 53 43.6 +0.2**
comp=Z,1.8nm,0.7s,baz=131,slow=3.8,SNR=4.5
ILAR LR LR 11 21 53.2
comp=Z,635nm,18.3s,baz=261,slow=38
MCK McKinley 61.81 336 *e*P **P 10 53 05.3 +1.2**
MCK pmax pmax
comp=Z,33nm,1.0s
MCK McKinley 61.81 336 *e*P **P 10 53 05.3 +1.2**
comp=Z,34nm,1.0s
COLA College 61.90 337 *e*P **P 10 53 05.1 +0.5**
COLA pmax pmax
comp=Z,75nm,0.8s
COLA College 61.90 337 *e*P **P 10 53 05.1 +0.5**
comp=Z,75nm,0.8s
RSO Redoubt South 62.18 331 *e*P **P 10 53 08.1 +1.2**
comp=Z,184nm,0.8s
RSO *e*PcP **PcP 10 53 46.9 +0.3**
TRF Thorofare Moun 62.24 335 *e*P **P 10 53 07.4 +0.2**
comp=Z,48nm,1.2s
BPAW Bear Paw Mtn. 62.79 335 *e*P **P 10 53 11.1 +0.5**
comp=Z,19nm,1.0s
PPLA Purkeypile 62.81 334 *e*P **P 10 53 11.2 +0.1**
comp=Z,101nm,1.7s
PPT Papeete 63.68 242 LR LR 11 14 59.6
comp=Z,348nm,18.2s,baz=29,slow=30
PPT2 Papeete2 63.69 242 *e*S **S 11 01 54.8 +5.9**
comp=Z,221nm,26.2s
PPT2 *e*LR LR 11 11 51.3
comp=Z,635nm,28.5s,baz=58
COLD Coldfoot 63.82 339 *e*P **P 10 53 18.7 +1.3**
comp=Z,32nm,1.3s
IMA2 Indian Mountai 64.62 337 *e*P **P 10 53 22.7 -0.1**
IM04 Indian Mountai 64.62 337 *e*P **P 10 53 22.0 -0.7**
SUMG Summit 66.01 16 *e*P **P 10 53 32.8 +0.8**
SUMG pmax pmax
comp=Z,16nm,0.6s
SUMG Summit 66.01 16 *i* P **P 10 53 33.0 +1.0**
comp=Z,29nm,0.8s
SUMG Summit 66.01 16 *e*P **P 10 53 32.8 +0.8**
comp=Z,16nm,0.6s
TBI Tubuai 66.29 236 *e*S **S 11 02 23.8 +3.3**
comp=Z,284nm,32.2s
TBI Tubuai 66.29 236 *e*LR LR 11 13 32.8
comp=Z,491nm,29.8s,baz=63
ALE Alert 68.97 4 P P 10 53 49.6 -0.5
comp=Z,122nm,0.8s,SNR=11
DAG Danmarks Havn 72.36 14⇑ *i*P **P 10 54 10.9 +0.1**
DAG pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 72.36 14⇑ *i*P **P 10 54 10.9 +0.1**
comp=Z,17nm,0.9s
EVOP Sao Brissos 77.65 53⇑ *i*P **P 10 54 41.7 -0.3**
EVOP pmax pmax
comp=Z,33nm,1.2s
EVOP Sao Brissos 77.65 53⇑ *i*P **P 10 54 41.7 -0.3**
comp=Z,33nm,1.2s
EVO Evora 77.73 53⇑ *i*P **P 10 54 41.7 -0.8**
comp=Z,33nm,1.2s
EVO *e*R
comp=Z,595nm,19.8s
EKA Eskdalemuir Ar 78.40 36 P P 10 54 45.0 -0.8
EKA Eskdalemuir Ar 78.40 36 P P 10 54 45.0 -0.8

comp=Z,9.5nm,0.8s,baz=292,slow=4.4,SNR=11
KBS Kingsbay 78.63 11 *d iP* **P 10 54 48.7 +2.0**
KBS pmax pmax
comp=Z,35nm,1.7s
KBS Kingsbay 78.63 11 *eP* **P 10 54 48.8 +2.0**
comp=Z,20nm,1.0s
ROSF Rostrenen 79.50 43 *eP* **P 10 54 51.3 -0.7**
ROSF Rostrenen 79.50 43 *eP* **P 10 54 51.3 -0.7**
ROSF Rostrenen 79.50 43 *eP* **P 10 54 51.3 -0.7**
QUIF Quistinic 79.65 43 *eP* **P 10 54 51.3 -1.5**
QUIF Quistinic 79.65 43 *eP* **P 10 54 51.3 -1.5**
QUIF Quistinic 79.65 43 *eP* **P 10 54 51.3 -1.5**
SPITS Spitsbergen Ar 79.72 11 P **P 10 54 53.7 +1.0**
SPITS Spitsbergen Ar 79.72 11 P **P 10 54 53.7 +1.0**
comp=Z,11nm,0.9s,baz=88,slow=3.6,SNR=5.5
SGMF Saint Gilles 79.99 43 *eP* **P 10 54 53.6 -1.0**
SGMF Saint Gilles 79.99 43 *eP* **P 10 54 53.6 -1.0**
SGMF Saint Gilles 79.99 43 *eP* **P 10 54 53.6 -1.0**
ESDC Sonseca Array 80.63 51 P **P 10 54 58.0 -0.5**
ESDC Sonseca Array 80.63 51 P **P 10 54 58.0 -0.5**
comp=Z,4.0nm,0.8s,baz=293,slow=5.4,SNR=16
ESDC LR LR 11 29 05.9
comp=Z,360nm,18.6s,baz=285,slow=34
GRR Gorron 81.07 42 *eP* **P 10 54 59.4 -1.1**
comp=Z,91nm,1.3s
GRR Gorron 81.07 42 *eP* **P 10 54 59.4 -1.1**
GRR pmax pmax
comp=Z,91nm,1.3s
GRR Gorron 81.07 42 *eP* **P 10 54 59.4 -1.1**
comp=Z,91nm,1.3s
FLN La Foliniere 81.24 42 *eP* **P 10 55 01.0 -0.3**
comp=Z,32nm,1.0s
FLN *eR*
comp=Z,874nm,22.8s
FLN La Foliniere 81.24 42 *eP* **P 10 55 01.0 -0.3**
FLN pmax pmax
comp=Z,32nm,1.0s
FLN La Foliniere 81.24 42 *eP* **P 10 55 01.0 -0.3**
comp=Z,32nm,1.0s
LDF La Druitiere 81.50 42 *eP* **P 10 55 02.6 -0.2**
comp=Z,64nm,1.2s
LDF La Druitiere 81.50 42 *eP* **P 10 55 02.6 -0.2**
LDF pmax pmax
comp=Z,64nm,1.2s
LDF La Druitiere 81.50 42 *eP* **P 10 55 02.6 -0.2**
comp=Z,64nm,1.2s
MFF Saint Martin d 81.93 44 *eP* **P 10 55 04.6 -0.4**
comp=Z,27nm,1.1s
MFF Saint Martin d 81.93 44 *eP* **P 10 55 04.6 -0.4**
MFF pmax pmax
comp=Z,27nm,1.1s
MFF Saint Martin d 81.93 44 *eP* **P 10 55 04.6 -0.4**
comp=Z,27nm,1.1s
SJPF Ste Jean 81.94 48 *eP* **P 10 55 05.4 +0.2**
comp=Z,28nm,1.0s
SJPF Ste Jean 81.94 48 *eP* **P 10 55 05.4 +0.2**
SJPF pmax pmax
comp=Z,29nm,1.0s
SJPF Ste Jean 81.94 48 *eP* **P 10 55 05.4 +0.2**
comp=Z,28nm,1.0s
ETSF Etsaut 82.46 48 *eP* **P 10 55 08.2 +0.2**
comp=Z,48nm,1.3s
ETSF Etsaut 82.46 48 *eP* **P 10 55 08.2 +0.2**
ETSF pmax pmax
comp=Z,48nm,1.3s
ETSF Etsaut 82.46 48 *eP* **P 10 55 08.2 +0.2**
comp=Z,48nm,1.3s
LFF La Frestale 82.91 46 *eP* **P 10 55 10.0 -0.2**
comp=Z,58nm,1.0s
LFF La Frestale 82.91 46 *eP* **P 10 55 10.0 -0.2**
LFF pmax pmax
comp=Z,58nm,1.0s
LFF La Frestale 82.91 46 *eP* **P 10 55 10.0 -0.2**
comp=Z,58nm,1.0s
EPF Esparros 83.08 47 *eP* **P 10 55 11.1 -0.1**
comp=Z,36nm,1.2s
EPF Esparros 83.08 47 *eP* **P 10 55 11.1 -0.1**
EPF pmax pmax
comp=Z,36nm,1.2s
EPF Esparros 83.08 47 *eP* **P 10 55 11.1 -0.1**
comp=Z,36nm,1.2s
RJF Les Rejaudoux 83.36 45 *eP* **P 10 55 12.2 -0.3**
comp=Z,22nm,0.9s
RJF *eR*
comp=Z,580nm,21.2s
RJF Les Rejaudoux 83.36 45 *eP* **P 10 55 12.2 -0.3**
RJF pmax pmax
comp=Z,22nm,0.9s
RJF Les Rejaudoux 83.36 45 *eP* **P 10 55 12.2 -0.3**
comp=Z,22nm,0.9s
TCF Toulx Ste Croi 83.58 44 *eP* **P 10 55 13.1 -0.6**
comp=Z,26nm,1.1s
TCF Toulx Ste Croi 83.58 44 *eP* **P 10 55 13.1 -0.6**
TCF pmax pmax
comp=Z,26nm,1.1s
TCF Toulx Ste Croi 83.58 44 *eP* **P 10 55 13.1 -0.6**
comp=Z,26nm,1.1s
CAF Calviac 83.83 45 *eP* **P 10 55 14.6 -0.4**
comp=Z,6.6nm,0.7s
CAF Calviac 83.83 45 *eP* **P 10 55 14.6 -0.4**
CAF pmax pmax
comp=Z,7.0nm,0.7s
CAF Calviac 83.83 45 *eP* **P 10 55 14.6 -0.4**
comp=Z,6.6nm,0.7s
BAIF Baives 83.90 40 *eP* **P 10 55 15.3 +0.1**
comp=Z,27nm,1.1s
BAIF Baives 83.90 40 *eP* **P 10 55 15.3 +0.1**
BAIF pmax pmax
comp=Z,27nm,1.1s
BAIF Baives 83.90 40 *eP* **P 10 55 15.3 +0.1**
comp=Z,27nm,1.1s
BGF Bois d'Agland 83.94 44 *eP* **P 10 55 15.0 -0.5**
comp=Z,37nm,0.8s
BGF Bois d'Agland 83.94 44 *eP* **P 10 55 15.0 -0.5**
BGF pmax pmax
comp=Z,37nm,0.8s
BGF Bois d'Agland 83.94 44 *eP* **P 10 55 15.0 -0.5**
comp=Z,37nm,0.8s
DOU Dourbes 84.13 40 P **P 10 55 16.3 0.0**
AVF Avril sur Loir 84.22 43 *eP* **P 10 55 16.1 -0.8**
comp=Z,19nm,0.8s
AVF Avril sur Loir 84.22 43 *eP* **P 10 55 16.1 -0.8**
AVF pmax pmax
comp=Z,19nm,0.8s
AVF Avril sur Loir 84.22 43 *eP* **P 10 55 16.1 -0.8**
comp=Z,19nm,0.8s
SSF Saint Saulge 84.25 43 *eP* **P 10 55 16.4 -0.6**
comp=Z,24nm,0.9s
SSF Saint Saulge 84.25 43 *eP* **P 10 55 16.4 -0.6**
SSF pmax pmax
comp=Z,24nm,0.9s
SSF Saint Saulge 84.25 43 *eP* **P 10 55 16.4 -0.6**
comp=Z,24nm,0.9s
PYM Petit Puy Mans 84.26 44 *eP* **P 10 55 17.6 +0.4**
GIVF Givet 84.27 40 *eP* **P 10 55 17.4 +0.3**
comp=Z,79nm,1.5s
GIVF Givet 84.27 40 *eP* **P 10 55 17.4 +0.3**
GIVF pmax pmax
comp=Z,79nm,1.5s
GIVF Givet 84.27 40 *eP* **P 10 55 17.4 +0.3**
comp=Z,79nm,1.5s
MTLF Montolieu 84.33 47 *eP* **P 10 55 17.3 -0.2**
comp=Z,33nm,1.2s
MTLF Montolieu 84.33 47 *eP* **P 10 55 17.3 -0.2**
MTLF pmax pmax
comp=Z,33nm,1.2s
MTLF Montolieu 84.33 47 *eP* **P 10 55 17.3 -0.2**
comp=Z,33nm,1.2s
NB2 NORSAR Subarra 84.34 28 P **P 10 55 18.6 +1.4**
comp=Z,2.4nm,0.7s,baz=296,slow=5.3
NOA NORSAR Array B 84.34 28 P **P 10 55 18.8 +1.5**
NOA NORSAR Array B 84.34 28 P **P 10 55 18.8 +1.5**
comp=Z,22nm,0.8s,baz=292,slow=4.9,SNR=48
NOA LR LR 11 31 51.0
comp=Z,401nm,20.6s,baz=280,slow=35
LOR Lormes 84.42 43 *eP* **P 10 55 17.6 -0.3**
comp=Z,26nm,1.0s
LOR *eR*
comp=Z,534nm,19.0s
LOR Lormes 84.42 43 *eP* **P 10 55 17.6 -0.3**
comp=Z,26nm,1.0s
BCLA Clavier 84.48 39 P **P 10 55 19.0 +0.9**
LBL Lubilhac 84.56 45 *eP* **P 10 55 19.4 +0.7**
SMF Signal de Mont 84.58 43 *eP* **P 10 55 17.9 -0.8**
comp=Z,27nm,1.1s
SMF Signal de Mont 84.58 43 *eP* **P 10 55 17.9 -0.8**
SMF pmax pmax
comp=Z,27nm,1.1s
SMF Signal de Mont 84.58 43 *eP* **P 10 55 17.9 -0.8**
comp=Z,27nm,1.1s
HGN Heimansgroeve 84.76 39 *eP* **P 10 55 20.4 +0.9**
comp=Z,71nm,1.4s
MEM Membach 84.85 39 P **P 10 55 21.4 +1.4**
MEZF Maizieres J'vi 84.86 41 *eP* **P 10 55 20.1 0.0**
comp=Z,26nm,0.8s
MEZF Maizieres J'vi 84.86 41 *eP* **P 10 55 20.1 0.0**
comp=Z,26nm,0.8s
WTSB Winterswijk 84.93 38 *eP* **P 10 55 22.1 +1.8**
comp=Z,52nm,0.8s
SFTF Sexfontaines 84.93 42 *eP* **P 10 55 20.5 0.0**
comp=Z,57nm,1.2s
SFTF Sexfontaines 84.93 42 *eP* **P 10 55 20.5 0.0**
comp=Z,57nm,1.2s
WLF Walferdange 85.22 40 P **P 10 55 23.1 +1.3**
comp=Z,26nm,1.5s
WLF Walferdange 85.22 40 *eP* **P 10 55 23.2 +1.3**
comp=Z,46nm,1.2s
WLF Walferdange 85.22 40 *eP* **P 10 55 23.1 +1.3**
WLF pmax pmax
comp=Z,29nm,1.1s
WLF Walferdange 85.22 40 *eP* **P 10 55 23.1 +1.3**
comp=Z,29nm,1.1s
PAGF Fort de Pagny 85.27 41 *eP* **P 10 55 22.4 +0.2**
comp=Z,24nm,1.3s
PAGF Fort de Pagny 85.27 41 *eP* **P 10 55 22.4 +0.2**
comp=Z,24nm,1.3s
LASF Ste Croix 85.28 46 *eP* **P 10 55 22.7 +0.4**
comp=Z,110nm,1.6s
LASF Ste Croix 85.28 46 *eP* **P 10 55 22.7 +0.4**
comp=Z,110nm,1.5s
BUG Bochum--Univer 85.37 38 *eP* **P 10 55 23.4 +0.9**
comp=Z,52nm,1.3s
IBBN Ibbenburen 85.39 37 *eP* **P 10 55 24.1 +1.5**
comp=Z,57nm,1.1s
THEF They Montfort 85.53 41 *eP* **P 10 55 24.3 +0.8**
VIVF Saint-Julien-l 85.63 45 *eP* **P 10 55 24.6 +0.5**
comp=Z,55nm,1.3s
VIVF Saint-Julien-l 85.63 45 *eP* **P 10 55 24.6 +0.5**
VIVF pmax pmax
comp=Z,55nm,1.3s
VIVF Saint-Julien-l 85.63 45 *eP* **P 10 55 24.6 +0.5**
comp=Z,55nm,1.3s
HAU Haudompre 85.83 42 *eP* **P 10 55 24.9 -0.1**
comp=Z,58nm,0.9s
HAU *eR*
comp=Z,469nm,19.2s
HAU Haudompre 85.83 42 *eP* **P 10 55 24.9 -0.1**
HAU pmax pmax
comp=Z,58nm,0.9s
HAU Haudompre 85.83 42 *eP* **P 10 55 24.9 -0.1**
comp=Z,58nm,0.9s
ARCES ARCESS Array B 85.99 18 P **P 10 55 25.6 +0.3**
ARCES ARCESS Array B 85.99 18 P **P 10 55 25.6 +0.3**
comp=Z,5.3nm,0.7s,baz=316,slow=3.3,SNR=11
ARCES LR LR 11 36 26.1
comp=Z,460nm,18.1s,baz=302,slow=37
CABF La Chapelle 86.07 43 *eP* **P 10 55 26.4 +0.1**
comp=Z,71nm,1.3s
CABF La Chapelle 86.07 43 *eP* **P 10 55 26.4 +0.1**
CABF pmax pmax
comp=Z,71nm,1.3s
CABF La Chapelle 86.07 43 *eP* **P 10 55 26.4 +0.1**
comp=Z,71nm,1.3s
HINF Hinteralfeld 86.21 42 *eP* **P 10 55 26.6 -0.3**
comp=Z,42nm,1.0s
HINF Hinteralfeld 86.21 42 *eP* **P 10 55 26.6 -0.3**
HINF pmax pmax
comp=Z,42nm,1.0s
HINF Hinteralfeld 86.21 42 *eP* **P 10 55 26.6 -0.3**
comp=Z,42nm,1.0s
ECH Echery 86.28 41 *eP* **P 10 55 28.0 +0.8**
ECH pmax pmax
comp=Z,11nm,0.8s
ECH Echery 86.28 41 *eP* **P 10 55 28.0 +0.8**
comp=Z,11nm,0.8s
ECH Echery 86.28 41 *eP* **P 10 55 27.5 +0.3**
CDF Champ du Feu 86.30 41 *eP* **P 10 55 27.3 -0.1**
comp=Z,35nm,0.9s
CDF Champ du Feu 86.30 41 *eP* **P 10 55 27.3 -0.1**
CDF pmax pmax
comp=Z,35nm,0.9s
CDF Champ du Feu 86.30 41 *eP* **P 10 55 27.3 -0.1**
comp=Z,35nm,0.9s
BSEG Bad Segeberg 86.32 35 *eP* **P 10 55 28.5 +1.3**
comp=Z,64nm,1.1s
LOMF Lomont 86.34 42 *eP* **P 10 55 28.2 +0.6**
MOF Molkenrain 86.38 42 *eP* **P 10 55 28.2 +0.4**
ORIF Oris-en-Rattie 86.44 45 *eP* **P 10 55 28.4 +0.3**
comp=Z,29nm,0.9s
ORIF *eR*
comp=Z,692nm,21.5s
ORIF Oris-en-Rattie 86.44 45 *eP* **P 10 55 28.4 +0.3**
ORIF pmax pmax
comp=Z,29nm,0.9s
ORIF Oris-en-Rattie 86.44 45 *eP* **P 10 55 28.4 +0.3**
comp=Z,29nm,0.9s
LANF Langenberg 86.46 40 *eP* **P 10 55 29.0 +1.0**
TNS Taunus Mts 86.46 39 *eP* **P 10 55 29.1 +1.0**
comp=Z,48nm,0.9s
TNS Taunus Mts 86.46 39 *eP* **P 10 55 29.1 +1.0**
TNS pmax pmax
comp=Z,48nm,0.9s
SMRF Simiane la Rot 86.50 46 *eP* **P 10 55 28.3 -0.1**
comp=Z,52nm,1.0s
SMRF Simiane la Rot 86.50 46 *eP* **P 10 55 28.3 -0.1**
comp=Z,52nm,1.0s
NRDL Niedersach Rie 86.69 36 *eP* **P 10 55 30.3 +1.3**
comp=Z,38nm,1.5s
RSL Roselend 86.71 44 *eP* **P 10 55 30.3 +0.8**
LPL La Plagne 86.83 44 *eP* **P 10 55 30.7 +0.5**
comp=Z,30nm,1.2s
LPL La Plagne 86.83 44 *eP* **P 10 55 30.7 +0.5**
LPL pmax pmax
comp=Z,30nm,1.2s
LPL La Plagne 86.83 44 *eP* **P 10 55 30.7 +0.5**
comp=Z,30nm,1.2s
LPG La Plagne 86.85 44 *eP* **P 10 55 31.0 +0.6**
comp=Z,70nm,1.4s
LPG La Plagne 86.85 44 *eP* **P 10 55 31.0 +0.6**
LPG pmax pmax
comp=Z,70nm,1.4s
LPG La Plagne 86.85 44 *eP* **P 10 55 31.0 +0.6**
comp=Z,70nm,1.4s
BNI Bardonecchia 86.94 44 *eP* **P 10 55 31.7 +1.1**
BNI pmax pmax
comp=Z,19nm,1.1s
BNI Bardonecchia 86.94 44 *eP* **P 10 55 31.7 +1.1**
comp=Z,19nm,1.1s
BFO Black Forest 86.99 41 *eP* **P 10 55 31.1 +0.4**
comp=Z,266nm,3.2s
BFO Black Forest 86.99 41 *eP* **P 10 55 30.7 0.0**
BFO pmax pmax
comp=Z,121nm,2.1s
BFO Black Forest 86.99 41 *eP* **P 10 55 30.7 0.0**
comp=Z,121nm,2.1s
CLZ Clausthal 87.07 37 *eP* **P 10 55 32.4 +1.4**
comp=Z,100nm,1.8s
CLZ Clausthal 87.07 37 *eP* **P 10 55 32.4 +1.4**
CLZ pmax pmax
comp=Z,100nm,1.8s
MBDF Montbardon 87.10 45 *eP* **P 10 55 31.8 +0.4**
comp=Z,38nm,0.8s
MBDF Montbardon 87.10 45 *eP* **P 10 55 31.8 +0.4**
MBDF pmax pmax
comp=Z,38nm,0.8s
MBDF Montbardon 87.10 45 *eP* **P 10 55 31.8 +0.4**
comp=Z,38nm,0.8s
TIC Toumodi 87.16 84 *eP* **P 10 55 32.1 0.0**
comp=Z,82nm,1.1s
UBBA Unterbreizbach 87.20 38 *eP* **P 10 55 32.9 +1.5**
comp=Z,49nm,1.9s
LIC Lamto 87.26 84 *eP* **P 10 55 32.8 +0.2**
comp=Z,63nm,1.0s,baz=284
LIC *eR*
comp=Z,390nm,23.0s
LIC Lamto 87.26 84 *eP* **P 10 55 32.7 +0.2**
comp=Z,86nm,1.0s
LIC Lamto 87.26 84 *eP* **P 10 55 32.8 +0.2**
comp=Z,63nm,1.0s
DBIC Dimbokro 87.31 84 P **P 10 55 33.4 +0.5**
DBIC Dimbokro 87.31 84 P **P 10 55 33.4 +0.5**
comp=Z,14nm,0.8s,baz=280,slow=3.6,SNR=11
DBIC LR LR 11 31 53.1
comp=Z,172nm,19.6s,baz=264,slow=34
LMR La Mourre 87.34 46 *eP* **P 10 55 32.3 -0.1**
comp=Z,63nm,1.0s
LMR La Mourre 87.34 46 *eP* **P 10 55 32.3 -0.1**
LMR pmax pmax
comp=Z,63nm,1.0s
LMR La Mourre 87.34 46 *eP* **P 10 55 32.3 -0.1**
comp=Z,63nm,1.0s
FRF La Foret Royal 87.37 46 *eP* **P 10 55 32.5 -0.1**
comp=Z,44nm,1.0s
FRF La Foret Royal 87.37 46 *eP* **P 10 55 32.5 -0.1**
FRF pmax pmax
comp=Z,45nm,1.0s
FRF La Foret Royal 87.37 46 *eP* **P 10 55 32.5 -0.1**
comp=Z,44nm,1.0s
STU Stuttgart 87.39 40 *eP* **P 10 55 33.6 +1.0**
comp=Z,41nm,1.4s
KIC Kosan Boka 87.50 84 *eP* **P 10 55 33.9 +0.1**
comp=Z,55nm,0.9s
SBF Sospel 87.82 45 *eP* **P 10 55 34.3 -0.5**
comp=Z,96nm,1.4s
SBF Sospel 87.82 45 *eP* **P 10 55 34.3 -0.5**
SBF pmax pmax
comp=Z,96nm,1.4s
SBF Sospel 87.82 45 *eP* **P 10 55 34.3 -0.5**
comp=Z,96nm,1.4s
MOX Moxa 88.22 38 *eP* **P 10 55 37.3 +0.8**
comp=Z,27nm,1.6s
MOX *eL* L 11 35 52.7
comp=Z,674nm,19.7s
MOX Moxa 88.22 38 *eP* **P 10 55 37.3 +0.8**
MOX pmax pmax
comp=Z,27nm,1.6s
MOX MLR MLR
comp=Z,700nm,19.7s
DAVA Damuels 88.32 41 ⇓ *isP* **P 10 55 37.9 +0.7**
comp=Z,17nm,1.0s
GRF Grafenberg Arr 88.32 39 *eL* L 11 31 48.6
comp=Z,416nm,21.0s
GUNZ Gunzen 88.75 38 *eP* **P 10 55 39.9 +0.9**
comp=Z,16nm,1.1s
MANZ Manzenberg 88.75 38 *eP* **P 10 55 40.1 +1.0**
comp=Z,8.0nm,1.0s
CLL Collm 88.79 37 *eP* **P 10 55 40.0 +0.9**
comp=Z,14nm,1.1s
CLL Collm 88.79 37 ⇑ *iP* **P 10 55 39.3 +0.2**
CLL pmax pmax
comp=Z,15nm,1.1s
CLL MLR MLR
comp=Z,400nm,20.7s
CLL Collm 88.79 37 ⇑ *iP* **P 10 55 39.3 +0.2**
comp=Z,15nm,1.1s
CLL LmV 11 35 00.0
comp=Z,400nm,20.7s
TANN Tannenbergstha 88.81 38 *eP* **P 10 55 40.3 +1.0**
comp=Z,11nm,1.0s
NKC Novy Kostel 88.87 38 *eP* **P 10 55 40.7 +1.1**
NKC MLR MLR
comp=Z,400nm,14.7s
NKC Novy Kostel 88.87 38 *eP* **P 10 55 40.7 +1.1**
NKC AMS AMS 11 36 00.0
comp=Z,400nm,14.7s
ROTZ Rotzenmuhle 88.89 39 *eP* **P 10 55 41.0 +1.3**
comp=Z,14nm,1.4s
FETA Feichten 88.96 41 ⇑ *isP* **P 10 55 41.1 +0.8**
comp=Z,8.3nm,0.9s
PETK Petropavlovsk- 89.06 325 LR LR 11 33 25.8
comp=Z,84nm,18.5s,baz=274,slow=34
MOTA Moosalm 89.08 41 ⇑ *isP* **P 10 55 41.4 +0.6**
comp=Z,7.4nm,0.8s
FBE Freiberg 89.14 37 *eP* **P 10 55 41.9 +1.1**
comp=Z,18nm,1.1s
PGF Pioggiola 89.32 46 *eP* **P 10 55 42.3 +0.3**
comp=Z,32nm,1.0s
PGF Pioggiola 89.32 46 *eP* **P 10 55 42.3 +0.3**
PGF pmax pmax
comp=Z,32nm,1.0s
PGF Pioggiola 89.32 46 *eP* **P 10 55 42.3 +0.3**
comp=Z,32nm,1.0s
BRG Berggiesshubel 89.50 37 *i* P **P 10 55 43.4 +0.9**
comp=Z,16nm,1.1s
BRG *e* 10 55 50.5
comp=Z,12nm,1.3s
BRG Berggiesshubel 89.50 37 *eP* **P 10 55 43.3 +0.8**
comp=Z,16nm,1.0s
BRG Berggiesshubel 89.50 37 *i* P **P 10 55 43.4 +0.9**
BRG *e* 10 55 50.5
BRG pmax pmax
comp=Z,16nm,1.1s
WET Wettzell 89.53 39 *eP* **P 10 55 44.0 +1.3**
comp=Z,121nm,2.4s
WET Wettzell 89.53 39 *eP* **P 10 55 44.0 +1.3**
WET pmax pmax
comp=Z,121nm,2.4s
KHC Kasperske Hory 89.96 39 *eP* **P 10 55 44.7 0.0**
KHC *e* 10 55 52.8
KHC MLR MLR
comp=Z,600nm,22.0s
KHC Kasperske Hory 89.96 39 *eP* **P 10 55 44.7 0.0**
KHC *ex* x 10 55 52.8
KHC AMS AMS 11 36 10.0
comp=Z,600nm,22.0s
PVCC Panska Ves 90.01 37 *eP* **P 10 55 46.0 +1.1**
PVCC MLR MLR
comp=Z,600nm,22.3s
PVCC Panska Ves 90.01 37 *eP* **P 10 55 46.0 +1.1**
PVCC AMS AMS 11 36 40.0
comp=Z,600nm,22.3s
RJOB Jochberg 90.01 40 *eP* **P 10 55 46.1 +1.1**
comp=Z,18nm,0.6s
PRA Prague 90.11 38 P **P 10 55 47.0 +1.7**
GEC2 GERESS Array S 90.15 39 *eP* **P 10 55 46.5 +0.8**
comp=Z,13nm,1.1s
GEC2 GERESS Array S 90.15 39 *eP* **P 10 55 46.5 +0.8**
GEC2 pmax pmax
comp=Z,13nm,1.1s
GERES GERESS Array B 90.15 39 P **P 10 55 46.0 +0.3**
GERES GERESS Array B 90.15 39 P **P 10 55 46.0 +0.3**
comp=Z,4.7nm,0.9s,baz=306,slow=3.1,SNR=30
GERES LR LR 11 32 52.4
comp=Z,588nm,21.9s,baz=298,slow=33
ABTA Abfaltersbach 90.20 41 ⇑ *isP* **P 10 55 46.7 +0.8**
comp=Z,12nm,1.1s
PRU Pruhonice 90.20 38 *eP* **P 10 55 46.5 +0.7**
PRU MLR MLR
comp=Z,400nm,20.5s
PRU Pruhonice 90.20 38 *eP* **P 10 55 46.5 +0.7**
PRU AMS AMS 11 39 00.0
comp=Z,400nm,20.5s
FINES FINESS Array B 90.58 25 P **P 10 55 47.0 -0.2**
FINES FINESS Array B 90.58 25 P **P 10 55 47.0 -0.2**
comp=Z,3.7nm,0.9s,baz=241,slow=2.0,SNR=6.6
FINES LR LR 11 38 15.2
comp=Z,266nm,18.1s,baz=311,slow=37
UPC Upice 90.86 37 *eP* **P 10 55 50.1 +1.3**
UPC Upice 90.86 37 *eP* **P 10 55 50.1 +1.3**
UPC *ex* x 10 56 00.2
MOA Molln 90.88 40 ⇑ *isP* **P 10 55 49.8 +0.7**
comp=Z,9.8nm,1.0s
TREC Trest 91.05 38 AMS AMS 11 39 30.0
comp=Z,700nm,18.9s
DPC Dobruska-Polom 91.10 37 *eP* **P 10 55 51.2 +1.2**
DPC Dobruska-Polom 91.10 37 *eP* **P 10 55 51.2 +1.2**
CADS Cadrg 91.18 41 *eP* **P 10 55 50.9 +0.4**
CADS Cadrg 91.18 41 *eP* **P 10 55 50.9 +0.4**
VRAC Vranov 91.70 38 P **P 10 55 53.4 +0.6**
VRAC Vranov 91.70 38 P **P 10 55 53.4 +0.6**
comp=Z,6.3nm,0.8s,baz=290,slow=5.6,SNR=9.4
LJU Ljubljana 91.76 41 *eP* **P 10 55 53.9 +0.8**
LJU Ljubljana 91.76 41 *eP* **P 10 55 53.9 +0.8**
CEY Cerknica 91.81 42 *i* P **P 10 55 54.5 +1.1**
CEY Cerknica 91.81 42 *i* P **P 10 55 54.5 +1.1**
SOKA Soboth 91.83 41 ⇑ *ipP* **P 10 55 53.7 +0.2**
comp=Z,8.1nm,1.3s
KEST Kesra 91.84 52 LR LR 11 35 39.7
comp=Z,85nm,19.4s,baz=231,slow=35
TORD Torodi Ar. Bea 91.90 76 P **P 10 55 53.4 -0.9**
TORD Torodi Ar. Bea 91.90 76 P **P 10 55 53.4 -0.9**
comp=Z,1.9nm,0.9s,baz=294,slow=4.3,SNR=8.8
TORD LR LR 11 37 27.7
comp=Z,340nm,18.9s,baz=275,slow=36
MORC Moravsky Berou 92.06 37 *eP* **P 10 55 55.5 +1.0**
MORC pmax pmax
comp=Z,43nm,1.9s
MORC Moravsky Berou 92.06 37 *eP* **P 10 55 55.5 +1.0**
comp=Z,43nm,1.9s

OKC	**Ostrava-Krasne**	**92.39**	**37**	*e*P	**P**	**10 55 56.6 +0.7**
OKC				MLR	MLR	
comp=Z,300nm,14.2s						
OKC	**Ostrava-Krasne**	**92.39**	**37**	*e*P	**P**	**10 55 56.6 +0.7**
OKC				AMS	AMS	11 40 00.0
comp=Z,300nm,14.2s						
GOLS	**Golise**	**92.47**	**41**	*e*P	**P**	**10 55 57.5 +1.0**
GOLS	**Golise**	**92.47**	**41**	*e*P	**P**	**10 55 57.5 +1.0**
ZST	**Bratislava**	**92.48**	**39**	*e*P	**P**	**10 55 59.0 +2.6**
ZST	**Bratislava**	**92.48**	**39**	*e*P	**P**	**10 55 59.0 +2.6**
OJC	**Ojcow**	**93.17**	**36**	*e*P	**P**	**10 56 00.3 +0.8**
VYHS	**Vyhne**	**93.39**	**38**	*e*P	**P**	**10 56 01.7 +1.1**
VYHS				pmax	pmax	
comp=Z,33nm,2.1s						
VYHS	**Vyhne**	**93.39**	**38**	*e*P	**P**	**10 56 01.7 +1.1**
PSZ	**Piszkesteto**	**94.28**	**38**	*e*P	**P**	**10 56 06.7 +1.9**
PSZ				pmax	pmax	
comp=Z,92nm,2.0s						
PSZ	**Piszkesteto**	**94.28**	**38**	*e*P	**P**	**10 56 06.7 +1.9**
comp=Z,92nm,2.0s						
KECS	**Kecovo**	**94.37**	**37**	*e*P	**P**	**10 56 07.1 +2.0**
KECS				pmax	pmax	
comp=Z,3.0nm,0.9s						
KECS	**Kecovo**	**94.37**	**37**	*e*P	**P**	**10 56 07.1 +2.0**
CRVS	**Cervenica-Dubn**	**94.74**	**37**	*e*P	**P**	**10 56 08.0 +1.2**
CRVS				pmax	pmax	
comp=Z,51nm,2.2s						
CRVS	**Cervenica-Dubn**	**94.74**	**37**	*e*P	**P**	**10 56 08.0 +1.2**
KOLS	**Kolonicke sedl**	**95.19**	**36**	*e*P	**P**	**10 56 10.5 +1.6**
KOLS				pmax	pmax	
comp=Z,20nm,1.6s						
KOLS	**Kolonicke sedl**	**95.19**	**36**	*e*P	**P**	**10 56 10.5 +1.6**
UZH	**Uzhgorod**	**95.35**	**37**	⇑*i*P	**P**	**10 56 10.6 +1.1**
UZH				*i*		10 56 15.0
LVV	**L'vov**	**95.75**	**35**	*e*P	**P**	**10 56 10.8 -0.5**
ANN	**Anapa**	**106.06**	**34**	*e*P	**Pdif**	**10 56 56.8 -0.7**
ANN				pmax	pmax	
comp=Z,23nm,1.0s						
MDJ	**Mudanjiang**	**108.98**	**329**	Pdif	**Pdif**	**10 57 11.0 +0.5**
MDJ				LR	LR	
comp=N,78nm,43.9s						
MDJ				LR	LR	
comp=E,48nm,48.4s						
MDJ				LR	LR	
comp=Z,97nm,28.7s						
BVAR	**Borovoye Array**	**111.16**	**10**	PKiKP	**PKiKP**	**11 01 18.9 +0.2**
BVAR	**Borovoye Array**	**111.16**	**10**	PKiKP	**PKiKP**	**11 01 18.9 +0.2**
comp=Z,0.5nm,0.5s,baz=11,slow=1.5,SNR=3.6						
MKAR	**Makanchi Array**	**118.66**	**3**	PKIKP	**PKPdf**	**11 01 32.5 -0.8**
MKAR	**Makanchi Array**	**118.66**	**3**	PKP	**PKPdf**	**11 01 32.5 -0.8**
MKAR	**Makanchi Array**	**118.66**	**3**	PKP	**PKPdf**	**11 01 32.5 -0.8**
comp=Z,0.9nm,0.7s,baz=351,slow=2.5,SNR=5.2						
HHC	**Hu-ho-hao-te**	**119.91**	**338**	*e*PKP	PKPdf	11 01 29.5 -6.5
HHC				AMB	AMB	
comp=Z,130nm,9.2s						
HHC				LR	LR	
comp=N,310nm,19.1s						
HHC				LR	LR	
comp=E,380nm,20.0s						
HHC				LR	LR	
comp=Z,280nm,21.0s						
WMQ	**Urumqi**	**121.72**	**359**	*e*PKP	**PKPdf**	**11 01 39.5 +0.1**
WMQ				LR	LR	
comp=N,230nm,26.0s						
WMQ				LR	LR	
comp=Z,230nm,25.0s						
BOSA	**Boshof**	**122.24**	**115**	PKP	**PKPdf**	**11 01 38.9 -1.9**
BOSA	**Boshof**	**122.24**	**115**	PKP	**PKPdf**	**11 01 38.9 -1.9**
comp=Z,5.3nm,0.8s,baz=225,slow=2.4,SNR=10						
GTA	**Gaotai**	**124.66**	**347**	PKP	**PKPdf**	**11 01 45.5 +0.3**
GTA				sPKP		11 01 59.5
GTA				PP	**PP**	**11 03 36.0 +4.8**
GTA				SKS	**SKSdf**	**11 08 52.0 -1.7**
GTA				SKKS	**SKKSac**	**11 10 23.8 -3.6**
GTA				SS	**SS**	**11 20 23.3 +2.3**
GTA				AMB	AMB	
comp=Z,200nm,7.2s						
GTA				LR	LR	
comp=N,270nm,19.0s						
GTA				LR	LR	
comp=E,210nm,17.5s						
GTA				LR	LR	
comp=Z,330nm,19.8s						
KSH	**Kashi**	**125.20**	**10**	*e*PKP	**PKPdf**	**11 01 48.0 +1.7**
LZH	**Lanzhou**	**126.78**	**342**	*e*PKP	**PKPdf**	**11 01 50.8 +1.4**
LZH				sPKP		11 02 08.3
LZH				PP	PP	11 03 51.0 +5.6
LZH				SKS	**SKSdf**	**11 08 55.0 -2.8**
LZH				SKKS	**SKKSac**	**11 10 38.0 -3.0**
LZH				SS	**SS**	**11 20 52.8 +5.1**
LZH				AMB	AMB	
comp=Z,59nm,6.4s						
LZH				LR	LR	
comp=N,210nm,13.2s						
LZH				LR	LR	
comp=E,160nm,13.2s						
LZH				LR	LR	
comp=Z,370nm,18.0s						
STKA	**Stephens Creek**	**126.89**	**241**	PKP	**PKPdf**	**11 01 48.9 -0.5**
STKA	**Stephens Creek**	**126.89**	**241**	PKP	**PKPdf**	**11 01 48.9 -0.5**
comp=Z,1.6nm,0.3s,baz=329,slow=5.9,SNR=3.7						
XAN	**Xi'an**	**126.89**	**336**	PKP	**PKPdf**	**11 01 49.5 -0.1**
CD2	**Chengdu**	**131.59**	**340**	*e*PKP	**PKPdf**	**11 01 57.8 -0.8**
CD2				sPKP		11 02 16.8
CD2				PP	**PP**	**11 04 21.3 +4.5**
CD2				SKS	**SKSdf**	**11 09 02.8 -3.8**
CD2				SKKS	**SKKSac**	**11 11 06.8 -4.0**
CD2				SS	**SS**	**11 21 47.8 +0.9**
CD2				AMB	AMB	
comp=Z,150nm,8.8s						
CD2				LR	LR	
comp=N,120nm,18.4s						
CD2				LR	LR	
comp=Z,180nm,16.4s						
WRA	**Warramunga Arr**	**133.88**	**256**	PKP	**PKPdf**	**11 02 02.2 -0.8**
WRA	**Warramunga Arr**	**133.88**	**256**	PKP	**PKPdf**	**11 02 02.2 -0.8**
comp=Z,2.5nm,0.7s,baz=85,slow=2.2,SNR=28						
ASAR	**Alice Springs**	**134.25**	**251**	PKP	**PKPdf**	**11 02 03.0 -0.6**
ASAR	**Alice Springs**	**134.25**	**251**	PKP	**PKPdf**	**11 02 03.0 -0.6**
comp=Z,1.6nm,0.7s,baz=77,slow=0.9,SNR=14						
GYA	**Guiyang**	**134.48**	**334**	*e*Pdif	**Pdif**	**10 59 02.5 -2.0**
GYA				PKP	**PKPdf**	**11 02 03.5 -0.7**
GYA				sPKP		11 02 23.0
GYA				PP	**PP**	**11 04 39.5 +4.0**
GYA				PKS	**PKSdf**	**11 05 38.8 -2.1**
GYA				SKKS		11 11 25.5
GYA				SS	**SS**	**11 22 23.0 +0.5**
GYA				AMB	AMB	
comp=Z,120nm,7.0s						
GYA				LR	LR	
comp=N,130nm,23.7s						
GYA				LR	LR	
comp=E,110nm,24.5s						
GYA				LR	LR	
comp=Z,120nm,22.6s						
KMI	**Kunming**	**137.23**	**338**	PKP	**PKPdf**	**11 02 09.8 +0.3**
FITZ	**Fitzroy Crossi**	**142.07**	**259**	PKP	**PKPdf**	**11 02 16.8 -1.3**
FITZ	**Fitzroy Crossi**	**142.07**	**259**	PKP	**PKPdf**	**11 02 16.8 -1.3**
comp=Z,4.3nm,0.9s,baz=90,slow=3.5,SNR=6.1						
CHTO	**Chiang Mai**	**144.38**	**339**	*e*PKIKP	**PKPab**	**11 02 20.2 -0.1**
CHTO	**Chiang Mai**	**144.38**	**339**	*e*PKPdf	**PKPab**	**11 02 20.2 -0.1**
CM31	**Chiang Mai Arr**	**144.71**	**339**	*e*PKPdf	PKPbc	11 02 22.1 +0.4
CMAR	**Chiang Mai Arr**	**144.71**	**339**	PKP	PKPbc	11 02 21.8 +0.1
CMAR	**Chiang Mai Arr**	**144.71**	**339**	PKP	PKPbc	11 02 21.8 +0.1
comp=Z,16nm,0.9s,baz=345,slow=4.0,SNR=96						
KAPI	**Kappang**	**145.61**	**283**	*e*PKPbc	**PKPdf**	**11 02 24.0 -0.5**
KAPI	**Kappang**	**145.61**	**283**	PKPbc	**PKPdf**	**11 02 23.5 -1.0**
comp=Z,28nm,1.0s,baz=77,slow=2.9,SNR=8.9						
HYB	**Hyderabad**	**147.18**	**14**	*i* PKP	**PKPdf**	**11 02 28.0 +0.9**
KSM	**Kuching**	**151.21**	**302**	*e*PKPbc	**PKPbc**	**11 02 39.8 +0.2**
KSM				*e*PKPab	**PKPab**	**11 02 48.8 +1.4**

CASC 29 10:49:15.8±3.2, 8°42N×82°90W, h0km±7km, MD3.5, 3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.35**	**312**	*e*P	Pb	10 49 24.0	-1.1
ACR				*e*S	Sb	10 49 31.9	+0.7
BRU2	**Volcan**	**0.43**	**29**	⇓*i*P	Pg	10 49 25.1	+0.8
BRU2				*e*S	Sb	10 49 32.2	-1.4
TBS2		**0.45**	**33**	*e*P	Pb	10 49 26.2	-0.6
TBS2				*e*S	Sb	10 49 34.5	+0.3
CTCR	**Cotoan**	**0.50**	**17**	⇓*i*P	Pg	10 49 26.3	+0.7
BRU	**Baru**	**0.51**	**41**	*e*P	Pg	10 49 26.4	+0.1
CNI	**Changuinola**	**1.06**	**21**	⇓*i*P	Pg	10 49 35.2	-1.0
CNI				*e*S	Sg	10 49 46.4	-3.6
BUS	**Buena Vista**	**1.41**	**323**	*e*P	Pn	10 49 41.3	-2.1
BUS				*e*S	Sn	10 50 04.2	+1.1
QCR	**Quepos**	**1.60**	**309**	*e*P	Pn	10 49 44.2	-1.2
QCR				*e*S	Sb	10 50 07.1	+0.1
URSC	**Urasca**	**1.65**	**329**	*e*P	Pn	10 49 45.2	-1.2
URSC				*e*S	Sg	10 50 10.6	+1.2
SJS	**Escuela Geolog**	**1.89**	**323**	*e*P	Pn	10 49 49.3	-0.3
SJS				*e*S	Sg	10 50 16.5	-0.5
CGA2	**Cerro Gallo 2**	**2.21**	**316**	*e*P	Pn	10 49 53.8	-0.2
CGA2				*e*S	Sb	10 50 23.9	-1.2
CAO	**Cobano**	**2.52**	**301**	*e*P	Pn	10 49 54.8	-3.3
ZANG	**Zanguenga, Cho**	**3.05**	**80**	*e*P	Pn	10 50 03.1	-2.2
ZANG				*e*S	Sb	10 50 46.4	-2.4
BCIP	**Isla Barro Col**	**3.12**	**76**	*e*P	Pn	10 50 03.0	-3.3
BCIP				*e*S	Sb	10 50 49.2	-1.6
UPA	**Univ. de Panam**	**3.38**	**80**	*e*P	Pn	10 50 11.2	+1.3
UPA				*e*S	Sb	10 50 54.7	-3.6
UPIG		**3.38**	**80**	*e*P	Pn	10 50 09.7	-0.2
UPIG				*e*S	Sb	10 50 57.2	-1.1

*ISCJB **29** 10:51:56.7±0.6, 56°57N±0°05×155°17W±0°07, h75km±5km, mb3.9/10, Error ellipse: s-maj=10.2km s-min=4.3km az=150.0*

*NEIC **29** 10:51:59.4, 56°61N×155°18W, h60km, ML3.3(AEIC), After AEIC.*

*IDC **29** 10:51:59.7±3.2, 56°97N×155°44W, h59km±28km, mb3.6/10, mb1 3.7/12, mb1mx3.5/32, mbtmp3.6/12, ML3.8/2, MS4.3/2, Ms1 4.3/2, ms1mx3.2/35, Error ellipse: s-maj=29.5km s-min=20.9km az=0.0*

ISC 29 10:51:58.1±1.0, 56°60N±0°06×155°25W±0°04, h62km±10km, n69, σ1°06/74, mb4.1/10, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.24**	**59**	P	**Pn**	**10 52 19.5**	**+0.2**
OHAK				S	**Sn**	**10 52 34.6**	**-0.5**
PLBL	**Peulik Blue Cr**	**1.39**	**323**	P	**Pn**	**10 52 22.5**	**+1.1**
PLK1	**Peulik 1**	**1.41**	**329**	P	**Pn**	**10 52 22.2**	**+0.7**
CAHL	**Cahill**	**1.45**	**359**	P	**Pn**	**10 52 22.8**	**+0.6**
KJL	**Kejulik**	**1.46**	**353**	P	**Pn**	**10 52 22.9**	**+0.6**
KABR	**Katmai Barrier**	**1.54**	**5**	P	**Pn**	**10 52 23.8**	**+0.4**
KABR				S	**Sn**	**10 52 42.6**	**+0.2**
ANCK	**Angle Creek**	**1.60**	**355**	P	**Pn**	**10 52 24.8**	**+0.6**
ACHA	**Angle Creek He**	**1.61**	**359**	P	**Pn**	**10 52 25.0**	**+0.6**
ACHA				S	**Sn**	**10 52 44.2**	**0.0**
PLK5	**Peulik 5**	**1.65**	**328**	P	**Pn**	**10 52 25.4**	**+0.6**
ANPB	**Aniakchak Plen**	**1.69**	**278**	P	**Pn**	**10 52 25.6**	**+0.3**
KAKN	**Katmai Knife C**	**1.70**	**3**	P	**Pn**	**10 52 26.1**	**+0.6**
CHGN	**Chignik**	**1.78**	**262**	*e*Pn	**Pn**	**10 52 26.5**	**-0.1**
CHGN				*e*Sn	**Sn**	**10 52 46.7**	**-1.5**
KELA	**Mount Kelaz**	**1.86**	**352**	P	**Pn**	**10 52 27.8**	**+0.1**
KDAK	**Kodiak Island**	**1.87**	**50**	P	**Pn**	**10 52 27.9**	**+0.1**
KDAK				S	**Sn**	**10 52 49.2**	**-1.1**
KDAK	**Kodiak Island**	**1.87**	**50**	P	**Pn**	**10 52 27.9**	**+0.1**
46nm,0.3s,baz=233,slow=7.5,SNR=334							
KDAK				S	**Sn**	**10 52 49.1**	**-1.1**
28nm,0.3s,baz=315,slow=23,SNR=4.6							
KAPH	**Katmai Pasha**	**2.06**	**13**	P	**Pn**	**10 52 31.0**	**+0.7**
VNHG	**Veniaminof 1**	**2.21**	**262**	P	**Pn**	**10 52 33.6**	**+1.2**
VNFG	**Veniaminof 2**	**2.41**	**264**	P	**Pn**	**10 52 36.3**	**+1.1**
VNWF	**Veniaminof 8**	**2.44**	**261**	P	**Pn**	**10 52 36.6**	**+1.0**
MCNL	**McNeil River**	**2.63**	**10**	P	**Pn**	**10 52 38.5**	**+0.4**
SDPT	**Sand Point**	**3.20**	**249**	P	**Pn**	**10 52 45.8**	**+0.1**
OPT	**Oil Point**	**3.24**	**18**	P	**Pn**	**10 52 47.6**	**+1.2**
ILIM	**Iliamna**	**3.69**	**18**	P	**Pn**	**10 52 53.5**	**+0.9**
PS4A	**Pavlof South-4**	**3.92**	**254**	P	**Pn**	**10 52 56.1**	**+0.4**
NCT	**North Crescent**	**4.15**	**16**	P	**Pn**	**10 52 60.0**	**+1.1**
DFR	**Drift River**	**4.22**	**17**	P	**Pn**	**10 53 00.5**	**+0.7**
DT1	**Dutton Round H**	**4.24**	**252**	P	**Pn**	**10 52 59.9**	**-0.1**
DRIA	**Deer Island**	**4.29**	**250**	P	**Pn**	**10 53 00.6**	**-0.2**
SVW2	**Sparrevohn**	**4.51**	**358**	P	**Pn**	**10 53 03.9**	**+0.1**
CKL	**Chakachamna La**	**4.85**	**17**	P	**Pn**	**10 53 08.3**	**-0.2**
SPU	**Mount Spurr**	**4.88**	**18**	P	**Pn**	**10 53 07.3**	**-1.5**
BGL	**Barrier Glacie**	**4.90**	**16**	P	**Pn**	**10 53 10.3**	**+1.1**
MID	**Middleton Isla**	**5.52**	**55**	*e*Pn	**Pn**	**10 53 18.3**	**+0.9**
JPK	**Jack Peak**	**6.33**	**42**	P	**Pn**	**10 53 27.7**	**-1.0**
TT01	**Tatalina**	**6.33**	**357**	P	**Pn**	**10 53 29.1**	**+0.4**
EYAK	**Cordova Ski Ar**	**6.35**	**48**	P	**Pn**	**10 53 27.7**	**-1.1**
VLZ	**Valdez**	**6.48**	**42**	P	**Pn**	**10 53 30.1**	**-0.5**
SCM	**Sheep Creek Mo**	**6.63**	**34**	P	**Pn**	**10 53 32.4**	**-0.5**
GOAT	**Goat Mountain**	**6.79**	**50**	P	**Pn**	**10 53 34.7**	**-0.2**
KLU	**Klutina**	**6.86**	**41**	P	**Pn**	**10 53 35.5**	**-0.5**
BMRM	**Bremner River**	**7.05**	**47**	*e*Pn	**Pn**	**10 53 38.6**	**+0.1**
22nm,0.8s							
BMRM				*e*Sn	**Sn**	**10 54 53.5**	**-3.6**
ILAR	**Eielson Array**	**9.15**	**23**	P	**Pn**	**10 54 06.0**	**-1.1**
ILAR				S	Sn	10 55 41.5	-7.0
ILAR	**Eielson Array**	**9.15**	**23**	P	**Pn**	**10 54 06.0**	**-1.1**
0.5nm,0.3s,baz=214,slow=14,SNR=11							
ILAR				S	Sn	10 55 41.5	-7.0
1.7nm,0.3s,baz=225,slow=20,SNR=12							
DLBC	**Dease Lake**	**13.65**	**72**	P	**Pn**	**10 55 09.5**	**+1.0**
DLBC	**Dease Lake**	**13.65**	**72**	P	**Pn**	**10 55 09.5**	**+1.0**
0.2nm,0.3s,baz=249,slow=19,SNR=13							
INK	**Inuvik**	**15.32**	**31**	P	**P**	**10 55 32.4**	**-1.2**
INK	**Inuvik**	**15.32**	**31**	P	**P**	**10 55 32.4**	**-1.2**
0.3nm,0.3s,baz=234,slow=12,SNR=9.0							
YKA	**Yellowknife Ar**	**21.13**	**57**	P	**P**	**10 56 38.0**	**+0.7**
YKA	**Yellowknife Ar**	**21.13**	**57**	P	**P**	**10 56 38.0**	**+0.7**
1.4nm,0.6s,baz=272,slow=10,SNR=3.7							
PETK	**Petropavlovsk-**	**26.89**	**283**	P	**P**	**10 57 34.0**	**+1.2**
PETK	**Petropavlovsk-**	**26.89**	**283**	P	**P**	**10 57 34.0**	**+1.2**
3.4nm,0.9s,baz=72,slow=12,SNR=7.0							
TXAR	**Lajitas Array**	**45.08**	**105**	P	**P**	**11 00 10.8**	**+3.0**
TXAR	**Lajitas Array**	**45.08**	**105**	P	**P**	**11 00 10.8**	**+3.0**
0.1nm,0.3s,baz=312,slow=11,SNR=2.9							
SPITS	**Spitsbergen Ar**	**45.37**	**2**	P	**P**	**11 00 09.7**	**+0.2**
SPITS	**Spitsbergen Ar**	**45.37**	**2**	P	**P**	**11 00 09.7**	**+0.2**
2.4nm,0.9s,baz=46,slow=3.6,SNR=5.7							
SONM	**Songino Array**	**55.84**	**306**	P	**P**	**11 01 26.8**	**-2.0**
SONM	**Songino Array**	**55.84**	**306**	P	**P**	**11 01 26.8**	**-2.0**
1.0nm,0.3s,baz=47,slow=6.8,SNR=5.7							
ZALV	**Zalesovo Beam**	**59.41**	**323**	P	**P**	**11 01 52.7**	**-0.8**
ZALV	**Zalesovo Beam**	**59.41**	**323**	P	**P**	**11 01 52.7**	**-0.8**
1.2nm,0.7s,baz=44,slow=8.6,SNR=3.2							
FINES	**FINESS Array B**	**62.29**	**359**	P	**P**	**11 02 12.9**	**0.0**
FINES	**FINESS Array B**	**62.29**	**359**	P	**P**	**11 02 12.9**	**0.0**
2.4nm,0.9s,baz=15,slow=7.9,SNR=6.4							
HFS	**Hagfors**	**63.28**	**6**	P	**P**	**11 02 19.8**	**+0.3**
HFS	**Hagfors**	**63.28**	**6**	P	**P**	**11 02 19.8**	**+0.3**
1.6nm,0.6s,baz=50,slow=4.8,SNR=4.4							
BVAR	**Borovoye Array**	**64.50**	**331**	P	**P**	**11 02 27.1**	**-0.7**
BVAR	**Borovoye Array**	**64.50**	**331**	P	**P**	**11 02 27.1**	**-0.7**
1.6nm,0.5s,baz=42,slow=6.0,SNR=6.7							
MKAR	**Makanchi Array**	**66.33**	**321**	P	**P**	**11 02 39.2**	**-0.4**
MKAR	**Makanchi Array**	**66.33**	**321**	P	**P**	**11 02 39.2**	**-0.4**
0.6nm,0.6s,baz=34,slow=6.7,SNR=4.4							
BRTR	**Keskin Array B**	**83.74**	**353**	LR	LR	11 49 39.4	
comp=Z,155nm,19.3s,baz=297,slow=42							
EIL	**Elat**	**93.63**	**351**	LR	LR	11 56 32.0	
comp=Z,127nm,18.8s,baz=91,slow=42							

*NOU **29** 10:55:14.5±0.5, 24°86S×168°14E, h30km, MD3.3, ML3.5*

IDC 29 10:55:12.8±2.5, 20°49S×168°98E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/20, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=81.5km s-min=23.8km az=142.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.56**	**229**	*e*S	Sb	10 56 30.0	-1.6
DZM	**Mont Dzumac**	**2.84**	**236**	*e*P	Pb	10 56 01.2	-3.2
DZM				AMP		10 56 38.8	
comp=Z,1μm,3.5s							
DZM	**Mont Dzumac**	**2.84**	**236**	Pn	Pb	10 56 01.4	-3.0
comp=Z,7.2nm,0.3s,baz=61,slow=16,SNR=91							
DZM				Sn	Sb	10 56 34.7	-5.2
comp=Z,23nm,0.3s,baz=1.0,slow=15,SNR=10							
NOUC	**Port Laguerre**	**2.97**	**237**	*e*P	Pb	10 56 03.4	-3.1
NOUC				*e*S	Sb	10 56 39.1	-4.2
NOUC				AMP		10 56 50.2	
comp=Z,64nm,4.8s							
CTA	**Charters Tower**	**21.32**	**267**	P	P	11 00 02.9	+1.4
comp=Z,2.1nm,0.7s,baz=102,slow=13,SNR=3.8							
WRA	**Warramunga Arr**	**32.48**	**265**	P	P	11 01 43.4	-1.9
comp=Z,1.2nm,1.1s,baz=97,slow=7.2,SNR=5.0							
ASAR	**Alice Springs**	**32.61**	**258**	P	P	11 01 45.8	-0.6
comp=Z,1.8nm,0.8s,baz=86,slow=8.4,SNR=29							
FITZ	**Fitzroy Crossi**	**40.89**	**266**	P	P	11 02 56.2	-0.8
comp=Z,5.0nm,0.9s,baz=120,slow=8.3,SNR=7.8							
SONM	**Songino Array**	**88.07**	**323**	P	P	11 08 05.4	+0.2
comp=Z,0.5nm,0.3s,baz=141,slow=5.6,SNR=2.5							
ILAR	**Eielson Array**	**91.49**	**17**	P	P	11 08 19.3	-1.4
comp=Z,0.3nm,0.7s,baz=201,slow=3.8,SNR=4.4							
GERES	**GERESS Array B**	**145.47**	**331**	PKPbc	PKPab	11 14 54.3	+1.1
comp=Z,0.3nm,0.6s,baz=308,slow=3.6,SNR=2.6							

*CSEM **29** 10:56:04.4, 46°22N×15°56E, h0km, ML1.1, After LJU*

LJU 29 10:56:04.4, 46°22N×15°56E, h14km, ML1.1, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOBS	**Dobrina**	**0.09**	**221**	⇑*i*Pg	Pg	10 56 07.8	+0.4
DOBS				*i* Sg	Sg	10 56 09.7	+0.2
DOBS							
comp=Z,22nm,0.1s							
DOBS	**Dobrina**	**0.09**	**221**	⇑*i*Pg	Pg	10 56 07.8	+0.4
DOBS				*i* Sg	Sg	10 56 09.7	+0.2
comp=Z,22nm,0.1s							
GROS	**Grobnik**	**0.24**	**351**	*i* Pg	Pg	10 56 10.1	+0.3
GROS				*e*Sg	Sg	10 56 13.5	0.0
GROS							
comp=Z,5.0nm,0.1s							
GROS	**Grobnik**	**0.24**	**351**	*i* Pg	Pg	10 56 10.1	+0.3
GROS				*e*Sg	Sg	10 56 13.5	0.0
comp=Z,5.0nm,0.1s							
GCIS	**Gornji Cirnik**	**0.35**	**172**	*i* Sg	Pg	10 56 17.0	+5.4
GCIS	**Gornji Cirnik**	**0.35**	**172**	*i* Sg	Pg	10 56 17.0	+5.4
PDKS	**Podkum**	**0.42**	**248**	⇑*i*Pg	Pg	10 56 13.1	+0.2
PDKS	**Podkum**	**0.42**	**248**	⇑*i*Pg	Pg	10 56 13.1	+0.2
VNDS	**Vrh nad Dolski**	**0.61**	**259**	*i* Pg	Pg	10 56 16.3	-0.1

IDC 29 11:00:29.9±2.1, 1°04S×148°83E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=320.8km s-min=28.3km az=120.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.54**	**216**	P	P	11 05 42.4	+0.3
0.7nm,0.5s,baz=41,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.75**	**212**	P	P	11 06 11.3	-0.2
1.0nm,0.8s,baz=45,slow=7.5,SNR=8.9							
ILAR	**Eielson Array**	**80.23**	**23**	P	P	11 12 42.1	0.0
0.2nm,0.6s,baz=264,slow=5.8,SNR=4.8							

WEL 29 11:09:15.4±0.3, 40°91S×172°83E, h214km±2km, ML3.5/8, 3C-7D, Error ellipse: s-maj=2.6km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.24**	**290**	⇓PN	Pn	11 09 43.4	-0.1
QRZ				SN	S	11 10 03.9	-1.4
NNZ	**Nelson**	**0.52**	**127**	PN	Pn	11 09 44.2	+0.1
NNZ				SN	S	11 10 05.2	-1.4
DUWZ	**D'Urville Isla**	**0.83**	**83**	PN	Pn	11 09 45.7	+0.1
DUWZ				SN	S	11 10 08.5	-0.6
THZ	**Tophouse**	**0.85**	**176**	⇓PN	Pn	11 09 46.0	+0.2
THZ				SN	S	11 10 08.3	-1.3
TUWZ	**Tuamarina**	**0.99**	**122**	PN	Pn	11 09 46.6	+0.2
TUWZ				SN	S	11 10 10.0	-0.7
TUWZ				AML	AML	11 10 11.7	
BSWZ	**Blackbirch Sta**	**1.12**	**136**	PN	Pn	11 09 47.4	+0.1
BSWZ				AML	AML	11 10 12.6	
TCW	**Tory Channel**	**1.13**	**106**	PN	Pn	11 09 47.5	+0.1
TCW				AML	AML	11 10 11.9	
TCW				AML	AML	11 10 12.4	
DSZ	**Denniston Nort**	**1.14**	**222**	⇓PN	Pn	11 09 47.2	-0.4
WEL	**Wellington**	**1.51**	**105**	PN	Pn	11 09 48.9	-1.5
KIW	**Kapiti Island**	**1.58**	**89**	PN	Pn	11 09 50.7	-0.3
KIW				AML	AML	11 10 17.9	
KIW				AML	AML	11 10 18.2	
KHZ	**Kahutara**	**1.60**	**161**	PN	Pn	11 09 50.5	-0.5
KHZ				AML	AML	11 10 18.1	
KHZ				AML	AML	11 10 18.6	
BHW	**Baring Head**	**1.62**	**109**	PN	Pn	11 09 52.9	+1.7
CAW	**Cannon Point**	**1.70**	**97**	PN	Pn	11 09 51.8	-0.3
CAW				AML	AML	11 10 21.6	
CAW				AML	AML	11

2.2nm,0.8s,baz=29,slow=9.4,SNR=13
ASAR S S 11 57 35.6 +0.2
0.4nm,0.6s,baz=20,slow=29,SNR=3.9
CMAR Chiang Mai Arr 45.57 301 P P 11 57 33.2 -0.3
0.4nm,0.4s,baz=113,slow=6.9,SNR=3.0
MKAR Makanchi Array 71.16 323 P P 12 00 31.1 -1.0
0.2nm,0.4s,baz=111,slow=7.9,SNR=3.3
ILAR Eielson Array 86.81 24 P P 12 01 58.2 +0.8
0.3nm,0.6s,baz=256,slow=4.5,SNR=4.3

*IDC **29** 11:55:59.3±1.4, 44°.21N×128°.05W, h0km, mb3.5/4, mb1 3.7/9, mb1mx3.5/31, mbtmp3.4/9, ML2.9/4, MS3.0/2, Ms1 3.1/2, ms1mx2.7/30, Error ellipse: s-maj=44.0km s-min=14.4km az=41.0*

ISC 29 11:56:00.3±1.2, 44°.0N±0°.1×128°.7W±0°.1, h10km, n71, σ0°78/69, mb3.5/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**4.96**	**115**	Pn	Pn	11 57 11.9	-3.0
	0.1nm,0.3s,baz=312,slow=14,SNR=3.4						
YBH				LR	LR	11 58 59.8	
	comp=Z,279nm,19.3s,baz=224,slow=39						
NVAR	**Mina Array Bea**	**9.61**	**122**	**Pn**	**Pn**	**11 58 17.4**	**-1.5**
	0.0nm,0.3s,baz=292,slow=13,SNR=7.1						
NVAR				LR	LR	12 02 01.3	
	comp=Z,63nm,18.7s,baz=306,slow=38						
HLID	**Hailey**	**10.37**	**87**	P	**Pn**	**11 58 31.0**	**+1.8**
	baz=11						
HLID	**Hailey**	**10.37**	**87**	P	**Pn**	**11 58 31.0**	**+1.8**
	baz=11						
ISA	**Isabella**	**11.44**	**133**	P	**Pn**	**11 58 43.6**	**-0.2**
	baz=12						
ISA	**Isabella**	**11.44**	**133**	P	**Pn**	**11 58 43.6**	**-0.2**
	baz=12						
MPMC	**Manual Prospec**	**11.68**	**129**	P	**Pn**	**11 58 48.3**	**+1.0**
	baz=12						
MPMC	**Manual Prospec**	**11.68**	**129**	P	**Pn**	**11 58 48.3**	**+1.0**
	baz=12						
FURC	**Furnace Creek,**	**11.76**	**126**	P	**Pn**	**11 58 48.8**	**+0.7**
	baz=12						
FURC	**Furnace Creek,**	**11.76**	**126**	P	**Pn**	**11 58 48.8**	**+0.7**
	baz=12						
EDW2	**Edwards Air Fo**	**12.29**	**134**	P	**Pn**	**11 58 54.9**	**-0.5**
	baz=12						
EDW2	**Edwards Air Fo**	**12.29**	**134**	P	**Pn**	**11 58 54.9**	**-0.5**
	baz=12						
H16A	**Russell Place,**	**12.54**	**81**	P	**Pn**	**11 58 58.7**	**-0.3**
	baz=13						
H16A	**Russell Place,**	**12.54**	**81**	P	**Pn**	**11 58 58.7**	**-0.3**
	baz=13						
GSC	**Goldstone**	**12.62**	**129**	P	**Pn**	**11 59 00.8**	**+1.0**
	baz=13						
GSC	**Goldstone**	**12.62**	**129**	P	**Pn**	**11 59 00.8**	**+1.0**
	baz=13						
TUQ	**Turquoise Moun**	**13.02**	**127**	P	**Pn**	**11 59 06.3**	**+0.9**
	baz=13,SNR=6.0						
TUQ	**Turquoise Moun**	**13.02**	**127**	P	**Pn**	**11 59 06.3**	**+0.9**
	baz=13,SNR=6.0						
PDAR	**Pinedale Array**	**14.00**	**88**	Pn	Pn	11 59 15.1	-3.7
	baz=259,slow=7.9,SNR=2.7						
C19A	**Slack Wire Ran**	**14.22**	**68**	P	**Pn**	**11 59 21.5**	**-0.2**
	baz=14						
C19A	**Slack Wire Ran**	**14.22**	**68**	P	**Pn**	**11 59 21.5**	**-0.2**
	baz=14						
N20A	**Spence Gulch,**	**15.44**	**95**	P	**Pn**	**11 59 38.3**	**0.0**
	baz=16						
N20A	**Spence Gulch,**	**15.44**	**95**	P	**Pn**	**11 59 38.3**	**0.0**
	baz=16						
S21A	**Coal Bank Pass**	**17.04**	**105**	P	**Pn**	**11 59 59.6**	**+0.7**
	baz=17,SNR=6.3						
S21A	**Coal Bank Pass**	**17.04**	**105**	P	**Pn**	**11 59 59.6**	**+0.7**
	baz=17,SNR=6.3						
U21A	**Nageezi**	**17.74**	**108**	P	**P**	**12 00 09.1**	**+0.6**
	baz=18,SNR=7.2						
U21A	**Nageezi**	**17.74**	**108**	P	**P**	**12 00 09.1**	**+0.6**
	baz=18,SNR=7.2						
T22A	**Edith**	**17.97**	**105**	P	**Pn**	**12 00 10.6**	**+0.2**
	baz=18,SNR=10						
T22A	**Edith**	**17.97**	**105**	P	**Pn**	**12 00 10.6**	**+0.2**
	baz=18,SNR=10						
X20A	**Quemado**	**18.24**	**114**	P	**P**	**12 00 14.6**	**+0.6**
	baz=18,SNR=5.6						
X20A	**Quemado**	**18.24**	**114**	P	**P**	**12 00 14.6**	**+0.6**
	baz=18,SNR=5.6						
U22A	**Llaves**	**18.32**	**107**	P	**Pn**	**12 00 14.8**	**+0.1**
	baz=18,SNR=11						
U22A	**Llaves**	**18.32**	**107**	P	**Pn**	**12 00 14.8**	**+0.1**
	baz=18,SNR=11						
V22A	**San Miguel Ran**	**18.53**	**108**	P	**Pn**	**12 00 17.7**	**+0.5**
	baz=19,SNR=5.9						
V22A	**San Miguel Ran**	**18.53**	**108**	P	**Pn**	**12 00 17.7**	**+0.5**
	baz=19,SNR=5.9						
V23A	**Ortiz Mt. (NFS**	**19.12**	**108**	P	**Pn**	**12 00 24.4**	**0.0**
	baz=19,SNR=7.7						
V23A	**Ortiz Mt. (NFS**	**19.12**	**108**	P	**Pn**	**12 00 24.4**	**0.0**
	baz=19,SNR=7.7						
ANMO	**Albuquerque**	**19.37**	**110**	P	**P**	**12 00 24.1**	**-2.2**
	0.1nm,0.3s,baz=319,slow=20,SNR=2.2						
T25A	**Trinidad**	**19.66**	**102**	P	**P**	**12 00 29.8**	**+0.4**
	baz=20,SNR=6.4						
T25A	**Trinidad**	**19.66**	**102**	P	**P**	**12 00 29.8**	**+0.4**
	baz=20,SNR=6.4						
V24A	**Rampart Ranch,**	**19.76**	**107**	P	**P**	**12 00 31.2**	**+0.6**
	baz=20,SNR=8.0						
V24A	**Rampart Ranch,**	**19.76**	**107**	P	**P**	**12 00 31.2**	**+0.6**
	baz=20,SNR=8.0						
W24A	**Lazy 6 Ranch,**	**19.94**	**108**	P	**P**	**12 00 32.6**	**+0.1**
	baz=20,SNR=7.9						
W24A	**Lazy 6 Ranch,**	**19.94**	**108**	P	**P**	**12 00 32.6**	**+0.1**
	baz=20,SNR=7.9						
U25A	**Circle Dot Ran**	**20.02**	**104**	P	**P**	**12 00 33.7**	**+0.4**
	baz=20,SNR=14						
U25A	**Circle Dot Ran**	**20.02**	**104**	P	**P**	**12 00 33.7**	**+0.4**
	baz=20,SNR=14						
T26A	**Comanche Natio**	**20.22**	**101**	P	**P**	**12 00 36.0**	**+0.5**
	baz=20,SNR=8.1						
T26A	**Comanche Natio**	**20.22**	**101**	P	**P**	**12 00 36.0**	**+0.5**
	baz=20,SNR=8.1						
YKA	**Yellowknife Ar**	**20.30**	**19**	P	**P**	**12 00 34.2**	**-1.8**
	0.1nm,0.3s,baz=206,slow=11,SNR=3.3						
R27A	**Eads**	**20.30**	**97**	P	**P**	**12 00 36.4**	**0.0**
	baz=20,SNR=7.0						
R27A	**Eads**	**20.30**	**97**	P	**P**	**12 00 36.4**	**0.0**
	baz=20,SNR=7.0						
U26A	**Atchley Ranch,**	**20.48**	**103**	P	**P**	**12 00 39.0**	**+0.6**
	baz=21,SNR=7.1						
U26A	**Atchley Ranch,**	**20.48**	**103**	P	**P**	**12 00 39.0**	**+0.6**
	baz=21,SNR=7.1						
S27A	**Las Animas**	**20.49**	**99**	P	**P**	**12 00 38.8**	**+0.4**
	baz=21,SNR=5.2						
S27A	**Las Animas**	**20.49**	**99**	P	**P**	**12 00 38.8**	**+0.4**
	baz=21,SNR=5.2						
W25A	**X Bar L Ranch,**	**20.59**	**107**	P	**P**	**12 00 40.2**	**+0.7**
	baz=21,SNR=5.5						
W25A	**X Bar L Ranch,**	**20.59**	**107**	P	**P**	**12 00 40.2**	**+0.7**
	baz=21,SNR=5.5						
V26A	**Tequesquite Ra**	**20.75**	**105**	P	**P**	**12 00 41.6**	**+0.3**
	baz=21,SNR=14						
V26A	**Tequesquite Ra**	**20.75**	**105**	P	**P**	**12 00 41.6**	**+0.3**
	baz=21,SNR=14						
T27A	**Campo**	**20.89**	**100**	P	**P**	**12 00 43.4**	**+0.6**
	baz=21,SNR=5.4						
T27A	**Campo**	**20.89**	**100**	P	**P**	**12 00 43.4**	**+0.6**
	baz=21,SNR=5.4						
Z24A	**Sheeppen Canyo**	**21.05**	**112**	P	**P**	**12 00 45.4**	**+0.8**
	baz=21,SNR=5.8						
Z24A	**Sheeppen Canyo**	**21.05**	**112**	P	**P**	**12 00 45.4**	**+0.8**
	baz=21,SNR=5.8						
T28A	**Walsh**	**21.30**	**100**	P	**P**	**12 00 47.1**	**0.0**
	baz=22,SNR=10						
T28A	**Walsh**	**21.30**	**100**	P	**P**	**12 00 47.1**	**0.0**
	baz=22,SNR=10						
Z27A	**Tatum**	**22.51**	**110**	P	**P**	**12 00 59.9**	**-0.3**
	baz=23,SNR=5.7						
Z27A	**Tatum**	**22.51**	**110**	P	**P**	**12 00 59.9**	**-0.3**
	baz=23,SNR=5.7						
ILAR	**Eielson Array**	**23.20**	**340**	P	**P**	**12 01 08.3**	**+1.3**
	0.7nm,1.0s,baz=173,slow=9.7,SNR=4.1						
TXAR	**Lajitas Array**	**24.73**	**118**	P	**P**	**12 01 19.8**	**-2.1**
	1.1nm,1.1s,baz=302,slow=7.2,SNR=6.6						
SONM	**Songino Array**	**76.52**	**325**	P	**P**	**12 07 50.9**	**+0.4**
	1.7nm,1.0s,baz=70,slow=4.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**78.32**	**341**	P	**P**	**12 08 00.1**	**-0.2**
	0.3nm,0.5s,baz=25,slow=7.9,SNR=2.6						

IDC 29 12:05:11.8±3.3, 18°.04S×168°.73E, h153km±56km, mb3.6/5, mb1 3.7/6, mb1mx3.4/21, mbtmp3.5/6, Error ellipse: s-maj=97.6km s-min=63.0km az=96.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.55**	**208**	P	Pn	12 06 19.6	+0.2
	5.7nm,0.3s,baz=29,slow=19,SNR=45						
DZM				S	Sn	12 07 12.1	-0.1
	8.1nm,0.3s,baz=137,slow=23,SNR=8.0						
CTA	**Charters Tower**	**21.34**	**261**	P	P	12 09 48.7	+1.6
	0.7nm,0.5s,baz=86,slow=14,SNR=6.3						
STKA	**Stephens Creek**	**28.10**	**235**	P	P	12 10 49.2	-0.2
	1.5nm,0.3s,baz=90,slow=5.1,SNR=2.8						
WRA	**Warramunga Arr**	**32.55**	**261**	P	P	12 11 27.5	-1.2
	0.4nm,0.6s,baz=86,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**32.97**	**254**	P	P	12 11 32.2	-0.2
	3.3nm,0.7s,baz=81,slow=8.9,SNR=26						
FITZ	**Fitzroy Crossi**	**40.90**	**263**	P	P	12 12 39.5	+0.2
	2.5nm,1.0s,baz=82,slow=3.3,SNR=4.8						

*IDC **29** 12:08:50.8±1.3, 34°.07N×25°.49E, h0km, mb3.8/8, mb1 3.8/14, mb1mx3.7/31, mbtmp3.7/14, ML3.9/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/44, Error ellipse: s-maj=25.6km s-min=21.9km az=2.0*

*CSEM **29** 12:08:52.8±0.3, 33°.99N×25°.47E, h10km, ML2.9/2, Error ellipse: s-maj=9.4km s-min=5.6km az=68.0*

*THE **29** 12:08:57.3, 34°.32N×25°.35E, h0km±2km, ML2.9/2, Error ellipse: s-maj=6.0km s-min=1.2km az=186.0*

*HLW **29** 12:08:57.8, 33°.92N×25°.60E, h33km±3km, Md3.8, Ml0.0*

ISC 29 12:08:52.0±1.6, 33°.99N±0°.05×25°.46E±0°.04, h14km±10km, n53, σ1°41/72, mb3.9/8, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.28**	**6**	P	**Pb**	**12 09 15.9**	**0.0**
NPS				S	**Sb**	**12 09 31.1**	**-1.2**
NPS	**Neapolis**	**1.28**	**6**	P	**Pb**	**12 09 15.9**	**0.0**
NPS				S	**Sb**	**12 09 31.1**	**-1.2**
ZKR	**Zakros**	**1.29**	**29**	P	**Pg**	**12 09 16.3**	**-0.5**
ZKR				S	**Sg**	**12 09 33.7**	**+0.1**
ZKR	**Zakros**	**1.29**	**29**	P	**Pg**	**12 09 16.3**	**-0.5**
ZKR				S	**Sg**	**12 09 33.7**	**+0.1**
VAM	**Vamos**	**1.75**	**324**	P	**Pb**	**12 09 24.3**	**+0.3**
VAM	**Vamos**	**1.75**	**324**	P	**Pb**	**12 09 24.3**	**+0.3**
KARP	**Karpathos**	**2.10**	**42**	P	**Pb**	**12 09 30.1**	**+0.2**
KARP				S	**Sb**	**12 09 56.4**	**+0.6**
KARP	**Karpathos**	**2.10**	**42**	P	**Pb**	**12 09 30.1**	**+0.2**
SANT	**Santorini**	**2.38**	**0**	P	**Pn**	**12 09 31.7**	**+1.0**
SANT	**Santorini**	**2.38**	**0**	P	**Pn**	**12 09 31.7**	**+1.0**
SLUM		**2.50**	**185**	P	**Pn**	**12 09 33.6**	**+1.3**
ANKY	**Antikythira Is**	**2.58**	**317**	P	**Pb**	**12 09 35.9**	**-2.2**
ANKY	**Antikythira Is**	**2.58**	**317**	P	**Pb**	**12 09 35.9**	**-2.2**
KYTH	**Kithira**	**3.03**	**320**	P	**Pn**	**12 09 42.0**	**+2.4**
KYTH	**Kithira**	**3.03**	**320**	P	**Pn**	**12 09 42.0**	**+2.4**
APE	**Apeiranthos**	**3.08**	**1**	P	**Pn**	**12 09 42.0**	**+1.7**
APE	**Apeiranthos**	**3.08**	**1**	P	**Pn**	**12 09 42.0**	**+1.7**
HMAT	**Matruh**	**3.20**	**154**	P	**Pn**	**12 09 42.8**	**+0.8**
HMAT				S	**Sn**	**12 10 16.7**	**-3.3**
VLI	**Veliai**	**3.41**	**324**	P	**Pn**	**12 09 45.3**	**+0.4**
VLI				S	**Sn**	**12 10 24.8**	**-0.4**
VLI	**Veliai**	**3.41**	**324**	P	**Pn**	**12 09 45.3**	**+0.4**
VLI				S	**Sn**	**12 10 24.8**	**-0.4**
DIDY	**Didyma**	**3.93**	**333**	P	**Pn**	**12 09 53.3**	**+1.2**
DIDY				S	**Sn**	**12 10 36.3**	**-1.8**
DIDY	**Didyma**	**3.93**	**333**	P	**Pn**	**12 09 53.3**	**+1.2**
DIDY				S	**Sn**	**12 10 36.3**	**-1.8**
DID	**Didima**	**3.95**	**333**	P	**Pn**	**12 09 53.1**	**+0.8**
DID				S	**Sn**	**12 10 37.1**	**-1.3**
DID	**Didima**	**3.95**	**333**	P	**Pn**	**12 09 53.1**	**+0.8**
DID				S	**Sn**	**12 10 37.1**	**-1.3**
ITM	**Ithomi**	**4.29**	**319**	P	**Pn**	**12 09 59.4**	**+2.4**
ITM	**Ithomi**	**4.29**	**319**	P	**Pn**	**12 09 59.4**	**+2.4**
CHOS	**Chios island**	**4.42**	**6**	P	**Pn**	**12 10 01.1**	**+2.3**
CHOS	**Chios island**	**4.42**	**6**	P	**Pn**	**12 10 01.1**	**+2.3**
GUR	**Goura**	**4.68**	**328**	P	**Pn**	**12 10 03.5**	**+1.1**
GUR				S	**Sn**	**12 10 55.2**	**-1.4**
GUR	**Goura**	**4.68**	**328**	P	**Pn**	**12 10 03.5**	**+1.1**
GUR				S	**Sn**	**12 10 55.2**	**-1.4**
SWA2		**4.73**	**180**	P	**Pn**	**12 10 04.1**	**+1.1**
KLV	**Kalavryta, Ach**	**4.85**	**327**	P	**Pn**	**12 10 05.6**	**+0.9**
KLV				S	**Sn**	**12 11 00.9**	**+0.1**
KLV	**Kalavryta, Ach**	**4.85**	**327**	P	**Pn**	**12 10 05.6**	**+0.9**
KLV				S	**Sn**	**12 11 00.9**	**+0.1**
MRKA	**Markates**	**4.94**	**343**	P	**Pn**	**12 10 07.4**	**+1.5**
MRKA	**Markates**	**4.94**	**343**	P	**Pn**	**12 10 07.4**	**+1.5**
LKD2	**Lefkada island**	**6.16**	**322**	P	**Pn**	**12 10 24.6**	**+2.0**
LKD2				S	**Sn**	**12 11 33.2**	**+0.3**
LKD2	**Lefkada island**	**6.16**	**322**	P	**Pn**	**12 10 24.6**	**+2.0**
LKD2				S	**Sn**	**12 11 33.2**	**+0.3**
SUZ		**7.51**	**121**	P	**Pn**	**12 10 40.6**	**-0.6**
MMAI	**Mount Meron Ar**	**8.37**	**94**	Pn	**Pn**	**12 10 53.4**	**+0.4**
	0.9nm,0.3s,baz=272,slow=11,SNR=3.5						
MMAI				Sn	**Sn**	**12 12 26.1**	**-1.2**
	1.1nm,0.3s,baz=251,slow=23,SNR=3.1						
BRTR	**Keskin Array B**	**8.70**	**47**	Pn	**Pn**	**12 10 58.6**	**+0.9**
	0.0nm,0.3s,baz=229,slow=13,SNR=3.0						
EIL	**Elat**	**9.15**	**115**	Pn	**Pn**	**12 11 02.6**	**-1.2**
	0.3nm,0.3s,baz=315,slow=11,SNR=4.5						
EIL				Sn	**Sn**	**12 12 42.6**	**-4.0**
	0.4nm,0.3s,baz=18,slow=19,SNR=2.8						
ASF	**Jabal al Asfar**	**9.77**	**98**	LR	LR	12 16 11.4	
	comp=Z,48nm,18.6s,baz=4.4,slow=45						
KBZ	**Khabaz**	**16.68**	**49**	Pn	**P**	**12 12 48.7**	**+1.1**
	0.2nm,0.3s,baz=270,slow=3.0,SNR=2.3						
AKASG	**Malin Array Be**	**16.93**	**8**	Pn	**P**	**12 12 49.4**	**-1.0**
	1.8nm,0.3s,baz=201,slow=11,SNR=5.7						
GERES	**GERESS Array B**	**17.23**	**333**	P	**P**	**12 12 53.3**	**-0.5**
	0.2nm,0.3s,baz=148,slow=12,SNR=8.1						
HFS	**Hagfors**	**27.27**	**347**	P	**P**	**12 14 36.0**	**+0.3**
	2.2nm,0.8s,baz=148,slow=12,SNR=3.1						
FINES	**FINESS Array B**	**27.48**	**1**	P	**P**	**12 14 36.6**	**-0.9**
	2.1nm,1.0s,baz=149,slow=13,SNR=7.2						
TORD	**Torodi Ar. Bea**	**29.94**	**232**	P	**P**	**12 15 02.1**	**+2.2**
	0.3nm,0.8s,baz=36,slow=9.1,SNR=2.9						
ARCES	**ARCESS Array B**	**35.60**	**0**	P	**P**	**12 15 47.9**	**-1.0**
	2.4nm,0.8s,baz=182,slow=9.6,SNR=6.5						
MKAR	**Makanchi Array**	**44.23**	**56**	P	**P**	**12 17 01.5**	**+0.7**
	0.5nm,0.5s,baz=260,slow=9.1,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.65**	**45**	P	**P**	**12 17 11.6**	**-0.3**
	0.7nm,0.5s,baz=264,slow=9.8,SNR=4.1						
SCHQ	**Schefferville**	**64.24**	**320**	P	**P**	**12 19 26.7**	**+0.3**
	4.2nm,1.0s,baz=63,slow=6.8,SNR=2.6						
ILAR	**Eielson Array**	**81.38**	**357**	P	**P**	**12 21 09.4**	**+1.4**
	0.2nm,0.9s,baz=14,slow=1.5,SNR=4.1						

IDC 29 12:17:45.7±2.1, 6°.88S×129°.54E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=93.1km s-min=27.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.79**	**198**	Pn	Pn	12 20 33.0	-2.2
	0.1nm,0.3s,baz=17,slow=16,SNR=4.4						
FITZ				Sn	Sn	12 22 29.7	-18
	0.2nm,0.3s,baz=266,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**13.79**	**161**	Pn	Pn	12 21 03.6	+0.9
	0.2nm,0.3s,baz=344,slow=27,SNR=17						
WRA				Sn	Sn	12 23 26.2	-11
	0.2nm,0.3s,baz=331,slow=23,SNR=9.2						
ASAR	**Alice Springs**	**17.21**	**166**	P	P	12 21 48.8	-0.6
	0.1nm,0.3s,baz=342,slow=10,SNR=11						
ASAR				S	Sn	12 24 47.0	-13
	0.1nm,0.3s,baz=346,slow=23,SNR=3.2						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	12 28 46.1	+0.1
	0.2nm,0.6s,baz=131,slow=8.1,SNR=2.3						

WEL 29 12:24:46.4±0.2, 44°.15S×168°.58E, h12km, ML3.5/10, 2C-1D, Error ellipse: s-maj=2.0km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.15**	**58**	⇑PG	Pg	12 24 49.8	-0.3
JCZ				SG	Sg	12 24 51.9	-0.7
JCZ				AML	AML	12 24 52.1	
MSZ	**Milford Sound**	**0.70**	**222**	⇓P*	Pg	12 24 59.5	-0.5
MSZ				S*	Sg	12 25 08.5	-0.7
MSZ				AML	AML	12 25 15.1	
MSZ				AML	AML	12 25 15.4	
MSZ				AML	AML	12 25 15.4	
WKZ	**Wanaka**	**0.74**	**155**	⇑P*	Pg	12 25 00.0	-0.8
WKZ				AML	AML	12 25 10.9	
WKZ				AML	AML	12 25 10.9	
WKZ				AML	AML	12 25 11.1	
WKZ				AML	AML	12 25 11.1	
FOZ	**Fox Glacier**	**0.99**	**54**	P*	Pn	12 25 06.5	+0.4
FOZ				AML	AML	12 25 23.4	
FOZ				AML	AML	12 25 23.4	
FOZ				AML	AML	12 25 23.6	
FOZ				AML	AML	12 25 23.7	
LBZ	**Lake Benmore**	**1.17**	**102**	P*	Pb	12 25 08.2	-0.4
LBZ				AML	AML	12 25 11.3	
LBZ				AML	AML	12 25 25.0	
EAZ	**Earnscleugh**	**1.20**	**155**	P*	Pn	12 25 08.1	-0.8
EAZ				S*	Sb	12 25 23.5	-0.9
EAZ				AML	AML	12 25 27.2	
EAZ				AML	AML	12 25 27.5	
EAZ				AML	AML	12 25 27.5	
MLZ	**Mavora Lakes**	**1.23**	**194**	P*	Pn	12 25 09.0	-0.5
MLZ				AML	AML	12 25 32.6	
DCZ	**Deep Cove**	**1.67**	**217**	PN	Pn	12 25 15.7	+0.2
DCZ				AML	AML	12 25 38.9	
DCZ				AML	AML	12 25 38.9	
DCZ				AML	AML	12 25 44.7	
DCZ				AML	AML	12 25 48.5	
ODZ	**Otahua Downs**	**1.72**	**122**	PN	Pn	12 25 16.3	+0.1
WHZ	**Wether Hill Ro**	**1.80**	**194**	PN	Pn	12 25 17.4	+0.2
RPZ	**Rata Peaks**	**1.84**	**77**	PN	Pn	12 25 18.7	+0.9
RPZ				AML	AML	12 25 49.1	
RPZ				AML	AML	12 25 50.0	
WVZ	**Waitaha Valley**	**1.90**	**56**	PN	Pn	12 25 17.8	-0.8
TUZ	**Tuapeka**	**1.95**	**158**	PN	Pn	12 25 19.4	+0.1
TUZ				AML	AML	12 25 48.5	
TUZ				AML	AML	12 25 49.2	
SYZ	**Scrubby Hill**	**2.42**	**171**	PN	Pn	12 25 27.3	+1.6
APZ	**The Paps**	**2.71**	**189**	PN	Pn	12 25 30.9	+1.0
LTZ	**Lake Taylor**	**3.01**	**64**	PN	Pn	12 25 33.4	-0.6
DSZ	**Denniston Nort**	**3.37**	**46**	PN	Pn	12 25 38.9	0.0
THZ	**Tophouse**	**3.97**	**54**	PN	Pn	12 25 48.8	+1.6
QRZ	**Quartz Range**	**4.42**	**43**	PN	Pn	12 25 53.2	-0.1
NNZ	**Nelson**	**4.59**	**52**	PN	Pn	12 25 56.1	+0.5

MEX 29 12:35:56.8±0.9, 16°.61N×95°.80W, h61km±19km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.89**	**199**	*e*P	Pn	12 36 11.6	-1.8
HUIG				*i* S	Sn	12 36 24.2	-1.6
CMIG	**Matias Romero**	**1.00**	**61**	*e*P	Pn	12 36 13.3	-1.6
CMIG				*i* S	Sn	12 36 26.4	-1.9
VHO	**Vista Hermosa**	**1.00**	**297**	*e*P	Pn	12 36 14.3	-0.9
VHO				*e*S	Sn	12 36 26.2	-2.6
PNIG	**Pinotepa**	**2.24**	**265**	*e*P	Pn	12 36 29.5	-2.1
PNIG				*i* S	Sn	12 36 56.7	-1.6

IDC 29 12:40:40.9±2.4, 5°.19S×152°.06E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.2/18, mbtmp3.1/3, Error ellipse: s-maj=188.7km s-min=29.1km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**228**	P	P	12 45 44.4	+0.6
	0.2nm,0.5s,baz=51,slow=9.6,SNR=3.9						
ASAR	**Alice Springs**	**25.37**	**222**	P	P	12 46 09.4	-0.6
	0.3nm,0.8s,baz=57,slow=9.0,SNR=6.3						
ILAR	**Eielson Array**	**82.79**	**22**	P	P	12 53 06.8	+0.1
	0.2nm,0.6s,baz=245,slow=5.7,SNR=6.2						

*IDC **29** 13:05:51.0±0.9, 43°.76N×128°.45W, h0km, mb4.0/16, mb1 4.1/19, mb1mx4.1/33, mbtmp4.0/19, ML3.6/4, MS4.0/20, Ms1 4.0/20, ms1mx3.7/47, Error ellipse: s-maj=25.8km s-min=12.3km az=41.0*

*MOS **29** 13:05:53.5±1.1, 43°.98N×128°.24W, h10km, mb5.0/24, Error ellipse: s-maj=6.6km s-min=5.6km az=115.1*

*ISCJB **29** 13:05:54.7±0.2, 44°.05N±0°.03×128°.19W±0°.03, h13km, mb4.7/85, MS4.0/20, Error ellipse: s-maj=4.7km s-min=2.5km az=37.3*

*GCMT **29** 13:05:54.1±0.3, 43°.95N×128°.76W, h17km±1km, MW4.8, Moment Tensor Solution. s28,c29; s73,c105; Moment tensor: Scale 10^16Nm; Mrr=2.08±.14; Mθθ0.13±.09; Mφφ1.95±.09; Mrθ0.59±.28; Mrφ0.16±.05; Mθφ0.19±.21; Best double couple: M0=2.10000×10^16 NP1:φs199.00000°, δ50.00000°,λ-72.00000°. NP2:φs352.00000°,δ43.00000°, λ-110.00000°. Principal axes: T 1.9800, Plg4.0000°, Azm276.0000°; N 0.2500, Plg14.0000°, Azm7.0000°; P -2.2300, Plg76.0000°, Azm172.0000°; Data Used: IU IC II G CN.*

*NEIC **29** 13:05:55.5±0.4, 44°.01N×128°.30W, h10km, mb4.8/55 Error ellipse: s-maj=6.2km s-min=3.6km az=224.0*

*BJI **29** 13:05:58.4, 44°.10N×128°.00W, h43km, mB5.3/14, mb4.9/18, Ms4.9/10, Ms7 4.5/10*

*SZGRF **29** 13:05:59.7, 44°.21N×130°.45W, h33km, mb4.7, Off coast of Oregon, United States*

**ISC 29 13:05:55.6±0.5, 43°.98N±0°.06×128°.30W±0°.06, h13km, n590, σ1°39/559, mb4.

WAKR Walker 8.62 126 ePn Pn 13 08 01.8 +1.5
NEW Newport 8.86 57 ePn Pn 13 08 03.6 +0.2
BMN Battle Mountai 8.95 110 eP Pn 13 08 06.3 +1.6
BMN Battle Mountai 8.95 110 ePn Pn 13 08 06.3 +1.6
NVAR Mina Array Bea 9.35 123 Pn Pn 13 08 11.6 +1.4
NVAR Mina Array Bea 9.35 123 Pn Pn 13 08 11.6 +1.4
0.1nm,0.3s,baz=292,slow=15,SNR=12
NVAR LR LR 13 11 47.3
comp=Z,1µm,19.8s,baz=108,slow=38
NV11 Mina Array Sit 9.44 122 ePn Pn 13 08 12.4 +1.0
MTUM Tungsten Hills 9.92 129 ePn Pn 13 08 22.0 +4.0
HLID Hailey 10.05 88 ePn Pn 13 08 20.4 +0.6
HLID Hailey 10.05 88 P Pn 13 08 22.3 +2.4
baz=10.0,SNR=18
BSMT Bassoo Peak 10.18 63 ePn Pn 13 08 20.9 -0.7
ELK Elko 10.19 104 ePn Pn 13 08 23.4 +1.6
JTMT Jette 10.47 64 ePn Pn 13 08 25.1 -0.5
MSO Missoula 10.49 69 ePn Pn 13 08 25.2 -0.5
BLMT Blacktail Moun 10.50 63 ePn Pn 13 08 24.8 -1.1
SWMT Swartz Lake 10.60 66 ePn Pn 13 08 26.1 -1.2
SLMT Seeley Lake 10.87 67 ePn Pn 13 08 31.0 0.0
CHMT Chamberlain Mo 10.97 69 ePn Pn 13 08 32.3 -0.2
MCMT McKenzie Canyo 11.09 80 ePn Pn 13 08 35.7 +1.7
WALA Waterton Lakes 11.13 58 ePn Pn 13 08 35.1 +0.6
ISA Isabella 11.22 134 eP Pn 13 08 35.6 -0.1
ISA Isabella 11.22 134 ePn Pn 13 08 35.6 -0.1
ISA Isabella 11.22 134 P Pn 13 08 38.0 +2.3
baz=11,SNR=8.7
DLMT Dillon 11.27 77 ePn Pn 13 08 35.6 -0.8
LRM Limekiln Ridge 11.39 75 ePn Pn 13 08 37.4 -0.9
HVU Hansel Valley 11.60 96 eP Pn 13 08 40.8 -0.2
HVU Hansel Valley 11.60 96 ePn Pn 13 08 40.8 -0.2
BGU Big Grassy Mou 11.68 100 ePn Pn 13 08 43.1 +1.0
BOZ Bozeman (W) 11.96 76 eP Pn 13 08 47.7 +1.9
BOZ Bozeman (W) 11.96 76 ePn Pn 13 08 47.7 +1.9
EDW2 Edwards Air Fo 12.07 135 P Pn 13 08 48.6 +1.2
baz=12,SNR=6.5
QLMT Earthquake Lak 12.10 80 ePn Pn 13 08 46.7 -1.2
DUG Dugway 12.11 103 eP Pn 13 08 48.2 +0.3
DUG Dugway 12.11 103 ePn Pn 13 08 48.2 +0.3
I16A Newdale 12.12 85 P Pn 13 08 51.7 +3.5
baz=12,SNR=7.6
RRI2 Red Ridge 12.31 87 ePn Pn 13 08 51.8 +1.0
YMR Madison River 12.44 81 ePn Pn 13 08 53.8 +1.3
IMW Indian Meadow 12.52 84 ePn Pn 13 08 54.0 +0.4
HWUT Hardware Ranch 12.52 95 ePn Pn 13 08 54.4 +0.9
E17A Martinsdale 12.55 72 P Pn 13 08 55.7 +1.8
baz=12,SNR=7.2
TPAW Teton Pass 12.56 86 ePn Pn 13 08 54.3 +0.1
MWC Mount Wilson 12.56 137 eP Pn 13 08 57.3 +3.1
MWC Mount Wilson 12.56 137 ePn Pn 13 08 57.3 +3.1
REDW Red Top Meadow 12.65 87 ePn Pn 13 08 55.2 -0.2
MOOW Moose Ponds 12.67 85 ePn Pn 13 08 56.3 +0.6
SNOW Snow King Moun 12.71 86 ePn Pn 13 08 55.5 -0.7
NLU North Lily Min 12.72 103 ePn Pn 13 08 57.9 +1.5
D17A Six Diamond Ra 12.74 69 P Pn 13 08 58.1 +1.5
baz=13,SNR=9.7
LOHW Long Hollow 12.79 85 ePn Pn 13 08 57.2 -0.1
B17A L&G Farms, Che 12.88 64 P Pn 13 08 58.1 -0.2
baz=13
JLU Jordanelle 12.92 99 ePn Pn 13 09 00.6 +1.4
CCUT Cedar City 13.01 114 ePn Pn 13 09 00.5 +0.2
MPU Maple Canyon 13.01 102 ePn Pn 13 08 58.2 -2.1
DAU Daniels Canyon 13.13 100 eP Pn 13 09 02.9 +0.9
DAU Daniels Canyon 13.13 100 ePn Pn 13 09 02.9 +0.9
MVU Marysvale 13.28 109 ePn Pn 13 09 05.8 +1.8
LDFC Landfair 13.50 127 ePn Pn 13 09 06.2 -0.7
EGMT Eagleton 13.51 66 ePn Pn 13 09 07.0 +0.1
TMUT Trail Mountain 13.61 104 ePn Pn 13 09 10.5 +2.0
RLMT Red Lodge 13.62 79 ePn Pn 13 09 06.8 -1.8
A18A Metzger Ranch, 13.64 62 P Pn 13 09 09.7 +1.0
baz=14
BW06 Boulder Array 13.69 89 ePn Pn 13 09 10.5 +1.0
PDAR Pinedale Array 13.69 89 Pn Pn 13 09 11.9 +2.3
PDAR Pinedale Array 13.69 89 Pn Pn 13 09 11.9 +2.3
0.1nm,0.3s,baz=269,slow=12,SNR=9.4
PDAR LR LR 13 14 42.1
comp=Z,1µm,18.6s,baz=311,slow=38
Q16A Castle Valley 13.80 106 ePn Pn 13 09 14.0 +2.9
Q16A Castle Valley 13.80 106 P P 13 09 16.5 -3.1
baz=14,SNR=29
PFO Pinyon Flat Ob 13.86 134 ePn Pn 13 09 09.6 -2.2
PFO Pinyon Flat Ob 13.86 134 Pn Pn 13 09 09.8 -2.1
0.1nm,0.3s,baz=339,slow=17,SNR=3.4
PFO LR LR 13 14 13.2
comp=Z,435nm,18.6s,baz=316,slow=36
I19A Meeteetse 13.90 83 P Pn 13 09 14.0 +1.6
baz=14,SNR=5.4
C19A Slack Wire Ran 13.93 68 P Pn 13 09 14.7 +2.0
baz=14,SNR=13
D19A Cripps Ranch, 13.97 70 P Pn 13 09 15.1 +1.9
baz=14
L19A Farson 13.98 91 P Pn 13 09 16.4 +2.8
baz=14
B19A Brinkman Farms 14.12 65 P Pn 13 09 16.2 +1.0
baz=14
IRM Iron Mountain 14.14 129 P Pn 13 09 18.3 +2.7
baz=14
SRU San Rafael 14.16 104 eP Pn 13 09 18.6 +2.5
SRU San Rafael 14.16 104 ePn Pn 13 09 18.6 +2.5
K19A Absolon Red Bu 14.19 88 P Pn 13 09 18.5 +2.1
baz=14
G20A Bridger 14.36 78 P Pn 13 09 20.9 +2.2
baz=14,SNR=5.7
MONP Monument Peak 14.45 136 P Pn 13 09 20.4 +0.5
baz=14,SNR=5.8
BAR Barrett 14.49 137 Pn Pn 13 09 20.8 +0.4
DLBC Dease Lake 14.52 356 Pn P 13 09 24.8 -2.5
DLBC Dease Lake 14.52 356 Pn P 13 09 24.8 -2.5
0.1nm,0.3s,baz=165,slow=12,SNR=2.3
DLBC LR LR 13 13 40.3
comp=Z,110nm,19.9s,baz=110,slow=32
I20A Worland 14.53 83 P P 13 09 27.2 -0.4
baz=14,SNR=9.6
K20A Yellowstone Ra 14.59 88 P Pn 13 09 22.8 +0.9
baz=14,SNR=6.5
J20A Shoshoni 14.64 85 P Pn 13 09 24.1 +1.5
baz=15
O19A Miners Draw (B 14.69 98 P Pn 13 09 25.7 +2.5
baz=15,SNR=22
L20A Wamsutter 14.74 91 P Pn 13 09 24.6 +0.7
baz=15,SNR=20
DVTC Desert V Tower 14.79 136 P Pn 13 09 25.2 +0.7
baz=15
M20A Sweetwater, Wa 14.98 93 P Pn 13 09 28.8 +1.5
baz=15,SNR=7.6
P19A Cripple Cowboy 15.04 100 P Pn 13 09 31.0 +3.0
baz=15,SNR=10
J21A Lysite 15.11 85 P Pn 13 09 30.1 +1.2
baz=15,SNR=15
N20A Spence Gulch, 15.13 95 P Pn 13 09 31.1 +1.9
baz=15,SNR=15
GLA Glamis 15.15 132 eP Pn 13 09 29.1 -0.2
GLA pmax pmax
comp=Z,51nm,1.4s
GLA Glamis 15.15 132 ePn Pn 13 09 29.1 -0.2
comp=Z,51nm,1.4s
GLA Glamis 15.15 132 P Pn 13 09 31.4 +2.1
baz=15
O20A White River Ci 15.38 98 eP Pn 13 09 34.4 +2.0
O20A White River Ci 15.38 98 P Pn 13 09 35.1 +2.6
baz=15,SNR=7.8
K21A Alcova 15.38 88 P Pn 13 09 32.4 -0.1
baz=15
PV09 Paradox Valley 15.41 104 ePn Pn 13 09 34.5 +1.5
L21A Rawlins 15.45 90 P Pn 13 09 33.9 +0.5
baz=15
WUAZ Wupatki 15.50 117 eP Pn 13 09 36.5 +2.5
comp=Z,95nm,1.6s
WUAZ Wupatki 15.50 117 P P 13 09 37.4 -1.1
baz=16,SNR=9.7
A21A Bergtoll Ranch 15.53 64 P Pn 13 09 34.6 +0.4
baz=16,SNR=12
M21A Separation Pea 15.55 92 P Pn 13 09 35.0 +0.3
baz=16,SNR=8.0
PV04 Paradox Valley 15.62 104 ePn Pn 13 09 37.5 +1.9
PV05 Paradox Valley 15.63 106 ePn Pn 13 09 34.3 -1.5
RWWY Rawlins 15.63 91 ePn Pn 13 09 36.4 +0.6
comp=Z,43nm,1.3s
N21A Black Mountain 15.69 95 P Pn 13 09 37.1 +0.6
baz=16,SNR=10
G22A Birney 15.72 78 P P 13 09 39.3 -1.5
baz=16,SNR=5.7
LAO LASA Array 15.75 72 eP Pn 13 09 38.6 +1.5
comp=Z,76nm,1.7s

J22A Midwest 15.79 84 P P 13 09 40.7 -0.9
baz=16
Q20A Ridgley Place, 15.80 102 P P 13 09 40.7 -1.1
baz=16,SNR=6.1
O21A Pagoda 15.90 96 P Pn 13 09 40.9 +1.6
baz=16,SNR=7.0
PV15 Paradox Valley 15.94 104 ePn Pn 13 09 38.7 -1.0
113A Mohawk Valley, 15.95 130 P P 13 09 42.9 -0.3
baz=16,SNR=7.1
PV01 Paradox Valley 15.97 105 eP Pn 13 09 41.7 +1.5
comp=Z,5µm,1.5s
B22A Reddig Ranch S 16.03 67 P Pn 13 09 41.9 +1.2
baz=16
C22A Vida 16.05 69 P Pn 13 09 41.9 +1.0
baz=16
R20A Redvale 16.08 104 P Pn 13 09 42.2 +0.6
baz=16,SNR=8.6
SKAG Skagway 16.09 347 P P 13 09 46.6 +1.9
comp=Z,99nm,1.8s
X16A Lo Mia Camp, P 16.16 121 P Pn 13 09 44.6 +2.1
baz=16,SNR=14
P21A Newcastle 16.17 99 P Pn 13 09 43.3 +0.5
baz=16,SNR=7.4
A22A Carney Farms, 16.19 64 P Pn 13 09 43.4 +0.6
baz=16
S20A Disappointment 16.26 105 P Pn 13 09 44.2 +0.3
baz=16,SNR=15
F23A Volborg 16.32 76 P P 13 09 46.2 -1.2
baz=16
N22A Wattenberg Ran 16.44 94 P Pn 13 09 46.0 -0.2
baz=16,SNR=20
MVCO Mesa Verde 16.47 107 ePn P 13 09 48.7 -0.5
comp=Z,118nm,1.5s
MVCO Mesa Verde 16.47 107 P Pn 13 09 47.5 +0.9
baz=16,SNR=16
C23A Lambert 16.52 69 P Pn 13 09 47.8 +0.8
baz=16
R21A Cimarron 16.58 103 P Pn 13 09 49.5 +1.5
baz=17
O22A Kremmling 16.58 96 P Pn 13 09 47.6 -0.5
baz=16,SNR=23
L23A Garrett 16.62 89 P Pn 13 09 48.3 -0.1
baz=17
P22A Eagle 16.64 98 P Pn 13 09 49.8 +1.1
baz=17
SMCO Snowmass 16.65 99 ePn P 13 09 51.8 +0.3
comp=Z,47nm,1.6s
B23A Brockton 16.72 66 P Pn 13 09 50.5 +1.0
baz=17
S21A Coal Bank Pass 16.74 105 P Pn 13 09 51.4 +1.4
baz=17,SNR=20
N23A Red Feather La 16.78 93 P Pn 13 09 50.6 +0.1
baz=17,SNR=17
Q22A Crested Butte, 16.82 100 P P 13 09 53.7 +0.4
baz=17,SNR=13
U20A Newcomb 16.89 110 P Pn 13 09 53.2 +1.4
baz=17,SNR=21
H24A Dirks Ranch, A 16.99 79 P Pn 13 09 54.0 +1.0
baz=17,SNR=23
PHWY Pilot Hill 17.01 91 eP Pn 13 09 54.2 +0.8
comp=Z,47nm,1.5s
C24A Savage 17.02 70 P P 13 09 54.9 -0.1
baz=17,SNR=6.9
O23A Lake Granby, G 17.02 95 P Pn 13 09 54.7 +1.1
baz=17
X18A Snowflake 17.03 117 P P 13 09 56.1 +0.7
baz=17,SNR=6.2
I24A Kuemmerle Ranc 17.05 82 P P 13 09 55.2 -0.3
baz=17
D24A Glendive 17.06 71 P Pn 13 09 54.5 +0.7
baz=17
E24A Baker 17.07 73 P P 13 09 55.6 -0.1
baz=17
214A Organ Pipe Nat 17.09 129 P P 13 09 56.3 +0.3
baz=17
R22A Saguache, Gunn 17.20 102 P P 13 09 57.1 -0.4
baz=17,SNR=12
T21A Navajo Lake 17.24 107 P P 13 09 57.6 -0.2
baz=17
V20A Brimhall 17.24 112 P P 13 09 57.7 -0.1
baz=17,SNR=20
DGMT Dagmar 17.25 66 ePn Pn 13 09 54.4 -1.7
comp=Z,93nm,1.4s
S22A 4UR Ranch, Cre 17.37 104 P P 13 09 59.1 -0.2
baz=17,SNR=20
P23A Jefferson 17.38 98 P P 13 09 59.8 +0.4
baz=17,SNR=12
ISCO Idaho Springs 17.38 96 eP Pn 13 09 57.8 -0.3
ISCO pmax pmax
comp=Z,249nm,2.4s
ISCO Idaho Springs 17.38 96 ePn Pn 13 09 57.8 -0.3
comp=Z,249nm,2.4s
ISCO Idaho Springs 17.38 96 P P 13 09 59.7 +0.2
baz=17,SNR=19
M24A Cheyenne 17.42 90 P P 13 09 59.6 -0.1
baz=17
RSSD Black Hills 17.43 81 eP Pn 13 09 56.0 -2.6
RSSD pmax pmax
comp=Z,109nm,1.9s
RSSD Black Hills 17.43 81 ePn Pn 13 09 56.0 -2.6
comp=Z,109nm,1.9s
U21A Nageezi 17.45 109 P P 13 10 00.6 +0.5
baz=17,SNR=35
N24A Carr 17.56 92 P Pn 13 10 00.3 +0.1
baz=18
Q23A Hartsel 17.57 99 P P 13 10 01.4 -0.1
baz=18,SNR=8.1
W20A Ramah 17.61 113 P P 13 10 02.7 +0.8
baz=18,SNR=16
O24A Longmont 17.66 95 P P 13 10 02.9 +0.5
baz=18
I25A Rochford 17.66 81 P P 13 10 03.2 +0.8
baz=18,SNR=20
T22A Edith 17.67 106 P Pn 13 10 02.2 +0.6
baz=18,SNR=40
E25A Miller Ranch, 17.69 73 P P 13 10 03.3 +0.7
baz=18
G25A Newell 17.75 77 P P 13 10 04.2 +1.0
baz=18
HYT Haines Junctio 17.75 345 eP P 13 10 06.7 +3.5
V21A Milan 17.80 110 P P 13 10 04.6 +0.6
baz=18,SNR=20
R23A Moffat 17.88 101 P P 13 10 05.3 +0.4
baz=18,SNR=23
S23A Nye Farm, Mont 17.97 103 P P 13 10 06.7 +0.9
baz=18
TUC Tucson 18.00 124 eP Pn 13 10 06.0 +0.4
TUC pmax pmax
comp=Z,130nm,2.5s
TUC Tucson 18.00 124 ePn Pn 13 10 06.0 +0.4
comp=Z,130nm,2.5s
U22A Llaves 18.03 108 P P 13 10 08.1 +1.6
baz=18,SNR=12
Q24A Divide 18.03 98 P Pn 13 10 06.6 +0.3
baz=18,SNR=12
V22A San Miguel Ran 18.23 109 P P 13 10 10.1 +1.3
baz=18,SNR=17
J26A Sides Ranch, S 18.25 83 P P 13 10 10.5 +1.7
baz=18,SNR=8.1
T23A Casias Ranch, 18.26 105 P P 13 10 10.8 +1.7
baz=18
H26A Fairpoint 18.26 79 P P 13 10 09.9 +1.0
baz=18
I26A New Underwood 18.28 81 P P 13 10 11.1 +2.0
baz=18,SNR=13
SDCO Great Sand Dun 18.30 102 eP P 13 10 11.0 +1.4
comp=Z,166nm,1.6s
E26A Carlson Angus 18.34 73 P P 13 10 11.8 +2.1
baz=18
R24A Sanders Place, 18.37 100 P P 13 10 11.2 +1.0
baz=18
X21A Alamocita Cree 18.48 114 P Pn 13 10 12.5 +0.8
baz=18,SNR=9.4
U23A El Rito 18.51 107 P Pn 13 10 13.7 +1.8
baz=18,SNR=14
P25A Willow Gulch B 18.53 96 P Pn 13 10 13.8 +1.7
baz=18
S24A Houchin Ranch, 18.56 102 P Pn 13 10 14.1 +1.5
baz=18
C26A Wahner Farm, P 18.60 69 P Pn 13 10 14.7 +1.9
baz=18
F27A Lemmon 18.68 75 P Pn 13 10 15.7 +2.0
baz=19
T24B San Luis 18.71 104 P Pn 13 10 15.9 +1.5
baz=19
H27A Howes 18.75 79 P Pn 13 10 17.1 +2.4
baz=19,SNR=7.8
G27A Dupree 18.78 76 P Pn 13 10 15.4 +0.5

baz=19,SNR=9.2
Z20A Nine Sixteen R 18.80 119 P Pn 13 10 16.8 +1.3
baz=19
V23A Ortiz Mt. (NFS 18.82 108 P Pn 13 10 18.3 +2.6
baz=19,SNR=20
Y21A Point of Rocks 18.82 115 P Pn 13 10 17.9 +2.1
baz=19,SNR=16
I27A Quinn 18.85 81 P Pn 13 10 17.1 +1.2
baz=19
O26A Horse Wrangler 18.89 93 P Pn 13 10 18.0 +1.6
baz=19
LAZ Ladron 18.94 113 eP Pn 13 10 18.4 +1.3
comp=Z,48nm,1.8s
X22A Bernardo 18.96 113 P Pn 13 10 19.5 +2.1
baz=19
K27A Flueckinger Fa 18.98 85 P Pn 13 10 19.6 +2.1
baz=19
J27A Elkhorn Farm, 19.03 83 P Pn 13 10 20.6 +2.6
baz=19,SNR=12
ANMO Albuquerque 19.08 111 eP Pn 13 10 18.9 +0.1
comp=Z,92nm,1.8s
ANMO Albuquerque 19.08 111 P Pn 13 10 19.3 +0.4
comp=Z,0.1nm,0.3s,baz=320,slow=11,SNR=13
ANMO LR LR 13 18 06.9
comp=Z,1µm,18.7s,baz=125,slow=38
S25A Robets Cordova 19.10 101 P Pn 13 10 20.7 +1.7
baz=19,SNR=12
120A U Bar Ranch, L 19.15 120 P P 13 10 19.4 +0.7
baz=19,SNR=6.8
W23A Werner Place, 19.17 110 P Pn 13 10 21.2 +1.3
baz=19,SNR=5.9
LENM Lemitar 19.19 113 ePn Pn 13 10 20.9 +0.7
Q26A Hugo 19.22 97 P Pn 13 10 21.7 +1.3
baz=19
Z21A St. Cloud Mine 19.26 117 P Pn 13 10 22.2 +1.2
baz=19
LPM Los Pinos Moun 19.33 113 ePn Pn 13 10 22.6 +0.8
Y22A Socorro 19.33 114 P Pn 13 10 22.0 +0.1
baz=19,SNR=5.3
T25A Trinidad 19.35 102 P Pn 13 10 22.4 +0.2
baz=19
BNM Barren Site 19.43 113 eP Pn 13 10 23.9 +0.9
comp=Z,73nm,1.8s
V24A Rampart Ranch, 19.46 107 P Pn 13 10 24.3 +0.9
baz=19,SNR=15
X23A Hourglass Bar 19.47 111 P Pn 13 10 24.1 +0.5
baz=20
H28A Mission Ridge 19.50 78 P Pn 13 10 24.3 +0.6
baz=19
O27A Beecher Island 19.50 92 P Pn 13 10 24.3 +0.5
baz=20
R26A Arlington 19.52 98 P Pn 13 10 24.9 +0.9
baz=20,SNR=23
J28A Allard Ranch, 19.55 82 P Pn 13 10 26.7 +2.4
baz=20,SNR=12
319A Douglas 19.56 124 P Pn 13 10 25.1 +0.6
baz=20
E28A Huff 19.56 73 P Pn 13 10 25.4 +1.0
baz=20
K28A Ten Mile Ranch 19.60 84 P Pn 13 10 26.0 +1.1
baz=20
W24A Lazy 6 Ranch, 19.64 109 P Pn 13 10 26.4 +0.8
baz=20,SNR=21
220A Playas Peak, P 19.65 121 P Pn 13 10 25.9 +0.3
baz=20
121A Cookes Peak, D 19.69 119 P Pn 13 10 27.0 +0.8
baz=20,SNR=26
U25A Circle Dot Ran 19.71 104 P Pn 13 10 27.2 +0.8
baz=20,SNR=22
Z22A Elephant Butte 19.75 116 P Pn 13 10 27.5 +0.6
baz=20,SNR=25
B28A Dugan Ranch, T 19.79 67 P Pn 13 10 28.1 +1.0
baz=20,SNR=7.3
S26A Kim 19.80 100 P Pn 13 10 27.1 -0.3
baz=20
KSCO Kaye Shedlock' 19.82 96 eP Pn 13 10 27.9 +0.2
KSCO Kaye Shedlock' 19.82 96 P Pn 13 10 28.1 +0.4
baz=20
V25A Rancho No Teng 19.85 106 P Pn 13 10 28.8 +0.7
baz=20,SNR=53
A28A Rude Farm, Bot 19.88 66 P Pn 13 10 28.3 +0.2
baz=20,SNR=7.1
T26A Comanche Nativo 19.91 101 P Pn 13 10 28.7 -0.1
baz=20,SNR=30
Y23A Lovelace Mesa, 19.94 113 P Pn 13 10 29.6 +0.5
baz=20,SNR=13
R27A Eads 19.99 98 P Pn 13 10 29.5 -0.2
baz=20,SNR=23
O28A Krutsinger Ran 20.03 92 P Pn 13 10 29.6 -0.5
baz=20
320A Kipp Ranch, An 20.04 122 P Pn 13 10 30.2 -0.1
baz=20,SNR=5.8
221A Mesquite Ranch 20.05 120 P Pn 13 10 30.3 -0.1
baz=20
122A Conniff Cattle 20.09 117 P Pn 13 10 30.8 -0.1
baz=20
FFC Flin Flon 20.11 48 eP P 13 10 29.7 +0.7
FFC pmax pmax
comp=Z,126nm,1.0s
FFC Flin Flon 20.11 48 eP P 13 10 29.6 +0.7
comp=Z,126nm,1.0s
S27A Las Animas 20.18 99 P Pn 13 10 31.6 -0.3
baz=20,SNR=11
U26A Atchley Ranch, 20.18 104 P Pn 13 10 31.6 -0.4
baz=20,SNR=18
YKA Yellowknife Ar 20.19 19 P P 13 10 29.7 -0.1
YKA Yellowknife Ar 20.19 19 P P 13 10 29.7 -0.1
comp=Z,10.0nm,0.8s,baz=206,slow=11,SNR=16
F29A Eureka 20.21 75 P Pn 13 10 32.9 +0.8
baz=20
Z23A Rita Site, Whi 20.23 114 P Pn 13 10 32.8 +0.2
baz=20
YKW3 Yellowknife Ar 20.25 18 eP P 13 10 30.2 -0.1
comp=Z,1.5nm,1.4s
MDND Maddock 20.28 69 eP Pn 13 10 32.5 -0.4
W25A X Bar L Ranch, 20.29 107 P Pn 13 10 33.4 +0.1
baz=20,SNR=18
D29A Pettibone, Tap 20.30 71 P Pn 13 10 33.3 +0.3
baz=20
Y24A Capitan 20.36 112 P Pn 13 10 33.9 -0.3
baz=20
Q28A Sharon Springs 20.38 95 P P 13 10 33.5 +1.4
baz=20
M29A Burnside Ranch 20.41 88 P Pn 13 10 34.2 -0.3
baz=20
V26A Tequesquite Ra 20.45 105 P Pn 13 10 35.0 -0.1
baz=20,SNR=30
B29A Wagenman Farm, 20.46 67 P Pn 13 10 34.3 -0.7
baz=20
KDAK Kodiak Island 20.48 321 LR LR 13 16 32.2
comp=Z,624nm,18.9s,baz=138,slow=31
X25A Clemmons Ranch 20.53 109 P Pn 13 10 35.9 -0.2
baz=20
A29A Manning Farm, 20.56 66 P P 13 10 34.9 +1.1
baz=20
T27A Campo 20.58 101 P Pn 13 10 36.5 -0.1
baz=20,SNR=8.6
R28A Tribune 20.68 97 P P 13 10 36.7 +1.4
baz=21,SNR=18
Z24A Sheeppen Canyo 20.76 113 P Pn 13 10 38.3 -0.5
baz=21,SNR=22
E30A Jud 20.79 73 P Pn 13 10 38.4 -0.5
baz=21,SNR=6.6
U27A Thompson Grove 20.82 103 P Pn 13 10 38.6 -0.8
baz=21,SNR=16
P29A Atwood 20.82 93 P P 13 10 38.3 +1.4
baz=21
W26A Owens Ranch, T 20.84 107 P Pn 13 10 39.1 -0.6
baz=21,SNR=8.2
Y25A Mesa, Roswell 20.86 111 P Pn 13 10 39.2 -0.7
baz=21,SNR=16
D30A Buchanan 20.87 71 P Pn 13 10 38.8 -0.9
baz=21,SNR=8.0
S28A Manter 20.93 99 P Pn 13 10 40.3 -0.4
baz=21,SNR=10
MENT Mentasta 20.99 340 eP P 13 10 41.9 +3.5
T28A Walsh 20.99 100 P P 13 10 40.4 +1.7
baz=21,SNR=21
BRSD Miller 20.99 78 eP P 13 10 40.1 +1.5
C30A Mose, Pekin 21.04 69 P P 13 10 40.7 +1.6
baz=21
Q29A Oakley 21.05 95 P P 13 10 41.2 +1.8
baz=21
124A Stringfield Ra 21.09 115 P P 13 10 41.5 +1.5
baz=21
DAWY Dawson 21.09 346 eP P 13 10 41.2 +1.6
X26A CR and CF Fran 21.10 108 P P 13 10 41.4 +1.4
baz=21,SNR=13

R29A	Marienthal	21.12	96	P		P	13 10 41.5	+1.3
	baz=21							
V27A	Dan Oppiter Fa	21.14	104	P		P	13 10 41.7	+1.3
	baz=21							
B30A	Myrvik Farm, E	21.14	67	P		P	13 10 42.0	+1.9
	baz=21,SNR=7.7							
A30A	Hoffart Farm,	21.17	66	P		P	13 10 42.0	+1.5
	baz=21,SNR=8.9							
Z25A	Roswell	21.22	112	P		P	13 10 42.7	+1.4
	baz=21,SNR=7.1							
W27A	Bowe Ranch, En	21.34	106	P		P	13 10 44.0	+1.5
	baz=21							
SML	Sawmill	21.40	334	eP		P	13 10 44.3	+1.4
SML				pmax		pmax		
	comp=Z,18nm,1.5s							
SML	Sawmill	21.40	334	eP		P	13 10 44.3	+1.4
	comp=Z,18nm,1.5s							
224A	Cornudas Mount	21.44	116	P		P	13 10 44.7	+1.0
	baz=21							
Y26A	Elida	21.45	110	P		P	13 10 45.9	+2.2
	baz=21,SNR=9.2							
PAX	Paxson	21.46	338	eP		P	13 10 45.2	+1.6
PAX				pmax		pmax		
	comp=Z,69nm,1.8s							
PAX	Paxson	21.46	338	eP		P	13 10 45.2	+1.6
	comp=Z,69nm,1.8s							
S29A	Ulysses	21.48	98	P		P	13 10 44.5	+0.6
	baz=21							
PMR	Palmer	21.51	332	eP		P	13 10 46.2	+2.3
PMR				pmax		pmax		
	comp=Z,119nm,1.8s							
PMR	Palmer	21.51	332	eP		P	13 10 46.2	+2.3
	comp=Z,118nm,1.8s							
T29A	Hugoton	21.56	99	P		P	13 10 45.7	+1.0
	baz=22							
Z26A	Caprock	21.72	111	P		P	13 10 48.1	+1.5
	baz=22,SNR=15							
MNTX	Cornudas Mount	21.78	117	eP		P	13 10 48.2	+1.1
	comp=Z,25nm,1.5s							
R30A	Dighton	21.80	95	P		P	13 10 48.4	+1.0
	baz=22							
225A	Deer Hill, Car	21.88	115	P		P	13 10 50.6	+2.3
	baz=22,SNR=16							
324A	Moseley Ranch,	21.88	117	P		P	13 10 50.0	+1.7
	baz=22,SNR=8.0							
Y27A	Causey	21.92	109	P		P	13 10 50.0	+1.2
	baz=22							
P31A	Stockton	21.97	92	P		P	13 10 50.2	+1.0
	baz=22							
EGAK	Eagle	22.06	345	eP		P	13 10 50.5	+0.6
	comp=Z,80nm,2.0s							
126A	Clayton Basin,	22.07	113	P		P	13 10 52.1	+1.8
	baz=22							
RSO	Redoubt South	22.08	327	eP		P	13 10 52.9	+2.5
GDL2	Guadalupe Moun	22.12	114	eP		P	13 10 52.0	+1.1
	comp=Z,3.8nm,0.8s							
T30A	Plains	22.15	99	P		P	13 10 52.3	+1.2
	baz=22							
Q31A	Ellis	22.15	93	P		P	13 10 52.7	+1.5
	baz=22							
Z27A	Tatum	22.21	110	P		P	13 10 52.8	+0.8
	baz=22,SNR=22							
X28A	Dimmitt	22.23	106	P		P	13 10 53.7	+1.6
	baz=22							
325A	Bean Ranch, Si	22.25	117	P		P	13 10 53.4	+1.0
	baz=22							
SPU	Mount Spurr	22.26	329	eP		P	13 10 54.4	+2.3
U30A	WK&E Inc. Balk	22.30	100	P		P	13 10 53.6	+0.8
	baz=22							
226B	Tecolote Peak,	22.33	114	P		P	13 10 53.8	+0.6
	baz=22							
R31A	Burdett	22.34	95	P		P	13 10 53.6	+0.4
	baz=22							
127A	Arkansas Junct	22.50	112	P		P	13 10 55.8	+0.9
	baz=22							
Y28A	McKinney Farm,	22.53	108	P		P	13 10 56.0	+0.7
	baz=22,SNR=10							
V30A	Spur Ranch, Mi	22.64	102	P		P	13 10 57.5	+1.1
	baz=23							
S31A	Mullinville	22.65	96	P		P	13 10 56.8	+0.3
	baz=23							
T31A	Randall Ranch,	22.74	98	P		P	13 10 58.0	+0.6
	baz=23,SNR=7.8							
ECSD	EROS Data Cent	22.78	80	eP		P	13 10 55.8	-2.0
	comp=Z,42nm,1.0s							
AGMN	Agassiz Nation	22.79	68	eP		P	13 10 56.2	-1.5
	comp=Z,33nm,1.1s							
ULM	Lac du Bonnet	22.81	63	eP		P	13 10 57.3	-0.7
	comp=Z,32nm,1.0s							
ULM	Lac du Bonnet	22.81	63	P		P	13 10 57.9	-0.1
	comp=Z,18nm,0.9s,baz=276,slow=10,SNR=13							
ULM				LR		LR	13 20 05.4	
	comp=Z,440nm,19.1s,baz=285,slow=37							
326A	Caldwell Ranch	22.93	115	P		P	13 11 00.5	+0.9
	baz=23							
U31A	Nine Bar Ranch	22.95	100	P		P	13 11 00.7	+1.1
	baz=23							
MCK	McKinley	23.03	336	eP		P	13 11 00.8	+0.6
MCK				pmax		pmax		
	comp=Z,45nm,1.4s							
MCK	McKinley	23.03	336	eP		P	13 11 00.8	+0.6
	comp=Z,45nm,1.4s							
X30A	Coker Ranch, T	23.19	105	P		P	13 11 03.8	+1.7
	baz=23							
TRF	Thorofare Moun	23.22	335	eP		P	13 11 04.8	+2.5
	comp=Z,137nm,1.7s							
V31A	Spring Creek L	23.24	101	P		P	13 11 02.4	-0.2
	baz=23							
Z29A	Hungry Hill Ra	23.27	108	P		P	13 11 02.9	-0.1
	baz=23							
ILAR	Eielson Array	23.30	340	P		P	13 11 01.8	-1.1
ILAR	Eielson Array	23.30	340	P		P	13 11 01.8	-1.1
	comp=Z,1.2nm,1.0s,baz=159,slow=7.7,SNR=9.5							
ILAR				LR		LR	13 18 47.0	
	comp=Z,206nm,20.2s,baz=149,slow=33							
426A	McDonald Obser	23.32	117	P		P	13 11 04.7	+1.0
	baz=23,SNR=9.8							
PPLA	Purkeypile	23.44	332	eP		P	13 11 06.5	+2.0
	comp=Z,290nm,1.8s							
W31A	Holland Ranch,	23.46	102	P		P	13 11 04.9	+0.1
	baz=23							
SVW2	Sparrevohn	23.58	326	eP		P	13 11 09.3	+3.6
	comp=Z,107nm,1.7s							
427A	Hayter Ranch,	23.61	115	P		P	13 11 06.7	+0.3
	baz=24,SNR=9.4							
COLA	College	23.63	339	eP		P	13 11 07.2	+1.1
COLA				pmax		pmax		
	comp=Z,102nm,2.3s							
COLA	College	23.63	339	eP		P	13 11 07.2	+1.1
	comp=Z,102nm,2.3s							
526A	Mary Lane Ranc	23.69	118	P		P	13 11 07.5	+0.3
	baz=24							
X31A	McDonald Ranch	23.72	104	P		P	13 11 07.5	+0.1
	baz=24							
CAST	Castle Rocks	23.77	333	eP		P	13 11 09.7	+2.2
	comp=Z,70nm,1.8s							
Y31A	Rekieta Farm,	23.88	105	P		P	13 11 08.8	0.0
	baz=24							
BPAW	Bear Paw Mtn.	23.91	335	eP		P	13 11 07.4	-1.5
	comp=Z,63nm,1.9s							
626A	Big Bend Ranch	24.01	119	P		P	13 11 10.0	-0.2
	baz=24,SNR=14							
KSU1	Kansas State U	24.13	91	eP		P	13 11 11.9	+0.8
	comp=Z,35nm,0.9s							
329A	Wagon Wheel Ra	24.15	112	P		P	13 11 10.8	-0.7
	baz=24							
428A	Kincaid Ranch,	24.16	115	P		P	13 11 11.8	+0.1
	baz=24,SNR=12							
130A	Snyder	24.17	109	P		P	13 11 11.5	-0.1
	baz=24							
Y32A	R-V Farms, Ver	24.43	104	P		P	13 11 14.6	+0.7
	baz=24							
TXAR	Lajitas Array	24.45	118	P		P	13 11 11.8	-2.5
TXAR	Lajitas Array	24.45	118	P		P	13 11 11.8	-2.5
	comp=Z,2.6nm,0.9s,baz=297,slow=7.3,SNR=8.2							
TXAR				LR		LR	13 21 25.8	
	comp=Z,472nm,18.5s,baz=85,slow=38							
528A	Cox Ranch, San	24.46	116	P		P	13 11 13.9	-0.5
	baz=24,SNR=11							
230A	Sterling City	24.49	110	P		P	13 11 14.5	-0.1
	baz=24							
WMOK	Wichita Mounta	24.51	102	eP		P	13 11 14.8	+0.1
WMOK				pmax		pmax		
	comp=Z,68nm,1.0s							
WMOK	Wichita Mounta	24.51	102	eP		P	13 11 14.8	+0.1
	comp=Z,68nm,1.0s							
INK	Inuvik	24.54	355	LR		LR	13 20 20.8	
	comp=Z,106nm,20.1s,baz=74,slow=35							
627A	Terlingua Ranc	24.55	118	P		P	13 11 15.1	-0.1
	baz=24,SNR=11							
LPIG	La Paz	24.70	138	LR		LR	13 19 53.9	
	comp=Z,206nm,20.5s,baz=335,slow=34							
429A	Davenport Ranc	24.75	114	P		P	13 11 17.0	+0.1
	baz=25,SNR=14							
Z32A	Haskell	24.79	106	P		P	13 11 17.4	+0.2
	baz=25,SNR=12							
529A	Stev Forest Ra	24.86	115	P		P	13 11 17.9	0.0
	baz=25							
231A	Bronte	25.00	109	P		P	13 11 18.9	-0.2
	baz=25							
ABTX	Abilene, Hawle	25.06	107	eP		P	13 11 19.7	0.0
ABTX	Abilene, Hawle	25.06	107	P		P	13 11 19.6	0.0
	baz=25							
430A	Baggett Ranch,	25.08	113	P		P	13 11 20.2	+0.2
	baz=25,SNR=6.6							
331A	San Angelo	25.30	111	P		P	13 11 21.6	-0.3
	baz=25							
530A	J-C Ranch, Com	25.42	114	P		P	13 11 22.9	-0.1
	baz=25							
232A	Coleman	25.48	109	P		P	13 11 23.7	+0.2
	baz=26,SNR=9.0							
431A	Sonora	25.57	112	P		P	13 11 24.3	-0.1
	baz=26							
FCC	Fort Churchill	25.62	43	eP		P	13 11 24.4	0.0
FCC	Fort Churchill	25.62	43	eP		P	13 11 24.4	0.0
	comp=Z,1.3nm,1.4s							
332A	Millersview	25.72	110	P		P	13 11 25.8	+0.1
	baz=26,SNR=5.9							
531A	Rocksprings	25.94	113	P		P	13 11 27.4	-0.3
	baz=26							
432A	Menard	26.00	111	P		P	13 11 28.2	0.0
	baz=26,SNR=5.3							
TUL1	Tulsa	26.06	97	eP		P	13 11 28.5	-0.2
COLD	Coldfoot	26.09	341	eP		P	13 11 30.2	+1.6
	comp=Z,24nm,1.4s							
IM04	Indian Mountai	26.09	336	eP		P	13 11 30.1	+1.4
IMA2	Indian Mountai	26.13	337	eP		P	13 11 31.6	+2.4
JCT	Junction City	26.24	111	P		P	13 11 29.8	-0.5
	baz=26							
532A	Rocksprings	26.39	112	P		P	13 11 31.8	0.0
	baz=26,SNR=7.2							
631A	Perdido Creek	26.40	114	P		P	13 11 31.3	-0.5
	baz=26							
WHTX	Lake Whitney	26.93	106	eP		P	13 11 38.8	+2.2
MIAR	Mount Ida	28.31	98	eP		P	13 11 49.6	+0.7
MIAR				pmax		pmax		
	comp=Z,67nm,1.3s							
MIAR	Mount Ida	28.31	98	eP		P	13 11 49.6	+0.7
	comp=Z,67nm,1.3s							
HDIL	Hopedale	28.88	83	eP		P	13 11 54.2	+0.2
	comp=Z,58nm,1.4s							
HKT	Hockley	29.26	108	eP		P	13 11 57.7	+0.4
HKT				pmax		pmax		
	comp=Z,23nm,1.4s							
HKT	Hockley	29.26	108	eP		P	13 11 57.7	+0.4
	comp=Z,23nm,1.4s							
OLIL	Olney	30.41	86	eP		P	13 12 08.9	+1.5
	comp=Z,92nm,1.6s							
USIN	University of	31.02	87	eP		P	13 12 12.8	-0.1
	comp=Z,30nm,0.9s							
OXF	Oxford	31.32	94	eP		P	13 12 16.1	+0.6
OXF				pmax		pmax		
	comp=Z,92nm,1.1s							
OXF	Oxford	31.32	94	eP		P	13 12 16.1	+0.6
	comp=Z,92nm,1.1s							
BLO	Bloomington	31.37	84	eP		P	13 12 16.0	0.0
BLO				pmax		pmax		
	comp=Z,54nm,1.2s							
BLO	Bloomington	31.37	84	eP		P	13 12 16.0	0.0
	comp=Z,54nm,1.2s							
WVT	Waverly	31.70	90	eP		P	13 12 18.3	-0.6
WVT				pmax		pmax		
	comp=Z,10.0nm,1.0s							
WVT	Waverly	31.70	90	eP		P	13 12 18.3	-0.6
	comp=Z,10.0nm,1.0s							
PLAL	Pickwick Lake	32.05	92	eP		P	13 12 21.6	-0.4
	comp=Z,74nm,1.8s							
RES	Resolute Bay	34.18	15	P		P	13 12 40.0	-0.1
RES	Resolute Bay	34.18	15	P		P	13 12 40.0	-0.1
	comp=Z,2.6nm,0.9s,baz=219,slow=6.5,SNR=3.1							
CPCT	Cooper Cave	34.40	89	eP		P	13 12 44.4	+2.0
SADO	Sadowa	34.72	71	LR		LR	13 26 55.7	
	comp=Z,325nm,21.4s,baz=165,slow=36							
GOGA	Godfrey	36.15	91	eP		P	13 12 58.0	+0.4
GOGA				pmax		pmax		
	comp=Z,17nm,1.1s							
GOGA	Godfrey	36.15	91	eP		P	13 12 58.0	+0.4
	comp=Z,17nm,1.1s							
FRNY	Flat Rock	38.46	69	eP		P	13 13 16.1	-1.0
	comp=Z,56nm,1.8s							
SCHQ	Schefferville	40.19	52	LR		LR	13 30 10.1	
	comp=Z,238nm,19.3s,baz=105,slow=36							
SFJD	Kangerlussuaq	45.83	32	LR		LR	13 32 14.6	
	comp=Z,132nm,18.2s,baz=276,slow=34							
SEY	Seymchan	47.43	322	eP		P	13 14 30.3	+0.9
PETK	Petropavlovsk-	47.78	309	LR		LR	13 31 38.5	
	comp=Z,119nm,19.5s,baz=262,slow=32							
SUMG	Summit	48.67	24	eP		P	13 14 37.5	-1.9
SUMG				pmax		pmax		
	comp=Z,21nm,1.1s							
SUMG	Summit	48.67	24	i P		P	13 14 39.7	+0.3
	comp=Z,5.1nm,0.9s							
SUMG	Summit	48.67	24	eP		P	13 14 37.5	-1.9
	comp=Z,21nm,1.1s							
YAK	Yakutsk	57.36	327	eP		P	13 15 44.1	+1.1
USRK	Ussuriysk Arra	66.85	310	P		P	13 16 46.7	-0.4
	comp=Z,1.8nm,0.9s,baz=66,slow=7.1,SNR=2.0							
USRK				LR		LR	13 42 39.1	
	comp=Z,94nm,19.2s,baz=62,slow=33							
MDJ	Mudanjiang	67.90	311	P		P	13 16 53.5	-0.2
MDJ				pP		pP	13 17 05.3	+7.4
MDJ				sP		sP	13 17 10.0	+10
MDJ				S		S	13 25 50.0	-1.9
MDJ				SS		SS	13 30 12.3	-0.5
MDJ				pmax		pmax		
	comp=Z,8.0nm,2.4s							
MDJ				pmax		pmax		
	comp=Z,100nm,5.3s							
MDJ				LR		LR		
	comp=N,61nm,34.8s							
MDJ				LR		LR		
	comp=E,84nm,37.9s							
MDJ				LR		LR		
	comp=Z,130nm,33.2s							
MJAR	Matsushiro Arr	67.99	300	LR		LR	13 43 58.7	
	comp=Z,87nm,21.1s,baz=45,slow=34							
NOA	NORSAR Array B	70.29	20	P		P	13 17 07.5	-0.8
NOA	NORSAR Array B	70.29	20	P		P	13 17 07.5	-0.8
	comp=Z,2.3nm,1.1s,baz=329,slow=6.1,SNR=2.6							
CN2	Changchun	70.67	313	eP		P	13 17 13.5	+2.6
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KSRS	Korea Array	73.61	306	LR		LR	13 45 11.7	
	comp=Z,49nm,19.4s,baz=170,slow=32							
TLY	Talaya	74.67	329	eP		P	13 17 39.3	+4.8
TLY				pmax		pmax		
	comp=Z,20nm,1.5s							
TLY				MLR		MLR		
	comp=Z,88nm,18.0s							
MOY	Mondy	75.63	331	eP		P	13 17 42.7	+2.5
ZAK	Zakamensk	75.86	329	eP		P	13 17 39.0	-2.5
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.6s							
ULN	Ulaanbaatar	76.40	325	eP		P	13 17 44.6	-0.1
	comp=Z,18nm,1.5s							
SGMF	Saint Gilles	76.53	34	eP		P	13 17 44.5	-0.7
	comp=Z,133nm,1.8s							
SGMF	Saint Gilles	76.53	34	eP		P	13 17 44.5	-0.7
SGMF	Saint Gilles	76.53	34	eP		P	13 17 44.5	-0.7
QUIF	Quistinic	76.55	34	eP		P	13 17 44.7	-0.6
	comp=Z,39nm,1.2s							
QUIF	Quistinic	76.55	34	eP		P	13 17 44.7	-0.6
QUIF	Quistinic	76.55	34	eP		P	13 17 44.7	-0.6
SONM	Songino Array	76.69	326	P		P	13 17 44.4	-2.0
SONM	Songino Array	76.69	326	P		P	13 17 44.4	-2.0
	comp=Z,4.2nm,1.0s,baz=35,slow=5.4,SNR=8.7							
FLN	La Foliniere	76.94	32	eP		P	13 17 46.9	-0.6
	comp=Z,53nm,1.4s							
FLN				eR				
	comp=Z,72nm,17.5s							
FLN	La Foliniere	76.94	32	eP		P	13 17 46.9	-0.6
FLN	La Foliniere	76.94	32	eP		P	13 17 46.9	-0.6
GRR	Gorron	77.10	33	eP		P	13 17 48.1	-0.3
	comp=Z,48nm,1.2s							
GRR	Gorron	77.10	33	eP		P	13 17 48.1	-0.3
GRR	Gorron	77.10	33	eP		P	13 17 48.1	-0.3
LDF	La Druitiere	77.22	32	eP		P	13 17 48.4	-0.7
	comp=Z,53nm,1.3s							
LDF	La Druitiere	77.22	32	eP		P	13 17 48.4	-0.7
LDF	La Druitiere	77.22	32	eP		P	13 17 48.4	-0.7
BAIF	Baives	77.60	29	eP		P	13 17 50.6	-0.6
	comp=Z,46nm,1.4s							
BAIF	Baives	77.60	29	eP		P	13 17 50.6	-0.6
BAIF	Baives	77.60	29	eP		P	13 17 50.6	-0.6
GIVF	Givet	77.78	29	eP		P	13 17 51.6	-0.6
GIVF	Givet	77.78	29	eP		P	13 17 51.6	-0.6
GIVF	Givet	77.78	29	eP		P	13 17 51.6	-0.6
NVS	Novosibirsk	77.97	342	i P		P	13 17 49.9	-3.2
NVS				e			13 20 54.4	
NVS				pmax		pmax		
	comp=E,13nm,1.3s							
NVS				pmax		pmax		
	comp=Z,27nm,1.3s							
NVS				pmax		pmax		
	comp=N,15nm,1.8s							
ZAA0	Zalesovo Array	78.42	341	eP		P	13 17 53.7	-2.0
ZALV	Zalesovo Beam	78.42	341	i P		P	13 17 55.2	-0.5
ZALV	Zalesovo Beam	78.42	341	P		P	13 17 54.0	-1.7
ZALV	Zalesovo Beam	78.42	341	P		P	13 17 54.0	-1.7
	comp=N,0.4nm,0.4s,baz=18,slow=6.2,SNR=4.1							
HVS	Khovu-Aksy	78.50	335	eP		P	13 17 56.5	+0.2
MFF	Saint Martin d	78.83	34	eP		P	13 17 57.5	-0.6
MFF	Saint Martin d	78.83	34	eP		P	13 17 57.5	-0.6
MFF	Saint Martin d	78.83	34	eP		P	13 17 57.5	-0.6
SVE	Sverdlovsk	79.28	355	eP		P	13 18 05.2	+4.8
SVE				pmax		pmax		
	comp=Z,17nm,1.4s							
CLL	Collm	79.34	24	eP		P	13 18 06.0	+5.2
CLL	Collm	79.34	24	e(pP)		P	13 18 06.0	+5.2
	comp=Z,9.0nm,1.2s							
PAGF	Fort de Pagny	79.41	29	eP		P	13 18 00.6	-0.6
PAGF	Fort de Pagny	79.41	29	eP		P	13 18 00.6	-0.6
SFTF	Sexfontaines	79.46	30	eP		P	13 18 00.5	-1.0
SFTF	Sexfontaines	79.46	30	eP		P	13 18 00.5	-1.0
ARU	Arti	79.80	356	c i P		P	13 18 04.0	+0.8
ARU							13 21 00.0	
ARU				S		S	13 28 05.2	-0.2
ARU				SS		SS	13 33 12.4	-0.4
ARU				pmax		pmax		
	comp=Z,12nm,2.5s							
LOR	Lormes	79.82	31	eP		P	13 18 02.8	-0.7
	comp=Z,42nm,1.4s							
LOR				eR				
	comp=Z,85nm,18.5s							
LOR	Lormes	79.82	31	eP		P	13 18 02.8	-0.7
SSF	Saint Saulge	79.86	31	eP		P	13 18 03.0	-0.7
	comp=Z,42nm,1.4s							
SSF	Saint Saulge	79.86	31	eP		P	13 18 03.0	-0.7
SSF	Saint Saulge	79.86	31	eP		P	13 18 03.0	-0.7
HHC	Hu-ho-hao-te	79.87	318	eP		P	13 18 03.8	-0.2
HHC				pP		PcP	13 18 17.0	+5.4
HHC				sP		sP	13 18 22.3	+12
HHC				PP		PP	13 21 08.5	+3.7
HHC				S		S	13 28 02.3	-4.7
HHC				sS		SKKSac	13 28 24.5	+1.9
HHC				SS		SS	13 33 14.0	-1.2
HHC				pmax		pmax		
	comp=Z,27nm,1.0s							
HHC				pmax		pmax		
	comp=Z,210nm,7.1s							
HHC				LR		LR		
	comp=N,280nm,15.7s							
HHC				LR		LR		
	comp=E,270nm,15.3s							
HHC				LR		LR		
	comp=Z,220nm,16.2s							
BRG	Berggiesshubel	80.00	23	eP		P	13 18 06.2	+1.9
	comp=Z,11nm,1.6s							
BRG				e			13 18 10.8	
	comp=Z,14nm,1.4s							
BRG	Berggiesshubel	80.00	23	eP		P	13 18 06.2	+1.9
BRG				e			13 18 10.8	
BRG				pmax		pmax		
	comp=Z,11nm,1.6s							
TCF	Toulx Ste Croi	80.02	32	eP		P	13 18 03.6	-1.0
	comp=Z,48nm,1.6s							
TCF	Toulx Ste Croi	80.02	32	eP		P	13 18 03.6	-1.0
TCF	Toulx Ste Croi	80.02	32	eP		P	13 18 03.6	-1.0
AVF	Avril sur Loir	80.03	31	eP		P	13 18 03.6	-1.0
	comp=Z,28nm,1.4s							
AVF	Avril sur Loir	80.03	31	eP		P	13 18 03.6	-1.0
AVF	Avril sur Loir	80.03	31	eP		P	13 18 03.6	-1.0
BGF	Bois d'Agland	80.03	32	eP		P	13 18 03.6	-1.1
BGF	Bois d'Agland	80.03	32	eP		P	13 18 03.6	-1.1
BGF	Bois d'Agland	80.03	32	eP		P	13 18 03.6	-1.1
CDF	Champ du Feu	80.07	28	eP		P	13 18 04.2	-0.7
	comp=Z,18nm,1.2s							
CDF	Champ du Feu	80.07	28	eP		P	13 18 04.2	-0.7
CDF	Champ du Feu	80.07	28	eP		P	13 18 04.2	-0.7
GRF	Grafenberg Arr	80.24	25	eP		P	13 18 07.9	+2.2
	comp=Z,10.0nm,1.4s							
GRF	Grafenberg Arr	80.24	25	eP		P	13 18 07.9	+2.2
GRF				pmax		pmax		
	comp=Z,10.0nm,1.4s							
SMF	Signal de Mont	80.34	31	eP		P	13 18 05.0	-1.3
	comp=Z,46nm,1.5s							
SMF	Signal de Mont	80.34	31	eP		P	13 18 05.0	-1.3
SMF	Signal de Mont	80.34	31	eP		P	13 18 05.0	-1.3
HINF	Hinteralfeld	80.43	29	eP		P	13 18 05.9	-0.9
	comp=Z,19nm,1.2s							
HINF	Hinteralfeld	80.43	29	eP		P	13 18 05.9	-0.9
HINF	Hinteralfeld	80.43	29	eP		P	13 18 05.9	-0.9
OBN	Obninsk	80.45	9	P		P	13 18 05.0	-1.7
OBN				e			13 18 12.1	
OBN				pmax		pmax		
	comp=Z,15nm,1.3s							
BFO	Black Forest	80.49	28	eP		P	13 18 14.0	+6.9
BFO				pmax		pmax		
	comp=Z,13nm,1.4s							
BFO	Black Forest	80.49	28	eP		P	13 18 14.0	+6.9
	comp=Z,13nm,1.4s							
RJF	Les Rejaudoux	80.56	33	eP		P	13 18 06.4	-1.1
RJF				eR				
	comp=Z,80nm,17.5s							
RJF	Les Rejaudoux	80.56	33	eP		P	13 18 06.4	-1.1
RJF	Les Rejaudoux	80.56	33	eP		P	13 18 06.4	-1.1
CAF	Calviac	81.09	33	eP		P	13 18 09.2	-1.2
	comp=Z,27nm,1.3s							
CAF	Calviac	81.09	33	eP		P	13 18 09.2	-1.2
CAF	Calviac	81.09	33	eP		P	13 18 09.2	-1.2
CABF	La Chapelle	81.19	30	eP		P	13 18 10.4	-0.6
	comp=Z,28nm,1.2s							
CABF	La Chapelle	81.19	30	eP		P	13 18 10.4

VYHS	**Vyhne**	**83.49**	**21**	*e*P	**P**	**13 18 24.4 +1.5**
VYHS				pmax	pmax	
comp=Z,4.0nm,1.4s						
VYHS	**Vyhne**	**83.49**	**21**	*e*P	**P**	**13 18 24.4 +1.5**
AKASG	**Malin Array Be**	**83.69**	**14**	P	**P**	**13 18 22.7 -1.1**
AKASG	**Malin Array Be**	**83.69**	**14**	P	**P**	**13 18 22.7 -1.1**
AKASG	**Malin Array Be**	**83.69**	**14**	P	**P**	**13 18 22.7 -1.1**
comp=Z,0.4nm,0.4s,baz=338,slow=4.1,SNR=3.0						
KIEV	**Kiev**	**83.70**	**14**	*e*P	**P**	**13 18 23.8 0.0**
CRVS	**Cervenica-Dubn**	**83.78**	**20**	*e*P	**P**	**13 18 25.0 +0.7**
CRVS	**Cervenica-Dubn**	**83.78**	**20**	*e*P	**P**	**13 18 25.0 +0.7**
UZH	**Uzhgorod**	**84.23**	**19**	*e*P	**P**	**13 18 26.4 -0.2**
UZH				*i*		13 18 31.8
UZH				*i*		13 21 44.6
UZH				*e*S	S	13 28 45.0 -6.3
UZH				*i*		13 29 39.6
MKAR	**Makanchi Array**	**85.65**	**339**	*i* P	**P**	**13 18 34.9 +1.0**
MKAR				pmax	pmax	
comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**85.65**	**339**	P	**P**	**13 18 31.4 -2.5**
MKAR	**Makanchi Array**	**85.65**	**339**	P	**P**	**13 18 31.4 -2.5**
comp=Z,1.1nm,1.0s,baz=31,slow=5.0,SNR=4.9						
GTA	**Gaotai**	**86.32**	**325**	*e*P	P	13 18 41.5 +4.0
GTA				pP	pP	13 18 55.3 +14
GTA				sP	sP	13 19 00.8 +17
GTA				S	**S**	**13 29 13.0 +0.3**
GTA				sS	ScS	13 29 36.0 +15
GTA				pmax	pmax	
comp=Z,4.0nm,1.0s						
GTA				pmax	pmax	
comp=Z,110nm,4.3s						
GTA				LR	LR	
comp=N,150nm,17.8s						
GTA				LR	LR	
comp=E,99nm,18.6s						
GTA				LR	LR	
comp=Z,210nm,20.8s						
WMQ	**Urumqi**	**86.87**	**335**	*e*P	**P**	**13 18 42.5 +2.5**
ABKAR	**Akbulak array**	**86.87**	**355**	*e*P	**P**	**13 18 37.9 -1.9**
comp=Z,11nm,1.3s						
LZH	**Lanzhou**	**87.31**	**320**	*e*P	P	13 18 46.5 +4.1
LZH				pP	pP	13 19 00.5 +14
LZH				sP	sP	13 19 05.5 +17
LZH				pmax	pmax	
comp=Z,40nm,1.4s						
LZH				pmax	pmax	
comp=Z,220nm,5.0s						
LZH				LR	LR	
comp=N,94nm,13.0s						
LZH				LR	LR	
comp=E,150nm,14.9s						
LZH				LR	LR	
comp=Z,130nm,15.6s						
CD2	**Chengdu**	**91.60**	**317**	*e*P	**P**	**13 19 03.5 +1.1**
CD2				pP	pP	13 19 16.3 +10
CD2				sP	sP	13 19 21.0 +13
CD2				PP	**PP**	**13 22 43.8 +3.9**
CD2				SKS	**SKSac**	**13 29 30.3 -4.6**
CD2				S	**SKKSac**	**13 29 56.5 +5.6**
CD2				sS	sS	13 30 18.5 +9.0
CD2				SS	**SS**	**13 36 06.3 -1.2**
CD2				pmax	pmax	
comp=Z,10.0nm,1.2s						
CD2				pmax	pmax	
comp=Z,40nm,5.8s						
CD2				LR	LR	
comp=N,150nm,14.2s						
CD2				LR	LR	
comp=Z,140nm,16.0s						
GYA	**Guiyang**	**93.72**	**313**	P	**P**	**13 19 13.0 +0.6**
GYA				pP	pP	13 19 25.8 +9.0
GYA				sP	sP	13 19 31.3 +13
GYA				PP	**PP**	**13 23 01.0 +4.2**
GYA				SKS	**SKSac**	**13 29 42.5 -4.6**
GYA				S	**S**	**13 30 16.0 -5.6**
GYA				pmax	pmax	
comp=Z,10.0nm,1.0s						
GYA				pmax	pmax	
comp=Z,90nm,5.9s						
BDFB	**Brasilia**	**93.90**	**108**	LR	LR	14 05 10.2
comp=Z,122nm,19.8s,baz=315,slow=38						
KSH	**Kashi**	**94.05**	**341**	P	P	13 19 18.3 +4.6
KSH				sP	sP	13 19 32.3 +13
KSH				PP	PP	13 23 07.3 +8.5
KSH				S	**S**	**13 30 22.5 -1.5**
KSH				sS	sS	13 30 40.5 +9.3
KSH				SS	**SS**	**13 36 46.5 +4.5**
KSH				pmax	pmax	
comp=Z,14nm,0.6s						
KSH				LR	LR	
comp=N,58nm,4.3s						
KSH				LR	LR	
comp=E,97nm,4.4s						
KSH				LR	LR	
comp=Z,120nm,5.2s						

NNC ***29*** *13:17:21.2±11.0, 40°.03N×71°.46E, h23km±48km, mb3.5, mpv3.1, Error ellipse: s-maj=89.5km s-min=36.9km az=14.0*

ISC 29 13:17:11.2±5.2, 39°.4N±0°.4×71°.1E±0°.2, h10km, n8, σ1ϑ76/10, 2C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.37**	**35**	P	**Pn**	**13 18 03.8**	**-0.4**
SNR=19							
KK31	**Karatay Array**	**3.73**	**353**	⇓Pn	**Pn**	**13 18 10.8**	**+2.0**
0.9nm,0.3s,baz=162,slow=12,SNR=75							
KK31				Pg	**Pb**	**13 18 18.5**	**+1.4**
5.0nm,0.3s,baz=170,slow=17,SNR=44							
KK31				⇑Lg	Lg	13 19 03.1	
16nm,0.5s,baz=155,slow=27,SNR=13							
EKS2	**Erkin-Say**	**3.84**	**31**	P	**Pn**	**13 18 10.9**	**+0.6**
SNR=8.6							
CHMS	**Chumysh**	**4.53**	**36**	P	**Pn**	**13 18 20.2**	**+0.4**
SNR=8.3							
USP	**Ospenovka**	**4.63**	**32**	P	**Pn**	**13 18 21.4**	**+0.2**
SNR=8.7							
TKM2	**Tokmak 2**	**4.89**	**43**	⇑Pn	**Pn**	**13 18 24.6**	**-0.3**
2.4nm,0.3s							
TKM2				⇓Lg	Lg	13 19 32.5	
16nm,0.7s							
TKM2	**Tokmak 2**	**4.89**	**43**	P	**Pn**	**13 18 24.9**	**0.0**
SNR=7.3							
AB31	**Akbulak array**	**12.67**	**325**	⇓Pn	**Pn**	**13 20 11.2**	**-0.2**
0.5nm,0.5s							
AB31				⇓Sn	**Sn**	**13 22 28.5**	**-3.8**
0.3nm,0.4s							

IDC 29 13:39:19.8±1.0, 14°.91S×173°.55W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.9/19, mbtmp3.7/6, MS3.9/5, Ms1 3.9/5, ms1mx3.5/28, Error ellipse: s-maj=48.5km s-min=24.3km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**60**	Pn	Pn	13 39 47.8	-7.0
45nm,0.3s,baz=330,slow=21,SNR=36							
AFI				Sn	Sn	13 40 06.5	-14
260nm,0.3s,baz=176,slow=23,SNR=23							
DZM	**Mont Dzumac**	**20.25**	**246**	*e*LR	LR	13 48 44.3	
439nm,24.6s							
DZM	**Mont Dzumac**	**20.25**	**246**	LR	LR	13 50 09.3	
comp=Z,268nm,19.8s,baz=204,slow=32							
PPT2	**Papeete2**	**23.17**	**100**	*e*LQ	LQ	13 48 50.5	
635nm,28.5s							
PPT2				*e*LR	LR	13 49 53.0	
433nm,25.0s,baz=266							
TBI	**Tubuai**	**24.23**	**114**	*e*LQ	LQ	13 49 20.4	
398nm,28.5s							
TBI				*e*LR	LR	13 50 14.8	
451nm,26.0s,baz=289							
URZ	**Urewera**	**24.68**	**198**	LR	LR	13 53 24.6	
comp=Z,376nm,20.8s,baz=20,slow=34							
HNR	**Honiara**	**26.46**	**279**	LR	LR	13 53 45.6	
comp=Z,212nm,19.7s,baz=110,slow=33							
RKT	**Rikitea**	**37.29**	**109**	*e*LR	LR	13 56 11.5	
265nm,28.8s							
WRA	**Warramunga Arr**	**49.81**	**256**	P	P	13 48 14.7	-0.2
0.6nm,0.7s,baz=91,slow=6.8,SNR=8.3							
ASAR	**Alice Springs**	**50.12**	**252**	P	P	13 48 17.0	-0.3
4.3nm,0.9s,baz=86,slow=8.2,SNR=24							
ASAR				LR	LR	14 07 36.5	
comp=Z,178nm,20.6s,baz=104,slow=34							
FITZ	**Fitzroy Crossi**	**58.17**	**258**	LR	LR	14 11 45.0	
comp=Z,114nm,18.8s,baz=217,slow=33							
VNDA	**Vanda**	**63.85**	**186**	P	P	13 49 53.7	+0.1
0.5nm,0.7s,baz=8.8,slow=7.9,SNR=4.1							
NVAR	**Mina Array Bea**	**74.06**	**42**	P	P	13 50 58.5	+0.4
0.4nm,0.8s,baz=230,slow=6.9,SNR=3.5							
ILAR	**Eielson Array**	**82.00**	**11**	P	P	13 51 41.2	0.0
0.4nm,0.8s,baz=217,slow=5.3,SNR=4.3							
PDAR	**Pinedale Array**	**82.00**	**42**	P	P	13 51 41.4	-0.7
0.4nm,0.7s,baz=212,slow=3.2,SNR=3.5							
BRTR	**Keskin Array B**	**145.69**	**321**	PKPbc	PKPdf	13 59 00.7	-0.1
2.6nm,0.8s,baz=104,slow=2.8,SNR=12							

IDC ***29*** *13:44:09.6±1.7, 5°.15S×152°.78E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML3.0/1, Error ellipse: s-maj=56.1km s-min=18.9km az=123.0*
NEIC ***29*** *13:44:15.7±2.5, 5°.17S×152°.69E, h42km±20km, mb4.0/4, Error ellipse: s-maj=31.0km s-min=13.6km az=115.0*
ISCJB ***29*** *13:44:16.5±1.3, 5°.1S±0°.2×152°.4E±0°.2, h55km, mb3.9/12, Error ellipse: s-maj=37.7km s-min=8.9km az=34.0*

ISC 29 13:44:17.3±1.5, 5°.2S±0°.2×152°.6E±0°.3, h55km, n27, σ0ϑ68/29, mb3.9/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**232**	Pn	**Pn**	**13 45 54.7**	**-0.2**
PMG				Sn	**Sn**	**13 47 10.6**	**-0.7**
PMG	**Port Moresby**	**6.83**	**232**	Pn	**Pn**	**13 45 54.7**	**-0.2**
1.5nm,0.3s,baz=18,slow=6.4,SNR=5.6							
PMG				Sn	**Sn**	**13 47 10.6**	**-0.7**
1.6nm,0.3s,baz=143,slow=18,SNR=5.8							
WRAB	**Tennant Creek**	**23.02**	**229**	*e*P	**P**	**13 49 17.9**	**0.0**
2.7nm,0.5s							
WRA	**Warramunga Arr**	**23.03**	**229**	P	**P**	**13 49 17.7**	**-0.4**
WRA	**Warramunga Arr**	**23.03**	**229**	P	**P**	**13 49 17.7**	**-0.4**
1.1nm,0.7s,baz=52,slow=9.6,SNR=7.5							
ASAR	**Alice Springs**	**25.73**	**223**	P	**P**	**13 49 43.4**	**+0.6**
ASAR	**Alice Springs**	**25.73**	**223**	P	**P**	**13 49 43.4**	**+0.6**
1.2nm,0.7s,baz=59,slow=8.8,SNR=4.1							
FITZ	**Fitzroy Crossi**	**29.29**	**242**	*e*P	**P**	**13 50 15.3**	**+0.5**
1.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**29.29**	**242**	P	**P**	**13 50 15.7**	**+0.9**
1.6nm,0.7s,baz=63,slow=9.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**57.85**	**295**	P	**P**	**13 54 03.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**57.85**	**295**	P	**P**	**13 54 03.6**	**-0.3**
0.4nm,0.3s,baz=125,slow=4.5,SNR=6.5							
CHTO	**Chiang Mai**	**57.97**	**296**	*e*P	**P**	**13 54 05.1**	**+0.4**
1.3nm,0.8s							
PETK	**Petropavlovsk-**	**58.24**	**4**	P	**P**	**13 54 05.2**	**-0.7**
PETK	**Petropavlovsk-**	**58.24**	**4**	P	**P**	**13 54 05.2**	**-0.7**
5.4nm,1.0s,baz=170,slow=8.8,SNR=9.1							
ULN	**Ulaanbaatar**	**66.21**	**328**	P	**P**	**13 54 58.3**	**-1.3**
SONM	**Songino Array**	**66.54**	**328**	P	**P**	**13 55 02.7**	**+1.0**
SONM	**Songino Array**	**66.54**	**328**	P	**P**	**13 55 02.7**	**+1.0**
0.2nm,0.6s,baz=144,slow=6.1,SNR=3.7							
MK31	**Makanchi Array**	**80.48**	**319**	*e*P	**P**	**13 56 23.4**	**-0.1**
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**13 56 24.8**	**+1.2**
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**13 56 24.8**	**+1.2**
0.9nm,0.8s,baz=112,slow=5.2,SNR=7.2							
ZALV	**Zalesovo Beam**	**81.36**	**326**	P	**P**	**13 56 28.4**	**+0.4**
ZALV	**Zalesovo Beam**	**81.36**	**326**	P	**P**	**13 56 28.4**	**+0.4**
0.5nm,0.4s,baz=108,slow=6.1,SNR=3.4							
ILAR	**Eielson Array**	**82.59**	**22**	P	**P**	**13 56 33.8**	**-0.5**
ILAR	**Eielson Array**	**82.59**	**22**	P	**P**	**13 56 33.8**	**-0.5**
1.3nm,0.7s,baz=243,slow=5.3,SNR=19							
AAK	**Ala-Archa**	**84.78**	**314**	*e*P	**P**	**13 56 46.2**	**+0.1**
2.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**150.23**	**287**	PKPbc	**PKPbc**	**14 04 03.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**150.23**	**287**	PKPbc	**PKPbc**	**14 04 03.4**	**+0.1**
0.7nm,0.6s,baz=79,slow=2.4,SNR=4.0							

BJI ***29*** *13:58:55.2, 11°.99N×56°.74E, h10km, mB5.5/45, mb5.1/46, Ms5.1/51, Ms7 4.9/50*
ISCJB ***29*** *13:59:03.4±0.7, 12°.93N±0°.02×57°.54E±0°.02, h3km±4km, mb5.1/189, MS4.6/71, Error ellipse: s-maj=4.2km s-min=3.2km az=8.4*
IDC ***29*** *13:59:04.9±0.4, 12°.99N×57°.71E, h0km, mb4.6/34, mb1 4.7/35, mb1mx4.6/38, mbtmp4.6/35, MS4.6/36, Ms1 4.6/36, ms1mx4.5/44, Error ellipse: s-maj=8.6km s-min=7.9km az=7.0*
STR ***29*** *13:59:05.0±0.0, 12°.94N×57°.60E, Mb5.0, Error ellipse: s-maj=0.0km s-min=0.0km az=109.0*
TEH ***29*** *13:59:05.0, 12°.90N×57°.53E, h10km, ML5.4*
NEIC ***29*** *13:59:06.0±0.3, 12°.92N×57°.60E, h10km, mb5.3/38, Error ellipse: s-maj=6.8km s-min=5.2km az=194.0*
CSEM ***29*** *13:59:06.8±0.3, 12°.96N×57°.57E, h10km, mb5.3/93, Ms4.5, Mw5.5, Error ellipse: s-maj=11.5km s-min=6.7km az=138.0*
GCMT ***29*** *13:59:06.1±0.1, 12°.94N×57°.51E, h12km, MW5.3, Moment Tensor Solution. s63,c86; s73,c105; Moment tensor: Scale 10¹⁷Nm; M_{rr}-1.05±.02; $M_{\theta\theta}$0.54±.02; $M_{\phi\phi}$0.51±.02; $M_{r\theta}$0.27±.05; $M_{\theta\phi}$-0.56±.01; $M_{\phi r}$-0.22±.05; Best double couple: $M_0$1.10000×10¹⁷ NP1:ϕ_s312.00000°, δ54.00000°, λ-92.00000°. NP2:ϕ_s136.00000°, δ36.00000°, λ-87.00000°. Principal axes: T 1.1400, Plg9.0000°, Azm44.0000°; N -0.0300, Plg2.0000°, Azm314.0000°; P -1.1100, Plg81.0000°, Azm213.0000°; Data Used: II IU CN IC G. Surface waves: sta=101, comp=192, per= 50.*
MOS ***29*** *13:59:07.4±1.2, 12°.87N×57°.48E, h33km, mb5.4/54, MS4.5/17 Error ellipse: s-maj=6.3km s-min=3.2km az=116.5*
SZGRF ***29*** *13:59:07.4, 12°.15N×55°.82E, h10km, mb5.6, MS4.3, Socotra region*
DJA ***29*** *13:59:23.4±5.3, 13°N±7°×5°8E±°, h157km±58km, M4.8/9, mB5.5/8, mb4.7/9, Mw(mB)4.9/8*

ISC 29 13:59:07.3±0.4, 12°.99N±0°.04×57°.60E±0°.03, h14km±1km, h13km: pP-P, n972, σ1ϑ37/1040, mb5.2/192, MS4.6/72, 18C-32D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**6.01**	**317**	Pn	**Pn**	**14 00 38.7**	**+2.7**
SNR=14							
ABTO	**Aybut**	**6.01**	**317**	Pn	**Pn**	**14 00 38.7**	**+2.7**
SNR=14							
MUKL	**Al Mukalla**	**8.46**	**281**	*i* P	**Pn**	**14 01 06.5**	**-3.0**
JMDO	**Jabal Madar**	**9.35**	**3**	Pn	Pn	14 01 25.2	+3.5
SNR=33							
JMDO	**Jabal Madar**	**9.35**	**3**	Pn	Pn	14 01 25.2	+3.5
SNR=33							
WBK	**Wadi Bani Khal**	**9.66**	**8**	Pn	**Pn**	**14 01 25.2**	**-0.8**
SNR=20							
WBK	**Wadi Bani Khal**	**9.66**	**8**	P	**Pn**	**14 01 25.2**	**-0.8**
SNR=20							
BSYO	**Bisya**	**9.70**	**358**	P	**Pn**	**14 01 28.8**	**+2.3**
SNR=18							
BSY	**Bisya**	**9.71**	**358**	Pn	**Pn**	**14 01 28.8**	**+2.0**
SNR=18							
SMDO	**Samad**	**10.03**	**2**	Pn	**Pn**	**14 01 30.3**	**-0.8**
SNR=21							
SMDO	**Samad**	**10.03**	**2**	P	**Pn**	**14 01 30.3**	**-0.8**
SNR=21							
ARQ	**Araqi**	**10.35**	**354**	Pn	**Pn**	**14 01 38.3**	**+2.9**
SNR=24							
ARQ	**Araqi**	**10.35**	**354**	P	**Pn**	**14 01 38.3**	**+2.9**
SNR=24							
HOQ	**Hoqain**	**10.54**	**359**	Pn	**Pn**	**14 01 38.5**	**+0.4**
SNR=54							
HOQ	**Hoqain**	**10.54**	**359**	P	**Pn**	**14 01 38.5**	**+0.4**
SNR=54							
ASHO	**Ashiyiah**	**11.73**	**353**	Pn	Pn	14 01 57.9	+3.6
SNR=12							
ASHO	**Ashiyiah**	**11.73**	**353**	P	**Pn**	**14 01 54.3**	**0.0**
SNR=11							
ASUD	**Al Ashush, Dub**	**11.78**	**350**	P	**Pn**	**14 01 54.3**	**-0.7**
FAQ	**Al Faqa, Dubai**	**11.85**	**351**	P	**Pn**	**14 01 55.8**	**-0.2**
HATD	**Hatta, Dubai**	**11.86**	**353**	P	**Pn**	**14 01 55.4**	**-0.7**
NAZ	**Nazwa, Dubai**	**12.08**	**352**	P	**Pn**	**14 01 58.2**	**-0.9**
BANOM	**Banah**	**12.93**	**355**	P	**Pn**	**14 02 10.5**	**-0.3**
DAMY	**Dhamar**	**12.93**	**279**	*e*Pn	**Pn**	**14 02 08.3**	**-2.8**
IBND	**Bandar-abas**	**14.43**	**356**	*e*P	**Pn**	**14 02 29.2**	**-2.0**
ATD	**Arta Tunnel**	**14.49**	**266**	Pn	**Pn**	**14 02 31.9**	**-0.4**
ATD				Sn	Sn	14 05 19.6	+6.6
ATD	**Arta Tunnel**	**14.49**	**266**	Pn	**Pn**	**14 02 31.9**	**-0.4**
baz=112,slow=13,SNR=2.7							
ATD				Sn	Sn	14 05 19.6	+6.6
2.2nm,0.3s,baz=246,slow=20,SNR=2.8							
ATD	**Arta Tunnel**	**14.49**	**266**	Pn	**Pn**	**14 02 31.9**	**-0.4**
POO	**Poona**	**16.57**	**69**	*e*P	**Pn**	**14 02 59.6**	**+0.1**
POO				AMB	AMB	14 03 06.2	
comp=Z,404nm,2.6s							
ISRV	**Sarvestan**	**16.84**	**346**	*e*P	**Pn**	**14 03 02.9**	**-0.2**
ISRV	**Sarvestan**	**16.84**	**346**	*e*P	**Pn**	**14 03 02.9**	**-0.2**
IPAR	**Pars**	**17.30**	**347**	*e*P	**Pn**	**14 03 08.6**	**-0.2**
IPAR	**Pars**	**17.30**	**347**	*e*P	**Pn**	**14 03 08.6**	**-0.2**
QRN	**Al-Qurain**	**18.09**	**332**	*e*P	**Pn**	**14 03 16.3**	**-2.0**
QRN				AMb	AMB	14 03 23.4	
comp=Z,582nm,1.7s							
RDF	**Al-Radifah**	**18.41**	**331**	*e*P	**P**	**14 03 20.6**	**-1.6**
RDF				AMb	AMB	14 03 27.4	
comp=Z,448nm,1.3s							
RDF	**Al-Radifah**	**18.41**	**331**	*e*P	**P**	**14 03 20.6**	**-1.6**
comp=Z,448nm,1.3s							
IMEH	**Mehriz**	**18.52**	**352**	*e*P	**P**	**14 03 22.5**	**-1.2**
IMEH	**Mehriz**	**18.52**	**352**	*e*P	**P**	**14 03 22.5**	**-1.2**
KBD	**Kabd**	**18.56**	**332**	*e*P	**P**	**14 03 21.4**	**-2.4**
KBD				AMb	AMB	14 03 28.3	
comp=Z,275nm,1.4s							
KBD	**Kabd**	**18.56**	**332**	*e*P	**P**	**14 03 21.4**	**-2.4**
comp=Z,275nm,1.4s							
IBAF	**Bafgh**	**18.61**	**355**	*e*P	**P**	**14 03 24.4**	**-0.2**
IBAF	**Bafgh**	**18.61**	**355**	*e*P	**P**	**14 03 24.4**	**-0.2**
ISAD	**Sadrabad**	**19.18**	**350**	*e*P	**P**	**14 03 31.4**	**+0.5**
ISAD	**Sadrabad**	**19.18**	**350**	*e*P	**P**	**14 03 31.4**	**+0.5**
ICHK	**Chekchek**	**19.39**	**352**	*e*P	**P**	**14 03 33.3**	**+0.1**
ICHK	**Chekchek**	**19.39**	**352**	*e*P	**P**	**14 03 33.3**	**+0.1**
TRD	**Trivandrum**	**19.52**	**101**	*e*P	**P**	**14 03 33.7**	**-0.9**
TRD				⇓*e*x	x	14 03 45.4	
TRD				*e*x	x	14 07 59.4	
WNDE	**Wendo Genet**	**19.57**	**254**	*i* P	**Pn**	**14 03 36.5**	**-0.1**
IGAR	**Gharneh**	**19.99**	**346**	*e*P	**P**	**14 03 39.7**	**0.0**
IZEF	**Zefreh**	**20.40**	**347**	*e*P	**P**	**14 03 42.8**	**-1.4**
IZEF	**Zefreh**	**20.40**	**347**	*e*P	**P**	**14 03 42.8**	**-1.4**
IPIR	**Pirpir**	**20.55**	**344**	*e*P	**P**	**14 03 46.7**	**+0.8**
IPIR	**Pirpir**	**20.55**	**344**	*e*P	**P**	**14 03 46.7**	**+0.8**
HYB	**Hyderabad**	**20.69**	**75**	*i* P	**P**	**14 03 48.0**	**+0.8**
HYB				*e*S	**S**	**14 07 40.0**	**+1.8**
HYB	**Hyderabad**	**20.69**	**75**	*e*P	Pn	14 03 48.6	-1.0
HYB				AMB	AMB	14 03 51.3	
comp=Z,88nm,1.0s							
IKLH	**Kolahrood**	**20.98**	**346**	*e*P	**P**	**14 03 49.6**	**-0.8**
IKLH	**Kolahrood**	**20.98**	**346**	*e*P	**P**	**14 03 49.6**	**-0.8**
BHPL	**Bhopal**	**21.40**	**59**	*e*P	**P**	**14 03 56.9**	**+2.1**
BHPL				AMB	AMB	14 04 00.5	
comp=Z,222nm,1.4s							
ISFB	**Sefidab**	**21.82**	**348**	*e*P	**P**	**14 03 59.3**	**0.0**
ISFB	**Sefidab**	**21.82**	**348**	*e*P	**P**	**14 03 59.3**	**0.0**
NGP	**Nagpur**	**22.03**	**65**	*e*P	**P**	**14 04 00.5**	**-1.2**
NGP				*e*x	x	14 08 16.0	
IVRN	**Varamin**	**22.55**	**347**	*e*P	**P**	**14 04 07.4**	**+0.3**
IVRN	**Varamin**	**22.55**	**347**	*e*P	**P**	**14 04 07.4**	**+0.3**
IANJ	**Anjilo**	**22.63**	**352**	*e*P	**P**	**14 04 07.6**	**-0.3**
IANJ	**Anjilo**	**22.63**	**352**	*e*P	**P**	**14 04 07.9**	**-0.3**
ILAS	**Lasjerd**	**22.69**	**350**	*e*P	**P**	**14 04 08.4**	**-0.4**
ILAS	**Lasjerd**	**22.69**	**350**	*e*P	**P**	**14 04 08.4**	**-0.4**
IBDR	**Badra**	**22.69**	**334**	*i* P	**P**	**14 04 05.0**	**-3.6**
IBDR				*i* S	**S**	**14 08 12.0**	**-4.6**
IKOM	**Komasi**	**23.00**	**338**	*e*P	**P**	**14 04 12.1**	**+0.1**
IKOM	**Komasi**	**23.00**	**338**	*e*P	**P**	**14 04 12.1**	**+0.1**
IR5	**Iran Long-Peri**	**23.02**	**345**	*e*P	**P**	**14 04 12.6**	**+0.4**
IR5	**Iran Long-Peri**	**23.02**	**345**	*e*P	**P**	**14 04 12.6**	**+0.4**
IDMV	**Damavand**	**23.05**	**348**	*e*P	**P**	**14 04 14.4**	**+1.8**
IDMV	**Damavand**	**23.05**	**348**	*e*P	**P**	**14 04 14.4**	**+1.8**
ISHM	**Shahmirzad**	**23.05**	**351**	*e*P	**P**	**14 04 12.7**	**+0.1**
ISHM	**Shahmirzad**	**23.05**	**351**	*e*P	**P**	**14 04 12.7**	**+0.1**
IMOG	**Moghan**	**23.08**	**4**	*e*P	**P**	**14 04 13.9**	**+1.0**
IMOG	**Moghan**	**23.08**	**4**	*e*P	**P**	**14 04 13.9**	**+1.0**
IR3	**Iran Long-Peri**	**23.17**	**346**	*e*P	**P**	**14 04 13.9**	**+0.3**
IR3	**Iran Long-Peri**	**23.17**	**346**	*e*P	**P**	**14 04 13.9**	**+0.3**
ISRO	**Mashad**	**23.29**	**4**	*e*P	**P**	**14 04 15.9**	**+1.1**
ISRO	**Mashad**	**23.29**	**4**	*e*P	**P**	**14 04 15.9**	**+1.1**
IMYA	**Miami**	**23.36**	**5**	*e*P	**P**	**14 04 16.5**	**+0.8**
IMYA	**Miami**	**23.36**	**5**	*e*P	**P**	**14 04 16.5**	**+0.8**
IRAZ	**Razeghan**	**23.37**	**344**	*e*P	**P**	**14 04 15.9**	**+0.1**
IRAZ	**Razeghan**	**23.37**	**344**	*e*P	**P**	**14 04 15.9**	**+0.1**
IKIA	**Kiasar**	**23.39**	**352**	*e*P	**P**	**14 04 15.8**	**-0.2**
IKIA	**Kiasar**	**23.39**	**352**	*e*P	**P**	**14 04 15.8**	**-0.2**
IPAY	**Payeh**	**23.40**	**3**	*e*P	**P**	**14 04 17.1**	**+1.0**
IPAY	**Payeh**	**23.40**	**3**	*e*P	**P**	**14 04 17.1**	**+1.0**
IALA	**Alasht**	**23.40**	**350**	*e*P	**P**	**14 04 17.1**	**+0.9**
IALA	**Alasht**	**23.40**	**350**	*e*P	**P**	**14 04 17.1**	**+0.9**
PALK	**Pallekele**	**23.43**	**102**	P	**P**	**14 04 16.9**	**+0.5**
comp=Z,44nm,2.7s,comp=Z,2μm							
IMHD	**Mahdasht**	**23.45**	**346**	*e*P	**P**	**14 04 16.7**	**+0.2**
IMHD	**Mahdasht**	**23.45**	**346**	*e*P	**P**	**14 04 16.7**	**+0.2**
IGHG	**Ghaleghazi**	**23.49**	**337**	*e*P	**P**	**14 04 16.7**	**-0.4**
IGHG	**Ghaleghazi**	**23.49**	**337**	*e*P	**P**	**14 04 16.7**	**-0.4**
BHD	**Baghdad**	**23.52**	**331**	*i* P	**P**	**14 04 15.0**	**-2.1**
BHD				*i* PP	**PnPn**	**14 04 45.0**	**+1.1**
BHD				*i* S	**S**	**14 08 30.0**	**-0.7**
IAKL	**Akhelmad**	**23.54**	**2**	*e*P	**P**	**14 04 17.8**	**+0.3**
IPRN	**Peran**	**23.64**	**

GNI	**Garni**	**29.33 340**	P	**P**	**14 05 11.8 +1.9**
	SNR=10				
GNI	**Garni**	**29.33 340**	P	**P**	**14 05 10.7 +0.8**
GNI			S	**S**	**14 10 06.2 +3.2**
GNI	**Garni**	**29.33 340**	P	**P**	**14 05 10.7 +0.8**
	comp=Z,2.5nm,0.3s,baz=98,slow=7.1,SNR=3.1				
GNI			S	**S**	**14 10 06.2 +3.2**
	comp=Z,3.1nm,0.3s,baz=102,slow=19,SNR=2.0				
GNI			LR	LR	14 18 43.0
	comp=Z,1μm,18.4s,baz=140,slow=40				
GNI	**Garni**	**29.33 340**	P	**P**	**14 05 10.4 +0.5**
	SNR=11				
DMN	**Daman**	**29.52 56**	*e*P	**P**	**14 05 13.0 +1.2**
KKN	**Kakani**	**29.73 56**	*e*P	**P**	**14 05 14.9 +1.2**
	comp=Z,82nm,1.2s				
PKIN	**Phulchoki**	**29.74 57**	*e*P	**P**	**14 05 15.0 +1.2**
PKI	**Pulchoki**	**29.75 57**	*e*P	**P**	**14 05 14.9 +1.0**
	comp=Z,116nm,1.5s				
MBAR	**Mbarara**	**29.87 245**	P	**P**	**14 05 15.3 +0.4**
MBAR			S	S	14 10 18.2 +6.3
MBAR	**Mbarara**	**29.87 245**	P	**P**	**14 05 15.3 +0.4**
	comp=Z,2.3nm,0.2s,baz=64,slow=18,SNR=4.5				
MBAR			S	S	14 10 18.2 +6.3
	comp=Z,1.7nm,0.2s,baz=73,slow=19,SNR=2.1				
MBAR	**Mbarara**	**29.87 245**	P	**P**	**14 05 15.3 +0.4**
GUN	**Gumba**	**30.27 56**	*e*P	**P**	**14 05 20.1 +1.6**
	comp=Z,230nm,1.5s				
DGRG	**David-gareji**	**30.30 342**	P	**P**	**14 05 20.7 +2.4**
DGRG	**David-gareji**	**30.30 342**	P	**P**	**14 05 20.7 +2.4**
JIRN	**Jiri**	**30.42 57**	*e*P	**P**	**14 05 21.0 +1.1**
	comp=Z,84nm,1.3s				
RAMN	**Ramite**	**30.50 59**	*e*P	**P**	**14 05 21.6 +1.2**
TBLG	**Delisi**	**30.76 341**	P	**P**	**14 05 24.6 +2.3**
TBLG	**Delisi**	**30.76 341**	P	**P**	**14 05 24.6 +2.3**
TBLG	**Delisi**	**30.76 341**	P	**P**	**14 05 24.6 +2.3**
AKH	**Akhalkalaki**	**30.88 339**	P	**P**	**14 05 25.8 +2.2**
AKH	**Akhalkalaki**	**30.88 339**	P	**P**	**14 05 25.8 +2.2**
KSH	**Kashi**	**31.01 28**	P	**P**	**14 05 21.8 -2.9**
KSH			sP	**sP**	**14 05 28.8 -1.7**
KSH			PP	**PnPn**	**14 06 23.8 -1.9**
KSH			S	S	14 10 22.5 -6.8
KSH			pmax	pmax	
	comp=Z,99nm,1.2s				
KSH			LR	LR	
	comp=N,2μm,16.4s				
KSH			LR	LR	
	comp=E,890nm,13.7s				
KSH			LR	LR	
	comp=Z,2μm,18.4s				
MAK	**Makhachkala**	**31.12 346**	*e*P	P	14 05 21.6 -3.8
MAK			*e*PPP	PPP	14 06 34.2
MAK			*e*S	**S**	**14 10 27.2 -3.4**
MAK			pmax	pmax	
	comp=Z,49nm,3.9s				
MAK			MLR	MLR	
	comp=Z,668nm,15.0s				
ODAN	**Odare**	**31.12 59**	*e*P	**P**	**14 05 27.3 +1.4**
TAPN	**Taplejung**	**31.56 58**	*e*P	**P**	**14 05 31.2 +1.3**
ONI	**Oni**	**31.95 340**	P	**P**	**14 05 34.0 +1.2**
ZEI	**Tsey**	**31.96 341**	*e*P	**P**	**14 05 33.5 +0.4**
ZEI			pmax	pmax	
	comp=Z,21nm,1.0s				
ZEI	**Tsey**	**31.96 341**	*e*P	**P**	**14 05 33.5 +0.4**
	comp=Z,21nm,1.0s				
KKAR	**Karatay Array**	**32.02 18**	*e*P	**P**	**14 05 33.0 -0.3**
KKAR	**Karatay Array**	**32.02 18**	*e*P	**P**	**14 05 33.0 -0.3**
KKAR	**Karatay Array**	**32.02 18**	*e*P	**P**	**14 05 33.0 -0.3**
AML	**Almayashu**	**32.23 23**	*i* P	**P**	**14 05 38.1 +2.4**
AML	**Almayashu**	**32.23 23**	P	**P**	**14 05 38.0 +2.4**
	SNR=7.6				
AML	**Almayashu**	**32.23 23**	P	**P**	**14 05 37.6 +1.9**
	SNR=7.7				
EKS2	**Erkin-Say**	**32.72 22**	*e*P	**P**	**14 05 41.2 +1.5**
EKS2			pmax	pmax	
	comp=Z,184nm,1.1s				
EKS2	**Erkin-Say**	**32.72 22**	P	**P**	**14 05 42.5 +2.8**
	SNR=145				
EKS2	**Erkin-Say**	**32.72 22**	*e*P	**P**	**14 05 41.2 +1.5**
	comp=Z,184nm,1.1s				
EKS2	**Erkin-Say**	**32.72 22**	*e*P	**P**	**14 05 41.2 +1.5**
	comp=Z,184nm,1.1s				
KZA	**Kyzart**	**32.80 25**	*i* P	**P**	**14 05 43.6 +2.9**
KZA	**Kyzart**	**32.80 25**	P	**P**	**14 05 43.6 +2.9**
	SNR=10				
KZA	**Kyzart**	**32.80 25**	*i* P	**P**	**14 05 43.6 +2.9**
AAK	**Ala-Archa**	**32.97 23**	*d i* P	**P**	**14 05 44.5 +2.6**
AAK			pmax	pmax	
	comp=Z,242nm,1.2s				
AAK	**Ala-Archa**	**32.97 23**	P	**P**	**14 05 44.8 +2.9**
	SNR=55				
AAK	**Ala-Archa**	**32.97 23**	P	**P**	**14 05 44.6 +2.8**
	SNR=45				
AAK	**Ala-Archa**	**32.97 23**	*e*P	**P**	**14 05 42.1 +0.2**
	comp=Z,96nm,1.1s				
AAK	**Ala-Archa**	**32.97 23**	*e*P	**P**	**14 05 42.1 +0.2**
	comp=Z,96nm,1.1s				
OPO	**Ambohidratompo**	**32.99 198**	P	**P**	**14 05 42.4 +0.1**
OPO	**Ambohidratompo**	**32.99 198**	P	**P**	**14 05 42.4 +0.1**
	comp=Z,5.3nm,1.0s,baz=67,slow=9.6,SNR=4.1				
OPO	**Ambohidratompo**	**32.99 198**	P	**P**	**14 05 42.4 +0.1**
KBZ	**Khabaz**	**33.15 340**	P	**P**	**14 05 44.1 +0.9**
KBZ			S	**S**	**14 11 03.7 +1.5**
KBZ	**Khabaz**	**33.15 340**	P	**P**	**14 05 44.1 +0.9**
KBZ			S	**S**	**14 11 03.6 +1.5**
KBZ	**Khabaz**	**33.15 340**	P	**P**	**14 05 44.1 +0.9**
	comp=Z,2.3nm,0.7s,baz=171,slow=4.6,SNR=6.8				
KBZ			S	**S**	**14 11 03.6 +1.5**
	comp=Z,1.5nm,0.8s,baz=104,slow=15,SNR=2.1				
KBZ			LR	LR	14 20 42.8
	comp=Z,944nm,21.6s,baz=251,slow=39				
KBZ	**Khabaz**	**33.15 340**	P	**P**	**14 05 44.1 +0.9**
KBK	**Karagaybulak**	**33.16 24**	*i* P	**P**	**14 05 46.4 +2.8**
KBK	**Karagaybulak**	**33.16 24**	P	**P**	**14 05 46.4 +2.8**
	SNR=14				
KBK	**Karagaybulak**	**33.16 24**	*i* P	**P**	**14 05 46.4 +2.8**
FRU	**Bishkek**	**33.19 23**	*e*P	**P**	**14 05 46.0 +2.4**
FRU			*e*		14 11 12.0
FRU			pmax	pmax	
	comp=Z,235nm,1.8s				
FRU			MLR	MLR	
	comp=Z,2μm,18.0s				
FRU	**Bishkek**	**33.19 23**	*e*P	**P**	**14 05 46.0 +2.4**
	comp=Z,235nm,1.8s				
ULHL	**Ulahol**	**33.35 26**	*i* P	**P**	**14 05 47.8 +2.5**
ULHL	**Ulahol**	**33.35 26**	P	**P**	**14 05 47.8 +2.5**
	SNR=7.0				
ULHL	**Ulahol**	**33.35 26**	*i* P	**P**	**14 05 47.8 +2.5**
CHMS	**Chumysh**	**33.38 23**	*i* P	**P**	**14 05 47.9 +2.6**
CHMS	**Chumysh**	**33.38 23**	P	**P**	**14 05 47.9 +2.6**
	SNR=13				
CHMS	**Chumysh**	**33.38 23**	*i* P	**P**	**14 05 47.9 +2.6**
KIV	**Kislovodsk**	**33.42 340**	*de*P	**P**	**14 05 46.5 +0.8**
KIV			*e*		14 05 56.7
KIV			*e*		14 06 57.4
KIV			*i* S	S	14 11 13.1 +6.4
KIV			*e*SS	**SS**	**14 13 32.6 +1.6**
KIV			pmax	pmax	
	comp=Z,25nm,1.2s				
KIV			MLR	MLR	
	comp=Z,500nm,17.0s				
KIV	**Kislovodsk**	**33.42 340**	*e*P	**P**	**14 05 46.5 +0.8**
	comp=Z,25nm,1.2s				
USP	**Ospenovka**	**33.51 23**	*i* P	**P**	**14 05 48.4 +1.9**
USP	**Ospenovka**	**33.51 23**	P	**P**	**14 05 48.5 +1.9**
	SNR=27				
USP	**Ospenovka**	**33.51 23**	*i* P	**P**	**14 05 48.4 +1.9**
TKM2	**Tokmak 2**	**33.64 24**	*e*P	**P**	**14 05 47.3 -0.5**
TKM2			pmax	pmax	
	comp=Z,45nm,1.3s				
TKM2	**Tokmak 2**	**33.64 24**	P	**P**	**14 05 49.6 +1.8**
	SNR=26				
TKM2	**Tokmak 2**	**33.64 24**	*e*P	**P**	**14 05 47.3 -0.5**
	comp=Z,45nm,1.3s				
TKM2	**Tokmak 2**	**33.64 24**	*e*P	**P**	**14 05 47.3 -0.5**
	comp=Z,45nm,1.3s				
BRTR	**Keskin Array B**	**33.99 326**	P	**P**	**14 05 51.7 +0.8**
BRTR	**Keskin Array B**	**33.99 326**	P	**P**	**14 05 51.7 +0.8**
	comp=Z,4.8nm,1.0s,baz=134,slow=8.8,SNR=15				
BRTR			LR	LR	14 21 20.9
	comp=Z,683nm,20.5s,baz=115,slow=39				
BRTR	**Keskin Array B**	**33.99 326**	P	**P**	**14 05 51.7 +0.8**
BR131	**Keskin Array S**	**34.00 326**	*e*P	**P**	**14 05 51.3 +0.4**
	comp=Z,9.2nm,1.0s				
BR131	**Keskin Array S**	**34.00 326**	*e*P	**P**	**14 05 51.3 +0.4**
	comp=Z,9.2nm,1.0s				
SOC	**Sochi**	**34.16 337**	*e*P	**P**	**14 05 52.2 +0.2**
SOC			*e*		14 07 08.9
SOC			*e*S	**S**	**14 11 22.9 +5.0**
SOC			*e*SS	**SnSn**	**14 13 22.9 -3.3**
SOC			MLR	MLR	
	comp=Z,721nm,13.0s				
SOC	**Sochi**	**34.16 337**	*e*P	**P**	**14 05 52.2 +0.2**
LKFR	**Kufra**	**34.35 294**	*i* P	**P**	**14 05 54.7 +0.7**
	comp=Z,84nm,1.4s,SNR=38				
LKFR			*e*S	**S**	**14 11 22.0 +0.5**
	SNR=38				
ANTO	**Ankara**	**34.56 325**	*e*P	**P**	**14 05 54.8 -0.9**
ANTO			pmax	pmax	
	comp=Z,39nm,1.2s				
ANTO	**Ankara**	**34.56 325**	P	**P**	**14 05 57.8 +2.1**
	SNR=8.8				
ANTO	**Ankara**	**34.56 325**	*e*P	**P**	**14 05 54.8 -0.9**
	comp=Z,39nm,1.2s				
ANTO	**Ankara**	**34.56 325**	*e*P	**P**	**14 05 54.8 -0.9**
	comp=Z,39nm,1.2s				
SHL	**Shillong**	**34.58 64**	*e*P	**P**	**14 05 55.2 -1.0**
SHL			*ex*	x	14 11 28.0
LSA	**Lhasa**	**35.23 56**	P	**P**	**14 06 01.8 -0.2**
LSA	**Lhasa**	**35.23 56**	*e*P	**P**	**14 06 01.8 -0.2**
LSA			pmax	pmax	
	comp=Z,14nm,1.1s				
LSA	**Lhasa**	**35.23 56**	*e*P	**P**	**14 06 01.8 -0.2**
	comp=Z,14nm,1.1s				
ANN	**Anapa**	**36.08 335**	*e*P	**P**	**14 06 06.9 -1.6**
ANN			*e*		14 07 27.9
ANN			*e*S	**S**	**14 11 48.6 +1.2**
ANN			pmax	pmax	
	comp=Z,35nm,1.2s				
ABKAR	**Akbulak array**	**36.22 3**	*e*P	**P**	**14 06 09.0 -0.7**
LAST	**Lasithi**	**36.45 313**	P	**P**	**14 06 13.9 +1.9**
LAST	**Lasithi**	**36.45 313**	P	**P**	**14 06 13.9 +1.9**
LAST	**Lasithi**	**36.45 313**	P	**P**	**14 06 13.9 +1.9**
SIVA	**Sivas**	**36.86 312**	P	**P**	**14 06 16.8 +1.4**
SIVA	**Sivas**	**36.86 312**	P	**P**	**14 06 16.8 +1.4**
SIVA	**Sivas**	**36.86 312**	P	**P**	**14 06 16.8 +1.4**
IDI	**Anoyia**	**36.93 313**	P	**P**	**14 06 17.7 +1.6**
IDI	**Anoyia**	**36.93 313**	*e*P	**P**	**14 06 15.1 -1.0**
	comp=Z,188nm,1.5s				
IDI	**Anoyia**	**36.93 313**	P	**P**	**14 06 17.7 +1.6**
SANT	**Santorini**	**37.06 315**	*e*P	**P**	**14 06 15.7 -1.5**
	comp=Z,61nm,1.0s				
VAM	**Vamos**	**37.48 312**	P	**P**	**14 06 20.7 0.0**
VAM	**Vamos**	**37.48 312**	P	**P**	**14 06 20.7 0.0**
VAM	**Vamos**	**37.48 312**	P	**P**	**14 06 20.7 0.0**
VAM	**Vamos**	**37.48 312**	P	**P**	**14 06 20.7 0.0**
SIM	**Simferopol'**	**37.62 332**	*d i* P	**P**	**14 06 22.0 +0.3**
SIM			*e*S	**S**	**14 12 14.0 +3.0**
SIM			pmax	pmax	
	comp=Z,34nm,1.1s				
SIM			MLR	MLR	
	comp=Z,330nm,17.6s				
KARN	**Karanos**	**37.69 312**	P	**P**	**14 06 19.9 -2.5**
KARN	**Karanos**	**37.69 312**	P	**P**	**14 06 19.9 -2.5**
PRK	**Paraskevi**	**38.07 319**	P	**P**	**14 06 26.2 +0.6**
PRK	**Paraskevi**	**38.07 319**	P	**P**	**14 06 26.2 +0.6**
PRK	**Paraskevi**	**38.07 319**	P	**P**	**14 06 26.2 +0.6**
PRK	**Paraskevi**	**38.07 319**	P	**P**	**14 06 26.2 +0.6**
ANKY	**Antikythira Is**	**38.35 312**	P	**P**	**14 06 28.3 +0.3**
ANKY	**Antikythira Is**	**38.35 312**	P	**P**	**14 06 28.3 +0.3**
ANKY	**Antikythira Is**	**38.35 312**	P	**P**	**14 06 28.3 +0.3**
MRMA	**Marmari**	**38.67 316**	P	P	14 06 34.1 +3.4
LJBD	**Adjabya**	**38.77 304**	*i* P	**P**	**14 06 32.8 +1.2**
	SNR=37				
MARJ	**Al Marj**	**38.81 306**	*e*S	S	14 12 36.0 +6.6
	SNR=37				
VLI	**Veliai**	**39.00 313**	P	**P**	**14 06 34.2 +0.7**
VLI	**Veliai**	**39.00 313**	P	**P**	**14 06 34.2 +0.7**
VLI	**Veliai**	**39.00 313**	P	**P**	**14 06 34.2 +0.7**
PTL	**Penteli**	**39.01 316**	P	**P**	**14 06 35.4 +1.8**
PTL	**Penteli**	**39.01 316**	P	**P**	**14 06 35.4 +1.8**
PTL	**Penteli**	**39.01 316**	P	**P**	**14 06 35.4 +1.8**
DID	**Didima**	**39.17 315**	P	**P**	**14 06 35.5 +0.6**
DID	**Didima**	**39.17 315**	P	**P**	**14 06 35.5 +0.6**
DID	**Didima**	**39.17 315**	P	**P**	**14 06 35.5 +0.6**
DIDY	**Didyma**	**39.18 315**	P	**P**	**14 06 34.2 -0.8**
SMTH	**Samothraki Isl**	**39.24 320**	P	**P**	**14 06 37.3 +1.9**
SMTH	**Samothraki Isl**	**39.24 320**	P	**P**	**14 06 37.3 +1.9**
SMTH	**Samothraki Isl**	**39.24 320**	P	**P**	**14 06 37.3 +1.9**
ERET	**Eretria**	**39.26 316**	P	**P**	**14 06 37.0 +1.4**
DYR	**Agios Nikonas**	**39.45 313**	P	**P**	**14 06 39.0 +1.7**
MRKA	**Markates**	**39.54 317**	P	**P**	**14 06 39.8 +1.9**
MK31	**Makanchi Array**	**39.58 27**	*e*P	**P**	**14 06 38.9 +0.7**
MK31	**Makanchi Array**	**39.58 27**	*e*P	**P**	**14 06 38.9 +0.7**
MKAR	**Makanchi Array**	**39.58 27**	*ce*P	**P**	**14 06 39.0 +0.8**
MKAR			pmax	pmax	
	comp=Z,18nm,1.0s				
MKAR	**Makanchi Array**	**39.58 27**	P	**P**	**14 06 37.6 -0.6**
MKAR			S	**S**	**14 12 46.2 +5.6**
MKAR	**Makanchi Array**	**39.58 27**	P	**P**	**14 06 37.6 -0.6**
	comp=Z,18nm,1.0s,baz=212,slow=8.0,SNR=43				
MKAR			S	**S**	**14 12 46.2 +5.6**
	comp=Z,1.0nm,1.1s,baz=263,slow=12,SNR=3.6				
MKAR			LR	LR	14 24 20.1
	comp=Z,1μm,21.7s,baz=208,slow=38				
AOS	**Alonnisos**	**39.59 317**	P	**P**	**14 06 40.7 +2.4**
AOS	**Alonnisos**	**39.59 317**	P	**P**	**14 06 40.7 +2.4**
AOS	**Alonnisos**	**39.59 317**	P	**P**	**14 06 40.7 +2.4**
ACOR	**Acrocorinthos**	**39.62 315**	P	**P**	**14 06 38.5 -0.1**
RDO	**Rodhopi**	**39.63 321**	P	**P**	**14 06 36.2 -2.4**
RDO	**Rodhopi**	**39.63 321**	P	**P**	**14 06 36.2 -2.4**
PSN	**Preselentsi**	**39.68 326**	*i* P	**P**	**14 06 39.6 +0.6**
VLX	**Vlachokerasia**	**39.71 314**	P	**P**	**14 06 39.9 +0.4**
VLX	**Vlachokerasia**	**39.71 314**	P	**P**	**14 06 39.9 +0.4**
VLX	**Vlachokerasia**	**39.71 314**	P	**P**	**14 06 39.9 +0.4**
JMB	**Yambol**	**39.80 323**	P	**P**	**14 06 40.7 +0.7**
JMB	**Yambol**	**39.80 323**	P	**P**	**14 06 40.7 +0.7**
JMB	**Yambol**	**39.80 323**	P	**P**	**14 06 40.7 +0.7**
JMB	**Yambol**	**39.80 323**	P	**P**	**14 06 40.7 +0.7**
ITM	**Ithomi**	**39.94 313**	P	**P**	**14 06 41.9 +0.6**
ITM	**Ithomi**	**39.94 313**	P	**P**	**14 06 41.9 +0.6**
ITM	**Ithomi**	**39.94 313**	P	**P**	**14 06 41.9 +0.6**
PYL	**PYLOS**	**39.94 313**	P	**P**	**14 06 38.9 -2.4**
PYL	**PYLOS**	**39.94 313**	P	**P**	**14 06 38.9 -2.4**
PYL	**PYLOS**	**39.94 313**	P	**P**	**14 06 38.9 -2.4**
KDZ	**Kurdzhali**	**40.00 322**	*i* P	**P**	**14 06 41.7 0.0**
TIRR	**Tirgusor**	**40.07 327**	*e*P	**P**	**14 06 41.8 -0.4**
TIRR			pmax	pmax	
	comp=Z,76nm,1.7s				
TIRR	**Tirgusor**	**40.07 327**	⇓*i* P	**P**	**14 06 43.0 +0.8**
TIRR	**Tirgusor**	**40.07 327**	*e*P	**P**	**14 06 41.8 -0.4**
	comp=Z,76nm,1.7s				
TIRR	**Tirgusor**	**40.07 327**	⇓*i* P	**P**	**14 06 43.0 +0.8**
NEO	**Neokhori**	**40.09 317**	P	**P**	**14 06 43.3 +0.7**
NEO	**Neokhori**	**40.09 317**	P	**P**	**14 06 43.3 +0.7**
NEO	**Neokhori**	**40.09 317**	P	**P**	**14 06 43.3 +0.7**
CM31	**Chiang Mai Arr**	**40.10 77**	*e*P	**P**	**14 06 43.8 +0.9**
	comp=Z,32nm,1.1s				
CMAR	**Chiang Mai Arr**	**40.10 77**	P	**P**	**14 06 41.9 -1.0**
CMAR			S	**S**	**14 12 49.9 +0.9**
CMAR	**Chiang Mai Arr**	**40.10 77**	P	**P**	**14 06 41.9 -1.0**
	comp=Z,24nm,1.1s,baz=274,slow=8.4,SNR=75				
CMAR			S	**S**	**14 12 49.9 +0.9**
	comp=Z,0.2nm,0.6s,baz=191,slow=28,SNR=2.1				
CMAR			LR	LR	14 23 10.7
	comp=Z,429nm,20.6s,baz=287,slow=36				
DSF	**Desfina**	**40.11 316**	P	**P**	**14 06 42.7 0.0**
DSF	**Desfina**	**40.11 316**	P	**P**	**14 06 42.7 0.0**
DSF	**Desfina**	**40.11 316**	P	**P**	**14 06 42.7 0.0**
CHTO	**Chiang Mai**	**40.11 76**	*e*P	**P**	**14 06 41.8 -1.2**
CHTO			pmax	pmax	
	comp=Z,36nm,1.6s				
CHTO	**Chiang Mai**	**40.11 76**	P	**P**	**14 06 44.0 +1.0**
	SNR=6.9				
CHTO	**Chiang Mai**	**40.11 76**	*e*P	**P**	**14 06 41.8 -1.2**
	comp=Z,36nm,1.6s				
CHTO	**Chiang Mai**	**40.11 76**	P	**P**	**14 06 43.7 +0.7**
	comp=Z,17nm,1.9s,comp=Z,635nm				
PAIG	**Paliouri**	**40.12 318**	P	**P**	**14 06 42.7 0.0**
PAIG	**Paliouri**	**40.12 318**	P	**P**	**14 06 42.7 0.0**
PAIG	**Paliouri**	**40.12 318**	P	**P**	**14 06 42.7 0.0**
PAIG	**Paliouri**	**40.12 318**	P	**P**	**14 06 42.7 0.0**
WMQ	**Urumqi**	**40.14 34**	P	**P**	**14 06 44.8 +1.9**
WMQ			pP	**pP**	**14 06 48.8 +1.7**
WMQ			PP	**PnPn**	**14 08 21.0 +2.2**
WMQ			S	**S**	**14 12 51.5 +2.4**
WMQ			ScS	**ScS**	**14 16 48.5 -1.2**
WMQ			pmax	pmax	
	comp=Z,41nm,1.1s				
WMQ			pmax	pmax	
	comp=Z,580nm,5.2s				
WMQ			LR	LR	
	comp=N,1μm,20.0s				
WMQ			LR	LR	
	comp=E,1μm,26.0s				
WMQ			LR	LR	
	comp=Z,940nm,20.0s				
XOR	**Xorichti**	**40.14 317**	P	**P**	**14 06 42.8 -0.2**
XOR	**Xorichti**	**40.14 317**	P	**P**	**14 06 42.8 -0.2**
XOR	**Xorichti**	**40.14 317**	P	**P**	**14 06 42.8 -0.2**
OUR	**Ouranopolis**	**40.14 319**	P	**P**	**14 06 43.8 +0.9**
OUR	**Ouranopolis**	**40.14 319**	P	**P**	**14 06 43.8 +0.9**
OUR	**Ouranopolis**	**40.14 319**	P	**P**	**14 06 43.8 +0.9**
OUR	**Ouranopolis**	**40.14 319**	P	**P**	**14 06 43.8 +0.9**
VRHR	**Novokhopersk**	**40.16 344**	*e*P	**P**	**14 06 43.2 +0.3**
VRHR			pmax	pmax	
	comp=Z,100nm,1.5s				
VRHR			pmax	pmax	
	comp=N,60nm,1.0s				
VRHR			pmax	pmax	
	comp=E,170nm,1.7s				
KAVA	**Kavala**	**40.18 320**	P	**P**	**14 06 44.8 +1.6**
KAVA	**Kavala**	**40.18 320**	P	**P**	**14 06 44.8 +1.6**
KAVA	**Kavala**	**40.18 320**	P	**P**	**14 06 44.8 +1.6**
AXAR	**Agios Charalam**	**40.19 316**	P	**P**	**14 06 44.6 +1.2**
AXAR	**Agios Charalam**	**40.19 316**	P	**P**	**14 06 44.6 +1.2**
AXAR	**Agios Charalam**	**40.19 316**	P	**P**	**14 06 44.6 +1.2**
LZLA	**Zalla**	**40.30 299**	*i* P	**P**	**14 06 46.0 +1.6**
	SNR=36				
TLB	**Topalu**	**40.35 327**	⇓P	**P**	**14 06 44.8 +0.2**
TLB	**Topalu**	**40.35 327**	⇓*i* P	**P**	**14 06 44.8 +0.2**
TLB	**Topalu**	**40.35 327**	⇓*i* P	**P**	**14 06 44.8 +0.2**
RZN	**Rozhen**	**40.45 321**	*i* P	**P**	**14 06 46.0 +0.4**
LSZ	**Lusaka**	**40.45 227**	⇓*i* P	**P**	**14 06 46.3 +0.4**
LSZ	**Lusaka**	**40.45 227**	*e*P	**P**	**14 06 44.2 -1.6**
	comp=E,15nm,0.7s				
LSZ	**Lusaka**	**40.45 227**	P	**P**	**14 06 46.4 +0.6**
	comp=E,13nm,0.6s,baz=44,slow=9.6,SNR=30				
PLG	**Polygyros**	**40.51 319**	P	**P**	**14 06 45.2 -0.8**
PLG	**Polygyros**	**40.51 319**	P	**P**	**14 06 45.2 -0.8**
PLG	**Polygyros**	**40.51 319**	P	**P**	**14 06 45.2 -0.8**
PLG	**Polygyros**	**40.51 319**	P	**P**	**14 06 45.2 -0.8**
AGG	**Agios Georgios**	**40.54 316**	P	**P**	**14 06 46.2 -0.1**
AGG	**Agios Georgios**	**40.54 316**	P	**P**	**14 06 46.2 -0.1**
AGG	**Agios Georgios**	**40.54 316**	P	**P**	**14 06 46.2 -0.1**
AGG	**Agios Georgios**	**40.54 316**	P	**P**	**14 06 46.2 -0.1**
SZH	**Strazhica**	**40.67 324**	*i* P	**P**	**14 06 48.1 +0.9**
PLD	**Plovdiv**	**40.70 322**	P	**P**	**14 06 48.6 +1.1**
PLD	**Plovdiv**	**40.70 322**	P	**P**	**14 06 48.6 +1.1**
PLD	**Plovdiv**	**40.70 322**	P	**P**	**14 06 48.6 +1.1**
PLD	**Plovdiv**	**40.70 322**	P	**P**	**14 06 48.6 +1.1**
NVR	**Nevrokopi**	**40.78 320**	P	**P**	**14 06 45.7 -2.5**
NVR	**Nevrokopi**	**40.78 320**	P	**P**	**14 06 45.7 -2.5**
SOH	**Sokhos**	**40.81 319**	P	**P**	**14 06 49.9 +1.4**
SOH	**Sokhos**	**40.81 319**	P	**P**	**14 06 49.9 +1.4**
SOH	**Sokhos**	**40.81 319**	P	**P**	**14 06 49.9 +1.4**
SOH	**Sokhos**	**40.81 319**	P	**P**	**14 06 49.9 +1.4**
SRS	**Serrai**	**40.82 320**	P	**P**	**14 06 49.4 +0.8**
SRS	**Serrai**	**40.82 320**	P	**P**	**14 06 49.4 +0.8**
SRS	**Serrai**	**40.82 320**	P	**P**	**14 06 49.4 +0.8**
SRS	**Serrai**	**40.82 320**	P	**P**	**14 06 49.4 +0.8**
EVR	**Evrytania**	**40.84 316**	P	**P**	**14 06 48.1 -0.8**
EVR	**Evrytania**	**40.84 316**	P	**P**	**14 06 48.1 -0.8**
EVR	**Evrytania**	**40.84 316**	P	**P**	**14 06 48.1 -0.8**
VSR	**Storozhevoye**	**40.96 342**	*e*P	**P**	**14 06 48.7 -0.8**
VSR			pmax	pmax	
	comp=Z,60nm,1.2s				
VSR			pmax	pmax	
	comp=N,90nm,1.8s				
VSR			pmax	pmax	
	comp=E,60nm,1.3s				
MMB	**Musomiste**	**41.00 320**	*i* P	**P**	**14 06 49.8 -0.2**
THL	**Klokotos Trika**	**41.03 317**	P	**P**	**14 06 48.3 -1.9**
VOSK	**Vostochnaya**	**41.06 12**	*e*P	**P**	**14 06 50.0 -0.3**
VOSK			pmax	pmax	
	comp=Z,79nm,0.9s				
VOSK	**Vostochnaya**	**41.06 12**	*e*P	**P**	**14 06 50.0 -0.3**
	comp=Z,79nm,0.9s				
BRVK	**Borovoye**	**41.23 12**	*d i* P	**P**	**14 06 52.6 +0.9**
BRVK			pmax	pmax	
	comp=Z,91nm,2.5s				
BRVK	**Borovoye**	**41.23 12**	P	**P**	**14 06 52.9 +1.2**
	SNR=38				
BRVK	**Borovoye**	**41.23 12**	*e*P	**P**	**14 06 51.5 -0.3**
	comp=Z,83nm,1.6s				
BRVK	**Borovoye**	**41.23 12**	P	**P**	**14 06 52.9 +1.2**
	SNR=38				
KNT	**Kendrikon**	**41.28 319**	P	**P**	**14 06 51.3 -1.1**
KNT	**Kendrikon**	**41.28 319**	P	**P**	**14 06 51.3 -1.1**
KNT	**Kendrikon**	**41.28 319**	P	**P**	**14 06 51.3 -1.1**
KNT	**Kendrikon**	**41.28 319**	P	**P**	**14 06 51.3 -1.1**
VLS	**Valsamata**	**41.34 314**	P	P	14 06 48.8 -4.0
VLS	**Valsamata**	**41.34 314**	P	P	14 06 48.8 -4.0
VLS	**Valsamata**	**41.34 314**	P	P	14 06 48.8 -4.0
VOR	**Voronezh**	**41.41 343**	P	**P**	**14 06 53.0 -0.1**
GRG	**Griva**	**41.49 319**	P	**P**	**14 06 53.0 -1.1**
GRG	**Griva**	**41.49 319**	P	**P**	**14 06 53.0 -1.1**
GRG	**Griva**	**41.49 319**	P	**P**	**14 06 53.0 -1.1**
GRG	**Griva**	**41.49 319**	P	**P**	**14 06 53.0 -1.1**
ISR	**Istrita**

SNR=36
LUMB eS S 14 13 22.2 +1.2
SNR=36
TESR Tescani 42.37 328⇑ i P P 14 07 02.3 +1.1
KBN Korca 42.37 317 P P 14 07 02.7 +1.4
KBN Korca 42.37 317 P P 14 07 02.7 +1.4
KBN Korca 42.37 317 P P 14 07 02.7 +1.4
KBN Korca 42.37 317 P P 14 07 02.7 +1.4
SRN Sarande 42.54 316 P P 14 07 02.4 -0.2
SRN Sarande 42.54 316 P P 14 07 02.4 -0.2
SRN Sarande 42.54 316 P P 14 07 02.4 -0.2
KEK Kerkira 42.59 316 P P 14 07 03.3 +0.2
KEK Kerkira 42.59 316 P P 14 07 03.3 +0.2
KEK Kerkira 42.59 316 P P 14 07 03.3 +0.2
SKO Skopje 42.64 319 i P P 14 07 01.7 -1.8
DOPR Dopca 42.67 327⇑ i P P 14 07 04.8 +1.1
ARR Arges 42.71 326⇑ i P P 14 07 04.9 +0.9
PHP Peshkopia 43.13 319 P P 14 07 07.5 0.0
PHP Peshkopia 43.13 319 P P 14 07 07.5 0.0
PHP Peshkopia 43.13 319 P P 14 07 07.5 0.0
PHP Peshkopia 43.13 319 P P 14 07 07.5 0.0
ARU Arti 43.36 1 d i P P 14 07 09.4 +0.4
ARU 14 08 46.6
ARU 14 08 55.9
ARU S S 14 13 39.6 +3.3
ARU pmax pmax
comp=Z,56nm,1.2s
ARU Arti 43.36 1 P P 14 07 09.2 +0.2
comp=Z,178nm,0.8s,SNR=11
ARU Arti 43.36 1 i P P 14 07 09.4 +0.4
comp=Z,56nm,1.2s
LMSR Misrath 43.41 304 i P P 14 07 11.9 +2.1
SNR=35
LSHF Shwairf 43.45 300 i P P 14 07 11.4 +1.2
SNR=35
LSHF eS S 14 13 42.5 +4.0
SNR=36
GZR Gura Zlata 43.76 324 ⇑P P 14 07 13.5 +1.0
GZR Gura Zlata 43.76 324⇑ i P P 14 07 13.5 +1.0
GZR Gura Zlata 43.76 324 P P 14 07 13.5 +1.0
SVE Sverdlovsk 43.81 2⇓ i P P 14 07 13.6 +1.0
SVE eS S 14 13 40.8 -2.1
SVE pmax pmax
comp=Z,68nm,1.5s
SVE Sverdlovsk 43.81 2 i P P 14 07 13.6 +1.0
comp=Z,68nm,1.5s
BURAR Bucovina Array 43.84 328 ⇑P P 14 07 14.9 +1.8
BURAR Bucovina Array 43.84 328⇑ i P P 14 07 14.9 +1.8
BUR08 Bucovina Ar. S 43.86 328 eP P 14 07 13.8 +0.4
BUR08 Bucovina Ar. S 43.86 328 eP P 14 07 13.8 +0.4
AKASG Malin Array Be 44.14 334 ceP P 14 07 16.5 +1.2
AKASG Malin Array Be 44.14 334 P P 14 07 15.7 +0.4
AKASG PP PP 14 08 57.9 -0.4
AKASG Malin Array Be 44.14 334 P P 14 07 15.7 +0.4
comp=Z,1.4nm,0.5s,baz=146,slow=7.2,SNR=19
AKASG PP PP 14 08 57.9 -0.4
comp=Z,2.4nm,0.8s,baz=140,slow=10.0,SNR=6.9
AKASG Malin Array Be 44.14 334 P P 14 07 15.7 +0.4
KIEV Kiev 44.14 334 eP P 14 07 14.7 -0.6
KIEV pmax pmax
comp=Z,191nm,2.6s
KIEV Kiev 44.14 334 eP P 14 07 14.7 -0.6
comp=Z,191nm,2.6s
KIEV Kiev 44.14 334 eP P 14 07 14.7 -0.6
comp=Z,191nm,2.6s
KMI Kunming 44.15 67 P P 14 07 16.5 +0.4
KMI sP sP 14 07 21.0 -1.0
KMI PP PP 14 08 59.8 +0.8
KMI S S 14 13 50.5 +1.4
KMI pmax pmax
comp=Z,12nm,1.2s
KMI pmax pmax
comp=Z,230nm,4.5s
KMI LR LR
comp=N,560nm,20.5s
KMI LR LR
comp=E,1μm,19.2s
KMI LR LR
comp=Z,1μm,19.8s
MSNA Messina 44.32 218 eP P 14 07 18.2 +1.0
MSNA AMB AMB 14 07 19.7
comp=Z,18nm,2.1s
BZS Buzias 44.55 324 ⇑P P 14 07 18.5 -0.3
BZS Buzias 44.55 324⇑ i P P 14 07 18.5 -0.3
BZS Buzias 44.55 324 P P 14 07 18.5 -0.3
FRIM Kepong 44.57 99 P P 14 07 20.0 +0.6
DIVS Divibare 44.67 321 P P 14 07 19.7 -0.1
DIVS Divibare 44.67 321 P P 14 07 19.7 -0.1
CEL Celeste 44.72 312 eP P 14 07 19.2 -1.1
comp=Z,21nm,1.1s
CEL Celeste 44.72 312 eP P 14 07 19.2 -1.1
comp=Z,21nm,1.1s
GHAR Gharyan 44.94 303 i P P 14 07 23.5 +1.4
SNR=35
GHAR eS S 14 14 04.0 +3.9
SNR=35
OBN Obninsk 45.13 343⇑ eP P 14 07 23.7 +0.5
OBN e 14 09 12.8
OBN eS S 14 14 02.1 0.0
OBN pmax pmax
comp=Z,45nm,1.7s
OBN MLR MLR
comp=Z,500nm,19.0s
OBN Obninsk 45.13 343 eP P 14 07 23.7 +0.5
comp=Z,45nm,1.7s
MOS Moscow 45.39 344 eP P 14 07 24.3 -1.0
MOS e 14 09 14.1
MOS pmax pmax
comp=Z,42nm,0.7s
MOS Moscow 45.39 344 eP P 14 07 24.3 -1.0
comp=Z,42nm,0.7s
CUC Castrocucco 45.47 314 eP P 14 07 24.6 -1.6
comp=Z,24nm,1.0s
CUC Castrocucco 45.47 314 eP P 14 07 24.6 -1.6
comp=Z,24nm,1.0s
KTGM Kuala Trenggan 45.53 95 P P 14 07 27.7 +0.7
GTA Gaotai 45.53 47 ⇓P P 14 07 27.5 +0.7
GTA pP pP 14 07 31.3 +0.2
GTA sP sP 14 07 33.8 +1.0
GTA PcP PcP 14 09 05.8 +0.3
GTA PP PP 14 09 15.0 +1.6
GTA S S 14 14 10.0 +1.3
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,330nm,4.7s
GTA LR LR
comp=N,420nm,19.4s
GTA LR LR
comp=E,1μm,22.5s
GTA LR LR
comp=Z,2μm,24.3s
LVV L'vov 45.88 330 eP P 14 07 28.6 -0.6
LVV L'vov 45.88 330 eP P 14 07 28.6 -0.6
UZH Uzhgorod 45.99 328 eP P 14 07 28.4 -1.7
UZH i 14 07 45.0
UZH e 14 09 09.4
UZH e 14 10 00.0
UZH eS S 14 14 10.0 -4.7
UZH i 14 17 30.0
UZH Uzhgorod 45.99 328 eP P 14 07 28.4 -1.7
CD2 Chengdu 46.01 59 P P 14 07 31.0 +0.3
CD2 pP pP 14 07 35.5 +0.5
CD2 sP sP 14 07 38.0 +1.4
CD2 PP PP 14 09 19.8 +1.2
CD2 S S 14 14 16.3 +0.6
CD2 ScS ScS 14 17 24.0 -2.7
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,160nm,10.2s
CD2 LR LR
comp=N,730nm,17.8s
CD2 LR LR
comp=E,560nm,16.6s
CD2 LR LR
comp=Z,560nm,16.7s
ZAA0 Zalesovo Array 46.17 22 eP P 14 07 30.9 -0.6
ZAA0 Zalesovo Array 46.17 22 eP P 14 07 30.9 -0.6
ZALV Zalesovo Beam 46.17 22 i P P 14 07 31.5 0.0
ZALV pmax pmax
comp=Z,23nm,0.9s
ZALV Zalesovo Beam 46.17 22 P P 14 07 31.4 0.0
ZALV Zalesovo Beam 46.17 22 P P 14 07 31.4 0.0
comp=Z,23nm,0.9s,baz=220,slow=7.0,SNR=40
ZALV LR LR 14 28 38.2
comp=Z,2μm,21.4s,baz=248,slow=38
ZALV Zalesovo Beam 46.17 22 i P P 14 07 31.5 0.0
comp=Z,23nm,0.9s
KOLS Kolonicke sedl 46.19 328 eP P 14 07 33.0 +1.3
KOLS pmax pmax
comp=Z,143nm,2.4s
KOLS Kolonicke sedl 46.19 328 eP P 14 07 33.0 +1.3
KOLS Kolonicke sedl 46.19 328 eP P 14 07 33.0 +1.3
comp=Z,143nm,2.4s
NVS Novosibirsk 46.33 20⇓ i P P 14 07 32.2 -0.5
NVS e 14 09 28.3
NVS i S S 14 14 21.8 +2.4
NVS pmax pmax
comp=Z,256nm,2.4s
NVS pmax pmax
comp=N,135nm,2.2s
NVS pmax pmax
comp=E,41nm,2.2s
NVS smax smax
comp=N,49nm,2.9s
NVS smax smax
comp=E,25nm,2.7s
NVS Novosibirsk 46.33 20 i P P 14 07 32.2 -0.5
comp=E,256nm,2.4s
KWP Kalwaria Pacla 46.41 329 eP P 14 07 34.1 +0.7
KWP Kalwaria Pacla 46.41 329 eP P 14 07 34.1 +0.7
SOKR Solikamsk 46.50 359 d i P P 14 07 34.7 +0.8
SOKR pmax pmax
comp=Z,110nm,1.3s
SOKR MLR MLR
comp=Z,650nm,25.0s
SOKR Solikamsk 46.50 359 i P P 14 07 34.7 +0.8
comp=Z,650nm,25.0s
KGM Kluang 46.53 100 P P 14 07 34.4 -0.5
CRVS Cervenica-Dubn 46.59 328 eP P 14 07 35.7 +0.8
CRVS pmax pmax
comp=Z,68nm,2.1s
CRVS Cervenica-Dubn 46.59 328 eP P 14 07 35.7 +0.8
CRVS Cervenica-Dubn 46.59 328 eP P 14 07 35.7 +0.8
comp=Z,68nm,2.1s
PKSM Moragy 46.61 323 ⇓P P 14 07 35.8 +0.8
PKSM Moragy 46.61 323⇓ i P P 14 07 35.8 +0.8
PKSM Moragy 46.61 323 P P 14 07 35.8 +0.8
PSZ Piszkesteto 46.85 326 eP P 14 07 35.1 -1.9
PSZ pmax pmax
comp=Z,30nm,1.5s
PSZ Piszkesteto 46.85 326 eP P 14 07 35.0 -1.9
comp=Z,30nm,1.5s
PSZ Piszkesteto 46.85 326 eP P 14 07 35.1 -1.9
comp=Z,30nm,1.5s
KECS Kecovo 46.86 327 eP P 14 07 39.0 +2.1
KECS pmax pmax
comp=Z,9.0nm,1.6s
KECS Kecovo 46.86 327 eP P 14 07 39.0 +2.1
KECS Kecovo 46.86 327 eP P 14 07 39.0 +2.1
comp=Z,9.0nm,1.6s
MYKOM Kota Tinggi 47.10 100 P P 14 07 40.0 +0.7
LZH Lanzhou 47.39 53 eP P 14 07 42.0 +0.5
LZH PP PP 14 09 35.3 +2.5
LZH pmax pmax
comp=Z,28nm,1.4s
LZH pmax pmax
comp=Z,160nm,4.7s
LZH LR LR
comp=N,480nm,15.2s
LZH LR LR
comp=E,2μm,14.0s
LZH LR LR
comp=Z,4μm,16.2s
NIE Niedzica 47.51 328 eP P 14 07 44.1 +2.1
NIE Niedzica 47.51 328 eP P 14 07 44.1 +2.1
LGHD Ghdames 47.54 299 i P P 14 07 44.1 +1.5
comp=Z,134nm,1.9s,SNR=34
LGHD eS S 14 14 38.6 +1.0
SNR=35
VYHS Vyhne 47.76 326 eP P 14 07 43.8 -0.2
VYHS pmax pmax
comp=Z,34nm,2.0s
VYHS Vyhne 47.76 326 eP P 14 07 43.8 -0.2
VYHS Vyhne 47.76 326 eP P 14 07 43.8 -0.2
comp=Z,34nm,2.0s
GYA Guiyang 47.82 66 P P 14 07 44.5 -0.4
GYA PP PP 14 09 35.8 -1.0
GYA S S 14 14 41.5 -0.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,4.5s
GYA LR LR
comp=N,940nm,21.2s
GYA LR LR
comp=E,940nm,23.1s
GYA LR LR
comp=Z,1μm,22.1s
HVS Khovu-Aksy 47.96 30 d i P P 14 07 46.9 +1.3
KOGS Kog 48.15 322 eP P 14 07 47.0 0.0
KOGS Kog 48.15 322 eP P 14 07 47.0 0.0
OJC Ojcow 48.25 328 eP P 14 07 46.4 -1.4
OJC pmax pmax
comp=Z,29nm,1.4s
OJC Ojcow 48.25 328 eP P 14 07 46.4 -1.4
comp=Z,29nm,1.4s
NACGM Naroch 48.26 337 e P 14 07 45.0 -2.7
BOJS Bojanci 48.29 321 eP P 14 07 48.1 0.0
BOJS Bojanci 48.29 321 eP P 14 07 48.1 0.0
ERPM east rand prop 48.41 216 eP P 14 07 47.7 -1.8
DOBS Dobrina 48.47 321 eP P 14 07 49.2 -0.3
DOBS Dobrina 48.47 321 eP P 14 07 49.2 -0.3
SMOL Smolenice 48.55 325 eP P 14 07 52.6 +2.5
SMOL Smolenice 48.55 325 eP P 14 07 52.6 +2.5
ZST Bratislava 48.56 325 eP P 14 07 50.8 +0.6
ZST Bratislava 48.56 325 eP P 14 07 50.8 +0.6
IDID Didziasalis 48.59 337 eP P 14 07 50.5 +0.3
IDID AMB AMB 14 07 57.5
comp=Z,16nm,1.1s
IDID Didziasalis 48.59 337 eP P 14 07 50.5 +0.3
comp=Z,16nm,1.1s,SNR=24
IIGN Ignalina 48.81 337 eP P 14 07 52.2 +0.3
IIGN AMB AMB 14 08 13.6
comp=Z,20nm,1.3s
IIGN Ignalina 48.81 337 eP P 14 07 52.2 +0.3
comp=Z,20nm,1.3s,SNR=23
KEST Kesra 48.87 306 eP P 14 07 50.3 -2.5
KEST Kesra 48.87 306 P P 14 07 53.0 +0.2
comp=Z,1.6nm,0.7s,baz=82,slow=7.9,SNR=6.1
KEST LR LR 14 30 07.6
comp=Z,200nm,18.2s,baz=44,slow=38
OKC Ostrava-Krasne 48.89 327 eP P 14 07 52.4 -0.3
OKC MLR MLR
comp=Z,500nm,19.6s
OKC Ostrava-Krasne 48.89 327 eP P 14 07 52.4 -0.3
OKC AMS AMS 14 32 10.0
comp=Z,500nm,19.6s
ARSA Arzberg 48.98 323 i P P 14 07 53.2 -0.2
comp=Z,28nm,1.8s,SNR=15
ARSA Arzberg 48.98 323 P P 14 07 53.2 -0.2
comp=Z,28nm,1.8s,SNR=15
SOKA Soboth 48.99 322⇓ i P P 14 07 53.2 -0.4
comp=Z,13nm,1.1s,SNR=11
SOKA Soboth 48.99 322 P P 14 07 53.2 -0.4
comp=Z,13nm,1.1s,SNR=11
LJU Ljubljana 48.99 321 i P P 14 07 53.6 0.0
LJU Ljubljana 48.99 321 i P P 14 07 53.6 0.0
LBTB Lobatse 49.00 220 eP P 14 07 54.9 +0.9
LBTB AMB AMB 14 07 58.1
comp=Z,55nm,2.2s
LBTB Lobatse 49.00 220 eP P 14 07 51.4 -2.6
comp=Z,124nm,1.8s
ISAL Salakas 49.01 337 eP P 14 07 53.7 +0.2
ISAL AMB AMB 14 08 05.6
comp=Z,14nm,1.7s
ISAL Salakas 49.01 337 eP P 14 07 53.7 +0.2
comp=Z,14nm,1.7s,SNR=23
SUW Suwalki 49.10 334 eP P 14 07 53.4 -0.8
SUW pmax pmax
comp=Z,112nm,1.3s
SUW Suwalki 49.10 334 eP P 14 07 53.4 -0.8
comp=Z,112nm,1.3s
SUW Suwalki 49.10 334 eP P 14 07 54.6 +0.4
MORC Moravsky Berou 49.18 327 eP P 14 07 53.5 -1.5
MORC pmax pmax
comp=Z,53nm,1.5s
MORC Moravsky Berou 49.18 327 eP P 14 07 53.5 -1.5
comp=Z,53nm,1.5s
VOY Vojsko 49.38 321 eP P 14 07 55.8 -0.8
VOY e 14 07 58.5
VOY Vojsko 49.38 321 eP P 14 07 55.8 -0.8
MYKA Terra Mystica 49.81 321⇑ i P P 14 07 59.6 -0.3
comp=Z,41nm,1.7s,SNR=11
MYKA Terra Mystica 49.81 321 P P 14 07 59.6 -0.3
comp=Z,41nm,1.7s,SNR=11
MOA Molln 50.02 323⇓ i P P 14 08 01.0 -0.4
comp=Z,19nm,1.1s,SNR=8.2
MOA Molln 50.02 323 P P 14 08 01.0 -0.4
comp=Z,19nm,1.1s,SNR=8.2
TREC Trest 50.05 325 eP P 14 08 01.0 -0.6
TREC e 14 08 07.6
TREC MLR MLR
comp=Z,300nm,14.4s
TREC Trest 50.05 325 eP P 14 08 01.0 -0.6
TREC epP pP 14 08 07.6 +1.7
TREC AMS AMS 14 33 30.0
comp=Z,300nm,14.4s
DPC Dobruska-Polom 50.16 327 eP P 14 08 01.2 -1.2
DPC pmax pmax
comp=Z,237nm,1.4s
DPC Dobruska-Polom 50.16 327 eP P 14 08 02.2 -0.2
DPC epP pP 14 08 08.4 +1.7
DPC AMS AMS 14 33 00.0
DPC Dobruska-Polom 50.16 327 eP P 14 08 01.2 -1.2
comp=Z,236nm,1.4s
SEK Senekal 50.28 215 eP P 14 08 02.5 -1.3
SEK AMB AMB 14 08 07.0
comp=Z,36nm,3.5s
TAM Tamanrasset 50.30 289 eP P 14 08 04.7 +0.7
TAM pmax pmax
comp=Z,21nm,1.3s
TAM Tamanrasset 50.30 289 eP P 14 08 04.7 +0.7
comp=Z,21nm,1.3s
UPC Upice 50.41 327 eP P 14 08 04.1 -0.2
UPC e 14 08 10.3
UPC Upice 50.41 327 eP P 14 08 04.1 -0.2
UPC epP pP 14 08 10.3 +1.7
QIZ Qiongzhong 50.43 76 P P 14 08 03.5 -1.4
QIZ S S 14 15 15.0 -3.4
QIZ pmax pmax
comp=Z,9.0nm,1.9s
QIZ pmax pmax
comp=Z,130nm,5.4s
QIZ LR LR
comp=Z,410nm,38.6s
QIZ Qiongzhong 50.43 76 eP P 14 08 04.8 -0.1
comp=Z,31nm,1.5s
KSP Ksiaz 50.44 327⇓ eP P 14 08 04.3 -0.2
KSP Ksiaz 50.44 327 eP P 14 08 04.2 -0.2
ABTA Abfaltersbach 50.56 321⇓ i P P 14 08 04.8 -0.7
comp=Z,27nm,1.2s,SNR=7.4
ABTA Abfaltersbach 50.56 321 P P 14 08 04.8 -0.7
comp=Z,27nm,1.2s,SNR=7.4
SWZ Schweizer 50.75 218 eP P 14 08 07.3 +0.1
SWZ AMB AMB 14 08 07.5
comp=Z,51nm,4.4s
TSUM Tsumeb 50.77 232 eP P 14 08 08.2 +0.7
GEC2 GERESS Array S 50.83 324 eP P 14 08 06.5 -1.1
comp=Z,100nm,2.5s
GEC2 GERESS Array S 50.83 324 eP P 14 08 06.1 -1.5
GEC2 GERESS Array S 50.83 324 eP P 14 08 06.1 -1.5
GEC2 GERESS Array S 50.83 324 eP P 14 08 06.5 -1.1
comp=Z,100nm,2.5s
GERES GERESS Array B 50.83 324 P P 14 08 07.4 -0.2
GERES PcP PcP 14 09 24.4 +0.1
GERES GERESS Array B 50.83 324 P P 14 08 07.4 -0.2
comp=Z,0.8nm,0.6s,baz=116,slow=6.7,SNR=6.6
GERES PcP PcP 14 09 24.4 +0.1
comp=Z,0.9nm,0.8s,baz=151,slow=3.0,SNR=3.5
GERES LR LR 14 31 56.9
comp=Z,288nm,20.2s,baz=114,slow=39
RJOB Jochberg 50.84 322 eP P 14 08 06.6 -1.0
comp=Z,74nm,2.0s
RJOB Jochberg 50.84 322 eP P 14 08 06.6 -1.0
comp=Z,74nm,2.0s
XAN Xi'an 50.93 57 P P 14 08 07.8 -0.7
XAN pP pP 14 08 14.5 +1.7
XAN PP PP 14 10 05.3 +0.4
XAN S S 14 15 24.3 -0.8
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,54nm,5.5s
XAN LR LR
comp=N,470nm,20.5s
XAN LR LR
comp=E,160nm,23.5s
XAN LR LR
comp=Z,240nm,22.5s
PRU Pruhonice 50.93 325 eP P 14 08 07.7 -0.5
PRU e 14 08 13.8
PRU eS S 14 15 25.6 +1.1
PRU MLR MLR
comp=Z,400nm,17.7s
PRU Pruhonice 50.93 325 eP P 14 08 07.7 -0.5
PRU epP pP 14 08 13.8 +1.3
PRU eS S 14 15 25.6 +1.1
PRU AMS AMS 14 33 20.0
comp=Z,400nm,17.7s
VSU Vasula 50.97 340 eP P 14 08 07.7 -0.6
VSU pmax pmax
comp=Z,133nm,1.7s
PRA Prague 51.04 325 P P 14 08 08.0 -1.0
KHC Kasperske Hory 51.04 324 eP P 14 08 08.1 -1.0
KHC e 14 08 14.0
KHC eS S 14 15 23.6 -2.6
KHC MLR MLR
comp=Z,300nm,15.3s
KHC Kasperske Hory 51.04 324 eP P 14 08 08.1 -1.0
KHC epP pP 14 08 14.0 +0.6
KHC eS S 14 15 23.6 -2.6
KHC AMS AMS 14 31 30.0
comp=Z,300nm,15.3s
KHC Kasperske Hory 51.04 324 eP P 14 08 06.2 -2.9
comp=Z,236nm,3.0s
PGF Pioggiola 51.19 315 eP P 14 08 09.4 -1.0
comp=Z,214nm,1.6s
PGF Pioggiola 51.19 315 eP P 14 08 09.4 -1.0
PGF Pioggiola 51.19 315 eP P 14 08 09.4 -1.0
PGF Pioggiola 51.19 315 eP P 14 08 09.4 -1.0
comp=Z,107nm,1.6s
WTTA Wattenberg 51.32 321 i P P 14 08 10.3 -1.2
comp=Z,28nm,1.1s,SNR=12
WATA Walderalm 51.39 321⇓ i P P 14 08 10.3 -1.6
comp=Z,14nm,0.7s,SNR=9.5
WATA Walderalm 51.39 321 P P 14 08 10.3 -1.6
comp=Z,14nm,0.7s,SNR=9.5
WET Wettzell 51.45 324 eP P 14 08 10.5 -1.7
comp=Z,35nm,1.8s
WET Wettzell 51.45 324 eP P 14 08 10.5 -1.7
WET pmax pmax
comp=Z,35nm,1.8s
WET Wettzell 51.45 324 eP P 14 08 10.5 -1.7
comp=Z,35nm,1.8s
MOTA Moosalm 51.68 321⇓ i P P 14 08 11.7 -2.4
comp=Z,15nm,0.8s,SNR=8.8
BRG Berggiesshubel 51.72 326 eP P 14 08 13.8 -0.3
comp=Z,128nm,2.5s
BRG Berggiesshubel 51.72 326 eP P 14 08 13.4 -0.7
comp=Z,129nm,2.5s
BRG Berggiesshubel 51.72 326 eP P 14 08 13.8 -0.3
BRG pmax pmax
comp=Z,128nm,2.6s
BRG Berggiesshubel 51.72 326 eP P 14 08 13.4 -0.7
comp=Z,129nm,2.5s
BOSA Boshof 51.85 217 eP P 14 08 14.9 -0.6
BOSA AMB AMB 14 08 18.0
comp=Z,48nm,2.4s
BOSA Boshof 51.85 217 eP P 14 08 13.6 -2.0
comp=Z,95nm,1.8s
BOSA Boshof 51.85 217 P P 14 08 15.2 -0.3
comp=Z,4.2nm,0.5s,baz=36,slow=9.9,SNR=12
BOSA LR LR 14 27 53.2
comp=Z,2μm,20.4s,baz=37,slow=33
FUORN Ofenpass-Fuorn 51.90 320 eP P 14 08 13.7 -2.1
comp=Z,151nm,2.3s
FUR Furstenfeldbru 51.94 322 eP P 14 08 14.3 -1.5
comp=Z,993nm,3.2s
FUR Furstenfeldbru 51.94 322 eP P 14 08 14.3 -1.5
FUR Furstenfeldbru 51.94 322 eP P 14 08 14.3 -1.5
comp=Z,993nm,3.2s
RETA Reutte 51.95 321⇓ i P P 14 08 14.4 -1.6
comp=Z,33nm,1.7s,SNR=6.0

```
MOY  Mondy          51.99  33 eP        P        14 08 17.5 +1.3
MOY                                pmax   pmax
     comp=Z,55nm,3.0s
FBE  Freiberg       52.06 326 eP        P        14 08 16.3 -0.3
     comp=Z,142nm,2.2s
FBE  Freiberg       52.06 326 eP        P        14 08 16.3 -0.3
     comp=Z,142nm,2.2s
SET  Setif          52.09 306  P        P        14 08 19.0 +1.8
SET  Setif          52.09 306  P        P        14 08 19.0 +1.8
ROTZ Rotzenmuhle    52.13 324 eP        P        14 08 16.3 -0.9
     comp=Z,117nm,2.2s
ROTZ Rotzenmuhle    52.13 324 eP        P        14 08 16.3 -0.9
     comp=Z,117nm,2.2s
NKC  Novy Kostel    52.22 325 eP        P        14 08 17.9  0.0
NKC  Novy Kostel    52.22 325 eP        P        14 08 17.9  0.0
MANZ Manzenberg     52.30 324 eP        P        14 08 17.4 -1.1
     comp=Z,145nm,2.7s
MANZ Manzenberg     52.30 324 eP        P        14 08 17.4 -1.1
     comp=Z,145nm,2.7s
TANN Tannenbergstha 52.30 325 eP        P        14 08 18.0 -0.5
     comp=Z,199nm,2.5s
TANN Tannenbergstha 52.30 325 eP        P        14 08 18.0 -0.5
     comp=Z,199nm,2.5s
GUNZ Gunzen         52.35 325 eP        P        14 08 18.3 -0.6
     comp=Z,409nm,2.9s
GUNZ Gunzen         52.35 325 eP        P        14 08 18.3 -0.6
     comp=Z,409nm,2.9s
WERD Werda          52.41 325 eP        P        14 08 18.6 -0.7
     comp=Z,133nm,2.2s
WERD Werda          52.41 325 eP        P        14 08 18.6 -0.7
     comp=Z,133nm,2.2s
DAVA Damuels        52.41 321 ||iP      P        14 08 18.0 -1.5
     comp=Z,14nm,0.7s,SNR=9.0
CLL  Collm          52.45 326 eP        P        14 08 19.1 -0.4
     comp=Z,346nm,2.8s
CLL  Collm          52.45 326 iP        P        14 08 18.9 -0.6
CLL                                e               14 08 25.0
CLL                                pmax   pmax
     comp=Z,346nm,2.8s
CLL                                MLR    MLR
     comp=Z,400nm,18.3s
CLL  Collm          52.45 326 iP        P        14 08 18.9 -0.6
     comp=Z,346nm,2.8s
CLL                                e(sP)  sP       14 08 25.0 -0.5
CLL                                ePP    PP       14 10 18.0 -0.3
CLL                                LmV             14 34 00.0
     comp=Z,400nm,18.3s
CLL  Collm          52.45 326 eP        P        14 08 19.1 -0.4
     comp=Z,346nm,2.8s
ZAK  Zakamensk      52.59  35 eP        P        14 08 20.5 -0.2
RUE  Ruedersdorf    52.64 328 eP        P        14 08 20.5 -0.4
     comp=Z,95nm,1.4s
RUE  Ruedersdorf    52.64 328 eP        P        14 08 20.5 -0.4
     comp=Z,95nm,1.4s
GRA1 Grafenberg Arr 52.66 324 eP        P        14 08 19.6 -1.6
     comp=Z,296nm,2.6s
GRF  Grafenberg Arr 52.66 324 eP        P        14 08 19.6 -1.6
     comp=Z,296nm,2.6s
GRF                                eL     L       14 32 52.7
     comp=Z,254nm,19.9s
GRF  Grafenberg Arr 52.66 324 eP        P        14 08 19.6 -1.6
GRF                                pmax   pmax
     comp=Z,296nm,2.6s
GRF                                MLR    MLR
     comp=Z,300nm,19.9s
GRFO Grafenberg     52.66 324 eP        P        14 08 18.5 -2.7
GRFO                               pmax   pmax
     comp=Z,320nm,2.7s
GRFO Grafenberg     52.66 324 eP        P        14 08 18.5 -2.7
     comp=Z,320nm,2.7s
SBF  Sospel         52.71 316 eP        P        14 08 20.9 -0.8
     comp=Z,29nm,0.9s
SBF  Sospel         52.71 316 eP        P        14 08 20.9 -0.8
SBF  Sospel         52.71 316 eP        P        14 08 20.9 -0.8
SBF  Sospel         52.71 316 eP        P        14 08 20.9 -0.8
     comp=Z,14nm,0.9s
MOX  Moxa           52.89 325 eP        P        14 08 22.2 -0.6
     comp=Z,98nm,2.0s
MOX                                eL     L       14 33 12.2
     comp=Z,287nm,20.2s
MOX  Moxa           52.89 325 eP        P        14 08 22.2 -0.6
MOX                                pmax   pmax
     comp=Z,98nm,2.0s
MOX                                MLR    MLR
     comp=Z,300nm,20.2s
MOX  Moxa           52.89 325 eP        P        14 08 22.2 -0.6
     comp=Z,98nm,2.0s
TMCR Tamitsa        52.91 349 eP        P        14 08 21.3 -1.3
TMCR                               pmax   pmax
     comp=Z,31nm,0.4s
NEUB Neuenburg      53.07 326 eP        P        14 08 23.5 -0.6
     comp=Z,53nm,1.0s
NEUB Neuenburg      53.07 326 eP        P        14 08 23.5 -0.6
     comp=Z,53nm,1.0s
WIN  Windhoek       53.14 229 eP        P        14 08 28.0 +2.7
WIN                                AMB    AMB     14 08 28.4
     comp=Z,5.3nm,2.2s
FRF  La Foret Royal 53.15 315 eP        P        14 08 24.1 -0.8
     comp=Z,140nm,1.5s
FRF  La Foret Royal 53.15 315 eP        P        14 08 24.1 -0.8
FRF  La Foret Royal 53.15 315 eP        P        14 08 24.1 -0.8
FRF  La Foret Royal 53.15 315 eP        P        14 08 24.1 -0.8
     comp=Z,70nm,1.5s
LMR  La Mourre      53.17 315 eP        P        14 08 24.2 -0.8
     comp=Z,134nm,1.4s
LMR  La Mourre      53.17 315 eP        P        14 08 24.2 -0.8
LMR  La Mourre      53.17 315 eP        P        14 08 24.2 -0.8
LMR  La Mourre      53.17 315 eP        P        14 08 24.2 -0.8
     comp=Z,67nm,1.4s
HVD  Garlep Dam     53.22 215 eP        P        14 08 24.4 -1.2
HVD                                AMB    AMB     14 08 34.2
     comp=Z,59nm,1.5s
JOF  Joensuu        53.24 345 eP        P        14 08 24.8 -0.3
JOF                                pmax   pmax
     comp=Z,16nm,0.9s
JOF  Joensuu        53.24 345 ep        P        14 08 24.8 -0.3
     comp=Z,16nm,0.9s
SONM Songino Array  53.30  39  P        P        14 08 25.6 -0.4
SONM Songino Array  53.30  39  P        P        14 08 25.6 -0.4
     comp=Z,25nm,1.4s,baz=240,slow=6.5,SNR=34
SONM                               LR     LR      14 31 44.4
     comp=Z,472nm,19.5s,baz=245,slow=37
KSM  Kuching        53.41  98 eP        P        14 08 25.7 -1.4
     comp=Z,61nm,1.4s
KSM  Kuching        53.41  98  P        P        14 08 27.2  0.0
TLY  Talaya         53.42  34 eP        P        14 08 27.8 +1.1
TLY                                eS     S       14 15 48.6  -10
TLY                                eSS    SS      14 19 39.4 +0.8
TLY                                pmax   pmax
     comp=Z,18nm,1.4s
TLY                                MLR    MLR
     comp=Z,814nm,18.0s
MBDF Montbardon     53.46 317 eP        P        14 08 25.9 -1.4
     comp=Z,17nm,0.8s
MBDF Montbardon     53.46 317 eP        P        14 08 25.9 -1.4
MBDF Montbardon     53.46 317 eP        P        14 08 25.9 -1.4
MBDF Montbardon     53.46 317 eP        P        14 08 25.9 -1.4
     comp=Z,8.4nm,0.8s
FINES FINESS Array B 53.48 342  P       P        14 08 26.9  0.0
FINES FINESS Array B 53.48 342  P       P        14 08 26.9  0.0
     comp=Z,8.6nm,0.8s,baz=135,slow=7.8,SNR=23
BNI  Bardonecchia   53.63 317 eP        P        14 08 28.6 +0.1
BNI                                pmax   pmax
     comp=Z,29nm,1.4s
BNI  Bardonecchia   53.63 317 eP        P        14 08 28.6 +0.1
     comp=Z,29nm,1.4s
SENIN Lac Senin/Sane 53.69 319 eP       P        14 08 25.5  -3.5
     comp=Z,119nm,2.3s
ULN  Ulaanbaatar    53.72  39 eP        P        14 08 27.8 -1.3
LPG  La Plagne      53.73 317 eP        P        14 08 28.1 -1.4
     comp=Z,132nm,1.2s
LPG  La Plagne      53.73 317 eP        P        14 08 28.1 -1.4
LPG  La Plagne      53.73 317 eP        P        14 08 28.1 -1.4
LPG  La Plagne      53.73 317 eP        P        14 08 28.1 -1.4
     comp=Z,66nm,1.2s
LPL  La Plagne      53.75 317 eP        P        14 08 28.1 -1.4
     comp=Z,138nm,1.2s
LPL  La Plagne      53.75 317 eP        P        14 08 28.1 -1.4
LPL  La Plagne      53.75 317 eP        P        14 08 28.1 -1.4
LPL  La Plagne      53.75 317 eP        P        14 08 28.1 -1.4
     comp=Z,69nm,1.2s
BFO  Black Forest   53.79 321 eP        P        14 08 28.2 -1.3
     comp=Z,333nm,3.0s
BFO  Black Forest   53.79 321 eP        P        14 08 28.2 -1.3
BFO                                pmax   pmax
     comp=Z,333nm,3.0s
BFO  Black Forest   53.79 321 eP        P        14 08 26.9  -2.7
BFO  Black Forest   53.79 321 eP        P        14 08 28.2  -1.3
     comp=Z,333nm,3.0s
UBBA Unterbreizbach 53.88 325 eP        P        14 08 29.2  -0.7
     comp=Z,122nm,2.5s
UBBA Unterbreizbach 53.88 325 eP        P        14 08 29.2  -0.7
     comp=Z,122nm,2.5s
RSL  Roselend       53.88 318 eP        P        14 08 29.5  -0.9
KAF  Kangasniemi    53.94 342 eP        P        14 08 30.7  +0.4
KAF                                pmax   pmax
     comp=Z,20nm,1.0s
KAF  Kangasniemi    53.94 342 ep        P        14 08 30.7  +0.4
     comp=Z,20nm,1.0s
RGN  Rugen          53.98 330 eP        P        14 08 30.9  +0.2
     comp=Z,493nm,2.0s
RGN  Rugen          53.98 330 eP        P        14 08 30.9  +0.2
     comp=Z,493nm,2.0s
SMRF Simiane la Rot 54.02 315 eP        P        14 08 30.7  -0.6
SMRF Simiane la Rot 54.02 315 eP        P        14 08 30.7  -0.6
SMRF Simiane la Rot 54.02 315 eP        P        14 08 30.7  -0.6
EMHD Djebel Mahouad 54.02 305  P        P        14 08 41.2  +10
IRK  Irkutsk        54.03  34 eP        P        14 08 26.4  -4.8
IRK                                pmax   pmax
     comp=Z,50nm,1.7s
UPI  Upington       54.10 220 eP        P        14 08 32.5 +0.4
UPI                                AMB    AMB     14 08 32.8
     comp=Z,91nm,1.9s
ORIF Oris-en-Rattie 54.12 316 eP        P        14 08 30.9  -1.1
     comp=Z,29nm,1.2s
ORIF                               eR
     comp=Z,362nm,22.5s
ORIF Oris-en-Rattie 54.12 316 eP        P        14 08 30.9  -1.1
ORIF Oris-en-Rattie 54.12 316 eP        P        14 08 30.9  -1.1
ORIF Oris-en-Rattie 54.12 316 eP        P        14 08 30.9  -1.1
     comp=Z,15nm,1.2s
CLZ  Clausthal      54.14 326 eP        P        14 08 31.7  -0.3
     comp=Z,528nm,2.8s
CLZ  Clausthal      54.14 326 eP        P        14 08 31.7  -0.3
CLZ                                pmax   pmax
     comp=Z,528nm,2.8s
CLZ  Clausthal      54.14 326 eP        P        14 08 31.7  -0.3
     comp=Z,528nm,2.8s
MOF  Molkerain      54.34 320 eP        P        14 08 32.9  -0.7
LOMF Lomont         54.35 320 eP        P        14 08 33.4  -0.3
TOA0 Torodi Ar. Sit 54.36 277 eP        P        14 08 33.8  -0.3
TORD Torodi Ar. Bea 54.36 277  P        P        14 08 34.1  0.0
TORD Torodi Ar. Bea 54.36 277  P        P        14 08 34.1  0.0
     comp=Z,3.0nm,0.6s,baz=84,slow=6.6,SNR=19
TORD                               LR     LR      14 31 26.9
     comp=Z,425nm,19.3s,baz=120,slow=36
ECH  Echery         54.47 321 eP        P        14 08 33.4  -1.1
ECH                                pmax   pmax
     comp=Z,33nm,1.4s
ECH  Echery         54.47 321 eP        P        14 08 33.4  -1.1
     comp=Z,33nm,1.4s
ECH  Echery         54.47 321 eP        P        14 08 33.6  -0.9
CDF  Champ du Feu   54.47 321 eP        P        14 08 33.1  -1.5
     comp=Z,67nm,1.3s
CDF  Champ du Feu   54.47 321 eP        P        14 08 33.1  -1.5
CDF  Champ du Feu   54.47 321 eP        P        14 08 33.1  -1.5
CDF  Champ du Feu   54.47 321 eP        P        14 08 33.1  -1.5
     comp=Z,34nm,1.3s
TNS  Taunus Mts     54.51 323 eP        P        14 08 33.4  -1.3
     comp=Z,32nm,1.4s
TNS  Taunus Mts     54.51 323 eP        P        14 08 33.4  -1.3
TNS                                pmax   pmax
     comp=Z,32nm,1.4s
TNS  Taunus Mts     54.51 323 eP        P        14 08 33.4  -1.3
     comp=Z,32nm,1.4s
HINF Hinteralfeld   54.51 320 eP        P        14 08 33.1  -1.7
HINF Hinteralfeld   54.51 320 eP        P        14 08 33.1  -1.7
HINF Hinteralfeld   54.51 320 eP        P        14 08 33.1  -1.7
HINF Hinteralfeld   54.51 320 eP        P        14 08 33.1  -1.7
HHC  Hu-ho-hao-te   54.51  49 eP        P        14 08 35.3 +0.3
HHC                                pP     pP      14 08 38.5  -0.9
HHC                                sP     sP      14 08 41.0  0.0
HHC                                PP     PP      14 10 37.3  0.0
HHC                                S      S       14 16 12.8  -1.2
HHC                                pmax   pmax
     comp=Z,40nm,1.0s
HHC                                pmax   pmax
     comp=Z,730nm,6.2s
HHC                                LR     LR
     comp=N,1µm,16.9s
HHC                                LR     LR
     comp=E,2µm,17.8s
HHC                                LR     LR
     comp=Z,3µm,17.7s
CABF La Chapelle    54.56 319 eP        P        14 08 34.4  -0.8
     comp=Z,178nm,1.3s
CABF La Chapelle    54.56 319 eP        P        14 08 34.4  -0.8
CABF La Chapelle    54.56 319 eP        P        14 08 34.4  -0.8
CABF La Chapelle    54.56 319 eP        P        14 08 34.4  -0.8
     comp=Z,89nm,1.3s
NRDL Niedersach Rie 54.59 326 eP        P        14 08 35.1  0.0
     comp=Z,76nm,1.4s
NRDL Niedersach Rie 54.59 326 eP        P        14 08 35.1  0.0
     comp=Z,76nm,1.4s
OG35 Corcelles      54.70 318 eP        P        14 08 35.5  -0.7
HAU  Haudompre      54.89 320 eP        P        14 08 35.8  -1.7
HAU                                eR
     comp=Z,302nm,22.0s
HAU  Haudompre      54.89 320 eP        P        14 08 35.8  -1.7
HAU  Haudompre      54.89 320 eP        P        14 08 35.8  -1.7
HAU  Haudompre      54.89 320 eP        P        14 08 35.8  -1.7
VIVF Saint-Julien-l 54.91 316 eP        P        14 08 36.7  -1.0
VIVF Saint-Julien-l 54.91 316 eP        P        14 08 36.7  -1.0
VIVF Saint-Julien-l 54.91 316 eP        P        14 08 36.7  -1.0
VIVF Saint-Julien-l 54.91 316 eP        P        14 08 36.7  -1.0
WHN  Wuhan          54.97  62 ||P        P        14 08 39.5 +1.2
WHN                                S      S       14 16 23.3 +3.2
WHN                                LR     LR
     comp=N,800nm,10.9s
WHN                                LR     LR
     comp=E,1µm,17.2s
WHN                                LR     LR
     comp=Z,2µm,18.4s
SBUM Sibu           55.01  96 eP        P        14 08 37.7  -1.2
     comp=Z,34nm,1.1s
SBUM Sibu           55.01  96  P        P        14 08 40.4 +1.5
SSB  Saint Sauveur  55.13 317 eP        P        14 08 38.6  -0.8
SSB                                pmax   pmax
     comp=Z,80nm,1.6s
SSB  Saint Sauveur  55.13 317 eP        P        14 08 38.5  -0.8
     comp=Z,80nm,1.6s
SSB  Saint Sauveur  55.13 317 eP        P        14 08 39.0  -0.3
BSEG Bad Segeberg   55.18 328 eP        P        14 08 38.8  -0.6
     comp=Z,349nm,2.7s
BSEG Bad Segeberg   55.18 328 eP        P        14 08 38.8  -0.6
     comp=Z,349nm,2.7s
ETRT Tiaret         55.21 304  P        P        14 08 41.5 +1.3
ETRT Tiaret         55.21 304  P        P        14 08 41.5 +1.3
LASF Ste Croix      55.23 315 eP        P        14 08 39.1  -1.0
     comp=Z,68nm,1.3s
LASF Ste Croix      55.23 315 eP        P        14 08 39.1  -1.0
LASF Ste Croix      55.23 315 eP        P        14 08 39.1  -1.0
     comp=Z,34nm,1.3s
EANR 'Ain N'Sour    55.46 305  P        P        14 08 43.0 +1.1
EANR 'Ain N'Sour    55.46 305  P        P        14 08 43.0 +1.1
PAGF Fort de Pagny  55.48 321 eP        P        14 08 40.6  -1.2
     comp=Z,21nm,1.2s
PAGF Fort de Pagny  55.48 321 eP        P        14 08 40.6  -1.2
PAGF Fort de Pagny  55.48 321 eP        P        14 08 40.6  -1.2
     comp=Z,10nm,1.2s
WLF  Walferdange    55.64 322  P        P        14 08 43.2 +0.4
     comp=Z,42nm,2.4s
WLF  Walferdange    55.64 322 eP        P        14 08 42.0  -0.8
     comp=Z,482nm,3.0s
WLF  Walferdange    55.64 322 eP        P        14 08 42.0  -0.8
     comp=Z,482nm,3.0s
BTM  Bintulu        55.67  95  P        P        14 08 45.3 +1.6
BUG  Bochum--Univer 55.70 324 eP        P        14 08 42.7  -0.5
     comp=Z,87nm,1.7s
BUG  Bochum--Univer 55.70 324 eP        P        14 08 42.7  -0.5
     comp=Z,87nm,1.7s
SFTF Sexfontaines   55.78 320 eP        P        14 08 42.8  -1.1
     comp=Z,33nm,0.7s
SFTF Sexfontaines   55.78 320 eP        P        14 08 42.8  -1.1
SFTF Sexfontaines   55.78 320 eP        P        14 08 42.8  -1.1
     comp=Z,16nm,0.7s
IBBN Ibbenburen     55.79 325 eP        P        14 08 43.6  -0.3
     comp=Z,169nm,1.9s
IBBN Ibbenburen     55.79 325 eP        P        14 08 43.6  -0.3
     comp=Z,169nm,1.9s
MEZF Maizieres J'vi 55.88 320 eP        P        14 08 43.7  -0.9
     comp=Z,71nm,0.8s
MEZF Maizieres J'vi 55.88 320 eP        P        14 08 43.7  -0.9
MEZF Maizieres J'vi 55.88 320 eP        P        14 08 43.7  -0.9
     comp=Z,36nm,0.8s
LBL  Lubilhac       55.99 316 eP        P        14 08 45.5  0.0
SMF  Signal de Mont 56.03 318 eP        P        14 08 44.3  -1.4
     comp=Z,122nm,1.6s
SMF  Signal de Mont 56.03 318 eP        P        14 08 44.3  -1.4
SMF  Signal de Mont 56.03 318 eP        P        14 08 44.3  -1.4
SMF  Signal de Mont 56.03 318 eP        P        14 08 44.3  -1.4
     comp=Z,61nm,1.6s
MEM  Membach        56.09 323  P        P        14 08 45.7  -0.3
MTLF Montolieu      56.17 314 eP        P        14 08 45.7  -1.1
MTLF Montolieu      56.17 314 eP        P        14 08 45.7  -1.1
MTLF Montolieu      56.17 314 eP        P        14 08 45.7  -1.1
MTLF Montolieu      56.17 314 eP        P        14 08 45.7  -1.1
LOR  Lormes         56.22 319 eP        P        14 08 45.8  -1.3
     comp=Z,121nm,1.3s
LOR                                eR
     comp=Z,316nm,20.8s
LOR  Lormes         56.22 319 eP        P        14 08 45.8  -1.3
LOR  Lormes         56.22 319 eP        P        14 08 45.8  -1.3
     comp=Z,60nm,1.3s
PYM  Petit Puy Mans 56.30 317 eP        P        14 08 47.8  0.0
AGO  Saint Agoulin  56.31 317 eP        P        14 08 47.5  -0.3
SSF  Saint Saulge   56.38 318 eP        P        14 08 47.0  -1.2
     comp=Z,19nm,0.7s
SSF  Saint Saulge   56.38 318 eP        P        14 08 47.0  -1.2
SSF  Saint Saulge   56.38 318 eP        P        14 08 47.0  -1.2
SSF  Saint Saulge   56.38 318 eP        P        14 08 47.0  -1.2
     comp=Z,9.4nm,0.7s
AVF  Avril sur Loir 56.39 318 eP        P        14 08 46.7  -1.6
     comp=Z,108nm,1.5s
AVF  Avril sur Loir 56.39 318 eP        P        14 08 46.7  -1.6
AVF  Avril sur Loir 56.39 318 eP        P        14 08 46.7  -1.6
AVF  Avril sur Loir 56.39 318 eP        P        14 08 46.7  -1.6
     comp=Z,54nm,1.5s
BCLA Clavier        56.43 323  P        P        14 08 47.0  -1.5
     comp=Z,25nm,2.2s
GIVF Givet          56.60 322 eP        P        14 08 48.8  -0.9
     comp=Z,53nm,1.1s
GIVF Givet          56.60 322 eP        P        14 08 48.8  -0.9
GIVF Givet          56.60 322 eP        P        14 08 48.8  -0.9
GIVF Givet          56.60 322 eP        P        14 08 48.8  -0.9
     comp=Z,27nm,1.1s
BGF  Bois d'Agland  56.65 318 eP        P        14 08 49.2  -1.0
     comp=Z,42nm,0.7s
BGF  Bois d'Agland  56.65 318 eP        P        14 08 49.2  -1.0
BGF  Bois d'Agland  56.65 318 eP        P        14 08 49.2  -1.0
BGF  Bois d'Agland  56.65 318 eP        P        14 08 49.2  -1.0
     comp=Z,21nm,0.7s
CAF  Calviac        56.70 316 eP        P        14 08 49.4  -1.2
     comp=Z,37nm,1.4s
CAF  Calviac        56.70 316 eP        P        14 08 49.4  -1.2
CAF  Calviac        56.70 316 eP        P        14 08 49.4  -1.2
CAF  Calviac        56.70 316 eP        P        14 08 49.4  -1.2
     comp=Z,18nm,1.4s
DOU  Dourbes        56.73 322  P        P        14 08 49.6  -1.0
     comp=Z,40nm,2.5s
APA  Apatity        56.81 349 iP        P        14 08 49.0  -1.9
APA                                iS     S       14 16 42.0  -1.5
APA                                MLR    MLR
     comp=Z,800nm,13.0s
LVZ  Lovozero       56.88 350 eP        P        14 08 52.6 +1.1
LVZ                                pmax   pmax
     comp=Z,22nm,1.2s
BAIF Baives         56.95 322 eP        P        14 08 51.3  -0.9
     comp=Z,119nm,1.2s
BAIF Baives         56.95 322 eP        P        14 08 51.3  -0.9
BAIF Baives         56.95 322 eP        P        14 08 51.3  -0.9
BAIF Baives         56.95 322 eP        P        14 08 51.3  -0.9
     comp=Z,60nm,1.2s
MUD  Monsted U'grnd 56.99 330 iP        P        14 08 52.5 +0.2
MUD                                pmax   pmax
     comp=Z,25nm,1.0s
MUD  Monsted U'grnd 56.99 330 iP        P        14 08 52.5 +0.2
     comp=Z,25nm,1.0s
HFS  Hagfors        56.99 336  P        P        14 08 51.6  -0.7
HFS  Hagfors        56.99 336  P        P        14 08 51.6  -0.7
     comp=Z,7.9nm,0.8s,baz=129,slow=11,SNR=9.0
HFS                                LR     LR      14 35 59.4
     comp=Z,457nm,21.4s,baz=118,slow=39
TCF  Toulx Ste Croi 56.99 317 eP        P        14 08 51.5  -1.1
     comp=Z,27nm,1.0s
TCF  Toulx Ste Croi 56.99 317 eP        P        14 08 51.5  -1.1
TCF  Toulx Ste Croi 56.99 317 eP        P        14 08 51.5  -1.1
TCF  Toulx Ste Croi 56.99 317 eP        P        14 08 51.5  -1.1
     comp=Z,14nm,1.0s
HYF  Humbligny      57.00 318 eP        P        14 08 51.7  -1.0
HYF  Humbligny      57.00 318 eP        P        14 08 51.7  -1.0
HYF  Humbligny      57.00 318 eP        P        14 08 51.7  -1.0
UCC  Uccle          57.13 323  P        P        14 08 53.9 +0.4
RJF  Les Rejaudoux  57.18 316 eP        P        14 08 52.9  -1.0
RJF                                eR
     comp=Z,369nm,22.0s
RJF  Les Rejaudoux  57.18 316 eP        P        14 08 52.9  -1.0
RJF  Les Rejaudoux  57.18 316 eP        P        14 08 52.9  -1.0
RJF  Les Rejaudoux  57.18 316 eP        P        14 08 52.9  -1.0
SUR  Sutherland     57.21 217 eP        P        14 08 55.2 +0.7
SUR                                AMB    AMB     14 08 59.0
     comp=Z,54nm,5.1s
SUR  Sutherland     57.21 217 eP        P        14 08 52.7  -1.9
     comp=Z,273nm,2.3s
EPF  Esparros       57.43 313 eP        P        14 08 54.5  -1.3
     comp=Z,40nm,1.5s
EPF  Esparros       57.43 313 eP        P        14 08 54.5  -1.3
EPF  Esparros       57.43 313 eP        P        14 08 54.5  -1.3
EPF  Esparros       57.43 313 eP        P        14 08 54.5  -1.3
     comp=Z,20nm,1.5s
LFF  La Frestale    57.61 315 eP        P        14 08 56.1  -0.9
LFF  La Frestale    57.61 315 eP        P        14 08 56.1  -0.9
LFF  La Frestale    57.61 315 eP        P        14 08 56.1  -0.9
LFF  La Frestale    57.61 315 eP        P        14 08 56.1  -0.9
BJI  Beijing        57.77  51  P        P        14 08 57.0  -1.2
BJI                                S      S       14 16 56.8  -0.2
BJI                                pmax   pmax
     comp=Z,14nm,0.6s
BJI                                pmax   pmax
     comp=Z,230nm,5.3s
BJI                                LR     LR
     comp=N,910nm,19.3s
BJI                                LR     LR
     comp=E,2µm,19.8s
BJI                                LR     LR
     comp=Z,2µm,22.4s
ETSF Etsaut         58.04 313 eP        P        14 08 59.0  -1.1
     comp=Z,171nm,1.8s
ETSF Etsaut         58.04 313 eP        P        14 08 59.0  -1.1
ETSF Etsaut         58.04 313 eP        P        14 08 59.0  -1.1
ETSF Etsaut         58.04 313 eP        P        14 08 59.0  -1.1
     comp=Z,86nm,1.8s
QZH  Quanzhou       58.48  69 ||iP      P        14 09 03.0  -0.4
QZH                                S      S       14 17 03.3  -3.5
QZH                                LR     LR
     comp=N,570nm,15.3s
QZH                                LR     LR
     comp=E,1µm,16.9s
QZH                                LR     LR
     comp=Z,990nm,18.4s
NB2  NORSAR Subarra 58.52 336  P        P        14 09 01.7  -1.4
     comp=Z,23nm,1.4s,baz=109,slow=8.6
NOA  NORSAR Array B 58.52 336  P        P        14 09 02.1  -1.0
NOA  NORSAR Array B 58.52 336  P        P        14 09 02.1  -1.0
     comp=Z,3.4nm,0.8s,baz=121,slow=7.7,SNR=5.4
NOA                                LR     LR      14 36 56.5
     comp=Z,329nm,21.0s,baz=120,slow=39
SJPF Ste Jean       58.57 313 eP        P        14 09 02.4  -1.3
     comp=Z,62nm,1.3s
SJPF Ste Jean       58.57 313 eP        P        14 09 02.4  -1.3
SJPF Ste Jean       58.57 313 eP        P        14 09 02.4  -1.3
SJPF Ste Jean       58.57 313 eP        P        14 09 02.4  -1.3
     comp=Z,31nm,1.3s
MFF  Saint Martin d 58.64 317 eP        P        14 09 02.6  -1.6
     comp=Z,115nm,1.6s
MFF  Saint Martin d 58.64 317 eP        P        14 09 02.6  -1.6
MFF  Saint Martin d 58.64 317 eP        P        14 09 02.6  -1.6
MFF  Saint Martin d 58.64 317 eP        P        14 09 02.6  -1.6
     comp=Z,58nm,1.6s
NJ2  Nanjing        58.93  60 eP        P        14 09 04.0  -2.4
NJ2                                pP     pP      14 09 09.0  -1.8
NJ2                                sP     sP      14 09 11.3  -1.2
NJ2                                S      S       14 17 16.8 +4.3
NJ2                                pmax   pmax
     comp=Z,21nm,1.1s
NJ2                                pmax   pmax
```

comp=Z,110nm,4.0s
NJ2 LR LR
comp=N,2μm,20.6s
NJ2 LR LR
comp=E,2μm,24.6s
NJ2 LR LR
comp=Z,940nm,24.9s
LDF La Druitiere 59.17 319 *eP* **P 14 09 06.2 -1.6**
comp=Z,178nm,1.4s
LDF La Druitiere 59.17 319 *eP* **P 14 09 06.2 -1.6**
LDF La Druitiere 59.17 319 *eP* **P 14 09 06.2 -1.6**
LDF La Druitiere 59.17 319 *eP* **P 14 09 06.2 -1.6**
comp=Z,89nm,1.4s
FLN La Foliniere 59.44 319 *eP* **P 14 09 08.1 -1.6**
FLN *eR*
comp=Z,334nm,20.5s
FLN La Foliniere 59.44 319 *eP* **P 14 09 08.1 -1.6**
FLN La Foliniere 59.44 319 *eP* **P 14 09 08.1 -1.6**
FLN La Foliniere 59.44 319 *eP* **P 14 09 08.1 -1.6**
GRR Gorron 59.58 319 *eP* **P 14 09 09.0 -1.6**
GRR Gorron 59.58 319 *eP* **P 14 09 09.0 -1.6**
GRR Gorron 59.58 319 *eP* **P 14 09 09.0 -1.6**
GRR Gorron 59.58 319 *eP* **P 14 09 09.0 -1.6**
MDT Midelt 59.80 300 LR LR 14 36 34.5
comp=Z,1μm,18.6s,baz=169,slow=38
ESDC Sonseca Array 59.99 308 P **P 14 09 13.1 -0.6**
ESDC Sonseca Array 59.99 308 P **P 14 09 13.1 -0.6**
comp=Z,5.5nm,0.8s,baz=88,slow=6.4,SNR=14
ESDC LR LR 14 37 27.0
comp=Z,191nm,18.3s,baz=45,slow=38
ARCES ARCESS Array B 60.04 348 P **P 14 09 12.4 -1.0**
ARCES ARCESS Array B 60.04 348 P **P 14 09 12.4 -1.0**
comp=Z,8.6nm,0.8s,baz=134,slow=6.9,SNR=14
ARCES LR LR 14 39 21.3
comp=Z,292nm,18.9s,baz=139,slow=40
TSM Tawau 60.09 93 P **P 14 09 14.7 0.0**
PAB San Pablo 60.27 308 *eP* **P 14 09 13.4 -2.2**
PAB San Pablo 60.27 308 *eP* **P 14 09 13.4 -2.2**
MYLDM Lahad Datu 60.51 91 P **P 14 09 15.4 -2.2**
SGMF Saint Gilles 60.64 318 *eP* **P 14 09 16.3 -1.6**
comp=Z,48nm,1.1s
SGMF Saint Gilles 60.64 318 *eP* **P 14 09 16.3 -1.6**
SGMF Saint Gilles 60.64 318 *eP* **P 14 09 16.3 -1.6**
SGMF Saint Gilles 60.64 318 *eP* **P 14 09 16.3 -1.6**
comp=Z,24nm,1.1s
SSE Sheshan 60.87 62 *eP* **P 14 09 19.0 -0.8**
SSE S **S 14 17 34.5 -2.9**
SSE pmax pmax
comp=Z,22nm,0.8s
SSE pmax pmax
comp=Z,120nm,6.3s
SSE LR LR
comp=N,270nm,20.1s
SSE LR LR
comp=E,620nm,20.1s
SSE LR LR
comp=Z,740nm,21.3s
QUIF Quistinic 60.96 318 *eP* **P 14 09 18.1 -2.0**
QUIF Quistinic 60.96 318 *eP* **P 14 09 18.1 -2.0**
QUIF Quistinic 60.96 318 *eP* **P 14 09 18.1 -2.0**
QUIF Quistinic 60.96 318 *eP* **P 14 09 18.1 -2.0**
ROSF Rostrenen 61.13 318 *eP* **P 14 09 19.0 -2.2**
ROSF Rostrenen 61.13 318 *eP* **P 14 09 19.0 -2.2**
ROSF Rostrenen 61.13 318 *eP* **P 14 09 19.0 -2.2**
ROSF Rostrenen 61.13 318 *eP* **P 14 09 19.0 -2.2**
DBIC Dimbokro 61.74 271 P **P 14 09 26.3 +0.3**
DBIC Dimbokro 61.74 271 P **P 14 09 26.3 +0.3**
comp=Z,11nm,1.1s,baz=87,slow=4.9,SNR=4.1
DBIC LR LR 14 37 50.5
comp=Z,348nm,19.1s,baz=65,slow=38
LIC Lamto 61.99 270 *eP* **P 14 09 28.3 +0.6**
comp=Z,45nm,1.2s,baz=88
LIC *eR*
comp=Z,464nm,20.0s
LIC Lamto 61.99 270 *eP* **P 14 09 28.3 +0.6**
LIC Lamto 61.99 270 *eP* **P 14 09 28.3 +0.6**
comp=Z,22nm,1.2s
EVO Evora 62.99 307 *eP* **P 14 09 32.5 -1.4**
comp=Z,94nm,1.7s
EVO *eR*
comp=Z,240nm,20.0s
EVOP Sao Brissos 63.08 307 *eP* **P 14 09 32.5 -2.0**
EVOP Sao Brissos 63.08 307 *eP* **P 14 09 32.5 -2.0**
EVOP Sao Brissos 63.08 307 *eP* **P 14 09 32.5 -2.0**
comp=Z,47nm,1.7s
CN2 Changchun 65.16 48 *eP* **P 14 09 48.0 0.0**
CN2 *ep*P **pP 14 09 52.8 +0.3**
CN2 *eS* **S 14 18 29.0 -1.7**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 LR LR
comp=N,620nm,16.0s
CN2 LR LR
comp=E,700nm,16.0s
CN2 LR LR
comp=Z,1μm,19.0s
KSAR Wonju Array Be 66.61 55 P **P 14 09 56.8 -0.8**
KSRS Korea Array 66.64 55 P **P 14 09 56.8 -1.0**
comp=Z,2.3nm,0.7s,baz=268,slow=6.7,SNR=9.3
KSRS LR LR 14 41 18.1
comp=Z,426nm,18.9s,baz=275,slow=38
MDJ Mudanjiang 68.19 47 P **P 14 10 06.0 -1.4**
MDJ S **S 14 19 06.8 -0.6**
MDJ pmax pmax
comp=Z,15nm,2.4s
MDJ pmax pmax
comp=Z,200nm,5.3s
MDJ LR LR
comp=N,260nm,31.9s
MDJ LR LR
comp=E,340nm,35.8s
MDJ LR LR
comp=Z,440nm,31.9s
KBS Kingsbay 69.47 352 *eP* **P 14 10 13.9 -0.9**
KBS pmax pmax
comp=Z,28nm,1.2s
BATI Baumata 69.51 106 P **P 14 10 16.1 0.0**
BATI Baumata 69.51 106 P **P 14 10 16.1 0.0**
comp=Z,28nm,0.8s,baz=256,slow=4.2,SNR=4.0
BATI LR LR 14 40 28.7
comp=Z,450nm,21.2s,baz=105,slow=36
USRK Ussuriysk Arra 69.90 48 P **P 14 10 17.5 -0.5**
comp=Z,7.5nm,1.1s,baz=268,slow=5.7,SNR=8.5
USRK LR LR 14 42 42.1
comp=Z,588nm,20.0s,baz=256,slow=38
KLR Kul'dur 69.93 42 *eP* P 14 10 14.0 -4.1
YAK Yakutsk 70.22 28 *eP* **P 14 10 17.5 -2.2**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,20nm,1.5s
YAK MLR MLR
comp=Z,778nm,20.0s
YAK MLR MLR
comp=E,438nm,16.0s
TIXI Tiksi 71.88 18 *ceP* **P 14 10 29.2 -0.4**
TIXI pmax pmax
comp=Z,35nm,1.2s
BORG Borgarnes 73.62 334 LR LR 14 45 26.3
comp=Z,302nm,18.6s,baz=52,slow=38
FITZ Fitzroy Crossi 73.87 113 P **P 14 10 41.7 -0.6**
FITZ Fitzroy Crossi 73.87 113 P **P 14 10 41.7 -0.6**
comp=Z,6.9nm,0.8s,baz=307,slow=8.6,SNR=11
FITZ LR LR 14 36 11.5
comp=Z,152nm,21.9s,baz=296,slow=30
MJAR Matsushiro Arr 74.90 55 P **P 14 10 47.6 -0.5**
MJAR Matsushiro Arr 74.90 55 P **P 14 10 47.6 -0.5**
comp=Z,1.8nm,0.9s,baz=280,slow=5.6,SNR=7.3
MJAR LR LR 14 45 33.6
comp=Z,433nm,20.8s,baz=250,slow=37
YSS Yuzh-Sakhalins 77.34 44 *eP* **P 14 11 02.1 +0.4**
YSS MLR MLR
comp=Z,400nm,17.0s
ASAJ Asahikawa 77.52 47 LR LR 14 48 28.9
comp=Z,447nm,20.0s,baz=337,slow=38
SUMG Summit 79.52 342 *i P* **P 14 11 14.4 +0.6**
comp=Z,19nm,1.0s
MAW Mawson 80.46 178 P **P 14 11 18.5 +0.3**
MAW Mawson 80.46 178 P **P 14 11 18.5 +0.3**
comp=Z,4.8nm,0.8s,baz=350,slow=8.0,SNR=8.1
MAW LR LR 14 39 47.7
comp=Z,561nm,18.2s,baz=338,slow=30
SEY Seymchan 80.71 28 ||*i P* **P 14 11 20.6 +0.7**
WRA Warramunga Arr 82.26 112 P **P 14 11 28.0 -0.9**
WRA Warramunga Arr 82.26 112 P **P 14 11 28.0 -0.9**
comp=Z,10nm,1.0s,baz=296,slow=4.4,SNR=44
WRA LR LR 14 45 13.0
comp=Z,125nm,18.2s,baz=130,slow=34
ASAR Alice Springs 82.96 116 P **P 14 11 31.6 -0.9**
ASAR Alice Springs 82.96 116 P **P 14 11 31.6 -0.9**
comp=Z,2.0nm,0.7s,baz=290,slow=4.9,SNR=6.3
ASAR LR LR 14 41 23.9
comp=Z,254nm,21.5s,baz=294,slow=31
PETK Petropavlovsk- 85.69 37 LR LR 14 52 56.0
comp=Z,374nm,21.9s,baz=280,slow=38
MAIT Maitri 89.19 194 *eP* **P 14 12 01.4 -0.7**
PMG Port Moresby 91.65 99 LR LR 14 52 49.7
comp=Z,171nm,21.7s,baz=31,slow=35
STKA Stephens Creek 91.75 122 LR LR 14 48 07.7
comp=Z,294nm,20.2s,baz=317,slow=32
SNAA Sanae 93.42 196 *eP* **P 14 12 22.5 +0.6**
VNA2 Neumayer--Watz 94.33 197 *eP* **P 14 12 27.6 +1.6**
VNA3 Neumayer Olymp 95.13 197 *eP* P 14 12 25.9 -3.8
SCHQ Schefferville 97.86 331 LR LR 14 59 42.9
comp=Z,284nm,18.2s,baz=354,slow=37
DRV Dumont d'Urvil 98.83 156 SS SS 14 30 45.0 -17
ILAR Eielson Array 100.28 10 PP PP 14 16 58.0 -0.4
ILAR Eielson Array 100.28 10 PP PP 14 16 58.0 -0.4
comp=Z,6.2nm,1.3s,baz=326,slow=7.6,SNR=10
PDAR Pinedale Array 123.28 349 PKP **PKPdf 14 18 04.0 -0.5**
PDAR Pinedale Array 123.28 349 PKP **PKPdf 14 18 04.0 -0.5**
comp=Z,0.4nm,0.6s,baz=60,slow=2.4,SNR=4.6
LPAZ La Paz 127.51 259 PKP **PKPdf 14 18 14.0 +0.3**
LPAZ La Paz 127.51 259 PKP **PKPdf 14 18 14.0 +0.3**
comp=Z,0.8nm,0.7s,baz=198,slow=3.2,SNR=3.3
NVAR Mina Array Bea 128.71 356 PKP **PKPdf 14 18 14.8 -0.2**
NVAR Mina Array Bea 128.71 356 PKP **PKPdf 14 18 14.8 -0.2**
comp=Z,0.6nm,0.6s,baz=42,slow=1.5,SNR=7.4
TBI Tubuai 152.34 116 *eLR* LR 15 10 02.3
comp=Z,253nm,33.0s
PPT2 Papeete2 153.40 103 *eLR* LR 15 10 34.4
comp=Z,150nm,22.0s

DDA 29 14:03:10.6,38.°62N×39.°12E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.16**	**220**	*i* P	Pg	14 03 14.5	+0.3
ELZG				*i* S	Sg	14 03 17.3	+0.7
KEMA	**Kemaliye**	**0.81**	**323**	*i* P	Pg	14 03 26.1	-0.2
KEMA				*i* S	Sb	14 03 38.2	-0.2

MEX 29 14:04:04.5±0.7,14.°83N×93.°59W,h16km±11km,MD4.1,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**22**	*i* P	Pb	14 04 18.9	-3.5
PCIG				*i* S	Sb	14 04 30.5	-4.2
THIG		**1.28**	**86**	*e*P	Pn	14 04 24.2	-3.5
THIG				*i* S	Sb	14 04 38.9	-5.6
CCIG	**Comitan**	**2.01**	**44**	*e*P	Pn	14 04 35.6	-2.4
CCIG				*e*S	Sn	14 04 58.9	-4.2
CMIG	**Matias Romero**	**2.57**	**331**	*e*P	Pn	14 04 42.7	-2.8
CMIG				*e*S	Sn	14 05 12.6	-3.9
HUIG	**Huatulco**	**2.60**	**291**	*e*P	Pn	14 04 43.2	-2.7
HUIG				*i* S	Sn	14 05 12.8	-4.4

NNC 29 14:09:56.9±7.1,38.°78N×68.°40E,h19km±28km,mb3.5,
mpv3.2,3C-4D,Error ellipse: s-maj=48.4km
s-min=19.1km az=21.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.61**	**20**	⇓Pn	Pn	14 11 06.5	+0.9
	1.0nm,0.5s,baz=202,slow=14						
KK31				⇓Pg	Pb	14 11 20.4	+3.2
	3.9nm,0.6s,baz=203,slow=17						
KK31				⇑Lg	Lg	14 12 24.5	
	4.6nm,0.3s,baz=201,slow=28						
TKM2	**Tokmak 2**	**6.85**	**51**	⇓Pn	Pn	14 11 35.2	-1.4
	0.9nm,0.3s						
TKM2				⇓Lg	Lg	14 13 34.8	
	3.8nm,0.8s						
AB31	**Akbulak array**	**12.11**	**333**	⇑Pn	Pn	14 12 49.6	+1.3
	0.2nm,0.3s,baz=162,slow=13						
AB31				⇑Sn	Sn	14 15 01.7	-1.0
	0.6nm,0.6s						

MEX 29 14:13:17.0±0.4,17.°13N×99.°71W,h31km±11km,MD3.5,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.54**	**262**	*e*P	Pb	14 13 26.2	-2.0
CAIG				*i* S	Sb	14 13 33.9	-1.9
MEIG	**Mezcala**	**0.80**	**6**	*e*P	Pn	14 13 29.8	-2.5
MEIG				*i* S	Sn	14 13 40.3	-2.9
PLIG	**Platanillo**	**1.27**	**9**	*e*P	Pn	14 13 36.8	-2.0
PLIG				*e*S	Sn	14 13 52.1	-2.8
PNIG	**Pinotepa**	**1.68**	**116**	*e*P	Pn	14 13 43.2	-1.1
PNIG				*i* S	Sn	14 14 02.4	-2.4
ZIIG	**Zihuatanejo**	**1.75**	**286**	*e*P	Pn	14 13 43.4	-1.7
ZIIG				*i* S	Sn	14 14 03.9	-2.5

*IDC **29** 14:22:16.2±1.8,38.°44N×21.°76E,h0km,mb3.6/3,*
mb1 3.5/4,mb1mx3.4/27,mbtmp3.5/4,ML2.8/1,MS3.9/1,
Ms1 3.9/1,ms1mx3.0/43,Error ellipse: s-maj=114.8km
s-min=25.5km az=141.0
*ATH **29** 14:22:17.5,38.°08N×22.°08E,h22km,MD3.1/18,ML3.1*
*ISCJB **29** 14:22:18.7±0.2,38.°09N±0.°01×22.°08E±0.°02,h21km±2km,*
mb3.5/3,MS3.8/1,Error ellipse: s-maj=2.3km s-min=1.9km
az=178.1
*CSEM **29** 14:22:18.3±0.1,38.°10N×22.°09E,h12km,ML3.1/16,Error*
ellipse: s-maj=1.9km s-min=1.6km az=84.0
*THE **29** 14:22:19.0,38.°10N×22.°11E,h12km,ML3.1/16,Error*
ellipse: s-maj=0.9km s-min=0.6km az=265.0
ISC 29 14:22:18.9±0.7,38.°09N±0.°01×22.°10E±0.°01,h16km±4km,
n184,σ0.°84/303,mb3.5/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.06**	**135**	P	**Pg**	**14 22 21.5**	**-0.4**
KLV				S	**Sg**	**14 22 23.5**	**-0.4**
KLV	**Kalavryta, Ach**	**0.06**	**135**	*e*PB	**Pg**	**14 22 21.5**	**-0.4**
KLV				*e*SB	**Sg**	**14 22 23.6**	**-0.4**
KLV	**Kalavryta, Ach**	**0.06**	**135**	P	**Pg**	**14 22 21.5**	**-0.4**
KLV				S	**Sg**	**14 22 23.5**	**-0.4**
GUR	**Goura**	**0.24**	**128**	P	**Pg**	**14 22 23.9**	**-0.5**
GUR				S	**Sg**	**14 22 28.0**	**-0.1**
GUR	**Goura**	**0.24**	**128**	*e*PB	**Pg**	**14 22 23.9**	**-0.5**
GUR	**Goura**	**0.24**	**128**	P	**Pg**	**14 22 23.9**	**-0.5**
GUR				S	**Sg**	**14 22 28.0**	**-0.1**
TRIZ	**Trizonia**	**0.28**	**356**	P	**Pg**	**14 22 24.4**	**-0.5**
TRIZ				S	**Sg**	**14 22 29.2**	**+0.2**
TRIZ	**Trizonia**	**0.28**	**356**	*e*PB	**Pg**	**14 22 24.4**	**-0.5**
TRIZ				*e*SB	**Sg**	**14 22 29.1**	**+0.1**
TRIZ	**Trizonia**	**0.28**	**356**	P	**Pg**	**14 22 24.4**	**-0.5**
TRIZ				S	**Sg**	**14 22 29.2**	**+0.2**
PSA1	**Psathopyrgos**	**0.29**	**325**	*e*PB	**Pg**	**14 22 24.3**	**-0.8**
PSA1				*e*SB	**Sg**	**14 22 29.1**	**-0.2**
KALE	**Kalithea**	**0.31**	**6**	P	**Pg**	**14 22 25.1**	**-0.3**
KALE				S	**Sg**	**14 22 29.8**	**-0.1**
KALE	**Kalithea**	**0.31**	**6**	*e*PB	**Pg**	**14 22 25.0**	**-0.3**
KALE				*e*SB	**Sg**	**14 22 30.2**	**+0.3**
KALE	**Kalithea**	**0.31**	**6**	P	**Pg**	**14 22 25.1**	**-0.3**
KALE				S	**Sg**	**14 22 29.8**	**-0.1**
KALE				*e*Sb	**Sg**	**14 22 30.2**	**+0.3**
EFP	**Efpalio**	**0.37**	**336**	P	**Pg**	**14 22 25.9**	**-0.6**
EFP				S	**Sb**	**14 22 35.5**	**+2.8**
EFP	**Efpalio**	**0.37**	**336**	*e*PB	**Pg**	**14 22 25.9**	**-0.6**
EFP				*e*SB	**Sg**	**14 22 31.3**	**-0.4**
EFP	**Efpalio**	**0.37**	**336**	P	**Pg**	**14 22 25.9**	**-0.6**
EFP				*e*Sb	**Sg**	**14 22 31.3**	**-0.4**
DSF	**Desfina**	**0.47**	**46**	P	**Pg**	**14 22 27.8**	**-0.5**
DSF				S	**Sg**	**14 22 34.5**	**-0.2**
DSF	**Desfina**	**0.47**	**46**	P	**Pg**	**14 22 27.8**	**-0.5**
DSF				S	**Sg**	**14 22 34.5**	**-0.2**
RLS	**Riolos of Patr**	**0.50**	**267**	P	**Pg**	**14 22 27.7**	**-1.1**
RLS				S	**Sg**	**14 22 35.5**	**0.0**
RLS	**Riolos of Patr**	**0.50**	**267**	*e*PB	**Pg**	**14 22 27.2**	**-1.6**
RLS				*e*SB	**Sg**	**14 22 35.0**	**-0.5**
RLS	**Riolos of Patr**	**0.50**	**267**	*e*Pb	**Pg**	**14 22 27.2**	**-1.6**
RLS	**Riolos of Patr**	**0.50**	**267**	P	**Pg**	**14 22 27.7**	**-1.1**
RLS				*e*Sb	**Sg**	**14 22 35.0**	**-0.5**
AXS	**Araxos**	**0.58**	**281**	P	**Pg**	**14 22 29.3**	**-1.0**
AXS				S	**Sg**	**14 22 38.4**	**+0.4**
AXS	**Araxos**	**0.58**	**281**	P	**Pg**	**14 22 29.3**	**-1.0**
AXS				S	**Sg**	**14 22 38.4**	**+0.4**
AMT	**Artemida-Makis**	**0.63**	**209**	P	**Pg**	**14 22 30.3**	**-1.0**
AMT				S	**Sg**	**14 22 39.8**	**+0.1**
AMT	**Artemida-Makis**	**0.63**	**209**	*e*PN	**Pg**	**14 22 30.1**	**-1.2**
AMT				*e*SN	**Sg**	**14 22 39.3**	**-0.4**
AMT	**Artemida-Makis**	**0.63**	**209**	P	**Pg**	**14 22 30.3**	**-1.0**
AMT				*e*Sn	**Sg**	**14 22 39.3**	**-0.4**
ACOR	**Acrocorinthos**	**0.64**	**108**	P	**Pg**	**14 22 30.6**	**-0.9**
ACOR				S	**Sg**	**14 22 40.2**	**+0.2**
ACOR	**Acrocorinthos**	**0.64**	**108**	P	**Pg**	**14 22 30.6**	**-0.9**
ACOR				S	**Sg**	**14 22 40.2**	**+0.2**
VLX	**Vlachokerasia**	**0.75**	**163**	P	**Pg**	**14 22 32.3**	**-1.2**
VLX				S	**Sg**	**14 22 44.0**	**+0.6**
VLX	**Vlachokerasia**	**0.75**	**163**	*e*PN	**Pg**	**14 22 32.1**	**-1.4**
VLX				*e*SN	**Sg**	**14 22 43.2**	**-0.2**
VLX	**Vlachokerasia**	**0.75**	**163**	P	**Pg**	**14 22 32.3**	**-1.2**
VLX				*e*Sn	**Sg**	**14 22 43.2**	**-0.2**
VLX				S	**Sg**	**14 22 44.0**	**+0.6**
AXAR	**Agios Charalam**	**0.81**	**33**	P	**Pg**	**14 22 33.9**	**-0.7**
AXAR				S	**Sg**	**14 22 45.8**	**+0.5**
AXAR	**Agios Charalam**	**0.81**	**33**	P	**Pg**	**14 22 33.9**	**-0.7**
AXAR				S	**Sg**	**14 22 45.8**	**+0.5**
EVR	**Evrytania**	**0.86**	**345**	P	**Pg**	**14 22 34.3**	**-1.3**
EVR				S	**Sb**	**14 22 48.0**	**+1.1**
EVR	**Evrytania**	**0.86**	**345**	*e*PN	**Pg**	**14 22 34.2**	**-1.3**
EVR				*e*SN	**Sg**	**14 22 46.5**	**-0.4**
EVR	**Evrytania**	**0.86**	**345**	P	**Pg**	**14 22 34.3**	**-1.3**
EVR				*e*Sn	**Sg**	**14 22 46.5**	**-0.4**
EVR				S	**Sb**	**14 22 48.0**	**+1.1**
LKR	**Lokris**	**0.91**	**51**	*e*PN	**Pg**	**14 22 35.4**	**-1.0**
LKR				*e*SN	**Sg**	**14 22 48.0**	**-0.4**
LKR	**Lokris**	**0.91**	**51**	*e*Pn	**Pg**	**14 22 35.4**	**-1.0**
LKR				*e*Sn	**Sg**	**14 22 48.0**	**-0.4**
ITM	**Ithomi**	**0.92**	**189**	P	**Pg**	**14 22 35.1**	**-1.5**
ITM				S	**Sb**	**14 22 49.6**	**+1.3**
ITM	**Ithomi**	**0.92**	**189**	*e*PN	**Pg**	**14 22 34.8**	**-1.8**
ITM				*e*SN	**Sg**	**14 22 47.6**	**-1.0**
ITM	**Ithomi**	**0.92**	**189**	*e*Pn	**Pg**	**14 22 34.8**	**-1.8**
ITM	**Ithomi**	**0.92**	**189**	P	**Pg**	**14 22 35.1**	**-1.5**
ITM				*e*Sn	**Sg**	**14 22 47.6**	**-1.0**
ITM				S	**Sb**	**14 22 49.6**	**+1.3**
MAKR	**Makrakomi, Fth**	**0.93**	**2**	P	**Pg**	**14 22 36.7**	**-0.1**
MAKR				S	**Sn**	**14 22 50.9**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.93**	**2**	P	**Pg**	**14 22 36.7**	**-0.1**
AGG	**Agios Georgios**	**0.95**	**11**	P	**Pg**	**14 22 35.8**	**-1.5**
AGG				S	**Sb**	**14 22 50.6**	**+1.1**
AGG	**Agios Georgios**	**0.95**	**11**	*e*PN	**Pg**	**14 22 35.5**	**-1.8**
AGG				*e*SN	**Sg**	**14 22 49.7**	**-0.2**
AGG	**Agios Georgios**	**0.95**	**11**	*e*Pn	**Pg**	**14 22 35.5**	**-1.8**
AGG	**Agios Georgios**	**0.95**	**11**	P	**Pg**	**14 22 35.8**	**-1.5**
AGG				*e*Sn	**Sg**	**14 22 49.7**	**-0.2**
AGG				S	**Sb**	**14 22 50.6**	**+1.1**
KFL	**Anninata**	**1.03**	**272**	P	**Pb**	**14 22 37.8**	**-0.6**
KFL				S	**Sn**	**14 22 54.5**	**+1.6**
KFL	**Anninata**	**1.03**	**272**	P	**Pb**	**14 22 37.8**	**-0.6**
DID	**Didima**	**1.07**	**122**	P	**Pb**	**14 22 39.1**	**0.0**
DID				S	**Sb**	**14 22 54.4**	**+1.5**
DID	**Didima**	**1.07**	**122**	*e*PN	**Pb**	**14 22 38.1**	**-1.0**
DID				*e*SN	**Sb**	**14 22 53.3**	**+0.4**
DID	**Didima**	**1.07**	**122**	*e*Pn	**Pb**	**14 22 38.1**	**-1.0**
DID	**Didima**	**1.07**	**122**	P	**Pb**	**14 22 39.1**	**0.0**
DID				*e*Sn	**Sb**	**14 22 53.3**	**+0.4**
DID				S	**Sb**	**14 22 54.4**	**+1.5**
DIDY	**Didyma**	**1.07**	**124**	P	**Pb**	**14 22 39.0**	**-0.1**
DIDY				S	**Sb**	**14 22 53.6**	**+0.7**
DIDY	**Didyma**	**1.07**	**124**	P	**Pb**	**14 22 39.0**	**-0.1**
DIDY				S	**Sb**	**14 22 53.6**	**+0.7**
SMIA	**Simia**	**1.18**	**47**	P	**Pb**	**14 22 41.0**	**+0.1**
SMIA				S	**Sb**	**14 22 56.6**	**+0.7**
SMIA	**Simia**	**1.18**	**47**	P	**Pb**	**14 22 41.0**	**+0.1**
SMIA				S	**Sb**	**14 22 56.6**	**+0.7**
VLS	**Valsamata**	**1.19**	**275**	P	**Pb**	**14 22 39.7**	**-1.3**
VLS				S	**Sn**	**14 22 58.2**	**+1.4**
VLS	**Valsamata**	**1.19**	**275**	*e*PN	**Pb**	**14 22 39.8**	**-1.3**
VLS				*e*SN	**Sb**	**14 22 56.5**	**+0.2**
VLS	**Valsamata**	**1.19**	**275**	*e*Pn	**Pb**	**14 22 39.8**	**-1.3**
VLS				*e*Sn	**Sb**	**14 22 56.5**	**+0.2**
VLS				S	**Sn**	**14 22 58.2**	**+1.4**
SFD	**Strofades**	**1.20**	**226**	P	**Pn**	**14 22 41.2**	**+0.3**
SFD				S	**Sn**	**14 22 59.2**	**+2.4**
SFD	**Strofades**	**1.20**	**226**	*e*PN	**Pn**	**14 22 40.4**	**-0.5**
SFD				*e*SN	**Sb**	**14 22 56.9**	**+0.5**
SFD	**Strofades**	**1.20**	**226**	*e*Pn	**Pn**	**14 22 40.4**	**-0.5**
SFD	**Strofades**	**1.20**	**226**	P	**Pn**	**14 22 41.2**	**+0.3**
SFD				*e*Sn	**Sb**	**14 22 56.9**	**+0.5**
PYL	**PYLOS**	**1.22**	**193**	P	**Pn**	**14 22 40.4**	**-0.8**
PYL				S	**Sg**	**14 23 00.0**	**+1.7**
PYL	**PYLOS**	**1.22**	**193**	*e*PN	**Pn**	**14 22 40.5**	**-0.8**
PYL				*e*SN	**Sb**	**14 22 57.3**	**+0.2**
PYL	**PYLOS**	**1.22**	**193**	*e*Pn	**Pn**	**14 22 40.5**	**-0.8**
PYL				*e*Sn	**Sb**	**14 22 57.3**	**+0.2**
PYL				S	**Sg**	**14 23 00.0**	**+1.7**
ATH	**Athens Observa**	**1.28**	**95**	P	**Pn**	**14 22 42.4**	**+0.2**
ATH				S	**Sn**	**14 23 00.5**	**+1.5**
ATH	**Athens Observa**	**1.28**	**95**	*e*PN	**Pn**	**14 22 42.3**	**+0.1**
ATH				*e*SN	**Sb**	**14 22 59.6**	**+0.7**
ATH	**Athens Observa**	**1.28**	**95**	P	**Pn**	**14 22 42.4**	**+0.2**
ATH				*e*Sn	**Sb**	**14 22 59.6**	**+0.7**
ATH				S	**Sn**	**14 23 00.5**	**+1.5**
MRKA	**Markates**	**1.32**	**62**	P	**Pn**	**14 22 42.7**	**-0.1**
MRKA				S	**Sb**	**14 23 00.7**	**+0.6**
MRKA	**Markates**	**1.32**	**62**	P	**Pn**	**14 22 42.7**	**-0.1**
MRKA				S	**Sb**	**14 23 00.7**	**+0.6**
LKD2	**Lefkada island**	**1.33**	**302**	P	**Pn**	**14 22 43.5**	**+0.7**
LKD2				S	**Sg**	**14 23 01.4**	**-0.4**
LKD2	**Lefkada island**	**1.33**	**302**	*e*PN	**Pn**	**14 22 42.8**	**0.0**
LKD2				*e*SN	**Sn**	**14 23 01.1**	**+0.8**
LKD2	**Lefkada island**	**1.33**	**302**	*e*Pn	**Pn**	**14 22 42.8**	**0.0**
LKD2	**Lefkada island**	**1.33**	**302**	P	**Pn**	**14 22 43.5**	**+0.7**
LKD2				*e*Sn	**Sn**	**14 23 01.1**	**+0.8**
DYR	**Agios Nikonas**	**1.33**	**172**	P	**Pn**	**14 22 42.7**	**-0.2**
DYR				S	**Sb**	**14 23 01.7**	**+1.3**
DYR	**Agios Nikonas**	**1.33**	**172**	*e*PN	**Pn**	**14 22 42.4**	**-0.5**
DYR				*e*SN	**Sb**	**14 23 01.0**	**+0.6**
DYR	**Agios Nikonas**	**1.33**	**172**	*e*Pn	**Pn**	**14 22 42.4**	**-0.5**
DYR	**Agios Nikonas**	**1.33**	**172**	P	**Pn**	**14 22 42.7**	**-0.2**
DYR				*e*Sn	**Sb**	**14 23 01.0**	**+0.6**
ATHU	**Athens Univers**	**1.34**	**95**	P	**Pn**	**14 22 43.1**	**+0.2**
ATHU				S	**Sb**	**14 23 01.6**	**+1.1**
ATHU	**Athens Univers**	**1.34**	**95**	P	**Pn**	**14 22 43.1**	**+0.2**
ATHU				S	**Sb**	**14 23 01.6**	**+1.1**
ERET	**Eretria**	**1.39**	**75**	P	**Pn**	**14 22 43.9**	**+0.2**
ERET				S	**Sn**	**14 23 02.0**	**+0.2**
ERET	**Eretria**	**1.39**	**75**	P	**Pn**	**14 22 43.9**	**+0.2**
ERET				S	**Sn**	**14 23 02.0**	**+0.2**
PTL	**Penteli**	**1.40**	**91**	P	**Pn**	**14 22 43.6**	**-0.2**
PTL				S	**Sn**	**14 23 01.7**	**-0.2**
PTL	**Penteli**	**1.40**	**91**	*e*PN	**Pn**	**14 22 43.5**	**-0.2**
PTL				*e*SN	**Sn**	**14 23 02.1**	**+0.2**
PTL	**Penteli**	**1.40**	**91**	P	**Pn**	**14 22 43.6**	**-0.2**
PTL				S	**Sn**	**14 23 01.7**	**-0.2**
PTL				*e*Sn

XOR				S	Sn	14 23 04.8	-0.6
AOS	**Alonnisos**	**1.77**	**52**	P	Pn	14 22 48.3	-0.5
AOS				S	Sn	14 23 10.3	-0.7
AOS	**Alonnisos**	**1.77**	**52**	*e*PB	Pn	14 22 48.0	-0.8
AOS	**Alonnisos**	**1.77**	**52**	*e*Pb	Pn	14 22 48.0	-0.8
AOS	**Alonnisos**	**1.77**	**52**	P	Pn	14 22 48.3	-0.5
AOS				S	Sn	14 23 10.3	-0.7
MRMA	**Marmari**	**1.80**	**90**	P	Pn	14 22 50.6	+1.3
MRMA				S	Sn	14 23 13.4	+1.6
MRMA	**Marmari**	**1.80**	**90**	P	Pn	14 22 50.6	+1.3
MRMA				S	Sn	14 23 13.4	+1.6
JAN	**Janina**	**1.85**	**329**	P	Pb	14 22 52.8	+0.5
JAN	**Janina**	**1.85**	**329**	*e*PN	Pn	14 22 50.0	+0.1
JAN	**Janina**	**1.85**	**329**	*e*Pn	Pn	14 22 50.0	+0.1
KYTH	**Kithira**	**1.95**	**157**	P	Pn	14 22 52.2	+0.8
KYTH	**Kithira**	**1.95**	**157**	P	Pn	14 22 52.2	+0.8
LIT	**Litokhoron**	**2.04**	**9**	P	Pn	14 22 52.3	-0.2
LIT	**Litokhoron**	**2.04**	**9**	*e*PN	Pn	14 22 52.7	+0.2
LIT	**Litokhoron**	**2.04**	**9**	P	Pn	14 22 52.3	-0.2
LIT	**Litokhoron**	**2.04**	**9**	*e*Pn	Pn	14 22 52.7	+0.2
PAIG	**Paliouri**	**2.21**	**33**	P	Pn	14 22 54.4	-0.6
PAIG				S	Sn	14 23 20.7	-1.3
PAIG	**Paliouri**	**2.21**	**33**	*e*PN	Pn	14 22 54.6	-0.3
PAIG	**Paliouri**	**2.21**	**33**	*e*Pn	Pn	14 22 54.6	-0.3
PAIG				S	Sn	14 23 20.7	-1.3
KZN	**Kozani**	**2.23**	**354**	P	Pn	14 22 55.5	+0.2
KZN	**Kozani**	**2.23**	**354**	*e*PB	Pn	14 22 55.9	+0.6
KZN	**Kozani**	**2.23**	**354**	P	Pn	14 22 55.5	+0.2
KZN	**Kozani**	**2.23**	**354**	*e*Pb	Pn	14 22 55.9	+0.6
ANKY	**Antikythira Is**	**2.42**	**156**	P	Pn	14 22 58.3	+0.5
ANKY	**Antikythira Is**	**2.42**	**156**	*e*PN	Pn	14 22 58.2	+0.5
ANKY	**Antikythira Is**	**2.42**	**156**	*e*Pn	Pn	14 22 58.2	+0.5
KEK	**Kerkira**	**2.42**	**313**	*e*PN	Pn	14 22 58.0	+0.2
KEK	**Kerkira**	**2.42**	**313**	*e*Pn	Pn	14 22 58.0	+0.2
NEST	**Nestorio**	**2.46**	**341**	P	Pb	14 23 02.1	-0.7
PLG	**Polygyros**	**2.51**	**24**	P	Pn	14 22 58.7	-0.4
PLG				S	Sn	14 23 28.4	-1.1
PLG	**Polygyros**	**2.51**	**24**	*e*PN	Pn	14 22 58.5	-0.6
PLG	**Polygyros**	**2.51**	**24**	P	Pn	14 22 58.7	-0.4
PLG				S	Sn	14 23 28.4	-1.1
HORT	**Hortiatis**	**2.63**	**17**	P	Pn	14 23 00.4	-0.3
HORT				S	Sn	14 23 31.2	-1.1
HORT	**Hortiatis**	**2.63**	**17**	P	Pn	14 23 00.4	-0.3
HORT				S	Sn	14 23 31.2	-1.1
OUR	**Ouranopolis**	**2.68**	**33**	P	Pn	14 23 00.6	-0.8
OUR	**Ouranopolis**	**2.68**	**33**	P	Pn	14 23 00.6	-0.8
FNA	**Florina**	**2.75**	**349**	P	Pn	14 22 59.9	-2.5
FNA	**Florina**	**2.75**	**349**	*e*PN	Pn	14 23 03.0	+0.6
FNA	**Florina**	**2.75**	**349**	P	Pn	14 22 59.9	-2.5
FNA	**Florina**	**2.75**	**349**	*e*Pn	Pn	14 23 03.0	+0.6
GRG	**Griva**	**2.88**	**5**	*e*PN	Pn	14 23 04.6	+0.5
GRG	**Griva**	**2.88**	**5**	*e*Pn	Pn	14 23 04.6	+0.5
SOH	**Sokhos**	**2.90**	**19**	P	Pn	14 23 04.9	+0.5
SOH				S	Sn	14 23 39.1	+0.1
SOH	**Sokhos**	**2.90**	**19**	*e*PN	Pn	14 23 04.5	+0.1
SOH	**Sokhos**	**2.90**	**19**	*e*Pn	Pn	14 23 04.5	+0.1
SOH	**Sokhos**	**2.90**	**19**	P	Pn	14 23 04.9	+0.5
SOH				S	Sn	14 23 39.1	+0.1
APE	**Apeiranthos**	**2.91**	**109**	P	Pn	14 23 04.8	+0.2
APE				S	Sn	14 23 36.1	-3.2
APE	**Apeiranthos**	**2.91**	**109**	P	Pn	14 23 04.8	+0.2
LIA	**Limnos Island**	**3.01**	**52**	P	Pn	14 23 05.3	-0.6
LIA	**Limnos Island**	**3.01**	**52**	*e*PN	Pn	14 23 06.3	+0.4
LIA	**Limnos Island**	**3.01**	**52**	P	Pn	14 23 05.3	-0.6
LIA	**Limnos Island**	**3.01**	**52**	*e*Pn	Pn	14 23 06.3	+0.4
KARN	**Karanos**	**3.05**	**151**	P	Pn	14 23 06.1	-0.4
KARN				S	Sn	14 23 44.5	+1.8
KARN	**Karanos**	**3.05**	**151**	*e*PN	Pn	14 23 07.8	+1.3
KARN	**Karanos**	**3.05**	**151**	P	Pn	14 23 06.1	-0.4
KARN	**Karanos**	**3.05**	**151**	*e*Pn	Pn	14 23 07.8	+1.3
KARN				S	Sn	14 23 44.5	+1.8
CHOS	**Chios island**	**3.13**	**83**	P	Pn	14 23 08.1	+0.5
CHOS	**Chios island**	**3.13**	**83**	*e*PN	Pn	14 23 08.1	+0.5
CHOS	**Chios island**	**3.13**	**83**	P	Pn	14 23 08.1	+0.5
VAM	**Vamos**	**3.16**	**147**	P	Pn	14 23 08.7	+0.7
VAM				S	Sn	14 23 46.8	+1.4
VAM	**Vamos**	**3.16**	**147**	*e*PN	Pn	14 23 08.4	+0.4
VAM	**Vamos**	**3.16**	**147**	*e*Pn	Pn	14 23 08.4	+0.4
VAM	**Vamos**	**3.16**	**147**	P	Pn	14 23 08.7	+0.7
VAM				S	Sn	14 23 46.8	+1.4
SRS	**Serrai**	**3.24**	**20**	P	Pn	14 23 08.9	-0.2
SRS				S	Sn	14 23 47.2	-0.2
SRS	**Serrai**	**3.24**	**20**	P	Pn	14 23 08.9	-0.2
SRS				S	Sn	14 23 47.2	-0.2
KAVA	**Kavala**	**3.46**	**32**	P	Pn	14 23 11.2	-0.8
KAVA	**Kavala**	**3.46**	**32**	P	Pn	14 23 11.2	-0.8
NVR	**Nevrokopi**	**3.53**	**22**	P	Pn	14 23 12.7	-0.4
NVR	**Nevrokopi**	**3.53**	**22**	P	Pn	14 23 12.7	-0.4
IDI	**Anoyia**	**3.58**	**140**	P	Pn	14 23 14.1	+0.3
IDI				S	Sn	14 23 54.1	-1.8
IDI	**Anoyia**	**3.58**	**140**	*e*PN	Pn	14 23 14.8	+1.0
IDI	**Anoyia**	**3.58**	**140**	P	Pn	14 23 14.1	+0.3
IDI	**Anoyia**	**3.58**	**140**	*e*Pn	Pn	14 23 14.8	+1.0
IDI				S	Sn	14 23 54.1	-1.8
LAST	**Lasithi**	**3.99**	**136**	P	Pn	14 23 19.1	-0.4
LAST				S	Sn	14 24 04.3	-1.6
LAST	**Lasithi**	**3.99**	**136**	*e*PN	Pn	14 23 20.7	+1.2
LAST	**Lasithi**	**3.99**	**136**	P	Pn	14 23 19.1	-0.4
LAST	**Lasithi**	**3.99**	**136**	*e*Pn	Pn	14 23 20.7	+1.2
LAST				S	Sn	14 24 04.3	-1.6
BRTR	**Keskin Array B**	**9.15**	**76**	Pn	Pn	14 24 32.1	+1.8
0.1nm,0.3s,baz=302,slow=22,SNR=2.6							
TORD	**Torodi Ar. Bea**	**30.76**	**222**	P	P	14 28 34.2	+0.6
0.3nm,0.6s,baz=28,slow=9.8,SNR=6.0							
JMIC	**Jan Mayen**	**36.59**	**344**	LR	LR	14 42 52.5	
comp=Z,167nm,20.1s,baz=94,slow=34							
MKAR	**Makanchi Array**	**44.29**	**59**	P	P	14 30 27.7	-0.1
0.3nm,0.4s,baz=277,slow=6.9,SNR=6.5							
ZALV	**Zalesovo Beam**	**44.83**	**48**	P	P	14 30 31.4	-0.6
0.9nm,0.6s,baz=283,slow=8.7,SNR=4.2							

*IDC **29** 14:53:05.4±0.7, 25°.65N×142°.63E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.0/17, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/40, Error ellipse: s-maj=29.9km s-min=13.4km az=86.0*

*ISCJB **29** 14:53:09.3±0.5, 25°.62N±0°.06×142°.5E±0°.1, h38km, mb4.2/19, MS3.9/1, Error ellipse: s-maj=17.7km s-min=8.1km az=172.4*

*NEIC **29** 14:53:10.9±0.9, 25°.65N×142°.52E, h37km±8km, mb4.5/5, Error ellipse: s-maj=9.9km s-min=5.3km az=85.0*

ISC 29 14:53:10.9±0.6, 25°.58N±0°.06×142°.5E±0°.1, h38km, n48, σ0992/54, mb4.2/19, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.54**	**348**	Pn	**Pn**	**14 53 35.5**	**-0.3**
CBIJ				Sn	**Sn**	**14 53 58.3**	**+3.7**
CBIJ	**Chichi jima**	**1.54**	**348**	Pn	**Pn**	**14 53 35.5**	**-0.3**
baz=292,slow=18							
CBIJ				Sn	**Sn**	**14 53 58.3**	**+3.7**
baz=301,slow=19							
MJAR	**Matsushiro Arr**	**11.54**	**342**	Pn	**Pn**	**14 55 51.5**	**-1.5**
MJAR	**Matsushiro Arr**	**11.54**	**342**	Pn	**Pn**	**14 55 51.5**	**-1.5**
0.2nm,0.3s,baz=171,slow=5.9,SNR=4.3							
KSRS	**Korea Array**	**17.16**	**317**	LR	LR	15 03 03.4	
comp=Z,40nm,20.4s,baz=125,slow=35							
INCN	**Inchon**	**17.99**	**315**	*e*Pn	**Pn**	**14 57 17.1**	**-0.8**
USRK	**Ussuriysk Arra**	**20.45**	**338**	P	**P**	**14 57 45.4**	**+0.4**
1.1nm,0.6s,baz=142,slow=9.9,SNR=3.7							
QIZ	**Qiongzhong**	**30.89**	**264**	*e*P	**P**	**14 59 23.8**	**-0.2**
SONM	**Songino Array**	**36.03**	**318**	P	**P**	**15 00 08.1**	**-0.6**
SONM				PcP	**PcP**	**15 02 34.3**	**-0.1**
SONM	**Songino Array**	**36.03**	**318**	P	**P**	**15 00 08.1**	**-0.6**
0.3nm,0.4s,baz=133,slow=7.8,SNR=2.5							
SONM				PcP	**PcP**	**15 02 34.3**	**-0.1**
0.2nm,0.3s,baz=180,slow=2.9,SNR=2.7							
CTAO	**Charters Tower**	**45.54**	**175**	*e*P	**P**	**15 01 27.7**	**+0.7**
2.9nm,0.8s							
WRAB	**Tennant Creek**	**45.94**	**191**	*e*P	**P**	**15 01 31.1**	**+0.9**
4.9nm,0.6s							
WRA	**Warramunga Arr**	**45.95**	**191**	P	**P**	**15 01 31.0**	**+0.8**
WRA	**Warramunga Arr**	**45.95**	**191**	P	**P**	**15 01 31.0**	**+0.8**
4.9nm,0.6s,baz=12,slow=8.7,SNR=49							
FITZ	**Fitzroy Crossi**	**46.43**	**202**	*e*P	**P**	**15 01 34.5**	**+0.4**
6.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**46.43**	**202**	P	**P**	**15 01 34.8**	**+0.8**
8.7nm,0.7s,baz=22,slow=9.3,SNR=19							
PSI	**Prapat**	**47.63**	**249**	LR	LR	15 19 46.6	
comp=Z,135nm,18.7s,baz=245,slow=34							
ASAR	**Alice Springs**	**49.67**	**190**	P	**P**	**15 01 59.8**	**+0.8**
0.8nm,0.6s,baz=15,slow=12,SNR=18							
ZALV	**Zalesovo Beam**	**50.84**	**320**	P	**P**	**15 02 07.2**	**-0.4**
ZALV				PcP	**PcP**	**15 03 24.1**	**+0.1**
ZALV	**Zalesovo Beam**	**50.84**	**320**	P	**P**	**15 02 07.2**	**-0.4**
0.6nm,0.4s,baz=108,slow=7.0,SNR=5.0							
ZALV				PcP	**PcP**	**15 03 24.1**	**+0.1**
1.5nm,0.8s,baz=108,slow=3.9,SNR=6.1							
MBWA	**Marble Bar**	**51.47**	**208**	*e*P	**P**	**15 02 12.7**	**+0.1**
MKAR	**Makanchi Array**	**51.69**	**311**	P	**P**	**15 02 13.9**	**-0.2**
MKAR				PcP	**PcP**	**15 03 27.5**	**+0.2**
MKAR	**Makanchi Array**	**51.69**	**311**	P	**P**	**15 02 13.9**	**-0.2**
0.6nm,0.4s,baz=98,slow=6.4,SNR=16							
MKAR				PcP	**PcP**	**15 03 27.5**	**+0.2**
0.4nm,0.8s,baz=60,slow=3.5,SNR=3.0							
STKA	**Stephens Creek**	**57.15**	**181**	P	**P**	**15 02 54.4**	**+0.6**
STKA	**Stephens Creek**	**57.15**	**181**	P	**P**	**15 02 54.4**	**+0.6**
4.3nm,0.8s,baz=16,slow=7.7,SNR=5.4							
ILAR	**Eielson Array**	**58.89**	**28**	P	**P**	**15 03 04.9**	**-0.8**
ILAR	**Eielson Array**	**58.89**	**28**	P	**P**	**15 03 04.9**	**-0.8**
0.5nm,0.8s,baz=261,slow=5.5,SNR=6.9							
BRVK	**Borovoye**	**59.43**	**318**	P	**P**	**15 03 09.1**	**-0.5**
KKAR	**Karatay Array**	**60.23**	**307**	*e*P	**P**	**15 03 14.6**	**-0.7**
1.3nm,0.6s							
KBL	**Kabul**	**62.99**	**297**	*e*P	**P**	**15 03 34.2**	**-0.1**
2.1nm,0.4s							
YKA	**Yellowknife Ar**	**73.32**	**28**	P	**P**	**15 04 37.9**	**-0.4**
YKA	**Yellowknife Ar**	**73.32**	**28**	P	**P**	**15 04 37.9**	**-0.4**
0.7nm,0.8s,baz=296,slow=6.2,SNR=3.7							
ARCES	**ARCESS Array B**	**75.07**	**341**	P	**P**	**15 04 48.4**	**0.0**
ARCES	**ARCESS Array B**	**75.07**	**341**	P	**P**	**15 04 48.4**	**0.0**
1.4nm,0.7s,baz=83,slow=7.4,SNR=3.9							
JOF	**Joensuu**	**76.57**	**334**	*e*p	**P**	**15 04 57.6**	**+0.5**
KAF	**Kangasniemi**	**78.97**	**335**	*e*p	**P**	**15 05 10.6**	**+0.2**
KBZ	**Khabaz**	**79.27**	**313**	P	**P**	**15 05 12.6**	**+0.2**
KBZ	**Khabaz**	**79.27**	**313**	P	**P**	**15 05 12.6**	**+0.2**
3.3nm,0.7s,baz=88,slow=7.1,SNR=8.5							
FINES	**FINESS Array B**	**79.44**	**334**	P	**P**	**15 05 13.2**	**+0.3**
FINES	**FINESS Array B**	**79.44**	**334**	P	**P**	**15 05 13.2**	**+0.3**
2.9nm,0.4s,baz=75,slow=5.6,SNR=40							
PDAR	**Pinedale Array**	**85.06**	**45**	P	**P**	**15 05 42.8**	**-0.3**
PDAR	**Pinedale Array**	**85.06**	**45**	P	**P**	**15 05 42.8**	**-0.3**
0.2nm,0.3s,baz=90,slow=3.0,SNR=3.6							
NB2	**NORSAR Subarra**	**85.13**	**338**	P	**P**	**15 05 42.6**	**-0.2**
comp=Z,2.6nm,0.8s,baz=44,slow=5.3							
NOA	**NORSAR Array B**	**85.13**	**338**	P	**P**	**15 05 42.8**	**0.0**
NOA	**NORSAR Array B**	**85.13**	**338**	P	**P**	**15 05 42.8**	**0.0**
comp=Z,1.4nm,0.5s,baz=44,slow=4.9,SNR=6.4							
BRTR	**Keskin Array B**	**87.26**	**313**	P	**P**	**15 05 54.2**	**+0.3**
BRTR	**Keskin Array B**	**87.26**	**313**	P	**P**	**15 05 54.2**	**+0.3**
comp=Z,0.7nm,0.7s,baz=48,slow=3.8,SNR=4.0							

*ISCJB **29** 15:02:55.1±0.6, 6°.30S±0°.04×130°.42E±0°.05, h170km±9km, Error ellipse: s-maj=7.5km s-min=6.2km az=14.9*

*AUST **29** 15:02:56.5, 6°.48S×130°.54E, h100km*

*DJA **29** 15:02:57.8±0.4, 6°.5±2°.×13°.0E±°, h150km±7km, M4.2/9, mb4.3/4, mB5.1/3, MLv4.1/9, Mw(mB)4.5/3*

ISC 29 15:02:54.0±0.9, 6°.28S±0°.05×130°.48E±0°.06, h187km±12km, n23, σ1979/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.84**	**342**	P	**Pn**	**15 03 30.5**	**+0.6**
BNDI				S	**Sn**	**15 03 56.4**	**-1.4**
BNDI	**Bandanaira**	**1.84**	**342**	P	**Pn**	**15 03 30.2**	**+0.3**
baz=2.1,SNR=7.1							
SAUI	**Saumlaki**	**1.88**	**154**	P	**Pn**	**15 03 31.4**	**+1.1**
SAUI				S	**Sn**	**15 03 58.3**	**-0.3**
TLE	**Tual**	**2.34**	**74**	P	Pn	15 03 39.4	+4.1
TLE	**Tual**	**2.34**	**74**	P	Pn	15 03 39.9	+4.6
baz=2.3,SNR=68							
TLE				S	**Sn**	**15 04 07.3**	**0.0**
baz=2.3,SNR=3.6							
MSAI	**Masohi**	**3.30**	**332**	P	**Pn**	**15 03 48.6**	**+2.0**
AAI	**Ambon**	**3.44**	**318**	P	**Pn**	**15 03 48.8**	**+0.5**
FAKI	**Fak Fak**	**3.78**	**28**	P	Pn	15 03 55.9	+3.3
FAKI				S	**Sn**	**15 04 36.7**	**-1.8**
FAKI	**Fak Fak**	**3.78**	**28**	P	**Pn**	**15 03 54.5**	**+1.9**
baz=3.9,SNR=14							
FAKI				S	**Sn**	**15 04 38.1**	**-0.4**
baz=3.9,SNR=24							
KMPI	**Kaimana, Papua**	**4.14**	**51**	P	**Sn**	**15 04 46.1**	**-0.5**
SWI	**Sorong**	**5.44**	**8**	P	**Pn**	**15 04 15.3**	**+1.5**
15nm,1.1s,2μm0.3nm							
SWI				S	**Sn**	**15 05 12.8**	**-3.9**
15nm,1.1s,2μm0.3nm							
SWI	**Sorong**	**5.44**	**8**	P	**Pn**	**15 04 15.5**	**+1.7**
baz=5.7,SNR=9.6							
SWI				S	**Sn**	**15 05 13.3**	**-3.5**
baz=5.7,SNR=5.6							
RKPI	**Ransiki, Papua**	**6.01**	**38**	P	Pn	15 04 25.8	+4.5
29nm,0.6s,4μm							
RKPI				S	**Sn**	**15 05 31.6**	**+1.5**
29nm,0.6s,4μm							
MTN	**Manton Dam**	**6.55**	**174**	P	**Pn**	**15 04 29.4**	**+1.0**
baz=6.4,SNR=36							
KDU	**Kakadu**	**6.66**	**163**	P	**Pn**	**15 04 31.4**	**+1.6**
baz=6.5,SNR=105							
KDU				S	**Sn**	**15 05 42.3**	**-3.3**
baz=6.5,SNR=8.2							
SOEI	**Soe**	**7.05**	**240**	P	Pn	15 04 38.9	+3.9
SOEI	**Soe**	**7.05**	**240**	P	**Pn**	**15 04 36.3**	**+1.3**
baz=7.0,SNR=3.2							
SOEI				S	**Sn**	**15 05 54.6**	**-0.3**
baz=7.0,SNR=3.4							
KNRA	**Kununurra**	**9.49**	**190**	P	**Pn**	**15 05 06.9**	**+0.1**
baz=9.4,SNR=69							
KNRA				S	Sn	15 06 45.5	-7.2
baz=9.4,SNR=5.2							
MMPI	**Merauke**	**10.06**	**103**	S	Sn	15 06 58.8	-7.8
baz=10.0,SNR=3.7							
FITZ	**Fitzroy Crossi**	**12.66**	**201**	P	**Pn**	**15 05 48.7**	**+0.9**
baz=13,SNR=7.2							
FITZ				S	Sn	15 07 58.0	-11
baz=13,SNR=4.9							
COEN	**Coen**	**14.64**	**122**	S	**Sn**	**15 08 54.7**	**-1.3**
baz=14,SNR=5.0							
MANU	**Manus Island**	**17.36**	**77**	S	Sn	15 10 33.2	+32
baz=17,SNR=3.8							
LHI	**Lord Howe Isla**	**36.68**	**137**	S	**S**	**15 15 11.1**	**-1.3**
baz=37,SNR=3.6							

*IDC **29** 15:41:11.9±0.5, 3°.70N×126°.57E, h0km, mb4.5/24, mb1 4.6/24, mb1mx4.5/29, mbtmp4.5/24, MS3.6/10, Ms1 3.7/10, ms1mx3.3/31, Error ellipse: s-maj=24.8km s-min=9.6km az=72.0*

*BJI **29** 15:41:13.9, 3°.59N×126°.64E, h31km, mB5.1/26, mb4.7/36, Ms4.3/23, Ms7 4.0/24*

*ISCJB **29** 15:41:15.5±0.2, 3°.90N±0°.03×126°.84E±0°.04, h33km, mb4.8/54, MS3.7/18, Error ellipse: s-maj=6.2km s-min=3.4km az=162.1*

*NEIC **29** 15:41:15.2±3.1, 3°.90N×126°.79E, h25km±22km, mb4.7/15, Error ellipse: s-maj=14.3km s-min=6.7km az=70.0*

*AUST **29** 15:41:23.3±0.4, 3°.59N×126°.90E, h90km, Error ellipse: s-maj=1.1km s-min=1.0km az=18.0*

*DJA **29** 15:41:25.2±0.7, 4°N±5°×12°7E±°, h92km±8km, M4.7/19, mB5.2/10, mb4.8/19, MLv4.9/6, Mw(mB)4.5/10*

ISC 29 15:41:16.7±0.5, 3°.88N±0°.04×126°.75E±0°.06, h33km±2km, n173, σ1949/165, mb4.7/53, MS3.6/19, 3C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.83**	**321**	*e*P	**Pb**	**15 42 03.6**	**-3.1**
MATI	**Mati**	**3.08**	**351**	*e*P	Pb	15 42 12.4	+1.5
MATI				*e*S	Sn	15 42 30.4	-8.5
TNTI	**Ternate**	**3.15**	**169**	*e*Pn	**Pn**	**15 42 03.2**	**-0.9**
TNTI	**Ternate**	**3.15**	**169**	P	**Pn**	**15 42 05.3**	**+1.2**
TNTI				S	**Sn**	**15 42 40.7**	**+0.1**
TNTI	**Ternate**	**3.15**	**169**	P	**Pn**	**15 42 05.1**	**+1.0**
385nm,0.8s,8μm2.5nm							
DMPH	**Davao City--Mi**	**3.41**	**339⇑**	*e*P	**Pb**	**15 42 15.4**	**-1.1**
KCP	**Kidapawan**	**3.52**	**332⇓**	*e*P	Pb	15 42 15.0	-3.4
KCP				*i* S	**Sb**	**15 42 59.9**	**-0.8**
BUKP	**Musuan**	**4.31**	**337**	*e*P	Pb	15 42 26.5	-5.3
LBMI	**Labuha**	**4.55**	**170**	P	**Pn**	**15 42 25.6**	**+2.2**
GTOI	**Gorontalo**	**4.94**	**229**	P	**Pn**	**15 42 30.9**	**+2.3**
CGP	**Cagayan de Oro**	**4.98**	**336⇓**	*e*P	Pb	15 42 35.4	-7.9
CGP				*e*S	**Sb**	**15 43 43.6**	**+0.9**
PAGZ	**Pagadian**	**5.17**	**320**	*e*P	Pn	15 42 37.9	+6.0
BUTP	**Butuan**	**5.18**	**348**	*e*P	Pb	15 42 39.7	-6.8
IPIL	**Ipil**	**5.69**	**313**	*e*P	Pn	15 42 43.5	+4.5
MRSI	**Marisa**	**5.88**	**235**	P	Pn	15 42 44.7	+3.1
260nm,0.9s,3μm1.1nm							
LUWI	**Luwuk**	**6.30**	**219**	P	Pn	15 42 53.7	+6.3
445nm,0.9s,4μm1.5nm							
LUWI	**Luwuk**	**6.30**	**219**	P	Pn	15 42 52.4	+5.0
baz=6.2,SNR=10							
SWI	**Sorong**	**6.52**	**136**	P	Pn	15 42 53.4	+3.0
206nm,0.8s,2μm0.8nm							
SWI	**Sorong**	**6.52**	**136**	P	Pn	15 42 52.9	+2.5
206nm,0.8s,2μm							
SWI	**Sorong**	**6.52**	**136**	P	Pn	15 42 53.2	+2.8
baz=6.2,SNR=28							
MYLDM	**Lahad Datu**	**8.32**	**279**	P	Pn	15 43 21.1	+5.9
MYLDM	**Lahad Datu**	**8.32**	**279**	P	Pn	15 43 22.0	+6.8
126nm,1.1s,1μm							
SKSI	**Soroako, Sulaw**	**8.36**	**220**	P	Pn	15 43 19.6	+3.9
64nm,0.7s,2μm							
PALU	**Palau**	**8.42**	**66**	P	Pn	15 43 20.6	+4.1
baz=8.4,SNR=12							
FAKI	**Fak Fak**	**8.71**	**141**	P	Pn	15 43 23.0	+2.5
baz=8.4,SNR=32							
TSM	**Tawau**	**8.86**	**273**	P	Pn	15 43 26.6	+4.0
TTSI	**Tana Toraja**	**9.76**	**225**	P	Pn	15 43 41.3	+6.3
61nm,1.0s,583nm							
SPSI	**Sidrap Palu**	**10.46**	**222**	P	Pn	15 43 49.0	+4.5
28nm,1.1s,420nm							
BAKI	**Biak**	**10.62**	**118**	P	Pn	15 43 52.9	+6.2
98nm,1.1s,1μm							
BAKI	**Biak**	**10.62**	**118**	P	Pn	15 43 51.7	+5.0
TLE	**Tual**	**11.19**	**148**	P	Pn	15 43 58.4	+3.9
56nm,2.4s							
TLE	**Tual**	**11.19**	**148**	P	Pn	15 43 58.2	+3.8
baz=11,SNR=3.4							
KAPI	**Kappang**	**11.27**	**218**	LR	LR	15 48 43.3	
comp=Z,426nm,19.8s,baz=217,slow=41							
MMRI	**Maumere**	**13.22**	**200**	P	**P**	**15 44 29.0**	**-2.8**
BTM	**Bintulu**	**13.66**	**268**	P	P	15 44 33.7	-3.0
BATI	**Baumata**	**14.33**	**192**	Pn	**Pn**	**15 44 38.9**	**+1.4**
BATI	**Baumata**	**14.33**	**192**	Pn	**Pn**	**15 44 38.9**	**+1.4**
1.4nm,0.3s,baz=90,slow=20,SNR=6.2							
SBUM	**Sibu**	**14.58**	**265**	*e*Pn	**Pn**	**15 44 41.8**	**+1.0**
SBUM	**Sibu**	**14.58**	**265**	P	**P**	**15 44 46.3**	**-0.6**
SBUM	**Sibu**	**14.58**	**265**	P	**P**	**15 44 46.6**	**-0.3**
40nm,1.1s							
JAY	**Jayapura**	**15.33**	**114**	P	**P**	**15 44 56.5**	**+1.3**
JAY	**Jayapura**	**15.33**	**114**	P	**P**	**15 44 55.4**	**+0.2**
STKI	**Sintang**	**15.72**	**256**	P	**P**	**15 45 02.2**	**+2.6**
33nm,1.3s,5μm							
SRBI	**Singaraja**	**16.55**	**224**	P	**P**	**15 45 09.7**	**+1.0**
68nm,1.2s							
KSM	**Kuching**	**16.60**	**262**	*e*Pn	**Pn**	**15 45 07.4**	**+0.3**
53nm,1.1s							
KSM	**Kuching**	**16.60**	**262**	P	**P**	**15 45 11.7**	**+2.4**
KSM	**Kuching**	**16.60**	**262**	P	**P**	**15 45 11.5**	**+2.2**
46nm,1.1s							
KSM	**Kuching**	**16.60**	**262**	P	**P**	**15 45 11.7**	**+2.4**
baz=17,SNR=11							
MTN	**Manton Dam**	**17.18**	**165**	P	**Pn**	**15 45 11.3**	**-3.1**
baz=17,SNR=14							
KDU	**Kakadu**	**17.42**	**161**	P	**Pn**	**15 45 16.3**	**-1.0**
baz=17,SNR=12							
KNRA	**Kununurra**	**19.54**	**174**	P	**P**	**15 45 40.7**	**-1.0**
baz=19,SNR=32							
TWG	**Pinlang**	**19.61**	**344**	*e*P	**P**	**15 45 40.6**	**-1.8**
75nm,1.2s							
TPUB	**Ta-p

KSRS			LR	LR	16 03 03.8	
	comp=Z,64nm,19.5s,baz=185,slow=39					
MJAR	**Matsushiro Arr**	**34.17 17**	LR	LR	16 00 15.0	
	comp=Z,94nm,21.1s,baz=205,slow=33					
XAN	**Xi'an**	**34.29 333**	P	**P**	**15 48 00.5**	**+0.3**
XAN			pP	**pP**	**15 48 11.3**	**+1.6**
XAN			sP	sP	15 48 16.5	+2.9
XAN			pmax	pmax		
	comp=Z,4.0nm,0.8s					
XAN			LR	LR		
	comp=N,72nm,20.5s					
XAN			LR	LR		
	comp=Z,56nm,19.4s					
MORW	**Morawa**	**34.34 197**	P	**P**	**15 48 00.2**	**-0.4**
	baz=34,SNR=5.0					
CD2	**Chengdu**	**34.53 324**	*e*P	**P**	**15 48 03.3**	**+1.0**
CD2			pP	**pP**	**15 48 13.3**	**+1.5**
CD2			sP	sP	15 48 17.5	+1.7
CD2			PP	**PP**	**15 49 20.5**	**-0.5**
CD2			S	**S**	**15 53 29.5**	**+0.3**
CD2			sS	**sS**	**15 53 46.3**	**+1.4**
CD2			SS	**SnSn**	**15 55 43.3**	**+1.1**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CD2			pmax	pmax		
	comp=Z,30nm,4.6s					
CD2			LR	LR		
	comp=N,120nm,12.0s					
CD2			LR	LR		
	comp=Z,140nm,14.3s					
DL2	**Dalian**	**35.17 353**	P	P	15 48 11.8	+4.2
DL2			pmax	pmax		
	comp=Z,65nm,1.0s					
BJI	**Beijing**	**37.24 347**	P	P	15 48 27.8	+2.5
BJI			S	**S**	**15 54 11.0**	**+0.7**
BJI			pmax	pmax		
	comp=Z,55nm,0.8s					
BJI			pmax	pmax		
	comp=Z,130nm,4.0s					
BJI			LR	LR		
	comp=N,130nm,25.2s					
BJI			LR	LR		
	comp=E,160nm,24.4s					
BJI			LR	LR		
	comp=Z,45nm,25.8s					
BBOO	**Buckleboo**	**37.55 167**	P	**P**	**15 48 28.1**	**+0.1**
	baz=37,SNR=6.4					
NWAO	**Narrogin (SRO)**	**37.70 193**	P	**P**	**15 48 28.3**	**-1.0**
NWAO	**Narrogin (SRO)**	**37.70 193**	P	**P**	**15 48 28.3**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=14,slow=7.9,SNR=6.6					
SNY	**Shenyang**	**37.89 356**	⇑P	P	15 48 34.0	+3.3
SNY			pmax	pmax		
	comp=Z,13nm,0.5s					
STKA	**Stephens Creek**	**38.26 159**	*e*P	**P**	**15 48 32.8**	**-1.3**
	comp=Z,26nm,2.3s					
STKA	**Stephens Creek**	**38.26 159**	P	**P**	**15 48 33.9**	**-0.1**
	comp=Z,5.7nm,0.4s,baz=332,slow=8.5,SNR=22					
STKA	**Stephens Creek**	**38.26 159**	P	**P**	**15 48 34.1**	**0.0**
	baz=38,SNR=20					
LZH	**Lanzhou**	**38.38 329**	*e*P	**P**	**15 48 35.3**	**+0.1**
LZH			pP	**pP**	**15 48 45.5**	**+0.7**
LZH			sP	**sP**	**15 48 48.8**	**0.0**
LZH			pmax	pmax		
	comp=Z,29nm,1.3s					
LZH			pmax	pmax		
	comp=Z,140nm,4.5s					
LZH			LR	LR		
	comp=N,61nm,8.3s					
LZH			LR	LR		
	comp=E,160nm,13.3s					
LZH			LR	LR		
	comp=Z,220nm,16.6s					
HHC	**Hu-ho-hao-te**	**39.26 342**	*e*P	**P**	**15 48 42.0**	**-0.4**
HHC			S	**S**	**15 54 41.5**	**+0.4**
HHC			pmax	pmax		
	comp=Z,54nm,0.8s					
HHC			pmax	pmax		
	comp=Z,300nm,5.4s					
CN2	**Changchun**	**39.77 359**	*e*P	**P**	**15 48 46.5**	**0.0**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
SHL	**Shillong**	**39.80 306**	*e*P	**P**	**15 48 48.5**	**+1.2**
USRK	**Ussuriysk Arra**	**40.42 6**	P	**P**	**15 48 53.7**	**+1.8**
	comp=Z,5.1nm,0.8s,baz=194,slow=7.3,SNR=6.4					
MDJ	**Mudanjiang**	**40.65 3**	P	P	15 48 57.3	+3.6
MDJ			pP	pP	15 49 06.0	+2.6
MDJ			pmax	pmax		
	comp=Z,18nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,120nm,3.7s					
MDJ			LR	LR		
	comp=N,36nm,28.0s					
MDJ			LR	LR		
	comp=E,41nm,35.7s					
MDJ			LR	LR		
	comp=Z,54nm,22.9s					
ARMA	**Armidale**	**41.58 147**	P	**P**	**15 49 03.0**	**+1.2**
	baz=41,SNR=7.5					
LSA	**Lhasa**	**42.35 311**	P	**P**	**15 49 09.5**	**+0.9**
GTA	**Gaotai**	**42.98 329**	*e*P	**P**	**15 49 14.0**	**+0.9**
GTA			pP	**pP**	**15 49 24.5**	**+1.7**
GTA			sP	sP	15 49 29.0	+2.3
GTA			PcP	**PcP**	**15 51 04.0**	**+0.8**
GTA			ScP	**ScP**	**15 54 50.5**	**-1.6**
GTA			S	**S**	**15 55 40.5**	**+4.0**
GTA			sS	sS	15 55 59.0	+6.6
GTA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
GTA			pmax	pmax		
	comp=Z,110nm,4.8s					
GTA			LR	LR		
	comp=N,100nm,16.6s					
GTA			LR	LR		
	comp=E,190nm,21.9s					
GTA			LR	LR		
	comp=Z,180nm,18.5s					
TAPN	**Taplejung**	**43.94 306**	*e*P	**P**	**15 49 21.4**	**+0.1**
ODAN	**Odare**	**44.00 305**	*e*P	**P**	**15 49 21.9**	**+0.3**
	comp=Z,21nm,0.8s					
RAMN	**Ramite**	**44.68 305**	*e*P	**P**	**15 49 27.2**	**+0.1**
JIRN	**Jiri**	**45.30 306**	*e*P	**P**	**15 49 32.9**	**+0.7**
GUN	**Gumba**	**45.65 306**	*e*P	**P**	**15 49 35.1**	**+0.2**
PKIN	**Phulchoki**	**45.91 305**	*e*P	**P**	**15 49 36.8**	**-0.1**
KKN	**Kakani**	**46.09 305**	*e*P	**P**	**15 49 38.3**	**+0.1**
DMN	**Daman**	**46.16 305**	*e*P	**P**	**15 49 38.7**	**-0.2**
DZM	**Mont Dzumac**	**46.61 125**	P	**P**	**15 49 43.4**	**+1.2**
DZM	**Mont Dzumac**	**46.61 125**	P	**P**	**15 49 43.4**	**+1.2**
	comp=Z,3.6nm,0.5s,baz=312,slow=12,SNR=8.4					
ULN	**Ulaanbaatar**	**46.98 342**	*e*P	**P**	**15 49 43.1**	**-1.8**
	comp=Z,3.8nm,0.7s					
SONM	**Songino Array**	**47.16 341**	P	**P**	**15 49 47.3**	**+1.1**
SONM			PcP	**PcP**	**15 51 18.8**	**+1.3**
SONM	**Songino Array**	**47.16 341**	P	**P**	**15 49 47.3**	**+1.1**
	comp=Z,3.4nm,1.0s,baz=155,slow=8.6,SNR=16					
SONM			PcP	**PcP**	**15 51 18.7**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=145,slow=5.3,SNR=4.0					
SONM			LR	LR	16 12 24.5	
	comp=Z,74nm,19.2s,baz=157,slow=40					
KOLN	**Koldanda**	**47.45 305**	*e*P	**P**	**15 49 49.2**	**+0.3**
	comp=Z,25nm,0.6s					
DANN	**Dangsing**	**47.54 305**	*e*P	**P**	**15 49 49.8**	**+0.1**
	comp=Z,14nm,0.3s					
WMQ	**Urumqi**	**52.61 325**	*e*P	**P**	**15 50 28.3**	**+0.7**
WMQ			pmax	pmax		
	comp=Z,9.0nm,1.2s					
WMQ			LR	LR		
	comp=N,87nm,28.0s					
WMQ			LR	LR		
	comp=E,66nm,26.0s					
WMQ			LR	LR		
	comp=Z,91nm,23.0s					
PETK	**Petropavlovsk-**	**55.28 22**	P	P	15 50 49.3	+2.4
PETK	**Petropavlovsk-**	**55.28 22**	P	P	15 50 49.3	+2.4
	comp=Z,6.2nm,0.9s,baz=163,slow=1.6,SNR=8.6					
MKAR	**Makanchi Array**	**57.44 325**	*e*P	**P**	**15 51 03.4**	**+1.0**
MKAR	**Makanchi Array**	**57.44 325**	P	**P**	**15 51 02.9**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=119,slow=7.5,SNR=40					
MKAR			LR	LR	16 17 26.4	
	comp=Z,75nm,18.2s,baz=134,slow=38					
KSH	**Kashi**	**57.95 315**	P	**P**	**15 51 08.3**	**+2.0**
KSH			sP	sP	15 51 22.3	+2.2
KSH			PP	**PP**	**15 53 19.3**	**+4.4**
KSH			S	**S**	**15 59 05.0**	**+0.4**
KSH			sS	**sS**	**15 59 21.8**	**+0.8**
KSH			SS	**SS**	**16 02 57.8**	**+1.8**
KSH			pmax	pmax		
	comp=Z,5.0nm,0.7s					
KSH			pmax	pmax		
	comp=Z,92nm,4.4s					
KSH			LR	LR		
	comp=N,57nm,4.4s					
KSH			LR	LR		
	comp=E,93nm,4.3s					
KSH			LR	LR		
	comp=Z,160nm,5.1s					
TKM2	**Tokmak 2**	**59.65 318**	*e*P	**P**	**15 51 17.4**	**-0.7**
	comp=Z,7.6nm,0.8s					
ZALV	**Zalesovo Beam**	**60.46 333**	P	**P**	**15 51 22.7**	**-0.5**
ZALV	**Zalesovo Beam**	**60.46 333**	P	**P**	**15 51 22.7**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=126,slow=5.7,SNR=9.2					
ZALV			LR	LR	16 21 39.0	
	comp=Z,37nm,18.6s,baz=64,slow=40					
EKS2	**Erkin-Say**	**60.75 318**	*e*P	**P**	**15 51 25.1**	**-0.5**
	comp=Z,9.9nm,0.8s					
KBL	**Kabul**	**61.45 307**	*e*P	**P**	**15 51 29.9**	**-0.7**
	comp=Z,7.0nm,0.8s					
KURBB	**Kurchatov Arra**	**61.62 327**	P	**P**	**15 51 31.5**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=129,slow=6.2,SNR=67					
KURK	**Kurchatov**	**61.62 327**	P	**P**	**15 51 31.5**	**+0.4**
KKAR	**Karatay Array**	**63.13 317**	*e*P	**P**	**15 51 42.1**	**+0.6**
VOSK	**Vostochnaya**	**66.75 327**	*e*P	**P**	**15 52 02.5**	**-2.3**
	comp=Z,10.0nm,0.8s					
BVAR	**Borovoye Array**	**67.20 327**	P	**P**	**15 52 08.2**	**+0.5**
BVAR	**Borovoye Array**	**67.20 327**	P	**P**	**15 52 08.2**	**+0.5**
	comp=Z,10nm,0.9s,baz=125,slow=7.8,SNR=36					
BRVK	**Borovoye**	**67.28 327**	*e*P	**P**	**15 52 08.0**	**-0.1**
	comp=Z,18nm,0.9s					
ABKAR	**Akbulak array**	**72.05 321**	*e*P	**P**	**15 52 36.1**	**-1.5**
	comp=Z,5.8nm,0.7s					
RDF	**Al-Radifah**	**78.68 299**	*e*P	**P**	**15 53 15.9**	**-0.2**
RDF			AMb	AMB	15 53 23.2	
	comp=Z,19nm,1.7s					
MIB	**Mutribah**	**78.89 299**	*e*P	**P**	**15 53 16.5**	**-0.8**
MIB			AMb	AMB	15 53 18.5	
	comp=Z,18nm,1.0s					
RST	**Umm Al-Ruwaisa**	**79.18 299**	*e*P	**P**	**15 53 17.9**	**-1.0**
RST			AMb	AMB	15 53 19.8	
	comp=Z,148nm,1.1s					
VNDA	**Vanda**	**83.57 173**	P	**P**	**15 53 41.5**	**+0.4**
VNDA	**Vanda**	**83.57 173**	P	**P**	**15 53 41.5**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=310,slow=6.5,SNR=4.4					
ILAR	**Eielson Array**	**84.96 25**	P	**P**	**15 53 49.7**	**+1.3**
ILAR	**Eielson Array**	**84.96 25**	P	**P**	**15 53 49.7**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=241,slow=4.9,SNR=6.4					
KMBO	**Kilima Mbogo**	**89.57 269**	P	**P**	**15 54 12.3**	**+0.1**
KMBO	**Kilima Mbogo**	**89.57 269**	P	**P**	**15 54 12.3**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=80,slow=4.4,SNR=6.7					
EIL	**Elat**	**89.66 300**	P	**P**	**15 54 12.6**	**+0.7**
EIL	**Elat**	**89.66 300**	P	**P**	**15 54 12.6**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=45,slow=5.7,SNR=5.4					
BRTR	**Keskin Array B**	**89.94 310**	P	**P**	**15 54 12.8**	**-0.4**
BRTR	**Keskin Array B**	**89.94 310**	P	**P**	**15 54 12.8**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=119,slow=4.5,SNR=17					
ARCES	**ARCESS Array B**	**90.31 340**	P	**P**	**15 54 14.8**	**+0.6**
ARCES	**ARCESS Array B**	**90.31 340**	P	**P**	**15 54 14.8**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=64,slow=8.2,SNR=5.8					
FINES	**FINESS Array B**	**91.71 332**	P	**P**	**15 54 21.0**	**+0.3**
FINES	**FINESS Array B**	**91.71 332**	P	**P**	**15 54 21.0**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=32,slow=5.4,SNR=6.4					
FINES			LR	LR	16 40 52.2	
	comp=Z,49nm,18.3s,baz=236,slow=39					
AKASG	**Malin Array Be**	**91.79 321**	P	**P**	**15 54 21.4**	**0.0**
AKASG	**Malin Array Be**	**91.79 321**	P	**P**	**15 54 21.4**	**0.0**
	comp=Z,5.1nm,0.9s,baz=72,slow=4.6,SNR=5.1					
KOLS	**Kolonicke sedl**	**96.54 320**	*e*P	**P**	**15 54 42.0**	**-1.2**
CRVS	**Cervenica-Dubn**	**97.07 320**	*e*P	Pdif	15 54 47.1	+1.4
KECS	**Kecovo**	**97.80 320**	*e*P	Pdif	15 54 49.5	+0.5
NOA	**NORSAR Array B**	**98.66 334**	P	Pdif	15 54 52.5	0.0
NOA	**NORSAR Array B**	**98.66 334**	P	Pdif	15 54 52.5	0.0
	comp=Z,2.1nm,0.8s,baz=66,slow=4.5,SNR=3.7					
NOA			LR	LR	16 42 49.9	
	comp=Z,38nm,20.2s,baz=355,slow=38					
VYHS	**Vyhne**	**98.85 320**	PDIF	Pdif	15 54 54.8	+1.1
NVAR	**Mina Array Bea**	**106.79 48**	PKKPab	PKKPab	16 11 07.9	-6.4
NVAR	**Mina Array Bea**	**106.79 48**	PKKPab	PKKPab	16 11 07.9	-6.4
	comp=Z,0.2nm,0.6s,baz=126,slow=4.6,SNR=2.1					
PDAR	**Pinedale Array**	**111.23 41**	PKKPab	PKKPab	16 10 52.9	-1.7
PDAR	**Pinedale Array**	**111.23 41**	PKKPab	PKKPab	16 10 52.9	-1.7
	comp=Z,0.8nm,1.0s,baz=111,slow=5.1,SNR=5.4					
TORD	**Torodi Ar. Bea**	**122.89 288**	PKP	**PKPdf**	**16 00 09.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**122.89 288**	PKP	**PKPdf**	**16 00 09.5**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=54,slow=1.8,SNR=5.1					

KRSC 29 15:46:22.2±1.3, 49°.67N×156°.68E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.08**	**341**	*e*P	Pn	15 46 43.8	-0.1
SKR				*i* S	Sn	15 46 59.7	+0.5
PAU	**Pauzhetka**	**1.80**	**3**	*e*P	Pb	15 46 55.1	-0.6
PAU				*i* S	Sb	15 47 19.0	+0.5
MIPR	**Malaya Ipel'ka**	**2.61**	**1**	*e*P	Pn	15 47 06.1	+1.1
ASAK	**Asacha**	**2.82**	**15**	*e*P	Pn	15 47 09.6	+1.5
RUS	**Russkaya**	**3.00**	**22**	*e*P	Pn	15 47 11.4	+1.1
RUS				*i* S	Sn	15 47 46.7	+0.1

NIED ***29*** *15:46:00, 41°.20N×142°.60E, h38km, Mw3.7 Best double couple: M*o*3.38000×10^14 NP1:*ϕ*s229.00000°, δ66.00000°, λ42.00000°. NP2:*ϕ*s119.00000°, δ52.00000°, λ149.00000°.*
JMA ***29*** *15:46:26.9±0.2, 41°.16N×142°.63E, h25km±4km, M3.7*
ISCJB ***29*** *15:46:27.8±0.6, 41°.17N±0°.04×142°.63E±0°.07, h49km±7km, mb3.6/7, Error ellipse: s-maj=9.3km s-min=5.2km az=34.0*
IDC ***29*** *15:46:30.9±2.2, 41°.12N×142°.68E, h63km±21km, mb3.3/7, mb1 3.4/9, mb1mx3.3/28, mbtmp3.4/9, Error ellipse: s-maj=37.9km s-min=14.4km az=87.0*

ISC 29 15:46:28.9±1.3, 41°.17N±0°.05×142°.60E±0°.06, h40km±14km, n19, σ1s29/27, mb3.7/7, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.94**	**26**	⇓P	**Pn**	**15 46 44.0**	**-1.6**
JEM				*e*S	**Sn**	**15 46 56.2**	**-1.6**
JNBK	**Urakawa-nobuka**	**1.11**	**6**	⇓P	**Pn**	**15 46 47.1**	**-0.8**
JANG	**Nango**	**1.15**	**226**	⇑P	**Pn**	**15 46 47.3**	**-1.2**
JOT	**Ohata**	**1.19**	**281**	⇑P	**Pn**	**15 46 48.3**	**-0.7**
JOT				*e*S	**Sn**	**15 47 03.5**	**-0.4**
JTM	**Tenmabayashi**	**1.22**	**252**	⇑P	**Pn**	**15 46 49.3**	**-0.2**
JTM				*e*S	**Sn**	**15 47 05.4**	**+0.6**
JKB	**Kayabe**	**1.38**	**302**	P	**Pn**	**15 46 50.6**	**-1.0**
JKB				*e*S	**Sn**	**15 47 07.8**	**-0.8**
JCH	**Churui**	**1.55**	**21**	P	**Pn**	**15 46 53.7**	**-0.2**
JCH				*e*S	**Sn**	**15 47 13.3**	**+0.5**
JEW	**Eniwo**	**1.87**	**333**	P	**Pn**	**15 46 58.5**	**+0.1**
JEW				*e*S	**Sn**	**15 47 21.6**	**+0.8**
JOM	**Ohasama**	**1.97**	**211**	P	**Pn**	**15 46 59.9**	**+0.1**
JOM				*e*S	**Sn**	**15 47 23.9**	**+0.7**
JFR	**Furan**	**1.99**	**360**	P	**Pn**	**15 47 00.3**	**+0.3**
ASAJ	**Asahikawa**	**2.94**	**360**	P	**Pn**	**15 47 14.6**	**+1.5**
ASAJ				S	**Sn**	**15 47 51.5**	**+4.4**
	baz=15,slow=20,SNR=3.9						
MJAR	**Matsushiro Arr**	**5.76**	**218**	P	**Pn**	**15 47 53.8**	**+2.0**
	0.4nm,0.3s,baz=34,slow=13,SNR=14						
ZALV	**Zalesovo Beam**	**39.92**	**309**	P	**P**	**15 53 59.2**	**+0.4**
	0.6nm,0.4s,baz=87,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**42.83**	**299**	P	**P**	**15 54 22.8**	**0.0**
	0.3nm,0.6s,baz=82,slow=8.4,SNR=2.2						
KURBB	**Kurchatov Arra**	**44.29**	**305**	P	**P**	**15 54 34.3**	**-0.1**
	0.5nm,0.4s,baz=79,slow=8.6,SNR=3.7						
BVAR	**Borovoye Array**	**48.55**	**310**	P	**P**	**15 55 08.5**	**+0.7**
	0.4nm,0.4s,baz=77,slow=6.2,SNR=2.7						
WRA	**Warramunga Arr**	**61.29**	**189**	P	**P**	**15 56 39.4**	**-0.7**
	0.5nm,0.9s,baz=5.6,slow=6.9,SNR=4.2						
ASAR	**Alice Springs**	**65.01**	**189**	P	**P**	**15 57 04.2**	**-0.6**
	0.3nm,0.8s,baz=7.8,slow=7.5,SNR=3.3						
FINES	**FINESS Array B**	**65.59**	**332**	P	**P**	**15 57 07.8**	**-0.4**
	1.0nm,0.9s,baz=38,slow=7.0,SNR=2.3						

ISCJB ***29*** *15:57:26.5±1.1, 43°.90N±0°.07×128°.2W±0°.1, h10km, mb3.5/4, MS3.2/1, Error ellipse: s-maj=12.8km s-min=8.6km az=144.2*
IDC ***29*** *15:57:26.3±1.6, 43°.85N×128°.17W, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.6/31, mbtmp3.6/9, ML3.5/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=37.0km s-min=15.0km az=45.0*
NEIC ***29*** *15:57:28.0±1.1, 43°.89N×128°.18W, h10km, ML3.2, Error ellipse: s-maj=13.5km s-min=8.9km az=54.0*

ISC 29 15:57:28.2±1.2, 43°.91N±0°.09×128°.3W±0°.1, h10km, n110, σ0s98/89, mb3.7/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COR	**Corvallis**	**3.63**	**78**	*e*Pn	**Pn**	**15 58 23.3**	**-1.2**
F03A	**Seaside**	**3.91**	**57**	*e*Pn	**Pn**	**15 58 27.2**	**-1.1**
HUMO	**Hull Mountain**	**4.09**	**107**	*e*Pn	**Pn**	**15 58 28.9**	**-1.9**
E03A	**Lebam**	**4.24**	**50**	*e*Pn	**Pn**	**15 58 31.7**	**-1.2**
BMW	**Boistfort Moun**	**4.39**	**52**	P	**Pn**	**15 58 34.3**	**-0.7**
H04A	**Detroit Lake**	**4.43**	**78**	*e*Pn	**Pn**	**15 58 34.2**	**-1.3**
F04A	**Amboy**	**4.62**	**62**	P	**Pn**	**15 58 38.1**	**+0.1**
YBH	**Yreka Blue Hor**	**4.63**	**116**	Pn	**Pn**	**15 58 37.1**	**-1.2**
YBH	**Yreka Blue Hor**	**4.63**	**116**	Pn	**Pn**	**15 58 37.2**	**-1.2**
	0.7nm,0.3s,baz=306,slow=12,SNR=9.6						
YBH				LR	LR	16 00 26.4	
	comp=Z,348nm,20.0s,baz=82,slow=40						
NLWA	**Neilton Lookou**	**4.65**	**40**	*e*Pn	**Pn**	**15 58 37.6**	**-1.0**
LVP	**Lakeview Peak**	**4.69**	**61**	P	**Pn**	**15 58 39.3**	**+0.3**
FL2	**Flat Top 2**	**4.78**	**59**	P	**Pn**	**15 58 40.2**	**-0.2**
MTMW	**Mount Mitchell**	**4.79**	**62**	P	**Pn**	**15 58 40.6**	**+0.1**
STD	**Studebaker Rid**	**4.87**	**59**	P	**Pn**	**15 58 41.9**	**+0.3**
VLL	**Laurance Lake**	**4.95**	**69**	P	**Pn**	**15 58 43.3**	**+0.6**
ASR	**Mount Adams--S**	**5.24**	**62**	P	**Pn**	**15 58 47.1**	**+0.5**
PINOR	**Pine Mountain**	**5.35**	**88**	*e*Pn	**Pn**	**15 58 48.3**	**+0.2**
LON	**Longmire**	**5.37**	**56**	*e*Pn	**Pn**	**15 58 47.2**	**-1.2**
D05A	**Enumclaw**	**5.50**	**51**	*e*Pn	**Pn**	**15 58 48.1**	**-2.0**
WPW	**White Pass**	**5.50**	**57**	P	**Pn**	**15 58 50.6**	**+0.4**
K05A	**Summer Lake**	**5.51**	**100**	*e*Pn	**Pn**	**15 58 50.1**	**-0.4**
GSM	**Grass Mountain**	**5.61**	**52**	P	**Pn**	**15 58 52.1**	**+0.3**
LTY	**Liberty**	**6.30**	**55**	*e*Pn	Pn	15 58 57.0	-4.1
I07A	**Izee**	**6.33**	**85**	*e*Pn	Pn	15 58 57.7	-3.9
G08A	**Pilot Rock**	**6.79**	**75**	*e*Pn	**Pn**	**15 59 06.2**	**-1.7**
F10A	**Beach Ranch, E**	**8.10**	**71**	*e*Pn	Pn	15 59 31.3	+5.3
BBB	**Bella Bella**	**8.28**	**1**	Pn	**Pn**	**15 59 29.3**	**+1.0**
BBB	**Bella Bella**	**8.28**	**1**	Pn	**Pn**	**15 59 29.3**	**+1.0**
NVAR	**Mina Array Bea**	**9.29**	**123**	Pn	**Pn**	**15 59 42.4**	**0.0**
NVAR	**Mina Array Bea**	**9.29**	**123**	Pn	**Pn**	**15 59 42.4**	**0.0**
	0.1nm,0.3s,baz=298,slow=14,SNR=12						
PDAR	**Pinedale Array**	**13.67**	**88**	Pn	Pn	16 00 45.0	+2.7
PDAR	**Pinedale Array**	**13.67**	**88**	Pn	Pn	16 00 45.0	+2.7
	0.0nm,0.3s,baz=285,slow=11,SNR=2.9						
PFO	**Pinyon Flat Ob**	**13.79**	**134**	LR	LR	16 04 41.7	
	comp=Z,68nm,20.6s,baz=329,slow=32						
C19A	**Slack Wire Ran**	**13.93**	**67**	P	Pn	16 00 48.0	+2.3
	baz=14						
B19A	**Brinkman Farms**	**14.13**	**64**	P	P	16 00 51.8	-4.3
	baz=14						
O22A	**Kremmling**	**16.56**	**96**	P	**P**	**16 01 22.3**	**-1.0**
	baz=16,SNR=7.0						
S21A	**Coal Bank Pass**	**16.70**	**105**	P	**P**	**16 01 23.0**	**-1.9**
	baz=17						
H24A	**Dirks Ranch, A**	**16.98**	**79**	P	**P**	**16 01 26.7**	**-1.1**
	baz=17						
S22A	**4UR Ranch, Cre**	**17.33**	**103**	P	**P**	**16 01 31.3**	**-0.6**
	baz=17						
U21A	**Nageezi**	**17.41**	**108**	P	**P**	**16 01 33.5**	**+0.8**
	baz=17,SNR=6.6						
Q23A	**Hartsel**	**17.54**	**99**	P	**P**	**16 01 33.7**	**-0.5**
	baz=17						
T22A	**Edith**	**17.63**	**106**	P	**P**	**16 01 36.1**	**+0.9**
	baz=18,SNR=8.5						
I25A	**Rochford**	**17.65**	**81**	P	**P**	**16 01 35.3**	**0.0**
	baz=18						
R23A	**Moffat**	**17.84**	**101**	P	**P**	**16 01 38.5**	**+1.0**
	baz=18						
U22A	**Llaves**	**17.99**	**107**	P	**P**	**16 01 40.9**	**+1.9**
	baz=18						
V22A	**San Miguel Ran**	**18.19**	**109**	P	**P**	**16 01 42.3**	**+1.0**
	baz=18						
J26A	**Sides Ranch, S**	**18.24**	**83**	P	**P**	**16 01 42.5**	**+0.9**
	baz=18						
X21A	**Alamocita Cree**	**18.44**	**114**	P	**P**	**16 01 45.8**	**+1.8**
	baz=18						
U23A	**El Rito**	**18.47**	**107**	P	**Pn**	**16 01 46.3**	**+1.8**
	baz=18						
P25A	**Willow Gulch B**	**18.50**	**95**	P	**Pn**	**16 01 46.5**	**+1.7**
	baz=18						
S24A	**Houchin Ranch,**	**18.52**	**102**	P	**Pn**	**16 01 46.8**	**+1.7**
	baz=18						
Y21A	**Point of Rocks**	**18.78**	**115**	P	**Pn**	**16 01 50.7**	**+2.5**
	baz=19						
ANMO	**Albuquerque**	**19.04**	**111**	LR	LR	16 09 02.7	
	comp=Z,100nm,18.7s,baz=297,slow=37						
S25A	**Robets Cordova**	**19.06**	**101**	P	**Pn**	**16 01 52.3**	**+0.7**
	baz=19						
Q26A	**Hugo**	**19.19**	**97**	P	**Pn**	**16 01 54.4**	**+1.3**
	baz=19						
T25A	**Trinidad**	**19.32**	**102**	P	**Pn**	**16 01 56.3**	**+1.6**
	baz=19						
V24A	**Rampart Ranch,**	**19.42**	**107**	P	**Pn**	**16 01 57.3**	**+1.4**
	baz=19						
R26A	**Arlington**	**19.49**	**98**	P	**Pn**	**16 01 56.2**	**-0.4**
	baz=19,SNR=6.3						
319A	**Douglas**	**19.50**	**124**	P	**Pn**	**16 01 57.3**	**+0.5**
	baz=19						
220A	**Playas Peak, P**	**19.60**	**121**	P	**Pn**	**16 01 57.7**	**-0.3**
	baz=20						
W24A	**Lazy 6 Ranch,**	**19.60**	**109**	P	**Pn**	**16 01 58.6**	**+0.5**
	baz=20						
121A	**Cookes Peak, D**	**19.64**	**118**	P	**Pn**	**16

0.6nm,0.9s,baz=187,slow=8.6,SNR=4.4
626A Big Bend Ranch 23.96 119 P P 16 02 42.3 -0.4
baz=24
329A Wagon Wheel Ra 24.10 112 P P 16 02 43.5 -0.5
baz=24
428A Kincaid Ranch, 24.12 114 P P 16 02 44.1 -0.1
baz=24
TXAR Lajitas Array 24.40 118 P P 16 02 45.8 -1.1
TXAR Lajitas Array 24.40 118 P P 16 02 45.8 -1.1
0.9nm,0.7s,baz=297,slow=7.2,SNR=11
TXAR LR LR 16 12 49.2
comp=Z,70nm,18.8s,baz=180,slow=38
528A Cox Ranch, San 24.41 116 P P 16 02 46.3 -0.7
baz=24
627A Terlingua Ranc 24.50 118 P P 16 02 47.6 -0.2
baz=24
429A Davenport Ranc 24.70 114 P P 16 02 49.2 -0.4
baz=25
Z32A Haskell 24.75 106 P P 16 02 49.7 -0.1
baz=25
529A Stev Forest Ra 24.81 115 P P 16 02 50.5 0.0
baz=25
430A Baggett Ranch, 25.04 112 P P 16 02 52.5 -0.1
baz=25
232A Coleman 25.44 108 P P 16 02 56.4 +0.2
baz=25
531A Rocksprings 25.89 113 P P 16 03 00.3 0.0
baz=26
SONM Songino Array 76.76 326 P P 16 09 19.8 0.0
SONM Songino Array 76.76 326 P P 16 09 19.8 0.0
0.3nm,0.2s,baz=53,slow=5.6,SNR=3.7

---

*ISCJB **29** 16:21:47.0±0.4,21°.28S±0°.04×68°.66W±0°.08,h117km±7km, mb4.2/5,Error ellipse: s-maj=12.4km s-min=6.5km az=176.8*
*NEIC **29** 16:21:47.6±1.0,21°.37S×68°.59W,h105km±9km,mb4.1/3, Error ellipse: s-maj=15.3km s-min=7.9km az=93.0*
*IDC **29** 16:21:47.7±2.2,21°.40S×68°.57W,h104km±19km,mb4.0/5, mb1 4.0/9,mb1mx3.7/20,mbtmp3.9/9,MS3.0/1,Ms1 3.0/1, ms1mx2.3/31,Error ellipse: s-maj=24.1km s-min=19.3km az=99.0*
*GUC **29** 16:21:49.0±0.5,21°.26S×68°.96W,h121km±3km,ML4.3*
ISC 29 16:21:47.8±0.6,21°.28S±0°.05×68°.64W±0°.07,h108km±6km, n40,σ1§07/45,mb4.1/5,6C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.76**	**227**	⇑*i*P	**Pn**	**16 22 08.3**	**+1.5**
PB09				*i* S	**Sn**	**16 22 22.9**	**+2.0**
PB09				AML	AML	16 22 25.1	
	comp=N,17μm,0.7s						
PB01	**Plate Boundary**	**0.82**	**286**	⇑*i*P	**Pn**	**16 22 07.9**	**+0.7**
PB01				*i* S	**Sn**	**16 22 21.8**	**0.0**
PB01				AML	AML	16 22 22.9	
	comp=E,13μm,0.8s						
PB07	**Plate Boundary**	**1.24**	**249**	⇑*i*P	**Pn**	**16 22 12.0**	**+0.3**
PB07				*i* S	**Sn**	**16 22 29.0**	**-0.8**
PB07				AML	AML	16 22 31.4	
	comp=N,4μm,0.7s						
PB04	**Plate Boundary**	**1.26**	**218**	*i* P	Pn	16 22 17.8	+6.1
PB04				*i* S	Sn	16 22 39.7	+10
PB04				AML	AML	16 22 45.7	
	comp=N,2μm,0.4s						
MACH	**Maria Elena**	**1.38**	**228**	⇑*i*P	**Pn**	**16 22 13.9**	**+0.5**
MACH				*i* S	**Sn**	**16 22 33.0**	**+0.3**
HMBC	**Humberstone**	**1.53**	**310**	⇑*i*P	**Pn**	**16 22 14.9**	**-0.2**
HMBC				*i* S	**Sn**	**16 22 34.8**	**-1.0**
HMBC				AML	AML	16 22 36.6	
	comp=N,6μm,0.3s						
PSGC	**Pisagua**	**2.17**	**320**	⇑*i*P	**Pn**	**16 22 22.4**	**-0.7**
PSGC				*i* S	**Sn**	**16 22 48.2**	**-1.8**
PSGC				AML	AML	16 22 54.7	
	comp=E,2μm,0.5s						
MNMC	**Minimini**	**2.32**	**337**	⇓*i*P	**Pn**	**16 22 25.7**	**+0.6**
MNMC				*i* S	**Sn**	**16 22 53.9**	**+0.3**
MNMC				AML	AML	16 22 56.9	
	comp=N,3μm,0.5s						
CEN1	**Los Morros**	**2.55**	**214**	AML	AML	16 23 03.3	
	comp=N,522nm,0.6s						
PB10	**Plate Boundary**	**2.84**	**218**	AML	AML	16 23 02.5	
	comp=E,2μm,0.5s						
LPAZ	**La Paz**	**4.99**	**6**	P	**Pn**	**16 23 03.2**	**+2.1**
LPAZ	**La Paz**	**4.99**	**6**	P	**Pn**	**16 23 03.2**	**+2.1**
	comp=E,3.1nm,0.3s,baz=177,slow=17,SNR=24						
SIV	**San Ignacio**	**8.90**	**55**	P	**Pn**	**16 23 53.0**	**-0.5**
SIV				S	Sn	16 25 26.6	-5.5
SIV	**San Ignacio**	**8.90**	**55**	P	**Pn**	**16 23 53.0**	**-0.5**
	comp=E,7.3nm,0.3s,baz=255,slow=13,SNR=50						
SIV				S	Sn	16 25 26.6	-5.5
	comp=E,0.2nm,0.3s,baz=316,slow=23,SNR=5.2						
CFAA	**Coronel Fontan**	**10.29**	**178**	P	**Pn**	**16 24 09.7**	**-2.8**
CFAA				S	Sn	16 25 57.8	-8.1
CFAA	**Coronel Fontan**	**10.29**	**178**	P	**Pn**	**16 24 09.7**	**-2.8**
	comp=E,0.2nm,0.3s,baz=2.0,slow=15,SNR=6.4						
CFAA				S	Sn	16 25 57.8	-8.1
	comp=E,0.1nm,0.3s,baz=178,slow=16,SNR=5.7						
CPUP	**Villa Florida**	**11.51**	**118**	P	**Pn**	**16 24 27.5**	**-1.3**
CPUP	**Villa Florida**	**11.51**	**118**	P	**Pn**	**16 24 27.5**	**-1.3**
	comp=E,1.4nm,0.3s,baz=281,slow=15,SNR=12						
SAML	**Samuel**	**13.34**	**24**	*e*Pn	**Pn**	**16 24 53.6**	**+0.7**
TRQA	**Tornquist**	**17.68**	**162**	*e*P	**Pn**	**16 25 47.4**	**+0.1**
	comp=E,18nm,1.4s						
PLCA	**Paso Flores**	**19.46**	**184**	*e*P	**P**	**16 26 05.3**	**-0.7**
	comp=E,4.1nm,0.7s						
PLCA	**Paso Flores**	**19.46**	**184**	P	**P**	**16 26 06.0**	**-0.1**
	comp=E,0.2nm,0.3s,baz=8.1,slow=11,SNR=5.7						
BDFB	**Brasilia**	**20.35**	**77**	P	**P**	**16 26 16.1**	**+0.2**
	comp=E,20nm,0.4s,baz=264,slow=9.6,SNR=18						
ROSC	**El Rosal**	**26.57**	**347**	LR	LR	16 38 40.9	
	comp=E,27nm,18.1s,baz=214,slow=38						
RCBR	**Riachuelo**	**35.23**	**69**	*e*P	**P**	**16 28 32.6**	**+0.5**
	comp=E,37nm,0.7s						
SJG	**San Juan**	**39.22**	**4**	*e*P	**P**	**16 29 04.8**	**-0.8**
DBIC	**Dimbokro**	**68.43**	**73**	*e*P	**P**	**16 32 38.2**	**-0.3**
	comp=E,4.7nm,0.6s						
DBIC	**Dimbokro**	**68.43**	**73**	P	**P**	**16 32 39.0**	**+0.5**
	comp=E,5.6nm,0.8s,baz=204,slow=9.7,SNR=3.4						
NVAR	**Mina Array Bea**	**75.47**	**322**	P	**P**	**16 33 21.6**	**+1.2**
NVAR	**Mina Array Bea**	**75.47**	**322**	P	**P**	**16 33 21.6**	**+1.2**
	comp=E,0.6nm,0.8s,baz=152,slow=6.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**16 33 29.5**	**0.0**
TORD				pP	**pP**	**16 33 57.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.05**	**70**	P	**P**	**16 33 29.5**	**0.0**
	comp=E,1.6nm,0.5s,baz=256,slow=5.2,SNR=20						
TORD				pP	**pP**	**16 33 57.6**	**+0.4**
	comp=E,1.5nm,0.8s,baz=248,slow=5.6,SNR=4.2						
YKA	**Yellowknife Ar**	**91.06**	**340**	P	**P**	**16 34 39.9**	**+0.4**
YKA	**Yellowknife Ar**	**91.06**	**340**	P	**P**	**16 34 39.9**	**+0.4**
	comp=E,0.6nm,0.6s,baz=135,slow=4.6,SNR=3.9						
ASAR	**Alice Springs**	**130.22**	**207**	PKP	**PKPdf**	**16 40 46.1**	**+0.1**
ASAR	**Alice Springs**	**130.22**	**207**	PKP	**PKPdf**	**16 40 46.1**	**+0.1**
	comp=E,0.4nm,0.8s,baz=138,slow=1.5,SNR=4.9						
WRA	**Warramunga Arr**	**133.27**	**210**	PKP	**PKPdf**	**16 40 52.0**	**+0.1**
WRA	**Warramunga Arr**	**133.27**	**210**	PKP	**PKPdf**	**16 40 52.0**	**+0.1**
	comp=E,0.6nm,0.7s,baz=143,slow=1.7,SNR=7.2						
MKAR	**Makanchi Array**	**145.31**	**36**	PKPbc	**PKPab**	**16 41 13.3**	**+0.2**
MKAR				pPKPbc	pPKPbc	16 41 44.4	+2.3
MKAR	**Makanchi Array**	**145.31**	**36**	PKPbc	**PKPab**	**16 41 13.3**	**+0.2**
	comp=E,0.6nm,0.7s,baz=5.3,slow=2.9,SNR=7.7						
MKAR				pPKPbc	pPKPbc	16 41 44.4	+2.2
	comp=E,1.0nm,0.8s,baz=306,slow=3.9,SNR=5.0						

---

*BJI **29** 16:38:58.8,6°.78S×129°.23E,h12km,mB5.1/2,mb4.6/11*
*ISCJB **29** 16:39:15.4±0.2,6°.88S±0°.03×128°.99E±0°.04,h156km, mb4.1/20,Error ellipse: s-maj=5.3km s-min=3.4km az=165.8*
*NEIC **29** 16:39:18.4±1.3,6°.95S×129°.01E,h177km±15km,mb4.4/7, Error ellipse: s-maj=14.1km s-min=7.2km az=222.0*
*IDC **29** 16:39:19.1±1.5,6°.98S×129°.02E,h183km±15km,mb3.9/14, mb1 4.0/19,mb1mx3.9/27,mbtmp3.9/19,MS2.8/1, Ms1 2.8/1,ms1mx2.1/38,Error ellipse: s-maj=16.1km s-min=11.7km az=68.0*
*AUST **29** 16:39:20.1±0.0,7°.06S×128°.96E,h161km,Error ellipse: s-maj=0.8km s-min=0.6km az=333.0*
*DJA **29** 16:39:21.5±0.2,7°.S±3°×12°.9E±°,h177km±8km,M4.9/17, mB5.3/10,mb4.9/17,MLv5.2/11,Mw(mB)4.8/10*
ISC 29 16:39:16.4±0.4,6°.99S±0°.04×129°.02E±0°.05,h156km,n100, σ1§92/96,mb4.1/20,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.47**	**114**	P	Pn	16 40 04.3	+6.9
SAUI				S	Sn	16 40 37.0	+7.9
BNDI	**Bandanaira**	**2.60**	**20**	P	Pn	16 40 05.4	+6.3
BNDI	**Bandanaira**	**2.60**	**20**	P	Pn	16 40 05.3	+6.2
	baz=2.7,SNR=15						
AAI	**Ambon**	**3.38**	**346**	P	Pn	16 40 14.6	+5.8
AAI	**Ambon**	**3.38**	**346**	P	Pn	16 40 14.3	+5.4
	baz=3.5,SNR=15						
TLE	**Tual**	**3.93**	**70**	P	Pn	16 40 21.8	+5.9
TLE				S	**Sn**	**16 41 06.8**	**+4.5**
TLE	**Tual**	**3.93**	**70**	P	Pn	16 40 21.5	+5.6
	baz=4.0,SNR=109						
TLE				S	**Sn**	**16 41 06.9**	**+4.6**
	baz=4.0,SNR=5.7						
FAKI	**Fak Fak**	**5.17**	**39**	P	**Pn**	**16 40 33.7**	**+1.6**
	baz=5.3,SNR=189						
FAKI				S	**Sn**	**16 41 29.9**	**-1.5**
	baz=5.3,SNR=36						
SOEI	**Soe**	**5.45**	**239**	P	Pn	16 40 40.6	+4.7
	190nm,1.0s,5μm1.7nm						
SOEI	**Soe**	**5.45**	**239**	P	Pn	16 40 40.2	+4.3
	baz=5.4,SNR=64						
SOEI				S	**Sn**	**16 41 43.0**	**+4.9**
	baz=5.4,SNR=6.6						
KMPI	**Kaimana, Papua**	**5.72**	**55**	P	Pn	16 40 44.4	+5.0
	212nm,0.7s,21μm5.8nm						
MTN	**Manton Dam**	**6.18**	**160**	P	Pn	16 40 49.4	+3.9
	baz=6.2,SNR=386						
MTN				S	**Sn**	**16 41 56.6**	**+1.2**
	baz=6.2,SNR=16						
BATI	**Baumata**	**6.18**	**239**	P	Pn	16 40 49.5	+3.8
BATI				S	**Sn**	**16 41 56.5**	**+0.9**
BATI	**Baumata**	**6.18**	**239**	P	Pn	16 40 49.5	+3.8
	96nm,0.3s,baz=119,slow=2.8,SNR=151						
BATI				S	**Sn**	**16 41 56.5**	**+0.9**
	66nm,0.3s,baz=56,slow=3.6,SNR=6.9						
SWI	**Sorong**	**6.48**	**20**	P	**Pn**	**16 40 51.3**	**+1.7**
	146nm,0.3s,5μm1.0nm						
SWI	**Sorong**	**6.48**	**20**	P	**Pn**	**16 40 51.1**	**+1.5**
	baz=6.6,SNR=78						
SWI				S	**Sn**	**16 42 01.1**	**-1.6**
	baz=6.6,SNR=8.7						
LBMI	**Labuha**	**6.49**	**346**	P	Pn	16 40 53.8	+4.1
	581nm,0.7s,5μm2.1nm						
BBSI	**Bau Bau**	**6.58**	**283**	P	Pn	16 40 57.8	+6.9
	143nm,1.1s,1μm0.5nm						
KDU	**Kakadu**	**6.61**	**149**	P	Pn	16 40 54.9	+3.7
	baz=6.6,SNR=505						
KDU				S	**Sn**	**16 42 05.7**	**+0.1**
	baz=6.6,SNR=9.4						
MMRI	**Maumere**	**6.91**	**256**	P	Pn	16 41 00.2	+4.9
	84nm,0.7s						
RKPI	**Ransiki, Papua**	**7.49**	**44**	P	Pn	16 40 57.1	-5.9
	474nm,0.5s,10μm4.0nm						
RKPI	**Ransiki, Papua**	**7.49**	**44**	P	**Pn**	**16 41 05.5**	**+2.5**
	474nm,0.5s,10μm4.0nm						
TNTI	**Ternate**	**7.88**	**348**	P	Pn	16 41 11.5	+3.2
	138nm,1.0s						
KNRA	**Kununurra**	**8.64**	**182**	P	**Pn**	**16 41 20.9**	**+2.7**
	baz=8.6,SNR=471						
KNRA				S	**Sn**	**16 42 53.3**	**-1.1**
	baz=8.6,SNR=9.3						
SKSI	**Soroako, Sulaw**	**8.85**	**300**	P	Pn	16 41 26.4	+5.3
	33nm,0.9s,1μm						
BKSI	**Bulukumba**	**9.00**	**280**	P	Pn	16 41 27.7	+4.6
	23nm,0.7s,273nm						
WSI	**Waingapu**	**9.03**	**252**	P	Pn	16 41 27.6	+4.2
	baz=9.0,SNR=4.1						
KAPI	**Kappang**	**9.42**	**282**	P	**Pn**	**16 41 30.1**	**+1.4**
KAPI	**Kappang**	**9.42**	**282**	P	**Pn**	**16 41 30.1**	**+1.4**
	0.4nm,0.3s,baz=176,slow=14,SNR=3.3						
WAMI	**Wamena**	**10.13**	**73**	P	P	16 41 44.4	-3.5
	145nm,0.8s,1μm						
MMPI	**Merauke**	**11.36**	**98**	P	Pn	16 41 58.2	+4.0
	baz=11,SNR=4.5						
FITZ	**Fitzroy Crossi**	**11.53**	**196**	*e*Pn	**Pn**	**16 41 56.5**	**+0.2**
	8.8nm,0.2s						
FITZ				S	**Sn**	**16 43 59.3**	**-4.7**
FITZ				*e*Sn	**Sn**	**16 43 59.3**	**-4.7**
FITZ	**Fitzroy Crossi**	**11.53**	**196**	P	**Pn**	**16 41 57.1**	**+0.8**
	8.3nm,0.3s,baz=28,slow=12,SNR=221						
FITZ				S	**Sn**	**16 43 59.3**	**-4.7**
	6.5nm,0.3s,baz=87,slow=21,SNR=4.2						
FITZ				LR	LR	16 47 02.1	
	comp=Z,47nm,22.0s,baz=166,slow=40						
FITZ	**Fitzroy Crossi**	**11.53**	**196**	P	**Pn**	**16 41 56.9**	**+0.6**
	baz=12,SNR=185						
WRAB	**Tennant Creek**	**13.87**	**159**	*e*Pn	**Pn**	**16 42 26.3**	**-0.2**
	23nm,0.6s						
WRAB				*e*Sn	Sn	16 44 53.4	-7.0
WRA	**Warramunga Arr**	**13.87**	**159**	P	**Pn**	**16 42 27.0**	**+0.4**
WRA				S	Sn	16 44 51.5	-9.0
WRA	**Warramunga Arr**	**13.87**	**159**	P	**Pn**	**16 42 27.0**	**+0.4**
	3.5nm,0.3s,baz=341,slow=12,SNR=113						
WRA				S	Sn	16 44 51.5	-9.0
	2.4nm,0.3s,baz=336,slow=22,SNR=9.2						
COEN	**Coen**	**15.54**	**118**	*e*Pn	**P**	**16 42 49.3**	**+1.0**
	194nm,0.8s						
COEN				*e*S	Sn	16 45 34.2	-6.4
COEN	**Coen**	**15.54**	**118**	P	**P**	**16 42 51.7**	**+3.4**
	baz=16,SNR=9.7						
COEN				S	**Sn**	**16 45 38.9**	**-1.6**
	baz=16,SNR=3.9						
AS31	**Alice Springs**	**17.23**	**165**	*e*P	**Pn**	**16 43 10.2**	**+2.3**
AS31				*e*S	**S**	**16 46 15.7**	**-2.9**
ASAR	**Alice Springs**	**17.23**	**165**	P	**Pn**	**16 43 09.4**	**+1.6**
ASAR				pP	**pP**	**16 43 36.9**	**+3.4**
ASAR				S	**S**	**16 46 17.0**	**-1.7**
ASAR				ScP	**ScP**	**16 50 58.6**	**-3.9**
ASAR	**Alice Springs**	**17.23**	**165**	P	**Pn**	**16 43 09.4**	**+1.6**
	14nm,0.3s,baz=338,slow=9.7,SNR=808						
ASAR				pP	**pP**	**16 43 36.9**	**+3.4**
	1.9nm,0.3s,baz=346,slow=12,SNR=6.8						
ASAR				S	**S**	**16 46 17.0**	**-1.7**
	1.2nm,0.3s,baz=325,slow=16,SNR=6.9						
ASAR				ScP	**ScP**	**16 50 58.6**	**-3.9**
	baz=6.2,slow=1.9,SNR=2.6						
PBKI	**Pangkalan Bun**	**17.80**	**283**	P	**Pn**	**16 43 18.6**	**+4.0**
PMG	**Port Moresby**	**18.11**	**99**	*e*P	**P**	**16 43 17.4**	**+0.8**
	35nm,1.0s						
PMG	**Port Moresby**	**18.11**	**99**	P	Pn	16 43 24.0	+5.7
PMG	**Port Moresby**	**18.11**	**99**	P	**P**	**16 43 17.6**	**+0.9**
	0.6nm,0.3s,baz=291,slow=14,SNR=2.8						
KKM	**Kota Kinabalu**	**18.19**	**315**	P	P	16 43 08.1	-9.4
	baz=18,SNR=3.5						
UGM	**Wanagama**	**18.36**	**266**	P	**Pn**	**16 43 21.3**	**0.0**
	baz=18,SNR=4.0						
MTSU	**Mount Surprise**	**18.57**	**128**	P	**Pn**	**16 43 25.2**	**+1.5**
	baz=19,SNR=30						
CISI	**Cisompet, Garu**	**21.04**	**267**	P	**P**	**16 43 49.2**	**+0.9**
	baz=21,SNR=3.6						
CTA	**Charters Tower**	**21.19**	**130**	P	**P**	**16 43 51.8**	**+2.0**
CTA	**Charters Tower**	**21.19**	**130**	P	**P**	**16 43 51.8**	**+2.0**
	2.5nm,0.7s,baz=299,slow=12,SNR=5.9						
MEEK	**Meekatharra**	**21.91**	**206**	P	**P**	**16 43 58.8**	**+1.6**
	baz=22,SNR=7.0						
MEEK				S	Sn	16 48 03.8	-8.2
	baz=22,SNR=4.5						
STKA	**Stephens Creek**	**27.40**	**156**	P	**P**	**16 44 47.7**	**+0.3**
LHI	**Lord Howe Isla**	**37.18**	**135**	S	S	16 51 33.2	-14
	baz=37,SNR=3.7						
CMAR	**Chiang Mai Arr**	**38.98**	**311**	P	**P**	**16 46 28.1**	**+0.4**
CMAR				ScP	**ScP**	**16 52 05.0**	**-3.9**
CMAR	**Chiang Mai Arr**	**38.98**	**311**	P	**P**	**16 46 28.1**	**+0.4**
	1.1nm,0.6s,baz=145,slow=7.5,SNR=11						
CMAR				ScP	**ScP**	**16 52 05.0**	**-3.9**
	0.3nm,0.6s,baz=158,slow=3.0,SNR=4.5						
CHTO	**Chiang Mai**	**39.20**	**311**	*e*P	**P**	**16 46 29.4**	**-0.2**
	2.3nm,0.9s						
JNU	**Nakatsue**	**39.93**	**2**	P	**P**	**16 46 35.0**	**-0.4**
JNU	**Nakatsue**	**39.93**	**2**	P	**P**	**16 46 35.0**	**-0.4**
	7.5nm,0.9s,baz=207,slow=4.5,SNR=5.3						
MJAR	**Matsushiro Arr**	**44.15**	**11**	P	**P**	**16 47 08.2**	**-1.4**
MJAR	**Matsushiro Arr**	**44.15**	**11**	P	**P**	**16 47 08.2**	**-1.4**
	3.0nm,0.6s,baz=187,slow=9.3,SNR=17						
KSAR	**Wonju Array Be**	**44.21**	**359**	P	**P**	**16 47 10.0**	**0.0**
KSRS	**Korea Array**	**44.22**	**359**	P	**P**	**16 47 10.0**	**0.0**
	3.8nm,0.6s,baz=174,slow=8.9,SNR=29						
XAN	**Xi'an**	**45.03**	**336**	P	**P**	**16 47 15.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
USRK	**Ussuriysk Arra**	**51.02**	**3**	P	**P**	**16 48 02.1**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=181,slow=7.2,SNR=16						
LSA	**Lhasa**	**51.52**	**317**	P	**P**	**16 48 07.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**51.52**	**317**	*e*P	**P**	**16 48 07.1**	**+0.2**
	comp=Z,9.3nm,0.6s						
ASAJ	**Asahikawa**	**52.33**	**12**	P	**P**	**16 48 11.9**	**-0.1**
	comp=Z,13nm,1.1s,baz=200,slow=12,SNR=4.6						
ODAN	**Odare**	**52.52**	**312**	*e*P	**P**	**16 48 14.2**	**+0.1**
	comp=Z,28nm,0.7s						
TAPN	**Taplejung**	**52.55**	**312**	*e*P	**P**	**16 48 14.4**	**0.0**
RAMN	**Ramite**	**53.16**	**311**	*e*P	**P**	**16 48 19.0**	**+0.2**
	comp=Z,58nm,0.7s						
GTA	**Gaotai**	**53.50**	**332**	*e*P	**P**	**16 48 21.0**	**+0.1**
GTA				pP	pP	16 48 25.3	-31
GTA				sP	sP	16 48 28.8	-45
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
JIRN	**Jiri**	**53.85**	**312**	*e*P	**P**	**16 48 23.4**	**-0.6**
GUN	**Gumba**	**54.22**	**312**	*e*P	**P**	**16 48 26.7**	**+0.1**
	comp=Z,41nm,0.6s						
PKI	**Pulchoki**	**54.38**	**311**	*e*P	**P**	**16 48 27.4**	**-0.4**
PKIN	**Phulchoki**	**54.39**	**311**	*e*P	**P**	**16 48 27.9**	**+0.1**
KKN	**Kakani**	**54.59**	**311**	*e*P	**P**	**16 48 29.3**	**+0.1**
	comp=Z,24nm,0.8s						
DMN	**Daman**	**54.63**	**311**	*e*P	**P**	**16 48 29.4**	**-0.1**
KOLN	**Koldanda**	**55.85**	**310**	*e*P	**P**	**16 48 38.1**	**0.0**
	comp=Z,30nm,0.7s						
DANN	**Dangsing**	**56.03**	**311**	*e*P	**P**	**16 48 39.4**	**-0.1**
ULN	**Ulaanbaatar**	**57.96**	**343**	*e*P	**P**	**16 48 52.4**	**-0.2**
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**58.13**	**342**	P	**P**	**16 48 54.1**	**+0.4**
SONM	**Songino Array**	**58.13**	**342**	P	**P**	**16 48 54.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=166,slow=7.1,SNR=9.5						
PETK	**Petropavlovsk-**	**64.62**	**19**	P	**P**	**16 49 37.2**	**+0.2**
PETK	**Petropavlovsk-**	**64.62**	**19**	P	**P**	**16 49 37.2**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=160,slow=3.2,SNR=19						
MK31	**Makanchi Array**	**67.69**	**327**	*e*P	**P**	**16 49 56.2**	**-0.6**
MKAR	**Makanchi Array**	**67.69**	**327**	P	**P**	**16 49 56.7**	**-0.1**
MKAR	**Makanchi Array**	**67.69**	**327**	P	**P**	**16 49 56.7**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=123,slow=7.8,SNR=57						
ZAA0	**Zalesovo Array**	**71.15**	**334**	*e*P	**P**	**16 50 16.0**	**-1.8**
ZALV	**Zalesovo Beam**	**71.15**	**334**	P	**P**	**16 50 17.1**	**-0.7**
ZALV	**Zalesovo Beam**	**71.15**	**334**	P	**P**	**16 50 17.1**	**-0.7**
	comp=Z,5.4nm,0.5s,baz=134,slow=5.5,SNR=30						
KURBB	**Kurchatov Arra**	**71.99**	**329**	P	**P**	**16 50 22.8**	**-0.1**
	comp=Z,4.7nm,0.5s,baz=129,slow=5.0,SNR=15						
BVAR	**Borovoye Array**	**77.54**	**328**	P	**P**	**16 50 54.5**	**-0.3**
BVAR	**Borovoye Array**	**77.54**	**328**	P	**P**	**16 50 54.5**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=122,slow=5.4,SNR=6.3						
ABKAR	**Akbulak array**	**81.90**	**322**	*e*P	**P**	**16 51 17.6**	**-0.7**
	comp=Z,1.7nm,0.5s						
ILAR	**Eielson Array**	**93.75**	**25**	P	**P**	**16 52 13.4**	**-1.8**
ILAR	**Eielson Array**	**93.75**	**25**	P	**P**	**16 52 13.4**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**127.85**	**281**	PKP	**PKPdf**	**16 58 03.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**127.85**	**281**	PKP	**PKPdf**	**16 58 03.8**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=84,slow=2.4,SNR=3.3						

IDC 29 16:47:13.2±8.2,13°.76N×144°.72E,h118km±76km, mb3.5/15,mb1 3.7/15,mb1mx3.6/30,mbtmp3.5/15, MS3.6/2,Ms1 3.7/2,ms1mx2.7/25,Error ellipse: s-maj=24.9km s-min=13.5km az=72.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.43**	**347**	P	P	16 52 13.4	+1.6
	0.9nm,0.8s,baz=173,slow=9.9,SNR=3.8						
CTA	**Charters Tower**	**33.67**	**177**	P	P	16 53 42.8	-0.2
	0.8nm,0.4s,baz=342,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**35.01**	**197**	P	P	16 53 54.1	-0.5
	2.1nm,0.6s,baz=19,slow=9.2,SNR=20						
FITZ	**Fitzroy Crossi**	**36.83**	**211**	P	P	16 54 10.4	+0.2
	1.1nm,0.3s,baz=35,slow=8.7,SNR=41						
ASAR	**Alice Springs**	**38.67**	**196**	P	P	16 54 25.4	-0.3
	1.0nm,0.5s,baz=20,slow=12,SNR=14						
DZM	**Mont Dzumac**	**41.49**	**149**	P	P	16 54 48.9	-0.1
	5.9nm,0.6s,baz=320,slow=18,SNR=11						
CMAR	**Chiang Mai Arr**	**44.14**	**282**	P	P	16 55 10.1	-0.3
	0.3nm,0.6s,baz=80,slow=6.1,SNR=4.4						
CMAR				LR	LR	17 13 21.8	
	comp=Z,62nm,18.2s,baz=333,slow=36						
SONM	**Songino Array**	**46.51**	**325**	P	P	16 55 29.0	+0.2
	0.2nm,0.4s,baz=131,slow=7.6,SNR=2.5						
MKAR	**Makanchi Array**	**61.27**	**316**	P	P	16 57 16.2	+0.1
	0.2nm,0.4s,baz=89,slow=8.2,SNR=5.9						
KURBB	**Kurchatov Arra**	**64.40**	**320**	P	P	16 57 36.4	-0.3
	0.5nm,0.5s,baz=104,slow=6.8,SNR=4.3						
KURBB				pP	PcP	16 58 12.3	+2.1
	1.1nm

*ISCJB **29** 17:08:28.5±0.5, 43.°99N±0.°04×128.°38W±0.°07, h13km, mb4.1/14, MS3.5/9, Error ellipse: s-maj=7.8km s-min=4.8km az=141.9*
*NEIC **29** 17:08:28.9±0.8, 43.°94N×128.°50W, h10km, mb4.3/9, Error ellipse: s-maj=11.9km s-min=6.8km az=65.0*
*BJI **29** 17:08:28.0, 44.°00N×128.°30W, h10km, mB5.0/5, mb4.8/5, Ms4.2/2, Ms7 4.2/3*
ISC 29 17:08:29.7±0.6, 43.°92N±0.°09×128.°41W±0.°07, h13km, n229, σ1°29/231, mb4.1/14, MS3.3/9, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	3.15	108	*e*Pn	Pn	17 09 15.1	-3.9
KEBM				*e*Sn	**Sn**	**17 09 51.4**	**-5.2**
COR	**Corvallis**	3.73	78	*e*Pn	Pn	17 09 23.3	-3.6
KRMB	**Red Mountain**	4.09	124	*e*Pn	Pn	17 09 28.7	-3.3
HUMO	**Hull Mountain**	4.20	106	*e*Pn	**Pn**	**17 09 31.6**	**-1.8**
HUMO				*e*Sn	**Sn**	**17 10 17.8**	**-4.4**
BMW	**Boistfort Moun**	4.46	53	P	**Pn**	**17 09 36.2**	**-0.9**
KHMM	**Horse Mountain**	4.61	130	*e*Pn	**Pn**	**17 09 38.5**	**-0.8**
F04A	**Amboy**	4.71	63	P	**Pn**	**17 09 40.0**	**-0.3**
NLWA	**Neilton Lookou**	4.71	41	*e*Pn	**Pn**	**17 09 40.8**	**+0.4**
YBH	**Yreka Blue Hor**	4.73	116	*e*Pn	**Pn**	**17 09 39.5**	**-1.3**
YBH				Sn	**Sn**	**17 10 36.3**	**+0.8**
YBH	**Yreka Blue Hor**	4.73	116	Pn	**Pn**	**17 09 39.6**	**-1.2**
	0.8nm,0.3s,baz=316,slow=8.7,SNR=9.6						
YBH				Sn	**Sn**	**17 10 36.3**	**+0.8**
	0.4nm,0.3s,baz=311,slow=20,SNR=3.1						
YBH				LR	LR	17 11 27.5	
	comp=Z,755nm,20.4s,baz=305,slow=38						
FL2	**Flat Top 2**	4.86	60	P	**Pn**	**17 09 42.5**	**-0.1**
MTMW	**Mount Mitchell**	4.88	62	P	**Pn**	**17 09 42.9**	**+0.1**
VFP	**Flag Point**	5.15	72	P	**Pn**	**17 09 46.7**	**+0.1**
ASR	**Mount Adams--S**	5.32	63	P	**Pn**	**17 09 49.2**	**+0.3**
LON	**Longmire**	5.45	56	*e*Pn	**Pn**	**17 09 50.1**	**-0.4**
	14nm,0.8s						
WDC	**Whiskeytown Da**	5.49	125	Pn	**Pn**	**17 09 51.8**	**+0.7**
PGC	**Sidney**	5.84	34	*e*Pn	**Pn**	**17 09 57.1**	**+1.2**
WVOR	**Wild Horse Val**	7.30	98	*e*Pn	**Pn**	**17 10 16.9**	**+0.9**
	9.8nm,1.4s						
PAHR	**Pah Rah Range**	7.95	119	Pn	**Pn**	**17 10 27.1**	**+2.1**
	32nm,1.5s						
BBB	**Bella Bella**	8.27	1	Pn	**Pn**	**17 10 30.3**	**+1.1**
BBB	**Bella Bella**	8.27	1	Pn	**Pn**	**17 10 30.3**	**+1.1**
	0.2nm,0.3s,baz=213,slow=17,SNR=4.7						
CMB	**Columbia Colle**	8.45	131	*e*Pn	**Pn**	**17 10 32.3**	**+0.5**
	37nm,1.6s						
NEW	**Newport**	8.96	57	*e*Pn	**Pn**	**17 10 37.8**	**-1.0**
NVAR	**Mina Array Bea**	9.39	122	Pn	**Pn**	**17 10 46.6**	**+1.8**
NVAR	**Mina Array Bea**	9.39	122	Pn	**Pn**	**17 10 46.6**	**+1.8**
	0.1nm,0.3s,baz=292,slow=13,SNR=13						
NVAR				LR	LR	17 14 19.9	
	comp=Z,244nm,18.2s,baz=6.2,slow=37						
HLID	**Hailey**	10.14	87	*e*P	**Pn**	**17 10 57.2**	**+2.2**
	2.0nm,0.9s						
HLID	**Hailey**	10.14	87	P	**Pn**	**17 10 56.0**	**+0.9**
	baz=10						
ELK	**Elko**	10.26	104	*e*P	**Pn**	**17 10 59.2**	**+2.5**
	9.6nm,1.6s						
BSMT	**Bassoo Peak**	10.28	63	*e*Pn	**Pn**	**17 10 58.8**	**+1.8**
SLMT	**Seeley Lake**	10.97	67	*e*Pn	**Pn**	**17 11 04.4**	**-2.0**
	11nm,1.3s						
CHMT	**Chamberlain Mo**	11.07	69	*e*Pn	**Pn**	**17 11 08.4**	**+0.6**
	5.3nm,1.4s						
MCMT	**McKenzie Canyo**	11.18	80	Pn	**Pn**	**17 11 10.1**	**+0.7**
WALA	**Waterton Lakes**	11.23	58	*e*Pn	**Pn**	**17 11 10.4**	**+0.4**
ISA	**Isabella**	11.24	134	*e*Pn	**Pn**	**17 11 11.7**	**+1.7**
	12nm,1.3s						
ISA	**Isabella**	11.24	134	P	**Pn**	**17 11 11.4**	**+1.3**
	baz=11,SNR=5.7						
MPMC	**Manual Prospec**	11.47	129	P	**Pn**	**17 11 15.9**	**+2.6**
	baz=12						
FURC	**Furnace Creek,**	11.54	126	P	**Pn**	**17 11 16.8**	**+2.7**
	baz=12						
EDW2	**Edwards Air Fo**	12.10	135	P	**Pn**	**17 11 22.8**	**+1.0**
	baz=12						
DUG	**Dugway**	12.18	102	Pn	**Pn**	**17 11 23.8**	**+0.9**
	12nm,1.5s						
GSC	**Goldstone**	12.41	130	*e*Pn	**Pn**	**17 11 27.6**	**+1.6**
	5.0nm,1.0s						
GSC	**Goldstone**	12.41	130	P	**Pn**	**17 11 27.4**	**+1.4**
	baz=12						
TUQ	**Turquoise Moun**	12.81	127	P	**Pn**	**17 11 33.1**	**+1.6**
	baz=13,SNR=8.5						
D17A	**Six Diamond Ra**	12.84	69	P	**Pn**	**17 11 33.8**	**+1.9**
	baz=13						
CCUT	**Cedar City**	13.06	114	Pn	**Pn**	**17 11 38.2**	**+3.2**
MVU	**Marysvale**	13.34	108	*e*Pn	**Pn**	**17 11 41.8**	**+3.0**
	14nm,1.2s						
GMRC	**Granite Mounta**	13.43	129	P	**Pn**	**17 11 40.8**	**+0.8**
	baz=14						
LDFC	**Landfair**	13.53	126	*e*Pn	**Pn**	**17 11 42.9**	**+1.5**
	64nm,1.4s						
PDAR	**Pinedale Array**	13.77	88	Pn	**Pn**	**17 11 47.4**	**+2.6**
PDAR	**Pinedale Array**	13.77	88	Pn	**Pn**	**17 11 47.4**	**+2.6**
	0.0nm,0.3s,baz=283,slow=15,SNR=5.4						
BELC	**Belle Mtn. Jos**	13.82	132	P	**Pn**	**17 11 46.2**	**+0.9**
	baz=14						
Q16A	**Castle Valley**	13.86	105	*e*Pn	**P**	**17 11 56.6**	**+2.2**
PFO	**Pinyon Flat Ob**	13.88	134	LR	LR	17 16 10.5	
	comp=Z,144nm,20.5s,baz=145,slow=33						
C19A	**Slack Wire Ran**	14.02	67	P	**Pn**	**17 11 49.3**	**+1.3**
	baz=14						
J19A	**Crowheart**	14.05	86	P	**Pn**	**17 11 49.5**	**+1.1**
	baz=14						
D19A	**Cripps Ranch,**	14.06	70	P	**Pn**	**17 11 49.5**	**+1.0**
	baz=14						
IRM	**Iron Mountain**	14.17	129	P	**Pn**	**17 11 52.2**	**+2.2**
	baz=14,SNR=6.8						
SRU	**San Rafael**	14.23	104	*e*Pn	**P**	**17 12 01.1**	**+2.6**
	42nm,1.0s						
BC3	**Big Chuckawall**	14.38	131	P	**Pn**	**17 11 54.0**	**+1.0**
	baz=14						
U15A	**North Rim**	14.40	116	P	**Pn**	**17 11 55.4**	**+1.9**
	baz=14,SNR=6.5						
MONP	**Monument Peak**	14.46	136	P	**Pn**	**17 11 54.3**	**+0.1**
	baz=14						
DLBC	**Dease Lake**	14.57	357	LR	LR	17 16 51.9	
	comp=Z,64nm,18.4s,baz=191,slow=35						
K20A	**Yellowstone Ra**	14.67	88	P	**Pn**	**17 11 57.9**	**+0.9**
	baz=15						
J20A	**Shoshoni**	14.73	85	P	**Pn**	**17 11 59.6**	**+1.8**
	baz=15						
O19A	**Miners Draw (B**	14.77	98	P	**Pn**	**17 11 59.0**	**+0.7**
	baz=15						
L20A	**Wamsutter**	14.82	90	P	**Pn**	**17 11 58.5**	**-0.6**
	baz=15						
P19A	**Cripple Cowboy**	15.11	100	P	**Pn**	**17 12 03.9**	**+0.9**
	baz=15,SNR=7.3						
J21A	**Lysite**	15.19	85	P	**Pn**	**17 12 04.5**	**+0.4**
	baz=15,SNR=6.3						
N20A	**Spence Gulch,**	15.21	95	P	**Pn**	**17 12 05.4**	**+1.1**
	baz=15,SNR=6.6						
O20A	**White River Ci**	15.45	97	*e*Pn	**Pn**	**17 12 08.8**	**+1.3**
O20A	**White River Ci**	15.45	97	P	**Pn**	**17 12 08.0**	**+0.5**
	baz=16,SNR=6.3						
L21A	**Rawlins**	15.53	90	P	**Pn**	**17 12 07.9**	**-0.6**
	baz=16						
WUAZ	**Wupatki**	15.55	117	Pn	**P**	**17 12 12.0**	**-1.0**
	14nm,1.4s						
A21A	**Bergtoll Ranch**	15.63	64	P	**Pn**	**17 12 10.0**	**+0.4**
	baz=16						
N21A	**Black Mountain**	15.76	94	P	**Pn**	**17 12 12.3**	**+0.8**
	baz=16,SNR=7.7						
PV01	**Paradox Valley**	16.04	104	*e*Pn	**Pn**	**17 12 16.4**	**+1.3**
	1um,1.2s						
P21A	**Newcastle**	16.25	98	P	**Pn**	**17 12 17.9**	**+0.1**
	baz=16						
S20A	**Disappointment**	16.33	105	P	**P**	**17 12 21.2**	**-0.5**
	baz=16,SNR=7.8						
N22A	**Wattenberg Ran**	16.52	93	P	**Pn**	**17 12 21.1**	**-0.2**
	baz=16						
MVCO	**Mesa Verde**	16.53	107	*e*Pn	**Pn**	**17 12 22.6**	**+1.2**
	21nm,1.4s						
MVCO	**Mesa Verde**	16.53	107	P	**Pn**	**17 12 23.4**	**+2.0**
	baz=17						
O22A	**Kremmling**	16.66	95	P	**Pn**	**17 12 24.1**	**+1.0**
	baz=17,SNR=9.7						
S21A	**Coal Bank Pass**	16.80	105	P	**Pn**	**17 12 25.8**	**+0.9**
	baz=17,SNR=9.9						
W18A	**Petrified Fore**	16.85	115	*e*Pn	**Pn**	**17 12 26.9**	**+1.5**
N23A	**Red Feather La**	16.86	93	P	**Pn**	**17 12 25.1**	**-0.4**
	baz=17,SNR=5.5						
H24A	**Dirks Ranch, A**	17.08	79	P	**Pn**	**17 12 28.7**	**+0.6**
	baz=17,SNR=7.4						
R22A	**Saguache, Gunn**	17.27	102	P	**Pn**	**17 12 31.5**	**+0.7**
	baz=17						
V20A	**Brimhall**	17.30	111	P	**Pn**	**17 12 32.0**	**+0.9**
	baz=17						
S22A	**4UR Ranch, Cre**	17.44	103	P	**Pn**	**17 12 33.1**	**+0.3**
	baz=18,SNR=9.4						
ISCO	**Idaho Springs**	17.46	96	P	**Pn**	**17 12 33.1**	**0.0**
	baz=18						
U21A	**Nageezi**	17.51	108	P	**Pn**	**17 12 34.1**	**+0.4**
	baz=18,SNR=18						
Q23A	**Hartsel**	17.64	99	P	**Pn**	**17 12 36.5**	**+1.1**
	baz=18						
W20A	**Ramah**	17.66	113	P	**P**	**17 12 37.8**	**+1.3**
	baz=18						
T22A	**Edith**	17.73	106	P	**P**	**17 12 39.0**	**+1.7**
	baz=18,SNR=7.0						
I25A	**Rochford**	17.75	81	P	**Pn**	**17 12 37.6**	**+1.0**
	baz=18						
E25A	**Miller Ranch,**	17.79	73	P	**P**	**17 12 38.5**	**+0.8**
	baz=18						
J25A	**Sunshine Ranch**	17.80	83	P	**P**	**17 12 40.0**	**+2.1**
	baz=18,SNR=6.3						
V21A	**Milan**	17.86	110	P	**P**	**17 12 40.9**	**+2.2**
	baz=18,SNR=5.2						
R23A	**Moffat**	17.95	101	P	**P**	**17 12 40.2**	**+0.5**
	baz=18						
X20A	**Quemado**	18.01	115	P	**P**	**17 12 42.7**	**+2.4**
	baz=18,SNR=5.6						
U22A	**Llaves**	18.09	107	P	**P**	**17 12 43.2**	**+2.0**
	baz=18,SNR=19						
Q24A	**Divide**	18.11	98	P	**P**	**17 12 42.1**	**+0.6**
	baz=18						
V22A	**San Miguel Ran**	18.30	109	P	**P**	**17 12 45.6**	**+2.1**
	baz=18,SNR=7.4						
F26A	**Lodgepole**	18.32	75	P	**P**	**17 12 44.7**	**+1.1**
	baz=18						
SDCO	**Great Sand Dun**	18.37	102	*e*Pn	**Pn**	**17 12 45.2**	**+0.8**
	39nm,1.6s						
G26A	**Maurine**	18.41	77	P	**Pn**	**17 12 45.9**	**+1.4**
	baz=18						
R24A	**Sanders Place,**	18.44	100	P	**Pn**	**17 12 46.2**	**+1.1**
	baz=18						
Y20A	**Horse Springs,**	18.48	116	P	**Pn**	**17 12 47.6**	**+1.9**
	baz=18						
X21A	**Alamocita Cree**	18.54	114	P	**Pn**	**17 12 47.9**	**+1.5**
	baz=19						
U23A	**El Rito**	18.57	107	P	**Pn**	**17 12 48.5**	**+1.8**
	baz=19,SNR=8.3						
P25A	**Willow Gulch B**	18.60	95	P	**Pn**	**17 12 48.6**	**+1.5**
	baz=19						
S24A	**Houchin Ranch,**	18.63	102	P	**Pn**	**17 12 48.5**	**+1.0**
	baz=19						
Q25A	**Bedland, Calha**	18.77	97	P	**Pn**	**17 12 50.3**	**+1.2**
	baz=19						
T24B	**San Luis**	18.78	104	P	**Pn**	**17 12 50.8**	**+1.5**
	baz=19						
Z20A	**Nine Sixteen R**	18.85	118	P	**Pn**	**17 12 50.5**	**+0.5**
	baz=19						
H27A	**Howes**	18.85	79	P	**Pn**	**17 12 51.4**	**+1.5**
	baz=19						
G27A	**Dupree**	18.87	76	P	**Pn**	**17 12 50.8**	**+0.7**
	baz=19						
Y21A	**Point of Rocks**	18.88	115	P	**Pn**	**17 12 51.1**	**+0.6**
	baz=19,SNR=6.0						
V23A	**Ortiz Mt. (NFS**	18.89	108	P	**Pn**	**17 12 52.8**	**+2.3**
	baz=19,SNR=5.2						
I27A	**Quinn**	18.94	80	P	**Pn**	**17 12 51.8**	**+0.8**
	baz=19						
LAZ	**Ladron**	18.99	113	*e*P	**Pn**	**17 12 53.2**	**+1.4**
	5.1nm,1.2s						
ANMO	**Albuquerque**	19.14	110	P	**P**	**17 12 53.1**	**+0.4**
ANMO	**Albuquerque**	19.14	110	P	**P**	**17 12 53.1**	**+0.4**
	0.1nm,0.3s,baz=316,slow=10.0,SNR=5.2						
ANMO				LR	LR	17 20 40.4	
	comp=Z,257nm,19.1s,baz=126,slow=38						
S25A	**Robets Cordova**	19.17	101	P	**Pn**	**17 12 55.3**	**+1.4**
	baz=19,SNR=8.1						
120A	**U Bar Ranch, L**	19.19	120	P	**Pn**	**17 12 55.0**	**+0.8**
	baz=19						
Q26A	**Hugo**	19.29	96	P	**Pn**	**17 12 56.2**	**+0.8**
	baz=19						
Y22A	**Socorro**	19.39	114	P	**Pn**	**17 12 57.2**	**+0.6**
	baz=19						
T25A	**Trinidad**	19.42	102	P	**Pn**	**17 12 58.3**	**+1.3**
	baz=20,SNR=11						
BNM	**Barren Site**	19.48	113	*e*P	**Pn**	**17 12 58.3**	**+0.6**
	16nm,1.5s						
V24A	**Rampart Ranch,**	19.52	107	P	**Pn**	**17 12 59.7**	**+1.5**
	baz=20,SNR=10						
X23A	**Hourglass Bar**	19.53	111	P	**Pn**	**17 12 58.6**	**+0.4**
	baz=20						
R26A	**Arlington**	19.60	98	P	**Pn**	**17 12 59.6**	**+0.6**
	baz=20,SNR=10						
319A	**Douglas**	19.60	123	P	**P**	**17 12 59.0**	**+1.3**
	baz=20						
220A	**Playas Peak, P**	19.69	121	P	**Pn**	**17 13 00.5**	**+0.3**
	baz=20,SNR=8.7						
W24A	**Lazy 6 Ranch,**	19.71	108	P	**Pn**	**17 13 01.3**	**+0.9**
	baz=20,SNR=11						
121A	**Cookes Peak, D**	19.74	118	P	**Pn**	**17 13 01.1**	**+0.3**
	baz=20,SNR=6.8						
U25A	**Circle Dot Ran**	19.78	104	P	**Pn**	**17 13 02.0**	**+0.8**
	baz=20,SNR=22						
Z22A	**Elephant Butte**	19.81	115	P	**P**	**17 13 01.4**	**+1.5**
	baz=20						
S26A	**Kim**	19.87	100	P	**P**	**17 13 01.7**	**+1.1**
	baz=20						
B28A	**Dugan Ranch, T**	19.89	67	P	**P**	**17 13 01.6**	**+1.0**
	baz=20						
V25A	**Rancho No Teng**	19.92	106	P	**Pn**	**17 13 03.8**	**+0.9**
	baz=20,SNR=21						
T26A	**Comanche Natio**	19.98	101	P	**Pn**	**17 13 03.8**	**+0.1**
	baz=20,SNR=21						
Y23A	**Lovelace Mesa,**	20.00	112	P	Pn	17 13 04.1	+0.3
	baz=20,SNR=9.6						
R27A	**Eads**	20.07	97	P	Pn	17 13 04.7	+0.1
	baz=20,SNR=10						
FFC	**Flin Flon**	20.21	48	*e*P	**P**	**17 13 04.9**	**+0.9**
	45nm,1.0s						
YKA	**Yellowknife Ar**	20.27	19	P	**P**	**17 13 04.5**	**-0.1**
YKA	**Yellowknife Ar**	20.27	19	P	**P**	**17 13 04.5**	**-0.1**
	5.6nm,0.9s,baz=206,slow=10,SNR=8.3						
YKW3	**Yellowknife Ar**	20.33	19	*e*P	**P**	**17 13 06.5**	**+1.2**
W25A	**X Bar L Ranch,**	20.35	107	P	**P**	**17 13 06.9**	**+1.0**
	baz=20						
Y24A	**Capitan**	20.41	111	P	**P**	**17 13 07.7**	**+1.0**
	baz=20						
V26A	**Tequesquite Ra**	20.52	105	P	**P**	**17 13 09.5**	**+1.8**
	baz=21,SNR=24						
T27A	**Campo**	20.66	101	P	Pn	17 13 11.1	-0.4
	baz=21,SNR=14						
R28A	**Tribune**	20.75	96	P	**P**	**17 13 10.9**	**+0.7**
	baz=21						
Z24A	**Sheeppen Canyo**	20.82	113	P	**P**	**17 13 13.0**	**+2.0**
	baz=21,SNR=8.1						
U27A	**Thompson Grove**	20.88	102	P	**P**	**17 13 13.1**	**+1.5**
	baz=21,SNR=7.6						
E30A	**Jud**	20.89	73	P	**P**	**17 13 12.0**	**+0.5**
	baz=21						
Y25A	**Mesa, Roswell**	20.92	110	P	**P**	**17 13 12.9**	**+0.9**
	baz=21						
S28A	**Manter**	21.01	98	P	**P**	**17 13 14.3**	**+1.4**
	baz=21						
T28A	**Walsh**	21.06	100	P	**P**	**17 13 15.3**	**+1.8**
	baz=21,SNR=10.0						
Q29A	**Oakley**	21.13	94	P	**P**	**17 13 15.0**	**+0.7**
	baz=21						
R29A	**Marienthal**	21.20	96	P	**P**	**17 13 15.6**	**+0.6**
	baz=21						
V27A	**Dan Oppiter Fa**	21.20	104	P	**P**	**17 13 16.7**	**+1.6**
	baz=21						
Z25A	**Roswell**	21.28	112	P	**P**	**17 13 16.7**	**+0.8**
	baz=21						
W27A	**Bowe Ranch, En**	21.41	106	P	**P**	**17 13 19.1**	**+1.8**
	baz=21						
224A	**Cornudas Mount**	21.49	116	P	**P**	**17 13 19.4**	**+1.2**
	baz=22,SNR=5.4						
Y26A	**Elida**	21.51	109	P	**P**	**17 13 19.1**	**+0.8**
	baz=22,SNR=7.7						
T29A	**Hugoton**	21.63	99	P	**P**	**17 13 20.7**	**+1.1**
	baz=22						
125A	**Gardner Draw,**	21.70	113	P	**P**	**17 13 21.9**	**+1.5**
	baz=22,SNR=6.8						
Z26A	**Caprock**	21.78	111	P	**P**	**17 13 22.4**	**+1.1**
	baz=22,SNR=6.7						
R30A	**Dighton**	21.88	95	P	**P**	**17 13 23.1**	**+0.9**
	baz=22						
225A	**Deer Hill, Car**	21.93	115	P	**P**	**17 13 25.0**	**+2.0**
	baz=22						
S30A	**Montezuma**	22.01	97	P	**P**	**17 13 24.9**	**+1.2**
	baz=22						
Z27A	**Tatum**	22.27	110	P	**P**	**17 13 27.9**	**+1.3**
	baz=22,SNR=12						
325A	**Bean Ranch, Si**	22.31	116	P	**P**	**17 13 27.9**	**+0.9**
	baz=22						
226B	**Tecolote Peak,**	22.38	114	P	**P**	**17 13 28.2**	**+0.5**
	baz=22						
R31A	**Burdett**	22.42	95	P	**P**	**17 13 28.7**	**+0.7**
	baz=22						
425A	**Indio Mountain**	22.68	117	P	**P**	**17 13 32.6**	**+1.6**
	baz=23						
X29A	**Tulia**	22.68	106	P	**P**	**17 13 31.2**	**+0.3**
	baz=23						
ULM	**Lac du Bonnet**	22.91	62	P	**P**	**17 13 33.3**	**+0.2**
ULM	**Lac du Bonnet**	22.91	62	P	**P**	**17 13 33.3**	**+0.2**
	11nm,0.8s,baz=270,slow=9.2,SNR=7.5						
326A	**Caldwell Ranch**	22.99	115	P	**P**	**17 13 34.8**	**+0.7**
	baz=23						
ILAR	**Eielson Array**	23.32	340	P	**P**	**17 13 36.0**	**-1.1**
ILAR				PcP	**PcP**	**17 17 21.8**	**-2.0**
ILAR	**Eielson Array**	23.32	340	P	**P**	**17 13 36.0**	**-1.1**
	0.6nm,0.8s,baz=159,slow=8.0,SNR=7.4						
ILAR				PcP	**PcP**	**17 17 21.8**	**-2.0**
	0.7nm,0.9s,baz=199,slow=1.7,SNR=6.8						
ILAR				LR	LR	17 21 01.9	
	comp=Z,68nm,18.5s,baz=157,slow=32						
Z29A	**Hungry Hill Ra**	23.34	108	P	**P**	**17 13 38.0**	**+0.4**
	baz=23						
426A	**McDonald Obser**	23.38	116	P	**P**	**17 13 38.9**	**+0.6**
	baz=23,SNR=7.1						
228A	**UT Block 9, Go**	23.41	112	P	**P**	**17 13 38.7**	**+0.3**
	baz=24						
W31A	**Holland Ranch,**	23.53	102	P	**P**	**17 13 39.9**	**+0.4**
	baz=24						
427A	**Hayter Ranch,**	23.67	115	P	**P**	**17 13 41.1**	**+0.1**
	baz=24						
328A	**Wristen Ranch,**	23.72	113	P	**P**	**17 13 41.3**	**-0.1**
	baz=24						
526A	**Mary Lane Ranc**	23.74	118	P	**P**	**17 13 42.3**	**+0.5**
	baz=24						
527A	**Woodward Ranch**	23.99	117	P	**P**	**17 13 44.1**	**-0.1**
	baz=24						
626A	**Big Bend Ranch**	24.05	118	P	**P**	**17 13 45.0**	**+0.3**
	baz=24,SNR=7.7						
428A	**Kincaid Ranch,**	24.22	114	P	**P**	**17 13 46.8**	**+0.6**
	baz=24,SNR=7.7						
TXAR	**Lajitas Array**	24.50	118	P	**P**	**17 13 48.8**	**0.0**
TXAR	**Lajitas Array**	24.50	118	P	**P**	**17 13 48.8**	**0.0**
	1.6nm,0.8s,baz=297,slow=7.3,SNR=8.6						
TXAR				LR	LR	17 22 47.7	
	comp=Z,77nm,20.5s,baz=5.0,slow=35						
528A	**Cox Ranch, San**	24.52	115	P	**P**	**17 13 49.0**	**+0.1**
	baz=25						
WMOK	**Wichita Mounta**	24.58	102	*e*P	**P**	**17 13 50.2**	**+0.9**
	33nm,1.0s						
627A	**Terlingua Ranc**	24.60	118	P	**P**	**17 13 49.6**	**0.0**
	baz=25						
LPIG	**La Paz**	24.72	137	LR	LR	17 23 26.6	
	comp=Z,60nm,18.3s,baz=317,slow=36						
330A	**Mertzon**	24.80	111	P	**P**	**17 13 51.3**	**-0.1**
	baz=25						
429A	**Davenport Ranc**	24.80	113	P	**P**	**17 13 51.4**	**0.0**
	baz=25						
Z32A	**Haskell**	24.85	105	P	**P**	**17 13 52.0**	**+0.2**
	baz=25						
628A	**Black Gap, Mar**	24.90	117	P	**P**	**17 13 52.5**	**+0.2**
	baz=25						
529A	**Stev Forest Ra**	24.91	115	P	**P**	**17 13 52.9**	**+0.5**
	baz=25,SNR=10.0						
430A	**Baggett Ranch,**	25.14	112	P	**P**	**17 13 54.8**	**+0.3**
	baz=25						
331A	**San Angelo**	25.36	110	P	**P**	**17 13 56.6**	**+0.1**
	baz=25						
530A	**J-C Ranch, Com**	25.48	114	P	**P**	**17 13 57.7**	**+0.2**
	baz=26						
431A	**Sonora**	25.62	112	P	**P**	**17 13 59.2**	**+0.3**
	baz=26						
531A	**Rocksprings**	25.99	113	P	**P**	**17 14 02.2**	**0.0**
	baz=26						
JCT	**Junction City**	26.29	111	*e*P	**P**	**17 14 04.3**	**-0.6**
	12nm,1.2s						
532A	**Rocksprings**	26.45	112	P	**P**	**17 14 06.0**	**-0.4**
	baz=26						
OXF	**Oxford**	31.40	94	*e*P	**P**	**17 14 50.0**	**-0.3**
	52nm,1.2s						
SADO	**Sadowa**	34.81	71	LR	LR	17 29 41.9	
	comp=Z,165nm,19.4s,baz=336,slow=36						
TKL	**Tuckaleechee C**	34.92	88	LR	LR	17 30 22.8	
	comp=Z,203nm,18.2s,baz=69,slow=38						
CMIG	**Matias Romero**	38.92	123	LR	LR	17 31 50.1	
	comp=Z,28nm,18.9s,baz=189,slow=36						
PETK	**Petropavlovsk-**	47.75	309	LR	LR	17 33 42.4	
	comp=Z,34nm,21.6s,baz=247,slow=32						
MDJ	**Mudanjiang**	67.88	311	P	**P**	**17 19 28.3**	**+0.7**
MDJ				pP	**pP**	**17 19 31.5**	**-0.3**
MDJ				PP	**PP**	**17 21 57.3**	**+0.5**
MDJ				S	**S**	**17 28 25.5**	**-0.1**
MDJ				SS	**SS**	**17 32 46.5**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,7.0nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.8s						
MDJ				LR	LR		
	comp=N,22nm,21.8s						
MDJ				LR	LR		
	comp=Z,33nm,23.9s						
SONM	**Songino Array**	76.69	326	P	**P**	**17 20 19.2**	**-1.2**
SONM	**Songino Array**	76.69	326	P	**

SONM	Songino Array	76.59 326	P	P	17 31 46.4	0.0
	0.7nm,0.8s,baz=73,slow=5.1,SNR=4.5					
MKAR	Makanchi Array	85.58 339	P	P	17 32 32.8	-1.3
	0.2nm,0.8s,baz=17,slow=5.3,SNR=2.7					

IDC 29 17:26:45.8±2.4, 0°.19N×133°.07E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=93.8km s-min=25.9km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.59	202	P	Pn	17 31 17.0	0.0
	0.2nm,0.3s,baz=26,slow=15,SNR=5.6						
FITZ				S	Sn	17 34 39.1	-19
	0.1nm,0.3s,baz=182,slow=19,SNR=2.6						
WRA	Warramunga Arr	20.05	177	P	P	17 31 20.2	-0.4
	1.4nm,0.8s,baz=355,slow=11,SNR=16						
WRA				S	S	17 34 56.5	-11
	1.6nm,0.9s,baz=3.9,slow=27,SNR=5.0						
ASAR	Alice Springs	23.73	178	P	P	17 31 59.4	-0.3
	2.3nm,0.8s,baz=358,slow=9.8,SNR=17						
MKAR	Makanchi Array	64.10	324	P	P	17 37 21.8	-0.1
	0.4nm,0.5s,baz=122,slow=7.3,SNR=5.0						

IDC 29 17:27:16.5±1.6, 5°.65S×149°.33E, h184km±13km, mb3.6/16, mb1 3.7/18, mb1mx3.7/22, mbtmp3.6/18, MS3.1/2, Ms1 3.1/2, ms1mx2.5/34, Error ellipse: s-maj=25.0km s-min=9.2km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.31	210	P	Pn	17 28 20.0	-1.6
	31nm,0.3s,baz=37,slow=12,SNR=46						
PMG				S	Sn	17 29 13.0	+0.2
	18nm,0.3s,baz=34,slow=21,SNR=16						
PMG				LR	LR	17 30 13.4	
	comp=Z,97nm,19.8s,baz=55,slow=41						
CTA	Charters Tower	14.66	191	P	Pn	17 30 35.6	+0.3
	0.3nm,0.3s,baz=17,slow=12,SNR=8.8						
WRA	Warramunga Arr	20.35	224	P	P	17 31 40.0	+1.1
	2.4nm,0.3s,baz=48,slow=11,SNR=22						
WRA				S	S	17 35 13.3	-3.7
	4.4nm,0.8s,baz=39,slow=19,SNR=4.7						
KNRA	Kununurra	22.51	242	P	P	17 32 01.3	+0.4
	baz=5.4,SNR=3.7						
ASAR	Alice Springs	23.27	218	P	P	17 32 08.7	+0.9
	1.2nm,0.5s,baz=52,slow=9.3,SNR=26						
ASAR				S	S	17 36 05.9	-0.5
	0.9nm,0.9s,baz=191,slow=31,SNR=4.0						
FITZ	Fitzroy Crossi	26.23	240	P	P	17 32 34.8	+0.1
	2.0nm,0.3s,baz=62,slow=11,SNR=18						
FITZ	Fitzroy Crossi	26.23	240	P	P	17 32 34.8	+0.2
	baz=7.7,SNR=4.7						
JNU	Nakatsue	42.35	337	P	P	17 34 52.4	-0.2
	2.6nm,0.5s,baz=190,slow=6.1,SNR=6.6						
MJAR	Matsushiro Arr	43.24	347	P	P	17 34 59.3	-0.4
	2.4nm,0.9s,baz=170,slow=7.0,SNR=8.7						
KSRS	Korea Array	47.30	337	P	P	17 35 31.9	+0.4
	1.9nm,0.5s,baz=154,slow=8.4,SNR=12						
ASAJ	Asahikawa	49.91	354	P	P	17 35 51.6	+0.3
	9.9nm,0.8s,baz=134,slow=27,SNR=3.4						
USRK	Ussuriysk Arra	52.02	344	P	P	17 36 06.9	-0.1
	3.1nm,0.7s,baz=177,slow=6.5,SNR=7.7						
CMAR	Chiang Mai Arr	55.14	297	P	P	17 36 31.0	+0.7
	0.1nm,0.5s,baz=126,slow=6.2,SNR=2.8						
PETK	Petropavlovsk-	58.96	6	P	P	17 36 56.0	-0.4
	2.7nm,0.5s,baz=166,slow=7.9,SNR=8.6						
SONM	Songino Array	65.25	330	P	P	17 37 38.6	0.0
	0.6nm,0.7s,baz=143,slow=5.2,SNR=5.4						
SONM				pP	pP	17 38 15.6	-6.0
	0.5nm,0.7s,baz=133,slow=6.1,SNR=3.2						
VNDA	Vanda	72.14	177	P	P	17 38 21.0	+0.6
	0.8nm,0.6s,baz=318,slow=6.7,SNR=9.6						
MKAR	Makanchi Array	78.71	320	P	P	17 38 58.1	-0.4
	0.3nm,0.7s,baz=102,slow=6.1,SNR=3.0						
ZALV	Zalesovo Beam	79.96	327	P	P	17 39 03.9	-1.1
	0.6nm,0.4s,baz=114,slow=6.4,SNR=4.2						
ZALV				pP	pP	17 39 43.6	-6.3
	0.9nm,0.7s,baz=122,slow=7.0,SNR=2.4						
ZALV				LR	LR	18 12 26.3	
	comp=Z,22nm,19.8s,baz=66,slow=34						
MAW	Mawson	83.46	203	P	P	17 39 23.2	+0.2
	0.8nm,0.4s,baz=90,slow=9.1,SNR=2.9						
ILAR	Eielson Array	84.26	23	P	P	17 39 24.2	-2.9
	2.8nm,0.7s,baz=247,slow=5.4,SNR=31						
QSPA	South Pole Qui	84.32	180	P	P	17 39 27.3	-0.4
	1.9nm,0.7s,baz=281,slow=2.3,SNR=10						
TORD	Torodi Ar. Bea	147.24	285	PKPbc	PKPbc	17 46 38.1	-1.0
	0.5nm,0.3s,baz=91,slow=2.7,SNR=15						

IDC 29 17:29:54.8±6.2, 17°.59S×178°.97W, h503km±65km, mb2.9/7, mb1 3.2/7, mb1mx3.1/19, mbtmp2.9/7, Error ellipse: s-maj=70.3km s-min=22.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.17	259	P	P	17 37 18.2	-0.5
	0.3nm,0.6s,baz=95,slow=7.4,SNR=4.6						
WRA				PcP	PcP	17 38 52.4	-0.4
	1.1nm,1.2s,baz=91,slow=3.2,SNR=3.1						
ASAR	Alice Springs	44.37	254	P	P	17 37 20.4	+0.1
	1.3nm,0.3s,baz=89,slow=7.7,SNR=28						
ASAR				PcP	pP	17 38 52.9	-0.5
	0.3nm,0.5s,baz=102,slow=4.0,SNR=6.7						
NVAR	Mina Array Bea	79.56	44	P	P	17 41 09.6	+0.1
	0.4nm,0.6s,baz=221,slow=9.8,SNR=4.4						
ILAR	Eielson Array	85.70	13	P	P	17 41 39.0	-0.6
	0.2nm,0.6s,baz=224,slow=6.2,SNR=2.8						
TXAR	Lajitas Array	86.28	58	P	P	17 41 43.9	+0.5
	0.5nm,0.7s,baz=220,slow=6.0,SNR=7.9						
PDAR	Pinedale Array	87.49	44	P	P	17 41 48.3	-0.6
	0.3nm,0.6s,baz=190,slow=3.0,SNR=4.5						
SONM	Songino Array	92.96	319	P	P	17 42 14.3	+0.3
	0.1nm,0.3s,baz=180,slow=4.3,SNR=2.8						
BRTR	Keskin Array B	144.18	315	PKP	PKPbc	17 48 32.5	-0.5
	0.4nm,0.4s,baz=87,slow=2.2,SNR=5.0						
MMAI	Mount Meron Ar	145.52	303	PKPbc	PKPbc	17 48 36.7	-0.5
	1.2nm,0.6s,baz=72,slow=6.4,SNR=3.7						
GERES	GERESS Array B	147.16	345	PKPbc	PKPbc	17 48 40.6	-0.6
	0.5nm,0.5s,baz=25,slow=3.5,SNR=6.1						

IDC 29 17:32:53.2±1.4, 29°.83S×179°.21W, h335km±22km, mb2.6/2, mb1 2.9/3, mb1mx2.8/18, mbtmp2.8/3, Error ellipse: s-maj=54.9km s-min=34.7km az=125.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.27	63	P	Pn	17 33 38.5	0.0
	39nm,0.3s,baz=270,slow=20,SNR=5.4						
RAO				S	S	17 34 06.8	-7.9
	92nm,0.3s,baz=94,slow=19,SNR=3.6						
URZ	Urewera	8.94	199	P	Pn	17 34 58.1	-0.2
	1.3nm,0.3s,baz=289,slow=2.2,SNR=13						
URZ				S	S	17 36 33.4	-7.0
	2.9nm,0.3s,baz=156,slow=21,SNR=18						
ASAR	Alice Springs	42.09	267	P	P	17 40 13.8	+0.1
	0.2nm,0.8s,baz=101,slow=7.6,SNR=4.2						
WRA	Warramunga Arr	43.03	272	P	P	17 40 20.8	-0.4
	0.5nm,0.7s,baz=109,slow=8.3,SNR=5.5						
FINES	FINESS Array B	144.25	339	PKP	PKPbc	17 51 48.0	+0.1
	3.3nm,1.0s,baz=58,slow=4.2,SNR=8.8						

*ISCJB **29** 17:40:48.0±0.9, 33°.91N±0°.03×25°.57E±0°.03, h9km±6km, mb3.7/17, Error ellipse: s-maj=4.6km s-min=3.5km az=35.9*
*ATH **29** 17:40:48.9, 33°.91N×25°.43E, h8km±3km, MD3.5/9*
*IDC **29** 17:40:49.4±1.0, 34°.10N×25°.60E, h0km, mb3.8/14, mb1 3.9/21, mb1mx3.9/33, mbtmp3.8/21, ML4.1/6, Error ellipse: s-maj=22.6km s-min=15.5km az=15.0*
*CSEM **29** 17:40:52.9±0.1, 34°.00N×25°.59E, h30km, MD3.5, Error ellipse: s-maj=5.2km s-min=3.0km az=34.0*
*THE **29** 17:40:54.3, 34°.23N×25°.50E, h0km±2km, Error ellipse: s-maj=6.1km s-min=1.5km az=178.0*

ISC 29 17:40:48.7±1.3, 33°.95N±0°.03×25°.45E±0°.03, h6km±8km, n131, σ1°.42/152, mb3.9/17, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	1.19	334	P	Pg	17 41 11.8	+0.3
SIVA				S	Sn	17 41 28.3	0.0
SIVA	Sivas	1.19	334	ePB	Pg	17 41 12.0	+0.5
SIVA				eSB	Sn	17 41 28.4	+0.1
SIVA	Sivas	1.19	334	ePb	Pg	17 41 12.0	+0.5
SIVA				eSb	Sn	17 41 28.4	+0.1
LAST	Lasithi	1.21	1	P	Pb	17 41 12.0	-0.1
LAST				S	Sg	17 41 28.4	+0.8
LAST	Lasithi	1.21	1	ePG	Pb	17 41 12.0	-0.1
LAST				eSB	Sn	17 41 29.6	+0.6
LAST	Lasithi	1.21	1	P	Pb	17 41 12.0	-0.1
LAST				S	Sg	17 41 28.4	+0.8
LAST				eSb	Sn	17 41 29.6	+0.6
NPS	Neapolis	1.31	6	P	Pb	17 41 13.9	0.0
NPS				S	Sb	17 41 28.6	-2.4
NPS	Neapolis	1.31	6	ePB	Pb	17 41 13.8	-0.1
NPS	Neapolis	1.31	6	P	Pb	17 41 13.9	0.0
NPS				S	Sb	17 41 28.6	-2.4
ZKR	Zakros	1.32	28	P	Pg	17 41 14.1	0.0
ZKR				S	Sb	17 41 30.2	-1.0
ZKR	Zakros	1.32	28	ePB	Pg	17 41 14.6	+0.5
ZKR	Zakros	1.32	28	P	Pg	17 41 14.1	0.0
ZKR	Zakros	1.32	28	ePb	Pg	17 41 14.6	+0.5
ZKR				S	Sb	17 41 30.2	-1.0
IDI	Anoyia	1.41	341	P	Pb	17 41 15.3	-0.2
IDI	Anoyia	1.41	341	ePG	Pg	17 41 15.6	-0.2
IDI	Anoyia	1.41	341	P	Pb	17 41 15.3	-0.2
IDI	Anoyia	1.41	341	ePg	Pg	17 41 15.6	-0.2
VAM	Vamos	1.78	325	P	Pb	17 41 21.8	0.0
VAM	Vamos	1.78	325	ePG	Pg	17 41 22.3	-0.6
VAM	Vamos	1.78	325	P	Pb	17 41 21.8	0.0
VAM	Vamos	1.78	325	ePg	Pg	17 41 22.3	-0.6
KARN	Karanos	1.92	319	P	Pg	17 41 24.7	-0.9
KARN				S	Sg	17 41 49.5	-1.0
KARN	Karanos	1.92	319	ePG	Pg	17 41 25.0	-0.6
KARN	Karanos	1.92	319	P	Pg	17 41 24.7	-0.9
KARN	Karanos	1.92	319	ePg	Pg	17 41 25.0	-0.6
KARN				S	Sg	17 41 49.5	-1.0
KARP	Karpathos	2.13	41	P	Pb	17 41 28.0	+0.2
KARP				S	Sn	17 41 52.6	+1.0
KARP	Karpathos	2.13	41	ePN	Pb	17 41 27.9	+0.2
KARP	Karpathos	2.13	41	ePn	Pb	17 41 27.9	+0.2
LTBQ	Tobruq	2.29	215	i P	Pg	17 41 31.7	-0.8
	SNR=91						
THR6	Thira Island,	2.40	359	P	Pb	17 41 30.3	-2.0
THR6	Thira Island,	2.40	359	P	Pb	17 41 30.3	-2.0
SANT	Santorini	2.41	0	P	Pn	17 41 30.1	+1.3
SANT				S	Sn	17 41 58.4	-0.3
SANT	Santorini	2.41	0	ePB	Pb	17 41 30.5	-2.1
SANT	Santorini	2.41	0	P	Pn	17 41 30.1	+1.3
SANT	Santorini	2.41	0	ePb	Pb	17 41 30.5	-2.1
SANT				S	Sn	17 41 58.4	-0.3
THR1	Thera Island	2.41	0	P	Pn	17 41 30.4	+1.6
THR1	Thera Island	2.41	0	P	Pn	17 41 30.4	+1.6
THR3	Thira Island,	2.45	359	P	Pn	17 41 30.7	+1.4
THR3	Thira Island,	2.45	359	P	Pn	17 41 30.7	+1.4
ANKY	Antikythira Is	2.60	318	P	Pb	17 41 34.5	-1.3
ANKY	Antikythira Is	2.60	318	ePN	Pb	17 41 34.7	-1.1
ANKY	Antikythira Is	2.60	318	P	Pb	17 41 34.5	-1.3
KYTH	Kithira	3.05	320	P	Pb	17 41 40.8	-2.7
KYTH	Kithira	3.05	320	ePN	Pn	17 41 39.9	+2.3
KYTH	Kithira	3.05	320	ePn	Pn	17 41 39.9	+2.3
KYTH	Kithira	3.05	320	P	Pb	17 41 40.8	-2.7
APE	Apeiranthos	3.11	1	P	Pn	17 41 39.9	+1.5
APE				S	Sn	17 42 14.9	-1.0
APE	Apeiranthos	3.11	1	P	Pn	17 41 39.9	+1.5
APE				S	Sn	17 42 14.9	-1.0
ARG	Arkhangelos	3.15	43	P	Pn	17 41 41.2	+2.3
ARG				S	Sn	17 42 17.9	+1.1
ARG	Arkhangelos	3.15	43	ePN	Pn	17 41 41.7	+2.8
ARG	Arkhangelos	3.15	43	P	Pn	17 41 41.2	+2.3
ARG	Arkhangelos	3.15	43	ePn	Pn	17 41 41.7	+2.8
VLI	Veliai	3.44	324	P	Pn	17 41 45.0	+2.1
VLI	Veliai	3.44	324	ePN	Pn	17 41 44.6	+1.7
VLI	Veliai	3.44	324	ePn	Pn	17 41 44.6	+1.7
VLI	Veliai	3.44	324	P	Pn	17 41 45.0	+2.1
SMG	Samos	3.92	16	P	Pn	17 41 50.1	+0.7
SMG				S	Sn	17 42 32.9	-2.8
SMG	Samos	3.92	16	P	Pn	17 41 50.1	+0.7
SMG				S	Sn	17 42 32.9	-2.8
CHOS	Chios island	4.45	6	P	Pn	17 41 57.9	+1.0
CHOS	Chios island	4.45	6	P	Pn	17 41 57.9	+1.0
LJBD	Adjabya	5.37	237	i P	Pn	17 42 12.8	+3.4
	SNR=76						
LJBD				eS	Sn	17 43 14.3	+2.7
	SNR=76						
CSS	Prodhromos	6.59	79	P	Pn	17 42 26.4	+0.2
CSS				S	Sn	17 43 39.0	-2.6
CSS	Prodhromos	6.59	79	P	Pn	17 42 26.4	+0.2
CSS	Prodhromos	6.59	79	Pn	Pn	17 42 27.7	+1.5
CSS				S	Sn	17 43 39.0	-2.6
KZIT	Kziot	8.15	109	Pn	Pn	17 42 48.1	+0.5
SLTI	Sal'it	8.23	99	Pn	Pn	17 42 48.8	+0.2
MMAI	Mount Meron Ar	8.37	94	Pn	Pn	17 42 50.0	-0.7
	1.5nm,0.3s,baz=266,slow=12,SNR=11						
MMAI				Sn	Sn	17 44 23.2	-2.2
	3.0nm,0.3s,baz=260,slow=24,SNR=8.6						
MMLI	Mount Malkishu	8.49	97	Pn	Pn	17 42 52.8	+0.5
KSDI	Kefar Szold	8.55	92	Pn	Pn	17 42 53.2	+0.1
KSDI				Sn	Sn	17 44 25.9	-4.0
HMDT	Nahal Hemdat	8.62	99	Pn	Pn	17 42 54.3	+0.2
DSI	Dead Sea	8.69	103	Pn	Pn	17 42 55.0	0.0
BRTR	Keskin Array B	8.73	46	Pn	Pn	17 42 57.8	+2.1
	0.1nm,0.3s,baz=220,slow=13,SNR=7.6						
KRMI	Paran Flat	8.75	113	Pn	Pn	17 42 56.3	+0.4
MZDA	Masada	8.77	105	Pn	Pn	17 42 56.8	+0.8
PRNI	Paran	8.86	111	Pn	Pn	17 42 57.8	+0.5
HRFI	Mount Harif	9.03	113	Pn	Pn	17 43 00.3	+0.6
MBRI	Mt Berech	9.05	115	Pn	Pn	17 43 00.6	+0.6
EIL	Elat	9.14	115	Pn	Pn	17 43 01.1	-0.1
	0.8nm,0.3s,baz=307,slow=11,SNR=16						
EIL				Sn	Sn	17 44 39.8	-4.6
	1.2nm,0.3s,baz=168,slow=23,SNR=3.7						
EIL	Elat	9.14	115	Pn	Pn	17 43 01.1	-0.1
MLR	Muntele Rosu	11.53	2	Pn	Pn	17 43 31.8	-2.1
	0.1nm,0.3s,baz=189,slow=12,SNR=4.4						
MLR				Sn	Sn	17 45 39.0	-4.1
	0.0nm,0.3s,baz=158,slow=19,SNR=2.4						
KEST	Kesra	13.35	282	Pn	P	17 44 03.0	-5.6
	0.0nm,0.3s,baz=78,slow=9.3,SNR=2.0						
VRAC	Vranov	16.69	339	Pn	P	17 44 44.4	-1.2
	0.2nm,0.3s,baz=156,slow=12,SNR=3.3						
KBZ	Khabaz	16.71	49	Pn	P	17 44 44.9	-0.8
	0.1nm,0.3s,baz=236,slow=11,SNR=2.1						
AKASG	Malin Array Be	16.97	8	Pn	P	17 44 47.5	-1.1
	3.9nm,0.3s,baz=199,slow=10,SNR=10						
SBF	Sospel	17.13	311	eP	Pn	17 44 48.2	-0.6
	142nm,1.5s						
GERES	GERESS Array B	17.26	333	P	P	17 44 52.8	+0.9
	0.5nm,0.3s,baz=147,slow=12,SNR=15						
MBDF	Montbardon	17.97	312	eP	P	17 44 59.4	-0.5
	8.3nm,0.8s						
MBDF	Montbardon	17.97	312	eP	P	17 44 59.4	-0.5
	8.0nm,0.8s						
LPL	La Plagne	18.41	314	eP	Pn	17 45 05.8	+1.1
LPL	La Plagne	18.41	314	eP	Pn	17 45 05.8	+1.1
ORIF	Oris-en-Rattie	18.62	312	eP	Pn	17 45 08.0	+0.8
	17nm,1.1s						
ORIF	Oris-en-Rattie	18.62	312	eP	Pn	17 45 08.0	+0.8
	17nm,1.1s						
HINF	Hinteralfeld	19.67	320	eP	Pn	17 45 20.5	+0.8
HINF	Hinteralfeld	19.67	320	eP	Pn	17 45 20.5	+0.8
CDF	Champ du Feu	19.82	322	eP	Pn	17 45 21.1	-0.5
CDF	Champ du Feu	19.82	322	eP	Pn	17 45 21.1	-0.5
SMF	Signal de Mont	20.71	314	eP	Pn	17 45 30.7	-1.3
SMF	Signal de Mont	20.71	314	eP	Pn	17 45 30.7	-1.3
SSF	Saint Saulge	21.12	315	eP	P	17 45 36.5	+2.4
SSF	Saint Saulge	21.12	315	eP	P	17 45 36.5	+2.4
RJF	Les Rejaudoux	21.56	309	eP	P	17 45 40.0	+1.2
	7.5nm,0.8s						
RJF	Les Rejaudoux	21.56	309	eP	P	17 45 40.0	+1.2
	7.0nm,0.8s						
BAIF	Baives	22.42	322	eP	P	17 45 50.6	+2.6
	11nm,0.8s						
BAIF	Baives	22.42	322	eP	P	17 45 50.6	+2.6
	11nm,0.8s						
MFF	Saint Martin d	23.14	311	eP	P	17 45 57.5	+1.9
MFF	Saint Martin d	23.14	311	eP	P	17 45 57.5	+1.9
LDF	La Druitiere	24.00	315	eP	P	17 46 04.1	0.0
LDF	La Druitiere	24.00	315	eP	P	17 46 04.1	0.0
ESDC	Sonseca Array	24.17	292	P	P	17 46 08.6	+2.8
	0.4nm,0.5s,baz=81,slow=11,SNR=3.7						
FLN	La Foliniere	24.29	315	eP	P	17 46 06.9	+0.1
FLN	La Foliniere	24.29	315	eP	P	17 46 06.9	+0.1
HFS	Hagfors	27.30	347	P	P	17 46 33.8	-0.1
	1.8nm,0.8s,baz=159,slow=8.9,SNR=5.2						
FINES	FINESS Array B	27.51	1	P	P	17 46 35.0	-0.7
	1.5nm,0.5s,baz=160,slow=12,SNR=16						
KAF	Kangasniemi	28.19	1	ep	P	17 46 41.2	-0.5
KAF	Kangasniemi	28.19	1	eP	P	17 46 41.2	-0.5
NB2	NORSAR Subarra	28.63	346	P	P	17 46 45.9	+0.2
	comp=Z,0.6nm,0.5s,baz=159,slow=9.3						
NB2	NORSAR Subarra	28.63	346	P	P	17 46 45.9	+0.2
	comp=Z,0.6nm,0.5s,SNR=3.3						
NOA	NORSAR Array B	28.63	346	P	P	17 46 45.7	0.0
	comp=Z,1.0nm,0.6s,baz=146,slow=9.6,SNR=4.1						
EKA	Eskdalemuir Ar	29.17	326	P	P	17 46 52.5	+1.9
	comp=Z,0.6nm,0.5s,baz=125,slow=9.7,SNR=3.6						
JOF	Joensuu	29.22	5	ep	P	17 46 50.0	-0.9
	comp=Z,1.6nm,0.3s						
JOF	Joensuu	29.22	5	eP	P	17 46 50.0	-0.9
	comp=Z,1.6nm,0.3s						
TORD	Torodi Ar. Bea	29.91	232	P	P	17 47 00.4	+2.9
	comp=Z,0.2nm,0.3s,baz=45,slow=7.2,SNR=4.0						
ARCES	ARCESS Array B	35.64	0	P	P	17 47 45.6	-1.4
	comp=Z,0.6nm,0.3s,baz=181,slow=9.2,SNR=13						
MKAR	Makanchi Array	44.25	56	P	P	17 48 59.9	+1.0
	comp=Z,1.2nm,0.6s,baz=279,slow=6.9,SNR=19						
ZALV	Zalesovo Beam	45.67	45	P	P	17 49 10.5	+0.4
	comp=Z,1.7nm,0.5s,baz=269,slow=9.2,SNR=9.3						
SONM	Songino Array	60.07	50	P	P	17 50 58.2	+1.5
	comp=Z,0.3nm,0.5s,baz=301,slow=9.6,SNR=3.4						
CMAR	Chiang Mai Arr	66.48	83	P	P	17 51 40.0	+0.5
	comp=Z,0.3nm,0.6s,baz=313,slow=7.1,SNR=3.4						
INK	Inuvik	76.84	352	P	P	17 52 42.1	+1.1
	baz=47,slow=3.3						
USRK	Ussuriysk Arra	77.53	45	P	P	17 52 46.0	+0.7
	comp=Z,0.5nm,0.4s,baz=300,slow=3.6,SNR=4.1						
YKA	Yellowknife Ar	78.67	342	P	P	17 52 52.1	+0.8
	comp=Z,0.7nm,0.6s,baz=26,slow=5.8,SNR=3.1						
ILAR	Eielson Array	81.42	357	P	P	17 53 07.0	+0.8
	comp=Z,0.2nm,0.4s,baz=339,slow=3.0,SNR=4.6						

*ATH **29** 17:41:33.6, 38°.08N×22°.09E, h21km±1km, MD3.4/26, ML3.2*
*CSEM **29** 17:41:33.9±0.1, 38°.08N×22°.10E, h12km, ML3.2/20, Error ellipse: s-maj=2.1km s-min=1.9km az=87.0*
*ISCJB **29** 17:41:34.2±0.3, 38°.10N±0°.01×22°.10E±0°.02, h13km±2km, Error ellipse: s-maj=2.2km s-min=1.9km az=166.0*
*THE **29** 17:41:34.5, 38°.09N×22°.11E, h11km, ML3.2/20, Error ellipse: s-maj=0.8km s-min=0.5km az=246.0*

ISC 29 17:41:34.2±0.8, 38°.08N±0°.01×22°.10E±0°.01, h14km±4km, n156, σ0°.78/256, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	Kalavryta, Ach	0.06	131	P	Pg	17 41 37.0	0.0
KLV				S	Sg	17 41 39.1	+0.3
KLV	Kalavryta, Ach	0.06	131	ePB	Pg	17 41 37.2	+0.2
KLV				eSB	Sg	17 41 39.5	+0.7
KLV	Kalavryta, Ach	0.06	131	P	Pg	17 41 37.0	0.0
KLV				S	Sg	17 41 39.1	+0.3
GUR	Goura	0.24	126	P	Pb	17 41 39.4	-1.0
GUR				S	Sb	17 41 43.8	-0.8
GUR	Goura	0.24	126	ePB	Pb	17 41 39.6	-0.8
GUR				eSB	Sb	17 41 43.8	-0.8
GUR	Goura	0.24	126	ePb	Pb	17 41 39.6	-0.8
GUR				S	Sb	17 41 43.8	-0.8
TRIZ	Trizonia	0.29	356	P	Pg	17 41 40.1	-0.1
TRIZ				S	Sb	17 41 44.3	-1.5
TRIZ	Trizonia	0.29	356	ePB	Pg	17 41 40.2	0.0
TRIZ				eSB	Sb	17 41 44.7	-1.1
TRIZ	Trizonia	0.29	356	P	Pg	17 41 40.1	-0.1
TRIZ				S	Sb	17 41 44.3	-1.5
PSA1	Psathopyrgos	0.30	326	ePB	Pg	17 41 40.4	0.0
PSA1				eSB	Sb	17 41 44.8	-1.3
KALE	Kalithea	0.31	6	P	Pg	17 41 40.5	-0.2
KALE				S	Sg	17 41 45.1	0.0
KALE	Kalithea	0.31	6	ePB	Pg	17 41 41.0	+0.3
KALE				eSB	Sg	17 41 45.4	+0.3
KALE	Kalithea	0.31	6	P	Pg	17 41 40.7	0.0
KALE	Kalithea	0.31	6	ePb	Pg	17 41 41.0	+0.3
KALE				S	Sg	17 41 45.1	0.0
UPR	University Cam	0.32	310	P	Pg	17 41 40.9	+0.1
UPR				S	Sg	17 41 45.9	+0.7
EFP	Efpalio	0.38	336	P	Pg	17 41 41.7	-0.1
EFP				S	Sg	17 41 47.8	+0.8
EFP	Efpalio	0.38	336	ePB	Pg	17 41 41.8	-0.1
EFP				eSB	Sg	17 41 47.6	+0.6

DID	**Didima**	**1.07**	**122**	P	**Pn**	**17 41 54.6**	**-0.2**
DID				S	**Sg**	**17 42 09.6**	**+0.8**
DIDY	**Didyma**	**1.07**	**124**	P	**Pb**	**17 41 52.6**	**-1.9**
DIDY				S	**Sg**	**17 42 10.1**	**+1.3**
DIDY	**Didyma**	**1.07**	**124**	P	**Pb**	**17 41 52.6**	**-1.9**
DIDY				S	**Sg**	**17 42 10.1**	**+1.3**
NAIG	**Nisos Aigina**	**1.15**	**106**	*e*PN	**Pb**	**17 41 56.2**	**+0.4**
SMIA	**Simia**	**1.18**	**47**	P	**Pb**	**17 41 56.3**	**-0.1**
SMIA				S	**Sg**	**17 42 13.3**	**+0.9**
SMIA	**Simia**	**1.18**	**47**	P	**Pb**	**17 41 56.3**	**-0.1**
SMIA				S	**Sg**	**17 42 13.3**	**+0.9**
SFD	**Strofades**	**1.19**	**226**	P	**Pb**	**17 41 56.7**	**+0.2**
SFD				S	**Sg**	**17 42 14.7**	**+2.0**
SFD	**Strofades**	**1.19**	**226**	*e*PN	**Pn**	**17 41 56.0**	**-0.4**
SFD	**Strofades**	**1.19**	**226**	*e*Pn	**Pn**	**17 41 56.0**	**-0.4**
SFD	**Strofades**	**1.19**	**226**	P	**Pb**	**17 41 56.7**	**+0.2**
VLS	**Valsamata**	**1.19**	**275**	P	**Pn**	**17 41 55.4**	**-1.1**
VLS				S	**Sg**	**17 42 13.3**	**+0.6**
VLS	**Valsamata**	**1.19**	**275**	*e*PB	**Pn**	**17 41 55.5**	**-1.1**
VLS	**Valsamata**	**1.19**	**275**	P	**Pn**	**17 41 55.4**	**-1.1**
VLS				S	**Sg**	**17 42 13.1**	**+0.4**
PYL	**PYLOS**	**1.22**	**194**	P	**Pn**	**17 41 56.0**	**-0.8**
PYL				S	**Sg**	**17 42 14.5**	**+1.1**
PYL	**PYLOS**	**1.22**	**194**	*e*PN	**Pn**	**17 41 56.5**	**-0.3**
PYL	**PYLOS**	**1.22**	**194**	P	**Pn**	**17 41 56.0**	**-0.8**
PYL				S	**Sg**	**17 42 14.5**	**+1.1**
ATH	**Athens Observa**	**1.28**	**94**	P	**Pb**	**17 41 58.5**	**+0.4**
ATH				S	**Sg**	**17 42 16.5**	**+0.9**
ATH	**Athens Observa**	**1.28**	**94**	*e*PN	**Pg**	**17 41 58.9**	**0.0**
ATH	**Athens Observa**	**1.28**	**94**	P	**Pb**	**17 41 58.5**	**+0.4**
ATH	**Athens Observa**	**1.28**	**94**	*e*Pn	**Pg**	**17 41 58.9**	**0.0**
ATH				S	**Sg**	**17 42 16.5**	**+0.9**
MRKA	**Markates**	**1.33**	**61**	P	**Pn**	**17 41 58.3**	**0.0**
MRKA				S	**Sb**	**17 42 15.5**	**-0.3**
MRKA	**Markates**	**1.33**	**61**	P	**Pn**	**17 41 58.3**	**0.0**
MRKA				S	**Sb**	**17 42 15.5**	**-0.3**
DYR	**Agios Nikonas**	**1.33**	**172**	P	**Pn**	**17 41 57.9**	**-0.5**
DYR				S	**Sb**	**17 42 15.9**	**+0.1**
DYR	**Agios Nikonas**	**1.33**	**172**	*e*PN	**Pn**	**17 41 58.1**	**-0.3**
DYR	**Agios Nikonas**	**1.33**	**172**	*e*Pn	**Pn**	**17 41 58.1**	**-0.3**
DYR				S	**Sb**	**17 42 15.9**	**+0.1**
LKD2	**Lefkada island**	**1.33**	**302**	P	**Pn**	**17 41 58.0**	**-0.5**
LKD2				S	**Sg**	**17 42 17.8**	**+0.6**
LKD2	**Lefkada island**	**1.33**	**302**	*e*PN	**Pb**	**17 41 59.4**	**+0.4**
LKD2	**Lefkada island**	**1.33**	**302**	P	**Pn**	**17 41 58.0**	**-0.5**
LKD2	**Lefkada island**	**1.33**	**302**	*e*Pn	**Pb**	**17 41 59.4**	**+0.4**
LKD2				S	**Sg**	**17 42 17.8**	**+0.6**
ATHU	**Athens Univers**	**1.34**	**94**	P	**Pb**	**17 41 59.2**	**+0.2**
ATHU				S	**Sb**	**17 42 16.9**	**+0.9**
ATHU	**Athens Univers**	**1.34**	**94**	P	**Pb**	**17 41 59.2**	**+0.2**
ATHU				S	**Sb**	**17 42 16.9**	**+0.9**
ERET	**Eretria**	**1.39**	**74**	P	**Pn**	**17 41 59.4**	**+0.1**
ERET				S	**Sn**	**17 42 17.1**	**-0.4**
ERET	**Eretria**	**1.39**	**74**	P	**Pn**	**17 41 59.4**	**+0.1**
ERET				S	**Sn**	**17 42 17.1**	**-0.4**
PTL	**Penteli**	**1.40**	**91**	P	**Pn**	**17 41 57.8**	**-1.5**
PTL				S	**Sb**	**17 42 18.6**	**+0.9**
PTL	**Penteli**	**1.40**	**91**	*e*PB	**Pn**	**17 41 58.1**	**-1.2**
PTL	**Penteli**	**1.40**	**91**	P	**Pn**	**17 41 57.8**	**-1.5**
PTL				S	**Sb**	**17 42 18.6**	**+0.9**
THL	**Klokotos Trika**	**1.48**	**358**	P	**Pb**	**17 42 01.7**	**+0.1**
THL				S	**Sb**	**17 42 20.8**	**+0.5**
THL	**Klokotos Trika**	**1.48**	**358**	*e*PN	**Pb**	**17 42 01.9**	**+0.3**
THL	**Klokotos Trika**	**1.48**	**358**	P	**Pb**	**17 42 01.7**	**+0.1**
THL				S	**Sb**	**17 42 20.8**	**+0.5**
NEO	**Neokhori**	**1.51**	**35**	P	**Pn**	**17 42 00.7**	**-0.1**
NEO				S	**Sb**	**17 42 21.0**	**0.0**
NEO	**Neokhori**	**1.51**	**35**	*e*PB	**Pn**	**17 42 00.8**	**-0.1**
NEO	**Neokhori**	**1.51**	**35**	P	**Pn**	**17 42 00.7**	**-0.1**
NEO				S	**Sb**	**17 42 21.0**	**0.0**
VLI	**Veliai**	**1.51**	**154**	P	**Pb**	**17 42 01.4**	**-0.7**
VLI				S	**Sb**	**17 42 21.9**	**+0.8**
VLI	**Veliai**	**1.51**	**154**	*e*PN	**Pb**	**17 42 01.4**	**-0.7**
VLI	**Veliai**	**1.51**	**154**	P	**Pb**	**17 42 01.4**	**-0.7**
VLI				S	**Sb**	**17 42 21.9**	**+0.8**
SKIA	**Skiathos**	**1.52**	**44**	P	**Pn**	**17 42 01.1**	**0.0**
SKIA				S	**Sb**	**17 42 21.7**	**+0.2**
SKIA	**Skiathos**	**1.52**	**44**	P	**Pn**	**17 42 01.1**	**0.0**
SKIA				S	**Sb**	**17 42 21.7**	**+0.2**
XOR	**Xorichti**	**1.54**	**33**	P	**Pn**	**17 42 01.2**	**-0.1**
XOR				S	**Sb**	**17 42 22.0**	**0.0**
XOR	**Xorichti**	**1.54**	**33**	P	**Pn**	**17 42 01.2**	**-0.1**
XOR				S	**Sb**	**17 42 22.0**	**0.0**
AOS	**Alonnisos**	**1.77**	**51**	P	**Pn**	**17 42 03.8**	**-0.6**
AOS				S	**Sn**	**17 42 26.4**	**-0.3**
AOS	**Alonnisos**	**1.77**	**51**	*e*PB	**Pn**	**17 42 04.3**	**-0.1**
AOS	**Alonnisos**	**1.77**	**51**	P	**Pn**	**17 42 03.8**	**-0.6**
AOS				S	**Sn**	**17 42 26.4**	**-0.3**
JAN	**Janina**	**1.85**	**329**	P	**Pb**	**17 42 08.9**	**+1.1**
IGT	**Igoumenitsa**	**2.00**	**317**	P	**Pb**	**17 42 11.3**	**+0.9**
PAIG	**Paliouri**	**2.22**	**33**	P	**Pn**	**17 42 10.3**	**-0.3**
PAIG	**Paliouri**	**2.22**	**33**	P	**Pn**	**17 42 10.3**	**-0.3**
KZN	**Kozani**	**2.24**	**354**	P	**Pn**	**17 42 11.8**	**+0.9**
KZN				S	**Sn**	**17 42 39.2**	**+0.8**
KZN	**Kozani**	**2.24**	**354**	*e*PN	**Pn**	**17 42 12.0**	**+1.1**
KZN	**Kozani**	**2.24**	**354**	P	**Pn**	**17 42 11.8**	**+0.9**
KZN				S	**Sn**	**17 42 39.2**	**+0.8**
KEK	**Kerkira**	**2.42**	**313**	P	**Pn**	**17 42 13.6**	**+0.2**
KEK	**Kerkira**	**2.42**	**313**	*e*PB	**Pn**	**17 42 15.0**	**+1.6**
KEK	**Kerkira**	**2.42**	**313**	P	**Pn**	**17 42 13.6**	**+0.2**
SRN	**Sarande**	**2.43**	**318**	P	**Pn**	**17 42 14.9**	**+1.4**
SRN	**Sarande**	**2.43**	**318**	P	**Pn**	**17 42 14.9**	**+1.4**
NEST	**Nestorio**	**2.47**	**341**	P	**Pb**	**17 42 16.9**	**-1.5**
PLG	**Polygyros**	**2.52**	**24**	P	**Pn**	**17 42 14.7**	**-0.1**
PLG				S	**Sn**	**17 42 44.4**	**-0.9**
PLG	**Polygyros**	**2.52**	**24**	*e*PN	**Pn**	**17 42 14.7**	**-0.1**
PLG	**Polygyros**	**2.52**	**24**	P	**Pn**	**17 42 14.7**	**-0.1**
PLG				S	**Sn**	**17 42 44.4**	**-0.9**
HORT	**Hortiatis**	**2.63**	**17**	P	**Pn**	**17 42 16.0**	**-0.3**
HORT				S	**Sn**	**17 42 48.5**	**+0.4**
HORT	**Hortiatis**	**2.63**	**17**	P	**Pn**	**17 42 16.0**	**-0.3**
HORT				S	**Sn**	**17 42 48.5**	**+0.4**
OUR	**Ouranopolis**	**2.69**	**32**	P	**Pn**	**17 42 16.8**	**-0.2**
OUR	**Ouranopolis**	**2.69**	**32**	P	**Pn**	**17 42 16.8**	**-0.2**
FNA	**Florina**	**2.76**	**349**	P	**Pn**	**17 42 19.4**	**+1.3**
FNA	**Florina**	**2.76**	**349**	*e*PN	**Pn**	**17 42 19.6**	**+1.5**
FNA	**Florina**	**2.76**	**349**	P	**Pn**	**17 42 19.4**	**+1.3**
GRG	**Griva**	**2.88**	**5**	P	**Pn**	**17 42 19.7**	**-0.1**
GRG	**Griva**	**2.88**	**5**	*e*PN	**Pn**	**17 42 19.9**	**+0.2**
GRG	**Griva**	**2.88**	**5**	*e*PN	**Pn**	**17 42 20.0**	**+0.2**
GRG	**Griva**	**2.88**	**5**	*e*Pn	**Pn**	**17 42 19.9**	**+0.2**
SOH	**Sokhos**	**2.91**	**19**	P	**Pn**	**17 42 19.7**	**-0.4**
SOH				S	**Sn**	**17 42 55.4**	**+0.6**
SOH	**Sokhos**	**2.91**	**19**	P	**Pn**	**17 42 19.7**	**-0.4**
SOH				S	**Sn**	**17 42 55.4**	**+0.6**
LIA	**Limnos Island**	**3.01**	**52**	P	**Pn**	**17 42 20.7**	**-0.8**
LIA	**Limnos Island**	**3.01**	**52**	*e*PN	**Pn**	**17 42 21.6**	**+0.1**
LIA	**Limnos Island**	**3.01**	**52**	P	**Pn**	**17 42 20.7**	**-0.8**
LIA	**Limnos Island**	**3.01**	**52**	*e*Pn	**Pn**	**17 42 21.6**	**+0.1**
KNT	**Kendrikon**	**3.14**	**11**	P	**Pn**	**17 42 24.1**	**+0.8**
KNT				S	**Sn**	**17 43 00.5**	**-0.1**
KNT	**Kendrikon**	**3.14**	**11**	P	**Pn**	**17 42 24.1**	**+0.8**
KNT				S	**Sn**	**17 43 00.5**	**-0.1**
SRS	**Serrai**	**3.25**	**20**	P	**Pn**	**17 42 24.9**	**+0.2**
SRS	**Serrai**	**3.25**	**20**	P	**Pn**	**17 42 24.9**	**+0.2**
KAVA	**Kavala**	**3.46**	**32**	P	**Pn**	**17 42 26.4**	**-1.2**
KAVA				S	**Sn**	**17 43 07.2**	**-1.2**
KAVA	**Kavala**	**3.46**	**32**	P	**Pn**	**17 42 26.4**	**-1.2**
KAVA				S	**Sn**	**17 43 07.2**	**-1.2**
NVR	**Nevrokopi**	**3.54**	**22**	P	**Pn**	**17 42 28.9**	**+0.1**
NVR	**Nevrokopi**	**3.54**	**22**	P	**Pn**	**17 42 28.9**	**+0.1**
SMTH	**Samothraki Isl**	**3.58**	**47**	P	**Pn**	**17 42 28.4**	**-0.9**
SMTH	**Samothraki Isl**	**3.58**	**47**	P	**Pn**	**17 42 28.4**	**-0.9**
RDO	**Rodhopi**	**4.05**	**40**	P	**Pn**	**17 42 35.7**	**-0.1**
RDO				S	**Sn**	**17 43 23.2**	**+0.2**
RDO	**Rodhopi**	**4.05**	**40**	P	**Pn**	**17 42 35.7**	**-0.1**
RDO				S	**Sn**	**17 43 23.2**	**+0.2**
VTS	**Vitosha**	**4.59**	**10**	P	**Pn**	**17 42 42.2**	**-1.1**
VTS	**Vitosha**	**4.59**	**10**	P	**Pn**	**17 42 42.2**	**-1.1**
BARS	**Barje**	**4.74**	**357**	*e*Pn	**Pn**	**17 42 45.4**	**+0.2**

*BJI **29** 17:51:33.6, 13.90N×120.90E, h30km, mB4.9/6, mb4.8/15, Ms4.6/2, Ms7 4.3/2*
*ISCJB **29** 17:51:48.8±0.3, 13.85N±0.05×120.73E±0.05, h200km, mb4.0/29, Error ellipse: s-maj=8.1km s-min=5.8km az=39.9*
*IDC **29** 17:51:48.8±0.6, 13.88N×120.70E, h184km±5km, mb3.9/26, mb1 4.0/26, mb1mx3.9/33, mbtmp3.9/26, Error ellipse: s-maj=18.1km s-min=8.1km az=59.0*
ISC 29 17:51:50.0±0.5, 13.82N±0.06×120.64E±0.08, h200km, n60, σ1§34/57, mb4.2/29, 4C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.40**	**45⇑**	*e*P	**Pn**	**17 52 13.8**	**-3.0**
TGY	**Tagaytay City**	**0.40**	**45**	P	**Pn**	**17 52 13.8**	**-3.0**
	662nm,0.3s,baz=275,slow=2.4,SNR=144						
LQP	**Lukban**	**0.92**	**71⇑**	*e*P	**Pn**	**17 52 16.8**	**-2.7**
SJMP	**San Jose**	**1.42**	**161**	*e*P	**Pn**	**17 52 20.7**	**-2.4**
SJMP				*e*S	**Sn**	**17 52 44.0**	**-4.8**
GQP	**Guinayangan**	**1.75**	**87⇓**	*i*P	**Pn**	**17 52 24.0**	**-2.0**
OTRP	**Odiongan**	**1.97**	**137**	*e*P	**Pn**	**17 52 26.4**	**-1.9**
PVCP	**Virac**	**3.42**	**93⇓**	*i*P	**Pn**	**17 52 44.4**	**-0.3**
PALP	**Palanan**	**3.66**	**28⇑**	*i*P	**Pn**	**17 52 45.4**	**-2.1**
PALP				*i* S	**Sn**	**17 53 30.5**	**-2.3**
CNP	**Catarman**	**4.12**	**108**	*e*P	**Pn**	**17 52 54.0**	**+0.7**
WHN	**Wuhan**	**17.63**	**342**	P	**Pn**	**17 55 42.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**21.34**	**285**	P	**P**	**17 56 23.8**	**+2.0**
	8.5nm,1.1s,baz=96,slow=7.6,SNR=52						
XAN	**Xi'an**	**22.77**	**334**	P	**P**	**17 56 34.8**	**-0.5**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSRS	**Korea Array**	**24.42**	**14**	P	**P**	**17 56 49.6**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=195,slow=11,SNR=8.3						
LZH	**Lanzhou**	**26.82**	**329**	*e*P	**P**	**17 57 13.3**	**+1.3**
LZH				pP	pP	17 57 24.3	-28
LZH				sP	sP	17 57 29.3	-46
LZH				pmax	pmax		
	comp=Z,64nm,1.0s						
LZH				pmax	pmax		
	comp=Z,310nm,5.0s						
SHL	**Shillong**	**29.42**	**298**	*e*P	P	17 57 37.0	+1.8
GTA	**Gaotai**	**31.41**	**328**	⇑P	P	17 57 53.8	+1.3
GTA				pP	pP	17 58 07.0	-26
GTA				sP	sP	17 58 12.3	-44
GTA				pmax	pmax		
	comp=Z,18nm,0.9s						
LSA	**Lhasa**	**31.50**	**305**	P	**P**	**17 57 54.5**	**+0.7**
USRK	**Ussuriysk Arra**	**31.80**	**16**	P	**P**	**17 57 56.0**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=221,slow=9.7,SNR=6.9						
TAPN	**Taplejung**	**33.52**	**299**	*e*P	**P**	**17 58 12.0**	**+0.8**
ODAN	**Odare**	**33.66**	**298**	*e*P	**P**	**17 58 13.1**	**+0.8**
	comp=Z,65nm,0.8s						
RAMN	**Ramite**	**34.36**	**298**	*e*P	**P**	**17 58 19.5**	**+1.1**
	comp=Z,49nm,0.9s						
JIRN	**Jiri**	**34.91**	**299**	*e*P	**P**	**17 58 24.1**	**+0.9**
PMG	**Port Moresby**	**35.00**	**130**	P	**P**	**17 58 24.2**	**+0.5**
	comp=Z,5.1nm,0.5s,baz=312,slow=12,SNR=3.5						
GUN	**Gumba**	**35.24**	**299**	*e*P	**P**	**17 58 26.6**	**+0.6**
	comp=Z,47nm,0.8s						
PKI	**Pulchoki**	**35.55**	**298**	*e*P	**P**	**17 58 29.0**	**+0.3**
PKIN	**Phulchoki**	**35.56**	**298**	*e*P	**P**	**17 58 28.9**	**+0.2**
	comp=Z,6.0nm,0.6s						
KKN	**Kakani**	**35.72**	**299**	*e*P	**P**	**17 58 30.3**	**+0.3**
	comp=Z,26nm,0.9s						
DMN	**Daman**	**35.82**	**298**	*e*P	**P**	**17 58 31.3**	**+0.4**
SONM	**Songino Array**	**35.93**	**344**	P	**P**	**17 58 31.8**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=160,slow=9.6,SNR=48						
WRA	**Warramunga Arr**	**36.15**	**158**	P	**P**	**17 58 32.8**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=327,slow=10,SNR=74						
KOLN	**Koldanda**	**37.15**	**298**	*e*P	**P**	**17 58 41.9**	**-0.2**
	comp=Z,13nm,0.9s						
DANN	**Dangsing**	**37.16**	**299**	*e*P	**P**	**17 58 42.0**	**-0.2**
ASAR	**Alice Springs**	**39.45**	**161**	P	**P**	**17 59 01.1**	**+0.2**
	comp=Z,5.9nm,0.3s,baz=334,slow=7.8,SNR=324						
CTA	**Charters Tower**	**42.07**	**143**	P	P	17 59 24.1	+1.6
	comp=Z,2.5nm,0.5s,baz=317,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**45.91**	**324**	P	**P**	**17 59 53.6**	**+0.9**
	comp=Z,8.9nm,0.8s,baz=129,slow=8.6,SNR=62						
ZALV	**Zalesovo Beam**	**48.93**	**333**	P	**P**	**18 00 15.7**	**-0.1**
	comp=Z,11nm,1.0s,baz=125,slow=6.7,SNR=26						
STKA	**Stephens Creek**	**49.67**	**156**	P	**P**	**18 00 22.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=343,slow=10,SNR=9.0						
DZM	**Mont Dzumac**	**57.35**	**128**	P	**P**	**18 01 18.7**	**+0.9**
	comp=Z,7.6nm,0.9s,baz=18,slow=7.5,SNR=3.3						
AKTO	**Aktyubinsk**	**62.09**	**320**	P	**P**	**18 01 50.0**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=95,slow=6.7,SNR=16						
KBZ	**Khabaz**	**71.76**	**312**	P	**P**	**18 02 51.2**	**+0.6**
	comp=Z,4.0nm,1.0s,baz=163,slow=2.2,SNR=7.3						
ILAR	**Eielson Array**	**78.67**	**26**	P	**P**	**18 03 29.1**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=255,slow=5.6,SNR=4.7						
ARCES	**ARCESS Array B**	**78.96**	**339**	P	**P**	**18 03 30.7**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=74,slow=8.9,SNR=4.8						
BRTR	**Keskin Array B**	**79.03**	**308**	P	**P**	**18 03 32.5**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=106,slow=6.0,SNR=5.9						
SPITS	**Spitsbergen Ar**	**79.47**	**348**	P	**P**	**18 03 33.9**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=96,slow=14,SNR=7.6						
EIL	**Elat**	**79.61**	**298**	P	P	18 03 36.9	+1.4
	comp=Z,9.0nm,1.1s,baz=95,slow=13,SNR=7.1						
FINES	**FINESS Array B**	**80.16**	**331**	P	**P**	**18 03 37.0**	**-0.7**
	comp=Z,2.1nm,1.0s,baz=95,slow=11,SNR=3.0						
AKASG	**Malin Array Be**	**80.34**	**320**	P	**P**	**18 03 38.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=103,slow=2.9,SNR=3.5						
INK	**Inuvik**	**83.01**	**21**	P	**P**	**18 03 52.9**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=313,slow=6.6,SNR=4.6						
KWP	**Kalwaria Pacla**	**84.66**	**320**	*e*P	**P**	**18 04 02.0**	**+0.7**
KOLS	**Kolonicke sedl**	**85.12**	**319**	*e*P	P	18 04 06.1	+2.5
STHS	**Stebnicka Huta**	**85.64**	**320**	*e*P	**P**	**18 04 07.1**	**+1.0**
CRVS	**Cervenica-Dubn**	**85.64**	**319**	*e*P	**P**	**18 04 07.1**	**+0.9**
HFS	**Hagfors**	**86.35**	**331**	P	**P**	**18 04 09.2**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=47,slow=6.3,SNR=2.5						
KECS	**Kecovo**	**86.38**	**319**	*e*P	**P**	**18 04 10.2**	**+0.4**
NB2	**NORSAR Subarra**	**87.13**	**333**	P	**P**	**18 04 12.0**	**-1.2**
	comp=Z,4.9nm,0.9s,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**87.13**	**333**	P	**P**	**18 04 12.0**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=68,slow=4.7,SNR=5.1						
GERES	**GERESS Array B**	**90.51**	**321**	P	**P**	**18 04 29.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=87,slow=5.0,SNR=4.4						
YKA	**Yellowknife Ar**	**92.69**	**22**	P	**P**	**18 04 39.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=303,slow=4.2,SNR=3.9						
NVAR	**Mina Array Bea**	**104.28**	**44**	PKiKP	**PKiKP**	**18 09 48.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=299,slow=3.7,SNR=3.4						
TXAR	**Lajitas Array**	**119.43**	**44**	PKP	**PKPdf**	**18 10 17.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=31,slow=2.1,SNR=2.9						

*ISCJB **29** 18:43:50.5±0.1, 37.66N±0.02×95.76E±0.02, h10km, mb5.0/200, MS3.9/29, Error ellipse: s-maj=2.8km s-min=2.1km az=28.0*
*IDC **29** 18:43:50.5±0.3, 37.68N×95.89E, h0km, mb4.7/34, mb1 4.8/39, mb1mx4.8/41, mbtmp4.7/39, ML4.4/5, MS3.8/25, Ms1 3.8/25, ms1mx3.7/38, Error ellipse: s-maj=13.9km s-min=8.9km az=38.0*
*BJI **29** 18:43:51.0, 37.67N×95.80E, h7km, mB5.1/30, mb5.0/53, ML5.0/8, Ms4.7/57, Ms7 4.5/52*
*NEIC **29** 18:43:51.8±0.1, 37.64N×95.72E, h10km, mb5.2/89, Error ellipse: s-maj=4.3km s-min=3.0km az=216.0*
*DJA **29** 18:43:53.3±0.4, 38.1N±5.9×6.6E±.1, h10km, M4.7/9, mB5.2/6, mb4.9/9, Mw(mB)4.6/6*
*MOS **29** 18:43:53.6±0.9, 37.67N×95.79E, h33km, mb5.2/70, Error ellipse: s-maj=6.3km s-min=3.5km az=125.9*
*SZGRF **29** 18:44:07.4, 38.63N×94.50E, h33km, mb5.1, MS3.6, Qinghai, China*
ISC 29 18:43:52.6±0.5, 37.72N±0.03×95.77E±0.03, h13km±3km, h12km:pP-P, n617, σ1§21/652, mb5.1/205, MS3.9/30, 120C-23D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.59**	**61**	Pn	**Pn**	**18 44 50.5**	**+2.3**
GTA				Pg	**Pb**	**18 44 57.3**	**+1.2**
GTA				Sn	**Sn**	**18 45 32.8**	**+2.2**
GTA				Sg	**Sg**	**18 45 45.0**	**-3.0**
GTA				smax	smax		
	comp=N,1μm,0.9s						
GTA				smax	smax		
	comp=E,810nm,0.9s						
GTA				LR	LR		
	comp=N,7μm,10.0s						
GTA				LR	LR		
	comp=E,7μm,5.7s						
GTA				LR	LR		
	comp=Z,5μm,9.3s						
LZH	**Lanzhou**	**6.67**	**102**	*e*Pn	**Pn**	**18 45 30.8**	**+0.3**
LZH				*e*Sn	**Sn**	**18 46 47.0**	**+0.5**
LZH				LR	LR		
	comp=N,3μm,7.1s						
LZH				LR	LR		
	comp=E,2μm,5.2s						
LZH				LR	LR		
	comp=Z,3μm,7.9s						
WMQ	**Urumqi**	**8.64**	**317⇑**	*i*P	**Pn**	**18 45 58.0**	**+0.6**
WMQ				sP		18 46 02.5	
WMQ				S	**Sn**	**18 47 37.5**	**+2.8**
WMQ				sS	Sn	18 47 42.5	+7.8
WMQ				pmax	pmax		
	comp=Z,90nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,230nm,3.6s						
WMQ				smax	smax		
	comp=N,490nm,0.9s						
WMQ				smax	smax		
	comp=E,380nm,1.0s						
WMQ				LR	LR		
	comp=N,560nm,18.0s						
WMQ				LR	LR		
	comp=E,500nm,16.5s						
LSA	**Lhasa**	**8.87**	**207**	P	**Pn**	**18 46 03.0**	**+2.0**
LSA	**Lhasa**	**8.87**	**207⇓**	*e*P	**Pn**	**18 46 02.9**	**+2.0**
LSA				pmax	pmax		
	comp=Z,88nm,1.3s						
LSA	**Lhasa**	**8.87**	**207⇓**	*e*Pn	**Pn**	**18 46 02.9**	**+2.0**
	comp=Z,88nm,1.3s						
CD2	**Chengdu**	**9.47**	**133**	P	**Pn**	**18 46 10.5**	**+1.8**
CD2				pP		18 46 13.8	
CD2				sP		18 46 16.5	
CD2				PP	**PnPn**	**18 46 18.8**	**+2.5**
CD2				S	**Sn**	**18 47 58.3**	**+3.2**
CD2				sS		18 48 03.0	
CD2				SS	**SnSn**	**18 48 11.5**	**+4.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
CD2				pmax	pmax		
	comp=Z,210nm,4.2s						
CD2				LR	LR		
	comp=N,3μm,6.0s						
CD2				LR	LR		
	comp=E,2μm,7.8s						
CD2				LR	LR		
	comp=Z,2μm,6.5s						
XAN	**Xi'an**	**11.28**	**105**	P	Pn	18 46 30.0	-3.6
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN				LR	LR		
	comp=N,1μm,10.7s						
XAN				LR	LR		
	comp=Z,340nm,7.7s						
BTO	**Baotou**	**11.44**	**71**	*e*P	**Pn**	**18 46 35.5**	**-0.2**
TAPN	**Taplejung**	**12.36**	**216**	*e*P	**Pn**	**18 46 50.4**	**+1.8**
	comp=Z,86nm,1.4s						
SHL	**Shillong**	**12.55**	**196**	*e*P	**Pn**	**18 46 48.0**	**-3.1**
SHL				AMB	AMB	18 46 57.7	
	comp=Z,25nm,0.8s						
SHL				*ex*	x	18 50 50.0	
HHC	**Hu-ho-hao-te**	**12.63**	**71**	*e*P	**Pn**	**18 46 51.3**	**-0.8**
HHC				pP	P	18 46 54.5	-9.0
HHC				sP		18 46 58.0	
HHC				PP	**PnPn**	**18 47 01.8**	**+2.0**
HHC				S	**Sn**	**18 49 15.0**	**+2.3**
HHC				sS		18 49 19.5	
HHC				pmax	pmax		
	comp=Z,63nm,1.1s						
HHC				pmax	pmax		
	comp=Z,310nm,5.9s						
HHC				LR	LR		
	comp=N,2μm,6.4s						
HHC				LR	LR		
	comp=E,2μm,8.1s						
HHC				LR	LR		
	comp=Z,2μm,9.2s						
SONM	**Songino Array**	**12.76**	**34**	Pn	**Pn**	**18 46 55.7**	**+1.9**
SONM				Lg	Lg	18 50 35.4	
SONM	**Songino Array**	**12.76**	**34**	Pn	**Pn**	**18 46 55.7**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=218,slow=15,SNR=106						
SONM				Lg	Lg	18 50 35.4	
	comp=Z,0.4nm,0.3s,baz=219,slow=28,SNR=6.8						
SONM				LR	LR	18 52 07.7	
	comp=Z,2μm,18.6s,baz=

IRK Irkutsk 15.71 20 *e*P **P 18 47 36.6 -0.9**
IRK pmax pmax
comp=Z,286nm,1.2s
BJI Beijing 16.06 75 P **Pn 18 47 39.5 +1.4**
BJI S **Sn 18 50 40.3 +4.3**
BJI pmax pmax
comp=Z,130nm,1.1s
BJI pmax pmax
comp=Z,320nm,3.7s
BJI LR LR
comp=N,1μm,19.8s
BJI LR LR
comp=E,250nm,19.8s
BJI LR LR
comp=Z,300nm,18.4s
TKM2 Tokmak 2 16.23 295 *i* P **Pn 18 47 39.4 -1.1**
TKM2 Tokmak 2 16.23 295 P **Pn 18 47 39.4 -1.1**
SNR=32
TKM2 Tokmak 2 16.23 295⇓*i*Pn **Pn 18 47 38.6 -1.9**
comp=Z,88nm,0.8s
TKM2 *e*Sn **Sn 18 50 34.6 -5.9**
BOK Bokaro 16.25 214 *e*P **Pn 18 47 39.3 -1.4**
BOK AMB AMB 18 47 44.3
comp=Z,34nm,1.4s
KZA Kyzart 16.33 292 *i* P **Pn 18 47 41.6 -0.4**
KZA Kyzart 16.33 292 P **Pn 18 47 41.6 -0.4**
SNR=6.4
DDI Dehra Dun 16.42 249 *e*P **Pn 18 47 40.8 -2.0**
KBK Karagaybulak 16.65 294 *i* P **Pn 18 47 44.7 -1.0**
KBK Karagaybulak 16.65 294 P **Pn 18 47 44.7 -1.0**
SNR=15
SMLA Simla 16.68 252 *e*P **Pn 18 47 44.6 -1.4**
SMLA AMB AMB 18 47 49.6
comp=Z,52nm,0.7s
DHRM DHARAMSHALA 16.85 257 *e*P **Pn 18 47 47.1 -1.3**
DHRM AMB AMB 18 47 56.0
comp=Z,94nm,2.1s
CHMS Chumysh 16.85 295 *i* P **Pn 18 47 46.7 -1.5**
CHMS Chumysh 16.85 295 P **Pn 18 47 46.7 -1.5**
SNR=8.8
FRU Bishkek 16.92 294 *e*P **Pn 18 47 48.0 -1.0**
FRU pmax pmax
comp=Z,57nm,1.8s
WHN Wuhan 16.95 109⇑P **Pn 18 47 46.0 -3.5**
WHN pmax pmax
comp=Z,510nm,4.4s
WHN LR LR
comp=N,3μm,8.5s
WHN LR LR
comp=E,2μm,7.6s
WHN LR LR
comp=Z,3μm,7.7s
AAK Ala-Archa 16.97 293 Pn **Pn 18 47 49.0 -0.9**
comp=Z,207nm,1.1s,SNR=11
AAK Ala-Archa 16.97 293 *i* P **Pn 18 47 49.8 0.0**
AAK Ala-Archa 16.97 293 Pn **Pn 18 47 49.5 -0.3**
SNR=20
AAK Ala-Archa 16.97 293 P **Pn 18 47 49.8 0.0**
SNR=18
AAK Ala-Archa 16.97 293 *e*Pn **Pn 18 47 47.9 -1.9**
comp=Z,112nm,1.6s
AAK Ala-Archa 16.97 293 P **Pn 18 47 49.4 -0.5**
comp=Z,0.4nm,0.3s,baz=92,slow=11,SNR=15
AAK LR LR 18 56 10.3
comp=Z,66nm,20.6s,baz=83,slow=43
USP Ospenovka 17.09 296 *i* P **Pn 18 47 49.7 -1.4**
USP Ospenovka 17.09 296 P **Pn 18 47 49.7 -1.4**
SNR=16
TIA Tai'an 17.13 89⇓P **Pn 18 47 49.8 -1.9**
AML Almayashu 17.48 292 *i* P **P 18 47 58.4 +0.7**
AML Almayashu 17.48 292 P **P 18 47 58.4 +0.7**
SNR=15
EKS2 Erkin-Say 17.50 293 *e*P **Pn 18 47 56.8 +0.4**
EKS2 pmax pmax
comp=Z,35nm,1.3s
EKS2 Erkin-Say 17.50 293 P **P 18 47 57.3 -0.2**
SNR=9.1
EKS2 Erkin-Say 17.50 293 *e*Pn **Pn 18 47 56.8 +0.4**
comp=Z,34nm,1.3s
KURBB Kurchatov Arra 17.82 322 P **P 18 48 01.5 +0.7**
comp=Z,1.1nm,0.3s,baz=134,slow=10,SNR=48
KURBB Lg Lg 18 53 22.6
baz=120,slow=27,SNR=3.7
KURK Kurchatov 17.83 322 P **P 18 48 01.5 +0.5**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 17.83 322 P **P 18 48 01.5 +0.5**
KURK Lg Lg 18 53 22.6
ZAA0 Zalesovo Array 17.90 339 *e*Pn **Pn 18 48 00.2 -0.9**
ZALV Zalesovo Beam 17.90 339 P **Pn 18 48 00.9 -0.3**
ZALV MLR MLR
comp=Z,216nm,19.2s
ZALV Zalesovo Beam 17.90 339 P **Pn 18 48 00.8 -0.3**
ZALV Lg Lg 18 53 14.3
ZALV Zalesovo Beam 17.90 339 P **Pn 18 48 00.8 -0.3**
comp=Z,0.4nm,0.3s,baz=154,slow=11,SNR=28
ZALV Lg Lg 18 53 14.3
baz=158,slow=24,SNR=6.9
ZALV LR LR 18 55 00.5
comp=Z,216nm,19.2s,baz=252,slow=37
CIT Chita 18.99 35 *e*P **Pn 18 48 14.3 -0.2**
CIT pmax pmax
comp=Z,167nm,2.3s
CHTO Chiang Mai 19.04 171 *e*P **P 18 48 14.3 -0.1**
CHTO pmax pmax
comp=Z,40nm,1.3s
CHTO Chiang Mai 19.04 171 P **Pn 18 48 15.8 +0.6**
SNR=12
CHTO Chiang Mai 19.04 171 *e*P **P 18 48 14.3 -0.1**
comp=Z,40nm,1.3s
CHTO Chiang Mai 19.04 171 P **Pn 18 48 15.3 +0.1**
comp=Z,29nm,1.3s,comp=Z,618nm
NVS Novosibirsk 19.14 337⇑*i*P **P 18 48 14.9 -0.4**
NVS *i* S Sn 18 51 40.9 -10
NVS pmax pmax
comp=Z,211nm,2.5s
NVS pmax pmax
comp=N,132nm,2.3s
NVS pmax pmax
comp=E,107nm,2.3s
NVS smax smax
comp=N,74nm,3.0s
NVS smax smax
comp=E,90nm,3.0s
CM31 Chiang Mai Arr 19.39 171 *e*P **P 18 48 18.5 +0.2**
comp=E,12nm,0.7s
CM31 *e*PcP **PcP 18 52 40.0 0.0**
CMAR Chiang Mai Arr 19.39 171 P **P 18 48 18.8 +0.5**
CMAR PcP **PcP 18 52 40.3 +0.3**
CMAR Chiang Mai Arr 19.39 171 P **P 18 48 18.8 +0.5**
comp=E,0.7nm,0.3s,baz=342,slow=10,SNR=134
CMAR PcP **PcP 18 52 40.3 +0.3**
comp=E,0.2nm,0.3s,baz=314,slow=2.5,SNR=14
CMAR LR LR 18 55 57.4
comp=E,278nm,18.2s,baz=339,slow=38
NJ2 Nanjing 19.74 100 *e*P **P 18 48 22.0 -0.1**
NJ2 pP **pP 18 48 26.0 +0.3**
NJ2 sP **sP 18 48 28.8 +1.5**
NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 pmax pmax
comp=Z,330nm,4.2s
NJ2 LR LR
comp=N,720nm,6.0s
NJ2 LR LR
comp=E,1μm,9.2s
NJ2 LR LR
comp=Z,330nm,7.6s
KKAR Karatay Array 19.94 294 *e*P **P 18 48 24.1 -0.1**
KKAR pmax pmax
comp=Z,97nm,1.3s
KKAR Karatay Array 19.94 294 *e*P **P 18 48 24.1 -0.1**
comp=Z,97nm,1.3s
DL2 Dalian 20.31 79 P Pn 18 48 29.3 -1.0
DL2 S Sn 18 52 19.0 +0.2
DL2 pmax pmax
comp=Z,110nm,0.9s
DL2 pmax pmax
comp=Z,250nm,3.7s
DL2 LR LR
comp=N,310nm,17.0s
DL2 LR LR
comp=E,440nm,18.0s
DL2 LR LR
comp=Z,560nm,15.0s
HIA Hailar 20.78 49 *e*P **P 18 48 33.8 +0.5**
comp=Z,76nm,1.1s
GZH Guangzhou 20.98 129 P **P 18 48 32.5 -3.1**
GZH S **S 18 52 23.5 -5.6**
GZH LR LR
comp=N,790nm,7.0s
GZH LR LR
comp=E,900nm,7.7s
GZH LR LR
comp=Z,1μm,9.4s
BHPL Bhopal 21.35 233 *e*P **P 18 48 36.8 -2.8**
PBKT Sadao Pong 21.56 166 P **P 18 48 42.4 +0.6**
comp=Z,46nm,1.3s
SNY Shenyang 21.72 70⇑P **P 18 48 43.5 0.0**
SNY pmax pmax
comp=Z,110nm,1.0s
SNY LR LR
comp=N,480nm,8.7s
SNY LR LR
comp=E,380nm,14.1s
SNY LR LR
comp=Z,730nm,15.9s
KBL Kabul 21.79 270⇑*e*P **P 18 48 44.2 -0.3**
KBL *e* 18 52 45.5
KBL pmax pmax
comp=Z,44nm,1.2s
KBL Kabul 21.79 270⇑*e*P **P 18 48 44.2 -0.3**
comp=Z,44nm,1.2s
KBL *e*PcP **PcP 18 52 45.5 +1.0**
SSE Sheshan 21.95 100 *e*P **P 18 48 46.8 +0.8**
SSE sP **sP 18 48 51.0 -0.2**
SSE S **S 18 52 49.5 +1.4**
SSE sS **sS 18 52 54.3 +0.5**
SSE pmax pmax
comp=Z,41nm,0.8s
SSE pmax pmax
comp=Z,94nm,4.0s
SSE LR LR
comp=N,360nm,13.1s
SSE LR LR
comp=E,230nm,13.1s
SSE LR LR
comp=Z,320nm,8.8s
QIZ Qiongzhong 22.31 143 P **P 18 48 49.3 -0.6**
QIZ S **S 18 52 56.8 +1.8**
QIZ pmax pmax
comp=Z,49nm,1.0s
QIZ LR LR
comp=Z,390nm,10.2s
QIZ Qiongzhong 22.31 143⇑*i*P **P 18 48 49.0 -0.9**
comp=Z,76nm,1.3s
VOSK Vostochnaya 22.86 319 *e*P **P 18 48 53.2 -2.4**
VOSK pmax pmax
comp=Z,39nm,0.9s
VOSK Vostochnaya 22.86 319 *e*P **P 18 48 53.2 -2.4**
comp=Z,39nm,0.9s
CN2 Changchun 23.21 65 *e*P **P 18 48 58.8 -0.4**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=N,500nm,9.0s
CN2 LR LR
comp=E,800nm,9.0s
CN2 LR LR
comp=Z,500nm,10.0s
QZH Quanzhou 23.21 117⇑*i*P **P 18 48 57.0 -2.3**
QZH S S 18 53 02.0 -9.0
QZH LR LR
comp=N,1μm,9.2s
QZH LR LR
comp=E,890nm,10.2s
QZH LR LR
comp=Z,970nm,9.3s
BVAR Borovoye Array 23.32 319 P **P 18 49 00.5 +0.2**
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR MLR MLR
comp=Z,124nm,20.9s
BVAR Borovoye Array 23.32 319 P **P 18 49 00.5 +0.2**
BVAR Lg Lg 18 56 21.0
BVAR Borovoye Array 23.32 319 P **P 18 49 00.5 +0.2**
comp=Z,8.7nm,0.6s,baz=119,slow=11,SNR=74
BVAR Lg Lg 18 56 21.0
comp=Z,1.8nm,0.9s,baz=120,slow=23,SNR=3.6
BVAR LR LR 18 58 36.6
comp=Z,124nm,20.9s,baz=116,slow=38
BRVK Borovoye 23.40 319 P **P 18 49 01.4 +0.4**
comp=Z,144nm,0.8s,SNR=16
BRVK Borovoye 23.40 319*c* *i*P **P 18 49 01.3 +0.3**
BRVK pmax pmax
comp=Z,84nm,2.6s
BRVK Borovoye 23.40 319 P **P 18 49 01.6 +0.6**
SNR=17
BRVK Borovoye 23.40 319⇑*e*P **P 18 49 01.1 +0.1**
comp=Z,17nm,0.7s
UBPT Khong Chiam 23.94 156 P **P 18 49 06.1 -0.4**
comp=Z,130nm,1.0s,comp=Z,2μm
INCN Inchon 24.41 81 *e*P **P 18 49 10.5 -0.3**
comp=Z,45nm,0.7s
DGPR DIGLIPUR 24.57 187 *e*P **P 18 49 11.4 -0.8**
DGPR AMB AMB 18 49 15.3
comp=Z,87nm,0.3s
HYB Hyderabad 25.25 221 *i* P **P 18 49 19.0 +0.5**
YHNB Yeheng 25.38 113 *e*P **P 18 49 19.4 -0.3**
comp=Z,50nm,1.1s
KSAR Wonju Array Be 25.39 81 P **P 18 49 19.2 -0.4**
KSRS Korea Array 25.42 81 P **P 18 49 19.2 -0.6**
comp=Z,25nm,0.6s,baz=278,slow=9.4,SNR=89
KSRS LR LR 19 00 50.8
comp=Z,136nm,18.3s,baz=279,slow=40
LATR Latur 25.54 226 *e*P **P 18 49 19.1 -2.0**
LATR AMB AMB 18 49 20.1
comp=Z,62nm,2.0s
CHBT CHBT 25.54 165 P **P 18 49 25.4 +4.3**
comp=Z,42nm,1.2s,comp=Z,646nm
SSLB Suanglung 25.61 116 *e*P **P 18 49 21.7 -0.1**
comp=Z,29nm,1.1s
TPUB Ta-pu 25.69 117 *e*P **P 18 49 22.5 0.0**
comp=Z,38nm,1.0s
NACB Ninganchiao 25.84 114 *e*P **P 18 49 23.9 +0.2**
comp=Z,116nm,1.4s
YULB Yu-li 26.11 116 *e*P **P 18 49 26.9 +0.7**
comp=Z,31nm,1.3s
MDJ Mudanjiang 26.25 64 P **P 18 49 27.5 +0.2**
MDJ S **S 18 54 00.5 +1.2**
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,66nm,4.5s
MDJ LR LR
comp=Z,140nm,22.1s
MDJ Mudanjiang 26.25 64 *e*P **P 18 49 26.9 -0.4**
comp=Z,8.7nm,0.9s
TWG Pinlang 26.31 117 *e*P **P 18 49 26.6 -1.5**
comp=Z,139nm,1.0s
USRK Ussuriysk Arra 27.95 65 P **P 18 49 42.4 -0.3**
comp=Z,5.4nm,0.7s,baz=269,slow=7.1,SNR=16
ABKAR Akbulak array 28.18 306⇑*i*P **P 18 49 44.8 +0.2**
KLR Kul'dur 28.27 54 *e*P P 18 49 40.8 -4.7
JNU Nakatsue 28.87 88 LR LR 19 00 53.1
comp=Z,148nm,19.8s,baz=16,slow=36
AKTO Aktyubinsk 29.62 308 P **P 18 49 58.3 +0.8**
AKTO 18 53 02.1
AKTO pmax pmax
comp=Z,15nm,0.8s
AKTO MLR MLR
comp=Z,52nm,19.9s
AKTO Aktyubinsk 29.62 308 P **P 18 49 58.3 +0.8**
AKTO PcP **PcP 18 53 02.1 +0.3**
AKTO Aktyubinsk 29.62 308 P **P 18 49 58.3 +0.8**
comp=Z,15nm,0.8s,baz=96,slow=8.9,SNR=66
AKTO PcP **PcP 18 53 02.1 +0.3**
comp=Z,2.5nm,0.6s,baz=112,slow=5.4,SNR=4.6
AKTO LR LR 19 04 14.1
comp=Z,52nm,19.9s,baz=283,slow=41
SVE Sverdlovsk 30.07 321⇑*i*P **P 18 50 02.6 +1.3**
SVE pmax pmax
comp=Z,35nm,1.5s
ARU Arti 30.97 319*d* *i*P **P 18 50 09.5 +0.2**
ARU 18 51 06.1
ARU S **S 18 55 13.2 -0.2**
ARU pmax pmax
comp=Z,59nm,1.7s
ARU Arti 30.97 319 P **P 18 50 09.0 -0.3**
comp=Z,210nm,0.8s,SNR=13
YAK Yakutsk 32.06 30⇑*i*P **P 18 50 19.2 +0.4**
KULM Kulim 32.58 171 P **P 18 50 25.3 +1.5**
KTGM Kuala Trenggan 32.93 166 P **P 18 50 27.9 +1.1**
PALK Pallekele 33.25 208 P **P 18 50 27.3 -2.3**
comp=Z,17nm,0.9s
IPM Ipoh 33.43 170 P **P 18 50 32.1 +0.9**
MJAR Matsushiro Arr 33.65 79 P **P 18 50 30.8 -2.2**
MJAR PcP **PcP 18 53 12.9 0.0**
MJAR Matsushiro Arr 33.65 79 P **P 18 50 30.8 -2.2**
comp=Z,1.5nm,0.8s,baz=301,slow=12,SNR=6.6
MJAR PcP **PcP 18 53 12.9 0.0**
comp=Z,2.1nm,0.9s,baz=264,slow=3.8,SNR=4.0
MJAR LR LR 19 04 17.4
comp=Z,121nm,19.1s,baz=280,slow=36
FRIM Kepong 34.73 170 P **P 18 50 43.8 +1.3**
KDM Kudat 36.14 143 P **P 18 50 55.5 +0.9**
KGM Kluang 36.20 167 P **P 18 50 56.4 +1.3**
MYKOM Kota Tinggi 36.52 166 P **P 18 50 59.2 +1.4**
KKM Kota Kinabalu 36.61 144⇑*e*P **P 18 50 58.0 -0.7**
comp=Z,51nm,0.9s
KKM Kota Kinabalu 36.61 144 P **P 18 50 59.8 +1.1**
BTM Bintulu 37.84 151 P **P 18 51 10.1 +1.0**
TIXI Tiksi 37.98 16⇑*i*P **P 18 51 09.6 -0.1**
TIXI pmax pmax
comp=Z,16nm,1.0s
SBUM Sibu 38.21 153 *e*P **P 18 51 10.4 -1.8**
comp=Z,24nm,1.0s
SBUM Sibu 38.21 153 P **P 18 51 13.5 +1.3**
MYLDM Lahad Datu 38.45 142 P **P 18 51 16.6 +2.3**
MYLDM Lahad Datu 38.45 142 P **P 18 51 16.6 +2.3**
KSM Kuching 38.47 156 *e*P **P 18 51 13.6 -0.7**
comp=Z,16nm,0.8s
KSM Kuching 38.47 156 P **P 18 51 15.5 +1.2**
DGRG David-gareji 38.58 292 P **P 18 51 17.5 +2.3**
TSM Tawau 38.92 143 P **P 18 51 19.4 +1.2**
TBLG Delisi 38.99 292 *e*P **P 18 51 20.6 +2.0**
TBLG Delisi 38.99 292 P **P 18 51 20.6 +2.0**
GUDG Gudauri 39.04 294 P **P 18 51 26.4 +7.2**
KZR Kazreti 39.30 292 P **P 18 51 21.5 +0.3**
GNI Garni 39.33 290 P **P 18 51 24.3 +2.6**
SNR=9.4
GNI Garni 39.33 290 *e*P **P 18 51 23.3 +1.7**
comp=Z,57nm,1.5s
ZEI Tsey 39.40 294 *e*P **P 18 51 22.7 +0.4**
ZEI pmax pmax
comp=Z,16nm,1.4s
ONI Oni 39.76 294 P **P 18 51 26.6 +1.5**
KBZ Khabaz 39.95 296 P **P 18 51 27.7 +1.2**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ MLR MLR
comp=Z,68nm,18.3s
KBZ Khabaz 39.95 296 P **P 18 51 27.6 +1.2**
KBZ Khabaz 39.95 296 P **P 18 51 27.6 +1.2**
comp=Z,4.8nm,0.8s,baz=71,slow=6.6,SNR=13
KBZ LR LR 19 11 29.6
comp=Z,68nm,18.3s,baz=178,slow=41
AKH Akhalkalaki 39.97 292 P P 18 51 30.6 +3.6
VRHR Novokhopersk 40.03 307 *e*P **P 18 51 27.0 -0.1**
VRHR pmax pmax
comp=N,10.0nm,1.4s
VRHR pmax pmax
comp=Z,60nm,1.4s
VRHR pmax pmax
comp=E,40nm,1.1s
KIV Kislovodsk 40.06 296*d* *i*P **P 18 51 28.8 +1.2**
KIV pmax pmax
comp=Z,36nm,1.8s
KIV MLR MLR
comp=Z,100nm,16.0s
KIV Kislovodsk 40.06 296 P **P 18 51 29.6 +2.0**
comp=Z,118nm,0.7s,SNR=6.3
MIB Mutribah 40.66 274 *e*P **P 18 51 33.4 +0.8**
MIB AMb AMB 18 51 37.2
comp=Z,53nm,1.1s
RDF Al-Radifah 40.86 272 *e*P **P 18 51 35.4 +1.1**
RDF AMb AMB 18 51 40.5
comp=Z,28nm,1.2s
RST Umm Al-Ruwaisa 41.05 273 *e*P **P 18 51 36.5 +0.6**
RST AMb AMB 18 51 37.5
comp=Z,306nm,0.8s
VORD Divnogorie 41.51 307 *e*P **P 18 51 39.6 +0.3**
VORD pmax pmax
comp=Z,40nm,1.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 41.57 308 *e*P **P 18 51 40.1 +0.3**
VSR pmax pmax
comp=Z,70nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,70nm,1.1s
MOS Moscow 42.34 315 *e*P **P 18 51 46.4 +0.3**
TMCR Tamitsa 42.85 327 *e*P **P 18 51 51.0 +0.9**
TMCR *e* 18 53 41.1
TMCR pmax pmax
comp=Z,33nm,1.4s
OBN Obninsk 42.95 314*ce*P **P 18 51 51.2 +0.2**
OBN 18 53 45.0
OBN pmax pmax
comp=Z,30nm,1.3s
ANN Anapa 43.60 299 *e*P P 18 51 50.7 -5.7
ANN pmax pmax
comp=Z,20nm,1.0s
PETK Petropavlovsk- 44.69 49 P **P 18 52 04.8 -0.2**
PETK 18 53 48.5
PETK pmax pmax
comp=Z,10.0nm,0.8s
PETK MLR MLR
comp=Z,71nm,19.9s
PETK Petropavlovsk- 44.69 49 P **P 18 52 04.8 -0.2**
PETK PcP **PP 18 53 48.5 -0.6**
PETK Petropavlovsk- 44.69 49 P **P 18 52 04.8 -0.2**
comp=Z,10nm,0.8s,baz=226,slow=3.9,SNR=26
PETK PcP **PP 18 53 48.5 -0.6**
comp=Z,7.6nm,1.0s,baz=264,slow=5.8,SNR=2.7
PETK LR LR 19 11 07.7
comp=Z,71nm,19.9s,baz=90,slow=37
JOF Joensuu 45.72 325 *e*P **P 18 52 13.7 +0.6**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 45.72 325 *e*p **P 18 52 13.7 +0.6**
comp=Z,12nm,0.6s
SIM Simferopol' 45.87 299 *e*P **P 18 52 15.0 +0.5**
SIM pmax pmax
comp=Z,13nm,0.9s
BR131 Keskin Array S 47.65 293 *e*P **P 18 52 29.1 +0.5**
comp=Z,3.6nm,0.6s
BRTR Keskin Array B 47.65 293 P **P 18 52 29.5 +0.8**
BRTR PcP **PcP 18 54 00.8 +2.6**
BRTR Keskin Array B 47.65 293 P **P 18 52 29.5 +0.8**
comp=Z,6.4nm,0.8s,baz=93,slow=7.0,SNR=41
BRTR PcP **PcP 18 54 00.8 +2.6**
comp=Z,1.4nm,0.9s,baz=97,slow=4.8,SNR=2.4
AKASG Malin Array Be 47.87 308 P **P 18 52 30.2 +0.2**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 47.87 308 P **P 18 52 30.2 +0.2**
AKASG Malin Array Be 47.87 308 P **P 18 52 30.2 +0.2**
comp=Z,12nm,0.9s,baz=67,slow=7.7,SNR=20
KIEV Kiev 47.88 308 *e*P **P 18 52 29.4 -0.7**
KIEV pmax pmax
comp=Z,19nm,1.1s
KIEV Kiev 47.88 308 *e*P **P 18 52 29.4 -0.7**
comp=Z,19nm,1.1s
KAPI Kappang 48.01 147 P **P 18 52 31.1 -0.4**
KAPI Kappang 48.01 147 P **P 18 52 31.1 -0.4**
comp=Z,14nm,0.9s,baz=13,slow=3.6,SNR=4.6
KAF Kangasniemi 48.05 324 *e*P **P 18 52 31.8 +0.5**
KAF Kangasniemi 48.05 324 *e*p **P 18 52 31.8 +0.5**
FINES FINESS Array B 48.20 323 P **P 18 52 32.8 +0.3**
FINES PcP **PcP 18 53 59.4 -0.2**
FINES FINESS Array B 48.20 323 P **P 18 52 32.8 +0.3**
comp=Z,7.1nm,0.7s,baz=91,slow=9.2,SNR=25
FINES PcP **PcP 18 53 59.4 -0.2**
comp=Z,0.9nm,0.6s,baz=70,slow=6.3,SNR=3.4
FINES LR LR 19 13 54.2
comp=Z,79nm,21.8s,baz=188,slow=37
ANTO Ankara 48.22 293 *e*P **P 18 52 32.5 -0.5**
ANTO pmax pmax
comp=Z,18nm,1.2s
ANTO Ankara 48.22 293 P **P 18 52 34.5 +1.5**
SNR=5.4
ANTO Ankara 48.22 293 *e*P **P 18 52 32.5 -0.5**

comp=Z,18nm,1.2s
ARCES ARCESS Array B 48.36 334 P **P** **18 52 34.1 +0.5**
ARCES PcP **PcP** **18 53 60.0 0.0**
ARCES ARCESS Array B 48.36 334 P **P** **18 52 34.1 +0.5**
comp=Z,2.7nm,0.7s,baz=84,slow=7.2,SNR=15
ARCES PcP **PcP** **18 53 60.0 0.0**
comp=Z,1.8nm,0.6s,baz=89,slow=5.0,SNR=6.4
ARCES LR LR 19 13 26.9
comp=Z,79nm,20.5s,baz=72,slow=37
ARE0 ARCESS Array S 48.36 334 P **P** **18 52 35.0 +1.4**
IDID Didziasalis 48.54 315 *eP* **P** **18 52 35.8 +0.6**
IDID AMB AMB 18 52 36.7
comp=Z,5.3nm,0.8s
IIGN Ignalina 48.83 315 *eP* **P** **18 52 38.0 +0.6**
IIGN AMB AMB 18 52 39.0
comp=Z,12nm,0.8s
ISAL Salakas 48.85 315 *eP* **P** **18 52 38.3 +0.7**
ISAL AMB AMB 18 52 42.2
comp=Z,7.3nm,1.4s
KIS Kishinev 48.96 303 *eP* **P** **18 52 38.0 -0.5**
comp=Z,200nm,2.0s
KIS Kishinev 48.96 303 *eP* **P** **18 52 38.0 -0.5**
KIS pmax pmax
comp=Z,200nm,2.0s
TLB Topalu 50.14 301 ⇑P **P** **18 52 48.4 +0.9**
TLB Topalu 50.14 301 ⇑*i*P **P** **18 52 48.4 +0.9**
EIL Elat 50.47 280 P **P** **18 52 51.7 +1.5**
EIL PcP **PcP** **18 54 09.5 +1.2**
EIL Elat 50.47 280 P **P** **18 52 51.7 +1.5**
comp=Z,25nm,1.1s,baz=27,slow=4.3,SNR=20
EIL PcP **PcP** **18 54 09.5 +1.2**
comp=Z,4.7nm,1.0s,baz=60,slow=6.2,SNR=2.5
EIL LR LR 19 17 28.8
comp=Z,54nm,18.2s,baz=109,slow=40
TESR Tescani 50.52 303 ⇑*i*P **P** **18 52 51.2 +0.7**
VRI Vrincioaia 50.66 302 ⇓P **P** **18 52 53.0 +1.5**
VRI Vrincioaia 50.66 302 ⇓*i*P **P** **18 52 53.0 +1.5**
PLOR Plostina 50.71 302 ⇓P **P** **18 52 53.9 +2.0**
PLOR Plostina 50.71 302 ⇓*i*P **P** **18 52 53.8 +1.9**
SUW Suwalki 50.82 313 *eP* **P** **18 52 53.1 +0.6**
SUW pmax pmax
comp=Z,23nm,1.0s
SUW Suwalki 50.82 313 *eP* **P** **18 52 53.1 +0.6**
comp=Z,23nm,1.0s
ISR Istrita 51.00 302 ⇓P **P** **18 52 56.6 +2.5**
ISR Istrita 51.00 302 ⇓*i*P **P** **18 52 56.6 +2.5**
BURAR Bucovina Array 51.16 305 ⇑P **P** **18 52 55.9 +0.6**
BURAR Bucovina Array 51.16 305 ⇑*i*P **P** **18 52 55.9 +0.6**
BUR08 Bucovina Ar. S 51.16 305 *eP* **P** **18 52 55.8 +0.5**
MLR Muntele Rosu 51.29 302 ⇓*i*P **P** **18 52 57.6 +1.2**
LVV L'vov 51.31 308 *i* P **P** **18 52 56.2 -0.1**
VOIR 51.91 302 ⇑P **P** **18 53 01.7 +0.8**
VOIR 51.91 302 ⇑*i*P **P** **18 53 01.7 +0.8**
KWP Kalwaria Pacla 52.19 308 ⇓P **P** **18 53 04.4 +1.5**
KWP Kalwaria Pacla 52.19 308 ⇓*i*P **P** **18 53 04.4 +1.5**
KWP Kalwaria Pacla 52.19 308 *eP* **P** **18 53 04.0 +1.1**
comp=Z,58nm,1.0s
KWP Kalwaria Pacla 52.19 308 *eP* **P** **18 53 04.1 +1.2**
ARR Arges 52.21 302 ⇑*i*P **P** **18 53 04.6 +1.4**
KOLS Kolonicke sedl 52.66 307 *eP* **P** **18 53 07.2 +0.8**
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS Kolonicke sedl 52.66 307 *eP* **P** **18 53 07.2 +0.8**
UZH Uzhgorod 52.74 307 *eP* **P** **18 53 05.8 -1.1**
UZH *i* 18 53 10.8
LOT Lotru 52.76 303 ⇓*i*P **P** **18 53 07.3 0.0**
DRGR 53.03 305 ⇑P **P** **18 53 10.3 +1.0**
DRGR 53.03 305 ⇑*i*P **P** **18 53 10.3 +1.0**
STHS Stebnicka Huta 53.17 308 *eP* **P** **18 53 10.6 +0.5**
STHS pmax pmax
comp=Z,5.0nm,1.2s
STHS Stebnicka Huta 53.17 308 *eP* **P** **18 53 10.6 +0.5**
CRVS Cervenica-Dubn 53.18 307 *eP* **P** **18 53 11.1 +0.8**
CRVS Cervenica-Dubn 53.18 307 *eP* **P** **18 53 11.1 +0.8**
GZR Gura Zlata 53.44 303 ⇑P **P** **18 53 13.3 +1.0**
GZR Gura Zlata 53.44 303 ⇑*i*P **P** **18 53 13.3 +1.0**
NIE Niedzica 53.74 308 *eP* P 18 53 18.1 +3.7
OJC Ojcow 53.82 309 *eP* **P** **18 53 14.4 -0.5**
OJC pmax pmax
comp=Z,17nm,0.8s
OJC Ojcow 53.82 309 *eP* **P** **18 53 14.3 -0.5**
comp=Z,16nm,0.8s
KECS Kecovo 53.93 307 *eP* **P** **18 53 16.6 +0.9**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 53.93 307 *eP* **P** **18 53 16.6 +0.9**
VTS Vitosha 54.11 300 ⇑P **P** **18 53 18.8 +1.5**
VTS Vitosha 54.11 300 ⇑*i*P **P** **18 53 18.8 +1.5**
BZS Buzias 54.13 304 ⇓P **P** **18 53 18.4 +1.2**
BZS Buzias 54.13 304 ⇓*i*P **P** **18 53 18.4 +1.2**
PSZ Piszkesteto 54.48 307 *eP* **P** **18 53 19.5 -0.4**
PSZ pmax pmax
comp=Z,183nm,2.9s
PSZ Piszkesteto 54.48 307 ⇓*i*P **P** **18 53 21.5 +1.6**
PSZ Piszkesteto 54.48 307 *eP* **P** **18 53 19.5 -0.4**
comp=Z,182nm,2.9s
SANT Santorini 54.88 292 P **P** **18 53 19.7 -3.2**
OKC Ostrava-Krasne 54.95 309 *eP* **P** **18 53 24.3 +1.2**
OKC Ostrava-Krasne 54.95 309 ⇑*eP* **P** **18 53 24.3 +1.2**
VYHS Vyhne 54.96 308 *eP* **P** **18 53 24.5 +1.2**
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 54.96 308 *eP* **P** **18 53 24.5 +1.2**
NB2 NORSAR Subarra 55.34 324 P **P** **18 53 25.4 -0.4**
comp=Z,9.0nm,0.7s,baz=73,slow=7.4
NOA NORSAR Array B 55.34 324 P **P** **18 53 25.7 -0.1**
NOA NORSAR Array B 55.34 324 P **P** **18 53 25.7 -0.1**
comp=Z,7.1nm,0.7s,baz=74,slow=7.4,SNR=17
NOA LR LR 19 18 02.4
comp=Z,57nm,20.1s,baz=90,slow=37
MORC Moravsky Berou 55.34 310 *eP* **P** **18 53 26.6 +0.6**
MORC pmax pmax
comp=Z,25nm,1.4s
MORC Moravsky Berou 55.34 310 *eP* **P** **18 53 26.6 +0.6**
comp=Z,25nm,1.4s
NAO01 NORSAR Array S 55.54 324 *eP* **P** **18 53 26.7 -0.6**
KSP Ksiaz 55.74 311 *eP* **P** **18 53 29.7 +0.9**
IDI Anoyia 55.75 291 *eP* **P** **18 53 28.2 -1.0**
comp=Z,20nm,1.0s
PKSM Moragy 55.87 305 ⇓P **P** **18 53 31.6 +1.8**
PKSM Moragy 55.87 305 ⇓*i*P **P** **18 53 31.6 +1.8**
DPC Dobruska-Polom 55.89 310 *eP* **P** **18 53 29.1 -0.8**
DPC Dobruska-Polom 55.89 310 ⇑*i*P **P** **18 53 31.3 +1.4**
DPC AMS AMS 19 14 10.0
DPC Dobruska-Polom 55.89 310 *eP* **P** **18 53 29.1 -0.8**
comp=Z,186nm,1.4s
UPC Upice 56.02 311 ⇑*i*P **P** **18 53 32.1 +1.2**
UPC Upice 56.02 311 ⇑*i*P **P** **18 53 32.1 +1.2**
TREC Trest 56.76 310 *eP* **P** **18 53 37.6 +1.4**
TREC Trest 56.76 310 ⇑*eP* **P** **18 53 37.6 +1.4**
PVCC Panska Ves 56.88 311 *eP* **P** **18 53 37.7 +0.8**
PVCC Panska Ves 56.88 311 ⇑*eP* **P** **18 53 37.7 +0.8**
PRU Pruhonice 57.09 311 ⇑*i*P **P** **18 53 39.5 +1.1**
PRU Pruhonice 57.09 311 ⇑*i*P **P** **18 53 39.5 +1.1**
PRA Prague 57.12 311 ⇑P **P** **18 53 40.0 +1.3**
BRG Berggiesshubel 57.13 312 *i* P **P** **18 53 39.5 +0.8**
comp=Z,32nm,1.6s
BRG Berggiesshubel 57.13 312 *eP* **P** **18 53 39.5 +0.8**
comp=Z,32nm,1.6s
BRG Berggiesshubel 57.13 312 *i* P **P** **18 53 39.5 +0.8**
BRG pmax pmax
comp=Z,32nm,1.6s
FBE Freiberg 57.46 312 *eP* **P** **18 53 42.3 +1.3**
comp=Z,20nm,1.3s
CLL Collm 57.53 312 *eP* **P** **18 53 42.0 +0.6**
comp=Z,21nm,1.3s
CLL Collm 57.53 312 *i* P **P** **18 53 42.1 +0.6**
CLL *e* 18 53 49.0
CLL pmax pmax
comp=Z,21nm,1.3s
CLL Collm 57.53 312 *i* P **P** **18 53 42.1 +0.6**
comp=Z,21nm,1.3s
CLL *i* pP **pP** **18 53 44.9 -0.6**
CLL *e* 18 53 49.0
GROS Grobnik 57.80 306 *eP* **P** **18 53 44.1 +0.5**
GCIS Gornji Cirnik 57.95 306 *eP* **P** **18 53 45.5 +0.9**
AMKA Amchitka 57.95 47 *eP* **P** **18 53 42.8 -1.6**
comp=Z,22nm,0.8s
KHC Kasperske Hory 57.99 310 *eP* **P** **18 53 44.2 -0.7**
KHC pmax pmax
comp=Z,12nm,1.4s
KHC Kasperske Hory 57.99 310 ⇑*i*P **P** **18 53 45.5 +0.7**
KHC AMS AMS 19 15 30.0

KHC Kasperske Hory 57.99 310 *eP* **P** **18 53 44.1 -0.7**
comp=Z,12nm,1.4s
SOKA Soboth 58.02 307 ⇓*i*pP **P** **18 53 46.0 +0.8**
comp=Z,18nm,1.0s,SNR=6.2
GEC2 GERESS Array S 58.02 310 *eP* **P** **18 53 46.1 +1.0**
comp=Z,25nm,1.6s
GEC2 GERESS Array S 58.02 310 *eP* **P** **18 53 44.1 -1.0**
GEC2 GERESS Array S 58.02 310 *eP* **P** **18 53 44.1 -1.0**
GERES GERESS Array B 58.02 310 P **P** **18 53 45.8 +0.7**
GERES GERESS Array B 58.02 310 P **P** **18 53 45.8 +0.7**
comp=Z,3.5nm,1.0s,baz=63,slow=6.1,SNR=20
GERES LR LR 19 19 30.2
comp=Z,76nm,18.1s,baz=242,slow=37
TANN Tannenbergstha 58.18 312 *eP* **P** **18 53 47.0 +0.8**
comp=Z,16nm,1.4s
NKC Novy Kostel 58.25 311 *eP* **P** **18 53 47.6 +1.0**
NKC Novy Kostel 58.25 311 ⇑*eP* **P** **18 53 47.6 +1.0**
WERD Werda 58.26 312 *eP* **P** **18 53 47.5 +0.8**
comp=Z,17nm,1.3s
GUNZ Gunzen 58.27 312 *eP* **P** **18 53 47.9 +1.1**
comp=Z,30nm,1.5s
NEUB Neuenburg 58.28 313 *eP* **P** **18 53 47.5 +0.7**
comp=Z,31nm,1.3s
WET Wettzell 58.41 310 *eP* **P** **18 53 48.8 +1.0**
comp=Z,29nm,1.7s
WET Wettzell 58.41 310 *eP* **P** **18 53 48.8 +1.0**
WET pmax pmax
comp=Z,29nm,1.7s
MANZ Manzenberg 58.55 311 *eP* **P** **18 53 49.8 +1.1**
comp=Z,26nm,1.7s
ROTZ Rotzenmuhle 58.57 311 *eP* **P** **18 53 50.3 +1.4**
comp=Z,21nm,1.4s
MOX Moxa 58.59 312 *eP* **P** **18 53 49.8 +0.8**
comp=Z,26nm,1.5s
MOX *eL* L 19 15 53.0
comp=Z,50nm,19.9s
MOX Moxa 58.59 312 *eP* **P** **18 53 49.8 +0.8**
MOX pmax pmax
comp=Z,26nm,1.5s
MOX MLR MLR
comp=Z,100nm,19.9s
NRDL Niedersach Rie 58.75 315 *eP* **P** **18 53 51.4 +1.4**
comp=Z,23nm,1.1s
CLZ Clausthal 58.85 314 *eP* **P** **18 53 51.9 +1.1**
comp=Z,47nm,1.4s
CLZ Clausthal 58.85 314 *eP* **P** **18 53 51.9 +1.1**
CLZ pmax pmax
comp=Z,47nm,1.4s
RJOB Jochberg 59.01 309 *eP* **P** **18 53 53.4 +1.4**
comp=Z,51nm,2.0s
GRF Grafenberg Arr 59.19 311 *eP* **P** **18 53 54.7 +1.5**
comp=Z,44nm,1.4s
GRF *eL* L 19 19 44.2
comp=Z,52nm,20.5s
GRF Grafenberg Arr 59.19 311 *eP* **P** **18 53 54.7 +1.5**
GRF pmax pmax
comp=Z,44nm,1.4s
GRF MLR MLR
comp=Z,100nm,20.5s
GRFO Grafenberg 59.19 311 P **P** **18 53 51.7 -1.5**
GRFO pmax pmax
comp=Z,39nm,1.3s
GRFO Grafenberg 59.19 311 P **P** **18 53 51.7 -1.5**
comp=Z,40nm,1.3s
FUR Furstenfeldbru 59.77 310 *eP* **P** **18 53 58.7 +1.5**
comp=Z,72nm,1.4s
FUR Furstenfeldbru 59.77 310 *eP* **P** **18 53 58.7 +1.5**
FUR pmax pmax
comp=Z,72nm,1.4s
WTTA Wattenberg 59.92 308 *i* pP **P** **18 53 59.2 +0.7**
comp=Z,39nm,1.4s,SNR=8.3
WATA Walderalm 59.92 309 ⇑*i*pP **P** **18 53 58.9 +0.5**
comp=Z,14nm,1.0s,SNR=6.5
IBBN Ibbenburen 60.15 315 *eP* **P** **18 54 01.0 +1.3**
comp=Z,144nm,2.2s
MOTA Moosalm 60.21 309 ⇓*i*pP **P** **18 54 00.7 +0.3**
comp=Z,14nm,0.8s,SNR=11
CUC Castrocucco 60.25 299 *eP* **P** **18 54 01.0 +0.4**
comp=Z,15nm,0.9s
RETA Reutte 60.37 309 ⇑*i*pP **P** **18 54 02.1 +0.8**
comp=Z,21nm,1.5s
FETA Feichten 60.58 309 ⇑*i*pP **P** **18 54 03.4 +0.4**
comp=Z,16nm,1.2s,SNR=5.1
TNS Taunus Mts 60.62 313 *eP* **P** **18 54 04.3 +1.3**
comp=Z,74nm,2.3s
TNS Taunus Mts 60.62 313 *eP* **P** **18 54 04.3 +1.3**
TNS pmax pmax
comp=Z,74nm,2.3s
STU Stuttgart 60.78 311 *eP* **P** **18 54 05.2 +1.1**
comp=Z,28nm,1.4s
BUG Bochum--Univer 60.78 314 *eP* **P** **18 54 05.4 +1.4**
comp=Z,88nm,1.8s
AQU L'Aquila 60.86 303 *eP* **P** **18 54 05.4 +0.6**
comp=Z,45nm,1.3s
CEL Celeste 60.96 298 *eP* **P** **18 54 05.4 -0.1**
comp=Z,47nm,1.1s
FUORN Ofenpass-Fuorn 61.04 308 *eP* **P** **18 54 05.4 -0.8**
comp=Z,15nm,0.9s
BFO Black Forest 61.49 311 *eP* **P** **18 54 09.4 +0.5**
comp=Z,18nm,1.3s
BFO Black Forest 61.49 311 *eP* **P** **18 54 08.0 -0.9**
BFO pmax pmax
comp=Z,19nm,1.3s
BFO Black Forest 61.49 311 *eP* **P** **18 54 08.0 -0.9**
comp=Z,19nm,1.3s
MEM Membach 61.86 314 P P 18 54 16.2 +4.9
CDF Champ du Feu 62.09 311 ⇑*i*P **P** **18 54 13.2 +0.2**
comp=Z,31nm,1.3s
CDF Champ du Feu 62.09 311 ⇑*i*P **P** **18 54 13.2 +0.2**
CDF Champ du Feu 62.09 311 ⇑*i*P **P** **18 54 13.2 +0.2**
WLF Walferdange 62.19 313 P **P** **18 54 15.4 +1.8**
comp=Z,19nm,1.6s
WLF Walferdange 62.19 313 *eP* **P** **18 54 15.6 +2.0**
comp=Z,50nm,1.3s
WLF Walferdange 62.19 313 *eP* **P** **18 54 13.4 -0.2**
WLF pmax pmax
comp=Z,25nm,1.1s
WLF Walferdange 62.19 313 *eP* **P** **18 54 13.4 -0.2**
comp=Z,25nm,1.1s
FITZ Fitzroy Crossi 62.23 148 *eP* **P** **18 54 13.3 -0.8**
comp=Z,21nm,1.1s
ECH Echery 62.24 311 *eP* **P** **18 54 13.7 -0.3**
HINF Hinteralfeld 62.60 311 ⇑*i*P **P** **18 54 16.6 +0.1**
comp=Z,25nm,1.1s
HINF Hinteralfeld 62.60 311 ⇑*i*P **P** **18 54 16.6 +0.1**
HINF Hinteralfeld 62.60 311 ⇑*i*P **P** **18 54 16.6 +0.1**
MBWA Marble Bar 62.75 155 *eP* **P** **18 54 16.7 -0.9**
comp=Z,46nm,1.3s
GIVF Givet 62.77 314 ⇑*i*P **P** **18 54 18.1 +0.7**
comp=Z,56nm,1.1s
GIVF Givet 62.77 314 ⇑*i*P **P** **18 54 18.1 +0.7**
GIVF Givet 62.77 314 ⇑*i*P **P** **18 54 18.1 +0.7**
HAU Haudompre 62.82 311 ⇑*i*P **P** **18 54 18.1 +0.2**
HAU *eR*
comp=Z,110nm,19.8s
HAU Haudompre 62.82 311 ⇑*i*P **P** **18 54 18.1 +0.2**
HAU Haudompre 62.82 311 ⇑*i*P **P** **18 54 18.1 +0.2**
DOU Dourbes 62.90 314 P **P** **18 54 19.9 +1.6**
comp=Z,11nm,2.3s
THEF They Montfort 62.94 311 *eP* **P** **18 54 19.6 +1.0**
PAGF Fort de Pagny 62.94 312 ⇑*i*P **P** **18 54 19.5 +0.9**
comp=Z,19nm,1.4s
PAGF Fort de Pagny 62.94 312 ⇑*i*P **P** **18 54 19.5 +0.9**
SENIN Lac Senin/Sane 62.99 309 *eP* **P** **18 54 18.2 -1.0**
comp=Z,9.1nm,1.0s
BAIF Baives 63.14 314 *eP* **P** **18 54 20.7 +0.8**
BAIF Baives 63.14 314 *eP* **P** **18 54 20.7 +0.8**
BAIF Baives 63.14 314 *eP* **P** **18 54 20.7 +0.8**
MEZF Maizieres J'vi 63.37 312 *eP* **P** **18 54 22.1 +0.7**
MEZF Maizieres J'vi 63.37 312 *eP* **P** **18 54 22.1 +0.7**
SFTF Sexfontaines 63.51 312 *eP* **P** **18 54 22.5 +0.1**
SFTF Sexfontaines 63.51 312 *eP* **P** **18 54 22.5 +0.1**
CABF La Chapelle 63.62 310 *eP* **P** **18 54 23.2 -0.1**
comp=Z,43nm,1.4s
CABF La Chapelle 63.62 310 *eP* **P** **18 54 23.2 -0.1**
CABF La Chapelle 63.62 310 *eP* **P** **18 54 23.2 -0.1**
PGF Pioggiola 63.68 305 ⇑*i*P **P** **18 54 24.4 +0.7**
PGF Pioggiola 63.68 305 ⇑*i*P **P** **18 54 24.4 +0.7**
PGF Pioggiola 63.68 305 ⇑*i*P **P** **18 54 24.4 +0.7**
IMA2 Indian Mountai 63.73 25 *eP* **P** **18 54 23.8 +0.1**
LPG La Plagne 63.73 308 ⇑*i*P **P** **18 54 25.1 +0.8**
comp=Z,46nm,1.1s
LPG La Plagne 63.73 308 ⇑*i*P **P** **18 54 25.1 +0.8**
LPG La Plagne 63.73 308 ⇑*i*P **P** **18 54 25.1 +0.8**
LPL La Plagne 63.73 308 ⇑*i*P **P** **18 54 25.0 +0.8**
comp=Z,65nm,1.2s

LPL La Plagne 63.73 308 ⇑*i*P **P** **18 54 25.0 +0.8**
LPL La Plagne 63.73 308 ⇑*i*P **P** **18 54 25.0 +0.8**
IM04 Indian Mountai 63.75 25 *eP* **P** **18 54 23.8 +0.1**
SAOF Saorge 63.93 307 *eP* **P** **18 54 26.2 +0.9**
BNI Bardonecchia 63.98 308 *eP* **P** **18 54 24.4 -1.3**
BNI pmax pmax
comp=Z,26nm,1.3s
BNI Bardonecchia 63.98 308 *eP* **P** **18 54 24.4 -1.3**
comp=Z,26nm,1.3s
AUTN L'Aution 64.01 307 *eP* **P** **18 54 24.5 -1.6**
SBF Sospel 64.07 306 ⇑*i*P **P** **18 54 26.5 +0.3**
comp=Z,84nm,1.1s
SBF Sospel 64.07 306 ⇑*i*P **P** **18 54 26.5 +0.3**
SBF Sospel 64.07 306 ⇑*i*P **P** **18 54 26.5 +0.3**
MBDF Montbardon 64.08 308 *eP* **P** **18 54 26.2 -0.2**
comp=Z,13nm,0.8s
MBDF Montbardon 64.08 308 *eP* **P** **18 54 26.2 -0.2**
MBDF Montbardon 64.08 308 *eP* **P** **18 54 26.2 -0.2**
COLD Coldfoot 64.19 23 *eP* **P** **18 54 27.3 +0.8**
comp=Z,34nm,0.9s
ORIF Oris-en-Rattie 64.55 308 *eP* **P** **18 54 29.5 +0.1**
comp=Z,20nm,0.9s
ORIF *eR*
comp=Z,110nm,18.2s
ORIF Oris-en-Rattie 64.55 308 *eP* **P** **18 54 29.5 +0.1**
ORIF Oris-en-Rattie 64.55 308 *eP* **P** **18 54 29.5 +0.1**
LOR Lormes 64.66 311 ⇑*i*P **P** **18 54 29.7 -0.3**
comp=Z,19nm,1.1s
LOR *eR*
comp=Z,71nm,18.8s
LOR Lormes 64.66 311 ⇑*i*P **P** **18 54 29.7 -0.3**
FRF La Foret Royal 64.71 306 ⇑*i*P **P** **18 54 30.4 0.0**
FRF La Foret Royal 64.71 306 ⇑*i*P **P** **18 54 30.4 0.0**
FRF La Foret Royal 64.71 306 ⇑*i*P **P** **18 54 30.4 0.0**
LMR La Mourre 64.91 306 *eP* **P** **18 54 32.0 +0.3**
comp=Z,37nm,1.3s
LMR La Mourre 64.91 306 *eP* **P** **18 54 32.0 +0.3**
LMR La Mourre 64.91 306 *eP* **P** **18 54 32.0 +0.3**
SMF Signal de Mont 64.97 311 ⇑*i*P **P** **18 54 32.0 0.0**
comp=Z,71nm,1.2s
SMF Signal de Mont 64.97 311 ⇑*i*P **P** **18 54 32.0 0.0**
SMF Signal de Mont 64.97 311 ⇑*i*P **P** **18 54 32.0 0.0**
SSF Saint Saulge 64.97 311 *eP* **P** **18 54 31.7 -0.3**
SSF Saint Saulge 64.97 311 *eP* **P** **18 54 31.7 -0.3**
SSF Saint Saulge 64.97 311 *eP* **P** **18 54 31.7 -0.3**
AVF Avril sur Loir 65.19 311 ⇑*i*P **P** **18 54 33.5 +0.1**
comp=Z,52nm,1.4s
AVF Avril sur Loir 65.19 311 ⇑*i*P **P** **18 54 33.5 +0.1**
AVF Avril sur Loir 65.19 311 ⇑*i*P **P** **18 54 33.5 +0.1**
SMRF Simiane la Rot 65.19 307 *eP* **P** **18 54 34.0 +0.4**
SMRF Simiane la Rot 65.19 307 *eP* **P** **18 54 34.0 +0.4**
VIVF Saint-Julien-l 65.33 309 ⇑*i*P **P** **18 54 34.7 +0.3**
comp=Z,37nm,1.2s
VIVF Saint-Julien-l 65.33 309 ⇑*i*P **P** **18 54 34.7 +0.3**
VIVF Saint-Julien-l 65.33 309 ⇑*i*P **P** **18 54 34.7 +0.3**
SUMG Summit 65.53 346 *eP* **P** **18 54 35.4 -0.3**
SUMG pmax pmax
comp=Z,17nm,1.0s
SUMG Summit 65.53 346 *eP* **P** **18 54 35.4 -0.3**
comp=Z,17nm,1.0s
BGF Bois d'Agland 65.61 311 *eP* **P** **18 54 36.2 0.0**
BGF Bois d'Agland 65.61 311 *eP* **P** **18 54 36.2 0.0**
BGF Bois d'Agland 65.61 311 *eP* **P** **18 54 36.2 0.0**
AGO Saint Agoulin 65.69 310 *eP* **P** **18 54 37.1 +0.4**
BPAW Bear Paw Mtn. 65.81 26 *eP* **P** **18 54 37.8 +0.6**
comp=Z,24nm,1.0s
CAST Castle Rocks 65.83 27 *eP* **P** **18 54 38.2 +0.9**
comp=Z,55nm,1.6s
SVW2 Sparrevohn 65.84 30 *eP* **P** **18 54 38.7 +1.2**
comp=Z,21nm,1.0s
PYM Petit Puy Mans 65.91 310 *eP* **P** **18 54 38.9 +0.7**
PPLA Purkeypile 66.10 28 *eP* **P** **18 54 39.9 +0.7**
comp=Z,43nm,1.0s
TCF Toulx Ste Croi 66.12 311 ⇑*i*P **P** **18 54 39.9 +0.4**
comp=Z,58nm,1.2s
TCF Toulx Ste Croi 66.12 311 ⇑*i*P **P** **18 54 39.9 +0.4**
TCF Toulx Ste Croi 66.12 311 ⇑*i*P **P** **18 54 39.9 +0.4**
LASF Ste Croix 66.22 308 *eP* **P** **18 54 40.7 +0.5**
LASF Ste Croix 66.22 308 *eP* **P** **18 54 40.7 +0.5**
KMBO Kilima Mbogo 66.28 249 *eP* **P** **18 54 41.2 0.0**
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 66.28 249 P **P** **18 54 41.9 +0.7**
comp=Z,2.8nm,0.7s,baz=31,slow=12,SNR=6.4
LDF La Druitiere 66.33 314 ⇑*i*P **P** **18 54 40.8 +0.1**
comp=Z,24nm,0.8s
LDF La Druitiere 66.33 314 ⇑*i*P **P** **18 54 40.8 +0.1**
LDF La Druitiere 66.33 314 ⇑*i*P **P** **18 54 40.8 +0.1**
COLA College 66.40 25 *eP* **P** **18 54 41.4 +0.5**
COLA pmax pmax
comp=Z,34nm,0.8s
COLA College 66.40 25 *eP* **P** **18 54 41.4 +0.5**
comp=Z,34nm,0.8s
FLN La Foliniere 66.45 314 ⇑*i*P **P** **18 54 41.5 0.0**
FLN *eR*
comp=Z,90nm,20.2s
FLN La Foliniere 66.45 314 ⇑*i*P **P** **18 54 41.5 0.0**
FLN La Foliniere 66.45 314 ⇑*i*P **P** **18 54 41.5 0.0**
TRF Thorofare Moun 66.45 27 *eP* **P** **18 54 41.2 -0.3**
comp=Z,82nm,2.2s
MCK McKinley 66.75 26 *eP* **P** **18 54 43.9 +0.7**
MCK pmax pmax
comp=Z,39nm,1.6s
MCK McKinley 66.75 26 *eP* **P** **18 54 43.9 +0.7**
comp=Z,39nm,1.6s
KEST Kesra 66.77 298 *eP* **P** **18 54 44.0 +0.2**
KEST Kesra 66.77 298 P **P** **18 54 44.4 +0.5**
comp=Z,5.0nm,1.2s,baz=24,slow=5.1,SNR=6.1
ILAR Eielson Array 66.78 24 P **P** **18 54 43.0 -0.4**
ILAR Eielson Array 66.78 24 P **P** **18 54 43.0 -0.4**
comp=Z,11nm,0.8s,baz=293,slow=5.3,SNR=105
ILAR LR LR 19 27 27.9
comp=Z,115nm,18.0s,baz=319,slow=39
GRR Gorron 66.85 314 ⇑*i*P **P** **18 54 44.2 +0.1**
comp=Z,25nm,0.8s
GRR Gorron 66.85 314 ⇑*i*P **P** **18 54 44.2 +0.1**
GRR Gorron 66.85 314 ⇑*i*P **P** **18 54 44.2 +0.1**
CAF Calviac 66.90 310 ⇑*i*P **P** **18 54 45.3 +0.8**
comp=Z,36nm,1.3s
CAF Calviac 66.90 310 ⇑*i*P **P** **18 54 45.3 +0.8**
CAF Calviac 66.90 310 ⇑*i*P **P** **18 54 45.3 +0.8**
RJF Les Rejaudoux 67.04 310 ⇑*i*P **P** **18 54 46.3 +0.9**
comp=Z,49nm,1.2s
RJF *eR*
comp=Z,83nm,18.8s
RJF Les Rejaudoux 67.04 310 ⇑*i*P **P** **18 54 46.3 +0.9**
RJF Les Rejaudoux 67.04 310 ⇑*i*P **P** **18 54 46.3 +0.9**
PMG Port Moresby 67.08 123 *eP* **P** **18 54 45.5 -0.4**
comp=Z,40nm,1.1s
PMG Port Moresby 67.08 123 P **P** **18 54 45.9 0.0**
comp=Z,30nm,1.0s,baz=306,slow=8.7,SNR=4.0
RSO Redoubt South 67.34 30 *eP* **P** **18 54 47.3 0.0**
MFF Saint Martin d 67.36 312 ⇑*i*P **P** **18 54 47.6 +0.2**
comp=Z,76nm,1.4s
MFF Saint Martin d 67.36 312 ⇑*i*P **P** **18 54 47.6 +0.2**
MFF Saint Martin d 67.36 312 ⇑*i*P **P** **18 54 47.6 +0.2**
MTLF Montolieu 67.62 308 *eP* **P** **18 54 49.5 +0.4**
MTLF Montolieu 67.62 308 *eP* **P** **18 54 49.5 +0.4**
MTLF Montolieu 67.62 308 *eP* **P** **18 54 49.5 +0.4**
LFF La Frestale 67.70 310 *eP* **P** **18 54 50.3 +0.8**
LFF La Frestale 67.70 310 *eP* **P** **18 54 50.3 +0.8**
LFF La Frestale 67.70 310 *eP* **P** **18 54 50.3 +0.8**
WRAB Tennant Creek 67.86 141 P **P** **18 54 48.2 -2.5**
comp=Z,138nm,1.1s,SNR=13
WRAB Tennant Creek 67.86 141 *eP* **P** **18 54 49.3 -1.5**
WRAB pmax pmax
comp=Z,30nm,1.1s
WRAB Tennant Creek 67.86 141 *eP* **P** **18 54 49.3 -1.5**
comp=Z,30nm,1.1s
WRA Warramunga Arr 67.87 141 P **P** **18 54 49.7 -1.0**
WRA PcP **PcP** **18 55 16.3 -1.0**
WRA Warramunga Arr 67.87 141 P **P** **18 54 49.7 -1.0**
comp=Z,18nm,1.0s,baz=339,slow=6.6,SNR=53
WRA PcP **PcP** **18 55 16.3 -1.0**
comp=Z,3.2nm,1.0s,baz=333,slow=4.6,SNR=5.1
SGMF Saint Gilles 67.89 314 ⇑*i*P **P** **18 54 51.3 +0.7**
comp=Z,32nm,0.9s
SGMF Saint Gilles 67.89 314 ⇑*i*P **P** **18 54 51.3 +0.7**
SGMF Saint Gilles 67.89 314 ⇑*i*P **P** **18 54 51.3 +0.7**
COEN Coen 67.97 130 *eP* **P** **18 54 50.5 -1.1**
comp=Z,147nm,1.0s
PMR Palmer 68.03 28 *eP* **P** **18 54 51.4 +0.1**
PMR pmax pmax
comp=Z,22nm,0.9s
PMR Palmer 68.03 28 *eP* **P** **18 54 51.4 +0.1**

	comp=Z,22nm,0.9s						
INK	Inuvik	68.09	18	eP	P	18 54 51.9	+0.4
	comp=Z,29nm,1.2s						
SML	Sawmill	68.19	27	eP	P	18 54 52.5	+0.1
SML				pmax	pmax		
	comp=Z,16nm,0.8s						
SML	Sawmill	68.19	27	eP	P	18 54 52.5	+0.1
	comp=Z,16nm,0.8s						
ROSF	Rostrenen	68.25	315⇑	iP	P	18 54 53.5	+0.6
	comp=Z,52nm,1.3s						
ROSF	Rostrenen	68.25	315⇑	iP	P	18 54 53.5	+0.6
ROSF	Rostrenen	68.25	315⇑	iP	P	18 54 53.5	+0.6
QUIF	Quistinic	68.42	314⇑	iP	P	18 54 54.5	+0.6
	comp=Z,13nm,0.8s						
QUIF	Quistinic	68.42	314⇑	iP	P	18 54 54.5	+0.6
QUIF	Quistinic	68.42	314⇑	iP	P	18 54 54.5	+0.6
PAX	Paxson	68.44	26	eP	P	18 54 53.4	-0.6
PAX				pmax	pmax		
	comp=Z,17nm,1.3s						
PAX	Paxson	68.44	26	eP	P	18 54 53.4	-0.6
	comp=Z,16nm,1.3s						
EGAK	Eagle	68.59	23	eP	P	18 54 54.9	+0.1
	comp=Z,24nm,0.9s						
EPF	Esparros	68.95	309	eP	P	18 54 57.1	-0.4
EPF	Esparros	68.95	309	eP	P	18 54 57.1	-0.4
EPF	Esparros	68.95	309	eP	P	18 54 57.1	-0.4
KDAK	Kodiak Island	69.04	32	P	P	18 54 57.6	-0.1
	comp=Z,292nm,0.9s,SNR=8.3						
KDAK	Kodiak Island	69.04	32	eP	P	18 54 57.4	-0.3
	comp=Z,54nm,1.0s						
DIV	Divide	69.56	27	eP	P	18 55 01.1	+0.2
	comp=Z,28nm,0.8s						
ETSF	Etsaut	69.58	309	eP	P	18 55 02.1	+0.7
	comp=Z,28nm,1.2s						
ETSF	Etsaut	69.58	309	eP	P	18 55 02.1	+0.7
ETSF	Etsaut	69.58	309	eP	P	18 55 02.1	+0.7
DAWY	Dawson	69.64	23	eP	P	18 55 01.7	+0.3
SJPF	Ste Jean	69.87	309	eP	P	18 55 02.1	-1.0
	comp=Z,58nm,1.4s						
SJPF	Ste Jean	69.87	309	eP	P	18 55 02.1	-1.0
SJPF	Ste Jean	69.87	309	eP	P	18 55 02.1	-1.0
BMRM	Bremner River	70.09	27	eP	P	18 55 04.7	+0.5
	comp=Z,28nm,0.9s						
AS31	Alice Springs	70.81	143	eP	P	18 55 08.2	-0.8
ASAR	Alice Springs	70.81	143	P	P	18 55 08.2	-0.7
ASAR	Alice Springs	70.81	143	P	P	18 55 08.2	-0.7
	comp=Z,11nm,0.8s,baz=329,slow=5.8,SNR=86						
SFJD	Kangerlussuaq	72.51	347	iP	P	18 55 18.6	0.0
	comp=Z,8.8nm,0.9s						
HYT	Haines Junctio	72.62	24	eP	P	18 55 20.9	+1.3
NWAO	Narrogin (SRO)	73.07	161	eP	P	18 55 16.0	-6.2
	comp=Z,35nm,1.0s						
NWAO	Narrogin (SRO)	73.07	161	P	P	18 55 21.9	-0.3
	comp=Z,34nm,0.9s,baz=11,slow=3.9,SNR=8.3						
NWAO				LR	LR	19 33 11.4	
	comp=Z,80nm,18.6s,baz=50,slow=41						
ESDC	Sonseca Array	73.51	308	P	P	18 55 26.0	+0.9
ESDC	Sonseca Array	73.51	308	P	P	18 55 26.0	+0.9
	comp=Z,7.1nm,0.8s,baz=49,slow=6.0,SNR=28						
ESLA	Sonseca Array	73.51	308	eP	P	18 55 25.6	+0.4
SKAG	Skagway	74.37	24	eP	P	18 55 32.0	+2.3
	comp=Z,23nm,1.0s						
MVO	Moncorvo	74.53	310	eP	P	18 55 32.0	+0.9
	comp=Z,33nm,1.6s						
CTA	Charters Tower	74.56	131	P	P	18 55 31.1	-0.2
CTA	Charters Tower	74.56	131	P	P	18 55 31.1	-0.2
	comp=Z,14nm,0.9s,baz=301,slow=8.5,SNR=9.9						
CTAO	Charters Tower	74.56	131	eP	P	18 55 30.9	-0.4
CTAO				pmax	pmax		
	comp=Z,31nm,1.2s						
CTAO	Charters Tower	74.56	131	eP	P	18 55 30.9	-0.4
	comp=Z,31nm,1.2s						
PGAV	Gavieira, Arco	74.79	311	eP	P	18 55 32.1	-0.5
PCBR	Castelo Branco	75.59	309	eP	P	18 55 40.0	+2.9
	comp=Z,20nm,1.6s						
PMRV	Marv??o	75.79	309	eP	P	18 55 39.8	+1.5
	comp=Z,27nm,1.6s						
PCAS	Casmilo, Conde	76.09	310	eP	P	18 55 41.6	+1.6
	comp=Z,51nm,1.5s						
PBAR	Barrancos	76.33	308	eP	P	18 55 42.3	+0.9
	comp=Z,84nm,1.7s						
PMTG	Montargil	76.52	309	eP	P	18 55 43.6	+1.2
	comp=Z,27nm,1.8s						
TAM	Tamanrasset	76.61	288	eP	P	18 55 43.7	+0.3
TAM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TAM	Tamanrasset	76.61	288	eP	P	18 55 43.7	+0.3
	comp=Z,5.4nm,1.0s						
EVO	Evora	76.72	308⇑	iP	P	18 55 44.9	+1.3
	comp=Z,37nm,1.2s						
EVO	Evora	76.72	308	eP	P	18 55 44.8	+1.2
	comp=Z,29nm,1.4s						
EVOP	Sao Brissos	76.79	309⇑	iP	P	18 55 44.9	+1.0
EVOP	Sao Brissos	76.79	309⇑	iP	P	18 55 44.9	+1.0
DLBC	Dease Lake	76.86	23	P	P	18 55 45.0	+0.9
DLBC	Dease Lake	76.86	23	P	P	18 55 45.0	+0.9
	comp=Z,8.2nm,1.0s,baz=2.1,slow=6.1,SNR=6.0						
PBEJ	Beja	76.94	308	eP	P	18 55 45.3	+0.5
	comp=Z,26nm,1.6s						
YKA	Yellowknife Ar	77.18	14	P	P	18 55 45.6	-0.1
YKA	Yellowknife Ar	77.18	14	P	P	18 55 45.6	-0.1
	comp=Z,4.0nm,0.8s,baz=337,slow=5.4,SNR=9.8						
PVAQ	Vaqueiros	77.22	307	eP	P	18 55 48.4	+2.0
	comp=Z,25nm,1.4s						
PBDV	Barranco-do-Ve	77.45	307	eP	P	18 55 49.3	+1.5
	comp=Z,89nm,1.6s						
FRB	Frobisher Bay	78.11	353	P	P	18 55 50.5	-0.3
FRB	Frobisher Bay	78.11	353	P	P	18 55 50.5	-0.3
	comp=Z,6.4nm,0.6s,baz=342,slow=7.8,SNR=3.7						
STKA	Stephens Creek	81.37	142	eP	P	18 56 07.5	-1.4
	comp=Z,5.1nm,1.2s						
STKA	Stephens Creek	81.37	142	P	P	18 56 07.9	-1.0
	comp=Z,12nm,0.8s,baz=304,slow=3.8,SNR=14						
STKA				LR	LR	19 38 19.9	
	comp=Z,72nm,19.4s,baz=24,slow=40						
LSZ	Lusaka	82.39	244	eP	P	18 56 14.2	-0.6
	comp=Z,6.0nm,0.8s						
BBB	Bella Bella	82.64	25	P	P	18 56 15.9	+0.5
BBB	Bella Bella	82.64	25	P	P	18 56 15.9	+0.5
	comp=Z,11nm,1.0s,baz=34,slow=5.9,SNR=3.5						
FCC	Fort Churchill	83.53	5	eP	P	18 56 18.9	-1.0
FCC	Fort Churchill	83.53	5	eP	P	18 56 18.9	-1.0
	comp=Z,0.9nm,1.5s						
TOA0	Torodi Ar. Sit	85.25	283	eP	P	18 56 28.2	-1.2
TORD	Torodi Ar. Bea	85.25	283	P	P	18 56 29.4	0.0
TORD	Torodi Ar. Bea	85.25	283	P	P	18 56 29.4	0.0
	comp=Z,5.6nm,1.0s,baz=35,slow=4.9,SNR=22						
EDM	Edmonton	85.98	17	eP	P	18 56 31.7	-0.8
EDM	Edmonton	85.98	17	eP	P	18 56 31.7	-0.8
SCHQ	Schefferville	86.62	350	P	P	18 56 35.2	-0.3
SCHQ	Schefferville	86.62	350	P	P	18 56 35.2	-0.3
	comp=Z,8.6nm,0.8s,baz=50,slow=6.8,SNR=7.5						
FFC	Flin Flon	86.67	10	eP	P	18 56 35.4	-0.4
FFC				pmax	pmax		
	comp=Z,17nm,1.0s						
FFC	Flin Flon	86.67	10	eP	P	18 56 35.4	-0.4
	comp=Z,17nm,1.0s						
B08A	Colville Reser	88.79	23	eP	P	18 56 47.0	+0.9
	comp=Z,20nm,1.4s						
LTY	Liberty	89.35	24	eP	P	18 56 49.4	+0.6
	comp=Z,23nm,1.4s						
LON	Longmire	89.42	25	eP	P	18 56 49.8	+0.7
LON				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LON	Longmire	89.42	25	eP	P	18 56 49.8	+0.7
	comp=Z,6.4nm,0.8s						
NEW	Newport	89.53	21	eP	P	18 56 49.9	+0.3
	comp=Z,10nm,0.9s						
C09A	Chrisman Ranch	89.61	22	eP	P	18 56 51.2	+1.2
	comp=Z,21nm,1.0s						
BLMT	Blacktail Moun	90.52	20	eP	P	18 56 55.1	+0.6
BSMT	Bassoo Peak	90.56	20	eP	P	18 56 55.4	+0.8
LBTB	Lobatse	90.69	239	eP	P	18 56 55.1	-0.2
	comp=Z,3.9nm,0.8s						
YBMT	Yellow Bay	90.75	20	eP	P	18 56 55.5	+0.1
	comp=Z,2.6nm,0.5s						
JTMT	Jette	90.79	20	eP	P	18 56 56.4	+0.8
E09A	Wood Farm, Sta	90.80	23	eP	P	18 56 56.9	+1.4
	comp=Z,9.4nm,1.0s						
SWMT	Swartz Lake	91.08	20	eP	P	18 56 57.4	+0.4
SLMT	Seeley Lake	91.46	19	eP	P	18 56 58.6	-0.2
	comp=Z,6.2nm,0.8s						
F10A	Beach Ranch, E	91.56	22	eP	P	18 57 00.6	+1.4
	comp=Z,32nm,1.6s						
MSO	Missoula	91.72	20	eP	P	18 57 00.9	+1.0
	comp=Z,12nm,1.2s						
ULM	Lac du Bonnet	91.81	7	LR	LR	19 37 52.5	
	comp=Z,91nm,19.1s,baz=30,slow=35						
I07A	Izee	92.54	25	eP	P	18 57 05.2	+1.5
	comp=Z,72nm,2.6s						
K05A	Summer Lake	93.27	26	eP	P	18 57 09.1	+1.8
	comp=Z,28nm,1.8s						
BOSA	Boshof	93.30	236	P	P	18 57 06.8	-0.5
BOSA	Boshof	93.30	236	P	P	18 57 06.8	-0.5
	comp=Z,3.3nm,1.0s,baz=76,slow=4.2,SNR=2.4						
BOSA				LR	LR	19 38 53.5	
	comp=Z,68nm,19.6s,baz=346,slow=35						
YBH	Yreka Blue Hor	93.48	28	LR	LR	19 40 06.8	
	comp=Z,117nm,18.1s,baz=346,slow=36						
DBIC	Dimbokro	94.30	282	P	P	18 57 11.6	-0.6
	comp=Z,6.1nm,0.9s						
DBIC	Dimbokro	94.30	282	P	P	18 57 11.9	-0.2
	comp=Z,2.3nm,0.6s,baz=31,slow=7.7,SNR=4.8						
DBIC				LR	LR	19 46 21.7	
	comp=Z,55nm,19.0s,baz=303,slow=40						
PDAR	Pinedale Array	96.65	18	LR	LR	19 44 07.8	
	comp=Z,65nm,19.5s,baz=50,slow=37						
NVAR	Mina Array Bea	97.98	26	P	Pdif	18 57 30.0	+1.1
NVAR	Mina Array Bea	97.98	26	P	Pdif	18 57 30.0	+1.1
	comp=Z,0.8nm,0.7s,baz=311,slow=3.6,SNR=6.3						
VNDA	Vanda	121.64	166	PKP	PKPdf	19 02 43.6	-1.2
VNDA	Vanda	121.64	166	PKP	PKPdf	19 02 43.6	-1.2
	comp=Z,1.3nm,0.9s,baz=294,slow=3.9,SNR=6.4						
MAIT	Maitri	123.19	203	eP	PKPdf	19 02 45.1	-2.7
QSPA	South Pole Qui	127.48	180	ePKPdf	PKPdf	19 02 55.0	-1.2
SNAA	Sanae	127.98	203	ePKP	PKPdf	19 02 56.8	-0.3
VNA2	Neumayer--Watz	129.40	204	ePKP	PKPdf	19 02 59.9	+0.1
VNA2	Neumayer--Watz	129.40	204	ei		19 03 03.2	
VNA1	Neumayer--Stat	129.67	205	ePKP	PKPdf	19 03 00.8	+0.6
SAML	Samuel	145.63	321	ePKPdf	PKPdf	19 03 31.0	-0.2
LPAZ	La Paz	154.36	322	PKP	PKPdf	19 03 45.8	+0.2
LPAZ	La Paz	154.36	322	PKP	PKPdf	19 03 45.8	+0.2
	comp=Z,0.3nm,0.3s,baz=25,slow=7.4,SNR=3.6						
CPUP	Villa Florida	154.61	289	PKPbc	PKPbc	19 03 52.5	-0.9
CPUP	Villa Florida	154.61	289	PKPbc	PKPbc	19 03 52.5	-0.9
	comp=Z,1.6nm,0.6s,baz=58,slow=2.1,SNR=8.1						
PLCA	Paso Flores	168.97	250	PKP	PKPdf	19 03 59.2	-0.1
PLCA	Paso Flores	168.97	250	PKP	PKPdf	19 03 59.2	-0.1
	comp=Z,3.9nm,1.0s,baz=339,slow=0.1,SNR=3.3						

*IDC **29** 18:54:01.8±1.9, 43.°30N×105.°16W, h0km, mb1 3.6/3, mb1mx3.3/30, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=45.5km s-min=9.0km az=153.0*
*ISCJB **29** 18:54:02.6±0.2, 43.°58N±0.°01×105.°24W±0.°02, h0km, Error ellipse: s-maj=2.2km s-min=1.9km az=144.4*
*NEIC **29** 18:54:02.9±0.5, 43.°61N×105.°16W, h0km, ML3.1, Error ellipse: s-maj=6.3km s-min=5.7km az=225.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] WSW of Newcastle.

ISC 29 18:54:03.3±0.7, 43.°56N±0.°01×105.°22W±0.°02, h0km, n118, σ0.°91/156, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.43	336	P	Pg	18 54 12.0	+0.3
	baz=0.4,SNR=22						
I23A	Meade Ranch, G	0.43	336	P	Pg	18 54 12.0	+0.3
	baz=0.4,SNR=22						
J24A	Dixon Ranch, L	0.47	120	P	Pg	18 54 12.5	+0.2
	baz=0.5,SNR=230						
J24A				S	Sg	18 54 19.1	+0.8
	baz=0.5						
J24A	Dixon Ranch, L	0.47	120	P	Pg	18 54 12.5	+0.2
	baz=0.5,SNR=230						
J24A				S	Sg	18 54 19.1	+0.8
	baz=0.5						
I24A	Kuemmerle Ranc	0.52	55	P	Pg	18 54 12.9	-0.4
	baz=0.5,SNR=626						
I24A				S	Sg	18 54 19.9	-0.2
	baz=0.5						
I24A	Kuemmerle Ranc	0.52	55	P	Pg	18 54 12.9	-0.4
	baz=0.5,SNR=626						
I24A				S	Sg	18 54 19.9	-0.2
	baz=0.5						
K24A	Anderson Ranch	0.89	160	P	Pg	18 54 20.2	-0.1
	baz=0.9,SNR=70						
K24A				S	Sb	18 54 33.0	-1.2
	baz=0.9						
K24A	Anderson Ranch	0.89	160	P	Pg	18 54 20.2	-0.1
	baz=0.9,SNR=70						
K24A				S	Sb	18 54 33.0	-1.2
	baz=0.9						
I22A	9 Mile Ranch,	0.97	290	P	Pg	18 54 21.6	-0.4
	baz=1.0,SNR=263						
I22A	9 Mile Ranch,	0.97	290	P	Pg	18 54 21.6	-0.4
	baz=1.0,SNR=263						
H23A	Clabaugh Cattl	1.01	353	P	Pg	18 54 22.4	-0.3
	baz=1.0,SNR=26						
H23A				S	Sg	18 54 36.7	+1.0
	baz=1.0						
H23A	Clabaugh Cattl	1.01	353	P	Pg	18 54 22.4	-0.3
	baz=1.0,SNR=26						
H23A				S	Sg	18 54 36.7	+1.0
	baz=1.0						
RSSD	Black Hills	1.02	56	ePg	Pg	18 54 21.5	-1.4
J25A	Sunshine Ranch	1.04	99	P	Pg	18 54 23.0	-0.3
	baz=1.0,SNR=141						
J25A				S	Sg	18 54 37.7	+0.8
	baz=1.0						
J25A	Sunshine Ranch	1.04	99	P	Pg	18 54 23.0	-0.3
	baz=1.0,SNR=141						
J25A				S	Sg	18 54 37.7	+0.8
	baz=1.0						
I25A	Rochford	1.17	66	P	Pg	18 54 24.7	-1.0
	baz=1.1,SNR=347						
I25A				S	Sg	18 54 41.6	+0.7
	baz=1.1						
I25A	Rochford	1.17	66	P	Pg	18 54 24.7	-1.0
	baz=1.1,SNR=347						
I25A				S	Sg	18 54 41.6	+0.7
	baz=1.1						
H24A	Dirks Ranch, A	1.28	22	P	Pg	18 54 26.4	-1.4
	baz=1.2,SNR=344						
H24A				S	Sg	18 54 44.5	+0.1
	baz=1.2						
H24A	Dirks Ranch, A	1.28	22	P	Pg	18 54 26.4	-1.4
	baz=1.2,SNR=344						
H24A				S	Sg	18 54 44.5	+0.1
	baz=1.2						
H22A	Clearmont	1.32	322	P	Pg	18 54 28.0	-0.5
	baz=1.3						
H22A	Clearmont	1.32	322	P	Pg	18 54 28.0	-0.5
	baz=1.3						
K22A	Casper	1.32	227	P	Pg	18 54 27.4	-1.3
	baz=1.4						
K22A	Casper	1.32	227	P	Pg	18 54 27.4	-1.3
	baz=1.4						
K25A	Mack Ranch, Ha	1.37	133	P	Pg	18 54 29.2	-0.3
	baz=1.4,SNR=95						
K25A				S	Sn	18 54 49.3	+0.5
	baz=1.4						
K25A	Mack Ranch, Ha	1.37	133	P	Pg	18 54 29.2	-0.3
	baz=1.4,SNR=95						
K25A				S	Sn	18 54 49.3	+0.5
	baz=1.4						
L23A	Garrett	1.49	194	P	Pn	18 54 30.1	-1.5
	baz=1.5,SNR=631						
L23A	Garrett	1.49	194	P	Pn	18 54 30.1	-1.5
	baz=1.5,SNR=631						
I21A	Big Trails, Te	1.52	280	P	Pn	18 54 30.8	-1.2
	baz=1.6,SNR=152						
I21A	Big Trails, Te	1.52	280	P	Pn	18 54 30.8	-1.2
	baz=1.6,SNR=152						
L24A	Wheatland	1.53	172	P	Pn	18 54 31.1	-1.0
	baz=1.6,SNR=28						
L24A				S	Sg	18 54 53.0	+0.4
	baz=1.6						
L24A	Wheatland	1.53	172	P	Pn	18 54 31.1	-1.0
	baz=1.6,SNR=28						
L24A				S	Sg	18 54 53.0	+0.4
	baz=1.6						
J26A	Sides Ranch, S	1.58	98	Pb	Pn	18 54 32.4	-0.3
	baz=1.5,SNR=79						
J26A	Sides Ranch, S	1.58	98	Pb	Pn	18 54 32.4	-0.3
	baz=1.5,SNR=79						
J21A	Lysite	1.64	263	Pb	Pn	18 54 33.0	-0.5
	baz=1.7,SNR=101						
J21A	Lysite	1.64	263	Pb	Pn	18 54 33.0	-0.5
	baz=1.7,SNR=101						
G23A	Biddle	1.64	356	Pb	Pn	18 54 33.2	-0.3
	baz=1.6,SNR=334						
G23A	Biddle	1.64	356	Pb	Pn	18 54 33.2	-0.3
	baz=1.6,SNR=334						
L25A	Engebretsen Ra	1.68	146	Pb	Pn	18 54 34.6	+0.5
	baz=1.7,SNR=68						
L25A				Sb	Sg	18 54 58.3	+1.0
	baz=1.7						
L25A	Engebretsen Ra	1.68	146	Pb	Pn	18 54 34.6	+0.5
	baz=1.7,SNR=68						
L25A				Sb	Sg	18 54 58.3	+1.0
	baz=1.7						
K26A	Motz Farm, Whi	1.72	119	Pb	Pn	18 54 34.9	+0.2
	baz=1.7,SNR=59						
K26A				Sb	Sg	18 54 59.2	+0.5
	baz=1.7						
K26A	Motz Farm, Whi	1.72	119	Pb	Pn	18 54 34.9	+0.2
	baz=1.7,SNR=59						
K26A				Sb	Sg	18 54 59.2	+0.5
	baz=1.7						
K21A	Alcova	1.75	239	Pb	Pn	18 54 34.9	-0.3
	baz=1.8,SNR=490						
K21A				Sb	Sg	18 54 59.6	-0.1
	baz=1.8						
K21A	Alcova	1.75	239	Pb	Pn	18 54 34.9	-0.3
	baz=1.8,SNR=490						
K21A				Sb	Sg	18 54 59.6	-0.1
	baz=1.8						
I26A	New Underwood	1.77	74	Pb	Pn	18 54 35.5	+0.2
	baz=1.7,SNR=18						
I26A	New Underwood	1.77	74	Pb	Pn	18 54 35.5	+0.2
	baz=1.7,SNR=18						
L22A	Ellis Ranch, M	1.77	211	Pb	Pn	18 54 35.3	-0.1
	baz=1.8,SNR=74						
L22A	Ellis Ranch, M	1.77	211	Pb	Pn	18 54 35.3	-0.1
	baz=1.8,SNR=74						
G22A	Birney	1.83	335	Pb	Pn	18 54 36.2	+0.1
	baz=1.8,SNR=103						
G22A	Birney	1.83	335	Pb	Pn	18 54 36.2	+0.1
	baz=1.8,SNR=103						
G24A	Alzada	1.86	18	Pb	Pn	18 54 37.2	+0.8
	baz=1.8,SNR=16						
G24A				Sb	Sb	18 55 02.5	+0.5
	baz=1.8						
G24A	Alzada	1.86	18	Pb	Pn	18 54 37.2	+0.8
	baz=1.8,SNR=16						
G24A				Sb	Sb	18 55 02.5	+0.5
	baz=1.8						
J20A	Shoshoni	2.10	265	Pb	Pb	18 54 41.3	-1.0
	baz=2.1						
J20A	Shoshoni	2.10	265	Pb	Pb	18 54 41.3	-1.0
	baz=2.1						
M24A	Cheyenne	2.11	172	Pb	Pb	18 54 41.7	-0.9
	baz=2.2						
M24A	Cheyenne	2.11	172	Pb	Pb	18 54 41.7	-0.9
	baz=2.2						
M23A	Laramie	2.13	190	Pb	Pn	18 54 41.5	+1.2
	baz=2.2,SNR=123						
M23A				Sb	Sb	18 55 10.1	+0.2
	baz=2.2						
M23A	Laramie	2.13	190	Pb	Pn	18 54 41.5	+1.2
	baz=2.2,SNR=123						
M23A				Sb	Sb	18 55 10.1	+0.2
	baz=2.2						
G21A	Lodge Grass	2.19	320	Pb	Pn	18 54 41.3	+0.2
	baz=2.2,SNR=108						
G21A				Sb	Sb	18 55 11.6	0.0
	baz=2.2						
G21A	Lodge Grass	2.19	320	Pb	Pn	18 54 41.3	+0.2
	baz=2.2,SNR=108						
G21A				Sb	Sb	18 55 11.6	0.0
	baz=2.2						
L26A	Underwood Farm	2.19	133	Pb	Pb	18 54 42.8	-1.1
	baz=2.2						
L26A				Sb	Sb	18 55 12.5	+0.9
	baz=2.2						
L26A	Underwood Farm	2.19	133	Pb	Pb	18 54 42.8	-1.1
	baz=2.2						
L26A				Sb	Sb	18 55 12.5	+0.9
	baz=2.2						
H20A	Greybull	2.21	296	Pb	Pn	18 54 41.9	+0.6
	baz=2.2,SNR=37						
H20A				Sb	Sb	18 55 12.3	+0.2
	baz=2.2						
H20A	Greybull	2.21	296	Pb	Pn	18 54 41.9	+0.6
	baz=2.2,SNR=37						
H20A				Sb	Sb	18 55 12.3	+0.2
	baz=2.2						
L21A	Rawlins	2.25	225	Pb	Pb	18 54 43.8	-1.1
	baz=2.3,SNR=46						
L21A				Sb	Sb	18 55 13.2	-0.2
	baz=2.3						
L21A	Rawlins	2.25	225	Pb	Pb	18 54 43.8	-1.1
	baz=2.3,SNR=46						
L21A				Sb	Sb	18 55 13.2	-0.2
	baz=2.3						
PHWY	Pilot Hill	2.27	185	ePn	Pn	18 54 42.1	-0.2
M25A	Palm-Egli Farm	2.29	158	Pb	Pb	18 54 44.2	-1.5
	baz=2.3						
M25A				Sb	Sb	18 55 15.7	+1.1
	baz=2.3						
M25A	Palm-Egli Farm	2.29	158	Pb	Pb	18 54 44.2	-1.5
	baz=2.3						
M25A				Sb	Sb	18 55 15.7	+1.1
	baz=2.3						
F22A	Rosebud	2.34	342	Pb	Pb	18 54 45.1	-1.2
	baz=2.3,SNR=97						
F22A				Sb	Sb	18 55 16.0	+0.2
	baz=2.3						
F22A	Rosebud	2.34	342	Pb	Pb	18 54 45.1	-1.2
	baz=2.3,SNR=97						
F22A				Sb	Sb	18 55 16.0	+0.2
	baz=2.3						
F24A	Ekalaka	2.35	13	Pb	Pb	18 54 45.2	-1.3
	baz=2.3						
F24A	Ekalaka	2.35	13	Pb	Pb	18 54 45.2	-1.3
	baz=2.3						
RWWY	Rawlins	2.38	219	ePn	Pn	18 54 44.8	+1.0
LAO	LASA Array	3.21	348	ePn	Pn	18 54 53.1	-1.9
PDAR	Pinedale Array	3.27	257	Pn	Pn	18 54 56.0	-0.1
PDAR				Pg	Pb	18 55 03.6	+1.2
PDAR				Lg	Lg	18 55 45.5	
PDAR	Pinedale Array	3.27	257	Pn	Pn	18 54 56.0	-0.1
	1.3nm,0.3s,baz=88,slow=15,SNR=42						
PDAR				Pg	Pb	18 55 03.6	+1.2
	5.1nm,0.3s,baz=70,slow=18,SNR=47						
PDAR				Lg	Lg	18 55 45.5	
	6.8nm,0.3s,baz=72,slow=35,SNR=10						
BW06	Boulder Array	3.27	257	ePn	Pn	18 54 55.5	-0.6
RLMT	Red Lodge	3.30	300	ePn	Pn	18 54 56.2	-0.

2.8nm,0.9s
PV04 Paradox Valley 5.87 210 *e*Pn **Pn 18 55 29.5 -2.2**
SRU San Rafael 5.98 224 *e*Pn **Pn 18 55 32.5 -0.6**
10nm,0.6s
PV01 Paradox Valley 5.99 206 *e*Pn **Pn 18 55 34.6 +1.2**
418nm,0.8s
ECSD EROS Data Cent 6.25 85 *e*Pn **Pn 18 55 36.7 0.0**
5.5nm,0.6s
Q16A Castle Valley 6.45 226 *e*Pn **Pn 18 55 39.8 0.0**
AGMN Agassiz Nation 8.06 51 *e*Pn **Pn 18 56 02.4 +0.9**
6.0nm,0.6s
ULM Lac du Bonnet 9.25 40 Pn **Pn 18 56 16.8 -1.1**
ULM Lg Lg 18 58 52.2
ULM Lac du Bonnet 9.25 40 Pn **Pn 18 56 16.8 -1.1**
0.3nm,0.3s,baz=236,slow=14,SNR=3.8
ULM Lg Lg 18 58 52.2
0.5nm,0.3s,baz=155,slow=21,SNR=3.3
NVAR Mina Array Bea 11.13 247 Pn **Pn 18 56 45.9 +1.9**
NVAR Mina Array Bea 11.13 247 Pn **Pn 18 56 45.9 +1.9**
0.1nm,0.3s,baz=48,slow=14,SNR=3.5

---

*CSEM **29** 19:01:50.2, 45°.86N×15°.02E, h0km, ML0.1, After LJU*
LJU 29 19:01:50.2, 45°.86N×15°.02E, h5km, ML0.1, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VISS	**Visnje**	**0.14**	**245**	*i* Pg	Pg	19 01 53.1	+0.1
VISS				*i* Sg	Sg	19 01 55.2	+0.2
VISS	comp=Z,2.0nm,0.1s						
VISS	**Visnje**	**0.14**	**245**	*i* Pg	Pg	19 01 53.1	0.0
VISS				*i* Sg	Sg	19 01 55.2	+0.2
	comp=Z,2.0nm,0.1s						
PDKS	**Podkum**	**0.20**	**356**	⇓*i*Pg	Pg	19 01 54.3	0.0
PDKS	**Podkum**	**0.20**	**356**	⇓*i*Pg	Pg	19 01 54.3	+0.1
LEGS	**Legarje**	**0.23**	**68**	*i* Pg	Pg	19 01 54.9	+0.2
LEGS				*i* Sg	Sg	19 01 58.1	+0.3
LEGS	**Legarje**	**0.23**	**68**	*i* Pg	Pg	19 01 54.9	+0.2
LEGS				*i* Sg	Sg	19 01 58.1	+0.4
CRES	**Cresnjev**	**0.31**	**97**	*i* Pg	Pg	19 01 56.2	0.0
CRES	**Cresnjev**	**0.31**	**97**	*i* Pg	Pg	19 01 56.2	-0.1
BOJS	**Bojanci**	**0.40**	**155**	*e*Pg	Pg	19 01 58.1	+0.2
BOJS	**Bojanci**	**0.40**	**155**	*e*Pg	Pg	19 01 58.1	+0.2

IDC 29 19:22:11.7±2.8, 0°.45S×133°.17E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.1/21, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=135.0km s-min=28.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.41**	**177**	P	P	19 26 39.9	+0.2
0.1nm,0.3s,baz=356,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**23.09**	**178**	P	P	19 27 19.2	-0.1
0.2nm,0.4s,baz=357,slow=11,SNR=12							
MKAR	**Makanchi Array**	**64.67**	**324**	P	P	19 32 51.5	-0.1
0.4nm,0.9s,baz=112,slow=7.4,SNR=3.4							

IDC 29 19:26:33.9±1.6, 32°.85N×91°.75E, h0km, mb3.2/4, mb1 3.3/7, mb1mx3.2/29, mbtmp3.1/7, ML3.0/3, Error ellipse: s-maj=73.4km s-min=20.6km az=67.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.69**	**335**	Pn	Pn	19 30 14.3	-2.0
0.0nm,0.3s,baz=137,slow=14,SNR=2.9							
CMAR	**Chiang Mai Arr**	**15.72**	**154**	Pn	Pn	19 30 17.0	+0.2
0.0nm,0.3s,baz=338,slow=14,SNR=3.9							
SONM	**Songino Array**	**18.62**	**32**	P	Pn	19 30 53.5	+0.1
0.0nm,0.3s,baz=222,slow=13,SNR=2.3							
KURBB	**Kurchatov Arra**	**20.26**	**335**	P	P	19 31 11.3	+0.5
0.3nm,0.8s,baz=145,slow=11,SNR=5.2							
ZALV	**Zalesovo Beam**	**21.66**	**349**	P	P	19 31 24.8	-1.1
0.3nm,0.5s,baz=174,slow=5.8,SNR=2.8							
WRA	**Warramunga Arr**	**66.42**	**136**	P	P	19 37 24.9	-0.3
0.5nm,0.9s,baz=325,slow=6.0,SNR=3.4							
ASAR	**Alice Springs**	**69.10**	**139**	P	P	19 37 42.3	+0.3
0.4nm,0.5s,baz=324,slow=6.5,SNR=9.4							

---

*SOF **29** 19:55:13.3, 44°.85N×27°.06E, h3km, MD2.6*
*ISCJB **29** 19:55:14.9±0.5, 44°.84N±0°.02×27°.07E±0°.02, h11km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=24.8*
*BUC **29** 19:55:14.1±0.7, 44°.85N×27°.05E, h16km±5km, MD3.5/2, Error ellipse: s-maj=5.3km s-min=4.0km az=17.0*
*CSEM **29** 19:55:14.6±0.1, 44°.84N×27°.06E, h12km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.5km az=22.0*
*BEO **29** 19:55:28.1±1.1, 44°.50N×26°.24E, h8km±8km*
ISC 29 19:55:14.7±0.9, 44°.84N±0°.02×27°.06E±0°.01, h14km±8km, n108, σ0°98/157, 80C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMRR	**Amara**	**0.30**	**139**	⇑*i*P	**Pg**	**19 55 21.4**	**+0.5**
AMRR	**Amara**	**0.30**	**139**	⇑*i*P	**Pg**	**19 55 21.4**	**+0.5**
AMRR				*i* S	**Sb**	**19 55 26.8**	**+0.2**
AMRR	**Amara**	**0.30**	**139**	⇑*i*P	**Pg**	**19 55 21.4**	**+0.5**
AMRR				*i* S	**Sb**	**19 55 26.8**	**+0.2**
ISR	**Istrita**	**0.46**	**308**	⇑*i*P	**Pg**	**19 55 23.8**	**-0.1**
ISR	**Istrita**	**0.46**	**308**	⇑*i*P	**Pg**	**19 55 23.8**	**-0.1**
ISR				*i* S	**Sb**	**19 55 31.1**	**-0.3**
ISR	**Istrita**	**0.46**	**308**	⇑*i*P	**Pg**	**19 55 23.8**	**-0.1**
ISR				*i* S	**Sb**	**19 55 31.1**	**-0.3**
GRER		**0.55**	**354**	⇑*i*P	**Pg**	**19 55 25.5**	**0.0**
GRER		**0.55**	**354**	⇑*i*P	**Pg**	**19 55 25.5**	**0.0**
GRER				*i* S	**Sb**	**19 55 35.0**	**+1.2**
GRER		**0.55**	**354**	⇑*i*P	**Pg**	**19 55 25.5**	**0.0**
GRER				*i* S	**Sb**	**19 55 35.0**	**+1.2**
SULR		**0.59**	**255**	⇑*i*P	**Pg**	**19 55 25.5**	**-0.8**
SULR		**0.59**	**255**	⇑*i*P	**Pg**	**19 55 25.5**	**-0.8**
SULR				*i* S	**Sb**	**19 55 35.4**	**+0.3**
SULR		**0.59**	**255**	⇑*i*P	**Pg**	**19 55 25.5**	**-0.8**
SULR				*i* S	**Sb**	**19 55 35.4**	**+0.3**
HARR	**Harsova**	**0.64**	**103**	⇑*i*P	**Pg**	**19 55 26.7**	**-0.5**
HARR	**Harsova**	**0.64**	**103**	⇑*i*P	**Pg**	**19 55 26.7**	**-0.5**
HARR	**Harsova**	**0.64**	**103**	⇑*i*P	**Pg**	**19 55 26.7**	**-0.5**
SECR		**0.73**	**286**	⇑*i*P	**Pg**	**19 55 28.3**	**-0.6**
SECR		**0.73**	**286**	⇑*i*P	**Pg**	**19 55 28.3**	**-0.6**
SECR				*i* S	**Sb**	**19 55 39.3**	**+0.2**
SECR		**0.73**	**286**	⇑*i*P	**Pg**	**19 55 28.3**	**-0.6**
SECR				*i* S	**Sb**	**19 55 39.3**	**+0.2**
TLB	**Topalu**	**0.74**	**109**	⇑*i*P	**Pg**	**19 55 28.4**	**-0.7**
TLB	**Topalu**	**0.74**	**109**	⇑*i*P	**Pg**	**19 55 28.4**	**-0.7**
TLB				*i* S	**Sg**	**19 55 38.7**	**-0.2**
TLB	**Topalu**	**0.74**	**109**	⇑*i*P	**Pg**	**19 55 28.4**	**-0.7**
TLB				*i* S	**Sg**	**19 55 38.7**	**-0.2**
INCR	**INCERC-Sediu C**	**0.75**	**239**	⇑*i*P	**Pb**	**19 55 30.1**	**+0.6**
INCR	**INCERC-Sediu C**	**0.75**	**239**	⇑*i*P	**Pb**	**19 55 30.1**	**+0.6**
INCR				*i* S	**Sb**	**19 55 40.0**	**+0.4**
INCR	**INCERC-Sediu C**	**0.75**	**239**	⇑*i*P	**Pb**	**19 55 30.1**	**+0.6**
INCR				*i* S	**Sb**	**19 55 40.0**	**+0.4**
CVD	**Cernavoda**	**0.87**	**127**	⇓*i*P	**Pg**	**19 55 31.1**	**-0.4**
CVD	**Cernavoda**	**0.87**	**127**	⇓*i*P	**Pg**	**19 55 31.1**	**-0.4**
CVD				*i* S	**Sb**	**19 55 43.4**	**+0.4**
CVD	**Cernavoda**	**0.87**	**127**	⇓*i*P	**Pg**	**19 55 31.1**	**-0.4**
CVD				*i* S	**Sb**	**19 55 43.4**	**+0.4**
BUC1	**Bucharest**	**0.88**	**237**	⇑*i*P	**Pg**	**19 55 31.2**	**-0.6**
BUC1	**Bucharest**	**0.88**	**237**	⇑*i*P	**Pg**	**19 55 31.2**	**-0.6**
BUC1				*i* S	**Sb**	**19 55 43.8**	**+0.4**
BUC1	**Bucharest**	**0.88**	**237**	⇑*i*P	**Pg**	**19 55 31.2**	**-0.6**
BUC1				*i* S	**Sb**	**19 55 43.8**	**+0.4**
PETR	**Petresti**	**0.90**	**8**	⇑*i*P	**Pb**	**19 55 32.1**	**+0.1**
PETR	**Petresti**	**0.90**	**8**	⇑*i*P	**Pb**	**19 55 32.1**	**+0.1**
PETR	**Petresti**	**0.90**	**8**	⇑*i*P	**Pb**	**19 55 32.1**	**+0.1**
PETR				S	**Sn**	**19 55 45.9**	**+0.4**
CIOR	**Ciorogarla**	**0.93**	**246**	⇑*i*P	**Pg**	**19 55 31.6**	**-1.0**
CIOR	**Ciorogarla**	**0.93**	**246**	⇑*i*P	**Pg**	**19 55 31.6**	**-1.0**
CIOR				*i* S	**Sg**	**19 55 44.5**	**-0.2**
CIOR	**Ciorogarla**	**0.93**	**246**	⇑*i*P	**Pg**	**19 55 31.6**	**-1.0**
CIOR				*i* S	**Sg**	**19 55 44.5**	**-0.2**
ODBI	**Odobesti**	**0.93**	**360**	⇑*i*P	**Pn**	**19 55 33.0**	**-0.3**
ODBI	**Odobesti**	**0.93**	**360**	⇑*i*P	**Pn**	**19 55 33.0**	**-0.3**
ODBI	**Odobesti**	**0.93**	**360**	⇑*i*P	**Pn**	**19 55 33.0**	**-0.3**
ODBI				S	**Sn**	**19 55 48.3**	**+1.9**
MLR	**Muntele Rosu**	**1.02**	**310**	⇑*i*P	**Pb**	**19 55 33.7**	**-0.6**
MLR	**Muntele Rosu**	**1.02**	**310**	⇑*i*P	**Pb**	**19 55 33.7**	**-0.6**
MLR	**Muntele Rosu**	**1.02**	**310**	⇑*i*P	**Pb**	**19 55 33.7**	**-0.6**
MLR				S	**Sn**	**19 55 49.5**	**+0.5**
TIRR	**Tirgusor**	**1.04**	**111**	⇑*i*P	**Pb**	**19 55 33.4**	**-1.0**
TIRR	**Tirgusor**	**1.04**	**111**	⇑*i*P	**Pb**	**19 55 33.4**	**-1.0**
TIRR				*i* S	**Sb**	**19 55 47.6**	**-0.2**
TIRR	**Tirgusor**	**1.04**	**111**	⇑*i*P	**Pb**	**19 55 33.4**	**-1.0**
TIRR				*i* S	**Sb**	**19 55 47.6**	**-0.2**
PLOR	**Plostina**	**1.05**	**344**	⇑*i*P	**Pb**	**19 55 34.1**	**-0.6**
PLOR				S	**Sn**	**19 55 50.8**	**+1.2**
VRI	**Vrincioaia**	**1.06**	**347**	⇑*i*P	**Pb**	**19 55 34.0**	**-0.8**
VRI	**Vrincioaia**	**1.06**	**347**	⇑*i*P	**Pb**	**19 55 34.0**	**-0.8**
VRI	**Vrincioaia**	**1.06**	**347**	⇑*i*P	**Pb**	**19 55 34.0**	**-0.8**
VRI				S	**Sn**	**19 55 50.8**	**+1.2**
GHRR		**1.25**	**11**	⇑*i*P	**Pn**	**19 55 36.6**	**-1.1**
GHRR		**1.25**	**11**	⇑*i*P	**Pn**	**19 55 36.6**	**-1.1**
GHRR		**1.25**	**11**	⇑*i*P	**Pn**	**19 55 36.6**	**-1.1**
TLCR		**1.29**	**74**	⇓*i*P	**Pn**	**19 55 37.8**	**-0.5**
TLCR		**1.29**	**74**	⇓*i*P	**Pn**	**19 55 37.8**	**-0.5**
TLCR				*i* S	**Sb**	**19 55 55.2**	**0.0**
TLCR		**1.29**	**74**	⇓*i*P	**Pn**	**19 55 37.8**	**-0.5**
TLCR				*i* S	**Sb**	**19 55 55.2**	**0.0**
EFOR	**EFORIE**	**1.36**	**123**	⇓*i*P	**Pb**	**19 55 39.9**	**+0.1**
EFOR	**EFORIE**	**1.36**	**123**	⇓*i*P	**Pb**	**19 55 39.9**	**+0.1**
EFOR				*i* S	**Sg**	**19 55 58.3**	**-0.1**
EFOR	**EFORIE**	**1.36**	**123**	⇓*i*P	**Pb**	**19 55 39.9**	**+0.1**
EFOR				*i* S	**Sg**	**19 55 58.3**	**-0.1**
PSN	**Preselentsi**	**1.41**	**145**	*i* P	**Pn**	**19 55 40.5**	**+0.6**
PSN	**Preselentsi**	**1.41**	**145**	*i* P	**Pn**	**19 55 40.5**	**+0.6**
MTUR	**Matau**	**1.47**	**286**	⇑*i*P	**Pn**	**19 55 40.7**	**-0.1**
MTUR	**Matau**	**1.47**	**286**	⇑*i*P	**Pn**	**19 55 40.7**	**-0.1**
MTUR	**Matau**	**1.47**	**286**	⇑*i*P	**Pn**	**19 55 40.7**	**-0.1**
GOLR		**1.49**	**271**	S	**Sg**	**19 56 03.0**	**+0.3**
MANR	**Mangalia**	**1.50**	**132**	⇑*i*P	**Pn**	**19 55 42.0**	**+0.9**
MANR	**Mangalia**	**1.50**	**132**	⇑*i*P	**Pn**	**19 55 42.0**	**+0.9**
MANR	**Mangalia**	**1.50**	**132**	⇑*i*P	**Pn**	**19 55 42.0**	**+0.9**
MANR				S	**Sb**	**19 56 02.2**	**+1.2**
HUMR	**Humele**	**1.52**	**259**	⇑*i*P	**Pn**	**19 55 41.0**	**-0.3**
HUMR	**Humele**	**1.52**	**259**	⇑*i*P	**Pn**	**19 55 41.0**	**-0.3**
HUMR				*i* S	**Sb**	**19 56 02.6**	**+1.0**
HUMR	**Humele**	**1.52**	**259**	⇑*i*P	**Pn**	**19 55 41.0**	**-0.3**
HUMR				*i* S	**Sb**	**19 56 02.6**	**+1.0**
VOIR		**1.54**	**294**	⇑*i*P	**Pn**	**19 55 41.8**	**0.0**
VOIR		**1.54**	**294**	⇑*i*P	**Pn**	**19 55 41.8**	**0.0**
VOIR				*i* S	**Sb**	**19 56 03.0**	**+0.5**
VOIR		**1.54**	**294**	⇑*i*P	**Pn**	**19 55 41.8**	**0.0**
VOIR				*i* S	**Sb**	**19 56 03.0**	**+0.5**
PRD	**Provadia**	**1.65**	**171**	*i* P	**Pn**	**19 55 44.3**	**+1.1**
PRD	**Provadia**	**1.65**	**171**	*i* P	**Pn**	**19 55 44.3**	**+1.1**
ZIMR		**1.69**	**227**	S	**Sb**	**19 56 06.8**	**+0.1**
ZIMR		**1.69**	**227**	*i* S	**Sb**	**19 56 06.8**	**+0.1**
TESR	**Tescani**	**1.70**	**350**	⇑*i*P	**Pn**	**19 55 42.7**	**-1.2**
TESR	**Tescani**	**1.70**	**350**	⇑*i*P	**Pn**	**19 55 42.7**	**-1.2**
TESR				*i* S	**Sn**	**19 56 04.9**	**-0.6**
TESR	**Tescani**	**1.70**	**350**	⇑*i*P	**Pn**	**19 55 42.7**	**-1.2**
TESR				*i* S	**Sn**	**19 56 04.9**	**-0.6**
ROIA	**ROIAK**	**1.76**	**172**	*i* P	**Pn**	**19 55 45.5**	**+0.8**
ARR	**Arges**	**1.80**	**288**	⇑*i*P	**Pn**	**19 55 45.5**	**+0.2**
ARR	**Arges**	**1.80**	**288**	⇑*i*P	**Pn**	**19 55 45.5**	**+0.2**
ARR				*i* S	**Sn**	**19 56 09.1**	**+1.1**
ARR	**Arges**	**1.80**	**288**	⇑*i*P	**Pn**	**19 55 45.5**	**+0.2**
ARR				*i* S	**Sn**	**19 56 09.1**	**+1.1**
LEOM	**Leova**	**1.84**	**27**	⇑*i*P	**Pn**	**19 55 46.2**	**+0.5**
LEOM	**Leova**	**1.84**	**27**	⇑*i*P	**Pn**	**19 55 46.2**	**+0.5**
LEOM				*i* S	**Sb**	**19 56 10.4**	**-0.4**
LEOM	**Leova**	**1.84**	**27**	⇑*i*P	**Pn**	**19 55 46.2**	**+0.5**
LEOM				*i* S	**Sb**	**19 56 10.4**	**-0.4**
LOT	**Lotru**	**2.41**	**286**	⇑*i*P	**Pn**	**19 55 53.8**	**+0.1**
LOT	**Lotru**	**2.41**	**286**	⇑*i*P	**Pn**	**19 55 53.8**	**+0.1**
LOT	**Lotru**	**2.41**	**286**	⇑*i*P	**Pn**	**19 55 53.8**	**+0.1**
LOT				S	**Sn**	**19 56 24.5**	**+1.5**
BURAR	**Bucovina Array**	**3.06**	**336**	⇓*i*P	**Pn**	**19 56 03.9**	**+1.2**
BURAR	**Bucovina Array**	**3.06**	**336**	⇓*i*P	**Pn**	**19 56 03.9**	**+1.2**
BURAR	**Bucovina Array**	**3.06**	**336**	⇓*i*P	**Pn**	**19 56 03.9**	**+1.2**
GZR	**Gura Zlata**	**3.08**	**282**	⇑*i*P	**Pn**	**19 56 02.9**	**-0.1**
GZR	**Gura Zlata**	**3.08**	**282**	⇑*i*P	**Pn**	**19 56 02.9**	**-0.1**
GZR	**Gura Zlata**	**3.08**	**282**	*e*Pn	**Pb**	**19 56 10.2**	**+0.9**
GZR				*e*Sn	**Sn**	**19 56 42.2**	**+2.6**
GZR	**Gura Zlata**	**3.08**	**282**	⇑*i*P	**Pn**	**19 56 02.9**	**-0.1**
GZR				S	**Sn**	**19 56 40.4**	**+0.8**
GZR				*e*Sn	**Sn**	**19 56 42.2**	**+2.6**
PLD	**Plovdiv**	**3.22**	**213**	*e*Pn	**Pb**	**19 56 11.4**	**-0.3**
PLD				*e*Sg	**Sb**	**19 56 52.2**	**+1.4**
ZAPS	**Zavoj**	**3.55**	**245**	*e*Pn	Pb	19 56 14.3	-3.0
ZAPS				*e*Sn	**Sn**	**19 56 48.5**	**-2.7**
ZAPS	**Zavoj**	**3.55**	**245**	*e*Pn	Pb	19 56 14.3	-3.0
ZAPS				*e*Sn	**Sn**	**19 56 48.5**	**-2.7**
VTS	**Vitosha**	**3.58**	**233**	*e*Pn	Pb	19 56 15.0	-2.9
VTS				*e*Sn	**Sn**	**19 56 49.4**	**-2.7**
DRGR		**3.62**	**304**	⇑*i*P	**Pn**	**19 56 08.7**	**-1.6**
DRGR		**3.62**	**304**	⇑*i*P	**Pn**	**19 56 08.7**	**-1.6**
DRGR		**3.62**	**304**	⇑*i*P	**Pn**	**19 56 08.7**	**-1.6**
DRGR				S	**Sn**	**19 56 55.3**	**+2.5**
BZS	**Buzias**	**3.92**	**283**	*e*Sn	**Sn**	**19 57 03.5**	**+3.2**
BZS	**Buzias**	**3.92**	**283**	⇑*i*P	**Pn**	**19 56 12.6**	**-1.9**
BZS				*e*Sn	**Sn**	**19 57 03.5**	**+3.2**
BARS	**Barje**	**4.30**	**244**	*e*Pn	Pn	19 56 24.4	+4.8
BARS				*e*Sn	**Sn**	**19 57 07.2**	**-2.3**
BARS	**Barje**	**4.30**	**244**	*e*Pn	Pn	19 56 24.4	+4.8
BARS				*e*Sn	**Sn**	**19 57 07.2**	**-2.3**

---

*IDC **29** 20:07:48.8±0.9, 1°.32N×122°.06E, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.8/26, mbtmp4.1/8, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/37, Error ellipse: s-maj=60.4km s-min=15.8km az=69.0*
*DJA **29** 20:07:53.9±1.9, 1°N±6°×12°2E±°, h10km, M4.9/4, mb5.2/1, mB5.2/1, MLv4.7/4, Mw(mB)4.5/1*
ISC 29 20:07:54.4±0.8, 1°.18N±0°.10×121°.6E±0°.1, h35km, n19, σ1§30/16, mb4.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.76**	**156**	P	**Pn**	**20 08 10.0**	**+1.3**
TOLI	**Toli-Toli**	**0.84**	**266**	P	**Pn**	**20 08 10.1**	**+0.4**
LUWI	**Luwuk**	**2.48**	**153**	P	Pn	20 08 36.6	+4.2
TTSI	**Tana Toraja**	**4.57**	**203**	P	Pn	20 09 05.5	+4.5
TSM	**Tawau**	**4.86**	**310**	P	**Pn**	**20 09 04.0**	**-1.1**
MYLDM	**Lahad Datu**	**5.06**	**322**	P	**Pn**	**20 09 09.4**	**+1.7**
MYLDM	**Lahad Datu**	**5.06**	**322**	P	**Pn**	**20 09 09.1**	**+1.4**
KAPI	**Kappang**	**6.43**	**197**	Pn	**Pn**	**20 09 29.0**	**+2.3**
1.3nm,0.3s,baz=46,slow=12,SNR=7.1							
BBSI	**Bau Bau**	**6.69**	**172**	P	Pn	20 09 45.0	+15
KKM	**Kota Kinabalu**	**7.25**	**312**	P	**Pn**	**20 09 39.0**	**+1.0**
KKM	**Kota Kinabalu**	**7.25**	**312**	P	**Pn**	**20 09 39.1**	**+1.1**
KDM	**Kudat**	**7.44**	**320**	P	**Pn**	**20 09 41.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**19.56**	**169**	P	**P**	**20 12 19.3**	**0.0**
0.9nm,0.3s,baz=12,slow=9.6,SNR=45							
FITZ				LR	LR	20 21 20.0	
comp=Z,72nm,18.0s,baz=49,slow=41							
WRA	**Warramunga Arr**	**24.41**	**150**	P	**P**	**20 13 08.4**	**-1.4**
6.9nm,0.9s,baz=327,slow=10,SNR=55							
ASAR	**Alice Springs**	**27.43**	**155**	P	**P**	**20 13 35.9**	**-1.2**
1.5nm,0.5s,baz=340,slow=9.0,SNR=52							
STKA	**Stephens Creek**	**37.93**	**152**	P	**P**	**20 15 07.4**	**-1.2**
6.0nm,0.8s,baz=332,slow=8.5,SNR=9.3							
SONM	**Songino Array**	**48.32**	**346**	P	**P**	**20 16 32.6**	**+0.1**
1.3nm,0.8s,baz=164,slow=8.2,SNR=9.7							
MKAR	**Makanchi Array**	**56.90**	**329**	P	**P**	**20 17 36.1**	**+0.2**
0.5nm,0.5s,baz=127,slow=8.0,SNR=5.5							
BVAR	**Borovoye Array**	**66.77**	**329**	P	**P**	**20 18 42.1**	**-0.1**
0.5nm,0.6s,baz=122,slow=7.3,SNR=6.3							

IDC 29 20:36:37.3±2.3, 28°.56S×67°.09W, h102km±32km, mb3.5/1, mb1 3.3/4, mb1mx3.2/18, mbtmp3.2/4, Error ellipse: s-maj=80.4km s-min=19.1km az=101.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.20**	**198**	P	Pn	20 37 27.6	+1.8
1.7nm,0.3s,baz=6.7,slow=14,SNR=74							
CFAA				S	Sn	20 38 03.2	0.0
8.1nm,0.3s,baz=121,slow=15,SNR=29							
LPAZ	**La Paz**	**12.25**	**355**	P	Pn	20 39 28.5	-0.6
0.1nm,0.3s,baz=173,slow=8.1,SNR=2.9							
SIV	**San Ignacio**	**13.69**	**25**	P	Pn	20 39 46.8	-0.5
0.4nm,0.3s,baz=218,slow=14,SNR=6.7							
TORD	**Torodi Ar. Bea**	**78.31**	**68**	P	P	20 48 26.4	-0.2
0.6nm,0.7s,baz=250,slow=5.8,SNR=6.1							
ZALV	**Zalesovo Beam**	**147.39**	**31**	PKPbc	PKPbc	20 56 08.4	-0.4
0.7nm,0.4s,baz=294,slow=4.6,SNR=3.5							
MKAR	**Makanchi Array**	**149.96**	**44**	PKPab	PKPab	20 56 24.8	+3.1
0.2nm,0.4s,baz=343,slow=2.4,SNR=5.0							

IDC 29 20:42:00.6±1.6, 1°.64S×99°.51E, h0km, mb4.1/8, mb1 4.1/10, mb1mx3.9/25, mbtmp4.0/10, ML3.6/2, Error ellipse: s-maj=52.8km s-min=18.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.45**	**352**	Pn	Pn	20 43 09.4	-0.1
1.3nm,0.3s,baz=180,slow=8.1,SNR=3.5							
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	P	20 46 34.6	-0.1
0.2nm,0.3s,baz=188,slow=10,SNR=17							
WRA	**Warramunga Arr**	**38.60**	**121**	P	P	20 49 25.4	-0.4
2.0nm,0.8s,baz=304,slow=9.1,SNR=13							
ASAR	**Alice Springs**	**39.86**	**126**	P	P	20 49 36.9	+0.6
1.0nm,0.6s,baz=302,slow=7.9,SNR=20							
KSRS	**Korea Array**	**46.97**	**31**	P	P	20 50 32.4	-0.9
0.6nm,0.6s,baz=222,slow=8.3,SNR=3.6							
SONM	**Songino Array**	**49.64**	**6**	P	P	20 50 54.5	+0.4
1.5nm,0.5s,baz=191,slow=9.0,SNR=14							
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	20 51 01.2	+0.3
2.0nm,0.4s,baz=150,slow=7.2,SNR=33							
USRK	**Ussuriysk Arra**	**54.08**	**28**	P	P	20 51 26.7	-0.3
2.6nm,0.7s,baz=229,slow=6.6,SNR=9.9							
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	P	20 51 45.7	-0.3
2.8nm,0.6s,baz=161,slow=6.1,SNR=19							
FINES	**FINESS Array B**	**83.57**	**332**	P	P	20 54 29.8	-0.6
2.7nm,0.9s,baz=104,slow=5.9,SNR=5.7							
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	PKPbc	21 01 39.4	+0.3
0.5nm,0.5s,baz=266,slow=1.1,SNR=11							

IDC 29 20:54:55.0±8.2, 18°.90S×170°.47E, h256km±45km, mb3.6/5, mb1 3.7/6, mb1mx3.3/21, mbtmp3.6/6, Error ellipse: s-maj=90.0km s-min=72.7km az=106.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.92**	**229**	P	Pn	20 56 09.9	-0.1
1.7nm,0.3s,baz=58,slow=17,SNR=19							
DZM				S	S	20 57 10.3	+0.3
0.3nm,0.3s,baz=63,slow=22,SNR=1.9							
CTA	**Charters Tower**	**22.85**	**263**	P	P	20 59 36.9	+0.4
3.0nm,0.7s,baz=91,slow=11,SNR=5.0							
STKA	**Stephens Creek**	**29.00**	**238**	P	P	21 00 32.2	+0.7
1.5nm,0.6s,baz=79,slow=10,SNR=4.7							
WRA	**Warramunga Arr**	**34.05**	**262**	P	P	21 01 14.4	-1.2
0.7nm,0.3s,baz=96,slow=8.8,SNR=44							
ASAR	**Alice Springs**	**34.33**	**256**	P	P	21 01 17.7	-0.3
7.6nm,0.5s,baz=83,slow=9.2,SNR=140							
FITZ	**Fitzroy Crossi**	**42.43**	**264**	P	P	21 02 25.8	+0.6
2.9nm,0.6s,baz=90,slow=9.2,SNR=14							

---

*ISCJB **29** 20:54:59.1±0.5, 37°.79N±0°.05×95°.93E±0°.05, h10km, mb3.9/14, MS4.0/1, Error ellipse: s-maj=

WRA Warramunga Arr 67.82 141 P **P 21 05 58.4 -0.9**
comp=Z,1.0nm,0.9s,baz=339,slow=6.1,SNR=4.2
ASAR Alice Springs 70.77 143 P **P 21 06 17.4 0.0**
comp=Z,1.0nm,0.7s,baz=328,slow=6.0,SNR=6.9
ESDC Sonseca Array 73.59 308 P **P 21 06 34.8 +0.5**
comp=Z,0.2nm,0.4s,baz=50,slow=5.8,SNR=4.9
STKA Stephens Creek 81.33 142 P **P 21 07 16.7 -0.8**
comp=Z,3.6nm,1.1s,baz=336,slow=10.0,SNR=3.2
TORD Torodi Ar. Bea 85.39 283 P **P 21 07 38.4 -0.5**
comp=Z,0.4nm,0.6s,baz=42,slow=5.4,SNR=6.8
BOSA Boshof 93.47 236 LR LR 21 53 09.5
comp=Z,57nm,19.8s,baz=341,slow=37

---

*ISCJB **29** 20:58:53.3±1.1, 5°.5S±0°.1×151°.8E±0°.2, h45km, mb3.8/9, MS3.8/1, Error ellipse: s-maj=30.5km s-min=10.3km az=34.6*
*IDC **29** 20:58:57.5±5.8, 5°.49S×151°.61E, h64km±47km, mb3.6/9, mb1 3.8/10, mb1mx3.7/19, mbtmp3.6/10, ML3.4/1, MS3.2/2, Ms1 3.4/2, ms1mx2.7/26, Error ellipse: s-maj=45.0km s-min=25.4km az=100.0*

ISC 29 20:58:54.8±1.3, 5°.5S±0°.2×151°.8E±0°.2, h45km, n15, σ0s97/15, mb3.7/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04 229**		P	**Pn**	**21 00 23.1**	**+1.4**
	6.3nm,0.3s,baz=24,slow=9.2,SNR=18						
PMG				S	**Sn**	**21 01 28.4**	**-1.2**
	9.3nm,0.3s,baz=141,slow=15,SNR=12						
PMG				LR	LR	21 02 13.9	
	comp=Z,62nm,20.5s,baz=23,slow=33						
KDU	**Kakadu**	**20.39 248**		P	Pn	21 03 29.1	-1.3
	baz=4.3,SNR=5.0						
MTN	**Manton Dam**	**21.68 249**		P	**P**	**21 03 43.0**	**+1.1**
	baz=5.4,SNR=3.2						
WRA	**Warramunga Arr**	**22.26 228**		P	**P**	**21 03 47.5**	**-0.7**
	7.6nm,0.6s,baz=51,slow=10,SNR=82						
KNRA	**Kununurra**	**24.79 244**		P	**P**	**21 04 14.5**	**+1.7**
	baz=7.6,SNR=5.1						
ASAR	**Alice Springs**	**24.99 222**		P	**P**	**21 04 14.7**	**+0.1**
	5.4nm,0.6s,baz=56,slow=8.8,SNR=54						
STKA	**Stephens Creek**	**27.95 199**		P	**P**	**21 04 40.8**	**-0.4**
	1.2nm,0.6s,baz=31,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**28.47 242**		P	**P**	**21 04 44.7**	**-1.2**
	3.0nm,0.6s,baz=58,slow=9.5,SNR=15						
CMAR	**Chiang Mai Arr**	**57.28 296**		P	**P**	**21 08 37.4**	**-1.0**
	0.4nm,0.9s,baz=120,slow=5.3,SNR=3.1						
CMAR				LR	LR	21 32 25.3	
	comp=Z,69nm,18.0s,baz=152,slow=35						
SONM	**Songino Array**	**66.38 328**		P	**P**	**21 09 39.8**	**+0.6**
	0.4nm,0.7s,baz=140,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**80.19 319**		P	**P**	**21 11 00.2**	**-0.3**
	0.2nm,0.4s,baz=103,slow=7.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**81.17 327**		P	**P**	**21 11 05.4**	**-0.2**
	0.5nm,0.4s,baz=112,slow=6.9,SNR=3.3						
ILAR	**Eielson Array**	**83.15 22**		P	**P**	**21 11 15.8**	**+0.1**
	0.2nm,0.5s,baz=243,slow=4.0,SNR=2.7						
GERES	**GERESS Array B**	**124.11 328**		PKP	**PKPdf**	**21 17 48.9**	**+0.2**
	0.3nm,0.5s,baz=64,slow=2.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.57 287**		PKPbc	**PKPbc**	**21 18 40.2**	**-0.2**
	0.8nm,0.4s,baz=74,slow=1.9,SNR=22						

---

*ISCJB **29** 22:10:07.7±0.7, 51°.40N±0°.03×16°.07E±0°.03, h0km, Error ellipse: s-maj=4.9km s-min=2.9km az=13.1*
*IPEC **29** 22:10:07.3±0.3, 51°.54N×16°.20E, h0km, ML2.6/4, Error ellipse: s-maj=2.0km s-min=1.5km az=33.0*
*WAR **29** 22:10:08.0, 51°.53N×16°.08E*
*CSEM **29** 22:10:09.0±0.3, 51°.42N×16°.06E, h2km, ML3.1/10, Error ellipse: s-maj=5.7km s-min=3.3km az=179.0*
*IDC **29** 22:10:10.0±0.1, 51°.45N×15°.95E, h0km, mb1 3.5/4, mb1mx3.2/26, mbtmp3.4/4, ML2.7/4, Error ellipse: s-maj=18.6km s-min=10.4km az=108.0*
*PRU **29** 22:10:09.7, 51°.42N×16°.08E, h0km*
*VIE **29** 22:10:10.7±0.4, 51°.25N×16°.04E, h0km, mb2.3/3, ML2.5/3, Error ellipse: s-maj=2.7km s-min=1.9km az=5.0 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 22:10:08.0±0.8, 51°.49N±0°.04×16°.08E±0°.02, h0km, n39, σ0s78/68, 1C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67 168**		*e*Pg	**Pg**	**22 10 21.0**	**+0.3**
KSP				*e*Sg	**Sg**	**22 10 29.5**	**+0.2**
KSP	**Ksiaz**	**0.67 168**		⇓*i*Pg	**Pg**	**22 10 21.0**	**+0.3**
KSP				*e*Sg	**Sg**	**22 10 29.5**	**+0.2**
UPC	**Upice**	**0.99 183**		*e*PG	**Pg**	**22 10 26.9**	**0.0**
UPC	**Upice**	**0.99 183**		Pg	**Pg**	**22 10 26.9**	**0.0**
DPC	**Dobruska-Polom**	**1.16 172**		*e*PG	**Pg**	**22 10 29.8**	**-0.3**
DPC				*e*SG	**Sg**	**22 10 44.5**	**-0.5**
DPC	**Dobruska-Polom**	**1.16 172**		Pg	**Pg**	**22 10 29.8**	**-0.3**
DPC				Sg	**Sg**	**22 10 44.5**	**-0.5**
PVCC	**Panska Ves**	**1.36 225**		*e*PG	**Pg**	**22 10 34.3**	**+0.3**
PVCC				*e*SG	**Sg**	**22 10 51.9**	**+0.3**
	comp=Z,94nm,0.5s						
PVCC	**Panska Ves**	**1.36 225**		Pg	**Pg**	**22 10 34.3**	**+0.3**
PVCC				Sg	**Sg**	**22 10 51.9**	**+0.3**
	94nm,0.5s						
BRG	**Berggiesshubel**	**1.48 246**		PG	**Pg**	**22 10 36.8**	**+0.4**
BRG				SG	**Sn**	**22 10 56.9**	**+0.9**
	37nm,0.5s						
PRA	**Prague**	**1.77 217**		PG	**Pn**	**22 10 40.0**	**+0.2**
PRA				SG	**Sb**	**22 11 04.0**	**0.0**
PRU	**Pruhonice**	**1.80 214**		*e*PN	**Pn**	**22 10 39.6**	**-0.6**
PRU				*e*Pb	**Pb**	**22 10 41.5**	**-0.2**
PRU				*e*SG	**Sb**	**22 11 05.0**	**+0.2**
	comp=Z,22nm,0.6s						
PRU	**Pruhonice**	**1.80 214**		Pn	**Pn**	**22 10 39.6**	**-0.6**
CLL	**Collm**	**1.94 266**		*e*Pn	**Pn**	**22 10 42.0**	**-0.1**
CLL				*e*Pg	**Pb**	**22 10 45.0**	**+0.9**
CLL				*e*		22 10 49.0	
CLL				*e*		22 11 00.0	
CLL				*e*Sg	**Sg**	**22 11 11.0**	**+0.8**
	comp=Z,16nm,0.8s						
MORC	**Moravsky Berou**	**1.95 151**		*e*Pn	**Pn**	**22 10 41.8**	**-0.6**
MORC				*e*Sg	**Sn**	**22 11 08.7**	**+1.1**
	comp=Z,30nm,0.7s,baz=335						
OKC	**Ostrava-Krasne**	**2.12 141**		*e*PG	**Pb**	**22 10 47.5**	**+0.4**
OKC				*e*SG	**Sb**	**22 11 13.9**	**0.0**
	comp=Z,38nm,0.7s						
OKC	**Ostrava-Krasne**	**2.12 141**		Pg	**Pb**	**22 10 47.5**	**+0.4**
OKC				Sg	**Sb**	**22 11 13.9**	**0.0**
	comp=Z,38nm,0.7s						
VRAC	**Vranov**	**2.21 171**		Pn	**Pn**	**22 10 46.5**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=346,slow=16,SNR=10.0						
VRAC				Sn	**Sb**	**22 11 17.1**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=69,slow=23,SNR=8.6						
VRAC	**Vranov**	**2.21 171**		*e*Pn	**Pn**	**22 10 46.1**	**+0.2**
VRAC				*e*Sg	**Sb**	**22 11 17.6**	**+0.9**
	comp=Z,29nm,1.0s,baz=354						
TREC	**Trest**	**2.23 190**		*e*PN	**Pn**	**22 10 46.9**	**+0.7**
TREC				*e*PG	**Pb**	**22 10 49.9**	**+0.7**
TREC	**Trest**	**2.23 190**		Pn	**Pn**	**22 10 46.9**	**+0.7**
KRUC	**Moravsky**	**2.44 175**		*e*Sg	**Sb**	**22 11 24.9**	**+1.5**
	comp=Z,19nm,0.8s,baz=357						
NKC	**Novy Kostel**	**2.63 243**		*e*PN	**Pn**	**22 10 52.1**	**+0.5**
NKC				*e*PG	**Pg**	**22 10 58.1**	**-0.2**
NKC				*e*SG	**Sg**	**22 11 33.0**	**+0.7**
	comp=Z,12nm,0.5s						
NKC	**Novy Kostel**	**2.63 243**		Pn	**Pn**	**22 10 52.1**	**+0.5**
NKC	**Novy Kostel**	**2.63 243**		Pg	**Pg**	**22 10 58.1**	**-0.2**
NKC				Sg	**Sg**	**22 11 33.0**	**+0.7**
	comp=Z,12nm,0.5s						
OJC	**Ojcow**	**2.68 117**		*e*Pg	**Pg**	**22 11 00.2**	**+1.0**
OJC				*e*Sg	**Sg**	**22 11 35.7**	**+1.8**
JAVC	**Velka Javorina**	**2.83 158**		*e*Sg	**Sg**	**22 11 39.0**	**+0.2**
	comp=Z,28nm,1.2s						
KHC	**Kasperske Hory**	**2.86 215**		*e*PN	**Pn**	**22 10 55.2**	**+0.4**
KHC				*e*PG	**Pb**	**22 11 01.0**	**+1.1**
KHC				*e*SN	**Sn**	**22 11 28.7**	**-1.3**
KHC				*e*SG	**Sg**	**22 11 39.3**	**-0.5**
	comp=Z,9.5nm,0.4s						
KHC	**Kasperske Hory**	**2.86 215**		Pn	**Pn**	**22 10 55.2**	**+0.4**
KHC	**Kasperske Hory**	**2.86 215**		Pg	**Pb**	**22 11 01.0**	**+1.1**
KHC				Sn	**Sn**	**22 11 28.7**	**-1.3**
KHC				Sg	**Sg**	**22 11 39.3**	**-0.5**
	comp=Z,9.5nm,0.4s						
GERES	**GERESS Array B**	**3.06 211**		Pn	**Pn**	**22 10 58.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=27,slow=12,SNR=22						
GERES				Pg	**Pb**	**22 11 04.5**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=30,slow=17,SNR=38						
GERES				Lg	Lg	22 11 44.8	
	comp=Z,1.9nm,0.3s,baz=33,slow=27,SNR=9.2						
VYHS	**Vyhne**	**3.49 148**		*e*	**Pg**	**22 11 14.5**	**-0.3**
VYHS				*e*		22 11 54.5	
MOA	**Molln**	**3.83 199**		⇑*i*Pn	**Pn**	**22 11 07.9**	**-0.3**
MOA				⇓*i*Sg	**Sg**	**22 12 09.7**	**-1.4**
	comp=Z,7.5nm,0.5s						
STHS	**Stebnicka Huta**	**3.90 120**		*e*PN	**Pn**	**22 11 10.9**	**+1.8**
STHS				*e*		22 11 24.7	
STHS				*e*		22 12 17.6	
STHS	**Stebnicka Huta**	**3.90 120**		*e*Pn	**Pn**	**22 11 10.9**	**+1.8**
CRVS	**Cervenica-Dubn**	**4.32 125**		*e*	**Pg**	**22 11 29.1**	**-1.6**
KOLS	**Kolonicke sedl**	**4.73 120**		*e*PN	**Pn**	**22 11 20.4**	**-0.1**
KOLS				*e*		22 11 39.3	
KOLS	**Kolonicke sedl**	**4.73 120**		*e*Pn	**Pn**	**22 11 20.4**	**-0.1**
FINES	**FINESS Array B**	**11.38 25**		Pn	**Pn**	**22 12 50.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=217,slow=10,SNR=3.8						
ARCES	**ARCESS Array B**	**18.64 10**		Pn	**P**	**22 14 25.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=202,slow=9.4,SNR=4.4						

IDC 29 22:11:21.6±0.9, 13°.92N×92°.97E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/27, mbtmp3.5/9, ML3.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/36, Error ellipse: s-maj=27.7km s-min=19.6km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.30 51**		Pn	Pn	22 13 10.4	+0.8
	0.1nm,0.3s,baz=240,slow=14,SNR=4.6						
CMAR				Sn	Sn	22 14 28.2	-5.0
	0.3nm,0.3s,baz=240,slow=27,SNR=7.5						
MKAR	**Makanchi Array**	**33.97 347**		P	P	22 18 07.3	+0.4
	0.5nm,0.8s,baz=174,slow=9.4,SNR=4.3						
SONM	**Songino Array**	**35.61 16**		P	P	22 18 21.4	+0.2
	0.2nm,0.4s,baz=195,slow=10,SNR=3.4						
KSRS	**Korea Array**	**38.91 47**		LR	LR	22 37 28.1	
	comp=Z,47nm,18.4s,baz=176,slow=40						
ZALV	**Zalesovo Beam**	**40.45 353**		P	P	22 19 01.8	+0.1
	0.5nm,0.6s,baz=185,slow=9.7,SNR=4.0						
ZALV				LR	LR	22 38 58.0	
	comp=Z,21nm,18.6s,baz=74,slow=41						
WRA	**Warramunga Arr**	**52.81 129**		P	P	22 20 38.6	-0.6
	1.5nm,1.0s,baz=308,slow=8.1,SNR=7.4						
ASAR	**Alice Springs**	**54.75 133**		P	P	22 20 53.2	-0.2
	0.5nm,0.5s,baz=307,slow=6.6,SNR=9.4						
BRTR	**Keskin Array B**	**57.71 308**		P	P	22 21 14.4	-0.2
	0.4nm,0.7s,baz=123,slow=5.3,SNR=3.0						
GERES	**GERESS Array B**	**72.61 317**		P	P	22 22 49.8	-1.3
	0.2nm,0.4s,baz=72,slow=6.3,SNR=2.6						
BOSA	**Boshof**	**77.88 236**		P	P	22 23 23.1	+1.2
	2.5nm,0.8s,baz=63,slow=6.5,SNR=5.5						

IDC 29 22:35:57.2±4.3, 3°.59S×141°.39E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=129.1km s-min=32.3km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.65 202**		P	Pn	22 40 05.2	+0.5
	0.4nm,0.3s,baz=27,slow=12,SNR=22						
FITZ	**Fitzroy Crossi**	**21.12 226**		P	P	22 40 43.0	-0.7
	1.7nm,1.0s,baz=27,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**21.23 199**		P	P	22 40 45.2	+0.3
	0.3nm,0.4s,baz=31,slow=11,SNR=8.7						
MKAR	**Makanchi Array**	**72.12 322**		P	P	22 47 23.8	+0.1
	0.2nm,0.5s,baz=102,slow=6.2,SNR=3.1						

IDC 29 23:10:13.5±9.3, 30°.00S×179°.13W, h393km±97km, mb3.1/2, mb1 3.4/3, mb1mx3.0/18, mbtmp3.2/3, Error ellipse: s-maj=93.9km s-min=51.1km az=18.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.80 200**		P	P	23 12 18.5	+0.7
	2.3nm,0.3s,baz=263,slow=1.2,SNR=19						
URZ				S	S	23 13 57.3	-2.0
	1.9nm,0.3s,baz=238,slow=22,SNR=11						
ASAR	**Alice Springs**	**42.15 267**		P	P	23 17 29.2	-0.3
	0.3nm,0.4s,baz=106,slow=8.0,SNR=4.8						
WRA	**Warramunga Arr**	**43.10 272**		P	P	23 17 37.1	0.0
	2.4nm,0.5s,baz=109,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**144.43 339**		PKP	PKPbc	23 29 02.0	-0.4
	3.0nm,1.0s,baz=66,slow=2.3,SNR=5.9						

IDC 29 23:30:33.8±1.6, 32°.41N×91°.65E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=101.7km s-min=29.7km az=41.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.06 336**		Pn	Pn	23 34 18.7	-2.2
	0.1nm,0.3s,baz=146,slow=13,SNR=4.5						
KURBB	**Kurchatov Arra**	**20.62 336**		P	P	23 35 10.4	-4.2
	0.4nm,0.8s,baz=147,slow=11,SNR=5.5						
BRTR	**Keskin Array B**	**46.75 296**		P	P	23 39 03.8	-1.3
	0.6nm,0.8s,baz=95,slow=7.2,SNR=4.6						
ASAR	**Alice Springs**	**68.83 139**		P	P	23 41 40.1	-0.1
	0.6nm,0.8s,baz=322,slow=6.4,SNR=6.2						
TORD	**Torodi Ar. Bea**	**83.03 281**		P	P	23 43 02.6	+1.0
	0.3nm,0.9s,baz=63,slow=4.3,SNR=3.1						

---

*IDC **29** 23:47:00.1±0.4, 11°.35N×142°.84E, h0km, mb4.7/29, mb1 4.8/29, mb1mx4.7/35, mbtmp4.7/29, MS4.1/30, Ms1 4.2/30, ms1mx4.0/45, Error ellipse: s-maj=15.4km s-min=10.9km az=76.0*
*BJI **29** 23:47:01.9, 11°.07N×142°.90E, h31km, mB5.1/28, mb4.8/41, Ms4.6/28, Ms7 4.3/29*
*MOS **29** 23:47:02.9±0.9, 11°.27N×142°.88E, h33km, mb5.2/22, Error ellipse: s-maj=10.2km s-min=6.3km az=114.0*
*ISCJB **29** 23:47:03.8±1.0, 11°.27N±0°.03×142°.93E±0°.04, h39km±9km, mb4.9/85, MS4.2/41, Error ellipse: s-maj=6.6km s-min=5.5km az=26.1*
*NEIC **29** 23:47:05.9±1.0, 11°.30N×142°.87E, h42km±9km, mb5.0/30, Error ellipse: s-maj=5.5km s-min=4.3km az=97.0*
*GCMT **29** 23:47:07.2±0.3, 11°.15N×142°.63E, h13km±1km, MW4.9, Moment Tensor Solution. s25,c29; s62,c105; Moment tensor: Scale 10^16 Nm; M_{rr}-2.17±.15; $M_{\theta\theta}$2.23±.09; $M_{\phi\phi}$-0.06±.10; $M_{r\theta}$0.40±.21; $M_{\theta\phi}$1.14±.08; $M_{\phi r}$0.45±.38; Best double couple: $M_0$2.50000×10^16 NP1:ϕ_s240.00000°, δ52.00000°, λ-101.00000°. NP2:ϕ_s76.00000°, δ39.00000°, λ-77.00000°. Principal axes: T 2.7600, Plg6.0000°, Azm337.0000°; N -0.4900, Plg8.0000°, Azm246.0000°; P -2.2700, Plg80.0000°, Azm104.0000°; Data Used: II IC G IU CN.*
*DJA **29** 23:47:08.7±0.6, 12°.N±10°.×14°.3E±1°.0, h102km±17km, M4.9/9, mB5.5/9, mb5.1/9, MLv4.7/1, Mw(mB)5.0/9*

ISC 29 23:47:05.4±0.4, 11°.28N±0°.05×142°.86E±0°.05, h35km±1km, h35km:pP-P, n248, σ1s45/288, mb4.9/85, MS4.2/41, 1C-8D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.02 40**		*e*Pn	**Pn**	**23 47 50.6**	**-0.2**
RKPI	**Ransiki, Papua**	**15.36 215**		P	**P**	**23 50 45.3**	**+1.3**
	99nm,1.4s,11μm						
CBIJ	**Chichi jima**	**15.75 358**		LR	LR	23 56 41.8	
	comp=Z,404nm,18.2s,baz=168,slow=37						
SWI	**Sorong**	**16.69 224**		P	**Pn**	**23 50 56.9**	**+0.2**
	57nm,1.6s,1μm						
DAV	**Davao City (W)**	**17.56 258**		*e*Pn	**P**	**23 51 09.6**	**+1.2**
	394nm,1.2s						
FAKI	**Fak Fak**	**17.62 217**		P	**Pn**	**23 51 07.9**	**-0.4**
	113nm,1.4s,1μm						
TNTI	**Ternate**	**18.59 237**		*e*Pn	**P**	**23 51 20.0**	**+0.2**
	96nm,1.0s						
JOW	**Kunigami**	**20.69 320**		*e*P	**P**	**23 51 43.4**	**+0.9**
	75nm,1.0s						
AAI	**Ambon**	**20.83 225**		P	**P**	**23 51 45.2**	**+1.0**
	142nm,1.5s,4μm						
PMG	**Port Moresby**	**20.99 168**		*e*P	**P**	**23 51 46.3**	**+0.4**
	266nm,1.7s						
PMG	**Port Moresby**	**20.99 168**		P	**P**	**23 51 46.4**	**+0.5**
	90nm,1.3s,1μm						
PMG	**Port Moresby**	**20.99 168**		P	**P**	**23 51 45.1**	**-0.8**
	18nm,0.8s,baz=342,slow=13,SNR=6.8						
PMG				LR	LR	23 58 57.4	
	comp=Z,393nm,19.4s,baz=149,slow=34						
NLAI	**Namlea**	**21.30 228**		P	**P**	**23 51 48.9**	**-0.4**
	30nm,1.5s,1μm						
KMSI	**Cibinong**	**21.55 242**		P	**P**	**23 51 52.6**	**+0.6**
	660nm,0.9s,5μm						
TGY	**Tagaytay City**	**21.57 280**		P	**P**	**23 51 52.5**	**+0.3**
TGY	**Tagaytay City**	**21.57 280**		P	**P**	**23 51 52.5**	**+0.3**
	154nm,0.3s,baz=150,slow=11,SNR=17						
GTOI	**Gorontalo**	**22.37 243**		P	**P**	**23 52 01.5**	**+0.8**
	240nm,0.8s,3μm						
LUWI	**Luwuk**	**23.42 240**		P	**P**	**23 52 10.7**	**-0.9**
SSLB	**Suanglung**	**24.26 304**		*e*P	**P**	**23 52 19.5**	**0.0**
	25nm,1.1s						
YHNB	**Yeheng**	**24.34 306**		*e*P	**P**	**23 52 19.1**	**-1.2**
JNU	**Nakatsue**	**24.36 335**		*e*P	**P**	**23 52 18.8**	**-1.4**
	29nm,1.1s						
JNU	**Nakatsue**	**24.36 335**		P	**P**	**23 52 18.9**	**-1.4**
	13nm,0.8s,baz=208,slow=5.5,SNR=10						
JNU				LR	LR	00 01 16.3	
	comp=Z,277nm,18.2s,baz=216,slow=35						
MYLDM	**Lahad Datu**	**24.84 258**		P	**P**	**23 52 27.3**	**+2.5**
COEN	**Coen**	**25.08 179**		*e*P	**P**	**23 52 26.8**	**-0.1**
	152nm,0.9s						
MJAR	**Matsushiro Arr**	**25.50 351**		P	**P**	**23 52 29.0**	**-1.5**
MJAR				PcP	**PcP**	**23 56 02.4**	**+0.7**
MJAR	**Matsushiro Arr**	**25.50 351**		P	**P**	**23 52 29.0**	**-1.5**
	1.5nm,0.6s,baz=163,slow=8.6,SNR=5.0						
MJAR				PcP	**PcP**	**23 56 02.4**	**+0.7**
	2.3nm,0.8s,baz=171,slow=3.2,SNR=5.3						
MJAR				LR	LR	00 00 53.0	
	comp=Z,269nm,20.1s,baz=175,slow=33						
TSM	**Tawau**	**25.69 256**		P	**P**	**23 52 34.4**	**+1.8**
SDKM	**Sandakan**	**25.98 260**		P	**P**	**23 52 36.7**	**+1.5**
QZH	**Quanzhou**	**26.71 304**		⇑*i*P	**P**	**23 52 43.0**	**+1.4**
QZH				S	**S**	**23 57 15.5**	**+0.6**
QZH				pmax	pmax		
	comp=Z,420nm,3.7s						
QZH				LR	LR		
	comp=N,540nm,14.7s						
QZH				LR	LR		
	comp=E,390nm,10.2s						
QZH				LR	LR		
	comp=Z,700nm,15.4s						
KKM	**Kota Kinabalu**	**26.84 261**		P	**P**	**23 52 43.2**	**+0.2**
KAPI	**Kappang**	**28.12 236**		*e*P	**P**	**23 52 53.0**	**-1.3**
	comp=Z,29nm,1.3s						
KAPI	**Kappang**	**28.12 236**		P	**P**	**23 52 52.6**	**-1.7**
	comp=Z,12nm,0.8s,baz=82,slow=6.7,SNR=5.5						
KSRS	**Korea Array**	**29.31 335**		LR	LR	00 02 31.3	
	comp=Z,229nm,20.6s,baz=170,slow=32						
NJ2	**Nanjing**	**30.28 317**		*e*P	**P**	**23 53 15.3**	**+2.0**
NJ2				S	**S**	**23 58 17.0**	**+6.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,80nm,4.3s						
NJ2				LR	LR		
	comp=N,1μm,22.0s						
NJ2				LR	LR		
	comp=E,930nm,23.2s						
NJ2				LR	LR		
	comp=Z,310nm,18.0s						
BTM	**Bintulu**	**30.58 257**		P	**P**	**23 53 18.8**	**+2.5**
ERM	**Erimo**	**30.62 0**		*e*P	**P**	**23 53 16.1**	**-0.1**
ERM				pmax	pmax		
	comp=Z,16nm,1.0s						
CTAO	**Charters Tower**	**31.35 174**		*e*P	**P**	**23 53 22.4**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**31.35 174**		*e*P	**P**	**23 53 22.4**	**-0.5**
	comp=Z,20nm,0.8s						
SBUM	**Sibu**	**31.62 256**		*e*P	**P**	**23 53 25.7**	**+0.3**
	comp=Z,22nm,1.0s						
SBUM	**Sibu**	**31.62 256**		P	**P**	**23 53 26.1**	**+0.7**
WRAB	**Tennant Creek**	**32.13 195**		P	**P**	**23 53 29.9**	**+0.2**
	comp=Z,141nm,0.6s,SNR=7.0						
WRAB	**Tennant Creek**	**32.13 195**		*e*P	**P**	**23 53 29.2**	**-0.5**
WRAB	**Tennant Creek**	**32.13 195**		*e*P	**P**	**23 53 29.2**	**-0.5**
WRA	**Warramunga Arr**	**32.14 195**		P	**P**	**23 53 29.6**	**-0.3**
WRA				PcP	**PcP**	**23 56 19.2**	**+0.7**
WRA	**Warramunga Arr**	**32.14 195**		P	**P**	**23 53 29.6**	**-0.3**
	comp=Z,14nm,0.8s,baz=18,slow=9.5,SNR=30						
WRA				PcP	**PcP**	**23 56 19.2**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=5.2,slow=3.2,SNR=6.4						
WRA				LR	LR	00 06 48.4	
	comp=Z,496nm,18.5s,baz=25,slow=37						
ASAJ	**Asahikawa**	**32.72 360**		LR	LR	00 06 11.1	
	comp=Z,191nm,18.1s,baz=160,slow=35						
QIZ	**Qiongzhong**	**32.74 288**		P	**P**	**23 53 36.3**	**+1.1**
QIZ				S	**S**	**23 58 53.8**	**+4.0**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
QIZ				LR	LR		
	comp=E,110nm,16.3s						
QIZ				LR	LR		
	comp=Z,290nm,18.2s						
KSM	**Kuching**	**33.74 256**		*e*P	**P**	**23 53 43.7**	**-0.3**
	comp=Z,28nm,1.0s						
KSM	**Kuching**	**33.74 256**		P	**P**	**23 53 43.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**33.78 210**		*e*P	**P**	**23 53 43.2**	**-1.0**
	comp=Z,8.4nm,1.0s						
USRK	**Ussuriysk Arra**	**34.11 346**		P	**P**	**23 53 46.5**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=161,slow=9.2,SNR=6.5						
USRK				LR	LR	00 06 00.0	
	comp=Z,258nm,19.3s,baz=339,slow=34						
**MDJ

KMI	Kunming	40.35	296	P	P	23 54 40.0 -0.3
KMI				sP	sP	23 54 51.0 -3.7
KMI				pmax	pmax	
comp=Z,8.0nm,1.2s						
DZM	Mont Dzumac	40.42	145	P	P	23 54 41.7 +1.0
DZM	Mont Dzumac	40.42	145	P	P	23 54 41.7 +1.0
comp=Z,22nm,0.8s,baz=344,slow=7.4,SNR=15						
CD2	Chengdu	41.09	304	eP	P	23 54 46.3 +0.2
CD2				pP	pP	23 54 57.5 +1.2
CD2				sP	sP	23 55 02.3 +1.8
CD2				PP	PnPn	23 56 25.0 -0.9
CD2				PcP	PcP	23 56 45.8 +0.4
CD2				S	S	00 00 56.3 -0.6
CD2				sS	sS	00 01 15.3 +1.6
CD2				SS	SS	00 03 55.5 -4.7
CD2				ScS	ScS	00 04 45.3 -3.1
CD2				pmax	pmax	
comp=Z,20nm,1.2s						
CD2				pmax	pmax	
comp=Z,120nm,8.2s						
CD2				LR	LR	
comp=N,170nm,17.8s						
CD2				LR	LR	
comp=E,330nm,17.8s						
CD2				LR	LR	
comp=Z,380nm,19.0s						
FRIM	Kepong	41.63	262	P	P	23 54 52.1 +1.4
IPM	Ipoh	41.95	264	P	P	23 54 54.5 +1.2
KULM	Kulim	42.15	265	P	P	23 54 56.3 +1.4
STKA	Stephens Creek	42.93	182	P	P	23 55 00.2 -0.7
STKA	Stephens Creek	42.93	182	P	P	23 55 00.2 -0.7
comp=Z,3.8nm,0.6s,baz=359,slow=7.9,SNR=6.4						
STKA				LR	LR	00 14 32.9
comp=Z,426nm,18.4s,baz=21,slow=38						
CM31	Chiang Mai Arr	42.95	285	eP	P	23 55 03.1 +1.6
comp=Z,60nm,0.7s						
CMAR	Chiang Mai Arr	42.95	285	P	P	23 55 02.8 +1.4
CMAR	Chiang Mai Arr	42.95	285	P	P	23 55 02.8 +1.4
comp=Z,72nm,0.8s,baz=86,slow=6.3,SNR=281						
CMAR				LR	LR	00 11 25.4
comp=Z,194nm,20.6s,baz=257,slow=34						
CHTO	Chiang Mai	42.97	285	eP	P	23 55 01.4 -0.2
CHTO				pmax	pmax	
comp=Z,15nm,0.8s						
CHTO	Chiang Mai	42.97	285	eP	P	23 55 01.4 -0.2
comp=Z,15nm,0.8s						
LZH	Lanzhou	43.00	312	eP	P	23 55 02.5 +0.7
LZH				pP	pP	23 55 10.8 -1.2
LZH				sP	sP	23 55 14.0 -2.2
LZH				PP	PP	23 56 44.5 +2.5
LZH				PcP	PcP	23 56 49.5 -2.3
LZH				eS	S	00 01 23.5 -1.7
LZH				sS	sS	00 01 42.3 +0.2
LZH				SS	SS	00 04 33.5 -4.5
LZH				pmax	pmax	
comp=Z,11nm,1.0s						
LZH				pmax	pmax	
comp=Z,67nm,4.3s						
LZH				LR	LR	
comp=N,140nm,12.4s						
LZH				LR	LR	
comp=E,270nm,14.2s						
LZH				LR	LR	
comp=Z,440nm,16.1s						
PETK	Petropavlovsk-	43.39	13	LR	LR	00 13 40.7
comp=Z,141nm,18.2s,baz=196,slow=37						
FORT	Forrest	44.17	198	eP	P	23 55 11.8 +0.9
comp=Z,50nm,0.7s						
FORT				epP	pP	23 55 18.2 -3.0
BBOO	Buckleboo	44.32	188	eP	P	23 55 12.5 +0.4
comp=Z,160nm,0.8s						
PSI	Prapat	44.35	262	P	P	23 55 13.0 +0.1
PSI	Prapat	44.35	262	P	P	23 55 13.0 +0.1
comp=Z,21nm,0.8s,baz=74,slow=7.9,SNR=16						
GTA	Gaotai	47.29	314	eP	P	23 55 36.0 +0.2
GTA				pP	pP	23 55 48.0 +1.9
GTA				sP	sP	23 55 53.0 +2.8
GTA				PcP	PcP	23 57 08.0 +1.5
GTA				S	S	00 02 25.5 -1.6
GTA				sS	sS	00 02 44.5 +0.4
GTA				ScS	ScS	00 05 24.5 -3.0
GTA				pmax	pmax	
comp=Z,11nm,0.8s						
GTA				pmax	pmax	
comp=Z,97nm,4.3s						
GTA				LR	LR	
comp=N,130nm,19.0s						
GTA				LR	LR	
comp=E,150nm,23.7s						
GTA				LR	LR	
comp=Z,200nm,19.0s						
SONM	Songino Array	47.53	327	P	P	23 55 37.3 -0.3
SONM				PcP	PcP	23 57 07.4 +0.2
SONM	Songino Array	47.53	327	P	P	23 55 37.3 -0.3
comp=Z,2.3nm,0.7s,baz=136,slow=9.2,SNR=11						
SONM				PcP	PcP	23 57 07.4 +0.2
comp=Z,2.1nm,0.8s,baz=150,slow=3.9,SNR=4.6						
SONM				LR	LR	00 16 58.2
comp=Z,268nm,18.6s,baz=137,slow=38						
SONA1	Songino Array	47.54	327	eP	P	23 55 37.2 -0.3
SHL	Shillong	50.11	294	ex	P	23 56 00.0 +2.3
ZAK	Zakamensk	50.70	328	eP	P	23 56 00.3 -1.4
ZAK				pmax	pmax	
comp=Z,11nm,1.3s						
TLY	Talaya	51.30	330	eP	P	23 56 06.8 +0.8
TLY				pmax	pmax	
comp=Z,4.0nm,1.4s						
TLY				MLR	MLR	
comp=Z,138nm,18.0s						
LSA	Lhasa	51.34	299	P	P	23 56 08.5 +1.2
LSA				pmax	pmax	
comp=Z,10.0nm,1.2s						
LSA	Lhasa	51.34	299	eP	P	23 56 07.2 -0.1
LSA				pmax	pmax	
comp=Z,3.0nm,0.5s						
LSA	Lhasa	51.34	299	eP	P	23 56 07.2 -0.1
comp=Z,3.4nm,0.5s						
MOY	Mondy	52.63	328	eP	P	23 56 18.4 +2.4
TAPN	Taplejung	54.03	296	eP	P	23 56 27.2 +0.2
comp=Z,41nm,0.9s						
ODAN	Odare	54.26	295	eP	P	23 56 28.6 0.0
comp=Z,40nm,0.9s						
RAMN	Ramite	54.97	295	eP	P	23 56 33.9 +0.1
comp=Z,74nm,1.0s						
JIRN	Jiri	55.40	296	eP	P	23 56 37.5 +0.5
comp=Z,70nm,0.9s						
GUN	Gumba	55.70	296	eP	P	23 56 39.5 +0.4
comp=Z,159nm,0.9s						
PKI	Pulchoki	56.08	296	eP	P	23 56 41.6 -0.3
PKIN	Phulchoki	56.09	296	eP	P	23 56 42.3 +0.4
KKN	Kakani	56.22	296	eP	P	23 56 42.4 -0.3
comp=Z,53nm,0.9s						
HVS	Khovu-Aksy	56.28	325	⇓iP	P	23 56 43.0 +0.4
DMN	Daman	56.35	296	eP	P	23 56 43.7 0.0
comp=Z,86nm,0.9s						
WMQ	Urumqi	57.34	315	P	P	23 56 51.0 +0.8
WMQ				pP	pP	23 57 04.5 +3.8
WMQ				PP	PP	23 58 59.8 +2.2
WMQ				S	S	00 04 43.0 -1.5
WMQ				sS	sS	00 04 57.0 -4.8
WMQ				SS	SS	00 08 33.0 -1.2
WMQ				pmax	pmax	
comp=Z,31nm,1.1s						
WMQ				LR	LR	
comp=N,130nm,19.0s						
WMQ				LR	LR	
comp=E,140nm,19.0s						
WMQ				LR	LR	
comp=Z,160nm,20.0s						
DANN	Dangsing	57.60	296	eP	P	23 56 52.6 0.0
comp=Z,109nm,0.9s						
KOLN	Koldanda	57.70	296	eP	P	23 56 53.3 +0.1
comp=Z,56nm,0.8s						
TIXI	Tiksi	60.93	355	⇓eP	P	23 57 14.3 -0.2
TIXI				pmax	pmax	
comp=Z,5.0nm,1.0s						
MK31	Makanchi Array	61.81	317	eP	P	23 57 20.4 -0.5
MK31	Makanchi Array	61.81	317	eP	P	23 57 20.4 -0.5
MKAR	Makanchi Array	61.81	317	iP	P	23 57 21.2 +0.3
MKAR				pmax	pmax	
comp=Z,15nm,0.8s						
MKAR	Makanchi Array	61.81	317	P	P	23 57 21.0 +0.1
MKAR	Makanchi Array	61.81	317	P	P	23 57 21.0 +0.1
comp=Z,15nm,0.8s,baz=94,slow=7.8,SNR=68						
MKAR				LR	LR	00 25 52.8
comp=Z,115nm,19.2s,baz=257,slow=38						
HYB	Hyderabad	62.36	284	iP	P	23 57 25.0 -0.1
ZAA0	Zalesovo Array	62.38	326	eP	P	23 57 23.4 -1.1
ZALV	Zalesovo Beam	62.38	326	iP	P	23 57 23.7 -0.8
ZALV				pmax	pmax	
comp=Z,6.0nm,0.5s						
ZALV	Zalesovo Beam	62.38	326	P	P	23 57 23.4 -1.1
ZALV	Zalesovo Beam	62.38	326	P	P	23 57 23.4 -1.1
comp=Z,5.6nm,0.5s,baz=109,slow=6.3,SNR=19						
ZALV				LR	LR	00 25 52.5
comp=Z,186nm,18.4s,baz=73,slow=37						
NVS	Novosibirsk	63.55	326	iP	P	23 57 30.6 -1.7
NVS				i		23 58 03.7
NVS				pmax	pmax	
comp=N,4.0nm,1.3s						
NVS				pmax	pmax	
comp=E,13nm,1.3s						
NVS				pmax	pmax	
comp=Z,24nm,1.3s						
RAR	Rarotonga	64.94	120	LR	LR	00 22 58.4
comp=Z,8.3nm,20.2s,baz=274,slow=33						
KSH	Kashi	65.10	308	P	P	23 57 45.5 +2.6
KSH				sP	sP	23 57 59.5 +1.8
KSH				PP	PP	00 00 11.5 +5.2
KSH				S	S	00 06 23.0 -0.4
KSH				sS	sS	00 06 40.8 -0.2
KSH				SS	SS	00 10 38.5 +2.5
KSH				pmax	pmax	
comp=Z,13nm,0.7s						
KSH				pmax	pmax	
comp=Z,140nm,4.7s						
KSH				LR	LR	
comp=N,110nm,4.6s						
KSH				LR	LR	
comp=E,120nm,4.0s						
KSH				LR	LR	
comp=Z,97nm,6.6s						
KURK	Kurchatov	65.10	321	P	P	23 57 42.6 +0.1
KURK	Kurchatov	65.10	321	P	P	23 57 42.5 +0.1
KURBB	Kurchatov Arra	65.13	321	P	P	23 57 42.5 -0.2
comp=Z,16nm,0.7s,baz=104,slow=6.5,SNR=95						
TKM2	Tokmak 2	65.77	312	iP	P	23 57 48.0 +0.7
TKM2	Tokmak 2	65.77	312	P	P	23 57 48.0 +0.7
SNR=12						
TKM2	Tokmak 2	65.77	312	eP	P	23 57 47.2 -0.1
comp=Z,14nm,0.8s						
KZA	Kyzart	65.92	311	iP	P	23 57 50.2 +1.6
KZA	Kyzart	65.92	311	P	P	23 57 50.2 +1.6
SNR=16						
KBK	Karagaybulak	66.21	312	iP	P	23 57 50.4 +0.3
KBK	Karagaybulak	66.21	312	P	P	23 57 50.4 +0.3
SNR=13						
CHMS	Chumysh	66.40	312	iP	P	23 57 51.3 +0.2
CHMS	Chumysh	66.40	312	P	P	23 57 51.3 +0.2
SNR=13						
UCH	Uchtor	66.48	311	iP	P	23 57 53.7 +1.5
UCH	Uchtor	66.48	311	P	P	23 57 53.7 +1.5
SNR=5.0						
AAK	Ala-Archa	66.54	312	iP	P	23 57 52.9 +0.7
AAK	Ala-Archa	66.54	312	P	P	23 57 52.9 +0.7
SNR=6.0						
AAK	Ala-Archa	66.54	312	eP	P	23 57 52.2 0.0
AAK	Ala-Archa	66.54	312	P	P	23 57 51.8 -0.4
comp=Z,6.2nm,0.8s,baz=105,slow=5.6,SNR=14						
USP	Ospenovka	66.61	312	iP	P	23 57 52.4 -0.1
USP	Ospenovka	66.61	312	P	P	23 57 52.4 -0.1
SNR=14						
KDAK	Kodiak Island	67.06	32	P	P	23 57 55.0 +0.1
KDAK	Kodiak Island	67.06	32	P	P	23 57 55.0 +0.1
comp=Z,9.3nm,0.8s,baz=48,slow=4.7,SNR=3.6						
EKS2	Erkin-Say	67.07	312	eP	P	23 57 55.5 -0.1
EKS2				pmax	pmax	
comp=Z,9.0nm,0.9s						
EKS2	Erkin-Say	67.07	312	P	P	23 57 55.9 +0.3
SNR=7.9						
EKS2	Erkin-Say	67.07	312	eP	P	23 57 55.5 -0.1
comp=Z,9.1nm,0.9s						
AML	Almayashu	67.08	311	iP	P	23 57 55.0 -0.9
AML	Almayashu	67.08	311	P	P	23 57 55.0 -0.9
SNR=14						
RSO	Redoubt South	67.73	29	eP	P	23 57 58.6 -0.8
comp=Z,56nm,1.0s						
PPLA	Purkeypile	68.72	26	eP	P	23 58 04.6 -0.9
comp=Z,70nm,1.6s						
IM04	Indian Mountai	69.06	23	eP	P	23 58 07.7 +0.3
IMA2	Indian Mountai	69.13	23	eP	P	23 58 05.4 -2.6
KKAR	Karatay Array	69.50	312	eP	P	23 58 11.0 +0.4
KKAR	Karatay Array	69.50	312	eP	P	23 58 11.0 +0.4
BPAW	Bear Paw Mtn.	69.59	25	eP	P	23 58 10.4 -0.4
comp=Z,22nm,1.2s						
TRF	Thorofare Moun	69.70	26	eP	P	23 58 09.8 -1.8
PMR	Palmer	69.74	28	eP	P	23 58 10.6 -1.1
PMR				pmax	pmax	
comp=Z,17nm,1.2s						
PMR	Palmer	69.74	28	eP	P	23 58 10.6 -1.1
comp=Z,17nm,1.2s						
VOSK	Vostochnaya	70.13	322	eP	P	23 58 13.7 -0.6
VOSK	Vostochnaya	70.13	322	eP	P	23 58 13.7 -0.6
MCK	McKinley	70.36	26	eP	P	23 58 14.7 -0.8
MCK	McKinley	70.36	26	eP	P	23 58 14.7 -0.8
KBL	Kabul	70.40	303	eP	P	23 58 16.2 -0.4
KBL	Kabul	70.40	303	eP	P	23 58 16.2 -0.4
BVAR	Borovoye Array	70.53	322	P	P	23 58 16.6 -0.1
BVAR	Borovoye Array	70.53	322	P	P	23 58 16.6 -0.1
BVAR	Borovoye Array	70.53	322	P	P	23 58 16.6 -0.1
comp=Z,17nm,0.6s,baz=101,slow=7.5,SNR=97						
BVAR				LR	LR	00 31 53.6
comp=Z,218nm,18.0s,baz=102,slow=38						
BRVK	Borovoye	70.59	322	P	P	23 58 17.5 +0.4
comp=Z,171nm,0.6s,SNR=22						
BRVK	Borovoye	70.59	322	diP	P	23 58 17.0 -0.1
BRVK				pmax	pmax	
comp=Z,22nm,0.7s						
BRVK	Borovoye	70.59	322	eP	P	23 58 16.9 -0.2
comp=Z,20nm,0.6s						
COLD	Coldfoot	70.82	22	eP	P	23 58 19.1 +0.9
COLA	College	71.11	25	⇓eP	P	23 58 19.8 -0.1
ILAR	Eielson Array	71.48	25	P	P	23 58 20.6 -1.7
ILAR	Eielson Array	71.48	25	P	P	23 58 20.6 -1.7
comp=Z,3.6nm,0.9s,baz=248,slow=6.0,SNR=26						
ILAR				LR	LR	00 30 10.5
comp=Z,126nm,18.3s,baz=248,slow=36						
PAX	Paxson	71.71	27	eP	P	23 58 23.2 -0.6
PAX				pmax	pmax	
comp=Z,22nm,1.2s						
PAX	Paxson	71.71	27	eP	P	23 58 23.2 -0.6
comp=Z,22nm,1.2s						
PPT	Papeete	72.61	112	LR	LR	00 29 14.2
comp=Z,171nm,18.3s,baz=169,slow=35						
EGAK	Eagle	73.90	26	eP	P	23 58 35.9 -0.7
DAWY	Dawson	74.57	26	eP	P	23 58 40.8 +0.2
HYT	Haines Junctio	75.18	30	eP	P	23 58 45.1 +0.8
SVE	Sverdlovsk	76.39	326	⇓iP	P	23 58 51.5 +0.4
SVE				pmax	pmax	
comp=Z,32nm,1.4s						
ABKAR	Akbulak array	76.93	318	eP	P	23 58 53.9 -0.5
comp=Z,18nm,0.9s						
INK	Inuvik	77.24	22	eP	P	23 58 54.6 -1.0
comp=Z,14nm,1.2s						
ARU	Arti	77.54	326	diP	P	23 58 56.9 -0.7
ARU						00 01 49.3
ARU				S	S	00 08 45.8 -0.5
ARU				pmax	pmax	
comp=Z,30nm,1.7s						
ARU	Arti	77.54	326	P	P	23 58 57.2 -0.4
comp=Z,79nm,0.5s,SNR=8.2						
AKTO	Aktyubinsk	78.12	319	P	P	23 59 00.2 -0.8
AKTO	Aktyubinsk	78.12	319	P	P	23 59 00.1 -0.8
AKTO	Aktyubinsk	78.12	319	P	P	23 59 00.1 -0.8
comp=Z,3.0nm,0.6s,baz=96,slow=8.0,SNR=6.2						
AKTO				LR	LR	00 35 50.2
comp=Z,166nm,18.3s,baz=198,slow=38						
SOKR	Solikamsk	78.37	329	⇓iP	P	23 59 02.3 +0.2
SOKR				pmax	pmax	
comp=Z,20nm,1.0s						
ALE	Alert	85.64	3	P	P	23 59 40.0 +0.1
comp=Z,60nm,0.9s,SNR=7.1						
YKA	Yellowknife Ar	85.80	27	P	P	23 59 40.9 -0.1
YKA	Yellowknife Ar	85.80	27	P	P	23 59 40.9 -0.1
comp=Z,2.5nm,0.6s,baz=285,slow=5.0,SNR=11						
YBH	Yreka Blue Hor	85.86	48	P	P	23 59 42.6 +0.7
YBH	Yreka Blue Hor	85.86	48	P	P	23 59 42.6 +0.7
comp=Z,3.3nm,0.8s,baz=278,slow=4.3,SNR=6.2						
KBS	Kingsbay	86.19	352	⇓eP	P	23 59 43.4 +0.7
KBS				pmax	pmax	
comp=Z,27nm,1.7s						
KBS	Kingsbay	86.19	352	eP	P	23 59 42.8 +0.1
comp=Z,21nm,1.4s						
TMCR	Tamitsa	86.29	335	eP	P	23 59 35.3 -8.1
TMCR				pmax	pmax	
comp=Z,22nm,1.4s						
RES	Resolute Bay	87.23	13	P	P	23 59 47.5 -0.3
RES	Resolute Bay	87.23	13	P	P	23 59 47.5 -0.3
comp=Z,5.0nm,0.8s,baz=289,slow=6.3,SNR=3.7						
VRHR	Novokhopersk	88.26	322	eP	P	23 59 51.0 -2.2
VRHR				pmax	pmax	
comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax	
comp=N,9.0nm,0.9s						
VRHR				pmax	pmax	
comp=E,5.0nm,0.6s						
ARCES	ARCESS Array B	88.66	342	P	P	23 59 54.2 -0.5
ARCES	ARCESS Array B	88.66	342	P	P	23 59 54.2 -0.5
comp=E,2.1nm,0.5s,baz=70,slow=7.8,SNR=19						
ARCES				LR	LR	00 42 54.7
comp=E,113nm,18.7s,baz=76,slow=38						
WVOR	Wild Horse Val	88.67	47	eP	P	23 59 55.6 +0.1
WVOR	Wild Horse Val	88.67	47	eP	P	23 59 55.6 +0.1
ZEI	Tsey	88.91	313	eP	P	23 59 54.8 -2.0
ZEI				pmax	pmax	
comp=Z,7.0nm,0.9s						
GNI	Garni	88.93	311	LR	LR	00 43 58.5
comp=Z,132nm,18.5s,baz=91,slow=38						
MOS	Moscow	89.17	327	eP	P	23 59 55.7 -1.7
VNDA	Vanda	89.31	176	P	P	23 59 57.0 -0.5
VNDA	Vanda	89.31	176	P	P	23 59 56.9 -0.5
comp=Z,3.4nm,0.9s,baz=329,slow=4.5,SNR=15						
VNDA				LR	LR	00 40 56.3
comp=Z,122nm,19.1s,baz=336,slow=36						
KBZ	Khabaz	89.38	314	P	P	23 59 57.2 -1.4
KBZ	Khabaz	89.38	314	P	P	23 59 57.2 -1.4
KBZ	Khabaz	89.38	314	P	P	23 59 57.2 -1.4
comp=Z,3.7nm,0.9s,baz=11,slow=2.8,SNR=10						
KBZ				LR	LR	00 44 27.7
comp=Z,124nm,18.4s,baz=276,slow=39						
KIV	Kislovodsk	89.47	315	P	P	23 59 59.0 -0.2
KIV				e		00 00 04.9
JOF	Joensuu	89.55	335	eP	P	23 59 58.0 -1.0
JOF				pmax	pmax	
comp=Z,4.0nm,0.6s						
JOF	Joensuu	89.55	335	ep	P	23 59 58.0 -1.0
comp=Z,4.1nm,0.6s						
VORD	Divnogorie	89.71	322	eP	P	23 59 57.0 -3.0
VORD				pmax	pmax	
comp=Z,5.0nm,0.9s						
VORD				pmax	pmax	
comp=N,40nm,0.4s						
VORD				pmax	pmax	
comp=E,50nm,0.4s						
VSR	Storozhevoye	89.71	322	eP	P	23 59 57.5 -2.5
VSR				pmax	pmax	
comp=N,7.0nm,0.7s						
VSR				pmax	pmax	
comp=Z,10.0nm,0.7s						
VSR				pmax	pmax	
comp=E,10.0nm,0.8s						
NVAR	Mina Array Bea	89.89	51	P	P	00 00 02.5 +1.0
NVAR	Mina Array Bea	89.89	51	P	P	00 00 02.5 +1.0
comp=E,7.7nm,0.8s,baz=273,slow=5.3,SNR=43						
OBN	Obninsk	89.94	327	eP	P	00 00 00.4 -0.6
KAF	Kangasniemi	91.99	335	eP	P	00 00 06.3 -4.1
KAF				pmax	pmax	
comp=Z,5.0nm,0.8s						
KAF	Kangasniemi	91.99	335	ep	P	00 00 06.3 -4.1
comp=Z,5.1nm,0.8s						
LRM	Limekiln Ridge	92.01	43	eP	P	00 00 10.9 -0.3
FINES	FINESS Array B	92.40	335	P	P	00 00 10.6 -1.7
FINES	FINESS Array B	92.40	335	P	P	00 00 10.6 -1.7
comp=Z,10.0nm,1.0s,baz=59,slow=5.4,SNR=27						
FINES				LR	LR	00 44 18.2
comp=Z,134nm,18.3s,baz=264,slow=37						
PDAR	Pinedale Array	94.98	45	P	P	00 00 24.9 0.0
PDAR	Pinedale Array	94.98	45	P	P	00 00 24.9 0.0
comp=Z,0.8nm,1.1s,baz=270,slow=2.7,SNR=3.7						
PDAR				LR	LR	00 35 11.6
comp=Z,86nm,21.4s,baz=130,slow=30						
AKASG	Malin Array Be	95.74	324	LR	LR	00 46 32.7
comp=Z,233nm,18.9s,baz=55,slow=37						
BRTR	Keskin Array B	97.20	313	P	P	00 00 33.5 -1.5
BRTR	Keskin Array B	97.20	313	P	P	00 00 33.5 -1.5
comp=Z,1.0nm,1.0s,baz=61,slow=6.8,SNR=3.6						
BRTR				LR	LR	00 50 54.0
comp=Z,52nm,18.4s,baz=169,slow=40						
HFS	Hagfors	98.15	337	LR	LR	00 51 15.7
comp=Z,94nm,18.2s,baz=246,slow=39						
NOA	NORSAR Array B	98.48	338	LR	LR	00 50 04.5
comp=Z,68nm,18.0s,baz=55,slow=38						
EIL	Elat	99.60	303	LR	LR	00 52 10.1
comp=Z,88nm,18.0s,baz=17,slow=39						
KECS	Kecovo	101.79	325	eP	Pdif	00 00 51.0 -4.1
VYHS	Vyhne	102.71	326	eP	Pdif	00 00 57.0 -2.2
TORD	Torodi Ar. Bea	134.46	301	PKP	PKPdf	00 06 21.4 +0.4
TORD	Torodi Ar. Bea	134.46	301	PKP	PKPdf	00 06 21.4 +0.4
comp=Z,2.1nm,0.9s,baz=45,slow=2.8,SNR=9.7						
DBIC	Dimbokro	143.25	298	PKPpre	PKPpre	00 06 34.1
DBIC	Dimbokro	143.25	298	PKhKP	PKPpre	00 06 34.1
comp=Z,12nm,0.9s,baz=56,slow=2.7,SNR=7.0						
KIC	Kosan Boka	143.30	297	ePKP1	PKPbc	00 06 34.1 -0.1
comp=Z,124nm,1.7s						
TIC	Toumodi	143.41	298	ePKP1	PKPbc	00 06 34.3 -0.3
comp=Z,57nm,1.4s						
LIC	Lamto	143.62	297	ePKP1	PKPbc	00 06 35.0 -0.1
comp=Z,83nm,0.9s						
TRQA	Tornquist	145.29	144	ePKPdf	PKPbc	00 06 39.4 -0.3
LPAZ	La Paz	149.52	103	PKP	PKPdf	00 06 49.4 +1.1
LPAZ				ePKPdf	PKPbc	00 06 49.7 -3.2
LPAZ				PKPbc	PKiKP	00 06 54.0 0.0
LPAZ	La Paz	149.52	103	PKP	PKPdf	00 06 49.4 +1.1
comp=Z,5.2nm,0.8s,baz=325,slow=3.3,SNR=19						
LPAZ				PKPbc	PKiKP	00 06 54.0 0.0
comp=Z,8.4nm,1.0s,baz=338,slow=3.2,SNR=22						
SAML	Samuel	154.26	87	ePKPdf	PKPdf	00 06 55.0 +0.3
SAML				ePKPab	PKPab	00 07 16.7 -0.3
CPUP	Villa Florida	155.78	131	PKPab	PKPab	00 07 23.5 +0.5
CPUP	Villa Florida	155.78	131	PKPab	PKPab	00 07 23.5 +0.5
comp=Z,0.5nm,0.5s,baz=226,slow=9.0,SNR=4.7						

DDA ***30*** *00:18:25.8,38.˙47N×39.˙15E,h16km,MD3.6*
ISK ***30*** *00:18:25.6,38.˙51N×39.˙14E,h9km,MD2.9*
ISCJB ***30*** *00:18:26.3±0.6,38.˙50N±0.˙03×39.˙17E±0.˙03,h7km±4km,*
Error ellipse: s-maj=4.6km s-min=4.0km az=157.9
CSEM ***30*** *00:18:26.0±0.2,38.˙50N×39.˙16E,h8km,MD2.9,Error*
ellipse: s-maj=4.8km s-min=4.4km az=74.0
ISC 30 00:18:26.4±0.9,**38.˙52N**±0.˙02×**39.˙14E**±0.˙02,**h12**km±8km,
n36,σ0=**90**/53,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.12	262	iPg	Pb	00 18 30.0	-0.8
ELZG				iSg	Sg	00 18 32.8	+0.7
PTK	Pertek	0.42	28	PG	Pg	00 18 34.3	-0.6
PTK				eSG	Sb	00 18 42.0	-0.4
PTK	Pertek	0.42	28	iPg	Pg	00 18 34.3	-0.6
PTK				eSg	Sb	00 18 42.0	-0.4
MALT	Malatya	0.59	250	PG	Pg	00 18 37.2	-0.8
MALT				eSG	Sb	00 18 47.0	-0.2
MALT	Malatya	0.59	250	iPg	Pg	00 18 37.2	-0.8
MALT				eSg	Sb	00 18 47.0	-0.2
KEMA	Kemaliye	0.91	326	iP	Pg	00 18 43.7	-0.2

ATAB	**Bozova**	**1.24**	**213**	*eP*	**Pg**	**00 18 49.7**	**-0.5**
ATAB				*eS*	**Sn**	**00 19 06.6**	**+0.3**
ATAB	**Bozova**	**1.24**	**213**	*eP*	**Pg**	**00 18 49.7**	**-0.5**
ATAB				*eS*	**Sn**	**00 19 06.6**	**+0.3**
EZC	**Erzincan**	**1.25**	**8**	*ePn*	**Pn**	**00 18 48.3**	**-1.5**
BNGB	**Bing¶ll**	**1.29**	**68**	*ePN*	**Pg**	**00 18 51.3**	**0.0**
DARE	**Darende-Malaty**	**1.30**	**273**	*ePN*	**Pn**	**00 18 49.9**	**-0.6**
MAZI	**Mazidag**	**1.48**	**135**	*ePN*	**Pn**	**00 18 52.5**	**-0.5**
MAZI	**Mazidag**	**1.48**	**135**	*ePn*	**Pn**	**00 18 52.5**	**-0.5**
BNGL	**BINGOL**	**1.63**	**74**	*eP*	**Pg**	**00 18 57.3**	**-0.4**
BNGL				*eS*	**Sg**	**00 19 23.2**	**+4.3**
KELT	**Kelkit**	**1.63**	**3**	*eP*	**Pb**	**00 18 55.9**	**-0.7**
KELT				*eS*	**Sg**	**00 19 18.8**	**-0.2**
KELT	**Kelkit**	**1.63**	**3**	*eP*	**Pb**	**00 18 55.9**	**-0.7**
KELT				*eS*	**Sg**	**00 19 18.8**	**-0.2**
BEST	**Besiri**	**1.79**	**110**	*eP*	**Pn**	**00 18 57.3**	**+0.1**
BEST				*eS*	**Sn**	**00 19 19.8**	**-0.2**
KMRS	**Kahramanmaras**	**2.04**	**241**	*ePN*	**Pn**	**00 19 01.3**	**+0.7**
KMRS	**Kahramanmaras**	**2.04**	**241**	*ePn*	**Pn**	**00 19 01.3**	**+0.7**
SVSK	**Karacayir**	**2.17**	**311**	*ePN*	**Pn**	**00 19 03.9**	**+1.5**
SVSK	**Karacayir**	**2.17**	**311**	*ePn*	**Pn**	**00 19 03.9**	**+1.5**
ANDN	**Andirin**	**2.40**	**248**	*eP*	**Pb**	**00 19 09.8**	**+0.3**
ANDN				*eS*	**Sg**	**00 19 43.8**	**+0.4**
ANDN	**Andirin**	**2.40**	**248**	*eP*	**Pb**	**00 19 09.8**	**+0.3**

IDC 30 00:20:30.2±8.2, 17°.84S×179°.28W, h609km±110km, mb3.0/7, mb1 3.3/8, mb1mx3.0/20, mbtmp3.0/8, Error ellipse: s-maj=91.2km s-min=36.9km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.06**	**250**	P	P	00 23 29.9	+0.4
	0.2nm,0.3s,baz=49,slow=17,SNR=3.5						
STKA	**Stephens Creek**	**37.94**	**241**	P	P	00 26 57.0	-0.5
	1.0nm,0.5s,baz=95,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**43.83**	**260**	P	P	00 27 44.0	-0.3
	1.1nm,0.5s,baz=94,slow=6.5,SNR=7.4						
ASAR	**Alice Springs**	**44.01**	**254**	P	P	00 27 45.9	+0.3
	7.7nm,0.4s,baz=90,slow=8.4,SNR=196						
NVAR	**Mina Array Bea**	**79.95**	**44**	P	P	00 31 37.3	-0.3
	0.4nm,0.7s,baz=221,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**86.01**	**13**	P	P	00 32 06.8	-0.1
	0.2nm,0.4s,baz=225,slow=4.6,SNR=5.6						
TXAR	**Lajitas Array**	**86.66**	**58**	P	P	00 32 11.4	+0.5
	0.4nm,0.7s,baz=213,slow=6.3,SNR=6.4						
PDAR	**Pinedale Array**	**87.88**	**44**	P	P	00 32 16.2	-0.2
	0.3nm,0.6s,baz=220,slow=6.9,SNR=2.7						

*ISK **30** 00:42:24.7, 38°.48N×26°.29E, h14km, ML4.2*
*DDA **30** 00:42:24.8, 38°.51N×26°.33E, h26km, ML4.2*
*ATH **30** 00:42:25.3, 38°.50N×26°.35E, h29km, ML3.7*
*ISCJB **30** 00:42:26.4±0.3, 38°.51N±0°.01×26°.32E±0°.01, h27km±3km, mb3.5/9, Error ellipse: s-maj=1.7km s-min=1.6km az=147.4*
*IDC **30** 00:42:26.1±1.0, 38°.54N×26°.19E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.7/32, mbtmp3.7/13, ML3.7/5, Error ellipse: s-maj=18.9km s-min=17.3km az=66.0*
*CSEM **30** 00:42:27.0±0.1, 38°.48N×26°.34E, h20km, ML4.2, Error ellipse: s-maj=1.4km s-min=1.2km az=146.0*
*THE **30** 00:42:27.4, 38°.52N×26°.37E, h23km±2km, ML3.7/11, Error ellipse: s-maj=2.2km s-min=0.8km az=133.0*

ISC 30 00:42:26.9±0.8, 38°.51N±0°.01×26°.35E±0°.02, h15km±5km, n466, σ1§12/615, mb3.5/9, 19C-36D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.24**	**127**	*iP*	**Pg**	**00 42 31.7**	**-0.6**
URLA				*iS*	**Sg**	**00 42 35.6**	**-0.4**
URLA	**Izmir**	**0.24**	**127**	*iP*	**Pg**	**00 42 31.7**	**-0.6**
URLA				*iS*	**Sg**	**00 42 35.6**	**-0.4**
CHOS	**Chios island**	**0.26**	**242**	P	**Pg**	**00 42 32.7**	**+0.1**
CHOS				S	**Sg**	**00 42 36.7**	**+0.3**
CHOS	**Chios island**	**0.26**	**242**	*ePB*	**Pg**	**00 42 32.7**	**+0.1**
CHOS				*eSB*	**Sg**	**00 42 36.8**	**+0.3**
CHOS	**Chios island**	**0.26**	**242**	P	**Pg**	**00 42 32.7**	**+0.1**
CHOS				*eSb*	**Sg**	**00 42 36.8**	**+0.3**
IZM	**Izmir**	**0.73**	**98**	PG	**Pg**	**00 42 40.1**	**-1.0**
IZM	**Izmir**	**0.73**	**98**	*i*Pg	**Pg**	**00 42 40.1**	**-1.0**
PRK	**Paraskevi**	**0.74**	**355**	P	**Pg**	**00 42 40.5**	**-0.8**
PRK				S	**Sb**	**00 42 51.8**	**+0.4**
PRK	**Paraskevi**	**0.74**	**355**	*ePN*	**Pg**	**00 42 40.3**	**-1.0**
PRK				*eSN*	**Sg**	**00 42 51.1**	**0.0**
PRK	**Paraskevi**	**0.74**	**355**	P	**Pg**	**00 42 40.5**	**-0.8**
PRK				*eSn*	**Sg**	**00 42 51.1**	**0.0**
AYVA	**Ayvalik**	**0.84**	**18**	*i*P	**Pg**	**00 42 42.0**	**-1.3**
AYVA				*i*S	**Sn**	**00 42 57.8**	**+1.5**
AYVA	**Ayvalik**	**0.84**	**18**	*i*P	**Pg**	**00 42 42.0**	**-1.3**
SMG	**Samos**	**0.89**	**154**	P	**Pg**	**00 42 43.5**	**-0.6**
SMG				S	**Sb**	**00 42 56.5**	**+0.9**
SMG	**Samos**	**0.89**	**154**	*ePN*	**Pg**	**00 42 42.8**	**-1.3**
SMG				*eSN*	**Sg**	**00 42 54.7**	**-1.0**
SMG	**Samos**	**0.89**	**154**	*ePn*	**Pg**	**00 42 42.8**	**-1.3**
SMG	**Samos**	**0.89**	**154**	P	**Pg**	**00 42 43.5**	**-0.6**
SMG				*eSn*	**Sg**	**00 42 54.7**	**-1.0**
SMG				S	**Sb**	**00 42 56.5**	**+0.9**
GCAM	**G?zelcaml?**	**1.07**	**139**	*i*P	**Pb**	**00 42 46.2**	**-0.8**
GCAM				*i*S	**Sg**	**00 43 01.5**	**+0.1**
GCAM	**G?zelcaml?**	**1.07**	**139**	*i*P	**Pb**	**00 42 46.2**	**-0.8**
GCAM				*i*S	**Sg**	**00 43 01.5**	**+0.1**
AKS	**Akhisar**	**1.21**	**72**	PN	**Pn**	**00 42 48.5**	**-0.7**
AKS				*eSN*	**Sb**	**00 43 05.5**	**+0.7**
AKS	**Akhisar**	**1.21**	**72**	*i*Pn	**Pn**	**00 42 48.5**	**-0.7**
AKS				*eSn*	**Sb**	**00 43 05.5**	**+0.7**
AKHS	**Akhisar**	**1.21**	**72**	*i*P	**Pn**	**00 42 48.2**	**-1.0**
AKHS				*i*S	**Sb**	**00 43 05.0**	**+0.2**
AKHS	**Akhisar**	**1.21**	**72**	*i*P	**Pn**	**00 42 48.2**	**-1.0**
AKHS				*i*S	**Sb**	**00 43 05.0**	**+0.2**
EZN	**Ezine**	**1.32**	**359**	*ePN*	**Pn**	**00 42 49.6**	**-1.1**
EZN				*eSN*	**Sb**	**00 43 07.8**	**-0.2**
EZN	**Ezine**	**1.32**	**359**	*ePn*	**Pn**	**00 42 49.6**	**-1.1**
EZN				*eSn*	**Sb**	**00 43 07.8**	**-0.2**
BOZC	**Bozcaada**	**1.35**	**350**	*i*P	**Pn**	**00 42 49.7**	**-1.4**
BOZC				*i*S	**Sg**	**00 43 10.1**	**-0.4**
AYDN	**Tasoluk**	**1.48**	**125**	*i*P	**Pn**	**00 42 52.2**	**-0.7**
AYDN				*i*S	**Sn**	**00 43 10.8**	**-1.1**
AYDN	**Tasoluk**	**1.48**	**125**	*i*P	**Pn**	**00 42 52.2**	**-0.7**
AYDN				*i*S	**Sn**	**00 43 10.8**	**-1.1**
APE	**Apeiranthos**	**1.57**	**205**	*ePN*	**Pn**	**00 42 52.6**	**-1.6**
APE	**Apeiranthos**	**1.57**	**205**	P	**Pn**	**00 42 52.8**	**-1.5**
APE				S	**Sn**	**00 43 12.8**	**-1.6**
APE	**Apeiranthos**	**1.57**	**205**	*ePB*	**Pn**	**00 42 52.8**	**-1.5**
APE				*eSN*	**Sn**	**00 43 13.8**	**-0.6**
APE	**Apeiranthos**	**1.57**	**205**	¶*i*P	**Pn**	**00 42 52.7**	**-1.6**
APE	**Apeiranthos**	**1.57**	**205**	P	**Pn**	**00 42 52.8**	**-1.5**
APE				S	**Sn**	**00 43 12.8**	**-1.6**
APE				*eSn*	**Sn**	**00 43 13.8**	**-0.6**
BALY	**Balya**	**1.58**	**38**	*i*P	**Pn**	**00 42 53.3**	**-1.0**
BALY				*i*S	**Sg**	**00 43 19.2**	**+1.4**
BALY	**Balya**	**1.58**	**38**	*i*P	**Pn**	**00 42 53.3**	**-1.0**
MRMA	**Marmari**	**1.61**	**254**	P	**Pn**	**00 42 54.8**	**0.0**
MRMA				S	**Sn**	**00 43 14.0**	**-1.3**
MRMA	**Marmari**	**1.61**	**254**	P	**Pn**	**00 42 54.8**	**0.0**
MRMA				S	**Sn**	**00 43 14.0**	**-1.3**
BODT	**Bodrum**	**1.63**	**152**	*ePN*	**Pn**	**00 42 53.9**	**-1.2**
BODT	**Bodrum**	**1.63**	**152**	*ePn*	**Pn**	**00 42 53.9**	**-1.2**
BALB	**Balikesir**	**1.64**	**46**	*ePN*	**Pn**	**00 42 55.2**	**+0.1**
BALB	**Balikesir**	**1.64**	**46**	*ePn*	**Pn**	**00 42 55.3**	**+0.1**
MLSB	**Milas**	**1.66**	**137**	*ePN*	**Pn**	**00 42 54.0**	**-1.4**
MLSB	**Milas**	**1.66**	**137**	*ePn*	**Pn**	**00 42 54.0**	**-1.4**
LIA	**Limnos Island**	**1.66**	**327**	P	**Pn**	**00 42 54.8**	**-0.6**
LIA				S	**Sn**	**00 43 13.9**	**-2.5**
LIA	**Limnos Island**	**1.66**	**327**	*ePN*	**Pn**	**00 42 54.8**	**-0.6**
LIA				*eSN*	**Sn**	**00 43 15.9**	**-0.5**
LIA	**Limnos Island**	**1.66**	**327**	P	**Pn**	**00 42 54.8**	**-0.6**
LIA				S	**Sn**	**00 43 13.9**	**-2.5**
LIA				*eSn*	**Sn**	**00 43 15.9**	**-0.5**
BDRM	**Kayabasi**	**1.68**	**149**	*i*P	**Pn**	**00 42 54.9**	**-0.8**
BDRM				*i*S	**Sg**	**00 43 23.5**	**+2.5**
BDRM	**Kayabasi**	**1.68**	**149**	*i*P	**Pn**	**00 42 54.9**	**-0.8**
KULA	**Kula-Manisa**	**1.81**	**89**	*ePN*	**Pn**	**00 42 57.2**	**-0.4**
KULA	**Kula-Manisa**	**1.81**	**89**	P	**Pn**	**00 42 57.0**	**-0.6**
KULA				S	**Sn**	**00 43 19.5**	**-0.9**
KULA	**Kula-Manisa**	**1.81**	**89**	*ePn*	**Pn**	**00 42 57.2**	**-0.4**
KULA				S	**Sn**	**00 43 19.5**	**-0.9**
GONE	**Gonen-Balikesi**	**1.85**	**34**	*ePN*	**Pn**	**00 42 57.0**	**-1.1**
GONE	**Gonen-Balikesi**	**1.85**	**34**	*ePn*	**Pn**	**00 42 57.0**	**-1.1**
LPK	**Lapseki**	**1.89**	**10**	*ePN*	**Pn**	**00 42 58.1**	**-0.5**
LPK	**Lapseki**	**1.89**	**10**	*ePn*	**Pn**	**00 42 58.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.89**	**3**	*ePN*	**Pn**	**00 42 57.9**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.89**	**3**	*ePn*	**Pn**	**00 42 57.9**	**-0.7**
DEMI	**Demirci**	**1.93**	**73**	*i*P	**Pn**	**00 42 58.5**	**-0.7**
DEMI				*i*S	**Sg**	**00 43 28.7**	**-0.2**
DEMI	**Demirci**	**1.93**	**73**	*i*P	**Pn**	**00 42 58.5**	**-0.7**
DURS	**Dursunbey**	**1.98**	**56**	*i*P	**Pn**	**00 42 58.8**	**-1.1**
DURS				*i*S	**Sn**	**00 43 23.3**	**-1.3**
DURS	**Dursunbey**	**1.98**	**56**	*i*P	**Pn**	**00 42 58.8**	**-1.1**
DURS				*i*S	**Sn**	**00 43 23.3**	**-1.3**
ERET	**Eretria**	**2.00**	**269**	P	**Pn**	**00 42 59.2**	**-0.9**
ERET	**Eretria**	**2.00**	**269**	P	**Pn**	**00 42 59.2**	**-0.9**
PTL	**Penteli**	**2.01**	**258**	P	**Pn**	**00 42 59.3**	**-1.0**
PTL				S	**Sn**	**00 43 23.8**	**-1.2**
PTL	**Penteli**	**2.01**	**258**	*ePN*	**Pn**	**00 42 59.2**	**-1.0**
PTL				*eSN*	**Sn**	**00 43 23.2**	**-1.9**
PTL	**Penteli**	**2.01**	**258**	P	**Pn**	**00 42 59.3**	**-1.0**
PTL				*eSn*	**Sn**	**00 43 23.2**	**-1.9**
KRBG	**Karabiga-Canak**	**2.02**	**21**	*ePN*	**Pn**	**00 42 59.3**	**-1.1**
KRBG	**Karabiga-Canak**	**2.02**	**21**	*ePn*	**Pn**	**00 42 59.3**	**-1.1**
DAT	**Datca**	**2.03**	**151**	*ePN*	**Pn**	**00 42 59.3**	**-1.3**
DAT	**Datca**	**2.03**	**151**	*ePn*	**Pn**	**00 42 59.3**	**-1.3**
AOS	**Alonnisos**	**2.04**	**290**	P	**Pn**	**00 42 59.9**	**-0.7**
AOS				S	**Sn**	**00 43 25.8**	**0.0**
AOS	**Alonnisos**	**2.04**	**290**	*ePN*	**Pn**	**00 42 59.8**	**-0.8**
AOS				*eSN*	**Sn**	**00 43 25.5**	**-0.3**
AOS	**Alonnisos**	**2.04**	**290**	P	**Pn**	**00 42 59.9**	**-0.7**
AOS				*eSn*	**Sn**	**00 43 25.5**	**-0.3**
YER	**Yerkesik**	**2.06**	**131**	*ePN*	**Pn**	**00 42 59.9**	**-1.0**
YER	**Yerkesik**	**2.06**	**131**	*ePn*	**Pn**	**00 42 59.9**	**-1.0**
SMTH	**Samothraki Isl**	**2.06**	**342**	P	**Pn**	**00 43 00.0**	**-0.9**
SMTH				S	**Sn**	**00 43 22.5**	**-3.8**
SMTH	**Samothraki Isl**	**2.06**	**342**	*ePN*	**Pn**	**00 43 00.0**	**-0.9**
SMTH				*eSN*	**Sn**	**00 43 25.8**	**-0.5**
SMTH	**Samothraki Isl**	**2.06**	**342**	P	**Pn**	**00 43 00.0**	**-0.9**
SMTH				S	**Sn**	**00 43 22.5**	**-3.8**
SMTH				*eSn*	**Sn**	**00 43 25.8**	**-0.5**
DST	**Dursunbey**	**2.08**	**58**	*ePN*	**Pn**	**00 43 01.3**	**+0.1**
DST	**Dursunbey**	**2.08**	**58**	*ePn*	**Pn**	**00 43 01.3**	**+0.1**
ATHU	**Athens Univers**	**2.09**	**256**	P	**Pn**	**00 42 59.9**	**-1.4**
ATHU	**Athens Univers**	**2.09**	**256**	P	**Pn**	**00 42 59.9**	**-1.4**
ATH	**Athens Observa**	**2.14**	**256**	P	**Pn**	**00 43 01.0**	**-1.0**
ATH				S	**Sn**	**00 43 29.0**	**+0.8**
ATH	**Athens Observa**	**2.14**	**256**	*ePN*	**Pn**	**00 43 01.4**	**-0.6**
ATH				*eSN*	**Sn**	**00 43 27.1**	**-1.1**
ATH	**Athens Observa**	**2.14**	**256**	P	**Pn**	**00 43 01.0**	**-1.0**
ATH	**Athens Observa**	**2.14**	**256**	*ePn*	**Pn**	**00 43 01.4**	**-0.6**
ATH				*eSn*	**Sn**	**00 43 27.1**	**-1.1**
ATH				S	**Sn**	**00 43 29.0**	**+0.8**
MRKA	**Markates**	**2.17**	**276**	P	**Pn**	**00 43 01.6**	**-0.9**
MRKA				S	**Sn**	**00 43 29.9**	**+0.8**
MRKA	**Markates**	**2.17**	**276**	P	**Pn**	**00 43 01.6**	**-0.9**
MRKA				S	**Sn**	**00 43 29.9**	**+0.8**
THR2	**Thira island,**	**2.18**	**200**	P	**Pn**	**00 43 01.1**	**-1.5**
THR2	**Thira island,**	**2.18**	**200**	P	**Pn**	**00 43 01.1**	**-1.5**
BNT	**Bandirma**	**2.21**	**33**	*ePN*	**Pn**	**00 43 01.9**	**-1.1**
BNT	**Bandirma**	**2.21**	**33**	*ePn*	**Pn**	**00 43 01.9**	**-1.1**
THR3	**Thira Island,**	**2.23**	**200**	P	**Pn**	**00 43 01.6**	**-1.6**
THR3	**Thira Island,**	**2.23**	**200**	P	**Pn**	**00 43 01.6**	**-1.6**
DENT	**Denizli**	**2.25**	**109**	*ePN*	**Pn**	**00 43 03.2**	**-0.3**
DENT	**Denizli**	**2.25**	**109**	*ePn*	**Pn**	**00 43 03.2**	**-0.3**
SANT	**Santorini**	**2.25**	**199**	P	**Pn**	**00 43 01.7**	**-1.8**
SANT	**Santorini**	**2.25**	**199**	*ePN*	**Pn**	**00 43 01.9**	**-1.6**
SANT				*eSN*	**Sn**	**00 43 30.2**	**-0.8**
SANT	**Santorini**	**2.25**	**199**	*ePn*	**Pn**	**00 43 01.9**	**-1.6**
SANT				*eSn*	**Sn**	**00 43 30.2**	**-0.8**
THR1	**Thera Island**	**2.25**	**199**	P	**Pn**	**00 43 00.9**	**-2.6**
THR1	**Thera Island**	**2.25**	**199**	P	**Pn**	**00 43 00.9**	**-2.6**
RKY	**Sarkoy-Tekirda**	**2.27**	**16**	*ePN*	**Pn**	**00 43 03.3**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.27**	**16**	*ePn*	**Pn**	**00 43 03.3**	**-0.6**
SART	**Tekirdag**	**2.27**	**16**	*i*P	**Pn**	**00 43 02.9**	**-1.0**
SART				*i*S	**Sn**	**00 43 32.8**	**+1.2**
SART	**Tekirdag**	**2.27**	**16**	*i*P	**Pn**	**00 43 02.9**	**-1.0**
SART				*i*S	**Sn**	**00 43 32.8**	**+1.2**
THR6	**Thira Island,**	**2.28**	**200**	P	**Pn**	**00 43 02.5**	**-1.4**
THR6	**Thira Island,**	**2.28**	**200**	P	**Pn**	**00 43 02.5**	**-1.4**
DNZL	**Cakiroluk**	**2.28**	**110**	*i*P	**Pn**	**00 43 03.7**	**-0.4**
DNZL	**Cakiroluk**	**2.28**	**110**	*i*P	**Pn**	**00 43 03.7**	**-0.4**
SKIA	**Skiathos**	**2.34**	**287**	P	**Pn**	**00 43 04.2**	**-0.6**
SKIA				S	**Sn**	**00 43 31.2**	**-2.1**
SKIA	**Skiathos**	**2.34**	**287**	P	**Pn**	**00 43 04.2**	**-0.6**
SKIA				S	**Sn**	**00 43 31.2**	**-2.1**
KCTX	**Karacabey (Bur**	**2.35**	**41**	*ePN*	**Pn**	**00 43 04.5**	**-0.4**
KCTX	**Karacabey (Bur**	**2.35**	**41**	*ePn*	**Pn**	**00 43 04.5**	**-0.4**
NAIG	**Nisos Aigina**	**2.38**	**253**	*ePN*	**Pn**	**00 43 04.0**	**-1.2**
NAIG	**Nisos Aigina**	**2.38**	**253**	*ePn*	**Pn**	**00 43 04.0**	**-1.2**
MFT	**Murefte**	**2.39**	**17**	*ePN*	**Pn**	**00 43 05.9**	**+0.4**
MFT	**Murefte**	**2.39**	**17**	*ePn*	**Pn**	**00 43 05.9**	**+0.4**
ALN	**Alexandroupoli**	**2.40**	**355**	P	**Pn**	**00 43 04.9**	**-0.7**
ALN				S	**Sn**	**00 43 33.8**	**-0.8**
ALN	**Alexandroupoli**	**2.40**	**355**	*ePN*	**Pn**	**00 43 04.8**	**-0.8**
ALN				*eSN*	**Sn**	**00 43 33.8**	**-0.8**
ALN	**Alexandroupoli**	**2.40**	**355**	P	**Pn**	**00 43 04.9**	**-0.7**
ALN				S	**Sn**	**00 43 33.8**	**-0.8**
KHAL	**Karahalli**	**2.47**	**92**	*i*P	**Pn**	**00 43 06.6**	**-0.1**
KHAL	**Karahalli**	**2.47**	**92**	*i*P	**Pn**	**00 43 06.6**	**-0.1**
SMIA	**Simia**	**2.48**	**280**	P	**Pn**	**00 43 06.5**	**-0.3**
SMIA	**Simia**	**2.48**	**280**	P	**Pn**	**00 43 06.5**	**-0.3**
DALY	**Dalyan (Mu¨la**	**2.49**	**132**	*ePN*	**Pn**	**00 43 06.1**	**-0.7**
DALY	**Dalyan (Mu¨la**	**2.49**	**132**	*ePn*	**Pn**	**00 43 06.1**	**-0.7**
KHL	**Karahalli**	**2.50**	**93**	*ePN*	**Pn**	**00 43 06.9**	**-0.2**
KHL	**Karahalli**	**2.50**	**93**	*ePn*	**Pn**	**00 43 06.9**	**-0.2**
ORLT	**Orhaneli**	**2.50**	**51**	*ePN*	**Pn**	**00 43 07.7**	**+0.6**
ORLT	**Orhaneli**	**2.50**	**51**	*ePn*	**Pn**	**00 43 07.7**	**+0.6**
PAIG	**Paliouri**	**2.51**	**305**	P	**Pn**	**00 43 06.2**	**-0.8**
PAIG				S	**Sn**	**00 43 36.8**	**-0.7**
PAIG	**Paliouri**	**2.51**	**305**	*ePN*	**Pn**	**00 43 06.3**	**-0.8**
PAIG				*eSN*	**Sn**	**00 43 36.7**	**-0.7**
PAIG	**Paliouri**	**2.51**	**305**	*ePn*	**Pn**	**00 43 06.3**	**-0.8**
PAIG				*eSn*	**Sn**	**00 43 36.7**	**-0.7**
NEO	**Neokhori**	**2.56**	**289**	P	**Pn**	**00 43 06.9**	**-1.0**
NEO				S	**Sn**	**00 43 38.2**	**-0.6**
NEO	**Neokhori**	**2.56**	**289**	*ePN*	**Pn**	**00 43 07.1**	**-0.8**
NEO				*eSN*	**Sn**	**00 43 38.5**	**-0.3**
NEO	**Neokhori**	**2.56**	**289**	*ePn*	**Pn**	**00 43 07.1**	**-0.8**
NEO				S	**Sn**	**00 43 38.2**	**-0.6**
OUR	**Ouranopolis**	**2.59**	**316**	P	**Pn**	**00 43 07.6**	**-0.5**
OUR				S	**Sn**	**00 43 36.4**	**-2.9**
OUR	**Ouranopolis**	**2.59**	**316**	P	**Pn**	**00 43 07.6**	**-0.5**
OUR				S	**Sn**	**00 43 36.4**	**-2.9**
XOR	**Xorichti**	**2.61**	**290**	P	**Pn**	**00 43 07.6**	**-0.9**
XOR	**Xorichti**	**2.61**	**290**	P	**Pn**	**00 43 07.6**	**-0.9**
LKR	**Lokris**	**2.63**	**274**	*ePN*	**Pn**	**00 43 07.9**	**-0.8**
LKR				*eSN*	**Sn**	**00 43 39.4**	**-0.9**
LKR	**Lokris**	**2.63**	**274**	*ePn*	**Pn**	**00 43 07.9**	**-0.8**
LKR				*eSn*	**Sn**	**00 43 39.4**	**-0.9**
TKR	**Tekirdag**	**2.64**	**20**	*ePN*	**Pn**	**00 43 08.9**	**0.0**
TKR	**Tekirdag**	**2.64**	**20**	*ePn*	**Pn**	**00 43 08.9**	**0.0**
DID	**Didima**	**2.65**	**249**	P	**Pn**	**00 43 08.3**	**-0.8**
DID				S	**Sn**	**00 43 39.7**	**-1.3**
DID	**Didima**	**2.65**	**249**	*ePN*	**Pn**	**00 43 08.1**	**-1.0**
DID				*eSN*	**Sn**	**00 43 40.2**	**-0.8**
DID	**Didima**	**2.65**	**249**	P	**Pn**	**00 43 08.3**	**-0.8**
DID				S	**Sn**	**00 43 39.7**	**-1.3**
DID				*eSn*	**Sn**	**00 43 40.2**	**-0.8**
DIDY	**Didyma**	**2.68**	**248**	P	**Pn**	**00 43 08.6**	**-1.0**
DIDY				S	**Sn**	**00 43 41.7**	**-0.1**
DIDY	**Didyma**	**2.68**	**248**	P	**Pn**	**00 43 08.6**	**-1.0**
DIDY				S	**Sn**	**00 43 41.7**	**-0.1**
ARG	**Arkhangelos**	**2.69**	**148**	P	**Pn**	**00 43 09.0**	**-0.6**
ARG	**Arkhangelos**	**2.69**	**148**	*ePN*	**Pn**	**00 43 09.0**	**-0.6**
ARG				*eSN*	**Sn**	**00 43 40.8**	**-1.1**
ARG	**Arkhangelos**	**2.69**	**148**	P	**Pn**	**00 43 09.0**	**-0.6**
ARG				*eSn*	**Sn**	**00 43 40.8**	**-1.1**
MDNY	**Mudanya-Bursa**	**2.70**	**46**	*ePN*	**Pn**	**00 43 09.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.70**	**46**	*ePn*	**Pn**	**00 43 09.8**	**+0.1**
LTK	**Loutraki**	**2.71**	**261**	P	**Pn**	**00 43 09.2**	**-0.6**
LTK				S	**Sn**	**00 43 42.7**	**+0.5**
LTK	**Loutraki**	**2.71**	**261**	*ePN*	**Pn**	**00 43 09.4**	**-0.4**
LTK				*eSN*	**Sn**	**00 43 41.2**	**-1.0**
LTK	**Loutraki**	**2.71**	**261**	P	**Pn**	**00 43 09.2**	**-0.6**
LTK				*eSn*	**Sn**	**00 43 41.2**	**-1.0**
LTK				S	**Sn**	**00 43 42.7**	**+0.5**
ACOR	**Acrocorinthos**	**2.81**	**258**	P	**Pn**	**00 43 10.1**	**-1.1**
ACOR	**Acrocorinthos**	**2.81**	**258**	P	**Pn**	**00 43 10.1**	**-1.1**
ARMT	**Armutlu**	**2.83**	**43**	*ePN*	**Pn**	**00 43 12.0**	**+0.5**
ARMT	**Armutlu**	**2.83**	**43**	*ePn*	**Pn**	**00 43 12.0**	**+0.5**
KAVA	**Kavala**	**2.86**	**331**	P	**Pn**	**00 43 11.0**	**-0.9**
KAVA				S	**Sn**	**00 43 42.7**	**-3.3**
KAVA	**Kavala**	**2.86**	**331**	P	**Pn**	**00 43 11.0**	**-0.9**
KAVA				S	**Sn**	**00 43 42.7**	**-3.3**
FETY	**Fethiye**	**2.87**	**130**	*ePN*	**Pn**	**00 43 12.0**	**0.0**
FETY	**Fethiye**	**2.87**	**130**	*ePn*	**Pn**	**00 43 12.0**	**0.0**
AXAR	**Agios Charalam**	**2.90**	**276**	P	**Pn**	**00 43 10.7**	**-1.8**
AXAR	**Agios Charalam**	**2.90**	**276**	P	**Pn**	**00 43 10.7**	**-1.8**
PLG	**Polygyros**	**2.92**	**311**	P	**Pn**	**00 43 12.2**	**-0.6**
PLG	**Polygyros**	**2.92**	**311**	*ePN*	**Pn**	**00 43 12.1**	**-0.7**
PLG				*eSN*	**Sn**	**00 43 45.5**	**-2.1**
PLG	**Polygyros**	**2.92**	**311**	P	**Pn**	**00 43 12.2**	**-0.6**
PLG				*eSn*	**Sn**	**00 43 45.5**	**-2.1**
DSF	**Desfina**	**3.00**	**269**	P	**Pn**	**00 43 13.1**	**-0.8**
DSF	**Desfina**	**3.00**	**269**	P	**Pn**	**00 43 13.1**	**-0.8**
KARP	**Karpathos**	**3.03**	**167**	P	**Pn**	**00 43 13.1**	**-1.1**
KARP	**Karpathos**	**3.03**	**167**	*ePN*	**Pn**	**00 43 13.1**	**-1.1**
KARP				*eSN*	**Sn**	**00 43 49.1**	**-1.1**
KARP	**Karpathos**	**3.03**	**167**	P	**Pn**	**00 43 13.1**	**-1.1**
KARP				*eSn*	**Sn**	**00 43 49.1**	**-1.1**
SLVT	**Silivri**	**3.07**	**27**	*ePN*	**Pn**	**00 43 14.1**	**-0.7**
SLVT	**Silivri**	**3.07**	**27**	*ePn*	**Pn**	**00 43 14.1**	**-0.7**
YLV	**Yalova**	**3.11**	**48**	*ePN*	**Pn**	**00 43 16.1**	**+0.6**
YLV	**Yalova**	**3.11**	**48**	*ePn*	**Pn**	**00 43 16.1**	**+0.6**
AGG	**Agios Georgios**	**3.18**	**281**	P	**Pn**	**00 43 15.6**	**-0.8**
AGG	**Agios Georgios**	**3.18**	**281**	*ePN*	**Pn**	**00 43 15.7**	**-0.7**
AGG	**Agios

GPA	Golpazari	3.55	59	*e*PN	Pn	00 43 21.7 +0.3
GPA	Golpazari	3.55	59	*e*Pn	Pn	00 43 21.7 +0.3
EVR	Evrytania	3.57	278	P	Pn	00 43 22.1 +0.3
EVR	Evrytania	3.57	278	*e*PN	Pn	00 43 21.8 0.0
EVR	Evrytania	3.57	278	*e*Pn	Pn	00 43 21.8 0.0
EVR	Evrytania	3.57	278	P	Pn	00 43 22.1 +0.3
ANKY	Antikythira Is	3.59	224	P	Pn	00 43 20.3 -1.6
ANKY	Antikythira Is	3.59	224	*e*PN	Pn	00 43 21.3 -0.6
ANKY	Antikythira Is	3.59	224	P	Pn	00 43 20.3 -1.6
ANKY	Antikythira Is	3.59	224	*e*Pn	Pn	00 43 21.3 -0.6
BOLV	Bolvadin	3.61	85	*i* P	Pn	00 43 23.0 +0.6
BOLV	Bolvadin	3.61	85	*i* P	Pn	00 43 23.0 +0.6
DYR	Agios Nikonas	3.63	243	P	Pn	00 43 22.8 +0.2
DYR	Agios Nikonas	3.63	243	*e*PN	Pn	00 43 22.2 -0.3
DYR				*e*SN	Sn	00 44 04.0 -1.1
DYR	Agios Nikonas	3.63	243	*e*Pn	Pn	00 43 22.2 -0.3
DYR	Agios Nikonas	3.63	243	P	Pn	00 43 22.8 +0.2
DYR				*e*Sn	Sn	00 44 04.0 -1.1
ESKT	Eskisehir	3.65	73	*e*PN	Pn	00 43 23.2 +0.3
ESKT	Eskisehir	3.65	73	*e*Pn	Pn	00 43 23.2 +0.3
KARN	Karanos	3.66	213	P	Pn	00 43 21.4 -1.5
KARN				S	Sn	00 44 05.9 +0.1
KARN	Karanos	3.66	213	*e*PN	Pn	00 43 22.2 -0.7
KARN				*e*SN	Sn	00 44 04.5 -1.3
KARN	Karanos	3.66	213	P	Pn	00 43 21.4 -1.5
KARN	Karanos	3.66	213	*e*Pn	Pn	00 43 22.2 -0.7
KARN				*e*Sn	Sn	00 44 04.5 -1.3
KARN				S	Sn	00 44 05.9 +0.1
SILT	Sile	3.66	43	*e*PN	Pn	00 43 23.5 +0.6
SILT	Sile	3.66	43	*e*Pn	Pn	00 43 23.5 +0.6
SIVA	Sivas	3.70	200	P	Pn	00 43 24.1 +0.7
SIVA	Sivas	3.70	200	*e*PN	Pn	00 43 22.6 -0.8
SIVA				*e*SN	Sn	00 44 04.9 -1.7
SIVA	Sivas	3.70	200	*e*Pn	Pn	00 43 22.6 -0.8
SIVA	Sivas	3.70	200	P	Pn	00 43 24.1 +0.7
SIVA				*e*Sn	Sn	00 44 04.9 -1.7
ITM	Ithomi	3.74	251	P	Pn	00 43 24.7 +0.6
ITM	Ithomi	3.74	251	*e*PN	Pn	00 43 23.6 -0.5
ITM				*e*SN	Sn	00 44 06.9 -0.9
ITM	Ithomi	3.74	251	*e*Pn	Pn	00 43 23.6 -0.5
ITM	Ithomi	3.74	251	P	Pn	00 43 24.7 +0.6
ITM				*e*Sn	Sn	00 44 06.9 -0.9
KNT	Kendrikon	3.75	316	P	Pn	00 43 24.5 +0.3
KNT	Kendrikon	3.75	316	P	Pn	00 43 24.5 +0.3
GULT	Gulveren	3.75	58	*e*PN	Pn	00 43 25.1 +0.8
GULT	Gulveren	3.75	58	*e*Pn	Pn	00 43 25.1 +0.8
SPNC	Sapanca-Adapaz	3.75	53	*e*PN	Pn	00 43 24.4 +0.3
SPNC	Sapanca-Adapaz	3.75	53	*e*Pn	Pn	00 43 24.5 +0.3
AMT	Artemida-Makis	3.79	257	P	Pn	00 43 25.8 +1.1
AMT	Artemida-Makis	3.79	257	*e*PN	Pn	00 43 24.2 -0.5
AMT				*e*SN	Sn	00 44 07.7 -1.4
AMT	Artemida-Makis	3.79	257	*e*Pn	Pn	00 43 24.2 -0.5
AMT	Artemida-Makis	3.79	257	P	Pn	00 43 25.8 +1.1
AMT				*e*Sn	Sn	00 44 07.7 -1.4
PLD	Plovdiv	3.81	341	P	Pn	00 43 25.1 +0.2
PLD				S	Sn	00 44 07.2 -2.2
PLD	Plovdiv	3.81	341	P	Pn	00 43 25.1 +0.2
PLD				S	Sn	00 44 07.2 -2.2
SUTC	Sutluce-Ispart	3.82	104	*e*PN	Pn	00 43 25.4 +0.2
SUTC	Sutluce-Ispart	3.82	104	*e*Pn	Pn	00 43 25.4 +0.2
RLS	Riolos of Patr	3.87	265	P	Pn	00 43 26.2 +0.5
RLS	Riolos of Patr	3.87	265	*e*PN	Pn	00 43 26.1 +0.4
RLS				*e*SN	Sn	00 44 08.9 -2.0
RLS	Riolos of Patr	3.87	265	*e*Pn	Pn	00 43 26.1 +0.4
RLS				*e*Sn	Sn	00 44 08.9 -2.0
GRG	Griva	3.90	310	P	Pn	00 43 26.9 +0.6
GRG				S	Sn	00 44 10.0 -1.8
GRG	Griva	3.90	310	*e*PN	Pn	00 43 26.6 +0.3
GRG				*e*SN	Sn	00 44 10.2 -1.6
GRG	Griva	3.90	310	*e*Pn	Pn	00 43 26.6 +0.3
GRG	Griva	3.90	310	P	Pn	00 43 26.9 +0.6
GRG				*e*Sn	Sn	00 44 10.2 -1.6
AXS	Araxos	3.92	267	P	Pn	00 43 26.9 +0.4
AXS	Araxos	3.92	267	P	Pn	00 43 26.9 +0.4
JMB	Yambol	3.96	3	P	Pn	00 43 26.6 -0.4
JMB				S	Sn	00 44 10.7 -2.4
JMB	Yambol	3.96	3	P	Pn	00 43 26.6 -0.4
JMB				S	Sn	00 44 10.7 -2.4
KZN	Kozani	3.97	298	P	Pn	00 43 27.5 +0.2
KZN	Kozani	3.97	298	*e*PN	Pn	00 43 27.2 -0.1
KZN	Kozani	3.97	298	*e*Pn	Pn	00 43 27.2 -0.1
KZN	Kozani	3.97	298	P	Pn	00 43 27.5 +0.2
PYL	PYLOS	3.99	248	*e*PN	Pn	00 43 27.7 +0.2
PYL	PYLOS	3.99	248	*e*Pn	Pn	00 43 27.7 +0.2
VAY	Valandovo	4.04	315	P	Pn	00 43 28.1 0.0
VAY	Valandovo	4.04	315	*e*PN	Pn	00 43 28.3 +0.2
VAY	Valandovo	4.04	315	P	Pn	00 43 28.1 0.0
SVRH	Sivrihisar-ESK	4.14	75	*e*PN	Pn	00 43 30.4 +0.8
SVRH	Sivrihisar-ESK	4.14	75	*e*Pn	Pn	00 43 30.4 +0.8
MDUB	Mudurnu	4.23	61	*e*PN	Pn	00 43 31.9 +1.0
MDUB	Mudurnu	4.23	61	*e*Pn	Pn	00 43 31.9 +1.0
KIZT	Kizilcal	4.34	83	*e*PN	Pn	00 43 33.4 +1.0
KIZT	Kizilcal	4.34	83	*e*Pn	Pn	00 43 33.4 +1.0
KFL	Anninata	4.39	267	P	Pn	00 43 35.4 +2.4
KFL	Anninata	4.39	267	P	Pn	00 43 35.4 +2.4
JAN	Janina	4.43	287	*e*PN	Pn	00 43 33.0 -0.5
JAN	Janina	4.43	287	*e*Pn	Pn	00 43 33.0 -0.5
FNA	Florina	4.46	302	P	Pn	00 43 34.5 +0.5
FNA	Florina	4.46	302	*e*PN	Pn	00 43 34.3 +0.3
FNA	Florina	4.46	302	*e*Pn	Pn	00 43 34.3 +0.3
LKD2	Lefkada island	4.46	275	P	Pn	00 43 36.8 +2.8
LKD2	Lefkada island	4.46	275	*e*PN	Pn	00 43 34.3 +0.3
LKD2	Lefkada island	4.46	275	P	Pn	00 43 36.8 +2.8
NEST	Nestorio	4.52	297	P	Pn	00 43 35.9 +1.0
NEST	Nestorio	4.52	297	P	Pn	00 43 35.9 +1.0
VLS	Valsamata	4.54	268	P	Pn	00 43 36.7 +1.7
VLS	Valsamata	4.54	268	*e*PN	Pn	00 43 36.1 +1.1
VLS	Valsamata	4.54	268	P	Pn	00 43 36.7 +1.7
VTS	Vitosha	4.73	331	P	Pn	00 43 38.4 +0.7
VTS				S	Sn	00 44 29.6 -2.7
VTS	Vitosha	4.73	331	⇑*i*P	Pn	00 43 38.4 +0.7
VTS	Vitosha	4.73	331	P	Pn	00 43 38.4 +0.7
VTS				S	Sn	00 44 29.6 -2.7
LADK	Ladik-KONYA	4.74	92	*e*PN	Pn	00 43 38.7 +0.8
LADK	Ladik-KONYA	4.74	92	*e*Pn	Pn	00 43 38.7 +0.8
KONT	Konya--Tatoy	4.77	95	*e*PN	Pn	00 43 39.5 +1.3
KONT	Konya--Tatoy	4.77	95	*e*Pn	Pn	00 43 39.5 +1.3
KBN	Korca	4.79	298	P	Pn	00 43 38.4 -0.1
KBN	Korca	4.79	298	P	Pn	00 43 38.4 -0.1
IGT	Igoumenitsa	4.79	284	P	Pn	00 43 40.0 +1.5
IGT	Igoumenitsa	4.79	284	P	Pn	00 43 40.0 +1.5
HDMB	Hadim	5.10	106	*e*PN	Pn	00 43 43.4 +0.4
HDMB	Hadim	5.10	106	*e*Pn	Pn	00 43 43.4 +0.4
SRN	Sarande	5.12	288	P	Pn	00 43 45.7 +2.8
SRN	Sarande	5.12	288	P	Pn	00 43 45.7 +2.8
ANTO	Ankara	5.19	73	⇓*i*P	Pg	00 44 04.3 -2.0
ANTO	Ankara	5.19	73	S	Sg	00 45 16.0 +2.5
ZIMR		5.20	352	⇓*i*P	Pn	00 43 43.3 -0.7
KEK	Kerkira	5.23	285	P	Pn	00 43 46.6 +2.0
KEK	Kerkira	5.23	285	*e*PN	Pn	00 43 44.4 -0.1
KEK	Kerkira	5.23	285	P	Pn	00 43 46.6 +2.0
BARS	Barje	5.51	323	⇑*i*Pn	Pn	00 43 49.0 +0.6
PHP	Peshkopia	5.53	307	P	Pn	00 43 49.5 +0.8
PHP	Peshkopia	5.53	307	P	Pn	00 43 49.5 +0.8
MANR	Mangalia	5.57	17	⇑*i*P	Pn	00 43 48.7 -0.4
MANR	Mangalia	5.57	17	⇑*i*P	Pn	00 43 48.7 -0.4
SAFT	Safranbolu	5.59	59	*e*PN	Pn	00 43 51.2 +1.8
SAFT	Safranbolu	5.59	59	*e*Pn	Pn	00 43 51.2 +1.8
SULT	Sultanhani-AKS	5.64	91	*e*PN	Pn	00 43 51.5 +1.2
SULT	Sultanhani-AKS	5.64	91	*e*Pn	Pn	00 43 51.5 +1.2
BRTR	Keskin Array B	5.80	76	Pn	Pn	00 43 53.2 +0.8
	1.7nm,0.3s,baz=255,slow=14,SNR=100					
BRTR				Sn	Sn	00 44 55.4 -3.4
	0.2nm,0.3s,baz=269,slow=18,SNR=2.1					
BRTR				Lg	Lg	00 45 34.1
	0.4nm,0.3s,baz=254,slow=25,SNR=7.7					
CVD	Cernavoda	5.94	12	⇑*i*P	Pn	00 43 54.6 +0.4
CVD	Cernavoda	5.94	12	⇑*i*P	Pn	00 43 54.6 +0.4
AMRR	Amara	6.14	7	⇓*i*P	Pn	00 43 56.7 -0.3
AMRR	Amara	6.14	7	⇓*i*P	Pn	00 43 56.7 -0.3
TIRR	Tirgusor	6.14	14	⇓*i*P	Pn	00 43 56.1 -0.9
TIRR	Tirgusor	6.14	14	⇓*i*P	Pn	00 43 56.1 -0.9
BOLS	Boljevac	6.26	329	*e*Pn	Pn	00 43 57.5 -1.2
SECR		6.53	358	⇓*i*P	Pn	00 44 02.7 +0.4
SECR		6.53	358	⇓*i*P	Pn	00 44 02.7 +0.4
ISR	Istrita	6.61	1	⇑*i*P	Pn	00 44 03.7 +0.2
ISR	Istrita	6.61	1	⇑*i*P	Pn	00 44 03.7 +0.2
CSS	Prodhromos	6.63	120	P	Pn	00 44 01.7 -2.0
CSS				S	Sn	00 45 17.8 -1.2
CSS	Prodhromos	6.63	120	P	Pn	00 44 01.7 -2.0
CSS				S	Sn	00 45 17.8 -1.2
GRUS	Gruza	6.85	323	*e*Pn	Pn	00 44 07.1 +0.4
GRER		6.88	4	⇓*i*P	Pn	00 44 07.8 +0.6
GRER		6.88	4	⇓*i*P	Pn	00 44 07.8 +0.6
TLCR		6.92	15	⇓*i*P	Pn	00 44 07.0 -0.7
TLCR		6.92	15	⇓*i*P	Pn	00 44 07.0 -0.7
MLR	Muntele Rosu	6.99	358	⇓*i*P	Pn	00 44 09.2 +0.5
MLR	Muntele Rosu	6.99	358	Pn	Pn	00 44 08.9 +0.2
	0.7nm,0.3s,baz=211,slow=3.8,SNR=99					
MLR				Sn	Sn	00 45 26.0 -1.9
	0.3nm,0.3s,baz=155,slow=17,SNR=1.5					
MLR				Lg	Lg	00 46 13.3
	0.1nm,0.3s,baz=214,slow=15,SNR=1.6					
MLR	Muntele Rosu	6.99	358	⇓*i*P	Pn	00 44 09.2 +0.5
VOIR		6.99	352	⇓*i*P	Pn	00 44 08.4 -0.3
VOIR		6.99	352	⇓*i*P	Pn	00 44 08.4 -0.3
LOT	Lotru	7.20	345	⇓*i*P	Pn	00 44 10.9 -0.7
LOT	Lotru	7.20	345	⇓*i*P	Pn	00 44 10.9 -0.7
PETR	Petresti	7.24	5	⇓*i*P	Pn	00 44 12.2 +0.2
PETR	Petresti	7.24	5	⇓*i*P	Pn	00 44 12.2 +0.2
ODBI	Odobesti	7.27	4	⇑*i*P	Pn	00 44 13.4 +0.9
ODBI	Odobesti	7.27	4	⇑*i*P	Pn	00 44 13.4 +0.9
PLOR	Plostina	7.34	2	⇓*i*P	Pn	00 44 13.9 +0.4
PLOR	Plostina	7.34	2	⇓*i*P	Pn	00 44 13.9 +0.4
DIVS	Divibare	7.35	321	P	Pn	00 44 13.8 +0.1
DIVS	Divibare	7.35	321	P	Pn	00 44 13.8 +0.1
VRI	Vrincioaia	7.36	2	⇓*i*P	Pn	00 44 14.8 +1.1
VRI	Vrincioaia	7.36	2	⇓*i*P	Pn	00 44 14.8 +1.1
GZR	Gura Zlata	7.38	340	⇑*i*P	Pn	00 44 13.0 -1.0
GZR	Gura Zlata	7.38	340	⇑*i*P	Pn	00 44 13.0 -1.0
GHRR		7.59	6	⇓*i*P	Pn	00 44 16.7 -0.1
GHRR		7.59	6	⇓*i*P	Pn	00 44 16.7 -0.1
MDB	Medias	7.77	350	⇓*i*P	Pn	00 44 20.7 +1.4
MDB	Medias	7.77	350	⇓*i*P	Pn	00 44 20.7 +1.4
DEV	Deva	7.80	342	⇓*i*P	Pn	00 44 20.5 +0.7
DEV	Deva	7.80	342	⇓*i*P	Pn	00 44 20.5 +0.7
BZS	Buzias	7.93	335	⇑*i*P	Pn	00 44 21.0 -0.5
BZS	Buzias	7.93	335	⇑*i*P	Pn	00 44 21.0 -0.5
TESR	Tescani	8.00	1	⇑*i*P	Pn	00 44 22.4 -0.1
TESR	Tescani	8.00	1	⇑*i*P	Pn	00 44 22.4 -0.1
LEOM	Leova	8.08	9	⇓*i*P	Pn	00 44 23.4 -0.2
LEOM	Leova	8.08	9	⇓*i*P	Pn	00 44 23.4 -0.2
DRGR		8.70	343	⇓*i*P	Pn	00 44 31.5 -0.7
DRGR		8.70	343	⇓*i*P	Pn	00 44 31.5 -0.7
BURAR	Bucovina Array	9.14	355	⇓*i*P	Pn	00 44 39.5 +1.3
BURAR	Bucovina Array	9.14	355	⇓*i*P	Pn	00 44 39.5 +1.3
MMAI	Mount Meron Ar	9.17	124	Pn	Pn	00 44 37.5 -1.2
	2.4nm,0.3s,baz=311,slow=12,SNR=28					
MMAI				Sn	Sn	00 46 14.0 -7.7
	4.0nm,0.3s,baz=301,slow=25,SNR=10					
PKSM	Moragy	9.58	326	⇑*i*P	Pn	00 44 43.8 -0.3
PKSM	Moragy	9.58	326	⇑*i*P	Pn	00 44 43.8 -0.3
ASF	Jabal al Asfar	10.68	123	Pn	Pn	00 45 00.1 +0.7
	0.2nm,0.3s,baz=247,slow=7.3,SNR=3.0					
ASF				Sn	Sn	00 46 55.6 -3.1
	0.1nm,0.3s,baz=182,slow=7.2,SNR=3.3					
CRVS	Cervenica-Dubn	10.97	343	*e*PN	Pn	00 44 59.0 -4.2
CRVS				*e*		00 45 10.1
EIL	Elat	11.33	139	Pn	Pn	00 45 10.6 +2.4
	0.5nm,0.3s,baz=332,slow=15,SNR=5.2					
EIL				Sn	Sn	00 47 03.5 -11
	0.3nm,0.3s,baz=45,slow=20,SNR=3.0					
VYHS	Vyhne	11.37	334	*e*PN	Pn	00 45 04.1 -4.5
VYHS				*e*		00 45 08.4
AKASG	Malin Array Be	12.36	9	Pn	Pn	00 45 20.5 -1.7
	0.9nm,0.3s,baz=198,slow=11,SNR=3.0					
GERES	GERESS Array B	13.78	323	Pn	P	00 45 49.1 -1.1
	0.0nm,0.3s,baz=133,slow=9.6,SNR=5.3					
FINES	FINESS Array B	22.96	360	P	P	00 47 31.6 +1.2
	2.5nm,0.8s,baz=180,slow=14,SNR=4.8					
HFS	Hagfors	23.08	344	P	P	00 47 33.9 +2.2
	3.3nm,1.0s,baz=177,slow=10,SNR=2.6					
ESDC	Sonseca Array	23.51	282	P	P	00 47 37.2 +1.1
	0.5nm,0.6s,baz=80,slow=10.0,SNR=7.7					
AKTO	Aktyubinsk	25.35	52	P	P	00 47 56.6 +3.6
	0.4nm,0.3s,baz=249,slow=6.3,SNR=4.0					
EKA	Eskdalemuir Ar	25.97	320	P	P	00 48 02.4 +3.8
	0.6nm,0.6s,baz=113,slow=10,SNR=3.0					
TORD	Torodi Ar. Bea	33.41	228	P	P	00 49 04.8 -0.2
	0.4nm,0.6s,baz=36,slow=9.4,SNR=5.4					
MKAR	Makanchi Array	41.20	60	P	P	00 50 13.7 +2.9
	0.4nm,0.8s,baz=280,slow=6.3,SNR=5.1					
ZALV	Zalesovo Beam	42.04	49	P	P	00 50 20.7 +3.1
	0.5nm,0.5s,baz=269,slow=9.6,SNR=2.9					
CMAR	Chiang Mai Arr	65.30	86	P	P	00 53 10.9 +2.4
	0.7nm,0.2s,baz=308,slow=8.4,SNR=5.5					

IDC ***30*** *00:42:48.7±0.7, 11°.33N×142°.98E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.1/27, mbtmp4.1/14, MS3.2/5, Ms1 3.2/5, ms1mx2.8/36, Error ellipse: s-maj=25.0km s-min=17.0km az=70.0*

ISCJB ***30*** *00:42:51.4±0.5, 11°.28N±0°.07×142°.94E±0°.08, h32km, mb4.2/16, MS3.1/5, Error ellipse: s-maj=13.0km s-min=7.9km az=30.7*

NEIC ***30*** *00:42:53.6±0.4, 11°.31N×143°.01E, h35km, mb4.4/2, Error ellipse: s-maj=13.4km s-min=9.0km az=103.0*

ISC 30 00:42:53.3±0.6, 11°.31N±0°.09×143°.0E±0°.1, h32km, n40, σ0s86/38, mb4.2/16, MS3.1/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.94	39	*e*Pn	Pn	00 43 36.3	-1.5
GUMO				*e*Sn	Sn	00 44 12.9	+0.8
PMG	Port Moresby	21.00	168	LR	LR	00 53 55.5	
	comp=Z,78nm,21.1s,baz=34,slow=32						
JNU	Nakatsue	24.38	335	*e*P	P	00 48 07.7	-1.1
MJAR	Matsushiro Arr	25.49	351	LR	LR	00 57 18.6	
	comp=Z,36nm,20.1s,baz=215,slow=34						
KSRS	Korea Array	29.33	335	LR	LR	01 00 25.3	
	comp=Z,27nm,18.1s,baz=140,slow=36						
WRAB	Tennant Creek	32.18	195	*e*P	P	00 49 18.0	-0.5
WRA	Warramunga Arr	32.19	195	P	P	00 49 18.1	-0.6
WRA	Warramunga Arr	32.19	195	P	P	00 49 18.1	-0.6
	1.6nm,0.8s,baz=16,slow=9.3,SNR=5.3						
WRA				LR	LR	01 02 10.7	
	comp=Z,75nm,18.9s,baz=285,slow=36						
ASAR	Alice Springs	35.87	194	P	P	00 49 50.5	0.0
ASAR	Alice Springs	35.87	194	P	P	00 49 50.5	0.0
	0.6nm,0.7s,baz=15,slow=13,SNR=11						
DZM	Mont Dzumac	40.39	145	P	P	00 50 29.0	+2.2
	2.7nm,0.7s,baz=299,slow=13,SNR=4.5						
CM31	Chiang Mai Arr	43.04	285	*e*P	P	00 50 50.9	+0.4
CMAR	Chiang Mai Arr	43.04	285	P	P	00 50 52.0	+1.5
CMAR	Chiang Mai Arr	43.04	285	P	P	00 50 52.0	+1.5
	8.8nm,0.7s,baz=87,slow=6.4,SNR=43						
SONM	Songino Array	47.56	327	P	P	00 51 26.3	+0.2
SONM	Songino Array	47.56	327	P	P	00 51 26.3	+0.2
	0.5nm,0.7s,baz=139,slow=5.6,SNR=3.7						
SONM				LR	LR	01 12 46.6	
	comp=Z,46nm,18.5s,baz=356,slow=38						
NWAO	Narrogin (SRO)	50.37	208	*e*P	P	00 51 46.7	-0.9
MK31	Makanchi Array	61.85	317	*e*P	P	00 53 09.6	+0.1
MKAR	Makanchi Array	61.85	317	P	P	00 53 10.4	+0.8
MKAR	Makanchi Array	61.85	317	P	P	00 53 10.4	+0.8
	2.5nm,0.9s,baz=99,slow=7.9,SNR=17						
ZALV	Zalesovo Beam	62.41	325	P	P	00 53 12.6	-0.5
ZALV	Zalesovo Beam	62.41	325	P	P	00 53 12.6	-0.5
	1.3nm,0.7s,baz=108,slow=7.4,SNR=5.0						
BVAR	Borovoye Array	70.56	322	P	P	00 54 05.9	+0.6
BVAR	Borovoye Array	70.56	322	P	P	00 54 05.9	+0.6
	3.5nm,0.6s,baz=103,slow=8.9,SNR=14						
BRVK	Borovoye	70.63	322	*e*P	P	00 54 05.8	+0.1
	3.4nm,0.6s						
ILAR	Eielson Array	71.42	25	P	P	00 54 09.7	-0.6
ILAR	Eielson Array	71.42	25	P	P	00 54 09.7	-0.6
	0.5nm,0.5s,baz=247,slow=5.4,SNR=6.3						
ABKAR	Akbulak array	76.98	318	*e*P	P	00 54 42.9	-0.1
	2.7nm,0.8s						
AKTO	Aktyubinsk	78.16	319	P	P	00 54 49.0	-0.6
AKTO	Aktyubinsk	78.16	319	P	P	00 54 49.0	-0.6
	0.5nm,0.3s,baz=97,slow=12,SNR=3.8						
YKA	Yellowknife Ar	85.73	27	P	P	00 55 29.6	+0.5
YKA	Yellowknife Ar	85.73	27	P	P	00 55 29.6	+0.5
	0.5nm,0.6s,baz=284,slow=5.3,SNR=3.4						
ARCES	ARCESS Array B	88.66	342	P	P	00 55 42.8	-0.3
ARCES	ARCESS Array B	88.66	342	P	P	00 55 42.8	-0.3
	2.8nm,0.9s,baz=69,slow=5.9,SNR=5.4						
NVAR	Mina Array Bea	89.80	51	P	P	00 55 51.2	+1.8
NVAR	Mina Array Bea	89.80	51	P	P	00 55 51.2	+1.8
	1.9nm,0.7s,baz=264,slow=5.8,SNR=12						
FINES	FINESS Array B	92.42	335	P	P	00 55 59.3	-1.5
FINES	FINESS Array B	92.42	335	P	P	00 55 59.3	-1.5
	1.5nm,0.8s,baz=129,slow=7.6,SNR=4.3						
LPAZ	La Paz	149.43	103	PKPbc	PKPbc	01 02 41.4	+0.4
LPAZ	La Paz	149.43	103	PKPbc	PKPbc	01 02 41.4	+0.4
	1.0nm,0.6s,baz=252,slow=1.2,SNR=7.2						

MEX 30 00:47:41.9±0.3, 18°.14N×100°.61W, h60km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.96	102	*e*P	Pn	00 47 58.2	-1.4
MEIG				*i* S	Sn	00 48 10.8	-1.8
ZIIG	Zihuatanejo	0.97	237	*e*P	Pn	00 47 58.2	-1.4
ZIIG				*i* S	Sn	00 48 10.8	-1.9
PLIG	Platanillo	1.08	76	*e*P	Pn	00 47 59.6	-1.5
PLIG				*i* S	Sn	00 48 13.5	-1.9
CAIG	El Cayaco	1.13	163	*e*P	Pn	00 48 00.1	-1.5
CAIG				*i* S	Sn	00 48 14.2	-2.2
YAIG	Yautepec	1.63	63	*e*P	Pn	00 48 07.4	-1.1
YAIG				*i* S	Sn	00 48 26.1	-2.5
MZVM		1.67	51	*e*P	Pn	00 48 07.2	-1.7
MZVM				*i* S	Sn	00 48 26.6	-2.8
PPM	Popocatepetl	2.09	63	*e*P	Pn	00 48 13.6	-1.7
PPM				*i* S	Sn	00 48 38.8	-1.9

WEL 30 01:02:42.9±0.2, 37°.51S×176°.35E, h218km±2km, ML3.6/8, Error ellipse: s-maj=3.3km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.96	142	PN	Pn	01 03 14.2	0.0
URZ				SN	S	01 03 38.6	-0.1
MWZ	Matawai	1.25	132	PN	Pn	01 03 16.4	+0.2
MWZ				SN	S	01 03 42.0	-0.1
PUZ	Puketiti	1.61	111	PN	Pn	01 03 19.1	0.0
PUZ				SN	S	01 03 46.2	-1.1
PUZ				AML	AML	01 03 48.8	
KNZ	Kokohu	1.84	146	PN	Pn	01 03 21.3	+0.2
KNZ				SN	S	01 03 50.5	-0.4
BHHZ	Black Hill Sta	1.99	186	*e*PN	Pn	01 03 22.6	-0.1
MHGZ	Mahia Peninsul	2.05	144	*e*PN	Pn	01 03 23.2	0.0
KAHZ	Kahuranaki	2.32	170	*e*PN	Pn	01 03 26.1	+0.1
PNHZ	Pukenui	2.41	183	*e*PN	Pn	01 03 26.6	-0.3
TSZ	Takapari Road	2.57	187	*e*PN	Pn	01 03 28.2	-0.5
BFZ	Birch Farm	3.17	181	*e*PN	Pn	01 03 34.1	-1.3
MRZ	Mangatainoka R	3.21	191	PN	Pn	01 03 34.3	-1.5
MRZ				AML	AML	01 04 17.9	
MRZ				AML	AML	01 04 18.3	
TIWZ	Tintock	3.29	186	SN	S	01 04 16.7	-2.2
OGWZ	Otaki Gorge	3.43	195	PN	Pn	01 03 37.0	-1.4
HOWZ	Holdsworth Sta	3.45	191	*e*PN	Pn	01 03 37.0	-1.6
CAW	Cannon Point	3.73	195	*e*PN	Pn	01 03 40.1	-1.9
TCW	Tory Channel	4.04	203	PN	Pn	01 03

0.6nm,0.6s,baz=132,slow=7.8,SNR=3.5

*ISCJB **30** 02:20:17.2±0.4,36°.38N±0°.03×71°.01E±0°.06,h200km, mb3.5/15,Error ellipse: s-maj=6.8km s-min=3.4km az=154.9*
*IDC **30** 02:20:19.2±3.1,36°.32N×71°.21E,h219km±29km,mb3.4/15, mb1 3.5/18,mb1mx3.3/32,mbtmp3.4/18,Error ellipse: s-maj=18.5km s-min=12.4km az=9.0*
*NNC **30** 02:20:23.6±3.6,36°.80N×71°.05E,h209km±36km,mb3.4, mpv4.8,Error ellipse: s-maj=32.8km s-min=19.4km az=12.0*
ISC 30 02:20:18.6±0.5,36°.48N±0°.05×71°.12E±0°.07,h200km,n62, σ1§66/65,mb3.7/15,3C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.73**	**166**	⇓P	Pn	02 21 09.8	+4.5
CEP				S	**Sn**	**02 21 46.0**	**+4.3**
CHCP	**Chirah Chowk**	**3.32**	**147**	P	Pn	02 21 16.4	+4.2
THW	**Thamme Wali**	**3.72**	**172**	⇓P	Pn	02 21 20.7	+3.8
SARP	**Sargodha**	**4.73**	**164**	P	**Pn**	**02 21 32.4**	**+2.8**
DLH	**Dalhousie**	**5.61**	**133**	*e*P	**Pn**	**02 21 44.0**	**+2.9**
DLH				*e*S	**Sn**	**02 22 48.0**	**+1.8**
AML	**Almayashu** SNR=381	**5.98**	**19**	P	**Pn**	**02 21 47.9**	**+2.0**
UCH	**Uchtor** SNR=93	**6.31**	**24**	P	**Pn**	**02 21 52.5**	**+2.3**
KZA	**Kyzart** SNR=19	**6.44**	**29**	P	**Pn**	**02 21 53.5**	**+1.7**
EKS2	**Erkin-Say** SNR=90	**6.50**	**18**	P	**Pn**	**02 21 54.6**	**+2.2**
KK31	**Karatay Array** 20nm,0.5s,baz=175,slow=12,SNR=500	**6.63**	**356**	P	**Pn**	**02 21 56.0**	**+2.1**
KK31				⇑S	**Sn**	**02 23 07.9**	**-1.6**
AAK	**Ala-Archa** SNR=98	**6.67**	**22**	P	**Pn**	**02 21 57.0**	**+2.3**
AAK	**Ala-Archa** 37nm,0.3s,baz=189,slow=9.0,SNR=170	**6.67**	**22**	P	**Pn**	**02 21 56.9**	**+2.3**
AAK				S	**Sn**	**02 23 10.2**	**-0.6**
BHK	**Bhakra**	**6.70**	**137**	*e*S	**Sn**	**02 23 10.2**	**-1.2**
KBK	**Karagaybulak** SNR=43	**6.84**	**24**	P	Pn	02 21 59.3	+2.5
SDNR	**Sundarnagar**	**6.95**	**134**	*e*P	**Pn**	**02 21 59.0**	**+0.8**
SDNR				*e*S	**Sn**	**02 23 13.0**	**-4.3**
ULHL	**Ulahol** SNR=59	**6.99**	**33**	P	**Pn**	**02 22 00.5**	**+1.7**
CHMS	**Chumysh** SNR=18	**7.08**	**22**	P	**Pn**	**02 22 02.1**	**+2.3**
USP	**Ospenovka** SNR=64	**7.26**	**20**	P	**Pn**	**02 22 04.1**	**+2.0**
TKM2	**Tokmak 2** 56nm,0.5s	**7.30**	**27**	⇑P	**Pn**	**02 22 04.4**	**+1.6**
TKM2				⇓S	**Sn**	**02 23 25.1**	**-0.5**
TKM2	**Tokmak 2** SNR=135	**7.30**	**27**	P	**Pn**	**02 22 04.7**	**+1.9**
SMLA	**Simla**	**7.34**	**135**	*i* x	**Pn**	**02 22 04.9**	**+1.6**
SMLA				*i* 4	**Sn**	**02 23 24.1**	**-2.3**
KNDC	**Almaty**	**8.09**	**32**	P	**Pn**	**02 22 13.9**	**+1.0**
KHET	**Khetri**	**9.28**	**153**	*e*P	Pn	02 22 21.6	-6.9
KHET				*e*S	Sn	02 24 04.5	-8.0
KHET	comp=N,127nm,0.2s			AML	AML	02 24 08.9	
KHET	comp=E,172nm,0.3s			AML	AML	02 24 11.5	
NDI	**New Delhi**	**9.32**	**145**	*e*S	Sn	02 24 02.5	-11
AYAN	**Aya Nagar**	**9.45**	**146**	*e*P	**Pn**	**02 22 28.8**	**-2.0**
AYAN				*e*S	Sn	02 24 09.8	-6.8
SONA	**Sohna**	**9.63**	**147**	*e*P	**Pn**	**02 22 33.1**	**+0.1**
SONA				*e*S	Sn	02 24 13.9	-7.0
SONA	comp=E,43nm,0.2s			AML	AML	02 24 15.6	
SONA	comp=N,23nm,0.4s			AML	AML	02 24 15.7	
MKAR	**Makanchi Array** comp=N,3.1nm,0.3s,baz=205,slow=8.4,SNR=4.9	**13.25**	**36**	P	**Pn**	**02 23 19.5**	**+0.5**
MKAR	baz=229,slow=22,SNR=2.7			S	**Sn**	**02 25 49.4**	**+2.6**
DANN	**Dangsing** comp=N,29nm,0.2s	**13.40**	**124**	*e*P	**Pn**	**02 23 20.7**	**-0.7**
KOLN	**Koldanda** comp=N,24nm,0.3s	**13.68**	**126**	*e*P	**Pn**	**02 23 24.4**	**-0.4**
DMN	**Daman** comp=N,58nm,0.6s	**14.79**	**123**	*e*P	**Pn**	**02 23 37.7**	**-0.8**
KKN	**Kakani** comp=N,64nm,0.6s	**14.79**	**122**	*e*P	**Pn**	**02 23 38.2**	**-0.3**
PKIN	**Phulchoki** comp=N,22nm,0.2s	**15.01**	**122**	*e*P	**Pn**	**02 23 40.4**	**-0.7**
PKI	**Pulchoki** comp=N,33nm,0.4s	**15.02**	**122**	*e*P	**Pn**	**02 23 40.6**	**-0.8**
GUN	**Gumba** comp=N,45nm,0.4s	**15.13**	**120**	*e*P	**Pn**	**02 23 42.8**	**+0.1**
AB31	**Akbulak array** comp=N,1.0nm,0.3s,baz=144,slow=12,SNR=78	**15.14**	**331**	P	**P**	**02 23 42.7**	**-0.1**
JIRN	**Jiri** comp=N,86nm,0.4s	**15.50**	**120**	*e*P	**P**	**02 23 47.4**	**0.0**
RAMN	**Ramite** comp=N,32nm,0.3s	**16.23**	**121**	*e*P	**Pn**	**02 23 55.7**	**-0.2**
VOSK	**Vostochnaya** comp=N,1.9nm,0.3s	**16.24**	**360**	⇓P	**Pn**	**02 23 55.7**	**+0.1**
BVA0	**Borovoye Array** comp=N,2.2nm,0.3s,baz=147,slow=9.3,SNR=4.1	**16.55**	**358**	⇑P	**Pn**	**02 23 59.9**	**+0.7**
BVAR	**Borovoye Array** comp=N,3.5nm,0.3s,baz=157,slow=10,SNR=34	**16.55**	**358**	P	**Pn**	**02 23 59.5**	**+0.3**
BVAR	comp=N,0.2nm,0.3s,baz=168,slow=21,SNR=4.2			S	**S**	**02 26 59.1**	**-1.9**
TAPN	**Taplejung** comp=N,26nm,0.4s	**16.76**	**118**	*e*P	**Pn**	**02 24 02.9**	**+0.6**
ODAN	**Odare** comp=N,46nm,0.6s	**16.83**	**120**	*e*P	**Pn**	**02 24 03.4**	**+0.3**
AKTO	**Aktyubinsk** comp=N,15nm,0.7s	**16.84**	**330**	⇓P	**Pn**	**02 24 03.0**	**+0.2**
AKTO	**Aktyubinsk** comp=N,3.9nm,0.3s,baz=136,slow=11,SNR=52	**16.84**	**330**	P	**Pn**	**02 24 03.2**	**+0.5**
AKTO	comp=N,0.1nm,0.3s,baz=0.0,slow=20,SNR=3.2			S	**S**	**02 27 04.6**	**-2.3**
ZALV	**Zalesovo Beam** comp=N,12nm,0.3s,baz=214,slow=11,SNR=39	**19.89**	**24**	P	**P**	**02 24 34.3**	**-0.2**
SHL	**Shillong**	**20.82**	**116**	*ex*	**P**	**02 24 46.0**	**+1.1**
SONM	**Songing Array** comp=N,1.1nm,0.7s,baz=261,slow=9.6,SNR=7.3	**28.27**	**55**	P	**P**	**02 25 53.7**	**+0.5**
BRTR	**Keskin Array B** comp=N,0.2nm,0.4s,baz=125,slow=7.6,SNR=3.0	**29.53**	**288**	P	**P**	**02 26 05.7**	**+1.3**
CMAR	**Chiang Mai Arr** comp=N,0.6nm,0.3s,baz=303,slow=12,SNR=1.3	**30.37**	**119**	pP	pP	02 26 56.4	+3.8
MLR	**Muntele Rosu** comp=N,0.4nm,0.8s,baz=54,slow=14,SNR=5.0	**34.87**	**299**	P	**P**	**02 26 52.1**	**+1.2**
JOF	**Joensuu** comp=N,1.4nm,0.3s	**35.93**	**330**	*ep*	**P**	**02 27 00.7**	**+1.3**
FINES	**FINESS Array B** comp=N,1.2nm,0.7s,baz=118,slow=9.7,SNR=7.9	**37.55**	**326**	P	**P**	**02 27 13.4**	**+0.3**
ARCES	**ARCESS Array B** comp=N,3.5nm,0.8s,baz=110,slow=8.0,SNR=5.2	**41.20**	**338**	P	**P**	**02 27 43.5**	**+0.4**
HFS	**Hagfors** comp=N,0.8nm,0.8s,baz=105,slow=6.0,SNR=3.0	**43.14**	**322**	P	**P**	**02 27 58.8**	**-0.1**
NOA	**NORSAR Array B** comp=N,0.8nm,0.8s,baz=41,slow=9.3,SNR=3.1	**44.45**	**323**	P	**P**	**02 28 08.6**	**-0.9**
ESDC	**Konseca Array** comp=N,0.2nm,0.5s,baz=60,slow=7.0,SNR=4.0	**57.55**	**298**	P	**P**	**02 29 47.4**	**+0.2**
TORD	**Torodi Ar. Bea** comp=N,1.0nm,0.4s,baz=48,slow=5.8,SNR=28	**65.81**	**269**	P	**P**	**02 30 40.2**	**-2.5**
INK	**Inuvik** comp=N,0.4nm,0.5s,baz=343,slow=11,SNR=3.9	**73.91**	**9**	P	**P**	**02 31 30.8**	**-0.3**
BOSA	**Boshof** comp=N,1.9nm,0.8s,baz=41,slow=9.3,SNR=3.1	**77.79**	**220**	P	**P**	**02 31 52.4**	**-1.4**
YKA	**Yellowknife Ar** comp=N,0.4nm,0.6s,baz=351,slow=5.6,SNR=4.2	**81.26**	**3**	P	**P**	**02 32 11.2**	**-0.6**
WRA	**Warramunga Arr** comp=N,1.0nm,0.5s,baz=324,slow=4.9,SNR=38	**81.90**	**122**	P	**P**	**02 32 13.3**	**-2.6**
ASAR	**Alice Springs** comp=N,1.6nm,0.6s,baz=310,slow=5.0,SNR=24	**84.17**	**125**	P	**P**	**02 32 25.2**	**-2.2**

*IDC **30** 02:41:01.9±0.6,18°.21N×94°.12E,h0km,mb4.0/13, mb1 4.1/14,mb1mx3.9/30,mbtmp4.0/14,ML4.4/1,MS3.2/4, Ms1 3.3/4,ms1mx2.8/38,Error ellipse: s-maj=25.6km s-min=15.0km az=58.0*
*ISCJB **30** 02:41:04.9±0.4,18°.33N±0°.06×94°.22E±0°.05,h33km, mb4.1/20,MS3.2/3,Error ellipse: s-maj=10.6km s-min=5.1km az=33.0*

*NEIC **30** 02:41:04.0±4.4,18°.23N×94°.14E,h14km±27km,mb4.4/7, Error ellipse: s-maj=13.7km s-min=4.8km az=47.0*
ISC 30 02:41:07.3±0.5,18°.46N±0°.08×94°.22E±0°.06,h35km,n58, σ1§97/72,mb4.1/20,MS3.1/3,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**4.48**	**89**	*e*Pn	**Pn**	**02 42 11.8**	**-1.0**
CM31				*e*Sn	**Sn**	**02 42 59.0**	**-4.7**
CMAR	**Chiang Mai Arr**	**4.48**	**89**	Pn	**Pn**	**02 42 14.3**	**+1.6**
CMAR				Sn	**Sn**	**02 43 00.3**	**-3.4**
CMAR				Lg	Lg	02 43 17.4	
CMAR	**Chiang Mai Arr** 4.1nm,0.3s,baz=266,slow=14,SNR=40	**4.48**	**89**	Pn	**Pn**	**02 42 14.3**	**+1.6**
CMAR	7.6nm,0.3s,baz=264,slow=18,SNR=8.4			Sn	**Sn**	**02 43 00.3**	**-3.4**
CMAR				Lg	Lg	02 43 17.4	
CMAR	17nm,0.3s,baz=260,slow=33,SNR=7.5			LR	LR	02 44 19.0	
CHTO	**Chiang Mai** comp=Z,258nm,20.1s,baz=139,slow=43	**4.49**	**85**	*e*Pn	**Pn**	**02 42 14.0**	**+1.1**
CHTO				*e*Sn	**Sn**	**02 43 03.1**	**-0.8**
SHL	**Shillong**	**7.40**	**343**	*e*P	**Pn**	**02 42 55.0**	**+2.0**
SHL				*ex*	x	02 44 17.0	
SHL				*i* x	x	02 46 22.0	
BWNR	**Bhubaneshwar**	**8.15**	**284**	*ex*	x	02 44 16.0	
ODAN	**Odare**	**10.47**	**324**	*e*Pn	**Pn**	**02 43 36.7**	**+1.5**
ODAN	35nm,0.3s			*e*Sn	**Sn**	**02 45 27.2**	**-4.3**
TAPN	**Taplejung**	**10.69**	**327**	*e*Pn	**Pn**	**02 43 38.0**	**-0.3**
TAPN	22nm,0.4s			*e*Sn	**Sn**	**02 45 31.2**	**-5.7**
RAMN	**Ramite**	**10.99**	**322**	*e*Pn	**Pn**	**02 43 43.1**	**+0.8**
RAMN	24nm,0.5s			*e*Sn	**Sn**	**02 45 40.2**	**-4.0**
LSA	**Lhasa**	**11.54**	**347**	*e*Pn	**Pn**	**02 43 51.3**	**+1.3**
JIRN	**Jiri**	**11.77**	**323**	*e*Pn	**Pn**	**02 43 53.1**	**+0.1**
PKI	**Pulchoki**	**12.17**	**320**	*e*Pn	**Pn**	**02 44 00.0**	**+1.5**
PKI	15nm,0.4s			*e*Sn	**Sn**	**02 46 08.2**	**-4.9**
PKIN	**Phulchoki**	**12.18**	**320**	*e*Pn	**Pn**	**02 44 00.2**	**+1.6**
PKIN	39nm,0.4s			*e*Sn	**Sn**	**02 46 08.0**	**-5.3**
KOLN	**Koldanda**	**13.46**	**315**	*e*Pn	**Pn**	**02 44 17.2**	**+1.1**
KOLN	26nm,0.4s			*e*Sn	**Sn**	**02 46 40.0**	**-4.6**
AAK	**Ala-Archa** comp=Z,42nm,18.3s,baz=140,slow=40	**29.34**	**329**	LR	LR	03 00 41.4	
EKS2	**Erkin-Say** 2.2nm,0.8s	**29.71**	**329**	*e*P	**P**	**02 47 11.0**	**+0.8**
MK31	**Makanchi Array**	**29.92**	**343**	*e*P	**P**	**02 47 13.9**	**+2.0**
MKAR	**Makanchi Array**	**29.92**	**343**	P	**P**	**02 47 13.8**	**+1.9**
MKAR				PcP	**PcP**	**02 50 14.8**	**+0.7**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=160,slow=9.2,SNR=5.9	**29.92**	**343**	P	**P**	**02 47 13.8**	**+1.9**
MKAR	0.2nm,0.5s,baz=101,slow=2.9,SNR=2.4			PcP	**PcP**	**02 50 14.8**	**+0.7**
SONM	**Songino Array**	**30.95**	**16**	P	**P**	**02 47 23.0**	**+1.9**
SONM	**Songino Array** 0.3nm,0.3s,baz=188,slow=8.2,SNR=3.7	**30.95**	**16**	P	**P**	**02 47 23.0**	**+1.9**
KAPI	**Kappang** 28nm,1.3s	**34.31**	**130**	*e*P	**P**	**02 47 49.5**	**-1.2**
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=155,slow=8.5,SNR=7.4	**34.45**	**342**	P	**P**	**02 47 52.9**	**+1.4**
KURK	**Kurchatov**	**34.51**	**342**	P	**P**	**02 47 52.9**	**+0.9**
KSRS	**Korea Array** comp=Z,27nm,19.7s,baz=258,slow=40	**35.02**	**50**	LR	LR	03 04 24.0	
ZALV	**Zalesovo Beam**	**36.16**	**351**	P	**P**	**02 48 07.8**	**+1.7**
ZALV	**Zalesovo Beam** 2.1nm,0.5s,baz=178,slow=7.8,SNR=12	**36.16**	**351**	P	**P**	**02 48 07.8**	**+1.7**
BVAR	**Borovoye Array**	**39.17**	**337**	P	**P**	**02 48 32.9**	**+1.2**
BVAR				PcP	**PcP**	**02 50 41.8**	**+1.2**
BVAR	**Borovoye Array** 0.5nm,0.4s,baz=146,slow=8.5,SNR=2.5	**39.17**	**337**	P	**P**	**02 48 32.9**	**+1.2**
BVAR	0.4nm,0.5s,baz=134,slow=6.4,SNR=4.1			PcP	**PcP**	**02 50 41.8**	**+1.2**
BRVK	**Borovoye** 1.6nm,0.5s	**39.24**	**337**	*e*P	**P**	**02 48 33.7**	**+1.5**
ABKAR	**Akbulak array** 4.9nm,1.1s	**41.27**	**326**	*e*P	**P**	**02 48 49.9**	**+0.9**
AKTO	**Aktyubinsk**	**42.97**	**326**	P	**P**	**02 49 04.8**	**+1.8**
AKTO	**Aktyubinsk** 0.8nm,0.4s,baz=130,slow=7.9,SNR=4.1	**42.97**	**326**	P	**P**	**02 49 04.8**	**+1.8**
WRA	**Warramunga Arr**	**54.82**	**132**	P	**P**	**02 50 33.2**	**-1.0**
WRA	4.8nm,0.7s,baz=319,slow=7.3,SNR=12			PcP	**PcP**	**02 51 35.8**	**-0.5**
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=317,slow=3.6,SNR=5.5	**54.82**	**132**	P	**P**	**02 50 33.2**	**-1.0**
WRA				PcP	**PcP**	**02 51 35.8**	**-0.5**
WRAB	**Tennant Creek** 7.5nm,0.8s	**54.82**	**132**	*e*P	**P**	**02 50 33.1**	**-1.0**
BR131	**Keskin Array S** 1.4nm,0.9s	**55.95**	**306**	*e*P	**P**	**02 50 42.2**	**-0.2**
BRTR	**Keskin Array B**	**55.95**	**306**	P	**P**	**02 50 42.5**	**+0.2**
BRTR	**Keskin Array B** 0.6nm,0.8s,baz=121,slow=9.2,SNR=5.0	**55.95**	**306**	P	**P**	**02 50 42.5**	**+0.2**
AS31	**Alice Springs**	**57.03**	**136**	*e*P	**P**	**02 50 48.8**	**-1.2**
ASAR	**Alice Springs**	**57.03**	**136**	P	**P**	**02 50 49.2**	**-0.8**
ASAR	**Alice Springs** 2.9nm,0.7s,baz=316,slow=7.1,SNR=13	**57.03**	**136**	P	**P**	**02 50 49.2**	**-0.8**
COEN	**Coen**	**58.01**	**120**	*e*P	**P**	**02 50 57.6**	**+0.6**
FINES	**FINESS Array B**	**63.53**	**330**	P	**P**	**02 51 34.6**	**+0.8**
FINES	**FINESS Array B** 3.4nm,1.1s,baz=62,slow=3.3,SNR=2.5	**63.53**	**330**	P	**P**	**02 51 34.6**	**+0.8**
FINES	comp=Z,36nm,18.6s,baz=22,slow=36			LR	LR	03 19 25.6	
CTAO	**Charters Tower** 4.0nm,0.9s	**63.80**	**124**	*e*P	**P**	**02 51 36.3**	**-0.1**
GERES	**GERESS Array B**	**70.15**	**316**	P	**P**	**02 52 17.4**	**+0.9**
GERES	**GERESS Array B** 0.4nm,0.7s,baz=99,slow=4.3,SNR=5.3	**70.15**	**316**	P	**P**	**02 52 17.4**	**+0.9**
LSZ	**Lusaka** 2.3nm,0.7s	**73.16**	**247**	*e*P	**P**	**02 52 34.5**	**-0.6**
BOSA	**Boshof**	**81.39**	**236**	P	**P**	**02 53 20.0**	**-1.0**
BOSA	**Boshof** 2.9nm,1.0s,baz=65,slow=3.8,SNR=3.7	**81.39**	**236**	P	**P**	**02 53 20.0**	**-1.0**
ILAR	**Eielson Array**	**84.97**	**22**	P	**P**	**02 53 38.6**	**0.0**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=305,slow=4.9,SNR=9.8	**84.97**	**22**	P	**P**	**02 53 38.6**	**0.0**
YKW3	**Yellowknife Ar**	**96.11**	**13**	*e*P	P	02 54 34.3	+3.3
TXAR	**Lajitas Array**	**129.45**	**20**	PKP	**PKPdf**	**03 00 13.9**	**+0.9**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=116,slow=2.3,SNR=3.6	**129.45**	**20**	PKP	**PKPdf**	**03 00 13.9**	**+0.9**
CPUP	**Villa Florida**	**152.60**	**248**	PKPbc	**PKPbc**	**03 00 59.6**	**-1.1**
CPUP				PKPab	**PKPab**	**03 01 11.4**	**+0.1**
CPUP	**Villa Florida** 0.9nm,0.5s,baz=65,slow=1.8,SNR=5.8	**152.60**	**248**	PKPbc	**PKPbc**	**03 00 59.6**	**-1.1**
CPUP	1.1nm,0.8s,baz=49,slow=9.3,SNR=3.1			PKPab	**PKPab**	**03 01 11.4**	**+0.1**

*ISCJB **30** 02:51:27.5±0.6,45°.50S±0°.06×166°.45E±0°.06,h15km, mb3.9/3,MS3.7/8,Error ellipse: s-maj=9.0km s-min=5.6km az=179.6*
*AUST **30** 02:51:27.2±1.2,45°.72S×166°.42E,h0km,Error ellipse: s-maj=1.5km s-min=0.8km az=358.0*
*IDC **30** 02:51:27.7±1.1,45°.43S×166°.48E,h0km,mb4.0/3, mb1 4.3/5,mb1mx4.0/16,mbtmp4.2/5,ML4.1/2,MS3.7/9, Ms1 3.7/9,ms1mx3.4/23,Error ellipse: s-maj=44.7km s-min=24.7km az=177.0*
*WEL **30** 02:51:29.2±0.3,45°.54S×166°.55E,h20km±1km,ML4.9/19, Error ellipse: s-maj=2.8km s-min=1.3km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 4.
*NEIC **30** 02:51:30.6,45°.65S×166°.74E,h12km,ML4.9(WEL),After WEL.*
ISC 30 02:51:29.2±0.6,45°.52S±0°.05×166°.53E±0°.05,h15km,n64, σ1§02/64,mb4.0/3,MS3.6/8,2D,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**84**	⇓P*	**Pg**	**02 51 37.7**	**-0.2**
DCZ				S*	**Sg**	**02 51 43.6**	**-0.3**
DCZ				AML	AML	02 51 43.8	
DCZ				AML	AML	02 51 43.9	
DCZ				AML	AML	02 51 43.9	
DCZ	**Deep Cove**	**0.44**	**84**	P*	**Pg**	**02 51 37.0**	**-0.9**
DCZ				S*	**Sg**	**02 51 43.6**	**-0.3**
WHZ	**Wether Hill Ro**	**1.06**	**111**	PN	**Pb**	**02 51 48.1**	**-1.1**
WHZ				AML	AML	02 52 10.2	
WHZ				AML	AML	02 52 11.9	
WHZ	**Wether Hill Ro**	**1.06**	**111**	P*	**Pb**	**02 51 47.8**	**-1.3**
MLZ	**Mavora Lakes**	**1.17**	**82**	⇓PN	**Pb**	**02 51 49.3**	**-1.8**
MLZ				AML	AML	02 52 05.4	
MLZ				AML	AML	02 52 05.6	
MLZ	**Mavora Lakes**	**1.17**	**82**	P*	**Pb**	**02 51 49.0**	**-2.1**
MSZ	**Milford Sound**	**1.30**	**50**	*e*PN	**Pn**	**02 51 50.5**	**-2.2**
MSZ				SN	**Sg**	**02 52 12.1**	**+0.9**
MSZ				AML	AML	02 52 14.5	
MSZ				AML	AML	02 52 14.5	
MSZ				AML	AML	02 52 20.6	
MSZ	**Milford Sound**	**1.30**	**50**	Pn	**Pn**	**02 51 51.6**	**-1.1**
MSZ				S*	**Sg**	**02 52 12.2**	**+0.9**
APZ	**The Paps**	**1.66**	**143**	PN	**Pn**	**02 51 57.2**	**-0.5**
APZ	**The Paps**	**1.66**	**143**	Pn	**Pn**	**02 51 57.2**	**-0.5**
WKZ	**Wanaka**	**1.89**	**69**	PN	**Pn**	**02 52 01.1**	**+0.2**
WKZ				AML	AML	02 52 33.1	
WKZ				AML	AML	02 52 33.1	
WKZ				AML	AML	02 52 37.4	
WKZ				AML	AML	02 52 37.4	
WKZ	**Wanaka**	**1.89**	**69**	Pn	**Pn**	**02 52 01.3**	**+0.4**
EAZ	**Earnscleugh**	**1.98**	**83**	PN	**Pn**	**02 52 02.5**	**+0.4**
EAZ				AML	AML	02 52 34.2	
EAZ				AML	AML	02 52 34.3	
EAZ				AML	AML	02 52 35.3	
EAZ				AML	AML	02 52 35.4	
EAZ	**Earnscleugh**	**1.98**	**83**	Pn	**Pn**	**02 52 03.0**	**+0.9**
SYZ	**Scrubby Hill**	**2.08**	**120**	PN	**Pn**	**02 52 04.4**	**+0.9**
SYZ	**Scrubby Hill**	**2.08**	**120**	Pn	**Pn**	**02 52 04.6**	**+1.1**
JCZ	**Jackson Bay**	**2.15**	**48**	*e*PN	**Pn**	**02 52 05.4**	**+0.9**
JCZ				AML	AML	02 52 41.6	
JCZ				AML	AML	02 52 42.8	
JCZ	**Jackson Bay**	**2.15**	**48**	Pn	**Pb**	**02 52 06.5**	**-1.2**
TUZ	**Tuapeka**	**2.21**	**102**	PN	**Pn**	**02 52 06.3**	**+1.0**
TUZ				AML	AML	02 52 38.6	
TUZ				AML	AML	02 52 38.7	
TUZ	**Tuapeka**	**2.21**	**102**	Pn	**Pn**	**02 52 06.3**	**+1.0**
LBZ	**Lake Benmore**	**2.83**	**68**	*e*PN	**Pn**	**02 52 13.4**	**-0.5**
LBZ				AML	AML	02 52 53.5	
LBZ				AML	AML	02 52 53.5	
LBZ				AML	AML	02 53 14.1	
LBZ				AML	AML	02 53 14.2	
LBZ	**Lake Benmore**	**2.83**	**68**	Pn	**Pn**	**02 52 13.5**	**-0.4**
ODZ	**Otahua Downs**	**2.94**	**82**	PN	**Pn**	**02 52 14.8**	**-0.5**
ODZ	**Otahua Downs**	**2.94**	**82**	Pn	**Pn**	**02 52 14.8**	**-0.5**
FOZ	**Fox Glacier**	**2.99**	**50**	*e*PN	**Pn**	**02 52 17.0**	**+1.1**
FOZ				AML	AML	02 53 12.4	
FOZ				AML	AML	02 53 12.4	
FOZ				AML	AML	02 53 17.0	
FOZ				AML	AML	02 53 17.0	
FOZ	**Fox Glacier**	**2.99**	**50**	Pn	**Pn**	**02 52 17.3**	**+1.4**
RPZ	**Rata Peaks**	**3.70**	**62**	Pn	**Pn**	**02 52 26.0**	**+0.2**
RPZ				Sn	**Sn**	**02 53 11.0**	**+1.9**
RPZ	**Rata Peaks** 63nm,0.3s,baz=239,slow=4.6,SNR=110	**3.70**	**62**	Pn	**Pn**	**02 52 26.0**	**+0.2**
RPZ	comp=Z,1μm,20.2s,baz=1.9,slow=28			LR	LR	02 53 10.3	
RPZ	94nm,0.3s,baz=330,slow=23,SNR=9.5			Sn	**Sn**	**02 53 11.0**	**+1.9**
MQZ	**McQueen's Vall**	**4.73**	**70**	PN	**Pn**	**02 52 38.1**	**-1.8**
MQZ	**McQueen's Vall**	**4.73**	**70**	Pn	**Pn**	**02 52 38.3**	**-1.6**
LTZ	**Lake Taylor**	**4.95**	**58**	*e*PN	**Pn**	**02 52 42.6**	**-0.4**
LTZ				AML	AML	02 54 01.2	
LTZ				AML	AML	02 54 22.3	
LTZ	**Lake Taylor**	**4.95**	**58**	Pn	**Pn**	**02 52 42.6**	**-0.4**
DSZ	**Denniston Nort**	**5.37**	**47**	*e*PN	**Pn**	**02 52 48.4**	**-0.4**
DSZ				AML	AML	02 54 00.2	
DSZ				AML	AML	02 54 01.3	
DSZ	**Denniston Nort**	**5.37**	**47**	Pn	**Pn**	**02 52 48.8**	**0.0**
THZ	**Tophouse**	**5.96**	**53**	PN	**Pn**	**02 52 56.2**	**-0.6**
THZ				AML	AML	02 54 16.6	
THZ				AML	AML	02 54 18.5	
THZ	**Tophouse**	**5.96**	**53**	Pn	**Pn**	**02 52 56.6**	**-0.2**
URZ	**Urewera**	**10.71**	**51**	Pn	**Pn**	**02 54 01.4**	**-0.5**
URZ				Sn	Sn	02 55 54.6	-6.9
URZ	**Urewera** 0.3nm,0.3s,baz=221,slow=9.3,SNR=2.1	**10.71**	**51**	Pn	**Pn**	**02 54 01.4**	**-0.5**
URZ	1.0nm,0.3s,baz=357,slow=19,SNR=2.8			Sn	Sn	02 55 54.6	-6.9
MOO	**Moorlands** baz=14,SNR=3.8	**14.26**	**276**	P	**Pn**	**02 54 49.1**	**-1.3**
TOO	**Toolangi** baz=18,SNR=14	**17.61**	**289**	P	**P**	**02 55 35.6**	**+0.7**
STKA	**Stephens Creek**	**23.64**	**297**	P	**P**	**02 56 41.6**	**+1.9**
STKA	**Stephens Creek** 4.9nm,1.0s,baz=120,slow=8.1,SNR=3.4	**23.64**	**297**	P	**P**	**02 56 41.6**	**+1.9**
STKA	comp=Z,213nm,19.4s,baz=206,slow=34			LR	LR	03 04 36.1	
VNDA	**Vanda** comp=Z,54nm,21.1s,baz=8.7,slow=34	**32.16**	**182**	LR	LR	03 09 41.3	
ASAR	**Alice Springs**	**34.24**	**299**	P	**P**	**02 58 13.4**	**-1.0**
ASAR	**Alice Springs** 1.3nm,0.9s,baz=133,slow=8.7,SNR=7.7	**34.24**	**299**	P	**P**	**02 58 13.4**	**-1.0**
ASAR	comp=Z,104nm,18.8s,baz=275,slow=38			LR	LR	03 12 50.3	
WRA	**Warramunga Arr**	**36.79**	**303**	P	**P**	**02 58 35.8**	**-0.6**
WRA	**Warramunga Arr** 2.8nm,1.1s,baz=142,slow=8.3,SNR=7.6	**36.79**	**303**	P	**P**	**02 58 35.8**	**-0.6**
WRA	comp=Z,100nm,18.6s,baz=175,slow=37			LR	LR	03 14 18.3	
PPT2	**Papeete2** 98nm,24.5s	**45.83**	**67**	*e*LR	LR	03 12 43.9	
PPT	**Papeete** comp=Z,148nm,19.3s,baz=196,slow=31	**45.84**	**67**	LR	LR	03 14 52.6	
MAW	**Mawson** comp=Z,87nm,20.7s,baz=112,slow=34	**53.61**	**208**	LR	LR	03 22 05.2	
CMAR	**Chiang Mai Arr** comp=Z,24nm,18.8s,baz=195,

NPS				S	Sn	03 04 29.6	+0.9
NPS				eSn	Sb	03 04 32.4	+1.6
ZKR	**Zakros**	**1.46**	**43**	eP	Pn	03 04 14.5	+0.1
ZKR				S	Sn	03 04 32.7	+0.3
ZKR	**Zakros**	**1.46**	**43**	ePN	Pn	03 04 15.0	+0.6
ZKR				eSN	Sb	03 04 34.6	-0.4
ZKR	**Zakros**	**1.46**	**43**	P	Pn	03 04 14.5	+0.1
ZKR	**Zakros**	**1.46**	**43**	ePn	Pn	03 04 15.0	+0.6
ZKR				S	Sn	03 04 32.7	+0.3
ZKR				eSn	Sb	03 04 34.6	-0.4
VAM	**Vamos**	**1.51**	**334**	P	Pn	03 04 15.4	+0.3
VAM	**Vamos**	**1.51**	**334**	eP	Pb	03 04 16.7	-1.0
VAM	**Vamos**	**1.51**	**334**	P	Pn	03 04 15.4	+0.3
VAM	**Vamos**	**1.51**	**334**	ePn	Pb	03 04 16.7	-1.0
KARN	**Karanos**	**1.62**	**327**	P	Pn	03 04 17.6	+0.9
KARN				S	Sn	03 04 36.2	-0.2
KARN	**Karanos**	**1.62**	**327**	ePN	Pn	03 04 17.7	+1.0
KARN	**Karanos**	**1.62**	**327**	P	Pn	03 04 17.6	+0.9
KARP	**Karpathos**	**2.32**	**49**	P	Pn	03 04 26.4	+0.1
KARP				S	Sn	03 04 53.6	-0.1
KARP	**Karpathos**	**2.32**	**49**	ePN	Pn	03 04 26.3	0.0
KARP	**Karpathos**	**2.32**	**49**	P	Pn	03 04 26.4	+0.1
KARP				S	Sn	03 04 53.6	-0.1
THR3	**Thira Island,**	**2.37**	**8**	P	Pn	03 04 27.4	+0.4
THR3	**Thira Island,**	**2.37**	**8**	P	Pn	03 04 27.4	+0.4
KYTH	**Kithira**	**2.75**	**325**	ePN	Pn	03 04 33.2	+1.0
KYTH	**Kithira**	**2.75**	**325**	ePn	Pn	03 04 33.2	+1.0
APE	**Apeiranthos**	**3.04**	**8**	P	Pn	03 04 35.8	-0.4
APE	**Apeiranthos**	**3.04**	**8**	P	Pn	03 04 35.8	-0.4
VLI	**Veliai**	**3.15**	**328**	P	Pn	03 04 37.9	+0.2
VLI				S	Sn	03 05 11.9	-2.3
VLI	**Veliai**	**3.15**	**328**	ePN	Pn	03 04 38.2	+0.5
VLI	**Veliai**	**3.15**	**328**	P	Pn	03 04 37.9	+0.2
VLI	**Veliai**	**3.15**	**328**	ePn	Pn	03 04 38.2	+0.5
ARG	**Arkhangelos**	**3.35**	**49**	P	Pn	03 04 40.3	-0.1
ARG	**Arkhangelos**	**3.35**	**49**	P	Pn	03 04 40.3	-0.1
DYR	**Agios Nikonas**	**3.48**	**322**	ePN	Pn	03 04 44.7	+2.5
DYR	**Agios Nikonas**	**3.48**	**322**	ePn	Pn	03 04 44.7	+2.5
DIDY	**Didyma**	**3.72**	**337**	P	Pn	03 04 44.9	-0.7
DIDY	**Didyma**	**3.72**	**337**	P	Pn	03 04 44.9	-0.7
DID	**Didima**	**3.74**	**338**	P	Pn	03 04 45.2	-0.6
DID	**Didima**	**3.74**	**338**	ePN	Pn	03 04 44.3	-1.5
DID	**Didima**	**3.74**	**338**	P	Pn	03 04 45.2	-0.6
PYL	**PYLOS**	**3.89**	**318**	P	Pn	03 04 47.7	-0.2
PYL	**PYLOS**	**3.89**	**318**	P	Pn	03 04 47.7	-0.2

IDC 30 03:08:24.7±1.3, 30°74S×179°37W, h372km±17km, mb2.5/2, mb1 2.9/3, mb1mx2.8/18, mbtmp2.8/3, Error ellipse: s-maj=44.5km s-min=20.5km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.95**	**41**	P	Pn	03 09 17.9	+0.1
	38nm,0.3s,baz=221,slow=20,SNR=4.2						
RAO				S	S	03 09 52.2	-8.4
	57nm,0.3s,baz=73,slow=19,SNR=2.3						
URZ	**Urewera**	**8.04**	**200**	P	Pn	03 10 19.3	-0.3
	1.6nm,0.3s,baz=0.0,slow=1.0,SNR=15						
URZ				S	S	03 11 54.1	+0.6
	6.0nm,0.3s,baz=112,slow=22,SNR=11						
ASAR	**Alice Springs**	**41.91**	**268**	P	P	03 15 40.7	+0.1
	0.2nm,0.6s,baz=98,slow=6.7,SNR=3.0						
WRA	**Warramunga Arr**	**42.94**	**273**	P	P	03 15 48.4	-0.4
	0.3nm,0.5s,baz=110,slow=8.1,SNR=8.4						
FINES	**FINESS Array B**	**145.05**	**339**	PKPbc	PKPdf	03 27 16.9	-0.6
	0.9nm,0.5s,baz=64,slow=3.2,SNR=13						

MEX 30 03:20:01.6±0.4, 16°14N×97°99W, h19km±191km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**332**	*i* P	Pg	03 20 07.1	-0.9
PNIG				*i* S	Sg	03 20 11.1	-1.3
VHO	**Vista Hermosa**	**1.52**	**52**	*e*P	Pn	03 20 25.0	-3.1
VHO				*i* S	Sn	03 20 42.9	-4.6
HUIG	**Huatulco**	**1.84**	**101**	*i* P	Pn	03 20 28.6	-3.8
HUIG				*i* S	Sn	03 20 50.2	-4.9
TPIG	**Tehuac#an**	**2.34**	**15**	*i* P	Pn	03 20 39.8	+0.4
TPIG				*i* S	Sn	03 21 06.5	-1.3
CMIG	**Matias Romero**	**3.12**	**72**	*i* P	Pn	03 20 47.5	-2.4
CMIG				*i* S	Sn	03 21 23.4	-3.3

*ISCJB **30** 03:23:50.4±0.5, 1°57S±0°05×99°34E±0°08, h10km, mb4.1/14, Error ellipse: s-maj=10.9km s-min=6.8km az=171.5*
*IDC **30** 03:23:50.1±0.8, 1°76S×99°14E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/26, mbtmp4.0/12, ML3.2/1, Error ellipse: s-maj=32.0km s-min=14.9km az=53.0*
*NEIC **30** 03:23:51.5±0.3, 1°69S×99°24E, h10km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=6.7km az=61.0*
ISC 30 03:23:51.5±0.5, 1°70S±0°07×99°19E±0°10, h10km, n54, σ1§00/57, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.47**	**357**	Pn	**Pn**	**03 24 57.3**	**-2.2**
PSI	**Prapat**	**4.47**	**357**	Pn	**Pn**	**03 24 57.3**	**-2.2**
	1.2nm,0.3s,baz=188,slow=9.9,SNR=5.5						
IPM	**Ipoh**	**6.40**	**17**	*e*Pn	**Pn**	**03 25 27.1**	**+1.1**
IPM				*e*Sn	Sn	03 26 44.3	+5.1
IPM				*e*Sg	**Sg**	**03 27 17.2**	**+0.1**
KULM	**Kulim**	**7.09**	**12**	*e*Pn	**Pn**	**03 25 35.4**	**0.0**
KKM	**Kota Kinabalu**	**18.66**	**66**	*e*P	**P**	**03 28 08.0**	**-1.9**
	11nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.03**	**359**	P	**P**	**03 28 24.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**20.03**	**359**	P	**P**	**03 28 24.1**	**-0.6**
	1.5nm,0.4s,baz=187,slow=9.9,SNR=10						
KAPI	**Kappang**	**20.79**	**100**	*e*P	**P**	**03 28 33.1**	**+0.1**
	33nm,1.2s						
KAPI	**Kappang**	**20.79**	**100**	P	**P**	**03 28 32.9**	**-0.2**
	4.9nm,0.5s,baz=288,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**38.84**	**120**	P	**P**	**03 31 16.7**	**-0.5**
WRA	**Warramunga Arr**	**38.84**	**120**	P	**P**	**03 31 16.7**	**-0.5**
	1.6nm,0.6s,baz=303,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**38.85**	**120**	*e*P	**P**	**03 31 17.1**	**-0.1**
	3.2nm,0.7s						
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**03 31 27.8**	**+0.2**
ASAR	**Alice Springs**	**40.09**	**126**	P	**P**	**03 31 27.8**	**+0.2**
	0.4nm,0.6s,baz=305,slow=7.5,SNR=10						
COEN	**Coen**	**45.15**	**108**	*e*P	**P**	**03 32 09.2**	**+0.4**
CTAO	**Charters Tower**	**49.46**	**115**	*e*P	**P**	**03 32 42.2**	**-0.2**
	5.8nm,1.1s						
SONM	**Songino Array**	**49.73**	**6**	P	**P**	**03 32 44.1**	**0.0**
SONM				PcP	**PcP**	**03 34 05.6**	**+0.5**
SONM	**Songino Array**	**49.73**	**6**	P	**P**	**03 32 44.1**	**0.0**
	0.6nm,0.6s,baz=193,slow=8.8,SNR=6.3						
SONM				PcP	**PcP**	**03 34 05.6**	**+0.5**
	0.5nm,0.5s,baz=195,slow=3.9,SNR=3.4						
EKS2	**Erkin-Say**	**49.75**	**335**	*e*P	**P**	**03 32 45.7**	**+1.4**
	2.4nm,0.8s						
STKA	**Stephens Creek**	**49.96**	**131**	P	**P**	**03 32 46.4**	**+0.4**
STKA	**Stephens Creek**	**49.96**	**131**	P	**P**	**03 32 46.4**	**+0.4**
	1.9nm,0.7s,baz=281,slow=5.2,SNR=3.0						
MK31	**Makanchi Array**	**50.52**	**345**	*e*P	**P**	**03 32 50.7**	**+0.7**
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**03 32 50.6**	**+0.7**
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**03 32 50.6**	**+0.7**
	3.3nm,0.6s,baz=148,slow=8.1,SNR=37						
ZAA0	**Zalesovo Array**	**56.73**	**350**	*e*P	**P**	**03 33 35.2**	**0.0**
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	**P**	**03 33 35.4**	**+0.1**
ZALV	**Zalesovo Beam**	**56.73**	**350**	P	**P**	**03 33 35.4**	**+0.1**
	2.4nm,0.4s,baz=181,slow=6.9,SNR=17						
ABKAR	**Akbulak array**	**60.99**	**332**	*e*P	**P**	**03 34 04.4**	**-0.7**
	0.4nm,0.5s						
KBZ	**Khabaz**	**67.55**	**319**	P	**P**	**03 34 49.2**	**+1.1**
KBZ	**Khabaz**	**67.55**	**319**	P	**P**	**03 34 49.2**	**+1.1**
	1.6nm,0.8s,baz=102,slow=8.9,SNR=4.4						
BRTR	**Keskin Array B**	**72.52**	**313**	P	**P**	**03 35 19.5**	**+0.5**
BRTR	**Keskin Array B**	**72.52**	**313**	P	**P**	**03 35 19.5**	**+0.5**
	0.4nm,0.5s,baz=133,slow=6.0,SNR=3.3						
BUR08	**Bucovina Ar. S**	**80.52**	**319**	*e*P	**P**	**03 36 05.7**	**+1.5**
TSUM	**Tsumeb**	**81.52**	**251**	*e*P	**P**	**03 36 09.9**	**-0.2**
	6.9nm,1.5s						
FINES	**FINESS Array B**	**83.47**	**332**	P	**P**	**03 36 20.1**	**+1.0**
FINES	**FINESS Array B**	**83.47**	**332**	P	**P**	**03 36 20.1**	**+1.0**
	1.5nm,0.6s,baz=116,slow=4.4,SNR=10						
NVAR	**Mina Array Bea**	**129.87**	**39**	PKP	**PKPdf**	**03 43 04.2**	**+2.0**
NVAR	**Mina Array Bea**	**129.87**	**39**	PKP	**PKPdf**	**03 43 04.2**	**+2.0**
	0.4nm,0.8s,baz=211,slow=5.1,SNR=3.0						
ELK	**Elko**	**130.20**	**34**	*e*PKPdf	**PKPdf**	**03 43 02.9**	**+0.1**
MOOW	**Moose Ponds**	**130.39**	**28**	*e*PKPdf	**PKPdf**	**03 43 01.3**	**-1.7**
DUG	**Dugway**	**131.93**	**33**	*e*PKPdf	**PKPdf**	**03 43 05.5**	**-0.4**
RSSD	**Black Hills**	**132.99**	**23**	*e*PKPdf	**PKPdf**	**03 43 07.4**	**-0.5**
TRQA	**Tornquist**	**136.79**	**202**	*e*PKPdf	**PKPdf**	**03 43 15.6**	**+0.7**
ANMO	**Albuquerque**	**139.20**	**33**	*e*PKPdf	**PKPdf**	**03 43 19.4**	**-0.3**
MNTX	**Cornudas Mount**	**142.21**	**35**	*e*PKPdf	**PKPdf**	**03 43 25.0**	**+0.1**
WCI	**Wyandotte Cave**	**143.29**	**7**	*e*PKPdf	**PKPdf**	**03 43 25.6**	**-1.1**
CPUP	**Villa Florida**	**144.08**	**218**	PKP	**PKPdf**	**03 43 28.3**	**0.0**
CPUP	**Villa Florida**	**144.08**	**218**	PKP	**PKPdf**	**03 43 28.3**	**0.0**
	2.8nm,0.8s,baz=61,slow=2.4,SNR=5.5						
TXAR	**Lajitas Array**	**144.94**	**36**	PKPbc	**PKPdf**	**03 43 29.9**	**0.0**
TXAR	**Lajitas Array**	**144.94**	**36**	PKPbc	**PKPdf**	**03 43 29.9**	**0.0**
	2.0nm,0.6s,baz=198,slow=1.1,SNR=36						
WVT	**Waverly**	**145.12**	**10**	*e*PKPdf	**PKPdf**	**03 43 29.6**	**-0.3**
JCT	**Junction City**	**146.18**	**30**	*e*PKPbc	**PKPab**	**03 43 33.0**	**-0.5**
LPAZ	**La Paz**	**158.18**	**215**	PKPab	**PKPab**	**03 44 21.8**	**-2.5**
LPAZ	**La Paz**	**158.18**	**215**	PKPab	**PKPab**	**03 44 21.8**	**-2.5**
	1.1nm,0.4s,baz=179,slow=5.6,SNR=13						

MEX 30 03:41:13.0±0.3, 16°83N×95°41W, h51km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.57**	**63**	*e*P	Pn	03 41 23.6	-1.6
CMIG				*i* S	Sn	03 41 32.1	-1.8
HUIG	**Huatulco**	**1.25**	**212**	*e*P	Pn	03 41 32.6	-1.6
HUIG				*i* S	Sn	03 41 47.8	-2.1
VHO	**Vista Hermosa**	**1.29**	**281**	*e*P	Pn	03 41 33.1	-1.8
VHO				*i* S	Sn	03 41 49.0	-2.2
PANG	**Puerto Angel**	**1.54**	**221**	*e*P	Pn	03 41 36.9	-1.2
PANG				*i* S	Sn	03 41 55.0	-2.0
TGIG		**2.19**	**91**	*e*P	Pn	03 41 46.3	-0.9
TGIG				*e*S	Sn	03 42 11.5	-1.7
PCIG		**2.39**	**118**	*e*P	Pn	03 41 52.2	+2.5
PCIG				*e*S	Sn	03 42 19.5	+1.7
UTMO	**Huajuapan**	**2.49**	**294**	*e*P	Pn	03 41 51.6	+0.3
UTMO				*i* S	Sn	03 42 18.6	-2.2
PNIG	**Pinotepa**	**2.64**	**261**	*e*P	Pn	03 41 52.2	-1.0
PNIG				*e*S	Sn	03 42 22.9	-1.1

IDC 30 03:58:04.7±28.0, 21°48S×173°61W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=528.7km s-min=164.4km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.48**	**265**	P	P	04 05 20.8	+0.4
	2.0nm,0.4s,baz=87,slow=10.0,SNR=5.9						
STKA	**Stephens Creek**	**41.10**	**246**	P	P	04 05 50.5	0.0
	3.0nm,1.0s,baz=114,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**48.30**	**257**	P	P	04 06 47.9	-0.3
	1.0nm,0.8s,baz=98,slow=8.0,SNR=7.6						
WRA	**Warramunga Arr**	**48.53**	**262**	P	P	04 06 49.6	-0.4
	0.5nm,0.2s,baz=101,slow=8.4,SNR=28						

*IDC **30** 04:11:22.7±0.6, 37°71N×95°79E, h0km, mb3.9/17, mb1 4.1/20, mb1mx4.0/32, mbtmp4.0/20, ML3.9/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/40, Error ellipse: s-maj=26.8km s-min=13.4km az=42.0*
*NNC **30** 04:11:22.5±6.6, 37°49N×95°42E, h0km, mb4.2, Error ellipse: s-maj=129.3km s-min=85.7km az=63.0*
*ISCJB **30** 04:11:22.7±0.3, 37°65N±0°05×95°58E±0°05, h10km, mb4.0/30, MS2.9/2, Error ellipse: s-maj=8.1km s-min=4.4km az=25.7*
*BJI **30** 04:11:23.9, 37°66N×95°74E, h10km, mB4.5/1, mb4.3/4, ML4.1/7, Ms3.7/6, Ms7 3.5/2*
*MOS **30** 04:11:23.8±1.0, 37°70N×95°66E, h19km, mb4.2/19, Error ellipse: s-maj=14.7km s-min=7.6km az=130.0*
*NEIC **30** 04:11:24.5±0.3, 37°67N×95°63E, h10km, mb4.3/11, Error ellipse: s-maj=8.7km s-min=4.9km az=215.0*
ISC 30 04:11:24.5±0.5, 37°64N±0°06×95°57E±0°05, h10km, n90, σ1§01/94, mb4.1/30, 4C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.77**	**61**	Pg	**Pb**	**04 12 32.0**	**+0.8**
GTA				Sn	**Sn**	**04 13 08.3**	**+1.1**
GTA				Sg	**Sb**	**04 13 16.8**	**-0.1**
GTA				smax	smax		
	comp=N,120nm,0.8s						
GTA				smax	smax		
	comp=E,52nm,1.0s						
GTA				LR	LR		
	comp=N,700nm,7.2s						
GTA				LR	LR		
	comp=E,400nm,6.1s						
GTA				LR	LR		
	comp=Z,300nm,6.9s						
LZH	**Lanzhou**	**6.81**	**101**	*e*P	Pn	04 13 10.0	+5.4
LZH				pP	Pb	04 13 14.8	-8.3
LZH				sP		04 13 17.8	
LZH				*e*S	**Sn**	**04 14 24.3**	**+2.0**
LZH				sS	Sb	04 14 33.0	-12
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
LZH				pmax	pmax		
	comp=Z,84nm,4.4s						
LZH				LR	LR		
	comp=N,390nm,4.6s						
LZH				LR	LR		
	comp=E,220nm,5.2s						
LZH				LR	LR		
	comp=Z,270nm,7.2s						
WMQ	**Urumqi**	**8.59**	**318**	⇑*i*P	**Pn**	**04 13 29.8**	**+0.9**
WMQ				sP		04 13 35.5	
WMQ				S	**Sn**	**04 15 08.3**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,37nm,0.8s						
WMQ				smax	smax		
	comp=N,66nm,1.1s						
WMQ				smax	smax		
	comp=E,84nm,0.7s						
WMQ				LR	LR		
	comp=N,87nm,18.0s						
WMQ				LR	LR		
	comp=E,170nm,15.0s						
SONM	**Songino Array**	**12.91**	**34**	Pn	**Pn**	**04 14 28.8**	**+0.7**
SONM	**Songino Array**	**12.91**	**34**	Pn	**Pn**	**04 14 28.8**	**+0.7**
	comp=E,0.5nm,0.3s,baz=221,slow=15,SNR=5.9						
MK31	**Makanchi Array**	**13.42**	**317**	Pn	**Pn**	**04 14 34.0**	**-0.9**
	comp=E,3.7nm,0.6s,baz=128,slow=13,SNR=110						
MK31				Sn	**Sn**	**04 17 04.1**	**+0.1**
	comp=E,11nm,0.8s,baz=125,slow=26,SNR=15						
MK31	**Makanchi Array**	**13.42**	**317**	*e*P	**Pn**	**04 14 33.7**	**-1.2**
MK31				*e*		04 17 00.8	
MK31	**Makanchi Array**	**13.42**	**317**	*e*Pn	**Pn**	**04 14 33.6**	**-1.2**
MK31				*e*Sn	**Sn**	**04 17 00.8**	**-3.3**
MKAR	**Makanchi Array**	**13.42**	**317**	P	**Pn**	**04 14 33.5**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.42**	**317**	Pn	**Pn**	**04 14 33.5**	**-1.4**
MKAR				Sn	Sn	04 16 54.6	-9.5
MKAR	**Makanchi Array**	**13.42**	**317**	Pn	**Pn**	**04 14 33.5**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=127,slow=14,SNR=96						
MKAR				Sn	Sn	04 16 54.6	-9.5
	comp=Z,0.1nm,0.3s,baz=129,slow=26,SNR=3.1						
ENH	**Enshi**	**13.68**	**118**	*e*Pn	**Pn**	**04 14 37.9**	**-0.7**
ZAK	**Zakamensk**	**13.88**	**21**	*e*P	Pn	04 14 29.2	-12
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TKM2	**Tokmak 2**	**16.12**	**295**	⇓P	**Pn**	**04 15 10.0**	**-1.2**
	comp=Z,20nm,0.9s						
TKM2	**Tokmak 2**	**16.12**	**295**	*e*P	**Pn**	**04 15 10.4**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,18nm,0.8s						
TKM2	**Tokmak 2**	**16.12**	**295**	*e*Pn	**Pn**	**04 15 10.4**	**-0.9**
	comp=Z,18nm,0.8s						
TKM2				*e*P	**pP**	**04 15 16.6**	**-0.8**
AAK	**Ala-Archa**	**16.86**	**294**	*e*P	**Pn**	**04 15 21.7**	**+1.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	**Ala-Archa**	**16.86**	**294**	*e*P	**Pn**	**04 15 21.7**	**+1.0**
	comp=Z,6.6nm,0.8s						
AAK	**Ala-Archa**	**16.86**	**294**	Pn	**P**	**04 15 22.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=140,slow=5.1,SNR=8.1						
AAK				LR	LR	04 22 42.5	
	comp=Z,61nm,18.6s,baz=118,slow=40						
EKS2	**Erkin-Say**	**17.38**	**294**	*e*P	**Pn**	**04 15 28.0**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKS2	**Erkin-Say**	**17.38**	**294**	*e*P	**Pn**	**04 15 28.0**	**+0.8**
	comp=Z,3.4nm,0.9s						
ZAA0	**Zalesovo Array**	**17.91**	**339**	*e*P	**P**	**04 15 35.2**	**+1.0**
ZALV	**Zalesovo Beam**	**17.91**	**339**	P	**P**	**04 15 33.5**	**-0.7**
ZALV	**Zalesovo Beam**	**17.91**	**339**	P	**P**	**04 15 33.5**	**-0.7**
ZALV	**Zalesovo Beam**	**17.91**	**339**	P	**P**	**04 15 33.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=146,slow=11,SNR=18						
NVS	**Novosibirsk**	**19.15**	**338**	*e*P	**P**	**04 15 46.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**19.34**	**170**	P	**Pn**	**04 15 51.2**	**0.0**
CMAR	**Chiang Mai Arr**	**19.34**	**170**	P	**Pn**	**04 15 51.2**	**0.0**
	baz=347,slow=10,SNR=3.5						
KK31	**Karatay Array**	**19.82**	**294**	⇑P	**P**	**04 15 55.9**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=89,slow=11,SNR=25						
KKAR	**Karatay Array**	**19.82**	**294**	*e*P	**P**	**04 15 56.2**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**19.82**	**294**	*e*P	**P**	**04 15 56.2**	**+1.0**
	comp=Z,0.9nm,0.4s						
KBL	**Kabul**	**21.64**	**270**	*e*P	**P**	**04 16 15.7**	**+0.6**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	**Kabul**	**21.64**	**270**	*e*P	**P**	**04 16 15.7**	**+0.6**
	comp=Z,7.7nm,0.8s						
VOSK	**Vostochnaya**	**22.81**	**319**	⇑P	**P**	**04 16 27.1**	**-0.3**
	comp=Z,10nm,1.0s						
BVA0	**Borovoye Array**	**23.28**	**319**	⇑P	**P**	**04 16 33.5**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=112,slow=8.8,SNR=4.9						
BVAR	**Borovoye Array**	**23.28**	**319**	P	**P**	**04 16 31.4**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,62nm,18.3s						
BVAR	**Borovoye Array**	**23.28**	**319**	P	**P**	**04 16 31.4**	**-0.7**
BVAR	**Borovoye Array**	**23.28**	**319**	P	**P**	**04 16 31.4**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=120,slow=8.8,SNR=7.7						
BVAR				LR	LR	04 26 10.2	
	comp=Z,62nm,18.3s,baz=290,slow=38						
BRVK	**Borovoye**	**23.35**	**319**	*e*P	**P**	**04 16 32.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**23.35**	**319**	*e*P	**P**	**04 16 32.1**	**-0.7**
	comp=Z,3.7nm,0.8s						
KSAR	**Wonju Array Be**	**25.56**	**80**	P	**P**	**04 16 52.9**	**-0.6**
KSRS	**Korea Array**	**25.59**	**80**	P	**P**	**04 16 52.9**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=278,slow=9.4,SNR=3.8						
SSLB	**Suanglung**	**25.73**	**115**	*e*P	**P**	**04 16 54.8**	**-0.3**
	comp=Z,4.7nm,0.7s						
AB31	**Akbulak array**	**28.09**	**306**	⇓P	**P**	**04 17 13.1**	**-3.0**
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**28.09**	**306**	*e*P	**P**	**04 17 17.0**	**+0.8**
	comp=Z,3.1nm,0.9s						
AKTO	**Aktyubinsk**	**29.54**	**308**	⇓P	**P**	**04 17 29.2**	**+0.2**
	comp=Z,4.0nm,0.8s						
AKTO	**Aktyubinsk**	**29.54**	**308**	P	**P**	**04 17 29.3**	**+0.2**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKTO				MLR	MLR		
	comp=Z,14nm,18.9s						
AKTO	**Aktyubinsk**	**29.54**	**308**	P	**P**	**04 17 29.2**	**+0.2**
AKTO	**Aktyubinsk**	**29.54**	**308**	P	**P**	**04 17 29.2**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=100,slow=8.6,SNR=8.4						
AKTO				LR	LR	04 32 00.7	
	comp=Z,14nm,18.9s,baz=293,slow=42						
KKM	**Kota Kinabalu**	**36.64**	**144**	*e*P	**P**	**04 18 32.0**	**+0.7**
	comp=Z,20nm,1.1s						
KBZ	**Khabaz**	**39.84**	**296**	P	**P**	**04 18 59.0**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**39.84**	**296**	P	**P**	**04 18 59.0**	**+1.1**
KBZ	**Khabaz**	**39.84**	**296**	P	**P**	**04 18 59.0**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=79,slow=5.2,SNR=2.8						
OBN	**Obninsk**	**42.89**	**314**	*e*P	P	04 19 15.0	-7.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	**Keskin Array S**	**47.53**	**293**	*e*P	**P**	**04 20 00.9**	**+0.8**
	comp=Z,1.8nm,0.7s						
BRTR	**Keskin Array B**	**47.53**	**293**	P	**P**	**04 20 01.1**	**+1.0**
BRTR	**Keskin Array B**	**47.53**	**293**	P	**P**	**04 20 01.1**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=92,slow=7.5,SNR=17						
ASF	**Jabal al Asfar**	**47.76**	**282**	P	**P**	**04 20 04.2**	**+2.3**
ASF	**Jabal al Asfar**	**47.76**	**282**	P	**P**	**04 20 04.2**	**+2.3**
	comp=Z,1.8nm,0.6s,baz=86,slow=4.8,SNR=4.7						
AKASG	**Malin Array Be**	**47.79**	**308**	P	**P**	**04 20 01.9**	**+0.1**
AKASG				pmax	pmax		
	comp

0.3nm,0.6s,baz=301,slow=7.7,SNR=6.5
MKAR Makanchi Array 50.54 345 P P 05 13 14.9 +0.2
0.4nm,0.5s,baz=141,slow=7.8,SNR=3.6
ZALV Zalesovo Beam 56.71 350 P P 05 13 59.5 -0.3
0.8nm,0.5s,baz=146,slow=7.0,SNR=4.4
FINES FINESS Array B 83.55 332 P P 05 16 43.7 -0.5
2.9nm,1.0s,baz=108,slow=8.9,SNR=4.2
PDAR Pinedale Array 131.49 29 PKP PKPdf 05 23 30.1 +0.3
0.2nm,0.3s,baz=2.3,slow=4.5,SNR=5.1
TXAR Lajitas Array 144.71 36 PKP PKPdf 05 23 53.6 -0.5
0.7nm,0.5s,baz=258,slow=1.0,SNR=17

---

*ISCJB **30** 05:13:05.1±0.2,38°.32N±0°.01×21°.97E±0°.01,h7km±1km, mb3.7/13,Error ellipse: s-maj=1.9km s-min=1.8km az=171.2*
*THE **30** 05:13:05.6,38°.31N×22°.01E,h0km±1km,ML3.1/22,Error ellipse: s-maj=1.4km s-min=0.5km az=274.0*
*ATH **30** 05:13:05.1,38°.31N×21°.95E,h7km±1km,MD2.9/24,ML3.1*
*CSEM **30** 05:13:05.4±0.1,38°.30N×21°.99E,h2km,ML3.1/22,Error ellipse: s-maj=2.1km s-min=1.7km az=65.0*
*IDC **30** 05:13:11.7±3.2,38°.43N×21°.99E,h55km±30km,mb3.5/13, mb1 3.6/15,mb1mx3.5/31,mbtmp3.5/15,ML2.8/2,Error ellipse: s-maj=23.8km s-min=17.2km az=167.0*
ISC 30 05:13:05.5±0.7,38°.31N±0°.01×21°.98E±0°.01,h7km±4km, n222,σ0°87/317,mb3.7/13,14C-5D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA1	**Psathopyrgos**	**0.08**	**283**	*e*PG	**Pg**	**05 13 06.5**	**-0.9**
PSA1				*e*SG	**Sg**	05 13 08.1	-0.7
TRIZ	**Trizonia**	**0.09**	**50**	P	**Pg**	05 13 07.7	+0.1
TRIZ				S	**Sg**	05 13 09.4	+0.3
TRIZ	**Trizonia**	**0.09**	**50**	*e*PG	**Pg**	05 13 07.6	0.0
TRIZ				*e*SG	**Sg**	05 13 09.4	+0.3
TRIZ	**Trizonia**	**0.09**	**50**	*e*Pg	**Pg**	05 13 07.6	0.0
TRIZ				S	**Sg**	05 13 09.4	+0.3
EFP	**Efpalio**	**0.14**	**333**	P	**Pg**	05 13 07.9	-0.4
EFP				S	**Sg**	05 13 10.3	0.0
EFP	**Efpalio**	**0.14**	**333**	*e*PG	**Pg**	05 13 07.9	-0.4
EFP				*e*SG	**Sg**	05 13 10.3	0.0
EFP	**Efpalio**	**0.14**	**333**	P	**Pg**	05 13 07.9	-0.4
EFP				S	**Sg**	05 13 10.3	0.0
KALE	**Kalithea**	**0.15**	**56**	P	**Pg**	05 13 08.7	+0.1
KALE				S	**Sg**	05 13 11.1	+0.4
KALE	**Kalithea**	**0.15**	**56**	*e*PG	**Pg**	05 13 08.7	+0.1
KALE				*e*SG	**Sg**	05 13 11.8	+1.1
KALE	**Kalithea**	**0.15**	**56**	P	**Pg**	05 13 08.7	+0.1
KALE				S	**Sg**	05 13 11.1	+0.4
UPR	**University Cam**	**0.16**	**261**	P	**Pg**	05 13 08.4	-0.3
UPR				S	**Sg**	05 13 11.4	+0.5
KLV	**Kalavryta, Ach**	**0.29**	**153**	P	**Pg**	05 13 11.1	-0.2
KLV				S	**Sg**	05 13 16.3	+1.1
KLV	**Kalavryta, Ach**	**0.29**	**153**	*e*PB	**Pg**	05 13 11.2	-0.1
KLV	**Kalavryta, Ach**	**0.29**	**153**	P	**Pg**	05 13 11.1	-0.2
KLV				S	**Sg**	05 13 15.8	+0.6
DSF	**Desfina**	**0.44**	**76**	P	**Pg**	05 13 13.7	-0.3
DSF				S	**Sb**	05 13 20.8	-1.7
DSF	**Desfina**	**0.44**	**76**	P	**Pg**	05 13 13.7	-0.3
DSF				S	**Sg**	05 13 20.5	+0.7
GUR	**Goura**	**0.47**	**143**	P	**Pg**	05 13 14.0	-0.5
GUR				S	**Sg**	05 13 20.4	-0.2
GUR	**Goura**	**0.47**	**143**	*e*PB	**Pg**	05 13 14.1	-0.5
GUR	**Goura**	**0.47**	**143**	P	**Pg**	05 13 14.1	-0.5
GUR				S	**Sg**	05 13 20.4	-0.2
RLS	**Riolos of Patr**	**0.48**	**239**	P	**Pg**	05 13 14.4	-0.3
RLS				S	**Sb**	05 13 22.2	-1.3
RLS	**Riolos of Patr**	**0.48**	**239**	*e*PB	**Pg**	05 13 14.3	-0.4
RLS				*e*SB	**Sg**	05 13 20.8	-0.2
RLS	**Riolos of Patr**	**0.48**	**239**	P	**Pg**	05 13 14.4	-0.3
RLS				*e*Sb	**Sg**	05 13 20.8	-0.2
AXS	**Araxos**	**0.49**	**257**	P	**Pg**	05 13 14.5	-0.5
AXS				S	**Sg**	05 13 22.1	+0.7
AXS	**Araxos**	**0.49**	**257**	P	**Pg**	05 13 14.5	-0.5
AXS				S	**Sg**	05 13 21.0	-0.4
EVR	**Evrytania**	**0.62**	**347**	P	**Pg**	05 13 16.8	-0.8
EVR				S	**Sb**	05 13 26.8	-1.1
EVR	**Evrytania**	**0.62**	**347**	*e*PB	**Pg**	05 13 16.6	-1.0
EVR	**Evrytania**	**0.62**	**347**	P	**Pg**	05 13 16.8	-0.8
EVR				S	**Sb**	05 13 26.8	-1.1
AXAR	**Agios Charalam**	**0.70**	**49**	P	**Pg**	05 13 18.1	-0.9
AXAR				S	**Sb**	05 13 29.3	-0.7
AXAR	**Agios Charalam**	**0.70**	**49**	P	**Pg**	05 13 18.1	-0.9
AXAR				S	**Sb**	05 13 29.3	-0.7
MAKR	**Makrakomi, Fth**	**0.71**	**9**	P	**Pg**	05 13 19.0	-0.3
MAKR				S	**Sb**	05 13 29.0	-0.4
MAKR	**Makrakomi, Fth**	**0.71**	**9**	P	**Pg**	05 13 19.0	-0.3
MAKR				S	**Sb**	05 13 29.7	-0.7
AGG	**Agios Georgios**	**0.76**	**21**	P	**Pg**	05 13 19.2	-1.0
AGG				S	**Sb**	05 13 30.9	-0.9
AGG	**Agios Georgios**	**0.76**	**21**	P	**Pg**	05 13 19.2	-1.0
AGG				S	**Sb**	05 13 30.9	-0.9
AMT	**Artemida-Makis**	**0.80**	**196**	P	**Pg**	05 13 20.8	-0.1
AMT				S	**Sn**	05 13 34.2	-1.3
AMT	**Artemida-Makis**	**0.80**	**196**	*e*PB	**Pg**	05 13 20.6	-0.3
AMT	**Artemida-Makis**	**0.80**	**196**	*e*Pb	**Pg**	05 13 20.6	-0.3
AMT				S	**Sn**	05 13 34.5	-1.0
ACOR	**Acrocorinthos**	**0.81**	**121**	P	**Pg**	05 13 20.9	-0.2
ACOR				S	**Sb**	05 13 32.8	-0.4
ACOR	**Acrocorinthos**	**0.81**	**121**	P	**Pg**	05 13 20.9	-0.2
ACOR				S	**Sb**	05 13 32.8	-0.4
LTK	**Loutraki**	**0.82**	**110**	P	**Pb**	05 13 21.5	-0.7
LTK				S	**Sb**	05 13 32.4	-1.1
LTK	**Loutraki**	**0.82**	**110**	*e*PB	**Pb**	05 13 21.5	-0.7
LTK	**Loutraki**	**0.82**	**110**	P	**Pb**	05 13 21.5	-0.7
LTK				S	**Sb**	05 13 32.4	-1.1
LKR	**Lokris**	**0.87**	**66**	*e*PG	**Pg**	05 13 21.5	-0.7
LKR	**Lokris**	**0.87**	**66**	*e*Pg	**Pg**	05 13 21.5	-0.7
KFL	**Anninata**	**0.96**	**259**	P	**Pg**	05 13 23.6	-0.4
KFL				S	**Sn**	05 13 39.4	0.0
KFL	**Anninata**	**0.96**	**259**	P	**Pg**	05 13 23.6	-0.4
KFL				S	**Sb**	05 13 37.2	-0.3
VLX	**Vlachokerasia**	**0.99**	**161**	P	**Pg**	05 13 23.6	-0.8
VLX				S	**Sb**	05 13 37.7	-0.5
VLX	**Vlachokerasia**	**0.99**	**161**	*e*PG	**Pg**	05 13 23.6	-0.8
VLX	**Vlachokerasia**	**0.99**	**161**	P	**Pg**	05 13 23.6	-0.8
VLX				S	**Sb**	05 13 37.7	-0.5
VLS	**Valsamata**	**1.11**	**264**	P	**Pg**	05 13 25.2	-1.4
VLS				S	**Sn**	05 13 42.8	-0.2
VLS	**Valsamata**	**1.11**	**264**	*e*PG	**Pg**	05 13 25.3	-1.4
VLS	**Valsamata**	**1.11**	**264**	*e*Pg	**Pg**	05 13 25.3	-1.4
VLS				S	**Sn**	05 13 42.8	-0.2
SMIA	**Simia**	**1.12**	**59**	P	**Pg**	05 13 26.0	-0.9
SMIA				S	**Sn**	05 13 43.0	-0.3
SMIA	**Simia**	**1.12**	**59**	P	**Pg**	05 13 26.0	-0.9
SMIA				S	**Sn**	05 13 43.0	-0.3
ITM	**Ithomi**	**1.13**	**182**	P	**Pg**	05 13 26.0	-1.1
ITM				S	**Sn**	05 13 42.7	-0.8
ITM	**Ithomi**	**1.13**	**182**	*e*PG	**Pg**	05 13 26.0	-1.1
ITM	**Ithomi**	**1.13**	**182**	P	**Pg**	05 13 26.0	-1.1
ITM				S	**Sb**	05 13 41.9	-0.3
LKD2	**Lefkada island**	**1.15**	**295**	P	**Pg**	05 13 26.3	-1.2
LKD2				S	**Sn**	05 13 44.7	+0.7
LKD2	**Lefkada island**	**1.15**	**295**	*e*PN	**Pg**	05 13 26.2	-1.2
LKD2	**Lefkada island**	**1.15**	**295**	P	**Pg**	05 13 26.3	-1.2
LKD2				S	**Sn**	05 13 44.7	+0.7
THL	**Klokotos Trika**	**1.26**	**1**	P	**Pg**	05 13 29.0	-0.6
THL				S	**Sn**	05 13 49.1	+2.4
THL	**Klokotos Trika**	**1.26**	**1**	*e*PB	**Pg**	05 13 29.0	-0.6
THL	**Klokotos Trika**	**1.26**	**1**	P	**Pg**	05 13 29.0	-0.6
DID	**Didima**	**1.27**	**129**	P	**Pg**	05 13 29.8	-0.1
DID				S	**Sg**	05 13 46.1	-0.3
DID	**Didima**	**1.27**	**129**	*e*PB	**Pn**	05 13 29.5	-0.3
DID	**Didima**	**1.27**	**129**	*e*Pb	**Pn**	05 13 29.5	-0.3
DID	**Didima**	**1.27**	**129**	P	**Pg**	05 13 29.8	-0.1
DID				S	**Sg**	05 13 46.1	-0.3
DIDY	**Didyma**	**1.28**	**130**	P	**Pn**	05 13 29.1	-0.8
DIDY				S	**Sn**	05 13 47.6	+0.3
DIDY	**Didyma**	**1.28**	**130**	P	**Pn**	05 13 29.1	-0.8
DIDY				S	**Sn**	05 13 47.6	+0.3
SFD	**Strofades**	**1.30**	**216**	P	**Pb**	05 13 30.1	-0.2
SFD				S	**Sn**	05 13 49.4	+1.6
SFD	**Strofades**	**1.30**	**216**	P	**Pb**	05 13 30.1	-0.2
NAIG	**Nisos Aigina**	**1.31**	**114**	*e*PB	**Pg**	05 13 30.3	-0.3
NAIG	**Nisos Aigina**	**1.31**	**114**	*e*Pb	**Pg**	05 13 30.3	-0.3
MRKA	**Markates**	**1.32**	**72**	P	**Pn**	05 13 29.7	-0.7
MRKA				S	**Sn**	05 13 48.9	+0.6
MRKA	**Markates**	**1.32**	**72**	P	**Pn**	05 13 29.7	-0.7
MRKA				S	**Sn**	05 13 48.9	+0.6
NEO	**Neokhori**	**1.39**	**44**	P	**Pn**	**05 13 31.0**	**-0.4**
NEO				S	**Sg**	05 13 50.7	+0.5
NEO	**Neokhori**	**1.39**	**44**	P	**Pn**	05 13 31.0	-0.4
NEO				S	**Sg**	05 13 50.7	+0.5
ATH	**Athens Observa**	**1.41**	**103**	P	**Pb**	05 13 31.6	-0.5
ATH				S	**Sg**	05 13 50.8	+0.1
ATH	**Athens Observa**	**1.41**	**103**	*e*PB	**Pg**	05 13 32.1	-0.4
ATH	**Athens Observa**	**1.41**	**103**	P	**Pb**	05 13 31.6	-0.5
ATH	**Athens Observa**	**1.41**	**103**	*e*Pb	**Pg**	05 13 32.1	-0.4
ATH				S	**Sg**	05 13 50.8	+0.1
XOR	**Xorichti**	**1.42**	**41**	P	**Pn**	05 13 31.2	-0.6
XOR				S	**Sg**	05 13 50.9	-0.2
XOR	**Xorichti**	**1.42**	**41**	P	**Pn**	05 13 31.2	-0.6
XOR				S	**Sg**	05 13 50.9	-0.2
PYL	**PYLOS**	**1.42**	**188**	P	**Pn**	05 13 31.0	-0.8
PYL				S	**Sg**	05 13 52.3	+1.1
PYL	**PYLOS**	**1.42**	**188**	*e*PG	**Pn**	05 13 31.2	-0.6
PYL	**PYLOS**	**1.42**	**188**	P	**Pn**	05 13 31.0	-0.8
PYL				S	**Sg**	05 13 52.3	+1.1
ERET	**Eretria**	**1.44**	**84**	P	**Pb**	05 13 32.1	-0.6
ERET				S	**Sg**	05 13 52.0	+0.3
ERET	**Eretria**	**1.44**	**84**	P	**Pb**	05 13 32.1	-0.6
ERET				S	**Sg**	05 13 52.0	+0.3
SKIA	**Skiathos**	**1.44**	**53**	P	**Pn**	05 13 31.7	-0.4
SKIA				S	**Sg**	05 13 51.2	-0.7
SKIA	**Skiathos**	**1.44**	**53**	P	**Pn**	05 13 31.7	-0.4
SKIA				S	**Sg**	05 13 51.2	-0.7
ATHU	**Athens Univers**	**1.46**	**103**	P	**Pb**	05 13 32.6	-0.4
ATHU				S	**Sb**	05 13 51.5	-0.3
ATHU	**Athens Univers**	**1.46**	**103**	P	**Pb**	05 13 32.6	-0.4
ATHU				S	**Sb**	05 13 51.5	-0.3
PTL	**Penteli**	**1.50**	**99**	P	**Pb**	05 13 33.1	-0.7
PTL				S	**Sb**	05 13 52.9	-0.2
PTL	**Penteli**	**1.50**	**99**	*e*PB	**Pb**	05 13 33.2	-0.6
PTL	**Penteli**	**1.50**	**99**	P	**Pb**	05 13 33.1	-0.7
PTL				S	**Sb**	05 13 52.9	-0.2
DYR	**Agios Nikonas**	**1.57**	**170**	P	**Pn**	05 13 33.5	-0.3
DYR				S	**Sg**	05 13 56.9	+1.1
DYR	**Agios Nikonas**	**1.57**	**170**	*e*PG	**Pn**	05 13 33.7	-0.1
DYR	**Agios Nikonas**	**1.57**	**170**	P	**Pn**	05 13 33.5	-0.3
DYR				S	**Sg**	05 13 56.9	+1.1
JAN	**Janina**	**1.61**	**327**	P	**Pg**	05 13 35.8	-0.6
JAN				S	**Sg**	05 13 59.5	+2.2
JAN	**Janina**	**1.61**	**327**	*e*PB	**Pb**	05 13 35.0	-0.6
JAN	**Janina**	**1.61**	**327**	*e*Pb	**Pb**	05 13 35.0	-0.6
JAN	**Janina**	**1.61**	**327**	P	**Pg**	05 13 35.8	-0.6
AOS	**Alonnisos**	**1.71**	**59**	P	**Pn**	05 13 35.0	-0.8
AOS				S	**Sn**	05 13 57.3	-0.7
AOS	**Alonnisos**	**1.71**	**59**	P	**Pn**	05 13 35.0	-0.8
AOS				S	**Sn**	05 13 57.3	-0.7
VLI	**Veliai**	**1.76**	**154**	P	**Pn**	05 13 36.8	+0.4
VLI				S	**Sb**	05 14 00.2	-0.2
VLI	**Veliai**	**1.76**	**154**	P	**Pn**	05 13 36.8	+0.4
VLI				S	**Sb**	05 14 00.2	-0.2
IGT	**Igoumenitsa**	**1.78**	**314**	P	**Pb**	05 13 38.2	-0.2
IGT				S	**Sb**	05 14 01.2	+0.3
IGT	**Igoumenitsa**	**1.78**	**314**	P	**Pb**	05 13 38.2	-0.2
IGT				S	**Sb**	05 14 01.2	+0.3
LIT	**Litokhoron**	**1.83**	**12**	P	**Pn**	05 13 37.4	-0.1
LIT				S	**Sb**	05 14 02.6	0.0
LIT	**Litokhoron**	**1.83**	**12**	P	**Pn**	05 13 37.4	-0.1
LIT				S	**Sb**	05 14 02.6	0.0
MRMA	**Marmari**	**1.90**	**97**	P	**Pb**	05 13 39.5	-1.1
MRMA				S	**Sn**	05 14 03.2	+0.5
MRMA	**Marmari**	**1.90**	**97**	P	**Pb**	05 13 39.5	-1.1
MRMA				S	**Sn**	05 14 03.2	+0.5
KZN	**Kozani**	**2.00**	**355**	P	**Pn**	05 13 40.1	+0.2
KZN	**Kozani**	**2.00**	**355**	P	**Pn**	05 13 40.1	+0.2
PAIG	**Paliouri**	**2.09**	**39**	P	**Pn**	05 13 39.9	-1.0
PAIG	**Paliouri**	**2.09**	**39**	P	**Pn**	05 13 39.9	-1.0
KYTH	**Kithira**	**2.19**	**157**	P	**Pb**	05 13 44.2	-1.3
KYTH	**Kithira**	**2.19**	**157**	*e*PN	**Pb**	05 13 44.4	-1.1
KYTH	**Kithira**	**2.19**	**157**	P	**Pb**	05 13 44.2	-1.3
SRN	**Sarande**	**2.20**	**316**	P	**Pb**	05 13 44.6	-1.1
SRN	**Sarande**	**2.20**	**316**	P	**Pb**	05 13 44.6	-1.1
KEK	**Kerkira**	**2.21**	**310**	P	**Pn**	05 13 43.8	+1.2
KEK				S	**Sb**	05 14 13.6	+0.3
KEK	**Kerkira**	**2.21**	**310**	*e*PN	**Pb**	05 13 43.9	-1.8
KEK	**Kerkira**	**2.21**	**310**	P	**Pn**	05 13 43.8	+1.2
NEST	**Nestorio**	**2.23**	**341**	P	**Pb**	05 13 44.7	-1.4
NEST	**Nestorio**	**2.23**	**341**	P	**Pb**	05 13 44.7	-1.4
PLG	**Polygyros**	**2.35**	**28**	P	**Pn**	05 13 43.7	-1.0
PLG				S	**Sn**	05 14 15.3	+1.4
PLG	**Polygyros**	**2.35**	**28**	P	**Pn**	05 13 43.7	-1.0
PLG				S	**Sn**	05 14 15.3	+1.4
HORT	**Hortiatis**	**2.44**	**20**	P	**Pn**	05 13 45.1	-0.8
HORT	**Hortiatis**	**2.44**	**20**	P	**Pn**	05 13 45.1	-0.8
FNA	**Florina**	**2.52**	**349**	P	**Pn**	05 13 47.1	+0.2
FNA	**Florina**	**2.52**	**349**	P	**Pn**	05 13 47.1	+0.2
OUR	**Ouranopolis**	**2.55**	**37**	P	**Pn**	05 13 46.7	-0.6
OUR	**Ouranopolis**	**2.55**	**37**	P	**Pn**	05 13 46.7	-0.6
ANKY	**Antikythira Is**	**2.65**	**156**	P	**Pn**	05 13 50.1	+1.4
ANKY				S	**Sb**	05 14 25.0	-1.1
ANKY	**Antikythira Is**	**2.65**	**156**	P	**Pn**	05 13 50.1	+1.4
GRG	**Griva**	**2.67**	**7**	P	**Pn**	05 13 49.8	+0.9
GRG	**Griva**	**2.67**	**7**	P	**Pn**	05 13 49.8	+0.9
SOH	**Sokhos**	**2.73**	**22**	P	**Pn**	05 13 49.2	-0.6
SOH	**Sokhos**	**2.73**	**22**	P	**Pn**	05 13 49.2	-0.6
BIA	**Bitola**	**2.76**	**350**	P	**Pn**	05 13 51.5	+1.3
BIA	**Bitola**	**2.76**	**350**	*e*Pn	**Pn**	05 13 51.3	+1.0
BIA	**Bitola**	**2.76**	**350**	*e*Pn	**Pn**	05 13 51.2	+1.0
BIA	**Bitola**	**2.76**	**350**	P	**Pn**	05 13 51.5	+1.3
KNT	**Kendrikon**	**2.94**	**14**	P	**Pn**	05 13 52.5	-0.1
KNT	**Kendrikon**	**2.94**	**14**	P	**Pn**	05 13 52.5	-0.1
LIA	**Limnos Island**	**2.95**	**56**	P	**Pn**	05 13 52.0	-0.8
LIA	**Limnos Island**	**2.95**	**56**	P	**Pn**	05 13 52.0	-0.8
VAY	**Valandovo**	**3.04**	**8**	*e*Pn	**Pn**	05 13 55.2	+1.1
VAY	**Valandovo**	**3.04**	**8**	*e*Pn	**Pn**	05 13 55.2	+1.1
SRS	**Serrai**	**3.07**	**23**	P	**Pn**	05 13 54.0	-0.4
SRS	**Serrai**	**3.07**	**23**	P	**Pn**	05 13 54.0	-0.4
APE	**Apeiranthos**	**3.07**	**113**	P	**Pn**	05 13 54.9	+0.4
APE				S	**Sn**	05 14 32.4	+0.8
APE	**Apeiranthos**	**3.07**	**113**	*i*P	**Pn**	05 13 55.4	+0.9
APE	**Apeiranthos**	**3.07**	**113**	P	**Pn**	05 13 54.9	+0.4
APE				S	**Sn**	05 14 32.4	+0.8
CHOS	**Chios island**	**3.20**	**87**	P	**Pn**	05 13 56.6	+0.3
CHOS	**Chios island**	**3.20**	**87**	P	**Pn**	05 13 56.6	+0.3
KARN	**Karanos**	**3.29**	**151**	P	**Pn**	05 13 58.9	+1.4
KARN	**Karanos**	**3.29**	**151**	P	**Pn**	05 13 58.9	+1.4
THR3	**Thira Island,**	**3.32**	**124**	P	**Pn**	05 13 59.0	+1.2
THR3	**Thira Island,**	**3.32**	**124**	P	**Pn**	05 13 59.0	+1.2
KAVA	**Kavala**	**3.32**	**35**	P	**Pn**	05 13 57.1	-0.8
KAVA	**Kavala**	**3.32**	**35**	P	**Pn**	05 13 57.1	-0.8
NVR	**Nevrokopi**	**3.37**	**25**	P	**Pn**	05 13 59.8	+1.2
NVR	**Nevrokopi**	**3.37**	**25**	P	**Pn**	05 13 59.8	+1.2
VAM	**Vamos**	**3.40**	**148**	P	**Pn**	05 14 00.1	+1.2
VAM				S	**Sn**	05 14 39.9	+0.4
VAM	**Vamos**	**3.40**	**148**	P	**Pn**	05 14 00.1	+1.2
VAM				S	**Sn**	05 14 39.9	+0.4
MMB	**Musomiste**	**3.54**	**22**	P	**Pn**	05 14 02.1	+1.1
MMB	**Musomiste**	**3.54**	**22**	P	**Pn**	05 14 02.1	+1.1
KKB	**Krupnik**	**3.65**	**13**	P	**Pn**	05 14 03.7	+1.2
KKB	**Krupnik**	**3.65**	**13**	P	**Pn**	05 14 03.7	+1.2
IDI	**Anoyia**	**3.81**	**141**	P	**Pn**	05 14 05.3	+0.6
IDI				S	**Sn**	05 14 51.3	+1.5
IDI	**Anoyia**	**3.81**	**141**	P	**Pn**	05 14 05.3	+0.6
IDI				S	**Sn**	05 14 51.3	+1.5
RZN	**Rozhen**	**3.98**	**31**	P	Pn	05 14 10.6	+3.5
RZN	**Rozhen**	**3.98**	**31**	P	Pn	05 14 10.6	+3.5
LAST	**Lasithi**	**4.21**	**137**	P	**Pn**	05 14 11.0	+0.8
LAST				S	**Sn**	05 14 58.9	-0.8
LAST	**Lasithi**	**4.21**	**137**	P	**Pn**	05 14 11.0	+0.8
LAST				S	**Sn**	05 14 58.9	-0.8
VTS	**Vitosha**	**4.38**	**12**	P	Pn	05 14 09.3	-3.3
VTS	**Vitosha**	**4.38**	**12**	*i*P	**Pn**	05 14 13.0	+0.4
VTS	**Vitosha**	**4.38**	**12**	S	**Sn**	05 15 04.8	+0.8
VTS	**Vitosha**	**4.38**	**12**	*i*P	**Pn**	05 14 13.0	+0.4
VTS				S	**Sn**	05 15 04.8	+0.8
BARS	**Barje**	**4.51**	**358**	*e*Pn	**Pn**	05 14 16.3	+2.1
KARP	**Karpathos**	**4.98**	**122**	P	**Pn**	05 14 21.8	+1.1
KARP				S	**Sn**	05 15 19.9	+1.3
KARP	**Karpathos**	**4.98**	**122**	P	**Pn**	05 14 21.8	+1.1
KARP				S	**Sn**	05 15 19.9	+1.3
TREB	**Trebinje**	**5.20**	**329**	*e*Pn	**Pn**	05 14 22.1	-1.7
MPEP	**Malo Peshtene**	**5.22**	**14**	P	**Pn**	05 14 25.5	+1.5
GRUS	**Gruza**	**5.66**	**351**	*e*Pn	**Pn**	05 14 31.2	+1.2
DIVS	**Divibare**	**5.98**	**346**	*e*Pn	**Pn**	05 14 35.7	+1.2
TEKS	**Tekeris**	**6.50**	**344**	*e*Pn	**Pn**	05 14 43.0	+1.4
ARR	**Arges**	**7.33**	**15**	*i*P	**Pn**	05 14 52.6	-0.4
ARR	**Arges**	**7.33**	**15**	*i*P	**Pn**	**05 14 52.6**	**-0.4**
VOIR		**7.48**	**17**	*i*P	**Pn**	**05 14 56.2**	**+1.1**
VOIR		**7.48**	**17**	*i*P	**Pn**	**05 14 56.2**	**+1.1**
MLR	**Muntele Rosu**	**7.76**	**21**	*i*P	**Pn**	**05 15 00.4**	**+1.4**
MLR	**Muntele Rosu**	**7.76**	**21**	P	Pn	05 15 02.5	+3.5
MLR	**Muntele Rosu**	**7.76**	**21**	*i*P	**Pn**	**05 15 00.4**	**+1.4**
TIRR	**Tirgusor**	**7.82**	**36**	*i*P	**Pn**	**05 15 01.8**	**+2.2**
TIRR	**Tirgusor**	**7.82**	**36**	*i*P	**Pn**	**05 15 01.8**	**+2.2**
PKSM	**Moragy**	**8.28**	**344**	*i*P	**Pn**	**05 15 07.7**	**+1.8**
PKSM	**Moragy**	**8.28**	**344**	*i*P	**Pn**	**05 15 07.7**	**+1.8**
VRI	**Vrincioaia**	**8.34**	**23**	*i*P	**Pn**	**05 15 07.9**	**+1.1**
VRI	**Vrincioaia**	**8.34**	**23**	*i*P	**Pn**	**05 15 07.9**	**+1.1**
BRTR	**Keskin Array B**	**9.18**	**78**	P	**Pn**	**05 15 20.8**	**+2.3**
0.2nm,0.3s,baz=262,slow=12,SNR=6.7
BURAR Bucovina Array 9.60 13 *i*P **Pn 05 15 24.5 +0.3**
BURAR Bucovina Array 9.60 13 *i*P **Pn 05 15 24.5 +0.3**
PSZ Piszkesteto 9.73 352 *i*P **Pn 05 15 27.8 +1.9**
PSZ Piszkesteto 9.73 352 *i*P **Pn 05 15 27.8 +1.9**
ESDC Sonseca Array 20.20 282 P Pn 05 17 41.6 -1.2
0.8nm,0.6s,baz=77,slow=11,SNR=6.9
HFS Hagfors 22.47 349 P **P 05 18 04.4 -0.7**
2.5nm,0.7s,baz=156,slow=11,SNR=7.1
FINES FINESS Array B 23.30 5 P **P 05 18 12.3 -1.4**
2.1nm,0.9s,baz=165,slow=12,SNR=3.1
NB2 NORSAR Subarra 23.73 347 P **P 05 18 17.4 -0.7**
comp=Z,1.5nm,0.7s,baz=152,slow=10
NB2 NORSAR Subarra 23.73 347 P **P 05 18 17.4 -0.7**
comp=Z,1.5nm,0.7s,SNR=4.9
NOA NORSAR Array B 23.73 347 P **P 05 18 17.2 -0.9**
comp=Z,0.8nm,0.7s,baz=156,slow=12,SNR=5.2
EKA Eskdalemuir Ar 24.00 323 P **P 05 18 20.0 -0.6**
comp=Z,3.6nm,0.8s,baz=119,slow=10.0,SNR=7.9
TORD Torodi Ar. Bea 30.87 221 P **P 05 19 23.6 +1.1**
comp=Z,0.8nm,0.7s,baz=30,slow=9.1,SNR=5.9
ARCES ARCESS Array B 31.35 2 P **P 05 19 26.1 -0.2**
comp=Z,2.6nm,0.9s,baz=190,slow=10,SNR=3.2
KURBB Kurchatov Arra 41.23 54 P **P 05 20 50.1 -0.7**
comp=Z,0.3nm,0.6s,baz=282,slow=9.1,SNR=5.4
MKAR Makanchi Array 44.25 59 P **P 05 21 15.1 -0.5**
comp=Z,0.5nm,0.4s,baz=279,slow=6.5,SNR=9.5
ZALV Zalesovo Beam 44.75 48 P **P 05 21 18.5 -0.8**
comp=Z,1.2nm,0.6s,baz=268,slow=8.7,SNR=5.3
SONM Songino Array 59.48 51 P **P 05 23 08.7 -0.6**
comp=Z,0.3nm,0.6s,baz=270,slow=5.5,SNR=2.2
JNU Nakatsue 83.00 53 P **P 05 25 30.6 -1.0**
comp=Z,5.0nm,0.8s,baz=358,slow=11,SNR=3.5
PDAR Pinedale Array 88.08 327 P **P 05 25 56.8 -0.2**
comp=Z,0.2nm,0.7s,baz=

PMG S **Sn** **06 16 31.3 -0.9**
498nm,0.3s,baz=93,slow=16,SNR=14
RABL Rabaul 4.12 67 P Pn 06 15 51.5 -2.8
baz=4.0,SNR=28
COEN Coen 9.55 212 *e*Pn **Pn** **06 17 07.5 -0.6**
COEN *e*Sn Sn 06 18 46.9 -6.7
COEN Coen 9.55 212 S **Sn** **06 18 51.6 -2.0**
baz=15,SNR=5.0
COEN Coen 9.55 212 P **Pn** **06 17 07.7 -0.3**
baz=9.6,SNR=25
COEN S **Sn** **06 18 49.4 -4.2**
baz=9.6,SNR=11
HNR Honiara 12.01 108 *e*Pn Pn 06 17 32.4 -8.9
HNR Honiara 12.01 108 LR LR 06 21 16.7
comp=Z,66nm,19.2s,baz=266,slow=33
MTSU Mount Surprise 12.84 198 P **Pn** **06 17 52.4 +0.1**
baz=13,SNR=41
CTA Charters Tower 14.31 188 P P 06 18 10.7 -4.9
CTA Charters Tower 14.31 188 P P 06 18 10.7 -4.9
1.7nm,0.3s,baz=15,slow=14,SNR=25
CTAO Charters Tower 14.31 188 *e*Pn P 06 18 11.2 -4.3
KDU Kakadu 17.10 245 P **P** **06 18 47.1 +0.6**
baz=17,SNR=14
MTN Manton Dam 18.37 247 P **Pn** **06 19 02.7 +0.9**
baz=18,SNR=22
WRAB Tennant Creek 19.55 223 *e*P **Pn** **06 19 14.9 -0.7**
30nm,0.7s
WRAB *e*S **S** **06 22 44.8 -4.1**
WRA Warramunga Arr 19.56 223 P **Pn** **06 19 14.8 -1.0**
WRA S **S** **06 22 45.1 -4.1**
WRA Warramunga Arr 19.56 223 P **Pn** **06 19 14.8 -1.0**
6.1nm,0.3s,baz=49,slow=11,SNR=188
WRA S **S** **06 22 45.1 -4.1**
0.4nm,0.3s,baz=51,slow=22,SNR=6.7
EIDS Eidsvold 19.58 173 *e*P **Pn** **06 19 13.8 -2.2**
31nm,0.8s
EIDS Eidsvold 19.58 173 P **Pn** **06 19 14.1 -1.8**
baz=20,SNR=14
RMQ Roma 20.53 179 P Pn 06 19 24.8 -2.2
baz=20,SNR=9.8
KNRA Kununurra 21.58 242 P **P** **06 19 36.3 +1.1**
baz=22,SNR=42
AS01 Alice Springs 22.51 217 *e*P **P** **06 19 46.1 +1.1**
AS31 Alice Springs 22.54 217 *e*P **P** **06 19 46.6 +1.3**
ASAR Alice Springs 22.54 217 P **P** **06 19 46.6 +1.3**
ASAR S **S** **06 23 50.3 +4.8**
ASAR Alice Springs 22.54 217 P **P** **06 19 46.6 +1.3**
8.9nm,0.5s,baz=53,slow=8.9,SNR=177
ASAR S **S** **06 23 50.3 +4.8**
14nm,0.8s,baz=31,slow=22,SNR=33
ARMA Armidale 24.63 173 P **P** **06 20 04.8 0.0**
baz=25,SNR=12
FITZ Fitzroy Crossi 25.32 239 *e*P **P** **06 20 12.9 +1.8**
FITZ Fitzroy Crossi 25.32 239 P **P** **06 20 12.9 +1.8**
71nm,0.9s,baz=59,slow=8.3,SNR=260
FITZ Fitzroy Crossi 25.32 239 P **P** **06 20 12.9 +1.8**
baz=25,SNR=81
CMSA Cobar Meteorol 25.68 185 P **P** **06 20 14.6 +0.4**
baz=26,SNR=12
STKA Stephens Creek 26.66 193 P **P** **06 20 23.9 +0.8**
STKA Stephens Creek 26.66 193 P **P** **06 20 23.9 +0.8**
4.0nm,0.4s,baz=23,slow=12,SNR=7.3
STKA Stephens Creek 26.66 193 P P 06 20 25.9 +2.8
baz=27,SNR=5.2
FORT Forrest 31.30 215 *e*P **P** **06 21 04.8 +0.7**
13nm,0.8s
MEEK Meekatharra 35.10 231 P **P** **06 21 39.0 +1.6**
baz=35,SNR=19
MORW Morawa 38.30 229 P **P** **06 22 06.0 +1.6**
baz=38,SNR=12
KLBR Kellerberrin 38.43 224 P **P** **06 22 06.5 +0.9**
baz=38,SNR=7.8
JNU Nakatsue 42.17 338 P **P** **06 22 38.7 +2.4**
JNU Nakatsue 42.17 338 P **P** **06 22 38.7 +2.4**
7.3nm,0.7s,baz=252,slow=16,SNR=7.4
MJAR Matsushiro Arr 43.23 348 P **P** **06 22 46.1 +1.3**
MJAR Matsushiro Arr 43.23 348 P **P** **06 22 46.1 +1.3**
1.5nm,0.7s,baz=178,slow=8.3,SNR=5.2
QIZ Qiongzhong 45.30 304 P **P** **06 22 59.0 -2.6**
QIZ S **S** **06 29 37.3 +2.3**
KSRS Korea Array 47.12 338 P **P** **06 23 17.7 +2.2**
4.3nm,0.8s,baz=152,slow=8.3,SNR=12
KSAR Wonju Array Be 47.12 338 P **P** **06 23 17.7 +2.1**
WHN Wuhan 48.69 320 P P 06 23 19.5 -8.3
GYA Guiyang 51.62 310 *e*P **P** **06 23 49.0 -1.2**
GYA pP pP 06 24 04.3 -10
GYA sP sP 06 24 11.5 -14
GYA PP **PP** **06 25 48.0 -0.7**
GYA ScP **ScP** **06 28 53.0 +2.5**
GYA S **S** **06 31 05.3 +1.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Arra 51.96 345 P **P** **06 23 54.0 +1.8**
comp=Z,3.0nm,0.7s,baz=185,slow=6.0,SNR=9.3
CN2 Changchun 53.59 339 *e*P **P** **06 24 02.0 -2.2**
CN2 *e*sP sP 06 24 22.0 -18
CN2 *e*S **S** **06 31 28.8 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,100nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
KMI Kunming 54.00 307 P **P** **06 24 06.8 -1.0**
KMI pmax pmax
comp=Z,7.0nm,0.5s
CD2 Chengdu 56.16 313 *e*P **P** **06 24 21.5 -1.6**
CD2 pP pP 06 24 35.8 -12
CD2 sP sP 06 24 42.3 -16
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,30nm,4.2s
HHC Hu-ho-hao-te 57.43 327 *e*P P 06 24 28.0 -4.0
HHC pP pP 06 24 44.0 -12
HHC sP sP 06 24 51.3 -16
HHC PP **PP** **06 26 37.8 -2.8**
HHC S **S** **06 32 18.5 -3.0**
HHC sS sS 06 32 45.3 -18
HHC SS **SS** **06 36 10.8 -2.1**
HHC pmax pmax
comp=Z,40nm,0.9s
HHC pmax pmax
comp=Z,210nm,5.6s
HHC LR LR
comp=N,270nm,17.3s
HHC LR LR
comp=E,750nm,16.1s
LZH Lanzhou 59.00 318 *e*P **P** **06 24 44.0 +1.0**
LZH pP pP 06 24 55.8 -12
LZH sP sP 06 25 01.0 -18
LZH pmax pmax
comp=Z,21nm,1.2s
PETK Petropavlovsk- 59.26 7 P P 06 24 46.3 +2.0
PETK Petropavlovsk- 59.26 7 P P 06 24 46.3 +2.0
comp=Z,3.4nm,0.5s,baz=168,slow=8.2,SNR=10
SONM Songino Array 64.95 330 P **P** **06 25 24.8 +2.2**
SONM Songino Array 64.95 330 P **P** **06 25 24.8 +2.2**
comp=Z,0.3nm,0.3s,baz=121,slow=4.3,SNR=4.6
WMQ Urumqi 73.57 319 *e*P **P** **06 26 13.0 -2.9**
MKAR Makanchi Array 78.26 320 P **P** **06 26 43.5 +1.1**
MKAR Makanchi Array 78.26 320 P **P** **06 26 43.5 +1.1**
comp=Z,0.4nm,0.4s,baz=99,slow=8.0,SNR=8.1
ZALV Zalesovo Beam 79.62 327 P **P** **06 26 50.2 +0.6**
ZALV Zalesovo Beam 79.62 327 P **P** **06 26 50.2 +0.6**
comp=Z,0.5nm,0.3s,baz=109,slow=5.5,SNR=3.3
ILAR Eielson Array 84.81 23 P **P** **06 27 15.3 -1.1**
ILAR Eielson Array 84.81 23 P **P** **06 27 15.3 -1.1**
comp=Z,1.3nm,0.7s,baz=251,slow=5.0,SNR=18
LPAZ La Paz 137.71 122 PKP **PKPdf** **06 34 08.0 +0.2**
LPAZ La Paz 137.71 122 PKP **PKPdf** **06 34 08.0 +0.2**
comp=Z,0.7nm,0.6s,baz=191,slow=3.5,SNR=5.5
SIV San Ignacio 143.66 127 PKP **PKPdf** **06 34 18.7 +0.9**
SIV San Ignacio 143.66 127 PKP **PKPdf** **06 34 18.7 +0.9**
comp=Z,1.4nm,0.6s,baz=270,slow=2.7,SNR=7.1
SAML Samuel 145.27 115 *e*PKPbc **PKPdf** **06 34 19.4 -1.2**
TORD Torodi Ar. Bea 146.38 285 PKPbc **PKPab** **06 34 23.7 -1.2**
TORD Torodi Ar. Bea 146.38 285 PKPbc **PKPab** **06 34 23.7 -1.2**
comp=Z,0.9nm,0.4s,baz=65,slow=3.0,SNR=17
BDFB Brasilia 153.18 143 PKPbc **PKPbc** **06 34 39.7 -1.1**
BDFB Brasilia 153.18 143 PKPbc **PKPbc** **06 34 39.7 -1.1**
comp=Z,1.5nm,0.5s,baz=213,slow=3.6,SNR=6.3

*DJA **30** 06:23:13.2±0.5, 1°S±3°×9°9E±°, h10km, M4.5/14, mb4.5/6, mB5.6/1, MLv4.5/14, Mw(mB)5.2/1*
*IDC **30** 06:23:13.2±1.4, 1°34S×99°67E, h0km, mb4.2/10, mb1 4.2/12, mb1mx4.0/25, mbtmp4.2/12, ML3.8/2, MS3.5/3, Ms1 3.5/3, ms1mx2.8/40, Error ellipse: s-maj=44.0km s-min=18.1km az=57.0*
*ISCJB **30** 06:23:15.5±0.6, 1°31S±0°04×99°54E±0°06, h30km, mb4.2/10, MS3.5/2, Error ellipse: s-maj=8.1km s-min=6.0km az=168.0*
ISC 30 06:23:17.5±0.8, 1°34S±0°06×99°61E±0°08, h30km, n31, σ1§29/31, mb4.3/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.95**	**64**	P	**Pb**	**06 23 36.5**	**+1.0**
PDSI				S	**Sn**	**06 23 46.8**	**-0.7**
PPI	**Padang Panjang**	**1.18**	**42**	P	**Pb**	**06 23 40.1**	**+0.8**
PPI				S	**Sn**	**06 23 51.1**	**-1.9**
PPI	**Padang Panjang**	**1.18**	**42**	P	**Pb**	**06 23 40.2**	**+0.9**
baz=48,SNR=100							
BKNI	**Bangkinang**	**2.19**	**41**	P	**Pn**	**06 23 53.5**	**+1.6**
BKNI				S	**Sn**	**06 24 16.5**	**-1.4**
RGRI	**Rengat**	**2.90**	**70**	P	**Pb**	**06 24 06.2**	**-2.3**
MASI	**Maura Aman, Be**	**3.18**	**124**	P	**Pn**	**06 24 07.0**	**+1.4**
KSI	**Kapahiang**	**3.76**	**128**	P	**Pn**	**06 24 14.1**	**+0.5**
PSI	**Prapat**	**4.17**	**351**	Pn	**Pn**	**06 24 18.1**	**-1.2**
1.4nm,0.3s,baz=198,slow=6.4,SNR=5.1							
PSI				LR	LR	06 26 22.5	
comp=Z,397nm,18.2s,baz=175,slow=46							
MNAI	**Manna**	**4.49**	**132**	P	**Pn**	**06 24 23.9**	**+0.3**
EGSI	**Enggano, Bengk**	**4.79**	**146**	P	**Pn**	**06 24 26.5**	**-1.2**
KCSI	**Kotacane, Aceh**	**5.17**	**339**	P	Pn	06 24 27.2	-5.7
20nm,1.0s,0.1nm							
MYKOM	**Kota Tinggi**	**5.26**	**54**	P	**Pn**	**06 24 36.3**	**+2.2**
24nm,0.6s,0.3nm							
LWLI	**Liwa**	**5.75**	**130**	P	**Pn**	**06 24 41.8**	**+0.8**
109nm,0.7s,5μm0.5nm							
IPM	**Ipoh**	**5.95**	**14**	P	**Pn**	**06 24 42.1**	**-1.6**
48nm,1.1s,0.1nm							
KASI	**Kota Agung**	**6.41**	**131**	P	**Pn**	**06 24 50.5**	**+0.6**
43nm,0.6s,0.2nm							
PPBI	**Pangkal Pinang**	**6.57**	**97**	P	**Pn**	**06 24 55.1**	**+2.9**
KULM	**Kulim**	**6.67**	**9**	P	**Pn**	**06 24 51.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**19.68**	**358**	P	**P**	**06 27 44.1**	**-0.3**
0.4nm,0.3s,baz=188,slow=10,SNR=17							
WRA	**Warramunga Arr**	**38.66**	**121**	P	**P**	**06 30 38.4**	**-0.4**
1.1nm,0.5s,baz=303,slow=9.0,SNR=19							
ASAR	**Alice Springs**	**39.95**	**126**	P	**P**	**06 30 49.8**	**+0.2**
0.3nm,0.5s,baz=297,slow=8.0,SNR=6.9							
ASAR				LR	LR	06 49 03.9	
comp=Z,79nm,21.8s,baz=78,slow=39							
JNU	**Nakatsue**	**45.21**	**38**	P	**P**	**06 31 32.4**	**+0.2**
6.7nm,0.8s,baz=127,slow=3.4,SNR=4.9							
KSRS	**Korea Array**	**46.66**	**31**	P	**P**	**06 31 43.1**	**-0.3**
1.4nm,0.5s,baz=220,slow=9.4,SNR=4.9							
SONM	**Songino Array**	**49.33**	**6**	P	**P**	**06 32 04.4**	**+0.3**
1.5nm,0.6s,baz=188,slow=8.8,SNR=11							
MKAR	**Makanchi Array**	**50.29**	**345**	P	**P**	**06 32 12.1**	**+0.8**
2.8nm,0.5s,baz=148,slow=8.0,SNR=26							
USRK	**Ussuriysk Arra**	**53.77**	**29**	P	**P**	**06 32 35.9**	**-1.2**
4.2nm,0.8s,baz=223,slow=5.9,SNR=7.1							
ZALV	**Zalesovo Beam**	**56.45**	**350**	P	**P**	**06 32 56.8**	**+0.4**
3.1nm,0.6s,baz=170,slow=6.6,SNR=14							
EIL	**Elat**	**68.84**	**302**	LR	LR	07 05 42.9	
comp=Z,33nm,19.6s,baz=78,slow=37							
FINES	**FINESS Array B**	**83.35**	**332**	P	**P**	**06 35 41.3**	**-0.1**
1.8nm,0.9s,baz=119,slow=8.1,SNR=3.2							
ARCES	**ARCESS Array B**	**85.72**	**340**	P	**P**	**06 35 54.4**	**+1.0**
7.6nm,1.0s,baz=94,slow=3.6,SNR=3.1							
TXAR	**Lajitas Array**	**144.41**	**36**	PKP	PKPbc	06 42 50.7	+0.5
0.8nm,0.5s,baz=336,slow=2.0,SNR=7.0							
CPUP	**Villa Florida**	**144.61**	**217**	PKP	**PKPab**	**06 42 50.3**	**-0.3**
0.9nm,0.5s,baz=106,slow=4.9,SNR=4.3							

*DJA **30** 06:42:13.3±1.4, 7°S±12°×12°7E±1°4, h445km±22km, M4.6/7, mb4.8/3, mB5.1/3, MLv4.5/7, Mw(mB)4.4/3*
*ISCJB **30** 06:42:22.7±0.6, 6°02S±0°06×127°9E±0°1, h400km, mb3.6/7, Error ellipse: s-maj=17.2km s-min=7.9km az=174.7*
*IDC **30** 06:42:24.8±3.0, 6°01S×127°91E, h402km±36km, mb3.4/7, mb1 3.6/10, mb1mx3.4/21, mbtmp3.5/10, Error ellipse: s-maj=40.1km s-min=10.2km az=75.0*
ISC 30 06:42:24.7±0.8, 6°01S±0°07×128°1E±0°1, h400km, n17, σ1§01/16, mb3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.31**	**3**	P	**Pn**	**06 43 24.4**	**+1.6**
BNDI	**Bandanaira**	**2.36**	**51**	P	Pn	06 43 19.6	-3.4
NLAI	**Namlea**	**2.91**	**341**	P	Pn	06 43 20.5	-6.7
SAUI	**Saumlaki**	**3.77**	**122**	P	S	06 44 19.1	-12
FAKI	**Fak Fak**	**5.18**	**54**	P	**Pn**	**06 43 48.3**	**-0.4**
168nm,1.0s,3μm0.6nm							
SWI	**Sorong**	**6.03**	**32**	P	**Pn**	**06 43 57.1**	**-0.6**
124nm,0.6s,2μm0.5nm							
RKPI	**Ransiki, Papua**	**7.56**	**54**	P	**P**	**06 44 15.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.25**	**191**	P	**P**	**06 45 06.0**	**-1.2**
0.5nm,0.3s,baz=21,slow=8.0,SNR=17							
WRA	**Warramunga Arr**	**15.14**	**157**	P	**P**	**06 45 38.9**	**+0.1**
2.8nm,0.3s,baz=335,slow=11,SNR=171							
WRA				S	**S**	**06 48 17.9**	**-1.4**
0.2nm,0.3s,baz=332,slow=20,SNR=3.5							
ASAR	**Alice Springs**	**18.44**	**163**	P	**P**	**06 46 14.3**	**+0.3**
4.2nm,0.3s,baz=343,slow=11,SNR=311							
ASAR				S	**S**	**06 49 24.1**	**+1.0**
0.1nm,0.3s,baz=350,slow=22,SNR=5.0							
STKA	**Stephens Creek**	**28.68**	**155**	P	**P**	**06 47 48.1**	**+1.2**
2.6nm,0.4s,baz=329,slow=10,SNR=16							
KSRS	**Korea Array**	**43.24**	**360**	P	**P**	**06 49 49.1**	**+0.7**
0.9nm,0.6s,baz=180,slow=11,SNR=4.3							
MJAR	**Matsushiro Arr**	**43.38**	**12**	P	**P**	**06 49 48.4**	**-1.3**
1.0nm,0.6s,baz=196,slow=8.7,SNR=3.6							
USRK	**Ussuriysk Arra**	**50.10**	**4**	P	**P**	**06 50 41.3**	**+0.4**
1.9nm,0.6s,baz=157,slow=4.7,SNR=5.9							
SONM	**Songino Array**	**56.91**	**343**	P	**P**	**06 51 29.6**	**-0.2**
1.3nm,0.6s,baz=165,slow=6.7,SNR=10.0							
MKAR	**Makanchi Array**	**66.35**	**327**	P	**P**	**06 52 31.4**	**-0.6**
2.5nm,0.4s,baz=116,slow=8.4,SNR=59							
ZALV	**Zalesovo Beam**	**69.85**	**334**	P	**P**	**06 52 52.4**	**-0.9**
1.5nm,0.5s,baz=113,slow=11,SNR=7.4							

IDC 30 06:43:55.0±3.1, 30°20S×177°40W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.7/2, Error ellipse: s-maj=63.5km s-min=34.2km az=101.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**334**	Pn	Pn	06 44 17.0	+0.1
418nm,0.3s,baz=112,slow=19,SNR=67							
RAO				Sn	Sg	06 44 26.2	-2.5
1μm,0.3s,baz=252,slow=20,SNR=26							
ASAR	**Alice Springs**	**43.64**	**266**	P	P	06 52 01.6	+0.1
0.6nm,0.5s,baz=103,slow=7.2,SNR=8.7							
WRA	**Warramunga Arr**	**44.61**	**272**	P	P	06 52 08.8	-0.5
0.4nm,0.4s,baz=110,slow=8.2,SNR=5.3							
FINES	**FINESS Array B**	**145.13**	**340**	PKPbc	PKPbc	07 03 32.4	-0.9
0.9nm,0.5s,baz=34,slow=3.0,SNR=10.0							

IDC 30 06:59:09.3±1.9, 0°06N×126°22E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=164.1km s-min=24.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.41**	**159**	P	P	07 03 57.8	-1.3
0.8nm,0.5s,baz=337,slow=10,SNR=19							
ASAR	**Alice Springs**	**24.74**	**163**	P	P	07 04 33.6	+0.9
0.4nm,0.4s,baz=346,slow=12,SNR=17							
MKAR	**Makanchi Array**	**60.29**	**327**	P	P	07 09 19.7	-0.1
0.1nm,0.3s,baz=125,slow=7.1,SNR=3.8							

*NEIC **30** 07:05:58.0, 36°39N×117°85W, h2km, ML3.9(PAS), After PAS.*
NEIC Felt [II] at Lone Pine.
*IDC **30** 07:05:58.3±0.8, 36°39N×117°92W, h0km, mb3.0/2, mb1 3.6/7, mb1mx3.4/31, mbtmp3.2/7, ML3.2/5, MS3.2/4, Ms1 3.2/4, ms1mx2.8/17, Error ellipse: s-maj=17.8km s-min=5.9km az=72.0*
ISC 30 07:05:58.3±0.7, 36°39N±0°02×117°82W±0°03, h10km, n54, σ1§90/74, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSI	**Osito Adit**	**1.92**	**203**	*e*Pn	**Pn**	**07 06 31.5**	**+0.4**
NV11	**Mina Array Sit**	**2.05**	**353**	*e*Pn	**Pn**	**07 06 33.3**	**+0.3**
NV11				*e*Sg	**Sg**	**07 07 03.3**	**-1.0**
NVAR	**Mina Array Bea**	**2.07**	**349**	Pn	**Pn**	**07 06 33.4**	**+0.1**
NVAR				Lg	Lg	07 07 02.9	
NVAR	**Mina Array Bea**	**2.07**	**349**	Pn	**Pn**	**07 06 33.4**	**+0.1**
31nm,0.3s,baz=176,slow=15,SNR=206							
NVAR				Lg	Lg	07 07 02.9	
109nm,0.3s,baz=343,slow=23,SNR=7.1							
SHPR	**Sheep Range**	**2.15**	**86**	*e*Pn	**Pn**	**07 06 35.0**	**+0.7**
SHPR				*e*Sg	**Sg**	**07 07 09.0**	**+1.7**
MWC	**Mount Wilson**	**2.17**	**185**	*e*Pn	**Pn**	**07 06 35.0**	**+0.3**
MWC				*e*Sg	**Sg**	**07 07 07.4**	**-0.7**
PASC	**Pasadena Art C**	**2.23**	**188**	*e*Pn	**Pn**	**07 06 35.3**	**0.0**
PASC				*e*Sg	**Sg**	**07 07 08.5**	**-1.6**
WAKR	**Walker**	**2.47**	**329**	Pn	**Pn**	**07 06 39.8**	**+1.0**
WAKR				*e*Sg	**Sg**	**07 07 16.2**	**-1.5**
LDFC	**Landfair**	**2.56**	**120**	*e*Pn	**Pn**	**07 06 38.9**	**-1.1**
LDFC				*e*Sg	**Sg**	**07 07 20.2**	**-0.5**
CMB	**Columbia Colle**	**2.62**	**309**	*e*Pn	**Pn**	**07 06 40.6**	**-0.1**
CMB				*e*Sg	**Sb**	**07 07 16.3**	**-1.4**
R11A	**Troy Canyon, C**	**2.64**	**42**	*e*Pn	**Pn**	**07 06 40.5**	**-0.7**
R11A				*e*Sg	**Sg**	**07 07 22.5**	**-0.7**
SAO	**San Andreas Ge**	**2.94**	**278**	*e*Pn	**Pn**	**07 06 45.7**	**+0.6**
SAO				S	**Sn**	**07 07 22.8**	**+2.3**
PFO	**Pinyon Flat Ob**	**2.99**	**158**	*e*Pn	**Pn**	**07 06 45.8**	**-0.1**
PFO				Pg	**Pb**	**07 06 53.4**	**+1.6**
PFO				Lg	Lg	07 07 32.5	
PFO				*e*Sg	**Sg**	**07 07 33.1**	**-1.3**
PFO	**Pinyon Flat Ob**	**2.99**	**158**	Pn	**Pn**	**07 06 45.9**	**-0.1**
1.3nm,0.3s,baz=351,slow=9.0,SNR=35							
PFO				Pg	**Pb**	**07 06 53.4**	**+1.6**
19nm,0.3s,baz=341,slow=15,SNR=112							
PFO				Lg	Lg	07 07 32.5	
15nm,0.3s,baz=237,slow=21,SNR=13							
PAHR	**Pah Rah Range**	**3.53**	**340**	*e*Pn	**Pn**	**07 06 53.9**	**+0.6**
CCUT	**Cedar City**	**3.75**	**71**	*e*Pn	**Pn**	**07 06 58.0**	**+1.5**
CCUT				*e*Sg	**Sg**	**07 07 60.0**	**+1.2**
BAR	**Barrett**	**3.82**	**165**	*e*Pn	**Pn**	**07 06 57.8**	**+0.6**
BAR				*e*Sg	**Sg**	**07 07 59.9**	**-1.1**
BEKR	**Beckworth**	**4.00**	**331**	*e*Pg	**Pb**	**07 07 11.5**	**+2.5**
BEKR				*e*Sg	**Sg**	**07 08 03.0**	**-3.9**
BMN	**Battle Mountai**	**4.06**	**6**	*e*Pn	**Pn**	**07 07 02.0**	**+1.4**
BMN				*e*Sg	**Sg**	**07 08 06.8**	**-1.9**
GLA	**Glamis**	**4.14**	**143**	*e*Pn	**Pn**	**07 07 01.4**	**-0.2**
GLA				*e*Sg	**Sg**	**07 08 09.1**	**-2.2**
ELK	**Elko**	**4.79**	**24**	*e*Pn	**Pn**	**07 07 11.2**	**+0.5**
ELK				*e*Sg	**Sg**	**07 08 29.0**	**-3.1**
MVU	**Marysvale**	**4.94**	**63**	*e*Pg	**Pg**	**07 07 33.2**	**+0.4**
MVU				*e*Sg	**Sg**	**07 08 37.3**	**+0.6**
WUAZ	**Wupatki**	**5.30**	**98**	*e*Pn	**Pn**	**07 07 19.6**	**+1.9**
59nm,0.9s							
WUAZ				*e*Sg	**Sg**	**07 08 49.5**	**+1.0**
DUG	**Dugway**	**5.47**	**45**	*e*Pg	**Pg**	**07 07 40.6**	**-2.4**
32nm,0.9s							
DUG				*e*Sg	**Sg**	**07 08 50.7**	**-3.2**
WDC	**Whiskeytown Da**	**5.58**	**320**	*e*Pg	Pg	07 07 41.8	-3.5
18nm,0.7s							
NLU	**North Lily Min**	**5.76**	**50**	*e*Pg	**Pg**	**07 07 49.1**	**+0.6**
35nm,1.2s							
NLU				*e*Sg	**Sg**	**07 09 06.9**	**+3.9**
Q16A	**Castle Valley**	**5.85**	**62**	*e*Pg	Pg	07 07 46.9	-3.3
Q16A				*e*Sg	**Sg**	**07 09 06.8**	**+0.8**
BGU	**Big Grassy Mou**	**5.88**	**38**	*e*Pn	**Pn**	**07 07 28.7**	**+3.1**
82nm,1.4s							
BGU				*e*Sg	**Sg**	**07 09 03.7**	**-3.2**
TMUT	**Trail Mountain**	**5.98**	**59**	*e*Pg	**Pg**	**07 07 50.6**	**-2.2**
20nm,0.9s							
TMUT				*e*Sg	**Sg**	**07 09 06.7**	**-3.6**
WVOR	**Wild Horse Val**	**6.07**	**354**	*e*Sg	**Sg**	**07 09 13.2**	**+0.2**
2.9nm,0.9s							
MPU	**Maple Canyon**	**6.07**	**52**	*e*Pg	**Pg**	**07 07 53.1**	**-1.4**
5.7nm,0.5s							
MPU				*e*Sg	**Sg**	**07 09 07.8**	**-5.2**
SRU	**San Rafael**	**6.39**	**63**	*e*Pg	Pg	07 07 57.4	-3.1
18nm,0.8s							
SRU				*e*Sg	**Sg**	**07 09 20.6**	**-2.6**
SPUT	**South Promonto**	**6.45**	**39**	*e*Pn	**Pn**	**07 07 36.0**	**+2.6**
10nm,0.7s							
YBH	**Yreka Blue Hor**	**6.55**	**326**	Pn	Pn	07 07 38.6	+3.9
YBH				Lg	Lg	07 09 23.1	
YBH	**Yreka Blue Hor**	**6.55**	**326**	Pn	Pn	07 07 38.6	+3.9
0.1nm,0.3s,baz=61,slow=5.3,SNR=3.5							
YBH				Lg	Lg	07 09 23.2	
0.7nm,0.3s,baz=168,slow=21,SNR=4.8							
YBH				LR	LR	07 10 10.8	
comp=Z,145nm,20.4s,baz=150,slow=39							
HVU	**Hansel Valley**	**6.66**	**35**	*e*Pg	**Pg**	**07 08 02.9**	**-2.9**
19nm,0.7s							
HVU				*e*Sg	**Sg**	**07 09 32.5**	**+0.5**
TUC	**Tucson**	**7.10**	**123**	Pn	**Pn**	**07 07 41.8**	**-0.5**
2.5nm,0.8s							
HWUT	**Hardware Ranch**	**7.13**	**41**	*e*Pn	Pn	07 07 46.7	+4.0
13nm,1.1s							
HWUT				*e*Sg	**Sg**	**07 09 46.5**	**-0.5**
PV04	**Paradox Valley**	**7.37**	**72**	*e*Pg	**Pg**	**07 08 16.9**	**-2.6**
PV04				*e*Sg	**Sg**	**07 09 53.8**	**-1.1**
PV01	**Paradox Valley**	**7.58**	**74**	*e*Pn	**Pn**	**07 07 48.6**	**-0.4**
1μm,0.9s							
PV01				*e*Sg	**Sg**	**07 09 57.9**	**-3.6**
HLID	**Hailey**	**7.62**	**19**	*e*Pn	**Pn**	**07 07 48.6**	**-1.0**
7.2nm,0.6s							
HLID				*e*Sg	Sg	07 09 57.0	-5.9
O20A	**White River Ci**	**8.41**	**61**	*e*Pn	**Pn**	**07 08 01.0**	**+0.7**
REDW	**Red Top Meadow**	**8.78**	**35**	Pn	**Pn**	**07 08 08.2**	**+2.7**
8.4nm,1.6s							
PDAR	**Pinedale Array**	**9.01**	**43**	Pn	Pn	07 08 13.2	+4.7
PDAR				Lg	Lg	07 10 43.8	
PDAR	**Pinedale Array**	**9.01**	**43**	Pn	Pn	07 08 13.2	+4.7
0.0nm,0.3s,baz=244,slow=16,SNR=6.7							
PDAR				Lg	Lg	07 10 43.8	
0.1nm,0.3s,baz=211,slow=32,SNR=5.0							
MCMT	**McKenzie Canyo**	**9.23**	**23**	Pn	Pn	07 08 07.5	-4.1
4.4nm,0.9s							
ANMO	**Albuquerque**	**9.36**	**96**	LR	LR	07 12 06.5	
comp=Z,102nm,20.0s,baz=27,slow=39							
TXAR	**Lajitas Array**	**13.81**	**117**	Pn	**P**	**07 09 20.2**	**-2.6**
TXAR	**Lajitas Array**	**13.81**	**117**	Pn	**P**	**07 09 20.2**	**-2.6**
0.0nm,0.3s,baz=299,slow=13,SNR=10							
TXAR				LR	LR	07 15 18.9	
comp=Z,91nm,18.1s

51nm,1.1s
DZM eLR LR 07 14 01.2
765nm,23.6s
DZM Mont Dzumac 9.91 178 Pn **Pn 07 11 34.8 -1.1**
DZM Mont Dzumac 9.91 178 Pn **Pn 07 11 34.8 -1.1**
1.2nm,0.3s,baz=22,slow=18,SNR=18
MSVF Nonsavu 12.82 117 ePn **P 07 12 26.1 -0.2**
TARA Tarawa 14.99 27 ePn **Pn 07 12 47.0 +1.7**
PMG Port Moresby 18.81 276 P **Pn 07 13 33.6 +0.3**
62nm,1.3s
PMG Port Moresby 18.81 276 P Pn 07 13 46.8 +13
PMG Port Moresby 18.81 276 P **Pn 07 13 34.5 +1.2**
0.7nm,0.3s,baz=115,slow=5.4,SNR=5.9
EIDS Eidsvold 19.37 225 eP **Pn 07 13 41.2 +1.1**
34nm,0.8s
EIDS Eidsvold 19.37 225 P **Pn 07 13 41.1 +1.1**
baz=20,SNR=7.1
PATS Pohnpei 20.36 337 P Pn 07 13 51.1 -0.7
baz=20,SNR=3.1
CTA Charters Tower 20.64 245 P **P 07 13 53.8 +1.1**
CTA Charters Tower 20.64 245 P **P 07 13 53.8 +1.1**
11nm,0.8s,baz=68,slow=12,SNR=16
CTAO Charters Tower 20.64 245 eP **P 07 13 53.7 +1.1**
22nm,0.9s
AFI Afiamalu 21.62 97 LR LR 07 21 22.3
comp=Z,499nm,18.0s,baz=225,slow=34
RMQ Roma 21.70 226 P **P 07 14 05.8 +1.8**
baz=22,SNR=8.7
MTSU Mount Surprise 21.86 251 P **P 07 14 07.1 +1.3**
baz=22,SNR=18
COEN Coen 22.42 263 eP **P 07 14 11.5 -0.3**
247nm,1.0s
COEN Coen 22.42 263 P P 07 14 19.3 +7.5
baz=23,SNR=8.7
COEN S S 07 18 06.6 -10
baz=23,SNR=6.2
ARMA Armidale 22.62 214 P **P 07 14 13.3 -0.7**
491nm,2.8s
ARMA Armidale 22.62 214 P P 07 14 20.4 +6.4
baz=23,SNR=4.5
RAO Raoul Island 22.63 141 LR LR 07 21 28.2
comp=Z,328nm,21.7s,baz=20,slow=33
CMSA Cobar Meteorol 26.98 221 P **P 07 14 58.0 +3.5**
baz=27,SNR=14
URZ Urewera 27.83 161 LR LR 07 24 21.2
comp=Z,375nm,20.3s,baz=173,slow=33
STKA Stephens Creek 29.93 225 P **P 07 15 21.4 +0.5**
STKA PcP **PcP 07 18 22.3 -0.9**
STKA Stephens Creek 29.93 225 P **P 07 15 21.4 +0.5**
5.5nm,0.7s,baz=35,slow=9.5,SNR=7.2
STKA PcP **PcP 07 18 22.3 -0.9**
1.6nm,0.7s,baz=309,slow=21,SNR=2.8
STKA LR LR 07 26 48.4
comp=Z,527nm,18.5s,baz=36,slow=35
STKA Stephens Creek 29.93 225 P P 07 15 27.3 +6.4
baz=30,SNR=4.6
WRAB Tennant Creek 31.46 252 eP **P 07 15 34.3 -0.2**
3.5nm,0.7s
WRAB ePcP **PcP 07 18 27.9 +0.4**
WRA Warramunga Arr 31.47 252 P **P 07 15 33.6 -1.0**
WRA PcP **PcP 07 18 26.9 -0.7**
WRA Warramunga Arr 31.47 252 P **P 07 15 33.6 -1.0**
1.5nm,0.8s,baz=84,slow=9.2,SNR=16
WRA PcP **PcP 07 18 26.9 -0.7**
6.0nm,0.9s,baz=85,slow=3.0,SNR=16
WRA LR LR 07 27 55.6
comp=Z,196nm,18.7s,baz=65,slow=36
AS31 Alice Springs 32.65 245 eP **P 07 15 44.6 -0.3**
AS31 ePcP **PcP 07 18 30.0 -0.7**
ASAR Alice Springs 32.65 245 P **P 07 15 44.0 -1.0**
ASAR PcP **PcP 07 18 30.1 -0.7**
ASAR Alice Springs 32.65 245 P **P 07 15 44.0 -1.0**
2.5nm,0.7s,baz=74,slow=9.4,SNR=18
ASAR PcP **PcP 07 18 30.1 -0.7**
5.1nm,0.8s,baz=78,slow=2.5,SNR=18
ASAR LR LR 07 28 00.5
comp=Z,205nm,19.8s,baz=23,slow=34
KDU Kakadu 32.84 265 P P 07 15 53.0 +6.3
baz=33,SNR=4.0
KDU S S 07 20 46.3 -16
baz=33,SNR=3.4
BBOO Buckleboo 34.38 228 P **P 07 16 00.9 +1.1**
231nm,1.0s
SWI Sorong 36.33 285 S S 07 21 50.1 -6.1
baz=36,SNR=5.1
KNRA Kununurra 36.39 260 P **P 07 16 19.5 +2.1**
baz=37,SNR=4.9
FITZ Fitzroy Crossi 39.46 256 P **P 07 16 43.1 -0.1**
FITZ PcP **PcP 07 18 50.6 -0.4**
FITZ Fitzroy Crossi 39.46 256 P **P 07 16 43.1 -0.1**
1.9nm,0.6s,baz=88,slow=2.8,SNR=4.5
FITZ PcP **PcP 07 18 50.6 -0.4**
6.2nm,1.0s,baz=97,slow=3.3,SNR=4.2
FITZ Fitzroy Crossi 39.46 256 P P 07 16 46.7 +3.4
baz=40,SNR=3.2
PPT2 Papeete2 43.11 103 eS S 07 23 50.7 +13
156nm,26.0s
PPT2 eLQ LQ 07 27 40.9
352nm,28.5s
PPT2 eLR LR 07 29 31.2
214nm,22.0s
TBI Tubuai 43.61 111 eS S 07 23 57.3 +12
124nm,32.0s
TBI eLQ LQ 07 27 42.5
256nm,32.0s
TBI eLR LR 07 29 09.9
166nm,29.0s
MBWA Marble Bar 45.20 252 eP **P 07 17 31.4 +1.4**
13nm,0.9s
MEEK Meekatharra 46.81 245 P **P 07 17 43.3 +0.6**
baz=47,SNR=6.8
NWAO Narrogin (SRO) 49.17 237 LR LR 07 39 34.3
comp=Z,374nm,19.2s,baz=220,slow=37
MORW Morawa 49.43 242 P **P 07 18 03.9 +1.0**
baz=50,SNR=4.8
KKM Kota Kinabalu 52.79 287 eP **P 07 18 28.4 0.0**
37nm,1.1s
KKM Kota Kinabalu 52.79 287 P P 07 18 36.5 +8.1
KKM Kota Kinabalu 52.79 287 P **P 07 18 29.3 +0.9**
baz=53,SNR=3.4
MJAR Matsushiro Arr 55.08 333 P **P 07 18 42.9 -1.7**
MJAR Matsushiro Arr 55.08 333 P **P 07 18 42.8 -1.7**
4.2nm,0.8s,baz=167,slow=9.0,SNR=10
JNU Nakatsue 56.15 324 P **P 07 18 51.4 -1.0**
JNU Nakatsue 56.15 324 P **P 07 18 51.4 -1.0**
34nm,0.9s,baz=108,slow=4.6,SNR=12
KSRS Korea Array 60.95 326 P **P 07 19 25.9 +0.2**
7.7nm,0.8s,baz=136,slow=7.1,SNR=30
KSAR Wonju Array Be 60.97 326 P **P 07 19 25.9 +0.1**
USRK Ussuriysk Arra 64.05 333 P **P 07 19 45.9 -0.4**
6.5nm,0.9s,baz=136,slow=5.7,SNR=16
USRK LR LR 07 44 14.5
comp=Z,73nm,18.3s,baz=35,slow=33
VNDA Vanda 65.44 181 eP **P 07 19 54.1 -0.8**
18nm,1.4s
VNDA Vanda 65.44 181 P **P 07 19 54.1 -0.8**
5.6nm,1.0s,baz=357,slow=6.6,SNR=21
SBA Scott Base 65.74 180 eP **P 07 19 56.8 0.0**
18nm,0.9s
CN2 Changchun 66.83 329 ⇑P **P 07 20 05.0 +0.7**
CN2 esP **sP 07 20 20.3 +3.1**
CN2 eS **S 07 28 53.0 -1.9**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,100nm,4.0s
ENH Enshi 68.84 309 eP **P 07 20 17.3 0.0**
comp=Z,11nm,0.8s
GYA Guiyang 69.31 304 eP **P 07 20 20.8 +0.4**
GYA pP **pP 07 20 32.3 +2.5**
GYA sP sP 07 20 39.0 +5.7
GYA PP **PP 07 22 55.5 +1.5**
GYA ScP 07 24 45.5
GYA SKS **SKiKP 07 30 13.3 +4.9**
GYA SS **SS 07 33 48.8 -4.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.3s
GYA LR LR
comp=N,480nm,19.6s
GYA LR LR
comp=E,390nm,20.6s
GYA LR LR
comp=Z,450nm,18.2s
BJI Beijing 69.53 321 P **P 07 20 21.5 +0.2**
BJI S **S 07 29 27.0 -0.2**
BJI pmax pmax
comp=Z,35nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.8s
BJI LR LR
comp=N,130nm,25.3s
BJI LR LR
comp=E,130nm,25.2s
BJI LR LR
comp=Z,89nm,25.1s
XAN Xi'an 71.10 312 P **P 07 20 31.5 +0.4**
XAN pP **pP 07 20 42.0 +1.4**
XAN sP **sP 07 20 47.0 +2.9**
XAN pmax pmax
comp=Z,5.0nm,1.0s
KMI Kunming 71.98 302 P **P 07 20 40.0 +3.2**
KMI pmax pmax
comp=Z,6.0nm,1.6s
CMAR Chiang Mai Arr 72.86 294 P **P 07 20 43.3 +1.3**
CMAR Chiang Mai Arr 72.86 294 P **P 07 20 43.3 +1.3**
comp=Z,3.0nm,0.8s,baz=127,slow=4.6,SNR=13
HHC Hu-ho-hao-te 72.87 320 eP **P 07 20 42.3 +0.6**
HHC pP **pP 07 20 52.5 +1.4**
HHC sP **sP 07 20 56.5 +1.9**
HHC PP **PP 07 23 26.0 +1.7**
HHC S **S 07 30 04.0 -2.2**
HHC sS **sS 07 30 21.0 -0.8**
HHC SS **SS 07 34 44.3 -2.8**
HHC pmax pmax
comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,230nm,5.6s
HHC LR LR
comp=N,440nm,17.6s
HHC LR LR
comp=E,690nm,17.7s
HHC LR LR
comp=Z,320nm,17.2s
CD2 Chengdu 73.53 307 eP **P 07 20 47.5 +1.8**
CD2 pP **pP 07 20 58.3 +3.1**
CD2 sP **sP 07 21 02.5 +3.8**
CD2 PP **PP 07 23 32.5 +2.4**
CD2 S **S 07 30 11.3 -2.6**
CD2 sS **sS 07 30 29.3 -0.3**
CD2 SS **SS 07 34 55.3 -2.2**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,140nm,19.0s
CD2 LR LR
comp=Z,190nm,19.0s
LZH Lanzhou 75.73 312 eP **P 07 21 01.3 +2.7**
LZH pP **PcP 07 21 11.0 -0.2**
LZH sP **sP 07 21 14.8 +3.3**
LZH PP **PP 07 23 50.5 +1.7**
LZH eS **S 07 30 36.5 -2.1**
LZH sS **sS 07 30 53.3 -1.0**
LZH SS **SS 07 35 27.5 -3.5**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.7s
QSPA South Pole Qui 77.90 180 eP **P 07 21 09.1 -1.1**
comp=Z,18nm,1.0s
QSPA South Pole Qui 77.90 180 P **P 07 21 09.2 -1.1**
comp=Z,19nm,1.0s,baz=99,slow=19
ULN Ulaanbaatar 79.37 324 eP **P 07 21 19.1 +0.5**
comp=Z,34nm,1.0s
ULN Ulaanbaatar 79.37 324 P **P 07 21 18.9 +0.3**
SONM Songino Array 79.73 324 P **P 07 21 20.7 +0.2**
SONM Songino Array 79.73 324 P **P 07 21 20.7 +0.2**
comp=Z,12nm,1.0s,baz=138,slow=5.4,SNR=40
GTA Gaotai 80.05 314 P **P 07 21 23.8 +1.3**
GTA pP **pP 07 21 34.0 +2.0**
GTA sP **sP 07 21 38.0 +2.5**
GTA S **S 07 31 20.8 -4.2**
GTA sS **SKSac 07 31 38.3 +0.3**
GTA pmax pmax
comp=Z,30nm,1.1s
GTA pmax pmax
comp=Z,74nm,7.1s
GTA LR LR
comp=N,100nm,19.0s
GTA LR LR
comp=E,150nm,20.9s
GTA LR LR
comp=Z,130nm,16.6s
SHL Shillong 81.33 298 ex **P 07 21 31.0 +1.3**
MAW Mawson 83.87 202 P **P 07 21 41.9 +0.1**
MAW Mawson 83.87 202 P **P 07 21 41.9 +0.1**
comp=Z,2.3nm,0.6s,baz=112,slow=11,SNR=4.6
ILAR Eielson Array 84.41 18 P P 07 21 41.5 -3.1
ILAR Eielson Array 84.41 18 P P 07 21 41.5 -3.1
comp=Z,1.3nm,0.7s,baz=252,slow=4.7,SNR=8.6
BBB Bella Bella 85.25 34 LR LR 07 52 16.3
comp=Z,151nm,19.8s,baz=79,slow=30
CROR Criterion Ridg 86.72 43 P P 07 22 03.0 +6.4
WMQ Urumqi 90.09 315 P **P 07 22 12.3 -0.3**
WMQ pP **pP 07 22 24.5 +2.2**
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,92nm,4.3s
WMQ LR LR
comp=Z,39nm,19.0s
SYO Syowa Base 90.87 197⇑eX P 07 22 11.0 -4.7
BSMT Bassoo Peak 91.70 41 eP P 07 22 25.2 +5.0
comp=Z,4.8nm,1.1s
JTMT Jette 91.99 42 eP **P 07 22 23.6 +2.2**
comp=Z,4.2nm,1.2s
SWMT Swartz Lake 92.11 42 eP **P 07 22 21.4 -0.6**
comp=Z,6.9nm,1.0s
YBMT Yellow Bay 92.20 42 eP **P 07 22 24.3 +1.9**
comp=Z,2.0nm,0.8s
PDAR Pinedale Array 94.01 47 LR LR 07 56 08.8
comp=Z,73nm,19.5s,baz=144,slow=30
MK31 Makanchi Array 94.54 317 eP **P 07 22 32.9 -0.1**
MKAR Makanchi Array 94.54 317 P **P 07 22 32.8 -0.2**
MKAR Makanchi Array 94.54 317 P **P 07 22 32.8 -0.2**
comp=Z,24nm,0.7s,baz=95,slow=6.3,SNR=228
ZAA0 Zalesovo Array 94.62 324 eP **P 07 22 31.9 -1.3**
ZALV Zalesovo Beam 94.62 324 P **P 07 22 32.0 -1.2**
ZALV Zalesovo Beam 94.62 324 P **P 07 22 32.0 -1.2**
comp=Z,4.7nm,0.8s,baz=108,slow=4.8,SNR=20
YKA Yellowknife Ar 95.75 27 P P 07 22 34.0 -4.1
YKA Yellowknife Ar 95.75 27 P P 07 22 34.0 -4.1
comp=Z,0.2nm,0.4s,baz=255,slow=4.5,SNR=4.5
SNAA Sanae 96.08 183 eP P 07 22 37.4 -2.4
SNAA Sanae 96.08 183 eP **P 07 22 37.7 -2.0**
comp=Z,7.7nm,1.2s
VNA2 Neumayer--Watz 97.04 182 eP **P 07 22 42.1 -1.9**
VNA2 Neumayer--Watz 97.04 182 epP pP 07 22 56.2 +2.5
KURK Kurchatov 97.68 320 P **P 07 22 45.0 -2.2**
KSH Kashi 97.69 309 eP Pdif 07 22 49.5 +1.7
KURBB Kurchatov Arra 97.72 320 P **P 07 22 45.0 -2.4**
comp=Z,1.2nm,0.2s,baz=91,slow=3.5,SNR=18
BVAR Borovoye Array 103.00 322 Pdif **Pdif 07 23 08.7 -2.2**
BVAR Borovoye Array 103.00 322 Pdiff **Pdif 07 23 08.7 -2.2**
comp=Z,1.2nm,0.6s,baz=95,slow=6.6,SNR=8.7
ARCES ARCESS Array B 117.45 345 PKP **PKPdf 07 27 55.5 -2.1**
ARCES ARCESS Array B 117.45 345 PKP **PKPdf 07 27 55.5 -2.1**
comp=Z,1.6nm,0.7s,baz=75,slow=2.1,SNR=8.4
FINES FINESS Array B 122.89 338 PKP **PKPdf 07 28 05.8 -2.4**
FINES FINESS Array B 122.89 338 PKP **PKPdf 07 28 05.8 -2.4**
comp=Z,3.4nm,1.0s,baz=45,slow=0.8,SNR=7.6
LBTB Lobatse 126.67 226 PKP **PKPdf 07 28 14.9 -1.8**
LBTB Lobatse 126.67 226 PKP **PKPdf 07 28 14.9 -1.8**
comp=Z,3.0nm,0.9s,baz=298,slow=2.0,SNR=4.1
KMBO Kilima Mbogo 127.55 259 PKP **PKPdf 07 28 18.9 -0.1**
KMBO Kilima Mbogo 127.55 259 PKP **PKPdf 07 28 18.9 -0.1**
comp=Z,2.9nm,0.7s,baz=233,slow=24,SNR=7.3
BRTR Keskin Array B 129.94 312 PKP **PKPdf 07 28 21.2 -1.3**
BRTR Keskin Array B 129.94 312 PKP **PKPdf 07 28 21.2 -1.3**
comp=Z,0.6nm,0.8s,baz=104,slow=6.4,SNR=3.4
LSZ Lusaka 130.24 238 PKP **PKPdf 07 28 22.9 -0.9**
LSZ Lusaka 130.24 238 PKP **PKPdf 07 28 22.9 -0.9**
comp=Z,2.1nm,0.6s,baz=344,slow=1.5,SNR=6.9
KEST Kesra 148.47 322 PKPbc **PKPbc 07 28 59.5 -0.2**
KEST Kesra 148.47 322 PKPbc **PKPbc 07 28 59.5 -0.2**
comp=Z,3.2nm,0.7s,baz=310,slow=4.4,SNR=8.6
ESDC Sonseca Array 151.17 344 PKPbc **PKPbc 07 29 04.2 -1.9**
ESDC Sonseca Array 151.17 344 PKPbc **PKPbc 07 29 04.2 -1.9**
comp=Z,0.3nm,0.5s,baz=0.5,slow=4.5,SNR=3.7
TORD Torodi Ar. Bea 164.75 276 PKP **PKPdf 07 29 16.1 -1.2**
TORD PKPab **PKPab 07 30 13.2 +0.1**
TORD Torodi Ar. Bea 164.75 276 PKP **PKPdf 07 29 16.1 -1.2**
comp=Z,2.4nm,1.1s,baz=346,slow=0.6,SNR=7.6
TORD PKPab **PKPab 07 30 13.2 +0.1**
comp=Z,2.2nm,0.9s,baz=84,slow=3.9,SNR=7.0

ISCJB ***30*** *07:16:00.8±0.5, 16°.20N±0°.05×115°.56W±0°.06, h10km, mb4.8/100, MS4.2/18, Error ellipse: s-maj=9.5km s-min=5.3km az=137.5*
BJI ***30*** *07:16:00.1, 16°.16N×115°.68W, h7km, mB5.5/8, mb5.4/3, Ms5.1/7, Ms7 4.9/7*
IDC ***30*** *07:16:01.2±0.9, 16°.29N×115°.62W, h0km, mb4.5/17, mb1 4.7/21, mb1mx4.6/29, mbtmp4.5/21, ML3.5/3, MS3.9/18, Ms1 3.9/18, ms1mx3.8/27, Error ellipse: s-maj=25.6km s-min=12.9km az=64.0*
NEIC ***30*** *07:16:02.7±0.3, 16°.22N×115°.56W, h10km, mb4.9/97, Error ellipse: s-maj=6.1km s-min=3.6km az=50.0*
GCMT ***30*** *07:16:04.1±0.2, 16°.38N×115°.56W, h24km±1km, MW5.1, Moment Tensor Solution. s56,c78; s93,c156; Moment tensor: Scale 10^16 Nm; Mrr=0.61±.16; Mθθ=6.03±.15; Mφφ=5.43±.15; Mrθ=1.26±.20; Mθφ=-1.15±.11; Mφr=0.04±.20; Best double couple: M0=6.00000×10^16 NP1:φs=50.00000°, δ84.00000°, λ172.00000°. NP2:φs=141.00000°, δ82.00000°, λ7.00000°. Principal axes: T 6.3700, Plg10.0000°, Azm6.0000°; N -0.8300, Plg80.0000°, Azm191.0000°; P -5.5500, Plg1.0000°, Azm96.0000°; Data Used: IU II G CN IC.*

ISC 30 07:16:02.0±0.6, 16°.25N±0°.08×115°.68W±0°.09, h10km, n537, σ1§14/530, mb4.8/100, MS4.0/18, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**9.30**	**32**	Pn	**Pn**	**07 18 15.0**	**-1.1**
LPIG	**La Paz**	**9.30**	**32**	Pn	**Pn**	**07 18 15.0**	**-1.1**
17nm,0.3s,baz=217,slow=5.7,SNR=20							
LPIG				LR	LR	07 20 03.8	
comp=Z,86nm,19.2s,baz=216,slow=26							
214A	**Organ Pipe Nat**	**15.85**	**9**	P	**Pn**	**07 19 46.3**	**+1.0**
baz=16,SNR=31							
319A	**Douglas**	**16.15**	**20**	P	**Pn**	**07 19 50.0**	**+0.7**
baz=16,SNR=29							
DVTC	**Desert V Tower**	**16.34**	**359**	P	**P**	**07 19 54.9**	**+0.3**
baz=16,SNR=26							
320A	**Kipp Ranch, An**	**16.37**	**22**	P	**Pn**	**07 19 53.1**	**+0.9**
baz=16,SNR=46							
BAR	**Barrett**	**16.38**	**357**	ePn	**P**	**07 19 54.8**	**-0.2**
123nm,1.3s							
113A	**Mohawk Valley,**	**16.54**	**6**	P	**Pn**	**07 19 55.2**	**+1.2**
baz=17,SNR=59							
MONP	**Monument Peak**	**16.58**	**358**	P	**P**	**07 19 57.7**	**+0.3**
baz=17,SNR=24							
TUC	**Tucson**	**16.59**	**15**	ePn	**Pn**	**07 19 55.5**	**+0.6**
86nm,1.3s							
109C	**Camp Elliot, M**	**16.62**	**356**	P	**P**	**07 19 57.5**	**-0.1**
baz=17,SNR=12							
SWSC	**Sam W. Stewart**	**16.62**	**360**	P	**P**	**07 19 57.5**	**-0.1**
baz=17,SNR=26							
GLA	**Glamis**	**16.75**	**2**	ePn	**Pn**	**07 19 58.4**	**+1.6**
123nm,1.3s							
GLA	**Glamis**	**16.75**	**2**	P	**P**	**07 19 59.2**	**+0.2**
baz=17,SNR=16							
SCI	**San Clemente I**	**16.86**	**352**	P	**Pn**	**07 20 00.2**	**+2.0**
baz=17							
220A	**Playas Peak, P**	**16.89**	**21**	P	**Pn**	**07 19 59.5**	**+0.8**
baz=17,SNR=50							
626A	**Big Bend Ranch**	**16.97**	**37**	P	**Pn**	**07 20 00.0**	**+0.4**
baz=17,SNR=28							
TX31	**Lajitas Ar. Si**	**17.08**	**38**	ePn	**Pn**	**07 20 00.7**	**-0.4**
TXAR	**Lajitas Array**	**17.08**	**38**	Pn	**Pn**	**07 20 01.1**	**0.0**
TXAR	**Lajitas Array**	**17.08**	**38**	Pn	**Pn**	**07 20 01.1**	**0.0**
0.0nm,0.3s,baz=211,slow=14,SNR=20							
TXAR				LR	LR	07 25 14.9	
comp=Z,269nm,19.9s,baz=150,slow=33							
Z14A	**Wintersburg**	**17.22**	**8**	P	**P**	**07 20 04.4**	**+0.1**
baz=17							
221A	**Mesquite Ranch**	**17.26**	**23**	P	**Pn**	**07 20 04.3**	**+1.0**
baz=17,SNR=7.0							
CIS	**Catalina Islan**	**17.26**	**352**	P	**P**	**07 20 05.3**	**+0.6**
baz=17							
PFO	**Pinyon Flat Ob**	**17.30**	**358**	P	**Pn**	**07 20 04.8**	**+1.0**
PFO	**Pinyon Flat Ob**	**17.30**	**358**	P	**Pn**	**07 20 04.8**	**+1.0**
0.1nm,0.3s,baz=172,slow=11,SNR=12							
PFO				LR	LR	07 25 09.3	
comp=Z,679nm,19.4s,baz=188,slow=32							
PFO	**Pinyon Flat Ob**	**17.30**	**358**	P	**P**	**07 20 05.9**	**+0.6**
baz=17,SNR=15							
MURC	**Murrieta**	**17.33**	**356**	P	**P**	**07 20 06.8**	**+1.3**
baz=17,SNR=16							
627A	**Terlingua Ranc**	**17.33**	**39**	P	**Pn**	**07 20 04.8**	**+0.6**
baz=17,SNR=5.2							
BC3	**Big Chuckawall**	**17.33**	**1**	P	**P**	**07 20 06.6**	**+1.0**
baz=17,SNR=51							
526A	**Mary Lane Ranc**	**17.38**	**36**	P	**Pn**	**07 20 05.8**	**+1.0**
baz=17,SNR=8.3							
120A	**U Bar Ranch, L**	**17.44**	**20**	P	**Pn**	**07 20 06.6**	**+1.0**
baz=18,SNR=30							
Y12C	**Blythe**	**17.46**	**3**	P	**P**	**07 20 07.5**	**+0.6**
baz=18,SNR=9.8							
425A	**Indio Mountain**	**17.46**	**32**	P	**Pn**	**07 20 06.4**	**+0.5**
baz=18,SNR=45							
222A	**Williams Famil**	**17.60**	**25**	P	**Pn**	**07 20 08.0**	**+0.3**
baz=18,SNR=34							
628A	**Black Gap, Mar**	**17.66**	**40**	P	**Pn**	**07 20 08.6**	**+0.4**
baz=18,SNR=9.6							
BELC	**Belle Mtn. Jos**	**17.68**	**359**	P	**P**	**07 20 11.1**	**+1.6**
baz=18,SNR=46							
527A	**Woodward Ranch**	**17.71**	**37**	P	**Pn**	**07 20 09.3**	**+0.4**
baz=18,SNR=13							
121A	**Cookes Peak, D**	**17.72**	**22**	P	**P**	**07 20 10.3**	**+0.3**
baz=18,SNR=28							
324A	**Moseley Ranch,**	**17.75**	**30**	P	**Pn**	**07 20 10.1**	**+0.6**
baz=18,SNR=39							
Y14A	**Wickenburg**	**17.78**	**7**	P	**P**	**07 20 11.0**	**+0.5**
baz=18,SNR=49							
IRM	**Iron Mountain**	**17.84**	**1**	P	**P**	**07 20 12.6**	**+1.4**
baz=18,SNR=57							
426A	**McDonald Obser**	**17.88**	**35**	P	**P**	**07 20 12.2**	**+0.5**
baz=18,SNR=16							
325A	**Bean Ranch, Si**	**17.94**	**31**	P	**P**	**07 20 13.0**	**+0.6**
baz=18,SNR=14							
BBRC	**Big Bear Solar**	**17.97**	**357**	P	**P**	**07 20 15.0**	**+2.2**
baz=18,SNR=5.7							
Z20A	**Nine Sixteen R**	**17.97**	**20**	P	**P**	**07 20 13.3**	**+0.6**
baz=18,SNR=63							
PASC	**Pasadena Art C**	**17.99**	**353**	ePn	**P**	**07 20 14.1**	**+1.4**
106nm,1.4s							
BFSC	**Mount Baldy Ra**	**18.00**	**355**	P	**P**	**07 20 14.6**	**+1.6**
baz=18,SNR=30							
MWC	**Mount Wilson**	**18.02**	**354**	eP	**P**	**07 20 14.9**	**+1.5**
76nm,1.2s							
PDMCI	**Parker Dam,Lak**	**18.03**	**4**	P	**P**	**07 20 14.5**	**+1.4**
baz=18,SNR=31							
BLG	**Laguna Peak**	**18.04**	**351**	P	**P**	**07 20 15.6**	**+2.2**
baz=18,SNR=5.5							
DECC	**Green Verdugo**	**18.08**	**353**	P	**P**	**07 20 15.7**	**+1.9**
baz=18,SNR=10							
122A	**Conniff Cattle**	**18.17**	**24**	P	**P**	**07 20 16.0**	**+1.1**
baz=18,SNR=19							
528A	**Cox Ranch, San**	**18.20**	**38**	P	**Pn**	**07 20 15.4**	**+0.4**
baz=18,SNR=7.2							
224A	**Cornudas Mount**	**18.26**	**29**	P	**P**	**07 20 16.4**	**+0.5**
baz=18,SNR=38							
427A	**Hayter Ranch,**	**18.36**	**36**	P	**P**	**07 20 17.7**	**+0.7**
baz=18,SNR=22							
326A	**Caldwell Ranch**	**18.41**	**33**	P	**Pn**	**07 20 18.6**	**+1.2**
baz=18,SNR=18							
123A	**Bell Site, Whi**	**18.41**	**26**	P	**Pn**	**07 20 18.3**	**+0.7**
baz=18							
GMRC	**Granite Mounta**	**18.45**	**0**	P	**Pn**	**07 20 19.8**	**+1.7**
baz=19,SNR=31							
Z21A	**St. Cloud Mine**	**18.46**	**22**	P	**Pn**	**07 20 19.6**	**+1.3**
baz=18,SNR=76							
SBC	**Santa Barbara**	**18.47**	**349**	P	**Pn**	**07 20 20.5**	**+2.3**
baz=19							
X16A	**Lo Mia Camp, P**	**18.49**	**11**	P	**Pn**	**07 20 19.4**	**+0.8**
baz=19,SNR=73							
OSI	**Osito Adit**	**18.49**	**352**	eP	**Pn**	**07 20 20.4**	**+2.0**
58nm,1.3s							
OSI	**Osito Adit**	**18.49**	**352**	P	**Pn**	**07 20 19.9**	**+1.5**
baz=19							
HEC	**Hector,Ludlow**	**18.51**	**358**	P	**Pn**	**07 20 20.6**	**+1.9**

baz=19,SNR=35
529A Stev Forest Ra 18.52 39 P Pn 07 20 19.7 +0.9
baz=18,SNR=16
RRX Edison Barstow 18.59 357 P Pn 07 20 21.6 +2.0
baz=19,SNR=9.6
225A Deer Hill, Car 18.62 30 P Pn 07 20 21.1 +0.9
baz=19,SNR=31
EDW2 Edwards Air Fo 18.67 354 P Pn 07 20 22.5 +1.9
baz=19,SNR=15
Z22A Elephant Butte 18.68 23 P P 07 20 21.2 +0.8
baz=19,SNR=27
428A Kincaid Ranch, 18.68 37 P Pn 07 20 21.8 +1.0
baz=19,SNR=19
LDFC Landfair 18.76 1 eP Pn 07 20 24.0 +2.3
108nm,1.2s
Y20A Horse Springs, 18.77 19 P P 07 20 22.5 +0.9
baz=19,SNR=70
124A Stringfield Ra 18.82 28 P P 07 20 22.8 +0.7
baz=19,SNR=56
W13A Hualapai Mount 18.84 5 P Pn 07 20 24.1 +1.2
baz=19
226B Tecolote Peak, 18.91 32 P Pn 07 20 24.1 +0.5
baz=19,SNR=26
GDL2 Guadalupe Moun 18.91 31 eP Pn 07 20 23.9 +0.3
8.3nm,0.4s
X18A Snowflake 18.92 15 P Pn 07 20 24.2 +0.5
baz=19,SNR=32
PKM Peak Mountain 18.93 349 P Pn 07 20 25.9 +1.9
baz=19,SNR=7.6
Z23A Rita Site, Whi 18.97 25 P Pn 07 20 24.7 +0.4
baz=19,SNR=20
GSC Goldstone 19.00 357 eP Pn 07 20 25.9 +1.3
177nm,1.4s
GSC Goldstone 19.00 357 P Pn 07 20 25.6 +1.0
baz=19,SNR=63
ARVC Arvin 19.01 352 P Pn 07 20 27.1 +2.4
baz=19,SNR=7.4
429A Davenport Ranc 19.07 39 P Pn 07 20 25.7 +0.2
baz=19,SNR=19
732A Laxson Ranch, 19.08 47 P Pn 07 20 25.5 0.0
baz=19
530A J-C Ranch, Com 19.08 41 P Pn 07 20 26.4 +0.8
baz=19,SNR=30
631A Perdido Creek 19.09 44 P Pn 07 20 26.1 +0.4
baz=19,SNR=11
328A Wristen Ranch, 19.09 36 P P 07 20 25.8 +0.8
baz=19,SNR=7.0
Y21A Point of Rocks 19.10 21 P Pn 07 20 26.7 +0.7
baz=19,SNR=46
TUQ Turquoise Moun 19.11 359 P Pn 07 20 27.4 +1.4
baz=19,SNR=61
125A Gardner Draw, 19.15 29 P P 07 20 26.5 +0.9
baz=19,SNR=40
LRMC Laurel Mountai 19.23 355 P Pn 07 20 29.5 +2.1
baz=19,SNR=11
Y22A Socorro 19.28 22 P P 07 20 28.1 +1.0
baz=19,SNR=53
227A Bennet, Jal 19.31 33 P Pn 07 20 28.7 +0.3
baz=19
X20A Quemado 19.32 18 P Pn 07 20 28.9 +0.2
baz=19
SMMC Simmler 19.37 349 P Pn 07 20 30.0 +0.9
baz=20,SNR=9.3
Z24A Sheeppen Canyo 19.39 27 P P 07 20 29.2 +0.8
baz=19,SNR=24
Y22D IRIS PASSCAL I 19.42 22 P P 07 20 29.5 +0.8
baz=20,SNR=9.2
126A Clayton Basin, 19.45 31 P P 07 20 29.4 +0.6
baz=20
X21A Alamocita Cree 19.46 20 P P 07 20 30.1 +0.9
baz=20,SNR=112
ISA Isabella 19.49 353 eP Pn 07 20 31.4 +0.8
192nm,1.7s
ISA Isabella 19.49 353 P Pn 07 20 31.5 +0.9
baz=20,SNR=37
W18A Petrified Fore 19.53 15 eP P 07 20 30.8 +1.0
W18A Petrified Fore 19.53 15 P P 07 20 31.1 +1.2
baz=20
WUAZ Wupatki 19.57 11 eP Pn 07 20 31.9 +0.3
104nm,1.3s
WUAZ Wupatki 19.57 11 P Pn 07 20 32.1 +0.6
baz=20,SNR=27
SHOC Shoshone 19.58 359 P Pn 07 20 32.3 +0.8
baz=20,SNR=16
430A Baggett Ranch, 19.59 40 P P 07 20 30.9 +0.5
baz=20,SNR=17
BNM Barren Site 19.60 23 eP P 07 20 31.3 +0.6
531A Rocksprings 19.60 42 P Pn 07 20 31.9 0.0
baz=20
Y23A Lovelace Mesa, 19.62 24 P P 07 20 31.6 +0.7
baz=20,SNR=29
Z25A Roswell 19.64 28 P Pn 07 20 32.4 0.0
baz=20,SNR=25
329A Wagon Wheel Ra 19.64 37 P P 07 20 31.7 +0.7
baz=20
632A Uvalde 19.68 45 P Pn 07 20 32.4 -0.4
baz=20
VES Vestal, Richgr 19.75 352 P P 07 20 33.7 +1.7
baz=20,SNR=9.6
X22A Bernardo 19.78 22 P P 07 20 34.0 +1.4
baz=20,SNR=9.3
MPMC Manual Prospec 19.80 356 P Pn 07 20 34.7 +0.4
baz=20,SNR=22
127A Arkansas Junct 19.80 32 P P 07 20 33.1 +0.3
baz=20,SNR=5.7
W20A Ramah 19.87 18 P Pn 07 20 35.3 +0.1
baz=20,SNR=28
Y24A Capitan 19.87 26 P P 07 20 34.8 +1.2
baz=20,SNR=7.2
431A Sonora 19.91 41 P P 07 20 34.2 +0.4
baz=20,SNR=24
KVTX Kingsville 19.94 53 eP Pn 07 20 36.8 +0.9
95nm,1.0s
CMIG Matias Romero 19.94 85 P P 07 20 34.4 0.0
CMIG Matias Romero 19.94 85 P P 07 20 34.4 0.0
0.3nm,0.3s,baz=257,slow=9.4,SNR=29
CMIG LR LR 07 26 40.5
comp=Z,475nm,21.5s,baz=268,slow=32
Z26A Caprock 19.98 30 P P 07 20 34.9 +0.2
baz=20,SNR=34
532A Rocksprings 20.00 44 P P 07 20 35.6 +0.7
baz=20,SNR=24
330A Mertzon 20.06 39 P P 07 20 36.1 +0.6
baz=20,SNR=16
229A Bryant Ranch, 20.09 36 P P 07 20 36.6 +0.6
baz=20
W21A San Fidel 20.12 19 P P 07 20 37.8 +1.5
baz=20
FURC Furnace Creek, 20.17 357 P Pn 07 20 38.9 +0.4
baz=20,SNR=43
SHPR Sheep Range 20.18 1 eP P 07 20 38.3 +1.4
Y25A Mesa, Roswell 20.19 27 P P 07 20 38.2 +1.2
baz=20,SNR=29
128A Castleberry Fa 20.22 34 P P 07 20 37.6 +0.3
baz=20
CWC Cottonwood Cre 20.22 354 P Pn 07 20 39.7 +0.3
baz=20
RCTC Rector, Farmer 20.23 352 P Pn 07 20 39.6 +0.4
baz=20,SNR=7.0
JCT Junction City 20.29 43 eP Pn 07 20 39.6 -0.5
113nm,1.5s
JCT Junction City 20.29 43 P P 07 20 38.8 +0.8
baz=20,SNR=29
U15A North Rim 20.32 8 P P 07 20 40.0 +1.4
baz=20,SNR=27
W22A Albuquerque 20.34 21 P P 07 20 39.6 +0.9
baz=20
ANMO Albuquerque 20.37 22 P P 07 20 39.8 +0.7
90nm,1.5s
ANMO Albuquerque 20.37 22 P P 07 20 39.8 +0.7
8.4nm,0.9s,baz=208,slow=10,SNR=32
ANMO LR LR 07 28 13.1
comp=Z,381nm,18.2s,baz=206,slow=36
Z27A Tatum 20.38 31 P P 07 20 39.5 +0.3
baz=20,SNR=20
X24A Lazy VL Ranch, 20.43 25 P P 07 20 41.0 +1.3
baz=20,SNR=8.7
230A Sterling City 20.44 38 P P 07 20 40.3 +0.6
baz=20
331A San Angelo 20.45 40 P P 07 20 40.5 +0.7
baz=20,SNR=14
V20A Brimhall 20.51 17 P P 07 20 42.0 +1.4
baz=21,SNR=26
432A Menard 20.55 42 P P 07 20 41.1 +0.2
baz=20,SNR=21
Y26A Elida 20.58 29 P P 07 20 42.2 +0.9
baz=21,SNR=9.2
W23A Werner Place, 20.67 23 P P 07 20 43.2 +0.8
baz=21,SNR=32
X25A Clemmons Ranch 20.72 26 P P 07 20 43.6 +0.9
baz=21,SNR=16
GRAC Grapevine Rang 20.72 356 P Pn 07 20 45.5 +0.4
baz=21,SNR=24
V21A Milan 20.75 19 P P 07 20 44.6 +1.4
baz=21,SNR=48
Z28A Tuck Farm, M 20.79 33 P P 07 20 43.6 +0.1
baz=21,SNR=12
KNB Kanab 20.84 6 eP P 07 20 45.3 +1.2
75nm,1.5s
TIN Tinemaha 20.84 354 P Pn 07 20 46.7 +0.1
baz=21,SNR=7.0
Y27A Causey 20.87 30 P P 07 20 44.7 +0.3
baz=21,SNR=31
332A Millersview 20.93 41 P P 07 20 45.1 +0.1
baz=21,SNR=18
231A Bronte 20.95 39 P P 07 20 45.2 0.0
baz=21,SNR=12
W24A Lazy 6 Ranch, 21.00 24 P P 07 20 46.6 +0.7
baz=21,SNR=41
U20A Newcomb 21.03 16 P P 07 20 47.2 +1.1
baz=21,SNR=30
130A Snyder 21.04 37 P P 07 20 46.5 +0.4
baz=21,SNR=10
SAO San Andreas Ge 21.06 347 eP P 07 20 47.6 +1.3
V22A San Miguel Ran 21.09 20 P P 07 20 47.4 +0.6
baz=21,SNR=13
X26A CR and CF Fran 21.11 28 P P 07 20 47.5 +0.5
baz=21,SNR=9.2
Z29A Hungry Hill Ra 21.12 34 P P 07 20 46.9 -0.2
baz=21,SNR=35
MSTX Muleshoe 21.13 31 eP P 07 20 47.0 -0.1
MSTX Muleshoe 21.13 31 P P 07 20 47.1 -0.1
baz=21,SNR=15
V23A Ortiz Mt. (NFS 21.18 22 P P 07 20 49.0 +1.1
baz=21,SNR=10
CCUT Cedar City 21.32 5 eP P 07 20 50.2 +1.0
24nm,1.0s
U21A Nageezi 21.32 18 P P 07 20 50.5 +1.1
baz=21,SNR=38
232A Coleman 21.33 40 P P 07 20 49.0 -0.3
baz=21,SNR=16
Y28A McKinney Farm, 21.34 32 P P 07 20 49.7 +0.2
baz=21,SNR=16
W25A X Bar L Ranch, 21.39 26 P P 07 20 50.4 +0.4
baz=21,SNR=30
131A Roby 21.43 38 P P 07 20 50.0 -0.4
baz=21
Z30A Sanderson Ranc 21.46 35 P P 07 20 50.4 -0.3
baz=22,SNR=19
MLAC Mammoth Lakes 21.48 353 P P 07 20 52.9 +1.9
baz=22
V24A Rampart Ranch, 21.51 24 P P 07 20 51.9 +0.5
baz=22,SNR=49
X27A F and S Farms, 21.52 29 P P 07 20 51.1 -0.3
baz=22
U22A Llaves 21.53 20 P P 07 20 52.6 +1.0
baz=22,SNR=40
W26A Owens Ranch, T 21.58 27 P P 07 20 52.4 +0.4
baz=22,SNR=6.2
Y29A Porterfield Fa 21.60 33 P P 07 20 52.2 -0.1
baz=22,SNR=14
U23A El Rito 21.71 21 P P 07 20 54.2 +0.7
baz=22,SNR=50
MVCO Mesa Verde 21.82 16 eP P 07 20 55.4 +0.6
122nm,1.0s
MVCO Mesa Verde 21.82 16 P P 07 20 55.5 +0.7
baz=22,SNR=77
ABTX Abilene, Hawle 21.84 39 eP P 07 20 53.7 -1.0
ABTX Abilene, Hawle 21.84 39 P P 07 20 54.2 -0.5
baz=22
X28A Dimmitt 21.85 31 P P 07 20 54.8 -0.2
baz=22,SNR=8.0
V25A Rancho No Teng 21.86 25 P P 07 20 55.1 0.0
baz=22,SNR=9.6
W27A Bowe Ranch, En 21.88 29 P P 07 20 55.5 +0.2
baz=22,SNR=6.6
T21A Navajo Lake 21.89 18 P P 07 20 56.3 +0.9
baz=22,SNR=13
R11A Troy Canyon, C 22.01 0 eP P 07 20 58.0 +1.3
R11A Troy Canyon, C 22.01 0 P P 07 20 58.1 +1.4
baz=22,SNR=50
Y30A Stafford Catt 22.03 34 P P 07 20 57.2 +0.4
baz=22,SNR=9.0
Z31A Sharp Cattle R 22.04 37 P P 07 20 56.1 -0.8
baz=22,SNR=23
X29A Tulia 22.04 32 P P 07 20 56.8 -0.2
baz=22,SNR=26
CMB Columbia Colle 22.09 350 eP P 07 20 58.4 +0.9
58nm,1.1s
T22A Edith 22.10 19 P P 07 20 58.4 +0.7
baz=22,SNR=20
U24A Moreno Valley 22.11 23 P P 07 20 58.5 +0.7
baz=22,SNR=10
V26A Tequesquite Ra 22.17 26 P P 07 20 58.2 -0.2
baz=22,SNR=30
NV11 Mina Array Sit 22.20 355 eP P 07 21 00.3 +1.6
NVAR Mina Array Bea 22.21 355 P P 07 21 00.8 +1.9
NVAR Mina Array Bea 22.21 355 P P 07 21 00.8 +1.9
16nm,0.9s,baz=179,slow=12,SNR=52
NVAR LR LR 07 28 13.1
comp=Z,555nm,18.8s,baz=274,slow=33
MVU Marysvale 22.38 7 eP P 07 21 02.4 +1.7
63nm,1.2s
T23A Casias Ranch, 22.40 21 P P 07 21 01.8 +0.8
baz=22,SNR=23
WAKR Walker 22.41 352 eP P 07 21 02.6 +1.5
46nm,1.2s
Z32A Haskell 22.42 38 P P 07 21 00.3 -0.6
baz=22,SNR=15
U25A Circle Dot Ran 22.43 24 P P 07 21 01.0 -0.2
baz=22,SNR=13
S21A Coal Bank Pass 22.44 17 P P 07 21 01.9 +0.4
baz=22,SNR=76
W28A Vega 22.44 30 P P 07 21 01.1 -0.1
baz=22
Y31A Rekieta Farm, 22.44 35 P P 07 21 01.1 -0.2
baz=22,SNR=12
S20A Disappointment 22.45 15 P P 07 21 01.9 +0.4
baz=22,SNR=56
X30A Coker Ranch, T 22.48 34 P P 07 21 01.6 0.0
baz=22,SNR=9.5
PV05 Paradox Valley 22.50 14 eP P 07 21 03.5 +1.4
V27A Dan Oppiter Fa 22.55 28 P P 07 21 02.6 +0.1
baz=23,SNR=7.3
W29A Amraillo 22.60 31 P P 07 21 03.1 +0.1
baz=23
T24B San Luis 22.65 22 P P 07 21 04.4 +0.7
baz=23,SNR=33
PV01 Paradox Valley 22.68 15 eP P 07 21 03.8 -0.1
2um,1.2s
U26A Atchley Ranch, 22.70 26 P P 07 21 03.8 -0.3
baz=23,SNR=16
HKT Hockley 22.74 50 eP P 07 21 03.8 -0.5
78nm,1.4s
R20A Redvale 22.78 15 P P 07 21 05.6 +0.6
baz=23,SNR=14
S22A 4UR Ranch, Cre 22.79 18 P P 07 21 05.5 +0.3
baz=23,SNR=42
WHTX Lake Whitney 22.80 43 eP P 07 21 04.6 -0.4
WHTX Lake Whitney 22.80 43 P P 07 21 05.3 +0.4
baz=23,SNR=8.0
V28A Channing 22.83 29 P P 07 21 05.6 +0.2
baz=23,SNR=25
PV04 Paradox Valley 22.85 14 eP P 07 21 06.1 +0.4
PV15 Paradox Valley 22.90 15 eP P 07 21 06.4 +0.1
Q16A Castle Valley 22.93 9 eP P 07 21 07.4 +1.0
Q16A Castle Valley 22.93 9 P P 07 21 07.8 +1.4
baz=23,SNR=21
Y32A R-V Farms, Ver 22.94 37 P P 07 21 06.7 +0.3
baz=23,SNR=15
S23A Nye Farm, Mont 23.02 20 P P 07 21 08.6 +1.1
baz=23,SNR=9.4
T25A Trinidad 23.08 23 P P 07 21 08.0 -0.1
baz=23,SNR=14
X31A McDonald Ranch 23.10 35 P P 07 21 08.3 +0.3
baz=23,SNR=18
U27A Thompson Grove 23.11 27 P P 07 21 08.1 -0.2
baz=23,SNR=12
R21A Cimarron 23.17 16 P P 07 21 09.8 +0.8
baz=23,SNR=50
W30A Crocket Farms 23.20 33 P P 07 21 09.6 +0.5
baz=23
SRU San Rafael 23.22 10 eP P 07 21 09.6 +0.2
24nm,1.2s
SDCO Great Sand Dun 23.22 21 eP P 07 21 10.0 +0.4
18nm,1.1s
S24A Houchin Ranch, 23.23 21 P P 07 21 10.0 +0.3
baz=23,SNR=24
R22A Saguache, Gunn 23.26 18 P P 07 21 11.0 +0.9
baz=23,SNR=16
V29A Stinnett 23.27 30 P P 07 21 10.2 +0.4
baz=23
TMUT Trail Mountain 23.29 9 eP P 07 21 11.1 +0.7
84nm,1.5s
U28A Mallet 23.35 28 P P 07 21 11.0 +0.3
baz=23,SNR=11
T26A Comanche Natio 23.43 25 P P 07 21 11.4 -0.2
baz=24,SNR=12
R23A Moffat 23.52 20 P P 07 21 14.0 +1.4
baz=24,SNR=22
S25A Robets Cordova 23.53 23 P P 07 21 12.3 -0.3
baz=24,SNR=22
Q20A Ridgley Place, 23.53 15 P P 07 21 13.3 +0.8
baz=24,SNR=8.1
W31A Holland Ranch, 23.53 34 P P 07 21 11.9 -0.6
baz=24
PAHR Pah Rah Range 23.59 353 eP P 07 21 14.9 +1.8
100nm,1.6s
Q21A Lamborn Mesa, 23.60 16 P P 07 21 14.5 +1.2
baz=24,SNR=6.4
T27A Campo 23.70 27 P P 07 21 14.1 -0.1
baz=24,SNR=10
R24A Sanders Place, 23.79 21 P P 07 21 16.4 +1.3
baz=24,SNR=22
Q22A Crested Butte, 23.80 17 P P 07 21 16.6 +1.2
baz=24,SNR=26
NLU North Lily Min 23.83 7 eP P 07 21 17.3 +1.8
204nm,1.9s
WMOK Wichita Mounta 23.84 36 eP P 07 21 14.3 -1.2
30nm,0.9s
U29A Oasis Ranch, S 23.85 30 P P 07 21 15.9 +0.3
baz=24
S26A Kim 23.86 25 P P 07 21 16.2 +0.4
baz=24,SNR=16
BEKR Beckworth 23.88 351 eP P 07 21 17.2 +1.2
30nm,1.9s
MPU Maple Canyon 23.94 8 eP P 07 21 17.7 +1.2
153nm,2.0s
DUG Dugway 23.99 5 eP P 07 21 17.9 +1.0
87nm,1.8s
DUG Dugway 23.99 5 P P 07 21 17.9 +1.0
baz=24,SNR=24
T28A Walsh 24.01 27 P P 07 21 16.9 -0.3
baz=24,SNR=7.5
R25A Fountain Ranch 24.01 23 P P 07 21 18.1 +0.9
baz=24,SNR=37
P19A Cripple Cowboy 24.02 13 P P 07 21 18.6 +1.2
baz=24,SNR=39
P20A De Beque 24.02 14 P P 07 21 15.2 -2.1
baz=24,SNR=59
V31A Spring Creek L 24.03 33 P P 07 21 17.4 0.0
baz=24
SMCO Snowmass 24.08 17 eP P 07 21 19.1 +0.9
110nm,1.8s
BMN Battle Mountai 24.13 357 eP P 07 21 19.6 +1.3
35nm,1.4s
Q23A Hartsel 24.16 19 P P 07 21 19.9 +1.1
baz=24,SNR=12
U30A WK&E Inc. Balk 24.21 31 P P 07 21 19.3 +0.3
baz=24
P21A Newcastle 24.28 16 P P 07 21 20.6 +0.9
baz=24,SNR=17
DAU Daniels Canyon 24.38 8 eP P 07 21 22.2 +1.5
ELK Elko 24.41 1 eP P 07 21 21.9 +1.0
13nm,1.1s
T29A Hugoton 24.41 29 P P 07 21 20.8 0.0
baz=24
R26A Arlington 24.46 24 P P 07 21 21.5 +0.2
baz=24,SNR=15
S28A Manter 24.50 27 P P 07 21 21.6 0.0
baz=24,SNR=9.1
P22A Eagle 24.53 17 P P 07 21 23.2 +1.2
baz=25,SNR=16
JLU Jordanelle 24.54 8 eP P 07 21 23.1 +0.9
26nm,1.0s
P23A Jefferson 24.59 19 P P 07 21 24.8 +2.0
baz=25,SNR=13
O19A Miners Draw (B 24.63 12 P P 07 21 23.8 +0.9
baz=25,SNR=24
O20A White River Ci 24.66 14 eP P 07 21 24.3 +1.1
O20A White River Ci 24.66 14 P P 07 21 24.7 +1.5
baz=25,SNR=20
BGU Big Grassy Mou 24.69 5 eP P 07 21 24.2 +0.8
27nm,1.1s
Q25A Bedland, Calha 24.70 22 P P 07 21 24.3 +0.7
baz=25,SNR=12
R27A Eads 24.70 25 P P 07 21 23.8 +0.3
baz=25
S29A Ulysses 24.87 28 P P 07 21 25.2 +0.2
baz=25,SNR=5.8
O21A Pagoda 24.92 15 P P 07 21 26.9 +1.3
baz=25
WDC Whiskeytown Da 24.96 348 eP P 07 21 26.7 +1.1
23nm,1.1s
Q26A Hugo 24.98 23 P P 07 21 26.4 +0.4
baz=25,SNR=17
P24A Kohler Place, 25.02 20 P P 07 21 27.0 +0.6
baz=25
ISCO Idaho Springs 25.05 19 eP P 07 21 27.9 +1.0
11nm,1.1s
ISCO Idaho Springs 25.05 19 P P 07 21 27.8 +1.0
baz=25,SNR=12
O22A Kremmling 25.12 17 P P 07 21 28.7 +1.2
baz=25,SNR=49
T31A Randall Ranch, 25.14 31 P P 07 21 27.4 +0.1
baz=25,SNR=12
R28A Tribune 25.16 26 P P 07 21 27.8 +0.2
baz=25,SNR=14
P25A Willow Gulch B 25.27 21 P P 07 21 29.2 +0.6
baz=25
N20A Spence Gulch, 25.33 13 P P 07 21 30.9 +1.7
baz=25,SNR=76
O23A Lake Granby, G 25.34 18 P P 07 21 30.1 +0.7
baz=25
KSCO Kaye Shedlock' 25.40 24 eP P 07 21 29.5 -0.3
KSCO Kaye Shedlock' 25.40 24 P P 07 21 30.9 +1.2
baz=25
N21A Black Mountain 25.43 15 P P 07 21 31.3 +1.1
baz=26,SNR=23
M17A Scullys Gap (B 25.50 9 P P 07 21 31.9 +1.1
baz=26,SNR=22
O24A Longmont 25.52 19 P P 07 21 32.8 +1.9
baz=26,SNR=8.6
HWUT Hardware Ranch 25.52 7 eP P 07 21 32.0 +1.1
37nm,1.0s
R29A Marienthal 25.52 27 P P 07 21 31.1 +0.2
baz=26,SNR=11
HVU Hansel Valley 25.56 5 eP P 07 21 31.7 +0.4
23nm,1.1s
P26A Davis Ranch, A 25.60 22 P P 07 21 32.1 +0.4
baz=26,SNR=15
N22A Wattenberg Ran 25.74 16 P P 07 21 34.2 +1.1
baz=26
Q28A Sharon Springs 25.76 25 P P 07 21 33.4 +0.4
baz=26,SNR=9.5
M19A Rock Springs 25.79 11 P P 07 21 34.4 +0.9
baz=26,SNR=5.9
O25A Wiggins 25.82 21 P P 07 21 34.4 +0.8
baz=26,SNR=10
P27A Ficken Ranch, 25.89 24 P P 07 21 34.5 +0.3
baz=26
N23A Red Feather La 25.97 17 P P 07 21 36.5 +1.4
baz=26,SNR=26
M20A Sweetwater, Wa 25.97 13 P P 07 21 36.2 +1.1
baz=26,SNR=6.0
Q29A Oakley 25.98 27 P P 07 21 35.0 +0.1
baz=26,SNR=19
L18A Fontenelle, Gr 26.04 10 P P 07 21 36.6 +0.9
baz=26,SNR=9.8
YBH Yreka Blue Hor 26.11 348 P P 07 21 36.6 +0.5
YBH Yreka Blue Hor 26.11 348 P P 07 21 36.7 +0.5
5.8nm,0.8s,baz=147,slow=13,SNR=8.8
YBH LR LR 07 29 45.0
comp=Z,642nm,21.9s,baz=178,slow=32
R31A Burdett 26.15 30 P P 07 21 36.4 -0.1
baz=26,SNR=8.4
O26A Horse Wrangler 26.21 22 P P 07 21 38.7 +1.5
baz=26,SNR=8.7
N24A Carr 26.22 19 P P 07 21 38.2 +0.9
baz=26,SNR=8.5
WVOR Wild Horse Val 26.22 355 eP P 07 21 39.0 +1.8
26nm,1.2s
P28A Saint Francis 26.23 25 P P 07 21 37.5 +0.2
baz=26,SNR=8.3

M22A	Cedar Creek Ra	26.26	16	P	P	07 21 39.9	+2.1
	baz=26,SNR=14						
M21A	Separation Pea	26.27	14	P	P	07 21 38.2	+0.4
	baz=26						
TEIG	Tepich	26.31	77	eP	P	07 21 37.6	-0.5
TEIG	Tepich	26.31	77	P	P	07 21 37.1	-1.0
	13nm,0.9s,baz=240,slow=11,SNR=6.2						
L19A	Farson	26.33	11	P	P	07 21 39.2	+0.9
	baz=26,SNR=25						
RWWY	Rawlins	26.38	14	eP	P	07 21 39.1	+0.2
	25nm,0.9s						
TUL1	Tulsa	26.41	38	eP	P	07 21 38.2	-0.7
TUL1	Tulsa	26.41	38	P	P	07 21 38.5	-0.3
	baz=26						
L20A	Wamsutter	26.43	12	P	P	07 21 39.8	+0.6
	baz=26,SNR=12						
PHWY	Pilot Hill	26.48	17	eP	P	07 21 40.8	+1.0
	23nm,0.9s						
P29A	Atwood	26.59	26	P	P	07 21 40.5	-0.1
	baz=27						
L21A	Rawlins	26.61	14	P	P	07 21 41.7	+0.9
	baz=27,SNR=14						
K05A	Summer Lake	26.76	351	eP	P	07 21 43.3	+1.1
	22nm,1.0s						
M24A	Cheyenne	26.82	18	P	P	07 21 44.1	+1.4
	baz=27,SNR=6.0						
P30A	Selden	26.84	27	P	P	07 21 42.9	+0.2
	baz=27,SNR=7.1						
BW06	Boulder Array	26.94	10	eP	P	07 21 44.1	+0.2
	38nm,1.2s						
PDAR	Pinedale Array	26.94	10	P	P	07 21 44.2	+0.4
PDAR	Pinedale Array	26.94	10	P	P	07 21 44.2	+0.4
	22nm,1.0s,baz=187,slow=7.5,SNR=114						
PDAR				LR	LR	07 31 40.1	
	comp=Z,270nm,19.1s,baz=195,slow=35						
HUMO	Hull Mountain	27.00	348	eP	P	07 21 45.0	+0.9
	94nm,2.1s						
K20A	Yellowstone Ra	27.06	12	P	P	07 21 45.2	+0.4
	baz=27,SNR=19						
MFID	Camas Ranch	27.07	360	P	P	07 21 46.2	+1.3
	baz=27						
J08A	Circle Bar Ran	27.12	356	eP	P	07 21 47.1	+1.8
	36nm,1.6s						
K19A	Absolon Red Bu	27.12	11	P	P	07 21 45.6	+0.2
	baz=27,SNR=15						
L23A	Garrett	27.17	16	P	P	07 21 46.6	+0.7
	baz=27						
HLID	Hailey	27.24	2	eP	P	07 21 47.5	+1.0
	25nm,1.1s						
HLID	Hailey	27.24	2	P	P	07 21 48.0	+1.6
	baz=27,SNR=37						
RRI2	Red Ridge	27.26	7	eP	P	07 21 47.2	+0.5
	15nm,0.9s						
K21A	Alcova	27.27	14	P	P	07 21 47.5	+0.8
	baz=27,SNR=21						
L24A	Wheatland	27.32	18	P	P	07 21 47.4	+0.3
	baz=27						
REDW	Red Top Meadow	27.34	8	eP	P	07 21 48.0	+0.7
	32nm,1.2s						
SNOW	Snow King Moun	27.45	8	eP	P	07 21 48.9	+0.5
	30nm,1.1s						
TPAW	Teton Pass	27.45	7	eP	P	07 21 49.4	+1.0
	40nm,1.1s						
K22A	Casper	27.46	15	P	P	07 21 49.8	+1.4
	baz=28,SNR=5.3						
J19A	Crowheart	27.51	11	P	P	07 21 49.6	+0.7
	baz=28,SNR=22						
LOHW	Long Hollow	27.61	8	eP	P	07 21 50.1	+0.3
	10.0nm,1.0s						
MOOW	Moose Ponds	27.73	8	eP	P	07 21 51.0	+0.1
	7.2nm,1.0s						
J20A	Shoshoni	27.78	12	P	P	07 21 52.4	+1.2
	baz=28,SNR=7.7						
I18A	Diamond G Ranc	27.81	9	P	P	07 21 52.4	+0.7
	baz=28,SNR=11						
PINOR	Pine Mountain	27.82	352	eP	P	07 21 53.4	+2.0
	28nm,1.2s						
IMW	Indian Meadow	27.85	7	eP	P	07 21 52.7	+0.6
	20nm,1.1s						
UALR	University of	27.88	44	eP	P	07 21 51.9	-0.2
	12nm,0.9s						
J21A	Lysite	27.90	13	P	P	07 21 53.8	+1.3
	baz=28,SNR=19						
I07A	Izee	27.93	354	eP	P	07 21 54.1	+1.6
	9.9nm,1.1s						
FLWY	Flagg Ranch	28.06	8	eP	P	07 21 54.6	+0.7
	28nm,1.3s						
KSU1	Kansas State U	28.23	33	eP	P	07 21 55.2	0.0
I19A	Meeteetse	28.27	10	P	P	07 21 56.7	+1.0
	baz=28,SNR=9.0						
I21A	Big Trails, Te	28.38	13	P	P	07 21 57.1	+0.4
	baz=28,SNR=7.4						
LKWY	Lake	28.58	8	P	P	07 21 55.8	-2.7
	23nm,1.5s						
MCMT	McKenzie Canyo	28.59	4	eP	P	07 22 00.2	+1.6
H16A	Russell Place,	28.61	7	P	P	07 22 00.4	+1.6
	baz=29,SNR=13						
QLMT	Earthquake Lak	28.72	6	eP	P	07 22 01.7	+2.0
H18A	Shoshone NF, C	28.79	9	P	P	07 22 00.8	+0.4
	baz=29						
H19A	Powell	28.89	10	P	P	07 22 02.4	+1.3
	baz=29,SNR=7.0						
G08A	Pilot Rock	29.08	355	eP	P	07 22 04.9	+2.1
	63nm,2.6s						
DLMT	Dillon	29.14	4	eP	P	07 22 04.6	+1.3
	22nm,1.5s						
G17A	Pierce Place,	29.28	7	P	P	07 22 06.0	+1.4
	baz=29						
J27A	Elkhorn Farm,	29.33	21	P	P	07 22 06.2	+1.2
	baz=29						
G18A	Lazy EL Ranch,	29.43	9	P	P	07 22 07.7	+1.7
	baz=30						
RSSD	Black Hills	29.48	17	eP	P	07 22 06.8	+0.3
	4.1nm,0.8s						
BOZ	Bozeman (W)	29.50	6	eP	P	07 22 06.8	+0.2
	9.7nm,1.4s						
LRM	Limekiln Ridge	29.61	5	eP	P	07 22 08.0	+0.4
	113nm,1.5s						
J28A	Allard Ranch,	29.75	21	P	P	07 22 09.9	+1.2
	baz=30,SNR=7.3						
F17A	Fitzpatrick Pl	29.86	7	P	P	07 22 10.6	+0.9
	baz=30,SNR=12						
GCMT	Greycliff	29.88	8	eP	P	07 22 11.0	+1.1
H24A	Dirks Ranch, A	29.92	16	P	P	07 22 10.4	+0.1
	baz=30						
G22A	Birney	29.94	13	P	P	07 22 10.7	+0.3
	baz=30						
F18A	Big Timber	29.98	8	P	P	07 22 12.1	+1.3
	baz=30,SNR=14						
I27A	Quinn	30.04	20	P	P	07 22 11.9	+0.7
	baz=30						
F19A	Roth Farm, Mol	30.05	9	P	P	07 22 12.5	+1.2
	baz=30						
REDWA	Red Mountain	30.12	355	P	P	07 22 13.6	+1.7
F20A	Billings	30.13	11	P	P	07 22 12.7	+0.6
	baz=30,SNR=5.4						
TRW	Toppenish Ridg	30.23	353	P	P	07 22 14.7	+1.9
I28A	Midland	30.28	21	P	P	07 22 14.0	+0.7
	baz=30						
E17A	Martinsdale	30.39	7	P	P	07 22 15.7	+1.3
	baz=30,SNR=13						
MSO	Missoula	30.52	2	eP	P	07 22 15.8	+0.3
	9.3nm,1.0s						
MSO	Missoula	30.52	2	P	P	07 22 15.9	+0.3
	baz=31,SNR=7.7						
H27A	Howes	30.54	19	P	P	07 22 16.2	+0.6
	baz=31						
HRY	Holter Researc	30.54	5	eP	P	07 22 16.5	+0.8
	6.0nm,0.6s						
E18A	Harlowton	30.61	8	P	P	07 22 16.9	+0.6
	baz=31						
F23A	Volborg	30.62	14	P	P	07 22 16.8	+0.5
	baz=31						
CHMT	Chamberlain Mo	30.64	3	eP	P	07 22 16.9	+0.2
	8.2nm,1.3s						
CHMT				ePP	PP	07 23 22.9	-3.0
E19A	Rath Farm, Rou	30.66	9	P	P	07 22 17.6	+0.8
	baz=31,SNR=23						
E20A	Meyer Farm, Mu	30.81	10	P	P	07 22 18.7	+0.6
	baz=31,SNR=17						
LRAL	Lakeview Retre	30.82	52	eP	P	07 22 18.4	+0.2
	20nm,1.3s						
LON	Longmire	30.83	352	eP	P	07 22 19.2	+1.0
	21nm,1.3s						
LON				ePcP	PcP	07 25 12.9	-2.4
D08A	Wollman Farm,	30.84	356	eP	P	07 22 19.4	+1.3
	24nm,1.4s						
E03A	Lebam	30.91	349	eP	P	07 22 20.7	+1.9
	32nm,0.9s						
SLMT	Seeley Lake	30.95	3	eP	P	07 22 19.1	-0.3
	20nm,1.6s						
G26A	Maurine	30.97	18	P	P	07 22 19.9	+0.5
	baz=31,SNR=10						
E21A	Keefer Ranch,	31.04	12	P	P	07 22 20.7	+0.7
	baz=31						
D17A	Six Diamond Ra	31.09	7	P	P	07 22 21.1	+0.5
	baz=31,SNR=19						
E22A	Miles City	31.17	13	P	P	07 22 21.8	+0.5
	baz=31,SNR=7.7						
D18A	Linhart Farms,	31.24	8	P	P	07 22 22.7	+0.9
	baz=31						
G27A	Dupree	31.25	19	P	P	07 22 22.2	+0.2
	baz=31,SNR=7.9						
D19A	Cripps Ranch,	31.34	9	P	P	07 22 23.4	+0.7
	baz=31,SNR=13						
LAO	LASA Array	31.35	13	eP	P	07 22 23.4	+0.6
	42nm,1.4s						
D20A	Manuel Ranch,	31.38	10	P	P	07 22 23.7	+0.6
	baz=32,SNR=7.4						
C09A	Chrisman Ranch	31.53	357	eP	P	07 22 25.6	+1.3
	7.4nm,0.8s						
C17A	Wharram Farm,	31.56	6	P	P	07 22 25.4	+0.8
	baz=32,SNR=13						
D21A	La Casta Ranch	31.56	11	P	P	07 22 25.7	+1.0
	baz=32						
F27A	Lemmon	31.67	18	P	P	07 22 25.7	+0.1
	baz=32,SNR=6.7						
ECSD	EROS Data Cent	31.82	27	eP	P	07 22 26.9	0.0
	13nm,1.3s						
C19A	Slack Wire Ran	31.87	8	P	P	07 22 28.3	+1.0
	baz=32						
NEW	Newport	31.95	358	eP	P	07 22 29.1	+1.1
	15nm,1.4s						
NEW	Newport	31.95	358	P	P	07 22 29.1	+1.1
	baz=32,SNR=11						
C20A	Veseth Ranch,	32.01	10	P	P	07 22 29.6	+1.1
	baz=32,SNR=6.8						
F28A	McLaughlin	32.03	20	P	P	07 22 28.3	-0.4
	baz=32						
D23A	Lindsay	32.03	14	P	P	07 22 29.5	+0.7
	baz=32						
E26A	Carlson Angus	32.08	17	P	P	07 22 28.9	-0.4
	baz=32						
B08A	Colville Reser	32.16	355	eP	P	07 22 30.4	+0.6
	88nm,2.9s						
D24A	Glendive	32.19	15	P	P	07 22 30.5	+0.4
	baz=32						
C21A	Desert Coulee	32.27	11	P	P	07 22 31.3	+0.5
	baz=32						
B18A	Beardsley Farm	32.42	7	P	P	07 22 33.3	+1.1
	baz=32						
C24A	Savage	32.55	14	P	P	07 22 34.6	+1.3
	baz=33						
B19A	Brinkman Farms	32.59	8	P	P	07 22 34.5	+0.9
	baz=33						
C23A	Lambert	32.63	13	P	P	07 22 34.6	+0.6
	baz=33,SNR=9.3						
E28A	Huff	32.71	19	P	P	07 22 34.6	-0.1
	baz=33,SNR=6.7						
B20A	Solberg Farm,	32.71	9	P	P	07 22 35.6	+0.9
	baz=33,SNR=9.1						
WALA	Waterton Lakes	32.75	2	eP	P	07 22 36.2	+1.1
USIN	University of	32.80	43	eP	P	07 22 36.0	+0.5
	28nm,0.8s						
B21A	Ellsworth Farm	32.87	11	P	P	07 22 36.7	+0.6
	baz=33						
TIGA	Tifton	32.87	57	eP	P	07 22 36.2	0.0
TIGA	Tifton	32.87	57	P	P	07 22 35.8	-0.5
	baz=33						
A18A	Metzger Ranch,	32.93	7	P	P	07 22 36.9	+0.3
	baz=33						
OLIL	Olney	32.95	42	eP	P	07 22 36.2	-0.6
	17nm,1.1s						
E29A	Napoleon	33.05	20	P	P	07 22 38.0	+0.4
	baz=33						
A19A	Klindworth Far	33.08	8	P	P	07 22 39.3	+1.3
	baz=33,SNR=6.9						
A20A	Cobblestone Ra	33.15	9	P	P	07 22 39.2	+0.6
	baz=33						
B23A	Brockton	33.30	13	P	P	07 22 40.4	+0.5
	baz=33						
A21A	Bergtoll Ranch	33.43	10	P	P	07 22 41.6	+0.7
	baz=34						
D29A	Pettibone, Tap	33.49	20	P	P	07 22 41.1	-0.4
	baz=34						
CPCT	Cooper Cave	33.73	50	eP	P	07 22 43.4	-0.3
D30A	Buchanan	33.82	21	P	P	07 22 43.9	-0.5
	baz=34						
WCI	Wyandotte Cave	33.85	44	eP	P	07 22 44.0	-0.8
	15nm,0.9s						
TKL	Tuckaleechee C	34.37	50	P	P	07 22 49.6	+0.3
TKL	Tuckaleechee C	34.37	50	P	P	07 22 49.6	+0.3
	2.1nm,0.6s,baz=230,slow=12,SNR=4.6						
A26A	Wade Farm, Ken	34.42	16	P	P	07 22 49.9	+0.3
	baz=34,SNR=8.0						
C30A	Mose, Pekin	34.43	21	P	P	07 22 49.6	0.0
	baz=34,SNR=14						
B28A	Dugan Ranch, T	34.48	18	P	P	07 22 50.2	+0.1
	baz=34						
A27A	Ledoux Ranch,	34.68	17	P	P	07 22 52.0	+0.1
	baz=35						
SPMN	St. Paul	34.70	29	eP	P	07 22 50.7	-1.2
SPMN	St. Paul	34.70	29	P	P	07 22 51.6	-0.4
	baz=35						
TAOE	Nuku Hiva Isla	34.77	226	eT	T	07 59 28.2	
B29A	Wagenman Farm,	34.81	19	P	P	07 22 53.1	+0.2
	baz=35						
A28A	Rude Farm, Bot	34.92	18	P	P	07 22 53.6	-0.3
	baz=35						
TZTN	Tazewell	34.92	48	eP	P	07 22 53.6	-0.5
	19nm,1.1s						
B30A	Myrvik Farm, E	35.12	20	P	P	07 22 55.2	-0.4
	baz=35,SNR=9.6						
A29A	Manning Farm,	35.25	19	P	P	07 22 56.6	-0.1
	baz=35,SNR=12						
AGMN	Agassiz Nation	35.86	23	eP	P	07 23 01.6	-0.4
	32nm,1.6s						
KMSC	Kings Mountain	35.97	52	eP	P	07 23 01.8	-1.3
KMSC	Kings Mountain	35.97	52	P	P	07 23 02.2	-0.9
	baz=36						
EDM	Edmonton	36.94	2	eP	P	07 23 11.4	+0.3
BBB	Bella Bella	37.19	347	LR	LR	07 36 26.9	
	comp=Z,144nm,20.8s,baz=206,slow=33						
ULM	Lac du Bonnet	37.49	21	eP	P	07 23 16.5	+0.7
ULM	Lac du Bonnet	37.49	21	P	P	07 23 16.0	+0.2
	5.2nm,0.9s,baz=217,slow=8.7,SNR=4.2						
OTAV	Otavalo	40.01	110	eP	P	07 23 38.8	+0.8
	29nm,1.1s						
SADO	Sadowa	41.85	39	LR	LR	07 39 27.8	
	comp=Z,119nm,18.9s,baz=283,slow=34						
ROSC	El Rosal	42.11	101	P	P	07 23 55.9	+0.7
ROSC	El Rosal	42.11	101	P	P	07 23 55.9	+0.7
	12nm,1.0s,baz=98,slow=20,SNR=8.8						
SDDR	Presa de Saban	42.32	80	eP	P	07 23 56.5	0.0
	47nm,0.9s						
RKT	Rikitea	43.44	206	eLQ	LQ	07 34 10.9	
	1μm,30.2s						
RKT				eLR	LR	07 36 02.9	
	388nm,36.0s						
RKT	Rikitea	43.44	206	eT	T	08 10 16.0	
DLBC	Dease Lake	43.45	349	P	P	07 24 05.7	+0.7
DLBC	Dease Lake	43.45	349	P	P	07 24 05.7	+0.7
	3.9nm,0.8s,baz=154,slow=10,SNR=4.9						
DLBC				LR	LR	07 41 46.5	
	comp=Z,146nm,21.3s,baz=334,slow=36						
SDV	Santo Domingo	44.50	94	eP	P	07 24 14.7	+0.4
	15nm,1.0s						
YKA	Yellowknife Ar	46.19	1	P	P	07 24 26.7	-0.1
YKA	Yellowknife Ar	46.19	1	P	P	07 24 26.7	-0.1
	2.1nm,0.7s,baz=179,slow=8.1,SNR=27						
YKB5	Yellowknife Ar	46.19	1	eP	P	07 24 26.5	-0.2
CELP	Cerrillos	46.84	80	eP	P	07 24 31.8	-0.8
SJG	San Juan	47.25	80	eP	P	07 24 34.3	-1.4
	34nm,0.8s						
PPT2	Papeete2	47.39	226	eLQ	LQ	07 35 38.1	
	1μm,28.0s						
MTP	Monte Pirata	47.81	80	eP	P	07 24 39.0	-1.1
	57nm,1.1s						
KDAK	Kodiak Island	49.73	335	LR	LR	07 40 45.7	
	comp=Z,365nm,19.4s,baz=134,slow=30						
DAWY	Dawson	50.47	347	eP	P	07 25 01.5	+1.7
SML	Sawmill	51.04	341	eP	P	07 25 04.8	+0.6
	1.8nm,0.8s						
EGAK	Eagle	51.48	346	eP	P	07 25 09.0	+1.7
	19nm,1.1s						
MCK	McKinley	52.66	342	eP	P	07 25 17.2	+0.9
	22nm,1.2s						
TRF	Thorofare Moun	52.86	341	eP	P	07 25 18.2	+0.4
	19nm,1.0s						
IL1	Eielson Array	52.89	344	eP	P	07 25 17.9	0.0
ILAR	Eielson Array	52.89	344	P	P	07 25 18.1	+0.2
ILAR	Eielson Array	52.89	344	P	P	07 25 18.1	+0.2
	7.2nm,0.9s,baz=153,slow=7.2,SNR=41						
ILAR				LR	LR	07 42 55.3	
	comp=Z,138nm,21.4s,baz=151,slow=30						
PPLA	Purkeypile	53.07	340	eP	P	07 25 20.0	+0.6
	56nm,1.6s						
INK	Inuvik	53.26	352	eP	P	07 25 20.7	+0.2
INK	Inuvik	53.26	352	P	P	07 25 20.6	0.0
	5.4nm,1.0s,baz=165,slow=7.9,SNR=6.3						
CAST	Castle Rocks	53.40	341	eP	P	07 25 21.9	+0.2
	14nm,1.2s						
BPAW	Bear Paw Mtn.	53.55	342	eP	P	07 25 22.4	-0.4
	31nm,1.8s						
SCHQ	Schefferville	53.66	33	P	P	07 25 23.4	-0.3
SCHQ	Schefferville	53.66	33	P	P	07 25 23.4	-0.3
	6.0nm,0.8s,baz=264,slow=14,SNR=4.5						
SCHQ				LR	LR	07 49 07.1	
	comp=Z,35nm,19.6s,baz=208,slow=37						
COLD	Coldfoot	55.65	345	eP	P	07 25 37.8	-0.1
	20nm,1.6s						
COLD				eScP	ScP	07 30 32.4	-4.2
IM04	Indian Mountai	55.72	342	eP	P	07 25 38.0	-0.5
LPAZ	La Paz	56.97	122	P	P	07 25 49.2	+0.4
LPAZ	La Paz	56.97	122	P	P	07 25 49.2	+0.4
	7.7nm,0.9s,baz=326,slow=6.7,SNR=29						
LPAZ				LR	LR	07 46 29.9	
	comp=Z,181nm,20.0s,baz=124,slow=32						
SAML	Samuel	57.67	112	eP	P	07 25 51.6	-1.5
	21nm,1.2s						
LVC	Limon Verde	59.90	129	eP	P	07 26 10.3	+1.6
	12nm,1.1s						
PLCA	Paso Flores	70.48	145	P	P	07 27 18.3	+1.4
PLCA	Paso Flores	70.48	145	P	P	07 27 18.3	+1.4
	1.2nm,0.7s,baz=352,slow=8.1,SNR=3.7						
CPUP	Villa Florida	70.76	126	eP	P	07 27 19.0	+0.2
CPUP	Villa Florida	70.76	126	P	P	07 27 19.1	+0.3
	12nm,0.9s,baz=292,slow=6.7,SNR=19						
BDFB	Brasilia	73.91	112	eP	P	07 27 39.0	+1.0
BDFB	Brasilia	73.91	112	P	P	07 27 38.9	+1.0
	16nm,0.8s,baz=282,slow=7.2,SNR=28						
BDFB				LR	LR	07 54 26.9	
	comp=Z,93nm,19.5s,baz=45,slow=31						
DZM	Mont Dzumac	85.22	246	eLR	LR	07 55 38.1	
	282nm,27.6s						
ARCES	ARCESS Array B	90.17	13	LR	LR	08 11 14.9	
	comp=Z,88nm,18.1s,baz=146,slow=37						
NOA	NORSAR Array B	92.16	23	LR	LR	08 11 30.9	
	comp=Z,49nm,18.2s,baz=270,slow=36						
CN2	Changchun	98.28	320	eP	Pdif	07 29 40.8	+0.8
CN2				esP	sP	07 29 47.5	+3.0
CN2				eS	S	07 41 04.0	-4.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s						
CN2				LR	LR		
	comp=E,300nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
HHC	Hu-ho-hao-te	108.27	324	Pdif	Pdif	07 30 22.0	-2.6
HHC				S	Sdif	07 42 23.8	-8.2
HHC				AMB	AMB		
	comp=Z,150nm,9.6s						
HHC				LR	LR		
	comp=N,370nm,20.6s						
HHC				LR	LR		
	comp=E,1μm,20.6s						
HHC				LR	LR		
	comp=Z,320nm,19.2s						
ASAR	Alice Springs	114.72	251	PKP	PKPdf	07 34 42.9	-0.6
ASAR	Alice Springs	114.72	251	PKP	PKPdf	07 34 42.9	-0.6
	comp=Z,0.4nm,0.7s,baz=78,slow=1.7,SNR=4.7						
LZH	Lanzhou	115.92	325	ePKP	PKPdf	07 34 41.5	-4.3
CD2	Chengdu	119.70	321	ePKP	PKPdf	07 34 53.3	+0.3
CD2				PP	PP	07 36 19.3	+4.4
CD2				SKS	SKSdf	07 42 02.5	-3.1
CD2				SKKS	SKKSac	07 43 10.5	-5.9
CD2				SS	SS	07 52 39.8	+0.7
CD2				AMB	AMB		
	comp=Z,120nm,10.2s						
CD2				LR	LR		
	comp=N,140nm,12.8s						
CD2				LR	LR		
	comp=Z,180nm,16.2s						
GYA	Guiyang	120.87	315	ePdif	Pdif	07 31 20.8	-0.2
GYA				PKP	PKPdf	07 34 54.5	-1.0
GYA				PP	PP	07 36 28.5	+5.2
GYA				PKS	PKSdf	07 38 30.5	-2.0
GYA				SKKS		07 43 19.3	
GYA				SS	SS	07 52 55.8	+1.0
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
GYA				LR	LR		
	comp=N,110nm,20.6s						
GYA				LR	LR		
	comp=E,90nm,21.6s						
GYA				LR	LR		
	comp=Z,120nm,22.2s						
KSH	Kashi	123.47	349	ePKP	PKPdf	07 35 01.0	+0.9
KMI	Kunming	124.38	317	PKP	PKPdf	07 35 03.5	+1.1
CMAR	Chiang Mai Arr	131.51	314	PKP	PKPdf	07 35 17.6	+1.7
CMAR	Chiang Mai Arr	131.51	314	PKP	PKPdf	07 35 17.6	+1.7
	comp=Z,0.4nm,0.4s,baz=16,slow=1.3,SNR=4.3						
LSZ	Lusaka	145.24	93	PKPbc	PKPdf	07 35 42.0	+0.9
LSZ	Lusaka	145.24	93	PKPbc	PKPdf	07 35 42.0	+0.9
	comp=Z,1.6nm,0.5s,baz=26,slow=7.5,SNR=6.4						

*IDC **30** 07:26:06.1±0.5, 70°.46N×95°.80W, h0km, mb4.0/21, mb1 4.3/28, mb1mx4.1/42, mbtmp4.1/28, ML4.4/7, MS3.3/7, Ms1 3.4/7, ms1mx3.0/41, Error ellipse: s-maj=14.7km s-min=10.0km az=123.0*

*NEIC **30** 07:26:07.0, 70°.39N×95°.87W, h18km, mb4.5/39, MW4.3(OTT), After OTT.*

*OTT **30** 07:26:07.9±0.2, 70°.39N×95°.87W, h12km, MN5.1/30, Mw4.3, 132km northwest from Taloyoak, Nu Boothia Ungava Seismic Zone.*

ISC 30 07:26:06.8±1.6, 70°.38N±0°.03×95°.90W±0°.04, h11km±10km, n329, σ2$24/341, mb4.3/58, MS3.5/5, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUGN	Kugaaruk Camp,	3.10	135	Pn	Pn	07 26 56.6	+1.1
KUGN				SN	Sn	07 27 29.9	-2.6
KUGN				LG	Lg	07 27 43.5	
KUGN				Trac		07 27 46.4	
	comp=Z,2μm,0.2s						
KUGN	Kugaaruk Camp,	3.10	135	Pn	Pn	07 26 56.6	+1.1
KUGN				Sn	Sn	07 27 29.9	-2.6
AP3N	Apex site 3 Nu	4.05	98	PN	Pn	07 27 08.7	+0.1
AP3N				SN	Sn	07 27 52.5	-3.5
AP3N				LG	Lg	07 28 13.3	
AP3N				Trac		07 28 20.2	
	comp=Z,2μm,0.5s						
AP3N	Apex site 3 Nu	4.05	98	Pn	Pn	07 27 08.7	+0.1
AP3N				Sn	Sn	07 27 52.5	-3.5
BULN	Bullion Camp,	4.13	164	PN	Pn	07 27 11.2	+1.5
BULN				SN	Sn	07 27 57.1	-0.8
BULN				Trac		07 28 20.0	
	comp=Z,2μm,0.4s

LAIN Lailor River, 4.48 101 PN **Pn 07 27 14.2 -0.3**
LAIN SN **Sn 07 28 03.5 -3.2**
LAIN LG Lg 07 28 27.9
LAIN Trac 07 28 29.6
comp=Z,1µm,0.4s
LAIN Lailor River, 4.48 101 Pn **Pn 07 27 14.2 -0.3**
LAIN Sn **Sn 07 28 03.5 -3.2**
GIFN Gifford Fjord, 4.87 88 PN **Pn 07 27 19.4 -0.5**
GIFN SN **Sn 07 28 13.0 -3.0**
GIFN LG Lg 07 28 40.6
GIFN Trac 07 28 41.2
comp=Z,2µm,0.5s
GIFN Gifford Fjord, 4.87 88 Pn **Pn 07 27 19.4 -0.5**
GIFN Sn **Sn 07 28 13.0 -3.0**
ILON Igloolik, Nuna 4.96 95 PN **Pn 07 27 20.8 -0.4**
ILON SN **Sn 07 28 13.9 -4.5**
ILON Trac 07 28 43.1
comp=Z,2µm,0.6s
ILON LG Lg 07 28 46.6
ILON Igloolik, Nuna 4.96 95 Pn **Pn 07 27 20.8 -0.4**
ILON Sn **Sn 07 28 13.9 -4.5**
QILN Qililugaq Expl 5.12 132 PN **Pn 07 27 23.8 +0.5**
QILN SN **Sn 07 28 19.8 -2.5**
QILN LG Lg 07 28 46.0
QILN Trac 07 28 50.1
comp=Z,3µm,0.5s
QILN Qililugaq Expl 5.12 132 Pn **Pn 07 27 23.8 +0.5**
QILN Sn **Sn 07 28 19.8 -2.5**
WAGN Wager Bay 5.12 149 PN **Pn 07 27 24.1 +0.8**
WAGN SN **Sn 07 28 20.1 -2.1**
WAGN LG Lg 07 28 46.0
WAGN Trac 07 28 56.5
comp=Z,2µm,0.4s
WAGN Wager Bay 5.12 149 Pn **Pn 07 27 24.1 +0.8**
WAGN Sn **Sn 07 28 20.1 -2.1**
NUNN Nunuq Camp, NU 5.50 158 PN **Pn 07 27 29.0 +0.5**
NUNN SN **Sn 07 28 31.2 -0.4**
NUNN Trac 07 29 02.3
comp=Z,594nm,0.2s
NUNN LG Lg 07 29 02.4
NUNN Nunuq Camp, NU 5.50 158 Pn **Pn 07 27 29.0 +0.5**
NUNN Sn **Sn 07 28 31.2 -0.4**
YBKN Baker Lake, Hu 6.09 180 PN **Pn 07 27 36.5 0.0**
YBKN SN **Sn 07 28 42.4 -3.7**
YBKN LG Lg 07 29 18.1
YBKN Trac 07 29 18.4
comp=Z,2µm,0.4s
YBKN Baker Lake, Hu 6.09 180 Pn **Pn 07 27 36.5 0.0**
YBKN Sn **Sn 07 28 42.4 -3.7**
JERN Jeri Cho Mine, 7.25 240 PN **Pn 07 27 51.4 -1.1**
JERN SN **Sn 07 29 09.6 -5.1**
JERN LG Lg 07 29 48.5
JERN Trac 07 29 51.5
comp=Z,1µm,0.6s
SEDN First Sedna Si 7.39 163 PN **Pn 07 27 54.5 +0.1**
SEDN SN **Sn 07 29 12.8 -5.4**
SEDN LG Lg 07 30 03.5
SEDN Trac 07 30 04.8
comp=Z,610nm,0.5s
JOSN Second Sedna S 7.45 165 PN **Pn 07 27 55.3 +0.1**
JOSN SN **Sn 07 29 14.7 -4.8**
JOSN LG Lg 07 29 58.8
JOSN Trac 07 30 06.7
comp=Z,971nm,0.6s
HPLN Hepburn Lake, 8.21 250 PN **Pn 07 28 05.0 -0.7**
HPLN SN Sn 07 29 31.6 -6.8
HPLN LG Lg 07 30 21.7
HPLN Trac 07 30 22.4
comp=Z,873nm,0.7s
COKN Cook Lake 8.73 222 PN **Pn 07 28 10.9 -1.9**
COKN SN **Sn 07 29 45.8 -5.3**
COKN LG Lg 07 30 34.0
COKN Trac 07 30 41.1
comp=Z,2µm,0.6s
SNLN Sandy Lake, NW 8.87 217 PN **Pn 07 28 13.2 -1.6**
SNLN SN Sn 07 29 48.5 -6.0
SNLN Trac 07 30 41.5
comp=Z,2µm,0.7s
SNLN LG Lg 07 30 42.1
WHFN White Fish Lak 9.02 215 PN **Pn 07 28 15.9 -0.8**
WHFN SN Sn 07 29 52.1 -6.0
WHFN Trac 07 30 44.1
comp=Z,953nm,0.4s
WHFN LG Lg 07 30 44.3
DHRN Dharma Camp 9.18 260 PN **Pn 07 28 18.4 -0.6**
DHRN SN Sn 07 29 55.7 -6.4
DHRN LG Lg 07 30 51.5
DHRN Trac 07 30 54.3
comp=Z,490nm,0.6s
GDLN Gardenia Lake, 9.31 211 PN **Pn 07 28 20.4 -0.3**
GDLN SN Sn 07 29 58.2 -7.2
GDLN Trac 07 31 15.8
comp=Z,814nm,0.4s
ARVN Arviat, NU 9.36 175 PN **Pn 07 28 20.0 -1.4**
ARVN SN **Sn 07 30 01.4 -5.0**
ARVN Trac 07 30 59.3
comp=Z,1µm,0.6s
ARVN LG Lg 07 31 00.0
CTLN Castor Lake 9.73 242 PN **Pn 07 28 24.4 -2.1**
CTLN SN Sn 07 30 08.1 -7.5
CTLN LG Lg 07 31 03.2
CTLN Trac 07 31 22.6
comp=Z,709nm,0.8s
EUNU Eureka 10.00 9 PN **Pn 07 28 29.9 -0.3**
EUNU SN Sn 07 30 15.2 -7.0
EUNU Trac 07 31 34.6
comp=Z,1µm,1.9s
GALN Gameti Lake 10.35 243 PN **Pn 07 28 32.1 -2.8**
GALN SN Sn 07 30 23.3 -7.4
GALN LG Lg 07 31 23.6
GALN Trac 07 31 30.2
comp=Z,551nm,0.6s
ROMN Roman Lake 10.41 245 PN **Pn 07 28 33.6 -2.2**
ROMN SN Sn 07 30 25.8 -6.6
ROMN Trac 07 31 37.0
comp=Z,682nm,0.3s
YKW3 Yellowknife Ar 10.78 233 PN Pn 07 28 37.7 -3.2
YKW3 PN 07 28 37.7
YKW3 SN Sn 07 30 32.4 -8.9
YKW3 SN 07 30 34.2
YKW3 LG Lg 07 31 38.1
YKW3 LG Lg 07 31 39.0
YKW3 Trac 07 31 41.8
comp=N,1µm,0.8s
YKW3 Trac 07 31 50.0
comp=Z,980nm,0.7s
YKW3 Yellowknife Ar 10.78 233 Pn Pn 07 28 37.7 -3.2
8.7nm,0.5s
YKW3 *e*Sn Sn 07 30 28.3 -13
YKA Yellowknife Ar 10.83 232 Pn Pn 07 28 37.3 -4.3
YKA Sn Sn 07 30 33.4 -9.2
YKA Lg Lg 07 31 37.7
YKA Yellowknife Ar 10.83 232 Pn Pn 07 28 37.3 -4.3
1.3nm,0.3s,baz=59,slow=22,SNR=65
YKA Sn Sn 07 30 33.4 -9.2
17nm,0.3s,baz=31,slow=22,SNR=13
YKA Lg Lg 07 31 37.7
42nm,0.3s,baz=24,slow=29,SNR=14
YKB5 Yellowknife Ar 10.83 232 *e*Pn Pn 07 28 37.6 -3.9
FCC Fort Churchill 11.69 175 PN **Pn 07 28 52.0 -1.2**
FCC SN Sn 07 30 54.2 -9.4
FCC Trac 07 32 11.1
comp=Z,624nm,0.7s
FCC LG Lg 07 32 13.7
FCC Fort Churchill 11.69 175 *e*Pn **Pn 07 28 51.4 -1.9**
FCC *e*Sn Sn 07 30 53.9 -10
AKVQ Akulivik 12.01 134 PN **Pn 07 28 55.9 -1.7**
AKVQ SN Sn 07 31 01.2 -10
AKVQ LG Lg 07 32 20.6
AKVQ Trac 07 32 23.1
comp=Z,645nm,0.6s
FRB Frobisher Bay 12.46 109 PN **Pn 07 29 02.9 -0.9**
FRB SN Sn 07 31 11.3 -11
FRB Trac 07 32 33.0
comp=Z,1µm,0.7s
FRB LG Lg 07 32 33.5
FRB Frobisher Bay 12.46 109 Pn **Pn 07 29 01.7 -2.1**
FRB Sn Sn 07 31 09.6 -13
FRB Lg Lg 07 32 28.5
FRB Frobisher Bay 12.46 109 Pn **Pn 07 29 01.7 -2.1**
4.7nm,0.3s,baz=307,slow=12,SNR=38
FRB Sn Sn 07 31 09.6 -13
21nm,0.3s,baz=48,slow=7.1,SNR=8.6
FRB Lg Lg 07 32 28.5
53nm,0.3s,baz=50,slow=21,SNR=18
CMBN Cumberland Cam 12.56 97 PN Pn 07 28 57.8 -7.4
CMBN SN Sn 07 31 12.5 -12
CMBN LG Lg 07 32 35.1
CDKN Chidliak Camp 12.84 104 PN **Pn 07 29 06.1 -2.9**
CDKN SN Sn 07 31 19.6 -12
CDKN LG Lg 07 32 48.0
INK Inuvik 13.29 279 Pn **Pn 07 29 12.6 -2.4**
INK *e*Sn Sn 07 31 31.1 -11
INK Sn Sn 07 31 31.1 -11
INK Lg Lg 07 32 47.9
INK Inuvik 13.29 279 Pn **Pn 07 29 12.6 -2.4**
3.0nm,0.3s,baz=58,slow=13,SNR=108
INK Sn Sn 07 31 31.1 -11
14nm,0.3s,baz=138,slow=27,SNR=7.8
INK Lg Lg 07 32 47.9
8.9nm,0.3s,baz=166,slow=19,SNR=3.8
INK LR LR 07 34 09.4
comp=Z,134nm,21.8s,baz=80,slow=36
INUQ Inukjuak 14.13 139 PN **Pn 07 29 23.6 -3.0**
INUQ SN Sn 07 31 47.6 -15
INUQ Trac 07 33 24.7
comp=Z,467nm,0.6s
INUQ LG Lg 07 33 26.3
FFC Flin Flon 15.94 193 PN **Pn 07 29 46.9 -3.9**
FFC Trac 07 34 29.2
comp=Z,5µm,1.5s
FFC Flin Flon 15.94 193 *e*Pn Pn 07 29 45.8 -4.9
99nm,0.6s
FFC *e*Sn Sn 07 32 32.0 -15
SFJD Kangerlussuaq 16.48 80 *i* P **Pn 07 29 58.6 +1.0**
SFJD *i* 07 30 04.2
SFJD *e*S Sn 07 32 45.9 -14
SFJD Kangerlussuaq 16.48 80 Pn **Pn 07 29 56.2 -1.4**
SFJD Kangerlussuaq 16.48 80 Pn **Pn 07 29 56.2 -1.4**
2.8nm,0.3s,baz=304,slow=8.4,SNR=11
SILO Sutton Inlier 16.70 157 PN **Pn 07 29 57.6 -2.8**
SILO SN Sn 07 32 56.0 -9.5
DAWY Dawson 17.62 271 *e*Pn **Pn 07 30 09.3 -2.5**
EGAK Eagle 17.76 274 *e*Pn **Pn 07 30 10.3 -3.4**
EGAK *e*Sn Sn 07 33 10.5 -21
SUMG Summit 17.78 56 *i* P **Pn 07 30 14.5 +0.3**
SUMG *i* S Sn 07 33 20.0 -12
SUMG Summit 17.78 56 *e*Pn **Pn 07 30 13.3 -0.9**
382nm,0.9s
SUMG *e*Sn Sn 07 33 18.8 -14
DLBC Dease Lake 18.63 247 *e*P **P 07 30 24.0 -0.1**
DLBC *e*S **Sn 07 33 53.9 +1.5**
DLBC Lg Lg 07 35 42.5
DLBC Dease Lake 18.63 247 P **P 07 30 23.8 -0.3**
0.5nm,0.3s,baz=18,slow=10,SNR=8.2
DLBC Lg Lg 07 35 42.5
0.7nm,0.3s,baz=96,slow=18,SNR=3.9
EDM Edmonton 18.94 214 *e*Pn **P 07 30 25.5 -2.0**
HYT Haines Junctio 19.22 261 *e*P **Pn 07 30 32.7 +1.1**
HYT *e*S Sn 07 33 57.6 -9.0
IL1 Eielson Array 19.69 279 *e*P **Pn 07 30 36.6 -0.4**
ILAR Eielson Array 19.69 279 P **P 07 30 36.2 +0.6**
ILAR S **S 07 34 12.9 -4.2**
ILAR Eielson Array 19.69 279 P **P 07 30 36.2 +0.6**
0.4nm,0.3s,baz=42,slow=15,SNR=64
ILAR S **S 07 34 12.9 -4.2**
0.2nm,0.3s,baz=62,slow=16,SNR=4.3
MENT Mentasta 19.82 272 *e*P **P 07 30 35.6 -1.5**
MENT *e*S **S 07 34 18.2 -1.7**
COLA College 19.95 280 *e*P **Pn 07 30 39.9 -0.1**
16nm,1.0s
COLA *e*S **S 07 34 19.5 -2.7**
SCHQ Schefferville 20.20 125 P **P 07 30 41.0 -0.2**
29nm,2.7s
SCHQ *e*S S 07 34 09.2 -18
SCHQ S Sn 07 34 09.8 -20
SCHQ Lg Lg 07 36 25.2
SCHQ Schefferville 20.20 125 P **P 07 30 41.0 -0.2**
3.5nm,0.4s,baz=316,slow=11,SNR=16
SCHQ S S 07 34 09.8 -18
33nm,0.8s,baz=210,slow=7.9,SNR=5.8
SCHQ Lg Lg 07 36 25.2
181nm,0.8s,baz=245,slow=18,SNR=6.7
ULM Lac du Bonnet 20.20 180 P **P 07 30 42.0 +0.8**
6.0nm,0.6s
ULM *e*S S 07 34 06.5 -21
ULM S Sn 07 34 09.8 -20
ULM Lg Lg 07 36 30.7
ULM Lac du Bonnet 20.20 180 P **P 07 30 42.0 +0.8**
9.5nm,0.5s,baz=357,slow=12,SNR=11
ULM S S 07 34 09.8 -18
18nm,0.3s,baz=59,slow=18,SNR=7.2
ULM Lg Lg 07 36 30.7
77nm,0.7s,baz=85,slow=16,SNR=5.3
MCK McKinley 21.05 278 *e*P **P 07 30 51.5 +1.2**
24nm,1.0s
IMA2 Indian Mountai 21.12 287 *e*P **P 07 30 53.0 +1.8**
IM04 Indian Mountai 21.21 287 *e*P **P 07 30 53.6 +1.5**
IM04 *e*S **S 07 34 44.4 -3.1**
BPAW Bear Paw Mtn. 21.49 281 *e*P **P 07 30 56.7 +1.7**
20nm,0.9s
A29A Manning Farm, 21.58 186 P **P 07 30 57.4 +1.3**
baz=22,SNR=21
A28A Rude Farm, Bot 21.64 188 P **P 07 30 58.4 +1.7**
baz=22,SNR=8.2
TRF Thorofare Moun 21.68 279 *e*P **P 07 30 58.1 +0.8**
268nm,2.9s
A26A Wade Farm, Ken 21.75 191 P **P 07 30 59.3 +1.4**
baz=22,SNR=9.6
A22A Carney Farms, 21.98 198 P **P 07 31 01.9 +1.4**
baz=22
B30A Myrvik Farm, E 22.03 184 P **P 07 31 02.3 +1.4**
baz=22,SNR=21
B29A Wagenman Farm, 22.04 186 P **P 07 31 02.2 +1.1**
baz=22,SNR=16
A21A Bergtoll Ranch 22.09 200 P **P 07 31 03.0 +1.4**
baz=22
B28A Dugan Ranch, T 22.10 188 P **P 07 31 02.9 +1.2**
baz=22,SNR=8.9
AGMN Agassiz Nation 22.15 180 *e*P **P 07 31 03.0 +0.8**
40nm,0.6s
AGMN *e* 07 34 54.8
SML Sawmill 22.16 274 *e*P **P 07 31 03.8 +1.5**
5.4nm,0.8s
B27A Peters Farms, 22.19 189 P **P 07 31 04.5 +1.8**
baz=22
CAST Castle Rocks 22.30 280 *e*P **P 07 31 05.1 +1.3**
19nm,1.0s
A20A Cobblestone Ra 22.32 201 P **P 07 31 06.0 +2.0**
baz=22
DGMT Dagmar 22.33 195 *e*P **P 07 31 05.3 +1.1**
23nm,0.8s
A19A Klindworth Far 22.37 203 P **P 07 31 06.6 +1.9**
baz=22,SNR=6.2
B23A Brockton 22.41 196 P **P 07 31 06.2 +1.2**
baz=22
A18A Metzger Ranch, 22.53 205 P **P 07 31 08.5 +2.2**
baz=23,SNR=7.3
EYMN Ely 22.60 172 *e*P **P 07 31 07.8 +0.7**
15nm,0.9s
MDND Maddock 22.67 186 *e*P **P 07 31 09.9 +2.2**
MDND Maddock 22.67 186 P **P 07 31 10.0 +2.2**
baz=23
PPLA Purkeypile 22.70 279 *e*P **P 07 31 09.8 +1.7**
20nm,0.9s
C30A Mose, Pekin 22.78 184 P **P 07 31 10.2 +1.3**
baz=23,SNR=5.6
B19A Brinkman Farms 22.86 203 P **P 07 31 11.6 +1.7**
baz=23
C25A Freed Ranch, W 23.01 193 P **P 07 31 13.4 +2.0**
baz=23
WALA Waterton Lakes 23.04 211 *e*P **P 07 31 13.6 +1.8**
WALA *e*S **S 07 35 18.9 -3.3**
B17A L&G Farms, Che 23.28 206 P **P 07 31 16.5 +2.3**
baz=23,SNR=8.6
C24A Savage 23.29 195 P **P 07 31 15.9 +1.7**
baz=23
D28A Regan 23.36 188 P **P 07 31 17.0 +2.0**
baz=23
BBB Bella Bella 23.42 236 P **P 07 31 16.9 +1.5**
BBB Bella Bella 23.42 236 P **P 07 31 16.9 +1.5**
4.3nm,0.8s,baz=27,slow=2.1,SNR=5.1
C20A Veseth Ranch, 23.47 201 P **P 07 31 18.1 +2.0**
baz=24
C19A Slack Wire Ran 23.58 203 P **P 07 31 19.3 +2.1**
baz=24
D24A Glendive 23.69 194 P **P 07 31 20.7 +2.5**
baz=24
D22A Cohagen 23.83 198 P **P 07 31 22.2 +2.7**
baz=24,SNR=8.4
C17A Wharram Farm, 23.92 205 P **P 07 31 22.1 +1.6**
baz=24
D21A La Casta Ranch 24.00 199 P **P 07 31 23.5 +2.3**
baz=24
D20A Manuel Ranch, 24.10 201 P **P 07 31 24.2 +2.1**
baz=24
D19A Cripps Ranch, 24.12 202 P **P 07 31 24.9 +2.5**
baz=24,SNR=8.4
E27A Carson 24.18 190 P **P 07 31 25.5 +2.7**
baz=24
E26A Carlson Angus 24.19 191 P **P 07 31 25.1 +2.1**
baz=24
D18A Linhart Farms, 24.21 204 P **P 07 31 25.6 +2.4**
baz=24
BSMT Bassoo Peak 24.36 212 P **P 07 31 26.2 +1.6**
2µm,0.9s
BSMT *e*S **S 07 35 49.5 +5.8**
JTMT Jette 24.37 211 *e*P **P 07 31 26.6 +1.9**
D17A Six Diamond Ra 24.38 205 P **P 07 31 27.3 +2.6**
baz=24
NEW Newport 24.40 216 *e*P **P 07 31 27.5 +2.6**
6.0nm,1.1s
NEW Newport 24.40 216 P **P 07 31 27.7 +2.9**
baz=24
SWMT Swartz Lake 24.55 210 *e*P **P 07 31 26.4 +0.1**
23nm,0.2s
SWMT *e*S **S 07 35 43.0 -3.7**
RSO Redoubt South 24.62 275 *e*P **P 07 31 26.6 -0.3**
50nm,0.8s
RSO *e*PcP **PcP 07 35 02.8 -1.1**
E20A Meyer Farm, Mu 24.68 201 P **P 07 31 30.5 +3.1**
baz=25
F28A McLaughlin 24.72 188 P **P 07 31 30.5 +2.7**
baz=25
SLMT Seeley Lake 24.72 209 *e*P **P 07 31 30.1 +2.2**
23nm,0.2s
SLMT *e*S **S 07 35 47.4 -2.2**
B08A Colville Reser 24.77 219 *e*P **P 07 31 31.4 +3.2**
6.1nm,1.1s
E19A Rath Farm, Rou 24.80 202 P **P 07 31 31.1 +2.6**
baz=25,SNR=6.2
E18A Harlowton 24.84 203 P **P 07 31 31.5 +2.5**
baz=25
F24A Ekalaka 24.96 194 P **P 07 31 33.1 +3.1**
baz=25,SNR=6.4
HRY Holter Researc 24.98 207 *e*P **P 07 31 31.7 +1.6**
31nm,0.2s
CHMT Chamberlain Mo 25.00 209 *e*P **P 07 31 32.2 +1.8**
23nm,0.2s
CHMT *e*S **S 07 35 55.5 +1.4**
C09A Chrisman Ranch 25.07 217 *e*P **P 07 31 33.0 +2.0**
4.7nm,1.0s
E17A Martinsdale 25.08 205 P **P 07 31 33.8 +2.6**
baz=25
SVW2 Sparrevohn 25.11 279 *e*P **P 07 31 33.6 +2.6**
82nm,2.3s
F23A Volborg 25.17 196 P **P 07 31 35.3 +3.4**
baz=25
MSO Missoula 25.20 210 *e*P **P 07 31 34.4 +2.2**
6.5nm,1.0s
MSO Missoula 25.20 210 P **P 07 31 33.8 +1.6**
baz=25
G27A Dupree 25.25 190 P **P 07 31 35.4 +2.9**
baz=25,SNR=6.7
SPMN St. Paul 25.27 175 *e*P **P 07 31 34.5 +1.9**
SPMN *e*S **S 07 35 58.6 +0.6**
SPMN St. Paul 25.27 175 P **P 07 31 35.2 +2.6**
baz=25
G26A Maurine 25.37 191 P **P 07 31 36.4 +2.8**
baz=25,SNR=6.8
F19A Roth Farm, Mol 25.42 202 P **P 07 31 36.8 +2.7**
baz=26
F18A Big Timber 25.47 203 P **P 07 31 37.4 +2.8**
baz=26
G24A Alzada 25.47 194 P **P 07 31 37.4 +2.8**
baz=26
G25A Newell 25.53 192 P **P 07 31 37.9 +2.8**
baz=26
GCMT Greycliff 25.57 203 *e*P **P 07 31 37.9 +2.4**
F17A Fitzpatrick Pl 25.59 204 P **P 07 31 39.2 +3.4**
baz=26,SNR=6.0
LRM Limekiln Ridge 25.94 207 *e*P **P 07 31 41.1 +2.1**
31nm,0.2s
BOZ Bozeman (W) 25.99 206 *e*P **P 07 31 41.9 +2.5**
7.3nm,0.8s
H27A Howes 26.00 190 P **P 07 31 42.2 +2.9**
baz=26
G18A Lazy EL Ranch, 26.03 202 P **P 07 31 41.5 +1.8**
baz=26,SNR=5.1
RLMT Red Lodge 26.18 202 *e*P **P 07 31 43.7 +2.5**
33nm,0.4s
DLMT Dillon 26.41 207 *e*P **P 07 31 45.6 +2.5**
7.4nm,1.1s
H21A Big Horn, Sher 26.41 198 P **P 07 31 46.5 +3.3**
baz=26,SNR=9.5
I27A Quinn 26.56 190 P **P 07 31 47.2 +2.7**
baz=27
KDAK Kodiak Island 26.60 271 P **P 07 31 46.4 +1.8**
KDAK Kodiak Island 26.60 271 P **P 07 31 46.4 +1.8**
5.8nm,0.8s,baz=354,slow=18,SNR=4.1
RSSD Black Hills 26.64 193 *e*P **P 07 31 47.8 +2.4**
6.5nm,0.8s
H18A Shoshone NF, C 26.67 202 P **P 07 31 47.9 +2.3**
baz=27,SNR=5.6
ECSD EROS Data Cent 26.72 181 *e*P **P 07 31 48.3 +2.5**
8.4nm,0.8s
MCMT McKenzie Canyo 26.97 207 *e*P **P 07 31 51.2 +2.9**
I19A Meeteetse 27.22 201 P **P 07 31 53.5 +3.0**
baz=27
I21A Big Trails, Te 27.24 198 P **P 07 31 53.2 +2.5**
baz=27,SNR=6.5
J25A Sunshine Ranch 27.35 193 P **P 07 31 54.9 +3.2**
baz=27
J27A Elkhorn Farm, 27.37 190 P **P 07 31 54.7 +2.9**
baz=27
JFWS Jewell Farm 27.68 171 *e*P **P 07 31 56.1 +1.7**
BMO Blue Mountains 27.71 214 *e*P **P 07 31 56.6 +1.7**
3.0nm,0.8s
J20A Shoshoni 27.78 199 P **P 07 31 58.8 +3.3**
baz=28
J19A Crowheart 27.98 201 P P 07 32 00.7 +3.3
baz=28
K22A Casper 28.32 197 P **P 07 32 02.3 +2.0**
baz=28
K19A Absolon Red Bu 28.39 200 P **P 07 32 03.6 +2.6**
baz=28,SNR=5.3
K21A Alcova 28.41 198 P **P 07 32 03.4 +2.3**
baz=28
HLID Hailey 28.45 209 *e*P **P 07 32 03.5 +2.0**
3.3nm,0.9s
HLID Hailey 28.45 209 P **P 07 32 04.3 +2.8**
baz=28
K20A Yellowstone Ra 28.50 199 P **P 07 32 04.2 +2.2**
baz=28
BW06 Boulder Array 28.54 201 *e*P P 07 32 05.7 +3.3
6µm,0.8s
PDAR Pinedale Array 28.54 201 P **P 07 32 04.8 +2.5**
PDAR Pinedale Array 28.54 201 P **P 07 32 04.8 +2.5**
0.8nm,0.6s,baz=34,slow=6.3,SNR=11
I07A Izee 28.88 217 *e*P P 07 32 08.8 +3.5
5.3nm,0.9s
BGNE Belgrade 29.06 183 P **P 07 32 09.5 +2.8**
baz=29
N24A Carr 29.98 194 P P 07 32 18.3 +3.2
baz=30
N23A Red Feather La 30.00 195 P **P 07 32 18.3 +2.9**
baz=30
O26A Horse Wrangler 30.45 191 P **P 07 32 21.8 +2.6**
baz=30
O28A Krutsinger Ran 30.47 189 P **P 07 32 22.0 +2.7**
baz=30
O25A Wiggins 30.63 192 P **P 07 32 23.5 +2.7**
baz=31
O22A Kremmling 30.79 196 P **P 07 32 25.3 +2.9**
baz=31
O19A Miners Draw (B 30.92 200 P **P 07 32 26.2 +2.8**
baz=31
P29A Atwood 30.95 188 P **P 07 32 25.9 +2.3**
baz=31
P30A Selden 30.98 187 P **P 07 32 26.4 +2.6**
baz=31
P26A Davis Ranch, A 31.13 191 P **P 07 32 27.7 +2.5**
baz=31
KSU1 Kansas State U 31.34 181 *e*P **P 07 32 29.1 +2.1**
11nm,0.6s
P22A Eagle 31.37 196 P **P 07 32 30.3 +2.9**

baz=31
Q31A Ellis 31.49 185 P **P 07 32 30.8 +2.5**
baz=32
DUG Dugway 31.50 205 *e*P **P 07 32 31.3 +2.9**
55nm,2.9s
DUG Dugway 31.50 205 P **P 07 32 31.5 +3.1**
baz=32
Q28A Sharon Springs 31.54 189 P **P 07 32 31.0 +2.2**
baz=32
Q30A Quinter 31.55 186 P **P 07 32 31.1 +2.3**
baz=32
P19A Cripple Cowboy 31.56 200 P **P 07 32 31.3 +2.2**
baz=32
KSCO Kaye Shedlock' 31.63 190 P **P 07 32 32.5 +2.9**
baz=32
Q26A Hugo 31.77 191 P **P 07 32 34.0 +3.1**
baz=32,SNR=5.5
SMCO Snowmass 31.80 196 *e*P P 07 32 34.9 +3.4
4.3nm,0.9s
YBH Yreka Blue Hor 31.80 220 P **P 07 32 33.5 +2.4**
YBH Yreka Blue Hor 31.80 220 P **P 07 32 33.5 +2.4**
2.1nm,0.8s,baz=280,slow=8.1,SNR=3.6
Q25A Bedland, Calha 31.83 192 P **P 07 32 34.3 +2.9**
baz=32
Q22A Crested Butte, 32.11 196 P P 07 32 37.5 +3.5
baz=32,SNR=7.4
R28A Tribune 32.25 189 P **P 07 32 37.5 +2.4**
baz=32
SRU San Rafael 32.26 202 *e*P **P 07 32 38.1 +3.0**
2.9nm,0.7s
R27A Eads 32.36 190 P **P 07 32 38.6 +2.6**
baz=32
R26A Arlington 32.39 191 P **P 07 32 38.8 +2.5**
baz=32
Q16A Castle Valley 32.53 202 P P 07 32 41.1 +3.5
baz=33
R24A Sanders Place, 32.58 194 P **P 07 32 40.9 +2.9**
baz=33
R25A Fountain Ranch 32.60 192 P **P 07 32 40.7 +2.5**
baz=33
R21A Cimarron 32.66 197 P **P 07 32 41.8 +3.0**
baz=33
R22A Saguache, Gunn 32.72 196 P P 07 32 42.7 +3.3
baz=33
R20A Redvale 32.92 198 P P 07 32 44.3 +3.3
baz=33
PV01 Paradox Valley 33.00 199 *e*P **P 07 32 43.9 +2.2**
S28A Manter 33.01 189 P **P 07 32 44.7 +3.1**
baz=33
S26A Kim 33.07 191 P **P 07 32 44.7 +2.5**
baz=33
S25A Robets Cordova 33.09 192 P **P 07 32 45.1 +2.6**
baz=33,SNR=5.8
S24A Houchin Ranch, 33.17 194 P **P 07 32 46.3 +2.9**
baz=33
S22A 4UR Ranch, Cre 33.21 196 P **P 07 32 46.8 +3.2**
baz=33
T31A Randall Ranch, 33.40 185 P **P 07 32 47.4 +2.4**
baz=33
T29A Hugoton 33.41 188 P **P 07 32 47.4 +2.2**
baz=34
T23A Casias Ranch, 33.84 195 P **P 07 32 52.0 +2.8**
baz=34
MVCO Mesa Verde 33.90 198 P **P 07 32 52.7 +3.1**
baz=34
T22A Edith 33.94 196 P P 07 32 53.7 +3.7
baz=34,SNR=7.3
U30A WK&E Inc. Balk 34.01 187 P **P 07 32 52.5 +2.2**
baz=34
NVAR Mina Array Bea 34.12 212 P **P 07 32 54.4 +2.9**
NVAR Mina Array Bea 34.12 212 P **P 07 32 54.4 +2.9**
0.7nm,0.6s,baz=17,slow=6.2,SNR=5.9
U26A Atchley Ranch, 34.30 191 P **P 07 32 56.1 +3.0**
baz=34
U25A Circle Dot Ran 34.34 192 P **P 07 32 56.5 +3.0**
baz=34,SNR=5.4
TUL1 Tulsa 34.53 180 *e*P **P 07 32 56.5 +1.7**
TUL1 Tulsa 34.53 180 P **P 07 32 56.5 +1.7**
baz=35
U23A El Rito 34.56 195 P P 07 32 58.8 +3.6
baz=35
U22A Llaves 34.57 196 P P 07 32 59.5 +4.1
baz=35,SNR=6.1
U21A Nageezi 34.59 197 P **P 07 32 58.7 +3.1**
baz=35
KNB Kanab 34.62 204 *e*P **P 07 32 58.5 +2.8**
6.5nm,1.1s
V26A Tequesquite Ra 34.90 191 P **P 07 33 01.0 +2.8**
baz=35,SNR=6.2
ARCES ARCESS Array B 35.00 32 P **P 07 32 58.6 +0.1**
ARCES ARCESS Array B 35.00 32 P **P 07 32 58.6 +0.1**
1.1nm,0.5s,baz=325,slow=7.0,SNR=18
U15A North Rim 35.13 203 P **P 07 33 03.0 +2.7**
baz=35
TKL Tuckaleechee C 35.39 163 P **P 07 33 03.8 +1.5**
TKL Tuckaleechee C 35.39 163 P **P 07 33 03.8 +1.5**
2.5nm,0.8s,baz=338,slow=17,SNR=3.8
W25A X Bar L Ranch, 35.52 192 P **P 07 33 05.9 +2.4**
baz=36
W27A Bowe Ranch, En 35.59 190 P **P 07 33 06.2 +2.2**
baz=36
W24A Lazy 6 Ranch, 35.60 193 P **P 07 33 07.3 +3.0**
baz=36
WMOK Wichita Mounta 35.73 184 *e*P **P 07 33 07.2 +2.1**
5.8nm,1.0s
ANMO Albuquerque 35.95 195 P **P 07 33 09.6 +2.4**
ANMO Albuquerque 35.95 195 P **P 07 33 09.6 +2.4**
0.8nm,0.7s,baz=58,slow=8.9,SNR=3.7
Y28A McKinney Farm, 36.69 189 P **P 07 33 15.4 +2.0**
baz=37
Y29A Porterfield Fa 36.71 188 P **P 07 33 15.8 +2.2**
baz=37
Y24A Capitan 36.88 193 P **P 07 33 18.0 +2.9**
baz=37,SNR=5.5
GSC Goldstone 36.91 209 P P 07 33 18.6 +3.4
baz=37
Y21A Point of Rocks 36.99 196 P P 07 33 19.4 +3.2
baz=37
Y22A Socorro 37.00 195 P P 07 33 19.4 +3.3
baz=37
Y20A Horse Springs, 37.16 197 P P 07 33 21.0 +3.4
baz=37
Z31A Sharp Cattle R 37.19 186 P **P 07 33 19.6 +2.0**
baz=37,SNR=6.8
Z26A Caprock 37.43 191 P **P 07 33 21.8 +2.1**
baz=38
Z24A Sheeppen Canyo 37.47 193 P **P 07 33 22.6 +2.5**
baz=38
Z25A Roswell 37.47 192 P **P 07 33 22.6 +2.6**
baz=38
Y14A Wickenburg 37.67 204 P **P 07 33 24.9 +3.1**
baz=38
128A Castleberry Fa 37.98 189 P **P 07 33 26.5 +2.0**
baz=38
126A Clayton Basin, 38.05 191 P **P 07 33 26.9 +1.9**
baz=38
125A Gardner Draw, 38.08 192 P **P 07 33 27.5 +2.2**
baz=38
231A Bronte 38.57 186 P **P 07 33 31.2 +1.9**
baz=39
227A Bennet, Jal 38.63 190 P **P 07 33 32.4 +2.5**
baz=39
225A Deer Hill, Car 38.64 192 P **P 07 33 32.2 +2.2**
baz=39,SNR=8.8
224A Cornudas Mount 38.72 193 P **P 07 33 32.7 +2.0**
baz=39
222A Williams Famil 38.83 195 P **P 07 33 34.2 +2.6**
baz=39
329A Wagon Wheel Ra 39.09 188 P **P 07 33 35.7 +2.0**
baz=39
332A Millersview 39.10 185 P **P 07 33 35.6 +1.8**
baz=39
330A Mertzon 39.13 187 P **P 07 33 35.7 +1.7**
baz=39
331A San Angelo 39.20 186 P **P 07 33 36.5 +2.0**
baz=39,SNR=8.7
NOA NORSAR Array B 39.30 47 LR LR 07 50 11.3
comp=Z,24nm,21.0s,baz=280,slow=37
432A Menard 39.61 185 P **P 07 33 39.9 +1.9**
baz=40
427A Hayter Ranch, 39.80 190 P **P 07 33 41.8 +2.2**
baz=40
428A Kincaid Ranch, 39.88 189 P **P 07 33 42.3 +2.0**
baz=40
429A Davenport Ranc 39.94 188 P **P 07 33 42.4 +1.6**
baz=40
JCT Junction City 40.00 185 *e*P **P 07 33 43.6 +2.3**
7.5nm,1.1s
JCT Junction City 40.00 185 P **P 07 33 43.1 +1.8**
baz=40
426A McDonald Obser 40.02 191 P **P 07 33 43.2 +1.6**
baz=40
EKA Eskdalemuir Ar 40.25 62 P **P 07 33 42.9 -0.1**
EKA Eskdalemuir Ar 40.25 62 P **P 07 33 42.9 -0.1**
3.3nm,0.9s,baz=343,slow=11,SNR=5.6
531A Rocksprings 40.34 186 P **P 07 33 45.9 +1.8**
baz=40
532A Rocksprings 40.36 185 P **P 07 33 46.4 +2.1**
baz=40,SNR=6.1
530A J-C Ranch, Com 40.39 187 P **P 07 33 46.7 +2.3**
baz=40
HFS Hagfors 40.70 46 P **P 07 33 46.8 +0.1**
HFS Hagfors 40.70 46 P **P 07 33 46.8 +0.1**
2.7nm,0.8s,baz=318,slow=6.0,SNR=5.6
HFS LR LR 07 48 10.1
comp=Z,7.9nm,21.8s,baz=5.9,slow=33
632A Uvalde 40.97 185 P **P 07 33 51.6 +2.4**
baz=41
626A Big Bend Ranch 41.13 191 P **P 07 33 52.1 +1.4**
baz=41
627A Terlingua Ranc 41.19 190 P **P 07 33 53.1 +2.0**
baz=41
TX31 Lajitas Ar. Si 41.32 190 *e*P **P 07 33 54.3 +2.1**
TXAR Lajitas Array 41.32 190 P **P 07 33 54.0 +1.8**
TXAR Lajitas Array 41.32 190 P **P 07 33 54.0 +1.8**
2.2nm,1.1s,baz=0.6,slow=6.4,SNR=10
732A Laxson Ranch, 41.75 185 P **P 07 33 58.0 +2.3**
baz=42
FINES FINESS Array B 42.31 37 P **P 07 33 59.7 -0.2**
FINES FINESS Array B 42.31 37 P **P 07 33 59.7 -0.2**
3.1nm,1.0s,baz=20,slow=6.1,SNR=5.1
PETK Petropavlovsk- 46.10 307 LR LR 07 54 47.2
comp=Z,53nm,18.1s,baz=74,slow=37
AKASG Malin Array Be 52.93 41 P **P 07 35 22.4 0.0**
AKASG Malin Array Be 52.93 41 P **P 07 35 22.4 0.0**
0.7nm,0.4s,baz=337,slow=8.4,SNR=2.3
ESDC Sonseca Array 53.87 73 P **P 07 35 29.2 -0.3**
ESDC Sonseca Array 53.87 73 P **P 07 35 29.2 -0.3**
0.4nm,0.5s,baz=329,slow=6.6,SNR=6.9
ZAA0 Zalesovo Array 55.98 359 *e*P **P 07 35 44.8 +0.3**
ZALV Zalesovo Beam 55.98 359 P **P 07 35 44.5 0.0**
ZALV Zalesovo Beam 55.98 359 P **P 07 35 44.5 0.0**
1.3nm,0.4s,baz=350,slow=8.2,SNR=6.0
BVAR Borovoye Array 56.51 10 P **P 07 35 48.9 +0.6**
BVAR Borovoye Array 56.51 10 P **P 07 35 48.9 +0.6**
1.1nm,0.5s,baz=352,slow=5.7,SNR=7.1
KURK Kurchatov 59.15 4 P **P 07 36 07.4 +0.5**
KURBB Kurchatov Arra 59.24 4 P **P 07 36 07.4 -0.1**
1.0nm,0.5s,baz=0.4,slow=7.5,SNR=10
ULN Ulaanbaatar 60.90 343 *e*P **P 07 36 20.4 +1.3**
4.3nm,0.8s
SONM Songino Array 60.99 343 P **P 07 36 21.3 +1.6**
SONM Songino Array 60.99 343 P **P 07 36 21.3 +1.6**
1.8nm,0.7s,baz=352,slow=5.1,SNR=14
MK31 Makanchi Array 63.14 1 *e*P **P 07 36 34.4 +0.4**
MKAR Makanchi Array 63.14 1 *e*P **P 07 36 34.5 +0.5**
MKAR Makanchi Array 63.14 1 P **P 07 36 34.5 +0.5**
0.7nm,0.5s,baz=28,slow=5.5,SNR=13
MK01 Makanchi Array 63.16 1 *e*P **P 07 36 34.6 +0.5**
TORD Torodi Ar. Bea 80.26 78 P **P 07 38 19.6 +2.3**
TORD Torodi Ar. Bea 80.26 78 P **P 07 38 19.7 +2.3**
0.2nm,0.5s,baz=334,slow=6.0,SNR=2.4
DBIC Dimbokro 84.12 87 LR LR 08 11 37.4
comp=Z,43nm,19.9s,baz=110,slow=32
CMAR Chiang Mai Arr 90.79 346 LR LR 08 23 36.6
comp=Z,54nm,18.1s,baz=85,slow=38
ASAR Alice Springs 125.14 301 PKP **PKPdf 07 45 05.7 -1.0**
ASAR Alice Springs 125.14 301 PKP **PKPdf 07 45 05.7 -1.0**
0.6nm,0.8s,baz=27,slow=1.4,SNR=4.3

IDC 30 07:54:56.0±2.5, 7°.72S×118°.74E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=214.6km s-min=23.3km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.39**	**130**	P	P	07 59 23.6	-0.1
0.1nm,0.3s,baz=304,slow=12,SNR=15							
ASAR	**Alice Springs**	**21.51**	**139**	P	P	07 59 47.0	+0.2
0.8nm,0.6s,baz=315,slow=9.3,SNR=14							
MKAR	**Makanchi Array**	**63.21**	**333**	P	P	08 05 26.6	+0.5
0.3nm,0.6s,baz=152,slow=6.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**67.76**	**339**	P	P	08 05 55.0	-0.4
0.3nm,0.3s,baz=140,slow=11,SNR=2.3							

IDC 30 08:04:39.8±1.8, 2°.28N×128°.09E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=139.9km s-min=22.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.92**	**165**	P	P	08 09 46.5	+0.8
1.5nm,0.3s,baz=344,slow=10,SNR=48							
ASAR	**Alice Springs**	**26.41**	**168**	P	P	08 10 18.0	-0.3
0.3nm,0.4s,baz=354,slow=8.0,SNR=8.1							
STKA	**Stephens Creek**	**36.31**	**160**	P	P	08 11 44.0	-1.3
2.2nm,0.7s,baz=300,slow=17,SNR=3.0							
MKAR	**Makanchi Array**	**59.51**	**325**	P	P	08 14 45.3	+0.3
0.9nm,0.4s,baz=116,slow=8.1,SNR=20							

IDC 30 08:17:13.4±2.5, 12°.02S×165°.97E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=62.3km s-min=34.8km az=99.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.01**	**177**	Pn	Pn	08 19 38.2	-0.5
0.5nm,0.3s,baz=4.2,slow=23,SNR=8.2							
WRA	**Warramunga Arr**	**31.37**	**251**	P	P	08 23 37.0	+0.8
0.3nm,0.7s,baz=79,slow=8.6,SNR=3.1							
ASAR	**Alice Springs**	**32.57**	**245**	P	P	08 23 45.5	-1.3
0.5nm,0.7s,baz=69,slow=9.2,SNR=4.2							
SONM	**Songino Array**	**79.58**	**324**	P	P	08 29 22.8	+0.3
0.6nm,0.6s,baz=125,slow=4.6,SNR=3.6							
MKAR	**Makanchi Array**	**94.38**	**317**	P	P	08 30 35.1	-0.1
1.5nm,0.6s,baz=92,slow=6.4,SNR=9.5							

*ISCJB **30** 08:20:25.9±0.6, 37°.76N±0°.07×95°.70E±0°.06, h10km, mb3.9/11, Error ellipse: s-maj=11.0km s-min=5.5km az=21.1*
*IDC **30** 08:20:26.1±0.7, 37°.73N×95°.69E, h0km, mb3.9/11, mb1 4.1/17, mb1mx3.9/33, mbtmp3.9/17, ML4.1/6, MS3.5/1, Ms1 3.5/1, ms1mx2.5/41, Error ellipse: s-maj=24.1km s-min=13.5km az=48.0*
*BJI **30** 08:20:29.7, 37°.72N×95°.78E, h13km, mB4.5/2, mb4.2/6, ML4.1/7, Ms3.8/5, Ms7 3.5/4*
ISC 30 08:20:27.6±0.7, 37°.75N±0°.08×95°.68E±0°.05, h10km, n20, σ19°62/25, mb4.0/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.64**	**62**	Pg	**Pb**	**08 21 33.5**	**+1.4**
GTA				Sn	**Sn**	**08 22 06.8**	**-0.4**
GTA				Sg	**Sg**	**08 22 21.5**	**-3.1**
GTA				smax	smax		
comp=N,110nm,0.7s							
GTA				smax	smax		
comp=E,79nm,0.7s							
GTA				LR	LR		
comp=N,800nm,6.9s							
GTA				LR	LR		
comp=E,450nm,5.9s							
GTA				LR	LR		
comp=Z,370nm,7.8s							
LZH	**Lanzhou**	**6.75**	**102**	*e*Pn	**Pn**	**08 22 07.5**	**+0.6**
LZH				*e*Sn	**Sn**	**08 23 25.0**	**+1.1**
LZH				LR	LR		
comp=N,570nm,7.8s							
LZH				LR	LR		
comp=E,190nm,6.2s							
LZH				LR	LR		
comp=Z,650nm,7.5s							
WMQ	**Urumqi**	**8.57**	**318**	P	**Pn**	**08 22 33.0**	**+1.3**
WMQ				S	**Sn**	**08 24 11.8**	**+3.3**
WMQ				pmax	pmax		
comp=Z,8.0nm,0.9s							
WMQ				pmax	pmax		
comp=Z,130nm,3.9s							
WMQ				smax	smax		
comp=N,54nm,0.8s							
WMQ				smax	smax		
comp=E,58nm,0.8s							
SONM Songino Array 12.77 35 Pn **Pn 08 23 30.0 +0.7**							
comp=E,1.4nm,0.3s,baz=218,slow=16,SNR=26							
SONM				LR	LR	08 28 44.4	
comp=E,191nm,18.8s,baz=174,slow=39							
MKAR Makanchi Array 13.40 317 Pn **Pn 08 23 35.4 -2.4**							
comp=E,1.2nm,0.3s,baz=129,slow=14,SNR=43							
MKAR				Sn	**Sn**	**08 26 03.8**	**-3.0**
comp=E,0.2nm,0.3s,baz=126,slow=24,SNR=12							
AAK Ala-Archa 16.89 293 Pn **P 08 24 24.8 -1.5**							
comp=E,0.5nm,0.3s,baz=16,slow=3.9,SNR=5.4							
KURBB Kurchatov Arra 17.74 322 P **Pn 08 24 33.3 -1.3**							
comp=E,0.3nm,0.3s,baz=135,slow=11,SNR=15							
ZALV Zalesovo Beam 17.84 339 P **Pn 08 24 34.8 -1.0**							
comp=E,0.2nm,0.3s,baz=146,slow=14,SNR=11							
CMAR Chiang Mai Arr 19.43 171 P **P 08 24 52.0 -2.2**							
comp=E,0.4nm,0.3s,baz=336,slow=10,SNR=13							
BVAR Borovoye Array 23.25 319 P **P 08 25 33.7 -1.3**							
comp=E,1.3nm,0.6s,baz=129,slow=11,SNR=8.7							
KSRS Korea Array 25.48 81 P **P 08 25 54.6 -1.3**							
comp=E,1.4nm,0.5s,baz=282,slow=9.2,SNR=7.3							
AKTO Aktyubinsk 29.55 308 P **P 08 26 31.8 -0.5**							
comp=E,1.5nm,0.6s,baz=113,slow=11,SNR=7.2							
BRTR Keskin Array B 47.57 293 P **P 08 29 04.5 +0.9**							
comp=E,0.7nm,0.5s,baz=86,slow=5.7,SNR=6.0							
FINES FINESS Array B 48.13 323 P **P 08 29 07.2 -0.2**							
comp=E,2.8nm,0.9s,baz=104,slow=8.0,SNR=5.2							
ILAR Eielson Array 66.78 24 P **P 08 31 19.4 +0.6**							
comp=E,0.8nm,0.7s,baz=293,slow=5.5,SNR=14							
WRA Warramunga Arr 67.94 141 P **P 08 31 27.4 +0.7**							
comp=E,1.0nm,0.9s,baz=338,slow=8.6,SNR=11							
ASAR Alice Springs 70.88 143 P **P 08 31 45.5 +0.7**							
comp=E,1.0nm,0.6s,baz=330,slow=6.2,SNR=17							
ESDC Sonseca Array 73.43 307 P **P 08 32 00.8 +0.7**							
comp=E,0.3nm,0.5s,baz=48,slow=6.5,SNR=3.4							
YKA Yellowknife Ar 77.17 14 P **P 08 32 21.8 +0.7**							
comp=E,0.4nm,0.5s,baz=335,slow=5.2,SNR=8.9							
STKA Stephens Creek 81.44 142 P **P 08 32 44.2 -0.6**							
comp=E,2.1nm,0.7s,baz=335,slow=6.1,SNR=7.3							

*NEIC **30** 08:26:06.4, 19°.44N×64°.05W, h60km, MD3.6(RSPR), After RSPR.*
RSPR 30 08:26:06.4, 19°.44N×64°.05W, h60km±6km, MD3.6/4, 14C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.76**	**200**	↑*e*P	Pn	08 26 20.2	-1.2
ABV	**Anegada**	**0.76**	**200**	*e*S	Sn	08 26 32.0	-0.3
ABV	**Anegada**	**0.76**	**200**	↑*e*P	Pn	08 26 20.2	-1.2
ABV				*e*S	Sn	08 26 32.1	-0.2
ABVI	**Anegada Island**	**0.76**	**200**	↑*e*P	Pn	08 26 20.2	-1.2
ABVI				*e*S	Sn	08 26 32.0	-0.3
TBVI	**Tortola**	**1.15**	**208**	↑*e*P	Pn	08 26 25.9	-0.5
TBVI				*e*S	Sn	08 26 40.5	-0.8
TBVI	**Tortola**	**1.15**	**208**	↑*e*P	Pn	08 26 25.9	-0.5
TBVI				*e*S	Sn	08 26 40.5	-0.8
TBVI	**Tortola**	**1.15**	**208**	↑*e*P	Pn	08 26 25.9	-0.5
TBVI				*e*S	Sn	08 26 40.5	-0.8
MTP	**Monte Pirata**	**1.95**	**227**	↑*e*P	Pn	08 26 36.6	-0.6
MTP	**Monte Pirata**	**1.95**	**227**	*e*S	Sn	08 26 59.9	-0.7
MTP	**Monte Pirata**	**1.95**	**227**	↑*e*P	Pn	08 26 36.6	-0.6
MTP				*e*S	Sn	08 26 59.9	-0.7
MTP	**Monte Pirata**	**1.95**	**227**	↑*e*P	Pn	08 26 36.6	-0.6
MTP				*e*S	Sn	08 26 59.9	-0.7
CBYP	**Canovanas**	**2.07**	**236**	↓*e*P	Pn	08 26 37.7	-1.2
CBYP	**Canovanas**	**2.07**	**236**	*e*S	Sn	08 27 02.6	-1.1
CBYP	**Canovanas**	**2.07**	**236**	↓*e*P	Pn	08 26 37.7	-1.2
CBYP				*e*S	Sn	08 27 02.6	-1.1
CBYP	**Canovanas**	**2.07**	**236**	↓*e*P	Pn	08 26 37.7	-1.2
CBYP				*e*S	Sn	08 27 02.6	-1.1
HUMP	**Col San Antoni**	**2.14**	**233**	↑*e*P	Pn	08 26 39.4	-0.4
HUMP				*e*S	Sn	08 27 04.9	-0.3
HUMP	**Col San Antoni**	**2.14**	**233**	↑*e*P	Pn	08 26 39.0	-0.7
HUMP				*e*S	Sn	08 27 04.3	-0.9
HUMP	**Col San Antoni**	**2.14**	**233**	↑*e*P	Pn	08 26 39.4	-0.4
HUMP				*e*S	Sn	08 27 04.3	-0.9
HUMP				*e*S		08 27 04.9	
HUMP	**Col San Antoni**	**2.14**	**233**	↑*e*P	Pn	08 26 39.4	-0.4
HUMP	**Col San Antoni**	**2.14**	**233**	↑*e*P	Pn	08 26 39.4	-0.4
HUMP				*e*S	Sn	08 27 04.3	-0.9
HUMP				*e*S		08 27 04.9	
AOPR	**Arecibo Observ**	**2.78**	**247**	↓*e*P	Pn	08 26 48.2	-0.4
AOPR	**Arecibo Observ**	**2.78**	**247**	*e*S	Sn	08 27 20.5	-0.5
AOPR	**Arecibo Observ**	**2.78**	**247**	↓*e*P	Pn	08 26 48.2	-0.4
AOPR				*e*S	Sn	08 27 20.5	-0.5
AOPR	**Arecibo Observ**	**2.78**	**247**	↓*e*P	Pn	08 26 48.2	-0.4
AOPR				*e*S	Sn	08 27 20.5	-0.5

IDC 30 08:40:58.1±12.0, 17°.90S×178°.26W, h416km±133km, mb2.7/4, mb1 3.1/4, mb1mx2.9/18, mbtmp2.7/4, Error ellipse: s-maj=113.4km s-min=40.8km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.77**	**260**	P	P	08 48 33.2	0.0
0.3nm,0.7s,baz=91,slow=8.3,SNR=5.0							
ASAR	**Alice Springs**	**44.93**	**254**	P	P	08 48 34.0	-0.3
0.6nm,0.5s,baz=90,slow=8.2,SNR=11							
ILAR	**Eielson Array**	**85.85**	**13**	P	P	08 52 51.9	0.0
0.2nm,0.4s,baz=224,slow=5.1,SNR=8.2							
TXAR	**Lajitas Array**	**85.87**	**58**	P	P	08 52 52.9	0.0
0.2nm,0.5s,baz=226,slow=4.9,SNR=4.0							
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	PKPdf	08 59 46.9	-0.2
0.7nm,0.8s,baz=297,slow=6.3,SNR=4.1							
GERES	**GERESS Array B**	**147.64**	**345**	PKPbc	PKPbc	08 59 53.9	-0.9
0.6nm,0.5s,baz=35,slow=2.4,SNR=7.5							

IDC 30 08:59:46.0±2.3, 3°.10N×96°.25E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/25, mbtmp3.3/5, ML2.8/1, Error ellipse: s-maj=73.5km s-min=22.4km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.69**	**96**	Pn	Pn	09 00 31.1	+0.4
1.7nm,0.3s,baz=289,slow=13,SNR=8.2							
WRA	**Warramunga Arr**	**43.85**	**123**	P	P	09 07 54.0	-0.3
0.3nm,0.7s,baz=301,slow=9.1,SNR=7.4							
MKAR	**Makanchi Array**	**45.19**	**346**	P	P	09 08 04.7	0.0
0.3nm,0.4s,baz=160,slow=9.0,SNR=8.9							
ASAR	**Alice Springs**	**45.30**	**128**	P	P	09 08 05.9	0.0
0.1nm,0.6s,baz=304,slow=8.5,SNR=3.0							
SONM	**Songino Array**	**45.42**	**10**	P	P	09 08 06.3	-0.3
0.2nm,0.4s,baz=193,slow=9.3,SNR=2.5							

*ISCJB **30** 09:08:26.5±1.0, 33°.12N±0°.04×46°.38E±0°.06, h3km±11km, Error ellipse: s-maj=9.4km s-min=4.8km az=35.0*
*TEH **30** 09:08:27.0, 33°.07N×46°.23E, h10km, ML3.6*
*CSEM **30** 09:08:28.5±0.2, 33°.17N×46°.38E, h10km, ML3.6, Error ellipse: s-maj=6.0km s-min=2.6km az=92.0*
ISC 30 09:08:27.7±1.2, 33°.16N±0°.04×46°.32E±0°.04, h8km±11km, n43, σ09°73/51, 2C-2D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.33**	**262**	*e*Pg	**Pg**	**09 08 33.6**	**-0.7**
IBDR				*i* Sg	**Sg**	**09 08 38.6**	**-0.1**
IGHG	**Ghaleghazi**	**1.19**	**10**	*e*Pg	**Pb**	**09 08 50.2**	**-0.4**
IGHG				*e*Sg	**Sn**	**09 09 07.4**	**+0.1**
IGHG				*e*		09 09 13.2	
comp=Z,9μm,0.3s							
IGHG	**Ghaleghazi**	**1.19**	**10**	*e*Pg	**Pb**	**09 08 50.2**	**-0.4**
IGHG				*e*Sg	**Sn**	**09 09 07.4**	**+0.1**
IKOM	**Komasi**	**1.42**	**44**	↓*e*Pn	**Pg**	**09 08 54.5**	**-0.5**
IKOM				*e*Sg	**Sg**	**09 09 15.2**	**+1.8**
IKOM				*e*		09 09 17.4	
comp=Z,29μm,0.2s							
IKOM	**Komasi**	**1.42**	**44**	↓*e*Pn	**Pg**	**09 08 54.5**	**-0.5**
IKOM				*e*Sg	**Sg**	**09 09 15.2**	**+1.8**
IVIS	**Veis**	**1.44**	**18**	*e*Pn	**Pb**	**09 08 54.6**	**-0.2**
IVIS				*e*Sg	**Sg**	**09 09 14.6**	**+0.7**
IVIS				*e*		09 09 19.6	
comp=Z,9μm,0.2s							
IVIS	**Veis**	**1.44**	**18**	*e*Pn	**Pb**	**09 08 54.6**	**-0.2**
IVIS				*e*Sg	**Sg**	**09 09 14.6**	**+0.7**

IDHR	**Dehrash**	**1.54**	2	*e*Pn	**Pn**	**09 08 56.0**	**+0.3**
IDHR				*e*Sg	**Sg**	**09 09 18.5**	**+1.2**
IDHR	**Dehrash**	**1.54**	2	*e*Pn	**Pn**	**09 08 56.0**	**+0.3**
IDHR				*e*Sg	**Sg**	**09 09 18.5**	**+1.2**
BHD	**Baghdad**	**1.63**	**274**	*e*Pn	Pn	09 08 52.0	-4.7
BHD				*e*Sn	Sn	09 09 11.0	-6.9
BHD	**Baghdad**	**1.63**	**274**	*e*Pn	Pn	09 08 52.0	-4.7
ILIN	**Lien**	**1.84**	**17**	*e*Pn	**Pn**	**09 09 00.3**	**+0.5**
ILIN				*e*		09 09 02.5	
	comp=Z,6μm,0.2s						
ILIN	**Lien**	**1.84**	**17**	*e*Pn	**Pn**	**09 09 00.3**	**+0.5**
SNGE	**Sanandaj**	**2.11**	**23**	*e*Pg	**Pb**	**09 09 04.7**	**-1.7**
KHMZ	**Khomeyn**	**3.10**	**78**	*e*Pn	**Pn**	**09 09 17.2**	**+0.1**
KHMZ				*e*Sg	**Sn**	**09 09 54.2**	**-0.2**
MIB	**Mutribah**	**3.45**	**165**	*e*P	**Pn**	**09 09 22.8**	**+1.0**
MIB	**Mutribah**	**3.45**	**165**	*e*P	**Pn**	**09 09 22.8**	**+1.0**
IRAZ	**Razeghan**	**3.73**	**52**	*e*Pn	**Pn**	**09 09 26.1**	**+0.2**
IRAZ				*e*		09 10 23.2	
	comp=Z,793nm,0.4s						
IRAZ	**Razeghan**	**3.73**	**52**	*e*Pn	**Pn**	**09 09 26.1**	**+0.2**
UMR	**Umm Al-Rimmam**	**3.79**	**161**	*e*P	**Pn**	**09 09 26.8**	**+0.4**
UMR				AML	AML	09 10 11.8	
	comp=Z,54nm,0.4s						
UMR	**Umm Al-Rimmam**	**3.79**	**161**	*e*P	**Pn**	**09 09 26.8**	**+0.4**
IPIR	**Pirpir**	**3.87**	**96**	*e*Pn	**Pn**	**09 09 27.3**	**-0.5**
IPIR				*e*		09 10 18.5	
	comp=Z,914nm,0.2s						
IPIR	**Pirpir**	**3.87**	**96**	*e*Pn	**Pn**	**09 09 27.3**	**-0.5**
IR5	**Iran Long-Peri**	**4.08**	**59**	*e*Pn	**Pn**	**09 09 30.8**	**+0.2**
IR5	**Iran Long-Peri**	**4.08**	**59**	*e*Pn	**Pn**	**09 09 30.8**	**+0.2**
KBD	**Kabd**	**4.14**	**163**	*e*P	**Pn**	**09 09 31.8**	**+0.6**
KBD	**Kabd**	**4.14**	**163**	*e*P	**Pn**	**09 09 31.8**	**+0.6**
GHVR	**GHOM**	**4.34**	**71**	*e*Pn	**Pn**	**09 09 33.5**	**-0.6**
RDF	**Al-Radifah**	**4.35**	**166**	*e*P	**Pn**	**09 09 35.1**	**+1.0**
RDF				AML	AML	09 10 30.0	
	comp=Z,36nm,0.5s						
RDF	**Al-Radifah**	**4.35**	**166**	*e*P	**Pn**	**09 09 35.1**	**+1.0**
IMHD	**Mahdasht**	**4.39**	**54**	*e*Pn	**Pn**	**09 09 34.8**	**0.0**
IMHD	**Mahdasht**	**4.39**	**54**	*e*Pn	**Pn**	**09 09 34.8**	**0.0**
IKLH	**Kolahrood**	**4.41**	**86**	*e*Pn	**Pn**	**09 09 34.7**	**-0.5**
IKLH				*e*		09 10 32.4	
	comp=N,650nm,0.1s						
IKLH	**Kolahrood**	**4.41**	**86**	*e*Pn	**Pn**	**09 09 34.7**	**-0.5**
QRN	**Al-Qurain**	**4.61**	**162**	*e*P	**Pn**	**09 09 38.4**	**+0.7**
CHTH	**Charan**	**4.82**	**54**	*e*Pn	**Pn**	**09 09 40.5**	**-0.3**
IVRN	**Varamin**	**4.85**	**66**	*e*Pn	**Pn**	**09 09 40.9**	**-0.1**
IVRN				*e*		09 10 03.0	
	comp=Z,367nm,0.2s						
IVRN	**Varamin**	**4.85**	**66**	*e*Pn	**Pn**	**09 09 40.9**	**-0.1**
IGAR	**Gharneh**	**4.88**	**97**	*e*Pn	**Pn**	**09 09 40.9**	**-0.7**
IGAR				*e*		09 09 44.9	
	comp=Z,645nm,0.1s						
IZEF	**Zefreh**	**5.05**	**91**	*e*Pn	**Pn**	**09 09 43.4**	**-0.6**
IZEF				*e*		09 10 05.7	
	comp=Z,239nm,0.3s						
IZEF	**Zefreh**	**5.05**	**91**	*e*Pn	**Pn**	**09 09 43.4**	**-0.6**
DAMV	**Damavand**	**5.28**	**61**	*e*Pn	**Pn**	**09 09 46.7**	**-0.5**
NASN	**Na'in**	**5.46**	**92**	*e*Pn	**Pn**	**09 09 50.5**	**+0.8**

GUC 30 09:10:08.7±0.5, 31°.73S×71°.80W, h31km±1km, MD3.5, ML3.3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.86**	**159**	↓*i*P	Pn	09 10 24.4	-0.4
PACH				*i* S	Sb	09 10 36.7	+0.2
CMCH	**Combarbala**	**0.88**	**51**	↑*i*P	Pn	09 10 24.8	-0.3
CMCH				*i* S	Sb	09 10 37.3	+0.1
CMCH				AML	AML	09 10 38.6	
	comp=E,3μm,0.4s						
JACH	**Jahuel**	**1.40**	**133**	*e*P	Pn	09 10 33.0	+0.8
JACH				*i* S	Sb	09 10 51.6	-0.3
ROCH	**El Roble**	**1.41**	**152**	*e*P	Pn	09 10 33.4	+0.9
ROCH				*i* S	Sb	09 10 52.4	0.0
ROCH				AML	AML	09 10 59.4	
	comp=N,481nm,0.3s						
PEL	**Peldehue**	**1.69**	**146**	*i* P	Pn	09 10 37.7	+1.4
PEL				*i* S	Sb	09 10 59.6	-0.8
PEL				AML	AML	09 11 03.8	
	comp=E,743nm,0.5s						
TLL	**Tololo Astrono**	**1.78**	**29**	*i* P	Pn	09 10 39.2	+1.5
TLL				*i* S	Sb	09 11 02.7	-0.5
CLCH	**Cerro Calan**	**1.97**	**148**	*i* P	Pn	09 10 41.6	+1.4
CLCH				*i* S	Sb	09 11 06.3	-2.1
CLCH				AML	AML	09 11 14.9	
	comp=N,446nm,0.4s						
TACH	**Talagante**	**2.05**	**159**	*i* P	Pn	09 10 42.5	+1.4
TACH				*i* S	Sb	09 11 08.2	-2.3
ANTU	**Antumapu**	**2.08**	**152**	AML	AML	09 11 20.4	
	comp=N,177nm,0.6s						
PCH	**Pirque**	**2.17**	**150**	*i* P	Pn	09 10 44.5	+1.6
PCH				*i* S	Sb	09 11 11.8	-2.5
CHCH	**Chadas Angostu**	**2.40**	**157**	↑*i*P	Pn	09 10 47.7	+1.7
CHCH				*i* S	Sn	09 11 16.5	+2.1

CASC ***30*** *09:19:43.0±1.4, 14°.12N×94°.10W, h98km±95km, MD4.3, ML4.1*
NEIC ***30*** *09:19:43.8±0.2, 14°.57N×93°.57W, h10km, mb5.2/152, Error ellipse: s-maj=5.9km s-min=3.4km az=215.0*
MEX ***30*** *09:19:44.5±2.4, 14°.37N×94°.04W, h19km±26km, MD5.0*
ISCJB ***30*** *09:19:47.0±0.5, 14°.67N±0°.04×93°.76W±0°.03, h38km±3km, mb5.1/191, MS4.6/34, Error ellipse: s-maj=7.0km s-min=2.9km az=32.9*
MOS ***30*** *09:19:46.8±0.9, 14°.77N×93°.62W, h33km, mb5.4/73, MS4.8/8, Error ellipse: s-maj=8.0km s-min=4.5km az=94.6*
IDC ***30*** *09:19:47.8±3.7, 14°.75N×93°.56W, h33km±28km, mb4.6/21, mb1 4.8/25, mb1mx4.7/30, mbtmp4.6/25, ML4.5/4, MS4.5/22, Ms1 4.5/22, ms1mx4.4/29, Error ellipse: s-maj=20.8km s-min=10.5km az=54.0*
SZGRF ***30*** *09:19:47.3, 14°.64N×94°.21W, h33km, mb5.2, MS4.8, Off coast of Chiapas, Mexico*
GCMT ***30*** *09:19:47.6±0.2, 14°.63N×93°.93W, h12km, MW5.1, Moment Tensor Solution. s69,c106; s89,c151; Moment tensor: Scale 10^{16}Nm; M_{rr}4.08±.08; $M_{\theta\theta}$-3.38±.07; $M_{\phi\phi}$-0.70±.09; $M_{r\theta}$4.15±.22; $M_{\theta\phi}$1.27±.07; $M_{\phi r}$-2.17±.26; Best double couple: $M_0$6.20000×10^{16} NP1:ϕ_s116.00000°, δ70.00000°, λ93.00000°. NP2:ϕ_s288.00000°, δ20.00000°, λ82.00000°. Principal axes: T 6.2600, Plg65.0000°, Azm31.0000°; N -0.2200, Plg3.0000°, Azm295.0000°; P -6.0400, Plg25.0000°, Azm204.0000°; Data Used: II IU IC G CN.*

ISC 30 09:19:46.2±0.9, 14°.65N±0°.04×93°.77W±0°.04, h25km±6km, n903, σ1§34/900, mb5.2/191, MS4.7/34, 8C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.18**	**27**	*i* P	**Pn**	**09 20 07.5**	**+0.4**
PCIG				*i* S	**Sb**	**09 20 25.6**	**+2.9**
THIG		**1.48**	**80**	*e*P	**Pn**	**09 20 11.3**	**+0.1**
THIG				*i* S	**Sb**	**09 20 32.5**	**+1.1**
JAT	**Jato**	**2.09**	**99**	↑*e*P	**Pb**	**09 20 21.4**	**-2.1**
TGIG		**2.21**	**16**	*e*P	**Pn**	**09 20 23.1**	**+1.7**
TGIG				*i* S	**Sb**	**09 20 52.5**	**+0.1**
CCIG	**Comitan**	**2.26**	**44**	*i* P	**Pb**	**09 20 25.1**	**-1.5**
CCIG				*i* S	**Sb**	**09 20 54.7**	**+0.5**
HUIG	**Huatulco**	**2.52**	**297**	*e*P	Pn	09 20 21.1	-4.5
HUIG				*i* S	Sn	09 20 48.8	-6.7
CMIG	**Matias Romero**	**2.65**	**336**	*e*P	**Pn**	**09 20 26.9**	**-0.6**
CMIG				*i* S	**Sn**	**09 20 59.0**	**+0.1**
CMIG	**Matias Romero**	**2.65**	**336**	Pn	**Pn**	**09 20 26.9**	**-0.6**
CMIG				Sn	**Sn**	**09 20 56.9**	**-2.0**
CMIG	**Matias Romero**	**2.65**	**336**	Pn	**Pn**	**09 20 26.9**	**-0.6**
	83nm,0.3s,baz=155,slow=10,SNR=1185						
CMIG				Sn	**Sn**	**09 20 56.9**	**-2.0**
	206nm,0.3s,baz=159,slow=18,SNR=15						
FUG	**Fuego 3**	**2.84**	**94**	*e*P	**Pn**	**09 20 31.7**	**+1.5**
PCG	**Pacaya**	**3.07**	**94**	*e*P	Pb	09 20 36.4	-4.0
NBG	**Las Nubes**	**3.31**	**91**	*e*P	Pn	09 20 39.9	+3.1
TUIG	**Tuzandepetl**	**3.42**	**350**	*e*P	**Pn**	**09 20 38.4**	**+0.4**
TUIG				*i* S	**Sn**	**09 21 19.8**	**+1.9**
VHO	**Vista Hermosa**	**3.73**	**311**	*e*P	Pn	09 20 38.4	-4.1
VHO				*i* S	Sn	09 21 21.7	-4.1
MRL	**Marmol**	**3.96**	**84**	*e*P	Pn	09 20 48.0	+2.4
RBDL	**Robledal**	**3.99**	**97**	*e*P	**Pn**	**09 20 46.5**	**+0.4**
RTR	**El Retiro**	**4.07**	**100**	*e*P	**Pn**	**09 20 47.4**	**+0.3**
RTR				*e*S	**Sn**	**09 21 38.0**	**+4.0**
SBLS	**San Blas**	**4.10**	**101**	*e*P	**Pn**	**09 20 47.9**	**+0.3**
SBLS				*e*S	**Sn**	**09 21 39.5**	**+4.6**
SNJE	**San Jose**	**4.11**	**100**	*e*P	**Pn**	**09 20 48.2**	**+0.5**
BOQS	**Boqueron**	**4.45**	**101**	*e*P	Pn	09 20 53.0	+0.7
SNET	**Serv Nac Est T**	**4.50**	**102**	AML	AML	09 22 14.3	
	comp=Z,506nm,0.6s						
PNIG	**Pinotepa**	**4.54**	**293**	*e*P	Pn	09 20 49.0	-4.5
PNIG				*i* S	Sn	09 21 38.7	-6.9
LFRS	**El Faro**	**4.68**	**102**	*e*P	Pn	09 20 55.1	-0.4
SCIG	**Sabancuy**	**4.95**	**30**	*e*P	Pn	09 21 00.9	+1.8
SCIG				*i* S	Sn	09 22 00.9	+5.3
TPIG	**Tehuac#an**	**5.09**	**318**	*i* P	Pn	09 20 58.3	-2.8
TPIG				*i* S	Sn	09 21 55.9	-3.4
LVIG	**Laguna Verde**	**5.64**	**334**	*e*P	**Pn**	**09 21 08.8**	**+0.2**
CNCH	**Conchagua**	**5.92**	**103**	*e*P	Pn	09 21 13.1	+0.5
PPM	**Popocatepetl**	**6.40**	**314**	*e*P	Pn	09 21 16.4	-3.0
PPM				*i* S	Sn	09 22 29.4	-2.5
MEIG	**Mezcala**	**6.49**	**301**	*e*P	**Pn**	**09 21 20.4**	**0.0**
MEIG				*i* S	Sn	09 22 31.1	-2.6
YAIG	**Yautepec**	**6.58**	**310**	*e*P	**Pn**	**09 21 22.5**	**+0.9**
PLIG	**Platanillo**	**6.64**	**305**	*e*P	**Pn**	**09 21 24.8**	**+2.4**
PLIG				*i* S	**Sn**	**09 22 36.1**	**-1.2**
CAIG	**El Cayaco**	**6.69**	**292**	*e*P	**Pn**	**09 21 22.3**	**-0.7**
UNM	**Universidad Na**	**6.96**	**313**	*e*P	**Pn**	**09 21 28.2**	**+1.3**
DEIG	**Demacu**	**7.54**	**319**	*i* P	Pn	09 21 28.8	-6.1
TEIG	**Tepich**	**7.63**	**43**	*e*Pn	**Pn**	**09 21 35.9**	**+0.1**
TEIG				*e*Sn	**Sn**	**09 23 00.3**	**-1.3**
TEIG	**Tepich**	**7.63**	**43**	Pn	**Pn**	**09 21 33.7**	**-2.2**
	comp=Z,50nm,0.3s,baz=256,slow=3.3,SNR=144						
TEIG				Sn	**Sn**	**09 22 58.7**	**-2.9**
	comp=Z,29nm,0.3s,baz=314,slow=23,SNR=6.0						
TEIG				LR	LR	09 24 57.5	
	comp=Z,8μm,19.8s,baz=298,slow=42						
ZIIG	**Zihuatanejo**	**7.96**	**293**	*e*P	**Pn**	**09 21 40.2**	**-0.2**
ZIIG				*e*S	Sn	09 23 03.3	-6.4
MOIG	**Morelia**	**8.68**	**306**	*e*P	**Pn**	**09 21 52.2**	**+1.8**
IGIG	**Irapuato, Guan**	**9.42**	**311**	*i* P	Pn	09 22 08.2	+7.6
JTS	**JuntasAbangare**	**9.64**	**116**	*e*Pn	Pn	09 22 09.0	+5.5
LNIG	**Linares**	**11.52**	**333**	*i* P	**Pn**	**09 22 31.0**	**+1.9**
ZAIG	**Zacatecas**	**11.60**	**315**	*i* P	**Pn**	**09 22 32.2**	**+1.6**
ANIG	**Ahuacatlan**	**12.05**	**303**	*i* P	**Pn**	**09 22 39.6**	**+3.0**
KVTX	**Kingsville**	**13.39**	**344**	*e*Pn	Pn	09 22 59.3	+4.5
732A	**Laxson Ranch,**	**15.14**	**339**	P	**Pn**	**09 23 19.4**	**+0.8**
	baz=15,SNR=38						
HKT	**Hockley**	**15.35**	**353**	*e*P	**Pn**	**09 23 21.2**	**0.0**
HKT	**Hockley**	**15.35**	**353**	*e*P	**Pn**	**09 23 21.2**	**0.0**
532A	**Rocksprings**	**16.41**	**341**	P	**Pn**	**09 23 35.6**	**+0.6**
	baz=16,SNR=67						
HPIG		**16.51**	**320**	*e*P	**Pn**	**09 23 37.2**	**+0.7**
531A	**Rocksprings**	**16.66**	**339**	P	**Pn**	**09 23 38.7**	**+0.6**
	baz=17,SNR=119						
JCT	**Junction City**	**16.70**	**342**	*e*P	**Pn**	**09 23 39.1**	**+0.4**
JCT				pmax	pmax		
	comp=Z,87nm,0.9s						
JCT	**Junction City**	**16.70**	**342**	*e*P	**Pn**	**09 23 39.1**	**+0.4**
	comp=Z,87nm,0.9s						
JCT	**Junction City**	**16.70**	**342**	P	**Pn**	**09 23 39.4**	**+0.7**
	baz=17,SNR=77						
530A	**J-C Ranch, Com**	**16.93**	**337**	P	**Pn**	**09 23 42.7**	**+1.1**
	baz=17,SNR=50						
628A	**Black Gap, Mar**	**17.00**	**332**	P	**Pn**	**09 23 43.9**	**+1.4**
	baz=17,SNR=80						
NATX	**Nacogdoches**	**17.05**	**357**	*e*P	**Pn**	**09 23 43.4**	**+0.4**
	comp=Z,398nm,1.7s						
432A	**Menard**	**17.07**	**342**	P	**Pn**	**09 23 44.4**	**+1.1**
	baz=17,SNR=55						
431A	**Sonora**	**17.15**	**340**	P	**Pn**	**09 23 45.2**	**+0.8**
	baz=17,SNR=75						
627A	**Terlingua Ranc**	**17.20**	**330**	P	**P**	**09 23 46.8**	**+0.3**
	baz=17,SNR=179						
TXAR	**Lajitas Array**	**17.24**	**330**	P	**Pn**	**09 23 46.5**	**+1.0**
TXAR	**Lajitas Array**	**17.24**	**330**	P	**Pn**	**09 23 46.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=10,SNR=60						
TXAR				LR	LR	09 30 48.2	
	comp=Z,647nm,18.3s,baz=85,slow=38						
529A	**Stev Forest Ra**	**17.26**	**335**	P	**Pn**	**09 23 46.7**	**+1.0**
	baz=17,SNR=61						
BRAL	**Brewton**	**17.41**	**20**	*e*P	**P**	**09 23 51.4**	**+2.8**
	comp=Z,118nm,0.9s						
430A	**Baggett Ranch,**	**17.46**	**338**	P	**P**	**09 23 49.8**	**+0.5**
	baz=17,SNR=140						
528A	**Cox Ranch, San**	**17.53**	**333**	P	**P**	**09 23 50.4**	**+0.3**
	baz=18,SNR=84						
332A	**Millersview**	**17.53**	**343**	P	**P**	**09 23 50.4**	**+0.4**
	baz=18,SNR=62						
429A	**Davenport Ranc**	**17.57**	**336**	P	**Pn**	**09 23 50.4**	**+0.9**
	baz=18,SNR=211						
DWPF	**Disney**	**17.62**	**39**	*e*P	**P**	**09 23 51.6**	**+0.6**
	comp=Z,98nm,1.0s						
626A	**Big Bend Ranch**	**17.65**	**329**	P	**P**	**09 23 52.3**	**+0.9**
	baz=18,SNR=67						
331A	**San Angelo**	**17.67**	**341**	P	**P**	**09 23 51.9**	**+0.3**
	baz=18,SNR=102						
VBMS	**Vicksburg**	**17.74**	**9**	*e*P	**Pn**	**09 23 52.0**	**+0.4**
	comp=Z,122nm,1.0s						
428A	**Kincaid Ranch,**	**17.98**	**334**	P	**P**	**09 23 56.4**	**+1.4**
	baz=18,SNR=95						
232A	**Coleman**	**17.98**	**344**	P	**Pn**	**09 23 55.3**	**+0.7**
	baz=18,SNR=70						
330A	**Mertzon**	**18.01**	**339**	P	**P**	**09 23 55.7**	**+0.4**
	baz=18,SNR=61						
526A	**Mary Lane Ranc**	**18.05**	**330**	P	**P**	**09 23 58.9**	**+3.0**
	baz=18,SNR=110						
LPIG	**La Paz**	**18.20**	**304**	*i* P	Pn	09 23 50.8	-6.6
LPIG	**La Paz**	**18.20**	**304**	P	**P**	**09 23 59.0**	**+1.6**
LPIG	**La Paz**	**18.20**	**304**	P	**P**	**09 23 59.0**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=90,slow=0.4,SNR=8.8						
LPIG				LR	LR	09 31 26.7	
	comp=Z,2μm,18.9s,baz=120,slow=38						
231A	**Bronte**	**18.22**	**342**	P	**P**	**09 23 58.8**	**+1.2**
	baz=18,SNR=54						
329A	**Wagon Wheel Ra**	**18.37**	**337**	P	**Pn**	**09 24 00.5**	**+1.1**
	baz=18						
427A	**Hayter Ranch,**	**18.39**	**333**	P	**Pn**	**09 24 01.3**	**+1.6**
	baz=18,SNR=41						
230A	**Sterling City**	**18.43**	**340**	P	**Pn**	**09 24 01.0**	**+1.0**
	baz=18,SNR=58						
426A	**McDonald Obser**	**18.52**	**331**	P	**Pn**	**09 24 03.2**	**+1.8**
	baz=18,SNR=52						
328A	**Wristen Ranch,**	**18.60**	**335**	P	**Pn**	**09 24 03.4**	**+1.1**
	baz=19,SNR=76						
ABTX	**Abilene, Hawle**	**18.68**	**344**	*e*P	**Pn**	**09 24 03.5**	**+0.4**
ABTX	**Abilene, Hawle**	**18.68**	**344**	P	**Pn**	**09 24 03.9**	**+0.8**
	baz=19,SNR=47						
229A	**Bryant Ranch,**	**18.74**	**338**	P	**Pn**	**09 24 05.2**	**+1.3**
	baz=19,SNR=38						
131A	**Roby**	**18.93**	**343**	P	**Pn**	**09 24 06.3**	**+0.2**
	baz=19,SNR=57						
326A	**Caldwell Ranch**	**19.05**	**332**	P	**Pn**	**09 24 08.6**	**+1.0**
	baz=19,SNR=64						
TIGA	**Tifton**	**19.14**	**27**	*e*P	**P**	**09 24 05.6**	**-2.0**
TIGA	**Tifton**	**19.14**	**27**	P	**P**	**09 24 07.4**	**-0.3**
	baz=19,SNR=11						
228A	**UT Block 9, Go**	**19.16**	**337**	P	**Pn**	**09 24 09.6**	**+0.5**
	baz=19,SNR=55						
Z32A	**Haskell**	**19.28**	**345**	P	**Pn**	**09 24 10.9**	**+0.5**
	baz=19,SNR=56						
LRAL	**Lakeview Retre**	**19.31**	**17**	*e*P	**P**	**09 24 09.3**	**-0.3**
	comp=Z,53nm,1.1s						
227A	**Bennet, Jal**	**19.35**	**335**	P	**Pn**	**09 24 11.8**	**+0.5**
	baz=19,SNR=28						
Z31A	**Sharp Cattle R**	**19.47**	**344**	P	**P**	**09 24 12.1**	**+0.8**
	baz=19,SNR=68						
325A	**Bean Ranch, Si**	**19.55**	**330**	P	**Pn**	**09 24 13.8**	**0.0**
	baz=20,SNR=22						
128A	**Castleberry Fa**	**19.57**	**338**	P	**Pn**	**09 24 14.0**	**0.0**
	baz=20,SNR=121						
Z30A	**Sanderson Ranc**	**19.72**	**341**	P	**P**	**09 24 14.7**	**+0.6**
	baz=20,SNR=135						
MIAR	**Mount Ida**	**19.81**	**0**	*e*P	**P**	**09 24 14.8**	**-0.2**
MIAR				pmax	pmax		
	comp=Z,68nm,0.8s						
MIAR	**Mount Ida**	**19.81**	**0**	*e*P	**P**	**09 24 14.8**	**-0.2**
	comp=Z,68nm,0.8s						
Z29A	**Hungry Hill Ra**	**19.88**	**340**	P	**P**	**09 24 16.5**	**+0.7**
	baz=20,SNR=86						
Y32A	**R-V Farms, Ver**	**19.94**	**346**	P	**P**	**09 24 17.6**	**+1.2**
	baz=20,SNR=58						
127A	**Arkansas Junct**	**19.96**	**336**	P	**P**	**09 24 17.8**	**+1.1**
	baz=20,SNR=59						
GDL2	**Guadalupe Moun**	**19.97**	**333**	*e*P	Pn	09 24 18.7	0.0
MNTX	**Cornudas Mount**	**20.02**	**330**	*e*P	**P**	**09 24 18.1**	**+0.8**
	comp=Z,34nm,0.9s						
UALR	**University of**	**20.08**	**3**	*e*P	**P**	**09 24 17.6**	**-0.3**
	comp=Z,699nm,2.4s						
225A	**Deer Hill, Car**	**20.10**	**332**	P	**P**	**09 24 19.8**	**+1.4**
	baz=20,SNR=44						
Y31A	**Rekieta Farm,**	**20.11**	**344**	P	**P**	**09 24 19.2**	**+0.9**
	baz=20,SNR=81						
Z28A	**Tucker Farm, M**	**20.14**	**339**	P	**P**	**09 24 19.8**	**+1.1**
	baz=20,SNR=131						
OXF	**Oxford**	**20.16**	**10**	*e*P	**P**	**09 24 19.2**	**+0.4**
OXF				pmax	pmax		
	comp=Z,147nm,1.1s						
OXF	**Oxford**	**20.16**	**10**	*e*P	**P**	**09 24 19.2**	**+0.4**
	comp=Z,147nm,1.1s						
126A	**Clayton Basin,**	**20.20**	**334**	P	**P**	**09 24 20.6**	**+1.2**
	baz=20,SNR=46						
CGIG		**20.38**	**322**	*i* P	Pn	09 24 23.9	+0.2
224A	**Cornudas Mount**	**20.40**	**330**	P	**P**	**09 24 22.9**	**+1.3**
	baz=20,SNR=73						
Y29A	**Porterfield Fa**	**20.42**	**341**	P	**P**	**09 24 22.5**	**+0.8**
	baz=20,SNR=110						
Z27A	**Tatum**	**20.47**	**337**	P	**P**	**09 24 23.2**	**+0.9**
	baz=20,SNR=233						
125A	**Gardner Draw,**	**20.49**	**333**	P	**P**	**09 24 23.6**	**+1.1**
	baz=20,SNR=78						
WMOK	**Wichita Mounta**	**20.51**	**348**	*e*P	**P**	**09 24 22.5**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,49nm,1.0s						
WMOK	**Wichita Mounta**	**20.51**	**348**	*e*P	**P**	**09 24 22.4**	**-0.1**
	comp=Z,49nm,1.0s						
Y28A	**McKinney Farm,**	**20.65**	**340**	P	**P**	**09 24 25.2**	**+0.9**
	baz=21,SNR=235						
X31A	**McDonald Ranch**	**20.67**	**345**	P	**P**	**09 24 25.2**	**+0.8**
	baz=21,SNR=58						
X30A	**Coker Ranch, T**	**20.73**	**343**	P	**P**	**09 24 26.0**	**+0.9**
	baz=21,SNR=64						
Z26A	**Caprock**	**20.73**	**335**	P	**P**	**09 24 26.1**	**+1.0**
	baz=21,SNR=77						
OTAV	**Otavalo**	**20.85**	**132**	*e*P	Pn	09 24 28.4	-1.2
	comp=Z,21nm,1.1s						
124A	**Stringfield Ra**	**20.88**	**331**	P	Pn	09 24 28.8	-0.7
	baz=21,SNR=57						
PLAL	**Pickwick Lake**	**20.89**	**13**	*e*P	**P**	**09 24 26.4**	**-0.2**
MSTX	**Muleshoe**	**20.89**	**339**	*e*P	**P**	**09 24 26.9**	**+0.1**
MSTX	**Muleshoe**	**20.89**	**339**	P	**P**	**09 24 27.4**	**+0.5**
	baz=21,SNR=160						
Y27A	**Causey**	**20.95**	**338**	P	**P**	**09 24 28.4**	**+0.9**
	baz=21,SNR=196						
X29A	**Tulia**	**20.97**	**341**	P	**P**	**09 24 28.4**	**+0.7**
	baz=21,SNR=112						
HBAR	**Harrisburg**	**21.00**	**7**	*e*P	**P**	**09 24 30.3**	**+2.4**
W31A	**Holland Ranch,**	**21.19**	**346**	P	**P**	**09 24 30.5**	**+0.5**
	baz=21,SNR=40						
X28A	**Dimmitt**	**21.20**	**340**	P	**P**	**09 24 30.6**	**+0.4**
	baz=21,SNR=65						
123A	**Bell Site, Whi**	**21.21**	**330**	P	**P**	**09 24 32.1**	**+1.8**
	baz=21,SNR=13						
222A	**Williams Famil**	**21.21**	**327**	P	**P**	**09 24 32.0**	**+1.6**
	baz=21,SNR=14						
Y26A	**Elida**	**21.24**	**336**	P	**P**	**09 24 31.9**	**+1.2**
	baz=21,SNR=36						
TUL1	**Tulsa**	**21.25**	**355**	*e*P	**P**	**09 24 33.3**	**+2.8**
TUL1	**Tulsa**	**21.25**	**355**	P	**P**	**09 24 33.1**	**+2.5**
	baz=21,SNR=16						
W30A	**Crocket Farms**	**21.34**	**345**	P	**P**	**09 24 33.1**	**+1.5**
	baz=21,SNR=12						
Z24A	**Sheeppen Canyo**	**21.37**	**332**	P	**P**	**09 24 34.0**	**+1.9**
	baz=21,SNR=112						
HSIG		**21.38**	**315**	*e*P	**P**	**09 24 33.3**	**+1.3**
320A	**Kipp Ranch, An**	**21.42**	**323**	P	**P**	**09 24 35.0**	**+2.5**
	baz=21,SNR=79						
ROSC	**El Rosal**	**21.47**	**115**	*e*P	P	09 24 37.1	+3.6
ROSC	**El Rosal**	**21.47**	**115**	P	**P**	**09 24 33.2**	**-0.3**
	comp=Z,42nm,1.0s,baz=83,slow=14,SNR=40						
GNAR	**Gosnell**	**21.49**	**8**	*e*P	**P**	**09 24 36.0**	**+2.8**
	comp=Z,2μm,1.3s						
221A	**Mesquite Ranch**	**21.50**	**326**	P	**P**	**09 24 36.0**	**+2.5**
	baz=22,SNR=31						
**H

ANMO LR LR 09 34 54.6
comp=Z,580nm,18.7s,baz=360,slow=39
W23A Werner Place, 23.26 334 P **P 09 24 53.9 +1.7**
baz=23,SNR=30
KMSC Kings Mountain 23.27 27 *eP* **P 09 24 51.3 -0.6**
KMSC Kings Mountain 23.27 27 P **P 09 24 51.4 -0.6**
baz=23,SNR=10
Y20A Horse Springs, 23.29 328 P **P 09 24 54.8 +2.2**
baz=23,SNR=141
SIUC Southern Illin 23.32 9 *eP* **P 09 24 52.8 +0.3**
comp=Z,168nm,1.1s
SDV Santo Domingo 23.35 102 *eP* **P 09 24 53.6 +0.4**
comp=Z,30nm,1.0s
V24A Rampart Ranch, 23.39 336 P **P 09 24 54.8 +1.4**
baz=23,SNR=76
T29A Hugoton 23.39 345 P **P 09 24 54.5 +1.2**
baz=23,SNR=14
X21A Alamocita Cree 23.42 330 P **P 09 24 56.0 +2.2**
baz=23,SNR=114
TUC Tucson 23.45 321 *eP* **P 09 24 55.4 +1.5**
TUC pmax pmax
comp=Z,44nm,0.9s
TUC Tucson 23.45 321 *eP* **P 09 24 55.4 +1.5**
comp=Z,44nm,0.9s
W22A Albuquerque 23.50 332 P **P 09 24 56.3 +1.8**
baz=24,SNR=12
T28A Walsh 23.58 343 P **P 09 24 55.7 +0.6**
baz=24,SNR=23
TZTN Tazewell 23.64 21 *eP* **P 09 24 55.6 0.0**
comp=Z,37nm,1.0s
U25A Circle Dot Ran 23.66 338 P **P 09 24 57.2 +1.2**
baz=24,SNR=42
S30A Montezuma 23.66 347 P **P 09 24 56.4 +0.6**
baz=24,SNR=19
T27A Campo 23.70 342 P **P 09 24 56.9 +0.5**
baz=24,SNR=43
V23A Ortiz Mt. (NFS 23.78 334 P **P 09 24 59.3 +2.1**
baz=24,SNR=86
S29A Ulysses 23.79 345 P **P 09 24 57.7 +0.6**
baz=24,SNR=24
USIN University of 23.84 12 *eP* **P 09 24 57.1 -0.4**
comp=Z,97nm,0.9s
X20A Quemado 23.85 329 P **P 09 24 59.9 +2.0**
baz=24
S28A Manter 23.96 344 P **P 09 24 58.7 -0.1**
baz=24,SNR=16
U24A Moreno Valley 23.99 337 P **P 09 25 01.0 +1.7**
baz=24,SNR=19
T26A Comanche Natio 24.08 340 P **P 09 25 00.8 +0.9**
baz=24,SNR=22
R31A Burdett 24.09 349 P **P 09 25 00.2 +0.3**
baz=24
V22A San Miguel Ran 24.23 333 P **P 09 25 03.3 +1.9**
baz=24,SNR=13
U23A El Rito 24.28 335 P **P 09 25 03.6 +1.8**
baz=24,SNR=44
W20A Ramah 24.32 330 P **P 09 25 04.5 +2.2**
baz=24,SNR=52
T25A Trinidad 24.32 339 P **P 09 25 04.5 +2.3**
baz=24,SNR=48
WCI Wyandotte Cave 24.40 14 *eP* **P 09 25 01.0 -1.7**
WCI pmax pmax
comp=Z,67nm,0.8s
WCI Wyandotte Cave 24.40 14 *eP* **P 09 25 01.0 -1.7**
comp=Z,67nm,0.8s
S26A Kim 24.45 341 P **P 09 25 04.5 +1.2**
baz=24,SNR=25
V21A Milan 24.46 332 P **P 09 25 05.3 +1.8**
baz=24
214A Organ Pipe Nat 24.48 318 P **P 09 25 05.1 +1.5**
baz=24,SNR=37
KSU1 Kansas State U 24.48 355 *eP* **P 09 25 02.3 -1.1**
OLIL Olney 24.51 11 *eP* **P 09 25 02.2 -1.4**
comp=Z,75nm,0.8s
R29A Marienthal 24.56 346 P **P 09 25 05.1 +0.8**
baz=24,SNR=41
X18A Snowflake 24.60 326 P **P 09 25 06.8 +2.0**
baz=25,SNR=53
U22A Llaves 24.60 334 P **P 09 25 06.8 +2.1**
baz=25,SNR=19
T24B San Luis 24.60 337 P **P 09 25 06.6 +1.7**
baz=25,SNR=20
R28A Tribune 24.65 345 P **P 09 25 05.8 +0.7**
baz=25,SNR=15
Q31A Ellis 24.76 349 P **P 09 25 06.2 +0.2**
baz=25,SNR=18
S25A Robets Cordova 24.80 339 P **P 09 25 08.1 +1.6**
baz=25,SNR=61
T23A Casias Ranch, 24.83 336 P **P 09 25 08.6 +1.7**
baz=25,SNR=20
V20A Brimhall 24.84 331 P **P 09 25 08.9 +1.9**
baz=25,SNR=29
R27A Eads 24.86 343 P **P 09 25 08.1 +1.0**
baz=25,SNR=40
Q30A Quinter 24.89 348 P **P 09 25 08.0 +0.8**
baz=25
W18A Petrified Fore 24.93 328 *eP* **P 09 25 10.0 +2.2**
W18A Petrified Fore 24.93 328 P **P 09 25 09.7 +1.9**
baz=25,SNR=6.1
Q29A Oakley 24.97 347 P **P 09 25 09.0 +1.1**
baz=25,SNR=109
U21A Nageezi 24.99 333 P **P 09 25 10.3 +1.9**
baz=25,SNR=23
S24A Houchin Ranch, 25.05 338 P **P 09 25 10.9 +1.9**
baz=25,SNR=17
R26A Arlington 25.07 342 P **P 09 25 10.9 +2.0**
baz=25,SNR=26
T22A Edith 25.16 335 P **P 09 25 11.9 +2.1**
baz=25,SNR=20
R25A Fountain Ranch 25.19 340 P **P 09 25 11.5 +1.5**
baz=25,SNR=90
BLO Bloomington 25.25 13 *eP* **P 09 25 09.4 -0.9**
BLO pmax pmax
comp=Z,36nm,0.8s
BLO Bloomington 25.25 13 *eP* **P 09 25 09.4 -0.9**
comp=Z,36nm,0.8s
SDCO Great Sand Dun 25.25 338 *eP* **P 09 25 12.1 +1.3**
comp=Z,28nm,1.1s
P31A Stockton 25.26 350 P **P 09 25 10.7 +0.1**
baz=25,SNR=32
Q28A Sharon Springs 25.33 345 P **P 09 25 13.5 +2.2**
baz=25,SNR=33
U20A Newcomb 25.34 331 P **P 09 25 13.3 +1.9**
baz=25,SNR=9.6
S23A Nye Farm, Mont 25.40 337 P **P 09 25 14.2 +2.1**
baz=25,SNR=15
T21A Navajo Lake 25.41 334 P **P 09 25 14.2 +2.2**
baz=25,SNR=14
P30A Selden 25.44 348 P **P 09 25 12.9 +0.7**
baz=25,SNR=49
Z14A Wintersburg 25.49 320 P **P 09 25 14.4 +1.8**
baz=26,SNR=13
KSCO Kaye Shedlock' 25.49 344 *eP* **P 09 25 14.0 +1.3**
KSCO Kaye Shedlock' 25.49 344 P **P 09 25 14.2 +1.5**
baz=26,SNR=12
R24A Sanders Place, 25.54 339 P **P 09 25 15.3 +2.0**
baz=26,SNR=32
113A Mohawk Valley, 25.62 318 P **P 09 25 15.8 +2.0**
baz=26,SNR=7.2
P29A Atwood 25.64 347 P **P 09 25 14.6 +0.6**
baz=26,SNR=53
Q26A Hugo 25.66 342 P **P 09 25 16.0 +1.7**
baz=26,SNR=12
S22A 4UR Ranch, Cre 25.76 336 P **P 09 25 17.1 +1.7**
baz=26,SNR=17
R23A Moffat 25.76 338 P **P 09 25 17.1 +1.7**
baz=26,SNR=43
P28A Saint Francis 25.80 346 P **P 09 25 16.3 +0.8**
baz=26,SNR=77
Q25A Bedland, Calha 25.88 341 P **P 09 25 17.7 +1.4**
baz=26,SNR=35
Y14A Wickenburg 25.92 321 P **P 09 25 18.0 +1.4**
baz=26,SNR=26
P27A Ficken Ranch, 25.99 344 P **P 09 25 18.8 +1.6**
baz=26,SNR=27
MVCO Mesa Verde 26.01 332 *eP* **P 09 25 19.1 +1.5**
comp=Z,77nm,1.3s
MVCO Mesa Verde 26.01 332 P **P 09 25 19.2 +1.6**
baz=26,SNR=31
O30A MW Ranch, Wils 26.02 349 P **P 09 25 18.0 +0.6**
baz=26,SNR=13
S21A Coal Bank Pass 26.08 334 P **P 09 25 19.9 +1.6**
baz=26,SNR=22
WUAZ Wupatki 26.11 326 *eP* **P 09 25 20.0 +1.6**
comp=Z,64nm,0.9s
WUAZ Wupatki 26.11 326 P **P 09 25 20.4 +2.0**
baz=26,SNR=36
R22A Saguache, Gunn 26.15 336 P **P 09 25 20.8 +1.9**
baz=26,SNR=25
P26A Davis Ranch, A 26.20 343 P **P 09 25 21.0 +1.8**
baz=26,SNR=15
Q24A Divide 26.21 340 P **P 09 25 21.4 +1.9**
baz=26,SNR=11
O28A Krutsinger Ran 26.33 346 P **P 09 25 21.9 +1.6**
baz=26,SNR=16
Q23A Hartsel 26.40 338 P **P 09 25 22.6 +1.5**
baz=26,SNR=20
S20A Disappointment 26.47 333 P **P 09 25 23.8 +2.1**
baz=26,SNR=20
ATAH Atahualpa 26.48 144 P **P 09 25 22.9 +0.8**
ATAH Atahualpa 26.48 144 P **P 09 25 22.9 +0.8**
comp=Z,8.2nm,0.9s,baz=322,slow=2.7,SNR=5.6
ATAH LR LR 09 33 06.0
comp=Z,567nm,18.9s,baz=316,slow=30
GLA Glamis 26.49 317 *eP* **P 09 25 23.4 +1.7**
GLA pmax pmax
comp=Z,31nm,1.0s
GLA Glamis 26.49 317 *eP* **P 09 25 23.4 +1.7**
comp=Z,31nm,1.0s
GLA Glamis 26.49 317 P **P 09 25 23.2 +1.5**
baz=26,SNR=7.9
R21A Cimarron 26.58 335 P **P 09 25 24.4 +1.6**
baz=27,SNR=9.6
P24A Kohler Place, 26.63 341 P **P 09 25 24.5 +1.3**
baz=27
Y12C Blythe 26.74 319 P **P 09 25 25.6 +1.7**
baz=27,SNR=11
Q22A Crested Butte, 26.76 337 P **P 09 25 26.0 +1.6**
baz=27,SNR=15
PV01 Paradox Valley 26.81 333 *eP* **P 09 25 26.5 +1.6**
comp=Z,3μm,1.0s
N28A Pribbeno Ranch 26.81 347 P **P 09 25 25.9 +1.2**
baz=27
P23A Jefferson 26.82 339 P **P 09 25 27.1 +2.1**
baz=27,SNR=27
PDMCI Parker Dam,Lak 26.86 320 P **P 09 25 26.8 +1.8**
baz=27,SNR=15
BGNE Belgrade 26.93 353 *eP* **P 09 25 25.7 +0.1**
BGNE Belgrade 26.93 353 P **P 09 25 25.7 +0.1**
baz=27,SNR=5.7
O25A Wiggins 26.94 342 P **P 09 25 27.7 +1.9**
baz=27,SNR=12
PV15 Paradox Valley 26.95 334 *eP* **P 09 25 28.1 +2.0**
Q21A Lamborn Mesa, 26.99 336 P **P 09 25 28.6 +2.2**
baz=27,SNR=6.9
PV05 Paradox Valley 27.00 333 *eP* **P 09 25 27.8 +1.3**
SMCO Snowmass 27.06 337 *eP* **P 09 25 28.7 +1.5**
comp=Z,45nm,1.3s
SWSC Sam W. Stewart 27.06 316 P **P 09 25 28.6 +1.8**
baz=27,SNR=11
DVTC Desert V Tower 27.10 315 P **P 09 25 29.1 +1.8**
baz=27,SNR=8.4
ISCO Idaho Springs 27.12 340 *eP* **P 09 25 29.1 +1.4**
ISCO pmax pmax
comp=Z,30nm,0.9s
ISCO Idaho Springs 27.12 340 *eP* **P 09 25 29.1 +1.4**
comp=Z,30nm,0.9s
ISCO Idaho Springs 27.12 340 P **P 09 25 29.2 +1.4**
baz=27,SNR=41
N27A Anderson Farm, 27.16 345 P **P 09 25 29.3 +1.5**
baz=27,SNR=18
OGNE Ogallala 27.17 346 *eP* **P 09 25 28.9 +1.1**
comp=Z,264nm,1.5s
OGNE Ogallala 27.17 346 P **P 09 25 28.9 +1.1**
baz=27,SNR=14
PV04 Paradox Valley 27.17 333 *eP* **P 09 25 29.9 +1.9**
PV10 Paradox Valley 27.22 333 *eP* **P 09 25 29.4 +0.9**
comp=Z,412nm,0.9s
O24A Longmont 27.24 341 P **P 09 25 30.1 +1.5**
baz=27,SNR=10
BC3 Big Chuckawall 27.27 318 P **P 09 25 30.7 +1.8**
baz=27,SNR=54
U15A North Rim 27.28 326 P **P 09 25 31.2 +2.1**
baz=27,SNR=37
P22A Eagle 27.34 338 P **P 09 25 30.8 +1.2**
baz=27,SNR=7.1
PV09 Paradox Valley 27.36 333 *eP* **P 09 25 31.5 +1.6**
Q20A Ridgley Place, 27.39 335 P **P 09 25 31.5 +1.6**
baz=27,SNR=8.4
IRM Iron Mountain 27.40 319 P **P 09 25 31.6 +1.7**
baz=27,SNR=31
MONP Monument Peak 27.45 315 P **P 09 25 31.5 +0.8**
baz=28,SNR=7.9
O23A Laramie Granby, G 27.59 340 P **P 09 25 33.4 +1.5**
baz=28,SNR=10
O22A Kremmling 27.77 339 P **P 09 25 34.5 +1.0**
baz=28,SNR=10
N24A Carr 27.82 342 P **P 09 25 35.3 +1.6**
baz=28
BELC Belle Mtn. Jos 27.84 318 P **P 09 25 35.8 +1.8**
baz=28,SNR=14
PFO Pinyon Flat Ob 27.91 317 P **P 09 25 35.0 +0.4**
comp=Z,74nm,1.0s,SNR=5.4
PFO Pinyon Flat Ob 27.91 317 *eP* **P 09 25 36.0 +1.4**
comp=Z,13nm,1.0s
PFO Pinyon Flat Ob 27.91 317 P **P 09 25 36.3 +1.7**
comp=Z,8.5nm,0.9s,baz=123,slow=6.7,SNR=11
PFO LR LR 09 37 22.9
comp=Z,736nm,18.3s,baz=134,slow=38
PFO Pinyon Flat Ob 27.91 317 P **P 09 25 36.2 +1.7**
baz=28,SNR=9.3
L29A Maesberg Ranch 27.93 349 P **P 09 25 35.4 +0.8**
baz=28,SNR=5.6
LDFC Landfair 27.97 320 *eP* **P 09 25 38.2 +3.1**
GMRC Granite Mounta 28.12 319 P **P 09 25 38.4 +1.9**
baz=28,SNR=9.0
N23A Red Feather La 28.22 340 P **P 09 25 38.9 +1.4**
baz=28,SNR=7.4
P19A Cripple Cowboy 28.24 335 P **P 09 25 39.3 +1.7**
baz=28,SNR=8.3
N22A Wattenberg Ran 28.30 339 P **P 09 25 40.2 +2.0**
baz=28,SNR=13
JFWS Jewell Farm 28.33 5 *eP* **P 09 25 36.1 -1.9**
JFWS pmax pmax
comp=Z,24nm,0.8s
JFWS Jewell Farm 28.33 5 *eP* **P 09 25 36.1 -1.9**
comp=Z,24nm,0.8s
O20A White River Ci 28.37 336 *eP* **P 09 25 39.8 +1.1**
O20A White River Ci 28.37 336 P **P 09 25 40.4 +1.7**
baz=28,SNR=11
M24A Cheyenne 28.39 342 P **P 09 25 40.3 +1.5**
baz=28
MURC Murrieta 28.40 316 P **P 09 25 40.3 +1.4**
baz=28,SNR=5.1
PHWY Pilot Hill 28.43 341 *eP* **P 09 25 40.5 +1.1**
comp=Z,21nm,1.3s
SRU San Rafael 28.48 332 *eP* **P 09 25 40.7 +1.0**
SRU pmax pmax
comp=Z,86nm,2.2s
SRU San Rafael 28.48 332 *eP* **P 09 25 40.7 +1.0**
comp=Z,86nm,2.2s
HEC Hector,Ludlow 28.57 319 P **P 09 25 43.0 +2.5**
baz=29,SNR=12
K29A Lazy Trails An 28.57 350 P **P 09 25 41.0 +0.6**
baz=28,SNR=9.2
BBRC Big Bear Solar 28.61 317 P **P 09 25 43.3 +2.4**
baz=29,SNR=6.7
N21A Black Mountain 28.64 338 P **P 09 25 43.3 +2.1**
baz=29,SNR=21
CCUT Cedar City 28.69 326 *eP* **P 09 25 44.0 +2.3**
comp=Z,21nm,0.9s
TUQ Turquoise Moun 28.70 320 P **P 09 25 43.9 +2.2**
baz=29,SNR=10
K28A Ten Mile Ranch 28.72 348 P **P 09 25 42.7 +1.0**
baz=29
MVU Marysvale 28.81 329 *eP* **P 09 25 44.5 +1.8**
comp=Z,15nm,1.1s
O19A Miners Draw (B 28.86 335 P **P 09 25 44.4 +1.4**
baz=29,SNR=7.9
M22A Cedar Creek Ra 28.89 340 P **P 09 25 45.0 +1.6**
baz=29
K27A Flueckinger Fa 28.89 347 P **P 09 25 43.8 +0.7**
baz=29
TMUT Trail Mountain 28.95 331 *eP* **P 09 25 46.1 +2.1**
comp=Z,13nm,0.8s
L24A Wheatland 28.95 343 P **P 09 25 45.6 +1.8**
baz=29
SHPR Sheep Range 28.96 323 *eP* **P 09 25 45.6 +1.6**
BFSC Mount Baldy Ra 29.08 316 P **P 09 25 46.6 +1.6**
baz=29,SNR=12
ECSD EROS Data Cent 29.09 356 *eP* **P 09 25 43.6 -1.2**
comp=Z,44nm,0.8s
CIS Catalina Islan 29.11 314 P **P 09 25 46.6 +1.4**
baz=29
GSC Goldstone 29.17 319 *eP* **P 09 25 47.3 +1.5**
GSC pmax pmax
comp=Z,13nm,1.3s
GSC Goldstone 29.17 319 *eP* **P 09 25 47.3 +1.5**
comp=Z,13nm,1.3s
GSC Goldstone 29.17 319 P **P 09 25 47.7 +1.9**
baz=29,SNR=5.7
SHOC Shoshone 29.23 320 P **P 09 25 47.9 +1.7**
baz=29,SNR=8.3
M21A Separation Pea 29.33 339 P **P 09 25 50.0 +2.6**
baz=29,SNR=36
MWC Mount Wilson 29.34 316 *eP* **P 09 25 49.2 +1.8**
MWC pmax pmax
comp=Z,40nm,1.2s
MWC Mount Wilson 29.34 316 *eP* **P 09 25 49.1 +1.8**
comp=Z,40nm,1.2s
RWWY Rawlins 29.35 339 *eP* **P 09 25 49.2 +1.7**
comp=Z,88nm,1.1s
J27A Elkhorn Farm, 29.37 348 P **P 09 25 48.9 +1.5**
baz=29,SNR=5.7
J28A Allard Ranch, 29.38 349 P **P 09 25 48.1 +0.7**
baz=29,SNR=16
L22A Ellis Ranch, M 29.40 341 P **P 09 25 49.8 +2.0**
baz=29
M20A Sweetwater, Wa 29.53 338 P **P 09 25 50.8 +1.8**
baz=30,SNR=6.4
DECC Green Verdugo 29.54 316 P **P 09 25 51.3 +2.3**
baz=30,SNR=6.0
L21A Rawlins 29.65 339 P **P 09 25 51.4 +1.3**
baz=30,SNR=21
EDW2 Edwards Air Fo 29.68 317 P **P 09 25 51.7 +1.4**
baz=30,SNR=9.6
MPU Maple Canyon 29.72 332 *eP* **P 09 25 52.4 +1.6**
comp=Z,25nm,1.2s
K23A Bowen Ranch, D 29.81 342 P **P 09 25 52.7 +1.3**
baz=30,SNR=6.2
DAU Daniels Canyon 29.87 333 *eP* **P 09 25 53.3 +1.1**
DAU Daniels Canyon 29.87 333 *eP* **P 09 25 53.2 +1.1**
J25A Sunshine Ranch 29.91 345 P **P 09 25 53.7 +1.5**
baz=30,SNR=9.5
I28A Midland 29.93 349 P **P 09 25 52.5 +0.2**
baz=30,SNR=7.6
FURC Furnace Creek, 29.95 321 P **P 09 25 54.7 +2.1**
baz=30,SNR=10
BLG Laguna Peak 29.96 315 P **P 09 25 54.4 +1.7**
baz=30
K22A Casper 29.99 341 P **P 09 25 54.2 +1.2**
baz=30,SNR=15
BRSD Miller 30.02 353 *eP* **P 09 25 52.5 -0.6**
BRSD Miller 30.02 353 P **P 09 25 53.0 -0.1**
baz=30,SNR=21
L20A Wamsutter 30.03 338 P **P 09 25 55.0 +1.6**
baz=30,SNR=7.5
MPMC Manual Prospec 30.08 319 P **P 09 25 55.5 +1.6**
baz=30,SNR=22
JLU Jordanelle 30.11 333 *eP* **P 09 25 55.9 +1.7**
comp=Z,8.1nm,1.1s
I27A Quinn 30.16 348 P **P 09 25 55.2 +0.8**
baz=30,SNR=15
K21A Alcova 30.21 340 P **P 09 25 56.5 +1.5**
baz=30,SNR=8.0
ARVC Arvin 30.38 317 P **P 09 25 58.7 +2.3**
baz=30,SNR=7.2
DUG Dugway 30.41 330 *eP* **P 09 25 59.1 +2.3**
DUG pmax pmax
comp=Z,27nm,1.5s
DUG Dugway 30.41 330 *eP* **P 09 25 59.1 +2.3**
comp=Z,27nm,1.5s
DUG Dugway 30.41 330 P **P 09 25 58.7 +1.9**
baz=30,SNR=10
ISA Isabella 30.47 318 *eP* **P 09 25 58.7 +1.5**
ISA pmax pmax
comp=Z,43nm,2.0s
ISA Isabella 30.47 318 *eP* **P 09 25 58.7 +1.5**
comp=Z,43nm,2.0s
ISA Isabella 30.47 318 P **P 09 25 59.2 +1.9**
baz=30,SNR=5.3
R11A Troy Canyon, C 30.48 325 *eP* **P 09 25 59.5 +2.0**
R11A Troy Canyon, C 30.48 325 P **P 09 25 59.6 +2.1**
baz=30,SNR=21
M17A Scullys Gap (B 30.48 334 P **P 09 25 58.5 +1.0**
baz=30,SNR=8.9
SPMN St. Paul 30.49 1 *eP* **P 09 25 55.9 -1.3**
K20A Yellowstone Ra 30.60 339 P **P 09 25 59.2 +0.8**
baz=31,SNR=9.7
L18A Fontenelle, Gr 30.61 336 P **P 09 25 59.7 +1.1**
baz=31,SNR=13
GRAC Grapevine Rang 30.61 321 P **P 09 26 00.9 +2.4**
baz=31,SNR=28
RSSD Black Hills 30.65 345 *eP* **P 09 26 00.3 +1.4**
RSSD Black Hills 30.65 345 *eP* **P 09 26 00.3 +1.4**
H27A Howes 30.71 348 P **P 09 25 59.7 +0.5**
baz=31,SNR=12
J21A Lysite 30.91 340 P **P 09 26 02.9 +1.7**
baz=31,SNR=46
K19A Absolon Red Bu 30.93 338 P **P 09 26 02.4 +1.1**
baz=31,SNR=13
VES Vestal, Richgr 30.97 318 P **P 09 26 03.8 +2.3**
baz=31,SNR=13
HWUT Hardware Ranch 30.98 334 *eP* **P 09 26 02.9 +1.1**
comp=Z,9.7nm,1.0s
BGU Big Grassy Mou 31.09 331 *eP* **P 09 26 04.4 +1.7**
comp=Z,16nm,1.2s
I22A 9 Mile Ranch, 31.10 342 P **P 09 26 04.0 +1.2**
baz=31,SNR=10
SPUT South Promonto 31.12 332 *eP* **P 09 26 03.7 +0.7**
comp=Z,17nm,1.2s
J20A Shoshoni 31.13 340 P **P 09 26 04.8 +1.7**
baz=31
BW06 Boulder Array 31.14 337 *eP* **P 09 26 03.7 +0.5**
comp=Z,12nm,1.2s
PDAR Pinedale Array 31.14 337 P **P 09 26 03.8 +0.5**
PDAR Pinedale Array 31.14 337 P **P 09 26 03.8 +0.5**
comp=Z,5.0nm,0.9s,baz=141,slow=8.1,SNR=36
PDAR LR LR 09 39 45.1
comp=Z,777nm,18.1s,baz=155,slow=38
I21A Big Trails, Te 31.28 341 P **P 09 26 04.9 +0.5**
baz=31,SNR=12
NNA Nana 31.33 147 *eP* P 09 26 10.2 +5.3
RCTC Rector, Farmer 31.35 318 P **P 09 26 07.5 +2.6**
baz=31,SNR=22
H24A Dirks Ranch, A 31.37 345 P **P 09 26 06.0 +1.0**
baz=31,SNR=18
J19A Crowheart 31.39 338 P **P 09 26 06.0 +0.6**
baz=31,SNR=13
G27A Dupree 31.40 349 P **P 09 26 05.6 +0.3**
baz=31,SNR=10
G26A Maurine 31.45 348 P **P 09 26 06.2 +0.5**
baz=31,SNR=9.2
F29A Eureka 31.50 352 P **P 09 26 05.7 -0.5**
baz=31,SNR=14
G25A Newell 31.52 347 P **P 09 26 07.5 +1.1**
baz=32,SNR=16
MTUM Tungsten Hills 31.57 320 *eP* **P 09 26 09.5 +2.5**
HVU Hansel Valley 31.65 332 *eP* **P 09 26 09.5 +1.8**
HVU pmax pmax
comp=Z,45nm,1.2s
HVU Hansel Valley 31.65 332 *eP* **P 09 26 09.5 +1.8**
comp=Z,45nm,1.2s
F28A McLaughlin 31.66 351 P **P 09 26 07.5 -0.1**
baz=32,SNR=10
I20A Worland 31.67 340 P **P 09 26 09.6 +1.8**
baz=32,SNR=29
H22A Clearmont 31.70 343 P **P 09 26 09.6 +1.5**
baz=32,SNR=16
G24A Alzada 31.88 346 P **P 09 26 11.0 +1.4**
baz=32,SNR=5.2
F27A Lemmon 31.89 349 P **P 09 26 09.9 +0.3**
baz=32,SNR=9.2
H21A Big Horn, Sher 31.94 342 P **P 09 26 10.9 +0.8**
baz=32,SNR=19
G23A Biddle 32.00 344 P **P 09 26 11.4 +0.8**
baz=32,SNR=26
NV11 Mina Array Sit 32.01 322 *eP* **P 09 26 13.0 +2.1**
ELK Elko 32.03 328 *eP* **P 09 26 13.2 +2.1**
comp=Z,23nm,1.0s
I19A Meeteetse 32.04 339 P **P 09 26 12.8 +1.7**
baz=32,SNR=39
I18A Diamond G Ranc 32.04 338 P **P 09 26 12.2 +1.0**
baz=32,SNR=26
E30A Jud 32.05 353 P **P 09 26 09.9 -1.0**
baz=32,SNR=17
NVAR Mina Array Bea 32.10 322 P **P 09 26 14.1 +2.3**
NVAR PcP **PcP 09 29 01.7 +0.9**
NVAR Mina Array Bea 32.10 322 P **P 09 26 14.1 +2.3**
comp=Z,29nm,0.9s,baz=142,slow=8.8,SNR=196
NVAR PcP **PcP 09 29 01.7 +0.9**
comp=Z,3.3nm,0.8s,baz=134,slow=4.2,SNR=5.5
NVAR LR LR 09 38 47.0
comp=Z,743nm,21.0s,baz=53,slow=36

H20A **Greybull** 32.11 341 P P 09 26 12.6 +1.0
baz=32,SNR=40
REDW **Red Top Meadow** 32.14 336 eP P 09 26 13.5 +1.5
comp=Z,122nm,1.5s
SNOW **Snow King Moun** 32.19 336 eP P 09 26 12.5 0.0
comp=Z,127nm,1.4s
E29A **Napoleon** 32.20 352 P P 09 26 11.6 -0.7
baz=32,SNR=16
F25A **Bowman** 32.23 347 P P 09 26 13.7 +1.1
baz=32,SNR=7.7
LOHW **Long Hollow** 32.26 337 eP P 09 26 14.4 +1.3
comp=Z,75nm,1.4s
G22A **Birney** 32.26 343 P P 09 26 13.6 +0.6
baz=32,SNR=16
TPAW **Teton Pass** 32.29 336 eP P 09 26 14.9 +1.5
comp=Z,48nm,1.1s
RRI2 **Red Ridge** 32.31 336 eP P 09 26 15.0 +1.4
comp=Z,57nm,1.4s
E27A **Carson** 32.35 350 P P 09 26 13.8 +0.2
baz=32,SNR=15
E28A **Huff** 32.35 351 P P 09 26 13.7 0.0
baz=32,SNR=38
F24A **Ekalaka** 32.37 346 P P 09 26 14.6 +0.7
baz=32,SNR=9.4
MOOW **Moose Ponds** 32.43 337 eP P 09 26 15.6 +1.0
F23A **Volborg** 32.49 345 P P 09 26 15.5 +0.6
baz=32,SNR=27
I17A **Pilgrim Ck.** 32.51 337 P P 09 26 17.3 +2.0
baz=32,SNR=12
G21A **Lodge Grass** 32.53 342 P P 09 26 16.1 +0.9
baz=32,SNR=5.3
H19A **Powell** 32.59 340 P P 09 26 17.9 +1.9
baz=33,SNR=48
D30A **Buchanan** 32.63 354 P P 09 26 15.1 -0.9
baz=33,SNR=20
IMW **Indian Meadow** 32.63 337 eP P 09 26 17.6 +1.1
comp=Z,17nm,1.1s
D29A **Pettibone, Tap** 32.68 353 P P 09 26 15.6 -0.8
baz=33,SNR=7.9
FLWY **Flagg Ranch** 32.70 337 eP P 09 26 18.5 +1.6
E25A **Miller Ranch,** 32.76 348 P P 09 26 18.1 +0.9
baz=33,SNR=24
F22A **Rosebud** 32.77 344 P P 09 26 17.9 +0.6
baz=33,SNR=7.0
WAKR **Walker** 32.83 321 eP P 09 26 20.4 +2.3
G20A **Bridger** 32.83 341 P P 09 26 18.6 +0.6
baz=33,SNR=31
H18A **Shoshone NF, C** 32.83 339 P P 09 26 19.2 +1.1
baz=33,SNR=139
BMN **Battle Mountai** 32.84 326 eP P 09 26 20.6 +2.4
BMN pmax pmax
comp=Z,24nm,1.0s
BMN **Battle Mountai** 32.84 326 eP P 09 26 20.6 +2.4
comp=Z,24nm,1.0s
H17A **Grant Village** 32.92 338 eP P 09 26 21.3 +2.4
H17A **Grant Village** 32.92 338 P P 09 26 21.7 +2.8
baz=33,SNR=14
D28A **Regan** 32.94 351 P P 09 26 19.0 +0.2
baz=33,SNR=12
LKWY **Lake** 33.00 338 eP P 09 26 22.2 +2.6
LKWY pmax pmax
comp=Z,63nm,1.4s
LKWY **Lake** 33.00 338 eP P 09 26 22.2 +2.6
comp=Z,63nm,1.4s
D27A **Center** 33.00 350 P P 09 26 20.0 +0.7
baz=33,SNR=5.5
E24A **Baker** 33.02 347 P P 09 26 20.8 +1.3
baz=33,SNR=12
YFT **Old Faithful** 33.06 337 eP P 09 26 23.2 +3.1
comp=Z,24nm,1.0s
D26A **Manning** 33.08 349 P P 09 26 20.5 +0.4
baz=33
RLMT **Red Lodge** 33.09 340 eP P 09 26 21.0 +0.7
comp=Z,50nm,1.3s
CMB **Columbia Colle** 33.12 320 eP P 09 26 21.8 +1.3
CMB pmax pmax
comp=Z,12nm,1.0s
CMB **Columbia Colle** 33.12 320 eP P 09 26 21.8 +1.3
comp=Z,12nm,1.0s
C30A **Mose, Pekin** 33.19 354 P P 09 26 20.2 -0.7
baz=33,SNR=35
E23A **Ismay** 33.19 345 P P 09 26 21.4 +0.4
baz=33,SNR=24
YNR **Norris Junctio** 33.23 338 eP P 09 26 23.8 +2.2
comp=Z,21nm,1.1s
YMR **Madison River** 33.30 337 eP P 09 26 24.1 +1.9
comp=Z,66nm,1.2s
E22A **Miles City** 33.30 345 P P 09 26 22.3 +0.4
baz=33,SNR=21
F20A **Billings** 33.33 342 P P 09 26 23.1 +0.8
baz=33,SNR=22
D25A **Fairfield** 33.37 348 P P 09 26 23.8 +1.2
baz=33,SNR=19
C28A **Hausauer Farms** 33.42 352 P P 09 26 23.1 +0.1
baz=33,SNR=9.4
H16A **Russell Place,** 33.43 337 P P 09 26 25.1 +1.8
baz=33,SNR=19
MDND **Maddock** 33.45 353 eP P 09 26 22.9 -0.2
MDND **Maddock** 33.45 353 P P 09 26 23.0 -0.2
baz=33,SNR=45
D24A **Glendive** 33.55 347 P P 09 26 25.7 +1.6
baz=34,SNR=5.3
PAHR **Pah Rah Range** 33.57 323 eP P 09 26 27.0 +2.5
comp=Z,18nm,1.0s
C27A **Sayler Ranch,** 33.59 351 P P 09 26 25.1 +0.7
baz=34,SNR=6.0
AGMN **Agassiz Nation** 33.59 357 eP P 09 26 23.1 -1.4
comp=Z,34nm,0.8s
LAO **LASA Array** 33.60 344 eP P 09 26 25.1 +0.5
comp=Z,24nm,1.1s
QLMT **Earthquake Lak** 33.61 337 eP P 09 26 27.5 +2.7
F19A **Roth Farm, Mol** 33.63 341 P P 09 26 25.6 +0.7
baz=34,SNR=28
E21A **Keefer Ranch,** 33.69 343 P P 09 26 26.1 +0.8
baz=34,SNR=8.6
G17A **Pierce Place,** 33.77 338 P P 09 26 28.6 +2.4
baz=34,SNR=16
C26A **Wahner Farm, P** 33.79 350 P P 09 26 26.9 +0.7
baz=34,SNR=7.9
HLID **Hailey** 33.80 333 eP P 09 26 27.9 +1.4
comp=Z,17nm,1.0s
HLID **Hailey** 33.80 333 P P 09 26 27.9 +1.4
baz=34,SNR=28
D23A **Lindsay** 33.80 346 P P 09 26 27.2 +0.9
baz=34,SNR=44
GCMT **Greycliff** 33.81 340 eP P 09 26 27.3 +0.8
comp=Z,29nm,1.0s
F18A **Big Timber** 33.93 340 P P 09 26 28.6 +1.1
baz=34,SNR=50
C24A **Savage** 33.96 347 P P 09 26 28.9 +1.3
baz=34,SNR=43
E20A **Meyer Farm, Mu** 33.96 342 P P 09 26 28.7 +1.0
baz=34,SNR=29
D22A **Cohagen** 34.02 345 P P 09 26 29.3 +1.2
baz=34,SNR=44
B29A **Wagenman Farm,** 34.03 353 P P 09 26 27.9 -0.3
baz=34,SNR=62
E19A **Rath Farm, Rou** 34.12 341 P P 09 26 30.1 +0.9
baz=34,SNR=40
B28A **Dugan Ranch, T** 34.14 352 P P 09 26 29.5 +0.3
baz=34,SNR=27
MCMT **McKenzie Canyo** 34.16 336 eP P 09 26 31.9 +2.2
comp=Z,20nm,1.1s
B27A **Peters Farms,** 34.22 351 P P 09 26 30.1 +0.3
baz=34,SNR=9.1
F17A **Fitzpatrick Pl** 34.25 339 P P 09 26 32.2 +1.9
baz=34,SNR=93
MFID **Camas Ranch** 34.33 331 P P 09 26 32.3 +1.3
baz=34,SNR=14
B26A **Jensen Ranch,** 34.35 350 P P 09 26 31.3 +0.3
baz=34,SNR=7.6
BOZ **Bozeman (W)** 34.38 338 eP P 09 26 32.1 +0.7
BOZ pmax pmax
comp=Z,12nm,0.9s
BOZ **Bozeman (W)** 34.38 338 eP P 09 26 32.1 +0.7
comp=Z,12nm,0.9s
C23A **Lambert** 34.39 346 P P 09 26 32.4 +1.0
baz=34,SNR=24
A29A **Manning Farm,** 34.47 354 P P 09 26 31.6 -0.4
baz=34,SNR=66
D20A **Manuel Ranch,** 34.49 343 P P 09 26 33.1 +0.8
baz=34,SNR=31
C22A **Vida** 34.50 346 P P 09 26 33.7 +1.3
baz=34,SNR=47
DLMT **Dillon** 34.50 336 eP P 09 26 34.2 +1.6
comp=Z,73nm,1.3s
E18A **Harlowton** 34.57 340 P P 09 26 34.2 +1.1
baz=35

A28A **Rude Farm, Bot** 34.58 352 P P 09 26 32.7 -0.3
baz=34,SNR=36
OHCM **Honcut** 34.59 321 eP P 09 26 35.0 +1.8
LCCM **Lewis and Clar** 34.63 338 P P 09 26 35.2 +1.5
A27A **Ledoux Ranch,** 34.75 351 P P 09 26 34.7 +0.2
baz=35
D19A **Cripps Ranch,** 34.78 342 P P 09 26 35.9 +1.0
baz=35,SNR=43
DGMT **Dagmar** 34.80 348 eP P 09 26 36.0 +1.0
comp=Z,45nm,0.9s
DGMT **Dagmar** 34.80 348 P P 09 26 35.8 +0.9
baz=35,SNR=12
A26A **Wade Farm, Ken** 34.82 350 P P 09 26 35.4 +0.3
baz=35,SNR=27
LRM **Limekiln Ridge** 34.83 337 eP P 09 26 36.9 +1.4
C21A **Desert Coulee** 34.88 344 P P 09 26 37.3 +1.7
baz=35,SNR=18
B23A **Brockton** 34.97 347 P P 09 26 37.6 +1.2
baz=35,SNR=20
WVOR **Wild Horse Val** 35.01 327 eP P 09 26 38.2 +1.3
WVOR pmax pmax
comp=Z,54nm,1.3s
WVOR **Wild Horse Val** 35.01 327 eP P 09 26 38.2 +1.3
comp=Z,54nm,1.3s
B22A **Reddig Ranch S** 35.04 346 P P 09 26 38.1 +1.1
baz=35
A25A **Svangstu Ranch** 35.05 349 P P 09 26 38.1 +1.1
baz=35,SNR=12
D18A **Linhart Farms,** 35.09 341 P P 09 26 39.0 +1.4
baz=35,SNR=41
C19A **Slack Wire Ran** 35.34 342 P P 09 26 40.9 +1.2
baz=35,SNR=14
D17A **Six Diamond Ra** 35.34 340 P P 09 26 41.0 +1.3
baz=35,SNR=44
HRY **Holter Researc** 35.36 338 eP P 09 26 41.1 +1.2
A23A **Redstone** 35.41 347 P P 09 26 41.4 +1.2
baz=35,SNR=32
B21A **Ellsworth Farm** 35.41 345 P P 09 26 41.4 +1.1
baz=35,SNR=17
ULM **Lac du Bonnet** 35.55 358 eP P 09 26 39.2 -2.0
comp=Z,23nm,1.0s
ULM PcP PcP 09 29 09.3 -0.7
ULM **Lac du Bonnet** 35.55 358 P P 09 26 39.7 -1.5
comp=Z,18nm,0.8s,baz=179,slow=9.3,SNR=23
ULM PcP PcP 09 29 09.3 -0.7
comp=Z,3.2nm,0.6s,baz=206,slow=4.9,SNR=3.3
ULM LR LR 09 43 50.4
comp=Z,431nm,19.3s,baz=264,slow=41
J08A **Circle Bar Ran** 35.58 328 P P 09 26 43.2 +1.4
A22A **Carney Farms,** 35.67 346 P P 09 26 43.6 +1.2
baz=36
C17A **Wharram Farm,** 35.79 340 P P 09 26 44.6 +1.1
baz=36,SNR=78
EGMT **Eagleton** 35.81 342 eP P 09 26 44.8 +1.1
comp=Z,60nm,1.1s
EGMT **Eagleton** 35.81 342 P P 09 26 44.9 +1.2
baz=36,SNR=15
A21A **Bergtoll Ranch** 35.91 345 P P 09 26 45.7 +1.2
baz=36,SNR=28
B19A **Brinkman Farms** 35.96 343 P P 09 26 46.3 +1.4
baz=36
CHMT **Chamberlain Mo** 36.05 337 eP P 09 26 46.6 +0.7
A20A **Cobblestone Ra** 36.07 344 P P 09 26 47.0 +1.2
baz=36,SNR=22
BMO **Blue Mountains** 36.12 331 eP P 09 26 46.0 -0.3
comp=Z,38nm,1.7s
B18A **Beardsley Farm** 36.15 342 P P 09 26 48.2 +1.7
baz=36,SNR=11
MSO **Missoula** 36.24 336 eP P 09 26 48.4 +0.9
comp=Z,24nm,1.0s
MSO **Missoula** 36.24 336 P P 09 26 48.5 +1.1
baz=36,SNR=18
A19A **Klindworth Far** 36.33 343 P P 09 26 49.3 +1.1
baz=36,SNR=36
B17A **L&G Farms, Che** 36.38 341 P P 09 26 49.2 +0.7
baz=36,SNR=12
SLMT **Seeley Lake** 36.41 337 eP P 09 26 49.5 +0.5
I07A **Izee** 36.62 328 eP P 09 26 51.9 +1.1
comp=Z,10nm,1.0s
A18A **Metzger Ranch,** 36.64 342 P P 09 26 51.6 +0.9
baz=37,SNR=38
SWMT **Swartz Lake** 36.83 337 eP P 09 26 53.1 +0.7
F10A **Beach Ranch, E** 36.93 332 eP P 09 26 54.0 +0.6
comp=Z,35nm,0.8s
YBMT **Yellow Bay** 37.12 337 eP P 09 26 56.0 +1.1
comp=Z,17nm,0.9s
JTMT **Jette** 37.13 337 eP P 09 26 55.6 +0.6
G08A **Pilot Rock** 37.22 330 eP P 09 26 56.3 +0.4
comp=Z,26nm,1.8s
BLMT **Blacktail Moun** 37.38 337 eP P 09 26 58.7 +1.5
BSMT **Bassoo Peak** 37.41 337 eP P 09 26 58.6 +1.1
VIPM **Ingram Point** 37.49 328 P P 09 26 59.2 +1.0
VIPM **Ingram Point** 37.49 328 P P 09 26 59.2 +1.0
E09A **Wood Farm, Sta** 37.76 332 eP P 09 27 00.7 +0.5
comp=Z,12nm,0.9s
WALA **Waterton Lakes** 38.09 338 eP P 09 27 04.1 +0.9
comp=Z,1.3nm,1.6s
SAML **Samuel** 38.34 126 eP P 09 27 03.2 -2.2
comp=Z,13nm,1.0s
H04A **Detroit Lake** 38.43 327 eP P 09 27 06.7 +0.8
comp=Z,39nm,1.0s
NEW **Newport** 38.67 335 eP P 09 27 08.0 +0.1
comp=Z,9.2nm,0.9s
NEW **Newport** 38.67 335 P P 09 27 08.2 +0.3
baz=39,SNR=13
OD2 **Odessa Site #2** 38.67 333 P P 09 27 09.0 +1.1
VLL **Laurance Lake** 38.69 328 P P 09 27 10.6 +2.4
C09A **Chrisman Ranch** 38.80 333 eP P 09 27 09.9 +1.0
ETW **Entiat** 39.56 332 P P 09 27 16.9 +1.4
LON **Longmire** 39.66 330 eP P 09 27 16.8 +0.6
LON pmax pmax
comp=Z,14nm,0.8s
LON **Longmire** 39.66 330 eP P 09 27 16.8 +0.6
comp=Z,14nm,0.8s
LPAZ **La Paz** 39.83 140 eP P 09 27 17.4 -1.1
comp=Z,8.7nm,1.1s
LPAZ **La Paz** 39.83 140 P P 09 27 18.1 -0.5
comp=Z,6.9nm,1.1s,baz=318,slow=7.4,SNR=8.5
LPAZ LR LR 09 43 51.9
comp=Z,212nm,18.3s,baz=74,slow=36
FFC **Flin Flon** 40.50 353 eP P 09 27 22.1 -0.8
FFC pmax pmax
comp=Z,74nm,1.4s
FFC **Flin Flon** 40.50 353 eP P 09 27 22.1 -0.8
comp=Z,74nm,1.4s
NLWA **Neilton Lookou** 41.12 329 eP P 09 27 29.1 +0.9
comp=Z,53nm,1.6s
EDM **Edmonton** 41.48 342 eP P 09 27 31.5 +0.3
EDM **Edmonton** 41.48 342 eP P 09 27 31.4 +0.3
FCC **Fort Churchill** 44.03 360 eP P 09 27 50.8 -0.9
FCC **Fort Churchill** 44.03 360 eP P 09 27 50.8 -0.9
comp=Z,0.9nm,0.9s
SCHQ **Schefferville** 45.23 22 LR LR 09 48 33.2
comp=Z,1μm,19.0s,baz=118,slow=38
LCO **Las Campanas** 48.80 153 eP P 09 28 33.3 +3.5
comp=Z,27nm,1.1s
YKA **Yellowknife Ar** 50.01 348 P P 09 28 38.5 +0.2
YKA PcP PcP 09 29 57.7 -0.3
YKA **Yellowknife Ar** 50.01 348 P P 09 28 38.5 +0.2
comp=Z,38nm,0.8s,baz=153,slow=7.3,SNR=318
YKA PcP PcP 09 29 57.7 -0.3
comp=Z,2.8nm,0.8s,baz=147,slow=4.3,SNR=6.0
YKW3 **Yellowknife Ar** 50.08 348 eP P 09 28 38.9 +0.1
comp=Z,1.1nm,0.8s
DLBC **Dease Lake** 51.37 337 eP P 09 28 50.9 +2.1
CPUP **Villa Florida** 53.99 139 P P 09 29 07.0 -1.4
CPUP **Villa Florida** 53.99 139 P P 09 29 07.0 -1.4
comp=Z,1.9nm,0.7s,baz=298,slow=6.0,SNR=6.9
CPUP LR LR 09 51 48.4
comp=Z,200nm,20.7s,baz=314,slow=36
BDFB **Brasilia** 54.32 122 P P 09 29 10.7 -0.4
BDFB **Brasilia** 54.32 122 P P 09 29 10.7 -0.4
comp=Z,12nm,0.8s,baz=290,slow=8.4,SNR=24
RKT **Rikitea** 55.09 228 eS S 09 37 06.7 +8.8
comp=Z,319nm,26.5s
RKT eLR LR 09 45 36.1
comp=Z,747nm,27.0s,baz=43
HYT **Haines Junctio** 55.82 336 eP P 09 29 22.6 +1.2
DAWY **Dawson** 58.44 338 eP P 09 29 39.7 -0.1
PLCA **Paso Flores** 59.16 160 P P 09 29 46.7 +1.6
PLCA **Paso Flores** 59.16 160 P P 09 29 46.7 +1.6
comp=Z,11nm,1.0s,baz=322,slow=7.9,SNR=8.8
PLCA LR LR 09 51 40.6
comp=Z,206nm,18.8s,baz=136,slow=32
INK **Inuvik** 59.34 344 eP P 09 29 45.9 +0.1
comp=Z,34nm,1.0s
EGAK **Eagle** 59.48 339 eP P 09 29 47.0 +0.2

comp=Z,22nm,1.2s
PAX **Paxson** 60.16 336 eP P 09 29 52.3 +0.6
PAX pmax pmax
comp=Z,11nm,0.8s
PAX **Paxson** 60.16 336 eP P 09 29 52.2 +0.6
comp=Z,11nm,0.8s
TRQA **Tornquist** 60.32 151 eP P 09 29 56.4 +3.3
comp=Z,20nm,1.3s
RCBR **Riachuelo** 60.87 105 eP P 09 29 56.7 -0.6
PMR **Palmer** 61.06 333 eP P 09 29 58.2 +0.5
PMR pmax pmax
comp=Z,24nm,1.2s
PMR **Palmer** 61.06 333 eP P 09 29 58.2 +0.5
comp=Z,24nm,1.2s
ILAR **Eielson Array** 61.57 337 P P 09 30 01.4 +0.2
ILAR **Eielson Array** 61.57 337 P P 09 30 01.4 +0.2
comp=Z,19nm,0.9s,baz=141,slow=4.3,SNR=151
ILAR LR LR 10 00 33.7
comp=Z,405nm,18.2s,baz=342,slow=40
MCK **McKinley** 61.90 336 eP P 09 30 03.8 +0.4
MCK pmax pmax
comp=Z,49nm,1.2s
MCK **McKinley** 61.90 336 eP P 09 30 03.8 +0.4
comp=Z,50nm,1.2s
COLA **College** 61.98 337 eP P 09 30 03.6 -0.3
COLA pmax pmax
comp=Z,87nm,0.8s
COLA **College** 61.98 337 eP P 09 30 03.6 -0.3
comp=Z,86nm,0.8s
RSO **Redoubt South** 62.26 331 eP P 09 30 06.4 +0.3
comp=Z,44nm,0.8s
TRF **Thorofare Moun** 62.32 335 eP P 09 30 06.7 +0.2
comp=Z,164nm,1.6s
BPAW **Bear Paw Mtn.** 62.87 335 eP P 09 30 09.8 -0.1
comp=Z,20nm,0.9s
PPLA **Purkeypile** 62.90 334 eP P 09 30 10.0 -0.3
comp=Z,73nm,1.5s
PPT **Papeete** 63.67 242 LR LR 09 51 25.9
comp=Z,242nm,21.3s,baz=139,slow=30
PPT2 **Papeete2** 63.68 242 eS S 09 39 01.1 +12
comp=Z,571nm,31.0s
PPT2 **Papeete2** 63.68 242 eLR LR 09 49 09.6
comp=Z,376nm,25.8s,baz=65
COLD **Coldfoot** 63.91 339 eP P 09 30 17.9 +1.2
comp=Z,27nm,1.2s
IM04 **Indian Mountai** 64.70 337 eP P 09 30 20.8 -1.2
SUMG **Summit** 66.07 16 eP P 09 30 31.3 +0.2
SUMG pmax pmax
comp=Z,14nm,0.6s
SUMG **Summit** 66.07 16⇑ iP P 09 30 31.4 +0.2
comp=Z,25nm,0.8s
SUMG **Summit** 66.07 16 eP P 09 30 31.3 +0.2
comp=Z,14nm,0.6s
TBI **Tubuai** 66.28 236 eS S 09 39 30.7 +10
comp=Z,100nm,32.8s
TBI **Tubuai** 66.28 236 eLR LR 09 50 17.8
comp=Z,369nm,30.8s
ALE **Alert** 69.05 4 P P 09 30 48.6 -0.8
comp=Z,116nm,0.9s,SNR=11
DAG **Danmarks Havn** 72.43 14⇑ iP P 09 31 09.6 -0.4
DAG pmax pmax
comp=Z,22nm,0.9s
DAG **Danmarks Havn** 72.43 14⇑ iP P 09 31 09.6 -0.4
comp=Z,27nm,0.9s
KBS **Kingsbay** 78.70 11 eP P 09 31 47.1 +1.2
KBS pmax pmax
comp=Z,16nm,0.9s
KBS **Kingsbay** 78.70 11 eP P 09 31 47.1 +1.2
comp=Z,16nm,0.9s
ROSF **Rostrenen** 79.54 43 eP P 09 31 50.0 -1.0
ROSF **Rostrenen** 79.54 43 eP P 09 31 50.0 -1.0
ROSF **Rostrenen** 79.54 43 eP P 09 31 50.0 -1.0
QUIF **Quistinic** 79.68 43 eP P 09 31 51.3 -0.5
QUIF **Quistinic** 79.68 43 eP P 09 31 51.3 -0.5
QUIF **Quistinic** 79.68 43 eP P 09 31 51.3 -0.5
ESDC **Sonseca Array** 80.66 51 P P 09 31 56.1 -1.2
ESDC **Sonseca Array** 80.66 51 P P 09 31 56.1 -1.2
comp=Z,4.7nm,1.0s,baz=289,slow=5.5,SNR=16
ESDC LR LR 10 05 54.6
comp=Z,205nm,19.3s,baz=285,slow=34
GRR **Gorron** 81.11 42 eP P 09 31 57.6 -1.9
comp=Z,29nm,0.9s
GRR **Gorron** 81.11 42 eP P 09 31 57.6 -1.9
GRR pmax pmax
comp=Z,29nm,0.9s
GRR **Gorron** 81.11 42 eP P 09 31 57.6 -1.9
comp=Z,29nm,0.9s
FLN **La Foliniere** 81.27 42 eP P 09 31 59.6 -0.8
FLN eR
comp=Z,567nm,22.2s
FLN **La Foliniere** 81.27 42 eP P 09 31 59.6 -0.8
FLN **La Foliniere** 81.27 42 eP P 09 31 59.6 -0.8
LDF **La Druitiere** 81.54 42 eP P 09 32 01.0 -0.8
comp=Z,35nm,1.2s
LDF **La Druitiere** 81.54 42 eP P 09 32 01.0 -0.8
LDF pmax pmax
comp=Z,35nm,1.2s
LDF **La Druitiere** 81.54 42 eP P 09 32 01.0 -0.8
comp=Z,35nm,1.2s
MFF **Saint Martin d** 81.96 44 eP P 09 32 03.0 -1.1
comp=Z,33nm,1.3s
MFF **Saint Martin d** 81.96 44 eP P 09 32 03.0 -1.1
MFF pmax pmax
comp=Z,33nm,1.3s
MFF **Saint Martin d** 81.96 44 eP P 09 32 03.0 -1.1
comp=Z,33nm,1.3s
ETSF **Etsaut** 82.49 48 eP P 09 32 06.5 -0.5
comp=Z,65nm,1.5s
ETSF **Etsaut** 82.49 48 eP P 09 32 06.5 -0.5
ETSF pmax pmax
comp=Z,65nm,1.5s
ETSF **Etsaut** 82.49 48 eP P 09 32 06.5 -0.5
comp=Z,65nm,1.5s
LFF **La Frestale** 82.94 46 eP P 09 32 08.3 -0.9
comp=Z,58nm,1.1s
LFF **La Frestale** 82.94 46 eP P 09 32 08.3 -0.9
LFF pmax pmax
comp=Z,58nm,1.1s
LFF **La Frestale** 82.94 46 eP P 09 32 08.3 -0.9
comp=Z,58nm,1.1s
EPF **Esparros** 83.11 47 eP P 09 32 09.4 -0.8
comp=Z,32nm,1.2s
EPF **Esparros** 83.11 47 eP P 09 32 09.4 -0.8
EPF pmax pmax
comp=Z,32nm,1.2s
EPF **Esparros** 83.11 47 eP P 09 32 09.4 -0.8
comp=Z,32nm,1.2s
RJF **Les Rejaudoux** 83.39 45 eP P 09 32 10.5 -1.0
comp=Z,29nm,1.0s
RJF eR
comp=Z,375nm,21.2s
RJF **Les Rejaudoux** 83.39 45 eP P 09 32 10.5 -1.0
RJF pmax pmax
comp=Z,29nm,1.0s
RJF **Les Rejaudoux** 83.39 45 eP P 09 32 10.5 -1.0
comp=Z,29nm,1.0s
TCF **Toulx Ste Croi** 83.62 44 eP P 09 32 11.5 -1.2
comp=Z,20nm,1.1s
TCF **Toulx Ste Croi** 83.62 44 eP P 09 32 11.5 -1.2
TCF pmax pmax
comp=Z,20nm,1.1s
TCF **Toulx Ste Croi** 83.62 44 eP P 09 32 11.5 -1.2
comp=Z,20nm,1.1s
HYF **Humbligny** 83.66 43 eP P 09 32 12.1 -0.8
HYF **Humbligny** 83.66 43 eP P 09 32 12.1 -0.8
CAF **Calviac** 83.86 45 eP P 09 32 12.8 -1.2
comp=Z,23nm,1.3s
CAF **Calviac** 83.86 45 eP P 09 32 12.8 -1.2
CAF pmax pmax
comp=Z,23nm,1.3s
CAF **Calviac** 83.86 45 eP P 09 32 12.8 -1.2
comp=Z,23nm,1.3s
BAIF **Baives** 83.94 40 eP P 09 32 13.5 -0.7
comp=Z,21nm,1.0s
BAIF **Baives** 83.94 40 eP P 09 32 13.5 -0.7
BAIF pmax pmax
comp=Z,21nm,1.0s
BAIF **Baives** 83.94 40 eP P 09 32 13.5 -0.7
comp=Z,21nm,1.0s
BGF **Bois d'Agland** 83.97 44 eP P 09 32 13.4 -1.1
comp=Z,30nm,0.8s
BGF **Bois d'Agland** 83.97 44 eP P 09 32 13.4 -1.1
BGF pmax pmax
comp=Z,30nm,0.8s
BGF **Bois d'Agland** 83.97 44 eP P 09 32 13.4 -1.1
comp=Z,30nm,0.8s
DOU **Dourbes** 84.17 40 P P 09 32 15.0 -0.4

comp=Z,5.9nm,1.1s
AVF Avril sur Loir 84.25 43 eP P 09 32 14.4 -1.5
comp=Z,15nm,0.8s
AVF Avril sur Loir 84.25 43 eP P 09 32 14.4 -1.5
AVF pmax pmax
comp=Z,15nm,0.8s
AVF Avril sur Loir 84.25 43 eP P 09 32 14.4 -1.5
comp=Z,15nm,0.8s
SSF Saint Saulge 84.28 43 eP P 09 32 14.8 -1.3
comp=Z,16nm,0.9s
SSF Saint Saulge 84.28 43 eP P 09 32 14.8 -1.3
SSF pmax pmax
comp=Z,16nm,0.9s
SSF Saint Saulge 84.28 43 eP P 09 32 14.8 -1.3
comp=Z,16nm,0.9s
PYM Petit Puy Mans 84.29 44 eP P 09 32 16.2 0.0
GIVF Givet 84.31 40 eP P 09 32 15.8 -0.3
comp=Z,15nm,0.9s
GIVF Givet 84.31 40 eP P 09 32 15.8 -0.3
GIVF pmax pmax
comp=Z,15nm,0.9s
GIVF Givet 84.31 40 eP P 09 32 15.8 -0.3
comp=Z,15nm,0.9s
MTLF Montolieu 84.36 47 eP P 09 32 15.6 -1.0
comp=Z,39nm,1.3s
MTLF Montolieu 84.36 47 eP P 09 32 15.6 -1.0
MTLF pmax pmax
comp=Z,39nm,1.3s
MTLF Montolieu 84.36 47 eP P 09 32 15.6 -1.0
comp=Z,39nm,1.3s
NB2 NORSAR Subarra 84.39 28 P P 09 32 17.1 +0.7
comp=Z,2.1nm,0.8s,baz=295,slow=5.3
NOA NORSAR Array B 84.39 28 P P 09 32 17.4 +1.1
NOA NORSAR Array B 84.39 28 P P 09 32 17.4 +1.1
comp=Z,22nm,0.8s,baz=292,slow=5.0,SNR=39
NOA LR LR 10 08 48.6
comp=Z,274nm,20.3s,baz=295,slow=35
LOR Lormes 84.46 43 eP P 09 32 15.9 -1.1
comp=Z,39nm,1.2s
LOR eR
comp=Z,394nm,19.2s
LOR Lormes 84.46 43 eP P 09 32 15.9 -1.1
comp=Z,39nm,1.2s
BCLA Clavier 84.52 39 P P 09 32 17.6 +0.4
comp=Z,17nm,2.1s
LBL Lubilhac 84.59 45 eP P 09 32 17.8 0.0
SMF Signal de Mont 84.61 43 eP P 09 32 16.3 -1.5
comp=Z,30nm,1.4s
SMF Signal de Mont 84.61 43 eP P 09 32 16.3 -1.5
SMF pmax pmax
comp=Z,30nm,1.4s
SMF Signal de Mont 84.61 43 eP P 09 32 16.3 -1.5
comp=Z,30nm,1.4s
BEBN Eben Emael 84.64 39 P P 09 32 19.0 +1.3
comp=Z,7.9nm,1.3s
HGN Heimansgroeve 84.80 39 eP P 09 32 18.9 +0.3
comp=Z,35nm,1.1s
MEZF Maizieres J'vi 84.89 41 eP P 09 32 17.4 -1.7
comp=Z,63nm,1.4s
MEZF Maizieres J'vi 84.89 41 eP P 09 32 17.4 -1.7
comp=Z,63nm,1.4s
SFTF Sexfontaines 84.97 42 eP P 09 32 18.7 -0.8
comp=Z,86nm,1.4s
SFTF Sexfontaines 84.97 42 eP P 09 32 18.7 -0.8
comp=Z,86nm,1.4s
WTSB Winterswijk 84.97 38 eP P 09 32 20.1 +0.7
comp=Z,31nm,0.9s
WLF Walferdange 85.26 40 P P 09 32 21.4 +0.5
WLF Walferdange 85.26 40 eP P 09 32 22.1 +1.2
comp=Z,41nm,1.2s
WLF Walferdange 85.26 40 eP P 09 32 22.2 +1.2
WLF pmax pmax
comp=Z,8.0nm,0.9s
WLF Walferdange 85.26 40 eP P 09 32 22.2 +1.2
comp=Z,8.4nm,0.9s
PAGF Fort de Pagny 85.31 41 eP P 09 32 20.8 -0.4
comp=Z,29nm,1.4s
PAGF Fort de Pagny 85.31 41 eP P 09 32 20.8 -0.4
comp=Z,29nm,1.4s
LASF Ste Croix 85.32 46 eP P 09 32 21.1 -0.3
comp=Z,79nm,1.6s
LASF Ste Croix 85.32 46 eP P 09 32 21.1 -0.3
comp=Z,79nm,1.6s
BUG Bochum--Univer 85.41 38 eP P 09 32 22.6 +1.0
comp=Z,49nm,1.6s
IBBN Ibbenburen 85.43 37 eP P 09 32 22.9 +1.2
comp=Z,39nm,1.0s
THEF They Montfort 85.57 41 eP P 09 32 23.0 +0.5
VIVF Saint-Julien-l 85.66 45 eP P 09 32 22.9 -0.2
comp=Z,40nm,1.2s
VIVF Saint-Julien-l 85.66 45 eP P 09 32 22.9 -0.2
VIVF pmax pmax
comp=Z,40nm,1.2s
VIVF Saint-Julien-l 85.66 45 eP P 09 32 22.9 -0.2
comp=Z,40nm,1.2s
HAU Haudompre 85.87 42 eP P 09 32 23.3 -0.7
comp=Z,52nm,1.0s
HAU eR
comp=Z,363nm,19.2s
HAU Haudompre 85.87 42 eP P 09 32 23.3 -0.7
HAU pmax pmax
comp=Z,52nm,1.0s
HAU Haudompre 85.87 42 eP P 09 32 23.3 -0.7
comp=Z,52nm,1.0s
ARCES ARCESS Array B 86.05 18 P P 09 32 24.3 -0.2
ARCES ARCESS Array B 86.05 18 P P 09 32 24.3 -0.2
comp=Z,9.1nm,0.9s,baz=305,slow=4.3,SNR=11
ARCES LR LR 10 11 34.5
comp=Z,350nm,18.1s,baz=272,slow=36
CABF La Chapelle 86.11 43 eP P 09 32 24.6 -0.7
comp=Z,63nm,1.3s
CABF La Chapelle 86.11 43 eP P 09 32 24.6 -0.7
CABF pmax pmax
comp=Z,63nm,1.3s
CABF La Chapelle 86.11 43 eP P 09 32 24.6 -0.7
comp=Z,63nm,1.3s
HINF Hinteralfeld 86.25 42 eP P 09 32 24.9 -1.0
comp=Z,44nm,1.2s
HINF Hinteralfeld 86.25 42 eP P 09 32 24.9 -1.0
HINF pmax pmax
comp=Z,44nm,1.2s
HINF Hinteralfeld 86.25 42 eP P 09 32 24.9 -1.0
comp=Z,44nm,1.2s
ECH Echery 86.32 41 eP P 09 32 26.1 -0.2
ECH pmax pmax
comp=Z,13nm,0.9s
ECH Echery 86.32 41 eP P 09 32 26.1 -0.2
comp=Z,13nm,0.9s
ECH Echery 86.32 41 eP P 09 32 26.5 +0.2
CDF Champ du Feu 86.34 41 eP P 09 32 25.6 -0.8
comp=Z,31nm,0.9s
CDF Champ du Feu 86.34 41 eP P 09 32 25.6 -0.8
CDF pmax pmax
comp=Z,31nm,0.9s
CDF Champ du Feu 86.34 41 eP P 09 32 25.6 -0.8
comp=Z,31nm,0.9s
BSEG Bad Segeberg 86.36 35 eP P 09 32 27.3 +1.0
comp=Z,66nm,1.1s
LOMF Lomont 86.37 42 eP P 09 32 26.7 +0.1
MOF Molkenrain 86.42 42 eP P 09 32 26.7 -0.1
ORIF Oris-en-Rattie 86.47 45 eP P 09 32 26.8 -0.4
comp=Z,26nm,1.0s
ORIF eR
comp=Z,439nm,21.8s
ORIF Oris-en-Rattie 86.47 45 eP P 09 32 26.8 -0.4
ORIF pmax pmax
comp=Z,26nm,1.0s
ORIF Oris-en-Rattie 86.47 45 eP P 09 32 26.8 -0.4
comp=Z,26nm,1.0s
LANF Langenberg 86.50 40 eP P 09 32 27.5 +0.4
TNS Taunus Mts 86.50 39 eP P 09 32 28.3 +1.2
comp=Z,49nm,1.0s
TNS Taunus Mts 86.50 39 eP P 09 32 28.3 +1.2
TNS pmax pmax
comp=Z,49nm,1.0s
SMRF Simiane la Rot 86.53 46 eP P 09 32 27.4 0.0
comp=Z,31nm,1.0s
SMRF Simiane la Rot 86.53 46 eP P 09 32 27.4 0.0
comp=Z,31nm,1.0s
NRDL Niedersach Rie 86.73 36 eP P 09 32 28.9 +0.9
comp=Z,20nm,1.4s
LPL La Plagne 86.86 44 eP P 09 32 29.1 -0.1
comp=Z,28nm,1.1s
LPL La Plagne 86.86 44 eP P 09 32 29.1 -0.1
LPL pmax pmax
comp=Z,28nm,1.1s
LPL La Plagne 86.86 44 eP P 09 32 29.1 -0.1
comp=Z,28nm,1.1s
LPG La Plagne 86.88 44 eP P 09 32 29.4 0.0
comp=Z,40nm,1.3s
LPG La Plagne 86.88 44 eP P 09 32 29.4 0.0
LPG pmax pmax
comp=Z,40nm,1.3s
LPG La Plagne 86.88 44 eP P 09 32 29.4 0.0
comp=Z,40nm,1.3s
BNI Bardonecchia 86.97 44 eP P 09 32 30.1 +0.5
BNI pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 86.97 44 eP P 09 32 30.1 +0.5
comp=Z,14nm,1.0s
BFO Black Forest 87.03 41 eP P 09 32 30.1 +0.4
comp=Z,12nm,1.1s
BFO Black Forest 87.03 41 eP P 09 32 27.3 -2.4
BFO pmax pmax
comp=Z,66nm,1.1s
BFO Black Forest 87.03 41 eP P 09 32 29.9 +0.2
comp=Z,13nm,1.4s
CLZ Clausthal 87.11 37 eP P 09 32 31.0 +0.9
comp=Z,49nm,1.4s
CLZ Clausthal 87.11 37 eP P 09 32 31.0 +0.9
CLZ pmax pmax
comp=Z,49nm,1.4s
MBDF Montbardon 87.13 45 eP P 09 32 30.0 -0.5
comp=Z,34nm,0.9s
MBDF Montbardon 87.13 45 eP P 09 32 30.0 -0.5
MBDF pmax pmax
comp=Z,35nm,0.9s
MBDF Montbardon 87.13 45 eP P 09 32 30.0 -0.5
comp=Z,34nm,0.9s
TIC Toumodi 87.14 84 eP P 09 32 30.6 -0.3
comp=Z,55nm,1.0s
LIC Lamto 87.24 84⇑ iP P 09 32 31.2 -0.1
comp=Z,69nm,1.0s
LIC eR
comp=Z,205nm,22.0s
LIC Lamto 87.24 84 eP P 09 32 31.2 -0.1
comp=Z,88nm,1.0s
LIC Lamto 87.24 84⇑ iP P 09 32 31.2 -0.1
comp=Z,69nm,1.0s
UBBA Unterbreizbach 87.24 38 eP P 09 32 31.6 +1.1
comp=Z,60nm,2.0s
DBIC Dimbokro 87.29 84 eP P 09 32 31.6 -0.1
comp=Z,19nm,0.9s
DBIC Dimbokro 87.29 84 P P 09 32 31.5 -0.1
comp=Z,12nm,0.9s,baz=254,slow=4.0,SNR=11
LMR La Mourre 87.37 46 eP P 09 32 30.8 -0.6
comp=Z,44nm,0.9s
LMR La Mourre 87.37 46 eP P 09 32 30.8 -0.6
LMR pmax pmax
comp=Z,44nm,0.9s
LMR La Mourre 87.37 46 eP P 09 32 30.8 -0.6
comp=Z,44nm,0.9s
FRF La Foret Royal 87.40 46 eP P 09 32 30.0 -1.6
comp=Z,44nm,1.0s
FRF La Foret Royal 87.40 46 eP P 09 32 30.0 -1.6
FRF pmax pmax
comp=Z,44nm,1.0s
FRF La Foret Royal 87.40 46 eP P 09 32 30.0 -1.6
comp=Z,44nm,1.0s
STU Stuttgart 87.43 40 eP P 09 32 32.5 +0.9
comp=Z,21nm,0.9s
STU Stuttgart 87.43 40 eP P 09 32 31.7 +0.1
STU pmax pmax
comp=Z,7.0nm,0.3s
STU Stuttgart 87.43 40 eP P 09 32 31.7 +0.1
comp=Z,6.9nm,0.3s
KIC Kosan Boka 87.48 84 eP P 09 32 32.2 -0.3
comp=Z,68nm,1.0s
MOX Moxa 88.26 38 eP P 09 32 36.1 +0.5
comp=Z,14nm,1.2s
MOX eL L 10 12 50.6
comp=Z,490nm,19.5s
MOX Moxa 88.26 38 eP P 09 32 36.1 +0.5
MOX pmax pmax
comp=Z,14nm,1.2s
MOX MLR MLR
comp=Z,500nm,19.5s
GRF Grafenberg Arr 88.36 39 eL L 10 12 44.8
comp=Z,302nm,20.3s
PET Petropavlovsk 88.64 325⇑ eP P 09 32 41.4 +4.2
GUNZ Gunzen 88.79 38 eP P 09 32 38.8 +0.7
comp=Z,6.0nm,0.9s
MANZ Manzenberg 88.80 38 eP P 09 32 38.9 +0.8
comp=Z,7.0nm,1.1s
CLL Collm 88.83 37 eP P 09 32 38.8 +0.6
comp=Z,7.0nm,0.9s
CLL Collm 88.83 37 i P P 09 32 38.8 +0.6
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL MLR MLR
comp=Z,300nm,20.2s
CLL Collm 88.83 37 i P P 09 32 38.8 +0.6
comp=Z,7.0nm,0.9s
CLL ePS **PS 09 44 36.0 +5.0**
CLL LmV 10 12 00.0
comp=Z,300nm,20.2s
CLL LmH 10 13 00.0
comp=N,200nm,20.7s
CLL LmH 10 13 00.0
comp=E,100nm,21.7s
TANN Tannenbergstha 88.85 38 eP P 09 32 39.2 +0.8
comp=Z,10.0nm,1.0s
ROTZ Rotzenmühle 88.93 39 eP P 09 32 39.7 +0.9
comp=Z,4.0nm,1.0s
FBE Freiberg 89.19 37 eP P 09 32 41.0 +1.1
comp=Z,14nm,1.1s
PGF Pioggiola 89.36 46 eP P 09 32 39.9 -1.1
comp=Z,116nm,1.3s
PGF Pioggiola 89.36 46 eP P 09 32 39.9 -1.1
PGF Pioggiola 89.36 46 eP P 09 32 39.9 -1.1
comp=Z,116nm,1.3s
BRG Berggiesshubel 89.55 37 i P P 09 32 42.4 +0.8
comp=Z,14nm,1.0s
BRG Berggiesshubel 89.55 37 eP P 09 32 42.2 +0.6
comp=Z,21nm,1.3s
BRG Berggiesshubel 89.55 37 i P P 09 32 42.4 +0.8
BRG pmax pmax
comp=Z,14nm,1.0s
WET Wettzell 89.57 39 eP P 09 32 42.7 +0.9
comp=Z,20nm,1.3s
WET Wettzell 89.57 39 eP P 09 32 42.7 +0.9
WET pmax pmax
comp=Z,20nm,1.3s
KHC Kasperske Hory 90.00 39 i P P 09 32 44.4 +0.6
KHC e 09 33 03.2
KHC MLR MLR
comp=Z,400nm,17.0s
KHC Kasperske Hory 90.00 39 i P P 09 32 44.4 +0.6
KHC ex x 09 33 03.2
KHC ex x 09 33 08.5
KHC AMS AMS 10 13 20.0
comp=Z,400nm,17.0s
KHC Kasperske Hory 90.00 39 eP P 09 32 44.4 +0.6
comp=Z,7.3nm,1.0s
PVCC Panska Ves 90.05 37 eP P 09 32 44.3 +0.4
PVCC MLR MLR
comp=Z,400nm,17.9s
PVCC Panska Ves 90.05 37 eP P 09 32 44.3 +0.4
PVCC AMS AMS 10 18 20.0
comp=Z,400nm,17.9s
PRA Prague 90.15 38 P P 09 32 46.0 +1.6
GEC2 GERESS Array S 90.19 39 eP P 09 32 45.1 +0.3
comp=Z,10.0nm,1.1s
GEC2 GERESS Array S 90.19 39 eP P 09 32 45.1 +0.3
GEC2 pmax pmax
comp=Z,10.0nm,1.1s
GERES GERESS Array B 90.19 39 P P 09 32 45.3 +0.5
GERES GERESS Array B 90.19 39 P P 09 32 45.3 +0.5
comp=Z,4.8nm,0.9s,baz=306,slow=3.1,SNR=23
GERES LR LR 10 09 39.1
comp=Z,405nm,21.9s,baz=296,slow=33
PRU Pruhonice 90.25 38 eP P 09 32 45.2 +0.3
PRU MLR MLR
comp=Z,300nm,18.7s
PRU Pruhonice 90.25 38 eP P 09 32 45.2 +0.3
PRU ex x 09 33 04.4
PRU AMS AMS 10 16 00.0
comp=Z,300nm,18.7s
FINES FINESS Array B 90.63 25 P P 09 32 46.0 -0.4
FINES FINESS Array B 90.63 25 P P 09 32 46.0 -0.4
comp=Z,3.5nm,0.8s,baz=28,slow=4.5,SNR=5.7
FINES LR LR 10 12 03.0
comp=Z,227nm,18.1s,baz=293,slow=35
UPC Upice 90.90 37 eP P 09 32 48.5 +0.6
UPC e 09 32 53.7
UPC Upice 90.90 37 eP P 09 32 48.5 +0.6
UPC epP **pP 09 32 53.7 -2.4**
TREC Trest 91.09 38 eP P 09 32 49.5 +0.7
TREC MLR MLR
comp=Z,500nm,15.7s
TREC Trest 91.09 38 eP P 09 32 49.5 +0.7
TREC AMS AMS 10 16 00.0
comp=Z,500nm,15.7s
DPC Dobruska-Polom 91.15 37 i P P 09 32 49.7 +0.6
DPC e 09 32 55.0
DPC Dobruska-Polom 91.15 37 i P P 09 32 49.7 +0.6
DPC epP **pP 09 32 55.0 -2.3**
DPC ex x 09 33 08.9
TORD Torodi Ar. Bea 91.89 76 P P 09 32 52.1 -1.1
TORD Torodi Ar. Bea 91.89 76 P P 09 32 52.1 -1.1
comp=Z,1.2nm,0.8s,baz=281,slow=3.9,SNR=6.6
MORC Moravsky Berou 92.10 37 eP P 09 32 53.8 +0.2
MORC pmax pmax
comp=Z,12nm,1.2s
MORC Moravsky Berou 92.10 37 eP P 09 32 53.8 +0.2
comp=Z,12nm,1.2s
OKC Ostrava-Krasne 92.43 37 eP P 09 32 55.7 +0.7
OKC Ostrava-Krasne 92.43 37 eP P 09 32 55.7 +0.7
ZST Bratislava 92.52 39 eP P 09 32 56.7 +1.3
ZST Bratislava 92.52 39 eP P 09 32 56.7 +1.3
PSZ Piszkesteto 94.32 38 eP P 09 33 05.0 +1.1
PSZ pmax pmax
comp=Z,37nm,1.5s
PSZ Piszkesteto 94.32 38 eP P 09 33 05.0 +1.1
comp=Z,37nm,1.5s
KECS Kecovo 94.41 37 eP P 09 33 05.3 +1.1
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 94.41 37 eP P 09 33 05.3 +1.1
STHS Stebnicka Huta 94.41 36 eP P 09 33 05.2 +1.0
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 94.41 36 eP P 09 33 05.2 +1.0
CRVS Cervenica-Dubn 94.78 37 eP P 09 33 06.7 +0.8
CRVS pmax pmax
comp=Z,12nm,1.2s
CRVS Cervenica-Dubn 94.78 37 eP P 09 33 06.7 +0.8
KOLS Kolonicke sedl 95.24 37 eP P 09 33 09.0 +1.0
KOLS pmax pmax
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 95.24 37 eP P 09 33 09.0 +1.0
UZH Uzhgorod 95.40 37⇑ iP P 09 33 09.6 +1.0
UZH e 09 33 21.4
LVV L'vov 95.79 35 eP P 09 33 10.1 -0.3
LVV MLR MLR
comp=E,300nm,18.0s
LVV MLR MLR
comp=Z,500nm,18.0s
LVV MLR MLR
comp=N,100nm,20.0s
AKASG Malin Array Be 98.12 33 LR LR 10 21 06.4
comp=N,310nm,18.6s,baz=345,slow=38
OBN Obninsk 98.87 26 eP Pdif 09 33 24.4 +0.2
OBN pmax pmax
comp=Z,10.0nm,1.9s
OBN MLR MLR
comp=Z,300nm,16.0s
ZALV Zalesovo Beam 111.67 1 PP PP 09 38 58.8 -0.7
ZALV Zalesovo Beam 111.67 1 PP PP 09 38 58.8 -0.7
comp=Z,1.8nm,0.9s,baz=331,slow=8.5,SNR=7.6
KURK Kurchatov 114.58 5 PKIKP PKPdf 09 38 23.8 -0.5
KURK 09 39 22.9
KURK Kurchatov 114.58 5 PKP PKPdf 09 38 23.8 -0.5
KURK PP **PP 09 39 22.9 +2.7**
KURBB Kurchatov Arra 114.66 5 PKP PKPdf 09 38 23.8 -0.7
comp=Z,0.7nm,0.8s,baz=346,slow=2.1,SNR=11
KURBB PP **PP 09 39 22.9 +2.1**
comp=Z,1.2nm,1.0s,baz=358,slow=6.2,SNR=4.2
SONM Songino Array 115.24 345 PKP PKPdf 09 38 24.8 -1.1
SONM PP **PP 09 39 26.0 +0.8**
SONM Songino Array 115.24 345 PKP PKPdf 09 38 24.8 -1.1
comp=Z,0.6nm,0.8s,baz=325,slow=2.3,SNR=4.0
SONM PP **PP 09 39 26.0 +0.8**
comp=Z,0.5nm,0.6s,baz=6.5,slow=6.6,SNR=6.0
MKAR Makanchi Array 118.74 3 PKIKP PKPdf 09 38 31.5 -1.1
MKAR Makanchi Array 118.74 3 PKP PKPdf 09 38 31.4 -1.1
MKAR PP **PP 09 39 46.1 -3.3**
MKAR PKKPbc **PKKPab 09 48 53.8 +1.0**
MKAR Makanchi Array 118.74 3 PKP PKPdf 09 38 31.4 -1.1
comp=Z,1.2nm,0.8s,baz=5.7,slow=2.4,SNR=9.5
MKAR PP **PP 09 39 46.1 -3.3**
comp=Z,1.1nm,1.0s,baz=3.4,slow=6.1,SNR=5.3
MKAR PKKPbc **PKKPab 09 48 53.8 +1.0**
comp=Z,0.4nm,0.8s,baz=154,slow=3.9,SNR=3.8
HHC Hu-ho-hao-te 119.99 338 ePKP PKPdf 09 38 33.5 -1.7
HHC PP **PP 09 39 59.5 +1.1**
HHC PKS **PKSdf 09 42 09.5 -2.5**
HHC SKS **SKSdf 09 45 40.8 -5.2**
HHC SKKS SKKSac 09 46 49.5 -8.7
HHC SS **SS 09 56 19.5 -3.0**
HHC AMB AMB
comp=Z,180nm,9.4s
HHC LR LR
comp=N,230nm,19.4s
HHC LR LR
comp=E,410nm,21.0s
HHC LR LR
comp=Z,160nm,20.0s
WMQ Urumqi 121.80 359 ePKP PKPdf 09 38 39.5 +1.0
WMQ PP PP 09 40 16.0 +5.6
WMQ PKS **PKSdf 09 42 14.5 -0.7**
WMQ LR LR
comp=N,140nm,20.0s
WMQ LR LR
comp=E,210nm,23.0s
WMQ LR LR
comp=Z,150nm,26.0s
BOSA Boshof 122.18 115 PKP PKPdf 09 38 39.4 -0.3
BOSA Boshof 122.18 115 PKP PKPdf 09 38 39.4 -0.3
comp=Z,2.9nm,0.8s,baz=126,slow=7.6,SNR=5.2
GTA Gaotai 124.75 347 PKP PKPdf 09 38 44.3 -0.1
GTA PP **PP 09 40 34.0 +3.5**
GTA PKS **PKSdf 09 42 19.8 -1.4**
GTA SKS SKSdf 09 45 49.0 -6.1
GTA AMB AMB
comp=Z,140nm,5.7s
GTA LR LR
comp=N,190nm,18.5s
GTA LR LR
comp=E,150nm,20.4s
GTA LR LR
comp=Z,250nm,19.5s
LZH Lanzhou 126.86 342 ePKP PKPdf 09 38 44.0 -4.6
LZH sPKP 09 39 18.5
LZH PP **PP 09 40 44.8 +0.1**
LZH AMB AMB
comp=Z,100nm,5.2s
LZH LR LR
comp=N,200nm,15.6s
LZH LR LR
comp=E,180nm,13.6s
LZH LR LR
comp=Z,230nm,19.2s
STKA Stephens Creek 126.88 241 PKP PKPdf 09 38 48.2 -0.2
STKA Stephens Creek 126.88 241 PKP PKPdf 09 38 48.2 -0.2
comp=Z,5.5nm,1.0s,baz=284,slow=15,SNR=3.1
XAN Xi'an 126.98 336 PKP PKPdf 09 38 48.0 -0.7
WHN Wuhan 127.55 329 PKPbc PKPdf 09 38 43.3 -6.5
CD2 Chengdu 131.67 340 ePKP PKPdf 09 38 58.0 +0.3
CD2 sPKP 09 39 26.3
CD2 PP **PP 09 41 20.5 +4.5**
CD2 SKS SKSdf 09 45 59.5 -8.5
CD2 SKKS SKKSac 09 48 03.0 -9.5
CD2 SS SS 09 58 43.3 -5.3
CD2 AMB AMB
comp=Z,140nm,10.4s
CD2 LR LR
comp=N,120nm,18.2s
CD2 LR LR
comp=Z,180nm,18.8s
WRA Warramunga Arr 133.89 256 PKP PKPdf 09 39 01.8 -0.2
WRA Warramunga Arr 133.89 256 PKP PKPdf 09 39 01.8 -0.2
comp=Z,1.6nm,0.8s,baz=75,slow=1.4,SNR=15
ASAR Alice Springs 134.26 251 PKP PKPdf 09 39 02.6 -0.1
ASAR Alice Springs 134.26 251 PKP PKPdf 09 39 02.6 -0.1
comp=Z,1.2nm,0.9s,baz=123,slow=1.7,SNR=9.4
GYA Guiyang 134.56 334 ePdif Pdif 09 36 03.3 -0.5
GYA PKP **PKiKP 09 39 05.0 +0.2**

GYA				PP	**PP**	**09 41 39.5**	**+4.7**
GYA				PKS	**PKSdf**	**09 42 39.5**	**-0.5**
GYA				SKKS		09 48 27.3	
GYA				SS	**SS**	**09 59 23.5**	**-0.7**
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
GYA				LR	LR		
	comp=N,120nm,21.6s						
GYA				LR	LR		
	comp=E,110nm,22.6s						
GYA				LR	LR		
	comp=Z,130nm,21.2s						
KMI	**Kunming**	**137.31**	**338**	PKP	**PKPdf**	**09 39 10.3**	**+1.6**
KMI				PP	**PP**	**09 41 55.0**	**+2.8**
KMI				AMB	AMB		
	comp=Z,83nm,6.5s						
KMI				LR	LR		
	comp=N,160nm,13.3s						
KMI				LR	LR		
	comp=E,180nm,15.9s						
KMI				LR	LR		
	comp=Z,170nm,15.5s						
OPO	**Ambohidratompo**	**142.43**	**101**	PKPpre	PKPpre	09 39 15.0	
OPO	**Ambohidratompo**	**142.43**	**101**	PKhKP	PKPpre	09 39 15.0	
	comp=Z,0.9nm,0.3s,baz=314,slow=4.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**144.80**	**339**	PKP	**PKPab**	**09 39 20.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**144.80**	**339**	PKP	**PKPab**	**09 39 20.7**	**-0.1**
	comp=Z,16nm,0.9s,baz=344,slow=3.9,SNR=40						
KAPI	**Kappang**	**145.66**	**283**	*e*PKPdf	**PKPdf**	**09 39 23.1**	**-0.5**
HYB	**Hyderabad**	**147.25**	**14**	*i* PKP	**PKPdf**	**09 39 27.0**	**+0.8**
KSM	**Kuching**	**151.28**	**302**	*e*PKPbc	**PKPbc**	**09 39 38.6**	**-0.1**
PSI	**Prapat**	**158.58**	**323**	PKPab	**PKPab**	**09 40 17.9**	**+0.1**
PSI	**Prapat**	**158.58**	**323**	PKPab	**PKPab**	**09 40 17.9**	**+0.1**
	comp=Z,15nm,1.0s,baz=195,slow=3.9,SNR=5.2						

*IDC **30** 09:34:07.7±1.2, 14°.12N×92°.98E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/27, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=46.2km s-min=18.0km az=60.0*
*ISCJB **30** 09:34:10.6±0.8, 14°.23N±0°.09×93°.09E±0°.09, h32km, mb4.0/9, Error ellipse: s-maj=15.4km s-min=9.0km az=39.1*
*NEIC **30** 09:34:13.2±0.6, 14°.21N×93°.08E, h35km, mb4.7/1, Error ellipse: s-maj=11.3km s-min=9.7km az=54.0*

ISC 30 09:34:12.7±1.3, 14°.2N±0°.1×93°.1E±0°.1, h32km, n27, σ0§56/27, mb3.8/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.05**	**53**	*e*Pn	**Pn**	**09 35 54.2**	**+0.4**
	4.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.05**	**53**	Pn	**Pn**	**09 35 53.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.05**	**53**	Pn	**Pn**	**09 35 53.2**	**-0.5**
	0.9nm,0.3s,baz=242,slow=15,SNR=8.9						
CHTO	**Chiang Mai**	**7.26**	**50**	*e*Pn	**Pn**	**09 35 56.8**	**+0.1**
	5.2nm,0.6s						
TAPN	**Taplejung**	**13.97**	**340**	*e*P	**Pn**	**09 37 27.6**	**-1.3**
	4.5nm,0.3s						
RAMN	**Ramite**	**14.02**	**336**	*e*P	**Pn**	**09 37 29.3**	**-0.1**
	4.7nm,0.3s						
PKI	**Pulchoki**	**15.07**	**333**	*e*P	**Pn**	**09 37 43.3**	**-0.4**
	8.7nm,0.4s						
PKIN	**Phulchoki**	**15.08**	**333**	*e*P	**Pn**	**09 37 43.0**	**-0.8**
DMN	**Daman**	**15.23**	**332**	*e*P	**Pn**	**09 37 45.2**	**-0.6**
	4.9nm,0.3s						
KOLN	**Koldanda**	**16.09**	**328**	*e*P	**Pn**	**09 37 57.2**	**+0.3**
	7.2nm,0.3s						
MKAR	**Makanchi Array**	**33.69**	**347**	P	**P**	**09 40 51.3**	**+0.4**
MKAR	**Makanchi Array**	**33.69**	**347**	P	**P**	**09 40 51.3**	**+0.4**
	0.5nm,0.5s,baz=169,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**35.29**	**16**	P	**P**	**09 41 05.5**	**+0.6**
SONM	**Songino Array**	**35.29**	**16**	P	**P**	**09 41 05.5**	**+0.6**
	0.6nm,0.7s,baz=192,slow=10,SNR=3.6						
KURBB	**Kurchatov Arra**	**38.16**	**345**	P	**P**	**09 41 29.8**	**+0.7**
	0.9nm,0.9s,baz=159,slow=7.8,SNR=7.1						
KURK	**Kurchatov**	**38.23**	**345**	P	**P**	**09 41 29.8**	**+0.2**
ZALV	**Zalesovo Beam**	**40.16**	**352**	P	**P**	**09 41 46.3**	**+0.6**
ZALV	**Zalesovo Beam**	**40.16**	**352**	P	**P**	**09 41 46.3**	**+0.6**
	0.8nm,0.5s,baz=169,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**52.94**	**129**	P	**P**	**09 43 25.6**	**-0.7**
WRA	**Warramunga Arr**	**52.94**	**129**	P	**P**	**09 43 25.6**	**-0.7**
	0.5nm,0.4s,baz=313,slow=8.1,SNR=16						
WRAB	**Tennant Creek**	**52.94**	**129**	*e*P	**P**	**09 43 26.6**	**+0.2**
	19nm,1.9s						
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**09 43 40.8**	**+0.1**
ASAR	**Alice Springs**	**54.90**	**133**	P	**P**	**09 43 40.8**	**+0.1**
	0.7nm,0.5s,baz=307,slow=6.7,SNR=20						
FINES	**FINESS Array B**	**66.64**	**331**	P	**P**	**09 44 59.7**	**-0.3**
FINES	**FINESS Array B**	**66.64**	**331**	P	**P**	**09 44 59.7**	**-0.3**
	3.6nm,1.0s,baz=336,slow=4.2,SNR=4.3						
ARCES	**ARCESS Array B**	**68.97**	**340**	P	**P**	**09 45 14.4**	**-0.1**
ARCES	**ARCESS Array B**	**68.97**	**340**	P	**P**	**09 45 14.4**	**-0.1**
	3.3nm,0.8s,baz=78,slow=8.4,SNR=3.5						

*IDC **30** 09:48:35.4±1.7, 8°.14S×120°.26E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=92.8km s-min=19.5km az=63.0*
*ISCJB **30** 09:48:38.2±0.6, 8°.14S±0°.04×120°.28E±0°.07, h33km, mb3.3/1, Error ellipse: s-maj=9.7km s-min=5.8km az=0.7*
*DJA **30** 09:48:38.7±0.6, 8°.S±6°.×12°.0E±1°.2, h17km±15km, M4.1/4, MLv4.1/4*

ISC 30 09:48:35.8±0.9, 7°.97S±0°.04×120°.30E±0°.07, h33km, n10, σ1§46/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**0.65**	**218**	P	**Pn**	**09 48 49.0**	**+0.3**
LBFI				S	**Sn**	**09 48 56.4**	**-1.5**
WSI	**Waingapu**	**1.69**	**180**	P	**Pb**	**09 49 05.5**	**-0.8**
MMRI	**Maumere**	**2.03**	**109**	P	**Pb**	**09 49 11.3**	**-0.7**
BKSI	**Bulukumba**	**2.63**	**356**	P	**Pb**	**09 49 22.2**	**-0.1**
BKSI				S	**Sb**	**09 49 54.6**	**+0.4**
KAPI	**Kappang**	**2.98**	**349**	Pn	**Pb**	**09 49 26.5**	**-1.7**
	5.8nm,0.3s,baz=161,slow=10,SNR=24						
KAPI				Sn	**Sb**	**09 50 03.9**	**-0.4**
	5.4nm,0.3s,baz=215,slow=23,SNR=7.4						
SOEI	**Soe**	**4.30**	**115**	P	**Pb**	**09 49 48.6**	**-2.2**
FITZ	**Fitzroy Crossi**	**11.34**	**153**	Pn	**Pn**	**09 51 16.5**	**+1.0**
	0.2nm,0.3s,baz=337,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**18.07**	**133**	P	**P**	**09 52 46.7**	**+2.0**
	0.3nm,0.3s,baz=307,slow=13,SNR=28						
ASAR	**Alice Springs**	**20.34**	**142**	P	Pn	09 53 12.5	+0.8
	2.0nm,0.4s,baz=312,slow=10.0,SNR=41						
MKAR	**Makanchi Array**	**64.14**	**332**	P	P	09 59 12.6	+5.7
	0.2nm,0.6s,baz=123,slow=9.4,SNR=3.4						

IDC 30 09:51:51.0±0.9, 31°.65N×83°.57E, h0km, mb3.8/8, mb1 3.8/10, mb1mx3.6/27, mbtmp3.7/10, ML3.4/2, Error ellipse: s-maj=32.3km s-min=18.2km az=56.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.16**	**357**	Pn	Pn	09 55 26.1	-0.2
	0.1nm,0.3s,baz=178,slow=14,SNR=3.0						
KURBB	**Kurchatov Arra**	**19.32**	**350**	P	P	09 56 17.0	-0.6
	0.1nm,0.3s,baz=172,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**22.31**	**2**	P	P	09 56 50.0	+0.1
	1.0nm,0.6s,baz=172,slow=12,SNR=6.1						
SONM	**Songino Array**	**23.73**	**41**	P	P	09 57 03.8	-1.1
	0.6nm,0.7s,baz=224,slow=10,SNR=3.8						
AKASG	**Malin Array Be**	**44.02**	**312**	P	P	09 59 59.8	-0.4
	0.8nm,0.4s,baz=80,slow=7.1,SNR=2.8						
FINES	**FINESS Array B**	**47.30**	**327**	P	P	10 00 26.1	+0.2
	1.6nm,0.5s,baz=108,slow=8.1,SNR=14						
ARCES	**ARCESS Array B**	**49.65**	**337**	P	P	10 00 44.5	+0.6
	4.3nm,0.9s,baz=2.5,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**70.71**	**129**	P	P	10 03 09.4	+0.5
	0.9nm,0.7s,baz=323,slow=6.2,SNR=12						
ASAR	**Alice Springs**	**73.10**	**132**	P	P	10 03 23.2	-0.1
	0.4nm,0.6s,baz=318,slow=6.0,SNR=9.0						
TORD	**Torodi Ar. Bea**	**76.38**	**277**	P	P	10 03 42.0	-0.6
	0.9nm,0.9s,baz=21,slow=4.5,SNR=4.3						

WEL 30 09:53:42.2±0.2, 45°.43S×166°.77E, h23km±1km, ML3.9/16, 1D, Error ellipse: s-maj=2.0km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.28**	**101**	||P*	Pb	09 53 48.8	+0.1
DCZ				S*	Sb	09 53 52.6	-0.6
DCZ				S*	Sn	09 53 52.9	-3.3
DCZ				AML	AML	09 53 52.9	
DCZ				AML	AML	09 53 53.2	
WHZ	**Wether Hill Ro**	**0.95**	**120**	PN	Pb	09 53 59.8	-0.2
WHZ				SN	Sn	09 54 12.6	-0.4
WHZ				AML	AML	09 54 20.5	
MLZ	**Mavora Lakes**	**0.99**	**86**	PN	Pn	09 53 59.8	-1.0
MLZ				AML	AML	09 54 12.7	
MLZ				AML	AML	09 54 16.4	
MSZ	**Milford Sound**	**1.12**	**48**	PN	Pn	09 54 01.4	-1.0
MSZ				AML	AML	09 54 21.1	
MSZ				AML	AML	09 54 21.1	
MSZ				AML	AML	09 54 21.2	
MSZ				AML	AML	09 54 21.3	
APZ	**The Paps**	**1.64**	**149**	*e*PN	Pb	09 54 12.4	+0.5
WKZ	**Wanaka**	**1.70**	**70**	*e*PN	Pb	09 54 12.3	-0.5
WKZ				AML	AML	09 54 39.8	
WKZ				AML	AML	09 54 39.8	
WKZ				AML	AML	09 54 42.2	
EAZ	**Earnscleugh**	**1.80**	**85**	PN	Pb	09 54 13.3	-1.2
EAZ				AML	AML	09 54 41.6	
EAZ				AML	AML	09 54 41.7	
EAZ				AML	AML	09 54 41.7	
JCZ	**Jackson Bay**	**1.96**	**47**	PN	Pb	09 54 17.7	+0.4
JCZ				AML	AML	09 54 46.2	
JCZ				AML	AML	09 54 52.1	
SYZ	**Scrubby Hill**	**1.99**	**125**	*e*PN	Pn	09 54 15.6	+1.2
TUZ	**Tuapeka**	**2.07**	**106**	PN	Pb	09 54 17.5	-1.6
TUZ				AML	AML	09 54 50.9	
TUZ				AML	AML	09 54 55.6	
LBZ	**Lake Benmore**	**2.64**	**68**	PN	Pn	09 54 25.6	+2.2
LBZ				AML	AML	09 55 07.3	
LBZ				AML	AML	09 55 13.9	
ODZ	**Otahua Downs**	**2.76**	**83**	PN	Pn	09 54 25.0	-0.1
FOZ	**Fox Glacier**	**2.80**	**49**	*e*PN	Pb	09 54 29.1	-2.3
FOZ				AML	AML	09 55 16.7	
FOZ				AML	AML	09 55 17.7	
MQZ	**McQueen's Vall**	**4.54**	**70**	PN	Pn	09 54 50.6	+1.1
LTZ	**Lake Taylor**	**4.76**	**58**	*e*PN	Pn	09 54 53.8	+1.2
THZ	**Tophouse**	**5.77**	**53**	*e*PN	Pn	09 55 07.7	+1.2

KRSC 30 10:00:42.9±0.5, 54°.22N×161°.42E, h44km±44km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.38**	**28**	P	Pn	10 00 53.1	+0.7
MKZ				*i* S	Sn	10 01 00.2	+1.2
KII	**Karymskiy**	**1.18**	**262**	*e*P	Pn	10 01 04.3	+1.3
KII				*i* S	Sn	10 01 19.7	+1.8
TUMR	**Tumrok**	**1.30**	**326**	*e*P	Pn	10 01 05.6	+0.9
KMNR	**Kamenistaya**	**1.68**	**337**	*e*P	Pn	10 01 12.1	+2.1
KMNR				*i* S	Sn	10 01 33.2	+2.8
BZGR	**Bezymyannyi-Gr**	**1.77**	**347**	*e*P	Pn	10 01 12.8	+1.6
SDLR	**Sedlovina**	**1.78**	**239**	*e*P	Pn	10 01 13.0	+1.7
SDLR				*i* S	Sn	10 01 35.4	+2.6
BZMR	**Bezymyannaya**	**1.80**	**343**	*e*P	Pn	10 01 13.2	+1.6
BZWR	**Bezymyannyi-We**	**1.83**	**343**	*e*P	Pn	10 01 13.7	+1.7
BZWR				*i* S	Sn	10 01 36.3	+2.2
SMAR	**Somma**	**1.83**	**239**	*e*P	Pn	10 01 13.6	+1.5
SMAR				*i* S	Sn	10 01 35.9	+1.7
KRER	**Koryakskii**	**1.83**	**241**	*e*P	Pn	10 01 13.8	+1.7
KRER				*i* S	Sn	10 01 36.8	+2.5
ZLN	**Zelenaya**	**1.84**	**349**	*e*P	Pn	10 01 13.9	+1.8
ZLN				*i* S	Sn	10 01 36.3	+2.1
KIRR	**Kirishev**	**1.84**	**341**	*e*P	Pn	10 01 14.3	+2.1
KIRR				*i* S	Sn	10 01 37.3	+2.8
UGLR	**Uglovaya**	**1.85**	**238**	*e*P	Pn	10 01 14.1	+1.9
UGLR				*i* S	Sn	10 01 36.7	+2.3
KRX	**Arik**	**1.86**	**243**	*e*P	Pn	10 01 14.0	+1.6
KRX				*i* S	Sn	10 01 36.8	+2.0
AVH	**Avacha**	**1.86**	**240**	*e*P	Pn	10 01 14.9	+2.6
AVH				*i* S	Sn	10 01 37.6	+2.9
KPT	**Kopyto**	**1.88**	**339**	*e*P	Pn	10 01 14.8	+2.1
KOK	**Koryaka**	**1.90**	**242**	P	Pn	10 01 15.0	+2.1
KOK				*i* S	Sn	10 01 38.5	+2.8
LGNR	**Loginova**	**1.91**	**348**	*e*P	Pn	10 01 15.3	+1.9
CIRR	**Tsirk**	**1.94**	**349**	*e*P	Pn	10 01 15.4	+1.9
PET	**Petropavlovsk**	**2.04**	**235**	*e*P	Pn	10 01 16.6	+1.9
PET				*i* S	Sn	10 01 41.1	+2.3
KOZ	**Kozyrevsk**	**2.04**	**335**	*e*P	Pn	10 01 16.9	+2.1
KOZ				*i* S	Sn	10 01 41.7	+2.6
KRSR	**Krestovskiy**	**2.06**	**347**	*e*P	Pn	10 01 16.5	+1.3
GNL	**Ganaly**	**2.12**	**257**	*e*P	Pn	10 01 18.3	+2.3
GNL				*i* S	Sn	10 01 44.1	+2.9
KLY	**Klyuchi**	**2.14**	**348**	*e*P	Pn	10 01 17.4	+1.3
KLY				*i* S	Sn	10 01 42.6	+1.1
KBTR	**Krutoberegovo**	**2.15**	**21**	*e*P	Pn	10 01 17.3	+1.1
KBTR				*i* S	Sn	10 01 42.4	+0.8
ESO	**Esso**	**2.32**	**319**	*e*P	Pn	10 01 19.9	+1.3
ESO				*i* S	Sn	10 01 46.8	+1.0
BDR	**Baidarnaya**	**2.36**	**357**	*e*P	Pn	10 01 21.0	+1.8
BDR				*i* S	Sn	10 01 48.6	+1.7
RUS	**Russkaya**	**2.50**	**225**	*e*P	Pn	10 01 22.3	+1.3
RUS				*i* S	Sn	10 01 51.2	+1.0
MTVR	**Mutnovka**	**2.61**	**229**	*e*P	Pn	10 01 24.3	+1.6
MTVR				*i* S	Sn	10 01 55.0	+1.8
GRL	**Gorelyy**	**2.61**	**232**	*e*P	Pn	10 01 25.2	+2.5
GRL				*i* S	Sn	10 01 56.3	+3.0
ASAK	**Asacha**	**2.80**	**230**	*e*P	Pn	10 01 28.0	+2.7
ASAK				*i* S	Sn	10 02 00.7	+2.8
APC	**Apacha**	**2.85**	**245**	*e*P	Pn	10 01 28.8	+2.9
APC				*i* S	Sn	10 02 02.4	+3.5

*ISCJB **30** 10:01:01.1±2.0, 35°.8N±0°.2×82°.0E±0°.1, h10km, mb3.3/2, Error ellipse: s-maj=24.2km s-min=16.5km az=10.7*
*BJI **30** 10:01:02.3, 35°.74N×81°.69E, h5km, ML3.6/5*
*IDC **30** 10:01:02.6±2.2, 35°.79N×81°.61E, h0km, mb3.2/2, mb1 3.4/6, mb1mx3.3/29, mbtmp3.4/6, ML3.7/3, Error ellipse: s-maj=33.3km s-min=32.2km az=118.0*

ISC 30 10:01:03.9±2.0, 35°.7N±0°.2×81°.9E±0°.1, h10km, n8, σ1§82/7, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.00**	**311**	*e*Pn	**Pn**	**10 02 34.0**	**+1.1**
KSH				Sn	**Sn**	**10 03 42.5**	**+0.8**
KSH				smax	smax		
	comp=N,64nm,0.6s						
KSH				smax	smax		
	comp=E,65nm,0.7s						
AAK	**Ala-Archa**	**8.95**	**323**	Pg	Pg	10 03 42.5	-13
	comp=E,0.3nm,0.3s,baz=122,slow=9.5,SNR=3.8						
AAK				Lg	Lg	10 05 44.0	
	comp=E,0.4nm,0.3s,baz=50,slow=21,SNR=3.9						
MKAR	**Makanchi Array**	**11.05**	**2**	Pn	**Pn**	**10 03 42.2**	**+0.2**
	comp=E,0.3nm,0.3s,baz=186,slow=14,SNR=30						
KURBB	**Kurchatov Arra**	**15.07**	**352**	Pn	Pn	10 04 32.0	-4.7
	comp=E,0.1nm,0.3s,baz=173,slow=12,SNR=5.0						
ZALV	**Zalesovo Beam**	**18.32**	**6**	P	**Pn**	**10 05 16.3**	**-1.7**
	comp=E,0.8nm,0.3s,baz=193,slow=18,SNR=5.7						
BVAR	**Borovoye Array**	**19.09**	**338**	P	**P**	**10 05 25.1**	**-1.4**
	baz=155,slow=7.9,SNR=2.9						
SONM	**Songino Array**	**21.82**	**49**	P	**P**	**10 05 58.7**	**+2.4**
	comp=E,0.5nm,0.6s,baz=243,slow=9.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**74.53**	**275**	P	**P**	**10 12 42.3**	**-0.8**
	comp=E,0.3nm,0.6s,baz=46,slow=5.4,SNR=4.2						

*ISCJB **30** 10:07:01.5±0.4, 2°.92N±0°.09×31°.22W±0°.09, h10km, mb4.2/23, MS4.0/23, Error ellipse: s-maj=15.1km s-min=10.1km az=42.3*
*IDC **30** 10:07:01.3±0.6, 2°.90N×31°.23W, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/27, mbtmp4.1/16, MS4.0/24, Ms1 4.0/24, ms1mx4.0/30, Error ellipse: s-maj=21.9km s-min=14.8km az=137.0*
*NEIC **30** 10:07:02.9±0.3, 2°.89N×31°.23W, h10km, mb4.5/10, Error ellipse: s-maj=11.5km s-min=8.3km az=135.0*
*GCMT **30** 10:07:05.1±0.3, 2°.82N×31°.23W, h12km, MW4.8, Moment Tensor Solution. s14,c15; s67,c88; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.91±.07; $M_{\theta\theta}$0.45±.07; $M_{\phi\phi}$1.46±.06; $M_{r\theta}$-0.02±.43; $M_{\theta\phi}$0.04±.06; $M_{\phi r}$-0.06±.25; Best double couple: $M_0$1.70000×10^{16} NP1:ϕ_s3.00000°, δ46.00000°, λ-89.00000°. NP2:ϕ_s182.00000°, δ44.00000°, λ-91.00000°. Principal axes: T 1.4600, Plg1.0000°, Azm92.0000°; N 0.4500, Plg0.0000°, Azm182.0000°; P -1.9100, Plg89.0000°, Azm292.0000°; Data Used: IU IC II G CN.*

ISC 30 10:07:03.0±0.5, 2°.9N±0°.1×31°.2W±0°.1, h10km, n60, σ0§82/46, mb4.2/23, MS4.2/23, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.62**	**50**	LR	LR	10 16 33.7	
	comp=Z,484nm,21.0s,baz=294,slow=31						
BDFB	**Brasilia**	**24.81**	**222**	P	**P**	**10 12 25.9**	**+0.3**
BDFB	**Brasilia**	**24.81**	**222**	P	**P**	**10 12 25.9**	**+0.3**
	1.0nm,0.4s,baz=51,slow=12,SNR=3.8						
BDFB				LR	LR	10 20 54.5	
	comp=Z,317nm,20.7s,baz=241,slow=34						
DBIC	**Dimbokro**	**26.55**	**81**	LR	LR	10 21 19.3	
	comp=Z,585nm,18.1s,baz=266,slow=32						
SAML	**Samuel**	**33.95**	**249**	*e*P	**P**	**10 13 47.2**	**+0.3**
	11nm,1.6s						
TORD	**Torodi Ar. Bea**	**34.11**	**71**	P	**P**	**10 13 48.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**34.11**	**71**	P	**P**	**10 13 48.9**	**+0.6**
	3.5nm,0.9s,baz=261,slow=8.8,SNR=12						
TORD				LR	LR	10 25 42.4	
	comp=Z,391nm,18.0s,baz=265,slow=33						
SIV	**San Ignacio**	**34.97**	**237**	P	**P**	**10 13 56.1**	**+0.4**
SIV	**San Ignacio**	**34.97**	**237**	P	**P**	**10 13 56.1**	**+0.4**
	1.0nm,0.7s,baz=99,slow=8.8,SNR=4.6						
CPUP	**Villa Florida**	**38.49**	**219**	*e*P	**P**	**10 14 26.0**	**+0.5**
	7.5nm,1.0s						
CPUP	**Villa Florida**	**38.49**	**219**	P	**P**	**10 14 25.7**	**+0.2**
	3.1nm,0.8s,baz=24,slow=8.3,SNR=5.1						
CPUP				LR	LR	10 29 51.1	
	comp=Z,248nm,18.5s,baz=30,slow=36						
LPAZ	**La Paz**	**41.15**	**241**	*e*P	**P**	**10 14 49.0**	**+0.5**
	17nm,1.6s						
LPAZ	**La Paz**	**41.15**	**241**	P	**P**	**10 14 49.0**	**+0.5**
	2.0nm,0.8s,baz=38,slow=4.9,SNR=8.6						
LPAZ				LR	LR	10 31 34.0	
	comp=Z,542nm,19.5s,baz=43,slow=36						
ROSC	**El Rosal**	**43.03**	**274**	LR	LR	10 32 21.7	
	comp=Z,281nm,20.3s,baz=3.8,slow=35						
ESDC	**Sonseca Array**	**44.18**	**31**	P	**P**	**10 15 13.5**	**+1.3**
ESDC	**Sonseca Array**	**44.18**	**31**	P	**P**	**10 15 13.5**	**+1.3**
	3.5nm,0.9s,baz=229,slow=8.7,SNR=15						
ESLA	**Sonseca Array**	**44.18**	**31**	*e*P	**P**	**10 15 13.8**	**+1.6**
	6.0nm,1.3s						
KEST	**Kesra**	**49.73**	**44**	LR	LR	10 38 37.9	
	comp=Z,108nm,18.4s,baz=205,slow=38						
PLCA	**Paso Flores**	**56.33**	**215**	LR	LR	10 41 30.5	
	comp=Z,188nm,19.1s,baz=316,slow=37						
SCHQ	**Schefferville**	**59.27**	**337**	*e*P	**P**	**10 17 04.1**	**-0.5**
	11nm,0.9s						
SCHQ	**Schefferville**	**59.27**	**337**	P	**P**	**10 17 04.4**	**-0.2**
	6.5nm,0.8s,baz=126,slow=5.2,SNR=5.9						
SCHQ				LR	LR	10 39 30.1	
	comp=Z,85nm,19.7s,baz=196,slow=33						
GERES	**GERESS Array B**	**59.67**	**33**	LR	LR	10 39 54.4	
	comp=Z,94nm,18.9s,baz=81,slow=33						
BOSA	**Boshof**	**62.57**	**124**	P	**P**	**10 17 26.8**	**-0.9**
BOSA	**Boshof**	**62.57**	**124**	P	**P**	**10 17 26.8**	**-0.9**
	4.8nm,1.0s,baz=301,slow=4.5,SNR=3.8						
BOSA				LR	LR	10 39 35.8	
	comp=Z,168nm,19.1s,baz=327,slow=31						
NOA	**NORSAR Array B**	**66.25**	**21**	P	**P**	**10 17 51.9**	**+0.7**
NOA	**NORSAR Array B**	**66.25**	**21**	P	**P**	**10 17 51.9**	**+0.7**
	2.5nm,0.9s,baz=216,slow=8.3,SNR=3.1						
NOA				LR	LR	10 46 08.6	
	comp=Z,35nm,18.3s,baz=0.0,slow=35						
EIL	**Elat**	**67.93**	**59**	LR	LR	10 48 45.4	
	comp=Z,195nm,18.1s,baz=91,slow=37						
BRTR	**Keskin Array B**	**68.95**	**48**	P	**P**	**10 18 08.2**	**-0.6**
BRTR	**Keskin Array B**	**68.95**	**48**	P	**P**	**10 18 08.2**	**-0.6**
	0.5nm,0.7s,baz=256,slow=10,SNR=4.2						
BRTR				LR	LR	10 48 13.3	
	comp=Z,63nm,20.1s,baz=60,slow=36						
AKASG	**Malin Array Be**	**69.39**	**36**	P	**P**	**10 18 11.1**	**0.0**
AKASG	**Malin Array Be**	**69.39**	**36**	P	**P**	**10 18 11.1**	**0.0**
	0.2nm,0.3s,baz=270,slow=3.8,SNR=5.6						
ASF	**Jabal al Asfar**	**69.99**	**57**	LR	LR	10 50 37.2	
	comp=Z,61nm,19.5s,baz=34,slow=37						
JCT	**Junction City**	**70.08**	**301**	*e*P	**P**	**10 18 15.1**	**-0.8**
	7.5nm,1.2s						
ULM	**Lac du Bonnet**	**71.74**	**322**	LR	LR	10 44 16.8	
	comp=Z,138nm,19.0s,baz=12,slow=31						
FINES	**FINESS Array B**	**72.34**	**25**	LR	LR	10 49 23.6	
	comp=Z,63nm,20.3s,baz=328,slow=35						
TXAR	**Lajitas Array**	**73.27**	**300**	P	**P**	**10 18 35.6**	**+0.5**
TXAR	**Lajitas Array**	**73.27**	**300**	P	**P**	**10 18 35.6**	**+0.5**
	1.4nm,0.9s,baz=122,slow=7.9,SNR=17						
TXAR				LR	LR	10 47 31.4	
	comp=Z,46nm,21.7s,baz=0.0,slow=33						
VNA2	**Neumayer--Watz**	**75.37**	**172**	*e*P	**P**	**10 18 47.4**	**+1.1**
	baz=354,slow=6.5						
VNA2	**Neumay

SWI	**Sorong**	9.22 286	S	Sn	10 13 51.2	-26
	baz=8.6,SNR=9.2					
COEN	**Coen**	10.91 164	P	Pn	10 13 03.8	+6.5
	baz=11,SNR=16					
KDU	**Kakadu**	11.94 219	P	**Pn**	**10 13 13.0**	**+1.6**
	baz=12,SNR=27					
KDU			S	**Sn**	**10 15 22.3**	**-1.1**
	baz=12,SNR=3.8					
MTN	**Manton Dam**	12.94 223	P	**Pn**	**10 13 25.3**	**+0.3**
	baz=13,SNR=55					
MTN			S	**Sn**	**10 15 44.6**	**-3.2**
	baz=13,SNR=3.1					
MTSU	**Mount Surprise**	15.20 165	P	**P**	**10 14 03.3**	**+2.9**
	baz=16,SNR=6.4					
KNRA	**Kununurra**	16.56 222	P	**Pn**	**10 14 14.0**	**+0.8**
	baz=16,SNR=39					
KNRA			S	Sn	10 17 06.2	-10
	baz=16,SNR=3.1					
WRA	**Warramunga Arr**	17.39 199	P	**Pn**	**10 14 23.8**	**+0.2**
	0.7nm,0.3s,baz=21,slow=13,SNR=33					
WRA			S	Sn	10 17 29.3	-6.8
	0.4nm,0.3s,baz=16,slow=21,SNR=4.7					
FITZ	**Fitzroy Crossi**	20.38 223	P	**P**	**10 14 58.1**	**+0.7**
	1.4nm,0.5s,baz=39,slow=13,SNR=14					
FITZ	**Fitzroy Crossi**	20.38 223	S	S	10 18 34.9	-9.0
	baz=20,SNR=3.4					
WSI	**Waingapu**	20.66 252	S	S	10 18 35.8	-14
	baz=20,SNR=5.9					
ASAR	**Alice Springs**	21.03 196	P	**P**	**10 15 06.2**	**+1.8**
	3.2nm,0.9s,baz=33,slow=10,SNR=32					
ASAR			S	**S**	**10 18 56.1**	**-0.8**
	2.5nm,0.8s,baz=17,slow=27,SNR=6.0					
KKM	**Kota Kinabalu**	25.67 291	S	S	10 20 25.0	+7.9
	baz=25,SNR=3.2					
MEEK	**Meekatharra**	30.97 220	P	P	10 16 41.0	+3.4
	baz=31,SNR=3.4					
MORW	**Morawa**	34.29 219	P	P	10 17 09.9	+3.2
	baz=34,SNR=3.2					
CMAR	**Chiang Mai Arr**	46.02 300	P	**P**	**10 18 42.7**	**-1.4**
	0.4nm,0.4s,baz=110,slow=5.2,SNR=4.2					
MKAR	**Makanchi Array**	71.21 322	P	**P**	**10 21 38.3**	**-0.8**
	0.6nm,0.7s,baz=101,slow=8.5,SNR=6.6					
MKAR			pP	**pP**	**10 21 53.8**	**+3.8**
	0.8nm,0.8s,baz=101,slow=6.4,SNR=4.2					
MKAR			sP	sP	10 21 59.2	+5.2
	0.9nm,0.8s,baz=113,slow=8.1,SNR=6.7					
VNDA	**Vanda**	74.97 175	P	**P**	**10 22 01.1**	**+0.3**
	1.0nm,0.7s,baz=318,slow=7.4,SNR=8.3					
ILAR	**Eielson Array**	85.87 24	P	**P**	**10 22 58.0**	**-1.4**
	0.5nm,0.7s,baz=254,slow=5.2,SNR=4.9					
QSPA	**South Pole Qui**	86.55 180	P	**P**	**10 23 02.7**	**-0.2**
	1.6nm,0.8s,baz=337,slow=3.0,SNR=5.2					

*IDC **30** 10:24:53.6±6.0, 32°.23S×179°.53W, h114km±46km, mb4.3/7, mb1 4.3/8, mb1mx3.9/20, mbtmp4.2/8, Error ellipse: s-maj=43.2km s-min=18.7km az=46.0*
*NEIC **30** 10:24:55.1±3.2, 32°.35S×179°.53W, h129km±24km, mb4.5/6, Error ellipse: s-maj=30.2km s-min=12.3km az=223.0*
*ISCJB **30** 10:24:57.7±1.0, 32°.50S±0°.07×179°.9W±0°.2, h150km, mb4.4/9, Error ellipse: s-maj=18.9km s-min=9.4km az=166.7*
*AUST **30** 10:25:16.9, 33°.25S×178°.36E, h200km*

ISC 30 10:24:57.2±0.8, 32°.46S±0°.10×179°.7W±0°.2, h150km, n50, σ0s85/38, mb4.5/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	6.36	204	*e*Pn	**Pn**	10 26 28.1	**-0.5**
URZ				*e*Sn	**Sn**	10 27 40.9	**+0.7**
URZ	**Urewera**	6.36	204	P	**Pn**	10 26 27.4	**-1.2**
	2.7nm,0.3s,baz=51,slow=9.1,SNR=7.2						
URZ				S	**Sn**	10 27 38.5	**-1.7**
	10.0nm,0.3s,baz=124,slow=23,SNR=14						
KHZ	**Kahutara**	11.31	207	*e*Pn	**Pn**	10 27 34.2	**-0.1**
KHZ				*e*Sn	Sn	10 29 30.6	-8.7
CMSA	**Cobar Meteorol**	29.33	262	P	P	10 30 48.1	+2.4
	baz=28,SNR=12						
STKA	**Stephens Creek**	32.69	260	*e*P	P	10 31 17.3	+2.0
	2.6nm,1.3s						
STKA	**Stephens Creek**	32.69	260	P	**P**	**10 31 16.8**	**+1.5**
	3.2nm,0.8s,baz=80,slow=15,SNR=5.9						
STKA	**Stephens Creek**	32.69	260	P	P	10 31 17.4	+2.2
	baz=31,SNR=4.1						
CTA	**Charters Tower**	32.82	284	P	P	10 31 18.1	+1.7
CTA	**Charters Tower**	32.82	284	P	P	10 31 18.1	+1.7
	5.2nm,0.6s,baz=110,slow=9.8,SNR=8.8						
CTAO	**Charters Tower**	32.82	284	*e*P	P	10 31 18.2	+1.7
	4.9nm,0.6s						
MTSU	**Mount Surprise**	35.37	285	P	P	10 31 40.5	+1.8
	baz=34,SNR=7.2						
COEN	**Coen**	38.55	290	P	P	10 32 07.1	+1.6
	baz=37,SNR=7.2						
AS31	**Alice Springs**	41.64	270	*e*P	**P**	**10 32 30.9**	**0.0**
ASAR	**Alice Springs**	41.64	270	P	**P**	**10 32 31.4**	**+0.5**
ASAR	**Alice Springs**	41.64	270	P	**P**	**10 32 31.4**	**+0.5**
	6.6nm,0.5s,baz=109,slow=7.5,SNR=190						
WRAB	**Tennant Creek**	42.81	275	*e*P	**P**	**10 32 40.4**	**0.0**
	22nm,1.3s						
WRA	**Warramunga Arr**	42.82	275	P	**P**	**10 32 40.7**	**+0.2**
WRA	**Warramunga Arr**	42.82	275	P	**P**	**10 32 40.7**	**+0.2**
	7.3nm,0.3s,baz=114,slow=8.2,SNR=395						
MANU	**Manus Island**	43.31	308	P	P	10 32 53.9	+10
	baz=43,SNR=5.1						
KDU	**Kakadu**	47.94	283	P	**P**	**10 33 20.5**	**-0.2**
	baz=46,SNR=9.8						
MTN	**Manton Dam**	48.96	282	P	**P**	**10 33 28.2**	**-0.3**
	baz=48,SNR=5.8						
KNRA	**Kununurra**	49.50	277	P	**P**	**10 33 32.9**	**+0.3**
	baz=48,SNR=5.9						
FITZ	**Fitzroy Crossi**	50.98	272	*e*P	**P**	**10 33 44.0**	**+0.2**
	3.5nm,0.8s						
FITZ	**Fitzroy Crossi**	50.98	272	P	**P**	**10 33 44.2**	**+0.4**
	2.2nm,0.7s,baz=141,slow=6.3,SNR=15						
FITZ	**Fitzroy Crossi**	50.98	272	P	**P**	**10 33 44.1**	**+0.3**
	baz=49,SNR=8.7						
MORW	**Morawa**	54.62	255	P	**P**	**10 34 09.7**	**-0.7**
	baz=53,SNR=3.3						
QSPA	**South Pole Qui**	57.65	180	*e*P	P	10 34 33.9	+2.4
	14nm,0.6s						
QSPA	**South Pole Qui**	57.65	180	P	P	10 34 34.9	+3.5
	22nm,0.7s,baz=12,slow=0.9,SNR=100						
MAW	**Mawson**	69.88	201	P	**P**	**10 35 51.5**	**+0.2**
MAW	**Mawson**	69.88	201	P	**P**	**10 35 51.5**	**+0.2**
	4.2nm,0.7s,baz=238,slow=20,SNR=5.0						
SNAA	**Sanae**	76.13	179	*e*P	P	10 36 30.0	+1.9
SNAA	**Sanae**	76.13	179	*e*P	**P**	**10 36 29.0**	**+0.9**
	8.1nm,0.9s						
VNA2	**Neumayer--Watz**	76.76	177	*e*P	P	10 36 33.9	+2.4
	baz=186,slow=4.4						
VNA1	**Neumayer--Stat**	77.00	177	*e*P	P	10 36 35.3	+2.5
BVAR	**Borovoye Array**	126.87	315	PKP	**PKPdf**	**10 43 42.9**	**+0.4**
BVAR	**Borovoye Array**	126.87	315	PKP	**PKPdf**	**10 43 42.9**	**+0.4**
	0.7nm,0.5s,baz=62,slow=3.5,SNR=4.2						
JOF	**Joensuu**	143.77	337	*e*p	**PKPdf**	**10 44 12.0**	**-1.6**
	0.5nm,0.3s						
KBZ	**Khabaz**	145.03	301	PKP	**PKPdf**	**10 44 16.2**	**-0.1**
KBZ	**Khabaz**	145.03	301	PKP	**PKPdf**	**10 44 16.2**	**-0.1**
	0.8nm,0.5s,baz=187,slow=4.9,SNR=4.5						
KAF	**Kangasniemi**	145.98	338	*e*p	**PKPab**	**10 44 17.2**	**-2.0**
	0.9nm,0.3s						
FINES	**FINESS Array B**	146.55	338	PKPbc	**PKPab**	**10 44 20.1**	**-1.3**
FINES	**FINESS Array B**	146.55	338	PKPbc	**PKPab**	**10 44 20.1**	**-1.3**
	1.9nm,0.4s,baz=53,slow=4.9,SNR=36						
NOA	**NORSAR Array B**	150.54	349	PKPbc	**PKPbc**	**10 44 30.9**	**+0.4**
NOA	**NORSAR Array B**	150.54	349	PKPbc	**PKPbc**	**10 44 30.9**	**+0.4**
	1.5nm,0.6s,baz=18,slow=4.2,SNR=3.7						
BRTR	**Keskin Array B**	152.25	295	PKPbc	**PKPbc**	**10 44 34.5**	**-0.7**
BRTR	**Keskin Array B**	152.25	295	PKPbc	**PKPbc**	**10 44 34.5**	**-0.7**
	1.4nm,0.5s,baz=136,slow=3.4,SNR=8.7						
DBIC	**Dimbokro**	153.88	168	PKPbc	**PKPbc**	**10 44 40.7**	**+1.4**
DBIC	**Dimbokro**	153.88	168	PKPbc	**PKPbc**	**10 44 40.7**	**+1.4**
	1.5nm,0.3s,baz=150,slow=3.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	160.74	184	PKPab	**PKPab**	**10 45 22.6**	**+0.2**
TORD	**Torodi Ar. Bea**	160.74	184	PKPab	**PKPab**	**10 45 22.6**	**+0.2**
	1.7nm,0.7s,baz=178,slow=3.5,SNR=18						

IDC 30 10:37:23.4±1.2, 16°.81N×146°.88E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/26, mbtmp3.6/6, Error ellipse: s-maj=53.6km s-min=20.4km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	38.55	199	P	P	10 44 47.9	-0.2
	0.4nm,0.4s,baz=30,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	40.51	212	P	P	10 45 04.2	-0.2
	1.0nm,0.6s,baz=48,slow=12,SNR=5.4						
ASAR	**Alice Springs**	42.18	198	P	P	10 45 18.4	+0.2
	0.3nm,0.8s,baz=16,slow=6.1,SNR=8.3						
SONM	**Songino Array**	45.31	322	P	P	10 45 43.8	+0.5
	0.5nm,0.5s,baz=137,slow=7.4,SNR=3.9						
ILAR	**Eielson Array**	64.84	26	P	P	10 48 04.6	+0.6
	0.2nm,0.6s,baz=249,slow=6.1,SNR=6.3						
BVAR	**Borovoye Array**	68.64	321	P	P	10 48 26.9	-1.6
	0.6nm,0.5s,baz=101,slow=7.8,SNR=3.7						

IDC 30 10:48:26.2±1.1, 12°.19N×143°.79E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.5/6, MS3.7/1, Ms1 3.7/1, ms1mx2.6/30, Error ellipse: s-maj=38.7km s-min=28.8km az=103.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	14.91	354	LR	LR	10 56 09.0	
	comp=Z,345nm,21.5s,baz=287,slow=31						
WRA	**Warramunga Arr**	33.26	196	P	P	10 55 05.2	-0.2
	0.3nm,0.6s,baz=20,slow=9.7,SNR=4.5						
MKAR	**Makanchi Array**	61.77	317	P	P	10 58 46.7	-0.1
	0.3nm,0.7s,baz=87,slow=7.7,SNR=2.8						
KURBB	**Kurchatov Arra**	65.02	320	P	P	10 59 08.3	+0.1
	0.6nm,0.8s,baz=104,slow=6.1,SNR=6.3						
ILAR	**Eielson Array**	70.28	25	P	P	10 59 40.0	-1.2
	0.3nm,0.5s,baz=244,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	84.58	27	P	P	11 01 01.8	+0.5
	0.2nm,0.5s,baz=284,slow=5.1,SNR=4.5						
NVAR	**Mina Array Bea**	88.61	51	P	P	11 01 22.8	+1.0
	0.2nm,0.5s,baz=264,slow=6.2,SNR=3.0						

*ISCJB **30** 11:14:54.6±0.3, 30°.54S±0°.05×179°.69E±0°.06, h450km, mb4.3/25, Error ellipse: s-maj=7.8km s-min=6.6km az=43.7*
*AUST **30** 11:14:54.1±0.1, 30°.61S×179°.67W, h473km, Error ellipse: s-maj=3.4km s-min=1.3km az=303.0*
*IDC **30** 11:14:54.8±0.6, 30°.42S×179°.72E, h444km±6km, mb3.9/16, mb1 4.1/20, mb1mx4.0/25, mbtmp3.9/20, Error ellipse: s-maj=14.4km s-min=10.3km az=163.0*
*NEIC **30** 11:14:56.0±0.6, 30°.47S×179°.75E, h461km±6km, mb4.7/17, Error ellipse: s-maj=10.5km s-min=8.2km az=145.0*

ISC 30 11:14:55.1±0.4, 30°.51S±0°.06×179°.74E±0°.07, h450km, n116, σ1s31/123, mb4.3/25, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	2.39	59	P	**P**	**11 15 58.2**	**+0.2**
RAO				S	**S**	**11 16 46.2**	**-2.7**
RAO	**Raoul Island**	2.39	59	P	**P**	**11 15 58.2**	**+0.2**
	142nm,0.3s,baz=100,slow=13,SNR=8.1						
RAO				S	**S**	**11 16 46.2**	**-2.7**
	111nm,0.3s,baz=90,slow=20,SNR=3.8						
OUZ	**Omahuta**	6.98	226	*e*Pn	P	11 16 43.6	+4.0
	333nm,1.0s						
URZ	**Urewera**	8.03	195	*e*Pn	**P**	**11 16 51.1**	**+0.5**
	148nm,0.6s						
URZ				*e*S	**S**	**11 18 28.4**	**+2.9**
URZ	**Urewera**	8.03	195	P	**P**	**11 16 50.6**	**-0.1**
	32nm,0.3s,baz=330,slow=2.6,SNR=124						
URZ				S	**S**	**11 18 23.4**	**-2.2**
	13nm,0.3s,baz=286,slow=23,SNR=17						
MSVF	**Nonsavu**	12.81	353	*e*Pn	**P**	**11 17 42.6**	**-0.4**
	24nm,0.8s						
KHZ	**Kahutara**	12.88	201	*e*Pn	**P**	**11 17 43.2**	**0.0**
KHZ				*e*S	**S**	**11 19 57.5**	**-4.7**
BAYA	**Yate Dam**	14.21	303	*e*P	**P**	**11 18 00.3**	**+2.4**
DZM	**Mont Dzumac**	14.58	302	P	**P**	**11 18 03.1**	**+1.1**
DZM	**Mont Dzumac**	14.58	302	P	**P**	**11 18 03.1**	**+1.1**
	3.8nm,0.3s,baz=108,slow=15,SNR=57						
NOUC	**Port Laguerre**	14.66	302	*e*P	**P**	**11 18 04.2**	**+1.4**
AFI	**Afiamalu**	18.28	27	*e*P	**P**	**11 18 40.8**	**0.0**
	46nm,0.6s						
AFI	**Afiamalu**	18.28	27	P	**P**	**11 18 41.0**	**+0.2**
	12nm,0.3s,baz=17,slow=6.3,SNR=23						
ARMA	**Armidale**	24.21	263	*e*P	**P**	**11 19 37.0**	**+2.3**
	6.1nm,0.6s						
ARMA	**Armidale**	24.21	263	P	**P**	**11 19 37.4**	**+2.7**
	baz=25,SNR=7.8						
MGCD	**Mangrove Creek**	24.43	256	P	**P**	**11 19 39.9**	**+3.4**
	baz=25,SNR=4.9						
EIDS	**Eidsvold**	25.80	274	*e*P	**P**	**11 19 49.5**	**+0.9**
	4.6nm,0.5s						
EIDS	**Eidsvold**	25.80	274	P	**P**	**11 19 49.8**	**+1.1**
	baz=26,SNR=4.9						
YNG	**Young**	26.68	254	P	**P**	**11 19 59.6**	**+3.2**
	baz=27,SNR=7.2						
RMQ	**Roma**	27.48	271	P	**P**	**11 20 05.8**	**+2.3**
	baz=28,SNR=8.5						
MCQ	**Macquarie Isla**	28.24	206	S	S	11 24 40.8	+18
	baz=28,SNR=4.9						
CMSA	**Cobar Meteorol**	29.13	259	P	**P**	**11 20 19.9**	**+2.0**
	baz=30,SNR=12						
CTA	**Charters Tower**	31.90	281	P	**P**	**11 20 43.4**	**+1.3**
CTA	**Charters Tower**	31.90	281	P	**P**	**11 20 43.4**	**+1.3**
	12nm,0.4s,baz=102,slow=11,SNR=37						
CTAO	**Charters Tower**	31.90	281	*e*P	**P**	**11 20 43.4**	**+1.3**
	14nm,0.6s						
TARA	**Tarawa**	32.35	347	*e*P	**P**	**11 20 46.1**	**+0.2**
	41nm,0.5s						
STKA	**Stephens Creek**	32.55	258	*e*P	**P**	**11 20 48.8**	**+1.3**
	1.8nm,0.6s						
STKA	**Stephens Creek**	32.55	258	P	**P**	**11 20 49.0**	**+1.5**
	8.5nm,0.5s,baz=99,slow=9.5,SNR=56						
STKA	**Stephens Creek**	32.55	258	P	**P**	**11 20 49.0**	**+1.5**
	baz=33,SNR=41						
MTSU	**Mount Surprise**	34.41	283	P	**P**	**11 21 04.7**	**+1.2**
	baz=35,SNR=23						
RABL	**Rabaul**	36.91	310	P	**P**	**11 21 24.6**	**+0.2**
	baz=37,SNR=4.6						
BBOO	**Buckleboo**	37.06	255	P	**P**	**11 21 25.7**	**+0.3**
	baz=38,SNR=17						
COEN	**Coen**	37.44	288	*e*P	**P**	**11 21 29.0**	**+0.3**
	29nm,0.3s						
COEN	**Coen**	37.44	288	P	**P**	**11 21 29.6**	**+0.8**
	baz=38,SNR=15						
AS31	**Alice Springs**	41.15	268	*e*P	**P**	**11 21 58.7**	**-0.2**
ASAR	**Alice Springs**	41.15	268	P	**P**	**11 21 58.8**	**-0.2**
ASAR				ScP	**ScP**	**11 26 54.4**	**-0.1**
ASAR				S	**S**	**11 27 37.1**	**-1.7**
ASAR	**Alice Springs**	41.15	268	P	**P**	**11 21 58.8**	**-0.2**
	8.6nm,0.7s,baz=106,slow=7.8,SNR=118						
ASAR				ScP	**ScP**	**11 26 54.4**	**-0.1**
	4.0nm,0.7s,baz=111,slow=4.1,SNR=22						
ASAR				S	**S**	**11 27 37.1**	**-1.7**
	0.7nm,0.9s,baz=94,slow=14,SNR=3.7						
WRAB	**Tennant Creek**	42.15	274	*e*P	**P**	**11 22 06.4**	**-0.4**
	30nm,0.7s						
WRA	**Warramunga Arr**	42.15	274	P	**P**	**11 22 06.5**	**-0.4**
WRA				ScP	**ScP**	**11 26 58.5**	**+0.1**
WRA	**Warramunga Arr**	42.15	274	P	**P**	**11 22 06.5**	**-0.4**
	16nm,0.3s,baz=112,slow=7.7,SNR=272						
WRA				ScP	**ScP**	**11 26 58.5**	**+0.1**
	0.9nm,0.7s,baz=115,slow=3.4,SNR=7.7						
FORT	**Forrest**	44.13	256	*e*P	**P**	**11 22 21.6**	**-0.6**
	41nm,0.7s						
FORT	**Forrest**	44.13	256	P	**P**	**11 22 21.9**	**-0.3**
	baz=44,SNR=17						
KDU	**Kakadu**	47.02	282	P	**P**	**11 22 43.9**	**-0.8**
	baz=48,SNR=12						
MTN	**Manton Dam**	48.08	280	P	**P**	**11 22 52.3**	**-0.4**
	baz=49,SNR=10						
KNRA	**Kununurra**	48.77	276	P	**P**	**11 22 58.0**	**+0.2**
	baz=49,SNR=24						
FITZ	**Fitzroy Crossi**	50.41	271	*e*P	**P**	**11 23 09.8**	**-0.1**
	29nm,1.1s						
FITZ	**Fitzroy Crossi**	50.41	271	P	**P**	**11 23 10.1**	**+0.1**
	14nm,0.8s,baz=151,slow=6.8,SNR=27						
FITZ	**Fitzroy Crossi**	50.41	271	P	**P**	**11 23 10.0**	**+0.1**
	baz=51,SNR=18						
FAKI	**Fak Fak**	52.56	292	P	**P**	**11 23 24.9**	**-0.8**
	baz=53,SNR=4.8						
MEEK	**Meekatharra**	53.25	258	P	**P**	**11 23 29.8**	**-0.8**
	baz=54,SNR=6.0						
MBWA	**Marble Bar**	54.27	265	*e*P	**P**	**11 23 37.1**	**-0.7**
	10nm,0.6s						
MORW	**Morawa**	54.62	254	P	**P**	**11 23 39.8**	**-0.5**
	baz=55,SNR=11						
QSPA	**South Pole Qui**	59.60	180	*e*P	**P**	**11 24 15.4**	**+1.4**
	6.1nm,1.1s						
QSPA	**South Pole Qui**	59.60	180	P	**P**	**11 24 15.8**	**+1.8**
	3.5nm,0.7s,baz=24,slow=0.8,SNR=22						
KAPI	**Kappang**	61.71	282	P	**P**	**11 24 27.8**	**-0.9**
KAPI	**Kappang**	61.71	282	P	**P**	**11 24 27.8**	**-0.9**
	5.9nm,0.6s,baz=56,slow=11,SNR=3.0						
SNAA	**Sanae**	78.08	179	*e*P	**P**	**11 26 06.3**	**+0.4**
JNU	**Nakatsue**	78.36	320	P	**P**	**11 26 08.1**	**+0.3**
JNU	**Nakatsue**	78.36	320	P	**P**	**11 26 08.1**	**+0.3**
	11nm,0.9s,baz=201,slow=11,SNR=5.4						
VNA2	**Neumayer--Watz**	78.72	178	*e*P	**P**	**11 26 09.9**	**+0.7**
	baz=185,slow=5.3						
VNA1	**Neumayer--Stat**	78.96	177	*e*P	**P**	**11 26 11.2**	**+0.7**
KSRS	**Korea Array**	83.19	321	P	**P**	**11 26 33.6**	**+0.8**
	2.3nm,0.7s,baz=139,slow=5.1,SNR=8.9						
KSAR	**Wonju Array Be**	83.20	321	P	**P**	**11 26 33.6**	**+0.8**
PLCA	**Paso Flores**	83.85	134	P	**P**	**11 26 38.9**	**+2.5**
PLCA	**Paso Flores**	83.85	134	P	**P**	**11 26 38.9**	**+2.5**
	2.0nm,0.9s,baz=323,slow=5.1,SNR=2.9						
PETK	**Petropavlovsk-**	85.46	347	P	**P**	**11 26 43.8**	**+0.1**
PETK	**Petropavlovsk-**	85.46	347	P	**P**	**11 26 43.8**	**+0.1**
	7.7nm,0.9s,baz=135,slow=6.8,SNR=4.2						
USRK	**Ussuriysk Arra**	86.19	328	P	**P**	**11 26 48.2**	**+0.8**
	3.1nm,0.8s,baz=130,slow=5.0,SNR=8.2						
ISA	**Isabella**	87.76	46	*e*P	**P**	**11 26 56.3**	**+1.1**
	10nm,1.0s						
CMB	**Columbia Colle**	88.16	43	*e*P	**P**	**11 26 57.7**	**+0.7**
	6.6nm,1.4s						
NVAR	**Mina Array Bea**	89.66	44	P	**P**	**11 27 04.9**	**+0.8**
NVAR	**Mina Array Bea**	89.66	44	P	**P**	**11 27 04.9**	**+0.8**
	2.2nm,0.7s,baz=220,slow=7.9,SNR=22						
TXAR	**Lajitas Array**	94.10	58	P	**P**	**11 27 25.9**	**+1.3**
TXAR	**Lajitas Array**	94.10	58	P	**P**	**11 27 25.9**	**+1.3**
	0.6nm,1.0s,baz=163,slow=1.3,SNR=4.5						
PDAR	**Pinedale Array**	97.57	45	P	**P**	**11 27 39.6**	**-0.5**
PDAR	**Pinedale Array**	97.57	45	P	**P**	**11 27 39.6**	**-0.5**
	0.5nm,0.8s,baz=132,slow=2.2,SNR=4.5						
ILAR	**Eielson Array**	98.48	14	P	**P**	**11 27 45.0**	**+1.6**
ILAR	**Eielson Array**	98.48	14	P	**P**	**11 27 45.0**	**+1.6**
	0.4nm,0.8s,baz=224,slow=5.0,SNR=2.6						
YKA	**Yellowknife Ar**	106.39	26	PKiKP	**PKiKP**	**11 32 25.8**	**-1.1**
YKA	**Yellowknife Ar**	106.39	26	PKiKP	**PKiKP**	**11 32 25.8**	**-1.1**
	0.1nm,0.4s,baz=236,slow=1.7,SNR=7.3						
MK31	**Makanchi Array**	116.36	311	*e*PKPdf	**PKPdf**	**11 32 44.9**	**-1.4**
MKAR	**Makanchi Array**	116.36	311	PKP	**PKPdf**	**11 32 45.3**	**-1.1**
MKAR				PKKPbc	**PKKPbc**	**11 43 17.4**	**+0.4**
MKAR	**Makanchi Array**	116.36	311	PKP	**PKPdf**	**11 32 45.3**	**-1.1**
	0.6nm,0.4s,baz=210,slow=1.4,SNR=11						
MKAR				PKKPbc	**PKKPbc**	**11 43 17.4**	**+0.4**
	0.5nm,0.5s,baz=275,slow=3.4,SNR=8.3						
ZALV	**Zalesovo Beam**	116.82	319	PKP	**PKPdf**	**11 32 45.5**	**-1.4**
ZALV	**Zalesovo Beam**	116.82	319	PKP	**PKPdf**	**11 32 45.5**	**-1.4**
	0.3nm,0.3s,baz=316,slow=6.0,SNR=2.4						
KKAR	**Karatay Array**	123.51	304	*e*PKPdf	**PKPdf**	**11 32 59.4**	**-0.8**
ARCES	**ARCESS Array B**	138.27	347	PKPpre	PKPpre	11 33 17.7	
ARCES				SKPbc	**SKPbc**	**11 36 17.9**	**-0.7**
ARCES	**ARCESS Array B**	138.27	347	PKhKP	PKPpre	11 33 17.7	
	5.9nm,1.0s,baz=52,slow=1.8,SNR=14						
ARCES				SKPbc	**SKPbc**	**11 36 17.9**	**-0.7**
	2.3nm,0.7s,baz=8.5,slow=2.5,SNR=4.1						
JOF	**Joensuu**	141.78	337	*e*p	**PKPdf**	**11 33 29.6**	**-4.1**
	2.6nm,0.4s						
KBZ	**Khabaz**	143.55	303	PKP	PKPab	11 33 35.5	-0.2
KBZ	**Khabaz**	143.55	303	PKP	PKPab	11 33 35.5	-0.2
	1.9nm,0.7s,baz=83,slow=3.6,SNR=6.6						
KAF	**Kangasniemi**	143.98	339	*e*p	PKPbc	11 33 35.7	-1.0
	17nm,0.4s						
FIA1	**FINESS Array S**	144.55	338	*e*PKPdf	PKPbc	11 33 37.6	-0.9
FINES	**FINESS Array B**	144.56	338	PKP	PKPbc	11 33 37.8	-0.7
FINES	**FINESS Array B**	144.56	338	PKP	PKPbc	11 33 37.8	-0.7
	35nm,0.6s,baz=77,slow=3.5,SNR=157						
ASF	**Jabal al Asfar**	148.32	283	PKPbc	**PKPbc**	**11 33 49.5**	**-0.6**
ASF	**Jabal al Asfar**	148.32	283	PKPbc	**PKPbc**	**11 33 49.5**	**-0.6**
	2.5nm,0.6s,baz=109,slow=5.4,SNR=3.5						
NB2	**NORSAR Subarra**	148.53	349	PKP	**PKPbc**	**11 33 48.8**	**-0.9**
	comp=Z,558nm,3.3s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	148.53	349	PKP	**PKPbc**	**11 33 48.8**	**-0.

FITZ			S		**Sn**	**11 28 46.1 +0.6**
	baz=11,SNR=4.9					
WRAB	**Tennant Creek**	**12.72 161**	*e*Pn		**Pn**	**11 27 05.8 +1.3**
WRAB			*e*Sn		**Sn**	**11 29 23.6 -2.0**
WRA	**Warramunga Arr**	**12.73 162**	P		**Pn**	**11 27 05.6 +1.1**
WRA			S		**Sn**	**11 29 21.8 -3.9**
WRA	**Warramunga Arr**	**12.73 162**	P		**Pn**	**11 27 05.6 +1.1**
	3.8nm,0.3s,baz=339,slow=12,SNR=71					
WRA			S		**Sn**	**11 29 21.8 -3.9**
	6.5nm,0.3s,baz=342,slow=18,SNR=11					
COEN	**Coen**	**14.22 116**	*e*Pn		**Pn**	**11 27 27.6 +2.6**
COEN			*e*Sn		**Sn**	**11 29 57.6 -4.6**
COEN	**Coen**	**14.22 116**	P		**Pn**	**11 27 27.5 +2.6**
	baz=14,SNR=26					
COEN			S		**Sn**	**11 29 57.7 -4.4**
	baz=14,SNR=5.2					
AS31	**Alice Springs**	**16.16 167**	*e*Pn		**Pn**	**11 27 51.2 +0.5**
AS31			*e*Sn		**Sn**	**11 30 46.7 -2.8**
ASAR	**Alice Springs**	**16.17 167**	P		**Pn**	**11 27 51.2 +0.5**
ASAR			S		**Sn**	**11 30 44.3 -5.3**
ASAR			ScP		**ScP**	**11 36 13.7 -5.4**
ASAR	**Alice Springs**	**16.17 167**	P		**Pn**	**11 27 51.2 +0.5**
	1.8nm,0.3s,baz=348,slow=13,SNR=82					
ASAR			S		**Sn**	**11 30 44.3 -5.3**
	1.5nm,0.3s,baz=350,slow=25,SNR=8.0					
ASAR			ScP		**ScP**	**11 36 13.7 -5.4**
	baz=351,slow=1.8,SNR=5.8					
MBWA	**Marble Bar**	**16.60 216**	*e*P		**Pn**	**11 27 55.3 -0.9**
	23nm,0.8s					
MTSU	**Mount Surprise**	**17.23 128**	P		**P**	**11 28 07.1 +1.5**
	baz=17,SNR=14					
MTSU			S		**Sn**	**11 31 12.6 -2.8**
	baz=17,SNR=6.4					
MYLDM	**Lahad Datu**	**17.34 318**	P		**Pn**	**11 28 03.3 -2.3**
SDKM	**Sandakan**	**18.56 316**	P		**P**	**11 28 18.0 -2.3**
KKM	**Kota Kinabalu**	**19.53 315**	*e*P		**P**	**11 28 29.6 -1.5**
	126nm,1.7s					
KKM	**Kota Kinabalu**	**19.53 315**	P		**Pn**	**11 28 34.1 +1.7**
KKM	**Kota Kinabalu**	**19.53 315**	P		**P**	**11 28 29.5 -1.5**
	baz=20,SNR=5.2					
KDM	**Kudat**	**19.73 318**	P		**Pn**	**11 28 36.9 +2.2**
CTA	**Charters Tower**	**19.84 130**	P		**Pn**	**11 28 37.5 +1.5**
CTA	**Charters Tower**	**19.84 130**	P		**Pn**	**11 28 37.5 +1.5**
	5.9nm,0.9s,baz=302,slow=16,SNR=8.4					
CTAO	**Charters Tower**	**19.84 130**	*e*P		**Pn**	**11 28 40.0 +4.0**
	9.1nm,1.0s					
BTM	**Bintulu**	**20.19 302**	P		**P**	**11 28 38.7 +0.5**
SBUM	**Sibu**	**20.54 299**	*e*P		**P**	**11 28 41.1 -0.8**
	19nm,0.7s					
SBUM	**Sibu**	**20.54 299**	P		**P**	**11 28 41.2 -0.8**
MEEK	**Meekatharra**	**21.65 209**	P		**P**	**11 28 57.7 +3.9**
	baz=22,SNR=11					
KSM	**Kuching**	**21.78 294**	*e*P		**P**	**11 28 52.3 -3.0**
	15nm,0.6s					
KSM	**Kuching**	**21.78 294**	P		**P**	**11 28 55.3 0.0**
KSM	**Kuching**	**21.78 294**	P		**P**	**11 28 55.6 +0.2**
	baz=22,SNR=5.9					
CISI	**Cisompet, Garu**	**22.07 269**	P		**P**	**11 28 57.7 -0.8**
	baz=22,SNR=3.1					
FORT	**Forrest**	**22.91 184**	*e*P		**P**	**11 29 10.5 +3.3**
	40nm,0.7s					
MORW	**Morawa**	**24.92 210**	P		**P**	**11 29 29.7 +3.2**
	baz=25,SNR=5.7					
MORW			S		S	11 34 10.2 +21
	baz=25,SNR=4.5					
BBOO	**Buckleboo**	**25.47 168**	P		**P**	**11 29 34.3 +3.0**
	baz=26,SNR=8.8					
STKA	**Stephens Creek**	**26.22 157**	*e*P		**P**	**11 29 41.5 +3.3**
	1.5nm,0.9s					
STKA	**Stephens Creek**	**26.22 157**	P		**P**	**11 29 40.9 +2.8**
	3.2nm,0.5s,baz=321,slow=11,SNR=15					
STKA	**Stephens Creek**	**26.22 157**	P		**P**	**11 29 41.5 +3.3**
	baz=26,SNR=13					
NWAO	**Narrogin (SRO)**	**27.67 204**	LR		LR	11 41 54.2
	comp=Z,49nm,20.0s,baz=190,slow=38					
CMSA	**Cobar Meteorol**	**27.72 150**	P		**P**	**11 29 55.7 +4.0**
	baz=28,SNR=12					
KGM	**Kluang**	**28.43 289**	P		**P**	**11 29 56.1 -2.1**
KTGM	**Kuala Trenggan**	**29.89 295**	P		**P**	**11 30 08.9 -2.2**
FRIM	**Kepong**	**30.45 290**	P		**P**	**11 30 13.5 -2.6**
YNG	**Young**	**31.28 150**	P		P	11 30 27.6 +4.3
	baz=32,SNR=7.0					
IPM	**Ipoh**	**31.46 292**	P		**P**	**11 30 22.6 -2.5**
KULM	**Kulim**	**32.12 293**	P		P	11 30 27.1 -3.8
PSI	**Prapat**	**32.83 288**	P		P	11 30 33.8 -3.5
PSI	**Prapat**	**32.83 288**	P		P	11 30 33.8 -3.5
	6.1nm,0.7s,baz=61,slow=10,SNR=4.6					
CMAR	**Chiang Mai Arr**	**40.33 311**	P		**P**	**11 31 38.4 -2.6**
CMAR			PcP		**PcP**	**11 33 43.5 -0.9**
CMAR	**Chiang Mai Arr**	**40.33 311**	P		**P**	**11 31 38.4 -2.6**
	4.7nm,0.8s,baz=139,slow=7.3,SNR=26					
CMAR			PcP		**PcP**	**11 33 43.5 -0.9**
	1.0nm,0.6s,baz=155,slow=3.0,SNR=5.2					
CHTO	**Chiang Mai**	**40.55 311**	*e*P		**P**	**11 31 40.1 -2.7**
	7.6nm,0.7s					
GYA	**Guiyang**	**40.97 327**	*e*P		**P**	**11 31 45.8 -0.5**
GYA			pmax		pmax	
	comp=Z,10.0nm,0.8s					
WHN	**Wuhan**	**41.03 339**	P		**P**	**11 31 47.3 +0.7**
KMI	**Kunming**	**42.21 322**	P		**P**	**11 31 59.3 +2.7**
KMI			pmax		pmax	
	comp=Z,9.0nm,0.5s					
KSAR	**Wonju Array Be**	**45.08 358**	P		**P**	**11 32 18.9 -0.4**
KSRS	**Korea Array**	**45.09 358**	P		**P**	**11 32 18.9 -0.5**
	comp=Z,0.5nm,0.6s,baz=179,slow=8.5,SNR=4.5					
CD2	**Chengdu**	**46.05 328**	*e*P		**P**	**11 32 27.5 +0.4**
CD2			pP		**pP**	**11 32 38.0 +4.1**
CD2			sP		sP	11 32 42.5 +5.9
CD2			pmax		pmax	
	comp=Z,10.0nm,1.2s					
CD2			pmax		pmax	
	comp=Z,40nm,6.2s					
LZH	**Lanzhou**	**50.17 332**	*e*P		**P**	**11 33 00.3 +1.3**
LZH			pP		**pP**	**11 33 10.5 +4.5**
LZH			sP		**sP**	**11 33 13.3 +4.7**
LZH			pmax		pmax	
	comp=Z,26nm,1.2s					
HHC	**Hu-ho-hao-te**	**51.35 342**	*e*P		**P**	**11 33 08.0 +0.2**
HHC			pP		**pP**	**11 33 18.0 +3.3**
HHC			sP		**sP**	**11 33 22.0 +4.6**
HHC			PP		**PP**	**11 35 06.0 +0.9**
HHC			S		**S**	**11 40 24.0 -2.1**
HHC			sS		**sS**	**11 40 42.3 +4.8**
HHC			SS		**SS**	**11 43 57.8 -4.4**
HHC			pmax		pmax	
	comp=Z,33nm,1.0s					
HHC			pmax		pmax	
	comp=Z,240nm,5.8s					
HHC			LR		LR	
	comp=N,210nm,16.6s					
HHC			LR		LR	
	comp=E,380nm,17.6s					
HHC			LR		LR	
	comp=Z,200nm,16.9s					
CN2	**Changchun**	**51.56 356**	*e*P		**P**	**11 33 11.0 +1.9**
CN2			pmax		pmax	
	comp=Z,10.0nm,0.7s					
MCQ	**Macquarie Isla**	**51.97 159**	P		P	11 33 00.1 -12
	baz=52,SNR=3.3					
ODAN	**Odare**	**53.86 311**	*e*P		P	11 33 23.8 -3.0
	comp=Z,12nm,0.5s					
TAPN	**Taplejung**	**53.90 312**	*e*P		P	11 33 23.9 -3.2
	comp=Z,15nm,0.4s					
RAMN	**Ramite**	**54.50 311**	*e*P		P	11 33 27.9 -3.6
	comp=Z,21nm,0.5s					
GTA	**Gaotai**	**54.74 331**	*e*P		**P**	**11 33 33.5 +0.7**
GTA			pP		**pP**	**11 33 43.5 +3.7**
GTA			sP		**sP**	**11 33 47.5 +5.1**
GTA			pmax		pmax	
	comp=Z,3.0nm,0.6s					
JIRN	**Jiri**	**55.19 311**	*e*P		P	11 33 33.3 -3.3
	comp=Z,9.9nm,0.3s					
GUN	**Gumba**	**55.56 312**	*e*P		**P**	**11 33 36.4 -2.8**
	comp=Z,23nm,0.5s					
PKI	**Pulchoki**	**55.73 311**	*e*P		P	11 33 36.6 -3.8
KKN	**Kakani**	**55.94 311**	*e*P		P	11 33 38.6 -3.2
KOLN	**Koldanda**	**57.20 310**	*e*P		P	11 33 47.5 -3.2
DANN	**Dangsing**	**57.38 311**	*e*P		P	11 33 48.7 -3.4
PYUN	**Piuthan**	**57.83 310**	*e*P		P	11 33 51.9 -3.3
	comp=Z,32nm,0.8s					
SONM	**Songino Array**	**59.25 342**	P		**P**	**11 34 02.5 -2.1**
SONM	**Songino Array**	**59.25 342**	P		**P**	**11 34 02.5 -2.1**
	comp=Z,0.8nm,0.6s,baz=158,slow=5.3,SNR=6.4					
PETK	**Petropavlovsk-**	**65.08 18**	P		**P**	**11 34 42.8 -0.7**
PETK	**Petropavlovsk-**	**65.08 18**	P		**P**	**11 34 42.8 -0.7**
	comp=Z,1.3nm,0.5s,baz=177,slow=5.1,SNR=9.1					
KSH	**Kashi**	**68.69 318**	P		**P**	**11 35 07.3 +0.4**
KSH			sP		**sP**	**11 35 21.3 +4.7**
KSH			PP		**PP**	**11 37 40.3 +1.5**
KSH			S		**S**	**11 44 04.0 -5.0**
KSH			sS		**sS**	**11 44 22.0 +1.3**
KSH			SS		**SS**	**11 48 31.5 -2.6**
KSH			pmax		pmax	
	comp=Z,3.0nm,0.5s					
KSH			pmax		pmax	
	comp=Z,97nm,4.9s					
KSH			LR		LR	
	comp=N,72nm,4.2s					
KSH			LR		LR	
	comp=E,54nm,5.5s					
KSH			LR		LR	
	comp=Z,140nm,5.3s					
MK31	**Makanchi Array**	**68.96 327**	*e*P		**P**	**11 35 06.2 -2.2**
MKAR	**Makanchi Array**	**68.96 327**	P		**P**	**11 35 06.1 -2.3**
MKAR	**Makanchi Array**	**68.96 327**	P		**P**	**11 35 06.1 -2.3**
	comp=Z,8.5nm,0.5s,baz=114,slow=8.6,SNR=129					
AAK	**Ala-Archa**	**71.22 320**	P		**P**	**11 35 20.3 -2.2**
AAK	**Ala-Archa**	**71.22 320**	P		**P**	**11 35 20.3 -2.2**
	comp=Z,1.8nm,0.4s,baz=199,slow=3.5,SNR=4.6					
ZALV	**Zalesovo Beam**	**72.36 334**	P		P	11 35 25.4 -3.4
ZALV	**Zalesovo Beam**	**72.36 334**	P		P	11 35 25.4 -3.4
	comp=Z,4.2nm,0.6s,baz=127,slow=5.9,SNR=17					
KKAR	**Karatay Array**	**74.02 319**	*e*P		**P**	**11 35 37.0 -2.0**
	comp=Z,1.5nm,0.6s					
BRVK	**Borovoye**	**78.88 328**	*e*P		**P**	**11 36 03.4 -2.8**
	comp=Z,2.1nm,0.6s					
ABKAR	**Akbulak array**	**83.21 322**	*e*P		**P**	**11 36 26.7 -2.7**
	comp=Z,2.5nm,0.5s					
STHS	**Stebnicka Huta**	**108.15 319**	PDIF		**Pdif**	**11 38 21.2 -3.4**
TORD	**Torodi Ar. Bea**	**129.05 281**	PKP		**PKPdf**	**11 43 09.8 -2.2**
TORD	**Torodi Ar. Bea**	**129.05 281**	PKP		**PKPdf**	**11 43 09.8 -2.2**
	comp=Z,0.3nm,0.5s,baz=59,slow=3.1,SNR=6.7					
CPUP	**Villa Florida**	**145.29 168**	PKPbc		**PKPbc**	**11 43 41.5 +0.2**
CPUP	**Villa Florida**	**145.29 168**	PKPbc		**PKPbc**	**11 43 41.5 +0.2**
	comp=Z,0.8nm,0.4s,baz=146,slow=3.0,SNR=4.3					
BBTS	**Babate**	**146.59 285**	PKPbc		**PKPdf**	**11 43 43.8 -0.2**
BBTS	**Babate**	**146.59 285**	PKPbc		**PKPdf**	**11 43 43.8 -0.2**
	comp=Z,9.5nm,0.4s,baz=93,slow=7.8,SNR=4.2					
LPAZ	**La Paz**	**150.01 143**	*e*PKPbc		**PKPbc**	**11 43 57.0 +1.6**
LPAZ	**La Paz**	**150.01 143**	PKPbc		**PKPbc**	**11 43 55.6 +0.2**
	comp=Z,1.7nm,0.4s,baz=54,slow=4.0,SNR=21					

IDC 30 11:39:55.2±3.4, 5°.59S×145°.82E, h52km±30km, mb3.7/3, mb1 4.0/6, mb1mx3.5/19, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=24.6km s-min=21.4km az=137.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.02 161**		P	Pn	11 40 55.8	+1.6
	6.9nm,0.3s,baz=332,slow=5.9,SNR=25						
PMG				S	Sn	11 41 39.9	-0.2
	8.4nm,0.3s,baz=196,slow=20,SNR=13						
CTA	**Charters Tower**	**14.42 178**		P	Pn	11 43 17.8	+1.4
	0.2nm,0.3s,baz=5.5,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**18.11 217**		P	Pn	11 44 03.3	+0.2
	2.0nm,0.3s,baz=43,slow=12,SNR=84						
WRA				S	S	11 47 26.3	-1.6
	0.0nm,0.3s,baz=36,slow=19,SNR=5.5						
ASAR	**Alice Springs**	**21.32 211**		P	P	11 44 37.4	-0.5
	2.5nm,0.4s,baz=36,slow=11,SNR=147						
ASAR				S	S	11 48 32.4	+0.3
	2.6nm,1.1s,baz=38,slow=22,SNR=9.8						
FITZ	**Fitzroy Crossi**	**23.30 236**		P	P	11 44 57.0	-1.7
	1.5nm,0.4s,baz=54,slow=10,SNR=23						
STKA	**Stephens Creek**	**26.45 188**		P	P	11 45 28.9	+1.7
	1.7nm,0.6s,baz=27,slow=6.8,SNR=3.4						

IDC 30 11:58:23.2±55.0, 7°.94S×106°.98E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, Error ellipse: s-maj=952.3km s-min=192.0km az=135.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.05 117**		P	P	12 04 25.5	0.0
	0.3nm,0.6s,baz=290,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**30.16 124**		P	P	12 04 35.3	-0.1
	0.1nm,0.4s,baz=297,slow=8.0,SNR=8.8						
STKA	**Stephens Creek**	**40.03 131**		P	P	12 06 00.2	-0.1
	1.9nm,0.9s,baz=310,slow=7.9,SNR=2.8						

BJI 30 12:05:00.3, 35°.74N×80°.73E, h11km, ML3.6/5, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.33 316**		*e*Pn	Pn	12 06 21.0	+1.0
KSH				Sn	Sn	12 07 22.0	+0.5
KSH				smax	smax		
	comp=N,59nm,0.7s						
KSH				smax	smax		
	comp=E,71nm,0.7s						

IDC 30 12:07:30.9±1.0, 1°.49N×121°.81E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, ML3.8/2, MS2.6/1, Ms1 2.6/1, ms1mx2.0/35, Error ellipse: s-maj=61.9km s-min=17.6km az=70.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.78 198**		Pn	Pn	12 09 12.0	+0.3
	1.0nm,0.3s,baz=329,slow=10,SNR=5.2						
KAPI				LR	LR	12 11 44.2	
	comp=Z,50nm,20.3s,baz=169,slow=37						
FITZ	**Fitzroy Crossi**	**19.82 169**		P	P	12 12 03.6	+0.3
	0.3nm,0.3s,baz=10.0,slow=8.5,SNR=14						
WRA	**Warramunga Arr**	**24.59 151**		P	P	12 12 53.0	+0.1
	2.3nm,0.5s,baz=327,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.63 156**		P	P	12 13 20.6	+0.1
	0.5nm,0.6s,baz=344,slow=14,SNR=20						
STKA	**Stephens Creek**	**38.12 152**		P	P	12 14 52.2	+0.4
	1.7nm,0.7s,baz=328,slow=14,SNR=4.4						
SONM	**Songino Array**	**48.06 346**		P	P	12 16 12.1	-0.2
	0.5nm,0.5s,baz=160,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**56.73 328**		P	P	12 17 16.9	+0.2
	0.4nm,0.6s,baz=126,slow=8.5,SNR=2.7						
QSPA	**South Pole Qui**	**91.41 180**		P	P	12 20 37.4	-1.4
	1.2nm,0.8s,baz=63,slow=4.5,SNR=5.1						

IDC 30 12:10:40.1±2.1, 32°.01S×178°.33W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, ML4.1/2, Error ellipse: s-maj=57.8km s-min=24.3km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.77**	**8**	Pn	Pn	12 11 27.4	+1.6
	49nm,0.3s,baz=38,slow=19,SNR=2.9						
RAO				Sn	Sn	12 12 00.5	+0.5
	178nm,0.3s,baz=86,slow=22,SNR=4.8						
URZ	**Urewera**	**7.26 210**		Pn	Pn	12 12 27.8	+0.3
	2.3nm,0.3s,baz=297,slow=17,SNR=15						
URZ				Sn	Sn	12 13 47.0	-3.7
	3.2nm,0.3s,baz=184,slow=17,SNR=7.4						
ASAR	**Alice Springs**	**42.76 269**		P	P	12 18 40.4	+0.8
	0.5nm,0.4s,baz=107,slow=7.3,SNR=24						
WRA	**Warramunga Arr**	**43.90 274**		P	P	12 18 47.5	-1.2
	1.3nm,0.3s,baz=114,slow=8.1,SNR=6.4						
KURBB	**Kurchatov Arra**	**121.98 313**		PKP	PKPdf	12 29 34.2	-1.8
	0.4nm,0.6s,baz=102,slow=1.8,SNR=4.6						
KAF	**Kangasniemi**	**145.96 340**		*e*p	PKPbc	12 30 20.6	-0.3
	0.5nm,0.3s						
FINES	**FINESS Array B**	**146.55 339**		PKPbc	PKPbc	12 30 22.4	-0.2
	2.8nm,0.6s,baz=48,slow=4.7,SNR=17						

---

*IDC **30** 12:16:57.1±1.9, 3°.95S×134°.15E, h0km, mb3.5/1, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=76.7km s-min=28.1km az=67.0*
*ISCJB **30** 12:17:00.8±1.1, 4°.27S±0°.07×133°.8E±0°.1, h33km, mb3.4/1, Error ellipse: s-maj=20.4km s-min=9.5km az=176.4*
*AUST **30** 12:17:05.8±99.0, 4°.49S×132°.92E, h0km±4km, Error ellipse: s-maj=4.6km s-min=0.9km az=262.0*
ISC 30 12:17:01.7±1.3, 4°.29S±0°.08×133°.8E±0°.2, h35km, n10, σ3°.02/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.08 311**		P	**Pn**	**12 17 33.3**	**-0.9**
	baz=1.7,SNR=96						
KDU	**Kakadu**	**8.45 189**		P	Pn	12 19 05.7	+4.0
	baz=8.2,SNR=28						
MTN	**Manton Dam**	**8.91 197**		P	Pn	12 19 11.4	+3.4
	baz=8.5,SNR=31						
MTN				S	**Sn**	**12 20 50.5**	**+3.4**
	baz=8.5,SNR=4.9						
KNRA	**Kununurra**	**12.36 203**		P	**Pn**	**12 19 56.9**	**+1.6**
	baz=12,SNR=14						
KNRA				S	**Sn**	**12 22 11.3**	**-0.7**
	baz=12,SNR=6.3						
WRA	**Warramunga Arr**	**15.57 178**		Pn	**P**	**12 20 43.4**	**+0.8**
	0.5nm,0.3s,baz=359,slow=11,SNR=20						
WRA				Sn	**Sn**	**12 23 23.6**	**-6.5**
	0.3nm,0.3s,baz=359,slow=23,SNR=6.2						
FITZ	**Fitzroy Crossi**	**15.90 210**		Pn	**Pn**	**12 20 42.7**	**-0.2**
	0.2nm,0.3s,baz=42,slow=14,SNR=13						
FITZ				Sn	**Sn**	**12 23 33.7**	**-4.4**
	0.3nm,0.3s,baz=177,slow=18,SNR=6.3						
FITZ	**Fitzroy Crossi**	**15.90 210**		P	**Pn**	**12 20 42.7**	**-0.2**
	baz=15,SNR=5.3						
ASAR	**Alice Springs**	**19.26 180**		P	**Pn**	**12 21 26.6**	**+2.0**
	0.3nm,0.3s,baz=4.9,slow=11,SNR=63						
CTA	**Charters Tower**	**19.82 143**		P	**Pn**	**12 21 30.8**	**-0.6**
	0.4nm,0.3s,baz=329,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**68.15 325**		P	**P**	**12 27 58.6**	**+0.2**
	0.2nm,0.5s,baz=109,slow=7.6,SNR=3.8						

IDC 30 12:21:13.6±2.1, 6°.49S×68°.53E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/26, mbtmp3.5/6, Error ellipse: s-maj=58.3km s-min=22.9km az=51.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**54.44**	**12**	P	P	12 30 43.4	+0.7
	0.3nm,0.6s,baz=207,slow=8.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**57.53**	**8**	P	P	12 31 04.4	-0.3
	0.2nm,0.4s,baz=214,slow=8.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**61.76**	**11**	P	P	12 31 33.3	-0.5
	0.2nm,0.3s,baz=234,slow=6.6,SNR=2.2						
SONM	**Songino Array**	**63.54**	**28**	P	P	12 31 47.0	+0.9
	0.3nm,0.7s,baz=218,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**64.89**	**113**	P	P	12 31 56.1	+0.8
	0.5nm,1.0s,baz=278,slow=6.1,SNR=5.8						
WRA	**Warramunga Arr**	**65.10**	**109**	P	P	12 31 56.8	+0.1
	0.7nm,0.8s,baz=280,slow=6.5,SNR=3.7						
NVAR	**Mina Array Bea**	**147.61**	**10**	PKPbc	PKPdf	12 40 58.5	+0.4
	0.4nm,0.8s,baz=298,slow=1.9,SNR=2.5						

---

*IDC **30** 12:36:20.5±1.0, 64°.34S×176°.61E, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.1/12, mbtmp4.0/5, ML3.4/1, MS3.8/14, Ms1 3.8/14, ms1mx3.7/22, Error ellipse: s-maj=46.9km s-min=23.5km az=59.0*
*ISCJB **30** 12:36:21.1±1.0, 64°.5S±0°.1×175°.9E±0°.5, h10km, mb4.1/5, MS3.8/13, Error ellipse: s-maj=33.5km s-min=12.6km az=162.8*
*NEIC **30** 12:36:22.3±0.7, 64°.44S×176°.24E, h10km, mb4.3/3, Error ellipse: s-maj=27.3km s-min=12.2km az=78.0*
ISC 30 12:36:22.2±0.9, 64°.4S±0°.1×176°.4E±0°.2, h10km, n48, σ0°.98/25, mb4.1/5, MS3.9/13, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.82 189**		*e*Pn	**Pn**	**12 39 36.5**	**-1.3**
	22nm,1.4s						
VNDA	**Vanda**	**13.91 193**		*e*Pn	**Pn**	**12 39 38.5**	**-0.6**
	25nm,1.5s						
VNDA				Sn	Sn	12 42 03.4	-10
VNDA	**Vanda**	**13.91 193**		Pn	**Pn**	**12 39 38.5**	**-0.6**
	0.2nm,0.3s,baz=43,slow=17,SNR=21						
VNDA				Sn	Sn	12 42 03.4	-10
	0.1nm,0.3s,baz=332,slow=13,SNR=3.4						
VNDA				LR	LR	12 43 44.6	
	comp=Z,260nm,18.4s,baz=322,slow=32						
RPZ	**Rata Peaks**	**20.95 349**		LR	LR	12 46 27.8	
	comp=Z,223nm,18.8s,baz=96,slow=29						
QSPA	**South Pole Qui**	**25.68 180**		*e*P	**P**	**12 41 54.6**	**+2.6**
	6.7nm,0.8s						
QSPA	**South Pole Qui**	**25.68 180**		P	**P**	**12 41 53.4**	**+1.4**
	4.9nm,0.7s,baz=25,slow=3.3,SNR=22						
QSPA				LR	LR	12 50 56.5	
	comp=Z,195nm,18.6s,baz=227,slow=34						
URZ	**Urewera**	**26.19**	**1**	LR	LR	12 49 35.7	
	comp=Z,319nm,20.4s,baz=154,slow=30						
STKA	**Stephens Creek**	**39.02 310**		LR	LR	12 56 44.8	
	comp=Z,95nm,20.6s,baz=202,slow=31						
MAW	**Mawson**	**40.03 213**		LR	LR	12 59 14.4	
	comp=Z,71nm,20.7s,baz=325,slow=34						
DZM	**Mont Dzumac**	**42.83 346**		*e*LR	LR	12 56 02.9	
	181nm,23.9s						
DZM	**Mont Dzumac**	**42.83 346**		LR	LR	12 58 16.0	
	comp=Z,215nm,20.5s,baz=199,slow=31						
VNA3	**Neumayer Olymp**	**44.55 177**		*e*P	**P**	**12 44 34.3**	**+0.8**
VNA2	**Neumayer--Watz**	**44.91 178**		*e*P	**P**	**12 44 36.9**	**+0.6**
RAR	**Rarotonga**	**46.01**	**32**	LR	LR	12 59 18.8	
	comp=Z,180nm,20.3s,baz=274,slow=30						
TBI	**Tubuai**	**46.75**	**45**	*e*LR	LR	12 57 33.5	
	101nm,31.2s						
TBI	**Tubuai**	**46.75**	**45**	*e*T	T	13 34 53.5	
	25nm,0.3s						
NWAO	**Narrogin (SRO)**	**47.57 282**		LR	LR	12 59 50.1	
	comp=Z,143nm,20.3s,baz=101,slow=30						
ASAR	**Alice Springs**	**49.21 305**		P	**P**	**12 45 10.8**	**+0.4**
ASAR	**Alice Springs**	**49.21 305**		P	**P**	**12 45 10.8**	**+0.4**
	1.6nm,0.8s,baz=155,slow=7.2,SNR=17						
AFI	**Afiamalu**	**51.11**	**15**	LR	LR	13 03 31.0	
	comp=Z,94nm,18.2s,baz=115,slow=32						
RKT	**Rikit

s-min=23.1km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.97**	**168**	LR	LR	12 49 24.3	
	comp=Z,51nm,20.7s,baz=237,slow=36						
ASAR	**Alice Springs**	**35.84**	**194**	P	P	12 43 45.5	-0.6
	0.2nm,0.4s,baz=24,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	**43.04**	**285**	P	P	12 44 46.2	+0.2
	2.6nm,0.8s,baz=77,slow=6.9,SNR=16						
CMAR				pP	pP	12 45 09.4	+1.6
	1.3nm,0.8s,baz=92,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**61.87**	**317**	P	P	12 47 04.4	-0.4
	0.6nm,0.6s,baz=90,slow=8.4,SNR=6.8						
MKAR				pP	pP	12 47 28.1	+0.2
	0.5nm,0.7s,baz=98,slow=7.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**62.43**	**326**	P	P	12 47 07.2	-1.1
	0.5nm,0.4s,baz=108,slow=7.7,SNR=3.1						
ILAR	**Eielson Array**	**71.45**	**25**	P	P	12 48 06.2	+0.9
	0.2nm,0.6s,baz=248,slow=5.9,SNR=4.4						
ILAR				pP	pP	12 48 27.6	-1.3
	0.6nm,0.7s,baz=244,slow=4.6,SNR=3.8						
NVAR	**Mina Array Bea**	**89.83**	**51**	P	P	12 49 45.2	+1.1
	0.6nm,0.7s,baz=259,slow=6.0,SNR=5.5						

KRSC 30 12:37:20.1±1.0, 50°70′N×157°86′E, h49km±49km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.01**	**320**	P	Pn	12 37 39.6	+1.6
PAU				*i* S	Sn	12 37 53.7	+2.6
SKR	**Severo-Kuril's**	**1.11**	**270**	P	Pn	12 37 39.4	+0.2
SKR				*i* S	Sn	12 37 53.3	-0.1
ASAK	**Asacha**	**1.69**	**1**	P	Pn	12 37 48.5	+1.3
ASAK				*i* S	Sn	12 38 09.3	+1.6
MIPR	**Malaya Ipel'ka**	**1.72**	**337**	P	Pn	12 37 49.7	+2.1
MIPR				*i* S	Sn	12 38 11.0	+2.5
RUS	**Russkaya**	**1.78**	**13**	P	Pn	12 37 49.8	+1.4
RUS				*i* S	Sn	12 38 11.5	+1.6
MTVR	**Mutnovka**	**1.80**	**6**	P	Pn	12 37 50.6	+1.8
MTVR				*i* S	Sn	12 38 12.8	+2.2
GRL	**Gorelyy**	**1.86**	**4**	P	Pn	12 37 51.7	+2.0
GRL				*i* S	Sn	12 38 14.8	+2.7
PET	**Petropavlovsk**	**2.38**	**12**	P	Pn	12 37 58.6	+2.0
PET				*i* S	Sn	12 38 26.6	+2.1
AVH	**Avacha**	**2.63**	**12**	P	Pn	12 38 02.4	+2.3
AVH				*i* S	Sn	12 38 33.3	+2.5
KRX	**Arik**	**2.71**	**10**	P	Pn	12 38 03.6	+2.3
KRX				*i* S	Sn	12 38 35.6	+2.7
GNL	**Ganaly**	**3.00**	**1**	P	Pn	12 38 08.3	+3.0

*ISCJB **30** 12:39:05.6±0.8, 4°30′N±0°06′×124°2′E±0°2, h33km, mb3.6/5, Error ellipse: s-maj=22.0km s-min=7.9km az=2.5*
*MAN **30** 12:39:09, 4°76′N×124°25′E, h15km, mb4.8, ML3.8, MS3.8*
*IDC **30** 12:39:10.1±1.7, 3°75′N×125°26′E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=121.4km s-min=22.9km az=67.0*

ISC 30 12:39:07.4±1.1, 4°35′N±0°08′×124°2′E±0°2, h35km, n10, σ0°77/9, mb3.8/5, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.88**	**23**	⇑*i*P	**Pn**	**12 39 37.0**	**-0.2**
GSPH				*i* S	**Sn**	**12 39 59.7**	**-0.1**
PAGZ	**Pagadian**	**3.57**	**347**	*e*P	**Pn**	**12 40 00.3**	**0.0**
BUKP	**Musuan**	**3.61**	**14**	*e*P	**Pn**	**12 40 01.6**	**+0.6**
BUKP				*e*S	Sn	12 40 14.5	-28
IPIL	**Ipil**	**3.79**	**335**	*e*P	**Pn**	**12 40 03.2**	**-0.1**
KAPI	**Kappang**	**10.31**	**206**	LR	LR	12 45 42.9	
	comp=Z,101nm,20.1s,baz=91,slow=38						
FITZ	**Fitzroy Crossi**	**22.35**	**176**	P	**P**	**12 44 03.5**	**+1.0**
	2.0nm,0.5s,baz=12,slow=6.5,SNR=16						
WRA	**Warramunga Arr**	**26.11**	**158**	P	**P**	**12 44 37.1**	**-1.1**
	1.8nm,0.6s,baz=337,slow=9.9,SNR=7.8						
ASAR	**Alice Springs**	**29.41**	**162**	P	**P**	**12 45 06.9**	**-0.8**
	0.2nm,0.6s,baz=342,slow=7.3,SNR=7.3						
STKA	**Stephens Creek**	**39.65**	**157**	P	**P**	**12 46 36.2**	**+0.2**
	7.1nm,1.2s,baz=332,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**55.63**	**326**	P	P	12 48 55.5	+16
	0.3nm,0.7s,baz=122,slow=8.5,SNR=3.7						

IDC 30 12:52:17.6±1.4, 6°53S×151°01E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/18, mbtmp3.9/6, ML2.7/1, Error ellipse: s-maj=60.7km s-min=22.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.76**	**233**	Pn	Pn	12 53 32.4	+1.6
	2.5nm,0.3s,baz=52,slow=9.0,SNR=9.6						
PMG				Sn	Sn	12 54 29.3	+2.6
	2.7nm,0.3s,baz=40,slow=21,SNR=6.8						
WRA	**Warramunga Arr**	**20.97**	**229**	P	P	12 57 02.6	0.0
	2.9nm,0.7s,baz=54,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.68**	**222**	P	P	12 57 30.7	-0.5
	1.9nm,0.9s,baz=54,slow=9.4,SNR=47						
STKA	**Stephens Creek**	**26.71**	**198**	P	P	12 57 58.2	-0.6
	3.5nm,1.1s,baz=22,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**27.28**	**243**	P	P	12 58 04.3	+0.3
	2.0nm,0.5s,baz=55,slow=6.9,SNR=18						
ILAR	**Eielson Array**	**84.43**	**22**	P	P	13 04 52.6	+0.8
	0.4nm,0.6s,baz=244,slow=5.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**149.08**	**285**	PKPbc	PKPbc	13 12 07.6	-1.4
	0.5nm,0.9s,baz=77,slow=3.1,SNR=2.3						

IDC 30 12:52:35.6±2.1, 1°59S×99°27E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/25, mbtmp3.5/9, ML2.4/1, Error ellipse: s-maj=93.0km s-min=16.3km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.38**	**355**	Pn	Pn	12 53 41.0	-2.6
	0.2nm,0.3s,baz=159,slow=18,SNR=2.3						
CMAR	**Chiang Mai Arr**	**19.93**	**359**	P	P	12 57 09.6	+0.3
	baz=196,slow=9.4,SNR=3.5						
WRA	**Warramunga Arr**	**38.83**	**120**	P	P	13 00 02.5	-0.3
	1.7nm,0.7s,baz=299,slow=9.0,SNR=9.2						
ASAR	**Alice Springs**	**40.08**	**126**	P	P	13 00 13.0	-0.2
	0.5nm,0.6s,baz=300,slow=8.0,SNR=12						
SONM	**Songino Array**	**49.62**	**6**	P	P	13 01 29.5	+0.5
	0.2nm,0.5s,baz=190,slow=7.3,SNR=2.4						
STKA	**Stephens Creek**	**49.96**	**132**	P	P	13 01 31.8	+0.1
	1.1nm,0.7s,baz=312,slow=9.8,SNR=3.0						
MKAR	**Makanchi Array**	**50.45**	**345**	P	P	13 01 36.2	+1.0
	1.0nm,0.6s,baz=159,slow=8.0,SNR=8.1						
KURBB	**Kurchatov Arra**	**54.96**	**344**	P	P	13 02 08.1	-0.4
	0.1nm,0.5s,baz=161,slow=6.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	P	13 02 18.8	-1.6
	0.4nm,0.4s,baz=186,slow=6.0,SNR=3.6						
TXAR	**Lajitas Array**	**144.81**	**36**	PKP	PKPdf	13 12 15.1	-0.5
	0.6nm,0.6s,baz=242,slow=1.2,SNR=12						

*NIED **30** 13:04:00, 28°80N×130°20E, h11km, Mw4.0 Best double couple: M0:9.62000×10^14 NP1:φs=49.00000°, δ82.00000°, λ114.00000°. NP2:φs=157.00000°, δ26.00000°, λ20.00000°.*
*IDC **30** 13:04:16.6±0.9, 28°77N×129°91E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/27, mbtmp3.8/11, ML3.1/2, Error ellipse: s-maj=34.6km s-min=16.9km az=76.0*
*ISCJB **30** 13:04:20.9±0.7, 28°79N±0°05×130°17E±0°09, h50km±6km, mb3.7/10, Error ellipse: s-maj=15.1km s-min=4.6km az=24.8*
*JMA **30** 13:04:21.1±0.1, 28°78N×130°16E, h37km, M3.6*

ISC 30 13:04:21.9±0.8, 28°79N±0°06×130°16E±0°10, h40km±7km, n21, σ0°92/29, mb3.8/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.50**	**199**	P	**Pn**	**13 04 31.5**	**-1.2**
JAM	**Amami Oshima**	**0.62**	**232**	P	**Pn**	**13 04 32.8**	**-1.4**
JAM				S	**Sn**	**13 04 42.2**	**-0.8**
JAMN	**Amaminishikomi**	**1.02**	**238**	P	**Pn**	**13 04 39.4**	**-0.3**
JAMN				*e*S	**Sn**	**13 04 54.0**	**+1.1**
JNN	**Nakanoshima**	**1.08**	**347**	P	**Pn**	**13 04 40.3**	**-0.2**
JNN				S	**Sn**	**13 04 54.8**	**+0.6**
JTK	**Tokunoshima**	**1.46**	**227**	P	**Pn**	**13 04 46.0**	**+0.2**
JTK				*e*S	**Sn**	**13 05 04.8**	**+1.1**
JTN	**Tanegashima 3**	**1.99**	**21**	P	**Pn**	**13 04 52.4**	**-0.6**
JTN				S	**Sn**	**13 05 17.8**	**+1.1**
JTSR	**Tashiro 2**	**2.46**	**15**	P	**Pn**	**13 04 59.2**	**-0.3**
JTSR				S	**Sn**	**13 05 28.1**	**-0.2**
JOW	**Kunigami**	**2.57**	**221**	P	**Pn**	**13 05 01.1**	**+0.1**
JIH	**Iheya**	**2.61**	**228**	P	**Pn**	**13 05 02.4**	**+0.8**
JNU	**Nakatsue**	**4.36**	**8**	Pn	**Pn**	**13 05 26.4**	**+0.7**
	3.6nm,0.3s,baz=220,slow=5.7,SNR=48						
JNU				Sn	**Sn**	**13 06 16.4**	**+1.1**
	2.4nm,0.3s,baz=61,slow=23,SNR=5.8						
KSRS	**Korea Array**	**8.84**	**348**	Pn	**Pn**	**13 06 26.4**	**-0.7**
	0.0nm,0.3s,baz=167,slow=15,SNR=2.6						
SONM	**Songino Array**	**26.45**	**322**	P	**P**	**13 09 55.0**	**-0.2**
	1.7nm,0.8s,baz=133,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**41.18**	**309**	P	**P**	**13 12 01.6**	**-0.9**
	0.3nm,0.6s,baz=92,slow=11,SNR=4.9						
MKAR				PcP	**PcP**	**13 14 02.4**	**+1.3**
	0.1nm,0.3s,baz=89,slow=5.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.31**	**320**	P	**P**	**13 12 02.3**	**-1.1**
	2.0nm,0.4s,baz=102,slow=8.7,SNR=9.2						
KURBB	**Kurchatov Arra**	**44.24**	**314**	P	**P**	**13 12 26.8**	**-0.5**
	0.3nm,0.2s,baz=96,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**48.62**	**175**	P	**P**	**13 13 01.3**	**-0.5**
	1.8nm,0.9s,baz=349,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**52.28**	**176**	P	**P**	**13 13 30.5**	**+1.0**
	0.5nm,0.6s,baz=9.2,slow=14,SNR=18						
KBZ	**Khabaz**	**68.87**	**309**	P	**P**	**13 15 22.4**	**-0.1**
	1.7nm,0.7s,baz=257,slow=0.3,SNR=4.0						
FINES	**FINESS Array B**	**71.48**	**331**	P	**P**	**13 15 36.7**	**-1.4**
	1.0nm,0.4s,baz=66,slow=6.1,SNR=15						
YKA	**Yellowknife Ar**	**75.49**	**26**	P	**P**	**13 16 03.0**	**+1.4**
	0.2nm,0.6s,baz=309,slow=5.6,SNR=4.3						
BRTR	**Keskin Array B**	**76.81**	**308**	P	**P**	**13 16 09.6**	**-0.2**
	0.6nm,0.5s,baz=110,slow=5.5,SNR=4.4						

*NIED **30** 13:09:00, 28°80N×130°20E, h20km, Mw4.7 Best double couple: M0:1.38000×10^16 NP1:φs=64.00000°, δ77.00000°, λ105.00000°. NP2:φs=195.00000°, δ20.00000°, λ42.00000°.*
*IDC **30** 13:09:10.9±1.0, 28°72N×130°07E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.7/27, mbtmp3.7/9, ML3.3/2, MS4.6/2, Ms1 4.6/2, ms1mx3.5/29, Error ellipse: s-maj=45.7km s-min=18.0km az=77.0*
*ISCJB **30** 13:09:13.8±0.7, 28°70N±0°05×130°33E±0°08, h29km, mb3.6/8, MS4.7/2, Error ellipse: s-maj=11.2km s-min=5.0km az=26.5*
*JMA **30** 13:09:15.8±0.1, 28°77N×130°15E, h40km, M3.5*

ISC 30 13:09:15.2±0.9, 28°74N±0°06×130°1E±0°1, h29km, n21, σ0°76/20, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.45**	**200**	P	**Pn**	**13 09 26.2**	**+0.5**
JAM	**Amami Oshima**	**0.57**	**236**	P	**Pn**	**13 09 27.5**	**+0.1**
JAM				*e*S	**Sn**	**13 09 36.9**	**+1.0**
JAMN	**Amaminishikomi**	**0.98**	**240**	P	**Pb**	**13 09 34.3**	**+0.6**
JNN	**Nakanoshima**	**1.12**	**348**	P	**Pb**	**13 09 35.2**	**-0.9**
JNN				*e*S	**Sb**	**13 09 50.8**	**+0.5**
JTK	**Tokunoshima**	**1.42**	**228**	P	**Pb**	**13 09 40.3**	**-0.7**
JKC	**Kuchinoerabu**	**1.72**	**2**	P	**Pn**	**13 09 43.3**	**+0.1**
JTN	**Tanegashima 3**	**2.04**	**21**	P	**Pn**	**13 09 47.5**	**-0.2**
JTN				*e*S	**Sn**	**13 10 13.1**	**+0.9**
JOW	**Kunigami**	**2.52**	**222**	P	**Pn**	**13 09 54.6**	**+0.4**
JNU	**Nakatsue**	**4.41**	**8**	Pn	**Pn**	**13 10 21.4**	**+1.0**
	2.9nm,0.3s,baz=289,slow=2.0,SNR=46						
KSRS	**Korea Array**	**8.89**	**348**	Pn	**Pn**	**13 11 22.5**	**+0.8**
	0.1nm,0.3s,baz=165,slow=13,SNR=2.6						
QZH	**Quanzhou**	**10.98**	**253**	P	Pn	13 12 02.3	+12
QZH				S	Sn	13 14 13.3	+21
QZH				LR	LR		
	comp=N,3μm,14.0s						
QZH				LR	LR		
	comp=E,2μm,19.0s						
QZH				LR	LR		
	comp=Z,3μm,14.2s						
SONM	**Songino Array**	**26.49**	**323**	P	**P**	**13 14 51.3**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=134,slow=10,SNR=9.5						
GTA	**Gaotai**	**27.17**	**301**	*e*P	P	13 15 02.3	+6.0
GTA				pP	pP	13 15 05.5	+0.8
GTA				sP	sP	13 15 08.0	-0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.34**	**320**	P	**P**	**13 16 57.5**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=99,slow=7.0,SNR=3.7						
WRA	**Warramunga Arr**	**48.57**	**175**	P	**P**	**13 17 56.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=351,slow=8.3,SNR=7.0						
ASAR	**Alice Springs**	**52.23**	**176**	P	**P**	**13 18 24.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=9.2,slow=14,SNR=21						
AKTO	**Aktyubinsk**	**57.31**	**314**	LR	LR	13 46 14.5	
	comp=Z,569nm,19.5s,baz=81,slow=39						
FINES	**FINESS Array B**	**71.52**	**331**	P	**P**	**13 20 31.9**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=40,slow=3.2,SNR=4.4						
AKASG	**Malin Array Be**	**74.73**	**320**	LR	LR	13 57 38.4	
	comp=Z,344nm,18.3s,baz=55,slow=39						
YKA	**Yellowknife Ar**	**75.54**	**26**	P	**P**	**13 20 56.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=304,slow=5.7,SNR=4.8						
BRTR	**Keskin Array B**	**76.83**	**308**	P	**P**	**13 21 04.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=282,slow=2.8,SNR=2.7						

*IDC **30** 13:09:39.1±0.6, 28°74N×130°09E, h0km, mb4.2/20, mb1 4.4/23, mb1mx4.3/30, mbtmp4.2/23, ML3.8/3, MS4.5/6, Ms1 4.6/6, ms1mx3.9/30, Error ellipse: s-maj=19.3km s-min=13.4km az=85.0*
*BJI **30** 13:09:41.2, 28°41N×130°42E, h41km, mB4.7/20, mb4.4/21, Ms4.6/28, Ms7 4.4/25*
*MOS **30** 13:09:42.3±1.0, 28°76N×130°10E, h33km, mb4.8/25, MS4.8/7, Error ellipse: s-maj=13.1km s-min=6.8km az=112.0*
*JMA **30** 13:09:44.5±0.1, 28°73N×130°19E, h40km±3km, M4.8*
JMA Felt I J1.
*ISCJB **30** 13:09:44.3±0.4, 28°77N±0°03×130°10E±0°04, h47km±3km, mb4.4/49, MS4.7/20, Error ellipse: s-maj=6.6km s-min=3.2km az=28.0*
*NEIC **30** 13:09:44.9±0.8, 28°74N×130°05E, h38km±7km, mb4.6/14, MW4.7(NIED), Error ellipse: s-maj=7.4km s-min=5.5km az=111.0*
NEIC Recorded [1 JMA] on Akuseki-jima, Amami-shima and Kikaiga-shima.
*SZGRF **30** 13:09:55.4, 31°71N×131°02E, h33km, mb5.3, MS4.8, Kyushu, Japan*

ISC 30 13:09:44.8±0.6, 28°76N±0°04×130°13E±0°05, h41km±3km, h41km:pP-P, n154, σ1°35/176, mb4.5/49, MS4.8/21, 1C-3D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.47**	**197**	P	**Pn**	**13 09 54.5**	**-0.7**
JAM	**Amami Oshima**	**0.58**	**233**	P	**Pn**	**13 09 56.4**	**-0.2**
JAM				*e*S	**Sn**	**13 10 05.4**	**+0.3**
JAMN	**Amaminishikomi**	**0.99**	**239**	P	**Pn**	**13 10 02.5**	**+0.3**
JNN	**Nakanoshima**	**1.10**	**348**	P	**Pn**	**13 10 04.8**	**+1.1**
JNN				*e*S	**Sn**	**13 10 19.5**	**+1.8**
JTK	**Tokunoshima**	**1.43**	**227**	P	**Pn**	**13 10 09.4**	**+1.2**
JKC	**Kuchinoerabu**	**1.69**	**2**	P	**Pn**	**13 10 13.6**	**+1.8**
JKC				S	**Sn**	**13 10 33.3**	**+1.0**
JTN	**Tanegashima 3**	**2.02**	**21**	P	**Pn**	**13 10 16.0**	**-0.4**
JTN				S	**Sn**	**13 10 40.0**	**-0.5**
JTSR	**Tashiro 2**	**2.49**	**16**	P	**Pn**	**13 10 23.3**	**+0.5**
JTSR				S	**Sn**	**13 10 51.7**	**-0.3**
JOW	**Kunigami**	**2.53**	**221**	*e*Pn	**Pn**	**13 10 23.7**	**+0.3**
JOW	**Kunigami**	**2.53**	**221**	P	**Pn**	**13 10 22.9**	**-0.5**
JIH	**Iheya**	**2.58**	**229**	P	**Pn**	**13 10 24.2**	**+0.2**
JSU	**Suzuyama**	**2.75**	**6**	P	**Pn**	**13 10 27.7**	**+1.3**
JSU				S	**Sn**	**13 10 58.6**	**+0.3**
JNAR	**Kushima--Naru**	**2.92**	**19**	P	**Pn**	**13 10 28.5**	**-0.3**
JNAR				S	**Sn**	**13 11 03.9**	**+1.2**
JSJ	**Shimokoshiki**	**2.93**	**353**	P	**Pn**	**13 10 29.9**	**+1.1**
JSJ				S	**Sn**	**13 11 05.7**	**+3.0**
JTZ	**Takazaki**	**3.23**	**15**	P	**Pn**	**13 10 33.5**	**+0.5**
JTZ				S	**Sn**	**13 11 10.4**	**+0.1**
JAGN	**Aguni-jima**	**3.36**	**230**	P	**Pn**	**13 10 36.1**	**+1.4**
JAGN				S	**Sn**	**13 11 15.8**	**+2.5**
JJT2	**Tamagusuku 2**	**3.37**	**220**	P	**Pn**	**13 10 35.0**	**+0.2**
JKE	**Kume jima 2**	**3.84**	**232**	P	**Pn**	**13 10 41.2**	**-0.1**
JNU	**Nakatsue**	**4.39**	**8**	*e*Pn	**Pn**	**13 10 49.8**	**+0.8**
JNU				Sn	**Sn**	**13 11 38.6**	**-0.2**
JNU	**Nakatsue**	**4.39**	**8**	Pn	**Pn**	**13 10 49.1**	**+0.2**
	8.9nm,0.3s,baz=335,slow=4.9,SNR=17						
JNU				Sn	**Sn**	**13 11 38.6**	**-0.2**
	10nm,0.3s,baz=41,slow=22,SNR=7.4						
KSAR	**Wonju Array Be**	**8.86**	**348**	Pn	**Pn**	**13 11 50.1**	**0.0**
KSRS	**Korea Array**	**8.86**	**349**	Pn	**Pn**	**13 11 50.1**	**-0.1**
	0.1nm,0.3s,baz=175,slow=13,SNR=2.9						
SSLB	**Suanglung**	**9.61**	**241**	Pn	**Pn**	**13 11 59.8**	**-0.8**
WHN	**Wuhan**	**13.84**	**281**	P	**Pn**	**13 12 59.5**	**+1.2**
WHN				S	**Sn**	**13 15 31.3**	**+0.7**
WHN				LR	LR		
	comp=N,970nm,11.1s						
WHN				LR	LR		
	comp=E,3μm,15.5s						
WHN				LR	LR		
	comp=Z,3μm,15.3s						
SNY	**Shenyang**	**14.08**	**339**	⇓P	**P**	**13 13 05.8**	**-2.6**
SNY				S	**S**	**13 15 54.0**	**-2.2**
SNY				pmax	pmax		
	comp=Z,15nm,2.0s						
SNY				pmax	pmax		
	comp=Z,240nm,4.8s						
SNY				LR	LR		
	comp=N,3μm,12.7s						
SNY				LR	LR		
	comp=E,2μm,11.0s						
SNY				LR	LR		
	comp=Z,3μm,12.4s						
USRK	**Ussuriysk Arra**	**15.48**	**5**	Pn	**Pn**	**13 13 19.2**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=178,slow=8.7,SNR=2.1						
USRK				LR	LR	13 19 46.6	
	comp=Z,939nm,18.2s,baz=167,slow=39						
MDJ	**Mudanjiang**	**15.83**	**359**	P	**P**	**13 13 32.0**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,150nm,8.2s						
MDJ				LR	LR		
	comp=N,850nm,15.8s						
MDJ				LR	LR		
	comp=E,240nm,11.4s						
MDJ				LR	LR		
	comp=Z,1μm,15.8s						
ASAJ	**Asahikawa**	**18.28**	**30**	P	**Pn**	**13 13 55.2**	**+0.1**
ASAJ	**Asahikawa**	**18.28**	**30**	P	**Pn**	**13 13 55.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=236,slow=11,SNR=11						
ASAJ				LR	LR	13 21 11.3	
	comp=Z,679nm,21.8s,baz=57,slow=38						
HHC	**Hu-ho-hao-te**	**19.39**	**313**	*e*P	**P**	**13 14 06.8**	**-0.5**
HHC				pP	**pP**	**13 14 17.0**	**-0.5**
HHC				PP	**PnPn**	**13 14 25.0**	**+2.5**
HHC				S	**S**	**13 17 38.3**	**-6.2**
HHC				PcP	**PcP**	**13 18 27.8**	**0.0**
HHC				ScP	**ScP**	**13 21 58.0**	**-2.5**
HHC				PcS	**PcS**	**13 22 03.5**	**-1.5**
HHC				pmax	pmax		
	comp=Z,19nm,0.9s						
HHC				pmax	pmax		
	comp=Z,400nm,4.2s						
HHC				LR	LR		
	comp=N,2μm,14.5s						
HHC				LR	LR		
	comp=E,2μm,14.0s						
HHC				LR	LR		
	comp=Z,2μm,14.2s						
YUK	**Yuzh-Kuril'sk**	**19.76**	**35**	*d*iP	**P**	**13 14 07.9**	**-3.2**
YUK				*i* S	**S**	**13 17 49.7**	**-1.8**
YUK				pmax	pmax		
	comp=Z,19nm,0.8s						
YUK				pmax	pmax		
	comp=Z,246nm,2.7s						
YUK				MLR	MLR		
	comp=E,97nm,20.0s						
YUK				MLR	MLR		
	comp=Z,655nm,20.0s						
BTO	**Baotou**	**20.27**	**311**	*e*P	Pn	13 14 20.5	+1.4
KLR	**Kul'dur**	**20.48**	**3**	*e*P	**P**	**13 14 17.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**20.67**	**25**	*e*P	Pn	13 14 29.0	+5.5
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
QIZ	**Qiongzhong**	**20.90**	**247**	P	**P**	**13 14 21.5**	**-2.2**
QIZ				S	**S**	**13 18 13.3**	**-1.3**
QIZ				pmax	pmax		
	comp=Z,51nm,5.5s						
QIZ				LR	LR		
	comp=N,630nm,18.2s						
QIZ				LR	LR		
	comp=Z,590nm,18.7s						
CD2	**Chengdu**	**22.96**	**282**	P	**P**	**13 14 45.3**	**-0.4**
CD2				pP	**pP**	**13 14 55.8**	**-0.3**
CD2				sP	**sP**	**13 15 00.8**	**-0.5**
CD2				PP	**PnPn**	**13 15 15.3**	**+3.9**
CD2				S	**S**	**13 18 47.3**	**-5.8**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,1μm,19.2s						
CD2				LR	LR		
	comp=E,1μm,14.3s						
CD2				LR	LR		
	comp=Z,1μm,13.2s						
LZH	**Lanzhou**	**23.32**	**295**	*e*P	P	13 14 59.5	+10
LZH				pP	pP	13 15 09.0	+9.1
LZH				sP	sP	13 15 11.8	+6.7
LZH				pmax	pmax		
	comp=Z,63nm,1.4s						
KMI	**Kunming**	**24.66**	**268**	P	**P**	**13 15 03.5**	**+1.5**
KMI				pP	**pP**	**13 15 11.8**	**-1.4**
KMI				pmax	pmax		
	comp=Z,12nm,1.3s						
KMI				LR	LR		
	comp=N,600nm,11.7s						
KMI				LR	LR		
	comp=E,650nm,12.1s						
KMI				LR	LR		
	comp=Z,670nm,12.7s						
ULN	**Ulaanbaatar**	**26.13**	**323**	P	**P**	**13 15 13.3**	**-1.8**
	comp=Z,7.1nm,0.7s						
SONM	**Songino Array**	**26.46**	**323**	P	**P**	**13 15 18.3**	**+0.4**
SONM	**Songino Array**	**26.46**	**323**	P	**P**	**13 15 18.

MKAR PcP **PcP** 13 19 24.7 +0.9
MKAR Makanchi Array 41.17 309 P **P** 13 17 24.6 -0.6
comp=Z,0.6nm,0.5s,baz=92,slow=11,SNR=8.6
MKAR PcP **PcP** 13 19 24.7 +0.9
comp=Z,1.3nm,0.9s,baz=88,slow=6.2,SNR=5.9
ZAA0 Zalesovo Array 41.31 320 *e*P **P** 13 17 25.9 -0.2
ZALV Zalesovo Beam 41.31 320 P **P** 13 17 25.6 -0.5
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 41.31 320 P **P** 13 17 25.6 -0.5
ZALV Zalesovo Beam 41.31 320 P **P** 13 17 25.6 -0.5
comp=Z,3.7nm,0.4s,baz=101,slow=8.7,SNR=17
TIXI Tiksi 42.94 359⇑ *e*P **P** 13 17 39.2 +0.1
KURK Kurchatov 44.20 314 P **P** 13 17 49.9 +0.3
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 44.20 314 P **P** 13 17 49.9 +0.3
KURBB Kurchatov Arra 44.24 314 P **P** 13 17 49.9 0.0
comp=Z,1.1nm,0.6s,baz=101,slow=8.8,SNR=9.3
TKM2 Tokmak 2 45.65 303 *e*P **P** 13 18 02.1 +0.6
TKM2 pmax pmax
comp=Z,5.0nm,1.1s
TKM2 Tokmak 2 45.65 303 *e*P **P** 13 18 02.1 +0.6
comp=Z,5.0nm,1.1s
AAK Ala-Archa 46.47 303 *i*P **P** 13 18 07.6 -0.3
FITZ Fitzroy Crossi 46.79 186 P **P** 13 18 10.1 -0.3
FITZ Fitzroy Crossi 46.79 186 P **P** 13 18 10.1 -0.3
comp=Z,1.6nm,0.6s,baz=22,slow=9.8,SNR=8.9
WRAB Tennant Creek 48.58 175 *e*P **P** 13 18 24.3 0.0
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 48.58 175 *e*P **P** 13 18 24.3 0.0
comp=Z,9.4nm,1.0s
WRA Warramunga Arr 48.59 175 P **P** 13 18 23.4 -0.9
WRA Warramunga Arr 48.59 175 P **P** 13 18 23.4 -0.9
comp=Z,5.5nm,0.9s,baz=351,slow=8.4,SNR=18
KKAR Karatay Array 49.37 304 *e*P **P** 13 18 30.8 +0.6
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 49.37 304 *e*P **P** 13 18 30.8 +0.6
comp=Z,2.6nm,0.8s
BRVK Borovoye 49.62 317 *e*P **P** 13 18 33.0 +1.1
BRVK pmax pmax
comp=Z,7.0nm,0.5s
BRVK Borovoye 49.62 317 *e*P **P** 13 18 33.0 +1.1
comp=Z,6.9nm,0.5s
KBL Kabul 51.64 293 *e*P **P** 13 18 49.2 +1.5
KBL pmax pmax
comp=Z,25nm,1.3s
KBL Kabul 51.64 293 *e*P **P** 13 18 49.1 +1.5
comp=Z,25nm,1.3s
AS31 Alice Springs 52.25 176 *e*P **P** 13 18 51.5 -0.4
ASAR Alice Springs 52.25 176 P **P** 13 18 53.0 +1.1
ASAR Alice Springs 52.25 176 P **P** 13 18 53.0 +1.1
comp=Z,3.2nm,0.6s,baz=8.2,slow=14,SNR=34
ABKAR Akbulak array 56.18 312 *e*P **P** 13 19 20.1 -0.2
comp=Z,3.1nm,0.7s
ARU Arti 56.48 321 *d i*P **P** 13 19 22.8 +0.5
ARU S **S** 13 27 13.9 +3.5
ARU SS **SS** 13 30 57.3 -0.3
ARU pmax pmax
comp=Z,16nm,1.7s
ARU MLR MLR
comp=Z,516nm,16.0s
PPLA Purkeypile 59.25 31 *e*P **P** 13 19 42.9 +1.1
comp=Z,30nm,1.3s
MCK McKinley 60.64 30 *e*P **P** 13 19 51.5 +0.3
MCK pmax pmax
comp=Z,23nm,1.2s
MCK McKinley 60.64 30 *e*P **P** 13 19 51.5 +0.3
comp=Z,23nm,1.2s
ILAR Eielson Array 61.41 29 P **P** 13 19 56.8 +0.3
ILAR Eielson Array 61.41 29 P **P** 13 19 56.8 +0.3
comp=Z,0.6nm,0.6s,baz=265,slow=5.9,SNR=8.1
DZM Mont Dzumac 61.48 141 *e*LR LR 13 38 13.3
comp=Z,190nm,24.9s
PAX Paxson 62.29 31 P **P** 13 20 02.1 -0.4
PAX pmax pmax
comp=Z,15nm,1.4s
PAX Paxson 62.29 31 P **P** 13 20 02.1 -0.4
comp=Z,15nm,1.4s
MENT Mentasta 63.08 31 *e*P **P** 13 20 09.1 +1.5
VRHR Novokhopersk 67.30 317 *e*P **P** 13 20 33.2 -1.9
VRHR pmax pmax
comp=Z,6.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
ARCES ARCESS Array B 68.27 339 P **P** 13 20 41.8 +0.8
ARCES ARCESS Array B 68.27 339 P **P** 13 20 41.8 +0.8
comp=E,6.8nm,1.1s,baz=65,slow=9.3,SNR=3.3
ARCES LR LR 13 55 53.4
comp=E,507nm,18.4s,baz=60,slow=41
ZEI Tsey 68.51 308 *e*P **P** 13 20 42.5 -0.7
ZEI pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 68.65 331 *ep* **P** 13 20 42.9 -0.5
comp=Z,2.1nm,0.4s
VSR Storozhevoye 68.72 318 *e*P **P** 13 20 44.5 +0.4
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,10.0nm,1.3s
KBZ Khabaz 68.87 309 P **P** 13 20 45.9 +0.8
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 68.87 309 P **P** 13 20 45.9 +0.8
KBZ Khabaz 68.87 309 P **P** 13 20 45.9 +0.8
comp=Z,4.6nm,0.8s,baz=60,slow=1.6,SNR=9.3
OBN Obninsk 68.87 322 *e*P **P** 13 20 44.8 -0.1
OBN *e**PP **pP** 13 20 55.4 -1.7
OBN *e* 13 21 10.2
OBN *e* 13 23 16.8
OBN *e*SS SS 13 34 15.4 +4.5
OBN pmax pmax
comp=Z,51nm,2.5s
OBN MLR MLR
comp=Z,600nm,18.0s
KIV Kislovodsk 68.94 309 *e*P **P** 13 20 47.4 +1.7
KIV pmax pmax
comp=Z,11nm,1.1s
FINES FINESS Array B 71.50 331 P **P** 13 21 00.8 0.0
FINES FINESS Array B 71.50 331 P **P** 13 21 00.8 0.0
comp=Z,2.3nm,0.4s,baz=65,slow=5.6,SNR=19
FINES LR LR 13 55 46.6
comp=Z,538nm,18.4s,baz=59,slow=39
AKASG Malin Array Be 74.70 320 *i*P **P** 13 21 22.6 +2.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 74.70 320 P **P** 13 21 19.8 -0.2
AKASG Malin Array Be 74.70 320 P **P** 13 21 19.8 -0.2
comp=Z,1.8nm,0.4s,baz=58,slow=6.5,SNR=5.2
KIEV Kiev 74.72 320 *i*P **P** 13 21 20.0 -0.1
YKW3 Yellowknife Ar 75.48 26 *e*P **P** 13 21 24.8 +0.5
comp=Z,0.2nm,1.1s
YKA Yellowknife Ar 75.52 26 P **P** 13 21 25.3 +0.8
YKA Yellowknife Ar 75.52 26 P **P** 13 21 25.3 +0.8
comp=Z,1.8nm,0.7s,baz=303,slow=5.6,SNR=15
BR131 Keskin Array S 76.81 308 *e*P **P** 13 21 33.6 +1.1
comp=Z,2.7nm,0.7s
BRTR Keskin Array B 76.81 308 P **P** 13 21 32.6 +0.1
BRTR Keskin Array B 76.81 308 P **P** 13 21 32.6 +0.1
comp=Z,3.7nm,0.9s,baz=90,slow=4.9,SNR=20
NOA NORSAR Array B 77.78 334 P **P** 13 21 38.9 +1.5
NOA NORSAR Array B 77.78 334 P **P** 13 21 38.9 +1.5
comp=Z,1.7nm,0.8s,baz=50,slow=5.6,SNR=3.3
KECS Kecovo 80.73 321 *e*P **P** 13 21 54.0 +0.3
KECS Kecovo 80.73 321 *e*P **P** 13 21 54.0 +0.3
OKC Ostrava-Krasne 81.26 323 AMS AMS 14 01 10.0
comp=Z,600nm,20.7s
EDM Edmonton 81.56 33 *e*P **P** 13 21 58.9 +0.8
EDM Edmonton 81.56 33 *e*P **P** 13 21 58.9 +0.8
DPC Dobruska-Polom 81.92 324 *e*P **P** 13 22 01.0 +1.0
DPC *e* 13 22 12.7
DPC Dobruska-Polom 81.92 324 *e*P **P** 13 22 01.0 +1.0
DPC *e*pP **pP** 13 22 12.7 +0.2
DPC *e*x x 13 22 22.7
DPC AMS AMS 14 01 50.0
UPC Upice 81.99 324 *e*P P 13 22 06.0 +5.7
UPC Upice 81.99 324 *e*PCP P 13 22 06.0 +5.7
PVCC Panska Ves 82.72 325 AMS AMS 14 02 50.0
comp=Z,700nm,16.4s

TREC Trest 82.98 323 AMS AMS 14 02 20.0
comp=Z,500nm,18.5s
CLL Collm 83.03 326 *e*P **P** 13 22 06.0 +0.3
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 83.03 326 *e*P **P** 13 22 06.0 +0.3
comp=Z,8.0nm,1.0s
CLL Lm MLR 14 02 00.0
comp=N,200nm,19.8s
CLL Lm MLR 14 02 00.0
comp=E,500nm,19.0s
PRU Pruhonice 83.06 324 *e*P P 13 22 12.8 +6.9
PRU *e* 13 22 27.0
PRU MLR MLR
comp=Z,600nm,15.1s
PRU Pruhonice 83.06 324 *e*PCP P 13 22 12.8 +6.9
PRU *e*pP pP 13 22 16.5 -1.9
PRU *e*x x 13 22 27.0
PRU AMS AMS 14 02 40.0
comp=Z,600nm,15.1s
NKC Novy Kostel 83.97 325 *e*P **P** 13 22 12.1 +1.5
NKC MLR MLR
comp=Z,500nm,15.3s
NKC Novy Kostel 83.97 325 *e*P **P** 13 22 12.1 +1.5
NKC AMS AMS 14 04 00.0
comp=Z,500nm,15.3s
KHC Kasperske Hory 84.08 324 *e*P **P** 13 22 11.3 +0.1
KHC *e* 13 22 17.0
KHC *e* 13 22 27.9
KHC MLR MLR
comp=Z,400nm,15.2s
KHC Kasperske Hory 84.08 324 *e*P **P** 13 22 11.3 +0.1
KHC *e*PCP **PcP** 13 22 17.0 +2.0
KHC *es*P **sP** 13 22 27.9 -0.5
KHC AMS AMS 14 03 20.0
comp=Z,400nm,15.2s
MOX Moxa 84.13 326 *e*L L 14 03 33.9
comp=Z,484nm,18.6s
GERES GERESS Array B 84.19 324 P **P** 13 22 12.2 +0.3
GERES GERESS Array B 84.19 324 P **P** 13 22 12.2 +0.3
comp=Z,0.7nm,0.6s,baz=26,slow=6.4,SNR=7.8
GERES LR LR 14 03 48.5
comp=Z,370nm,18.5s,baz=56,slow=39
JTMT Jette 84.41 38 *e*P **P** 13 22 14.5 +1.5
GRF Grafenberg Arr 84.93 325 *e*P **P** 13 22 16.1 +0.7
comp=Z,31nm,1.7s
GRF *e*L L 14 03 59.1
comp=Z,275nm,18.3s
GRF Grafenberg Arr 84.93 325 *e*P **P** 13 22 16.1 +0.7
GRF pmax pmax
comp=Z,31nm,1.7s
GRF MLR MLR
comp=Z,300nm,18.3s
HRY Holter Researc 86.37 37 *e*P **P** 13 22 24.5 +1.7
comp=Z,1.1nm,0.5s
LRM Limekiln Ridge 86.59 38 *e*P **P** 13 22 24.9 +0.8
comp=Z,125nm,1.6s
NVAR Mina Array Bea 87.54 47 P **P** 13 22 29.8 +1.0
NVAR Mina Array Bea 87.54 47 P **P** 13 22 29.8 +1.0
comp=Z,1.0nm,0.8s,baz=299,slow=5.4,SNR=7.8
H17A Grant Village 88.52 39 *e*P **P** 13 22 36.2 +2.8
PDAR Pinedale Array 90.14 39 P **P** 13 22 40.9 -0.1
PDAR Pinedale Array 90.14 39 P **P** 13 22 40.9 -0.1
comp=Z,0.7nm,0.8s,baz=337,slow=1.9,SNR=5.0
PPT2 Papeete2 90.15 110 *e*LR LR 13 51 31.4
comp=Z,105nm,25.2s
ULM Lac du Bonnet 91.40 28 P **P** 13 22 47.2 +0.8
ULM Lac du Bonnet 91.40 28 P **P** 13 22 47.2 +0.8
comp=Z,1.3nm,0.4s,baz=338,slow=12,SNR=2.5
TMUT Trail Mountain 91.42 43 P **P** 13 22 48.5 +1.4
comp=Z,3.1nm,0.5s
Q16A Castle Valley 91.68 43 *e*P **P** 13 22 49.4 +1.3
TBI Tubuai 93.11 115 *e*LR LR 13 52 55.3
comp=Z,109nm,24.2s
ESDC Sonseca Array 99.62 326 LR LR 14 17 15.4
comp=Z,274nm,18.2s,baz=45,slow=41

*IDC **30** 13:14:39.8±1.4,28°.70N×130°.59E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=83.6km s-min=19.5km az=81.0*
*ISCJB **30** 13:14:43.1±0.9,28°.70N±0°.05×130°.3E±0°.1, h39km±13km, mb3.5/3, Error ellipse: s-maj=18.3km s-min=5.0km az=19.9*
*JMA **30** 13:14:43.8±0.1,28°.76N×130°.17E, h33km±4km, M3.4*
ISC 30 13:14:44.1±1.6,28°.71N±0°.06×130°.2E±0°.1, h30km±13km, n17, σ0°68/22, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.44**	**206**	P	**Pb**	**13 14 53.6**	**0.0**
JAM	**Amami Oshima**	**0.59**	**240**	P	**Pb**	**13 14 55.5**	**-0.6**
JAM				*e*S	**Sb**	**13 15 04.6**	**+0.4**
JAMN	**Amaminishikomi**	**1.01**	**243**	P	**Pn**	**13 15 02.2**	**0.0**
JNN	**Nakanoshima**	**1.16**	**346**	P	**Pn**	**13 15 04.0**	**-0.3**
JNN				*e*S	**Sn**	**13 15 18.6**	**-0.6**
JTK	**Tokunoshima**	**1.43**	**230**	P	**Pn**	**13 15 08.7**	**+0.7**
JKC	**Kuchinoerabu**	**1.75**	**0**	P	**Pn**	**13 15 12.3**	**-0.1**
JKC				S	**Sn**	**13 15 33.5**	**-0.1**
JTN	**Tanegashima 3**	**2.06**	**19**	P	**Pn**	**13 15 15.7**	**-0.9**
JTN				S	**Sn**	**13 15 40.8**	**-0.5**
JOW	**Kunigami**	**2.52**	**223**	P	**Pn**	**13 15 23.0**	**-0.1**
JIH	**Iheya**	**2.58**	**230**	P	**Pn**	**13 15 23.7**	**-0.1**
JJT2	**Tamagusuku 2**	**3.36**	**221**	P	**Pn**	**13 15 34.7**	**+0.2**
JAGN	**Aguni-jima**	**3.36**	**232**	P	**Pn**	**13 15 34.6**	**0.0**
JKE	**Kume jima 2**	**3.84**	**233**	P	**Pn**	**13 15 40.6**	**-0.6**
JNU	**Nakatsue**	**4.44**	**7**	Pn	**Pn**	**13 15 49.4**	**0.0**
	1.1nm,0.3s,baz=209,slow=4.1,SNR=13						
JNU				Sn	**Sn**	**13 16 39.0**	**-1.1**
	0.9nm,0.3s,baz=38,slow=20,SNR=5.6						
KSRS	**Korea Array**	**8.93**	**348**	Pn	**Pn**	**13 16 52.4**	**+1.4**
	0.1nm,0.3s,baz=175,slow=17,SNR=2.6						
SONM	**Songino Array**	**26.54**	**323**	P	**P**	**13 20 20.4**	**+1.1**
	0.8nm,0.8s,baz=137,slow=9.6,SNR=4.9						
WRA	**Warramunga Arr**	**48.53**	**175**	P	**P**	**13 23 23.9**	**-0.6**
	0.3nm,0.4s,baz=8.3,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**52.19**	**176**	P	**P**	**13 23 52.8**	**+0.5**
	0.5nm,0.9s,baz=8.8,slow=14,SNR=5.5						

*IDC **30** 13:22:36.8±2.2, 0°.13N×125°.93E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/21, mbtmp3.1/3, Error ellipse: s-maj=229.8km s-min=27.1km az=65.0*
*DJA **30** 13:22:41.3±1.1, 0°.3S±10°×12°.5E±°, h156km±19km, M3.6/5, MLv3.6/5*
*ISCJB **30** 13:22:44.6±1.0, 0°.3S±0°.1×125°.37E±0°.07, h57km, mb3.0/3, Error ellipse: s-maj=19.5km s-min=9.4km az=4.3*
ISC 30 13:22:45.5±1.2, 0°.3S±0°.1×125°.36E±0°.07, h57km, n7, σ1°31/7, mb2.8/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.63**	**302**	P	**Pn**	**13 23 12.8**	**+1.0**
LBMI	**Labuha**	**2.17**	**99**	P	**Pn**	**13 23 20.1**	**+0.8**
LBMI				S	Sn	13 23 51.1	+6.1
LUWI	**Luwuk**	**2.69**	**254**	P	**Pn**	**13 23 26.4**	**+0.1**
LUWI				S	**Sn**	**13 23 58.6**	**+0.9**
MRSI	**Marisa**	**3.50**	**283**	P	Pn	13 23 33.4	-4.1
WRA	**Warramunga Arr**	**21.41**	**156**	P	**P**	**13 27 27.6**	**-1.2**
	0.2nm,0.4s,baz=336,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.66**	**161**	P	**P**	**13 28 02.2**	**+1.1**
	0.2nm,0.8s,baz=340,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**13 32 45.8**	**-1.3**
	0.2nm,0.4s,baz=127,slow=7.7,SNR=4.6						

KRSC 30 13:34:45.8±0.6, 50°.72N×157°.85E, h11km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.99**	**319**	P	Pn	13 35 05.6	-0.1
PAU				*i*S	Sn	13 35 19.4	-0.3
SKR	**Severo-Kuril's**	**1.10**	**269**	P	Pb	13 35 05.7	-1.1
SKR				*i*S	Sb	13 35 19.8	-1.4
ASAK	**Asacha**	**1.67**	**1**	P	Pn	13 35 15.4	+0.4
ASAK				*i*S	Sb	13 35 37.4	-0.3
MIPR	**Malaya Ipel'ka**	**1.70**	**337**	P	Pb	13 35 16.6	-0.5
MIPR				*i*S	Sb	13 35 39.1	+0.6
RUS	**Russkaya**	**1.77**	**13**	P	Pn	13 35 16.1	-0.2
RUS				*i*S	Sn	13 35 38.2	-0.5
MTVR	**Mutnovka**	**1.78**	**7**	P	Pn	13 35 16.8	+0.1
MTVR				*i*S	Sn	13 35 39.4	0.0
GRL	**Gorelyy**	**1.84**	**4**	P	Pn	13 35 18.0	+0.5
GRL				*i*S	Sn	13 35 41.4	+0.5
APC	**Apacha**	**2.25**	**349**	P	Pn	13 35 24.0	+1.1
PET	**Petropavlovsk**	**2.36**	**12**	P	Pn	13 35 25.2	+0.8
PET				*i*S	Sn	13 35 54.0	+0.6
AVH	**Avacha**	**2.61**	**12**	P	Pn	13 35 30.3	+2.3
KOK	**Koryaka**	**2.62**	**10**	P	Pn	13 35 30.2	+2.0
KOK				*i*S	Sn	13 36 01.8	+1.7
SDLR	**Sedlovina**	**2.64**	**14**	P	Pn	13 35 29.8	+1.3
KRX	**Arik**	**2.69**	**10**	P	Pn	13 35 31.5	+2.3
KRX				*i*S	Sn	13 36 04.1	+2.2
MKZ	**Mys Kozlova**	**4.51**	**30**	P	Pn	13 35 57.4	+3.5
KBTR	**Krutoberegovo**	**6.25**	**26**	P	Pn	13 36 20.4	+2.6

*IDC **30** 13:43:23.4±1.2, 6°.52N×124°.76E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, MS3.0/2, Ms1 3.0/2, ms1mx2.8/36, Error ellipse: s-maj=125.4km s-min=15.5km az=69.0*
*MAN **30** 13:43:24, 6°.48N×124°.59E, h8km, mb4.8, ML3.7, MS3.7*
*ISCJB **30** 13:43:26.4±0.4, 6°.41N±0°.04×124°.56E±0°.04, h36km, mb3.7/8, MS3.0/2, Error ellipse: s-maj=6.2km s-min=5.1km az=29.5*
*DJA **30** 13:44:29.9±5.8, 2°N±37°×12°3E±2°2, h129km±36km, M3.2/3, MLv3.2/3*
ISC 30 13:43:28.4±0.7, 6°.45N±0°.06×124°.59E±0°.05, h36km, n23, σ1°31/24, mb3.8/8, 6C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.50**	**135⇑**	*i*P	**Pn**	**13 43 38.7**	**-0.5**
KCP	**Kidapawan**	**0.75**	**41⇑**	*e*P	Pn	13 43 38.9	-3.5
KCP				*e*S	**Sn**	**13 43 49.8**	**-2.8**
DMPH	**Davao City--Mi**	**1.11**	**55⇑**	*i*P	**Pn**	**13 43 45.9**	**-1.5**
DMPH				*i*S	**Sn**	**13 44 02.2**	**+0.7**
BUKP	**Musuan**	**1.50**	**18**	*e*P	**Pn**	**13 43 50.8**	**-2.0**
PAGZ	**Pagadian**	**1.84**	**319**	*e*P	**Pn**	**13 43 55.8**	**-1.7**
PAGZ				*e*S	Sn	13 44 08.0	-12
CGP	**Cagayan de Oro**	**2.00**	**3⇑**	*i*P	**Pn**	**13 43 59.9**	**+0.2**
CGP				*i*S	**Sn**	**13 44 23.5**	**0.0**
IPIL	**Ipil**	**2.41**	**304**	*e*P	**Pn**	**13 44 05.5**	**+0.2**
DCPH	**Dipolog City**	**2.46**	**330⇑**	*e*P	**Pn**	**13 44 06.5**	**+0.5**
ZMPH	**Zamboanga City**	**2.56**	**282⇑**	*i*P	**Pn**	**13 44 06.4**	**-1.0**
ZMPH				*i*S	**Sn**	**13 44 35.2**	**-2.2**
GTOI	**Gorontalo**	**5.98**	**195**	P	**Pn**	**13 44 52.7**	**-1.8**
MRSI	**Marisa**	**6.49**	**204**	P	**Pn**	**13 45 00.1**	**-1.4**
LUWI	**Luwuk**	**7.66**	**194**	P	Pn	13 45 13.4	-4.1
LUWI				S	Px	13 45 30.2	
PCI	**Palu**	**8.71**	**213**	P	**Pn**	**13 45 31.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.41**	**178**	P	**P**	**13 48 44.6**	**+0.9**
	1.1nm,0.7s,baz=12,slow=15,SNR=5.5						
WRA	**Warramunga Arr**	**27.92**	**160**	P	**P**	**13 49 15.1**	**-0.3**
	0.6nm,0.3s,baz=238,slow=8.9,SNR=2.5						
KSRS	**Korea Array**	**31.02**	**5**	LR	LR	14 01 39.4	
	comp=Z,21nm,19.7s,baz=175,slow=36						
ASAR	**Alice Springs**	**31.28**	**163**	P	**P**	**13 49 45.1**	**-0.1**
	0.3nm,0.6s,baz=337,slow=7.1,SNR=9.1						
ASAJ	**Asahikawa**	**40.70**	**20**	LR	LR	14 07 49.3	
	comp=Z,24nm,18.2s,baz=336,slow=36						
STKA	**Stephens Creek**	**41.42**	**158**	P	**P**	**13 51 12.9**	**+1.4**
	2.1nm,0.8s,baz=320,slow=17,SNR=3.3						
SONM	**Songino Array**	**44.07**	**342**	P	**P**	**13 51 33.7**	**+0.7**
	0.6nm,0.9s,baz=171,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**54.13**	**325**	P	**P**	**13 52 51.6**	**+1.7**
	1.8nm,0.8s,baz=130,slow=8.5,SNR=16						
MKAR				PcP	**PcP**	**13 53 54.3**	**0.0**
	0.5nm,0.7s,baz=126,slow=1.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**57.22**	**333**	P	**P**	**13 53 11.7**	**-0.2**
	0.8nm,0.7s,baz=107,slow=8.0,SNR=3.6						
BVAR	**Borovoye Array**	**63.90**	**327**	P	**P**	**13 53 57.2**	**-0.3**
	1.0nm,0.8s,baz=129,slow=12,SNR=5.1						

*IDC **30** 13:50:49.0±0.6, 23°.84S×175°.40W, h0km, mb4.4/17, mb1 4.6/17, mb1mx4.5/22, mbtmp4.4/17, MS4.0/8, Ms1 4.0/8, ms1mx3.6/30, Error ellipse: s-maj=20.8km s-min=14.5km az=161.0*
*ISCJB **30** 13:50:51.8±0.4, 23°.98S±0°.06×175°.34W±0°.07, h28km, mb4.5/22, MS4.1/6, Error ellipse: s-maj=9.6km s-min=7.7km az=33.8*
*AUST **30** 13:50:53.2, 23°.68S×174°.69W, h60km*
*NEIC **30** 13:50:54.3±0.5, 23°.87S×175°.22W, h35km, mb4.7/6, Error ellipse: s-maj=16.5km s-min=11.9km az=169.0*
ISC 30 13:50:53.3±0.5, 23°.94S±0°.08×175°.28W±0°.09, h28km, n85, σ0°93/75, mb4.5/22, MS4.2/6, 1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.79**	**204**	P	**Pn**	**13 52 16.5**	**-0.8**
RAO				S	**Sn**	**13 53 20.8**	**-2.0**
RAO				Sn	**Sn**	**13 53 22.4**	**-0.5**
RAO	**Raoul Island**	**5.79**	**204**	Sn	**Sn**	**13 53 22.3**	**-0.5**
	97nm,0.3s,baz=82,slow=23,SNR=6.6						
NIUE	**Niue**	**6.95**	**47**	P	Pn	13 52 23.7	-10
	baz=6.4,SNR=4.4						
NIUE				S	Sn	13 53 31.1	-20
	baz=6.4,SNR=5.2						
MSVF	**Nonsavu**	**8.78**	**313**	*e*P	Pn	13 53 02.1	+3.7
	39nm,0.8s						
AFI	**Afiamalu**	**10.52**	**19**	*e*Pn	Pn	13 53 14.8	-7.5
AFI				S	Sn	13 55 00.8	-19
AFI				Sn	Sn	13 55 11.3	-8.1
AFI	**Afiamalu**	**10.52**	**19**	Pn	Pn	13 53 14.8	-7.5
	5.3nm,0.3s,baz=61,slow=23,SNR=7.1						
AFI				Sn	Sn	13 55 11.3	-8.0
	11nm,0.3s,baz=75,slow=18,SNR=5.1						
RAR	**Rarotonga**	**14.58**	**82**	Pn	Pn	13 54 08.8	-8.9
RAR	**Rarotonga**	**14.58**	**82**	Pn	Pn	13 54 08.8	-8.9
	5.5nm,0.3s,baz=90,slow=1.5,SNR=9.0						
RAR				LR	LR	13 58 06.8	
	comp=Z,511nm,21.2s,baz=270,slow=30						
DZM	**Mont Dzumac**	**16.93**	**273**	*e*P	P	13 54 54.7	+4.6
	38nm,1.1s						
DZM				*e*LQ	LQ	13 58 16.8	
	547nm,29.9s						
DZM				*e*LR	LR	13 58 58.6	
	518nm,27.2s						
DZM	**Mont Dzumac**	**16.93**	**273**	Pn	**P**	**13 54 51.6**	**+1.5**
DZM	**Mont Dzumac**	**16.93**	**273**	Pn	**P**	**13 54 51.6**	**+1.5**
	1.7nm,0.3s,baz=77,slow=20,SNR=19						
DZM				LR	LR	13 59 36.0	
	comp=Z,205nm,20.4s,baz=38,slow=31						
TBI	**Tubuai**	**23.65**	**94**	*e*LQ	LQ	14 00 12.8	
	480nm,28.0s						
TBI				*e*LR	LR	14 01 28.0	
	612nm,27.0s,baz=262						
PPT2	**Papeete2**	**24.83**	**80**	*e*LQ	LQ	14 00 52.8	
	428nm,26.0s						
PPT2				*e*LR	LR	14 01 57.3	
	673nm,25.8s,baz=248						
PPT	**Papeete**	**24.84**	**80**	LR	LR	14 04 32.4	
	comp=Z,357nm,18.6s,baz=285,slow=33						
EIDS	**Eidsvold**	**30.56**	**260**	P	**P**	**13 57 05.3**	**+0.6**
	baz=31,SNR=3.3						
CTA	**Charters Tower**	**35.79**	**268**	P	**P**	**13 57 49.6**	**-0.8**
CTA	**Charters Tower**	**35.79**	**268**	P	**P**	**13 57 49.6**	**-0.8**
	9.2nm,0.4s,baz=92,slow=11,SNR=25						
CTAO	**Charters Tower**	**35.79**	**268**	*e*P	**P**	**13 57 50.2**	**-0.1**
	15nm,0.8s						
MCQ	**Macquarie Isla**	**36.06**	**206**	S	S	14 03 18.3	-11
	baz=36,SNR=3.4						
RKT	**Rikitea**	**36.88**	**97**	*e*LR	LR	14 07 33.6	
	348nm,27.8s,baz=258						
MTSU	**Mount Surprise**	**38.06**	**271**	P	**P**	**13 58 10.0**	**+0.3**
	baz=39,SNR=22						
PMG	**Port Moresby**	**38.63**	**286**	LR	LR	14 10 13.6	
	comp=Z,129nm,18.7s,baz=59,slow=30						
STKA	**Stephens Creek**	**38.72**	**248**	*e*P	**P**	**13 58 15.7**	**+0.6**
STKA	**Stephens Creek**	**38.72**	**248**	P	**P**	**13 58 15.1**	**0.0**
	1.1nm,0.5s,baz=108,slow=12,SNR=6.5						
STKA				LR	LR	14 12 57.3	
	comp=Z,327nm,19.1s,baz=30,slow=34						
STKA	**Stephens Creek**	**38.72**	**248**	P	P	13 58 18.6	+3.5
	baz=39,SNR=4.4						
COEN	**Coen**	**40.40**	**277**	P	**P**	**13 58 29.7**	**+0.5**
	baz=41,SNR=5.7						
AS31	**Alice Springs**	**46.28**	**260**	*e*P	**P**	**13 59 16.0**	**-0.7**
ASAR	**Alice Springs**	**46.28**	**260**	P	**P**	**13 59 15.8**	**-0.9**
ASAR				S	**S**	**14 06 01.5**	**-0.7**
ASAR	**Alice Springs**	**46.28**	**260**	P	**P**	**13 59 15.8**	**-0.9**
	5.3nm,0.9s,baz=96,slow=7.0,SNR=47						
ASAR				S	**S**	**14 06 01.5**	**-0.7**
	0.7nm,1.0s,baz=101,slow=17,SNR=3.2						

ASAR				LR	LR	14 18 28.2	
	comp=Z,283nm,19.1s,baz=115,slow=36						
WRAB	**Tennant Creek**	**46.70**	**265**	*e*P	**P**	**13 59 18.3**	**-1.7**
	7.8nm,0.7s						
WRA	**Warramunga Arr**	**46.71**	**265**	P	**P**	**13 59 19.3**	**-0.8**
WRA	**Warramunga Arr**	**46.71**	**265**	P	**P**	**13 59 19.3**	**-0.8**
	7.7nm,0.6s,baz=104,slow=8.0,SNR=31						
WRA				LR	LR	14 18 20.5	
	comp=Z,247nm,19.9s,baz=90,slow=35						
KDU	**Kakadu**	**50.60**	**273**	P	**P**	**13 59 48.8**	**-1.2**
	baz=51,SNR=9.2						
MTN	**Manton Dam**	**51.77**	**272**	P	**P**	**13 59 57.7**	**-1.1**
	baz=52,SNR=13						
KNRA	**Kununurra**	**53.01**	**268**	P	**P**	**14 00 07.7**	**-0.2**
	baz=54,SNR=22						
SBA	**Scott Base**	**54.63**	**185**	*e*P	P	14 00 22.5	+3.5
	6.4nm,1.0s						
VNDA	**Vanda**	**54.74**	**186**	P	**P**	**14 00 22.3**	**+2.5**
VNDA	**Vanda**	**54.74**	**186**	P	**P**	**14 00 20.6**	**+0.9**
	2.6nm,1.0s,baz=3.5,slow=6.4,SNR=7.3						
FITZ	**Fitzroy Crossi**	**55.13**	**264**	P	**P**	**14 00 23.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.13**	**264**	P	**P**	**14 00 23.1**	**-0.3**
	6.8nm,0.7s,baz=144,slow=8.8,SNR=20						
FITZ				LR	LR	14 24 06.3	
	comp=Z,183nm,18.6s,baz=65,slow=36						
FITZ	**Fitzroy Crossi**	**55.13**	**264**	P	**P**	**14 00 23.3**	**-0.1**
	baz=56,SNR=15						
SOEI	**Soe**	**59.16**	**273**	P	**P**	**14 00 54.1**	**+1.9**
	baz=60,SNR=3.4						
MEEK	**Meekatharra**	**59.23**	**252**	P	**P**	**14 00 51.9**	**-0.5**
	baz=60,SNR=3.7						
BLDU	**Ballidu**	**60.01**	**247**	P	**P**	**14 00 57.6**	**-0.1**
	baz=60,SNR=8.8						
MORW	**Morawa**	**60.90**	**249**	P	**P**	**14 01 04.0**	**+0.2**
	baz=61,SNR=9.4						
LUWI	**Luwuk**	**64.06**	**281**	P	P	14 01 18.8	-6.3
	baz=65,SNR=4.2						
QSPA	**South Pole Qui**	**66.14**	**180**	P	**P**	**14 01 39.7**	**+1.7**
QSPA	**South Pole Qui**	**66.14**	**180**	P	**P**	**14 01 39.7**	**+1.7**
	4.3nm,1.0s,baz=17,slow=2.4,SNR=8.1						
UGM	**Wanagama**	**72.42**	**269**	P	**P**	**14 02 16.6**	**-1.0**
	baz=73,SNR=4.4						
PETK	**Petropavlovsk-**	**80.25**	**344**	P	**P**	**14 03 00.7**	**-0.4**
PETK	**Petropavlovsk-**	**80.25**	**344**	P	**P**	**14 03 00.7**	**-0.4**
	16nm,1.2s,baz=174,slow=1.5,SNR=4.8						
KSRS	**Korea Array**	**81.12**	**318**	P	**P**	**14 03 07.0**	**+0.9**
	3.2nm,1.0s,baz=142,slow=7.1,SNR=8.0						
KSAR	**Wonju Array Be**	**81.14**	**318**	P	**P**	**14 03 07.0**	**+0.8**
NVAR	**Mina Array Bea**	**81.85**	**42**	P	**P**	**14 03 09.8**	**-0.4**
NVAR	**Mina Array Bea**	**81.85**	**42**	P	**P**	**14 03 09.8**	**-0.4**
	1.4nm,0.7s,baz=222,slow=8.8,SNR=10						
NV11	**Mina Array Sit**	**81.94**	**42**	*e*P	**P**	**14 03 10.0**	**-0.6**
USRK	**Ussuriysk Arra**	**83.21**	**325**	P	**P**	**14 03 17.4**	**+0.5**
	3.7nm,1.0s,baz=126,slow=3.3,SNR=7.8						
SYO	**Syowa Base**	**83.92**	**192**	*e*P	**P**	**14 03 19.6**	**-0.6**
WVOR	**Wild Horse Val**	**84.20**	**38**	*e*P	**P**	**14 03 21.7**	**-0.5**
	3.8nm,1.0s						
SNAA	**Sanae**	**84.50**	**178**	*e*P	**P**	**14 03 23.3**	**0.0**
VNA3	**Neumayer Olymp**	**84.54**	**175**	*e*P	**P**	**14 03 23.0**	**-0.4**
VNA2	**Neumayer--Watz**	**85.01**	**176**	*e*P	**P**	**14 03 25.3**	**-0.5**
	baz=200,slow=4.0						
PLCA	**Paso Flores**	**85.09**	**132**	P	**P**	**14 03 26.8**	**-0.1**
PLCA	**Paso Flores**	**85.09**	**132**	P	**P**	**14 03 26.8**	**-0.1**
	6.7nm,1.1s,baz=216,slow=4.5,SNR=4.0						
VNA1	**Neumayer--Stat**	**85.22**	**176**	*e*P	**P**	**14 03 27.4**	**+0.6**
MNTX	**Cornudas Mount**	**86.73**	**53**	*e*P	**P**	**14 03 33.6**	**-1.3**
	3.6nm,1.1s						
TXAR	**Lajitas Array**	**86.83**	**56**	P	**P**	**14 03 35.3**	**-0.3**
TXAR	**Lajitas Array**	**86.83**	**56**	P	**P**	**14 03 35.3**	**-0.3**
	2.1nm,0.9s,baz=210,slow=7.2,SNR=18						
BNM	**Barren Site**	**87.09**	**51**	*e*P	**P**	**14 03 36.5**	**-0.4**
	25nm,2.0s						
PSI	**Prapat**	**87.28**	**274**	P	**P**	**14 03 38.9**	**+0.7**
PSI	**Prapat**	**87.28**	**274**	P	**P**	**14 03 38.9**	**+0.7**
	1.7nm,0.4s,baz=172,slow=20,SNR=3.8						
PDAR	**Pinedale Array**	**89.77**	**42**	P	**P**	**14 03 49.0**	**-0.4**
PDAR	**Pinedale Array**	**89.77**	**42**	P	**P**	**14 03 49.0**	**-0.4**
	0.7nm,0.7s,baz=222,slow=4.0,SNR=5.9						
ILAR	**Eielson Array**	**91.13**	**12**	P	**P**	**14 03 54.7**	**-0.2**
ILAR	**Eielson Array**	**91.13**	**12**	P	**P**	**14 03 54.7**	**-0.2**
	1.2nm,0.8s,baz=224,slow=5.2,SNR=13						
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	**P**	**14 04 08.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.61**	**288**	P	**P**	**14 04 08.4**	**+0.9**
	1.1nm,0.5s,baz=123,slow=3.9,SNR=4.8						
MKAR	**Makanchi Array**	**115.38**	**312**	PKP	**PKPdf**	**14 09 30.7**	**-1.6**
MKAR	**Makanchi Array**	**115.38**	**312**	PKP	**PKPdf**	**14 09 30.7**	**-1.6**
	0.4nm,0.6s,baz=91,slow=2.3,SNR=4.4						
KURK	**Kurchatov**	**118.22**	**316**	PKP	**PKPdf**	**14 09 35.9**	**-1.6**
KURBB	**Kurchatov Arra**	**118.27**	**316**	PKP	**PKPdf**	**14 09 35.9**	**-1.7**
	0.5nm,0.8s,baz=94,slow=1.8,SNR=7.2						
BVAR	**Borovoye Array**	**123.32**	**319**	PKP	**PKPdf**	**14 09 47.0**	**-0.3**
BVAR	**Borovoye Array**	**123.32**	**319**	PKP	**PKPdf**	**14 09 47.0**	**-0.3**
	0.3nm,0.4s,baz=77,slow=6.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**168.88**	**165**	PKP	**PKPdf**	**14 10 57.8**	**-0.7**
TORD				PKPab	**PKPab**	**14 12 09.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**168.88**	**165**	PKP	**PKPdf**	**14 10 57.8**	**-0.7**
	1.1nm,1.0s,baz=153,slow=1.5,SNR=3.0						
TORD				PKPab	**PKPab**	**14 12 09.8**	**+0.7**
	0.7nm,0.6s,baz=182,slow=3.1,SNR=3.0						

BGS ***30*** *14:04:35.5±2.4, 32°.69N×46°.00E, h15km, mb5.0*
TEH ***30*** *14:04:35.3, 33°.07N×46°.30E, h4km, ML4.6*
CSEM ***30*** *14:04:35.9±0.1, 33°.14N×46°.41E, h10km, mb4.7/49, Ms4.2, Error ellipse: s-maj=3.8km s-min=2.8km az=29.0*
NEIC ***30*** *14:04:36.3±0.8, 33°.18N×46°.42E, h15km±4km, mb4.8/40, ML4.6(ISN), MN4.6(TEH), Error ellipse: s-maj=5.7km s-min=3.1km az=175.0*
MOS ***30*** *14:04:36.4±0.9, 33°.07N×46°.43E, h33km, mb4.8/51, Error ellipse: s-maj=6.5km s-min=3.5km az=120.5*
ISCJB ***30*** *14:04:37.1±0.3, 33°.04N±0°.02×46°.41E±0°.02, h38km±2km, mb4.6/100, MS4.0/26, Error ellipse: s-maj=3.6km s-min=2.4km az=22.5*
THR ***30*** *14:04:37.4±0.3, 33°.24N×46°.54E, h14km±6km, ML4.5*
IDC ***30*** *14:04:37.9±2.6, 33°.16N×46°.43E, h27km±17km, mb4.2/24, mb1 4.2/30, mb1mx4.2/34, mbtmp4.1/30, ML3.5/5, MS3.9/17, Ms1 3.9/17, ms1mx3.7/39, Error ellipse: s-maj=14.9km s-min=10.2km az=161.0*
BJI ***30*** *14:04:37.1, 33°.10N×46°.50E, h35km, mB4.9/18, mb4.6/29, Ms4.6/15, Ms7 4.4/15*
OMAN ***30*** *14:04:42.7±7.1, 33°.07N×47°.16E, h35km, Error ellipse: s-maj=6.1km s-min=1.6km az=259.0*
DJA ***30*** *14:04:56.5±1.1, 36°N±12°×4°8E±°, h92km±16km, M4.6/8, mB5.1/4, mb4.7/8, Mw(mB)4.4/4*
AZER ***30*** *14:04:56.2, 34°.00N×46°.71E, h20km*
ISC 30 14:04:38.5±0.3, 33°.19N±0°.03×46°.37E±0°.02, h31km±1km, h31km:pP-P, n642, σ1§21/649, mb4.6/99, MS4.1/26, 41C-31D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.38**	**259**	*e*Pg	**Pb**	**14 04 46.0**	**-1.2**
IBDR				*i* Sg	**Sb**	**14 04 53.2**	**+0.2**
IGHG	**Ghaleghazi**	**1.15**	**8**	*e*Pg	**Pn**	**14 04 58.3**	**-0.5**
IGHG				*e*Sg	**Sb**	**14 05 15.6**	**+0.8**
IGHG				*e*		14 05 25.3	
	comp=Z,12μm,0.3s						
IGHG	**Ghaleghazi**	**1.15**	**8**	Pg	**Pn**	**14 04 58.3**	**-0.5**
IGHG	**Ghaleghazi**	**1.15**	**8**	*e*Pg	**Pn**	**14 04 58.3**	**-0.5**
IGHG				*e*Sg	**Sb**	**14 05 15.6**	**+0.8**
IKOM	**Komasi**	**1.37**	**44**	*e*Pn	**Pn**	**14 05 02.3**	**+0.7**
IKOM				*e*Sg	**Sb**	**14 05 21.8**	**+1.0**
IKOM				*e*		14 05 26.0	
	comp=Z,31μm,0.3s						
IKOM	**Komasi**	**1.37**	**44**	Pg	**Pn**	**14 05 02.3**	**+0.7**
IKOM				Sg	**Sb**	**14 05 21.8**	**+1.0**
IKOM	**Komasi**	**1.37**	**44**	*e*Pn	**Pn**	**14 05 02.3**	**+0.7**
IKOM				*e*Sg	**Sb**	**14 05 21.8**	**+1.0**
IVIS	**Veis**	**1.40**	**16**	*e*Sg	**Sb**	**14 05 24.7**	**+3.2**
IVIS				*e*Pn	**Pn**	**14 05 03.0**	**+1.0**
IVIS				*e*		14 05 28.8	
	comp=Z,15μm,0.3s						
IVIS	**Veis**	**1.40**	**16**	Pg	**Pn**	**14 05 02.9**	**+1.0**
IDHR	**Dehrash**	**1.51**	**0**	*e*Sg	**Sb**	**14 05 26.3**	**+1.4**
IDHR				*e*Pn	**Pn**	**14 05 04.7**	**+1.0**
IDHR				*e*		14 05 28.9	
	comp=Z,60μm,0.3s						
IDHR	**Dehrash**	**1.51**	**0**	Pg	**Pb**	**14 05 05.2**	**-0.9**
IDHR	**Dehrash**	**1.51**	**0**	Pg	**Pb**	**14 05 05.2**	**-0.9**
IDHR				*e*Sg	**Sb**	**14 05 26.3**	**+1.4**
BHD	**Baghdad**	**1.67**	**273**	*e*Pg	**Pn**	**14 05 04.3**	**-1.4**
BHD				*i* Sn	**Sn**	**14 05 26.0**	**-0.1**
BHD				*i* Sg	**Sb**	**14 05 29.0**	**-0.3**
BHD	**Baghdad**	**1.67**	**273**	P	**Pn**	**14 05 05.0**	**-0.7**
BHD				S	**Sn**	**14 05 27.0**	**+0.9**
BHD	**Baghdad**	**1.67**	**273**	*e*Pg	**Pn**	**14 05 04.3**	**-1.4**
BHD	**Baghdad**	**1.67**	**273**	P	**Pn**	**14 05 05.0**	**-0.7**
BHD				*i* Sn	**Sn**	**14 05 26.0**	**-0.1**
BHD				S	**Sn**	**14 05 27.0**	**+0.9**
BHD				*i* Sg	**Sb**	**14 05 29.0**	**-0.3**
ILIN	**Lien**	**1.80**	**16**	*e*Sg	**Sb**	**14 05 34.1**	**+0.9**
ILIN				*e*Pn	**Pn**	**14 05 09.0**	**+1.4**
ILIN				*e*		14 05 41.4	
	comp=Z,64μm,0.3s						
ILIN	**Lien**	**1.80**	**16**	Pg	**Pn**	**14 05 09.4**	**+1.8**
ILIN				Sg	**Sb**	**14 05 34.1**	**+0.9**
ILIN	**Lien**	**1.80**	**16**	Pg	**Pn**	**14 05 09.4**	**+1.8**
SNGE	**Sanandaj**	**2.07**	**23**	*e*Pg	**Pn**	**14 05 13.3**	**+2.0**
SNGE	**Sanandaj**	**2.07**	**23**	*e*Pg	**Pn**	**14 05 13.3**	**+2.0**
KHMZ	**Khomeyn**	**3.05**	**79**	*e*Pn	**Pn**	**14 05 25.3**	**+0.5**
KHMZ				AML	AML	14 06 05.8	
	comp=E,1μm,0.6s						
KHMZ	**Khomeyn**	**3.05**	**79**	*e*Pn	**Pn**	**14 05 25.3**	**+0.5**
ASAO	**Ashtian**	**3.33**	**65**	*e*Pn	**Pn**	**14 05 29.3**	**+0.6**
ASAO				AML	AML	14 06 14.3	
	comp=E,762nm,0.6s						
ASAO	**Ashtian**	**3.33**	**65**	*e*Pn	**Pn**	**14 05 29.3**	**+0.6**
MIB	**Mutribah**	**3.47**	**166**	*e*P	**Pn**	**14 05 31.2**	**+0.8**
MIB				AML	AML	14 06 18.1	
	comp=Z,1μm,0.5s						
MIB	**Mutribah**	**3.47**	**166**	*e*P	**Pn**	**14 05 31.2**	**+0.8**
IMAH	**Mahabad**	**3.61**	**352**	*e*Pn	Pn	14 05 36.0	+3.5
IMAH	**Mahabad**	**3.61**	**352**	*e*Pn	Pn	14 05 36.0	+3.5
IRAZ	**Razeghan**	**3.68**	**52**	*e*Pn	**Pn**	**14 05 35.4**	**+1.9**
IRAZ				*e*		14 06 41.5	
	comp=Z,9μm,0.4s						
IRAZ	**Razeghan**	**3.68**	**52**	*e*Pn	**Pn**	**14 05 35.4**	**+1.9**
RST	**Umm Al-Ruwaisa**	**3.71**	**172**	*e*P	**Pn**	**14 05 34.6**	**+0.9**
RST				AML	AML	14 06 21.1	
	comp=Z,6μm,0.6s						
RST	**Umm Al-Ruwaisa**	**3.71**	**172**	*e*P	**Pn**	**14 05 34.6**	**+0.9**
UMR	**Umm Al-Rimmam**	**3.80**	**162**	*e*P	**Pn**	**14 05 35.0**	**+0.1**
UMR	**Umm Al-Rimmam**	**3.80**	**162**	*e*P	**Pn**	**14 05 35.0**	**+0.1**
IPIR	**Pirpir**	**3.83**	**96**	*e*Pn	**Pn**	**14 05 36.4**	**+0.7**
IPIR				*e*		14 06 24.4	
	comp=Z,13μm,0.3s						
IPIR	**Pirpir**	**3.83**	**96**	*e*Pn	**Pn**	**14 05 36.4**	**+0.7**
NAY	**Al-Naaiem**	**3.99**	**169**	*e*P	**Pn**	**14 05 37.9**	**+0.2**
NAY	**Al-Naaiem**	**3.99**	**169**	*e*P	**Pn**	**14 05 37.8**	**+0.2**
KBD	**Kabd**	**4.15**	**164**	*e*P	**Pn**	**14 05 40.0**	**+0.2**
KBD				AML	AML	14 06 31.2	
	comp=Z,527nm,0.3s						
KBD	**Kabd**	**4.15**	**164**	*e*P	**Pn**	**14 05 40.0**	**+0.2**
MSL	**Mosul**	**4.18**	**321**	P	**Pn**	**14 05 39.0**	**-1.2**
MSL				S	**Sn**	**14 06 29.0**	**+1.0**
GHVR	**GHOM**	**4.29**	**71**	*e*Pn	**Pn**	**14 05 41.8**	**0.0**
GHVR				AML	AML	14 06 36.4	
	comp=N,531nm,0.7s						
GHVR				AML	AML	14 06 36.6	
	comp=E,874nm,0.8s						
GHVR	**GHOM**	**4.29**	**71**	*e*Pn	**Pn**	**14 05 41.8**	**0.0**
IMHD	**Mahdasht**	**4.34**	**54**	*e*Pn	**Pn**	**14 05 43.0**	**+0.6**
IMHD				*e*		14 07 07.2	
	comp=Z,3μm,0.3s						
IMHD	**Mahdasht**	**4.34**	**54**	*e*Pn	**Pn**	**14 05 43.0**	**+0.6**
IKLH	**Kolahrood**	**4.36**	**87**	*e*Pn	**Pn**	**14 05 43.1**	**+0.2**
IKLH				*e*		14 06 39.8	
	comp=Z,7μm,0.2s						
IKLH	**Kolahrood**	**4.36**	**87**	*e*Pn	**Pn**	**14 05 43.1**	**+0.2**
RDF	**Al-Radifah**	**4.36**	**166**	*e*P	**Pn**	**14 05 43.4**	**+0.7**
RDF	**Al-Radifah**	**4.36**	**166**	*e*P	**Pn**	**14 05 43.4**	**+0.7**
IGZV	**Ghazvin**	**4.50**	**44**	*e*Pn	**Pn**	**14 05 45.4**	**+0.7**
IGZV				*e*		14 06 04.5	
	comp=Z,4μm,0.3s						
IGZV	**Ghazvin**	**4.50**	**44**	*e*Pn	**Pn**	**14 05 45.4**	**+0.7**
THKV	**Tehran--Karaj**	**4.61**	**53**	*e*Pn	**Pn**	**14 05 47.1**	**+0.9**
THKV	**Tehran--Karaj**	**4.61**	**53**	*e*Pn	**Pn**	**14 05 47.1**	**+0.9**
QRN	**Al-Qurain**	**4.62**	**163**	*e*P	**Pn**	**14 05 46.6**	**+0.4**
CHTH	**Charan**	**4.77**	**54**	*e*Pn	**Pn**	**14 05 49.1**	**+0.6**
CHTH				*e*Sg	**Sb**	**14 07 00.8**	**+2.2**
CHTH	**Charan**	**4.77**	**54**	*e*Pn	**Pn**	**14 05 49.1**	**+0.6**
CHTH				*e*Sg	**Sb**	**14 07 00.8**	**+2.2**
IVRN	**Varamin**	**4.79**	**66**	*e*Pn	**Pn**	**14 05 49.0**	**+0.3**
IVRN				*e*		14 07 39.1	
	comp=Z,9μm,0.9s						
IVRN	**Varamin**	**4.79**	**66**	Pn	**Pn**	**14 05 49.0**	**+0.3**
IVRN	**Varamin**	**4.79**	**66**	*e*Pn	**Pn**	**14 05 49.0**	**+0.3**
IGAR	**Gharneh**	**4.84**	**98**	*e*Pn	**Pn**	**14 05 49.1**	**-0.3**
IGAR				*e*		14 06 47.7	
	comp=Z,6μm,0.1s						
HAKT	**HAKKARI**	**4.88**	**334**	*e*P	**Pn**	**14 05 51.2**	**+1.3**
HAKT	**HAKKARI**	**4.88**	**334**	*e*P	**Pn**	**14 05 51.2**	**+1.3**
IZEF	**Zefreh**	**5.01**	**92**	*e*Pn	**Pn**	**14 05 51.6**	**-0.2**
IZEF				*e*		14 07 20.8	
	comp=Z,3μm,0.5s						
IZEF	**Zefreh**	**5.01**	**92**	*e*Pn	**Pn**	**14 05 51.6**	**-0.2**
ISFB	**Sefidab**	**5.02**	**75**	*e*Pn	**Pn**	**14 05 51.8**	**0.0**
ISFB				*e*		14 07 33.3	
	comp=Z,4μm,0.5s						
ISFB	**Sefidab**	**5.02**	**75**	*e*Pn	**Pn**	**14 05 51.8**	**0.0**
DAMV	**Damavand**	**5.23**	**61**	*e*Pn	**Pn**	**14 05 55.4**	**+0.6**
DAMV	**Damavand**	**5.23**	**61**	*e*Pn	**Pn**	**14 05 55.4**	**+0.6**
IDMV	**Damavand**	**5.25**	**61**	*e*Pn	**Pn**	**14 05 55.3**	**+0.1**
IDMV				*e*		14 07 42.3	
	comp=Z,7μm,0.8s						
IDMV	**Damavand**	**5.25**	**61**	*e*Pn	**Pn**	**14 05 55.3**	**+0.1**
SIRN	**S¨--rnak**	**5.38**	**324**	*e*P	**Pn**	**14 05 58.2**	**+1.5**
SIRN	**S¨--rnak**	**5.38**	**324**	*e*P	**Pn**	**14 05 58.2**	**+1.5**
GRMI	**Germi**	**5.74**	**12**	*e*Pn	**Pn**	**14 06 03.4**	**+1.6**
GRMI	**Germi**	**5.74**	**12**	*e*Pn	**Pn**	**14 06 03.4**	**+1.6**
GEVA	**Gevas**	**5.78**	**333**	*e*P	**Pn**	**14 06 03.5**	**+1.2**
GEVA	**Gevas**	**5.78**	**333**	*e*P	**Pn**	**14 06 03.5**	**+1.2**
IFIR	**Firoozkooh**	**5.81**	**63**	*e*Pn	**Pn**	**14 06 03.0**	**+0.1**
IFIR				*e*		14 07 12.8	
	comp=Z,988nm,0.2s						
IFIR	**Firoozkooh**	**5.81**	**63**	*e*Pn	**Pn**	**14 06 03.0**	**+0.1**
LKRN	**Lenkeran, Azer**	**5.85**	**19**	⇑P	Pn	14 06 09.1	+6.0
	SNR=15						
LKRN	**Lenkeran, Azer**	**5.85**	**19**	⇑Pn	Pn	14 06 09.1	+6.0
	SNR=15						
LKRN	**Lenkeran, Azer**	**5.85**	**19**	P	Pn	14 06 09.1	+6.0
	SNR=15						
NAX	**Nakhchivan**	**6.02**	**353**	⇑P	Pn	14 06 13.2	+7.7
	SNR=8.9						
NAX	**Nakhchivan**	**6.02**	**353**	⇑Pn	Pn	14 06 13.2	+7.7
	SNR=8.9						
NAX	**Nakhchivan**	**6.02**	**353**	P	Pn	14 06 13.2	+7.7
	SNR=8.9						
MARD	**Mardin**	**6.16**	**314**	*e*P	**Pn**	**14 06 07.7**	**+0.3**
GLBA	**Clilabad**	**6.26**	**15**	P	Pn	14 06 15.5	+6.8
	SNR=26						
GLBA	**Clilabad**	**6.26**	**15**	Pn	Pn	14 06 15.5	+6.8
	SNR=26						
GLBA	**Clilabad**	**6.26**	**15**	P	Pn	14 06 15.5	+6.8
	SNR=26						
ISAD	**Sadrabad**	**6.30**	**100**	*e*Pn	**Pn**	**14 06 09.0**	**-0.6**
ISAD				*e*		14 07 39.6	
	comp=Z,2μm,0.3s						
ISAD	**Sadrabad**	**6.30**	**100**	*e*Pn	**Pn**	**14 06 09.0**	**-0.6**
ICHK	**Chekchek**	**6.83**	**96**	*e*Pn	**Pn**	**14 06 15.9**	**-1.0**
ICHK				*e*		14 07 34.4	
	comp=Z,1μm,0.2s						
ICHK	**Chekchek**	**6.83**	**96**	*e*Pn	**Pn**	**14 06 15.9**	**-1.0**
TUTA	**Tutak**	**6.84**	**336**	*e*P	**Pn**	**14 06 16.6**	**-0.2**
TUTA	**Tutak**	**6.84**	**336**	*e*P	**Pn**	**14 06 16.6**	**-0.2**
ISRV	**Sarvestan**	**6.90**	**122**	*e*Pn	**Pn**	**14 06 16.5**	**-1.4**
ISRV				*e*		14 07 58.1	
	comp=Z,2μm,0.3s						
ISRV	**Sarvestan**	**6.90**	**122**	*e*Pn	**Pn**	**14 06 16.5**	**-1.4**
DIYA	**Diyarbakir**	**6.95**	**315**	*e*P	**Pn**	**14 06 20.9**	**+2.6**
DIYA	**Diyarbakir**	**6.95**	**315**	*e*P	**Pn**	**14 06 20.9**	**+2.6**
GNI	**Garni**	**7.07**	**350**	Pn	**Pn**	**14 06 21.6**	**+1.5**
GNI				Lg	Lg	14 08 26.5	
GNI	**Garni**	**7.07**	**350**	Pn	**Pn**	**14 06 21.6**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=185,slow=19,SNR=2.5						
GNI				Lg	Lg	14 08 26.5	
	baz=350,slow=19,SNR=1.9						
GNI				LR	LR	14 09 36.0	
	comp=Z,644nm,19.2s,baz=343,slow=42						
GNI	**Garni**	**7.07**	**350**	P	**Pn**	**14 06 21.6**	**+1.5**
	comp=Z,644nm,19.2s						
ALIB	**Äli-Bayra**	**7.08**	**17**	P	Pn	14 06 28.4	+8.4
	SNR=7.6						
ALIB	**Äli-Bayra**	**7.08**	**17**	Pn	Pn	14 06 28.4	+8.4
	SNR=7.6						
ALIB	**Äli-Bayra**	**7.08**	**17**	P	Pn	14 06 28.4	+8.4
	SNR=7.6						
BNGL	**BINGOL**	**7.14**	**325**	*e*P	**Pn**	**14 06 21.9**	**+0.9**
IMEH	**Mehriz**	**7.20**	**102**	*e*Pn	**Pn**	**14 06 21.0**	**-0.9**
IMEH				*e*		14 07 42.3	
	comp=Z,902nm,0.2s						
IMEH	**Mehriz**	**7.20**	**102**	*e*Pn	**Pn**	**14 06 21.0**	**-0.9**
GANJ	**Ganja**	**7.45**	**360**	P	Pn	14 06 32.6	+7.6
	SNR=4.0						
GANJ	**Ganja**	**7.45**	**360**	Pn	Pn	14 06 32.6	+7.6
	SNR=4.0						
GANJ	**Ganja**	**7.45**	**360**	P	Pn	14 06 32.6	+7.6
	SNR=4.0						
IML	**Ismayilli**	**7.73**	**10**	P	Pn	14 06 36.4	+7.5
	SNR=5.6						
IML	**Ismayilli**	**7.73**	**10**	Pn	Pn	14 06 36.4	+7.5
	SNR=5.6						
IML	**Ismayilli**	**7.73**	**10**	P	Pn	14 06 36.4	+7.5
	SNR=5.6						
PQL	**Pirkuli**	**7.79**	**13**	P	Pn	14 06 37.6	+7.7
	SNR=8.1						
PQL	**Pirkuli**	**7.79**	**13**	Pn	Pn	14 06 37.6	+7.7
	SNR=8.1						
PQL	**Pirkuli**	**7.79**	**13**	P	Pn	14 06 37.6	+7.7
	SNR=8.1						
IBAF	**Bafgh**	**7.94**	**99**	*e*Pn	**Pn**	**14 06 31.0**	**-0.9**
IBAF				*e*		14 06 46.5	
	comp=Z,438nm,0.2s						
IBAF	**Bafgh**	**7.94**	**99**	*e*Pn	**Pn**	**14 06 31.0**	**-0.9**
SEKA	**Sheki**	**8.04**	**4**	P	Pn	14 06 39.7	+6.5
	SNR=2.8						
SEKA	**Sheki**	**8.04**	**4**	Pn	Pn	14 06 39.7	+6.5
	SNR=2.8						
SEKA	**Sheki**	**8.04**	**4**	P	Pn	14 06 39.7	+6.5
	SNR=2.8						
ASF	**Jabal al Asfar**	**8.05**	**265**	Pn	**Pn**	**14 06 33.2**	**-0.2**
ASF				Lg	Lg	14 08 55.2	
ASF	**Jabal al Asfar**	**8.05**	**265**	Pn	**Pn**	**14 06 33.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=46,slow=5.5,SNR=3.6						
ASF				Lg	Lg	14 08 55.2	
	comp=Z,1.8nm,0.3s,baz=242,slow=22,SNR=3.4						
ASF				LR	LR	14 10 27.1	
	comp=Z,757nm,18.2s,baz=34,slow=43						
SIZA	**Siyzn**	**8.13**	**14**	P	Pn	14 06 42.2	+7.7
	SNR=4.8						
SIZA	**Siyzn**	**8.13**	**14**	Pn	Pn	14 06 42.2	+7.7
	SNR=4.8						
SIZA	**Siyzn**	**8.13**	**14**	P	Pn	14 06 42.2	+7.7
	SNR=4.8						
DGRG	**David-gareji**	**8.29**	**355**	P	Pn	14 06 44.5	+7.9
DGRG				S	Sb	14 09 06.8	+27
AKH	**Akhalkalaki**	**8.52**	**345**	P	Pn	14 06 48.8	+8.9
AKH				S	Sn	14 09 12.2	+57
AKCD	**Akcadag**	**8.55**	**309**	*e*P	**Pn**	**14 06 41.7**	**+1.3**
AKCD	**Akcadag**	**8.55**	**309**	*e*P	**Pn**	**14 06 41.7**	**+1.3**
TBLG	**Delisi**	**8.63**	**352**	*e*P	**Pn**	**14 06 43.7**	**+2.5**
TBLG	**Delisi**	**8.63**	**352**	P	**Pn**	**14 06 43.7**	**+2.5**
TBLG				S	Sn	14 09 08.3	+51

SNR=6.4
RBK Rabkut 17.13 154 P Pn 14 08 31.9 -3.9
SNR=25
RBK Rabkut 17.13 154 P Pn 14 08 35.3 -0.5
SNR=6.4
TIRR Tirgusor 17.92 314 *eP* **P 14 08 45.8 +0.2**
TIRR pmax pmax
comp=Z,21nm,1.0s
TIRR Tirgusor 17.92 314⇑*iP* **P 14 08 47.1 +1.5**
TIRR Tirgusor 17.92 314 *eP* **P 14 08 45.8 +0.2**
comp=Z,21nm,1.0s
TIRR Tirgusor 17.92 314 *eP* **P 14 08 45.8 +0.2**
comp=Z,21nm,1.0s
TLCR 18.09 317 ⇑P **P 14 08 49.6 +2.1**
TLCR 18.09 317⇑*iP* **P 14 08 49.6 +2.1**
TLCR 18.09 317 P **P 14 08 49.6 +2.1**
VRHR Novokhopersk 18.23 350 *eP* **Pn 14 08 49.2 +0.2**
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR Novokhopersk 18.23 350 *eP* **Pn 14 08 49.2 +0.2**
comp=N,20nm,1.0s
VORD Divnogorie 18.51 346 *eP* **Pn 14 08 54.2 +1.8**
VORD pmax pmax
comp=N,40nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,9.0nm,0.5s
VORD Divnogorie 18.51 346 *eP* **Pn 14 08 54.2 +1.8**
VSR Storozhevoye 18.77 346 *eP* **P 14 08 54.2 -0.8**
VSR pmax pmax
comp=E,50nm,0.8s
VSR pmax pmax
comp=Z,80nm,0.8s
VSR pmax pmax
comp=N,130nm,0.9s
VSR Storozhevoye 18.77 346 *eP* **P 14 08 54.2 -0.8**
comp=N,130nm,0.9s
KBL Kabul 18.87 80 *eP* **P 14 08 55.1 -1.4**
KBL pmax pmax
comp=Z,33nm,1.1s
KBL Kabul 18.87 80 *eP* **P 14 08 55.1 -1.4**
comp=Z,33nm,1.1s
KBL Kabul 18.87 80 *eP* **P 14 08 55.1 -1.4**
comp=Z,33nm,1.1s
AB31 Akbulak array 18.98 28 *i* P **Pn 14 08 57.9 -0.2**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
AB31 Akbulak array 18.98 28 *i* P **Pn 14 08 57.9 -0.2**
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 18.98 28 *eP* **P 14 08 57.7 +0.5**
comp=Z,5.9nm,0.6s
ABKAR Akbulak array 18.98 28 *eP* **P 14 08 57.7 +0.5**
comp=Z,5.9nm,0.6s
AKTK Aktyubinsk 19.26 23 P **P 14 09 00.1 -0.2**
comp=Z,343nm,18.6s
AKTO Aktyubinsk 19.26 23 P **P 14 09 00.1 -0.2**
AKTO MLR MLR
comp=Z,343nm,18.6s
AKTO Aktyubinsk 19.26 23 P **P 14 09 00.1 -0.2**
AKTO Aktyubinsk 19.26 23 P **P 14 09 00.1 -0.2**
comp=Z,0.4nm,0.3s,baz=213,slow=11,SNR=26
AKTO LR LR 14 19 05.2
comp=Z,343nm,18.6s,baz=43,slow=45
AKTO Aktyubinsk 19.26 23 P **P 14 09 00.1 -0.2**
VOR Voronezh 19.26 346 P **P 14 09 01.0 +0.7**
VOR pmax pmax
comp=Z,260nm,1.2s
VOR Voronezh 19.26 346 P **P 14 09 01.0 +0.7**
comp=Z,260nm,1.2s
VRI Vrincioaia 19.68 316⇑P **Pn 14 09 06.6 0.0**
VRI Vrincioaia 19.68 316⇑*iP* **Pn 14 09 06.6 0.0**
VRI Vrincioaia 19.68 316 P **Pn 14 09 06.6 0.0**
MLR Muntele Rosu 19.95 314⇑*iP* **Pn 14 09 12.3 +2.4**
MLR Muntele Rosu 19.95 314 P **Pn 14 09 09.4 -0.5**
MLR Muntele Rosu 19.95 314 P **Pn 14 09 09.4 -0.5**
comp=Z,3.8nm,0.9s,baz=211,slow=7.7,SNR=12
MLR LR LR 14 19 11.1
comp=Z,140nm,18.8s,baz=167,slow=44
MLR Muntele Rosu 19.95 314 P **Pn 14 09 09.4 -0.5**
comp=Z,140nm,18.8s
TESR Tescani 20.09 317⇑*iP* Pn 14 09 10.8 -0.6
TESR Tescani 20.09 317⇑*iP* Pn 14 09 10.8 -0.6
VOIR 20.47 313 ⇓P Pn 14 09 16.4 +0.5
VOIR 20.47 313 ⇓*iP* Pn 14 09 16.4 +0.5
VOIR 20.47 313 P Pn 14 09 16.4 +0.5
VTS Vitosha 20.50 304 ⇓P Pn 14 09 15.6 -0.8
VTS Vitosha 20.50 304 ⇓*iP* Pn 14 09 15.6 -0.8
VTS Vitosha 20.50 304 P Pn 14 09 15.6 -0.8
ARR Arges 20.69 312⇑*iP* Pn 14 09 18.2 -0.3
ARR Arges 20.69 312⇑*iP* Pn 14 09 18.2 -0.3
LOT Lotru 21.27 312⇑*iP* **P 14 09 23.9 +1.6**
LOT Lotru 21.27 312⇑*iP* **P 14 09 23.9 +1.6**
KKAR Karatay Array 21.35 55 *eP* **P 14 09 23.3 +0.2**
KKAR pmax pmax
comp=Z,21nm,0.9s
KKAR Karatay Array 21.35 55 *eP* **P 14 09 23.3 +0.2**
comp=Z,21nm,0.9s
KKAR Karatay Array 21.35 55 *eP* **P 14 09 23.3 +0.2**
comp=Z,21nm,0.9s
BURAR Bucovina Array 21.52 318 ⇓P **P 14 09 26.3 +1.3**
BURAR Bucovina Array 21.52 318 ⇓*iP* **P 14 09 26.3 +1.3**
BURAR Bucovina Array 21.52 318 ⇓*iP* **P 14 09 26.3 +1.3**
BUR08 Bucovina Ar. S 21.55 318 *eP* **P 14 09 25.3 0.0**
BUR08 Bucovina Ar. S 21.55 318 *eP* **P 14 09 25.3 0.0**
AKASG Malin Array Be 21.57 329 *i* P **P 14 09 24.7 -0.5**
AKASG pmax pmax
comp=Z,18nm,0.7s
AKASG Malin Array Be 21.57 329 P **P 14 09 24.8 -0.5**
AKASG PcP **PcP 14 13 27.5 +0.9**
AKASG Malin Array Be 21.57 329 P **P 14 09 24.8 -0.5**
comp=Z,18nm,0.8s,baz=140,slow=10,SNR=27
AKASG PcP **PcP 14 13 27.5 +0.9**
comp=Z,0.7nm,0.4s,baz=146,slow=1.8,SNR=4.1
AKASG Malin Array Be 21.57 329 P **P 14 09 24.8 -0.5**
KIEV Kiev 21.57 329 *eP* **P 14 09 24.4 -0.9**
KIEV pmax pmax
comp=Z,21nm,0.8s
KIEV Kiev 21.57 329 *eP* **P 14 09 24.4 -0.9**
comp=Z,21nm,0.8s
KIEV Kiev 21.57 329 *eP* **P 14 09 24.4 -0.9**
comp=Z,21nm,0.8s
BOLS Boljevac 21.79 306 *eP* **P 14 09 30.4 +2.6**
ATD Arta Tunnel 21.80 189 P **P 14 09 29.3 +1.2**
ATD Arta Tunnel 21.80 189 P **P 14 09 29.3 +1.2**
comp=Z,3.4nm,0.3s,baz=25,slow=6.8,SNR=6.2
ATD LR LR 14 18 47.1
comp=Z,354nm,18.2s,baz=5.1,slow=39
ATD Arta Tunnel 21.80 189 P **P 14 09 29.3 +1.2**
GZR Gura Zlata 21.87 311 ⇓P **P 14 09 31.2 +2.5**
GZR Gura Zlata 21.87 311 ⇓*iP* **P 14 09 31.2 +2.5**
GZR Gura Zlata 21.87 311 P **P 14 09 31.2 +2.5**
SELS Selova 22.16 304 *eP* **P 14 09 31.5 -0.3**
DRGR 22.55 314⇑P **P 14 09 36.8 +0.8**
DRGR 22.55 314⇑*iP* **P 14 09 36.8 +0.8**
DRGR 22.55 314 P **P 14 09 36.8 +0.8**
GRUS Gruza 22.65 306 *eP* **P 14 09 36.4 -0.6**
BZS Buzias 22.70 310⇑P **P 14 09 38.5 +1.0**
BZS Buzias 22.70 310⇑*iP* **P 14 09 38.5 +1.0**
BZS Buzias 22.70 310 P **P 14 09 38.5 +1.0**
OBN Obninsk 22.98 345*diP* **P 14 09 40.2 -0.1**
OBN *e* 14 09 47.3
OBN *e* 14 13 45.9
OBN pmax pmax
comp=Z,68nm,1.2s
OBN MLR MLR
comp=Z,200nm,22.0s
OBN Obninsk 22.98 345 *i* P **P 14 09 40.2 -0.1**
comp=Z,68nm,1.2s
DIVS Divibare 23.21 306 *eP* **P 14 09 44.5 +1.6**
TRPA Tarpa 23.32 317⇓*iP* **P 14 09 46.0 +2.2**
TRPA Tarpa 23.32 317⇓*iP* **P 14 09 46.0 +2.2**
MOS Moscow 23.36 347 *eP* **P 14 09 45.4 +1.3**
MOS *eS* **S 14 13 51.9 -2.8**
MOS pmax pmax
comp=Z,59nm,0.7s
MOS Moscow 23.36 347 *eP* **P 14 09 45.4 +1.3**
comp=Z,59nm,0.7s
LVV L'vov 23.45 322 *eP* **P 14 09 44.5 -0.5**
LVV L'vov 23.45 322 *eP* **P 14 09 44.5 -0.5**
EKS2 Erkin-Say 23.51 58 *eP* **P 14 09 47.5 +1.6**
EKS2 pmax pmax
comp=Z,42nm,1.8s
EKS2 Erkin-Say 23.51 58 *eP* **P 14 09 47.5 +1.6**
comp=Z,42nm,1.8s
BBLS Lazići 23.54 305 *eP* **P 14 09 47.9 +1.8**
UZH Uzhgorod 23.72 318 *eP* **P 14 09 47.4 -0.2**
UZH *i* 14 09 52.6
UZH *e* 14 10 00.6
UZH *eS* **S 14 13 57.8 -2.9**
UZH *e* 14 14 48.2
KOLS Kolonicke sedl 23.89 318 *eP* **P 14 09 51.8 +2.5**
KOLS pmax pmax
comp=Z,16nm,1.2s
KOLS Kolonicke sedl 23.89 318 *eP* **P 14 09 51.8 +2.5**
KOLS Kolonicke sedl 23.89 318 *eP* **P 14 09 51.8 +2.5**
comp=Z,16nm,1.2s
AAK Ala-Archa 24.02 59 P **P 14 09 50.4 -0.3**
AAK pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 24.02 59 P **P 14 09 51.8 +1.1**
AAK Ala-Archa 24.02 59 P **P 14 09 50.4 -0.3**
comp=Z,1.7nm,0.4s,baz=227,slow=9.3,SNR=4.3
KWP Kalwaria Pacla 24.04 320 *eP* **P 14 09 52.7 +2.1**
CRVS Cervenica-Dubn 24.33 318 *eP* **P 14 09 54.7 +1.3**
CRVS pmax pmax
comp=Z,21nm,1.8s
CRVS Cervenica-Dubn 24.33 318 *eP* **P 14 09 54.7 +1.3**
CRVS Cervenica-Dubn 24.33 318 *eP* **P 14 09 54.7 +1.3**
comp=Z,21nm,1.8s
KSH Kashi 24.59 67 P **P 14 09 53.5 -2.5**
KSH sP **sP 14 10 07.5 -1.3**
KSH PP **PnPn 14 10 29.5 +1.6**
KSH S S 14 14 06.0 -9.2
KSH sS sS 14 14 21.0 -8.9
KSH SS **SnSn 14 14 59.0 -2.6**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,210nm,5.6s
KSH LR LR
comp=N,250nm,8.7s
KSH LR LR
comp=E,680nm,12.6s
KSH LR LR
comp=Z,780nm,19.8s
KECS Kecovo 24.68 316 *eP* **P 14 09 58.1 +1.5**
KECS pmax pmax
comp=Z,18nm,1.0s
KECS Kecovo 24.68 316 *eP* **P 14 09 58.1 +1.5**
KECS Kecovo 24.68 316 *eP* **P 14 09 58.1 +1.5**
comp=Z,18nm,1.0s
STHS Stebnicka Huta 24.72 318 *eP* **P 14 09 59.4 +2.5**
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 24.72 318 *eP* **P 14 09 59.4 +2.5**
STHS Stebnicka Huta 24.72 318 *eP* **P 14 09 59.4 +2.5**
comp=Z,7.1nm,1.1s
ARU Arti 24.72 16*diP* **P 14 09 57.9 +1.1**
ARU 14 10 33.9
ARU S **S 14 14 18.5 +1.8**
ARU pmax pmax
comp=Z,20nm,1.7s
PSZ Piszkesteto 24.77 314 *eP* **P 14 09 59.2 +1.8**
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 24.77 314⇑*iP* **P 14 09 59.3 +1.8**
PSZ Piszkesteto 24.77 314 *eP* **P 14 09 59.2 +1.8**
comp=Z,3.6nm,0.9s
PSZ Piszkesteto 24.77 314⇑*iP* **P 14 09 59.3 +1.8**
PKSM Moragy 24.85 310 ⇓P **P 14 09 59.4 +1.4**
PKSM Moragy 24.85 310⇓*iP* **P 14 09 59.4 +1.4**
PKSM Moragy 24.85 310⇑*eP* **P 14 09 59.2 +1.2**
PKSM Moragy 24.85 310⇓*iP* **P 14 09 59.4 +1.4**
TKM2 Tokmak 2 24.87 59 *eP* **P 14 09 58.6 0.0**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 24.87 59 *eP* **P 14 09 58.6 0.0**
comp=Z,8.3nm,0.9s
CEL Celeste 25.19 290 *eP* **P 14 10 02.9 +1.5**
comp=Z,35nm,0.9s
CUC Castrocucco 25.38 294 *eP* **P 14 10 04.4 +1.4**
comp=Z,14nm,0.9s
PKSG 25.46 312⇓*eP* **P 14 10 06.0 +2.4**
CSKK Cs^‡kako 25.53 312⇓*eP* **P 14 10 07.0 +2.7**
SVE Sverdlovsk 25.60 18 *eP* **P 14 10 05.4 +0.7**
SVE pmax pmax
comp=Z,15nm,1.0s
PKST T^'s 25.63 312⇓*eP* **P 14 10 08.3 +3.1**
NACGM Naroch 25.71 333 *e* **P 14 10 05.0 -0.7**
IDID Didziasalis 26.04 334 *eP* **P 14 10 09.3 +0.6**
IDID AMB AMB 14 10 12.0
comp=Z,8.2nm,0.8s
IDID Didziasalis 26.04 334 *eP* **P 14 10 09.3 +0.6**
comp=Z,8.2nm,0.8s,SNR=28
BRVK Borovoye 26.22 34*ciP* **P 14 10 11.1 +0.6**
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK MLR MLR
comp=Z,485nm,18.0s
BRVK Borovoye 26.22 34 P **P 14 10 11.7 +1.2**
SNR=8.3
BRVK Borovoye 26.22 34 *eP* **P 14 10 10.9 +0.4**
comp=Z,21nm,1.1s
BRVK Borovoye 26.22 34 *iP* **P 14 10 11.1 +0.6**
comp=Z,485nm,18.0s
BVA0 Borovoye Array 26.25 34 P **P 14 10 10.8 +0.1**
BVA0 pmax pmax
comp=Z,20nm,1.1s
BVA0 Borovoye Array 26.25 34 P **P 14 10 10.8 +0.1**
comp=Z,20nm,1.1s
BVAR Borovoye Array 26.25 34 P **P 14 10 11.1 +0.4**
BVAR 14 13 37.0
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 26.25 34 P **P 14 10 11.1 +0.4**
BVAR PcP **PcP 14 13 37.0 +0.4**
BVAR ScP **ScP 14 17 13.6 -0.5**
BVAR Borovoye Array 26.25 34 P **P 14 10 11.1 +0.4**
comp=Z,5.6nm,0.6s,baz=210,slow=8.3,SNR=41
BVAR PcP **PcP 14 13 37.0 +0.4**
comp=Z,1.4nm,0.6s,baz=248,slow=2.8,SNR=3.7
BVAR ScP **ScP 14 17 13.6 -0.5**
comp=Z,1.0nm,0.7s,baz=215,slow=4.8,SNR=4.7
BVAR Borovoye Array 26.25 34 P **P 14 10 11.1 +0.4**
comp=Z,6.0nm,0.6s
IIGN Ignalina 26.26 334 *eP* **P 14 10 11.4 +0.6**
IIGN AMB AMB 14 10 12.7
comp=Z,3.8nm,0.6s
IIGN Ignalina 26.26 334 *eP* **P 14 10 11.4 +0.6**
comp=Z,3.8nm,0.6s,SNR=28
BEL Belsk 26.29 323 *eP* **P 14 10 12.7 +1.7**
BEL Belsk 26.29 323 *eP* **P 14 10 12.8 +1.7**
VOSK Vostochnaya 26.34 35 P **P 14 10 11.1 -0.5**
VOSK pmax pmax
comp=Z,13nm,1.2s
VOSK Vostochnaya 26.34 35 P **P 14 10 11.1 -0.5**
comp=Z,13nm,1.2s
ISAL Salakas 26.46 334 *eP* **P 14 10 13.2 +0.6**
ISAL AMB AMB 14 10 14.7
comp=Z,7.9nm,0.8s
ISAL Salakas 26.46 334 *eP* **P 14 10 13.2 +0.6**
comp=Z,7.9nm,0.8s,SNR=28
SMOL Smolenice 26.51 314 *eP* **P 14 10 14.9 +1.8**
SMOL Smolenice 26.51 314 *eP* **P 14 10 14.9 +1.8**
SMOL Smolenice 26.51 314 *eP* **P 14 10 14.9 +1.8**
SUW Suwalki 26.53 329 *eP* **P 14 10 13.4 +0.2**
SUW pmax pmax
comp=Z,66nm,1.0s
SUW Suwalki 26.53 329 *eP* **P 14 10 13.4 +0.2**
comp=Z,66nm,1.0s
SUW Suwalki 26.53 329 *eP* **P 14 10 13.6 +0.4**
SUW Suwalki 26.53 329 *eP* **P 14 10 13.4 +0.2**
comp=Z,66nm,1.0s
ZST Bratislava 26.58 313 *eP* **P 14 10 15.9 +2.2**
ZST Bratislava 26.58 313 *eP* **P 14 10 15.9 +2.2**
ZST Bratislava 26.58 313 *eP* **P 14 10 15.9 +2.2**
OKC Ostrava-Krasne 26.68 317 *eP* **P 14 10 15.9 +1.3**
OKC Ostrava-Krasne 26.68 317 *eP* **P 14 10 15.9 +1.3**
OKC *ep*P **pP 14 10 19.9 -3.6**
OKC Ostrava-Krasne 26.68 317 *eP* **P 14 10 15.9 +1.3**
MORC Moravsky Berou 27.00 316 *eP* **P 14 10 18.2 +0.7**
MORC pmax pmax
comp=Z,12nm,1.0s
MORC Moravsky Berou 27.00 316 *eP* **P 14 10 18.2 +0.7**
comp=Z,12nm,1.0s
MORC Moravsky Berou 27.00 316 *eP* **P 14 10 18.2 +0.7**
comp=Z,12nm,1.0s
VRAC Vranov 27.34 315 P **P 14 10 21.6 +1.0**
VRAC Vranov 27.34 315 P **P 14 10 21.6 +1.0**
comp=Z,5.3nm,0.8s,baz=116,slow=9.1,SNR=8.3
VRAC LR LR 14 23 37.9
comp=Z,153nm,18.4s,baz=120,slow=42
VRAC Vranov 27.34 315 P **P 14 10 21.6 +1.0**
comp=Z,153nm,18.4s
DPC Dobruska-Polom 27.96 317 *eP* **P 14 10 26.5 +0.4**
DPC Dobruska-Polom 27.96 317 *eP* **P 14 10 26.5 +0.4**
DPC AMS AMS 14 24 50.0
DPC Dobruska-Polom 27.96 317 *eP* **P 14 10 26.5 +0.4**
TREC Trest 28.00 314 *eP* **P 14 10 28.4 +1.9**
TREC MLR MLR
comp=Z,400nm,14.7s
TREC Trest 28.00 314 *eP* **P 14 10 28.4 +1.9**
TREC AMS AMS 14 25 20.0
comp=Z,400nm,14.7s
TREC Trest 28.00 314 *eP* **P 14 10 28.4 +1.9**
comp=Z,400nm,14.7s
KSP Ksiaz 28.19 318⇑*eP* **P 14 10 29.1 +0.9**
KSP Ksiaz 28.19 318 *eP* **P 14 10 29.2 +1.0**
KSP Ksiaz 28.19 318 *eP* **P 14 10 29.1 +0.9**
UPC Upice 28.20 317 *eP* **P 14 10 29.1 +0.8**
UPC *e* 14 10 38.8
UPC Upice 28.20 317 *eP* **P 14 10 29.1 +0.8**
UPC *ex* x 14 10 38.8
UPC Upice 28.20 317 *eP* **P 14 10 29.1 +0.8**
PRU Pruhonice 28.84 315 *eP* **P 14 10 35.0 +1.1**
PRU MLR MLR
comp=Z,400nm,14.1s
PRU Pruhonice 28.84 315 *eP* **P 14 10 35.0 +1.1**
PRU AMS AMS 14 25 00.0
comp=Z,400nm,14.1s
PRU Pruhonice 28.84 315 *eP* **P 14 10 35.0 +1.1**
comp=Z,400nm,14.1s
GERES GERESS Array B 28.92 312 P **P 14 10 34.5 -0.3**
GERES PcP **PcP 14 13 43.2 0.0**
GERES GERESS Array B 28.92 312 P **P 14 10 34.5 -0.3**
comp=Z,0.7nm,0.7s,baz=113,slow=7.6,SNR=5.9
GERES PcP **PcP 14 13 43.2 0.0**
comp=Z,0.7nm,0.5s,baz=113,slow=2.2,SNR=5.6
GERES LR LR 14 23 40.3
comp=Z,118nm,20.3s,baz=261,slow=39
GERES GERESS Array B 28.92 312 P **P 14 10 34.5 -0.3**
PVCC Panska Ves 29.05 316 *eP* **P 14 10 36.7 +1.0**
PVCC *e* 14 10 43.1
PVCC MLR MLR
comp=Z,600nm,15.4s
PVCC Panska Ves 29.05 316 *eP* **P 14 10 36.7 +1.0**
PVCC *ep*P **pP 14 10 43.1 -1.6**
PVCC AMS AMS 14 25 40.0
comp=Z,600nm,15.4s
PVCC Panska Ves 29.05 316 *eP* **P 14 10 36.7 +1.0**
comp=Z,600nm,15.4s
KHC Kasperske Hory 29.10 313 *eP* **P 14 10 36.0 -0.3**
KHC MLR MLR
comp=Z,300nm,15.0s
KHC Kasperske Hory 29.10 313 *eP* **P 14 10 36.0 -0.3**
KHC AMS AMS 14 25 30.0
comp=Z,300nm,15.0s
KHC Kasperske Hory 29.10 313 *eP* **P 14 10 36.0 -0.3**
comp=Z,300nm,15.0s
KURBB Kurchatov Arra 29.29 44 P **P 14 10 38.3 +0.4**
comp=Z,1.1nm,0.5s,baz=247,slow=9.3,SNR=16
KURBB PcP **PcP 14 13 43.9 -0.1**
comp=Z,1.0nm,1.0s,baz=258,slow=2.3,SNR=4.3
KURBB ScP **ScP 14 17 23.1 -0.3**
comp=Z,0.3nm,0.7s,baz=247,slow=2.7,SNR=3.5
KURK Kurchatov 29.38 44 P **P 14 10 38.3 -0.4**
KURK 14 13 43.9
KURK 14 17 23.1
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 29.38 44 P **P 14 10 38.3 -0.4**
KURK PcP **PcP 14 13 43.9 -0.3**
KURK ScP **ScP 14 17 23.1 -0.6**
KURK Kurchatov 29.38 44 P **P 14 10 38.3 -0.4**
comp=Z,1.0nm,0.5s
BRG Berggiesshubel 29.55 316 *i* P **P 14 10 41.0 +0.8**
comp=Z,6.2nm,1.0s
BRG *e* 14 10 46.4
comp=Z,6.8nm,0.9s
BRG *i* 14 11 05.0
comp=Z,5.7nm,0.8s
BRG Berggiesshubel 29.55 316 *iP* **P 14 10 41.0 +0.8**
BRG *e* 14 10 46.4
BRG pmax pmax
comp=Z,6.0nm,1.0s
NKC Novy Kostel 30.18 315 *eP* **P 14 10 46.8 +1.0**
NKC MLR MLR
comp=Z,200nm,13.2s
NKC Novy Kostel 30.18 315 *eP* **P 14 10 46.8 +1.0**
NKC *ep*P **pP 14 10 50.8 -4.0**
NKC AMS AMS 14 26 40.0
comp=Z,200nm,13.2s
NKC Novy Kostel 30.18 315 P **P 14 10 46.8 +1.0**
CLL Collm 30.27 317 *iP* **P 14 10 45.8 -0.8**
CLL *i* 14 11 03.9
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 30.27 317 *iP* **P 14 10 47.1 +0.5**
comp=Z,15nm,1.2s
CLL Collm 30.27 317 *i* pPKPab P 14 11 03.9 +17
CLL *e*(sPKPab) 14 11 11.0
MK31 Makanchi Array 30.41 53 *eP* **P 14 10 47.9 0.0**
MK31 Makanchi Array 30.41 53 *eP* **P 14 10 47.9 0.0**
MKAR Makanchi Array 30.41 53 P **P 14 10 48.3 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR MLR MLR
comp=Z,309nm,18.2s
MKAR Makanchi Array 30.41 53 P **P 14 10 48.3 +0.4**
MKAR Makanchi Array 30.41 53 P **P 14 10 48.3 +0.4**
comp=Z,3.8nm,0.7s,baz=248,slow=8.6,SNR=36
MKAR LR LR 14 24 48.8
comp=Z,308nm,18.2s,baz=124,slow=40
GRA1 Grafenberg Arr 30.73 313 *eP* **P 14 10 51.7 +1.0**
comp=Z,13nm,1.2s
GRF Grafenberg Arr 30.73 313 *eP* **P 14 10 51.7 +1.0**
GRF pmax pmax
comp=Z,13nm,1.2s
PGF Pioggiola 30.74 299 *eP* **P 14 10 51.6 +0.6**
PGF Pioggiola 30.74 299 *eP* **P 14 10 51.6 +0.6**
PGF Pioggiola 30.74 299 *eP* **P 14 10 51.6 +0.6**
PGF Pioggiola 30.74 299 *eP* **P 14 10 51.6 +0.6**
FINES FINESS Array B 31.16 341 P **P 14 10 54.3 0.0**
FINES FINESS Array B 31.16 341 P **P 14 10 54.3 0.0**
comp=Z,6.0nm,0.9s,baz=149,slow=10,SNR=13
FINES LR LR 14 26 03.0
comp=Z,158nm,20.5s,baz=144,slow=41
JOF Joensuu 31.24 347 *ep* **P 14 10 55.4 +0.4**
comp=Z,7.2nm,0.8s
JOF Joensuu 31.24 347 *eP* **P 14 10 55.4 +0.4**
comp=Z,7.2nm,0.8s
KAF Kangasniemi 31.66 342 *eP* **P 14 10 57.8 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 31.66 342 *ep* **P 14 10 57.8 -0.9**
comp=Z,6.3nm,0.8s
KAF Kangasniemi 31.66 342 *eP* **P 14 10 57.8 -0.9**
comp=Z,6.3nm,0.8s
SBF Sospel 32.01 301 *eP* **P 14 11 02.8 +0.7**
SBF Sospel 32.01 301 *eP* **P 14 11 02.8 +0.7**
SBF Sospel 32.01 301 *eP* **P 14 11 02.8 +0.7**
SBF Sospel 32.01 301 *eP* **P 14 11 02.8 +0.7**
DANN Dangsing 32.37 88 *eP* **P 14 11 05.6 -0.1**
comp=Z,93nm,1.0s
KOLN Koldanda 32.42 90 *eP* **P 14 11 05.8 -0.2**
comp=Z,19nm,0.9s
MBDF Montbardon 32.58 302 *eP* **P 14 11 07.8 +0.6**
MBDF Montbardon 32.58 302 *eP* **P 14 11 07.8 +0.6**
MBDF Montbardon 32.58 302 *eP* **P 14 11 07.8 +0.6**
MBDF Montbardon 32.58 302 *eP* **P 14 11 07.8 +0.6**
BNI Bardonecchia 32.69 303 *eP* **P 14 11 08.5 +0.4**
BNI pmax pmax
comp=Z,44nm,1.2s
BNI Bardonecchia 32.69 303 *eP* **P 14 11 08.4 +0.4**
comp=Z,44nm,1.2s
LPG La Plagne 32.69 304 *eP* **P 14 11 08.7 +0.4**
comp=Z,32nm,0.9s
LPG La Plagne 32.69 304 *eP* **P 14 11 08.7 +0.4**
LPG pmax pmax
comp=Z,32nm,0.9s

LPG	La Plagne	32.69	304	eP	P	14 11 08.7 +0.4
	comp=Z,32nm,0.9s					
LPG	La Plagne	32.69	304	eP	P	14 11 08.7 +0.4
	comp=Z,16nm,0.9s					
LPL	La Plagne	32.71	304	eP	P	14 11 08.7 +0.3
LPL	La Plagne	32.71	304	eP	P	14 11 08.7 +0.3
LPL	La Plagne	32.71	304	eP	P	14 11 08.7 +0.3
LPL	La Plagne	32.71	304	eP	P	14 11 08.7 +0.3
CDF	Champ du Feu	32.88	309	eP	P	14 11 09.5 -0.2
	comp=Z,9.4nm,1.0s					
CDF	Champ du Feu	32.88	309	eP	P	14 11 09.5 -0.2
CDF				pmax	pmax	
	comp=Z,9.0nm,1.0s					
CDF	Champ du Feu	32.88	309	eP	P	14 11 09.5 -0.2
	comp=Z,9.4nm,1.0s					
CDF	Champ du Feu	32.88	309	eP	P	14 11 09.5 -0.2
	comp=Z,4.7nm,1.0s					
HYB	Hyderabad	32.89	111	i P	P	14 11 09.0 -1.0
ECH	Echery	32.91	309	eP	P	14 11 08.9 -1.0
ECH				pmax	pmax	
	comp=Z,6.0nm,1.1s					
ECH	Echery	32.91	309	eP	P	14 11 08.8 -1.0
	comp=Z,6.4nm,1.1s					
HINF	Hinteralfeld	33.02	308	eP	P	14 11 10.8 -0.1
	comp=Z,18nm,1.2s					
HINF	Hinteralfeld	33.02	308	eP	P	14 11 10.8 -0.1
HINF				pmax	pmax	
	comp=Z,18nm,1.2s					
HINF	Hinteralfeld	33.02	308	eP	P	14 11 10.8 -0.1
	comp=Z,18nm,1.2s					
HINF	Hinteralfeld	33.02	308	eP	P	14 11 10.8 -0.1
	comp=Z,9.1nm,1.2s					
ORIF	Oris-en-Rattie	33.23	303	eP	P	14 11 14.0 +1.2
	comp=Z,21nm,1.0s					
ORIF				eR		
	comp=Z,188nm,18.5s					
ORIF	Oris-en-Rattie	33.23	303	eP	P	14 11 14.0 +1.2
ORIF				pmax	pmax	
	comp=Z,21nm,1.0s					
ORIF	Oris-en-Rattie	33.23	303	eP	P	14 11 14.0 +1.2
	comp=Z,21nm,1.0s					
ORIF	Oris-en-Rattie	33.23	303	eP	P	14 11 14.0 +1.2
	comp=Z,11nm,1.0s					
CABF	La Chapelle	33.32	306	eP	P	14 11 14.1 +0.5
	comp=Z,81nm,1.2s					
CABF	La Chapelle	33.32	306	eP	P	14 11 14.1 +0.5
CABF				pmax	pmax	
	comp=Z,81nm,1.2s					
CABF	La Chapelle	33.32	306	eP	P	14 11 14.1 +0.5
	comp=Z,81nm,1.2s					
CABF	La Chapelle	33.32	306	eP	P	14 11 14.1 +0.5
	comp=Z,40nm,1.2s					
HAU	Haudompre	33.40	308	⇑iP	P	14 11 13.9 -0.2
	comp=Z,24nm,1.0s					
HAU				eR		
	comp=Z,234nm,20.8s					
HAU	Haudompre	33.40	308	⇑iP	P	14 11 13.9 -0.2
HAU				pmax	pmax	
	comp=Z,24nm,1.0s					
HAU	Haudompre	33.40	308	⇑iP	P	14 11 13.9 -0.2
	comp=Z,24nm,1.0s					
HAU	Haudompre	33.40	308	⇑iP	P	14 11 13.9 -0.2
	comp=Z,12nm,1.0s					
NVS	Novosibirsk	33.65	39	eP	P	14 11 15.6 -0.5
NVS				e		14 12 30.5
WMQ	Urumqi	33.72	59	P	P	14 11 19.0 +1.9
WMQ				pP	pP	14 11 31.0 +4.9
WMQ				PP	PP	14 12 32.0 -1.6
WMQ				S	S	14 16 38.8 +0.4
WMQ				sS	sS	14 16 57.0 +3.7
WMQ				SS	SnSn	14 18 43.8 0.0
WMQ				ScS	ScS	14 21 39.3 -0.7
WMQ				pmax	pmax	
	comp=Z,17nm,1.0s					
WMQ				pmax	pmax	
	comp=Z,91nm,5.0s					
WMQ				LR	LR	
	comp=N,200nm,22.0s					
WMQ				LR	LR	
	comp=E,170nm,23.0s					
WMQ				LR	LR	
	comp=Z,110nm,26.0s					
DMN	Daman	33.73	89	eP	P	14 11 17.5 -0.1
	comp=Z,101nm,1.1s					
KKN	Kakani	33.82	89	eP	P	14 11 18.1 -0.2
	comp=Z,63nm,0.9s					
WLF	Walferdange	33.88	311	P	P	14 11 19.0 +0.6
WLF	Walferdange	33.88	311	P	P	14 11 18.9 +0.6
PAGF	Fort de Pagny	33.91	309	eP	P	14 11 18.7 +0.1
	comp=Z,4.2nm,0.8s					
PAGF	Fort de Pagny	33.91	309	eP	P	14 11 18.7 +0.1
	comp=Z,4.2nm,0.8s					
PAGF	Fort de Pagny	33.91	309	eP	P	14 11 18.7 +0.1
	comp=Z,2.1nm,0.8s					
PKIN	Phulchoki	33.99	89	eP	P	14 11 19.4 -0.4
	comp=Z,64nm,1.1s					
PKI	Pulchoki	34.00	89	eP	P	14 11 19.6 -0.4
	comp=Z,105nm,1.1s					
VIVF	Saint-Julien-l	34.08	302	eP	P	14 11 20.0 -0.1
	comp=Z,30nm,1.2s					
VIVF	Saint-Julien-l	34.08	302	eP	P	14 11 20.0 -0.1
VIVF				pmax	pmax	
	comp=Z,30nm,1.2s					
VIVF	Saint-Julien-l	34.08	302	eP	P	14 11 20.0 -0.1
	comp=Z,30nm,1.2s					
VIVF	Saint-Julien-l	34.08	302	eP	P	14 11 20.0 -0.1
	comp=Z,15nm,1.2s					
ZAA0	Zalesovo Array	34.14	41	eP	P	14 11 20.4 -0.1
ZALV	Zalesovo Beam	34.14	41	i P	P	14 11 20.7 +0.2
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.3s					
ZALV	Zalesovo Beam	34.14	41	P	P	14 11 20.5 0.0
ZALV	Zalesovo Beam	34.14	41	P	P	14 11 20.5 0.0
	comp=Z,1.2nm,0.3s,baz=252,slow=9.7,SNR=15					
ZALV				LR	LR	14 28 27.9
	comp=Z,156nm,19.8s,baz=250,slow=42					
GUN	Gumba	34.28	88	eP	P	14 11 22.2 -0.2
	comp=Z,157nm,0.9s					
SFTF	Sexfontaines	34.30	308	eP	P	14 11 22.0 +0.1
	comp=Z,41nm,1.2s					
SFTF	Sexfontaines	34.30	308	eP	P	14 11 22.0 +0.1
	comp=Z,41nm,1.2s					
SFTF	Sexfontaines	34.30	308	eP	P	14 11 22.0 +0.1
	comp=Z,20nm,1.2s					
MEZF	Maizieres J'vi	34.34	309	eP	P	14 11 22.6 +0.3
	comp=Z,42nm,1.0s					
MEZF	Maizieres J'vi	34.34	309	eP	P	14 11 22.6 +0.3
	comp=Z,42nm,1.0s					
MEZF	Maizieres J'vi	34.34	309	eP	P	14 11 22.6 +0.3
	comp=Z,21nm,1.0s					
MUD	Monsted U'grnd	34.52	324	i P	P	14 11 23.6 -0.1
MUD				pmax	pmax	
	comp=Z,24nm,1.0s					
MUD	Monsted U'grnd	34.52	324	i P	P	14 11 23.6 -0.1
	comp=Z,24nm,0.9s					
MUD	Monsted U'grnd	34.52	324	i P	P	14 11 23.6 -0.1
	comp=Z,24nm,1.0s					
LASF	Ste Croix	34.60	301	eP	P	14 11 24.5 -0.1
LASF	Ste Croix	34.60	301	eP	P	14 11 24.5 -0.1
LASF	Ste Croix	34.60	301	eP	P	14 11 24.5 -0.1
JIRN	Jiri	34.62	88	eP	P	14 11 25.5 +0.1
	comp=Z,58nm,0.7s					
SMF	Signal de Mont	34.86	305	⇑iP	P	14 11 26.9 +0.1
	comp=Z,59nm,0.9s					
SMF	Signal de Mont	34.86	305	⇑iP	P	14 11 26.9 +0.1
SMF				pmax	pmax	
	comp=Z,59nm,0.9s					
SMF	Signal de Mont	34.86	305	⇑iP	P	14 11 26.9 +0.1
	comp=Z,59nm,0.9s					
SMF	Signal de Mont	34.86	305	⇑iP	P	14 11 26.9 +0.1
	comp=Z,29nm,0.9s					
LOR	Lormes	34.93	307	eP	P	14 11 27.3 -0.1
	comp=Z,13nm,0.9s					
LOR				eR		
	comp=Z,226nm,18.0s					
LOR	Lormes	34.93	307	eP	P	14 11 27.3 -0.1
	comp=Z,13nm,0.9s					
LOR	Lormes	34.93	307	eP	P	14 11 27.3 -0.1
	comp=Z,6.5nm,0.9s					
DOU	Dourbes	34.97	312	P	P	14 11 29.1 +1.5
DOU	Dourbes	34.97	312	P	P	14 11 29.1 +1.5
SSF	Saint Saulge	35.14	306	eP	P	14 11 29.3 +0.1
	comp=Z,27nm,1.0s					
SSF	Saint Saulge	35.14	306	eP	P	14 11 29.3 +0.1
SSF				pmax	pmax	
	comp=Z,27nm,1.0s					
SSF	Saint Saulge	35.14	306	eP	P	14 11 29.3 +0.1
	comp=Z,27nm,1.0s					
SSF	Saint Saulge	35.14	306	eP	P	14 11 29.3 +0.1
	comp=Z,14nm,1.0s					
BAIF	Baives	35.20	311	eP	P	14 11 29.5 -0.2
	comp=Z,12nm,0.9s					
BAIF	Baives	35.20	311	eP	P	14 11 29.5 -0.2
BAIF				pmax	pmax	
	comp=Z,12nm,0.9s					
BAIF	Baives	35.20	311	eP	P	14 11 29.5 -0.2
	comp=Z,12nm,0.9s					
BAIF	Baives	35.20	311	eP	P	14 11 29.5 -0.2
	comp=Z,6.2nm,0.9s					
RAMN	Ramite	35.20	89	eP	P	14 11 29.7 -0.6
	comp=Z,44nm,0.7s					
AVF	Avril sur Loir	35.21	306	⇑iP	P	14 11 29.7 -0.1
	comp=Z,23nm,1.0s					
AVF	Avril sur Loir	35.21	306	⇑iP	P	14 11 29.7 -0.1
AVF				pmax	pmax	
	comp=Z,23nm,1.0s					
AVF	Avril sur Loir	35.21	306	⇑iP	P	14 11 29.7 -0.1
	comp=Z,23nm,1.0s					
AVF	Avril sur Loir	35.21	306	⇑iP	P	14 11 29.7 -0.1
	comp=Z,11nm,1.0s					
BGF	Bois d'Agland	35.53	305	eP	P	14 11 32.6 0.0
	comp=Z,15nm,0.8s					
BGF	Bois d'Agland	35.53	305	eP	P	14 11 32.6 0.0
BGF				pmax	pmax	
	comp=Z,15nm,0.8s					
BGF	Bois d'Agland	35.53	305	eP	P	14 11 32.6 0.0
	comp=Z,15nm,0.8s					
BGF	Bois d'Agland	35.53	305	eP	P	14 11 32.6 0.0
	comp=Z,7.3nm,0.8s					
ODAN	Odare	35.90	89	eP	P	14 11 35.7 -0.5
	comp=Z,30nm,1.1s					
TCF	Toulx Ste Croi	35.94	305	eP	P	14 11 36.3 +0.2
	comp=Z,67nm,1.7s					
TCF	Toulx Ste Croi	35.94	305	eP	P	14 11 36.3 +0.2
TCF				pmax	pmax	
	comp=Z,67nm,1.7s					
TCF	Toulx Ste Croi	35.94	305	eP	P	14 11 36.3 +0.2
	comp=Z,67nm,1.7s					
TCF	Toulx Ste Croi	35.94	305	eP	P	14 11 36.3 +0.2
	comp=Z,34nm,1.7s					
NB2	NORSAR Subarra	35.95	331	P	P	14 11 36.1 +0.1
	comp=Z,1.7nm,0.6s,baz=124,slow=8.6					
NB2	NORSAR Subarra	35.95	331	P	P	14 11 36.1 +0.1
	comp=Z,1.7nm,0.6s,SNR=7.1					
NOA	NORSAR Array B	35.95	331	P	P	14 11 36.0 +0.1
NOA	NORSAR Array B	35.95	331	P	P	14 11 36.0 +0.1
	comp=Z,2.7nm,0.7s,baz=125,slow=8.7,SNR=7.6					
TAPN	Taplejung	36.00	88	eP	P	14 11 36.9 -0.3
	comp=Z,104nm,1.0s					
RJF	Les Rejaudoux	36.34	303	eP	P	14 11 40.0 +0.4
RJF				eR		
	comp=Z,154nm,18.5s					
RJF	Les Rejaudoux	36.34	303	eP	P	14 11 40.0 +0.4
RJF	Les Rejaudoux	36.34	303	eP	P	14 11 40.0 +0.4
RJF	Les Rejaudoux	36.34	303	eP	P	14 11 40.0 +0.4
LFF	La Frestale	36.87	302	eP	P	14 11 44.3 +0.2
LFF	La Frestale	36.87	302	eP	P	14 11 44.3 +0.2
LFF	La Frestale	36.87	302	eP	P	14 11 44.3 +0.2
LFF	La Frestale	36.87	302	eP	P	14 11 44.3 +0.2
TAM	Tamanrasset	37.33	265	eP	P	14 11 50.9 +2.6
TAM				pmax	pmax	
	comp=Z,3.0nm,0.8s					
TAM	Tamanrasset	37.33	265	eP	P	14 11 50.9 +2.6
	comp=Z,3.0nm,0.8s					
MFF	Saint Martin d	37.59	305	eP	P	14 11 49.7 -0.4
	comp=Z,19nm,1.1s					
MFF	Saint Martin d	37.59	305	eP	P	14 11 49.7 -0.4
MFF				pmax	pmax	
	comp=Z,19nm,1.1s					
MFF	Saint Martin d	37.59	305	eP	P	14 11 49.7 -0.4
	comp=Z,19nm,1.1s					
MFF	Saint Martin d	37.59	305	eP	P	14 11 49.7 -0.4
	comp=Z,9.4nm,1.1s					
LDF	La Druitiere	37.75	308	eP	P	14 11 50.8 -0.7
LDF	La Druitiere	37.75	308	eP	P	14 11 50.8 -0.7
LDF	La Druitiere	37.75	308	eP	P	14 11 50.8 -0.7
LDF	La Druitiere	37.75	308	eP	P	14 11 50.8 -0.7
FLN	La Foliniere	38.01	308	eP	P	14 11 53.2 -0.4
FLN				eR		
	comp=Z,208nm,20.2s					
FLN	La Foliniere	38.01	308	eP	P	14 11 53.2 -0.4
FLN	La Foliniere	38.01	308	eP	P	14 11 53.2 -0.4
FLN	La Foliniere	38.01	308	eP	P	14 11 53.2 -0.4
GRR	Gorron	38.22	308	eP	P	14 11 55.0 -0.4
	comp=Z,51nm,1.2s					
GRR	Gorron	38.22	308	eP	P	14 11 55.0 -0.4
GRR				pmax	pmax	
	comp=Z,51nm,1.2s					
GRR	Gorron	38.22	308	eP	P	14 11 55.0 -0.4
	comp=Z,51nm,1.2s					
GRR	Gorron	38.22	308	eP	P	14 11 55.0 -0.4
	comp=Z,25nm,1.2s					
ARCES	ARCESS Array B	38.23	348	P	P	14 11 55.2 0.0
ARCES	ARCESS Array B	38.23	348	P	P	14 11 55.2 0.0
	comp=Z,7.6nm,0.9s,baz=165,slow=8.5,SNR=20					
ARCES				LR	LR	14 29 03.9
	comp=Z,222nm,18.9s,baz=147,slow=38					
SJPF	Ste Jean	38.27	299	eP	P	14 11 55.7 -0.3
SJPF	Ste Jean	38.27	299	eP	P	14 11 55.7 -0.3
SJPF	Ste Jean	38.27	299	eP	P	14 11 55.7 -0.3
SJPF	Ste Jean	38.27	299	eP	P	14 11 55.7 -0.3
SGMF	Saint Gilles	39.34	307	eP	P	14 12 04.5 -0.3
SGMF	Saint Gilles	39.34	307	eP	P	14 12 04.5 -0.3
SGMF	Saint Gilles	39.34	307	eP	P	14 12 04.5 -0.3
SGMF	Saint Gilles	39.34	307	eP	P	14 12 04.5 -0.3
QUIF	Quistinic	39.72	307	eP	P	14 12 07.3 -0.7
QUIF	Quistinic	39.72	307	eP	P	14 12 07.3 -0.7
QUIF	Quistinic	39.72	307	eP	P	14 12 07.3 -0.7
QUIF	Quistinic	39.72	307	eP	P	14 12 07.3 -0.7
ROSF	Rostrenen	39.82	307	eP	P	14 12 08.3 -0.5
	comp=Z,23nm,1.0s					
ROSF	Rostrenen	39.82	307	eP	P	14 12 08.3 -0.5
ROSF				pmax	pmax	
	comp=Z,23nm,1.0s					
ROSF	Rostrenen	39.82	307	eP	P	14 12 08.3 -0.5
	comp=Z,23nm,1.0s					
ROSF	Rostrenen	39.82	307	eP	P	14 12 08.3 -0.5
	comp=Z,12nm,1.0s					
MCH1	Michaelchurch	40.02	313	eP	P	14 12 09.6 -0.8
MCH1				AMB	AMB	14 12 13.0
	comp=Z,43nm,1.8s					
MCH1	Michaelchurch	40.02	313	eP	P	14 12 09.6 -0.8
SHL	Shillong	40.13	89	eP	P	14 12 10.5 -1.4
ESY	Stoneypath	40.53	319‖	eP	P	14 12 15.6 +1.0
ESY	Stoneypath	40.53	319‖	eP	P	14 12 15.6 +1.0
ESDC	Sonseca Array	40.58	294	P	P	14 12 15.4 +0.1
ESDC	Sonseca Array	40.58	294	P	P	14 12 15.4 +0.1
	comp=Z,3.5nm,1.0s,baz=68,slow=8.0,SNR=12					
ECK	Cauldkaine Hil	40.66	318	eP	P	14 12 15.5 -0.1
ECK	Cauldkaine Hil	40.66	318	eP	P	14 12 15.5 -0.1
DRUM	Mains of Drumt	40.70	321	eP	P	14 12 16.1 +0.1
DRUM				AMB	AMB	14 12 21.9
	comp=Z,77nm,2.3s					
DRUM	Mains of Drumt	40.70	321	eP	P	14 12 16.1 +0.1
EBL	Broad Law	40.74	319‖	eP	P	14 12 17.3 +1.0
EBL	Broad Law	40.74	319‖	eP	P	14 12 17.3 +1.0
EDI	Edinburgh	40.85	319	eP	P	14 12 17.9 +0.7
EDI				AMB	AMB	14 12 18.0
	comp=Z,67nm,2.1s					
EDI	Edinburgh	40.85	319	eP	P	14 12 17.9 +0.7
MME1	Meikle Cairn	41.05	321‖	eP	P	14 12 19.9 +1.0
MME1	Meikle Cairn	41.05	321‖	eP	P	14 12 19.9 +1.0
MCD	Coleburn Disti	41.27	322‖	eP	P	14 12 21.7 +1.1
MCD	Coleburn Disti	41.27	322‖	eP	P	14 12 21.7 +1.1
EAB	Aberfoyle	41.54	319‖	eP	P	14 12 23.5 +0.7
EAB	Aberfoyle	41.54	319‖	eP	P	14 12 23.5 +0.7
MVH1	Achvaich	41.84	322‖	eP	P	14 12 25.9 +0.6
MVH1	Achvaich	41.84	322‖	eP	P	14 12 25.9 +0.6
GTA	Gaotai	42.99	66	eP	P	14 12 36.3 +1.2
GTA				pP	pP	14 12 44.0 -0.3
GTA				sP	sP	14 12 46.8 -1.3
GTA				PcP	PcP	14 14 24.5 -0.6
GTA				S	S	14 18 58.0 -0.6
GTA				sS	sS	14 19 14.8 +1.0
GTA				SS	SS	14 22 03.3 -7.7
GTA				pmax	pmax	
	comp=Z,4.0nm,1.0s					
GTA				pmax	pmax	
	comp=Z,76nm,4.3s					
GTA				LR	LR	
	comp=N,260nm,12.8s					
GTA				LR	LR	
	comp=E,210nm,13.8s					
GTA				LR	LR	
	comp=Z,340nm,13.8s					
PBAR	Barrancos	43.18	292	eP	P	14 12 37.2 +0.7
PBAR	Barrancos	43.18	292	eP	P	14 12 37.2 +0.7
PESTR	Estremoz	43.48	293	eP	P	14 12 39.9 +1.0
PESTR	Estremoz	43.48	293	eP	P	14 12 39.9 +1.0
ZAK	Zakamensk	44.63	50	eP	P	14 12 43.0 -5.1
ZAK				pmax	pmax	
	comp=Z,5.0nm,1.5s					
TOA0	Torodi Ar. Sit	45.25	255	eP	P	14 12 54.4 +1.0
TORD	Torodi Ar. Bea	45.25	255	P	P	14 12 53.6 +0.2
TORD	Torodi Ar. Bea	45.25	255	P	P	14 12 53.6 +0.2
	comp=Z,7.3nm,0.9s,baz=49,slow=7.3,SNR=30					
TORD				LR	LR	14 34 47.4
	comp=Z,154nm,19.8s,baz=100,slow=40					
SONM	Songino Array	46.77	53	P	P	14 13 05.5 +0.4
SONM				PcP	PcP	14 14 38.7 +0.7
SONM	Songino Array	46.77	53	P	P	14 13 05.5 +0.4
	comp=Z,2.2nm,1.1s,baz=282,slow=7.2,SNR=8.9					
SONM				PcP	PcP	14 14 38.7 +0.7
	comp=Z,0.5nm,0.6s,baz=254,slow=4.1,SNR=2.6					
SONM				LR	LR	14 35 00.6
	comp=Z,208nm,18.4s,baz=277,slow=39					
LZH	Lanzhou	46.79	70	eP	P	14 13 08.8 +3.4
LZH				pP	pP	14 13 18.8 +4.1
LZH				sP	sP	14 13 23.3 +4.9
LZH				PP	PP	14 14 56.0 +0.4
LZH				eS	S	14 19 54.0 +0.3
LZH				sS	sS	14 20 11.3 +2.3
LZH				SS	SS	14 23 11.5 -8.7
LZH				pmax	pmax	
	comp=Z,18nm,1.3s					
LZH				pmax	pmax	
	comp=Z,61nm,4.1s					
LZH				LR	LR	
	comp=N,1μm,11.2s					
LZH				LR	LR	
	comp=E,1μm,12.6s					
LZH				LR	LR	
	comp=Z,1μm,15.1s					
ULN	Ulaanbaatar	47.21	53	P	P	14 13 09.1 +0.6
	SNR=6.5					
ULN	Ulaanbaatar	47.21	53	eP	P	14 13 08.3 -0.2
	comp=Z,9.3nm,0.9s					
ULN	Ulaanbaatar	47.21	53	P	P	14 13 03.0 -5.6
	comp=Z,13nm,1.8s,comp=Z,904nm					
CD2	Chengdu	48.17	76	eP	P	14 13 16.3 +0.2
CD2				pP	pP	14 13 26.5 +1.1
CD2				sP	sP	14 13 30.8 +1.7
CD2				pmax	pmax	
	comp=Z,10.0nm,1.0s					
CD2				pmax	pmax	
	comp=Z,30nm,4.8s					
CHTO	Chiang Mai	48.90	93	eP	P	14 13 20.5 -1.3
CHTO				pmax	pmax	
	comp=Z,9.0nm,1.0s					
CHTO	Chiang Mai	48.90	93	eP	P	14 13 20.4 -1.3
	comp=Z,8.8nm,1.0s					
CHTO	Chiang Mai	48.90	93	P	P	14 13 21.0 -0.8
	comp=Z,8.9nm,0.9s					
CMAR	Chiang Mai Arr	49.06	94	P	P	14 13 21.9 -1.1
CMAR				PP	PP	14 15 19.5 +2.8
CMAR	Chiang Mai Arr	49.06	94	P	P	14 13 21.9 -1.1
	comp=Z,3.4nm,0.6s,baz=291,slow=8.4,SNR=19					
CMAR				PP	PP	14 15 19.5 +2.8
	comp=Z,2.4nm,0.9s,baz=296,slow=10,SNR=5.1					
CMAR				LR	LR	14 34 47.4
	comp=Z,106nm,21.4s,baz=137,slow=37					
KMI	Kunming	49.38	84	P	P	14 13 27.0 +1.4
KMI				pmax	pmax	
	comp=Z,4.0nm,0.6s					
XAN	Xi'an	51.35	71	P	P	14 13 39.5 -0.7
XAN				pP	pP	14 13 49.3 -0.3
XAN				sP	sP	14 13 54.0 +0.7
XAN				pmax	pmax	
	comp=Z,3.0nm,1.0s					
HHC	Hu-ho-hao-te	51.55	62	eP	P	14 13 40.8 -0.9
HHC				pP	pP	14 13 51.0 -0.1
HHC				sP	sP	14 13 54.5 -0.3
HHC				PP	PP	14 15 37.8 -1.2
HHC				S	S	14 20 56.5 -3.8
HHC				sS	sS	14 21 13.3 -2.4
HHC				SS	SS	14 24 29.8 -6.5
HHC				pmax	pmax	
	comp=Z,39nm,0.8s					
HHC				pmax	pmax	
	comp=Z,230nm,5.0s					
HHC				LR	LR	
	comp=N,340nm,15.4s					
HHC				LR	LR	
	comp=E,470nm,15.2s					
HHC				LR	LR	
	comp=Z,470nm,15.7s					
PBKT	Sadao Pong	51.66	95	P	P	14 13 42.8 +0.1
	comp=Z,12nm,0.9s					
GYA	Guiyang	52.12	81	eP	P	14 13 46.0 -0.2
GYA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
DBIC	Dimbokro	54.23	253	P	P	14 14 01.8 +0.1
DBIC	Dimbokro	54.23	253	P	P	14 14 01.8 +0.1
	comp=Z,8.5nm,0.8s,baz=34,slow=8.2,SNR=6.9					
DBIC				LR	LR	14 39 56.8
	comp=Z,184nm,19.5s,baz=32,slow=39					
KIC	Kosan Boka	54.33	252	eP	P	14 14 02.6 +0.2
	comp=Z,46nm,1.2s					
TIC	Toumodi	54.38	253	eP	P	14 14 02.8 0.0
	comp=Z,74nm,1.3s					
LIC	Lamto	54.63	252	⇑iP	P	14 14 04.8 +0.2
	comp=Z,32nm,0.8s					
LIC				eR		
	comp=Z,484nm,17.8s					
LIC	Lamto	54.63	252	eP	P	14 14 04.9 +0.3
	comp=Z,49nm,0.8s					
LIC	Lamto	54.63	252	⇑iP	P	14 14 04.8 +0.2
	comp=Z,32nm,0.8s					
LIC	Lamto	54.63	252	⇑iP	P	14 14 04.8 +0.2
	comp=Z,16nm,0.8s					
WHN	Wuhan	56.85	73	P	P	14 14 21.8 +1.5
WHN				S	S	14 22 11.3 -0.6
WHN				LR	LR	
	comp=Z,600nm,21.2s					
SUMG	Summit	57.16	339	eP	P	14 14 22.9 +0.5
SUMG				pmax	pmax	
	comp=Z,10.0nm,1.0s					
SUMG	Summit	57.16	339	i P	P	14 14 23.4 +1.0
	comp=Z,7.6nm,0.8s					
SUMG	Summit	57.16	339	eP	P	14 14 22.9 +0.5
	comp=Z,9.8nm,1.0s					
QIZ	Qiongzhong	57.93	87	P	P	14 14 26.8 -1.3
QIZ				S	S	14 22 24.0 -2.4
QIZ				pmax	pmax	
	comp=Z,7.0nm,2.1s					
QIZ				pmax	pmax	
	comp=Z,81nm,6.6s					
QIZ				LR	LR	
	comp=N,150nm,16.5s					
QIZ				LR	LR	
	comp=Z,310nm,18.4s					
CN2	Changchun	60.60	55	eP	P	14 14 47.0 +0.8
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
KSAR	Wonju Array Be	64.64	61	P	P	14 15 12.4 -0.8
BOSA	Boshof	64.64	201	P	P	14 15 13.1 -0.3
BOSA	Boshof	64.64	201	P	P	14 15 13.1 -0.3
	comp=Z,9.1nm,0.8s,baz=9.7,slow=5.1,SNR=14					
BOSA				LR	LR	14 44 35.0
	comp=Z,165nm,18.2s,baz=115,slow=37					
KSRS	Korea Array	64.66	61	P	P	14 15 12.4 -1.0
	comp=Z,4.3nm,0.8s,baz=285,slow=6.5,SNR=9.4					
USRK	Ussuriysk Arra	64.88	52	P	P	14 15 12

comp=Z,3.4nm,0.9s,baz=15,slow=5.5,SNR=28
WRA Warramunga Arr 99.02 108 P **Pdif 14 18 15.0 -1.6**
WRA Warramunga Arr 99.02 108 P **Pdif 14 18 15.0 -1.6**
comp=Z,0.4nm,0.7s,baz=316,slow=4.2,SNR=2.5
ASAR Alice Springs 100.62 111 P **Pdif 14 18 22.1 -1.6**
ASAR Alice Springs 100.62 111 P **Pdif 14 18 22.1 -1.6**
comp=Z,0.2nm,0.8s,baz=302,slow=5.2,SNR=2.5

IDC 30 14:04:53.1±3.2, 5°.89S×150°.15E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML2.8/1, Error ellipse: s-maj=110.2km s-min=36.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.58**	**220**	Pn	Pn	14 06 04.7	+1.0
	3.5nm,0.3s,baz=346,slow=2.3,SNR=13						
PMG				Sn	Sn	14 06 56.5	-1.3
	7.0nm,0.3s,baz=198,slow=21,SNR=8.2						
WRA	**Warramunga Arr**	**20.77**	**226**	P	P	14 09 35.4	-0.5
	2.5nm,0.7s,baz=51,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**23.60**	**220**	P	P	14 10 05.5	-0.3
	0.7nm,0.7s,baz=57,slow=9.2,SNR=14						
FITZ	**Fitzroy Crossi**	**26.83**	**241**	P	P	14 10 35.9	+0.5
	2.6nm,1.1s,baz=40,slow=10,SNR=6.6						
TORD	**Torodi Ar. Bea**	**148.09**	**285**	PKPbc	PKPbc	14 24 41.2	-0.7
	0.7nm,0.7s,baz=76,slow=1.8,SNR=5.6						

---

*IDC **30** 14:08:00.4±1.6, 1°.44S×99°.58E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=58.6km s-min=18.0km az=60.0*
*ISCJB **30** 14:08:02.1±1.0, 1°.5S±0°.1×99°.35E±0°.08, h30km, mb3.7/7, Error ellipse: s-maj=15.0km s-min=11.2km az=6.0*
*DJA **30** 14:08:04.2±2.6, 1°S±31°×10°E±1°2, h10km, M4.3/3, MLv4.3/3*
ISC 30 14:08:04.5±1.2, 1°.4S±0°.1×99°.48E±0°.09, h30km, n14, σ1°92/14, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.08**	**65**	P	**Pn**	**14 08 23.5**	**-0.1**
PDSI				S	**Sb**	**14 08 39.7**	**+1.3**
PPI	**Padang Panjang**	**1.29**	**45**	P	**Pb**	**14 08 27.2**	**-0.9**
BKNI	**Bangkinang**	**2.29**	**43**	P	**Pb**	**14 08 44.8**	**-0.4**
PSI	**Prapat**	**4.18**	**352**	Pn	**Pn**	**14 09 05.8**	**-0.6**
	1.0nm,0.3s,baz=165,slow=16,SNR=3.3						
CMAR	**Chiang Mai Arr**	**19.71**	**358**	P	**Pn**	**14 12 32.2**	**-1.1**
	0.2nm,0.3s,baz=190,slow=9.9,SNR=3.0						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**14 15 25.8**	**-0.8**
	0.5nm,0.7s,baz=301,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**40.04**	**126**	P	**P**	**14 15 37.0**	**-0.2**
	0.4nm,0.7s,baz=305,slow=7.6,SNR=15						
KSRS	**Korea Array**	**46.75**	**31**	P	**P**	**14 16 30.5**	**-0.5**
	0.7nm,0.8s,baz=219,slow=7.5,SNR=3.3						
SONM	**Songino Array**	**49.37**	**6**	P	**P**	**14 16 52.1**	**+0.7**
	0.4nm,0.4s,baz=192,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**50.28**	**345**	P	**P**	**14 16 59.5**	**+1.3**
	0.6nm,0.4s,baz=156,slow=8.5,SNR=17						
KURBB	**Kurchatov Arra**	**54.80**	**344**	P	**P**	**14 17 32.8**	**+1.2**
	0.6nm,0.8s,baz=160,slow=6.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**56.46**	**350**	P	**P**	**14 17 45.0**	**+1.6**
	0.7nm,0.3s,baz=157,slow=6.1,SNR=4.5						
CPUP	**Villa Florida**	**144.51**	**217**	PKP	PKPbc	14 27 37.4	0.0
	1.5nm,0.6s,baz=120,slow=4.3,SNR=5.0						
TXAR	**Lajitas Array**	**144.51**	**36**	PKP	**PKPdf**	**14 27 38.7**	**-0.2**
	0.2nm,0.5s,baz=312,slow=0.7,SNR=6.4						

---

*MAN **30** 14:27:45, 10°.42N×123°.03E, h7km, mb5.1, ML4.1, MS4.3*
MAN INTENSITY IV - ILIHAN BAGO CITY; ARAAL LA CARLOTA CITY; INTENSITY III - HINIGARAN NEGROS OCCIDENTAL; LA CASTELLAN NEGROS OCCIDENTAL.
*IDC **30** 14:27:45.3±0.8, 10°.32N×123°.37E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.9/25, mbtmp3.9/11, ML4.8/1, MS3.6/3, Ms1 3.7/3, ms1mx3.2/39, Error ellipse: s-maj=26.8km s-min=15.2km az=78.0*
*ISCJB **30** 14:27:48.8±0.4, 10°.37N±0°.03×123°.15E±0°.05, h33km, mb3.9/12, MS3.5/2, Error ellipse: s-maj=6.8km s-min=4.7km az=163.3*
*NEIC **30** 14:27:50.5±0.6, 10°.35N×123°.44E, h35km, mb4.2/1, Error ellipse: s-maj=18.8km s-min=10.8km az=74.0*
NEIC Felt [IV PIVS] at Ara-al, Bago, Ilihan and La Carlota; [III PIVS] at Hinigaran and La Castellana, Negros.
ISC 30 14:27:50.8±0.6, 10°.40N±0°.04×123°.21E±0°.06, h35km, n42, σ1°63/43, mb3.9/12, 2C-2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.74**	**96**	eP	**Pn**	**14 28 02.5**	**-2.3**
LLP				eS	**Sn**	**14 28 16.2**	**+1.2**
TBP	**Tagbilaran**	**0.95**	**138**	eP	**Pn**	**14 28 06.0**	**-1.6**
RCP	**Roxas**	**1.25**	**338**	eP	Pn	14 28 07.2	-4.5
RCP				eS	**Sn**	**14 28 25.9**	**-1.4**
KALP	**Kalibo**	**1.54**	**326**	eP	**Pn**	**14 28 12.6**	**-3.2**
DCPH	**Dipolog City**	**1.81**	**176**	eP	**Pn**	**14 28 17.7**	**-1.7**
DCPH				eS	**Sn**	**14 28 42.0**	**+0.8**
MMPH	**Masbate**	**1.99**	**12**	eP	**Pn**	**14 28 21.6**	**-0.3**
MMPH				eS	Sn	14 28 54.7	+9.0
CGP	**Cagayan de Oro**	**2.42**	**143**	eP	**Pn**	**14 28 28.0**	**+0.1**
CGP				/ S	Sn	14 29 13.6	+17
TGY	**Tagaytay City**	**4.30**	**329**	Pn	**Pn**	**14 28 54.5**	**+0.6**
TGY	**Tagaytay City**	**4.30**	**329**	Pn	**Pn**	**14 28 54.5**	**+0.6**
	51nm,0.3s,baz=135,slow=11,SNR=2.2						
MYLDM	**Lahad Datu**	**6.97**	**222**	P	**Pn**	**14 29 30.5**	**0.0**
TSM	**Tawau**	**8.05**	**222**	P	**Pn**	**14 29 43.6**	**-1.7**
KKM	**Kota Kinabalu**	**8.16**	**239**	eP	**Pn**	**14 29 44.4**	**-2.5**
	18nm,0.8s						
KKM	**Kota Kinabalu**	**8.16**	**239**	P	**Pn**	**14 29 45.6**	**-1.3**
SBUM	**Sibu**	**13.47**	**235**	P	**Pn**	**14 31 00.7**	**+1.1**
KSM	**Kuching**	**15.59**	**236**	eP	**P**	**14 31 31.5**	**-0.4**
KSM	**Kuching**	**15.59**	**236**	P	**P**	**14 31 31.9**	**-0.1**
KAPI	**Kappang**	**15.69**	**193**	LR	LR	14 37 30.3	
	comp=Z,217nm,19.0s,baz=343,slow=37						
KULM	**Kulim**	**22.91**	**259**	P	P	14 32 59.9	+8.0
CMAR	**Chiang Mai Arr**	**24.81**	**292**	P	**P**	**14 33 11.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**24.81**	**292**	P	**P**	**14 33 11.9**	**+2.0**
	1.8nm,1.0s,baz=110,slow=7.3,SNR=6.7						
CMAR				LR	LR	14 43 44.1	
	comp=Z,99nm,18.4s,baz=332,slow=38						
PSI	**Prapat**	**25.26**	**254**	P	**P**	**14 33 15.6**	**+1.5**
PSI	**Prapat**	**25.26**	**254**	P	**P**	**14 33 15.6**	**+1.5**
	7.9nm,0.7s,baz=78,slow=7.3,SNR=6.3						
KSAR	**Wonju Array Be**	**27.26**	**8**	P	**P**	**14 33 33.0**	**+1.3**
KSRS	**Korea Array**	**27.27**	**8**	P	**P**	**14 33 33.0**	**+1.1**
	1.0nm,0.8s,baz=194,slow=9.4,SNR=3.7						
FITZ	**Fitzroy Crossi**	**28.42**	**175**	P	**P**	**14 33 42.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**28.42**	**175**	P	**P**	**14 33 42.4**	**+0.1**
	1.0nm,0.8s,baz=182,slow=12,SNR=5.3						
WRAB	**Tennant Creek**	**32.07**	**160**	eP	**P**	**14 34 14.5**	**-0.1**
	3.9nm,1.0s						
WRA	**Warramunga Arr**	**32.08**	**160**	P	**P**	**14 34 12.9**	**-1.8**
WRA	**Warramunga Arr**	**32.08**	**160**	P	**P**	**14 34 12.9**	**-1.8**
	1.3nm,0.7s,baz=339,slow=9.2,SNR=4.9						
USRK	**Ussuriysk Arra**	**34.53**	**11**	P	**P**	**14 34 35.4**	**-0.4**
	2.1nm,0.9s,baz=183,slow=7.4,SNR=6.7						
AS31	**Alice Springs**	**35.43**	**163**	P	**P**	**14 34 40.7**	**-3.1**
ASAR	**Alice Springs**	**35.43**	**163**	P	**P**	**14 34 41.2**	**-2.6**
ASAR				S	**S**	**14 40 13.7**	**-2.9**
ASAR	**Alice Springs**	**35.43**	**163**	P	**P**	**14 34 41.2**	**-2.6**
	1.0nm,0.6s,baz=342,slow=6.8,SNR=23						
ASAR				S	**S**	**14 40 13.7**	**-2.9**
	0.3nm,0.5s,baz=346,slow=14,SNR=14						
SONM	**Songino Array**	**39.92**	**342**	P	**P**	**14 35 22.8**	**+1.2**
SONM	**Songino Array**	**39.92**	**342**	P	**P**	**14 35 22.8**	**+1.2**
	0.5nm,0.7s,baz=163,slow=9.4,SNR=3.8						
SONM				LR	LR	14 53 10.9	
	comp=Z,112nm,18.1s,baz=169,slow=38						
MK31	**Makanchi Array**	**50.13**	**324**	eP	P	14 36 45.2	+2.5
MKAR	**Makanchi Array**	**50.13**	**324**	P	**P**	**14 36 42.1**	**-0.6**
MKAR	**Makanchi Array**	**50.13**	**324**	P	**P**	**14 36 42.1**	**-0.6**
	1.3nm,0.8s,baz=123,slow=7.6,SNR=10.0						
PETK	**Petropavlovsk-**	**50.81**	**26**	P	**P**	**14 36 48.3**	**+0.6**
PETK	**Petropavlovsk-**	**50.81**	**26**	P	**P**	**14 36 48.3**	**+0.6**
	3.6nm,0.9s,baz=224,slow=4.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.10**	**333**	P	**P**	**14 37 03.9**	**-0.8**
ZALV	**Zalesovo Beam**	**53.10**	**333**	P	**P**	**14 37 03.9**	**-0.8**
	0.5nm,0.5s,baz=112,slow=6.4,SNR=2.9						

---

*IDC **30** 14:51:31.7±0.3, 15°.14S×172°.58W, h0km, mb5.6/23, mb1 5.7/23, mb1mx5.7/23, mbtmp5.6/23, MS6.2/30, Ms1 6.2/30, ms1mx6.2/32, Error ellipse: s-maj=15.1km s-min=13.0km az=151.0*
*BJI **30** 14:51:31.7, 14°.63S×172°.16W, h5km, mB6.9/57, mb6.1/58, Ms6.5/69, Ms7 6.2/63*
*ISCJB **30** 14:51:32.4±0.1, 15°.08S±0°.03×172°.44W±0°.02, h10km, mb6.2/358, MS6.3/235, Error ellipse: s-maj=4.7km s-min=2.5km az=163.1*
*NEIC **30** 14:51:32.9±0.1, 15°.22S×172°.57W, h11km, mb6.4/214, ME6.2, MS6.3/149, MW6.5, MW6.6, Error ellipse: s-maj=5.4km s-min=3.3km az=144.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^18 Nm; M_{rr}=4.84; $M_{\theta\theta}$=4.33; $M_{\phi\phi}$=0.51; $M_{r\theta}$=-1.78; $M_{\theta\phi}$=-3.81; $M_{r\phi}$=0.76; Best double couple: M_0=6.30000×10^18 NP1:ϕ_s=307.00000°, δ=36.00000°, λ=-82.00000°. NP2:ϕ_s=117.00000°, δ=54.00000°, λ=-96.00000°. Principal axes: T 6.9900, Plg9.0000°, Azm211.0000°; N -1.8100, Plg4.0000°, Azm120.0000°; P -5.1700, Plg79.0000°, Azm3.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s=300.00000°, δ=20.00000°, λ=-90.00000°. NP2:ϕ_s=120.00000°, δ=70.00000°, λ=-90.00000°. Principal axes: T Plg25.0000°, Azm210.0000°; N Plg0.0000°, Azm0.0000°; P Plg65.0000°, Azm30.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Pago Pago and [II] at Ili'ili, American Samoa. Also felt at Aoloau, Aua, Faga'alu, Fagatogo, Leone, Mapusagafou, Nu'uuli, Pava'ia'i, Tafuna, Vailoatai and Vatia. Felt [III] at Apia, Samoa. Also felt at Lalovi and Vailoa.
*AUST **30** 14:51:33.8±6.4, 15°.35S×172°.59W, h1km Error ellipse: s-maj=1.1km s-min=0.9km az=258.0*
*MOS **30** 14:51:35.2±1.0, 15°.10S×172°.59W, h33km, mb6.5/90, MS6.4/85, Error ellipse: s-maj=8.7km s-min=6.3km az=54.0*
*DJA **30** 14:51:36.2±0.3, 16°S±5°×17°3W±°, h13km, M6.8/120, mb6.3/119, mB7.0/120, MLv6.8/1, Mw(mB)7.0/120, Mwp6.3/36*
*GCMT **30** 14:51:40.5±0.1, 15°.12S×172°.28W, h18km, MW6.6, Moment Tensor Solution. s110,c265; s99,c265; Moment tensor: Scale 10^19 Nm; M_{rr}=0.00; $M_{\theta\theta}$=0.00; $M_{\phi\phi}$=0.00; $M_{r\theta}$=0.00; $M_{\theta\phi}$=0.00; $M_{r\phi}$=0.00; Best double couple: M_0=1.00000×10^19 NP1:ϕ_s=305.00000°, δ=49.00000°, λ=-84.00000°. NP2:ϕ_s=116.00000°, δ=41.00000°, λ=-97.00000°. Principal axes: T 1.1100, Plg4.0000°, Azm31.0000°; N -0.1700, Plg4.0000°, Azm121.0000°; P -0.9400, Plg84.0000°, Azm258.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 117 sta. Surface waves: sta=122, comp=310, per=50.*
*NEIC **30** 14:51:57.9±0.0, 14°.69S×172°.79W, h21km, Moment Tensor Solution. s131 Moment tensor: Scale 10^19 Nm; M_{rr}=0.00; $M_{\theta\theta}$=0.00; $M_{\phi\phi}$=0.00; $M_{r\theta}$=0.00; $M_{\theta\phi}$=0.00; $M_{r\phi}$=0.00; Best double couple: M_0=1.10000×10^19 NP1:ϕ_s=297.00000°, δ=55.00000°, λ=-94.00000°. NP2:ϕ_s=125.00000°, δ=36.00000°, λ=-82.00000°. Principal axes: T 1.1300, Plg9.0000°, Azm30.0000°; N -0.1300, Plg4.0000°, Azm299.0000°; P -1.0000, Plg79.0000°, Azm186.0000°;*
ISC 30 14:51:33.9±0.3, 15°.22S±0°.04×172°.49W±0°.03, h14km±1km, h14km: pP-P, n2076, σ1°43/2131, mb6.3/358, MS6.3/235, 79C-159D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.48**	**28**	eP	Pn	14 51 52.0	-8.1
AFI	**Afiamalu**	**1.48**	**28**	Pn	Pn	14 51 52.2	-7.9
	11μm,0.3s,baz=216,slow=19,SNR=2848						
AFI				LR	LR	14 52 36.6	
	comp=Z,782μm,21.8s,baz=155,slow=45						
MSVF	**Nonsavu**	**9.41**	**253**	Pn	Pn	14 53 56.0	+6.8
	10μm,1.7s						
MSVF	**Nonsavu**	**9.41**	**253**	eP	Pn	14 53 54.6	+5.4
MSVF				pmax	pmax		
	comp=Z,5μm,1.5s						
MSVF	**Nonsavu**	**9.41**	**253**	eP	Pn	14 53 54.6	+5.4
	comp=Z,5μm,1.5s						
FUNA	**Funafuti**	**10.51**	**308**	P	Pn	14 54 00.4	-3.8
	comp=Z,2μm,1.3s						
RAR	**Rarotonga**	**13.47**	**118**	eP	Pn	14 54 39.0	-5.6
	comp=Z,423nm,0.8s						
RAR				Sn	Sn	14 57 03.2	-11
RAR	**Rarotonga**	**13.47**	**118**	Pn	Pn	14 54 40.1	-4.5
	comp=Z,25nm,0.3s,baz=270,slow=7.1,SNR=30						
RAR				Sn	Sn	14 57 03.2	-11
	comp=Z,11nm,0.3s,baz=90,slow=19,SNR=4.4						
RAR				LR	LR	14 58 50.8	
	comp=Z,39μm,19.3s,baz=237,slow=32						
RAO	**Raoul Island**	**14.83**	**199**	eP	**Pn**	**14 55 00.5**	**-2.8**
	comp=Z,2μm,0.9s						
RAO				Sn	Sn	14 57 36.9	-11
RAO	**Raoul Island**	**14.83**	**199**	Pn	**Pn**	**14 55 00.1**	**-3.1**
	comp=Z,243nm,0.3s,baz=119,slow=20,SNR=9.8						
RAO				Sn	Sn	14 57 36.9	-11
	comp=Z,67nm,0.3s,baz=90,slow=20,SNR=3.7						
DZM	**Mont Dzumac**	**21.08**	**248**	eP	**P**	**14 56 15.9**	**-2.1**
	comp=Z,3μm,1.5s						
DZM				eS	**S**	**15 00 08.1**	**-4.3**
	comp=Z,76μm,25.9s						
DZM				eLR	LR	15 01 17.1	
	comp=Z,306μm,30.4s						
DZM	**Mont Dzumac**	**21.08**	**248**	P	**P**	**14 56 14.9**	**-3.1**
DZM	**Mont Dzumac**	**21.08**	**248**	P	**P**	**14 56 14.9**	**-3.1**
	comp=Z,50nm,0.9s,baz=85,slow=15,SNR=14						
DZM				LR	LR	15 01 52.4	
	comp=Z,42μm,18.2s,baz=191,slow=30						
NORM	**Noumea**	**21.08**	**248**	eP	**P**	**14 56 18.1**	**+0.1**
NOUC	**Port Laguerre**	**21.21**	**248**	eP	**P**	**14 56 18.5**	**-0.8**
TARA	**Tarawa**	**21.90**	**318**	eP	**P**	**14 56 27.1**	**+0.4**
	comp=Z,3μm,1.6s						
TARA				LR	LR		
	comp=Z,116μm,20.0s						
PAE	**Paea**	**22.11**	**99**	eP	**P**	**14 56 29.8**	**+0.9**
	comp=Z,162nm,1.4s						
PPT	**Papeete**	**22.11**	**99**	P	**P**	**14 56 29.3**	**+0.3**
PPT				S	**S**	**15 00 26.3**	**-6.2**
PPT	**Papeete**	**22.11**	**99**	P	**P**	**14 56 29.3**	**+0.3**
	comp=Z,335nm,1.1s,baz=319,slow=3.7,SNR=11						
PPT				S	**S**	**15 00 26.3**	**-6.2**
	comp=Z,52nm,0.9s,baz=109,slow=16,SNR=3.3						
PPT				LR	LR	15 03 58.4	
	comp=Z,53μm,18.6s,baz=271,slow=34						
PPT2	**Papeete2**	**22.11**	**99**	eP	**P**	**14 56 30.4**	**+1.4**
	comp=Z,1μm,1.5s						
PPT2				eS	**S**	**15 00 29.3**	**-3.3**
	comp=Z,330μm,26.8s						
PPT2				eLR	LR	15 01 48.1	
	comp=Z,79μm,24.0s						
TVO	**Taravao**	**22.42**	**100**	eP	**P**	**14 56 33.2**	**+0.7**
	comp=Z,2μm,1.5s						
XMAS	**Kiritimati**	**22.72**	**42**	eP	**P**	**14 56 35.9**	**+0.4**
	comp=Z,2μm,1.1s						
TBI	**Tubuai**	**23.17**	**114**	eP	**P**	**14 56 40.9**	**+0.8**
	comp=Z,2μm,1.4s						
TBI				eS	**S**	**15 00 48.6**	**-2.9**
	comp=Z,85μm,27.5s						
TBI				eLR	LR	15 02 10.7	
	comp=Z,123μm,26.2s,baz=285						
OUZ	**Omahuta**	**23.51**	**210**	eP	**P**	**14 56 42.0**	**-1.4**
	comp=Z,3μm,1.4s						
PMOR	**Pomoriorio Ree**	**23.75**	**93**	eP	**P**	**14 56 47.0**	**+1.1**
	comp=Z,3μm,1.4s						
URZ	**Urewera**	**24.72**	**200**	eP	**P**	**14 56 54.2**	**-0.5**
	comp=Z,557nm,0.7s						
URZ				S	**S**	**15 01 18.6**	**+2.4**
URZ	**Urewera**	**24.72**	**200**	P	**P**	**14 56 52.8**	**-1.9**
	comp=Z,155nm,0.7s,baz=25,slow=6.3,SNR=15						
URZ				S	**S**	**15 01 18.6**	**+2.4**
	comp=Z,25nm,0.7s,baz=106,slow=20,SNR=3.0						
URZ				LR	LR	15 05 53.0	
	comp=Z,68μm,18.9s,baz=17,slow=35						
HNR	**Honiara**	**27.52**	**279**	P	**P**	**14 57 20.0**	**-0.3**
HNR	**Honiara**	**27.52**	**279**	P	**P**	**14 57 20.0**	**-0.3**
	comp=Z,71nm,0.8s,baz=212,slow=9.2,SNR=9.4						
HNR				LR	LR	15 06 45.9	
	comp=Z,75μm,18.8s,baz=122,slow=33						
SNZO	**South Karori**	**28.27**	**201**	eP	**P**	**14 57 24.6**	**-2.0**
	comp=Z,271nm,0.8s						
SNZO				LR	LR		
	comp=Z,54μm,19.0s						
KHZ	**Kahutara**	**29.65**	**201**	eP	**P**	**14 57 38.2**	**-0.7**
	comp=Z,464nm,1.1s						
KWAJ	**Kwajalein Atol**	**30.96**	**319**	eP	**P**	**14 57 50.4**	**-0.4**
KWAJ				pmax	pmax		
	comp=Z,471nm,1.5s						
KWAJ	**Kwajalein Atol**	**30.96**	**319**	eP	**P**	**14 57 50.4**	**-0.4**
	comp=Z,471nm,1.5s						
RPZ	**Rata Peaks**	**31.68**	**203**	eP	**P**	**14 57 55.1**	**-1.8**
	comp=Z,131nm,0.6s						
RPZ	**Rata Peaks**	**31.68**	**203**	P	**P**	**14 57 56.4**	**-0.5**
	comp=Z,25nm,0.7s,baz=17,slow=4.8,SNR=20						
TAOE	**Nuku Hiva Isla**	**32.23**	**82**	eS	**S**	**15 03 16.0**	**+0.7**
	comp=Z,12μm,24.7s						
TAOE				eLQ	LQ	15 04 39.1	
	comp=Z,77μm,26.0s						
TAOE				eLR	LR	15 06 32.9	
	comp=Z,58μm,25.5s,baz=260						
ODZ	**Otahua Downs**	**32.97**	**202**	eP	P	14 58 02.2	-5.9
	comp=Z,512nm,1.5s						
EIDS	**Eidsvold**	**35.52**	**248**	eP	**P**	**14 58 27.4**	**-3.2**
	comp=Z,55nm,1.1s						
EIDS	**Eidsvold**	**35.52**	**248**	P	**P**	**14 58 29.4**	**-1.2**
	baz=35,SNR=7.1						
ARMA	**Armidale**	**36.18**	**239**	eP	**P**	**14 58 34.6**	**-1.8**
	comp=Z,40nm,0.8s						
ARMA	**Armidale**	**36.18**	**239**	P	**P**	**14 58 36.2**	**-0.1**
	baz=36,SNR=7.2						
RKT	**Rikitea**	**36.22**	**108**	eP	**P**	**14 58 36.6**	**+0.1**
	comp=Z,278nm,1.3s						
RKT				eS	**S**	**15 04 17.5**	**+1.0**
	comp=Z,6μm,26.0s						
RKT				eLQ	LQ	15 06 39.5	
	comp=Z,16μm,28.8s						
RKT				eLR	LR	15 08 11.2	
	comp=Z,54μm,25.8s,baz=283						
PATS	**Pohnpei**	**36.30**	**305**	P	**P**	**14 58 39.7**	**+2.4**
	baz=36,SNR=11						
MGCD	**Mangrove Creek**	**37.47**	**235**	P	**P**	**14 58 48.6**	**+1.5**
	baz=37,SNR=7.5						
RMQ	**Roma**	**37.77**	**246**	P	**P**	**14 58 48.0**	**-1.8**
	baz=38,SNR=28						
PUH	**Pauahi**	**38.35**	**27**	P	**P**	**14 58 55.7**	**+1.0**
STCH	**Steam Cracks**	**38.40**	**27**	P	**P**	**14 58 55.4**	**+0.3**
HON	**Honolulu**	**39.00**	**22**	eP	**P**	**14 58 59.9**	**-0.1**
HON	**Honolulu**	**39.00**	**22**	eP	**P**	**14 58 59.9**	**-0.1**
KIP	**Kipapa**	**39.09**	**22**	d/P	**P**	**14 59 01.3**	**+0.5**
KIP				pmax	pmax		
	comp=Z,522nm,1.2s						
KIP				MLR	MLR		
	comp=Z,18μm,15.0s						
KIP	**Kipapa**	**39.09**	**22**	eP	**P**	**14 59 01.4**	**+0.7**
	comp=Z,383nm,1.1s						
KIP				LR	LR		
	comp=Z,22μm,21.0s						
CTAO	**Charters Tower**	**39.54**	**257**	eP	**P**	**14 59 02.3**	**-2.4**
CTAO				pmax	pmax		
	comp=Z,170nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,29μm,19.0s						
CTAO	**Charters Tower**	**39.54**	**257**	eP	**P**	**14 59 02.3**	**-2.4**
	comp=Z,170nm,1.4s						
CTAO				LR	LR		
	comp=Z,29μm,19.0s						
CNB	**Canberra Magne**	**39.55**	**232**	P	**P**	**14 59 03.9**	**-0.8**
	baz=39,SNR=37						
PMG	**Port Moresby**	**39.80**	**274**	eP	**P**	**14 59 07.4**	**+0.5**
	comp=Z,702nm,1.4s						
PMG				LR	LR		
	comp=Z,34μm,19.0s						
PMG	**Port Moresby**	**39.80**	**274**	P	**P**	**14 59 09.1**	**+2.2**
	comp=Z,394nm,1.4s,comp=Z,11μmcomp=Z,22μm						
CAN	**Canberra**	**39.83**	**233**	eP	**P**	**14 59 05.4**	**-1.6**
CAN				pmax	pmax		
	comp=Z,212nm,1.4s						
CAN				MLR	MLR		
	comp=Z,34μm,20.0s						
CAN	**Canberra**	**39.83**	**233**	eP	**P**	**14 59 05.4**	**-1.6**
	comp=Z,212nm,1.4s						
CAN				LR	LR		
	comp=Z,34μm,20.0s						
WAKE	**Wake Island**	**39.96**	**328**	eP	**P**	**14 59 08.0**	**-0.1**
	comp=Z,793nm,1.2s						
WAKE				LR	LR		
	comp=Z,39μm,19.0s						
YNG	**Young**	**39.96**	**234**	P	**P**	**14 59 06.6**	**-1.4**
	baz=40,SNR=9.5						
CMSA	**Cobar Meteorol**	**41.40**	**239**	P	**P**	**14 59 17.1**	**-2.8**
	baz=41,SNR=74						
MTSU	**Mount Surprise**	**41.41**	**260**	P	**P**	**14 59 18.6**	**-1.6**
	baz=41,SNR=76						
MANU	**Manus Island**	**41.69**	**284**	P	**P**	**14 59 25.2**	**+2.7**
	baz=42,SNR=16						
COEN	**Coen**	**42.87**	**266**	eP	**P**	**14 59 31.2**	**-0.9**
	comp=Z,2μm,1.1s						
COEN				ePcP	**PcP**	**15 01 24.8**	**+1.7**
COEN	**Coen**	**42.87**	**266**	P	**P**	**14 59 31.6**	**-0.6**
	baz=43,SNR=63						
TOO	**Toolangi**	**43.26**	**231**	P	**P**	**14 59 34.0**	**-1.1**
	baz=43,SNR=21						
MIDW	**Midway**	**43.44**	**354**	eP	**P**	**14 59 36.4**	**0.0**
	comp=Z,451nm,1.4s						
MIDW				LR	LR		
	comp=Z,47μm,20.0s						
TAU	**Tasmania Unive**	**44.04**	**223**	PFAKE		14 59 50.0	+8.8
TAU				LR	LR		
	comp=Z,55μm,19.0s						
STKA	**Stephens Creek**	**44.88**	**240**	eP	**P**	**14 59 46.2**	**-1.9**
	comp=Z,67nm,1.4s						
STKA	**Stephens Creek**	**44.88**	**240**	P	**P**	**14 59 47.3**	**-0.8**
	comp=Z,62nm,0.9s,baz=76,slow=9.0,SNR=39						
STKA				LR	LR	15 15 21.7	
	comp=Z,45μm,21.8s,baz=74,slow=32						
STKA	**Stephens Creek**	**44.88**	**240**	P	**P**	**14 59 46.2**	**-1.9**
	baz=45,SNR=50						

KMPI	Kaimana, Papua	54.16 277	P	P		15 01 01.4 +2.2
	comp=Z,709nm,1.8s,comp=Z,16µm					
RKPI	Ransiki, Papua	54.33 279	P	P		15 01 02.9 +2.5
	comp=Z,2µm,1.4s,comp=Z,20µm					
TLE	Tual	54.57 274	P	P		15 01 04.3 +2.1
	comp=Z,809nm,1.8s,comp=Z,21µmcomp=Z,74µm					
TLE	Tual	54.57 274	P	P		15 01 04.7 +2.5
	baz=54,SNR=33					
MTN	Manton Dam	54.62 265	P	P		15 01 02.2 -0.3
	baz=54,SNR=90					
MTN			S	S		15 08 41.3 -1.0
	baz=54,SNR=4.3					
SAUI	Saumlaki	55.41 271	P	P		15 01 09.6 +1.4
	comp=Z,1µm,2.0s,comp=Z,25µm					
FAKI	Fak Fak	55.76 277	P	P		15 01 12.2 +1.4
	comp=Z,393nm,2.4s,comp=Z,15µmcomp=Z,28µm					
FAKI	Fak Fak	55.76 277	P	P		15 01 12.5 +1.7
	baz=56,SNR=12					
FORT	Forrest	56.28 243	eP	P		15 01 12.6 -1.6
	comp=Z,1µm,1.5s					
FORT	Forrest	56.28 243	P	P		15 01 13.6 -0.7
	baz=56,SNR=25					
KNRA	Kununurra	56.46 261	P	P		15 01 15.2 -0.5
	baz=56,SNR=120					
PALU	Palau	57.13 289	P	P		15 01 23.3 +2.7
	baz=57,SNR=22					
SWI	Sorong	57.30 279	P	P		15 01 23.6 +1.8
	comp=Z,1µm,1.8s,comp=Z,17µm					
SWI	Sorong	57.30 279	P	P		15 01 23.8 +2.0
	baz=57,SNR=71					
BNDI	Bandanaira	57.59 274	P	P		15 01 25.4 +1.6
	comp=Z,2µm,1.6s,comp=Z,25µmcomp=Z,34µm					
BNDI	Bandanaira	57.59 274	P	P		15 01 25.9 +2.2
	baz=58,SNR=10					
MSAI	Masohi	58.83 275	P	P		15 01 34.2 +1.7
FITZ	Fitzroy Crossi	59.10 258	LR	LR		15 25 49.0
	comp=Z,36µm,19.0s,baz=103,slow=35					
FITZ	Fitzroy Crossi	59.10 258	P	P		15 01 34.5 +0.2
	baz=59,SNR=49					
AAI	Ambon	59.45 275	P	P		15 01 37.2 +0.4
	comp=Z,551nm,1.9s,comp=Z,11µm					
AAI	Ambon	59.45 275	P	P		15 01 38.3 +1.5
	baz=59,SNR=12					
RPN	Rapa Nui	59.55 113	eP	P		15 01 40.0 +2.8
	comp=Z,2µm,2.1s					
RPN			LR	LR		
	comp=Z,12µm,20.0s					
CBIJ	Chichi jima	60.87 313	LR	LR		15 24 00.5
	comp=Z,30µm,19.6s,baz=128,slow=32					
LBMI	Labuha	60.96 278	P	P		15 01 49.2 +2.1
	comp=Z,824nm,1.9s,comp=Z,15µm					
TNTI	Ternate	61.51 279	P	P		15 01 52.7 +1.9
	comp=Z,1µm,2.1s,comp=Z,29µmcomp=Z,34µm					
SOEI	Soe	61.81 267	P	P		15 01 53.7 +0.6
	comp=Z,1µm,1.0s,comp=Z,20µmcomp=Z,30µm					
SOEI	Soe	61.81 267	P	P		15 01 53.9 +0.8
	baz=62,SNR=136					
SBA	Scott Base	63.50 185	eP	P		15 02 05.4 +2.3
SBA			pmax	pmax		
	comp=Z,2µm,2.0s					
SBA			MLR	MLR		
	comp=Z,12µm,21.0s					
SBA	Scott Base	63.50 185	eP	P		15 02 05.4 +2.3
	comp=Z,2µm,2.0s					
SBA			LR	LR		
	comp=Z,12µm,21.0s					
VNDA	Vanda	63.64 186	eP	P		15 02 05.8 +1.8
	comp=Z,388nm,1.6s					
VNDA	Vanda	63.64 186	P	P		15 02 05.5 +1.4
	comp=Z,99nm,1.1s,baz=8.4,slow=8.1,SNR=82					
MMRI	Maumere	64.01 268	P	P		15 02 08.5 +1.0
	comp=Z,937nm,1.4s,comp=Z,16µm					
MBWA	Marble Bar	64.25 254	P	P		15 02 09.8 +0.7
	SNR=24					
MBWA	Marble Bar	64.25 254	eP	P		15 02 08.7 -0.3
	comp=Z,376nm,1.4s					
MBWA			LR	LR		
	comp=Z,18µm,19.0s					
BBSI	Bau Bau	64.42 271	P	P		15 02 12.4 +2.2
	comp=Z,446nm,2.2s,comp=Z,12µm					
MEEK	Meekatharra	64.69 247	P	P		15 02 12.2 +0.3
	baz=64,SNR=24					
KLBR	Kellerberrin	65.10 242	P	P		15 02 14.7 +0.2
	baz=65,SNR=37					
DAV	Davao City (W)	65.23 285	P	P		15 02 18.0 +2.5
	SNR=21					
DAV	Davao City (W)	65.23 285	PFAKE			15 02 30.0 +14
DAV			LR	LR		
	comp=Z,17µm,20.0s					
DAV	Davao City (W)	65.23 285	P	P		15 02 20.1 +4.6
LUWI	Luwuk	65.38 276	P	P		15 02 18.7 +2.2
	comp=Z,1µm,1.8s,comp=Z,21µmcomp=Z,29µm					
LUWI	Luwuk	65.38 276	P	P		15 02 19.2 +2.7
	baz=65,SNR=3.8					
NWAO	Narrogin (SRO)	65.47 240	P	P		15 02 18.2 +1.4
	SNR=11					
NWAO	Narrogin (SRO)	65.47 240	eP	P		15 02 17.2 +0.4
	comp=Z,429nm,1.7s					
NWAO	Narrogin (SRO)	65.47 240	LR	LR		15 28 47.7
	comp=Z,22µm,18.5s,baz=86,slow=34					
RKGY	Rocky Gully	65.61 239	P	P		15 02 19.9 +2.2
	baz=65,SNR=5.0					
GTOI	Gorontalo	65.62 278	P	P		15 02 20.5 +2.4
	comp=Z,743nm,2.0s,comp=Z,16µm					
KKSI	Kolaka, Sulawe	65.63 272	P	P		15 02 19.6 +1.5
	comp=Z,206nm,2.2s,comp=Z,7µm					
WSI	Waingapu	65.66 266	P	P		15 02 19.8 +1.5
	comp=Z,2µm,0.9s,comp=Z,21µm					
WSI	Waingapu	65.66 266	P	P		15 02 20.8 +2.5
	baz=66,SNR=10					
WSI			S	S		15 11 06.8 +2.7
	baz=66,SNR=3.6					
BLDU	Ballidu	66.05 243	P	P		15 02 21.1 +0.5
	baz=66,SNR=26					
BSSI	Bau Bau, Buton	66.27 270	P	P		15 02 23.4 +1.2
	comp=Z,453nm,2.0s,comp=Z,11µm					
LBFI	Labuhan Bajo,	66.31 267	P	P		15 02 23.4 +0.9
	comp=Z,940nm,1.8s,comp=Z,19µm					
SKSI	Soroako, Sulaw	66.36 274	P	P		15 02 24.5 +1.6
	comp=Z,655nm,1.9s,comp=Z,13µm					
CGP	Cagayan de Oro	66.53 286	‖	P		15 02 27.1 +3.2
WBSI	Waikabubak, Su	66.53 266	P	P		15 02 24.8 +0.8
	comp=Z,635nm,1.6s,comp=Z,13µm					
MRSI	Marisa	66.60 277	P	P		15 02 25.6 +1.2
	comp=Z,281nm,2.1s,comp=Z,9µmcomp=Z,16µm					
MORW	Morawa	66.75 245	P	P		15 02 25.0 -0.1
	baz=67,SNR=20					
BKSI	Bulukumba	66.82 271	P	P		15 02 27.1 +1.4
	comp=Z,184nm,2.3s,comp=Z,7µmcomp=Z,17µm					
ADK	Adak	66.92 357	eP	P		15 02 24.3 -1.2
ADK			pmax	pmax		
	comp=Z,2µm,1.6s					
ADK			MLR	MLR		
	comp=Z,19µm,20.0s					
ADK	Adak	66.92 357	eP	P		15 02 24.3 -1.2
	comp=Z,2µm,1.6s					
ADK			LR	LR		
	comp=Z,19µm,20.0s					
KAPI	Kappang	67.25 271	P	P		15 02 29.7 +1.2
	comp=Z,1µm,1.2s,SNR=28					
KAPI	Kappang	67.25 271	P	P		15 02 29.8 +1.2
	SNR=45					
KAPI	Kappang	67.25 271	eP	P		15 02 29.3 +0.8
	comp=Z,904nm,1.7s					
KAPI	Kappang	67.25 271	P	P		15 02 29.6 +1.1
	comp=Z,362nm,2.3s,comp=Z,10µm					
KAPI	Kappang	67.25 271	LR	LR		15 30 17.5
	comp=Z,13µm,20.8s,baz=204,slow=35					
SPSI	Sidrap Palu	67.50 272	P	P		15 02 31.6 +1.6
	comp=Z,295nm,1.9s,comp=Z,7µmcomp=Z,13µm					
TTSI	Tana Toraja	67.68 273	P	P		15 02 33.3 +2.1
	comp=Z,330nm,1.6s,comp=Z,9µm					
LLP	Lapu-Lapu	67.86 288	‖eP	P		15 02 33.8 +1.5
TOLI	Toli-Toli	67.89 278	P	P		15 02 34.8 +2.3
	comp=Z,553nm,1.2s,comp=Z,14µmcomp=Z,28µm					
CNP	Catarman	68.03 290	eP	P		15 02 35.2 +1.9
MMSI	Mamuju	68.65 273	P	P		15 02 39.4 +2.1
	comp=Z,303nm,1.8s,comp=Z,20µmcomp=Z,45µm					
PVCP	Virac	68.90 291	eP	P		15 02 41.1 +2.3
AKUT	Akutan	69.32 4	eP	P		15 02 39.6 -0.9
	comp=Z,684nm,1.5s					
MAT	Matsushiro	69.38 319	P	P		15 02 40.6 -0.7
MAT			S	S		15 11 42.2 -5.8
RCP	Roxas	69.43 289	‖eP	P		15 02 43.4 +1.3
MTNI	Mataram	69.86 266	P	P		15 02 46.5 +1.7
	comp=Z,315nm,2.4s,comp=Z,9µm					
KUR	Kuril'sk	70.08 331	d/P	P		15 02 38.8 -6.6
KUR			/S	S		15 11 53.9 -2.0
KUR			pmax	pmax		
	comp=Z,11µm,6.9s					
KUR			pmax	pmax		
	comp=E,416nm,2.5s					
KUR			pmax	pmax		
	comp=Z,700nm,2.4s					
KUR			pmax	pmax		
	comp=N,447nm,2.5s					
ERM	Erimo	70.10 326	P	P		15 02 47.3 +1.7
	comp=N,311nm,2.5s,SNR=12					
ERM	Erimo	70.10 326	d/P	P		15 02 46.1 +0.5
ERM			MLR	MLR		
	comp=Z,13µm,18.0s					
ERM	Erimo	70.10 326	eP	P		15 02 46.2 +0.6
	comp=Z,131nm,1.6s					
ERM			LR	LR		
	comp=Z,29µm,20.0s					
AUQP	San Andres	70.13 290	eP	P		15 02 50.0 +3.6
YUK	Yuzh-Kuril'sk	70.15 329	deP	P		15 02 44.0 -1.9
YUK			/i			15 05 19.3
YUK			ePPP	PPP		15 06 57.5
YUK			/S	S		15 11 54.7 -2.0
YUK			/i			15 12 42.5
YUK			eSS	SS		15 16 22.1 -5.1
YUK			pmax	pmax		
	comp=Z,5µm,4.1s					
YUK			pmax	pmax		
	comp=N,42nm,0.7s					
YUK			pmax	pmax		
	comp=Z,512nm,1.4s					
YUK			pmax	pmax		
	comp=E,136nm,1.4s					
FALS	False Pass	70.23 6	eP	P		15 02 44.8 -1.3
	comp=E,437nm,1.4s					
SCI	San Clemente I	70.35 46	P	P		15 02 48.4 +1.0
	baz=71,SNR=33					
OTRP	Odiongan	70.38 289	eP	P		15 02 49.6 +1.7
SBC	Santa Barbara	70.38 44	‖P	P		15 02 48.7 +1.2
	baz=71,SNR=15					
SGKI	Sangatta, Kali	70.48 275	P	P		15 02 53.2 +4.5
SAC	San Andreas	70.50 40	eP	P		15 02 49.2 +1.0
SAC			pmax	pmax		
	comp=Z,303nm,0.8s					
SAC	San Andreas	70.50 40	eP	P		15 02 49.2 +1.0
	comp=Z,303nm,0.8s					
MCCM	Marconi Confer	70.57 40	eP	P		15 02 49.3 +0.7
	comp=Z,234nm,0.9s					
PKM	Peak Mountain	70.58 44	P	P		15 02 50.0 +1.1
	baz=71,SNR=68					
SAO	San Andreas Ge	70.62 41	eP	P		15 02 49.7 +0.7
SAO			pmax	pmax		
	comp=Z,157nm,0.8s					
SAO	San Andreas Ge	70.62 41	eP	P		15 02 49.7 +0.7
	comp=Z,157nm,0.8s					
BLG	Laguna Peak	70.63 45	P	P		15 02 49.8 +0.7
	baz=71,SNR=19					
CIS	Catalina Islan	70.69 46	P	P		15 02 50.1 +0.6
	baz=71,SNR=49					
SMMC	Simmler	70.69 43	⇑P	P		15 02 50.5 +1.0
	baz=71,SNR=56					
DNP	Denpasar	70.77 266	P	P		15 02 53.0 +2.6
	comp=Z,1µm,1.2s,comp=Z,26µmcomp=Z,49µm					
IGBI	Denpasar	70.80 266	P	P		15 02 51.6 +1.0
	comp=Z,2µm,1.0s,comp=Z,30µm					
SMKI	Samarinda	70.89 275	P	P		15 02 56.8 +5.7
SRBI	Singaraja	70.91 267	P	P		15 02 52.9 +1.7
	comp=Z,796nm,2.0s,comp=Z,16µm					
CASY	Casey	70.93 205	eP	P		15 02 50.8 +0.3
	comp=Z,415nm,1.4s					
CASY			LR	LR		
	comp=Z,10µm,20.0s					
FMP	Fort Macarthur	70.94 46	‖P	P		15 02 51.6 +0.7
	baz=71,SNR=8.4					
BKB	Balikpapan	70.97 274	P	P		15 02 54.0 +2.4
	comp=Z,656nm,2.0s,comp=Z,17µmcomp=Z,52µm					
HOPS	Hopland	70.98 39	eP	P		15 02 51.4 +0.3
	comp=Z,486nm,1.2s					
SDPT	Sand Point	71.03 7	eP	P		15 02 50.3 -0.7
	comp=Z,580nm,1.3s					
JOW	Kunigami	71.09 306	eP	P		15 02 53.3 +1.2
	comp=Z,295nm,1.7s					
KCPM	Cahto Peak	71.12 38	eP	P		15 02 52.4 +0.3
	comp=Z,482nm,1.7s					
OSI	Osito Adit	71.15 45	eP	P		15 02 53.4 +1.1
	comp=Z,940nm,1.4s					
OSI	Osito Adit	71.15 45	‖P	P		15 02 53.1 +0.8
	baz=71,SNR=9.2					
SKR	Severo-Kuril's	71.16 340	‖/P	P		15 02 47.0 -4.9
SKR			e			15 03 02.0
SKR			e			15 03 11.1
SKR			eS	S		15 12 08.0 -0.2
SKR			ePS	PnS		15 12 30.0 -7.2
SKR			eSS	SS		15 16 42.0 -0.4
SKR			pmax	pmax		
	comp=Z,400nm,1.5s					
SKR			pmax	pmax		
	comp=N,4µm,8.0s					
SKR			pmax	pmax		
	comp=Z,8µm,8.0s					
SKR			pmax	pmax		
	comp=E,7µm,6.0s					
SKR			smax	smax		
	comp=N,7µm,12.0s					
SKR			smax	smax		
	comp=E,10µm,14.0s					
SKR			MLR	MLR		
	comp=N,16µm,16.0s					
SKR			MLR	MLR		
	comp=E,9µm,16.0s					
SKR			MLR	MLR		
	comp=Z,18µm,16.0s					
DECC	Green Verdugo	71.22 45	P	P		15 02 53.3 +0.6
	baz=71,SNR=41					
KIPM	Iron Peak	71.25 38	eP	P		15 02 53.5 +0.6
	comp=Z,1µm,1.8s					
PASC	Pasadena Art C	71.27 45	eP	P		15 02 53.1 +0.1
	comp=Z,314nm,1.0s					
MYLDM	Lahad Datu	71.28 281	P	P		15 02 57.4 +4.0
MYLDM	Lahad Datu	71.28 281	P	P		15 02 56.5 +3.1
	comp=Z,712nm,2.1s,comp=Z,20µmcomp=Z,48µm					
109C	Camp Elliot, M	71.31 47	P	P		15 02 54.0 +0.7
	baz=72,SNR=41					
ARVC	Arvin	71.37 44	P	P		15 02 54.4 +0.9
	baz=72,SNR=69					
MWC	Mount Wilson	71.39 45	eP	P		15 02 53.3 -0.6
MWC			pmax	pmax		
	comp=Z,376nm,1.0s					
MWC	Mount Wilson	71.39 45	eP	P		15 02 53.3 -0.6
	comp=Z,376nm,1.0s					
BAR	Barrett	71.51 47	eP	P		15 02 54.7 +0.2
	comp=Z,563nm,1.6s					
TSM	Tawau	71.60 280	P	P		15 02 57.9 +2.5
VES	Vestal, Richgr	71.61 43	P	P		15 02 55.5 +0.5
	baz=72,SNR=85					
MURC	Murrieta	71.64 46	P	P		15 02 55.7 +0.5
	baz=72,SNR=80					
BFSC	Mount Baldy Ra	71.67 46	P	P		15 02 56.0 +0.4
	baz=72,SNR=118					
BYJI	Banyuwangi	71.70 266	P	P		15 02 57.7 +1.7
PALP	Palanan	71.77 294	eP	P		15 02 57.7 +1.4
RCTC	Rector, Farmer	71.78 43	‖P	P		15 02 56.2 +0.2
	baz=72,SNR=29					
KHMM	Horse Mountain	71.79 37	eP	P		15 02 56.8 +0.7
	comp=Z,183nm,0.9s					
EDW2	Edwards Air Fo	71.80 45	P	P		15 02 57.1 +0.9
	baz=72,SNR=359					
MONP	Monument Peak	71.80 47	P	P		15 02 57.0 +0.5
	baz=72,SNR=144					
ASAJ	Asahikawa	71.86 328	eP	P		15 02 56.8 +0.6
	comp=Z,247nm,1.7s					
ASAJ	Asahikawa	71.86 328	LR	LR		15 29 59.5
	comp=Z,14µm,20.4s,baz=141,slow=32					
DVTC	Desert V Tower	71.90 48	P	P		15 02 58.0 +1.1
	baz=72,SNR=12					
ISA	Isabella	71.92 44	eP	P		15 02 57.0 +0.1
ISA			pmax	pmax		
	comp=Z,368nm,1.1s					
ISA	Isabella	71.92 44	eP	P		15 02 57.0 +0.1
	comp=Z,368nm,1.1s					
ISA	Isabella	71.92 44	P	P		15 02 57.6 +0.7
	baz=72,SNR=277					
TGY	Tagaytay City	71.99 291	LR	LR		15 30 11.0
	comp=Z,101nm,20.1s,baz=101,slow=32					
BALP	Baler	72.02 292	eP	P		15 02 59.7 +1.9
CMB	Columbia Colle	72.05 41	eP	P		15 02 57.0 -0.7
CMB			pmax	pmax		
	comp=Z,208nm,1.0s					
CMB	Columbia Colle	72.05 41	eP	P		15 02 57.0 -0.7
	comp=Z,208nm,1.0s					
KRMB	Red Mountain	72.11 36	eP	P		15 02 58.8 +0.8
	comp=Z,124nm,1.1s					
PFO	Pinyon Flat Ob	72.16 47	P	P		15 02 59.0 +0.5
	comp=Z,1µm,1.6s,SNR=73					
PFO	Pinyon Flat Ob	72.16 47	eP	P		15 02 58.6 +0.1
	comp=Z,640nm,1.6s					
PFO			LR	LR		
	comp=Z,12µm,19.0s					
PFO	Pinyon Flat Ob	72.16 47	P	P		15 02 59.2 +0.7
	baz=72,SNR=106					
BBRC	Big Bear Solar	72.19 46	‖P	P		15 02 59.3 +0.5
	baz=72					
CHGN	Chignik	72.22 8	eP	P		15 02 57.0 -1.2
CAUP	Cauayan	72.25 294	eP	P		15 03 01.5 +2.3
SWSC	Sam W. Stewart	72.27 48	P	P		15 02 59.3 +0.3
	baz=72,SNR=89					
WDC	Whiskeytown Da	72.30 38	eP	P		15 02 59.4 +0.4
WDC			pmax	pmax		
	comp=Z,691nm,1.6s					
WDC	Whiskeytown Da	72.30 38	eP	P		15 02 59.4 +0.4
	comp=Z,691nm,1.6s					
JNU	Nakatsue	72.32 313	eP	P		15 02 59.8 +0.5
	comp=Z,604nm,1.9s					
JNU	Nakatsue	72.32 313	LR	LR		15 32 04.8
	comp=Z,13µm,18.6s,baz=116,slow=34					
LRMC	Laurel Mountai	72.34 44	P	P		15 03 00.1 +0.6
	baz=73,SNR=49					
KMMI	Kalianget	72.35 267	P	P		15 03 02.0 +2.1
	comp=Z,515nm,2.3s,comp=Z,14µm					
PET	Petropavlovsk	72.38 342	κ/P	P		15 02 58.6 -0.5
PET			e			15 05 42.5
PET			eS	S		15 12 20.4 -1.7
PET			ePPS	PPS		15 13 01.8
PET			eSSS	SSS		15 20 09.8
PET			pmax	pmax		
	comp=Z,8µm,8.2s					
PET			pmax	pmax		
	comp=Z,27nm,0.7s					
PET			pmax	pmax		
	comp=Z,7µm,14.6s					
PET			pmax	pmax		
	comp=Z,2µm,16.3s					
PET			smax	smax		
	comp=E,9µm,19.1s					
PET			MLR	MLR		
	comp=Z,22µm,17.0s					
PET			MLR	MLR		
	comp=Z,21µm,17.0s					
KBO	Bosley Butte	72.38 36	eP	P		15 03 01.1 +1.5
	comp=Z,756nm,1.7s					
BBKI	Banjar Baru	72.38 271	P	P		15 03 02.1 +2.0
	comp=Z,1µm,1.8s,comp=Z,26µm					
RRX	Edison Barstow	72.48 45	P	P		15 03 01.0 +0.7
	baz=73,SNR=30					
BLJI	Banyuglugur	72.54 267	P	P		15 03 02.8 +1.7
	comp=Z,743nm,2.0s,comp=Z,14µm					
SGCP	Mt. Cagua	72.55 295	eP	P		15 03 02.3 +1.3
CWC	Cottonwood Cre	72.62 43	P	P		15 03 02.1 +0.9
	baz=73,SNR=212					
SDKM	Sandakan	72.65 281	P	P		15 03 03.3 +1.6
BELC	Belle Mtn. Jos	72.69 47	P	P		15 03 02.1 +0.4
	baz=73,SNR=202					
PEA0B	Petropavlovsk-	72.73 342	eP	P		15 03 01.7 +0.4
PETK	Petropavlovsk-	72.73 342	P	P		15 02 59.8 -1.6
PETK			pmax	pmax		
	comp=Z,139nm,0.8s					
PETK			MLR	MLR		
	comp=Z,10µm,18.0s					
PETK	Petropavlovsk-	72.73 342	P	P		15 02 59.8 -1.6
PETK	Petropavlovsk-	72.73 342	P	P		15 02 59.8 -1.6
	comp=Z,138nm,0.8s,baz=139,slow=8.9,SNR=89					
PETK			LR	LR		15 38 01.8
	comp=Z,10µm,18.0s,baz=143,slow=38					
KEBM	Edson Butte	72.75 35	eP	P		15 03 02.9 +1.2
	comp=Z,274nm,1.1s					
MPMC	Manual Prospec	72.80 44	P	P		15 03 03.0 +0.7
	baz=73,SNR=355					
MLAC	Mammoth Lakes	72.81 42	P	P		15 03 03.4 +0.9
	baz=73,SNR=38					
GSC	Goldstone	72.84 45	eP	P		15 03 02.4 -0.1
GSC			pmax	pmax		
	comp=Z,313nm,1.1s					
GSC	Goldstone	72.84 45	eP	P		15 03 02.4 -0.1
	comp=Z,313nm,1.1s					
GSC	Goldstone	72.84 45	P	P		15 03 02.9 +0.4
	baz=73,SNR=206					
TIN	Tinemaha	72.87 43	P	P		15 03 03.8 +1.2
	baz=73,SNR=64					
BC3	Big Chuckawall	72.89 47	P	P		15 03 03.4 +0.6
	baz=73,SNR=228					
HEC	Hector,Ludlow	72.91 46	P	P		15 03 03.4 +0.5
	baz=73,SNR=233					
YBH	Yreka Blue Hor	72.93 37	eP	P		15 03 02.9 0.0
	comp=Z,217nm,1.0s					
WAKR	Walker	72.93 41	eP	P		15 03 02.6 -0.5
	comp=Z,454nm,1.4s					
MTKI	Muara Teweh, K	72.98 274	P	P		15 03 05.9 +2.2
	comp=Z,335nm,2.1s,comp=Z,10µm					
GLA	Glamis	73.02 48	eP	P		15 03 03.6 +0.1
GLA			pmax	pmax		
	comp=Z,327nm,1.1s					
GLA	Glamis	73.02 48	eP	P		15 03 03.6 +0.1
	comp=Z,327nm,1.1s					
GLA	Glamis	73.02 48	⇑P	P		15 03 04.4 +0.8
	baz=73,SNR=68					
APYP	Conner	73.11 294	eP	P		15 03 05.5 +1.2
BCPH	Baguio City Da	73.14 293	‖/P	P		15 03 04.8 +0.1
BEKR	Beckworth	73.17 39	eP	P		15 03 03.9 -0.5
	comp=Z,108nm,1.0s					
GMRC	Granite Mounta	73.35 46	P	P		15 03 05.8 +0.3
	baz=74,SNR=218					
HUMO	Hull Mountain	73.35 36	eP	P		15 03 05.4 +0.1
	comp=Z,170nm,1.0s					
IRM	Iron Mountain	73.37 47	P	P		15 03 06.2 +0.6
	baz=74,SNR=306					
KDM	Kudat	73.39 282	P	P		15 03 07.9 +1.9
GRAC	Grapevine Rang	73.41 43	P	P		15 03 06.6 +0.9
	baz=74,SNR=284					
FURC	Furnace Creek,	73.45 44	P	P		15 03 06.4 +0.5
	baz=74,SNR=125					
ABRA	Dolores	73.50 294	eP	P		15 03 07.8 +1.2
TUQ	Turquoise Moun	73.52 45	P	P		15 03 07.4 +0.8
	baz=74,SNR=136					
SHOC	Shoshone	73.53 45	P	P		15 03 07.2 +0.7
	baz=74,SNR=195					
KRKI	Karangkates	73.55 266	P	P		15 03 08.8 +1.8
	comp=Z,793nm,2.4s,comp=Z,22µm					
Y12C	Blythe	73.60 47	P	P		15 03 07.8 +0.9
	baz=74,SNR=60					
NVAR	Mina Array Bea	73.61 42	P	P		15 03 07.5 +0.4
NVAR			PKKPbc	PKKPbc		15 22 46.8 +2.9
NVAR			P'P'			15 30 34.1
NVAR	Mina Array Bea	73.61 42	P	P		15 03 07.5 +0.4
	comp=Z,154nm,0.8s,baz=228,slow=8.2,SNR=586					
NVAR			PKKPbc	PKKPbc		15 22 46.8 +2.9
	comp=Z,0.5nm,0.6s,baz=84,slow=4.6,SNR=4.0					
NVAR			LR	LR		15 29 57.5
	comp=Z,14µm,18.8s,baz=123,slow=31					
NVAR			PKPPKP	P'P'df		15 30 34.1 -7.0
	comp=Z,1.4nm,1.1s,baz=72,slow=2.9,SNR=5.6					
113A	Mohawk Valley,	73.64 49	P	P		15 03 07.5 +0.4
	baz=74,SNR=178					
PAHR	Pah Rah Range	73.68 40	eP	P		15 03 07.1 -0.3
	comp=Z,247nm,1.1s					
KKM	Kota Kinabalu	73.70 281	eP	P		15 03 08.4 +0.4
	comp=Z,2µm,1.6s					
KKM			LR	LR		
	comp=Z,10µm,22.0s					
KKM	Kota Kinabalu	73.70 281	P	P		15 03 10.6 +2.5
KKM	Kota Kinabalu	73.70 281	P	P		15 03 10.4 +2.4
	comp=Z,533nm,1.7s,comp=Z,14µmcomp=Z,27µm					
KKM	Kota Kinabalu	73.70 281	P	P		15 03 08.9 +0.8
	baz=74,SNR=159					
NV11	Mina Array Sit	73.71 42	eP	P		15 03 07.2 -0.4
BOLP	Bolinao	73.74 292	eP	P		15 03 07.4 -0.6
YSS	Yuzh-Sakhalins	73.77 330	keP	P		15 03 08.0 +0.5
YSS			e'SP	sP		15 03 21.0 +7.0
YSS			e			15 05 50.0
YSS			ePPP	PPP		15 07 44.0
YSS			eS	SKiKP		15 12 37.0 +0.1
YSS			ePPS	PPS		15 13 18.0
YSS			eS

comp=E,2μm,2.5s
YSS pmax pmax
comp=Z,3μm,2.5s
YSS pmax pmax
comp=Z,7μm,11.0s
YSS smax smax
comp=N,5μm,15.0s
YSS smax smax
comp=E,4μm,15.0s
LDFC Landfair 73.89 46 *e*P **P 15 03 08.8 +0.1**
comp=E,650nm,1.0s
OHAK Old Harbor 73.92 11 *e*P **P 15 03 07.6 -0.6**
comp=E,649nm,1.8s
214A Organ Pipe Nat 73.93 50 P **P 15 03 09.5 +0.6**
baz=74,SNR=90
PDMCI Parker Dam,Lak 74.16 47 P **P 15 03 10.8 +0.6**
baz=74,SNR=139
PWJI Pagerwojo 74.20 266 P **P 15 03 12.0 +1.1**
comp=E,408nm,2.0s,comp=E,12μm
SJI Sawahan 74.31 266 P **P 15 03 12.6 +1.0**
comp=E,588nm,2.2s,comp=E,17μm
COR Corvallis 74.44 34 *e*P **P 15 03 11.9 +0.4**
COR pmax pmax
comp=Z,880nm,1.8s
COR Corvallis 74.44 34 *e*P **P 15 03 11.9 +0.4**
comp=Z,880nm,1.8s
Z14A Wintersburg 74.53 48 P **P 15 03 13.4 +1.1**
baz=75,SNR=108
KDAK Kodiak Island 74.58 11 P **P 15 03 12.0 0.0**
comp=Z,1μm,1.0s,SNR=19
KDAK Kodiak Island 74.58 11 *e*P **P 15 03 12.3 +0.3**
comp=Z,764nm,1.6s
KDAK Kodiak Island 74.58 11 LR LR 15 28 40.8
comp=Z,14μm,21.8s,baz=174,slow=30
K05A Summer Lake 74.60 37 P **P 15 03 12.9 +0.1**
SHPR Sheep Range 74.62 45 *e*P **P 15 03 13.2 +0.2**
comp=Z,447nm,1.1s
PCJI Pacitan 74.77 266 P **P 15 03 15.3 +1.2**
comp=Z,1μm,1.9s,comp=Z,20μm
Y14A Wickenburg 74.78 48 P **P 15 03 14.8 +0.9**
baz=75,SNR=251
QSPA South Pole Qui 74.82 180 LR LR 15 29 45.4
comp=Z,21μm,21.7s,baz=48,slow=31
WOJI Wonogiri, Jawa 75.09 266 P **P 15 03 18.1 +2.1**
comp=Z,952nm,1.6s,comp=Z,17μm
BKCOR Black Crater 75.14 35 P **P 15 03 16.5 +0.8**
TWG Pinlang 75.20 299 *e*P **P 15 03 15.8 -0.7**
comp=Z,656nm,1.3s
YULB Yu-li 75.24 300 *e*P **P 15 03 14.9 -1.8**
comp=Z,2μm,2.0s
NACB Ninganchiao 75.31 300 *e*P **P 15 03 16.9 -0.1**
comp=Z,2μm,1.8s
R11A Troy Canyon, C 75.33 43 *e*P **P 15 03 16.5 -0.6**
R11A Troy Canyon, C 75.33 43 ⇓P **P 15 03 17.7 +0.6**
baz=76
BMN Battle Mountai 75.45 40 *e*P **P 15 03 17.9 +0.2**
BMN pmax pmax
comp=Z,226nm,1.1s
BMN Battle Mountai 75.45 40 *e*P **P 15 03 17.9 +0.2**
comp=Z,226nm,1.1s
UGM Wanagama 75.46 266 P **P 15 03 20.0 +1.8**
comp=Z,759nm,2.0s,comp=Z,14μm
UGM Wanagama 75.46 266 P **P 15 03 18.6 +0.4**
baz=75,SNR=7.3
TUC Tucson 75.60 50 *e*P **P 15 03 18.6 -0.1**
TUC pmax pmax
comp=Z,183nm,0.8s
TUC MLR MLR
comp=Z,9μm,21.0s
TUC Tucson 75.60 50 *e*P **P 15 03 18.6 -0.1**
comp=Z,184nm,0.8s
TUC LR LR
comp=Z,9μm,21.0s
PBKI Pangkalan Bun 75.63 271 P **P 15 03 22.0 +2.9**
comp=Z,1μm,1.3s,comp=Z,21μm
SSLB Suanglung 75.69 300 *e*P **P 15 03 18.5 -0.8**
comp=Z,102nm,0.9s
YHNB Yeheng 75.70 301 *e*P **P 15 03 19.4 0.0**
comp=Z,509nm,1.3s
YHNB LR LR
comp=Z,17μm,20.0s
YOGI Yogyakarta 75.70 266 P **P 15 03 21.6 +2.0**
comp=Z,1μm,1.9s,comp=Z,23μm
TATO Taipei 75.73 301 P **P 15 03 20.9 +1.5**
SNR=14
TATO Taipei 75.73 301 *e*P **P 15 03 19.7 +0.3**
comp=Z,2μm,1.8s
TATO LR LR
comp=Z,10μm,22.0s
WVOR Wild Horse Val 75.75 38 *e*P **P 15 03 18.9 -0.5**
WVOR pmax pmax
comp=Z,211nm,1.1s
WVOR MLR MLR
comp=Z,22μm,19.0s
WVOR Wild Horse Val 75.75 38 *e*P **P 15 03 18.9 -0.5**
comp=Z,211nm,1.1s
WVOR LR LR
comp=Z,22μm,19.0s
TPUB Ta-pu 75.77 299 *e*P **P 15 03 18.7 -1.0**
comp=Z,386nm,1.0s
BTM Bintulu 75.86 277 P **P 15 03 23.0 +2.6**
VLL Laurance Lake 75.88 34 P **P 15 03 20.6 +0.6**
NLWA Neilton Lookou 75.99 32 *e*P **P 15 03 21.4 +0.9**
comp=Z,312nm,1.1s
NLWA LR LR
comp=Z,7μm,20.0s
STD Studebaker Rid 76.09 33 P **P 15 03 21.2 +0.1**
X16A Lo Mia Camp, P 76.14 48 ⇑P **P 15 03 23.0 +1.2**
baz=76
319A Douglas 76.29 52 P **P 15 03 23.8 +1.2**
baz=76,SNR=112
CCUT Cedar City 76.39 45 *e*P **P 15 03 23.2 0.0**
comp=Z,329nm,1.2s
SBUM Sibu 76.48 276 P **P 15 03 26.4 +2.4**
SBUM Sibu 76.48 276 P **P 15 03 26.5 +2.6**
comp=Z,240nm,2.4s,comp=Z,11μmcomp=Z,26μm
STKI Sintang 76.54 274 P **P 15 03 26.7 +2.4**
comp=Z,438nm,2.0s,comp=Z,28μm
U15A North Rim 76.55 46 ⇑P **P 15 03 25.4 +1.2**
baz=77
LON Longmire 76.64 33 *e*P **P 15 03 23.7 -0.5**
LON pmax pmax
comp=Z,555nm,1.8s
LON Longmire 76.64 33 *e*P **P 15 03 23.7 -0.5**
comp=Z,555nm,1.8s
KSRS Korea Array 76.65 315 P **P 15 03 26.0 +1.6**
comp=Z,56nm,1.0s,baz=127,slow=6.2,SNR=121
KSRS PKPPKP P'P'df 15 30 30.0 -5.8
comp=Z,1.2nm,0.9s,baz=335,slow=5.5,SNR=4.2
KSRS LR LR 15 33 16.5
comp=Z,10μm,19.2s,baz=112,slow=33
KSAR Wonju Array Be 76.67 315 P **P 15 03 26.0 +1.5**
KSAR P'P' 15 30 30.0
WUAZ Wupatki 76.73 47 *e*P **P 15 03 25.3 +0.2**
comp=Z,329nm,1.1s
WUAZ LR LR
comp=Z,9μm,20.0s
WUAZ Wupatki 76.73 47 ⇓P **P 15 03 26.3 +1.1**
baz=77
320A Kipp Ranch, An 76.85 52 P **P 15 03 27.3 +1.5**
baz=77,SNR=132
ELK Elko 76.87 41 *e*P **P 15 03 25.2 -0.7**
comp=Z,312nm,1.4s
CLJI Cilicap 76.96 265 P **P 15 03 27.2 +0.5**
comp=Z,219nm,1.7s,comp=Z,6μm
PGC Sidney 77.03 31 *e*P **P 15 03 26.3 +0.1**
comp=Z,12nm,0.9s
TGJI Tegal 77.06 266 P **P 15 03 29.2 +2.0**
comp=Z,531nm,2.2s,comp=Z,17μm
RSO Redoubt South 77.08 10 *e*P **P 15 03 25.1 -1.4**
comp=Z,396nm,1.0s
RMW Rattlesnake Mo 77.09 33 P **P 15 03 27.5 +0.7**
RMW Rattlesnake Mo 77.09 33 P **P 15 03 27.5 +0.7**
220A Playas Peak, P 77.11 52 ⇑P **P 15 03 28.6 +1.3**
baz=77,SNR=300
VLA Vladivostok 77.21 322 *d i*P **P 15 03 26.8 -0.6**
VLA pmax pmax
comp=Z,283nm,2.1s
VLA MLR MLR
comp=Z,6μm,18.0s
X18A Snowflake 77.27 49 P **P 15 03 29.4 +1.2**
baz=78,SNR=61
C05A Tolt Reservoir 77.30 32 P **P 15 03 27.7 -0.2**
120A U Bar Ranch, L 77.32 51 ⇓P **P 15 03 29.6 +1.1**
baz=78,SNR=135
TWW Teanaway 77.38 33 P **P 15 03 29.8 +1.4**
INCN Inchon 77.55 315 P **P 15 03 32.5 +3.1**
SNR=56
INCN Inchon 77.55 315 *e*P **P 15 03 31.4 +2.0**
comp=Z,2μm,1.9s
INCN LR LR
comp=Z,12μm,20.0s
Z20A Nine Sixteen R 77.61 51 P **P 15 03 31.5 +1.4**
baz=78,SNR=262
MVU Marysvale 77.66 44 *e*P **P 15 03 31.3 +0.9**
comp=Z,321nm,1.0s
W18A Petrified Fore 77.71 48 *e*P **P 15 03 30.3 -0.3**
W18A Petrified Fore 77.71 48 P **P 15 03 31.6 +0.9**
baz=78,SNR=30
221A Mesquite Ranch 77.72 52 P **P 15 03 32.2 +1.5**
baz=78,SNR=49
USRK Ussuriysk Arra 77.77 323 P **P 15 03 29.6 -0.9**
comp=Z,31nm,1.1s,baz=104,slow=5.9,SNR=74
USRK LR LR 15 31 41.6
comp=Z,15μm,21.2s,baz=116,slow=31
CRAG Craig 77.85 22 *e*P **P 15 03 31.9 +1.2**
comp=Z,644nm,1.7s
MIR Mirnyy 77.94 204 ⇓*i*P **P 15 03 34.0 +2.8**
MIR *e* 15 03 48.0
MIR *e*S S 15 13 30.0 +6.1
MIR *e*PS **PnS 15 14 04.0 -0.6**
MIR *e*SS **SS 15 18 19.0 -5.2**
MIR *e*SSS SSS 15 21 39.0
MIR pmax pmax
comp=Z,1μm,2.0s
MIR pmax pmax
comp=Z,13μm,12.0s
MIR MLR MLR
comp=N,8μm,17.0s
MIR MLR MLR
comp=E,19μm,17.0s
MIR MLR MLR
comp=Z,26μm,17.0s
121A Cookes Peak, D 77.95 51 P **P 15 03 33.1 +1.1**
baz=78,SNR=111
BMO Blue Mountains 77.96 37 *e*P **P 15 03 30.7 -1.0**
comp=Z,620nm,1.8s
BMO LR LR
comp=Z,14μm,19.0s
MFID Camas Ranch 78.00 38 P **P 15 03 32.5 +0.5**
baz=78,SNR=167
KSM Kuching 78.05 275 *e*P **P 15 03 34.4 +1.6**
comp=Z,3μm,1.8s
KSM LR LR
comp=Z,6μm,19.0s
KSM Kuching 78.05 275 P **P 15 03 35.6 +2.9**
KSM Kuching 78.05 275 P **P 15 03 35.2 +2.4**
comp=Z,736nm,2.0s,comp=Z,14μm
KSM Kuching 78.05 275 P **P 15 03 34.9 +2.1**
baz=78,SNR=127
QZH Quanzhou 78.12 300 ⇓*i*P **P 15 03 32.3 -0.6**
QZH S **S 15 13 28.3 +1.1**
QZH pmax pmax
comp=Z,3μm,2.0s
QZH pmax pmax
comp=Z,21μm,9.5s
QZH LR LR
comp=N,6μm,17.5s
QZH LR LR
comp=E,7μm,15.6s
QZH LR LR
comp=Z,12μm,17.8s
Y20A Horse Springs, 78.13 50 P **P 15 03 34.8 +1.6**
baz=78,SNR=335
DUG Dugway 78.14 43 *e*P **P 15 03 32.8 -0.1**
DUG pmax pmax
comp=Z,261nm,1.2s
DUG MLR MLR
comp=Z,16μm,22.0s
DUG Dugway 78.14 43 *e*P **P 15 03 32.8 -0.1**
comp=Z,260nm,1.2s
DUG LR LR
comp=Z,16μm,22.0s
DUG Dugway 78.14 43 P **P 15 03 33.6 +0.7**
baz=78,SNR=296
CISI Cisompet, Garu 78.15 265 P **P 15 03 34.4 +1.0**
comp=Z,695nm,1.8s,comp=Z,17μmcomp=Z,23μm
CISI Cisompet, Garu 78.15 265 P **P 15 03 34.6 +1.2**
baz=78,SNR=14
222A Williams Famil 78.28 52 P **P 15 03 35.0 +1.2**
baz=78,SNR=64
X20A Quemado 78.34 49 P **P 15 03 35.8 +1.6**
baz=78,SNR=278
SIT Sitka 78.36 20 *e*P **P 15 03 33.3 -0.1**
SIT pmax pmax
comp=Z,406nm,1.7s
SIT Sitka 78.36 20 *e*P **P 15 03 33.3 -0.1**
comp=Z,406nm,1.7s
BGU Big Grassy Mou 78.38 42 *e*P **P 15 03 33.6 -0.6**
comp=Z,329nm,1.5s
Z21A St. Cloud Mine 78.39 51 P **P 15 03 36.3 +1.8**
baz=79,SNR=129
NLU North Lily Min 78.50 43 *e*P **P 15 03 35.0 0.0**
comp=Z,1μm,2.2s
LEM Lembang 78.52 266 P **P 15 03 37.3 +1.7**
comp=Z,994nm,2.3s,comp=Z,26μm
LEM Lembang 78.52 266 P **P 15 03 38.1 +2.6**
baz=78,SNR=15
SSE Sheshan 78.55 307 ⇓P **P 15 03 35.5 +0.4**
SSE pP **pP 15 03 38.8 -1.1**
SSE S **S 15 13 33.0 +1.5**
SSE sS **sS 15 13 38.0 -1.3**
SSE ScS **ScS 15 13 55.5 -0.5**
SSE pmax pmax
comp=Z,110nm,1.4s
SSE pmax pmax
comp=Z,7μm,7.9s
SSE LR LR
comp=N,6μm,18.5s
SSE LR LR
comp=E,3μm,18.5s
SSE LR LR
comp=Z,8μm,25.4s
Q16A Castle Valley 78.57 44 *e*P **P 15 03 35.6 +0.3**
Q16A Castle Valley 78.57 44 P **P 15 03 36.7 +1.3**
baz=79,SNR=246
W20A Ramah 78.61 49 ⇓P **P 15 03 37.2 +1.5**
baz=79,SNR=547
HABR Khabarovsk 78.66 327 *i* P **P 15 03 35.0 -0.3**
HABR *e**SP **sP 15 03 40.8 -0.9**
HABR *e* 15 03 42.5
HABR *e* 15 06 31.7
HABR *e*PPP PPP 15 08 20.2
HABR *e*S **S 15 13 33.1 +1.2**
HABR *e* 15 13 37.8
HABR *e* 15 13 54.5
HABR *e*SS **SS 15 18 37.0 +0.5**
HABR pmax pmax
comp=E,159nm,2.0s
HABR pmax pmax
comp=N,97nm,2.0s
HABR pmax pmax
comp=Z,4μm,2.5s
HABR pmax pmax
comp=Z,821nm,2.0s
HABR MLR MLR
comp=N,4μm,17.0s
HABR MLR MLR
comp=E,4μm,17.0s
HABR MLR MLR
comp=Z,7μm,17.0s
Y21A Point of Rocks 78.70 50 P **P 15 03 37.9 +1.7**
baz=79,SNR=99
TMUT Trail Mountain 78.74 44 *e*P **P 15 03 36.6 +0.2**
comp=Z,533nm,1.0s
PMR Palmer 78.78 11 *e*P **P 15 03 34.2 -1.5**
PMR pmax pmax
comp=Z,2μm,2.1s
PMR Palmer 78.78 11 *e*P **P 15 03 34.2 -1.5**
comp=Z,2μm,2.1s
X21A Alamocita Cree 78.82 50 P **P 15 03 38.2 +1.4**
baz=79,SNR=170
MPU Maple Canyon 78.82 43 *e*P **P 15 03 37.0 +0.3**
comp=Z,213nm,1.0s
WRAK Wrangell Islan 78.86 21 *e*P **P 15 03 37.0 +0.8**
comp=Z,145nm,1.0s
WRAK LR LR
comp=Z,9μm,19.0s
Z22A Elephant Butte 78.89 51 P **P 15 03 38.6 +1.4**
baz=79,SNR=242
HLID Hailey 78.94 39 *e*P **P 15 03 36.9 -0.3**
comp=Z,145nm,0.9s
HLID LR LR
comp=Z,9μm,19.0s
HLID Hailey 78.94 39 ⇓P **P 15 03 38.2 +0.9**
baz=79,SNR=297
V20A Brimhall 78.94 48 P **P 15 03 38.5 +1.0**
baz=79,SNR=82
SPUT South Promonto 78.95 42 *e*P **P 15 03 37.1 -0.3**
comp=Z,624nm,1.6s
HVU Hansel Valley 78.99 41 *e*P **P 15 03 37.7 +0.1**
HVU pmax pmax
comp=Z,447nm,1.4s
HVU Hansel Valley 78.99 41 *e*P **P 15 03 37.7 +0.1**
comp=Z,447nm,1.4s
DIV Divide 79.03 13 *e*P **P 15 03 36.5 -0.7**
comp=Z,340nm,1.0s
CTU Camp Tracy 79.09 42 *e*P **P 15 03 37.8 -0.4**
comp=Z,687nm,1.7s
SRU San Rafael 79.10 44 *e*P **P 15 03 38.0 -0.3**
SRU pmax pmax
comp=Z,366nm,1.1s
SRU San Rafael 79.10 44 *e*P **P 15 03 38.0 -0.3**
comp=Z,366nm,1.1s
SML Sawmill 79.12 11 *e*P **P 15 03 34.7 -3.0**
SML pmax pmax
comp=Z,88nm,1.5s
SML Sawmill 79.12 11 *e*P **P 15 03 34.7 -3.0**
comp=Z,88nm,1.5s
BMRM Bremner River 79.14 13 *e*P **P 15 03 37.4 -0.4**
comp=Z,716nm,1.3s
123A Bell Site, Whi 79.15 52 P **P 15 03 40.0 +1.5**
baz=79,SNR=18
U20A Newcomb 79.17 48 P **P 15 03 40.0 +1.3**
baz=79,SNR=54
Y22A Socorro 79.19 50 P **P 15 03 39.7 +0.8**
baz=79,SNR=110
W21A San Fidel 79.22 49 P **P 15 03 40.7 +1.7**
baz=79,SNR=12
324A Moseley Ranch, 79.23 53 ⇓P **P 15 03 39.8 +0.7**
baz=79
JLU Jordanelle 79.24 43 *e*P **P 15 03 38.4 -0.7**
comp=Z,278nm,1.1s
DAU Daniels Canyon 79.27 43 *e*P **P 15 03 39.1 -0.2**
DAU pmax pmax
comp=Z,1μm,1.9s
DAU Daniels Canyon 79.27 43 *e*P **P 15 03 39.1 -0.2**
comp=Z,1μm,1.9s
LAZ Ladron 79.27 50 *e*P **P 15 03 39.5 +0.2**
comp=Z,612nm,2.0s
LENM Lemitar 79.29 50 *e*P **P 15 03 40.2 +0.8**
comp=Z,149nm,1.2s
425A Indio Mountain 79.34 54 P **P 15 03 40.8 +1.1**
baz=80,SNR=180
X22A Bernardo 79.41 50 P **P 15 03 41.9 +1.8**
baz=80,SNR=55
MNTX Cornudas Mount 79.42 53 *e*P **P 15 03 39.5 -0.4**
comp=Z,543nm,1.6s
MNTX LR LR
comp=Z,8μm,20.0s
DBJI Dramaga 79.42 266 P **P 15 03 42.0 +1.6**
comp=Z,2μm,1.2s,comp=Z,23μm
MDJ Mudanjiang 79.42 322 P **P 15 03 40.0 +0.4**
MDJ pP **pP 15 03 43.5 -0.9**
MDJ sP **sP 15 03 44.8 -1.3**
MDJ PcP **PcP 15 03 48.0 +0.3**
MDJ PP **PP 15 06 38.8 -1.3**
MDJ S **S 15 13 42.5 +2.2**
MDJ sS **sS 15 13 46.3 -1.8**
MDJ ScS **ScS 15 14 03.5 +1.0**
MDJ SS **SS 15 18 49.5 +1.3**
MDJ pmax pmax
comp=Z,200nm,2.5s
MDJ pmax pmax
comp=Z,9μm,8.8s
MDJ LR LR
comp=N,21μm,30.4s
MDJ LR LR
comp=E,15μm,29.5s
MDJ LR LR
comp=Z,19μm,19.0s
MDJ Mudanjiang 79.42 322 *e*P **P 15 03 40.4 +0.8**
comp=Z,1μm,2.1s
MDJ LR LR
comp=Z,20μm,20.0s
Z23A Rita Site, Whi 79.44 51 P **P 15 03 41.4 +1.2**
baz=80,SNR=60
224A Cornudas Mount 79.47 53 P **P 15 03 41.6 +1.2**
baz=80,SNR=264
PPLA Purkeypile 79.47 9 *e*P **P 15 03 37.2 -2.4**
comp=Z,65nm,1.0s
SKJI Sukabumi 79.50 266 P **P 15 03 42.7 +1.9**
comp=Z,765nm,1.5s,comp=Z,17μmcomp=Z,23μm
TPI Tanjungpandan 79.50 270 P **P 15 03 43.0 +2.3**
comp=Z,393nm,2.3s,comp=Z,11μmcomp=Z,29μm
626A Big Bend Ranch 79.50 55 P **P 15 03 41.7 +1.1**
baz=80,SNR=213
XMIS Christmas Isla 79.53 262 *e*P **P 15 03 41.5 +0.5**
comp=Z,9μm,2.0s
XMIS Christmas Isla 79.53 262 P **P 15 03 42.1 +1.1**
baz=79,SNR=4.2
BNM Barren Site 79.54 50 *e*P **P 15 03 40.7 -0.1**
comp=Z,1μm,1.9s
V21A Milan 79.54 48 P **P 15 03 42.2 +1.4**
baz=80,SNR=141
MVCO Mesa Verde 79.58 47 *e*P **P 15 03 40.6 -0.4**
comp=Z,193nm,1.2s
MVCO LR LR
comp=Z,11μm,22.0s
MVCO Mesa Verde 79.58 47 P **P 15 03 41.9 +0.9**
baz=80,SNR=56
LPM Los Pinos Moun 79.61 50 *e*P **P 15 03 41.7 +0.5**
comp=Z,557nm,1.7s
TNG Tangerang 79.61 266 P P 15 03 44.9 +3.5
comp=Z,2μm,1.8s,comp=Z,50μm
HWUT Hardware Ranch 79.68 42 *e*P **P 15 03 40.6 -0.8**
comp=Z,287nm,1.4s
HWUT LR LR
comp=Z,16μm,19.0s
526A Mary Lane Ranc 79.75 55 ⇑P **P 15 03 43.0 +1.1**
baz=80,SNR=259
TXAR Lajitas Array 79.79 56 P **P 15 03 43.0 +0.8**
TXAR PKKPbc **PKKPbc 15 22 30.1 +0.5**
TXAR P'P' 15 30 22.6
TXAR Lajitas Array 79.79 56 P **P 15 03 43.0 +0.8**
comp=Z,94nm,1.0s,baz=223,slow=4.9,SNR=375
TXAR PKKPbc **PKKPbc 15 22 30.1 +0.5**
comp=Z,1.6nm,0.9s,baz=130,slow=4.0,SNR=6.8
TXAR PKPPKP P'P'df 15 30 22.6 -9.0
comp=Z,0.9nm,1.1s,baz=113,slow=1.2,SNR=5.4
TXAR LR LR 15 32 40.4
comp=Z,7μm,18.3s,baz=345,slow=31
124A Stringfield Ra 79.79 52 P **P 15 03 43.4 +1.2**
baz=80,SNR=162
U21A Nageezi 79.81 48 ⇑P **P 15 03 43.8 +1.5**
baz=80,SNR=652
PV04 Paradox Valley 79.86 46 *e*P **P 15 03 42.4 0.0**
Y23A Lovelace Mesa, 79.87 51 P **P 15 03 43.5 +0.9**
baz=80,SNR=144
PV01 Paradox Valley 79.97 46 *e*P **P 15 03 42.6 -0.4**
comp=Z,60μm,1.5s
S20A Disappointment 79.97 46 P **P 15 03 44.3 +1.2**
baz=80,SNR=290
ANMO Albuquerque 80.02 50 *e*P **P 15 03 43.1 -0.2**
comp=Z,2μm,2.1s
ANMO LR LR
comp=Z,9μm,20.0s
225A Deer Hill, Car 80.02 53 P **P 15 03 44.3 +0.9**
baz=80,SNR=154
X23A Hourglass Bar 80.06 50 P **P 15 03 44.7 +1.1**
baz=80,SNR=28
627A Terlingua Ranc 80.06 56 ⇓P **P 15 03 44.9 +1.3**
baz=80,SNR=332
NEW Newport 80.07 34 *e*P **P 15 03 41.8 -1.4**
comp=Z,509nm,2.0s
NEW LR LR
comp=Z,14μm,19.0s
NEW Newport 80.07 34 ⇓P **P 15 03 43.6 +0.5**
baz=80,SNR=54
V22A San Miguel Ran 80.12 49 P **P 15 03 45.0 +1.0**
baz=80,SNR=100
R20A Redvale 80.13 46 P **P 15 03 44.5 +0.6**
baz=80,SNR=223
Z24A Sheeppen Canyo 80.13 52 P **P 15 03 44.7 +0.7**
baz=80,SNR=58
527A Woodward Ranch 80.16 55 P **P 15 03 45.0 +0.8**
baz=80,SNR=210
T21A Navajo Lake 80.16 47 P **P 15 03 45.4 +1.2**
baz=80,SNR=55
M17A Scullys Gap (B 80.19 42 P **P 15 03 44.1 0.0**
baz=80,SNR=109

S21A	Coal Bank Pass	80.29	47	⇓P		P	15 03 46.2 +1.3
	baz=80,SNR=628						
SKAG	Skagway	80.30	18	*e*P		P	15 03 44.3 +0.3
	comp=Z,179nm,1.0s						
TRF	Thorofare Moun	80.30	10	*e*P		P	15 03 42.2 -1.9
	comp=Z,2µm,1.9s						
Y24A	Capitan	80.33	51	P		P	15 03 46.1 +1.1
	baz=80,SNR=177						
W23A	Werner Place,	80.34	50	P		P	15 03 46.2 +1.1
	baz=80,SNR=153						
326A	Caldwell Ranch	80.35	54	⇓P		P	15 03 45.6 +0.5
	baz=80,SNR=80						
U22A	Llaves	80.37	48	P		P	15 03 46.4 +1.1
	baz=81,SNR=16						
125A	Gardner Draw,	80.38	52	P		P	15 03 46.2 +1.0
	baz=81,SNR=180						
P19A	Cripple Cowboy	80.40	45	P		P	15 03 46.1 +0.8
	baz=81,SNR=200						
GDL2	Guadalupe Moun	80.41	53	*e*P		P	15 03 46.5 +1.0
	comp=Z,398nm,1.6s						
628A	Black Gap, Mar	80.47	56	⇑P		P	15 03 46.7 +0.9
	baz=81,SNR=225						
226B	Tecolote Peak,	80.52	53	P		P	15 03 46.6 +0.7
	baz=81,SNR=301						
AHID	Auburn Hatcher	80.57	41	*e*P		P	15 03 45.7 -0.5
	comp=Z,490nm,1.6s						
AHID				LR		LR	
	comp=Z,12µm,19.0s						
MCMT	McKenzie Canyo	80.57	38	*e*P		P	15 03 46.1 0.0
	comp=Z,68nm,1.1s						
V23A	Ortiz Mt. (NFS	80.57	49	P		P	15 03 48.1 +1.8
	baz=81,SNR=129						
Z25A	Roswell	80.60	52	P		P	15 03 47.6 +1.2
	baz=81,SNR=154						
X24A	Lazy VL Ranch,	80.61	50	P		P	15 03 47.6 +1.1
	baz=81,SNR=15						
427A	Hayter Ranch,	80.61	55	P		P	15 03 47.4 +0.9
	baz=81,SNR=156						
TNA	Tin City	80.61	2	*e*P		P	15 03 45.8 +0.2
	comp=Z,340nm,1.2s						
T22A	Edith	80.62	48	P		P	15 03 47.7 +1.0
	baz=81,SNR=102						
O19A	Miners Draw (B	80.63	44	P		P	15 03 47.0 +0.5
	baz=81,SNR=164						
RRI2	Red Ridge	80.73	40	*e*P		P	15 03 46.4 -0.7
	comp=Z,470nm,1.4s						
P20A	De Beque	80.74	45	P		P	15 03 48.2 +1.1
	baz=81,SNR=41						
PAX	Paxson	80.75	12	*e*P		P	15 03 45.1 -1.4
PAX				pmax		pmax	
	comp=Z,366nm,1.7s						
PAX	Paxson	80.75	12	*e*P		P	15 03 45.1 -1.4
	comp=Z,366nm,1.7s						
NJ2	Nanjing	80.76	307	*e*P		P	15 03 48.3 +1.2
NJ2				pP		PcP	15 03 56.5 +2.7
NJ2				sP		sP	15 04 01.3 +7.7
NJ2				PP		PP	15 06 53.3 +1.8
NJ2				pmax		pmax	
	comp=Z,310nm,1.2s						
NJ2				pmax		pmax	
	comp=Z,11µm,11.0s						
NJ2				LR		LR	
	comp=N,7µm,25.9s						
NJ2				LR		LR	
	comp=E,10µm,22.8s						
NJ2				LR		LR	
	comp=Z,11µm,25.4s						
MCK	McKinley	80.79	10	*e*P		P	15 03 45.7 -0.9
MCK				pmax		pmax	
	comp=Z,379nm,1.0s						
MCK	McKinley	80.79	10	*e*P		P	15 03 45.7 -0.9
	comp=Z,379nm,1.0s						
BPAW	Bear Paw Mtn.	80.79	9	*e*P		P	15 03 44.6 -2.0
	comp=Z,171nm,1.4s						
CLNB	Carlsbad	80.81	53	*e*P		P	15 03 48.3 +0.7
	comp=Z,62nm,1.4s						
L18A	Fontenelle, Gr	80.82	42	⇑P		P	15 03 48.0 +0.5
	baz=81,SNR=44						
U23A	El Rito	80.83	49	⇓P		P	15 03 49.0 +1.3
	baz=81,SNR=336						
KLR	Kul'dur	80.85	327	*c*e*P		P	15 03 43.7 -3.5
KLR				*e*			15 06 50.0
KLR				*e*S		S	15 13 53.5 -1.6
KLR				*e*SS		SS	15 19 00.0 -9.4
KLR				pmax		pmax	
	comp=E,590nm,2.6s						
KLR				pmax		pmax	
	comp=Z,2µm,2.6s						
KLR				pmax		pmax	
	comp=E,3µm,7.5s						
KLR				pmax		pmax	
	comp=Z,11µm,7.5s						
126A	Clayton Basin,	80.86	53	P		P	15 03 48.3 +0.5
	baz=81,SNR=67						
Y25A	Mesa, Roswell	80.89	51	P		P	15 03 48.4 +0.4
	baz=81,SNR=164						
I16A	Newdale	80.90	40	⇑P		P	15 03 49.2 +1.3
	baz=81						
W24A	Lazy 6 Ranch,	80.91	50	P		P	15 03 48.8 +0.7
	baz=81,SNR=188						
HKC	Hong Kong Obse	80.91	296	⇓*i*P		P	15 03 50.0 +1.8
Q21A	Lamborn Mesa,	80.99	46	P		P	15 03 49.6 +1.1
	baz=81,SNR=65						
DLMT	Dillon	81.01	38	*e*P		P	15 03 48.6 +0.2
	comp=Z,337nm,1.4s						
S22A	4UR Ranch, Cre	81.01	47	P		P	15 03 50.2 +1.5
	baz=81,SNR=282						
MSO	Missoula	81.02	36	P		P	15 03 48.3 -0.1
	baz=81,SNR=107						
REDW	Red Top Meadow	81.03	41	*e*P		P	15 03 48.1 -0.6
	comp=Z,474nm,1.4s						
TPAW	Teton Pass	81.03	40	*e*P		P	15 03 48.1 -0.6
	comp=Z,243nm,1.1s						
MENT	Mentasta	81.08	13	*e*P		P	15 03 47.9 -0.3
BSMT	Bassoo Peak	81.11	35	*e*P		P	15 03 47.6 -1.3
	comp=Z,373nm,1.4s						
PPBI	Pangkal Pinang	81.11	270	P		P	15 03 51.7 +2.2
	comp=Z,360nm,2.3s,comp=Z,11µm						
428A	Kincaid Ranch,	81.12	55	P		P	15 03 50.3 +1.0
	baz=81,SNR=258						
O20A	White River Ci	81.14	44	*e*P		P	15 03 48.9 -0.3
O20A	White River Ci	81.14	44	P		P	15 03 50.0 +0.7
	baz=81,SNR=57						
SNOW	Snow King Moun	81.14	40	*e*P		P	15 03 49.1 -0.2
	comp=Z,525nm,1.4s						
BLSI	Bandar Lampung	81.16	267	P		P	15 03 51.8 +2.1
	comp=Z,340nm,2.0s,comp=Z,8µm						
X25A	Clemmons Ranch	81.17	51	P		P	15 03 50.3 +0.8
	baz=81,SNR=13						
M19A	Rock Springs	81.19	43	P		P	15 03 49.9 +0.4
	baz=81,SNR=18						
DLBC	Dease Lake	81.22	21	*e*P		P	15 03 48.8 -0.3
V24A	Rampart Ranch,	81.23	49	P		P	15 03 51.0 +1.1
	baz=81,SNR=141						
IMW	Indian Meadow	81.25	40	*e*P		P	15 03 49.7 -0.2
	comp=Z,234nm,1.2s						
T23A	Casias Ranch,	81.25	48	P		P	15 03 51.0 +1.0
	baz=82,SNR=75						
529A	Stev Forest Ra	81.25	56	P		P	15 03 50.6 +0.7
	baz=81,SNR=267						
R22A	Saguache, Gunn	81.28	47	P		P	15 03 51.4 +1.2
	baz=82,SNR=147						
328A	Wristen Ranch,	81.29	54	P		P	15 03 50.3 +0.2
	baz=82,SNR=98						
MOOW	Moose Ponds	81.29	40	*e*P		P	15 03 49.3 -0.7
	comp=Z,378nm,1.7s						
LOHW	Long Hollow	81.31	40	*e*P		P	15 03 49.4 -0.8
	comp=Z,405nm,1.6s						
JTMT	Jette	81.33	35	*e*P		P	15 03 49.3 -0.7
	comp=Z,118nm,1.4s						
LRM	Limekiln Ridge	81.34	38	*e*P		P	15 03 49.6 -0.6
	comp=Z,11µm,2.4s						
L19A	Farson	81.35	42	P		P	15 03 51.0 +0.6
	baz=82,SNR=94						
SWMT	Swartz Lake	81.36	36	*e*P		P	15 03 49.0 -1.1
	comp=Z,103nm,1.3s						
127A	Arkansas Junct	81.39	53	P		P	15 03 51.2 +0.5
	baz=82,SNR=34						
P21A	Newcastle	81.39	45	P		P	15 03 51.7 +1.0
	baz=82,SNR=108						
QLMT	Earthquake Lak	81.43	39	*e*P		P	15 03 51.5 +0.8
	comp=Z,108nm,1.8s						
BLMT	Blacktail Moun	81.44	35	*e*P		P	15 03 49.4 -1.3
	comp=Z,252nm,1.8s						
CHMT	Chamberlain Mo	81.46	37	*e*P		P	15 03 49.9 -0.9
	comp=Z,114nm,1.2s						
N20A	Spence Gulch,	81.46	44	P		P	15 03 51.9 +0.9
	baz=82,SNR=125						
Q22A	Crested Butte,	81.46	46	P		P	15 03 52.5 +1.3
	baz=82,SNR=267						
I17A	Pilgrim Ck.	81.49	40	⇓P		P	15 03 52.6 +1.6
	baz=82,SNR=20						
FLWY	Flagg Ranch	81.49	40	*e*P		P	15 03 51.7 +0.6
	comp=Z,726nm,1.5s						
SLMT	Seeley Lake	81.50	36	*e*P		P	15 03 49.3 -1.7
	comp=Z,218nm,1.6s						
CN2	Changchun	81.52	320	⇓P		P	15 03 51.8 +0.9
CN2				*es*P		sP	15 03 58.8 +1.4
CN2				*e*S		S	15 14 02.0 -0.3
CN2				pmax		pmax	
	comp=Z,100nm,0.7s						
CN2				pmax		pmax	
	comp=Z,9µm,8.0s						
CN2				LR		LR	
	comp=N,12µm,17.0s						
CN2				LR		LR	
	comp=E,5µm,17.0s						
CN2				LR		LR	
	comp=Z,10µm,19.0s						
U24A	Moreno Valley	81.52	49	P		P	15 03 52.9 +1.4
	baz=82,SNR=64						
Y26A	Elida	81.54	52	P		P	15 03 52.1 +0.6
	baz=82,SNR=51						
BW06	Boulder Array	81.55	42	*e*P		P	15 03 50.5 -0.9
	comp=Z,514nm,1.7s						
BW06				LR		LR	
	comp=Z,16µm,19.0s						
PDAR	Pinedale Array	81.55	42	P		P	15 03 51.2 -0.2
PDAR				PKKPbc		PKKPbc	15 22 24.9 -1.5
PDAR				P'P'			15 30 23.2
PDAR	Pinedale Array	81.55	42	P		P	15 03 51.2 -0.2
	comp=Z,56nm,0.8s,baz=209,slow=2.2,SNR=274						
PDAR				PKKPbc		PKKPbc	15 22 24.9 -1.5
	comp=Z,3.5nm,1.0s,baz=85,slow=1.9,SNR=12						
PDAR				PKPPKP		P'P'df	15 30 23.2 -3.9
	comp=Z,1.9nm,1.1s,baz=172,slow=2.2,SNR=6.1						
PDAR				LR		LR	15 35 08.9
	comp=Z,14µm,18.4s,baz=234,slow=32						
YBMT	Yellow Bay	81.55	35	*e*P		P	15 03 50.6 -0.6
	comp=Z,21nm,1.0s						
SMCO	Snowmass	81.56	46	*e*P		P	15 03 51.6 -0.2
	comp=Z,305nm,1.0s						
S23A	Nye Farm, Mont	81.57	47	P		P	15 03 53.1 +1.4
	baz=82,SNR=21						
YFT	Old Faithful	81.60	40	*e*P		P	15 03 53.3 +1.6
	comp=Z,1µm,2.2s						
W25A	X Bar L Ranch,	81.61	50	P		P	15 03 52.2 +0.4
	baz=82,SNR=87						
YMR	Madison River	81.63	39	*e*P		P	15 03 52.4 +0.6
	comp=Z,1µm,1.8s						
KLI	Kotabumi	81.66	267	P		P	15 03 54.5 +2.1
	comp=Z,219nm,2.1s,comp=Z,6µm						
DL2	Dalian	81.69	314	⇓P		P	15 03 53.0 +1.1
DL2				S		S	15 14 07.0 +2.8
DL2				pmax		pmax	
	comp=Z,350nm,1.5s						
DL2				pmax		pmax	
	comp=Z,13µm,6.5s						
DL2				LR		LR	
	comp=N,4µm,15.2s						
DL2				LR		LR	
	comp=Z,5µm,19.0s						
O21A	Pagoda	81.70	45	P		P	15 03 52.9 +0.5
	baz=82,SNR=51						
429A	Davenport Ranc	81.71	55	⇓P		P	15 03 52.9 +0.6
	baz=82,SNR=447						
H17A	Grant Village	81.73	40	*e*P		P	15 03 53.7 +1.3
H17A	Grant Village	81.73	40	P		P	15 03 54.4 +2.0
	baz=82,SNR=39						
T24B	San Luis	81.73	48	P		P	15 03 54.1 +1.5
	baz=82,SNR=82						
BOZ	Bozeman (W)	81.73	38	*e*P		P	15 03 51.7 -0.6
BOZ				pmax		pmax	
	comp=Z,491nm,1.8s						
BOZ				MLR		MLR	
	comp=Z,8µm,19.0s						
BOZ	Bozeman (W)	81.73	38	*e*P		P	15 03 51.7 -0.6
	comp=Z,491nm,1.8s						
BOZ				LR		LR	
	comp=Z,8µm,19.0s						
SNY	Shenyang	81.74	317	⇓P		P	15 03 52.8 +0.7
SNY				S		S	15 14 11.0 +6.4
SNY				pmax		pmax	
	comp=Z,370nm,2.1s						
SNY				pmax		pmax	
	comp=Z,11µm,12.0s						
SNY				LR		LR	
	comp=N,7µm,18.0s						
SNY				LR		LR	
	comp=E,6µm,16.8s						
SNY				LR		LR	
	comp=Z,10µm,17.1s						
228A	UT Block 9, Go	81.75	54	P		P	15 03 52.9 +0.3
	baz=82,SNR=50						
Z27A	Tatum	81.75	52	P		P	15 03 52.8 +0.2
	baz=82,SNR=106						
V25A	Rancho No Teng	81.76	50	P		P	15 03 53.6 +0.9
	baz=82,SNR=248						
X26A	CR and CF Fran	81.81	51	P		P	15 03 53.7 +0.8
	baz=82,SNR=74						
M20A	Sweetwater, Wa	81.82	43	P		P	15 03 53.7 +0.8
	baz=82,SNR=99						
YNR	Norris Junctio	81.83	39	*e*P		P	15 03 53.7 +0.8
	comp=Z,354nm,1.5s						
I18A	Diamond G Ranc	81.85	41	P		P	15 03 53.8 +0.8
	baz=82,SNR=18						
P22A	Eagle	81.90	45	P		P	15 03 54.1 +0.8
	baz=82,SNR=91						
GZH	Guangzhou	81.90	297	P		P	15 03 54.0 +0.6
GZH				PP		PP	15 07 00.0 -1.1
GZH				S		S	15 14 10.0 +2.9
GZH				pmax		pmax	
	comp=Z,17µm,7.5s						
GZH				LR		LR	
	comp=N,6µm,19.6s						
GZH				LR		LR	
	comp=E,16µm,20.8s						
GZH				LR		LR	
	comp=Z,20µm,20.4s						
R23A	Moffat	81.91	47	P		P	15 03 54.5 +0.9
	baz=82,SNR=110						
N21A	Black Mountain	81.92	44	P		P	15 03 54.5 +1.1
	baz=82,SNR=204						
LKWY	Lake	81.92	40	*e*P		P	15 03 54.9 +1.5
LKWY				pmax		pmax	
	comp=Z,201nm,1.1s						
LKWY				MLR		MLR	
	comp=Z,15µm,19.0s						
LKWY	Lake	81.92	40	*e*P		P	15 03 54.9 +1.5
	comp=Z,201nm,1.1s						
LKWY				LR		LR	
	comp=Z,15µm,19.0s						
SDCO	Great Sand Dun	81.95	47	*e*P		P	15 03 53.8 0.0
	comp=Z,477nm,1.6s						
SDCO				LR		LR	
	comp=Z,8µm,19.0s						
530A	J-C Ranch, Com	81.97	56	P		P	15 03 54.4 +0.7
	baz=82,SNR=171						
L20A	Wamsutter	81.97	43	P		P	15 03 54.4 +0.8
	baz=82,SNR=160						
329A	Wagon Wheel Ra	81.98	54	P		P	15 03 54.4 +0.7
	baz=82,SNR=121						
Y27A	Causey	82.03	52	P		P	15 03 54.4 +0.4
	baz=82,SNR=148						
COLA	College	82.03	10	*e*P		P	15 03 51.8 -1.3
COLA				MLR		MLR	
	comp=Z,18µm,21.0s						
COLA	College	82.03	10	*e*P		P	15 03 51.8 -1.3
	comp=Z,1µm,0.9s						
COLA				LR		LR	
	comp=Z,18µm,21.0s						
K19A	Absolon Red Bu	82.03	42	P		P	15 03 53.8 -0.1
	baz=82,SNR=73						
128A	Castleberry Fa	82.04	53	P		P	15 03 54.5 +0.4
	baz=82,SNR=84						
W26A	Owens Ranch, T	82.07	50	P		P	15 03 54.5 +0.2
	baz=82,SNR=20						
G17A	Pierce Place,	82.10	39	P		P	15 03 55.5 +1.3
	baz=82,SNR=64						
ILAR	Eielson Array	82.11	11	P		P	15 03 53.0 -0.6
ILAR				PP		PP	15 07 09.2 +7.2
ILAR				PKKPbc		PKKPbc	15 22 22.9 -3.0
ILAR				P'P'			15 30 22.4
ILAR	Eielson Array	82.11	11	P		P	15 03 53.0 -0.6
	comp=Z,36nm,0.7s,baz=214,slow=5.5,SNR=288						
ILAR				PP		PP	15 07 09.2 +7.2
	comp=Z,3.9nm,0.9s,baz=217,slow=7.4,SNR=4.3						
ILAR				PKKPbc		PKKPbc	15 22 22.9 -3.0
	comp=Z,1.7nm,1.1s,baz=347,slow=3.7,SNR=6.1						
ILAR				PKPPKP		P'P'df	15 30 22.4 -1.1
	comp=Z,3.5nm,1.2s,baz=19,slow=2.0,SNR=8.4						
ILAR				LR		LR	15 35 59.2
	comp=Z,12µm,18.7s,baz=217,slow=32						
S24A	Houchin Ranch,	82.11	48	P		P	15 03 55.6 +1.0
	baz=82,SNR=138						
J19A	Crowheart	82.12	41	P		P	15 03 54.8 +0.4
	baz=82,SNR=123						
U25A	Circle Dot Ran	82.15	49	P		P	15 03 55.4 +0.7
	baz=82,SNR=216						
IM04	Indian Mountai	82.17	8	*e*P		P	15 03 53.4 -0.5
HRY	Holter Researc	82.17	37	*e*P		P	15 03 53.9 -0.5
	comp=Z,396nm,1.2s						
Q23A	Hartsel	82.23	46	P		P	15 03 56.3 +1.1
	baz=82,SNR=79						
PMBI	Palembang	82.23	269	P		P	15 03 58.0 +2.6
	comp=Z,999nm,1.9s,comp=Z,19µm						
IMA2	Indian Mountai	82.27	8	P		P	15 03 53.9 -0.6
WALA	Waterton Lakes	82.27	35	*e*P		P	15 03 53.8 -1.2
	comp=Z,15nm,1.6s						
K20A	Yellowstone Ra	82.28	42	⇑P		P	15 03 55.0 -0.2
	baz=82,SNR=103						
430A	Baggett Ranch,	82.29	55	P		P	15 03 55.8 +0.4
	baz=82,SNR=72						
229A	Bryant Ranch,	82.30	54	P		P	15 03 56.0 +0.6
	baz=82,SNR=55						
631A	Perdido Creek	82.30	57	⇓P		P	15 03 56.0 +0.6
	baz=82,SNR=305						
PAYG	Puerto Ayora	82.30	89	PFAKE			15 04 10.0 +14
PAYG				LR		LR	
	comp=Z,7µm,19.0s						
MSTX	Muleshoe	82.36	52	*e*P		P	15 03 55.0 -0.8
MSTX	Muleshoe	82.36	52	P		P	15 03 56.4 +0.6
	baz=83,SNR=128						
Z28A	Tucker Farm, M	82.38	53	P		P	15 03 56.3 +0.4
	baz=83,SNR=85						
LWLI	Liwa	82.39	267	P		P	15 03 57.5 +1.1
	comp=Z,784nm,1.9s,comp=Z,15µm						
M21A	Separation Pea	82.42	43	P		P	15 03 56.6 +0.5
	baz=83,SNR=78						
H18A	Shoshone NF, C	82.43	40	P		P	15 03 56.8 +0.8
	baz=83,SNR=54						
P23A	Jefferson	82.43	46	⇓P		P	15 03 57.7 +1.4
	baz=83,SNR=212						
R24A	Sanders Place,	82.44	47	⇓P		P	15 03 57.4 +1.2
	baz=83,SNR=142						
F17A	Fitzpatrick Pl	82.45	38	P		P	15 03 57.1 +1.1
	baz=83,SNR=68						
T25A	Trinidad	82.47	48	P		P	15 03 57.0 +0.6
	baz=83,SNR=95						
I19A	Meeteetse	82.53	41	P		P	15 03 57.3 +0.7
	baz=83,SNR=145						
732A	Laxson Ranch,	82.54	58	P		P	15 03 57.0 +0.4
	baz=83,SNR=96						
RWWY	Rawlins	82.56	43	*e*P		P	15 03 56.8 -0.1
	comp=Z,2µm,1.9s						
SEY	Seymchan	82.58	345	*d i*P		P	15 03 55.7 -0.3
330A	Mertzon	82.58	55	P		P	15 03 56.9 0.0
	baz=83,SNR=76						
L21A	Rawlins	82.58	43	P		P	15 03 57.2 +0.3
	baz=83,SNR=68						
W27A	Bowe Ranch, En	82.59	51	P		P	15 03 57.3 +0.4
	baz=83,SNR=119						
531A	Rocksprings	82.61	56	⇓P		P	15 03 57.6 +0.6
	baz=83,SNR=328						
E17A	Martinsdale	82.62	38	P		P	15 03 57.5 +0.6
	baz=83,SNR=74						
U26A	Atchley Ranch,	82.64	49	⇑P		P	15 03 57.9 +0.6
	baz=83,SNR=186						
N22A	Wattenberg Ran	82.66	44	P		P	15 03 58.5 +1.2
	baz=83,SNR=196						
S25A	Robets Cordova	82.67	48	P		P	15 03 58.3 +0.9
	baz=83,SNR=171						
Q24A	Divide	82.73	46	P		P	15 03 59.0 +1.1
	baz=83,SNR=223						
Y28A	McKinney Farm,	82.73	52	P		P	15 03 58.0 +0.4
	baz=83,SNR=40						
431A	Sonora	82.75	56	P		P	15 03 57.9 +0.1
	baz=83,SNR=49						
O23A	Lake Granby, G	82.75	45	P		P	15 03 58.7 +0.8
	baz=83,SNR=91						
ISCO	Idaho Springs	82.78	46	*e*P		P	15 03 57.6 -0.5
ISCO				pmax		pmax	
	comp=Z,441nm,1.5s						
ISCO				MLR		MLR	
	comp=Z,11µm,19.0s						
ISCO	Idaho Springs	82.78	46	*e*P		P	15 03 57.6 -0.5
	comp=Z,442nm,1.5s						
ISCO				LR		LR	
	comp=Z,11µm,19.0s						
ISCO	Idaho Springs	82.78	46	P		P	15 03 59.0 +0.9
	baz=83,SNR=98						
J20A	Shoshoni	82.78	42	P		P	15 03 58.5 +0.8
	baz=83,SNR=105						
G18A	Lazy EL Ranch,	82.81	39	P		P	15 03 58.8 +0.9
	baz=83,SNR=156						
230A	Sterling City	82.82	54	P		P	15 03 58.4 +0.3
	baz=83,SNR=57						
M22A	Cedar Creek Ra	82.84	44	P		P	15 03 58.9 +0.7
	baz=83,SNR=47						
H19A	Powell	82.85	40	P		P	15 03 59.0 +0.9
	baz=83,SNR=96						
Z29A	Hungry Hill Ra	82.89	53	P		P	15 03 58.6 +0.1
	baz=83,SNR=61						
RLMT	Red Lodge	82.90	40	*e*P		P	15 03 58.3 -0.2
	comp=Z,470nm,1.5s						
RLMT				LR		LR	
	comp=Z,7µm,19.0s						
632A	Uvalde	82.97	57	⇑P		P	15 03 59.6 +0.7
	baz=83						
K21A	Alcova	82.98	42	P		P	15 03 59.2 +0.4
	baz=83,SNR=108						
GCMT	Greycliff	82.99	39	*e*P		P	15 03 58.9 +0.1
	comp=Z,696nm,1.9s						
R25A	Fountain Ranch	82.99	48	P		P	15 03 59.4 +0.4
	baz=83,SNR=40						
F18A	Big Timber	83.02	39	P		P	15 03 60.0 +1.1
	baz=83,SNR=137						
X28A	Dimmitt	83.02	52	P		P	15 03 59.6 +0.5
	baz=83,SNR=43						
DAWY	Dawson	83.03	14	*e*P		P	15 03 57.9 -0.6
I20A	Worland	83.04	41	P		P	15 03 59.7 +0.7
	baz=83,SNR=32						
V27A	Dan Oppiter Fa	83.04	50	⇑P		P	15 04 00.1 +0.8
	baz=83,SNR=32						
T26A	Comanche Natio	83.07	49	P		P	15 03 59.6 +0.2
	baz=83,SNR=54						
D17A	Six Diamond Ra	83.07	37	P		P	15 03 60.0 +0.8
	baz=83,SNR=193						
532A	Rocksprings	83.11	56	P		P	15 04 00.2 +0.6
	baz=83,SNR=191						
331A	San Angelo	83.14	55	P		P	15 03 59.8 0.0
	baz=83,SNR=87						
P24A	Kohler Place,	83.14	46	⇑P		P	15 04 00.7 +1.0
	baz=83,SNR=19						
Y29A	Porterfield Fa	83.15	52	P		P	15 04 00.1 +0.3
	baz=83,SNR=58						
J21A	Lysite	83.19	42	⇓P		P	15 04 00.6 +0.7
	baz=83,SNR=372						
130A	Snyder	83.20	54	P		P	15 04 00.5 +0.4
	baz=83,SNR=38						
L22A	Ellis Ranch, M	83.23	43	P		P	15 04 01.1 +0.9
	baz=83,SNR=53						
EGAK	Eagle	83.25	13	P		P	15 03 58.6 -0.9
	comp=Z,382nm,1.0s						
EGAK				LR		LR	
	comp=Z,12µm,19.0s						
C17A	Wharram Farm,	83.28	37	⇓P		P	15 04 00.6 +0.4
	baz=84,SNR=285						
O24A	Longmont	83.30	45	P		P	15 04 01.8 +1.3
	baz=84,SNR=58						
W28A	Vega	83.31	51	P		P	15 04 00.8 +0.2
	baz=84,SNR=14						
JCT	Junction City	83.32	56	*e*P		P	15 03 59.4 -1.3
JCT				pmax		pmax	
	comp=Z,175nm,1

Q25A	Bedland, Calha	83.34	47	P		P	15 04 01.3 +0.4
	baz=84,SNR=84						
Z30A	Sanderson Ranc	83.35	53	P		P	15 04 00.6 -0.2
	baz=84,SNR=101						
S26A	Kim	83.35	48	P		P	15 04 00.9 +0.1
	baz=84,SNR=123						
X29A	Tulia	83.36	52	P		P	15 04 01.5 +0.6
	baz=84,SNR=32						
H20A	Greybull	83.38	41	P		P	15 04 00.9 +0.2
	baz=84,SNR=116						
M23A	Laramie	83.45	44	⇓P		P	15 04 02.4 +1.0
	baz=84,SNR=19						
F19A	Roth Farm, Mol	83.46	39	P		P	15 04 01.5 +0.3
	baz=84,SNR=148						
K22A	Casper	83.46	43	P		P	15 04 01.8 +0.4
	baz=84,SNR=62						
231A	Bronte	83.46	55	P		P	15 04 01.4 -0.1
	baz=84,SNR=119						
432A	Menard	83.48	56	⇓P		P	15 04 01.5 0.0
	baz=84,SNR=125						
V28A	Channing	83.49	50	P		P	15 04 02.0 +0.5
	baz=84,SNR=22						
I21A	Big Trails, Te	83.50	41	P		P	15 04 01.7 +0.2
	baz=84,SNR=253						
PHWY	Pilot Hill	83.56	44	eP		P	15 04 01.6 -0.4
	comp=Z,630nm,1.6s						
B17A	L&G Farms, Che	83.60	36	P		P	15 04 01.9 +0.2
	baz=84,SNR=93						
D18A	Linhart Farms,	83.61	38	P		P	15 04 03.1 +1.2
	baz=84,SNR=13						
MNAI	Manna	83.62	267	P		P	15 04 04.9 +2.3
	comp=Z,2µm,1.9s,comp=Z,37µm						
MNAI	Manna	83.62	267	P		P	15 04 04.4 +1.8
	baz=84,SNR=7.3						
R26A	Arlington	83.65	48	P		P	15 04 02.8 +0.5
	baz=84,SNR=190						
QIZ	Qiongzhong	83.66	292	P		P	15 04 03.8 +1.2
QIZ				PP		PP	15 07 14.3 -1.3
QIZ				S		S	15 14 25.0 -0.1
QIZ				SS		SS	15 19 51.0 -1.3
QIZ				pmax		pmax	
	comp=Z,120nm,1.9s						
QIZ				pmax		pmax	
	comp=Z,8µm,8.1s						
QIZ				LR		LR	
	comp=N,3µm,15.8s						
QIZ				LR		LR	
	comp=E,2µm,15.8s						
QIZ				LR		LR	
	comp=Z,9µm,22.3s						
QIZ	Qiongzhong	83.66	292	eP		P	15 04 03.8 +1.2
	comp=Z,613nm,1.9s						
QIZ				LR		LR	
	comp=Z,6µm,19.0s						
P25A	Willow Gulch B	83.66	46	P		P	15 04 03.4 +1.0
	baz=84,SNR=236						
T27A	Campo	83.66	49	P		P	15 04 02.7 +0.3
	baz=84,SNR=82						
W29A	Amraillo	83.67	51	P		P	15 04 03.0 +0.5
	baz=84,SNR=52						
332A	Millersview	83.71	55	P		P	15 04 02.9 +0.2
	baz=84,SNR=119						
WHN	Wuhan	83.72	304	⇑P		P	15 04 03.0 +0.3
WHN				S		S	15 14 32.0 +6.6
WHN				pmax		pmax	
	comp=Z,18µm,10.4s						
WHN				LR		LR	
	comp=N,14µm,16.9s						
WHN				LR		LR	
	comp=E,5µm,13.3s						
WHN				LR		LR	
	comp=Z,20µm,19.1s						
N24A	Carr	83.73	45	P		P	15 04 03.9 +1.1
	baz=84,SNR=103						
U28A	Mallet	83.75	50	P		P	15 04 02.8 -0.1
	baz=84,SNR=36						
Y30A	Stafford Cattl	83.75	53	P		P	15 04 03.4 +0.5
	baz=84,SNR=28						
L23A	Garrett	83.76	43	P		P	15 04 03.4 +0.5
	baz=84,SNR=149						
TIA	Tai'an	83.77	310	⇓P		P	15 04 03.5 +0.7
TIA				S		S	15 14 31.0 +5.4
TIA				pmax		pmax	
	comp=Z,300nm,2.5s						
TIA				pmax		pmax	
	comp=Z,14µm,7.5s						
TIA				LR		LR	
	comp=N,5µm,17.9s						
TIA				LR		LR	
	comp=E,8µm,20.1s						
TIA				LR		LR	
	comp=Z,10µm,22.0s						
S27A	Las Animas	83.79	48	P		P	15 04 03.8 +0.7
	baz=84,SNR=7.5						
KVTX	Kingsville	83.82	59	eP		P	15 04 04.9 +1.6
	comp=Z,452nm,1.1s						
KVTX				LR		LR	
	comp=Z,8µm,19.0s						
COLD	Coldfoot	83.84	9	eP		P	15 04 02.5 +0.1
	comp=Z,1µm,2.1s						
E19A	Rath Farm, Rou	83.85	39	P		P	15 04 04.0 +0.9
	baz=84,SNR=199						
Q26A	Hugo	83.86	47	P		P	15 04 04.0 +0.6
	baz=84,SNR=26						
F20A	Billings	83.92	39	P		P	15 04 03.8 +0.3
	baz=84,SNR=68						
O25A	Wiggins	83.95	46	P		P	15 04 04.6 +0.8
	baz=84,SNR=14						
232A	Coleman	83.97	55	⇓P		P	15 04 04.3 +0.3
	baz=84,SNR=148						
PMSA	Palmer Station	83.98	156	PFAKE			15 04 10.0 +6.6
PMSA				LR		LR	
	comp=Z,20µm,20.0s						
X30A	Coker Ranch, T	83.99	52	P		P	15 04 04.5 +0.4
	baz=84,SNR=55						
EGSI	Enggano, Bengk	84.03	266	P		P	15 04 06.2 +1.5
H21A	Big Horn, Sher	84.05	41	P		P	15 04 04.7 +0.5
	baz=84,SNR=44						
M24A	Cheyenne	84.06	44	P		P	15 04 05.0 +0.5
	baz=84,SNR=93						
I22A	9 Mile Ranch,	84.06	42	P		P	15 04 04.9 +0.6
	baz=84,SNR=112						
EGMT	Eagleton	84.06	37	eP		P	15 04 04.0 -0.2
	comp=Z,837nm,1.8s						
EGMT				LR		LR	
	comp=Z,15µm,20.0s						
EGMT	Eagleton	84.06	37	P		P	15 04 04.6 +0.5
	baz=84,SNR=70						
V29A	Stinnett	84.06	51	P		P	15 04 05.1 +0.6
	baz=84,SNR=27						
K23A	Bowen Ranch, D	84.10	43	P		P	15 04 04.9 +0.4
	baz=84,SNR=94						
R27A	Eads	84.11	48	P		P	15 04 04.8 +0.2
	baz=84,SNR=101						
Z31A	Sharp Cattle R	84.12	53	P		P	15 04 04.7 0.0
	baz=84,SNR=121						
T28A	Walsh	84.13	49	P		P	15 04 04.9 +0.1
	baz=84,SNR=76						
D19A	Cripps Ranch,	84.14	38	P		P	15 04 05.5 +0.9
	baz=84,SNR=144						
KSI	Kapahiang	84.15	268	P		P	15 04 06.8 +1.4
	comp=Z,735nm,2.2s,comp=Z,19µm						
G21A	Lodge Grass	84.22	40	⇓P		P	15 04 05.5 +0.4
	baz=84,SNR=36						
B18A	Beardsley Farm	84.24	37	P		P	15 04 05.5 +0.4
	baz=84,SNR=130						
ABTX	Abilene, Hawle	84.25	54	eP		P	15 04 04.5 -0.9
ABTX	Abilene, Hawle	84.25	54	P		P	15 04 05.9 +0.5
	baz=84,SNR=181						
P26A	Davis Ranch, A	84.25	47	⇓P		P	15 04 06.1 +0.7
	baz=84						
E20A	Meyer Farm, Mu	84.27	39	P		P	15 04 06.1 +0.9
	baz=84,SNR=128						
BTDF	Bukit Timah Da	84.31	273	P		P	15 04 08.9 +2.8
	baz=84,SNR=12						
BTDF				P		P	15 04 08.9 +2.8
	baz=84,SNR=12						
C19A	Slack Wire Ran	84.33	37	P		P	15 04 06.2 +0.7
	baz=84,SNR=250						
MYKOM	Kota Tinggi	84.35	273	P		P	15 04 09.3 +3.0
MYKOM	Kota Tinggi	84.35	273	P		P	15 04 08.5 +2.2
	comp=Z,336nm,2.0s,comp=Z,11µm						
J23A	Dilts Ranch, B	84.44	42	⇓P		P	15 04 07.0 +0.7
	baz=85						
A18A	Metzger Ranch,	84.46	36	P		P	15 04 06.4 +0.3
	baz=85,SNR=189						
H22A	Clearmont	84.47	41	P		P	15 04 06.9 +0.6
	baz=85,SNR=58						
S28A	Manter	84.47	49	P		P	15 04 07.0 +0.5
	baz=85,SNR=105						
U29A	Oasis Ranch, S	84.48	50	P		P	15 04 07.2 +0.6
	baz=85,SNR=15						
KSCO	Kaye Shedlock'	84.53	47	eP		P	15 04 07.3 +0.5
KSCO	Kaye Shedlock'	84.53	47	P		P	15 04 07.5 +0.7
	baz=85,SNR=73						
D20A	Manuel Ranch,	84.55	38	P		P	15 04 07.2 +0.6
	baz=85,SNR=130						
F21A	Abiloka Mine,	84.56	40	P		P	15 04 07.7 +1.0
	baz=85,SNR=86						
O26A	Horse Wrangler	84.56	46	P		P	15 04 08.0 +1.0
	baz=85,SNR=26						
K24A	Anderson Ranch	84.62	43	P		P	15 04 07.7 +0.5
	baz=85,SNR=54						
MASI	Maura Aman, Be	84.62	268	P		P	15 04 09.8 +2.0
	comp=Z,500nm,2.1s,comp=Z,12µm						
Z32A	Haskell	84.63	54	⇑P		P	15 04 08.0 +0.7
	baz=85,SNR=331						
V30A	Spur Ranch, Mi	84.64	51	P		P	15 04 08.6 +1.2
	baz=85,SNR=43						
T29A	Hugoton	84.74	49	P		P	15 04 08.4 +0.5
	baz=85,SNR=25						
X31A	McDonald Ranch	84.74	52	P		P	15 04 08.1 +0.2
	baz=85,SNR=39						
I23A	Meade Ranch, G	84.75	42	⇑P		P	15 04 08.4 +0.6
	baz=85						
B19A	Brkman Farms	84.75	37	P		P	15 04 08.3 +0.7
	baz=85,SNR=107						
P27A	Ficken Ranch,	84.79	47	P		P	15 04 08.9 +0.8
	baz=85,SNR=50						
G22A	Birney	84.79	40	P		P	15 04 08.3 +0.4
	baz=85,SNR=48						
R28A	Tribune	84.84	48	P		P	15 04 09.4 +1.0
	baz=85,SNR=225						
N26A	Koester Ranch,	84.87	45	P		P	15 04 09.3 +0.8
	baz=85,SNR=12						
EDM	Edmonton	84.88	31	eP		P	15 04 07.4 -0.7
EDM	Edmonton	84.88	31	eP		P	15 04 07.3 -0.7
Y32A	R-V Farms, Ver	84.92	53	P		P	15 04 09.4 +0.6
	baz=85,SNR=29						
KGM	Kluang	84.92	273	P		P	15 04 12.3 +3.1
E21A	Keefer Ranch,	84.93	39	P		P	15 04 09.5 +1.0
	baz=85,SNR=47						
C20A	Veseth Ranch,	84.93	38	P		P	15 04 09.5 +1.0
	baz=85,SNR=170						
L25A	Engebretsen Ra	84.93	44	P		P	15 04 09.7 +0.9
	baz=85,SNR=37						
U30A	WK&E Inc. Balk	84.97	50	P		P	15 04 09.2 +0.2
	baz=85,SNR=18						
W31A	Holland Ranch,	84.98	52	P		P	15 04 09.3 +0.3
	baz=85,SNR=77						
J24A	Dixon Ranch, L	84.98	43	P		P	15 04 09.9 +0.9
	baz=85,SNR=26						
S29A	Ulysses	85.05	49	P		P	15 04 10.2 +0.8
	baz=85,SNR=32						
A19A	Kindworth Far	85.10	36	P		P	15 04 09.9 +0.5
	baz=85,SNR=95						
Q28A	Sharon Springs	85.12	47	P		P	15 04 10.8 +1.0
	baz=85,SNR=22						
O27A	Beecher Island	85.12	46	P		P	15 04 10.7 +0.9
	baz=85,SNR=66						
K25A	Mack Ranch, Ha	85.19	44	P		P	15 04 11.5 +1.4
	baz=85,SNR=23						
M26A	McRoberts Ranc	85.20	45	P		P	15 04 11.0 +0.9
	baz=85,SNR=16						
D21A	La Casta Ranch	85.22	39	P		P	15 04 11.0 +1.0
	baz=85,SNR=82						
I24A	Kuemmerle Ranc	85.24	42	P		P	15 04 10.1 -0.2
	baz=86,SNR=21						
RGRI	Rengat	85.25	271	P		P	15 04 13.3 +2.4
	comp=Z,604nm,2.1s,comp=Z,25µm					comp=Z,31µm	
T30A	Plains	85.26	50	P		P	15 04 11.0 +0.5
	baz=86,SNR=22						
B20A	Solberg Farm,	85.27	37	P		P	15 04 10.9 +0.7
	baz=86,SNR=71						
V31A	Spring Creek L	85.28	51	P		P	15 04 11.9 +1.4
	baz=86,SNR=81						
N27A	Anderson Farm,	85.34	46	P		P	15 04 11.3 +0.5
	baz=86,SNR=37						
G23A	Biddle	85.35	41	P		P	15 04 11.1 +0.3
	baz=86,SNR=61						
R29A	Marienthal	85.36	48	P		P	15 04 11.8 +0.9
	baz=86,SNR=25						
P28A	Saint Francis	85.38	47	P		P	15 04 11.8 +0.8
	baz=86,SNR=41						
L26A	Underwood Farm	85.48	44	P		P	15 04 12.7 +1.2
	baz=86,SNR=17						
U31A	Nine Bar Ranch	85.50	51	P		P	15 04 12.4 +0.8
	baz=86,SNR=18						
LAO	LASA Array	85.52	39	eP		P	15 04 11.7 +0.2
	comp=Z,954nm,1.5s						
LAO				LR		LR	
	comp=Z,9µm,22.0s						
C21A	Desert Coulee	85.52	38	P		P	15 04 12.1 +0.6
	baz=86,SNR=66						
S30A	Montezuma	85.54	49	P		P	15 04 12.4 +0.6
	baz=86,SNR=35						
A20A	Cobblestone Ra	85.54	37	P		P	15 04 12.2 +0.6
	baz=86,SNR=130						
E22A	Miles City	85.57	40	P		P	15 04 12.4 +0.7
	baz=86,SNR=30						
J25A	Sunshine Ranch	85.58	43	P		P	15 04 12.4 +0.5
	baz=86,SNR=23						
F23A	Volborg	85.58	40	P		P	15 04 12.2 +0.4
	baz=86,SNR=74						
O28A	Krutsinger Ran	85.59	47	P		P	15 04 12.7 +0.7
	baz=86,SNR=25						
Q29A	Oakley	85.66	48	P		P	15 04 12.8 +0.4
	baz=86,SNR=52						
H24A	Dirks Ranch, A	85.68	41	P		P	15 04 12.3 -0.1
	baz=86,SNR=162						
K26A	Motz Farm, Whi	85.69	44	P		P	15 04 13.2 +0.6
	baz=86,SNR=44						
WMOK	Wichita Mounta	85.70	52	eP		P	15 04 10.9 -1.7
WMOK				pmax		pmax	
	comp=Z,490nm,1.6s						
WMOK				MLR		MLR	
	comp=Z,8µm,20.0s						
WMOK	Wichita Mounta	85.70	52	eP		P	15 04 10.9 -1.7
	comp=Z,490nm,1.6s						
WMOK				LR		LR	
	comp=Z,8µm,20.0s						
M27A	Reverse DX Ran	85.74	45	P		P	15 04 13.3 +0.5
	baz=86,SNR=14						
RSSD	Black Hills	85.74	42	eP		P	15 04 11.9 -1.0
RSSD				pmax		pmax	
	comp=Z,467nm,1.4s						
RSSD	Black Hills	85.74	42	eP		P	15 04 11.9 -1.0
	comp=Z,467nm,1.4s						
OGNE	Ogallala	85.74	46	eP		P	15 04 12.4 -0.4
	comp=Z,451nm,1.5s						
OGNE				LR		LR	
	comp=Z,7µm,19.0s						
OGNE	Ogallala	85.74	46	P		P	15 04 14.1 +1.3
	baz=86,SNR=12						
WHTX	Lake Whitney	85.74	55	eP		P	15 04 12.8 -0.1
WHTX	Lake Whitney	85.74	55	P		P	15 04 13.6 +0.7
	baz=86,SNR=65						
I25A	Rochford	85.89	42	P		P	15 04 13.7 +0.1
	baz=86,SNR=153						
R30A	Dighton	85.92	49	P		P	15 04 14.1 +0.4
	baz=86,SNR=50						
P29A	Atwood	85.97	47	P		P	15 04 14.5 +0.6
	baz=86,SNR=39						
KTGM	Kuala Trenggan	85.98	277	P		P	15 04 17.3 +2.9
N28A	Pribbeno Ranch	85.98	46	P		P	15 04 14.5 +0.5
	baz=86,SNR=16						
BJI	Beijing	85.99	313	P		P	15 04 14.0 +0.1
BJI				S		S	15 14 47.5 0.0
BJI				SS		SS	15 20 28.5 +2.7
BJI				pmax		pmax	
	comp=Z,420nm,2.5s						
BJI				pmax		pmax	
	comp=Z,12µm,6.8s						
BJI				LR		LR	
	comp=N,5µm,19.3s						
BJI				LR		LR	
	comp=E,6µm,21.6s						
BJI				LR		LR	
	comp=Z,7µm,30.6s						
E23A	Ismay	85.99	40	P		P	15 04 14.6 +0.8
	baz=86,SNR=32						
J26A	Sides Ranch, S	86.02	43	P		P	15 04 14.4 +0.3
	baz=86,SNR=36						
G24A	Alzada	86.02	41	P		P	15 04 14.6 +0.5
	baz=86,SNR=26						
A21A	Bergtoll Ranch	86.18	37	P		P	15 04 15.3 +0.6
	baz=86,SNR=110						
C22A	Vida	86.21	38	P		P	15 04 15.2 +0.3
	baz=86,SNR=32						
F24A	Ekalaka	86.23	41	P		P	15 04 15.9 +0.8
	baz=86,SNR=17						
Q30A	Quinter	86.23	48	P		P	15 04 15.7 +0.4
	baz=86,SNR=13						
H25A	Fruitdale	86.24	42	P		P	15 04 15.3 +0.2
	baz=86,SNR=40						
S31A	Mullinville	86.25	50	⇓P		P	15 04 16.0 +0.7
	baz=86,SNR=24						
O29A	4D Ranch, Culb	86.27	47	⇑P		P	15 04 15.8 +0.4
	baz=86,SNR=10.0						
HKT	Hockley	86.35	58	eP		P	15 04 16.1 +0.3
HKT				pmax		pmax	
	comp=Z,874nm,1.8s						
HKT	Hockley	86.35	58	eP		P	15 04 16.1 +0.3
	comp=Z,874nm,1.8s						
D23A	Lindsay	86.36	39	P		P	15 04 16.7 +1.1
	baz=87,SNR=42						
COYC	Coyhaique	86.38	136	⇑iP		P	15 04 13.7 -2.2
B22A	Reddig Ranch S	86.40	38	P		P	15 04 16.3 +0.5
	baz=87,SNR=52						
P30A	Selden	86.44	48	P		P	15 04 16.5 +0.3
	baz=87,SNR=31						
I26A	New Underwood	86.47	43	P		P	15 04 16.8 +0.5
	baz=87,SNR=14						
UBPT	Khong Chiam	86.52	287	P		P	15 04 19.6 +2.6
	comp=Z,268nm,2.5s,comp=Z,8µm						
G25A	Newell	86.60	41	P		P	15 04 16.9 0.0
	baz=87,SNR=33						
E24A	Baker	86.64	40	P		P	15 04 17.9 +0.8
	baz=87,SNR=9.5						
C23A	Lambert	86.65	39	P		P	15 04 18.0 +0.9
	baz=87,SNR=61						
BKNI	Bangkinang	86.68	271	P		P	15 04 20.4 +2.5
	comp=Z,738nm,1.8s,comp=Z,19µm					comp=Z,39µm	
BKNI	Bangkinang	86.68	271	P		P	15 04 23.2 +5.3
	baz=87,SNR=5.0						
J27A	Elkhorn Farm,	86.70	44	⇑P		P	15 04 17.8 +0.3
	baz=87						
A22A	Carney Farms,	86.76	37	P		P	15 04 18.1 +0.5
	baz=87,SNR=34						
O30A	MW Ranch, Wils	86.82	47	⇓P		P	15 04 18.2 +0.1
	baz=87						
Q31A	Ellis	86.84	48	⇑P		P	15 04 19.3 +1.1
	baz=87,SNR=9.4						
D24A	Glendive	86.87	39	P		P	15 04 18.9 +0.8
	baz=87,SNR=38						
M29A	Burnside Ranch	86.87	46	⇑P		P	15 04 18.7 +0.4
	baz=87						
FRIM	Kepong	86.87	274	P		P	15 04 21.3 +2.4
F25A	Bowman	86.89	41	P		P	15 04 19.1 +0.8
	baz=87,SNR=25						
PDSI	Padang	86.91	270	P		P	15 04 19.6 +0.5
	comp=Z,360nm,1.5s,comp=Z,13µm						
K28A	Ten Mile Ranch	86.92	44	⇑P		P	15 04 19.2 +0.6
	baz=87						
C24A	Savage	86.99	39	P		P	15 04 20.0 +1.3
	baz=87,SNR=28						
I27A	Quinn	87.01	43	P		P	15 04 19.3 +0.3
	baz=87,SNR=32						
N30A	Hueftle Ranch,	87.03	46	⇑P		P	15 04 19.9 +0.8
	baz=87						
B23A	Brockton	87.07	38	P		P	15 04 19.9 +0.9
	baz=87,SNR=26						
PPI	Padang Panjang	87.09	270	P		P	15 04 22.7 +2.8
	comp=Z,208nm,1.2s,comp=Z,7µm						
PPI	Padang Panjang	87.09	270	P		P	15 04 22.1 +2.2
	baz=87,SNR=8.7						
G26A	Maurine	87.17	42	P		P	15 04 19.3 -0.4
	baz=87,SNR=44						
E25A	Miller Ranch,	87.17	40	P		P	15 04 20.3 +0.6
	baz=87,SNR=14						
L29A	Maesberg Ranch	87.26	45	P		P	15 04 20.9 +0.7
	baz=88,SNR=22						
J28A	Allard Ranch,	87.29	44	P		P	15 04 20.4 +0.1
	baz=88,SNR=26						
A23A	Redstone	87.36	38	P		P	15 04 21.4 +1.0
	baz=88,SNR=13						
M30A	Dale-Ortello V	87.47	46	⇓P		P	15 04 21.8 +0.6
	baz=88						
COCO	West Island	87.50	258	PFAKE			15 04 30.0 +8.1
COCO				LR		LR	
	comp=Z,8µm,20.0s						
D25A	Fairfield	87.50	40	⇓P		P	15 04 22.0 +0.8
	baz=88,SNR=23						
DGMT	Dagmar	87.55	38	eP		P	15 04 21.1 -0.3
	comp=Z,1µm,1.7s						
DGMT				LR		LR	
	comp=Z,16µm,20.0s						
DGMT	Dagmar	87.55	38	P		P	15 04 22.0 +0.7
	baz=88,SNR=26						
I28A	Midland	87.56	43	P		P	15 04 21.6 0.0
	baz=88,SNR=8.2						
ENH	Enshi	87.57	302	eP		P	15 04 23.2 +1.3
	comp=Z,539nm,1.6s						
ENH				LR		LR	
	comp=Z,56nm,19.0s						
HIA	Hailar	87.59	323	eP		P	15 04 21.9 +0.3
	comp=Z,1µm,2.1s						
HIA				LR		LR	
	comp=Z,15µm,21.0s						
G27A	Dupree	87.63	42	P		P	15 04 21.6 -0.3
	baz=88,SNR=39						
K29A	Lazy Trails An	87.64	45	P		P	15 04 22.2 +0.2
	baz=88,SNR=18						
E26A	Carlson Angus	87.75	41	P		P	15 04 23.0 +0.6
	baz=88,SNR=26						
F27A	Lemmon	87.78	41	⇑P		P	15 04 22.7 +0.1
	baz=88,SNR=30						
IPM	Ipoh	87.78	275	eP		P	15 04 24.9 +1.6
	comp=Z,657nm,1.3s						
IPM	Ipoh	87.78	275	P		P	15 04 26.0 +2.8
IPM	Ipoh	87.78	275	P		P	15 04 26.5 +3.2
	comp=Z,448nm,2.1s,comp=Z,11µm					comp=Z,27µm	
C25A	Freed Ranch, W	87.78	39	⇓P		P	15 04 23.1 +0.6
	baz=88						
A24A	Westby	87.86	38	P		P	15 04 23.4 +0.5
	baz=88,SNR=25						
INK	Inuvik	87.89	14	eP		P	15 04 21.4 -1.1
	comp=Z,3µm,2.5s						
NATX	Nacogdoches	87.90	56	eP		P	15 04 23.9 +0.6
	comp=Z,1µm,1.6s						
NATX				LR		LR	
	comp=Z,12µm,19.0s						
H28A	Mission Ridge	87.93	43	⇓P		P	15 04 23.4 +0.1
	baz=88						
D26A	Manning	88.00	40	P		P	15 04 23.9 +0.4
	baz=88,SNR=55						
B25A	Knox Farm, Ray	88.08	39	P		P	15 04 25.2 +1.2
	baz=88,SNR=7.6						
G28A	Parade	88.16	42	P		P	15 04 24.5 +0.1
	baz=88,SNR=7.1						
MAW	Mawson	88.24	198	P		P	15 04 25.2 +0.8
MAW				PKKPbc		PKKPbc	15 22 09.0 -1.3
MAW	Mawson	88.24	198	P		P	15 04 25.2 +0.8
	comp=Z,69nm,1.0s,baz=120,slow=5.4,SNR=32						
MAW				PKKPbc		PKKPbc	15 22 09.0 -1.3
	comp=Z,3.2nm,0.6s,baz=261,slow=9.4,SNR=3.9						
MAW				LR		LR	15 43 41.0
	comp=Z,17µm,18.2s,baz=119,slow=35						
KULM	Kulim	88.35	276	eP		P	15 04 27.4 +1.5
	comp=Z,1µm,1.9s						
KULM				LR		LR	
	comp=Z,6µm,19.0s						
KULM	Kulim	88.35	276	P		P	15 04 29.6 +3.7
KULM	Kulim	88.35	276	P		P	15 04 28.7 +2.7
	comp=Z,296nm,2.1s,comp=Z,10µm						
TUL1	Tulsa	88.40	52	eP		P	15 04 25.4 -0.3
TUL1	Tulsa	88.40	52	P		P	15 04 25.8 +0.1
	baz=89,SNR=26						
CLNS	Chul'man	88.51	331	eP		P	15 04 24.2 -1.6
CLNS				e*PP		pP	15 04 34.8 +4.3
CLNS				e			15 07 52.7
CLNS				ePPP		PPP	15 09 48.1
CLNS				eS		SKSac	15 14 48.9 -5.4
CLNS				eSSS		SSS	15 24 27.4
CLNS				pmax		pmax	
	comp=Z,66nm,1.3s						
CLNS				pmax		pmax	
	comp=E,14nm,0.7s						
CLNS				pmax		pmax	
	comp=N,19nm,1.0s						
CLNS				pmax		pmax	
	comp=E,14nm,1.2s						
CLNS				pmax		pmax	
	comp=

CLNS pmax pmax
comp=Z,14nm,1.1s
CLNS smax smax
comp=N,2μm,14.2s
CLNS smax smax
comp=E,2μm,13.1s
D27A Center 88.60 40 P **P 15 04 26.8 +0.3**
baz=89,SNR=6.8
B26A Jensen Ranch, 88.69 39 ⇓P **P 15 04 27.1 +0.3**
baz=89,SNR=6.5
GYA Guiyang 88.74 298 ⇑*i*P **P 15 04 28.0 +0.3**
GYA PP **PP 15 07 58.8 +2.0**
GYA SKS **SKSac 15 14 54.3 -2.9**
GYA SS **SS 15 21 08.0 +1.1**
GYA pmax pmax
comp=Z,90nm,1.0s
GYA LR LR
comp=N,14μm,20.2s
GYA LR LR
comp=E,10μm,21.5s
GYA LR LR
comp=Z,16μm,20.0s
CHBT CHBT 88.74 283 P **P 15 04 30.2 +2.5**
comp=Z,320nm,2.2s,comp=Z,7μm
C27A Sayler Ranch, 88.86 40 P **P 15 04 28.4 +0.8**
baz=89,SNR=11
SKLT Songkhla 88.88 278 P **P 15 04 31.3 +2.9**
comp=Z,480nm,1.8s,comp=Z,12μm
KSU1 Kansas State U 88.89 49 *e*P **P 15 04 27.8 -0.2**
comp=Z,67nm,0.9s
KSU1 LR LR
comp=Z,8μm,19.0s
E28A Huff 88.90 41 ⇓P **P 15 04 27.6 -0.2**
baz=89
PLCA Paso Flores 88.98 132 *e*P **P 15 04 29.3 +0.8**
comp=Z,199nm,1.4s
PLCA PKKPbc **PKKPbc 15 22 06.4 -1.4**
PLCA Paso Flores 88.98 132 P **P 15 04 29.9 +1.3**
comp=Z,144nm,1.3s,baz=248,slow=4.8,SNR=24
PLCA PKKPbc **PKKPbc 15 22 06.4 -1.4**
comp=Z,4.6nm,0.9s,baz=359,slow=4.0,SNR=3.8
PLCA LR LR 15 36 37.0
comp=Z,10μm,19.6s,baz=316,slow=30
A26A Wade Farm, Ken 89.02 38 ⇓P **P 15 04 28.7 +0.4**
baz=89
F29A Eureka 89.17 42 P **P 15 04 28.7 -0.4**
baz=89,SNR=13
CCHI Chillan 89.17 128 ⇓*i*P **P 15 04 29.6 +0.2**
BRSD Miller 89.20 43 *e*P **P 15 04 27.9 -1.5**
BRSD Miller 89.20 43 ⇓P **P 15 04 29.2 -0.1**
baz=89
D28A Regan 89.23 40 P **P 15 04 29.4 +0.1**
baz=89,SNR=10
XAN Xi'an 89.24 306 P **P 15 04 30.5 +0.7**
XAN pP **pP 15 04 38.3 +3.7**
XAN sP sP 15 04 42.3 +6.0
XAN pmax pmax
comp=Z,150nm,1.9s
XAN pmax pmax
comp=Z,2μm,7.7s
XAN LR LR
comp=N,6μm,19.4s
XAN LR LR
comp=E,2μm,19.4s
XAN LR LR
comp=Z,3μm,23.5s
B27A Peters Farms, 89.29 39 P **P 15 04 30.2 +0.7**
baz=90,SNR=13
YAK Yakutsk 89.30 336 *d i*P **P 15 04 27.3 -2.0**
YAK *e* 15 04 37.0
YAK *e**PP pP 15 04 44.4 +10
YAK *e* 15 08 04.0
YAK *e*S **SKSac 15 14 55.0 -3.6**
YAK *e* 15 15 22.1
YAK *e*SS **SS 15 21 16.7 +3.5**
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,14nm,1.6s
YAK pmax pmax
comp=E,497nm,3.8s
YAK pmax pmax
comp=Z,2μm,6.2s
YAK pmax pmax
comp=N,183nm,2.7s
YAK smax smax
comp=E,163nm,3.3s
YAK smax smax
comp=N,619nm,7.0s
PSI Prapat 89.36 273 P **P 15 04 32.3 +1.4**
baz=89,SNR=83
C28A Hausauer Farms 89.55 40 ⇑P **P 15 04 31.0 +0.1**
baz=90
HHC Hu-ho-hao-te 89.55 313 *e*P **P 15 04 32.0 +0.9**
HHC pP **pP 15 04 36.8 +0.9**
HHC sP **sP 15 04 39.0 +1.4**
HHC PP **PP 15 08 06.3 +3.3**
HHC SKS **SKSac 15 14 59.5 -1.8**
HHC S **S 15 15 23.5 +1.7**
HHC sS **sS 15 15 28.8 -0.9**
HHC SS **SS 15 21 20.3 +2.1**
HHC pmax pmax
comp=Z,650nm,1.3s
HHC pmax pmax
comp=Z,15μm,6.3s
HHC LR LR
comp=N,7μm,16.9s
HHC LR LR
comp=E,10μm,18.1s
HHC LR LR
comp=Z,18μm,16.9s
YKA Yellowknife Ar 89.59 23 P **P 15 04 30.5 -0.2**
YKA PKKPbc **PKKPdf 15 22 04.3 +0.8**
YKA P'P' 15 30 07.0
YKA Yellowknife Ar 89.59 23 P **P 15 04 30.5 -0.2**
comp=Z,55nm,0.8s,baz=236,slow=4.5,SNR=363
YKA PKKPbc **PKKPdf 15 22 04.3 +0.8**
comp=Z,0.5nm,0.6s,baz=45,slow=2.2,SNR=6.9
YKA PKPPKP **P'P'df 15 30 07.0 -3.6**
comp=Z,0.1nm,0.4s,baz=78,slow=3.0,SNR=3.9
YKW3 Yellowknife Ar 89.62 23 *e*P **P 15 04 29.7 -1.1**
comp=Z,1.9nm,1.0s
MIAR Mount Ida 89.66 54 *e*P **P 15 04 31.9 +0.3**
MIAR pmax pmax
comp=Z,533nm,1.8s
MIAR MLR MLR
comp=Z,9μm,20.0s
MIAR Mount Ida 89.66 54 *e*P **P 15 04 31.9 +0.3**
comp=Z,533nm,1.8s
MIAR LR LR
comp=Z,9μm,20.0s
D29A Pettibone, Tap 89.79 41 ⇑P **P 15 04 31.4 -0.6**
baz=90
B28A Dugan Ranch, T 89.86 39 P **P 15 04 32.5 +0.2**
baz=90,SNR=12
TSI Tuntungan 89.89 274 P **P 15 04 35.5 +2.3**
comp=Z,539nm,1.4s,comp=Z,15μm
TEIG Tepich 89.90 69 *e*P **P 15 04 33.8 +0.8**
comp=Z,587nm,1.4s
TEIG LR LR
comp=Z,5μm,20.0s
E30A Jud 90.01 41 ⇑P **P 15 04 32.2 -0.9**
baz=90
MDND Maddock 90.09 40 *e*P **P 15 04 32.2 -1.2**
MDND Maddock 90.09 40 ⇓P **P 15 04 33.0 -0.3**
baz=90
A28A Rude Farm, Bot 90.09 39 ⇑P **P 15 04 33.6 +0.2**
baz=90
JTS JuntasAbangare 90.32 79 P **P 15 04 37.0 +1.8**
comp=Z,2μm,1.2s,SNR=75
JTS JuntasAbangare 90.32 79 *e*P **P 15 04 36.0 +0.9**
comp=Z,6μm,1.3s
JTS LR LR
comp=Z,17μm,19.0s
D30A Buchanan 90.34 41 ⇓P **P 15 04 33.9 -0.6**
baz=90
B29A Wagenman Farm, 90.48 40 ⇑P **P 15 04 34.9 -0.2**
baz=91
ECSD EROS Data Cent 90.52 45 *e*P **P 15 04 34.2 -1.3**
comp=Z,274nm,1.6s
ECSD LR LR
comp=Z,4μm,20.0s
BTO Baotou 90.57 312 *e*P **P 15 04 35.8 -0.1**
BTO pmax pmax
comp=Z,110nm,2.2s

KCSI Kotacane, Aceh 90.66 273 P **P 15 04 39.0 +2.2**
comp=Z,454nm,1.5s,comp=Z,8μmcomp=Z,16μm
UALR University of 90.70 54 *e*P **P 15 04 37.4 +0.9**
comp=Z,2μm,2.5s
A29A Manning Farm, 90.73 39 ⇓P **P 15 04 36.2 -0.1**
baz=91
C30A Mose, Pekin 90.73 40 ⇓P **P 15 04 35.9 -0.5**
baz=91
PBKT Sadao Pong 91.03 287 P **P 15 04 41.0 +2.6**
comp=Z,327nm,2.3s,comp=Z,8μm
B30A Myrvik Farm, E 91.11 40 ⇓P **P 15 04 37.6 -0.5**
baz=91
PHET Kaeng Krachan 91.32 283 P P 15 04 43.3 +3.5
comp=Z,1μm,1.0s,comp=Z,10μm
VBMS Vicksburg 91.39 57 *e*P **P 15 04 41.2 +1.5**
comp=Z,3μm,2.1s
VBMS LR LR
comp=Z,5μm,19.0s
CLCH Cerro Calan 91.39 125 ⇓*i*P **P 15 04 40.6 +0.6**
FFC Flin Flon 91.47 33 P **P 15 04 39.2 -0.4**
comp=Z,518nm,2.0s,SNR=27
FFC Flin Flon 91.47 33 *e*P **P 15 04 38.2 -1.4**
FFC MLR MLR
comp=Z,5μm,19.0s
FFC Flin Flon 91.47 33 *e*P **P 15 04 38.2 -1.4**
comp=Z,2μm,2.0s
FFC LR LR
comp=Z,5μm,19.0s
FCH Farellones 91.61 125 ⇓*i*P P 15 04 35.5 -5.8
KMI Kunming 91.74 295 ⇓P **P 15 04 43.5 +1.7**
KMI pP **pP 15 04 45.5 -1.1**
KMI sP **sP 15 04 46.8 -1.5**
KMI PP **PP 15 08 22.5 +1.6**
KMI SKS **SKSac 15 15 13.5 -1.4**
KMI S **S 15 15 40.5 -2.3**
KMI sS **ScS 15 15 48.0 +2.5**
KMI SS **SS 15 21 51.8 +1.1**
KMI pmax pmax
comp=Z,160nm,2.0s
KMI pmax pmax
comp=Z,6μm,5.3s
KMI LR LR
comp=N,5μm,16.3s
KMI LR LR
comp=E,7μm,18.5s
KMI LR LR
comp=Z,10μm,16.3s
CMCH Combarbala 91.74 123 ⇑*i*P **P 15 04 43.2 +1.6**
SNSI Sinabang, Aceh 91.77 272 P **P 15 04 44.5 +2.6**
TLL Tololo Astrono 92.23 122 *i*P **P 15 04 45.1 +0.9**
NNA Nana 92.24 103 *e*P **P 15 04 45.1 +0.9**
comp=Z,796nm,2.5s
NNA LR LR
comp=Z,5μm,20.0s
NNA Nana 92.24 103 P **P 15 04 45.6 +1.4**
comp=Z,240nm,1.8s,SNR=16
NNA Nana 92.24 103 P **P 15 04 44.5 +0.3**
comp=Z,6.4nm,0.8s,baz=277,slow=8.1
HBAR Harrisburg 92.25 54 *e*P **P 15 04 44.5 +0.9**
CIT Chita 92.31 324 *e*P **P 15 04 44.0 +0.4**
CIT *e* 15 04 59.2
CIT *e* 15 15 17.6
CIT pmax pmax
comp=Z,1μm,2.1s
CD2 Chengdu 92.47 301 *e*P **P 15 04 45.3 +0.4**
CD2 pP **pP 15 04 50.0 +0.3**
CD2 sP **sP 15 04 52.8 +1.4**
CD2 PP **PP 15 08 29.0 +2.7**
CD2 SKS **SKSac 15 15 17.3 -1.0**
CD2 S **S 15 15 49.0 +0.2**
CD2 sS **ScS 15 15 53.8 +2.9**
CD2 SS **SS 15 21 59.5 -1.1**
CD2 pmax pmax
comp=Z,130nm,2.2s
CD2 pmax pmax
comp=Z,6μm,5.9s
CD2 LR LR
comp=N,9μm,22.6s
CD2 LR LR
comp=E,8μm,20.2s
CD2 LR LR
comp=Z,9μm,19.0s
EFI East Falkland 92.55 145 *e*P **P 15 04 46.4 +1.6**
EFI pmax pmax
comp=Z,448nm,1.1s
EFI MLR MLR
comp=Z,12μm,19.0s
EFI East Falkland 92.55 145 *e*P **P 15 04 46.4 +1.6**
comp=Z,448nm,1.1s
EFI LR LR
comp=Z,12μm,19.0s
AGMN Agassiz Nation 92.59 41 *e*P **P 15 04 43.8 -1.1**
comp=Z,196nm,1.5s
AGMN LR LR
comp=Z,12μm,19.0s
LCO Las Campanas 92.69 121 *e*P **P 15 04 47.6 +1.3**
comp=Z,183nm,1.1s
LCO LR LR
comp=Z,16μm,22.0s
LCO Las Campanas 92.69 121 ⇓*i*P **P 15 04 45.4 -0.9**
LCO Las Campanas 92.69 121 P **P 15 04 48.4 +2.1**
baz=93,SNR=8.7
GNAR Gosnell 92.86 54 *e*P **P 15 04 47.6 +1.1**
comp=Z,7μm,1.5s
OXF Oxford 92.93 55 *e*P **P 15 04 46.2 -0.6**
OXF pmax pmax
comp=Z,538nm,1.5s
OXF MLR MLR
comp=Z,7μm,19.0s
OXF Oxford 92.93 55 *e*P **P 15 04 46.2 -0.6**
comp=Z,538nm,1.5s
OXF LR LR
comp=Z,7μm,19.0s
SYO Syowa Base 92.94 191 ⇑*e*P **P 15 04 46.3 +0.1**
SYO Syowa Base 92.94 191 ⇓*e*X PcP 15 04 57.7 +11
VNA3 Neumayer Olymp 92.95 175 *e*P **P 15 04 46.9 +0.6**
VNA3 Neumayer Olymp 92.95 175 *e*pP pP 15 04 49.1 -2.0
VNA3 Neumayer Olymp 92.95 175 *e*SKS **SKSac 15 15 23.1 +3.4**
VNA3 Neumayer Olymp 92.95 175 *e*PKKP **PKKPdf 15 21 56.1 +0.5**
SNAA Sanae 93.03 177 *e*P **P 15 04 46.9 +0.1**
SNAA Sanae 93.03 177 *e*pP pP 15 04 49.3 -2.3
SNAA Sanae 93.03 177 *e*PKKP **PKKPdf 15 21 55.9 +0.4**
SNAA Sanae 93.03 177 *e*P **P 15 04 46.8 0.0**
comp=Z,183nm,1.4s
ULM Lac du Bonnet 93.25 39 *e*P **P 15 04 46.4 -1.5**
comp=Z,468nm,1.9s
ULM PP **PP 15 08 33.1 +1.3**
ULM Lac du Bonnet 93.25 39 P **P 15 04 46.6 -1.3**
comp=Z,20nm,1.0s,baz=258,slow=5.2,SNR=33
ULM PP **PP 15 08 33.1 +1.3**
comp=Z,4.0nm,0.5s,baz=266,slow=9.9,SNR=4.6
ULM LR LR 15 43 40.8
comp=Z,14μm,18.3s,baz=248,slow=34
PARMO Parma 93.27 53 *e*P **P 15 04 48.8 +0.5**
HALT Halls 93.38 54 *e*P **P 15 04 49.5 +0.7**
CM31 Chiang Mai Arr 93.39 288 *e*P **P 15 04 52.0 +2.7**
comp=Z,131nm,1.3s
CMAR Chiang Mai Arr 93.39 288 P **P 15 04 51.5 +2.1**
CMAR PP **PP 15 08 35.1 +1.4**
CMAR PKiKP **PKiKP 15 09 37.5 +1.7**
CMAR PKKP **PKKPbc 15 21 55.9 -0.3**
CMAR P'P' 15 30 10.6
CMAR Chiang Mai Arr 93.39 288 P **P 15 04 51.5 +2.1**
comp=Z,69nm,1.1s,baz=93,slow=2.8,SNR=203
CMAR PP **PP 15 08 35.1 +1.4**
comp=Z,6.6nm,1.1s,baz=112,slow=5.1,SNR=4.3
CMAR PKiKP **PKiKP 15 09 37.5 +1.7**
comp=Z,5.2nm,0.8s,baz=201,slow=0.4,SNR=12
CMAR PKKP **PKKPbc 15 21 55.9 -0.3**
comp=Z,1.1nm,0.4s,baz=280,slow=4.9,SNR=8.4
CMAR PKPPKP **P'P'df 15 30 10.6 +2.6**
comp=Z,0.5nm,0.8s,baz=336,slow=2.0,SNR=4.3
CMAR LR LR 15 46 34.0
comp=Z,7μm,18.0s,baz=278,slow=35
VNA2 Neumayer--Watz 93.46 175 *e*P **P 15 04 49.6 +1.0**
baz=198,slow=1.6
VNA2 Neumayer--Watz 93.46 175 *e*pP pP 15 04 51.9 -1.5
baz=198,slow=1.6
VNA2 Neumayer--Watz 93.46 175 *e*PKP **PKiKP 15 09 37.9 +3.4**
baz=198,slow=1.6
VNA2 Neumayer--Watz 93.46 175 *e*SKS **SKSac 15 15 24.6 +2.2**
baz=198,slow=1.6
VNA2 Neumayer--Watz 93.46 175 *e*PKKP **PKKPdf 15 21 51.5 -3.2**
baz=198,slow=1.6
SLM Saint Louis 93.46 51 *e*P **P 15 04 49.1 -0.1**
SLM pmax pmax

comp=Z,171nm,1.4s
SLM Saint Louis 93.46 51 *e*P **P 15 04 49.1 -0.1**
comp=Z,171nm,1.4s
CHTO Chiang Mai 93.48 288 *e*P **P 15 04 51.5 +1.7**
CHTO pmax pmax
comp=Z,418nm,1.7s
CHTO MLR MLR
comp=Z,6μm,20.0s
CHTO Chiang Mai 93.48 288 P **P 15 04 52.5 +2.7**
SNR=98
CHTO Chiang Mai 93.48 288 *e*P **P 15 04 51.5 +1.7**
comp=Z,418nm,1.7s
CHTO LR LR
comp=Z,6μm,20.0s
CHTO Chiang Mai 93.48 288 P **P 15 04 51.7 +2.0**
comp=Z,153nm,2.0s,comp=Z,5μmcomp=Z,11μm
VNA1 Neumayer--Stat 93.65 175 *e*P **P 15 04 50.5 +1.0**
VNA1 Neumayer--Stat 93.65 175 *e*pP pP 15 04 52.7 -1.6
VNA1 Neumayer--Stat 93.65 175 *e*PKKP **PKKPbc 15 21 54.9 -1.8**
CFAA Coronel Fontan 93.83 124 P **P 15 04 52.4 +1.2**
CFAA Coronel Fontan 93.83 124 P **P 15 04 52.4 +1.2**
comp=Z,6.0nm,1.1s,baz=254,slow=6.9,SNR=5.1
LZH Lanzhou 93.83 306 *e*P **P 15 04 52.5 +1.3**
LZH pP **pP 15 04 56.0 0.0**
LZH sP **sP 15 04 58.0 +0.4**
LZH PP **PP 15 08 35.0 -2.0**
LZH SKS **SKSac 15 15 24.0 -1.9**
LZH *e*S **S 15 15 59.5 -1.3**
LZH sS **sS 15 16 07.5 -1.3**
LZH SS **SS 15 22 24.3 +4.2**
LZH pmax pmax
comp=Z,160nm,1.1s
LZH pmax pmax
comp=Z,1μm,4.8s
LZH LR LR
comp=N,5μm,15.8s
LZH LR LR
comp=E,3μm,15.8s
LZH LR LR
comp=Z,7μm,16.4s
BRAL Brewton 93.89 59 *e*P **P 15 04 53.0 +1.7**
comp=Z,164nm,0.9s
OTAV Otavalo 93.96 91 *e*P **P 15 04 53.8 +1.1**
comp=Z,43nm,1.3s
SIUC Southern Illin 93.97 52 *e*P **P 15 04 51.9 +0.3**
comp=Z,594nm,1.9s
MAIT Maitri 94.17 181 *e*P **P 15 04 51.0 -0.9**
LRAL Lakeview Retre 94.47 57 *e*P **P 15 04 53.7 -0.2**
comp=Z,741nm,2.5s
LRAL LR LR
comp=Z,4μm,20.0s
WVT Waverly 94.61 54 *e*P **P 15 04 53.6 -0.9**
WVT pmax pmax
comp=Z,213nm,1.6s
WVT Waverly 94.61 54 *e*P **P 15 04 53.6 -0.9**
comp=Z,213nm,1.6s
JFWS Jewell Farm 94.66 47 *e*P **P 15 04 53.3 -1.3**
JFWS pmax pmax
comp=Z,587nm,1.8s
JFWS MLR MLR
comp=Z,8μm,20.0s
JFWS Jewell Farm 94.66 47 *e*P **P 15 04 53.3 -1.3**
comp=Z,587nm,1.8s
JFWS LR LR
comp=Z,8μm,20.0s
HDIL Hopedale 94.70 49 *e*P **P 15 04 54.5 -0.3**
comp=Z,354nm,1.5s
HDIL LR LR
comp=Z,10μm,20.0s
ULN Ulaanbaatar 94.88 318 P **P 15 04 57.4 +1.7**
SNR=80
ULN Ulaanbaatar 94.88 318 *e*P **P 15 04 55.4 -0.3**
comp=Z,451nm,2.0s
ULN LR LR
comp=Z,12μm,21.0s
ULN Ulaanbaatar 94.88 318 P **P 15 04 57.0 +1.3**
BCIP Isla Barro Col 94.90 82 PFAKE 15 05 10.0 +14
BCIP LR LR
comp=Z,4μm,20.0s
TIXI Tiksi 95.07 344 *d i*P **P 15 04 55.1 -0.7**
TIXI pmax pmax
comp=Z,110nm,2.3s
TIXI MLR MLR
comp=Z,10μm,19.0s
OLIL Olney 95.09 51 *e*P **P 15 04 56.4 -0.2**
comp=Z,46nm,1.0s
USIN University of 95.22 52 P **P 15 04 56.8 -0.5**
comp=Z,270nm,1.5s
EYMN Ely 95.25 42 *e*P **P 15 04 55.2 -2.0**
comp=Z,412nm,2.0s
EYMN LR LR
comp=Z,9μm,20.0s
PAF Port-aux-Franc 95.28 216 PFAKE 15 05 10.0 +13
PAF LR LR
comp=Z,16μm,22.0s
SONM Songino Array 95.30 318 P **P 15 04 57.1 -0.4**
SONM PP **PP 15 08 48.9 +0.8**
SONM PKKPbc PKKPbc 15 21 43.2 -9.2
SONM P'P' 15 30 01.7
SONM Songino Array 95.30 318 P **P 15 04 57.1 -0.4**
comp=Z,5.9nm,0.9s,baz=144,slow=3.7,SNR=38
SONM PP **PP 15 08 48.9 +0.8**
comp=Z,2.3nm,1.1s,baz=107,slow=5.0,SNR=4.1
SONM PKKPbc PKKPbc 15 21 43.2 -9.2
comp=Z,1.5nm,1.1s,baz=251,slow=4.4,SNR=4.1
SONM PKPPKP **P'P'df 15 30 01.7 -0.1**
comp=Z,2.9nm,1.3s,baz=282,slow=1.3,SNR=6.3
SONM LR LR 15 42 11.9
comp=Z,17μm,21.6s,baz=106,slow=32
TRQA Tornquist 96.13 132 *e*P **P 15 05 02.6 +1.0**
comp=Z,73nm,1.6s
TRQA LR LR
comp=Z,12μm,19.0s
SFIN Scholer Farm 96.27 50 *e*P **P 15 05 02.1 +0.1**
SFIN Scholer Farm 96.27 50 ⇓P **P 15 05 02.1 +0.1**
baz=96
COWI Conover 96.30 44 *e*P **P 15 05 01.8 -0.2**
comp=Z,582nm,1.8s
COWI LR LR
comp=Z,9μm,19.0s
LVC Limon Verde 96.30 115 *e*P **P 15 05 04.2 +1.2**
comp=Z,320nm,2.0s
LVC LR LR
comp=Z,8μm,19.0s
WCI Wyandotte Cave 96.34 52 *e*P **P 15 05 01.1 -1.3**
WCI pmax pmax
comp=Z,109nm,1.8s
WCI Wyandotte Cave 96.34 52 *e*P **P 15 05 01.1 -1.3**
comp=Z,109nm,1.8s
BLO Bloomington 96.40 51 *e*P **P 15 05 02.2 -0.4**
BLO pmax pmax
comp=Z,128nm,1.5s
BLO Bloomington 96.40 51 *e*P **P 15 05 02.2 -0.4**
comp=Z,128nm,1.5s
TIGA Tifton 96.87 59 *e*P **P 15 05 03.9 -1.1**
TIGA Tifton 96.87 59 ⇓P **P 15 05 04.7 -0.2**
baz=97
FCC Fort Churchill 96.98 31 *e*P **P 15 05 03.8 -1.0**
FCC Fort Churchill 96.98 31 *e*P **P 15 05 03.8 -1.0**
comp=Z,1.6nm,1.0s
CPCT Cooper Cave 97.05 55 *e*P **P 15 05 04.3 -1.4**
PBA Port Blair 97.53 280 *e*P Pdif 15 05 10.4 +2.1
TKL Tuckaleechee C 97.69 55 *e*P **P 15 05 07.1 -1.5**
DGPR DIGLIPUR 97.71 282 *e*P Pdif 15 05 09.9 +0.8
GTA Gaotai 97.75 309 ⇓P Pdif 15 05 09.3 +0.3
GTA pP pP 15 05 12.8 -0.9
GTA sP sP 15 05 15.8 +0.4
GTA PP **PP 15 09 09.0 +1.7**
GTA SKS **SKSac 15 15 46.0 -0.4**
GTA S **S 15 16 31.0 -3.6**
GTA sS sS 15 16 39.5 -3.1
GTA SS **SS 15 23 15.5 -0.1**
GTA pmax pmax
comp=Z,76nm,2.2s
GTA pmax pmax
comp=Z,3μm,7.6s
GTA LR LR
comp=N,6μm,18.0s
GTA LR LR
comp=E,10μm,20.0s
GTA LR LR
comp=Z,11μm,22.3s
IRK Irkutsk 97.81 322 *e*P **P 15 05 08.6 -0.1**
IRK pmax pmax
comp=Z,203nm,3.0s
ZAK Zakamensk 97.95 320 *e*P **P 15 05 09.1 -0.4**

ZAK e 15 09 06.8
ZAK pmax pmax
comp=Z,16nm,1.8s
TLY Talaya 98.05 321 *d* P **P 15 05 08.7 -1.1**
TLY *e* 15 09 08.9
TLY *e* 15 16 36.2
TLY *e*PS **PS 15 17 57.0 -4.9**
TLY pmax pmax
comp=Z,64nm,2.0s
TLY MLR MLR
comp=Z,6µm,16.0s
TZTN Tazewell 98.07 54 P **P 15 05 08.8 -1.4**
comp=Z,152nm,1.9s
LPAZ La Paz 99.05 110 *e*P **Pdif 15 05 16.5 +0.6**
comp=Z,54nm,1.6s
LPAZ PP **PP 15 09 19.4 +1.4**
LPAZ PKKP **PKKPbc 15 21 41.6 +0.1**
LPAZ La Paz 99.05 110 P **Pdif 15 05 17.4 +1.5**
comp=Z,9.6nm,1.0s,baz=259,slow=5.2,SNR=29
LPAZ PP **PP 15 09 19.4 +1.4**
comp=Z,12nm,1.3s,baz=246,slow=7.7,SNR=4.4
LPAZ PKKP **PKKPbc 15 21 41.6 +0.1**
comp=Z,2.8nm,0.9s,baz=46,slow=5.2,SNR=6.0
LPAZ LR LR 15 42 40.8
comp=Z,6µm,19.0s,baz=253,slow=31
ROSC El Rosal 99.12 87 P **Pdif 15 05 16.1 +0.1**
ROSC El Rosal 99.12 87 P **Pdif 15 05 16.1 +0.1**
comp=Z,5.1nm,0.4s,baz=110,slow=21,SNR=4.6
ROSC LR LR 15 44 41.9
comp=Z,6µm,18.2s,baz=237,slow=32
KMSC Kings Mountain 99.53 56 *e*P **Pdif 15 05 16.4 -0.4**
KMSC Kings Mountain 99.53 56 ⇑P **Pdif 15 05 16.5 -0.3**
baz=100
MOY Mondy 99.65 321 *e*P **Pdif 15 05 17.7 +0.6**
MOY pmax pmax
comp=Z,156nm,3.0s
BLA Blacksburg 100.66 54 *e*P **Pdif 15 05 22.2 +0.3**
BLA pmax pmax
comp=Z,138nm,1.8s
BLA MLR MLR
comp=Z,11µm,19.0s
BLA Blacksburg 100.66 54 *e*Pdif **Pdif 15 05 22.1 +0.3**
comp=Z,138nm,1.8s
BLA LR LR
comp=Z,11µm,19.0s
VWCC Virginia Weste 101.01 54 *e*Pdif **Pdif 15 05 23.4 0.0**
SHL Shillong 101.39 294 *e*P **Pdif 15 05 24.5 -1.1**
SHL *ex* x 15 09 33.0
SHL *ex* x 15 17 01.0
MCWV Mont Chateau 101.55 52 PFAKE 15 05 40.0 +14
MCWV LR LR
comp=Z,10µm,19.0s
GTBY Guantanamo Bay 101.83 72 PFAKE 15 05 40.0 +13
GTBY LR LR
comp=Z,7µm,19.0s
CNNC Cliffs of the 102.31 57 PFAKE 15 05 40.0 +11
CNNC LR LR
comp=Z,5µm,19.0s
LSA Lhasa 102.81 298 P **Pdif 15 05 32.0 -0.1**
LSA S **Sdif 15 17 19.5 +1.4**
LSA pmax pmax
comp=Z,30nm,2.4s
LSA LR LR
comp=N,2µm,21.2s
LSA LR LR
comp=E,3µm,25.0s
LSA LR LR
comp=Z,5µm,25.0s
LSA Lhasa 102.81 298 *e*P **Pdif 15 05 34.1 +2.0**
LSA pmax pmax
comp=Z,257nm,2.3s
LSA MLR MLR
comp=Z,4µm,20.0s
LSA Lhasa 102.81 298 *e*Pdif **Pdif 15 05 34.1 +2.0**
comp=Z,257nm,2.3s
LSA LR LR
comp=Z,4µm,20.0s
SSPA Standing Stone 103.19 51 Pdif **Pdif 15 05 31.9 -1.0**
comp=Z,168nm,2.0s
SDV Santo Domingo 103.65 84 PFAKE 15 05 50.0 +14
SDV LR LR
comp=Z,2µm,22.0s
CPUP Villa Florida 104.67 123 Pdif **Pdif 15 05 41.4 +1.5**
CPUP PKKPbc **PKKPbc 15 21 23.1 -1.5**
CPUP Villa Florida 104.67 123 Pdiff **Pdif 15 05 41.4 +1.5**
comp=Z,1.0nm,0.6s,baz=144,slow=7.2,SNR=2.2
CPUP PKKPbc **PKKPbc 15 21 23.1 -1.5**
comp=Z,0.6nm,0.4s,baz=77,slow=7.6,SNR=4.9
BINY Binghamton 104.83 50 PFAKE 15 05 50.0 +10
BINY LR LR
comp=Z,11µm,19.0s
SDDR Presa de Saban 105.18 74 PKiKP **PKiKP 15 09 57.0 +0.2**
SDDR LR LR
comp=Z,14µm,19.0s
TAPN Taplejung 105.39 295 *e*P **PKiKP 15 09 57.4 0.0**
SIV San Ignacio 105.52 112 Pdif **Pdif 15 05 44.8 +0.8**
SIV PKKPbc **PKKPbc 15 21 22.4 +0.6**
SIV San Ignacio 105.52 112 Pdiff **Pdif 15 05 44.8 +0.8**
comp=Z,5.1nm,1.2s,baz=241,slow=6.1,SNR=8.8
SIV PKKPbc **PKKPbc 15 21 22.4 +0.6**
comp=Z,5.4nm,1.0s,baz=106,slow=5.0,SNR=8.0
ODAN Odare 105.59 294 *e*P **PKiKP 15 09 57.5 -0.2**
GRTK Grand Turk 105.79 72 PFAKE 15 10 10.0
GRTK LR LR
comp=Z,5µm,19.0s
SAML Samuel 105.96 104 *e*Pdif **Pdif 15 05 46.3 +0.4**
comp=Z,52nm,2.4s
SAML LR LR
comp=Z,7µm,19.0s
LONY Lake Ozonia 106.11 47 PFAKE 15 10 10.0
LONY LR LR
comp=Z,9µm,19.0s
RAMN Ramite 106.30 294 *e*P **PKiKP 15 09 59.4 +0.4**
NCB Newcomb 106.31 48 PFAKE 15 10 10.0
NCB LR LR
comp=Z,8µm,19.0s
JIRN Jiri 106.77 295 *e*P **PKiKP 15 09 58.9 -1.1**
GUN Gumba 107.08 295 *e*P **PKiKP 15 10 00.5 0.0**
WMQ Urumqi 107.41 312 Pdif **Pdif 15 05 53.0 +1.3**
WMQ PP **PP 15 10 23.0 +3.5**
WMQ S **Sdif 15 17 53.5 -1.5**
WMQ SS **SS 15 25 29.3 +0.7**
WMQ AMB AMB
comp=Z,3µm,6.0s
WMQ LR LR
comp=N,10µm,30.0s
WMQ LR LR
comp=E,2µm,28.0s
WMQ LR LR
comp=Z,5µm,20.0s
PKI Pulchoki 107.44 295 *e*P **PKiKP 15 10 01.3 +0.1**
comp=Z,354nm,1.8s
PKIN Phulchoki 107.45 295 *e*P **PKiKP 15 10 01.5 +0.4**
KKN Kakani 107.59 295 *e*P **PKiKP 15 10 00.5 -0.8**
DMN Daman 107.72 295 *e*P **PKiKP 15 10 02.2 +0.6**
VIS Vishakhapatnam 107.72 284 *e*P **Pdif 15 05 52.2 -1.4**
LBNH Lisbon 107.98 48 PFAKE 15 10 10.0
LBNH LR LR
comp=Z,10µm,20.0s
DANN Dangsing 109.00 295 *e*P **PKiKP 15 10 04.1 +0.1**
KOLN Koldanda 109.06 294 *e*P **PKiKP 15 10 04.1 0.0**
ZAA0 Zalesovo Array 109.62 322 *e*Pdif **Pdif 15 06 00.7 -0.5**
ZAA0 *e*PKiKP **PKiKP 15 10 03.1 -0.9**
ZAA0 *e*PP **PP 15 10 32.4 -2.8**
ZALV Zalesovo Beam 109.62 322 P **Pdif 15 06 01.0 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 109.62 322 Pdif **Pdif 15 06 00.9 -0.2**
ZALV PKiKP **PKiKP 15 10 03.6 -0.5**
ZALV PKKPbc **PKKPbc 15 21 12.5 +2.5**
ZALV Zalesovo Beam 109.62 322 Pdiff **Pdif 15 06 00.9 -0.2**
comp=Z,1.2nm,0.7s,baz=105,slow=2.2,SNR=8.5
ZALV PKiKP **PKiKP 15 10 03.6 -0.5**
comp=Z,5.5nm,0.8s,baz=119,slow=1.8,SNR=17
ZALV PKKPbc **PKKPbc 15 21 12.5 +2.5**
comp=Z,1.1nm,0.8s,baz=255,slow=4.3,SNR=4.2
FRB Frobisher Bay 109.70 27 Pdif **Pdif 15 06 00.6 -0.7**
FRB Frobisher Bay 109.70 27 Pdiff **Pdif 15 06 00.6 -0.7**
comp=Z,13nm,1.0s,baz=304,slow=2.9,SNR=3.2
SJG San Juan 109.81 76 PFAKE 15 10 20.0
SJG LR LR
comp=Z,7µm,19.0s
PKME Peaks-Kenny Pk 109.90 47 PFAKE 15 10 20.0
PKME LR LR
comp=Z,9µm,19.0s

NVS Novosibirsk 110.52 323 *e*P **Pdif 15 06 01.6 -3.6**
NVS *e*PS **PS 15 20 02.0 -10**
NVS pmax pmax
comp=Z,92nm,3.0s
MK31 Makanchi Array 111.33 315 PKIKP **PKiKP 15 10 06.7 -0.9**
MK31 pmax pmax
comp=Z,47nm,1.4s
MK31 Makanchi Array 111.33 315 *e*Pdif **Pdif 15 06 10.1 +1.0**
MK31 *e*PKiKP **PKiKP 15 10 06.7 -0.9**
MKAR Makanchi Array 111.33 315 *i* PKIKP **PKiKP 15 10 06.5 -1.0**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 111.33 315 Pdif **Pdif 15 06 09.5 +0.4**
MKAR PKiKP **PKiKP 15 10 06.5 -1.0**
MKAR PKKPbc **PKKPbc 15 21 03.9 -0.4**
MKAR Makanchi Array 111.33 315 Pdiff **Pdif 15 06 09.5 +0.4**
comp=Z,0.7nm,0.9s,baz=90,slow=1.9,SNR=8.3
MKAR PKiKP **PKiKP 15 10 06.5 -1.0**
comp=Z,7.3nm,0.7s,baz=76,slow=2.1,SNR=20
MKAR PKKPbc **PKKPbc 15 21 03.9 -0.4**
comp=Z,5.9nm,1.0s,baz=282,slow=2.8,SNR=11
DGAR Diego Garcia 111.84 255 PFAKE 15 10 20.0
DGAR LR LR
comp=Z,13µm,19.0s
TRD Trivandrum 111.93 273⇑ *ex* **Pdif 15 06 21.4 +9.0**
HYB Hyderabad 112.15 283 *i* Pdiff **Pdif 15 06 12.0 -1.3**
HYB *e*PKP **PKiKP 15 10 09.0 -0.9**
HYB *e*PP **PP 15 10 55.5 +1.0**
HYB *e*SKKS 15 18 00.0
HYB *e*Sdiff **Sdif 15 18 42.0 +6.5**
HYB *e*SP **SP 15 20 24.0 -2.5**
HYB *e*SS **SS 15 26 32.0 -1.5**
HYB Hyderabad 112.15 283 *e*P **PKiKP 15 10 08.4 -1.5**
NGP Nagpur 112.27 287 *e*P **PKiKP 15 10 09.0 -1.0**
NGP *ex* x 15 18 45.5
BBSR BB Station 112.87 61 PFAKE 15 10 20.0
BBSR LR LR
comp=Z,5µm,19.0s
GRGR Grenville 112.97 83 PFAKE 15 10 20.0
GRGR LR LR
comp=Z,3µm,19.0s
KURK Kurchatov 113.58 319 *i* PKIKP **PKiKP 15 10 10.9 -0.8**
KURK 15 11 01.6
KURK pmax pmax
comp=Z,16nm,0.9s
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 113.58 319 Pdif **Pdif 15 06 19.1 +0.2**
KURK PKiKP **PKiKP 15 10 10.8 -0.8**
KURK PP **PP 15 11 01.6 -2.1**
KURK PKKPbc **PKKPbc 15 20 56.1 -0.7**
KURBB Kurchatov Arra 113.65 319 Pdiff **Pdif 15 06 19.1 -0.1**
comp=Z,0.7nm,0.8s,baz=77,slow=3.7,SNR=12
KURBB PKiKP **PKiKP 15 10 10.8 -0.9**
comp=Z,16nm,0.9s,baz=91,slow=1.9,SNR=65
KURBB PP **PP 15 11 01.6 -2.6**
comp=Z,14nm,1.3s,baz=88,slow=6.1,SNR=10.0
KURBB PKKPbc **PKKPbc 15 20 56.1 -0.5**
comp=Z,8.9nm,1.0s,baz=256,slow=4.2,SNR=14
ANWB Willy Bob 113.84 77 PFAKE 15 10 20.0
ANWB LR LR
comp=Z,5µm,19.0s
FDF Fort de France 113.94 80 PFAKE 15 10 20.0
FDF LR LR
comp=Z,5µm,20.0s
BHPL Bhopal 114.04 289 *e*P **PKiKP 15 10 13.3 -0.1**
BHPL AMB AMB 15 10 14.5
comp=Z,40nm,2.2s
DDI Dehra Dun 114.15 297 AMS AMS 16 15 35.9
comp=Z,8µm,16.1s
SMLA Simla 114.96 298 *e*P PKPdf 15 10 13.4 -1.4
BBGH Gun Hill 115.17 82 PFAKE 15 10 30.0 +14
BBGH LR LR
comp=Z,8µm,20.0s
DHRM DHARAMSHALA 115.75 299 *e*P **PKPdf 15 10 15.4 -1.3**
ULHL Ulahol 115.77 310 P **PKPdf 15 10 17.0 +0.6**
SNR=12
SFJD Kangerlussuaq 116.12 22 *i* P **PP 15 11 18.7 -2.2**
SFJD *i* 15 20 58.3
SFJD *e* 15 27 44.0
SFJD
comp=Z,9µm,17.0s
SFJD Kangerlussuaq 116.12 22 PFAKE 15 10 30.0 +14
SFJD LR LR
comp=Z,9µm,19.0s
TKM2 Tokmak 2 116.21 311 *e*PKIKP **PKPdf 15 10 17.1 -0.2**
TKM2 MLR MLR
comp=Z,7µm,21.0s
TKM2 Tokmak 2 116.21 311 P **PKPdf 15 10 17.1 -0.2**
SNR=8.0
TKM2 Tokmak 2 116.21 311 *e*PKPdf **PKPdf 15 10 17.1 -0.2**
TKM2 LR LR
comp=Z,7µm,21.0s
KBS Kingsbay 116.24 359 *e*PP PP 15 11 19.4 -2.0
KBS *e*SS SS 15 27 25.6 +1.8
KBS Kingsbay 116.24 359 *e*PKIKP **PKPdf 15 10 15.9 -0.1**
KBS MLR MLR
comp=Z,4µm,19.0s
KBS Kingsbay 116.24 359 *e*PKPdf **PKPdf 15 10 15.9 -0.1**
KBS LR LR
comp=Z,4µm,19.0s
GOA Goa 116.30 280 AMS AMS 16 06 06.5
comp=Z,5µm,17.5s
KZA Kyzart 116.52 310 *i* PKIKP **PKPdf 15 10 19.3 +1.2**
KZA Kyzart 116.52 310 P **PKPdf 15 10 19.3 +1.2**
SNR=7.6
KBK Karagaybulak 116.70 310 P **PKPdf 15 10 18.4 +0.3**
SNR=6.9
POO Poona 116.74 283 *e*P **PKPdf 15 10 17.0 -1.7**
POO AMS AMS 16 07 18.4
comp=Z,8µm,14.0s
SUMG Summit 116.81 14 *e*PKIKP **PKPdf 15 10 18.3 +0.5**
SUMG Summit 116.81 14 *i* P PP 15 11 16.8 -9.3
SUMG *i* 15 21 12.9
SUMG *e* 15 27 45.7
SUMG
comp=Z,12µm,18.0s
SUMG Summit 116.81 14 *i* P **PKKPbc 15 20 46.5 -0.2**
SUMG Summit 116.81 14 *e*PKPdf **PKPdf 15 10 18.3 +0.5**
CHMS Chumysh 116.83 311 P **PKPdf 15 10 18.3 +0.1**
SNR=10
SPA0 Spitsbergen Ar 116.87 358 *e*PP PP 15 11 25.0 -0.9
FRU Bishkek 116.94 311⇑ *i*PKIKP **PKPdf 15 10 19.0 +0.6**
FRU *i* 15 11 24.0
FRU pmax pmax
comp=Z,120nm,2.0s
DAG Danmarks Havn 116.97 7 *i* P **PP 15 11 23.0 -3.6**
DAG
comp=Z,10µm,18.0s
USP Ospenovka 116.99 311 P **PKPdf 15 10 18.3 -0.2**
SNR=8.0
AAK Ala-Archa 117.04 310 *d* *i*PKIKP **PKPdf 15 10 18.9 +0.1**
AAK pmax pmax
comp=Z,109nm,2.5s
AAK Ala-Archa 117.04 310 PKPdf **PKPdf 15 10 19.7 +0.9**
SNR=8.0
AAK Ala-Archa 117.04 310 PKP **PKPdf 15 10 18.4 -0.4**
AAK *e*PKPdf **PKPdf 15 10 18.8 +0.1**
AAK PKKPbc **PKKPbc 15 20 44.8 0.0**
AAK LR LR
comp=Z,8µm,22.0s
AAK Ala-Archa 117.04 310 PKP **PKPdf 15 10 18.4 -0.4**
comp=Z,6.5nm,0.8s,baz=13,slow=2.9,SNR=12
AAK PKKPbc **PKKPbc 15 20 44.8 0.0**
comp=Z,2.4nm,0.6s,baz=238,slow=9.5,SNR=5.0
BDFB Brasilia 117.17 117 PKP **PKPdf 15 10 18.5 -1.2**
BDFB PKKPbc **PKKPbc 15 20 44.9 +1.1**
BDFB Brasilia 117.17 117 PKP **PKPdf 15 10 18.5 -1.2**
comp=Z,4.2nm,0.8s,baz=293,slow=1.9,SNR=5.1
BDFB PKKPbc **PKKPbc 15 20 44.9 +1.1**
comp=Z,4.9nm,0.9s,baz=100,slow=4.5,SNR=6.4
EKS2 Erkin-Say 117.56 310 *e*PKIKP **PKPdf 15 10 19.4 -0.3**
EKS2 MLR MLR
comp=Z,7µm,20.0s
EKS2 Erkin-Say 117.56 310 P **PKPdf 15 10 20.2 +0.4**
SNR=13
EKS2 Erkin-Say 117.56 310 *e*PKPdf **PKPdf 15 10 19.4 -0.3**
EKS2 LR LR
comp=Z,7µm,20.0s
AML Almayashu 117.67 310 P **PKPdf 15 10 20.9 +0.6**
SNR=12
VOSK Vostochnaya 117.99 322 PKIKP **PKPdf 15 10 19.0 -1.1**
VOSK pmax pmax
comp=Z,117nm,1.5s
BVA0 Borovoye Array 118.28 322 *i* PKIKP **PKPdf 15 10 20.4 -0.2**

BVA0 pmax pmax
comp=Z,55nm,1.2s
BVAR Borovoye Array 118.28 322 PKIKP **PKPdf 15 10 20.2 -0.4**
BVAR pmax pmax
comp=Z,16nm,0.8s
BVAR Borovoye Array 118.28 322 PKP **PKPdf 15 10 20.2 -0.4**
BVAR PKKPbc **PKKPbc 15 20 39.5 -1.0**
BVAR Borovoye Array 118.28 322 PKP **PKPdf 15 10 20.2 -0.4**
comp=Z,16nm,0.8s,baz=85,slow=1.7,SNR=61
BVAR PKKPbc **PKKPbc 15 20 39.5 -1.0**
comp=Z,1.4nm,0.7s,baz=228,slow=1.7,SNR=5.0
BRVK Borovoye 118.33 322 *e*PKIKP **PKPdf 15 10 20.4 -0.3**
BRVK MLR MLR
comp=Z,12µm,20.0s
BRVK Borovoye 118.33 322 PKPdf **PKPdf 15 10 20.5 -0.2**
SNR=25
BRVK Borovoye 118.33 322 *e*PKPdf **PKPdf 15 10 20.4 -0.3**
BRVK LR LR
comp=Z,12µm,20.0s
KK31 Karatay Array 119.91 311 *i* PKIKP **PKPdf 15 10 24.0 -0.1**
KK31 pmax pmax
comp=Z,71nm,1.4s
KKAR Karatay Array 119.91 311 *e*PKIKP **PKPdf 15 10 23.6 -0.5**
KKAR Karatay Array 119.91 311 *e*PKPdf **PKPdf 15 10 23.6 -0.5**
BJO Bjornoya 120.36 356 AMS AMS 16 13 29.8
comp=Z,6µm,19.3s
BHJ Bhuj 121.15 288 *e*P **PKPdf 15 10 26.6 -0.4**
BHJ AMB AMB 15 10 30.4
comp=Z,139nm,1.5s
BHJ AMS AMS 16 06 54.7
comp=Z,6µm,22.7s
KBL Kabul 121.81 301 *e*PKIKP **PKPdf 15 10 27.3 -1.0**
KBL Kabul 121.81 301 *e*PKPdf **PKPdf 15 10 27.3 -1.0**
KBL Kabul 121.81 301 P **PKPdf 15 10 29.3 +1.0**
baz=122,SNR=27
SVE Sverdlovsk 122.44 329⇑ *i*PKIKP **PKPdf 15 10 28.5 0.0**
SVE pmax pmax
comp=Z,93nm,1.4s
JMIC Jan Mayen 123.41 6 *e* **PKPdf 15 10 25.8 -4.1**
JMIC *e*PP **PP 15 12 12.5 +1.7**
JMIC *e*SS SS 15 28 57.5 +1.4
ARU Arti 123.65 329 *i* PKIKP **PKPdf 15 10 29.9 -0.9**
LVZ Lovozero 124.51 348 *i* PKIKP **PKPdf 15 10 31.9 -0.3**
LVZ pmax pmax
comp=Z,142nm,2.5s
LVZ MLR MLR
comp=Z,11µm,22.0s
ARCES ARCESS Array B 124.55 352 PKP **PKPdf 15 10 31.4 -0.8**
ARCES PKKPbc **PKKPbc 15 20 16.9 0.0**
ARCES ARCESS Array B 124.55 352 PKP **PKPdf 15 10 31.4 -0.8**
comp=Z,40nm,0.8s,baz=17,slow=0.9,SNR=52
ARCES PKKPbc **PKKPbc 15 20 16.9 0.0**
comp=Z,7.4nm,1.0s,baz=208,slow=5.1,SNR=4.2
ARE0 ARCESS Array S 124.55 352 *e*PKPdf **PKPdf 15 10 31.6 -0.6**
ARE0 *e*PP **PP 15 12 16.6 -1.8**
ARE0 *e*SS SS 15 29 12.1 +1.5
ARE0 ARCESS Array S 124.55 352 *e*PKPdf **PKPdf 15 10 32.6 +0.4**
TRIS Tristan da Cun 124.73 161 PFAKE 15 10 40.0 +6.4
TRIS LR LR
comp=Z,6µm,20.0s
APA Apatity 125.05 348⇓ *i*PKIKP **PKPdf 15 10 33.2 0.0**
APA *i* 15 12 20.0
APA *i* 15 22 16.0
APA *i* PPS PPS 15 23 56.0
APA *i* SS SS 15 29 38.0 +21
APA pmax pmax
comp=Z,108nm,1.4s
APA MLR MLR
comp=Z,12µm,24.0s
TRO Tromso 125.15 355 *e*P **PKPdf 15 10 33.5 +0.2**
KTK1 Kautokeino 125.32 353 *e*PP PP 15 12 20.5 -3.1
AB31 Akbulak array 125.64 320 *i* PKIKP **PKPdf 15 10 34.6 -0.3**
AB31 pmax pmax
comp=Z,101nm,1.2s
ABKAR Akbulak array 125.64 320 *e*PKPdf **PKPdf 15 10 34.8 0.0**
AKTO Aktyubinsk 126.39 322 PKIKP **PKPdf 15 10 34.9 -1.4**
AKTO pmax pmax
comp=Z,21nm,1.0s
AKTO Aktyubinsk 126.39 322 PKP **PKPdf 15 10 34.9 -1.4**
AKTO Aktyubinsk 126.39 322 PKP **PKPdf 15 10 34.9 -1.4**
comp=Z,21nm,1.0s,baz=49,slow=3.2,SNR=44
BORG Borgarnes 126.76 15 PFAKE 15 10 50.0 +13
BORG LR LR
comp=Z,7µm,21.0s
TMCR Tamitsa 126.79 344 *e*PKIKP **PKPdf 15 10 35.8 -0.8**
TMCR pmax pmax
comp=Z,41nm,0.4s
ABPO Ambohimpanom 128.17 230 *e*PKIKP **PKPdf 15 10 41.9 +1.1**
ABPO MLR MLR
comp=Z,23µm,20.0s
ABPO Ambohimpanom 128.17 230 *e*PKPdf **PKPdf 15 10 41.9 +1.1**
ABPO LR LR
comp=Z,23µm,20.0s
MSEY Mahe Island 128.54 251 *e*PKPdf **PKPdf 15 10 42.7 +1.2**
MSEY LR LR
comp=Z,11µm,19.0s
JOF Joensuu 129.51 346 *e*p **PKPdf 15 10 41.9 +0.1**
comp=Z,29nm,0.7s
NSS Namsos 130.65 357 *e*PKPdf **PKPdf 15 10 43.4 -0.6**
NSS *e*PP **PP 15 12 58.4 -0.2**
NSS *e*SS SS 15 30 29.6 +3.4
WBK Wadi Bani Khal 130.96 287 PKPdf **PKPdf 15 10 46.2 +0.3**
SNR=7.1
KAF Kangasniemi 131.30 348 *e*PKIKP **PKPdf 15 10 44.7 -0.5**
KAF pmax pmax
comp=Z,15nm,0.7s
KAF Kangasniemi 131.30 348 *e*p **PKPdf 15 10 44.7 -0.5**
comp=Z,15nm,0.7s
JMDO Jabal Madar 131.76 287 PKPdf **PKPdf 15 10 48.2 +0.9**
SNR=16
SMDO Samad 131.81 287 PKPdf **PKPdf 15 10 48.8 +1.3**
SNR=26
FIA1 FINESS Array S 131.95 348 *e*PKPdf **PKPdf 15 10 46.7 +0.2**
FINES FINESS Array B 131.96 348 PKPpre PKPpre 15 10 36.0
FINES PKP **PKPdf 15 10 45.6 -0.9**
FINES PKKP **PKKPdf 15 20 40.9 -2.7**
FINES SKKPbc SKKPbc 15 23 39.1 -3.7
FINES FINESS Array B 131.96 348 PKhKP PKPpre 15 10 36.0
comp=Z,1.9nm,0.7s,baz=145,slow=7.0,SNR=5.8
FINES PKP **PKPdf 15 10 45.6 -0.9**
comp=Z,25nm,0.9s,baz=48,slow=2.1,SNR=23
FINES PKKP **PKKPdf 15 20 40.9 -2.7**
comp=Z,2.4nm,0.9s,baz=264,slow=2.8,SNR=4.5
FINES SKKPbc SKKPbc 15 23 39.1 -3.7
comp=Z,5.4nm,1.0s,baz=197,slow=2.0,SNR=4.9
TBLU Trondheim 131.99 358 *e*PKPdf **PKPdf 15 10 45.5 -1.1**
TBLU *e*PP **PP 15 13 02.5 -4.7**
RCBR Riachuelo 132.18 113 *e*PKPdf **PKPdf 15 10 49.3 +0.8**
RCBR LR LR
comp=Z,11µm,19.0s
PUL Pulkovo 132.48 345 *c* *i*PKIKP **PKPdf 15 10 49.1 +1.6**
PUL MLR MLR
comp=Z,8µm,20.0s
HOQ Hoqain 132.49 288 PKPdf **PKPdf 15 10 49.2 +0.5**
SNR=11
BSY Bisya 132.60 287 PKPdf **PKPdf 15 10 49.5 +0.5**
SNR=20
MOL Molde 132.71 360 *e*PKPdf **PKPdf 15 10 50.5 +2.6**
MOL *e*PP **PP 15 13 11.6 -0.2**
BOSA Boshof 133.16 202 PKP **PKPdf 15 10 50.4 +0.3**
BOSA *e*PKPdf **PKiKP 15 10 50.9 -0.4**
BOSA Boshof 133.16 202 PKP **PKPdf 15 10 50.4 +0.3**
comp=Z,44nm,1.1s,baz=156,slow=2.8,SNR=23
ARQ Araqi 133.22 288 PKPdf **PKPdf 15 10 50.9 +0.8**
SNR=8.7
BANOM Banah 133.33 291 PKPdf **PKPdf 15 10 52.6 +2.4**
SNR=5.4
MOS Moscow 133.43 337 *e*PKIKP **PKPdf 15 10 49.5 +0.1**
MOS pmax pmax
comp=Z,1µm,2.5s
MOS pmax pmax
comp=Z,365nm,2.0s
HATD Hatta, Dubai 133.53 290 PKPdf **PKPdf 15 10 51.7 +1.1**
SNR=27
ASHO Ashiyiah 133.61 290 PKPdf **PKPdf 15 10 51.2 +0.4**
SNR=28
NAZ Nazwa, Dubai 133.95 290 PKPdf **PKPdf 15 10 51.8 +0.4**
SNR=23
HYA Hoyanger 134.11 1 *e*PP PP 15 13 21.4 +0.7
NB2 NORSAR Subarra 134.17 357 PKPdf PKPpre 15 10 40.5
comp=Z,662nm,2.5s,baz=14,slow=1.8
NB2 NORSAR Subarra 134.17 357 PKPdf PKPpre 15 10 40.5
baz=14,slow=1.8
NOA NORSAR Array B 134.17 357 PKPpre PKPpre 15 10 40.4
NOA PKP **PKPdf 15 10 49.6 -1.1**

NOA	**NORSAR Array B**	**134.17 357**	PKhKP	PKPpre	15 10 40.4	
	comp=Z,2.8nm,0.9s,baz=49,slow=2.4,SNR=6.6					
NOA			PKP	**PKPdf**	**15 10 49.6**	**-1.1**
	comp=Z,8.9nm,0.8s,baz=8.2,slow=3.4,SNR=14					
SUE	**Sulen**	**134.19 2**	*e*PKPdf	**PKPdf**	**15 10 52.7**	**+2.0**
SUE			*e*PP	**PP**	**15 13 20.7**	**-0.5**
SUE			*e*SS	SS	15 31 09.9	+0.7
ASUD	**Al Ashush, Dub**	**134.27 290**	PKPdf	**PKPdf**	**15 10 53.4**	**+1.4**
	SNR=14					
OBN	**Obninsk**	**134.30 337**	*d i*PKIKP	**PKPdf**	**15 10 51.4**	**+0.3**
OBN			*e*		15 10 56.5	
OBN			*e*		15 13 21.2	
OBN			*e*SS	SS	15 31 03.9	-7.2
OBN			pmax	pmax		
	comp=Z,437nm,2.5s					
OBN			MLR	MLR		
	comp=Z,10μm,21.0s					
NAO01	**NORSAR Array S**	**134.38 358**	*e*PKPdf	**PKPdf**	**15 10 51.9**	**+0.7**
NC602	**NORSAR Array S**	**134.46 357**	*e*PKPdf	**PKPdf**	**15 10 50.0**	**-1.3**
NC602			*e*PP	**PP**	**15 13 22.3**	**-0.7**
VSU	**Vasula**	**134.51 346**	*d i*PKIKP	**PKPdf**	**15 10 51.4**	**0.0**
VSU			MLR	MLR		
	comp=Z,15μm,21.0s					
BER	**Bergen**	**134.88 2**	*e*PKPdf	**PKPdf**	**15 10 51.1**	**-0.9**
BER			*e*PP	**PP**	**15 13 24.8**	**-0.8**
BER			AMS	AMS	16 14 17.8	
	comp=Z,6μm,16.2s					
HFS	**Hagfors**	**134.93 356**	PKPpre	PKPpre	15 10 39.6	
HFS			PKP	**PKPdf**	**15 10 50.9**	**-1.2**
HFS	**Hagfors**	**134.93 356**	PKhKP	PKPpre	15 10 39.6	
	comp=Z,6.2nm,0.8s,baz=282,slow=1.4,SNR=4.6					
HFS			PKP	**PKPdf**	**15 10 50.9**	**-1.2**
	comp=Z,42nm,1.0s,baz=86,slow=2.2,SNR=21					
VRHR	**Novokhopersk**	**134.95 330**	*e*PKIKP	**PKPdf**	**15 10 52.8**	**+0.4**
VRHR			pmax	pmax		
	comp=Z,180nm,1.4s					
VRHR			pmax	pmax		
	comp=N,60nm,0.5s					
VRHR			pmax	pmax		
	comp=E,20nm,0.4s					
VRHR			MLR	MLR		
	comp=Z,6μm,20.0s					
VRHR			MLR	MLR		
	comp=N,720nm,16.0s					
VRHR			MLR	MLR		
	comp=E,2μm,15.0s					
RBK	**Rabkut**	**135.22 280**	PKPdf	**PKPdf**	**15 10 55.4**	**+1.4**
	SNR=8.7					
KONO	**Kongsberg**	**135.62 358**	*e*PKPdf	**PKPdf**	**15 10 54.1**	**+0.6**
KONO			*e*PP	**PP**	**15 13 30.2**	**-0.1**
KONO			*e*SS	SS	15 31 28.4	+2.0
KONO	**Kongsberg**	**135.62 358**	PFAKE		15 11 00.0	+6.6
KONO			LR	LR		
	comp=Z,8μm,20.0s					
VOR	**Voronezh**	**135.66 332**	*e*PKIKP	**PKPdf**	**15 10 51.0**	**-2.7**
VOR			pmax	pmax		
	comp=Z,520nm,2.2s					
VSR	**Storozhevoye**	**136.03 332**	*e*PKIKP	**PKPdf**	**15 10 54.7**	**+0.2**
VSR			*e*		15 13 28.0	
VSR			pmax	pmax		
	comp=Z,150nm,1.6s					
VSR			pmax	pmax		
	comp=N,9.0nm,0.9s					
VSR			pmax	pmax		
	comp=E,20nm,1.3s					
VSR			pmax	pmax		
	comp=Z,3μm,7.1s					
VSR			pmax	pmax		
	comp=N,280nm,3.2s					
VSR			pmax	pmax		
	comp=E,530nm,7.0s					
VSR			MLR	MLR		
	comp=N,5μm,20.0s					
VSR			MLR	MLR		
	comp=Z,12μm,20.0s					
VSR			MLR	MLR		
	comp=E,2μm,18.0s					
KMY	**Karmoy**	**136.05 2**	*e*PKPdf	**PKPdf**	**15 10 53.9**	**-0.3**
KMY			*e*PP	**PP**	**15 13 34.0**	**+1.0**
MAK	**Makhachkala**	**136.06 317**	*e*P	**Pdif**	**15 07 59.7**	**+0.7**
MAK			*e*		15 10 53.4	
MAK			*e*		15 13 32.4	
MAK			*e*PPP	PPP	15 16 29.7	
MAK			*e*PS	**PS**	**15 23 52.9**	**-5.9**
MAK			pmax	pmax		
	comp=Z,103nm,1.0s					
MAK			pmax	pmax		
	comp=E,117nm,1.0s					
MAK			pmax	pmax		
	comp=N,250nm,1.3s					
ABTO	**Aybut**	**136.08 279**	PKPdf	**PKPdf**	**15 10 56.9**	**+1.3**
	SNR=7.3					
VORD	**Divnogorie**	**136.14 331**	*e*PKIKP	**PKPdf**	**15 10 54.7**	**0.0**
VORD			pmax	pmax		
	comp=Z,110nm,1.8s					
VORD			pmax	pmax		
	comp=N,10.0nm,0.9s					
VORD			pmax	pmax		
	comp=E,10.0nm,0.6s					
VORD			MLR	MLR		
	comp=Z,8μm,18.0s					
VORD			MLR	MLR		
	comp=N,5μm,19.0s					
VORD			MLR	MLR		
	comp=E,5μm,21.0s					
HOMB	**Homborsund**	**137.02 359**	*e*PKPdf	**PKPdf**	**15 10 55.3**	**-0.8**
HOMB			*e*PP	**PP**	**15 13 39.7**	**+0.6**
ISAL	**Salakas**	**137.25 345**	*e*P	PKPdf	15 10 51.3	-5.3
ISAL			AMB	AMB	15 11 02.6	
	comp=Z,35nm,1.4s					
IDID	**Didziasalis**	**137.32 344**	*e*P	**PKPdf**	**15 10 51.6**	**-5.1**
IDID			AMB	AMB	15 11 02.5	
	comp=Z,26nm,1.4s					
IIGN	**Ignalina**	**137.43 344**	*e*P	**PKPdf**	**15 10 52.0**	**-5.0**
IIGN			AMB	AMB	15 11 04.7	
	comp=Z,34nm,2.7s					
NACGM	**Naroch**	**137.68 344**	*e*PKP	PKPdf	15 10 48.0	-9.4
MICGM	**Minsk**	**137.72 342**	*e*PKP	PKPdf	15 10 52.0	-5.5
MNK	**Minsk**	**137.73 342**	*e*PKIKP	PKPdf	15 10 52.0	-5.5
MNK			*e*SS	SS	15 32 32.0	+40
MNK			*e*SSS	SSS	15 37 00.0	
MNK			pmax	pmax		
	comp=Z,10μm,9.0s					
MNK			MLR	MLR		
	comp=Z,22μm,20.0s					
DGRG	**David-gareji**	**138.16 316**	P	PKPpre	15 10 47.8	
DGRG			S	**PP**	**15 13 47.8**	**+0.5**
GUDG	**Gudauri**	**138.26 318**	P	**PKPdf**	**15 11 00.0**	**+0.8**
GUDG			S	**SKPbc**	**15 14 31.9**	**-1.4**
TBLG	**Delisi**	**138.45 317**	*e*PKHKP	PKPpre	15 10 42.7	
TBLG			*e*S	**PP**	**15 13 49.8**	**+0.7**
TBLG	**Delisi**	**138.45 317**	P	PKPpre	15 10 42.7	
TBLG			S	**PP**	**15 13 49.8**	**+0.7**
ZEI	**Tsey**	**138.47 319**	*i* PKHKP	PKPdf	15 10 51.0	-8.6
KBZ	**Khabaz**	**138.61 321**	PKIKP	**PKPdf**	**15 10 59.0**	**-0.5**
KBZ					15 13 46.3	
KBZ	**Khabaz**	**138.61 321**	PKP	**PKPdf**	**15 10 59.0**	**-0.5**
KBZ			PP	**PP**	**15 13 46.2**	**-3.6**
KBZ	**Khabaz**	**138.61 321**	PKP	**PKPdf**	**15 10 59.0**	**-0.5**
	comp=Z,6.4nm,1.1s,baz=202,slow=1.7,SNR=7.8					
KBZ			PP	**PP**	**15 13 46.2**	**-3.6**
	comp=Z,2.6nm,0.9s,baz=64,slow=4.4,SNR=4.2					
KIV	**Kislovodsk**	**138.62 321**	*e*PKHKP	PKPpre	15 10 49.3	
KIV			*i*		15 10 58.0	
KIV			*e*		15 13 46.0	
KIV			*e*		15 18 05.2	
KIV			*e*SS	SS	15 32 02.6	-1.4
KIV			*e*SSS	SSS	15 37 12.2	
KIV			pmax	pmax		
	comp=Z,40nm,1.0s					
KIV			MLR	MLR		
	comp=Z,8μm,22.0s					
KZR	**Kazreti**	**138.83 317**	P	**PKPdf**	**15 10 56.0**	**-4.0**
MUD	**Monsted U'grnd**	**138.83 359**	*i* P	PKPdf	15 10 49.7	-10
MUD			*i* PP	**PP**	**15 13 48.8**	**-1.5**
MUD						
	comp=Z,5μm,17.0s					
ONI	**Oni**	**138.86 319**	P	PKPpre	15 10 46.8	
ONI			S	**PP**	**15 13 50.8**	**-0.8**
EKA	**Eskdalemuir Ar**	**139.13 9**	PKPpre	PKPpre	15 10 49.7	
EKA			PKP	**PKPdf**	**15 11 01.0**	**+1.0**
EKA			PP	**PP**	**15 13 55.5**	**+3.3**
EKA	**Eskdalemuir Ar**	**139.13 9**	PKhKP	PKPpre	15 10 49.7	
	comp=Z,7.7nm,0.9s,baz=350,slow=2.9,SNR=11					
EKA			PKP	**PKPdf**	**15 11 01.0**	**+1.0**
	comp=Z,7.6nm,0.8s,baz=294,slow=1.2,SNR=10					
EKA			PP	**PP**	**15 13 55.5**	**+3.3**
	comp=Z,5.7nm,0.9s,baz=337,slow=3.1,SNR=3.8					
ESK	**Eskdalemuir**	**139.14 9**	PFAKE		15 11 10.0	+10
ESK			LR	LR		
	comp=Z,9μm,19.0s					
GNI	**Garni**	**139.18 315**	*e*P	**PKPdf**	**15 11 02.5**	**+1.6**
GNI	**Garni**	**139.18 315**	PKPdf	PKPdf	15 10 55.2	-5.7
	SNR=34					
GNI	**Garni**	**139.18 315**	PKPpre	PKPpre	15 10 55.4	
GNI			*e*PKPdf	**PKPdf**	**15 11 02.5**	**+1.6**
GNI			LR	LR		
	comp=Z,7μm,22.0s					
GNI	**Garni**	**139.18 315**	PKhKP	PKPpre	15 10 55.4	
	comp=Z,11nm,0.8s,baz=221,slow=0.2,SNR=5.9					
GNI			PKP	**PKPdf**	**15 11 02.5**	**+1.6**
	comp=Z,16nm,0.9s,baz=336,slow=10.0,SNR=10					
SUW	**Suwalki**	**139.39 346**	*e*PKHKP	PKPpre	15 10 53.3	
SUW	**Suwalki**	**139.39 346**	*e*PKPpre	PKPpre	15 10 53.3	
SUW	**Suwalki**	**139.39 346**	*e*PKPdf	PKPdf	15 10 53.5	-7.1
SUW			*e*PKPbc	PKiKP	15 10 55.0	-7.9
SUW			*e*PKPab		15 11 00.7	
SUW			*e*PP	**PP**	**15 13 49.2**	**-4.7**
SUW			*e*PKSdf	**PKSdf**	**15 14 36.8**	**+0.4**
SUW			*e*SKSac	**SKSac**	**15 18 16.2**	**+0.8**
SUW			*e*SS	**SS**	**15 32 13.5**	**+2.1**
SUW			LMZ	LR	16 01 35.6	
AKH	**Akhalkalaki**	**139.42 317**	P	PKPpre	15 10 49.8	
AKH			S	**PP**	**15 13 58.0**	**+2.7**
COP	**Copenhagen**	**139.44 356**	‖ *i*PKIKP	**PKPdf**	**15 11 00.7**	**+0.1**
COP			MLR	MLR		
	comp=Z,2μm,19.0s					
COP	**Copenhagen**	**139.44 356**	‖ *i P*	**PKPdf**	**15 11 00.7**	**+0.1**
COP						
	comp=Z,3μm,19.0s					
BSD	**Bornholm Skovb**	**139.78 353**	‖ *i*PKIKP	**PKPdf**	**15 11 01.0**	**-0.2**
BSD			*i*		15 13 54.4	
BSD			MLR	MLR		
	comp=Z,5μm,18.0s					
BSD	**Bornholm Skovb**	**139.78 353**	‖ *i P*	**PKPdf**	**15 11 01.0**	**-0.2**
BSD			*i* PP	**PP**	**15 13 54.4**	**-1.8**
BSD			*i*		15 24 06.1	
BSD						
	comp=Z,5μm,18.0s					
MUKL	**Al Mukalla**	**139.90 275**	*e*P	**PKPdf**	**15 11 03.8**	**+1.2**
DIGO	**Kars**	**139.98 316**	*e*P	PKPdf	15 10 54.0	-8.4
DYDN	**Diyadin**	**140.17 315**	*i* P	PKPdf	15 10 53.8	-9.0
CLDR	**Caldiran**	**140.19 314**	*e*P	PKPdf	15 10 54.2	-8.6
QRN	**Al-Qurain**	**140.38 297**	*e*P	PKPdf	15 10 55.7	-7.5
QRN			AMb	AMB	15 11 06.2	
	comp=Z,358nm,2.5s					
AKASG	**Malin Array Be**	**140.51 338**	PKHKP	PKPpre	15 10 55.6	
AKASG					15 11 02.9	
AKASG			pmax	pmax		
	comp=Z,10.0nm,0.8s					
AKASG			pmax	pmax		
	comp=Z,21nm,0.9s					
AKASG	**Malin Array Be**	**140.51 338**	PKPpre	PKPpre	15 10 55.6	
AKASG			PKP	**PKPdf**	**15 11 02.9**	**+0.2**
AKASG	**Malin Array Be**	**140.51 338**	PKhKP	PKPpre	15 10 55.6	
	comp=Z,9.6nm,0.8s,baz=38,slow=5.2,SNR=15					
AKASG			PKP	**PKPdf**	**15 11 02.9**	**+0.2**
	comp=Z,21nm,0.8s,baz=30,slow=2.5,SNR=28					
KIEV	**Kiev**	**140.52 338**	*e*PKHKP	PKPpre	15 10 54.5	
KIEV			MLR	MLR		
	comp=Z,10μm,22.0s					
KIEV	**Kiev**	**140.52 338**	*e*PKPpre	PKPpre	15 10 54.5	
KIEV			LR	LR		
	comp=Z,10μm,22.0s					
ARTV	**Artvin**	**140.55 318**	*e*P	PKPpre	15 10 52.6	
PCED	**Cedros**	**140.56 47**	*e*PKP	**PKPdf**	**15 10 59.0**	**-4.2**
SOC	**Sochi**	**140.61 322**	*e*PKIKP	**PKPdf**	**15 10 58.3**	**-4.8**
SOC			*e*		15 13 58.9	
SOC			*e*SS	SS	15 32 22.9	-4.1
BCA	**Borcka**	**140.62 318**	*e*P	PKPdf	15 10 54.2	-9.0
DAGI	**Agillar**	**140.62 318**	*i* P	PKPpre	15 10 52.7	
DBOC	**Borcka**	**140.64 318**	*i* P	PKPdf	15 10 55.3	-8.0
MIB	**Mutribah**	**140.66 299**	*e*P	PKPdf	15 10 55.8	-7.9
MIB			AMb	AMB	15 11 10.3	
	comp=Z,488nm,1.9s					
RDF	**Al-Radifah**	**140.66 297**	*e*P	PKPdf	15 10 56.2	-7.5
RDF			AMb	AMB	15 11 10.7	
	comp=Z,512nm,2.2s					
PCAN	**Candelaria**	**140.78 47**	*e*PKP	**PKPdf**	**15 11 01.0**	**-2.6**
PICO	**Pico**	**140.81 47**	*e*PKP	**PKPdf**	**15 11 04.4**	**+0.6**
DDEM	**Demirkent**	**140.82 318**	*i* P	PKPdf	15 10 56.2	-7.6
TUTA	**Tutak**	**140.84 315**	*i* P	PKPdf	15 10 55.2	-8.8
ROSA	**Rosais**	**140.84 46**	*e*PKP	**PKPdf**	**15 11 03.5**	**-0.2**
ROSA	**Rosais**	**140.84 46**	*e*LQ	LQ	15 56 52.1	
NAY	**Al-Naaiem**	**140.86 298**	*e*P	PKPdf	15 10 56.3	-7.8
NAY			AMb	AMB	15 11 08.7	
	comp=Z,10.0nm,2.0s					
PGRA	**Graciosa**	**140.88 46**	*e*PKP	**PKPdf**	**15 10 59.9**	**-3.9**
PGRA	**Graciosa**	**140.88 46**	*e*LQ	LQ	15 57 23.6	
IBDR	**Badra**	**140.95 304**	*i* PKP	PKPpre	15 10 53.0	
IBDR			*i* PP	**PP**	**15 14 00.0**	**-5.0**
IBDR			*i* PKS	PKSdf	15 14 33.0	-7.0
PMAN	**Manadas**	**140.99 46**	*e*PKP	**PKPdf**	**15 11 01.9**	**-2.1**
RST	**Umm Al-Ruwaisa**	**141.02 298**	*e*P	PKPdf	15 10 57.0	-7.3
RST			AMb	AMB	15 11 12.0	
	comp=Z,2μm,1.2s					
HAKT	**HAKKARI**	**141.03 312**	*i* P	PKPdf	15 10 55.7	-8.7
HOMI	**Horasan**	**141.14 316**	*i* P	PKPdf	15 10 57.3	-7.2
ANN	**Anapa**	**141.16 326**	*i* PKHKP	PKPpre	15 10 55.0	
ANN			*e*		15 18 07.7	
ANN			pmax	pmax		
	comp=Z,45nm,1.2s					
GEVA	**Gevas**	**141.16 313**	*i* P	PKPdf	15 10 57.2	-7.4
CUKT	**Cukurca**	**141.23 311**	*e*P	PKPdf	15 10 56.6	-8.1
GKP	**Gorka Klasztor**	**141.27 351**	*e*PKPdf	**PKPdf**	**15 11 04.9**	**+0.9**
GKP			*e*PP	**PP**	**15 14 04.2**	**-1.1**
GKP			*e*PKSdf	**PKSdf**	**15 14 37.8**	**-1.9**
GKP			*e*SKSac	**SKSac**	**15 18 20.1**	**+0.5**
GKP			*e*SS	**SS**	**15 32 32.1**	**-1.1**
GKP			LMZ	LR	16 13 58.9	
BSEG	**Bad Segeberg**	**141.31 357**	*e*PKP	**PKPdf**	**15 10 59.2**	**-4.8**
EZM	**Erzurum**	**141.57 316**	*e*P	PKPdf	15 11 00.1	-5.3
TATV	**Tatvan**	**141.63 314**	*i* P	PKPdf	15 10 59.5	-5.9
BEL	**Belsk**	**141.96 347**	*e*PKPdf	PKPdf	15 11 00.0	-5.3
BEL			*e*PKiKP	**PKiKP**	**15 11 05.4**	**-2.8**
BEL			*e*PP	**PP**	**15 14 05.8**	**-3.8**
BEL			*e*SKPdf	**SKiKP**	**15 14 44.7**	**+0.6**
BEL			*e*SKSac	**SKSac**	**15 18 24.0**	**+2.8**
BEL			*e*SS	**SS**	**15 32 45.0**	**+3.6**
BEL			LMZ	LR	16 01 22.9	
SIRT	**Sirnak**	**141.96 312**	*e*P	**PKPdf**	**15 11 01.9**	**-4.0**
SIRN	**S¨–rnak**	**141.99 312**	*i* P	PKPdf	15 10 58.5	-7.4
BAYT	**Ayd¨–ntepe-Bay**	**142.12 318**	*e*P	PKPdf	15 10 56.6	-10
BHD	**Baghdad**	**142.14 305**	*i* PKP	PKPdf	15 10 59.0	-7.2
BHD			*i* PP	**PP**	**15 14 11.0**	**-1.1**
BHD			*i* PKS	**PKSdf**	**15 14 44.0**	**+2.0**
BNGL	**BINGOL**	**142.19 315**	*i* P	PKPdf	15 11 00.7	-5.7
BNGB	**Bing¨ˆ‖l**	**142.49 316**	*e*P	PKPdf	15 11 00.1	-6.8
RUE	**Ruedersdorf**	**142.50 354**	*e*PKPpre	PKPpre	15 11 02.3	
GUMT	**Gumushane**	**142.51 318**	*e*P	PKPdf	15 11 01.2	-5.6
ESPY	**Espiye-Giresun**	**142.74 320**	*e*P	PKPpre	15 10 56.6	
SIM	**Simferopol'**	**142.81 328**	*d i*PKIKP	**PKPdf**	**15 11 03.7**	**-3.3**
SIM			*i*		15 11 16.0	
SIM			*e*		15 14 21.0	
SIM			pmax	pmax		
	comp=Z,800nm,8.0s					
ERZN	**Erzincan**	**142.82 317**	*e*P	PKPdf	15 11 02.0	-5.4
KELT	**Kelkit**	**142.83 318**	*i* P	**PKPdf**	**15 11 02.7**	**-4.8**
LVV	**L'vov**	**142.97 342**	*i* PKIKP	**PKPdf**	**15 11 02.3**	**-4.9**
LVV			*e*		15 14 10.9	
IBBN	**Ibbenburen**	**143.00 360**	*e*PKP	PKPbc	15 11 04.2	+0.4
PSET	**Sete Cidades**	**143.01 46**	*e*PKP	PKPab	15 11 02.8	-0.1
PSET	**Sete Cidades**	**143.01 46**	*e*LQ	LQ	15 57 45.7	
PDA	**Ponta Delgada**	**143.09 46**	*e*PKP	**PKPdf**	**15 11 06.6**	**-1.1**
CMLA	**Cha da Macela**	**143.18 46**	*e*PKP	PKPbc	15 11 05.0	+0.1
CMLA	**Cha da Macela**	**143.18 46**	*e*LQ	LQ	15 58 20.3	
CMLA	**Cha da Macela**	**143.18 46**	*e*PKIKP	PKPbc	15 11 06.0	+1.1
CMLA			MLR	MLR		
	comp=Z,7μm,21.0s					
CMLA	**Cha da Macela**	**143.18 46**	*e*PKPpre	PKPpre	15 11 06.0	
CMLA			LR	LR		
	comp=Z,7μm,21.0s					
MARD	**Mardin**	**143.23 313**	*i* P	PKPab	15 11 03.2	-0.7
WTSB	**Winterswijk**	**143.34 1**	*e*PKP	PKPbc	15 11 04.6	-0.1
	comp=Z,486nm,1.9s					
MAZI	**Mazidag**	**143.39 313**	*e*P	PKPab	15 11 00.1	-4.5
CLZ	**Clausthal**	**143.40 357**	*e*PKP	PKPbc	15 11 05.3	+0.3
CLZ	**Clausthal**	**143.40 357**	*e*PKIKP	PKPbc	15 11 05.4	+0.4
PTK	**Pertek**	**143.40 316**	*e*P	PKPab	15 11 01.2	-3.4
BART	**Pico Bartolome**	**143.42 46**	*e*PKP	PKPbc	15 11 05.1	-0.5
SUSE	**Susehri**	**143.47 319**	*i* P	PKPab	15 11 03.9	-0.9
KWP	**Kalwaria Pacla**	**143.51 343**	*e*PKIKP	PKPbc	15 11 05.7	+0.3
KWP			MLR	MLR		
	comp=Z,8μm,20.0s					
KWP	**Kalwaria Pacla**	**143.51 343**	⇑ *i P*	PKPbc	15 11 06.0	+0.6
KWP	**Kalwaria Pacla**	**143.51 343**	*e*PKPpre	PKPpre	15 11 05.7	
KWP			LR	LR		
	comp=Z,8μm,20.0s					
KWP	**Kalwaria Pacla**	**143.51 343**	*e*PKPdf	PKPbc	15 11 05.9	+0.5
KWP			*e*PP	**PP**	**15 14 15.9**	**-3.2**
KWP			*e*SS	SS	15 33 01.4	+1.9
KWP			LMZ	LR	16 05 27.7	
KBSD	**Kabsdagh**	**143.54 313**	*e*P	PKPbc	15 11 05.5	-0.5
KBSD	**Kabsdagh**	**143.54 313**	*e*P	PKPbc	15 11 05.5	-0.5
KBSD	**Kabsdagh**	**143.54 313**	*e*P	PKPbc	15 11 05.5	-0.4
	SNR=46					
ILIC	**ilic-Erzincan**	**143.65 318**	*e*P	PKPbc	15 11 06.1	-0.2
KIS	**Kishinev**	**143.69 335**	‖ *i*PKP	PKPab	15 11 04.0	-1.2
KIS			M		15 11 06.0	
	comp=Z,4μm,4.0s					
KIS	**Kishinev**	**143.69 335**	*i* PP	PP	15 14 18.0	-2.3
	comp=Z,4μm,16.0s					
KIS	**Kishinev**	**143.69 335** κ	*i*PKIKP	PKPab	15 11 04.0	-1.2
KIS			*i*		15 14 18.0	
KIS			pmax	pmax		
	comp=Z,4μm,4.0s					
KIS			pmax	pmax		
	comp=Z,4μm,10.0s					
KIS			pmax	pmax		
	comp=Z,8μm,16.0s					
KIS			pmax	pmax		
	comp=Z,3μm,14.0s					
KIS			pmax	pmax		
	comp=Z,4μm,16.0s					
KIS			MLR	MLR		
	comp=Z,6μm,17.0s					
KIS			MLR	MLR		
	comp=N,5μm,16.0s					
KIS			MLR	MLR		
	comp=E,4μm,20.0s					
KIS			MLR	MLR		
	comp=Z,8μm,18.0s					
OJC	**Ojcow**	**143.70 347**	*e*PKHKP	PKPab	15 11 03.5	-1.6
OJC			*e*		15 14 16.8	
CLL	**Collm**	**143.74 354**	*e*PKP	PKPbc	15 11 06.1	+0.2
CLL	**Collm**	**143.74 354**	⇑ *i*PKIKP	PKPbc	15 11 06.1	+0.2
CLL			*i*		15 11 11.2	
CLL			*e*		15 14 22.0	
CLL			pmax	pmax		
	comp=Z,132nm,1.1s					
CLL			MLR	MLR		
	comp=Z,9μm,19.1s					
CLL	**Collm**	**143.74 354**	*es*Pdif	sPdif	15 08 41.0	+1.5
CLL			⇑ *i*PKPdf	PKPbc	15 11 06.1	+0.2
	comp=Z,132nm,1.1s					
CLL			*i* PKiKP	**PKiKP**	**15 11 11.2**	**-0.7**
CLL			*i* pPKiKP	pPKiKP	15 11 15.0	-1.8
CLL			*e*PP	**PP**	**15 14 22.0**	**+1.8**
	comp=Z,3μm,18.5s					
CLL			*e*PPP	PPP	15 17 30.0	
CLL			*e*SKSdf	**SKSdf**	**15 18 12.0**	**-5.6**
CLL			*e*SKKSac	**SKKSac**	**15 21 13.0**	**-0.4**
CLL			*e*(PKKSbc)		15 22 55.0	
CLL			*e*PSKS		15 24 25.0	
CLL			*e*PPS	PPS	15 26 53.0	
CLL			*e*		15 28 07.0	
CLL			*e*		15 30 10.0	
CLL			*e*SS	**SS**	**15 33 06.0**	**+4.3**
CLL			*e*PSPS		15 34 00.0	
CLL			*e*SSS	SSS	15 38 18.0	
CLL			*e*		15 43 00.0	
CLL			Lm	MLR	16 19 00.0	
	comp=Z,9μm,19.1s					
KSP	**Ksiaz**	**143.77 351**	*e*PKIKP	PKPab	15 11 05.2	-0.2
KSP			*e*		15 14 17.0	
KSP			*e*SS	SS	15 33 05.0	+2.8
KSP			MLR	MLR		
	comp=Z,16μm,21.1s					
KSP	**Ksiaz**	**143.77 351**	*e*PKPdf	PKPab	15 11 04.5	-0.9
KSP			*e*PP	**PP**	**15 14 17.3**	**-3.2**
KSP			*e*SS	SS	15 33 10.3	+8.1
KSP			LMZ	LR	15 59 43.2	
KEMA	**Kemaliye**	**143.80 317**	*i* P	PKPab	15 11 05.5	-0.5
PSMN	**Pico do Norte,**	**143.86 47**	*e*PKP	PKPab	15 11 04.1	-2.1
PSMN	**Pico do Norte,**	**143.86 47**	*e*LQ	LQ	15 57 58.3	
BUG	**Bochum--Univer**	**143.87 0**	*e*PKP	PKPbc	15 11 06.5	+0.2
ELZG	**Elazig**	**143.88 316**	*i* P	PKPbc	15 11 06.9	-0.1
RSDY	**Resadiye-TOKAT**	**143.91 320**	*e*P	PKPab	15 11 05.9	-0.4
NEUB	**Neuenburg**	**143.94 355**	*e*PKP	PKPbc	15 11 06.8	+0.2
MZRK	**Al-Mazaregh**	**143.99 311**	*e*P	PKPab	15 11 05.2	-1.5
MZRK			*i* P	**PKPdf**	**15 11 08.9**	**-0.5**
MZRK	**Al-Mazaregh**	**143.99 311**	*e*P	PKPbc	15 11 07.3	0.0
MZRK	**Al-Mazaregh**	**143.99 311**	*e*P	PKPbc	15 11 07.3	0.0
	SNR=46					
BRG	**Berggiesshubel**	**144.06 353**	*i* PKP	PKPbc	15 11 06.9	0.0
	comp=Z,702nm,2.3s					
BRG			*e*		15 11 16.0	
	comp=Z,491nm,2.1s					
BRG			PP	PP	15 14 15.0	-7.2
BRG			SKS	SKSdf	15 17 37.0	-41
BRG			*e*		15 24 36.0	
BRG			*e*		15 26 57.0	
BRG			SS	**SS**	**15 33 10.0**	**+4.5**
BRG						
	comp=Z,8μm,18.4s					
BRG						
	comp=N,5μm,18.0s					
BRG						
	comp=E,5μm,18.0s					
BRG	**Berggiesshubel**	**144.06 353**	*e*PKP	PKPbc	15 11 06.9	-0.1
BRG	**Berggiesshubel**	**144.06 353**	*i* PKIKP	PKPbc	15 11 06.9	-0.1
BRG			*e*		15 11 16.0	
BRG					15 17 37.0	
BRG			*e*		15 26 57.0	
BRG			SS	SS	15 33 10.0	+4.5
BRG			pmax	pmax		
	comp=Z,702nm,2.3s					
BRG			MLR	MLR		
	comp

PVCC eSS SS 15 33 07.7 -0.8
PVCC ex x 15 38 11.9
PVCC AMS AMS 16 31 50.0
comp=Z,10µm,16.1s
NIE Niedzica 144.33 346 ePKIKP **PKPdf 15 11 09.0 -0.6**
NIE e 15 11 15.7
NIE e 15 14 22.8
SCER sogukcermik 144.34 319 i P PKPbc 15 11 08.5 +0.1
MALT Malatya 144.35 316 eP PKPbc 15 11 09.2 +0.8
MALT Malatya 144.35 316 ⇓PKIKP **PKPdf 15 11 09.4 -0.7**
MALT Malatya 144.35 316 ⇓iP **PKPdf 15 11 09.4 -0.7**
DHBB Dhamar BB 144.38 274 eP **PKPdf 15 11 12.2 +1.2**
TSUM Tsumeb 144.38 196 ePKP PKPbc 15 11 09.3 +0.2
TSUM LR LR
comp=Z,15µm,21.0s
DIKM Dikmen 144.39 323 eP **PKPab 15 11 04.7 -3.3**
SVSK Karacayir 144.39 319 eP **PKPab 15 11 04.7 -3.3**
OKC Ostrava-Krasne 144.41 348 ePKIKP **PKPab 15 11 07.3 -0.5**
OKC e 15 14 22.0
OKC e 15 17 42.2
OKC eSS SS 15 33 04.5 -5.1
OKC MLR MLR
comp=Z,8µm,17.9s
OKC Ostrava-Krasne 144.41 348 ⇓ePKP **PKPab 15 11 07.3 -0.5**
OKC i x x 15 11 09.1
OKC ePP **PP 15 14 22.0 -2.3**
OKC ex x 15 17 42.2
OKC eSS SS 15 33 04.5 -5.1
OKC AMS AMS 16 25 10.0
comp=Z,8µm,17.9s
UCC Uccle 144.42 3 PKP **PKPdf 15 11 08.9 -0.8**
UBBA Unterbreizbach 144.44 357 ePKP PKPbc 15 11 08.5 +0.5
TOKT Tokat 144.44 320 eP **PKPdf 15 11 10.7 +0.6**
TOKA Tokat 144.48 320 i P PKPbc 15 11 09.2 +0.5
HAVZ Havza 144.48 322 i P PKPbc 15 11 08.5 -0.1
BEBN Eben Emael 144.49 2 PKP **PKPab 15 11 07.5 -0.5**
TRBA At Turbah 144.49 272 ⇑eP **PKPdf 15 11 12.3 +1.2**
MENF Mencas 144.49 6 PKP **PKPab 15 11 07.4 -0.6**
BUR08 Bucovina Ar. S 144.50 339 ePKP **PKPab 15 11 08.3 -0.1**
MOX Moxa 144.51 355 ePKP PKPbc 15 11 09.1 +0.7
MOX eSS SS 15 33 11.8 +1.1
MOX eSSS SSS 15 38 50.2
MOX eL L 16 19 19.4
comp=Z,7µm,18.5s
MOX Moxa 144.51 355 ePKIKP PKPbc 15 11 09.1 +0.7
MOX eSS SS 15 33 11.8 +1.1
CRVS Cervenica-Dubn 144.51 344 ePKIKP PKPbc 15 11 09.1 +0.6
CRVS Cervenica-Dubn 144.51 344 ePKP PKPbc 15 11 09.1 +0.6
BURAR Bucovina Array 144.52 339 ⇓PKIKP **PKPab 15 11 08.4 0.0**
BURAR Bucovina Array 144.52 339 ⇓iP **PKPab 15 11 08.4 0.0**
HGN Heimansgroeve 144.53 2 ePKP **PKPab 15 11 07.6 -0.6**
comp=Z,4µm,2.8s
HGN ePP **PP 15 14 25.0 +0.1**
URFA Urfa 144.53 315 eP **PKPdf 15 11 10.0 -0.4**
UZH Uzhgorod 144.53 343 ⇓iPKIKP **PKPab 15 11 07.8 -0.5**
UZH e 15 11 12.6
UZH e 15 17 40.6
UZH e 15 18 06.4
UZH e 15 33 07.8
UZH e 15 38 27.2
UZH MLR MLR
comp=N,4µm,20.0s
UZH MLR MLR
comp=E,6µm,20.0s
UZH MLR MLR
comp=Z,2µm,20.0s
MORC Moravsky Berou 144.58 349 ePKIKP **PKPab 15 11 08.4 -0.1**
MORC Moravsky Berou 144.58 349 ePKP **PKPab 15 11 08.4 -0.1**
WERD Werda 144.65 355 ePKP PKPbc 15 11 09.4 +0.5
TANN Tannenbergstha 144.67 355 ePKP **PKPdf 15 11 09.7 -0.5**
MEM Membach 144.68 2 PKP **PKPab 15 11 07.8 -1.0**
AKCD Akcadag 144.70 316 i P **PKPdf 15 11 10.2 -0.6**
UDYN Al 'Udayn 144.72 273 ⇑eP **PKPdf 15 11 12.6 +1.2**
GUNZ Gunzen 144.73 355 ePKP **PKPdf 15 11 10.1 -0.2**
PRA Prague 144.79 352 ⇓PKP **PKPab 15 11 09.0 -0.2**
PRA PP PP 15 14 19.0 -7.6
PRA AMS AMS 16 20 30.0
BYBT Boyabat 144.79 323 eP **PKPdf 15 11 12.1 +1.5**
DARE Darende-Malaty 144.84 317 eP **PKPdf 15 11 11.5 +0.5**
BCLA Clavier 144.85 2 PKP **PKPdf 15 11 10.0 -0.4**
NKC Novy Kostel 144.85 354 ePKIKP **PKPab 15 11 08.9 -0.6**
NKC e 15 14 23.7
NKC e 15 17 46.9
NKC MLR MLR
comp=Z,6µm,17.6s
NKC Novy Kostel 144.85 354 ⇓ePKP **PKPab 15 11 08.9 -0.6**
NKC i pPKP **PKPdf 15 11 10.6 +0.1**
NKC ePP **PP 15 14 23.7 -3.3**
NKC ex x 15 17 46.9
NKC eSS SS 15 33 36.7 +22
NKC AMS AMS 16 24 40.0
comp=Z,6µm,17.6s
PRU Pruhonice 144.86 352 ePKIKP **PKPab 15 11 08.7 -0.7**
PRU e 15 11 17.9
PRU e 15 17 49.6
PRU eSS SS 15 33 18.8 +4.2
PRU MLR MLR
comp=Z,8µm,18.5s
PRU Pruhonice 144.86 352 ⇓ePKP **PKPab 15 11 08.7 -0.7**
PRU i pPKP **PKPdf 15 11 10.5 0.0**
PRU ex x 15 11 17.9
PRU ePP PP 15 14 18.9 -8.1
PRU ex x 15 17 49.6
PRU eSS SS 15 33 18.8 +4.2
PRU ex x 15 38 17.7
PRU AMS AMS 16 19 40.0
comp=Z,8µm,18.5s
ATAB Bozova 144.88 315 i P **PKPdf 15 11 10.8 -0.1**
BZK Bozkurt 144.91 325 eP **PKPdf 15 11 10.6 -0.1**
TRPA Tarpa 144.92 342 ⇓iP PKPbc 15 11 10.0 +0.3
TESR Tescani 144.94 337 ⇑iP **PKPdf 15 11 10.7 0.0**
GHRR 145.02 336 ⇑iP **PKPdf 15 11 11.2 +0.4**
TNS Taunus Mts 145.08 359 ePKP **PKPdf 15 11 11.1 +0.2**
TNS Taunus Mts 145.08 359 ePKIKP **PKPdf 15 11 11.1 +0.2**
MANZ Manzenberg 145.13 355 ePKP **PKPdf 15 11 11.6 +0.6**
TLCR 145.14 333 ⇑PKIKP **PKPdf 15 11 10.9 -0.2**
TLCR 145.14 333 ⇑iP **PKPdf 15 11 10.9 -0.2**
DOU Dourbes 145.14 3 PKP **PKPbc 15 11 10.1 -0.3**
GIVF Givet 145.14 3 ePKIKP **PKPbc 15 11 10.2 -0.2**
comp=Z,775nm,1.2s
BAIF Baives 145.15 4 ePKIKP **PKPab 15 11 10.6 +0.1**
comp=Z,2µm,1.5s
KECS Kecovo 145.15 345 ePKIKP **PKPdf 15 11 11.0 0.0**
KECS Kecovo 145.15 345 ePKP **PKPdf 15 11 11.0 0.0**
VRAC Vranov 145.20 350 PKPbc **PKPdf 15 11 11.0 -0.1**
VRAC Vranov 145.20 350 PKPbc **PKPdf 15 11 11.0 -0.1**
comp=Z,163nm,1.0s,baz=342,slow=3.5,SNR=186
HAJJ Hajjah 145.24 276 ⇑eP **PKPdf 15 11 13.6 +1.2**
KAST KASTAMONU 145.26 324 i P **PKPdf 15 11 12.1 +0.6**
CTKT Corum 145.31 322 eP **PKPdf 15 11 12.4 +0.6**
ROTZ Rotzenmuhle 145.34 355 ePKP **PKPdf 15 11 12.3 +1.0**
PETR Petresti 145.37 335 ⇓iP **PKPab 15 11 12.4 +1.0**
TREC Trest 145.40 351 ePKIKP **PKPbc 15 11 10.7 -0.6**
TREC i 15 11 11.9
TREC e 15 11 19.1
TREC e 15 14 25.5
TREC MLR MLR
comp=Z,9µm,18.3s
TREC Trest 145.40 351 ⇓ePKP **PKPbc 15 11 10.7 -0.6**
TREC i pPKP **PKPab 15 11 11.9 +0.4**
TREC ex x 15 11 19.1
TREC ePP **PP 15 14 25.5 -4.8**
TREC eSS SS 15 33 25.7 +4.8
TREC ex x 15 38 21.9
TREC AMS AMS 16 19 30.0
comp=Z,9µm,18.3s
VRI Vrincioaia 145.45 336 ⇓PKIKP **PKPab 15 11 11.8 0.0**
VRI Vrincioaia 145.45 336 ⇓iP **PKPab 15 11 11.8 0.0**
GRF Grafenberg Arr 145.49 356 ePKP **PKPab 15 11 12.7 +0.9**
GRF eSS SS 15 33 20.3 -1.6
GRF eSSS SSS 15 38 54.4
GRF eL L 16 20 24.0
comp=Z,7µm,20.0s
GRF Grafenberg Arr 145.49 356 ePKIKP **PKPab 15 11 12.7 +0.9**
GRF eSS SS 15 33 20.3 -1.6
GRF eSSS SSS 15 38 54.4
PLOR Plostina 145.49 336 ⇑PKIKP **PKPab 15 11 12.3 +0.3**
PLOR Plostina 145.49 336 ⇑iP **PKPab 15 11 12.3 +0.3**
GRFO Grafenberg 145.49 356 ePKIKP **PKPdf 15 11 11.3 -0.3**
GRFO Grafenberg 145.49 356 ePKP **PKPdf 15 11 11.3 -0.3**
TOS Tosya 145.50 323 eP **PKPab 15 11 14.4 +2.2**

WLF Walferdange 145.63 2 PKP **PKPbc 15 11 11.9 -0.1**
WLF Walferdange 145.63 2 ePKP **PKPab 15 11 13.3 +1.0**
WLF Walferdange 145.63 2 ePKP2 **PKPdf 15 11 11.8 0.0**
WLF MLR MLR
comp=Z,9µm,20.0s
WLF Walferdange 145.63 2 ePKP **PKPdf 15 11 11.8 0.0**
WLF LR LR
comp=Z,9µm,20.0s
JHLN Al Jahlan 145.66 312 i P **PKPab 15 11 14.3 +1.4**
JHLN eP **PKiKP** 15 11 14.5 -1.9
JHLN Al Jahlan 145.66 312 eP **PKPab 15 11 13.6 +0.7**
JHLN Al Jahlan 145.66 312 eP **PKPab 15 11 13.6 +0.7**
SNR=93
ILGA Ilgaz 145.66 324 i P **PKPab 15 11 13.1 +0.1**
CORM Corum 145.69 322 eP **PKPab 15 11 13.6 +0.6**
BNN Bunyan 145.74 319 eP **PKPab 15 11 13.5 +0.2**
GRER 145.75 335 ⇑iP **PKPab 15 11 14.7 +1.8**
SLMH Al Salmeh 145.76 313 i P **PKPab 15 11 14.1 +0.8**
SLMH Al Salmeh 145.76 313 eP **PKPab 15 11 14.3 +1.1**
SLMH Al Salmeh 145.76 313 eP **PKPab 15 11 14.4 +1.1**
SNR=92
KMRS Kahramanmaras 145.80 316 eP **PKPab 15 11 13.6 +0.2**
ROSF Rostrenen 145.80 13 ePKIKP **PKPdf 15 11 12.1 0.0**
SMOL Smolenice 145.81 348 ePKP2 **PKPab 15 11 14.0 +1.0**
SMOL Smolenice 145.81 348 ePKP **PKPab 15 11 14.0 +1.0**
KHC Kasperske Hory 145.82 353 ⇓iPKP2 **PKPdf 15 11 12.4 +0.2**
KHC i 15 11 13.7
KHC e 15 11 20.8
KHC e 15 11 26.0
KHC e 15 14 30.6
KHC e 15 17 45.2
KHC eSS SS 15 33 25.3 -0.4
KHC MLR MLR
comp=Z,9µm,18.1s
KHC Kasperske Hory 145.82 353 ⇓iPKP **PKPdf 15 11 12.4 +0.2**
KHC i pPKP **PKPab 15 11 13.7 +0.6**
KHC ex x 15 11 20.8
KHC ex x 15 11 26.0
KHC ePP **PP 15 14 30.6 -2.2**
KHC ex x 15 17 45.2
KHC eSS SS 15 33 25.3 -0.4
KHC ex x 15 38 30.5
KHC AMS AMS 16 24 10.0
comp=Z,9µm,18.1s
KHC Kasperske Hory 145.82 353 ePKP **PKPdf 15 11 12.4 +0.2**
PSZ Piszkesteto 145.82 345 ePKP2 **PKPdf 15 11 12.4 +0.1**
PSZ MLR MLR
comp=Z,9µm,21.0s
PSZ Piszkesteto 145.82 345 ⇓iP **PKPab 15 11 13.6 +0.4**
PSZ Piszkesteto 145.82 345 ePKP **PKPdf 15 11 12.4 +0.1**
PSZ LR LR
comp=Z,9µm,21.0s
PSZ Piszkesteto 145.82 345 ⇓ePKPdf **PKPdf 15 11 12.2 -0.1**
TIRR Tirgusor 145.89 333 ⇓PKP2 **PKPab 15 11 13.8 +0.4**
TIRR Tirgusor 145.89 333 ⇓iP **PKPab 15 11 13.8 +0.4**
WET Wettzell 145.89 354 ePKP **PKPab 15 11 13.9 +0.6**
WET Wettzell 145.89 354 ePKP2 **PKPab 15 11 13.9 +0.6**
AYKD Aykdinkavak 145.91 316 i P **PKPbc 15 11 13.1 -0.3**
FLN La Foliniere 145.91 9 ePKIKP **PKPbc 15 11 12.6 -0.3**
FLN eR
comp=Z,13µm,19.0s
CANT Cankiri 146.01 323 eP **PKPdf 15 11 12.9 0.0**
SGMF Saint Gilles 146.03 12 ePKIKP **PKPbc 15 11 12.9 -0.4**
DRGR 146.06 341 ⇓PKP2 **PKPab 15 11 13.9 -0.2**
DRGR 146.06 341 ⇓iP **PKPab 15 11 13.9 -0.2**
MLR Muntele Rosu 146.06 337 ⇑iP **PKPdf 15 11 13.1 +0.3**
MLR Muntele Rosu 146.06 337 PKPbc **PKPdf 15 11 13.2 +0.3**
MLR Muntele Rosu 146.06 337 PKPbc **PKPdf 15 11 13.2 +0.3**
comp=Z,63nm,0.9s,baz=352,slow=4.1,SNR=226
KUZU Kuzuiini 146.07 315 i P **PKPbc 15 11 13.5 -0.4**
MDB Medias 146.08 339 ⇓PKP2 **PKPab 15 11 14.6 +0.5**
MDB Medias 146.08 339 ⇓iP **PKPab 15 11 14.6 +0.5**
EFOR EFORIE 146.09 332 ⇑iP **PKPab 15 11 15.2 +1.0**
GEC2 GERESS Array S 146.09 353 ePKP **PKPab 15 11 14.4 +0.2**
GEC2 GERESS Array S 146.09 353 ePKP2 **PKPab 15 11 14.4 +0.2**
GERES GERESS Array B 146.09 353 PKPbc **PKPdf 15 11 12.9 +0.2**
GERES GERESS Array B 146.09 353 PKPbc **PKPdf 15 11 12.9 +0.2**
comp=Z,127nm,0.8s,baz=22,slow=2.7,SNR=294
SAFT Safranbolu 146.12 325 eP **PKPab 15 11 15.2 +0.8**
ANDN Andirin 146.13 317 i P **PKPdf 15 11 13.3 +0.1**
PGOR Pogoanele 146.13 335 ⇑iP **PKPab 15 11 14.7 +0.4**
LDF La Druitiere 146.13 9 ePKIKP **PKPdf 15 11 13.1 +0.4**
ISR Istrita 146.14 336 ⇓PKP2 **PKPab 15 11 14.9 +0.5**
ISR Istrita 146.14 336 ⇓iP **PKPab 15 11 14.9 +0.5**
CVD Cernavoda 146.17 333 ⇑PKP2 **PKPab 15 11 15.1 +0.6**
CVD Cernavoda 146.17 333 ⇑iP **PKPab 15 11 15.1 +0.6**
ZST Bratislava 146.18 348 ePKP2 **PKPab 15 11 14.1 -0.3**
ZST Bratislava 146.18 348 ePKP **PKPab 15 11 14.1 -0.3**
CDAG Cicekdag 146.19 321 i P **PKPdf 15 11 13.6 +0.3**
ELDT Eldivan 146.20 323 i P **PKPdf 15 11 13.7 +0.4**
GRR Gorron 146.22 10 ePKIKP **PKPbc 15 11 13.7 -0.1**
QUIF Quistinic 146.22 13 ePKIKP **PKPbc 15 11 13.4 -0.5**
AMRR Amara 146.23 334 ⇓PKP2 **PKPbc 15 11 13.7 -0.3**
AMRR Amara 146.23 334 ⇓iP **PKPbc 15 11 13.7 -0.3**
MANR Mangalia 146.31 332 ⇑iP **PKPbc 15 11 14.3 0.0**
LANF Langenberg 146.33 360 PKP **PKPbc 15 11 14.1 -0.1**
SHEL Horse Pasture 146.37 157 ePKP2 **PKPab 15 11 16.2 +0.1**
SHEL MLR MLR
comp=Z,7µm,21.0s
SHEL Horse Pasture 146.37 157 ePKPbc **PKPab 15 11 16.1 +0.1**
SHEL LR LR
comp=Z,7µm,21.0s
SECR 146.40 336 ⇑iP **PKPbc 15 11 14.9 +0.4**
KMBO Kilima Mbogo 146.40 244 PKPdf **PKPab 15 11 16.5 -0.1**
SNR=112
KMBO Kilima Mbogo 146.40 244 ePKPbc **PKPbc 15 11 16.0 +0.2**
KMBO LR LR
comp=Z,8µm,21.0s
KMBO Kilima Mbogo 146.40 244 PKPbc **PKPab 15 11 16.1 -0.5**
comp=Z,245nm,1.2s,baz=95,slow=3.1,SNR=72
AVNT Avonos 146.41 320 i P **PKPdf 15 11 14.1 +0.4**
DRWC Darouich 146.43 315 eP PKiKP 15 11 25.9 +7.9
DRWC Darouich 146.43 315 eP PKiKP 15 11 25.9 +7.9
SNR=46
BUD Budapest 146.44 346 ⇓ePKPdf **PKPdf 15 11 13.3 +0.1**
VOIR 146.45 337 ⇓PKP2 **PKPab 15 11 15.2 -0.4**
VOIR 146.45 337 ⇓iP **PKPab 15 11 15.2 -0.4**
STU Stuttgart 146.51 358 ePKP **PKPab 15 11 15.7 0.0**
STU Stuttgart 146.51 358 ePKP2 **PKPbc 15 11 14.4 -0.4**
STU Stuttgart 146.51 358 ePKPbc **PKPbc 15 11 14.4 -0.4**
KOZT Kozan 146.53 317 eP **PKPab 15 11 15.8 -0.3**
BR131 Keskin Array S 146.56 322 ePKPdf **PKPdf 15 11 14.0 +0.1**
BR131 ePKPbc **PKPab** 15 11 15.9 -0.5
BRTR Keskin Array B 146.56 322 PKP **PKPdf 15 11 11.9 -2.0**
BRTR PKPbc **PKPbc 15 11 14.3 -1.0**
BRTR SKKPbc SKKPbc 15 22 40.4 -4.3
BRTR Keskin Array B 146.56 322 PKP **PKPdf 15 11 11.9 -2.0**
comp=Z,134nm,1.0s,baz=167,slow=2.5,SNR=50
BRTR PKPbc **PKPbc 15 11 14.3 -1.0**
comp=Z,162nm,0.9s,baz=148,slow=1.7,SNR=15
BRTR SKKPbc SKKPbc 15 22 40.4 -4.3
comp=Z,3.1nm,1.1s,baz=184,slow=3.7,SNR=4.3
PSN Preselentsi 146.60 332 i P **PKPdf 15 11 14.2 +0.6**
SULR 146.62 335 ⇑iP **PKPbc 15 11 15.6 +0.5**
MTUR Matau 146.62 337 ⇑PKP2 **PKPbc 15 11 14.8 -0.5**
MTUR Matau 146.62 337 ⇑iP **PKPbc 15 11 14.8 -0.5**
ARR Arges 146.66 338 ⇓iP **PKPbc 15 11 15.0 -0.4**
PKSG 146.67 346 ⇓ePKPdf **PKPbc 15 11 15.4 +0.2**
PAGF Fort de Pagny 146.73 2 ePKIKP **PKPdf 15 11 13.8 +0.1**
CSKK Cs˘‡kako 146.73 347 ⇓ePKPdf **PKPbc 15 11 15.8 +0.4**
KAMT Kaman 146.75 321 eP **PKPab 15 11 17.5 +0.4**
KDZE Karadeniz Ereo 146.75 326 eP **PKPdf 15 11 09.4 -4.6**
SOP Sopron 146.78 349 ⇓e **PKPab 15 11 16.6 -0.1**
PKSN Nyarlorinc 146.78 344 ⇓ePKPdf **PKPab 15 11 16.5 -0.2**
DEV Deva 146.81 340 ⇑PKP2 **PKPbc 15 11 15.8 +0.1**
DEV Deva 146.81 340 ⇑iP **PKPbc 15 11 15.8 +0.1**
PKS7 Kunszentmiklos 146.82 345 ⇓ePKPdf **PKPbc 15 11 16.1 +0.5**
CEYT Ceyhan 146.84 316 eP **PKPab 15 11 17.9 +0.6**
BTCH Batrach 146.88 314 i P **PKPab 15 11 17.1 -0.5**
BTCH Batrach 146.88 314 eP **PKPab 15 11 17.1 -0.5**
BTCH Batrach 146.88 314 eP **PKPab 15 11 17.1 -0.5**
SNR=46
LOT Lotru 146.90 339 ⇓iP **PKPbc 15 11 16.0 -0.1**
CDF Champ du Feu 146.90 0 ePKIKP **PKPdf 15 11 13.6 -0.5**
NIG Nigde 146.96 319 eP **PKPbc 15 11 15.9 -0.9**
CIOR Ciorogarla 146.96 336 ⇑iP **PKPbc 15 11 15.9 -0.2**
ANTO Ankara 146.97 323 eP **PKPdf 15 11 14.8 +0.3**
ANTO Ankara 146.97 323 ePKP2 **PKPdf 15 11 15.3 +0.8**
ANTO MLR MLR
comp=Z,5µm,20.0s
ANTO Ankara 146.97 323 PKPdf **PKPbc 15 11 15.6 -0.8**
SNR=310

ANTO Ankara 146.97 323 ⇑iP **PKPbc 15 11 15.6 -0.8**
ANTO Ankara 146.97 323 ePKPbc **PKPdf 15 11 15.3 +0.8**
ANTO ePKPab **PKPab 15 11 18.1 +0.3**
ANTO LR LR
comp=Z,5µm,20.0s
LOD Lodumlu 146.97 323 eP **PKPab 15 11 18.1 +0.3**
BFO Black Forest 146.98 359 ePKP **PKPbc 15 11 16.8 +0.7**
BFO Black Forest 146.98 359 ePKP2 **PKPdf 15 11 14.9 +0.7**
BFO MLR MLR
comp=Z,5µm,19.0s
BFO Black Forest 146.98 359 ePKPdf **PKPdf 15 11 14.9 +0.7**
BFO ePKPbc **PKPbc 15 11 16.2 +0.1**
BFO LR LR
comp=Z,5µm,19.0s
BBAL Bala 146.99 322 i P **PKPdf 15 11 14.4 -0.2**
MOA Molln 146.99 352 ⇓iPKPbc **PKPdf 15 11 14.2 0.0**
comp=Z,12µm,3.9s,SNR=204
FUR Furstenfeldbru 147.00 355 ePKP **PKPab 15 11 17.1 -0.5**
FUR Furstenfeldbru 147.00 355 ePKP2 **PKPab 15 11 17.1 -0.5**
SFTF Sexfontaines 147.05 3 ePKIKP **PKPdf 15 11 14.6 +0.3**
HTY Hatay 147.05 314 eP **PKPab 15 11 17.9 -0.3**
THEF They Montfort 147.06 2 PKP **PKPdf 15 11 14.8 +0.5**
AFSR Af´ar-Bala (A 147.08 322 eP **PKPdf 15 11 14.0 -0.7**
ECH Echery 147.10 0 ePKP2 **PKPdf 15 11 14.4 0.0**
ECH MLR MLR
comp=Z,9µm,19.0s
ECH Echery 147.10 0 ePKPdf **PKPdf 15 11 14.4 0.0**
ECH ePKPbc **PKPbc 15 11 16.4 0.0**
ECH LR LR
comp=Z,9µm,19.0s
ECH Echery 147.10 0 PKP **PKPdf 15 11 14.1 -0.3**
YAYL Yayladag 147.12 314 i P **PKPdf 15 11 15.2 +0.3**
KARA Karaisali 147.16 317 eP **PKPdf 15 11 14.9 +0.1**
WRDH Warideh 147.18 313 i P **PKPbc 15 11 17.9 +0.7**
WRDH Warideh 147.18 313 eP **PKPab 15 11 18.4 -0.4**
WRDH Warideh 147.18 313 eP **PKPab 15 11 18.4 -0.4**
SNR=46
ROOS tl_alroos 147.20 311 i P **PKPab 15 11 20.7 +1.7**
ROOS tl_alroos 147.20 311 eP **PKPab 15 11 20.8 +1.8**
ROOS tl_alroos 147.20 311 eP **PKPab 15 11 20.8 +1.8**
SNR=46
GZR Gura Zlata 147.28 340 ⇓PKIKP **PKPdf 15 11 15.5 +0.7**
GZR Gura Zlata 147.28 340 ⇓iP **PKPdf 15 11 15.5 +0.7**
RJOB Jochberg 147.28 353 ePKP **PKPbc 15 11 17.9 +0.8**
HAU Haudompre 147.30 1 ePKIKP **PKPdf 15 11 14.8 +0.1**
HAU eR
comp=Z,7µm,22.0s
ARNB Al Arnab 147.31 314 i P **PKPab 15 11 20.0 +0.6**
ARNB eP **PKiKP** 15 11 20.4 +0.5
ARNB Al Arnab 147.31 314 eP **PKPab 15 11 19.9 +0.6**
ARNB Al Arnab 147.31 314 eP **PKPab 15 11 19.9 +0.6**
SNR=46
PKS2 Kecel 147.32 345 ⇓ePKPdf **PKPbc 15 11 17.9 +0.8**
GULE Gulek 147.33 317 i P **PKPdf 15 11 15.4 0.0**
PRD Provadia 147.33 333 P **PKPdf 15 11 14.7 -0.1**
ARSA Arzberg 147.38 350 ⇓iPKPdf **PKPdf 15 11 14.2 -0.7**
comp=Z,8µm,4.0s,SNR=151
BZS Buzias 147.46 341 ⇓PKP2 **PKPbc 15 11 16.5 -1.0**
BZS Buzias 147.46 341 ⇓iP **PKPbc 15 11 16.5 -1.0**
MOF Molkenrain 147.46 0 PKP **PKPdf 15 11 15.0 -0.1**
BIDA Albida 147.49 313 i P **PKPdf 15 11 16.7 +1.2**
BIDA Albida 147.49 313 eP **PKPdf 15 11 15.8 +0.3**
BIDA Albida 147.49 313 eP **PKPdf 15 11 15.8 +0.3**
SNR=46
HINF Hinteralfeld 147.50 1 ePKIKP **PKPdf 15 11 15.0 -0.1**
SULT Sultanhani-AKS 147.59 320 eP **PKPdf 15 11 16.4 +0.8**
HAWK Haweek 147.68 312 eP **PKPbc 15 11 17.9 -0.7**
HAWK Haweek 147.68 312 eP **PKPbc 15 11 17.9 -0.7**
SNR=46
RETA Reutte 147.72 356 ⇓iPKPbc **PKPdf 15 11 15.3 -0.2**
comp=Z,6µm,3.0s,SNR=145
PKSM Moragy 147.73 345 ⇑PKP2 **PKPdf 15 11 16.2 +0.8**
PKSM Moragy 147.73 345 ⇑iP **PKPdf 15 11 16.2 +0.8**
PKSM Moragy 147.73 345 ⇓ePKPdf **PKPdf 15 11 15.5 +0.1**
ZALF Zalf 147.73 308 i P **PKPbc 15 11 17.7 -1.1**
ZALF Zalf 147.73 308 eP **PKPbc 15 11 17.8 -0.9**
ZALF Zalf 147.73 308 eP **PKPbc 15 11 17.8 -0.9**
SNR=46
SRE Strehaia 147.78 339 ⇓PKP2 **PKPbc 15 11 18.9 +0.5**
SRE Strehaia 147.78 339 ⇓iP **PKPbc 15 11 18.9 +0.5**
HYF Humbligny 147.79 6 ePKIKP **PKPdf 15 11 16.1 +0.6**
WATA Walderalm 147.80 355 ⇓iPKPbc **PKPdf 15 11 15.6 -0.2**
comp=Z,6µm,3.1s,SNR=97
MOTA Moosalm 147.83 355 ⇑iPKPbc **PKPdf 15 11 15.8 0.0**
comp=Z,1µm,1.5s,SNR=187
MARH Ras Al Marh 147.86 311 eP **PKPbc 15 11 17.9 -1.5**
MARH Ras Al Marh 147.86 311 eP **PKPbc 15 11 17.9 -1.5**
SNR=46
KBA Koelnbreinsper 147.87 352 ⇑iPKPdf **PKPdf 15 11 14.7 -1.2**
comp=Z,10µm,6.7s,SNR=64
WTTA Wattenberg 147.87 355 ⇓iPKPbc **PKPdf 15 11 15.6 -0.3**
comp=Z,6µm,3.0s,SNR=145
BEHE Becsehely 147.90 348 ⇓ePKPdf **PKPdf 15 11 16.3 +0.6**
LOR Lormes 147.91 5 ePKIKP **PKPdf 15 11 16.1 +0.4**
LOR eR
comp=Z,12µm,20.8s
SZH Strazhica 147.91 334 P **PKPdf 15 11 16.6 +0.8**
LOMF Lomont 147.96 1 PKP **PKPdf 15 11 16.5 +0.6**
DAVA Damuels 147.97 357 ⇓iPKPdf **PKPdf 15 11 15.6 -0.4**
comp=Z,5µm,2.9s,SNR=151
SVRH Sivrihisar-ESK 147.98 324 eP PKPdf 15 11 07.0 -9.2
SOKA Soboth 148.01 350 ⇓iPKPdf **PKPdf 15 11 13.3 -2.7**
comp=Z,4µm,3.0s,SNR=105
PERS Pernice 148.04 350 i PKPdf **PKPdf 15 11 16.0 0.0**
PERS i PKPbc **PKPbc 15 11 19.9 +0.7**
PERS e 15 52 40.1
MFF Saint Martin d 148.07 10 ePKIKP **PKPdf 15 11 16.2 +0.2**
SSF Saint Saulge 148.08 5 ePKIKP **PKPdf 15 11 16.3 +0.3**
comp=Z,255nm,1.4s
HWQ Hawqa 148.13 312 eP **PKPdf 15 11 16.6 0.0**
KIZT Kizilcal 148.15 322 eP **PKPdf 15 11 17.6 +1.1**
FETA Feichten 148.18 356 ⇓iPKPbc **PKPdf 15 11 16.3 -0.1**
comp=Z,5µm,3.0s,SNR=139
PVL Pavlikeni 148.20 335 i P **PKPdf 15 11 16.3 0.0**
KIZK Mersin 148.21 317 i P **PKPdf 15 11 15.9 -0.7**
TOTH TOTAH 148.21 310 eP **PKPbc 15 11 18.9 -1.1**
TOTH TOTAH 148.21 310 eP **PKPbc 15 11 18.9 -1.1**
SNR=46
KDHN Kadinhani 148.25 322 i P **PKPdf 15 11 16.3 -0.4**
OBKA Obir 148.26 351 ⇑iPKPdf **PKPdf 15 11 15.5 -0.9**
comp=Z,4µm,3.2s,SNR=57
MYKA Terra Mystica 148.27 352 ⇑iPKPdf **PKPdf 15 11 15.5 -0.9**
comp=Z,3µm,3.0s,SNR=47
JMB Yambol 148.28 333 P **PKPdf 15 11 15.6 -0.9**
JMB Yambol 148.28 333 PKIKP **PKPdf 15 11 15.6 -0.9**
JMB Yambol 148.28 333 P **PKPdf 15 11 16.6 +0.1**
JMB Yambol 148.28 333 P **PKPdf 15 11 15.6 -0.9**
BORA Eskisehir 148.29 325 i P **PKPdf 15 11 16.7 0.0**
ABTA Abfaltersbach 148.29 353 ⇓iPKPdf **PKPdf 15 11 15.4 -1.1**
comp=Z,4µm,2.8s,SNR=126
BUY Buyukada 148.30 328 i P **PKPdf 15 11 16.2 -0.4**
AVF Avril sur Loir 148.34 5 ePKIKP **PKPdf 15 11 16.4 0.0**
ASF Jabal al Asfar 148.38 307 PKPbc **PKPdf 15 11 17.9 +0.8**
ASF Jabal al Asfar 148.38 307 PKPbc **PKPdf 15 11 17.9 +0.8**
comp=Z,92nm,1.1s,baz=54,slow=1.1,SNR=32
ASCN Ascension 148.39 135 ePKPdf **PKPdf 15 11 18.0 +0.5**
ASCN LR LR
comp=Z,3µm,19.0s
ELBA Catalca 148.43 329 i P **PKPdf 15 11 16.6 -0.2**
WNDE Wendo Genet 148.45 259 i P **PKPbc 15 11 20.8 -0.7**
KONT Konya--Tatoy 148.46 321 eP **PKPdf 15 11 17.5 +0.6**
DAVOX Davos/Dischmat 148.47 357 PKP **PKPdf 15 11 16.9 0.0**
DAVOX PKPbc **PKPbc 15 11 20.7 +0.3**
DAVOX Davos/Dischmat 148.47 357 PKP **PKPdf 15 11 16.9 0.0**
comp=Z,206nm,0.9s,baz=16,slow=8.4,SNR=26
DAVOX PKPbc **PKPbc 15 11 20.7 +0.3**
comp=Z,210nm,0.9s,baz=7.8,slow=3.8,SNR=60
BGF Bois d'Agland 148.52 6 ePKIKP **PKPdf 15 11 17.1 +0.4**
BHL Bhannes 148.52 311 eP **PKPdf 15 11 16.4 -0.8**
SMF Signal de Mont 148.52 5 ePKIKP **PKPdf 15 11 16.9 +0.1**
RCY Rachaya 148.58 310 eP **PKPdf 15 11 18.4 +1.0**
CABF La Chapelle 148.68 2 ePKIKP **PKPdf 15 11 17.9 +0.8**
comp=Z,690nm,1.9s
MPEP Malo Peshtene 148.71 337 i P **PKPdf 15 11 17.1 -0.1**
TCF Toulx Ste Croi 148.71 7 ePKIKP **PKPdf 15 11 17.3 +0.2**
comp=Z,270nm,1.6s
LJU Ljubljana 148.71 351 i PKPdf **PKPdf 15 11 17.6 +0.6**
LJU i PKPbc **PKPbc 15 11 21.3 +0.5**
LJU eSS SS 15 34 16.8 +18
CRNS Crni Vrh 148.72 351 i PKPdf **PKPdf 15 11 16.5 -0.7**
CRNS e 15 11 20.9
BOLV Bolvadin 148.80 323 i P **PKPdf 15 11 17.5 -0.1**
TUE Stuetta 148.81 358 ePKPdf **PKPdf 15 11 18.2 +0.7**

TUE *e*PKPbc **PKiKP** 15 11 22.3 -0.5
TUE LR LR
comp=Z,8μm,20.0s
VOY Vojsko 148.82 351 *e*PKPdf **PKPdf** 15 11 16.5 -0.9
VOY *e* 15 12 09.8
VOY *e* 15 12 25.3
VOY *e* 15 12 42.4
ERMK Ermenek 148.92 318 *i* P **PKPdf** 15 11 17.9 -0.1
JAVS Javornik 148.93 351 *i* PKPdf **PKPdf** 15 11 17.8 +0.2
JAVS *i* PKPbc **PKPbc** 15 11 21.7 +0.2
HDMB Hadim 148.99 319 *e*P **PKPdf** 15 11 18.0 -0.1
AGO Saint Agoulin 149.05 6 PKP **PKPdf** 15 11 18.5 +0.9
ALT Altintas 149.05 324 *i* P **PKPdf** 15 11 16.0 -2.0
DIM Dimitrovgrad 149.07 333 P **PKPdf** 15 11 18.7 +0.9
PHNC Paralimni 149.10 314 P **PKPdf** 15 11 18.5 +0.5
comp=Z,6.9nm,1.1s
BOJS Bojanci 149.12 349 *e*PKPdf **PKPdf** 15 11 18.2 +0.5
BOJS *e*PKPbc **PKiKP** 15 11 22.5 -0.6
BOJS *e*SS SS 15 34 01.8 -1.1
BOJS *e* 15 52 48.9
MMAI Mount Meron Ar 149.13 310 PKP **PKPdf** 15 11 19.1 +0.9
MMAI PKPbc **PKPbc** 15 11 22.8 +0.3
MMAI Mount Meron Ar 149.13 310 PKP **PKPdf** 15 11 19.1 +0.9
comp=Z,156nm,1.1s,baz=22,slow=1.6,SNR=12
MMAI PKPbc **PKPbc** 15 11 22.8 +0.3
comp=Z,146nm,1.0s,baz=62,slow=3.4,SNR=71
TRI Trieste 149.16 351 *e*PKP2 **PKPbc** 15 11 22.3 +0.3
TRI Trieste 149.16 351 *e*PKPbc **PKPbc** 15 11 22.2 +0.3
PGB Panagyurishte 149.23 336 P **PKPbc** 15 11 22.3 0.0
DIVS Divibare 149.32 342 P **PKPdf** 15 11 17.9 -0.3
PYM Petit Puy Mans 149.33 6 PKP **PKPdf** 15 11 18.5 +0.3
PLD Plovdiv 149.38 334 P **PKPdf** 15 11 16.6 -1.7
PLD Plovdiv 149.38 334 PKHKP **PKPdf** 15 11 16.6 -1.7
PLD Plovdiv 149.38 334 *i* P **PKPdf** 15 11 17.1 -1.2
PLD Plovdiv 149.38 334 P **PKPdf** 15 11 16.6 -1.7
SART Tekirdag 149.39 330 *i* P **PKPdf** 15 11 17.8 -0.6
KDZ Kurdzhali 149.45 333 *i* P **PKPdf** 15 11 17.9 -0.5
GAZI Gazipasa 149.54 318 *i* P **PKPdf** 15 11 17.2 -1.6
DURS Dursunbey 149.56 327 *i* P **PKPdf** 15 11 18.3 -0.5
MAMC Mammari 149.56 315 P **PKPdf** 15 11 19.0 +0.2
VTS Vitosha 149.57 337 P **PKPdf** 15 11 17.1 -1.7
VTS Vitosha 149.57 337 *i* P **PKPdf** 15 11 18.1 -0.7
VTS Vitosha 149.57 337⇑ *i* P **PKPbc** 15 11 21.1 -2.2
VTS Vitosha 149.57 337 P **PKPdf** 15 11 17.1 -1.7
RJF Les Rejaudoux 149.59 8 *e*PKIKP **PKPdf** 15 11 18.8 +0.3
comp=Z,233nm,1.5s
RJF *e*R
comp=Z,12μm,18.8s
CSS Prodhromos 149.60 315 P **PKPdf** 15 11 18.9 0.0
comp=Z,22nm,2.2s
CSS Prodhromos 149.60 315 P **PKPdf** 15 11 17.7 -1.2
CSS Prodhromos 149.60 315 *e*PKPdf **PKPdf** 15 11 19.1 +0.2
CSS *e*PKPbc **PKPbc** 15 11 23.8 +0.3
CSS LR LR
comp=Z,4μm,20.0s
RSL Roselend 149.62 1 PKP **PKPdf** 15 11 19.2 +0.4
ISP Isparta 149.65 322 P **PKPdf** 15 11 17.3 -1.7
ISP Isparta 149.65 322⇑ *i* P **PKPdf** 15 11 20.1 +1.1
ISP Isparta 149.65 322 *e*PKPdf **PKPdf** 15 11 18.4 -0.6
ISP *e*PKPbc **PKPbc** 15 11 23.6 0.0
ISP LR LR
comp=Z,6μm,19.0s
RZN Rozhen 149.72 334 *i* P **PKPdf** 15 11 18.4 -0.7
ALN Alexandroupoli 149.77 331 P **PKPbc** 15 11 22.7 -0.9
ALN Alexandroupoli 149.77 331 PKP2 **PKPbc** 15 11 22.7 -0.9
ALN Alexandroupoli 149.77 331 P **PKPbc** 15 11 22.7 -0.9
LPL La Plagne 149.79 1 *e*PKIKP **PKPdf** 15 11 20.1 +1.0
RDO Rodhopi 149.80 332 P **PKPdf** 15 11 17.7 -1.2
RDO Rodhopi 149.80 332 P **PKPdf** 15 11 17.7 -1.2
LPG La Plagne 149.81 1 *e*PKIKP **PKPdf** 15 11 20.2 +1.0
comp=Z,390nm,1.9s
LFF La Frestale 149.83 10 *e*PKIKP **PKPdf** 15 11 19.2 +0.3
DEMI Demirci 149.83 326 *i* P **PKPdf** 15 11 18.7 -0.5
LBL Lubilhac 149.87 6 PKP **PKPdf** 15 11 20.5 +1.4
KHAL Karahalli 149.88 324 *i* P **PKPdf** 15 11 19.1 -0.3
BALY Balya 149.90 328 *i* P **PKPdf** 15 11 18.4 -0.8
SSB Saint Sauveur 149.93 4 *e*PKPdf **PKPdf** 15 11 20.1 +1.0
SSB *e*PKPbc **PKiKP** 15 11 24.6 -0.3
SSB LR LR
comp=Z,9μm,20.0s
SACV Santiago Islan 149.97 86 *e*PKPdf **PKPdf** 15 11 19.9 0.0
SACV *e*PKPbc **PKPbc** 15 11 24.2 -0.6
SACV LR LR
comp=Z,5μm,20.0s
ALFC Alevga 149.99 316 P **PKPdf** 15 11 19.3 -0.2
comp=Z,4.2nm,0.9s
CAF Calviac 150.03 8 *e*PKIKP **PKPdf** 15 11 19.8 +0.5
comp=Z,329nm,1.9s
GRN Grenoble 150.04 2 PKP **PKPdf** 15 11 20.5 +1.2
PGAV Gavieira, Arco 150.07 24 *e*PKPdf **PKPdf** 15 11 20.8 +1.3
PGAV Gavieira, Arco 150.07 24 *e*PP PP 15 15 00.0 +1.9
PGAV Gavieira, Arco 150.07 24 *i* P **S'S'ac** 15 35 13.8 -2.8
PGAV Gavieira, Arco 150.07 24 *e*LR LR 16 01 17.1
comp=Z,7μm,18.0s
GDM Grand'Maison 150.09 2 PKP **PKPdf** 15 11 20.7 +1.2
PLE Pljevlja 150.20 342 *e*PKP **PKPdf** 15 11 19.0 -0.7
MMB Musomiste 150.21 335 *i* P **PKPdf** 15 11 18.4 -1.3
KKB Krupnik 150.24 336 *i* P **PKPdf** 15 11 18.4 -1.3
AKMC Akamas 150.25 316 P **PKPdf** 15 11 19.5 -0.4
BNI Bardonecchia 150.26 1 *e*PKIKP **PKPdf** 15 11 20.2 +0.5
BNI *e* 15 11 26.3
BNI MLR MLR
comp=Z,10μm,19.0s
BNI Bardonecchia 150.26 1 *e*PKPdf **PKPdf** 15 11 20.2 +0.5
BNI *e*PKPbc **PKiKP** 15 11 26.2 +0.5
BNI LR LR
comp=Z,10μm,19.0s
KORT Korkueli 150.29 321 *i* P **PKPdf** 15 11 19.6 -0.4
PPCY Paphos 150.32 316 P **PKPdf** 15 11 19.8 -0.1
SMTH Samothraki Isl 150.34 332 P **PKPdf** 15 11 18.6 -1.3
SMTH Samothraki Isl 150.34 332 P **PKPdf** 15 11 18.6 -1.3
NVR Nevrokopi 150.36 335 P **PKPdf** 15 11 18.2 -1.7
NVR Nevrokopi 150.36 335 P **PKPdf** 15 11 18.2 -1.7
VIVF Saint-Julien-l 150.36 4 *e*PKIKP **PKPdf** 15 11 20.6 +0.8
comp=Z,391nm,1.8s
ORIF Oris-en-Rattie 150.37 2 *e*PKIKP **PKPdf** 15 11 20.6 +0.7
comp=Z,222nm,1.6s
ORIF *e*R
comp=Z,11μm,21.2s
KAVA Kavala 150.37 333 P **PKPdf** 15 11 17.9 -2.0
KAVA Kavala 150.37 333 P **PKPdf** 15 11 17.9 -2.0
PCAB Cabril 150.38 24 *e*PKPdf **PKPdf** 15 11 22.0 +2.1
AKHS Akhisar 150.43 327 *i* P **PKPdf** 15 11 19.2 -0.8
UPM Unac-Piva 150.45 343 *e*PKP **PKPdf** 15 11 19.6 -0.6
IVA Berane 150.47 341 *e*PKP **PKPdf** 15 11 19.8 -0.3
MBDF Montbardon 150.58 1 *e*PKIKP **PKPdf** 15 11 20.8 +0.5
comp=Z,351nm,1.9s
BOZC Bozcaada 150.59 330 *i* P **PKPdf** 15 11 19.1 -1.2
DNZL Cakiroluk 150.60 324 *i* P **PKPdf** 15 11 20.5 -0.1
GOLH Golhisar 150.61 322 *i* P **PKPdf** 15 11 20.0 -0.5
SRS Serrai 150.66 335 P **PKPdf** 15 11 17.9 -2.4
SRS Serrai 150.66 335 PKIKP **PKPdf** 15 11 17.9 -2.4
SRS Serrai 150.66 335 P **PKPdf** 15 11 17.9 -2.4
OG26 St.-Nazaire-De 150.68 3 PKP **PKPdf** 15 11 21.8 +1.5
PV9 Plav 150.70 341 ||*i* PKP **PKPdf** 15 11 19.5 -1.0
SKO Skopje 150.76 338 P **PKPdf** 15 11 20.1 -0.4
SKO Skopje 150.76 338 PKIKP **PKPdf** 15 11 20.1 -0.4
SKO Skopje 150.76 338 *i* PKP **PKPdf** 15 11 19.9 -0.5
SKO Skopje 150.76 338 P **PKPdf** 15 11 20.1 -0.4
PBRG Braganca 150.79 22 *e*PKPdf **PKPdf** 15 11 21.6 +1.0
NKY Niksic 150.79 343 ||*i* PKP **PKPdf** 15 11 20.4 -0.2
SURF Saint Ours 150.83 1 PKP **PKPdf** 15 11 22.4 +1.7
BRY Bratogost 150.84 343 ||*i* PKP **PKPdf** 15 11 20.6 -0.1
VAY Valandovo 150.90 336 P **PKPdf** 15 11 17.7 -3.0
VAY Valandovo 150.90 336 PKIKP **PKPdf** 15 11 17.7 -3.0
VAY Valandovo 150.90 336 *i* PKP **PKPdf** 15 11 17.2 -3.5
VAY Valandovo 150.90 336 P **PKPdf** 15 11 17.7 -3.0
KNT Kendrikon 150.91 336 P **PKPdf** 15 11 18.8 -1.9
KNT Kendrikon 150.91 336 PKIKP **PKPdf** 15 11 18.8 -1.9
KNT Kendrikon 150.91 336 P **PKPdf** 15 11 18.8 -1.9
EIL Elat 150.94 304 PKP **PKPdf** 15 11 21.7 +0.6
EIL PKPbc **PKiKP** 15 11 28.0 +0.6
EIL Elat 150.94 304 PKP **PKPdf** 15 11 21.7 +0.6
comp=Z,102nm,1.3s,baz=16,slow=0.6,SNR=39
EIL PKPbc **PKiKP** 15 11 28.0 +0.6
comp=Z,285nm,1.1s,baz=12,slow=1.6,SNR=57
PRK Paraskevi 150.95 329 P **PKPdf** 15 11 19.2 -1.6
PRK Paraskevi 150.95 329 PKIKP **PKPdf** 15 11 19.2 -1.6
PRK Paraskevi 150.95 329 P **PKPdf** 15 11 19.2 -1.6
LIA Limnos Island 150.96 331 P **PKPdf** 15 11 19.0 -1.8
LIA Limnos Island 150.96 331 P **PKPdf** 15 11 19.0 -1.8
SOH Sokhos 151.01 335 P **PKPdf** 15 11 18.8 -2.1
SOH Sokhos 151.01 335 PKIKP **PKPdf** 15 11 18.8 -2.1
SOH Sokhos 151.01 335 P **PKPdf** 15 11 18.8 -2.1
VLC Villacollemand 151.05 356 *e*PKPbc **PKPbc** 15 11 26.3 -0.3
VLC LR LR
comp=Z,9μm,21.0s
PDG Podgorica 151.06 342 P **PKPdf** 15 11 19.5 -1.4
TTG Podgorica 151.06 342 ||*i* PKP **PKPdf** 15 11 20.2 -0.7
TTG Podgorica 151.06 342 PKIKP **PKPdf** 15 11 19.5 -1.4
TTG Podgorica 151.06 342 P **PKPdf** 15 11 19.5 -1.4
OSSF Osses 151.07 13 PKP **PKPdf** 15 11 21.1 +0.2
LASF Ste Croix 151.07 5 *e*PKIKP **PKPdf** 15 11 21.8 +0.9
comp=Z,518nm,1.8s
OUR Ouranopolis 151.15 333 P **PKPdf** 15 11 19.0 -2.1
OUR Ouranopolis 151.15 333 PKIKP **PKPdf** 15 11 19.0 -2.1
OUR Ouranopolis 151.15 333 P **PKPdf** 15 11 19.0 -2.1
ORDF Ordiarp 151.18 13 PKP **PKPdf** 15 11 21.1 0.0
SJPF Ste Jean 151.21 13 *e*PKIKP **PKPdf** 15 11 22.0 +0.9
MVO Moncorvo 151.24 23 *e*PKPdf **PKPdf** 15 11 22.8 +1.5
MVO Moncorvo 151.24 23 *e*PP PP 15 15 10.7 +6.0
MVO Moncorvo 151.24 23 *i* P **S'S'ac** 15 35 27.7 +2.5
MVO Moncorvo 151.24 23 *e*LQ LQ 15 54 21.1
MVO *e*LR LR 16 01 55.9
comp=Z,6μm,18.0s
AKAS Kas 151.25 321 *i* P **PKPdf** 15 11 21.2 -0.3
HCY Herceg Novi 151.27 343 ||*i* PKP **PKPdf** 15 11 21.0 -0.2
GRG Griva 151.28 336 P **PKPdf** 15 11 19.0 -2.3
GRG Griva 151.28 336 PKIKP **PKPdf** 15 11 19.0 -2.3
GRG Griva 151.28 336 P **PKPdf** 15 11 19.0 -2.3
AYDN Tasoluk 151.28 325 *i* P **PKPdf** 15 11 21.7 +0.2
PVIS Viseu 151.28 25 *e*PKPdf **PKPdf** 15 11 23.3 +1.9
BUM Brajici-Budva 151.29 342 ||*i* PKP **PKPdf** 15 11 20.9 -0.4
SMRF Simiane la Rot 151.29 3 *e*PKIKP **PKPdf** 15 11 22.3 +1.0
comp=Z,512nm,1.8s
HORT Hortiatis 151.30 335 P **PKPdf** 15 11 19.5 -1.9
HORT Hortiatis 151.30 335 P **PKPdf** 15 11 19.5 -1.9
TOUF Mont Tournerai 151.30 0 PKP PKPdf 15 11 15.6 -5.9
DRME Dracevica, Mon 151.31 342 ||*i* PKP **PKPdf** 15 11 20.9 -0.4
AUTN L'Aution 151.32 0 PKP **PKPdf** 15 11 16.5 -5.0
THE Thessaloniki 151.33 335 P **PKPdf** 15 11 19.5 -1.8
THE Thessaloniki 151.33 335 PKIKP **PKPdf** 15 11 19.5 -1.8
THE Thessaloniki 151.33 335 P **PKPdf** 15 11 19.5 -1.8
SAOF Saorge 151.33 360 PKP PKPdf 15 11 14.6 -6.7
LARF Larrau 151.34 13 PKP **PKPdf** 15 11 23.1 +1.7
PLG Polygyros 151.34 334 P **PKPdf** 15 11 18.6 -2.9
PLG Polygyros 151.34 334 PKIKP **PKPdf** 15 11 18.6 -2.9
PLG Polygyros 151.34 334 P **PKPdf** 15 11 18.6 -2.9
ATE Arette 151.35 13 PKP **PKPdf** 15 11 22.8 +1.4
PHP Peshkopia 151.36 340 P **PKPdf** 15 11 20.1 -1.3
PHP Peshkopia 151.36 340 PKIKP **PKPdf** 15 11 20.1 -1.3
PHP Peshkopia 151.36 340 P **PKPdf** 15 11 20.1 -1.3
MVIF Mont Vial 151.42 1 PKP PKPdf 15 11 13.3 -8.3
TURN Turunc 151.42 323 *i* P **PKPdf** 15 11 21.7 +0.1
LUCF Luceram 151.42 0 PKP PKPdf 15 11 12.6 -8.9
REYF Montagne du Re 151.43 12 PKP **PKPdf** 15 11 22.0 +0.4
SBF Sospel 151.45 0 *e*PKIKP **PKPdf** 15 11 21.4 -0.1
comp=Z,401nm,1.7s
URLA Izmir 151.46 327 *i* P **PKPdf** 15 11 20.9 -0.7
ULC Ulcinj 151.49 341 *e*PKP **PKPdf** 15 11 21.0 -0.6
LABF Labassere 151.54 11 PKP **PKPdf** 15 11 22.1 +0.4
PMOZ Porto Moniz, M 151.54 48 *e*PKPdf **PKPdf** 15 11 23.7 +1.6
PMOZ Porto Moniz, M 151.54 48 *e*PP PP 15 15 06.3 -1.1
PMOZ Porto Moniz, M 151.54 48 *e*LR LR 16 02 35.1
comp=Z,6μm,20.0s
CALN Calern 151.56 1 PKP PKPdf 15 11 13.3 -8.5
ETSF Etsaut 151.56 13 *e*PKIKP **PKPdf** 15 11 22.7 +0.9
PCAS Casmilo, Conde 151.58 26 *e*PKPdf **PKPdf** 15 11 22.7 +0.9
GCAM G?zelcaml? 151.60 326 *i* P **PKPdf** 15 11 21.7 -0.2
EPF Esparros 151.61 11 *e*PKIKP **PKPdf** 15 11 22.3 +0.5
MTLF Montolieu 151.61 8 *e*PKIKP **PKPdf** 15 11 22.3 +0.6
comp=Z,155nm,1.5s
PAIG Paliouri 151.62 333 P **PKPdf** 15 11 19.5 -2.3
PAIG Paliouri 151.62 333 PKIKP **PKPdf** 15 11 19.5 -2.3
PAIG Paliouri 151.62 333 P **PKPdf** 15 11 19.5 -2.3
BIA Bitola 151.63 338 P **PKPdf** 15 11 21.4 -0.5
BIA Bitola 151.63 338 *e*PKP **PKPdf** 15 11 21.6 -0.3
BIA Bitola 151.63 338 P **PKPdf** 15 11 21.4 -0.5
MTE Manteigas 151.69 25 *e*PKPdf **PKPdf** 15 11 23.0 +1.0
MTE Manteigas 151.69 25 *i* P S'S'ac 15 35 36.8 +8.1
MTE Manteigas 151.69 25 *e*LQ LQ 15 54 45.9
MTE *e*LR LR 16 02 10.3
comp=Z,7μm,18.0s
MTE Manteigas 151.69 25 *e*PKPdf **PKPdf** 15 11 22.4 +0.4
MTE *e*PKPbc **PKiKP** 15 11 28.7 0.0
MTE LR LR
comp=Z,8μm,19.0s
CHOS Chios island 151.72 328 P **PKPdf** 15 11 20.5 -1.6
CHOS Chios island 151.72 328 P **PKPdf** 15 11 20.5 -1.6
FRF La Foret Royal 151.75 1 *e*PKIKP **PKPdf** 15 11 22.1 +0.2
comp=Z,453nm,1.9s
PMAR Madeira 151.80 48 *e*PKPdf **PKPdf** 15 11 24.9 +2.3
SMG Samos 151.81 326 P **PKPdf** 15 11 21.0 -1.2
SMG Samos 151.81 326 P **PKPdf** 15 11 21.0 -1.2
FNA Florina 151.82 337 P **PKPdf** 15 11 20.5 -1.7
FNA Florina 151.82 337 PKIKP **PKPdf** 15 11 20.5 -1.7
FNA Florina 151.82 337 P **PKPdf** 15 11 20.5 -1.7
RESF Ens 151.83 11 PKP **PKPdf** 15 11 23.1 +0.9
MELF Melles 151.84 11 PKP **PKPdf** 15 11 22.6 +0.4
TIR Tirane 151.85 340 *e*PG **PKPdf** 15 11 21.8 -0.3
TIR Tirane 151.85 340 P **PKPdf** 15 11 21.8 -0.3
TIR Tirane 151.85 340 PKIKP **PKPdf** 15 11 21.8 -0.3
TIR *e* 15 11 28.2
TIR MLR MLR
comp=Z,13μm,22.0s
TIR Tirane 151.85 340 P **PKPdf** 15 11 21.8 -0.3
TIR *e*PKPbc **PKPbc** 15 11 28.2 -0.4
TIR LR LR
comp=Z,13μm,22.0s
BDRM Kayabasi 151.95 325 *i* P **PKPdf** 15 11 21.6 -0.8
LMR La Mourre 151.97 2 *e*PKIKP **PKPdf** 15 11 22.5 +0.3
comp=Z,424nm,1.9s
LIT Litokhoron 151.97 335 P **PKPdf** 15 11 21.2 -1.2
LIT Litokhoron 151.97 335 PKIKP **PKPdf** 15 11 21.2 -1.2
LIT Litokhoron 151.97 335 P **PKPdf** 15 11 21.2 -1.2
PTOM Tomar 151.98 27 *e*PKPdf **PKPdf** 15 11 24.3 +1.9
PMPST Porto Santo, M 152.02 46 *e*PKPdf **PKPdf** 15 11 24.1 +1.5
PMPS Porto Santo 152.03 46 *e*PKPdf **PKPdf** 15 11 25.0 +2.4
LRDF Laroque-de-Fa 152.05 8 PKP **PKPdf** 15 11 24.8 +2.4
KZN Kozani 152.08 336 P **PKPdf** 15 11 20.5 -2.1
KZN Kozani 152.08 336 PKIKP **PKPdf** 15 11 20.5 -2.1
KZN Kozani 152.08 336 P **PKPdf** 15 11 20.5 -2.1
PMAFR Mafra 152.12 29 *e*PKPdf **PKPdf** 15 11 23.9 +1.3
AOS Alonnisos 152.15 332 P **PKPdf** 15 11 19.9 -2.7
AOS Alonnisos 152.15 332 P **PKPdf** 15 11 19.9 -2.7
ARG Arkhangelos 152.15 322 P **PKPdf** 15 11 22.5 -0.2
ARG Arkhangelos 152.15 322 PKIKP **PKPdf** 15 11 22.5 -0.2
ARG Arkhangelos 152.15 322 P **PKPdf** 15 11 22.5 -0.2
MBAR Mbarara 152.17 238 PFAKE 15 11 30.0 -0.3
MBAR LR LR
comp=Z,617nm,20.0s
KBN Korca 152.18 338 *e*PG **PKPdf** 15 11 22.6 -0.1
KBN Korca 152.18 338 P **PKPdf** 15 11 21.8 -0.9
KBN Korca 152.18 338 PKIKP **PKPdf** 15 11 21.8 -0.9
KBN Korca 152.18 338 P **PKPdf** 15 11 21.8 -0.9
PCBR Castelo Branco 152.19 25 *e*PKPdf **PKPdf** 15 11 24.6 +1.9
CARF Carcanieres 152.21 9 PKP **PKPdf** 15 11 23.4 +0.6
NEST Nestorio 152.26 337 P **PKPdf** 15 11 21.6 -1.3
ALMR Almeirim 152.29 28 *e*P **PKPdf** 15 11 24.0 +1.2
ALMR Almeirim 152.29 28 *e*PKIKP **PKPdf** 15 11 24.0 +1.2
XOR Xorichti 152.29 333 P **PKPdf** 15 11 20.5 -2.4
XOR Xorichti 152.29 333 P **PKPdf** 15 11 20.5 -2.4
NEO Neokhori 152.32 333 P **PKPdf** 15 11 20.8 -2.1
NEO Neokhori 152.32 333 P **PKPdf** 15 11 20.8 -2.1
SKIA Skiathos 152.33 333 P **PKPdf** 15 11 21.0 -1.9
PMST Lisbon--Monsan 152.35 29 *e*PKPdf **PKPdf** 15 11 24.4 +1.5
LIS Lisbon 152.38 29 *e*P **PKPdf** 15 11 24.3 +1.3
LIS AMS AMS 16 21 60.0
comp=Z,8μm,26.2s
LIS Lisbon 152.38 29 *e*PKIKP **PKPdf** 15 11 24.3 +1.3
FILF Fillols 152.43 8 PKP **PKPdf** 15 11 23.6 +0.6
PACT Alcochete 152.48 28 *e*PKPdf **PKPdf** 15 11 24.8 +1.7
AQU L'Aquila 152.49 351 *e*PKPdf **PKPdf** 15 11 23.4 +0.3
AQU LR LR
comp=Z,10μm,20.0s
PMTG Montargil 152.51 27 *e*PKPdf **PKPdf** 15 11 24.1 +0.9
SJAF Saint Jean de 152.54 7 PKP **PKPdf** 15 11 23.9 +0.7
PMRV Marv??o 152.57 26 *e*PKPdf **PKPdf** 15 11 23.8 +0.5
PMRV Marv??o 152.57 26 *e*PP PP 15 15 11.1 -1.2
PMRV Marv??o 152.57 26 *i* P **S'S'ac** 15 35 41.7 +6.5
PMRV Marv??o 152.57 26 *e*LR LR 16 02 20.4
comp=Z,7μm,18.0s
THL Klokotos Trika 152.62 335 P **PKPdf** 15 11 22.3 -1.0
MRKA Markates 152.66 332 P **PKPdf** 15 11 21.6 -1.8
SMIA Simia 152.68 333 P **PKPdf** 15 11 21.8 -1.7
PGF Pioggiola 152.74 358 *e*PKIKP **PKPdf** 15 11 23.5 -0.1
comp=Z,771nm,1.9s
ERET Eretria 152.77 331 P **PKPdf** 15 11 20.8 -2.9
MRMA Marmari 152.80 330 P **PKPdf** 15 11 23.6 -0.1
AGG Agios Georgios 152.95 334 P **PKPdf** 15 11 22.3 -1.6
AGG Agios Georgios 152.95 334 PKIKP **PKPdf** 15 11 22.3 -1.6
AGG Agios Georgios 152.95 334 P **PKPdf** 15 11 22.3 -1.6
PESTR Estremoz 152.96 27 *e*PKPdf **PKPdf** 15 11 24.4 +0.5
APE Apeiranthos 152.98 327 P **PKPdf** 15 11 21.8 -2.2
APE Apeiranthos 152.98 327 PKIKP **PKPdf** 15 11 21.8 -2.2
APE Apeiranthos 152.98 327 ||*i* P **PKPdf** 15 11 23.3 -0.7
APE Apeiranthos 152.98 327 P **PKPdf** 15 11 21.8 -2.2
AXAR Agios Charalam 153.02 333 P **PKPdf** 15 11 22.7 -1.3
AXAR Agios Charalam 153.02 333 P **PKPdf** 15 11 22.7 -1.3
MAKR Makrakomi, Fth 153.04 334 P **PKPdf** 15 11 23.1 -0.9
MAKR Makrakomi, Fth 153.04 334 P **PKPdf** 15 11 23.1 -0.9
EVO Evora 153.05 28 ||*i* PKIKP **PKPdf** 15 11 24.5 +0.5
comp=Z,1μm,1.7s
EVO *e*R
comp=Z,11μm,18.8s
EVO Evora 153.05 28 *e*PKPdf **PKPdf** 15 11 25.0 +1.0
PTL Penteli 153.06 331 P **PKPdf** 15 11 22.1 -2.0
PTL Penteli 153.06 331 P **PKPdf** 15 11 22.1 -2.0
SRN Sarande 153.11 338 P **PKPdf** 15 11 22.1 -1.9
SRN Sarande 153.11 338 P **PKPdf** 15 11 22.1 -1.9
PNCL Nicolau / Gran 153.15 29 *e*PKPdf **PKPdf** 15 11 25.4 +1.3
ATHU Athens Univers 153.16 331 P **PKPdf** 15 11 21.6 -2.6
ATHU Athens Univers 153.16 331 P **PKPdf** 15 11 21.6 -2.6
KARP Karpathos 153.18 323 P **PKPdf** 15 11 23.4 -0.9
KARP Karpathos 153.18 323 P **PKPdf** 15 11 23.4 -0.9
ATH Athens Observa 153.19 331 P **PKPdf** 15 11 22.7 -1.5
ATH Athens Observa 153.19 331 PKIKP **PKPdf** 15 11 22.7 -1.5
ATH Athens Observa 153.19 331 P **PKPdf** 15 11 22.7 -1.5
EVR Evrytania 153.25 335 P **PKPdf** 15 11 24.0 -0.4
EVR Evrytania 153.25 335 P **PKPdf** 15 11 24.0 -0.4
IGT Igoumenitsa 153.30 338 P **PKPdf** 15 11 22.9 -1.4
IGT Igoumenitsa 153.30 338 PKIKP **PKPdf** 15 11 22.9 -1.4
IGT Igoumenitsa 153.30 338 P **PKPdf** 15 11 22.9 -1.4
KEK Kerkira 153.33 339 P **PKPdf** 15 11 22.7 -1.7
KEK Kerkira 153.33 339 P **PKPdf** 15 11 22.7 -1.7
DSF Desfina 153.37 333 P **PKPdf** 15 11 22.7 -1.8
DSF Desfina 153.37 333 P **PKPdf** 15 11 22.7 -1.8
THR2 Thira island, 153.50 326 P **PKPdf** 15 11 23.4 -1.3
THR2 Thira island, 153.50 326 P **PKPdf** 15 11 23.4 -1.3
PBEJ Beja 153.53 28 *e*PKPdf **PKPdf** 15 11 26.9 +2.2
SANT Santorini 153.54 326 P **PKPdf** 15 11 22.5 -2.3
SANT Santorini 153.54 326 *e*PKPdf **PKPdf** 15 11 23.3 -1.5
SANT *e*PKPbc **PKPbc** 15 11 31.8 -0.7
SANT LR LR
comp=Z,4μm,19.0s
THR1 Thera Island 153.54 326 P **PKPbc** 15 11 33.7 +1.2
KALE Kalithea 153.56 334 P **PKPdf** 15 11 22.1 -2.7
KALE Kalithea 153.56 334 P **PKPdf** 15 11 22.1 -2.7
TRIZ Trizonia 153.61 334 P **PKPdf** 15 11 23.8 -1.0
OSPF L'Ospedale 153.61 357 PKP **PKPdf** 15 11 25.0 +0.2
EFP Efpalio 153.63 334 P **PKPdf** 15 11 24.0 -0.8
PAB San Pablo 153.63 21 *e*PKIKP **PKPdf** 15 11 25.2 +0.3
PAB *e* 15 11 33.6
PAB MLR MLR
comp=Z,11μm,19.0s
PAB San Pablo 153.63 21 *e*PKPdf **PKPdf** 15 11 25.2 +0.3
PAB *e*PKPbc **PKiKP** 15 11 33.6 +0.8
PAB LR LR
comp=Z,11μm,19.0s
ACOR Acrocorinthos 153.65 332 P **PKPdf** 15 11 22.9 -2.0
ESDC Sonseca Array 153.65 20 PKP **PKPdf** 15 11 25.5 +0.6
ESDC PKPbc **PKiKP** 15 11 32.9 +0.1
ESDC Sonseca Array 153.65 20 PKP **PKPdf** 15 11 25.5 +0.6
comp=Z,8.9nm,0.9s,baz=342,slow=2.6,SNR=38
ESDC PKPbc **PKiKP** 15 11 32.9 +0.1
comp=Z,38nm,0.8s,baz=332,slow=2.9,SNR=56
ESLA Sonseca Array 153.65 20 *e*PKPdf **PKPdf** 15 11 25.2 +0.3
ESLA *e*PKPbc **PKiKP** 15 11 33.4 +0.6
MORF Marmelete 153.74 30 *e*PKPdf **PKPdf** 15 11 26.2 +1.1
MORF Marmelete 153.74 30 *e*PKIKP **PKPdf** 15 11 25.6 +0.5
PCVE Castro Verde 153.77 29 *e*PKPdf **PKPdf** 15 11 26.5 +1.4
PBAR Barrancos 153.77 27 *e*PKPdf **PKPdf** 15 11 26.5 +1.5
DID Didima 153.79 331 P **PKPdf** 15 11 22.5 -2.6
DID Didima 153.79 331 P **PKPdf** 15 11 22.5 -2.6
PFVI Vila Bisbo 153.79 31 *e*PKPdf **PKPdf** 15 11 26.9 +1.8
DIDY Didyma 153.82 331 P **PKPdf** 15 11 22.7 -2.6
LKD2 Lefkada island 153.82 336 P **PKPdf** 15 11 23.1 -2.0
LKD2 Lefkada island 153.82 336 P **PKPdf** 15 11 23.1 -2.0
KLV Kalavryta, Ach 153.84 333 P **PKPdf** 15 11 23.8 -1.4
KLV Kalavryta, Ach 153.84 333 P **PKPdf** 15 11 23.8 -1.4
GUR Goura 153.84 333 P **PKPdf** 15 11 24.0 -1.3
GUR Goura 153.84 333 P **PKPdf** 15 11 24.0 -1.3
ZKR Zakros 154.03 323 P **PKPdf** 15 11 24.4 -1.1
ZKR Zakros 154.03 323 P **PKPdf** 15 11 24.4 -1.1
AXS Araxos 154.04 334 P **PKPdf** 15 11 24.6 -0.8
PVAQ Vaqueiros 154.10 29 *e*PKPdf **PKPdf** 15 11 26.3 +0.8
PVAQ Vaqueiros 154.10 29 *e*PP PP 15 15 22.2 +1.1
PVAQ Vaqueiros 154.10 29 *i* P S'S'ac 15 35 58.0 +11
PVAQ Vaqueiros 154.10 29 *e*LR LR 16 03 37.9
comp=Z,6μm,18.0s
RLS Riolos of Patr 154.12 334 P **PKPdf** 15 11 25.1 -0.4
RLS Riolos of Patr 154.12 334 P **PKPdf** 15 11 25.1 -0.4
PBDV Barranco-do-Ve 154.13 29 *e*PKPdf **PKPdf** 15 11 27.0 +1.4
NPS Neapolis 154.27 324 P **PKPdf** 15 11 24.6 -1.3
NPS Neapolis 154.27 324 PKIKP **PKPdf** 15 11 24.6 -1.3
NPS Neapolis 154.27 324 P **PKPdf** 15 11 24.6 -1.3
CUC Castrocucco 154.27 345 *e*PKPdf **PKPdf** 15 11 24.8 -0.9
CUC LR LR
comp=Z,9μm,19.0s
VLX Vlachokerasia 154.29 332 P **PKPdf** 15 11 23.8 -2.1
VLX Vlachokerasia 154.29 332 P **PKPdf** 15 11 23.8 -2.1
KFL Anninata 154.36 335 P **PKPdf** 15 11 25.5 -0.4
VLS Valsamata 154.38 336 P **PKPdf** 15 11 24.9 -1.0
VLS Valsamata 154.38 336 PKIKP **PKPdf** 15 11 24.9 -1.0
**V

CTEI	**Djebel Teioual**	**159.22**	**3**	P	**PKPdf**	**15 11 33.4**	**+1.0**
MDT	**Midelt**	**159.31**	**30**	PKP	**PKPdf**	**15 11 33.3**	**+0.8**
MDT				PKPab	**PKPab**	**15 12 09.5**	**-0.3**
MDT	**Midelt**	**159.31**	**30**	PKP	**PKPdf**	**15 11 33.3**	**+0.8**
comp=Z,37nm,1.1s,baz=342,slow=1.1,SNR=43							
MDT				PKPab	**PKPab**	**15 12 09.5**	**-0.3**
comp=Z,37nm,0.9s,baz=324,slow=4.7,SNR=10							
KEST	**Kesra**	**159.51**	**356**	*e*PKPdf	**PKPdf**	**15 11 32.0**	**-0.6**
KEST				PKP	**PKPdf**	**15 11 33.1**	**+0.5**
KEST				PKPab	**PKPab**	**15 12 09.9**	**-0.5**
KEST				*e*PKPab	PKPab	15 12 10.1	-0.3
KEST	**Kesra**	**159.51**	**356**	PKP	**PKPdf**	**15 11 33.1**	**+0.5**
comp=Z,13nm,1.0s,baz=233,slow=0.9,SNR=14							
KEST				PKPab	**PKPab**	**15 12 09.9**	**-0.5**
comp=Z,21nm,0.9s,baz=8.6,slow=3.1,SNR=16							
LIC	**Lamto**	**164.79**	**125**	ǁ *i*PKIKP	**PKPdf**	**15 11 38.3**	**-0.2**
comp=Z,432nm,1.6s							
LIC				*e*R			
comp=Z,19μm,22.0s							
LIC	**Lamto**	**164.79**	**125**	*e*PKIKP	**PKPdf**	**15 11 37.7**	**-0.8**
comp=Z,346nm,1.6s							
LIC	**Lamto**	**164.79**	**125**	*e*P	**PP**	**15 16 21.2**	**+1.0**
comp=Z,219nm,2.2s							
TIC	**Toumodi**	**165.04**	**123**	*e*PKIKP	**PKPdf**	**15 11 38.0**	**-0.7**
comp=Z,596nm,1.5s							
TIC	**Toumodi**	**165.04**	**123**	*e*P	**PP**	**15 16 18.0**	**-3.6**
comp=Z,640nm,2.3s							
KIC	**Kosan Boka**	**165.10**	**125**	*e*PKIKP	**PKPdf**	**15 11 38.0**	**-0.8**
comp=Z,671nm,1.6s							
KIC	**Kosan Boka**	**165.10**	**125**	*e*P	**PP**	**15 16 20.4**	**-1.4**
comp=Z,579nm,2.0s							
DBIC	**Dimbokro**	**165.19**	**124**	PKP	**PKPdf**	**15 11 37.9**	**-0.9**
DBIC				*e*PKPdf	**PKPdf**	**15 11 38.0**	**-0.8**
DBIC				PKPab	**PKPab**	**15 12 36.3**	**+0.4**
DBIC				*e*PKPab	PKPab	15 12 36.6	+0.7
DBIC				PP	**PP**	**15 16 22.1**	**-0.1**
DBIC	**Dimbokro**	**165.19**	**124**	PKP	**PKPdf**	**15 11 37.9**	**-0.9**
comp=Z,112nm,1.2s,baz=163,slow=1.1,SNR=20							
DBIC				PKPab	**PKPab**	**15 12 36.3**	**+0.4**
comp=Z,27nm,1.0s,baz=219,slow=5.9,SNR=3.4							
DBIC				PP	**PP**	**15 16 22.1**	**-0.1**
comp=Z,5.1nm,1.0s,baz=258,slow=4.7,SNR=5.9							
TAM	**Tamanrasset**	**172.24**	**14**	*e*PKIKP	**PKPdf**	**15 11 43.5**	**+0.2**
TAM				MLR	MLR		
comp=Z,9μm,20.0s							
TAM	**Tamanrasset**	**172.24**	**14**	*e*PKPdf	**PKPdf**	**15 11 43.5**	**+0.2**
TAM				LR	LR		
comp=Z,9μm,20.0s							
TOA0	**Torodi Ar. Sit**	**174.00**	**109**	*e*PKPdf	**PKPdf**	**15 11 42.1**	**-1.9**
TOA0				*e*PKPab	**PKPab**	**15 13 14.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**174.00**	**109**	PKP	**PKPdf**	**15 11 43.1**	**-0.9**
TORD				PKPab	**PKPab**	**15 13 14.6**	**-0.4**
TORD				PP	**PP**	**15 17 04.2**	**-3.1**
TORD	**Torodi Ar. Bea**	**174.00**	**109**	PKP	**PKPdf**	**15 11 43.1**	**-0.9**
comp=Z,66nm,1.1s,baz=312,slow=0.9,SNR=128							
TORD				PKPab	**PKPab**	**15 13 14.6**	**-0.4**
comp=Z,22nm,1.0s,baz=248,slow=4.5,SNR=7.1							
TORD				PP	**PP**	**15 17 04.2**	**-3.1**
comp=Z,19nm,1.4s,baz=238,slow=2.7,SNR=3.6							

IDC 30 15:05:49.7±1.5, 37°.66N×95°.98E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.6/29, mbtmp3.6/6, ML3.7/4, MS4.4/2, Ms1 4.5/2, ms1mx3.7/49, Error ellipse: s-maj=36.2km s-min=26.2km az=65.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.71**	**34**	Pn	Pn	15 08 52.1	+0.3
0.3nm,0.3s,baz=220,slow=16,SNR=6.0							
MKAR	**Makanchi Array**	**13.63**	**316**	Pn	Pn	15 09 01.5	-2.8
0.4nm,0.3s,baz=123,slow=14,SNR=13							
KURBB	**Kurchatov Arra**	**17.96**	**322**	P	Pn	15 09 59.5	-1.2
0.1nm,0.3s,baz=137,slow=11,SNR=4.2							
CMAR	**Chiang Mai Arr**	**19.31**	**171**	P	Pn	15 10 16.9	-0.4
0.1nm,0.3s,baz=344,slow=10,SNR=6.7							
CMAR				LR	LR	15 17 54.5	
comp=Z,533nm,18.4s,baz=105,slow=38							
KSRS	**Korea Array**	**25.26**	**81**	P	P	15 11 17.4	-0.1
1.7nm,0.6s,baz=276,slow=9.3,SNR=10							
AKTO	**Aktyubinsk**	**29.79**	**308**	LR	LR	15 25 56.7	
comp=Z,1μm,22.0s,baz=329,slow=40							
ASAR	**Alice Springs**	**70.66**	**143**	P	P	15 17 07.0	-0.3
0.2nm,0.6s,baz=320,slow=5.8,SNR=6.3							

*IDC **30** 15:24:01.4±0.5, 6°.70S×154°.57E, h0km, mb4.8/22, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, ML4.0/3, MS5.2/1, Ms1 5.2/1, ms1mx4.0/28, Error ellipse: s-maj=16.3km s-min=11.9km az=90.0*

*NEIC **30** 15:24:06.7±1.0, 6°.75S×154°.64E, h36km±9km, mb5.0/24, Error ellipse: s-maj=6.7km s-min=6.3km az=221.0*

*ISCJB **30** 15:24:06.7±0.3, 6°.78S±0°.03×154°.63E±0°.04, h48km, mb5.1/81, MS5.4/7, Error ellipse: s-maj=6.2km s-min=4.9km az=0.8*

*AUST **30** 15:24:08.2±0.6, 6°.74S×154°.68E, h50km, Error ellipse: s-maj=1.5km s-min=0.8km az=243.0*

*BJI **30** 15:24:09.4, 6°.90S×154°.40E, h79km, mB5.6/13, mb5.0/37, Ms5.9/16, Ms7 5.6/16*

*DJA **30** 15:24:17.8±1.7, 7°S±6°×15°4E±1°, h101km±11km, M5.5/49, mB6.3/3, mb5.3/49, MLv5.5/1, Mw(mB)6.0/3*

ISC 30 15:24:08.4±0.4, 6.74S±0°.05×154°.65E±0°.06, h48km, n200, σ1§57/225, mb5.1/81, MS5.7/7, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.54**	**316**	P	**Pn**	**15 25 00.0**	**-1.0**
baz=3.6,SNR=16							
HNR	**Honiara**	**5.89**	**117**	Pn	Pn	15 25 30.0	-3.2
HNR				Sn	Sn	15 26 46.6	+7.2
HNR	**Honiara**	**5.89**	**117**	Pn	Pn	15 25 30.0	-3.2
14nm,0.3s,baz=95,slow=20,SNR=3.4							
HNR				Sn	Sn	15 26 46.6	+7.2
14nm,0.3s,baz=85,slow=15,SNR=4.0							
PMG	**Port Moresby**	**7.88**	**250**	*e*P	**Pn**	**15 26 00.5**	**0.0**
PMG				Sn	**Sn**	**15 27 31.6**	**+3.3**
PMG	**Port Moresby**	**7.88**	**250**	P	**Pn**	**15 26 02.1**	**+1.6**
201nm,0.8s,1.1nm							
PMG	**Port Moresby**	**7.88**	**250**	Pn	**Pn**	**15 25 59.0**	**-1.5**
10nm,0.3s,baz=59,slow=9.5,SNR=29							
PMG				Sn	**Sn**	**15 27 31.6**	**+3.3**
12nm,0.3s,baz=66,slow=17,SNR=7.3							
MANU	**Manus Island**	**8.63**	**302**	P	**Pn**	**15 26 11.5**	**+0.7**
baz=8.7,SNR=5.5							
COEN	**Coen**	**13.37**	**237**	P	**Pn**	**15 27 16.1**	**+0.4**
baz=13,SNR=4.5							
JAY	**Jayapura**	**14.52**	**286**	P	**Pn**	**15 27 31.0**	**-0.2**
26nm,0.8s							
MTSU	**Mount Surprise**	**15.16**	**221**	P	**Pn**	**15 27 39.6**	**0.0**
baz=15,SNR=17							
CTA	**Charters Tower**	**15.57**	**211**	Pn	**Pn**	**15 27 43.2**	**-1.6**
CTA	**Charters Tower**	**15.57**	**211**	Pn	**Pn**	**15 27 43.2**	**-1.6**
0.2nm,0.3s,baz=17,slow=16,SNR=6.6							
CTAO	**Charters Tower**	**15.57**	**211**	*e*P	**Pn**	**15 27 44.2**	**-0.7**
72nm,0.8s							
EIDS	**Eidsvold**	**18.84**	**190**	P	**P**	**15 28 25.0**	**+0.6**
baz=19,SNR=16							
SRPI	**Serui, Papua**	**18.98**	**284**	P	**P**	**15 28 25.7**	**-0.4**
93nm,0.4s							
DZM	**Mont Dzumac**	**19.02**	**144**	P	**P**	**15 28 27.0**	**+0.4**
DZM	**Mont Dzumac**	**19.02**	**144**	P	**P**	**15 28 27.0**	**+0.4**
0.5nm,0.3s,baz=308,slow=13,SNR=9.4							
BAKI	**Biak**	**19.30**	**286**	P	**P**	**15 28 28.9**	**-0.7**
61nm,1.0s							
RMQ	**Roma**	**20.42**	**195**	P	**P**	**15 28 42.5**	**+0.8**
baz=20,SNR=96							
RKPI	**Ransiki, Papua**	**21.06**	**283**	P	**P**	**15 28 48.9**	**+0.1**
129nm,1.0s							
TLE	**Tual**	**21.81**	**272**	P	**P**	**15 28 57.9**	**+1.1**
468nm,0.7s							
TLE	**Tual**	**21.81**	**272**	P	**P**	**15 28 58.2**	**+1.4**
baz=22,SNR=8.2							
KDU	**Kakadu**	**22.63**	**253**	P	**P**	**15 29 03.8**	**-1.8**
baz=23,SNR=34							
FAKI	**Fak Fak**	**22.64**	**279**	P	**P**	**15 29 06.6**	**+0.9**
60nm,0.9s							
FAKI	**Fak Fak**	**22.64**	**279**	P	**P**	**15 29 05.2**	**-0.5**
baz=23,SNR=14							
SAUI	**Saumlaki**	**23.19**	**265**	P	**P**	**15 29 12.9**	**+1.6**
449nm,1.1s							
WRAB	**Tennant Creek**	**23.67**	**234**	P	**P**	**15 29 14.0**	**-1.8**
469nm,0.7s,SNR=93							
WRAB	**Tennant Creek**	**23.67**	**234**	*e*P	**P**	**15 29 14.6**	**-1.2**
86nm,1.0s							
WRA	**Warramunga Arr**	**23.68**	**234**	P	**P**	**15 29 14.7**	**-1.3**
WRA				PcP	**PcP**	**15 32 59.7**	**+0.2**
WRA				ScP	**ScP**	**15 36 38.8**	**+4.8**
WRA	**Warramunga Arr**	**23.68**	**234**	P	**P**	**15 29 14.7**	**-1.3**
33nm,0.5s,baz=56,slow=9.2,SNR=70							
WRA				PcP	**PcP**	**15 32 59.7**	**+0.2**
3.6nm,0.7s,baz=61,slow=2.5,SNR=4.8							
WRA				ScP	**ScP**	**15 36 38.8**	**+4.8**
4.6nm,0.9s,baz=56,slow=2.9,SNR=11							
ARMA	**Armidale**	**23.72**	**186**	P	**P**	**15 29 16.4**	**0.0**
baz=24,SNR=11							
MTN	**Manton Dam**	**23.94**	**254**	P	**P**	**15 29 17.3**	**-1.1**
baz=24,SNR=26							
SWI	**Sorong**	**24.05**	**283**	P	**P**	**15 29 18.8**	**-0.6**
142nm,1.1s							
SWI	**Sorong**	**24.05**	**283**	P	**P**	**15 29 19.4**	**0.0**
baz=24,SNR=12							
PALU	**Palau**	**24.51**	**304**	P	**P**	**15 29 23.8**	**+0.2**
baz=25,SNR=4.1							
BNDI	**Bandanaira**	**24.72**	**274**	P	**P**	**15 29 26.0**	**+0.5**
baz=25,SNR=3.3							
BNDI				S	**S**	**15 33 46.6**	**+2.1**
baz=25,SNR=3.3							
CMSA	**Cobar Meteorol**	**26.05**	**198**	P	**P**	**15 29 38.5**	**+1.1**
baz=26,SNR=43							
AS31	**Alice Springs**	**26.08**	**228**	*e*P	**P**	**15 29 36.7**	**-1.2**
ASAR	**Alice Springs**	**26.09**	**228**	P	**P**	**15 29 36.9**	**-1.0**
ASAR				PcP	**PcP**	**15 33 04.6**	**-0.2**
ASAR				ScP	**ScP**	**15 36 45.2**	**+4.5**
ASAR	**Alice Springs**	**26.09**	**228**	P	**P**	**15 29 36.9**	**-1.0**
19nm,1.0s,baz=60,slow=8.3,SNR=229							
ASAR				PcP	**PcP**	**15 33 04.6**	**-0.2**
1.2nm,0.8s,baz=46,slow=4.0,SNR=2.9							
ASAR				ScP	**ScP**	**15 36 45.2**	**+4.5**
4.9nm,0.9s,baz=57,slow=3.2,SNR=17							
AAI	**Ambon**	**26.52**	**275**	P	**P**	**15 29 44.5**	**+2.7**
50nm,0.9s							
MGCD	**Mangrove Creek**	**26.54**	**187**	P	**P**	**15 29 43.0**	**+1.2**
baz=27,SNR=6.6							
KNRA	**Kununurra**	**26.87**	**249**	P	**P**	**15 29 44.4**	**-0.6**
baz=27,SNR=39							
LBMI	**Labuha**	**27.75**	**281**	P	**P**	**15 29 54.0**	**+1.1**
176nm,1.1s							
STKA	**Stephens Creek**	**27.82**	**204**	*e*P	**P**	**15 29 52.0**	**-1.2**
2.7nm,0.5s							
STKA				ScP	**ScP**	**15 36 50.1**	**+4.4**
STKA	**Stephens Creek**	**27.82**	**204**	P	**P**	**15 29 52.1**	**-1.2**
14nm,0.5s,baz=32,slow=14,SNR=44							
STKA				ScP	**ScP**	**15 36 50.1**	**+4.4**
5.2nm,0.9s,baz=105,slow=5.9,SNR=4.5							
STKA	**Stephens Creek**	**27.82**	**204**	P	**P**	**15 29 52.1**	**-1.2**
baz=28,SNR=30							
FITZ	**Fitzroy Crossi**	**30.45**	**246**	P	**P**	**15 30 15.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**30.45**	**246**	P	**P**	**15 30 15.6**	**-1.2**
32nm,0.8s,baz=61,slow=9.1,SNR=91							
BBOO	**Buckleboo**	**31.17**	**211**	P	**P**	**15 30 21.5**	**-1.5**
baz=31,SNR=5.9							
BBSI	**Bau Bau**	**31.92**	**270**	P	P	15 30 37.9	+8.1
LUWI	**Luwuk**	**32.29**	**279**	P	**P**	**15 30 36.0**	**+2.9**
101nm,1.3s							
GTOI	**Gorontalo**	**32.41**	**282**	P	**P**	**15 30 34.8**	**+0.7**
135nm,1.0s							
KKSI	**Kolaka, Sulawe**	**32.94**	**273**	P	**P**	**15 30 38.9**	**+0.1**
47nm,1.1s							
MRSI	**Marisa**	**33.42**	**281**	P	**P**	**15 30 46.0**	**+3.1**
34nm,1.3s							
SKSI	**Sorokko, Sulaw**	**33.46**	**276**	P	**P**	**15 30 43.7**	**+0.3**
39nm,2.8s							
BKSI	**Bulukumba**	**34.36**	**270**	P	**P**	**15 30 50.8**	**-0.3**
23nm,1.1s							
LBFI	**Labuhan Bajo,**	**34.49**	**265**	P	**P**	**15 30 50.9**	**-1.4**
76nm,1.1s							
FORT	**Forrest**	**34.54**	**223**	*e*P	**P**	**15 30 51.3**	**-1.2**
98nm,0.7s							
FORT	**Forrest**	**34.54**	**223**	P	**P**	**15 30 51.5**	**-1.0**
baz=35,SNR=32							
KAPI	**Kappang**	**34.75**	**271**	P	**P**	**15 30 51.9**	**-2.6**
KAPI	**Kappang**	**34.75**	**271**	P	**P**	**15 30 53.5**	**-1.0**
57nm,1.4s							
KAPI	**Kappang**	**34.75**	**271**	P	**P**	**15 30 51.9**	**-2.6**
32nm,0.9s,baz=140,slow=4.4,SNR=13							
SPSI	**Sidrap Palu**	**34.83**	**273**	P	**P**	**15 30 53.7**	**-1.5**
98nm,2.8s,6μm							
TTSI	**Tana Toraja**	**34.89**	**274**	P	**P**	**15 30 56.1**	**+0.4**
59nm,1.8s							
CBIJ	**Chichi jima**	**35.74**	**341**	LR	LR	15 42 33.9	
comp=Z,3μm,19.9s,baz=202,slow=31							
MBWA	**Marble Bar**	**36.68**	**243**	*e*P	**P**	**15 31 09.8**	**-1.2**
177nm,2.0s							
MYLDM	**Lahad Datu**	**37.98**	**287**	P	**P**	**15 31 23.4**	**+1.3**
MYLDM	**Lahad Datu**	**37.98**	**287**	P	**P**	**15 31 24.2**	**+2.2**
129nm,0.8s							
TSM	**Tawau**	**38.31**	**286**	P	**P**	**15 31 24.7**	**-0.2**
RPZ	**Rata Peaks**	**39.54**	**161**	P	**P**	**15 31 34.4**	**-0.4**
RPZ	**Rata Peaks**	**39.54**	**161**	P	**P**	**15 31 34.4**	**-0.4**
19nm,0.7s,baz=79,slow=17,SNR=5.8							
MEEK	**Meekatharra**	**39.57**	**236**	P	**P**	**15 31 34.5**	**-0.8**
baz=40,SNR=19							
BBKI	**Banjar Baru**	**39.77**	**273**	P	**P**	**15 31 37.4**	**+0.3**
71nm,0.8s							
KKM	**Kota Kinabalu**	**40.40**	**287**	P	**P**	**15 31 42.1**	**-0.4**
KKM	**Kota Kinabalu**	**40.40**	**287**	P	**P**	**15 31 41.9**	**-0.5**
43nm,0.9s							
KKM	**Kota Kinabalu**	**40.40**	**287**	P	**P**	**15 31 42.0**	**-0.4**
baz=40,SNR=9.3							
KLBR	**Kellerberrin**	**42.39**	**229**	P	**P**	**15 31 57.1**	**-1.3**
baz=42,SNR=7.2							
PWJI	**Pagerwojo**	**42.50**	**266**	P	P	15 32 11.0	+12
MORW	**Morawa**	**42.63**	**234**	P	**P**	**15 31 59.3**	**-1.1**
baz=43,SNR=12							
BTM	**Bintulu**	**42.65**	**282**	P	**P**	**15 32 01.7**	**+0.9**
BLDU	**Ballidu**	**42.75**	**231**	P	**P**	**15 32 00.4**	**-1.0**
baz=43,SNR=16							
PBKI	**Pangkalan Bun**	**43.01**	**273**	P	**P**	**15 32 06.7**	**+3.0**
119nm,1.2s							
PCJI	**Pacitan**	**43.11**	**265**	P	**P**	**15 32 07.5**	**+3.0**
304nm,1.3s							
SBUM	**Sibu**	**43.33**	**281**	P	**P**	**15 32 07.1**	**+0.9**
SBUM	**Sibu**	**43.33**	**281**	P	P	15 32 17.4	+11
NWAO	**Narrogin (SRO)**	**43.41**	**228**	P	**P**	**15 32 04.7**	**-1.9**
NWAO	**Narrogin (SRO)**	**43.41**	**228**	P	**P**	**15 32 04.7**	**-1.9**
9.4nm,1.0s,baz=75,slow=9.5,SNR=4.7							
YULB	**Yu-li**	**44.26**	**314**	*e*P	**P**	**15 32 13.0**	**-0.5**
20nm,0.9s							
NACB	**Ninganchiao**	**44.54**	**315**	*e*P	**P**	**15 32 15.7**	**0.0**
39nm,0.9s							
TPUB	**Ta-pu**	**44.69**	**313**	*e*P	**P**	**15 32 16.1**	**-0.9**
20nm,0.8s							
KSM	**Kuching**	**45.00**	**279**	*e*P	**P**	**15 32 19.5**	**-0.1**
22nm,0.8s							
KSM	**Kuching**	**45.00**	**279**	P	**P**	**15 32 19.5**	**-0.1**
KSM	**Kuching**	**45.00**	**279**	P	**P**	**15 32 19.6**	**-0.1**
32nm,0.8s							
KSM	**Kuching**	**45.00**	**279**	P	**P**	**15 32 19.6**	**-0.1**
baz=45,SNR=13							
YHNB	**Yeheng**	**45.01**	**315**	*e*P	**P**	**15 32 19.9**	**+0.4**
28nm,0.8s							
JNU	**Nakatsue**	**45.63**	**332**	P	**P**	**15 32 22.9**	**-1.4**
JNU	**Nakatsue**	**45.63**	**332**	P	**P**	**15 32 22.9**	**-1.4**
14nm,0.8s,baz=103,slow=6.4,SNR=7.5							
CISI	**Cisompet, Garu**	**46.46**	**266**	P	**P**	**15 32 32.1**	**+0.9**
211nm,0.8s							
CISI	**Cisompet, Garu**	**46.46**	**266**	P	**P**	**15 32 30.0**	**-1.3**
baz=46,SNR=4.7							
LEM	**Lembang**	**46.69**	**267**	P	**P**	**15 32 32.3**	**-0.9**
73nm,1.0s							
TPI	**Tanjungpandan**	**46.98**	**273**	P	**P**	**15 32 36.0**	**+0.7**
72nm,1.1s							
CBJI	**Citeko**	**47.47**	**267**	P	**P**	**15 32 38.3**	**-0.8**
192nm,0.9s,10μm							
LWLI	**Liwa**	**50.34**	**269**	P	**P**	**15 33 00.0**	**-1.2**
139nm,1.0s							
KSRS	**Korea Array**	**50.56**	**332**	P	**P**	**15 33 01.0**	**-1.2**
4.0nm,0.8s,baz=146,slow=7.7,SNR=16							
KSAR	**Wonju Array Be**	**50.56**	**332**	P	**P**	**15 33 01.0**	**-1.3**
KGM	**Kluang**	**51.97**	**278**	P	**P**	**15 33 12.5**	**-0.8**
KTGM	**Kuala Trenggan**	**52.80**	**282**	P	**P**	**15 33 19.5**	**+0.1**
WHN	**Wuhan**	**53.52**	**316**	ǁ P	P	15 33 35.8	+11
FRIM	**Kepong**	**53.85**	**279**	P	**P**	**15 33 26.7**	**-0.4**
USRK	**Ussuriysk Arra**	**54.67**	**340**	P	**P**	**15 33 31.2**	**-1.4**
2.5nm,0.9s,baz=160,slow=6.1,SNR=5.5							
IPM	**Ipoh**	**54.68**	**280**	*e*P	**P**	**15 33 31.8**	**-1.4**
8.9nm,0.6s							
IPM	**Ipoh**	**54.68**	**280**	P	**P**	**15 33 33.5**	**+0.3**
IPM	**Ipoh**	**54.68**	**280**	P	**P**	**15 33 33.7**	**+0.5**
34nm,1.1s							
KULM	**Kulim**	**55.20**	**281**	*e*P	**P**	**15 33 36.1**	**-0.9**
22nm,1.3s							
KULM	**Kulim**	**55.20**	**281**	P	**P**	**15 33 37.1**	**+0.1**
ENH	**Enshi**	**56.82**	**313**	*e*P	**P**	**15 33 48.0**	**-0.2**
24nm,0.9s							
CN2	**Changchun**	**56.82**	**335**	*e*P	P	15 33 52.3	+4.3
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**57.03**	**307**	P	**P**	**15 33 51.3**	**+1.3**
GYA				pP	pP	15 34 11.8	+8.4
GYA				sP	sP	15 34 22.3	+13
GYA				PP	**PP**	**15 36 01.8**	**+4.6**
GYA				ScP	**ScP**	**15 38 35.3**	**-5.3**
GYA				S	**S**	**15 41 37.0**	**-4.5**
GYA				sS	sS	15 42 12.8	+8.9
GYA				SS	**SS**	**15 45 27.8**	**-3.1**
GYA				pmax	pmax		
comp=Z,20nm,1.0s							
GYA				pmax	pmax		
comp=Z,120nm,5.2s							
GYA				LR	LR		
comp=Z,430nm,18.2s							
XAN	**Xi'an**	**59.29**	**316**	P	**P**	**15 34 05.5**	**0.0**
XAN				pmax	pmax		
comp=Z,3.0nm,0.9s							
KMI	**Kunming**	**59.59**	**304**	P	**P**	**15 34 09.3**	**+1.3**
KMI				pP	pP	15 34 30.0	+8.5
KMI				S	S	15 42 08.5	-6.7
KMI				pmax	pmax		
comp=Z,22nm,1.1s							
KMI				LR	LR		
comp=N,3μm,15.3s							
KMI				LR	LR		
comp=E,5μm,14.8s							
KMI				LR	LR		
comp=Z,3μm,13.2s							
PEA0B	**Petropavlovsk-**	**59.68**	**2**	P	P	15 34 12.1	+4.3
PETK	**Petropavlovsk-**	**59.68**	**2**	P	**P**	**15 34 08.1**	**+0.3**
PETK	**Petropavlovsk-**	**59.68**	**2**	P	**P**	**15 34 08.1**	**+0.3**
comp=Z,25nm,0.9s,baz=179,slow=5.8,SNR=12							
CM31	**Chiang Mai Arr**	**60.37**	**296**	P	**P**	**15 34 14.1**	**+0.9**
comp=Z,8.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**60.37**	**296**	P	**P**	**15 34 13.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.37**	**296**	P	**P**	**15 34 13.6**	**+0.4**
comp=Z,7.5nm,0.8s,baz=119,slow=5.0,SNR=42							
CHTO	**Chiang Mai**	**60.48**	**296**	*e*P	**P**	**15 34 14.3**	**+0.3**
comp=Z,6.4nm,0.9s							
CHTO	**Chiang Mai**	**60.48**	**296**	P	**P**	**15 34 15.6**	**+1.6**
comp=Z,30nm,1.3s							
CD2	**Chengdu**	**61.39**	**311**	*e*P	**P**	**15 34 20.5**	**+0.5**
CD2				pP	pP	15 34 41.3	+7.8
CD2				sP	sP	15 34 50.3	+11
CD2				pmax	pmax		
comp=Z,100nm,0.8s							
HHC	**Hu-ho-hao-te**	**61.69**	**324**	*e*P	**P**	**15 34 23.3**	**+1.4**
HHC				pP	pP	15 34 42.8	+7.4
HHC				sP	sP	15 34 51.5	+11
HHC				PP	**PP**	**15 36 42.5**	**+4.3**
HHC				S	**S**	**15 42 39.0**	**-2.2**
HHC				sS	sS	15 43 13.0	+9.2
HHC				SS	**SS**	**15 46 43.8**	**+0.1**
HHC				pmax	pmax		
comp=Z,24nm,0.8s							
HHC				LR	LR		
comp=N,1μm,18.4s							
HHC				LR	LR		
comp=E,2μm,18.0s							
HHC				LR	LR		
comp=Z,2μm,19.6s							
LZH	**Lanzhou**	**63.90**	**316**	*e*P	**P**	**15 34 38.0**	**+1.3**
LZH				pP	pP	15 34 57.8	+7.5
LZH				sP	sP	15 35 07.3	+12
LZH				PcP	**PcP**	**15 35 13.8**	**+1.7**
LZH				PP	**PP**	**15 37 01.8**	**+4.0**
LZH				*e*S	**S**	**15 43 08.8**	**-0.4**
LZH				sS	sS	15 43 41.3	+9.4
LZH				SS	**SS**	**15 47 16.3**	**-2.2**
LZH				pmax	pmax		
comp=Z,44nm,1.3s							
LZH				pmax	pmax		
comp=Z,220nm,4.2s							
LZH				LR	LR		
comp=N,4μm,16.4s							
LZH				LR	LR		
comp=E,3μm,13.6s							
LZH				LR	LR		
comp=Z,4μm,16.8s							
CASY	**Casey**	**66.73**	**198**	*e*P	**P**	**15 34 53.8**	**-0.5**
comp=Z,6.4nm,0.7s							
CASY				*e*		15 35 04.6	
GTA	**Gaotai**	**68.32**	**317**	P	**P**	**15 35 06.3**	**+1.3**
GTA				pP	**PcP**	**15 35 27.3**	**-3.1**
GTA				sP	sP	15 35 35.5	+11
GTA				pmax	pmax		
comp=Z,5.0nm,1.1s							
GTA				LR	LR		
comp=N,3μm,17.6s							
GTA				LR	LR		
comp=E,5μm,17.6s							
GTA				LR	LR		
comp=Z,5μm,19.0s							
ULN	**Ulaanbaatar**	**68.61**	**328**	P	**P**

KSH			sS	sS	15 47 42.8	+8.3
KSH			SS	**SS**	**15 52 48.8**	**+1.1**
KSH			pmax	pmax		
	comp=Z,43nm,1.5s					
KSH			pmax	pmax		
	comp=Z,670nm,8.7s					
KSH			LR	LR		
	comp=N,2μm,19.0s					
KSH			LR	LR		
	comp=E,1μm,14.5s					
KSH			LR	LR		
	comp=Z,4μm,19.0s					
TKM2	**Tokmak 2**	**86.59 314**	*e*P	**P**	**15 36 46.1**	**-1.1**
	comp=Z,3.0nm,0.7s					
AAK	**Ala-Archa**	**87.33 313**	P	**P**	**15 36 50.1**	**-0.6**
	comp=Z,4.0nm,0.6s					
KBL	**Kabul**	**90.17 305**	*e*P	**P**	**15 37 02.8**	**-1.5**
	comp=Z,3.4nm,0.6s					
KKAR	**Karatay Array**	**90.29 313**	*e*P	**P**	**15 37 04.4**	**0.0**
	comp=Z,3.1nm,0.9s					
NVAR	**Mina Array Bea**	**91.83 52**	P	**P**	**15 37 12.3**	**+0.4**
NVAR	**Mina Array Bea**	**91.83 52**	P	**P**	**15 37 12.3**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=255,slow=6.5,SNR=18					
SHPR	**Sheep Range**	**94.11 54**	*e*P	**P**	**15 37 22.9**	**+0.4**
	comp=Z,4.9nm,0.9s					
YKA	**Yellowknife Ar**	**96.27 28**	P	**P**	**15 37 31.1**	**-0.4**
YKA	**Yellowknife Ar**	**96.27 28**	P	**P**	**15 37 31.1**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=267,slow=4.6,SNR=26					
PDAR	**Pinedale Array**	**98.78 48**	P	**P**	**15 37 42.8**	**-0.8**
PDAR	**Pinedale Array**	**98.78 48**	P	**P**	**15 37 42.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=235,slow=3.2,SNR=8.9					
BRTR	**Keskin Array B**	**117.96 312**	PKP	**PKPdf**	**15 42 49.5**	**-1.0**
BRTR	**Keskin Array B**	**117.96 312**	PKP	**PKPdf**	**15 42 49.5**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=126,slow=2.5,SNR=5.0					
BOSA	**Boshof**	**119.91 232**	PKP	**PKPdf**	**15 42 54.4**	**-0.1**
BOSA	**Boshof**	**119.91 232**	PKP	**PKPdf**	**15 42 54.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=123,slow=3.2,SNR=5.3					
STHS	**Stebnicka Huta**	**122.28 326**	*e*PKP	**PKPdf**	**15 42 57.7**	**-0.6**
CRVS	**Cervenica-Dubn**	**122.42 325**	*e*PKP	**PKPdf**	**15 42 59.4**	**+0.8**
KECS	**Kecovo**	**123.19 325**	*e*PKP	**PKPdf**	**15 43 00.6**	**+0.6**
GERES	**GERESS Array B**	**126.66 329**	PKP	**PKPdf**	**15 43 07.0**	**+0.2**
GERES	**GERESS Array B**	**126.66 329**	PKP	**PKPdf**	**15 43 07.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=64,slow=2.3,SNR=6.7					
LPAZ	**La Paz**	**131.88 119**	PKP	**PKPdf**	**15 43 19.0**	**+0.7**
LPAZ	**La Paz**	**131.88 119**	PKP	**PKPdf**	**15 43 19.0**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=315,slow=2.9,SNR=4.8					
ORIF	**Oris-en-Rattie**	**133.27 330**	*e*PKIKP	**PKPdf**	**15 43 20.2**	**+0.7**
	comp=Z,15nm,1.0s					
ORIF	**Oris-en-Rattie**	**133.27 330**	*e*PKPdf	**PKPdf**	**15 43 20.2**	**+0.7**
TAM	**Tamanrasset**	**146.26 301**	*e*PKPbc	**PKPab**	**15 43 45.3**	**-0.3**
BDFB	**Brasilia**	**148.40 135**	PKPbc	**PKPbc**	**15 43 51.2**	**+0.4**
BDFB	**Brasilia**	**148.40 135**	PKPbc	**PKPbc**	**15 43 51.2**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=214,slow=2.4,SNR=10.0					
TOA0	**Torodi Ar. Sit**	**152.63 286**	*e*PKPdf	**PKPdf**	**15 43 53.0**	**-0.8**
TOA0			*e*PKPbc	**PKPbc**	**15 44 00.3**	**-0.6**
TOA0			*e*PKPab	**PKPab**	**15 44 10.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.63 286**	PKP	**PKPdf**	**15 43 53.2**	**-0.6**
TORD			PKPbc	**PKPbc**	**15 44 00.3**	**-0.5**
TORD			PKPab	**PKPab**	**15 44 10.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**152.63 286**	PKP	**PKPdf**	**15 43 53.2**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=75,slow=1.6,SNR=9.0					
TORD			PKPbc	**PKPbc**	**15 44 00.3**	**-0.5**
	comp=Z,19nm,0.8s,baz=63,slow=2.4,SNR=77					
TORD			PKPab	**PKPab**	**15 44 10.3**	**-1.2**
	comp=Z,11nm,0.8s,baz=74,slow=2.5,SNR=9.7					

GUC 30 15:31:18.0±0.5, 32°.01S×71°.44W, h51km±5km, MD3.6, ML3.4, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.52**	**180**	*i* P	Pn	15 31 29.9	+0.2
PACH				*i* S	Sn	15 31 38.9	+0.8
CMCH	**Combarbala**	**0.92**	**24**	⇑*i*P	Pn	15 31 35.2	+0.4
CMCH				*i* S	Sn	15 31 48.4	+1.3
CMCH				AML	AML	15 31 50.1	
	comp=E,7μm,0.4s						
JACH	**Jahuel**	**0.98**	**133**	⇑*i*P	Pn	15 31 36.8	+1.1
JACH				*i* S	Sn	15 31 50.6	+2.0
ROCH	**El Roble**	**1.02**	**159**	⇓*i*P	Pn	15 31 36.5	+0.1
ROCH				*e*S	Sn	15 31 51.1	+1.2
ROCH				AML	AML	15 31 51.8	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.30**	**151**	⇓*i*P	Pn	15 31 40.6	+0.7
PEL				*e*S	Sn	15 31 57.2	+1.0
PEL				AML	AML	15 31 58.3	
	comp=N,822nm,0.3s						
TACH	**Talagante**	**1.69**	**166**	⇑*i*P	Pn	15 31 45.7	+0.5
TACH				*i* S	Sn	15 32 06.6	+0.9
ANTU	**Antumapu**	**1.69**	**157**	AML	AML	15 32 08.1	
	comp=E,743nm,0.2s						
PCH	**Pirque**	**1.78**	**154**	*i* P	Pn	15 31 47.3	+0.7
PCH				*i* S	Sn	15 32 09.0	+0.9
TLL	**Tololo Astrono**	**1.92**	**17**	*i* P	Pn	15 31 49.1	+0.6
TLL				*i* S	Sn	15 32 12.9	+1.1
TLL				AML	AML	15 32 15.8	
	comp=E,220nm,0.4s						
CACH	**El Canelo**	**2.21**	**162**	*i* P	Pn	15 31 53.7	+1.2
CACH				*i* S	Sn	15 32 20.7	+1.9
LCO	**Las Campanas**	**3.06**	**12**	⇓*i*P	Pn	15 32 04.2	-0.1
LCO				*i* S	Sn	15 32 39.8	-0.1
LCO				AML	AML	15 32 42.2	
	comp=E,115nm,0.2s						

IDC 30 15:41:05.6±0.8, 15°.34S×172°.55W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/21, mbtmp4.0/8, Error ellipse: s-maj=58.0km s-min=18.2km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.61**	**28**	Pn	Pn	15 41 27.0	-8.4
	282nm,0.3s,baz=27,slow=2.3,SNR=615						
AFI				Sn	Sn	15 41 41.4	-16
	baz=54,slow=19						
STKA	**Stephens Creek**	**44.77**	**240**	P	P	15 49 21.5	+0.3
	4.2nm,1.0s,baz=83,slow=8.1,SNR=2.4						
WRA	**Warramunga Arr**	**50.65**	**257**	P	P	15 50 06.3	-0.7
	3.6nm,1.3s,baz=90,slow=6.9,SNR=4.5						
ASAR	**Alice Springs**	**50.90**	**252**	P	P	15 50 07.2	-1.8
	3.5nm,1.1s,baz=88,slow=7.8,SNR=38						
FITZ	**Fitzroy Crossi**	**59.02**	**258**	P	P	15 51 08.8	+1.1
	1.0nm,0.5s,baz=74,slow=7.4,SNR=7.2						
NVAR	**Mina Array Bea**	**73.74**	**42**	P	P	15 52 41.8	-0.2
	0.6nm,0.6s,baz=236,slow=7.5,SNR=4.7						
TXAR	**Lajitas Array**	**79.90**	**56**	P	P	15 53 18.6	+1.7
	0.6nm,1.0s,baz=228,slow=3.5,SNR=3.2						
PDAR	**Pinedale Array**	**81.68**	**42**	P	P	15 53 25.8	-0.4
	0.5nm,0.8s,baz=235,slow=7.6,SNR=3.9						
YKA	**Yellowknife Ar**	**89.72**	**23**	P	P	15 54 03.7	-1.6
	0.9nm,0.9s,baz=241,slow=4.4,SNR=9.0						
KHC	**Kasperske Hory**	**145.93**	**353**	*e*P	PKPbc	16 00 47.0	-0.2
GERES	**GERESS Array B**	**146.20**	**353**	PKPbc	PKPdf	16 00 47.4	+0.3
	2.3nm,0.8s,baz=29,slow=2.2,SNR=9.4						
KMBO	**Kilima Mbogo**	**146.29**	**244**	PKPbc	PKPab	16 00 51.1	+0.8
	1.3nm,0.7s,baz=7.3,slow=5.3,SNR=3.7						
BRTR	**Keskin Array B**	**146.62**	**322**	PKPbc	PKPbc	16 00 49.2	-0.4
	7.4nm,0.9s,baz=90,slow=2.5,SNR=17						
TORD	**Torodi Ar. Bea**	**174.01**	**111**	PKP	PKPdf	16 01 17.2	-1.0
	0.2nm,0.6s,baz=225,slow=0.5,SNR=4.3						
TORD				PKPab	PKPab	16 02 47.4	-1.8
	0.9nm,1.0s,baz=258,slow=5.6,SNR=2.9						

*ISCJB **30** 15:45:52.9±0.6, 37°.04N±0°.03×141°.52E±0°.04, h39km±4km, mb5.1/193, MS5.3/8, Error ellipse: s-maj=5.5km s-min=3.8km az=31.8*
*BJI **30** 15:45:52.0, 37°.06N×141°.63E, h45km, mB5.6/13, mb5.0/49, Ms5.3/24, Ms7 5.2/24*
*MOS **30** 15:45:52.3±0.9, 37°.10N×141°.51E, h33km, mb5.4/55, Error ellipse: s-maj=8.2km s-min=4.6km az=113.9*
*IDC **30** 15:45:54.5±0.5, 37°.06N×141°.49E, h39km±3km, mb4.6/26, mb1 4.7/31, mb1mx4.7/34, mbtmp4.6/31, ML4.1/4, Error ellipse: s-maj=12.6km s-min=9.6km az=93.0*
*BGS **30** 15:45:54.8±2.8, 37°.06N×141°.51E, h40km, mb5.4*
*NEIC **30** 15:45:54.6±0.2, 37°.06N×141°.51E, mb5.0/41, MW4.6(NIED), Error ellipse: s-maj=5.3km s-min=4.0km az=133.0*
NEIC Felt [IV] at Utsunomiya. Also felt at Ayase, Fujioka, Maebashi, Narashino, Tsukuba and Zama. Recorded [3 JMA] in Fukushima; [2 JMA] in Ibaraki and Tochigi; [1 JMA] in Chiba, Gumma, Kanagawa, Miyagi, Saitama, Tokyo and Yamagata.
*JMA **30** 15:45:54.0±0.2, 37°.09N×141°.49E, h48km±2km, M4.8*
JMA Felt III J1.
*SZGRF **30** 15:45:56.3, 37°.52N×142°.54E, h43km, mb5.3, Off east coast of Honshu, Japan*
*TEH **30** 15:45:56.0, 37°.22N×141°.37E, h41km, ML5.1*
*NIED **30** 15:46:00, 37°.20N×141°.50E, h32km, Mw4.7 Best double couple: M0=1.09000×10^16 NP1:φs=37.00000°, δ=72.00000°, λ=84.00000°. NP2:φs=236.00000°, δ=19.00000°, λ=108.00000°.*
*DJA **30** 15:46:20.7±3.4, 37°N±12°×14°1E±1°7, h310km±42km, M4.8/24, mB6.2/1, mb4.8/24, Mw(mB)5.8/1*
ISC 30 15:45:54.3±0.3, 37°.07N±0°.04×141°.56E±0°.04, h36km±1km, h37km: pP-P, n492, σ1=03/600, mb5.1/198, MS5.3/8, 42C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.61**	**273**	⇓P	**Pn**	**15 46 05.7**	**-0.9**
ONAJ				S	**Sn**	**15 46 13.7**	**-1.4**
JFK	**Kawauchi**	**0.62**	**299**	⇓P	**Pn**	**15 46 05.7**	**-1.0**
JFK				S	**Sn**	**15 46 13.9**	**-1.5**
JHO	**Hitachi**	**0.91**	**240**	⇓P	**Pn**	**15 46 09.7**	**-0.9**
JHO				S	**Sn**	**15 46 21.0**	**-1.5**
JMM	**Marumori**	**1.00**	**323**	⇓P	**Pn**	**15 46 10.9**	**-0.8**
JMM				*e*S	**Sn**	**15 46 23.0**	**-1.6**
JFT	**Otama**	**1.07**	**295**	⇓P	**Pn**	**15 46 12.8**	**+0.1**
JFT				*e*S	**Sn**	**15 46 26.4**	**0.0**
JIO	**Ouri**	**1.39**	**353**	P	**Pn**	**15 46 16.4**	**-0.7**
JIO				*e*S	**Sn**	**15 46 32.7**	**-1.6**
JOU	**Okura**	**1.48**	**332**	P	**Pn**	**15 46 17.9**	**-0.4**
JFY	**Yanaizu**	**1.51**	**283**	P	**Pn**	**15 46 18.9**	**+0.1**
JYS	**Shiratake**	**1.65**	**315**	P	**Pn**	**15 46 20.8**	**+0.1**
JYS				*e*S	**Sn**	**15 46 40.6**	**0.0**
MAT	**Matsushiro**	**2.74**	**260**	P	**Pn**	**15 46 36.8**	**+1.1**
MAT				S	**Sn**	**15 47 11.0**	**+3.5**
ERM	**Erimo**	**5.09**	**14**	Pn	**Pn**	**15 47 08.2**	**+0.2**
	620nm,0.4s,SNR=31						
ERM	**Erimo**	**5.09**	**14**	*e*P	**Pn**	**15 47 07.4**	**-0.6**
ERM				pmax	pmax		
	comp=Z,101nm,0.7s						
ERM	**Erimo**	**5.09**	**14**	*e*P	**Pn**	**15 47 07.4**	**-0.6**
	comp=Z,101nm,0.7s						
ASAJ	**Asahikawa**	**7.08**	**6**	*e*P	**Pn**	**15 47 34.0**	**-1.3**
	comp=Z,21nm,0.8s						
ASAJ				Sn	**Sn**	**15 48 53.8**	**-0.8**
ASAJ	**Asahikawa**	**7.08**	**6**	Pn	**Pn**	**15 47 34.6**	**-0.7**
	comp=Z,8.4nm,0.3s,baz=211,slow=9.2,SNR=68						
ASAJ				Sn	**Sn**	**15 48 53.8**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=49,slow=20,SNR=3.0						
YUK	**Yuzh-Kuril'sk**	**7.69**	**24**	*c i* P	**Pn**	**15 47 42.2**	**-1.4**
YUK				*i* S	Sn	15 49 01.7	-7.7
YUK				pmax	pmax		
	comp=Z,65nm,0.4s						
YUK				pmax	pmax		
	comp=N,8.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,11nm,0.1s						
KUR	**Kuril'sk**	**9.44**	**28**	*e*P	**Pn**	**15 48 08.4**	**+0.8**
KUR				*i* S	Sn	15 49 45.8	-6.6
KUR				pmax	pmax		
	comp=Z,24nm,1.0s						
KUR				pmax	pmax		
	comp=E,8.0nm,1.0s						
KUR				pmax	pmax		
	comp=N,13nm,1.0s						
VLA	**Vladivostok**	**9.55**	**312**	⇓*e*P	**Pn**	**15 48 11.9**	**+2.7**
VLA				pmax	pmax		
	comp=Z,130nm,1.3s						
JNU	**Nakatsue**	**9.59**	**249**	*e*P	**Pn**	**15 48 11.9**	**+2.1**
	comp=Z,14nm,0.7s						
JNU	**Nakatsue**	**9.59**	**249**	Pn	**Pn**	**15 48 12.1**	**+2.3**
	comp=Z,2.5nm,0.3s,baz=58,slow=7.3,SNR=30						
YSS	**Yuzh-Sakhalins**	**9.92**	**5**	*e*P	**Pn**	**15 48 14.5**	**+0.4**
YSS				*e*S	**Sn**	**15 50 03.0**	**-1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
CBIJ	**Chichi jima**	**9.96**	**177**	Pn	**Pn**	**15 48 12.7**	**-2.1**
CBIJ				Sn	Sn	15 49 55.0	-10
CBIJ	**Chichi jima**	**9.96**	**177**	Pn	**Pn**	**15 48 12.7**	**-2.1**
	baz=318,slow=12						
CBIJ				Sn	Sn	15 49 55.0	-10
	baz=197,slow=19						
USRK	**Ussuriysk Arra**	**10.17**	**317**	Pn	**Pn**	**15 48 18.7**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=122,slow=14,SNR=26						
KSRS	**Korea Array**	**10.87**	**276**	Pn	**Pn**	**15 48 29.0**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=90,slow=14,SNR=48						
KSAR	**Wonju Array Be**	**10.90**	**276**	Pn	**Pn**	**15 48 29.0**	**+1.3**
MDJ	**Mudanjiang**	**11.78**	**314**	P	Pn	15 48 44.3	+4.7
MDJ				pmax	pmax		
	comp=Z,50nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,2μm,12.7s						
MDJ	**Mudanjiang**	**11.78**	**314**	*e*P	**Pn**	**15 48 42.1**	**+2.4**
	comp=Z,30nm,0.6s						
HABR	**Khabarovsk**	**12.35**	**339**	*e*P	**Pn**	**15 48 44.9**	**-2.5**
HABR				S	**Sn**	**15 51 01.9**	**-1.8**
HABR				pmax	pmax		
	comp=Z,28nm,1.6s						
HABR				MLR	MLR		
	comp=Z,9μm,16.0s						
CN2	**Changchun**	**13.98**	**304**	*e*P	**Pn**	**15 49 11.3**	**+1.6**
CN2				*es*P		15 49 25.3	
CN2				*e*S	**Sn**	**15 51 45.0**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,5μm,15.0s						
CN2				LR	LR		
	comp=E,3μm,15.0s						
CN2				LR	LR		
	comp=Z,6μm,16.0s						
SNY	**Shenyang**	**14.68**	**294**	⇑P	**Pn**	**15 49 19.5**	**+0.4**
SNY				pmax	pmax		
	comp=Z,31nm,0.7s						
DL2	**Dalian**	**15.82**	**283**	*e*P	**Pn**	**15 49 34.5**	**+0.3**
DL2				pmax	pmax		
	comp=Z,60nm,1.3s						
PETK	**Petropavlovsk-**	**19.60**	**30**	P	**P**	**15 50 19.5**	**+0.3**
PETK	**Petropavlovsk-**	**19.60**	**30**	P	**P**	**15 50 19.5**	**+0.3**
PETK	**Petropavlovsk-**	**19.60**	**30**	P	**P**	**15 50 19.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=199,slow=13,SNR=3.3						
HIA	**Hailar**	**19.96**	**315**	P	**P**	**15 50 21.1**	**-2.1**
	comp=Z,30nm,1.0s						
BJI	**Beijing**	**20.05**	**286**	P	**P**	**15 50 23.3**	**-0.8**
BJI				pmax	pmax		
	comp=Z,39nm,0.6s						
NACB	**Ninganchiao**	**21.40**	**239**	*e*P	**P**	**15 50 36.8**	**-2.1**
	comp=Z,11nm,0.6s						
SSLB	**Suanglung**	**22.09**	**239**	*e*P	**P**	**15 50 43.2**	**-3.1**
	comp=Z,12nm,0.6s						
YULB	**Yu-li**	**22.12**	**238**	*e*P	**P**	**15 50 42.2**	**-4.4**
	comp=Z,14nm,0.6s						
TPUB	**Ta-pu**	**22.64**	**239**	*e*P	**P**	**15 50 48.7**	**-3.5**
	comp=Z,23nm,0.6s						
TWG	**Pinlang**	**22.66**	**237**	*e*P	**P**	**15 50 52.7**	**+0.3**
	comp=Z,108nm,0.7s						
CLNS	**Chul'man**	**22.70**	**336**	*e*P	**P**	**15 50 55.3**	**+2.8**
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
WHN	**Wuhan**	**23.48**	**262**	⇑P	**P**	**15 50 59.0**	**-1.6**
HHC	**Hu-ho-hao-te**	**23.57**	**288**	*e*P	P	15 50 56.5	-5.0
HHC				pP	pP	15 51 09.0	-2.5
HHC				sP	sP	15 51 14.8	-1.2
HHC				PP	**PnPn**	**15 51 29.8**	**+0.7**
HHC				S	S	15 55 02.5	-11
HHC				sS	sS	15 55 23.0	-7.3
HHC				SS	**SnSn**	**15 55 53.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,43nm,1.0s						
HHC				pmax	pmax		
	comp=Z,7μm,4.8s						
HHC				LR	LR		
	comp=N,6μm,14.4s						
HHC				LR	LR		
	comp=E,11μm,14.0s						
HHC				LR	LR		
	comp=Z,7μm,14.3s						
CIT	**Chita**	**24.73**	**316**	*e*P	**P**	**15 51 08.6**	**-3.5**
CIT				*e*		15 51 19.1	
CIT				*e*		15 51 53.3	
CIT				pmax	pmax		
	comp=Z,127nm,1.2s						
YAK	**Yakutsk**	**26.06**	**347**	*e*P	**P**	**15 51 21.5**	**-2.4**
YAK				*e*PP	**pP**	**15 51 33.4**	**-0.8**
YAK				*e*		15 52 05.7	
YAK				*e*S	**S**	**15 55 45.8**	**-6.5**
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,42nm,1.2s						
YAK				pmax	pmax		
	comp=N,87nm,1.3s						
YAK				pmax	pmax		
	comp=E,82nm,1.8s						
YAK				smax	smax		
	comp=N,1μm,5.3s						
YAK				smax	smax		
	comp=E,537nm,5.3s						
YAK				MLR	MLR		
	comp=E,3μm,19.0s						
YAK				MLR	MLR		
	comp=Z,8μm,19.0s						
YAK				MLR	MLR		
	comp=N,5μm,17.0s						
XAN	**Xi'an**	**26.65**	**273**	P	**P**	**15 51 28.5**	**-1.1**
XAN				pP	**pP**	**15 51 40.0**	**+0.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SEY	**Seymchan**	**26.73**	**11**	⇑*e*P	**P**	**15 51 30.6**	**+0.6**
ULN	**Ulaanbaatar**	**27.43**	**304**	P	**P**	**15 51 36.8**	**+0.2**
	comp=Z,28nm,1.1s						
ENH	**Enshi**	**27.45**	**265**	*e*P	**P**	**15 51 35.5**	**-1.3**
	comp=Z,58nm,0.5s						
SONM	**Songino Array**	**27.86**	**304**	P	**P**	**15 51 39.7**	**-0.7**
SONM				PcP	**PcP**	**15 54 55.3**	**-0.3**
SONM	**Songino Array**	**27.86**	**304**	P	**P**	**15 51 39.7**	**-0.7**
	comp=Z,27nm,0.7s,baz=106,slow=8.7,SNR=91						
SONM				PcP	**PcP**	**15 54 55.3**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=108,slow=2.3,SNR=3.8						
LZH	**Lanzhou**	**30.17**	**280**	*e*P	**P**	**15 52 00.3**	**-0.8**
LZH				pP	**pP**	**15 52 11.5**	**0.0**
LZH				sP	**sP**	**15 52 16.8**	**+0.9**
LZH				PP	**PnPn**	**15 53 01.5**	**+2.3**
LZH				PcP	**PcP**	**15 55 03.3**	**+1.6**
LZH				*e*S	**S**	**15 56 53.0**	**-5.0**
LZH				sS	**sS**	**15 57 13.3**	**-1.8**
LZH				SS	**SnSn**	**15 58 33.5**	**+0.6**
LZH				pmax	pmax		
	comp=Z,120nm,1.3s						
LZH				pmax	pmax		
	comp=Z,590nm,4.8s						
LZH				LR	LR		
	comp=N,2μm,14.5s						
LZH				LR	LR		
	comp=E,7μm,16.2s						
LZH				LR	LR		
	comp=Z,8μm,16.4s						
ZAK	**Zakamensk**	**30.34**	**308**	⇓*i*P	**P**	**15 52 01.3**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TLY	**Talaya**	**30.39**	**311**	*e*P	**P**	**15 52 03.4**	**+0.6**
TLY				pmax	pmax		
	comp=Z,13nm,0.8s						
GYA	**Guiyang**	**31.34**	**260**	⇑*i*P	**P**	**15 52 11.0**	**-0.5**
GYA				pP	**pP**	**15 52 23.3**	**+1.4**
GYA				sP	**sP**	**15 52 27.5**	**+1.3**
GYA				PP	**PnPn**	**15 53 15.0**	**+0.5**
GYA				PcP	**PcP**	**15 55 05.5**	**+0.7**
GYA				S	**S**	**15 57 13.3**	**-3.0**
GYA				sS	**sS**	**15 57 33.3**	**-0.2**
GYA				ScP	**ScP**	**15 58 43.8**	**-1.2**
GYA				SS	**SnSn**	**15 59 02.0**	**+0.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,620nm,17.4s						
GYA				LR	LR		
	comp=E,510nm,18.0s						
GYA				LR	LR		
	comp=Z,630nm,17.2s						
CD2	**Chengdu**	**31.79**	**270**	*e*P	**P**	**15 52 14.5**	**-0.8**
CD2				sP	**sP**	**15 52 30.8**	**+0.7**
CD2				PP	**PnPn**	**15 53 20.0**	**-0.2**
CD2				S	**S**	**15 57 19.8**	**-3.3**
CD2				sS	**sS**	**15 57 38.8**	**-1.5**
CD2				SS	**SnSn**	**15 59 11.3**	**-0.8**
CD2				pmax	pmax		
	comp=Z,40nm,1.2s						
CD2				pmax	pmax		
	comp=Z,210nm,5.8s						
CD2				LR	LR		
	comp=E,4μm,15.5s						
CD2				LR	LR		
	comp=Z,3μm,14.4s						
MOY	**Mondy**	**32.00**	**310**	*e*P	**P**	**15 52 16.8**	**-0.2**
GTA	**Gaotai**	**32.66**	**287**	*e*P	**P**	**15 52 22.0**	**-1.0**
GTA				pP	**pP**	**15 52 33.5**	**+0.1**
GTA				sP	**sP**	**15 52 38.5**	**+0.7**
GTA				PcP	**PcP**	**15 55 09.0**	**+0.7**
GTA				ScP	**ScP**	**15 58 49.5**	**+0.2**
GTA				ScS	**ScS**	**16 02 48.5**	**-0.6**
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
GTA				LR	LR		
	comp=N,4μm,17.1s						
GTA				LR	LR		
	comp=E,6μm,17.1s						
GTA				LR	LR		
	comp=Z,5μm,17.6s						
QIZ	**Qiongzhong**	**33.05**	**246**	P	**P**	**15 52 25.8**	**-0.5**
QIZ				pP	**pP**	**15 52 37.0**	**+0.2**
QIZ				sP	**sP**	**15 52 44.3**	**+3.2**
QIZ				S	**S**	**15 57 41.5**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,2μm,14.3s						
KMI	**Kunming**	**35.08**	**261**	P	**P**	**15 52 43.5**	**-0.7**
KMI				pP	**pP**	**15 52 56.3**	**+1.6**
KMI				pmax	pmax		
	comp=Z,49nm,0.8s						
TIXI	**Tiksi**	**35.27**	**353**	*i* P	**P**	**15 52 45.8**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MYLDM	**Lahad Datu**	**38.11**	**219**	P	**P**	**15 53 12.1**	**+2.3**
MYLDM	**Lahad Datu**	**

comp=Z,3.3nm,1.1s,baz=15,slow=3.7,SNR=5.6
ZAA0 Zalesovo Array 41.97 312 *e*P **P 15 53 40.4 -1.1**
ZAA0 *ep*P **pP 15 53 52.3 +0.2**
ZALV Zalesovo Beam 41.97 312 P **P 15 53 41.3 -0.2**
ZALV *PP **pP 15 53 52.4 +0.3**
ZALV 15 55 35.7
ZALV pmax pmax
comp=Z,58nm,1.1s
ZALV Zalesovo Beam 41.97 312 P **P 15 53 41.3 -0.2**
ZALV pP **pP 15 53 52.4 +0.3**
ZALV PcP **PcP 15 55 35.7 -0.4**
ZALV Zalesovo Beam 41.97 312 P **P 15 53 41.3 -0.2**
comp=Z,58nm,1.1s,baz=81,slow=6.9,SNR=81
ZALV pP **pP 15 53 52.4 +0.3**
comp=Z,22nm,0.6s,baz=91,slow=6.7,SNR=13
ZALV PcP **PcP 15 55 35.7 -0.4**
comp=Z,9.6nm,0.6s,baz=82,slow=3.1,SNR=7.2
LSA Lhasa 42.32 275 P **P 15 53 45.5 +0.3**
LSA Lhasa 42.32 275 *e*P **P 15 53 45.7 +0.5**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 42.32 275 *e*P **P 15 53 45.7 +0.5**
comp=Z,11nm,0.7s
AAI Ambon 42.41 200 P **P 15 53 48.3 +2.9**
comp=Z,50nm,0.8s
BTM Bintulu 42.67 225 P **P 15 53 48.1 +0.6**
SHL Shillong 43.52 269 *e*P P 15 53 44.0 -11
SHL *ex* x 15 55 00.0
SBUM Sibu 43.77 225 P **P 15 53 57.0 +0.6**
SBUM Sibu 43.77 225 P **P 15 53 56.0 -0.4**
comp=Z,11nm,1.0s
MK31 Makanchi Array 44.20 302 *i* P **P 15 53 59.1 -0.5**
MK31 pmax pmax
comp=Z,29nm,0.7s
MK31 Makanchi Array 44.20 302 *e*P **P 15 53 59.0 -0.6**
MK31 *ep*P **pP 15 54 10.8 +0.6**
MKAR Makanchi Array 44.20 302 *ce*P **P 15 53 59.2 -0.4**
MKAR pmax pmax
comp=Z,25nm,0.6s
MKAR Makanchi Array 44.20 302 P **P 15 53 59.0 -0.6**
MKAR PcP **PcP 15 55 43.5 -0.3**
MKAR Makanchi Array 44.20 302 P **P 15 53 59.0 -0.6**
comp=Z,25nm,0.7s,baz=85,slow=8.8,SNR=344
MKAR PcP **PcP 15 55 43.5 -0.3**
comp=Z,4.5nm,0.8s,baz=70,slow=4.7,SNR=3.0
PHET Kaeng Krachan 44.48 248 P **P 15 54 02.9 +0.8**
comp=Z,124nm,0.7s,comp=Z,7μm
MMSI Mamuju 44.81 213 P **P 15 54 04.8 0.0**
comp=Z,35nm,0.9s
KSM Kuching 45.66 226 *e*P **P 15 54 11.9 +0.4**
comp=Z,22nm,0.8s
KSM *ep*P **pP 15 54 24.0 +1.8**
KSM Kuching 45.66 226 P **P 15 54 12.5 +1.0**
KSM Kuching 45.66 226 P **P 15 54 11.8 +0.3**
comp=Z,32nm,0.8s
TAPN Taplejung 46.05 274 *e*P **P 15 54 14.6 -0.3**
comp=Z,34nm,0.6s
ODAN Odare 46.52 274 *e*P **P 15 54 18.3 -0.2**
comp=Z,45nm,0.6s
KAPI Kappang 46.55 211 *e*P **P 15 54 17.5 -0.9**
comp=Z,25nm,0.7s
KAPI *ep*P **pP 15 54 30.4 +1.2**
KAPI Kappang 46.55 211 P **P 15 54 17.3 -1.1**
comp=Z,47nm,1.0s
IMA2 Indian Mountai 46.60 31 *e*P **P 15 54 19.0 +0.6**
BKSI Bulukumba 46.68 210 P **P 15 54 18.8 -0.7**
comp=Z,20nm,0.9s
RSO Redoubt South 46.80 38 *e*P **P 15 54 20.8 +0.5**
comp=Z,40nm,1.0s
KDAK Kodiak Island 47.00 42 P **P 15 54 21.7 +0.2**
KDAK Kodiak Island 47.00 42 P **P 15 54 21.7 +0.2**
comp=Z,11nm,0.7s,baz=281,slow=7.9,SNR=8.6
RAMN Ramite 47.11 274 *e*P **P 15 54 23.0 -0.2**
comp=Z,174nm,0.9s
JIRN Jiri 47.13 275 *e*P **P 15 54 23.5 +0.1**
comp=Z,28nm,0.5s
KTGM Kuala Trenggan 47.21 237 P **P 15 54 24.8 +1.2**
GUN Gumba 47.26 276 *e*P **P 15 54 24.5 +0.1**
comp=Z,45nm,0.4s
PKI Pulchoki 47.79 276 *e*P **P 15 54 27.8 -0.7**
comp=Z,33nm,0.6s
KKN Kakani 47.79 276 *e*P **P 15 54 28.2 -0.2**
comp=Z,76nm,0.9s
PKIN Phulchoki 47.80 276 *e*P **P 15 54 27.9 -0.6**
comp=Z,26nm,0.6s
DMN Daman 48.01 276 *e*P **P 15 54 29.8 -0.3**
comp=Z,36nm,0.8s
MCK McKinley 48.54 34 *e*P **P 15 54 34.1 +0.7**
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 48.54 34 *e*P **P 15 54 34.1 +0.7**
comp=Z,5.4nm,0.8s
DANN Dangsing 48.76 277 *e*P **P 15 54 36.1 +0.2**
comp=Z,238nm,0.8s
COLA College 48.99 32 *e*P **P 15 54 38.1 +1.3**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 48.99 32 *e*P **P 15 54 38.1 +1.3**
comp=Z,22nm,0.8s
KOLN Koldanda 49.14 277 *e*P **P 15 54 38.7 -0.1**
comp=Z,58nm,0.9s
IPM Ipoh 49.26 239 *e*P **P 15 54 38.6 -0.9**
comp=Z,11nm,0.6s
IPM Ipoh 49.26 239 P **P 15 54 38.7 -0.8**
IPM Ipoh 49.26 239 P **P 15 54 38.6 -0.9**
comp=Z,27nm,0.8s
SOEI Soe 49.32 203 P **P 15 54 40.9 +0.9**
comp=Z,68nm,1.1s
ILAR Eielson Array 49.40 32 P **P 15 54 40.3 +0.3**
ILAR Eielson Array 49.40 32 P **P 15 54 40.3 +0.3**
comp=Z,8.0nm,0.8s,baz=268,slow=6.5,SNR=44
ULHL Ulahol 49.45 297 *i* P **P 15 54 40.8 -0.2**
ULHL Ulahol 49.45 297 P **P 15 54 40.8 -0.2**
SNR=7.3
PYUN Piuthan 49.48 277 *e*P **P 15 54 40.7 -0.6**
comp=Z,196nm,0.9s
KGM Kluang 49.55 234 P **P 15 54 42.5 +0.8**
LBFI Labuhan Bajo, 49.65 209 P **P 15 54 41.4 -1.0**
comp=Z,42nm,0.8s
TKM2 Tokmak 2 49.71 298 *i* P **P 15 54 43.3 +0.4**
TKM2 Tokmak 2 49.71 298 P **P 15 54 43.4 +0.4**
SNR=50
TKM2 Tokmak 2 49.71 298 *e*P **P 15 54 43.1 +0.2**
comp=Z,36nm,0.8s
FRIM Kepong 49.76 237 P **P 15 54 43.3 0.0**
KZA Kyzart 50.21 297 *i* P **P 15 54 47.9 +1.0**
KZA Kyzart 50.21 297 P **P 15 54 47.9 +1.0**
SNR=9.4
KBK Karagaybulak 50.25 298 *i* P **P 15 54 47.1 +0.1**
KBK Karagaybulak 50.25 298 P **P 15 54 47.0 +0.1**
SNR=25
CHMS Chumysh 50.28 299 *i* P **P 15 54 46.8 -0.2**
CHMS Chumysh 50.28 299 P **P 15 54 46.9 -0.2**
SNR=11
VOSK Vostochnaya 50.34 312 P **P 15 54 46.5 -0.8**
VOSK pmax pmax
comp=Z,68nm,0.9s
USP Ospenovka 50.38 299 *i* P **P 15 54 47.7 -0.1**
USP Ospenovka 50.38 299 P **P 15 54 47.7 -0.1**
SNR=18
KSH Kashi 50.49 294 P P 15 54 52.5 +3.7
KSH sP sP 15 55 05.5 +1.6
KSH PP **PP 15 56 48.5 +4.0**
KSH S **S 16 02 03.0 +2.7**
KSH SS **SS 16 05 34.0 -0.2**
KSH pmax pmax
comp=Z,15nm,1.0s
KSH pmax pmax
comp=Z,310nm,7.3s
KSH LR LR
comp=N,2μm,16.0s
KSH LR LR
comp=E,810nm,13.8s
KSH LR LR
comp=Z,2μm,16.8s
AAK Ala-Archa 50.57 298 *e*P **P 15 54 49.0 -0.5**
comp=Z,7.2nm,0.8s
TPI Tanjungpandan 50.62 226 P **P 15 54 49.8 0.0**
comp=Z,32nm,1.1s
BVA0 Borovoye Array 50.63 312 *i* P **P 15 54 49.0 -0.5**
BVA0 pmax pmax
comp=Z,17nm,0.7s
BRVK Borovoye 50.69 312 P **P 15 54 49.1 -0.8**
comp=Z,260nm,0.7s,SNR=9.0
BRVK Borovoye 50.69 312 *c i* P **P 15 54 49.5 -0.4**
BRVK pmax pmax
comp=Z,30nm,0.7s
BRVK Borovoye 50.69 312 *e*P **P 15 54 49.5 -0.4**
comp=Z,40nm,0.9s
MENT Mentasta 50.94 35 *e*P **P 15 54 52.8 +1.1**
EKS2 Erkin-Say 51.07 299 *e*P **P 15 54 52.0 -1.1**
EKS2 *e* 15 56 08.3
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 51.07 299 P **P 15 54 52.9 -0.2**
SNR=10
EKS2 Erkin-Say 51.07 299 *e*P **P 15 54 52.0 -1.1**
comp=Z,8.6nm,0.7s
EKS2 *ep*PcP **PcP 15 56 08.3 -0.3**
SRBI Singaraja 51.25 214 P **P 15 54 54.3 -0.2**
comp=Z,57nm,0.7s
AML Almayashu 51.29 298 *i* P **P 15 54 55.7 +0.6**
AML Almayashu 51.29 298 P **P 15 54 55.6 +0.6**
SNR=14
MTNI Mataram 51.32 213 P **P 15 54 54.3 -0.7**
comp=Z,113nm,1.0s
PWJI Pagerwojo 52.81 218 P **P 15 55 04.7 -1.4**
KK31 Karatay Array 53.20 300 *i* P **P 15 55 08.2 -0.6**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 53.20 300 *e*P **P 15 55 08.1 -0.8**
KKAR pmax pmax
comp=Z,29nm,0.9s
KKAR Karatay Array 53.20 300 *e*P **P 15 55 08.1 -0.8**
comp=Z,29nm,0.9s
SVE Sverdlovsk 55.20 319⇓ *e*P **P 15 55 23.1 0.0**
SVE pmax pmax
comp=Z,58nm,1.0s
ARU Arti 56.41 319 *c i* P **P 15 55 31.2 -0.6**
ARU 15 56 27.4
ARU 15 57 35.7
ARU S **S 16 03 21.0 +1.2**
ARU SS **SS 16 07 07.1 +0.6**
ARU pmax pmax
comp=Z,75nm,1.2s
ARU Arti 56.41 319 P **P 15 55 31.7 -0.1**
comp=Z,320nm,0.5s,SNR=18
FITZ Fitzroy Crossi 56.89 198 P **P 15 55 35.8 +0.2**
FITZ pP **pP 15 55 47.2 +0.7**
FITZ Fitzroy Crossi 56.89 198 P **P 15 55 35.8 +0.2**
comp=Z,4.9nm,0.6s,baz=13,slow=8.2,SNR=26
FITZ pP **pP 15 55 47.2 +0.7**
comp=Z,6.2nm,0.5s,baz=19,slow=6.9,SNR=11
WRAB Tennant Creek 57.10 188 P **P 15 55 36.0 -1.0**
comp=Z,65nm,0.6s,SNR=8.4
WRA Warramunga Arr 57.11 188 P **P 15 55 36.4 -0.7**
WRA pP **pP 15 55 47.7 -0.3**
WRA Warramunga Arr 57.11 188 P **P 15 55 36.4 -0.7**
comp=Z,5.3nm,0.5s,baz=5.2,slow=7.3,SNR=32
WRA pP **pP 15 55 47.7 -0.3**
comp=Z,9.2nm,0.7s,baz=2.5,slow=7.5,SNR=8.8
KBL Kabul 57.51 291 *e*P **P 15 55 39.1 -1.1**
KBL pmax pmax
comp=Z,34nm,1.0s
KBL Kabul 57.51 291 *e*P **P 15 55 39.1 -1.1**
comp=Z,34nm,1.0s
AB31 Akbulak array 58.00 310 *i* P **P 15 55 42.3 -0.8**
AB31 pmax pmax
comp=Z,25nm,0.5s
ABKAR Akbulak array 58.00 310 *e*P **P 15 55 42.4 -0.7**
comp=Z,31nm,0.6s
HYB Hyderabad 58.32 269 *i* P **P 15 55 45.0 -0.8**
AKTO Aktyubinsk 58.73 312 P **P 15 55 47.1 -1.2**
AKTO pmax pmax
comp=Z,26nm,0.9s
AS31 Alice Springs 60.84 188 *e*P **P 15 56 02.8 -0.1**
ASAR Alice Springs 60.84 188 P **P 15 56 02.6 -0.3**
ASAR Alice Springs 60.84 188 P **P 15 56 02.6 -0.3**
comp=Z,3.4nm,0.8s,baz=10,slow=7.5,SNR=48
TMCR Tamitsa 62.77 331 *e*P P 15 56 18.2 +2.8
TMCR *e* 15 56 53.4
TMCR pmax pmax
comp=Z,13nm,0.3s
IMYA Miami 63.25 297 *e*P **P 15 56 19.8 +0.5**
YKA Yellowknife Ar 63.72 30 P **P 15 56 21.8 0.0**
YKA Yellowknife Ar 63.72 30 P **P 15 56 21.7 0.0**
comp=Z,2.2nm,0.8s,baz=300,slow=6.7,SNR=21
IEMG Emamgholi 63.78 298 *e*P **P 15 56 23.1 +0.1**
ARCES ARCESS Array B 64.00 339 P **P 15 56 23.9 +0.4**
ARCES *ep*P **pP 15 56 35.3 +0.7**
ARCES ARCESS Array B 64.00 339 P **P 15 56 23.9 +0.4**
comp=Z,8.4nm,0.8s,baz=54,slow=7.9,SNR=19
ARCES *ep*P **pP 15 56 35.3 +0.7**
comp=Z,2.6nm,0.6s,baz=58,slow=7.3,SNR=2.0
IAKL Akhelmad 64.09 297 *e*P **P 15 56 25.3 +0.3**
IAKL *e* 15 56 26.2
comp=Z,84nm,0.2s
IKRD Kardeh 64.18 298 *e*P P 15 56 21.4 -4.1
IDAH Dahanechah 65.13 293 *e*P **P 15 56 31.9 0.0**
JOF Joensuu 65.98 332 *ep* **P 15 56 36.2 -0.3**
comp=Z,7.7nm,0.6s
MOS Moscow 67.29 323 *e*P **P 15 56 43.7 -1.2**
MOS *e* 15 56 55.7
IGLO Ghaloghah 67.60 299 *e*P **P 15 56 47.5 0.0**
VRHR Novokhopersk 67.74 318 *e*P **P 15 56 45.8 -2.0**
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,60nm,1.6s
IKIA Kiasar 67.85 299 *e*P **P 15 56 48.9 -0.3**
IANJ Anjilo 68.06 298 *e*P **P 15 56 51.2 +0.7**
OBN Obninsk 68.14 323 *e*P **P 15 56 49.4 -0.8**
OBN *e**PP **pP 15 57 02.0 +0.6**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,6μm,17.0s
ISHM Shahmirzad 68.33 299 *e*P **P 15 56 52.7 +0.5**
KAF Kangasniemi 68.33 333 *e*P **P 15 56 51.1 -0.3**
KAF pmax pmax
comp=Z,13nm,0.5s
KAF Kangasniemi 68.33 333 *ep* **P 15 56 51.1 -0.3**
comp=Z,13nm,0.5s
STKA Stephens Creek 68.59 180 P **P 15 56 53.5 +0.2**
STKA Stephens Creek 68.59 180 P **P 15 56 53.5 +0.2**
comp=Z,6.3nm,0.9s,baz=356,slow=7.6,SNR=11
ILAS Lasjerd 68.78 299 *e*P **P 15 56 55.2 +0.2**
IFIR Firoozkooh 68.79 299 *e*P **P 15 56 55.4 +0.3**
FIA1 FINESS Array S 68.83 332 *e*P **P 15 56 54.3 -0.2**
FIA1 *ep*P **pP 15 57 06.5 +0.8**
FINES FINESS Array B 68.84 332 P **P 15 56 54.3 -0.2**
FINES FINESS Array B 68.84 332 P **P 15 56 54.3 -0.2**
comp=Z,21nm,0.7s,baz=54,slow=7.2,SNR=51
VSR Storozhevoye 68.98 319 *e*P **P 15 56 54.9 -0.7**
VSR pmax pmax
comp=Z,30nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 69.05 319 *e*P **P 15 56 55.0 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.9s
IDMV Damavand 69.32 299 *e*P **P 15 56 58.3 -0.1**
ISAD Sadrabad 70.06 295 *e*P **P 15 57 02.2 -0.8**
IMHD Mahdasht 70.22 300 *e*P **P 15 57 03.7 0.0**
VSU Vasula 70.48 330 *ce*P **P 15 57 04.4 -0.3**
VSU pmax pmax
comp=Z,102nm,1.1s
IZEF Zefreh 70.52 297 *e* 15 57 06.5
comp=Z,190nm,0.3s
IZEF *e*P **P 15 57 05.8 0.0**
SUMG Summit 70.65 0 *i* P **P 15 57 07.3 +1.3**
comp=Z,9.6nm,0.8s
IRAZ Razeghan 70.88 300 *e*P **P 15 57 07.4 -0.4**
ZEI Tsey 70.88 309 *e*P **P 15 57 05.5 -2.2**
ZEI pmax pmax
comp=Z,9.0nm,0.5s
KBZ Khabaz 70.97 311 P **P 15 57 07.9 0.0**
KBZ pmax pmax
comp=Z,17nm,0.9s
KBZ Khabaz 70.97 311 P **P 15 57 07.9 0.0**
KBZ Khabaz 70.97 311 P **P 15 57 07.9 0.0**
comp=Z,17nm,0.9s,baz=56,slow=3.8,SNR=42
KIV Kislovodsk 70.97 311 *e*P **P 15 57 08.1 0.0**
KIV pmax pmax
comp=Z,48nm,0.9s
KIV Kislovodsk 70.97 311 P **P 15 57 09.7 +1.6**
comp=Z,338nm,0.9s,SNR=6.7
ISRB Sarab 71.12 303 *e*P **P 15 57 08.7 -0.6**
IPIR Pirpir 71.65 297 *e*P **P 15 57 13.2 +0.5**
BMO Blue Mountains 71.82 47 *e*P **P 15 57 13.5 +0.3**
comp=Z,3.2nm,0.8s
ISRV Sarvestan 71.82 293 *e*P **P 15 57 12.9 -0.9**
UOSS Wadi Hilu 71.91 288 P **P 15 57 13.2 -0.7**
comp=Z,188nm,0.7s,SNR=6.3
SWMT Swartz Lake 72.19 44 *e*P **P 15 57 15.7 +0.3**
comp=Z,2.7nm,1.1s
ISHB Shabestar 72.23 305 *e*P **P 15 57 15.4 -0.6**
IDID Didziasalis 72.51 327 *e*P **P 15 57 17.1 +0.1**
IDID AMB AMB 15 57 18.4
comp=Z,9.3nm,0.8s
ISAL Salakas 72.61 327 *e*P **P 15 57 17.8 +0.2**
ISAL AMB AMB 15 57 19.3
comp=Z,19nm,1.1s
SLMT Seeley Lake 72.62 44 *e*P **P 15 57 18.3 +0.2**
comp=Z,3.5nm,0.9s
IIGN Ignalina 72.71 327 *e*P **P 15 57 18.4 +0.2**
IIGN AMB AMB 15 57 19.6
comp=Z,13nm,1.0s
NACGM Naroch 72.76 327 *e* **P 15 57 16.0 -2.5**
NWAO Narrogin (SRO) 73.24 201 P **P 15 57 21.1 -0.4**
NWAO Narrogin (SRO) 73.24 201 P **P 15 57 21.1 -0.4**
comp=Z,5.7nm,0.6s,baz=14,slow=9.7,SNR=7.0
ANN Anapa 73.59 314 *e*P P 15 57 14.4 -9.2
ANN pmax pmax
comp=Z,21nm,0.9s
IDHR Dehrash 73.69 301 *e*P **P 15 57 23.6 -1.1**
IGHG Ghaleghazi 73.78 301 *e*P **P 15 57 24.3 -0.9**
LRM Limekiln Ridge 74.04 44 *e*P **P 15 57 27.2 +0.6**
comp=Z,71nm,0.9s
LRM *ep*P **pP 15 57 39.2 +1.4**
NB2 NORSAR Subarra 74.20 337 P **P 15 57 26.7 -0.2**
comp=Z,21nm,0.8s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.20 337 P **P 15 57 26.7 -0.2**
baz=40,slow=6.2
NOA NORSAR Array B 74.20 337 P **P 15 57 26.8 -0.2**
NOA pP **pP 15 57 38.1 0.0**
NOA NORSAR Array B 74.20 337 P **P 15 57 26.8 -0.2**
comp=Z,19nm,0.8s,baz=43,slow=5.4,SNR=39
NOA pP **pP 15 57 38.1 0.0**
comp=Z,7.8nm,0.9s,baz=38,slow=6.0,SNR=4.4
AKASG Malin Array Be 74.34 322 P **P 15 57 27.2 -0.6**
AKASG *PP **pP 15 57 39.5 +0.4**
AKASG pmax pmax
comp=Z,20nm,0.4s
AKASG Malin Array Be 74.34 322 P **P 15 57 27.2 -0.6**
AKASG pP **pP 15 57 39.5 +0.4**
AKASG Malin Array Be 74.34 322 P **P 15 57 27.2 -0.6**
comp=Z,18nm,0.4s,baz=46,slow=6.3,SNR=75
AKASG pP **pP 15 57 39.5 +0.4**
comp=Z,8.5nm,0.5s,baz=45,slow=6.0,SNR=10
KIEV Kiev 74.35 322 *e*P **P 15 57 27.0 -0.9**
KIEV *e**PP **pP 15 57 39.0 -0.2**
KIEV pmax pmax
comp=Z,34nm,0.9s
KIEV Kiev 74.35 322 *e*P **P 15 57 27.0 -0.9**
comp=Z,34nm,0.9s
KIEV *ep*P **pP 15 57 39.0 -0.2**
NVAR Mina Array Bea 74.88 53 P **P 15 57 31.6 +0.1**
NVAR pP **pP 15 57 43.8 +1.0**
NVAR Mina Array Bea 74.88 53 P **P 15 57 31.6 +0.1**
comp=Z,2.4nm,0.8s,baz=311,slow=5.9,SNR=14
NVAR pP **pP 15 57 43.8 +1.0**
comp=Z,2.1nm,0.7s,baz=284,slow=5.6,SNR=7.2
SUW Suwalki 74.92 327 *e*P **P 15 57 31.5 +0.4**
UMR Umm Al-Rimmam 75.65 296 *e*P **P 15 57 34.8 -1.0**
UMR AMb AMB 15 57 35.5
comp=Z,45nm,0.6s
MIB Mutribah 75.78 297 *e*P **P 15 57 35.3 -1.2**
MIB AMb AMB 15 57 36.5
comp=Z,80nm,0.9s
QRN Al-Qurain 75.96 295 *e*P **P 15 57 36.8 -0.8**
QRN AMb AMB 15 57 37.8
comp=Z,131nm,0.7s
RDF Al-Radifah 76.12 296 *e*P **P 15 57 37.8 -0.7**
RDF AMb AMB 15 57 39.0
comp=Z,116nm,0.8s
NAY Al-Naaiem 76.16 296 *e*P **P 15 57 37.7 -1.1**
NAY AMb AMB 15 57 38.4
comp=Z,2.4nm,0.6s
RST Umm Al-Ruwaisa 76.19 297 *e*P **P 15 57 37.6 -1.3**
RST AMb AMB 15 57 39.0
comp=Z,529nm,0.9s
MALT Malatya 76.84 308 ⇑P **P 15 57 43.2 +0.6**
MALT Malatya 76.84 308 ⇑*i*P **P 15 57 43.2 +0.6**
MZRK Al-Mazaregh 76.89 305 *e*P **P 15 57 41.8 -1.0**
SFNV Sufian 76.89 306 *e*P **P 15 57 42.8 0.0**
DUG Dugway 77.25 49 *e*P **P 15 57 45.7 +0.8**
DUG *e**PP **pP 15 57 57.1 +0.9**
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway 77.25 49 *e*P **P 15 57 45.7 +0.8**
comp=Z,3.0nm,0.9s
DUG *ep*P **pP 15 57 57.1 +0.9**
LVV L'vov 77.42 324 *e*P **P 15 57 45.5 0.0**
LVV *e* 15 57 57.5
BEL Belsk 77.48 327 *e*P **P 15 57 46.6 +0.9**
PDAR Pinedale Array 77.56 46 P **P 15 57 47.0 +0.3**
PDAR Pinedale Array 77.56 46 P **P 15 57 47.0 +0.3**
comp=Z,1.4nm,0.7s,baz=286,slow=2.7,SNR=13
KWP Kalwaria Pacla 78.17 324 *e*P **P 15 57 50.1 +0.5**
BUR08 Bucovina Ar. S 78.34 322 *e*P **P 15 57 50.8 0.0**
BURAR Bucovina Array 78.35 322 ⇓P **P 15 57 51.0 +0.2**
BURAR Bucovina Array 78.35 322 ⇓*i*P **P 15 57 51.0 +0.2**
TESR Tescani 78.38 320 ⇑*i*P **P 15 57 50.8 -0.1**
VRI Vrincioaia 78.77 320 ⇑P **P 15 57 53.8 +0.7**
VRI Vrincioaia 78.77 320 ⇑*i*P **P 15 57 53.8 +0.7**
PLOR Plostina 78.82 320 ⇓P **P 15 57 54.1 +0.7**
PLOR Plostina 78.82 320 ⇓*i*P **P 15 57 54.1 +0.7**
TIRR Tirgusor 78.82 318 ⇑P **P 15 57 53.0 -0.3**
TIRR Tirgusor 78.82 318 ⇑*i*P **P 15 57 53.0 -0.3**
KOLS Kolonicke sedl 78.86 324 *e*P **P 15 57 53.5 0.0**
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 78.86 324 *e*P **P 15 57 53.5 0.0**
BR131 Keskin Array S 78.91 312 *e*P **P 15 57 53.5 -0.6**
comp=Z,4.4nm,0.6s
BRTR Keskin Array B 78.91 312 P **P 15 57 53.9 -0.2**
BRTR Keskin Array B 78.91 312 P **P 15 57 53.9 -0.2**
comp=Z,7.5nm,0.8s,baz=66,slow=4.6,SNR=36
DRWC Darouich 78.98 308 *e*P P 15 58 02.6 +8.1
STHS Stebnicka Huta 79.00 325 *e*P **P 15 57 55.3 +1.1**
STHS pmax pmax
comp=Z,15nm,1.1s
STHS Stebnicka Huta 79.00 325 *e*P **P 15 57 55.3 +1.1**
UZH Uzhgorod 79.06 324⇓ *i*P **P 15 57 55.0 +0.4**
UZH *e* 15 58 00.8
UZH *e* 15 58 07.4
OJC Ojcow 79.07 326 *e*P **P 15 57 54.5 -0.1**
CRVS Cervenica-Dubn 79.26 324 *e*P **P 15 57 56.0 +0.3**
CRVS pmax pmax
comp=Z,13nm,1.2s
CRVS Cervenica-Dubn 79.26 324 *e*P **P 15 57 56.0 +0.3**
TRPA Tarpa 79.30 323 ⇓*i*P **P 15 57 56.5 +0.7**
ISR Istrita 79.37 319 ⇑P **P 15 57 57.2 +0.8**
ISR Istrita 79.37 319 ⇑*i*P **P 15 57 57.2 +0.8**
MLR Muntele Rosu 79.43 320 ⇓*i*P **P 15 57 56.7 -0.1**
BTCH Batrach 79.47 307 *e*P P 15 58 03.3 +6.2
RUE Ruedersdorf 79.91 331 *e*P **P 15 57 59.4 +0.3**
comp=Z,35nm,1.1s
VOIR 79.93 320 ⇑P **P 15 58 00.1 +0.6**
VOIR 79.93 320 ⇑*i*P **P 15 58 00.1 +0.6**
KECS Kecovo 80.01 325 *e*P **P 15 57 59.7 -0.1**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 80.01 325 *e*P **P 15 57 59.7 -0.1**
BSEG Bad Segeberg 80.08 333 *e*P **P 15 58 00.2 +0.2**
comp=Z,56nm,1.0s
OKC Ostrava-Krasne 80.08 327 *e*P **P 15 58 00.2 +0.1**
OKC *e* 15 58 12.3
OKC Ostrava-Krasne 80.08 327 *e*P **P 15 58 00.2 +0.1**
OKC *ep*P **pP 15 58 12.3 +0.9**
KSP Ksiaz 80.13 328 *e*P **P 15 58 00.5 +0.2**
KSP *e**PP **pP 15 58 12.8 +1.1**
KSP Ksiaz 80.13 328 *e*P **P 15 58 00.6 +0.2**
DRGR 80.16 322 ⇑P **P 15 58 00.4 -0.3**
DRGR 80.16 322 ⇑*i*P **P 15 58 00.4 -0.3**
ARR Arges 80.19 320⇓ *i*P **P 15 58 02.0 +1.1**

MORC	Moravsky Berou	80.39 327	eP	P	15 58 01.9	+0.1
MORC			pmax	pmax		
	comp=Z,25nm,1.1s					
MORC	Moravsky Berou	80.39 327	eP	P	15 58 01.9	+0.1
	comp=Z,25nm,1.1s					
HAWK	Haweek	80.44 306	eP	P	15 57 57.8	-4.7
DPC	Dobruska-Polom	80.49 328	eP	P	15 58 02.6	+0.3
DPC			e		15 58 12.8	
DPC			e		15 58 15.0	
DPC	Dobruska-Polom	80.49 328	eP	P	15 58 02.6	+0.3
DPC			epP	pP	15 58 12.8	-0.9
DPC			esP	sP	15 58 15.0	-2.9
UPC	Upice	80.50 328	eP	P	15 58 02.4	0.0
UPC			e		15 58 14.8	
UPC	Upice	80.50 328	eP	P	15 58 02.4	0.0
UPC			epP	pP	15 58 14.8	+1.1
PSZ	Piszkesteto	80.69 325	⇑P	P	15 58 03.7	+0.2
PSZ	Piszkesteto	80.69 325	⇑iP	P	15 58 03.7	+0.2
PSZ	Piszkesteto	80.69 325	eP	P	15 58 03.5	0.0
	comp=Z,32nm,1.1s					
PSZ	Piszkesteto	80.69 325	⇓eP	P	15 58 04.1	+0.6
MARH	Ras Al Marh	80.70 306	eP	P	15 58 00.8	-3.3
RAYN	Ar Rayn	80.75 292	P	P	15 58 03.4	-0.8
	comp=Z,100nm,0.7s,SNR=5.1					
ZALF	Zalf	80.83 304	eP	P	15 57 59.8	-4.7
WUAZ	Wupatki	81.05 52	eP	P	15 58 06.6	+0.8
	comp=Z,5.1nm,1.1s					
BRG	Berggiesshubel	81.08 329	iP	P	15 58 05.3	-0.1
	comp=Z,18nm,0.9s					
BRG			pP	pP	15 58 17.5	+0.7
	comp=Z,11nm,0.9s					
BRG	Berggiesshubel	81.08 329	eP	P	15 58 05.4	-0.1
	comp=Z,18nm,0.9s					
BRG			epP	pP	15 58 17.7	+0.9
BRG	Berggiesshubel	81.08 329	iP	P	15 58 05.3	-0.1
BRG			*PP	pP	15 58 17.5	+0.7
BRG			pmax	pmax		
	comp=Z,18nm,0.9s					
PVCC	Panska Ves	81.09 329	eP	P	15 58 05.7	+0.2
PVCC			e		15 58 14.0	
PVCC			e		15 58 18.4	
PVCC	Panska Ves	81.09 329	eP	P	15 58 05.7	+0.2
PVCC			ePCP	PcP	15 58 14.0	+2.2
PVCC			epP	pP	15 58 18.4	+1.6
GZR	Gura Zlata	81.11 321	⇑P	P	15 58 05.6	-0.2
GZR	Gura Zlata	81.11 321	⇑iP	P	15 58 05.6	-0.2
CLL	Collm	81.12 330	eP	P	15 58 05.3	-0.3
	comp=Z,35nm,0.9s					
CLL	Collm	81.12 330	⇑iP	P	15 58 05.3	-0.3
	comp=Z,35nm,0.9s					
CLL			epP	pP	15 58 18.0	+1.0
CLL			e(sP)	sP	15 58 20.0	-1.2
TOTH	TOTAH	81.15 305	eP	P	15 58 04.9	-1.3
FBE	Freiberg	81.28 330	eP	P	15 58 06.8	+0.3
	comp=Z,38nm,0.9s					
NRDL	Niedersach Rie	81.30 332	eP	P	15 58 06.4	-0.1
	comp=Z,16nm,0.9s					
SMOL	Smolenice	81.38 326	eP	P	15 58 07.8	+0.7
SMOL	Smolenice	81.38 326	eP	P	15 58 07.8	+0.7
BRBR	Barbar	81.43 305	eP	P	15 58 07.8	-0.1
PRU	Pruhonice	81.51 329	eP	P	15 58 07.5	-0.2
PRU			e		15 58 19.2	
PRU	Pruhonice	81.51 329	eP	P	15 58 07.5	-0.2
PRU			ePCP	PcP	15 58 12.5	-1.1
PRU			epP	pP	15 58 19.2	+0.1
BZS	Buzias	81.53 322	⇑P	P	15 58 07.1	-0.8
BZS	Buzias	81.53 322	⇑iP	P	15 58 07.1	-0.8
ASF	Jabal al Asfar	81.58 304	P	P	15 58 07.9	-0.7
ASF	Jabal al Asfar	81.58 304	P	P	15 58 07.9	-0.7
	comp=Z,5.2nm,0.7s,baz=39,slow=2.1,SNR=11					
TREC	Trest	81.64 328	eP	P	15 58 08.7	+0.2
TREC			e		15 58 21.1	
TREC	Trest	81.64 328	eP	P	15 58 08.7	+0.2
TREC			epP	pP	15 58 21.1	+1.3
NEUB	Neuenburg	81.68 331	eP	P	15 58 08.5	-0.1
	comp=Z,34nm,0.9s					
CLZ	Clausthal	81.72 332	eP	P	15 58 09.1	+0.2
	comp=Z,46nm,1.0s					
CLZ			epP	pP	15 58 21.5	+1.3
CLZ	Clausthal	81.72 332	eP	P	15 58 09.1	+0.2
CLZ			e*PP	pP	15 58 21.5	+1.3
CLZ			pmax	pmax		
	comp=Z,46nm,1.0s					
TCHB	Talchebab	81.88 305	eP	P	15 58 09.5	-0.6
TANN	Tannenbergstha	82.03 330	eP	P	15 58 10.5	-0.1
	comp=Z,29nm,1.9s					
TANN			epP	pP	15 58 22.7	+0.8
WERD	Werda	82.07 330	eP	P	15 58 10.7	0.0
	comp=Z,11nm,1.0s					
GUNZ	Gunzen	82.12 330	eP	P	15 58 11.1	+0.1
	comp=Z,15nm,0.9s					
GUNZ			epP	pP	15 58 23.6	+1.2
NKC	Novy Kostel	82.18 330	eP	P	15 58 11.1	-0.2
NKC			e		15 58 24.0	
NKC	Novy Kostel	82.18 330	eP	P	15 58 11.1	-0.2
NKC			epP	pP	15 58 24.0	+1.3
MOX	Moxa	82.19 330	eP	P	15 58 11.2	-0.1
	comp=Z,24nm,1.5s					
MOX	Moxa	82.19 330	eP	P	15 58 11.2	-0.1
MOX			pmax	pmax		
	comp=Z,24nm,1.5s					
IBBN	Ibbenburen	82.31 333	eP	P	15 58 11.7	-0.1
	comp=Z,34nm,0.9s					
IBBN			epP	pP	15 58 24.3	+1.1
MANZ	Manzenberg	82.51 330	eP	P	15 58 13.0	0.0
	comp=Z,15nm,0.9s					
PKSM	Moragy	82.53 324	⇑P	P	15 58 12.5	-0.6
PKSM	Moragy	82.53 324	⇑iP	P	15 58 12.5	-0.6
PKSM	Moragy	82.53 324	⇓eP	P	15 58 12.7	-0.4
KHC	Kasperske Hory	82.57 329	eP	P	15 58 13.2	-0.2
KHC			e*PP	pP	15 58 26.0	+1.2
KHC			pmax	pmax		
	comp=Z,22nm,0.8s					
KHC	Kasperske Hory	82.57 329	eP	P	15 58 13.1	-0.2
KHC			epP	pP	15 58 25.7	+0.9
KHC	Kasperske Hory	82.57 329	eP	P	15 58 13.2	-0.2
	comp=Z,22nm,0.8s					
KHC			epP	pP	15 58 26.0	+1.2
ROTZ	Rotzenmuhle	82.64 330	eP	P	15 58 14.3	+0.6
	comp=Z,32nm,1.5s					
GEC2	GERESS Array S	82.74 328	eP	P	15 58 14.1	-0.2
	comp=Z,14nm,1.0s					
GEC2	GERESS Array S	82.74 328	eP	P	15 58 14.1	-0.2
GEC2			pmax	pmax		
	comp=Z,14nm,1.0s					
GERES	GERESS Array B	82.74 328	P	P	15 58 13.7	-0.6
GERES	GERESS Array B	82.74 328	P	P	15 58 13.7	-0.6
	comp=Z,10nm,0.8s,baz=39,slow=6.3,SNR=85					
WET	Wettzell	82.85 329	eP	P	15 58 15.0	+0.2
	comp=Z,16nm,1.0s					
WET	Wettzell	82.85 329	eP	P	15 58 15.0	+0.2
WET			pmax	pmax		
	comp=Z,16nm,1.0s					
VTS	Vitosha	82.86 319	⇑P	P	15 58 15.3	+0.2
VTS	Vitosha	82.86 319	⇑iP	P	15 58 15.3	+0.2
PGBU	Glenifferbraes	83.05 341	eP	P	15 58 16.5	+0.8
PGBU			AMB	AMB	15 58 18.7	
	comp=Z,111nm,2.8s					
GRF	Grafenberg Arr	83.10 330	eP	P	15 58 16.5	+0.5
	comp=Z,32nm,0.9s					
GRF			epP	pP	15 58 28.5	+1.0
GRF	Grafenberg Arr	83.10 330	eP	P	15 58 16.5	+0.5
GRF			e*PP	pP	15 58 28.5	+1.0
GRF			pmax	pmax		
	comp=Z,32nm,0.9s					
GRFO	Grafenberg	83.10 330	eP	P	15 58 16.0	-0.1
GRFO			pmax	pmax		
	comp=Z,30nm,0.9s					
GRFO	Grafenberg	83.10 330	eP	P	15 58 15.9	-0.1
	comp=Z,30nm,0.9s					
ESK	Eskdalemuir	83.16 341	⇓eP	P	15 58 16.6	+0.3
ESK			AMB	AMB	15 58 16.7	
	comp=Z,68nm,1.2s					
ARSA	Arzberg	83.17 326	⇑iP	P	15 58 16.4	-0.1
	comp=Z,7.0nm,0.8s,SNR=6.0					
BUG	Bochum--Univer	83.19 333	eP	P	15 58 16.1	-0.3
	comp=Z,14nm,0.9s					
BUG			epP	pP	15 58 29.1	+1.3
TNS	Taunus Mts	83.75 332	eP	P	15 58 19.3	-0.1
	comp=Z,14nm,1.1s					
TNS	Taunus Mts	83.75 332	eP	P	15 58 19.3	-0.1
TNS			pmax	pmax		
	comp=Z,14nm,1.1s					
KESW	Keswick, Cumbr	83.78 340	eP	P	15 58 20.1	+0.7
KESW			AMB	AMB	15 58 21.2	
	comp=Z,79nm,1.3s					
GROS	Grobnik	83.78 326	iP	P	15 58 19.1	-0.7
PERS	Pernice	83.82 326	eP	P	15 58 19.5	-0.4
SOKA	Sobotin	83.83 326	⇑iP	P	15 58 19.6	-0.4
	comp=Z,33nm,1.1s,SNR=17					
HPK	Haverah Park	83.93 339	eP	P	15 58 20.4	+0.2
HPK			AMB	AMB	15 58 20.7	
	comp=Z,98nm,1.4s					
RJOB	Jochberg	83.98 328	eP	P	15 58 20.9	+0.2
	comp=Z,26nm,1.0s					
VAY	Valandovo	84.10 319	eP	P	15 58 20.4	-0.9
SKO	Skopje	84.22 320	eP	P	15 58 22.9	+0.9
KBA	Koelnbreinsper	84.26 327	⇑iPcP	P	15 58 22.4	+0.1
	comp=Z,11nm,0.7s					
FUR	Furstenfeldbru	84.28 329	eP	P	15 58 22.2	0.0
	comp=Z,48nm,0.8s					
FUR			epP	pP	15 58 34.7	+1.1
FUR	Furstenfeldbru	84.28 329	eP	P	15 58 22.2	0.0
FUR			e*PP	pP	15 58 34.7	+1.1
FUR			pmax	pmax		
	comp=Z,48nm,0.8s					
BEBN	Eben Emael	84.29 334	P	P	15 58 22.2	+0.1
EIL	Elat	84.45 303	P	P	15 58 22.9	-0.5
EIL	Elat	84.45 303	P	P	15 58 22.9	-0.5
	comp=Z,18nm,0.7s,baz=27,slow=6.8,SNR=19					
ANMO	Albuquerque	84.48 50	eP	P	15 58 24.2	+0.6
	comp=Z,1.5nm,0.8s					
MYKA	Terra Mystica	84.48 327	⇑iP	P	15 58 22.2	-1.0
	comp=Z,8.3nm,0.7s					
VISS	Visnje	84.58 326	iP	P	15 58 23.1	-0.6
BOJS	Bojanci	84.62 325	iP	P	15 58 23.8	-0.1
STU	Stuttgart	84.63 331	eP	P	15 58 23.8	-0.1
	comp=Z,34nm,0.9s					
STU			epP	pP	15 58 36.2	+0.9
STU	Stuttgart	84.63 331	eP	P	15 58 23.8	-0.1
STU			pmax	pmax		
	comp=Z,35nm,0.9s					
STU	Stuttgart	84.63 331	eP	P	15 58 23.8	-0.1
	comp=Z,35nm,0.9s					
BCLA	Clavier	84.74 334	P	P	15 58 23.8	-0.5
	comp=Z,15nm,2.4s					
WTTA	Wattenberg	84.84 328	iPcP	P	15 58 25.0	-0.2
	comp=Z,6.8nm,0.8s					
JAVS	Javornik	84.86 326	iP	P	15 58 23.7	-1.5
LANF	Langenberg	85.00 331	eP	P	15 58 25.4	-0.4
MOTA	Moosalm	85.00 329	⇓iPcP	P	15 58 25.7	-0.2
	comp=Z,11nm,1.0s,SNR=5.2					
RETA	Reute	85.03 329	⇑iPcP	P	15 58 25.9	-0.1
	comp=Z,28nm,1.0s,SNR=11					
WLF	Walferdange	85.06 333	P	P	15 58 25.9	-0.1
	comp=Z,20nm,2.8s					
WLF	Walferdange	85.06 333	epP	pP	15 58 38.2	+0.8
GIVF	Givet	85.17 334	eP	P	15 58 26.0	-0.6
DOU	Dourbes	85.26 334	P	P	15 58 26.4	-0.6
	comp=Z,10nm,2.4s					
SCHQ	Schefferville	85.27 16	P	P	15 58 27.1	+0.2
SCHQ	Schefferville	85.27 16	P	P	15 58 27.1	+0.2
	comp=Z,4.2nm,0.9s,baz=326,slow=10,SNR=5.7					
FOEL	Foel Wylfa	85.32 339	eP	P	15 58 27.3	0.0
FOEL			AMB	AMB	15 58 27.7	
	comp=Z,44nm,1.0s					
BFO	Black Forest	85.33 331	eP	P	15 58 27.2	-0.2
	comp=Z,30nm,0.9s					
BFO			epP	pP	15 58 39.7	+0.8
BFO	Black Forest	85.33 331	P	P	15 58 27.5	+0.1
	comp=Z,182nm,0.8s,SNR=14					
BFO	Black Forest	85.33 331	eP	P	15 58 26.9	-0.5
BFO			e*PP	pP	15 58 39.1	+0.2
BFO			pmax	pmax		
	comp=Z,28nm,0.9s					
BFO	Black Forest	85.33 331	eP	P	15 58 26.9	-0.5
	comp=Z,28nm,0.9s					
BFO			epP	pP	15 58 39.1	+0.2
FETA	Feichten	85.41 329	⇓iPcP	P	15 58 27.8	-0.3
	comp=Z,13nm,0.9s,SNR=5.6					
BAIF	Baives	85.43 334	eP	P	15 58 27.4	-0.4
	comp=Z,16nm,0.8s					
APE	Apeiranthos	85.44 314	⇑P	P	15 58 26.9	-1.3
APE	Apeiranthos	85.44 314	⇑iP	P	15 58 26.9	-1.3
DAVA	Damuels	85.55 329	⇓iPcP	P	15 58 28.4	-0.4
	comp=Z,28nm,0.9s,SNR=7.7					
CDF	Champ du Feu	85.67 331	eP	P	15 58 28.8	-0.4
	comp=Z,45nm,0.9s					
ECH	Echery	85.87 331	eP	P	15 58 29.6	-0.6
ECH			e*PP	pP	15 58 42.0	+0.4
ECH			pmax	pmax		
	comp=Z,19nm,0.8s					
ECH	Echery	85.87 331	eP	P	15 58 29.6	-0.6
	comp=Z,18nm,0.8s					
ECH			epP	pP	15 58 42.0	+0.4
ECH	Echery	85.87 331	eP	P	15 58 29.5	-0.6
MCH1	Michaelchurch	86.05 339	eP	P	15 58 29.2	-1.7
MCH1			AMB	AMB	15 58 30.6	
	comp=Z,46nm,1.0s					
PAGF	Fort de Pagny	86.14 332	eP	P	15 58 31.3	-0.1
	comp=Z,16nm,0.9s					
MOF	Molkenrain	86.18 331	eP	P	15 58 31.2	-0.6
LPW	Lampeter	86.25 340	eP	P	15 58 31.3	-0.6
THEF	They Montfort	86.31 332	eP	P	15 58 31.7	-0.6
HINF	Hinteralfeld	86.32 331	eP	P	15 58 31.6	-0.8
	comp=Z,18nm,1.0s					
HAU	Haudompre	86.36 332	eP	P	15 58 31.8	-0.7
	comp=Z,22nm,0.8s					
MEZF	Maizieres J'vi	86.43 333	eP	P	15 58 32.7	-0.1
	comp=Z,48nm,1.1s					
SFTF	Sexfontaines	86.68 333	eP	P	15 58 33.7	-0.4
	comp=Z,81nm,1.1s					
IDI	Anoyia	87.05 313	eP	P	15 58 35.0	-1.2
	comp=Z,36nm,1.1s					
CABF	La Chapelle	87.61 331	eP	P	15 58 39.9	+1.2
LOR	Lormes	87.90 333	eP	P	15 58 39.6	-0.4
	comp=Z,33nm,1.0s					
FLN	La Foliniere	88.12 336	eP	P	15 58 40.7	-0.3
	comp=Z,13nm,0.7s					
LDF	La Druitiere	88.15 336	eP	P	15 58 40.7	-0.4
	comp=Z,12nm,0.8s					
SSF	Saint Saulge	88.20 333	eP	P	15 58 41.1	-0.3
	comp=Z,17nm,0.9s					
LPL	La Plagne	88.26 330	eP	P	15 58 41.4	-0.6
	comp=Z,6.9nm,0.7s					
LPG	La Plagne	88.27 330	eP	P	15 58 41.5	-0.6
	comp=Z,17nm,0.9s					
SMF	Signal de Mont	88.43 332	eP	P	15 58 42.1	-0.4
	comp=Z,25nm,1.1s					
AVF	Avril sur Loir	88.49 333	eP	P	15 58 42.5	-0.3
	comp=Z,22nm,0.9s					
GRR	Gorron	88.57 336	eP	P	15 58 43.1	0.0
	comp=Z,32nm,0.9s					
BGF	Bois d'Agland	88.87 333	eP	P	15 58 44.3	-0.3
MBDF	Montbardon	88.89 330	eP	P	15 58 44.2	-0.7
	comp=Z,10nm,0.7s					
ORIF	Oris-en-Rattie	89.09 330	eP	P	15 58 45.3	-0.5
	comp=Z,13nm,1.0s					
SGMF	Saint Gilles	89.23 337	eP	P	15 58 46.1	-0.1
TCF	Toulx Ste Croi	89.33 333	eP	P	15 58 46.7	-0.1
ROSF	Rostrenen	89.38 337	eP	P	15 58 46.9	0.0
	comp=Z,20nm,0.8s					
VIVF	Saint-Julien-l	89.62 331	eP	P	15 58 48.6	+0.4
	comp=Z,13nm,1.0s					
QUIF	Quistinic	89.72 337	eP	P	15 58 48.1	-0.4
	comp=Z,24nm,0.9s					
CEL	Celeste	89.83 320	eP	P	15 58 48.6	-0.7
	comp=Z,23nm,0.8s					
MFF	Saint Martin d	89.89 335	eP	P	15 58 49.4	+0.1
	comp=Z,49nm,1.4s					
TXAR	Lajitas Array	90.01 52	P	P	15 58 50.9	+0.5
TXAR	Lajitas Array	90.01 52	P	P	15 58 50.9	+0.5
	comp=Z,1.0nm,0.6s,baz=299,slow=3.0,SNR=17					
RJF	Les Rejaudoux	90.42 333	eP	P	15 58 51.8	-0.1
	comp=Z,16nm,0.9s					
CAF	Calviac	90.55 333	eP	P	15 58 52.8	+0.3
	comp=Z,23nm,1.1s					
LASF	Ste Croix	90.59 331	eP	P	15 58 52.7	0.0
LFF	La Frestale	91.02 333	eP	P	15 58 54.8	+0.2
	comp=Z,27nm,0.9s					
MTLF	Montolieu	91.84 332	eP	P	15 58 58.5	0.0
ETSF	Etsaut	93.26 333	eP	P	15 59 06.0	+0.9
	comp=Z,6.1nm,0.7s					
ESDC	Sonseca Array	97.31 334	P	P	15 59 22.4	-1.2
ESDC	Sonseca Array	97.31 334	P	P	15 59 22.4	-1.2
	comp=Z,1.1nm,0.8s,baz=15,slow=4.3,SNR=6.7					
TORD	Torodi Ar. Bea	117.39 315	PKP	PKPdf	16 04 35.3	-1.2
TORD			PP	PP	16 05 36.2	-11
TORD	Torodi Ar. Bea	117.39 315	PKP	PKPdf	16 04 35.3	-1.2
	comp=Z,1.3nm,0.9s,baz=34,slow=1.6,SNR=5.8					
TORD			PP	PP	16 05 36.2	-11
	comp=Z,0.9nm,0.7s,baz=32,slow=6.0,SNR=4.2					
DBIC	Dimbokro	126.34 317	PKP	PKPdf	16 04 53.0	-0.7
DBIC	Dimbokro	126.34 317	PKP	PKPdf	16 04 53.0	-0.7
	comp=Z,5.3nm,0.8s,baz=117,slow=2.3,SNR=5.4					
QSPA	South Pole Qui	126.81 180	PKP	PKPdf	16 04 52.3	-0.7
QSPA	South Pole Qui	126.81 180	PKP	PKPdf	16 04 52.3	-0.7
	comp=Z,3.4nm,1.0s,baz=314,slow=2.1,SNR=7.4					
SNAA	Sanae	140.81 197	ePKPdf	PKPdf	16 05 11.0	-8.1
SNAA	Sanae	140.81 197	ePKP	PKPdf	16 05 23.8	+4.7
VNA2	Neumayer--Watz	142.38 196	ePKPdf	PKPdf	16 05 17.8	-4.0
VNA2	Neumayer--Watz	142.38 196	ePKP	PKPdf	16 05 31.6	+10
VNA3	Neumayer Olymp	142.63 195	ePKPdf	PKPdf	16 05 18.6	-3.7
VNA3	Neumayer Olymp	142.63 195	ePKP	PKPdf	16 05 32.1	+10
VNA1	Neumayer--Stat	142.78 196	ePKPdf	PKPdf	16 05 19.2	-3.3
VNA1	Neumayer--Stat	142.78 196	ePKP	PKPdf	16 05 32.5	+10
LPAZ	La Paz	146.58 60	PKPbc	PKPbc	16 05 33.2	+0.1
LPAZ	La Paz	146.58 60	PKPbc	PKPbc	16 05 33.2	+0.1
	comp=Z,4.5nm,0.6s,baz=13,slow=4.1,SNR=26					

MAN 30 15:51:04, 10°.29N×122°.82E, h25km, mb4.2, ML3.1, MS2.8, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.40	326	eP	Pn	15 51 14.2	0.0
GUIM				eS	Sn	15 51 21.8	+0.8
OCLP	Ormoc	1.92	67	eP	Pn	15 51 34.5	-0.5
MSLP	Maasin	2.02	94	eP	Pn	15 51 37.6	+1.2

IDC 30 16:22:57.0±1.6, 2°.19S×139°.11E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.7/19, mbtmp3.6/9, ML3.8/1, Error ellipse: s-maj=55.4km s-min=21.7km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.25	194	P	Pn	16 27 11.8	-0.1
	0.3nm,0.3s,baz=17,slow=12,SNR=3.8						
FITZ	Fitzroy Crossi	20.61	219	P	P	16 27 39.1	+1.1
	0.9nm,0.7s,baz=48,slow=14,SNR=3.9						
FITZ				S	S	16 31 17.7	-12
	2.3nm,1.0s,baz=193,slow=18,SNR=3.1						
ASAR	Alice Springs	21.94	193	P	P	16 27 51.6	-0.8
	1.4nm,0.5s,baz=24,slow=11,SNR=14						
ASAR				S	S	16 31 53.8	-1.9
	0.6nm,1.0s,baz=12,slow=28,SNR=2.5						
CMAR	Chiang Mai Arr	44.52	299	P	P	16 31 11.0	+0.2
	0.5nm,0.8s,baz=107,slow=6.0,SNR=3.1						
MKAR	Makanchi Array	69.62	322	P	P	16 34 08.4	+0.2
	0.2nm,0.5s,baz=103,slow=7.7,SNR=6.5						
ZALV	Zalesovo Beam	71.69	330	P	P	16 34 19.7	-0.9
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.2						
KURBB	Kurchatov Arra	73.53	325	P	P	16 34 31.2	-0.5
	0.1nm,0.4s,baz=140,slow=5.8,SNR=3.4						
BVAR	Borovoye Array	79.11	325	P	P	16 35 03.6	+0.3
	0.6nm,0.6s,baz=114,slow=7.0,SNR=4.8						
ILAR	Eielson Array	85.19	24	P	P	16 35 35.9	+0.8
	1.0nm,1.1s,baz=250,slow=5.4,SNR=2.9						

IGQ 30 16:25:48.5, 0°.95S×79°.50W, h12km±135km, Mb4.1, Ms3.9, 4C-12D, Error ellipse: s-maj=1.2km s-min=0.8km az=2.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	Mancha de Ca P	0.57	288	⇓P	Pn	16 26 05.7	+3.1
MAG1	Magdalena	0.91	343	⇑P	Pb	16 26 06.5	+0.1
JAMA	Jama	0.98	314	P	Pb	16 26 06.3	-1.3
IGUA	Igualata	1.02	122	⇓P	Pb	16 26 08.5	-0.4
CAMI	Rancho Maria	1.04	75	P	Pb	16 26 09.0	0.0
BNAS	Cotopaxi Volca	1.06	75	⇓P	Pb	16 26 09.4	-0.1
BMOR	Cotopaxi Volca	1.07	78	⇓P	Pb	16 26 09.4	-0.3
NAS2	Nasa	1.08	74	P	Pg	16 26 10.0	-0.1
MOV1	Cotopaxi Vol s	1.09	77	P	Pb	16 26 09.8	-0.3
BREF	Cotopaxi Volca	1.10	75	⇓P	Pb	16 26 10.4	+0.1
BIL2	Estacion Bilba	1.12	117	P	Pb	16 26 09.9	-0.4
PISA	Pisayambo	1.12	95	⇑P	Pb	16 26 10.3	-0.3
BBIL	Ulba Tungurahu	1.13	116	⇓P	Pb	16 26 10.2	-0.3
JUI6	Juive	1.14	114	⇑P	Pb	16 26 10.3	-0.2
PITA	Cotopaxi Volc	1.14	70	P	Pb	16 26 10.9	0.0
BTAM	Cotopaxi Volca	1.14	76	⇓P	Pb	16 26 10.8	-0.2
VC1	Cotopaxi 1	1.14	74	P	Pb	16 26 11.0	0.0
JUA2	San Juan 2	1.16	51	P	Pb	16 26 11.1	-0.1
BMAS	Trigal station	1.16	118	⇓P	Pb	16 26 10.6	-0.5
TAMB	Tambo	1.16	77	P	Pb	16 26 11.3	0.0
RETU	Refugio	1.17	115	P	Pb	16 26 11.3	-0.1
RUN5	Runtun	1.17	113	P	Pb	16 26 11.0	-0.2
RUN5	Runtun	1.17	113	S	Sb	16 26 26.9	+0.3
ARRY	Arrayan	1.18	118	P	Pn	16 26 10.8	-0.6
TERV	Terraza Guagua	1.19	49	P	Pn	16 26 11.6	-0.1
BRUN	Tungurahua Vol	1.19	113	S	Sb	16 26 26.9	-0.2
BRUN	Tungurahua Vol	1.19	113	P	Pn	16 26 10.8	-0.7
GGP	Refugio Guagua	1.19	50	⇑P	Pn	16 26 11.5	-0.3
PINO	Pino	1.19	49	P	Pn	16 26 11.3	-0.5
BULB	Ulba Tungurahu	1.20	114	⇓S	Sb	16 26 27.4	0.0
BULB	Ulba Tungurahu	1.20	114	⇓P	Pn	16 26 11.3	-0.3
COV1	Cotopaxi Volc	1.20	76	S	Sb	16 26 26.9	-1.1
COV1	Cotopaxi Volc	1.20	76	P	Pn	16 26 10.6	-1.3
PAT1	Patacocha	1.20	117	P	Pn	16 26 11.0	-0.8
BPAT	Tungurahua Vol	1.20	117	S	Sb	16 26 28.0	+0.2
BPAT	Tungurahua Vol	1.20	117	P	Pn	16 26 11.4	-0.4
ULBA	Ulba	1.20	114	⇓S	Sb	16 26 27.7	+0.1
ULBA	Ulba	1.20	114	⇓P	Pn	16 26 11.3	-0.4
ANTI	Antisana	1.43	70	P	Pn	16 26 15.4	+0.3
OTAV	Otavalo	1.58	42	P	Pn	16 26 17.1	+0.1
COTA	Cotacachi	1.73	42	P	Pb	16 26 21.5	+0.6
CAYR	Refugio Cayamb	1.78	57	P	Pb	16 26 22.5	+0.5
ANGU	Angureal	1.79	56	P	Pg	16 26 23.1	-0.7
CAYA	Cayambe	1.82	56	P	Pb	16 26 22.8	+0.2

RCP	**Roxas**	**1.12 344**	⇓*e*P	Pg	16 30 56.9	+0.3
OCLP	**Ormoc**	**1.63 69**	*e*P	Pn	16 31 05.3	+0.5
MSLP	**Maasin**	**1.81 101**	*e*P	Pn	16 31 08.1	+0.8
DCPH	**Dipolog City**	**1.90 171**	⇑*e*P	Pn	16 31 07.0	-1.7
PAGZ	**Pagadian**	**2.63 173**	*e*P	Pn	16 31 19.5	+0.9

*IDC **30** 16:37:32.9±3.8, 26°.50N×55°.95E, h0km, mb3.4/7, mb1 3.7/7, mb1mx3.4/28, mbtmp3.5/7, Error ellipse: s-maj=71.7km s-min=37.5km az=138.0*
*KISR **30** 16:37:38.2±0.7, 27°.08N×55°.29E, h34km±999km, ML2.6*
ISC 30 16:37:37.0±1.9, 26°.8N±0°.2×55°.8E±0°.1, h12km, n11, σ1§35/15, mb3.4/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRN	**Al-Qurain**	**7.21**	**288**	*e*P	**Pn**	**16 39 24.0**	**+1.7**
QRN				*e*S	**Sn**	**16 40 42.8**	**-1.4**
RDF	**Al-Radifah**	**7.57**	**288**	*e*P	**Pn**	**16 39 28.8**	**+1.5**
RDF				*e*S	**Sn**	**16 40 52.7**	**-0.3**
RDF				AML	AML	16 40 54.1	
	comp=Z,6.4nm,0.4s						
NAY	**Al-Naaiem**	**7.92**	**290**	*e*P	**Pn**	**16 39 33.8**	**+1.8**
NAY				*e*S	**Sn**	**16 41 00.1**	**-1.4**
NAY				AML	AML	16 41 00.5	
	comp=Z,0.1nm,0.6s						
MIB	**Mutribah**	**8.01**	**294**	*e*P	**Pn**	**16 39 35.1**	**+1.8**
MIB				*e*S	**Sn**	**16 41 02.4**	**-1.4**
KBZ	**Khabaz**	**19.88**	**332**	P	**Pn**	**16 42 10.0**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=145,slow=9.9,SNR=4.6						
BRTR	**Keskin Array B**	**22.49**	**311**	P	**P**	**16 42 37.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=124,slow=8.9,SNR=3.6						
BVAR	**Borovoye Array**	**28.42**	**19**	P	**P**	**16 43 31.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=203,slow=10,SNR=2.7						
GERES	**GERESS Array B**	**39.21**	**316**	P	**P**	**16 45 05.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=97,slow=5.3,SNR=3.5						
FINES	**FINESS Array B**	**40.00**	**338**	P	**P**	**16 45 11.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=140,slow=11,SNR=7.1						
ESDC	**Sonseca Array**	**50.74**	**301**	P	**P**	**16 46 35.5**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=80,slow=7.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**52.23**	**266**	P	**P**	**16 46 47.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=62,slow=6.4,SNR=3.5						

*IDC **30** 16:41:33.7±0.5, 37°.64N×95°.67E, h0km, mb4.1/17, mb1 4.2/23, mb1mx4.1/35, mbtmp4.1/23, ML4.0/6, Error ellipse: s-maj=17.3km s-min=10.0km az=45.0*
*ISCJB **30** 16:41:34.2±0.3, 37°.75N±0°.04×95°.65E±0°.04, h10km, mb4.2/30, Error ellipse: s-maj=5.7km s-min=3.7km az=21.7*
*MOS **30** 16:41:35.6±1.0, 37°.68N×95°.68E, h23km, mb4.4/13, Error ellipse: s-maj=11.3km s-min=7.6km az=115.3*
*BJI **30** 16:41:35.4, 37°.64N×95°.61E, h10km, mB4.7/4, mb4.5/29, ML4.4/8, Ms4.3/16, Ms7 4.1/17*
*NEIC **30** 16:41:36.5±2.9, 37°.69N×95°.61E, h17km±19km, mb4.5/10, Error ellipse: s-maj=8.6km s-min=6.9km az=212.0*
*NNC **30** 16:41:42.6±5.2, 37°.75N×94°.54E, h0km, mb4.2, Error ellipse: s-maj=85.9km s-min=64.3km az=65.0*
ISC 30 16:41:35.7±0.4, 37°.67N±0°.05×95°.53E±0°.04, h10km, n107, σ1§69/122, mb4.3/30, 4C-4D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.78**	**61**	Pn	**Pn**	**16 42 35.5**	**+1.3**
GTA				Pg	**Pb**	**16 42 42.0**	**-0.7**
GTA				Sn	**Sn**	**16 43 16.8**	**-2.1**
GTA				Sg	**Sb**	**16 43 26.0**	**-2.7**
GTA				smax	smax		
	comp=N,190nm,1.2s						
GTA				smax	smax		
	comp=E,230nm,0.9s						
GTA				LR	LR		
	comp=N,2μm,7.1s						
GTA				LR	LR		
	comp=E,2μm,6.7s						
GTA				LR	LR		
	comp=Z,2μm,9.5s						
LZH	**Lanzhou**	**6.85**	**101**	*e*Pn	**Pn**	**16 43 16.8**	**+0.3**
LZH				*e*Sn	**Sn**	**16 44 33.3**	**-1.3**
LZH				LR	LR		
	comp=N,1μm,8.3s						
LZH				LR	LR		
	comp=E,480nm,6.6s						
LZH				LR	LR		
	comp=Z,1μm,7.4s						
WMQ	**Urumqi**	**8.54**	**318**	P	**Pn**	**16 43 41.0**	**+1.5**
WMQ				S	**Sn**	**16 45 13.5**	**-2.5**
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				smax	smax		
	comp=N,100nm,1.3s						
WMQ				smax	smax		
	comp=E,120nm,0.8s						
LSA	**Lhasa**	**8.75**	**206**	P	Pn	16 43 46.0	+3.3
LSA	**Lhasa**	**8.75**	**206**	*e*P	Pn	16 43 46.1	+3.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSA	**Lhasa**	**8.75**	**206**	*e*P	Pn	16 43 46.1	+3.3
	comp=Z,9.3nm,0.9s						
CD2	**Chengdu**	**9.58**	**132**	*e*P	Pn	16 43 56.5	+2.7
CD2				sP		16 44 02.3	
CD2				S	**Sn**	**16 45 45.5**	**+3.9**
CD2				SS	**SnSn**	**16 45 58.5**	**+5.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				LR	LR		
	comp=N,2μm,9.5s						
CD2				LR	LR		
	comp=E,1μm,9.4s						
CD2				LR	LR		
	comp=Z,1μm,5.8s						
XAN	**Xi'an**	**11.46**	**104**	P	Pn	16 44 14.5	-5.0
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**12.83**	**71**	*e*P	**Pn**	**16 44 36.0**	**-2.2**
HHC				PP	**PnPn**	**16 44 46.8**	**+0.8**
HHC				S	**Sn**	**16 47 00.0**	**-1.1**
HHC				pmax	pmax		
	comp=Z,31nm,0.9s						
HHC				LR	LR		
	comp=N,1μm,7.4s						
HHC				LR	LR		
	comp=E,2μm,9.8s						
HHC				LR	LR		
	comp=Z,2μm,9.4s						
SONM	**Songino Array**	**12.90**	**35**	Pn	**Pn**	**16 44 39.9**	**+0.6**
SONM				Sn	**Sn**	**16 47 07.0**	**+4.0**
SONM				Lg	Lg	16 48 21.0	
SONM	**Songino Array**	**12.90**	**35**	Pn	**Pn**	**16 44 39.9**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=217,slow=15,SNR=26						
SONM				Sn	**Sn**	**16 47 07.0**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=227,slow=25,SNR=3.1						
SONM				Lg	Lg	16 48 21.0	
	comp=Z,0.3nm,0.3s,baz=214,slow=28,SNR=5.9						
ULN	**Ulaanbaatar**	**13.23**	**36**	*e*P	**Pn**	**16 44 44.3**	**+0.6**
	comp=Z,5.3nm,0.6s						
MK31	**Makanchi Array**	**13.37**	**317**	Pn	**Pn**	**16 44 44.3**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=130,slow=14,SNR=34						
MK31				⇑Sn	**Sn**	**16 47 10.5**	**-3.7**
	comp=Z,14nm,0.9s,baz=134,slow=26,SNR=2.7						
MK31	**Makanchi Array**	**13.37**	**317**	*e*P	**Pn**	**16 44 44.3**	**-1.2**
MK31				S	**Sn**	**16 47 10.5**	**-3.7**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MK31				smax	smax		
	comp=Z,27nm,1.1s						
MK31	**Makanchi Array**	**13.37**	**317**	*e*P	**Pn**	**16 44 44.0**	**-1.5**
MKAR	**Makanchi Array**	**13.37**	**317**	P	**Pn**	**16 44 43.7**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.37**	**317**	Pn	**Pn**	**16 44 43.7**	**-1.8**
MKAR				Sn	**Sn**	**16 47 09.7**	**-4.4**
MKAR				Lg	Lg	16 48 42.8	
MKAR	**Makanchi Array**	**13.37**	**317**	Pn	**Pn**	**16 44 43.7**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=127,slow=14,SNR=31						
MKAR				Sn	**Sn**	**16 47 09.7**	**-4.4**
	comp=Z,0.6nm,0.3s,baz=124,slow=25,SNR=10						
MKAR				Lg	Lg	16 48 42.8	
	baz=138,slow=29,SNR=2.0						
ENH	**Enshi**	**13.73**	**118**	*e*P	**Pn**	**16 44 47.7**	**-2.8**
	comp=Z,18nm,1.0s						
ZAK	**Zakamensk**	**13.86**	**21**	⇑*i*P	**P**	**16 45 02.5**	**+1.8**
ZAK				*e*		16 47 30.0	
ZAK				pmax	pmax		
	comp=Z,17nm,1.0s						
KMI	**Kunming**	**13.94**	**152**	P	Pn	16 44 56.3	+2.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MOY	**Mondy**	**14.52**	**14**	*e*P	**P**	**16 45 10.8**	**+2.9**
GYA	**Guiyang**	**14.62**	**137**	*e*P	**Pn**	**16 45 02.0**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSH	**Kashi**	**15.40**	**283**	P	**P**	**16 45 18.8**	**+1.0**
KSH				PP	PnPn	16 45 31.8	+11
KSH				S	S	16 48 13.0	-7.1
KSH				SS	Sn	16 48 36.0	+32
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,92nm,6.2s						
KSH				LR	LR		
	comp=N,380nm,8.1s						
KSH				LR	LR		
	comp=E,750nm,12.9s						
KSH				LR	LR		
	comp=Z,1μm,15.3s						
TKM2	**Tokmak 2**	**16.07**	**295**	⇑P	**Pn**	**16 45 20.9**	**-1.1**
	comp=Z,17nm,0.9s						
TKM2	**Tokmak 2**	**16.07**	**295**	*e*P	**Pn**	**16 45 20.8**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,16nm,0.8s						
TKM2	**Tokmak 2**	**16.07**	**295**	*e*P	**Pn**	**16 45 20.8**	**-1.1**
	comp=Z,16nm,0.8s						
SMLA	**Simla**	**16.49**	**252**	*e*P	**P**	**16 45 30.1**	**+0.3**
DHRM	**DHARAMSHALA**	**16.66**	**257**	*e*P	**P**	**16 45 35.7**	**+3.8**
AAK	**Ala-Archa**	**16.81**	**294**	P	**P**	**16 45 33.2**	**-0.3**
AAK	**Ala-Archa**	**16.81**	**294**	*e*P	**P**	**16 45 33.4**	**-0.1**
AAK	**Ala-Archa**	**16.81**	**294**	Pn	**P**	**16 45 33.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=108,slow=13,SNR=9.2						
WHN	**Wuhan**	**17.12**	**109**	⇓P	**P**	**16 45 36.5**	**-0.3**
KURBB	**Kurchatov Arra**	**17.73**	**322**	P	**Pn**	**16 45 42.1**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=132,slow=11,SNR=16						
KURBB				S	**Sn**	**16 49 02.8**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=134,slow=22,SNR=3.8						
KURBB				Lg	Lg	16 50 56.0	
	baz=121,slow=30,SNR=4.3						
KURK	**Kurchatov**	**17.75**	**323**	P	**Pn**	**16 45 42.1**	**-0.6**
KURK				S	**Sn**	**16 49 02.8**	**+2.4**
KURK	**Kurchatov**	**17.75**	**323**	P	**Pn**	**16 45 42.1**	**-0.6**
KURK				S	**Sn**	**16 49 02.8**	**+2.4**
KURK				Lg	Lg	16 50 56.0	
ZALV	**Zalesovo Beam**	**17.87**	**339**	P	**Pn**	**16 45 44.2**	**-0.1**
ZALV	**Zalesovo Beam**	**17.87**	**339**	P	**Pn**	**16 45 44.2**	**-0.1**
ZALV				Lg	Lg	16 51 05.0	
ZALV	**Zalesovo Beam**	**17.87**	**339**	P	**Pn**	**16 45 44.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=19						
ZALV				Lg	Lg	16 51 05.0	
	comp=Z,0.1nm,0.3s,baz=140,slow=25,SNR=2.7						
NVS	**Novosibirsk**	**19.11**	**338**	*e*P	**P**	**16 45 58.2**	**-0.3**
NVS				pmax	pmax		
	comp=N,28nm,2.0s						
NVS				pmax	pmax		
	comp=Z,25nm,2.0s						
CMAR	**Chiang Mai Arr**	**19.38**	**170**	P	**P**	**16 46 01.7**	**0.0**
CMAR	**Chiang Mai Arr**	**19.38**	**170**	P	**P**	**16 46 01.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=342,slow=11,SNR=20						
KK31	**Karatay Array**	**19.78**	**294**	⇓P	**Pn**	**16 46 08.5**	**+1.0**
	comp=Z,5.3nm,1.0s						
KK31	**Karatay Array**	**19.78**	**294**	P	**Pn**	**16 46 09.0**	**+1.5**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KKAR	**Karatay Array**	**19.78**	**294**	*e*P	**Pn**	**16 46 07.6**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,11nm,1.2s						
KKAR	**Karatay Array**	**19.78**	**294**	*e*P	**Pn**	**16 46 07.6**	**+0.1**
	comp=Z,11nm,1.2s						
NJ2	**Nanjing**	**19.93**	**99**	*e*P	**P**	**16 46 07.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBL	**Kabul**	**21.60**	**270**	P	**P**	**16 46 27.2**	**+1.2**
KBL				pmax	pmax		
	comp=Z,22nm,1.1s						
KBL	**Kabul**	**21.60**	**270**	P	**P**	**16 46 27.2**	**+1.2**
	comp=Z,22nm,1.1s						
QIZ	**Qiongzhong**	**22.39**	**142**	P	**P**	**16 46 35.3**	**+0.9**
QIZ				S	**S**	**16 50 44.8**	**+4.3**
QIZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VOSK	**Vostochnaya**	**22.77**	**319**	⇑P	**P**	**16 46 40.0**	**+1.9**
	comp=Z,7.6nm,0.9s						
VOSK	**Vostochnaya**	**22.77**	**319**	P	**P**	**16 46 40.0**	**+1.9**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BVA0	**Borovoye Array**	**23.23**	**319**	⇓P	**P**	**16 46 45.0**	**+2.1**
	comp=Z,6.0nm,1.1s						
BVA0	**Borovoye Array**	**23.23**	**319**	P	**P**	**16 46 44.9**	**+2.1**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**23.23**	**319**	P	**P**	**16 46 42.8**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	**Borovoye Array**	**23.23**	**319**	P	**P**	**16 46 42.8**	**-0.1**
BVAR	**Borovoye Array**	**23.23**	**319**	P	**P**	**16 46 42.8**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=122,slow=11,SNR=16						
BRVK	**Borovoye**	**23.30**	**319**	*e*P	**P**	**16 46 43.7**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**23.30**	**319**	*e*P	**P**	**16 46 43.7**	**+0.1**
	comp=Z,5.5nm,0.7s						
CN2	**Changchun**	**23.41**	**65**	*e*P	**P**	**16 46 45.3**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSAR	**Wonju Array Be**	**25.59**	**81**	P	**P**	**16 47 03.6**	**-1.4**
KSRS	**Korea Array**	**25.62**	**80**	P	**P**	**16 47 03.6**	**-1.6**
	comp=Z,7.4nm,0.8s,baz=278,slow=9.0,SNR=23						
MDJ	**Mudanjiang**	**26.44**	**64**	P	**P**	**16 47 11.5**	**-1.1**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
USRK	**Ussuriysk Arra**	**28.15**	**65**	P	**P**	**16 47 27.0**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=270,slow=7.2,SNR=4.3						
AKTO	**Aktyubinsk**	**29.49**	**308**	⇓P	**P**	**16 47 42.1**	**+2.2**
	comp=Z,3.2nm,0.9s						
AKTO	**Aktyubinsk**	**29.49**	**308**	P	**P**	**16 47 40.7**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO	**Aktyubinsk**	**29.49**	**308**	P	**P**	**16 47 40.7**	**+0.8**
AKTO	**Aktyubinsk**	**29.49**	**308**	P	**P**	**16 47 40.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=104,slow=15,SNR=5.8						
ASAJ	**Asahikawa**	**35.76**	**64**	P	**P**	**16 48 33.9**	**-0.9**
ASAJ	**Asahikawa**	**35.76**	**64**	P	**P**	**16 48 33.9**	**-0.9**
	comp=Z,11nm,0.7s,baz=262,slow=7.1,SNR=12						
BR131	**Keskin Array S**	**47.48**	**293**	P	**P**	**16 50 09.0**	**-2.0**
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**47.48**	**293**	P	**P**	**16 50 11.8**	**+0.7**
BRTR	**Keskin Array B**	**47.48**	**293**	P	**P**	**16 50 11.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=96,slow=8.8,SNR=6.5						
AKASG	**Malin Array Be**	**47.74**	**308**	P	**P**	**16 50 13.4**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**47.74**	**308**	P	**P**	**16 50 13.4**	**+0.8**
AKASG	**Malin Array Be**	**47.74**	**308**	P	**P**	**16 50 13.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=68,slow=7.3,SNR=3.6						
ARCES	**ARCESS Array B**	**48.31**	**334**	P	**P**	**16 50 16.8**	**-0.1**
ARCES				PcP	**PcP**	**16 51 42.8**	**-0.7**
ARCES	**ARCESS Array B**	**48.31**	**334**	P	**P**	**16 50 16.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=83,slow=9.3,SNR=4.1						
ARCES				PcP	**PcP**	**16 51 42.8**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=74,slow=3.2,SNR=4.5						
GERES	**GERESS Array B**	**57.90**	**309**	P	**P**	**16 51 29.1**	**+1.3**
GERES	**GERESS Array B**	**57.90**	**309**	P	**P**	**16 51 29.1**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=58,slow=5.9,SNR=5.4						
FITZ	**Fitzroy Crossi**	**62.30**	**147**	P	**P**	**16 51 57.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**62.30**	**147**	P	**P**	**16 51 57.3**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=321,slow=6.5,SNR=4.0						
COLD	**Coldfoot**	**64.30**	**23**	*e*P	**P**	**16 52 10.5**	**-0.4**
	comp=Z,6.3nm,0.9s						
PPLA	**Purkeypile**	**66.22**	**28**	*e*P	**P**	**16 52 23.6**	**0.0**
	comp=Z,24nm,1.3s						
ILAR	**Eielson Array**	**66.90**	**24**	P	**P**	**16 52 27.1**	**-0.7**
ILAR	**Eielson Array**	**66.90**	**24**	P	**P**	**16 52 27.1**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=296,slow=5.2,SNR=31						
RSO	**Redoubt South**	**67.47**	**30**	*e*P	**P**	**16 52 32.1**	**+0.5**
	comp=Z,29nm,1.0s						
WRA	**Warramunga Arr**	**67.96**	**140**	P	**P**	**16 52 33.5**	**-1.4**
WRA	**Warramunga Arr**	**67.96**	**140**	P	**P**	**16 52 33.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=342,slow=6.4,SNR=8.1						
SML	**Sawmill**	**68.31**	**27**	*e*P	**P**	**16 52 36.4**	**-0.4**
SML				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SML	**Sawmill**	**68.31**	**27**	*e*P	**P**	**16 52 36.4**	**-0.4**
	comp=Z,5.3nm,0.9s						
EGAK	**Eagle**	**68.71**	**23**	*e*P	**P**	**16 52 39.0**	**-0.1**
	comp=Z,6.1nm,1.0s						
ASAR	**Alice Springs**	**70.89**	**143**	P	**P**	**16 52 52.1**	**-1.0**
ASAR	**Alice Springs**	**70.89**	**143**	P	**P**	**16 52 52.1**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=334,slow=6.4,SNR=24						
ESDC	**Sonseca Array**	**73.38**	**307**	P	**P**	**16 53 08.1**	**+0.1**
ESDC	**Sonseca Array**	**73.38**	**307**	P	**P**	**16 53 08.1**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=43,slow=5.4,SNR=4.7						
YKA	**Yellowknife Ar**	**77.27**	**14**	P	**P**	**16 53 29.3**	**-0.5**
YKA	**Yellowknife Ar**	**77.27**	**14**	P	**P**	**16 53 29.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=336,slow=5.6,SNR=9.1						
STKA	**Stephens Creek**	**81.46**	**142**	P	**P**	**16 53 51.6**	**-1.4**
STKA	**Stephens Creek**	**81.46**	**142**	P	**P**	**16 53 51.6**	**-1.4**
	comp=Z,3.1nm,0.7s,baz=334,slow=7.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**85.07**	**283**	P	**P**	**16 54 11.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**85.07**	**283**	P	**P**	**16 54 11.9**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=40,slow=4.5,SNR=2.9						
NEW	**Newport**	**89.64**	**21**	P	**P**	**16 54 33.4**	**-0.3**
	comp=Z,36nm,0.6s						
SIV	**San Ignacio**	**150.11**	**310**	PKPbc	**PKPbc**	**17 01 27.1**	**-0.2**
SIV	**San Ignacio**	**150.11**	**310**	PKPbc	**PKPbc**	**17 01 27.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=102,slow=4.7,SNR=7.0						
CPUP	**Villa Florida**	**154.44**	**288**	PKPab	**PKPab**	**17 01 48.8**	**-2.2**
CPUP	**Villa Florida**	**154.44**	**288**	PKPab	**PKPab**	**17 01 48.8**	**-2.2**
	comp=Z,0.8nm,0.5s,baz=344,slow=2.6,SNR=2.9						

*BYKL **30** 16:48:19.5±0.2, 53°.83N×110°.32E, h21km±4km, FELT I=II MSK at Suvo*
MOS 30 16:48:17.9±1.0, 53°.75N×110°.24E, h8km, mb4.5/1, 4C-2D, Error ellipse: s-maj=13.9km s-min=9.1km az=75.4, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.17**	**236**	⇓*i*Pg	Pg	16 48 25.1	+3.6
SYVR				*e*Sg	Sg	16 48 29.6	+5.7
SYVR				Pmax			
	2μm,0.1s						
SYVR				Smax			
	18μm,0.2s						
SYVR	**Suvo**	**0.17**	**236**	*e*PG	Pg	16 48 24.6	+3.1
SYVR				*e*		16 48 28.6	
SYVR				pmax	pmax		
	comp=Z,2μm,0.1s						
SYVR				smax	smax		
	comp=N,18μm,0.1s						
MXMB	**Maximikha**	**1.02**	**242**	*e*Pg	Pn	16 48 39.4	+0.9
MXMB				*e*Sg	Sn	16 48 55.0	+2.0
MXMB				Pmax			
	comp=N,145nm,0.3s						
MXMB				Smax			
	comp=N,2μm,0.3s						
YLYR	**Ulyunkhan**	**1.25**	**25**	⇑*i*Pg	Pn	16 48 40.4	-1.3
YLYR				*e*Sg	Sb	16 48 56.5	-1.6
YLYR				Pmax			
	comp=N,165nm,0.2s						
YLYR				Smax			
	comp=N,2μm,0.5s						
YLYR	**Ulyunkhan**	**1.25**	**25**	*e*PG	Pn	16 48 40.5	-1.2
YLYR				*i*		16 48 56.5	
YLYR				pmax	pmax		
	comp=Z,168nm,0.2s						
YLYR				smax	smax		
	comp=N,2μm,0.2s						
OGRR	**Ongureny**	**1.57**	**267**	*e*Pn	Pb	16 48 47.6	+0.3
OGRR				⇑*i*Pg	Pg	16 48 48.5	+0.4
OGRR				*e*Sg	Sg	16 49 10.1	+1.5
OGRR				Pmax			
	comp=N,86nm,0.3s						
OGRR				Smax			
	comp=N,926nm,0.7s						
OGRR	**Ongureny**	**1.57**	**267**	*e*PG	Pg	16 48 48.1	0.0
OGRR				*e*		16 49 09.8	
OGRR				pmax	pmax		
	comp=Z,84nm,0.4s						
OGRR				smax	smax		
	comp=N,918nm,0.8s						
NIZ	**Nizh Angarsk**	**2.07**	**349**	*e*Pn	Pn	16 48 53.5	+0.6
NIZ				⇑*i*Pg	Pb	16 48 55.2	-0.5
NIZ				*e*Sg	Sb	16 49 22.5	+1.0
NIZ				Pmax			
	comp=N,429nm,0.3s						
NIZ				Smax			
	comp=N,1μm,0.5s						
NIZ	**Nizh Angarsk**	**2.07**	**349**	*e*PN	Pb	16 48 55.2	-0.5
NIZ				*e*		16 49 22.5	
NIZ				pmax	pmax		
	comp=Z,430nm,0.4s						
NIZ				smax	smax		
	comp=N,1μm,0.5s						
KMO	**Kumora**	**2.21**	**14**	*e*Pn	Pn	16 48 55.1	+0.2
KMO				⇓*i*Pg	Pb	16 48 57.3	-0.8
KMO				*e*Sg	Sb	16 49 25.7	0.0
KMO				Pmax			
	comp=N,647nm,0.4s						
KMO				Smax			
	comp=N,2μm,1.0s						
ZRHB	**Zarechye**	**2.21**	**238**	*e*Pg	Pg	16 49 01.2	+0.9
ZRHB				*e*Sg	Sg	16 49 31.4	+2.4
ZRHB				Pmax			
	comp=N,104nm,0.3s						
ZRHB				Smax			
	comp=N,2μm,0.8s						
UUDB	**Ulan-Yde**	**2.45**	**221**	*e*Pg	Pg	16 49 04.9	0.0
UUDB				*e*		16 49 11.5	
UUDB				*e*Sg	Sg	16 49 38.7	+2.0
UUDB				max			
	comp=N,160nm,0.7s						
UUDB				Smax			
	comp=N,1μm,0.7s						
YOA	**Uoyan**	**2.54**	**19**	*e*Pg	Pb	16 49 03.8	+0.1
YOA				*e*Sg	Sb	16 49 36.5	+1.5
YOA				Pmax			
	comp=N,423nm,0.7s						
YOA				Smax			
	comp=N,3μm,1.1s						
YOA	**Uoyan**	**2.54**	**19**	*e*PN

LSTR				*e*Pg	Pg	16 49 29.1	-1.3
LSTR				*e*Sg	Sg	16 50 19.7	+0.2
LSTR				Pmax			
	comp=E,9.0nm,0.5s						
LSTR				Smax			
	comp=E,90nm,1.3s						
IRK	**Irkutsk**	**3.91**	**250**	*e*Sg	Sg	16 50 23.4	-0.1
IRK				Smax			
	comp=E,442nm,0.5s						
IRK	**Irkutsk**	**3.91**	**250**	*e*PN	Pg	16 49 30.1	-2.7
IRK				*e*		16 50 22.5	
IRK				pmax	pmax		
	comp=Z,51nm,0.1s						
IRK				smax	smax		
	comp=N,440nm,0.5s						
KPC	**Khapcheranga**	**4.27**	**161**	*e*Pn	Pn	16 49 24.1	+0.8
KPC				*e*Pg	Pg	16 49 36.7	-3.1
KPC				*e*Sg	Sg	16 50 34.4	-0.7
KPC				Pmax			
	comp=N,69nm,0.8s						
KPC				Smax			
	comp=N,199nm,1.4s						
KPC	**Khapcheranga**	**4.27**	**161**	*e*PN	Pn	16 49 24.1	+0.8
KPC				*e*		16 49 36.7	
KPC				*e*		16 50 34.8	
KPC				pmax	pmax		
	comp=Z,69nm,0.2s						
KPC				smax	smax		
	comp=E,190nm,0.2s						
TLY	**Talaya**	**4.51**	**245**	*e*Pg	Pb	16 49 40.7	+3.3
TLY				*e*		16 49 51.1	
TLY				*e*Sg	Sg	16 50 41.9	-1.0
TLY				max			
	comp=E,16nm,0.6s						
TLY				Smax			
	comp=E,79nm,0.4s						
TLY	**Talaya**	**4.51**	**245**	*e*PN	Pn	16 49 26.8	+0.2
TLY				*e*		16 49 39.8	
TLY				*e*		16 50 40.5	
TLY				pmax	pmax		
	comp=Z,11nm,0.4s						
TLY				smax	smax		
	comp=E,82nm,0.5s						
BOD	**Bodaibo**	**4.60**	**26**	*e*Pn	Pn	16 49 26.0	-1.6
BOD				*e*Pg	Pb	16 49 38.3	-0.4
BOD				*e*Sn	Sn	16 50 17.0	-4.1
BOD				*e*Sg	Sb	16 50 37.8	+3.6
BOD				Pmax			
	comp=E,10.0nm,0.7s						
BOD				Smax			
	comp=E,206nm,1.5s						
BOD	**Bodaibo**	**4.60**	**26**	*e*PN	Pn	16 49 26.8	-0.8
BOD				*e*		16 49 39.6	
BOD				*e*		16 50 39.8	
BOD				pmax	pmax		
	comp=Z,16nm,0.6s						
BOD				smax	smax		
	comp=E,204nm,1.2s						
ARS	**Arshan**	**5.08**	**252**	*e*Pn	Pn	16 49 35.4	+1.0
ARS				*e*Pg	Pb	16 49 50.1	+3.0
ARS				*e*Sg	Sg	16 50 57.1	-4.1
ARS				Pmax			
	comp=E,22nm,0.6s						
ARS				Smax			
	comp=E,352nm,0.6s						
ARS	**Arshan**	**5.08**	**252**	*e*PN	Pn	16 49 35.8	+1.4
ARS				*e*		16 49 53.1	
ZAK	**Zakamensk**	**5.46**	**235**	*e*Pg	Pg	16 50 00.0	-2.6
ZAK				*e*Sg	Sg	16 51 11.8	-1.6
ZAK				Pmax			
	comp=E,8.0nm,1.0s						
ZAK				Smax			
	comp=E,49nm,0.8s						
CRS	**Chara**	**5.56**	**52**	*e*PN	Pb	16 49 57.2	+1.9
CRS				*e*		16 51 10.0	
CRS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CRS				smax	smax		
	comp=N,26nm,1.3s						
TUP	**Tupik**	**5.76**	**79**	*e*Pn	Pn	16 49 43.1	-0.6
TUP				*e*Pg	Pb	16 50 01.5	+2.9
TUP				*e*Sg	Sg	16 51 15.8	-7.0
TUP				Pmax			
	comp=N,6.0nm,0.8s						
TUP				Smax			
	comp=N,233nm,1.0s						
TUP	**Tupik**	**5.76**	**79**	*e*PN	Pn	16 49 43.1	-0.6
TUP				*e*		16 50 00.7	
TUP				*e*		16 51 15.9	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TUP				smax	smax		
	comp=N,230nm,1.0s						
MOY	**Mondy**	**6.00**	**253**	*e*Pn	Pn	16 49 51.5	+4.5
MOY				*e*Pg	Pg	16 50 08.3	-4.5
MOY				*e*Sg	Sg	16 51 27.1	-3.5
MOY				Pmax			
	comp=N,12nm,1.1s						
MOY				Smax			
	comp=N,131nm,1.3s						
ULN	**Ulaanbaatar**	**6.23**	**200**	*e*Pg	Pg	16 50 13.9	-3.5
ULN				*e*Sg	Sg	16 51 36.9	-1.3
ORL	**Orlik**	**6.39**	**263**	*e*Pn	Pn	16 49 54.9	+2.4
ORL				*e*Sn	Sn	16 51 07.5	+1.8
ORL				*e*Sg	Sg	16 51 38.7	-4.6
ORL				max			
	comp=N,87nm,0.3s						
ORL				Smax			
	comp=N,66nm,1.8s						
KHNR	**Khani**	**6.40**	**56**	*e*Sg	Sg	16 51 36.9	-6.4
CLNS	**Chul'man**	**8.91**	**64**	*e*Sg	Sg	16 52 53.5	-10
HABR	**Khabarovsk**	**16.41**	**99**	*e*P	P	16 52 12.4	+1.2
HABR				pmax	pmax		
	comp=Z,19nm,2.2s						
HABR				MLR	MLR		
	comp=Z,863nm,15.0s						
KIEV	**Kiev**	**47.17**	**301**	*i* P	P	16 56 52.3	+1.8

*IDC **30** 16:58:28.2±2.0, 7°.70S×127°.77E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=98.8km s-min=27.4km az=73.0*
*ISCJB **30** 16:58:37.7±0.7, 8°.19S±0°.04×127°.84E±0°.07, h33km, mb3.3/1, Error ellipse: s-maj=10.1km s-min=6.2km az=4.2*
*AUST **30** 16:58:37.5±22.0, 8°.16S×127°.89E, h8km, Error ellipse: s-maj=1.2km s-min=0.7km az=288.0*
ISC 30 16:58:38.3±1.4, 8°.24S±0°.08×127°.7E±0°.1, h35km, n18, σ2§91/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.72**	**246**	P	Pn	16 59 38.0	+4.6
	baz=3.9,SNR=12						
BNDI	**Bandanaira**	**4.29**	**31**	P	**Pn**	**16 59 40.2**	**-0.9**
	baz=4.2,SNR=4.7						
TLE	**Tual**	**5.62**	**63**	P	**Pn**	**16 59 57.5**	**-1.9**
	baz=5.4,SNR=3.4						
MTN	**Manton Dam**	**5.68**	**144**	P	Pn	17 00 04.0	+3.9
	baz=5.7,SNR=63						
MTN				S	**Sn**	**17 01 07.5**	**+3.3**
	baz=5.7,SNR=12						
KDU	**Kakadu**	**6.44**	**134**	P	Pn	17 00 13.2	+2.6
	baz=6.4,SNR=96						
KDU				S	**Sn**	**17 01 25.1**	**+2.2**
	baz=6.4,SNR=6.1						
FAKI	**Fak Fak**	**6.95**	**41**	P	**Pn**	**17 00 17.5**	**-0.2**
	baz=6.8,SNR=9.4						
KNRA	**Kununurra**	**7.46**	**172**	P	Pn	17 00 28.3	+3.6
	baz=7.6,SNR=23						
KNRA				S	**Sn**	**17 01 50.0**	**+1.8**
	baz=7.6,SNR=9.6						
WSI	**Waingapu**	**7.46**	**258**	S	Sn	17 02 07.8	+20
	baz=7.6,SNR=3.3						
SWI	**Sorong**	**8.14**	**26**	P	Pn	17 00 36.0	+2.0
	baz=8.0,SNR=3.7						
SWI				S	Sn	17 01 36.9	-28
	baz=8.0,SNR=11						
FITZ	**Fitzroy Crossi**	**10.01**	**191**	Pn	**Pn**	**17 01 01.5**	**+1.9**
	0.2nm,0.3s,baz=20,slow=13,SNR=9.7						
FITZ				Sn	**Sn**	**17 02 47.1**	**-3.6**
	0.8nm,0.3s,baz=78,slow=23,SNR=5.6						
FITZ	**Fitzroy Crossi**	**10.01**	**191**	P	Pn	17 01 03.2	+3.6
	baz=10,SNR=7.8						
FITZ				S	**Sn**	**17 02 53.0**	**+2.3**
	baz=10,SNR=4.9						
WRA	**Warramunga Arr**	**13.28**	**152**	Pn	**Pn**	**17 01 43.8**	**-0.7**
	0.8nm,0.3s,baz=324,slow=13,SNR=7.7						
WRA				Sn	Sn	17 04 04.1	-6.9
	1.6nm,0.3s,baz=332,slow=22,SNR=15						
COEN	**Coen**	**16.20**	**112**	P	**Pn**	**17 02 23.6**	**+0.2**
	baz=16,SNR=6.3						
ASAR	**Alice Springs**	**16.45**	**160**	Pn	**Pn**	**17 02 26.6**	**+0.1**
	0.2nm,0.3s,baz=336,slow=9.4,SNR=35						
ASAR				Sn	**Sn**	**17 05 21.5**	**-6.6**
	0.1nm,0.3s,baz=328,slow=24,SNR=4.6						
MTSU	**Mount Surprise**	**18.90**	**123**	P	**Pn**	**17 02 58.9**	**+2.0**
	baz=19,SNR=7.2						
RMQ	**Roma**	**26.99**	**135**	S	S	17 08 43.8	-8.5
	baz=27,SNR=6.5						
BKNI	**Bangkinang**	**27.91**	**286**	S	S	17 09 19.1	+12
	baz=28,SNR=4.1						
MKAR	**Makanchi Array**	**68.05**	**328**	P	P	17 09 26.9	-7.4
	0.2nm,0.7s,baz=121,slow=6.9,SNR=2.8						

*NSSC **30** 17:15:37.0±2.1, 32°.82N×95°.71E, h1km±999km*
*ISCJB **30** 17:15:49.3±0.1, 37°.64N±0°.02×95°.63E±0°.02, h10km, mb5.0/229, MS4.9/46, Error ellipse: s-maj=2.6km s-min=1.9km az=25.5*
*BJI **30** 17:15:49.7, 37°.85N×95°.65E, h10km, mB5.4/33, mb5.0/51, ML5.3/9, Ms5.3/70, Ms7 5.1/62*
*IDC **30** 17:15:49.2±0.4, 37°.66N×95°.77E, h0km, mb4.8/42, mb1 4.9/48, mb1mx4.9/48, mbtmp4.8/48, ML4.9/6, MS4.7/19, Ms1 4.7/19, ms1mx4.6/39, Error ellipse: s-maj=13.2km s-min=9.0km az=33.0*
*MOS **30** 17:15:50.0±1.1, 37°.66N×95°.68E, h15km, mb5.2/81, MS4.9/39, Error ellipse: s-maj=6.3km s-min=4.0km az=122.9*
*NEIC **30** 17:15:50.8±0.1, 37°.67N×95°.65E, h10km, mb5.2/75, Error ellipse: s-maj=3.6km s-min=2.7km az=217.0*
*GCMT **30** 17:15:52.7±0.3, 37°.66N×95°.57E, h17km±1km, MW5.4, Moment Tensor Solution. s20,c23; s79,c114; Moment tensor: Scale 10^17^Nm; Mrr1.19±.13; Mθθ-1.43±.08; Mφφ0.23±.08; Mrθ0.05±.16; Mθφ-0.57±.04; Mφr0.36±.28; Best double couple: M0=1.50000×10^17^ NP1:φs55.00000°, δ51.00000°, λ64.00000°. NP2:φs272.00000°, δ45.00000°, λ118.00000°. Principal axes: T 1.3200, Plg70.0000°, Azm261.0000°; N 0.2900, Plg20.0000°, Azm71.0000°; P -1.6100, Plg3.0000°, Azm162.0000°; Data Used: II IU CN IC G.*
*NNC **30** 17:15:52.2±1.3, 37°.97N×95°.43E, h0km, mb5.1 Error ellipse: s-maj=27.5km s-min=17.4km az=38.0*
*DJA **30** 17:15:52.2±4.2, 38°.N±6°.×9°.6E±°., h10km, M5.1/9, mB5.5/8, mb5.1/9, Mw(mB)5.0/8*
*TEH **30** 17:15:54.0, 37°.70N×95°.68E, h29km, ML5.2*
ISC 30 17:15:52.1±0.4, 37°.69N±0°.03×95°.60E±0°.03, h17km±2km, h16km:pP-P, n688, σ1§46/717, mb5.1/232, MS5.0/46, 39C-20D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.72**	**61**	Pn	**Pn**	**17 16 51.0**	**+2.0**
GTA				Sn	**Sn**	**17 17 37.3**	**+4.7**
GTA				Sg	**Sb**	**17 17 41.8**	**-0.6**
GTA				smax	smax		
	comp=N,2μm,1.0s						
GTA				smax	smax		
	comp=E,1μm,1.0s						
GTA				LR	LR		
	comp=N,38μm,9.5s						
GTA				LR	LR		
	comp=E,21μm,7.6s						
GTA				LR	LR		
	comp=Z,26μm,8.6s						
LZH	**Lanzhou**	**6.79**	**101**	*e*Pn	**Pn**	**17 17 31.5**	**+0.3**
LZH				*e*Sn	**Sn**	**17 18 50.5**	**+2.2**
LZH				LR	LR		
	comp=N,11μm,8.0s						
LZH				LR	LR		
	comp=E,11μm,8.6s						
LZH				LR	LR		
	comp=Z,11μm,8.3s						
WMQ	**Urumqi**	**8.57**	**318**	P	**Pn**	**17 17 55.8**	**+0.3**
WMQ				pP		17 18 01.5	
WMQ				S	**Sn**	**17 19 33.0**	**+1.1**
WMQ				sS		17 19 41.8	
WMQ				pmax	pmax		
	comp=Z,190nm,0.8s						
WMQ				smax	smax		
	comp=N,1μm,0.9s						
WMQ				smax	smax		
	comp=E,2μm,0.8s						
WMQ				LR	LR		
	comp=N,7μm,18.0s						
WMQ				LR	LR		
	comp=E,5μm,17.5s						
WMQ				LR	LR		
	comp=Z,7μm,15.5s						
LSA	**Lhasa**	**8.79**	**206**	P	**Pn**	**17 18 00.8**	**+2.0**
LSA				LR	LR		
	comp=N,4μm,21.9s						
LSA				LR	LR		
	comp=E,13μm,22.2s						
LSA				LR	LR		
	comp=Z,5μm,15.0s						
LSA	**Lhasa**	**8.79**	**206**	*e*P	**Pn**	**17 18 00.3**	**+1.5**
LSA				pmax	pmax		
	comp=Z,80nm,1.0s						
LSA	**Lhasa**	**8.79**	**206**	*e*P	**Pn**	**17 18 00.2**	**+1.5**
	comp=Z,80nm,1.0s						
CD2	**Chengdu**	**9.55**	**133**	P	**Pn**	**17 18 10.8**	**+1.9**
CD2				pP		17 18 17.0	
CD2				sP		17 18 21.5	
CD2				S	**Sn**	**17 19 58.0**	**+2.2**
CD2				sS		17 20 07.8	
CD2				pmax	pmax		
	comp=Z,70nm,1.1s						
CD2				pmax	pmax		
	comp=Z,400nm,4.2s						
CD2				LR	LR		
	comp=N,27μm,8.2s						
CD2				LR	LR		
	comp=E,26μm,9.5s						
CD2				LR	LR		
	comp=Z,16μm,6.5s						
XAN	**Xi'an**	**11.40**	**105**	P	Pn	17 18 30.5	-3.8
XAN				pmax	pmax		
	comp=Z,19nm,1.1s						
XAN				LR	LR		
	comp=N,11μm,14.5s						
XAN				LR	LR		
	comp=E,3μm,16.3s						
XAN				LR	LR		
	comp=Z,3μm,8.9s						
BTO	**Baotou**	**11.57**	**71**	*e*P	**Pn**	**17 18 35.0**	**-1.6**
BTO				LR	LR		
	comp=N,2μm,8.4s						
BTO				LR	LR		
	comp=E,2μm,10.0s						
TAPN	**Taplejung**	**12.26**	**215**	*e*P	**Pn**	**17 18 46.0**	**-0.3**
SHL	**Shillong**	**12.49**	**196**	*e*P	**Pn**	**17 18 48.5**	**-0.8**
SHL				AMB	AMB	17 18 54.6	
	comp=Z,33nm,1.5s						
SHL				*ex*	x	17 22 51.0	
GUN	**Gumba**	**12.71**	**223**	*e*P	**Pn**	**17 18 51.7**	**-0.8**
	comp=Z,250nm,1.0s						
JIRN	**Jiri**	**12.75**	**221**	*e*P	**Pn**	**17 18 52.3**	**-0.7**
	comp=Z,271nm,0.7s						
HHC	**Hu-ho-hao-te**	**12.77**	**71**	*e*P	**Pn**	**17 18 52.0**	**-0.9**
HHC				pP	P	17 18 59.0	-5.0
HHC				PP	**PnPn**	**17 19 02.3**	**+1.6**
HHC				S	**Sn**	**17 21 14.5**	**-0.2**
HHC				sS		17 21 25.3	
HHC				SS	**SnSn**	**17 21 29.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,78nm,1.3s						
HHC				pmax	pmax		
	comp=Z,1μm,6.4s						
HHC				LR	LR		
	comp=N,7μm,8.5s						
HHC				LR	LR		
	comp=E,8μm,9.9s						
HHC				LR	LR		
	comp=Z,6μm,8.2s						
ODAN	**Odare**	**12.83**	**215**	*e*P	**Pn**	**17 18 52.9**	**-1.1**
SONM	**Songino Array**	**12.86**	**35**	Pn	**Pn**	**17 18 54.6**	**+0.4**
SONM				Lg	Lg	17 22 28.7	
SONM	**Songino Array**	**12.86**	**35**	Pn	**Pn**	**17 18 54.6**	**+0.4**
	comp=Z,12nm,0.3s,baz=218,slow=15,SNR=86						
SONM				Lg	Lg	17 22 28.7	
	comp=Z,0.4nm,0.3s,baz=213,slow=32,SNR=3.7						
SONM				LR	LR	17 24 15.9	
	comp=Z,3μm,19.7s,baz=222,slow=40						
SONA1	**Songino Array**	**12.87**	**35**	*e*Pn	**Pn**	**17 18 55.1**	**+0.8**
RAMN	**Ramite**	**13.13**	**218**	*e*P	**Pn**	**17 18 56.3**	**-1.7**
	comp=Z,102nm,0.9s						
KKN	**Kakani**	**13.14**	**224**	*e*P	**Pn**	**17 18 56.6**	**-1.6**
	comp=Z,91nm,0.8s						
ULN	**Ulaanbaatar**	**13.18**	**36**	Pn	**Pn**	**17 19 00.6**	**+1.9**
	SNR=28						
ULN	**Ulaanbaatar**	**13.18**	**36**	*e*Pn	**Pn**	**17 18 58.6**	**-0.1**
ULN	**Ulaanbaatar**	**13.18**	**36**	P	**Pn**	**17 19 00.3**	**+1.7**
	comp=Z,90nm,0.9s,comp=Z,1μm						
PKI	**Pulchoki**	**13.24**	**223**	*e*P	**Pn**	**17 18 57.9**	**-1.7**
	comp=Z,224nm,1.0s						
PKIN	**Phulchoki**	**13.24**	**223**	*e*P	**Pn**	**17 18 58.0**	**-1.6**
	comp=Z,118nm,0.9s						
TIY	**Taiyuan**	**13.33**	**85**	*e*P	**Pn**	**17 18 59.0**	**-1.6**
TIY				sP		17 19 08.5	
TIY				PP	**P**	**17 19 09.3**	**-0.9**
TIY				LR	LR		
	comp=N,6μm,7.8s						
TIY				LR	LR		
	comp=E,10μm,8.6s						
TIY				LR	LR		
	comp=Z,8μm,8.3s						
DMN	**Daman**	**13.38**	**224**	*e*P	**Pn**	**17 18 59.7**	**-1.7**
	comp=Z,283nm,1.2s						
MK01	**Makanchi Array**	**13.38**	**317**	*e*Pn	Pn	17 18 58.1	-3.2
MK31	**Makanchi Array**	**13.40**	**317**	⇓Pn	**Pn**	**17 18 59.5**	**-2.0**
	comp=Z,32nm,0.5s,baz=127,slow=15,SNR=1269						
MK31				⇑Sn	**Sn**	**17 21 28.8**	**-1.3**
	comp=Z,279nm,0.9s,baz=130,slow=23,SNR=24						
MK31	**Makanchi Array**	**13.40**	**317**	*e*P	**Pn**	**17 18 59.8**	**-1.7**
MK31	**Makanchi Array**	**13.40**	**317**	*e*Pn	**Pn**	**17 18 59.8**	**-1.7**
MK31				*e*Sn	Sn	17 21 22.6	-7.5
MKAR	**Makanchi Array**	**13.40**	**317**	P	**Pn**	**17 18 59.1**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,23nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,4μm,19.0s						
MKAR	**Makanchi Array**	**13.40**	**317**	Pn	**Pn**	**17 18 59.1**	**-2.4**
MKAR				Sn	**Sn**	**17 21 25.4**	**-4.7**
MKAR	**Makanchi Array**	**13.40**	**317**	Pn	**Pn**	**17 18 59.1**	**-2.4**
	comp=Z,23nm,0.3s,baz=130,slow=12,SNR=251						
MKAR				Sn	**Sn**	**17 21 25.4**	**-4.7**
	comp=Z,3.5nm,0.3s,baz=124,slow=21,SNR=3.6						
MKAR				LR	LR	17 24 41.8	
	comp=Z,4μm,19.0s,baz=125,slow=39						
ENH	**Enshi**	**13.68**	**119**	*e*Pn	**Pn**	**17 19 03.4**	**-2.0**
	comp=Z,140nm,1.0s						
ENH				*e*Sn	**Sn**	**17 21 34.2**	**-2.8**
ZAK	**Zakamensk**	**13.83**	**21**	*e*P	**Pn**	**17 19 10.2**	**+2.8**
ZAK				*e*		17 21 38.4	
ZAK				pmax	pmax		
	comp=Z,107nm,1.1s						
KMI	**Kunming**	**13.92**	**152**	P	**Pn**	**17 19 08.0**	**-0.9**
KMI				pP	**P**	**17 19 14.5**	**-2.5**
KMI				sP		17 19 17.3	
KMI				S	**Sn**	**17 21 43.5**	**+0.3**
KMI				sS	S	17 21 53.0	-12
KMI				SS	**SnSn**	**17 22 00.0**	**+4.3**
KMI				pmax	pmax		
	comp=Z,12nm,1.1s						
KMI				pmax	pmax		
	comp=Z,520nm,5.8s						
KMI				LR	LR		
	comp=N,5μm,8.7s						
KMI				LR	LR		
	comp=E,8μm,5.4s						
KMI				LR	LR		
	comp=Z,8μm,17.1s						
KOLN	**Koldanda**	**14.12**	**229**	*e*P	**Pn**	**17 19 08.9**	**-2.7**
	comp=Z,63nm,0.8s						
PYUN	**Piuthan**	**14.26**	**232**	*e*P	**Pn**	**17 19 11.0**	**-2.5**
MOY	**Mondy**	**14.49**	**14**	*e*P	**Pn**	**17 19 19.6**	**+3.2**
MOY				pmax	pmax		
	comp=Z,149nm,1.7s						
GYA	**Guiyang**	**14.59**	**137**	⇑*i*P	**Pn**	**17 19 17.8**	**-0.1**
GYA				pP	**P**	**17 19 24.5**	**+0.2**
GYA				PP	**PnPn**	**17 19 30.0**	**+4.1**
GYA				S	**Sn**	**17 22 00.5**	**+1.2**
GYA				SS	**S**	**17 22 17.5**	**-1.0**
GYA				PcP	**PcP**	**17 24 31.5**	**+0.2**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,190nm,4.6s						
GYA				LR	LR		
	comp=N,2μm,10.0s						
GYA				LR	LR		
	comp=E,2μm,11.1s						
GYA				LR	LR		
	comp=Z,3μm,10.3s						
TLY	**Talaya**	**15.10**	**20**	*e*P	**P**	**17 19 30.3**	**+0.5**
TLY				pmax	pmax		
	comp=Z,58nm,1.2s						
TLY				MLR	MLR		
	comp=Z,4μm,9.0s						
TLY	**Talaya**	**15.10**	**20**	P	**P**	**17 19 28.7**	**-1.1**
	comp=Z,196nm,1.4s,SNR=7.2						
KNDC	**Almaty**	**15.22**	**297**	⇑Pn	**Pn**	**17 19 24.0**	**-2.2**
KNDC				⇑Sn	**Sn**	**17 22 12.5**	**-1.9**
AAA	**Alma-Ata**	**15.24**	**297**	*e*P	**Pn**	**17 19 24.8**	**-1.8**
AAA				*e*S	**Sn**	**17 22 11.3**	**-3.7**
AAA				pmax	pmax		
	comp=Z,1μm,2.1s						
AAA				smax	smax		
	comp=E,1μm,4.5s						
AAA				MLR	MLR		
	comp=Z,5μm,9.0s						
KSH	**Kashi**	**15.46**	**283**	P	**Pn**	**17 19 30.5**	**+1.0**
KSH				sP	**sP**	**17 19 43.5**	**+2.8**
KSH				PP	pP	17 19 44.5	+5.9
KSH				pmax	pmax		
	comp=Z,26nm,0.8s						
KSH				LR	LR		
	comp=N,8μm,13.5s						
KSH				LR	LR		
	comp=E,5μm,10.0s						
KSH				LR	LR		
	comp=Z,3μm,16.0s						
ULHL	**Ulahol**	**15.52**	**293**	P	**Pn**	**17 19 28.5**	**-1.9**
	SNR=18						
IRK	**Irkutsk**	**15.78**	**20**	*e*P	**P**	**17 19 37.3**	**+0.1**
IRK				pmax	pmax		
	comp=Z,463nm,2.0s						
TKM2	**Tokmak 2**	**16.12**	**295**	⇓P	**Pn**	**17 19 35.8**	**-2.4**
	comp=Z,176nm,0.9s						
TKM2	**Tokmak 2**	**16.12**	**295**	*e*P	**Pn**	**17 19 35.7**	**-2.4**
TKM2				*e*		17 22 31.2	
TKM2				pmax	pmax		
	comp=Z,184nm,0.9s						
TKM2	**Tokmak 2**	**16.12**	**295**	P	**Pn**	**17 19 36.2**	**-1.9**
	SNR=52						
TKM2	**Tokmak 2**	**16.12**	**295**	*e*Pn	**Pn**	**17 19 35.7**	**-2.4**
	comp=Z,184nm,0.9s						
TKM2				*e*Sn	**Sn**	**17 22 31.2**	**-5.4**
BOK	**Bokaro**	**16.16**	**214**	*e*P	**Pn**	**17 19 37.1**	**-1.3**
BOK				AMB	AMB	17 19 39.1	
	comp=Z,33nm,0.0s						
BJI	**Beijing**	**16.20**	**75**	P	**Pn**	**17 19 39.0**	**+0.2**
BJI				S	**Sn**	**17 22 35.5**	**-2.5**
BJI				pmax	pmax		
	comp=Z,120nm,1.0s						
BJI				pmax	pmax		
	comp=Z,550nm,3.8s						
BJI				LR	LR		
	comp=N,7μm,9.0s						
BJI				LR	LR		
	comp=E,7μm,11.5s						
BJI				LR	LR		
	comp=Z,2μm,20.9s						
KZA	**Kyzart**	**16.22**	**292**	P	**Pn**	**17 19 37.2**	**-2.4**
	SNR=28						
DDI	**Dehra Dun**	**16.29**	**248**	*e*P	**Pn**	**17 19 39.2**	**-0.9**
DDI				AMB	AMB	17 19 44.3	
	comp=Z,233nm,1.6s						
KBK	**Karagaybulak**	**16.54**	**294**	P	**Pn**	**17 19 41.8**	**-1.6**
	SNR=25						
SMLA	**Simla**	**16.55**	**252**	*i* P	**Pn**	**17 19 42.0**	**-1.4**
SMLA				AMB	AMB	17 19 47.4	

comp=Z,208nm,0.9s
DHRM DHARAMSHALA 16.72 257 *e*P Pn 17 19 44.4 -1.4
DHRM AMB AMB 17 19 52.7
comp=Z,347nm,1.3s
CHMS Chumysh 16.75 295 P Pn 17 19 43.9 -2.0
SNR=18
FRU Bishkek 16.81 294 *e*P P 17 19 48.0 -0.8
FRU pmax pmax
comp=Z,160nm,1.4s
FRU pmax pmax
comp=N,730nm,1.6s
DLH Dalhousie 16.86 258 *e*x P 17 19 50.0 +0.4
DLH *e*4 17 20 00.0
AAK Ala-Archa 16.86 294 Pn **Pn 17 19 48.0 +0.5**
comp=N,405nm,0.9s,SNR=13
AAK Ala-Archa 16.86 294⇑*e*P Pn 17 19 46.4 -1.1
AAK pmax pmax
comp=Z,135nm,1.2s
AAK MLR MLR
comp=Z,5μm,15.0s
AAK Ala-Archa 16.86 294 Pn **Pn 17 19 46.3 -1.1**
SNR=50
AAK Ala-Archa 16.86 294 *e*Pn **Pn 17 19 46.5 -1.1**
comp=Z,74nm,1.0s
AAK Ala-Archa 16.86 294 Pn **Pn 17 19 47.3 -0.2**
comp=Z,1.1nm,0.3s,baz=104,slow=9.9,SNR=21
AAK LR LR 17 27 33.5
comp=Z,3μm,19.6s,baz=93,slow=42
USP Ospenovka 16.98 296 P **Pn 17 19 46.9 -1.9**
SNR=26
BHK Bhakra 16.99 254 *e*x **P 17 19 52.0 +1.2**
WHN Wuhan 17.07 109 ⇑P **P 17 19 53.0 +1.4**
WHN LR LR
comp=N,16μm,8.4s
WHN LR LR
comp=E,10μm,12.8s
WHN LR LR
comp=Z,20μm,9.3s
TIA Tai'an 17.27 88 ⇑P **Pn 17 19 52.0 -0.4**
TIA S **S 17 23 12.0 -0.9**
TIA pmax pmax
comp=Z,60nm,0.8s
TIA LR LR
comp=N,4μm,9.3s
TIA LR LR
comp=E,6μm,13.8s
TIA LR LR
comp=Z,5μm,10.7s
AML Almayashu 17.37 292 P **P 17 19 59.4 +4.0**
SNR=27
EKS2 Erkin-Say 17.39 293 *e*P **Pn 17 19 53.9 -0.2**
EKS2 *e* 17 23 08.0
EKS2 pmax pmax
comp=Z,7.0nm,0.4s
EKS2 Erkin-Say 17.39 293 P **Pn 17 19 54.8 +0.7**
SNR=25
EKS2 Erkin-Say 17.39 293 *e*Pn **Pn 17 19 53.9 -0.2**
comp=Z,7.3nm,0.4s
EKS2 *e*Sn **Sn 17 23 08.0 +0.7**
KURBB Kurchatov Arra 17.76 322 Pn **Pn 17 19 55.1 -3.2**
comp=Z,1.7nm,0.3s,baz=138,slow=11,SNR=57
KURBB Sn **Sn 17 23 10.2 -5.6**
comp=Z,1.7nm,0.3s,baz=119,slow=27,SNR=6.2
KURBB Lg Lg 17 25 15.9
baz=132,slow=32,SNR=2.9
KURK Kurchatov 17.77 323 P **Pn 17 19 55.2 -3.4**
KURK 17 23 10.2
KURK pmax pmax
comp=Z,2.0nm,0.3s
KURK smax smax
comp=N,2.0nm,0.3s
KURK Kurchatov 17.77 323 Pn **Pn 17 19 55.1 -3.4**
KURK Sn **Sn 17 23 10.2 -6.0**
KURK Lg Lg 17 25 15.9
ZAA0 Zalesovo Array 17.88 339 *e*Pn **Pn 17 19 58.0 -1.9**
ZAA0 *e*Sn **Sn 17 23 19.3 +0.6**
ZALV Zalesovo Beam 17.88 339 P **Pn 17 19 58.4 -1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV MLR MLR
comp=Z,3μm,21.0s
ZALV Zalesovo Beam 17.88 339 P **Pn 17 19 58.4 -1.5**
ZALV Lg Lg 17 25 16.2
ZALV Zalesovo Beam 17.88 339 P **Pn 17 19 58.4 -1.5**
comp=Z,1.7nm,0.3s,baz=155,slow=10,SNR=23
ZALV Lg Lg 17 25 16.3
comp=Z,0.1nm,0.3s,baz=140,slow=28,SNR=3.8
ZALV LR LR 17 27 11.7
comp=Z,3μm,21.0s,baz=68,slow=38
SONA Sohna 18.14 244 *e*x **P 17 19 59.4 -4.1**
SONA AMb AMB 17 20 00.6
comp=Z,8.0nm,0.3s
SONA *e*x x 17 23 41.7
CHCP Chirah Chowk 18.58 264 P **P 17 20 07.0 -1.4**
CHTO Chiang Mai 19.03 170 *e*P **Pn 17 20 13.5 -0.6**
CHTO pmax pmax
comp=Z,591nm,2.9s
CHTO Chiang Mai 19.03 170 P **Pn 17 20 14.6 +0.4**
SNR=13
CHTO Chiang Mai 19.03 170 *e*P **Pn 17 20 13.5 -0.6**
comp=Z,591nm,2.9s
CHTO Chiang Mai 19.03 170 P **Pn 17 20 13.7 -0.4**
comp=Z,63nm,1.9s,comp=Z,2μm
CIT Chita 19.09 36 *e*P **Pn 17 20 14.8 +0.1**
CIT pmax pmax
comp=Z,197nm,3.1s
NVS Novosibirsk 19.12 338⇑*i*P **P 17 20 13.1 -1.0**
NVS *e*S **Sn 17 23 45.1 -3.5**
NVS pmax pmax
comp=N,68nm,1.5s
NVS pmax pmax
comp=Z,97nm,1.5s
NVS pmax pmax
comp=E,48nm,1.3s
NVS smax smax
comp=N,269nm,3.6s
NVS smax smax
comp=E,430nm,3.8s
KHET Khetri 19.16 246 *e*P **P 17 20 11.6 -3.2**
KHET *e*S **S 17 23 53.0 +1.6**
CM31 Chiang Mai Arr 19.38 170 *e*P **P 17 20 16.8 -0.4**
comp=E,18nm,0.6s
CMAR Chiang Mai Arr 19.38 170 P **P 17 20 17.2 +0.1**
CMAR PcP **PcP 17 24 38.5 -0.2**
CMAR ScP **ScP 17 28 15.9 +1.9**
CMAR Chiang Mai Arr 19.38 170 P **P 17 20 17.2 +0.1**
comp=E,2.0nm,0.3s,baz=342,slow=9.7,SNR=152
CMAR PcP **PcP 17 24 38.5 -0.2**
comp=E,0.3nm,0.3s,baz=315,slow=3.0,SNR=7.3
CMAR ScP **ScP 17 28 15.9 +1.9**
comp=E,0.1nm,0.3s,baz=339,slow=2.6,SNR=4.1
CMAR LR LR 17 28 50.7
comp=E,1μm,19.9s,baz=344,slow=40
CM01 Chiang Mai Arr 19.42 170 *e*P **P 17 20 16.5 -1.1**
CEP Cherat 19.60 266 P **P 17 20 19.6 -0.1**
KK31 Karatay Array 19.83 294 P **P 17 20 21.9 -0.1**
comp=E,94nm,1.4s,baz=91,slow=11,SNR=252
KK31 Karatay Array 19.83 294 *e*P **P 17 20 21.9 -0.1**
KK31 pmax pmax
comp=Z,84nm,1.2s
KKAR Karatay Array 19.83 294 *e*P **P 17 20 21.5 -0.5**
KKAR Karatay Array 19.83 294 *e*P **P 17 20 21.5 -0.5**
NJ2 Nanjing 19.87 99 *e*P **Pn 17 20 23.5 -0.6**
NJ2 pP **pP 17 20 29.0 +1.9**
NJ2 sP **sP 17 20 32.0 +2.7**
NJ2 pmax pmax
comp=Z,22nm,1.0s
NJ2 pmax pmax
comp=Z,130nm,5.0s
NJ2 LR LR
comp=N,9μm,15.4s
NJ2 LR LR
comp=E,4μm,20.7s
NJ2 LR LR
comp=Z,4μm,21.1s
THW Thamme Wali 20.07 263 P **P 17 20 24.1 -0.6**
DL2 Dalian 20.45 79 P **P 17 20 29.3 +0.6**
DL2 *e*S **S 17 24 16.3 -0.6**
DL2 pmax pmax
comp=Z,260nm,0.7s
DL2 pmax pmax
comp=Z,870nm,3.8s
DL2 LR LR
comp=E,3μm,13.7s
DL2 LR LR
comp=Z,3μm,14.7s

HIA Hailar 20.90 49 *e*P **P 17 20 33.6 +0.1**
comp=Z,64nm,1.0s
GZH Guangzhou 21.06 129 P **P 17 20 33.0 -2.5**
GZH S **S 17 24 25.0 -4.4**
GZH LR LR
comp=N,11μm,12.7s
GZH LR LR
comp=E,11μm,11.5s
GZH LR LR
comp=Z,15μm,11.4s
BHPL Bhopal 21.22 232 *e*P **P 17 20 35.5 -1.8**
BHPL AMB AMB 17 20 41.8
comp=Z,87nm,2.5s
PBKT Sadao Pong 21.56 166 P **P 17 20 41.0 +0.2**
comp=Z,70nm,1.3s,comp=Z,2μm
KBL Kabul 21.66 270 *e*P **P 17 20 42.3 +0.2**
KBL pmax pmax
comp=Z,202nm,1.3s
KBL Kabul 21.66 270 *e*P **P 17 20 42.3 +0.2**
comp=Z,202nm,1.3s
NGP Nagpur 21.84 226 *e*P **P 17 20 41.8 -2.0**
NGP *e*x x 17 20 47.9
comp=Z,104nm,1.1s
NGP *e*x x 17 24 38.3
SNY Shenyang 21.86 70 ⇑P **P 17 20 43.5 -0.4**
SNY pmax pmax
comp=Z,100nm,0.9s
SNY pmax pmax
comp=Z,740nm,10.6s
SNY LR LR
comp=N,3μm,11.2s
SNY LR LR
comp=E,3μm,14.3s
SNY LR LR
comp=Z,2μm,14.7s
SSE Sheshan 22.07 100 ⇓P **P 17 20 48.3 +2.0**
SSE pP pP 17 20 56.3 +5.3
SSE S **S 17 24 49.3 +0.2**
SSE pmax pmax
comp=Z,120nm,0.8s
SSE pmax pmax
comp=Z,390nm,4.3s
SSE LR LR
comp=N,4μm,17.1s
SSE LR LR
comp=E,2μm,17.0s
SSE LR LR
comp=Z,2μm,14.2s
QIZ Qiongzhong 22.37 142 P **P 17 20 49.3 -0.2**
QIZ sP **sP 17 20 59.5 +3.2**
QIZ S S 17 24 46.5 -8.2
QIZ pmax pmax
comp=Z,23nm,0.7s
QIZ pmax pmax
comp=Z,950nm,13.3s
QIZ LR LR
comp=N,3μm,13.4s
QIZ LR LR
comp=E,2μm,14.3s
QIZ LR LR
comp=Z,4μm,13.8s
QIZ Qiongzhong 22.37 142 *e*P **P 17 20 48.9 -0.6**
comp=Z,47nm,0.8s
VIS Vishakhapatnam 22.62 212 *e*x P 17 20 47.0 -5.2
VIS AMB AMB 17 20 54.0
comp=Z,35nm,1.7s
VOSK Vostochnaya 22.80 319 ⇓P **P 17 20 52.8 -1.0**
comp=Z,111nm,1.2s
VOSK Vostochnaya 22.80 319 P **P 17 20 52.8 -1.0**
VOSK pmax pmax
comp=Z,111nm,1.2s
VOSK Vostochnaya 22.80 319 *e*P **P 17 20 53.0 -0.8**
comp=Z,115nm,1.1s
BVAR Borovoye Array 23.26 319 P **P 17 20 58.1 -0.5**
BVAR pmax pmax
comp=Z,11nm,0.6s
BVAR MLR MLR
comp=Z,5μm,21.8s
BVAR Borovoye Array 23.26 319 P **P 17 20 58.1 -0.5**
BVAR Borovoye Array 23.26 319 P **P 17 20 58.1 -0.5**
comp=Z,11nm,0.6s,baz=116,slow=9.9,SNR=33
BVAR LR LR 17 30 45.7
comp=Z,5μm,21.8s,baz=119,slow=38
QZH Quanzhou 23.32 116 P **P 17 20 57.0 -2.4**
QZH S **S 17 25 05.0 -6.3**
QZH LR LR
comp=N,12μm,13.5s
QZH LR LR
comp=E,13μm,14.0s
QZH LR LR
comp=Z,8μm,8.8s
BRVK Borovoye 23.33 319 P **P 17 20 59.1 -0.2**
comp=Z,269nm,0.6s,SNR=16
BRVK Borovoye 23.33 319 ⇑P **P 17 20 58.4 -0.9**
comp=Z,40nm,0.7s
BRVK Borovoye 23.33 319⇑*e*P **P 17 20 59.3 0.0**
BRVK pmax pmax
comp=Z,37nm,1.0s
BRVK MLR MLR
comp=Z,5μm,21.0s
BRVK Borovoye 23.33 319 P **P 17 20 59.7 +0.4**
SNR=28
BRVK Borovoye 23.33 319 *e*P **P 17 20 58.9 -0.4**
comp=Z,37nm,0.8s
CN2 Changchun 23.34 65 *e*P **P 17 21 01.0 +1.5**
CN2 *e*S **S 17 25 08.0 -3.5**
CN2 pmax pmax
comp=Z,80nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,3μm,11.0s
CN2 LR LR
comp=E,3μm,11.0s
CN2 LR LR
comp=Z,3μm,13.0s
UBPT Khong Chiam 23.97 156 P **P 17 21 05.3 -0.4**
comp=Z,100nm,1.2s,comp=Z,2μm
DGPR DIGLIPUR 24.52 186 *e*P **P 17 21 10.2 -0.7**
DGPR AMB AMB 17 21 14.1
comp=Z,135nm,2.9s
INCN Inchon 24.54 81 *e*P **P 17 21 09.7 -1.2**
comp=Z,67nm,0.8s
PHET Kaeng Krachan 24.93 171 P **P 17 21 16.6 +2.1**
comp=Z,140nm,1.3s
HYB Hyderabad 25.14 221 *i*P **P 17 21 15.0 -1.5**
HYB Hyderabad 25.14 221 *e*P **P 17 21 15.1 -1.3**
HYB AMB AMB 17 21 18.3
comp=Z,45nm,2.1s
TATO Taipei 25.39 112 *e*P **P 17 21 17.6 -1.0**
comp=Z,407nm,2.1s
LATR Latur 25.42 226 *e*P **P 17 21 16.9 -2.0**
LATR AMB AMB 17 21 18.1
comp=Z,106nm,1.3s
YHNB Yeheng 25.49 113 *e*P **P 17 21 18.8 -0.9**
comp=Z,60nm,0.6s
KSAR Wonju Array Be 25.53 81 P **P 17 21 18.7 -1.1**
KS01 Wonju Array Si 25.53 80 *e*P **P 17 21 17.2 -2.6**
CHBT CHBT 25.55 165 P **P 17 21 22.0 +1.9**
KSRS Korea Array 25.55 81 P **P 17 21 18.7 -1.3**
comp=Z,39nm,0.7s,baz=280,slow=8.5,SNR=94
KSRS LR LR 17 31 49.2
comp=Z,1μm,19.2s,baz=283,slow=38
SSLB Suanglung 25.72 115 *e*P **P 17 21 19.9 -1.8**
comp=Z,58nm,1.0s
TPUB Ta-pu 25.79 117 *e*P **P 17 21 21.8 -0.5**
comp=Z,33nm,0.8s
NACB Ninganchiao 25.95 114 *e*P **P 17 21 23.1 -0.6**
comp=Z,83nm,0.6s
YULB Yu-li 26.21 116 *e*P **P 17 21 25.3 -0.8**
comp=Z,40nm,0.9s
MDJ Mudanjiang 26.38 64 P **P 17 21 27.3 -0.1**
MDJ pmax pmax
comp=Z,22nm,0.8s
MDJ pmax pmax
comp=Z,810nm,11.8s
MDJ LR LR
comp=N,2μm,10.2s
MDJ LR LR
comp=E,3μm,8.9s
MDJ LR LR
comp=Z,3μm,10.2s
MDJ Mudanjiang 26.38 64 *e*P **P 17 21 26.7 -0.7**
comp=Z,16nm,0.7s
TWG Pinlang 26.41 117 *e*P **P 17 21 27.5 -0.5**
comp=Z,230nm,0.8s
POO Poona 26.95 231⇓*i*P **P 17 21 32.0 -0.8**

comp=Z,180nm,1.0s
POO *e*P pP 17 21 32.2 -5.6
POO AMB AMB 17 21 36.3
comp=Z,112nm,0.7s
CLNS Chul'man 27.27 36 *e*P **P 17 21 36.2 +0.8**
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,22nm,1.1s
CLNS MLR MLR
comp=Z,4.0nm,11.0s
CLNS MLR MLR
comp=Z,5μm,12.0s
CLNS MLR MLR
comp=N,2μm,11.0s
VLA Vladivostok 28.01 67 *i*P **P 17 21 43.0 +0.9**
VLA pmax pmax
comp=Z,60nm,2.0s
VLA MLR MLR
comp=Z,1μm,16.0s
USRK Ussuriysk Arra 28.09 65 P **P 17 21 42.0 -0.8**
comp=Z,15nm,0.8s,baz=262,slow=7.5,SNR=22
AB31 Akbulak array 28.09 306 P **P 17 21 43.3 +0.5**
comp=Z,4.9nm,0.7s,baz=96,slow=9.3,SNR=57
AB31 Akbulak array 28.09 306 *i*P **P 17 21 43.2 +0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 28.09 306 *e*P **P 17 21 41.9 -0.8**
IMYA Miami 28.28 278 *e*P **P 17 21 45.9 +1.1**
ISRO Mashad 28.78 278 *e*P **P 17 21 51.1 +1.9**
IMOG Moghan 28.93 278 *e*P **P 17 21 53.5 +2.7**
JNU Nakatsue 29.00 88 P **P 17 21 49.9 -1.2**
JNU Nakatsue 29.00 88 P **P 17 21 49.9 -1.2**
comp=Z,6.9nm,0.7s,baz=270,slow=8.1,SNR=7.0
IPAY Payeh 29.12 279 *e*P **P 17 21 55.0 +2.6**
IEMG Emamgholi 29.18 281 *e*P **P 17 21 55.7 +2.8**
IAKL Akhelmad 29.27 279 *e*P P 17 22 00.5 +6.7
IKRD Kardeh 29.42 280 *e*P P 17 21 50.0 -5.1
IDAH Dahanechah 29.49 271 *e*P **P 17 21 57.4 +1.7**
AKTO Aktyubinsk 29.54 308 ⇓P **P 17 21 56.0 +0.5**
comp=Z,22nm,1.2s
AKTO Aktyubinsk 29.54 308 P **P 17 21 56.1 +0.5**
AKTO pmax pmax
comp=Z,8.0nm,0.6s
AKTO MLR MLR
comp=Z,2μm,21.7s
AKTO Aktyubinsk 29.54 308 P **P 17 21 56.1 +0.5**
AKTO Aktyubinsk 29.54 308 P **P 17 21 56.1 +0.5**
comp=Z,7.8nm,0.6s,baz=98,slow=11,SNR=14
AKTO LR LR 17 34 32.7
comp=Z,2μm,21.7s,baz=305,slow=38
JOW Kunigami 29.54 102 *e*P **P 17 21 54.5 -1.4**
comp=Z,15nm,1.0s
ISHV Shirvan 29.89 282 *e*P P 17 22 02.5 +3.3
SVE Sverdlovsk 30.01 321⇑*e*P **P 17 22 00.9 +1.2**
SVE pmax pmax
comp=Z,27nm,1.1s
SVE MLR MLR
comp=Z,3μm,19.0s
IKOO Kooshah 30.29 271 *e*P **P 17 22 05.3 +2.5**
ITEG Tejag 30.33 272 *e*P **P 17 22 05.9 +2.9**
HABR Khabarovsk 30.45 57 *e*P **P 17 22 02.1 -1.6**
HABR *e**PP **pP 17 22 05.2 -3.5**
HABR *e**SP **sP 17 22 06.4 -4.4**
HABR *e* 17 23 00.3
HABR *e*S **S 17 27 03.5 -0.4**
HABR *e**SS **sS 17 27 08.7 -3.5**
HABR *e* 17 28 45.2
HABR *e* 17 32 40.4
HABR pmax pmax
comp=Z,11nm,1.9s
HABR MLR MLR
comp=Z,2μm,15.0s
ARU Arti 30.91 319*d i*P **P 17 22 08.3 +0.6**
ARU 17 23 07.6
ARU S **S 17 27 13.8 +2.9**
ARU SS **SnSn 17 28 50.1 -0.6**
ARU pmax pmax
comp=Z,35nm,1.0s
ARU MLR MLR
comp=Z,3μm,20.0s
ARU Arti 30.91 319 P **P 17 22 07.4 -0.3**
comp=Z,190nm,1.1s,SNR=12
YAK Yakutsk 32.15 30 *e*P **P 17 22 18.2 -0.3**
YAK *e**PP **pP 17 22 25.2 +1.6**
YAK *e* 17 23 24.6
YAK *e*PPP PPP 17 23 34.5
YAK *e* 17 25 09.1
YAK *e*S **S 17 27 29.2 -1.0**
YAK *e* 17 32 52.0
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,4.0nm,0.6s
YAK pmax pmax
comp=N,36nm,1.4s
YAK pmax pmax
comp=E,32nm,1.3s
YAK smax smax
comp=N,232nm,4.4s
YAK smax smax
comp=E,226nm,3.7s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=E,820nm,11.0s
YAK MLR MLR
comp=N,1μm,13.0s
KULM Kulim 32.57 171 P **P 17 22 23.6 +1.0**
KTGM Kuala Trenggan 32.93 166 P **P 17 22 28.5 +2.7**
IGLO Ghaloghah 33.15 281 *e*P P 17 22 35.0 +7.2
IKIA Kiasar 33.34 281 *e*P P 17 22 33.0 +3.5
IPM Ipoh 33.42 170 *e*P **P 17 22 28.5 -1.6**
comp=N,8.6nm,1.0s
IPM Ipoh 33.42 170 P **P 17 22 30.2 +0.2**
ISHM Shahmirzad 33.75 280 *e*P **P 17 22 36.2 +3.0**
MAT Matsushiro 33.78 79 P **P 17 22 31.2 -1.9**
FRIM Kepong 34.73 169 P **P 17 22 42.6 +1.2**
IDMV Damavand 34.80 280 *e*P **P 17 22 44.8 +2.5**
PSI Prapat 34.85 174 P **P 17 22 42.1 -0.5**
PSI Prapat 34.85 174 P **P 17 22 42.1 -0.5**
comp=N,2.6nm,0.4s,baz=348,slow=16,SNR=3.2
IZEF Zefreh 35.41 276 *e*P **P 17 22 49.1 +1.6**
YSS Yuzh-Sakhalins 35.60 60⇑*i*P **P 17 22 49.3 +0.6**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS MLR MLR
comp=N,2μm,12.0s
YSS MLR MLR
comp=E,3μm,12.0s
ASAJ Asahikawa 35.70 64 *e*P **P 17 22 48.9 -0.7**
comp=E,78nm,0.8s
IMHD Mahdasht 35.83 281 *e*P **P 17 22 53.5 +2.6**
ASHO Ashiyiah 35.97 260 P P 17 22 55.5 +3.4
SNR=6.6
IPAR Pars 35.99 270 *e*P P 17 22 56.9 +4.3
ISRV Sarvestan 36.12 270 *e*P **P 17 22 55.7 +1.9**
NAZ Nazwa, Dubai 36.12 261 P P 17 22 57.0 +3.6
SNR=7.6
KDM Kudat 36.19 142 P **P 17 22 55.3 +1.2**
KGM Kluang 36.20 167 P **P 17 22 56.0 +2.0**
ARQ Araqi 36.31 258 P P 17 22 58.6 +3.6
SNR=9.1
ERM Erimo 36.40 68 P **P 17 22 56.2 +0.7**
comp=E,222nm,1.0s,SNR=5.3
ERM Erimo 36.40 68 *e*P **P 17 22 54.5 -1.0**
ERM pmax pmax
comp=Z,36nm,1.0s
ERM Erimo 36.40 68 *e*P **P 17 22 54.5 -1.0**
comp=Z,36nm,1.0s
IRAZ Razeghan 36.49 281 *e*P **P 17 22 58.2 +1.5**
MYKOM Kota Tinggi 36.52 166 P **P 17 22 58.3 +1.6**
ASUD Al Ashush, Dub 36.57 261 P P 17 23 00.6 +3.5
SNR=8.2
IPIR Pirpir 36.62 276 *e*P P 17 23 01.2 +3.3
KKM Kota Kinabalu 36.66 144 *e*P **P 17 22 57.6 -0.5**
comp=Z,42nm,0.8s

KKM Kota Kinabalu 36.66 144 P **P 17 22 58.5 +0.4**
ISRB Sarab 37.57 285 *e*P **P 17 23 08.5 +2.7**
TIXI Tiksi 38.04 16*c i*P **P 17 23 09.3 +0.2**
TIXI pmax pmax
comp=Z,32nm,0.7s
TIXI MLR MLR
comp=Z,2μm,17.0s
SBUM Sibu 38.24 153 *e*P **P 17 23 10.9 -0.5**
comp=Z,20nm,0.9s
SBUM Sibu 38.24 153 P **P 17 23 12.7 +1.3**
DGRG David-gareji 38.47 292 P **P 17 23 16.2 +3.0**
KSM Kuching 38.49 156 *e*P **P 17 23 12.5 -1.0**
comp=Z,14nm,0.8s
KSM Kuching 38.49 156 P **P 17 23 14.4 +0.8**
MYLDM Lahad Datu 38.51 142 P **P 17 23 15.5 +1.8**
TBLG Delisi 38.88 292 *e*P P 17 23 23.4 +6.8
TBLG Delisi 38.88 292 P P 17 23 23.4 +6.8
GUDG Gudauri 38.93 294 P **P 17 23 19.1 +1.8**
TSM Tawau 38.98 143 P **P 17 23 18.1 +0.5**
ISHB Shabestar 39.01 287 *e*P **P 17 23 20.7 +2.7**
GNI Garni 39.21 290 P **P 17 23 22.5 +2.9**
SNR=8.8
GNI Garni 39.21 290 *e*P P 17 23 23.8 +4.3
GNI Garni 39.21 290 P **P 17 23 21.8 +2.2**
comp=Z,2.2nm,0.3s,baz=164,slow=20,SNR=9.2
ZEI Tsey 39.29 294 *e*P **P 17 23 22.1 +1.8**
ZEI pmax pmax
comp=Z,21nm,1.4s
ONI Oni 39.65 294 P **P 17 23 25.6 +2.5**
KBZ Khabaz 39.84 296 P **P 17 23 26.2 +1.7**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ MLR MLR
comp=Z,1μm,19.4s
KBZ Khabaz 39.84 296 P **P 17 23 26.2 +1.7**
KBZ Khabaz 39.84 296 P **P 17 23 26.2 +1.7**
comp=Z,4.4nm,0.8s,baz=79,slow=5.2,SNR=6.8
KBZ LR LR 17 42 07.6
comp=Z,1μm,19.4s,baz=226,slow=40
AKH Akhalkalaki 39.86 292 P P 17 23 36.3 +11
VRHR Novokhopersk 39.94 307 *e*P **P 17 23 26.6 +1.3**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,40nm,1.2s
KIV Kislovodsk 39.95 296 *e*P **P 17 23 28.0 +2.4**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,1μm,15.0s
UMR Umm Al-Rimmam 40.33 273 *e*P **P 17 23 29.9 +1.1**
UMR AMb AMB 17 23 33.0
comp=Z,69nm,1.5s
RDF Al-Radifah 40.73 272 *e*P **P 17 23 33.3 +1.2**
RDF AMb AMB 17 23 36.5
comp=Z,66nm,1.3s
NAY Al-Naaiem 40.84 273 *e*P **P 17 23 33.5 +0.5**
NAY AMb AMB 17 23 37.9
comp=Z,4.9nm,0.9s
RST Umm Al-Ruwaisa 40.92 273 *e*P **P 17 23 34.1 +0.4**
RST AMb AMB 17 23 39.0
comp=Z,903nm,0.8s
VORD Divnogorie 41.42 307 *e*P **P 17 23 39.4 +1.9**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,40nm,0.9s
VSR Storozhevoye 41.48 308 *e*P **P 17 23 39.3 +1.3**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=E,40nm,0.9s
SEY Seymchan 42.26 35⇑*e*P **P 17 23 45.7 +1.5**
MOS Moscow 42.27 315 *e*P **P 17 23 44.9 +0.5**
MOS pmax pmax
comp=Z,78nm,1.0s
MOS MLR MLR
comp=Z,2μm,14.0s
TMCR Tamitsa 42.81 327 *e*P **P 17 23 47.8 -0.8**
TMCR *e* 17 25 37.5
TMCR pmax pmax
comp=Z,14nm,0.7s
OBN Obninsk 42.88 314 *i*P **P 17 23 50.1 +0.8**
OBN *e* 17 25 42.3
OBN *e*SS SS 17 33 22.1 -2.1
OBN pmax pmax
comp=Z,51nm,1.4s
OBN MLR MLR
comp=Z,2μm,21.0s
ANN Anapa 43.50 299 *e*P **P 17 23 53.8 -0.7**
ANN *e* 17 24 03.4
ANN *e* 17 25 35.1
ANN *e*S **S 17 30 23.5 +1.1**
ANN pmax pmax
comp=Z,28nm,1.4s
ANN MLR MLR
comp=N,332nm,17.0s
ANN MLR MLR
comp=E,365nm,17.0s
ANN MLR MLR
comp=Z,952nm,17.0s
MZRK Al-Mazaregh 43.53 285 *e*P **P 17 23 55.4 +0.5**
SFNV Sufian 43.75 286 *e*P **P 17 23 56.4 -0.4**
PETK Petropavlovsk- 44.80 49 P **P 17 24 05.2 +0.3**
PETK pmax pmax
comp=Z,11nm,0.8s
PETK Petropavlovsk- 44.80 49 P **P 17 24 05.2 +0.3**
PETK Petropavlovsk- 44.80 49 P **P 17 24 05.2 +0.3**
comp=Z,11nm,0.8s,baz=248,slow=7.8,SNR=6.4
APA Apatity 45.24 331⇑*e*P P 17 24 11.6 +3.5
APA MLR MLR
comp=Z,2μm,17.0s
JOF Joensuu 45.67 325 *e*p **P 17 24 11.5 -0.1**
comp=Z,5.3nm,0.5s
SIM Simferopol' 45.77 299*ce*P **P 17 24 15.5 +2.9**
SIM pmax pmax
comp=Z,14nm,0.8s
DRWC Darouich 46.30 288 *e*P **P 17 24 17.3 +0.2**
BTCH Batrach 46.66 287 *e*P **P 17 24 21.6 +1.8**
ZALF Zalf 47.14 283 *e*P **P 17 24 21.8 -1.8**
HAWK Haweek 47.24 285 *e*P **P 17 24 24.9 +0.4**
MARH Ras Al Marh 47.37 284 *e*P P 17 24 18.4 -7.4
BR131 Keskin Array S 47.54 293 *e*P **P 17 24 26.2 -0.6**
comp=Z,4.7nm,0.4s
BRTR Keskin Array B 47.54 293 P **P 17 24 26.6 -0.2**
BRTR Keskin Array B 47.54 293 P **P 17 24 26.6 -0.2**
comp=Z,5.3nm,0.5s,baz=103,slow=6.0,SNR=55
BRTR LR LR 17 47 24.9
comp=Z,371nm,18.5s,baz=55,slow=40
TOTH TOTAH 47.67 284 *e*P **P 17 24 25.5 -2.2**
SALA Sala 47.69 283 *e*P **P 17 24 26.5 -1.5**
ASF Jabal al Asfar 47.77 282 P **P 17 24 29.4 +0.8**
ASF Jabal al Asfar 47.77 282 P **P 17 24 29.4 +0.8**
comp=Z,11nm,1.0s,baz=49,slow=3.8,SNR=10
ASF LR LR 17 46 26.2
comp=Z,633nm,19.0s,baz=33,slow=38
AKASG Malin Array Be 47.78 308*ce*P **P 17 24 28.3 0.0**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG Malin Array Be 47.78 308 P **P 17 24 27.8 -0.4**
AKASG Malin Array Be 47.78 308 P **P 17 24 27.8 -0.4**
comp=Z,8.2nm,0.7s,baz=68,slow=7.5,SNR=18
AKASG LR LR 17 45 21.8
comp=Z,728nm,19.5s,baz=85,slow=37
KIEV Kiev 47.79 308 *e*P **P 17 24 27.9 -0.5**
KIEV pmax pmax
comp=Z,16nm,0.9s
KIEV Kiev 47.79 308 *e*P **P 17 24 27.9 -0.5**
comp=Z,16nm,0.9s
KAF Kangasniemi 48.00 324 *e*P **P 17 24 30.1 +0.3**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 48.00 324 *e*p **P 17 24 30.1 +0.3**
comp=Z,5.9nm,0.6s
BRBR Barbar 48.02 284 *e*P **P 17 24 28.6 -2.1**
KAPI Kappang 48.06 147 *e*P **P 17 24 29.6 -1.1**
VSU Vasula 48.07 319 *i*P **P 17 24 33.1 +2.7**
VSU pmax pmax
comp=Z,63nm,1.0s
VSU MLR MLR
comp=Z,4μm,20.0s
ANTO Ankara 48.11 293 *e*P **P 17 24 30.6 -0.5**
ANTO pmax pmax
comp=Z,10.0nm,0.7s
ANTO Ankara 48.11 293 P **P 17 24 33.0 +1.9**
SNR=6.0
ANTO Ankara 48.11 293⇑*i*P **P 17 24 32.1 +1.0**
ANTO Ankara 48.11 293 *e*P **P 17 24 30.6 -0.5**
comp=Z,9.6nm,0.7s
BR231 Keskin MP Arra 48.13 293 *e*P P 17 24 27.5 -3.8
FINES FINESS Array B 48.15 323 P **P 17 24 30.7 -0.3**
FINES FINESS Array B 48.15 323 P **P 17 24 30.7 -0.3**
comp=Z,7.0nm,0.8s,baz=94,slow=8.9,SNR=27
FINES LR LR 17 45 41.2
comp=Z,1μm,20.1s,baz=100,slow=37
TCHB Talchebab 48.29 283 *e*P **P 17 24 30.1 -2.4**
ARCES ARCESS Array B 48.33 334 P **P 17 24 32.0 -0.3**
ARCES PcP **PcP 17 25 59.0 +0.3**
ARCES ARCESS Array B 48.33 334 P **P 17 24 32.0 -0.3**
comp=Z,5.4nm,0.8s,baz=83,slow=7.4,SNR=26
ARCES PcP **PcP 17 25 59.0 +0.3**
comp=Z,4.9nm,0.5s,baz=91,slow=3.6,SNR=12
ARCES LR LR 17 44 51.2
comp=Z,590nm,20.4s,baz=96,slow=36
IDID Didziasalis 48.47 315 *e*P **P 17 24 33.8 +0.3**
IDID AMB AMB 17 24 37.9
comp=Z,6.3nm,1.0s
NACGM Naroch 48.51 314 *e* **P 17 24 32.0 -1.8**
MMAI Mount Meron Ar 48.59 284 P **P 17 24 36.3 +1.4**
MMAI PcP **PcP 17 26 01.9 +1.4**
MMAI Mount Meron Ar 48.59 284 P **P 17 24 36.3 +1.4**
comp=Z,22nm,0.9s,baz=48,slow=8.6,SNR=6.5
MMAI PcP **PcP 17 26 01.9 +1.4**
comp=Z,5.4nm,0.6s,baz=73,slow=4.8,SNR=5.2
IIGN Ignalina 48.76 315 *e*P **P 17 24 36.1 +0.4**
IIGN AMB AMB 17 24 41.4
comp=Z,14nm,1.4s
ISAL Salakas 48.77 315 *e*P **P 17 24 36.2 +0.3**
ISAL AMB AMB 17 24 37.3
comp=Z,8.2nm,1.2s
TIRR Tirgusor 49.82 300⇓*i*P **P 17 24 43.9 -0.1**
TIRR Tirgusor 49.82 300⇓*i*P **P 17 24 43.9 -0.1**
EIL Elat 50.34 280 P **P 17 24 49.4 +1.2**
EIL Elat 50.34 280 P **P 17 24 49.4 +1.2**
comp=Z,22nm,0.8s,baz=46,slow=6.3,SNR=13
EIL LR LR 17 51 09.0
comp=Z,603nm,19.0s,baz=74,slow=42
TESR Tescani 50.43 303⇑*i*P **P 17 24 49.6 +0.9**
ISP Isparta 50.47 291 *e*P **P 17 24 48.3 -0.9**
ISP Isparta 50.47 291⇑*i*P **P 17 24 49.9 +0.7**
ISP Isparta 50.47 291 *e*P **P 17 24 48.3 -0.9**
VRI Vrincioaia 50.56 302⇑P **P 17 24 51.6 +1.9**
VRI Vrincioaia 50.56 302⇑*i*P **P 17 24 51.5 +1.8**
PLOR Plostina 50.62 302⇓P **P 17 24 51.1 +1.0**
PLOR Plostina 50.62 302⇓*i*P **P 17 24 51.1 +1.0**
DAMY Dhamar 50.70 257 *e*P **P 17 24 50.1 -1.2**
SUW Suwalki 50.74 313 *e*P **P 17 24 51.4 +0.6**
SUW pmax pmax
comp=Z,28nm,0.9s
SUW Suwalki 50.74 313 *e*P **P 17 24 51.4 +0.6**
comp=Z,28nm,0.9s
SUW Suwalki 50.74 313 *e*P **P 17 24 53.7 +2.9**
ISR Istrita 50.90 302⇑*i*P P 17 24 55.7 +3.4
BURAR Bucovina Array 51.06 305⇓P **P 17 24 54.7 +1.2**
BURAR Bucovina Array 51.06 305⇓*i*P **P 17 24 54.7 +1.2**
BUR08 Bucovina Ar. S 51.07 305 *e*P **P 17 24 52.3 -1.3**
MLR Muntele Rosu 51.19 302⇑*i*P **P 17 24 55.7 +1.1**
MLR Muntele Rosu 51.19 302 P **P 17 24 55.8 +1.2**
MLR Muntele Rosu 51.19 302 P **P 17 24 55.8 +1.2**
comp=Z,1.5nm,0.9s,baz=347,slow=14,SNR=9.0
LVV L'vov 51.23 308 *e*P **P 17 24 56.1 +1.5**
SPITS Spitsbergen Ar 51.23 345 P **P 17 24 54.7 +0.5**
SPITS PcP **PcP 17 26 09.5 +0.3**
SPITS Spitsbergen Ar 51.23 345 P **P 17 24 54.7 +0.5**
comp=Z,7.2nm,0.7s,baz=132,slow=2.1,SNR=4.0
SPITS PcP **PcP 17 26 09.5 +0.3**
comp=Z,3.1nm,0.5s,baz=101,slow=8.6,SNR=5.8
VOIR 51.81 302⇑P **P 17 25 00.3 +1.2**
VOIR 51.81 302⇑*i*P **P 17 25 00.3 +1.2**
KWP Kalwaria Pacla 52.10 308 *e*P **P 17 25 00.7 -0.5**
KWP *e* 17 26 11.8
KWP pmax pmax
comp=Z,43nm,0.5s
KWP Kalwaria Pacla 52.10 308⇓*i*P **P 17 25 02.5 +1.3**
KWP Kalwaria Pacla 52.10 308 *e*P **P 17 25 00.7 -0.5**
comp=Z,43nm,0.5s
KWP *e*PcP **PcP 17 26 11.8 -1.1**
KWP Kalwaria Pacla 52.10 308 *e*P **P 17 25 02.3 +1.1**
ARR Arges 52.11 302⇑*i*P **P 17 25 02.0 +0.6**
KOLS Kolonicke sedl 52.58 307 *e*P **P 17 25 07.0 +2.3**
KOLS pmax pmax
comp=Z,16nm,1.6s
KOLS Kolonicke sedl 52.58 307 *e*P **P 17 25 07.0 +2.3**
TRPA Tarpa 52.64 306⇓*i*P **P 17 25 05.9 +0.8**
UZH Uzhgorod 52.65 307 *e*P **P 17 25 02.8 -2.4**
UZH *i* 17 25 06.0
UZH *i* 17 25 13.2
LOT Lotru 52.66 303⇓*i*P **P 17 25 07.0 +1.5**
DRGR 52.94 305⇑P **P 17 25 09.0 +1.5**
DRGR 52.94 305⇑*i*P **P 17 25 09.0 +1.5**
STHS Stebnicka Huta 53.08 308 *e*P **P 17 25 09.6 +1.2**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 53.08 308 *e*P **P 17 25 09.6 +1.2**
CRVS Cervenica-Dubn 53.10 307 *e*P **P 17 25 10.0 +1.5**
CRVS pmax pmax
comp=Z,8.0nm,1.5s
CRVS Cervenica-Dubn 53.10 307 *e*P **P 17 25 10.0 +1.5**
OJC Ojcow 53.73 309 *e*P **P 17 25 13.1 -0.1**
OJC pmax pmax
comp=Z,19nm,0.7s
OJC Ojcow 53.73 309 *e*P **P 17 25 13.1 -0.1**
comp=Z,18nm,0.7s
KECS Kecovo 53.84 307 *e*P **P 17 25 15.3 +1.3**
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 53.84 307 *e*P **P 17 25 15.3 +1.3**
FX1 Attu Island--F 54.00 47 *e*P **P 17 25 14.2 -0.9**
VTS Vitosha 54.01 300⇑P **P 17 25 16.4 +0.9**
VTS Vitosha 54.01 300⇑*i*P **P 17 25 16.4 +0.9**
BZS Buzias 54.04 304⇓P **P 17 25 15.7 +0.2**
BZS Buzias 54.04 304⇓*i*P **P 17 25 15.7 +0.2**
HFS Hagfors 54.34 322 P **P 17 25 17.5 +0.1**
HFS Hagfors 54.34 322 P **P 17 25 17.5 +0.1**
comp=Z,6.7nm,0.6s,baz=126,slow=7.3,SNR=20
PSZ Piszkesteto 54.40 307 *e*P **P 17 25 17.5 -0.6**
PSZ pmax pmax
comp=Z,53nm,1.9s
PSZ Piszkesteto 54.40 307⇑*i*P **P 17 25 18.7 +0.6**
PSZ Piszkesteto 54.40 307 *e*P **P 17 25 17.5 -0.6**
comp=Z,53nm,1.9s
PLG Polygyros 54.65 297 *e*P **P 17 25 21.1 +1.0**
OKC Ostrava-Krasne 54.87 309 *e*P **P 17 25 23.3 +1.9**
OKC *e* 17 25 30.5
OKC MLR MLR
comp=Z,1μm,15.7s
OKC Ostrava-Krasne 54.87 309 *e*P **P 17 25 23.3 +1.9**
OKC *ex* x 17 25 30.5
OKC AMS AMS 17 49 40.0
comp=Z,1μm,15.7s
GRG Griva 55.17 298 *e*P **P 17 25 24.1 +0.3**
MORC Moravsky Berou 55.26 309 *e*P **P 17 25 25.0 +0.7**
MORC pmax pmax
comp=Z,12nm,1.0s
MORC Moravsky Berou 55.26 309 *e*P **P 17 25 25.0 +0.7**
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 55.28 324 P **P 17 25 23.9 -0.4**
comp=Z,5.9nm,0.7s,baz=74,slow=7.4
NOA NORSAR Array B 55.28 324 P **P 17 25 24.0 -0.4**
NOA NORSAR Array B 55.28 324 P **P 17 25 24.0 -0.4**
comp=Z,5.4nm,0.6s,baz=72,slow=7.1,SNR=20
NOA LR LR 17 50 24.5
comp=Z,788nm,18.7s,baz=90,slow=38
IDI Anoyia 55.63 291 *e*P **P 17 25 27.7 +0.5**
comp=Z,33nm,0.9s
KSP Ksiaz 55.66 311 *e*P **P 17 25 28.9 +1.8**
SMOL Smolenice 55.75 308 *e*P **P 17 25 30.6 +2.8**
SMOL Smolenice 55.75 308 *e*P **P 17 25 30.6 +2.8**
PKSM Moragy 55.78 305⇑P **P 17 25 28.5 +0.4**
PKSM Moragy 55.78 305⇑*i*P **P 17 25 28.5 +0.4**
DPC Dobruska-Polom 55.81 310 *e*P **P 17 25 28.9 +0.6**
DPC *e* 17 25 37.0
DPC Dobruska-Polom 55.81 310 *e*P **P 17 25 28.9 +0.6**
DPC *ex* x 17 25 37.0
DPC AMS AMS 17 50 30.0
DPC Dobruska-Polom 55.81 310 *e*P **P 17 25 29.1 +0.8**
comp=Z,374nm,1.8s
DID Didima 55.93 294 *e*P **P 17 25 28.0 -1.3**
UPC Upice 55.94 311 *e*P **P 17 25 30.6 +1.4**
UPC *e* 17 25 37.9
UPC Upice 55.94 311 *e*P **P 17 25 30.6 +1.4**
UPC *ex* x 17 25 37.9
AGG Agios Georgios 55.97 296 *e*P **P 17 25 28.8 -0.8**
THL Klokotos Trika 55.98 297 *e*P **P 17 25 29.5 -0.1**
VRAC Vranov 56.00 309 P **P 17 25 31.3 +1.7**
VRAC Vranov 56.00 309 P **P 17 25 31.3 +1.7**
comp=Z,5.1nm,0.8s,baz=63,slow=6.8,SNR=4.7
ZST Bratislava 56.06 308 *e*P **P 17 25 33.0 +2.9**
ZST Bratislava 56.06 308 *e*P **P 17 25 33.0 +2.9**
KALE Kalithea 56.36 295 *e*P **P 17 25 31.3 -1.1**
EVR Evrytania 56.39 296 *e*P **P 17 25 32.7 +0.1**
GUR Goura 56.40 295 *e*P **P 17 25 31.2 -1.6**
TRIZ Trizonia 56.42 295 *e*P **P 17 25 32.0 -0.7**
VLI Veliai 56.47 293 *e*P **P 17 25 31.0 -2.2**
EFP Efpalio 56.52 295 *e*P **P 17 25 33.4 0.0**
VLX Vlachokerasia 56.61 294 *e*P P 17 25 30.8 -3.4
TREC Trest 56.68 309 *e*P **P 17 25 37.1 +2.6**
TREC MLR MLR
comp=Z,1μm,17.0s
TREC Trest 56.68 309 *e*P **P 17 25 37.1 +2.6**
TREC AMS AMS 17 50 50.0
comp=Z,1μm,17.0s
PVCC Panska Ves 56.80 311 *e*P **P 17 25 32.8 -2.5**
PVCC *e* 17 25 38.8
PVCC MLR MLR
comp=Z,1μm,17.4s
PVCC Panska Ves 56.80 311 *e*P **P 17 25 32.8 -2.5**
PVCC *ep*P **pP 17 25 38.8 -1.8**
PVCC AMS AMS 17 51 00.0
comp=Z,1μm,17.4s
DYR Agios Nikonas 56.90 293 *e*P **P 17 25 36.2 0.0**
PRU Pruhonice 57.01 311 *e*P **P 17 25 37.5 +0.7**
PRU *e* 17 25 44.9
PRU MLR MLR
comp=Z,1μm,16.0s
PRU Pruhonice 57.01 311 *e*P **P 17 25 37.5 +0.7**
PRU *ex* x 17 25 44.9
PRU AMS AMS 17 51 10.0
comp=Z,1μm,16.0s
ITM Ithomi 57.02 294 *e*P **P 17 25 36.3 -0.7**
AMT Artemida-Makis 57.03 294 *e*P **P 17 25 37.2 +0.1**
PRA Prague 57.04 311 P **P 17 25 38.0 +1.0**
BRG Berggiesshubel 57.05 312 *i*P **P 17 25 39.3 +2.3**
comp=Z,46nm,1.9s
BRG *e* 17 25 45.3
comp=Z,9.0nm,0.9s
BRG
comp=Z,2μm,14.9s
BRG
comp=N,890nm,17.5s
BRG
comp=E,950nm,17.5s
BRG Berggiesshubel 57.05 312 *e*P **P 17 25 37.7 +0.7**
comp=Z,46nm,1.9s
BRG Berggiesshubel 57.05 312 *e*P **P 17 25 37.7 +0.7**
comp=Z,46nm,1.9s
BRG Berggiesshubel 57.05 312 *i*P **P 17 25 39.3 +2.3**
BRG *e* 17 25 45.3
BRG pmax pmax
comp=Z,46nm,1.9s
BRG MLR MLR
comp=Z,2μm,14.9s
BRG MLR MLR
comp=N,890nm,17.5s
BRG MLR MLR
comp=E,950nm,17.5s
LKD2 Lefkada island 57.26 296 *e*P **P 17 25 38.4 -0.3**
PYL PYLOS 57.27 294 *e*P **P 17 25 36.8 -2.0**
FBE Freiberg 57.38 312 *e*P **P 17 25 40.3 +0.9**
comp=Z,14nm,0.9s
FBE Freiberg 57.38 312 *e*P **P 17 25 40.3 +0.9**
comp=Z,14nm,0.9s
ARSA Arzberg 57.40 307⇓*i*sP sP 17 25 42.3 -4.6
comp=Z,12nm,1.3s
CLL Collm 57.45 312 *e*P **P 17 25 42.2 +2.4**
comp=Z,12nm,0.8s
CLL Collm 57.45 312 *e*P **P 17 25 42.2 +2.4**
comp=Z,12nm,0.8s
CLL Collm 57.45 312 *e*P **P 17 25 41.0 +1.2**
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 57.45 312 *e*P **P 17 25 41.0 +1.2**
comp=Z,12nm,0.8s
VLS Valsamata 57.56 296 *e*P **P 17 25 39.4 -1.5**
GROS Grobnik 57.71 306 *e*P **P 17 25 42.2 +0.3**
PERS Pernice 57.89 307 *i*P **P 17 25 43.6 +0.4**
KHC Kasperske Hory 57.91 310 *e*P **P 17 25 43.9 +0.8**
KHC *e* 17 25 51.5
KHC MLR MLR
comp=Z,2μm,17.5s
KHC Kasperske Hory 57.91 310 *e*P **P 17 25 44.0 +0.8**
KHC pmax pmax
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 57.91 310 *e*P **P 17 25 43.9 +0.8**
KHC *ex* x 17 25 51.5
KHC AMS AMS 17 51 40.0
comp=Z,2μm,17.5s
KHC Kasperske Hory 57.91 310 *e*P **P 17 25 44.0 +0.9**
comp=Z,9.4nm,1.3s
SOKA Soboth 57.93 307⇑*i*pP **P 17 25 43.7 +0.3**
comp=Z,18nm,0.9s,SNR=11
GEC2 GERESS Array S 57.94 309 *e*P **P 17 25 44.4 +0.9**
comp=Z,13nm,1.3s
GEC2 GERESS Array S 57.94 309 *e*P **P 17 25 44.4 +0.9**
comp=Z,13nm,1.3s
GEC2 GERESS Array S 57.94 309 *e*P **P 17 25 44.4 +0.9**
GEC2 pmax pmax
comp=Z,13nm,1.3s
GEC2 GERESS Array S 57.94 309 *e*P **P 17 25 45.7 +2.3**
GERES GERESS Array B 57.94 309 P **P 17 25 45.3 +1.8**
GERES GERESS Array B 57.94 309 P **P 17 25 45.3 +1.8**
comp=Z,3.3nm,0.8s,baz=64,slow=6.7,SNR=25
GERES LR LR 17 52 05.1
comp=Z,1μm,19.9s,baz=325,slow=38
BSEG Bad Segeberg 58.03 316 *e*P **P 17 25 44.7 +0.9**
comp=Z,21nm,0.9s
BSEG Bad Segeberg 58.03 316 *e*P **P 17 25 44.7 +0.9**
comp=Z,21nm,0.9s
TANN Tannenbergstha 58.10 312 *e*P **P 17 25 45.1 +0.6**
comp=Z,48nm,2.2s
TANN Tannenbergstha 58.10 312 *e*P **P 17 25 45.1 +0.6**
comp=Z,48nm,2.2s
NKC Novy Kostel 58.17 311 *e*P **P 17 25 45.7 +0.7**
NKC *e* 17 25 54.4
NKC MLR MLR
comp=Z,900nm,14.2s
NKC Novy Kostel 58.17 311 *e*P **P 17 25 45.7 +0.7**
NKC *ex* x 17 25 54.4
NKC AMS AMS 17 52 00.0
comp=Z,900nm,14.2s
WERD Werda 58.18 312 *e*P **P 17 25 45.4 +0.4**
comp=Z,91nm,2.8s
WERD Werda 58.18 312 *e*P **P 17 25 45.4 +0.4**
comp=Z,91nm,2.8s
GUNZ Gunzen 58.19 312 *e*P **P 17 25 45.7 +0.6**
comp=Z,63nm,2.2s
GUNZ Gunzen 58.19 312 *e*P **P 17 25 45.7 +0.6**
comp=Z,63nm,2.2s
NEUB Neuenburg 58.20 313 *e*P **P 17 25 45.8 +0.7**
comp=Z,17nm,0.9s
NEUB Neuenburg 58.20 313 *e*P **P 17 25 45.8 +0.7**
comp=Z,17nm,0.9s
BOJS Bojanci 58.24 305 *i*P **P 17 25 46.8 +1.3**
WET Wettzell 58.33 310 *e*P **P 17 25 47.3 +1.2**
comp=Z,71nm,2.3s
WET Wettzell 58.33 310 *e*P **P 17 25 47.3 +1.2**
comp=Z,71nm,2.3s
WET Wettzell 58.33 310 *e*P **P 17 25 47.3 +1.2**
WET pmax pmax
comp=Z,71nm,2.3s
VISS Visnje 58.39 306 *i*P P 17 25 49.9 +3.3
MANZ Manzenberg 58.47 311 *e*P **P 17 25 47.9 +0.8**
comp=Z,42nm,2.0s
MANZ Manzenberg 58.47 311 *e*P **P 17 25 47.9 +0.8**
comp=Z,42nm,2.0s
ROTZ Rotzenmuhle 58.49 311 *e*P **P 17 25 48.0 +0.8**
comp=Z,14nm,1.0s
ROTZ Rotzenmuhle 58.49 311 *e*P **P 17 25 48.0 +0.8**

comp=Z,14nm,1.0s
MOX Moxa 58.51 312 *e*P **P 17 25 48.1 +0.8**
comp=Z,44nm,2.0s
MOX *e*L L 17 52 27.2
comp=Z,1μm,18.1s
MOX Moxa 58.51 312 *e*P **P 17 25 48.1 +0.8**
comp=Z,44nm,2.0s
MOX *e*L L 17 52 27.2
comp=Z,1μm,18.1s
MOX Moxa 58.51 312 *e*P **P 17 25 48.1 +0.8**
MOX pmax pmax
comp=Z,44nm,2.0s
MOX MLR MLR
comp=Z,1μm,18.1s
NRDL Niedersach Rie 58.68 314 *e*P **P 17 25 49.9 +1.6**
comp=Z,21nm,1.0s
NRDL Niedersach Rie 58.68 314 *e*P **P 17 25 49.9 +1.6**
comp=Z,21nm,1.0s
CLZ Clausthal 58.78 314 *e*P **P 17 25 50.8 +1.6**
comp=Z,25nm,1.0s
CLZ Clausthal 58.78 314 *e*P **P 17 25 50.8 +1.6**
comp=Z,25nm,1.0s
CLZ Clausthal 58.78 314 *e*P **P 17 25 50.8 +1.6**
CLZ pmax pmax
comp=Z,25nm,1.0s
JAVS Javornik 58.85 306 *i*P **P 17 25 50.1 +0.2**
RJOB Jochberg 58.92 309 *e*P **P 17 25 51.9 +1.6**
comp=Z,54nm,2.0s
RJOB Jochberg 58.92 309 *e*P **P 17 25 51.9 +1.6**
comp=Z,54nm,2.0s
GRF Grafenberg Arr 59.11 311 *e*P **P 17 25 52.2 +0.7**
comp=Z,24nm,0.8s
GRF *e*L L 17 47 43.9
comp=Z,555nm,21.0s
GRF Grafenberg Arr 59.11 311 *e*P **P 17 25 52.2 +0.7**
comp=Z,24nm,0.8s
GRF *e*L L 17 47 43.9
comp=Z,555nm,21.0s
GRF Grafenberg Arr 59.11 311 *e*P **P 17 25 52.2 +0.7**
GRF pmax pmax
comp=Z,24nm,0.8s
GRF MLR MLR
comp=Z,600nm,21.0s
GRFO Grafenberg 59.11 311 *e*P P 17 25 54.9 +3.4
GRFO pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 59.11 311 *e*P P 17 25 54.9 +3.4
comp=Z,16nm,0.8s
UBBA Unterbreizbach 59.39 313 *e*P **P 17 25 54.3 +1.0**
comp=Z,25nm,2.0s
UBBA Unterbreizbach 59.39 313 *e*P **P 17 25 54.3 +1.0**
comp=Z,25nm,2.0s
FUR Furstenfeldbru 59.69 309 *e*P **P 17 25 56.3 +0.8**
comp=Z,106nm,1.8s
FUR Furstenfeldbru 59.69 309 *e*P **P 17 25 56.3 +0.8**
comp=Z,106nm,1.8s
FUR Furstenfeldbru 59.69 309 *e*P **P 17 25 56.3 +0.8**
FUR pmax pmax
comp=Z,106nm,1.8s
WTTA Wattenberg 59.83 308⇑*i*P **P 17 25 56.9 +0.1**
comp=Z,38nm,1.1s,SNR=12
WATA Walderalm 59.84 309⇓*i*pP **P 17 25 57.8 +1.0**
comp=Z,30nm,1.3s,SNR=7.1
IBBN Ibbenburen 60.08 315 *e*P **P 17 25 59.9 +1.8**
comp=Z,16nm,1.2s
IBBN Ibbenburen 60.08 315 *e*P **P 17 25 59.9 +1.8**
comp=Z,16nm,1.2s
MOTA Moosalm 60.13 309⇑*i*P **P 17 25 58.6 -0.2**
comp=Z,32nm,1.2s,SNR=11
CUC Castrocucco 60.15 299 *e*P **P 17 25 59.4 +0.5**
comp=Z,20nm,0.9s
RETA Reutte 60.28 309⇑*i*pP **P 17 26 00.4 +0.7**
comp=Z,21nm,1.4s,SNR=7.2
FETA Feichten 60.50 308 *i*pP **P 17 26 02.0 +0.7**
comp=Z,19nm,1.1s,SNR=7.2
TNS Taunus Mts 60.54 313 *e*P **P 17 26 02.0 +0.6**
comp=Z,5.0nm,1.0s
TNS Taunus Mts 60.54 313 *e*P **P 17 26 02.0 +0.6**
comp=Z,5.0nm,1.0s
TNS Taunus Mts 60.54 313 *e*P **P 17 26 02.0 +0.6**
TNS pmax pmax
comp=Z,5.0nm,1.0s
STU Stuttgart 60.70 311 *e*P **P 17 26 03.4 +1.0**
comp=Z,13nm,0.8s
STU Stuttgart 60.70 311 *e*P **P 17 26 03.4 +1.0**
comp=Z,13nm,0.8s
BUG Bochum--Univer 60.71 314 *e*P **P 17 26 04.5 +2.1**
comp=Z,15nm,0.8s
BUG Bochum--Univer 60.71 314 *e*P **P 17 26 04.5 +2.1**
comp=Z,15nm,0.8s
CEL Celeste 60.86 298 *e*P **P 17 26 04.2 +0.5**
comp=Z,25nm,1.0s
FUORN Ofenpass-Fuorn 60.96 308 *e*P **P 17 26 05.2 +0.7**
DAVOX Davos/Dischmat 61.13 308 P **P 17 26 05.6 0.0**
DAVOX Davos/Dischmat 61.13 308 P **P 17 26 05.6 0.0**
comp=Z,16nm,0.6s,baz=76,slow=8.3,SNR=25
BFO Black Forest 61.41 311 *e*P **P 17 26 07.8 +0.5**
comp=Z,39nm,1.8s
BFO Black Forest 61.41 311 *e*P **P 17 26 07.8 +0.5**
comp=Z,39nm,1.8s
BFO Black Forest 61.41 311 P **P 17 26 08.0 +0.7**
comp=Z,61nm,0.9s,SNR=5.3
BFO Black Forest 61.41 311 *e*P **P 17 26 07.8 +0.5**
BFO pmax pmax
comp=Z,39nm,1.8s
BFO Black Forest 61.41 311 *e*P **P 17 26 07.5 +0.2**
comp=Z,9.4nm,0.9s
TUE Stuetta 61.59 308 *e*P **P 17 26 09.0 +0.2**
CDF Champ du Feu 62.01 311 *e*P **P 17 26 11.6 +0.2**
comp=Z,23nm,1.1s
WLF Walferdange 62.12 313 *e*P **P 17 26 13.5 +1.5**
comp=Z,21nm,1.0s
WLF Walferdange 62.12 313 *e*P **P 17 26 13.5 +1.5**
comp=Z,21nm,1.0s
WLF Walferdange 62.12 313 *e*P **P 17 26 14.2 +2.2**
WLF Walferdange 62.12 313 *e*P **P 17 26 14.2 +2.2**
ECH Echery 62.16 311 *e*P **P 17 26 12.1 -0.2**
ECH pmax pmax
comp=Z,9.0nm,1.1s
ECH Echery 62.16 311 *e*P **P 17 26 12.1 -0.2**
comp=Z,9.5nm,1.1s
ECH Echery 62.16 311 *e*P **P 17 26 13.3 +0.9**
BCLA Clavier 62.27 314 P **P 17 26 13.1 +0.1**
comp=Z,22nm,2.1s
MOF Molkenrain 62.34 311 *e*P **P 17 26 15.0 +1.4**
HINF Hinterzarfeld 62.52 311 *e*P **P 17 26 15.0 +0.2**
comp=Z,12nm,0.7s
GIVF Givet 62.69 314 *e*P **P 17 26 16.5 +0.7**
comp=Z,18nm,0.8s
HAU Haudompre 62.74 311 *e*P **P 17 26 16.4 +0.2**
HAU *e*R
comp=Z,623nm,20.8s
LOMF Lomont 62.75 310 *e*P **P 17 26 18.7 +2.3**
MBWA Marble Bar 62.78 155 *e*P **P 17 26 16.0 -0.6**
DOU Dourbes 62.83 314 AP pP 17 26 20.3 -1.7
THEF They Montfort 62.86 311 *e*P **P 17 26 18.0 +1.0**
PAGF Fort de Pagny 62.86 312 *e*P **P 17 26 17.9 +0.9**
comp=Z,9.4nm,1.0s
SENIN Lac Senin/Sane 62.91 309 *e*P **P 17 26 18.2 +0.6**
BAIF Baives 63.06 314 *e*P **P 17 26 19.0 +0.7**
comp=Z,23nm,1.0s
MEZF Maizieres J'vi 63.29 312 *e*P **P 17 26 20.6 +0.8**
comp=Z,11nm,0.7s
OG01 Vacheresse 63.30 309 *e*P **P 17 26 22.0 +1.9**
SFTF Sexfontaines 63.43 312 *e*P **P 17 26 21.1 +0.3**
comp=Z,16nm,0.8s
CABF La Chapelle 63.54 310 *e*P **P 17 26 21.6 0.0**
PGF Pioggiola 63.58 305 *e*P **P 17 26 22.7 +0.7**
comp=Z,77nm,1.1s
RSL Roselend 63.63 309 *e*P **P 17 26 24.4 +2.0**
LPG La Plagne 63.65 308 *e*P **P 17 26 23.5 +0.9**
comp=Z,46nm,0.9s
LPL La Plagne 63.65 308 *e*P **P 17 26 23.5 +1.0**
comp=Z,30nm,0.8s
IMA2 Indian Mountai 63.81 25 *e*P **P 17 26 22.4 -0.8**
IM04 Indian Mountai 63.83 25 *e*P **P 17 26 23.0 -0.1**
BNI Bardonecchia 63.90 308 *e*P **P 17 26 26.9 +2.8**
BNI Bardonecchia 63.90 308 *e*P **P 17 26 26.9 +2.8**
SBF Sospel 63.98 306 *e*P **P 17 26 24.8 +0.2**
MBDF Montbardon 63.99 308 *e*P **P 17 26 24.6 -0.1**
comp=Z,23nm,0.9s
COLD Coldfoot 64.27 23 *e*P **P 17 26 26.0 0.0**
comp=Z,28nm,0.8s
ORIF Oris-en-Rattie 64.46 308 *e*P **P 17 26 28.0 +0.3**
comp=Z,28nm,0.7s
ORIF *e*R
comp=Z,2μm,20.2s

EKA Eskdalemuir Ar 64.50 321 P **P 17 26 27.9 +0.3**
EKA Eskdalemuir Ar 64.50 321 P **P 17 26 28.0 +0.3**
comp=Z,6.8nm,1.0s,baz=63,slow=5.1,SNR=11
LOR Lormes 64.58 311 *e*P **P 17 26 28.0 -0.3**
comp=Z,16nm,1.1s
LOR *e*R
comp=Z,889nm,18.5s
LMR La Mourre 64.82 306 *e*P **P 17 26 30.2 +0.2**
SMF Signal de Mont 64.89 310 *e*P **P 17 26 30.5 +0.1**
comp=Z,52nm,1.0s
SSF Saint Saulge 64.89 311 *e*P **P 17 26 30.2 -0.1**
AVF Avril sur Loir 65.11 311 *e*P **P 17 26 31.9 +0.1**
comp=Z,29nm,1.1s
VIVF Saint-Julien-l 65.24 308 *e*P **P 17 26 33.0 +0.2**
comp=Z,22nm,1.0s
SUMG Summit 65.53 346 *e*P **P 17 26 34.4 -0.2**
SUMG Summit 65.53 346 *i*P **P 17 26 34.4 -0.2**
comp=Z,11nm,0.7s
SUMG Summit 65.53 346 *e*P **P 17 26 34.4 -0.2**
BGF Bois d'Agland 65.53 311 *e*P **P 17 26 34.6 +0.1**
comp=Z,13nm,0.7s
AGO Saint Agoulin 65.60 310 *e*P **P 17 26 37.5 +2.4**
PYM Petit Puy Mans 65.83 310 *e*P **P 17 26 37.2 +0.6**
BPAW Bear Paw Mtn. 65.89 26 *e*P **P 17 26 36.9 +0.3**
comp=Z,20nm,0.6s
SVW2 Sparrevohn 65.93 30 *e*P **P 17 26 37.8 +0.8**
LBL Lubilhac 65.94 309 *e*P **P 17 26 39.5 +2.2**
TCF Toulx Ste Croi 66.04 311 *e*P **P 17 26 38.4 +0.5**
comp=Z,53nm,1.1s
LASF Ste Croix 66.14 308 *e*P **P 17 26 39.2 +0.7**
comp=Z,22nm,0.9s
KMBO Kilima Mbogo 66.15 249 *e*P **P 17 26 41.2 +2.0**
KMBO Kilima Mbogo 66.15 249 P **P 17 26 39.9 +0.6**
comp=Z,7.3nm,1.0s,baz=41,slow=9.4,SNR=9.7
PPLA Purkeypile 66.18 28 *e*P **P 17 26 39.5 +0.8**
comp=Z,52nm,0.6s
LDF La Druitiere 66.25 314 *e*P **P 17 26 39.2 +0.1**
comp=Z,12nm,0.6s
FLN La Foliniere 66.37 314 *e*P **P 17 26 39.8 -0.1**
comp=Z,36nm,1.1s
FLN *e*R
comp=Z,2μm,21.5s
COLA College 66.48 25 *e*P **P 17 26 40.3 0.0**
COLA College 66.48 25 *e*P **P 17 26 40.3 0.0**
TRF Thorofare Moun 66.53 27 *e*P **P 17 26 41.5 +0.6**
KEST Kesra 66.67 298 P **P 17 26 43.3 +1.2**
KEST Kesra 66.67 298 P **P 17 26 43.3 +1.2**
comp=Z,5.2nm,1.2s,baz=191,slow=7.5,SNR=5.6
GRR Gorron 66.78 314 *e*P **P 17 26 42.6 +0.1**
comp=Z,26nm,0.7s
CAF Calviac 66.82 310 *e*P **P 17 26 43.7 +0.8**
comp=Z,18nm,1.1s
MCK McKinley 66.83 26 *e*P **P 17 26 42.4 -0.2**
MCK pmax pmax
comp=Z,13nm,0.5s
MCK McKinley 66.83 26 *e*P **P 17 26 42.4 -0.2**
comp=Z,13nm,0.5s
ILAR Eielson Array 66.86 24 P **P 17 26 41.9 -0.9**
ILAR Eielson Array 66.86 24 P **P 17 26 41.9 -0.9**
comp=Z,13nm,0.7s,baz=295,slow=5.2,SNR=114
RJF Les Rejaudoux 66.96 310 *e*P **P 17 26 44.6 +0.9**
RJF *e*R
comp=Z,516nm,18.2s
PMG Port Moresby 67.18 123 *e*P **P 17 26 47.2 +1.8**
SPU Mount Spurr 67.27 29 *e*P **P 17 26 46.9 +1.4**
MFF Saint Martin d 67.29 312 *e*P **P 17 26 46.0 +0.2**
comp=Z,28nm,1.1s
RSO Redoubt South 67.43 30 *e*P **P 17 26 45.4 -1.3**
comp=Z,135nm,0.8s
MTLF Montolieu 67.53 308 *e*P **P 17 26 47.9 +0.5**
comp=Z,5.9nm,0.8s
LFF La Frestale 67.62 310 *e*P **P 17 26 48.8 +0.9**
comp=Z,27nm,0.8s
SGMF Saint Gilles 67.81 314 *e*P **P 17 26 49.7 +0.6**
comp=Z,20nm,0.7s
MRIV Mauritius Mete 67.91 219 *e*P **P 17 26 49.9 0.0**
WRAB Tennant Creek 67.92 141 P **P 17 26 49.3 -0.7**
comp=Z,200nm,0.9s,SNR=17
WRAB Tennant Creek 67.92 141 *e*P **P 17 26 49.4 -0.6**
WRAB Tennant Creek 67.92 141 *e*P **P 17 26 49.4 -0.6**
WRA Warramunga Arr 67.93 141 P **P 17 26 49.0 -1.1**
WRA Warramunga Arr 67.93 141 P **P 17 26 49.0 -1.1**
comp=Z,21nm,0.8s,baz=340,slow=6.4,SNR=33
COEN Coen 68.05 129 *e*P **P 17 26 50.4 -0.5**
PMR Palmer 68.12 28 *e*P **P 17 26 50.3 -0.4**
PMR pmax pmax
comp=Z,28nm,0.8s
PMR Palmer 68.12 28 *e*P **P 17 26 50.3 -0.4**
comp=Z,28nm,0.8s
INK Inuvik 68.16 18 *e*P **P 17 26 50.8 0.0**
comp=Z,21nm,0.8s
ROSF Rostrenen 68.18 315 *e*P **P 17 26 51.6 +0.3**
SML Sawmill 68.27 27 *e*P **P 17 26 51.8 0.0**
SML pmax pmax
comp=Z,22nm,0.7s
SML Sawmill 68.27 27 *e*P **P 17 26 51.8 0.0**
comp=Z,22nm,0.7s
QUIF Quistinic 68.34 314 *e*P **P 17 26 52.8 +0.4**
comp=Z,22nm,0.8s
PAX Paxson 68.52 25 *e*P **P 17 26 52.5 -0.9**
PAX pmax pmax
comp=Z,9.0nm,0.7s
PAX Paxson 68.52 25 *e*P **P 17 26 52.5 -0.9**
comp=Z,8.6nm,0.7s
EGAK Eagle 68.67 23 *e*P **P 17 26 54.2 0.0**
comp=Z,19nm,0.6s
EPF Esparros 68.86 308 *e*P **P 17 26 55.2 -0.6**
KDAK Kodiak Island 69.14 32 P **P 17 26 57.9 +0.8**
comp=Z,392nm,0.6s,SNR=19
KDAK Kodiak Island 69.14 32 *e*P **P 17 26 57.5 +0.4**
comp=Z,38nm,0.6s
OHAK Old Harbor 69.18 33 *e*P **P 17 26 56.9 -0.5**
comp=Z,40nm,0.8s
ETSF Etsaut 69.49 309 *e*P **P 17 27 00.5 +0.7**
DIV Divide 69.65 27 *e*P **P 17 27 00.7 +0.4**
comp=Z,43nm,0.6s
DAWY Dawson 69.72 23 *e*P **P 17 27 00.7 -0.1**
DAWY *e*PP **PP 17 29 36.6 +2.2**
SJPF Ste Jean 69.79 309 *e*P **P 17 27 01.0 -0.5**
BMRM Bremner River 70.18 27 *e*P **P 17 27 03.6 0.0**
comp=Z,30nm,0.7s
AS31 Alice Springs 70.86 143 *e*P **P 17 27 07.5 -0.7**
ASAR Alice Springs 70.86 143 P **P 17 27 07.0 -1.2**
ASAR Alice Springs 70.86 143 P **P 17 27 07.0 -1.2**
comp=Z,13nm,1.0s,baz=332,slow=6.2,SNR=135
SFJD Kangerlussuaq 72.51 347 P **P 17 27 17.3 -0.2**
SFJD Kangerlussuaq 72.51 347 P **P 17 27 17.3 -0.2**
comp=Z,9.8nm,0.7s,baz=48,slow=3.7,SNR=5.5
HYT Haines Junctio 72.70 24 *e*P **P 17 27 19.0 0.0**
ESDC Sonseca Array 73.42 307 P **P 17 27 23.8 +0.3**
ESDC Sonseca Array 73.42 307 P **P 17 27 23.8 +0.3**
comp=Z,4.0nm,0.6s,baz=46,slow=5.7,SNR=26
PBRG Braganca 73.89 311 *e*P P 17 27 29.6 +3.4
comp=Z,20nm,1.5s
MVO Moncorvo 74.44 310 *e*P **P 17 27 32.5 +3.0**
comp=Z,22nm,1.8s
SKAG Skagway 74.45 24 *e*P **P 17 27 29.1 0.0**
comp=Z,15nm,0.7s
FORT Forrest 74.56 151 *e*P **P 17 27 29.9 0.0**
comp=Z,48nm,0.7s
CTAO Charters Tower 74.64 131 *e*P **P 17 27 29.5 -1.1**
CTAO pmax pmax
comp=Z,30nm,0.9s
CTAO Charters Tower 74.64 131 *e*P **P 17 27 29.5 -1.1**
comp=Z,30nm,0.9s
PGAV Gavieira, Arco 74.71 311 *e*P **P 17 27 32.5 +1.5**
comp=Z,33nm,1.6s
PCAB Cabril 74.72 311 *e*P P 17 27 34.5 +3.5
comp=Z,29nm,1.9s
MTE Manteigas 75.21 310 *e*P **P 17 27 37.1 +3.2**
PCBR Castelo Branco 75.51 309 *e*P **P 17 27 37.6 +2.1**
comp=Z,17nm,2.6s
PMRV Marv??o 75.70 309 *e*P P 17 27 40.0 +3.3
comp=Z,29nm,1.4s
PCAS Casmilo, Conde 76.00 310 *e*P P 17 27 42.0 +3.6
comp=Z,26nm,1.3s
PESTR Estremoz 76.17 308 *e*P P 17 27 42.7 +3.3
comp=Z,21nm,1.7s
PBAR Barrancos 76.24 308 *e*P **P 17 27 41.4 +1.6**
comp=Z,22nm,1.3s
TAM Tamanrasset 76.50 288 *e*P **P 17 27 41.5 -0.2**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 76.50 288 *e*P **P 17 27 41.5 -0.2**
comp=Z,4.6nm,0.9s
EVO Evora 76.63 308 *e*P **P 17 27 43.8 +1.8**

comp=Z,26nm,1.1s
EVO *e*R
comp=Z,839nm,20.2s
EVO Evora 76.63 308 *e*P **P 17 27 43.7 +1.8**
comp=Z,33nm,1.5s
PBEJ Beja 76.85 308 *e*P P 17 27 46.8 +3.6
comp=Z,31nm,1.7s
DLBC Dease Lake 76.94 23 *e*P **P 17 27 44.1 +0.7**
PVAQ Vaqueiros 77.14 307 *e*P **P 17 27 45.4 +0.6**
comp=Z,60nm,1.9s
YKW3 Yellowknife Ar 77.18 14 *e*P **P 17 27 44.0 -0.6**
comp=Z,0.1nm,0.6s
PCVE Castro Verde 77.20 308 *e*P P 17 27 48.9 +3.7
comp=Z,50nm,2.1s
PNCL Nicolau / Gran 77.21 308 *e*P P 17 27 49.0 +3.8
comp=Z,56nm,1.7s
YKA Yellowknife Ar 77.24 14 P **P 17 27 44.0 -0.9**
YKA Yellowknife Ar 77.24 14 P **P 17 27 44.0 -0.9**
comp=Z,1.9nm,0.4s,baz=338,slow=5.5,SNR=20
FRB Frobisher Bay 78.12 353 P **P 17 27 49.5 -0.3**
FRB Frobisher Bay 78.12 353 P **P 17 27 49.5 -0.3**
comp=Z,11nm,0.8s,baz=358,slow=7.1,SNR=6.8
STKA Stephens Creek 81.43 142 P **P 17 28 07.0 -1.1**
STKA Stephens Creek 81.43 142 P **P 17 28 07.0 -1.1**
comp=Z,17nm,0.6s,baz=324,slow=7.6,SNR=62
EIDS Eidsvold 81.53 131 *e*P **P 17 28 08.3 -0.4**
comp=Z,18nm,0.9s
LSZ Lusaka 82.26 244 *e*P **P 17 28 11.9 -1.0**
comp=Z,3.2nm,0.6s
FCC Fort Churchill 83.57 5 *e*P **P 17 28 18.6 -0.4**
FCC Fort Churchill 83.57 5 *e*P **P 17 28 18.6 -0.4**
comp=Z,0.6nm,1.0s
TOA0 Torodi Ar. Sit 85.13 283 *e*P **P 17 28 28.1 +0.4**
TORD Torodi Ar. Bea 85.13 283 P **P 17 28 27.9 +0.2**
TORD Torodi Ar. Bea 85.13 283 P **P 17 28 27.9 +0.2**
comp=Z,6.2nm,0.9s,baz=33,slow=4.5,SNR=22
EDM Edmonton 86.04 17 *e*P **P 17 28 31.3 -0.4**
EDM Edmonton 86.04 17 *e*P **P 17 28 31.3 -0.4**
SCHQ Schefferville 86.62 350 *e*P **P 17 28 34.5 0.0**
SCHQ Schefferville 86.62 350 P **P 17 28 34.3 -0.1**
comp=Z,18nm,0.8s,baz=18,slow=6.9,SNR=16
SCHQ LR LR 18 12 02.0
comp=Z,391nm,18.0s,baz=297,slow=39
FFC Flin Flon 86.72 10 *e*P **P 17 28 33.8 -1.1**
FFC pmax pmax
comp=Z,17nm,0.8s
FFC Flin Flon 86.72 10 *e*P **P 17 28 33.8 -1.1**
comp=Z,17nm,0.8s
PGC Sidney 87.30 25 *e*P **P 17 28 38.2 +0.4**
comp=Z,0.5nm,0.7s
DZM Mont Dzumac 89.19 119 P **P 17 28 46.4 -0.8**
DZM Mont Dzumac 89.19 119 P **P 17 28 46.4 -0.8**
comp=Z,8.6nm,0.8s,baz=106,slow=7.7,SNR=6.4
KIP Kipapa 89.28 63 *i*P **P 17 28 48.6 +0.9**
LON Longmire 89.50 25 *e*P **P 17 28 48.3 -0.1**
LON pmax pmax
comp=Z,5.0nm,0.7s
LON Longmire 89.50 25 *e*P **P 17 28 48.3 -0.1**
comp=Z,4.6nm,0.7s
NEW Newport 89.60 21 *e*P **P 17 28 48.7 -0.1**
comp=Z,4.8nm,0.6s
BLMT Blacktail Moun 90.59 20 *e*P **P 17 28 52.9 -0.8**
comp=Z,23nm,0.8s
BSMT Bassoo Peak 90.63 20 *e*P **P 17 28 54.1 +0.3**
comp=Z,7.1nm,0.9s
YBMT Yellow Bay 90.82 19 *e*P **P 17 28 54.6 0.0**
comp=Z,10.0nm,0.7s
JTMT Jette 90.86 20 *e*P **P 17 28 55.1 +0.3**
comp=Z,8.6nm,0.6s
SWMT Swartz Lake 91.15 20 *e*P **P 17 28 55.8 -0.4**
comp=Z,9.7nm,0.8s
ULM Lac du Bonnet 91.86 7 P **P 17 28 58.3 -0.9**
ULM Lac du Bonnet 91.86 7 P **P 17 28 58.3 -0.9**
comp=Z,7.0nm,0.7s,baz=334,slow=5.4,SNR=5.8
ULM LR LR 18 09 12.3
comp=Z,560nm,20.4s,baz=183,slow=35
HRY Holter Researc 92.45 19 *e*P **P 17 29 02.3 +0.1**
comp=Z,9.9nm,0.7s
BOSA Boshof 93.18 236 P **P 17 29 05.0 -0.7**
BOSA Boshof 93.18 236 P **P 17 29 05.0 -0.7**
comp=Z,3.6nm,1.0s,baz=43,slow=5.6,SNR=3.5
BOZ Bozeman (W) 93.50 19 *e*P **P 17 29 07.4 +0.3**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 93.50 19 *e*P **P 17 29 07.4 +0.3**
comp=Z,2.2nm,0.8s
GCMT Greycliff 93.84 17 *e*P **P 17 29 09.2 +0.6**
comp=Z,4.8nm,0.6s
MCMT McKenzie Canyo 93.94 20 *e*P **P 17 29 09.2 0.0**
comp=Z,1.0nm,0.6s
DBIC Dimbokro 94.18 282 P **P 17 29 10.3 -0.1**
DBIC Dimbokro 94.18 282 P **P 17 29 10.3 -0.1**
comp=Z,3.1nm,0.5s,baz=39,slow=5.6,SNR=7.7
LIC Lamto 94.58 281 *e*P **P 17 29 11.6 -0.8**
HLID Hailey 94.67 21 *e*P **P 17 29 12.4 -0.1**
comp=Z,2.8nm,1.1s
LKWY Lake 94.82 18 *e*P **P 17 29 13.9 +0.6**
LKWY pmax pmax
comp=Z,11nm,0.8s
LKWY Lake 94.82 18 *e*P **P 17 29 13.9 +0.6**
comp=Z,11nm,0.8s
PDAR Pinedale Array 96.72 18 P **P 17 29 22.5 +0.6**
PDAR PKKP **PKKPbc 17 46 04.0 0.0**
PDAR Pinedale Array 96.72 18 P **P 17 29 22.5 +0.6**
comp=Z,1.0nm,0.8s,baz=19,slow=3.8,SNR=6.1
PDAR PKKP **PKKPbc 17 46 04.0 0.0**
comp=Z,0.2nm,0.5s,baz=193,slow=6.1,SNR=3.4
NVAR Mina Array Bea 98.07 26 P Pdif 17 29 28.3 +0.2
NVAR Mina Array Bea 98.07 26 P Pdif 17 29 28.3 +0.2
comp=Z,0.6nm,0.5s,baz=327,slow=4.3,SNR=6.1
VNDA Vanda 121.65 166 PKP **PKPdf 17 34 42.9 -0.7**
VNDA Vanda 121.65 166 PKP **PKPdf 17 34 42.9 -0.7**
comp=Z,2.1nm,0.6s,baz=307,slow=4.5,SNR=14
SNAA Sanae 127.90 203 *e*P **PKPdf 17 34 56.4 +0.6**
SNAA Sanae 127.90 203 *e*PKPdf **PKPdf 17 34 56.0 +0.1**
VNA2 Neumayer--Watz 129.31 204 *e*P **PKPdf 17 34 59.8 +1.3**
baz=47,slow=2.3
VNA1 Neumayer--Stat 129.59 205 *e*P **PKPdf 17 35 01.4 +2.5**
ROSC El Rosal 136.65 345 *e*PKPdf **PKPdf 17 35 14.4 -0.2**
ROSC PKP **PKPdf 17 35 15.6 +1.0**
ROSC El Rosal 136.65 345 PKP **PKPdf 17 35 15.6 +1.0**
comp=Z,9.4nm,0.5s,baz=93,slow=15,SNR=4.1
OTAV Otavalo 141.87 350 *e*PKPdf **PKPdf 17 35 24.6 +0.5**
SAML Samuel 145.57 321 *e*PKPdf **PKPdf 17 35 29.4 -0.6**
LPAZ La Paz 154.30 322 PKP **PKPdf 17 35 44.1 -0.3**
LPAZ La Paz 154.30 322 PKP **PKPdf 17 35 44.1 -0.3**
comp=Z,0.9nm,0.7s,baz=26,slow=3.9,SNR=5.9
CPUP Villa Florida 154.50 288 *e*PKPdf **PKPdf 17 35 43.9 +0.3**
CPUP PKPbc **PKPbc 17 35 51.2 -0.8**
CPUP Villa Florida 154.50 288 PKPbc **PKPbc 17 35 51.2 -0.8**
comp=Z,2.4nm,0.5s,baz=44,slow=3.1,SNR=9.7

---

*ISCJB **30** 17:22:43.1±0.4, 38°.86N±0°.01×23°.62E±0°.02, h7km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=168.5*
*THE **30** 17:22:43.6, 38°.85N×23°.59E, h6km, ML2.6/14, Error ellipse: s-maj=0.9km s-min=0.5km az=78.0*
*ATH **30** 17:22:43.2, 38°.87N×23°.59E, h22km±1km, MD2.9/10, ML2.9*
*CSEM **30** 17:22:43.2±0.1, 38°.85N×23°.61E, h8km, ML2.6/14, Error ellipse: s-maj=2.1km s-min=1.6km az=82.0*
ISC 30 17:22:43.4±0.8, **38°.85N**±0°.01×**23°.60E**±0°.02, **h10**km±6km, **n115**, σ0°63/187, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.15**	**183**	P	**Pg**	**17 22 46.3**	**-0.4**
MRKA				S	**Sg**	**17 22 48.8**	**-0.2**
MRKA	**Markates**	**0.15**	**183**	P	**Pg**	**17 22 46.3**	**-0.4**
MRKA				S	**Sg**	**17 22 48.8**	**-0.2**
SMIA	**Simia**	**0.31**	**275**	P	**Pg**	**17 22 49.5**	**0.0**
SMIA				S	**Sg**	**17 22 54.0**	**+0.4**
SMIA	**Simia**	**0.31**	**275**	P	**Pg**	**17 22 49.5**	**0.0**
SMIA				S	**Sg**	**17 22 54.0**	**+0.4**
SKIA	**Skiathos**	**0.33**	**342**	P	**Pg**	**17 22 50.3**	**+0.3**
SKIA				S	**Sb**	**17 22 55.5**	**-1.2**
SKIA	**Skiathos**	**0.33**	**342**	P	**Pg**	**17 22 50.3**	**+0.3**
SKIA				S	**Sb**	**17 22 55.5**	**-1.2**
AOS	**Alonnisos**	**0.39**	**34**	P	**Pg**	**17 22 51.0**	**0.0**
AOS				S	**Sg**	**17 22 56.2**	**+0.1**
AOS	**Alonnisos**	**0.39**	**34**	*e*PB	**Pg**	**17 22 51.0**	**0.0**
AOS	**Alonnisos**	**0.39**	**34**	P	**Pg**	**17 22 51.0**	**0.0**
AOS				S	**Sg**	**17 22 56.2**	**+0.1**
ERET	**Eretria**	**0.44**	**158**	P	**Pg**	**17 22 51.6**	**-0.4**

ERET			S	Sg	17 22 58.5	+0.7
ERET	**Eretria**	**0.44 158**	P	Pg	17 22 51.6	-0.4
ERET			S	Sg	17 22 58.5	+0.7
LKR	**Lokris**	**0.51 247**	*e*PN	Pg	17 22 53.1	-0.2
LKR	**Lokris**	**0.51 247**	*e*Pn	Pg	17 22 53.1	-0.2
NEO	**Neokhori**	**0.54 327**	P	Pb	17 22 54.3	-0.7
NEO			S	Sg	17 23 01.5	+0.5
NEO	**Neokhori**	**0.54 327**	*e*PN	Pb	17 22 54.2	-0.7
NEO			*e*SN	Sg	17 23 01.7	+0.7
NEO	**Neokhori**	**0.54 327**	*e*Pn	Pb	17 22 54.2	-0.7
NEO			S	Sg	17 23 01.5	+0.5
XOR	**Xorichti**	**0.60 328**	P	Pg	17 22 55.2	+0.1
XOR			S	Sb	17 23 04.0	-0.6
XOR	**Xorichti**	**0.60 328**	P	Pg	17 22 55.2	+0.1
XOR			S	Sb	17 23 04.0	-0.6
AXAR	**Agios Charalam**	**0.74 264**	P	Pg	17 22 57.5	-0.1
AXAR			S	Sb	17 23 09.1	+0.7
AXAR	**Agios Charalam**	**0.74 264**	P	Pg	17 22 57.5	-0.1
AXAR			S	Sb	17 23 09.1	+0.7
PTL	**Penteli**	**0.83 165**	P	Pg	17 22 58.8	-0.5
PTL			S	Sb	17 23 11.7	+0.7
PTL	**Penteli**	**0.83 165**	*e*PB	Pg	17 22 58.9	-0.4
PTL			*e*SN	Sb	17 23 11.3	+0.3
PTL	**Penteli**	**0.83 165**	*e*Pb	Pg	17 22 58.9	-0.4
PTL			*e*Sn	Sb	17 23 11.3	+0.3
ATH	**Athens Observa**	**0.88 174**	P	Pb	17 23 00.4	-0.3
ATH			S	Sg	17 23 12.0	+0.1
ATH	**Athens Observa**	**0.88 174**	*e*PN	Pb	17 23 00.8	+0.1
ATH	**Athens Observa**	**0.88 174**	P	Pb	17 23 00.4	-0.3
ATH	**Athens Observa**	**0.88 174**	*e*Pn	Pb	17 23 00.8	+0.1
ATH			S	Sg	17 23 12.0	+0.1
ATHU	**Athens Univers**	**0.90 171**	P	Pg	17 22 59.7	-0.9
ATHU			S	Sg	17 23 12.2	-0.1
ATHU	**Athens Univers**	**0.90 171**	P	Pg	17 22 59.7	-0.9
ATHU			S	Sg	17 23 12.2	-0.1
DSF	**Desfina**	**0.95 243**	P	Pg	17 23 00.1	-1.5
DSF			S	Sb	17 23 15.4	+0.9
DSF	**Desfina**	**0.95 243**	P	Pg	17 23 00.1	-1.5
DSF			S	Sb	17 23 15.4	+0.9
LTK	**Loutraki**	**0.96 211**	P	Pg	17 23 00.9	-1.0
LTK			S	Sn	17 23 16.4	-0.3
LTK	**Loutraki**	**0.96 211**	P	Pg	17 23 00.9	-1.0
LTK			S	Sn	17 23 16.4	-0.3
MRMA	**Marmari**	**1.00 142**	P	Pb	17 23 02.8	0.0
MRMA			S	Sb	17 23 17.1	+1.1
MRMA	**Marmari**	**1.00 142**	P	Pb	17 23 02.8	0.0
MRMA			S	Sb	17 23 17.1	+1.1
AGG	**Agios Georgios**	**1.00 280**	P	Pg	17 23 01.9	-0.8
AGG			S	Sg	17 23 15.4	-0.3
AGG	**Agios Georgios**	**1.00 280**	*e*PN	Pg	17 23 01.9	-0.8
AGG	**Agios Georgios**	**1.00 280**	P	Pg	17 23 01.9	-0.8
AGG			S	Sg	17 23 15.4	-0.3
PAIG	**Paliouri**	**1.08 3**	P	Pg	17 23 03.5	-0.6
PAIG			S	Sb	17 23 18.4	+0.3
PAIG	**Paliouri**	**1.08 3**	P	Pg	17 23 03.5	-0.6
PAIG			S	Sb	17 23 18.4	+0.3
ACOR	**Acrocorinthos**	**1.12 211**	P	Pb	17 23 04.9	+0.1
ACOR			S	Sb	17 23 19.6	+0.3
ACOR	**Acrocorinthos**	**1.12 211**	P	Pb	17 23 04.9	+0.1
ACOR			S	Sb	17 23 19.6	+0.3
MAKR	**Makrakomi, Fth**	**1.16 278**	P	Pg	17 23 04.8	-0.8
MAKR			S	Sn	17 23 21.4	0.0
MAKR	**Makrakomi, Fth**	**1.16 278**	P	Pg	17 23 04.8	-0.8
MAKR			S	Sn	17 23 21.4	0.0
KALE	**Kalithea**	**1.23 249**	P	Pg	17 23 06.1	-0.9
KALE			S	Sb	17 23 22.9	+0.2
KALE	**Kalithea**	**1.23 249**	*e*PN	Pg	17 23 06.4	-0.6
KALE	**Kalithea**	**1.23 249**	P	Pg	17 23 06.1	-0.9
KALE	**Kalithea**	**1.23 249**	*e*Pn	Pg	17 23 06.4	-0.6
KALE			S	Sb	17 23 22.9	+0.2
TRIZ	**Trizonia**	**1.29 248**	P	Pn	17 23 06.9	-0.5
TRIZ			S	Sn	17 23 25.1	+0.5
TRIZ	**Trizonia**	**1.29 248**	*e*PN	Pn	17 23 07.2	-0.2
TRIZ	**Trizonia**	**1.29 248**	P	Pn	17 23 06.9	-0.5
TRIZ	**Trizonia**	**1.29 248**	*e*Pn	Pn	17 23 07.2	-0.2
TRIZ			S	Sn	17 23 25.1	+0.5
GUR	**Goura**	**1.34 228**	P	Pn	17 23 08.0	-0.2
GUR			S	Sb	17 23 26.0	0.0
GUR	**Goura**	**1.34 228**	*e*PN	Pn	17 23 08.1	-0.2
GUR	**Goura**	**1.34 228**	*e*Pn	Pn	17 23 08.1	-0.2
GUR			S	Sb	17 23 26.0	0.0
DID	**Didima**	**1.37 192**	P	Pn	17 23 07.9	-0.7
DID			S	Sb	17 23 27.0	+0.3
DID	**Didima**	**1.37 192**	*e*PN	Pb	17 23 09.0	-0.1
DID	**Didima**	**1.37 192**	P	Pn	17 23 07.9	-0.7
DID	**Didima**	**1.37 192**	*e*Pn	Pb	17 23 09.0	-0.1
DID			S	Sb	17 23 27.0	+0.3
EFP	**Efpalio**	**1.39 253**	P	Pn	17 23 09.0	+0.2
EFP			S	Sg	17 23 27.6	-0.5
EFP	**Efpalio**	**1.39 253**	*e*PN	Pn	17 23 09.0	+0.2
EFP	**Efpalio**	**1.39 253**	P	Pn	17 23 09.0	+0.2
EFP			S	Sg	17 23 27.6	-0.5
KLV	**Kalavryta, Ach**	**1.39 235**	P	Pn	17 23 08.1	-0.8
KLV			S	Sb	17 23 27.5	+0.2
KLV	**Kalavryta, Ach**	**1.39 235**	P	Pn	17 23 08.1	-0.8
KLV			S	Sb	17 23 27.5	+0.2
EVR	**Evrytania**	**1.40 273**	P	Pn	17 23 08.8	-0.2
EVR			S	Sb	17 23 27.5	0.0
EVR	**Evrytania**	**1.40 273**	*e*PN	Pb	17 23 09.6	0.0
EVR	**Evrytania**	**1.40 273**	P	Pn	17 23 08.8	-0.2
EVR	**Evrytania**	**1.40 273**	*e*Pn	Pb	17 23 09.6	0.0
EVR			S	Sb	17 23 27.5	0.0
DIDY	**Didyma**	**1.41 193**	P	Pn	17 23 08.2	-0.9
DIDY			S	Sb	17 23 27.7	0.0
DIDY	**Didyma**	**1.41 193**	P	Pn	17 23 08.2	-0.9
DIDY			S	Sb	17 23 27.7	0.0
THL	**Klokotos Trika**	**1.42 301**	P	Pb	17 23 09.7	-0.2
THL			S	Sg	17 23 29.2	+0.1
THL	**Klokotos Trika**	**1.42 301**	*e*PN	Pn	17 23 09.2	0.0
THL	**Klokotos Trika**	**1.42 301**	*e*Pn	Pn	17 23 09.2	0.0
THL	**Klokotos Trika**	**1.42 301**	P	Pb	17 23 09.7	-0.2
THL			S	Sg	17 23 29.2	+0.1
OUR	**Ouranopolis**	**1.51 11**	P	Pn	17 23 10.1	-0.3
OUR	**Ouranopolis**	**1.51 11**	P	Pn	17 23 10.1	-0.3
LIT	**Litokhoron**	**1.51 326**	P	Pn	17 23 10.3	-0.2
LIT	**Litokhoron**	**1.51 326**	*e*PN	Pn	17 23 11.1	+0.6
LIT	**Litokhoron**	**1.51 326**	P	Pn	17 23 10.3	-0.2
LIT	**Litokhoron**	**1.51 326**	*e*Pn	Pn	17 23 11.1	+0.6
PLG	**Polygyros**	**1.52 356**	P	Pn	17 23 10.1	-0.6
PLG			S	Sn	17 23 29.6	-1.0
PLG	**Polygyros**	**1.52 356**	*e*PN	Pn	17 23 10.6	-0.1
PLG	**Polygyros**	**1.52 356**	P	Pn	17 23 10.1	-0.6
PLG	**Polygyros**	**1.52 356**	*e*Pn	Pn	17 23 10.6	-0.1
PLG			S	Sn	17 23 29.6	-1.0
LIA	**Limnos Island**	**1.61 49**	P	Pn	17 23 12.3	+0.5
LIA			S	Sb	17 23 33.9	+0.4
LIA	**Limnos Island**	**1.61 49**	P	Pn	17 23 12.3	+0.5
LIA			S	Sb	17 23 33.9	+0.4
VLX	**Vlachokerasia**	**1.76 213**	P	Pn	17 23 14.4	+0.4
VLX			S	Sb	17 23 38.0	0.0
VLX	**Vlachokerasia**	**1.76 213**	*e*PN	Pn	17 23 14.8	+0.8
VLX	**Vlachokerasia**	**1.76 213**	P	Pn	17 23 14.4	+0.4
VLX	**Vlachokerasia**	**1.76 213**	*e*Pn	Pn	17 23 14.8	+0.8
VLX			S	Sb	17 23 38.0	0.0
HORT	**Hortiatis**	**1.79 348**	P	Pn	17 23 14.4	+0.1
HORT			S	Sn	17 23 37.4	+0.3
HORT	**Hortiatis**	**1.79 348**	P	Pn	17 23 14.4	+0.1
HORT			S	Sn	17 23 37.4	+0.3
AXS	**Araxos**	**1.86 250**	P	Pn	17 23 15.8	+0.6
AXS			S	Sb	17 23 40.2	-0.5
AXS	**Araxos**	**1.86 250**	P	Pn	17 23 15.8	+0.6
AXS			S	Sb	17 23 40.2	-0.5
CHOS	**Chios island**	**1.98 103**	P	Pn	17 23 17.4	+0.5
CHOS			S	Sn	17 23 42.2	+0.4
CHOS	**Chios island**	**1.98 103**	P	Pn	17 23 17.4	+0.5
CHOS			S	Sn	17 23 42.2	+0.4
AMT	**Artemida-Makis**	**1.99 229**	P	Pn	17 23 18.0	+1.0
AMT			S	Sn	17 23 43.1	+1.2
AMT	**Artemida-Makis**	**1.99 229**	*e*PN	Pn	17 23 17.8	+0.8
AMT	**Artemida-Makis**	**1.99 229**	*e*Pn	Pn	17 23 17.8	+0.8
AMT			S	Sn	17 23 43.1	+1.2
ITM	**Ithomi**	**2.13 219**	P	Pn	17 23 19.9	+1.0
ITM	**Ithomi**	**2.13 219**	P	Pn	17 23 19.9	+1.0
VLI	**Veliai**	**2.19 194**	P	Pn	17 23 20.2	+0.4
VLI	**Veliai**	**2.19 194**	P	Pn	17 23 20.2	+0.4
DYR	**Agios Nikonas**	**2.31 206**	P	Pn	17 23 21.8	+0.3
DYR	**Agios Nikonas**	**2.31 206**	P	Pn	17 23 21.8	+0.3
APE	**Apeiranthos**	**2.34 139**	P	Pn	17 23 21.7	-0.2
APE			S	Sb	17 23 53.2	-1.5
APE	**Apeiranthos**	**2.34 139**	P	Pn	17 23 21.7	-0.2
APE			S	Sb	17 23 53.2	-1.5
PYL	**PYLOS**	**2.44 218**	P	Pn	17 23 24.6	+1.4
PYL	**PYLOS**	**2.44 218**	P	Pn	17 23 24.6	+1.4
VLS	**Valsamata**	**2.46 255**	P	Pn	17 23 24.8	+1.4
VLS	**Valsamata**	**2.46 255**	P	Pn	17 23 24.8	+1.4
NEST	**Nestorio**	**2.51 309**	P	Pn	17 23 25.6	+1.3
NEST	**Nestorio**	**2.51 309**	P	Pn	17 23 25.6	+1.3
IGT	**Igoumenitsa**	**2.63 286**	P	Pn	17 23 27.6	+1.8
IGT	**Igoumenitsa**	**2.63 286**	P	Pn	17 23 27.6	+1.8

IDC ***30*** *17:46:28.4±6.1, 13°.65N×88°.78W, h177km±33km, mb3.3/7, mb1 3.6/9, mb1mx3.3/25, mbtmp3.2/9, Error ellipse: s-maj=67.4km s-min=28.2km az=161.0*
ISCJB ***30*** *17:46:29.4±0.4, 13°.83N±0°.08×88°.95W±0°.07, h176km±4km, mb3.6/6, Error ellipse: s-maj=15.9km s-min=4.8km az=39.6*
CASC ***30*** *17:46:30.7±1.7, 13°.56N×89°.01W, h158km±11km, MD3.6*
ISC 30 17:46:29.2±0.8, 13°.76N±0°.08×89°.01W±0°.06, h172km±7km, n31, σ1s51/38, mb3.7/6, 4C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**0.04**	**241**	*e*P	**Pn**	**17 46 52.4**	**+0.3**
LFRS	**El Faro**	**0.14**	**200⇑**	*i*P	**Pn**	**17 46 52.4**	**+0.1**
BOQS	**Boqueron**	**0.26**	**266⇑**	*i*P	**Pn**	**17 46 53.0**	**+0.4**
SNJE	**San Jose**	**0.59**	**281⇑**	*e*P	**Pn**	**17 46 54.2**	**+0.5**
SBLS	**San Blas**	**0.60**	**278**	*e*P	**Pn**	**17 46 54.4**	**+0.6**
RTR	**El Retiro**	**0.63**	**283**	*e*P	**Pn**	**17 46 54.5**	**+0.6**
RBDL	**Robledal**	**0.74**	**299⇑**	*i*P	**Pn**	**17 46 55.0**	**+0.5**
CAHU	**Cacacuatique**	**0.78**	**89**	*i*P	**Pn**	**17 46 55.1**	**+0.3**
CAHU				*e*S	**Sn**	**17 47 13.4**	**-1.0**
VSM	**San Miguel**	**0.79**	**114**	*e*P	**Pn**	**17 46 54.9**	**-0.1**
CNCH	**Conchagua**	**1.24**	**112**	*i*P	**Pn**	**17 46 58.3**	**+0.1**
CNCH				*e*S	**Sn**	**17 47 21.6**	**+1.0**
MRL	**Marmol**	**1.46**	**333**	*e*P	**Pn**	**17 47 02.3**	**+2.0**
IXG	**Ixpaco**	**1.46**	**287**	*e*P	**Pn**	**17 47 01.6**	**+1.3**
NBG	**Las Nubes**	**1.54**	**303**	*e*P	**Pn**	**17 47 03.4**	**+2.3**
FUG	**Fuego 3**	**1.90**	**291**	*e*P	**Pn**	**17 47 07.1**	**+2.2**
JAT	**Jato**	**2.61**	**283**	*e*P	**Pn**	**17 47 14.9**	**+2.2**
VCR	**Vista de Mar**	**4.89**	**137**	*e*P	**Pn**	**17 47 43.0**	**+1.2**
VCR				*e*S	**Sn**	**17 48 37.4**	**-1.3**
JCR	**Jicaral**	**5.45**	**135**	*e*P	**Pn**	**17 47 50.2**	**+1.3**
JCR				*e*S	**Sn**	**17 48 52.3**	**+0.8**
CGA2	**Cerro Gallo 2**	**5.80**	**129**	*e*S	**Sn**	**17 48 59.4**	**-0.6**
URSC	**Urasca**	**6.44**	**127**	*e*P	**Pn**	**17 48 04.2**	**+2.1**
URSC				*e*S	**Sn**	**17 49 17.5**	**+2.4**
TEIG	**Tepich**	**6.47**	**6**	P	**Pn**	**17 48 03.8**	**+1.5**
	0.4nm,0.3s,baz=358,slow=19,SNR=3.1						
CMIG	**Matias Romero**	**6.56**	**301**	P	**Pn**	**17 48 04.5**	**+0.9**
	0.8nm,0.3s,baz=122,slow=13,SNR=11						
CMIG				S	**Sn**	**17 49 13.8**	**-4.0**
	0.9nm,0.3s,baz=86,slow=21,SNR=6.6						
BUS	**Buena Vista**	**6.63**	**128**	*e*P	**Pn**	**17 48 07.2**	**+2.4**
BUS				*e*S	**Sn**	**17 49 21.5**	**+1.4**
TXAR	**Lajitas Array**	**20.61**	**321**	P	**P**	**17 50 56.9**	**+1.7**
	3.2nm,0.7s,baz=137,slow=11,SNR=49						
TKL	**Tuckaleechee C**	**22.31**	**11**	P	**P**	**17 51 12.4**	**-0.2**
	3.1nm,0.6s,baz=185,slow=12,SNR=7.4						
PDAR	**Pinedale Array**	**33.91**	**332**	P	**P**	**17 52 56.6**	**+0.5**
	0.5nm,0.6s,baz=135,slow=12,SNR=4.6						
NVAR	**Mina Array Bea**	**35.72**	**319**	P	**P**	**17 53 13.2**	**+1.5**
	0.2nm,0.6s,baz=116,slow=7.3,SNR=2.8						
SCHQ	**Schefferville**	**44.50**	**18**	P	**P**	**17 54 21.5**	**-1.8**
	4.5nm,1.0s,baz=206,slow=9.7,SNR=5.7						
YKA	**Yellowknife Ar**	**51.97**	**345**	P	**P**	**17 55 19.7**	**-0.6**
	2.1nm,0.7s,baz=139,slow=7.7,SNR=13						
ILAR	**Eielson Array**	**64.22**	**336**	P	**P**	**17 56 44.3**	**-1.1**
	0.2nm,0.4s,baz=173,slow=5.1,SNR=5.1						
WRA	**Warramunga Arr**	**138.14**	**255**	PKP	**PKPdf**	**18 05 34.5**	**-0.1**
	0.8nm,0.7s,baz=95,slow=0.9,SNR=6.3						
ASAR	**Alice Springs**	**138.31**	**250**	PKhKP	PKPpre	18 05 32.4	
	0.2nm,0.5s,baz=85,slow=2.1,SNR=6.1						
ASAR				PKP	**PKPdf**	**18 05 35.2**	**+0.4**
	0.2nm,0.5s,baz=90,slow=2.8,SNR=6.3						

IDC 30 17:52:27.0±6.7, 15°.77S×172°.65W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/21, mbtmp4.0/4, ML2.1/1, Error ellipse: s-maj=244.7km s-min=27.2km az=130.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**25**	Pn	Pn	17 53 02.5	-0.1
	36nm,0.3s,baz=226,slow=2.5,SNR=38						
AFI				Sn	Sn	17 53 22.4	-6.3
	85nm,0.3s,baz=53,slow=20,SNR=14						
STKA	**Stephens Creek**	**44.48**	**240**	P	P	18 00 40.5	+0.1
	2.6nm,0.9s,baz=74,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**50.47**	**257**	P	P	18 01 26.6	-0.4
	0.7nm,0.6s,baz=96,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**50.69**	**252**	P	P	18 01 28.7	0.0
	1.3nm,0.6s,baz=86,slow=7.9,SNR=71						

IDC ***30*** *18:07:35.1±2.5, 5°.39S×147°.23E, h168km±18km, mb3.5/3, mb1 3.6/6, mb1mx3.2/19, mbtmp3.5/6, MS3.4/1, Ms1 3.4/1, ms1mx3.2/23, Error ellipse: s-maj=38.6km s-min=21.9km az=103.0*
AUST ***30*** *18:07:40.8, 5°.77S×147°.10E, h200km*
ISC 30 18:07:34.6±1.8, 5°.3S±0°.1×147°.3E±0°.2, h170km, n15, σ1s34/17, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.09**	**182**	P	**Pn**	**18 08 37.6**	**+1.0**
	12nm,0.3s,baz=5.2,slow=11,SNR=53						
PMG				S	**Sn**	**18 09 22.6**	**-2.5**
	14nm,0.3s,baz=11,slow=11,SNR=9.1						
PMG				LR	LR	18 09 34.5	
	comp=Z,463nm,19.5s,baz=320,slow=30						
COEN	**Coen**	**9.54**	**205**	P	**Pn**	**18 09 50.7**	**+2.4**
	baz=9.1,SNR=13						
MTSU	**Mount Surprise**	**13.10**	**193**	P	**Pn**	**18 10 36.8**	**+2.3**
	baz=13,SNR=10						
CTA	**Charters Tower**	**14.75**	**184**	P	**Pn**	**18 10 55.8**	**+0.7**
	0.3nm,0.3s,baz=360,slow=14,SNR=3.7						
KDU	**Kakadu**	**16.41**	**242**	P	**P**	**18 11 13.9**	**-1.2**
	baz=16,SNR=19						
MTN	**Manton Dam**	**17.66**	**244**	P	**P**	**18 11 28.9**	**0.0**
	baz=17,SNR=3.8						
WRA	**Warramunga Arr**	**19.29**	**220**	P	**P**	**18 11 46.1**	**-0.4**
	0.9nm,0.3s,baz=38,slow=11,SNR=13						
KNRA	**Kununurra**	**20.95**	**239**	P	**P**	**18 12 04.7**	**+0.2**
	baz=20,SNR=13						
ASAR	**Alice Springs**	**22.39**	**214**	P	**P**	**18 12 18.8**	**-0.3**
	1.6nm,0.4s,baz=46,slow=9.3,SNR=69						
ASAR				S	**S**	**18 16 12.3**	**-0.2**
	1.7nm,0.8s,baz=32,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**24.73**	**237**	P	**P**	**18 12 39.6**	**-0.9**
	2.4nm,0.4s,baz=57,slow=10,SNR=18						
FITZ	**Fitzroy Crossi**	**24.73**	**237**	P	**P**	**18 12 39.5**	**-0.9**
	baz=24,SNR=12						
ARMA	**Armidale**	**25.32**	**171**	P	**P**	**18 12 47.3**	**+1.5**
	baz=25,SNR=4.6						
MEEK	**Meekatharra**	**34.66**	**229**	P	**P**	**18 14 07.5**	**-0.6**
	baz=34,SNR=4.5						
VNDA	**Vanda**	**72.60**	**177**	P	**P**	**18 18 42.5**	**-0.3**
	0.6nm,0.6s,baz=331,slow=8.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.23**	**285**	PKPbc	**PKPdf**	**18 26 52.4**	**-0.7**
	0.1nm,0.4s,baz=81,slow=4.0,SNR=4.2						

NEIC 30 18:13:59.7, 36°.39N×117°.86W, h2km, ML3.6(PAS), After PAS., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHPR	**Sheep Range**	**2.18**	**86**	*e*Pn	Pn	18 14 36.7	-0.6
LDFC	**Landfair**	**2.59**	**119**	*e*Pn	Pn	18 14 40.6	-2.3
CMB	**Columbia Colle**	**2.60**	**310**	*e*Pn	Pn	18 14 44.8	+2.0
CMB				*e*Sn	Sb	18 15 18.1	-1.5
SAO	**San Andreas Ge**	**2.91**	**278**	*e*Pn	Pn	18 14 46.7	-0.4
SAO				*e*Sn	Sb	18 15 29.2	+0.8
PAHR	**Pah Rah Range**	**3.52**	**341**	*e*Pn	Pn	18 14 55.7	0.0
BEKR	**Beckworth**	**3.99**	**331**	*e*Pn	Pn	18 15 01.9	-0.3
BEKR				*e*Sn	Sn	18 15 49.3	-0.4
BMN	**Battle Mountai**	**4.07**	**7**	*e*Pn	Pn	18 15 02.2	-1.0
BMN				*e*Sn	Sn	18 15 48.7	-2.9
DUG	**Dugway**	**5.50**	**45**	*e*Pg	Pg	18 15 41.3	-3.9
DUG				*e*Sg	Sg	18 16 52.0	-4.7
NLU	**North Lily Min**	**5.78**	**50**	*e*Pn	Pn	18 15 26.1	-0.7
	10nm,0.9s						
BGU	**Big Grassy Mou**	**5.90**	**38**	*e*Pn	Pn	18 15 29.6	+1.3
BGU				*e*Pg	Pg	18 15 48.8	-4.2
TMUT	**Trail Mountain**	**6.01**	**59**	*e*Pn	Pn	18 15 29.3	-0.7
	9.4nm,0.6s						
SRU	**San Rafael**	**6.42**	**63**	*e*Pn	Pn	18 15 32.7	-2.8
	7.3nm,0.7s						
SPUT	**South Promonto**	**6.48**	**39**	*e*Pn	Pn	18 15 34.1	-2.2
	7.2nm,0.7s						
SPUT				*e*Sn	Sn	18 16 48.1	-2.8
DAU	**Daniels Canyon**	**6.56**	**50**	*e*Pn	Pn	18 15 35.0	-2.6
	4.5nm,0.8s						
HVU	**Hansel Valley**	**6.68**	**35**	*e*Pg	Pg	18 16 03.3	-4.6
TUC	**Tucson**	**7.13**	**123**	*e*Pn	Pn	18 15 44.2	-0.9
	3.1nm,0.8s						
MVCO	**Mesa Verde**	**7.56**	**81**	*e*Pn	Pn	18 15 51.0	-0.2
	6.7nm,0.7s						

ISCJB ***30*** *18:28:18.6±0.5, 31°.55N±0°.05×104°.72E±0°.06, h9km, mb3.5/5, MS3.4/1, Error ellipse: s-maj=9.0km s-min=4.8km az=35.8*
IDC ***30*** *18:28:19.7±1.0, 31°.67N×104°.62E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/29, mbtmp3.5/8, ML3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/37, Error ellipse: s-maj=36.6km s-min=18.6km az=57.0*
BJI ***30*** *18:28:20.9, 31°.78N×104°.23E, h15km, ML3.7/19, Ms3.6/3, Ms7 3.4/1*
ISC 30 18:28:20.9±0.7, 31°.62N±0°.05×104°.49E±0°.06, h9km, n13, σ2s19/19, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.94**	**221**	Pg	**Pg**	**18 28 39.0**	**0.0**
CD2				Sg	**Sb**	**18 28 52.8**	**+0.7**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,4μm,1.0s						
XAN	**Xi'an**	**4.44**	**56**	Pn	**Pn**	**18 29 31.0**	**+2.5**
XAN				Pg	**Pg**	**18 29 45.5**	**-0.5**
XAN				Sn	**Sn**	**18 30 15.5**	**-4.9**
XAN				Sg	**Sb**	**18 30 36.8**	**+4.0**
XAN				smax	smax		
	comp=N,320nm,1.0s						
LZH	**Lanzhou**	**4.48**	**353**	*e*Pn	**Pn**	**18 29 29.8**	**+0.7**
LZH				Pg	**Pb**	**18 29 37.5**	**-2.4**
LZH				Sn	**Sn**	**18 30 23.5**	**+2.0**
LZH				Sg	**Sb**	**18 30 33.8**	**-0.3**
LZH				smax	smax		
	comp=N,49nm,0.4s						
LZH				smax	smax		
	comp=E,180nm,0.6s						
LZH				LR	LR		
	comp=N,260nm,5.1s						
LZH				LR	LR		
	comp=E,330nm,4.8s						
LZH				LR	LR		
	comp=Z,360nm,7.5s						
KMI	**Kunming**	**6.66**	**194**	Pn	Pn	18 30 03.5	+4.4
KMI				Sn	**Sn**	**18 31 12.8**	**-2.4**
KMI				smax	smax		
	comp=N,14nm,1.6s						
KMI				smax	smax		
	comp=E,22nm,1.4s						
CMAR	**Chiang Mai Arr**	**14.03**	**202**	Pn	**Pn**	**18 31 41.5**	**+1.5**
	comp=E,0.0nm,0.3s,baz=16,slow=11,SNR=4.3						
SONM	**Songino Array**	**16.26**	**5**	Pn	**Pn**	**18 32 10.9**	**+1.4**
	comp=E,0.2nm,0.3s,baz=200,slow=13,SNR=4.0						
KSRS	**Korea Array**	**20.14**	**67**	P	**P**	**18 32 53.5**	**-1.8**
	comp=E,0.1nm,0.3s,baz=252,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**22.81**	**318**	P	**P**	**18 33 25.6**	**+1.7**
	comp=E,1.6nm,1.0s,baz=121,slow=11,SNR=7.0						
USRK	**Ussurisk Arra**	**24.95**	**52**	LR	LR	18 44 23.6	
	comp=E,127nm,19.5s,baz=16,slow=39						
KURBB	**Kurchatov Arra**	**27.02**	**322**	P	**P**	**18 34 04.5**	**+1.3**
	comp=E,0.2nm,0.6s,baz=122,slow=8.8,SNR=3.6						
FINES	**FINESS Array B**	**57.32**	**326**	P	**P**	**18 38 07.2**	**-1.6**
	comp=E,0.9nm,0.7s,baz=90,slow=6.9,SNR=7.0						
WRA	**Warramunga Arr**	**58.73**	**147**	P	**P**	**18 38 19.5**	**+0.3**
	comp=E,0.3nm,0.4s,baz=339,slow=7.5,SNR=4.0						
ASAR	**Alice Springs**	**61.77**	**149**	P	**P**	**18 38 40.1**	**+0.1**
	comp=E,0.2nm,0.5s,baz=331,slow=6.8,

HVU	**Hansel Valley**	**5.90**	**48**	*e*Pn	**Pn**	**19 22 49.3**	**-0.6**
TMUT	**Trail Mountain**	**5.95**	**75**	*e*Pn	**Pn**	**19 22 49.8**	**-1.0**
PINOR	**Pine Mountain**	**6.09**	**344**	*e*Pn	**Pn**	**19 22 53.0**	**+0.6**
I07A	**Izee**	**6.16**	**354**	*e*Pn	**Pn**	**19 22 53.6**	**+0.2**
DAU	**Daniels Canyon**	**6.22**	**64**	*e*Pn	**Pn**	**19 22 52.8**	**-1.7**
HLID	**Hailey**	**6.45**	**28**	*e*Pn	**Pn**	**19 22 55.9**	**-1.6**
	14nm,0.6s						
SRU	**San Rafael**	**6.45**	**77**	*e*Pn	**Pn**	**19 22 56.5**	**-0.9**
HWUT	**Hardware Ranch**	**6.54**	**54**	*e*Pn	**Pn**	**19 22 58.4**	**-0.4**
	15nm,0.8s						
REDW	**Red Top Meadow**	**8.00**	**45**	*e*Pn	**Pn**	**19 23 17.6**	**-1.2**
PDAR	**Pinedale Array**	**8.42**	**52**	Pn	Pn	19 23 29.6	+5.0
PDAR				Lg	Lg	19 25 47.5	
PDAR	**Pinedale Array**	**8.42**	**52**	Pn	Pn	19 23 29.6	+5.0
	0.2nm,0.3s,baz=230,slow=12,SNR=23						
PDAR				Lg	Lg	19 25 47.5	
	0.3nm,0.3s,baz=228,slow=45,SNR=4.2						
E09A	**Wood Farm, Sta**	**8.56**	**2**	*e*Pn	**Pn**	**19 23 25.6**	**-0.7**
TXAR	**Lajitas Array**	**15.12**	**120**	Pn	**P**	**19 25 01.5**	**+0.3**
TXAR	**Lajitas Array**	**15.12**	**120**	Pn	**P**	**19 25 01.5**	**+0.3**
	0.0nm,0.3s,baz=304,slow=9.7,SNR=3.5						

TRN ***30*** *19:27:36.8, 18°.80N×64°.68W, h34km*
NEIC ***30*** *19:27:38.4, 18°.88N×64°.74W, h5km, MD3.0(RSPR), After RSPR.*

RSPR 30 19:27:38.4, 18°.88N×64°.74W, h5km±1km, MD3.0/3, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.41**	**111⇓**	*e*P	Pg	19 27 46.6	+0.3
ABV	**Anegada**	**0.41**	**111**	*e*S	Sb	19 27 53.2	-1.5
ABV	**Anegada**	**0.41**	**111⇓**	*e*P	Pg	19 27 46.6	+0.3
ABV				*e*S	Sb	19 27 53.2	-1.5
ABVI	**Anegada Island**	**0.41**	**111⇓**	*e*P	Pg	19 27 46.6	+0.3
ABVI				*e*S	Sb	19 27 53.2	-1.5
TBVI	**Tortola**	**0.47**	**166⇑**	*e*P	Pg	19 27 47.5	+0.1
TBVI				*e*S	Sg	19 27 54.8	+1.3
TBVI	**Tortola**	**0.47**	**166⇑**	*e*P	Pg	19 27 47.5	+0.1
TBVI				*e*S	Sg	19 27 54.8	+1.3
TBVI	**Tortola**	**0.47**	**166⇑**	*e*P	Pg	19 27 47.5	+0.1
TBVI				*e*S	Sg	19 27 54.8	+1.3
STVI	**Saint Thomas**	**0.56**	**202⇑**	*e*P	Pg	19 27 49.4	+0.2
STVI	**Saint Thomas**	**0.56**	**202**	*e*S	Sb	19 27 57.8	-1.2
STVI	**Saint Thomas**	**0.56**	**202⇑**	*e*P	Pg	19 27 49.4	+0.2
STVI				*e*S	Sb	19 27 57.8	-1.2
STVI	**Saint Thomas**	**0.56**	**202⇑**	*e*P	Pg	19 27 49.4	+0.2
STVI				*e*S	Sb	19 27 57.8	-1.2
MTP	**Monte Pirata**	**1.09**	**225⇑**	*e*P	Pg	19 27 57.2	-2.2
MTP	**Monte Pirata**	**1.09**	**225**	*e*S	Sg	19 28 12.1	-1.5
MTP	**Monte Pirata**	**1.09**	**225⇑**	*e*P	Pg	19 27 57.2	-2.2
MTP				*e*S	Sg	19 28 12.1	-1.5
MTP	**Monte Pirata**	**1.09**	**225⇑**	*e*P	Pg	19 27 57.2	-2.2
MTP				*e*S	Sg	19 28 12.1	-1.5
CBYP	**Canovanas**	**1.22**	**241**	*e*S	Sg	19 28 14.8	-3.1
CBYP	**Canovanas**	**1.22**	**241**	*e*S	Sg	19 28 14.8	-3.1

BJI ***30*** *19:27:44.9, 25°.11N×94°.97E, h76km, mB5.2/36, mb5.0/53, Ms4.8/59, Ms7 4.5/48*
ISCJB ***30*** *19:27:45.9±0.4, 25°.29N±0°.02×95°.01E±0°.02, h66km±3km, mb5.0/232, Error ellipse: s-maj=3.8km s-min=2.7km az=19.1*
SZGRF ***30*** *19:27:45.4, 24°.13N×95°.18E, h84km, mb5.5, Myanmar*
NEIC ***30*** *19:27:48.8±0.1, 25°.28N×95°.10E, mb5.2/74, Error ellipse: s-maj=4.7km s-min=3.2km az=215.0*
NEIC Slight damage [V] at Sibsagar, India. Felt [IV] at Nazira and [III] at Nagaon. Also felt at Dibrugarh, Guwahati and Shillong.
BGS ***30*** *19:27:49.3±2.4, 25°.28N×95°.10E, h82km, mb5.1*
IDC ***30*** *19:27:49.3±0.5, 25°.25N×95°.20E, h83km±3km, mb4.6/39, mb1 4.7/40, mb1mx4.7/41, mbtmp4.6/40, MS4.2/15, Ms1 4.1/15, ms1mx3.8/42, Error ellipse: s-maj=9.9km s-min=7.5km az=59.0*
LDG ***30*** *19:27:49.1±0.3, 25°.20N×94°.67E, h83km, Mb4.9/28, Ms4.3/11, Error ellipse: s-maj=16.5km s-min=14.8km az=165.0*
MOS ***30*** *19:27:50.3±1.0, 25°.24N×95°.15E, h114km, mb5.1/74, MS4.2/8, Error ellipse: s-maj=8.1km s-min=3.6km az=124.8*
GCMT ***30*** *19:27:51.1±0.2, 25°.13N×95°.06E, h78km±2km, MW5.3, Moment Tensor Solution. s38,c49; s83,c146; Moment tensor: Scale 10^17^Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mφr0.00; Mφθ0.00; Best double couple: M0 1.00000×10^17^ NP1:φs150.00000°, δ65.00000°, λ138.00000°. NP2:φs261.00000°, δ52.00000°, λ32.00000°. Principal axes: T 0.9700, Plg47.0000°, Azm110.0000°; N 0.1000, Plg42.0000°, Azm305.0000°; P -1.0600, Plg8.0000°, Azm208.0000°; Data Used: II IU IC G CN.*
DJA ***30*** *19:27:52.9±0.8, 25°.N±5°×.9°.5E±°, h99km±9km, M5.3/19, mB5.5/15, mb5.1/19, MLv6.0/2, Mw(mB)5.0/15*

ISC 30 19:27:49.1±0.3, 25°.24N±0°.03×95°.07E±0°.03, h83km±2km, h83km:pP-P, n827, σ1s29/1000, mb5.0/231, 104C-21D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.90**	**277⇑**	*i*P	**Pn**	**19 28 32.0**	**-1.3**
SHL				*e*S	**Sn**	**19 29 03.0**	**-4.4**
SHL				AMB	AMB	19 29 05.7	
	comp=Z,12μm,0.6s						
LSA	**Lhasa**	**5.65**	**323**	P	**Pn**	**19 29 11.0**	**+0.1**
LSA				S	**Sn**	**19 30 09.8**	**-4.8**
LSA				smax	smax		
	comp=N,1μm,0.9s						
LSA				smax	smax		
	comp=E,3μm,1.0s						
LSA	**Lhasa**	**5.65**	**323**	*e*P	**Pn**	**19 29 10.8**	**-0.1**
LSA	**Lhasa**	**5.65**	**323**	*e*Pn	**Pn**	**19 29 10.8**	**-0.1**
SLGI	**Shiliguri**	**6.17**	**285**	*i* P	**Pn**	**19 29 15.9**	**-1.6**
SLGI				*i* x	Sn	19 30 18.2	-8.4
SHBG	**Sahibganj**	**6.71**	**271**	*ex*	Sn	19 30 30.2	-10
TAPN	**Taplejung**	**6.94**	**289**	*e*Pn	**Pn**	**19 29 26.2**	**-2.1**
TAPN				*e*Sn	Sn	19 30 37.5	-8.4
	comp=E,8μm,0.7s						
KMI	**Kunming**	**6.95**	**89**	⇑P	Pn	19 29 34.0	+5.5
KMI				sP	sP	19 29 53.0	
KMI				S	Sn	19 30 52.0	+5.9
KMI				pmax	pmax		
	comp=Z,340nm,0.9s						
KMI				pmax	pmax		
	comp=Z,2μm,3.2s						
KMI				LR	LR		
	comp=N,5μm,6.0s						
KMI				LR	LR		
	comp=E,3μm,6.0s						
KMI				LR	LR		
	comp=Z,3μm,14.9s						
ODAN	**Odare**	**7.10**	**285**	*e*Pn	**Pn**	**19 29 29.2**	**-1.3**
ODAN				*e*Sn	**Sn**	**19 30 44.0**	**-5.7**
	comp=Z,10μm,0.7s						
CHTO	**Chiang Mai**	**7.33**	**150**	*e*P	**Pn**	**19 29 36.2**	**+2.7**
CHTO	**Chiang Mai**	**7.33**	**150**	P	**Pn**	**19 29 36.2**	**+2.7**
	SNR=148						
CHTO	**Chiang Mai**	**7.33**	**150**	*e*Pn	**Pn**	**19 29 36.1**	**+2.7**
CHTO	**Chiang Mai**	**7.33**	**150**	P	**Pn**	**19 29 36.3**	**+2.7**
	comp=Z,413nm,1.5s,comp=Z,5μmcomp=Z,2.8nm						
CM31	**Chiang Mai Arr**	**7.64**	**151**	*e*Pn	**Pn**	**19 29 39.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**7.64**	**151**	P	**Pn**	**19 29 39.2**	**+1.4**
CMAR				ScP	**ScP**	**19 39 36.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.64**	**151**	P	**Pn**	**19 29 39.2**	**+1.4**
	comp=Z,11nm,0.3s,baz=325,slow=13,SNR=939						
CMAR				LR	LR	19 33 00.9	
	comp=Z,1μm,18.6s,baz=323,slow=41						
CMAR				ScP	**ScP**	**19 39 36.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=315,slow=2.6,SNR=7.2						
RAMN	**Ramite**	**7.80**	**284**	*e*Pn	**Pn**	**19 29 38.8**	**-1.4**
RAMN				*e*Sn	Sn	19 31 00.2	-6.9
	comp=Z,10μm,1.0s						
JIRN	**Jiri**	**8.32**	**289**	*e*Pn	**Pn**	**19 29 45.5**	**-1.8**
JIRN				*e*Sn	Sn	19 31 11.0	-8.8
	comp=Z,2μm,0.3s						
BOK	**Bokaro**	**8.49**	**262**	*e*P	**Pn**	**19 29 47.3**	**-2.0**
BOK				AMB	AMB	19 29 48.1	
	comp=Z,285nm,0.9s						
GUN	**Gumba**	**8.65**	**290**	*e*Pn	**Pn**	**19 29 49.5**	**-2.3**
GUN				*e*Sn	Sn	19 31 18.4	-9.5
	comp=Z,3μm,0.4s						
PKI	**Pulchoki**	**8.97**	**287**	*e*Pn	**Pn**	**19 29 53.7**	**-2.4**
PKIN	**Phulchoki**	**8.98**	**287**	*e*Pn	**Pn**	**19 29 54.0**	**-2.2**
KKN	**Kakani**	**9.13**	**288**	*e*Pn	**Pn**	**19 29 56.1**	**-2.1**
KKN				*e*Sn	Sn	19 31 29.6	-10
	comp=Z,4μm,0.8s						
DMN	**Daman**	**9.24**	**287**	*e*Pn	**Pn**	**19 29 57.4**	**-2.4**
DMN				*e*Sn	Sn	19 31 32.7	-9.5
	comp=Z,4μm,0.8s						
BWNR	**Bhubaneshwar**	**9.86**	**242**	*e*9	Pn	19 29 56.0	-12
BWNR				*ex*	x	19 31 36.0	
PBKT	**Sadao Pong**	**10.23**	**146**	P	**Pn**	**19 30 15.7**	**+2.6**
	comp=Z,250nm,1.2s,comp=Z,3μm						
GYA	**Guiyang**	**10.51**	**81⇑**	*i*P	**Pn**	**19 30 16.0**	**-1.0**
GYA				PP		19 30 27.3	
GYA				sP		19 30 40.0	
GYA				S	**Sn**	**19 32 12.3**	**-0.7**
GYA				SS		19 32 27.5	
GYA				pmax	pmax		
	comp=Z,40nm,0.8s						
GYA				pmax	pmax		
	comp=Z,190nm,4.6s						
GYA				LR	LR		
	comp=N,4μm,12.0s						
GYA				LR	LR		
	comp=E,3μm,14.4s						
GYA				LR	LR		
	comp=Z,4μm,13.5s						
DANN	**Dangsing**	**10.57**	**290**	*e*Pn	Pn	19 30 13.6	-4.3
KOLN	**Koldanda**	**10.58**	**286**	*e*Pn	Pn	19 30 14.7	-3.3
KOLN				*e*Sn	Sn	19 32 05.4	-9.4
	comp=Z,1μm,0.4s						
PYUN	**Piuthan**	**11.18**	**287**	*e*Pn	Pn	19 30 22.9	-3.2
DGPR	**DIGLIPUR**	**12.17**	**190**	*e*P	**Pn**	**19 30 37.1**	**-2.2**
DGPR				AMB	AMB	19 30 53.1	
	comp=Z,200nm,1.0s						
LZH	**Lanzhou**	**13.18**	**33**	*e*P	**Pn**	**19 30 53.5**	**+0.5**
LZH				pP	P	19 31 03.8	+3.9
LZH				sP		19 31 10.8	
LZH				*e*S	**Sn**	**19 33 16.8**	**-1.1**
LZH				SS	**S**	**19 33 40.0**	**+2.8**
LZH				pmax	pmax		
	comp=Z,91nm,1.3s						
LZH				pmax	pmax		
	comp=Z,360nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,8.7s						
LZH				LR	LR		
	comp=E,2μm,6.2s						
LZH				LR	LR		
	comp=Z,1μm,8.9s						
VIS	**Vishakhapatnam**	**13.24**	**238**	*e*P	**Pn**	**19 30 51.6**	**-2.1**
VIS				AMB	AMB	19 30 53.4	
	comp=Z,364nm,1.2s						
PBA	**Port Blair**	**13.69**	**190**	*e*P	Pn	19 30 59.0	-0.7
PBA				AMB	AMB	19 31 04.5	
	comp=Z,101nm,1.0s						
ENH	**Enshi**	**13.71**	**65**	*e*Pn	**Pn**	**19 30 58.0**	**-1.9**
	comp=Z,111nm,0.6s						
LGTI	**Lohaghat**	**13.83**	**291**	*ex*	Pn	19 31 05.8	+4.4
LGTI				*e*S	**Sn**	**19 33 33.9**	**+0.5**
PTH	**Pithoragarh**	**13.88**	**291**	*e*4	Sn	19 33 13.9	-21
UBPT	**Khong Chiam**	**13.90**	**134**	P	**Pn**	**19 31 03.5**	**+1.1**
	comp=Z,78nm,1.5s,comp=Z,1μm						
CHBT	**CHBT**	**14.18**	**150**	P	P	19 31 15.5	+4.5
GTA	**Gaotai**	**14.69**	**15**	*e*P	**Pn**	**19 31 10.0**	**-2.6**
GTA				pP	P	19 31 26.5	+10
GTA				sP		19 31 34.8	
GTA				S	Sn	19 33 47.0	-7.3
GTA				PcP	**PcP**	**19 36 20.8**	**+1.2**
GTA				ScP	**ScP**	**19 39 45.0**	**-1.0**
GTA				PcS	**PcS**	**19 39 53.0**	**-1.7**
GTA				ScS	**ScS**	**19 43 22.8**	**-1.1**
GTA				pmax	pmax		
	comp=Z,18nm,1.9s						
GTA				pmax	pmax		
	comp=Z,210nm,6.6s						
GTA				LR	LR		
	comp=N,2μm,10.9s						
GTA				LR	LR		
	comp=E,2μm,11.4s						
GTA				LR	LR		
	comp=Z,1μm,10.5s						
XAN	**Xi'an**	**14.88**	**51**	P	**Pn**	**19 31 13.0**	**-2.1**
XAN				S	Sn	19 33 50.8	-8.3
XAN				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN				LR	LR		
	comp=N,2μm,11.5s						
XAN				LR	LR		
	comp=E,440nm,11.1s						
XAN				LR	LR		
	comp=Z,430nm,20.4s						
JHNI	**Jhansi**	**14.95**	**274**	*i* x	x	19 31 09.0	
JHNI				*i* x	x	19 33 46.0	
QIZ	**Qiongzhong**	**15.01**	**111**	P	**Pn**	**19 31 18.0**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,45nm,2.4s						
QIZ				pmax	pmax		
	comp=Z,520nm,7.4s						
QIZ				LR	LR		
	comp=N,970nm,15.2s						
QIZ				LR	LR		
	comp=E,470nm,18.4s						
QIZ				LR	LR		
	comp=Z,1μm,17.9s						
QIZ	**Qiongzhong**	**15.01**	**111**	*e*P	**Pn**	**19 31 16.4**	**-0.3**
	comp=Z,249nm,1.6s						
NGP	**Nagpur**	**15.28**	**258**	*e*P	**Pn**	**19 31 16.5**	**-3.7**
NGP				*ex*	x	19 31 18.8	
	comp=Z,205nm,1.4s						
NGP				*ex*	x	19 33 54.0	
DDI	**Dehra Dun**	**15.89**	**292**	*e*P	**Pn**	**19 31 25.1**	**-2.7**
DDI				AMB	AMB	19 31 28.6	
	comp=Z,406nm,1.4s						
BHPL	**Bhopal**	**16.22**	**267**	*e*P	**Pn**	**19 31 28.7**	**-3.4**
BHPL				AMB	AMB	19 31 34.9	
	comp=Z,220nm,2.1s						
NDI	**New Delhi**	**16.29**	**286**	*ex*	Pn	19 31 27.0	-5.8
NDI				*ex*	x	19 34 44.0	
GZH	**Guangzhou**	**16.81**	**94**	P	**P**	**19 31 41.8**	**+1.7**
GZH				S	**Sn**	**19 34 48.0**	**+2.3**
GZH				pmax	pmax		
	comp=Z,2μm,7.7s						
GZH				LR	LR		
	comp=N,2μm,8.0s						
GZH				LR	LR		
	comp=E,2μm,7.2s						
SMLA	**Simla**	**16.84**	**294**	*i* P	**Pn**	**19 31 36.7**	**-2.8**
SMLA				AMB	AMB	19 32 02.0	
	comp=Z,146nm,0.4s						
SMLA				*i* x	x	19 34 31.1	
SDNR	**Sundarnagar**	**17.10**	**296**	*e*P	**Pn**	**19 31 40.0**	**-2.9**
SDNR				*e*4		19 34 39.0	
HYB	**Hyderabad**	**17.23**	**246**	*i* P	**Pn**	**19 31 43.0**	**-1.6**
	comp=Z,240nm,1.0s						
HYB				*e*S	**S**	**19 35 00.0**	**+0.1**
HYB	**Hyderabad**	**17.23**	**246**	*e*P	**Pn**	**19 31 44.4**	**-0.2**
HYB				AMB	AMB	19 31 47.4	
	comp=Z,194nm,1.5s						
BHK	**Bhakra**	**17.53**	**295**	*e*4	**P**	**19 31 52.0**	**+3.9**
WHN	**Wuhan**	**17.84**	**68**	P	P	19 31 46.5	-4.9
WHN				pP	pP	19 32 01.8	-5.9
WHN				S	Sn	19 34 58.8	-12
WHN				LR	LR		
	comp=N,3μm,13.8s						
WHN				LR	LR		
	comp=E,2μm,11.2s						
WHN				LR	LR		
	comp=Z,4μm,18.7s						
DHRM	**DHARAMSHALA**	**17.87**	**297**	*e*P	**P**	**19 31 48.9**	**-3.1**
CMBY	**CAMPBELL BAY**	**18.16**	**184**	*e*P	**P**	**19 31 53.1**	**-1.9**
DLH	**Dalhousie**	**18.23**	**298**	*e*P	**P**	**19 31 54.0**	**-2.0**
DLH				*e*4		19 35 07.0	
LATR	**Latur**	**18.47**	**252**	*e*P	**P**	**19 31 55.7**	**-2.7**
LATR				*ex*	x	19 31 56.2	
	comp=Z,85nm,0.1s						
LATR				*ex*	x	19 35 02.1	
SKLT	**Songkhla**	**18.73**	**163**	P	**P**	**19 31 56.9**	**-4.4**
WMQ	**Urumqi**	**19.49**	**344**	P	**Pn**	**19 32 11.5**	**0.0**
WMQ				pP	**pP**	**19 32 28.5**	**+2.6**
WMQ				PP	**PnPn**	**19 32 33.3**	**+5.3**
WMQ				S	**S**	**19 35 42.3**	**-3.0**
WMQ				SS	**SnSn**	**19 36 14.5**	**+8.3**
WMQ				pmax	pmax		
	comp=Z,130nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,410nm,3.2s						
WMQ				LR	LR		
	comp=N,490nm,25.0s						
WMQ				LR	LR		
	comp=E,1μm,29.0s						
WMQ				LR	LR		
	comp=Z,1μm,23.0s						
BSI	**Banda Aceh**	**19.63**	**179**	P	**P**	**19 32 10.3**	**-0.8**
	comp=Z,245nm,1.2s,comp=Z,2μm						
BTO	**Baotou**	**19.76**	**36**	*e*P	**P**	**19 32 11.5**	**-1.0**
BTO				pmax	pmax		
	comp=Z,44nm,1.2s						
KULM	**Kulim**	**20.54**	**164**	*e*P	**P**	**19 32 21.3**	**+0.4**
	comp=Z,62nm,1.1s						
KULM	**Kulim**	**20.54**	**164**	P	Pn	19 32 24.0	+0.1
KULM	**Kulim**	**20.54**	**164**	P	Pn	19 32 23.4	-0.5
	comp=Z,59nm,1.5s,comp=Z,966nm						
HHC	**Hu-ho-hao-te**	**20.77**	**37**	*e*P	**P**	**19 32 23.3**	**0.0**
HHC				pP	**pP**	**19 32 43.3**	**+3.3**
HHC				PP	**PnPn**	**19 32 50.0**	**+4.5**
HHC				S	**S**	**19 36 06.8**	**-3.7**
HHC				sS	**sS**	**19 36 35.5**	**-2.5**
HHC				SS	**SnSn**	**19 36 42.5**	**+5.3**
HHC				pmax	pmax		
	comp=Z,140nm,1.1s						
HHC				pmax	pmax		
	comp=Z,650nm,5.8s						
HHC				LR	LR		
	comp=N,3μm,10.9s						
HHC				LR	LR		
	comp=E,2μm,11.3s						
HHC				LR	LR		
	comp=Z,4μm,11.6s						
POO	**Poona**	**20.78**	**255**	*e*P	**P**	**19 32 22.9**	**-0.7**
POO				⇓*i*P	Pn	19 32 24.0	-2.8
	comp=Z,643nm,1.5s						
POO				AMB	AMB	19 32 27.5	
	comp=Z,164nm,0.0s						
KTGM	**Kuala Trenggan**	**21.25**	**157**	P	**P**	**19 32 31.7**	**+3.1**
QZH	**Quanzhou**	**21.30**	**86**	P	**P**	**19 32 25.0**	**-4.1**
QZH				S	**S**	**19 36 18.5**	**-2.7**
QZH				LR	LR		
	comp=N,4μm,8.5s						
QZH				LR	LR		
	comp=E,970nm,10.0s						
QZH				LR	LR		
	comp=Z,2μm,9.2s						
IPM	**Ipoh**	**21.42**	**164**	*e*P	**P**	**19 32 29.8**	**-0.6**
	comp=Z,36nm,0.9s						
IPM	**Ipoh**	**21.42**	**164**	P	**P**	**19 32 31.5**	**+1.1**
IPM	**Ipoh**	**21.42**	**164**	P	**P**	**19 32 32.1**	**+1.7**
	comp=Z,52nm,1.2s						
KSH	**Kashi**	**21.45**	**316**	P	**P**	**19 32 32.3**	**+1.6**
KSH				sP	**sP**	**19 32 58.3**	**+0.4**
KSH				PP	**PnPn**	**19 33 00.3**	**+5.4**
KSH				S	**S**	**19 36 17.5**	**-6.7**
KSH				sS	Sn	19 36 44.5	+7.3
KSH				SS	**SnSn**	**19 36 58.5**	**+4.4**
KSH				pmax	pmax		
	comp=Z,73nm,1.1s						
KSH				LR	LR		
	comp=N,730nm,11.7s						
KSH				LR	LR		
	comp=E,540nm,10.7s						
KSH				LR	LR		
	comp=Z,420nm,11.9s						
KCSI	**Kotacane, Aceh**	**21.75**	**173**	P	**P**	**19 32 34.0**	**+0.1**
	comp=Z,134nm,1.4s,comp=Z,2μm						
TIA	**Tai'an**	**21.84**	**55**	⇓P	**P**	**19 32 34.3**	**-0.4**
TIA				pmax	pmax		
	comp=Z,20nm,0.8s						
TSI	**Tuntungan**	**21.87**	**171**	P	**P**	**19 32 38.2**	**+3.0**
	comp=Z,433nm,1.0s,comp=Z,5μm						
NJ2	**Nanjing**	**21.92**	**67**	*e*P	**P**	**19 32 34.5**	**-1.1**
NJ2				pP	**pP**	**19 32 52.0**	**-0.5**
NJ2				sP	**sP**	**19 33 02.5**	**-0.4**
NJ2				S	**S**	**19 36 33.8**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,21nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,130nm,5.3s						
NJ2				LR	LR		
	comp=N,1μm,15.8s						
NJ2				LR	LR		
	comp=E,950nm,13.4s						
NJ2				LR	LR		
	comp=Z,1μm,13.0s						
PALK	**Pallekele**	**22.53**	**220**	P	**P**	**19 32 43.6**	**+1.3**
	comp=Z,697nm,1.3s,SNR=6.8						
PALK	**Pallekele**	**22.53**	**220**	P	**P**	**19 32 44.5**	**+2.2**
	SNR=5.8						
PALK	**Pallekele**	**22.53**	**220**	*e*P	**P**	**19 32 42.3**	**0.0**
	comp=Z,279nm,1.4s						
PALK	**Pallekele**	**22.53**	**220**	P	**P**	**19 32 44.0**	**+1.7**
	comp=Z,152nm,1.2s,comp=Z,2μm						
PSI	**Prapat**	**22.61**	**170**	P	**P**	**19 32 44.9**	**+1.6**
PSI				S	**S**	**19 36 44.5**	**-0.7**
PSI				ScP	**ScP**	**19 40 01.9**	**-1.9**
PSI	**Prapat**	**22.61**	**170**	P	**P**	**19 32 44.9**	**+1.6**
	comp=Z,53nm,1.0s,baz=330,slow=12,SNR=31						
PSI				S	**S**	**19 36 44.5**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=335,slow=19,SNR=5.3						
PSI				ScP	**ScP**	**19 40 01.9**	**-1.9**
	comp=Z,22nm,1.1s,baz=248,slow=5.9,SNR=9.7						
FRIM	**Kepong**	**22.77**	**163**	P	**P**	**19 32 46.3**	**+1.6**
ULHL	**Ulahol**	**23.00**	**322**	*i* P	**P**	**19 32 48.5**	**+1.4**
ULHL	**Ulahol**	**23.00**	**322**	P	**P**	**19 32 48.5**	**+1.4**
	SNR=38						
ULHL	**Ulahol**	**23.00**	**322**	P	**ScP**	**19 40 05.8**	**+1.2**
	SNR=52						
BJI	**Beijing**	**23.02**	**45**	P	**P**	**19 32 46.0**	**-1.0**
BJI				S	**S**	**19 36 51.5**	**+0.4**
BJI				pmax	pmax		
	comp=Z,22nm,0.9s						
BJI				pmax	pmax		
	comp=Z,320nm,3.3s						
BJI				LR	LR		
	comp=N,690nm,29.6s						
BJI				LR	LR		
	comp=E,710nm,29.6s						
BJI				LR	LR		
	comp=Z,610nm,29.7s						
TPUB	**Ta-pu**	**23.37**	**89**	*e*P	**P**	**19 32 48.0**	**-2.5**
	comp=Z,39nm,0.9s						
KZA	**Kyzart**	**23.45**	**321**	*i* P	**P**	**19 32 53.0**	**+1.5**
KZA	**Kyzart**	**23.45**	**321**	P	**P**	**19 32 53.0**	**+1.5**
	SNR=19						
KZA	**Kyzart**	**23.45**	**321**	P	**ScP**	**19 40 07.3**	**+1.3**
	SNR=12						
SSLB	**Suanglung**	**23.58**	**88**	*e*P	**P**	**19 32 50.4**	**-2.0**
	comp=Z,36nm,1.2s						
SSE	**Sheshan**	**23.72**	**70**	*e*P	**P**	**19 32 52.3**	**-1.3**
SSE				sP	**sP**	**19 33 20.0**	**-2.0**
SSE				S	**S**	**19 37 01.3**	**-1.3**
SSE				sS	Sn	19 37 33.0	+1.6
SSE				pmax	pmax		
	comp=Z,21nm,0.7s						
SSE				pmax	pmax		
	comp=Z,140nm,4.1s						
SSE				LR	LR		
	comp=N,380nm,13.5s						
SSE				LR	LR		
	comp=E,800nm,13.6s						
SSE				LR	LR		
	comp=Z,840nm,14.2s						
MK31	**Makanchi Array**	**23.80**	**338**	*e*P	**P**	**19 32 55.0**	**+0.8**
MK31	**Makanchi Array**	**23.80**	**338**	*e*P	**P**	**19 32 55.0**	**+0.8**

MKAR ScP **ScP** **19 40 06.2 -0.1**
comp=N,18nm,0.9s,baz=162,slow=1.9,SNR=24
TKM2 Tokmak 2 23.81 323 *i* P **P** **19 32 55.6 +1.2**
TKM2 Tokmak 2 23.81 323 P **P** **19 32 55.7 +1.2**
SNR=73
TKM2 Tokmak 2 23.81 323 *e*P **P** **19 32 55.2 +0.8**
comp=N,64nm,1.0s
TKM2 *e*ScP **ScP** **19 40 07.0 +0.4**
YHNB Yeheng 23.84 86 *e*P **P** **19 32 52.6 -2.3**
comp=N,41nm,0.9s
TWG Pinlang 23.86 90 *e*P **P** **19 32 53.4 -1.5**
comp=N,199nm,0.6s
TWG *e*P **P** **19 32 55.8 +0.9**
TATO Taipei 23.91 85 *e*P **P** **19 32 52.8 -2.5**
comp=N,41nm,0.8s
YULB Yu-li 23.96 89 *e*P **P** **19 32 56.6 +0.8**
comp=N,23nm,0.6s
KBK Karagaybulak 24.00 321 *i* P **P** **19 32 59.0 +2.8**
KBK Karagaybulak 24.00 321 P **P** **19 32 59.0 +2.8**
SNR=40
NACB Ninganchiao 24.11 87 *e*P **P** **19 32 55.9 -1.2**
comp=N,101nm,1.3s
NACB *e*P **P** **19 32 58.5 +1.4**
AAK Ala-Archa 24.24 321 P **P** **19 33 00.9 +2.6**
comp=N,283nm,1.2s,SNR=7.2
AAK Ala-Archa 24.24 321 *d* *i* P **P** **19 33 00.9 +2.6**
AAK pmax pmax
comp=Z,177nm,1.4s
AAK Ala-Archa 24.24 321 P **P** **19 33 00.8 +2.6**
SNR=32
AAK Ala-Archa 24.24 321 *e*P **P** **19 32 57.8 -0.6**
comp=Z,135nm,1.5s
AAK ScP **ScP** **19 40 09.0 +1.2**
AAK Ala-Archa 24.24 321 P **P** **19 33 00.5 +2.2**
comp=Z,27nm,0.8s,baz=136,slow=7.5,SNR=53
AAK ScP **ScP** **19 40 09.0 +1.2**
comp=Z,21nm,1.1s,baz=154,slow=3.5,SNR=10
SONM Songino Array 24.27 19 P **P** **19 32 59.4 +1.0**
SONM ScP **ScP** **19 40 06.5 -1.2**
SONM Songino Array 24.27 19 P **P** **19 32 59.4 +1.0**
comp=Z,37nm,0.7s,baz=195,slow=9.1,SNR=125
SONM ScP **ScP** **19 40 06.5 -1.2**
comp=Z,7.8nm,1.0s,baz=198,slow=2.0,SNR=15
FRU Bishkek 24.30 321 *e*P **P** **19 33 00.0 +1.3**
FRU *e* 19 33 20.0
FRU pmax pmax
comp=Z,730nm,1.6s
FRU MLR MLR
comp=Z,1μm,14.0s
CHMS Chumysh 24.33 322 *i* P **P** **19 33 00.0 +1.1**
CHMS Chumysh 24.33 322 P **P** **19 33 00.0 +1.1**
SNR=38
KBL Kabul 24.34 298 *e*P **P** **19 32 59.6 +0.2**
KBL pmax pmax
comp=Z,130nm,0.9s
KBL Kabul 24.34 298 *e*P **P** **19 32 59.6 +0.2**
comp=Z,130nm,0.9s
AML Almayashu 24.40 319 *i* P **P** **19 33 01.3 +1.3**
AML Almayashu 24.40 319 P **P** **19 33 01.4 +1.3**
SNR=41
AML Almayashu 24.40 319 P **ScP** **19 40 09.5 +0.9**
SNR=20
KGM Kluang 24.42 160 P **P** **19 33 01.7 +1.7**
ULN Ulaanbaatar 24.49 20 *e*P **P** **19 32 59.1 -1.4**
comp=Z,58nm,1.0s
ULN Ulaanbaatar 24.49 20 P **P** **19 33 01.2 +0.7**
comp=Z,74nm,0.9s,comp=Z,1μm
USP Ospenovka 24.64 322 *i* P **P** **19 33 03.0 +1.2**
USP Ospenovka 24.64 322 P **P** **19 33 03.0 +1.2**
SNR=35
EKS2 Erkin-Say 24.67 320 *e*P **P** **19 33 02.6 +0.4**
EKS2 pmax pmax
comp=Z,55nm,0.8s
EKS2 Erkin-Say 24.67 320 P **P** **19 33 03.8 +1.6**
SNR=92
EKS2 Erkin-Say 24.67 320 *e*P **P** **19 33 02.6 +0.4**
comp=Z,55nm,0.8s
MYKOM Kota Tinggi 24.80 159 P **P** **19 33 05.3 +1.9**
BKNI Bangkinang 25.43 166 P **P** **19 33 12.3 +3.2**
comp=Z,79nm,1.1s,comp=Z,2μm
ZAK Zakamensk 25.89 12⇑ *i* P **P** **19 33 14.8 +1.6**
ZAK pmax pmax
comp=Z,38nm,1.5s
DL2 Dalian 26.20 52 *e*P **P** **19 33 15.5 -0.4**
DL2 *e*S **S** **19 37 40.5 -1.4**
DL2 pmax pmax
comp=Z,32nm,0.9s
DL2 pmax pmax
comp=Z,160nm,3.9s
DL2 LR LR
comp=E,600nm,10.3s
DL2 LR LR
comp=Z,400nm,16.7s
PDSI Padang 26.51 168 P **P** **19 33 17.8 -1.2**
comp=Z,66nm,1.1s
MOY Mondy 26.77 8 *e*P **P** **19 33 22.7 +1.6**
MOY pmax pmax
comp=Z,34nm,1.8s
KKAR Karatay Array 26.88 318 *e*P **P** **19 33 21.5 -0.5**
KKAR Karatay Array 26.88 318 *e*P **P** **19 33 21.5 -0.5**
TLY Talaya 27.20 12 *c* *i* P **P** **19 33 26.8 +1.9**
TLY *e* 19 33 54.6
TLY *e* 19 36 43.1
TLY *e*S **S** **19 38 01.6 +4.0**
TLY pmax pmax
comp=Z,29nm,1.3s
TLY MLR MLR
comp=Z,259nm,10.0s
KKM Kota Kinabalu 27.82 130 P **P** **19 33 34.1 +3.3**
KSM Kuching 27.83 146 *e*P **P** **19 33 30.2 -0.5**
comp=Z,40nm,1.4s
KSM *e*ScP **ScP** **19 40 15.5 -3.0**
KSM Kuching 27.83 146 P **P** **19 33 33.2 +2.5**
KSM Kuching 27.83 146 P **P** **19 33 33.0 +2.3**
comp=Z,20nm,1.8s,comp=Z,440nm
IRK Irkutsk 27.86 12 *e*P **P** **19 33 31.8 +1.1**
IRK *e* 19 33 59.4
IRK pmax pmax
comp=Z,74nm,1.7s
BTM Bintulu 27.94 139 P P 19 33 38.0 +6.3
SBUM Sibu 28.04 141 *e*P **P** **19 33 31.0 -1.6**
comp=Z,29nm,1.7s
SBUM *e*ScP **ScP** **19 40 18.0 -1.2**
SBUM Sibu 28.04 141 P **P** **19 33 34.9 +2.3**
SBUM Sibu 28.04 141 P **P** **19 33 34.5 +1.9**
comp=Z,11nm,2.0s
KURBB Kurchatov Arra 28.37 338 P **P** **19 33 36.0 +0.8**
comp=Z,20nm,0.9s,baz=149,slow=8.4,SNR=188
KURBB PcP **PcP** **19 36 46.4 +0.5**
comp=Z,6.0nm,0.6s,baz=161,slow=2.3,SNR=8.9
KURBB ScP **ScP** **19 40 19.2 -0.3**
comp=Z,24nm,0.9s,baz=154,slow=2.7,SNR=40
KURK Kurchatov 28.42 338 P **P** **19 33 36.1 +0.4**
KURK 19 36 46.4
KURK pmax pmax
comp=Z,19nm,0.9s
KURK Kurchatov 28.42 338 P **P** **19 33 36.0 +0.4**
KURK PcP **PcP** **19 36 46.4 +0.4**
KURK ScP **ScP** **19 40 19.2 -0.4**
SNY Shenyang 28.77 48⇑ P **P** **19 33 37.5 -1.4**
SNY S **S** **19 38 17.3 -5.1**
SNY pmax pmax
comp=Z,17nm,0.8s
SNY pmax pmax
comp=Z,190nm,3.5s
SNY LR LR
comp=N,2μm,14.4s
SNY LR LR
comp=E,670nm,15.6s
SNY LR LR
comp=Z,3μm,12.2s
SDKM Sandakan 28.79 129 P P 19 33 43.0 +3.6
ZAA0 Zalesovo Array 29.68 348 *e*P **P** **19 33 47.6 +0.8**
ZALV Zalesovo Beam 29.68 348 *i* P **P** **19 33 47.7 +0.9**
ZALV pmax pmax
comp=Z,23nm,0.6s
ZALV Zalesovo Beam 29.68 348 P **P** **19 33 47.8 +1.0**
ZALV PcP **PcP** **19 36 48.9 -0.2**
ZALV S **S** **19 38 36.0 -0.4**
ZALV Zalesovo Beam 29.68 348 P **P** **19 33 47.8 +1.0**
comp=Z,22nm,0.7s,baz=167,slow=7.2,SNR=105
ZALV PcP **PcP** **19 36 48.9 -0.2**
comp=Z,2.9nm,0.5s,baz=174,slow=4.3,SNR=5.0
ZALV S **S** **19 38 36.0 -0.4**
comp=Z,11nm,1.1s,baz=163,slow=12,SNR=4.8
ZALV LR LR 19 47 22.4
comp=Z,225nm,20.6s,baz=170,slow=40
JOW Kunigami 29.83 80 *e*P **P** **19 33 47.1 -1.3**
comp=Z,8.2nm,0.7s
MYLDM Lahad Datu 30.04 128 P P 19 33 53.6 +3.2
MYLDM Lahad Datu 30.04 128 P **P** **19 33 52.6 +2.2**
comp=Z,34nm,1.8s
CIT Chita 30.21 23 *e*P **P** **19 33 52.2 +0.6**
CIT *e* 19 34 26.2
CIT *e* 19 38 47.0
TSM Tawau 30.22 130 P **P** **19 33 54.0 +2.1**
KSAR Wonju Array Be 30.40 58 P **P** **19 33 51.0 -2.4**
KSAR ScP **ScP** **19 40 25.0 -1.3**
KSRS Korea Array 30.43 58 P **P** **19 33 51.0 -2.6**
comp=Z,1.7nm,0.6s,baz=250,slow=8.0,SNR=8.3
KSRS ScP **ScP** **19 40 25.0 -1.4**
comp=Z,4.6nm,1.1s,baz=252,slow=5.1,SNR=7.1
KSRS LR LR 19 47 56.7
comp=Z,931nm,18.9s,baz=146,slow=40
HIA Hailar 30.74 32 *e*P **P** **19 33 56.4 +0.1**
comp=Z,90nm,1.3s
NVS Novosibirsk 30.84 347⇑ *i* P **P** **19 33 56.7 -0.3**
NVS *e*S S 19 38 48.3 -6.2
NVS pmax pmax
comp=Z,95nm,1.0s
NVS pmax pmax
comp=N,60nm,1.1s
NVS pmax pmax
comp=E,36nm,1.1s
NVS smax smax
comp=N,45nm,1.2s
NVS smax smax
comp=E,91nm,1.8s
CN2 Changchun 30.89 46 *e*P P 19 34 01.0 +3.4
CN2 *e*S **S** **19 38 57.8 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
JNU Nakatsue 32.12 67 P **P** **19 34 06.8 -1.8**
JNU Nakatsue 32.12 67 P **P** **19 34 06.8 -1.8**
comp=Z,4.7nm,0.7s,baz=232,slow=6.8,SNR=4.1
JNU LR LR 19 48 32.7
comp=Z,976nm,19.5s,baz=263,slow=39
BVAR Borovoye Array 33.38 333 P **P** **19 34 20.1 +0.8**
BVAR 19 36 59.8
BVAR pmax pmax
comp=Z,10.0nm,0.5s
BVAR Borovoye Array 33.38 333 P **P** **19 34 20.1 +0.8**
BVAR PcP **PcP** **19 36 59.8 +0.7**
BVAR ScP **ScP** **19 40 36.1 0.0**
BVAR Borovoye Array 33.38 333 P **P** **19 34 20.1 +0.8**
comp=Z,9.9nm,0.5s,baz=133,slow=10,SNR=94
BVAR PcP **PcP** **19 36 59.8 +0.7**
comp=Z,8.5nm,0.6s,baz=154,slow=3.6,SNR=9.0
BVAR ScP **ScP** **19 40 36.1 0.0**
comp=Z,12nm,0.8s,baz=153,slow=4.6,SNR=22
BRVK Borovoye 33.45 333 P **P** **19 34 21.3 +1.4**
comp=Z,145nm,1.1s,SNR=16
BRVK Borovoye 33.45 333 *c* *i* P **P** **19 34 20.5 +0.6**
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 33.45 333 P **P** **19 34 21.2 +1.2**
SNR=9.6
BRVK Borovoye 33.45 333 *e*P **P** **19 34 19.4 -0.6**
comp=Z,18nm,0.8s
SMDO Samad 33.79 274 P pP 19 34 44.1 +1.3
SNR=8.4
MDJ Mudanjiang 33.93 46 P **P** **19 34 22.5 -1.7**
MDJ pP **pP** **19 34 41.0 -2.6**
MDJ sP **sP** **19 34 49.5 -3.8**
MDJ PP **PnPn** **19 35 39.8 0.0**
MDJ S **S** **19 39 43.0 +0.2**
MDJ sS **sS** **19 40 13.5 -2.8**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,59nm,7.1s
MDJ LR LR
comp=N,2μm,14.5s
MDJ LR LR
comp=E,2μm,14.5s
MDJ LR LR
comp=Z,2μm,13.1s
HOQ Hoqain 34.35 275 P pP 19 34 49.2 +1.6
SNR=8.5
BSY Bisya 34.62 274 P pP 19 34 51.5 +1.5
SNR=8.9
VLA Vladivostok 34.95 50 *i* P **P** **19 34 31.2 -1.8**
VLA pmax pmax
comp=Z,28nm,0.9s
ARQ Araqi 35.11 275 P pP 19 34 55.8 +1.6
SNR=5.7
HATD Hatta, Dubai 35.20 278 P pP 19 34 57.0 +2.1
SNR=5.5
ASHO Ashiyiah 35.29 278 P pP 19 34 57.7 +2.0
SNR=7.3
USRK Ussuriysk Arra 35.38 48 P **P** **19 34 35.2 -1.5**
comp=Z,8.8nm,0.8s,baz=249,slow=7.6,SNR=16
ABKAR Abkulak array 36.33 320 *e*ScP **ScP** **19 40 47.0 +0.2**
ABKAR Abkulak array 36.33 320 *e*P **P** **19 34 45.8 +1.0**
ABKAR *e*ScP **ScP** **19 40 47.0 +0.2**
KLR Kul'dur 37.22 40 *e*P P 19 34 45.3 -7.0
KLR *e* 19 35 10.4
AKTO Aktyubinsk 37.98 321 P **P** **19 34 59.5 +0.8**
AKTO pmax pmax
comp=Z,7.0nm,0.4s
AKTO pmax pmax
comp=N,22nm,0.9s
AKTO Aktyubinsk 37.98 321 P **P** **19 34 59.5 +0.8**
AKTO ScP **ScP** **19 40 53.4 +0.4**
AKTO Aktyubinsk 37.98 321 P **P** **19 34 59.5 +0.8**
comp=N,6.5nm,0.4s,baz=109,slow=7.4,SNR=40
AKTO ScP **ScP** **19 40 53.4 +0.4**
comp=N,22nm,0.9s,baz=126,slow=3.9,SNR=23
MAT Matsushiro 38.41 62 P **P** **19 35 00.7 -1.8**
SVE Sverdlovsk 40.11 331⇓ *e*P **P** **19 35 17.5 +1.2**
SVE pmax pmax
comp=Z,103nm,1.0s
ARU Arti 40.80 330 *c* *i* P **P** **19 35 22.7 +0.6**
ARU 19 36 56.3
ARU 19 37 21.2
ARU S **S** **19 41 30.0 +3.3**
ARU pmax pmax
comp=Z,55nm,1.7s
ARU Arti 40.80 330 P **P** **19 35 22.4 +0.3**
comp=Z,192nm,1.0s,SNR=10
KBD Kabd 42.10 286 *e*P **P** **19 35 33.7 +0.6**
KBD AMb AMB 19 35 34.6
comp=Z,36nm,0.6s
CBIJ Chichi jima 42.13 77 LR LR 19 52 13.6
comp=Z,511nm,18.9s,baz=205,slow=35
RDF Al-Radifah 42.26 286 *e*P **P** **19 35 34.9 +0.6**
RDF AMb AMB 19 35 36.4
comp=Z,166nm,0.5s
RDF Al-Radifah 42.26 286 *e*P **P** **19 35 35.0 +0.7**
RDF AMb AMB 19 35 36.4
comp=Z,166nm,0.5s
MIB Mutribah 42.34 287 *e*P **P** **19 35 35.9 +0.8**
MIB AMb AMB 19 35 37.1
comp=Z,103nm,0.7s
NAY Al-Naaiem 42.49 286 *e*P **P** **19 35 37.0 +0.8**
NAY AMb AMB 19 35 38.2
comp=Z,3.6nm,0.6s
NAY Al-Naaiem 42.49 286 *e*P **P** **19 35 37.0 +0.8**
NAY AMb AMB 19 35 58.0
comp=Z,7.5nm,1.0s
MAK Makhachkala 42.56 307 P P 19 35 43.2 +6.6
MAK *e* 19 37 24.0
MAK *e*PPP PPP 19 37 50.9
MAK *e*SSS SSS 19 45 46.7
MAK pmax pmax
comp=Z,36nm,0.6s
RST Umm Al-Ruwaisa 42.67 287 *e*P **P** **19 35 37.9 +0.2**
RST AMb AMB 19 35 39.3
comp=Z,724nm,0.7s
RST Umm Al-Ruwaisa 42.67 287 *e*P **P** **19 35 38.1 +0.3**
RST AMb AMB 19 35 39.3
comp=Z,724nm,0.7s
ASAJ Asahikawa 42.72 52 *e*P **P** **19 35 36.5 -1.5**
comp=Z,49nm,1.9s
ASAJ Asahikawa 42.72 52 P **P** **19 35 37.3 -0.6**
comp=Z,8.2nm,0.7s,baz=264,slow=10,SNR=16
ERM Erimo 42.81 55 P **P** **19 35 38.2 -0.4**
comp=Z,78nm,0.5s,SNR=7.6
ERM Erimo 42.81 55 *i* P **P** **19 35 37.5 -1.1**
IBDR Badra 43.30 292 *i* P P 19 35 33.0 -10
IBDR *i* S **S** **19 42 00.0 -4.1**
YSS Yuzh-Sakhalins 43.40 47 *e*P **P** **19 35 43.1 -0.2**
YSS *e* 19 36 09.0
YAK Yakutsk 43.50 23 *e*P **P** **19 35 43.8 -0.1**
YAK *e**PP **pP** **19 36 05.9 +1.9**
YAK *e* 19 37 26.1
YAK *e* 19 37 30.9
YAK *e*S **S** **19 42 07.2 +1.0**
YAK *e*SS **SS** **19 45 18.7 -4.6**
YAK *e* 19 45 31.0
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=E,32nm,1.3s
YAK pmax pmax
comp=Z,10.0nm,1.2s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,36nm,1.5s
YAK smax smax
comp=N,276nm,2.8s
YAK smax smax
comp=E,246nm,2.1s
DGRG David-gareji 43.95 304 P **P** **19 35 50.0 +2.1**
GNI Garni 44.32 302 P **P** **19 35 52.0 +0.9**
GNI Garni 44.32 302 P **P** **19 35 51.9 +0.9**
comp=E,7.8nm,0.6s,baz=97,slow=1.8,SNR=9.7
BHD Baghdad 44.59 293 *i* P **P** **19 35 54.0 +1.0**
BHD *i* S **S** **19 42 21.0 -1.8**
KZR Kazreti 44.66 304 P P 19 36 00.1 +6.6
GUDG Gudauri 44.71 306 P **P** **19 35 56.0 +1.8**
ZEI Tsey 45.17 306 *e*P **P** **19 35 57.0 -0.8**
ZEI pmax pmax
comp=Z,33nm,1.3s
AKH Akhalkalaki 45.35 304 P **P** **19 36 01.5 +2.3**
ONI Oni 45.48 306 P **P** **19 36 02.6 +2.5**
KBZ Khabaz 46.00 307 P **P** **19 36 04.9 +0.9**
KBZ MLR MLR
comp=Z,140nm,21.8s
KBZ Khabaz 46.00 307 P **P** **19 36 04.9 +0.9**
KBZ ScP **ScP** **19 41 25.4 +0.3**
KBZ Khabaz 46.00 307 P **P** **19 36 04.9 +0.9**
comp=Z,0.9nm,0.4s,baz=94,slow=6.9,SNR=6.6
KBZ ScP **ScP** **19 41 25.4 +0.3**
comp=Z,7.0nm,1.0s,baz=188,slow=1.9,SNR=5.6
KBZ LR LR 19 58 27.7
comp=Z,140nm,21.8s,baz=253,slow=40
KIV Kislovodsk 46.17 308 *e*P **P** **19 36 05.2 -0.3**
KIV *e**SP **sP** **19 36 34.3 -1.0**
KIV *e* 19 37 40.0
KIV *e* 19 37 58.0
KIV *e*S **S** **19 42 46.8 +1.2**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,148nm,16.0s
KIV Kislovodsk 46.17 308 P **P** **19 36 06.4 +0.9**
comp=Z,164nm,1.1s,SNR=6.6
MZRK Al-Mazaregh 47.52 296 *e*P P 19 36 12.8 -3.3
SFNV Sufian 47.93 297 *e*P **P** **19 36 21.1 +1.8**
VRHR Novokhopersk 47.99 317 *e*P **P** **19 36 18.8 -0.6**
VRHR *e*S **S** **19 43 08.5 -2.6**
VRHR pmax pmax
comp=E,40nm,1.1s
VRHR pmax pmax
comp=Z,60nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR smax smax
comp=N,80nm,1.2s
VRHR smax smax
comp=Z,10.0nm,1.0s
VRHR smax smax
comp=E,50nm,0.9s
MALT Malatya 49.19 300⇑ *i* P **P** **19 36 27.9 -1.1**
MALT Malatya 49.19 300⇑ *i* P **P** **19 36 27.9 -1.1**
VORD Divnogorie 49.42 316 *e*P **P** **19 36 28.9 -1.4**
VORD *e*S **S** **19 43 29.0 -2.1**
VORD pmax pmax
comp=Z,30nm,0.3s
VORD pmax pmax
comp=N,80nm,0.4s
VORD pmax pmax
comp=E,210nm,1.4s
VORD smax smax
comp=E,30nm,0.9s
VORD smax smax
comp=Z,10.0nm,1.0s
VORD smax smax
comp=N,20nm,1.1s
VSR Storozhevoye 49.54 317 *e*P **P** **19 36 30.8 -0.5**
VSR *e*S **S** **19 43 29.6 -3.2**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.0s
VSR smax smax
comp=E,30nm,1.0s
VSR smax smax
comp=Z,8.0nm,1.4s
VSR smax smax
comp=N,20nm,0.9s
ANN Anapa 49.99 308 *e*P **P** **19 36 33.8 -1.0**
ANN *e* 19 37 52.4
ANN *e*S **S** **19 43 39.2 -0.1**
ANN *e*SS **SS** **19 47 16.2 +3.2**
ANN pmax pmax
comp=Z,27nm,1.5s
TIXI Tiksi 50.16 13 *c* *i* P **P** **19 36 35.7 0.0**
ZALF Zalf 50.51 293 *i* P P 19 36 32.0 -7.0
ASF Jabal al Asfar 50.97 292 P **P** **19 36 44.4 +1.8**
ASF ScP **ScP** **19 41 47.5 +0.9**
ASF Jabal al Asfar 50.97 292 P **P** **19 36 44.4 +1.8**
comp=Z,3.4nm,0.5s,baz=97,slow=2.3,SNR=8.6
ASF ScP **ScP** **19 41 47.5 +0.9**
comp=Z,3.3nm,0.9s,baz=337,slow=0.5,SNR=4.9
SALA Sala 51.04 293 *i* P P 19 36 37.5 -5.6
MARH Ras Al Marh 51.09 294 *e*P **P** **19 36 40.6 -3.0**
ATD Arta Tunnel 51.10 264 P **P** **19 36 45.8 +2.1**
ATD Arta Tunnel 51.10 264 P **P** **19 36 45.8 +2.1**
comp=Z,3.5nm,0.3s,baz=248,slow=22,SNR=4.1
ATD LR LR 19 59 55.0
comp=Z,99nm,18.7s,baz=74,slow=38
MOS Moscow 51.30 322 *e*P **P** **19 36 43.9 -0.5**
MOS *e*S **S** **19 43 54.8 -2.2**
MOS pmax pmax
comp=Z,105nm,1.1s
BRBR Barbar 51.60 294 *i* P P 19 36 43.6 -3.7
OBN Obninsk 51.76 321 *c* *i* P **P** **19 36 48.2 +0.3**
OBN *e**SP **sP** **19 37 18.2 +0.3**
OBN *e* 19 38 01.1
OBN *e* 19 44 02.1
OBN pmax pmax
comp=Z,77nm,1.4s
OBN MLR MLR
comp=Z,200nm,19.0s
MBWA Marble Bar 51.97 150 *e*P **P** **19 36 49.5 -0.3**
comp=Z,38nm,1.0s
MMAI Mount Meron Ar 52.11 293 LR LR 20 03 00.7
comp=Z,128nm,18.0s,baz=130,slow=40
SIM Simferopol' 52.35 308 *e*P **P** **19 36 52.7 +0.2**
SIM *e*S **S** **19 44 11.0 -0.9**
SIM pmax pmax
comp=Z,16nm,0.9s
FITZ Fitzroy Crossi 52.36 142 *e*P **P** **19 36 52.9 +0.1**
comp=Z,41nm,1.5s
FITZ ScP **ScP** **19 41 49.7 -2.8**
FITZ Fitzroy Crossi 52.36 142 ScP **ScP** **19 41 49.7 -2.8**
comp=Z,5.3nm,0.9s,baz=278,slow=0.2,SNR=4.7
BR131 Keskin Array S 52.85 302 *e*P **P** **19 36 56.7 +0.3**
comp=Z,6.9nm,0.6s
BRTR Keskin Array B 52.85 302 P **P** **19 36 56.9 +0.4**
BRTR pP **pP** **19 37 18.3 +1.2**
BRTR ScP **ScP** **19 41 54.0 -0.7**
BRTR S **S** **19 44 19.6 +0.5**
BRTR Keskin Array B 52.85 302 P **P** **19 36 56.9 +0.4**
comp=Z,4.9nm,0.5s,baz=110,slow=6.6,SNR=44
BRTR pP **pP** **19 37 18.3 +1.2**
comp=Z,10nm,0.7s,baz=109,slow=8.0,SNR=11

BRTR ScP **ScP** 19 41 54.0 -0.7
comp=Z,4.1nm,0.9s,baz=110,slow=4.1,SNR=11
BRTR S **S** 19 44 19.6 +0.5
comp=Z,0.9nm,0.9s,baz=106,slow=12,SNR=3.7
EIL Elat 53.02 289 P **P** 19 36 58.9 +1.2
EIL pP **pP** 19 37 18.4 +0.1
EIL Elat 53.02 289 P **P** 19 36 58.9 +1.2
comp=Z,5.3nm,0.5s,baz=93,slow=5.1,SNR=8.8
EIL pP **pP** 19 37 18.4 +0.1
comp=Z,27nm,1.1s,baz=75,slow=6.8,SNR=7.6
EIL LR LR 20 04 08.2
comp=Z,127nm,18.6s,baz=91,slow=41
SEY Seymchan 53.07 29 *i* P **P** 19 36 57.4 -0.1
TMCR Tamitsa 53.34 333 *eP* **P** 19 37 00.0 +0.6
TMCR *e* 19 38 06.7
TMCR *e* 19 39 01.5
TMCR pmax pmax
comp=Z,81nm,1.3s
ANTO Ankara 53.49 302 ⇑P **P** 19 37 01.1 0.0
ANTO Ankara 53.49 302 P **P** 19 37 02.4 +1.4
SNR=11
ANTO Ankara 53.49 302 ⇑*i*P **P** 19 37 01.1 0.0
ANTO Ankara 53.49 302 *eP* **P** 19 37 00.9 -0.1
comp=Z,160nm,1.9s
PETK Petropavlovsk- 53.89 42 LR LR 20 00 23.3
comp=Z,116nm,18.9s,baz=60,slow=36
ISP Isparta 55.45 300 ⇓P **P** 19 37 15.5 +0.2
ISP Isparta 55.45 300 ⇓*i*P **P** 19 37 15.5 +0.2
ISP Isparta 55.45 300 *eP* **P** 19 37 15.3 0.0
comp=Z,88nm,1.7s
AKASG Malin Array Be 55.74 315 P **P** 19 37 16.5 -0.6
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKASG Malin Array Be 55.74 315 P **P** 19 37 16.5 -0.6
AKASG pP **pP** 19 37 37.2 -0.7
AKASG ScP **ScP** 19 42 06.6 -0.3
AKASG Malin Array Be 55.74 315 P **P** 19 37 16.5 -0.6
comp=Z,7.8nm,0.5s,baz=73,slow=7.4,SNR=28
AKASG pP **pP** 19 37 37.2 -0.7
comp=Z,9.4nm,0.5s,baz=79,slow=6.3,SNR=4.4
AKASG ScP **ScP** 19 42 06.6 -0.3
comp=Z,2.7nm,0.6s,baz=79,slow=3.9,SNR=8.5
KIEV Kiev 55.75 315 *eP* **P** 19 37 16.2 -0.9
KIEV pmax pmax
comp=Z,45nm,1.2s
KIEV Kiev 55.75 315 *eP* **P** 19 37 16.2 -0.9
comp=Z,45nm,1.2s
KIEV *e*ScP **ScP** 19 42 06.3 -0.7
LVZ Lovozero 55.83 337 P **P** 19 37 18.8 +1.3
comp=Z,249nm,0.8s,SNR=9.2
PUL Pulkovo 55.86 326⇓*eP* **P** 19 37 18.7 +1.0
PUL pmax pmax
comp=Z,78nm,1.3s
JOF Joensuu 55.92 330 *ep* **P** 19 37 19.2 +1.1
comp=Z,9.6nm,0.3s
KIS Kishinev 56.03 311 *eP* **P** 19 37 18.0 -1.2
KIS Kishinev 56.03 311 *eP* **P** 19 37 18.0 -1.2
APA Apatity 56.19 336⇑*i*P **P** 19 37 20.6 +0.7
APA pmax pmax
comp=Z,39nm,1.0s
TIRR Tirgusor 56.43 308 ⇓P **P** 19 37 22.3 +0.2
TIRR Tirgusor 56.43 308 ⇓*i*P **P** 19 37 22.3 +0.2
TIRR Tirgusor 56.43 308 *eP* **P** 19 37 21.8 -0.3
comp=Z,27nm,1.1s
TIRR *e*ScP **ScP** 19 42 09.2 -0.8
MICGM Minsk 56.69 320 *eP* pP 19 37 44.0 -0.6
NACGM Naroch 57.34 320 *e* P 19 37 25.0 -3.3
IDID Didziasalis 57.38 321 *eP* **P** 19 37 29.1 +0.6
IDID AMB AMB 19 37 29.8
comp=Z,20nm,1.2s
VRI Vrincioaia 57.53 310 ⇑P **P** 19 37 31.0 +1.1
VRI Vrincioaia 57.53 310⇑*i*P **P** 19 37 31.0 +1.1
TESR Tescani 57.54 310 ⇓*i*P **P** 19 37 30.4 +0.5
VSU Vasula 57.56 325*c i*P **P** 19 37 30.2 +0.4
PLOR Plostina 57.59 310 ⇑P **P** 19 37 31.3 +1.0
PLOR Plostina 57.59 310⇑*i*P **P** 19 37 31.3 +1.0
IIGN Ignalina 57.68 321 *eP* **P** 19 37 31.2 +0.6
IIGN AMB AMB 19 37 33.1
comp=Z,33nm,1.2s
ISR Istrita 57.71 309 ⇑P **P** 19 37 31.4 +0.2
ISR Istrita 57.71 309⇑*i*P **P** 19 37 31.4 +0.2
ISAL Salakas 57.74 321 *eP* **P** 19 37 31.7 +0.6
ISAL AMB AMB 19 37 33.5
comp=Z,22nm,1.1s
KAF Kangasniemi 58.10 329 *eP* **P** 19 37 34.3 +0.8
KAF pmax pmax
comp=Z,5.0nm,0.6s
KAF Kangasniemi 58.10 329 *ep* **P** 19 37 34.3 +0.8
comp=Z,5.2nm,0.6s
MLR Muntele Rosu 58.10 309⇑*i*P **P** 19 37 35.1 +1.1
FIA1 FINESS Array S 58.14 328 *eP* **P** 19 37 34.0 +0.2
FINES FINESS Array B 58.14 328 P **P** 19 37 34.4 +0.6
FINES pP **pP** 19 37 55.4 +0.7
FINES FINESS Array B 58.14 328 P **P** 19 37 34.4 +0.6
comp=Z,14nm,0.7s,baz=100,slow=6.8,SNR=80
FINES pP **pP** 19 37 55.4 +0.7
comp=Z,12nm,0.9s,baz=105,slow=6.6,SNR=4.4
MRIV Mauritius Mete 58.16 222 *eP* **P** 19 37 35.5 +0.9
BURAR Bucovina Array 58.45 312 ⇑P **P** 19 37 36.6 +0.2
BURAR Bucovina Array 58.45 312⇑*i*P **P** 19 37 36.6 +0.2
KARP Karpathos 58.46 298 P **P** 19 37 34.1 -2.4
KARP Karpathos 58.46 298 *eP* **P** 19 37 37.1 +0.6
KARP Karpathos 58.46 298 P **P** 19 37 34.1 -2.4
BUR08 Bucovina Ar. S 58.46 312 *eP* **P** 19 37 36.3 -0.2
PRK Paraskevi 58.57 302 P sP 19 38 05.4 -2.1
VOIR 58.74 309 ⇑P **P** 19 37 38.5 +0.1
VOIR 58.74 309⇑*i*P **P** 19 37 38.5 +0.1
CHOS Chios island 58.86 301 P **P** 19 37 39.5 +0.1
CHOS Chios island 58.86 301 P **P** 19 37 39.5 +0.1
WRA Warramunga Arr 58.95 136 P **P** 19 37 40.5 +0.5
WRA Warramunga Arr 58.95 136 P **P** 19 37 40.5 +0.5
comp=Z,12nm,0.6s,baz=325,slow=7.5,SNR=36
WRAB Tennant Creek 58.95 136 P **P** 19 37 40.0 0.0
comp=Z,205nm,1.0s,SNR=9.6
WRAB Tennant Creek 58.95 136 *eP* **P** 19 37 40.0 0.0
WRAB pmax pmax
comp=Z,56nm,1.1s
WRAB Tennant Creek 58.95 136 *eP* **P** 19 37 40.0 0.0
comp=Z,56nm,1.1s
SMTH Samothraki Isl 58.96 303 P **P** 19 37 39.5 -0.4
SMTH Samothraki Isl 58.96 303 P **P** 19 37 39.5 -0.4
LVV L'vov 59.09 314⇓*i*P **P** 19 37 40.3 -0.3
LVV MLR MLR
comp=N,500nm,18.0s
LVV MLR MLR
comp=Z,300nm,17.0s
ZKR Zakros 59.29 297 P **P** 19 37 42.2 -0.1
ZKR Zakros 59.29 297 *eP* **P** 19 37 42.1 -0.2
ZKR Zakros 59.29 297 P **P** 19 37 42.2 -0.1
SUW Suwalki 59.44 319 *eP* **P** 19 37 43.1 +0.2
SUW pmax pmax
comp=Z,122nm,1.1s
SUW Suwalki 59.44 319 *eP* **P** 19 37 43.1 +0.2
comp=Z,122nm,1.1s
SUW Suwalki 59.44 319 *eP* **P** 19 37 42.8 -0.1
ARCES ARCESS Array B 59.46 338 P **P** 19 37 44.0 +1.1
ARCES ARCESS Array B 59.46 338 P **P** 19 37 44.0 +1.1
comp=Z,17nm,0.8s,baz=99,slow=6.2,SNR=43
ARE0 ARCESS Array S 59.46 338 *eP* **P** 19 37 42.8 0.0
LOT Lotru 59.63 309⇑*i*P **P** 19 37 45.4 +0.8
SANT Santorini 59.67 299 *eP* **P** 19 37 44.5 -0.5
comp=Z,193nm,1.5s
THR1 Thera Island 59.67 299 P **P** 19 37 42.8 -2.1
THR3 Thira Island, 59.71 299 P **P** 19 37 44.2 -0.9
THR3 Thira Island, 59.71 299 P **P** 19 37 44.2 -0.9
NPS Neapolis 59.75 297 P **P** 19 37 45.5 +0.1
NPS Neapolis 59.75 297 P **P** 19 37 45.5 +0.1
NPS Neapolis 59.75 297 *eP* **P** 19 37 45.6 +0.1
NPS Neapolis 59.75 297 P **P** 19 37 45.5 +0.1
LAST Lasithi 59.88 297 P **P** 19 37 46.7 +0.3
LAST Lasithi 59.88 297 *eP* **P** 19 37 46.7 +0.3
LAST Lasithi 59.88 297 P **P** 19 37 46.7 +0.3
KWP Kalwaria Pacla 59.96 314 *eP* **P** 19 37 46.9 +0.2
KWP pmax pmax
comp=Z,137nm,1.3s
KWP Kalwaria Pacla 59.96 314 *eP* **P** 19 37 46.9 +0.2
comp=Z,137nm,1.3s
KWP Kalwaria Pacla 59.96 314 *eP* **P** 19 37 47.1 +0.4
KTK1 Kautokeino 60.18 337 *eP* **P** 19 37 47.8 0.0
DEV Deva 60.19 310 ⇓P **P** 19 37 49.6 +1.4
DEV Deva 60.19 310⇓*i*P **P** 19 37 49.6 +1.4
TRPA Tarpa 60.20 313⇑*i*P **P** 19 37 48.3 0.0
DRGR 60.22 311 ⇑P **P** 19 37 49.2 +0.6
DRGR 60.22 311⇑*i*P **P** 19 37 49.2 +0.6

KOLS Kolonicke sedl 60.30 314 *eP* **P** 19 37 48.9 -0.1
KOLS pmax pmax
comp=Z,20nm,1.5s
KOLS Kolonicke sedl 60.30 314 *eP* **P** 19 37 48.9 -0.1
KOLS *epP* **pP** 19 38 09.7 -0.4
UZH Uzhgorod 60.32 313⇑*i*P **P** 19 37 49.6 +0.5
IDI Anoyia 60.33 298 P **P** 19 37 48.8 -0.7
IDI Anoyia 60.33 298 *eP* **P** 19 37 49.0 -0.4
IDI Anoyia 60.33 298 *eP* **P** 19 37 49.1 -0.4
comp=Z,41nm,1.2s
GZR Gura Zlata 60.33 309⇑*i*P **P** 19 37 49.1 -0.2
VTS Vitosha 60.39 306 P **P** 19 37 49.8 -0.1
VTS Vitosha 60.39 306 P **P** 19 37 49.8 -0.1
VTS Vitosha 60.39 306⇑*i*P **P** 19 37 50.1 +0.2
VTS Vitosha 60.39 306 P **P** 19 37 49.8 -0.1
AOS Alonnisos 60.41 302 P **P** 19 37 49.9 0.0
AOS Alonnisos 60.41 302 P **P** 19 37 49.9 0.0
MRKA Markates 60.72 302 P **P** 19 37 51.4 -0.6
CRVS Cervenica-Dubn 60.84 314 *eP* **P** 19 37 54.4 +1.7
CRVS pmax pmax
comp=Z,19nm,1.1s
CRVS Cervenica-Dubn 60.84 314 *eP* **P** 19 37 54.4 +1.7
CRVS *epP* **pP** 19 38 14.7 +0.9
VAM Vamos 60.86 298 P **P** 19 37 52.8 -0.2
VAM Vamos 60.86 298 P **P** 19 37 52.8 -0.2
VAM Vamos 60.86 298 *eP* **P** 19 37 52.7 -0.2
VAM Vamos 60.86 298 P **P** 19 37 52.8 -0.2
XOR Xorichti 60.91 303 P **P** 19 37 52.1 -1.2
XOR Xorichti 60.91 303 P **P** 19 37 52.1 -1.2
STHS Stebnicka Huta 60.93 314 *eP* **P** 19 37 53.2 -0.1
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 60.93 314 *eP* **P** 19 37 53.2 -0.1
STHS *epP* **pP** 19 38 15.1 +0.7
BEL Belsk 61.00 317 *eP* **P** 19 37 54.2 +0.6
KARN Karanos 61.08 298 P **P** 19 37 54.5 0.0
KARN Karanos 61.08 298 *eP* **P** 19 37 54.5 0.0
KARN Karanos 61.08 298 P **P** 19 37 54.5 0.0
BZS Buzias 61.12 310 ⇓P **P** 19 37 54.9 +0.4
BZS Buzias 61.12 310⇓*i*P **P** 19 37 54.9 +0.4
DID Didima 61.21 300 P **P** 19 37 52.7 -2.7
DID Didima 61.21 300 P **P** 19 37 52.7 -2.7
DIDY Didyma 61.23 300 P **P** 19 37 54.6 -1.0
ACOR Acrocorinthos 61.42 301 P **P** 19 37 54.4 -2.4
AS31 Alice Springs 61.47 139 *eP* **P** 19 37 57.2 +0.1
ASAR Alice Springs 61.47 139 P **P** 19 37 57.5 +0.3
ASAR Alice Springs 61.47 139 P **P** 19 37 57.5 +0.3
comp=Z,7.8nm,0.4s,baz=316,slow=6.8,SNR=248
ANKY Antikythira Is 61.48 299 P **P** 19 37 56.1 -1.1
ANKY Antikythira Is 61.48 299 P **P** 19 37 56.1 -1.1
KECS Kecovo 61.53 313 *eP* **P** 19 37 57.4 +0.1
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 61.53 313 *eP* **P** 19 37 57.4 +0.1
KECS *epP* **pP** 19 38 18.6 +0.1
NIE Niedzica 61.54 314 *eP* P 19 38 00.6 +3.2
DSF Desfina 61.59 302 P **P** 19 37 56.4 -1.6
DSF Desfina 61.59 302 P **P** 19 37 56.4 -1.6
VLI Veliai 61.60 300 P **P** 19 37 55.7 -2.3
VLI Veliai 61.60 300 P **P** 19 37 55.7 -2.3
KYTH Kithira 61.61 299 P **P** 19 37 57.0 -1.1
KYTH Kithira 61.61 299 P **P** 19 37 57.0 -1.1
AGG Agios Georgios 61.63 302 P **P** 19 37 56.5 -1.7
AGG Agios Georgios 61.63 302 P **P** 19 37 56.5 -1.7
AGG Agios Georgios 61.63 302 P **P** 19 37 56.5 -1.7
KMBO Kilima Mbogo 61.71 254 P **P** 19 38 00.5 +1.2
comp=Z,2.5nm,2.1s
KMBO Kilima Mbogo 61.71 254 P **P** 19 38 00.5 +1.2
comp=Z,4.4nm,0.7s,baz=44,slow=12,SNR=13
KMBO LR LR 20 03 36.3
comp=Z,157nm,20.9s,baz=95,slow=35
THL Klokotos Trika 61.77 303 P **P** 19 37 57.7 -1.3
OJC Ojcow 61.78 315 *eP* **P** 19 37 59.1 +0.2
OJC pmax pmax
comp=Z,288nm,3.0s
OJC Ojcow 61.78 315 *eP* **P** 19 37 59.1 +0.2
comp=Z,288nm,3.0s
MAKR Makrakomi, Fth 61.78 302 P **P** 19 37 58.0 -1.2
MAKR Makrakomi, Fth 61.78 302 P **P** 19 37 58.0 -1.2
KZN Kozani 61.82 304 P **P** 19 37 58.9 -0.6
KZN Kozani 61.82 304 P **P** 19 37 58.9 -0.6
KZN Kozani 61.82 304 P **P** 19 37 58.9 -0.6
GUR Goura 61.82 301 P **P** 19 37 56.8 -2.8
GUR Goura 61.82 301 P **P** 19 37 56.8 -2.8
VLX Vlachokerasia 61.91 300 P **P** 19 37 58.5 -1.6
VLX Vlachokerasia 61.91 300 P **P** 19 37 58.5 -1.6
TRIZ Trizonia 61.95 302 P **P** 19 37 59.7 -0.6
KLV Kalavryta, Ach 61.95 301 P **P** 19 37 58.8 -1.6
KLV Kalavryta, Ach 61.95 301 P **P** 19 37 58.8 -1.6
PSZ Piszkesteto 61.99 313 ⇑P **P** 19 38 00.6 +0.1
PSZ Piszkesteto 61.99 313⇑*i*P **P** 19 38 00.6 +0.1
PSZ Piszkesteto 61.99 313 *eP* **P** 19 38 00.5 +0.1
FNA Florina 62.03 304 P **P** 19 38 00.1 -0.8
FNA Florina 62.03 304 P **P** 19 38 00.1 -0.8
FNA Florina 62.03 304 P **P** 19 38 00.1 -0.8
EVR Evrytania 62.05 302 P **P** 19 37 59.9 -1.2
EVR Evrytania 62.05 302 P **P** 19 37 59.9 -1.2
DYR Agios Nikonas 62.06 300 P **P** 19 38 00.1 -1.0
EFP Efpalio 62.07 302 P **P** 19 37 59.5 -1.6
ITM Ithomi 62.30 300 P **P** 19 38 01.2 -1.5
ITM Ithomi 62.30 300 P **P** 19 38 01.2 -1.5
NEST Nestorio 62.34 304 P **P** 19 38 02.0 -1.0
AMT Artemida-Makis 62.40 301 P **P** 19 38 02.2 -1.1
RLS Riolos of Patr 62.48 301 P **P** 19 38 02.5 -1.3
RLS Riolos of Patr 62.48 301 P **P** 19 38 02.5 -1.3
PYL PYLOS 62.50 300 P **P** 19 38 02.1 -1.9
PYL PYLOS 62.50 300 P **P** 19 38 02.1 -1.9
PHP Peshkopia 62.57 306 P **P** 19 38 02.9 -1.5
PHP Peshkopia 62.57 306 P **P** 19 38 02.9 -1.5
PHP Peshkopia 62.57 306 P **P** 19 38 02.9 -1.5
OKC Ostrava-Krasne 62.88 315 *eP* **P** 19 38 06.8 +0.5
OKC Ostrava-Krasne 62.88 315 *eP* **P** 19 38 06.8 +0.5
OKC *ex* x 19 38 13.9
OKC *ex* x 19 38 20.7
OKC *epP* **pP** 19 38 28.8 +1.2
LKD2 Lefkada island 62.95 302 P **P** 19 38 05.1 -1.9
LKD2 Lefkada island 62.95 302 P **P** 19 38 05.1 -1.9
GKP Gorka Klasztor 63.02 319 *eP* **P** 19 38 07.1 0.0
IGT Igoumenitsa 63.05 303 P **P** 19 38 06.0 -1.6
IGT Igoumenitsa 63.05 303 P **P** 19 38 06.0 -1.6
IGT Igoumenitsa 63.05 303 P **P** 19 38 06.0 -1.6
STEI Steigen 63.06 335 *eP* **P** 19 38 07.7 +0.5
PKSM Moragy 63.09 311 ⇑P **P** 19 38 07.6 -0.1
PKSM Moragy 63.09 311⇑*i*P **P** 19 38 07.6 -0.1
VLS Valsamata 63.13 302 P **P** 19 38 06.7 -1.5
VLS Valsamata 63.13 302 P **P** 19 38 06.7 -1.5
VLS Valsamata 63.13 302 P **P** 19 38 06.7 -1.5
SRN Sarande 63.23 304 P **P** 19 38 07.2 -1.6
SRN Sarande 63.23 304 P **P** 19 38 07.2 -1.6
MORC Moravsky Berou 63.28 315 *eP* **P** 19 38 08.7 -0.3
MORC pmax pmax
comp=Z,21nm,1.1s
MORC Moravsky Berou 63.28 315 *eP* **P** 19 38 08.7 -0.3
comp=Z,21nm,1.1s
MOR8 Moi Rana 63.43 333 *eP* **P** 19 38 09.2 -0.5
MOR8 AMB AMB 19 38 09.8
comp=Z,61nm,1.0s
SMOL Smolenice 63.54 313 *eP* **P** 19 38 11.6 +0.9
SMOL Smolenice 63.54 313 *eP* **P** 19 38 11.6 +0.9
LOF Lofoten 63.70 336 *eP* **P** 19 38 11.2 -0.1
OPO Ambohidratompo 63.78 232 P **P** 19 38 13.4 +0.7
OPO Ambohidratompo 63.78 232 P **P** 19 38 13.4 +0.7
comp=Z,17nm,0.9s,baz=49,slow=6.6,SNR=16
FLOS Flostrand 63.85 334 *eP* **P** 19 38 13.2 +0.8
KSP Ksiaz 63.92 316⇓*eP* **P** 19 38 13.5 +0.4
KSP Ksiaz 63.92 316 *eP* **P** 19 38 13.6 +0.4
DPC Dobruska-Polom 63.97 316 *eP* **P** 19 38 14.5 +0.9
DPC Dobruska-Polom 63.97 316 *eP* **P** 19 38 14.5 +0.9
DPC *ex* x 19 38 29.4
DPC *epP* **pP** 19 38 35.6 +0.7
DPC Dobruska-Polom 63.97 316 *eP* **P** 19 38 14.5 +0.9
comp=Z,131nm,1.2s
UPC Upice 64.15 316 *eP* **P** 19 38 15.3 +0.7
UPC Upice 64.15 316 *eP* **P** 19 38 15.3 +0.7
UPC *epP* **pP** 19 38 31.6 -4.3
UPC *ex* x 19 38 36.5
BSD Bornholm Skovb 64.15 321 *i* P **P** 19 38 13.9 -0.6
BSD Bornholm Skovb 64.15 321 *i* P **P** 19 38 13.9 -0.6
TREC Trest 64.68 315 *eP* **P** 19 38 18.8 +0.7
TREC Trest 64.68 315 *eP* **P** 19 38 18.8 +0.7
TREC *ex* x 19 38 26.6

TREC *ex* x 19 38 32.6
TREC *epP* **pP** 19 38 40.2 +0.7
ARSA Arzberg 65.02 312⇑*i*P **P** 19 38 20.7 +0.3
comp=Z,14nm,1.2s,SNR=5.7
PVCC Panska Ves 65.05 316 *eP* **P** 19 38 21.2 +0.7
PVCC Panska Ves 65.05 316 *eP* **P** 19 38 21.2 +0.7
PVCC *epP* **pP** 19 38 42.4 +0.5
RGN Rugen 65.14 321 *eP* **P** 19 38 21.8 +0.8
comp=Z,200nm,1.2s
PRU Pruhonice 65.16 315 *eP* **P** 19 38 21.8 +0.6
PRU Pruhonice 65.16 315 *eP* **P** 19 38 21.8 +0.6
PRU *ex* x 19 38 32.1
PRU *ex* x 19 38 37.2
PRU *epP* **pP** 19 38 43.3 +0.7
GOLS Golise 65.19 311 *i* P **P** 19 38 21.6 +0.1
NC602 NORSAR Array S 65.20 327 *eP* **P** 19 38 21.4 +0.2
RUE Ruedersdorf 65.21 318 *eP* **P** 19 38 21.9 +0.5
comp=Z,108nm,1.6s
RUE *epP* **pP** 19 38 43.1 +0.3
comp=Z,64nm,1.4s
RUE Ruedersdorf 65.21 318 *eP* **P** 19 38 21.9 +0.5
comp=Z,38nm,1.0s
PRA Prague 65.22 316 P **P** 19 38 22.0 +0.4
NB2 NORSAR Subarra 65.32 328 P **P** 19 38 22.1 0.0
comp=Z,52nm,1.1s,baz=83,slow=6.9
NB2 NORSAR Subarra 65.32 328 P **P** 19 38 22.1 0.0
baz=83,slow=6.9
NOA NORSAR Array B 65.32 328 P **P** 19 38 22.1 0.0
NOA pP **pP** 19 38 44.0 +0.5
NOA NORSAR Array B 65.32 328 P **P** 19 38 22.1 0.0
comp=Z,15nm,0.6s,baz=83,slow=6.4,SNR=34
NOA pP **pP** 19 38 44.0 +0.5
comp=Z,6.8nm,0.7s,baz=83,slow=6.4,SNR=4.3
BRG Berggiesshubel 65.38 316 *eP* **P** 19 38 23.4 +0.7
comp=Z,43nm,1.4s
BRG *e* 19 38 39.0
comp=Z,16nm,1.1s
BRG *e* 19 38 44.2
comp=Z,26nm,1.1s
BRG Berggiesshubel 65.38 316 *eP* **P** 19 38 23.3 +0.7
comp=Z,43nm,1.4s
BRG *epP* **pP** 19 38 44.3 +0.3
comp=Z,26nm,1.1s
BRG Berggiesshubel 65.38 316 *eP* **P** 19 38 23.4 +0.7
BRG pmax pmax
comp=Z,43nm,1.4s
PERS Pernice 65.41 312 *i* P **P** 19 38 23.1 +0.2
SOKA Soboth 65.46 312 *i* P **P** 19 38 23.6 +0.3
comp=Z,5.8nm,0.5s,SNR=8.6
BOJS Bojanci 65.54 310 *i* P **P** 19 38 24.4 +0.6
MOA Molln 65.74 313 *i* P **P** 19 38 25.3 +0.2
comp=Z,26nm,1.1s,SNR=9.1
FBE Freiberg 65.74 317 *eP* **P** 19 38 25.7 +0.8
comp=Z,60nm,1.3s
FBE *epP* **pP** 19 38 46.8 +0.5
comp=Z,78nm,1.4s
VISS Visnje 65.76 311 *i* P **P** 19 38 25.2 0.0
CLL Collm 65.89 317 *eP* **P** 19 38 26.0 +0.1
comp=Z,31nm,1.3s
CLL *epP* **pP** 19 38 47.7 +0.4
comp=Z,29nm,1.5s
CLL Collm 65.89 317⇓*i*P **P** 19 38 26.3 +0.4
CLL *eS* S 19 47 27.0 +21
CLL pmax pmax
comp=Z,31nm,1.3s
CLL Collm 65.89 317⇓*i*P **P** 19 38 26.3 +0.4
comp=Z,31nm,1.3s
CLL *epP* **pP** 19 38 47.0 -0.3
CLL *ePS* **PnS** 19 47 38.0 0.0
CLL *e*SSS SSS 19 54 41.0
GEC2 GERESS Array S 65.91 314 *eP* **P** 19 38 26.6 +0.4
comp=Z,34nm,1.1s
GEC2 *epP* **pP** 19 38 48.1 +0.4
comp=Z,46nm,1.3s
GEC2 GERESS Array S 65.91 314 *eP* **P** 19 38 26.7 +0.4
GEC2 GERESS Array S 65.91 314 *eP* **P** 19 38 26.7 +0.4
GERES GERESS Array B 65.91 314 P **P** 19 38 26.6 +0.4
GERES pP **pP** 19 38 47.9 +0.2
GERES GERESS Array B 65.91 314 P **P** 19 38 26.6 +0.4
comp=Z,4.8nm,0.4s,baz=68,slow=6.0,SNR=96
GERES pP **pP** 19 38 47.9 +0.2
comp=Z,6.9nm,0.7s,baz=83,slow=4.6,SNR=7.2
KHC Kasperske Hory 65.94 315 *eP* **P** 19 38 26.4 +0.1
KHC Kasperske Hory 65.94 315 *eP* **P** 19 38 26.4 +0.1
KHC *ex* x 19 38 41.8
KHC *epP* **pP** 19 38 48.0 +0.3
KHC Kasperske Hory 65.94 315 *eP* **P** 19 38 26.4 +0.1
comp=Z,25nm,1.3s
JAVS Javornik 66.28 311 *i* P **P** 19 38 28.1 -0.5
CUC Castrocucco 66.35 305 *eP* **P** 19 38 28.4 -0.7
comp=Z,16nm,1.0s
WET Wettzell 66.39 315 *eP* **P** 19 38 29.6 +0.4
comp=Z,26nm,1.2s
WET *epP* **pP** 19 38 51.0 +0.4
comp=Z,31nm,1.2s
WET Wettzell 66.39 315 *eP* **P** 19 38 29.6 +0.4
WET *e*PP **pP** 19 38 51.0 +0.4
WET pmax pmax
comp=Z,26nm,1.2s
WET pmax pmax
comp=Z,31nm,1.2s
TANN Tannenbergstha 66.40 316 *eP* **P** 19 38 29.6 +0.4
comp=Z,32nm,1.4s
TANN *epP* **pP** 19 38 50.9 +0.2
comp=Z,27nm,1.2s
NKC Novy Kostel 66.44 316 *eP* **P** 19 38 30.0 +0.5
NKC *e* 19 38 51.5
NKC Novy Kostel 66.44 316 *eP* **P** 19 38 30.0 +0.5
NKC *ex* x 19 38 45.8
NKC *epP* **pP** 19 38 51.5 +0.6
WERD Werda 66.49 316 *eP* **P** 19 38 30.1 +0.3
comp=Z,26nm,1.3s
WERD *epP* **pP** 19 38 51.2 0.0
comp=Z,28nm,1.1s
GUNZ Gunzen 66.49 316 *eP* **P** 19 38 30.4 +0.6
comp=Z,34nm,1.2s
GUNZ *epP* **pP** 19 38 51.8 +0.6
comp=Z,42nm,1.2s
NEUB Neuenburg 66.66 317 *eP* **P** 19 38 31.3 +0.5
comp=Z,50nm,1.2s
NEUB *epP* **pP** 19 38 53.0 +0.7
comp=Z,44nm,1.0s
ROTZ Rotzenmuhle 66.69 316 *eP* **P** 19 38 32.1 +1.1
comp=Z,51nm,1.2s
ROTZ *epP* **pP** 19 38 53.4 +0.9
comp=Z,54nm,1.1s
MANZ Manzenberg 66.70 316 *eP* **P** 19 38 32.0 +0.8
comp=Z,40nm,1.4s
CEL Celeste 66.71 303 *eP* **P** 19 38 31.3 -0.2
comp=Z,57nm,1.2s
RJOB Jochberg 66.73 313 *eP* **P** 19 38 31.6 +0.1
comp=Z,17nm,1.1s
RJOB *epP* **pP** 19 38 53.2 +0.3
comp=Z,22nm,1.2s
MOL Molde 66.80 330 *eP* P 19 38 44.2 +13
MOX Moxa 66.88 317 *eP* **P** 19 38 32.8 +0.6
comp=Z,24nm,1.2s
MOX *epP* **pP** 19 38 54.5 +0.8
comp=Z,40nm,1.4s
MOX Moxa 66.88 317 *eP* **P** 19 38 32.8 +0.6
MOX *e*PP **pP** 19 38 54.5 +0.8
MOX pmax pmax
comp=Z,24nm,1.2s
MOX MLR MLR
comp=Z,400nm,18.5s
BSEG Bad Segeberg 66.99 320 *eP* **P** 19 38 34.0 +1.2
comp=Z,98nm,1.1s
BSEG *epP* **pP** 19 38 55.2 +0.9
comp=Z,64nm,0.9s
CTAO Charters Tower 67.12 127 *eP* **P** 19 38 33.2 -0.9
CTAO pmax pmax
comp=Z,118nm,2.1s
CTAO Charters Tower 67.12 127 *eP* **P** 19 38 33.2 -0.9
comp=Z,118nm,2.1s
ABTA Abfaltersbach 67.14 312⇑*i*P **P** 19 38 32.9 -1.2
comp=Z,16nm,1.2s,SNR=5.7
GRF Grafenberg Arr 67.33 316 *eP* **P** 19 38 36.0 +0.9
comp=Z,58nm,1.5s
GRF *epP* **pP** 19 38 57.5 +0.9
comp=Z,87nm,1.5s
GRF Grafenberg Arr 67.33 316 *eP* **P** 19 38 36.0 +0.9
GRF *e*PP **pP** 19 38 57.5 +0.9
GRF pmax pmax
comp=Z,58nm,1.5s
GRFO Grafenberg 67.33 316 *eP* **P** 19 38 35.3 +0.2
GRFO pmax pmax

comp=Z,43nm,1.2s
GRFO Grafenberg 67.33 316 *e*P **P 19 38 35.3 +0.2**
comp=Z,43nm,1.2s
CLZ Clausthal 67.39 318 *e*P **P 19 38 36.1 +0.6**
comp=Z,72nm,1.2s
CLZ *ep*P **pP 19 38 57.9 +0.9**
comp=Z,70nm,1.1s
CLZ Clausthal 67.39 318 *e*P **P 19 38 36.1 +0.6**
CLZ *e**PP **pP 19 38 57.9 +0.9**
CLZ pmax pmax
comp=Z,72nm,1.2s
NRDL Niedersach Rie 67.41 319 *e*P **P 19 38 36.4 +1.0**
comp=Z,74nm,1.3s
NRDL *ep*P **pP 19 38 57.9 +1.0**
comp=Z,89nm,1.4s
AQU L'Aquila 67.55 307 *e*P **P 19 38 35.7 -1.0**
comp=Z,44nm,0.9s
WTTA Wattenberg 67.61 313⇑ *i*P **P 19 38 36.5 -0.6**
comp=Z,9.2nm,0.6s,SNR=7.7
FUR Furstenfeldbru 67.63 314 *e*P **P 19 38 37.6 +0.5**
comp=Z,44nm,1.2s
FUR *ep*P **pP 19 38 59.3 +0.7**
comp=Z,67nm,1.3s
FUR Furstenfeldbru 67.63 314 *e*P **P 19 38 37.6 +0.5**
FUR *e**PP **pP 19 38 59.3 +0.7**
FUR pmax pmax
comp=Z,44nm,1.2s
UBBA Unterbreizbach 67.84 317 *e*P **P 19 38 38.7 +0.5**
comp=Z,36nm,1.6s
UBBA *ep*P **pP 19 39 00.2 +0.5**
comp=Z,42nm,1.7s
MOTA Moosalm 67.94 313⇓ *i*P **P 19 38 38.0 -1.2**
comp=Z,14nm,0.9s,SNR=12
RETA Reutte 68.13 313 *i* P **P 19 38 40.0 -0.2**
SNR=7.6
FETA Feichten 68.26 313 *i* P **P 19 38 40.9 -0.3**
comp=Z,19nm,1.2s,SNR=7.4
FUORN Ofenpass-Fuorn 68.67 313 *e*P **P 19 38 43.5 -0.4**
comp=Z,95nm,2.3s
DAVA Damuels 68.76 313 *i* P **P 19 38 44.0 -0.3**
comp=Z,26nm,1.3s,SNR=6.8
STU Stuttgart 68.83 315 *e*P **P 19 38 45.1 +0.5**
comp=Z,44nm,1.2s
STU *ep*P **pP 19 39 06.7 +0.6**
comp=Z,56nm,1.1s
STU Stuttgart 68.83 315 *e*P **P 19 38 44.2 -0.4**
STU pmax pmax
comp=Z,44nm,1.1s
STU Stuttgart 68.83 315 *e*P **P 19 38 44.2 -0.4**
comp=Z,44nm,1.1s
IBBN Ibbenburen 68.86 319 *e*P **P 19 38 45.2 +0.6**
comp=Z,67nm,1.5s
IBBN *ep*P **pP 19 39 06.9 +0.8**
comp=Z,100nm,1.8s
TNS Taunus Mts 68.95 317 *e*P **P 19 38 45.8 +0.5**
comp=Z,19nm,1.0s
TNS *ep*P **pP 19 39 07.5 +0.6**
comp=Z,19nm,0.9s
TNS Taunus Mts 68.95 317 *e*P **P 19 38 45.8 +0.5**
TNS *e**PP **pP 19 39 07.5 +0.6**
TNS pmax pmax
comp=Z,19nm,1.0s
TUE Stuetta 69.32 313 *e*P **P 19 38 47.9 0.0**
comp=Z,13nm,0.9s
BUG Bochum--Univer 69.36 318 *e*P **P 19 38 48.4 +0.7**
comp=Z,36nm,1.2s
BUG *ep*P **PcP 19 39 10.2 -0.5**
comp=Z,26nm,1.1s
BFO Black Forest 69.50 315 *e*P **P 19 38 48.6 -0.1**
comp=Z,25nm,1.5s
BFO *ep*P **pP 19 39 10.5 +0.2**
comp=Z,54nm,2.1s
BFO Black Forest 69.50 315 *e*P **P 19 38 48.6 -0.1**
BFO *e**PP **pP 19 39 10.5 +0.2**
BFO pmax pmax
comp=Z,25nm,1.5s
BFO pmax pmax
comp=Z,54nm,2.1s
BFO Black Forest 69.50 315 *e*P **P 19 38 48.2 -0.5**
comp=Z,20nm,1.4s
LANF Langenberg 69.67 315 *e*P **P 19 38 49.9 +0.2**
CDF Champ du Feu 70.16 315⇑ *i*P **P 19 38 52.8 0.0**
comp=Z,31nm,1.1s
CDF *ep*P **pP 19 39 14.5 +0.1**
CDF Champ du Feu 70.16 315⇑ *i*P **P 19 38 52.8 0.0**
CDF *e**PP **pP 19 39 14.5 +0.1**
CDF Champ du Feu 70.16 315⇑ *i*P **P 19 38 52.8 0.0**
CDF *ep*P **pP 19 39 14.5 +0.1**
ECH Echery 70.29 315 *e*P **P 19 38 52.8 -0.7**
ECH pmax pmax
comp=Z,6.0nm,1.1s
ECH Echery 70.29 315 *e*P **P 19 38 52.8 -0.7**
comp=Z,6.1nm,1.1s
MEM Membach 70.35 317 P **P 19 38 53.8 0.0**
MOF Molkenrain 70.41 314 *e*P **P 19 38 54.0 -0.3**
WLF Walferdange 70.52 316 P **P 19 38 56.0 +1.1**
comp=Z,38nm,1.3s
WLF AP **pP 19 39 16.9 +0.3**
WLF Walferdange 70.52 316 *e*P **P 19 38 56.0 +1.1**
WLF *ep*P **pP 19 39 17.5 +1.0**
comp=Z,79nm,1.1s
WLF Walferdange 70.52 316 *e*P **P 19 38 55.1 +0.2**
WLF pmax pmax
comp=Z,147nm,1.5s
WLF Walferdange 70.52 316 *e*P **P 19 38 55.1 +0.2**
comp=Z,147nm,1.5s
HINF Hinteralfeld 70.60 314 *e*P **P 19 38 55.1 -0.3**
HINF *ep*P **pP 19 39 17.1 0.0**
HINF Hinteralfeld 70.60 314 *e*P **P 19 38 55.1 -0.3**
HINF *e**PP **pP 19 39 17.1 0.0**
HINF Hinteralfeld 70.60 314 *e*P **P 19 38 55.1 -0.3**
HINF *ep*P **pP 19 39 17.1 0.0**
PGF Pioggiola 70.64 309 *e*P **P 19 38 55.6 -0.3**
comp=Z,151nm,1.5s
PGF Pioggiola 70.64 309 *e*P **P 19 38 55.6 -0.3**
PGF Pioggiola 70.64 309 *e*P **P 19 38 55.6 -0.3**
JMIC Jan Mayen 70.67 340 LR LR 20 14 03.9
comp=Z,274nm,18.2s,baz=80,slow=39
SENIN Lac Senin/Sane 70.72 313 *e*P **P 19 38 56.8 +0.4**
comp=Z,107nm,2.0s
LOMF Lomont 70.74 314 *e*P **P 19 38 55.8 -0.6**
BCLA Clavier 70.84 317 P **P 19 38 57.0 +0.2**
comp=Z,12nm,1.6s
HAU Haudompre 70.87 315⇑ *i*P **P 19 38 57.0 -0.1**
comp=Z,36nm,1.1s
HAU *e*R
comp=Z,566nm,21.0s
HAU Haudompre 70.87 315⇑ *i*P **P 19 38 57.0 -0.1**
HAU Haudompre 70.87 315⇑ *i*P **P 19 38 57.0 -0.1**
ATKA Atka Island 70.91 41 *ep*P pP 19 39 15.9 -2.9
THEF They Montfort 71.04 315 *e*P **P 19 38 57.7 -0.4**
PAGF Fort de Pagny 71.11 315⇑ *i*P **P 19 38 58.9 +0.4**
comp=Z,37nm,1.6s
PAGF *ep*P **pP 19 39 20.7 +0.5**
PAGF Fort de Pagny 71.11 315⇑ *i*P **P 19 38 58.9 +0.4**
PAGF *ep*P **pP 19 39 20.7 +0.5**
GIVF Givet 71.22 317 *e*P **P 19 38 59.3 +0.2**
GIVF Givet 71.22 317 *e*P **P 19 38 59.3 +0.2**
GIVF Givet 71.22 317 *e*P **P 19 38 59.3 +0.2**
LPG La Plagne 71.33 312⇑ *i*P **P 19 39 00.5 +0.2**
comp=Z,17nm,0.5s
LPG *ep*P **pP 19 39 22.3 +0.4**
LPG La Plagne 71.33 312⇑ *i*P **P 19 39 00.5 +0.2**
LPG *e**PP **pP 19 39 22.3 +0.4**
LPG La Plagne 71.33 312⇑ *i*P **P 19 39 00.5 +0.2**
LPG *ep*P **pP 19 39 22.3 +0.4**
LPL La Plagne 71.34 312⇑ *i*P **P 19 39 00.5 +0.3**
comp=Z,24nm,0.4s
LPL La Plagne 71.34 312⇑ *i*P **P 19 39 00.5 +0.3**
LPL La Plagne 71.34 312⇑ *i*P **P 19 39 00.5 +0.3**
SBF Sospel 71.35 310 *e*P **P 19 38 59.8 -0.3**
SBF *ep*P **pP 19 39 21.5 -0.3**
SBF Sospel 71.35 310 *e*P **P 19 38 59.8 -0.3**
SBF *e**PP **pP 19 39 21.5 -0.3**
SBF Sospel 71.35 310 *e*P **P 19 38 59.8 -0.3**
SBF *ep*P **pP 19 39 21.5 -0.3**
DOU Dourbes 71.37 317 P **P 19 39 01.0 +1.1**
comp=Z,10nm,2.0s
DOU AP **pP 19 39 20.8 -0.9**
CABF La Chapelle 71.44 313 *e*P **P 19 39 00.7 0.0**
CABF La Chapelle 71.44 313 *e*P **P 19 39 00.7 0.0**
CABF La Chapelle 71.44 313 *e*P **P 19 39 00.7 0.0**
BNI Bardonecchia 71.51 312 *e*P **P 19 39 00.8 -0.4**
BNI pmax pmax
comp=Z,13nm,1.0s
BNI Bardonecchia 71.51 312 *e*P **P 19 39 00.8 -0.4**
comp=Z,13nm,1.0s
MBDF Montbardon 71.55 311 *e*P **P 19 39 00.5 -0.9**
comp=Z,16nm,0.6s
MBDF Montbardon 71.55 311 *e*P **P 19 39 00.5 -0.9**
MBDF Montbardon 71.55 311 *e*P **P 19 39 00.5 -0.9**
MEZF Maizieres J'vi 71.55 315⇑ *i*P **P 19 39 01.4 +0.3**
comp=Z,30nm,0.7s
MEZF *ep*P **pP 19 39 23.3 +0.5**
MEZF Maizieres J'vi 71.55 315⇑ *i*P **P 19 39 01.4 +0.3**
MEZF *ep*P **pP 19 39 23.3 +0.5**
BAIF Baives 71.61 317⇑ *i*P **P 19 39 01.9 +0.4**
comp=Z,55nm,1.4s
BAIF Baives 71.61 317⇑ *i*P **P 19 39 01.9 +0.4**
BAIF Baives 71.61 317⇑ *i*P **P 19 39 01.9 +0.4**
SFTF Sexfontaines 71.65 315⇑ *i*P **P 19 39 01.7 -0.1**
SFTF *ep*P **pP 19 39 23.5 +0.1**
SFTF Sexfontaines 71.65 315⇑ *i*P **P 19 39 01.7 -0.1**
SFTF *ep*P **pP 19 39 23.5 +0.1**
ALE Alert 71.91 357 P **P 19 39 03.9 +1.2**
comp=Z,87nm,1.0s,SNR=5.1
FRF La Foret Royal 71.98 310 *e*P **P 19 39 03.5 -0.3**
comp=Z,65nm,1.2s
FRF La Foret Royal 71.98 310 *e*P **P 19 39 03.5 -0.3**
FRF La Foret Royal 71.98 310 *e*P **P 19 39 03.5 -0.3**
ORIF Oris-en-Rattie 72.09 312 *e*P **P 19 39 04.0 -0.6**
comp=Z,19nm,0.7s
ORIF *e*R
comp=Z,435nm,22.8s
ORIF Oris-en-Rattie 72.09 312 *e*P **P 19 39 04.0 -0.6**
ORIF Oris-en-Rattie 72.09 312 *e*P **P 19 39 04.0 -0.6**
STKA Stephens Creek 72.10 140 *e*P **P 19 39 04.9 +0.3**
STKA Stephens Creek 72.10 140 P **P 19 39 04.6 0.0**
comp=Z,5.8nm,0.4s,baz=319,slow=5.5,SNR=65
STKA LR LR 20 13 47.2
comp=Z,144nm,19.2s,baz=223,slow=38
LMR La Mourre 72.15 310 *e*P **P 19 39 04.8 0.0**
comp=Z,165nm,1.7s
LMR La Mourre 72.15 310 *e*P **P 19 39 04.8 0.0**
LMR La Mourre 72.15 310 *e*P **P 19 39 04.8 0.0**
KEST Kesra 72.45 302 *e*P **P 19 39 07.3 +0.4**
KEST Kesra 72.45 302 P **P 19 39 07.5 +0.6**
comp=Z,16nm,1.0s,baz=67,slow=10,SNR=29
SMRF Simiane la Rot 72.59 311 *e*P **P 19 39 07.8 +0.3**
comp=Z,28nm,1.0s
SMRF Simiane la Rot 72.59 311 *e*P **P 19 39 07.8 +0.3**
LOR Lormes 72.70 315⇑ *i*P **P 19 39 07.6 -0.4**
comp=Z,22nm,1.1s
LOR *e*R
comp=Z,583nm,20.5s
LOR Lormes 72.70 315⇑ *i*P **P 19 39 07.6 -0.4**
SSB Saint Sauveur 72.88 312 *e*P **P 19 39 08.9 -0.3**
SSB pmax pmax
comp=Z,8.0nm,0.8s
SSB Saint Sauveur 72.88 312 *e*P **P 19 39 08.9 -0.3**
comp=Z,7.5nm,0.8s
SMF Signal de Mont 72.91 314⇑ *i*P **P 19 39 09.1 -0.2**
comp=Z,28nm,0.9s
SMF Signal de Mont 72.91 314⇑ *i*P **P 19 39 09.1 -0.2**
SMF Signal de Mont 72.91 314⇑ *i*P **P 19 39 09.1 -0.2**
VIVF Saint-Julien-l 72.93 312⇑ *i*P **P 19 39 09.4 -0.1**
comp=Z,9.6nm,0.6s
VIVF *ep*P **pP 19 39 31.1 -0.1**
VIVF Saint-Julien-l 72.93 312⇑ *i*P **P 19 39 09.4 -0.1**
VIVF *e**PP **pP 19 39 31.1 -0.1**
VIVF Saint-Julien-l 72.93 312⇑ *i*P **P 19 39 09.4 -0.1**
VIVF *ep*P **pP 19 39 31.1 -0.1**
SSF Saint Saulge 72.99 314⇑ *i*P **P 19 39 09.7 -0.1**
comp=Z,49nm,1.2s
SSF Saint Saulge 72.99 314⇑ *i*P **P 19 39 09.7 -0.1**
SSF Saint Saulge 72.99 314⇑ *i*P **P 19 39 09.7 -0.1**
AVF Avril sur Loir 73.18 314⇑ *i*P **P 19 39 10.7 -0.1**
comp=Z,57nm,1.2s
AVF *ep*P **pP 19 39 32.6 0.0**
AVF Avril sur Loir 73.18 314⇑ *i*P **P 19 39 10.7 -0.1**
AVF *e**PP **pP 19 39 32.6 0.0**
AVF Avril sur Loir 73.18 314⇑ *i*P **P 19 39 10.7 -0.1**
AVF *ep*P **pP 19 39 32.6 0.0**
MME1 Meikle Cairn 73.29 326 *e*P **P 19 39 11.7 +0.4**
MCD Coleburn Disti 73.34 326 *e*P **P 19 39 12.3 +0.7**
MCD AMB AMB 19 39 13.5
comp=Z,70nm,1.1s
HYF Humbligny 73.48 315 *e*P **P 19 39 13.2 +0.5**
HYF Humbligny 73.48 315 *e*P **P 19 39 13.2 +0.5**
AGO Saint Agoulin 73.56 313 *e*P **P 19 39 13.5 +0.3**
BGF Bois d'Agland 73.58 314 *e*P **P 19 39 13.2 -0.1**
BGF Bois d'Agland 73.58 314 *e*P **P 19 39 13.2 -0.1**
BGF Bois d'Agland 73.58 314 *e*P **P 19 39 13.2 -0.1**
ESY Stoneypath 73.61 324 *e*P **P 19 39 13.6 +0.4**
ESY AMB AMB 19 39 14.5
comp=Z,78nm,2.3s
LASF Ste Croix 73.73 311⇑ *i*P **P 19 39 14.4 +0.2**
LASF *ep*P **pP 19 39 36.4 +0.4**
LASF Ste Croix 73.73 311⇑ *i*P **P 19 39 14.4 +0.2**
LASF *ep*P **pP 19 39 36.4 +0.4**
PYM Petit Puy Mans 73.75 313 *e*P **P 19 39 13.7 -0.6**
EBL Broad Law 73.88 324 *e*P **P 19 39 15.5 +0.7**
EIDS Eidsvold 73.90 129 *e*P **P 19 39 16.0 +0.7**
MDO Dochfour 73.95 326 *e*P **P 19 39 15.2 0.0**
TCF Toulx Ste Croi 74.09 314⇑ *i*P **P 19 39 16.6 +0.4**
comp=Z,101nm,1.5s
TCF *ep*P **pP 19 39 38.6 +0.5**
TCF Toulx Ste Croi 74.09 314⇑ *i*P **P 19 39 16.6 +0.4**
TCF Toulx Ste Croi 74.09 314⇑ *i*P **P 19 39 16.6 +0.4**
TCF *ep*P **pP 19 39 38.6 +0.5**
ESK Eskdalemuir 74.13 324 P **P 19 39 16.7 +0.5**
comp=Z,181nm,1.1s,SNR=6.3
ESK Eskdalemuir 74.13 324 *e*P **P 19 39 16.3 0.0**
ESK AMB AMB 19 39 17.9
comp=Z,41nm,1.7s
ESK Eskdalemuir 74.13 324 *i* P **P 19 39 17.6 +1.3**
ESK Eskdalemuir 74.13 324 *e*P **P 19 39 16.8 +0.5**
comp=Z,276nm,2.3s
ESK *ep*P **pP 19 39 38.6 +0.5**
ECK Cauldkaine Hil 74.14 324 *e*P **P 19 39 16.7 +0.4**
CAF Calviac 74.65 313⇑ *i*P **P 19 39 19.9 +0.3**
CAF Calviac 74.65 313⇑ *i*P **P 19 39 19.9 +0.3**
CAF Calviac 74.65 313⇑ *i*P **P 19 39 19.9 +0.3**
LDF La Druitiere 74.77 317⇑ *i*P **P 19 39 20.0 -0.1**
comp=Z,39nm,1.1s
LDF La Druitiere 74.77 317⇑ *i*P **P 19 39 20.0 -0.1**
LDF La Druitiere 74.77 317⇑ *i*P **P 19 39 20.0 -0.1**
RJF Les Rejaudoux 74.88 313⇑ *i*P **P 19 39 21.5 +0.7**
RJF *ep*P **pP 19 39 43.5 +0.8**
RJF *e*R
comp=Z,448nm,20.8s
RJF Les Rejaudoux 74.88 313⇑ *i*P **P 19 39 21.5 +0.7**
RJF Les Rejaudoux 74.88 313⇑ *i*P **P 19 39 21.5 +0.7**
RJF *ep*P **pP 19 39 43.5 +0.8**
FLN La Foliniere 74.93 317 *e*P **P 19 39 21.0 0.0**
FLN *e*R
comp=Z,370nm,20.8s
FLN La Foliniere 74.93 317 *e*P **P 19 39 21.0 0.0**
FLN La Foliniere 74.93 317 *e*P **P 19 39 21.0 0.0**
MTLF Montolieu 75.10 311⇑ *i*P **P 19 39 22.2 +0.1**
MTLF *ep*P **pP 19 39 44.2 +0.2**
MTLF Montolieu 75.10 311⇑ *i*P **P 19 39 22.2 +0.1**
MTLF Montolieu 75.10 311⇑ *i*P **P 19 39 22.2 +0.1**
MTLF *ep*P **pP 19 39 44.2 +0.2**
GRR Gorron 75.30 317 *e*P **P 19 39 23.2 0.0**
GRR Gorron 75.30 317 *e*P **P 19 39 23.2 0.0**
GRR Gorron 75.30 317 *e*P **P 19 39 23.2 0.0**
IMA2 Indian Mountai 75.33 23 *e*P **P 19 39 23.4 +0.3**
IM04 Indian Mountai 75.34 23 *e*P **P 19 39 23.2 +0.1**
MFF Saint Martin d 75.50 315⇑ *i*P **P 19 39 24.2 -0.1**
MFF Saint Martin d 75.50 315⇑ *i*P **P 19 39 24.2 -0.1**
MFF Saint Martin d 75.50 315⇑ *i*P **P 19 39 24.2 -0.1**
LFF La Frestale 75.53 313⇑ *i*P **P 19 39 25.1 +0.6**
comp=Z,12nm,0.5s
LFF La Frestale 75.53 313⇑ *i*P **P 19 39 25.1 +0.6**
LFF La Frestale 75.53 313⇑ *i*P **P 19 39 25.1 +0.6**
COLD Coldfoot 75.93 21 *e*P **P 19 39 27.0 +0.6**
comp=Z,27nm,1.1s
SGMF Saint Gilles 76.40 317 *e*P **P 19 39 29.9 +0.5**
SGMF *ep*P **pP 19 39 51.9 +0.6**
SGMF Saint Gilles 76.40 317 *e*P **P 19 39 29.9 +0.5**
SGMF Saint Gilles 76.40 317 *e*P **P 19 39 29.9 +0.5**
SGMF *ep*P **pP 19 39 51.9 +0.6**
EPF Esparros 76.50 311 *e*P **P 19 39 29.8 -0.3**
EPF Esparros 76.50 311 *e*P **P 19 39 29.8 -0.3**
EPF Esparros 76.50 311 *e*P **P 19 39 29.8 -0.3**
LSZ Lusaka 76.58 246 *e*P **P 19 39 31.4 +0.4**
comp=Z,28nm,0.8s
ROSF Rostrenen 76.81 317 *e*P **P 19 39 32.1 +0.4**
ROSF Rostrenen 76.81 317 *e*P **P 19 39 32.1 +0.4**
ROSF Rostrenen 76.81 317 *e*P **P 19 39 32.1 +0.4**
SVW2 Sparrevohn 77.00 28 *e*P **P 19 39 32.5 -0.1**
comp=Z,107nm,1.5s
ETSF Etsaut 77.16 311⇑ *i*P **P 19 39 34.4 +0.5**
comp=Z,12nm,0.5s
ETSF Etsaut 77.16 311⇑ *i*P **P 19 39 34.4 +0.5**
ETSF Etsaut 77.16 311⇑ *i*P **P 19 39 34.4 +0.5**
BPAW Bear Paw Mtn. 77.32 24 *e*P **P 19 39 35.1 +0.8**
comp=Z,48nm,1.0s
PPLA Purkeypile 77.49 26 *e*P **P 19 39 35.9 +0.5**
comp=Z,434nm,2.1s
SUMG Summit 77.50 347 *e*P **P 19 39 35.4 -0.2**
SUMG pmax pmax
comp=Z,47nm,1.5s
SUMG Summit 77.50 347 *i* P **P 19 39 35.5 -0.2**
comp=Z,10nm,0.9s
SUMG Summit 77.50 347 *e*P **P 19 39 35.4 -0.2**
comp=Z,47nm,1.5s
SJPF Ste Jean 77.53 312 *e*P **P 19 39 36.0 +0.1**
SJPF Ste Jean 77.53 312 *e*P **P 19 39 36.0 +0.1**
SJPF Ste Jean 77.53 312 *e*P **P 19 39 36.0 +0.1**
COLA College 78.03 23 *e*P **P 19 39 38.8 +0.6**
COLA pmax pmax
comp=Z,35nm,0.8s
COLA College 78.03 23 *e*P **P 19 39 38.8 +0.6**
comp=Z,35nm,0.8s
MCK McKinley 78.28 24 *e*P **P 19 39 39.6 -0.1**
MCK McKinley 78.28 24 *e*P **P 19 39 39.6 -0.1**
ILAR Eielson Array 78.42 23 P **P 19 39 39.5 -1.0**
ILAR Eielson Array 78.42 23 P **P 19 39 39.5 -1.0**
comp=Z,11nm,0.8s,baz=294,slow=4.2,SNR=122
SPU Mount Spurr 78.44 27 *e*P **P 19 39 40.5 -0.2**
RSO Redoubt South 78.52 28 *e*P **P 19 39 41.3 +0.1**
PMR Palmer 79.40 26 *e*P **P 19 39 45.4 -0.3**
PMR pmax pmax
comp=Z,46nm,0.8s
PMR Palmer 79.40 26 *e*P **P 19 39 45.4 -0.3**
comp=Z,46nm,0.8s
SML Sawmill 79.59 26 *e*P **P 19 39 47.1 +0.2**
SML pmax pmax
comp=Z,56nm,1.5s
SML Sawmill 79.59 26 *e*P **P 19 39 47.1 +0.2**
comp=Z,56nm,1.5s
OHAK Old Harbor 79.97 31 *e*P **P 19 39 48.7 -0.2**
comp=Z,397nm,1.9s
PAX Paxson 80.00 24 *e*P **P 19 39 49.4 +0.3**
PAX pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 80.00 24 *e*P **P 19 39 49.4 +0.3**
comp=Z,17nm,1.0s
KDAK Kodiak Island 80.00 30 P **P 19 39 49.0 -0.1**
comp=Z,300nm,1.0s,SNR=15
KDAK Kodiak Island 80.00 30 *e*P **P 19 39 50.1 +1.1**
KDAK Kodiak Island 80.00 30 P **P 19 39 48.6 -0.4**
comp=Z,18nm,0.7s,baz=307,slow=1.4,SNR=24
INK Inuvik 80.16 16 *e*P **P 19 39 50.0 +0.3**
comp=Z,80nm,1.0s
TAM Tamanrasset 80.22 291 *e*P **P 19 39 51.4 +0.2**
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM Tamanrasset 80.22 291 *e*P **P 19 39 51.4 +0.2**
comp=Z,5.7nm,1.2s
EGAK Eagle 80.36 21 *e*P **P 19 39 51.1 +0.2**
comp=Z,12nm,0.6s
ESDC Sonseca Array 80.80 309 P **P 19 39 54.0 +0.1**
ESDC pP **pP 19 40 15.9 -0.1**
ESDC Sonseca Array 80.80 309 P **P 19 39 54.0 +0.1**
comp=Z,3.3nm,0.8s,baz=54,slow=5.5,SNR=24
ESDC pP **pP 19 40 15.9 -0.1**
comp=Z,2.9nm,0.8s,baz=55,slow=5.5,SNR=3.9
DIV Divide 80.99 25 *e*P **P 19 39 55.2 +0.8**
comp=Z,299nm,2.4s
DAWY Dawson 81.41 21 *e*P **P 19 39 56.7 +0.1**
BMRM Bremner River 81.54 25 *e*P **P 19 39 57.8 +0.4**
comp=Z,61nm,0.9s
RAGM Ragged Mountai 81.87 26 *e*P **P 19 40 00.2 +1.2**
MVO Moncorvo 82.26 312 *e*P **P 19 40 02.3 +0.8**
comp=Z,32nm,1.3s
MTE Manteigas 82.95 311 *e*P **P 19 40 06.3 +1.2**
comp=Z,27nm,1.3s
PVIS Viseu 83.05 312 *e*P **P 19 40 06.5 +0.9**
comp=Z,20nm,1.3s
PCBR Castelo Branco 83.16 311 *e*P **P 19 40 06.8 +0.7**
comp=Z,20nm,1.5s
PMRV Marv??o 83.29 310 *e*P **P 19 40 07.4 +0.6**
comp=Z,26nm,2.0s
PBAR Barrancos 83.61 309 *e*P **P 19 40 09.3 +0.8**
comp=Z,29nm,1.5s
LBTB Lobatse 83.70 239 *e*P **P 19 40 09.9 +0.7**
comp=Z,61nm,1.4s
EVO Evora 84.13 310⇓ *i*P **P 19 40 12.1 +1.0**
comp=Z,59nm,1.5s
EVO *e*R
comp=Z,310nm,19.2s
EVOP Sao Brissos 84.21 310⇓ *i*P **P 19 40 12.1 +0.6**
EVOP Sao Brissos 84.21 310⇓ *i*P **P 19 40 12.1 +0.6**
HYT Haines Junctio 84.26 23 *e*P **P 19 40 12.5 +1.0**
PBEJ Beja 84.26 309 *e*P **P 19 40 12.6 +0.8**
comp=Z,26nm,1.7s
PVAQ Vaqueiros 84.44 309 *e*P **P 19 40 13.5 +0.8**
comp=Z,47nm,1.4s
SFJD Kangerlussuaq 84.50 347 *i* P **P 19 40 12.1 -0.3**
comp=Z,15nm,0.9s
PBDV Barranco-do-Ve 84.67 309 *e*P **P 19 40 15.8 +1.9**
comp=Z,58nm,1.7s
PNCL Nicolau / Gran 84.69 310 *e*P **P 19 40 14.8 +0.9**
comp=Z,54nm,1.7s
BOSA Boshof 85.83 236 P **P 19 40 19.8 0.0**
BOSA *ep*P **pP 19 40 40.8 -1.4**
BOSA Boshof 85.83 236 P **P 19 40 19.8 0.0**
comp=Z,26nm,1.2s,baz=73,slow=4.8,SNR=12
BOSA LR LR 20 17 11.8
comp=Z,199nm,18.8s,baz=60,slow=34
SKAG Skagway 86.00 23 *e*P **P 19 40 21.8 +1.8**
comp=Z,33nm,1.1s
TOA0 Torodi Ar. Sit 87.49 283 *e*P **P 19 40 28.3 +0.2**
TORD Torodi Ar. Bea 87.49 283 P **P 19 40 28.6 +0.5**
TORD pP **pP 19 40 51.5 +1.0**
TORD Torodi Ar. Bea 87.49 283 P **P 19 40 28.6 +0.5**
comp=Z,7.1nm,0.9s,baz=54,slow=4.2,SNR=53
TORD pP **pP 19 40 51.5 +1.0**
comp=Z,7.1nm,1.0s,baz=54,slow=4.0,SNR=5.1
DLBC Dease Lake 88.60 22 P **P 19 40 32.6 -0.1**
DLBC Dease Lake 88.60 22 P **P 19 40 32.6 -0.1**
comp=Z,12nm,1.1s,baz=332,slow=2.6,SNR=10
YKW3 Yellowknife Ar 89.35 13 *e*P **P 19 40 35.4 -0.6**
comp=Z,1.4nm,1.8s
YKA Yellowknife Ar 89.41 13 P **P 19 40 36.4 +0.1**
YKA Yellowknife Ar 89.41 13 P **P 19 40 36.4 +0.1**
comp=Z,4.0nm,0.7s,baz=331,slow=4.5,SNR=16
CASY Casey 91.99 174 *e*P **P 19 40 47.5 -0.4**
comp=Z,30nm,1.3s
MAW Mawson 95.62 192 P **P 19 41 05.1 +0.6**
MAW Mawson 95.62 192 P **P 19 41 05.1 +0.6**
comp=Z,0.9nm,0.5s,baz=48,slow=8.7,SNR=5.3
MAW LR LR 20 15 39.8
comp=Z,120nm,21.8s,baz=224,slow=30
DBIC Dimbokro 96.09 280 P **P 19 41 08.5 +0.4**
DBIC Dimbokro 96.09 280 P **P 19 41 08.5 +0.4**
comp=Z,3.9nm,0.7s,baz=18,slow=4.4,SNR=5.7
EDM Edmonton 98.05 17 *e*P Pdif 19 41 16.7 +0.5
EDM Edmonton 98.05 17 *e*P Pdif 19 41 16.7 +0.5
SCHQ Schefferville 98.75 350 P Pdif 19 41 19.4 +0.1
SCHQ Schefferville 98.75 350 P Pdif 19 41 19.4 +0.1
comp=Z,3.6nm,0.9s,baz=24,slow=10.0,SNR=4.2
FFC Flin Flon 99.03 10 *e*P **Pdif 19 41 20.2 -0.2**
FFC Flin Flon 99.03 10 *e*P **Pdif 19 41 20.2 -0.2**
comp=Z,20nm,1.1s
ULM Lac du Bonnet 104.22 7 Pdif **Pdif 19 41 48.6 +4.9**
ULM Lac du Bonnet 104.22 7 Pdiff **Pdif 19 41 48.6 +4.9**
comp=Z,1.4nm,0.4s,baz=288,slow=3.2,SNR=2.6
QSPA South Pole Qui 115.04 180 *e*PKPdf **PKPdf 19 46 18.9 -0.9**
QSPA South Pole Qui 115.04 180 PKP **PKPdf 19 46 19.5 -0.4**
comp=Z,3.8nm,0.7s,baz=348,slow=0.7,SNR=17
ANMO Albuquerque 116.76 20 *e*P **PKPdf 19 46 24.5 +0.1**
LPM Los Pinos Moun 117.29 20 *e*P **PKPdf 19 46 25.1 -0.4**
BNM Barren Site 117.44 20 *e*P **PKPdf 19 46 25.6 -0.2**
TZTN Tazewell 118.54 359 *e*P **PKPdf 19 46 26.4 -1.1**
MSTX Muleshoe 118.72 17 *e*P **PKPdf 19 46 27.0 -1.1**
WVT Waverly 118.90 3 *e*PKIKP **PKPdf 19 46 27.5 -0.7**
WVT Waverly 118.90 3 *e*P **PKPdf 19 46 27.5 -0.7**
TKL Tuckaleechee C 119.42 359 PKP **PKPdf 19 46 29.2 0.0**
TKL Tuckaleechee C 119.42 359 PKP **PKPdf 19 46 29.2 0.0**
comp=Z,3.4nm,0.4s,baz=117,slow=2.9,SNR=17

MIAR	**Mount Ida**	**119.98**	**8**	*e*PKIKP	**PKPdf**	**19 46 30.0**	**-0.4**
MIAR	**Mount Ida**	**119.98**	**8**	*e*P	**PKPdf**	**19 46 29.9**	**-0.4**
MNTX	**Cornudas Mount**	**120.10**	**20**	*e*P	**PKPdf**	**19 46 30.4**	**-0.3**
ABTX	**Abilene, Hawle**	**120.77**	**14**	*e*P	**PKPdf**	**19 46 31.4**	**-0.6**
JCT	**Junction City**	**122.79**	**15**	*e*PKIKP	**PKPdf**	**19 46 35.6**	**-0.4**
JCT	**Junction City**	**122.79**	**15**	*e*PKPdf	**PKPdf**	**19 46 35.6**	**-0.4**
TXAR	**Lajitas Array**	**122.83**	**20**	PKP	**PKPdf**	**19 46 36.4**	**+0.3**
TXAR	**Lajitas Array**	**122.83**	**20**	PKP	**PKPdf**	**19 46 36.4**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=139,slow=0.7,SNR=55						
TEIG	**Tepich**	**134.69**	**4**	SKPbc	**SKPbc**	**19 50 20.8**	**-0.7**
TEIG	**Tepich**	**134.69**	**4**	SKPbc	**SKPbc**	**19 50 20.8**	**-0.7**
	comp=Z,14nm,0.9s,baz=28,slow=9.0,SNR=4.7						
CMIG	**Matias Romero**	**136.82**	**14**	PKP	**PKPdf**	**19 47 02.1**	**-0.7**
CMIG	**Matias Romero**	**136.82**	**14**	PKP	**PKPdf**	**19 47 02.1**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=337,slow=1.2,SNR=9.4						
BDFB	**Brasilia**	**144.22**	**278**	PKP	**PKPdf**	**19 47 15.5**	**-0.7**
BDFB	**Brasilia**	**144.22**	**278**	PKP	**PKPdf**	**19 47 15.5**	**-0.7**
	comp=Z,15nm,0.9s,baz=47,slow=4.6,SNR=20						
ROSC	**El Rosal**	**148.36**	**340**	PKP	**PKPdf**	**19 47 24.1**	**+0.3**
ROSC				PKPbc	**PKiKP**	**19 47 28.9**	**+0.1**
ROSC	**El Rosal**	**148.36**	**340**	PKP	**PKPdf**	**19 47 24.1**	**+0.3**
	comp=Z,73nm,0.6s,baz=96,slow=23,SNR=14						
ROSC				PKPbc	**PKiKP**	**19 47 28.9**	**+0.1**
	comp=Z,73nm,0.6s,baz=108,slow=19,SNR=45						
SAML	**Samuel**	**153.72**	**304**	*e*PKPbc	**PKPbc**	**19 47 39.0**	**-0.2**
CPUP	**Villa Florida**	**155.14**	**261**	PKP	**PKPdf**	**19 47 33.5**	**+0.5**
CPUP				PKPbc	PKPab	19 47 41.5	-17
CPUP	**Villa Florida**	**155.14**	**261**	PKP	**PKPdf**	**19 47 33.5**	**+0.5**
	comp=Z,3.7nm,1.0s,baz=45,slow=5.4,SNR=4.9						
CPUP				PKPbc	PKPab	19 47 41.5	-17
	comp=Z,3.2nm,0.7s,baz=27,slow=2.4,SNR=8.5						
SIV	**San Ignacio**	**155.88**	**288**	PKP	**PKPdf**	**19 47 34.5**	**+0.2**
SIV				PKPab	**PKPab**	**19 48 01.7**	**+0.2**
SIV	**San Ignacio**	**155.88**	**288**	PKP	**PKPdf**	**19 47 34.5**	**+0.2**
	comp=Z,2.7nm,1.1s,baz=162,slow=3.2,SNR=5.1						
SIV				PKPab	**PKPab**	**19 48 01.7**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=86,slow=5.2,SNR=5.9						
PLCA	**Paso Flores**	**160.44**	**214**	PKP	**PKPdf**	**19 47 39.8**	**+0.5**
PLCA				PKPab	**PKPab**	**19 48 21.2**	**+0.7**
PLCA	**Paso Flores**	**160.44**	**214**	PKP	**PKPdf**	**19 47 39.8**	**+0.5**
	comp=Z,8.0nm,1.2s,baz=114,slow=0.9,SNR=3.8						
PLCA				PKPab	**PKPab**	**19 48 21.2**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=226,slow=2.8,SNR=3.4						
ATAH	**Atahualpa**	**160.95**	**340**	PKP	**PKPdf**	**19 47 41.0**	**0.0**
ATAH				PKPab	**PKPab**	**19 48 24.8**	**+1.1**
ATAH	**Atahualpa**	**160.95**	**340**	PKP	**PKPdf**	**19 47 41.0**	**0.0**
	comp=Z,5.4nm,0.7s,baz=224,slow=7.7,SNR=7.7						
ATAH				PKPab	**PKPab**	**19 48 24.8**	**+1.1**
	comp=Z,15nm,0.9s,baz=345,slow=3.2,SNR=7.1						
LPAZ	**La Paz**	**161.96**	**296**	PKP	**PKPdf**	**19 47 42.5**	**+0.3**
LPAZ				PKPab	**PKPab**	**19 48 27.6**	**-1.0**
LPAZ	**La Paz**	**161.96**	**296**	PKP	**PKPdf**	**19 47 42.5**	**+0.3**
	comp=Z,8.6nm,1.2s,baz=34,slow=6.2,SNR=21						
LPAZ				PKPab	**PKPab**	**19 48 27.6**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=42,slow=4.1,SNR=4.1						

BJI ***30*** *19:35:32.7, 49°.50N×154°.62E, h27km, mB5.4/36, mb4.9/46, Ms5.1/45, Ms7 5.0/44*
MOS ***30*** *19:35:37.1±0.9, 49°.61N×154°.08E, h29km, mb5.2/70, MS4.7/25, Error ellipse: s-maj=8.1km s-min=6.9km az=60.5*
ISCJB ***30*** *19:35:37.5±0.9, 49°.61N±0°.03×153°.97E±0°.03, h30km±6km, mb5.0/204, MS4.7/47, Error ellipse: s-maj=5.7km s-min=2.6km az=158.3*
DJA ***30*** *19:35:40.2±5.2, 50°N±10°×15°5E±1°7, h54km±44km, M5.2/18, mB5.8/5, mb5.0/18, Mw(mB)5.4/5*
TEH ***30*** *19:35:40.0, 49°.67N×153°.86E, h32km, ML5.2*
NEIC ***30*** *19:35:41.4±0.1, 49°.64N×153°.87E, mb5.1/112, Error ellipse: s-maj=6.2km s-min=2.8km az=158.0*
IDC ***30*** *19:35:41.4±0.8, 49°.61N×153°.96E, h49km±6km, mb4.4/37, mb1 4.6/40, mb1mx4.6/41, mbtmp4.4/40, MS4.4/20, Ms1 4.4/20, ms1mx4.2/44, Error ellipse: s-maj=12.6km s-min=9.0km az=150.0*
ISC 30 19:35:40.0±0.3, 49°.58N±0°.05×153°.93E±0°.04, h38km±1km, h38km:pP-P, n752, σ1⇟24/815, mb5.1/211, MS4.7/47, 27C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.79**	**51**	⇑*i*PN	Pn	19 36 02.5	-5.8
SKR				*i* S	**Sn**	**19 36 26.0**	**-3.8**
SKR				pmax	pmax		
	comp=N,3μm,0.5s						
SKR				pmax	pmax		
	comp=E,2μm,0.5s						
SKR				pmax	pmax		
	comp=Z,6μm,0.5s						
SKR				pmax	pmax		
	comp=N,24μm,4.0s						
SKR				pmax	pmax		
	comp=Z,36μm,4.0s						
SKR				pmax	pmax		
	comp=E,22nm,4.0s						
SKR				smax	smax		
	comp=N,9μm,0.6s						
SKR				smax	smax		
	comp=E,12μm,0.6s						
SKR				smax	smax		
	comp=N,61μm,8.0s						
SKR				smax	smax		
	comp=E,86μm,8.0s						
PETK	**Petropavlovsk-**	**4.25**	**32**	PN	**Pn**	**19 36 42.3**	**+0.1**
PETK				pmax	pmax		
	comp=Z,44nm,0.3s						
PETK	**Petropavlovsk-**	**4.25**	**32**	P	**Pn**	**19 36 42.3**	**+0.1**
PETK	**Petropavlovsk-**	**4.25**	**32**	P	**Pn**	**19 36 42.3**	**+0.1**
	comp=Z,44nm,0.3s,baz=204,slow=12,SNR=263						
PETK				LR	LR	19 38 52.9	
	comp=Z,3μm,18.8s,baz=210,slow=45						
PET	**Petropavlovsk**	**4.55**	**39**	α*i*PN	**Pn**	**19 36 46.4**	**+0.2**
PET				*e*S	**Sn**	**19 37 42.8**	**+5.1**
PET				pmax	pmax		
	comp=Z,1μm,1.8s						
PET				pmax	pmax		
	comp=Z,284nm,0.7s						
PET				smax	smax		
	comp=E,7μm,5.2s						
PET				smax	smax		
	comp=E,2μm,1.1s						
PET				MLR	MLR		
	comp=Z,13μm,14.0s						
PET				MLR	MLR		
	comp=Z,10μm,12.0s						
KUR	**Kuril'sk**	**5.98**	**226**	*d i*PN	Pn	19 37 09.6	+3.7
KUR				*i* S	Sn	19 38 22.8	+10
KUR				pmax	pmax		
	comp=Z,1μm,3.6s						
KUR				pmax	pmax		
	comp=E,17nm,0.8s						
KUR				pmax	pmax		
	comp=Z,140nm,0.8s						
KUR				pmax	pmax		
	comp=N,45nm,1.2s						
KUR				smax	smax		
	comp=E,88nm,2.0s						
KUR				smax	smax		
	comp=E,3μm,3.7s						
KUR				smax	smax		
	comp=N,76nm,1.9s						
KUR				smax	smax		
	comp=N,4μm,3.7s						
KUR				MLR	MLR		
	comp=N,2μm,11.0s						
KUR				MLR	MLR		
	comp=E,6μm,11.0s						
KUR				MLR	MLR		
	comp=Z,5μm,11.0s						
UGL	**Uglegorsk**	**7.77**	**271**	*e*PN	**Pn**	**19 37 32.5**	**+2.1**
UGL				pmax	pmax		
	comp=Z,1μm,1.0s						
UGL				pmax	pmax		
	comp=Z,590nm,0.8s						
UGL				MLR	MLR		
	comp=N,14μm,12.0s						
UGL				MLR	MLR		
	comp=E,17μm,12.0s						
UGL				MLR	MLR		
	comp=Z,11μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**228**	*d i*PN	**Pn**	**19 37 33.9**	**+2.6**
YUK				pmax	pmax		
	comp=Z,2μm,4.7s						
YUK				pmax	pmax		
	comp=E,69nm,0.7s						
YUK				pmax	pmax		
	comp=N,102nm,1.4s						
YUK				pmax	pmax		
	comp=Z,152nm,1.4s						
YUK				MLR	MLR		
	comp=N,886nm,12.0s						
YUK				MLR	MLR		
	comp=E,193nm,12.0s						
YUK				MLR	MLR		
	comp=Z,5μm,12.0s						
YSS	**Yuzh-Sakhalins**	**7.91**	**255**	⇑*e*PN	**Pn**	**19 37 33.5**	**+1.2**
YSS				pmax	pmax		
	comp=Z,190nm,1.6s						
YSS				pmax	pmax		
	comp=E,270nm,1.8s						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
JMP	**Maruseppu**	**9.14**	**236**	P	**Pn**	**19 37 52.4**	**+3.1**
ASAJ	**Asahikawa**	**9.49**	**239**	*e*Pn	**Pn**	**19 37 56.0**	**+2.0**
ASAJ	**Asahikawa**	**9.49**	**239**	P	Pn	19 37 59.1	+5.1
ASAJ	**Asahikawa**	**9.49**	**239**	P	**Pn**	**19 37 55.8**	**+1.8**
	comp=E,0.6nm,0.3s,baz=58,slow=12,SNR=4.3						
ASAJ				LR	LR	19 41 14.7	
	comp=E,833nm,19.6s,baz=62,slow=35						
ERM	**Erimo**	**10.66**	**229**	Pn	**Pn**	**19 38 10.4**	**+0.4**
	comp=E,345nm,0.9s,SNR=5.1						
ERM	**Erimo**	**10.66**	**229**	*i* PN	**Pn**	**19 38 13.0**	**+3.0**
ERM	**Erimo**	**10.66**	**229**	*e*Pn	**Pn**	**19 38 10.7**	**+0.7**
JEM	**Erimo**	**10.66**	**229**	P	**Pn**	**19 38 11.3**	**+1.3**
JEW	**Eniwo**	**10.95**	**237**	P	Pn	19 38 17.3	+3.2
JSH	**Shimam**	**11.86**	**239**	P	**Pn**	**19 38 29.6**	**+3.1**
JOT	**Ohata**	**12.19**	**233**	P	**Pn**	**19 38 33.7**	**+2.8**
HABR	**Khabarovsk**	**12.44**	**272**	*e*PN	**Pn**	**19 38 34.2**	**-0.1**
HABR				*e*SS	Sn	19 41 04.7	+13
HABR				pmax	pmax		
	comp=N,28nm,1.8s						
HABR				pmax	pmax		
	comp=Z,214nm,2.7s						
HABR				pmax	pmax		
	comp=E,118nm,1.8s						
HABR				MLR	MLR		
	comp=N,2μm,13.0s						
HABR				MLR	MLR		
	comp=E,5μm,15.0s						
HABR				MLR	MLR		
	comp=Z,5μm,15.0s						
FX1	**Attu Island--F**	**12.50**	**67**	*e*Pn	**Pn**	**19 38 32.4**	**-2.7**
JTM	**Tenmabayashi**	**12.62**	**231**	P	**Pn**	**19 38 35.9**	**-0.9**
SEY	**Seymchan**	**13.41**	**357**	*i* PN	**Pn**	**19 38 48.9**	**+1.4**
KLR	**Kul'dur**	**14.44**	**277**	*e*P	**Pn**	**19 38 59.5**	**-2.1**
KLR				pmax	pmax		
	comp=E,800nm,6.5s						
KLR				pmax	pmax		
	comp=Z,1μm,6.5s						
KLR				MLR	MLR		
	comp=N,2μm,11.0s						
KLR				MLR	MLR		
	comp=Z,6μm,11.0s						
USRK	**Ussuriysk Arra**	**15.91**	**259**	P	**P**	**19 39 23.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=58,slow=12,SNR=48						
JSD	**Sary**	**16.12**	**230**	P	**P**	**19 39 26.4**	**-0.1**
VLA	**Vladivostok**	**16.50**	**255**	*d i*P	**Pn**	**19 39 29.1**	**+0.7**
VLA				pmax	pmax		
	comp=Z,201nm,1.7s						
VLA				MLR	MLR		
	comp=Z,890nm,16.0s						
MDJ	**Mudanjiang**	**17.27**	**263**	P	**P**	**19 39 40.5**	**+1.4**
MDJ				pP	**pP**	**19 39 50.0**	**+1.2**
MDJ				sP	**sP**	**19 39 53.5**	**-0.1**
MDJ				S	**S**	**19 42 54.3**	**-2.4**
MDJ				ScP	**ScP**	**19 47 53.5**	**+2.5**
MDJ				PcS	**PcS**	**19 47 56.8**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,59nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,1μm,5.5s						
MDJ				LR	LR		
	comp=N,2μm,11.9s						
MDJ				LR	LR		
	comp=E,770nm,13.3s						
MDJ				LR	LR		
	comp=Z,2μm,11.9s						
MDJ	**Mudanjiang**	**17.27**	**263**	*e*Pn	**Pn**	**19 39 38.3**	**+0.3**
	comp=Z,98nm,1.1s						
MAT	**Matsushiro**	**17.32**	**227**	P	**Pn**	**19 39 37.0**	**-1.8**
MAT				S	**Sn**	**19 42 54.0**	**+3.6**
MAT	**Matsushiro**	**17.32**	**227**	P	**Pn**	**19 39 38.2**	**-0.6**
JRY	**Ryogami san**	**17.43**	**225**	P	**Pn**	**19 39 40.7**	**+0.6**
YAK	**Yakutsk**	**18.32**	**322**	*e*P	**P**	**19 39 50.4**	**-0.3**
YAK				*e*S	**S**	**19 43 19.7**	**+1.8**
YAK				pmax	pmax		
	comp=Z,149nm,0.9s						
YAK				pmax	pmax		
	comp=N,80nm,1.3s						
YAK				pmax	pmax		
	comp=E,121nm,1.5s						
YAK				smax	smax		
	comp=N,195nm,2.5s						
YAK				smax	smax		
	comp=E,350nm,3.0s						
YAK				MLR	MLR		
	comp=Z,2μm,15.0s						
YAK				MLR	MLR		
	comp=E,2μm,15.0s						
YAK				MLR	MLR		
	comp=N,862nm,12.0s						
CN2	**Changchun**	**20.30**	**264**	*e*P	**P**	**19 40 12.5**	**+0.1**
CN2				*e*sP	**sP**	**19 40 23.5**	**-3.4**
CN2				*e*S	**S**	**19 43 51.5**	**-6.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,15.0s						
HIA	**Hailar**	**22.13**	**282**	*e*P	**P**	**19 40 32.6**	**+0.5**
	comp=Z,8.4nm,0.7s						
KSRS	**Korea Array**	**22.29**	**247**	P	**P**	**19 40 33.8**	**-0.1**
	comp=Z,7.2nm,1.0s,baz=48,slow=10,SNR=4.9						
KSAR	**Wonju Array Be**	**22.32**	**247**	P	**P**	**19 40 33.8**	**-0.4**
SNY	**Shenyang**	**22.45**	**261**	⇑P	**P**	**19 40 37.0**	**+1.4**
SNY				S	**S**	**19 44 34.5**	**-5.0**
SNY				pmax	pmax		
	comp=Z,28nm,1.7s						
SNY				pmax	pmax		
	comp=Z,580nm,5.4s						
SNY				LR	LR		
	comp=E,3μm,12.5s						
SNY				LR	LR		
	comp=Z,3μm,12.2s						
SPIA	**Saint Paul Isl**	**22.46**	**57**	*e*P	**P**	**19 40 32.7**	**-2.9**
INCN	**Inchon**	**23.05**	**249**	*e*P	**P**	**19 40 40.7**	**-1.2**
	comp=Z,75nm,1.3s						
JNU	**Nakatsue**	**23.72**	**235**	*e*P	**P**	**19 40 48.3**	**-0.1**
	comp=Z,58nm,1.3s						
JNU	**Nakatsue**	**23.72**	**235**	P	**P**	**19 40 48.5**	**+0.1**
	comp=Z,32nm,0.9s,baz=48,slow=5.2,SNR=10						
TIXI	**Tiksi**	**24.93**	**341**	*d i*P	**P**	**19 41 00.6**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,263nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,640nm,14.0s						
DL2	**Dalian**	**25.30**	**257**	*e*P	P	19 41 09.0	+6.3
DL2				*e*S	S	19 45 35.8	+10
DL2				pmax	pmax		
	comp=Z,62nm,1.2s						
DL2				pmax	pmax		
	comp=Z,490nm,3.9s						
DL2				LR	LR		
	comp=E,890nm,11.9s						
DL2				LR	LR		
	comp=Z,930nm,13.2s						
CIT	**Chita**	**25.41**	**291**	*e*P	**P**	**19 41 05.1**	**+1.4**
CIT				*e*		19 41 45.4	
CIT				*e*		19 41 59.6	
CIT				pmax	pmax		
	comp=Z,225nm,3.2s						
BJI	**Beijing**	**28.17**	**265**	P	**P**	**19 41 28.5**	**-0.1**
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
JOW	**Kunigami**	**30.10**	**230**	*e*P	**P**	**19 41 46.1**	**+0.3**
	comp=Z,47nm,1.5s						
SVW2	**Sparrevohn**	**30.15**	**48**	*e*P	**P**	**19 41 43.8**	**-2.2**
	comp=Z,12nm,0.8s						
ULN	**Ulaanbaatar**	**30.59**	**285**	*e*P	**P**	**19 41 49.9**	**-0.3**
	comp=Z,30nm,1.1s						
ULN	**Ulaanbaatar**	**30.59**	**285**	P	**P**	**19 41 51.7**	**+1.6**
	comp=Z,27nm,1.1s						
HHC	**Hu-ho-hao-te**	**30.74**	**270**	*e*P	**P**	**19 41 52.5**	**+1.0**
HHC				pP	**pP**	**19 42 02.0**	**-0.2**
HHC				sP	**sP**	**19 42 06.3**	**-0.5**
HHC				PP	**PnPn**	**19 42 53.3**	**+1.2**
HHC				S	**S**	**19 46 52.8**	**+0.9**
HHC				sS	**sS**	**19 47 07.3**	**-2.3**
HHC				pmax	pmax		
	comp=Z,67nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1μm,6.7s						
HHC				LR	LR		
	comp=N,4μm,12.9s						
HHC				LR	LR		
	comp=E,4μm,12.9s						
HHC				LR	LR		
	comp=Z,5μm,14.2s						
IRK	**Irkutsk**	**30.93**	**294**	*e*P	**P**	**19 41 54.2**	**+1.2**
IRK				pmax	pmax		
	comp=Z,170nm,1.9s						
SONM	**Songino Array**	**31.01**	**285**	P	**P**	**19 41 55.3**	**+1.4**
SONM				PcP	**PcP**	**19 44 48.9**	**0.0**
SONM	**Songino Array**	**31.01**	**285**	P	**P**	**19 41 55.3**	**+1.4**
	comp=Z,7.7nm,1.1s,baz=75,slow=9.5,SNR=14						
SONM				PcP	**PcP**	**19 44 48.9**	**0.0**
	comp=Z,3.7nm,0.9s,baz=66,slow=3.5,SNR=3.7						
SONM				LR	LR	19 55 34.0	
	comp=Z,2μm,18.2s,baz=73,slow=38						
IMA2	**Indian Mountai**	**31.22**	**39**	*e*P	**P**	**19 41 54.3**	**-1.2**
NJ2	**Nanjing**	**31.43**	**249**	*e*P	**P**	**19 41 58.0**	**+0.5**
NJ2				pP	**pP**	**19 42 07.0**	**-1.2**
NJ2				sP	**sP**	**19 42 11.3**	**-1.4**
NJ2				S	**S**	**19 47 05.5**	**+3.0**
NJ2				sS	**sS**	**19 47 21.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,200nm,6.0s						
NJ2				LR	LR		
	comp=N,2μm,17.3s						
NJ2				LR	LR		
	comp=E,2μm,17.3s						
NJ2				LR	LR		
	comp=Z,1μm,23.6s						
TLY	**Talaya**	**31.46**	**293**	*d i*P	**P**	**19 41 59.3**	**+1.7**
TLY				pmax	pmax		
	comp=Z,159nm,1.6s						
TLY				MLR	MLR		
	comp=Z,2μm,13.0s						
TLY	**Talaya**	**31.46**	**293**	P	**P**	**19 42 00.6**	**+3.0**
	comp=Z,408nm,1.0s,SNR=18						
PPLA	**Purkeypile**	**31.73**	**45**	*e*P	**P**	**19 42 00.3**	**+0.3**
	comp=Z,104nm,1.4s						
SPU	**Mount Spurr**	**31.86**	**48**	*e*P	**P**	**19 42 00.4**	**-0.7**
KDAK	**Kodiak Island**	**31.95**	**54**	*e*P	**P**	**19 42 01.5**	**-0.3**
KDAK	**Kodiak Island**	**31.95**	**54**	P	**P**	**19 42 00.3**	**-1.5**
	comp=Z,21nm,0.8s,baz=284,slow=8.3,SNR=7.2						
ZAK	**Zakamensk**	**32.07**	**291**	⇓*i*P	**P**	**19 42 04.6**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,35nm,1.4s						
TRF	**Thorofare Moun**	**32.58**	**44**	*e*P	**P**	**19 42 06.9**	**-0.6**
	comp=Z,28nm,1.0s						
COLD	**Coldfoot**	**32.71**	**37**	*e*P	**P**	**19 42 06.2**	**-2.2**
	comp=Z,15nm,0.9s						
MOY	**Mondy**	**33.04**	**294**	*e*P	**P**	**19 42 13.1**	**+1.5**
MOY				pmax	pmax		
	comp=Z,112nm,1.6s						
MCK	**McKinley**	**33.17**	**43**	*e*P	**P**	**19 42 10.6**	**-1.9**
MCK				pmax	pmax		
	comp=Z,31nm,1.0s						
MCK	**McKinley**	**33.17**	**43**	*e*P	**P**	**19 42 10.6**	**-1.9**
	comp=Z,31nm,1.0s						
SML	**Sawmill**	**33.58**	**47**	*e*P	**P**	**19 42 14.8**	**-1.3**
SML				pmax	pmax		
	comp=Z,17nm,0.8s						
SML	**Sawmill**	**33.58**	**47**	*e*P	**P**	**19 42 14.8**	**-1.3**
	comp=Z,17nm,0.8s						
COLA	**College**	**33.61**	**41**	*e*P	**P**	**19 42 15.0**	**-1.2**
COLA				pmax	pmax		
	comp=Z,126nm,0.9s						
COLA	**College**	**33.61**	**41**	*e*P	**P**	**19 42 15.0**	**-1.2**
	comp=Z,126nm,0.9s						
ILAR	**Eielson Array**	**34.02**	**41**	P	**P**	**19 42 18.9**	**-1.0**
ILAR	**Eielson Array**	**34.02**	**41**	P	**P**	**19 42 18.9**	**-1.0**
	comp=Z,12nm,0.8s,baz=263,slow=8.9,SNR=20						
ILAR				LR	LR	19 54 49.3	
	comp=Z,258nm,21.8s,baz=104,slow=34						
PAX	**Paxson**	**34.79**	**44**	*e*P	**P**	**19 42 26.3**	**-0.3**
PAX				pmax	pmax		
	comp=Z,13nm,0.9s						
PAX	**Paxson**	**34.79**	**44**	*e*P	**P**	**19 42 26.3**	**-0.3**
	comp=Z,13nm,0.9s						
DIV	**Divide**	**34.89**	**47**	*e*P	**P**	**19 42 25.6**	**-1.9**
	comp=Z,22nm,0.8s						
WHN	**Wuhan**	**35.24**	**252**	P	P	19 42 27.8	-2.9
WHN				S	**S**	**19 47 57.0**	**-4.7**
WHN				LR	LR		
	comp=N,2μm,17.8s						
WHN				LR	LR		
	comp=E,2μm,13.1s						
WHN				LR	LR		
	comp=Z,3μm,11.6s						
BMRM	**Bremner River**	**35.48**	**48**	*e*P	**P**	**19 42 31.1**	**-1.5**
	comp=Z,37nm,0.9s						
RAGM	**Ragged Mountai**	**35.54**	**49**	*e*P	**P**	**19 42 31.8**	**-1.3**
	comp=Z,36nm,0.8s						
XAN	**Xi'an**	**36.38**	**262**	P	**P**	**19 42 39.5**	**-1.0**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.6s						
XAN				LR	LR		
	comp=N,620nm,12.7s						
XAN				LR	LR		
	comp=Z,200nm,12.7s						
EGAK	**Eagle**	**36.47**	**41**	*e*P	**P**	**19 42 40.2**	**-0.7**
	comp=Z,26nm,0.9s						
TPUB	**Ta-pu**	**36.98**	**237**	*e*P	**P**	**19 42 44.5**	**-1.2**
	comp=Z,42nm,1.0s						
TWG	**Pinlang**	**37.13**	**236**	*e*P	**P**	**19 42 46.9**	**-0.1**
	comp=Z,97nm,1.1s						
DAWY	**Dawson**	**37.33**	**42**	*e*P	**P**	**19 42 46.0**	**-2.3**
HVS	**Khovu-Aksy**	**37.52**	**296**	*d i*P	**P**	**19 42 51.6**	**+1.5**
HVS				MLR	MLR		
	comp=Z,4μm,13.0s						
LZH	**Lanzhou**	**38.42**	**269**	*e*P	**P**	**19 42 59.5**	**+1.6**
LZH				pP	**pP**	**19 43 09.0**	**+0.3**
LZH				sP	**sP**	**19 43 13.0**	**-0.3**
LZH				PP	**PnPn**	**19 44 32.5**	**+4.4**
LZH				PcP	**PcP**	**19 45 13.5**	**+2.9**
LZH				*e*S	**S**	**19 48 51.3**	**+1.0**
LZH				sS	**sS**	**19 49 06.5**	**-1.8**
LZH				SS	**SnSn**	**19 51 31.5**	**-6.6**
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
LZH				pmax	pmax		
	comp=Z,160nm,4.3s						
LZH				LR	LR		
	comp=N,2μm,18.3s						
LZH				LR	LR		
	comp=E,630nm,11.3s						
LZH				LR	LR		
	comp=Z,2μm,18.4s						
ENH	**Enshi**	**38.48**	**257**	*e*P	**P**	**19 42 58.0**	**-0.3**
	comp=Z,4.7nm,0.8s						
HYT	**Haines Junctio**	**38.89**	**47**	*e*P	**P**	**19 43 02.3**	**+0.7**
INK	**Inuvik**	**38.99**	**34**	*e*P	**P**	**19 43 01.7**	**-0.3**
INK	**Inuvik**	**38.99**	**34**	LR	LR	20 01 59.8	
	comp=Z,392nm,18.2s,baz=270,slow=40						
GTA	**Gaotai**	**39.14**	**276**	⇑P	**P**	**19 43 05.5**	**+1.6**
GTA				pP	**pP**	**19 43 15.8**	**+1.1**
GTA				sP	**sP**	**19

GTA LR LR
comp=N,2µm,12.8s
GTA LR LR
comp=E,3µm,13.3s
GTA LR LR
comp=Z,3µm,12.4s
ZAA0 Zalesovo Array 41.45 303 *e*P **P 19 43 22.2 -0.5**
ZALV Zalesovo Beam 41.45 303 P **P 19 43 23.0 +0.4**
ZALV 19 45 20.4
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV MLR MLR
comp=Z,651nm,18.4s
ZALV Zalesovo Beam 41.45 303 P **P 19 43 23.0 +0.4**
ZALV PcP **PcP 19 45 20.4 +0.6**
ZALV Zalesovo Beam 41.45 303 P **P 19 43 23.0 +0.4**
comp=Z,12nm,0.7s,baz=64,slow=7.1,SNR=33
ZALV PcP **PcP 19 45 20.4 +0.6**
comp=Z,13nm,1.0s,baz=62,slow=3.5,SNR=4.3
ZALV LR LR 20 01 46.7
comp=Z,651nm,18.4s,baz=69,slow=38
CD2 Chengdu 41.72 263 *e*P **P 19 43 25.3 +0.1**
CD2 pP **pP 19 43 34.8 -1.3**
CD2 sP **sP 19 43 38.8 -1.8**
CD2 PP **PnPn 19 45 05.3 -1.8**
CD2 PcP **PcP 19 45 22.8 +1.6**
CD2 S **S 19 49 39.3 -0.3**
CD2 sS **sS 19 49 54.8 -2.8**
CD2 ScS **ScS 19 53 24.3 -0.8**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,400nm,6.0s
CD2 LR LR
comp=N,880nm,14.2s
CD2 LR LR
comp=E,860nm,10.7s
CD2 LR LR
comp=Z,650nm,14.2s
NVS Novosibirsk 41.95 305 *e*P **P 19 43 26.7 0.0**
NVS *e* 19 45 09.1
NVS *e* 19 53 22.4
NVS pmax pmax
comp=N,48nm,1.8s
NVS pmax pmax
comp=Z,140nm,1.8s
NVS pmax pmax
comp=E,90nm,1.7s
WRAK Wrangell Islan 42.90 52 *e*P **P 19 43 35.5 +1.1**
comp=E,60nm,1.5s
GYA Guiyang 42.91 255 P **P 19 43 35.8 +0.8**
GYA pP **pP 19 43 44.8 -1.2**
GYA PP **PP 19 45 17.5 +2.6**
GYA PcP **PcP 19 45 27.5 +2.2**
GYA ScP **ScP 19 49 15.0 +1.9**
GYA S **S 19 49 57.8 +0.5**
GYA SS SS 19 53 02.5 -7.0
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=N,720nm,17.0s
GYA LR LR
comp=E,680nm,18.4s
GYA LR LR
comp=Z,850nm,17.5s
DLBC Dease Lake 43.26 48 *e*P **P 19 43 38.1 +0.6**
DLBC Dease Lake 43.26 48 P **P 19 43 39.0 +1.5**
comp=Z,12nm,0.9s,baz=280,slow=10,SNR=14
MK31 Makanchi Array 46.17 295 *e*P **P 19 44 01.1 +0.4**
MK31 Makanchi Array 46.17 295 *e*P **P 19 44 01.1 +0.4**
MKAR Makanchi Array 46.17 295 P **P 19 44 01.4 +0.6**
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR MLR MLR
comp=Z,1µm,19.6s
MKAR Makanchi Array 46.17 295 P **P 19 44 01.4 +0.6**
MKAR Makanchi Array 46.17 295 P **P 19 44 01.4 +0.6**
comp=Z,25nm,0.8s,baz=64,slow=6.5,SNR=65
MKAR LR LR 20 04 24.4
comp=Z,1µm,19.6s,baz=45,slow=37
KURK Kurchatov 46.30 302 P **P 19 44 02.5 +0.9**
KURK pmax pmax
comp=Z,50nm,0.8s
KURK Kurchatov 46.30 302 P **P 19 44 02.5 +0.9**
KMI Kunming 46.34 258 P **P 19 44 02.5 0.0**
KMI pP **pP 19 44 11.3 -2.2**
KMI sP **sP 19 44 15.0 -3.0**
KMI PP **PP 19 45 51.8 +0.2**
KMI S **S 19 50 46.8 -0.5**
KMI sS **sS 19 51 03.5 -2.0**
KMI SS SS 19 54 05.0 -8.0
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI pmax pmax
comp=Z,170nm,5.8s
KMI LR LR
comp=N,880nm,13.2s
KMI LR LR
comp=E,540nm,12.5s
KMI LR LR
comp=Z,710nm,14.3s
KURBB Kurchatov Arra 46.39 302 P **P 19 44 02.5 +0.1**
comp=Z,50nm,0.8s,baz=67,slow=8.5,SNR=93
QIZ Qiongzhong 46.50 245 P **P 19 44 04.0 +0.5**
QIZ S **S 19 50 50.5 +1.3**
QIZ pmax pmax
comp=Z,14nm,1.5s
QIZ Qiongzhong 46.50 245 *e*P **P 19 44 02.5 -1.0**
comp=Z,76nm,1.8s
KIP Kipapa 47.08 109 *i*P **P 19 44 09.4 +1.4**
KIP pmax pmax
comp=Z,126nm,1.2s
KIP MLR MLR
comp=Z,487nm,22.0s
YKW3 Yellowknife Ar 48.31 38 *e*P **P 19 44 14.8 -2.2**
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 48.35 38 P **P 19 44 17.2 -0.1**
YKA Yellowknife Ar 48.35 38 P **P 19 44 17.2 -0.1**
comp=Z,7.5nm,0.7s,baz=300,slow=7.5,SNR=16
BVAR Borovoye Array 49.52 308 P **P 19 44 26.6 +0.1**
BVAR *PP **pP 19 44 41.0 +3.4**
BVAR pmax pmax
comp=Z,8.0nm,0.6s
BVAR MLR MLR
comp=Z,545nm,20.5s
BVAR Borovoye Array 49.52 308 P **P 19 44 26.6 +0.1**
BVAR pP **pP 19 44 41.0 +3.4**
BVAR Borovoye Array 49.52 308 P **P 19 44 26.6 +0.1**
comp=Z,7.5nm,0.6s,baz=61,slow=8.0,SNR=23
BVAR pP **pP 19 44 41.0 +3.4**
comp=Z,10nm,0.6s,baz=60,slow=7.9,SNR=13
BVAR LR LR 20 05 52.3
comp=Z,545nm,20.5s,baz=65,slow=37
BRVK Borovoye 49.55 308 P **P 19 44 27.5 +0.8**
comp=Z,127nm,1.4s,SNR=8.6
BRVK Borovoye 49.55 308 *d i*P **P 19 44 26.9 +0.2**
BRVK pmax pmax
comp=Z,43nm,1.7s
BRVK Borovoye 49.55 308 *e*P **P 19 44 26.0 -0.7**
NLWA Neilton Lookou 51.90 59 *e*P **P 19 44 43.4 -1.2**
comp=Z,27nm,1.0s
A05A Maple Falls 51.96 56 *e*P **P 19 44 44.6 -0.4**
comp=Z,20nm,1.0s
UBPT Khong Chiam 52.02 246 P **P 19 44 45.3 -0.4**
comp=Z,34nm,1.7s
SVE Sverdlovsk 52.15 316 *ij e*P **P 19 44 47.0 +0.8**
SVE pmax pmax
comp=Z,17nm,0.8s
TKM2 Tokmak 2 52.28 295 *e*P **P 19 44 47.3 -0.4**
TKM2 pmax pmax
comp=Z,19nm,0.9s
TKM2 Tokmak 2 52.28 295 P **P 19 44 48.6 +0.9**
SNR=8.8
TKM2 Tokmak 2 52.28 295 *e*P **P 19 44 47.3 -0.4**
comp=Z,19nm,0.9s
ULHL Ulahol 52.30 294 *i*P **P 19 44 48.8 +1.0**
ULHL Ulahol 52.30 294 P **P 19 44 48.8 +1.0**
SNR=13
E03A Lebam 52.56 60 *e*P **P 19 44 48.1 -1.3**
comp=Z,32nm,1.0s
USP Ospenovka 52.72 296 *i*P **P 19 44 51.7 +1.0**
USP Ospenovka 52.72 296 P **P 19 44 51.7 +1.0**
SNR=29
CHMS Chumysh 52.73 295 *i*P **P 19 44 51.6 +0.8**
CHMS Chumysh 52.73 295 P **P 19 44 51.6 +0.8**
SNR=20
KBK Karagaybulak 52.82 295 *i*P **P 19 44 52.6 +1.0**
KBK Karagaybulak 52.82 295 P **P 19 44 52.6 +1.0**
SNR=17
KZA Kyzart 52.99 294 *i*P **P 19 44 54.4 +1.3**
KZA Kyzart 52.99 294 P **P 19 44 54.5 +1.3**
SNR=7.2
D05A Enumclaw 53.06 58 *e*P **P 19 44 51.1 -2.0**
comp=Z,43nm,1.3s
AAK Ala-Archa 53.10 295 *c i*P **P 19 44 54.4 +0.8**
AAK pmax pmax
comp=Z,137nm,1.7s
AAK Ala-Archa 53.10 295 P **P 19 44 56.8 +3.1**
SNR=14
AAK Ala-Archa 53.10 295 *e*P **P 19 44 53.8 +0.1**
AAK Ala-Archa 53.10 295 P **P 19 44 54.5 +0.8**
comp=Z,17nm,0.8s,baz=94,slow=6.0,SNR=22
AAK LR LR 20 08 45.0
comp=Z,840nm,18.7s,baz=27,slow=37
ARU Arti 53.32 316 *d i*P **P 19 44 54.7 -0.1**
ARU 19 46 04.9
ARU 19 46 52.9
ARU S **S 19 52 24.8 +1.4**
ARU SS **SS 19 56 04.0 +1.2**
ARU pmax pmax
comp=Z,53nm,1.7s
ARU MLR MLR
comp=Z,581nm,15.0s
ARU Arti 53.32 316 P **P 19 44 54.3 -0.5**
comp=Z,178nm,0.8s,SNR=9.3
CHTO Chiang Mai 53.34 255 *e*P **P 19 44 53.9 -1.5**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 53.34 255 *e*P **P 19 44 53.9 -1.5**
comp=Z,9.9nm,1.0s
CHTO Chiang Mai 53.34 255 P **P 19 44 54.1 -1.3**
comp=Z,13nm,2.1s
MYLDM Lahad Datu 53.39 226 P **P 19 44 58.5 +2.7**
MYLDM Lahad Datu 53.39 226 P **P 19 44 58.2 +2.4**
comp=Z,41nm,1.6s
LON Longmire 53.42 58 *e*P **P 19 44 54.9 -0.9**
LON pmax pmax
comp=Z,9.0nm,1.0s
LON Longmire 53.42 58 *e*P **P 19 44 54.9 -0.9**
comp=Z,9.2nm,1.0s
EKS2 Erkin-Say 53.51 295 *e*P **P 19 44 57.6 +1.0**
EKS2 pmax pmax
comp=Z,26nm,0.8s
EKS2 Erkin-Say 53.51 295 P **P 19 44 57.6 +1.0**
SNR=18
EKS2 Erkin-Say 53.51 295 *e*P **P 19 44 57.6 +1.0**
comp=Z,26nm,0.8s
WPW White Pass 53.60 58 P **P 19 44 57.8 +0.6**
CM31 Chiang Mai Arr 53.60 255 *e*P **P 19 44 57.8 +0.4**
comp=Z,6.8nm,0.9s
CMAR Chiang Mai Arr 53.60 255 P **P 19 44 57.6 +0.2**
CMAR PcP **PcP 19 46 05.4 +1.9**
CMAR Chiang Mai Arr 53.60 255 P **P 19 44 57.6 +0.2**
comp=Z,3.8nm,0.9s,baz=29,slow=7.5,SNR=14
CMAR PcP **PcP 19 46 05.4 +1.9**
comp=Z,1.9nm,0.7s,baz=20,slow=3.1,SNR=5.6
CMAR LR LR 20 08 51.1
comp=Z,258nm,18.4s,baz=268,slow=37
PBKT Sadao Pong 53.76 252 P **P 19 44 59.0 +0.5**
comp=Z,14nm,1.2s
B08A Colville Reser 53.82 56 *e*P **P 19 44 57.5 -1.2**
comp=Z,21nm,0.8s
AML Almayashu 53.88 295 *i*P **P 19 45 00.8 +1.2**
AML Almayashu 53.88 295 P **P 19 45 00.8 +1.2**
SNR=5.9
EDM Edmonton 53.99 48 *e*P **P 19 45 00.2 +0.4**
EDM Edmonton 53.99 48 *e*P **P 19 45 00.2 +0.4**
KSH Kashi 54.11 291 P P 19 45 05.5 +4.4
KSH sP sP 19 45 19.5 +2.8
KSH PP PP 19 47 09.5 +6.9
KSH S **S 19 52 39.0 +4.0**
KSH sS sS 19 52 54.3 +0.8
KSH pmax pmax
comp=Z,32nm,1.2s
KSH LR LR
comp=N,750nm,13.8s
KSH LR LR
comp=E,830nm,13.6s
KSH LR LR
comp=Z,1µm,15.9s
VLL Laurance Lake 54.26 60 P **P 19 45 02.9 +0.8**
TSM Tawau 54.46 226 P **P 19 45 04.7 +1.0**
TAPN Taplejung 54.52 272 *e*P **P 19 45 04.3 -0.1**
comp=Z,170nm,1.6s
BLTW Bickleton 54.83 58 P **P 19 45 06.8 +0.7**
NEW Newport 55.06 55 *e*P **P 19 45 05.7 -2.0**
comp=Z,20nm,1.1s
NEW Newport 55.06 55 P **P 19 45 07.2 -0.4**
baz=55,SNR=14
ODAN Odare 55.06 272 *e*P **P 19 45 07.6 -0.6**
comp=Z,114nm,1.7s
KKAR Karatay Array 55.14 298 *e*P **P 19 45 08.5 +0.1**
KKAR Karatay Array 55.14 298 *e*P **P 19 45 08.5 +0.1**
BBOR Butler Butte 55.26 63 P **P 19 45 10.8 +1.4**
HUMO Hull Mountain 55.27 63 *e*P **P 19 45 07.3 -2.0**
comp=Z,25nm,1.3s
JIRN Jiri 55.30 273 *e*P **P 19 45 10.7 +0.6**
GUN Gumba 55.33 274 *e*P **P 19 45 09.5 -0.8**
ARCES ARCESS Array B 55.36 340 P **P 19 45 08.4 -1.1**
ARCES ARCESS Array B 55.36 340 P **P 19 45 08.4 -1.1**
comp=Z,14nm,1.0s,baz=36,slow=10,SNR=7.7
KRMB Red Mountain 55.39 65 *e*P **P 19 45 10.4 +0.1**
comp=Z,232nm,3.0s
RAMN Ramite 55.52 272 *e*P **P 19 45 11.1 -0.4**
comp=Z,133nm,1.2s
E09A Wood Farm, Sta 55.58 57 *e*P **P 19 45 10.8 -0.6**
comp=Z,23nm,0.9s
PINOR Pine Mountain 55.73 61 *e*P **P 19 45 14.2 +1.8**
comp=Z,26nm,1.2s
KKN Kakani 55.80 274 *e*P **P 19 45 13.2 -0.3**
comp=Z,251nm,1.5s
PKI Pulchoki 55.87 274 *e*P **P 19 45 13.5 -0.6**
PKIN Phulchoki 55.87 274 *e*P **P 19 45 13.6 -0.5**
comp=Z,245nm,1.7s
CHBT CHBT 55.88 247 P **P 19 45 14.9 +1.1**
comp=Z,61nm,1.2s,comp=Z,1µm
G08A Pilot Rock 55.88 58 *e*P **P 19 45 12.6 -1.2**
comp=Z,6.9nm,1.0s
KHMM Horse Mountain 55.90 65 *e*P **P 19 45 16.3 +2.3**
comp=Z,50nm,1.2s
YBH Yreka Blue Hor 55.96 64 *e*P **P 19 45 15.4 +1.0**
comp=Z,24nm,1.2s
DMN Daman 56.04 274 *e*P **P 19 45 15.5 +0.2**
comp=Z,339nm,1.5s
TMCR Tamitsa 56.09 332 *e*P **P 19 45 14.4 -0.4**
TMCR *e* 19 46 13.1
TMCR *e* 19 47 20.3
TMCR pmax pmax
comp=Z,14nm,0.7s
WALA Waterton Lakes 56.24 52 *e*P **P 19 45 16.4 +0.1**
comp=Z,0.8nm,1.0s
I07A Izee 56.33 60 *e*P **P 19 45 18.0 +1.0**
comp=Z,14nm,1.1s
K05A Summer Lake 56.39 62 *e*P **P 19 45 18.8 +1.3**
comp=Z,49nm,1.1s
DANN Dangsing 56.41 276 *e*P **P 19 45 17.7 -0.3**
F10A Beach Ranch, E 56.41 57 *e*P **P 19 45 18.0 +0.5**
comp=Z,15nm,1.0s
BSMT Bassoo Peak 56.54 54 *e*P **P 19 45 19.1 +0.6**
BLMT Blacktail Moun 56.67 53 *e*P **P 19 45 20.1 +0.7**
WDC Whiskeytown Da 56.79 65 *e*P **P 19 45 20.2 +0.1**
WDC pmax pmax
comp=Z,14nm,1.1s
WDC Whiskeytown Da 56.79 65 *e*P **P 19 45 20.2 +0.1**
comp=Z,14nm,1.1s
JTMT Jette 56.88 54 *e*P **P 19 45 21.3 +0.5**
KOLN Koldanda 56.91 275 *e*P **P 19 45 21.5 +0.1**
comp=Z,106nm,1.2s
YBMT Yellow Bay 56.94 53 *e*P **P 19 45 21.4 +0.1**
comp=Z,17nm,0.9s
LTIM Timbered Crate 57.02 64 P **P 19 45 23.2 +1.3**
ABKAR Abkulak array 57.05 309 *e*P **P 19 45 21.9 +0.1**
BMO Blue Mountains 57.07 58 *e*P **P 19 45 22.5 +0.3**
comp=Z,17nm,1.2s
SWMT Swartz Lake 57.17 54 *e*P **P 19 45 23.7 +0.8**
AKTO Aktyubinsk 57.27 311 P **P 19 45 23.5 +0.2**
AKTO MLR MLR
comp=Z,182nm,18.4s
AKTO Aktyubinsk 57.27 311 P **P 19 45 23.5 +0.2**
AKTO Aktyubinsk 57.27 311 P **P 19 45 23.5 +0.2**
comp=Z,2.8nm,0.8s,baz=33,slow=8.9,SNR=6.5
AKTO LR LR 20 10 34.8
comp=Z,182nm,18.4s,baz=68,slow=37
J08A Circle Bar Ran 57.37 60 *e*P **P 19 45 25.8 +1.4**
comp=Z,31nm,1.3s
SLMT Seeley Lake 57.61 54 *e*P **P 19 45 26.2 +0.2**
MSO Missoula 57.64 54 *e*P **P 19 45 26.8 +0.6**
comp=Z,38nm,1.3s
MSO Missoula 57.64 54 P **P 19 45 25.9 -0.2**
baz=57,SNR=21
SUMG Summit 57.84 4 *i*P pP 19 45 42.4 +3.6
comp=Z,9.0nm,0.9s
SUMG Summit 57.84 4 *e*pP pP 19 45 42.2 +3.4
WVOR Wild Horse Val 57.87 61 *e*P **P 19 45 28.0 +0.1**
WVOR pmax pmax
comp=Z,39nm,1.2s
WVOR Wild Horse Val 57.87 61 *e*P **P 19 45 28.0 +0.1**
comp=Z,39nm,1.2s
CHMT Chamberlain Mo 57.95 54 *e*P **P 19 45 28.4 -0.1**
FFC Flin Flon 58.24 41 *e*P **P 19 45 30.6 +0.5**
FFC pmax pmax
comp=Z,69nm,1.1s
FFC Flin Flon 58.24 41 *e*P **P 19 45 30.6 +0.5**
comp=Z,69nm,1.1s
B17A L&G Farms, Che 58.33 51 P **P 19 45 30.4 -0.5**
baz=58,SNR=11
A18A Metzger Ranch, 58.40 50 P **P 19 45 31.0 -0.4**
baz=58,SNR=6.0
BEKR Beckworth 58.52 64 *e*P **P 19 45 32.1 -0.5**
comp=Z,5.1nm,0.9s
FCC Fort Churchill 58.61 34 *e*P **P 19 45 33.6 +1.0**
FCC Fort Churchill 58.61 34 *e*P **P 19 45 33.6 +1.0**
C17A Wharram Farm, 58.77 52 P **P 19 45 33.9 -0.2**
baz=58,SNR=23
B18A Beardsley Farm 58.78 51 P **P 19 45 33.9 -0.2**
baz=58,SNR=23
MFID Camas Ranch 58.81 58 P **P 19 45 34.7 +0.3**
baz=59,SNR=11
SBUM Sibu 58.82 231 *e*P **P 19 45 36.0 +1.4**
SBUM Sibu 58.82 231 P **P 19 45 36.3 +1.7**
SBUM Sibu 58.82 231 P **P 19 45 36.0 +1.4**
comp=Z,22nm,2.1s,comp=Z,798nm
HRY Holter Researc 58.82 53 *e*P **P 19 45 35.5 +1.0**
EGMT Eagleton 59.03 51 *e*P **P 19 45 36.4 +0.6**
comp=Z,31nm,1.1s
JOF Joensuu 59.04 333 *e*p **P 19 45 34.9 -0.7**
comp=Z,3.7nm,0.8s
LRM Limekiln Ridge 59.08 54 *e*P **P 19 45 37.2 +0.8**
D17A Six Diamond Ra 59.13 52 P **P 19 45 37.0 +0.4**
baz=59,SNR=29
B19A Brinkman Farms 59.16 50 P **P 19 45 37.1 +0.5**
baz=59,SNR=12
PAHR Pah Rah Range 59.20 64 *e*P **P 19 45 38.1 +0.9**
comp=Z,16nm,0.9s
DLMT Dillon 59.30 55 *e*P **P 19 45 38.6 +0.8**
comp=Z,31nm,1.4s
A20A Cobblestone Ra 59.38 49 P **P 19 45 38.6 +0.4**
baz=59,SNR=15
E17A Martinsdale 59.49 53 P **P 19 45 40.3 +1.1**
baz=59,SNR=29
HLID Hailey 59.49 57 *e*P **P 19 45 39.8 +0.6**
comp=Z,22nm,1.1s
HLID Hailey 59.49 57 P **P 19 45 39.9 +0.6**
baz=59,SNR=22
C19A Slack Wire Ran 59.58 51 P **P 19 45 40.4 +0.7**
baz=59,SNR=19
CMB Columbia Colle 59.70 66 *e*P **P 19 45 41.4 +0.8**
CMB pmax pmax
comp=Z,24nm,1.3s
CMB Columbia Colle 59.70 66 *e*P **P 19 45 41.4 +0.8**
comp=Z,24nm,1.3s
A21A Bergtoll Ranch 59.80 49 P **P 19 45 41.8 +0.7**
baz=60,SNR=13
E18A Harlowton 59.91 52 P **P 19 45 43.1 +1.1**
baz=60,SNR=15
WAKR Walker 59.96 65 *e*P **P 19 45 43.4 +0.9**
F17A Fitzpatrick Pl 59.96 53 P **P 19 45 43.1 +0.7**
baz=60,SNR=15
BMN Battle Mountai 59.97 62 *e*P **P 19 45 43.4 +0.8**
BMN pmax pmax
comp=Z,13nm,0.8s
BMN Battle Mountai 59.97 62 *e*P **P 19 45 43.4 +0.8**
comp=Z,13nm,0.8s
D19A Cripps Ranch, 60.04 51 P **P 19 45 43.4 +0.5**
baz=60,SNR=18
C20A Veseth Ranch, 60.12 50 P **P 19 45 44.2 +0.9**
baz=60,SNR=12
QLMT Earthquake Lak 60.27 55 *e*P **P 19 45 45.5 +0.9**
A22A Carney Farms, 60.29 48 P **P 19 45 44.8 +0.3**
baz=60,SNR=15
G17A Pierce Place, 60.31 54 P **P 19 45 46.1 +1.4**
baz=60,SNR=28
H16A Russell Place, 60.45 55 P **P 19 45 46.8 +1.0**
baz=60,SNR=29
F18A Big Timber 60.45 53 P **P 19 45 46.8 +1.1**
baz=60,SNR=41
KSM Kuching 60.63 232 *e*P **P 19 45 48.0 +0.9**
KSM Kuching 60.63 232 P **P 19 45 48.7 +1.7**
KSM Kuching 60.63 232 P **P 19 45 48.1 +1.0**
comp=Z,45nm,1.4s,comp=Z,946nm
NVAR Mina Array Bea 60.67 64 P **P 19 45 47.9 +0.5**
NVAR Mina Array Bea 60.67 64 P **P 19 45 47.9 +0.5**
comp=Z,9.6nm,0.8s,baz=292,slow=7.2,SNR=54
YNR Norris Junctio 60.74 54 *e*P **P 19 45 48.3 +0.4**
comp=Z,32nm,1.2s
E20A Meyer Farm, Mu 60.87 52 P **P 19 45 49.2 +0.7**
baz=61,SNR=18
F19A Roth Farm, Mol 60.89 53 P **P 19 45 49.8 +1.1**
baz=61,SNR=22
ELK Elko 60.90 60 *e*P **P 19 45 49.8 +0.8**
comp=Z,6.3nm,1.0s
G18A Lazy EL Ranch, 60.93 53 P **P 19 45 49.5 +0.5**
baz=61,SNR=12
D21A La Casta Ranch 61.06 50 P **P 19 45 51.0 +1.2**
baz=61,SNR=11
B23A Brockton 61.10 48 P **P 19 45 50.7 +0.7**
baz=61,SNR=9.5
KAF Kangasniemi 61.11 335 *e*P **P 19 45 50.2 +0.5**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 61.11 335 *e*p **P 19 45 50.2 +0.5**
comp=Z,5.5nm,0.8s
C22A Vida 61.15 49 P **P 19 45 51.1 +0.8**
baz=61,SNR=8.5
FLWY Flagg Ranch 61.16 55 *e*P **P 19 45 52.6 +2.0**
MTUM Tungsten Hills 61.24 65 *e*P **P 19 45 52.4 +1.1**
H18A Shoshone NF, C 61.31 54 P **P 19 45 52.8 +1.1**
baz=61,SNR=15
SKLT Songkhla 61.31 245 P **P 19 45 52.5 +0.8**
comp=Z,52nm,1.2s
RRI2 Red Ridge 61.32 56 *e*P **P 19 45 53.2 +1.3**
comp=Z,25nm,0.8s
KTGM Kuala Trenggan 61.33 242 P **P 19 45 54.0 +2.1**
F20A Billings 61.34 52 P **P 19 45 52.8 +1.2**
baz=61,SNR=8.8
MOOW Moose Ponds 61.36 55 *e*P **P 19 45 53.7 +1.7**
E21A Keefer Ranch, 61.38 51 P **P 19 45 52.5 +0.6**
baz=61,SNR=7.4
D22A Cohagen 61.41 50 P **P 19 45 53.2 +1.1**
baz=61,SNR=7.2
TPAW Teton Pass 61.42 56 *e*P **P 19 45 54.3 +1.8**
C23A Lambert 61.46 49 P **P 19 45 53.3 +0.9**
baz=61,SNR=7.9
DGMT Dagmar 61.48 48 *e*P **P 19 45 53.4 +0.8**
comp=Z,49nm,0.9s
DGMT Dagmar 61.48 48 P **P 19 45 53.5 +1.0**
baz=61,SNR=7.3
LOHW Long Hollow 61.53 55 *e*P **P 19 45 54.9 +1.7**
comp=Z,30nm,1.1s
SNOW Snow King Moun 61.55 56 *e*P **P 19 45 55.3 +1.9**
comp=Z,26nm,1.0s
KBL Kabul 61.55 291 *e*P **P 19 45 52.9 -0.5**
KBL pmax pmax
comp=Z,22nm,0.9s
KBL Kabul 61.55 291 *e*P **P 19 45 52.9 -0.5**
comp=Z,22nm,0.9s
REDW Red Top Meadow 61.56 56 *e*P **P 19 45 54.8 +1.3**
comp=Z,47nm,1.1s
HVU Hansel Valley 61.58 58 *e*P **P 19 45 54.8 +1.3**
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 61.58 58 *e*P **P 19 45 54.8 +1.3**
comp=Z,14nm,1.1s
H19A Powell 61.67 54 P **P 19 45 55.5 +1.6**
baz=61,SNR=11
A25A Svangstu Ranch 61.67 47 P **P 19 45 54.9 +1.0**

baz=61,SNR=7.8
G20A **Bridger** 61.70 53 P **P** 19 45 54.9 +0.7
baz=61,SNR=22
FINES **FINESS Array B** 61.72 334 P **P** 19 45 53.3 -0.5
FINES pP **pP** 19 46 07.2 +2.0
FINES **FINESS Array B** 61.72 334 P **P** 19 45 53.3 -0.5
comp=Z,6.6nm,0.8s,baz=27,slow=7.8,SNR=15
FINES pP **pP** 19 46 07.2 +2.0
comp=Z,5.0nm,0.6s,baz=40,slow=7.6,SNR=4.4
I18A **Diamond G Ranc** 61.89 55 P **P** 19 45 57.5 +1.9
baz=62,SNR=8.1
KAPI **Kappang** 61.93 219 eP P 19 45 59.3 +3.5
KAPI **Kappang** 61.93 219 P **P** 19 45 57.7 +1.9
comp=Z,22nm,1.6s,comp=Z,595nm
BGU **Big Grassy Mou** 62.02 59 eP **P** 19 45 57.5 +1.1
comp=Z,13nm,1.2s
SPUT **South Promonto** 62.08 58 eP **P** 19 45 57.5 +0.7
comp=Z,25nm,1.2s
I19A **Meeteetse** 62.09 54 P **P** 19 45 58.3 +1.4
baz=62,SNR=13
E23A **Ismay** 62.30 50 P **P** 19 45 59.0 +0.9
baz=62,SNR=17
H20A **Greybull** 62.31 53 P **P** 19 45 58.8 +0.6
baz=62,SNR=8.4
R11A **Troy Canyon, C** 62.31 63 eP **P** 19 45 58.6 +0.2
R11A **Troy Canyon, C** 62.31 63 P **P** 19 45 58.8 +0.4
baz=62,SNR=18
F22A **Rosebud** 62.31 51 P **P** 19 45 59.0 +0.8
baz=62,SNR=10
D24A **Glendive** 62.35 49 P **P** 19 45 59.5 +1.0
baz=62,SNR=30
MOS **Moscow** 62.42 325 eP **P** 19 45 58.2 -0.4
MOS e 19 46 41.1
MOS e 19 48 16.1
MOS ePPP PPP 19 49 44.1
MOS pmax pmax
comp=Z,50nm,1.3s
ISA **Isabella** 62.43 67 eP **P** 19 45 59.1 -0.1
ISA pmax pmax
comp=Z,17nm,1.6s
ISA **Isabella** 62.43 67 eP **P** 19 45 59.1 -0.1
comp=Z,17nm,1.6s
C25A **Freed Ranch, W** 62.46 48 P **P** 19 46 00.4 +1.3
baz=62,SNR=8.8
J19A **Crowheart** 62.59 55 P **P** 19 46 01.4 +1.2
baz=62,SNR=12
I20A **Worland** 62.61 54 P **P** 19 46 01.3 +1.0
baz=62,SNR=17
DUG **Dugway** 62.63 59 eP **P** 19 46 01.3 +0.8
DUG pmax pmax
comp=Z,22nm,1.1s
DUG **Dugway** 62.63 59 eP **P** 19 46 01.3 +0.8
comp=Z,22nm,1.1s
DUG **Dugway** 62.63 59 P **P** 19 46 01.5 +1.0
baz=62,SNR=18
PDAR **Pinedale Array** 62.66 55 P **P** 19 46 01.1 +0.3
PDAR **Pinedale Array** 62.66 55 P **P** 19 46 01.1 +0.3
comp=Z,27nm,0.8s,baz=314,slow=2.2,SNR=152
G22A **Birney** 62.68 52 P **P** 19 46 01.6 +0.9
baz=62,SNR=12
H21A **Big Horn, Sher** 62.71 53 P **P** 19 46 01.9 +1.0
baz=62,SNR=25
MPMC **Manual Prospec** 62.74 66 P **P** 19 46 01.8 +0.4
baz=63,SNR=14
KULM **Kulim** 62.80 244 eP **P** 19 46 03.0 +1.3
comp=Z,36nm,0.9s
KULM **Kulim** 62.80 244 P **P** 19 46 03.7 +2.0
KULM **Kulim** 62.80 244 P **P** 19 46 01.9 +0.2
comp=Z,44nm,1.8s
FURC **Furnace Creek,** 62.84 65 P **P** 19 46 02.6 +0.8
baz=63,SNR=24
M17A **Scullys Gap (B** 62.95 57 P **P** 19 46 03.3 +0.6
baz=63,SNR=15
L18A **Fontenelle, Gr** 62.98 56 P **P** 19 46 03.7 +0.8
baz=63,SNR=17
K19A **Absolon Red Bu** 63.00 55 P **P** 19 46 03.0 0.0
baz=63,SNR=16
J20A **Shoshoni** 63.04 54 P **P** 19 46 04.0 +0.8
baz=63,SNR=15
JLU **Jordanelle** 63.12 58 eP **P** 19 46 05.5 +1.7
comp=Z,16nm,1.1s
I21A **Big Trails, Te** 63.14 53 P **P** 19 46 04.4 +0.6
baz=63,SNR=38
G23A **Biddle** 63.16 51 P **P** 19 46 04.4 +0.6
baz=63,SNR=8.2
NLU **North Lily Min** 63.21 59 eP **P** 19 46 05.6 +1.2
comp=Z,21nm,1.1s
IPM **Ipoh** 63.23 243 eP **P** 19 46 05.1 +0.5
comp=Z,23nm,1.1s
IPM **Ipoh** 63.23 243 P **P** 19 46 05.2 +0.6
IPM **Ipoh** 63.23 243 P **P** 19 46 04.6 0.0
comp=Z,23nm,1.5s
EDW2 **Edwards Air Fo** 63.25 67 P **P** 19 46 04.9 +0.3
baz=63,SNR=12
OBN **Obninsk** 63.29 325⇓eP **P** 19 46 04.2 -0.2
OBN e*PP **pP** 19 46 19.2 +3.4
OBN e 19 46 38.1
OBN e 19 48 24.3
OBN eS **S** 19 54 31.1 -2.2
OBN pmax pmax
comp=Z,67nm,1.7s
OBN MLR MLR
comp=Z,500nm,17.0s
DAU **Daniels Canyon** 63.35 58 eP **P** 19 46 07.1 +1.6
J21A **Lysite** 63.38 54 P **P** 19 46 06.4 +0.9
baz=63,SNR=20
K20A **Yellowstone Ra** 63.39 55 P **P** 19 46 05.5 0.0
baz=63,SNR=14
MPU **Maple Canyon** 63.42 59 eP **P** 19 46 07.0 +1.2
comp=Z,19nm,1.1s
A29A **Manning Farm,** 63.50 45 P **P** 19 46 05.8 -0.1
baz=63,SNR=8.9
I22A **9 Mile Ranch,** 63.51 53 P **P** 19 46 07.4 +1.1
baz=63,SNR=14
F25A **Bowman** 63.62 49 P **P** 19 46 07.9 +1.0
baz=63,SNR=7.2
MWC **Mount Wilson** 63.66 68 eP **P** 19 46 07.9 +0.5
comp=Z,32nm,1.4s
GSC **Goldstone** 63.67 66 eP **P** 19 46 07.5 +0.1
comp=Z,9.7nm,0.9s
GSC **Goldstone** 63.67 66 P **P** 19 46 07.6 +0.1
baz=64,SNR=9.9
D27A **Center** 63.72 48 P **P** 19 46 09.2 +1.7
baz=63,SNR=6.1
E26A **Carlson Angus** 63.72 49 P **P** 19 46 08.2 +0.7
baz=63,SNR=7.3
SHPR **Sheep Range** 63.81 64 eP **P** 19 46 09.5 +1.1
MYKOM **Kota Tinggi** 63.83 239 P **P** 19 46 10.0 +1.5
L20A **Wamsutter** 63.84 55 P **P** 19 46 09.5 +0.9
baz=64,SNR=22
BFSC **Mount Baldy Ra** 63.89 67 P **P** 19 46 09.4 +0.5
baz=64,SNR=5.8
H24A **Dirks Ranch, A** 63.90 51 P **P** 19 46 08.8 +0.1
baz=64,SNR=11
KGM **Kluang** 63.94 239 P **P** 19 46 11.5 +2.3
K21A **Alcova** 63.98 54 P **P** 19 46 09.7 +0.2
baz=64,SNR=39
ULM **Lac du Bonnet** 64.04 42 P **P** 19 46 09.5 +0.1
ULM epP **pP** 19 46 18.3 -2.5
ULM **Lac du Bonnet** 64.04 42 P **P** 19 46 09.5 +0.1
comp=Z,2.3nm,0.6s,baz=304,slow=7.3,SNR=2.4
MDND **Maddock** 64.10 46 eP **P** 19 46 10.9 +1.0
MDND **Maddock** 64.10 46 P **P** 19 46 10.7 +0.8
baz=64,SNR=7.7
TUQ **Turquoise Moun** 64.10 65 P **P** 19 46 11.1 +0.8
baz=64,SNR=5.6
MVU **Marysvale** 64.13 60 eP **P** 19 46 12.0 +1.4
comp=Z,19nm,1.4s
CCUT **Cedar City** 64.13 62 eP **P** 19 46 11.7 +1.1
comp=Z,10nm,1.0s
TMUT **Trail Mountain** 64.15 59 eP **P** 19 46 11.8 +1.1
comp=Z,19nm,0.9s
G25A **Newell** 64.15 50 P **P** 19 46 11.1 +0.7
baz=64,SNR=8.5
B30A **Myrvik Farm, E** 64.25 45 P **P** 19 46 11.8 +0.9
baz=64,SNR=26
HEC **Hector,Ludlow** 64.28 66 P **P** 19 46 11.7 +0.3
baz=64,SNR=13
M20A **Sweetwater, Wa** 64.28 56 P **P** 19 46 12.2 +0.7
baz=64,SNR=12
VRHR **Novokhopersk** 64.31 320 eP **P** 19 46 08.9 -2.3
VRHR e*SP **sP** 19 46 24.1 -3.0
L21A **Rawlins** 64.39 55 P **P** 19 46 11.0 -1.2
baz=64,SNR=8.9
Q16A **Castle Valley** 64.43 60 P **P** 19 46 13.3 +0.8
baz=64,SNR=8.4
H25A **Fruitdale** 64.47 51 P **P** 19 46 13.0 +0.6
baz=64,SNR=5.4
G26A **Maurine** 64.49 50 P **P** 19 46 12.8 +0.2
baz=64,SNR=18
RSSD **Black Hills** 64.60 51 eP **P** 19 46 13.8 +0.3
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD **Black Hills** 64.60 51 eP **P** 19 46 13.8 +0.3
comp=Z,29nm,0.9s
O19A **Miners Draw (B** 64.61 57 P **P** 19 46 14.3 +0.8
baz=64,SNR=11
M21A **Separation Pea** 64.64 55 P **P** 19 46 13.5 -0.4
baz=64,SNR=10
SRU **San Rafael** 64.66 59 eP **P** 19 46 14.6 +0.6
comp=Z,34nm,0.9s
RWWY **Rawlins** 64.67 55 eP **P** 19 46 14.6 +0.5
comp=Z,17nm,0.9s
N20A **Spence Gulch,** 64.70 56 P **P** 19 46 14.8 +0.5
baz=64,SNR=27
GMRC **Granite Mounta** 64.71 66 P **P** 19 46 15.0 +0.8
baz=64,SNR=6.9
I25A **Rochford** 64.83 51 P **P** 19 46 15.2 +0.2
baz=65,SNR=16
L22A **Ellis Ranch, M** 64.84 54 P **P** 19 46 15.4 +0.3
baz=65,SNR=20
D30A **Buchanan** 65.03 46 P **P** 19 46 16.4 +0.4
baz=65,SNR=9.0
PFO **Pinyon Flat Ob** 65.05 67 eP **P** 19 46 16.6 +0.2
comp=Z,30nm,1.8s
L23A **Garrett** 65.16 54 P **P** 19 46 17.1 -0.2
baz=65,SNR=8.9
M22A **Cedar Creek Ra** 65.19 55 P **P** 19 46 17.7 +0.2
baz=65,SNR=17
O20A **White River Ci** 65.20 57 P **P** 19 46 18.2 +0.7
baz=65,SNR=6.5
H27A **Howes** 65.22 50 P **P** 19 46 17.8 +0.4
baz=65,SNR=5.9
J25A **Sunshine Ranch** 65.24 52 P **P** 19 46 17.4 -0.2
baz=65,SNR=6.4
VSR **Storozhevoye** 65.25 321 eP **P** 19 46 16.4 -0.9
VSR e*SP **sP** 19 46 31.4 -1.7
I26A **New Underwood** 65.26 51 P **P** 19 46 18.4 +0.8
baz=65,SNR=6.1
VORD **Divnogorie** 65.38 321 eP **P** 19 46 17.1 -1.1
VORD e*SP **sP** 19 46 32.6 -1.4
E30A **Jud** 65.40 47 P **P** 19 46 18.7 +0.2
baz=65,SNR=9.8
IRM **Iron Mountain** 65.44 66 P **P** 19 46 19.4 +0.5
baz=65,SNR=15
F29A **Eureka** 65.45 48 P **P** 19 46 18.9 +0.1
baz=65,SNR=13
AGMN **Agassiz Nation** 65.48 44 eP **P** 19 46 18.8 -0.1
comp=Z,37nm,1.4s
U15A **North Rim** 65.53 62 P **P** 19 46 19.7 -0.1
baz=65,SNR=8.2
P20A **De Beque** 65.57 57 P **P** 19 46 20.3 +0.5
baz=65,SNR=7.3
BC3 **Big Chuckawall** 65.61 66 P **P** 19 46 20.1 0.0
baz=65,SNR=5.4
IMYA **Miami** 65.62 298 eP **P** 19 46 20.6 +0.4
J26A **Sides Ranch, S** 65.67 51 P **P** 19 46 20.9 +0.6
baz=65,SNR=6.4
IEMG **Emamgholi** 65.69 300 eP **P** 19 46 20.8 0.0
N22A **Wattenberg Ran** 65.69 55 P **P** 19 46 21.4 +0.7
baz=65,SNR=11
NB2 **NORSAR Subarra** 65.72 341 P **P** 19 46 19.1 -1.2
comp=Z,2.6nm,0.7s,baz=24,slow=6.5
NOA **NORSAR Array B** 65.72 341 P **P** 19 46 18.8 -1.5
NOA **NORSAR Array B** 65.72 341 P **P** 19 46 18.8 -1.5
comp=Z,6.1nm,0.9s,baz=25,slow=6.6,SNR=8.1
NOA LR LR 20 18 55.9
comp=Z,360nm,18.4s,baz=30,slow=40
PSI **Prapat** 65.81 244 P **P** 19 46 22.1 +0.5
PSI **Prapat** 65.81 244 P **P** 19 46 22.1 +0.5
comp=Z,10nm,0.8s,baz=5.7,slow=4.6,SNR=6.9
PV09 **Paradox Valley** 65.86 59 eP **P** 19 46 22.8 +0.9
PV09 epP **pP** 19 46 34.6 +1.2
N23A **Red Feather La** 65.90 55 P **P** 19 46 23.0 +0.9
baz=66,SNR=13
HFS **Hagfors** 66.00 339 LR LR 20 19 00.2
comp=Z,256nm,19.8s,baz=17,slow=39
Q20A **Ridgley Place,** 66.00 58 P **P** 19 46 22.8 +0.1
baz=66,SNR=6.7
PV04 **Paradox Valley** 66.06 59 eP **P** 19 46 24.0 +0.9
P21A **Newcastle** 66.06 57 P **P** 19 46 24.0 +0.9
baz=66,SNR=11
O22A **Kremmling** 66.10 56 P **P** 19 46 24.3 +0.9
baz=66,SNR=8.1
I28A **Midland** 66.13 50 P **P** 19 46 23.5 +0.3
baz=66,SNR=6.3
ISHV **Shirvan** 66.14 300 eP **P** 19 46 24.5 +0.9
PV05 **Paradox Valley** 66.18 59 eP **P** 19 46 24.2 +0.4
IAKL **Akhelmad** 66.20 299 eP **P** 19 46 24.4 +0.3
IMOG **Moghan** 66.22 298 eP **P** 19 46 24.9 +0.7
GLA **Glamis** 66.41 66 eP **P** 19 46 26.1 +0.9
comp=Z,14nm,0.9s
Q21A **Lamborn Mesa,** 66.49 57 P **P** 19 46 26.8 +1.0
baz=66,SNR=7.4
R20A **Redvale** 66.50 58 P **P** 19 46 26.4 +0.5
baz=66,SNR=8.9
SMCO **Snowmass** 66.57 57 eP **P** 19 46 27.3 +0.8
comp=Z,18nm,0.9s
WUAZ **Wupatki** 66.70 62 P **P** 19 46 28.5 +1.3
baz=66,SNR=6.5
R21A **Cimarron** 66.83 58 P **P** 19 46 29.4 +1.3
baz=67,SNR=11
MICGM **Minsk** 66.85 329 e **P** 19 46 26.0 -1.5
ISCO **Idaho Springs** 66.86 55 eP **P** 19 46 29.1 +0.8
ISCO pmax pmax
comp=Z,25nm,1.0s
ISCO **Idaho Springs** 66.86 55 eP **P** 19 46 29.1 +0.8
comp=Z,25nm,1.0s
ISCO **Idaho Springs** 66.86 55 P **P** 19 46 29.3 +1.0
baz=67,SNR=28
MNK **Minsk** 66.86 329 eP **P** 19 46 26.0 -1.6
Y14A **Wickenburg** 66.86 65 P **P** 19 46 29.0 +0.9
baz=67,SNR=6.2
NACGM **Naroch** 66.88 330 e **P** 19 46 25.0 -2.7
P23A **Jefferson** 67.04 56 P **P** 19 46 30.2 +0.7
baz=67,SNR=5.7
MVCO **Mesa Verde** 67.13 59 eP **P** 19 46 30.7 +0.8
comp=Z,16nm,0.9s
MVCO **Mesa Verde** 67.13 59 P **P** 19 46 30.8 +0.8
baz=67,SNR=8.2
S21A **Coal Bank Pass** 67.20 58 P **P** 19 46 31.7 +1.2
baz=67,SNR=12
Q23A **Hartsel** 67.38 56 P **P** 19 46 32.9 +1.3
baz=67,SNR=6.3
K29A **Lazy Trails An** 67.46 50 P **P** 19 46 32.5 +0.8
baz=67,SNR=5.6
MAK **Makhachkala** 67.64 310 eP **P** 19 46 35.6 +2.9
EYMN **Ely** 67.67 41 eP **P** 19 46 33.1 +0.2
comp=Z,34nm,1.1s
N27A **Anderson Farm,** 67.76 53 P **P** 19 46 34.1 +0.5
baz=68,SNR=6.3
P25A **Willow Gulch B** 67.84 55 P **P** 19 46 35.3 +1.0
baz=68,SNR=10
OGNE **Ogallala** 67.92 52 P **P** 19 46 35.1 +0.5
baz=68,SNR=8.2
T22A **Edith** 68.16 58 P **P** 19 46 37.6 +1.2
baz=68,SNR=8.4
Q25A **Bedland, Calha** 68.23 55 P **P** 19 46 37.6 +0.8
baz=68,SNR=8.1
O27A **Beecher Island** 68.24 53 P **P** 19 46 37.4 +0.6
baz=68,SNR=5.9
P26A **Davis Ranch, A** 68.24 54 P **P** 19 46 37.6 +0.8
baz=68,SNR=8.1
R24A **Sanders Place,** 68.26 56 P **P** 19 46 37.7 +0.7
baz=68,SNR=6.1
ECSD **EROS Data Cent** 68.54 47 eP **P** 19 46 38.0 -0.4
comp=Z,34nm,0.8s
Q26A **Hugo** 68.61 55 P **P** 19 46 39.9 +0.8
baz=68,SNR=9.2
R25A **Fountain Ranch** 68.77 56 P **P** 19 46 40.7 +0.6
baz=68,SNR=9.6
T24B **San Luis** 68.96 57 P **P** 19 46 43.1 +1.6
baz=69,SNR=6.9
S25A **Robets Cordova** 69.04 56 P **P** 19 46 42.2 +0.3
baz=69,SNR=5.2
X20A **Quemado** 69.04 61 P **P** 19 46 43.5 +1.6
baz=69,SNR=6.8
U23A **El Rito** 69.05 58 P **P** 19 46 43.4 +1.4
baz=69,SNR=19
R26A **Arlington** 69.11 55 P **P** 19 46 42.8 +0.6
baz=69,SNR=8.5
SPMN **St. Paul** 69.18 44 eP **P** 19 46 42.8 +0.5
KIV **Kislovodsk** 69.22 314 eP **P** 19 46 44.0 +1.3
KIV pmax pmax
comp=Z,10.0nm,0.9s
KBZ **Khabaz** 69.29 314 P **P** 19 46 43.6 +0.6
KBZ pmax pmax
comp=Z,8.0nm,0.8s
KBZ MLR MLR
comp=Z,361nm,18.2s
KBZ **Khabaz** 69.29 314 P **P** 19 46 43.6 +0.6
KBZ **Khabaz** 69.29 314 P **P** 19 46 43.6 +0.6
comp=Z,7.6nm,0.8s,baz=46,slow=3.2,SNR=12
KBZ LR LR 20 22 02.7
comp=Z,360nm,18.2s,baz=224,slow=40
TUC **Tucson** 69.33 64 eP **P** 19 46 44.0 +0.4
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC **Tucson** 69.33 64 eP **P** 19 46 44.0 +0.4
comp=Z,9.6nm,1.2s
T25A **Trinidad** 69.44 57 P **P** 19 46 44.8 +0.4
baz=69,SNR=8.2
V23A **Ortiz Mt. (NFS** 69.48 59 P **P** 19 46 46.2 +1.6
baz=69,SNR=9.0
AKASG **Malin Array Be** 69.50 326 i P **P** 19 46 43.4 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 69.50 326 P **P** 19 46 44.2 0.0
AKASG **Malin Array Be** 69.50 326 P **P** 19 46 44.2 0.0
comp=Z,2.0nm,0.5s,baz=35,slow=7.0,SNR=12
AKASG LR LR 20 20 07.6
comp=Z,497nm,18.1s,baz=40,slow=38
KIEV **Kiev** 69.51 326 eP **P** 19 46 43.4 -0.8
KIEV **Kiev** 69.51 326 eP **P** 19 46 43.4 -0.8
Y20A **Horse Springs,** 69.57 62 P **P** 19 46 46.6 +1.3
baz=69,SNR=8.8
CTAO **Charters Tower** 69.69 188 eP **P** 19 46 44.7 -0.9
CTAO pmax pmax
comp=Z,8.0nm,0.8s
CTAO **Charters Tower** 69.69 188 eP **P** 19 46 44.7 -0.9
comp=Z,7.6nm,0.8s
T26A **Comanche Natio** 69.85 56 P **P** 19 46 46.7 -0.2
baz=70,SNR=12
P30A **Selden** 69.87 52 P **P** 19 46 46.8 0.0
baz=70,SNR=6.3
ANMO **Albuquerque** 69.91 60 eP **P** 19 46 48.2 +1.0
comp=Z,8.2nm,1.0s
X22A **Bernardo** 69.92 60 P **P** 19 46 49.3 +2.0
baz=70,SNR=7.5
Q29A **Oakley** 69.98 53 P **P** 19 46 47.5 0.0
baz=70,SNR=6.6
U25A **Circle Dot Ran** 69.98 57 P **P** 19 46 48.5 +0.9
baz=70,SNR=6.0
LENM **Lemitar** 70.18 60 eP **P** 19 46 50.2 +1.3
R29A **Marienthal** 70.24 54 P **P** 19 46 49.3 +0.2
baz=70,SNR=8.4
V25A **Rancho No Teng** 70.28 58 P **P** 19 46 50.6 +1.1
baz=70,SNR=5.1
W24A **Lazy 6 Ranch,** 70.30 59 P **P** 19 46 51.0 +1.4
baz=70,SNR=7.9
X23A **Hourglass Bar** 70.32 60 P **P** 19 46 50.8 +0.9
baz=70,SNR=6.6
MSVF **Nonsavu** 70.34 156 P P 19 46 45.0 -4.7
comp=Z,106nm,1.2s,SNR=6.1
120A **U Bar Ranch, L** 70.41 63 P **P** 19 46 51.3 +1.0
baz=70,SNR=14
SCHQ **Schefferville** 70.49 24 P **P** 19 46 49.8 -0.4
SCHQ **Schefferville** 70.49 24 P **P** 19 46 49.8 -0.4
comp=Z,5.0nm,0.9s,baz=324,slow=9.7,SNR=3.9
W25A **X Bar L Ranch,** 70.82 58 P **P** 19 46 53.6 +0.9
baz=71,SNR=14
U27A **Thompson Grove** 70.83 56 P **P** 19 46 52.5 -0.2
baz=71,SNR=5.2
319A **Douglas** 70.88 64 P **P** 19 46 54.3 +1.1
baz=71,SNR=12
121A **Cookes Peak, D** 70.91 62 P **P** 19 46 54.8 +1.4
baz=71,SNR=8.7
220A **Playas Peak, P** 70.94 63 P **P** 19 46 54.6 +1.1
baz=71,SNR=6.7
ANN **Anapa** 70.95 318 eP **P** 19 46 51.9 -1.3
ANN e*PP **pP** 19 47 02.4 -2.3
ANN e 19 49 29.8
ANN eS **S** 19 56 05.1 -0.8
ANN pmax pmax
comp=Z,17nm,1.3s
ANN MLR MLR
comp=Z,544nm,21.0s
GNI **Garni** 71.12 310 eP **P** 19 46 54.3 -0.3
comp=Z,39nm,1.3s
GNI **Garni** 71.12 310 P **P** 19 46 55.0 +0.5
comp=Z,1.3nm,0.4s,baz=143,slow=5.1,SNR=3.5
X25A **Clemmons Ranch** 71.22 59 P **P** 19 46 56.1 +0.9
baz=71,SNR=8.2
Y24A **Capitan** 71.23 60 P **P** 19 46 56.1 +0.8
baz=71,SNR=8.3
122A **Conniff Cattle** 71.24 62 P **P** 19 46 57.0 +1.7
baz=71,SNR=7.1
WRAB **Tennant Creek** 71.35 199 P **P** 19 46 55.8 0.0
comp=Z,115nm,1.0s,SNR=6.9
WRAB **Tennant Creek** 71.35 199 eP P 19 46 52.9 -2.9
WRAB **Tennant Creek** 71.35 199 eP P 19 46 52.9 -2.9
WRA **Warramunga Arr** 71.37 199 P **P** 19 46 55.9 +0.1
WRA **Warramunga Arr** 71.37 199 P **P** 19 46 55.9 +0.1
comp=Z,12nm,1.0s,baz=17,slow=6.6,SNR=19
Y25A **Mesa, Roswell** 71.64 59 P **P** 19 46 58.6 +0.8
baz=71,SNR=12
X26A **CR and CF Fran** 71.67 58 P **P** 19 46 58.8 +0.8
baz=71,SNR=6.1
FITZ **Fitzroy Crossi** 71.90 208 P **P** 19 46 59.2 +0.2
FITZ **Fitzroy Crossi** 71.90 208 P **P** 19 46 59.2 +0.2
comp=Z,11nm,0.9s,baz=11,slow=9.4,SNR=8.6
KSU1 **Kansas State U** 72.06 50 eP **P** 19 46 59.1 -0.8
comp=Z,19nm,0.8s
ISHB **Shabestar** 72.09 308 eP **P** 19 47 00.5 0.0
SIM **Simferopol'** 72.26 320 eP P 19 47 04.7 +3.6
SIM S **S** 19 56 18.0 -3.0
SIM MLR MLR
comp=Z,160nm,13.0s
Y27A **Causey** 72.52 58 P **P** 19 47 03.5 +0.4
baz=72,SNR=16
Z26A **Caprock** 72.53 59 P **P** 19 47 03.5 +0.5
baz=72,SNR=9.4
IZEF **Zefreh** 72.53 300 eP **P** 19 47 03.6 +0.4
125A **Gardner Draw,** 72.60 60 P **P** 19 47 04.0 +0.5
baz=72,SNR=6.6
MSTX **Muleshoe** 72.68 58 eP **P** 19 47 04.3 +0.5
MSTX **Muleshoe** 72.68 58 P **P** 19 47 04.4 +0.5
baz=72,SNR=8.6
KIS **Kishinev** 72.71 324 eP **P** 19 47 03.0 -0.7
KIS LRM MLR 20 22 30.0
comp=Z,500nm,16.0s
KIS **Kishinev** 72.71 324 eP **P** 19 47 03.0 -0.7
KIS e 19 47 12.0
X29A **Tulia** 72.91 57 P **P** 19 47 06.0 +0.8
baz=73,SNR=12
V31A **Spring Creek L** 72.91 55 P **P** 19 47 06.0 +0.8
baz=73,SNR=7.4
Y28A **McKinney Farm,** 73.01 58 P **P** 19 47 07.5 +1.6
baz=73,SNR=7.0
OJC **Ojcow** 73.10 331 eP **P** 19 47 05.3 -0.7
OJC pmax pmax
comp=Z,23nm,1.3s
OJC **Ojcow** 73.10 331 eP **P** 19 47 05.3 -0.7
comp=Z,23nm,1.3s
GDL2 **Guadalupe Moun** 73.11 60 eP **P** 19 47 07.3 +0.8
226B **Tecolote Peak,** 73.31 60 P **P** 19 47 08.5 +0.9
baz=73,SNR=9.0
STHS **Stebnicka Huta** 73.34 330 eP **P** 19 47 07.6 +0.1
STHS pmax pmax
comp=Z,11nm,0.9s
STHS **Stebnicka Huta** 73.34 330 eP **P** 19 47 07.5 +0.1
KOLS **Kolonicke sedl** 73.42 329 eP **P** 19 47 08.3 +0.4
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS **Kolonicke sedl** 73.42 329 eP **P** 19 47 08.3 +0.4
BUR08 **Bucovina Ar. S** 73.51 327 eP **P** 19 47 07.3 -1.3
BURAR **Bucovina Array** 73.53 327 ⇑P **P** 19 47 08.9 +0.2
BURAR **Bucovina Array** 73.53 327 ⇑P **P** 19 47 08.9 +0.2
KSP **Ksiaz** 73.61 334 eP **P** 19 47 09.0 0.0
KSP MLR MLR
comp=Z,1μm,20.4s
UZH **Uzhgorod** 73.67 329 eP **P** 19 47 08.4 -0.9
UZH e 19 47 13.8
UZH e 19 47 27.8
X31A **McDonald Ranch** 73.70 56 P **P** 19 47 10.1 +0.3
baz=74,SNR=7.4
CRVS **Cervenica-Dubn** 73.71 330 eP **P** 19 47 09.8 +0.2
CRVS pmax pmax
comp=Z,57nm,2.3s
CRVS **Cervenica-Dubn** 73.71 330 eP **P** 19 47 09.8 +0.2

Z29A	**Hungry Hill Ra**	**73.80**	**58**	P	**P**	**19 47 11.3 +0.9**
	baz=74,SNR=8.3					
425A	**Indio Mountain**	**73.80**	**62**	P	**P**	**19 47 11.3 +0.6**
	baz=74,SNR=8.7					
128A	**Castleberry Fa**	**73.84**	**59**	P	**P**	**19 47 11.5 +0.7**
	baz=74,SNR=12					
TESR	**Tescani**	**73.94 325⇑**		*i*P	**P**	**19 47 11.6 +0.6**
OKC	**Ostrava-Krasne**	**73.95 332**		*e*P	**P**	**19 47 11.5 +0.5**
OKC	**Ostrava-Krasne**	**73.95 332**		*e*P	**P**	**19 47 11.5 +0.5**
UPC	**Upice**	**73.99 334**		*e*P	**P**	**19 47 12.0 +0.8**
UPC	**Upice**	**73.99 334**		*e*P	**P**	**19 47 12.0 +0.8**
TRPA	**Tarpa**	**74.02 328⇓**		*i*P	**P**	**19 47 12.6 +1.2**
DPC	**Dobruska-Polom**	**74.04 333**		*e*P	**P**	**19 47 12.1 +0.5**
DPC	**Dobruska-Polom**	**74.04 333**		*e*P	**P**	**19 47 11.9 +0.3**
DPC				*e*pP	**PcP**	**19 47 29.3 +2.6**
DPC				AMS	AMS	20 26 10.0
DPC	**Dobruska-Polom**	**74.04 333**		*e*P	**P**	**19 47 12.1 +0.5**
	comp=Z,179nm,1.6s					
Z30A	**Sanderson Ranc**	**74.09**	**57**	P	**P**	**19 47 12.3 +0.1**
	baz=74,SNR=22					
CLL	**Collm**	**74.11 336**		*e*P	**P**	**19 47 13.0 +1.1**
CLL				*i*		19 47 22.7
CLL				*i*		19 47 30.1
CLL				pmax	pmax	
	comp=Z,75nm,2.2s					
CLL				MLR	MLR	
	comp=Z,400nm,19.5s					
CLL	**Collm**	**74.11 336**		*e*P	**P**	**19 47 13.0 +1.1**
	comp=Z,75nm,2.2s					
CLL				*i* (pP)	**pP**	**19 47 22.7 -0.8**
CLL				*i* sP	**sP**	**19 47 30.1 +2.3**
CLL				*i*		19 47 40.9
CLL				L	L	20 22 00.0
	comp=Z,400nm,19.5s					
MORC	**Moravsky Berou**	**74.19 332**		*e*P	**P**	**19 47 12.4 0.0**
MORC				pmax	pmax	
	comp=Z,18nm,1.1s					
MORC	**Moravsky Berou**	**74.19 332**		*e*P	**P**	**19 47 12.4 0.0**
	comp=Z,18nm,1.1s					
BRG	**Berggiesshubel**	**74.25 335**		*e*(P)	**P**	**19 47 14.3 +1.6**
	comp=Z,68nm,2.7s					
BRG	**Berggiesshubel**	**74.25 335**		*e*P	**P**	**19 47 14.3 +1.6**
BRG				pmax	pmax	
	comp=Z,68nm,2.7s					
WMOK	**Wichita Mounta**	**74.26**	**55**	*e*P	**P**	**19 47 12.8 -0.3**
WMOK				pmax	pmax	
	comp=Z,29nm,0.9s					
WMOK	**Wichita Mounta**	**74.26**	**55**	*e*P	**P**	**19 47 12.8 -0.3**
	comp=Z,29nm,0.9s					
PVCC	**Panska Ves**	**74.39 334**		*e*P	**P**	**19 47 14.2 +0.7**
PVCC				*e*		19 47 30.9
PVCC				MLR	MLR	
	comp=Z,700nm,15.4s					
PVCC	**Panska Ves**	**74.39 334**		*e*P	**P**	**19 47 14.2 +0.7**
PVCC				*ex*	x	19 47 30.9
PVCC				AMS	AMS	20 23 10.0
	comp=Z,700nm,15.4s					
IPAR	**Pars**	**74.39 298**		*e*P	**P**	**19 47 14.1 -0.2**
KECS	**Kecovo**	**74.40 330**		*e*P	**P**	**19 47 14.1 +0.5**
KECS				pmax	pmax	
	comp=Z,5.0nm,1.0s					
KECS	**Kecovo**	**74.40 330**		*e*P	**P**	**19 47 14.1 +0.5**
HDIL	**Hopedale**	**74.44**	**45**	*e*P	**P**	**19 47 14.2 +0.3**
	comp=Z,40nm,1.1s					
VRI	**Vrincioaia**	**74.45 325**		⇓P	**P**	**19 47 14.9 +0.9**
VRI	**Vrincioaia**	**74.45 325**		⇓*i*P	**P**	**19 47 14.9 +0.9**
328A	**Wristen Ranch,**	**74.59**	**60**	P	**P**	**19 47 15.5 +0.4**
	baz=74,SNR=15					
Z31A	**Sharp Cattle R**	**74.61**	**57**	P	**P**	**19 47 15.2 0.0**
	baz=74,SNR=6.2					
PRA	**Prague**	**74.83 334**		P	**P**	**19 47 16.0 -0.1**
526A	**Mary Lane Ranc**	**74.86**	**61**	P	**P**	**19 47 17.3 +0.5**
	baz=75,SNR=9.3					
PRU	**Pruhonice**	**74.88 334**		*e*P	**P**	**19 47 16.5 +0.1**
PRU				*e*		19 47 33.9
PRU				MLR	MLR	
	comp=Z,600nm,14.1s					
PRU	**Pruhonice**	**74.88 334**		*e*P	**P**	**19 47 16.5 +0.1**
PRU				*ex*	x	19 47 33.9
PRU				*ex*	x	19 47 42.2
PRU				AMS	AMS	20 29 00.0
	comp=Z,600nm,14.1s					
TUL1	**Tulsa**	**74.92**	**52**	*e*P	**P**	**19 47 17.2 +0.3**
TUL1	**Tulsa**	**74.92**	**52**	P	**P**	**19 47 17.3 +0.4**
	baz=75,SNR=7.2					
131A	**Roby**	**74.96**	**57**	P	**P**	**19 47 18.0 +0.8**
	baz=75,SNR=6.3					
Z32A	**Haskell**	**74.97**	**56**	P	**P**	**19 47 17.5 +0.2**
	baz=75					
329A	**Wagon Wheel Ra**	**74.98**	**59**	P	**P**	**19 47 18.2 +0.8**
	baz=75,SNR=12					
TIRR	**Tirgusor**	**74.98 323**		⇑P	**P**	**19 47 17.8 +0.8**
TIRR	**Tirgusor**	**74.98 323**		⇑*i*P	**P**	**19 47 17.8 +0.8**
MLR	**Muntele Rosu**	**75.06 325**		⇑*i*P	**P**	**19 47 18.3 +0.6**
AS31	**Alice Springs**	**75.06 199**		*e*P	**P**	**19 47 17.7 0.0**
ASAR	**Alice Springs**	**75.06 199**		P	**P**	**19 47 17.6 -0.1**
ASAR	**Alice Springs**	**75.06 199**		P	**P**	**19 47 17.6 -0.1**
	comp=Z,3.9nm,0.8s,baz=16,slow=5.3,SNR=25					
527A	**Woodward Ranch**	**75.07**	**61**	P	**P**	**19 47 18.2 +0.2**
	baz=75					
PSZ	**Piszkesteto**	**75.08 330**		⇑P	**P**	**19 47 18.4 +0.7**
PSZ	**Piszkesteto**	**75.08 330**		⇑*i*P	**P**	**19 47 18.4 +0.7**
PSZ	**Piszkesteto**	**75.08 330**		*e*P	**P**	**19 47 18.9 +1.2**
	comp=Z,25nm,1.4s					
PSZ	**Piszkesteto**	**75.08 330**		⇓*e*P	**P**	**19 47 18.8 +1.1**
DRGR		**75.11 328**		⇑P	**P**	**19 47 18.8 +0.9**
DRGR		**75.11 328**		⇑*i*P	**P**	**19 47 18.8 +0.9**
428A	**Kincaid Ranch,**	**75.16**	**60**	P	**P**	**19 47 18.8 +0.4**
	baz=75					
626A	**Big Bend Ranch**	**75.21**	**62**	P	**P**	**19 47 19.6 +0.8**
	baz=75,SNR=7.9					
TREC	**Trest**	**75.23 333**		*e*P	**P**	**19 47 19.4 +1.0**
TREC				*e*		19 47 34.8
TREC				MLR	MLR	
	comp=Z,700nm,16.3s					
TREC	**Trest**	**75.23 333**		*e*P	**P**	**19 47 19.4 +1.0**
TREC				*e*pP	**PcP**	**19 47 34.8 +3.1**
TREC				AMS	AMS	20 26 50.0
	comp=Z,700nm,16.3s					
NKC	**Novy Kostel**	**75.23 336**		*e*P	**P**	**19 47 19.3 +0.8**
NKC				MLR	MLR	
	comp=Z,300nm,17.1s					
NKC	**Novy Kostel**	**75.23 336**		*e*P	**P**	**19 47 19.3 +0.8**
NKC				AMS	AMS	20 23 20.0
	comp=Z,300nm,17.1s					
SMOL	**Smolenice**	**75.34 332**		*e*P	**P**	**19 47 20.1 +1.0**
SMOL	**Smolenice**	**75.34 332**		*e*P	**P**	**19 47 20.1 +1.0**
ABTX	**Abilene, Hawle**	**75.41**	**57**	*e*P	**P**	**19 47 19.0 -0.8**
ABTX	**Abilene, Hawle**	**75.41**	**57**	P	**P**	**19 47 20.4 +0.6**
	baz=75,SNR=6.7					
VOIR		**75.44 326**		⇑P	**P**	**19 47 20.9 +1.1**
VOIR		**75.44 326**		⇑*i*P	**P**	**19 47 20.9 +1.1**
330A	**Mertzon**	**75.49**	**59**	P	**P**	**19 47 20.4 +0.1**
	baz=75					
528A	**Cox Ranch, San**	**75.52**	**61**	P	**P**	**19 47 21.1 +0.5**
	baz=75					
231A	**Bronte**	**75.56**	**58**	P	**P**	**19 47 21.0 +0.3**
	baz=75					
SFIN	**Scholer Farm**	**75.58**	**44**	*e*P	**P**	**19 47 21.7 +1.2**
MALT	**Malatya**	**75.63 313**		⇓P	**P**	**19 47 22.5 +1.5**
MALT	**Malatya**	**75.63 313**		⇓*i*P	**P**	**19 47 22.5 +1.5**
TXAR	**Lajitas Array**	**75.65**	**62**	P	**P**	**19 47 21.9 +0.7**
TXAR	**Lajitas Array**	**75.65**	**62**	P	**P**	**19 47 21.9 +0.7**
	comp=Z,14nm,0.7s,baz=298,slow=4.1,SNR=47					
429A	**Davenport Ranc**	**75.68**	**60**	P	**P**	**19 47 21.4 0.0**
	baz=76					
627A	**Terlingua Ranc**	**75.72**	**61**	P	**P**	**19 47 22.5 +0.8**
	baz=76,SNR=5.2					
ZST	**Bratislava**	**75.72 332**		*e*P	**P**	**19 47 21.9 +0.7**
ZST	**Bratislava**	**75.72 332**		*e*P	**P**	**19 47 21.8 +0.6**
430A	**Baggett Ranch,**	**75.92**	**59**	P	**P**	**19 47 22.9 +0.2**
	baz=76,SNR=11					
KHC	**Kasperske Hory**	**75.92 334**		*e*P	**P**	**19 47 23.2 +0.8**
KHC				*e*		19 47 41.4
KHC				MLR	MLR	
	comp=Z,600nm,15.3s					
KHC	**Kasperske Hory**	**75.92 334**		*e*P	**P**	**19 47 23.2 +0.8**
KHC				*ex*	x	19 47 41.4
KHC				AMS	AMS	20 23 20.0
	comp=Z,600nm,15.3s					
KHC	**Kasperske Hory**	**75.92 334**		*e*P	**P**	**19 47 23.6 +1.2**
232A	**Coleman**	**75.97**	**57**	P	**P**	**19 47 23.2 +0.2**
	baz=76,SNR=9.0					
331A	**San Angelo**	**75.98**	**58**	P	**P**	**19 47 23.5 +0.4**
	baz=76,SNR=7.8					
PKSG		**76.03 331**		⇓*e*P	**P**	**19 47 24.3 +1.3**
GRF	**Grafenberg Arr**	**76.06 336**		*e*P	**P**	**19 47 23.4 +0.2**
GRF				pmax	pmax	
	comp=Z,47nm,1.8s					
GRF				MLR	MLR	
	comp=Z,300nm,18.8s					
CSKK	**Cs´ákako**	**76.10 331**		⇓*e*P	**P**	**19 47 22.0 -1.4**
GEC2	**GERESS Array S**	**76.15 334**		*e*P	**P**	**19 47 24.6 +0.8**
GEC2	**GERESS Array S**	**76.15 334**		*e*P	**P**	**19 47 24.6 +0.8**
GERES	**GERESS Array B**	**76.15 334**		P	**P**	**19 47 23.6 -0.2**
GERES				PP	**PP**	**19 50 13.9 -0.3**
GERES	**GERESS Array B**	**76.15 334**		P	**P**	**19 47 23.6 -0.2**
	comp=Z,1.0nm,0.7s,baz=32,slow=5.3,SNR=13					
GERES				PP	**PP**	**19 50 13.9 -0.3**
	comp=Z,0.7nm,0.9s,baz=40,slow=7.7,SNR=2.6					
332A	**Millersview**	**76.30**	**58**	P	**P**	**19 47 25.5 +0.6**
	baz=76,SNR=7.7					
GZR	**Gura Zlata**	**76.30 327**		⇑P	**P**	**19 47 25.3 +0.6**
GZR	**Gura Zlata**	**76.30 327**		⇑*i*P	**P**	**19 47 25.3 +0.6**
SOP	**Sopron**	**76.35 332**		⇓*e*	**P**	**19 47 25.9 +1.1**
530A	**J-C Ranch, Com**	**76.35**	**60**	P	**P**	**19 47 25.8 +0.6**
	baz=76					
431A	**Sonora**	**76.35**	**59**	P	**P**	**19 47 25.7 +0.5**
	baz=76,SNR=9.8					
OLIL	**Olney**	**76.45**	**45**	*e*P	**P**	**19 47 26.1 +0.5**
MEM	**Membach**	**76.49 340**		P	**P**	**19 47 26.5 +1.0**
BZS	**Buzias**	**76.51 328**		⇑P	**P**	**19 47 26.4 +0.6**
BZS	**Buzias**	**76.51 328**		⇑*i*P	**P**	**19 47 26.4 +0.6**
432A	**Menard**	**76.66**	**58**	P	**P**	**19 47 27.4 +0.4**
	baz=76,SNR=7.2					
BR131	**Keskin Array S**	**76.70 317**		*e*P	**P**	**19 47 26.5 -0.6**
	comp=Z,5.1nm,1.0s					
BRTR	**Keskin Array B**	**76.70 317**		P	**P**	**19 47 27.2 0.0**
BRTR				pP	**PcP**	**19 47 41.3 +2.9**
BRTR	**Keskin Array B**	**76.70 317**		P	**P**	**19 47 27.2 0.0**
	comp=Z,3.3nm,1.1s,baz=46,slow=4.2,SNR=9.1					
BRTR				pP	**PcP**	**19 47 41.3 +2.9**
	comp=Z,6.1nm,1.0s,baz=54,slow=3.2,SNR=11					
BRTR				LR	LR	20 27 44.1
	comp=Z,102nm,18.7s,baz=215,slow=41					
SIUC	**Southern Illin**	**76.75**	**47**	*e*P	**P**	**19 47 27.4 +0.2**
	comp=Z,32nm,0.9s					
531A	**Rockspringe**	**76.78**	**59**	P	**P**	**19 47 28.2 +0.5**
	baz=77,SNR=6.5					
JCT	**Junction City**	**76.96**	**58**	P	**P**	**19 47 28.8 +0.2**
	baz=77					
PKSM	**Moragy**	**76.99 330**		⇑P	**P**	**19 47 29.2 +0.7**
PKSM	**Moragy**	**76.99 330**		⇑*i*P	**P**	**19 47 29.2 +0.7**
PKSM	**Moragy**	**76.99 330**		*e*P	**P**	**19 47 28.3 -0.2**
WHTX	**Lake Whitney**	**77.08**	**56**	*e*P	**P**	**19 47 28.1 -1.1**
WHTX	**Lake Whitney**	**77.08**	**56**	P	**P**	**19 47 29.4 +0.3**
	baz=77					
MIAR	**Mount Ida**	**77.12**	**51**	*e*P	**P**	**19 47 29.7 +0.3**
MIAR	**Mount Ida**	**77.12**	**51**	*e*P	**P**	**19 47 29.7 +0.3**
532A	**Rockspringe**	**77.17**	**59**	P	**P**	**19 47 30.2 +0.4**
	baz=77,SNR=8.4					
USIN	**University of**	**77.27**	**45**	*e*P	**P**	**19 47 31.0 +0.8**
	comp=Z,67nm,1.1s					
PARMO	**Parma**	**77.33**	**48**	*e*P	**P**	**19 47 31.5 +0.9**
631A	**Perdido Creek**	**77.34**	**60**	P	**P**	**19 47 31.2 +0.5**
	baz=77,SNR=21					
WCI	**Wyandotte Cave**	**77.69**	**44**	*e*P	**P**	**19 47 30.5 -2.0**
WCI				pmax	pmax	
	comp=Z,28nm,1.0s					
WCI	**Wyandotte Cave**	**77.69**	**44**	*e*P	**P**	**19 47 30.5 -2.0**
	comp=Z,28nm,1.0s					
632A	**Uvalde**	**77.71**	**59**	P	**P**	**19 47 33.1 +0.3**
	baz=78,SNR=8.3					
SOKA	**Soboth**	**77.71 332**		*i* P	**P**	**19 47 33.3 +0.6**
	comp=Z,14nm,1.4s,SNR=6.4					
PERS	**Pernice**	**77.72 332**		*i* P	**P**	**19 47 33.4 +0.7**
WTTA	**Wattenberg**	**78.16 335**		⇑*i*P	**P**	**19 47 36.5 +1.2**
	comp=Z,25nm,1.3s,SNR=5.1					
CDF	**Champ du Feu**	**78.24 338**		*e*P	**P**	**19 47 35.6 +0.1**
	comp=Z,30nm,1.4s					
ABTA	**Abfaltersbach**	**78.39 334**		⇓*i*P	**P**	**19 47 36.3 -0.1**
	comp=Z,11nm,1.2s,SNR=4.9					
PAGF	**Fort de Pagny**	**78.47 339**		*e*P	**P**	**19 47 36.8 +0.1**
	comp=Z,8.1nm,1.1s					
VISS	**Visnje**	**78.56 332**		*i* P	**P**	**19 47 36.0 -1.2**
VTS	**Vitosha**	**78.56 325**		⇓P	**P**	**19 47 38.1 +0.6**
VTS	**Vitosha**	**78.56 325**		⇓*i*P	**P**	**19 47 38.1 +0.6**
WVT	**Waverly**	**78.68**	**47**	*e*P	**P**	**19 47 36.6 -1.5**
WVT				pmax	pmax	
	comp=Z,10.0nm,0.7s					
WVT	**Waverly**	**78.68**	**47**	*e*P	**P**	**19 47 36.5 -1.5**
	comp=Z,10.0nm,0.7s					
BOJS	**Bojanci**	**78.70 332**		*i* P	**P**	**19 47 38.3 +0.3**
JAVS	**Javornik**	**78.71 333**		*i* P	**P**	**19 47 37.5 -0.7**
NATX	**Nacogdoches**	**78.74**	**54**	*e*P	**P**	**19 47 38.9 +0.5**
	comp=Z,64nm,1.2s					
OXF	**Oxford**	**79.22**	**49**	*e*P	**P**	**19 47 40.2 -0.8**
OXF				pmax	pmax	
	comp=Z,49nm,0.9s					
OXF	**Oxford**	**79.22**	**49**	*e*P	**P**	**19 47 40.2 -0.8**
	comp=Z,49nm,0.9s					
PLAL	**Pickwick Lake**	**79.49**	**48**	*e*P	**P**	**19 47 42.3 -0.2**
TUE	**Stuetta**	**79.51 336**		*e*P	**P**	**19 47 43.4 +0.7**
FLN	**La Foliniere**	**79.59 343**		*e*P	**P**	**19 47 42.9 +0.1**
LDF	**La Druitiere**	**79.68 343**		*e*P	**P**	**19 47 43.5 +0.2**
LOR	**Lormes**	**80.11 340**		*e*P	**P**	**19 47 46.4 +0.7**
	comp=Z,23nm,1.3s					
TZTN	**Tazewell**	**80.31**	**44**	*e*P	**P**	**19 47 46.9 -0.1**
AVF	**Avril sur Loir**	**80.68 340**		*e*P	**P**	**19 47 48.7 0.0**
SMF	**Signal de Mont**	**80.70 340**		*e*P	**P**	**19 47 48.9 0.0**
	comp=Z,51nm,1.3s					
CPCT	**Cooper Cave**	**80.78**	**45**	*e*P	**P**	**19 47 49.4 0.0**
TKL	**Tuckaleechee C**	**80.95**	**44**	*e*P	**P**	**19 47 50.4 +0.1**
TKL	**Tuckaleechee C**	**80.95**	**44**	P	**P**	**19 47 50.0 -0.3**
	comp=Z,8.0nm,0.9s,baz=239,slow=5.9,SNR=8.4					
LPL	**La Plagne**	**81.08 337**		*e*P	**P**	**19 47 52.4 +1.3**
	comp=Z,19nm,1.0s					
LPG	**La Plagne**	**81.09 337**		*e*P	**P**	**19 47 52.7 +1.4**
	comp=Z,36nm,1.1s					
BLA	**Blacksburg**	**81.13**	**41**	*e*P	**P**	**19 47 51.3 0.0**
BLA				pmax	pmax	
	comp=Z,12nm,1.0s					
BLA	**Blacksburg**	**81.13**	**41**	*e*P	**P**	**19 47 51.3 0.0**
	comp=Z,12nm,1.0s					
ASF	**Jabal al Asfar**	**81.29 310**		P	**P**	**19 47 53.1 +0.7**
ASF	**Jabal al Asfar**	**81.29 310**		P	**P**	**19 47 53.1 +0.7**
	comp=Z,3.0nm,1.0s,baz=89,slow=6.4,SNR=3.7					
ASF				LR	LR	20 26 43.9
	comp=Z,125nm,19.6s,baz=346,slow=38					
MFF	**Saint Martin d**	**81.59 342**		*e*P	**P**	**19 47 53.7 +0.1**
LRAL	**Lakeview Retre**	**81.59**	**48**	*e*P	**P**	**19 47 53.4 -0.4**
	comp=Z,11nm,0.8s					
STKA	**Stephens Creek**	**81.83 191**		P	**P**	**19 47 54.8 +0.1**
STKA	**Stephens Creek**	**81.83 191**		P	**P**	**19 47 54.8 +0.1**
	comp=Z,2.4nm,0.8s,baz=358,slow=6.7,SNR=3.2					
ORIF	**Oris-en-Rattie**	**81.85 338**		*e*P	**P**	**19 47 56.2 +1.1**
KMSC	**Kings Mountain**	**82.47**	**43**	*e*P	**P**	**19 47 57.8 -0.6**
GOGA	**Godfrey**	**82.95**	**45**	*e*P	**P**	**19 48 01.1 +0.2**
GOGA	**Godfrey**	**82.95**	**45**	*e*P	**P**	**19 48 01.1 +0.2**
LFF	**La Frestale**	**83.00 341**		*e*P	**P**	**19 48 00.3 -0.6**
PPT	**Papeete**	**83.40 127**		LR	LR	20 26 35.5
	comp=Z,256nm,18.2s,baz=324,slow=37					
PPT2	**Papeete2**	**83.41 127**		*e*LR	LR	20 14 14.1
	comp=Z,240nm,24.0s					
MTLF	**Montolieu**	**84.20 340**		*e*P	**P**	**19 48 07.4 +0.2**
	comp=Z,11nm,1.1s					
EIL	**Elat**	**84.29 310**		LR	LR	20 28 39.8
	comp=Z,150nm,21.8s,baz=90,slow=38					
EPF	**Esparros**	**84.91 341**		*e*P	**P**	**19 48 10.4 -0.4**
TBI	**Tubuai**	**88.28 130**		*e*LR	LR	20 16 15.6
	comp=Z,397nm,26.8s,baz=332					
NWAO	**Narrogin (SRO)**	**88.38 210**		P	**P**	**19 48 27.5 0.0**
NWAO	**Narrogin (SRO)**	**88.38 210**		P	**P**	**19 48 27.5 0.0**
	comp=Z,15nm,1.0s,baz=39,slow=5.9,SNR=4.5					
ESDC	**Sonseca Array**	**89.01 343**		P	**P**	**19 48 30.8 0.0**
ESDC	**Sonseca Array**	**89.01 343**		P	**P**	**19 48 30.8 0.0**
	comp=Z,1.2nm,0.7s,baz=9.3,slow=4.1,SNR=8.0					
KEST	**Kesra**	**89.44 332**		P	**P**	**19 48 33.3 +0.4**
KEST	**Kesra**	**89.44 332**		P	**P**	**19 48 33.3 +0.4**
	comp=Z,1.5nm,0.9s,baz=0.0,slow=2.0,SNR=3.9					
KEST				LR	LR	20 33 30.0
	comp=Z,148nm,19.2s,baz=223,slow=39					
TORD	**Torodi Ar. Bea**	**112.92 330**		PP	PP	19 55 00.2 -0.6
TORD	**Torodi Ar. Bea**	**112.92 330**		PP	PP	19 55 00.2 -0.6
	comp=Z,1.5nm,1.0s,baz=16,slow=5.4,SNR=5.3					
VNDA	**Vanda**	**126.92 178**		PKP	**PKPdf**	**19 54 37.8 -0.2**
VNDA	**Vanda**	**126.92 178**		PKP	**PKPdf**	**19 54 37.8 -0.2**
	comp=Z,2.6nm,0.9s,baz=292,slow=4.3,SNR=6.9					
LPAZ	**La Paz**	**132.51 61**		PKP	**PKPdf**	**19 54 51.4 +0.2**
LPAZ	**La Paz**	**132.51 61**		PKP	**PKPdf**	**19 54 51.4 +0.2**
	comp=Z,0.9nm,0.9s,baz=31,slow=5.6,SNR=5.8					
BOSA	**Boshof**	**136.00 279**		PKP	**PKPdf**	**19 54 58.4 +1.6**
BOSA	**Boshof**	**136.00 279**		PKP	**PKPdf**	**19 54 58.4 +1.6**
	comp=Z,2.7nm,0.9s,baz=11,slow=2.3,SNR=3.6					
SYO	**Syowa Base**	**143.59 214**		⇑*e*X	**PKPdf**	**19 55 05.0 -4.1**
SYO	**Syowa Base**	**143.59 214**		⇓*e*X	**PKPdf**	**19 55 09.4 +0.3**
CFAA	**Coronel Fontan**	**143.86**	**76**	PKPpre	PKPpre	19 55 08.1
CFAA	**Coronel Fontan**	**143.86**	**76**	PKhKP	PKPpre	19 55 08.1
	comp=Z,0.8nm,0.8s,baz=301,slow=4.1,SNR=11					
CPUP	**Villa Florida**	**146.54**	**58**	*e*PKPdf	**PKPdf**	**19 55 15.7 +0.2**
CPUP				PKPbc	**PKPbc**	**19 55 16.9 -0.2**
CPUP	**Villa Florida**	**146.54**	**58**	PKPbc	**PKPbc**	**19 55 16.9 -0.2**
	comp=Z,13nm,0.9s,baz=324,slow=3.0,SNR=20					
PLCA	**Paso Flores**	**147.82**	**91**	*e*PKPdf	**PKPdf**	**19 55 18.6 +1.2**
PLCA				PKPbc	**PKPbc**	**19 55 19.9 -0.5**
PLCA				*e*PKPab	**PKPab**	**19 55 23.6 +0.7**
PLCA	**Paso Flores**	**147.82**	**91**	PKPbc	**PKPbc**	**19 55 19.9 -0.5**
	comp=Z,12nm,1.1s,baz=268,slow=4.5,SNR=9.2					
TRQA	**Tornquist**	**151.91**	**80**	*e*PKPbc	**PKPbc**	**19 55 30.1 -0.3**
MAIT	**Maitri**	**152.45**	**206**	*e*P	**PKPab**	**19 55 43.0 +2.0**
MAIT				*e*		19 55 49.4
SNAA	**Sanae**	**155.42**	**197**	*e*P	**PKPdf**	**19 55 32.0 +4.1**
SNAA	**Sanae**	**155.42**	**197**	*e*I	PKPab	19 55 48.9 -4.8
VNA2	**Neumayer--Watz**	**156.88**	**196**	*e*P	PKPdf	19 55 36.4 +6.7
	baz=256,slow=2.1					
VNA2	**Neumayer--Watz**	**156.88**	**196**	*e*I	**PKPab**	**19 55 56.4 -3.5**
	baz=256,slow=2.1					
VNA1	**Neumayer--Stat**	**157.26**	**195**	*e*I	**PKPab**	**19 55 56.9 -4.6**

MAN 30 19:43:20,10.41N×123.02E,h7km,mb4.5,ML3.3,MS3.2, 1C,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.47**	**297**	*e*P	Pg	19 43 29.9	+0.7
GUIM				*e*S	Sb	19 43 37.4	-0.5
LLP	**Lapu-Lapu**	**0.94**	**95**	*e*P	Pg	19 43 37.1	-0.9
LLP				*e*S	Sb	19 43 51.0	-0.3
RCP	**Roxas**	**1.18**	**347⇑**	*e*P	Pg	19 43 42.3	-0.4
RCP				*e*S	Sn	19 43 59.1	-0.2
OCLP	**Ormoc**	**1.69**	**68**	*e*P	Pn	19 43 49.5	-0.4
MSLP	**Maasin**	**1.83**	**98**	*e*P	Pn	19 43 52.5	+0.6

*ISCJB **30** 19:44:59.0±0.5,49.58N±0.08×154.03E±0.09,h35km, mb4.2/21,MS4.4/1,Error ellipse: s-maj=12.6km s-min=5.2km az=147.7*

*NEIC **30** 19:44:59.9±3.2,49.62N×153.98E,h28km±22km,mb4.6/2, Error ellipse: s-maj=15.2km s-min=7.6km az=155.0*

*MOS **30** 19:44:59.6±1.7,49.69N×154.05E,h39km,mb4.3/12,Error ellipse: s-maj=14.1km s-min=9.2km az=64.9*

*IDC **30** 19:45:01.7±3.4,49.67N×153.90E,h42km±32km,mb3.9/16, mb1 4.1/18,mb1mx3.9/31,mbtmp3.9/18,Error ellipse: s-maj=22.8km s-min=12.3km az=152.0*

ISC 30 19:45:00.7±0.6,49.6N±0.1×154.02E±0.08,h35km,n60, σ1§17/60,mb4.2/21,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.75**	**49**	⇓*i*PN	Pn	19 45 23.4	-5.2
SKR				*i* S	**Sn**	**19 45 46.0**	**-3.6**
SKR				pmax	pmax		
	comp=N,850nm,0.5s						
SKR				pmax	pmax		
	comp=E,620nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,6μm,6.0s						
SKR				pmax	pmax		
	comp=E,6μm,6.0s						
SKR				pmax	pmax		
	comp=Z,7μm,6.0s						
SKR				smax	smax		
	comp=N,4μm,0.5s						
SKR				smax	smax		
	comp=E,3μm,0.5s						
SKR				smax	smax		
	comp=N,5μm,8.0s						
SKR				smax	smax		
	comp=E,7μm,8.0s						
PEA0B	**Petropavlovsk-**	**4.23**	**32**	*e*Pn	**Pn**	**19 46 02.7**	**+0.1**
PETK	**Petropavlovsk-**	**4.23**	**32**	PN	**Pn**	**19 46 03.0**	**+0.4**
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.23**	**32**	P	**Pn**	**19 46 03.0**	**+0.4**
PETK	**Petropavlovsk-**	**4.23**	**32**	P	**Pn**	**19 46 03.

comp=Z,6.2nm,1.0s
NVAR Mina Array Bea 60.62 64 P **P 19 55 09.2 +1.1**
NVAR Mina Array Bea 60.62 64 P **P 19 55 09.2 +1.1**
comp=Z,1.3nm,0.7s,baz=296,slow=7.2,SNR=9.5
RLMT Red Lodge 61.18 53 *eP* **P 19 55 12.0 +0.3**
comp=Z,7.2nm,1.1s
PDAR Pinedale Array 62.62 55 P **P 19 55 22.2 +0.7**
PDAR Pinedale Array 62.62 55 P **P 19 55 22.2 +0.7**
comp=Z,2.2nm,0.8s,baz=321,slow=2.5,SNR=20
OBN Obninsk 63.34 325 *eP* P 19 55 30.1 +4.4
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN MLR MLR
comp=Z,200nm,15.0s
WRA Warramunga Arr 71.37 200 P **P 19 56 16.6 -0.3**
WRA Warramunga Arr 71.37 200 P **P 19 56 16.6 -0.3**
comp=Z,1.6nm,0.8s,baz=12,slow=6.6,SNR=4.0
ASAR Alice Springs 75.07 199 P **P 19 56 39.4 +0.7**
ASAR Alice Springs 75.07 199 P **P 19 56 39.4 +0.7**
comp=Z,1.5nm,0.7s,baz=12,slow=5.2,SNR=20
SADO Sadowa 75.25 36 P **P 19 56 40.3 +0.7**
SADO Sadowa 75.25 36 P **P 19 56 40.3 +0.7**
comp=Z,18nm,1.1s,baz=223,slow=3.8,SNR=3.9
TXAR Lajitas Array 75.60 62 P **P 19 56 42.6 +0.6**
TXAR Lajitas Array 75.60 62 P **P 19 56 42.6 +0.6**
comp=Z,1.5nm,0.6s,baz=293,slow=4.4,SNR=20
TNS Taunus Mts 76.31 338 *eP* **P 19 56 46.6 +1.0**
KEST Kesra 89.48 332 P **P 19 57 54.2 +0.1**
KEST Kesra 89.48 332 P **P 19 57 54.2 +0.1**
comp=Z,1.4nm,1.0s,baz=4.7,slow=4.5,SNR=2.9

ISCJB ***30*** *19:55:22.4±0.2, 46°.56N±0°.01×14°.29E±0°.01, h2km±2km, Error ellipse: s-maj=2.0km s-min=1.5km az=6.4*
CSEM ***30*** *19:55:22.9±0.1, 46°.55N×14°.26E, h2km, ML3.3/31, Error ellipse: s-maj=2.0km s-min=1.7km az=179.0*
ROM ***30*** *19:55:23.2±0.8, 46°.49N×14°.30E, h8km±8km, Md3.1/1, Ml2.6/14, Error ellipse: s-maj=5.2km s-min=3.7km az=145.0*
LJU ***30*** *19:55:23.0, 46°.52N×14°.29E, h7km, ML2.4*
VIE ***30*** *19:55:23.1±0.2, 46°.53N×14°.29E, h11km±2km, mb2.2/7, ML2.9/7, Error ellipse: s-maj=1.4km s-min=1.0km az=172.0 1 km W of Ferlach felt 4-5 ems98 at Ferlach / CARINTHIA*
LDG ***30*** *19:55:24.3±0.1, 46°.40N×14°.37E, h10km, Ml2.5/11, Error ellipse: s-maj=4.5km s-min=2.3km az=18.0*
PRU ***30*** *19:55:25.0, 46°.57N×14°.33E, h2km*
ISC 30 19:55:23.8±0.8, 46°.51N±0°.01×14°.28E±0°.01, h13km±5km, n185, σ1.37/332, 40C-34D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.19**	**90**	⇓*i*Pg	**Pg**	**19 55 27.5**	**-0.6**
	88nm,0.1s,SNR=296						
OBKA				⇑*i*Sg	**Sg**	**19 55 30.5**	**-0.6**
	389nm,0.1s						
OBKA	**Obir**	**0.19**	**90**	Pg	**Pg**	**19 55 27.5**	**-0.6**
	88nm,0.1s,SNR=296						
OBKA				*i* Sg	**Sg**	**19 55 30.1**	**-1.0**
MOZS	**Mozjanca**	**0.24**	**152**	⇓*i*Pg	**Pg**	**19 55 28.6**	**-0.4**
MOZS				*i* Sg	**Sg**	**19 55 32.3**	**-0.3**
MOZS							
	comp=Z,280nm,0.1s						
MOZS	**Mozjanca**	**0.24**	**152**	⇓*i*Pg	**Pg**	**19 55 28.6**	**-0.4**
MOZS				*i* Sg	**Sg**	**19 55 32.3**	**-0.3**
	comp=Z,280nm,0.1s						
GORS	**Gorjuse**	**0.28**	**226**	⇓*i*Pg	**Pg**	**19 55 29.0**	**-0.6**
GORS				*i* Sg	**Sg**	**19 55 33.1**	**-0.4**
GORS							
	comp=Z,295nm,0.1s						
GORS	**Gorjuse**	**0.28**	**226**	⇓*i*Pg	**Pg**	**19 55 29.0**	**-0.6**
GORS				*i* Sg	**Sg**	**19 55 33.2**	**-0.4**
	comp=Z,295nm,0.1s						
CRNS	**Crni Vrh**	**0.43**	**182**	*i* Pg	**Pg**	**19 55 32.1**	**-0.2**
MYKA	**Terra Mystica**	**0.46**	**285**	⇓*i*Pg	**Pg**	**19 55 32.3**	**-0.6**
	comp=Z,12nm,0.1s,SNR=61						
MYKA				⇑*e*Sg	**Sg**	**19 55 39.3**	**+0.3**
	comp=Z,74nm,0.1s						
MYKA	**Terra Mystica**	**0.46**	**285**	Pg	**Pg**	**19 55 32.3**	**-0.6**
	comp=Z,12nm,0.1s,SNR=61						
MYKA				*i* Sg	**Sg**	**19 55 38.7**	**-0.3**
CADS	**Cadrg**	**0.47**	**233**	*i* Pg	**Pg**	**19 55 32.2**	**-0.9**
CADS				*i* Sg	**Sg**	**19 55 39.3**	**-0.1**
CADS							
	comp=Z,170nm,0.1s						
CADS	**Cadrg**	**0.47**	**233**	*i* Pg	**Pg**	**19 55 32.2**	**-0.9**
CADS				*i* Sg	**Sg**	**19 55 39.3**	**-0.1**
	comp=Z,170nm,0.1s						
LJU	**Ljubljana**	**0.50**	**160**	⇓*i*Pg	**Pg**	**19 55 33.5**	**-0.1**
LJU				*i* Sg	**Sg**	**19 55 41.0**	**+0.8**
LJU							
	comp=Z,95nm,0.2s						
LJU	**Ljubljana**	**0.50**	**160**	⇓*i*Pg	**Pg**	**19 55 33.5**	**-0.1**
LJU				*i* Sg	**Sg**	**19 55 41.0**	**+0.8**
	comp=Z,95nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.50**	**144**	⇓*i*Pg	**Pg**	**19 55 33.5**	**-0.2**
VNDS				*i* Sg	**Sg**	**19 55 40.2**	**-0.2**
VNDS							
LSR	**Lussari**	**0.52**	**266**	⇑*e*Pg	**Pg**	**19 55 33.5**	**-0.6**
LSR				*e*Sg	**Sg**	**19 55 41.4**	**+0.3**
LSR	**Lussari**	**0.52**	**266**	⇑*e*Pg	**Pg**	**19 55 33.5**	**-0.6**
LSR				*e*Sg	**Sg**	**19 55 41.4**	**+0.3**
ACOM	**Acomizza, Ital**	**0.53**	**274**	⇑*e*Pg	**Pg**	**19 55 33.6**	**-0.7**
ACOM				*e*Sg	**Sg**	**19 55 41.4**	**0.0**
ACOM	**Acomizza, Ital**	**0.53**	**274**	Pg	**Pg**	**19 55 33.6**	**-0.7**
ACOM				Sg	**Sg**	**19 55 41.4**	**0.0**
	comp=Z,569nm,0.2s						
ACOM	**Acomizza, Ital**	**0.53**	**274**	Pg	**Pg**	**19 55 33.6**	**-0.7**
ACOM				Sg	**Sg**	**19 55 41.4**	**0.0**
	comp=Z,569nm,0.2s						
SOKA	**Soboth**	**0.55**	**72**	*i* Pg	**Pg**	**19 55 34.0**	**-0.6**
	comp=Z,7.6nm,0.1s,SNR=70						
SOKA				⇑*i*Sg	**Sg**	**19 55 40.9**	**-0.9**
	comp=Z,116nm,0.2s						
SOKA	**Soboth**	**0.55**	**72**	Pg	**Pg**	**19 55 34.0**	**-0.6**
	comp=Z,7.6nm,0.1s,SNR=70						
SOKA				Sg	**Sg**	**19 55 40.9**	**-0.9**
	comp=Z,116nm,0.2s						
VOJS	**Vojsko**	**0.55**	**210**	⇓*i*Pg	**Pg**	**19 55 33.9**	**-0.8**
VOJS				*i* Sg	**Sg**	**19 55 41.7**	**-0.3**
VOJS							
	comp=Z,57nm,0.1s						
VOJS	**Vojsko**	**0.55**	**210**	⇓*i*Pg	**Pg**	**19 55 33.9**	**-0.8**
VOJS				*i* Sg	**Sg**	**19 55 41.7**	**-0.3**
	comp=Z,57nm,0.1s						
DRE	**Drenchia**	**0.55**	**233**	⇓*e*Pg	**Pg**	**19 55 33.9**	**-0.8**
DRE				*e*Sg	**Sg**	**19 55 42.5**	**+0.4**
DRE	**Drenchia**	**0.55**	**233**	⇓*e*Pg	**Pg**	**19 55 33.9**	**-0.8**
DRE				*e*Sg	**Sg**	**19 55 42.5**	**+0.4**
PERS	**Pernice**	**0.59**	**77**	⇑*i*Pg	**Pg**	**19 55 34.8**	**-0.6**
PERS				*i* Sg	**Sg**	**19 55 42.2**	**-1.1**
PERS	**Pernice**	**0.59**	**77**	⇑*i*Pg	**Pg**	**19 55 34.8**	**-0.6**
PERS				*i* Sg	**Sg**	**19 55 42.2**	**-1.1**
ROBS	**Robic**	**0.59**	**244**	*e*Pg	**Pg**	**19 55 34.6**	**-0.8**
ROBS				*e*Sg	**Sg**	**19 55 43.2**	**-0.2**
ROBS							
	comp=Z,40nm,0.1s						
ROBS	**Robic**	**0.59**	**244**	*e*Pg	**Pg**	**19 55 34.6**	**-0.8**
ROBS				*e*Sg	**Sg**	**19 55 43.2**	**-0.2**
	comp=Z,40nm,0.1s						
BISS	**Bistriski jare**	**0.60**	**76**	⇑*i*Pg	**Pg**	**19 55 35.0**	**-0.6**
BISS				*i* Sg	**Sg**	**19 55 42.8**	**-0.7**
BISS							
	comp=Z,235nm,0.1s						
BISS	**Bistriski jare**	**0.60**	**76**	⇑*i*Pg	**Pg**	**19 55 35.0**	**-0.6**
BISS				*i* Sg	**Sg**	**19 55 42.8**	**-0.7**
	comp=Z,235nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.65**	**261**	Pg	**Pg**	**19 55 35.8**	**-0.7**
PTCC				Sg	**Sb**	**19 55 46.0**	**0.0**
	comp=Z,152nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.65**	**261**	Pg	**Pg**	**19 55 35.8**	**-0.7**
PTCC				Sg	**Sb**	**19 55 46.0**	**0.0**
	comp=Z,152nm,0.4s						
PDKS	**Podkum**	**0.67**	**132**	⇓*i*Pg	**Pg**	**19 55 36.6**	**-0.3**
PDKS				*e*Sg	**Sg**	**19 55 45.6**	**-0.1**
PDKS	**Podkum**	**0.67**	**132**	⇓*i*Pg	**Pg**	**19 55 36.6**	**-0.3**
PDKS				*e*Sg	**Sg**	**19 55 45.6**	**-0.1**
SABO	**M.te Sabotino**	**0.71**	**222**	⇓*e*Pg	**Pg**	**19 55 36.4**	**-1.1**
SABO				*e*Sg	**Sg**	**19 55 46.4**	**-0.6**
SABO	**M.te Sabotino**	**0.71**	**222**	Pg	**Pg**	**19 55 36.5**	**-1.1**
SABO				Sg	**Sg**	**19 55 46.2**	**-0.7**
	comp=Z,300nm,0.7s						
SABO	**M.te Sabotino**	**0.71**	**222**	Pg	**Pg**	**19 55 36.5**	**-1.1**
SABO				*e*Sg	**Sg**	**19 55 46.3**	**-0.6**
COLI	**Coloredo**	**0.73**	**239**	⇑*e*Pg	**Pg**	**19 55 37.2**	**-0.8**
COLI				*e*Sg	**Sb**	**19 55 48.7**	**+0.5**
COLI	**Coloredo**	**0.73**	**239**	⇑*e*Pg	**Pg**	**19 55 37.2**	**-0.8**
COLI				*e*Sg	**Sb**	**19 55 48.7**	**+0.5**
VINO	**Villanova**	**0.74**	**250**	⇑*e*Pg	**Pg**	**19 55 37.1**	**-0.9**
VINO				*e*Sg	**Sg**	**19 55 48.0**	**+0.2**
VINO	**Villanova**	**0.74**	**250**	Pg	**Pg**	**19 55 37.2**	**-0.9**
VINO				Sg	**Sg**	**19 55 48.2**	**+0.4**
	comp=Z,116nm,0.3s						
VINO	**Villanova**	**0.74**	**250**	Pg	**Pg**	**19 55 37.2**	**-0.9**
VINO				*e*Sg	**Sg**	**19 55 48.0**	**+0.2**
BAD	**Bernadia**	**0.77**	**249**	⇑*e*Pg	**Pg**	**19 55 38.1**	**-0.6**
BAD				*e*Sg	**Sb**	**19 55 49.5**	**+0.1**
BAD	**Bernadia**	**0.77**	**249**	⇑*e*Pg	**Pg**	**19 55 38.1**	**-0.6**
BAD				*e*Sg	**Sb**	**19 55 49.5**	**+0.1**
CEY	**Cerknica**	**0.78**	**172**	*i* Pg	**Pg**	**19 55 38.2**	**-0.7**
CEY				*i* Sg	**Sb**	**19 55 50.1**	**+0.4**
CEY							
	comp=Z,96nm,0.2s						
CEY	**Cerknica**	**0.78**	**172**	*i* Pg	**Pg**	**19 55 38.2**	**-0.7**
CEY				*i* Sg	**Sb**	**19 55 50.1**	**+0.4**
	comp=Z,96nm,0.2s						
PLRO	**Paularo**	**0.78**	**273**	⇑*e*Pg	**Pg**	**19 55 38.4**	**-0.6**
PLRO	**Paularo**	**0.78**	**273**	⇑*e*Pg	**Pg**	**19 55 38.4**	**-0.6**
VISS	**Visnje**	**0.81**	**151**	*i* Pg	**Pg**	**19 55 39.1**	**-0.3**
VISS				*e*Sg	**Sg**	**19 55 50.2**	**+0.2**
VISS							
	comp=Z,78nm,0.2s						
VISS	**Visnje**	**0.81**	**151**	*i* Pg	**Pg**	**19 55 39.1**	**-0.3**
VISS				*e*Sg	**Sg**	**19 55 50.2**	**+0.2**
	comp=Z,78nm,0.2s						
GROS	**Grobnik**	**0.85**	**93**	*e*Sg	**Sg**	**19 55 50.0**	**-1.3**
GROS	**Grobnik**	**0.85**	**93**	*e*Sg	**Sg**	**19 55 50.0**	**-1.3**
BUA	**Buia**	**0.85**	**250**	⇑*i*Pg	**Pg**	**19 55 39.7**	**-0.6**
BUA	**Buia**	**0.85**	**250**	⇑*i*Pg	**Pg**	**19 55 39.7**	**-0.6**
KBA	**Koelnbreinsper**	**0.86**	**312**	⇓*i*Pg	**Pg**	**19 55 39.7**	**-0.7**
	comp=Z,7.9nm,0.1s,SNR=40						
KBA				⇓*i*Sg	**Sg**	**19 55 51.3**	**-0.4**
	comp=Z,111nm,0.2s						
KBA	**Koelnbreinsper**	**0.86**	**312**	Pg	**Pg**	**19 55 39.7**	**-0.7**
	comp=Z,7.9nm,0.1s,SNR=40						
KBA				Sg	**Sg**	**19 55 51.3**	**-0.4**
	comp=Z,111nm,0.2s						
TRI	**Trieste**	**0.88**	**204**	⇓*e*Pg	**Pg**	**19 55 39.2**	**-1.6**
TRI	**Trieste**	**0.88**	**204**	Pg	**Pg**	**19 55 39.2**	**-1.6**
TRI				Sg	**Sb**	**19 55 53.2**	**+0.7**
	comp=Z,75nm,0.2s						
TRI	**Trieste**	**0.88**	**204**	⇓*e*Pg	**Pg**	**19 55 39.2**	**-1.6**
TRI				Sg	**Sb**	**19 55 53.2**	**+0.7**
	comp=Z,75nm,0.2s						
FUSE	**Fusea**	**0.89**	**264**	*e*Pg	**Pg**	**19 55 40.3**	**-0.7**
FUSE				*e*Sg	**Sb**	**19 55 53.9**	**+1.0**
FUSE	**Fusea**	**0.89**	**264**	*e*Pg	**Pg**	**19 55 40.3**	**-0.7**
FUSE				*e*Sg	**Sb**	**19 55 53.9**	**+1.0**
DOBS	**Dobrina**	**0.90**	**113**	*i* Pg	**Pg**	**19 55 40.6**	**-0.6**
DOBS	**Dobrina**	**0.90**	**113**	*i* Pg	**Pg**	**19 55 40.6**	**-0.6**
ZOU	**Zoufplan**	**0.90**	**273**	⇑*e*Pg	**Pg**	**19 55 40.4**	**-0.9**
ZOU	**Zoufplan**	**0.90**	**273**	⇑*e*Pg	**Pg**	**19 55 40.4**	**-0.9**
ZOU				*e*Sg	**Sb**	**19 55 54.5**	**+1.0**
ZOU	**Zoufplan**	**0.90**	**273**	⇑*e*Pg	**Pg**	**19 55 40.4**	**-0.9**
ZOU				*e*Sg	**Sb**	**19 55 54.5**	**+1.0**
LEGS	**Legarje**	**0.91**	**128**	⇓*i*Pg	**Pg**	**19 55 41.0**	**-0.5**
LEGS				*e*Sg	**Sg**	**19 55 53.2**	**-0.2**
LEGS	**Legarje**	**0.91**	**128**	⇓*i*Pg	**Pg**	**19 55 41.0**	**-0.5**
LEGS				*e*Sg	**Sg**	**19 55 53.2**	**-0.2**
MPRI	**Monte Prat**	**0.93**	**254**	⇓*e*Pg	**Pg**	**19 55 41.2**	**-0.7**
MPRI				*e*Sg	**Sn**	**19 55 56.5**	**+0.6**
MPRI	**Monte Prat**	**0.93**	**254**	⇓*e*Pg	**Pg**	**19 55 41.2**	**-0.7**
MPRI				*e*Sg	**Sn**	**19 55 56.5**	**+0.6**
SKDS	**Skadanscina**	**0.98**	**191**	*e*Pg	**Pg**	**19 55 41.0**	**-1.8**
SKDS				*e*Sg	**Sg**	**19 55 55.9**	**+0.3**
SKDS							
	comp=Z,39nm,0.1s						
SKDS	**Skadanscina**	**0.98**	**191**	*i* Pg	**Pg**	**19 55 41.0**	**-1.8**
SKDS				*e*Sg	**Sg**	**19 55 55.9**	**+0.3**
	comp=Z,39nm,0.1s						
FVI	**Forni Avoltri**	**1.04**	**275**	Pg	**Pg**	**19 55 43.4**	**-0.4**
FVI				Sg	**Sb**	**19 55 57.6**	**+0.4**
	comp=Z,118nm,0.4s						
FVI	**Forni Avoltri**	**1.04**	**275**	Pg	**Pg**	**19 55 43.4**	**-0.4**
FVI				Sg	**Sb**	**19 55 57.6**	**+0.4**
	comp=Z,118nm,0.4s						
GOLS	**Golise**	**1.06**	**118**	⇓*i*Pg	**Pb**	**19 55 43.8**	**-0.2**
GOLS				*i* Sg	**Sb**	**19 55 58.4**	**+0.6**
GOLS							
	comp=Z,52nm,0.3s						
GOLS	**Golise**	**1.06**	**118**	⇓*i*Pg	**Pb**	**19 55 43.8**	**-0.2**
GOLS				*i* Sg	**Sb**	**19 55 58.4**	**+0.6**
	comp=Z,52nm,0.3s						
CRES	**Cresnjev**	**1.07**	**129**	*i* Pg	**Pg**	**19 55 43.6**	**-0.8**
CRES							
	comp=Z,32nm,0.2s						
CRES	**Cresnjev**	**1.07**	**129**	*i* Pg	**Pg**	**19 55 43.6**	**-0.8**
	comp=Z,32nm,0.2s						
CSMI	**Casera Mimoias**	**1.12**	**271**	⇑*e*Pg	**Pg**	**19 55 44.9**	**-0.7**
CSMI				*e*Sg	**Sn**	**19 56 01.3**	**+0.5**
CSMI	**Casera Mimoias**	**1.12**	**271**	⇑*e*Pg	**Pg**	**19 55 44.8**	**-0.7**
CSMI				*e*Sg	**Sn**	**19 56 01.3**	**+0.5**
ARSA	**Arzberg**	**1.13**	**49**	⇑*i*Pg	**Pg**	**19 55 44.5**	**-1.1**
	comp=Z,0.7nm,0.1s,SNR=63						
ARSA				⇑*i*Sg	**Sg**	**19 55 59.1**	**-1.1**
	comp=Z,42nm,0.3s						
ARSA	**Arzberg**	**1.13**	**49**	Pg	**Pb**	**19 55 44.7**	**-0.5**
ARSA				Sg	**Sg**	**19 55 59.0**	**-1.3**
	comp=Z,46nm,0.4s						
ARSA	**Arzberg**	**1.13**	**49**	*e*Pg	**Pb**	**19 55 44.7**	**-0.5**
ARSA				*i* Sg	**Sg**	**19 55 59.2**	**-1.1**
GCIS	**Gornji Cirnik**	**1.14**	**124**	*i* Pg	**Pb**	**19 55 45.3**	**0.0**
GCIS				*e*Sg	**Sg**	**19 55 59.7**	**-0.8**
GCIS							
	comp=Z,39nm,0.2s						
GCIS	**Gornji Cirnik**	**1.14**	**124**	*i* Pg	**Pb**	**19 55 45.3**	**0.0**
GCIS				*e*Sg	**Sg**	**19 55 59.7**	**-0.8**
	comp=Z,39nm,0.2s						
MLNI	**Malnisio**	**1.21**	**253**	⇓*e*Pg	**Pb**	**19 55 46.6**	**0.0**
MLNI				*e*Sg	**Sn**	**19 56 06.4**	**+3.6**
MLNI	**Malnisio**	**1.21**	**253**	⇓*e*Pg	**Pb**	**19 55 46.6**	**0.0**
MLNI				*e*Sg	**Sn**	**19 56 06.4**	**+3.6**
BOJS	**Bojanci**	**1.21**	**146**	*i* Pg	**Pb**	**19 55 46.1**	**-0.5**
BOJS				*e*Sg	**Sn**	**19 56 03.3**	**+0.6**
BOJS							
	comp=Z,181nm,0.5s						
BOJS	**Bojanci**	**1.21**	**146**	*i* Pg	**Pb**	**19 55 46.1**	**-0.5**
BOJS				*e*Sg	**Sn**	**19 56 03.3**	**+0.6**
	comp=Z,181nm,0.5s						
ABTA	**Abfaltersbach**	**1.24**	**282**	⇑*i*Pg	**Pn**	**19 55 46.5**	**-0.4**
	comp=Z,3.9nm,0.1s,SNR=32						
ABTA				⇑*e*Sg	**Sn**	**19 56 04.2**	**+0.6**
	comp=Z,14nm,0.1s,SNR=17						
ABTA	**Abfaltersbach**	**1.24**	**282**	⇑*e*Pg	**Pn**	**19 55 46.8**	**-0.1**
ABTA				Sg	**Sn**	**19 56 04.2**	**+0.6**
	comp=Z,14nm,0.1s,SNR=17						
CIMO	**Cimolais**	**1.29**	**262**	*e*Pg	**Pg**	**19 55 48.2**	**-0.4**
CIMO				*e*Sg	**Sn**	**19 56 08.0**	**+3.3**
CIMO	**Cimolais**	**1.29**	**262**	*e*Pg	**Pg**	**19 55 48.2**	**-0.4**
CIMO				*e*Sg	**Sn**	**19 56 08.0**	**+3.3**
POLC	**Polcenigo**	**1.32**	**249**	*e*Pg	**Pg**	**19 55 49.2**	**-0.1**
MOA	**Moln**	**1.34**	**360**	⇑*i*Pg	**Pg**	**19 55 48.9**	**-0.7**
	comp=Z,5.6nm,0.1s,SNR=39						
MOA				⇑*i*Sn	**Sn**	**19 56 06.1**	**+0.2**
MOA				⇑*i*Sg	**Sg**	**19 56 08.0**	**+1.0**
	comp=Z,27nm,0.2s						
MOA	**Moln**	**1.34**	**360**	Pg	**Pg**	**19 55 48.9**	**-0.7**
	comp=Z,5.6nm,0.1s,SNR=39						
MOA				*i* Sn	**Sn**	**19 56 06.1**	**+0.2**
MOA				Sg	**Sg**	**19 56 08.0**	**+1.0**
	comp=Z,27nm,0.2s						
KOGS	**Kog**	**1.36**	**92**	*i* Pg	**Pg**	**19 55 49.4**	**-0.6**
KOGS				*i* Sg	**Sg**	**19 56 07.6**	**-0.1**
KOGS							
	comp=Z,30nm,0.2s						
KOGS	**Kog**	**1.36**	**92**	*i* Pg	**Pg**	**19 55 49.4**	**-0.6**
KOGS				*i* Sg	**Sg**	**19 56 07.6**	**-0.1**
	comp=Z,30nm,0.2s						
CAE	**Caneva**	**1.37**	**249**	⇓*e*Pg	**Pg**	**19 55 50.2**	**0.0**
CAE				*e*Sg	**Sg**	**19 56 09.7**	**+1.6**
CAE	**Caneva**	**1.37**	**249**	⇓*e*Pg	**Pg**	**19 55 50.2**	**0.0**
CAE				*e*Sg	**Sg**	**19 56 09.7**	**+1.6**
AGOR	**Agordo**	**1.56**	**262**	*e*Pg	**Pg**	**19 55 53.5**	**-0.3**
AGOR				*e*Sg	**Sg**	**19 56 15.6**	**+1.6**
AGOR	**Agordo**	**1.56**	**262**	Pg	**Pg**	**19 55 53.3**	**-0.5**
	comp=Z,111nm,0.4s						
VARN	**Col Varnada, M**	**1.59**	**252**	⇑*e*Pg	**Pb**	**19 55 53.4**	**+0.2**
VARN				*e*Sg	**Sg**	**19 56 16.0**	**+0.9**
VARN	**Col Varnada, M**	**1.59**	**252**	⇑*e*Pg	**Pb**	**19 55 53.4**	**+0.2**
VARN				*e*Sg	**Sg**	**19 56 16.0**	**+0.9**
CONA	**Conrad Observa**	**1.78**	**37**	⇓*i*Pg	**Pb**	**19 55 56.1**	**-0.3**
	comp=Z,1.1nm,0.2s						
CONA				⇓*i*Sg	**Sg**	**19 56 21.8**	**+0.6**
	comp=Z,13nm,0.4s						
CONA	**Conrad Observa**	**1.78**	**37**	Pg	**Pb**	**19 55 56.1**	**-0.3**
	comp=Z,1.1nm,0.2s						
CONA				Sg	**Sg**	**19 56 21.8**	**+0.6**
	comp=Z,13nm,0.4s						
CGRP	**Cima Grappa**	**1.83**	**251**	⇑*e*Pn	**Pb**	**19 55 56.7**	**-0.6**
CGRP				*e*Sn	**Sb**	**19 56 21.6**	**+1.4**
CGRP	**Cima Grappa**	**1.83**	**251**	Pg	**Pb**	**19 55 56.6**	**-0.7**
	comp=Z,60nm,0.5s						
CGRP	**Cima Grappa**	**1.83**	**251**	⇑*e*Pn	**Pb**	**19 55 56.7**	**-0.6**
CGRP				*e*Sn	**Sb**	**19 56 21.6**	**+1.4**
CTI	**Castel Tesino**	**1.88**	**257**	Pg	**Pb**	**19 55 57.3**	**-0.8**
	comp=Z,67nm,0.2s						
CTI	**Castel Tesino**	**1.88**	**257**	Pg	**Pb**	**19 55 57.3**	**-0.8**
	comp=Z,67nm,0.2s						
WTTA	**Wattenberg**	**1.96**	**294**	⇓*e*Pg	**Pb**	**19 55 59.6**	**0.0**
	SNR=28						
WTTA	**Wattenberg**	**1.96**	**294**	Pg	**Pb**	**19 55 59.5**	**0.0**
	comp=Z,54nm,0.6s						
WTTA	**Wattenberg**	**1.96**	**294**	Pg	**Pb**	**19 55 59.6**	**0.0**
	SNR=28						
NVLJ	**Novalja**	**1.99**	**168**	*e*Pn	**Pb**	**19 55 58.9**	**-1.0**
NVLJ				Sn	**Sg**	**19 56 26.8**	**-1.1**
NVLJ	**Novalja**	**1.99**	**168**	*e*Pn	**Pb**	**19 55 58.8**	**-1.0**
NVLJ				Sn	**Sg**	**19 56 26.7**	**-1.1**
KOSI	**Kohlern**	**2.00**	**270**	Pg	**Pb**	**19 56 00.4**	**+0.2**
	comp=Z,56nm,0.4s						
KOSI	**Kohlern**	**2.00**	**270**	Pg	**Pb**	**19 56 00.4**	**+0.2**
	comp=Z,56nm,0.4s						
ROSI	**Rosskopf**	**2.02**	**283**	Pg	**Pb**	**19 56 00.8**	**+0.4**
	comp=Z,57nm,0.7s						
ROSI	**Rosskopf**	**2.02**	**283**	Pg	**Pb**	**19 56 00.8**	**+0.4**
	comp=Z,57nm,0.7s						
WATA	**Walderalm**	**2.03**	**295**	*e*Pg	**Pb**	**19 56 00.8**	**+0.2**
	comp=Z,3.6nm,0.2s,SNR=20						
WATA				⇑*e*Sg	**Sg**	**19 56 30.8**	**+1.8**
	comp=Z,11nm,0.2s						
WATA	**Walderalm**	**2.03**	**295**	Pg	**Pb**	**19 56 00.8**	**+0.2**
	comp=Z,3.6nm,0.2s,SNR=20						
WATA				Sg	**Sg**	**19 56 30.8**	**+1.8**
	comp=Z,11nm,0.2s						
ABSI	**Aberstueckl**	**2.05**	**277**	Pg	**Pb**	**19 56 01.1**	**+0.1**
	comp=Z,96nm,0.7s						
ABSI	**Aberstueckl**	**2.05**	**277**	Pg	**Pb**	**19 56 01.1**	**+0.1**
	comp=Z,96nm,0.7s						
UDBI	**Udbina**	**2.24**	**152**	*e*Pn	**Pb**	**19 56 02.9**	**-1.3**
UDBI				Sn	**Sb**	**19 56 32.3**	**+0.4**
UDBI	**Udbina**	**2.24**	**152**	*e*Pn	**Pb**	**19 56 02.8**	**-1.3**
UDBI				Sn	**Sb**	**19 56 32.2**	**+0.4**
MOTA	**Moosalm**	**2.33**	**292**	⇓*i*Pg	**Pb**	**19 56 05.4**	**-0.4**
	comp=Z,0.6nm,0.1s						
MOTA				⇑*e*Sg	**Sg**	**19 56 37.8**	**-0.9**
	comp=Z,26nm,0.6s						
MOTA	**Moosalm**	**2.33**	**292**	Pg	**Pb**	**19 56 05.4**	**-0.4**
	comp=Z,0.6nm,0.1s						
MOTA				Sg	**Sg**	**19 56 37.8**	**-0.9**
	comp=Z,26nm,0.6s						
ROVR	**Rover¯¤ Verone**	**2.39**	**250**	Pg	**Pn**	**19 56 04.5**	**+1.7**
ROVR	**Rover¯¤ Verone**	**2.39**	**250**	Pg	**Pn**	**19 56 04.5**	**+1.7**
FETA	**Feichten**	**2.49**	**283**	⇑*e*Pg	**Pb**	**19 56 08.8**	**+0.2**
	comp=Z,2.1nm,0.3s						
FETA				⇑*e*Sg	**Sg**	**19 56 44.5**	**

	comp=Z,0.2nm,0.3s					
SBF	**Sospel**	**5.51 244**	*e*Pn	**Pn**	**19 56 44.6**	**-1.0**
SBF			*e*Sn	**Sn**	**19 57 44.6**	**-4.3**
	comp=Z,1.0nm,0.2s					
SBF	**Sospel**	**5.51 244**	*e*Pn	**Pn**	**19 56 44.6**	**-1.0**
MBDF	**Montbardon**	**5.56 254**	*e*Pn	**Pn**	**19 56 45.4**	**-1.0**
MBDF			*e*Sn	**Sn**	**19 57 46.4**	**-3.8**
	comp=Z,0.4nm,0.2s					
MBDF	**Montbardon**	**5.56 254**	*e*Pn	**Pn**	**19 56 45.4**	**-1.0**
CABF	**La Chapelle**	**5.65 274**	*e*Pn	**Pn**	**19 56 47.2**	**-0.3**
CABF	**La Chapelle**	**5.65 274**	*e*Pn	**Pn**	**19 56 47.2**	**-0.3**
ORIF	**Oris-en-Rattie**	**6.09 258**	*e*Pn	**Pn**	**19 56 52.8**	**-0.8**
ORIF			*e*Sn	**Sn**	**19 57 59.2**	**-4.0**
	comp=Z,0.3nm,0.3s					
ORIF	**Oris-en-Rattie**	**6.09 258**	*e*Pn	**Pn**	**19 56 52.8**	**-0.8**
PAGF	**Fort de Pagny**	**6.14 293**	*e*Pn	**Pn**	**19 56 54.1**	**-0.1**
PAGF			*e*Sn	**Sn**	**19 58 01.7**	**-2.6**
	comp=Z,0.6nm,0.3s					
PAGF	**Fort de Pagny**	**6.14 293**	*e*Pn	**Pn**	**19 56 54.1**	**-0.1**
FRF	**La Foret Royal**	**6.16 244**	*e*Pn	**Pn**	**19 56 53.3**	**-1.1**
FRF			*e*Sn	**Sn**	**19 58 00.2**	**-4.5**
	comp=Z,0.9nm,0.3s					
FRF	**La Foret Royal**	**6.16 244**	*e*Pn	**Pn**	**19 56 53.3**	**-1.1**
LMR	**La Mourre**	**6.36 243**	*e*Pn	**Pn**	**19 56 56.0**	**-1.2**
LMR	**La Mourre**	**6.36 243**	*e*Pn	**Pn**	**19 56 56.0**	**-1.2**
MEZF	**Maizieres J'vi**	**6.56 291**	*e*Pn	**Pn**	**19 56 59.5**	**-0.4**
MEZF			*e*Sn	**Sn**	**19 58 11.4**	**-3.1**
	comp=Z,2.5nm,0.5s					
MEZF	**Maizieres J'vi**	**6.56 291**	*e*Pn	**Pn**	**19 56 59.5**	**-0.4**
BAIF	**Baives**	**7.60 302**	*e*Pn	**Pn**	**19 57 13.8**	**-0.3**
BAIF			*e*Sn	**Sn**	**19 58 36.6**	**-3.4**
	comp=Z,0.6nm,0.4s					
BAIF	**Baives**	**7.60 302**	*e*Pn	**Pn**	**19 57 13.8**	**-0.3**

WEL 30 19:57:43.3±0.1, 37°.86S×176°.23E, h165km±1km, ML3.6/5, 2C, Error ellipse: s-maj=1.8km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.80**	**120**	⇑PN	PN	19 58 08.1	+0.1
URZ				SN	Sn	19 58 27.3	+0.2
URZ				AML	AML	19 58 29.9	
MWZ	**Matawai**	**1.13**	**115**	PN	Pn	19 58 10.8	+0.2
MWZ				SN	Sn	19 58 31.5	-0.2
MWZ				AML	AML	19 58 35.4	
BKZ	**Black Stump Fm**	**1.32**	**171**	⇑PN	Pn	19 58 12.5	+0.1
BKZ				SN	Sn	19 58 34.8	-0.1
BKZ				AML	AML	19 58 36.0	
MOVZ	**Moawhango**	**1.59**	**193**	PN	Pn	19 58 14.9	-0.1
PUZ	**Puketiti**	**1.62**	**98**	SN	Sn	19 58 38.9	-0.9
KNZ	**Kokohu**	**1.62**	**136**	PN	Pn	19 58 15.1	0.0
MHGZ	**Mahia Peninsul**	**1.84**	**135**	PN	Pn	19 58 17.7	+0.1
CKHZ	**Cape Kidnapper**	**1.92**	**160**	PN	Pn	19 58 18.5	+0.2
KAHZ	**Kahuranaki**	**2.00**	**166**	PN	Pn	19 58 19.4	0.0
PXZ	**Pawanui**	**2.23**	**167**	PN	Pn	19 58 21.4	-0.4
PXZ				AML	AML	19 58 37.7	
PXZ				AML	AML	19 59 13.4	
MRZ	**Mangatainoka R**	**2.84**	**190**	PN	Pn	19 58 27.5	-1.8
MRZ				SN	Sn	19 59 03.7	-1.5
MRZ				AML	AML	19 59 04.0	
KIW	**Kapiti Island**	**3.17**	**198**	PN	Pn	19 58 31.2	-2.1
TCW	**Tory Channel**	**3.67**	**204**	*e*PN	Pn	19 58 36.9	-2.8
TCW				SN	Sn	19 59 20.0	-3.8
TUWZ	**Tuamarina**	**3.98**	**206**	*e*PN	Pn	19 58 40.6	-3.0
NNZ	**Nelson**	**4.01**	**212**	SN	Sn	19 59 28.5	-3.1
KHZ	**Kahutara**	**5.00**	**204**	SN	Sn	19 59 49.9	-4.6

*IDC **30** 19:58:54.1±2.5, 26°.60N×56°.35E, h0km, mb3.5/8, mb1 3.6/8, mb1mx3.4/30, mbtmp3.5/8, Error ellipse: s-maj=54.1km s-min=24.3km az=157.0*
*ISCJB **30** 19:59:02.8±0.6, 27°.26N±0°.05×55°.62E±0°.07, h12km, mb3.4/7, Error ellipse: s-maj=10.0km s-min=5.2km az=141.1*
*CSEM **30** 19:59:03.5±0.2, 27°.18N×55°.67E, h2km, ML3.4, Error ellipse: s-maj=5.3km s-min=3.9km az=79.0*
*OMAN **30** 19:59:06.8±99.0, 26°.97N×55°.77E, h4km, Error ellipse: s-maj=68.1km s-min=12.8km az=22.0*

ISC 30 19:59:03.1±0.8, 27°.17N±0°.05×55°.63E±0°.06, h12km, n24, σ1§67/22, mb3.4/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.54**	**64**	*e*Pg	**Pg**	**19 59 12.6**	**-1.0**
BANOM	**Banah**	**1.38**	**154**	P	**Pb**	**19 59 28.9**	**+0.2**
	SNR=964						
BANOM	**Banah**	**1.38**	**154**	P	**Pb**	**19 59 28.9**	**+0.2**
	SNR=964						
BANOM				S	**Sg**	**19 59 48.3**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.17**	**179**	P	**Pb**	**19 59 41.4**	**-0.9**
	SNR=7.9						
NAZ	**Nazwa, Dubai**	**2.17**	**179**	P	**Pb**	**19 59 41.1**	**-1.1**
HATD	**Hatta, Dubai**	**2.37**	**169**	P	**Pb**	**19 59 44.1**	**-1.7**
	SNR=7.4						
HATD	**Hatta, Dubai**	**2.37**	**169**	P	**Pn**	**19 59 43.7**	**+1.9**
FAQ	**Al Faqa, Dubai**	**2.41**	**181**	P	**Pn**	**19 59 43.8**	**+1.5**
ASHO	**Ashiyiah**	**2.50**	**171**	P	**Pn**	**19 59 45.1**	**+1.5**
	SNR=58						
ASHO	**Ashiyiah**	**2.50**	**171**	P	**Pn**	**19 59 45.1**	**+1.5**
	SNR=58						
ASUD	**Al Ashush, Dub**	**2.54**	**186**	P	**Pn**	**19 59 46.4**	**+2.3**
	SNR=13						
ASUD	**Al Ashush, Dub**	**2.54**	**186**	P	**Pn**	**19 59 46.4**	**+2.3**
	SNR=13						
GHIR	**Ghir-Karzin**	**2.59**	**296**	*e*Pn	**Pn**	**19 59 46.9**	**+1.9**
GHIR				*e*Sg	**Sg**	**20 00 26.8**	**+0.4**
KRBR	**Kerman**	**2.98**	**19**	*e*Pn	**Pn**	**19 59 52.4**	**+2.0**
ARQ	**Araqi**	**3.90**	**168**	P	**Pn**	**20 00 04.6**	**+1.8**
	SNR=6.4						
ARQ	**Araqi**	**3.90**	**168**	P	**Pn**	**20 00 04.6**	**+1.8**
	SNR=6.4						
KBZ	**Khabaz**	**19.47**	**331**	P	**Pn**	**20 03 32.8**	**+1.9**
	1.0nm,0.7s,baz=141,slow=10,SNR=4.8						
BRTR	**Keskin Array B**	**22.15**	**310**	P	**P**	**20 03 59.6**	**+0.7**
	0.9nm,0.6s,baz=133,slow=12,SNR=7.7						
BVAR	**Borovoye Array**	**28.08**	**19**	P	P	20 04 50.1	-4.2
	0.4nm,0.6s,baz=194,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**28.72**	**40**	P	P	20 04 51.4	-8.8
	0.1nm,0.6s,baz=237,slow=5.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**29.21**	**31**	P	P	20 04 59.2	-5.2
	0.2nm,0.8s,baz=229,slow=8.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**34.31**	**31**	P	P	20 05 44.5	-4.7
	0.9nm,0.8s,baz=234,slow=9.7,SNR=6.3						
FINES	**FINESS Array B**	**39.59**	**338**	P	**P**	**20 06 32.7**	**-1.2**
	1.5nm,0.8s,baz=133,slow=16,SNR=5.3						
TORD	**Torodi Ar. Bea**	**52.15**	**266**	P	**P**	**20 08 11.4**	**-2.4**
	0.6nm,0.5s,baz=60,slow=7.5,SNR=8.6						

*ISCJB **30** 20:03:19.9±0.4, 3°.43S±0°.04×139°.52E±0°.04, h37km, mb3.7/7, Error ellipse: s-maj=6.4km s-min=5.0km az=13.8*
*DJA **30** 20:03:21.6±1.9, 3°.S±4°×14°.0E±°, h20km±26km, M5.0/8, mB5.5/3, mb4.9/8, MLv5.1/4, Mw(mB)4.9/3*
*IDC **30** 20:03:21.1±4.8, 3°.18S×139°.46E, h67km±46km, mb3.5/9, mb1 3.7/12, mb1mx3.6/20, mbtmp3.6/12, ML3.9/3, Error ellipse: s-maj=34.0km s-min=21.8km az=86.0*
*AUST **30** 20:03:24.3, 3°.42S×139°.53E, h100km*

ISC 30 20:03:20.0±0.7, 3°.29S±0°.06×139°.46E±0°.05, h37km, n35, σ2§22/28, mb3.7/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.46**	**58**	P	**Pn**	**20 03 44.9**	**+1.0**
JAY				S	**Sn**	**20 04 02.3**	**+0.5**
SRPI	**Serui, Papua**	**3.51**	**294**	P	Pn	20 04 16.7	+4.6
SRPI				S	**Sn**	**20 04 55.6**	**+3.2**
BAKI	**Biak**	**3.94**	**302**	P	Pn	20 04 22.5	+4.5
MMPI	**Merauke**	**5.23**	**170**	P	Pn	20 04 40.7	+5.0
	570nm,0.6s,12μm3.1nm						
MMPI	**Merauke**	**5.23**	**170**	P	Pn	20 04 40.5	+4.8
	baz=5.1,SNR=8.7						
MMPI				S	**Sn**	**20 05 39.8**	**+5.0**
	baz=5.1,SNR=4.9						
RKPI	**Ransiki, Papua**	**5.56**	**288**	P	Pn	20 04 45.0	+4.7
	53nm,0.6s,2μm0.8nm						
FAKI	**Fak Fak**	**7.21**	**273**	P	Pn	20 05 08.2	+5.2
	baz=7.3,SNR=32						
SWI	**Sorong**	**8.54**	**286**	P	Pn	20 05 26.3	+5.1
	28nm,0.3s						
SWI	**Sorong**	**8.54**	**286**	P	Pn	20 05 26.3	+5.1
	baz=8.6,SNR=17						
SWI				S	**Sn**	**20 06 59.6**	**+3.2**
	baz=8.6,SNR=4.6						
PMG	**Port Moresby**	**9.77**	**129**	P	**Pn**	**20 05 40.4**	**+2.3**
	1.0nm,0.3s,baz=339,slow=7.0,SNR=4.5						
COEN	**Coen**	**11.22**	**161**	P	**Pn**	**20 05 59.0**	**+1.1**
	baz=11,SNR=16						
KDU	**Kakadu**	**11.62**	**216**	P	**Pn**	**20 06 04.8**	**+1.4**
	baz=12,SNR=137						
KDU				S	**Sn**	**20 08 08.3**	**-3.7**
	baz=12,SNR=5.7						
LBMI	**Labuha**	**12.24**	**282**	P	Pn	20 06 17.6	+5.7
	134nm,1.0s,1μm						
MTN	**Manton Dam**	**12.57**	**220**	P	**Pn**	**20 06 18.4**	**+2.0**
	baz=13,SNR=17						
MTN				S	**Sn**	**20 08 31.9**	**-3.3**
	baz=13,SNR=7.2						
RABL	**Rabaul**	**12.71**	**94**	P	**Pn**	**20 06 18.4**	**+0.1**
	baz=13,SNR=7.0						
MTSU	**Mount Surprise**	**15.51**	**162**	P	**Pn**	**20 06 57.4**	**+1.3**
	baz=16,SNR=22						
KNRA	**Kununurra**	**16.20**	**220**	P	**P**	**20 07 07.1**	**-0.7**
	baz=16,SNR=33						
KNRA				S	Sn	20 09 54.4	-9.3
	baz=16,SNR=6.3						
SOEI	**Soe**	**16.40**	**246**	P	**P**	**20 07 11.7**	**+1.6**
SOEI	**Soe**	**16.40**	**246**	P	**P**	**20 07 13.2**	**+3.0**
	baz=16,SNR=7.2						
LUWI	**Luwuk**	**16.82**	**277**	S	S	20 10 42.2	+14
	baz=17,SNR=6.4						
WRA	**Warramunga Arr**	**17.29**	**196**	P	**Pn**	**20 07 17.4**	**-1.4**
	1.2nm,0.3s,baz=22,slow=13,SNR=9.5						
WRA				S	Sn	20 10 20.5	-10
	0.8nm,0.3s,baz=9.4,slow=24,SNR=6.2						
CTA	**Charters Tower**	**17.97**	**159**	P	**Pn**	**20 07 27.4**	**+0.3**
	0.3nm,0.3s,baz=336,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**20.00**	**222**	P	**P**	**20 07 49.6**	**-0.1**
	2.6nm,0.8s,baz=32,slow=9.7,SNR=22						
FITZ				S	S	20 11 24.5	-8.3
	11nm,0.7s,baz=165,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**20.00**	**222**	P	**P**	**20 07 50.4**	**+0.8**
	baz=20,SNR=3.7						
FITZ				S	S	20 11 25.7	-7.1
	baz=20,SNR=8.0						
ASAR	**Alice Springs**	**20.96**	**194**	P	**P**	**20 07 59.4**	**-0.7**
	2.0nm,0.7s,baz=26,slow=10,SNR=33						
ASAR				S	**S**	**20 11 48.3**	**-3.4**
	2.0nm,0.8s,baz=12,slow=28,SNR=5.2						
PATS	**Pohnpei**	**21.34**	**62**	S	**S**	**20 11 58.4**	**-0.8**
	baz=21,SNR=3.2						
EIDS	**Eidsvold**	**24.64**	**154**	P	**P**	**20 08 37.2**	**0.0**
	baz=25,SNR=6.1						
STKA	**Stephens Creek**	**28.51**	**176**	P	**P**	**20 09 11.4**	**-0.6**
	0.6nm,0.4s,baz=13,slow=7.9,SNR=5.7						
MKAR	**Makanchi Array**	**70.70**	**322**	P	**P**	**20 14 30.3**	**-1.9**
	0.4nm,0.4s,baz=95,slow=7.6,SNR=8.1						
ZALV	**Zalesovo Beam**	**72.81**	**330**	P	P	20 14 41.5	-3.2
	0.4nm,0.4s,baz=120,slow=8.7,SNR=2.4						
KURBB	**Kurchatov Arra**	**74.63**	**325**	P	P	20 14 51.9	-3.6
	0.3nm,0.3s,baz=113,slow=5.1,SNR=4.1						
VNDA	**Vanda**	**75.14**	**175**	P	**P**	**20 14 56.6**	**-1.4**
	0.7nm,0.8s,baz=309,slow=4.7,SNR=4.6						
BVAR	**Borovoye Array**	**80.21**	**325**	P	P	20 15 24.3	-2.4
	0.7nm,0.4s,baz=111,slow=8.3,SNR=8.0						
ILAR	**Eielson Array**	**86.04**	**24**	P	P	20 15 52.7	-3.8
	0.3nm,0.8s,baz=263,slow=5.0,SNR=3.6						
DBIC	**Dimbokro**	**144.30**	**277**	PKP	**PKPab**	**20 22 49.4**	**-1.9**
	3.7nm,0.5s,baz=93,slow=5.8,SNR=10						

IDC 30 20:12:40.0±1.6, 84°.98N×17°.79E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/29, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=39.0km s-min=19.6km az=90.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**6.85**	**182**	Pn	Pn	20 14 18.8	-2.7
	baz=1.3,slow=13,SNR=16						
SPITS				Sn	Sn	20 15 34.6	-5.5
	baz=9.7,slow=18,SNR=2.2						
ARCES	**ARCESS Array B**	**15.60**	**170**	Pn	Pn	20 16 20.1	-0.7
	0.1nm,0.3s,baz=360,slow=10,SNR=8.5						
ARCES				Sn	Sn	20 19 06.0	-8.0
	0.1nm,0.3s,baz=0.5,slow=19,SNR=2.6						
FINES	**FINESS Array B**	**23.73**	**170**	P	P	20 17 53.7	+0.5
	3.0nm,1.0s,baz=19,slow=13,SNR=3.3						
ILAR	**Eielson Array**	**30.28**	**347**	P	P	20 18 52.4	+0.3
	0.4nm,0.9s,baz=2.5,slow=6.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**34.53**	**106**	P	P	20 19 29.6	+0.2
	0.4nm,0.4s,baz=349,slow=5.9,SNR=2.0						
KURBB	**Kurchatov Arra**	**37.32**	**114**	P	P	20 19 54.7	+1.4
	0.1nm,0.3s,baz=355,slow=7.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**70.95**	**97**	P	P	20 23 57.0	-1.8
	0.6nm,0.8s,baz=345,slow=4.9,SNR=4.7						

*IDC **30** 20:12:45.2±1.4, 9°.05S×123°.24E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.9/3, Error ellipse: s-maj=118.8km s-min=24.0km az=63.0*
*DJA **30** 20:12:59.7±1.1, 9°.S±7°×12°.3E±°, h13km±10km, M3.5/3, MLv3.5/3*

ISC 30 20:12:55.9±1.2, 9°.76S±0°.10×123°.02E±0°.09, h43km, n10, σ2§75/8, mb3.6/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.23**	**90**	P	**Pn**	**20 13 18.4**	**+1.5**
SOEI				S	**Sn**	**20 13 34.7**	**+2.3**
MMRI	**Maumere**	**1.35**	**325**	P	**Pn**	**20 13 19.8**	**+1.4**
MMRI				S	**Sn**	**20 13 38.3**	**+3.1**
LBFI	**Labuhan Bajo,**	**3.34**	**292**	P	Pn	20 13 54.8	+9.2
LBFI				S	Sn	20 14 35.3	+11
BBSI	**Bau Bau**	**4.27**	**354**	P	**Pn**	**20 13 55.8**	**-2.6**
FITZ	**Fitzroy Crossi**	**8.68**	**163**	Pn	Pn	20 15 02.1	+3.2
	1.3nm,0.3s,baz=349,slow=10,SNR=3.5						
FITZ				Sn	**Sn**	**20 16 36.5**	**+1.0**
	2.2nm,0.3s,baz=129,slow=11,SNR=8.4						
WRA	**Warramunga Arr**	**14.90**	**134**	Pn	**Pn**	**20 16 20.7**	**-3.1**
	0.3nm,0.3s,baz=312,slow=11,SNR=1.5						
WRA				Sn	Sn	20 18 56.0	-12
	0.2nm,0.3s,baz=311,slow=26,SNR=2.5						
ASAR	**Alice Springs**	**17.30**	**144**	P	**Pn**	**20 16 53.6**	**-0.9**
	0.4nm,0.3s,baz=317,slow=12,SNR=13						
ASAR				S	Sn	20 19 57.2	-9.0
	0.1nm,0.3s,baz=310,slow=22,SNR=4.7						
SONM	**Songino Array**	**59.21**	**347**	P	P	20 22 44.0	-8.8
	0.3nm,0.3s,baz=145,slow=5.3,SNR=1.9						
MKAR	**Makanchi Array**	**66.99**	**331**	P	P	20 23 36.6	-7.7
	0.3nm,0.5s,baz=135,slow=6.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**71.45**	**332**	P	P	20 24 04.2	-7.7
	0.2nm,0.6s,baz=137,slow=6.2,SNR=2.3						

IDC 30 20:20:17.9±1.0, 22°.82N×144°.22E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.8/27, mbtmp3.8/15, MS3.4/2, Ms1 3.4/2, ms1mx2.7/47, Error ellipse: s-maj=34.4km s-min=15.6km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.63**	**337**	Pn	Pn	20 21 29.5	+0.2
	baz=90,slow=20						
CBIJ				Sn	Sn	20 22 20.5	-3.3
	baz=287,slow=19						
CBIJ				LR	LR	20 22 39.5	
	comp=Z,708nm,18.4s,baz=101,slow=30						
KSRS	**Korea Array**	**20.23**	**320**	P	Pn	20 24 56.8	+0.3
	1.1nm,0.7s,baz=146,slow=9.3,SNR=4.4						
KSRS				LR	LR	20 32 10.2	
	comp=Z,58nm,18.7s,baz=130,slow=35						
USRK	**Ussuriysk Arra**	**23.58**	**338**	P	P	20 25 30.6	+0.5
	0.7nm,0.6s,baz=138,slow=11,SNR=3.9						
SONM	**Songino Array**	**39.10**	**319**	P	P	20 27 46.3	-0.8
	0.4nm,0.5s,baz=125,slow=4.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**42.47**	**273**	P	P	20 28 15.4	+0.3
	0.5nm,0.8s,baz=58,slow=7.9,SNR=4.8						
WRA	**Warramunga Arr**	**43.59**	**194**	P	P	20 28 23.7	-0.3
	0.6nm,0.5s,baz=17,slow=9.2,SNR=4.2						
ASAR	**Alice Springs**	**47.29**	**193**	P	P	20 28 53.1	-0.2
	0.2nm,0.4s,baz=12,slow=7.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**53.93**	**321**	P	P	20 29 42.5	-0.7
	0.4nm,0.3s,baz=99,slow=8.9,SNR=2.6						
STKA	**Stephens Creek**	**54.45**	**183**	P	P	20 29 47.4	+0.3
	3.0nm,1.0s,baz=346,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**54.65**	**312**	P	P	20 29 48.4	-0.2
	0.7nm,0.5s,baz=88,slow=8.8,SNR=9.5						
KURBB	**Kurchatov Arra**	**57.36**	**316**	P	P	20 30 07.8	-0.1
	0.3nm,0.4s,baz=91,slow=8.0,SNR=7.8						
ILAR	**Eielson Array**	**60.60**	**27**	P	P	20 30 30.5	+0.2
	0.3nm,0.8s,baz=248,slow=4.8,SNR=3.4						
KBZ	**Khabaz**	**82.28**	**314**	P	P	20 32 42.1	+0.7
	1.8nm,0.7s,baz=168,slow=3.8,SNR=6.7						
FINES	**FINESS Array B**	**82.58**	**335**	P	P	20 32 42.1	-0.5
	1.6nm,0.9s,baz=74,slow=5.4,SNR=6.4						
BRTR	**Keskin Array B**	**90.26**	**314**	P	P	20 33 20.5	-0.6
	0.2nm,0.3s,baz=72,slow=4.7,SNR=4.2						

IDC 30 20:38:21.5±3.7, 18°.95N×147°.11E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/26, mbtmp3.6/8, Error ellipse: s-maj=150.3km s-min=22.4km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.63**	**199**	P	P	20 46 02.9	-0.5
	0.2nm,0.4s,baz=26,slow=8.3,SNR=3.3						
SONM	**Songino Array**	**43.79**	**321**	P	P	20 46 29.1	0.0
	0.2nm,0.5s,baz=147,slow=6.7,SNR=2.6						
ASAR	**Alice Springs**	**44.28**	**197**	P	P	20 46 33.5	+0.4
	0.5nm,1.1s,baz=24,slow=9.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**58.63**	**322**	P	P	20 48 19.5	-0.8
	0.3nm,0.4s,baz=105,slow=9.1,SNR=2.7						
MKAR	**Makanchi Array**	**59.25**	**314**	P	P	20 48 25.0	+0.2
	0.4nm,0.6s,baz=93,slow=8.1,SNR=6.4						
KURBB	**Kurchatov Arra**	**62.02**	**318**	P	P	20 48 43.4	-0.2
	1.1nm,0.7s,baz=92,slow=7.5,SNR=18						
BVAR	**Borovoye Array**	**67.13**	**320**	P	P	20 49 17.4	+0.4
	0.8nm,0.5s,baz=96,slow=8.1,SNR=7.7						
FINES	**FINESS Array B**	**87.21**	**336**	P	P	20 51 09.5	0.0
	1.7nm,0.9s,baz=64,slow=6.3,SNR=3.9						

*AUST **30** 20:45:27.9±4.0, 1°.63S×99°.47E, h0km, Error ellipse: s-maj=1.4km s-min=0.9km az=232.0*
*IDC **30** 20:45:27.5±0.4, 1°.43S×99°.52E, h0km, mb4.4/27, mb1 4.4/29, mb1mx4.4/32, mbtmp4.4/29, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/31, Error ellipse: s-maj=14.8km s-min=11.2km az=54.0*
*NEIC **30** 20:45:28.8±0.2, 1°.48S×99°.53E, h10km, mb4.7/7, Error ellipse: s-maj=8.2km s-min=5.6km az=63.0*
*ISCJB **30** 20:45:30.2±0.3, 1°.50S±0°.04×99°.45E±0°.04, h30km, mb4.6/35, MS4.0/1, Error ellipse: s-maj=6.4km s-min=5.4km az=31.1*

ISC 30 20:45:31.9±0.4, 1°.41S±0°.06×99°.56E±0°.06, h30km, n135, σ1§11/130, mb4.5/35, 9C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.27**	**41**	P	**Pb**	**20 45 54.4**	**-0.8**
	baz=1.5,SNR=176						
BKNI	**Bangkinang**	**2.28**	**41**	P	**Pn**	**20 46 09.5**	**+2.0**
	baz=2.5,SNR=8.8						
PSI	**Prapat**	**4.24**	**351**	Pn	**Pn**	**20 46 33.6**	**-0.9**
PSI	**Prapat**	**4.24**	**351**	Pn	**Pn**	**20 46 33.6**	**-0.9**
	1.0nm,0.3s,baz=180,slow=12,SNR=9.8						
PSI				LR	LR	20 48 29.6	
	comp=Z,480nm,18.8s,baz=172,slow=44						
PSI	**Prapat**	**4.24**	**351**	P	**Pn**	**20 46 35.4**	**+0.8**
	baz=4.4,SNR=5.7						
PSI				S	Sn	20 47 06.1	-17
	baz=4.4,SNR=3.8						
MNAI	**Manna**	**4.48**	**131**	P	**Pn**	**20 46 39.1**	**+1.2**
	baz=4.4,SNR=15						
BTDF	**Bukit Timah Da**	**5.04**	**57**	P	Pb	20 46 52.0	-7.3
	baz=5.2,SNR=8.4						
BTDF				P	Pb	20 46 52.0	-7.3
	baz=5.2,SNR=8.4						
FRIM	**Kepong**	**5.06**	**24**	P	Pn	20 46 49.0	+3.2
KGM	**Kluang**	**5.07**	**48**	P	Pn	20 46 50.6	+4.6
MYKOM	**Kota Tinggi**	**5.34**	**53**	P	Pb	20 46 57.7	-6.9
IPM	**Ipoh**	**6.04**	**14**	*e*Pn	**Pn**	**20 47 01.1**	**+1.9**
IPM	**Ipoh**	**6.04**	**14**	P	Pn	20 47 02.8	+3.6
KULM	**Kulim**	**6.75**	**9**	*e*Pn	**Pn**	**20 47 10.4**	**+1.4**
KULM	**Kulim**	**6.75**	**9**	P	Pn	20 47 12.6	+3.6
KTGM	**Kuala Trenggan**	**7.59**	**28**	P	Pn	20 47 23.9	+3.3
CISI	**Cisompet, Garu**	**10.24**	**127**	P	**Pn**	**20 47 55.0**	**-2.0**
	baz=10,SNR=9.2						
SBUM	**Sibu**	**13.23**	**73**	*e*Pn	P	20 48 42.6	-4.8
SBUM	**Sibu**	**13.23**	**73**	P	**P**	**20 48 44.7**	**-2.7**
KKM	**Kota Kinabalu**	**18.21**	**66**	P	P	20 49 57.3	+15
	baz=18,SNR=4.0						
SDKM	**Sandakan**	**18.96**	**68**	P	**Pn**	**20 49 54.7**	**+3.0**
KDM	**Kudat**	**19.12**	**64**	P	Pn	20 50 01.0	+7.3
CMAR	**Chiang Mai Arr**	**19.76**	**358**	P	**

STKA	Stephens Creek	49.87	132	P		P	20 54 24.3 +1.6
	baz=50,SNR=8.6						
MKAR	Makanchi Array	50.35	345	P		P	20 54 26.7 +0.5
MKAR	Makanchi Array	50.35	345	P		P	20 54 26.7 +0.5
	comp=Z,5.7nm,0.6s,baz=161,slow=7.9,SNR=4.8						
USRK	Ussuriysk Arra	53.85	29	P		P	20 54 53.7 +1.5
	comp=Z,3.1nm,0.6s,baz=231,slow=5.3,SNR=15						
OPO	Ambohidratompo	54.08	248	P		P	20 54 55.3 +0.8
OPO	Ambohidratompo	54.08	248	P		P	20 54 55.3 +0.8
	comp=Z,3.8nm,0.8s,baz=67,slow=7.3,SNR=5.4						
ZAA0	Zalesovo Array	56.52	350	eP		P	20 55 11.0 -0.2
ZALV	Zalesovo Beam	56.52	350	P		P	20 55 11.2 -0.1
ZALV	Zalesovo Beam	56.52	350	P		P	20 55 11.2 -0.1
	comp=Z,4.5nm,0.6s,baz=156,slow=4.9,SNR=10						
RDF	Al-Radifah	58.16	306	eP		P	20 55 22.6 -0.7
RDF				AMb		AMB	20 55 23.5
	comp=Z,44nm,0.7s						
UMR	Umm Al-Rimmam	58.26	306	eP		P	20 55 23.4 -0.6
UMR				AMb		AMB	20 55 24.5
	comp=Z,35nm,0.7s						
NAY	Al-Naaiem	58.52	306	eP		P	20 55 24.9 -1.0
NAY				AMb		AMB	20 55 25.7
	comp=Z,1.4nm,0.6s						
RST	Umm Al-Ruwaisa	58.82	306	eP		P	20 55 26.7 -1.2
RST				AMb		AMB	20 55 28.0
	comp=Z,237nm,0.7s						
ABKAR	Akbulak array	60.92	331	eP		P	20 55 39.8 -2.1
KMBO	Kilima Mbogo	62.29	269	eP		P	20 55 53.0 +0.8
	comp=Z,6.7nm,0.8s						
KMBO	Kilima Mbogo	62.29	269	P		P	20 55 53.3 +1.1
	comp=Z,5.0nm,0.7s,baz=60,slow=12,SNR=14						
KBZ	Khabaz	67.58	319	P		P	20 56 25.8 +0.1
KBZ	Khabaz	67.58	319	P		P	20 56 25.8 +0.1
	comp=Z,5.2nm,0.7s,baz=125,slow=5.6,SNR=12						
ASF	Jabal al Asfar	67.89	306	P		P	20 56 28.4 +0.3
ASF	Jabal al Asfar	67.89	306	P		P	20 56 28.4 +0.3
	comp=Z,4.3nm,0.9s,baz=69,slow=4.3,SNR=5.7						
MBAR	Mbarara	68.81	270	P		P	20 56 34.3 -0.1
MBAR	Mbarara	68.81	270	P		P	20 56 34.3 -0.1
	comp=Z,2.6nm,0.8s,baz=167,slow=23,SNR=4.4						
EIL	Elat	68.84	303	P		P	20 56 34.1 +0.2
EIL	Elat	68.84	303	P		P	20 56 34.1 +0.2
	comp=Z,10nm,0.8s,baz=238,slow=1.0,SNR=9.3						
MMAI	Mount Meron Ar	69.34	306	P		P	20 56 37.7 +0.6
MMAI	Mount Meron Ar	69.34	306	P		P	20 56 37.7 +0.6
	comp=Z,3.0nm,0.7s,baz=96,slow=7.6,SNR=4.6						
MAW	Mawson	70.74	194	P		P	20 56 45.6 +0.7
MAW	Mawson	70.74	194	P		P	20 56 45.6 +0.7
	comp=Z,4.0nm,0.8s,baz=348,slow=9.1,SNR=9.0						
MAW	Mawson	70.74	194	P		P	20 56 46.3 +1.5
	baz=71,SNR=5.5						
BRTR	Keskin Array B	72.60	312	P		P	20 56 55.6 -1.2
BRTR	Keskin Array B	72.60	312	P		P	20 56 55.6 -1.2
	comp=Z,1.8nm,0.6s,baz=135,slow=6.3,SNR=10						
BOSA	Boshof	75.55	241	P		P	20 57 14.2 -0.1
BOSA	Boshof	75.55	241	P		P	20 57 14.2 -0.1
	comp=Z,1.9nm,0.6s,baz=90,slow=3.7,SNR=7.0						
TIRR	Tirgusor	77.63	316	⇑iP		P	20 57 25.2 -0.3
AKASG	Malin Array Be	78.75	322	P		P	20 57 30.5 -1.1
AKASG	Malin Array Be	78.75	322	P		P	20 57 30.5 -1.1
	comp=Z,0.5nm,0.4s,baz=81,slow=5.7,SNR=2.7						
VRI	Vrincioaia	79.13	317	⇑iP		P	20 57 33.9 +0.1
PLOR	Plostina	79.17	317	⇓iP		P	20 57 33.8 -0.3
TESR	Tescani	79.33	318	⇑iP		P	20 57 34.8 -0.1
MLR	Muntele Rosu	79.58	317	⇑iP		P	20 57 35.4 -1.0
VOIR		80.18	316	⇑iP		P	20 57 39.1 -0.5
ARR	Arges	80.45	316	⇑iP		P	20 57 40.5 -0.6
BURAR	Bucovina Array	80.53	319	⇓iP		P	20 57 41.5 0.0
BUR08	Bucovina Ar. S	80.55	319	eP		P	20 57 41.3 -0.3
VTS	Vitosha	80.93	313	⇑iP		P	20 57 43.0 -0.8
DRGR		82.04	318	⇑iP		P	20 57 48.9 -0.6
KWP	Kalwaria Pacla	82.57	320	⇓iP		P	20 57 52.0 -0.2
BZS	Buzias	82.58	316	⇑iP		P	20 57 51.9 -0.4
KOLS	Kolonicke sedl	82.72	320	eP		P	20 57 53.6 +0.7
VNDA	Vanda	82.82	169	eP		P	20 57 53.3 +0.4
	comp=Z,5.9nm,1.4s						
VNDA	Vanda	82.82	169	P		P	20 57 53.6 +0.7
	comp=Z,1.3nm,0.7s,baz=306,slow=4.6,SNR=11						
CRVS	Cervenica-Dubn	83.25	319	eP		P	20 57 56.8 +1.1
FINES	FINESS Array B	83.39	332	P		P	20 57 56.1 +0.1
FINES	FINESS Array B	83.39	332	P		P	20 57 56.1 +0.1
	comp=Z,3.2nm,0.7s,baz=97,slow=4.5,SNR=11						
STHS	Stebnicka Huta	83.47	320	eP		P	20 57 57.6 +0.8
ARCES	ARCESS Array B	85.78	340	P		P	20 58 08.6 +0.5
ARCES	ARCESS Array B	85.78	340	P		P	20 58 08.6 +0.5
	comp=Z,3.7nm,1.0s,baz=107,slow=5.8,SNR=3.9						
GERES	GERESS Array B	88.32	319	P		P	20 58 20.7 -0.2
GERES	GERESS Array B	88.32	319	P		P	20 58 20.7 -0.2
	comp=Z,1.1nm,0.7s,baz=88,slow=4.1,SNR=11						
FUORN	Ofenpass-Fuorn	90.53	316	eP		P	20 58 31.7 +0.1
	comp=Z,6.2nm,0.8s						
KEST	Kesra	90.99	306	P		P	20 58 34.0 +0.3
KEST	Kesra	90.99	306	P		P	20 58 34.0 +0.3
	comp=Z,2.7nm,0.9s,baz=284,slow=5.5,SNR=5.5						
NVAR	Mina Array Bea	129.42	39	PKP		PKPdf	21 04 39.4 +0.9
NVAR	Mina Array Bea	129.42	39	PKP		PKPdf	21 04 39.4 +0.9
	comp=Z,0.2nm,0.3s,baz=242,slow=1.9,SNR=2.3						
PDAR	Pinedale Array	131.28	28	PKP		PKPdf	21 04 41.6 -0.3
PDAR	Pinedale Array	131.28	28	PKP		PKPdf	21 04 41.6 -0.3
	comp=Z,0.3nm,0.6s,baz=26,slow=2.3,SNR=3.2						
TXAR	Lajitas Array	144.50	36	PKP		PKPdf	21 05 05.8 -0.5
TXAR	Lajitas Array	144.50	36	PKP		PKPdf	21 05 05.8 -0.5
	comp=Z,2.1nm,0.6s,baz=254,slow=1.3,SNR=32						
CPUP	Villa Florida	144.52	217	ePKPdf		PKPbc	21 05 04.8 0.0
CPUP				PKP		PKPab	21 05 05.2 +0.6
CPUP	Villa Florida	144.52	217	PKP		PKPbc	21 05 05.2 +0.4
	comp=Z,10.0nm,0.6s,baz=120,slow=2.6,SNR=43						
WVT	Waverly	144.78	10	ePKPdf		PKPab	21 05 04.9 -0.4
MIAR	Mount Ida	144.83	19	ePKPdf		PKPbc	21 05 05.8 +0.1
TZTN	Tazewell	144.93	4	ePKPdf		PKPbc	21 05 05.8 -0.1
JCT	Junction City	145.75	31	ePKPdf		PKPab	21 05 08.9 -0.2
TKL	Tuckaleechee C	145.79	5	PKPbc		PKPdf	21 05 08.1 -0.1
TKL				ePKPdf		PKPbc	21 05 08.4 -0.3
TKL	Tuckaleechee C	145.79	5	PKPbc		PKPdf	21 05 08.1 -0.1
	comp=Z,4.7nm,0.7s,baz=183,slow=5.2,SNR=11						
PLAL	Pickwick Lake	145.85	11	ePKPdf		PKPdf	21 05 07.9 -0.4
CPCT	Cooper Cave	145.92	6	ePKPdf		PKPbc	21 05 08.9 -0.2
KMSC	Kings Mountain	146.43	1	ePKPdf		PKPbc	21 05 10.4 -0.2

*IDC **30** 20:47:34.7±1.2, 39°.73N×77°.21E, h0km, mb3.8/8, mb1 4.0/14, mb1mx3.8/33, mbtmp3.9/14, ML3.7/6, MS3.4/8, Ms1 3.5/8, ms1mx3.1/35, Error ellipse: s-maj=21.4km s-min=15.5km az=129.0*
*ISCJB **30** 20:47:35.5±0.3, 39°.79N±0°.03×77°.36E±0°.06, h10km, mb3.8/9, MS3.4/4, Error ellipse: s-maj=7.0km s-min=3.5km az=163.7*
*NNC **30** 20:47:37.8±5.2, 39°.93N×77°.21E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=46.4km s-min=39.4km az=165.0*
*BJI **30** 20:47:38.3, 40°.00N×77°.27E, h9km, mb4.3/6, ML4.3/9, Ms3.8/4, Ms7 3.6/2*

ISC 30 20:47:37.1±0.5, 39°.93N±0°.05×77°.13E±0°.05, h10km, n56, σ2s29/52, mb3.9/9, MS3.4/4, 9C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	0.98	246	⇓iPg	Pn	20 48 06.3	+9.2
KSH				Sg	Sn	20 48 24.5	+13
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.8s						
ULHL	Ulahol	2.41	344	P	Pb	20 48 20.5	-0.2
	SNR=501						
KZA	Kyzart	2.58	327	P	Pb	20 48 23.1	-0.5
	SNR=139						
UCH	Uchtor	3.03	320	P	Pb	20 48 29.9	-1.6
	SNR=15						
KBK	Karagaybulak	3.19	330	P	Pb	20 48 31.5	-2.4
	SNR=101						
TKM2	Tokmak 2	3.21	339	⇑Pn	Pb	20 48 31.7	-2.5
	comp=E,86nm,0.5s						
TKM2				⇑Lg	Lg	20 49 17.7	
	comp=E,578nm,0.8s						
TKM2	Tokmak 2	3.21	339	P	Pb	20 48 31.9	-2.4
	SNR=40						
KNDC	Almaty	3.29	358	⇑Pn	Pb	20 48 31.8	-3.7
KNDC				⇑Lg	Lg	20 49 20.1	
AAK	Ala-Archa	3.35	325	P	Pb	20 48 34.2	-2.6
	SNR=59						
AAK	Ala-Archa	3.35	325	Pn	Pb	20 48 34.1	-2.6
	comp=E,6.8nm,0.3s,baz=129,slow=7.6,SNR=139						
AAK				Pg	Pg	20 48 39.1	-2.3
	comp=E,42nm,0.3s,baz=125,slow=13,SNR=82						
AAK				Lg	Lg	20 49 23.2	
	comp=E,50nm,0.3s,baz=334,slow=20,SNR=16						
AAK				LR	LR	20 50 05.5	
	comp=E,535nm,19.5s,baz=106,slow=42						
AML	Almayashu	3.41	311	P	Pb	20 48 35.1	-2.7
	SNR=241						
CHMS	Chumysh	3.55	331	P	Pb	20 48 36.5	-3.5
	SNR=20						
EKS2	Erkin-Say	3.72	318	P	Pb	20 48 39.5	-3.5
	SNR=262						
USP	Ospenovka	3.88	330	P	Pn	20 48 40.9	+4.1
	SNR=30						
KK31	Karatay Array	5.90	305	⇓Pn	Pn	20 49 06.6	+2.1
	comp=E,2.8nm,0.7s						
KK31				⇓Pg	Pb	20 49 23.9	+4.0
	comp=E,13nm,0.6s						
KK31				⇓Lg	Lg	20 50 40.6	
	comp=E,62nm,0.7s						
CHCP	Chirah Chowk	6.98	208	⇑P	Pn	20 49 24.4	+4.9
CEP	Cherat	7.39	216	⇑P	Pn	20 49 28.8	+3.6
CEP						20 50 51.0	
DLH	Dalhousie	7.43	188	eP	Pn	20 49 30.0	+4.2
DLH				eS	Sn	20 50 55.0	+4.7
MK31	Makanchi Array	7.82	27	⇓Pn	Pn	20 49 32.2	+1.2
	comp=E,2.1nm,0.5s,baz=202,slow=14,SNR=28						
MK31				⇑Pg	Pg	20 50 05.1	-1.7
	comp=E,3.9nm,0.6s,baz=208,slow=14,SNR=5.3						
MK31				⇑Lg	Lg	20 51 41.0	
	comp=E,22nm,0.8s,baz=201,slow=26						
MKAR	Makanchi Array	7.82	27	Pn	Pn	20 49 32.1	+1.1
	comp=E,0.4nm,0.3s,baz=208,slow=15,SNR=22						
MKAR				Sn	Sn	20 51 09.6	+10
	comp=E,1.2nm,0.3s,baz=209,slow=23,SNR=5.1						
MKAR				Lg	Lg	20 51 50.1	
	comp=E,1.4nm,0.3s,baz=221,slow=26,SNR=3.7						
SDNR	Sundarnagar	8.41	181	eP	Pn	20 49 44.0	+4.9
SDNR				eS	Sn	20 51 18.0	+3.9
SMLA	Simla	8.78	180	i P	Pn	20 49 45.8	+1.8
SMLA				i S	Sn	20 51 23.2	+0.1
WMQ	Urumqi	8.79	60	P	Pn	20 49 46.0	+1.8
WMQ				S	Sn	20 51 19.0	-4.3
WMQ				pmax	pmax		
	comp=Z,22nm,1.2s						
WMQ				smax	smax		
	comp=N,50nm,1.0s						
WMQ				smax	smax		
	comp=E,60nm,0.8s						
WMQ				LR	LR		
	comp=N,98nm,20.0s						
WMQ				LR	LR		
	comp=E,48nm,22.0s						
KURBB	Kurchatov Arra	10.74	5	Pn	Pn	20 50 11.5	+0.6
	comp=E,0.3nm,0.3s,baz=190,slow=12,SNR=27						
AYAN	Aya Nagar	11.42	180	eP	Pn	20 50 19.2	-1.0
AYAN				eS	Sn	20 52 22.9	-4.9
SONA	Sohna	11.65	180	eP	Pn	20 50 23.4	+0.1
SONA				e4		20 52 30.2	
SONA				AML	AML	20 52 39.9	
	comp=E,25nm,0.3s						
SONA				AML	AML	20 52 43.6	
	comp=N,16nm,0.6s						
KHET	Khetri	11.88	186	eP	Pn	20 50 26.7	+0.2
KHET				eS	Sn	20 52 33.3	-5.7
KHET				AML	AML	20 52 40.0	
	comp=E,81nm,0.4s						
KHET				AML	AML	20 52 42.7	
	comp=N,60nm,0.3s						
AGRA	Agra	12.68	177	eS	Sn	20 52 51.5	-7.3
AGRA				AML	AML	20 53 11.5	
	comp=N,66nm,0.6s						
AGRA				AML	AML	20 53 12.3	
	comp=E,56nm,0.2s						
PYUN	Piuthan	12.75	156	eP	Pn	20 50 35.9	-2.8
	comp=E,77nm,0.7s						
KOLN	Koldanda	13.26	154	eP	Pn	20 50 43.3	-2.3
	comp=E,22nm,0.5s						
KKN	Kakani	13.86	148	eP	Pn	20 50 51.1	-2.7
	comp=E,23nm,0.6s						
BVA0	Borovoye Array	13.89	343	⇑Pn	Pn	20 50 53.3	-0.6
	comp=E,6.1nm,0.8s						
BVA0				⇓Lg	Lg	20 54 54.2	
	comp=E,61nm,1.2s						
BVAR	Borovoye Array	13.89	343	Pn	Pn	20 50 54.1	+0.2
	comp=E,0.5nm,0.3s,baz=152,slow=13,SNR=35						
BVAR				Lg	Lg	20 54 53.3	
	comp=E,0.5nm,0.3s,baz=144,slow=23,SNR=12						
BVAR				LR	LR	20 56 30.8	
	comp=E,120nm,20.2s,baz=118,slow=38						
DMN	Daman	13.95	149	eP	Pn	20 50 53.1	-2.0
	comp=E,16nm,0.5s						
GUN	Gumba	14.00	146	eP	Pn	20 50 53.1	-2.8
	comp=E,34nm,0.7s						
PKIN	Phulchoki	14.10	148	eP	Pn	20 50 54.6	-2.5
	comp=E,21nm,0.5s						
PKI	Pulchoki	14.11	148	eP	Pn	20 50 54.9	-2.4
	comp=E,23nm,0.5s						
JIRN	Jiri	14.36	146	eP	Pn	20 50 58.6	-2.1
	comp=E,25nm,0.4s						
ZALV	Zalesovo Beam	14.96	18	Pn	Pn	20 51 07.6	-0.9
	comp=E,0.2nm,0.3s,baz=203,slow=11,SNR=10						
ZALV				Sn	Sn	20 53 58.2	+4.1
	comp=E,0.1nm,0.3s,baz=212,slow=19,SNR=2.9						
ZALV				LR	LR	20 57 10.1	
	comp=E,171nm,20.2s,baz=249,slow=38						
RAMN	Ramite	15.15	146	eP	Pn	20 51 08.0	-3.4
	comp=E,68nm,0.8s						
AB31	Akbulak array	15.36	313	Pn	Pn	20 51 13.8	0.0
	comp=E,3.1nm,0.6s,baz=115,slow=13,SNR=31						
ODAN	Odare	15.58	144	eP	Pn	20 51 14.0	-3.0
	comp=E,17nm,0.5s						
AKTO	Aktyubinsk	17.04	314	⇓Pn	Pn	20 51 36.0	+0.6
	comp=E,8.7nm,0.8s						
AKTO	Aktyubinsk	17.04	314	P	Pn	20 51 36.2	+0.9
	comp=E,0.2nm,0.3s,baz=115,slow=13,SNR=26						
AKTO				LR	LR	20 58 45.3	
	comp=E,170nm,18.6s,baz=213,slow=39						
GTA	Gaotai	17.47	84	eP	P	20 51 49.0	+6.9
GTA				pP	pP	20 51 57.8	+13
GTA				sP	sP	20 52 01.5	+15
GTA				S	S	20 55 18.0	+14
GTA				sS	sS	20 55 25.5	+17
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,60nm,8.5s						
GTA				LR	LR		
	comp=N,79nm,13.8s						
GTA				LR	LR		
	comp=E,96nm,10.0s						
GTA				LR	LR		
	comp=Z,120nm,12.8s						
LZH	Lanzhou	21.36	92	eP	P	20 52 26.5	+1.8
LZH				pP	pP	20 52 31.5	+3.9
LZH				sP	sP	20 52 35.3	+6.4
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
SONM	Songino Array	22.42	60	P	P	20 52 37.0	+1.0
	comp=Z,1.2nm,0.7s,baz=255,slow=11,SNR=7.6						
SONM				LR	LR	21 03 13.1	
	comp=Z,53nm,18.5s,baz=48,slow=42						
BRTR	Keskin Array B	33.16	284	P	P	20 54 14.5	+0.7
	comp=Z,0.9nm,0.8s,baz=93,slow=8.2,SNR=6.4						
FINES	FINESS Array B	37.54	322	P	P	20 54 51.7	+0.6
	comp=Z,2.9nm,0.9s,baz=103,slow=8.6,SNR=5.0						
FINES				LR	LR	21 13 05.7	
	comp=Z,34nm,18.8s,baz=8.3,slow=41						
ARCES	ARCESS Array B	39.98	335	P	P	20 55 12.0	+0.6
	comp=Z,3.2nm,0.8s,baz=95,slow=9.9,SNR=7.8						
HFS	Hagfors	43.48	319	LR	LR	21 14 39.6	
	comp=Z,82nm,18.1s,baz=315,slow=37						
NOA	NORSAR Array B	44.67	321	LR	LR	21 15 15.0	
	comp=Z,84nm,18.2s,baz=65,slow=37						
GERES	GERESS Array B	45.00	303	P	P	20 55 53.6	+1.0
	comp=Z,0.6nm,0.6s,baz=72,slow=8.6,SNR=9.1						
ILAR	Eielson Array	70.09	18	P	P	20 58 48.3	-0.7
	comp=Z,0.5nm,0.8s,baz=321,slow=5.0,SNR=6.0						
TORD	Torodi Ar. Bea	70.56	271	P	P	20 58 51.8	-0.8
	comp=Z,0.7nm,0.4s,baz=47,slow=5.5,SNR=13						
LSZ	Lusaka	71.33	230	P	P	20 58 55.9	-1.4
	comp=Z,0.5nm,0.4s,baz=95,slow=11,SNR=3.0						

*IDC **30** 20:51:17.6±4.3, 19°.63S×177°.15W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/18, mbtmp4.4/3, Error ellipse: s-maj=171.2km s-min=55.0km az=141.0*

*AUST **30** 20:51:50.6, 18°.46S×177°.38W, h300km*

ISC 30 20:51:17.6±3.6, 19°.6S±0°.8×177°.0W±0°.7, h10km, n14, σ0s50/9, mb4.5/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATS	Pohnpei	35.78	315	S	S	21 03 27.5	-27
	baz=35,SNR=3.2						
MTSU	Mount Surprise	36.62	266	P	P	20 58 28.8	+4.3
	baz=36,SNR=14						
STKA	Stephens Creek	39.08	243	P	P	20 58 45.0	-0.1
	1.5nm,0.5s,baz=79,slow=12,SNR=9.4						
STKA	Stephens Creek	39.08	243	P	P	20 58 45.6	+0.5
	baz=39,SNR=7.6						
ASAR	Alice Springs	45.69	256	P	P	20 59 38.6	-0.5
	5.0nm,0.6s,baz=96,slow=7.7,SNR=70						
WRA	Warramunga Arr	45.70	261	P	P	20 59 39.3	+0.1
	1.9nm,0.3s,baz=97,slow=7.3,SNR=18						
KDU	Kakadu	48.91	270	P	P	21 00 05.9	+1.7
	baz=48,SNR=8.6						
MTN	Manton Dam	50.13	269	P	P	21 00 14.9	+1.3
	baz=50,SNR=4.2						
KNRA	Kununurra	51.70	265	P	P	21 00 25.7	+0.4
	baz=51,SNR=4.5						
FITZ	Fitzroy Crossi	54.12	261	P	P	21 00 42.8	-0.5
	baz=54,SNR=9.8						
WSI	Waingapu	61.22	270	P	P	21 01 27.6	-5.7
	baz=61,SNR=17						
PPI	Padang Panjang	82.90	272	P	P	21 03 44.0	+0.6
	baz=82,SNR=3.6						
AKASG	Malin Array Be	142.64	332	PKP	PKPdf	21 10 51.0	0.0
	0.5nm,0.3s,baz=41,slow=3.4,SNR=3.7						
BRTR	Keskin Array B	146.90	314	PKPbc	PKPab	21 11 01.7	-0.4
	0.4nm,0.5s,baz=143,slow=6.5,SNR=3.5						

IDC 30 20:57:42.4±5.0, 2°.23S×139°.34E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=200.4km s-min=29.4km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.27	195	P	Pn	21 01 56.7	-0.9
	0.1nm,0.3s,baz=16,slow=12,SNR=4.8						
ASAR	Alice Springs	21.95	193	P	P	21 02 38.4	+0.4
	0.5nm,0.6s,baz=22,slow=11,SNR=6.9						
MKAR	Makanchi Array	69.79	322	P	P	21 08 54.8	0.0
	0.3nm,0.5s,baz=111,slow=7.9,SNR=5.5						

*NERS **30** 21:21:52.4, 58°.11N×141°.57E, h12km*
*IDC **30** 21:21:54.0±1.3, 58°.54N×140°.89E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/28, mbtmp3.5/6, ML2.0/1, Error ellipse: s-maj=39.7km s-min=24.7km az=158.0*

ISC 30 21:21:54.5±0.8, 58°.5N±0°.1×141°.07E±0°.09, h10km, n12, σ1s73/18, mb3.5/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHTR	Okhotsk	1.47	52	ePg	Pb	21 22 21.1	-0.8
OHTR				Pgmax		21 22 21.5	
	50nm,0.3s						
OHTR				eSg	Sg	21 22 42.1	+0.3
OHTR				Sgmax		21 22 43.1	
	190nm,0.3s						
OCHR	Omchak	4.67	44	eP	Pn	21 23 05.3	+0.2
OCHR				ePg	Pg	21 23 22.9	-1.0
OCHR				e		21 24 02.2	
OCHR				eSg	Sg	21 24 23.0	-1.4
OCHR				Sgmax		21 24 29.5	
	90nm,0.4s						
MGD	Magadan 1	5.20	68	ePg	Pb	21 23 26.2	+0.7
MGD				e	Sn	21 24 08.4	-3.9
SUUS	Susuman	5.55	36	e	Pb	21 23 27.0	-4.4
SUUS				ePg	Pg	21 23 39.6	-1.1
SUUS				eSg	Sg	21 24 53.2	+0.6
SUUS				Sgmax		21 24 58.0	
	90nm,0.8s						
TLAR	Talaya	6.31	60	e	Pn	21 23 27.0	-0.5
TLAR				e	Sb	21 25 03.6	+3.9
SEY	Seymchan	7.12	46	eP	Pn	21 23 39.4	+0.8
SEY				e		21 25 21.2	
SEY				eSg	Sg	21 25 36.6	-6.3
USRK	Ussuriysk Arra	15.35	205	Pn	P	21 25 34.0	-1.7
	0.1nm,0.3s,baz=19,slow=14,SNR=3.4						
SONM	Songino Array	23.09	258	P	P	21 27 00.9	+0.6
	0.6nm,0.6s,baz=52,slow=9.3,SNR=5.2						
ILAR	Eielson Array	33.05	48	P	P	21 28 31.2	+1.5
	1.1nm,0.9s,baz=290,slow=8.5,SNR=11						
KURBB	Kurchatov Arra	35.88	285	P	P	21 28 53.2	-1.0
	0.5nm,0.6s,baz=58,slow=9.1,SNR=4.3						
MKAR	Makanchi Array	36.36	278	P	P	21 28 58.9	+0.5
	0.3nm,0.7s,baz=63,slow=6.7,SNR=4.5						
ASAR	Alice Springs	82.05	187	P	P	21 34 15.4	+0.9
	0.2nm,0.5s,baz=360,slow=5.0,SNR=5.0						

NNC 30 21:33:43.9±8.8, 36°.82N×69°.98E, h0km, mb3.8, mpv3.5, 1C-3D, Error ellipse: s-maj=71.3km s-min=59.2km az=176.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.29	4	⇓Pn	Pn	21 35 19.5	+1.5
	1.3nm,0.3s,baz=188,slow=13,SNR=68						
KK31				⇓Sn	Sn	21 36 33.6	+2.9
	2.1nm,0.5s,baz=188,slow=26,SNR=5.3						
TKM2	Tokmak 2	7.47	34	⇑Pn	Pn	21 35 33.4	-1.1
	1.9nm,0.7s						

WMQ LR LR
comp=E,51nm,15.0s
SONM Songino Array 12.87 34 Pn **Pn 21 47 20.8 +1.1**
comp=E,0.7nm,0.3s,baz=219,slow=14,SNR=16
MKAR Makanchi Array 13.46 317 Pn **Pn 21 47 25.5 -2.2**
comp=E,1.9nm,0.3s,baz=121,slow=14,SNR=93
MKAR Sn **Sn 21 49 55.7 -1.7**
comp=E,0.2nm,0.3s,baz=126,slow=26,SNR=7.4
AAK Ala-Archa 16.92 294 Pn **Pn 21 48 14.3 +0.6**
comp=E,0.2nm,0.3s,baz=100,slow=6.1,SNR=4.1
KURBB Kurchatov Arra 17.82 322 P **Pn 21 48 23.3 -1.3**
comp=E,0.4nm,0.3s,baz=135,slow=11,SNR=18
ZALV Zalesovo Beam 17.94 339 P **Pn 21 48 25.3 -0.7**
comp=E,0.2nm,0.3s,baz=138,slow=13,SNR=13
CMAR Chiang Mai Arr 19.33 171 P **Pn 21 48 43.4 +0.2**
comp=E,0.1nm,0.3s,baz=342,slow=9.4,SNR=8.7
BVAR Borovoye Array 23.32 319 P **P 21 49 25.0 +0.2**
comp=E,1.5nm,0.7s,baz=120,slow=10,SNR=9.2
KSRS Korea Array 25.52 80 P **P 21 49 45.7 +0.4**
comp=E,1.6nm,0.8s,baz=261,slow=10.0,SNR=5.7
AKTO Aktyubinsk 29.60 308 P **P 21 50 22.1 +0.4**
comp=E,1.0nm,0.6s,baz=77,slow=10,SNR=4.7
BRTR Keskin Array B 47.59 293 P **P 21 52 53.9 +1.1**
comp=E,0.6nm,0.6s,baz=97,slow=6.6,SNR=5.3
AKASG Malin Array Be 47.84 308 P **P 21 52 54.7 +0.3**
comp=E,0.7nm,0.5s,baz=65,slow=9.0,SNR=2.5
KAPI Kappang 48.00 147 LR LR 22 13 21.1
comp=E,386nm,21.9s,baz=282,slow=36
FINES FINESS Array B 48.21 323 P **P 21 52 57.2 +0.2**
comp=E,2.7nm,1.0s,baz=80,slow=10.0,SNR=4.0
ARCES ARCESS Array B 48.39 334 P **P 21 52 57.9 -0.5**
comp=E,3.5nm,1.0s,baz=71,slow=9.6,SNR=3.1
NOA NORSAR Array B 55.34 324 P **P 21 53 49.0 -1.4**
comp=E,0.6nm,0.6s,baz=72,slow=7.1,SNR=3.0
ILAR Eielson Array 66.88 24 P **P 21 55 08.4 -0.1**
comp=E,0.5nm,0.8s,baz=291,slow=5.7,SNR=4.2
WRA Warramunga Arr 67.87 141 P **P 21 55 15.2 -0.1**
comp=E,1.0nm,1.0s,baz=332,slow=6.2,SNR=3.3
ASAR Alice Springs 70.80 143 P **P 21 55 34.0 +0.6**
comp=E,0.5nm,0.5s,baz=330,slow=6.0,SNR=12
ESDC Sonseca Array 73.48 307 P **P 21 55 50.3 +0.8**
comp=E,0.6nm,0.9s,baz=42,slow=5.5,SNR=5.0
STKA Stephens Creek 81.37 142 P **P 21 56 32.4 -1.1**
comp=E,3.1nm,0.9s,baz=290,slow=7.8,SNR=3.3
TORD Torodi Ar. Bea 85.18 283 P **P 21 56 53.2 -0.4**
comp=E,0.3nm,0.8s,baz=14,slow=6.7,SNR=3.6

---

*CSEM **30** 21:45:07.7, 42°.37N×13°.33E, h10km, MD1.9/10, After ROM*
ROM 30 21:45:07.7±0.1, 42°.37N×13°.33E, h10km±1km, Md1.9/10, Ml1.3/6, Error ellipse: s-maj=1.8km s-min=1.5km az=152.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.05**	**102**	Pg	Pg	21 45 10.2	+0.4
AQU				Sg	Sg	21 45 11.7	+0.5
322nm,0.1s							
AQU	**L'Aquila**	**0.05**	**102**	Pg	Pg	21 45 10.2	+0.4
AQU				Sg	Sg	21 45 11.7	+0.5
322nm,0.1s							
CAMP	**Campotosto**	**0.18**	**19**	Pg	Pg	21 45 12.2	+0.5
CAMP				Sg	Sg	21 45 15.4	+0.9
46nm,0.4s							
CAMP	**Campotosto**	**0.18**	**19**	Pg	Pg	21 45 12.2	+0.5
CAMP				Sg	Sg	21 45 15.4	+0.9
46nm,0.4s							
FIAM	**Fiamignano**	**0.19**	**239**	Pg	Pg	21 45 12.5	+0.7
FIAM				Sg	Sg	21 45 15.7	+1.1
34nm,0.4s							
FIAM	**Fiamignano**	**0.19**	**239**	Pg	Pg	21 45 12.5	+0.7
FIAM				Sg	Sg	21 45 15.7	+1.1
34nm,0.4s							
FAGN	**Fagnano**	**0.21**	**118**	Pg	Pg	21 45 12.8	+0.6
71nm,0.3s							
FAGN	**Fagnano**	**0.21**	**118**	Pg	Pg	21 45 12.8	+0.6
71nm,0.3s							
LNSS	**Leonessa**	**0.32**	**318**	Pg	Pb	21 45 15.3	-0.5
LNSS	**Leonessa**	**0.32**	**318**	Pg	Pb	21 45 15.3	-0.5
TERO	**Teramo**	**0.33**	**38**	Pg	Pg	21 45 14.3	0.0
37nm,0.7s							
TERO	**Teramo**	**0.33**	**38**	Pg	Pg	21 45 14.3	0.0
37nm,0.7s							
PTQR	**Pietraquaria**	**0.35**	**171**	Pg	Pg	21 45 14.7	0.0
5.0nm,0.2s							
PTQR	**Pietraquaria**	**0.35**	**171**	Pg	Pg	21 45 14.7	0.0
5.0nm,0.2s							
VCEL	**Villa Celiera**	**0.38**	**85**	Pg	Pg	21 45 15.8	+0.4
VCEL				Sg	Sb	21 45 22.4	-0.4
43nm,0.4s							
VCEL	**Villa Celiera**	**0.38**	**85**	Pg	Pg	21 45 15.8	+0.4
VCEL				Sg	Sb	21 45 22.4	-0.4
43nm,0.4s							
NRCA	**Norcia**	**0.49**	**341**	Pg	Pg	21 45 17.3	-0.2
NRCA				Sg	Sb	21 45 25.5	-0.6
14nm,0.1s							
NRCA	**Norcia**	**0.49**	**341**	Pg	Pg	21 45 17.3	-0.2
NRCA				Sg	Sb	21 45 25.5	-0.6
14nm,0.1s							

IDC 30 21:51:07.8±1.6, 62°.54S×148°.05E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.9/12, mbtmp3.9/4, ML4.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=75.8km s-min=27.9km az=91.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.68**	**169**	Pn	Pn	21 54 47.5	-2.1
1.5nm,0.3s,baz=334,slow=12,SNR=70							
VNDA				Sn	Sn	21 57 28.1	-16
0.7nm,0.3s,baz=179,slow=18,SNR=4.9							
VNDA				LR	LR	22 01 26.5	
comp=Z,70nm,21.8s,baz=102,slow=40							
MAW	**Mawson**	**33.55**	**224**	P	P	21 57 48.7	0.0
1.8nm,0.7s,baz=92,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**40.02**	**340**	P	P	21 58 43.5	-0.7
0.6nm,0.9s,baz=163,slow=9.7,SNR=3.3							
WRA	**Warramunga Arr**	**43.61**	**341**	P	P	21 59 13.4	-0.2
0.6nm,1.0s,baz=188,slow=11,SNR=2.7							
YKA	**Yellowknife Ar**	**144.32**	**52**	PKP	PKPdf	22 10 44.2	+0.2
1.0nm,0.7s,baz=233,slow=3.7,SNR=2.9							
GERES	**GERESS Array B**	**151.55**	**263**	PKPbc	PKPbc	22 11 02.0	-0.6
1.2nm,0.8s,baz=154,slow=2.9,SNR=12							
ESDC	**Sonseca Array**	**151.57**	**230**	PKPbc	PKPbc	22 11 03.6	+0.6
1.1nm,0.6s,baz=144,slow=1.1,SNR=11							

---

*ISCJB **30** 21:56:12.8±1.4, 36°.08N±0°.05×30°.80E±0°.03, h15km±12km, Error ellipse: s-maj=8.0km s-min=3.7km az=177.7*
*ISK **30** 21:56:12.8, 36°.18N×30°.82E, h11km, MD3.7*
*CSEM **30** 21:56:12.1±0.2, 36°.12N×30°.82E, h2km, MD3.0, Error ellipse: s-maj=7.8km s-min=4.0km az=175.0*
*DDA **30** 21:56:12.5, 36°.45N×30°.94E, h10km, MD3.4*
*ATH **30** 21:56:25.8, 35°.97N×29°.59E, h35km, MD3.0/9*
ISC 30 21:56:12.1±1.3, 36°.12N±0°.04×30°.85E±0°.02, h4km±11km, n74, σ0°97/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.01**	**277**	*i* P	**Pg**	21 56 31.9	+0.4
AKAS				*i* S	**Sn**	21 56 50.4	+2.5
AKAS	**Kas**	**1.01**	**277**	*i* P	**Pg**	21 56 31.9	+0.4
AKAS				*i* S	**Sn**	21 56 50.4	+2.5
KSL	**Kastellorizon**	**1.02**	**272**	*e*PB	**Pn**	21 56 32.7	-0.5
KSL	**Kastellorizon**	**1.02**	**272**	*e*Pb	**Pn**	21 56 32.7	-0.5
GAZI	**Gazipasa**	**1.20**	**84**	*i* P	**Pb**	21 56 33.8	-1.5
GAZI				*i* S	**Sb**	21 56 50.0	-1.1
GAZI	**Gazipasa**	**1.20**	**84**	*i* P	**Pb**	21 56 33.8	-1.5
GAZI				*i* S	**Sb**	21 56 50.0	-1.1
BCK	**Bucak**	**1.36**	**351**	*e*PN	**Pb**	21 56 37.5	-0.6
BCK				*e*SN	**Sg**	21 56 55.2	-0.5
BCK	**Bucak**	**1.36**	**351**	*e*Pn	**Pb**	21 56 37.5	-0.6
BCK				*e*Sn	**Sg**	21 56 55.2	-0.5
SUTC	**Sutluce-Ispart**	**1.36**	**5**	*e*PN	**Pn**	21 56 37.3	-0.7
SUTC				*e*SN	**Sg**	21 56 55.8	-0.1
SUTC	**Sutluce-Ispart**	**1.36**	**5**	*e*Pn	**Pn**	21 56 37.3	-0.7
SUTC				*e*Sn	**Sg**	21 56 55.8	-0.1
FETY	**Fethiye**	**1.51**	**290**	*e*PN	**Pn**	21 56 40.0	0.0
FETY				*e*SN	**Sb**	21 56 59.7	-0.6
FETY	**Fethiye**	**1.51**	**290**	*e*Pn	**Pn**	21 56 40.0	0.0
FETY				*e*Sn	**Sb**	21 56 59.7	-0.6
HDMB	**Hadim**	**1.57**	**57**	*e*PN	**Pn**	21 56 41.0	+0.1
HDMB	**Hadim**	**1.57**	**57**	*e*Pn	**Pn**	21 56 41.0	+0.1
ISP	**Isparta**	**1.72**	**351**	*e*PN	**Pn**	21 56 43.0	+0.1
ISP	**Isparta**	**1.72**	**351**	*e*Pn	**Pn**	21 56 43.0	+0.1
ERMK	**Ermenek**	**1.75**	**72**	*i* P	**Pn**	21 56 43.4	0.0
ERMK				*i* S	**Sb**	21 57 07.2	0.0
ERMK	**Ermenek**	**1.75**	**72**	*i* P	**Pn**	21 56 43.4	0.0
ERMK				*i* S	**Sb**	21 57 07.2	0.0
DALY	**Dalyan (Mu¨la**	**1.90**	**292**	*e*PN	**Pn**	21 56 45.7	+0.5
DALY	**Dalyan (Mu¨la**	**1.90**	**292**	*e*Pn	**Pn**	21 56 45.7	+0.5
LEF	**Lefka**	**1.94**	**120**	*e*PN	**Pn**	21 56 47.1	+1.3
LEF	**Lefka**	**1.94**	**120**	*e*Pn	**Pn**	21 56 47.1	+1.3
TURN	**Turunc**	**1.96**	**293**	*i* P	**Pb**	21 56 48.8	+0.5
TURN				*i* S	**Sg**	21 57 15.5	+0.5
TURN	**Turunc**	**1.96**	**293**	*i* P	**Pb**	21 56 48.8	+0.5
TURN				*i* S	**Sg**	21 57 15.5	+0.5
DNZL	**Cakiroluk**	**2.13**	**318**	*i* P	**Pb**	21 56 51.5	+0.1
DNZL				*i* S	**Sg**	21 57 20.5	-0.1
DNZL	**Cakiroluk**	**2.13**	**318**	*i* P	**Pb**	21 56 51.5	+0.1
DNZL				*i* S	**Sg**	21 57 20.5	-0.1
DENT	**Denizli**	**2.19**	**319**	*e*PN	**Pn**	21 56 49.3	0.0
DENT	**Denizli**	**2.19**	**319**	*e*Pn	**Pn**	21 56 49.3	0.0
KONT	**Konya--Tatoy**	**2.19**	**33**	*e*PN	**Pn**	21 56 49.6	+0.3
KONT	**Konya--Tatoy**	**2.19**	**33**	*e*Pn	**Pn**	21 56 49.6	+0.3
ARG	**Arkhangelos**	**2.20**	**273**	*e*PN	**Pn**	21 56 48.1	-1.3
ARG	**Arkhangelos**	**2.20**	**273**	*e*Pn	**Pn**	21 56 48.1	-1.3
YER	**Yerkesik**	**2.30**	**297**	*e*PN	**Pn**	21 56 52.0	+1.2
YER	**Yerkesik**	**2.30**	**297**	*e*Pn	**Pn**	21 56 52.0	+1.2
IKL	**Isikli**	**2.30**	**86**	*e*PN	**Pn**	21 56 51.4	+0.6
IKL	**Isikli**	**2.30**	**86**	*e*Pn	**Pn**	21 56 51.4	+0.6
CSS	**Prodhromos**	**2.33**	**119**	*e*PN	**Pb**	21 56 53.6	-1.1
CSS	**Prodhromos**	**2.33**	**119**	*e*Pn	**Pb**	21 56 53.6	-1.1
LFK	**Lefkose**	**2.34**	**110**	*e*PN	**Pn**	21 56 52.6	+1.2
LFK	**Lefkose**	**2.34**	**110**	*e*Pn	**Pn**	21 56 52.6	+1.2
LADK	**Ladik-KONYA**	**2.41**	**30**	*e*PN	**Pn**	21 56 52.6	+0.3
LADK	**Ladik-KONYA**	**2.41**	**30**	*e*Pn	**Pn**	21 56 52.6	+0.3
KHL	**Karahalli**	**2.44**	**335**	*e*PN	**Pn**	21 56 52.7	-0.1
KHL	**Karahalli**	**2.44**	**335**	*e*Pn	**Pn**	21 56 52.7	-0.1
DAT	**Datca**	**2.71**	**284**	*e*PN	**Pn**	21 56 57.2	+0.8
DAT	**Datca**	**2.71**	**284**	*e*Pn	**Pn**	21 56 57.2	+0.8
MLSB	**Milas**	**2.73**	**296**	*e*PN	**Pn**	21 56 56.7	0.0
MLSB	**Milas**	**2.73**	**296**	*e*Pn	**Pn**	21 56 56.7	0.0
BDRM	**Kayabasi**	**2.90**	**290**	*i* P	**Pn**	21 56 58.9	-0.1
BDRM				*i* S	**Sn**	21 57 32.5	-1.8
BDRM	**Kayabasi**	**2.90**	**290**	*i* P	**Pn**	21 56 58.9	-0.1
BDRM				*i* S	**Sn**	21 57 32.5	-1.8
SULT	**Sultanhani-AKS**	**2.98**	**45**	*e*PN	**Pn**	21 57 01.0	+0.8
SULT	**Sultanhani-AKS**	**2.98**	**45**	*e*Pn	**Pn**	21 57 01.0	+0.8
BODT	**Bodrum**	**3.00**	**289**	*e*PN	**Pn**	21 57 01.1	+0.7
BODT	**Bodrum**	**3.00**	**289**	*e*Pn	**Pn**	21 57 01.1	+0.7
KARP	**Karpathos**	**3.05**	**260**	*e*PN	**Pn**	21 56 59.8	-1.3
KARP	**Karpathos**	**3.05**	**260**	*e*Pn	**Pn**	21 56 59.8	-1.3
KARA	**Karaisali**	**3.57**	**70**	*e*PN	**Pn**	21 57 09.8	+1.5
KARA	**Karaisali**	**3.57**	**70**	*e*Pn	**Pn**	21 57 09.8	+1.5
ZKR	**Zakros**	**3.90**	**256**	*e*PN	**Pn**	21 57 11.3	-1.5
ZKR	**Zakros**	**3.90**	**256**	*e*Pn	**Pn**	21 57 11.3	-1.5
KAMT	**Kaman**	**3.96**	**34**	*e*PN	**Pn**	21 57 13.9	+0.2
KAMT	**Kaman**	**3.96**	**34**	*e*Pn	**Pn**	21 57 13.9	+0.2
KOZT	**Kozan**	**4.22**	**70**	*e*PN	**Pn**	21 57 19.3	+2.1
KOZT	**Kozan**	**4.22**	**70**	*e*Pn	**Pn**	21 57 19.3	+2.1
NPS	**Neapolis**	**4.34**	**260**	*e*PN	**Pn**	21 57 17.4	-1.5
NPS	**Neapolis**	**4.34**	**260**	*e*Pn	**Pn**	21 57 17.4	-1.5
LAST	**Lasithi**	**4.47**	**259**	*e*PN	**Pn**	21 57 19.8	-0.9
LAST	**Lasithi**	**4.47**	**259**	*e*Pn	**Pn**	21 57 19.8	-0.9
IDI	**Anoyia**	**4.92**	**262**	*e*PN	**Pn**	21 57 25.5	-1.3
IDI	**Anoyia**	**4.92**	**262**	*e*Pn	**Pn**	21 57 25.5	-1.3
VAM	**Vamos**	**5.45**	**264**	*e*PN	**Pn**	21 57 34.0	-0.1
VAM	**Vamos**	**5.45**	**264**	*e*Pn	**Pn**	21 57 34.0	-0.1
KARN	**Karanos**	**5.68**	**265**	*e*PN	**Pn**	21 57 36.8	-0.4
KARN	**Karanos**	**5.68**	**265**	*e*Pn	**Pn**	21 57 36.8	-0.4

---

*BJI **30** 22:03:02.6, 1°.57N×128°.88E, h70km, mB5.1/31, mb5.0/47, Ms4.6/41, Ms7 4.4/41*
*MOS **30** 22:03:05.5±0.8, 2°.16N×128°.45E, h47km, mb5.3/33, Error ellipse: s-maj=12.6km s-min=5.8km az=118.6*
*ISCJB **30** 22:03:08.5±0.4, 2°.15N±0°.02×128°.55E±0°.02, h70km±4km, mb5.0/121, Error ellipse: s-maj=4.3km s-min=3.2km az=153.1*
*IDC **30** 22:03:08.6±0.6, 2°.16N×128°.39E, h60km±5km, mb4.4/30, mb1 4.5/30, mb1mx4.5/31, mbtmp4.4/30, MS3.8/3, Ms1 3.8/3, ms1mx3.4/18, Error ellipse: s-maj=15.2km s-min=8.6km az=80.0*
*NEIC **30** 22:03:10.5±0.6, 2°.14N×128°.46E, h77km±5km, mb5.1/45, Error ellipse: s-maj=6.2km s-min=3.7km az=72.0*
NEIC Felt [III] on Halmahera.
*GCMT **30** 22:03:11.6±0.3, 2°.26N×128°.54E, h54km±3km, MW5.1, Moment Tensor Solution. s38,c45; s61,c90; Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.23; $M_{\theta\theta}$-2.42±.19; $M_{\phi\phi}$2.25±.23; $M_{r\theta}$1.82±.17; $M_{\theta\phi}$3.55±.19; $M_{\phi r}$1.72±.22; Best double couple: $M_0$4.90000×10^{16} NP1:ϕ_s75.00000°, δ80.00000°, λ26.00000°. NP2:ϕ_s340.00000°, δ64.00000°, λ169.00000°. Principal axes: T 5.2800, Plg25.0000°, Azm301.0000°; N -0.8000, Plg62.0000°, Azm93.0000°; P -4.4900, Plg11.0000°, Azm205.0000°; Data Used: II IU IC G CN.*
*DJA **30** 22:03:11.7±0.3, 2°N±3°×12°9E±°, h55km±3km, M5.3/77, mb5.5/77, mB5.7/39, MLv5.7/13, Mw(mB)5.3/39, Mwp5.3/2*
*AUST **30** 22:03:12.2±0.2, 2°.01N×128°.55E, h88km, Error ellipse: s-maj=0.9km s-min=0.6km az=27.0*
ISC 30 22:03:09.7±0.3, 2°.14N±0°.03×128°.54E±0°.04, h70km±2km, h70km:pP-P, n380, σ1°60/439, mb5.1/121, 16C-5D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.80**	**221**	*e*Pn	**Pn**	22 03 38.2	-0.5
TNTI	**Ternate**	**1.80**	**221**	P	**Pn**	22 03 38.1	-0.5
LBMI	**Labuha**	**2.95**	**201**	P	**Pn**	22 03 53.4	-0.9
SWI	**Sorong**	**4.04**	**138**	P	**Pn**	22 04 09.3	+0.2
SWI	**Sorong**	**4.04**	**138**	P	**Pn**	22 04 09.2	+0.1
baz=3.9,SNR=117							
SWI				S	**Sn**	22 04 53.6	-1.6
baz=3.9,SNR=9.9							
KMSI	**Cibinong**	**4.82**	**251**	P	**Pn**	22 04 20.4	+0.6
MATI	**Mati**	**5.29**	**335**	*e*P	**Pn**	22 04 28.9	+2.7
GSPH	**General Santos**	**5.31**	**318**	⇑*i*P	**Pn**	22 04 26.2	-0.5
GSPH				*i* S	Sn	22 04 55.1	-32
DAV	**Davao City (W)**	**5.72**	**329**	Pn	Pn	22 04 36.5	+4.4
SNR=15							
DAV	**Davao City (W)**	**5.72**	**329**	*e*Pn	**Pn**	22 04 34.3	+2.2
573nm,0.6s							
DAV	**Davao City (W)**	**5.72**	**329**	P	Pn	22 04 40.0	+7.9
1μm,0.8s,20μm7.4nm							
GTOI	**Gorontalo**	**5.73**	**255**	P	**Pn**	22 04 33.7	+1.5
616nm,0.7s,9μm2.5nm							
KCP	**Kidapawan**	**5.94**	**325**	⇓*e*P	**Pn**	22 04 36.4	+1.2
KCP				*e*S	Sn	22 06 02.2	+20
FAKI	**Fak Fak**	**6.24**	**144**	P	**Pn**	22 04 39.5	+0.2
881nm,0.9s,8μm5μm3.0nm							
FAKI	**Fak Fak**	**6.24**	**144**	P	**Pn**	22 04 39.4	0.0
baz=6.2,SNR=355							
FAKI				S	**Sn**	22 05 45.4	-4.0
baz=6.2,SNR=6.4							
LUWI	**Luwuk**	**6.58**	**241**	P	**Pn**	22 04 45.7	+1.8
553nm,1.1s,14μm6.7nm							
LUWI	**Luwuk**	**6.58**	**241**	P	**Pn**	22 04 44.5	+0.6
baz=6.5,SNR=29							
BUKP	**Musuan**	**6.67**	**329**	*e*P	**Pn**	22 04 46.1	+0.9
RKPI	**Ransiki, Papua**	**6.70**	**123**	P	**Pn**	22 04 47.8	+2.2
645nm,0.9s,8μm3.3nm							
BNDI	**Bandanaira**	**6.76**	**168**	P	**Pn**	22 04 47.2	+0.9
452nm,1.4s,8μm2.6nm							
BNDI	**Bandanaira**	**6.76**	**168**	P	Pn	22 04 50.7	+4.4
baz=6.7,SNR=3.5							
BNDI				S	**Sn**	22 06 06.3	+4.4
baz=6.7,SNR=3.9							
MRSI	**Marisa**	**6.80**	**256**	P	**Pn**	22 04 47.4	+0.5
452nm,1.2s,6μm2.0nm							
BUTP	**Butuan**	**7.38**	**337**	*e*P	**Pn**	22 04 57.5	+2.7
PAGZ	**Pagadian**	**7.65**	**318**	*e*P	**Pn**	22 04 58.6	+0.1
KMPI	**Kaimana, Papua**	**7.74**	**138**	P	Sn	22 06 45.0	+19
KMPI	**Kaimana, Papua**	**7.74**	**138**	P	Pn	22 05 13.1	+13
TOLI	**Toli-Toli**	**7.81**	**263**	P	**Pn**	22 05 00.0	-0.7
374nm,0.9s,4μm2.1nm							
PALU	**Palau**	**7.85**	**49**	P	**Pn**	22 05 01.7	+0.4
baz=8.0,SNR=28							
PALU				S	Sn	22 06 22.2	-6.6
baz=8.0,SNR=16							
BAKI	**Biak**	**8.26**	**114**	P	**Pn**	22 05 09.5	+2.6
558nm,0.8s,6μm							
SKSI	**Soroako, Sulaw**	**8.57**	**237**	P	**Pn**	22 05 10.8	-0.4
1μm,0.7s,11μm							
SRPI	**Serui, Papua**	**8.67**	**117**	P	Pn	22 05 17.5	+5.0
474nm,1.0s,2.2nm							
TLE	**Tual**	**8.79**	**152**	P	**Pn**	22 05 14.7	+0.6
238nm,0.9s,3μm							
TLE	**Tual**	**8.79**	**152**	P	**Pn**	22 05 15.7	+1.6
baz=8.7,SNR=12							
KKSI	**Kolaka, Sulawe**	**9.31**	**228**	P	**Pn**	22 05 20.9	-0.4
509nm,0.9s,5μm							
BBSI	**Bau Bau**	**9.64**	**218**	P	**Pn**	22 05 27.1	+1.3
748nm,1.0s,6μm							
TTSI	**Tana Toraja**	**10.13**	**239**	P	**Pn**	22 05 32.1	-0.3
253nm,1.0s,4μm							
GUIM	**Jordan**	**10.30**	**325**	*e*P	**Pn**	22 05 36.5	+1.8
MYLDM	**Lahad Datu**	**10.46**	**287**	P	**Pn**	22 05 39.5	+2.4
MYLDM	**Lahad Datu**	**10.46**	**287**	P	**Pn**	22 05 39.3	+2.3
235nm,1.2s,4μm							
MMSI	**Mamuju**	**10.76**	**244**	P	**Pn**	22 05 40.6	-0.5
82nm,0.9s,1μm							
TSM	**Tawau**	**10.86**	**282**	P	**Pn**	22 05 42.4	-0.1
RCP	**Roxas**	**10.98**	**329**	⇑*e*P	**Pn**	22 05 45.0	+0.9
BKSI	**Bulukumba**	**11.21**	**229**	P	**Pn**	22 05 48.1	+0.9
563nm,0.7s,6μm							
KAPI	**Kappang**	**11.30**	**231**	Pn	**Pn**	22 05 47.0	-1.4
2μm,0.8s,SNR=12							
KAPI	**Kappang**	**11.30**	**231**	Pn	**Pn**	22 05 48.1	-0.3
SNR=19							
KAPI	**Kappang**	**11.30**	**231**	*e*Pn	**Pn**	22 05 47.0	-1.4
KAPI				S	**Sn**	22 07 50.2	-2.8
KAPI	**Kappang**	**11.30**	**231**	P	**Pn**	22 05 47.5	-0.9
278nm,0.9s,2μm							
KAPI	**Kappang**	**11.30**	**231**	P	**Pn**	22 05 46.5	-1.9
20nm,0.3s,baz=65,slow=6.8,SNR=81							
KAPI				S	**Sn**	22 07 50.2	-2.8
1.5nm,0.3s,baz=25,slow=22,SNR=3.8							
BSSI	**Bau Bau, Buton**	**11.50**	**224**	P	**Pn**	22 05 51.5	+0.3
588nm,1.2s,6μm							
SDKM	**Sandakan**	**11.84**	**287**	P	**Pn**	22 05 56.5	+0.6
MMRI	**Maumere**	**12.41**	**210**	P	**P**	22 06 15.2	+2.2
SOEI	**Soe**	**12.56**	**200**	P	**Pn**	22 06 08.6	+2.8
186nm,1.1s,2μm							
SOEI	**Soe**	**12.56**	**200**	P	**Pn**	22 06 08.9	+3.2
baz=12,SNR=8.5							
KDM	**Kudat**	**12.60**	**293**	P	Pn	22 06 10.4	+4.3
KKM	**Kota Kinabalu**	**12.89**	**288**	*e*Pn	**Pn**	22 06 10.6	+0.3
KKM	**Kota Kinabalu**	**12.89**	**288**	P	**Pn**	22 06 11.2	+1.0
KKM	**Kota Kinabalu**	**12.89**	**288**	P	**Pn**	22 06 10.3	+0.1
76nm,1.1s,1μm9μm							
KKM	**Kota Kinabalu**	**12.89**	**288**	P	**Pn**	22 06 11.0	+0.7
baz=13,SNR=8.0							
JAY	**Jayapura**	**13.01**	**111**	P	**P**	22 06 21.1	+1.4
LBFI	**Labuhan Bajo,**	**13.63**	**219**	P	**Pn**	22 06 21.8	+1.8
305nm,0.8s							
TGY	**Tagaytay City**	**14.06**	**328**	P	**Pn**	22 06 24.2	-1.5
TGY	**Tagaytay City**	**14.06**	**328**	P	**Pn**	22 06 24.2	-1.5
11nm,0.3s,baz=159,slow=5.2,SNR=10							
WSI	**Waingapu**	**14.32**	**215**	P	P	22 06 39.2	+5.0
BBKI	**Banjar Baru**	**14.78**	**248**	P	**Pn**	22 06 34.8	-0.3
144nm,1.4s,2μm							
MTN	**Manton Dam**	**15.11**	**170**	P	**Pn**	22 06 37.4	-1.8
baz=15,SNR=33							
KDU	**Kakadu**	**15.24**	**165**	P	**Pn**	22 06 38.5	-2.5
baz=15,SNR=15							
BTM	**Bintulu**	**15.48**	**274**	P	**Pn**	22 06 44.3	+0.2
SBUM	**Sibu**	**16.31**	**271**	*e*Pn	**P**	22 06 55.9	-0.5
362nm,0.9s							
SBUM	**Sibu**	**16.31**	**271**	P	**Pn**	22 06 55.0	+0.5
SBUM	**Sibu**	**16.31**	**271**	P	**Pn**	22 06 53.8	-0.8
452nm,1.0s,4μm							
MTNI	**Mataram**	**16.33**	**229**	P	**Pn**	22 06 55.1	+0.3
158nm,0.8s							
SRBI	**Singaraja**	**16.73**	**232**	P	**P**	22 07 02.9	+1.9
106nm,1.5s							
DNP	**Denpasar**	**17.09**	**231**	P	**P**	22 07 09.0	+4.0
382nm,1.1s					

comp=Z,26nm,0.8s
QZH Quanzhou 24.62 338⇑ *i*P **P 22 08 22.0 -1.7**
QZH S **S 22 12 39.3 -0.8**
QZH pmax pmax
comp=Z,110nm,0.8s
QZH LR LR
comp=Z,1μm,34.1s
KLI Kotabumi 24.66 254 P **P 22 08 29.0 +4.8**
comp=Z,134nm,0.9s
MYKOM Kota Tinggi 24.68 270 P **P 22 08 25.8 +1.4**
MYKOM Kota Tinggi 24.68 270 P **P 22 08 25.5 +1.1**
comp=Z,149nm,1.1s,comp=Z,2μm
MBWA Marble Bar 24.71 200 *e*P **P 22 08 24.1 -0.4**
comp=Z,64nm,0.8s
BTDF Bukit Timah Da 24.77 269 P **P 22 08 26.8 +1.6**
baz=25,SNR=16
BTDF P **P 22 08 26.8 +1.6**
baz=25,SNR=16
QIZ Qiongzhong 24.84 314 P **P 22 08 26.3 +0.5**
QIZ S **S 22 12 47.0 +3.2**
QIZ pmax pmax
comp=Z,68nm,0.9s
QIZ pmax pmax
comp=Z,230nm,6.5s
QIZ LR LR
comp=N,340nm,17.7s
QIZ LR LR
comp=E,190nm,17.7s
QIZ LR LR
comp=Z,500nm,26.4s
QIZ Qiongzhong 24.84 314 *e*P **P 22 08 25.2 -0.5**
comp=Z,113nm,1.0s
KGM Kluang 25.21 270 P **P 22 08 31.4 +2.2**
MTSU Mount Surprise 25.44 143 P **P 22 08 33.2 +1.9**
baz=25,SNR=5.9
LWLI Liwa 25.47 254 P **P 22 08 36.2 +4.5**
comp=Z,186nm,0.7s,comp=Z,6μm
KTGM Kuala Trenggan 25.55 278 P **P 22 08 33.3 +1.0**
AS31 Alice Springs 26.18 169 *e*P **P 22 08 38.4 +0.5**
ASAR Alice Springs 26.18 169 P **P 22 08 38.4 +0.5**
ASAR ScP **ScP 22 15 36.0 -1.4**
ASAR Alice Springs 26.18 169 P **P 22 08 38.4 +0.5**
comp=Z,28nm,0.7s,baz=355,slow=8.0,SNR=141
ASAR ScP **ScP 22 15 36.0 -1.4**
comp=Z,3.1nm,0.7s,baz=355,slow=2.9,SNR=4.4
KSI Kapahiang 26.57 258 P P 22 08 49.1 +7.5
comp=Z,208nm,0.8s
MASI Maura Aman, Be 26.81 259 P P 22 08 50.4 +6.7
comp=Z,337nm,0.9s
FRIM Kepong 26.91 273 P **P 22 08 48.5 +3.9**
IPM Ipoh 27.57 276 *e*P **P 22 08 53.5 +3.0**
comp=Z,38nm,1.1s
IPM Ipoh 27.57 276 P **P 22 08 53.5 +3.0**
IPM Ipoh 27.57 276 P **P 22 08 55.1 +4.6**
comp=Z,35nm,1.2s
CHBT CHBT 28.01 293 P P 22 08 58.2 +3.8
comp=Z,72nm,1.1s,comp=Z,3μm
CTA Charters Tower 28.11 143 P **P 22 08 56.3 +1.1**
CTA Charters Tower 28.11 143 P **P 22 08 56.3 +1.1**
comp=Z,10nm,0.9s,baz=324,slow=10,SNR=15
CTAO Charters Tower 28.11 143 *e*P **P 22 08 54.5 -0.7**
CTAO pmax pmax
comp=Z,29nm,1.2s
CTAO Charters Tower 28.11 143 *e*P **P 22 08 54.5 -0.7**
comp=Z,29nm,1.2s
PDSI Padang 28.24 264 P **P 22 08 57.8 +1.3**
comp=Z,50nm,0.8s
PPI Padang Panjang 28.26 265 P **P 22 08 57.2 +0.6**
comp=Z,27nm,1.0s
PPI Padang Panjang 28.26 265 S **S 22 13 34.2 -3.8**
baz=28,SNR=9.9
PSI Prapat 29.60 272 P **P 22 09 07.7 -1.0**
PSI Prapat 29.60 272 P **P 22 09 07.7 -1.0**
comp=Z,17nm,0.9s,baz=101,slow=5.0,SNR=10
PSI Prapat 29.60 272 P **P 22 09 08.8 +0.1**
baz=30,SNR=6.6
MEEK Meekatharra 30.17 198 P **P 22 09 12.4 -1.1**
baz=30,SNR=15
JNU Nakatsue 30.90 4 *e*P **P 22 09 19.4 -0.4**
JNU Nakatsue 30.90 4 P **P 22 09 19.1 -0.8**
comp=Z,21nm,1.0s,baz=176,slow=8.5,SNR=5.7
WHN Wuhan 31.29 336 P **P 22 09 24.0 +0.8**
WHN *e*S S 22 14 33.5 +8.4
WHN LR LR
comp=Z,1μm,20.4s
GYA Guiyang 32.03 321 P **P 22 09 32.0 +2.0**
GYA pP **pP 22 09 49.3 +2.5**
GYA sP **sP 22 09 57.3 +2.3**
GYA PP **PnPn 22 10 40.3 +2.5**
GYA S **S 22 14 39.0 +1.9**
GYA sS **sS 22 15 07.8 +2.0**
GYA ScP **ScP 22 15 55.5 -0.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,620nm,17.5s
GYA LR LR
comp=E,580nm,18.0s
GYA LR LR
comp=Z,650nm,17.8s
CM31 Chiang Mai Arr 33.23 301 *e*P **P 22 09 41.3 +0.8**
comp=Z,39nm,1.0s
CMAR Chiang Mai Arr 33.23 301 P **P 22 09 40.1 -0.4**
CMAR Chiang Mai Arr 33.23 301 P **P 22 09 40.1 -0.4**
comp=Z,23nm,0.9s,baz=118,slow=7.3,SNR=123
MORW Morawa 33.26 200 P **P 22 09 39.5 -1.0**
baz=33,SNR=34
ENH Enshi 33.31 329 *e*P **P 22 09 41.5 +0.5**
comp=Z,24nm,1.0s
CHTO Chiang Mai 33.39 302 *e*P **P 22 09 42.1 +0.3**
CHTO pmax pmax
comp=Z,43nm,0.8s
CHTO Chiang Mai 33.39 302 P **P 22 09 43.4 +1.6**
SNR=17
CHTO Chiang Mai 33.39 302 *e*P **P 22 09 42.1 +0.3**
comp=Z,43nm,0.8s
CHTO Chiang Mai 33.39 302 P **P 22 09 42.6 +0.8**
comp=Z,80nm,1.2s,comp=Z,716nm
KMI Kunming 33.78 315 P **P 22 09 46.8 +1.4**
KMI pP **pP 22 10 03.0 +0.8**
KMI sP **sP 22 10 11.0 +0.6**
KMI PP **PP 22 11 03.5 +0.5**
KMI S **S 22 15 04.0 -0.4**
KMI pmax pmax
comp=Z,30nm,1.3s
KMI pmax pmax
comp=Z,170nm,3.1s
KMI LR LR
comp=N,240nm,13.0s
KMI LR LR
comp=E,270nm,14.3s
KMI LR LR
comp=Z,330nm,21.1s
BLDU Ballidu 34.47 198 P **P 22 09 50.0 -1.0**
baz=34,SNR=15
RMQ Roma 34.51 147 P **P 22 09 52.8 +1.3**
baz=34,SNR=5.6
EIDS Eidsvold 35.00 143 *e*P **P 22 09 56.7 +1.0**
comp=Z,61nm,0.8s
EIDS Eidsvold 35.00 143 P **P 22 09 56.6 +1.0**
baz=35,SNR=27
KLBR Kellerberrin 35.08 196 P **P 22 09 55.5 -0.7**
baz=35,SNR=13
KSAR Wonju Array Be 35.14 359 P **P 22 09 56.8 +0.2**
KSAR pP **pP 22 10 10.8 -2.7**
KSAR ScP **ScP 22 16 06.0 -0.6**
KSRS Korea Array 35.15 359 P **P 22 09 56.8 +0.1**
comp=Z,8.4nm,0.7s,baz=174,slow=9.5,SNR=5.6
KSRS pP **pP 22 10 10.8 -2.8**
comp=Z,16nm,0.9s,baz=176,slow=10,SNR=14
KSRS ScP **ScP 22 16 06.0 -0.6**
comp=Z,2.1nm,0.8s,baz=187,slow=3.3,SNR=4.8
MAT Matsushiro 35.38 14 P **P 22 09 57.6 -1.2**
MAT S S 22 15 17.6 -11
BBOO Buckleboo 35.48 169 *e*P **P 22 10 00.5 +0.8**
comp=Z,2μm,1.4s
BBOO Buckleboo 35.48 169 P **P 22 10 00.3 +0.6**
baz=36,SNR=7.9
TIA Tai'an 35.51 344⇓ P **P 22 09 59.8 -0.1**
STKA Stephens Creek 36.03 161 *e*P **P 22 10 05.3 +1.0**
comp=Z,27nm,0.8s
STKA Stephens Creek 36.03 161 P **P 22 10 05.5 +1.0**
comp=Z,126nm,0.7s,baz=334,slow=8.6,SNR=201
STKA Stephens Creek 36.03 161 P **P 22 10 05.4 +1.0**
baz=36,SNR=123
NWAO Narrogin (SRO) 36.48 196 *e*P **P 22 10 07.1 -1.1**
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 36.48 196 P **P 22 10 08.3 +0.1**
comp=Z,39nm,1.0s,baz=22,slow=8.3,SNR=14
XAN Xi'an 36.65 332 P **P 22 10 09.0 -0.7**
XAN pP **pP 22 10 23.8 -2.9**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN LR LR
comp=N,330nm,30.6s
XAN LR LR
comp=E,120nm,28.6s
XAN LR LR
comp=Z,160nm,26.6s
CD2 Chengdu 36.99 323 *e*P **P 22 10 13.3 +0.6**
CD2 pP **pP 22 10 30.5 +0.8**
CD2 sP **sP 22 10 38.5 +0.7**
CD2 PP **PnPn 22 11 42.0 +2.8**
CD2 PcP **PcP 22 12 33.0 +0.4**
CD2 S **S 22 15 54.0 +0.8**
CD2 ScS **ScS 22 20 18.8 -2.4**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,180nm,5.8s
CD2 LR LR
comp=N,410nm,17.8s
CD2 LR LR
comp=E,300nm,21.4s
CD2 LR LR
comp=Z,360nm,15.5s
CMSA Cobar Meteorol 37.25 155 P **P 22 10 15.8 +1.0**
baz=37,SNR=14
RKGY Rocky Gully 38.14 196 P **P 22 10 23.0 +0.8**
baz=38,SNR=8.4
ARMA Armidale 39.16 148 *e*P **P 22 10 32.7 +1.7**
comp=Z,58nm,0.8s
ARMA Armidale 39.16 148 P **P 22 10 32.7 +1.7**
baz=39,SNR=25
BJI Beijing 39.36 345 P **P 22 10 31.5 -0.9**
BJI S **S 22 16 33.3 +4.6**
BJI pmax pmax
comp=Z,17nm,1.2s
BJI pmax pmax
comp=Z,130nm,4.3s
BJI LR LR
comp=N,170nm,27.4s
BJI LR LR
comp=E,220nm,29.0s
BJI LR LR
comp=Z,200nm,33.0s
SNY Shenyang 39.76 354⇑ P P 22 10 45.0 +9.3
SNY S S 22 16 56.0 +21
SNY pmax pmax
comp=Z,16nm,1.3s
SNY pmax pmax
comp=Z,110nm,3.5s
SNY LR LR
comp=E,360nm,21.6s
SNY LR LR
comp=Z,300nm,26.4s
ARPS Mount Arapiles 40.64 164 P **P 22 10 44.7 +1.7**
baz=41,SNR=18
YNG Young 40.77 154 P **P 22 10 45.9 +1.7**
baz=41,SNR=8.9
LZH Lanzhou 40.79 329 *e*P **P 22 10 46.0 +1.5**
LZH pP **pP 22 11 01.0 -0.7**
LZH sP **sP 22 11 09.5 -0.3**
LZH PP **PnPn 22 12 23.5 -0.9**
LZH *e*S **S 22 16 51.5 +1.0**
LZH sS **sS 22 17 22.3 +2.5**
LZH pmax pmax
comp=Z,45nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.5s
LZH LR LR
comp=N,390nm,13.6s
LZH LR LR
comp=E,270nm,14.4s
LZH LR LR
comp=Z,810nm,15.0s
HHC Hu-ho-hao-te 41.48 340 *e*P **P 22 10 50.0 0.0**
HHC pP **pP 22 11 08.5 +1.2**
HHC sP **sP 22 11 17.5 +2.2**
HHC S **S 22 17 01.0 +0.5**
HHC sS **sS 22 17 32.8 +2.9**
HHC pmax pmax
comp=Z,56nm,0.9s
HHC pmax pmax
comp=Z,260nm,5.2s
HHC LR LR
comp=N,450nm,13.9s
HHC LR LR
comp=E,570nm,12.8s
HHC LR LR
comp=Z,720nm,14.7s
CN2 Changchun 41.57 357 *e*P **P 22 10 51.3 +0.7**
CN2 *es*P **sP 22 11 15.5 -0.4**
CN2 *e*S **S 22 17 02.3 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,15.0s
CN2 LR LR
comp=E,800nm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
ERM Erimo 41.81 16⇑ *e*P **P 22 10 53.8 +1.2**
ERM pmax pmax
comp=Z,32nm,1.2s
ERM Erimo 41.81 16 *e*P **P 22 10 53.7 +1.1**
comp=Z,9.6nm,0.6s
USRK Ussuriysk Arra 41.99 4 P **P 22 10 54.4 +0.4**
comp=Z,30nm,0.9s,baz=188,slow=7.7,SNR=69
CNB Canberra Magne 42.05 154 P **P 22 10 56.8 +2.0**
baz=42,SNR=5.4
SHL Shillong 42.27 307⇑ *i*P **P 22 10 59.0 +2.2**
comp=Z,45nm,0.9s
SHL *i* x x 22 12 25.0
SHL *e*S **S 22 17 15.0 +2.2**
MDJ Mudanjiang 42.31 1 P **P 22 10 56.8 +0.2**
MDJ pP **pP 22 11 11.8 -2.1**
MDJ PP **PP 22 12 35.3 -0.6**
MDJ PcS **PcS 22 16 41.5 +0.6**
MDJ S **S 22 17 17.0 +4.6**
MDJ pmax pmax
comp=Z,31nm,1.2s
MDJ pmax pmax
comp=Z,110nm,4.6s
MDJ LR LR
comp=N,170nm,11.4s
MDJ LR LR
comp=E,100nm,7.2s
MDJ LR LR
comp=Z,270nm,11.7s
MDJ Mudanjiang 42.31 1 *e*P **P 22 10 56.9 +0.3**
comp=Z,44nm,1.3s
MDJ *e*pP **pP 22 11 11.1 -2.8**
TOO Toolangi 42.52 160 P **P 22 11 01.0 +2.6**
baz=43,SNR=5.9
ASAJ Asahikawa 43.62 15 *e*P **P 22 11 08.3 +1.2**
ASAJ Asahikawa 43.62 15 P **P 22 11 07.8 +0.6**
comp=Z,23nm,0.8s,baz=230,slow=16,SNR=14
LSA Lhasa 44.84 311 *e*P **P 22 11 18.8 +1.1**
LSA pmax pmax
comp=Z,72nm,0.8s
LSA Lhasa 44.84 311 *e*P **P 22 11 18.8 +1.1**
comp=Z,72nm,0.8s
GTA Gaotai 45.38 328 P **P 22 11 21.8 +0.3**
GTA pP **pP 22 11 37.0 -2.0**
GTA sP **sP 22 11 44.5 -2.5**
GTA S **S 22 17 59.5 +1.8**
GTA ScS **ScS 22 21 10.5 -1.3**
GTA SS **SS 22 21 15.8 -6.7**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,9.5s
GTA LR LR
comp=N,240nm,17.6s
GTA LR LR
comp=E,250nm,16.2s
GTA LR LR
comp=Z,420nm,20.9s
YSS Yuzh-Sakhalins 46.32 13⇑ *i*P **P 22 11 29.7 +1.2**
YSS pmax pmax
comp=Z,40nm,0.9s
TAPN Taplejung 46.41 307 *e*P **P 22 11 30.7 +0.7**
comp=Z,319nm,1.0s
ODAN Odare 46.46 306 *e*P **P 22 11 31.0 +0.7**
comp=Z,354nm,0.9s
VIS Vishakhapatnam 46.98 292 *i*P **P 22 11 35.6 +1.4**
VIS *ex* x 22 13 04.4
comp=E,31nm,1.0s
VIS *ex* x 22 13 05.9
comp=N,19nm,1.0s
KLR Kul'dur 46.99 3 *e*P P 22 11 30.0 -3.8
KLR pmax pmax
comp=Z,50nm,1.6s
RAMN Ramite 47.14 306 *e*P **P 22 11 36.7 +1.1**
comp=Z,437nm,0.9s
HIA Hailar 47.55 352 *e*P **P 22 11 37.4 -0.8**
comp=Z,28nm,1.3s
JIRN Jiri 47.76 306 *e*P **P 22 11 41.4 +0.8**
comp=Z,306nm,0.9s
PALK Pallekele 47.93 278 *e*P **P 22 11 41.8 +0.1**
GUN Gumba 48.12 306 *e*P **P 22 11 44.0 +0.7**
comp=Z,329nm,0.9s
PKI Pulchoki 48.36 306 *e*P **P 22 11 45.4 +0.2**
comp=Z,230nm,1.2s
PKIN Phulchoki 48.37 306 *e*P **P 22 11 45.4 +0.2**
comp=Z,78nm,0.9s
KKN Kakani 48.55 306 *e*P **P 22 11 46.9 +0.4**
comp=Z,211nm,1.0s
DMN Daman 48.62 306 *e*P **P 22 11 47.6 +0.5**
comp=Z,249nm,1.0s
ULN Ulaanbaatar 49.19 341 P **P 22 11 51.3 +0.3**
SNR=8.3
ULN Ulaanbaatar 49.19 341 *e*P **P 22 11 50.8 -0.2**
ULN Ulaanbaatar 49.19 341 P **P 22 11 50.7 -0.3**
comp=Z,23nm,1.3s,comp=Z,466nm
SONM Songino Array 49.38 340 P **P 22 11 52.0 -0.4**
SONM pP **pP 22 12 07.5 -2.6**
SONM Songino Array 49.38 340 P **P 22 11 52.0 -0.4**
comp=Z,4.1nm,0.8s,baz=151,slow=8.2,SNR=32
SONM pP **pP 22 12 07.5 -2.6**
comp=Z,6.2nm,0.7s,baz=148,slow=6.8,SNR=8.1
KOLN Koldanda 49.91 305 *e*P **P 22 11 57.7 +0.8**
comp=Z,224nm,0.8s
DANN Dangsing 50.01 306 *e*P **P 22 11 58.4 +0.7**
comp=Z,205nm,0.8s
HYB Hyderabad 51.36 291 *i*P **P 22 12 07.0 -0.7**
ZAK Zakamensk 52.62 340 *e*P **P 22 12 16.2 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 53.60 341 *e*P P 22 12 27.9 +4.2
TLY pmax pmax
comp=Z,8.0nm,0.8s
MOY Mondy 54.49 339 *e*P **P 22 12 29.2 -1.1**
WMQ Urumqi 55.06 325 P **P 22 12 34.5 0.0**
WMQ sP **sP 22 13 01.8 +1.4**
WMQ PcP **PcP 22 13 35.0 -0.3**
WMQ S **S 22 20 09.8 -2.1**
WMQ ScS **ScS 22 22 13.3 -4.2**
WMQ pmax pmax
comp=Z,20nm,1.0s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=N,660nm,28.0s
WMQ LR LR
comp=E,420nm,28.0s
WMQ LR LR
comp=Z,380nm,30.0s
PEA0B Petropavlovsk- 56.24 21 *e*P **P 22 12 43.4 +0.7**
PETK Petropavlovsk- 56.24 21 P **P 22 12 43.7 +1.0**
PETK Petropavlovsk- 56.24 21 P **P 22 12 43.7 +1.0**
PETK Petropavlovsk- 56.24 21 P **P 22 12 43.7 +1.0**
comp=Z,41nm,0.9s,baz=183,slow=5.2,SNR=16
PETK LR LR 22 37 48.5
comp=Z,61nm,18.1s,baz=357,slow=37
HVS Khovu-Aksy 56.94 335*c* *i*P **P 22 12 47.6 -0.2**
HVS pmax pmax
comp=Z,100nm,1.3s
YAK Yakutsk 59.75 1 *e*P **P 22 13 06.5 -0.6**
YAK *e**PP **pP 22 13 22.8 -2.5**
YAK *e* 22 13 50.9
YAK *e* 22 15 16.5
YAK *e*S **S 22 21 11.3 -1.3**
YAK *e* 22 22 50.0
YAK *e*SS **SS 22 25 09.1 -0.5**
YAK pmax pmax
comp=Z,35nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,20nm,1.4s
YAK pmax pmax
comp=E,16nm,1.1s
YAK smax smax
comp=N,204nm,3.8s
YAK smax smax
comp=E,172nm,4.6s
YAK MLR MLR
comp=Z,170nm,26.0s
YAK MLR MLR
comp=E,114nm,23.0s
YAK MLR MLR
comp=N,98nm,20.0s
MK31 Makanchi Array 59.88 325 *i*P **P 22 13 07.9 -0.5**
MK31 pmax pmax
comp=Z,18nm,0.6s
MK31 Makanchi Array 59.88 325 *e*P **P 22 13 07.7 -0.7**
MK31 *e*pP **pP 22 13 28.6 +2.0**
MKAR Makanchi Array 59.88 325 P **P 22 13 08.1 -0.3**
MKAR *SP **sP 22 13 29.6 -4.8**
MKAR Makanchi Array 59.88 325 P **P 22 13 08.1 -0.3**
MKAR sP **sP 22 13 29.6 -4.8**
MKAR Makanchi Array 59.88 325 P **P 22 13 08.1 -0.3**
comp=Z,10nm,0.8s,baz=122,slow=8.1,SNR=93
MKAR sP **sP 22 13 29.6 -4.8**
comp=Z,20nm,0.6s,baz=117,slow=8.5,SNR=12
KSH Kashi 60.44 315 P **P 22 13 13.8 +1.4**
KSH sP **sP 22 13 41.5 +3.0**
KSH PP **PP 22 15 29.5 +3.1**
KSH S **S 22 21 19.0 -3.6**
KSH pmax pmax
comp=Z,21nm,1.4s
KSH pmax pmax
comp=Z,110nm,6.3s
KSH LR LR
comp=N,78nm,4.8s
KSH LR LR
comp=E,140nm,4.5s
KSH LR LR
comp=Z,95nm,7.9s
KZA Kyzart 62.00 317 *i*P **P 22 13 23.9 +0.6**
KZA Kyzart 62.00 317 P **P 22 13 23.9 +0.6**
SNR=7.9
TKM2 Tokmak 2 62.13 318 *i*P **P 22 13 23.8 0.0**
TKM2 Tokmak 2 62.13 318 P **P 22 13 23.9 0.0**
SNR=7.9
TKM2 Tokmak 2 62.13 318 *e*P **P 22 13 23.8 0.0**
AAK Ala-Archa 62.74 318 *e*P **P 22 13 28.4 +0.5**
AAK pmax pmax
comp=Z,34nm,1.9s
AAK Ala-Archa 62.74 318 *e*P **P 22 13 28.4 +0.5**
comp=Z,34nm,1.9s
ZAA0 Zalesovo Array 62.82 333 *e*P **P 22 13 25.7 -2.3**
ZALV Zalesovo Beam 62.82 333 *i*P **P 22 13 26.3 -1.6**
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 62.82 333 P **P 22 13 26.4 -1.6**
ZALV Zalesovo Beam 62.82 333 P **P 22 13 26.4 -1.6**
comp=Z,5.7nm,0.9s,baz=104,slow=6.3,SNR=19
USP Ospenovka 63.00 318 *i*P **P 22 13 29.4 -0.1**
USP Ospenovka 63.00 318 P **P 22 13 29.4 -0.1**
SNR=14
AML Almayashu 63.08 317 *i*P **P 22 13 30.8 +0.4**
AML Almayashu 63.08 317 P **P 22 13 30.8 +0.4**
SNR=12
SEY Seymchan 63.18 12⇓ *e*P **P 22 13 32.0 +1.8**
EKS2 Erkin-Say 63.23 318 *e*P **P 22 13 31.4 +0.3**
EKS2 Erkin-Say 63.23 318 P **P 22 13 31.5 +0.4**
SNR=14

EKS2	**Erkin-Say**	63.23	318	*e*P	P	22 13 31.4	+0.3
KBL	**Kabul**	63.92	308	*e*P	P	22 13 35.5	-0.4
KBL				pmax	pmax		
	comp=Z,19nm,1.1s						
KBL	**Kabul**	63.92	308	*e*P	P	22 13 35.5	-0.4
	comp=Z,19nm,1.1s						
KBL	**Kabul**	63.92	308	P	P	22 13 35.8	-0.1
	baz=64,SNR=7.1						
NVS	**Novosibirsk**	64.10	333⇑	*i*P	P	22 13 33.8	-2.6
NVS				*e*		22 13 52.9	
NVS				pmax	pmax		
	comp=Z,12nm,0.9s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
KK31	**Karatay Array**	65.62	317	*i* P	P	22 13 45.7	-0.9
KK31				pmax	pmax		
	comp=Z,16nm,0.9s						
KKAR	**Karatay Array**	65.62	317	*e*P	P	22 13 46.0	-0.6
KKAR				pmax	pmax		
	comp=Z,13nm,0.8s						
KKAR	**Karatay Array**	65.62	317	*e*P	P	22 13 46.0	-0.6
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	69.41	0	*e*P	P	22 14 10.0	+0.2
TIXI				pmax	pmax		
	comp=Z,18nm,1.7s						
BRVK	**Borovoye**	69.70	327	P	P	22 14 11.0	-1.0
	comp=Z,161nm,0.8s,SNR=6.6						
BRVK	**Borovoye**	69.70	327	*c i*P	P	22 14 11.2	-0.8
BRVK				pmax	pmax		
	comp=Z,34nm,1.7s						
BRVK	**Borovoye**	69.70	327	P	P	22 14 11.7	-0.4
	SNR=8.3						
BRVK	**Borovoye**	69.70	327	*e*P	P	22 14 11.1	-1.0
	comp=Z,22nm,0.8s						
ARQ	**Araqi**	72.65	294	P	P	22 14 30.6	+0.1
	SNR=5.3						
ABKAR	**Akbulak array**	74.52	321	*e*P	P	22 14 40.2	-0.7
	comp=Z,6.8nm,0.8s						
AKTO	**Aktyubinsk**	76.02	322	*i* P	P	22 14 48.5	-0.9
AKTO				pmax	pmax		
	comp=Z,11nm,0.8s						
AKTO	**Aktyubinsk**	76.02	322	P	P	22 14 48.6	-0.9
AKTO	**Aktyubinsk**	76.02	322	P	P	22 14 48.6	-0.9
	comp=Z,7.9nm,1.0s,baz=99,slow=9.6						
SVE	**Sverdlovsk**	76.25	328⇑	*i*P	P	22 14 50.2	-0.5
SVE				pmax	pmax		
	comp=Z,33nm,0.9s						
ARU	**Arti**	77.24	328	*d i*P	P	22 14 55.1	-1.1
ARU				*PP	pP	22 15 13.6	-1.5
ARU						22 17 45.6	
ARU				S	S	22 24 40.3	0.0
ARU				pmax	pmax		
	comp=Z,22nm,1.7s						
ARU	**Arti**	77.24	328	P	P	22 14 55.1	-1.1
	comp=Z,137nm,0.8s,SNR=5.1						
VNDA	**Vanda**	81.64	173	*e*P	P	22 15 19.7	0.0
	comp=Z,6.9nm,1.0s						
VNDA	**Vanda**	81.64	173	P	P	22 15 19.6	0.0
	comp=Z,5.6nm,0.9s,baz=312,slow=6.3,SNR=33						
KDAK	**Kodiak Island**	82.26	32	P	P	22 15 24.3	+0.9
	comp=Z,172nm,0.9s,SNR=5.1						
SBA	**Scott Base**	82.53	172	*e*P	P	22 15 23.8	-0.6
SBA				pmax	pmax		
	comp=Z,19nm,1.5s						
SBA	**Scott Base**	82.53	172	*e*P	P	22 15 23.8	-0.6
	comp=Z,19nm,1.5s						
RSO	**Redoubt South**	82.58	29	*e*P	P	22 15 25.3	0.0
	comp=Z,19nm,0.7s						
MAW	**Mawson**	82.91	201	P	P	22 15 26.4	0.0
MAW	**Mawson**	82.91	201	P	P	22 15 26.4	0.0
	comp=Z,5.9nm,0.9s,baz=41,slow=6.3,SNR=11						
MAW	**Mawson**	82.91	201	P	P	22 15 26.5	0.0
	baz=83,SNR=7.9						
IM04	**Indian Mountai**	83.04	24	*e*P	P	22 15 28.5	+1.2
IMA2	**Indian Mountai**	83.10	24	*e*P	P	22 15 28.9	+1.2
PPLA	**Purkeypile**	83.21	27	*e*P	P	22 15 29.7	+1.3
	comp=Z,41nm,1.3s						
DGRG	**David-gareji**	83.46	311	P	P	22 15 30.7	+0.6
GNI	**Garni**	83.88	310	P	P	22 15 32.2	-0.2
GNI	**Garni**	83.88	310	P	P	22 15 32.2	-0.2
	comp=Z,1.4nm,0.5s,baz=80,slow=11,SNR=3.1						
BPAW	**Bear Paw Mtn.**	83.92	26	*e*P	P	22 15 32.6	+0.7
	comp=Z,31nm,1.6s						
TBLG	**Delisi**	83.95	312	*e*P	P	22 15 33.1	+0.6
TBLG	**Delisi**	83.95	312	P	P	22 15 33.1	+0.6
TRF	**Thorofare Moun**	84.14	27	*e*P	P	22 15 32.9	-0.3
	comp=Z,26nm,1.1s						
TRF				*e*pP	pP	22 15 50.9	-1.4
TRF				*e*sP	sP	22 15 60.0	0.0
GUDG	**Gudauri**	84.18	312	P	P	22 15 33.6	-0.3
KZR	**Kazreti**	84.18	311	P	P	22 15 34.1	+0.3
PMR	**Palmer**	84.47	28	*e*P	P	22 15 34.7	+0.1
PMR				pmax	pmax		
	comp=Z,35nm,1.0s						
PMR	**Palmer**	84.47	28	*e*P	P	22 15 34.7	+0.1
	comp=Z,35nm,1.0s						
ZEI	**Tsey**	84.62	313	*e*P	P	22 15 34.7	-1.4
ZEI				pmax	pmax		
	comp=Z,23nm,1.5s						
COLD	**Coldfoot**	84.65	23	*e*P	P	22 15 35.7	+0.3
	comp=Z,16nm,1.1s						
COLD				*e*pP	pP	22 15 53.3	-1.3
MCK	**McKinley**	84.77	26	*e*P	P	22 15 36.0	-0.2
MCK				pmax	pmax		
	comp=Z,63nm,1.4s						
MCK	**McKinley**	84.77	26	*e*P	P	22 15 36.0	-0.2
	comp=Z,63nm,1.4s						
SML	**Sawmill**	84.87	28	*e*P	P	22 15 37.3	+0.5
SML				pmax	pmax		
	comp=Z,15nm,1.0s						
SML	**Sawmill**	84.87	28	*e*P	P	22 15 37.3	+0.5
	comp=Z,15nm,1.0s						
AKH	**Akhalkalaki**	84.88	311	P	P	22 15 37.5	+0.1
ONI	**Oni**	84.94	312	P	P	22 15 37.9	+0.4
KBZ	**Khabaz**	85.38	314	P	P	22 15 38.7	-0.9
KBZ	**Khabaz**	85.38	314	P	P	22 15 38.7	-0.9
KBZ	**Khabaz**	85.38	314	P	P	22 15 38.7	-0.9
	comp=Z,3.7nm,0.8s,baz=101,slow=2.8,SNR=11						
KIV	**Kislovodsk**	85.54	314	*e*P	P	22 15 39.7	-0.8
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,55nm,18.0s						
ILAR	**Eielson Array**	85.75	25	P	P	22 15 40.2	-0.8
ILAR	**Eielson Array**	85.75	25	P	P	22 15 40.2	-0.8
	comp=Z,1.1nm,0.8s,baz=244,slow=5.9,SNR=9.0						
ILAR				LR	LR	22 50 45.4	
	comp=Z,56nm,18.9s,baz=193,slow=33						
DIV	**Divide**	86.05	29	*e*P	P	22 15 43.4	+0.7
	comp=Z,42nm,1.1s						
DIV				*e*pP	pP	22 16 00.7	-1.1
ARTV	**Artvin**	86.05	311	*i* P	P	22 15 43.8	+0.5
DAGI	**Agillar**	86.06	311	*i* P	P	22 15 43.7	+0.5
DDEM	**Demirkent**	86.18	311	*i* P	P	22 15 44.5	+0.7
VRHR	**Novokhopersk**	86.41	321	*e*P	P	22 15 42.7	-1.8
VRHR				pmax	pmax		
	comp=Z,20nm,1.5s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,30nm,0.8s						
BMRM	**Bremner River**	86.61	29	*e*P	P	22 15 45.6	+0.2
	comp=E,15nm,0.9s						
VORD	**Divnogorie**	87.88	321	*e*P	P	22 15 49.9	-1.7
VORD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VORD				pmax	pmax		
	comp=N,50nm,0.6s						
VORD				pmax	pmax		
	comp=E,70nm,0.6s						
VSR	**Storozhevoye**	87.95	321	*e*P	P	22 15 49.7	-2.3
VSR				pmax	pmax		
	comp=Z,40nm,2.7s						
VSR				pmax	pmax		
	comp=N,8.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,7.0nm,1.0s						
DAWY	**Dawson**	89.00	26	*e*P	P	22 15 57.0	+0.2
DAWY				*e*pP	pP	22 16 16.0	0.0
OBN	**Obninsk**	89.39	325⇑	*e*P	P	22 15 57.8	-0.8
OBN				*e*		22 16 09.4	
OBN				*e*SS	SS	22 32 39.9	+0.7
OBN				pmax	pmax		
	comp=Z,30nm,1.7s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
ASF	**Jabal al Asfar**	90.27	302	P	P	22 16 03.4	0.0
ASF	**Jabal al Asfar**	90.27	302	P	P	22 16 03.4	0.0
	comp=Z,3.8nm,0.8s,baz=231,slow=1.2,SNR=6.6						
KMBO	**Kilima Mbogo**	91.33	269	P	P	22 16 09.2	+0.2
KMBO	**Kilima Mbogo**	91.33	269	P	P	22 16 09.2	+0.2
	comp=Z,1.8nm,0.8s,baz=68,slow=19,SNR=3.1						
MMAI	**Mount Meron Ar**	91.48	303	P	P	22 16 08.6	-0.4
MMAI	**Mount Meron Ar**	91.48	303	P	P	22 16 08.6	-0.4
	comp=Z,4.7nm,0.9s,baz=120,slow=4.9,SNR=5.0						
MMAI				LR	LR	23 00 14.5	
	comp=Z,50nm,21.4s,baz=140,slow=38						
SYO	**Syowa Base**	91.61	201⇑	*e*P	P	22 16 07.6	-1.0
SYO	**Syowa Base**	91.61	201⇑	*e*PcP	PcP	22 16 09.6	+0.1
QSPA	**South Pole Qui**	92.06	180	P	P	22 16 09.3	-1.6
QSPA	**South Pole Qui**	92.06	180	P	P	22 16 09.3	-1.6
	comp=Z,3.2nm,1.0s,baz=355,slow=1.2,SNR=7.0						
BRTR	**Keskin Array B**	92.42	310	P	P	22 16 12.1	-1.3
BRTR	**Keskin Array B**	92.42	310	P	P	22 16 12.1	-1.3
	comp=Z,1.1nm,0.9s,baz=118,slow=7.1,SNR=6.9						
ARCES	**ARCESS Array B**	92.55	340	P	P	22 16 11.8	-1.3
ARCES				pP	pP	22 16 29.6	-2.9
ARCES	**ARCESS Array B**	92.55	340	P	P	22 16 11.8	-1.3
	comp=Z,3.8nm,0.7s,baz=51,slow=6.4,SNR=9.2						
ARCES				pP	pP	22 16 29.6	-2.9
	comp=Z,4.5nm,0.8s,baz=63,slow=5.6,SNR=3.1						
FINES	**FINESS Array B**	94.08	332	P	P	22 16 18.2	-2.0
FINES	**FINESS Array B**	94.08	332	P	P	22 16 18.2	-2.0
	comp=Z,2.4nm,0.9s,baz=126,slow=2.6,SNR=6.1						
AKASG	**Malin Array Be**	94.26	321	*i* P	P	22 16 19.7	-1.6
AKASG	**Malin Array Be**	94.26	321	P	P	22 16 19.5	-1.8
AKASG	**Malin Array Be**	94.26	321	P	P	22 16 19.5	-1.8
	comp=Z,0.3nm,0.3s,baz=74,slow=3.3,SNR=4.5						
VRI	**Vrincioaia**	96.69	316⇑	*i*P	P	22 16 32.5	0.0
MLR	**Muntele Rosu**	97.29	316⇓	*i*P	P	22 16 33.8	-1.6
MLR	**Muntele Rosu**	97.29	316	P	P	22 16 34.4	-1.0
MLR	**Muntele Rosu**	97.29	316	P	P	22 16 34.4	-1.0
	comp=Z,0.8nm,1.0s,baz=62,slow=5.4,SNR=8.0						
BURAR	**Bucovina Array**	97.38	318⇑	*i*P	P	22 16 35.3	-0.5
UZH	**Uzhgorod**	99.08	320	*e*P	Pdif	22 16 48.0	+4.8
CRVS	**Cervenica-Dubn**	99.54	320	*e*P	Pdif	22 16 48.0	+2.7
CRVS	**Cervenica-Dubn**	99.54	320	PDIF	Pdif	22 16 48.0	+2.7
STHS	**Stebnicka Huta**	99.55	321	*e*P	Pdif	22 16 50.2	+4.9
STHS	**Stebnicka Huta**	99.55	321	PDIF	Pdif	22 16 50.2	+4.9
YKA	**Yellowknife Ar**	100.18	25	P	Pdif	22 16 47.8	0.0
YKA	**Yellowknife Ar**	100.18	25	P	Pdif	22 16 47.8	0.0
	comp=Z,0.8nm,0.8s,baz=299,slow=4.2,SNR=3.2						
KECS	**Kecovo**	100.28	320	*e*P	Pdif	22 16 52.6	+4.1
KECS	**Kecovo**	100.28	320	PDIF	Pdif	22 16 52.6	+4.1
CLL	**Collm**	103.98	324	*e*PP	PP	22 21 23.0	+0.3
CLL				Lm	MLR	23 05 00.0	
	comp=Z,100nm,21.3s						
GERES	**GERESS Array B**	104.45	322	Pdif	Pdif	22 17 05.9	-1.3
GERES	**GERESS Array B**	104.45	322	Pdiff	Pdif	22 17 05.9	-1.3
	comp=Z,0.1nm,0.4s,baz=76,slow=1.2,SNR=4.8						
TXAR	**Lajitas Array**	121.11	54	PKP	PKPdf	22 21 55.9	+0.6
TXAR	**Lajitas Array**	121.11	54	PKP	PKPdf	22 21 55.9	+0.6
	comp=Z,0.6nm,0.9s,baz=270,slow=1.3,SNR=5.9						
JCT	**Junction City**	123.69	51	*e*PKIKP	PKPdf	22 22 00.5	+0.3
JCT	**Junction City**	123.69	51	*e*PKPdf	PKPdf	22 22 00.5	+0.3
TORD	**Torodi Ar. Bea**	125.13	288	PKP	PKPdf	22 22 02.5	-0.8
TORD	**Torodi Ar. Bea**	125.13	288	PKP	PKPdf	22 22 02.5	-0.8
	comp=Z,1.7nm,0.7s,baz=80,slow=2.0,SNR=8.2						
DBIC	**Dimbokro**	132.67	281	SKPbc	SKPbc	22 25 37.9	-1.2
DBIC	**Dimbokro**	132.67	281	SKPbc	SKPbc	22 25 37.9	-1.2
	comp=Z,5.8nm,0.9s,baz=22,slow=5.9,SNR=4.8						
PLCA	**Paso Flores**	137.88	158	SKPbc	SKPbc	22 25 55.0	+0.1
PLCA	**Paso Flores**	137.88	158	SKPbc	SKPbc	22 25 55.0	+0.1
	comp=Z,2.3nm,0.7s,baz=213,slow=4.9,SNR=4.4						
LCO	**Las Campanas**	147.60	147	*e*PKPbc	PKPbc	22 22 46.5	-0.8
LPAZ	**La Paz**	158.39	132	PKP	PKPdf	22 23 01.9	+1.0
LPAZ	**La Paz**	158.39	132	PKP	PKPdf	22 23 01.9	+1.0
	comp=Z,1.0nm,0.9s,baz=239,slow=5.9,SNR=3.2						

MOS ***30*** *22:04:31.2±1.0,2.19N×128.38E,h46km,mb5.5/17, Error ellipse: s-maj=13.8km s-min=6.7km az=109.3*
ISCJB ***30*** *22:04:34.7±0.6,2.20N±0.03×128.59E±0.03,h74km±6km, mb5.1/86, Error ellipse: s-maj=5.7km s-min=4.3km az=152.1*
IDC ***30*** *22:04:34.3±0.6,2.18N×128.41E,h60km±4km,mb4.6/29, mb1 4.7/30,mb1mx4.7/31,mbtmp4.7/30,MS4.0/7, Ms1 4.0/7,ms1mx3.7/23,Error ellipse: s-maj=16.2km s-min=8.7km az=86.0*
NEIC ***30*** *22:04:35.7±0.7,2.20N×128.51E,h72km±6km,mb5.2/26, Error ellipse: s-maj=7.4km s-min=4.3km az=76.0*
BJI ***30*** *22:04:36.5,2.59N×128.55E,h61km,mB5.1/24,mb5.2/35, Ms4.6/30,Ms7 4.3/30*
AUST ***30*** *22:04:39.3±1.3,2.07N×128.54E,h102km, Error ellipse: s-maj=1.3km s-min=0.8km az=43.0*
DJA ***30*** *22:04:40.0±0.4,2.N±4×12.9E±.,h78km±4km,M5.4/49, mB5.8/22,mb5.5/49,MLv5.8/10,Mw(mB)5.3/22*
ISC 30 22:04:34.5±0.3,**2.19N**±0.03×**128.61E**±0.05,**h61**km±2km, **h61**km:**pP-P,n276,**σ1$60/333,**mb5.2**/86,**9C-3D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.87	221	*e*Pn	Pn	22 05 04.5	+0.2
DAV	**Davao City (W)**	5.71	328	*e*Pn	Pn	22 05 56.3	-0.5
DAV	**Davao City (W)**	5.71	328	P	Pn	22 06 02.7	+5.9
	2μm,0.9s,21μm7.4nm						
GTOI	**Gorontalo**	5.80	255	P	Pn	22 06 01.6	+3.6
	718nm,0.8s,2.5nm						
FAKI	**Fak Fak**	6.24	144	P	Pn	22 06 06.3	+2.2
	877nm,0.9s,8μm2.9nm						
RKPI	**Ransiki, Papua**	6.67	123	P	Pn	22 06 13.4	+3.4
	1μm,0.7s,10μm3.3nm						
BNDI	**Bandanaira**	6.79	169	P	Pn	22 06 07.1	-4.5
MRSI	**Marisa**	6.88	256	P	Pn	22 06 14.6	+1.9
	635nm,1.0s,6μm2.0nm						
PALU	**Palau**	7.77	49	S	Sn	22 07 48.7	-3.0
	baz=7.9,SNR=13						
TOLI	**Toli-Toli**	7.88	262	P	Pn	22 06 28.5	+2.0
	595nm,0.7s,6μm2.1nm						
BAKI	**Biak**	8.22	114	P	Pn	22 06 37.2	+6.1
	514nm,0.9s,6μm1.7nm						
SRPI	**Serui, Papua**	8.63	118	P	Pn	22 06 43.9	+7.1
	499nm,0.8s,12μm2.2nm						
SKSI	**Soroako, Sulaw**	8.65	237	P	Pn	22 06 37.2	+0.1
	2μm,0.7s,11μm5.2nm						
TLE	**Tual**	8.80	152	P	Pn	22 06 42.9	+3.8
	271nm,0.8s,0.9nm						
TLE	**Tual**	8.80	152	S	Pn	22 06 42.7	+3.6
	baz=8.7,SNR=5.4						
PCI	**Palu**	9.29	251	P	Pn	22 06 47.8	+2.0
	327nm,1.0s						
KKSI	**Kolaka, Sulawe**	9.39	228	P	Pn	22 06 48.2	+1.0
	541nm,0.8s,5μm						
BBSI	**Bau Bau**	9.72	218	P	Pn	22 07 02.2	+11
TTSI	**Tana Toraja**	10.21	239	P	Pn	22 06 58.6	+0.3
	406nm,0.7s,4μm						
MYLDM	**Lahad Datu**	10.51	287	P	Pn	22 07 05.9	+3.4
TSM	**Tawau**	10.92	281	P	Pn	22 07 08.4	+0.3
RCP	**Roxas**	10.98	328	*e*S	Pn	22 07 10.1	+1.2
BKSI	**Bulukumba**	11.29	229	P	Pn	22 07 15.8	+2.7
	653nm,0.6s,5μm						
KAPI	**Kappang**	11.38	231	Pn	Pn	22 07 14.9	+0.6
	2μm,0.9s,SNR=9.9						
KAPI	**Kappang**	11.38	231	*e*Pn	Pn	22 07 15.3	+1.0
KAPI				*e*Sn	Sn	22 09 17.0	-2.9
KAPI	**Kappang**	11.38	231	P	Pn	22 07 16.4	+2.1
	296nm,0.9s,2μm						
KAPI	**Kappang**	11.38	231	P	Pn	22 07 13.4	-0.9
	22nm,0.3s,baz=74,slow=6.4,SNR=13						
KAPI				S	Sn	22 09 16.7	-3.2
	1.4nm,0.3s,baz=242,slow=17,SNR=4.0						
BSSI	**Bau Bau, Buton**	11.58	224	P	Pn	22 07 19.8	+2.7
	605nm,1.5s,6μm						
SDKM	**Sandakan**	11.89	287	P	Pn	22 07 23.0	+1.7
SOEI	**Soe**	12.63	200	P	P	22 07 47.9	+7.0
	baz=13,SNR=3.8						
KDM	**Kudat**	12.64	292	P	Pn	22 07 34.6	+3.0
KKM	**Kota Kinabalu**	12.94	288	*e*Pn	Pn	22 07 36.4	+0.7
KKM	**Kota Kinabalu**	12.94	288	P	Pn	22 07 36.9	+1.1
KKM	**Kota Kinabalu**	12.94	288	P	Pn	22 07 36.8	+1.1
	baz=13,SNR=6.4						
LBFI	**Labuhan Bajo,**	13.70	219	P	P	22 07 57.2	+4.4
TGY	**Tagaytay City**	14.06	328	P	Pn	22 07 50.3	-0.5
TGY	**Tagaytay City**	14.06	328	P	Pn	22 07 50.3	-0.5
	9.1nm,0.3s,baz=206,slow=5.8,SNR=8.6						
BTM	**Bintulu**	15.54	274	P	Pn	22 08 09.9	-0.1
SBUM	**Sibu**	16.37	271	*e*P	P	22 08 22.1	-0.3
	316nm,0.9s						
SBUM	**Sibu**	16.37	271	P	P	22 08 22.1	-0.3
SBUM	**Sibu**	16.37	271	P	P	22 08 24.3	+1.8
	377nm,1.0s,3μm						
MTNI	**Mataram**	16.41	229	P	P	22 08 26.0	+3.2
	253nm,0.8s,2μm						
KMMI	**Kalianget**	17.25	238	P	P	22 08 36.8	+4.6
	208nm,1.0s						
STKI	**Sintang**	17.25	263	P	P	22 08 33.9	+1.7
	99nm,0.8s						
BLJI	**Banyuglugur**	17.93	236	P	Pn	22 08 46.3	+6.5
KSM	**Kuching**	18.30	268	*e*P	Pn	22 08 44.1	-0.2
	306nm,1.0s						
KSM	**Kuching**	18.30	268	P	Pn	22 08 44.3	0.0
KSM	**Kuching**	18.30	268	P	Pn	22 08 45.5	+1.2
	324nm,0.9s,3μm						
KSM	**Kuching**	18.30	268	P	Pn	22 08 44.4	0.0
	baz=18,SNR=22						
KRKI	**Karangkates**	19.11	237	P	Pn	22 08 55.6	+1.6
	461nm,0.8s						
SJI	**Sawahan**	19.48	239	P	Pn	22 08 58.7	+0.3
	270nm,1.0s,3μm						
PWJI	**Pagerwojo**	19.59	239	P	Pn	22 08 59.1	-0.5
	264nm,0.9s,12μm						
FITZ	**Fitzroy Crossi**	20.37	188	*e*P	P	22 09 05.5	-0.7
	58nm,0.9s						
FITZ	**Fitzroy Crossi**	20.37	188	P	P	22 09 05.6	-0.7
	40nm,0.7s,baz=6.3,slow=8.0,SNR=7.7						
UGM	**Wanagama**	20.64	241	P	Pn	22 09 12.3	+0.2
	baz=21,SNR=5.1						
BJII	**Banjamegara**	21.09	243	P	P	22 09 17.1	+2.9
	233nm,1.6s						
TPI	**Tanjungpandan**	21.51	257	P	P	22 09 19.2	+0.6
	94nm,1.3s						
COEN	**Coen**	21.59	138	*e*P	P	22 09 19.9	+0.5
	876nm,1.8s						
COEN	**Coen**	21.59	138	P	P	22 09 22.7	+3.3
	baz=22,SNR=5.5						
TWG	**Pinlang**	21.78	341	*e*P	P	22 09 18.6	-2.7
	290nm,0.6s						
PMG	**Port Moresby**	21.78	122	LR	LR	22 18 46.8	
	comp=Z,500nm,20.7s,baz=320,slow=39						
YULB	**Yu-li**	22.24	342	*e*P	P	22 09 25.1	-1.2
	32nm,0.9s						
TPUB	**Ta-pu**	22.37	340	*e*P	P	22 09 27.4	-0.3
	82nm,0.8s						
WRAB	**Tennant Creek**	22.69	166	P	P	22 09 31.7	+0.5
	2μm,0.6s,SNR=9.2						
WRAB	**Tennant Creek**	22.69	166	*e*P	P	22 09 31.5	+0.3
WRAB				pmax	pmax		
	comp=Z,176nm,0.7s						
WRAB	**Tennant Creek**	22.69	166	*e*P	P	22 09 31.5	+0.3
	comp=Z,176nm,0.7s						
WRA	**Warramunga Arr**	22.70	166	P	P	22 09 31.3	0.0
WRA	**Warramunga Arr**	22.70	166	P	P	22 09 31.3	0.0
	comp=Z,202nm,0.8s,baz=344,slow=10,SNR=20						
SSLB	**Suanglung**	22.71	342	*e*P	P	22 09 30.8	-0.7
	comp=Z,54nm,0.8s						
LEM	**Lembang**	22.78	247	P	P	22 09 40.0	+7.6
LEM	**Lembang**	22.78	247	P	P	22 09 34.8	+2.4
	baz=23,SNR=3.7						
PPBI	**Pangkal Pinang**	22.88	259	P	P	22 09 33.1	-0.1
	comp=Z,72nm,0.9s						
NACB	**Ninganchiao**	22.89	343	*e*P	P	22 09 32.4	-0.7
	comp=Z,129nm,1.4s						
CISI	**Cisompet, Garu**	22.89	245	P	P	22 09 35.2	+1.8
	baz=23,SNR=3.6						
YHNB	**Yeheng**	23.42	343	*e*P	P	22 09 37.5	-0.9
QZH	**Quanzhou**	24.60	338⇑	*i*P	P	22 09 47.5	-1.6
QZH				pP	pP	22 10 01.8	-2.2
QZH				pmax	pmax		
	comp=Z,120nm,0.8s						
MYKOM	**Kota Tinggi**	24.74	270	P	P	22 09 51.5	+0.9
MYKOM	**Kota Tinggi**	24.74	270	P	P	22 09 51.7	+1.1
	comp=Z,134nm,1.0s,comp=Z,2μm						
MBWA	**Marble Bar**	24.77	200	*e*P	P	22 09 50.0	-0.7
	comp=Z,82nm,0.8s						
MBWA				*e*pP	pP	22 10 04.5	-1.1
BTDF	**Bukit Timah Da**	24.83	269	P	P	22 09 52.4	+1.0
	baz=25,SNR=3.1						
BTDF				P	P	22 09 52.4	+1.0
	baz=25,SNR=3.1						
QIZ	**Qiongzhong**	24.85	314	P	P	22 09 51.5	0.0
QIZ				S	S	22 14 13.5	+3.2
QIZ				pmax	pmax		
	comp=Z,140nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,200nm,10.0s						
QIZ	**Qiongzhong**	24.85	314	*e*P	P	22 09 51.4	-0.1
	comp=Z,109nm,0.9s						
KGM	**Kluang**	25.27	270	P	P	22 09 57.2	+1.8
LWLI	**Liwa**	25.55	254	P	pP	22 10 13.1	+0.3
KTGM	**Kuala Trenggan**	25.60	278	P	P	22 10 00.8	+2.4
ASAR	**Alice Springs**	26.21	169	P	P	22 10 04.3	+0.6
ASAR				ScP	ScP	22 17 02.5	-1.7
ASAR	**Alice Springs**	26.21	169	P	P	22 10

CMAR	**Chiang Mai Arr**	**33.27**	**301**	P	**P**	**22 11 06.3**	**-0.1**
	comp=Z,25nm,0.8s,baz=124,slow=8.0,SNR=26						
CMAR				ScP	**ScP**	**22 17 26.6**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=144,slow=2.5,SNR=6.3						
HNR	**Honiara**	**33.29**	**111**	LR	LR	22 23 07.8	
	comp=Z,234nm,21.6s,baz=132,slow=33						
MORW	**Morawa**	**33.33**	**200**	P	**P**	**22 11 05.6**	**-1.1**
	baz=33,SNR=17						
CHTO	**Chiang Mai**	**33.42**	**302**	P	**P**	**22 11 09.0**	**+1.3**
	comp=Z,103nm,1.1s,comp=Z,922nm						
KMI	**Kunming**	**33.79**	**315**	⇑P	**P**	**22 11 12.5**	**+1.4**
KMI				pP	**pP**	**22 11 27.5**	**+1.3**
KMI				sP	**sP**	**22 11 35.5**	**+2.1**
KMI				PP	**PP**	**22 12 29.0**	**+0.4**
KMI				S	**S**	**22 16 32.3**	**+1.4**
KMI				sS	**sS**	**22 16 59.0**	**+2.3**
KMI				PcS	**PcS**	**22 17 33.5**	**-2.2**
KMI				pmax	pmax		
	comp=Z,25nm,1.2s						
KMI				pmax	pmax		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,240nm,14.6s						
KMI				LR	LR		
	comp=E,270nm,15.0s						
KMI				LR	LR		
	comp=Z,390nm,26.6s						
BLDU	**Ballidu**	**34.53**	**198**	P	**P**	**22 11 16.0**	**-1.2**
	baz=35,SNR=14						
EIDS	**Eidsvold**	**34.99**	**143**	*e*P	**P**	**22 11 22.4**	**+1.2**
	comp=Z,80nm,0.8s						
EIDS	**Eidsvold**	**34.99**	**143**	P	**P**	**22 11 22.4**	**+1.2**
	baz=35,SNR=22						
KSAR	**Wonju Array Be**	**35.09**	**359**	P	**P**	**22 11 22.4**	**+0.6**
KSAR				pP	**pP**	**22 11 36.4**	**-0.7**
KSAR				ScP	**ScP**	**22 17 33.0**	**-0.1**
KSRS	**Korea Array**	**35.10**	**359**	P	**P**	**22 11 22.4**	**+0.5**
	comp=Z,15nm,0.5s,baz=174,slow=9.6,SNR=21						
KSRS				pP	**pP**	**22 11 36.4**	**-0.8**
	comp=Z,29nm,0.9s,baz=175,slow=10,SNR=9.9						
KSRS				ScP	**ScP**	**22 17 33.0**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=187,slow=4.3,SNR=6.9						
KLBR	**Kellerberrin**	**35.14**	**196**	P	**P**	**22 11 21.4**	**-1.1**
	baz=35,SNR=10						
MAT	**Matsushiro**	**35.32**	**13**	P	**P**	**22 11 22.3**	**-1.6**
MAT				S	S	22 17 05.0	+11
TIA	**Tai'an**	**35.48**	**344**	⇓P	**P**	**22 11 26.3**	**+1.0**
BBOO	**Buckleboo**	**35.51**	**169**	*e*P	**P**	**22 11 25.9**	**+0.3**
	comp=Z,2μm,1.4s						
BBOO	**Buckleboo**	**35.51**	**169**	P	**P**	**22 11 26.3**	**+0.7**
	baz=36,SNR=7.3						
STKA	**Stephens Creek**	**36.05**	**161**	P	**P**	**22 11 30.8**	**+0.6**
STKA	**Stephens Creek**	**36.05**	**161**	P	**P**	**22 11 30.8**	**+0.6**
	comp=Z,154nm,0.8s,baz=334,slow=8.5,SNR=25						
STKA				LR	LR	22 27 20.0	
	comp=Z,280nm,20.8s,baz=109,slow=38						
STKA	**Stephens Creek**	**36.05**	**161**	P	**P**	**22 11 31.5**	**+1.3**
	baz=36,SNR=22						
NWAO	**Narrogin (SRO)**	**36.54**	**196**	*e*P	**P**	**22 11 33.7**	**-0.7**
	comp=Z,32nm,0.8s						
NWAO	**Narrogin (SRO)**	**36.54**	**196**	P	**P**	**22 11 34.8**	**+0.4**
	comp=Z,32nm,0.7s,baz=17,slow=9.1,SNR=7.5						
XAN	**Xi'an**	**36.64**	**332**	P	**P**	**22 11 34.8**	**-0.5**
XAN				pP	**pP**	**22 11 51.0**	**+0.5**
XAN				sP	**sP**	**22 11 59.3**	**+1.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CD2	**Chengdu**	**36.99**	**323**	*e*P	**P**	**22 11 39.8**	**+1.5**
CD2				pP	**pP**	**22 11 54.8**	**+1.2**
CD2				sP	**sP**	**22 12 01.8**	**+1.1**
CD2				PP	**PnPn**	**22 13 08.0**	**+3.5**
CD2				PcP	**PcP**	**22 14 00.0**	**+1.6**
CD2				S	**S**	**22 17 21.3**	**+1.7**
CD2				sS	**sS**	**22 17 46.8**	**+1.3**
CD2				ScS	**ScS**	**22 21 46.8**	**-1.1**
CD2				pmax	pmax		
	comp=Z,40nm,1.6s						
CD2				pmax	pmax		
	comp=Z,160nm,6.2s						
CD2				LR	LR		
	comp=N,380nm,18.2s						
CD2				LR	LR		
	comp=E,250nm,18.2s						
CD2				LR	LR		
	comp=Z,410nm,16.2s						
CMSA	**Cobar Meteorol**	**37.26**	**156**	P	**P**	**22 11 41.9**	**+1.4**
	baz=37,SNR=6.6						
RKGY	**Rocky Gully**	**38.20**	**196**	P	**P**	**22 11 48.7**	**+0.3**
	baz=38,SNR=7.0						
ARMA	**Armidale**	**39.16**	**148**	*e*P	**P**	**22 11 57.5**	**+0.9**
	comp=Z,82nm,0.8s						
ARMA	**Armidale**	**39.16**	**148**	P	**P**	**22 11 58.5**	**+1.8**
	baz=39,SNR=5.4						
BJI	**Beijing**	**39.33**	**345**	P	**P**	**22 12 00.3**	**+2.5**
BJI				S	**S**	**22 17 59.8**	**+5.2**
BJI				pmax	pmax		
	comp=Z,58nm,0.9s						
BJI				pmax	pmax		
	comp=Z,110nm,3.9s						
BJI				LR	LR		
	comp=N,210nm,13.5s						
BJI				LR	LR		
	comp=E,360nm,22.7s						
BJI				LR	LR		
	comp=Z,200nm,29.3s						
ARPS	**Mount Arapiles**	**40.67**	**164**	P	**P**	**22 12 10.7**	**+1.8**
	baz=41,SNR=20						
LZH	**Lanzhou**	**40.78**	**329**	*e*P	**P**	**22 12 11.0**	**+0.9**
LZH				pP	**pP**	**22 12 25.8**	**+0.3**
LZH				sP	**sP**	**22 12 31.8**	**-0.8**
LZH				PP	**PnPn**	**22 13 53.0**	**+3.3**
LZH				PcP	**PcP**	**22 14 09.0**	**-1.4**
LZH				*e*S	**S**	**22 18 17.3**	**+0.6**
LZH				sS	**sS**	**22 18 42.5**	**-0.4**
LZH				pmax	pmax		
	comp=Z,50nm,1.1s						
LZH				pmax	pmax		
	comp=Z,180nm,4.7s						
LZH				LR	LR		
	comp=N,390nm,13.6s						
LZH				LR	LR		
	comp=E,270nm,14.4s						
LZH				LR	LR		
	comp=Z,810nm,15.0s						
YNG	**Young**	**40.79**	**155**	P	**P**	**22 12 12.0**	**+2.0**
	baz=41,SNR=9.2						
VLA	**Vladivostok**	**40.86**	**4**	*i* P	**P**	**22 12 11.3**	**+0.9**
VLA				pmax	pmax		
	comp=Z,54nm,1.0s						
HHC	**Hu-ho-hao-te**	**41.46**	**340**	*e*P	**P**	**22 12 15.5**	**0.0**
HHC				pP	**pP**	**22 12 30.8**	**-0.2**
HHC				sP	**sP**	**22 12 38.0**	**0.0**
HHC				PP	**PnPn**	**22 13 56.5**	**-0.9**
HHC				S	**S**	**22 18 27.5**	**+1.0**
HHC				sS	**sS**	**22 18 53.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,46nm,0.8s						
HHC				pmax	pmax		
	comp=Z,250nm,4.6s						
HHC				LR	LR		
	comp=N,450nm,14.7s						
HHC				LR	LR		
	comp=E,570nm,14.1s						
HHC				LR	LR		
	comp=Z,720nm,14.1s						
CN2	**Changchun**	**41.53**	**357**	*e*P	P	22 12 19.3	+3.4
CN2				*es*P	sP	22 12 41.3	+2.8
CN2				*e*S	**S**	**22 18 31.5**	**+4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,800nm,19.0s						
ERM	**Erimo**	**41.75**	**16**	*i* P	**P**	**22 12 19.2**	**+1.5**
ERM				pmax	pmax		
	comp=Z,38nm,1.2s						
CAN	**Canberra**	**41.91**	**155**	*e*P	**P**	**22 12 19.2**	**-0.1**
CAN				pmax	pmax		
	comp=Z,51nm,1.1s						
CAN	**Canberra**	**41.91**	**155**	*e*P	**P**	**22 12 19.1**	**-0.1**
	comp=Z,50nm,1.1s						
USRK	**Ussuriysk Arra**	**41.94**	**4**	P	**P**	**22 12 20.1**	**+0.9**
	comp=Z,46nm,0.8s,baz=186,slow=7.6,SNR=18						
MDJ	**Mudanjiang**	**42.26**	**1**	P	**P**	**22 12 22.5**	**+0.7**
MDJ				pP	**pP**	**22 12 36.0**	**-1.4**
MDJ				sP	**sP**	**22 12 40.8**	**-3.6**
MDJ				PP	**PP**	**22 14 01.3**	**+0.5**
MDJ				ScP	**ScP**	**22 18 01.8**	**+1.4**
MDJ				PcS	**PcS**	**22 18 08.0**	**+1.4**
MDJ				S	**S**	**22 18 43.3**	**+5.3**
MDJ				pmax	pmax		
	comp=Z,40nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,85nm,4.2s						
MDJ				LR	LR		
	comp=N,170nm,11.4s						
MDJ				LR	LR		
	comp=E,100nm,7.2s						
MDJ				LR	LR		
	comp=Z,270nm,11.7s						
MDJ	**Mudanjiang**	**42.26**	**1**	*e*P	**P**	**22 12 21.9**	**0.0**
	comp=Z,46nm,1.1s						
MDJ				*e*pP	**pP**	**22 12 36.7**	**-0.6**
TOO	**Toolangi**	**42.54**	**160**	P	**P**	**22 12 26.5**	**+2.2**
	baz=43,SNR=8.0						
ASAJ	**Asahikawa**	**43.56**	**15**	*e*P	**P**	**22 12 33.9**	**+1.6**
ASAJ	**Asahikawa**	**43.56**	**15**	P	**P**	**22 12 33.7**	**+1.4**
	comp=Z,35nm,0.6s,baz=235,slow=11,SNR=11						
LSA	**Lhasa**	**44.86**	**311**	*e*P	**P**	**22 12 44.3**	**+0.7**
LSA	**Lhasa**	**44.86**	**311**	*e*P	**P**	**22 12 44.3**	**+0.7**
GTA	**Gaotai**	**45.38**	**328**	P	**P**	**22 12 47.5**	**+0.3**
GTA				pP	**pP**	**22 13 02.5**	**-0.3**
GTA				sP	**sP**	**22 13 10.0**	**+0.2**
GTA				ScP	**ScP**	**22 18 12.5**	**-0.9**
GTA				S	**S**	**22 19 24.0**	**0.0**
GTA				sS	**sS**	**22 19 51.3**	**+0.8**
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
GTA				pmax	pmax		
	comp=Z,120nm,7.6s						
GTA				LR	LR		
	comp=N,240nm,25.7s						
GTA				LR	LR		
	comp=E,250nm,24.7s						
GTA				LR	LR		
	comp=Z,540nm,29.0s						
YSS	**Yuzh-Sakhalins**	**46.26**	**13**	⇑*i* P	**P**	**22 12 55.6**	**+1.8**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
TAPN	**Taplejung**	**46.43**	**307**	*e*P	**P**	**22 12 56.3**	**+0.4**
	comp=Z,345nm,1.0s						
ODAN	**Odare**	**46.48**	**306**	*e*P	**P**	**22 12 56.8**	**+0.6**
	comp=Z,465nm,0.8s						
VIS	**Vishakhapatnam**	**47.02**	**292**	*i* S	**P**	**22 13 01.8**	**+1.6**
RAMN	**Ramite**	**47.16**	**305**	*e*P	**P**	**22 13 02.2**	**+0.7**
	comp=Z,513nm,0.8s						
JIRN	**Jiri**	**47.79**	**306**	*e*P	**P**	**22 13 07.2**	**+0.7**
	comp=Z,255nm,0.7s						
GUN	**Gumba**	**48.14**	**306**	*e*P	**P**	**22 13 09.7**	**+0.5**
	comp=Z,306nm,0.5s						
PKI	**Pulchoki**	**48.38**	**306**	*e*P	**P**	**22 13 11.2**	**+0.1**
	comp=Z,131nm,0.7s						
PKIN	**Phulchoki**	**48.40**	**306**	*e*P	**P**	**22 13 11.1**	**0.0**
KKN	**Kakani**	**48.58**	**306**	*e*P	**P**	**22 13 12.6**	**+0.2**
	comp=Z,157nm,0.7s						
DMN	**Daman**	**48.65**	**306**	*e*P	**P**	**22 13 13.3**	**+0.3**
	comp=Z,234nm,0.9s						
ULN	**Ulaanbaatar**	**49.17**	**341**	P	pP	22 13 32.4	+0.1
SONM	**Songino Array**	**49.36**	**340**	P	**P**	**22 13 17.6**	**-0.3**
SONM				pP	**pP**	**22 13 32.6**	**-1.1**
SONM				ScP	**ScP**	**22 18 28.7**	**-1.2**
SONM	**Songino Array**	**49.36**	**340**	P	**P**	**22 13 17.6**	**-0.3**
	comp=Z,7.4nm,0.7s,baz=154,slow=6.7,SNR=7.6						
SONM				pP	**pP**	**22 13 32.6**	**-1.1**
	comp=Z,8.7nm,0.7s,baz=153,slow=7.1,SNR=5.6						
SONM				ScP	**ScP**	**22 18 28.7**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=164,slow=4.1,SNR=6.2						
SONM				LR	LR	22 34 48.2	
	comp=Z,245nm,21.6s,baz=157,slow=37						
KOLN	**Koldanda**	**49.94**	**305**	*e*P	**P**	**22 13 23.4**	**+0.6**
	comp=Z,249nm,0.7s						
DANN	**Dangsing**	**50.03**	**306**	*e*P	**P**	**22 13 23.9**	**+0.3**
	comp=Z,254nm,0.7s						
HYB	**Hyderabad**	**51.40**	**291**	*i* P	**P**	**22 13 33.0**	**-0.7**
TLY	**Talaya**	**53.58**	**341**	*e*P	**pP**	**22 14 05.6**	**+0.3**
TLY				pmax	pmax		
	comp=Z,11nm,1.1s						
TLY				MLR	MLR		
	comp=Z,81nm,19.0s						
WMQ	**Urumqi**	**55.06**	**325**	P	**P**	**22 14 00.3**	**+0.1**
WMQ				sP	**sP**	**22 14 23.0**	**-0.2**
WMQ				PcP	**PcP**	**22 15 00.5**	**-0.6**
WMQ				PP	**PP**	**22 16 05.8**	**+1.8**
WMQ				S	**S**	**22 21 36.3**	**-2.0**
WMQ				sS	**sS**	**22 22 03.0**	**-2.5**
WMQ				ScS	**ScS**	**22 23 40.5**	**-3.6**
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.7s						
WMQ				LR	LR		
	comp=N,660nm,28.0s						
WMQ				LR	LR		
	comp=E,420nm,28.0s						
WMQ				LR	LR		
	comp=Z,380nm,30.0s						
PEA0B	**Petropavlovsk-**	**56.17**	**21**	*e*P	**P**	**22 14 08.3**	**+0.3**
PETK	**Petropavlovsk-**	**56.17**	**21**	P	**P**	**22 14 09.4**	**+1.4**
PETK	**Petropavlovsk-**	**56.17**	**21**	P	**P**	**22 14 09.4**	**+1.4**
PETK	**Petropavlovsk-**	**56.17**	**21**	P	**P**	**22 14 09.4**	**+1.4**
	comp=Z,36nm,0.7s,baz=182,slow=5.1,SNR=15						
PET	**Petropavlovsk**	**56.45**	**21**	*e*P	**P**	**22 14 10.2**	**+0.3**
PET				pmax	pmax		
	comp=Z,58nm,1.2s						
HVS	**Khovu-Aksy**	**56.92**	**335**	*ce*P	**P**	**22 14 13.2**	**-0.2**
HVS				pmax	pmax		
	comp=Z,79nm,0.9s						
YAK	**Yakutsk**	**59.70**	**1**	*e*P	**P**	**22 14 32.2**	**-0.3**
YAK				*e**PP	**pP**	**22 14 49.9**	**+1.2**
YAK				*e*		22 15 20.1	
YAK				*e*		22 16 42.5	
YAK				*e*S	**S**	**22 22 35.8**	**-2.7**
YAK				*e*		22 24 16.2	
YAK				*e*SS	**SS**	**22 26 31.6**	**-3.6**
YAK				*e*SSS	SSS	22 29 07.9	
YAK				pmax	pmax		
	comp=N,15nm,1.2s						
YAK				pmax	pmax		
	comp=Z,51nm,1.0s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,162nm,4.2s						
YAK				pmax	pmax		
	comp=N,170nm,4.9s						
YAK				pmax	pmax		
	comp=E,56nm,2.7s						
YAK				smax	smax		
	comp=N,150nm,3.5s						
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**22 14 33.9**	**-0.2**
MKAR				*PP	**pP**	**22 14 48.9**	**-1.5**
MKAR				*SP	**sP**	**22 14 55.9**	**-1.3**
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**22 14 33.9**	**-0.2**
MKAR				pP	**pP**	**22 14 48.9**	**-1.5**
MKAR				sP	**sP**	**22 14 55.9**	**-1.3**
MKAR				ScP	**ScP**	**22 19 13.6**	**-2.3**
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**22 14 33.9**	**-0.2**
	comp=N,10nm,0.5s,baz=115,slow=7.6,SNR=8.6						
MKAR				pP	**pP**	**22 14 48.9**	**-1.5**
	comp=N,9.9nm,0.5s,baz=116,slow=8.4,SNR=3.7						
MKAR				sP	**sP**	**22 14 55.9**	**-1.3**
	comp=N,13nm,0.6s,baz=120,slow=7.6,SNR=3.9						
MKAR				ScP	**ScP**	**22 19 13.6**	**-2.3**
	comp=N,3.8nm,1.0s,baz=115,slow=5.8,SNR=4.2						
MKAR				LR	LR	22 40 21.6	
	comp=N,103nm,21.9s,baz=117,slow=36						
KSH	**Kashi**	**60.45**	**315**	P	P	22 14 44.8	+6.6
KSH				sP	sP	22 15 07.8	+6.4
KSH				PP	PP	22 17 00.8	+8.7
KSH				S	S	22 22 56.0	+6.8
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,120nm,4.9s						
KSH				LR	LR		
	comp=N,70nm,5.4s						
KSH				LR	LR		
	comp=E,120nm,4.9s						
KSH				LR	LR		
	comp=Z,150nm,6.0s						
BFZ	**Birch Farm**	**60.83**	**140**	*e*P	P	22 14 35.1	-5.5
	comp=Z,195nm,0.7s						
ZAA0	**Zalesovo Array**	**62.81**	**333**	*e*P	**P**	**22 14 51.8**	**-1.8**
ZALV	**Zalesovo Beam**	**62.81**	**333**	P	**P**	**22 14 51.6**	**-2.1**
ZALV	**Zalesovo Beam**	**62.81**	**333**	P	**P**	**22 14 51.5**	**-2.1**
ZALV	**Zalesovo Beam**	**62.81**	**333**	P	**P**	**22 14 51.5**	**-2.1**
	comp=Z,5.2nm,0.7s,baz=129,slow=6.0,SNR=5.5						
SEY	**Seymchan**	**63.13**	**12**	⇑*i* P	**P**	**22 14 57.5**	**+1.9**
KBL	**Kabul**	**63.94**	**308**	P	**P**	**22 15 01.5**	**-0.3**
	baz=64,SNR=3.5						
NIUE	**Niue**	**63.95**	**112**	P	P	22 14 53.8	-8.1
	baz=64,SNR=3.0						
DRV	**Dumont d'Urvil**	**69.18**	**175**	P	P	22 15 31.0	-3.2
TIXI	**Tiksi**	**69.36**	**0**	*i* P	**P**	**22 15 35.7**	**+0.4**
CASY	**Casey**	**69.53**	**188**	*e*P	**P**	**22 15 35.2**	**-1.2**
	comp=Z,31nm,0.6s						
BRVK	**Borovoye**	**69.70**	**327**	*c i*P	**P**	**22 15 37.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,29nm,1.0s						
AKTO	**Aktyubinsk**	**76.02**	**322**	P	**P**	**22 16 13.7**	**-1.6**
AKTO	**Aktyubinsk**	**76.02**	**322**	P	**P**	**22 16 13.7**	**-1.6**
AKTO	**Aktyubinsk**	**76.02**	**322**	P	**P**	**22 16 13.7**	**-1.6**
	comp=Z,9.8nm,0.8s,baz=103,slow=8.6,SNR=3.6						
SVE	**Sverdlovsk**	**76.25**	**328**	⇑*i* P	**P**	**22 16 15.9**	**-0.5**
SVE				pmax	pmax		
	comp=Z,28nm,0.8s						
ARU	**Arti**	**77.23**	**328**	*d i*P	**P**	**22 16 20.7**	**-1.3**
ARU				*PP	**pP**	**22 16 40.2**	**+1.4**
ARU						22 19 12.4	
ARU				S	**S**	**22 26 04.9**	**-1.9**
ARU				SS	**SS**	**22 30 59.0**	**-6.8**
ARU				pmax	pmax		
	comp=Z,11nm,0.6s						
SVW2	**Sparrevohn**	**81.25**	**28**	*e*P	**P**	**22 16 45.6**	**+1.8**
VNDA	**Vanda**	**81.67**	**173**	P	**P**	**22 16 45.4**	**-0.4**
VNDA	**Vanda**	**81.67**	**173**	P	**P**	**22 16 45.4**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=320,slow=6.8,SNR=8.5						
KDAK	**Kodiak Island**	**82.19**	**32**	P	**P**	**22 16 50.9**	**+2.1**
	comp=Z,299nm,0.6s,SNR=9.6						
SPU	**Mount Spurr**	**82.95**	**29**	*e*P	**P**	**22 16 54.2**	**+1.4**
MAW	**Mawson**	**82.97**	**201**	P	**P**	**22 16 52.3**	**-0.3**
MAW				pP	**pP**	**22 17 09.2**	**-0.5**
MAW	**Mawson**	**82.97**	**201**	P	**P**	**22 16 52.3**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=66,slow=8.3,SNR=6.5						
MAW				pP	**pP**	**22 17 09.2**	**-0.5**
	comp=Z,8.2nm,0.9s,baz=98,slow=6.1,SNR=3.9						
MAW	**Mawson**	**82.97**	**201**	P	**P**	**22 16 52.5**	**-0.1**
	baz=83,SNR=4.9						
IMA2	**Indian Mountai**	**83.03**	**24**	*e*P	**P**	**22 16 54.7**	**+1.6**
BPAW	**Bear Paw Mtn.**	**83.85**	**26**	*e*P	**P**	**22 16 57.4**	**+0.1**
	comp=Z,19nm,1.1s						
TRF	**Thorofare Moun**	**84.07**	**27**	*e*P	**P**	**22 16 58.1**	**-0.6**
	comp=Z,18nm,1.0s						
PMR	**Palmer**	**84.40**	**28**	*e*P	**P**	**22 17 00.7**	**+0.6**
PMR	**Palmer**	**84.40**	**28**	*e*P	**P**	**22 17 00.7**	**+0.6**
MCK	**McKinley**	**84.70**	**26**	*e*P	**P**	**22 17 01.7**	**0.0**
MCK				pmax	pmax		
	comp=Z,22nm,1.0s						
MCK	**McKinley**	**84.70**	**26**	*e*P	**P**	**22 17 01.7**	**0.0**
	comp=Z,22nm,1.0s						
SML	**Sawmill**	**84.80**	**28**	*e*P	**P**	**22 17 02.5**	**+0.3**
SML	**Sawmill**	**84.80**	**28**	*e*P	**P**	**22 17 02.5**	**+0.3**
COLA	**College**	**85.28**	**25**	*i* P	**P**	**22 17 05.6**	**+1.2**
KBZ	**Khabaz**	**85.39**	**314**	P	**P**	**22 17 04.2**	**-1.2**
KBZ	**Khabaz**	**85.39**	**314**	P	**P**	**22 17 04.2**	**-1.2**
KBZ	**Khabaz**	**85.39**	**314**	P	**P**	**22 17 04.2**	**-1.2**
	comp=Z,4.6nm,0.8s,baz=156,slow=1.6,SNR=5.0						
KIV	**Kislovodsk**	**85.55**	**314**	*e*P	**P**	**22 17 05.6**	**-0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,52nm,19.0s						
ILAR	**Eielson Array**	**85.69**	**25**	P	**P**	**22 17 05.3**	**-1.2**
ILAR	**Eielson Array**	**85.69**	**25**	P	**P**	**22 17 05.3**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=248,slow=5.3,SNR=12						
DIV	**Divide**	**85.98**	**29**	*e*P	**P**	**22 17 09.0**	**+0.9**
	comp=Z,22nm,0.8s						
ARTV	**Artvin**	**86.07**	**311**	*i* S	**P**	**22 17 10.0**	**+0.8**
DAGI	**Agillar**	**86.08**	**311**	*i* S	**P**	**22 17 09.7**	**+0.6**
DDEM	**Demirkent**	**86.20**	**311**	*i* S	**P**	**22 17 10.7**	**+1.0**
VSR	**Storozhevoye**	**87.96**	**321**	*i* P	**P**	**22 17 15.5**	**-2.3**
ANN	**Anapa**	**89.31**	**315**	*e*P	P	22 17 14.9	-9.4
ANN				*e*		22 17 32.3	
ANN				pmax	pmax		
	comp=Z,15nm,0.8s						
OBN	**Obninsk**	**89.39**	**325**	*i* P	**P**	**22 17 23.2**	**-1.2**
OBN				*e*		22 17 34.4	
OBN				*e*		22 17 40.2	
OBN				*e*PS	**PS**	**22 29 25.4**	**+3.0**
OBN				*e*SS	SS	22 34 08.1	+2.5
OBN				pmax	pmax		
	comp=Z,15nm,1.3s						
APA	**Apatity**	**89.99**	**338**	⇑*e*P	**pP**	**22 17 40.0**	**-4.2**
APA				MLR	MLR		
	comp=Z,1μm,12.0s						
ASF	**Jabal al Asfar**	**90.30**	**302**	P	**P**	**22 17 28.9**	**-0.5**
ASF	**Jabal al Asfar**	**90.30**	**302**	P	**P**	**22 17 28.9**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=138,slow=1.4,SNR=4.7						
KMBO	**Kilima Mbogo**	**91.39**	**269**	P	**P**	**22 17 35.1**	**+0.1**
KMBO	**Kilima Mbogo**	**91.39**	**269**	P	**P**	**22 17 35.1**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=48,slow=8.7,SNR=5.2						
MMAI	**Mount Meron Ar**	**91.51**	**303**	P	**P**	**22 17 34.5**	**-0.5**
MMAI	**Mount Meron Ar**	**91.51**	**303**	P	**P**	**22 17 34.5**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=299,slow=17,SNR=4.2						
QSPA	**South Pole Qui**	**92.10**	**180**	P	**P**	**22 17 36.2**	**-0.8**
QSPA	**South Pole Qui**	**92.10**	**180**	P	**P**	**22 17 36.2**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=261,slow=2.9,SNR=9.6						
BRTR	**Keskin Array B**	**92.44**	**310**	P	**P**	**22 17 37.0**	**-2.2**
BRTR				PP	**PP**	**22 21 23.7**	**+2.9**
BRTR	**Keskin Array B**	**92.44**	**310**	P	**P**	**22 17 37.0**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=67,slow=3.7,SNR=2.7						
BRTR				PP	**PP**	**22 21 23.7**	**+2.9**
	comp=Z,3.3nm,1.0s,baz=101,slow=5.2,SNR=7.4						
ARCES	**ARCESS Array B**	**92.53**	**340**	P	**P**	**22 17 37.3**	**-1.5**
ARCES	**ARCESS Array B**	**92.53**	**340**	P	**P**	**22 17 37.3**	**-1.5**
	comp=Z,5.6nm,0.6s,baz=84,slow=6.2,SNR=16						
FINES	**FINESS Array B**	**94.07**	**332**	P	**P**	**22 17 44.4**	**-1.6**
FINES	**FINESS Array B**	**94.07**	**332**	P	**P**	**22 17 44.4**	**-1.6**
	comp=Z,1.6nm,0.5s,baz=66,slow=4.8,SNR=8

*IDC **30** 22:09:16.9±5.9, 31°.69S×179°.55W, h200km±51km, mb4.1/3, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/25, Error ellipse: s-maj=52.6km s-min=26.7km az=17.0*
*ISCJB **30** 22:09:17.4±1.2, 31°.79S±0°.10×179°.8W±0°.2, h200km, mb4.3/3, Error ellipse: s-maj=24.7km s-min=13.8km az=0.6*

ISC 30 22:09:17.0±1.0, 31°.7S±0°.1×179°.6W±0°.2, h200km, n19, σ1°09/19, mb4.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.03**	**201**	P	**Pn**	**22 10 58.1**	**+0.6**
	3.4nm,0.3s,baz=296,slow=20,SNR=14						
URZ				S	**Sn**	**22 12 15.2**	**-2.2**
	9.0nm,0.3s,baz=220,slow=22,SNR=9.9						
STKA	**Stephens Creek**	**32.84**	**259**	P	**P**	**22 15 33.2**	**+1.4**
	2.6nm,0.6s,baz=106,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**41.67**	**269**	P	**P**	**22 16 46.5**	**+0.4**
	6.5nm,0.5s,baz=107,slow=7.5,SNR=36						
ASAR				LR	LR	22 33 21.4	
	comp=Z,158nm,21.6s,baz=32,slow=35						
WRA	**Warramunga Arr**	**42.78**	**274**	P	**P**	**22 16 54.9**	**-0.2**
	7.6nm,0.4s,baz=113,slow=7.9,SNR=16						
SNAA	**Sanae**	**76.85**	**179**	*e*P	**P**	**22 20 47.4**	**+1.0**
VNA2	**Neumayer--Watz**	**77.47**	**177**	*e*P	**P**	**22 20 51.4**	**+1.6**
VNA1	**Neumayer--Stat**	**77.71**	**177**	*e*P	**P**	**22 20 52.7**	**+1.6**
MKAR	**Makanchi Array**	**117.56**	**310**	PKP	**PKPdf**	**22 27 37.9**	**-0.8**
	0.4nm,0.6s,baz=191,slow=1.4,SNR=6.0						
ZALV	**Zalesovo Beam**	**118.10**	**318**	PKP	**PKPdf**	**22 27 38.7**	**-0.8**
	0.3nm,0.3s,baz=108,slow=4.7,SNR=3.5						
BVAR	**Borovoye Array**	**126.38**	**315**	PKP	**PKPdf**	**22 27 55.6**	**+0.1**
	0.7nm,0.4s,baz=119,slow=2.6,SNR=7.4						
AKTO	**Aktyubinsk**	**133.96**	**311**	PKP	**PKPdf**	**22 28 08.3**	**-1.6**
	0.8nm,0.5s,baz=74,slow=7.4,SNR=3.1						
ARCES	**ARCESS Array B**	**139.59**	**347**	PKhKP	PKPpre	22 28 13.7	
	2.1nm,0.8s,baz=50,slow=2.7,SNR=6.0						
JOF	**Joensuu**	**143.13**	**337**	*e*p	PKPab	22 28 22.7	+0.4
	1.3nm,0.3s						
KAF	**Kangasniemi**	**145.32**	**339**	*e*p	**PKPdf**	**22 28 30.1**	**0.0**
	3.3nm,0.3s						
FINES	**FINESS Array B**	**145.90**	**338**	PKPbc	**PKPbc**	**22 28 31.9**	**-0.3**
	5.1nm,0.4s,baz=63,slow=4.1,SNR=60						
NOA	**NORSAR Array B**	**149.84**	**350**	PKPbc	**PKPbc**	**22 28 42.3**	**-0.3**
	0.9nm,0.4s,baz=15,slow=4.1,SNR=3.5						
HFS	**Hagfors**	**150.25**	**347**	PKPbc	**PKPbc**	**22 28 43.0**	**-0.6**
	1.2nm,0.3s,baz=76,slow=2.3,SNR=22						
BRTR	**Keskin Array B**	**151.97**	**296**	PKPbc	**PKPbc**	**22 28 47.8**	**-0.7**
	0.6nm,0.5s,baz=149,slow=4.2,SNR=4.9						
BRTR				PKPab	**PKPab**	**22 28 57.8**	**-0.8**
	0.5nm,0.8s,baz=107,slow=5.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**161.45**	**184**	PKPab	**PKPab**	**22 29 39.4**	**-0.2**
	0.3nm,0.6s,baz=182,slow=3.6,SNR=5.7						

*IDC **30** 22:16:29.1±1.6, 33°.18N×46°.41E, h0km, mb4.0/9, mb1 4.0/12, mb1mx3.8/28, mbtmp3.8/12, ML3.4/3, MS2.7/3, Ms1 2.7/3, ms1mx2.3/37, Error ellipse: s-maj=33.2km s-min=20.2km az=5.0*
*TEH **30** 22:16:30.7, 33°.13N×46°.18E, h10km, ML3.7*
*ISCJB **30** 22:16:31.0±0.6, 33°.09N±0°.03×46°.21E±0°.03, h26km±5km, mb4.1/13, MS2.7/1, Error ellipse: s-maj=5.7km s-min=4.1km az=5.5*
*CSEM **30** 22:16:31.7±0.2, 33°.18N×46°.39E, h5km, ML3.7, Error ellipse: s-maj=6.6km s-min=4.0km az=72.0*

ISC 30 22:16:31.1±1.1, 33°.16N±0°.04×46°.25E±0°.03, h13km±7km, n73, σ1°34/85, mb4.0/13, 6C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.28**	**261**	*e*Pg	**Pg**	**22 16 36.0**	**-0.9**
IBDR				*i* Sg	**Sg**	**22 16 41.0**	**+0.3**
IGHG	**Ghaleghazi**	**1.20**	**13**	*e*Pg	**Pn**	**22 16 53.2**	**-0.7**
IGHG				*e*Sg	**Sb**	**22 17 09.6**	**+0.2**
IGHG				*e*		22 17 20.4	
	comp=Z,34μm,0.2s						
IGHG	**Ghaleghazi**	**1.20**	**13**	*e*Pg	**Pn**	**22 16 53.2**	**-0.7**
IGHG				*e*Sg	**Sb**	**22 17 09.6**	**+0.2**
IVIS	**Veis**	**1.45**	**20**	*e*Pn	**Pb**	**22 16 58.0**	**-0.1**
IVIS				*e*Sg	**Sb**	**22 17 17.3**	**+0.7**
IVIS				*e*		22 17 20.9	
	comp=Z,25μm,0.2s						
IVIS	**Veis**	**1.45**	**20**	*e*Pn	**Pb**	**22 16 58.0**	**-0.1**
IVIS				*e*Sg	**Sb**	**22 17 17.3**	**+0.7**
IKOM	**Komasi**	**1.46**	**46**	*e*Pn	**Pn**	**22 16 56.7**	**-0.7**
IKOM				*e*Sg	**Sg**	**22 17 18.7**	**+0.5**
IKOM				*e*		22 17 19.9	
	comp=Z,58μm,0.3s						
IKOM	**Komasi**	**1.46**	**46**	*e*Pn	**Pn**	**22 16 56.7**	**-0.7**
IDHR	**Dehrash**	**1.54**	**4**	*e*Pn	**Pn**	**22 16 59.3**	**+0.7**
IDHR				*e*Sg	**Sb**	**22 17 20.4**	**+1.1**
IDHR				*e*		22 17 23.3	
	comp=Z,4μm,0.3s						
IDHR	**Dehrash**	**1.54**	**4**	*e*Pn	**Pn**	**22 16 59.3**	**+0.7**
IDHR				*e*Sg	**Sb**	**22 17 20.4**	**+1.1**
BHD	**Baghdad**	**1.57**	**275**	*i* Pn	**Pn**	**22 16 58.0**	**-0.7**
BHD				*i* Sn	**Sn**	**22 17 18.0**	**-1.0**
BHD	**Baghdad**	**1.57**	**275**	*i* Pn	**Pn**	**22 16 58.0**	**-0.7**
BHD				*i* Sn	**Sn**	**22 17 18.0**	**-1.0**
SNGE	**Sanandaj**	**2.13**	**25**	*e*Pg	**Pn**	**22 17 08.0**	**+1.3**
KHMZ	**Khomeyn**	**3.15**	**78**	*e*Pn	**Pn**	**22 17 21.4**	**+0.7**
KHMZ				*e*Sg	**Sn**	**22 17 59.2**	**+0.9**
ASAO	**Ashtian**	**3.43**	**65**	*e*Pn	**Pn**	**22 17 25.0**	**+0.4**
ASAO				*e*Sg	**Sn**	**22 18 06.0**	**+0.8**
IMAH	**Mahabad**	**3.63**	**353**	*e*Pn	**Pn**	**22 17 30.0**	**+2.8**
IMAH	**Mahabad**	**3.63**	**353**	*e*Pn	**Pn**	**22 17 30.0**	**+2.8**
IRAZ	**Razeghan**	**3.78**	**53**	*e*Pn	**Pn**	**22 17 30.0**	**+0.7**
IRAZ				*e*		22 18 21.5	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**3.78**	**53**	*e*Pn	**Pn**	**22 17 30.0**	**+0.7**
UMR	**Umm Al-Rimmam**	**3.80**	**160**	*e*P	**Pn**	**22 17 30.8**	**+1.4**
UMR	**Umm Al-Rimmam**	**3.80**	**160**	*e*P	**Pn**	**22 17 30.8**	**+1.4**
NAY	**Al-Naaiem**	**3.99**	**167**	*e*P	**Pn**	**22 17 33.1**	**+1.2**
NAY				AML	AML	22 18 32.3	
	comp=Z,0.8nm,0.7s						
NAY	**Al-Naaiem**	**3.99**	**167**	*e*P	**Pn**	**22 17 33.1**	**+1.2**
RDF	**Al-Radifah**	**4.36**	**165**	*e*P	**Pn**	**22 17 38.9**	**+1.8**
RDF				AML	AML	22 18 33.5	
	comp=Z,36nm,0.5s						
RDF	**Al-Radifah**	**4.36**	**165**	*e*P	**Pn**	**22 17 38.9**	**+1.8**
GHVR	**GHOM**	**4.40**	**71**	*e*Pn	**Pn**	**22 17 37.5**	**-0.2**
IMHD	**Mahdasht**	**4.44**	**54**	*e*Pn	**Pn**	**22 17 38.6**	**+0.4**
IMHD				*e*		22 17 55.8	
	comp=Z,620nm,0.3s						
IMHD	**Mahdasht**	**4.44**	**54**	*e*Pn	**Pn**	**22 17 38.6**	**+0.4**
IKLH	**Kolahrood**	**4.47**	**86**	*e*Pn	**Pn**	**22 17 39.1**	**+0.3**
IKLH				*e*		22 17 40.9	
	comp=Z,637nm,0.3s						
IKLH	**Kolahrood**	**4.47**	**86**	*e*Pn	**Pn**	**22 17 39.1**	**+0.3**
IGZV	**Ghazvin**	**4.59**	**44**	*e*Pn	**Pn**	**22 17 41.1**	**+0.7**
IGZV				*e*		22 18 36.7	
	comp=Z,702nm,0.3s						
IGZV	**Ghazvin**	**4.59**	**44**	*e*Pn	**Pn**	**22 17 41.1**	**+0.7**
THKV	**Tehran--Karaj**	**4.71**	**53**	*e*Pn	**Pn**	**22 17 42.4**	**+0.4**
HAKT	**HAKKARI**	**4.86**	**335**	*i* P	**Pn**	**22 17 46.6**	**+2.4**
HAKT				*i* S	**Sn**	**22 18 42.2**	**+1.8**
HAKT	**HAKKARI**	**4.86**	**335**	*i* P	**Pn**	**22 17 46.6**	**+2.4**
HAKT				*i* S	**Sn**	**22 18 42.2**	**+1.8**
CHTH	**Charan**	**4.87**	**54**	*e*Pn	**Pn**	**22 17 44.2**	**-0.1**
IGAR	**Gharneh**	**4.93**	**97**	*e*Pn	**Pn**	**22 17 45.2**	**0.0**
IGAR				*e*		22 18 46.1	
	comp=Z,337nm,0.2s						
IZEF	**Zefreh**	**5.11**	**91**	*e*Pn	**Pn**	**22 17 47.8**	**+0.2**
IZEF				*e*		22 19 26.4	
	comp=Z,317nm,0.6s						
IZEF	**Zefreh**	**5.11**	**91**	*e*Pn	**Pn**	**22 17 47.8**	**+0.2**
GEVA	**Gevas**	**5.76**	**334**	*i* P	**Pn**	**22 17 58.5**	**+2.0**
GEVA				*i* S	**Sn**	**22 19 04.2**	**+1.6**
GEVA	**Gevas**	**5.76**	**334**	*i* P	**Pn**	**22 17 58.5**	**+2.0**
GEVA				*i* S	**Sn**	**22 19 04.2**	**+1.6**
MARD	**Mardin**	**6.11**	**314**	*i* P	**Pn**	**22 18 02.4**	**+1.2**
MARD				*i* S	**Sn**	**22 19 09.8**	**-1.2**
ASF	**Jabal al Asfar**	**7.95**	**265**	LR	LR	22 22 22.7	
	comp=Z,40nm,18.8s,baz=198,slow=44						
EIL	**Elat**	**10.26**	**253**	LR	LR	22 23 12.8	
	comp=Z,26nm,21.3s,baz=92,slow=39						
BRTR	**Keskin Array B**	**12.08**	**306**	Pn	**Pn**	**22 19 26.2**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=99,slow=8.9,SNR=2.2						
AKTO	**Aktyubinsk**	**19.32**	**23**	P	**P**	**22 20 55.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=207,slow=13,SNR=3.8						
MLR	**Muntele Rosu**	**19.90**	**314**	P	**Pn**	**22 21 03.9**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=187,slow=8.1,SNR=3.8						
TESR	**Tescani**	**20.04**	**317**	*i*P	Pn	22 21 05.2	-0.4
VOIR		**20.41**	**313**	*i*P	Pn	22 21 10.2	+0.1
BURAR	**Bucovina Array**	**21.48**	**318**	*i*P	**P**	**22 21 17.0**	**-2.4**
ATD	**Arta Tunnel**	**21.75**	**189**	LR	LR	22 30 44.8	
	comp=Z,28nm,18.6s,baz=211,slow=39						
GZR	**Gura Zlata**	**21.81**	**311**	*i*P	**P**	**22 21 23.3**	**+0.3**
DRGR		**22.50**	**314**	*i*P	**P**	**22 21 32.6**	**+2.2**
BZS	**Buzias**	**22.64**	**311**	*i*P	**P**	**22 21 27.9**	**-3.9**
BVAR	**Borovoye Array**	**26.33**	**34**	P	**P**	**22 22 06.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=224,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**30.51**	**53**	P	**P**	**22 22 43.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=242,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**31.16**	**341**	P	**P**	**22 22 49.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=128,slow=13,SNR=1.6						
SBF	**Sospel**	**31.94**	**301**	*e*P	**P**	**22 22 55.7**	**-0.9**
SBF	**Sospel**	**31.94**	**301**	*e*PKIKP	**P**	**22 22 55.7**	**-0.9**
SBF	**Sospel**	**31.94**	**301**	*e*P	**P**	**22 22 55.7**	**-0.9**
MBDF	**Montbardon**	**32.51**	**303**	*e*P	**P**	**22 23 01.3**	**-0.4**
	comp=Z,14nm,0.9s						
MBDF	**Montbardon**	**32.51**	**303**	*e*PKIKP	**P**	**22 23 01.3**	**-0.4**
MBDF	**Montbardon**	**32.51**	**303**	*e*P	**P**	**22 23 01.3**	**-0.4**
LPG	**La Plagne**	**32.63**	**304**	*e*P	**P**	**22 23 00.9**	**-2.0**
	comp=Z,2.9nm,0.5s						
LPG	**La Plagne**	**32.63**	**304**	*e*P	**P**	**22 23 00.9**	**-2.0**
LPL	**La Plagne**	**32.64**	**304**	*e*P	**P**	**22 23 00.6**	**-2.3**
	comp=Z,5.8nm,0.8s						
LPL	**La Plagne**	**32.64**	**304**	*e*P	**P**	**22 23 00.6**	**-2.3**
ZALV	**Zalesovo Beam**	**34.23**	**41**	P	**P**	**22 23 14.7**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=271,slow=9.0,SNR=4.0						
HFS	**Hagfors**	**34.40**	**332**	P	**P**	**22 23 17.4**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=134,slow=10,SNR=11						
SMF	**Signal de Mont**	**34.79**	**305**	*e*P	**P**	**22 23 20.4**	**-1.0**
	comp=Z,9.0nm,0.7s						
NOA	**NORSAR Array B**	**35.92**	**332**	P	**P**	**22 23 30.3**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=217,slow=8.9,SNR=2.3						
ARCES	**ARCESS Array B**	**38.24**	**348**	P	**P**	**22 23 50.8**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=164,slow=10.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**45.15**	**255**	P	**P**	**22 24 48.8**	**+1.2**
	comp=Z,1.4nm,1.0s,baz=48,slow=6.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**49.16**	**94**	P	**P**	**22 25 17.8**	**-1.2**
	comp=Z,3.0nm,0.3s,baz=268,slow=9.1,SNR=4.6						

FUNV 30 22:20:04.0, 6°.99N×72°.95W, h163km, MW3.6, 5C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.07**	**36**	↑*i*P	Pn	22 20 29.8	-1.1
CAPV				*e*S	Sn	22 20 49.9	-1.7
VIGV	**El Vigia**	**2.42**	**40**	↑*i*P	Pn	22 20 44.1	-0.8
VIGV				*e*S	Sn	22 21 13.5	-3.0
SOCV	**Socops**	**2.44**	**58**	↑*e*P	Pn	22 20 43.9	-1.2
SOCV				*e*S	Sn	22 21 13.6	-3.4
VIRV	**Villa del Rosa**	**3.53**	**9**	↑*e*P	Pn	22 20 56.5	-2.1
VIRV				*e*S	Sn	22 21 36.4	-4.7
SANV	**Sanarito**	**4.20**	**53**	*e*P	Pn	22 21 06.0	-1.4
CURV	**Curarigua**	**4.21**	**44**	*e*P	Pn	22 21 06.5	-1.1
DABV	**Dabajuro**	**4.53**	**30**	*e*P	Pn	22 21 10.8	-0.6
TEPV	**Terepaima**	**4.75**	**51**	↑*e*P	Pn	22 21 13.0	-1.4
SIQV	**Siquisique**	**4.78**	**40**	*e*P	Pn	22 21 13.6	-1.3
SIQV				*e*S	Sn	22 22 04.2	-6.1
BAUV	**El Baul**	**5.24**	**68**	*e*P	Pn	22 21 18.3	-2.5
MONV	**Montecano**	**5.74**	**31**	*e*P	Pn	22 21 25.9	-1.5
TURV	**Turiamo**	**6.11**	**55**	*e*P	Pn	22 21 30.3	-2.0
BIRV	**Birongo**	**7.46**	**62**	*e*P	Pn	22 21 48.3	-1.9
CUPV	**Cepira**	**7.71**	**66**	*e*P	Pn	22 21 50.5	-3.2

IDC 30 22:30:12.2±14.0, 12°.62N×94°.27E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.2/26, mbtmp3.4/5, Error ellipse: s-maj=315.2km s-min=64.9km az=129.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**35.53**	**346**	P	P	22 37 10.6	-0.4
	0.2nm,0.6s,baz=148,slow=8.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**40.02**	**344**	P	P	22 37 48.5	-0.4
	0.4nm,0.9s,baz=168,slow=7.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.91**	**352**	P	P	22 38 04.6	+0.3
	0.4nm,0.6s,baz=168,slow=7.4,SNR=3.4						
BRTR	**Keskin Array B**	**59.51**	**309**	P	P	22 40 17.9	+0.2
	0.6nm,0.5s,baz=117,slow=6.2,SNR=5.9						
GERES	**GERESS Array B**	**74.42**	**317**	P	P	22 41 52.2	-0.2
	0.5nm,0.7s,baz=74,slow=4.7,SNR=5.0						

GUC 30 23:10:45.5±0.5, 33°.41S×69°.32W, h5km±11km, MD3.7, ML3.0, 4C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCH	**Pirque**	**1.02**	**258**	↑*i*P	Pg	23 11 04.5	-0.8
PCH				*i* S	Sb	23 11 19.2	-0.5
ANTU	**Antumapu**	**1.11**	**261**	↓*i*P	Pg	23 11 06.0	-0.9
ANTU				*i* S	Sg	23 11 21.8	+0.3
ANTU				AML	AML	23 11 22.2	
	comp=N,756nm,0.3s						
SAN	**Santiago**	**1.12**	**267**	*e*P	Pg	23 11 06.6	-0.6
SAN				*i* S	Sb	23 11 22.4	-0.1
SAN				AML	AML	23 11 25.8	
	comp=N,185nm,0.5s						
PEL	**Peldehue**	**1.18**	**283**	↓*i*P	Pg	23 11 07.1	-1.0
PEL				*i* S	Sg	23 11 23.6	0.0
PEL				AML	AML	23 11 24.3	
	comp=N,1μm,0.3s						
CHCH	**Chadas Angostu**	**1.23**	**245**	↑*i*P	Pg	23 11 08.0	-1.2
CHCH				*i* S	Sg	23 11 25.1	-0.1
CACH	**El Canelo**	**1.28**	**236**	↓*i*P	Pn	23 11 08.9	-1.3
CACH				*i* S	Sb	23 11 27.2	0.0
JACH	**Jahuel**	**1.29**	**304**	↓*i*P	Pn	23 11 09.2	-1.2
JACH				*i* S	Sg	23 11 27.1	-0.3
TACH	**Talagante**	**1.38**	**259**	↑*i*P	Pn	23 11 10.3	-1.1
TACH				*i* S	Sb	23 11 29.1	-0.5
ROCH	**El Roble**	**1.49**	**287**	↑*i*P	Pn	23 11 12.7	-0.5
ROCH				*i* S	Sn	23 11 33.2	-0.1
ROCH				AML	AML	23 11 34.7	
	comp=N,525nm,0.5s						
LNV	**Longovilo**	**1.83**	**252**	↓*i*P	Pn	23 11 17.4	-0.2
PACH	**Papudo**	**1.98**	**295**	↓*i*P	Pb	23 11 21.1	-1.1
PACH				*i* S	Sb	23 11 47.3	0.0

IDC 30 23:11:37.3±1.9, 3°.17N×95°.84E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.4/26, mbtmp3.5/5, ML3.9/2, Error ellipse: s-maj=49.5km s-min=22.7km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.10**	**97**	Pn	Pn	23 12 27.6	-0.1
	6.6nm,0.3s,baz=304,slow=15,SNR=20						
PSI				Sn	Sn	23 13 08.2	+2.6
	8.0nm,0.3s,baz=74,slow=21,SNR=4.5						
CMAR	**Chiang Mai Arr**	**15.50**	**11**	Pn	Pn	23 15 18.9	+1.6
	0.3nm,0.3s,baz=197,slow=12,SNR=4.7						
CMAR				Sn	Sn	23 18 08.4	-1.5
	0.6nm,0.3s,baz=181,slow=27,SNR=7.8						
WRA	**Warramunga Arr**	**44.23**	**123**	P	P	23 19 48.3	-0.5
	0.6nm,0.6s,baz=302,slow=9.1,SNR=3.3						
MKAR	**Makanchi Array**	**45.02**	**347**	P	P	23 19 54.5	-0.2
	0.2nm,0.7s,baz=153,slow=8.1,SNR=2.9						
ASAR	**Alice Springs**	**45.66**	**128**	P	P	23 20 00.2	0.0
	0.2nm,0.3s,baz=299,slow=7.4,SNR=3.1						
TXAR	**Lajitas Array**	**142.66**	**29**	PKP	PKPdf	23 31 13.4	0.0
	0.2nm,0.7s,baz=16,slow=6.7,SNR=2.3						

IDC 30 23:14:40.8±1.9, 1°.70S×99°.14E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.7/8, ML2.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/30, Error ellipse: s-maj=78.7km s-min=19.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.47**	**357**	Pn	Pn	23 15 48.9	-1.2
	0.4nm,0.3s,baz=182,slow=19,SNR=1.7						
PSI				LR	LR	23 18 02.4	
	comp=Z,131nm,18.2s,baz=58,slow=46						
CMAR	**Chiang Mai Arr**	**20.03**	**359**	P	P	23 19 15.7	+0.2
	0.7nm,0.4s,baz=177,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**38.89**	**120**	P	P	23 22 08.2	-0.2
	0.5nm,0.3s,baz=304,slow=9.2,SNR=6.4						
ASAR	**Alice Springs**	**40.13**	**126**	P	P	23 22 18.9	+0.1
	0.3nm,0.6s,baz=304,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**49.73**	**6**	P	P	23 23 34.6	-0.4
	0.3nm,0.4s,baz=191,slow=10.0,SNR=4.2						
MKAR	**Makanchi Array**	**50.51**	**345**	P	P	23 23 40.8	+0.1
	1.4nm,0.6s,baz=148,slow=7.8,SNR=20						
ZALV	**Zalesovo Beam**	**56.72**	**350**	P	P	23 24 25.8	-0.3
	0.8nm,0.4s,baz=180,slow=4.4,SNR=7.8						
FINES	**FINESS Array B**	**83.44**	**332**	P	P	23 27 10.2	+0.2
	2.8nm,0.9s,baz=251,slow=18,SNR=4.0						
TXAR	**Lajitas Array**	**144.97**	**36**	PKP	PKPab	23 34 20.1	-0.1
	0.7nm,0.5s,baz=240,slow=0.2,SNR=14						

*IDC **30** 23:17:22.1±2.1, 5°.79N×82°.52W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.7/23, mbtmp3.6/8, ML2.6/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/25, Error ellipse: s-maj=80.3km s-min=23.5km az=26.0*
*ISCJB **30** 23:17:24.6±0.8, 6°.21N±0°.05×82°.50W±0°.05, h14km, mb3.4/6, MS3.4/2, Error ellipse: s-maj=8.8km s-min=6.3km az=44.3*
*CASC **30** 23:17:26.6±2.7, 6°.24N×82°.48W, h24km±54km, MD3.8*

ISC 30 23:17:25.4±0.9, 6°.17N±0°.09×82°.48W±0°.06, h14km, n26, σ1°40/35, mb3.6/6, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.56**	**345**	*e*P	**Pn**	**23 18 04.8**	**-1.6**
TBS2		**2.61**	**356**	*e*P	**Pn**	**23 18 06.9**	**-0.4**
TBS2				*e*S	**Sn**	**23 18 37.6**	**-1.3**
BRU	**Baru**	**2.62**	**358**	*e*P	**Pn**	**23 18 06.5**	**-1.1**
BRU				*e*S	**Sn**	**23 18 39.6**	**+0.1**
CTCR	**Cotoan**	**2.72**	**354**	*i* P	**Pn**	**23 18 08.2**	**-0.7**
CNI	**Changuinola**	**3.22**	**359**	*e*P	**Pn**	**23 18 16.3**	**+0.7**
CNI				*e*S	**Sn**	**23 18 51.3**	**-2.5**
BUS	**Buena Vista**	**3.59**	**339**	*e*P	**Pn**	**23 18 21.1**	**0.0**
QCR	**Quepos**	**3.64**	**333**	*e*P	**Pn**	**23 18 20.5**	**-0.8**
QCR				*e*S	**Sn**	**23 19 02.3**	**-1.7**
ZANG	**Zanguenga, Cho**	**3.79**	**43**	*e*P	**Pn**	**23 18 24.6**	**+1.3**
ZANG				*e*S	**Sn**	**23 19 04.6**	**-3.2**
URSC	**Urasca**	**3.86**	**341**	*e*P	**Pn**	**23 18 24.9**	**+0.4**
URSC				*e*S	**Sn**	**23 19 11.9**	**+2.1**
BCIP	**Isla Barro Col**	**3.96**	**41**	*e*P	**Pn**	**23 18 26.5**	**+0.8**
BCIP				*e*S	**Sn**	**23 19 12.7**	**+0.6**
SJS	**Escuela Geolog**	**4.05**	**337**	*e*P	**Pn**	**23 18 27.4**	**+0.3**
SJS				*e*S	**Sn**	**23 19 15.7**	**+1.2**
CGA2	**Cerro Gallo 2**	**4.29**	**333**	*e*P	**Pn**	**23 18 30.0**	**-0.5**
CGA2				*e*S	**Sn**	**23 19 19.6**	**-0.9**
CAO	**Cobano**	**4.36**	**324**	↓*i*P	**Pn**	**23 18 30.2**	**-1.1**
CAO				*e*S	**Sn**	**23 19 19.7**	**-2.3**
ROSC	**El Rosal**	**8.22**	**99**	Pn	**Pn**	**23 19 23.5**	**-1.1**
	0.4nm,0.3s,baz=268,slow=16,SNR=2.1						
ROSC				LR	LR	23 22 07.3	
	comp=Z,93nm,21.4s,baz=180,slow=35						
TEIG	**Tepich**	**15.06**	**339**	LR	LR	23 26 35.3	
	comp=Z,171nm,19.2s,baz=253,slow=36						
CMIG	**Matias Romero**	**16.28**	**313**	Pn	**P**	**23 21 16.0**	**-0.7**
	0.1nm,0.3s,baz=131,slow=9.9,SNR=3.3						
CMIG				LR	LR	23 26 49.6	
	comp=Z,88nm,18.4s,baz=296,slow=34						
TXAR	**Lajitas Array**	**30.51**	**322**	P	**P**	**23 23 40.5**	**+2.1**
	0.1nm,0.6s,baz=148,slow=7.4,SNR=2.5						
TXAR				LR	LR	23 37 01.6	
	comp=Z,49nm,19.3s,baz=5.0,slow=38						
PDAR	**Pinedale Array**	**43.60**	**331**	P	**P**	**23 25 29.6**	**+0.1**
	0.2nm,0.6s,baz=141,slow=5.8,SNR=2.5						
PDAR				PcP	**PcP**	**23 27 17.6**	**+0.6**
	0.4nm,0.7s,baz=107,slow=3.1,SNR=3.8						
YBH	**Y

VLS	**Valsamata**	**2.05 161**	P	**Pn**	**23 50 23.1**	**-0.6**
VLS			S	**Sn**	**23 50 49.6**	**+0.2**
VLS	**Valsamata**	**2.05 161**	*e*PN	**Pn**	**23 50 24.5**	**+0.8**
VLS	**Valsamata**	**2.05 161**	P	**Pn**	**23 50 23.1**	**-0.6**
VLS	**Valsamata**	**2.05 161**	*e*Pn	**Pn**	**23 50 24.5**	**+0.8**
VLS			S	**Sn**	**23 50 49.6**	**+0.2**
LIT	**Litokhoron**	**2.12 90**	P	**Pn**	**23 50 25.2**	**+0.5**
LIT	**Litokhoron**	**2.12 90**	*e*PN	**Pb**	**23 50 26.5**	**-1.1**
LIT	**Litokhoron**	**2.12 90**	P	**Pn**	**23 50 25.2**	**+0.5**
LIT	**Litokhoron**	**2.12 90**	*e*Pn	**Pb**	**23 50 26.5**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.16 120**	P	**Pb**	**23 50 26.8**	**-1.5**
MAKR			S	**Sn**	**23 50 53.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.16 120**	P	**Pb**	**23 50 26.8**	**-1.5**
MAKR			S	**Sn**	**23 50 53.0**	**+0.8**
KFL	**Anninata**	**2.17 157**	P	**Pn**	**23 50 25.3**	**0.0**
KFL			S	**Sn**	**23 50 53.4**	**+1.1**
KFL	**Anninata**	**2.17 157**	P	**Pn**	**23 50 25.3**	**0.0**
KFL			S	**Sn**	**23 50 53.4**	**+1.1**
AGG	**Agios Georgios**	**2.29 118**	P	**Pn**	**23 50 28.4**	**+1.4**
AGG	**Agios Georgios**	**2.29 118**	*e*PN	**Pb**	**23 50 28.9**	**-1.6**
AGG	**Agios Georgios**	**2.29 118**	P	**Pn**	**23 50 28.4**	**+1.4**
AGG	**Agios Georgios**	**2.29 118**	*e*Pn	**Pb**	**23 50 28.9**	**-1.6**
AXS	**Araxos**	**2.31 146**	P	**Pn**	**23 50 27.5**	**+0.3**
AXS	**Araxos**	**2.31 146**	P	**Pn**	**23 50 27.5**	**+0.3**
EFP	**Efpalio**	**2.39 134**	P	**Pn**	**23 50 29.4**	**+1.0**
EFP			S	**Sn**	**23 50 59.5**	**+1.8**
EFP	**Efpalio**	**2.39 134**	P	**Pn**	**23 50 29.4**	**+1.0**
EFP			S	**Sn**	**23 50 59.5**	**+1.8**
RLS	**Riolos of Patr**	**2.46 146**	P	**Pn**	**23 50 29.1**	**-0.3**
RLS			S	**Sn**	**23 51 00.9**	**+1.4**
RLS	**Riolos of Patr**	**2.46 146**	P	**Pn**	**23 50 29.1**	**-0.3**
RLS			S	**Sn**	**23 51 00.9**	**+1.4**
TRIZ	**Trizonia**	**2.52 133**	P	**Pn**	**23 50 31.7**	**+1.5**
TRIZ	**Trizonia**	**2.52 133**	P	**Pn**	**23 50 31.7**	**+1.5**
KALE	**Kalithea**	**2.54 132**	P	**Pn**	**23 50 32.3**	**+1.7**
KALE	**Kalithea**	**2.54 132**	P	**Pn**	**23 50 32.3**	**+1.7**
HORT	**Hortiatis**	**2.62 78**	P	**Pn**	**23 50 31.3**	**-0.3**
HORT			S	**Sn**	**23 51 04.1**	**+0.5**
HORT	**Hortiatis**	**2.62 78**	P	**Pn**	**23 50 31.3**	**-0.3**
HORT			S	**Sn**	**23 51 04.1**	**+0.5**
KNT	**Kendrikon**	**2.63 66**	P	**Pn**	**23 50 32.4**	**+0.7**
KNT			S	**Sn**	**23 51 05.5**	**+1.8**
KNT	**Kendrikon**	**2.63 66**	P	**Pn**	**23 50 32.4**	**+0.7**
KNT			S	**Sn**	**23 51 05.5**	**+1.8**
AXAR	**Agios Charalam**	**2.64 120**	P	**Pn**	**23 50 32.0**	**+0.2**
AXAR	**Agios Charalam**	**2.64 120**	P	**Pn**	**23 50 32.0**	**+0.2**
DSF	**Desfina**	**2.76 127**	P	**Pn**	**23 50 33.7**	**+0.2**
DSF			S	**Sn**	**23 51 07.0**	**0.0**
DSF	**Desfina**	**2.76 127**	P	**Pn**	**23 50 33.7**	**+0.2**
DSF			S	**Sn**	**23 51 07.0**	**0.0**
XOR	**Xorichti**	**2.77 105**	P	**Pn**	**23 50 34.4**	**+0.7**
XOR	**Xorichti**	**2.77 105**	P	**Pn**	**23 50 34.4**	**+0.7**
KLV	**Kalavryta, Ach**	**2.80 137**	P	**Pn**	**23 50 35.0**	**+0.9**
KLV	**Kalavryta, Ach**	**2.80 137**	P	**Pn**	**23 50 35.0**	**+0.9**
PLG	**Polygyros**	**2.86 84**	P	**Pn**	**23 50 35.7**	**+0.9**
PLG			S	**Sn**	**23 51 09.6**	**+0.2**
PLG	**Polygyros**	**2.86 84**	*e*PN	**Pn**	**23 50 35.4**	**+0.6**
PLG	**Polygyros**	**2.86 84**	*e*Pn	**Pn**	**23 50 35.4**	**+0.6**
PLG	**Polygyros**	**2.86 84**	P	**Pn**	**23 50 35.7**	**+0.9**
PLG			S	**Sn**	**23 51 09.6**	**+0.2**
SMIA	**Simia**	**2.96 114**	P	**Pn**	**23 50 35.6**	**-0.7**
SMIA			S	**Sn**	**23 51 12.3**	**+0.3**
SMIA	**Simia**	**2.96 114**	P	**Pn**	**23 50 35.6**	**-0.7**
SMIA			S	**Sn**	**23 51 12.3**	**+0.3**
GUR	**Goura**	**2.98 136**	P	**Pn**	**23 50 37.6**	**+1.0**
GUR			S	**Sn**	**23 51 12.2**	**-0.3**
GUR	**Goura**	**2.98 136**	P	**Pn**	**23 50 37.6**	**+1.0**
GUR			S	**Sn**	**23 51 12.2**	**-0.3**
AMT	**Artemida-Makis**	**3.01 148**	P	**Pn**	**23 50 37.8**	**+0.9**
AMT	**Artemida-Makis**	**3.01 148**	P	**Pn**	**23 50 37.8**	**+0.9**
PAIG	**Paliouri**	**3.04 92**	P	**Pn**	**23 50 35.7**	**-1.6**
PAIG			S	**Sn**	**23 51 13.9**	**+0.1**
PAIG	**Paliouri**	**3.04 92**	P	**Pn**	**23 50 35.7**	**-1.6**
PAIG			S	**Sn**	**23 51 13.9**	**+0.1**
STON	**Ston**	**3.15 332**	*i* Pn	**Pn**	**23 50 40.1**	**+1.4**
STON			Sn	**Sn**	**23 51 15.4**	**-1.0**
STON	**Ston**	**3.15 332**	*i* Pn	**Pn**	**23 50 40.1**	**+1.4**
STON			Sn	**Sn**	**23 51 15.4**	**-1.0**
LTK	**Loutraki**	**3.27 129**	P	**Pn**	**23 50 40.4**	**-0.2**
LTK	**Loutraki**	**3.27 129**	P	**Pn**	**23 50 40.4**	**-0.2**
MRKA	**Markates**	**3.30 114**	P	**Pn**	**23 50 41.9**	**+0.9**
MRKA	**Markates**	**3.30 114**	P	**Pn**	**23 50 41.9**	**+0.9**
ITM	**Ithomi**	**3.40 149**	P	**Pn**	**23 50 43.2**	**+0.9**
ITM			S	**Sn**	**23 51 23.4**	**+0.6**
ITM	**Ithomi**	**3.40 149**	P	**Pn**	**23 50 43.2**	**+0.9**
ITM			S	**Sn**	**23 51 23.4**	**+0.6**
VLX	**Vlachokerasia**	**3.44 142**	P	**Pn**	**23 50 44.3**	**+1.4**
VLX	**Vlachokerasia**	**3.44 142**	P	**Pn**	**23 50 44.3**	**+1.4**
PYL	**PYLOS**	**3.58 153**	P	**Pn**	**23 50 44.8**	**0.0**
PYL			S	**Sn**	**23 51 27.4**	**+0.2**
PYL	**PYLOS**	**3.58 153**	P	**Pn**	**23 50 44.8**	**0.0**
PYL			S	**Sn**	**23 51 27.4**	**+0.2**
DID	**Didima**	**3.78 132**	P	**Pn**	**23 50 48.1**	**+0.5**
DID			S	**Sn**	**23 51 33.0**	**+0.8**
DID	**Didima**	**3.78 132**	P	**Pn**	**23 50 48.1**	**+0.5**
DID			S	**Sn**	**23 51 33.0**	**+0.8**
DIDY	**Didyma**	**3.79 133**	P	**Pn**	**23 50 47.7**	**0.0**
DIDY			S	**Sn**	**23 51 33.0**	**+0.5**
DIDY	**Didyma**	**3.79 133**	P	**Pn**	**23 50 47.7**	**0.0**
DIDY			S	**Sn**	**23 51 33.0**	**+0.5**
VLI	**Veliai**	**4.23 142**	P	**Pn**	**23 50 54.4**	**+0.8**
VLI			S	**Sn**	**23 51 43.9**	**+0.8**
VLI	**Veliai**	**4.23 142**	P	**Pn**	**23 50 54.4**	**+0.8**
VLI			S	**Sn**	**23 51 43.9**	**+0.8**
ANKY	**Antikythira Is**	**5.09 145**	P	**Pn**	**23 51 06.0**	**+0.4**
ANKY	**Antikythira Is**	**5.09 145**	P	**Pn**	**23 51 06.0**	**+0.4**
UDBI	**Udbina**	**5.30 328**	*e*Pn	**Pn**	**23 51 09.5**	**+1.1**
UDBI			Sn	**Sn**	**23 52 07.0**	**-2.6**
UDBI	**Udbina**	**5.30 328**	*e*Pn	**Pn**	**23 51 09.4**	**+1.1**
UDBI			Sn	**Sn**	**23 52 06.9**	**-2.6**
NVLJ	**Novalja**	**5.72 323**	*e*Pn	**Pn**	**23 51 15.2**	**+1.1**
NVLJ			Sn	**Sn**	**23 52 17.5**	**-2.3**
NVLJ	**Novalja**	**5.72 323**	*e*Pn	**Pn**	**23 51 15.1**	**+1.1**
KARN	**Karanos**	**5.76 144**	P	**Pn**	**23 51 14.2**	**-0.5**
KARN	**Karanos**	**5.76 144**	P	**Pn**	**23 51 14.2**	**-0.5**
VAM	**Vamos**	**5.89 142**	P	**Pn**	**23 51 14.2**	**-2.2**
VAM			S	**Sn**	**23 52 19.9**	**-4.1**

IDC 31 00:17:01.6±0.9, 12°.84N×57°.66E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.5/24, mbtmp3.5/7, MS3.5/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=27.3km s-min=23.3km az=152.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.54**	**237**	P	P	00 22 24.5	+1.0
	0.7nm,0.3s,baz=52,slow=24,SNR=5.1						
BRTR	**Keskin Array B**	**34.15**	**326**	P	P	00 23 48.4	-0.2
	0.3nm,0.7s,baz=127,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	**39.69**	**27**	P	P	00 24 36.0	+0.5
	0.7nm,0.8s,baz=213,slow=8.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**46.29**	**22**	P	P	00 25 28.5	-0.3
	0.6nm,0.6s,baz=210,slow=8.3,SNR=3.6						
BOSA	**Boshof**	**51.77**	**217**	LR	LR	00 46 33.8	
	comp=Z,49nm,21.6s,baz=169,slow=34						
SONM	**Songino Array**	**53.38**	**39**	P	P	00 26 23.3	+0.2
	0.2nm,0.7s,baz=248,slow=7.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**54.43**	**277**	P	P	00 26 30.2	-0.9
	0.3nm,0.6s,baz=82,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**82.16**	**112**	P	P	00 29 24.6	-0.3
	0.6nm,0.3s,baz=296,slow=4.4,SNR=2.5						
ASAR	**Alice Springs**	**82.85**	**116**	P	P	00 29 28.5	0.0
	4.9nm,0.3s,baz=294,slow=5.6,SNR=7.5						

IDC 31 00:55:20.9±1.6, 16°.32S×178°.24W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/17, mbtmp3.8/5, Error ellipse: s-maj=112.5km s-min=22.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.55**	**240**	P	P	01 02 53.8	-0.1
	1.8nm,0.4s,baz=102,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**45.10**	**258**	P	P	01 03 39.2	-0.1
	1.5nm,0.5s,baz=93,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**45.40**	**253**	P	P	01 03 41.4	-0.3
	12nm,0.5s,baz=88,slow=8.3,SNR=193						
ILAR	**Eielson Array**	**84.31**	**13**	P	P	01 07 54.4	+0.1
	0.1nm,0.4s,baz=226,slow=5.5,SNR=4.2						
TXAR	**Lajitas Array**	**85.01**	**58**	P	P	01 07 59.0	+0.2
	0.2nm,0.6s,baz=226,slow=4.8,SNR=3.9						
PDAR	**Pinedale Array**	**86.09**	**43**	P	P	01 08 03.8	-0.3
	0.4nm,0.7s,baz=235,slow=3.2,SNR=2.7						

*MOS **31** 00:56:00.4±0.5, 55°.21N×158°.22E, h9km, mb3.9/1, Error ellipse: s-maj=47.9km s-min=25.1km az=65.0*

KRSC 31 00:55:57.0±0.7, 55°.42N×157°.57E, h10km±10km, ML4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZ	**Kozyrevsk**	**1.45**	**63**	*e*P	Pb	00 56 24.5	+0.4
KOZ				*e*S	Sg	00 56 44.6	+0.8
KOZR	**Kozyr**	**1.47**	**63**	PN	Pb	00 56 24.5	+0.1
KOZR				S	Sg	00 56 44.6	+0.4
TUMR	**Tumrok**	**1.48**	**94**	*e*P	Pn	00 56 23.0	-0.8
TUMR				S	Sn	00 56 41.8	-1.5
SRDR	**Sredinnyy**	**1.51**	**53**	*e*P	Pb	00 56 25.4	+0.2
SRDR				*e*S	Sg	00 56 45.8	+0.1
KMNR	**Kamenistaya**	**1.55**	**76**	*e*P	Pb	00 56 25.8	-0.1
KMNR				*e*S	Sg	00 56 47.0	-0.1
KPT	**Kopyto**	**1.60**	**69**	*e*P	Pb	00 56 26.2	-0.5
KPT				*e*S	Sb	00 56 47.5	+0.4
KIRR	**Kirishev**	**1.66**	**70**	*e*P	Pb	00 56 27.1	-0.7
KIRR				*e*S	Sb	00 56 49.2	+0.3
BZMR	**Bezymyannaya**	**1.73**	**71**	P	Pn	00 56 27.8	+0.4
BZMR				S	Sn	00 56 50.3	+0.7
GNL	**Ganaly**	**1.74**	**173**	*e*P	Pb	00 56 28.5	-0.7
BZWR	**Bezymyannyi-We**	**1.74**	**71**	P	Pn	00 56 27.6	+0.1
BZWR				S	Sn	00 56 50.4	+0.4
BZGR	**Bezymyannyi-Gr**	**1.85**	**72**	*e*P	Pb	00 56 30.1	-0.9
KRSR	**Krestovskiy**	**1.87**	**63**	*e*P	Pn	00 56 29.5	+0.3
KRSR				S	Sn	00 56 53.4	+0.5
LGNR	**Loginova**	**1.89**	**68**	*e*P	Pn	00 56 30.5	+0.9
LGNR				S	Sb	00 56 55.0	-0.7
ZLN	**Zelenaya**	**1.93**	**71**	*e*P	Pn	00 56 30.7	+0.8
ZLN				S	Sb	00 56 55.7	-0.8
CIRR	**Tsirk**	**1.93**	**67**	*e*P	Pb	00 56 31.3	-1.1
CIRR				S	Sb	00 56 56.1	-0.5
KLY	**Klyuchi**	**1.95**	**61**	PN	Pb	00 56 32.9	+0.3
KLY				S	Sg	00 56 58.9	-0.9
KLY	**Klyuchi**	**1.95**	**61**	*e*P	Pb	00 56 32.9	+0.3
KLY				S	Sg	00 56 58.9	-0.9
KRX	**Arik**	**2.16**	**163**	P	Pb	00 56 35.3	-1.1
KRX				S	Sb	00 57 02.8	-0.5
KOK	**Koryaka**	**2.22**	**163**	*e*P	Pb	00 56 36.2	-1.2
KOK				S	Sb	00 57 05.0	0.0
AVH	**Avacha**	**2.27**	**162**	*e*P	Pb	00 56 37.1	-1.0
SMAR	**Somma**	**2.28**	**161**	P	Pn	00 56 36.0	+1.1
SMAR				S	Sn	00 57 04.9	+1.7
SDLR	**Sedlovina**	**2.28**	**160**	*e*P	Pb	00 56 37.3	-1.1
BDR	**Baidarnaya**	**2.34**	**59**	*e*P	Pb	00 56 37.7	-1.8
SRKR	**Sorokina**	**2.37**	**57**	*e*P	Pb	00 56 38.7	-1.1
SMKR	**Semkarok**	**2.48**	**60**	*e*P	Pn	00 56 39.0	+1.5
SMKR				S	Sn	00 57 09.7	+1.8
APC	**Apacha**	**2.51**	**186**	*e*P	Pb	00 56 40.9	-1.2
APC				S	Sb	00 57 13.4	+0.3
MKZ	**Mys Kozlova**	**2.55**	**108**	PN	Pn	00 56 37.5	-0.8
MKZ	**Mys Kozlova**	**2.55**	**108**	*e*P	Pn	00 56 37.5	-0.8
SPN	**Mys Shipunski**	**2.74**	**147**	S	Sn	00 57 15.2	+1.2
MTVR	**Mutnovka**	**2.96**	**173**	P	Pb	00 56 47.2	-2.9
RUS	**Russkaya**	**3.04**	**169**	PN	Pn	00 56 46.8	+1.7
RUS	**Russkaya**	**3.04**	**169**	*e*P	Pn	00 56 46.8	+1.7
ASAK	**Asacha**	**3.05**	**176**	*e*P	Pb	00 56 48.9	-2.5
KBTR	**Krutoberegovo**	**3.06**	**73**	PN	Pn	00 56 47.0	+1.6
KBTR	**Krutoberegovo**	**3.06**	**73**	*e*P	Pn	00 56 47.0	+1.6

KRSC 31 01:22:39.9±0.8, 55°.28N×165°.54E, h55km±54km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.26**	**107**	*e*P	Pn	01 22 50.9	+1.8
BKI				*e*S	Sn	01 22 58.4	+2.6
KBTR	**Krutoberegovo**	**1.80**	**302**	*e*P	Pn	01 23 09.6	+1.1
KBTR				*e*S	Sn	01 23 31.6	+1.4
ZLN	**Zelenaya**	**2.78**	**287**	S	Sn	01 24 00.0	+5.4
SPN	**Mys Shipunski**	**3.91**	**238**	S	Sn	01 24 23.2	+1.3
SDLR	**Sedlovina**	**4.39**	**246**	*e*P	Pn	01 23 47.8	+3.7
SDLR				*e*S	Sn	01 24 37.3	+3.3
AVH	**Avacha**	**4.47**	**246**	P	Pn	01 23 48.6	+3.5
AVH				S	Sn	01 24 39.0	+3.1
KRX	**Arik**	**4.47**	**247**	*e*P	Pn	01 23 47.9	+2.6
GNL	**Ganaly**	**4.71**	**253**	*e*P	Pn	01 23 52.6	+4.2
RUS	**Russkaya**	**5.04**	**238**	*e*P	Pn	01 23 55.5	+2.6

*AUST **31** 01:52:18.0±1.6, 29°.43S×176°.19W, h210km, Error ellipse: s-maj=2.9km s-min=1.7km az=227.0*
*ISCJB **31** 01:52:24.7±0.5, 30°.54S±0°.06×178°.78W±0°.08, h124km, mb4.6/21, Error ellipse: s-maj=10.2km s-min=7.8km az=179.7*
*NEIC **31** 01:52:28.3±0.7, 30°.46S×178°.70W, h153km±6km, mb4.8/8, Error ellipse: s-maj=9.7km s-min=8.9km az=116.0*
*IDC **31** 01:52:29.3±0.7, 30°.35S×178°.72W, h158km±6km, mb4.2/17, mb1 4.4/18, mb1mx4.3/22, mbtmp4.2/18, Error ellipse: s-maj=12.7km s-min=12.1km az=87.0*

ISC 31 01:52:24.9±0.4, 30°.48S±0°.06×178°.64W±0°.09, h124km, n162, σ1§50/165, mb4.7/20, 4C-4D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.37**	**27**	P	Pn	01 52 56.4	+5.3
RAO				S	Sn	01 53 19.1	+8.0
RAO	**Raoul Island**	**1.37**	**27**	P	Pn	01 52 56.4	+5.3
	554nm,0.3s,baz=227,slow=19,SNR=32						
RAO				S	Sn	01 53 19.1	+8.0
	569nm,0.3s,baz=120,slow=4.2,SNR=18						
URZ	**Urewera**	**8.52**	**203**	*e*Pn	**Pn**	**01 54 27.3**	**+2.1**
URZ				*e*S	**Sn**	**01 55 57.1**	**-2.6**
URZ	**Urewera**	**8.52**	**203**	P	**Pn**	**01 54 22.8**	**-2.4**
	1.6nm,0.3s,baz=84,slow=14,SNR=10						
URZ				S	**Sn**	**01 55 57.7**	**-2.0**
	18nm,0.3s,baz=16,slow=15,SNR=11						
RPZ	**Rata Peaks**	**15.54**	**209**	S	Sn	01 58 34.6	-15
RPZ	**Rata Peaks**	**15.54**	**209**	S	Sn	01 58 34.6	-15
	2.2nm,0.3s,baz=88,slow=21,SNR=7.0						
DZM	**Mont Dzumac**	**15.77**	**299**	P	**P**	**01 56 02.3**	**+0.7**
DZM	**Mont Dzumac**	**15.77**	**299**	P	**P**	**01 56 02.3**	**+0.7**
	0.7nm,0.3s,baz=114,slow=20,SNR=8.2						
EIDS	**Eidsvold**	**27.19**	**273**	P	**P**	**01 57 58.4**	**+1.5**
	baz=29,SNR=4.8						
YNG	**Young**	**28.03**	**253**	P	**P**	**01 58 07.3**	**+2.9**
	baz=30,SNR=5.5						
RMQ	**Roma**	**28.88**	**270**	P	**P**	**01 58 14.7**	**+2.7**
	baz=31,SNR=9.5						
CMSA	**Cobar Meteorol**	**30.51**	**259**	P	**P**	**01 58 28.3**	**+1.9**
	baz=33,SNR=14						
CTA	**Charters Tower**	**33.27**	**280**	P	**P**	**01 58 52.1**	**+1.5**
CTA				PcP	**PcP**	**02 01 29.9**	**-0.3**
CTA	**Charters Tower**	**33.27**	**280**	P	**P**	**01 58 52.1**	**+1.5**
	41nm,0.8s,baz=102,slow=11,SNR=65						
CTA				PcP	**PcP**	**02 01 29.9**	**-0.3**
	2.4nm,0.6s,baz=180,slow=1.0,SNR=3.3						
CTAO	**Charters Tower**	**33.27**	**280**	*e*P	**P**	**01 58 51.5**	**+0.9**
	54nm,0.9s						
STKA	**Stephens Creek**	**33.92**	**257**	*e*P	**P**	**01 58 57.4**	**+1.2**
	6.2nm,0.7s						
STKA	**Stephens Creek**	**33.92**	**257**	P	**P**	**01 58 57.9**	**+1.8**
	40nm,0.8s,baz=95,slow=9.4,SNR=60						
STKA	**Stephens Creek**	**33.92**	**257**	P	**P**	**01 58 58.0**	**+1.8**
	baz=36,SNR=3.5						
MTSU	**Mount Surprise**	**35.77**	**281**	P	**P**	**01 59 13.7**	**+1.5**
	baz=38,SNR=20						
PMG	**Port Moresby**	**38.14**	**296**	P	**P**	**01 59 32.8**	**+0.5**
PMG	**Port Moresby**	**38.14**	**296**	P	**P**	**01 59 32.8**	**+0.5**
	9.5nm,0.6s,baz=162,slow=13,SNR=2.6						
BBOO	**Buckleboo**	**38.42**	**254**	P	**P**	**01 59 35.0**	**+0.7**
	baz=41,SNR=10						
COEN	**Coen**	**38.76**	**287**	P	**P**	**01 59 38.5**	**+1.1**
	baz=40,SNR=8.5						
AS31	**Alice Springs**	**42.55**	**267**	*e*P	**P**	**02 00 08.3**	**-0.2**
ASAR	**Alice Springs**	**42.55**	**267**	P	**P**	**02 00 08.4**	**-0.2**
ASAR				PcP	**PcP**	**02 01 58.0**	**-0.9**
ASAR				ScP	**ScP**	**02 05 32.5**	**-5.6**
ASAR	**Alice Springs**	**42.55**	**267**	P	**P**	**02 00 08.4**	**-0.2**
	6.7nm,0.4s,baz=104,slow=7.4,SNR=77						
ASAR				PcP	**PcP**	**02 01 58.0**	**-0.9**
	3.2nm,0.8s,baz=114,slow=4.6,SNR=6.6						
ASAR				ScP	**ScP**	**02 05 32.5**	**-5.6**
	2.2nm,0.7s,baz=110,slow=4.3,SNR=11						
PATS	**Pohnpei**	**43.19**	**325**	P	P	02 00 02.8	-11
	baz=44,SNR=3.2						
WRAB	**Tennant Creek**	**43.54**	**273**	*e*P	**P**	**02 00 16.0**	**-0.6**
	29nm,0.7s						
WRA	**Warramunga Arr**	**43.55**	**273**	P	**P**	**02 00 16.2**	**-0.3**
WRA				PcP	**PP**	**02 02 01.3**	**+1.0**
WRA				ScP	**ScP**	**02 05 36.8**	**-5.5**
WRA	**Warramunga Arr**	**43.55**	**273**	P	**P**	**02 00 16.2**	**-0.3**
	16nm,0.3s,baz=110,slow=8.2,SNR=91						
WRA				PcP	**PP**	**02 02 01.3**	**+1.0**
	5.6nm,0.8s,baz=116,slow=3.0,SNR=6.6						
WRA				ScP	**ScP**	**02 05 36.8**	**-5.5**
	1.1nm,0.6s,baz=108,slow=4.1,SNR=4.3						
FORT	**Forrest**	**45.49**	**255**	P	**P**	**02 00 30.9**	**-1.0**
	baz=48,SNR=7.6						
SBA	**Scott Base**	**47.92**	**184**	*e*P	P	02 00 54.7	+4.6
	22nm,1.0s						
VNDA	**Vanda**	**47.96**	**186**	*e*P	**P**	**02 00 53.3**	**+2.8**
	1.8nm,0.8s						
VNDA				ScP	**ScP**	**02 05 56.9**	**-2.6**
VNDA	**Vanda**	**47.96**	**186**	P	**P**	**02 00 53.5**	**+3.0**
	1.7nm,0.8s,baz=7.1,slow=7.5,SNR=10						
VNDA				ScP	**ScP**	**02 05 56.9**	**-2.6**
	1.3nm,0.7s,baz=0.5,slow=4.1,SNR=9.6						
KDU	**Kakadu**	**48.39**	**280**	P	**P**	**02 00 54.1**	**-0.4**
	baz=50,SNR=3.6						
MTN	**Manton Dam**	**49.45**	**279**	P	**P**	**02 01 01.9**	**-0.7**
	baz=51,SNR=3.8						
KNRA	**Kununurra**	**50.16**	**275**	P	**P**	**02 01 08.4**	**+0.4**
	baz=52,SNR=5.6						
FITZ	**Fitzroy Crossi**	**51.81**	**270**	P	**P**	**02 01 20.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**51.81**	**270**	P	**P**	**02 01 20.7**	**+0.4**
	6.8nm,0.7s,baz=68,slow=0.1						
CASY	**Casey**	**54.81**	**208**	*e*P	**P**	**02 01 40.4**	**-1.2**
QSPA	**South Pole Qui**	**59.63**	**180**	*e*P	**P**	**02 02 17.8**	**+2.2**
	16nm,1.1s						
QSPA				S	**S**	**02 10 17.6**	**+1.6**
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**02 02 17.8**	**+2.2**
	5.8nm,0.5s,baz=10,slow=1.2,SNR=40						
QSPA				S	**S**	**02 10 17.6**	**+1.6**
	2.2nm,1.1s,baz=108,slow=20,SNR=4.0						
WSI	**Waingapu**	**60.26**	**276**	P	**P**	**02 02 21.4**	**+0.8**
	baz=62,SNR=3.2						
MAW	**Mawson**	**72.04**	**201**	*e*P	**P**	**02 03 34.8**	**0.0**
	1.0nm,0.7s						
MAW	**Mawson**	**72.04**	**201**	P	**P**	**02 03 34.9**	**0.0**
	5.2nm,0.8s,baz=122,slow=7.8,SNR=12						
MAW	**Mawson**	**72.04**	**201**	P	**P**	**02 03 35.4**	**+0.5**
	baz=74,SNR=6.6						
SYO	**Syowa Base**	**76.91**	**193‖**	*e*P	**P**	**02 04 01.4**	**-1.6**
SYO	**Syowa Base**	**76.91**	**193‖**	*e*P	**P**	**02 04 02.0**	**-1.0**
SYO	**Syowa Base**	**76.91**	**193‖**	*e*P	P	02 04 09.0	+6.0
SNAA	**Sanae**	**78.09**	**179**	*e*P	**P**	**02 04 12.2**	**+2.5**
SNAA	**Sanae**	**78.09**	**179**	*e*P	**P**	**02 04 10.6**	**+0.9**
	6.6nm,0.9s						
VNA2	**Neumayer--Watz**	**78.69**	**177**	*e*P	**P**	**02 04 14.5**	**+1.6**
VNA2	**Neumayer--Watz**	**78.69**	**177**	*e*I		02 04 17.1	
VNA1	**Neumayer--Stat**	**78.92**	**177**	*e*P	P	02 04 18.4	+4.3
ASAJ	**Asahikawa**	**82.26**	**333**	P	**P**	**02 04 33.0**	**+1.0**
ASAJ	**Asahikawa**	**82.26**	**333**	P	**P**	**02 04 33.0**	**+1.0**
	6.5nm,0.5s,baz=228,slow=12,SNR=6.5						
PLCA	**Paso Flores**	**82.86**	**133**	P	**P**	**02 04 36.5**	**+0.8**
PLCA	**Paso Flores**	**82.86**	**133**	P	**P**	**02 04 36.5**	**+0.8**
	1.1nm,0.5s,baz=221,slow=22,SNR=4.3						
KSRS	**Korea Array**	**84.05**	**320**	P	**P**	**02 04 42.1**	**+0.6**
	3.3nm,0.9s,baz=140

BRBR	Barbar	150.58	285	*i* P	PKPbc	02 12 03.0	+0.4
AKASG	Malin Array Be	151.03	322	PKPbc	PKPbc	02 12 01.7	-1.1
AKASG	Malin Array Be	151.03	322	PKPbc	PKPbc	02 12 01.7	-1.1
	comp=Z,28nm,0.8s,baz=52,slow=3.2,SNR=45						
KIEV	Kiev	151.04	322	*e*PKPbc	PKPbc	02 12 02.0	-0.8
KIEV				*e*PKPab	PKPab	02 12 10.4	-0.4
CTKT	Corum	151.13	300	*i* P	PKPbc	02 12 03.7	+0.1
AVNT	Avonos	151.34	296	*i* P	PKPbc	02 12 03.8	-0.4
GULE	Gulek	151.54	293	*i* P	PKPbc	02 12 04.9	+0.3
CDAG	Cicekdag	151.61	298	*i* P	PKPbc	02 12 04.3	-0.4
SUW	Suwalki	151.69	332	*e*PKPbc	PKPbc	02 12 04.6	+0.5
BR131	Keskin Array S	152.15	298	*e*PKPbc	PKPbc	02 12 04.9	-1.0
BRTR	Keskin Array B	152.15	298	PKPbc	PKPbc	02 12 05.2	-0.8
BRTR				PKPab	PKPab	02 12 15.6	-0.5
BRTR	Keskin Array B	152.15	298	PKPbc	PKPbc	02 12 05.2	-0.8
	comp=Z,6.4nm,0.8s,baz=129,slow=3.4,SNR=40						
BRTR				PKPab	PKPab	02 12 15.6	-0.5
	comp=Z,3.2nm,0.8s,baz=64,slow=5.7,SNR=12						
ANTO	Ankara	152.77	299 ‖	*i* P	PKPbc	02 12 07.0	-0.2
ANTO	Ankara	152.77	299	*e*PKPdf	PKPdf	02 11 59.2	-0.7
ANTO				*e*PKPbc	PKPbc	02 12 06.9	-0.3
CSS	Prodhromos	152.80	288	*e*PKPbc	PKPbc	02 12 07.0	-0.3
BUR08	Bucovina Ar. S	154.93	320	*e*PKPbc	PKPbc	02 12 12.0	+0.3
BUR08				*e*PKPab	PKPab	02 12 28.1	+0.5
BURAR	Bucovina Array	154.93	320 ⇑	*i* P	PKPbc	02 12 12.3	+0.7
PLOR	Plostina	155.03	315 ⇑	*i* P	PKPab	02 12 20.2	-7.7
DBIC	Dimbokro	155.61	165	PKP	PKPdf	02 12 04.7	+0.1
DBIC	Dimbokro	155.61	165	PKP	PKPdf	02 12 04.7	+0.1
	comp=Z,2.9nm,0.9s,baz=85,slow=10,SNR=4.1						
MLR	Muntele Rosu	155.63	315 ⇑	*i* P	PKPdf	02 12 13.8	+10
DPC	Dobruska-Polom	157.19	335	*e*PKPAB	PKPab	02 12 37.8	+0.8
CLL	Collm	157.46	341	*e*PKPdiff	PKPdf	02 12 18.0	+12
	comp=Z,5.0nm,1.0s						
CLL				*i* PKPab	PKPab	02 12 38.0	-0.1
	comp=Z,6.0nm,0.9s						
BRG	Berggiesshubel	157.56	339	*e*P	PKPab	02 12 38.7	+0.2
	comp=Z,11nm,1.1s						
PVCC	Panska Ves	157.66	337	*e*PKPAB	PKPab	02 12 39.1	+0.1
PRU	Pruhonice	158.13	337	*e*PKPAB	PKPab	02 12 41.1	+0.1
NKC	Novy Kostel	158.58	340	*e*PKPAB	PKPab	02 12 43.0	0.0
KHC	Kasperske Hory	159.19	337	*e*PKPAB	PKPab	02 12 45.8	+0.1
GERES	GERESS Array B	159.39	336	PKPab	PKPab	02 12 46.0	-0.7
GERES	GERESS Array B	159.39	336	PKPab	PKPab	02 12 46.0	-0.7
	comp=Z,1.3nm,0.8s,baz=27,slow=3.3,SNR=9.1						
TORD	Torodi Ar. Bea	162.75	181	PKP	PKPdf	02 12 12.8	0.0
TORD				PKPab	PKPab	02 13 02.3	+0.4
TORD	Torodi Ar. Bea	162.75	181	PKP	PKPdf	02 12 12.8	0.0
	comp=Z,1.6nm,0.9s,baz=119,slow=1.1,SNR=7.3						
TORD				PKPab	PKPab	02 13 02.3	+0.4
	comp=Z,3.0nm,0.6s,baz=166,slow=4.3,SNR=20						
ESDC	Sonseca Array	169.84	24	PKP	PKPdf	02 12 18.4	+0.7
ESDC				PKPab	PKPab	02 13 33.4	+0.6
ESDC	Sonseca Array	169.84	24	PKP	PKPdf	02 12 18.4	+0.7
	comp=Z,0.2nm,0.4s,baz=351,slow=2.4,SNR=6.2						
ESDC				PKPab	PKPab	02 13 33.4	+0.6
	comp=Z,0.2nm,0.6s,baz=321,slow=1.8,SNR=3.4						

*IDC **31** 01:55:07.7±0.9, 2°.62N×128°.16E, h0km, mb4.0/9, mb1 4.1/10, mb1mx4.0/23, mbtmp4.1/10, ML4.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=37.5km s-min=16.4km az=81.0*
*ISCJB **31** 01:55:12.9±0.6, 2°.61N±0°.06×128°.04E±0°.07, h51km, mb4.0/8, MS3.0/1, Error ellipse: s-maj=11.1km s-min=8.5km az=27.0*
*DJA **31** 01:55:18.5±2.1, 2°N±27°×12°8E±°, h80km±55km, M4.5/5, mb4.8/3, mB5.2/1, MLv4.3/5, Mw(mB)4.5/1*
ISC 31 01:55:14.3±0.8, 2°.52N±0°.08×128°.13E±0°.09, h51km, n17, σ1♀23/16, mb4.0/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.90	204	P	Pn	01 55 45.2	+1.0
LBMI	Labuha	3.20	191	P	Pn	01 56 10.0	+7.9
KMSI	Cibinong	4.58	245	P	Pn	01 56 22.2	+1.2
SWI	Sorong	4.59	137	P	Pn	01 56 24.0	+2.8
GTOI	Gorontalo	5.45	250	P	Pn	01 56 34.8	+1.8
	73nm,0.7s,0.3nm						
MRSI	Marisa	6.51	252	P	Pn	01 56 48.7	+1.1
	72nm,0.6s,0.3nm						
SKSI	Soroako, Sulaw	8.44	234	P	Pn	01 57 13.7	-0.4
KAPI	Kappang	11.23	228	Pn	Pn	01 57 50.9	-1.3
	2.4nm,0.3s,baz=60,slow=7.3,SNR=6.7						
KAPI				Sn	Sn	01 59 55.9	-0.4
	1.8nm,0.3s,baz=138,slow=21,SNR=5.6						
FITZ	Fitzroy Crossi	20.64	187	P	Pn	01 59 52.0	-0.5
	1.6nm,0.6s,baz=0.0,slow=0.0						
CMAR	Chiang Mai Arr	32.69	301	P	P	02 01 42.0	0.0
	1.0nm,0.4s,baz=118,slow=6.9,SNR=7.1						
KSRS	Korea Array	34.77	360	P	P	02 01 59.3	-0.5
	1.4nm,0.6s,baz=175,slow=9.3,SNR=4.0						
KSRS				LR	LR	02 14 18.0	
	comp=Z,29nm,19.7s,baz=220,slow=33						
STKA	Stephens Creek	36.52	161	P	P	02 02 16.0	+1.0
	2.6nm,0.3s,baz=351,slow=8.8,SNR=6.6						
USRK	Ussuriysk Arra	41.65	4	P	P	02 02 57.5	-0.1
	2.6nm,0.7s,baz=198,slow=6.8,SNR=8.9						
SONM	Songino Array	48.89	341	P	P	02 03 55.1	-0.1
	1.1nm,0.9s,baz=152,slow=8.2,SNR=4.6						
MKAR	Makanchi Array	59.34	325	P	P	02 05 11.4	+0.1
	1.7nm,0.5s,baz=116,slow=7.6,SNR=29						
ZALV	Zalesovo Beam	62.30	333	P	P	02 05 29.8	-1.2
	0.5nm,0.4s,baz=114,slow=6.5,SNR=3.5						
VNDA	Vanda	82.06	173	P	P	02 07 28.3	-0.4
	0.5nm,0.9s,baz=311,slow=5.2,SNR=2.7						

IDC 31 02:04:33.9±1.9, 7°.92S×155°.45E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=62.3km s-min=23.7km az=135.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.33	259	Pn	Pn	02 06 36.8	+0.7
	1.2nm,0.3s,baz=32,slow=6.8,SNR=4.6						
PMG				Sn	Sn	02 08 11.3	+0.2
	0.6nm,0.3s,baz=56,slow=18,SNR=2.5						
WRA	Warramunga Arr	23.69	238	P	P	02 09 47.4	-0.2
	1.3nm,0.7s,baz=60,slow=9.7,SNR=4.6						
ASAR	Alice Springs	25.92	230	P	P	02 10 08.5	+0.4
	0.3nm,0.6s,baz=68,slow=8.9,SNR=4.4						
FITZ	Fitzroy Crossi	30.71	248	P	P	02 10 50.4	-0.5
	1.9nm,0.7s						
ASAJ	Asahikawa	53.08	348	LR	LR	02 35 35.2	
	comp=Z,33nm,18.3s,baz=268,slow=35						
SONM	Songino Array	70.35	327	P	P	02 15 49.7	-0.1
	0.5nm,0.8s,baz=115,slow=6.8,SNR=2.5						
ILAR	Eielson Array	84.06	21	P	P	02 17 06.3	+0.1
	0.4nm,0.7s,baz=243,slow=5.2,SNR=5.3						
MKAR	Makanchi Array	84.39	319	P	P	02 17 08.6	+0.2
	0.1nm,0.4s,baz=98,slow=5.1,SNR=2.6						

*ISCJB **31** 02:11:22.7±0.5, 8°.00S±0°.06×122°.48E±0°.07, h250km, mb3.5/4, Error ellipse: s-maj=11.0km s-min=6.7km az=150.2*
*IDC **31** 02:11:22.7±1.6, 8°.06S×122°.20E, h231km±18km, mb3.3/4, mb1 3.4/8, mb1mx3.3/23, mbtmp3.3/8, Error ellipse: s-maj=96.3km s-min=11.6km az=58.0*
*AUST **31** 02:11:22.9, 8°.00S×122°.50E, h200km*
*DJA **31** 02:11:31.7±9.2, 8°S±29°×12°2E±3°4, h137km±108km, M3.6/3, MLv3.6/3*
ISC 31 02:11:23.9±0.7, 8°.09S±0°.06×122°.44E±0°.09, h250km, n21, σ1♀78/24, mb3.7/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.58	200	P	Pn	02 11 54.7	-2.4
LBFI	Labuhan Bajo,	2.55	261	P	Pn	02 12 10.5	-1.2
BBSI	Bau Bau	2.59	3	P	Pn	02 12 10.2	-1.9
BKSI	Bulukumba	3.58	320	P	Pn	02 12 20.7	-2.2
KAPI	Kappang	4.06	319	P	Pn	02 12 23.4	-5.0
	0.6nm,0.3s,baz=174,slow=9.6,SNR=4.7						
KNRA	Kununurra	9.75	141	P	Pn	02 13 38.6	-0.8
	baz=9.8,SNR=14						
KNRA				S	S	02 15 24.6	-4.7
	baz=9.8,SNR=4.6						
MTN	Manton Dam	9.77	120	P	Pn	02 13 37.7	-1.9
	baz=9.8,SNR=47						
FITZ	Fitzroy Crossi	10.43	163	P	Pn	02 13 47.1	-0.7
FITZ				S	S	02 15 41.0	-3.9
KDU	Kakadu	10.88	116	P	Pn	02 13 52.5	-1.0
	baz=11,SNR=6.1						
FAKI	Fak Fak	11.03	63	P	Pn	02 13 56.0	+0.5
	baz=11,SNR=4.9						
WRA	Warramunga Arr	16.48	137	P	P	02 15 00.9	+0.8
	1.0nm,0.3s,baz=314,slow=12,SNR=12						
WRA				S	S	02 18 01.4	+1.6
	0.3nm,0.3s,baz=316,slow=21,SNR=4.3						
MEEK	Meekatharra	18.80	191	P	Pn	02 15 28.5	-0.5
	baz=19,SNR=14						
MEEK				S	S	02 18 59.8	+14
	baz=19,SNR=6.6						
ASAR	Alice Springs	18.99	146	P	Pn	02 15 29.6	-1.6
	1.6nm,0.3s,baz=336,slow=13,SNR=57						
ASAR				S	S	02 18 49.8	+0.3
	baz=325,slow=22,SNR=4.7						
ASAR				ScP	ScP	02 22 54.3	+1.1
	baz=356,slow=2.1,SNR=4.2						
MORW	Morawa	21.72	195	P	P	02 15 57.4	+2.1
	baz=22,SNR=7.5						
MORW				S	S	02 20 10.5	+33
	baz=22,SNR=4.0						
BLDU	Ballidu	23.04	193	P	P	02 16 09.5	+2.1
	baz=23,SNR=6.5						
MTSU	Mount Surprise	23.50	117	P	P	02 16 13.4	+1.7
	baz=24,SNR=4.5						
KLBR	Kellerberrin	23.79	190	P	P	02 16 16.4	+2.2
	baz=24,SNR=5.9						
STKA	Stephens Creek	29.63	146	P	P	02 17 08.6	+2.2
	2.5nm,0.5s,baz=322,slow=11,SNR=8.0						
SONM	Songino Array	57.46	347	P	P	02 20 47.2	+0.2
	0.1nm,0.3s,baz=156,slow=7.4,SNR=2.4						
MKAR	Makanchi Array	65.26	331	P	P	02 21 39.4	+0.3
	1.3nm,0.6s,baz=143,slow=7.0,SNR=18						
ZALV	Zalesovo Beam	69.46	337	P	P	02 22 04.5	-0.5
	0.5nm,0.5s,baz=134,slow=4.2,SNR=3.5						

*NIED **31** 02:26:00, 24°.20N×125°.30E, h29km, Mw3.7 Best double couple: M0 3.98000×10^14 NP1:φ0=38.00000°, δ73.00000°, λ31.00000°. NP2:φ0=298.00000°, δ60.00000°, λ160.00000°.*
JMA 31 02:26:09.9±0.2, 24°.23N×125°.25E, h32km, M3.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.55	15	P	Pb	02 26 20.9	-0.3
JOGS				S	Sb	02 26 29.2	+0.3
JMJ	Miyako jima 2	0.58	4	P	Pb	02 26 21.3	-0.5
JMJ				S	Sb	02 26 29.7	-0.2
JTJ	Tarama	0.65	309	P	Pb	02 26 22.2	-0.6
JTJ				S	Sb	02 26 31.1	-0.5
JIJ	Ishigaki jima	1.02	278	P	Pn	02 26 28.5	+0.5
JIJ				*e*S	Sb	02 26 41.8	-0.3
JKRS	Kuro-shima	1.13	271	P	Pb	02 26 30.6	-0.3
HATJ	Hateruma jima	1.33	263	P	Pn	02 26 32.8	+0.5
IRIF	Iriomote-Funau	1.39	275	P	Pn	02 26 33.9	+0.8
YOJ	Yonaguni jima	2.06	277	P	Pn	02 26 43.4	+1.2

*AUST **31** 02:47:12.0, 6°.48S×129°.53E, h100km*
*ISCJB **31** 02:47:17.0±0.4, 6°.61S±0°.03×130°.07E±0°.04, h146km, mb4.0/6, Error ellipse: s-maj=6.1km s-min=4.5km az=11.8*
*IDC **31** 02:47:19.6±2.8, 6°.53S×129°.88E, h172km±25km, mb3.7/7, mb1 3.9/9, mb1mx3.6/20, mbtmp3.8/9, Error ellipse: s-maj=33.1km s-min=13.4km az=61.0*
*DJA **31** 02:47:20.2±0.5, 6°S±5°×13°0E±°, h161km±17km, M4.8/9, mb4.7/5, mB5.3/4, MLv4.9/9, Mw(mB)4.7/4*
ISC 31 02:47:17.0±0.5, 6°.52S±0°.05×130°.02E±0°.06, h146km, n43, σ1♀89/41, mb4.2/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.93	139	P	Pn	02 47 55.1	+4.0
BNDI	Bandanaira	1.98	357	P	Pn	02 47 54.9	+3.1
BNDI	Bandanaira	1.98	357	P	Pn	02 47 55.3	+3.5
	baz=2.0,SNR=6.6						
TLE	Tual	2.84	72	P	Pn	02 48 05.6	+3.4
TLE	Tual	2.84	72	P	Pn	02 48 05.8	+3.5
	baz=3.3,SNR=58						
TLE				S	Sn	02 48 38.0	+0.9
	baz=3.3,SNR=7.4						
FAKI	Fak Fak	4.21	32	P	Sn	02 48 56.2	-13
FAKI	Fak Fak	4.21	32	P	Pn	02 48 19.8	-0.2
FAKI	Fak Fak	4.21	32	P	Pn	02 48 20.0	0.0
	baz=4.5,SNR=49						
FAKI				S	Sn	02 49 05.8	-3.1
	baz=4.5,SNR=25						
NLAI	Namlea	4.37	318	P	Pn	02 48 27.2	+5.2
KMPI	Kaimana, Papua	4.64	52	P	Sn	02 49 18.7	-0.3
KMPI	Kaimana, Papua	4.64	52	P	Pn	02 48 26.4	+0.8
SWI	Sorong	5.75	12	P	Pn	02 48 40.1	-0.3
	28nm,0.6s,7μm1.1nm						
SWI	Sorong	5.75	12	P	Pn	02 48 40.8	+0.4
	baz=5.9,SNR=8.9						
SWI				S	Sn	02 49 40.7	-4.9
	baz=5.9,SNR=8.0						
MTN	Manton Dam	6.38	170	P	Pn	02 48 50.3	+1.5
	baz=6.6,SNR=72						
MTN				S	Sn	02 49 58.9	-1.8
	baz=6.6,SNR=27						
RKPI	Ransiki, Papua	6.47	40	P	Pn	02 48 51.8	+1.7
RKPI	Ransiki, Papua	6.47	40	P	Pn	02 48 51.6	+1.5
	127nm,0.8s,8μm2.6nm						
SOEI	Soe	6.54	240	P	Pn	02 48 53.6	+2.5
	84nm,0.9s,2μm0.7nm						
SOEI	Soe	6.54	240	S	Sn	02 50 05.3	+0.6
	baz=6.2,SNR=12						
KDU	Kakadu	6.59	159	P	Pn	02 48 52.6	+1.0
	baz=6.8,SNR=612						
KDU				S	Sn	02 50 02.8	-2.9
	baz=6.8,SNR=16						
BBSI	Bau Bau	7.48	277	P	Pn	02 49 08.1	+4.6
	62nm,0.9s						
BAKI	Biak	8.05	49	P	Pn	02 49 14.0	+2.8
BAKI	Biak	8.05	49	P	Pn	02 49 13.2	+2.0
KNRA	Kununurra	9.19	188	P	Pn	02 49 26.6	+0.3
	baz=9.2,SNR=11						
KNRA				S	Sn	02 51 03.3	-5.0
	baz=9.2,SNR=14						
KAPI	Kappang	10.32	278	S	Sn	02 51 28.9	-6.9
	44nm,0.3s,baz=206,slow=21,SNR=12						
MRSI	Marisa	10.64	310	P	Pn	02 49 48.3	+2.6
PCI	Palu	11.59	298	P	P	02 50 18.2	+12
FITZ	Fitzroy Crossi	12.28	200	P	Pn	02 50 07.2	+0.1
	baz=13,slow=16						
FITZ				S	Sn	02 52 14.8	-8.1
	baz=86,slow=19						
WRA	Warramunga Arr	13.99	163	P	Pn	02 50 28.0	-1.1
	4.1nm,0.3s,baz=340,slow=14,SNR=19						
WRA				S	Sn	02 52 54.6	-10
	4.3nm,0.3s,baz=352,slow=23,SNR=11						
COEN	Coen	14.90	121	P	Pn	02 50 41.6	+1.0
	baz=15,SNR=36						
COEN				S	Sn	02 53 17.5	-8.5
	baz=15,SNR=4.2						
ASAR	Alice Springs	17.46	168	P	Pn	02 51 12.3	+0.6
	1.9nm,0.3s,baz=346,slow=9.7,SNR=106						
ASAR				S	S	02 54 17.9	-7.2
	0.5nm,0.3s,baz=349,slow=26,SNR=5.9						
ASAR				ScP	ScP	02 59 01.6	-4.3
	0.1nm,0.3s,baz=352,slow=2.2,SNR=4.4						
MTSU	Mount Surprise	18.10	131	P	Pn	02 51 19.6	+0.1
	baz=18,SNR=14						
CTA	Charters Tower	20.74	132	P	P	02 51 48.1	+1.7
	6.2nm,0.5s,baz=311,slow=11,SNR=14						
STKA	Stephens Creek	27.45	158	P	P	02 52 49.5	+0.2
	3.8nm,0.4s,baz=337,slow=8.6,SNR=15						
STKA	Stephens Creek	27.45	158	P	P	02 52 49.6	+0.2
	baz=28,SNR=6.2						
NWAO	Narrogin (SRO)	28.84	203	P	P	02 53 02.0	+0.2
	7.2nm,1.0s,baz=69,slow=8.6,SNR=3.8						
CMSA	Cobar Meteorol	28.89	151	P	P	02 53 02.8	+0.6
	baz=29,SNR=6.8						
YNG	Young	32.45	151	P	P	02 53 34.9	+1.4
	baz=33,SNR=7.6						
CMAR	Chiang Mai Arr	39.44	310	P	P	02 54 32.2	-1.0
	1.4nm,0.4s,baz=141,slow=8.2,SNR=5.9						
SONM	Songino Array	57.99	341	P	P	02 56 54.1	-0.4
	0.2nm,0.4s,baz=152,slow=5.1,SNR=2.1						
MKAR	Makanchi Array	67.83	327	P	P	02 57 59.0	-0.5
	2.7nm,0.5s,baz=116,slow=8.4,SNR=41						
VNDA	Vanda	72.92	173	P	P	02 58 29.8	0.0
	0.9nm,0.8s,baz=320,slow=6.8,SNR=7.8						
CPUP	Villa Florida	146.58	168	PKPbc	PKPbc	03 06 41.5	-0.6
	0.8nm,0.6s,baz=188,slow=3.6,SNR=4.0						
LPAZ	La Paz	151.09	142	PKPbc	PKPbc	03 06 53.4	-1.3
	0.6nm,0.4s,baz=209,slow=19,SNR=6.8						
LPAZ				PKPab	PKPab	03 07 02.8	+0.1
	1.5nm,0.7s,baz=204,slow=5.1,SNR=7.2						

DJA 31 02:50:27.5±0.4, 3°S±3°×12°0E±°, h11km, M3.8/6, MLv3.8/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.33	109	P	Pg	02 50 32.4	-1.7
TTSI				S	Sg	02 50 37.5	-0.9
MMSI	Mamuju	0.65	292	P	Pg	02 50 39.5	-0.6
MMSI				S	Sg	02 50 49.3	+0.6
SPSI	Sidrap Palu	1.05	166	P	Pb	02 50 45.0	-2.7
SPSI				S	Sg	02 51 00.2	-1.2
SKSI	Soroako, Sulaw	1.87	77	P	Pb	02 51 01.6	-0.2
SKSI				S	Sb	02 51 24.7	-0.5
KAPI	Kappang	2.07	173	P	Pn	02 51 01.0	-1.3
BKSI	Bulukumba	2.44	166	P	Pn	02 51 08.6	+1.2
BKSI				S	Sb	02 51 41.5	-0.1

PRE 31 03:24:04.0±1.8, 26°.45S×27°.58E, h2km, ML2.9, 3C-2D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	Kloof	0.10	13	*e*P	Pg	03 24 06.4	+0.1
KLOF				*e*S	Sg	03 24 07.8	0.0
KLOF				AML	AML	03 24 08.1	
	comp=Z,12μm,0.2s						
KLOF	Kloof	0.10	13 ⇑	*i* P	Pg	03 24 06.5	+0.3
KLOF				*e*S	Sg	03 24 07.8	0.0
KLOF				AML	AML	03 24 08.2	
	comp=Z,10μm,0.1s						
PRYS	Parys	0.52	203	*e*P	Pg	03 24 14.4	+0.2
PRYS				*e*S	Sg	03 24 21.1	+0.1
PRYS				AML	AML	03 24 26.4	
	comp=Z,162nm,0.5s						
PRYS	Parys	0.52	203	*e*P	Pg	03 24 14.6	+0.4
PRYS				*e*S	Sg	03 24 21.2	+0.2
PRYS				AML	AML	03 24 27.4	
	comp=Z,78nm,0.5s						
ERPM	east rand prop	0.60	80	*e*P	Pg	03 24 15.9	+0.2
ERPM				*e*S	Sg	03 24 23.4	-0.3
ERPM				AML	AML	03 24 25.1	
	comp=Z,140nm,0.2s						
ERPM	east rand prop	0.60	80	*e*P	Pg	03 24 16.0	+0.3
ERPM				*e*S	Sg	03 24 22.5	-1.2
ERPM				AML	AML	03 24 25.1	
	comp=Z,123nm,0.6s						
BFSD	Buffelsfontein	0.83	240	*e*P	Pg	03 24 20.2	+0.1
BFSD				*e*S	Sg	03 24 30.2	-0.8
BFSD				AML	AML	03 24 36.8	
	comp=Z,145nm,0.2s						
KSR	Koster	0.86	314	*e*P	Pg	03 24 20.0	-0.7
KSR				*e*S	Sg	03 24 31.5	-0.5
KSR				AML	AML	03 24 34.2	
	comp=Z,263nm,0.2s						
KSR	Koster	0.86	314	*e*P	Pg	03 24 20.5	-0.2
KSR				*e*S	Sg	03 24 31.1	-0.9
KSR				AML	AML	03 24 34.0	
	comp=Z,208nm,0.1s						
SLR	Silverton	0.95	42	*e*P	Pg	03 24 21.5	-0.9
SLR				*e*S	Sg	03 24 34.3	-0.5
SLR				AML	AML	03 24 39.5	
	comp=Z,110nm,0.2s						
SLR	Silverton	0.95	42 ‖	*i* P	Pg	03 24 21.8	-0.7
SLR				*e*S	Sg	03 24 34.0	-0.9
SLR				AML	AML	03 24 39.6	
	comp=Z,112nm,0.4s						
SEK	Senekal	1.87	179	*e*P	Pn	03 24 38.2	+0.9
SEK				*e*S	Sb	03 25 02.8	-0.3
SEK				AML	AML	03 25 04.5	
	comp=Z,233nm,0.5s						
SEK	Senekal	1.87	179 ⇑	*i* P	Pn	03 24 38.1	+0.8
SEK				*e*S	Sb	03 25 02.5	-0.6
SEK				AML	AML	03 25 04.5	
	comp=Z,212nm,0.4s						
SWZ	Schweizer	2.14	250	*e*P	Pn	03 24 41.2	+0.2
SWZ				*e*S	Sb	03 25 10.0	-1.0
SWZ				AML	AML	03 25 11.5	
	comp=Z,253nm,0.6s						
SWZ	Schweizer	2.14	250	*e*P	Pn	03 24 41.1	+0.1
SWZ				*e*S	Sb	03 25 10.0	-0.9
SWZ				AML	AML	03 25 11.8	
	comp=Z,236nm,0.6s						
LBTB	Lobatse	2.29	308	*e*P	Pn	03 24 43.6	+0.6
LBTB				*e*S	Sn	03 25 13.0	+1.1
LBTB				AML	AML	03 25 15.4	
	comp=Z,175nm,0.5s						
LBTB	Lobatse	2.29	308 ‖	*i* P	Pn	03 24 43.9	+0.9
LBTB				*e*S	Sn	03 25 12.7	+0.8
LBTB				AML	AML	03 25 15.5	
	comp=Z,175nm,0.5s						
BOSA	Boshof	2.99	223	*e*P	Pn	03 24 52.1	-0.5
BOSA				*e*S	Sn	03 25 27.8	-1.3
BOSA				AML	AML	03 25 37.4	
	comp=Z,24nm,0.7s						
BOSA	Boshof	2.99	223 ⇑	*i* P	Pn	03 24 52.6	0.0
BOSA				*e*S	Sn	03 25 27.6	-1.5
BOSA				AML	AML	03 25 37.4	
	comp=Z,24nm,0.7s						
POGA	Pongola	3.71	105	*e*P	Pn	03 25 03.3	+0.9
POGA				*e*S	Sn	03 25 48.4	+1.6
POGA				AML	AML	03 26 04.3	
	comp=Z,46nm,0.6s						
POGA	Pongola	3.71	105	*e*P	Pn	03 25 03.4	+1.0
POGA				*e*S	Sn	03 25 46.1	-0.7
POGA				AML	AML	03 26 04.1	
	comp=Z,45nm,0

NIED ***31*** *04:03:00, 46˚.90N×153˚.70E, h32km, Mw4.3 Best double couple: M0 3.48000×1015 NP1:φ=290.00000°, δ=83.00000°, λ=-29.00000°. NP2:φ=24.00000°, δ=62.00000°, λ=-172.00000°.*

BJI ***31*** *04:03:14.5, 48˚.35N×153˚.80E, h127km, mB4.8/17, mb4.6/34*

ISCJB ***31*** *04:03:18.5±0.5, 48˚.17N±0˚.04×153˚.29E±0˚.03, h131km±4km, mb4.5/170, Error ellipse: s-maj=6.9km s-min=3.2km az=161.2*

MOS ***31*** *04:03:19.9±1.0, 48˚.29N×153˚.26E, h139km, mb4.7/74, Error ellipse: s-maj=7.2km s-min=5.2km az=85.6*

NEIC ***31*** *04:03:20.7±0.6, 48˚.24N×153˚.22E, h135km±5km, mb4.7/100, Error ellipse: s-maj=5.6km s-min=2.8km az=167.0*

IDC ***31*** *04:03:22.7±0.8, 48˚.31N×153˚.23E, h156km±6km, mb4.1/28, mb1 4.2/32, mb1mx4.2/34, mbtmp4.1/32, Error ellipse: s-maj=11.9km s-min=7.6km az=149.0*

ISC 31 04:03:20.7±0.4, 48˚20N±0˚.06×153˚27E±0˚.04, h139km±2km, h139km:pP-P, n719, σ1º01/777, mb4.6/170, 186C-143D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.10**	**36**	*e*PN			Pn	04 04 03.7	-5.2
SKR				*e*S			Sn	04 04 39.5	-6.7
SKR				pmax			pmax		
	comp=N,60nm,0.5s								
SKR				pmax			pmax		
	comp=E,80nm,0.5s								
SKR				pmax			pmax		
	comp=Z,150nm,0.5s								
SKR				smax			smax		
	comp=N,710nm,0.3s								
SKR				smax			smax		
	comp=E,310nm,0.5s								
KUR	**Kuril'sk**	**4.75**	**233**	*e*PN			**Pn**	**04 04 32.1**	**+1.5**
KUR				*e*S			**Sn**	**04 05 27.2**	**+2.2**
KUR				pmax			pmax		
	comp=N,31nm,0.2s								
KUR				pmax			pmax		
	comp=E,17nm,0.4s								
KUR				pmax			pmax		
	comp=Z,40nm,0.6s								
KUR				smax			smax		
	comp=N,98nm,0.6s								
KUR				smax			smax		
	comp=E,50nm,0.8s								
PEA0B	**Petropavlovsk-**	**5.67**	**28**	*e*Pn			**Pn**	**04 04 42.5**	**-0.2**
PETK	**Petropavlovsk-**	**5.67**	**28**	PN			**Pn**	**04 04 42.5**	**-0.2**
PETK				S			**Sn**	**04 05 45.1**	**-1.7**
PETK				pmax			pmax		
	comp=Z,2.0nm,0.3s								
PETK				smax			smax		
	comp=N,2.0nm,0.3s								
PETK	**Petropavlovsk-**	**5.67**	**28**	P			**Pn**	**04 04 42.5**	**-0.2**
PETK				S			**Sn**	**04 05 45.1**	**-1.7**
PETK	**Petropavlovsk-**	**5.67**	**28**	P			**Pn**	**04 04 42.5**	**-0.2**
	comp=N,1.9nm,0.3s,baz=183,slow=13,SNR=25								
PETK				S			**Sn**	**04 05 45.1**	**-1.7**
	comp=N,1.7nm,0.3s,baz=188,slow=17,SNR=2.6								
YUK	**Yuzh-Kuril'sk**	**6.62**	**234**	PN			**Pn**	**04 04 56.6**	**+1.0**
YUK				S			**Sn**	**04 06 11.8**	**+2.0**
YUK				pmax			pmax		
	comp=Z,97nm,0.4s								
YUK				pmax			pmax		
	comp=N,69nm,0.4s								
YUK				pmax			pmax		
	comp=E,59nm,0.5s								
NEM2	**Nemuro 2**	**7.14**	**230**	P			**Pn**	**04 04 59.5**	**-3.1**
NEM2				*e*S			Sn	04 06 14.4	-8.0
YSS	**Yuzh-Sakhalins**	**7.22**	**264⇑**	*e*PN			**Pn**	**04 05 05.9**	**+2.3**
YSS				*e*S			**Sn**	**04 06 25.6**	**+1.4**
YSS				pmax			pmax		
	comp=Z,40nm,0.8s								
YSS				smax			smax		
	comp=E,30nm,1.0s								
JAK	**Akkeshi**	**7.95**	**232**	P			**Pn**	**04 05 10.8**	**-2.6**
JAK				*e*S			Sn	04 06 33.4	-8.4
JMP	**Maruseppu**	**8.06**	**242**	P			**Pn**	**04 05 14.4**	**-0.5**
ASAJ	**Asahikawa**	**8.46**	**245**	*e*Pn			**Pn**	**04 05 21.7**	**+1.6**
ASAJ	**Asahikawa**	**8.46**	**245**	P			**Pn**	**04 05 21.8**	**+1.6**
ASAJ	**Asahikawa**	**8.46**	**245**	P			**Pn**	**04 05 21.8**	**+1.6**
	comp=E,3.9nm,0.3s,baz=74,slow=15,SNR=27								
JOB	**Onbets**	**8.48**	**235**	P			**Pn**	**04 05 19.1**	**-1.3**
JOB				*e*S			Sn	04 06 48.1	-6.4
JKK2	**Kamakawa 2**	**8.50**	**243**	P			**Pn**	**04 05 21.7**	**+0.9**
JCH	**Churui**	**8.93**	**235**	P			**Pn**	**04 05 24.0**	**-2.5**
JEM	**Erimo**	**9.45**	**233**	*e*S			Sn	04 07 10.2	-7.8
ERM	**Erimo**	**9.45**	**233**	*i* PN			**Pn**	**04 05 33.4**	**0.0**
ERM	**Erimo**	**9.45**	**233**	*e*Pn			**Pn**	**04 05 32.2**	**-1.3**
ERM				*e*S			**Sn**	**04 07 13.3**	**-4.7**
JNBK	**Urakawa-nobuka**	**9.49**	**235**	P			**Pn**	**04 05 31.2**	**-2.8**
JNBK				*e*S			Sn	04 07 09.3	-10
JKB	**Kayabe**	**10.71**	**238**	P			Pn	04 05 46.6	-3.6
JKB				*e*S			Sn	04 07 37.3	-11
JSH	**Shimam**	**10.82**	**244**	P			**Pn**	**04 05 50.9**	**-0.9**
JTM	**Tenmabayashi**	**11.43**	**234**	P			Pn	04 05 54.2	-5.6
JTM				*e*S			Sn	04 07 52.0	-14
JANG	**Nango**	**11.49**	**231**	P			Pn	04 05 54.7	-5.8
HABR	**Khabarovsk**	**12.13**	**278**	*e*PN			**Pn**	**04 06 08.4**	**-0.5**
HABR				*e*S			**Sn**	**04 08 22.1**	**-0.6**
HABR				pmax			pmax		
	comp=Z,28nm,1.6s								
HABR				MLR			MLR		
	comp=Z,94nm,18.0s								
FX1	**Attu Island--F**	**13.48**	**62**	*e*Pn			**Pn**	**04 06 25.9**	**-0.3**
FX1				*e*S			Sn	04 08 47.0	-7.9
FX1	**Attu Island--F**	**13.48**	**62**	P			**Pn**	**04 06 26.3**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=302,slow=3.3,SNR=7.8								
FX1				S			Sn	04 08 45.7	-9.2
	comp=Z,8.8nm,0.3s,baz=210,slow=20,SNR=16								
KLR	**Kul'dur**	**14.25**	**282**	*e*P			**Pn**	**04 06 35.8**	**-0.2**
KLR				pmax			pmax		
	comp=E,85nm,1.6s								
KLR				pmax			pmax		
	comp=Z,80nm,1.6s								
SEY	**Seymchan**	**14.78**	**358**	*i* P			**P**	**04 06 44.8**	**-0.1**
USRK	**Ussuriysk Arra**	**15.26**	**263**	P			**Pn**	**04 06 49.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=70,slow=12,SNR=12								
MAT	**Matsushiro**	**16.08**	**229**	P			**Pn**	**04 06 57.5**	**-1.4**
MDJ	**Mudanjiang**	**16.70**	**266**	P			**P**	**04 07 05.3**	**-1.0**
MDJ				sP			**sP**	**04 07 47.0**	**-1.1**
MDJ				S			**Sn**	**04 10 09.3**	**-3.3**
MDJ				PcP			**PcP**	**04 11 47.8**	**+1.2**
MDJ				ScP			**ScP**	**04 15 10.0**	**+1.9**
MDJ				pmax			pmax		
	comp=Z,13nm,1.2s								
MDJ				pmax			pmax		
	comp=Z,82nm,7.4s								
MDJ				LR			LR		
	comp=N,76nm,4.9s								
MDJ				LR			LR		
	comp=E,61nm,4.9s								
MDJ				LR			LR		
	comp=Z,84nm,5.3s								
CLNS	**Chul'man**	**19.19**	**307**	*e*P			**Pn**	**04 07 34.9**	**-1.0**
CLNS				pmax			pmax		
	comp=Z,12nm,0.8s								
CLNS				pmax			pmax		
	comp=E,9.0nm,0.9s								
CLNS				pmax			pmax		
	comp=N,5.0nm,0.9s								
CN2	**Changchun**	**19.77**	**268**	⇓P			**P**	**04 07 38.0**	**-1.8**
CN2				*e*pP			**pP**	**04 08 06.0**	**+1.5**
CN2				*e*S			S	04 11 06.5	-8.4
CN2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
KSRS	**Korea Array**	**21.38**	**249**	P			**P**	**04 07 57.8**	**+0.8**
	comp=Z,12nm,0.6s,baz=47,slow=10,SNR=28								
KSAR	**Wonju Array Be**	**21.41**	**249**	P			**P**	**04 07 57.8**	**+0.4**
JNU	**Nakatsue**	**22.59**	**236**	P			**P**	**04 08 12.2**	**+2.7**
JNU	**Nakatsue**	**22.59**	**236**	P			**P**	**04 08 12.2**	**+2.7**
	comp=Z,8.7nm,0.9s,baz=68,slow=11,SNR=2.7								
TIXI	**Tiksi**	**26.11**	**343**	*e*P			**P**	**04 08 39.5**	**-1.6**
TIXI				pmax			pmax		
	comp=Z,10.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**30.33**	**272**	*e*P			**P**	**04 09 19.0**	**0.0**
HHC				pP			**pP**	**04 09 45.0**	**-3.8**
HHC				sP			**sP**	**04 10 00.3**	**-4.5**
HHC				PP			**PnPn**	**04 10 21.8**	**-1.7**
HHC				PcP			**PcP**	**04 12 17.8**	**+2.1**
HHC				S			**S**	**04 14 07.0**	**-1.9**
HHC				PcS			**PcS**	**04 16 00.5**	**+1.0**
HHC				ScS			**ScS**	**04 19 41.0**	**-0.1**
HHC				pmax			pmax		
	comp=Z,46nm,0.9s								
HHC				pmax			pmax		
	comp=Z,320nm,4.4s								
HHC				LR			LR		
	comp=N,220nm,11.3s								
HHC				LR			LR		
	comp=E,530nm,11.6s								
HHC				LR			LR		
	comp=Z,140nm,12.0s								
NJ2	**Nanjing**	**30.55**	**251**	*e*P			**P**	**04 09 21.3**	**+0.4**
NJ2				pmax			pmax		
	comp=Z,30nm,0.5s								
SONM	**Songino Array**	**30.98**	**287**	P			**P**	**04 09 25.3**	**+0.5**
SONM				pP			**pP**	**04 09 58.4**	**+3.8**
SONM	**Songino Array**	**30.98**	**287**	P			**P**	**04 09 25.3**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=59,slow=6.8,SNR=3.2								
SONM				pP			**pP**	**04 09 58.3**	**+3.8**
	comp=Z,1.5nm,0.7s,baz=56,slow=9.1,SNR=3.2								
TLY	**Talaya**	**31.64**	**295**	*e*P			**P**	**04 09 30.9**	**+0.6**
TLY				pmax			pmax		
	comp=Z,10.0nm,0.9s								
ZAK	**Zakamensk**	**32.19**	**293**	*e*P			**P**	**04 09 34.1**	**-1.1**
ZAK				*e*				04 10 05.3	
ZAK				pmax			pmax		
	comp=Z,3.0nm,0.9s								
IMA2	**Indian Mountai**	**32.58**	**37**	*e*P			**P**	**04 09 38.7**	**+0.3**
PPLA	**Purkeypile**	**33.02**	**43**	*e*P			**P**	**04 09 43.4**	**+1.0**
	comp=Z,14nm,1.1s								
KDAK	**Kodiak Island**	**33.12**	**53**	P			**P**	**04 09 42.2**	**-0.9**
KDAK	**Kodiak Island**	**33.12**	**53**	P			**P**	**04 09 42.2**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=280,slow=14,SNR=4.6								
BPAW	**Bear Paw Mtn.**	**33.58**	**41**	*e*P			**P**	**04 09 47.6**	**+0.6**
	comp=Z,7.5nm,0.8s								
TRF	**Thorofare Moun**	**33.89**	**42**	*e*P			**P**	**04 09 49.8**	**-0.1**
	comp=Z,8.5nm,0.8s								
COLD	**Coldfoot**	**34.08**	**35**	*e*P			**P**	**04 09 51.7**	**+0.4**
	comp=Z,10nm,0.7s								
WHN	**Wuhan**	**34.42**	**254**	P			**P**	**04 09 55.0**	**+0.3**
MCK	**McKinley**	**34.49**	**42**	*e*P			**P**	**04 09 55.0**	**+0.1**
MCK				pmax			pmax		
	comp=Z,11nm,0.8s								
MCK	**McKinley**	**34.49**	**42**	*e*P			**P**	**04 09 55.0**	**+0.1**
	comp=Z,11nm,0.8s								
SML	**Sawmill**	**34.86**	**45**	*e*P			**P**	**04 09 58.0**	**-0.1**
SML				pmax			pmax		
	comp=Z,9.0nm,0.7s								
SML	**Sawmill**	**34.86**	**45**	*e*P			**P**	**04 09 58.0**	**-0.1**
	comp=Z,8.7nm,0.7s								
COLA	**College**	**34.94**	**40**	*e*P			**P**	**04 09 59.0**	**+0.3**
COLA				pmax			pmax		
	comp=Z,34nm,0.7s								
COLA	**College**	**34.94**	**40**	*e*P			**P**	**04 09 59.0**	**+0.3**
	comp=Z,34nm,0.7s								
ILAR	**Eielson Array**	**35.36**	**40**	P			**P**	**04 10 01.9**	**-0.4**
ILAR	**Eielson Array**	**35.36**	**40**	P			**P**	**04 10 01.9**	**-0.4**
	comp=Z,5.2nm,0.9s,baz=258,slow=5.8,SNR=69								
BMRM	**Bremner River**	**36.74**	**46**	*e*P			**P**	**04 10 14.9**	**+0.8**
	comp=Z,12nm,1.0s								
HVS	**Khovu-Aksy**	**37.76**	**297⇓**	*e*P			**P**	**04 10 22.9**	**0.0**
HVS				pmax			pmax		
	comp=Z,50nm,1.0s								
LZH	**Lanzhou**	**37.97**	**270**	*e*P			**P**	**04 10 26.0**	**+1.0**
LZH				pP			**pP**	**04 10 58.0**	**+2.5**
LZH				sP			**sP**	**04 11 13.5**	**+2.1**
LZH				PP			**PnPn**	**04 11 58.5**	**+1.0**
LZH				PcP			**PcP**	**04 12 39.0**	**+1.2**
LZH				*e*S			**S**	**04 16 03.3**	**-3.4**
LZH				sS			**sS**	**04 16 59.3**	**-0.5**
LZH				SS			**SS**	**04 18 55.0**	**-4.1**
LZH				pmax			pmax		
	comp=Z,36nm,1.3s								
LZH				pmax			pmax		
	comp=Z,68nm,4.0s								
DAWY	**Dawson**	**38.66**	**41**	*e*P			**P**	**04 10 30.2**	**-0.1**
GTA	**Gaotai**	**38.87**	**277**	*e*P			**P**	**04 10 32.5**	**+0.1**
GTA				pP			**pP**	**04 11 03.5**	**+0.4**
GTA				sP			**sP**	**04 11 17.8**	**-1.1**
GTA				S			**ScP**	**04 16 17.5**	**+2.0**
GTA				PcS			**PcS**	**04 16 28.5**	**-1.7**
GTA				sS			**sS**	**04 17 11.8**	**-1.6**
GTA				pmax			pmax		
	comp=Z,5.0nm,0.9s								
GTA				pmax			pmax		
	comp=Z,71nm,6.2s								
INK	**Inuvik**	**40.38**	**33**	*e*P			**P**	**04 10 45.0**	**+0.7**
	comp=Z,10nm,0.8s								
INK	**Inuvik**	**40.38**	**33**	P			**P**	**04 10 44.9**	**+0.6**
	comp=Z,6.3nm,0.6s,baz=296,slow=9.4,SNR=6.8								
CD2	**Chengdu**	**41.13**	**264**	*e*P			**P**	**04 10 50.5**	**-0.5**
CD2				pP			**pP**	**04 11 22.3**	**+0.4**
CD2				sP			**sP**	**04 11 38.0**	**+0.3**
CD2				PP			**PP**	**04 12 30.8**	**+2.2**
CD2				S			**S**	**04 16 52.3**	**-1.3**
CD2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
CD2				pmax			pmax		
	comp=Z,100nm,5.8s								
ZAA0	**Zalesovo Array**	**41.87**	**305**	*e*P			**P**	**04 10 55.4**	**-1.3**
ZALV	**Zalesovo Beam**	**41.87**	**305**	*i* P			**P**	**04 10 55.5**	**-1.2**
ZALV				pmax			pmax		
	comp=Z,7.0nm,0.6s								
ZALV	**Zalesovo Beam**	**41.87**	**305**	P			**P**	**04 10 55.6**	**-1.1**
ZALV				pP			**pP**	**04 11 30.8**	**+3.2**
ZALV				PcP			**PcP**	**04 12 49.7**	**0.0**
ZALV	**Zalesovo Beam**	**41.87**	**305**	P			**P**	**04 10 55.6**	**-1.1**
	comp=Z,6.6nm,0.6s,baz=62,slow=7.1,SNR=34								
ZALV				pP			**pP**	**04 11 30.8**	**+3.2**
	comp=Z,2.7nm,0.8s,baz=64,slow=10,SNR=3.7								
ZALV				PcP			**PcP**	**04 12 49.7**	**0.0**
	comp=Z,3.8nm,0.8s,baz=56,slow=3.7,SNR=8.2								
GYA	**Guiyang**	**42.15**	**256**	*e*P			**P**	**04 11 01.3**	**+1.8**
GYA				pP			**pP**	**04 11 30.5**	**0.0**
GYA				sP			**sP**	**04 11 45.3**	**-0.9**
GYA				PP			**PP**	**04 12 42.0**	**+2.2**
GYA				PcP			**PcP**	**04 12 52.3**	**+1.0**
GYA				ScP			**ScP**	**04 16 29.0**	**+0.5**
GYA				PcS			**PcS**	**04 16 42.0**	**-1.5**
GYA				S			S	04 17 02.0	-6.9
GYA				sS			**sS**	**04 18 02.8**	**0.0**
GYA				ScS			**ScS**	**04 20 43.5**	**-3.5**
GYA				pmax			pmax		
	comp=Z,10.0nm,1.0s								
NVS	**Novosibirsk**	**42.41**	**306⇑**	*i* P			**P**	**04 10 58.8**	**-2.2**
NVS				*e*				04 11 32.6	
NVS				pmax			pmax		
	comp=E,6.0nm,0.6s								
NVS				pmax			pmax		
	comp=Z,6.0nm,0.6s								
WMQ	**Urumqi**	**44.52**	**290**	*e*P			**P**	**04 11 18.3**	**+0.1**
WMQ				pmax			pmax		
	comp=Z,4.0nm,1.0s								
QIZ	**Qiongzhong**	**45.53**	**246**	P			**P**	**04 11 27.0**	**+0.6**
QIZ				sP			**sP**	**04 12 11.5**	**-1.9**
QIZ				S			**S**	**04 18 00.3**	**+2.5**
QIZ				sS			**sS**	**04 18 52.0**	**-0.3**
QIZ				pmax			pmax		
	comp=Z,7.0nm,1.3s								
QIZ				LR			LR		
	comp=N,92nm,6.2s								
QIZ				LR			LR		
	comp=Z,75nm,8.9s								
KMI	**Kunming**	**45.63**	**258**	P			**P**	**04 11 27.5**	**+0.1**
KMI				pmax			pmax		
	comp=Z,8.0nm,0.7s								
MK31	**Makanchi Array**	**46.39**	**296**	*e*P			**P**	**04 11 31.9**	**-0.9**
MK31	**Makanchi Array**	**46.39**	**296**	*e*P			**P**	**04 11 31.9**	**-0.9**
MKAR	**Makanchi Array**	**46.39**	**296**	P			**P**	**04 11 32.0**	**-0.8**
MKAR				*PP			**pP**	**04 12 07.7**	**+3.4**
MKAR				pmax			pmax		
	comp=Z,10.0nm,0.8s								
MKAR	**Makanchi Array**	**46.39**	**296**	P			**P**	**04 11 32.0**	**-0.8**
MKAR				pP			**pP**	**04 12 07.7**	**+3.4**
MKAR				ScP			**ScP**	**04 16 45.1**	**-0.4**
MKAR	**Makanchi Array**	**46.39**	**296**	P			**P**	**04 11 32.0**	**-0.8**
	comp=Z,9.3nm,0.8s,baz=66,slow=7.7,SNR=82								
MKAR				pP			**pP**	**04 12 07.7**	**+3.4**
	comp=Z,5.7nm,0.8s,baz=62,slow=8.2,SNR=7.4								
MKAR				ScP			**ScP**	**04 16 45.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=52,slow=3.8,SNR=3.9								
KURK	**Kurchatov**	**46.66**	**303**	P			**P**	**04 11 35.0**	**+0.1**
KURK				*PP			**pP**	**04 12 10.2**	**+3.8**
KURK				pmax			pmax		
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**46.66**	**303**	P			**P**	**04 11 35.0**	**+0.1**
KURK				pP			**pP**	**04 12 10.2**	**+3.8**
KURBB	**Kurchatov Arra**	**46.76**	**302**	P			**P**	**04 11 35.0**	**-0.6**
	comp=Z,9.5nm,0.8s,baz=67,slow=8.4,SNR=30								
KURBB				pP			**pP**	**04 12 10.2**	**+3.1**
	comp=Z,11nm,0.8s,baz=66,slow=8.7,SNR=12								
YKA	**Yellowknife Ar**	**49.70**	**37**	P			**P**	**04 11 58.2**	**+0.2**
YKA	**Yellowknife Ar**	**49.70**	**37**	P			**P**	**04 11 58.2**	**+0.2**
	comp=Z,8.3nm,0.8s,baz=298,slow=7.4,SNR=18								
VOSK	**Vostochnaya**	**49.87**	**308**	P			**P**	**04 11 58.1**	**-1.4**
VOSK				pmax			pmax		
	comp=Z,15nm,0.6s								
BVA0	**Borovoye Array**	**50.03**	**309**	*i* P			**P**	**04 11 59.4**	**-1.2**
BVA0				pmax			pmax		
	comp=Z,18nm,0.6s								
BRVK	**Borovoye**	**50.07**	**309**	*c i* P			**P**	**04 12 00.1**	**-0.8**
BRVK				pmax			pmax		
	comp=Z,28nm,0.8s								
BRVK	**Borovoye**	**50.07**	**309**	*e*P			**P**	**04 11 60.0**	**-1.0**
	comp=Z,24nm,0.6s								
TKM2	**Tokmak 2**	**52.47**	**295**	*e*P			**P**	**04 12 18.9**	**-0.3**
TKM2				pmax			pmax		
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**52.47**	**295**	*e*P			**P**	**04 12 18.9**	**-0.3**
	comp=Z,3.3nm,0.8s								
SHL	**Shillong**	**52.53**	**268**	*e*P			**P**	**04 12 20.0**	**+0.2**
CHTO	**Chiang Mai**	**52.57**	**256**	*e*P			**P**	**04 12 21.5**	**+1.5**
CHTO				pmax			pmax		
	comp=Z,10.0nm,0.7s								
CHTO	**Chiang Mai**	**52.57**	**256**	*e*P			**P**	**04 12 21.5**	**+1.5**
	comp=Z,9.6nm,0.7s								
CMAR	**Chiang Mai Arr**	**52.83**	**255**	P			**P**	**04 12 23.5**	**+1.6**
CMAR				PcP			**PcP**	**04 13 29.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**52.83**	**255**	P			**P**	**04 12 23.5**	**+1.6**
	comp=Z,3.8nm,0.7s,baz=33,slow=7.2,SNR=15								
CMAR				PcP			**PcP**	**04 13 29.5**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=30,slow=4.3,SNR=4.3								
AAK	**Ala-Archa**	**53.30**	**295**	*e*P			**P**	**04 12 24.6**	**-0.7**
AAK				pmax			pmax		
	comp=Z,23nm,1.4s								
AAK	**Ala-Archa**	**53.30**	**295**	*e*P			**P**	**04 12 24.5**	**-0.8**
	comp=Z,6.1nm,1.0s								
EKS2	**Erkin-Say**	**53.72**	**296**	*e*P			**P**	**04 12 28.0**	**-0.2**
EKS2				pmax			pmax		
	comp=Z,8.0nm,1.1s								
EKS2	**Erkin-Say**	**53.72**	**296**	*e*P			**P**	**04 12 28.0**	**-0.2**
	comp=Z,7.9nm,1.1s								
ARU	**Arti**	**54.02**	**317**	*d i* P			**P**	**04 12 29.0**	**-1.1**
ARU				*PP			**pP**	**04 13 04.6**	**+2.1**
ARU								04 13 33.1	
ARU				S			**S**	**04 19 55.8**	**+0.8**
ARU				SS			**SS**	**04 23 37.4**	**-0.1**
ARU				pmax			pmax		
	comp=Z,14nm,1.0s								
KSH	**Kashi**	**54.21**	**292**	P			P	04 12 35.3	+3.4
KSH				sP			sP	04 13 23.3	+3.6
KSH				PP			PP	04 14 40.3	+5.6
KSH				S			**S**	**04 19 59.0**	**+0.8**
KSH				sS			sS	04 20 56.0	+1.8
KSH				pmax			pmax		
	comp=Z,7.0nm,1.3s								
KSH				LR			LR		
	comp=N,740nm,16.0s								
KSH				LR			LR		
	comp=E,270nm,8.1s								
KSH				LR			LR		
	comp=Z,75nm,5.7s								
LTY	**Liberty**	**54.87**	**56**	*e*P			**P**	**04 12 36.6**	**+0.2**
	comp=Z,4.5nm,0.6s								
B08A	**Colville Reser**	**54.97**	**54**	*e*P			**P**	**04 12 37.5**	**+0.4**
	comp=Z,6.1nm,0.8s								
EDM	**Edmonton**	**55.24**	**47**	*e*P			**P**	**04 12 39.4**	**+0.4**
EDM	**Edmonton**	**55.24**	**47**	*e*P			**P**	**04 12 39.4**	**+0.4**
C09A	**Chrisman Ranch**	**55.87**	**55**	*e*P			**P**	**04 12 43.8**	**+0.3**
	comp=Z,5.7nm,0.8s								
NEW	**Newport**	**56.22**	**54**	*e*P			**P**	**04 12 46.2**	**+0.2**
	comp=Z,8.6nm,1.2s								
NEW	**Newport**	**56.22**	**54**	⇑P			**P**	**04 12 46.1**	**+0.1**
	baz=56								
HUMO	**Hull Mountain**	**56.30**	**62**	*e*P			**P**	**04 12 48.0**	**+1.4**
	comp=Z,10nm,1.2s								
VIPM	**Ingram Point**	**56.52**	**59**	P			**P**	**04 12 49.2**	**+0.9**
VIPM	**Ingram Point**	**56.52**	**59**	P			**P**	**04 12 49.2**	**+0.9**
ARCES	**ARCESS Array B**	**56.52**	**341**	P			**P**	**04 12 45.4**	**-2.4**
ARCES	**ARCESS Array B**	**56.52**	**341**	P			**P**	**04 12 45.4**	**-2.4**
	comp=Z,1.9nm,0.7s,baz=34,slow=7.3,SNR=11								
E09A	**Wood Farm, Sta**	**56.70**	**56**	*e*P			**P**	**04 12 50.2**	**+0.8**
	comp=Z,9.1nm,0.8s								
YBH	**Yreka Blue Hor**	**56.97**	**63**	P			**P**	**04 12 52.5**	**+1.0**
YBH	**Yreka Blue Hor**	**56.97**	**63**	P			**P**	**04 12 52.5**	**+1.0**
	comp=Z,7.0nm,0.9s,baz=327,slow=3.6,SNR=9.6								
G08A	**Pilot Rock**	**56.99**	**57**	*e*P			**P**	**04 12 52.4**	**+0.8**
	comp=Z,3.7nm,0.9s								
I07A	**Izee**	**57.41**	**59**	*e*P			**P**	**04 12 55.4**	**+0.8**
	comp=Z,6.8nm,1.0s								
K05A	**Summer Lake**	**57.44**	**61**	*e*P			**P**	**04 12 56.5**	**+1.6**
	comp=Z,22nm,1.0s								
WALA	**Waterton Lakes**	**57.44**	**51**	*e*P			**P**	**04 12 55.0**	**+0.3**
	comp=Z,0.2nm,0.6s					

baz=60,SNR=9.5
B19A **Brinkman Farms** 60.38 49 ⇓P P 04 13 15.4 +0.6
baz=60,SNR=8.8
HLID **Hailey** 60.61 56 eP P 04 13 17.6 +0.9
comp=Z,4.1nm,0.9s
HLID **Hailey** 60.61 56 ⇓P P 04 13 17.5 +0.9
baz=60,SNR=8.5
A20A **Cobblestone Ra** 60.62 48 ⇓P P 04 13 17.2 +0.7
baz=60,SNR=6.6
MCMT **McKenzie Canyo** 60.66 55 eP P 04 13 16.0 -1.1
comp=Z,3.2nm,1.0s
E17A **Martinsdale** 60.67 52 ⇑P P 04 13 18.4 +1.3
baz=60,SNR=17
CMB **Columbia Colle** 60.68 65 eP P 04 13 17.7 +0.6
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB **Columbia Colle** 60.68 65 eP P 04 13 17.7 +0.6
comp=Z,5.9nm,0.8s
D18A **Linhart Farms,** 60.75 51 ⇓P P 04 13 18.4 +0.8
baz=60
BOZ **Bozeman (W)** 60.79 53 eP P 04 13 19.0 +1.1
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ **Bozeman (W)** 60.79 53 eP P 04 13 19.0 +1.1
comp=Z,10nm,0.8s
B20A **Solberg Farm,** 60.85 49 ⇓P P 04 13 18.6 +0.4
baz=61,SNR=7.1
WAKR **Walker** 60.95 64 eP P 04 13 19.9 +0.9
comp=Z,7.5nm,0.6s
BMN **Battle Mountai** 61.02 61 eP P 04 13 20.3 +0.8
BMN pmax pmax
comp=Z,13nm,0.6s
BMN **Battle Mountai** 61.02 61 eP P 04 13 20.3 +0.8
comp=Z,13nm,0.6s
A21A **Bergtoll Ranch** 61.04 48 ⇓P P 04 13 20.2 +0.9
baz=61,SNR=8.8
E18A **Harlowton** 61.10 51 ⇓P P 04 13 20.8 +0.8
baz=61
F17A **Fitzpatrick Pl** 61.14 52 ⇓P P 04 13 21.2 +1.0
baz=61,SNR=10
D19A **Cripps Ranch,** 61.25 50 ⇓P P 04 13 21.6 +0.7
baz=61,SNR=6.6
C20A **Veseth Ranch,** 61.34 50 ⇑P P 04 13 22.3 +0.9
baz=61,SNR=11
QLMT **Earthquake Lak** 61.43 54 eP P 04 13 23.2 +1.0
G17A **Pierce Place,** 61.48 53 ⇓P P 04 13 23.8 +1.3
baz=61,SNR=9.1
A22A **Carney Farms,** 61.54 47 ⇑P P 04 13 23.3 +0.6
baz=61,SNR=7.3
H16A **Russell Place,** 61.61 54 ⇑P P 04 13 24.5 +1.0
baz=61,SNR=7.9
F18A **Big Timber** 61.64 52 ⇑P P 04 13 24.7 +1.2
baz=61,SNR=11
NVAR **Mina Array Bea** 61.67 63 P P 04 13 24.8 +0.8
NVAR **Mina Array Bea** 61.67 63 P P 04 13 24.8 +0.8
comp=Z,11nm,0.7s,baz=294,slow=7.3,SNR=64
D20A **Manuel Ranch,** 61.68 50 ⇑P P 04 13 24.8 +1.1
baz=61,SNR=13
C21A **Desert Coulee** 61.72 49 ⇑P P 04 13 24.8 +0.8
baz=62
NV11 **Mina Array Sit** 61.76 63 eP P 04 13 25.3 +0.8
E19A **Rath Farm, Rou** 61.76 51 ⇑P P 04 13 25.3 +1.0
baz=62,SNR=7.7
B22A **Reddig Ranch S** 61.96 48 ⇑P P 04 13 25.9 +0.3
baz=62
ELK **Elko** 61.96 59 eP P 04 13 26.2 +0.3
comp=Z,5.4nm,1.0s
I16A **Newdale** 62.02 55 ⇑P P 04 13 27.7 +1.5
baz=62,SNR=6.5
E20A **Meyer Farm, Mu** 62.07 51 ⇓P P 04 13 27.4 +1.0
baz=62
F19A **Roth Farm, Mol** 62.08 52 ⇓P P 04 13 27.5 +1.0
baz=62,SNR=9.1
G18A **Lazy EL Ranch,** 62.11 52 ⇓P P 04 13 26.9 +0.2
baz=62
D21A **La Casta Ranch** 62.28 50 ⇑P P 04 13 28.5 +0.7
baz=62
IMW **Indian Meadow** 62.31 54 eP P 04 13 29.7 +1.4
comp=Z,9.0nm,1.1s
B23A **Brockton** 62.35 47 ⇑P P 04 13 28.7 +0.6
baz=62
RRI2 **Red Ridge** 62.46 55 eP P 04 13 30.7 +1.5
comp=Z,22nm,0.8s
H18A **Shoshone NF, C** 62.48 53 ⇓P P 04 13 30.3 +1.0
baz=62,SNR=6.6
I17A **Pilgrim Ck.** 62.49 54 ⇑P P 04 13 30.9 +1.6
baz=62
RCTC **Rector, Farmer** 62.49 65 ⇑P P 04 13 30.8 +1.6
baz=62
MOOW **Moose Ponds** 62.51 54 eP P 04 13 30.7 +1.2
comp=Z,5.1nm,0.8s
F20A **Billings** 62.53 51 ⇓P P 04 13 30.7 +1.2
baz=62
TPAW **Teton Pass** 62.57 55 eP P 04 13 31.6 +1.6
comp=Z,14nm,0.8s
TIN **Tinemaha** 62.62 64 ⇑P P 04 13 31.3 +1.1
baz=62
D22A **Cohagen** 62.64 49 ⇓P P 04 13 30.8 +0.7
baz=62
LOHW **Long Hollow** 62.68 54 eP P 04 13 31.7 +1.1
comp=Z,17nm,1.4s
SNOW **Snow King Moun** 62.69 55 eP P 04 13 32.2 +1.5
comp=Z,11nm,0.9s
C23A **Lambert** 62.70 48 ⇑P P 04 13 30.9 +0.5
baz=62
REDW **Red Top Meadow** 62.71 55 eP P 04 13 32.3 +1.5
comp=Z,16nm,0.9s
FINES **FINESS Array B** 62.78 335 P P 04 13 29.6 -1.1
FINES **FINESS Array B** 62.78 335 P P 04 13 29.6 -1.1
comp=Z,6.2nm,0.4s,baz=36,slow=7.6,SNR=62
G20A **Bridger** 62.88 52 ⇑P P 04 13 32.3 +0.4
baz=63,SNR=6.4
PKM **Peak Mountain** 63.07 67 ⇓P P 04 13 34.2 +0.9
baz=63
D23A **Lindsay** 63.11 49 ⇓P P 04 13 33.7 +0.5
baz=63
GRAC **Grapevine Rang** 63.17 64 ⇑P P 04 13 34.7 +0.9
baz=63,SNR=5.3
I19A **Meeteetse** 63.26 53 ⇑P P 04 13 35.6 +1.1
baz=63,SNR=5.7
R11A **Troy Canyon, C** 63.34 62 eP P 04 13 35.0 +0.1
R11A **Troy Canyon, C** 63.34 62 ⇑P P 04 13 35.4 +0.4
baz=63,SNR=18
ISA **Isabella** 63.38 66 ⇓P P 04 13 35.0 -0.2
baz=63
SBC **Santa Barbara** 63.43 67 ⇓P P 04 13 36.6 +1.2
baz=63
HWUT **Hardware Ranch** 63.48 57 eP P 04 13 36.4 +0.5
comp=Z,14nm,1.0s
H20A **Greybull** 63.49 52 ⇑P P 04 13 36.1 +0.3
baz=63
ARVC **Arvin** 63.52 66 ⇓P P 04 13 36.6 +0.6
baz=63
F22A **Rosebud** 63.52 50 ⇓P P 04 13 36.7 +0.8
baz=63
D24A **Glendive** 63.59 48 ⇑P P 04 13 36.8 +0.5
baz=63
C25A **Freed Ranch, W** 63.71 47 ⇓P P 04 13 38.1 +1.0
baz=64
DUG **Dugway** 63.72 58 eP P 04 13 38.1 +0.7
DUG pmax pmax
comp=Z,16nm,1.0s
DUG **Dugway** 63.72 58 eP P 04 13 38.0 +0.7
comp=Z,16nm,1.0s
DUG **Dugway** 63.72 58 ⇓P P 04 13 38.2 +0.8
baz=64,SNR=16
MPMC **Manual Prospec** 63.72 65 ⇑P P 04 13 37.9 +0.3
baz=64,SNR=10
J19A **Crowheart** 63.75 54 ⇓P P 04 13 38.3 +0.7
baz=64
I20A **Worland** 63.78 53 ⇑P P 04 13 38.9 +1.1
baz=64,SNR=6.9
PDAR **Pinedale Array** 63.81 55 P P 04 13 38.5 +0.4
PDAR **Pinedale Array** 63.81 55 P P 04 13 38.5 +0.4
comp=Z,9.7nm,0.8s,baz=301,slow=1.6,SNR=88
FURC **Furnace Creek,** 63.83 64 ⇑P P 04 13 38.8 +0.8
baz=64,SNR=8.2
G22A **Birney** 63.89 51 ⇓P P 04 13 39.0 +0.6
baz=64
H21A **Big Horn, Sher** 63.90 52 ⇓P P 04 13 39.1 +0.6
baz=64,SNR=8.2
OSI **Osito Adit** 63.93 67 ⇑P P 04 13 39.7 +0.9
baz=64
LRMC **Laurel Mountai** 63.98 65 ⇑P P 04 13 39.8 +0.5
baz=64
F23A **Volborg** 64.00 50 ⇓P P 04 13 39.1 0.0
baz=64
M17A **Scullys Gap (B** 64.07 56 ⇓P P 04 13 40.3 +0.4
baz=64,SNR=8.4
K19A **Absolon Red Bu** 64.16 54 ⇑P P 04 13 40.4 0.0
baz=64,SNR=6.5
B27A **Peters Farms,** 64.20 46 ⇑P P 04 13 40.7 +0.4
baz=64
EDW2 **Edwards Air Fo** 64.20 66 ⇑P P 04 13 40.9 +0.4
baz=64,SNR=9.6
J20A **Shoshoni** 64.21 53 ⇑P P 04 13 41.1 +0.5
baz=64
JLU **Jordanelle** 64.22 57 eP P 04 13 41.9 +1.1
comp=Z,11nm,1.3s
A28A **Rude Farm, Bot** 64.31 45 ⇓P P 04 13 41.0 0.0
baz=64
I21A **Big Trails, Te** 64.32 52 ⇑P P 04 13 41.9 +0.6
baz=64,SNR=14
G23A **Biddle** 64.36 50 ⇓P P 04 13 41.7 +0.2
baz=64
L19A **Farson** 64.37 55 ⇑P P 04 13 42.1 +0.3
baz=64
F24A **Ekalaka** 64.41 49 ⇑P P 04 13 42.5 +0.7
baz=64
DECC **Green Verdugo** 64.41 67 ⇓P P 04 13 42.1 +0.2
baz=64
DAU **Daniels Canyon** 64.45 57 eP P 04 13 43.8 +1.4
DAU **Daniels Canyon** 64.45 57 eP P 04 13 43.8 +1.4
MPU **Maple Canyon** 64.51 58 eP P 04 13 43.5 +0.9
comp=Z,11nm,0.7s
K20A **Yellowstone Ra** 64.54 54 ⇓P P 04 13 42.7 -0.1
baz=64,SNR=6.4
SHOC **Shoshone** 64.56 64 ⇓P P 04 13 42.9 +0.1
baz=64
J21A **Lysite** 64.56 53 ⇑P P 04 13 43.1 +0.2
baz=64
B28A **Dugan Ranch, T** 64.59 45 ⇓P P 04 13 43.1 +0.3
baz=64
MWC **Mount Wilson** 64.60 66 eP P 04 13 43.7 +0.4
MWC pmax pmax
comp=Z,10.0nm,0.9s
MWC **Mount Wilson** 64.60 66 eP P 04 13 43.7 +0.4
comp=Z,9.9nm,0.9s
GSC **Goldstone** 64.64 65 eP P 04 13 43.7 +0.2
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC **Goldstone** 64.64 65 eP P 04 13 43.7 +0.2
comp=Z,6.6nm,0.9s
GSC **Goldstone** 64.64 65 ⇑P P 04 13 43.7 +0.2
baz=64,SNR=7.0
I22A **9 Mile Ranch,** 64.69 52 ⇓P P 04 13 44.0 +0.3
baz=64
SHPR **Sheep Range** 64.82 63 eP P 04 13 45.2 +0.6
BFSC **Mount Baldy Ra** 64.83 66 ⇑P P 04 13 45.2 +0.4
baz=65
E26A **Carlson Angus** 64.96 48 ⇓P P 04 13 45.9 +0.6
baz=65
L20A **Wamsutter** 64.99 54 ⇓P P 04 13 46.2 +0.5
baz=65,SNR=5.6
B29A **Wagenman Farm,** 65.06 44 ⇓P P 04 13 46.1 +0.3
baz=65
TUQ **Turquoise Moun** 65.08 64 ⇑P P 04 13 46.6 +0.3
baz=65,SNR=8.2
H24A **Dirks Ranch, A** 65.11 50 ⇑P P 04 13 46.3 -0.1
baz=65,SNR=7.2
CCUT **Cedar City** 65.17 61 eP P 04 13 47.7 +0.7
comp=Z,4.6nm,0.8s
MVU **Marysvale** 65.20 60 eP P 04 13 48.1 +0.9
A30A **Hoffart Farm,** 65.21 44 ⇓P P 04 13 46.9 +0.1
baz=65
TMUT **Trail Mountain** 65.24 58 eP P 04 13 48.1 +0.6
comp=Z,12nm,0.8s
HEC **Hector,Ludlow** 65.24 65 ⇓P P 04 13 47.7 +0.4
baz=65,SNR=14
BBRC **Big Bear Solar** 65.27 66 ⇑P P 04 13 48.0 +0.3
baz=65
ULM **Lac du Bonnet** 65.36 41 P P 04 13 47.7 0.0
ULM **Lac du Bonnet** 65.36 41 P P 04 13 47.7 0.0
comp=Z,2.0nm,0.5s,baz=319,slow=7.7,SNR=3.6
G25A **Newell** 65.38 49 ⇓P P 04 13 48.4 +0.4
baz=65
M20A **Sweetwater, Wa** 65.42 55 ⇓P P 04 13 49.4 +0.8
baz=65,SNR=7.1
Q16A **Castle Valley** 65.51 59 ⇑P P 04 13 49.8 +0.7
baz=65,SNR=9.9
K22A **Casper** 65.53 53 ⇑P P 04 13 49.7 +0.6
baz=65
L21A **Rawlins** 65.54 54 ⇑P P 04 13 49.5 +0.2
baz=65,SNR=6.2
MURC **Murrieta** 65.54 66 ⇑P P 04 13 49.3 +0.1
baz=65
B30A **Myrvik Farm, E** 65.55 44 ⇓P P 04 13 49.5 +0.5
baz=65,SNR=9.0
F27A **Lemmon** 65.60 48 ⇓P P 04 13 49.0 -0.4
baz=65
GMRC **Granite Mounta** 65.68 65 ⇓P P 04 13 50.5 +0.3
baz=66,SNR=9.7
H25A **Fruitdale** 65.69 50 ⇓P P 04 13 50.5 +0.5
baz=65
I24A **Kuemmerle Ranc** 65.69 51 ⇑P P 04 13 49.7 -0.4
baz=65
G26A **Maurine** 65.72 49 ⇑P P 04 13 50.3 +0.1
baz=66,SNR=6.2
O19A **Miners Draw (B** 65.73 56 ⇓P P 04 13 50.8 +0.3
baz=66,SNR=7.1
SRU **San Rafael** 65.75 58 eP P 04 13 51.4 +0.7
SRU pmax pmax
comp=Z,21nm,0.9s
SRU **San Rafael** 65.75 58 eP P 04 13 51.4 +0.7
comp=Z,20nm,0.9s
M21A **Separation Pea** 65.79 54 ⇑P P 04 13 51.1 +0.1
baz=66,SNR=5.3
RSSD **Black Hills** 65.81 50 eP P 04 13 51.3 +0.3
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD **Black Hills** 65.81 50 eP P 04 13 51.3 +0.3
comp=Z,14nm,1.0s
RWWY **Rawlins** 65.82 54 eP P 04 13 51.4 +0.2
comp=Z,8.8nm,0.9s
N20A **Spence Gulch,** 65.83 55 ⇓P P 04 13 52.1 +0.9
baz=66,SNR=15
K23A **Bowen Ranch, D** 65.93 52 ⇑P P 04 13 51.6 -0.2
baz=66
PFO **Pinyon Flat Ob** 65.99 66 ⇑P P 04 13 52.3 0.0
baz=66
G27A **Dupree** 66.00 48 ⇓P P 04 13 51.9 0.0
baz=66
L22A **Ellis Ranch, M** 66.00 53 ⇑P P 04 13 53.1 +0.8
baz=66,SNR=7.9
BELC **Belle Mtn. Jos** 66.01 65 ⇑P P 04 13 52.1 -0.2
baz=66
I25A **Rochford** 66.04 50 ⇑P P 04 13 52.5 0.0
baz=66,SNR=5.7
109C **Camp Elliot, M** 66.08 67 ⇓P P 04 13 53.2 +0.5
baz=66
P19A **Cripple Cowboy** 66.26 57 ⇓P P 04 13 54.3 +0.3
baz=66,SNR=10
N21A **Black Mountain** 66.29 55 ⇑P P 04 13 54.6 +0.4
baz=66
D30A **Buchanan** 66.31 45 ⇑P P 04 13 54.1 +0.2
baz=66
O20A **White River Ci** 66.33 56 eP P 04 13 54.8 +0.4
O20A **White River Ci** 66.33 56 ⇑P P 04 13 54.9 +0.5
baz=66
L23A **Garrett** 66.34 53 ⇑P P 04 13 54.7 +0.3
baz=66
M22A **Cedar Creek Ra** 66.35 54 ⇑P P 04 13 54.8 +0.3
baz=66,SNR=9.4
IRM **Iron Mountain** 66.41 65 ⇑P P 04 13 55.2 +0.4
baz=66,SNR=5.8
H27A **Howes** 66.45 49 ⇑P P 04 13 55.2 +0.4
baz=66
I26A **New Underwood** 66.48 50 ⇓P P 04 13 55.4 +0.4
baz=66
MONP **Monument Peak** 66.50 67 ⇓P P 04 13 55.9 +0.3
baz=66
W13A **Hualapai Mount** 66.53 63 ⇑P P 04 13 56.0 +0.2
baz=66
BC3 **Big Chuckawall** 66.57 65 ⇑P P 04 13 56.0 +0.1
baz=66
E30A **Jud** 66.67 46 ⇑P P 04 13 55.9 -0.3
baz=66
P20A **De Beque** 66.68 56 ⇑P P 04 13 56.4 -0.2
baz=66
O21A **Pagoda** 66.70 55 ⇓P P 04 13 57.1 +0.3
baz=66,SNR=5.5
M23A **Laramie** 66.78 53 ⇓P P 04 13 57.4 +0.1
baz=66
N22A **Wattenberg Ran** 66.84 54 ⇑P P 04 13 58.5 +0.7
baz=67,SNR=6.3
I27A **Quinn** 66.86 49 ⇑P P 04 13 57.7 +0.2
baz=67,SNR=5.1
J26A **Sides Ranch, S** 66.87 50 ⇑P P 04 13 57.9 +0.3
baz=67
NB2 **NORSAR Subarra** 66.89 341 P P 04 13 56.6 -0.8
comp=Z,1.0nm,0.6s,baz=25,slow=6.9
NOA **NORSAR Array B** 66.89 341 P P 04 13 56.6 -0.8
NOA **NORSAR Array B** 66.89 341 P P 04 13 56.6 -0.8
comp=Z,2.1nm,0.7s,baz=26,slow=6.4,SNR=6.5
PDMCI **Parker Dam,Lak** 66.93 64 ⇑P P 04 13 58.1 +0.2
baz=67
N23A **Red Feather La** 67.06 54 ⇓P P 04 13 59.8 +0.8
baz=67,SNR=7.7
Y12C **Blythe** 67.07 65 ⇓P P 04 13 59.4 +0.5
baz=67,SNR=6.3
Q20A **Ridgley Place,** 67.11 57 ⇑P P 04 13 59.3 0.0
baz=67,SNR=5.3
P21A **Newcastle** 67.19 56 ⇓P P 04 14 00.2 +0.4
baz=67
O22A **Kremmling** 67.24 55 ⇓P P 04 14 00.8 +0.5
baz=67,SNR=6.1
M24A **Cheyenne** 67.26 53 ⇓P P 04 14 00.8 +0.6
baz=67
I28A **Midland** 67.36 49 ⇑P P 04 14 01.0 +0.4
baz=67
GLA **Glamis** 67.37 65 ⇑P P 04 14 01.5 +0.7
baz=67
J27A **Elkhorn Farm,** 67.47 50 ⇓P P 04 14 02.1 +0.7
baz=67
P22A **Eagle** 67.52 55 ⇓P P 04 14 02.5 +0.6
baz=67,SNR=7.5
O23A **Lake Granby, G** 67.55 54 ⇓P P 04 14 03.3 +1.1
baz=67,SNR=12
R20A **Redvale** 67.60 57 ⇓P P 04 14 02.8 +0.3
baz=67
Q21A **Lamborn Mesa,** 67.60 57 ⇑P P 04 14 03.0 +0.6
baz=67,SNR=7.1
N24A **Carr** 67.68 53 ⇓P P 04 14 04.0 +1.1
baz=67
M25A **Palm-Egli Farm** 67.69 52 ⇑P P 04 14 04.6 +1.7
baz=67
SMCO **Snowmass** 67.70 56 eP P 04 14 03.8 +0.5
comp=Z,7.1nm,0.6s
WUAZ **Wupatki** 67.73 61 eP P 04 14 03.9 +0.6
comp=Z,6.2nm,0.8s
WUAZ **Wupatki** 67.73 61 ⇓P P 04 14 04.0 +0.7
baz=68,SNR=5.6
J28A **Allard Ranch,** 67.74 49 ⇓P P 04 14 03.4 +0.4
baz=68,SNR=7.8
K27A **Flueckinger Fa** 67.74 50 ⇓P P 04 14 03.2 +0.1
baz=68
L26A **Underwood Farm** 67.78 51 ⇑P P 04 14 03.6 +0.2
baz=68
Y14A **Wickenburg** 67.86 64 ⇑P P 04 14 04.5 +0.6
baz=68
S20A **Disappointment** 67.86 58 ⇓P P 04 14 04.4 +0.3
baz=68,SNR=8.8
R21A **Cimarron** 67.94 57 ⇑P P 04 14 05.3 +0.7
baz=68,SNR=16
Q22A **Crested Butte,** 67.95 56 ⇑P P 04 14 05.3 +0.6
baz=68,SNR=12
ISCO **Idaho Springs** 68.01 55 eP P 04 14 05.8 +0.7
ISCO pmax pmax
comp=Z,10.0nm,0.8s
ISCO **Idaho Springs** 68.01 55 eP P 04 14 05.8 +0.7
comp=Z,10nm,0.8s
ISCO **Idaho Springs** 68.01 55 ⇓P P 04 14 06.0 +0.9
baz=68,SNR=18
O24A **Longmont** 68.07 54 ⇓P P 04 14 06.3 +1.0
baz=68
K28A **Ten Mile Ranch** 68.18 50 ⇑P P 04 14 06.2 +0.4
baz=68
P23A **Jefferson** 68.18 55 ⇑P P 04 14 07.6 +1.3
baz=68
MVCO **Mesa Verde** 68.22 58 eP P 04 14 06.9 +0.6
comp=Z,11nm,1.0s
MVCO **Mesa Verde** 68.22 58 ⇓P P 04 14 06.8 +0.4
baz=68,SNR=8.2
Z14A **Wintersburg** 68.29 64 ⇑P P 04 14 07.2 +0.7
baz=68
S21A **Coal Bank Pass** 68.30 58 ⇑P P 04 14 07.8 +0.8
baz=68,SNR=13
X16A **Lo Mia Camp, P** 68.46 62 ⇑P P 04 14 08.6 +0.8
baz=68,SNR=11
R22A **Saguache, Gunn** 68.48 56 ⇑P P 04 14 09.6 +1.6
baz=68
M27A **Reverse DX Ran** 68.50 51 ⇑P P 04 14 08.8 +0.9
baz=68
Q23A **Hartsel** 68.52 55 ⇓P P 04 14 09.1 +0.8
baz=68,SNR=8.4
K29A **Lazy Trails An** 68.68 49 ⇑P P 04 14 09.3 +0.4
baz=68,SNR=5.2
S22A **4UR Ranch, Cre** 68.78 57 ⇓P P 04 14 10.8 +0.9
baz=69,SNR=18
T21A **Navajo Lake** 68.92 58 ⇓P P 04 14 11.4 +0.7
baz=69
O26A **Horse Wrangler** 68.93 53 ⇓P P 04 14 11.0 +0.4
baz=69
N27A **Anderson Farm,** 68.94 52 ⇑P P 04 14 11.2 +0.6
baz=69,SNR=13
P25A **Willow Gulch B** 69.00 54 ⇓P P 04 14 11.8 +0.8
baz=69
OGNE **Ogallala** 69.11 52 ⇓P P 04 14 11.9 +0.3
baz=69
V20A **Brimhall** 69.23 59 ⇑P P 04 14 13.1 +0.5
baz=69
U21A **Nageezi** 69.25 58 ⇑P P 04 14 12.9 +0.2
baz=69
X18A **Snowflake** 69.26 61 ⇓P P 04 14 13.5 +0.7
baz=69
T22A **Edith** 69.26 57 ⇑P P 04 14 13.6 +0.7
baz=69,SNR=8.4
S23A **Nye Farm, Mont** 69.27 56 ⇓P P 04 14 13.9 +1.0
baz=69
214A **Organ Pipe Nat** 69.35 65 ⇑P P 04 14 14.1 +0.9
baz=69
Q25A **Bedland, Calha** 69.38 54 ⇑P P 04 14 13.6 +0.1
baz=69,SNR=8.3
R24A **Sanders Place,** 69.40 55 ⇑P P 04 14 14.2 +0.6
baz=69,SNR=7.0
P26A **Davis Ranch, A** 69.41 53 ⇓P P 04 14 14.1 +0.5
baz=69
O27A **Beecher Island** 69.42 52 ⇑P P 04 14 13.6 0.0
baz=69,SNR=5.5
N28A **Pribbeno Ranch** 69.55 52 ⇑P P 04 14 14.6 +0.3
baz=69
W20A **Ramah** 69.68 60 ⇑P P 04 14 15.7 +0.3
baz=70,SNR=6.6
U22A **Llaves** 69.74 58 ⇓P P 04 14 16.6 +0.8
baz=70
S24A **Houchin Ranch,** 69.76 56 ⇑P P 04 14 16.9 +0.9
baz=70
ECSD **EROS Data Cent** 69.81 46 eP P 04 14 15.6 -0.2
comp=Z,16nm,1.4s
P27A **Ficken Ranch,** 69.82 53 ⇓P P 04 14 16.2 +0.2
baz=70
O28A **Krutsinger Ran** 69.83 52 ⇓P P 04 14 16.0 -0.1
baz=70
KIV **Kislovodsk** 69.87 314 eP P 04 14 17.4 +1.2
KIV pmax pmax
comp=Z,9.0nm,0.9s
WRA **Warramunga Arr** 69.92 199 P P 04 14 16.1 -0.5
WRA **Warramunga Arr** 69.92 199 P P 04 14 16.1 -0.5
comp=Z,9.7nm,0.7s,baz=16,slow=6.4,SNR=28
KBZ **Khabaz** 69.94 314 P P 04 14 16.2 -0.3
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ **Khabaz** 69.94 314 P P 04 14 16.2 -0.3
KBZ **Khabaz** 69.94 314 P P 04 14 16.2 -0.3
comp=Z,3.1nm,0.7s,baz=58,slow=5.9,SNR=11
V22A **San Miguel Ran** 70.04 58 ⇑P P 04 14 18.4 +0.8
baz=70
T24B **San Luis** 70.08 57 ⇓P P 04 14 18.9 +1.0
baz=70,SNR=8.4
X20A **Quemado** 70.10 60 ⇑P P 04 14 18.9 +0.9
baz=70,SNR=7.5
U23A **El Rito** 70.15 58 ⇑P P 04 14 19.1 +0.9
baz=70,SNR=21
S25A **Robets Cordova** 70.17 56 ⇑P P 04 14 18.5 +0.2
baz=70
KSCO **Kaye Shedlock'** 70.19 53 ⇓P P 04 14 18.4 0.0
baz=70
P28A **Saint Francis** 70.25 53 ⇑P P 04 14 18.6 -0.1
baz=70
R26A **Arlington** 70.26 54 ⇓P P 04 14 18.8 +0.1
baz=70,SNR=9.5
AKASG **Malin Array Be** 70.41 326 P P 04 14 17.9 -1.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s

AKASG **Malin Array Be** 70.41 326 P P 04 14 17.9 -1.4
AKASG **Malin Array Be** 70.41 326 P P 04 14 17.9 -1.4
comp=Z,1.8nm,0.5s,baz=33,slow=6.5,SNR=4.0
KIEV **Kiev** 70.42 326 *i* P P 04 14 18.1 -1.2
SPMN **St. Paul** 70.48 43 *eP* P 04 14 19.9 +0.1
comp=Z,7.6nm,0.9s
SPMN **St. Paul** 70.48 43 ⇑P P 04 14 19.8 -0.1
baz=70
T25A **Trinidad** 70.56 56 ⇑P P 04 14 21.0 +0.2
baz=70,SNR=7.7
V23A **Ortiz Mt. (NFS** 70.57 58 ⇓P P 04 14 22.2 +1.4
baz=70,SNR=6.0
U24A **Moreno Valley** 70.60 57 ⇑P P 04 14 22.1 +1.0
baz=70,SNR=5.6
Y20A **Horse Springs,** 70.62 61 ⇑P P 04 14 22.1 +1.0
baz=70,SNR=8.2
R27A **Eads** 70.62 54 ⇑P P 04 14 20.7 -0.3
baz=70,SNR=5.4
O30A **MW Ranch, Wils** 70.70 51 ⇓P P 04 14 21.2 0.0
baz=70
BGNE **Belgrade** 70.77 49 ⇑P P 04 14 21.5 -0.2
baz=70
Y21A **Point of Rocks** 70.95 60 ⇓P P 04 14 24.1 +0.9
baz=71
X22A **Bernardo** 70.98 59 ⇓P P 04 14 24.6 +1.3
baz=71
ANMO **Albuquerque** 70.98 59 *eP* P 04 14 23.8 +0.5
comp=Z,3.4nm,0.9s
T26A **Comanche Natio** 70.99 55 ⇑P P 04 14 22.9 -0.4
baz=71,SNR=9.7
W23A **Werner Place,** 71.01 58 ⇑P P 04 14 24.3 +0.9
baz=71
P30A **Selden** 71.06 52 ⇓P P 04 14 23.4 -0.2
baz=71
U25A **Circle Dot Ran** 71.10 56 ⇑P P 04 14 24.1 +0.1
baz=71,SNR=8.5
V24A **Rampart Ranch,** 71.10 57 ⇓P P 04 14 24.9 +0.9
baz=71,SNR=8.2
R28A **Tribune** 71.11 53 ⇓P P 04 14 24.0 +0.1
baz=71
Q29A **Oakley** 71.16 53 ⇑P P 04 14 24.1 0.0
baz=71
V25A **Rancho No Teng** 71.39 57 ⇓P P 04 14 26.0 +0.3
baz=71
W24A **Lazy 6 Ranch,** 71.39 58 ⇓P P 04 14 26.6 +0.8
baz=71,SNR=7.8
R29A **Marienthal** 71.41 53 ⇑P P 04 14 25.8 +0.1
baz=71
Y22A **Socorro** 71.42 60 ⇑P P 04 14 26.5 +0.6
baz=71
120A **U Bar Ranch, L** 71.44 62 ⇑P P 04 14 26.7 +0.7
baz=71,SNR=5.9
Z21A **St. Cloud Mine** 71.45 61 ⇓P P 04 14 27.1 +0.9
baz=71,SNR=6.3
U26A **Atchley Ranch,** 71.47 56 ⇓P P 04 14 26.5 +0.3
baz=71
Q30A **Quinter** 71.49 52 ⇑P P 04 14 26.2 +0.1
baz=71
P31A **Stockton** 71.53 51 ⇑P P 04 14 25.9 -0.4
baz=71
S28A **Manter** 71.61 54 ⇓P P 04 14 26.9 0.0
baz=71
T28A **Walsh** 71.84 54 ⇑P P 04 14 28.1 -0.1
baz=72
V26A **Tequesquite Ra** 71.88 56 ⇓P P 04 14 28.5 -0.1
baz=72
319A **Douglas** 71.89 63 ⇓P P 04 14 29.2 +0.5
baz=72,SNR=12
Z22A **Elephant Butte** 71.91 60 ⇑P P 04 14 29.3 +0.5
baz=72,SNR=5.5
SCHQ **Schefferville** 71.93 23 P P 04 14 28.2 -0.2
SCHQ **Schefferville** 71.93 23 P P 04 14 28.2 -0.2
comp=Z,6.5nm,0.7s,baz=348,slow=8.6,SNR=17
Y23A **Lovelace Mesa,** 71.94 59 ⇑P P 04 14 29.5 +0.5
baz=72,SNR=7.2
220A **Playas Peak, P** 71.96 62 ⇑P P 04 14 30.0 +0.9
baz=72
U27A **Thompson Grove** 71.96 55 ⇑P P 04 14 29.2 +0.1
baz=72
R30A **Dighton** 71.97 53 ⇓P P 04 14 28.4 -0.6
baz=72,SNR=7.5
S29A **Ulysses** 72.01 54 ⇑P P 04 14 29.5 +0.3
baz=72
Y24A **Capitan** 72.30 59 ⇓P P 04 14 31.6 +0.4
baz=72,SNR=6.5
X25A **Clemmons Ranch** 72.31 58 ⇓P P 04 14 31.9 +0.7
baz=72,SNR=5.9
U28A **Mallet** 72.32 55 ⇓P P 04 14 31.2 0.0
baz=72
Z23A **Rita Site, Whi** 72.33 60 ⇓P P 04 14 32.0 +0.8
baz=72
S30A **Montezuma** 72.35 53 ⇑P P 04 14 31.4 +0.1
baz=72
320A **Kipp Ranch, An** 72.36 63 ⇑P P 04 14 32.3 +0.7
baz=72
V27A **Dan Oppiter Fa** 72.44 56 ⇑P P 04 14 31.8 -0.1
baz=72
Z24A **Sheeppen Canyo** 72.78 59 ⇑P P 04 14 34.3 +0.3
baz=73
V28A **Channing** 72.78 56 ⇓P P 04 14 33.8 -0.1
baz=72
S31A **Mullinville** 72.89 53 ⇑P P 04 14 34.0 -0.4
baz=73
T31A **Randall Ranch,** 73.17 53 ⇑P P 04 14 35.7 -0.3
baz=73
124A **Stringfield Ra** 73.18 60 ⇑P P 04 14 36.7 +0.3
baz=73
Z25A **Roswell** 73.18 59 ⇑P P 04 14 36.7 +0.4
baz=73
224A **Cornudas Mount** 73.59 60 ⇓P P 04 14 39.2 +0.4
baz=73
Z26A **Caprock** 73.61 58 ⇑P P 04 14 38.9 +0.1
baz=73,SNR=7.4
ASAR **Alice Springs** 73.62 198 P P 04 14 39.0 +0.4
ASAR **Alice Springs** 73.62 198 P P 04 14 39.0 +0.4
comp=Z,3.6nm,0.7s,baz=15,slow=5.5,SNR=50
U31A **Nine Bar Ranch** 73.62 54 ⇓P P 04 14 38.8 +0.1
baz=73
Y27A **Causey** 73.63 57 ⇑P P 04 14 39.1 +0.2
baz=73,SNR=8.9
125A **Gardner Draw,** 73.67 59 ⇑P P 04 14 40.5 +1.3
baz=74
X28A **Dimmitt** 73.70 56 ⇑P P 04 14 39.4 +0.1
baz=74
MSTX **Muleshoe** 73.78 57 *eP* P 04 14 40.0 +0.2
MSTX **Muleshoe** 73.78 57 ⇓P P 04 14 39.7 -0.1
baz=74,SNR=6.1
MNTX **Cornudas Mount** 73.95 60 *eP* P 04 14 41.0 +0.3
comp=Z,4.9nm,1.4s
Z27A **Tatum** 74.01 58 ⇑P P 04 14 41.0 -0.1
baz=74,SNR=12
X29A **Tulia** 74.03 56 ⇑P P 04 14 41.5 +0.3
baz=74,SNR=8.1
126A **Clayton Basin,** 74.05 59 ⇓P P 04 14 41.5 +0.2
baz=74
V31A **Spring Creek L** 74.06 54 ⇑P P 04 14 41.5 +0.2
baz=74,SNR=6.5
Y28A **McKinney Farm,** 74.12 57 ⇓P P 04 14 42.0 +0.2
baz=74
STHS **Stebnicka Huta** 74.32 330 *eP* P 04 14 43.0 +0.5
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS **Stebnicka Huta** 74.32 330 *eP* P 04 14 43.0 +0.5
226B **Tecolote Peak,** 74.38 59 ⇓P P 04 14 43.4 +0.1
baz=74,SNR=7.9
KOLS **Kolonicke sedl** 74.38 329 *eP* P 04 14 42.6 -0.3
KOLS **Kolonicke sedl** 74.38 329 *eP* P 04 14 42.6 -0.3
325A **Bean Ranch, Si** 74.43 60 ⇓P P 04 14 43.9 +0.3
baz=74
BURAR **Bucovina Array** 74.44 326 ⇑P P 04 14 43.7 +0.3
BURAR **Bucovina Array** 74.44 326 ⇑*iP* P 04 14 43.7 +0.3
W31A **Holland Ranch,** 74.45 54 ⇑P P 04 14 44.3 +0.7
baz=74
Y29A **Porterfield Fa** 74.48 57 ⇓P P 04 14 44.3 +0.5
baz=74
CRVS **Cervenica-Dubn** 74.69 329 *eP* P 04 14 44.8 +0.2
CRVS **Cervenica-Dubn** 74.69 329 *eP* P 04 14 44.8 +0.2
X31A **McDonald Ranch** 74.84 55 ⇑P P 04 14 46.6 +0.8
baz=75
425A **Indio Mountain** 74.85 61 ⇑P P 04 14 46.2 +0.2
baz=75
NRDL **Niedersach Rie** 74.89 338 *eP* P 04 14 45.8 +0.2
comp=Z,10.0nm,1.3s
Y30A **Stafford Cattl** 74.90 56 ⇑P P 04 14 47.0 +0.8
baz=75
128A **Castleberry Fa** 74.94 58 ⇑P P 04 14 46.6 +0.1
baz=75,SNR=5.4
326A **Caldwell Ranch** 75.05 60 ⇓P P 04 14 47.2 +0.1
baz=75
DPC **Dobruska-Polom** 75.08 333 *eP* P 04 14 46.0 -0.9
DPC pmax pmax
comp=Z,50nm,1.3s
DPC **Dobruska-Polom** 75.08 333 *eP* P 04 14 47.4 +0.5
DPC **Dobruska-Polom** 75.08 333 *eP* P 04 14 46.0 -0.9
comp=Z,50nm,1.3s
Y31A **Rekieta Farm,** 75.19 56 ⇑P P 04 14 47.7 -0.1
baz=75
CLL **Collm** 75.19 335 *eP* P 04 14 47.4 -0.1
comp=Z,11nm,1.0s
CLL **Collm** 75.19 335 ⇓*iP* P 04 14 47.1 -0.4
CLL pmax pmax
comp=Z,11nm,1.0s
CLL **Collm** 75.19 335 ⇓*iP* P 04 14 47.1 -0.4
comp=Z,11nm,1.0s
Z30A **Sanderson Ranc** 75.21 57 ⇑P P 04 14 47.8 -0.1
baz=75,SNR=9.1
228A **UT Block 9, Go** 75.25 58 ⇓P P 04 14 49.1 +0.8
baz=75
BRG **Berggiesshubel** 75.32 335 *eP* P 04 14 48.2 0.0
comp=Z,8.0nm,1.4s
PLOR **Plostina** 75.37 325 ⇑P P 04 14 51.0 +2.3
PLOR **Plostina** 75.37 325 ⇑*iP* P 04 14 51.0 +2.3
CLZ **Clausthal** 75.42 337 *eP* P 04 14 49.3 +0.5
comp=Z,26nm,1.4s
CLZ **Clausthal** 75.42 337 *eP* P 04 14 49.3 +0.5
CLZ pmax pmax
comp=Z,26nm,1.4s
PVCC **Panska Ves** 75.44 334 *eP* P 04 14 51.9 +3.0
PVCC **Panska Ves** 75.44 334 *eP* P 04 14 51.9 +3.0
426A **McDonald Obser** 75.49 60 ⇑P P 04 14 50.0 +0.2
baz=75
Y32A **R-V Farms, Ver** 75.61 55 ⇑P P 04 14 50.3 +0.2
baz=75
427A **Hayter Ranch,** 75.72 60 ⇑P P 04 14 51.0 +0.1
baz=76,SNR=5.4
Z31A **Sharp Cattle R** 75.73 56 ⇓P P 04 14 50.5 -0.5
baz=76,SNR=5.9
229A **Bryant Ranch,** 75.81 58 ⇑P P 04 14 52.0 +0.6
baz=76
526A **Mary Lane Ranc** 75.91 61 ⇓P P 04 14 52.4 +0.3
baz=76,SNR=8.0
PRU **Pruhonice** 75.93 334 *eP* P 04 14 51.8 +0.1
PRU **Pruhonice** 75.93 334 *eP* P 04 14 51.8 +0.1
MLR **Muntele Rosu** 75.94 325 ⇑*iP* P 04 14 53.0 +1.0
DRGR 76.05 327 ⇑P P 04 14 52.8 +0.3
DRGR 76.05 327 ⇑*iP* P 04 14 52.8 +0.3
329A **Wagon Wheel Ra** 76.07 58 ⇑P P 04 14 53.1 +0.2
baz=76,SNR=5.9
Z32A **Haskell** 76.11 55 ⇑P P 04 14 53.1 +0.1
baz=76
TUL1 **Tulsa** 76.12 51 *eP* P 04 14 53.1 +0.1
TUL1 **Tulsa** 76.12 51 ⇑P P 04 14 52.9 -0.2
baz=76,SNR=5.2
527A **Woodward Ranch** 76.12 60 ⇓P P 04 14 53.2 -0.1
baz=76,SNR=6.8
TANN **Tannenbergstha** 76.15 335 *eP* P 04 14 53.2 +0.2
comp=Z,3.0nm,1.1s
MOX **Moxa** 76.17 336 *eP* P 04 14 53.4 +0.3
comp=Z,5.0nm,1.0s
MOX **Moxa** 76.17 336 *eP* P 04 14 53.4 +0.3
MOX pmax pmax
comp=Z,5.0nm,1.0s
428A **Kincaid Ranch,** 76.23 59 ⇓P P 04 14 54.5 +0.6
baz=76,SNR=8.7
626A **Big Bend Ranch** 76.25 61 ⇓P P 04 14 54.1 +0.1
baz=76,SNR=8.5
NKC **Novy Kostel** 76.31 335 *eP* P 04 14 54.0 +0.1
NKC **Novy Kostel** 76.31 335 *eP* P 04 14 54.0 +0.1
VOIR 76.33 325 ⇑P P 04 14 54.9 +0.7
VOIR 76.33 325 ⇑*iP* P 04 14 54.9 +0.7
BUG **Bochum--Univer** 76.56 339 *eP* P 04 14 55.7 +0.5
comp=Z,16nm,1.2s
330A **Mertzon** 76.58 58 ⇓P P 04 14 55.9 +0.1
baz=76
528A **Cox Ranch, San** 76.59 60 ⇓P P 04 14 56.3 +0.4
baz=76,SNR=7.2
231A **Bronte** 76.67 57 ⇓P P 04 14 56.5 +0.2
baz=76
TXAR **Lajitas Array** 76.69 61 P P 04 14 56.7 +0.2
TXAR **Lajitas Array** 76.69 61 P P 04 14 56.7 +0.2
comp=Z,9.1nm,0.6s,baz=297,slow=4.5,SNR=154
627A **Terlingua Ranc** 76.76 61 ⇓P P 04 14 57.0 0.0
baz=77,SNR=6.6
ROTZ **Rotzenmuhle** 76.80 335 *eP* P 04 14 57.2 +0.6
comp=Z,10.0nm,1.2s
529A **Stev Forest Ra** 76.94 59 ⇑P P 04 14 57.9 0.0
baz=77,SNR=6.9
KHC **Kasperske Hory** 76.98 334 *eP* P 04 14 58.1 +0.4
KHC *e* 04 15 03.8
KHC **Kasperske Hory** 76.98 334 *eP* P 04 14 58.1 +0.4
KHC *e*PCP PcP 04 15 03.8 -4.3
KHC *ex* x 04 15 16.3
KHC **Kasperske Hory** 76.98 334 *eP* P 04 14 58.1 +0.4
comp=Z,7.0nm,0.7s
430A **Baggett Ranch,** 77.01 58 ⇑P P 04 14 58.0 -0.2
baz=77,SNR=6.5
628A **Black Gap, Mar** 77.03 60 ⇑P P 04 14 58.3 -0.1
baz=77
331A **San Angelo** 77.08 57 ⇑P P 04 14 58.3 -0.3
baz=77
232A **Coleman** 77.08 57 ⇑P P 04 14 58.3 -0.2
baz=77,SNR=6.0
GRF **Grafenberg Arr** 77.14 336 *eP* P 04 14 59.3 +0.7
comp=Z,16nm,0.8s
GRF **Grafenberg Arr** 77.14 336 *eP* P 04 14 59.3 +0.7
GRF pmax pmax
comp=Z,16nm,0.8s
WET **Wettzell** 77.17 335 *eP* P 04 14 59.3 +0.5
comp=Z,8.0nm,1.0s
WET **Wettzell** 77.17 335 *eP* P 04 14 59.3 +0.5
WET pmax pmax
comp=Z,8.0nm,1.0s
GEC2 **GERESS Array S** 77.20 334 *eP* P 04 14 59.2 +0.2
comp=Z,4.0nm,1.0s
GEC2 **GERESS Array S** 77.20 334 *eP* P 04 14 59.2 +0.2
GEC2 pmax pmax
comp=Z,4.0nm,1.0s
GERES **GERESS Array B** 77.20 334 P P 04 14 58.8 -0.2
GERES **GERESS Array B** 77.20 334 P P 04 14 58.8 -0.2
comp=Z,1.4nm,0.7s,baz=28,slow=6.0,SNR=14
TNS **Taunus Mts** 77.39 338 *eP* P 04 15 00.5 +0.5
comp=Z,5.0nm,0.7s
TNS **Taunus Mts** 77.39 338 *eP* P 04 15 00.5 +0.5
TNS pmax pmax
comp=Z,5.0nm,0.7s
332A **Millersview** 77.41 57 ⇑P P 04 15 00.3 0.0
baz=77,SNR=7.6
BR131 **Keskin Array S** 77.41 317 *eP* P 04 15 00.4 0.0
comp=Z,1.3nm,0.8s
BRTR **Keskin Array B** 77.41 317 P P 04 15 00.6 +0.2
BRTR **Keskin Array B** 77.41 317 P P 04 15 00.6 +0.2
comp=Z,1.8nm,0.8s,baz=61,slow=4,1,SNR=10
530A **J-C Ranch, Com** 77.43 59 ⇑P P 04 15 00.7 +0.1
baz=77
431A **Sonora** 77.45 58 ⇑P P 04 15 00.4 -0.3
baz=77
BZS **Buzias** 77.45 328 ⇑P P 04 15 00.0 -0.3
BZS **Buzias** 77.45 328 ⇑*iP* P 04 15 00.0 -0.3
432A **Menard** 77.76 57 ⇑P P 04 15 02.2 -0.2
baz=78
JCT **Junction City** 78.06 58 ⇑P P 04 15 04.0 0.0
baz=78
WHTX **Lake Whitney** 78.22 55 ⇓P P 04 15 05.3 +0.5
baz=78
532A **Rocksprings** 78.26 58 ⇑P P 04 15 05.4 +0.2
baz=78
MIAR **Mount Ida** 78.32 51 *eP* P 04 15 05.1 -0.2
MIAR pmax pmax
comp=Z,7.0nm,0.9s
MIAR **Mount Ida** 78.32 51 *eP* P 04 15 05.1 -0.2
comp=Z,6.9nm,0.9s
631A **Perdido Creek** 78.42 59 ⇓P P 04 15 05.8 -0.1
baz=78,SNR=13
RJOB **Jochberg** 78.47 334 *eP* P 04 15 06.8 +0.8
comp=Z,5.0nm,0.7s
BAIF **Baives** 78.56 340 *eP* P 04 15 07.4 +1.1
BAIF **Baives** 78.56 340 *eP* P 04 15 07.4 +1.1
BAIF **Baives** 78.56 340 *eP* P 04 15 07.4 +1.1
PARMO **Parma** 78.59 47 *eP* P 04 15 07.3 +0.6
SOKA **Soboth** 78.74 332 ⇑*iP* P 04 15 07.8 +0.3
comp=Z,7.9nm,0.9s
PERS **Pernice** 78.75 332 *i* P P 04 15 07.6 +0.1
GROS **Grobnik** 78.78 332 *i* P P 04 15 07.5 -0.3
KBA **Koelnbreinsper** 78.89 333 ⇑*iP* P 04 15 09.0 +0.5
comp=Z,15nm,0.7s,SNR=14
WCI **Wyandotte Cave** 78.98 44 *eP* P 04 15 08.8 -0.1
WCI pmax pmax
comp=Z,10.0nm,1.0s
WCI **Wyandotte Cave** 78.98 44 *eP* P 04 15 08.8 -0.1
comp=Z,10nm,1.0s
BFO **Black Forest** 79.16 337 *eP* P 04 15 10.1 +0.4
comp=Z,6.0nm,0.9s
BFO **Black Forest** 79.16 337 *eP* P 04 15 09.6 -0.1
BFO pmax pmax
comp=Z,7.0nm,1.3s
BFO **Black Forest** 79.16 337 *eP* P 04 15 09.6 -0.1
comp=Z,6.8nm,1.3s
WATA **Walderalm** 79.18 335 ⇑*iP* P 04 15 10.2 +0.2
comp=Z,6.9nm,0.6s
WTTA **Wattenberg** 79.23 335 ⇑*iP* P 04 15 11.0 +0.7
comp=Z,14nm,0.7s
732A **Laxson Ranch,** 79.28 59 ⇑P P 04 15 11.1 +0.5
baz=79,SNR=7.5
LEGS **Legarje** 79.30 332 *i* P P 04 15 10.2 -0.2
MOTA **Moosalm** 79.31 335 ⇓*iP* P 04 15 11.1 +0.4
comp=Z,18nm,1.1s,SNR=5.9
CDF **Champ du Feu** 79.36 338 *eP* P 04 15 11.0 +0.1
comp=Z,22nm,1.1s
CDF **Champ du Feu** 79.36 338 *eP* P 04 15 11.0 +0.1
CDF pmax pmax
comp=Z,22nm,1.1s
CDF **Champ du Feu** 79.36 338 *eP* P 04 15 11.0 +0.1
comp=Z,22nm,1.1s
CRES **Cresnjev** 79.36 331 *i* P P 04 15 10.5 -0.3
VTS **Vitosha** 79.45 325 ⇑P P 04 15 11.5 -0.1
VTS **Vitosha** 79.45 325 ⇑*iP* P 04 15 11.4 -0.1
PAGF **Fort de Pagny** 79.61 339 *eP* P 04 15 12.8 +0.7
comp=Z,8.5nm,0.8s
PAGF **Fort de Pagny** 79.61 339 *eP* P 04 15 12.8 +0.7
comp=Z,8.5nm,0.8s
DAVA **Damuels** 79.70 336 ⇑*iP* P 04 15 13.3 +0.4
comp=Z,10nm,0.9s,SNR=5.8
FETA **Feichten** 79.71 335 ⇓*iP* P 04 15 13.3 +0.4
comp=Z,8.0nm,1.0s,SNR=6.9
MEZF **Maizieres J'vi** 79.82 339 *eP* P 04 15 13.8 +0.6
comp=Z,26nm,0.9s
MEZF **Maizieres J'vi** 79.82 339 *eP* P 04 15 13.8 +0.6
comp=Z,26nm,0.9s
HAU **Haudompre** 79.97 338 *eP* P 04 15 14.1 0.0
comp=Z,15nm,1.1s
HAU **Haudompre** 79.97 338 *eP* P 04 15 14.1 0.0
HAU pmax pmax
comp=Z,15nm,1.1s
HAU **Haudompre** 79.97 338 *eP* P 04 15 14.1 0.0
comp=Z,15nm,1.1s
HINF **Hinteralfeld** 80.02 338 *eP* P 04 15 14.3 -0.1
HINF **Hinteralfeld** 80.02 338 *eP* P 04 15 14.3 -0.1
HINF **Hinteralfeld** 80.02 338 *eP* P 04 15 14.3 -0.1
SFTF **Sexfontaines** 80.10 339 *eP* P 04 15 15.1 +0.3
comp=Z,35nm,0.9s
SFTF **Sexfontaines** 80.10 339 *eP* P 04 15 15.1 +0.3
comp=Z,35nm,0.9s
STKA **Stephens Creek** 80.39 190 P P 04 15 15.1 -1.2
STKA **Stephens Creek** 80.39 190 P P 04 15 15.1 -1.2
comp=Z,1.7nm,0.6s,baz=322,slow=17,SNR=4.7
TUE **Stuetta** 80.60 336 *eP* P 04 15 18.3 +0.6
comp=Z,9.2nm,0.9s
FLN **La Foliniere** 80.78 343 *eP* P 04 15 18.9 +0.5
FLN **La Foliniere** 80.78 343 *eP* P 04 15 18.9 +0.5
FLN **La Foliniere** 80.78 343 *eP* P 04 15 18.9 +0.5
GRR **Gorron** 81.22 343 *eP* P 04 15 21.3 +0.6
comp=Z,18nm,0.9s
GRR **Gorron** 81.22 343 *eP* P 04 15 21.3 +0.6
GRR pmax pmax
comp=Z,18nm,0.9s
GRR **Gorron** 81.22 343 *eP* P 04 15 21.3 +0.6
comp=Z,18nm,0.9s
LOR **Lormes** 81.26 339 *eP* P 04 15 21.2 +0.2
comp=Z,24nm,1.0s
LOR **Lormes** 81.26 339 *eP* P 04 15 21.2 +0.2
comp=Z,24nm,1.0s
CABF **La Chapelle** 81.33 338 *eP* P 04 15 21.9 +0.5
CABF **La Chapelle** 81.33 338 *eP* P 04 15 21.9 +0.5
CABF **La Chapelle** 81.33 338 *eP* P 04 15 21.9 +0.5
SSF **Saint Saulge** 81.54 340 *eP* P 04 15 22.8 +0.4
comp=Z,17nm,0.9s
SSF **Saint Saulge** 81.54 340 *eP* P 04 15 22.8 +0.4
SSF pmax pmax
comp=Z,17nm,0.9s
SSF **Saint Saulge** 81.54 340 *eP* P 04 15 22.8 +0.4
comp=Z,17nm,0.9s
HYF **Humbligny** 81.54 340 *eP* P 04 15 23.3 +0.9
HYF **Humbligny** 81.54 340 *eP* P 04 15 23.3 +0.9
SGMF **Saint Gilles** 81.67 344 *eP* P 04 15 23.8 +0.8
comp=Z,19nm,0.7s
SGMF **Saint Gilles** 81.67 344 *eP* P 04 15 23.8 +0.8
SGMF pmax pmax
comp=Z,19nm,0.7s
SGMF **Saint Gilles** 81.67 344 *eP* P 04 15 23.8 +0.8
comp=Z,19nm,0.7s
ROSF **Rostrenen** 81.72 344 *eP* P 04 15 24.1 +0.8
comp=Z,23nm,0.7s
ROSF **Rostrenen** 81.72 344 *eP* P 04 15 24.1 +0.8
ROSF pmax pmax
comp=Z,23nm,0.7s
ROSF **Rostrenen** 81.72 344 *eP* P 04 15 24.1 +0.8
comp=Z,23nm,0.7s
AVF **Avril sur Loir** 81.83 340 *eP* P 04 15 24.5 +0.6
comp=Z,17nm,0.8s
AVF **Avril sur Loir** 81.83 340 *eP* P 04 15 24.5 +0.6
AVF pmax pmax
comp=Z,17nm,0.8s
AVF **Avril sur Loir** 81.83 340 *eP* P 04 15 24.5 +0.6
comp=Z,17nm,0.8s
SMF **Signal de Mont** 81.85 339 *eP* P 04 15 24.6 +0.5
comp=Z,35nm,1.0s
SMF **Signal de Mont** 81.85 339 *eP* P 04 15 24.6 +0.5
SMF pmax pmax
comp=Z,35nm,1.0s
SMF **Signal de Mont** 81.85 339 *eP* P 04 15 24.6 +0.5
comp=Z,35nm,1.0s
QUIF **Quistinic** 82.11 344 *eP* P 04 15 25.8 +0.5
comp=Z,37nm,1.2s
QUIF **Quistinic** 82.11 344 *eP* P 04 15 25.8 +0.5
QUIF pmax pmax
comp=Z,37nm,1.2s
QUIF **Quistinic** 82.11 344 *eP* P 04 15 25.8 +0.5
comp=Z,37nm,1.2s
BGF **Bois d'Agland** 82.16 340 *eP* P 04 15 26.3 +0.6
comp=Z,5.7nm,0.6s
BGF **Bois d'Agland** 82.16 340 *eP* P 04 15 26.3 +0.6
BGF pmax pmax
comp=Z,6.0nm,0.6s
BGF **Bois d'Agland** 82.16 340 *eP* P 04 15 26.3 +0.6
comp=Z,5.7nm,0.6s
LPL **La Plagne** 82.18 337 *eP* P 04 15 27.0 +0.9
comp=Z,25nm,1.0s
LPL **La Plagne** 82.18 337 *eP* P 04 15 27.0 +0.9
LPL pmax pmax
comp=Z,25nm,1.0s
LPL **La Plagne** 82.18 337 *eP* P 04 15 27.0 +0.9
comp=Z,25nm,1.0s
LPG **La Plagne** 82.19 337 *eP* P 04 15 27.3 +1.1
comp=Z,23nm,0.9s
LPG **La Plagne** 82.19 337 *eP* P 04 15 27.3 +1.1
LPG pmax pmax
comp=Z,23nm,0.9s
LPG **La Plagne** 82.19 337 *eP* P 04 15 27.3 +1.1
comp=Z,23nm,0.9s
TCF **Toulx Ste Croi** 82.56 340 *eP* P 04 15 28.6 +0.8
comp=Z,11nm,0.8s
TCF **Toulx Ste Croi** 82.56 340 *eP* P 04 15 28.6 +0.8
TCF pmax pmax
comp=Z,11nm,0.8s
TCF **Toulx Ste Croi** 82.56 340 *eP* P 04 15 28.6 +0.8
comp=Z,11nm,0.8s
MFF **Saint Martin d** 82.78 342 *eP* P 04 15 29.7 +0.9
comp=Z,16nm,0.9s
MFF **Saint Martin d** 82.78 342 *eP* P 04 15 29.7 +0.9
MFF pmax pmax
comp=Z,16nm,0.9s
MFF **Saint Martin d** 82.78 342 *eP* P 04 15 29.7 +0.9
comp=Z,16nm,0.9s
ORIF **Oris-en-Rattie** 82.96 337 *eP* P 04 15 31.0 +1.0
comp=Z,19nm,0.9s
ORIF **Oris-en-Rattie** 82.96 337 *eP* P 04 15 31.0 +1.0
ORIF pmax pmax
comp=Z,19nm,0.9s
ORIF **Oris-en-Rattie** 82.96 337 *eP* P 04 15 31.0 +1.0
comp=Z,19nm,0.9s
VIVF **Saint-Julien-l** 83.32 338 *eP* P 04 15 32.8 +1.0

comp=Z,19nm,0.9s
VIVF Saint-Julien-I 83.32 338 *e*P **P 04 15 32.8 +1.0**
VIVF pmax pmax
comp=Z,19nm,0.9s
VIVF Saint-Julien-I 83.32 338 *e*P **P 04 15 32.8 +1.0**
comp=Z,19nm,0.9s
RJF Les Rejaudoux 83.65 340 *e*P **P 04 15 34.3 +0.9**
comp=Z,32nm,1.1s
RJF Les Rejaudoux 83.65 340 *e*P **P 04 15 34.3 +0.9**
RJF pmax pmax
comp=Z,32nm,1.1s
RJF Les Rejaudoux 83.65 340 *e*P **P 04 15 34.3 +0.9**
comp=Z,32nm,1.1s
KMSC Kings Mountain 83.78 42 ⇓P **P 04 15 34.0 -0.3**
baz=84
CAF Calviac 83.89 340 *e*P **P 04 15 35.9 +1.3**
comp=Z,20nm,0.9s
CAF Calviac 83.89 340 *e*P **P 04 15 35.9 +1.3**
CAF pmax pmax
comp=Z,21nm,0.9s
CAF Calviac 83.89 340 *e*P **P 04 15 35.9 +1.3**
comp=Z,20nm,0.9s
LFF La Frestale 84.17 341 *e*P **P 04 15 37.0 +1.0**
comp=Z,54nm,1.4s
LFF La Frestale 84.17 341 *e*P **P 04 15 37.0 +1.0**
LFF pmax pmax
comp=Z,54nm,1.4s
LFF La Frestale 84.17 341 *e*P **P 04 15 37.0 +1.0**
comp=Z,54nm,1.4s
LASF Ste Croix 84.26 338 *e*P **P 04 15 37.8 +1.3**
comp=Z,22nm,1.1s
LASF Ste Croix 84.26 338 *e*P **P 04 15 37.8 +1.3**
comp=Z,22nm,1.1s
LMR La Mourre 84.27 336 *e*P **P 04 15 37.0 +0.5**
comp=Z,20nm,0.9s
LMR La Mourre 84.27 336 *e*P **P 04 15 37.0 +0.5**
LMR pmax pmax
comp=Z,20nm,0.9s
LMR La Mourre 84.27 336 *e*P **P 04 15 37.0 +0.5**
comp=Z,20nm,0.9s
MTLF Montolieu 85.35 339 *e*P **P 04 15 43.3 +1.4**
comp=Z,8.0nm,0.8s
MTLF Montolieu 85.35 339 *e*P **P 04 15 43.3 +1.4**
MTLF pmax pmax
comp=Z,8.0nm,0.8s
MTLF Montolieu 85.35 339 *e*P **P 04 15 43.3 +1.4**
comp=Z,8.0nm,0.8s
EPF Esparros 86.08 340 *e*P **P 04 15 46.5 +0.9**
comp=Z,5.3nm,0.7s
EPF Esparros 86.08 340 *e*P **P 04 15 46.5 +0.9**
EPF pmax pmax
comp=Z,5.0nm,0.7s
EPF Esparros 86.08 340 *e*P **P 04 15 46.5 +0.9**
comp=Z,5.3nm,0.7s
SJPF Ste Jean 86.34 342 *e*P **P 04 15 47.2 +0.4**
SJPF Ste Jean 86.34 342 *e*P **P 04 15 47.2 +0.4**
SJPF Ste Jean 86.34 342 *e*P **P 04 15 47.2 +0.4**
ETSF Etsaut 86.40 341 *e*P **P 04 15 48.5 +1.3**
comp=Z,4.7nm,0.6s
ETSF Etsaut 86.40 341 *e*P **P 04 15 48.5 +1.3**
ETSF pmax pmax
comp=Z,5.0nm,0.6s
ETSF Etsaut 86.40 341 *e*P **P 04 15 48.5 +1.3**
comp=Z,4.7nm,0.6s
KEST Kesra 90.45 331 P **P 04 16 07.7 +1.2**
KEST Kesra 90.45 331 P **P 04 16 07.7 +1.2**
comp=Z,2.2nm,0.7s,baz=18,slow=3.2,SNR=8.4
TORD Torodi Ar. Bea 113.91 330 PKKPbc PKKPbc 04 32 23.6 +0.2
TORD Torodi Ar. Bea 113.91 330 PKKPbc PKKPbc 04 32 23.6 +0.2
comp=Z,0.3nm,0.6s,baz=195,slow=2.1,SNR=4.9
VNDA Vanda 125.56 178 PKP **PKPdf 04 22 03.2 -0.4**
VNDA Vanda 125.56 178 PKP **PKPdf 04 22 03.2 -0.4**
comp=Z,0.6nm,0.7s,baz=0.0,slow=2.0,SNR=6.0
LPAZ La Paz 133.56 61 PKP **PKPdf 04 22 21.4 0.0**
LPAZ La Paz 133.56 61 PKP **PKPdf 04 22 21.4 0.0**
comp=Z,0.6nm,1.0s,baz=270,slow=1.0,SNR=3.0
BDFB Brasilia 143.11 36 PKPpre PKPpre 04 22 33.1
BDFB Brasilia 143.11 36 PKhKP PKPpre 04 22 33.1
comp=Z,4.4nm,0.9s,baz=63,slow=6.8,SNR=6.2
CPUP Villa Florida 147.64 59 *e*PKPbc **PKPbc 04 22 47.7 -0.8**
CPUP Villa Florida 147.64 59 PKPbc **PKPbc 04 22 47.2 -1.3**
comp=Z,2.9nm,0.6s,baz=298,slow=4.3,SNR=9.1
PLCA Paso Flores 148.20 93 PKPbc **PKPbc 04 22 49.1 -0.6**
PLCA Paso Flores 148.20 93 PKPbc **PKPbc 04 22 49.1 -0.6**
comp=Z,7.1nm,0.8s,baz=271,slow=2.7,SNR=15

MEX 31 04:10:38.8±0.5, 17°31N×100°46W, h34km±20km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.32**	**145**	*i* P	Pb	04 10 45.0	-1.8
CAIG				*i* S	Sn	04 10 51.0	-0.9
MEIG	**Mezcala**	**1.01**	**52**	*i* P	Pn	04 10 54.4	-2.2
MEIG				*i* S	Sn	04 11 07.0	-2.7
ZIIG	**Zihuatanejo**	**1.01**	**287**	*i* P	Pn	04 10 55.0	-1.6
ZIIG				*e*S	Sn	04 11 06.7	-2.8
PLIG	**Platanillo**	**1.41**	**40**	*e*P	Pn	04 11 00.9	-1.4
PLIG				*i* S	Sn	04 11 17.8	-1.9
YAIG	**Yautepec**	**2.03**	**40**	*e*P	Pn	04 11 08.8	-2.1
YAIG				*i* S	Sn	04 11 32.4	-2.8
PNIG	**Pinotepa**	**2.41**	**112**	*e*P	Pn	04 11 13.9	-2.0
PNIG				*i* S	Sn	04 11 43.0	-1.4
UTMO	**Huajuapan**	**2.58**	**78**	*e*P	Pn	04 11 17.4	-1.1
UTMO				*i* S	Sn	04 11 46.7	-2.3

NNC 31 04:35:43.7±17.0, 39°74N×70°71E, h0km, mb3.6, mpv3.4, 3C-3D, Error ellipse: s-maj=170.2km s-min=72.5km az=176.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.36**	**358**	⇑Pn	Pn	04 36 38.3	+0.8
	2.3nm,0.2s,baz=174,slow=11,SNR=123						
KK31				⇑Lg	Lg	04 37 28.0	
	5.1nm,0.2s,baz=163,slow=30,SNR=12						
TKM2	**Tokmak 2**	**4.86**	**48**	⇓Pn	Pn	04 37 00.8	+2.4
	4.6nm,0.6s						
TKM2				⇓Sn	Sn	04 38 00.2	+4.7
	3.8nm,0.7s						
TKM2				⇑Lg	Lg	04 38 22.6	
	6.1nm,0.5s						
AB31	**Akbulak array**	**12.21**	**325**	Pn	Pn	04 38 33.9	-5.0
	0.2nm,0.3s,baz=132,slow=13,SNR=12						
AB31				⇓Sn	Sn	04 40 44.0	-12
	0.4nm,0.5s,baz=142,slow=24,SNR=2.6						

NIED ***31*** *04:43:00,37°10N×141°50E, h38km, Mw3.7 Best double couple: M*₀*3.54000×10¹⁴ NP1:*φ*s35.00000°,*δ*64.00000°,*λ*116.00000°. NP2:*φ*s167.00000°,*δ*36.00000°,*λ*48.00000°.*
IDC ***31*** *04:43:17.9±1.6,35°89N×142°07E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, MS3.5/1, Ms1 3.7/1, ms1mx2.5/34, Error ellipse: s-maj=40.2km s-min=32.6km az=69.0*
ISCJB ***31*** *04:43:28.5±1.3,37°14N±0°05×141°69E±0°08, h23km±7km, mb3.5/4, MS3.5/1, Error ellipse: s-maj=10.5km s-min=7.6km az=19.1*
JMA ***31*** *04:43:31.7±0.1,37°15N×141°47E, h47km±2km, M3.6*
JMA Felt I J1
ISC 31 04:43:29.1±2.3, 37°12N±0°06×141°67E±0°09, h23km±14km, n15, σ0°98/23, mb3.6/4, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.68**	**292**	⇓P	**Pb**	**04 43 43.0**	**+0.7**
JFK				S	**Sb**	**04 43 50.6**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.69**	**269**	⇓P	**Pb**	**04 43 43.3**	**+0.8**
ONAJ				S	**Sb**	**04 43 51.2**	**-0.5**
JHO	**Hitachi**	**1.01**	**240**	P	**Pn**	**04 43 47.6**	**-0.3**
JHO				S	**Sb**	**04 43 59.0**	**-1.9**
JMM	**Marumori**	**1.02**	**317**	⇓P	**Pn**	**04 43 47.8**	**-0.1**
JMM				S	**Sb**	**04 43 59.5**	**-1.5**
JFT	**Otama**	**1.13**	**291**	⇓P	**Pn**	**04 43 50.0**	**+0.5**
JFT				*e*S	**Sn**	**04 44 03.1**	**-1.3**
JIO	**Ouri**	**1.36**	**349**	P	**Pn**	**04 43 53.3**	**+0.7**
JIO				S	**Sn**	**04 44 08.9**	**-1.0**
JOU	**Okura**	**1.48**	**328**	P	**Pn**	**04 43 55.3**	**+1.0**
JOU				*e*S	**Sn**	**04 44 12.3**	**-0.6**
JFY	**Yanaizu**	**1.59**	**281**	P	**Pn**	**04 43 56.3**	**+0.5**
JFY				S	**Sn**	**04 44 15.9**	**+0.2**
JYS	**Shirataka**	**1.68**	**311**	P	**Pn**	**04 43 58.1**	**+1.0**
JYS				S	**Sn**	**04 44 17.8**	**-0.1**
MAT	**Matsushiro**	**2.83**	**259**	P	**Pn**	**04 44 14.6**	**+1.7**
MAT				S	Sn	04 44 49.7	+3.4
SONM	**Songino Array**	**27.91**	**304**	P	**P**	**04 49 17.5**	**+0.2**
	1.2nm,0.8s,baz=101,slow=7.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.71**	**255**	LR	LR	05 07 36.8	
	comp=Z,55nm,18.7s,baz=338,slow=35						
ZALV	**Zalesovo Beam**	**42.01**	**312**	P	**P**	**04 51 19.2**	**+0.9**
	0.7nm,0.4s,baz=94,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**04 51 36.6**	**0.0**
	0.6nm,0.6s,baz=85,slow=9.7,SNR=8.3						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**04 52 15.1**	**-0.8**
	0.3nm,0.7s,baz=277,slow=7.2,SNR=4.3						

IDC 31 04:46:38.1±6.7, 21°84S×179°70W, h637km±78km, mb3.1/6, mb1 3.3/7, mb1mx3.1/18, mbtmp3.1/7, Error ellipse: s-maj=46.4km s-min=34.5km az=113.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.86**	**266**	P	P	04 49 26.2	+1.1
	0.2nm,0.3s,baz=84,slow=19,SNR=4.9						
STKA	**Stephens Creek**	**35.78**	**245**	P	P	04 52 46.3	0.0
	1.6nm,0.7s,baz=84,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**42.68**	**258**	P	P	04 53 41.6	+0.1
	2.6nm,0.8s,baz=95,slow=8.2,SNR=24						
WRA	**Warramunga Arr**	**42.86**	**264**	P	P	04 53 42.6	-0.3
	1.7nm,0.6s,baz=97,slow=7.6,SNR=11						
PETK	**Petropavlovsk-**	**77.17**	**346**	P	P	04 57 27.2	-0.5
	4.5nm,1.0s,baz=120,slow=5.2,SNR=2.4						
CMAR	**Chiang Mai Arr**	**89.07**	**290**	P	P	04 58 28.6	+1.0
	0.8nm,0.3s,baz=132,slow=3.8,SNR=4.2						
TXAR	**Lajitas Array**	**89.11**	**58**	P	P	04 58 28.1	+0.4
	0.2nm,0.6s,baz=224,slow=7.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**171.26**	**189**	PKPab	PKPab	05 06 59.7	-0.5
	0.4nm,0.7s,baz=166,slow=4.8,SNR=2.7						

ISCJB ***31*** *05:01:34.5±0.5,37°67N±0°07×95°64E±0°05, h10km, mb3.7/9, Error ellipse: s-maj=10.7km s-min=5.7km az=15.2*
IDC ***31*** *05:01:35.1±0.9,37°76N×95°73E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.8/31, mbtmp3.8/12, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/33, Error ellipse: s-maj=30.2km s-min=17.9km az=40.0*
BJI ***31*** *05:01:36.0,37°60N×95°69E, h10km, mB4.3/2, mb4.2/6, ML4.0/6, Ms3.8/7, Ms7 3.4/7*
NNC ***31*** *05:01:43.0±3.9,38°49N×95°21E, h0km, mb3.9, Error ellipse: s-maj=116.2km s-min=38.3km az=50.0*
ISC 31 05:01:36.4±0.7, 37°68N±0°08×95°58E±0°05, h10km, n20, σ1°29/26, mb3.9/9, 2C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.75**	**61**	Pn	**Pn**	**05 02 36.0**	**+1.7**
GTA				Pg	**Pb**	**05 02 42.5**	**-0.2**
GTA				Sn	**Sn**	**05 03 17.5**	**-1.1**
GTA				Sg	**Sb**	**05 03 27.8**	**-0.4**
GTA				smax	smax		
	comp=N,45nm,0.9s						
GTA				smax	smax		
	comp=E,59nm,0.9s						
GTA				LR	LR		
	comp=N,800nm,5.2s						
GTA				LR	LR		
	comp=E,370nm,7.6s						
GTA				LR	LR		
	comp=Z,410nm,8.6s						
LZH	**Lanzhou**	**6.81**	**101**	*e*Pn	**Pn**	**05 03 15.5**	**-1.0**
LZH				*e*Sn	**Sn**	**05 04 33.0**	**-1.2**
LZH				LR	LR		
	comp=N,820nm,11.4s						
LZH				LR	LR		
	comp=E,280nm,11.0s						
LZH				LR	LR		
	comp=Z,250nm,12.6s						
WMQ	**Urumqi**	**8.57**	**318**	P	**Pn**	**05 03 42.0**	**+1.5**
WMQ				S	**Sn**	**05 05 14.5**	**-2.7**
WMQ				pmax	pmax		
	comp=Z,19nm,0.8s						
WMQ				smax	smax		
	comp=N,54nm,0.9s						
WMQ				smax	smax		
	comp=E,36nm,1.0s						
SONM	**Songino Array**	**12.88**	**35**	Pn	**Pn**	**05 04 41.4**	**+1.9**
	comp=E,0.4nm,0.3s,baz=217,slow=15,SNR=7.1						
SONM				LR	LR	05 09 54.8	
	comp=E,136nm,18.5s,baz=234,slow=39						
MK31	**Makanchi Array**	**13.40**	**317**	Pn	**Pn**	**05 04 45.2**	**-1.3**
	comp=E,4.1nm,0.7s,baz=123,slow=12,SNR=83						
MK31				⇑Sn	Sn	05 07 11.2	-4.2
	comp=E,3.7nm,0.8s,baz=130,slow=24,SNR=8.4						
MKAR	**Makanchi Array**	**13.40**	**317**	Pn	**Pn**	**05 04 46.4**	**-0.1**
	comp=E,0.9nm,0.3s,baz=127,slow=14,SNR=70						
MKAR				Sn	**Sn**	**05 07 12.3**	**-3.1**
	comp=E,0.1nm,0.3s,baz=119,slow=17,SNR=3.9						
AAK	**Ala-Archa**	**16.85**	**294**	Pn	**Pn**	**05 05 32.9**	**+0.5**
	comp=E,0.1nm,0.3s,baz=109,slow=11,SNR=3.9						
KURBB	**Kurchatov Arra**	**17.75**	**322**	P	**Pn**	**05 05 42.2**	**-1.3**
	comp=E,0.2nm,0.3s,baz=136,slow=12,SNR=14						
ZALV	**Zalesovo Beam**	**17.88**	**339**	P	**Pn**	**05 05 45.2**	**+0.2**
	baz=146,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**19.38**	**170**	P	**Pn**	**05 06 03.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=341,slow=10,SNR=10						
KK31	**Karatay Array**	**19.81**	**294**	⇑P	**Pn**	**05 06 08.9**	**+0.3**
	comp=E,2.3nm,1.0s,baz=92,slow=11,SNR=7.9						
VOSK	**Vostochnaya**	**22.79**	**319**	⇓P	**P**	**05 06 39.1**	**+0.1**
	comp=E,6.2nm,1.1s						
BVAR	**Borovoye Array**	**23.25**	**319**	P	**P**	**05 06 43.8**	**0.0**
	comp=E,1.0nm,0.7s,baz=120,slow=10,SNR=4.6						
KSRS	**Korea Array**	**25.57**	**80**	P	**P**	**05 07 05.0**	**-0.4**
	comp=E,2.1nm,0.7s,baz=273,slow=10,SNR=7.0						
AKTO	**Aktyubinsk**	**29.52**	**308**	P	**P**	**05 07 42.1**	**+1.3**
	comp=E,0.7nm,0.3s,baz=63,slow=7.2,SNR=5.5						
BRTR	**Keskin Array B**	**47.52**	**293**	P	**P**	**05 10 13.2**	**+1.3**
	comp=E,0.5nm,0.8s,baz=89,slow=7.4,SNR=3.3						
NOA	**NORSAR Array B**	**55.28**	**324**	P	**P**	**05 11 09.4**	**-0.2**
	comp=E,1.5nm,0.7s,baz=74,slow=8.0,SNR=4.0						
ILAR	**Eielson Array**	**66.88**	**24**	P	**P**	**05 12 27.4**	**-0.8**
	comp=E,0.8nm,0.9s,baz=296,slow=5.3,SNR=9.7						
ASAR	**Alice Springs**	**70.87**	**143**	P	**P**	**05 12 53.4**	**-0.1**
	comp=E,0.4nm,0.7s,baz=339,slow=5.0,SNR=4.0						
ESDC	**Sonseca Array**	**73.41**	**307**	P	**P**	**05 13 09.5**	**+0.7**
	comp=E,0.5nm,0.6s,baz=40,slow=5.4,SNR=5.1						

AUST ***31*** *05:02:20.7,5°00S×125°51E, h100km*
ISCJB ***31*** *05:02:55.7±0.7,7°47S±0°07×126°7E±0°1, h250km, mb3.6/5, Error ellipse: s-maj=15.0km s-min=8.6km az=154.4*
IDC ***31*** *05:02:56.0±7.1,7°53S×126°51E, h235km±79km, mb3.3/5, mb1 3.4/8, mb1mx3.2/21, mbtmp3.2/8, Error ellipse: s-maj=65.7km s-min=18.2km az=43.0*
ISC 31 05:02:56.9±0.9, 7°62S±0°09×126°60E±0°10, h250km, n13, σ1°48/16, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.84**	**140**	P	**Pn**	**05 04 37.0**	**+1.4**
	baz=9.6,SNR=14						
KDU	**Kakadu**	**7.66**	**132**	P	**Pn**	**05 04 46.6**	**+0.6**
	baz=10,SNR=19						
KDU				S	**S**	**05 06 10.3**	**-3.5**
	baz=10,SNR=6.1						
KNRA	**Kununurra**	**8.28**	**165**	P	**Pn**	**05 04 55.5**	**+1.7**
	baz=11,SNR=3.4						
FITZ	**Fitzroy Crossi**	**10.46**	**185**	P	**Pn**	**05 05 21.3**	**0.0**
	0.1nm,0.3s,baz=4.4,slow=14,SNR=2.8						
FITZ				S	**S**	**05 07 18.4**	**-0.4**
	0.2nm,0.3s,baz=351,slow=17,SNR=2.6						
FITZ	**Fitzroy Crossi**	**10.46**	**185**	P	**P**	**05 05 24.8**	**-1.6**
	baz=13,SNR=7.1						
WRA	**Warramunga Arr**	**14.36**	**149**	P	**P**	**05 06 10.1**	**+0.3**
	0.8nm,0.3s,baz=324,slow=12,SNR=17						
WRA				S	**S**	**05 08 48.8**	**+0.1**
	0.1nm,0.3s,baz=327,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**17.43**	**157**	P	**Pn**	**05 06 45.7**	**-0.2**
	1.4nm,0.3s,baz=335,slow=11,SNR=47						
COEN	**Coen**	**17.45**	**113**	P	**Pn**	**05 06 45.0**	**-1.2**
	baz=20,SNR=5.7						
CTA	**Charters Tower**	**22.72**	**125**	P	**P**	**05 07 39.5**	**+1.9**
	1.2nm,0.4s,baz=304,slow=7.3,SNR=4.2						
STKA	**Stephens Creek**	**27.89**	**152**	P	**P**	**05 08 25.4**	**+1.5**
	1.7nm,0.6s,baz=328,slow=9.5,SNR=3.5						
CMAR	**Chiang Mai Arr**	**37.63**	**314**	P	**P**	**05 09 48.7**	**+0.4**
	1.6nm,0.3s,baz=141,slow=7.2,SNR=5.9						
MKAR	**Makanchi Array**	**66.94**	**329**	P	**P**	**05 13 22.0**	**-0.6**
	0.3nm,0.5s,baz=123,slow=6.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.31**	**330**	P	**P**	**05 13 48.4**	**-0.9**
	0.2nm,0.3s,baz=132,slow=5.4,SNR=4.7						

WEL 31 05:29:41.3±0.4, 46°34S×166°00E, h33km, ML3.7/12, Error ellipse: s-maj=4.1km s-min=3.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.18**	**43**	PN	Pn	05 30 01.3	-0.2
DCZ				SN	Sn	05 30 15.6	-0.7
DCZ				AML	AML	05 30 16.8	
DCZ				AML	AML	05 30 17.5	
DCZ				AML	AML	05 30 17.6	
WHZ	**Wether Hill Ro**	**1.42**	**72**	PN	Pb	05 30 06.7	-0.5
WHZ				SN	Sn	05 30 22.6	+0.1
WHZ				AML	AML	05 30 29.7	
SYZ	**Scrubby Hill**	**2.18**	**96**	PN	Pb	05 30 18.1	-1.9
EAZ	**Earnscleugh**	**2.56**	**66**	PN	Pn	05 30 18.7	-1.8
EAZ				AML	AML	05 31 03.1	
EAZ				AML	AML	05 31 10.4	
WKZ	**Wanaka**	**2.60**	**55**	PN	Pb	05 30 24.7	-2.6
WKZ				AML	AML	05 31 02.3	
WKZ				AML	AML	05 31 05.3	
JCZ	**Jackson Bay**	**2.99**	**42**	PN	Pn	05 30 30.2	+3.7
JCZ				AML	AML	05 31 17.5	
JCZ				AML	AML	05 31 19.0	
ODZ	**Otahua Downs**	**3.50**	**70**	PN	Pn	05 30 35.0	+1.6
LBZ	**Lake Benmore**	**3.54**	**58**	PN	Pn	05 30 35.0	+1.1
LBZ				AML	AML	05 31 10.9	
LBZ				AML	AML	05 31 11.0	

IDC ***31*** *06:03:36.0±1.9,4°85S×133°55E, h0km, mb3.7/1, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.5/4, MS3.8/5, Ms1 3.8/5, ms1mx3.2/34, Error ellipse: s-maj=68.3km s-min=27.7km az=72.0*
ISCJB ***31*** *06:03:37.7±0.6,4°96S±0°05×133°62E±0°06, h25km, mb3.6/1, MS4.0/3, Error ellipse: s-maj=8.5km s-min=7.4km az=9.7*
DJA ***31*** *06:03:44.6±1.5,5°S±6°×13°3E±°, h101km±19km, M4.3/3, mb5.4/1, mB5.6/1, MLv3.7/3, Mw(mB)5.1/1*
AUST ***31*** *06:04:59.2,10°45S×131°61E, h60km*
ISC 31 06:03:39.3±0.7, 4°99S±0°06×133°64E±0°07, h25km, n24, σ2°04/19, MS4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.11**	**234**	P	Pb	06 04 07.5	+7.7
TLE				S	Sb	06 04 28.6	+15
KMPI	**Kaimana, Papua**	**1.32**	**3**	P	**Pb**	**06 04 03.7**	**+0.4**
FAKI	**Fak Fak**	**2.48**	**326**	P	**Pn**	**06 04 17.1**	**-1.0**
KDU	**Kakadu**	**7.74**	**189**	P	**Pn**	**06 05 31.3**	**+0.9**
	baz=2.4,SNR=14						
MTN	**Manton Dam**	**8.19**	**197**	P	**Pn**	**06 05 39.7**	**+3.0**
	baz=2.4,SNR=9.8						
KNRA	**Kununurra**	**11.66**	**204**	P	**Pn**	**06 06 26.7**	**+2.6**
	baz=5.9,SNR=5.9						
MANU	**Manus Island**	**14.01**	**78**	P	**Pn**	**06 06 56.5**	**+0.2**
	baz=18,SNR=6.1						
WSI	**Waingapu**	**14.03**	**250**	S	**Sn**	**06 09 32.1**	**+0.5**
	baz=11,SNR=4.2						
PMG	**Port Moresby**	**14.11**	**109**	LR	LR	06 13 16.3	
	comp=Z,178nm,18.8s,baz=360,slow=41						
WRA	**Warramunga Arr**	**14.88**	**177**	Pn	**Pn**	**06 07 07.9**	**-0.4**
	0.1nm,0.3s,baz=354,slow=13,SNR=4.8						
WRA				Sn	**Sn**	**06 09 50.7**	**-1.8**
	0.2nm,0.3s,baz=358,slow=23,SNR=4.0						
FITZ	**Fitzroy Crossi**	**15.20**	**210**	Pn	**Pn**	**06 07 12.2**	**-0.2**
	0.2nm,0.3s,baz=25,slow=14,SNR=14						
FITZ				Sn	**Sn**	**06 09 55.5**	**-4.7**
	0.4nm,0.3s,baz=330,slow=20,SNR=6.0						
FITZ	**Fitzroy Crossi**	**15.20**	**210**	P	**P**	**06 07 15.8**	**-1.4**
	baz=9.6,SNR=3.4						
ASAR	**Alice Springs**	**18.57**	**179**	P	**Pn**	**06 07 57.6**	**+2.7**
	0.2nm,0.3s,baz=3.9,slow=12,SNR=16						
ASAR				S	**Sn**	**06 11 19.1**	**-2.9**
	0.1nm,0.3s,baz=352,slow=26,SNR=4.3						
ASAR				LR	LR	06 15 44.5	
	comp=Z,268nm,21.0s,baz=356,slow=39						
CTA	**Charters Tower**	**19.39**	**142**	P	**Pn**	**06 08 05.1**	**+0.3**
	0.2nm,0.3s,baz=319,slow=9.3,SNR=2.9						
PATS	**Pohnpei**	**27.28**	**65**	S	**S**	**06 13 58.3**	**-2.0**
	baz=32,SNR=4.2						
STKA	**Stephens Creek**	**27.77**	**165**	LR	LR	06 21 30.1	
	comp=Z,270nm,20.9s,baz=203,slow=38						
XMIS	**Christmas Isla**	**28.25**	**257**	P	P	06 09 24.8	-6.0
	baz=26,SNR=4.0						
PMBI	**Palembang**	**28.87**	**273**	P	**P**	**06 09 36.1**	**-0.2**
	baz=28,SNR=5.1						
YNG	**Young**	**32.22**	**157**	S	S	06 15 33.8	+16
	baz=28,SNR=6.5						
CNB	**Canberra Magne**	**33.49**	**156**	S	S	06 15 25.1	-12
	baz=30,SNR=9.0						
NFK	**Norfolk Island**	**40.33**	**130**	S	**S**	**06 17 22.6**	**+1.1**
	baz=39,SNR=6.0						
MKAR	**Makanchi Array**	**68.61**	**325**	P	**P**	**06 14 40.0**	**-0.3**
	0.6nm,0.7s,baz=132,slow=6.7,SNR=4.5						
VNDA	**Vanda**	**74.02**	**174**	LR	LR	06 47 00.5	
	comp=Z,107nm,19.6s,baz=342,slow=35						
MAW	**Mawson**	**78.14**	**202**	LR	LR	06 48 31.3	
	comp=Z,77nm,20.7s,baz=60,slow=34						

BJI ***31*** *06:15:57.9,41°53N×145°05E, h10km, mB4.9/4, mb4.6/7, Ms4.1/3, Ms7 3.9/3*
IDC ***31*** *06:15:59.5±0.6,41°08N×144°43E, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.2/29, mbtmp4.1/21, ML4.7/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/39, Error ellipse: s-maj=16.4km s-min=16.2km az=37.0*
NIED ***31*** *06:16:00,41°20N×144°40E, h11km, Mw4.2 Best double couple: M*₀*1.92000×10¹⁵ NP1:*φ*s257.00000°,*δ*62.00000°,*λ*-105.00000°. NP2:*φ*s106.00000°,*δ*32.00000°,*λ*-65.00000°.*
ISCJB ***31*** *06:16:01.5±1.1,41°19N±0°03×144°35E±0°04, h23km±8km, mb4.4/34, MS3.4/3, Error ellipse: s-maj=5.4km s-min=4.2km az=135.6*
NEIC ***31*** *06:16:01.3±0.4,41°08N×144°37E, h10km, mb4.7/5, MW4.1(NIED), Error ellipse: s-maj=10.9km s-min=8.9km az=172.0*
JMA ***31*** *06:16:02.4±0.2,41°16N×144°37E, h53km±2km, M4.6*
MOS ***31*** *06:16:03.7±1.4,41°17N×144°39E, h42km, mb4.7/21, Error ellipse: s-maj=11.7km s-min=7.2km az=99.5*
ISC 31 06:16:00.9±1.5, 41°20N±0°04×144°36E±0°04, h9km±9km, n115, σ1°40/123, mb4.5/34, MS3.4/3, 7C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.21**	**312**	*i* P	**Pg**	**06 16 24.2**	**0.0**

JOT	**Ohata**	**2.50 275**	‖P		**Pn**	**06 16 42.1 +0.3**
JOT			eS		**Sn**	**06 17 09.7 -2.7**
JTM	**Tenmabayashi**	**2.53 262**	P		**Pn**	**06 16 42.0 -0.1**
JTM			eS		**Sn**	**06 17 10.0 -3.0**
JKB	**Kayabe**	**2.59 286**	P		**Pn**	**06 16 43.1 +0.2**
JKB			eS		**Sn**	**06 17 12.5 -2.0**
JEW	**Eniwo**	**2.72 308**	P		**Pn**	**06 16 46.1 +1.4**
JEW			eS		**Sn**	**06 17 17.7 0.0**
YUK	**Yuzh-Kuril'sk**	**3.04 21**	i P		**Pn**	**06 16 49.1 0.0**
YUK			i S		**Sn**	**06 17 22.4 -3.2**
YUK			pmax	pmax		
	comp=N,112nm,0.3s					
YUK			pmax	pmax		
	comp=Z,507nm,0.3s					
YUK			pmax	pmax		
	comp=E,147nm,0.3s					
YUK			smax	smax		
	comp=N,241nm,0.4s					
YUK			smax	smax		
	comp=E,617nm,0.4s					
ASAJ	**Asahikawa**	**3.19 337**	Pn		**Pn**	**06 16 51.9 +0.6**
ASAJ			Sn		**Sn**	**06 17 29.6 +0.2**
ASAJ	**Asahikawa**	**3.19 337**	Pn		**Pn**	**06 16 51.9 +0.6**
	comp=E,57nm,0.3s,baz=194,slow=9.2,SNR=94					
ASAJ			Sn		**Sn**	**06 17 29.6 +0.2**
	comp=E,17nm,0.3s,baz=221,slow=20,SNR=6.7					
ASAJ			LR		LR	06 18 49.7
	comp=E,524nm,19.1s,baz=284,slow=51					
KUR	**Kuril'sk**	**4.77 31**	d i P		**Pn**	**06 17 14.3 +1.3**
KUR			eS		**Sn**	**06 18 06.9 -1.5**
KUR			pmax	pmax		
	comp=E,97nm,0.3s					
KUR			pmax	pmax		
	comp=Z,219nm,0.5s					
KUR			pmax	pmax		
	comp=N,79nm,0.3s					
KUR			smax	smax		
	comp=E,146nm,0.4s					
KUR			smax	smax		
	comp=N,191nm,0.4s					
YSS	**Yuzh-Sakhalins**	**5.86 349**	eP		**Pn**	**06 17 29.0 +1.1**
YSS			eS		**Sn**	**06 18 30.0 -5.2**
YSS			pmax	pmax		
	comp=Z,20nm,0.4s					
YSS			smax	smax		
	comp=E,20nm,0.5s					
YSS			MLR	MLR		
	comp=Z,400nm,16.0s					
MAT	**Matsushiro**	**6.68 228**	P		**Pn**	**06 17 38.4 -0.9**
MAT			S		**Sn**	**06 18 55.7 +0.1**
USRK	**Ussuriysk Arra**	**9.58 292**	Pn		**Pn**	**06 18 20.8 +1.9**
	comp=Z,0.2nm,0.3s,baz=100,slow=15,SNR=4.2					
USRK			LR		LR	06 22 43.4
	comp=Z,144nm,18.2s,baz=295,slow=42					
HABR	**Khabarovsk**	**9.82 321**	eP		**Pn**	**06 18 20.4 -1.8**
HABR			pmax	pmax		
	comp=Z,6.0nm,0.6s					
HABR			MLR	MLR		
	comp=Z,102nm,16.0s					
KSRS	**Korea Array**	**13.26 259**	Pn		**Pn**	**06 19 11.3 +2.0**
	comp=Z,0.1nm,0.3s,baz=68,slow=13,SNR=2.7					
KSRS			LR		LR	06 24 25.4
	comp=Z,138nm,18.3s,baz=65,slow=38					
KSAR	**Wonju Array Be**	**13.30 259**	Pn		**Pn**	**06 19 11.3 +1.5**
JNU	**Nakatsue**	**13.43 237**	LR		LR	06 24 22.2
	comp=Z,56nm,18.8s,baz=57,slow=38					
CBIJ	**Chichi jima**	**14.19 188**	Pn		Pn	06 19 16.1 -5.9
CBIJ			Sn		Sn	06 21 43.0 -17
CBIJ	**Chichi jima**	**14.19 188**	Pn		Pn	06 19 16.1 -5.9
	comp=Z,9.0nm,0.3s,baz=53,slow=20,SNR=5.9					
CBIJ			Sn		Sn	06 21 43.0 -17
	baz=23,slow=18					
PETK	**Petropavlovsk-**	**14.94 33**	P		Pn	06 19 28.2 -4.0
PETK	**Petropavlovsk-**	**14.94 33**	Pn		Pn	06 19 28.2 -4.0
PETK	**Petropavlovsk-**	**14.94 33**	Pn		Pn	06 19 28.2 -4.0
	comp=Z,0.2nm,0.3s,baz=196,slow=15,SNR=3.6					
PET	**Petropavlovsk**	**15.28 34**	eP		**P**	**06 19 40.8 -0.7**
SEY	**Seymchan**	**22.28 10**	eP		**P**	**06 20 56.3 -1.8**
YAK	**Yakutsk**	**22.65 342**	eP		**P**	**06 21 02.6 +0.5**
YAK			pmax	pmax		
	comp=Z,21nm,0.6s					
HHC	**Hu-ho-hao-te**	**24.67 280**	eP		P	06 21 26.5 +4.4
HHC			S		**S**	**06 25 41.8 -1.9**
HHC			pmax	pmax		
	comp=Z,52nm,0.7s					
HHC			pmax	pmax		
	comp=Z,260nm,5.1s					
SONM	**Songino Array**	**27.66 297**	P		**P**	**06 21 51.1 +2.0**
SONM	**Songino Array**	**27.66 297**	P		**P**	**06 21 51.1 +2.0**
	comp=Z,3.7nm,0.9s,baz=96,slow=7.4,SNR=9.4					
TLY	**Talaya**	**29.59 305**	eP		P	06 22 09.9 +3.9
TLY			pmax	pmax		
	comp=Z,3.0nm,0.8s					
TLY			MLR	MLR		
	comp=Z,58nm,13.0s					
ZAK	**Zakamensk**	**29.74 302**	eP		**P**	**06 22 08.6 +1.1**
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.5s					
ZAA0	**Zalesovo Array**	**40.94 309**	eP		P	06 23 46.8 +3.3
ZALV	**Zalesovo Beam**	**40.94 309**	P		**P**	**06 23 44.0 +0.5**
ZALV						06 25 43.8
ZALV			pmax	pmax		
	comp=Z,5.0nm,0.5s					
ZALV	**Zalesovo Beam**	**40.94 309**	P		**P**	**06 23 44.0 +0.5**
ZALV			PcP		**PcP**	**06 25 43.8 +0.1**
ZALV	**Zalesovo Beam**	**40.94 309**	P		**P**	**06 23 44.0 +0.5**
	comp=Z,4.8nm,0.5s,baz=84,slow=8.1,SNR=24					
ZALV			PcP		**PcP**	**06 25 43.8 +0.1**
	comp=Z,2.8nm,0.6s,baz=89,slow=3.6,SNR=7.5					
IM04	**Indian Mountai**	**41.89 33**	eP		P	06 23 54.6 +3.5
IMA2	**Indian Mountai**	**41.94 33**	eP		P	06 23 54.2 +2.5
MK31	**Makanchi Array**	**43.98 299**	eP		**P**	**06 24 08.2 -0.1**
MK31	**Makanchi Array**	**43.98 299**	eP		**P**	**06 24 08.2 -0.1**
MKAR	**Makanchi Array**	**43.98 299**	P		**P**	**06 24 08.3 0.0**
MKAR						06 25 53.4
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MKAR			MLR	MLR		
	comp=Z,21nm,18.2s					
MKAR	**Makanchi Array**	**43.98 299**	P		**P**	**06 24 08.3 0.0**
MKAR			PcP		**PcP**	**06 25 53.4 -0.6**
MKAR	**Makanchi Array**	**43.98 299**	P		**P**	**06 24 08.3 0.0**
	comp=Z,0.9nm,0.7s,baz=81,slow=10,SNR=9.8					
MKAR			PcP		**PcP**	**06 25 53.4 -0.6**
	comp=Z,0.6nm,0.6s,baz=52,slow=3.1,SNR=2.3					
MKAR			LR		LR	06 43 13.3
	comp=Z,21nm,18.2s,baz=351,slow=37					
COLA	**College**	**44.34 34**	eP		P	06 24 15.8 +4.9
COLA			pmax	pmax		
	comp=Z,16nm,0.7s					
COLA	**College**	**44.34 34**	eP		P	06 24 15.8 +4.9
	comp=Z,16nm,0.7s					
ILAR	**Eielson Array**	**44.76 35**	P		**P**	**06 24 15.2 +0.9**
ILAR	**Eielson Array**	**44.76 35**	P		**P**	**06 24 15.2 +0.9**
	comp=Z,0.8nm,0.5s,baz=262,slow=5.3,SNR=14					
EGAK	**Eagle**	**47.20 34**	eP		**P**	**06 24 33.7 +0.1**
	comp=Z,7.4nm,1.1s					
VOSK	**Vostochnaya**	**49.30 310**	P		P	06 24 54.6 +4.7
VOSK			pmax	pmax		
	comp=Z,4.0nm,0.5s					
BVA0	**Borovoye Array**	**49.55 310**	i P		**P**	**06 24 53.0 +1.2**
BVA0			pmax	pmax		
	comp=Z,10.0nm,0.5s					
BRVK	**Borovoye**	**49.60 310**	eP		P	06 24 57.4 +5.2
BRVK			pmax	pmax		
	comp=Z,8.0nm,1.2s					
HYT	**Haines Junctio**	**49.60 39**	eP		P	06 24 54.6 +2.3
INK	**Inuvik**	**49.64 29**	P		**P**	**06 24 53.6 +1.4**
INK	**Inuvik**	**49.64 29**	P		**P**	**06 24 53.6 +1.4**
	comp=Z,2.5nm,0.5s,baz=294,slow=8.7,SNR=8.2					
TKM2	**Tokmak 2**	**49.76 296**	eP		**P**	**06 24 55.1 +1.3**
TKM2			pmax	pmax		
	comp=Z,4.0nm,0.5s					
TKM2	**Tokmak 2**	**49.76 296**	eP		**P**	**06 24 55.1 +1.3**
	comp=Z,3.8nm,0.5s					
SVE	**Sverdlovsk**	**53.59 317**	‖ eP		P	06 25 27.7 +5.7
SVE			pmax	pmax		
	comp=Z,29nm,0.8s					
ARU	**Arti**	**54.80 317**	c i P		P	06 25 36.2 +5.4
ARU						06 27 33.3
ARU			S		**S**	**06 33 14.9 +3.4**
ARU			SS		**SS**	**06 36 50.3 -3.7**
ARU			pmax	pmax		
	comp=Z,17nm,1.2s					
AB31	**Akbulak array**	**57.05 309**	i P		**P**	**06 25 48.2 +1.1**
AB31			pmax	pmax		
	comp=Z,4.0nm,0.3s					
ABKAR	**Akbulak array**	**57.05 309**	eP		**P**	**06 25 47.0 -0.1**
	comp=Z,3.9nm,0.3s					
YKA	**Yellowknife Ar**	**59.06 32**	P		**P**	**06 26 01.4 +0.6**
YKA	**Yellowknife Ar**	**59.06 32**	P		**P**	**06 26 01.4 +0.6**
	comp=Z,0.5nm,0.6s,baz=298,slow=6.9,SNR=3.4					
ARCES	**ARCESS Array B**	**60.91 339**	P		**P**	**06 26 14.6 +1.1**
ARCES	**ARCESS Array B**	**60.91 339**	P		**P**	**06 26 14.6 +1.1**
	comp=Z,1.4nm,0.5s,baz=38,slow=7.2,SNR=13					
WRAB	**Tennant Creek**	**61.53 191**	eP		**P**	**06 26 17.2 -1.0**
WRAB			pmax	pmax		
	comp=Z,2.0nm,0.7s					
WRAB	**Tennant Creek**	**61.53 191**	eP		**P**	**06 26 17.2 -1.0**
	comp=Z,2.4nm,0.7s					
WRA	**Warramunga Arr**	**61.54 191**	P		**P**	**06 26 17.3 -1.0**
WRA	**Warramunga Arr**	**61.54 191**	P		**P**	**06 26 17.3 -1.0**
	comp=Z,2.9nm,0.7s,baz=9.1,slow=6.6,SNR=21					
JOF	**Joensuu**	**63.37 332**	eP		**P**	**06 26 31.4 +1.3**
JOF	**Joensuu**	**63.37 332**	ep		**P**	**06 26 31.4 +1.3**
ASAR	**Alice Springs**	**65.27 191**	P		**P**	**06 26 42.6 -0.3**
ASAR	**Alice Springs**	**65.27 191**	P		**P**	**06 26 42.6 -0.3**
	comp=Z,1.4nm,0.7s,baz=9.7,slow=5.7,SNR=17					
KAF	**Kangasniemi**	**65.65 333**	eP		**P**	**06 26 43.6 -1.4**
KAF	**Kangasniemi**	**65.65 333**	ep		**P**	**06 26 43.6 -1.4**
FINES	**FINESS Array B**	**66.19 332**	P		**P**	**06 26 48.4 -0.1**
FINES	**FINESS Array B**	**66.19 332**	P		**P**	**06 26 48.4 -0.1**
	comp=Z,5.3nm,0.6s,baz=57,slow=7.0,SNR=23					
KIV	**Kislovodsk**	**69.90 311**	eP		**P**	**06 27 13.6 +1.3**
KIV			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KBZ	**Khabaz**	**69.92 311**	P		**P**	**06 27 13.2 +1.0**
KBZ			pmax	pmax		
	comp=Z,1.0nm,0.4s					
KBZ	**Khabaz**	**69.92 311**	P		**P**	**06 27 13.2 +1.0**
KBZ	**Khabaz**	**69.92 311**	P		**P**	**06 27 13.2 +1.0**
	comp=Z,2.5nm,0.9s,baz=84,slow=12,SNR=4.2					
NVAR	**Mina Array Bea**	**70.70 56**	P		**P**	**06 27 17.5 +0.1**
NVAR	**Mina Array Bea**	**70.70 56**	P		**P**	**06 27 17.5 +0.1**
	comp=Z,0.2nm,0.5s,baz=283,slow=9.2,SNR=3.1					
NB2	**NORSAR Subarra**	**71.21 338**	P		**P**	**06 27 20.8 +0.9**
	comp=Z,1.8nm,0.6s,baz=37,slow=6.2					
NOA	**NORSAR Array B**	**71.21 338**	P		**P**	**06 27 21.6 +1.8**
NOA	**NORSAR Array B**	**71.21 338**	P		**P**	**06 27 21.6 +1.8**
	comp=Z,1.7nm,0.7s,baz=36,slow=6.2,SNR=5.9					
NOA			LR		LR	07 03 05.5
	comp=Z,30nm,18.2s,baz=20,slow=40					
HFS	**Hagfors**	**71.22 336**	P		**P**	**06 27 21.6 +1.7**
HFS	**Hagfors**	**71.22 336**	P		**P**	**06 27 21.6 +1.7**
	comp=Z,4.6nm,0.5s,baz=46,slow=8.5,SNR=12					
AKASG	**Malin Array Be**	**72.38 323**	ce P			06 27 34.4 +7.4
AKASG			pmax	pmax		
	comp=Z,4.0nm,0.6s					
AKASG	**Malin Array Be**	**72.38 323**	P		**P**	**06 27 26.8 -0.2**
AKASG	**Malin Array Be**	**72.38 323**	P		**P**	**06 27 26.8 -0.2**
	comp=Z,0.8nm,0.4s,baz=41,slow=6.5,SNR=2.7					
PDAR	**Pinedale Array**	**73.14 48**	P		**P**	**06 27 32.2 +0.2**
PDAR	**Pinedale Array**	**73.14 48**	P		**P**	**06 27 32.2 +0.2**
	comp=Z,0.8nm,0.9s,baz=261,slow=1.9,SNR=4.8					
ULM	**Lac du Bonnet**	**74.77 35**	P		**P**	**06 27 41.0 -0.2**
ULM	**Lac du Bonnet**	**74.77 35**	P		**P**	**06 27 41.0 -0.2**
	comp=Z,1.2nm,0.4s,baz=315,slow=7.1,SNR=2.3					
TXAR	**Lajitas Array**	**85.80 54**	P		**P**	**06 28 41.2 +0.2**
TXAR	**Lajitas Array**	**85.80 54**	P		**P**	**06 28 41.2 +0.2**
	comp=Z,1.2nm,1.0s,baz=302,slow=3.6,SNR=10					
SNAA	**Sanae**	**145.41 198**	eP		**PKPdf**	**06 35 36.9 -1.1**
SNAA	**Sanae**	**145.41 198**	el		**PKPbc**	**06 35 39.0 +1.0**
SIV	**San Ignacio**	**146.62 49**	PKPbc		**PKPab**	**06 35 42.9 -1.4**
SIV	**San Ignacio**	**146.62 49**	PKPbc		**PKPab**	**06 35 42.9 -1.4**
	comp=Z,3.6nm,0.7s,baz=310,slow=2.3,SNR=15					
VNA2	**Neumayer--Watz**	**146.96 197**	eP		**PKPbc**	**06 35 41.9 -0.7**
VNA2	**Neumayer--Watz**	**146.96 197**	el		**PKPbc**	**06 35 43.5 +0.9**
CFAA	**Coronel Fontan**	**152.21 80**	PKPbc		**PKPbc**	**06 35 56.5 -0.5**
CFAA	**Coronel Fontan**	**152.21 80**	PKPbc		**PKPbc**	**06 35 56.5 -0.5**
	comp=Z,0.2nm,0.5s,baz=273,slow=4.7,SNR=6.0					
BDFB	**Brasilia**	**152.36 26**	PKPbc		**PKPbc**	**06 35 57.2 -0.5**
BDFB	**Brasilia**	**152.36 26**	PKPbc		**PKPbc**	**06 35 57.2 -0.5**
	comp=Z,1.6nm,0.8s,baz=294,slow=19,SNR=3.9					

TAP ***31*** *06:19:07.1,25°.32N×122°.70E,h207km±1km,ML3.8,D*
ISCJB ***31*** *06:19:08.2±0.8,25°.28N±0°.07×122°.74E±0°.03,*
h189km±7km,Error ellipse: s-maj=11.1km s-min=4.2km
az=171.8
JMA ***31*** *06:19:09.4±0.3,25°.30N×122°.76E,h183km,M3.3*
ISC 31 06:19:06.8±2.1,25°.31N±0°.09×122.72E±0°.04,
h203km±13km,n31,σ0°97/56,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.67**	**299**	eP	**Pn**	**06 19 35.6**	**+0.7**
	baz=298						
TWB1	**Santiao Chiao**	**0.73**	**246**	P	**Pn**	**06 19 35.8**	**+0.6**
	baz=243						
TWB1				eS	**Sn**	06 19 56.8	-0.4
	baz=243						
NWF	**Wu-fen Shan**	**0.89**	**255**	eP	**Pn**	**06 19 36.8**	**+0.6**
	baz=253						
NWF				eS	**Sn**	06 19 58.8	-0.1
	baz=253						
TWC	**Suao**	**1.05**	**229**	P	**Pn**	**06 19 37.5**	**+0.3**
	baz=227						
TWC				eS	**Sn**	06 20 00.0	-0.8
	baz=227						
TWE	**Neicheng**	**1.12**	**239**	eP	**Pn**	**06 19 38.5**	**+0.8**
	baz=236						
TWS1	**Kuangyinshan**	**1.20**	**261**	eP	**Pn**	**06 19 41.3**	**+3.1**
	baz=259						
ENTT	**Nioudou**	**1.24**	**238**	eP	**Pn**	**06 19 39.0**	**+0.4**
	baz=236						
ENTT				eS	**Sn**	06 20 02.3	-1.0
	baz=236						
ENA	**Nanau**	**1.25**	**226**	P	**Pn**	**06 19 39.3**	**+0.6**
	baz=224						
ENA				S	**Sn**	06 20 03.0	-0.4
	baz=224						
IRIF	**Iriomote-Funau**	**1.33**	**136**	eS	**Sn**	**06 20 03.7**	**-0.9**
NSK	**Sanguang**	**1.39**	**243**	eP	**Pn**	**06 19 39.6**	**-0.3**
	baz=241						
NSK				eS	**Sn**	06 20 04.0	-1.5
	baz=241						
NNS	**Nan Shan**	**1.50**	**235**	eP	**Pn**	**06 19 41.4**	**+0.4**
	baz=233						
NNS				eS	**Sn**	06 20 06.5	-0.8
	baz=233						
JKRS	**Kuro-shima**	**1.58**	**132**	P	**Pn**	**06 19 42.4**	**+0.9**
JKRS				S	**Sn**	**06 20 07.9**	**-0.5**
HATJ	**Hateruma jima**	**1.58**	**141**	P	**Pn**	**06 19 42.5**	**+1.0**
HATJ				eS	**Sn**	**06 20 07.7**	**-0.8**
JIJ	**Ishigaki jima**	**1.59**	**126**	P	**Pn**	**06 19 42.0**	**+0.4**
JIJ				S	**Sn**	**06 20 07.2**	**-1.4**
TWD	**Chiawan**	**1.59**	**220**	eP	**Pn**	**06 19 41.2**	**-0.4**
	baz=218						
TWD				eS	**Sn**	06 20 07.3	-1.3
	baz=218						
NSTT	**Nanjuang**	**1.70**	**247**	eP	**Pn**	**06 19 42.7**	**+0.1**
	baz=245						
NSTT				eS	**Sn**	06 20 09.1	-1.3
	baz=245						
TWT	**Tachien**	**1.75**	**234**	eP	**Pn**	**06 19 43.6**	**+0.3**
	baz=232						
TWT				eS	**Sn**	06 20 11.3	-0.4
	baz=232						
WHF	**Hehuan Shan**	**1.76**	**229**	eP	**Pn**	**06 19 44.5**	**+0.9**
	baz=227						
WHF				S	**Sn**	06 20 11.3	-0.9
	baz=227						
ESL	**Shilin**	**1.89**	**219**	eP	**Pn**	**06 19 45.6**	**+1.1**
	baz=217						
ESL				eS	**Sn**	06 20 12.1	-1.7
	baz=217						
JTJ	**Tarama**	**1.91**	**110**	P	**Pn**	**06 19 46.1**	**+1.5**
JTJ				S	**Sn**	**06 20 14.0**	**0.0**
TWQ1	**Liyutan**	**2.01**	**242**	eP	**Pn**	**06 19 46.4**	**+0.7**
	baz=240						
TWQ1				eS	**Sn**	06 20 14.3	-1.6
	baz=240						
SMLT	**Sun Moon Lake**	**2.18**	**230**	eP	**Pn**	**06 19 48.4**	**+0.8**
	baz=228						
SMLT				eS	**Sn**	06 20 19.1	-0.2
	baz=228						
TYC	**Yuchr**	**2.20**	**231**	eP	**Pn**	**06 19 48.1**	**+0.5**
	baz=229						
TYC				eS	**Sn**	06 20 18.6	-0.7
	baz=229						
EHY	**Hungye**	**2.20**	**216**	eP	**Pn**	**06 19 45.9**	**-1.8**
	baz=214						
EHY				eS	**Sn**	06 20 20.4	**+0.9**
	baz=214						
TWF1	**Yuli**	**2.34**	**214**	eP	**Pn**	**06 19 49.5**	**+0.3**
	baz=212						
TWF1				eS	**Sn**	06 20 23.3	+1.1
	baz=212						
JMJ	**Miyako jima 2**	**2.38**	**101**	eS	**Sn**	**06 20 22.5**	**-0.3**
YUS	**Yu-Shan**	**2.42**	**222**	eP	**Pn**	**06 19 51.8**	**+1.2**
	baz=220						
YUS				eS	**Sn**	06 20 24.5	-0.1
	baz=220						
JOGS	**Gusukube**	**2.49**	**102**	P	**Pn**	**06 19 52.0**	**+1.2**
JOGS				eS	**Sn**	**06 20 24.5**	**-0.6**
ALS	**Alishan**	**2.50**	**225**	eP	**Pn**	**06 19 52.2**	**+1.0**
	baz=223						
ALS				eS	**Sn**	06 20 25.8	0.0
	baz=223						
CHN5	**Tsauling**	**2.52**	**228**	eP	**Pn**	**06 19 51.6**	**+0.4**
	baz=227						
CHN5				eS	**Sn**	06 20 25.8	-0.1
	baz=227						
JOW	**Kunigami**	**5.22**	**72**	P	**Pn**	**06 20 23.3**	**-0.7**

IDC 31 06:39:44.8±0.8,34°.03S×56°.06E,h0km,mb3.9/7,
mb1 4.1/8,mb1mx3.8/26,mbtmp3.9/8,ML4.2/1,MS3.3/2,
Ms1 3.3/2,ms1mx2.6/31,Error ellipse: s-maj=31.9km
s-min=22.7km az=53.0,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.31**	**331**	P	P	06 43 49.3	-0.4
	0.8nm,0.3s,baz=141,slow=15,SNR=4.0						
OPO				LR	LR	06 48 29.3	
	comp=Z,106nm,20.5s,baz=166,slow=30						
QSPA	**South Pole Qui**	**56.15**	**180**	P	P	06 49 25.8	-0.2
	2.9nm,0.8s,baz=250,slow=3.7,SNR=10						
CMAR	**Chiang Mai Arr**	**66.27**	**45**	P	P	06 50 34.1	-0.9
	1.1nm,0.3s,baz=242,slow=6.7,SNR=7.3						
ASAR	**Alice Springs**	**67.50**	**104**	P	P	06 50 43.5	+0.5
	0.9nm,1.1s,baz=235,slow=6.2,SNR=5.9						
WRA	**Warramunga Arr**	**69.66**	**101**	P	P	06 50 56.7	+0.2
	1.1nm,0.9s,baz=235,slow=5.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**69.79**	**302**	P	P	06 50 56.9	-0.3
	0.6nm,0.8s,baz=133,slow=6.6,SNR=3.2						
BRTR	**Keskin Array B**	**76.26**	**342**	P	P	06 51 35.4	+0.2
	0.8nm,0.8s,baz=170,slow=8.8,SNR=4.9						
AAK	**Ala-Archa**	**78.14**	**14**	LR	LR	07 20 36.4	
	comp=Z,15nm,19.0s,baz=25,slow=31						
MKAR	**Makanchi Array**	**83.85**	**18**	P	P	06 52 16.4	+0.5
	0.7nm,0.9s,baz=193,slow=5.0,SNR=5.8						
INK	**Inuvik**	**145.24**	**6**	PKPbc	PKPbc	06 59 22.0	-1.0
	4.0nm,0.8s,baz=11,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**146.20**	**17**	PKPbc	PKPdf	06 59 25.2	+0.1
	0.9nm,0.8s,baz=308,slow=3.2,SNR=11						
YKA	**Yellowknife Ar**	**150.91**	**351**	PKPbc	PKPbc	06 59 38.5	0.0
	1.5nm,0.7s,baz=15,slow=1.7,SNR=9.5						

IDC ***31*** *06:45:24.2±1.7,8°.45S×124°.51E,h0km,mb3.1/1,*
mb1 3.4/4,mb1mx3.3/20,mbtmp3.2/4,ML3.2/3,Error
ellipse: s-maj=117.1km s-min=26.7km az=65.0
AUST ***31*** *06:45:25.1±5.7,8°.61S×123°.44E,h135km,Error ellipse:*
s-maj=4.9km s-min=1.0km az=15.0
ISCJB ***31*** *06:45:26.7±1.4,8°.9S±0°.1×123°.44E±0°.09,h133km,*
mb3.0/1,Error ellipse: s-maj=18.3km s-min=12.4km
az=18.6
ISC 31 06:45:24.9±1.5,8°.7S±0°.1×123°.5E±0°.1,h133km,n11,
σ2°.18/11,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.33**	**143**	P	**Pn**	**06 45 52.7**	**+1.1**
	baz=1.4,SNR=8.9						
SOEI				S	**Sn**	06 46 10.6	-1.2
	baz=1.4,SNR=6.3						
WSI	**Waingapu**	**3.26**	**252**	P	**Pn**	**06 46 16.1**	**+1.0**
	baz=3.3,SNR=3.5						
MTN	**Manton Dam**	**8.60**	**119**	P	**Pn**	**06 47 27.5**	**+0.9**
	baz=8.7,SNR=12						
MTN				S	Sn	06 48 54.1	-7.9
	baz=8.7,SNR=5.7						
KNRA	**Kununurra**	**8.67**	**144**	P	**Pn**	**06 47 29.4**	**+1.9**
	baz=8.8,SNR=3.2						
FITZ	**Fitzroy Crossi**	**9.60**	**167**	Pn	**Pn**	**06 47 42.9**	**+3.1**
	0.2nm,0.3s,baz=357,slow=8.7,SNR=7.1						
FITZ				Sn	**Sn**	**06 49 22.3**	**-3.7**
	0.3nm,0.3s,baz=35,slow=14,SNR=12						
FITZ	**Fitzroy Crossi**	**9.60**	**167**	S	**Sn**	**06 49 24.5**	**-1.5**
	baz=9.7,SNR=4.5						
KDU	**Kakadu**	**9.71**	**115**	P	**Pn**	**06 47 42.4**	**+0.9**
	baz=9.8,SNR=3.4						
KDU				S	Sn	06 49 17.9	-11
	baz=9.8,SNR=4.0						
WRA	**Warramunga Arr**	**15.37**	**138**	Pn	**P**	**06 48 57.0**	**+0.5**
	0.2nm,0.3s,baz=320,slow=13,SNR=7.8						
WRA				Sn	Sn	06 51 32.1	-13
	0.0nm,0.3s,baz=304,slow=27,SNR=3.1						
ASAR	**Alice Springs**	**17.94**	**147**	P	Pn	06 49 32.0	+5.9
	0.1nm,0.3s,baz=329,slow=13,SNR=4.5						
PMBI	**Palembang**	**19.44**	**286**	P	**P**	**06 49 39.6**	**-1.7**
	baz=19,SNR=4.5						
MKAR	**Makanchi Array**	**66.28**	**330**	P	P	06 56 16.4	+17
	0.1nm,0.4s,baz=145,slow=5.3,SNR=2.6						

WEL 31 07:02:26.1±0.8,36°.47S×176°.95E,h256km±7km,ML4.0/5,
Error ellipse: s-maj=11.7km s-min=8.4km az=90.0,Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.79**	**176**	PN	Pn	07 03 07.7	+0.5
URZ				SN	S	07 03 39.7	0.0
PUZ	**Puketiti**	**1.91**	**147**	PN	Pn	07 03 07.9	-0.4
MWZ	**Matawai**	**1.92**	**166**	PN	Pn	07 03 08.8	+0.5
MWZ				SN	S	07 03 41.2	-0.6
MWZ				AML	AML

JCZ	**Jackson Bay**	**2.67**	**44**	PN	Pb	07 57 16.2	-1.4
JCZ				AML	AML	07 58 00.2	
JCZ				AML	AML	07 58 07.7	
LBZ	**Lake Benmore**	**3.26**	**61**	PN	Pn	07 57 21.4	+1.9
LBZ				AML	AML	07 58 30.2	
ODZ	**Otahua Downs**	**3.28**	**74**	PN	Pn	07 57 20.5	+0.8

*AUST **31** 08:09:00.4±0.8, 0.°53N×126.°80E, h65km, Error ellipse: s-maj=2.0km s-min=1.1km az=359.0*
*ISCJB **31** 08:09:05.3±0.3, 0.°04S±0.°04×126.°69E±0.°04, h73km, mb4.1/14, Error ellipse: s-maj=6.5km s-min=5.5km az=42.0*
*NEIC **31** 08:09:05.7±2.5, 0.°00S×126.°74E, h59km±23km, mb4.0/3, Error ellipse: s-maj=22.2km s-min=9.1km az=63.0*
*DJA **31** 08:09:05.9±0.8, 0.°S±5.°×12.°7E±.°, h21km±13km, M4.8/11, mb5.1/8, mB5.3/6, MLv4.6/11, Mw(mB)4.7/6*
*IDC **31** 08:09:05.8±2.5, 0.°02S×126.°59E, h61km±23km, mb4.0/11, mb1 4.1/13, mb1mx4.0/24, mbtmp4.0/13, ML4.5/2, Error ellipse: s-maj=23.3km s-min=12.6km az=81.0*
ISC 31 08:09:07.0±0.5, 0.°05S±0.°06×126.°64E±0.°06, h73km, n63, σ1§21/66, mb4.2/14, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.03**	**124**	P	**Pn**	**08 09 24.2**	**-1.9**
TNTI	**Ternate**	**1.09**	**41**	P	**Pn**	**08 09 24.3**	**-2.5**
KMSI	**Cibinong**	**2.73**	**283**	P	**Pn**	**08 09 48.1**	**-0.6**
NLAI	**Namlea**	**3.20**	**172**	P	**Pn**	**08 09 54.3**	**-0.7**
GTOI	**Gorontalo**	**3.70**	**281**	P	**Pn**	**08 10 04.3**	**+2.5**
AAI	**Ambon**	**3.93**	**157**	P	**Pn**	**08 10 05.2**	**+0.3**
AAI	**Ambon**	**3.93**	**157**	P	**Pn**	**08 10 05.2**	**+0.3**
	baz=4.4,SNR=5.5						
LUWI	**Luwuk**	**4.00**	**256**	P	**Pn**	**08 10 07.3**	**+1.5**
	baz=4.3,SNR=4.2						
MRSI	**Marisa**	**4.73**	**276**	P	**Pn**	**08 10 14.3**	**-1.6**
SKSI	**Soroako, Sulaw**	**5.85**	**245**	P	**Pn**	**08 10 31.3**	**+0.1**
	158nm,0.5s,3μm0.7nm						
FAKI	**Fak Fak**	**6.28**	**117**	P	**Pn**	**08 10 36.5**	**-0.6**
	32nm,1.4s,0.1nm						
FAKI	**Fak Fak**	**6.28**	**117**	P	**Pn**	**08 10 36.5**	**-0.6**
	baz=6.4,SNR=13						
TTSI	**Tana Toraja**	**7.44**	**246**	P	**Pn**	**08 10 53.2**	**+0.3**
	128nm,0.3s,3μm0.7nm						
SPSI	**Sidrap Palu**	**7.89**	**240**	P	**Pn**	**08 11 00.1**	**+1.0**
	277nm,0.4s,7μm						
MMSI	**Mamuju**	**8.16**	**251**	P	**Pn**	**08 11 02.9**	**+0.1**
	60nm,0.4s,2μm						
BKSI	**Bulukumba**	**8.36**	**231**	P	**Pn**	**08 11 06.8**	**+1.4**
	50nm,0.5s,714nm						
KAPI	**Kappang**	**8.47**	**234**	P	**Pn**	**08 11 07.0**	**+0.1**
KAPI				S	**Sn**	**08 12 37.1**	**-3.9**
KAPI	**Kappang**	**8.47**	**234**	P	**Pn**	**08 11 07.3**	**+0.3**
	45nm,0.9s,710nm						
KAPI	**Kappang**	**8.47**	**234**	P	**Pn**	**08 11 07.0**	**+0.1**
	11nm,0.3s,baz=60,slow=3.3,SNR=44						
KAPI				S	**Sn**	**08 12 37.1**	**-3.9**
	6.4nm,0.3s,baz=72,slow=20,SNR=13						
MYLDM	**Lahad Datu**	**9.65**	**303**	P	Pn	08 11 26.7	+3.5
KDU	**Kakadu**	**13.82**	**155**	P	Pn	08 12 16.4	-3.3
	baz=14,SNR=4.7						
KNRA	**Kununurra**	**15.66**	**172**	P	**Pn**	**08 12 42.7**	**-0.7**
	baz=16,SNR=4.5						
FITZ	**Fitzroy Crossi**	**17.96**	**183**	P	**P**	**08 13 11.5**	**0.0**
FITZ	**Fitzroy Crossi**	**17.96**	**183**	P	**P**	**08 13 11.5**	**0.0**
	0.7nm,0.3s,baz=17,slow=10,SNR=14						
FITZ	**Fitzroy Crossi**	**17.96**	**183**	P	**Pn**	**08 13 12.5**	**+0.5**
	baz=19,SNR=9.5						
WRAB	**Tennant Creek**	**21.15**	**160**	*eP*	**P**	**08 13 45.7**	**-0.6**
	13nm,0.4s						
WRA	**Warramunga Arr**	**21.16**	**160**	P	**P**	**08 13 45.8**	**-0.6**
WRA	**Warramunga Arr**	**21.16**	**160**	P	**P**	**08 13 45.8**	**-0.6**
	10nm,0.4s,baz=338,slow=10,SNR=253						
COEN	**Coen**	**21.42**	**131**	P	**P**	**08 13 50.5**	**+1.3**
	baz=22,SNR=6.8						
AS31	**Alice Springs**	**24.51**	**164**	*eP*	**P**	**08 14 20.1**	**+0.4**
ASAR	**Alice Springs**	**24.51**	**164**	P	**P**	**08 14 20.0**	**+0.3**
ASAR				PcP	**PcP**	**08 17 57.0**	**+0.3**
ASAR				ScP	**ScP**	**08 21 30.2**	**+1.0**
ASAR	**Alice Springs**	**24.51**	**164**	P	**P**	**08 14 20.0**	**+0.3**
	18nm,0.5s,baz=344,slow=11,SNR=294						
ASAR				PcP	**PcP**	**08 17 57.0**	**+0.3**
	1.0nm,0.6s,baz=355,slow=1.8,SNR=8.7						
ASAR				ScP	**ScP**	**08 21 30.2**	**+1.0**
	0.3nm,0.6s,baz=341,slow=2.6,SNR=6.7						
MEEK	**Meekatharra**	**27.54**	**196**	P	**P**	**08 14 46.8**	**-0.3**
	baz=28,SNR=4.4						
CTA	**Charters Tower**	**27.66**	**137**	P	**P**	**08 14 50.2**	**+2.0**
CTA	**Charters Tower**	**27.66**	**137**	P	**P**	**08 14 50.2**	**+2.0**
	0.7nm,0.3s,baz=328,slow=9.5,SNR=2.6						
MORW	**Morawa**	**30.58**	**198**	P	**P**	**08 15 14.1**	**+0.1**
	baz=31,SNR=4.0						
FORT	**Forrest**	**30.59**	**178**	P	**P**	**08 15 14.5**	**+0.5**
	baz=31,SNR=9.0						
PATS	**Pohnpei**	**32.33**	**77**	P	P	08 15 19.9	-10
	baz=32,SNR=3.0						
BBOO	**Buckleboo**	**33.77**	**166**	P	**P**	**08 15 42.2**	**+0.3**
	baz=34,SNR=9.2						
STKA	**Stephens Creek**	**34.67**	**157**	P	**P**	**08 15 50.1**	**+0.5**
STKA	**Stephens Creek**	**34.67**	**157**	P	**P**	**08 15 50.1**	**+0.5**
	4.8nm,0.3s,baz=327,slow=8.7,SNR=64						
STKA	**Stephens Creek**	**34.67**	**157**	P	**P**	**08 15 50.2**	**+0.5**
	baz=35,SNR=35						
KSAR	**Wonju Array Be**	**37.33**	**2**	P	**P**	**08 16 11.6**	**-0.7**
KSRS	**Korea Array**	**37.34**	**2**	P	**P**	**08 16 11.6**	**-0.8**
	1.2nm,0.7s,baz=181,slow=8.6,SNR=4.5						
ARPS	**Mount Arapiles**	**39.16**	**161**	P	**P**	**08 16 28.7**	**+1.1**
	baz=40,SNR=13						
USRK	**Ussuriysk Arra**	**44.32**	**6**	P	**P**	**08 17 09.2**	**-0.5**
	1.4nm,0.6s,baz=207,slow=6.4,SNR=5.9						
PETK	**Petropavlovsk-**	**58.95**	**21**	P	**P**	**08 18 58.3**	**-0.4**
PETK	**Petropavlovsk-**	**58.95**	**21**	P	**P**	**08 18 58.3**	**-0.4**
	2.0nm,0.7s,baz=197,slow=4.5,SNR=3.5						
MK31	**Makanchi Array**	**60.62**	**327**	*eP*	**P**	**08 19 11.4**	**+1.1**
MKAR	**Makanchi Array**	**60.62**	**327**	P	**P**	**08 19 11.4**	**+1.1**
MKAR	**Makanchi Array**	**60.62**	**327**	P	**P**	**08 19 11.4**	**+1.1**
	1.4nm,0.5s,baz=120,slow=8.0,SNR=24						
KKAR	**Karatay Array**	**65.95**	**318**	*eP*	**P**	**08 19 47.5**	**+1.9**
	0.9nm,0.7s						
ABKAR	**Akbulak array**	**75.02**	**321**	P	**P**	**08 20 41.2**	**+0.5**
	0.2nm,0.2s						
VNDA	**Vanda**	**79.71**	**173**	P	**P**	**08 21 06.5**	**+0.1**
VNDA	**Vanda**	**79.71**	**173**	P	**P**	**08 21 06.5**	**+0.1**
	0.7nm,0.8s,baz=322,slow=8.0,SNR=7.9						
ILAR	**Eielson Array**	**88.53**	**25**	P	**P**	**08 21 49.7**	**-1.7**
ILAR	**Eielson Array**	**88.53**	**25**	P	**P**	**08 21 49.7**	**-1.7**
	0.3nm,0.6s,baz=267,slow=5.3,SNR=3.1						
ARCES	**ARCESS Array B**	**93.94**	**340**	P	**P**	**08 22 15.3**	**-1.1**
ARCES	**ARCESS Array B**	**93.94**	**340**	P	**P**	**08 22 15.3**	**-1.1**
	1.1nm,0.6s,baz=88,slow=3.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**123.93**	**286**	PKP	**PKPdf**	**08 27 58.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**123.93**	**286**	PKP	**PKPdf**	**08 27 58.5**	**+0.6**
	0.5nm,0.7s,baz=72,slow=2.4,SNR=2.9						
CPUP	**Villa Florida**	**153.49**	**172**	PKPbc	**PKPbc**	**08 28 58.2**	**+0.2**
CPUP	**Villa Florida**	**153.49**	**172**	PKPbc	**PKPbc**	**08 28 58.2**	**+0.2**
	1.2nm,0.6s,baz=176,slow=2.5,SNR=6.1						

*IDC **31** 08:55:46.2±0.7, 32.°73N×140.°70E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/29, mbtmp4.1/12, ML4.0/1, Error ellipse: s-maj=25.5km s-min=16.9km az=84.0*
*ISCJB **31** 08:55:52.8±0.7, 32.°78N±0.°04×140.°77E±0.°06, h67km±6km, mb4.1/13, Error ellipse: s-maj=8.6km s-min=6.7km az=180.0*
*NEIC **31** 08:55:52.9±1.4, 32.°81N×140.°85E, h48km±13km, mb4.4/2, Error ellipse: s-maj=15.7km s-min=10.9km az=77.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
*JMA **31** 08:55:54.2±0.2, 32.°85N×140.°74E, h54km, M4.2*
JMA Felt I J1.
*NIED **31** 08:56:00, 32.°90N×140.°80E, h68km, Mw4.0 Best double couple: M◊9.47000×10¹⁴ NP1:◊s12.00000°, δ61.00000°, λ50.00000°. NP2:◊s253.00000°, δ48.00000°, λ140.00000°.*
ISC 31 08:55:52.5±1.2, 32.°77N±0.°06×140.°85E±0.°06, h42km±12km, n53, σ1§39/68, mb4.2/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.94**	**292**	P	**Pn**	**08 56 10.0**	**+0.8**
JHJ2				S	**Sn**	**08 56 21.3**	**-0.1**
JHCJ	**Hachijojimakas**	**0.94**	**289**	P	**Pn**	**08 56 10.0**	**+0.8**
JHCJ				S	**Sn**	**08 56 20.4**	**-1.1**
JMY	**Miyakejima3**	**1.72**	**320**	P	**Pn**	**08 56 20.8**	**+0.9**
JMY				S	**Sn**	**08 56 41.1**	**+0.5**
BSO1	**Boso 1**	**1.88**	**3**	P	**Pn**	**08 56 23.1**	**+1.4**
BSO1				S	**Sn**	**08 56 45.6**	**+1.7**
JKO	**Kozu shima**	**2.01**	**315**	P	**Pn**	**08 56 25.1**	**+1.1**
JKO				S	**Sn**	**08 56 47.6**	**-0.3**
BSO3	**Boso 3**	**2.05**	**352**	P	**Pn**	**08 56 25.6**	**+1.4**
BSO3				S	**Sn**	**08 56 49.2**	**+0.8**
JIM2	**Oshima 3**	**2.28**	**329**	P	**Pn**	**08 56 28.5**	**+0.9**
JIM2				S	**Sn**	**08 56 52.7**	**-1.7**
JIZS	**Izushimoda**	**2.55**	**320**	P	**Pn**	**08 56 32.8**	**+1.5**
JIZS				S	**Sn**	**08 57 00.1**	**-0.9**
TK02	**Tokai 2**	**2.84**	**295**	P	**Pn**	**08 56 36.9**	**+1.7**
JOD2	**Odawara 2**	**2.89**	**330**	P	**Pn**	**08 56 37.1**	**+1.1**
JOD2				S	**Sn**	**08 57 07.4**	**-2.1**
TK04	**Tokai 4**	**2.96**	**304**	P	**Pn**	**08 56 38.9**	**+2.0**
TK04				S	**Sn**	**08 57 11.9**	**+0.8**
SHZ3	**Shizuoka 3**	**3.17**	**317**	P	**Pn**	**08 56 42.5**	**+2.5**
JYN	**Shimob**	**3.33**	**325**	P	**Pn**	**08 56 44.4**	**+2.3**
TTO2	**TONANKAI O.B.S**	**3.35**	**288**	P	**Pn**	**08 56 43.7**	**+1.7**
TTO2				*e*S	**Sn**	**08 57 21.6**	**+1.2**
TTO1	**TONANKAI O.B.S**	**3.52**	**285**	P	**Pn**	**08 56 46.2**	**+1.9**
JRY	**Ryogami san**	**3.62**	**334**	P	**Pn**	**08 56 48.0**	**+2.0**
MAT	**Matsushiro**	**4.35**	**331**	P	Pn	08 56 59.2	+3.1
MAT				S	**Sn**	**08 57 46.8**	**+1.3**
CBIJ	**Chichi jima**	**5.77**	**168**	Pn	**Pn**	**08 57 16.7**	**+1.1**
CBIJ				Sn	Sn	08 58 17.2	-3.3
CBIJ	**Chichi jima**	**5.77**	**168**	Pn	**Pn**	**08 57 16.7**	**+1.1**
	baz=330,slow=20						
CBIJ				Sn	Sn	08 58 17.2	-3.3
	6.9nm,0.3s,baz=270,slow=20,SNR=2.7						
JNU	**Nakatsue**	**8.39**	**275**	Pn	**Pn**	**08 57 54.3**	**+2.7**
JNU				Sn	Sn	08 59 36.2	+11
JNU	**Nakatsue**	**8.39**	**275**	Pn	**Pn**	**08 57 54.3**	**+2.7**
	1.0nm,0.3s,baz=70,slow=9.0,SNR=11						
JNU				Sn	Sn	08 59 36.2	+11
	0.2nm,0.3s,baz=142,slow=19,SNR=2.7						
ASAJ	**Asahikawa**	**11.41**	**6**	Pn	**Pn**	**08 58 30.4**	**-2.3**
ASAJ	**Asahikawa**	**11.41**	**6**	Pn	**Pn**	**08 58 30.4**	**-2.3**
	1.3nm,0.3s,baz=200,slow=11,SNR=7.9						
MK31	**Makanchi Array**	**46.11**	**306**	*eP*	**P**	**09 04 10.9**	**-1.6**
MKAR	**Makanchi Array**	**46.11**	**306**	P	**P**	**09 04 10.9**	**-1.5**
MKAR	**Makanchi Array**	**46.11**	**306**	P	**P**	**09 04 10.9**	**-1.5**
	0.8nm,0.5s,baz=85,slow=9.5,SNR=11						
KURK	**Kurchatov**	**48.29**	**311**	P	**P**	**09 04 27.7**	**-1.6**
KURBB	**Kurchatov Arra**	**48.35**	**311**	P	**P**	**09 04 27.7**	**-2.1**
	0.6nm,0.4s,baz=90,slow=7.5,SNR=13						
WRAB	**Tennant Creek**	**52.77**	**188**	*eP*	**P**	**09 05 02.3**	**-1.1**
	1.5nm,0.3s						
WRA	**Warramunga Arr**	**52.78**	**188**	P	**P**	**09 05 02.4**	**-1.2**
WRA				PcP	**PcP**	**09 06 12.5**	**-0.1**
WRA	**Warramunga Arr**	**52.78**	**188**	P	**P**	**09 05 02.4**	**-1.2**
	1.8nm,0.3s,baz=6.4,slow=7.5,SNR=68						
WRA				PcP	**PcP**	**09 06 12.5**	**-0.1**
	1.4nm,0.7s,baz=359,slow=4.0,SNR=7.0						
BVAR	**Borovoye Array**	**53.17**	**315**	P	**P**	**09 05 05.5**	**-0.5**
BVAR	**Borovoye Array**	**53.17**	**315**	P	**P**	**09 05 05.5**	**-0.5**
	1.1nm,0.6s,baz=88,slow=7.9,SNR=5.0						
ILAR	**Eielson Array**	**53.36**	**31**	P	**P**	**09 05 07.6**	**+0.3**
ILAR	**Eielson Array**	**53.36**	**31**	P	**P**	**09 05 07.6**	**+0.3**
	0.8nm,0.6s,baz=270,slow=7.5,SNR=9.9						
PAX	**Paxson**	**54.03**	**33**	*eP*	**P**	**09 05 11.1**	**-1.3**
AS31	**Alice Springs**	**56.51**	**188**	*eP*	**P**	**09 05 29.4**	**-1.1**
ASAR	**Alice Springs**	**56.51**	**188**	P	**P**	**09 05 29.4**	**-1.1**
ASAR				PcP	**PcP**	**09 06 27.4**	**+0.5**
ASAR	**Alice Springs**	**56.51**	**188**	P	**P**	**09 05 29.4**	**-1.1**
	0.8nm,0.3s,baz=2.0,slow=6.5,SNR=37						
ASAR				PcP	**PcP**	**09 06 27.4**	**+0.5**
	0.9nm,0.7s,baz=4.8,slow=4.0,SNR=6.5						
INK	**Inuvik**	**58.40**	**26**	P	**P**	**09 05 43.9**	**+0.6**
INK	**Inuvik**	**58.40**	**26**	P	**P**	**09 05 43.9**	**+0.6**
	2.1nm,0.5s,baz=252,slow=2.2,SNR=5.4						
ABKAR	**Akbulak array**	**60.39**	**312**	*eP*	**P**	**09 05 56.5**	**-0.8**
	1.4nm,0.4s						
AKTO	**Aktyubinsk**	**61.23**	**314**	P	**P**	**09 06 03.4**	**+0.4**
AKTO	**Aktyubinsk**	**61.23**	**314**	P	**P**	**09 06 03.4**	**+0.4**
	1.5nm,0.6s,baz=64,slow=15,SNR=6.2						
AFI	**Afiamalu**	**64.82**	**128**	*eP*	**P**	**09 06 29.5**	**+2.2**
FINES	**FINESS Array B**	**72.38**	**333**	P	**P**	**09 07 12.8**	**-1.0**
FINES	**FINESS Array B**	**72.38**	**333**	P	**P**	**09 07 12.8**	**-1.0**
	2.1nm,0.8s,baz=63,slow=9.5,SNR=2.8						
BRTR	**Keskin Array B**	**81.34**	**312**	P	**P**	**09 08 06.1**	**+1.2**
BRTR	**Keskin Array B**	**81.34**	**312**	P	**P**	**09 08 06.1**	**+1.2**
	0.6nm,0.6s,baz=61,slow=3.6,SNR=3.7						
TXAR	**Lajitas Array**	**93.09**	**52**	P	**P**	**09 09 03.1**	**+0.8**
TXAR	**Lajitas Array**	**93.09**	**52**	P	**P**	**09 09 03.1**	**+0.8**
	0.9nm,0.7s,baz=301,slow=2.7,SNR=15						
LPAZ	**La Paz**	**149.08**	**65**	PKPbc	**PKPbc**	**09 15 37.4**	**0.0**
LPAZ	**La Paz**	**149.08**	**65**	PKPbc	**PKPbc**	**09 15 37.4**	**0.0**
	1.1nm,0.6s,baz=325,slow=3.8,SNR=6.5						

IDC 31 09:15:18.5±1.2, 56.°73S×24.°76W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/18, mbtmp4.0/6, Error ellipse: s-maj=47.2km s-min=20.9km az=70.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.52**	**180**	P	P	09 21 58.9	-0.6
	1.5nm,0.5s,baz=246,slow=0.8,SNR=15						
CPUP	**Villa Florida**	**38.28**	**309**	P	P	09 22 40.0	-0.5
	0.4nm,0.3s,baz=140,slow=7.9,SNR=3.5						
VNDA	**Vanda**	**45.95**	**182**	P	P	09 23 42.8	+0.4
	1.1nm,0.7s,baz=182,slow=4.1,SNR=11						
SIV	**San Ignacio**	**49.03**	**311**	P	P	09 24 07.3	+0.2
	1.3nm,0.8s,baz=166,slow=8.3						
LPAZ	**La Paz**	**51.88**	**303**	P	P	09 24 29.2	-0.2
	3.6nm,0.4s,baz=154,slow=6.3,SNR=36						
TORD	**Torodi Ar. Bea**	**73.02**	**27**	P	P	09 26 50.0	0.0
	0.4nm,0.7s,baz=197,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**151.58**	**310**	PKPbc	PKPbc	09 35 12.8	-0.3
	1.3nm,0.7s,baz=134,slow=3.2,SNR=5.6						

IDC 31 09:16:00.3±1.8, 1.°61N×128.°37E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/23, Error ellipse: s-maj=143.0km s-min=20.8km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**165**	P	P	09 20 57.6	-0.8
	0.4nm,0.7s,baz=345,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**25.69**	**168**	P	P	09 21 32.9	+0.6
	0.3nm,0.7s,baz=346,slow=7.1,SNR=5.5						
DZM	**Mont Dzumac**	**43.98**	**125**	LR	LR	09 41 38.4	
	comp=Z,169nm,21.7s,baz=180,slow=35						
MKAR	**Makanchi Array**	**60.22**	**325**	P	P	09 26 10.4	+0.1
	0.7nm,0.5s,baz=113,slow=8.2,SNR=12						
KURBB	**Kurchatov Arra**	**64.40**	**327**	P	P	09 26 38.0	-0.2
	0.8nm,0.6s,baz=128,slow=6.1,SNR=14						

IDC 31 09:19:07.2±1.6, 0.°95N×126.°10E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=175.8km s-min=20.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.28**	**159**	P	P	09 24 05.7	-0.4
	1.0nm,0.4s,baz=337,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.62**	**163**	P	P	09 24 39.0	+0.6
	1.4nm,0.4s,baz=347,slow=12,SNR=48						
STKA	**Stephens Creek**	**35.80**	**157**	P	P	09 26 07.9	-0.4
	3.4nm,1.1s,baz=339,slow=9.3,SNR=6.8						
MKAR	**Makanchi Array**	**59.49**	**326**	P	P	09 29 12.7	+0.5
	0.1nm,0.4s,baz=128,slow=8.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**63.74**	**328**	P	P	09 29 40.1	-0.6
	0.2nm,0.4s,baz=136,slow=6.5,SNR=2.9						

*IDC **31** 09:21:20.9±2.1, 12.°07N×86.°77W, h30km±14km, mb4.6/20, mb1 4.7/21, mb1mx4.6/28, mbtmp4.6/21, ML4.3/1, MS4.4/22, Ms1 4.5/22, ms1mx4.4/29, Error ellipse: s-maj=22.1km s-min=9.9km az=59.0*
*NEIC **31** 09:21:21.1±0.2, 11.°91N×87.°10W, h30km, mb5.1/94, MW5.2, Error ellipse: s-maj=6.4km s-min=3.9km az=48.0, Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁶Nm; Mrr3.76; Mθθ1.82; Mφφ-5.57; Mrθ3.29; Mθφ1.50; Mφr-4.04; Best double couple: M◊7.30000×10¹⁶ NP1: ◊s145.00000°, δ71.00000°, λ66.00000°. NP2:◊s19.00000°, δ30.00000°, λ140.00000°. Principal axes: T 6.7400, Plg57.0000°, Azm23.0000°; N 1.0600, Plg22.0000°, Azm153.0000°; P -7.7900, Plg22.0000°, Azm253.0000°;*
NEIC Felt at Managua.
*ISCJB **31** 09:21:23.0±0.3, 11.°93N±0.°03×87.°10W±0.°03, h64km±3km, mb4.9/112 Error ellipse: s-maj=6.7km s-min=2.4km az=40.4*
*CASC **31** 09:21:22.2±2.3, 11.°91N×87.°16W, h19km±16km, MD4.5, ML4.8*
*BJI **31** 09:21:25.3, 11.°90N×87.°10W, h76km, mB5.5/2, Ms5.3/2, Ms7 5.1/2*
*GCMT **31** 09:21:25.8±0.3, 11.°60N×87.°39W, h42km, MW5.1, Moment Tensor Solution. s70,c108; s69,c111; Moment tensor: Scale 10¹⁶Nm; Mrr4.96±.18; Mθθ-4.44±.13; Mφφ-0.53±.15; Mrθ2.39±.14; Mθφ3.30±.12; Mφr-1.53±.17; Best double couple: M◊6.30000×10¹⁶ NP1:◊s121.00000°, δ58.00000°, λ92.00000°. NP2:◊s297.00000°, δ32.00000°, λ87.00000°. Principal axes: T 5.6400, Plg77.0000°, Azm38.0000°; N 1.3500, Plg2.0000°, Azm300.0000°; P -6.9900, Plg13.0000°, Azm210.0000°; Data Used: II IU G CN IC.*
ISC 31 09:21:23.2±0.6, 12.°02N±0.°04×87.°01W±0.°05, h49km±5km, n708, σ1§05/744, mb5.0/111, MS4.5/21, 204C-182D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.49**	**328**	*eP*	**Pn**	**09 21 48.2**	**+0.6**
BLLM	**Bellamira**	**1.85**	**320**	*eP*	**Pn**	**09 21 53.3**	**+0.7**
VSM	**San Miguel**	**1.87**	**319**	*eP*	**Pn**	**09 21 53.5**	**+0.5**
GBS3	**Finca Las lm¨¡**	**1.96**	**129**	*i P*	**Pn**	**09 21 54.5**	**+0.5**
LAPC	**Finca la Perla**	**1.98**	**129**	*i P*	**Pn**	**09 21 56.3**	**+1.9**
BUEV	**Buena Vista**	**1.99**	**127**	*i P*	**Pn**	**09 21 55.5**	**+1.0**
NY14	**Universidad de**	**1.99**	**133**	*i P*	**Pn**	**09 21 56.5**	**+2.1**
GPS1	**Guardaparques**	**2.04**	**127**	*i P*	**Pn**	**09 21 55.8**	**+0.6**
GPS2	**Hotel Rinc¨‡n**	**2.06**	**127**	*i P*	**Pn**	**09 21 56.3**	**+0.9**
GPS2				*i* S	**Sn**	**09 22 25.0**	**+5.1**
CAHU	**Cacacuatique**	**2.10**	**326**	*eP*	**Pn**	**09 21 57.4**	**+1.2**
CAHU				*e*S	**Sn**	**09 22 23.0**	**+1.9**
LIM1	**Limonal**	**2.17**	**127**	*i P*	**Pn**	**09 21 57.4**	**+0.5**
MESS	**Mesas**	**2.19**	**125**	*i P*	**Pn**	**09 21 58.0**	**+0.8**
HORNI	**Hornillas**	**2.22**	**126**	*i P*	**Pn**	**09 21 57.7**	**+0.1**
COLC	**Colonia**	**2.23**	**127**	*i P*	**Pn**	**09 21 59.4**	**+1.7**
COLC				*i* S	**Sn**	**09 22 26.5**	**+2.5**
CUI	**Cuipilapa**	**2.26**	**126**	*i P*	**Pn**	**09 21 58.8**	**+0.6**
SNVI	**San Vicente**	**2.38**	**312**	*eP*	**Pn**	**09 21 59.6**	**-0.4**
AMAS	**Alto Masis**	**2.42**	**125**	*i P*	**Pn**	**09 22 00.8**	**+0.3**
LFRS	**El Faro**	**2.56**	**309**	*eP*	**Pn**	**09 22 01.4**	**-0.9**
CHPA	**Chiripa**	**2.59**	**127**	*i P*	**Pn**	**09 22 03.4**	**+0.6**
LBRS	**Las Brisas**	**2.62**	**311**	*eP*	**Pn**	**09 22 02.9**	**-0.2**
JTS	**JuntasAbangare**	**2.65**	**130**	*e*Pn	**Pn**	**09 22 03.2**	**-0.3**
JTS				*e*Sn	**Sn**	**09 22 37.3**	**+2.8**
LFU	**La Fuente**	**2.68**	**310**	*eP*	**Pn**	**09 22 04.1**	**+0.1**
SNET	**Serv Nac Est T**	**2.73**	**308**	*eP*	**Pn**	**09 22 04.3**	**-0.3**
SNET				*e*S	**Sn**	**09 22 37.9**	**+1.4**
SNET				AML	AML	09 22 42.3	
	comp=Z,7μm,0.5s						
BOQS	**Boqueron**	**2.79**	**308**	*eP*	**Pn**	**09 22 05.3**	**-0.3**
BOQS				*e*S	**Sn**	**09 22 39.0**	**+0.7**
JCR	**Jicaral**	**2.85**	**139**	*eP*	**Pn**	**09 22 05.7**	**-0.5**
JCR				*e*S	Sn	09 22 51.0	+12
CAO	**Cobano**	**2.97**	**141**	*eP*	**Pn**	**09 22 06.2**	**-1.7**
SBLS	**San Blas**	**3.12**	**306**	*eP*	**Pn**	**09 22 09.8**	**-0.4**
SNJE	**San Jose**	**3.13**	**306**	*eP*	**Pn**	**09 22 10.3**	**0.0**
RTR	**El Retiro**	**3.17**	**306**	*eP*	**Pn**	**09 22 11.5**	**+0.7**
CGA2	**Cerro Gallo 2**	**3.19**	**128**	*eP*	**Pn**	**09 22 13.8**	**+2.7**
RBDL	**Robledal**	**3.34**	**309**	*eP*	**Pn**	**09 22 13.4**	**+0.3**
SJS	**Escuela Geolog**	**3.56**	**125**	*eP*	Pn	09 22 20.2	+4

431A **Sonora** 22.44 328 ⇓P P 09 26 17.5 -0.7
baz=23,SNR=157
OXF **Oxford** 22.50 355 eP P 09 26 19.2 +0.5
comp=Z,61nm,0.7s
332A **Millersview** 22.57 331 ⇓P P 09 26 19.0 -0.6
baz=23,SNR=171
628A **Black Gap, Mar** 22.81 322 ⇑P P 09 26 22.2 +0.1
baz=23,SNR=107
331A **San Angelo** 22.85 329 ⇓P P 09 26 21.7 -0.8
baz=23,SNR=149
PLAL **Pickwick Lake** 22.89 358 eP P 09 26 23.2 +0.5
comp=Z,25nm,0.7s
529A **Stev Forest Ra** 22.89 324 ⇑P P 09 26 21.9 -1.0
baz=23,SNR=53
232A **Coleman** 22.95 331 ⇑P P 09 26 22.6 -0.8
baz=23,SNR=146
429A **Davenport Ranc** 23.08 326 ⇑P P 09 26 23.7 -1.2
baz=23,SNR=85
627A **Terlingua Ranc** 23.09 321 ⇑P P 09 26 25.0 0.0
baz=23,SNR=132
SWET **Sewanee** 23.12 2 eP P 09 26 26.5 +1.4
comp=Z,305nm,2.1s
UALR **University of** 23.17 349 eP P 09 26 26.0 +0.5
comp=Z,25nm,0.8s
TXAR **Lajitas Array** 23.18 321 P P 09 26 26.3 +0.4
TXAR PcP PcP 09 30 14.4 +1.4
TXAR ScP ScP 09 33 50.7 +3.6
TXAR **Lajitas Array** 23.18 321 P P 09 26 26.3 +0.4
comp=Z,110nm,0.7s,baz=138,slow=9.6,SNR=1218
TXAR PcP PcP 09 30 14.4 +1.4
comp=Z,2.9nm,0.6s,baz=145,slow=5.8,SNR=18
TXAR ScP ScP 09 33 50.7 +3.6
comp=Z,2.4nm,1.0s,baz=133,slow=5.3,SNR=6.2
TXAR LR LR 09 36 52.8
comp=Z,282nm,19.7s,baz=140,slow=40
MIAR **Mount Ida** 23.21 346 eP P 09 26 26.2 +0.3
comp=Z,90nm,0.8s
528A **Cox Ranch, San** 23.24 323 ⇓P P 09 26 25.6 -0.9
baz=23,SNR=34
330A **Mertzon** 23.31 328 ⇑P P 09 26 26.1 -1.0
baz=23,SNR=76
CPCT **Cooper Cave** 23.44 5 eP P 09 26 30.0 +1.8
ABTX **Abilene, Hawle** 23.56 333 eP P 09 26 29.2 -0.2
ABTX **Abilene, Hawle** 23.56 333 ⇑P P 09 26 29.1 -0.2
baz=24,SNR=37
KMSC **Kings Mountain** 23.59 12 eP P 09 26 31.6 +2.0
KMSC **Kings Mountain** 23.59 12 ⇑P P 09 26 31.1 +1.5
baz=24,SNR=30
428A **Kincaid Ranch,** 23.60 324 ⇓P P 09 26 29.6 -0.3
baz=24,SNR=52
626A **Big Bend Ranch** 23.62 320 ⇑P P 09 26 29.8 -0.3
baz=24,SNR=223
230A **Sterling City** 23.66 329 ⇑P P 09 26 29.7 -0.7
baz=24,SNR=18
HBAR **Harrisburg** 23.67 353 eP P 09 26 29.8 -0.5
TKL **Tuckaleechee C** 23.72 7 P P 09 26 31.3 +0.5
TKL PcP PcP 09 30 12.7 -1.2
TKL **Tuckaleechee C** 23.72 7 P P 09 26 31.3 +0.5
comp=Z,64nm,0.8s,baz=177,slow=10,SNR=58
TKL PcP PcP 09 30 12.7 -1.2
comp=Z,2.7nm,0.7s,baz=112,slow=5.4,SNR=3.4
TKL LR LR 09 35 52.1
comp=Z,764nm,21.2s,baz=215,slow=37
527A **Woodward Ranch** 23.72 322 ⇓P P 09 26 30.6 -0.4
baz=24,SNR=76
131A **Roby** 23.95 331 ⇓P P 09 26 32.6 -0.4
baz=24,SNR=18
526A **Mary Lane Ranc** 23.95 321 ⇓P P 09 26 33.1 -0.1
baz=24,SNR=103
GNAR **Gosnell** 24.00 354 eP P 09 26 34.1 +0.7
comp=Z,589nm,0.7s
WVT **Waverly** 24.02 358 eP P 09 26 33.5 -0.1
comp=Z,15nm,0.7s
Z32A **Haskell** 24.07 334 ⇓P P 09 26 34.4 +0.3
baz=24,SNR=86
229A **Bryant Ranch,** 24.08 328 ⇑P P 09 26 33.6 -0.7
baz=24,SNR=58
427A **Hayter Ranch,** 24.11 324 ⇑P P 09 26 34.0 -0.6
baz=24,SNR=41
130A **Snyder** 24.16 330 ⇑P P 09 26 34.8 -0.2
baz=24,SNR=14
328A **Wristen Ranch,** 24.17 325 ⇑P P 09 26 34.9 -0.1
baz=24,SNR=154
426A **McDonald Obser** 24.35 322 ⇑P P 09 26 36.6 -0.3
baz=24,SNR=81
Z31A **Sharp Cattle R** 24.37 333 ⇑P P 09 26 36.8 -0.1
baz=24,SNR=53
327A **Balmorhea Ranc** 24.54 324 ⇑P P 09 26 38.6 +0.1
baz=25,SNR=9.1
CNNC **Cliffs of the** 24.56 18 eP P 09 26 39.9 +1.4
comp=Z,54nm,1.0s
228A **UT Block 9, Go** 24.61 327 ⇑P P 09 26 38.5 -0.6
baz=25,SNR=51
TZTN **Tazewell** 24.62 7 eP P 09 26 40.6 +1.6
Y32A **R-V Farms, Ver** 24.65 335 ⇑P P 09 26 39.6 +0.2
baz=25,SNR=42
PARMO **Parma** 24.66 355 eP P 09 26 40.2 +0.8
326A **Caldwell Ranch** 24.79 323 ⇓P P 09 26 40.5 -0.2
baz=25,SNR=68
227A **Bennet, Jal** 24.91 326 ⇑P P 09 26 42.0 +0.1
baz=25,SNR=44
128A **Castleberry Fa** 24.95 328 ⇓P P 09 26 41.9 -0.3
baz=25,SNR=49
Y31A **Rekieta Farm,** 24.97 333 ⇓P P 09 26 42.5 +0.2
baz=25,SNR=33
425A **Indio Mountain** 25.01 321 ⇑P P 09 26 42.6 -0.2
baz=25,SNR=82
WMOK **Wichita Mounta** 25.02 337 eP P 09 26 42.5 -0.3
comp=Z,153nm,0.9s
Z29A **Hungry Hill Ra** 25.06 330 ⇓P P 09 26 43.0 -0.2
baz=25,SNR=147
TUL1 **Tulsa** 25.08 343 eP P 09 26 43.1 -0.1
TUL1 **Tulsa** 25.08 343 ⇑P P 09 26 42.9 -0.4
baz=25,SNR=52
LPIG **La Paz** 25.15 302 P P 09 26 46.0 +2.1
LPIG **La Paz** 25.15 302 P P 09 26 46.0 +2.1
comp=Z,9.3nm,0.3s,baz=110,slow=18,SNR=7.5
LPIG LR LR 09 37 22.9
comp=Z,844nm,19.5s,baz=329,slow=38
Y30A **Stafford Cattl** 25.18 332 ⇓P P 09 26 44.6 +0.4
baz=25,SNR=37
325A **Bean Ranch, Si** 25.41 322 ⇑P P 09 26 46.0 -0.5
baz=26,SNR=114
Z28A **Tucker Farm, M** 25.42 329 ⇓P P 09 26 46.2 -0.3
baz=26,SNR=124
226B **Tecolote Peak,** 25.45 324 ⇓P P 09 26 47.2 +0.4
baz=26,SNR=147
127A **Arkansas Junct** 25.45 326 ⇑P P 09 26 46.2 -0.6
baz=26,SNR=66
Y29A **Porterfield Fa** 25.53 331 ⇓P P 09 26 47.5 0.0
baz=26,SNR=90
X30A **Coker Ranch, T** 25.65 333 ⇑P P 09 26 49.0 +0.5
baz=26,SNR=242
SIUC **Southern Illin** 25.67 356 eP P 09 26 49.0 +0.5
comp=Z,34nm,0.7s
324A **Moseley Ranch,** 25.77 321 ⇑P P 09 26 49.4 -0.4
baz=26
BLA **Blacksburg** 25.78 12 eP P 09 26 51.0 +1.4
comp=Z,26nm,0.9s
USIN **University of** 25.85 359 eP P 09 26 50.2 +0.1
Y28A **McKinney Farm,** 25.85 330 ⇑P P 09 26 50.1 -0.3
baz=26,SNR=77
225A **Deer Hill, Car** 25.85 323 ⇓P P 09 26 50.6 0.0
baz=26,SNR=72
Z27A **Tatum** 25.87 328 ⇓P P 09 26 49.8 -0.7
baz=26,SNR=103
W31A **Holland Ranch,** 25.88 335 ⇓P P 09 26 49.8 -0.8
baz=26,SNR=23
MNTX **Cornudas Mount** 25.89 322 eP P 09 26 50.7 0.0
comp=Z,27nm,0.7s
NNA **Nana** 25.90 157 P P 09 26 51.5 +0.6
NNA **Nana** 25.90 157 P P 09 26 51.5 +0.6
comp=Z,2.0nm,0.3s,baz=306,slow=19,SNR=2.2
VWCC **Virginia Weste** 25.91 13 eP P 09 26 52.1 +1.4
X29A **Tulia** 26.02 331 ⇑P P 09 26 51.7 -0.2
baz=26,SNR=98
WCI **Wyandotte Cave** 26.11 1 eP P 09 26 52.8 +0.2
comp=Z,36nm,0.8s
WCI e pP 09 27 07.7 +2.5
W30A **Crocket Farms** 26.14 334 ⇑P P 09 26 52.9 -0.1
baz=26,SNR=8.9
MSTX **Muleshoe** 26.16 329 eP P 09 26 52.8 -0.4
MSTX **Muleshoe** 26.16 329 ⇓P P 09 26 52.8 -0.4
baz=26,SNR=150
125A **Gardner Draw,** 26.16 325 ⇓P P 09 26 53.1 -0.1
baz=26,SNR=110
224A **Cornudas Mount** 26.24 322 ⇑P P 09 26 53.9 -0.1
baz=26,SNR=97
Z26A **Caprock** 26.25 326 ⇑P P 09 26 53.7 -0.3
baz=26,SNR=94
Y27A **Causey** 26.29 329 ⇓P P 09 26 53.8 -0.6
baz=26,SNR=92
X28A **Dimmitt** 26.32 331 ⇑P P 09 26 54.4 -0.2
baz=26,SNR=43
V31A **Spring Creek L** 26.35 336 ⇓P P 09 26 54.9 +0.1
baz=26,SNR=108
W29A **Amraillo** 26.56 332 ⇓P P 09 26 56.2 -0.5
baz=27,SNR=16
OLIL **Olney** 26.63 358 eP P 09 26 57.7 +0.5
comp=Z,33nm,1.0s
OLIL e pP 09 27 08.8 -0.9
124A **Stringfield Ra** 26.65 324 ⇓P P 09 26 58.2 +0.5
baz=27,SNR=82
Z25A **Roswell** 26.66 325 ⇑P P 09 26 58.1 +0.4
baz=27,SNR=98
223A **Chaparral, Ant** 26.74 321 ⇓P P 09 26 59.0 +0.5
baz=27,SNR=8.8
JSRW **J. Sargeant Re** 26.85 16 eP P 09 27 00.9 +1.8
X27A **F and S Farms,** 26.86 330 ⇓P P 09 26 59.2 -0.3
baz=27,SNR=27
BLO **Bloomington** 27.05 1 eP P 09 27 01.1 +0.1
comp=Z,26nm,0.9s
Z24A **Sheeppen Canyo** 27.06 325 ⇓P P 09 27 01.7 +0.3
baz=27,SNR=120
123A **Bell Site, Whi** 27.08 322 ⇓P P 09 27 02.5 +1.0
baz=27,SNR=17
Y25A **Mesa, Roswell** 27.12 326 ⇑P P 09 27 02.5 +0.6
baz=27,SNR=96
V29A **Stinnett** 27.13 334 ⇓P P 09 27 01.8 -0.1
baz=27
X26A **CR and CF Fran** 27.14 328 ⇓P P 09 27 02.1 0.0
baz=27,SNR=28
W27A **Bowe Ranch, En** 27.18 330 ⇑P P 09 27 02.3 0.0
baz=27,SNR=54
U30A **WK&E Inc. Balk** 27.33 336 ⇑P P 09 27 03.8 +0.2
baz=28,SNR=53
V28A **Channing** 27.34 332 ⇓P P 09 27 03.4 -0.5
baz=28,SNR=30
T31A **Randall Ranch,** 27.44 338 ⇑P P 09 27 04.0 -0.6
baz=28,SNR=46
Z23A **Rita Site, Whi** 27.51 323 ⇓P P 09 27 05.4 +0.1
baz=28
U29A **Oasis Ranch, S** 27.52 335 ⇑P P 09 27 05.3 0.0
baz=28
Y24A **Capitan** 27.54 325 ⇓P P 09 27 06.2 +0.6
baz=28,SNR=102
W26A **Owens Ranch, T** 27.54 329 ⇑P P 09 27 05.8 +0.2
baz=28,SNR=24
X25A **Clemmons Ranch** 27.57 327 ⇓P P 09 27 06.2 +0.3
baz=28,SNR=7.3
122A **Conniff Cattle** 27.57 321 ⇑P P 09 27 07.0 +1.1
baz=28,SNR=14
221A **Mesquite Ranch** 27.59 319 ⇑P P 09 27 07.0 +0.9
baz=28,SNR=38
V27A **Dan Oppiter Fa** 27.63 331 ⇓P P 09 27 06.2 -0.2
baz=28
320A **Kipp Ranch, An** 27.64 317 ⇑P P 09 27 07.5 +0.9
baz=28
T30A **Plains** 27.73 336 ⇑P P 09 27 07.5 +0.4
baz=28,SNR=10
S31A **Munville** 27.84 338 ⇓P P 09 27 07.9 -0.2
baz=28,SNR=22
U28A **Mallet** 27.87 333 ⇓P P 09 27 08.3 -0.2
baz=28
Y23A **Lovelace Mesa,** 27.89 325 ⇓P P 09 27 09.3 +0.5
baz=28,SNR=48
Z22A **Elephant Butte** 27.93 322 ⇓P P 09 27 10.1 +0.9
baz=28,SNR=22
121A **Cookes Peak, D** 27.94 320 ⇑P P 09 27 10.0 +0.8
baz=28,SNR=47
W25A **X Bar L Ranch,** 28.00 328 ⇓P P 09 27 10.2 +0.5
baz=28,SNR=67
220A **Playas Peak, P** 28.00 318 ⇑P P 09 27 10.3 +0.5
baz=28,SNR=55
X24A **Lazy VL Ranch,** 28.01 326 ⇓P P 09 27 10.1 +0.2
baz=28,SNR=21
V26A **Tequesquite Ra** 28.12 330 ⇓P P 09 27 10.8 +0.1
baz=28,SNR=41
T29A **Hugoton** 28.13 335 ⇓P P 09 27 10.7 -0.1
baz=28,SNR=17
319A **Douglas** 28.17 317 ⇑P P 09 27 12.1 +0.8
baz=28,SNR=14
U27A **Thompson Grove** 28.17 332 ⇑P P 09 27 11.4 +0.1
baz=28,SNR=25
S30A **Montezuma** 28.22 337 ⇓P P 09 27 11.5 0.0
baz=28,SNR=6.5
SFIN **Scholer Farm** 28.25 360 eP P 09 27 11.5 -0.2
SFIN **Scholer Farm** 28.25 360 ⇑P P 09 27 11.8 +0.1
baz=28,SNR=5.3
MCWV **Mont Chateau** 28.25 12 eP P 09 27 12.6 +0.9
comp=Z,8.9nm,0.5s
KSU1 **Kansas State U** 28.29 344 eP P 09 27 12.0 -0.1
comp=Z,90nm,0.9s
BNM **Barren Site** 28.37 324 eP P 09 27 14.1 +0.9
comp=Z,43nm,1.1s
Y22A **Socorro** 28.41 323 ⇑P P 09 27 14.1 +0.6
baz=28,SNR=57
X23A **Hourglass Bar** 28.44 325 ⇑P P 09 27 14.0 +0.3
baz=28,SNR=12
T28A **Walsh** 28.44 334 ⇑P P 09 27 12.9 -0.6
baz=29,SNR=13
R31A **Burdett** 28.45 339 ⇑P P 09 27 13.3 -0.3
baz=29,SNR=23
S29A **Ulysses** 28.45 336 ⇓P P 09 27 13.8 +0.1
baz=29,SNR=9.6
W24A **Lazy 6 Ranch,** 28.48 327 ⇑P P 09 27 14.7 +0.6
baz=29,SNR=52
120A **U Bar Ranch, L** 28.49 319 ⇓P P 09 27 15.1 +1.0
baz=29,SNR=44
Y22D **IRIS PASSCAL I** 28.49 324 ⇑P P 09 27 15.4 +1.3
baz=29,SNR=8.7
LPM **Los Pinos Moun** 28.49 324 eP P 09 27 11.7 -2.5
comp=Z,7.3nm,0.8s
V25A **Rancho No Teng** 28.56 329 ⇑P P 09 27 15.2 +0.4
baz=29,SNR=65
U26A **Atchley Ranch,** 28.58 331 ⇓P P 09 27 14.8 -0.1
baz=29,SNR=26
LENM **Lemitar** 28.58 324 eP P 09 27 16.5 +1.5
T27A **Campo** 28.65 333 ⇑P P 09 27 15.1 -0.5
baz=29,SNR=8.0
R30A **Dighton** 28.71 338 ⇑P P 09 27 16.1 +0.2
baz=29,SNR=52
SDMD **Soldier's Deli** 28.74 17 eP P 09 27 17.6 +1.5
S28A **Manter** 28.75 335 ⇑P P 09 27 15.6 -0.7
baz=29,SNR=17
V24A **Rampart Ranch,** 28.81 328 ⇓P P 09 27 17.5 +0.5
baz=29,SNR=29
Z20A **Nine Sixteen R** 28.83 320 ⇑P P 09 27 17.8 +0.7
baz=29,SNR=42
W23A **Werner Place,** 28.85 326 ⇓P P 09 27 18.3 +0.9
baz=29,SNR=55
LAZ **Ladron** 28.85 324 eP P 09 27 18.4 +1.0
comp=Z,15nm,1.2s
ANMO **Albuquerque** 28.86 325 eP P 09 27 17.8 +0.4
comp=Z,23nm,1.2s
ANMO PcP PcP 09 30 25.6 -0.4
ANMO **Albuquerque** 28.86 325 P P 09 27 18.6 +1.2
comp=Z,9.8nm,0.8s,baz=149,slow=9.1,SNR=54
ANMO PcP PcP 09 30 25.6 -0.4
comp=Z,4.5nm,0.8s,baz=137,slow=6.9,SNR=3.8
Y21A **Point of Rocks** 28.88 323 ⇑P P 09 27 19.1 +1.4
baz=29,SNR=17
U25A **Circle Dot Ran** 28.90 330 ⇓P P 09 27 18.3 +0.5
baz=29,SNR=24
Q31A **Ellis** 29.05 340 ⇓P P 09 27 18.7 -0.1
baz=29,SNR=15
T26A **Comanche Natio** 29.14 332 ⇑P P 09 27 19.8 -0.1
baz=29
R29A **Marienthal** 29.16 337 ⇓P P 09 27 20.0 +0.1
baz=29,SNR=5.4
W22A **Albuquerque** 29.18 325 ⇑P P 09 27 21.1 +0.8
baz=29,SNR=11
Y20A **Horse Springs,** 29.23 322 ⇑P P 09 27 22.1 +1.2
baz=29,SNR=35
S27A **Las Animas** 29.25 334 ⇓P P 09 27 20.6 -0.2
baz=29
X21A **Alamocita Cree** 29.25 323 ⇓P P 09 27 21.8 +0.8
baz=29,SNR=36
V23A **Ortiz Mt. (NFS** 29.30 327 ⇓P P 09 27 21.9 +0.5
baz=29,SNR=20
Q30A **Quinter** 29.31 339 ⇑P P 09 27 21.5 +0.3
baz=30
U24A **Moreno Valley** 29.34 329 ⇑P P 09 27 23.1 +1.3
baz=30,SNR=12
R28A **Tribune** 29.35 336 ⇓P P 09 27 21.8 +0.2
baz=30,SNR=41
MVL **Millersville** 29.42 17 eP P 09 27 24.4 +2.3
comp=Z,44nm,1.3s
T25A **Trinidad** 29.49 331 ⇓P P 09 27 23.5 +0.5
baz=30,SNR=23
P31A **Stockton** 29.51 340 ⇑P P 09 27 22.9 0.0
baz=30,SNR=14
Q29A **Oakley** 29.51 338 ⇑P P 09 27 23.0 0.0
baz=30,SNR=19
SSPA **Standing Stone** 29.62 14 eP P 09 27 25.0 +1.2
comp=Z,11nm,0.6s
W21A **San Fidel** 29.65 324 ⇑P P 09 27 24.0 -0.5
baz=30
R27A **Eads** 29.71 334 ⇑P P 09 27 24.6 -0.3
baz=30,SNR=16
X20A **Quemado** 29.74 322 ⇑P P 09 27 25.9 +0.5
baz=30,SNR=24
TUC **Tucson** 29.75 317 eP P 09 27 26.0 +0.8
comp=Z,27nm,1.2s
U23A **El Rito** 29.75 328 ⇑P P 09 27 26.2 +0.8
baz=30,SNR=90
V22A **San Miguel Ran** 29.82 326 ⇓P P 09 27 26.4 +0.4
baz=30,SNR=15
P30A **Selden** 29.82 339 ⇑P P 09 27 26.2 +0.4
baz=30,SNR=19
S25A **Robets Cordova** 29.92 332 ⇓P P 09 27 27.4 +0.5
baz=30,SNR=20
U22A **Llaves** 30.14 327 ⇑P P 09 27 29.7 +0.9
baz=30,SNR=23
V21A **Milan** 30.14 325 ⇑P P 09 27 30.0 +1.1
baz=30,SNR=22
W20A **Ramah** 30.15 323 ⇓P P 09 27 30.1 +1.2
baz=30,SNR=11
T23A **Casias Ranch,** 30.21 329 ⇓P P 09 27 30.4 +1.0
baz=30,SNR=37
R25A **Fountain Ranch** 30.25 332 ⇓P P 09 27 30.4 +0.7
baz=30,SNR=13
KSCO **Kaye Shedlock'** 30.26 335 eP P 09 27 29.9 +0.2
KSCO **Kaye Shedlock'** 30.26 335 ⇑P P 09 27 30.0 +0.3
baz=30,SNR=21
S24A **Houchin Ranch,** 30.28 331 ⇓P P 09 27 31.1 +1.0
baz=30,SNR=16
O30A **MW Ranch, Wils** 30.32 340 ⇓P P 09 27 30.5 +0.3
baz=30,SNR=33
P28A **Saint Francis** 30.40 337 ⇑P P 09 27 31.2 +0.3
baz=31,SNR=31
SDCO **Great Sand Dun** 30.50 330 eP P 09 27 32.5 +0.5
comp=Z,22nm,0.9s
O29A **4D Ranch, Culb** 30.53 339 ⇑P P 09 27 32.6 +0.5
baz=31,SNR=10
Q26A **Hugo** 30.55 334 ⇑P P 09 27 33.0 +0.7
baz=31,SNR=16
V20A **Brimhall** 30.60 324 ⇓P P 09 27 33.9 +1.0
baz=31,SNR=19
U21A **Nageezi** 30.61 326 ⇓P P 09 27 34.1 +1.1
baz=31,SNR=17
X18A **Snowflake** 30.62 321 ⇑P P 09 27 33.9 +0.9
baz=31,SNR=18
T22A **Edith** 30.64 328 ⇑P P 09 27 34.3 +1.1
baz=31,SNR=21
R24A **Sanders Place,** 30.70 331 ⇑P P 09 27 34.6 +0.9
baz=31,SNR=20
P27A **Ficken Ranch,** 30.70 336 ⇑P P 09 27 34.2 +0.6
baz=31,SNR=17
S23A **Nye Farm, Mont** 30.71 330 ⇓P P 09 27 35.0 +1.1
baz=31,SNR=9.6
Q25A **Bedland, Calha** 30.86 333 ⇑P P 09 27 35.8 +0.7
baz=31,SNR=12
BGNE **Belgrade** 30.86 344 eP P 09 27 34.4 -0.5
BGNE **Belgrade** 30.86 344 ⇓P P 09 27 34.7 -0.2
baz=31,SNR=21
W18A **Petrified Fore** 30.88 322 eP P 09 27 37.1 +1.8
W18A **Petrified Fore** 30.88 322 ⇑P P 09 27 36.3 +1.0
baz=31,SNR=17
N30A **Hueftle Ranch,** 30.89 340 ⇓P P 09 27 35.7 +0.5
baz=31
JFWS **Jewell Farm** 30.91 355 eP P 09 27 35.2 -0.1
comp=Z,31nm,1.1s
214A **Organ Pipe Nat** 30.94 314 ⇓P P 09 27 36.8 +1.1
baz=31,SNR=7.9
T21A **Navajo Lake** 30.96 327 ⇓P P 09 27 36.9 +0.9
baz=31,SNR=9.6
R23A **Moffat** 31.01 330 ⇑P P 09 27 37.5 +1.0
baz=31,SNR=48
P26A **Davis Ranch, A** 31.02 335 ⇓P P 09 27 37.2 +0.8
baz=31,SNR=8.4
N29A **Votaw Ranch, W** 31.09 340 ⇑P P 09 27 37.4 +0.4
baz=31
S22A **4UR Ranch, Cre** 31.16 329 ⇑P P 09 27 38.4 +0.5
baz=31,SNR=39
O27A **Beecher Island** 31.21 337 ⇑P P 09 27 38.3 +0.3
baz=31,SNR=10
N28A **Pribbeno Ranch** 31.29 338 ⇓P P 09 27 39.2 +0.5
baz=32,SNR=20
Q24A **Divide** 31.31 332 ⇑P P 09 27 39.7 +0.5
baz=31
X16A **Lo Mia Camp, P** 31.48 319 ⇓P P 09 27 41.5 +0.9
baz=32,SNR=52
M30A **Dale-Ortello V** 31.49 341 ⇓P P 09 27 40.6 +0.1
baz=32
R22A **Saguache, Gunn** 31.49 329 ⇑P P 09 27 41.7 +0.9
baz=32,SNR=27
SAML **Samuel** 31.54 130 eP P 09 27 39.1 -2.0
comp=Z,33nm,0.7s
BINY **Binghamton** 31.57 16 eP P 09 27 42.2 +1.1
comp=Z,21nm,0.8s
Q23A **Hartsel** 31.58 331 ⇑P P 09 27 42.2 +0.6
baz=32,SNR=38
S21A **Coal Bank Pass** 31.59 327 ⇑P P 09 27 42.3 +0.6
baz=32,SNR=37
MVCO **Mesa Verde** 31.64 326 eP P 09 27 42.5 +0.5
comp=Z,32nm,0.8s
MVCO **Mesa Verde** 31.64 326 ⇓P P 09 27 42.6 +0.6
baz=32,SNR=29
P24A **Kohler Place,** 31.65 333 ⇑P P 09 27 42.9 +0.9
baz=32
OGNE **Ogallala** 31.70 338 eP P 09 27 43.4 +1.1
comp=Z,85nm,0.9s
OGNE **Ogallala** 31.70 338 ⇑P P 09 27 43.2 +0.8
baz=32,SNR=6.0
O25A **Wiggins** 31.80 335 ⇑P P 09 27 43.9 +0.5
baz=32,SNR=10
Z14A **Wintersburg** 31.84 316 ⇓P P 09 27 45.0 +1.5
baz=32
M28A **Bar X Bar Ranc** 31.86 339 ⇑P P 09 27 44.5 +0.7
baz=32
P23A **Jefferson** 31.95 332 ⇓P P 09 27 46.0 +1.1
baz=32,SNR=31
R21A **Cimarron** 32.00 329 ⇓P P 09 27 45.7 +0.4
baz=32,SNR=5.2
S20A **Disappointment** 32.02 327 ⇓P P 09 27 46.4 +1.0
baz=32,SNR=18
N26A **Koester Ranch,** 32.05 336 ⇑P P 09 27 46.3 +0.9
baz=32
Q22A **Crested Butte,** 32.06 330 ⇓P P 09 27 46.5 +0.7
baz=32,SNR=51
113A **Mohawk Valley,** 32.06 314 ⇑P P 09 27 46.0 +0.5
baz=32
WUAZ **Wupatki** 32.14 321 eP P 09 27 47.5 +1.1
comp=Z,34nm,1.0s
WUAZ ePcP PcP 09 30 35.4 +0.8
WUAZ **Wupatki** 32.14 321 ⇑P P 09 27 47.5 +1.1
baz=32,SNR=31
L29A **Maesberg Ranch** 32.16 341 ⇑P P 09 27 46.8 +0.4
baz=32
ISCO **Idaho Springs** 32.20 333 eP P 09 27 47.6 +0.6
comp=Z,64nm,1.9s
ISCO ePcP PcP 09 30 35.7 +0.8
ISCO **Idaho Springs** 32.20 333 ⇑P P 09 27 47.8 +0.9
baz=32,SNR=15
Y14A **Wickenburg** 32.21 317 ⇓P P 09 27 47.5 +0.6
baz=32,SNR=14
O24A **Longmont** 32.22 334 ⇓P P 09 27 47.6 +0.6
baz=32,SNR=7.8
R20A **Redvale** 32.29 327 ⇑P P 09 27 48.6 +0.8
baz=32,SNR=24
M27A **Reverse DX Ran** 32.34 338 ⇑P P 09 27 48.5 +0.6
baz=32
SMCO **Snowmass** 32.34 330 eP P 09 27 49.1 +0.8
comp=Z,34nm,1.0s
Q21A **Lamborn Mesa,** 32.37 329 ⇑P P 09 27 48.9 +0.5
baz=32,SNR=9.1
N25A **Grover** 32.38 335 ⇓P P 09 27 49.0 +0.6
baz=32
L28A **Connealy Angus** 32.45 340 ⇓P P 09 27 49.5 +0.6
baz=33
P22A **Eagle** 32.56 331 ⇓P P 09 27 50.5 +0.4
baz=33,SNR=25

M26A McRoberts Ranc 32.56 337 ⇑P P 09 27 50.6 +0.6
baz=33
O23A Lake Granby, G 32.66 333 ⇓P P 09 27 51.6 +0.5
baz=33,SNR=12
ECSD EROS Data Cent 32.67 347 eP P 09 27 49.7 -1.1
comp=Z,80nm,1.0s
N24A Carr 32.72 334 ⇓P P 09 27 52.3 +1.0
baz=33,SNR=16
K29A Lazy Trails An 32.74 342 ⇑P P 09 27 51.9 +0.4
baz=33,SNR=46
L27A T5 Ranch, Ells 32.80 339 ⇓P P 09 27 52.8 +0.8
baz=33
Q20A Ridgley Place, 32.82 329 ⇓P P 09 27 52.6 +0.2
baz=33,SNR=8.2
P21A Newcastle 32.84 330 ⇓P P 09 27 53.4 +0.9
baz=33,SNR=15
M25A Palm-Egli Farm 32.89 336 ⇑P P 09 27 53.8 +0.9
baz=33
O22A Kremmling 32.91 332 ⇑P P 09 27 53.5 +0.2
baz=33,SNR=32
GLA Glamis 32.96 314 eP P 09 27 55.0 +1.5
comp=Z,15nm,0.9s
GLA Glamis 32.96 314 ⇑P P 09 27 54.4 +0.9
baz=33,SNR=7.2
K28A Ten Mile Ranch 33.03 340 ⇓P P 09 27 54.4 +0.4
baz=33,SNR=70
L26A Underwood Farm 33.03 338 ⇓P P 09 27 54.3 +0.3
baz=33
Y12C Blythe 33.14 315 ⇓P P 09 27 55.3 +0.4
baz=33
PDMCI Parker Dam,Lak 33.19 316 ⇓P P 09 27 56.0 +0.6
baz=33,SNR=12
M24A Cheyenne 33.23 335 ⇑P P 09 27 56.8 +0.9
baz=33,SNR=16
N23A Red Feather La 33.23 333 ⇑P P 09 27 56.5 +0.5
baz=33,SNR=14
P20A De Beque 33.29 329 ⇓P P 09 27 57.1 +0.7
baz=33,SNR=58
U15A North Rim 33.30 321 ⇑P P 09 27 57.7 +1.1
baz=33,SNR=20
K27A Flueckinger Fa 33.31 339 ⇓P P 09 27 56.8 +0.3
baz=34,SNR=16
SADO Sadowa 33.33 10 P P 09 27 56.7 +0.3
SADO Sadowa 33.33 10 P P 09 27 56.7 +0.3
comp=Z,16nm,0.6s,baz=213,slow=8.2,SNR=20
PHWY Pilot Hill 33.35 334 eP P 09 27 57.7 +0.6
comp=Z,15nm,0.8s
N22A Wattenberg Ran 33.38 333 ⇑P P 09 27 58.3 +1.0
baz=34,SNR=25
O21A Pagoda 33.39 331 ⇑P P 09 27 58.2 +0.8
baz=34,SNR=10
SPMN St. Paul 33.46 353 eP P 09 27 56.6 -1.0
SPMN St. Paul 33.46 353 ⇓P P 09 27 56.7 -0.9
baz=34,SNR=18
L25A Engebretsen Ra 33.47 337 ⇓P P 09 27 58.6 +0.7
baz=34
SWSC Sam W. Stewart 33.59 313 ⇑P P 09 27 59.7 +0.8
baz=34,SNR=7.6
M23A Laramie 33.60 334 ⇑P P 09 27 59.9 +0.7
baz=34
J28A Allard Ranch, 33.63 341 ⇓P P 09 27 59.3 +0.2
baz=34,SNR=39
K26A Motz Farm, Whi 33.65 338 ⇓P P 09 27 59.8 +0.4
baz=34
DVTC Desert V Tower 33.66 312 ⇑P P 09 28 00.6 +0.9
baz=34
P19A Cripple Cowboy 33.69 329 ⇓P P 09 27 59.9 0.0
baz=34,SNR=25
O20A White River Ci 33.70 330 eP P 09 28 01.0 +1.0
O20A i PcP PcP 09 30 39.5 +0.6
O20A White River Ci 33.70 330 ⇑P P 09 28 00.7 +0.7
baz=34,SNR=38
J27A Elkhorn Farm, 33.72 340 ⇓P P 09 28 00.9 +0.8
baz=34,SNR=20
BC3 Big Chuckawall 33.73 314 ⇑P P 09 28 00.7 +0.5
baz=34,SNR=24
L24A Wheatland 33.76 336 ⇑P P 09 28 01.2 +0.9
baz=34
LPAZ La Paz 33.76 146 eP P 09 28 00.7 -0.4
comp=Z,20nm,1.8s
LPAZ PcP PcP 09 30 39.2 -0.8
LPAZ La Paz 33.76 146 P P 09 28 00.8 -0.4
comp=Z,1.1nm,0.5s,baz=332,slow=9.3,SNR=6.6
LPAZ PcP PcP 09 30 39.2 -0.8
comp=Z,2.7nm,1.0s,baz=313,slow=6.3,SNR=3.9
LPAZ LR LR 09 41 51.9
comp=Z,935nm,20.5s,baz=287,slow=37
IRM Iron Mountain 33.80 315 ⇓P P 09 28 01.3 +0.6
baz=34,SNR=13
K25A Mack Ranch, Ha 33.82 337 ⇑P P 09 28 01.9 +0.9
baz=34
N21A Black Mountain 33.84 331 ⇑P P 09 28 02.6 +1.4
baz=34,SNR=40
BRSD Miller 33.90 345 eP P 09 28 00.9 -0.6
BRSD Miller 33.90 345 ⇓P P 09 28 00.7 -0.8
baz=34,SNR=57
M22A Cedar Creek Ra 33.93 333 ⇓P P 09 28 02.6 +0.5
baz=34,SNR=10
MONP Monument Peak 34.01 312 ⇓P P 09 28 04.1 +1.3
baz=34
SRU San Rafael 34.11 326 eP P 09 28 04.3 +0.8
comp=Z,48nm,0.8s
I28A Midland 34.13 342 ⇑P P 09 28 03.5 +0.1
baz=34,SNR=85
L23A Garrett 34.13 335 ⇑P P 09 28 04.0 +0.2
baz=34,SNR=30
J26A Sides Ranch, S 34.14 339 ⇑P P 09 28 04.2 +0.5
baz=34,SNR=37
LONY Lake Ozonia 34.20 16 eP P 09 28 04.8 +0.8
comp=Z,25nm,0.8s
N20A Spence Gulch, 34.25 331 ⇑P P 09 28 05.5 +0.7
baz=34,SNR=70
O19A Miners Draw (B 34.26 329 ⇑P P 09 28 05.1 +0.4
baz=34,SNR=48
BELC Belle Mtn. Jos 34.30 314 ⇓P P 09 28 05.6 +0.4
baz=34,SNR=15
Q16A Castle Valley 34.33 326 eP P 09 28 06.2 +0.8
Q16A Castle Valley 34.33 326 ⇓P P 09 28 06.3 +0.8
baz=34,SNR=32
L22A Ellis Ranch, M 34.37 334 ⇑P P 09 28 07.1 +1.3
baz=34
PFO Pinyon Flat Ob 34.41 313 eP P 09 28 07.6 +1.4
comp=Z,11nm,1.1s
PFO Pinyon Flat Ob 34.41 313 ⇓P P 09 28 07.8 +1.7
baz=34,SNR=6.6
RWWY Rawlins 34.43 333 eP P 09 28 07.0 +0.6
comp=Z,99nm,1.3s
M21A Separation Pea 34.44 333 ⇑P P 09 28 07.2 +0.7
baz=35,SNR=35
I27A Quinn 34.47 341 ⇑P P 09 28 06.8 +0.4
baz=35,SNR=45
GMRC Granite Mounta 34.49 316 ⇑P P 09 28 07.4 +0.5
baz=35,SNR=11
109C Camp Elliot, M 34.51 312 ⇓P P 09 28 07.6 +0.7
baz=35
TMUT Trail Mountain 34.62 326 eP P 09 28 09.3 +1.2
comp=Z,22nm,0.8s
MVU Marysvale 34.63 324 eP P 09 28 08.9 +0.7
comp=Z,22nm,1.0s
FRNY Flat Rock 34.67 17 eP P 09 28 08.6 +0.6
CCUT Cedar City 34.68 322 eP P 09 28 10.4 +1.8
comp=Z,17nm,0.9s
I26A New Underwood 34.70 340 ⇑P P 09 28 08.9 +0.4
baz=35,SNR=9.5
M20A Sweetwater, Wa 34.72 332 ⇑P P 09 28 09.6 +0.7
baz=35,SNR=7.4
L21A Rawlins 34.73 333 ⇑P P 09 28 09.0 +0.2
baz=35,SNR=54
J24A Dixon Ranch, L 34.74 337 ⇑P P 09 28 09.6 +0.8
baz=35
MURC Murrieta 34.94 313 ⇑P P 09 28 12.4 +1.8
baz=35,SNR=7.3
HEC Hector,Ludlow 34.98 315 ⇓P P 09 28 12.5 +1.5
baz=35,SNR=11
H27A Howes 34.98 341 ⇓P P 09 28 11.2 +0.4
baz=35,SNR=133
I25A Rochford 34.99 339 ⇓P P 09 28 11.9 +0.8
baz=35,SNR=29
G28A Parade 35.03 343 ⇓P P 09 28 10.5 -0.7
baz=35,SNR=17
TUQ Turquoise Moun 35.04 317 ⇑P P 09 28 12.4 +0.9
baz=35,SNR=7.3
BBRC Big Bear Solar 35.08 314 ⇓P P 09 28 13.5 +1.4
baz=35,SNR=14
J23A Dilts Ranch, B 35.15 336 ⇑P P 09 28 13.1 +0.7
baz=35
SHPR Sheep Range 35.16 319 eP P 09 28 13.4 +0.8
I24A Kuemmerle Ranc 35.18 338 ⇑P P 09 28 12.9 +0.3
baz=35,SNR=14
RSSD Black Hills 35.19 339 eP P 09 28 13.4 +0.5
comp=Z,50nm,1.4s
M19A Rock Springs 35.19 331 ⇓P P 09 28 12.9 -0.1
baz=35
L20A Wamsutter 35.20 332 ⇑P P 09 28 13.1 +0.1
baz=35,SNR=20
K21A Alcova 35.21 334 ⇑P P 09 28 13.2 +0.2
baz=35,SNR=25
MPU Maple Canyon 35.36 326 eP P 09 28 15.2 +0.8
comp=Z,31nm,0.7s
F29A Eureka 35.42 344 ⇑P P 09 28 13.5 -1.1
baz=36,SNR=42
H25A Fruitdale 35.47 339 ⇓P P 09 28 15.7 +0.7
baz=36,SNR=15
NLU North Lily Min 35.56 326 eP P 09 28 15.1 -1.0
GSC Goldstone 35.56 316 eP P 09 28 15.8 -0.2
GSC Goldstone 35.56 316 ⇓P P 09 28 17.1 +1.1
baz=36,SNR=5.0
I23A Meade Ranch, G 35.58 337 ⇑P P 09 28 16.5 +0.4
baz=36
BFSC Mount Baldy Ra 35.59 313 ⇑P P 09 28 17.2 +0.8
baz=36,SNR=5.6
G27A Dupree 35.60 342 ⇑P P 09 28 16.2 0.0
baz=36,SNR=53
JLU Jordanelle 35.68 327 eP P 09 28 17.7 +0.6
comp=Z,19nm,0.7s
F28A McLaughlin 35.70 343 ⇑P P 09 28 16.3 -0.7
baz=36,SNR=43
K20A Yellowstone Ra 35.71 333 ⇑P P 09 28 17.0 -0.3
baz=36,SNR=33
G26A Maurine 35.74 341 ⇓P P 09 28 17.3 0.0
baz=36,SNR=60
E30A Jud 35.82 346 ⇑P P 09 28 17.2 -0.7
baz=36,SNR=14
MWC Mount Wilson 35.87 313 eP P 09 28 19.4 +0.6
comp=Z,25nm,1.3s
J21A Lysite 35.87 334 ⇓P P 09 28 19.6 +0.9
baz=36
CTU Camp Tracy 35.90 327 eP P 09 28 20.3 +1.3
G25A Newell 35.91 340 ⇑P P 09 28 19.4 +0.5
baz=36,SNR=40
H24A Dirks Ranch, A 35.92 339 ⇑P P 09 28 19.4 +0.5
baz=36,SNR=52
I22A 9 Mile Ranch, 35.92 336 ⇑P P 09 28 19.3 +0.2
baz=36,SNR=22
PASC Pasadena Art C 35.93 313 eP P 09 28 20.6 +1.5
comp=Z,25nm,1.3s
L18A Fontenelle, Gr 35.94 330 ⇑P P 09 28 19.3 0.0
baz=36,SNR=63
EYMN Ely 36.01 355 eP P 09 28 17.8 -1.8
comp=Z,9.7nm,0.8s
E29A Napoleon 36.06 345 ⇓P P 09 28 19.3 -0.8
baz=36,SNR=28
H23A Clabaugh Cattl 36.07 337 ⇑P P 09 28 20.6 +0.4
baz=36
K19A Absolon Red Bu 36.07 332 ⇓P P 09 28 20.1 -0.4
baz=36,SNR=47
DECC Green Verdugo 36.08 313 ⇓P P 09 28 21.0 +0.6
baz=36,SNR=5.7
DUG Dugway 36.13 326 eP P 09 28 21.8 +0.9
comp=Z,22nm,0.9s
DUG Dugway 36.13 326 ⇓P P 09 28 21.6 +0.7
baz=36,SNR=21
J20A Shoshoni 36.15 334 ⇑P P 09 28 21.9 +0.9
baz=36,SNR=27
EDW2 Edwards Air Fo 36.16 314 ⇑P P 09 28 21.2 +0.1
baz=36,SNR=7.8
I21A Big Trails, Te 36.19 335 ⇓P P 09 28 21.4 0.0
baz=36,SNR=24
FURC Furnace Creek, 36.25 317 ⇑P P 09 28 22.2 +0.5
baz=36,SNR=16
F26A Lodgepole 36.26 341 ⇓P P 09 28 21.6 -0.2
baz=36,SNR=29
LRMC Laurel Mountai 36.26 315 ⇓P P 09 28 23.3 +1.3
baz=36
E28A Huff 36.34 344 ⇓P P 09 28 21.9 -0.5
baz=36,SNR=28
D30A Buchanan 36.35 346 ⇓P P 09 28 21.6 -1.0
baz=36,SNR=91
BW06 Boulder Array 36.36 332 eP P 09 28 22.4 -0.5
comp=Z,19nm,0.7s
PDAR Pinedale Array 36.36 332 P P 09 28 22.8 -0.1
PDAR PcP PcP 09 30 46.0 -0.6
PDAR ScP ScP 09 34 31.9 +2.5
PDAR Pinedale Array 36.36 332 P P 09 28 22.8 -0.1
comp=Z,23nm,0.7s,baz=128,slow=9.8,SNR=227
PDAR PcP PcP 09 30 46.0 -0.6
comp=Z,1.6nm,0.8s,baz=126,slow=3.8,SNR=5.1
PDAR ScP ScP 09 34 31.9 +2.5
comp=Z,2.1nm,1.0s,baz=143,slow=5.2,SNR=7.2
PDAR LR LR 09 48 06.8
comp=Z,478nm,18.9s,baz=141,slow=44
PKME Peaks-Kenny Pk 36.43 21 eP P 09 28 23.7 +0.6
comp=Z,20nm,0.8s
MPMC Manual Prospec 36.44 316 ⇑P P 09 28 23.8 +0.1
baz=36,SNR=19
E27A Carson 36.45 343 ⇓P P 09 28 23.3 -0.1
baz=37,SNR=12
H22A Clearmont 36.46 337 ⇓P P 09 28 23.8 +0.2
baz=37
HWUT Hardware Ranch 36.47 328 eP P 09 28 24.2 +0.4
comp=Z,93nm,0.8s
D29A Pettibone, Tap 36.51 346 ⇓P P 09 28 22.7 -1.1
baz=37,SNR=21
J19A Crowheart 36.51 333 ⇓P P 09 28 23.9 -0.2
baz=37,SNR=42
R11A Troy Canyon, C 36.55 321 eP P 09 28 25.9 +1.4
R11A Troy Canyon, C 36.55 321 ⇑P P 09 28 24.9 +0.4
baz=37,SNR=22
F25A Bowman 36.57 341 ⇑P P 09 28 24.5 0.0
baz=37,SNR=14
G23A Biddle 36.61 338 ⇓P P 09 28 24.8 -0.1
baz=37,SNR=16
I20A Worland 36.65 334 ⇓P P 09 28 25.6 +0.4
baz=37,SNR=23
E26A Carlson Angus 36.75 342 ⇓P P 09 28 25.2 -0.8
baz=37,SNR=21
BGU Big Grassy Mou 36.76 326 eP P 09 28 27.3 +1.1
comp=Z,18nm,0.9s
F24A Ekalaka 36.83 340 ⇓P P 09 28 26.8 +0.1
baz=37,SNR=35
C30A Mose, Pekin 36.85 347 ⇓P P 09 28 26.3 -0.5
baz=37,SNR=42
ARVC Arvin 36.88 314 ⇓P P 09 28 29.0 +1.9
baz=37,SNR=8.5
D28A Regan 36.88 345 ⇑P P 09 28 26.7 -0.3
baz=37,SNR=15
GRAC Grapevine Rang 36.89 318 ⇑P P 09 28 28.3 +1.0
baz=37,SNR=10.0
ISA Isabella 36.90 315 eP P 09 28 29.7 +2.2
comp=Z,6.3nm,0.9s
ISA Isabella 36.90 315 ⇓P P 09 28 28.5 +1.1
baz=37,SNR=7.7
AGMN Agassiz Nation 36.92 350 eP P 09 28 26.4 -0.9
comp=Z,101nm,1.4s
G22A Birney 36.96 337 ⇓P P 09 28 27.5 -0.4
baz=37,SNR=14
F23A Volborg 37.06 338 ⇑P P 09 28 28.7 +0.1
baz=37,SNR=20
E25A Miller Ranch, 37.07 341 ⇓P P 09 28 28.5 -0.2
baz=37,SNR=22
AHID Auburn Hatcher 37.09 330 eP P 09 28 29.3 +0.2
comp=Z,58nm,0.7s
I18A Diamond G Ranc 37.20 332 ⇓P P 09 28 30.1 0.0
baz=37,SNR=56
HVU Hansel Valley 37.22 327 eP P 09 28 30.9 +0.8
comp=Z,33nm,0.8s
MDND Maddock 37.25 346 eP P 09 28 29.9 -0.2
MDND Maddock 37.25 346 ⇑P P 09 28 29.6 -0.5
baz=37,SNR=16
C28A Hausauer Farms 37.31 345 ⇓P P 09 28 30.3 -0.4
baz=38,SNR=17
G21A Lodge Grass 37.32 336 ⇑P P 09 28 30.4 -0.5
baz=38,SNR=12
E24A Baker 37.41 340 ⇓P P 09 28 31.6 0.0
baz=38,SNR=17
VES Vestal, Richgr 37.42 315 ⇓P P 09 28 32.4 +0.7
baz=38,SNR=6.6
REDW Red Top Meadow 37.42 331 eP P 09 28 32.5 +0.5
comp=Z,137nm,0.8s
F22A Rosebud 37.42 338 ⇓P P 09 28 31.4 -0.3
baz=38,SNR=15
SNOW Snow King Moun 37.45 331 eP P 09 28 32.8 +0.6
PKM Peak Mountain 37.46 313 ⇑P P 09 28 33.0 +0.6
baz=38
LOHW Long Hollow 37.49 331 eP P 09 28 32.9 +0.4
B30A Myrvik Farm, E 37.53 348 ⇑P P 09 28 31.9 -0.6
baz=38,SNR=37
TPAW Teton Pass 37.56 331 eP P 09 28 33.8 +0.6
comp=Z,68nm,0.8s
H19A Powell 37.60 334 ⇑P P 09 28 33.1 -0.2
baz=38,SNR=10.0
C27A Sayler Ranch, 37.60 344 ⇓P P 09 28 32.7 -0.5
baz=38,SNR=12
D25A Fairfield 37.62 342 ⇑P P 09 28 33.5 +0.2
baz=38,SNR=11
RRI2 Red Ridge 37.63 331 eP P 09 28 34.3 +0.5
MOOW Moose Ponds 37.66 331 eP P 09 28 34.2 +0.2
E23A Ismay 37.70 339 ⇓P P 09 28 33.7 -0.3
baz=38,SNR=8.6
I17A Pilgrim Ck. 37.72 332 ⇓P P 09 28 34.8 +0.4
baz=38,SNR=31
G20A Bridger 37.72 335 ⇑P P 09 28 33.6 -0.7
baz=38,SNR=19
B29A Wagenman Farm, 37.77 347 ⇑P P 09 28 34.0 -0.5
baz=38,SNR=36
RCTC Rector, Farmer 37.77 315 ⇑P P 09 28 35.9 +1.2
baz=38
SMMC Simmler 37.80 313 ⇓P P 09 28 37.0 +2.0
baz=38
SIV San Ignacio 37.86 137 P P 09 28 34.9 -0.8
SIV PcP PcP 09 30 51.3 -0.1
SIV San Ignacio 37.86 137 P P 09 28 34.9 -0.8
comp=Z,66nm,0.6s,baz=318,slow=8.8,SNR=293
SIV PcP PcP 09 30 51.3 -0.1
comp=Z,9.3nm,0.6s,baz=310,slow=3.3,SNR=9.7
SIV LR LR 09 44 46.2
comp=Z,978nm,19.5s,slow=37
ELK Elko 37.87 324 eP P 09 28 36.6 +0.8
comp=Z,25nm,0.9s
IMW Indian Meadow 37.87 331 eP P 09 28 35.9 +0.1
C26A Wahner Farm, P 37.87 343 ⇑P P 09 28 35.3 -0.1
baz=38,SNR=14
MTUM Tungsten Hills 37.88 317 eP P 09 28 37.4 +1.6
H18A Shoshone NF, C 37.90 333 ⇑P P 09 28 35.5 -0.4
baz=38,SNR=39
D24A Glendive 37.91 341 ⇑P P 09 28 36.1 +0.4
baz=38,SNR=8.5
B28A Dugan Ranch, T 37.99 346 ⇓P P 09 28 36.2 -0.2
baz=38,SNR=56
RLMT Red Lodge 38.08 334 eP P 09 28 37.4 -0.1
comp=Z,25nm,0.8s
H17A Grant Village 38.08 332 eP P 09 28 38.6 +1.0
H17A Grant Village 38.08 332 ⇓P P 09 28 38.2 +0.6
baz=38,SNR=14
C25A Freed Ranch, W 38.10 342 ⇓P P 09 28 37.7 +0.3
baz=38,SNR=31
I16A Newdale 38.11 331 ⇓P P 09 28 37.8 +0.2
baz=38,SNR=15
LKWY Lake 38.14 333 eP P 09 28 38.6 +0.6
F20A Billings 38.17 336 ⇓P P 09 28 37.6 -0.4
baz=38,SNR=17
A29A Manning Farm, 38.17 347 ⇓P P 09 28 37.4 -0.5
baz=38,SNR=100
B27A Peters Farms, 38.17 345 ⇓P P 09 28 37.9 -0.1
baz=38,SNR=16
LAO LASA Array 38.18 339 eP P 09 28 37.8 -0.3
comp=Z,23nm,0.9s
NV11 Mina Array Sit 38.22 319 eP P 09 28 39.7 +1.1
D23A Lindsay 38.25 340 ⇓P P 09 28 39.2 +0.6
baz=38,SNR=27
C24A Savage 38.30 341 ⇓P P 09 28 39.4 +0.3
baz=38,SNR=36
NVAR Mina Array Bea 38.31 319 P P 09 28 40.5 +1.1
NVAR PcP PcP 09 30 53.6 +0.9
NVAR ScP ScP 09 34 39.9 +3.1
NVAR Mina Array Bea 38.31 319 P P 09 28 40.5 +1.1
comp=Z,14nm,0.8s,baz=130,slow=7.5,SNR=68
NVAR PcP PcP 09 30 53.6 +0.9
comp=Z,10nm,0.8s,baz=139,slow=4.0,SNR=16
NVAR ScP ScP 09 34 39.9 +3.1
comp=Z,1.7nm,0.8s,baz=120,slow=5.3,SNR=5.6
NVAR LR LR 09 49 16.5
comp=Z,926nm,18.3s,baz=7.5,slow=44
G18A Lazy EL Ranch, 38.36 334 ⇑P P 09 28 39.5 -0.2
baz=38,SNR=39
E21A Keefer Ranch, 38.37 338 ⇓P P 09 28 39.6 -0.1
baz=38,SNR=29
YNR Norris Junctio 38.38 333 eP P 09 28 40.5 +0.5
comp=Z,9.2nm,0.7s
A28A Rude Farm, Bot 38.40 346 ⇓P P 09 28 39.1 -0.7
baz=39,SNR=20
YMR Madison River 38.47 332 eP P 09 28 41.9 +1.1
comp=Z,50nm,0.9s
D22A Cohagen 38.56 339 ⇓P P 09 28 41.7 +0.5
baz=39,SNR=23
B25A Knox Farm, Ray 38.58 343 ⇑P P 09 28 41.4 +0.1
baz=39,SNR=16
H16A Russell Place, 38.63 332 ⇑P P 09 28 42.7 +0.6
baz=39,SNR=9.8
LVC Limon Verde 38.72 153 eP P 09 28 45.1 +2.1
comp=Z,41nm,1.5s
E20A Meyer Farm, Mu 38.74 337 ⇑P P 09 28 43.1 +0.3
baz=39,SNR=77
D21A La Casta Ranch 38.78 338 ⇑P P 09 28 43.3 +0.2
baz=39,SNR=17
C23A Lambert 38.79 340 ⇑P P 09 28 43.3 +0.1
baz=39,SNR=37
QLMT Earthquake Lak 38.81 332 eP P 09 28 44.9 +1.3
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 38.81 351 P P 09 28 41.7 -1.5
ULM PcP PcP 09 30 53.0 -0.7
ULM Lac du Bonnet 38.81 351 P P 09 28 41.7 -1.5
comp=Z,41nm,0.9s,baz=166,slow=8.7,SNR=38
ULM PcP PcP 09 30 53.0 -0.7
comp=Z,5.7nm,0.7s,baz=175,slow=6.7,SNR=3.2
ULM LR LR 09 47 06.3
comp=Z,338nm,19.8s,baz=267,slow=40
BMN Battle Mountai 38.83 322 eP P 09 28 45.0 +1.3
comp=Z,17nm,0.8s
A26A Wade Farm, Ken 38.83 344 ⇑P P 09 28 43.0 -0.5
baz=39,SNR=23
G17A Pierce Place, 38.88 333 ⇑P P 09 28 44.9 +0.9
baz=39,SNR=41
F18A Big Timber 38.90 335 ⇑P P 09 28 44.2 +0.1
baz=39,SNR=63
E19A Rath Farm, Rou 38.96 336 ⇓P P 09 28 44.7 +0.1
baz=39,SNR=20
C22A Vida 38.97 340 ⇑P P 09 28 44.9 +0.2
baz=39,SNR=55
DGMT Dagmar 39.06 342 eP P 09 28 45.6 +0.2
comp=Z,34nm,0.6s
DGMT Dagmar 39.06 342 ⇑P P 09 28 45.5 +0.1
baz=39,SNR=24
WAKR Walker 39.09 318 eP P 09 28 47.6 +1.6
A25A Svangstu Ranch 39.17 343 ⇓P P 09 28 46.2 0.0
baz=39,SNR=6.4
D20A Manuel Ranch, 39.23 337 ⇑P P 09 28 47.2 +0.4
baz=39,SNR=38
B23A Brockton 39.31 341 ⇑P P 09 28 48.0 +0.5
baz=40,SNR=44
HLID Hailey 39.33 328 eP P 09 28 48.2 +0.4
HLID Hailey 39.33 328 ⇓P P 09 28 48.3 +0.4
baz=39,SNR=62
A24A Westby 39.41 342 ⇑P P 09 28 48.6 +0.3
baz=40,SNR=25
CMB Columbia Colle 39.46 317 eP P 09 28 49.6 +0.7
C21A Desert Coulee 39.46 339 ⇑P P 09 28 48.8 0.0
baz=40,SNR=18
MCMT McKenzie Canyo 39.47 331 eP P 09 28 50.3 +1.2
B22A Reddig Ranch S 39.49 340 ⇓P P 09 28 49.7 +0.7
baz=40
E18A Harlowton 39.51 335 ⇑P P 09 28 49.5 +0.2
baz=40,SNR=23
BOZ Bozeman (W) 39.52 333 eP P 09 28 49.4 -0.1
comp=Z,20nm,0.8s
D19A Cripps Ranch, 39.58 336 ⇓P P 09 28 50.1 +0.3
baz=40,SNR=41
A23A Redstone 39.71 342 ⇑P P 09 28 51.3 +0.5
baz=40,SNR=6.6
PAHR Pah Rah Range 39.73 320 eP P 09 28 52.2 +1.0
DLMT Dillon 39.75 332 eP P 09 28 52.6 +1.2
E17A Martinsdale 39.82 334 ⇓P P 09 28 52.0 +0.1
baz=40,SNR=18
D18A Linhart Farms, 39.97 336 ⇑P P 09 28 53.4 +0.4
baz=40,SNR=39
MFID Camas Ranch 39.98 327 ⇑P P 09 28 53.4 +0.1
baz=40,SNR=15
LRM Limekiln Ridge 40.03 332 eP P 09 28 54.2 +0.4
A22A Carney Farms, 40.07 341 ⇓P P 09 28 54.6 +0.8
baz=40
C19A Stack Wire Ran 40.11 337 ⇓P P 09 28 54.5 +0.3
baz=40,SNR=37
B20A Solberg Farm, 40.31 338 ⇓P P 09 28 55.8 0.0

baz=40,SNR=16
A21A Bergtoll Ranch 40.40 340 ⇑P P 09 28 57.0 +0.4
baz=41,SNR=26
HRY Holter Researc 40.44 334 *e*P **P 09 28 57.3 +0.3**
BEKR Beckworth 40.44 319 *e*P **P 09 28 57.5 +0.4**
comp=Z,7.3nm,0.9s
EGMT Eagleton 40.62 337 *e*P **P 09 28 58.7 +0.3**
comp=Z,12nm,0.7s
EGMT Eagleton 40.62 337 ⇓P **P 09 28 58.5 0.0**
baz=41,SNR=15
B19A Brinkman Farms 40.67 338 ⇓P **P 09 28 58.7 0.0**
baz=41,SNR=26
C17A Wharram Farm, 40.71 335 ⇑P **P 09 28 59.0 -0.1**
baz=41,SNR=38
OHCM Honcut 40.88 318 *e*P **P 09 29 01.6 +1.0**
WVOR Wild Horse Val 40.91 324 *e*P **P 09 29 00.8 -0.1**
comp=Z,29nm,0.9s
B18A Beardsley Farm 40.93 337 ⇑P **P 09 29 01.0 0.0**
baz=41,SNR=6.2
A19A Klindworth Far 40.98 338 ⇓P **P 09 29 01.1 -0.3**
baz=41,SNR=14
CHMT Chamberlain Mo 41.22 333 *e*P **P 09 29 03.0 -0.5**
comp=Z,5.2nm,0.7s
B17A L&G Farms, Che 41.25 336 ⇑P **P 09 29 03.2 -0.4**
baz=41,SNR=12
A18A Metzger Ranch, 41.39 337 ⇓P **P 09 29 04.3 -0.4**
baz=42,SNR=40
J08A Circle Bar Ran 41.39 325 *e*P P 09 28 57.6 -7.2
MSO Missoula 41.47 332 *e*P **P 09 29 05.3 -0.2**
MSO Missoula 41.47 332 ⇑P **P 09 29 05.3 -0.2**
baz=42,SNR=40
SLMT Seeley Lake 41.58 333 *e*P **P 09 29 05.9 -0.5**
BMO Blue Mountains 41.73 327 *e*P **P 09 29 06.2 -1.4**
comp=Z,23nm,0.9s
SWMT Swartz Lake 42.00 333 *e*P **P 09 29 09.7 -0.1**
JTMT Jette 42.31 333 *e*P **P 09 29 12.5 +0.2**
K05A Summer Lake 42.41 322 *e*P **P 09 29 13.7 +0.4**
I07A Izee 42.43 325 *e*P **P 09 29 13.1 -0.3**
F10A Beach Ranch, E 42.45 329 *e*P **P 09 29 12.8 -0.6**
BSMT Bassoo Peak 42.61 332 *e*P **P 09 29 14.8 -0.1**
G08A Pilot Rock 42.90 327 *e*P **P 09 29 16.7 -0.5**
WALA Waterton Lakes 43.14 334 *e*P **P 09 29 19.0 0.0**
comp=Z,0.5nm,0.8s
FRIS Frissel Point 43.99 323 P **P 09 29 26.2 +0.1**
NEW Newport 43.99 331 *e*P **P 09 29 25.1 -0.7**
NEW Newport 43.99 331 ⇑P **P 09 29 25.0 -0.9**
baz=44,SNR=20
D08A Wollman Farm, 44.05 329 P **P 09 29 25.9 -0.3**
MDW Midway 44.19 328 P **P 09 29 27.4 +0.1**
E07A Sunnyside 44.20 328 P **P 09 29 27.2 -0.3**
FFC Flin Flon 44.21 348 *e*P **P 09 29 26.9 -0.4**
comp=Z,91nm,0.8s
FFC *e*pP pP 09 29 47.7 +7.2
VFP Flag Point 44.29 325 P **P 09 29 29.2 +0.8**
TRW Toppenish Ridg 44.39 327 P **P 09 29 29.9 +0.8**
TBM Table Mountain 44.98 328 P **P 09 29 34.5 +0.7**
WTV Waterville 45.00 329 P **P 09 29 34.2 +0.4**
LON Longmire 45.36 327 *e*P **P 09 29 36.6 -0.2**
comp=Z,14nm,1.0s
SCHQ Schefferville 45.57 16 *e*P **P 09 29 37.0 -1.2**
SCHQ Schefferville 45.57 16 P **P 09 29 37.0 -1.2**
comp=Z,7.5nm,0.5s,baz=207,slow=7.4,SNR=40
BMW Boistfort Moun 45.97 325 P **P 09 29 41.7 +0.1**
EDM Edmonton 46.17 338 *e*P **P 09 29 42.1 -0.9**
FCC Fort Churchill 46.96 355 *e*P **P 09 29 48.0 -1.0**
comp=Z,0.8nm,0.8s
BDFB Brasilia 47.38 125 P **P 09 29 50.6 -2.4**
BDFB Brasilia 47.38 125 P **P 09 29 50.6 -2.4**
comp=Z,4.1nm,0.6s,baz=282,slow=14,SNR=7.1
BDFB LR LR 09 51 15.5
comp=Z,802nm,19.7s,baz=239,slow=38
CPUP Villa Florida 47.81 143 P **P 09 29 54.5 -1.6**
CPUP Villa Florida 47.81 143 P **P 09 29 54.5 -1.6**
comp=Z,5.8nm,0.6s,baz=319,slow=8.8,SNR=33
CPUP LR LR 09 50 26.6
comp=Z,503nm,20.9s,baz=80,slow=37
YKA Yellowknife Ar 54.14 345 P **P 09 30 42.0 -1.1**
YKA PcP **PcP 09 31 46.5 -0.7**
YKA ScP **ScP 09 35 41.6 +0.1**
YKA Yellowknife Ar 54.14 345 P **P 09 30 42.0 -1.1**
comp=Z,20nm,0.7s,baz=139,slow=7.5,SNR=102
YKA PcP **PcP 09 31 46.5 -0.7**
comp=Z,2.1nm,0.6s,baz=146,slow=3.6,SNR=8.4
YKA ScP **ScP 09 35 41.6 +0.1**
comp=Z,0.8nm,0.7s,baz=129,slow=3.5,SNR=3.2
YKW3 Yellowknife Ar 54.20 345 *e*P **P 09 30 42.4 -1.2**
comp=Z,0.6nm,0.8s
PLCA Paso Flores 54.65 165 PcP **PcP 09 31 49.7 +0.1**
PLCA Paso Flores 54.65 165 PcP **PcP 09 31 49.7 +0.1**
comp=Z,2.3nm,0.9s,baz=324,slow=5.5,SNR=3.1
PLCA LR LR 09 48 30.6
comp=Z,262nm,21.8s,baz=136,slow=30
TRQA Tornquist 55.05 156 *e*P **P 09 30 48.7 -1.4**
comp=Z,60nm,1.9s
DLBC Dease Lake 56.48 335 *e*P **P 09 31 00.1 -0.1**
RKT Rikitea 58.51 233 *e*S **S 09 39 17.8 +2.6**
comp=Z,407nm,26.0s
RKT *e*LQ LQ 09 46 02.9
comp=Z,309nm,32.0s
RKT *e*LR LR 09 48 23.4
comp=Z,565nm,26.0s,baz=50
RKT Rikitea 58.51 233 *e*T T 10 33 51.0
comp=Z,2.3nm,0.3s
HYT Haines Junctio 60.97 334 *e*P **P 09 31 31.1 -0.2**
DAWY Dawson 63.36 337 *e*P **P 09 31 45.1 -2.1**
INK Inuvik 63.74 342 *e*P **P 09 31 48.6 -1.0**
comp=Z,25nm,0.9s
BMRM Bremner River 64.13 333 *e*P **P 09 31 52.2 -0.1**
comp=Z,30nm,1.2s
EGAK Eagle 64.38 337 *e*P **P 09 31 52.1 -1.7**
comp=Z,14nm,1.1s
PMR Palmer 66.39 333 *e*P **P 09 32 05.6 -1.3**
comp=Z,12nm,1.2s
ILAR Eielson Array 66.59 336 P **P 09 32 07.0 -1.2**
ILAR Eielson Array 66.59 336 P **P 09 32 07.0 -1.2**
comp=Z,20nm,1.1s,baz=111,slow=4.9,SNR=103
ILAR LR LR 10 05 11.2
comp=Z,358nm,19.6s,baz=121,slow=40
SUMG Summit 66.90 14 *i*P **P 09 32 10.4 -0.1**
comp=Z,6.9nm,1.0s
PPLA Purkeypile 68.16 333 *e*P **P 09 32 16.9 -1.4**
comp=Z,5.8nm,0.7s
PPT Papeete 68.41 246 LR LR 09 54 14.1
comp=Z,371nm,19.2s,baz=122,slow=29
PPT2 Papeete2 68.42 246 *e*S S 09 41 24.9 +5.9
comp=Z,158nm,24.5s
PPT2 Papeete2 68.42 246 *e*LR LR 09 52 54.7
comp=Z,638nm,23.8s,baz=59
COLD Coldfoot 68.76 338 *e*P **P 09 32 21.4 -0.4**
comp=Z,27nm,1.1s
TBI Tubuai 70.46 240 *e*S **S 09 41 47.4 +4.6**
comp=Z,325nm,26.5s
TBI Tubuai 70.46 240 *e*LR LR 09 53 53.1
comp=Z,672nm,24.2s,baz=60
JMIC Jan Mayen 74.97 19 LR LR 10 05 33.0
comp=Z,194nm,18.4s,baz=257,slow=35
ESDC Sonseca Array 77.12 52 P **P 09 33 10.2 -1.6**
ESDC Sonseca Array 77.12 52 P **P 09 33 10.2 -1.6**
comp=Z,1.3nm,0.6s,baz=278,slow=6.0,SNR=7.1
ESDC LR LR 10 01 40.9
comp=Z,214nm,20.9s,baz=285,slow=32
RAR Rarotonga 78.69 245 LR LR 09 59 48.8
comp=Z,307nm,18.6s,baz=135,slow=29
DBIC Dimbokro 81.00 85 LR LR 10 08 55.1
comp=Z,184nm,19.2s,baz=266,slow=35
SPITS Spitsbergen Ar 81.04 12 P **P 09 33 32.8 +0.2**
SPITS Spitsbergen Ar 81.04 12 P **P 09 33 32.8 +0.2**
comp=Z,8.4nm,1.0s,baz=207,slow=2.7,SNR=4.8
NOA NORSAR Array B 83.54 29 P **P 09 33 46.0 +0.1**
NOA NORSAR Array B 83.54 29 P **P 09 33 46.0 +0.1**
comp=Z,1.4nm,0.7s,baz=286,slow=4.8,SNR=3.8
NOA LR LR 10 08 24.2
comp=Z,284nm,19.1s,baz=75,slow=34
TORD Torodi Ar. Bea 86.09 77 P **P 09 33 57.4 -2.2**
TORD Torodi Ar. Bea 86.09 77 P **P 09 33 57.4 -2.2**
comp=Z,0.2nm,0.5s,baz=260,slow=8.3,SNR=3.1
TORD LR LR 10 10 49.1
comp=Z,270nm,20.7s,baz=290,slow=35
ARCES ARCESS Array B 86.45 19 P **P 09 33 59.4 -0.9**
ARCES ARCESS Array B 86.45 19 P **P 09 33 59.4 -0.9**
comp=Z,1.5nm,0.8s,baz=308,slow=4.5,SNR=5.4
DZM Mont Dzumac 109.61 251 *e*LR LR 10 12 02.0
comp=Z,204nm,22.9s
ZALV Zalesovo Beam 113.93 5 PKiKP **PKiKP 09 39 54.5 -2.2**
ZALV Zalesovo Beam 113.93 5 PKiKP **PKiKP 09 39 54.5 -2.2**
comp=Z,1.3nm,0.6s,baz=345,slow=1.8,SNR=7.2

MDJ Mudanjiang 114.59 332 Pdif **Pdif 09 36 08.3 +0.1**
MDJ SKS **SKSdf 09 47 05.3 -1.2**
MDJ SS **SS 09 56 43.3 -1.0**
MDJ LR LR
comp=N,260nm,6.5s
MDJ LR LR
comp=E,150nm,5.9s
MDJ LR LR
comp=Z,450nm,7.7s
BOSA Boshof 115.12 116 PKP **PKPdf 09 39 58.0 -1.8**
BOSA Boshof 115.12 116 PKP **PKPdf 09 39 58.0 -1.8**
comp=Z,1.5nm,0.6s,baz=330,slow=2.1,SNR=4.2
KURK Kurchatov 116.29 10 PKP **PKPdf 09 40 00.4 -1.0**
KURBB Kurchatov Arra 116.36 10 PKP **PKPdf 09 40 00.4 -1.1**
comp=Z,0.9nm,0.7s,baz=347,slow=2.1,SNR=8.6
SONM Songino Array 119.23 350 PKP **PKPdf 09 40 06.3 -1.1**
SONM Songino Array 119.23 350 PKP **PKPdf 09 40 06.3 -1.1**
comp=Z,1.4nm,0.5s,baz=337,slow=1.3,SNR=9.6
MKAR Makanchi Array 120.68 9 PKP **PKPdf 09 40 08.5 -1.5**
MKAR Makanchi Array 120.68 9 PKP **PKPdf 09 40 08.5 -1.5**
comp=Z,0.2nm,0.3s,baz=357,slow=2.4,SNR=4.0
KSRS Korea Array 120.87 328 PKP **PKPdf 09 40 10.3 -0.2**
comp=Z,6.8nm,0.7s,baz=14,slow=1.8,SNR=30
KSAR Wonju Array Be 120.89 328 PKP **PKPdf 09 40 10.3 -0.3**
WMQ Urumqi 124.22 5 *e*PKP **PKPdf 09 40 16.0 -0.9**
HHC Hu-ho-hao-te 124.66 343 *e*PKP PKPdf 09 40 11.8 -6.1
HHC sPKP 09 40 49.8
HHC PKS PKSdf 09 43 47.8 -6.8
GTA Gaotai 128.45 353 PKP **PKPdf 09 40 25.5 +0.3**
LZH Lanzhou 131.07 348 *e*PKP **PKPdf 09 40 26.8 -3.6**
LZH sPKP 09 40 57.8
LZH PP **PP 09 42 48.8 +2.6**
LZH AMB AMB
comp=Z,76nm,4.4s
STKA Stephens Creek 131.23 238 PKP **PKPdf 09 40 29.9 -0.6**
STKA Stephens Creek 131.23 238 PKP **PKPdf 09 40 29.9 -0.6**
comp=Z,1.9nm,0.7s,baz=97,slow=5.7,SNR=8.9
XAN Xi'an 131.76 342 PKP **PKPdf 09 40 31.3 -0.3**
ENH Enshi 135.06 340 *e*PKPdf **PKPdf 09 40 37.5 -0.3**
CD2 Chengdu 136.08 347 *e*PKP **PKPdf 09 40 38.0 -1.8**
CD2 sPKP 09 41 08.5
CD2 PP **PP 09 43 21.5 +3.5**
CD2 SKKS 09 50 03.8
CD2 SS **SS 10 01 11.5 -2.1**
AS31 Alice Springs 139.50 248 *e*PKPdf **PKPdf 09 40 45.9 -0.3**
ASAR Alice Springs 139.50 248 PKPpre PKPpre 09 40 37.4
ASAR PKP **PKPdf 09 40 46.1 -0.1**
ASAR SKPbc **SKiKP 09 44 23.8 +2.9**
ASAR Alice Springs 139.50 248 PKiKP PKPpre 09 40 37.4
comp=Z,0.5nm,0.7s,baz=113,slow=3.9,SNR=7.7
ASAR PKP **PKPdf 09 40 46.1 -0.1**
comp=Z,1.6nm,0.6s,baz=107,slow=2.3,SNR=14
ASAR SKPbc **SKiKP 09 44 23.8 +2.9**
comp=Z,0.7nm,0.8s,baz=104,slow=3.1,SNR=4.7
GYA Guiyang 139.51 341 Pdif **Pdif 09 37 56.8 -2.8**
GYA PKP **PKPdf 09 40 43.3 -3.0**
GYA sPKP 09 41 14.0
GYA PP **PP 09 43 41.8 +2.3**
GYA PKS PKSdf 09 44 17.3 -5.3
GYA SKKS 09 50 23.3
GYA SS **SS 10 01 51.8 -2.8**
GYA LR LR
comp=N,150nm,24.3s
GYA LR LR
comp=E,130nm,25.2s
GYA LR LR
comp=Z,120nm,22.5s
WRAB Tennant Creek 139.55 253 *e*PKPdf **PKPdf 09 40 45.2 -1.1**
WRA Warramunga Arr 139.56 253 PKPpre PKPpre 09 40 41.8
WRA PKP **PKPdf 09 40 45.3 -1.0**
WRA SKPbc **SKiKP 09 44 23.3 +2.3**
WRA Warramunga Arr 139.56 253 PKiKP PKPpre 09 40 41.8
comp=Z,3.2nm,0.9s,baz=88,slow=2.1,SNR=12
WRA PKP **PKPdf 09 40 45.3 -1.0**
comp=Z,3.2nm,0.9s,baz=92,slow=2.7,SNR=16
WRA SKPbc **SKiKP 09 44 23.3 +2.3**
comp=Z,0.6nm,0.8s,baz=91,slow=2.6,SNR=3.5
KMI Kunming 141.88 346 PKP **PKPdf 09 40 48.5 -2.2**
CHTO Chiang Mai 148.81 349 *e*PKPbc **PKPdf 09 41 04.2 +1.8**
CMAR Chiang Mai Arr 149.16 349 PKP **PKPdf 09 41 03.4 +0.4**
CMAR PKPbc **PKPbc 09 41 07.5 +0.3**
CMAR Chiang Mai Arr 149.16 349 PKP **PKPdf 09 41 03.4 +0.4**
comp=Z,8.7nm,0.8s,baz=310,slow=2.4,SNR=22
CMAR PKPbc **PKPbc 09 41 07.5 +0.3**
comp=Z,7.5nm,0.6s,baz=334,slow=2.8,SNR=24
PSI Prapat 164.14 338 PKP **PKPdf 09 41 21.9 -0.6**
PSI Prapat 164.14 338 PKP **PKPdf 09 41 21.9 -0.6**
comp=Z,11nm,1.0s,baz=329,slow=19,SNR=4.7

*NEIC **31** 09:46:13.1, 45°.72S×166°.53E, h12km, ML4.3(WEL), After WEL.*

WEL 31 09:46:12.3±0.3, 45°.68S×166°.50E, h22km±1km, ML4.3/16, Error ellipse: s-maj=3.1km s-min=1.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.51**	**67**	P*	Pb	09 46 22.1	-0.3
DCZ				S*	Sb	09 46 28.4	-0.9
DCZ				AML	AML	09 46 28.8	
DCZ				AML	AML	09 46 28.9	
DCZ				AML	AML	09 46 30.8	
DCZ	**Deep Cove**	**0.51**	**67**	P*	Pb	09 46 22.1	-0.3
DCZ				S*	Sb	09 46 28.4	-0.9
WHZ	**Wether Hill Ro**	**1.04**	**102**	PN	Pn	09 46 31.3	-0.3
WHZ				SN	Sn	09 46 45.4	0.0
WHZ				AML	AML	09 46 50.9	
WHZ	**Wether Hill Ro**	**1.04**	**102**	P*	Pn	09 46 31.3	-0.3
MSZ	**Milford Sound**	**1.43**	**46**	PN	Pn	09 46 35.8	-1.1
MSZ				AML	AML	09 47 05.9	
MSZ				AML	AML	09 47 05.9	
MSZ				AML	AML	09 47 06.4	
MSZ				AML	AML	09 47 06.4	
MSZ	**Milford Sound**	**1.43**	**46**	Pn	Pn	09 46 36.0	-0.9
APZ	**The Paps**	**1.55**	**139**	PN	Pn	09 46 38.5	-0.1
APZ				SN	Sn	09 46 58.3	+0.2
APZ	**The Paps**	**1.55**	**139**	Pn	Pn	09 46 38.5	-0.1
APZ				Sn	Sn	09 46 58.3	+0.2
WKZ	**Wanaka**	**1.98**	**65**	PN	Pb	09 46 47.1	-0.5
WKZ				AML	AML	09 47 19.3	
WKZ				AML	AML	09 47 19.3	
WKZ				AML	AML	09 47 21.6	
WKZ	**Wanaka**	**1.98**	**65**	Pn	Pb	09 46 47.1	-0.5
EAZ	**Earnscleugh**	**2.03**	**78**	PN	Pb	09 46 47.7	-0.7
EAZ				AML	AML	09 47 16.0	
EAZ				AML	AML	09 47 18.5	
EAZ				AML	AML	09 47 18.5	
EAZ				AML	AML	09 47 20.8	
EAZ	**Earnscleugh**	**2.03**	**78**	Pn	Pb	09 46 47.9	-0.6
LBZ	**Lake Benmore**	**2.92**	**65**	PN	Pn	09 46 59.5	+2.1
LBZ				AML	AML	09 47 39.2	
LBZ				AML	AML	09 47 51.0	
LBZ	**Lake Benmore**	**2.92**	**65**	Pn	Pn	09 46 59.5	+2.1
ODZ	**Otahua Downs**	**2.99**	**79**	PN	Pn	09 46 59.1	+0.7
ODZ	**Otahua Downs**	**2.99**	**79**	Pn	Pn	09 46 59.1	+0.7
FOZ	**Fox Glacier**	**3.11**	**48**	PN	Pb	09 47 03.9	-2.9
FOZ				AML	AML	09 47 57.6	
FOZ				AML	AML	09 47 57.6	
FOZ	**Fox Glacier**	**3.11**	**48**	Pn	Pb	09 47 03.9	-2.9
RPZ	**Rata Peaks**	**3.80**	**60**	PN	Pn	09 47 11.2	+1.7
RPZ				AML	AML	09 47 59.4	
RPZ				AML	AML	09 48 22.5	
RPZ	**Rata Peaks**	**3.80**	**60**	Pn	Pn	09 47 11.2	+1.7
MQZ	**McQueen's Vall**	**4.81**	**68**	PN	Pn	09 47 23.9	+0.5
MQZ	**McQueen's Vall**	**4.81**	**68**	Pn	Pn	09 47 24.1	+0.7
LTZ	**Lake Taylor**	**5.06**	**57**	PN	Pn	09 47 28.3	+1.4
LTZ				AML	AML	09 48 42.9	
LTZ				AML	AML	09 49 51.5	
LTZ	**Lake Taylor**	**5.06**	**57**	Pn	Pn	09 47 28.4	+1.5
DSZ	**Denniston Nort**	**5.50**	**46**	PN	Pn	09 47 35.1	+2.2
DSZ				AML	AML	09 48 36.4	
DSZ				AML	AML	09 48 48.5	
DSZ	**Denniston Nort**	**5.50**	**46**	Pn	Pn	09 47 35.1	+2.2
QRZ	**Quartz Range**	**6.55**	**44**	PN	Pn	09 47 50.7	+3.4
QRZ	**Quartz Range**	**6.55**	**44**	Pn	Pn	09 47 50.7	+3.4

BUC 31 09:55:02.5±1.0, 45°.12N×25°.33E, h1km, MD2.3/2, 6C, Error ellipse: s-maj=8.9km s-min=1.7km az=355.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.22**	**300**	⇑*i*P	Pg	09 55 08.1	+1.3
MTUR	**Matau**	**0.22**	**300**	⇑*i*P	Pg	09 55 08.1	+1.3
VOIR		**0.38**	**328**	⇑*i*P	Pb	09 55 11.0	-1.1
VOIR		**0.38**	**328**	S	Sg	09 55 15.3	+0.5
VOIR		**0.38**	**328**	⇑*i*P	Pb	09 55 11.0	-1.1
MLR	**Muntele Rosu**	**0.57**	**49**	⇑*i*P	Pb	09 55 14.8	-0.8
MLR	**Muntele Rosu**	**0.57**	**49**	⇑*i*P	Pb	09 55 14.8	-0.8
MLR				*i*S	Sb	09 55 23.6	-0.8

*BGS **31** 10:15:11.9±1.9, 35°.28N×98°.06E, h10km, mb5.8, MS5.8*
*BJI **31** 10:15:28.8, 37°.74N×95°.98E, h7km, mB6.0/37, mb5.5/45, ML5.9/7, Ms6.1/69, Ms7 5.8/61*
*IDC **31** 10:15:28.4±0.3, 37°.62N×95°.99E, h0km, mb5.5/36, mb1 5.6/40, mb1mx5.6/40, mbtmp5.5/40, ML4.8/4, MS5.4/39, Ms1 5.4/39, ms1mx5.3/49, Error ellipse: s-maj=12.1km s-min=8.5km az=41.0*
*ISCJB **31** 10:15:29.1±0.1, 37°.63N±0°.02×95°.86E±0°.01, h10km, mb5.8/372, MS5.5/240, Error ellipse: s-maj=2.2km s-min=1.6km az=21.1*
*NEIC **31** 10:15:29.8±0.1, 37°.61N×95°.83E, h6km, mb5.9/192, ME5.7, MS5.6/139, MW5.7, MW5.7, Error ellipse: s-maj=3.5km s-min=2.4km az=22.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^17^Nm; M_{rr}3.51; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$-0.31; $M_{r\theta}$1.23; $M_{r\phi}$1.19; $M_{\theta r}$-0.05; Best double couple: $M_0$3.80000×10^17^ NP1:ϕ_s104.00000°, δ54.00000°, λ83.00000°. NP2:ϕ_s296.00000°, δ36.00000°, λ99.00000°. Principal axes: T 3.7400, Plg79.0000°, Azm347.0000°; N 0.0800, Plg5.0000°, Azm108.0000°; P -3.8100, Plg9.0000°, Azm198.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s290.00000°, δ25.00000°, λ90.00000°. NP2: ϕ_s110.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm20.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm200.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*MOS **31** 10:15:30.7±1.3, 37°.63N×95°.92E, h25km, mb6.1/125, MS5.5/75 Error ellipse: s-maj=5.7km s-min=3.8km az=127.0*
*NNC **31** 10:15:32.9±2.6, 37°.99N×95°.47E, h0km, mb6.0, Error ellipse: s-maj=70.5km s-min=26.2km az=48.0*
*DJA **31** 10:15:33.5±0.3, 38°N±4°×9°6E±°, h20km, M5.9/34, mb5.7/34, mB6.2/32, Mw(mB)5.9/32, Mwp6.1/5*
*GCMT **31** 10:15:34.1±0.1, 37°.59N×95°.86E, h12km, MW5.8, Moment Tensor Solution. s97, c180; s68, c79; Moment tensor: Scale 10^17^Nm; M_{rr}4.82±.05; $M_{\theta\theta}$-5.40±.04; $M_{\phi\phi}$0.58±.05; $M_{r\theta}$2.20±.13; $M_{\theta\phi}$0.81±.04; $M_{\phi r}$-0.32±.15; Best double couple: $M_0$5.60000×10^17^ NP1:ϕ_s98.00000°, δ57.00000°, λ90.00000°. NP2:ϕ_s277.00000°, δ33.00000°, λ90.00000°. Principal axes: T 5.2800, Plg78.0000°, Azm9.0000°; N 0.6900, Plg0.0000°, Azm278.0000°; P -5.9700, Plg12.0000°, Azm188.0000°; Data Used: IU II CN IC G. Surface waves: sta=122, comp=276, per= 50.*
*SZGRF **31** 10:15:35.2, 37°.50N×95°.99E, h33km, mb6.0, MS5.6, Qinghai, China*
*NEIC **31** 10:15:38.2±0.0, 37°.56N×95°.51E, h10km, Moment Tensor Solution. s135 Moment tensor: Scale 10^17^Nm; M_{rr}3.73; $M_{\theta\theta}$-3.56; $M_{\phi\phi}$-0.17; $M_{r\theta}$1.48; $M_{\theta\phi}$0.41; $M_{\phi r}$-0.43; Best double couple: $M_0$4.00000×10^17^ NP1:ϕ_s273.00000°, δ34.00000°, λ84.00000°. NP2:ϕ_s100.00000°, δ56.00000°, λ94.00000°. Principal axes: T 4.0500, Plg78.0000°, Azm23.0000°; N -0.1300, Plg3.0000°, Azm278.0000°; P -3.9100, Plg11.0000°, Azm187.0000°;*

ISC 31 10:15:30.9±0.3, 37°.64N±0°.03×95°.88E±0°.02, h12km±1km, h11km:pP-P, n1856, σ1°48/1951, mb5.9/369, MS5.6/244, 322C-233D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.56**	**59**	Pn	**Pn**	**10 16 27.5**	**+1.4**
GTA				Sn	**Sn**	**10 17 12.0**	**+3.8**
GTA				Sg	**Sg**	**10 17 22.0**	**-3.1**
GTA				LR	LR		
GTA	comp=N,404μm,9.4s			LR	LR		
GTA	comp=E,193μm,6.1s			LR	LR		
GTA	comp=Z,206μm,8.2s			LR	LR		
LZH	**Lanzhou**	**6.57**	**101**	*e*Pn	**Pn**	**10 17 07.3**	**-0.2**
LZH				*e*Sn	**Sn**	**10 18 25.0**	**+2.5**
LZH				LR	LR		
LZH	comp=N,80μm,8.3s			LR	LR		
LZH	comp=E,78μm,9.1s			LR	LR		
LZH	comp=Z,73μm,9.4s			LR	LR		
WMQ	**Urumqi**	**8.76**	**317**	P	**Pn**	**10 17 37.0**	**-0.4**
WMQ				sP		10 17 43.0	
WMQ				S	**Sn**	**10 19 16.0**	**0.0**
WMQ				smax	smax		
WMQ	comp=N,3μm,1.3s			smax	smax		
WMQ	comp=E,6μm,1.6s			LR	LR		
WMQ	comp=N,52μm,17.0s			LR	LR		
WMQ	comp=E,43μm,16.0s			LR	LR		
WMQ	comp=Z,21μm,24.0s			LR	LR		
LSA	**Lhasa**	**8.84**	**208**	P	Pn	10 17 42.3	+3.3
LSA				LR	LR		
LSA	comp=N,32μm,12.6s			LR	LR		
LSA	comp=E,31μm,15.2s			LR	LR		
LSA	comp=Z,61μm,11.8s			LR	LR		
LSA	**Lhasa**	**8.84**	**208**	*e*P	**Pn**	**10 17 41.2**	**+2.2**
LSA				pmax	pmax		
LSA	comp=Z,284nm,0.8s						
LSA	**Lhasa**	**8.84**	**208**	*e*Pn	**Pn**	**10 17 41.1**	**+2.2**
LSA	comp=Z,284nm,0.8s						
CD2	**Chengdu**	**9.35**	**134**	P	**Pn**	**10 17 47.8**	**+2.2**
CD2				pP		10 17 51.3	
CD2				sP		10 17 54.3	
CD2				PP	**PnPn**	**10 17 56.8**	**+3.6**
CD2				S	**Sn**	**10 19 35.0**	**+4.2**
CD2				sS		10 19 39.8	
CD2				SS	**SnSn**	**10 19 48.3**	**+5.9**
CD2				pmax	pmax		
CD2	comp=Z,240nm,0.9s			pmax	pmax		
CD2	comp=Z,2μm,4.2s			LR	LR		
CD2	comp=N,83μm,6.4s			LR	LR		
CD2	comp=E,116μm,10.7s			LR	LR		
CD2	comp=Z,101μm,7.8s			LR	LR		
XAN	**Xi'an**	**11.18**	**105**	P	Pn	10 18 06.3	-4.3
XAN				pmax	pmax		
XAN	comp=Z,28nm,1.2s			pmax	pmax		
XAN	comp=Z,99nm,4.4s			LR	LR		
XAN	comp=N,24μm,8.8s			LR	LR		
XAN	comp=Z,12μm,10.0s			LR	LR		
BTO	**Baotou**	**11.38**	**71**	*e*P	**Pn**	**10 18 13.3**	**0.0**
BTO				LR	LR		
BTO	comp=N,9μm,9.8s			LR	LR		
BTO	comp=E,8μm,7.8s			LR	LR		
TAPN	**Taplejung**	**12.35**	**216**	*e*P	**Pn**	**10 18 27.2**	**+0.3**
TAPN	comp=E,341nm,1.2s						
SHL	**Shillong**	**12.51**	**197**	*e*P	**Pn**	**10 18 28.0**	**-0.9**
SHL	comp=Z,13nm,0.5s						
SHL				*ex*	x	10 21 30.0	
HHC	**Hu-ho-hao-te**	**12.58**	**70**	*e*P	**Pn**	**10 18 28.0**	**-1.7**
HHC				PP	**PnPn**	**10 18 38.5**	**+1.1**
HHC				S	**Sn**	**10 20 48.5**	**-1.3**
HHC				SS	**SnSn**	**10 21 03.3**	**+1.6**
HHC				PcP	**PcP**	**10 24 07.0**	**-1.1**
HHC				ScS	**ScS**	**10 31 13.0**	**-4.3**
HHC				pmax	pmax		
HHC	comp=Z,4μm,3.9s						

HHC				LR	LR		
	comp=N,58μm,7.0s						
HHC				LR	LR		
	comp=E,35μm,7.0s						
HHC				LR	LR		
	comp=Z,35μm,7.9s						
SONM	**Songino Array**	**12.78**	**34**	Pn	**Pn**	**10 18 33.6**	**+1.2**
SONM				Lg	Lg	10 22 06.7	
SONM	**Songino Array**	**12.78**	**34**	Pn	**Pn**	**10 18 33.6**	**+1.2**
	comp=Z,16nm,0.3s,baz=219,slow=15,SNR=124						
SONM				Lg	Lg	10 22 06.7	
	comp=Z,0.7nm,0.3s,baz=217,slow=31,SNR=2.9						
SONM				LR	LR	10 23 47.1	
	comp=Z,67μm,19.3s,baz=219,slow=39						
GUN	**Gumba**	**12.83**	**224**	*e*P	**Pn**	**10 18 33.0**	**-0.5**
	comp=Z,1μm,1.4s						
JIRN	**Jiri**	**12.86**	**222**	*e*P	**Pn**	**10 18 34.0**	**+0.1**
	comp=Z,569nm,1.0s						
ODAN	**Odare**	**12.92**	**216**	*e*P	**Pn**	**10 18 33.8**	**-0.8**
	comp=Z,264nm,0.8s						
ULN	**Ulaanbaatar**	**13.10**	**35**	Pn	**Pn**	**10 18 38.6**	**+1.8**
	SNR=116						
ULN	**Ulaanbaatar**	**13.10**	**35**	*e*Pn	**Pn**	**10 18 37.9**	**+1.1**
ULN	**Ulaanbaatar**	**13.10**	**35**	P	**Pn**	**10 18 38.0**	**+1.2**
	comp=Z,264nm,1.5s,comp=Z,6μm						
TIY	**Taiyuan**	**13.12**	**85**	*e*P	**Pn**	**10 18 34.0**	**-3.1**
TIY				PP	**P**	**10 18 50.5**	**+3.1**
TIY				S	**Sn**	**10 21 07.0**	**+4.0**
TIY				pmax	pmax		
	comp=Z,89nm,1.1s						
TIY				LR	LR		
	comp=N,26μm,9.3s						
TIY				LR	LR		
	comp=E,42μm,8.1s						
TIY				LR	LR		
	comp=Z,36μm,9.5s						
RAMN	**Ramite**	**13.22**	**219**	*e*P	**Pn**	**10 18 37.1**	**-1.7**
	comp=Z,274nm,0.9s						
KKN	**Kakani**	**13.26**	**225**	*e*P	**Pn**	**10 18 38.1**	**-1.1**
	comp=Z,672nm,1.4s						
PKI	**Pulchoki**	**13.36**	**224**	*e*P	**Pn**	**10 18 39.3**	**-1.3**
	comp=Z,543nm,1.1s						
PKIN	**Phulchoki**	**13.36**	**224**	*e*P	**Pn**	**10 18 39.2**	**-1.4**
	comp=Z,239nm,0.9s						
ENH	**Enshi**	**13.47**	**119**	*e*Pn	**Pn**	**10 18 40.1**	**-1.7**
	comp=Z,529nm,0.9s						
DMN	**Daman**	**13.49**	**225**	*e*P	**Pn**	**10 18 41.6**	**-0.9**
	comp=Z,2μm,1.7s						
HVS	**Khovu-Aksy**	**13.58**	**354**	*e*P	**Pn**	**10 18 44.9**	**+1.5**
HVS				pmax	pmax		
	comp=Z,692nm,1.7s						
MK31	**Makanchi Array**	**13.59**	**317**	Pn	**Pn**	**10 18 40.6**	**-2.8**
	comp=Z,67nm,0.5s,baz=126,slow=14,SNR=1282						
MK31				⇑Sn	**Sn**	**10 21 13.7**	**-0.6**
	comp=Z,445nm,1.1s,baz=131,slow=24,SNR=11						
MK31	**Makanchi Array**	**13.59**	**317**	*e*P	**Pn**	**10 18 41.6**	**-1.8**
MK31	**Makanchi Array**	**13.59**	**317**	*e*Pn	**Pn**	**10 18 41.6**	**-1.8**
MKAR	**Makanchi Array**	**13.59**	**317**	*e*P	**Pn**	**10 18 41.7**	**-1.7**
MKAR						10 21 11.9	
MKAR	**Makanchi Array**	**13.59**	**317**	*e*Pn	**Pn**	**10 18 41.7**	**-1.7**
MKAR				Sn	**Sn**	**10 21 11.9**	**-2.4**
MKAR				Lg	Lg	10 22 36.9	
MKAR				*e*		10 54 49.2	
MKAR	**Makanchi Array**	**13.59**	**317**	Pn	**Pn**	**10 18 41.0**	**-2.4**
	comp=Z,15nm,0.3s,baz=127,slow=14,SNR=258						
MKAR				Sn	**Sn**	**10 21 11.9**	**-2.4**
	comp=Z,6.1nm,0.3s,baz=124,slow=24,SNR=7.5						
MKAR				Lg	Lg	10 22 36.9	
	baz=111,slow=24,SNR=2.5						
MKAR				LR	LR	10 24 36.7	
	comp=Z,25μm,18.5s,baz=123,slow=40						
MKAR				P3KPbc		10 54 49.2	
	comp=Z,0.1nm,0.3s,baz=277,slow=3.8,SNR=7.7						
DANN	**Dangsing**	**13.74**	**231**	*e*P	**Pn**	**10 18 44.8**	**-1.1**
	comp=Z,154nm,0.7s						
KMI	**Kunming**	**13.78**	**153**	⇓P	**Pn**	**10 18 45.8**	**-0.5**
KMI				pP	P	10 18 49.3	-5.6
KMI				sP		10 18 50.5	
KMI				PP	**PnPn**	**10 18 57.0**	**+2.8**
KMI				S	**Sn**	**10 21 14.5**	**-4.9**
KMI				sS	S	10 21 27.8	-14
KMI				SS	**SnSn**	**10 21 36.5**	**+4.6**
KMI				pmax	pmax		
	comp=Z,56nm,1.8s						
KMI				pmax	pmax		
	comp=Z,2μm,6.1s						
KMI				LR	LR		
	comp=N,24μm,9.1s						
KMI				LR	LR		
	comp=E,40μm,11.7s						
KMI				LR	LR		
	comp=Z,36μm,10.0s						
ZAK	**Zakamensk**	**13.80**	**20**	*e*P	**Pn**	**10 18 49.4**	**+3.1**
ZAK				pmax	pmax		
	comp=Z,334nm,1.4s						
KOLN	**Koldanda**	**14.26**	**230**	*e*P	**Pn**	**10 18 50.4**	**-2.4**
	comp=Z,131nm,0.8s						
GYA	**Guiyang**	**14.41**	**138**	⇑*i*P	Pn	10 18 51.3	-3.5
GYA				PP	**PnPn**	**10 19 04.3**	**+1.6**
GYA				S	**Sn**	**10 21 30.0**	**-4.6**
GYA				SS	**S**	**10 21 54.5**	**-0.1**
GYA				PcP	**PcP**	**10 24 12.0**	**+1.3**
GYA				pmax	pmax		
	comp=Z,130nm,1.0s						
GYA				pmax	pmax		
	comp=Z,5μm,8.2s						
GYA				LR	LR		
	comp=N,37μm,12.8s						
GYA				LR	LR		
	comp=E,51μm,11.9s						
GYA				LR	LR		
	comp=Z,42μm,13.2s						
MOY	**Mondy**	**14.48**	**13**	*e*P	**Pn**	**10 18 58.7**	**+3.0**
MOY				pmax	pmax		
	comp=Z,2μm,3.0s						
TLY	**Talaya**	**15.07**	**19***c*	*i*P	**Pn**	**10 19 05.3**	**+1.7**
TLY				*e*S	Sn	10 21 42.7	-7.8
TLY				pmax	pmax		
	comp=Z,403nm,1.9s						
TLY				MLR	MLR		
	comp=Z,33μm,9.0s						
TLY	**Talaya**	**15.07**	**19**	P	**P**	**10 19 06.8**	**-2.1**
	comp=Z,698nm,1.3s,SNR=48						
KNDC	**Almaty**	**15.43**	**297**	⇑Pn	**Pn**	**10 19 06.2**	**-2.2**
	comp=Z,2μm,1.4s						
KNDC				⇑Sn	**Sn**	**10 21 54.8**	**-4.6**
	comp=Z,1μm,1.4s						
AAA	**Alma-Ata**	**15.46**	**297**	*i*P	**Pn**	**10 19 06.3**	**-2.5**
AAA				*i*S	**Sn**	**10 21 56.4**	**-3.6**
AAA				pmax	pmax		
	comp=Z,8μm,4.0s						
AAA				smax	smax		
	comp=E,10μm,5.1s						
AAA				MLR	MLR		
	comp=Z,28μm,9.0s						
KSH	**Kashi**	**15.68**	**283**	P	**Pn**	**10 19 12.3**	**+0.5**
KSH				PP	**PnPn**	**10 19 25.5**	**+5.4**
KSH				pmax	pmax		
	comp=Z,420nm,1.5s						
KSH				pmax	pmax		
	comp=Z,2μm,3.0s						
KSH				LR	LR		
	comp=N,20μm,8.0s						
KSH				LR	LR		
	comp=E,18μm,7.1s						
KSH				LR	LR		
	comp=Z,24μm,11.8s						
ULHL	**Ulahol**	**15.74**	**293**	*i*P	**Pn**	**10 19 11.1**	**-1.5**
ULHL	**Ulahol**	**15.74**	**293**	P	**Pn**	**10 19 11.1**	**-1.5**
	SNR=43						
IRK	**Irkutsk**	**15.75**	**19**	*e*P	**Pn**	**10 19 14.3**	**+1.9**
IRK				pmax	pmax		
	comp=Z,2μm,1.8s						
BJT	**Baijiatuau**	**15.99**	**75**	*e*Pn	**Pn**	**10 19 16.3**	**+0.7**
	comp=Z,676nm,1.0s						
BJI	**Beijing**	**16.00**	**75**	P	**Pn**	**10 19 15.0**	**-0.7**
BJI				S	**Sn**	**10 22 12.8**	**-0.1**
BJI				pmax	pmax		
	comp=Z,720nm,1.2s						
BJI				LR	LR		
	comp=N,35μm,10.8s						
BJI				LR	LR		
	comp=E,23μm,19.1s						
BJI				LR	LR		
	comp=Z,10μm,21.4s						
BOK	**Bokaro**	**16.24**	**215**	*e*P	**Pn**	**10 19 17.0**	**-1.9**
BOK				AMB	AMB	10 19 23.8	
	comp=Z,231nm,1.2s						
TKM2	**Tokmak 2**	**16.34**	**295**	⇓P	**Pn**	**10 19 17.8**	**-2.5**
	comp=Z,852nm,0.9s						
TKM2	**Tokmak 2**	**16.34**	**295**	*i*P	**Pn**	**10 19 17.9**	**-2.5**
TKM2	**Tokmak 2**	**16.34**	**295**	P	**Pn**	**10 19 18.0**	**-2.3**
	SNR=308						
TKM2	**Tokmak 2**	**16.34**	**295**	*e*Pn	**Pn**	**10 19 17.8**	**-2.5**
	comp=Z,664nm,0.8s						
KZA	**Kyzart**	**16.44**	**292**	*i*P	**Pn**	**10 19 19.4**	**-2.4**
KZA	**Kyzart**	**16.44**	**292**	P	**Pn**	**10 19 19.4**	**-2.4**
	SNR=49						
DDI	**Dehra Dun**	**16.47**	**249**	*ex*	**Pn**	**10 19 18.5**	**-3.4**
DDI				*e*P	**P**	**10 19 19.9**	**-4.7**
DDI				AMB	AMB	10 19 26.6	
	comp=Z,483nm,1.5s						
SMLA	**Simla**	**16.74**	**253**	*e*P	**Pn**	**10 19 22.9**	**-2.3**
SMLA				AMB	AMB	10 19 29.9	
	comp=Z,567nm,0.9s						
KBK	**Karagaybulak**	**16.76**	**294**	*i*P	**Pn**	**10 19 24.2**	**-1.4**
KBK	**Karagaybulak**	**16.76**	**294**	P	**Pn**	**10 19 24.2**	**-1.4**
	SNR=170						
WHN	**Wuhan**	**16.84**	**109**	⇓P	Pn	10 19 19.3	-7.3
WHN				S	**Sn**	**10 22 34.8**	**+1.2**
WHN				LR	LR		
	comp=N,90μm,7.8s						
WHN				LR	LR		
	comp=E,40μm,9.4s						
WHN				LR	LR		
	comp=Z,81μm,10.1s						
DHRM	**DHARAMSHALA**	**16.92**	**257**	*e*P	**Pn**	**10 19 28.5**	**+0.8**
DHRM				AMB	AMB	10 19 32.6	
	comp=Z,656nm,2.4s						
CHMS	**Chumysh**	**16.96**	**295**	*i*P	**Pn**	**10 19 26.6**	**-1.4**
CHMS	**Chumysh**	**16.96**	**295**	P	**Pn**	**10 19 26.6**	**-1.4**
	SNR=52						
UCH	**Uchtor**	**17.00**	**292**	*i*P	**Pn**	**10 19 27.9**	**-1.1**
UCH	**Uchtor**	**17.00**	**292**	P	**Pn**	**10 19 27.9**	**-1.1**
	SNR=19						
FRU	**Bishkek**	**17.03**	**294**	⇓*i*P	**Pn**	**10 19 28.0**	**-0.9**
FRU				*e*		10 22 36.0	
FRU				pmax	pmax		
	comp=Z,3μm,4.0s						
FRU				pmax	pmax		
	comp=Z,270nm,2.8s						
FRU				MLR	MLR		
	comp=Z,20μm,4.0s						
TIA	**Tai'an**	**17.05**	**88**	⇑P	**Pn**	**10 19 25.5**	**-3.6**
TIA				pmax	pmax		
	comp=Z,440nm,1.3s						
TIA				pmax	pmax		
	comp=Z,3μm,2.9s						
TIA				LR	LR		
	comp=N,19μm,7.2s						
TIA				LR	LR		
	comp=E,17μm,8.6s						
TIA				LR	LR		
	comp=Z,23μm,9.2s						
DLH	**Dalhousie**	**17.06**	**259**	*e*P	**Pn**	**10 19 29.0**	**-0.5**
DLH				*ex*	x	10 21 34.0	
AAK	**Ala-Archa**	**17.08**	**294**	*d*P	**Pn**	**10 19 28.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1μm,1.2s						
AAK	**Ala-Archa**	**17.08**	**294**	Pn	**Pn**	**10 19 29.6**	**-0.1**
	SNR=314						
AAK	**Ala-Archa**	**17.08**	**294**	P	**Pn**	**10 19 29.8**	**+0.1**
	SNR=182						
AAK	**Ala-Archa**	**17.08**	**294**	*e*Pn	**Pn**	**10 19 28.7**	**-1.0**
AAK	**Ala-Archa**	**17.08**	**294**	P	**Pn**	**10 19 28.0**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=91,slow=11,SNR=96						
AAK				LR	LR	10 26 04.2	
	comp=Z,11μm,21.8s,baz=82,slow=37						
BHK	**Bhakra**	**17.18**	**255**	*e*4		10 19 33.6	
USP	**Ospenovka**	**17.20**	**296**	*i*P	**Pn**	**10 19 28.1**	**-2.9**
USP	**Ospenovka**	**17.20**	**296**	P	**Pn**	**10 19 28.1**	**-2.9**
	SNR=105						
PONG	**Pong**	**17.31**	**257**	*ex*	x	10 19 15.5	
AML	**Almayashu**	**17.59**	**292**	*i*P	**Pn**	**10 19 36.8**	**+0.5**
AML	**Almayashu**	**17.59**	**292**	P	**Pn**	**10 19 36.9**	**+0.5**
	SNR=88						
EKS2	**Erkin-Say**	**17.61**	**293**	*e*P	**Pn**	**10 19 36.1**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,431nm,1.2s						
EKS2	**Erkin-Say**	**17.61**	**293**	P	**Pn**	**10 19 36.1**	**-0.1**
	SNR=172						
EKS2	**Erkin-Say**	**17.61**	**293**	*e*Pn	**Pn**	**10 19 36.1**	**-0.1**
	comp=Z,431nm,1.2s						
KURBB	**Kurchatov Arra**	**17.93**	**322**	P	**Pn**	**10 19 37.1**	**-2.8**
	comp=Z,4.2nm,0.3s,baz=136,slow=12,SNR=172						
KURBB				S	**Sn**	**10 22 52.8**	**-6.9**
	baz=117,slow=26,SNR=2.6						
KURBB				Lg	Lg	10 24 51.4	
	baz=120,slow=24,SNR=2.7						
KURK	**Kurchatov**	**17.94**	**322**	P	**Pn**	**10 19 37.1**	**-3.0**
KURK				S	Sn	10 22 52.8	-7.2
KURK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KURK	**Kurchatov**	**17.94**	**322**	P	**Pn**	**10 19 37.1**	**-3.0**
KURK				S	Sn	10 22 52.8	-7.2
KURK				Lg	Lg	10 24 51.4	
NDI	**New Delhi**	**17.97**	**246**	*ex*	x	10 19 33.0	
NDI				*ex*	x	10 23 04.0	
ZAA0	**Zalesovo Array**	**18.00**	**338**	*e*Pn	**Pn**	**10 19 40.7**	**-0.2**
ZALV	**Zalesovo Beam**	**18.00**	**338**	*i*P	**Pn**	**10 19 39.4**	**-1.4**
ZALV				pmax	pmax		
	comp=Z,183nm,1.0s						
ZALV	**Zalesovo Beam**	**18.00**	**338**	P	**Pn**	**10 19 39.2**	**-1.6**
ZALV				Lg	Lg	10 24 55.5	
ZALV				*e*		10 54 27.4	
ZALV	**Zalesovo Beam**	**18.00**	**338**	P	**Pn**	**10 19 39.2**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=149,slow=12,SNR=112						
ZALV				Lg	Lg	10 24 55.5	
	baz=152,slow=19,SNR=3.8						
ZALV				LR	LR	10 28 07.8	
	comp=Z,2μm,21.1s,baz=318,slow=42						
ZALV				P3KPbc		10 54 27.4	
	comp=Z,0.5nm,0.3s,baz=329,slow=5.4,SNR=8.9						
CHCP	**Chirah Chowk**	**18.79**	**265**	P	**Pn**	**10 19 50.5**	**-0.2**
CHTO	**Chiang Mai**	**18.95**	**171**	*e*P	**P**	**10 19 52.1**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,661nm,1.8s						
CHTO	**Chiang Mai**	**18.95**	**171**	P	**Pn**	**10 19 52.6**	**0.0**
	SNR=62						
CHTO	**Chiang Mai**	**18.95**	**171**	*e*P	**P**	**10 19 52.1**	**+0.2**
	comp=Z,165nm,1.8s						
CHTO	**Chiang Mai**	**18.95**	**171**	P	**P**	**10 19 52.2**	**+0.3**
	comp=Z,226nm,2.3s,comp=Z,9μmcomp=Z,19μm						
CIT	**Chita**	**19.00**	**35**	*e*P	**Pn**	**10 19 53.1**	**0.0**
CIT				pmax	pmax		
	comp=Z,2μm,2.9s						
NVS	**Novosibirsk**	**19.25**	**337**	⇑*e*P	**P**	**10 19 53.6**	**-1.3**
NVS				*e*S	**Sn**	**10 23 28.5**	**-2.9**
NVS				pmax	pmax		
	comp=N,775nm,1.2s						
NVS				pmax	pmax		
	comp=Z,1μm,1.2s						
NVS				pmax	pmax		
	comp=E,685nm,1.4s						
NVS				smax	smax		
	comp=N,384nm,1.6s						
NVS				smax	smax		
	comp=E,408nm,1.6s						
CM31	**Chiang Mai Arr**	**19.30**	**171**	*e*P	**Pn**	**10 19 57.4**	**+0.6**
	comp=E,108nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.30**	**171**	P	**P**	**10 19 56.0**	**+0.2**
CMAR				PcP	**PcP**	**10 24 19.1**	**+0.8**
CMAR				ScP	**ScP**	**10 27 56.4**	**+2.4**
CMAR				PKiKP	**PKiKP**	**10 32 07.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.30**	**171**	P	**P**	**10 19 56.0**	**+0.2**
	comp=E,1.6nm,0.3s,baz=341,slow=9.8,SNR=52						
CMAR				PcP	**PcP**	**10 24 19.1**	**+0.8**
	comp=E,1.4nm,0.3s,baz=305,slow=2.0,SNR=10.0						
CMAR				ScP	**ScP**	**10 27 56.4**	**+2.4**
	comp=E,0.4nm,0.3s,baz=327,slow=2.7,SNR=10						
CMAR				LR	LR	10 27 56.4	
	comp=E,32μm,18.6s,baz=352,slow=39						
CMAR				PKiKP	**PKiKP**	**10 32 07.7**	**-0.6**
	comp=E,0.2nm,0.3s,baz=268,slow=2.3,SNR=4.8						
NJ2	**Nanjing**	**19.64**	**100**	*e*P	**P**	**10 19 58.8**	**-0.7**
NJ2				pP	**pP**	**10 20 02.0**	**-0.7**
NJ2				sP	**sP**	**10 20 04.3**	**+0.1**
NJ2				PP	**PnPn**	**10 20 17.3**	**+2.9**
NJ2				S	**S**	**10 23 39.0**	**-2.0**
NJ2				sS	**sS**	**10 23 46.0**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,2μm,4.2s						
NJ2				LR	LR		
	comp=N,15μm,13.4s						
NJ2				LR	LR		
	comp=E,12μm,11.2s						
NJ2				LR	LR		
	comp=Z,14μm,13.4s						
CEP	**Cherat**	**19.81**	**266**	P	**P**	**10 20 02.0**	**+0.5**
CEP				S	**S**	**10 23 39.0**	**-5.6**
KK31	**Karatay Array**	**20.05**	**294**	⇑P	**P**	**10 20 03.7**	**-0.1**
	comp=Z,363nm,0.9s,baz=101,slow=10,SNR=10						
KK31	**Karatay Array**	**20.05**	**294**	*i*P	**P**	**10 20 03.7**	**-0.1**
KK31				pmax	pmax		
	comp=Z,487nm,1.0s						
KKAR	**Karatay Array**	**20.05**	**294**	*e*P	**P**	**10 20 03.4**	**-0.4**
KKAR	**Karatay Array**	**20.05**	**294**	*e*P	**P**	**10 20 03.4**	**-0.4**
DL2	**Dalian**	**20.24**	**78**	⇑*i*P	**P**	**10 20 06.0**	**+0.1**
DL2				S	Sn	10 23 54.3	-1.3
DL2				pmax	pmax		
	comp=Z,740nm,1.3s						
DL2				pmax	pmax		
	comp=Z,4μm,4.9s						
DL2				LR	LR		
	comp=N,9μm,12.6s						
DL2				LR	LR		
	comp=E,9μm,11.1s						
DL2				LR	LR		
	comp=Z,15μm,14.6s						
THW	**Thamme Wali**	**20.28**	**263**	P	**P**	**10 20 06.4**	**-0.1**
HIA	**Hailar**	**20.77**	**48**	*e*P	**P**	**10 20 11.9**	**+0.3**
	comp=Z,1μm,1.8s						
HIA				LR	LR		
	comp=Z,14μm,20.0s						
GZH	**Guangzhou**	**20.86**	**129**	P	**P**	**10 20 09.5**	**-3.3**
GZH				S	**S**	**10 24 02.0**	**-3.3**
GZH				LR	LR		
	comp=N,41μm,9.4s						
GZH				LR	LR		
	comp=E,39μm,9.5s						
GZH				LR	LR		
	comp=Z,38μm,10.1s						
BHPL	**Bhopal**	**21.37**	**233**	*e*P	**P**	**10 20 16.6**	**-1.7**
BHPL				AMB	AMB	10 20 19.2	
	comp=Z,285nm,0.9s						
PBKT	**Sadao Pong**	**21.46**	**167**	P	**P**	**10 20 19.4**	**+0.2**
	comp=Z,278nm,1.3s,comp=Z,7μm						
SNY	**Shenyang**	**21.67**	**70**	⇑P	**P**	**10 20 20.5**	**-0.8**
SNY				S	**S**	**10 24 20.5**	**-0.5**
SNY				pmax	pmax		
	comp=Z,530nm,1.0s						
SNY				LR	LR		
	comp=N,14μm,8.5s						
SNY				LR	LR		
	comp=E,24μm,8.0s						
SNY				LR	LR		
	comp=Z,27μm,17.3s						
SSE	**Sheshan**	**21.85**	**100**	P	**P**	**10 20 22.3**	**-1.1**
SSE				S	**S**	**10 24 24.3**	**-0.4**
SSE				sS	**sS**	**10 24 29.3**	**-0.7**
SSE				pmax	pmax		
	comp=Z,180nm,1.0s						
SSE				pmax	pmax		
	comp=Z,1μm,5.2s						
SSE				LR	LR		
	comp=N,6μm,8.7s						
SSE				LR	LR		
	comp=E,7μm,8.7s						
SSE				LR	LR		
	comp=Z,10μm,8.5s						
HKC	**Hong Kong Obse**	**21.96**	**129**	⇑*i*P	**P**	**10 20 22.0**	**-2.5**
HKC				*i*S	**S**	**10 24 28.0**	**+1.1**
NGP	**Nagpur**	**21.96**	**226**	*e*P	**P**	**10 20 23.4**	**-1.3**
NGP				*ex*	x	10 24 22.8	
QIZ	**Qiongzhong**	**22.20**	**143**	P	**P**	**10 20 26.8**	**-0.3**
QIZ				S	**S**	**10 24 26.5**	**-5.0**
QIZ				pmax	pmax		
	comp=Z,87nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,1μm,4.9s						
QIZ				LR	LR		
	comp=N,16μm,9.6s						
QIZ				LR	LR		
	comp=E,14μm,12.2s						
QIZ				LR	LR		
	comp=Z,16μm,13.5s						
QIZ	**Qiongzhong**	**22.20**	**143**	*e*P	**P**	**10 20 26.4**	**-0.7**
	comp=Z,175nm,0.8s						
QIZ				LR	LR		
	comp=Z,15μm,19.0s						
VIS	**Vishakhapatnam**	**22.70**	**212**	*e*P	**P**	**10 20 33.3**	**+0.8**
VIS				AMB	AMB	10 20 56.1	
	comp=Z,140nm,2.5s						
VOSK	**Vostochnaya**	**22.98**	**319**	⇑P	**P**	**10 20 34.2**	**-1.0**
	comp=Z,328nm,0.9s						
VOSK	**Vostochnaya**	**22.98**	**319**	P	**P**	**10 20 34.1**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,329nm,0.9s						
QZH	**Quanzhou**	**23.10**	**117**	⇑*i*P	**P**	**10 20 33.5**	**-3.2**
QZH				S	**S**	**10 24 43.5**	**-4.2**
QZH				pmax	pmax		
	comp=Z,370nm,0.9s						
QZH				pmax	pmax		
	comp=Z,7μm,3.4s						
QZH				LR	LR		
	comp=N,35μm,11.8s						
QZH				LR	LR		
	comp=E,28μm,13.2s						
QZH				LR	LR		
	comp=Z,33μm,9.4s						
CN2	**Changchun**	**23.17**	**65**	⇑*i*P	**P**	**10 20 36.0**	**-1.2**
CN2				*es*P	**sP**	**10 20 45.3**	**+3.3**
CN2				*e*S	**S**	**10 24 41.8**	**-6.8**
CN2				pmax	pmax		
	comp=Z,210nm,1.2s						
CN2				pmax	pmax		
	comp=Z,5μm,5.0s						
CN2				LR	LR		
	comp=N,20μm,12.0s						
CN2				LR	LR		
	comp=E,18μm,12.0s						
CN2				LR	LR		
	comp=Z,15μm,12.0s						
BVA0	**Borovoye Array**	**23.44**	**319**	⇑P	**P**	**10 20 38.8**	**-1.0**
	comp=Z,658nm,1.9s,baz=111,slow=10,SNR=851						
BVA0	**Borovoye Array**	**23.44**	**319**	*i*P	**P**	**10 20 38.1**	**-1.8**
BVA0				pmax	pmax		
	comp=Z,176nm,0.9s						
BVAR	**Borovoye Array**	**23.44**	**319**	P	**P**	**10 20 39.7**	**-0.2**
BVAR						10 24 26.7	
BVAR				pmax	pmax		
	comp=Z,129nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,21μm,21.5s						
BVAR	**Borovoye Array**	**23.44**	**319**	P	**P**	**10 20 39.7**	**-0.2**
BVAR				PcP	**PcP**	**10 24 26.7**	**+1.0**
BVAR				*e*		10 54 06.3	
BVAR	**Borovoye Array**	**23.44**	**319**	P	**P**	**10 20 39.7**	**-0.2**
	comp=Z,128nm,0.7s,baz=114,slow=10,SNR=98						
BVAR				PcP	**PcP**	**10 24 26.7**	**+1.0**
	comp=Z,18nm,1.0s,baz=101,slow=4.6,SNR=2.9						
BVAR				LR	LR	10 30 18.9	
	comp=Z,21μm,21.5s,baz=118,slow=38						
BVAR				P3KPbc		10 54 06.3	
	comp=Z,1.5nm,0.8s,baz=325,slow=2.3,SNR=4.8						
AKL	**Akola**	**23.51**	**229**	⇓*i*P	**P**	**10 20 41.5**	**+0.7**
AKL				AMP		10 20 45.8	
	comp=Z,1μm,1.3s						
AKL				*i*S	**S**	**10 24 55.6**	**+1.1**
BRVK	**Borovoye**	**23.51**	**319**	⇓P	**P**	**10 20 39.9**	**-0.7**
	comp=Z,1μm,2.0s						
BRVK	**Borovoye**	**23.51**	**319***c*	*i*P	**P**	**10 20 40.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,607nm,2.5s						
BRVK	**Borovoye**	**23.51**	**319**	P	**P**	**10 20 40.4**	**-0.1**
	SNR=142						
BRVK	**Borovoye**	**23.51**	**319**	*e*P	**P**	**10 20 40.6**	**0.0**
	comp=Z,203nm,0.9s						
BRVK				LR	LR		
	comp=Z,27μm,20.0s						

DGPR	**DIGLIPUR**	**24.50 187**	*e*P		**P**	**10 20 50.5 +0.4**
DGPR			AMB		AMB	10 20 54.1
	comp=Z,724nm,1.7s					
PHET	**Kaeng Krachan**	**24.85 171**	P		**P**	**10 20 55.0 +1.7**
	comp=Z,913nm,0.9s,comp=Z,8μm					
TATO	**Taipei**	**25.17 113**	*e*P		**P**	**10 20 56.1 -0.1**
	comp=Z,42nm,0.9s					
HYB	**Hyderabad**	**25.25 222**	*i* P		**P**	**10 20 58.0 +1.0**
HYB			*e*S		S	10 25 32.0 +9.4
HYB			LR		LR	10 32 00.0
	comp=Z,22nm,24.0s					
HYB	**Hyderabad**	**25.25 222**	*e*P		**P**	**10 20 56.8 -0.2**
YHNB	**Yeheng**	**25.27 113**	*e*P		**P**	**10 20 56.8 -0.4**
	comp=Z,201nm,0.9s					
YHNB			LR		LR	
	comp=Z,5μm,20.0s					
KSAR	**Wonju Array Be**	**25.32 81**	P		**P**	**10 20 55.9 -1.6**
KSRS	**Korea Array**	**25.35 81**	P		**P**	**10 20 55.9 -1.8**
	comp=Z,204nm,0.8s,baz=274,slow=8.8,SNR=148					
KSRS			LR		LR	10 30 55.9
	comp=Z,3μm,19.6s,baz=280,slow=37					
CHBT	**CHBT**	**25.45 165**	P		**P**	**10 21 01.3 +2.6**
	comp=Z,274nm,1.3s,comp=Z,10μm					
SSLB	**Suanglung**	**25.50 116**	*e*P		**P**	**10 20 58.5 -0.7**
	comp=Z,214nm,1.0s					
LATR	**Latur**	**25.55 227**⇑	*e*P		**P**	**10 20 57.0 -2.7**
LATR			AMB		AMB	10 20 59.8
	comp=Z,303nm,1.2s					
LATR			*e*x		x	10 25 27.3
TPUB	**Ta-pu**	**25.58 117**	*e*P		**P**	**10 21 00.8 +0.9**
	comp=Z,307nm,1.0s					
NACB	**Ninganchiao**	**25.73 114**	*e*P		**P**	**10 21 02.8 +1.6**
	comp=Z,431nm,1.3s					
YULB	**Yu-li**	**26.00 116**	*e*P		**P**	**10 21 04.5 +0.8**
	comp=Z,122nm,0.8s					
PBA	**Port Blair**	**26.02 187**	*e*P		P	10 21 05.0 +1.0
PBA			AMB		AMB	10 21 10.9
	comp=Z,567nm,3.2s					
TWG	**Pinlang**	**26.20 117**	*e*P		**P**	**10 21 07.0 +1.5**
MDJ	**Mudanjiang**	**26.20 64**	P		**P**	**10 21 06.0 +0.6**
MDJ			pP		**pP**	**10 21 09.0 +0.1**
MDJ			sP		**sP**	**10 21 10.5 +0.2**
MDJ			PcP		**PcP**	**10 24 35.0 +3.0**
MDJ			S		**S**	**10 25 37.3 +0.1**
MDJ			sS		**sS**	**10 25 44.8 +1.8**
MDJ			ScS		**ScS**	**10 31 59.5 -1.9**
MDJ			pmax		pmax	
	comp=Z,76nm,1.2s					
MDJ			pmax		pmax	
	comp=Z,1μm,6.6s					
MDJ			LR		LR	
	comp=N,9μm,9.4s					
MDJ			LR		LR	
	comp=E,8μm,9.4s					
MDJ			LR		LR	
	comp=Z,15μm,10.7s					
MDJ	**Mudanjiang**	**26.20 64**	*e*P		**P**	**10 21 05.1 -0.3**
	comp=Z,106nm,1.4s					
MDJ			LR		LR	
	comp=Z,5μm,19.0s					
BHJ	**Bhuj**	**26.66 245**	*e*P		**P**	**10 21 09.8 +0.1**
POO	**Poona**	**27.09 231**⇓	*i*P		**P**	**10 21 12.0 -1.6**
	comp=Z,400nm,1.0s					
POO			*e*P		**pP**	**10 21 13.3 -3.8**
POO			AMB		AMB	10 21 16.6
	comp=Z,239nm,1.7s					
POO			*i* S		**S**	**10 25 52.0 +0.4**
CLNS	**Chul'man**	**27.18 36**	*e*P		**P**	**10 21 12.1 -2.0**
CLNS			*e**PP		**pP**	**10 21 21.8 +4.1**
CLNS			*e*PPP		PPP	10 21 59.3
CLNS			*e*			10 24 27.7
CLNS			*e*S		**S**	**10 25 51.3 -1.2**
CLNS			*e*SSS		SSS	10 27 26.9
CLNS			pmax		pmax	
	comp=E,16nm,1.2s					
CLNS			pmax		pmax	
	comp=N,15nm,0.8s					
CLNS			pmax		pmax	
	comp=Z,36nm,0.8s					
CLNS			smax		smax	
	comp=E,489nm,8.8s					
CLNS			smax		smax	
	comp=N,1μm,11.6s					
CLNS			MLR		MLR	
	comp=E,22μm,9.0s					
CLNS			MLR		MLR	
	comp=Z,27μm,8.0s					
CLNS			MLR		MLR	
	comp=N,12μm,9.0s					
BOM	**Bombay**	**27.47 234**	AMB		AMB	10 23 20.7
	comp=Z,174nm,1.0s					
VLA	**Vladivostok**	**27.82 67**⇓	*i*P		**P**	**10 21 20.1 +0.1**
VLA			pmax		pmax	
	comp=Z,61nm,1.2s					
USRK	**Ussuriysk Arra**	**27.90 65**	P		**P**	**10 21 19.2 -1.4**
	comp=Z,25nm,1.0s,baz=267,slow=8.2,SNR=35					
USRK			PcP		**PcP**	**10 24 35.7 -0.4**
	comp=Z,3.7nm,0.8s,baz=214,slow=0.5,SNR=4.0					
KLR	**Kul'dur**	**28.25 54**	*e*P		**P**	**10 21 21.0 -2.7**
KLR			*e*S		**S**	**10 26 06.0 -3.4**
KLR			pmax		pmax	
	comp=E,170nm,2.0s					
KLR			pmax		pmax	
	comp=Z,220nm,2.0s					
KLR			pmax		pmax	
	comp=Z,2μm,7.0s					
KLR			smax		smax	
	comp=N,3μm,12.0s					
KLR			smax		smax	
	comp=E,5μm,12.0s					
KLR			MLR		MLR	
	comp=E,20μm,9.0s					
KLR			MLR		MLR	
	comp=Z,47μm,9.0s					
AB31	**Akbulak array**	**28.29 306**	⇑P		**P**	**10 21 23.7 -0.4**
	comp=Z,80nm,0.9s,baz=99,slow=13,SNR=464					
AB31	**Akbulak array**	**28.29 306**	*i* P		**P**	**10 21 23.7 -0.4**
AB31			pmax		pmax	
	comp=Z,96nm,1.0s					
JNU	**Nakatsue**	**28.79 88**	*e*P		**P**	**10 21 28.1 -0.6**
	comp=Z,310nm,2.4s					
JNU			PcP		**PcP**	**10 24 38.5 0.0**
JNU			*e*PcP		PcP	10 24 38.8 +0.3
JNU	**Nakatsue**	**28.79 88**	P		**P**	**10 21 27.3 -1.4**
	comp=Z,26nm,0.9s,baz=342,slow=12,SNR=13					
JNU			PcP		**PcP**	**10 24 38.5 0.0**
	comp=Z,29nm,0.8s,baz=62,slow=8.0,SNR=6.1					
JNU			LR		LR	10 32 40.8
	comp=Z,4μm,21.2s,baz=292,slow=36					
JOW	**Kunigami**	**29.31 102**	*e*P		**P**	**10 21 32.6 -0.8**
	comp=Z,27nm,1.1s					
GOA	**Goa**	**29.45 227**	*e*P		**P**	**10 21 35.1 +0.5**
GOA			AMB		AMB	10 21 37.5
	comp=Z,122nm,0.9s					
AKTO	**Aktyubinsk**	**29.74 308**	⇓P		**P**	**10 21 37.5 +0.6**
	comp=Z,255nm,0.9s					
AKTO	**Aktyubinsk**	**29.74 308**	P		**P**	**10 21 36.9 0.0**
AKTO						10 24 41.5
AKTO			pmax		pmax	
	comp=Z,223nm,1.0s					
AKTO			MLR		MLR	
	comp=Z,6μm,18.9s					
AKTO	**Aktyubinsk**	**29.74 308**	P		**P**	**10 21 36.9 0.0**
AKTO			PcP		**PcP**	**10 24 41.5 +1.0**
AKTO	**Aktyubinsk**	**29.74 308**	P		**P**	**10 21 36.9 0.0**
	comp=Z,223nm,1.0s,baz=94,slow=8.9,SNR=144					
AKTO			PcP		**PcP**	**10 24 41.5 +1.0**
	comp=Z,25nm,0.9s,baz=63,slow=2.3,SNR=3.3					
AKTO			LR		LR	10 34 16.5
	comp=Z,6μm,18.9s,baz=287,slow=38					
SVE	**Sverdlovsk**	**30.18 321**⇑	*i*P		**P**	**10 21 41.7 +0.9**
SVE			*e*			10 22 53.5
SVE			*e*S		**S**	**10 26 40.1 +0.5**
SVE			pmax		pmax	
	comp=Z,239nm,1.4s					
SVE			MLR		MLR	
	comp=Z,16μm,19.0s					
HABR	**Khabarovsk**	**30.29 56**	*e*P		**P**	**10 21 39.3 -2.5**
HABR			*e**SP		**sP**	**10 21 43.9 -2.9**
HABR			*e*			10 22 37.4
HABR			*e*			10 24 39.3
HABR			*e*S		**S**	**10 26 40.5 -1.0**
HABR			*e*SS		**SnSn**	**10 28 16.4 +0.8**
HABR			*e*			10 32 17.7
HABR			pmax		pmax	
	comp=N,37nm,3.3s					
HABR			pmax		pmax	
	comp=E,55nm,3.5s					
HABR			pmax		pmax	
	comp=Z,56nm,3.3s					
HABR			pmax		pmax	
	comp=Z,646nm,3.0s					
HABR			MLR		MLR	
	comp=Z,17μm,9.0s					
SKLT	**Songkhla**	**30.64 171**	P		**P**	**10 21 46.3 +1.2**
	comp=Z,63nm,1.9s,comp=Z,2μm					
ARU	**Arti**	**31.09 319***c* *i*P			**P**	**10 21 48.5 -0.2**
ARU						10 22 49.4
ARU						10 24 41.5
ARU			S		**S**	**10 26 56.0 +2.2**
ARU			SS		**SnSn**	**10 28 37.2 +2.4**
ARU			SSS		SSS	10 28 57.1
ARU			pmax		pmax	
	comp=Z,372nm,1.2s					
ARU			MLR		MLR	
	comp=Z,14μm,21.0s					
ARU	**Arti**	**31.09 319**	P		**P**	**10 21 48.6 -0.2**
	comp=Z,1μm,0.9s,SNR=20					
YAK	**Yakutsk**	**32.08 30***c* *i*P			**P**	**10 21 56.2 -1.2**
YAK			*e**PP		**pP**	**10 22 03.8 +2.8**
YAK			*e*			10 23 06.6
YAK			*e*			10 24 42.9
YAK			*e*S		**S**	**10 27 10.5 +1.4**
YAK			*e**SS		sS	10 27 24.4 +9.4
YAK			*e*SSS		SSS	10 29 27.7
YAK			pmax		pmax	
	comp=Z,118nm,1.3s					
YAK			pmax		pmax	
	comp=N,40nm,1.2s					
YAK			pmax		pmax	
	comp=E,59nm,1.1s					
YAK			pmax		pmax	
	comp=Z,122nm,2.3s					
YAK			pmax		pmax	
	comp=E,223nm,2.1s					
YAK			pmax		pmax	
	comp=N,127nm,2.2s					
YAK			smax		smax	
	comp=N,788nm,6.5s					
YAK			smax		smax	
	comp=E,752nm,4.0s					
YAK			MLR		MLR	
	comp=Z,17μm,17.0s					
YAK			MLR		MLR	
	comp=E,6μm,14.0s					
YAK			MLR		MLR	
	comp=N,6μm,12.0s					
TGY	**Tayaytay City**	**32.33 130**	LR		LR	10 36 12.9
	comp=N,12nm,18.9s,baz=325,slow=39					
KULM	**Kulim**	**32.49 171**	*e*P		**P**	**10 22 02.6 +1.1**
KULM			*e*PcP		**PcP**	**10 24 50.5 +2.1**
KULM			LR		LR	
	comp=Z,12μm,19.0s					
KULM	**Kulim**	**32.49 171**	P		**P**	**10 22 03.2 +1.7**
KULM	**Kulim**	**32.49 171**	P		**P**	**10 22 02.5 +1.1**
	comp=Z,93nm,1.9s,comp=Z,2μm					
KTGM	**Kuala Trenggan**	**32.84 167**	P		**P**	**10 22 06.7 +2.2**
SOKR	**Solikamsk**	**33.18 324***c* *i*P			**P**	**10 22 08.0 +1.0**
SOKR						10 23 21.7
SOKR						10 24 50.4
SOKR			S		**S**	**10 27 28.8 +2.6**
SOKR			pmax		pmax	
	comp=Z,220nm,1.3s					
SOKR			MLR		MLR	
	comp=Z,8μm,19.0s					
PALK	**Pallekele**	**33.22 208**	P		P	10 22 12.6 +4.7
	SNR=5.1					
PALK	**Pallekele**	**33.22 208**	*e*P		**P**	**10 22 10.8 +2.8**
	comp=Z,132nm,1.4s					
PALK	**Pallekele**	**33.22 208**	P		**P**	**10 22 09.0 +1.1**
	comp=Z,132nm,1.3s,comp=Z,2μm					
IPM	**Ipoh**	**33.34 171**	*e*P		**P**	**10 22 08.3 -0.5**
	comp=Z,126nm,1.4s					
IPM			*e*PcP		**PcP**	**10 24 50.7 -0.1**
IPM	**Ipoh**	**33.34 171**	P		**P**	**10 22 09.8 +0.9**
IPM	**Ipoh**	**33.34 171**	P		**P**	**10 22 08.2 -0.7**
	comp=Z,75nm,1.7s,comp=Z,1μm					
MAT	**Matsushiro**	**33.58 79**	P		**P**	**10 22 08.4 -2.5**
TRD	**Trivandrum**	**33.68 215**⇑	*e*P		P	10 22 30.4 +19
TRD			*e*S		S	10 27 48.4 +14
FRIM	**Kepong**	**34.64 170**	P		**P**	**10 22 20.3 +0.1**
PVCP	**Virac**	**34.73 126**⇓	*i*P		**P**	**10 22 21.8 +0.8**
PSI	**Prapat**	**34.78 175**	P		**P**	**10 22 21.4 -0.1**
PSI			PcP		**PcP**	**10 24 55.2 +0.2**
PSI	**Prapat**	**34.78 175**	P		**P**	**10 22 21.4 -0.1**
	comp=Z,20nm,0.9s,baz=0.0,slow=16,SNR=5.4					
PSI			PcP		**PcP**	**10 24 55.2 +0.2**
	comp=Z,40nm,0.9s,baz=258,slow=4.3,SNR=10					
PSI			LR		LR	10 37 48.8
	comp=Z,3μm,19.6s,baz=189,slow=38					
WBK	**Wadi Bani Khal**	**35.01 255**	P		P	10 22 27.2 +3.7
	SNR=7.9					
YSS	**Yuzh-Sakhalins**	**35.44 60**⇑	*i*P		**P**	**10 22 26.0 -0.8**
YSS			*e**SP		**sP**	**10 22 30.0 -1.8**
YSS			*e*			10 23 40.0
YSS			*e*			10 24 58.0
YSS			*e*S		**S**	**10 28 00.0 -1.4**
YSS			*e*SS		**SS**	**10 30 41.0 +5.7**
YSS			pmax		pmax	
	comp=Z,160nm,1.5s					
YSS			pmax		pmax	
	comp=Z,1μm,5.0s					
YSS			pmax		pmax	
	comp=Z,2μm,10.0s					
YSS			pmax		pmax	
	comp=E,2μm,9.0s					
YSS			smax		smax	
	comp=N,1μm,6.0s					
YSS			MLR		MLR	
	comp=E,12μm,12.0s					
YSS			MLR		MLR	
	comp=Z,6μm,12.0s					
YSS			MLR		MLR	
	comp=N,9μm,13.0s					
SMDO	**Samad**	**35.48 257**	P		**P**	**10 22 29.8 +2.2**
	SNR=20					
ASAJ	**Asahikawa**	**35.53 64**	*e*P		**P**	**10 22 25.1 -2.5**
ASAJ	**Asahikawa**	**35.53 64**	P		**P**	**10 22 26.1 -1.5**
	comp=N,38nm,0.5s,baz=277,slow=8.1,SNR=54					
ASAJ			LR		LR	10 37 52.8
	comp=N,4μm,20.1s,baz=282,slow=38					
HOQ	**Hoqain**	**35.77 258**	P		**P**	**10 22 30.8 +0.9**
	SNR=12					
JMDO	**Jabal Madar**	**35.81 256**	P		**P**	**10 22 32.3 +2.0**
	SNR=18					
KDM	**Kudat**	**36.02 143**	P		**P**	**10 22 33.4 +1.3**
HATD	**Hatta, Dubai**	**36.05 261**	P		P	10 22 36.6 +4.3
	SNR=5.4					
KGM	**Kluang**	**36.11 167**	P		**P**	**10 22 32.9 +0.2**
ASHO	**Ashiyiah**	**36.18 261**	P		P	10 22 36.9 +3.5
	SNR=19					
ERM	**Erimo**	**36.21 68**	*e*P		**P**	**10 22 33.7 +0.2**
ERM			pmax		pmax	
	comp=Z,65nm,1.7s					
ERM	**Erimo**	**36.21 68**	PFAKE			10 22 40.0 +6.5
ERM			LR		LR	
	comp=Z,7μm,20.0s					
BSY	**Bisya**	**36.30 257**	P		**P**	**10 22 36.8 +2.3**
	SNR=17					
NAZ	**Nazwa, Dubai**	**36.33 261**	P		P	10 22 38.1 +3.3
	SNR=20					
MYKOM	**Kota Tinggi**	**36.42 166**	P		**P**	**10 22 37.2 +1.7**
MYKOM	**Kota Tinggi**	**36.42 166**	P		**P**	**10 22 34.6 -0.9**
	comp=Z,88nm,2.0s,comp=Z,2μm					
KKM	**Kota Kinabalu**	**36.50 144**	*e*P		**P**	**10 22 36.0 -0.3**
	comp=Z,142nm,0.8s					
KKM			LR		LR	
	comp=Z,4μm,19.0s					
KKM	**Kota Kinabalu**	**36.50 144**	P		**P**	**10 22 37.0 +0.8**
KKM	**Kota Kinabalu**	**36.50 144**	P		**P**	**10 22 35.9 -0.3**
	comp=Z,207nm,0.8s,comp=Z,3μm					
ARQ	**Araqi**	**36.51 258**	P		**P**	**10 22 38.2 +1.9**
	SNR=28					
ASUD	**Al Ashush, Dub**	**36.78 261**	P		**P**	**10 22 41.6 +3.1**
	SNR=8.8					
MAK	**Makhachkala**	**36.87 294**	*e*P		**P**	**10 22 37.2 -1.9**
MAK			*e*			10 24 03.9
MAK			*e*			10 24 57.6
MAK			*e*S		**S**	**10 28 20.3 -3.0**
MAK			*e*SS		**SnSn**	**10 30 49.1 -6.0**
MAK			pmax		pmax	
	comp=Z,309nm,1.8s					
MAK			MLR		MLR	
	comp=Z,4μm,12.0s					
SDKM	**Sandakan**	**37.31 143**	P		**P**	**10 22 44.3 +1.2**
BKNI	**Bangkinang**	**37.43 171**	P		**P**	**10 22 46.7 +2.6**
	comp=Z,176nm,1.8s,comp=Z,4μm					
BTM	**Bintulu**	**37.73 151**	P		**P**	**10 22 49.2 +2.5**
YUK	**Yuzh-Kuril'sk**	**37.87 64***d* *i*P			**P**	**10 22 47.5 -0.1**
YUK			*i*			10 24 15.6
YUK			*i* S		**S**	**10 28 38.2 -0.4**
YUK			*i* SS		**SnSn**	**10 31 13.1 -6.3**
YUK			pmax		pmax	
	comp=Z,2μm,2.6s					
YUK			pmax		pmax	
	comp=Z,542nm,1.3s					
YUK			pmax		pmax	
	comp=N,75nm,1.3s					
YUK			pmax		pmax	
	comp=E,63nm,1.3s					
YUK			MLR		MLR	
	comp=E,265nm,18.0s					
YUK			MLR		MLR	
	comp=N,649nm,21.0s					
YUK			MLR		MLR	
	comp=Z,6μm,21.0s					
TIXI	**Tiksi**	**38.03 16***c* *i*P			**P**	**10 22 47.4 -1.1**
TIXI			pmax		pmax	
	comp=Z,197nm,2.5s					
TIXI			MLR		MLR	
	comp=Z,12μm,16.0s					
SBUM	**Sibu**	**38.10 153**	*e*P		**P**	**10 22 50.2 +0.4**
SBUM	**Sibu**	**38.10 153**	P		**P**	**10 22 51.1 +1.4**
SBUM	**Sibu**	**38.10 153**	P		**P**	**10 22 50.2 +0.4**
	comp=Z,88nm,1.7s,comp=Z,2μm					
MYLDM	**Lahad Datu**	**38.34 142**	P		**P**	**10 22 53.9 +2.2**
MYLDM	**Lahad Datu**	**38.34 142**	P		**P**	**10 22 52.8 +1.0**
	comp=Z,756nm,1.0s,comp=Z,7μm					
KSM	**Kuching**	**38.36 156**	*e*P		**P**	**10 22 51.8 -0.2**
	comp=Z,56nm,0.8s					
KSM			*e*PcP		**PcP**	**10 25 06.3 +0.7**
KSM			LR		LR	
	comp=Z,13μm,19.0s					
KSM	**Kuching**	**38.36 156**	P		**P**	**10 22 53.1 +1.2**
KSM	**Kuching**	**38.36 156**	P		**P**	**10 22 51.6 -0.4**
	comp=Z,99nm,0.8s,comp=Z,2μm					
DGRG	**David-gareji**	**38.69 292**	P		**P**	**10 22 55.7 +1.2**
PAGZ	**Pagadian**	**38.73 133**	*e*P		**P**	**10 22 56.4 +1.4**
TSM	**Tawau**	**38.81 143**	P		**P**	**10 22 55.2 -0.5**
TBLG	**Delisi**	**39.10 292**	*e*P		**P**	**10 22 57.9 0.0**
TBLG	**Delisi**	**39.10 292**	P		**P**	**10 22 58.0 0.0**
GNI	**Garni**	**39.43 290**	P		**P**	**10 23 02.8 +1.8**
	SNR=124					
GNI	**Garni**	**39.43 290**	*e*P		**P**	**10 23 02.5 +1.5**
	comp=Z,637nm,1.4s					
GNI			LR		LR	
	comp=Z,3μm,20.0s					
ZEI	**Tsey**	**39.51 294**	*e*P		**P**	**10 22 58.6 -3.0**
ZEI			pmax		pmax	
	comp=Z,108nm,1.4s					
BUKP	**Musuan**	**39.70 131**	*e*P		**P**	**10 23 04.1 +0.9**
CTBH	**Cotabato--PC H**	**39.74 132**⇓	*i*P		**P**	**10 23 03.9 +0.4**
KBZ	**Khabaz**	**40.06 296**	P		**P**	**10 23 06.7 +0.8**
KBZ			pmax		pmax	
	comp=Z,58nm,0.9s					
KBZ			MLR		MLR	
	comp=Z,4μm,18.5s					
KBZ	**Khabaz**	**40.06 296**	P		**P**	**10 23 06.7 +0.8**
KBZ	**Khabaz**	**40.06 296**	P		**P**	**10 23 06.7 +0.8**
	comp=Z,58nm,0.9s,baz=97,slow=6.8,SNR=68					
KBZ			LR		LR	10 42 37.9
	comp=Z,4μm,18.5s,baz=66,slow=41					
AKH	**Akhalkalaki**	**40.08 292**	P		**P**	**10 23 08.7 +2.4**
VRHR	**Novokhopersk**	**40.15 307**	*e*P		**P**	**10 23 06.3 -0.2**
VRHR			*e*SS		SS	10 32 08.4 -1.8
VRHR			pmax		pmax	
	comp=Z,310nm,0.9s					
VRHR			pmax		pmax	
	comp=N,120nm,1.2s					
VRHR			pmax		pmax	
	comp=E,480nm,1.1s					
VRHR			MLR		MLR	
	comp=N,530nm,10.0s					
VRHR			MLR		MLR	
	comp=E,2μm,10.0s					
VRHR			MLR		MLR	
	comp=Z,2μm,10.0s					
CBIJ	**Chichi jima**	**40.15 91**	LR		LR	10 41 06.2
	comp=Z,2μm,18.2s,baz=159,slow=38					
KIV	**Kislovodsk**	**40.17 296**	*e*P		**P**	**10 23 05.7 -1.3**
KIV			*e*			10 24 39.6
KIV			*e*S		**S**	**10 29 14.0 +0.5**
KIV			pmax		pmax	
	comp=Z,421nm,5.0s					
KIV			pmax		pmax	
	comp=Z,280nm,1.1s					
KIV			MLR		MLR	
	comp=Z,4μm,15.0s					
KIV	**Kislovodsk**	**40.17 296**	P		**P**	**10 23 09.3 +2.3**
	comp=Z,1μm,0.9s,SNR=22					
CLDR	**Caldiran**	**40.30 289**	*e*P		**P**	**10 23 10.2 +2.0**
IBDR	**Badra**	**40.59 279**	*i* P		**P**	**10 23 08.0 -2.5**
IBDR			*i* S		S	10 29 05.0 -15
DAV	**Davao City (W)**	**40.65 131**	PFAKE			10 23 20.0 +8.9
DAV			LR		LR	
	comp=Z,3μm,20.0s					
KBD	**Kabd**	**40.73 273**	*e*P		**P**	**10 23 11.2 -0.4**
KBD			AMb		AMB	10 23 15.4
	comp=Z,189nm,1.0s					
AGRB	**Hanur-Agry**	**40.88 290**	*e*P		**P**	**10 23 15.5 +2.5**
HAKT	**HAKKARI**	**40.88 286**	*i* P		**P**	**10 23 15.3 +2.2**
RDF	**Al-Radifah**	**40.95 272**	*e*P		**P**	**10 23 11.7 -1.8**
RDF			AMb		AMB	10 23 18.8
	comp=Z,257nm,1.4s					
CUKT	**Cukurca**	**41.05 286**	*e*P		**P**	**10 23 15.2 +0.8**
TUTA	**Tutak**	**41.06 289**	*i* P		**P**	**10 23 16.4 +1.9**
MATI	**Mati**	**41.15 130**	*e*P		**P**	**10 23 16.9 +1.7**
GEVA	**Gevas**	**41.16 288**	*i* P		**P**	**10 23 17.5 +2.1**
DAGI	**Agillar**	**41.31 292**	*i* P		**P**	**10 23 17.7 +1.3**
BCA	**Borcka**	**41.44 293**	*e*P		**P**	**10 23 18.4 +1.0**
DDEM	**Demirkent**	**41.48 292**	*i* P		**P**	**10 23 19.8 +2.0**
DBAD	**Bademkaya**	**41.49 292**	*i* P		**P**	**10 23 19.9 +2.0**
KSI	**Kapahiang**	**41.55 170**	P		**P**	**10 23 17.1 -1.4**
	comp=Z,559nm,0.8s,comp=Z,6μmcomp=Z,169μm					
RBK	**Rabkut**	**41.61 253**	P		**P**	**10 23 20.5 +1.5**
	SNR=5.9					
VORD	**Divnogorie**	**41.62 307**	*e*P		**P**	**10 23 18.9 +0.2**
VORD			*e*SS		SS	10 32 36.2 -3.3
VORD			pmax		pmax	
	comp=E,400nm,0.9s					
VORD			pmax		pmax	
	comp=Z,190nm,0.9s					
VORD			pmax		pmax	
	comp=N,50nm,0.8s					
VORD			MLR		MLR	
	comp=N,5μm,13.0s					
VORD			MLR		MLR	
	comp=E,2μm,19.0s					
VOR	**Voronezh**	**41.63 309**	*e*P		**P**	**10 23 17.0 -1.8**
VOR			pmax		pmax	
	comp=Z,760nm,1.6s					
VSR	**Storozhevoye**	**41.69 308**	*e*P		**P**	**10 23 19.4 +0.2**
VSR			*e*SS		SS	10 32 34.3 -6.5
VSR			pmax		pmax	
	comp=Z,500nm,1.0s					
VSR			pmax		pmax	
	comp=N,140nm,1.2s					
VSR			pmax		pmax	
	comp=E,680nm,1.2s					
VSR			MLR		MLR	
	comp=N,2μm,10.0s					
VSR			MLR		MLR	
	comp=E,3μm,25.0s					
BHD	**Baghdad**	**41.75 280**	*i* P		**P**	**10 23 18.0 -2.0**
BHD			*e*S		S	10 29 29.0 -8.0
SIRT	**Sirnak**	**41.86 287**	*e*P		**P**	**10 23 21.5 +0.5**
ERZM	**Erzurum**	**42.01 291**	*i* P		P	10 23 25.6 +3.2
SEY	**Seymchan**	**42.17 35***d* *i*P			**P**	**10 23 24.0 +1.0**
SOC	**Sochi**	**42.35 296***c* *i*P			**P**	**10 23 25.0 +0.2**
SOC			*e*PPP		PPP	10 25 31.3
SOC			*e*S		**S**	**10 29 47.9 +2.2**
SOC			*e*SS		**SS**	**10 32 52.6 -1.6**
SOC			*e*SSS		SSS	10 33 21.3
SOC			pmax		pmax	
	comp=Z,154nm,0.8s					
SOC			MLR		MLR	
	comp=Z,5μm,16.0s					

ABTO Aybut 42.39 253 P P 10 23 24.9 -0.6
SNR=13
BNGL BINGOL 42.42 289 *i* P **P 10 23 28.3 +2.6**
MOS Moscow 42.46 315 *e*P **P 10 23 24.4 -1.1**
MOS *e* 10 25 02.6
MOS *e*S **S 10 29 46.3 -0.6**
MOS pmax pmax
comp=Z,1μm,1.5s
MOS pmax pmax
comp=N,130nm,1.2s
MOS pmax pmax
comp=E,268nm,1.3s
MOS pmax pmax
comp=Z,791nm,1.2s
MOS smax smax
comp=E,600nm,3.1s
MOS smax smax
comp=N,2μm,5.2s
MOS MLR MLR
comp=E,8μm,16.0s
MOS MLR MLR
comp=Z,10μm,16.0s
KOPT Kop Dagi 42.62 291 *i* P **P 10 23 30.5 +3.1**
BEST Besiri 42.63 288 *i* P **P 10 23 28.8 +1.5**
BNGB Bing¶l 42.76 290 *e*P **P 10 23 29.5 +1.1**
TMCR Tamitsa 42.97 327 *e*P **P 10 23 30.5 +1.1**
TMCR *e* 10 25 21.1
TMCR pmax pmax
comp=Z,288nm,1.2s
OBN Obninsk 43.07 314⇓*i*P **P 10 23 30.6 +0.2**
OBN *e* 10 25 10.8
OBN *i*S **S 10 29 57.9 +2.0**
OBN *i*SS **SS 10 33 05.5 -2.4**
OBN pmax pmax
comp=Z,409nm,1.3s
OBN MLR MLR
comp=Z,9μm,19.0s
OBN Obninsk 43.07 314 P **P 10 23 30.0 -0.4**
comp=Z,1μm,1.3s,SNR=6.4
MARD Mardin 43.18 287 *i* P **P 10 23 33.4 +1.7**
MAZI Mazidag 43.39 287 *e*P **P 10 23 36.3 +2.9**
KELT Kelkit 43.51 292 *i* P **P 10 23 36.4 +2.0**
ANN Anapa 43.71 299 *e*P **P 10 23 35.1 -0.7**
ANN *e* 10 25 20.7
ANN *e*S **S 10 30 08.2 +2.6**
ANN *e*SSS SSS 10 34 00.9
ANN pmax pmax
comp=Z,534nm,1.2s
ANN MLR MLR
comp=Z,5μm,20.0s
MZRK Al-Mazaregh 43.75 285 *e*P **P 10 23 38.5 +2.3**
PTK Pertek 43.75 290 *e*P **P 10 23 38.0 +1.6**
SFNV Sufian 43.97 286 *e*P **P 10 23 39.6 +1.5**
MRSI Marisa 44.10 141 P **P 10 23 41.2 +2.1**
comp=Z,88nm,0.7s,comp=Z,3μm
ELZG Elazig 44.17 289 *i* P **P 10 23 42.7 +2.9**
SUSE Susehri 44.26 292 *i* P **P 10 23 41.5 +1.1**
KEMA Kemaliye 44.31 291 *i* P **P 10 23 41.9 +1.1**
URFA Urfa 44.62 288 *e*P **P 10 23 43.8 +0.5**
MALT Malatya 44.65 289 *e*P **P 10 23 44.5 +0.9**
MALT Malatya 44.65 289⇑P **P 10 23 46.1 +2.6**
MALT Malatya 44.65 289⇑*i*P **P 10 23 46.1 +2.6**
PEA0B Petropavlovsk- 44.67 49 *e*P **P 10 23 42.9 -0.5**
PETK Petropavlovsk- 44.67 49 P **P 10 23 42.0 -1.4**
PETK 10 25 25.2
PETK pmax pmax
comp=Z,32nm,0.8s
PETK MLR MLR
comp=Z,3μm,20.2s
PETK Petropavlovsk- 44.67 49 P **P 10 23 42.0 -1.4**
PETK PcP **PcP 10 25 25.2 -0.5**
PETK Petropavlovsk- 44.67 49 P **P 10 23 42.0 -1.4**
comp=Z,32nm,0.8s,baz=223,slow=3.4,SNR=24
PETK PcP **PcP 10 25 25.2 -0.5**
comp=Z,22nm,0.8s,baz=137,slow=2.5,SNR=6.2
PETK LR LR 10 42 21.8
comp=Z,3μm,20.2s,baz=278,slow=36
RSDY Resadiye-TOKAT 44.85 293 *e*P **P 10 23 46.3 +1.3**
LVZ Lovozero 44.97 332*c i*P **P 10 23 46.0 +0.4**
LVZ pmax pmax
comp=Z,199nm,1.2s
LVZ Lovozero 44.97 332 P **P 10 23 45.2 -0.4**
comp=Z,755nm,1.2s,SNR=14
AKCD Akcadag 45.03 289 *i* P **P 10 23 48.6 +2.0**
ERBA Erbaa 45.20 293 *i* P **P 10 23 49.3 +1.6**
SVSK Karacayir 45.23 292 *e*P **P 10 23 49.0 +1.1**
PET Petropavlovsk 45.25 49 *e*P P 10 23 43.3 -4.6
PET *e* 10 25 26.1
PET *e* 10 25 32.8
PET *e*S S 10 30 16.0 -12
PET pmax pmax
comp=Z,1μm,3.6s
PET pmax pmax
comp=Z,103nm,0.9s
PET pmax pmax
comp=Z,600nm,8.7s
PET MLR MLR
comp=Z,8μm,13.0s
PET MLR MLR
comp=Z,10μm,13.0s
DARE Darende-Malaty 45.27 290 *e*P **P 10 23 50.4 +1.9**
APA Apatity 45.38 331⇑*i*P **P 10 23 50.0 +1.2**
APA *i* 10 25 34.0
APA *i*S **S 10 30 32.0 +2.7**
APA pmax pmax
comp=Z,192nm,16.0s
APA MLR MLR
comp=Z,7μm,13.0s
MMSI Mamuju 45.46 147 P **P 10 23 51.3 +1.3**
comp=Z,145nm,0.8s,comp=Z,3μm
JHLN Al Jahlan 45.50 286 *e*P **P 10 23 52.2 +2.0**
GZT Gaziantep 45.60 288 *i* P **P 10 23 52.8 +1.7**
KVT Kavak 45.60 294 *e*P **P 10 23 53.9 +3.0**
SLMH Al Salmeh 45.70 287 *e*P **P 10 23 52.5 +0.7**
JOF Joensuu 45.84 325 *e*P **P 10 23 53.1 +0.7**
JOF pmax pmax
comp=Z,109nm,0.7s
JOF Joensuu 45.84 325 *e*p **P 10 23 53.1 +0.7**
comp=Z,109nm,0.7s
HAVZ Havza 45.84 294 *i* P **P 10 23 54.6 +1.8**
TGJI Tegal 45.97 162 P **P 10 23 56.1 +2.1**
comp=Z,216nm,1.8s
SIM Simferopol' 45.98 300 *e*P **P 10 23 54.1 +0.2**
SIM *e* 10 25 45.0
SIM *e*PPP PPP 10 26 31.0
SIM *e*S **S 10 30 40.9 +2.4**
SIM *e*SS **ScS 10 33 55.0 +5.5**
SIM pmax pmax
comp=Z,169nm,1.0s
SIM pmax pmax
comp=Z,140nm,9.5s
DIKM Dikmen 46.01 295 *e*P **P 10 23 55.2 +1.1**
PINB Pinarbasi 46.05 291 *i* P **P 10 23 57.6 +2.8**
KMRS Kahramanmaras 46.05 289 *e*P **P 10 23 57.7 +3.2**
AYKD Aykdinkavak 46.15 289 *i* P **P 10 23 56.1 +0.7**
TTSI Tana Toraja 46.18 146 P **P 10 23 55.9 +0.3**
comp=Z,160nm,1.3s,comp=Z,3μm
PUL Pulkovo 46.31 320 *e*P **P 10 23 57.6 +1.4**
PUL pmax pmax
comp=Z,402nm,1.2s
BOYT Boyabat 46.33 295 *i* P **P 10 23 58.6 +1.9**
BNN Bunyan 46.41 291 *e*P **P 10 23 57.4 0.0**
SKSI Soroako, Sulaw 46.41 144 P **P 10 23 58.2 +0.6**
comp=Z,54nm,1.7s,comp=Z,4μm
ANDN Andirin 46.44 289 *i* P **P 10 23 59.7 +2.0**
BJII Banjamegara 46.57 161 P **P 10 24 00.9 +2.1**
comp=Z,141nm,2.2s,comp=Z,4μm
CTKT Corum 46.64 294 *i* P **P 10 24 00.1 +0.8**
TNTI Ternate 46.76 134 *e*P **P 10 23 59.8 -0.5**
comp=Z,199nm,0.9s
TNTI Ternate 46.76 134 P **P 10 23 59.6 -0.7**
comp=Z,278nm,2.2s,comp=Z,6μm
BZK Bozkurt 46.83 296 *e*P **P 10 24 00.0 -0.5**
KOZT Kozan 46.86 289 *e*P P 10 24 05.0 +4.1
COBT Iskenderun 46.87 288 *i* P **P 10 24 02.9 +1.8**
BTCH Batrach 46.88 287 *e*P **P 10 24 01.2 +0.1**
KFRA Kufra 46.91 286 *e*P **P 10 24 01.9 +0.6**
SPSI Sidrap Palu 46.97 146 P **P 10 24 01.3 -0.6**
comp=Z,150nm,2.1s,comp=Z,4μm
WRDH Warideh 47.10 286 *e*P **P 10 24 02.0 -0.8**
WRDH *e*P **pP 10 24 03.6 -2.9**
WRDH *e*S **S 10 30 51.6 -3.3**
YAYL Yayladag 47.15 287 *i* P **P 10 24 03.9 +0.6**
AVNT Avonos 47.16 291 *i* P **P 10 24 04.5 +1.0**

YURE YUREGIR 47.23 288 *i* P **P 10 24 06.1 +2.3**
CDAG Cicekdag 47.25 292 *i* P **P 10 24 04.6 +0.5**
ILGA Ilgaz 47.30 294 *i* P **P 10 24 05.3 +0.8**
ARNB Al Arnab 47.31 287 *e*P **P 10 24 02.5 -2.0**
ZALF Zalf 47.36 283 *e*P **P 10 24 06.7 +1.8**
MUKL Al Mukalla 47.39 254 *e*P **P 10 24 06.5 +1.4**
HAWK Haweek 47.47 285 *e*P **P 10 24 06.7 +0.9**
KARA Karaisali 47.52 289 *e*P **P 10 24 09.1 +3.0**
SJI Sawahan 47.52 158 P **P 10 24 07.2 +1.0**
comp=Z,179nm,2.4s
KMMI Kalianget 47.56 155 P **P 10 24 07.9 +1.5**
comp=Z,146nm,1.8s,comp=Z,4μm
NIG Nigde 47.56 290 *e*P **P 10 24 09.4 +2.8**
MARH Ras Al Marh 47.59 285 *e*P **P 10 24 08.3 +1.3**
GULE Gulek 47.72 289 *i* P **P 10 24 08.9 +1.1**
BR131 Keskin Array S 47.76 293 *e*P **P 10 24 08.0 -0.1**
comp=Z,82nm,0.8s
BRTR Keskin Array B 47.76 293 P **P 10 24 08.0 -0.1**
BRTR Keskin Array B 47.76 293 P **P 10 24 08.0 -0.1**
comp=Z,86nm,0.8s,baz=99,slow=7.1,SNR=122
BRTR LR LR 10 47 27.2
comp=Z,2μm,19.0s,baz=58,slow=40
PWJI Pagerwojo 47.80 158 P **P 10 24 08.8 +0.5**
comp=Z,120nm,1.5s,comp=Z,12μm
TOTH TOTAH 47.89 284 *e*P **P 10 24 10.7 +1.7**
KAPI Kappang 47.90 147 *e*P **P 10 24 07.8 -1.4**
comp=Z,12nm,1.1s
KAPI LR LR
comp=Z,3μm,20.0s
KAPI Kappang 47.90 147 P **P 10 24 10.4 +1.3**
KAPI Kappang 47.90 147 P **P 10 24 07.7 -1.4**
comp=Z,25nm,0.8s,baz=341,slow=14,SNR=10.0
AKASG Malin Array Be 47.98 308 P **P 10 24 08.7 -0.7**
AKASG 10 25 37.7
AKASG 10 26 02.4
AKASG pmax pmax
comp=Z,169nm,1.1s
AKASG pmax pmax
comp=Z,39nm,1.1s
AKASG MLR MLR
comp=Z,4μm,18.9s
AKASG Malin Array Be 47.98 308 P **P 10 24 08.7 -0.7**
AKASG PcP **PcP 10 25 37.7 +0.3**
AKASG PP **PP 10 26 02.4 +1.2**
AKASG Malin Array Be 47.98 308 P **P 10 24 08.7 -0.7**
comp=Z,150nm,1.1s,baz=69,slow=7.2,SNR=78
AKASG PcP **PcP 10 25 37.7 +0.3**
comp=Z,13nm,0.7s,baz=63,slow=4.5,SNR=5.9
AKASG PP **PP 10 26 02.4 +1.2**
comp=Z,39nm,1.1s,baz=66,slow=9.0,SNR=5.6
AKASG LR LR 10 44 58.2
comp=Z,4μm,18.9s,baz=60,slow=37
KIEV Kiev 47.99 308 *e*P **P 10 24 09.0 -0.5**
KIEV pmax pmax
comp=Z,184nm,1.1s
KIEV MLR MLR
comp=Z,4μm,21.0s
KIEV Kiev 47.99 308 *e*P **P 10 24 09.0 -0.5**
comp=Z,184nm,1.1s
KIEV LR LR
comp=Z,4μm,21.0s
MICGM Minsk 48.13 313⇓*i*P **P 10 24 10.0 -0.5**
MNK Minsk 48.16 313⇓*i*P **P 10 24 10.0 -0.7**
MNK *e* 10 26 02.0
MNK *e*S **S 10 31 10.0 +0.7**
MNK *e*PS 10 31 26.0
MNK pmax pmax
comp=N,230nm,1.0s
MNK pmax pmax
comp=E,920nm,1.0s
MNK MLR MLR
comp=N,10μm,10.0s
MNK MLR MLR
comp=Z,17μm,16.0s
MNK MLR MLR
comp=E,15μm,14.0s
KAF Kangasniemi 48.17 324 *e*P **P 10 24 11.1 +0.5**
KAF Kangasniemi 48.17 324 *e*p **P 10 24 11.1 +0.5**
BRBR Barbar 48.24 284 *e*P **P 10 24 13.3 +1.4**
VSU Vasula 48.25 319*d i*P **P 10 24 11.7 +0.4**
VSU pmax pmax
comp=Z,618nm,1.2s
AFSR Af'ar-Bala (A 48.26 293 *e*P **P 10 24 14.5 +2.7**
FIA1 FINESS Array S 48.31 323 *e*P **P 10 24 11.6 -0.2**
FINES FINESS Array B 48.32 323 P **P 10 24 11.4 -0.4**
FINES PcP **PcP 10 25 39.2 +0.8**
FINES FINESS Array B 48.32 323 P **P 10 24 11.4 -0.4**
comp=Z,103nm,1.0s,baz=93,slow=7.8,SNR=43
FINES PcP **PcP 10 25 39.2 +0.8**
comp=Z,25nm,0.9s,baz=108,slow=4.5,SNR=4.3
FINES LR LR 10 45 25.6
comp=Z,9μm,18.7s,baz=88,slow=37
ANTO Ankara 48.33 293 *e*P **P 10 24 13.6 +1.2**
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 48.33 293 P **P 10 24 13.0 +0.1**
SNR=80
ANTO Ankara 48.33 293⇑*i*P **P 10 24 13.9 +1.5**
ANTO Ankara 48.33 293 *e*P **P 10 24 13.6 +1.2**
ANTO LR LR
comp=Z,2μm,19.0s
SULT Sultanhani-AKS 48.35 291 *e*P **P 10 24 15.6 +3.1**
ARCES ARCESS Array B 48.47 334 P **P 10 24 12.9 0.0**
ARCES PcP **PcP 10 25 38.0 -0.8**
ARCES ARCESS Array B 48.47 334 P **P 10 24 12.9 0.0**
comp=Z,81nm,1.0s,baz=82,slow=5.5,SNR=48
ARCES PcP **PcP 10 25 38.0 -0.8**
comp=Z,29nm,0.9s,baz=89,slow=3.6,SNR=6.8
ARCES LR LR 10 45 54.3
comp=Z,4μm,19.7s,baz=99,slow=38
ARE0 ARCESS Array S 48.47 334 *e*P **P 10 24 13.0 +0.1**
ARE0 *e*S **S 10 31 11.8 -1.5**
ARE0 *e*SS **SS 10 34 44.6 +2.0**
ARE0 ARCESS Array S 48.47 334 *e*P **P 10 24 12.9 +0.1**
KIZK Mersin 48.47 289 *i* P **P 10 24 14.5 +1.1**
TCHB Talchebab 48.52 283 *e*P **P 10 24 16.0 +2.1**
IDID Didziasalis 48.66 315 *e*P **P 10 24 14.4 -0.1**
IDID AMB AMB 10 24 19.1
comp=Z,59nm,1.2s
NACGM Naroch 48.70 314 *e*P **P 10 24 13.0 -1.9**
IKL Isikli 48.91 288 *e*P **P 10 24 17.8 +1.1**
IIGN Ignalina 48.94 315 *e*P **P 10 24 16.5 -0.2**
IIGN AMB AMB 10 24 21.3
comp=Z,92nm,1.2s
KIS Kishinev 49.07 303 *e*P **P 10 24 17.0 -0.8**
comp=Z,700nm,1.3s
KIS Kishinev 49.07 303 *i* PcP PcP 10 25 30.0 -11
KIS Kishinev 49.07 303 *i* PP PP 10 26 11.0 -0.2
KIS Kishinev 49.07 303 *e*PPP PPP 10 26 56.0
KIS *e*S **S 10 31 22.0 -0.4**
comp=Z,700nm,6.0s
KIS *i* SS SS 10 35 07.0 +14
KIS *e*SSS SSS 10 36 20.0
KIS *e*LQ LQ 10 41 43.0
KIS *e*LR LR 10 44 19.0
comp=Z,3μm,18.0s
KIS Kishinev 49.07 303 *e*P **P 10 24 17.0 -0.8**
KIS *i* 10 26 11.0
KIS *e*S **S 10 31 22.0 -0.4**
KIS pmax pmax
comp=Z,720nm,2.0s
KIS pmax pmax
comp=Z,1μm,6.0s
KIS pmax pmax
comp=Z,1μm,10.0s
KIS smax smax
comp=N,1μm,8.0s
KIS smax smax
comp=E,700nm,6.0s
KIS MLR MLR
comp=E,2μm,17.0s
KIS MLR MLR
comp=Z,3μm,17.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=Z,3μm,18.0s
PHNC Paralimni 49.10 287 P P 10 24 21.6 +3.4
comp=Z,2.5nm,1.1s
LADK Ladik-KONYA 49.20 291 *e*P **P 10 24 21.1 +2.0**
KTK1 Kautokeino 49.26 333 *e*P **P 10 24 19.8 +0.8**
KTK1 AMB AMB 10 24 22.0
comp=Z,903nm,1.1s
KTK1 *e*S **S 10 31 25.5 +0.9**
KDHN Kadinhani 49.27 292 *i* P **P 10 24 19.3 -0.4**

MDUB Mudurnu 49.29 295 *e*P **P 10 24 22.3 +2.5**
KIZT Kizilcal 49.32 292 *e*P **P 10 24 20.1 0.0**
ERMK Ermenek 49.34 289 *i* P **P 10 24 21.1 +0.8**
LFK Lefkose 49.37 287 *e*P **P 10 24 19.9 -0.6**
SVRH Sivrihisar-ESK 49.39 293 *e*P **P 10 24 22.8 +2.3**
HDMB Hadim 49.54 290 *e*P **P 10 24 23.8 +1.9**
TLCR 49.55 301⇑P **P 10 24 23.9 +2.4**
TLCR 49.55 301⇑*i*P **P 10 24 23.9 +2.4**
COCO West Island 49.57 179 PFAKE 10 24 30.0 +8.1
COCO LR LR
comp=Z,2μm,20.0s
LEOM Leova 49.59 303⇑P **P 10 24 23.2 +1.4**
LEOM Leova 49.59 303⇑*i*P **P 10 24 23.2 +1.4**
CSS Prodhromos 49.65 287 P **P 10 24 22.7 +0.2**
comp=Z,4.1nm,1.2s
CSS Prodhromos 49.65 287 *e*P **P 10 24 24.3 +1.8**
CSS Prodhromos 49.65 287 P **P 10 24 21.8 -0.7**
CSS Prodhromos 49.65 287 *e*P **P 10 24 22.5 +0.1**
comp=Z,30nm,0.9s
CSS LR LR
comp=Z,597nm,20.0s
MAMC Mammari 49.65 287 P P 10 24 25.9 +3.4
GULT Gulveren 49.80 295 *e*P **P 10 24 25.7 +2.0**
IAS Iasi 49.85 304⇓P **P 10 24 26.3 +2.5**
IAS Iasi 49.85 304⇓*i*P **P 10 24 26.3 +2.5**
SEYT Eskypehyr 49.86 293 *i* P **P 10 24 24.6 +0.5**
DGAR Diego Garcia 49.87 211 PFAKE 10 24 30.0 +5.8
DGAR LR LR
comp=Z,4μm,20.0s
LEF Lefka 49.92 287 *e*P **P 10 24 25.0 +0.5**
GAZI Gazipasa 49.94 289 *i* P **P 10 24 24.5 -0.1**
TIRR Tirgusor 50.03 300 *e*P **P 10 24 25.5 +0.3**
TIRR Tirgusor 50.03 300⇑*i*P **P 10 24 26.1 +0.9**
TIRR Tirgusor 50.03 300 *e*P **P 10 24 25.5 +0.3**
BOLV Bolvadin 50.06 292 *i* P **P 10 24 26.4 +0.7**
ALFC Alevga 50.13 288 P **P 10 24 26.1 0.0**
comp=Z,3.5nm,1.0s
GHRR 50.26 303⇓*i*P **P 10 24 29.2 +2.3**
HARR Harsova 50.30 301⇑P **P 10 24 28.9 +1.7**
HARR Harsova 50.30 301⇑*i*P **P 10 24 28.9 +1.7**
BDHA Al Bayda' 50.35 256 *e*P **P 10 24 28.6 +0.3**
ADVT Abdulvahap 50.36 295 *e*P **P 10 24 29.8 +2.1**
CAVI Cavuskoy 50.36 295 *e*P **P 10 24 28.0 +0.2**
AKMC Akamas 50.38 287 P **P 10 24 29.0 +1.0**
PPCY Paphos 50.42 287 P **P 10 24 28.3 0.0**
SUTC Sutluce-Ispart 50.46 291 *e*P **P 10 24 28.5 -0.2**
PETR Petresti 50.47 302⇓*i*P **P 10 24 29.9 +1.4**
KLYT Kilyos 50.59 296 *e*P **P 10 24 31.9 +2.5**
BJO Bjornoya 50.59 340 AMS AMS 10 40 20.8
comp=Z,4μm,14.4s
TESR Tescani 50.64 303⇑*i*P **P 10 24 31.4 +1.6**
PRAR RASCA 50.68 305⇑*i*P **P 10 24 31.5 +1.4**
ISP Isparta 50.69 292 *e*P **P 10 24 29.5 -1.0**
ISP Isparta 50.69 292 P **P 10 24 29.9 -0.6**
ISP Isparta 50.69 292 *e*P **P 10 24 30.1 -0.3**
ISP MLR MLR
comp=Z,3μm,19.0s
ISP Isparta 50.69 292⇑*i*P **P 10 24 30.8 +0.3**
ISP Isparta 50.69 292 *e*P **P 10 24 30.1 -0.3**
ISP LR LR
comp=Z,3μm,19.0s
AMRR Amara 50.73 301⇑P **P 10 24 32.6 +2.2**
AMRR Amara 50.73 301⇑*i*P **P 10 24 32.6 +2.2**
GRER 50.74 302⇓*i*P **P 10 24 33.1 +2.5**
VRI Vrincioaia 50.77 303⇑P **P 10 24 32.5 +1.7**
VRI Vrincioaia 50.77 303⇑*i*P **P 10 24 32.5 +1.7**
TRO Tromso 50.77 334 *e*P **P 10 24 30.5 +0.1**
BGKT Bogazkoy 50.80 296 *e*P **P 10 24 33.4 +2.3**
PLOR Plostina 50.83 303⇓P **P 10 24 33.1 +1.8**
PLOR Plostina 50.83 303⇓*i*P **P 10 24 33.1 +1.8**
ULDT Uludag 50.89 295 *i* P **P 10 24 32.2 +0.2**
DAMY Dhamar 50.90 257 *e*P **P 10 24 33.8 +1.3**
SUW Suwalki 50.93 313 *e*P **P 10 24 31.9 0.0**
SUW Suwalki 50.93 313 *e*P **P 10 24 31.9 0.0**
SUW Suwalki 50.93 313 *e*P **P 10 24 32.5 +0.7**
SUW *e*PcP **PcP 10 25 50.2 +2.1**
SUW *e*S **S 10 31 51.4 +3.3**
SUW *e*SS SS 10 35 34.6 +12
SUW LMZ LR 10 46 47.3
ARMT Armutlu 50.94 295 *e*P **P 10 24 33.9 +1.7**
CTYL Yal??k??y-??at 51.05 297 *e*P **P 10 24 31.9 -1.0**
ISR Istrita 51.11 302⇑P **P 10 24 35.4 +2.0**
ISR Istrita 51.11 302⇑*i*P **P 10 24 35.4 +2.0**
PRD Provadia 51.12 299 *i* P **P 10 24 33.6 +0.2**
KORT Korkueli 51.12 291 *i* P **P 10 24 34.2 +0.4**
SLVT Silivri 51.19 296 *e*P **P 10 24 37.0 +3.0**
KHAL Karahalli 51.25 293 *i* P **P 10 24 34.0 -0.7**
BURAR Bucovina Array 51.27 305⇑P **P 10 24 35.7 +1.1**
BURAR Bucovina Array 51.27 305⇑*i*P **P 10 24 35.7 +1.1**
BUR08 Bucovina Ar. S 51.27 305 *e*P **P 10 24 34.7 +0.1**
SPA0 Spitsbergen Ar 51.33 345 *e*P **P 10 24 34.9 +0.4**
SPA0 *e*S **S 10 31 52.1 -1.0**
SPA0 *e*SS **SS 10 35 30.4 +2.2**
MLR Muntele Rosu 51.40 302⇑*i*P **P 10 24 37.2 +1.5**
MLR Muntele Rosu 51.40 302 LR LR 10 49 16.7
comp=Z,882nm,20.1s,baz=59,slow=39
KCTX Karacabey (Bur 51.41 295 *e*P **P 10 24 37.7 +2.0**
LVV L'vov 51.43 308 *e*P **P 10 24 36.6 +0.9**
LVV *e* 10 26 38.3
LVV *e*S **S 10 31 54.3 -0.8**
LVV *e*PS PKiKP 10 32 08.3 -24
LVV *e*SSS SSS 10 37 10.5
LVV MLR MLR
comp=N,2μm,18.0s
LVV MLR MLR
comp=E,3μm,18.0s
LVV MLR MLR
comp=Z,3μm,18.0s
SULR 51.44 301⇓*i*P **P 10 24 38.4 +2.6**
SECR 51.46 302⇑*i*P **P 10 24 39.0 +3.0**
DURS Dursunbey 51.56 294 *i* P **P 10 24 37.3 +0.5**
GOLH Golhisar 51.62 291 *i* P **P 10 24 37.4 0.0**
KULA Kula-Manisa 51.81 293 *e*P **P 10 24 38.3 -0.5**
DNZL Cakiroluk 51.83 292 *i* P **P 10 24 39.6 +0.5**
MANT Manisa 51.89 293 *i* P **P 10 24 40.9 +1.3**
JMB Yambol 51.92 298 P **P 10 24 40.4 +0.9**
JMB Yambol 51.92 298 P **P 10 24 40.4 +0.9**
JMB Yambol 51.92 298 P **P 10 24 40.4 +0.9**
AKAS Kas 51.97 290 *i* P **P 10 24 40.1 +0.1**
GONE Gonen-Balikesi 51.97 295 *e*P **P 10 24 39.5 -0.3**
BALB Balikesir 51.97 295 *e*P **P 10 24 39.1 -0.8**
ARCR ARCALIA 51.98 305⇑*i*P **P 10 24 42.3 +2.4**
EDRB Edirne 52.02 298 *e*P **P 10 24 42.6 +2.4**
VOIR 52.02 302⇑P **P 10 24 41.2 +0.9**
VOIR 52.02 302⇑*i*P **P 10 24 41.2 +0.9**
MTUR Matau 52.08 302⇓P **P 10 24 42.0 +1.3**
MTUR Matau 52.08 302⇓*i*P **P 10 24 42.0 +1.3**
SART Tekirdag 52.10 296 *i* P **P 10 24 41.7 +0.7**
RKY Sarkoy-Tekirda 52.11 296 *e*P **P 10 24 38.9 -2.0**
SZH Strazhica 52.11 300 *i* P **P 10 24 40.6 -0.3**
BALY Balya 52.12 295 *i* P **P 10 24 40.9 -0.2**
KRBG Karabiga-Canak 52.12 296 *e*P **P 10 24 42.9 +1.9**
KBS Kingsbay 52.20 346 *e*P **P 10 24 41.4 +0.4**
KBS *e*S **S 10 32 05.4 +0.3**
KBS *e*SS **SS 10 35 40.8 -1.1**
KBS AMS AMS 10 50 08.9
comp=Z,7μm,16.1s
KBS Kingsbay 52.20 346⇓*i*P **P 10 24 42.1 +1.1**
KBS pmax pmax
comp=Z,80nm,1.2s
KBS Kingsbay 52.20 346 *e*P **P 10 24 41.8 +0.8**
comp=Z,64nm,1.1s
KBS LR LR
comp=Z,8μm,20.0s
GOLR 52.27 302⇓*i*P **P 10 24 43.7 +1.7**
STEI Steigen 52.28 332 *e*P **P 10 24 42.3 +0.6**
STEI AMB AMB 10 24 45.7
comp=Z,203nm,1.2s
AKHS Akhisar 52.29 294 *i* P **P 10 24 44.3 +2.0**
KWP Kalwaria Pacla 52.30 308 *e*P **P 10 24 42.6 +0.4**
KWP pmax pmax
comp=Z,479nm,1.0s
KWP MLR MLR
comp=Z,5μm,19.0s
KWP Kalwaria Pacla 52.30 308⇑*i*P **P 10 24 43.2 +1.0**
KWP Kalwaria Pacla 52.30 308 *e*P **P 10 24 42.6 +0.4**
comp=Z,479nm,1.0s
KWP LR LR
comp=Z,5μm,19.0s
KWP Kalwaria Pacla 52.30 308 *e*P **P 10 24 43.5 +1.3**
KWP *e*PcP **PcP 10 25 54.3 +1.0**
KWP *e*S **S 10 32 12.1 +4.9**

KWP			eSS	SKiKP	10 36 18.9	+14
KWP			LMZ	LR	10 48 15.0	
ARR	**Arges**	**52.32 302**	⇑iP	**P**	**10 24 43.9**	**+1.4**
HUMR	**Humele**	**52.35 301**	⇑iP	**P**	**10 24 43.5**	**+0.9**
ZIMR		**52.37 300**	⇓iP	**P**	**10 24 44.3**	**+1.5**
ZIMR		**52.37 300**	⇓iP	**P**	**10 24 44.3**	**+1.5**
DALY	**Dalyan (Mu¨la**	**52.45 291**	eP	**P**	**10 24 43.8**	**+0.4**
TURN	**Turunc**	**52.47 291**	iP	**P**	**10 24 46.1**	**+2.5**
LPK	**Lapseki**	**52.52 296**	eP	**P**	**10 24 46.4**	**+2.5**
CJR	**Cluj-Napoca**	**52.59 304**	⇑P	**P**	**10 24 46.5**	**+2.1**
CJR	**Cluj-Napoca**	**52.59 304**	⇑iP	**P**	**10 24 46.5**	**+2.1**
YER	**Yerkesik**	**52.60 292**	eP	**P**	**10 24 46.2**	**+1.5**
AYDN	**Tasoluk**	**52.70 292**	iP	**P**	**10 24 46.2**	**+0.8**
GELI	**Tayfur-Gelibol**	**52.71 296**	eP	**P**	**10 24 47.6**	**+2.3**
KOLS	**Kolonicke sedl**	**52.78 307**	eP	**P**	**10 24 46.6**	**+0.9**
KOLS			pmax	pmax		
	comp=Z,71nm,1.1s					
KOLS	**Kolonicke sedl**	**52.78 307**	eP	**P**	**10 24 46.6**	**+0.9**
KOLS			eS	**S**	**10 32 12.3**	**-1.4**
KOLS			eSS	**SKiKP**	**10 36 00.8**	**-5.0**
ALN	**Alexandroupoli**	**52.84 297**	eP	**P**	**10 24 47.9**	**+1.6**
TRPA	**Tarpa**	**52.85 306**	⇑iP	**P**	**10 24 47.5**	**+1.3**
UZH	**Uzhgorod**	**52.85 307**	eP	**P**	**10 24 44.1**	**-2.2**
UZH			e		10 24 50.3	
UZH			e		10 26 48.1	
UZH			e		10 27 57.3	
UZH			eS	S	10 32 06.9	-7.8
UZH			e		10 32 17.1	
UZH			MLR	MLR		
	comp=N,3µm,17.0s					
UZH			MLR	MLR		
	comp=E,3µm,17.0s					
UZH			MLR	MLR		
	comp=Z,1µm,17.0s					
BEL	**Belsk**	**52.87 311**	eP	**P**	**10 24 47.6**	**+1.3**
BEL			eS	**S**	**10 32 19.6**	**+4.8**
BEL			eSS	**SS**	**10 35 58.5**	**+5.4**
BEL			LMZ	LR	10 48 13.9	
LOT	**Lotru**	**52.87 303**	⇑iP	**P**	**10 24 47.8**	**+1.2**
LOF	**Lofoten**	**52.88 332**	eP	**P**	**10 24 46.4**	**+0.3**
LOF			AMB	AMB	10 24 49.8	
	comp=Z,390nm,1.2s					
MLSB	**Milas**	**52.91 292**	eP	**P**	**10 24 49.1**	**+2.1**
KDZ	**Kurdzhali**	**53.02 298**	iP	**P**	**10 24 48.0**	**+0.4**
ARG	**Arkhangelos**	**53.07 291**	P	**P**	**10 24 47.3**	**-0.8**
ARG	**Arkhangelos**	**53.07 291**	P	**P**	**10 24 47.3**	**-0.8**
ARG	**Arkhangelos**	**53.07 291**	eP	**P**	**10 24 48.8**	**+0.7**
ARG	**Arkhangelos**	**53.07 291**	P	**P**	**10 24 47.3**	**-0.8**
DRGR		**53.15 305**	⇑P	**P**	**10 24 50.1**	**+1.5**
DRGR		**53.15 305**	⇑iP	**P**	**10 24 50.1**	**+1.5**
GCAM	**G?zelcaml?**	**53.16 293**	iP	**P**	**10 24 49.4**	**+0.8**
BDRM	**Kayabasi**	**53.25 292**	iP	**P**	**10 24 48.8**	**-0.5**
PRK	**Paraskevi**	**53.27 295**	eP	**P**	**10 24 49.2**	**-0.3**
DAT	**Datca**	**53.28 291**	eP	**P**	**10 24 48.1**	**-1.6**
STHS	**Stebnicka Huta**	**53.28 308**	eP	**P**	**10 24 50.4**	**+0.9**
STHS			pmax	pmax		
	comp=Z,54nm,1.0s					
STHS	**Stebnicka Huta**	**53.28 308**	eP	**P**	**10 24 50.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**53.30 308**	eP	**P**	**10 24 50.2**	**+0.6**
CRVS			pmax	pmax		
	comp=Z,34nm,1.1s					
CRVS	**Cervenica-Dubn**	**53.30 308**	eP	**P**	**10 24 50.2**	**+0.6**
CRVS			ePP	PP	10 26 54.9	+5.4
CRVS			eSS	SKiKP	10 36 16.7	+10
DEV	**Deva**	**53.31 304**	⇑P	**P**	**10 24 51.5**	**+1.8**
DEV	**Deva**	**53.31 304**	⇑iP	**P**	**10 24 51.5**	**+1.8**
BODT	**Bodrum**	**53.35 292**	eP	**P**	**10 24 49.9**	**-0.3**
PLD	**Plovdiv**	**53.35 299**	P	**P**	**10 24 49.9**	**-0.2**
PLD	**Plovdiv**	**53.35 299**	P	**P**	**10 24 49.9**	**-0.2**
PLD	**Plovdiv**	**53.35 299**	P	**P**	**10 24 49.9**	**-0.2**
SMTH	**Samothraki Isl**	**53.36 296**	P	**P**	**10 24 49.2**	**-0.9**
SMTH	**Samothraki Isl**	**53.36 296**	eP	**P**	**10 24 49.6**	**-0.5**
SMTH	**Samothraki Isl**	**53.36 296**	P	**P**	**10 24 49.2**	**-0.9**
URLA	**Izmir**	**53.37 294**	iP	**P**	**10 24 50.5**	**+0.2**
SMG	**Samos**	**53.44 293**	P	**P**	**10 24 50.7**	**-0.1**
SMG	**Samos**	**53.44 293**	eP	**P**	**10 24 51.6**	**+0.8**
SMG	**Samos**	**53.44 293**	P	**P**	**10 24 50.7**	**-0.1**
RZN	**Rozhen**	**53.49 298**	iP	**P**	**10 24 54.4**	**+3.1**
GZR	**Gura Zlata**	**53.55 303**	⇑P	**P**	**10 24 53.2**	**+1.6**
GZR	**Gura Zlata**	**53.55 303**	⇑iP	**P**	**10 24 53.2**	**+1.6**
PGB	**Panagyurishte**	**53.57 299**	iP	**P**	**10 24 52.0**	**+0.2**
MPEP	**Malo Peshtene**	**53.59 300**	iP	**P**	**10 24 52.0**	**+0.2**
CHOS	**Chios island**	**53.76 294**	P	**P**	**10 24 52.9**	**-0.3**
CHOS	**Chios island**	**53.76 294**	eP	**P**	**10 24 52.9**	**-0.3**
CHOS	**Chios island**	**53.76 294**	P	**P**	**10 24 52.9**	**-0.3**
LIA	**Limnos Island**	**53.81 296**	P	**P**	**10 24 52.9**	**-0.6**
LIA	**Limnos Island**	**53.81 296**	P	**P**	**10 24 52.9**	**-0.6**
NIE	**Niedzica**	**53.86 308**	eP	**P**	**10 24 56.6**	**+2.9**
NIE			e*SP	**sP**	**10 25 00.0**	**+1.2**
NIE			eS	S	10 32 37.7	+9.2
FX1	**Attu Island--F**	**53.87 47**	eP	**P**	**10 24 52.5**	**-1.2**
KAVA	**Kavala**	**53.88 297**	P	**P**	**10 24 53.5**	**-0.5**
KAVA	**Kavala**	**53.88 297**	P	**P**	**10 24 53.5**	**-0.5**
OJC	**Ojcow**	**53.93 310**	eP	**P**	**10 24 54.6**	**+0.4**
OJC			pmax	pmax		
	comp=Z,153nm,0.9s					
OJC	**Ojcow**	**53.93 310**	eP	**P**	**10 24 54.5**	**+0.4**
	comp=Z,153nm,0.9s					
KECS	**Kecovo**	**54.04 307**	eP	**P**	**10 24 55.5**	**+0.5**
KECS			pmax	pmax		
	comp=Z,51nm,1.2s					
KECS	**Kecovo**	**54.04 307**	eP	**P**	**10 24 55.5**	**+0.5**
KECS			ePP	**PP**	**10 26 57.1**	**+0.9**
KARP	**Karpathos**	**54.06 290**	P	**P**	**10 24 54.8**	**-0.6**
KARP	**Karpathos**	**54.06 290**	eP	**P**	**10 24 53.6**	**-1.8**
KARP	**Karpathos**	**54.06 290**	P	**P**	**10 24 54.8**	**-0.6**
NVR	**Nevrokopi**	**54.21 298**	P	**P**	**10 24 56.3**	**-0.1**
NVR	**Nevrokopi**	**54.21 298**	eP	**P**	**10 24 56.3**	**-0.1**
NVR	**Nevrokopi**	**54.21 298**	P	**P**	**10 24 56.3**	**-0.1**
NSS	**Namsos**	**54.22 328**	eP	**P**	**10 24 55.7**	**-0.3**
NSS			AMB	AMB	10 24 59.2	
	comp=Z,131nm,0.8s					
MMB	**Musomiste**	**54.22 298**	iP	**P**	**10 24 56.5**	**0.0**
VTS	**Vitosha**	**54.22 300**	P	**P**	**10 24 56.9**	**+0.3**
VTS	**Vitosha**	**54.22 300**	P	**P**	**10 24 56.9**	**+0.3**
VTS	**Vitosha**	**54.22 300**	iP	**P**	**10 24 56.9**	**+0.3**
VTS	**Vitosha**	**54.22 300**	⇓iP	**P**	**10 24 58.1**	**+1.5**
VTS	**Vitosha**	**54.22 300**	P	**P**	**10 24 56.9**	**+0.3**
BZS	**Buzias**	**54.25 304**	⇑P	**P**	**10 24 57.9**	**+1.4**
BZS	**Buzias**	**54.25 304**	⇑iP	**P**	**10 24 57.9**	**+1.4**
SMY	**Shemya**	**54.46 47**	eP	**P**	**10 24 56.8**	**-1.1**
SMY			pmax	pmax		
	comp=Z,370nm,0.9s					
SMY	**Shemya**	**54.46 47**	eP	**P**	**10 24 56.8**	**-1.1**
	comp=Z,370nm,0.9s					
SRS	**Serrai**	**54.49 298**	P	**P**	**10 24 58.0**	**-0.4**
SRS	**Serrai**	**54.49 298**	P	**P**	**10 24 58.0**	**-0.4**
SRS	**Serrai**	**54.49 298**	P	**P**	**10 24 58.0**	**-0.4**
OUR	**Ouranopolis**	**54.51 297**	P	**P**	**10 24 59.4**	**+0.9**
OUR	**Ouranopolis**	**54.51 297**	P	**P**	**10 24 59.4**	**+0.9**
OUR	**Ouranopolis**	**54.51 297**	P	**P**	**10 24 59.4**	**+0.9**
HFS	**Hagfors**	**54.51 322**	LR	LR	10 49 28.3	
	comp=Z,7µm,20.3s,baz=73,slow=37					
GKP	**Gorka Klasztor**	**54.54 314**	eP	**P**	**10 24 59.7**	**+1.2**
GKP			eS	S	10 32 45.3	+7.9
GKP			eSS	SS	10 36 31.5	+12
GKP			LMZ	LR	10 49 14.6	
KKB	**Krupnik**	**54.57 299**	iP	**P**	**10 24 58.8**	**-0.2**
PSZ	**Piszkesteto**	**54.60 307**	⇓P	**P**	**10 25 01.1**	**+1.9**
PSZ	**Piszkesteto**	**54.60 307**	⇓iP	**P**	**10 25 01.1**	**+1.9**
PSZ	**Piszkesteto**	**54.60 307**	eP	**P**	**10 25 00.0**	**+0.8**
	comp=Z,150nm,1.2s					
PSZ			LR	LR		
	comp=Z,3µm,21.0s					
PSZ	**Piszkesteto**	**54.60 307**	⇓eP	**P**	**10 25 01.7**	**+2.5**
APE	**Apeiranthos**	**54.65 293**	eP	**P**	**10 24 58.6**	**-1.1**
APE	**Apeiranthos**	**54.65 293**	P	**P**	**10 24 59.7**	**0.0**
APE	**Apeiranthos**	**54.65 293**	⇑P	**P**	**10 24 59.9**	**+0.2**
APE	**Apeiranthos**	**54.65 293**	eP	**P**	**10 24 59.8**	**0.0**
APE	**Apeiranthos**	**54.65 293**	⇑iP	**P**	**10 24 59.9**	**+0.2**
APE	**Apeiranthos**	**54.65 293**	P	**P**	**10 24 59.7**	**0.0**
PLG	**Polygyros**	**54.87 297**	P	**P**	**10 25 00.6**	**-0.6**
PLG	**Polygyros**	**54.87 297**	P	**P**	**10 25 00.6**	**-0.6**
PLG	**Polygyros**	**54.87 297**	eP	**P**	**10 25 00.7**	**-0.5**
PLG	**Polygyros**	**54.87 297**	P	**P**	**10 25 00.6**	**-0.6**
PAIG	**Paliouri**	**54.87 296**	P	**P**	**10 25 00.7**	**-0.5**
PAIG	**Paliouri**	**54.87 296**	P	**P**	**10 25 00.7**	**-0.5**
PAIG	**Paliouri**	**54.87 296**	eP	**P**	**10 25 01.6**	**+0.4**
PAIG	**Paliouri**	**54.87 296**	P	**P**	**10 25 00.7**	**-0.5**
KNT	**Kendrikon**	**54.96 298**	P	**P**	**10 25 00.8**	**-1.0**
KNT	**Kendrikon**	**54.96 298**	P	**P**	**10 25 00.8**	**-1.0**
KNT	**Kendrikon**	**54.96 298**	P	**P**	**10 25 00.8**	**-1.0**
SANT	**Santorini**	**54.99 292**	eP	**P**	**10 25 02.0**	**-0.1**
	comp=Z,488nm,1.2s					
SANT			LR	LR		
	comp=Z,1µm,19.0s					
AOS	**Alonnisos**	**55.02 296**	P	**P**	**10 25 01.9**	**-0.4**
AOS	**Alonnisos**	**55.02 296**	eP	**P**	**10 25 00.9**	**-1.4**
AOS	**Alonnisos**	**55.02 296**	P	**P**	**10 25 01.9**	**-0.4**
HORT	**Hortiatis**	**55.03 297**	P	**P**	**10 25 01.7**	**-0.7**
HORT	**Hortiatis**	**55.03 297**	P	**P**	**10 25 01.7**	**-0.7**
OKC	**Ostrava-Krasne**	**55.06 309**	eP	**P**	**10 25 03.3**	**+0.9**
OKC			eS	**S**	**10 32 46.4**	**+1.8**
OKC			MLR	MLR		
	comp=Z,6µm,18.1s					
OKC	**Ostrava-Krasne**	**55.06 309**	eP	**P**	**10 25 03.3**	**+0.9**
OKC			eS	**S**	**10 32 46.4**	**+1.8**
OKC			AMS	AMS	10 49 20.0	
	comp=Z,6µm,18.1s					
TBLU	**Trondheim**	**55.27 327**	AMS	AMS	10 49 17.2	
	comp=Z,6µm,23.0s					
BSD	**Bornholm Skovb**	**55.29 316**	⇑iP	**P**	**10 25 04.0**	**0.0**
BSD			iS	**S**	**10 32 52.8**	**+5.3**
BSD			pmax	pmax		
	comp=Z,68nm,1.0s					
BSD			MLR	MLR		
	comp=Z,8µm,20.0s					
BSD	**Bornholm Skovb**	**55.29 316**	⇑iP	**P**	**10 25 04.0**	**0.0**
	comp=Z,68nm,1.0s					
BSD			iS	**S**	**10 32 52.8**	**+5.3**
BSD						
	comp=Z,8µm,20.0s					
BUD	**Budapest**	**55.30 307**	⇑eP	**P**	**10 25 04.4**	**+0.3**
SKIA	**Skiathos**	**55.32 296**	P	**P**	**10 25 05.0**	**+0.6**
NPS	**Neapolis**	**55.33 291**	eP	**P**	**10 25 05.4**	**+0.8**
PKS7	**Kunszentmiklos**	**55.36 306**	⇓eP	**P**	**10 25 06.5**	**+1.9**
ERET	**Eretria**	**55.36 295**	P	**P**	**10 25 04.1**	**-0.7**
NC602	**NORSAR Array S**	**55.38 324**	eP	**P**	**10 25 04.4**	**-0.2**
NC602			eS	**S**	**10 32 47.2**	**-1.3**
NC602			eSS	**SS**	**10 36 29.4**	**-3.0**
MRKA	**Markates**	**55.41 295**	P	**P**	**10 25 04.4**	**-0.7**
XOR	**Xorichti**	**55.44 296**	P	**P**	**10 25 04.2**	**-1.1**
XOR	**Xorichti**	**55.44 296**	P	**P**	**10 25 04.2**	**-1.1**
NB2	**NORSAR Subarra**	**55.45 324**	P	**P**	**10 25 04.5**	**-0.6**
	comp=Z,110nm,0.9s,baz=74,slow=7.4					
NB2	**NORSAR Subarra**	**55.45 324**	P	**P**	**10 25 04.5**	**-0.6**
	baz=74,slow=7.4					
NOA	**NORSAR Array B**	**55.45 324**	P	**P**	**10 25 04.3**	**-0.8**
NOA			PP	**PP**	**10 27 10.1**	**+1.5**
NOA	**NORSAR Array B**	**55.45 324**	P	**P**	**10 25 04.3**	**-0.8**
	comp=Z,113nm,1.0s,baz=74,slow=7.3,SNR=50					
NOA			PP	**PP**	**10 27 10.1**	**+1.5**
	comp=Z,7.2nm,0.8s,baz=72,slow=8.5,SNR=3.5					
NOA			LR	LR	10 49 36.0	
	comp=Z,6µm,18.2s,baz=80,slow=37					
MORC	**Moravsky Berou**	**55.45 310**	eP	**P**	**10 25 05.4**	**+0.1**
MORC	**Moravsky Berou**	**55.45 310**	eP	**P**	**10 25 05.4**	**+0.1**
LAST	**Lasithi**	**55.47 290**	P	**P**	**10 25 05.5**	**-0.2**
LAST	**Lasithi**	**55.47 290**	P	**P**	**10 25 05.5**	**-0.2**
PTL	**Penteli**	**55.47 294**	P	**P**	**10 25 04.9**	**-0.7**
PTL	**Penteli**	**55.47 294**	eP	**P**	**10 25 04.8**	**-0.8**
PTL	**Penteli**	**55.47 294**	P	**P**	**10 25 04.9**	**-0.7**
PKS2	**Kecel**	**55.52 305**	eP	**P**	**10 25 08.7**	**+3.0**
ATHU	**Athens Univers**	**55.56 294**	P	**P**	**10 25 05.1**	**-1.1**
ATHU	**Athens Univers**	**55.56 294**	P	**P**	**10 25 05.1**	**-1.1**
ATH	**Athens Observa**	**55.61 294**	P	**P**	**10 25 05.7**	**-0.8**
ATH	**Athens Observa**	**55.61 294**	P	**P**	**10 25 05.7**	**-0.8**
ATH	**Athens Observa**	**55.61 294**	eP	**P**	**10 25 07.5**	**+1.0**
ATH	**Athens Observa**	**55.61 294**	P	**P**	**10 25 05.7**	**-0.8**
SMIA	**Simia**	**55.62 295**	P	**P**	**10 25 06.2**	**-0.4**
LIT	**Litokhoron**	**55.65 297**	P	**P**	**10 25 05.5**	**-1.3**
LIT	**Litokhoron**	**55.65 297**	P	**P**	**10 25 05.5**	**-1.3**
LIT	**Litokhoron**	**55.65 297**	eP	**P**	**10 25 06.5**	**-0.3**
LIT	**Litokhoron**	**55.65 297**	P	**P**	**10 25 05.5**	**-1.3**
NAO01	**NORSAR Array S**	**55.66 324**	eP	**P**	**10 25 06.2**	**-0.3**
	comp=Z,105nm,0.9s					
PKSG		**55.73 307**	⇑eP	**P**	**10 25 08.7**	**+1.4**
CSKK	**Cs˜¡kako**	**55.83 307**	⇑eP	**P**	**10 25 10.3**	**+2.4**
KSP	**Ksiaz**	**55.86 311**	⇑eP	**P**	**10 25 08.4**	**+0.3**
KSP			eS	**S**	**10 32 57.5**	**+2.3**
KSP			eSS	**SS**	**10 36 37.0**	**-3.3**
KSP			MLR	MLR		
	comp=Z,18µm,18.4s					
KSP	**Ksiaz**	**55.86 311**	eP	**P**	**10 25 08.4**	**+0.3**
KSP			ePcP	**PcP**	**10 26 09.1**	**+2.2**
KSP			eS	**S**	**10 32 59.6**	**+4.4**
KSP			eSS	SS	10 36 54.9	+15
KSP			LMZ	LR	10 50 11.6	
LKR	**Lokris**	**55.86 295**	eP	**P**	**10 25 08.9**	**+0.6**
DIVS	**Divibare**	**55.86 302**	P	**P**	**10 25 07.7**	**-0.7**
NAIG	**Nisos Aigina**	**55.86 294**	eP	**P**	**10 25 07.5**	**-0.9**
SMOL	**Smolenice**	**55.95 308**	eP	**P**	**10 25 10.7**	**+1.9**
SMOL	**Smolenice**	**55.95 308**	eP	**P**	**10 25 10.6**	**+1.8**
PKSM	**Moragy**	**55.99 305**	⇓P	**P**	**10 25 10.1**	**+1.0**
PKSM	**Moragy**	**55.99 305**	⇓iP	**P**	**10 25 10.1**	**+1.0**
PKSM	**Moragy**	**55.99 305**	⇑eP	**P**	**10 25 09.0**	**-0.1**
DPC	**Dobruska-Polom**	**56.00 311**	eP	**P**	**10 25 09.1**	**-0.1**
DPC			pmax	pmax		
	comp=Z,1µm,1.2s					
DPC	**Dobruska-Polom**	**56.00 311**	eP	**P**	**10 25 09.4**	**+0.2**
DPC			ePP	**PP**	**10 27 13.4**	**-0.4**
DPC			eS	**S**	**10 32 57.5**	**+0.3**
DPC			AMS	AMS	10 50 00.0	
DPC	**Dobruska-Polom**	**56.00 311**	eP	**P**	**10 25 09.1**	**-0.1**
	comp=Z,1µm,1.2s					
SIVA	**Sivas**	**56.03 291**	P	**P**	**10 25 08.6**	**-1.0**
SIVA	**Sivas**	**56.03 291**	P	**P**	**10 25 08.6**	**-1.0**
AXAR	**Agios Charalam**	**56.05 296**	P	**P**	**10 25 08.5**	**-1.2**
AXAR	**Agios Charalam**	**56.05 296**	P	**P**	**10 25 08.5**	**-1.2**
KZN	**Kozani**	**56.08 298**	eP	**P**	**10 25 10.2**	**+0.2**
LTK	**Loutraki**	**56.13 295**	P	**P**	**10 25 08.8**	**-1.5**
LTK	**Loutraki**	**56.13 295**	P	**P**	**10 25 08.8**	**-1.5**
UPC	**Upice**	**56.14 311**	eP	**P**	**10 25 10.8**	**+0.7**
UPC	**Upice**	**56.14 311**	eP	**P**	**10 25 10.8**	**+0.7**
DID	**Didima**	**56.15 294**	P	**P**	**10 25 07.4**	**-3.1**
DID	**Didima**	**56.15 294**	eP	**P**	**10 25 08.8**	**-1.7**
DID	**Didima**	**56.15 294**	P	**P**	**10 25 07.4**	**-3.1**
FNA	**Florina**	**56.17 298**	P	**P**	**10 25 10.3**	**-0.3**
FNA	**Florina**	**56.17 298**	P	**P**	**10 25 10.3**	**-0.3**
FNA	**Florina**	**56.17 298**	eP	**P**	**10 25 10.5**	**-0.1**
FNA	**Florina**	**56.17 298**	P	**P**	**10 25 10.3**	**-0.3**
DIDY	**Didyma**	**56.18 294**	P	**P**	10 25 07.5	-3.3
AGG	**Agios Georgios**	**56.19 296**	P	**P**	**10 25 09.2**	**-1.5**
AGG	**Agios Georgios**	**56.19 296**	P	**P**	**10 25 09.2**	**-1.5**
AGG	**Agios Georgios**	**56.19 296**	eP	**P**	**10 25 09.4**	**-1.3**
AGG	**Agios Georgios**	**56.19 296**	P	**P**	**10 25 09.2**	**-1.5**
VRAC	**Vranov**	**56.19 309**	LR	LR	10 50 30.6	
	comp=Z,7µm,18.5s,baz=61,slow=37					
THL	**Klokotos Trika**	**56.20 297**	P	**P**	**10 25 09.4**	**-1.3**
THL	**Klokotos Trika**	**56.20 297**	eP	**P**	**10 25 09.9**	**-0.8**
ACOR	**Acrocorinthos**	**56.26 295**	P	**P**	**10 25 10.6**	**-0.6**
ZST	**Bratislava**	**56.27 308**	eP	**P**	**10 25 11.7**	**+0.6**
ZST	**Bratislava**	**56.27 308**	eP	**P**	**10 25 11.7**	**+0.6**
DSF	**Desfina**	**56.29 295**	P	**P**	**10 25 09.2**	**-2.3**
DSF	**Desfina**	**56.29 295**	P	**P**	**10 25 09.2**	**-2.3**
VAM	**Vamos**	**56.32 291**	eP	**P**	**10 25 12.7**	**+1.1**
MAKR	**Makrakomi, Fth**	**56.33 296**	P	**P**	**10 25 10.5**	**-1.3**
MAKR	**Makrakomi, Fth**	**56.33 296**	P	**P**	**10 25 10.5**	**-1.3**
RGN	**Rugen**	**56.35 316**	eP	**P**	**10 25 12.9**	**+1.4**
	comp=Z,421nm,1.2s					
IVA	**Berane**	**56.39 301**	⇓iP	**P**	**10 25 12.3**	**+0.2**
MSEY	**Mahe Island**	**56.40 231**	PFAKE		10 25 20.0	+7.5
MSEY			LR	LR		
	comp=Z,4µm,21.0s					
PVY	**Plav**	**56.45 301**	eP	**P**	**10 25 12.5**	**-0.1**
COP	**Copenhagen**	**56.46 318**	eP	**P**	**10 25 11.9**	**-0.4**
COP			iS	S	10 33 11.1	+8.2
COP			pmax	pmax		
	comp=Z,50nm,1.0s					
COP			MLR	MLR		
	comp=Z,3µm,21.0s					
COP	**Copenhagen**	**56.46 318**	iP	**P**	**10 25 11.9**	**-0.4**
	comp=Z,50nm,0.9s					
COP			iS	S	10 33 11.1	+8.2
COP						
	comp=Z,3µm,20.0s					
PHP	**Peshkopia**	**56.47 300**	P	**P**	**10 25 11.8**	**-0.9**
PHP	**Peshkopia**	**56.47 300**	P	**P**	**10 25 11.8**	**-0.9**
PHP	**Peshkopia**	**56.47 300**	P	**P**	**10 25 11.8**	**-0.9**
KARN	**Karanos**	**56.53 291**	P	**P**	**10 25 12.3**	**-0.9**
KARN	**Karanos**	**56.53 291**	P	**P**	**10 25 12.3**	**-0.9**
NEST	**Nestorio**	**56.54 298**	P	**P**	**10 25 11.2**	**-2.1**
PLE	**Pljevlja**	**56.55 302**	⇑iP	**P**	**10 25 13.7**	**+0.3**
KALE	**Kalithea**	**56.58 295**	P	**P**	**10 25 11.9**	**-1.6**
KALE	**Kalithea**	**56.58 295**	eP	**P**	**10 25 12.9**	**-0.6**
KALE	**Kalithea**	**56.58 295**	P	**P**	**10 25 11.9**	**-1.6**
EVR	**Evrytania**	**56.60 296**	P	**P**	**10 25 12.2**	**-1.6**
EVR	**Evrytania**	**56.60 296**	eP	**P**	**10 25 12.7**	**-1.1**
EVR	**Evrytania**	**56.60 296**	P	**P**	**10 25 12.2**	**-1.6**
GUR	**Goura**	**56.62 295**	P	**P**	**10 25 11.2**	**-2.7**
GUR	**Goura**	**56.62 295**	eP	**P**	**10 25 11.4**	**-2.5**
GUR	**Goura**	**56.62 295**	P	**P**	**10 25 11.2**	**-2.7**
KONO	**Kongsberg**	**56.63 323**	eP	**P**	**10 25 13.6**	**+0.1**
KONO			eS	**S**	**10 33 03.1**	**-2.1**
KONO			AMS	AMS	10 50 33.5	
	comp=Z,4µm,16.7s					
KONO	**Kongsberg**	**56.63 323**	eP	**P**	**10 25 13.7**	**+0.2**
KONO			pmax	pmax		
	comp=Z,128nm,1.0s					
KONO			MLR	MLR		
	comp=Z,5µm,19.0s					
KONO	**Kongsberg**	**56.63 323**	eP	**P**	**10 25 13.7**	**+0.2**
	comp=Z,31nm,1.0s					
KONO			LR	LR		
	comp=Z,5µm,19.0s					
TRIZ	**Trizonia**	**56.64 295**	P	**P**	**10 25 11.9**	**-2.0**
TRIZ	**Trizonia**	**56.64 295**	eP	**P**	**10 25 12.6**	**-1.3**
MOL	**Molde**	**56.65 326**	eP	**P**	**10 25 14.3**	**+0.8**
MOL			AMB	AMB	10 25 17.9	
	comp=Z,377nm,1.2s					
MOL			eS	**S**	**10 33 04.2**	**-1.1**
LLD	**Lille Linde**	**56.69 317**	iP	**P**	**10 25 16.4**	**+2.5**
LLD			pmax	pmax		
	comp=Z,110nm,0.9s					
LLD	**Lille Linde**	**56.69 317**	iP	**P**	**10 25 16.4**	**+2.5**
	comp=Z,111nm,0.9s					
VLI	**Veliai**	**56.69 293**	P	**P**	**10 25 11.3**	**-3.0**
VLI	**Veliai**	**56.69 293**	eP	**P**	**10 25 11.5**	**-2.8**
VLI	**Veliai**	**56.69 293**	P	**P**	**10 25 11.3**	**-3.0**
KLV	**Kalavryta, Ach**	**56.71 295**	P	**P**	**10 25 11.7**	**-2.8**
KLV	**Kalavryta, Ach**	**56.71 295**	eP	**P**	**10 25 13.2**	**-1.3**
KLV	**Kalavryta, Ach**	**56.71 295**	P	**P**	**10 25 11.7**	**-2.8**
RUE	**Ruedersdorf**	**56.78 314**	eP	**P**	**10 25 15.5**	**+0.9**
	comp=Z,186nm,0.8s					
ANKY	**Antikythira Is**	**56.78 292**	P	**P**	**10 25 13.6**	**-1.3**
ANKY	**Antikythira Is**	**56.78 292**	eP	**P**	**10 25 13.9**	**-1.0**
ANKY	**Antikythira Is**	**56.78 292**	P	**P**	**10 25 13.6**	**-1.3**
SOP	**Sopron**	**56.79 307**	⇑eP	**P**	**10 25 16.4**	**+1.6**
KYTH	**Kithira**	**56.80 293**	eP	**P**	**10 25 13.4**	**-1.7**
VLX	**Vlachokerasia**	**56.83 294**	eP	**P**	**10 25 14.3**	**-1.1**
TREC	**Trest**	**56.88 310**	eP	**P**	**10 25 16.3**	**+0.8**
TREC			eS	**S**	**10 33 11.3**	**+2.5**
TREC			MLR	MLR		
	comp=Z,8µm,16.2s					
TREC	**Trest**	**56.88 310**	eP	**P**	**10 25 16.3**	**+0.8**
TREC			eS	**S**	**10 33 11.3**	**+2.5**
TREC			AMS	AMS	10 50 20.0	
	comp=Z,8µm,16.2s					
UPM	**Unac-Piva**	**56.93 302**	⇑iP	**P**	**10 25 15.6**	**-0.5**
TTG	**Podgorica**	**56.99 301**	⇑iP	**P**	**10 25 15.9**	**-0.4**
PVCC	**Panska Ves**	**56.99 311**	eP	**P**	**10 25 16.8**	**+0.6**
PVCC			eS	**S**	**10 33 09.2**	**-1.1**
PVCC			MLR	MLR		
	comp=Z,7µm,15.8s					
PVCC	**Panska Ves**	**56.99 311**	eP	**P**	**10 25 16.8**	**+0.6**
PVCC			eS	**S**	**10 33 09.2**	**-1.1**
PVCC			AMS	AMS	10 50 40.0	
	comp=Z,7µm,15.8s					
TIR	**Tirane**	**57.00 299**	eP	**P**	**10 25 16.5**	**+0.1**
TIR			pmax	pmax		
	comp=Z,198nm,1.0s					
TIR			MLR	MLR		
	comp=Z,2µm,21.0

comp=Z,183nm,0.7s
PERS Pernice 58.09 307 *e*P **P 10 25 23.9 -0.2**
PERS *e*PP **PP 10 27 34.0 +1.5**
PERS *e*S **S 10 33 27.1 +2.2**
KHC Kasperske Hory 58.10 310 *e*P **P 10 25 24.1 0.0**
KHC pmax pmax
comp=Z,72nm,1.1s
KHC Kasperske Hory 58.10 310 *e*P **P 10 25 24.7 +0.6**
KHC *e*x x 10 25 35.5
KHC *e*x x 10 27 15.0
KHC *e*PP **PP 10 27 30.8 -1.7**
KHC *e*S **S 10 33 24.7 -0.2**
KHC AMS AMS 10 51 10.0
comp=Z,10µm,18.0s
KHC Kasperske Hory 58.10 310 *e*P **P 10 25 24.1 0.0**
comp=Z,72nm,1.1s
SOKA Soboth 58.13 307⇑*i*P **P 10 25 24.1 -0.3**
comp=Z,208nm,1.1s,SNR=108
GEC2 GERESS Array S 58.13 310 *e*P **P 10 25 25.6 +1.2**
comp=Z,118nm,1.2s
GEC2 GERESS Array S 58.13 310 *e*P **P 10 25 24.6 +0.2**
GEC2 GERESS Array S 58.13 310 *e*P **P 10 25 24.6 +0.2**
GERES GERESS Array B 58.13 310 P **P 10 25 23.9 -0.5**
GERES GERESS Array B 58.13 310 P **P 10 25 23.9 -0.5**
comp=Z,65nm,1.0s,baz=64,slow=6.1,SNR=67
GERES LR LR 10 51 49.6
comp=Z,7µm,18.8s,baz=60,slow=38
MOA Molln 58.16 308⇑*i*pP **P 10 25 24.6 +0.1**
comp=Z,103nm,1.1s,SNR=50
BSEG Bad Segeberg 58.21 316 *e*P **P 10 25 26.2 +1.5**
comp=Z,278nm,1.1s
TANN Tannenbergstha 58.29 312 *e*P **P 10 25 26.4 +1.0**
comp=Z,128nm,1.2s
WERD Werda 58.37 312 *e*P **P 10 25 26.9 +1.0**
comp=Z,110nm,1.2s
BER Bergen 58.40 324 *e*P **P 10 25 26.4 +0.6**
BER *e*S **S 10 33 29.5 +1.2**
BER AMS AMS 10 51 10.3
comp=Z,6µm,18.7s
NEUB Neuenburg 58.40 313 *e*P **P 10 25 26.9 +0.8**
comp=Z,214nm,1.1s
SUE Sulen 58.41 325 *e*P **P 10 25 27.6 +1.6**
SUE AMS AMS 10 51 33.0
comp=Z,6µm,20.1s
BOJS Bojanci 58.45 305 *e*P **P 10 25 26.5 0.0**
BOJS *e*PP **PP 10 27 37.2 +1.7**
BOJS *e*S **S 10 33 32.9 +3.5**
OBKA Obir 58.51 307⇑*i*P **P 10 25 26.7 -0.3**
comp=Z,129nm,1.1s,SNR=51
WET Wettzell 58.52 310 *e*P **P 10 25 28.3 +1.3**
comp=Z,262nm,1.7s
WET Wettzell 58.52 310 *e*P **P 10 25 28.3 +1.3**
WET pmax pmax
comp=Z,262nm,1.7s
MANZ Manzenberg 58.66 311 *e*P **P 10 25 29.2 +1.2**
comp=Z,208nm,1.7s
ROTZ Rotzenmuhle 58.69 311 *e*P **P 10 25 29.6 +1.4**
comp=Z,208nm,1.2s
LJU Ljubljana 58.70 306 *e*P **P 10 25 27.9 -0.4**
LJU *e*PP **PP 10 27 39.4 +1.6**
LJU *e*S **S 10 33 35.0 +2.2**
MOX Moxa 58.70 312 *e*P **P 10 25 29.2 +1.0**
comp=Z,137nm,1.2s
MOX *e*S **S 10 33 36.4 +3.7**
MOX *e*L L 10 48 17.2
comp=E,4µm,20.6s
MOX Moxa 58.70 312 *e*P **P 10 25 29.2 +1.0**
MOX *e*S **S 10 33 36.4 +3.7**
MOX pmax pmax
comp=Z,137nm,1.2s
NRDL Niedersach Rie 58.87 315 *e*P **P 10 25 30.7 +1.5**
comp=Z,345nm,1.2s
DAG Danmarks Havn 58.95 346 *i*P **P 10 25 29.0 -0.5**
DAG pmax pmax
comp=Z,13nm,0.9s
DAG MLR MLR
comp=Z,6µm,23.0s
DAG Danmarks Havn 58.95 346 *i*P **P 10 25 29.0 -0.5**
comp=Z,16nm,0.9s
DAG
comp=Z,5µm,22.0s
MYKA Terra Mystica 59.03 307⇑*i*P **P 10 25 30.1 -0.5**
comp=Z,34nm,0.9s,SNR=12
KBA Koelnbreinsper 59.04 308⇑*i*pP **P 10 25 30.7 -0.1**
comp=Z,99nm,1.1s,SNR=34
VOY Vojsko 59.11 306 *e*P **P 10 25 31.2 -0.1**
VOY *e* 10 26 05.7
VOY *e* 10 26 16.4
RJOB Jochberg 59.12 309 *e*P **P 10 25 32.8 +1.5**
comp=Z,290nm,1.7s
CADS Cadrg 59.13 307 *e*P **P 10 25 28.6 -2.7**
GRF Grafenberg Arr 59.31 311 *e*P **P 10 25 33.9 +1.4**
comp=Z,295nm,1.1s
GRF *e*S S 10 33 46.6 +6.1
GRF *e*L L 10 52 17.6
comp=E,4µm,18.3s
GRF Grafenberg Arr 59.31 311 *e*P **P 10 25 33.9 +1.4**
GRF *e*S S 10 33 46.6 +6.1
GRF pmax pmax
comp=Z,295nm,1.1s
GRF MLR MLR
comp=E,4µm,18.3s
GRFO Grafenberg 59.31 311 *e*P **P 10 25 33.5 +1.1**
GRFO pmax pmax
comp=Z,245nm,1.0s
GRFO Grafenberg 59.31 311 *e*P **P 10 25 33.5 +1.1**
comp=Z,245nm,1.0s
TRI Trieste 59.32 306 *e*P **P 10 25 32.6 0.0**
TRI Trieste 59.32 306 *e*P **P 10 25 32.6 0.0**
JMIC Jan Mayen 59.34 338 *e* P 10 25 37.3 +5.0
JMIC *e*S **S 10 33 41.0 +0.7**
JMIC AMS AMS 10 54 14.8
comp=Z,3µm,15.6s
UBBA Unterbreizbach 59.58 313 *e*P **P 10 25 35.2 +1.0**
comp=Z,162nm,1.6s
ABTA Abfaltersbach 59.70 308⇑*i*P **P 10 25 34.3 -1.0**
comp=Z,96nm,1.0s,SNR=36
FUR Furstenfeldbru 59.88 310 *e*P **P 10 25 38.0 +1.5**
comp=Z,411nm,1.1s
FUR Furstenfeldbru 59.88 310 *e*P **P 10 25 38.0 +1.5**
FUR pmax pmax
comp=Z,411nm,1.1s
WTTA Wattenberg 60.03 309⇑*i*P **P 10 25 37.4 -0.3**
comp=Z,315nm,1.1s,SNR=100
WATA Walderalm 60.04 309⇑*i*P **P 10 25 37.3 -0.4**
comp=Z,182nm,1.1s,SNR=45
ADK Adak 60.05 46 PFAKE 10 25 50.0 +13
ADK LR LR
comp=Z,3µm,20.0s
IBBN Ibbenburen 60.27 315 *e*P **P 10 25 40.0 +1.0**
comp=Z,309nm,1.6s
MOTA Moosalm 60.33 309⇑*i*P **P 10 25 39.1 -0.6**
comp=Z,264nm,1.0s,SNR=133
CUC Castrocucco 60.36 299 *e*P **P 10 25 40.3 +0.4**
CUC LR LR
comp=Z,1µm,19.0s
RETA Reutte 60.48 309⇑*i*P **P 10 25 40.4 -0.2**
comp=Z,166nm,1.3s,SNR=61
FETA Feichten 60.70 309 *i*P **P 10 25 41.7 -0.6**
comp=Z,195nm,1.1s,SNR=89
TNS Taunus Mts 60.73 313 *e*P **P 10 25 43.3 +1.0**
comp=Z,219nm,1.7s
TNS Taunus Mts 60.73 313 *e*P **P 10 25 43.3 +1.0**
TNS pmax pmax
comp=Z,219nm,1.7s
STU Stuttgart 60.90 311 *e*P **P 10 25 44.2 +0.9**
comp=Z,154nm,1.0s
STU Stuttgart 60.90 311 *e*P **P 10 25 43.4 +0.1**
STU pmax pmax
comp=Z,173nm,1.1s
STU Stuttgart 60.90 311 *e*P **P 10 25 43.4 +0.1**
comp=Z,173nm,1.1s
BUG Bochum--Univer 60.90 314 *e*P **P 10 25 44.4 +1.1**
comp=Z,206nm,1.2s
WTSB Winterswijk 60.95 315 *e*P **P 10 25 44.4 +0.9**
comp=Z,406nm,1.6s
AQU L'Aquila 60.97 303 *e*P **P 10 25 45.3 +1.3**
comp=Z,262nm,1.2s
AQU LR LR
comp=Z,3µm,19.0s
CEL Celeste 61.07 298 *e*P **P 10 25 44.9 +0.2**
comp=Z,304nm,0.9s
CEL LR LR
comp=Z,1µm,19.0s
DAVA Damuels 61.11 309⇑*i*P **P 10 25 44.5 -0.5**
comp=Z,81nm,1.0s,SNR=32

FUORN Ofenpass-Fuorn 61.16 308 *e*P **P 10 25 46.1 +0.6**
DAVOX Davos/Dischmat 61.33 309 LR LR 10 53 57.0
comp=Z,6µm,19.5s,baz=56,slow=38
LRW Lerwick 61.47 326 *e*P **P 10 25 46.8 -0.2**
LRW AMB AMB 10 25 51.1
comp=Z,151nm,1.1s
LRW AMS AMS 10 53 28.8
comp=Z,7µm,15.8s
BFO Black Forest 61.60 311 *e*P **P 10 25 48.8 +0.6**
comp=Z,162nm,1.2s
BFO Black Forest 61.60 311 *e*P **P 10 25 48.2 0.0**
BFO pmax pmax
comp=Z,130nm,1.1s
BFO MLR MLR
comp=Z,3µm,21.0s
BFO Black Forest 61.60 311 *e*P **P 10 25 48.2 0.0**
comp=Z,130nm,1.1s
BFO LR LR
comp=Z,3µm,21.0s
LANF Langenberg 61.64 312 *e*P **P 10 25 48.1 -0.3**
TUE Stuetta 61.79 308 *e*P **P 10 25 48.9 -0.8**
comp=Z,144nm,1.0s
TUE LR LR
comp=Z,6µm,19.0s
HGN Heimansgroeve 61.95 314 *e*P **P 10 25 50.8 +0.4**
comp=Z,248nm,1.6s
HGN *e*S **S 10 34 12.6 -1.6**
MEM Membach 61.98 314 P **P 10 25 51.0 +0.4**
MEM Membach 61.98 314 *e*P **P 10 25 51.9 +1.3**
MEM Membach 61.98 314 *e*P **P 10 25 51.9 +1.3**
BEBN Eben Emael 62.08 314 P **P 10 25 51.5 +0.2**
comp=Z,39nm,1.5s
FITZ Fitzroy Crossi 62.12 148 P **P 10 25 50.6 -1.2**
FITZ PcP **PcP 10 26 30.9 -1.1**
FITZ ⇑*e* 10 55 07.1
FITZ Fitzroy Crossi 62.12 148 P **P 10 25 50.6 -1.2**
comp=Z,40nm,0.8s,baz=344,slow=5.9,SNR=45
FITZ PcP **PcP 10 26 30.9 -1.1**
comp=Z,20nm,0.9s,baz=285,slow=3.7,SNR=6.3
FITZ PKP2bc 10 55 07.1
comp=Z,4.1nm,1.0s,baz=114,slow=2.4,SNR=3.3
FITZ LR LR 10 56 07.6
comp=Z,1µm,20.8s,baz=333,slow=39
VLC Villacollemand 62.15 306 *e*P **P 10 25 53.1 +1.2**
comp=Z,221nm,1.2s
VLC LR LR
comp=Z,3µm,20.0s
CDF Champ du Feu 62.20 311 *e*P **P 10 25 52.4 +0.1**
comp=Z,168nm,1.0s
CDF Champ du Feu 62.20 311 *e*P **P 10 25 52.4 +0.1**
CDF pmax pmax
comp=Z,168nm,1.0s
CDF Champ du Feu 62.20 311 *e*P **P 10 25 52.4 +0.1**
comp=Z,168nm,1.0s
WLF Walferdange 62.31 313 P **P 10 25 53.8 +1.0**
comp=Z,196nm,1.5s
WLF Walferdange 62.31 313 *e*P **P 10 25 54.4 +1.5**
comp=Z,257nm,1.0s
WLF Walferdange 62.31 313 *e*P **P 10 25 53.9 +1.0**
WLF pmax pmax
comp=Z,267nm,1.0s
WLF MLR MLR
comp=Z,4µm,20.0s
WLF Walferdange 62.31 313 *e*P **P 10 25 53.9 +1.0**
comp=Z,267nm,1.0s
WLF LR LR
comp=Z,4µm,20.0s
ECH Echery 62.36 311 *e*P **P 10 25 53.0 -0.2**
ECH pmax pmax
comp=Z,102nm,1.1s
ECH MLR MLR
comp=Z,4µm,22.0s
ECH Echery 62.36 311 *e*P **P 10 25 53.0 -0.2**
comp=Z,102nm,1.1s
ECH LR LR
comp=Z,4µm,22.0s
ECH Echery 62.36 311 *e*P **P 10 25 53.3 0.0**
BCLA Clavier 62.46 314 P **P 10 25 54.9 +1.1**
comp=Z,68nm,1.4s
MOF Molkenrain 62.53 311 *e*P **P 10 25 54.7 +0.2**
MBWA Marble Bar 62.65 155 P **P 10 25 56.9 +1.6**
SNR=7.9
MBWA Marble Bar 62.65 155 *e*P **P 10 25 54.6 -0.7**
MBWA LR LR
comp=Z,2µm,21.0s
HINF Hinteralfeld 62.72 311 *e*P **P 10 25 55.7 0.0**
comp=Z,191nm,1.1s
HINF Hinteralfeld 62.72 311 *e*P **P 10 25 55.7 0.0**
HINF pmax pmax
comp=Z,191nm,1.1s
HINF Hinteralfeld 62.72 311 *e*P **P 10 25 55.7 0.0**
comp=Z,191nm,1.1s
UCC Uccle 62.83 315 P **P 10 25 56.8 +0.6**
GIVF Givet 62.88 314 *e*P **P 10 25 57.2 +0.5**
comp=Z,228nm,1.0s
GIVF Givet 62.88 314 *e*P **P 10 25 57.2 +0.5**
GIVF pmax pmax
comp=Z,228nm,1.0s
GIVF Givet 62.88 314 *e*P **P 10 25 57.2 +0.5**
comp=Z,228nm,1.0s
HAU Haudompre 62.94 311 *e*P **P 10 25 57.2 +0.1**
comp=Z,229nm,1.2s
HAU *e*R
comp=Z,6µm,17.8s
HAU Haudompre 62.94 311 *e*P **P 10 25 57.2 +0.1**
HAU pmax pmax
comp=Z,229nm,1.2s
HAU Haudompre 62.94 311 *e*P **P 10 25 57.2 +0.1**
comp=Z,229nm,1.2s
LOMF Lomont 62.95 310 *e*P **P 10 25 56.8 -0.5**
DOU Dourbes 63.02 314 P **P 10 25 57.8 +0.2**
comp=Z,52nm,1.2s
THEF They Montfort 63.05 311 *e*P **P 10 25 57.5 -0.4**
PAGF Fort de Pagny 63.06 312 *e*P **P 10 25 58.6 +0.7**
comp=Z,164nm,1.3s
PAGF Fort de Pagny 63.06 312 *e*P **P 10 25 58.6 +0.7**
comp=Z,164nm,1.3s
SENIN Lac Senin/Sane 63.11 309 *e*P **P 10 25 58.3 -0.2**
WDD Wield Dalam 63.15 296 *e*P **P 10 25 57.2 -1.4**
comp=Z,249nm,0.9s
WDD LR LR
comp=Z,630nm,20.0s
BAIF Baives 63.25 314 *e*P **P 10 25 59.8 +0.7**
comp=Z,217nm,1.0s
BAIF Baives 63.25 314 *e*P **P 10 25 59.8 +0.7**
BAIF pmax pmax
comp=Z,217nm,1.0s
BAIF Baives 63.25 314 *e*P **P 10 25 59.8 +0.7**
comp=Z,217nm,1.0s
WAKE Wake Island 63.48 85 PFAKE 10 26 10.0 +8.9
WAKE LR LR
comp=Z,957nm,22.0s
MEZF Maizieres J'vi 63.48 312 *e*P **P 10 26 01.3 +0.6**
comp=Z,261nm,1.1s
MEZF Maizieres J'vi 63.48 312 *e*P **P 10 26 01.3 +0.6**
comp=Z,261nm,1.1s
OG01 Vacheresse 63.50 309 *e*P **P 10 26 00.7 -0.3**
DRUM Mains of Drumt 63.57 323 *e*P **P 10 26 01.2 +0.1**
DRUM AMB AMB 10 26 03.3
comp=Z,118nm,1.5s
DRUM AMS AMS 10 54 39.7
comp=Z,3µm,16.9s
MME1 Meikle Cairn 63.60 323 *e*P **P 10 26 01.8 +0.4**
MCD Coleburn Disti 63.61 324 *e*P **P 10 26 02.0 +0.6**
SFTF Sexfontaines 63.63 312 *e*P **P 10 26 01.8 +0.1**
comp=Z,247nm,1.1s
SFTF Sexfontaines 63.63 312 *e*P **P 10 26 01.8 +0.1**
comp=Z,247nm,1.1s
CABF La Chapelle 63.73 310 *e*P **P 10 26 02.5 0.0**
comp=Z,130nm,1.1s
CABF La Chapelle 63.73 310 *e*P **P 10 26 02.5 0.0**
CABF pmax pmax
comp=Z,130nm,1.1s
CABF La Chapelle 63.73 310 *e*P **P 10 26 02.5 0.0**
comp=Z,130nm,1.1s
IMA2 Indian Mountai 63.76 25 *e*P **P 10 26 01.3 -1.1**
IM04 Indian Mountai 63.78 25 *e*P **P 10 26 02.7 +0.3**
PGF Pioggiola 63.79 305 *e*P **P 10 26 03.5 +0.5**
comp=Z,629nm,1.3s
PGF Pioggiola 63.79 305 *e*P **P 10 26 03.5 +0.5**
PGF pmax pmax
comp=Z,629nm,1.3s
PGF Pioggiola 63.79 305 *e*P **P 10 26 03.5 +0.5**
comp=Z,629nm,1.3s
RSL Roselend 63.83 309 *e*P **P 10 26 03.5 +0.2**
LPG La Plagne 63.84 308 *e*P **P 10 26 04.2 +0.7**

comp=Z,500nm,1.1s
LPG La Plagne 63.84 308 *e*P **P 10 26 04.2 +0.7**
LPG pmax pmax
comp=Z,500nm,1.1s
LPG La Plagne 63.84 308 *e*P **P 10 26 04.2 +0.7**
comp=Z,500nm,1.1s
LPL La Plagne 63.85 308 *e*P **P 10 26 04.2 +0.8**
comp=Z,320nm,0.9s
LPL La Plagne 63.85 308 *e*P **P 10 26 04.2 +0.8**
LPL pmax pmax
comp=Z,320nm,0.9s
LPL La Plagne 63.85 308 *e*P **P 10 26 04.2 +0.8**
comp=Z,320nm,0.9s
MVH1 Achvaich 63.88 324 *e*P **P 10 26 03.5 +0.5**
SAOF Saorge 64.05 307 *e*P **P 10 26 04.6 +0.1**
OSPF L'Ospedale 64.08 304 *e*P **P 10 26 04.1 -0.8**
BNI Bardonecchia 64.10 308 *e*P **P 10 26 04.5 -0.5**
BNI pmax pmax
comp=Z,113nm,1.0s
BNI MLR MLR
comp=Z,5µm,20.0s
BNI Bardonecchia 64.10 308 *e*P **P 10 26 04.5 -0.5**
comp=Z,113nm,1.0s
BNI LR LR
comp=Z,5µm,20.0s
ESY Stoneypath 64.11 322 *e*P **P 10 26 05.9 +1.2**
AUTN L'Aution 64.12 307 *e*P **P 10 26 05.0 -0.3**
LMK Market Rasen 64.14 319 *e*P **P 10 26 05.9 +0.9**
LMK AMB AMB 10 26 07.2
comp=Z,355nm,2.0s
MENF Mencas 64.19 315 *e*P **P 10 26 05.4 +0.2**
MBDF Montbardon 64.19 308 *e*P **P 10 26 05.2 -0.4**
comp=Z,199nm,1.0s
MBDF Montbardon 64.19 308 *e*P **P 10 26 05.2 -0.4**
MBDF pmax pmax
comp=Z,199nm,1.0s
MBDF Montbardon 64.19 308 *e*P **P 10 26 05.2 -0.4**
comp=Z,199nm,1.0s
MDO Dochfour 64.20 324 *e*P **P 10 26 05.6 +0.3**
COLD Coldfoot 64.22 23 *e*P **P 10 26 05.4 +0.1**
LUCF Luceram 64.22 307 *e*P **P 10 26 05.6 -0.2**
TOUF Mont Tournerai 64.23 307 *e*P **P 10 26 06.1 +0.2**
REVF Revere 64.28 306 *e*P **P 10 26 05.1 -1.0**
SURF Saint Ours 64.28 307 *e*P **P 10 26 06.7 +0.4**
OG35 Corcelles 64.32 309 *e*P **P 10 26 05.9 -0.4**
MVIF Mont Vial 64.35 307 *e*P **P 10 26 06.3 -0.3**
GDM Grand'Maison 64.38 308 *e*P **P 10 26 07.5 +0.7**
EDI Edinburgh 64.39 322 AMS AMS 10 55 44.2
comp=Z,4µm,15.1s
EBL Broad Law 64.39 322 *e*P **P 10 26 06.9 +0.4**
ELSH Elham, Standar 64.47 316 AMS AMS 10 55 32.2
comp=Z,5µm,16.0s
HPK Haverah Park 64.58 320 AMS AMS 10 55 52.1
comp=Z,4µm,18.6s
CALN Calern 64.58 307 *e*P **P 10 26 07.0 -1.2**
GRN Grenoble 64.59 309 *e*P **P 10 26 09.0 +0.8**
KAC Achnashellach 64.61 324 *e*P **P 10 26 08.2 +0.2**
ORIF Oris-en-Rattie 64.66 308 *e*P **P 10 26 08.7 +0.1**
comp=Z,250nm,1.0s
ORIF *e*R
comp=Z,11µm,19.2s
ORIF Oris-en-Rattie 64.66 308 *e*P **P 10 26 08.7 +0.1**
ORIF pmax pmax
comp=Z,250nm,1.0s
ORIF Oris-en-Rattie 64.66 308 *e*P **P 10 26 08.7 +0.1**
comp=Z,250nm,1.0s
ESK Eskdalemuir 64.70 321 *e*P **P 10 26 08.9 +0.4**
ESK AMB AMB 10 26 10.7
comp=Z,124nm,1.5s
ESK AMS AMS 10 59 55.9
comp=Z,2µm,13.5s
ESK Eskdalemuir 64.70 321 *i*P **P 10 26 09.7 +1.1**
ESK Eskdalemuir 64.70 321 *e*P **P 10 26 09.2 +0.6**
comp=Z,48nm,1.3s
ESK LR LR
comp=Z,3µm,19.0s
ECK Cauldkaine Hil 64.73 321 *e*P **P 10 26 08.9 +0.2**
LOR Lormes 64.77 311 *e*P **P 10 26 08.8 -0.4**
comp=Z,123nm,0.9s
LOR *e*R
comp=Z,5µm,19.0s
LOR Lormes 64.77 311 *e*P **P 10 26 08.8 -0.4**
comp=Z,123nm,0.9s
EAB Aberfoyle 64.82 323 *e*P **P 10 26 09.6 +0.3**
FRF La Foret Royal 64.83 307 *e*P **P 10 26 09.6 0.0**
comp=Z,153nm,1.1s
FRF La Foret Royal 64.83 307 *e*P **P 10 26 09.6 0.0**
FRF pmax pmax
comp=Z,153nm,1.1s
FRF La Foret Royal 64.83 307 *e*P **P 10 26 09.6 0.0**
comp=Z,153nm,1.1s
KPL Plockton 64.86 324 AMS AMS 10 54 44.2
comp=Z,4µm,18.8s
KBI1 Birley Grange 64.87 319 *e*P **P 10 26 09.7 0.0**
AKUT Akutan 64.92 40 *e*P **P 10 26 08.2 -1.8**
comp=Z,144nm,1.3s
VSL Villasalto 64.99 302 *e*P **P 10 26 10.6 -0.2**
comp=Z,95nm,0.9s
VSL LR LR
comp=Z,1µm,20.0s
KESW Keswick, Cumbr 65.02 321 *e*P **P 10 26 10.7 +0.1**
KESW AMB AMB 10 26 17.5
comp=Z,135nm,1.2s
KESW AMS AMS 10 56 11.5
comp=Z,3µm,15.1s
LMR La Mourre 65.03 306 *e*P **P 10 26 11.0 +0.1**
comp=Z,323nm,1.2s
LMR La Mourre 65.03 306 *e*P **P 10 26 11.0 +0.1**
LMR pmax pmax
comp=Z,323nm,1.2s
LMR La Mourre 65.03 306 *e*P **P 10 26 11.0 +0.1**
comp=Z,323nm,1.2s
HMNX Herstmonceux 65.05 316 AMS AMS 10 55 51.4
comp=Z,6µm,17.0s
PGBU Glenifferbraes 65.08 322 AMS AMS 10 58 16.5
comp=Z,3µm,12.0s
SMF Signal de Mont 65.08 311 *e*P **P 10 26 11.2 0.0**
comp=Z,456nm,1.0s
SMF Signal de Mont 65.08 311 *e*P **P 10 26 11.2 0.0**
SMF pmax pmax
comp=Z,456nm,1.0s
SMF Signal de Mont 65.08 311 *e*P **P 10 26 11.2 0.0**
comp=Z,456nm,1.0s
SSF Saint Saulge 65.08 311 *e*P **P 10 26 11.0 -0.2**
comp=Z,170nm,1.2s
SSF Saint Saulge 65.08 311 *e*P **P 10 26 11.0 -0.2**
SSF pmax pmax
comp=Z,170nm,1.2s
SSF Saint Saulge 65.08 311 *e*P **P 10 26 11.0 -0.2**
comp=Z,170nm,1.2s
OG26 St.-Nazaire-De 65.19 308 *e*P **P 10 26 12.0 0.0**
SKP1 Kophill 65.25 317 *e*P **P 10 26 12.6 +0.4**
GCD Castle Douglas 65.30 321 *e*P **P 10 26 11.7 -0.8**
AVF Avril sur Loir 65.30 311 *e*P **P 10 26 12.6 0.0**
comp=Z,443nm,1.2s
AVF Avril sur Loir 65.30 311 *e*P **P 10 26 12.6 0.0**
AVF pmax pmax
comp=Z,443nm,1.2s
AVF Avril sur Loir 65.30 311 *e*P **P 10 26 12.6 0.0**
comp=Z,443nm,1.2s
SMRF Simiane la Rot 65.31 307 *e*P **P 10 26 13.1 +0.3**
comp=Z,111nm,1.1s
SMRF Simiane la Rot 65.31 307 *e*P **P 10 26 13.1 +0.3**
comp=Z,111nm,1.1s
STNC Stoke 65.31 319 AMS AMS 10 56 13.9
comp=Z,4µm,17.5s
SSB Saint Sauveur 65.32 309 *e*P **P 10 26 12.9 0.0**
SSB pmax pmax
comp=Z,58nm,1.0s
SSB MLR MLR
comp=Z,3µm,22.0s
SSB Saint Sauveur 65.32 309 *e*P **P 10 26 12.8 0.0**
comp=Z,58nm,1.0s
SSB LR LR
comp=Z,3µm,22.0s
SSB Saint Sauveur 65.32 309 *e*P **P 10 26 12.3 -0.5**
VIVF Saint-Julien-l 65.44 309 *e*P **P 10 26 13.8 +0.2**
comp=Z,261nm,1.0s
VIVF Saint-Julien-l 65.44 309 *e*P **P 10 26 13.8 +0.2**
VIVF pmax pmax
comp=Z,261nm,1.0s
VIVF Saint-Julien-l 65.44 309 *e*P **P 10 26 13.8 +0.2**
comp=Z,261nm,1.0s
HYF Humbligny 65.50 312 *e*P **P 10 26 14.2 +0.3**
HYF Humbligny 65.50 312 *e*P **P 10 26 14.2 +0.3**
SUMG Summit 65.62 346 *e*P **P 10 26 13.8 -1.0**

SUMG pmax pmax
comp=Z,201nm,1.3s
SUMG Summit 65.62 346 *i* P **P 10 26 14.7 -0.1**
comp=Z,76nm,1.0s
SUMG
comp=Z,5μm,22.0s
SUMG Summit 65.62 346 *e*P **P 10 26 13.8 -1.0**
comp=Z,201nm,1.3s
GAL1 Galloway 65.68 321 AMS AMS 10 57 12.0
comp=Z,3μm,13.3s
WOL Wolverton 65.68 317 AMS AMS 10 56 38.1
comp=Z,5μm,15.9s
SSW Stow on the Wo 65.69 318 *e*P **P 10 26 15.3 +0.3**
BGF Bois d'Agland 65.72 311 *e*P **P 10 26 15.2 -0.2**
comp=Z,177nm,0.9s
BGF Bois d'Agland 65.72 311 *e*P **P 10 26 15.2 -0.2**
BGF pmax pmax
comp=Z,177nm,0.9s
BGF Bois d'Agland 65.72 311 *e*P **P 10 26 15.2 -0.2**
comp=Z,177nm,0.9s
AGO Saint Agoulin 65.80 310 *e*P **P 10 26 15.7 -0.2**
BPAW Bear Paw Mtn. 65.84 26 *e*P **P 10 26 15.9 +0.1**
CAST Castle Rocks 65.85 27 *e*P **P 10 26 16.8 +0.9**
SVW2 Sparrevohn 65.86 30 *e*P **P 10 26 16.7 +0.6**
FOEL Foel Wylfa 65.93 319 *e*P **P 10 26 17.2 +0.6**
FOEL AMB AMB 10 26 18.9
comp=Z,196nm,1.7s
FOEL AMS AMS 10 56 41.6
comp=Z,4μm,17.7s
SBD1 Bryn Du 65.95 319 AMS AMS 10 57 46.5
comp=Z,5μm,16.5s
HLM1 Long Mynd 65.95 319 *e*P **P 10 26 17.3 +0.5**
HLM1 AMB AMB 10 26 19.0
comp=Z,207nm,1.7s
PYM Petit Puy Mans 66.03 310 *e*P **P 10 26 17.4 0.0**
WPM1 Penmaenmawr 66.10 320 *e*P **P 10 26 17.3 -0.4**
PPLA Purkeypile 66.12 28 *e*P **P 10 26 17.7 -0.1**
comp=Z,552nm,1.5s
LBL Lubilhac 66.14 309 *e*P **P 10 26 17.1 -1.1**
TCF Toulx Ste Croi 66.24 311 *e*P **P 10 26 19.0 +0.3**
comp=Z,400nm,1.0s
TCF Toulx Ste Croi 66.24 311 *e*P **P 10 26 19.0 +0.3**
TCF pmax pmax
comp=Z,400nm,1.0s
TCF Toulx Ste Croi 66.24 311 *e*P **P 10 26 19.0 +0.3**
comp=Z,400nm,1.0s
MCH1 Michaelchurch 66.28 318 *e*P **P 10 26 17.6 -1.3**
MCH1 AMB AMB 10 26 19.5
comp=Z,144nm,1.3s
MCH1 AMS AMS 10 56 43.0
comp=Z,6μm,18.2s
YLL Llanberis 66.30 320 *e*P **P 10 26 19.1 +0.1**
LASF Ste Croix 66.34 308 *e*P **P 10 26 19.8 +0.4**
comp=Z,360nm,1.1s
LASF Ste Croix 66.34 308 *e*P **P 10 26 19.8 +0.4**
comp=Z,360nm,1.1s
KMBO Kilima Mbogo 66.34 249 P **P 10 26 19.8 -0.2**
KMBO Kilima Mbogo 66.34 249 P **P 10 26 19.8 -0.2**
comp=Z,41nm,1.1s,baz=38,slow=9.8,SNR=31
KMBO LR LR 10 56 54.3
comp=Z,1μm,18.0s,baz=276,slow=37
WLF1 Llynfaes 66.34 320 AMS AMS 10 56 53.3
comp=Z,3μm,20.2s
VERF Verneugheol 66.34 310 *e*P **P 10 26 20.8 +1.4**
COLA College 66.43 25 *e*P **P 10 26 19.2 -0.3**
COLA MLR MLR
comp=Z,6μm,19.0s
COLA College 66.43 25 *e*P **P 10 26 19.2 -0.3**
COLA LR LR
comp=Z,6μm,19.0s
LDF La Druitiere 66.44 314 *e*P **P 10 26 19.8 -0.1**
comp=Z,239nm,1.0s
LDF La Druitiere 66.44 314 *e*P **P 10 26 19.8 -0.1**
LDF pmax pmax
comp=Z,239nm,1.0s
LDF La Druitiere 66.44 314 *e*P **P 10 26 19.8 -0.1**
comp=Z,239nm,1.0s
YRC Rhoscolyn 66.45 320 *e*P **P 10 26 20.4 +0.5**
TRF Thorofare Moun 66.48 27 *e*P **P 10 26 19.7 -0.4**
YRE Yr Eifl 66.52 320 *e*P **P 10 26 20.5 +0.2**
FLN La Foliniere 66.56 314 *e*P **P 10 26 20.6 -0.1**
comp=Z,227nm,1.0s
FLN *e*R
comp=Z,11μm,20.5s
FLN La Foliniere 66.56 314 *e*P **P 10 26 20.6 -0.1**
FLN pmax pmax
comp=Z,227nm,1.0s
FLN La Foliniere 66.56 314 *e*P **P 10 26 20.6 -0.1**
comp=Z,227nm,1.0s
GMM Mts of Mourne 66.62 321 *e*P **P 10 26 20.6 -0.4**
MCK McKinley 66.78 26 *e*P **P 10 26 22.0 +0.1**
MCK pmax pmax
comp=Z,38nm,0.9s
MCK McKinley 66.78 26 *e*P **P 10 26 21.9 +0.1**
comp=Z,38nm,0.9s
LPW Lampeter 66.79 319 AMS AMS 10 57 02.8
comp=Z,59μm,17.8s
ILAR Eielson Array 66.81 24 P **P 10 26 20.6 -1.5**
ILAR PP **PP 10 28 52.9 +4.2**
ILAR ⇑*e* 10 54 55.1
ILAR Eielson Array 66.81 24 P **P 10 26 20.6 -1.5**
comp=Z,27nm,0.8s,baz=294,slow=4.5,SNR=174
ILAR PP **PP 10 28 52.9 +4.2**
comp=Z,11nm,1.1s,baz=315,slow=9.2,SNR=4.2
ILAR PKP2bc 10 54 55.1
comp=Z,1.3nm,1.0s,baz=135,slow=4.1,SNR=5.8
ILAR LR LR 10 58 59.3
comp=Z,5μm,19.0s,baz=308,slow=39
KEST Kesra 66.88 298 *e*P **P 10 26 23.6 +0.5**
KEST PP **PP 10 28 51.9 +1.8**
KEST Kesra 66.88 298 P **P 10 26 23.6 +0.5**
comp=Z,39nm,1.0s,baz=282,slow=1.9,SNR=33
KEST PP **PP 10 28 51.9 +1.8**
comp=Z,22nm,1.2s,baz=1.9,slow=3.6,SNR=4.7
KEST LR LR 10 57 08.6
comp=Z,528nm,19.3s,baz=190,slow=37
GRR Gorron 66.97 314 *e*P **P 10 26 23.2 -0.1**
comp=Z,429nm,1.0s
GRR Gorron 66.97 314 *e*P **P 10 26 23.2 -0.1**
GRR pmax pmax
comp=Z,429nm,1.0s
GRR Gorron 66.97 314 *e*P **P 10 26 23.2 -0.1**
comp=Z,429nm,1.0s
PMG Port Moresby 66.97 123 *e*P **P 10 26 23.7 +0.1**
PMG LR LR
comp=Z,613nm,22.0s
CAF Calviac 67.02 310 *e*P **P 10 26 24.4 +0.7**
comp=Z,244nm,1.2s
CAF Calviac 67.02 310 *e*P **P 10 26 24.4 +0.7**
CAF pmax pmax
comp=Z,244nm,1.2s
CAF Calviac 67.02 310 *e*P **P 10 26 24.4 +0.7**
comp=Z,244nm,1.2s
RJF Les Rejaudoux 67.16 310 *e*P **P 10 26 25.3 +0.7**
comp=Z,447nm,1.3s
RJF *e*R
comp=Z,4μm,20.8s
RJF Les Rejaudoux 67.16 310 *e*P **P 10 26 25.3 +0.7**
RJF pmax pmax
comp=Z,447nm,1.3s
RJF Les Rejaudoux 67.16 310 *e*P **P 10 26 25.3 +0.7**
comp=Z,447nm,1.3s
SPU Mount Spurr 67.20 29 *e*P **P 10 26 25.5 +0.8**
JSA Saint Aubin 67.29 315 *e*P **P 10 26 22.9 -2.4**
JSA AMB AMB 10 26 27.4
comp=Z,164nm,1.5s
JSA AMS AMS 10 58 00.9
comp=Z,6μm,16.7s
CHGN Chignik 67.35 36 *e*P **P 10 26 27.8 +2.3**
RSO Redoubt South 67.36 30 *e*P **P 10 26 25.8 0.0**
MFF Saint Martin d 67.48 312 *e*P **P 10 26 26.7 +0.1**
comp=Z,255nm,1.0s
MFF Saint Martin d 67.48 312 *e*P **P 10 26 26.7 +0.1**
MFF pmax pmax
comp=Z,255nm,1.0s
MFF Saint Martin d 67.48 312 *e*P **P 10 26 26.7 +0.1**
comp=Z,255nm,1.0s
HTL Hartland 67.60 318 AMS AMS 10 57 35.4
comp=Z,7μm,19.2s
DYA Yadsworthy 67.60 317 *e*P **P 10 26 27.5 +0.2**
DYA AML AML 10 26 28.1
DYA AMB AMB 10 26 29.1
comp=Z,132nm,1.6s
DYA AMS AMS 10 58 06.4
comp=Z,6μm,15.8s
MTLF Montolieu 67.73 308 *e*P **P 10 26 28.6 +0.3**
comp=Z,126nm,1.1s
MTLF Montolieu 67.73 308 *e*P **P 10 26 28.6 +0.3**
MTLF pmax pmax
comp=Z,126nm,1.1s
MTLF Montolieu 67.73 308 *e*P **P 10 26 28.6 +0.3**
comp=Z,126nm,1.1s
LRDF Laroque-de-Fa 67.74 308 *e*P **P 10 26 28.6 +0.3**
WRAB Tennant Creek 67.75 141 *e*P **P 10 26 27.2 -1.3**
WRAB pmax pmax
comp=Z,59nm,0.8s
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 67.75 141 *e*P **P 10 26 27.2 -1.3**
comp=Z,59nm,0.8s
WRAB LR LR
comp=Z,2μm,20.0s
WRA Warramunga Arr 67.75 141 P **P 10 26 26.9 -1.6**
WRA ⇑*e* 10 54 52.0
WRA Warramunga Arr 67.75 141 P **P 10 26 26.9 -1.6**
comp=Z,44nm,0.7s,baz=340,slow=6.4,SNR=124
WRA PKP2bc 10 54 52.0
comp=Z,3.2nm,0.9s,baz=133,slow=3.9,SNR=8.0
LFF La Frestale 67.81 310 *e*P **P 10 26 29.4 +0.7**
comp=Z,245nm,0.9s
LFF La Frestale 67.81 310 *e*P **P 10 26 29.4 +0.7**
LFF pmax pmax
comp=Z,245nm,0.9s
LFF La Frestale 67.81 310 *e*P **P 10 26 29.4 +0.7**
comp=Z,245nm,0.9s
FILF Fillols 67.92 307 *e*P **P 10 26 29.5 0.0**
SGMF Saint Gilles 68.00 315 *e*P **P 10 26 30.3 +0.5**
comp=Z,506nm,1.2s
SGMF Saint Gilles 68.00 315 *e*P **P 10 26 30.3 +0.5**
SGMF pmax pmax
comp=Z,506nm,1.2s
SGMF Saint Gilles 68.00 315 *e*P **P 10 26 30.3 +0.5**
comp=Z,506nm,1.2s
MRIV Mauritius Mete 68.01 219 *e*P **P 10 26 30.5 +0.4**
PMR Palmer 68.06 28 *e*P **P 10 26 29.4 -0.5**
PMR pmax pmax
comp=Z,75nm,0.9s
PMR Palmer 68.06 28 *e*P **P 10 26 29.4 -0.5**
comp=Z,75nm,0.9s
CARF Carcanieres 68.13 308 *e*P **P 10 26 29.8 -1.1**
INK Inuvik 68.13 18 *e*P **P 10 26 30.0 -0.3**
comp=Z,117nm,1.0s
SML Sawmill 68.21 27 *e*P **P 10 26 30.6 -0.4**
SML Sawmill 68.21 27 *e*P **P 10 26 30.6 -0.4**
VALF Valcebollere 68.35 307 *e*P **P 10 26 32.2 -0.1**
ROSF Rostrenen 68.36 315 *e*P **P 10 26 32.6 +0.5**
comp=Z,326nm,1.1s
ROSF Rostrenen 68.36 315 *e*P **P 10 26 32.6 +0.5**
ROSF pmax pmax
comp=Z,326nm,1.1s
ROSF Rostrenen 68.36 315 *e*P **P 10 26 32.6 +0.5**
comp=Z,326nm,1.1s
CCA1 Carnmenellis 68.44 317 AMS AMS 10 57 31.0
comp=Z,3μm,14.1s
PAX Paxson 68.47 26 *e*P **P 10 26 32.7 +0.1**
PAX Paxson 68.47 26 *e*P **P 10 26 32.7 +0.1**
QUIF Quistinic 68.53 314 *e*P **P 10 26 33.4 +0.3**
comp=Z,298nm,1.0s
QUIF Quistinic 68.53 314 *e*P **P 10 26 33.4 +0.3**
QUIF pmax pmax
comp=Z,298nm,1.0s
QUIF Quistinic 68.53 314 *e*P **P 10 26 33.4 +0.3**
comp=Z,298nm,1.0s
EGAK Eagle 68.63 23 *e*P **P 10 26 32.7 -0.8**
comp=Z,86nm,0.9s
EGAK LR LR
comp=Z,5μm,19.0s
EPF Esparros 69.06 309 *e*P **P 10 26 36.3 -0.4**
comp=Z,132nm,1.1s
EPF Esparros 69.06 309 *e*P **P 10 26 36.3 -0.4**
EPF pmax pmax
comp=Z,132nm,1.1s
EPF Esparros 69.06 309 *e*P **P 10 26 36.3 -0.4**
comp=Z,132nm,1.1s
MENT Mentasta 69.08 25 *e*P **P 10 26 36.4 0.0**
OHAK Old Harbor 69.10 33 *e*P **P 10 26 36.5 0.0**
RESF Ens 69.19 308 *e*P **P 10 26 38.5 +1.0**
VIEF Viey 69.34 309 *e*P **P 10 26 38.8 +0.4**
REYF Montagne du Re 69.50 309 *e*P **P 10 26 39.0 -0.4**
DIV Divide 69.59 27 *e*P **P 10 26 39.9 +0.3**
comp=Z,129nm,1.0s
DAWY Dawson 69.68 23 *e*P **P 10 26 39.4 -0.7**
comp=Z,102nm,1.1s
ETSF Etsaut 69.69 309 *e*P **P 10 26 41.3 +0.7**
comp=Z,169nm,0.9s
ETSF Etsaut 69.69 309 *e*P **P 10 26 41.3 +0.7**
ETSF pmax pmax
comp=Z,169nm,0.9s
ETSF Etsaut 69.69 309 *e*P **P 10 26 41.3 +0.7**
comp=Z,169nm,0.9s
ORDF Ordiarp 69.75 309 *e*P **P 10 26 40.7 -0.1**
LARF Larrau 69.88 309 *e*P **P 10 26 41.7 0.0**
OSSF Osses 69.93 309 *e*P **P 10 26 42.2 +0.3**
SJPF Ste Jean 69.99 309 *e*P **P 10 26 43.2 +0.9**
comp=Z,188nm,1.0s
SJPF Ste Jean 69.99 309 *e*P **P 10 26 43.2 +0.9**
SJPF pmax pmax
comp=Z,188nm,1.0s
SJPF Ste Jean 69.99 309 *e*P **P 10 26 43.2 +0.9**
comp=Z,188nm,1.0s
VAL Valenzia 70.06 321 *e*P **P 10 26 41.3 -1.2**
BMRM Bremner River 70.12 27 *e*P **P 10 26 42.6 -0.2**
comp=Z,154nm,1.1s
AS31 Alice Springs 70.69 143 *e*P **P 10 26 45.8 -0.9**
ASAR Alice Springs 70.69 143 P **P 10 26 45.5 -1.2**
ASAR ⇑*e* 10 54 44.6
ASAR Alice Springs 70.69 143 P **P 10 26 45.5 -1.2**
comp=Z,46nm,0.8s,baz=329,slow=5.8,SNR=157
ASAR PKP2bc 10 54 44.6
comp=Z,1.8nm,1.0s,baz=163,slow=2.8,SNR=5.9
ASAR LR LR 11 02 47.0
comp=Z,1μm,19.6s,baz=55,slow=40
MBAR Mbarara 70.89 254 PFAKE 10 27 00.0 +12
MBAR LR LR
comp=Z,211nm,21.0s
MIDW Midway 70.99 69 PFAKE 10 27 00.0 +11
MIDW LR LR
comp=Z,910nm,19.0s
OPO Ambohidratompo 72.27 228 P **P 10 26 55.6 -0.9**
OPO Ambohidratompo 72.27 228 P **P 10 26 55.6 -0.9**
comp=Z,35nm,1.0s,baz=46,slow=6.9,SNR=3.9
ABPO Ambohimpanom 72.59 228 *e*P **P 10 26 58.7 +0.3**
ABPO pmax pmax
comp=Z,107nm,1.4s
ABPO MLR MLR
comp=Z,4μm,20.0s
ABPO Ambohimpanom 72.59 228 *e*P **P 10 26 58.7 +0.3**
comp=Z,107nm,1.4s
ABPO LR LR
comp=Z,4μm,20.0s
SFJD Kangerlussuaq 72.60 347 ⇑*i*P **P 10 26 57.1 -0.5**
comp=Z,65nm,0.9s
SFJD
comp=Z,4μm,21.0s
SFJD Kangerlussuaq 72.60 347 *e*P **P 10 26 56.8 -0.8**
comp=Z,153nm,1.1s
SFJD LR LR
comp=Z,6μm,20.0s
HYT Haines Junctio 72.66 24 *e*P **P 10 26 58.9 +0.7**
comp=Z,102nm,1.0s
NWAO Narrogin (SRO) 72.97 161 P **P 10 27 00.9 +0.7**
SNR=6.8
NWAO Narrogin (SRO) 72.97 161 *e*P **P 10 26 59.1 -1.1**
NWAO Narrogin (SRO) 72.97 161 P **P 10 26 59.0 -1.1**
comp=Z,109nm,0.8s,baz=333,slow=5.6,SNR=35
NWAO LR LR 10 58 55.2
comp=Z,2μm,21.7s,baz=347,slow=36
ESDC Sonseca Array 73.62 308 P **P 10 27 04.1 -0.2**
ESDC PP **PP 10 29 50.2 +2.3**
ESDC Sonseca Array 73.62 308 P **P 10 27 04.1 -0.2**
comp=Z,80nm,0.9s,baz=49,slow=5.6,SNR=78
ESDC PP **PP 10 29 50.2 +2.3**
comp=Z,8.4nm,1.0s,baz=50,slow=8.7,SNR=5.2
ESDC LR LR 11 01 27.5
comp=Z,1μm,20.5s,baz=40,slow=37
ESLA Sonseca Array 73.62 308 *e*P **P 10 27 04.3 0.0**
comp=Z,24nm,1.0s
PAB San Pablo 73.94 308 *e*P **P 10 27 05.9 -0.3**
PAB pmax pmax
comp=Z,411nm,1.0s
PAB MLR MLR
comp=Z,4μm,20.0s
PAB San Pablo 73.94 308 *e*P **P 10 27 05.9 -0.3**
comp=Z,68nm,1.0s
PAB LR LR
comp=Z,2μm,20.0s
PBRG Braganca 74.09 311 *e*P **P 10 27 06.2 -0.7**
comp=Z,107nm,1.2s
SKAG Skagway 74.40 24 *e*P **P 10 27 09.2 +0.9**
comp=Z,86nm,1.0s
CTA Charters Tower 74.44 131 P **P 10 27 08.0 -1.1**
CTA Charters Tower 74.44 131 P **P 10 27 08.0 -1.1**
comp=Z,62nm,0.8s,baz=317,slow=7.8,SNR=54
CTAO Charters Tower 74.44 131 *e*P **P 10 27 08.0 -1.1**
CTAO pmax pmax
comp=Z,71nm,0.8s
CTAO MLR MLR
comp=Z,1μm,22.0s
CTAO Charters Tower 74.44 131 *e*P **P 10 27 08.0 -1.1**
comp=Z,71nm,0.8s
CTAO LR LR
comp=Z,1μm,22.0s
MVO Moncorvo 74.64 310 *e*P **P 10 27 11.3 +1.1**
comp=Z,159nm,1.1s
MVO *e*S S 10 36 53.4 +7.5
MVO Moncorvo 74.64 310 *e*LR LR 10 53 35.7
comp=Z,2μm,18.0s
PGAV Gavieira, Arco 74.91 311 *e*P **P 10 27 12.9 +1.1**
comp=Z,150nm,1.2s
PGAV *e*S **S 10 36 50.9 +2.0**
PGAV Gavieira, Arco 74.91 311 *e*LR LR 10 51 40.8
comp=Z,3μm,20.0s
PCAB Cabril 74.91 311 *e*P **P 10 27 13.5 +1.8**
comp=Z,223nm,1.1s
MTE Manteigas 75.41 310 *e*P **P 10 27 14.9 +0.2**
comp=Z,197nm,1.2s
MTE *e*S **S 10 36 57.6 +3.1**
MTE Manteigas 75.41 310 *e*LR LR 10 53 54.8
comp=Z,2μm,18.0s
MTE Manteigas 75.41 310 *e*P **P 10 27 15.7 +1.0**
comp=Z,116nm,1.0s
MTE LR LR
comp=Z,2μm,20.0s
PVIS Viseu 75.43 310 *e*P **P 10 27 16.1 +1.3**
comp=Z,114nm,1.2s
PTO Porto 75.60 311 *e*P **P 10 27 17.1 +1.5**
comp=Z,133nm,1.3s
PCBR Castelo Branco 75.71 309 *e*P **P 10 27 17.9 +1.6**
comp=Z,81nm,1.4s
PMRV Marv??o 75.90 309 *e*P **P 10 27 16.8 -0.6**
comp=Z,234nm,1.2s
PMRV *e*S **S 10 37 02.8 +2.9**
PMRV Marv??o 75.90 309 *e*LR LR 10 51 33.7
comp=Z,2μm,20.0s
HNR Honiara 75.91 114 PFAKE 10 27 30.0 +12
HNR LR LR
comp=Z,73nm,20.0s
PCAS Casmilo, Conde 76.20 310 *e*P **P 10 27 16.5 -2.6**
comp=Z,230nm,0.7s
SIT Sitka 76.26 26 *e*P **P 10 27 19.5 +0.5**
SIT pmax pmax
comp=Z,53nm,1.0s
SIT Sitka 76.26 26 *e*P **P 10 27 19.5 +0.5**
comp=Z,53nm,1.0s
PESTR Estremoz 76.37 309 *e*P **P 10 27 21.0 +0.9**
comp=Z,147nm,1.3s
PTOM Tomar 76.42 310 *e*P **P 10 27 20.5 +0.2**
comp=Z,162nm,1.4s
PBAR Barrancos 76.44 308 *e*P **P 10 27 21.5 +1.0**
comp=Z,179nm,1.3s
PMTG Montargil 76.64 309 *e*P **P 10 27 22.6 +1.0**
comp=Z,126nm,1.3s
TAM Tamanrasset 76.72 289 *e*P **P 10 27 22.4 -0.1**
TAM pmax pmax
comp=Z,37nm,0.9s
TAM MLR MLR
comp=Z,951nm,20.0s
TAM Tamanrasset 76.72 289 *e*P **P 10 27 22.4 -0.1**
comp=Z,37nm,0.9s
TAM LR LR
comp=Z,951nm,20.0s
EVO Evora 76.83 309 *e*P **P 10 27 21.8 -0.9**
comp=Z,247nm,1.1s
EVO *e*R
comp=Z,5μm,20.5s
EVO Evora 76.83 309 *e*P **P 10 27 24.1 +1.4**
comp=Z,199nm,1.3s
DLBC Dease Lake 76.90 23 *e*P **P 10 27 23.9 +1.1**
comp=Z,298nm,1.7s
EVOP Sao Brissos 76.90 309 *e*P **P 10 27 21.8 -1.3**
EVOP pmax pmax
comp=Z,247nm,1.1s
EVOP Sao Brissos 76.90 309 *e*P **P 10 27 21.8 -1.3**
comp=Z,247nm,1.1s
PBEJ Beja 77.05 308 *e*P **P 10 27 25.6 +1.7**
comp=Z,128nm,1.3s
YKW3 Yellowknife Ar 77.17 14 *e*P **P 10 27 24.0 -0.1**
comp=Z,1.6nm,1.2s
PACT Alcochete 77.19 309 *e*P **P 10 27 26.8 +2.1**
comp=Z,266nm,1.6s
YKA Yellowknife Ar 77.23 14 P **P 10 27 23.3 -1.2**
YKA P'P' 10 54 33.9
YKA Yellowknife Ar 77.23 14 P **P 10 27 23.3 -1.2**
comp=Z,35nm,1.0s,baz=338,slow=5.4,SNR=34
YKA PKPPKP P'P'df 10 54 33.9 -6.4
comp=Z,1.1nm,0.8s,baz=150,slow=1.9,SNR=4.1
PVAQ Vaqueiros 77.34 308 *e*P **P 10 27 26.7 +1.2**
comp=Z,145nm,1.2s
PVAQ *e*S **S 10 37 19.5 +3.9**
PVAQ Vaqueiros 77.34 308 *e*LR LR 10 54 48.1
comp=Z,2μm,20.0s
PMAFR Mafra 77.36 310 *e*P **P 10 27 25.4 -0.2**
comp=Z,274nm,1.3s
PNCL Nicolau / Gran 77.41 308 *e*P **P 10 27 27.2 +1.3**
LIS Lisbon 77.42 309 *e*P **P 10 27 26.1 +0.1**
LIS AMS AMS 10 58 41.4
comp=E,3μm,22.4s
LIS Lisbon 77.42 309 *e*P **P 10 27 26.1 +0.1**
PMST Lisbon--Monsan 77.43 309 *e*P **P 10 27 28.1 +2.1**
comp=E,231nm,1.2s
PBDV Barranco-do-Ve 77.57 307 *e*P **P 10 27 28.6 +1.7**
comp=E,185nm,1.2s
WRAK Wrangell Islan 77.78 25 *e*P **P 10 27 29.0 +1.4**
comp=E,96nm,1.1s
WRAK LR LR
comp=Z,5μm,19.0s
PTEO Sao Teotonio 77.88 308 *e*P **P 10 27 30.1 +1.5**
comp=Z,161nm,1.3s
MORF Marmelete 77.98 308 *e*P **P 10 27 31.1 +1.9**
comp=Z,180nm,1.3s
MORF Marmelete 77.98 308 *e*P **P 10 27 30.3 +1.1**
MORF *e*S **S 10 37 23.4 +0.7**
MDT Midelt 78.09 302 P **P 10 27 30.8 +0.8**
MDT PP **PP 10 30 27.4 +1.4**
MDT Midelt 78.09 302 P **P 10 27 30.8 +0.8**
comp=Z,55nm,1.1s,baz=68,slow=5.6
MDT PP **PP 10 30 27.4 +1.4**
comp=Z,17nm,1.2s,baz=65,slow=11,SNR=3.7
PFVI Vila Bisbo 78.20 308 *e*P **P 10 27 31.7 +1.3**
comp=Z,188nm,1.1s
CRAG Craig 78.27 26 *e*P **P 10 27 31.1 +0.7**
comp=Z,58nm,0.9s
RTC Rabat Centre 78.87 304 PFAKE 10 27 40.0 +5.9
RTC LR LR
comp=Z,842nm,20.0s
STKA Stephens Creek 81.26 142 *e*P **P 10 27 45.3 -1.5**
comp=Z,14nm,0.8s
STKA Stephens Creek 81.26 142 P **P 10 27 45.3 -1.5**
comp=Z,68nm,0.8s,baz=337,slow=6.9,SNR=50
STKA LR LR 11 08 28.6
comp=Z,841nm,19.7s,baz=307,slow=39
LSZ Lusaka 82.44 244 PFAKE 10 28 00.0 +6.5
LSZ LR LR
comp=Z,2μm,20.0s
FCC Fort Churchill 83.60 5 *e*P **P 10 27 57.8 -0.9**
FCC Fort Churchill 83.60 5 *e*P **P 10 27 57.8 -0.9**
comp=Z,106nm,1.2s
TOA0 Torodi Ar. Sit 85.35 283 *e*P **P 10 28 07.5 -0.9**
TORD Torodi Ar. Bea 85.35 283 P **P 10 28 07.2 -1.2**
TORD PP **PP 10 31 30.1 +4.0**
TORD PKKPbc **PKKPbc 10 46 14.7 +3.3**
TORD Torodi Ar. Bea 85.35 283 P **P 10 28 07.2 -1.2**
comp=Z,52nm,1.0s,baz=65,slow=0.8,SNR=66
TORD PP **PP 10 31 30.1 +4.0**
comp=Z,5.0nm,0.8s,baz=63,slow=7.6,SNR=4.7
TORD PKKPbc **PKKPbc 10 46 14.7 +3.3**
comp=Z,0.4nm,0.6s,baz=274,slow=1.7,SNR=4.2
TORD LR LR 11 12 12.8
comp=Z,843nm,19.4s,baz=30,slow=40

EDM	Edmonton	86.03	17	eP	P	10 28 10.7	-0.5
EDM	Edmonton	86.03	17	eP	P	10 28 10.7	-0.5
	comp=Z,184nm,1.1s						
SCHQ	Schefferville	86.71	350	eP	P	10 28 13.7	-0.8
	comp=Z,75nm,0.9s						
SCHQ	Schefferville	86.71	350	P	P	10 28 12.8	-1.7
	comp=Z,63nm,0.9s,baz=37,slow=5.2,SNR=48						
SCHQ				LR	LR	11 09 46.3	
	comp=Z,3µm,18.8s,baz=13,slow=38						
FFC	Flin Flon	86.73	10	eP	P	10 28 13.8	-0.8
FFC				pmax	pmax		
	comp=Z,100nm,1.0s						
FFC				MLR	MLR		
	comp=Z,2µm,19.0s						
FFC	Flin Flon	86.73	10	eP	P	10 28 13.8	-0.8
	comp=Z,41nm,1.0s						
FFC				LR	LR		
	comp=Z,4µm,19.0s						
PGC	Sidney	87.25	25	eP	P	10 28 17.5	+0.4
	comp=Z,37nm,0.9s						
CMLA	Cha da Macela	87.53	317	PFAKE		10 28 30.0	+11
CMLA				LR	LR		
	comp=Z,7µm,19.0s						
CAN	Canberra	87.73	139	eP	P	10 28 18.7	-0.8
CAN				pmax	pmax		
	comp=Z,33nm,0.9s						
CAN				MLR	MLR		
	comp=Z,2µm,22.0s						
CAN	Canberra	87.73	139	eP	P	10 28 18.7	-0.8
	comp=Z,33nm,0.9s						
CAN				LR	LR		
	comp=Z,2µm,22.0s						
PNT	Penticton	87.89	22	P	P	10 28 20.0	-0.3
PNT	Penticton	87.89	22	P	P	10 28 20.0	-0.3
JCW	Jim Creek	88.15	24	P	P	10 28 22.4	+0.8
NLWA	Neilton Lookou	88.20	26	eP	P	10 28 22.6	+0.8
	comp=Z,121nm,1.2s						
NLWA				LR	LR		
	comp=Z,3µm,22.0s						
RMW	Rattlesnake Mo	88.83	25	P	P	10 28 26.3	+1.4
RMW	Rattlesnake Mo	88.83	25	P	P	10 28 26.3	+1.4
DZM	Mont Dzumac	88.98	119	eP	P	10 28 26.2	+0.4
	comp=Z,135nm,1.1s						
DZM	Mont Dzumac	88.98	119	eP	P	10 28 25.0	-0.9
BMW	Boistfort Moun	89.21	26	P	P	10 28 28.2	+1.5
BMW	Boistfort Moun	89.21	26	P	P	10 28 28.1	+1.5
LON	Longmire	89.45	25	eP	P	10 28 28.3	+0.5
LON				pmax	pmax		
	comp=Z,52nm,1.0s						
LON	Longmire	89.45	25	eP	P	10 28 28.3	+0.5
	comp=Z,52nm,1.0s						
PAF	Port-aux-Franc	89.55	196	PFAKE		10 28 40.0	+12
PAF				LR	LR		
	comp=Z,4µm,20.0s						
NEW	Newport	89.57	21	eP	P	10 28 28.9	+0.7
	comp=Z,81nm,1.0s						
NEW				LR	LR		
	comp=Z,5µm,19.0s						
NEW	Newport	89.57	21	⇓P	P	10 28 27.5	-0.8
	baz=89,SNR=67						
WPW	White Pass	89.59	25	P	P	10 28 29.7	+1.3
WALA	Waterton Lakes	89.72	19	eP	P	10 28 28.9	-0.2
	comp=Z,80nm,1.3s						
NAC	Naches	89.79	24	P	P	10 28 30.7	+1.4
LVP	Lakeview Peak	89.84	26	P	P	10 28 31.2	+1.5
FUNA	Funafuti	89.90	101	PFAKE		10 28 40.0	+10
FUNA				LR	LR		
	comp=Z,9µm,19.0s						
BLMT	Blacktail Moun	90.57	20	eP	P	10 28 33.9	+0.8
	comp=Z,226nm,1.0s						
BSMT	Bassoo Peak	90.60	20	eP	P	10 28 33.9	+0.6
	comp=Z,57nm,1.0s						
LBTB	Lobatse	90.73	239	eP	P	10 28 32.9	-1.1
	comp=Z,30nm,1.0s						
YBMT	Yellow Bay	90.80	20	eP	P	10 28 34.4	+0.3
	comp=Z,100nm,0.9s						
COR	Corvallis	90.82	27	eP	P	10 28 35.0	+0.9
COR				pmax	pmax		
	comp=Z,131nm,1.0s						
COR	Corvallis	90.82	27	eP	P	10 28 35.0	+0.9
	comp=Z,22nm,1.0s						
VFP	Flag Point	90.82	25	P	P	10 28 35.6	+1.2
JTMT	Jette	90.83	20	eP	P	10 28 34.2	-0.1
	comp=Z,92nm,0.9s						
A18A	Metzger Ranch,	90.84	17	⇓P	P	10 28 33.1	-1.1
	baz=90,SNR=77						
A19A	Klindworth Far	91.08	16	⇓P	P	10 28 34.5	-0.8
	baz=91,SNR=48						
SWMT	Swartz Lake	91.12	20	eP	P	10 28 35.9	+0.2
	comp=Z,69nm,0.9s						
B17A	L&G Farms, Che	91.21	17	⇑P	P	10 28 34.9	-1.1
	baz=91,SNR=106						
B18A	Beardsley Farm	91.35	17	⇑P	P	10 28 35.4	-1.2
	baz=91,SNR=63						
A21A	Bergtoll Ranch	91.40	15	⇑P	P	10 28 36.2	-0.6
	baz=91,SNR=21						
B19A	Brinkman Farms	91.48	16	⇓P	P	10 28 36.2	-0.9
	baz=91,SNR=28						
SLMT	Seeley Lake	91.50	20	eP	P	10 28 37.7	+0.2
	comp=Z,118nm,1.2s						
A22A	Carney Farms,	91.60	14	⇑P	P	10 28 36.8	-1.0
	baz=91,SNR=19						
B20A	Solberg Farm,	91.70	16	⇓P	P	10 28 36.9	-1.3
	baz=91,SNR=22						
EGMT	Eagleton	91.70	17	eP	P	10 28 38.1	-0.2
	comp=Z,93nm,1.1s						
EGMT				LR	LR		
	comp=Z,2µm,20.0s						
EGMT	Eagleton	91.70	17	⇑P	P	10 28 37.0	-1.2
	baz=91,SNR=42						
MSO	Missoula	91.77	20	⇓P	P	10 28 37.6	-1.0
	baz=91,SNR=86						
VIPM	Ingram Point	91.82	25	P	P	10 28 40.6	+1.6
VIPM	Ingram Point	91.82	25	P	P	10 28 40.6	+1.6
A23A	Redstone	91.83	14	⇓P	P	10 28 37.8	-0.9
	baz=92,SNR=18						
C17A	Wharram Farm,	91.83	18	⇓P	P	10 28 37.3	-1.6
	baz=92,SNR=50						
CHMT	Chamberlain Mo	91.87	20	eP	P	10 28 38.9	-0.3
	comp=Z,27nm,1.0s						
ULM	Lac du Bonnet	91.87	8	eP	P	10 28 36.7	-2.2
	comp=Z,50nm,1.1s						
ULM				PKKPbc	PKKPbc	10 45 55.4	-0.8
ULM	Lac du Bonnet	91.87	8	P	P	10 28 37.5	-1.3
	comp=Z,22nm,0.8s,baz=353,slow=4.1,SNR=20						
ULM				PKKPbc	PKKPbc	10 45 55.4	-0.8
	comp=Z,3.3nm,0.6s,baz=166,slow=4.5,SNR=4.1						
ULM				LR	LR	11 12 10.6	
	comp=Z,4µm,18.8s,baz=358,slow=37						
B21A	Ellsworth Farm	91.92	15	⇑P	P	10 28 38.0	-1.2
	baz=92,SNR=34						
A24A	Westby	92.02	13	⇑P	P	10 28 39.1	-0.6
	baz=92,SNR=33						
C19A	Slack Wire Ran	92.14	17	⇓P	P	10 28 39.5	-0.7
	baz=92,SNR=29						
A25A	Svangstu Ranch	92.16	12	⇑P	P	10 28 39.4	-0.9
	baz=92,SNR=11						
B22A	Reddig Ranch S	92.25	14	⇓P	P	10 28 40.4	-0.4
	baz=92,SNR=57						
B23A	Brockton	92.28	14	⇓P	P	10 28 40.0	-0.8
	baz=92,SNR=15						
A26A	Wade Farm, Ken	92.38	12	⇑P	P	10 28 40.4	-0.9
	baz=92,SNR=35						
DGMT	Dagmar	92.43	13	eP	P	10 28 41.7	+0.2
	comp=Z,118nm,1.0s						
DGMT				LR	LR		
	comp=Z,3µm,21.0s						
DGMT	Dagmar	92.43	13	⇑P	P	10 28 40.7	-0.8
	baz=92,SNR=23						
HRY	Holter Researc	92.43	19	eP	P	10 28 41.9	+0.2
	comp=Z,42nm,0.9s						
D18A	Linhart Farms,	92.47	17	⇑P	P	10 28 40.9	-0.9
	baz=92,SNR=33						
C21A	Desert Coulee	92.48	15	⇑P	P	10 28 40.4	-1.3
	baz=92,SNR=17						
BMO	Blue Mountains	92.59	23	eP	P	10 28 42.3	-0.1
	comp=Z,22nm,0.9s						
BMO				LR	LR		
	comp=Z,2µm,19.0s						
A28A	Rude Farm, Bot	92.64	11	⇓P	P	10 28 41.3	-1.2
	baz=92,SNR=9.7						
HUMO	Hull Mountain	92.66	28	eP	P	10 28 43.5	+0.8
	comp=Z,48nm,1.2s						
TSUM	Tsumeb	92.67	248	eP	P	10 28 43.6	+0.5
	comp=Z,24nm,1.0s						
TSUM				LR	LR		
	comp=Z,2µm,20.0s						
D19A	Cripps Ranch,	92.71	17	⇓P	P	10 28 41.8	-1.1
	baz=92,SNR=30						
A29A	Manning Farm,	92.78	10	⇓P	P	10 28 41.9	-1.2
	baz=92,SNR=28						
C22A	Vida	92.80	15	⇑P	P	10 28 42.8	-0.5
	baz=92,SNR=27						
B25A	Knox Farm, Ray	92.80	13	⇓P	P	10 28 43.0	-0.2
	baz=92,SNR=16						
C23A	Lambert	92.88	14	⇑P	P	10 28 43.2	-0.5
	baz=92,SNR=29						
E17A	Martinsdale	92.91	18	⇓P	P	10 28 43.6	-0.4
	baz=93,SNR=24						
D20A	Manuel Ranch,	92.95	16	⇑P	P	10 28 42.4	-1.6
	baz=93,SNR=18						
B27A	Peters Farms,	92.98	11	⇓P	P	10 28 44.0	-0.1
	baz=93,SNR=8.4						
E18A	Harlowton	93.04	17	⇑P	P	10 28 44.3	-0.2
	baz=93,SNR=32						
B28A	Dugan Ranch, T	93.08	11	⇓P	P	10 28 43.8	-0.7
	baz=93,SNR=14						
LRM	Limekiln Ridge	93.09	19	eP	P	10 28 44.5	-0.4
	comp=Z,242nm,1.1s						
B29A	Wagenman Farm,	93.21	10	⇓P	P	10 28 43.8	-1.3
	baz=93,SNR=8.3						
D21A	La Casta Ranch	93.22	15	⇑P	P	10 28 44.1	-1.1
	baz=93,SNR=24						
C24A	Savage	93.29	14	⇓P	P	10 28 44.7	-0.9
	baz=93,SNR=10						
D22A	Cohagen	93.31	15	⇓P	P	10 28 45.3	-0.4
	baz=93,SNR=37						
C25A	Freed Ranch, W	93.33	13	⇓P	P	10 28 45.2	-0.5
	baz=93,SNR=16						
BOSA	Boshof	93.33	236	eP	P	10 28 44.8	-1.2
	comp=Z,49nm,1.3s						
BOSA	Boshof	93.33	236	P	P	10 28 44.2	-1.7
	comp=Z,19nm,1.0s,baz=31,slow=3.0,SNR=14						
BOSA				LR	LR	11 10 43.2	
	comp=Z,2µm,18.8s,baz=52,slow=36						
B30A	Myrvik Farm, E	93.36	9	⇓P	P	10 28 44.0	-1.8
	baz=93,SNR=26						
E19A	Rath Farm, Rou	93.40	17	⇓P	P	10 28 45.2	-0.9
	baz=93,SNR=33						
C26A	Wahner Farm, P	93.41	12	⇑P	P	10 28 45.0	-1.1
	baz=93						
BOZ	Bozeman (W)	93.47	19	eP	P	10 28 46.4	-0.1
BOZ				pmax	pmax		
	comp=Z,40nm,1.2s						
BOZ				MLR	MLR		
	comp=Z,3µm,20.0s						
BOZ	Bozeman (W)	93.47	19	eP	P	10 28 46.4	-0.1
	comp=Z,45nm,1.2s						
BOZ				LR	LR		
	comp=Z,3µm,20.0s						
DLMT	Dillon	93.48	20	eP	P	10 28 46.7	+0.1
	comp=Z,62nm,1.4s						
D23A	Lindsay	93.48	14	⇑P	P	10 28 46.9	+0.5
	baz=93,SNR=12						
E20A	Meyer Farm, Mu	93.51	16	⇑P	P	10 28 45.3	-1.3
	baz=93,SNR=28						
C27A	Sayler Ranch,	93.62	12	⇓P	P	10 28 47.3	+0.3
	baz=93,SNR=5.8						
E21A	Keefer Ranch,	93.70	16	⇓P	P	10 28 46.3	-1.1
	baz=93						
F18A	Big Timber	93.70	18	⇑P	P	10 28 47.4	-0.2
	baz=93,SNR=62						
D24A	Glendive	93.71	14	⇓P	P	10 28 48.1	+0.6
	baz=93,SNR=12						
LAO	LASA Array	93.74	15	eP	P	10 28 46.3	-1.3
	comp=Z,22nm,0.9s						
LAO				LR	LR		
	comp=Z,5µm,19.0s						
MDND	Maddock	93.78	10	eP	P	10 28 47.4	-0.4
	comp=Z,298nm,1.2s						
MDND	Maddock	93.78	10	⇑P	P	10 28 47.0	-0.7
	baz=93,SNR=5.5						
C28A	Hausauer Farms	93.79	11	⇑P	P	10 28 47.5	-0.3
	baz=93,SNR=8.6						
AGMN	Agassiz Nation	93.80	8	PFAKE		10 29 00.0	+12
AGMN				LR	LR		
	comp=Z,4µm,19.0s						
GCMT	Greycliff	93.82	18	eP	P	10 28 47.7	-0.4
	comp=Z,23nm,0.8s						
D25A	Fairfield	93.86	13	⇑P	P	10 28 48.4	+0.2
	baz=94,SNR=10						
MCMT	McKenzie Canyo	93.91	20	eP	P	10 28 48.7	0.0
	comp=Z,9.2nm,1.0s						
G17A	Pierce Place,	94.00	18	⇓P	P	10 28 48.7	-0.3
	baz=94,SNR=26						
C30A	Mose, Pekin	94.07	10	⇑P	P	10 28 48.5	-0.6
	baz=94						
E23A	Ismay	94.11	14	⇑P	P	10 28 48.2	-1.1
	baz=94,SNR=10						
F20A	Billings	94.17	17	⇓P	P	10 28 49.0	-0.7
	baz=94,SNR=11						
E24A	Baker	94.24	14	⇓P	P	10 28 49.3	-0.7
	baz=94						
D28A	Regan	94.27	11	⇑P	P	10 28 49.8	-0.3
	baz=94						
QLMT	Earthquake Lak	94.28	19	eP	P	10 28 50.6	+0.3
	comp=Z,2.4nm,1.1s						
G18A	Lazy EL Ranch,	94.29	18	⇑P	P	10 28 49.7	-0.7
	baz=94						
WVOR	Wild Horse Val	94.33	25	eP	P	10 28 51.3	+0.8
WVOR				pmax	pmax		
	comp=Z,32nm,1.0s						
WVOR				MLR	MLR		
	comp=Z,2µm,20.0s						
WVOR	Wild Horse Val	94.33	25	eP	P	10 28 51.3	+0.8
	comp=Z,32nm,1.0s						
WVOR				LR	LR		
	comp=Z,2µm,20.0s						
MFID	Camas Ranch	94.34	23	⇑P	P	10 28 50.2	-0.3
	baz=94,SNR=16						
F21A	Absaloka Mine,	94.38	16	⇓P	P	10 28 49.2	-1.4
	baz=94						
DBIC	Dimbokro	94.40	282	eP	P	10 28 50.1	-1.0
	comp=Z,45nm,0.9s						
DBIC				PP	PP	10 32 34.8	-3.5
DBIC	Dimbokro	94.40	282	P	P	10 28 50.2	-0.9
	comp=Z,38nm,0.8s,baz=37,slow=4.7,SNR=30						
DBIC				PP	PP	10 32 34.8	-3.5
	comp=Z,7.6nm,1.0s,baz=14,slow=6.7,SNR=3.4						
DBIC				LR	LR	11 18 05.9	
	comp=Z,1µm,18.3s,baz=126,slow=40						
H16A	Russell Place,	94.45	19	⇑P	P	10 28 50.6	-0.5
	baz=94,SNR=6.6						
E25A	Miller Ranch,	94.47	13	⇑P	P	10 28 50.8	-0.2
	baz=94,SNR=6.2						
KIC	Kosan Boka	94.50	281	eP	P	10 28 50.2	-1.4
	comp=Z,96nm,0.9s						
EYMN	Ely	94.54	5	eP	P	10 28 50.2	-1.0
	comp=Z,38nm,1.2s						
EYMN				LR	LR		
	comp=Z,4µm,20.0s						
TIC	Toumodi	94.54	282	eP	P	10 28 51.3	-0.5
	comp=Z,57nm,0.9s						
D29A	Pettibone, Tap	94.55	11	⇑P	P	10 28 51.0	-0.3
	baz=94,SNR=6.2						
RLMT	Red Lodge	94.55	18	eP	P	10 28 51.6	0.0
	comp=Z,25nm,1.1s						
RLMT				LR	LR		
	comp=Z,2µm,22.0s						
YMR	Madison River	94.55	19	eP	P	10 28 51.9	+0.3
	comp=Z,27nm,1.2s						
WDC	Whiskeytown Da	94.57	28	eP	P	10 28 52.0	+0.5
WDC				pmax	pmax		
	comp=Z,17nm,1.2s						
WDC	Whiskeytown Da	94.57	28	eP	P	10 28 52.0	+0.5
	comp=Z,17nm,1.2s						
YNR	Norris Junctio	94.58	19	eP	P	10 28 51.4	-0.4
	comp=Z,28nm,1.2s						
F22A	Rosebud	94.60	15	⇓P	P	10 28 50.6	-1.1
	baz=94,SNR=9.9						
D30A	Buchanan	94.62	10	⇑P	P	10 28 50.2	-1.4
	baz=94,SNR=18						
HLID	Hailey	94.63	22	eP	P	10 28 51.4	-0.5
	comp=Z,13nm,0.9s						
HLID				LR	LR		
	comp=Z,3µm,19.0s						
HLID	Hailey	94.63	22	⇑P	P	10 28 51.1	-0.8
	baz=94,SNR=37						
MSVF	Nonsavu	94.65	109	PFAKE		10 29 00.0	+7.8
MSVF				LR	LR		
	comp=Z,672nm,21.0s						
E26A	Carlson Angus	94.66	13	⇓P	P	10 28 51.0	-0.9
	baz=94,SNR=13						
G20A	Bridger	94.70	17	⇓P	P	10 28 50.9	-1.3
	baz=94,SNR=37						
YFT	Old Faithful	94.79	19	eP	P	10 28 54.0	+1.3
	comp=Z,28nm,0.9s						
LKWY	Lake	94.79	19	eP	P	10 28 53.8	+1.0
LKWY				pmax	pmax		
	comp=Z,56nm,0.8s						
LKWY				MLR	MLR		
	comp=Z,8µm,20.0s						
LKWY	Lake	94.79	19	eP	P	10 28 53.8	+1.0
	comp=Z,56nm,0.8s						
LKWY				LR	LR		
	comp=Z,8µm,20.0s						
LIC	Lamto	94.81	282	⇑iP	P	10 28 52.7	-0.3
	comp=Z,45nm,0.8s						
LIC				eR			
	comp=Z,2µm,20.5s						
LIC	Lamto	94.81	282	eP	P	10 28 52.6	-0.4
	comp=Z,69nm,0.8s						
LIC	Lamto	94.81	282	⇑iP	P	10 28 52.7	-0.3
	comp=Z,45nm,0.8s						
F23A	Volborg	94.83	15	⇓P	P	10 28 51.6	-1.1
	baz=94,SNR=10.0						
PQI	Presque Isle	94.83	349	P	P	10 28 53.2	+0.6
	comp=Z,24nm,0.8s						
E28A	Huff	94.86	11	⇑P	P	10 28 52.5	-0.3
	baz=94,SNR=22						
E27A	Carson	94.86	12	⇓P	P	10 28 52.7	0.0
	baz=94,SNR=6.9						
H18A	Shoshone NF, C	94.87	18	⇑P	P	10 28 52.0	-1.2
	baz=94,SNR=21						
KIPM	Iron Peak	94.88	29	eP	P	10 28 53.0	-0.2
	comp=Z,17nm,0.9s						
F24A	Ekalaka	94.90	14	⇓P	P	10 28 52.4	-0.6
	baz=95,SNR=10						
H17A	Grant Village	94.91	19	eP	P	10 28 55.1	+1.8
	comp=Z,49nm,1.0s						
H17A	Grant Village	94.91	19	⇑P	P	10 28 53.9	+0.6
	baz=95,SNR=20						
G21A	Lodge Grass	94.92	16	⇑P	P	10 28 52.3	-0.9
	baz=95,SNR=6.2						
F25A	Bowman	95.01	13	⇑P	P	10 28 52.3	-1.2
	baz=95						
E29A	Napoleon	95.02	11	⇑P	P	10 28 52.0	-1.5
	baz=95,SNR=7.6						
H19A	Powell	95.04	18	⇓P	P	10 28 51.9	-1.9
	baz=95,SNR=6.7						
G22A	Birney	95.13	16	⇑P	P	10 28 52.4	-1.7
	baz=95						
I16A	Newdale	95.16	19	⇑P	P	10 28 53.9	-0.5
	baz=95,SNR=11						
F26A	Lodgepole	95.23	13	⇓P	P	10 28 54.0	-0.5
	baz=95,SNR=19						
IMW	Indian Meadow	95.28	19	eP	P	10 28 55.5	+0.4
	comp=Z,49nm,1.0s						
G23A	Biddle	95.33	15	⇑P	P	10 28 54.3	-0.7
	baz=95,SNR=10						
I17A	Pilgrim Ck.	95.35	19	⇑P	P	10 28 55.9	+0.6
	baz=95,SNR=7.2						
MOOW	Moose Ponds	95.47	19	eP	P	10 28 56.4	+0.6
	comp=Z,16nm,0.9s						
F28A	McLaughlin	95.55	12	⇓P	P	10 28 54.6	-1.3
	baz=95,SNR=11						
LOHW	Long Hollow	95.63	19	eP	P	10 28 56.8	+0.2
	comp=Z,15nm,1.1s						
TPAW	Teton Pass	95.66	19	eP	P	10 28 57.2	+0.5
	comp=Z,17nm,1.1s						
RRI2	Red Ridge	95.69	20	eP	P	10 28 57.5	+0.6
	comp=Z,12nm,0.9s						
F29A	Eureka	95.71	11	⇑P	P	10 28 55.2	-1.4
	baz=95						
H22A	Clearmont	95.71	16	⇓P	P	10 28 55.8	-1.0
	baz=95,SNR=8.9						
G25A	Newell	95.73	14	⇑P	P	10 28 56.3	-0.5
	baz=95,SNR=8.4						
SNOW	Snow King Moun	95.73	19	eP	P	10 28 57.9	+0.8
	comp=Z,13nm,1.1s						
I18A	Diamond G Ranc	95.75	18	⇑P	P	10 28 56.9	-0.2
	baz=95,SNR=18						
G26A	Maurine	95.78	13	⇑P	P	10 28 56.2	-0.8
	baz=95,SNR=21						
REDW	Red Top Meadow	95.80	19	eP	P	10 28 57.7	+0.3
	comp=Z,12nm,1.0s						
G27A	Dupree	95.81	13	⇓P	P	10 28 56.3	-0.8
	baz=96,SNR=11						
I20A	Worland	95.92	17	⇓P	P	10 28 57.2	-0.5
	baz=96,SNR=16						
H24A	Dirks Ranch, A	95.94	14	⇓P	P	10 28 56.7	-1.1
	baz=96,SNR=8.1						
H23A	Clabaugh Cattl	95.94	15	⇓P	P	10 28 56.9	-0.9
	baz=96						
H25A	Fruitdale	96.25	14	⇑P	P	10 28 58.2	-1.0
	baz=96,SNR=12						
I21A	Big Trails, Te	96.25	17	⇑P	P	10 28 58.7	-0.6
	baz=96,SNR=23						
G28A	Parade	96.28	12	⇓P	P	10 28 58.2	-1.1
	baz=96						
AHID	Auburn Hatcher	96.29	20	eP	P	10 29 00.3	+0.7
	comp=Z,21nm,1.1s						
AHID				LR	LR		
	comp=Z,2µm,19.0s						
J19A	Crowheart	96.35	18	⇓P	P	10 28 59.0	-0.8
	baz=96,SNR=23						
I22A	9 Mile Ranch,	96.35	16	⇓P	P	10 28 58.7	-1.1
	baz=96						
PKME	Peaks-Kenny Pk	96.40	350	eP	P	10 29 01.4	+1.7
	comp=Z,31nm,0.9s						
PKME				LR	LR		
	comp=Z,4µm,21.0s						
PAHR	Pah Rah Range	96.49	27	eP	P	10 29 01.0	+0.5
	comp=Z,15nm,1.0s						
J20A	Shoshoni	96.50	17	⇓P	P	10 29 00.1	-0.3
	baz=96,SNR=12						
H27A	Howes	96.51	13	⇑P	P	10 28 59.9	-0.5
	baz=96						
BMN	Battle Mountai	96.59	25	eP	P	10 29 00.9	0.0
BMN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BMN				MLR	MLR		
	comp=Z,2µm,20.0s						
BMN	Battle Mountai	96.59	25	eP	P	10 29 00.9	0.0
	comp=Z,10nm,1.1s						
BMN				LR	LR		
	comp=Z,2µm,20.0s						
RSSD	Black Hills	96.64	14	eP	P	10 29 00.8	-0.4
RSSD				pmax	pmax		
	comp=Z,46nm,1.1s						
RSSD	Black Hills	96.64	14	eP	P	10 29 00.8	-0.4
	comp=Z,12nm,1.1s						
J21A	Lysite	96.66	17	⇓P	P	10 29 00.3	-0.9
	baz=96,SNR=17						
BW06	Boulder Array	96.69	19	eP	P	10 29 00.6	-0.8
	comp=Z,9.0nm,1.0s						
BW06				LR	LR		
	comp=Z,3µm,19.0s						
PDAR	Pinedale Array	96.69	19	P	P	10 29 01.0	-0.4
PDAR				PP	PP	10 32 46.6	-8.3
PDAR				PKKPbc	PKKPdf	10 45 42.3	-1.2
PDAR				P'P'		10 53 57.8	
PDAR	Pinedale Array	96.69	19	P	P	10 29 01.0	-0.4
	comp=Z,5.9nm,0.9s,baz=38,slow=2.9,SNR=37						
PDAR				PP	PP	10 32 46.6	-8.3
	comp=Z,2.4nm,1.1s,baz=333,slow=5.2,SNR=4.0						
PDAR				PKKPbc	PKKPdf	10 45 42.3	-1.2
	comp=Z,2.4nm,0.9s,baz=151,slow=4.2,SNR=11						
PDAR				PKPPKP	P'P'df	10 53 57.8	-6.2
	comp=Z,0.3nm,0.8s,baz=116,slow=3.4,SNR=4.0						
PDAR				LR	LR	11 18 07.6	
	comp=Z,3µm,18.6s,baz=346,slow=39						
I24A	Kuemmerle Ranc	96.78	15	⇑P	P	10 29 00.6	-1.1
	baz=96						
I25

	comp=Z,57nm,1.0s							
BRSD	**Miller**	**97.20**	**11**	⇓P	**P**	**10 29 01.8**	**-1.6**	
	baz=97							
HWUT	**Hardware Ranch**	**97.24**	**20**	*e*P	**P**	**10 29 03.7**	**-0.2**	
	comp=Z,11nm,0.9s							
HWUT				LR	LR			
	comp=Z,3µm,19.0s							
J24A	**Dixon Ranch, L**	**97.28**	**15**	⇓P	**P**	**10 29 02.4**	**-1.5**	
	baz=97							
I28A	**Midland**	**97.28**	**12**	⇑P	**P**	**10 29 02.8**	**-1.0**	
	baz=97,SNR=8.4							
L18A	**Fontenelle, Gr**	**97.36**	**19**	⇑P	**P**	**10 29 03.1**	**-1.3**	
	baz=97,SNR=12							
K21A	**Alcova**	**97.38**	**17**	⇑P	**P**	**10 29 03.3**	**-1.2**	
	baz=97,SNR=9.1							
WAKR	**Walker**	**97.54**	**27**	*e*P	Pdif	10 29 06.9	+1.5	
	comp=Z,9.5nm,1.0s							
CMB	**Columbia Colle**	**97.60**	**28**	*e*P	Pdif	10 29 05.8	+0.3	
CMB				pmax	pmax			
	comp=Z,14nm,1.2s							
CMB	**Columbia Colle**	**97.60**	**28**	*e*P	Pdif	10 29 05.8	+0.3	
	comp=Z,14nm,1.2s							
J26A	**Sides Ranch, S**	**97.61**	**14**	⇑P	**P**	**10 29 04.5**	**-0.8**	
	baz=97,SNR=6.1							
LONY	**Lake Ozonia**	**97.67**	**353**	*e*P	Pdif	10 29 06.1	+0.6	
	comp=Z,17nm,1.0s							
LONY				LR	LR			
	comp=Z,2µm,20.0s							
L20A	**Wamsutter**	**97.71**	**18**	⇓P	**P**	**10 29 04.5**	**-1.5**	
	baz=97							
LBNH	**Lisbon**	**97.75**	**351**	PFAKE		10 29 20.0	+14	
LBNH				LR	LR			
	comp=Z,3µm,20.0s							
K24A	**Anderson Ranch**	**97.83**	**15**	⇑P	**P**	**10 29 05.0**	**-1.4**	
	baz=98							
J28A	**Allard Ranch,**	**97.83**	**12**	⇓P	**P**	**10 29 04.8**	**-1.5**	
	baz=98							
J27A	**Elkhorn Farm,**	**97.86**	**13**	⇑P	**P**	**10 29 05.7**	**-0.8**	
	baz=98							
M19A	**Rock Springs**	**97.98**	**19**	⇑P	**P**	**10 29 06.1**	**-1.1**	
	baz=98							
L21A	**Rawlins**	**97.98**	**17**	⇑P	**P**	**10 29 06.6**	**-0.6**	
	baz=98,SNR=7.8							
NVAR	**Mina Array Bea**	**98.01**	**26**	P	Pdif	10 29 08.6	+1.1	
NVAR				PKKP	**PKKPbc**	**10 45 40.4**	**+0.3**	
NVAR				P'P'		10 53 55.6		
NVAR	**Mina Array Bea**	**98.01**	**26**	P	Pdif	10 29 08.6	+1.1	
	comp=Z,6.8nm,0.8s,baz=322,slow=2.6,SNR=34							
NVAR				PKKP	**PKKPbc**	**10 45 40.4**	**+0.3**	
	comp=Z,1.9nm,1.0s,baz=174,slow=4.3,SNR=6.7							
NVAR				PKPPKP	P'P'df	10 53 55.6	-5.6	
	comp=Z,0.4nm,0.5s,baz=186,slow=2.8,SNR=6.2							
NVAR				LR	LR	11 14 31.9		
	comp=Z,3µm,20.6s,baz=36,slow=36							
NV11	**Mina Array Sit**	**98.06**	**26**	*e*P	Pdif	10 29 08.2	+0.6	
K25A	**Mack Ranch, Ha**	**98.13**	**15**	⇑P	**P**	**10 29 07.5**	**-0.3**	
	baz=98,SNR=5.8							
L22A	**Ellis Ranch, M**	**98.14**	**17**	⇑P	**P**	**10 29 07.6**	**-0.4**	
	baz=98,SNR=8.2							
K26A	**Motz Farm, Whi**	**98.18**	**14**	⇓P	**P**	**10 29 06.7**	**-1.2**	
	baz=98							
DUG	**Dugway**	**98.19**	**22**	*e*P	Pdif	10 29 08.8	+0.6	
DUG				pmax	pmax			
	comp=Z,16nm,1.2s							
DUG				MLR	MLR			
	comp=Z,2µm,19.0s							
DUG	**Dugway**	**98.19**	**22**	*e*P	Pdif	10 29 08.8	+0.6	
	comp=Z,16nm,1.2s							
DUG				LR	LR			
	comp=Z,2µm,19.0s							
DUG	**Dugway**	**98.19**	**22**	⇑P	**P**	**10 29 07.4**	**-0.8**	
	baz=98							
JLU	**Jordanelle**	**98.21**	**21**	P	Pdif	10 29 09.7	+1.3	
	comp=Z,4.1nm,1.1s							
ECSD	**EROS Data Cent**	**98.22**	**9**	*e*P	**P**	**10 29 07.4**	**-0.6**	
	comp=Z,22nm,1.2s							
ECSD				LR	LR			
	comp=Z,4µm,21.0s							
L23A	**Garrett**	**98.22**	**16**	⇑P	**P**	**10 29 07.1**	**-1.3**	
	baz=98							
M20A	**Sweetwater, Wa**	**98.23**	**18**	⇓P	**P**	**10 29 07.0**	**-1.4**	
	baz=98							
NCB	**Newcomb**	**98.27**	**353**	PFAKE		10 29 20.0	+12	
NCB				LR	LR			
	comp=Z,2µm,19.0s							
M21A	**Separation Pea**	**98.32**	**17**	⇑P	**P**	**10 29 07.5**	**-1.3**	
	baz=98							
K27A	**Flueckinger Fa**	**98.35**	**13**	⇓P	**P**	**10 29 07.4**	**-1.4**	
	baz=98							
L24A	**Wheatland**	**98.45**	**16**	⇓P	**P**	**10 29 08.3**	**-0.9**	
	baz=98							
MLAC	**Mammoth Lakes**	**98.53**	**27**	⇓P	**P**	**10 29 08.5**	**-1.4**	
	baz=98							
K29A	**Lazy Trails An**	**98.63**	**12**	⇓P	**P**	**10 29 09.1**	**-0.8**	
	baz=98							
SUR	**Sutherland**	**98.69**	**236**	PFAKE		10 29 20.0	+10	
SUR				LR	LR			
	comp=Z,3µm,20.0s							
M22A	**Cedar Creek Ra**	**98.70**	**17**	⇑P	**P**	**10 29 09.4**	**-1.1**	
	baz=98							
TPH	**Tonopah**	**98.71**	**26**	PFAKE		10 29 20.0	+9.4	
TPH				LR	LR			
	comp=Z,3µm,21.0s							
M23A	**Laramie**	**98.83**	**16**	⇑Pdiff	**P**	**10 29 09.9**	**-1.2**	
	baz=98							
M23A	**Laramie**	**98.83**	**16**	⇑Pdiff	**P**	**10 29 09.9**	**-1.2**	
	baz=98							
N20A	**Spence Gulch,**	**98.83**	**18**	⇓Pdiff	**P**	**10 29 10.7**	**-0.4**	
	baz=98							
N20A	**Spence Gulch,**	**98.83**	**18**	⇓Pdiff	**P**	**10 29 10.7**	**-0.4**	
	baz=98							
L27A	**T5 Ranch, Ells**	**98.94**	**14**	⇑Pdiff	**P**	**10 29 10.7**	**-0.7**	
	baz=99							
L27A	**T5 Ranch, Ells**	**98.94**	**14**	⇑Pdiff	**P**	**10 29 10.7**	**-0.7**	
	baz=99							
R11A	**Troy Canyon, C**	**99.01**	**25**	*e*P	**Pdif**	**10 29 12.2**	**+0.3**	
	comp=Z,5.1nm,1.1s							
R11A	**Troy Canyon, C**	**99.01**	**25**	⇑Pdiff	**Pdif**	**10 29 11.6**	**-0.4**	
	baz=99							
R11A	**Troy Canyon, C**	**99.01**	**25**	⇑Pdiff	**Pdif**	**10 29 11.6**	**-0.4**	
	baz=99							
M24A	**Cheyenne**	**99.03**	**16**	⇓Pdiff	**Pdif**	**10 29 11.9**	**0.0**	
	baz=99							
M24A	**Cheyenne**	**99.03**	**16**	⇓Pdiff	**Pdif**	**10 29 11.9**	**0.0**	
	baz=99							
PHWY	**Pilot Hill**	**99.05**	**16**	*e*P	**Pdif**	**10 29 12.6**	**+0.5**	
	comp=Z,17nm,1.1s							
N21A	**Black Mountain**	**99.09**	**18**	⇑Pdiff	**Pdif**	**10 29 11.8**	**-0.5**	
	baz=99							
N21A	**Black Mountain**	**99.09**	**18**	⇑Pdiff	**Pdif**	**10 29 11.8**	**-0.5**	
	baz=99							
O19A	**Miners Draw (B**	**99.12**	**19**	⇓Pdiff	**Pdif**	**10 29 11.8**	**-0.5**	
	baz=99							
O19A	**Miners Draw (B**	**99.12**	**19**	⇓Pdiff	**Pdif**	**10 29 11.8**	**-0.5**	
	baz=99							
TIN	**Tinemaha**	**99.26**	**27**	⇑Pdiff	**Pdif**	**10 29 12.6**	**-0.4**	
	baz=99							
TIN	**Tinemaha**	**99.26**	**27**	⇑Pdiff	**Pdif**	**10 29 12.6**	**-0.4**	
	baz=99							
L29A	**Maesberg Ranch**	**99.28**	**12**	⇓Pdiff	**Pdif**	**10 29 12.4**	**-0.5**	
	baz=99							
L29A	**Maesberg Ranch**	**99.28**	**12**	⇓Pdiff	**Pdif**	**10 29 12.4**	**-0.5**	
	baz=99							
N22A	**Wattenberg Ran**	**99.30**	**17**	⇑Pdiff	**Pdif**	**10 29 12.4**	**-0.9**	
	baz=99							
N22A	**Wattenberg Ran**	**99.30**	**17**	⇑Pdiff	**Pdif**	**10 29 12.4**	**-0.9**	
	baz=99							
N23A	**Red Feather La**	**99.33**	**17**	⇓Pdiff	**Pdif**	**10 29 12.9**	**-0.5**	
	baz=99							
N23A	**Red Feather La**	**99.33**	**17**	⇓Pdiff	**Pdif**	**10 29 12.9**	**-0.5**	
	baz=99							
M26A	**McRoberts Ranc**	**99.38**	**14**	⇓Pdiff	**Pdif**	**10 29 12.5**	**-0.8**	
	baz=99							
M26A	**McRoberts Ranc**	**99.38**	**14**	⇓Pdiff	**Pdif**	**10 29 12.5**	**-0.8**	
	baz=99							
M27A	**Reverse DX Ran**	**99.46**	**14**	⇓Pdiff	**Pdif**	**10 29 12.9**	**-0.8**	
	baz=99							
M27A	**Reverse DX Ran**	**99.46**	**14**	⇓Pdiff	**Pdif**	**10 29 12.9**	**-0.8**	
	baz=99							
O20A	**White River Ci**	**99.50**	**19**	⇑Pdiff	**Pdif**	**10 29 12.8**	**-1.3**	
	baz=99							
O20A	**White River Ci**	**99.50**	**19**	⇑Pdiff	**Pdif**	**10 29 12.8**	**-1.3**	
	baz=99							
O21A	**Pagoda**	**99.61**	**18**	⇓Pdiff	**Pdif**	**10 29 14.4**	**-0.3**	
	baz=99							
O21A	**Pagoda**	**99.61**	**18**	⇓Pdiff	**Pdif**	**10 29 14.4**	**-0.3**	
	baz=99							
GRAC	**Grapevine Rang**	**99.62**	**26**	⇑Pdiff	**Pdif**	**10 29 14.7**	**+0.2**	
	baz=99							
GRAC	**Grapevine Rang**	**99.62**	**26**	⇑Pdiff	**Pdif**	**10 29 14.7**	**+0.2**	
	baz=99							
N24A	**Carr**	**99.63**	**16**	⇓Pdiff	**Pdif**	**10 29 14.6**	**0.0**	
	baz=99							
N24A	**Carr**	**99.63**	**16**	⇓Pdiff	**Pdif**	**10 29 14.6**	**0.0**	
	baz=99							
JFWS	**Jewell Farm**	**99.63**	**5**	PFAKE		10 29 20.0	+5.7	
JFWS				LR	LR			
	comp=Z,3µm,21.0s							
P19A	**Cripple Cowboy**	**99.78**	**19**	⇑Pdiff	**Pdif**	**10 29 14.0**	**-1.3**	
	baz=100							
P19A	**Cripple Cowboy**	**99.78**	**19**	⇑Pdiff	**Pdif**	**10 29 14.0**	**-1.3**	
	baz=100							
Q16A	**Castle Valley**	**99.85**	**21**	⇑Pdiff	**Pdif**	**10 29 14.6**	**-1.0**	
	baz=100							
Q16A	**Castle Valley**	**99.85**	**21**	⇑Pdiff	**Pdif**	**10 29 14.6**	**-1.0**	
	baz=100							
CWC	**Cottonwood Cre**	**99.86**	**27**	⇓Pdiff	**Pdif**	**10 29 15.0**	**-0.7**	
	baz=100							
CWC	**Cottonwood Cre**	**99.86**	**27**	⇓Pdiff	**Pdif**	**10 29 15.0**	**-0.7**	
	baz=100							
O22A	**Kremmling**	**99.89**	**17**	⇑Pdiff	**Pdif**	**10 29 15.1**	**-0.8**	
	baz=100							
O22A	**Kremmling**	**99.89**	**17**	⇑Pdiff	**Pdif**	**10 29 15.1**	**-0.8**	
	baz=100							
MVU	**Marysvale**	**99.93**	**22**	PFAKE		10 29 30.0	+14	
MVU				LR	LR			
	comp=Z,2µm,21.0s							
N26A	**Koester Ranch,**	**99.97**	**15**	⇑Pdiff	**Pdif**	**10 29 15.6**	**-0.5**	
	baz=100							
N26A	**Koester Ranch,**	**99.97**	**15**	⇑Pdiff	**Pdif**	**10 29 15.6**	**-0.5**	
	baz=100							
O23A	**Lake Granby, G**	**99.99**	**17**	⇑Pdiff	**Pdif**	**10 29 15.4**	**-0.9**	
	baz=100							
O23A	**Lake Granby, G**	**99.99**	**17**	⇑Pdiff	**Pdif**	**10 29 15.4**	**-0.9**	
	baz=100							
OGNE	**Ogallala**	**100.09**	**14**	PFAKE		10 29 30.0	+13	
OGNE				LR	LR			
	comp=Z,3µm,21.0s							
SMMC	**Simmler**	**100.15**	**29**	⇑Pdiff	**Pdif**	**10 29 15.9**	**-0.9**	
	baz=100							
SMMC	**Simmler**	**100.15**	**29**	⇑Pdiff	**Pdif**	**10 29 15.9**	**-0.9**	
	baz=100							
BINY	**Binghamton**	**100.19**	**354**	PFAKE		10 29 30.0	+13	
BINY				LR	LR			
	comp=Z,3µm,20.0s							
O24A	**Longmont**	**100.26**	**16**	⇓Pdiff	**Pdif**	**10 29 16.1**	**-1.3**	
	baz=100							
O24A	**Longmont**	**100.26**	**16**	⇓Pdiff	**Pdif**	**10 29 16.1**	**-1.3**	
	baz=100							
P21A	**Newcastle**	**100.27**	**18**	⇑Pdiff	**Pdif**	**10 29 16.0**	**-1.6**	
	baz=100							
P21A	**Newcastle**	**100.27**	**18**	⇑Pdiff	**Pdif**	**10 29 16.0**	**-1.6**	
	baz=100							
BGNE	**Belgrade**	**100.29**	**11**	⇓Pdiff	**Pdif**	**10 29 16.3**	**-1.0**	
	baz=100							
BGNE	**Belgrade**	**100.29**	**11**	⇓Pdiff	**Pdif**	**10 29 16.3**	**-1.0**	
	baz=100							
P22A	**Eagle**	**100.38**	**18**	⇑Pdiff	**Pdif**	**10 29 16.9**	**-1.1**	
	baz=100							
P22A	**Eagle**	**100.38**	**18**	⇑Pdiff	**Pdif**	**10 29 16.9**	**-1.1**	
	baz=100							
ISA	**Isabella**	**100.41**	**28**	⇑Pdiff	**Pdif**	**10 29 17.3**	**-0.7**	
	baz=100							
ISA	**Isabella**	**100.41**	**28**	⇑Pdiff	**Pdif**	**10 29 17.3**	**-0.7**	
	baz=100							
MPMC	**Manual Prospec**	**100.42**	**27**	⇑Pdiff	**Pdif**	**10 29 17.7**	**-0.5**	
	baz=100							
MPMC	**Manual Prospec**	**100.42**	**27**	⇑Pdiff	**Pdif**	**10 29 17.7**	**-0.5**	
	baz=100							
N28A	**Pribbeno Ranch**	**100.43**	**13**	⇑Pdiff	**Pdif**	**10 29 17.1**	**-0.9**	
	baz=100							
N28A	**Pribbeno Ranch**	**100.43**	**13**	⇑Pdiff	**Pdif**	**10 29 17.1**	**-0.9**	
	baz=100							
ISCO	**Idaho Springs**	**100.45**	**17**	PFAKE		10 29 30.0	+12	
ISCO				LR	LR			
	comp=Z,2µm,20.0s							
ISCO	**Idaho Springs**	**100.45**	**17**	⇓Pdiff	**Pdif**	**10 29 18.1**	**-0.3**	
	baz=100							
ISCO	**Idaho Springs**	**100.45**	**17**	⇓Pdiff	**Pdif**	**10 29 18.1**	**-0.3**	
	baz=100							
O27A	**Beecher Island**	**100.74**	**14**	⇑Pdiff	**Pdif**	**10 29 18.5**	**-1.0**	
	baz=100							
O27A	**Beecher Island**	**100.74**	**14**	⇑Pdiff	**Pdif**	**10 29 18.5**	**-1.0**	
	baz=100							
P24A	**Kohler Place,**	**100.88**	**16**	⇓Pdiff	**Pdif**	**10 29 19.2**	**-1.0**	
	baz=100							
P24A	**Kohler Place,**	**100.88**	**16**	⇓Pdiff	**Pdif**	**10 29 19.2**	**-1.0**	
	baz=100							
Q21A	**Lamborn Mesa,**	**100.89**	**18**	⇑Pdiff	**Pdif**	**10 29 19.0**	**-1.3**	
	baz=101							
Q21A	**Lamborn Mesa,**	**100.89**	**18**	⇑Pdiff	**Pdif**	**10 29 19.0**	**-1.3**	
	baz=101							
Q22A	**Crested Butte,**	**101.03**	**18**	⇑Pdiff	**Pdif**	**10 29 19.8**	**-1.2**	
	baz=101							
Q22A	**Crested Butte,**	**101.03**	**18**	⇑Pdiff	**Pdif**	**10 29 19.8**	**-1.2**	
	baz=101							
P26A	**Davis Ranch, A**	**101.17**	**15**	⇑Pdiff	**Pdif**	**10 29 21.0**	**-0.4**	
	baz=101							
P26A	**Davis Ranch, A**	**101.17**	**15**	⇑Pdiff	**Pdif**	**10 29 21.0**	**-0.4**	
	baz=101							
OSI	**Osito Adit**	**101.25**	**29**	⇓Pdiff	**Pdif**	**10 29 21.7**	**-0.1**	
	baz=101							
OSI	**Osito Adit**	**101.25**	**29**	⇓Pdiff	**Pdif**	**10 29 21.7**	**-0.1**	
	baz=101							
Q23A	**Hartsel**	**101.25**	**17**	⇑Pdiff	**Pdif**	**10 29 21.5**	**-0.5**	
	baz=101							
Q23A	**Hartsel**	**101.25**	**17**	⇑Pdiff	**Pdif**	**10 29 21.5**	**-0.5**	
	baz=101							
R20A	**Redvale**	**101.30**	**19**	⇓Pdiff	**Pdif**	**10 29 21.6**	**-0.5**	
	baz=101							
R20A	**Redvale**	**101.30**	**19**	⇓Pdiff	**Pdif**	**10 29 21.6**	**-0.5**	
	baz=101							
P27A	**Ficken Ranch,**	**101.33**	**14**	⇓Pdiff	**Pdif**	**10 29 21.1**	**-1.0**	
	baz=101							
P27A	**Ficken Ranch,**	**101.33**	**14**	⇓Pdiff	**Pdif**	**10 29 21.1**	**-1.0**	
	baz=101							
R21A	**Cimarron**	**101.34**	**19**	⇓Pdiff	**Pdif**	**10 29 21.6**	**-0.8**	
	baz=101							
R21A	**Cimarron**	**101.34**	**19**	⇓Pdiff	**Pdif**	**10 29 21.6**	**-0.8**	
	baz=101							
Q24A	**Divide**	**101.35**	**17**	⇓Pdiff	**Pdif**	**10 29 21.3**	**-1.1**	
	baz=101							
Q24A	**Divide**	**101.35**	**17**	⇓Pdiff	**Pdif**	**10 29 21.3**	**-1.1**	
	baz=101							
R22A	**Saguache, Gunn**	**101.67**	**18**	⇑Pdiff	**Pdif**	**10 29 22.4**	**-1.5**	
	baz=101							
R22A	**Saguache, Gunn**	**101.67**	**18**	⇑Pdiff	**Pdif**	**10 29 22.4**	**-1.5**	
	baz=101							
Q26A	**Hugo**	**101.75**	**15**	⇓Pdiff	**Pdif**	**10 29 23.5**	**-0.6**	
	baz=101							
Q26A	**Hugo**	**101.75**	**15**	⇓Pdiff	**Pdif**	**10 29 23.5**	**-0.6**	
	baz=101							
P30A	**Selden**	**101.78**	**13**	⇓Pdiff	**Pdif**	**10 29 22.8**	**-1.2**	
	baz=101							
P30A	**Selden**	**101.78**	**13**	⇓Pdiff	**Pdif**	**10 29 22.8**	**-1.2**	
	baz=101							
U15A	**North Rim**	**101.82**	**23**	⇓Pdiff	**Pdif**	**10 29 23.9**	**-0.7**	
	baz=102							
U15A	**North Rim**	**101.82**	**23**	⇓Pdiff	**Pdif**	**10 29 23.9**	**-0.7**	
	baz=102							
XMAS	**Kiritimati**	**101.89**	**78**	PFAKE		10 29 30.0	+5.2	
XMAS				LR	LR			
	comp=Z,2µm,21.0s							
HEC	**Hector,Ludlow**	**101.94**	**27**	⇑Pdiff	**Pdif**	**10 29 24.2**	**-0.6**	
	baz=102							
HEC	**Hector,Ludlow**	**101.94**	**27**	⇑Pdiff	**Pdif**	**10 29 24.2**	**-0.6**	
	baz=102							
P31A	**Stockton**	**101.94**	**12**	⇑Pdiff	**Pdif**	**10 29 23.8**	**-0.9**	
	baz=102							
P31A	**Stockton**	**101.94**	**12**	⇑Pdiff	**Pdif**	**10 29 23.8**	**-0.9**	
	baz=102							
S21A	**Coal Bank Pass**	**101.95**	**19**	⇑Pdiff	**Pdif**	**10 29 23.9**	**-1.2**	
	baz=102							
S21A	**Coal Bank Pass**	**101.95**	**19**	⇑Pdiff	**Pdif**	**10 29 23.9**	**-1.2**	
	baz=102							
S22A	**4UR Ranch, Cre**	**102.11**	**18**	⇓Pdiff	**Pdif**	**10 29 25.2**	**-0.6**	
	baz=102							
S22A	**4UR Ranch, Cre**	**102.11**	**18**	⇓Pdiff	**Pdif**	**10 29 25.2**	**-0.6**	
	baz=102							
MVCO	**Mesa Verde**	**102.19**	**20**	PFAKE		10 29 40.0	+14	
MVCO				LR	LR			
	comp=Z,2µm,19.0s							
MVCO	**Mesa Verde**	**102.19**	**20**	⇓Pdiff	**Pdif**	**10 29 24.4**	**-1.8**	
	baz=102							
MVCO	**Mesa Verde**	**102.19**	**20**	⇓Pdiff	**Pdif**	**10 29 24.4**	**-1.8**	
	baz=102							
GMRC	**Granite Mounta**	**102.22**	**26**	⇓Pdiff	**Pdif**	**10 29 24.8**	**-1.4**	
	baz=102							
GMRC	**Granite Mounta**	**102.22**	**26**	⇓Pdiff	**Pdif**	**10 29 24.8**	**-1.4**	
	baz=102							
SFIN	**Scholer Farm**	**102.31**	**2**	⇓Pdiff	**Pdif**	**10 29 21.3**	**-4.9**	
	baz=102							
SFIN	**Scholer Farm**	**102.31**	**2**	⇓Pdiff	**Pdif**	**10 29 21.3**	**-4.9**	
	baz=102							
Q30A	**Quinter**	**102.33**	**13**	⇓Pdiff	**Pdif**	**10 29 25.9**	**-0.6**	
	baz=102							
Q30A	**Quinter**	**102.33**	**13**	⇓Pdiff	**Pdif**	**10 29 25.9**	**-0.6**	
	baz=102							
SDCO	**Great Sand Dun**	**102.43**	**17**	PFAKE		10 29 40.0	+13	
SDCO				LR	LR			
	comp=Z,3µm,19.0s							
Q31A	**Ellis**	**102.44**	**12**	⇑Pdiff	**Pdif**	**10 29 26.2**	**-0.8**	
	baz=102							
Q31A	**Ellis**	**102.44**	**12**	⇑Pdiff	**Pdif**	**10 29 26.2**	**-0.8**	
	baz=102							
S24A	**Houchin Ranch,**	**102.60**	**17**	⇑Pdiff	**Pdif**	**10 29 26.8**	**-1.3**	
	baz=102							
S24A	**Houchin Ranch,**	**102.60**	**17**	⇑Pdiff	**Pdif**	**10 29 26.8**	**-1.3**	
	baz=102							
R28A	**Tribune**	**102.65**	**14**	⇑Pdiff	**Pdif**	**10 29 27.0**	**-1.0**	
	baz=102							
R28A	**Tribune**	**102.65**	**14**	⇑Pdiff	**Pdif**	**10 29 27.0**	**-1.0**	
	baz=102							
R29A	**Marienthal**	**102.70**	**14**	⇓Pdiff	**Pdif**	**10 29 27.3**	**-0.9**	
	baz=102							
R29A	**Marienthal**	**102.70**	**14**	⇓Pdiff	**Pdif**	**10 29 27.3**	**-0.9**	
	baz=102							
MURC	**Murrieta**	**102.72**	**28**	⇑Pdiff	**Pdif**	**10 29 27.9**	**-0.5**	
	baz=102							
MURC	**Murrieta**	**102.72**	**28**	⇑Pdiff	**Pdif**	**10 29 27.9**	**-0.5**	
	baz=102							
S25A	**Robets Cordova**	**102.76**	**16**	⇑Pdiff	**Pdif**	**10 29 26.9**	**-1.7**	
	baz=102							
S25A	**Robets Cordova**	**102.76**	**16**	⇑Pdiff	**Pdif**	**10 29 26.9**	**-1.7**	
	baz=102							
SCI	**San Clemente I**	**102.76**	**29**	⇓Pdiff	**Pdif**	**10 29 27.2**	**-1.3**	
	baz=102							
SCI	**San Clemente I**	**102.76**	**29**	⇓Pdiff	**Pdif**	**10 29 27.2**	**-1.3**	
	baz=102							
KSU1	**Kansas State U**	**102.77**	**10**	PFAKE		10 29 40.0	+12	
KSU1				LR	LR			
	comp=Z,3µm,20.0s							
SACV	**Santiago Islan**	**102.80**	**300**	PFAKE		10 29 40.0	+11	
SACV				LR	LR			
	comp=Z,1µm,21.0s							
BELC	**Belle Mtn. Jos**	**102.80**	**27**	⇓Pdiff	**Pdif**	**10 29 27.6**	**-1.2**	
	baz=102							
BELC	**Belle Mtn. Jos**	**102.80**	**27**	⇓Pdiff	**Pdif**	**10 29 27.6**	**-1.2**	
	baz=102							
WUAZ	**Wupatki**	**102.94**	**23**	PFAKE		10 29 40.0	+11	
WUAZ				LR	LR			
	comp=Z,2µm,19.0s							
WUAZ	**Wupatki**	**102.94**	**23**	⇑Pdiff	**Pdif**	**10 29 28.5**	**-0.9**	
	baz=103							
WUAZ	**Wupatki**	**102.94**	**23**	⇑Pdiff	**Pdif**	**10 29 28.5**	**-0.9**	
	baz=103							
MCWV	**Mont Chateau**	**102.98**	**357**	PFAKE		10 29 40.0	+11	
MCWV				LR	LR			
	comp=Z,5µm,20.0s							
PFO	**Pinyon Flat Ob**	**102.99**	**27**	PFAKE		10 29 40.0	+10	
PFO				LR	LR			
	comp=Z,2µm,21.0s							
R31A	**Burdett**	**103.12**	**12**	⇓Pdiff	**Pdif**	**10 29 28.6**	**-1.4**	
	baz=103							
R31A	**Burdett**	**103.12**	**12**	⇓Pdiff	**Pdif**	**10 29 28.6**	**-1.4**	
	baz=103							
U21A	**Nageezi**	**103.15**	**19**	⇓Pdiff	**Pdif**	**10 29 29.5**	**-0.9**	
	baz=103							
U21A	**Nageezi**	**103.15**	**19**	⇓Pdiff	**Pdif**	**10 29 29.5**	**-0.9**	
	baz=103							
T25A	**Trinidad**	**103.27**	**17**	⇑Pdiff	**Pdif**	**10 29 29.5**	**-1.4**	
	baz=103							
T25A	**Trinidad**	**103.27**	**17**	⇑Pdiff	**Pdif**	**10 29 29.5**	**-1.4**	
	baz=103							
BC3	**Big Chuckawall**	**103.31**	**26**	⇑Pdiff	**Pdif**	**10 29 30.2**	**-0.8**	
	baz=103							
BC3	**Big Chuckawall**	**103.31**	**26**	⇑Pdiff	**Pdif**	**10 29 30.2**	**-0.8**	
	baz=103							
S28A	**Manter**	**103.36**	**14**	⇑Pdiff	**Pdif**	**10 29 30.3**	**-0.9**	
	baz=103							
S28A	**Manter**	**103.36**	**14**	⇑Pdiff	**Pdif**	**10 29 30.3**	**-0.9**	
	baz=103

W26A	Owens Ranch, T	105.38	17	⇑Pdiff	Pdif	10 29 38.7	-1.5
	baz=105						
W26A	Owens Ranch, T	105.38	17	⇑Pdiff	Pdif	10 29 38.7	-1.5
	baz=105						
Y21A	Point of Rocks	105.42	20	⇓PKiKP	PKiKP	10 33 55.0	+0.7
	baz=105						
Y21A	Point of Rocks	105.42	20	⇓PKiKP	PKiKP	10 33 55.0	+0.7
	baz=105						
BLA	Blacksburg	105.44	357	PFAKE		10 34 00.0	
BLA				LR	LR		
	comp=Z,6μm,19.0s						
V31A	Spring Creek L	105.51	13	⇑PKiKP	PKiKP	10 33 53.9	-0.2
	baz=105						
V31A	Spring Creek L	105.51	13	⇑PKiKP	PKiKP	10 33 53.9	-0.2
	baz=105						
W27A	Bowe Ranch, En	105.56	16	⇑PKiKP	PKiKP	10 33 57.0	+2.7
	baz=105						
W27A	Bowe Ranch, En	105.56	16	⇑PKiKP	PKiKP	10 33 57.0	+2.7
	baz=105						
Y22A	Socorro	105.68	20	⇑PKiKP	PKiKP	10 33 56.6	+2.0
	baz=105						
Y22A	Socorro	105.68	20	⇑PKiKP	PKiKP	10 33 56.6	+2.0
	baz=105						
214A	Organ Pipe Nat	105.76	25	⇓PKiKP	PKiKP	10 33 58.6	+4.0
	baz=106						
214A	Organ Pipe Nat	105.76	25	⇓PKiKP	PKiKP	10 33 58.6	+4.0
	baz=106						
Y23A	Lovelace Mesa,	105.93	19	⇑PKiKP	PKiKP	10 34 01.3	+6.2
	baz=106						
Y23A	Lovelace Mesa,	105.93	19	⇑PKiKP	PKiKP	10 34 01.3	+6.2
	baz=106						
Z20A	Nine Sixteen R	106.01	21	⇑PKiKP	PKiKP	10 34 02.1	+6.8
	baz=106						
Z20A	Nine Sixteen R	106.01	21	⇑PKiKP	PKiKP	10 34 02.1	+6.8
	baz=106						
TUL1	Tulsa	106.02	10	⇑PKiKP	PKiKP	10 34 02.6	+7.7
	baz=106						
TUL1	Tulsa	106.02	10	⇑PKiKP	PKiKP	10 34 02.6	+7.7
	baz=106						
Y24A	Capitan	106.09	18	⇓PKiKP	PKiKP	10 34 02.2	+6.8
	baz=106						
Y24A	Capitan	106.09	18	⇓PKiKP	PKiKP	10 34 02.2	+6.8
	baz=106						
TUC	Tucson	106.10	23	*e*PKPdf		10 33 56.7	
TUC				LR	LR		
	comp=Z,1μm,20.0s						
Y25A	Mesa, Roswell	106.27	18	⇑PKiKP	PKiKP	10 34 00.1	+4.5
	baz=106						
Y25A	Mesa, Roswell	106.27	18	⇑PKiKP	PKiKP	10 34 00.1	+4.5
	baz=106						
Z22A	Elephant Butte	106.33	20	⇓PKiKP	PKiKP	10 33 59.0	+3.2
	baz=106						
Z22A	Elephant Butte	106.33	20	⇓PKiKP	PKiKP	10 33 59.0	+3.2
	baz=106						
X29A	Tulia	106.44	15	⇓PKiKP	PKiKP	10 34 00.4	+4.5
	baz=106						
X29A	Tulia	106.44	15	⇓PKiKP	PKiKP	10 34 00.4	+4.5
	baz=106						
120A	U Bar Ranch, L	106.53	21	⇓PKiKP	PKiKP	10 34 01.2	+5.0
	baz=106						
120A	U Bar Ranch, L	106.53	21	⇓PKiKP	PKiKP	10 34 01.2	+5.0
	baz=106						
X30A	Coker Ranch, T	106.61	14	⇑PKiKP	PKiKP	10 33 55.9	-0.2
	baz=106						
X30A	Coker Ranch, T	106.61	14	⇑PKiKP	PKiKP	10 33 55.9	-0.2
	baz=106						
Y27A	Causey	106.67	16	⇓PKiKP	PKiKP	10 33 56.0	-0.3
	baz=106						
Y27A	Causey	106.67	16	⇓PKiKP	PKiKP	10 33 56.0	-0.3
	baz=106						
MSTX	Muleshoe	106.67	16	⇑PKiKP	PKiKP	10 33 51.8	-4.5
	baz=106						
MSTX	Muleshoe	106.67	16	⇑PKiKP	PKiKP	10 33 51.8	-4.5
	baz=106						
WMOK	Wichita Mounta	106.71	13	PFAKE		10 34 10.0	
WMOK				LR	LR		
	comp=Z,4μm,19.0s						
121A	Cookes Peak, D	106.78	21	⇑PKiKP	PKiKP	10 33 55.1	-1.6
	baz=106						
121A	Cookes Peak, D	106.78	21	⇑PKiKP	PKiKP	10 33 55.1	-1.6
	baz=106						
Y28A	McKinney Farm,	106.84	16	⇑PKiKP	PKiKP	10 33 57.0	+0.3
	baz=106						
Y28A	McKinney Farm,	106.84	16	⇑PKiKP	PKiKP	10 33 57.0	+0.3
	baz=106						
Z25A	Roswell	106.88	18	⇑PKiKP	PKiKP	10 33 55.8	-0.9
	baz=107						
Z25A	Roswell	106.88	18	⇑PKiKP	PKiKP	10 33 55.8	-0.9
	baz=107						
123A	Bell Site, Whi	107.10	19	⇓PKiKP	PKiKP	10 33 53.9	-3.3
	baz=107						
123A	Bell Site, Whi	107.10	19	⇓PKiKP	PKiKP	10 33 53.9	-3.3
	baz=107						
124A	Stringfield Ra	107.25	19	⇑PKiKP	PKiKP	10 33 59.5	+1.9
	baz=107						
124A	Stringfield Ra	107.25	19	⇑PKiKP	PKiKP	10 33 59.5	+1.9
	baz=107						
CNNC	Cliffs of the	107.26	355	PFAKE		10 34 10.0	
CNNC				LR	LR		
	comp=Z,3μm,21.0s						
Z28A	Tucker Farm, M	107.41	16	⇑PKiKP	PKiKP	10 33 58.0	+0.3
	baz=107						
Z28A	Tucker Farm, M	107.41	16	⇑PKiKP	PKiKP	10 33 58.0	+0.3
	baz=107						
125A	Gardner Draw,	107.49	18	⇑PKiKP	PKiKP	10 34 00.6	+2.7
	baz=107						
125A	Gardner Draw,	107.49	18	⇑PKiKP	PKiKP	10 34 00.6	+2.7
	baz=107						
MIAR	Mount Ida	107.64	8	PFAKE		10 34 10.0	
MIAR				LR	LR		
	comp=Z,4μm,21.0s						
224A	Cornudas Mount	107.82	19	⇑PKiKP	PKiKP	10 33 55.8	-2.8
	baz=108						
224A	Cornudas Mount	107.82	19	⇑PKiKP	PKiKP	10 33 55.8	-2.8
	baz=108						
Z31A	Sharp Cattle R	107.84	14	⇓PKiKP	PKiKP	10 33 57.0	-1.4
	baz=108						
Z31A	Sharp Cattle R	107.84	14	⇓PKiKP	PKiKP	10 33 57.0	-1.4
	baz=108						
MAW	Mawson	107.85	193	PKiKP	PKiKP	10 33 57.2	+0.1
MAW				PKKPbc	PKKPbc	10 45 11.3	-0.6
MAW	Mawson	107.85	193	PKiKP	PKiKP	10 33 57.2	+0.1
	comp=Z,7.7nm,0.9s,baz=313,slow=4.7,SNR=11						
MAW				PKKPbc	PKKPbc	10 45 11.3	-0.6
	comp=Z,3.0nm,0.8s,baz=254,slow=5.9,SNR=5.2						
225A	Deer Hill, Car	107.97	18	⇑PKiKP	PKiKP	10 33 57.3	-1.6
	baz=108						
225A	Deer Hill, Car	107.97	18	⇑PKiKP	PKiKP	10 33 57.3	-1.6
	baz=108						
Z32A	Haskell	107.98	13	⇓PKiKP	PKiKP	10 34 00.3	+1.6
	baz=108						
Z32A	Haskell	107.98	13	⇓PKiKP	PKiKP	10 34 00.3	+1.6
	baz=108						
BBSR	BB Station	108.03	343	PFAKE		10 34 10.0	
BBSR				LR	LR		
	comp=Z,2μm,21.0s						
128A	Castleberry Fa	108.03	16	⇑PKiKP	PKiKP	10 33 59.8	+0.9
	baz=108						
128A	Castleberry Fa	108.03	16	⇑PKiKP	PKiKP	10 33 59.8	+0.9
	baz=108						
OXF	Oxford	108.05	5	PFAKE		10 34 10.0	
OXF				LR	LR		
	comp=Z,3μm,20.0s						
226B	Tecolote Peak,	108.16	18	⇑PKiKP	PKiKP	10 33 58.8	-0.3
	baz=108						
226B	Tecolote Peak,	108.16	18	⇑PKiKP	PKiKP	10 33 58.8	-0.3
	baz=108						
MNTX	Cornudas Mount	108.22	19	*e*PKPdf	PKiKP	10 33 59.8	+0.7
MNTX				LR	LR		
	comp=Z,2μm,19.0s						
130A	Snyder	108.38	15	⇑PKiKP	PKiKP	10 34 02.8	+3.3
	baz=108						
130A	Snyder	108.38	15	⇑PKiKP	PKiKP	10 34 02.8	+3.3
	baz=108						
324A	Moseley Ranch,	108.44	19	⇑PKiKP	PKiKP	10 34 00.6	+0.8
	baz=108						
324A	Moseley Ranch,	108.44	19	⇑PKiKP	PKiKP	10 34 00.6	+0.8
	baz=108						
325A	Bean Ranch, Si	108.64	19	⇓PKiKP	PKiKP	10 33 58.5	-1.7
	baz=108						
325A	Bean Ranch, Si	108.64	19	⇓PKiKP	PKiKP	10 33 58.5	-1.7
	baz=108						
SHEL	Horse Pasture	108.66	264	PFAKE		10 34 10.0	
SHEL				LR	LR		
	comp=Z,446nm,21.0s						
326A	Caldwell Ranch	108.94	18	⇑PKiKP	PKiKP	10 34 00.3	-0.3
	baz=109						
326A	Caldwell Ranch	108.94	18	⇑PKiKP	PKiKP	10 34 00.3	-0.3
	baz=109						
230A	Sterling City	109.03	15	⇑PKiKP	PKiKP	10 34 00.5	-0.3
	baz=109						
230A	Sterling City	109.03	15	⇑PKiKP	PKiKP	10 34 00.5	-0.3
	baz=109						
425A	Indio Mountain	109.19	19	⇑PKiKP	PKiKP	10 34 02.0	+0.8
	baz=109						
425A	Indio Mountain	109.19	19	⇑PKiKP	PKiKP	10 34 02.0	+0.8
	baz=109						
232A	Coleman	109.33	14	⇑PKiKP	PKiKP	10 34 01.0	-0.3
	baz=109						
232A	Coleman	109.33	14	⇑PKiKP	PKiKP	10 34 01.0	-0.3
	baz=109						
427A	Hayter Ranch,	109.52	18	⇑PKiKP	PKiKP	10 34 02.0	+0.2
	baz=109						
427A	Hayter Ranch,	109.52	18	⇑PKiKP	PKiKP	10 34 02.0	+0.2
	baz=109						
WHTX	Lake Whitney	109.62	12	⇓PKiKP	PKiKP	10 34 01.0	-0.8
	baz=109						
WHTX	Lake Whitney	109.62	12	⇓PKiKP	PKiKP	10 34 01.0	-0.8
	baz=109						
LRAL	Lakeview Retre	109.64	3	PFAKE		10 34 10.0	
LRAL				LR	LR		
	comp=Z,3μm,22.0s						
331A	San Angelo	109.74	15	⇓PKiKP	PKiKP	10 34 01.8	-0.3
	baz=109						
331A	San Angelo	109.74	15	⇓PKiKP	PKiKP	10 34 01.8	-0.3
	baz=109						
428A	Kincaid Ranch,	109.81	17	⇓PKiKP	PKiKP	10 34 01.3	-1.0
	baz=110						
428A	Kincaid Ranch,	109.81	17	⇓PKiKP	PKiKP	10 34 01.3	-1.0
	baz=110						
526A	Mary Lane Ranc	110.11	18	⇓PKiKP	PKiKP	10 34 04.3	+1.4
	baz=110						
526A	Mary Lane Ranc	110.11	18	⇓PKiKP	PKiKP	10 34 04.3	+1.4
	baz=110						
VBMS	Vicksburg	110.25	6	PFAKE		10 34 10.0	
VBMS				LR	LR		
	comp=Z,3μm,20.0s						
NATX	Nacogdoches	110.26	10	PFAKE		10 34 10.0	
NATX				LR	LR		
	comp=Z,3μm,19.0s						
431A	Sonora	110.31	15	⇑PKiKP	PKiKP	10 34 02.9	-0.3
	baz=110						
431A	Sonora	110.31	15	⇑PKiKP	PKiKP	10 34 02.9	-0.3
	baz=110						
626A	Big Bend Ranch	110.58	19	⇓PKiKP	PKiKP	10 34 04.0	+0.2
	baz=110						
626A	Big Bend Ranch	110.58	19	⇓PKiKP	PKiKP	10 34 04.0	+0.2
	baz=110						
JCT	Junction City	110.67	14	*e*PKIKP	PKiKP	10 34 04.8	+0.9
JCT				MLR	MLR		
	comp=Z,3μm,19.0s						
JCT	Junction City	110.67	14	*e*PKPdf	PKiKP	10 34 04.8	+0.9
JCT				LR	LR		
	comp=Z,3μm,19.0s						
JCT	Junction City	110.67	14	⇑PKiKP	PKiKP	10 34 04.1	+0.3
	baz=110						
JCT	Junction City	110.67	14	⇑PKiKP	PKiKP	10 34 04.1	+0.3
	baz=110						
530A	J-C Ranch, Com	110.67	16	⇑PKiKP	PKiKP	10 34 02.9	-0.9
	baz=110						
530A	J-C Ranch, Com	110.67	16	⇑PKiKP	PKiKP	10 34 02.9	-0.9
	baz=110						
ASCN	Ascension	110.82	276	PFAKE		10 34 10.0	
ASCN				LR	LR		
	comp=Z,734nm,22.0s						
531A	Rocksprings	110.82	15	⇓PKiKP	PKiKP	10 34 02.0	-2.1
	baz=110						
531A	Rocksprings	110.82	15	⇓PKiKP	PKiKP	10 34 02.0	-2.1
	baz=110						
TXAR	Lajitas Array	110.91	18	Pdif	Pdif	10 30 08.7	+3.8
TXAR				PKiKP	PKiKP	10 34 05.2	+0.7
TXAR				PKKPbc	PKKPbc	10 45 00.6	-0.6
TXAR				P'P'		10 53 30.4	
TXAR	Lajitas Array	110.91	18	Pdiff	Pdif	10 30 08.7	+3.8
	comp=Z,0.5nm,0.9s,baz=135,slow=0.4,SNR=4.6						
TXAR				PKiKP	PKiKP	10 34 05.2	+0.7
	comp=Z,2.7nm,0.9s,baz=318,slow=1.7,SNR=14						
TXAR				PKKPbc	PKKPbc	10 45 00.6	-0.6
	comp=Z,0.5nm,0.7s,baz=191,slow=3.8,SNR=3.8						
TXAR				PKPPKP	P'P'df	10 53 30.4	-5.8
	comp=Z,0.7nm,0.9s,baz=160,slow=3.6,SNR=5.7						
628A	Black Gap, Mar	110.95	17	⇑PKiKP	PKiKP	10 34 03.5	-0.9
	baz=111						
628A	Black Gap, Mar	110.95	17	⇑PKiKP	PKiKP	10 34 03.5	-0.9
	baz=111						
631A	Perdido Creek	111.54	15	⇓PKiKP	PKiKP	10 34 01.6	-3.9
	baz=111						
631A	Perdido Creek	111.54	15	⇓PKiKP	PKiKP	10 34 01.6	-3.9
	baz=111						
BRAL	Brewton	111.65	3	PFAKE		10 34 20.0	
BRAL				LR	LR		
	comp=Z,4μm,22.0s						
732A	Laxson Ranch,	112.33	15	⇓PKiKP	PKiKP	10 34 08.5	+1.5
	baz=112						
732A	Laxson Ranch,	112.33	15	⇓PKiKP	PKiKP	10 34 08.5	+1.5
	baz=112						
KVTX	Kingsville	113.88	13	PFAKE		10 34 20.0	
KVTX				LR	LR		
	comp=Z,3μm,21.0s						
SYO	Syowa Base	114.11	199	⇑*e*P	PKPdf	10 34 07.6	-1.3
PPT2	Papeete2	119.81	90	*e*LR	LR	11 10 55.2	
	comp=Z,680nm,22.8s						
GRTK	Grand Turk	119.91	346	PFAKE		10 34 30.0	+8.3
GRTK				LR	LR		
	comp=Z,2μm,20.0s						
ANWB	Willy Bob	121.11	335	PFAKE		10 34 30.0	+6.0
ANWB				LR	LR		
	comp=Z,901nm,21.0s						
VNDA	Vanda	121.55	167	PKP	PKPdf	10 34 21.4	-1.7
VNDA				*e*PKPdf	PKiKP	10 34 22.1	-1.1
VNDA				PKKPbc	PKKPbc	10 44 24.9	+0.4
VNDA	Vanda	121.55	167	PKP	PKPdf	10 34 21.4	-1.7
	comp=Z,8.2nm,0.9s,baz=293,slow=5.0,SNR=27						
VNDA				PKKPbc	PKKPbc	10 44 24.9	+0.4
	comp=Z,2.3nm,1.1s,baz=134,slow=3.2,SNR=7.4						
SJG	San Juan	122.02	340	PFAKE		10 34 40.0	+14
SJG				LR	LR		
	comp=Z,897nm,22.0s						
GTBY	Guantanamo Bay	122.12	350	PFAKE		10 34 40.0	+14
GTBY				LR	LR		
	comp=Z,1μm,20.0s						
TEIG	Tepich	122.31	5	PFAKE		10 34 40.0	+14
TEIG				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	Presa de Saban	122.40	346	PFAKE		10 34 40.0	+13
SDDR				LR	LR		
	comp=Z,2μm,21.0s						
SBA	Scott Base	122.63	166	*e*PKiKP	PKPdf	10 34 25.1	0.0
SBA				MLR	MLR		
	comp=Z,800nm,22.0s						
SBA	Scott Base	122.63	166	*e*PKPdf	PKPdf	10 34 25.1	0.0
SBA				LR	LR		
	comp=Z,800nm,22.0s						
TBI	Tubuai	122.96	95	*e*LR	LR	11 12 25.3	
	comp=Z,774nm,28.0s						
MAIT	Maitri	123.16	203	*e*P	PKPdf	10 34 24.0	-2.2
FDF	Fort de France	123.61	333	PFAKE		10 34 40.0	+11
FDF				LR	LR		
	comp=Z,1μm,20.0s						
MTDJ	Mount Denham	124.09	352	PFAKE		10 34 40.0	+10
MTDJ				LR	LR		
	comp=Z,2μm,20.0s						
BBGH	Gun Hill	124.47	331	PFAKE		10 34 40.0	+9.4
BBGH				LR	LR		
	comp=Z,1μm,20.0s						
CMIG	Matias Romero	124.63	13	PKKPbc	PKKPbc	10 44 11.1	-0.7
	comp=Z,2.7nm,0.9s,baz=336,slow=1.4,SNR=4.3						
RCBR	Riachuelo	125.98	294	PFAKE		10 34 40.0	+6.5
RCBR				LR	LR		
	comp=Z,582nm,20.0s						
GRGR	Grenville	126.19	332	PFAKE		10 34 40.0	+6.1
GRGR				LR	LR		
	comp=Z,776nm,21.0s						
QSPA	South Pole Qui	127.41	180	PFAKE		10 34 40.0	+5.4
QSPA				LR	LR		
	comp=Z,1μm,19.0s						
SNAA	Sanae	127.95	203	*e*P	PKPdf	10 34 35.8	+0.2
SNAA	Sanae	127.95	203	*e*I	PKiKP	10 34 37.6	+1.5
VNA2	Neumayer--Watz	129.36	204	*e*P	PKPdf	10 34 38.2	0.0
VNA2	Neumayer--Watz	129.36	204	*e*I	PKiKP	10 34 41.1	+2.2
VNA1	Neumayer--Stat	129.64	205	*e*P	PKPdf	10 34 38.9	+0.2
VNA1	Neumayer--Stat	129.64	205	*e*I	PKiKP	10 34 41.2	+1.8
SDV	Santo Domingo	132.03	342	PFAKE		10 35 00.0	+15
SDV				LR	LR		
	comp=Z,176nm,22.0s						
JTS	JuntasAbangare	132.32	1	PFAKE		10 35 00.0	+14
JTS				LR	LR		
	comp=Z,2μm,20.0s						
BCIP	Isla Barro Col	133.27	354	PFAKE		10 35 00.0	+13
BCIP				LR	LR		
	comp=Z,996nm,19.0s						
RKT	Rikitea	134.33	87	*e*LR	LR	11 17 36.5	
	comp=Z,712nm,30.0s						
ROSC	El Rosal	136.75	346	PKP	PKPdf	10 34 52.4	-1.9
ROSC				*e*PKPdf	PKiKP	10 34 54.4	-1.8
ROSC	El Rosal	136.75	346	PKP	PKPdf	10 34 52.4	-1.9
	comp=Z,7.5nm,0.4s,baz=67,slow=3.4,SNR=2.9						
BDFB	Brasilia	141.34	295	PKPpre	PKPpre	10 34 56.8	
BDFB				PP	PP	10 38 08.4	+3.8
BDFB	Brasilia	141.34	295	PKhKP	PKPpre	10 34 56.8	
	comp=Z,9.2nm,0.8s,baz=197,slow=1.9,SNR=10						
BDFB				PP	PP	10 38 08.4	+3.8
	comp=Z,3.0nm,0.6s,baz=102,slow=10,SNR=3.0						
OTAV	Otavalo	141.95	351	*e*PKPdf	PKPdf	10 35 04.0	+0.1
OTAV				LR	LR		
	comp=Z,1μm,22.0s						
PAYG	Puerto Ayora	142.78	10	PFAKE		10 35 10.0	+5.2
PAYG				LR	LR		
	comp=Z,637nm,20.0s						
SAML	Samuel	145.74	321	*e*PKPdf	PKPdf	10 35 09.4	-0.5
SAML				LR	LR		
	comp=Z,1μm,20.0s						
ATAH	Atahualpa	149.19	349	PKPbc	PKPdf	10 35 18.1	+1.9
ATAH	Atahualpa	149.19	349	PKPbc	PKPdf	10 35 18.1	+1.9
	comp=Z,18nm,0.9s,baz=334,slow=4.9,SNR=15						
PMSA	Palmer Station	150.34	197	PFAKE		10 35 30.0	+2.6
PMSA				LR	LR		
	comp=Z,731nm,19.0s						
SIV	San Ignacio	150.35	310	PKP	PKPdf	10 35 16.8	-0.6
SIV				PKPbc	PKPbc	10 35 23.0	+0.3
SIV	San Ignacio	150.35	310	PKP	PKPdf	10 35 16.8	-0.6
	comp=Z,24nm,1.1s,baz=94,slow=2.4,SNR=32						
SIV				PKPbc	PKPbc	10 35 23.0	+0.3
	comp=Z,65nm,0.9s,baz=73,slow=2.1,SNR=53						
NNA	Nana	153.64	344	PKP	PKPdf	10 35 22.3	-0.2
NNA				*e*PKPdf	PKPbc	10 35 23.0	-7.2
NNA				PKPbc	PKPbc	10 35 29.9	-0.3
NNA				PKPab	PKPab	10 35 42.6	0.0
NNA				LR	LR		
	comp=Z,976nm,21.0s						
NNA	Nana	153.64	344	PKP	PKPdf	10 35 22.3	-0.2
	comp=Z,4.2nm,0.3s,baz=177,slow=12,SNR=6.7						
NNA				PKPbc	PKPbc	10 35 29.9	-0.3
	comp=Z,12nm,0.6s,baz=338,slow=3.6,SNR=10.0						
NNA				PKPab	PKPab	10 35 42.6	0.0
	comp=Z,30nm,1.0s,baz=7.0,slow=3.1,SNR=9.2						
LPAZ	La Paz	154.47	322	PKP	PKPdf	10 35 23.2	-1.1
LPAZ				*e*PKPdf	PKPbc	10 35 23.8	-8.9
LPAZ				PKPbc	PKiKP	10 35 32.9	+0.2
LPAZ				PKPab	PKPab	10 35 46.8	-0.1
LPAZ	La Paz	154.47	322	PKP	PKPdf	10 35 23.2	-1.1
	comp=Z,9.8nm,1.1s,baz=36,slow=4.9,SNR=22						
LPAZ				PKPbc	PKiKP	10 35 32.9	+0.2
	comp=Z,11nm,1.1s,baz=11,slow=6.2,SNR=8.9						
LPAZ				PKPab	PKPab	10 35 46.8	-0.1
	comp=Z,8.5nm,0.8s,baz=134,slow=18,SNR=5.9						
CPUP	Villa Florida	154.72	289	*e*PKPdf	PKPdf	10 35 22.8	-0.7
CPUP				PKPbc	PKPbc	10 35 31.5	-0.6
CPUP				PKPab	PKPab	10 35 46.8	-0.2
CPUP	Villa Florida	154.72	289	PKP	PKPdf	10 35 22.8	-0.7
	comp=Z,13nm,1.0s,baz=29,slow=2.4,SNR=13						
CPUP				PKPbc	PKPbc	10 35 31.5	-0.6
	comp=Z,7.7nm,0.7s,baz=48,slow=1.9,SNR=12						
CPUP				PKPab	PKPab	10 35 46.8	-0.2
	comp=Z,13nm,0.9s,baz=57,slow=5.7,SNR=6.7						
LVC	Limon Verde	160.11	315	*e*PKPdf	PKPdf	10 35 31.0	+0.3
LVC				LR	LR		
	comp=Z,886nm,21.0s						
TRQA	Tornquist	162.51	262	*e*PKPdf	PKPdf	10 35 30.5	-2.1
TRQA				LR	LR		
	comp=Z,1μm,19.0s						
CFAA	Coronel Fontan	165.61	290	PKP	PKPdf	10 35 35.6	0.0
CFAA				PKPab	PKPab	10 36 33.6	-0.8
CFAA				PP	PP	10 40 20.0	-1.8
CFAA	Coronel Fontan	165.61	290	PKP	PKPdf	10 35 35.6	0.0
	comp=Z,1.9nm,1.1s,baz=317,slow=1.0,SNR=14						
CFAA				PKPab	PKPab	10 36 33.6	-0.8
	comp=Z,3.1nm,0.9s,baz=46,slow=3.5,SNR=19						
CFAA				PP	PP	10 40 20.0	-1.8
	comp=Z,1.1nm,1.1s,baz=97,slow=3.8,SNR=6.9						
LCO	Las Campanas	165.87	304	*e*PKPdf	PKPdf	10 35 37.0	+0.8
LCO				LR	LR		
	comp=Z,1μm,22.0s						
PLCA	Paso Flores	169.02	249	PKP	PKPdf	10 35 37.9	0.0
PLCA				PKPab	PKPab	10 36 49.3	-0.1
PLCA				PP	PP	10 40 42.4	+3.1
PLCA	Paso Flores	169.02	249	PKP	PKPdf	10 35 37.9	0.0
	comp=Z,15nm,1.0s,baz=124,slow=0.9,SNR=15						
PLCA				PKPab	PKPab	10 36 49.3	-0.1
	comp=Z,11nm,1.0s,baz=157,slow=4.5,SNR=5.1						
PLCA				PP	PP	10 40 42.4	+3.1
	comp=Z,3.2nm,1.1s,baz=45,slow=8.9,SNR=2.8						

IDC 31 10:17:56.2±9.2,3°34'N×126°92'E,h0km,mb3.7/4,
mb1 3.9/4,mb1mx3.8/23,mbtmp3.8/4,Error ellipse:
s-maj=152.0km s-min=96.7km az=144.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.34	183	P	P	10 22 43.7	-1.4
	1.8nm,0.9s,baz=0.0,slow=14,SNR=3.7						
WRA	Warramunga Arr	24.26	163	P	P	10 23 14.9	-0.3
	2.3nm,0.6s,baz=344,slow=10.0,SNR=32						
ASAR	Alice Springs	27.69	166	P	P	10 23 46.7	+0.5
	0.3nm,0.7s,baz=350,slow=7.7,SNR=10						
STKA	Stephens Creek	37.70	159	P

comp=Z,7.3nm,0.7s,baz=68,slow=23,SNR=23
KBL Kabul 21.88 270 *eP* **P 10 30 55.2 +1.0**
comp=Z,18nm,0.8s
VOSK Vostochnaya 23.00 319 ⇓P **P 10 31 06.2 +0.5**
comp=Z,147nm,2.6s
BVAR Borovoye Array 23.46 319 P **P 10 31 12.3 +1.9**
BVAR Borovoye Array 23.46 319 P **P 10 31 12.3 +1.9**
comp=Z,5.6nm,0.7s,baz=125,slow=11,SNR=4.1
KSAR Wonju Array Be 25.32 80 P **P 10 31 27.4 -0.4**
KSRS Korea Array 25.35 80 P **P 10 31 27.4 -0.7**
comp=Z,11nm,0.6s,baz=278,slow=9.7,SNR=41
AKTO Aktyubinsk 29.76 308 P **P 10 32 09.7 +2.2**
AKTO Aktyubinsk 29.76 308 P **P 10 32 09.7 +2.2**
comp=Z,6.5nm,0.8s,baz=96,slow=12,SNR=6.9
ASAJ Asahikawa 35.54 64 P **P 10 32 57.5 -0.6**
ASAJ Asahikawa 35.54 64 P **P 10 32 57.5 -0.6**
comp=Z,2.2nm,0.6s,baz=274,slow=19,SNR=8.2
KBZ Khabaz 40.07 296 P **P 10 33 38.5 +2.2**
KBZ Khabaz 40.07 296 P **P 10 33 38.5 +2.2**
comp=Z,2.0nm,0.7s,baz=80,slow=8.1,SNR=4.9
BR131 Keskin Array S 47.77 293 *eP* **P 10 34 39.2 +0.7**
BRTR Keskin Array B 47.77 293 P **P 10 34 39.0 +0.5**
BRTR Keskin Array B 47.77 293 P **P 10 34 39.0 +0.5**
comp=Z,4.8nm,0.7s,baz=99,slow=7.5,SNR=22
AKASG Malin Array Be 48.00 308 P **P 10 34 39.8 -0.1**
AKASG Malin Array Be 48.00 308 P **P 10 34 39.7 -0.1**
comp=Z,2.4nm,0.7s,baz=66,slow=8.0,SNR=2.6
FINES FINESS Array B 48.34 323 P **P 10 34 42.2 -0.1**
FINES FINESS Array B 48.34 323 P **P 10 34 42.2 -0.1**
comp=Z,2.7nm,0.8s,baz=120,slow=6.8,SNR=3.4
ARCES ARCESS Array B 48.49 334 P **P 10 34 43.5 0.0**
ARCES ARCESS Array B 48.49 334 P **P 10 34 43.5 0.0**
comp=Z,2.8nm,1.0s,baz=91,slow=8.7,SNR=7.4
HFS Hagfors 54.54 322 P **P 10 35 29.2 +0.4**
HFS Hagfors 54.54 322 P **P 10 35 29.2 +0.4**
comp=Z,2.9nm,0.8s,baz=148,slow=8.7,SNR=4.9
NB2 NORSAR Subarra 55.47 324 P **P 10 35 35.1 -0.5**
comp=Z,2.4nm,0.7s,baz=73,slow=7.9
NOA NORSAR Array B 55.47 324 P **P 10 35 35.3 -0.3**
NOA NORSAR Array B 55.47 324 P **P 10 35 35.3 -0.3**
comp=Z,1.9nm,0.7s,baz=73,slow=7.2,SNR=5.9
GERES GERESS Array B 58.16 310 P **P 10 35 56.6 +1.8**
GERES GERESS Array B 58.16 310 P **P 10 35 56.6 +1.8**
comp=Z,0.3nm,0.3s,baz=57,slow=4.9,SNR=4.4
DAVOX Davos/Dischmat 61.35 309 P **P 10 36 17.5 +0.5**
DAVOX Davos/Dischmat 61.35 309 P **P 10 36 17.5 +0.5**
comp=Z,3.9nm,0.5s,baz=8.1,slow=8.7,SNR=9.4
FITZ Fitzroy Crossi 62.09 148 P **P 10 36 20.9 -1.0**
FITZ Fitzroy Crossi 62.09 148 P **P 10 36 20.9 -1.0**
comp=Z,2.2nm,0.8s,baz=322,slow=2.4,SNR=4.0
CDF Champ du Feu 62.22 311 *eP* **P 10 36 23.1 +0.3**
CDF Champ du Feu 62.22 311 *eP* **P 10 36 23.1 +0.3**
LPG La Plagne 63.87 308 *eP* **P 10 36 34.6 +0.6**
comp=Z,18nm,1.0s
LPG La Plagne 63.87 308 *eP* **P 10 36 34.6 +0.6**
MBDF Montbardon 64.21 308 *eP* **P 10 36 36.3 +0.2**
comp=Z,5.8nm,0.7s
MBDF Montbardon 64.21 308 *eP* **P 10 36 36.3 +0.2**
ORIF Oris-en-Rattie 64.68 308 *eP* **P 10 36 39.1 0.0**
comp=Z,5.8nm,0.7s
ORIF Oris-en-Rattie 64.68 308 *eP* **P 10 36 39.1 0.0**
SMF Signal de Mont 65.10 311 *eP* **P 10 36 41.6 -0.1**
SMF Signal de Mont 65.10 311 *eP* **P 10 36 41.6 -0.1**
KMBO Kilima Mbogo 66.33 249 P **P 10 36 51.8 +1.4**
KMBO Kilima Mbogo 66.33 249 P **P 10 36 51.8 +1.4**
comp=Z,1.4nm,0.7s,baz=53,slow=12,SNR=3.7
ILAR Eielson Array 66.84 24 P **P 10 36 52.1 -0.4**
ILAR Eielson Array 66.84 24 P **P 10 36 52.1 -0.4**
comp=Z,1.4nm,0.9s,baz=299,slow=5.4,SNR=10
WRA Warramunga Arr 67.73 141 P **P 10 36 57.8 -0.9**
WRA Warramunga Arr 67.73 141 P **P 10 36 57.8 -0.9**
comp=Z,2.4nm,0.9s,baz=328,slow=5.6,SNR=12
SML Sawmill 68.24 27 *eP* **P 10 37 01.2 -0.3**
comp=Z,1.6nm,0.8s
EGAK Eagle 68.66 23 *eP* **P 10 37 03.6 -0.3**
comp=Z,13nm,1.3s
ASAR Alice Springs 70.67 143 P **P 10 37 16.6 -0.4**
ASAR Alice Springs 70.67 143 P **P 10 37 16.6 -0.4**
comp=Z,2.9nm,0.9s,baz=328,slow=5.6,SNR=19
NWAO Narrogin (SRO) 72.94 161 P **P 10 37 29.6 -0.8**
NWAO Narrogin (SRO) 72.94 161 P **P 10 37 29.6 -0.8**
comp=Z,6.3nm,0.8s,baz=338,slow=6.4,SNR=4.2
ESDC Sonseca Array 73.64 308 P **P 10 37 34.4 -0.3**
ESDC Sonseca Array 73.64 308 P **P 10 37 34.4 -0.3**
comp=Z,0.7nm,0.5s,baz=47,slow=5.8,SNR=6.1
CTA Charters Tower 74.42 131 P **P 10 37 38.8 -0.5**
CTA Charters Tower 74.42 131 P **P 10 37 38.8 -0.5**
comp=Z,3.6nm,0.8s,baz=292,slow=6.4,SNR=5.1
YKA Yellowknife Ar 77.26 14 P **P 10 37 54.1 -0.9**
YKA Yellowknife Ar 77.26 14 P **P 10 37 54.1 -0.9**
comp=Z,0.4nm,0.5s,baz=333,slow=5.2,SNR=3.3
STKA Stephens Creek 81.23 142 P **P 10 38 16.1 -0.8**
STKA Stephens Creek 81.23 142 P **P 10 38 16.1 -0.8**
comp=Z,2.9nm,0.6s,baz=333,slow=8.5,SNR=7.3
TORD Torodi Ar. Bea 85.36 283 P **P 10 38 38.9 +0.1**
TORD Torodi Ar. Bea 85.36 283 P **P 10 38 38.8 +0.1**
comp=Z,1.6nm,0.9s,baz=44,slow=5.1,SNR=8.8
SWMT Swartz Lake 91.15 20 *eP* **P 10 39 05.2 -0.9**
comp=Z,4.5nm,1.3s
SIV San Ignacio 150.37 310 PKPbc **PKPbc 10 45 53.4 +0.3**
SIV San Ignacio 150.37 310 PKPbc **PKPbc 10 45 53.4 +0.3**
comp=Z,1.1nm,0.7s,baz=59,slow=3.1,SNR=3.6
LPAZ La Paz 154.50 322 PKPbc **PKPbc 10 46 03.8 +0.7**
LPAZ La Paz 154.50 322 PKPbc **PKPbc 10 46 03.8 +0.7**
comp=Z,6.1nm,1.3s,baz=46,slow=0.7,SNR=5.1

IDC 31 10:33:02.3±1.0, 4°.63S×153°.51E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/22, mbtmp4.1/11, Error ellipse: s-maj=36.5km s-min=20.0km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.89**	**233**	Sn		Sn	10 36 28.4	0.0
	2.1nm,0.3s,baz=142,slow=18,SNR=5.8							
WRA	**Warramunga Arr**	**24.09**	**229**	P		P	10 38 20.1	+0.3
	1.3nm,0.4s,baz=52,slow=9.7,SNR=27							
ASAR	**Alice Springs**	**26.75**	**223**	P		P	10 38 43.8	-0.2
	0.2nm,0.5s,baz=53,slow=9.2,SNR=7.0							
FITZ	**Fitzroy Crossi**	**30.36**	**242**	P		P	10 39 15.3	-0.8
	2.6nm,0.6s,baz=94,slow=4.7,SNR=9.6							
VNDA	**Vanda**	**72.98**	**178**	P		P	10 44 33.4	+0.1
	1.0nm,0.9s,baz=353,slow=5.8,SNR=4.0							
MKAR	**Makanchi Array**	**80.66**	**319**	P		P	10 45 18.0	+0.7
	1.3nm,0.6s,baz=94,slow=7.6,SNR=16							
ZALV	**Zalesovo Beam**	**81.40**	**326**	P		P	10 45 20.9	-0.1
	1.0nm,0.4s,baz=97,slow=3.8,SNR=4.4							
ILAR	**Eielson Array**	**81.74**	**22**	P		P	10 45 22.0	-0.6
	0.4nm,0.9s,baz=251,slow=5.7,SNR=3.7							
KURBB	**Kurchatov Arra**	**84.10**	**322**	P		P	10 45 35.3	+0.2
	1.0nm,0.8s,baz=109,slow=4.2,SNR=13							
AAK	**Ala-Archa**	**85.06**	**313**	P		P	10 45 40.9	+0.5
	0.9nm,0.3s,baz=117,slow=6.0,SNR=6.0							
QSPA	**South Pole Qui**	**85.33**	**180**	P		P	10 45 41.7	+0.5
	1.8nm,0.5s,baz=63,slow=2.3,SNR=13							
BVAR	**Borovoye Array**	**89.53**	**323**	P		P	10 46 01.1	-0.5
	2.9nm,0.6s,baz=104,slow=6.1,SNR=15							
TORD	**Torodi Ar. Bea**	**150.92**	**289**	PKPbc		PKPbc	10 52 57.4	-0.8
	2.9nm,0.8s,baz=64,slow=2.2,SNR=15							

*BJI **31** 10:41:24.4, 13°.90N×92°.70E, h10km, mB5.5/22, mb4.8/38, Ms4.8/18, Ms7 4.5/18*
*DJA **31** 10:41:26.8±2.4, 14°.N±6°.×9°.2E±1°.7, h31km±13km, M5.4/20, mB6.0/5, mb5.1/20, MLv5.4/2, Mw(mB)5.6/5*
*ISCJB **31** 10:41:29.4±0.2, 14°.05N±0°.03×92°.79E±0°.02, h32km, mb4.7/93, MS4.6/4, Error ellipse: s-maj=4.3km s-min=2.9km az=36.7*
*MOS **31** 10:41:29.4±0.8, 14°.07N×92°.89E, h33km, mb4.9/22, Error ellipse: s-maj=9.2km s-min=5.2km az=115.3*
*NEIC **31** 10:41:31.6±1.8, 14°.05N×92°.82E, h35km±13km, mb4.8/15, Error ellipse: s-maj=6.9km s-min=4.9km az=58.0*
*IDC **31** 10:41:32.2±0.4, 14°.02N×92°.86E, h42km±3km, mb4.3/32, mb1 4.5/34, mb1mx4.4/39, mbtmp4.4/34, ML4.6/2, MS3.9/2, Ms1 4.0/2, ms1mx3.4/48, Error ellipse: s-maj=14.0km s-min=8.1km az=51.0*
ISC 31 10:41:31.4±0.3, 14°.10N±0°.04×92°.82E±0°.04, h32km, h32km:pP-P, n293, σ1s65/344, mb4.7/93, MS4.7/5, 4C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.92**	**173**	*eP*		**Pb**	**10 41 48.9**	**-0.1**
DGPR						AMB	AMB	10 41 55.7
	comp=Z,9μm,1.0s							
PBA	**Port Blair**	**2.43**	**182**	*eP*		Pn	10 42 10.2	+1.3
PBA						AMB	AMB	10 42 22.0
	comp=Z,983nm,0.5s							
PHET	**Kaeng Krachan**	**6.73**	**99**	P		Sb	10 44 39.0	-8.6
CMBY	**CAMPBELL BAY**	**7.13**	**171**	*ex*		x	10 43 06.8	
CMBY						AMB	AMB	10 44 39.0
	comp=Z,714nm,0.8s							
CM31	**Chiang Mai Arr**	**7.30**	**53**	*ePn*		**Pn**	**10 43 15.4**	**-0.5**
	comp=Z,33nm,0.4s							
CMAR	**Chiang Mai Arr**	**7.30**	**53**	P		**Pn**	**10 43 15.4**	**-0.5**
CMAR						S	**Sn**	**10 44 33.8**	**-4.1**
CMAR	**Chiang Mai Arr**	**7.30**	**53**	P		**Pn**	**10 43 15.4**	**-0.5**
	comp=Z,3.7nm,0.3s,baz=242,slow=15,SNR=127							
CMAR						S	**Sn**	**10 44 33.8**	**-4.1**
	comp=Z,8.0nm,0.3s,baz=243,slow=33,SNR=6.2							
CMAR						LR	LR	10 46 50.5
	comp=Z,583nm,21.5s,baz=225,slow=44							
CHTO	**Chiang Mai**	**7.51**	**51**	*eP*		**Pn**	**10 43 18.1**	**-0.8**
CHTO				*e*			10 44 38.1	
CHTO	**Chiang Mai**	**7.51**	**51**	*ePn*		**Pn**	**10 43 18.1**	**-0.8**
CHTO				*eSn*		**Sn**	**10 44 38.0**	**-5.0**
CHTO	**Chiang Mai**	**7.51**	**51**	P		**Pn**	**10 43 18.0**	**-0.8**
	comp=Z,75nm,0.8s,comp=Z,0.4nm							
PBKT	**Sadao Pong**	**8.24**	**72**	P		**Pn**	**10 43 29.7**	**+1.0**
	comp=Z,68nm,0.7s							
BSI	**Banda Aceh**	**8.89**	**164**	P		**Pn**	**10 43 36.7**	**-1.0**
	comp=Z,94nm,0.9s							
CHBT	**CHBT**	**9.35**	**97**	P		**Pn**	**10 43 46.3**	**+2.3**
	comp=Z,47nm,0.9s							
VIS	**Vishakhapatnam**	**9.82**	**293**	*i P*		**Pn**	**10 43 50.8**	**+0.4**
VIS						AMB	AMB	10 43 51.9
	comp=Z,452nm,1.0s							
VIS				*i* x		x	10 45 31.4	
SHL	**Shillong**	**11.44**	**356**	*eP*		**Pn**	**10 44 10.5**	**-2.4**
SHL						AMB	AMB	10 44 20.1
	comp=Z,21nm,1.1s							
SHL				*i* x		x	10 46 12.0	
KCSI	**Kotacane, Aceh**	**11.59**	**155**	P		**Pn**	**10 44 15.0**	**+0.3**
	comp=Z,118nm,1.3s,comp=Z,2μm							
BOK	**Bokaro**	**11.66**	**327**	*eP*		**Pn**	**10 44 14.9**	**-0.8**
BOK						AMB	AMB	10 44 17.2
	comp=Z,109nm,0.6s							
KULM	**Kulim**	**11.66**	**138**	*ePn*		**Pn**	**10 44 16.9**	**+1.1**
KULM	**Kulim**	**11.66**	**138**	P		**Pn**	**10 44 17.4**	**+1.6**
KULM	**Kulim**	**11.66**	**138**	P		**Pn**	**10 44 17.3**	**+1.5**
	comp=Z,232nm,1.0s							
IPM	**Ipoh**	**12.52**	**139**	*ePn*		**Pn**	**10 44 27.8**	**+0.3**
IPM	**Ipoh**	**12.52**	**139**	P		**Pn**	**10 44 28.2**	**+0.8**
IPM	**Ipoh**	**12.52**	**139**	P		**Pn**	**10 44 27.5**	**0.0**
	comp=Z,50nm,1.3s							
PSI	**Prapat**	**12.74**	**151**	P		**Pn**	**10 44 32.8**	**+2.2**
PSI	**Prapat**	**12.74**	**151**	P		**Pn**	**10 44 32.8**	**+2.2**
	comp=Z,1.9nm,0.3s,baz=323,slow=12,SNR=22							
KTGM	**Kuala Trenggan**	**13.38**	**130**	P		**Pn**	**10 44 41.1**	**+1.9**
ODAN	**Odare**	**13.68**	**339**	*eP*		Pn	10 44 39.7	-3.7
	comp=Z,108nm,0.3s							
PALK	**Pallekele**	**13.70**	**242**	*ePn*		**Pn**	**10 44 42.1**	**-1.5**
FRIM	**Kepong**	**13.86**	**140**	P		**Pn**	**10 44 46.9**	**+1.2**
TAPN	**Taplejung**	**14.02**	**341**	*eP*		Pn	10 44 44.0	-4.2
	comp=Z,108nm,0.4s							
RAMN	**Ramite**	**14.05**	**337**	*eP*		**Pn**	**10 44 45.4**	**-3.1**
	comp=Z,235nm,0.3s							
HYB	**Hyderabad**	**14.12**	**285**	*i P*		**Pn**	**10 44 48.0**	**-1.4**
HYB				*e*			10 47 12.0	
HYB				*eS*		**Sn**	**10 47 26.0**	**+0.8**
HYB	**Hyderabad**	**14.12**	**285**	*eP*		**Pn**	**10 44 49.0**	**-0.4**
HYB						AMB	AMB	10 45 14.0
	comp=Z,45nm,4.2s							
KMI	**Kunming**	**14.40**	**39**	P		P	10 45 03.0	+3.2
KMI						pmax	pmax	
	comp=Z,73nm,0.8s							
KMI	**Kunming**	**14.40**	**39**	P		**P**	**10 44 57.0**	**-2.8**
KMI						pmax	pmax	
	comp=Z,19nm,1.0s							
JIRN	**Jiri**	**14.84**	**336**	*eP*		Pn	10 44 55.7	-3.7
	comp=Z,80nm,0.3s							
NGP	**Nagpur**	**14.88**	**300**	*eP*		**Pn**	**10 44 60.0**	**+0.4**
NGP				*ex*		x	10 47 35.0	
PKI	**Pulchoki**	**15.08**	**334**	*eP*		**Pn**	**10 44 58.3**	**-4.3**
	comp=Z,210nm,0.6s							
PKIN	**Phulchoki**	**15.09**	**334**	*eP*		**Pn**	**10 44 58.6**	**-4.1**
	comp=Z,156nm,0.4s							
PKIN				*eS*		Sn	10 47 37.8	-11
GUN	**Gumba**	**15.19**	**336**	*eP*		**Pn**	**10 45 00.7**	**-3.3**
	comp=Z,162nm,0.6s							
DMN	**Daman**	**15.25**	**333**	*eP*		**Pn**	**10 45 00.5**	**-4.2**
KKN	**Kakani**	**15.33**	**334**	*eP*		**Pn**	**10 45 02.3**	**-3.4**
	comp=Z,44nm,0.3s							
LSA	**Lhasa**	**15.60**	**355**	P		**Pn**	**10 45 06.8**	**-2.7**
LSA	**Lhasa**	**15.60**	**355**	*eP*		**Pn**	**10 45 08.0**	**-1.6**
LSA						pmax	pmax	
	comp=Z,35nm,0.8s							
LSA	**Lhasa**	**15.60**	**355**	*ePn*		**Pn**	**10 45 08.0**	**-1.6**
	comp=Z,35nm,0.8s							
KGM	**Kluang**	**15.87**	**138**	P		**Pn**	**10 45 13.8**	**+1.2**
KOLN	**Koldanda**	**16.09**	**329**	*eP*		**Pn**	**10 45 11.2**	**-4.3**
	comp=Z,308nm,0.8s							
LATR	**Latur**	**16.19**	**288**	*ex*		**Pn**	**10 45 12.7**	**-4.0**
LATR						AMB	AMB	10 45 18.8
	comp=Z,33nm,1.1s							
PPI	**Padang Panjang**	**16.29**	**152**	P		**Pn**	**10 45 16.9**	**-1.1**
	comp=Z,29nm,0.8s							
MYKOM	**Kota Tinggi**	**16.38**	**137**	P		**P**	**10 45 21.2**	**-0.6**
MYKOM	**Kota Tinggi**	**16.38**	**137**	P		**P**	**10 45 21.1**	**-0.6**
	comp=Z,74nm,1.1s							
AKL	**Akola**	**16.45**	**296**	*eP*		**Pn**	**10 45 21.0**	**+1.1**
DANN	**Dangsing**	**16.49**	**331**	*eP*		**Pn**	**10 45 16.7**	**-4.1**
	comp=Z,71nm,0.2s							
QIZ	**Qiongzhong**	**17.03**	**71**	P		**Pn**	**10 45 27.3**	**0.0**
QIZ						S	**Sn**	**10 48 36.0**	**+0.1**
QIZ						pmax	pmax	
	comp=Z,1μm,11.7s							
BHPL	**Bhopal**	**17.18**	**304**	*eP*		**P**	**10 45 30.8**	**+0.2**
GYA	**Guiyang**	**17.86**	**44**	P		**P**	**10 45 38.8**	**+0.6**
GYA				PP		**PnPn**	**10 45 52.8**	**+3.9**
GYA				S		**Sn**	**10 48 57.0**	**+0.9**
GYA				PcP		**PcP**	**10 50 15.3**	**+1.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,110nm,5.2s							
GYA				LR		LR		
	comp=N,680nm,15.2s							
GYA				LR		LR		
	comp=E,620nm,14.7s							
GYA				LR		LR		
	comp=Z,560nm,15.0s							
POO	**Poona**	**18.73**	**286**	*eP*		**P**	**10 45 47.7**	**0.0**
POO				⇓*i P*		**Pn**	**10 45 49.0**	**+0.7**
	comp=Z,71nm,1.5s							
POO						AMB	AMB	10 45 55.1
	comp=Z,39nm,0.7s							
POO				*i* PP		**PnPn**	**10 46 01.0**	**+0.3**
CD2	**Chengdu**	**19.52**	**29**	P		P	10 45 47.5	-8.8
CD2				pP		pP	10 46 01.3	-3.5
CD2				sP		sP	10 46 04.5	-4.4
CD2				PP		**PnPn**	**10 46 15.5**	**+4.0**
CD2				S		**S**	**10 49 33.0**	**-2.1**
CD2				sS		**Sn**	**10 49 38.5**	**+2.5**
CD2				SS		**SnSn**	**10 50 00.0**	**+9.4**
CD2				pmax		pmax		
	comp=Z,260nm,0.8s							
CD2				pmax		pmax		
	comp=Z,930nm,8.2s							
CD2				LR		LR		
	comp=N,2μm,9.5s							
CD2				LR		LR		
	comp=Z,1μm,8.2s							
NDI	**New Delhi**	**20.50**	**318**	*eP*		**P**	**10 46 07.0**	**+0.1**
PPBI	**Pangkal Pinang**	**20.86**	**140**	P		**P**	**10 46 10.8**	**-0.1**
	comp=Z,77nm,0.8s,comp=Z,4μm							
DDI	**Dehra Dun**	**21.12**	**322**	*ex*		**P**	**10 46 12.0**	**-1.6**
DDI				*eP*		pP	10 46 14.9	-7.2
KSM	**Kuching**	**21.36**	**124**	*eP*		**P**	**10 46 15.2**	**-1.1**
	comp=Z,32nm,0.9s							
KSM	**Kuching**	**21.36**	**124**	P		**P**	**10 46 16.4**	**+0.1**
KSM	**Kuching**	**21.36**	**124**	P		**P**	**10 46 15.5**	**-0.8**
	comp=Z,39nm,0.9s							
SMLA	**Simla**	**22.23**	**322**	*i P*		**P**	**10 46 26.1**	**+0.6**
SMLA						AMB	AMB	10 46 41.0
	comp=Z,114nm,0.9s							
SMLA				*i* x		x	10 50 24.6	
ENH	**Enshi**	**22.25**	**41**	*eP*		**P**	**10 46 25.4**	**-0.4**
	comp=Z,81nm,0.9s							
SBUM	**Sibu**	**22.39**	**119**	*eP*		**P**	**10 46 25.5**	**-1.8**
	comp=Z,29nm,0.9s							
SBUM	**Sibu**	**22.39**	**119**	P		**P**	**10 46 27.7**	**+0.4**
SBUM	**Sibu**	**22.39**	**119**	P		**P**	**10 46 26.5**	**-0.8**
	comp=Z,36nm,1.1s							
BTM	**Bintulu**	**22.74**	**117**	P		**P**	**10 46 32.4**	**+1.2**
STKI	**Sintang**	**23.14**	**126**	P		**P**	**10 46 34.5**	**-0.7**
	comp=Z,61nm,1.2s,comp=Z,19μm							
DHRM	**DHARAMSHALA**	**23.55**	**323**	*eP*		**P**	**10 46 40.0**	**+0.7**
LZH	**Lanzhou**	**24.03**	**22**	*eP*		**P**	**10 46 44.8**	**+1.1**
LZH				pP		**pP**	**10 46 49.0**	**-3.9**
LZH				sP		sP	10 46 50.8	-6.0
LZH				PP		PnPn	10 47 22.5	+9.3
LZH				*eS*		**S**	**10 50 59.5**	**+0.5**
LZH				sS		sS	10 51 06.0	-8.1
LZH				SS		SnSn	10 51 53.5	+12
LZH				pmax		pmax		
	comp=Z,83nm,1.0s							
LZH				pmax		pmax		
	comp=Z,340nm,4.4s							
LZH				LR		LR		
	comp=N,560nm,11.0s							
LZH				LR		LR		
	comp=E,1μm,10.2s							
LZH				LR		LR		
	comp=Z,810nm,12.5s							
KKM	**Kota Kinabalu**	**24.36**	**107**	P		**P**	**10 46 46.6**	**-0.4**
XAN	**Xi'an**	**24.64**	**34**	P		**P**	**10 46 48.3**	**-0.9**
XAN				pP		**pP**	**10 46 55.0**	**-3.4**
XAN				pmax		pmax		
	comp=Z,30nm,1.0s							
KDM	**Kudat**	**24.65**	**104**	P		**P**	**10 46 51.2**	**+1.8**
SDKM	**Sandakan**	**25.42**	**107**	P		**P**	**10 46 55.2**	**-1.2**
WHN	**Wuhan**	**25.70**	**47**	P		**P**	**10 46 58.0**	**-0.8**
GTA	**Gaotai**	**25.96**	**12**	*eP*		**P**	**10 47 02.5**	**+1.3**
GTA				pP		**pP**	**10 47 06.8**	**-3.6**
GTA				sP		**sP**	**10 47 09.5**	**-4.8**
GTA				pmax		pmax		
	comp=Z,23nm,1.1s							
GTA				pmax		pmax		
	comp=Z,360nm,6.1s							
TSM	**Tawau**	**26.55**	**109**	P		**P**	**10 47 05.9**	**-0.7**
MYLDM	**Lahad Datu**	**26.80**	**107**	P		**P**	**10 47 08.6**	**-0.3**
TWG	**Pinlang**	**28.12**	**68**	*eP*		**P**	**10 47 23.3**	**+2.5**
SSLB	**Suanglung**	**28.25**	**66**	*eP*		**P**	**10 47 22.8**	**+0.9**
	comp=Z,45nm,1.1s							
YULB	**Yu-li**	**28.46**	**67**	*eP*		**P**	**10 47 25.4**	**+1.7**
	comp=Z,12nm,0.7s							
KSH	**Kashi**	**29.34**	**333**	P		**P**	**10 47 30.8**	**-0.7**
KSH				sP		sP	10 47 37.8	-6.9
KSH				PP		**PnPn**	**10 48 25.8**	**+0.1**
KSH				S		**S**	**10 52 20.0**	**-3.1**
KSH				sS		sS	10 52 27.0	-11
KSH				SS		**SnSn**	**10 53 52.0**	**+1.3**
KSH				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,1μm,7.5s							
KSH				LR		LR		
	comp=N,680nm,7.0s							
KSH				LR		LR		
	comp=E,800nm,10.7s							
KSH				LR		LR		
	comp=Z,460nm,7.9s							
NJ2	**Nanjing**	**29.75**	**49**	*eP*		**P**	**10 47 36.3**	**+1.2**
NJ2				pmax		pmax		
	comp=Z,60nm,1.0s							
WMQ	**Urumqi**	**29.95**	**353**	*eP*		**P**	**10 47 34.5**	**-2.2**
MMSI	**Mamuju**	**30.77**	**121**	P		**P**	**10 47 44.4**	**+0.1**
	comp=Z,139nm,0.8s							
HHC	**Hu-ho-hao-te**	**31.27**	**28**	*eP*		**P**	**10 47 49.8**	**+1.3**
HHC				PP		**PnPn**	**10 48 53.3**	**+2.0**
HHC				PcP		**PcP**	**10 50 43.8**	**+1.3**
HHC				S		**S**	**10 52 55.5**	**+2.2**
HHC				ScP		**ScP**	**10 54 24.5**	**+1.2**
HHC				PcS		**PcS**	**10 54 26.5**	**-0.2**
HHC				SS		**SnSn**	**10 54 42.8**	**+5.2**
HHC				ScS		**ScS**	**10 58 20.8**	**+0.1**
HHC				pmax		pmax		
	comp=Z,56nm,0.9s							
HHC				pmax		pmax		
	comp=Z,1μm,4.8s							
HHC				LR		LR		
	comp=N,1μm,14.1s							
HHC				LR		LR		
	comp=E,2μm,12.4s							
HHC				LR		LR		
	comp=Z,1μm,12.5s							
TTSI	**Tana Toraja**	**31.73**	**120**	P		**P**	**10 47 53.1**	**+0.4**
	comp=Z,26nm,1.1s							
SPSI	**Sidrap Palu**	**32.19**	**122**	P		**P**	**10 47 57.0**	**+0.2**
	comp=Z,29nm,1.3s							
AAK	**Ala-Archa**	**32.54**	**334**	⇓*i P*		**P**	**10 48 01.8**	**+2.1**
AAK				pmax		pmax		
	comp=Z,14nm,1.2s							
AAK	**Ala-Archa**	**32.54**	**334**	*eP*		**P**	**10 48 00.8**	**+1.1**
AAK	**Ala-Archa**	**32.54**	**334**	P		**P**	**10 48 01.1**	**+1.4**
	comp=Z,4.0nm,0.6s,baz=132,slow=7.0							
GTOI	**Gorontalo**	**32.72**	**112**	P		**P**	**10 47 59.9**	**-1.6**
	comp=Z,46nm,0.9s							
EKS2	**Erkin-Say**	**32.86**	**334**	*eP*		**P**	**10 48 04.6**	**+2.1**
EKS2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
EKS2	**Erkin-Say**	**32.86**	**334**	*eP*		**P**	**10 48 04.6**	**+2.1**
	comp=Z,4.7nm,0.5s							
BKSI	**Bulukumba**	**33.26**	**124**	P		**P**	**10 48 05.0**	**-1.1**
	comp=Z,24nm,1.2s							
MK31	**Makanchi Array**	**33.77**	**347**	*eP*		**P

BVA0 Borovoye Array 42.72 340 *i* P **P 10 49 25.6 +0.1**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 42.72 340 P **P 10 49 25.5 +0.1**
BVAR Borovoye Array 42.72 340 P **P 10 49 25.5 +0.1**
BVAR Borovoye Array 42.72 340 P **P 10 49 25.5 +0.1**
comp=Z,2.1nm,0.6s,baz=131,slow=8.1,SNR=11
BRVK Borovoye 42.79 340 *e*P **P 10 49 26.3 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
MDJ Mudanjiang 43.57 38 P **P 10 49 33.8 +1.4**
MDJ pP **pP 10 49 37.0 -5.0**
MDJ sP sP 10 49 38.5 -7.3
MDJ PP **PP 10 51 15.5 +1.4**
MDJ PcP **PcP 10 51 20.0 +0.3**
MDJ S **S 10 56 02.0 +2.4**
MDJ ScS **ScS 10 59 34.0 +4.3**
MDJ pmax pmax
comp=Z,6.0nm,2.0s
MDJ pmax pmax
comp=Z,910nm,10.1s
MDJ LR LR
comp=N,540nm,12.7s
MDJ LR LR
comp=E,240nm,10.6s
MDJ LR LR
comp=Z,720nm,16.2s
MBWA Marble Bar 43.89 142 *e*P **P 10 49 33.2 -2.0**
comp=Z,26nm,1.2s
AB31 Akbulak array 44.21 329 *i* P **P 10 49 38.1 +0.6**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 44.21 329 *e*P **P 10 49 38.2 +0.7**
comp=Z,6.0nm,0.7s
VLA Vladivostok 44.24 41 *e*P **P 10 49 38.1 +0.3**
VLA pmax pmax
comp=Z,16nm,1.2s
USRK Ussuriysk Arra 44.84 40 P **P 10 49 41.9 -0.6**
comp=Z,4.0nm,0.8s,baz=256,slow=7.8,SNR=10
FITZ Fitzroy Crossi 45.51 134 P **P 10 49 46.4 -1.7**
FITZ Fitzroy Crossi 45.51 134 P **P 10 49 46.4 -1.7**
comp=Z,16nm,0.8s,baz=324,slow=4.6,SNR=31
AKTO Aktyubinsk 45.93 329 P **P 10 49 51.6 +0.4**
AKTO Aktyubinsk 45.93 329 P **P 10 49 51.6 +0.4**
AKTO Aktyubinsk 45.93 329 P **P 10 49 51.6 +0.4**
comp=Z,3.3nm,0.5s,baz=113,slow=8.7,SNR=14
SVE Sverdlovsk 49.19 337⇑ *i*P **P 10 50 17.4 +1.1**
SVE pmax pmax
comp=Z,18nm,0.9s
DGRG David-gareji 49.24 313 P **P 10 50 19.4 +2.3**
GNI Garni 49.28 311 *e*P **P 10 50 18.9 +1.3**
comp=Z,15nm,0.9s
GNI Garni 49.28 311 P **P 10 50 19.0 +1.4**
comp=Z,7.6nm,0.7s,baz=13,slow=23,SNR=6.6
ARU Arti 49.70 336 *d i*P **P 10 50 20.8 +0.5**
ARU 10 51 38.6
ARU 10 52 10.2
ARU S **S 10 57 27.9 +1.0**
ARU pmax pmax
comp=Z,8.0nm,1.0s
TBLG Delisi 49.78 313 *e*P **P 10 50 19.2 -2.0**
TBLG Delisi 49.78 313 P **P 10 50 19.2 -2.0**
AKH Akhalkalaki 50.57 312 P **P 10 50 28.9 +1.5**
ZEI Tsey 50.71 314 *e*P **P 10 50 28.8 +0.3**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
ONI Oni 50.97 314 P **P 10 50 32.5 +2.4**
KBZ Khabaz 51.72 315 P **P 10 50 36.6 +0.9**
KBZ Khabaz 51.72 315 P **P 10 50 36.6 +0.9**
KBZ Khabaz 51.72 315 P **P 10 50 36.6 +0.9**
comp=Z,2.1nm,0.6s,baz=128,slow=7.5,SNR=6.9
ASAJ Asahikawa 51.74 44 P **P 10 50 36.3 +0.4**
ASAJ Asahikawa 51.74 44 P **P 10 50 36.3 +0.4**
comp=Z,6.1nm,0.8s,baz=140,slow=32,SNR=5.9
KIV Kislovodsk 51.93 315 *e*P **P 10 50 35.7 -1.7**
KIV pmax pmax
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 52.26 154 P **P 10 50 38.9 -0.9**
NWAO Narrogin (SRO) 52.26 154 P **P 10 50 38.9 -0.9**
comp=Z,51nm,0.9s,baz=325,slow=8.5,SNR=33
YSS Yuzh-Sakhalins 52.83 41 *e*P **P 10 50 45.2 +1.3**
YSS pmax pmax
comp=Z,30nm,1.0s
WRA Warramunga Arr 53.03 129 P **P 10 50 44.5 -1.3**
WRA pP **pP 10 50 56.0 +0.5**
WRA PcP **PcP 10 51 53.7 -0.5**
WRA pPcP 10 52 05.8
WRA Warramunga Arr 53.03 129 P **P 10 50 44.5 -1.3**
comp=Z,18nm,0.8s,baz=309,slow=7.9,SNR=15
WRA pP **pP 10 50 56.0 +0.5**
comp=Z,4.9nm,0.7s,baz=296,slow=9.6,SNR=8.0
WRA PcP **PcP 10 51 53.7 -0.5**
comp=Z,1.3nm,0.8s,baz=320,slow=3.5,SNR=2.1
WRA pPcP 10 52 05.8
comp=Z,2.3nm,0.5s,baz=317,slow=3.2,SNR=4.8
WRAB Tennant Creek 53.03 129 *e*P **P 10 50 44.5 -1.3**
WRAB pmax pmax
comp=Z,24nm,0.8s
WRAB Tennant Creek 53.03 129 *e*P **P 10 50 44.5 -1.3**
comp=Z,24nm,0.8s
YAK Yakutsk 54.59 20 *e*P **P 10 50 54.1 -2.4**
YAK pmax pmax
comp=Z,11nm,0.9s
AS31 Alice Springs 54.97 133 *e*P **P 10 50 58.8 -1.1**
ASAR Alice Springs 54.97 133 P **P 10 50 59.0 -1.0**
ASAR pP **pP 10 51 10.8 +1.1**
ASAR pPcP 10 52 13.9
ASAR Alice Springs 54.97 133 P **P 10 50 59.0 -1.0**
comp=Z,17nm,0.7s,baz=310,slow=6.8,SNR=343
ASAR pP **pP 10 51 10.8 +1.1**
comp=Z,7.6nm,0.5s,baz=306,slow=6.6,SNR=10
ASAR pPcP 10 52 13.9
comp=Z,4.6nm,1.0s,baz=304,slow=3.7,SNR=4.8
BR131 Keskin Array S 57.49 308 *e*P **P 10 51 17.5 -0.4**
comp=Z,5.2nm,0.6s
BRTR Keskin Array B 57.49 308 P **P 10 51 17.6 -0.3**
BRTR Keskin Array B 57.49 308 P **P 10 51 17.6 -0.3**
comp=Z,7.4nm,0.8s,baz=122,slow=7.1,SNR=45
OBN Obninsk 59.48 326⇑ *e*P **P 10 51 30.6 -0.6**
OBN *e*S **S 10 59 33.8 -4.6**
OBN pmax pmax
comp=Z,12nm,0.5s
TIXI Tiksi 61.44 12⇑ *i*P **P 10 51 43.9 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 62.54 320 P **P 10 51 51.1 -1.0**
AKASG Malin Array Be 62.54 320 P **P 10 51 51.1 -1.0**
AKASG Malin Array Be 62.54 320 P **P 10 51 51.1 -1.0**
comp=Z,1.7nm,0.5s,baz=81,slow=6.8,SNR=4.9
CTA Charters Tower 62.57 122 P **P 10 51 51.4 -1.4**
CTA Charters Tower 62.57 122 P **P 10 51 51.4 -1.4**
comp=Z,6.3nm,0.9s,baz=276,slow=6.9,SNR=8.9
MLR Muntele Rosu 63.89 314 P **P 10 52 01.5 +0.1**
MLR pP **pP 10 52 13.8 +2.6**
MLR Muntele Rosu 63.89 314 P **P 10 52 01.5 +0.1**
comp=Z,1.5nm,0.8s,baz=120,slow=1.9,SNR=10
MLR pP **pP 10 52 13.8 +2.6**
comp=Z,2.4nm,0.8s,baz=106,slow=1.7,SNR=8.2
BUR08 Bucovina Ar. S 64.65 316 *e*P **P 10 52 05.8 -0.5**
JOF Joensuu 64.72 334 *e*P **P 10 52 07.0 +0.8**
JOF Joensuu 64.72 334 *e*p **P 10 52 07.0 +0.8**
STKA Stephens Creek 65.37 135 P **P 10 52 10.3 -0.6**
STKA Stephens Creek 65.37 135 P **P 10 52 10.3 -0.6**
comp=Z,13nm,0.7s,baz=311,slow=5.9,SNR=33
FINES FINESS Array B 66.65 331 P **P 10 52 18.3 -0.4**
FINES pP **pP 10 52 31.5 +2.8**
FINES FINESS Array B 66.65 331 P **P 10 52 18.3 -0.4**
comp=Z,6.3nm,0.7s,baz=98,slow=6.8,SNR=14
FINES pP **pP 10 52 31.5 +2.8**
comp=Z,7.2nm,0.8s,baz=92,slow=9.7,SNR=5.6
UZH Uzhgorod 66.69 317 *e*P **P 10 52 20.1 +0.9**
UZH *i* 10 52 30.9
CRVS Cervenica-Dubn 67.26 317 *e*P **P 10 52 23.5 +0.6**
CRVS pmax pmax
comp=Z,7.0nm,1.1s
CRVS Cervenica-Dubn 67.26 317 *e*P **P 10 52 23.5 +0.6**
STHS Stebnicka Huta 67.45 318 *e*P **P 10 52 24.8 +0.7**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 67.45 318 *e*P **P 10 52 24.8 +0.7**
KECS Kecovo 67.88 317 *e*P **P 10 52 27.1 +0.3**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 67.88 317 *e*P **P 10 52 27.1 +0.3**
ARCES ARCESS Array B 69.01 340 P **P 10 52 33.8 +0.3**
ARCES ARCESS Array B 69.01 340 P **P 10 52 33.8 +0.3**
comp=Z,2.8nm,0.4s,baz=92,slow=6.5,SNR=42
BRG Berggiesshubel 72.19 319 *e*P **P 10 52 52.9 -0.4**
comp=Z,6.8nm,1.0s
BRG *e* 10 53 06.8
comp=Z,6.8nm,1.0s
BRG Berggiesshubel 72.19 319 *e*P **P 10 52 52.8 -0.4**
BRG *e* 10 53 06.8
BRG pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 72.38 317 P **P 10 52 54.7 +0.2**
GERES pP **pP 10 53 06.8 +2.2**
GERES GERESS Array B 72.38 317 P **P 10 52 54.7 +0.2**
comp=Z,4.3nm,0.8s,baz=89,slow=5.7,SNR=23
GERES pP **pP 10 53 06.8 +2.2**
comp=Z,3.0nm,0.8s,baz=91,slow=5.6,SNR=7.7
HFS Hagfors 72.47 329 P **P 10 52 54.1 -0.6**
HFS pP **pP 10 53 07.6 +2.9**
HFS Hagfors 72.47 329 P **P 10 52 54.1 -0.6**
comp=Z,4.8nm,0.7s,baz=69,slow=8.1,SNR=5.7
HFS pP **pP 10 53 07.6 +2.9**
comp=Z,7.2nm,0.8s,baz=72,slow=4.8,SNR=6.2
CLL Collm 72.78 320 *e*sP sP 10 53 11.0 +0.6
NB2 NORSAR Subarra 73.72 330 P **P 10 53 01.5 -0.6**
comp=Z,1.4nm,0.7s,baz=89,slow=6.2
NOA NORSAR Array B 73.72 330 P **P 10 53 01.6 -0.6**
NOA NORSAR Array B 73.72 330 P **P 10 53 01.6 -0.6**
comp=Z,1.6nm,0.6s,baz=90,slow=5.9,SNR=4.4
GRF Grafenberg Arr 73.97 318 *e*P sP 10 53 16.4 -1.2
PGF Pioggiola 76.10 311 *e*P **P 10 53 15.7 -0.6**
comp=Z,47nm,1.1s
PGF Pioggiola 76.10 311 *e*P **P 10 53 15.7 -0.6**
PGF Pioggiola 76.10 311 *e*P **P 10 53 15.7 -0.6**
CDF Champ du Feu 76.66 317 *e*P **P 10 53 18.8 -0.6**
CDF Champ du Feu 76.66 317 *e*P **P 10 53 18.8 -0.6**
CDF Champ du Feu 76.66 317 *e*P **P 10 53 18.8 -0.6**
KEST Kesra 76.68 304 P **P 10 53 19.4 -0.3**
KEST Kesra 76.68 304 P **P 10 53 19.4 -0.3**
comp=Z,1.8nm,0.8s,baz=320,slow=3.6,SNR=5.6
SBF Sospel 77.08 312 *e*P **P 10 53 21.3 -0.5**
comp=Z,59nm,1.1s
SBF Sospel 77.08 312 *e*P **P 10 53 21.3 -0.5**
SBF Sospel 77.08 312 *e*P **P 10 53 21.3 -0.5**
HAU Haudompre 77.33 317 *e*P **P 10 53 22.4 -0.6**
HAU Haudompre 77.33 317 *e*P **P 10 53 22.4 -0.6**
HAU Haudompre 77.33 317 *e*P **P 10 53 22.4 -0.6**
LPG La Plagne 77.36 314 *e*P **P 10 53 23.6 0.0**
comp=Z,20nm,0.8s
LPG La Plagne 77.36 314 *e*P **P 10 53 23.6 0.0**
LPG La Plagne 77.36 314 *e*P **P 10 53 23.6 0.0**
LPL La Plagne 77.37 314 *e*P **P 10 53 23.6 0.0**
comp=Z,31nm,0.8s
LPL La Plagne 77.37 314 *e*P **P 10 53 23.6 0.0**
LPL La Plagne 77.37 314 *e*P **P 10 53 23.6 0.0**
MBDF Montbardon 77.44 313 *e*P **P 10 53 23.1 -0.8**
comp=Z,10nm,0.9s
MBDF Montbardon 77.44 313 *e*P **P 10 53 23.1 -0.8**
MBDF Montbardon 77.44 313 *e*P **P 10 53 23.1 -0.8**
BNI Bardonecchia 77.47 314 *e*P **P 10 53 23.6 -0.4**
BNI pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 77.47 314 *e*P **P 10 53 23.6 -0.4**
comp=Z,9.1nm,0.9s
CABF La Chapelle 77.68 315 *e*P **P 10 53 25.0 -0.1**
CABF La Chapelle 77.68 315 *e*P **P 10 53 25.0 -0.1**
CABF La Chapelle 77.68 315 *e*P **P 10 53 25.0 -0.1**
FRF La Foret Royal 77.69 312 *e*P **P 10 53 24.9 -0.2**
comp=Z,18nm,0.9s
FRF La Foret Royal 77.69 312 *e*P **P 10 53 24.9 -0.2**
FRF La Foret Royal 77.69 312 *e*P **P 10 53 24.9 -0.2**
BOSA Boshof 77.86 236 P **P 10 53 27.4 +0.9**
BOSA pP **pP 10 53 38.8 +2.2**
BOSA Boshof 77.86 236 P **P 10 53 27.4 +0.9**
comp=Z,1.1nm,0.4s,baz=122,slow=8.1,SNR=3.0
BOSA pP **pP 10 53 38.8 +2.2**
comp=Z,5.3nm,0.7s,baz=96,slow=6.0,SNR=4.5
SFTF Sexfontaines 78.17 317 *e*P **P 10 53 27.1 -0.6**
SFTF Sexfontaines 78.17 317 *e*P **P 10 53 27.1 -0.6**
SMRF Simiane la Rot 78.40 313 *e*P **P 10 53 29.3 +0.2**
comp=Z,49nm,1.4s
SMRF Simiane la Rot 78.40 313 *e*P **P 10 53 29.3 +0.2**
VIVF Saint-Julien-l 78.91 314 *e*P **P 10 53 31.6 -0.3**
comp=Z,12nm,1.1s
VIVF Saint-Julien-l 78.91 314 *e*P **P 10 53 31.6 -0.3**
VIVF Saint-Julien-l 78.91 314 *e*P **P 10 53 31.6 -0.3**
LOR Lormes 79.09 316 *e*P **P 10 53 32.2 -0.6**
comp=Z,16nm,1.0s
LOR Lormes 79.09 316 *e*P **P 10 53 32.2 -0.6**
SMF Signal de Mont 79.20 315 *e*P **P 10 53 32.8 -0.7**
comp=Z,14nm,0.9s
SMF Signal de Mont 79.20 315 *e*P **P 10 53 32.8 -0.7**
SMF Signal de Mont 79.20 315 *e*P **P 10 53 32.8 -0.7**
SSF Saint Saulge 79.36 316 *e*P **P 10 53 33.9 -0.4**
comp=Z,6.2nm,0.9s
SSF Saint Saulge 79.36 316 *e*P **P 10 53 33.9 -0.4**
SSF Saint Saulge 79.36 316 *e*P **P 10 53 33.9 -0.4**
AVF Avril sur Loir 79.51 316 *e*P **P 10 53 34.4 -0.7**
comp=Z,6.5nm,0.8s
AVF Avril sur Loir 79.51 316 *e*P **P 10 53 34.4 -0.7**
AVF Avril sur Loir 79.51 316 *e*P **P 10 53 34.4 -0.7**
LASF Ste Croix 79.61 313 *e*P **P 10 53 35.7 0.0**
comp=Z,16nm,1.0s
LASF Ste Croix 79.61 313 *e*P **P 10 53 35.7 0.0**
TCF Toulx Ste Croi 80.37 315 *e*P **P 10 53 39.8 0.0**
TCF Toulx Ste Croi 80.37 315 *e*P **P 10 53 39.8 0.0**
TCF Toulx Ste Croi 80.37 315 *e*P **P 10 53 39.8 0.0**
LDF La Druitiere 81.49 318 *e*P **P 10 53 45.3 -0.4**
comp=Z,4.2nm,0.5s
LDF La Druitiere 81.49 318 *e*P **P 10 53 45.3 -0.4**
LDF La Druitiere 81.49 318 *e*P **P 10 53 45.3 -0.4**
FLN La Foliniere 81.69 318 *e*P **P 10 53 46.3 -0.4**
FLN La Foliniere 81.69 318 *e*P **P 10 53 46.3 -0.4**
FLN La Foliniere 81.69 318 *e*P **P 10 53 46.3 -0.4**
MFF Saint Martin d 81.91 316 *e*P **P 10 53 47.7 -0.3**
MFF Saint Martin d 81.91 316 *e*P **P 10 53 47.7 -0.3**
MFF Saint Martin d 81.91 316 *e*P **P 10 53 47.7 -0.3**
ESDC Sonseca Array 86.25 310 P **P 10 54 09.5 -0.8**
ESDC Sonseca Array 86.25 310 P **P 10 54 09.5 -0.8**
comp=Z,0.2nm,0.3s,baz=63,slow=5.8,SNR=4.5
TORD Torodi Ar. Bea 87.93 283 P **P 10 54 18.7 -0.1**
TORD pP **pP 10 54 31.6 +2.6**
TORD Torodi Ar. Bea 87.93 283 P **P 10 54 18.7 -0.1**
comp=Z,2.5nm,0.8s,baz=84,slow=4.5,SNR=11
TORD pP **pP 10 54 31.6 +2.6**
comp=Z,2.9nm,0.8s,baz=81,slow=4.5,SNR=9.9
ILAR Eielson Array 89.49 22 P **P 10 54 24.0 -1.2**
ILAR pP **pP 10 54 37.9 +2.5**
ILAR Eielson Array 89.49 22 P **P 10 54 24.0 -1.2**
comp=Z,1.1nm,0.7s,baz=303,slow=4.7,SNR=13
ILAR pP **pP 10 54 37.9 +2.5**
comp=Z,1.7nm,0.8s,baz=293,slow=3.6,SNR=8.1
SYO Syowa Base 90.95 197⇑ *e*X pP 10 54 43.9 +2.0
EGAK Eagle 91.48 20 *e*P P **10 54 34.3 -0.1**
comp=Z,9.2nm,1.3s
MENT Mentasta 91.69 22 P **P 10 54 36.3 +0.9**
DAWY Dawson 92.52 20 *e*P **P 10 54 39.6 +0.3**
PDAR Pinedale Array 119.80 19 PKP **PKPdf 11 00 18.4 -0.7**
PDAR pPKP **pPKPdf 11 00 31.9 +2.4**
PDAR Pinedale Array 119.80 19 PKP **PKPdf 11 00 18.4 -0.7**
comp=Z,0.2nm,0.5s,baz=88,slow=4.9,SNR=3.1
PDAR pPKP **pPKPdf 11 00 31.9 +2.4**
comp=Z,0.6nm,0.6s,baz=78,slow=0.8,SNR=5.4
NVAR Mina Array Bea 120.17 28 PKP **PKPdf 11 00 20.1 +0.2**
NVAR Mina Array Bea 120.17 28 PKP **PKPdf 11 00 20.1 +0.2**
comp=Z,0.4nm,0.7s,baz=299,slow=1.5,SNR=5.2
TXAR Lajitas Array 133.98 20 PKP **PKPdf 11 00 48.0 +1.7**
TXAR Lajitas Array 133.98 20 PKP **PKPdf 11 00 48.0 +1.7**
comp=Z,0.2nm,0.6s,baz=163,slow=1.6,SNR=7.4
CPUP Villa Florida 149.54 242 PKPbc **PKPbc 11 01 17.3 -0.9**
CPUP pPKPbc **pPKPbc 11 01 30.0 +1.2**
CPUP Villa Florida 149.54 242 PKPbc **PKPbc 11 01 17.3 -0.9**
comp=Z,0.3nm,0.3s,baz=252,slow=12,SNR=3.2
CPUP pPKPbc **pPKPbc 11 01 30.0 +1.2**
comp=Z,2.0nm,0.6s,baz=111,slow=1.7,SNR=2.5
PLCA Paso Flores 149.75 206 pPKP pPKPdf 11 01 26.5 +2.2
comp=Z,1.2nm,0.7s,baz=250,slow=14,SNR=2.6
LPAZ La Paz 161.49 261 pPKPab pPKPab 11 02 28.3 +2.7
comp=Z,1.1nm,0.7s,baz=59,slow=16,SNR=3.1

*IDC **31** 10:52:19.0±0.8, 37°.38N×95°.86E, h0km, mb3.9/7, mb1 3.9/12, mb1mx3.8/32, mbtmp3.9/12, ML3.8/5, Error ellipse: s-maj=32.4km s-min=16.0km az=41.0*

*ISCJB **31** 10:52:19.4±0.5, 37°.53N±0°.06×95°.77E±0°.05, h10km, mb3.8/9, Error ellipse: s-maj=9.3km s-min=5.5km az=23.6*
*BJI **31** 10:52:21.5, 37°.65N×95°.94E, h6km, ML3.6/5, Ms7 3.8/3*
*NNC **31** 10:52:21.2±4.3, 38°.13N×96°.06E, h0km, mb3.8, Error ellipse: s-maj=136.5km s-min=41.2km az=48.0*
ISC 31 10:52:21.2±0.7, 37.54N±0°.07×95.75E±0°.05, h10km, n20, σ1§63/26, mb3.8/9, 3C-2D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.70**	**58**	Pn	**Pn**	**10 53 19.5**	**+1.0**
GTA				Pg	**Pb**	**10 53 26.3**	**-0.3**
GTA				Sn	**Sn**	**10 54 00.8**	**-1.4**
GTA				Sg	**Sb**	**10 54 10.5**	**-1.0**
GTA				smax	smax		
	comp=N,59nm,0.6s						
GTA				smax	smax		
	comp=E,65nm,0.8s						
LZH	**Lanzhou**	**6.66**	**100**	*e*Pn	**Pn**	**10 54 01.3**	**+2.2**
LZH				*e*Sn	**Sn**	**10 55 18.8**	**+3.7**
LZH				LR	LR		
	comp=Z,1μm,9.6s						
SONM	**Songino Array**	**12.91**	**34**	Pn	**Pn**	**10 55 25.6**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=217,slow=16,SNR=6.2						
MK31	**Makanchi Array**	**13.59**	**317**	⇑Pn	**Pn**	**10 55 33.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=122,slow=5.3,SNR=16						
MK31				Sn	**Sn**	**10 58 07.0**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=124,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**13.59**	**317**	Pn	**Pn**	**10 55 32.8**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=124,slow=14,SNR=15						
MKAR				Sn	**Sn**	**10 58 07.7**	**+2.8**
	baz=129,slow=25,SNR=3.3						
TKM2	**Tokmak 2**	**16.29**	**296**	⇓P	**Pn**	**10 56 09.7**	**-0.5**
	comp=Z,4.0nm,0.7s						
AAK	**Ala-Archa**	**17.03**	**294**	P	**P**	**10 56 20.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=118,slow=7.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**17.94**	**322**	P	**P**	**10 56 31.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**18.06**	**339**	P	**Pn**	**10 56 31.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=147,slow=12,SNR=4.3						
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P	**Pn**	**10 56 47.5**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=339,slow=9.7,SNR=3.4						
KK31	**Karatay Array**	**19.99**	**294**	⇑P	**Pn**	**10 56 55.7**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=97,slow=10.0,SNR=6.5						
VOSK	**Vostochnaya**	**22.98**	**319**	⇑P	**P**	**10 57 26.7**	**+0.9**
	comp=Z,2.2nm,0.7s						
BVA0	**Borovoye Array**	**23.45**	**319**	⇓P	**P**	**10 57 27.8**	**-2.7**
	comp=Z,2.7nm,1.2s,baz=90,slow=13,SNR=7.3						
BVAR	**Borovoye Array**	**23.45**	**319**	P	**P**	**10 57 32.1**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=115,slow=10,SNR=6.5						
KSRS	**Korea Array**	**25.46**	**80**	P	**P**	**10 57 47.7**	**-1.6**
	comp=Z,4.3nm,0.5s,baz=277,slow=9.2,SNR=22						
AKTO	**Aktyubinsk**	**29.71**	**308**	P	**P**	**10 58 28.0**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=65,slow=9.7,SNR=6.0						
WRA	**Warramunga Arr**	**67.74**	**141**	P	**P**	**11 03 18.0**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=329,slow=5.7,SNR=6.6						
ASAR	**Alice Springs**	**70.68**	**143**	P	**P**	**11 03 35.2**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=329,slow=6.1,SNR=7.2						
STKA	**Stephens Creek**	**81.25**	**142**	P	**P**	**11 04 35.4**	**-1.9**
	comp=Z,3.0nm,0.9s,baz=315,slow=10.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.27**	**283**	P	**P**	**11 04 58.4**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=38,slow=4.7,SNR=3.4						

IDC 31 11:28:30.5±3.4, 1°.55S×99°.73E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/23, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=152.1km s-min=21.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	P	11 33 03.6	-0.2
	0.1nm,0.3s,baz=185,slow=9.0,SNR=2.5						
WRA	**Warramunga Arr**	**38.45**	**121**	P	P	11 35 54.0	-0.5
	0.6nm,0.7s,baz=296,slow=8.5,SNR=9.8						
ASAR	**Alice Springs**	**39.73**	**126**	P	P	11 36 05.5	+0.3
	0.4nm,0.7s,baz=300,slow=7.5,SNR=8.0						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	11 37 29.8	-0.8
	0.4nm,0.5s,baz=154,slow=8.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	P	11 38 16.2	+0.7
	0.6nm,0.5s,baz=167,slow=7.2,SNR=3.5						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPbc	11 48 08.6	+0.3
	0.2nm,0.4s,baz=322,slow=0.9,SNR=7.3						

IDC 31 11:29:39.9±1.1, 37°.14N×95°.77E, h0km, mb3.5/4, mb1 3.5/8, mb1mx3.4/29, mbtmp3.5/8, ML3.5/4, 1C-1D, Error ellipse: s-maj=35.2km s-min=21.7km az=29.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**13.24**	**33**	Pn	Pn	11 32 47.1	-2.2
	0.4nm,0.3s,baz=216,slow=16,SNR=3.4						
MK31	**Makanchi Array**	**13.89**	**318**	Pn	Pn	11 32 54.9	-3.2
	1.1nm,0.7s,baz=126,slow=14,SNR=14						
MK31				⇑Sn	Sn	11 35 21.4	-12
	1.0nm,0.7s,baz=131,slow=20,SNR=3.7						
MKAR	**Makanchi Array**	**13.89**	**318**	Pn	Pn	11 32 54.7	-3.4
	0.2nm,0.3s,baz=124,slow=14,SNR=14						
MKAR				Sn	Sn	11 35 23.4	-10
	0.1nm,0.3s,baz=128,slow=21,SNR=3.3						
KURBB	**Kurchatov Arra**	**18.27**	**323**	Pn	Pn	11 33 51.8	-2.9
	0.1nm,0.3s,baz=129,slow=12,SNR=4.4						
ZALV	**Zalesovo Beam**	**18.44**	**339**	Pn	Pn	11 33 54.8	-2.0
	0.1nm,0.3s,baz=160,slow=13,SNR=4.2						
KK31	**Karatay Array**	**20.17**	**295**	⇓P	Pn	11 34 17.7	-0.1
	0.7nm,0.8s,baz=90,slow=11,SNR=4.7						
KSRS	**Korea Array**	**25.52**	**79**	P	P	11 35 11.1	+1.1
	1.0nm,0.5s,baz=275,slow=8.7,SNR=6.0						
BRTR	**Keskin Array B**	**47.87**	**293**	P	P	11 38 19.1	-0.7
	0.3nm,0.5s,baz=64,slow=6.6,SNR=3.0						
ASAR	**Alice Springs**	**70.35**	**143**	P	P	11 40 54.6	-1.0
	0.3nm,0.9s,baz=335,slow=4.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**85.38**	**283**	P	P	11 42 20.8	+1.3
	0.4nm,0.9s,baz=44,slow=5.7,SNR=2.5						

*BJI **31** 11:59:23.0, 37°.72N×95°.67E, h8km, ML3.6/4, Ms3.5/3, Ms7 3.5/3*
*IDC **31** 11:59:23.4±1.2, 37°.62N×95°.87E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.6/30, mbtmp3.6/9, Error ellipse: s-maj=36.9km s-min=20.1km az=49.0*
*ISCJB **31** 11:59:24.1±0.8, 37°.75N±0°.08×95°.91E±0°.07, h10km, mb3.5/5, Error ellipse: s-maj=11.7km s-min=7.5km az=2.8*
ISC 31 11:59:24.7±0.9, 37.88N±0°.10×95.78E±0°.06, h10km, n11, σ2§02/15, mb3.7/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.51**	**63**	Pn	**Pb**	**12 00 24.5**	**-2.5**
GTA				Pg	**Pg**	**12 00 31.8**	**-0.1**
GTA				Sn	**Sb**	**12 01 08.3**	**-1.4**
GTA				Sg	**Sg**	**12 01 19.5**	**+2.1**
GTA				smax	smax		
	comp=N,31nm,0.7s						
GTA				smax	smax		
	comp=E,33nm,0.9s						
LZH	**Lanzhou**	**6.70**	**103**	*e*Pn	**Pn**	**12 01 03.8**	**+0.5**
LZH				*e*Sn	**Sn**	**12 02 21.3**	**+1.6**
LZH				LR	LR		
	comp=N,200nm,7.4s						
LZH				LR	LR		
	comp=E,130nm,5.2s						
LZH				LR	LR		
	comp=Z,190nm,8.0s						
SONM	**Songino Array**	**12.62**	**35**	Pn	Pn	12 02 28.5	+4.2
	comp=Z,0.6nm,0.3s,baz=216,slow=16,SNR=15						
SONM				Lg	Lg	12 06 07.8	
	comp=Z,0.1nm,0.3s,baz=227,slow=25,SNR=3.9						
MKAR	**Makanchi Array**	**13.36**	**316**	Pn	**Pn**	**12 02 33.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=130,slow=13,SNR=14						
MKAR				Sn	**Sn**	**12 05 01.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=128,slow=22,SNR=6.8						
KURBB	**Kurchatov Arra**	**17.69**	**322**	P	**P**	**12 03 35.3**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=5.5

STKA Stephens Creek 81.50 142 P **P** **12 11 41.7 -0.4**
comp=Z,2.1nm,0.9s,baz=319,slow=11,SNR=3.0

JMA 31 12:02:34.4±0.3, 34°23N×142°39E, h54km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.24**	**290**	P	Pn	12 02 55.6	+0.9
BSO1				eS	Sn	12 03 11.4	+1.4
BSO3	**Boso 3**	**1.65**	**291**	P	Pn	12 03 02.1	+1.4
BSO3				eS	Sn	12 03 22.9	+2.3
BSO4	**Boso 4**	**1.85**	**295**	P	Pn	12 03 05.4	+1.8
BSO4				eS	Sn	12 03 28.1	+2.2
CHOJ	**Chosi**	**1.93**	**320**	P	Pn	12 03 05.7	+0.8
KTR	**Katsuura**	**1.94**	**299**	eS	Sn	12 03 29.8	+1.7
JHJ2	**Mitsune**	**2.42**	**243**	P	Pn	12 03 13.0	+1.5
JHJ2				eS	Sn	12 03 40.7	+0.8
JOD2	**Odawara 2**	**2.91**	**292**	P	Pn	12 03 18.7	+0.5
JOD2				eS	Sn	12 03 52.0	0.0
JYN	**Shimob**	**3.41**	**293**	S	Sn	12 04 04.3	0.0
JFT	**Otama**	**3.68**	**334**	P	Pn	12 03 29.3	+0.5
JFT				S	Sn	12 04 08.5	-2.5

---

*ISCJB **31** 12:05:33.1±0.7, 37°58N±0°08×95°84E±0°06, h12km, mb3.6/8, Error ellipse: s-maj=11.8km s-min=5.8km az=17.1*
*IDC **31** 12:05:33.4±0.8, 37°49N×96°06E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.6/30, mbtmp3.6/12, ML3.7/4, Error ellipse: s-maj=28.5km s-min=17.0km az=38.0*
*BJI **31** 12:05:35.0, 37°58N×95°93E, h4km, ML3.6/7, Ms3.5/3, Ms7 3.1/2*
ISC 31 12:05:35.4±0.8, 37°60N±0°09×95°87E±0°06, h12km, n16, σ1§42/20, mb3.7/8, 1C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.58**	**58**	Pn	**Pn**	**12 06 30.3**	**-0.6**
GTA				Pg	**Pb**	**12 06 37.0**	**-1.8**
GTA				Sn	**Sn**	**12 07 13.0**	**-0.3**
GTA				Sg	**Sb**	**12 07 24.5**	**+2.2**
GTA				smax	smax		
	comp=N,50nm,0.6s						
GTA				smax	smax		
	comp=E,31nm,0.7s						
GTA				LR	LR		
	comp=N,310nm,5.7s						
GTA				LR	LR		
	comp=E,200nm,4.7s						
GTA				LR	LR		
	comp=Z,160nm,5.7s						
LZH	**Lanzhou**	**6.57**	**101**	ePn	**Pn**	**12 07 11.5**	**-0.5**
LZH				eSn	**Sn**	**12 08 28.5**	**+1.5**
LZH				LR	LR		
	comp=N,200nm,6.1s						
LZH				LR	LR		
	comp=E,120nm,5.6s						
LZH				LR	LR		
	comp=Z,130nm,9.8s						
SONM	**Songino Array**	**12.81**	**34**	Pn	**Pn**	**12 08 38.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=217,slow=15,SNR=7.2						
MK31	**Makanchi Array**	**13.61**	**317**	Pn	**Pn**	**12 08 46.7**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=128,slow=15,SNR=12						
MK31				⇓Sn	**Sn**	**12 11 18.1**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=126,slow=25,SNR=4.8						
MKAR	**Makanchi Array**	**13.61**	**317**	Pn	**Pn**	**12 08 47.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=121,slow=14,SNR=11						
MKAR				Sn	Sn	12 11 10.8	-8.5
	comp=Z,0.1nm,0.3s,baz=126,slow=25,SNR=2.6						
KURBB	**Kurchatov Arra**	**17.95**	**322**	P	**P**	**12 09 45.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=7.4						
ZALV	**Zalesovo Beam**	**18.04**	**339**	P	**P**	**12 09 46.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=157,slow=12,SNR=2.5						
KK31	**Karatay Array**	**20.06**	**294**	⇑P	Pn	12 10 09.8	-0.4
	comp=Z,1.1nm,0.8s,baz=92,slow=11,SNR=10.0						
BVAR	**Borovoye Array**	**23.46**	**319**	P	**P**	**12 10 47.2**	**+2.6**
	comp=Z,0.9nm,0.6s,baz=106,slow=11,SNR=5.4						
KSRS	**Korea Array**	**25.36**	**80**	P	**P**	**12 11 01.2**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=277,slow=9.4,SNR=15						
BRTR	**Keskin Array B**	**47.77**	**290**	P	**P**	**12 14 13.7**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=93,slow=10,SNR=3.1						
NOA	**NORSAR Array B**	**55.48**	**324**	P	**P**	**12 15 09.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=71,slow=7.0,SNR=2.5						
ILAR	**Eielson Array**	**66.85**	**24**	P	**P**	**12 16 26.4**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=295,slow=5.0,SNR=3.3						
WRA	**Warramunga Arr**	**67.73**	**141**	P	**P**	**12 16 31.6**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=336,slow=6.3,SNR=4.7						
ASAR	**Alice Springs**	**70.67**	**143**	P	**P**	**12 16 49.5**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=324,slow=5.7,SNR=7.1						
TORD	**Torodi Ar. Bea**	**85.35**	**283**	P	**P**	**12 18 14.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=53,slow=5.1,SNR=3.8						

---

*NIED **31** 12:11:00, 33°40N×130°90E, h11km, Mw3.9 Best double couple: M0=7.40000×10^14 NP1:φ=241.00000°, δ88.00000°, λ169.00000°. NP2:φ=332.00000°, δ79.00000°, λ2.00000°.*
*IDC **31** 12:11:39.0±0.9, 33°04N×130°53E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/28, mbtmp3.4/8, ML2.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=17.8km s-min=6.6km az=171.0*
*ISCJB **31** 12:11:40.0±0.7, 33°36N±0°04×130°9E±0°2, h16km, mb3.4/7, Error ellipse: s-maj=19.0km s-min=4.8km az=171.8*
*JMA **31** 12:11:40.0, 33°38N×130°91E, h12km, M3.9*
JMA Felt III J1.
ISC 31 12:11:40.1±0.9, 33°31N±0°05×130°7E±0°1, h16km, n14, σ1§48/13, mb3.4/7, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.23**	**145**	⇑P	**Pg**	**12 11 45.3**	**-0.1**
JNU				S	**Sg**	**12 11 48.8**	**-0.1**
JNU	**Nakatsue**	**0.23**	**145**	Pg	**Pg**	**12 11 45.2**	**-0.1**
	baz=225,slow=4.3						
JNU				Lg	Lg	12 11 48.8	
	2μm,0.3s,baz=170,slow=19,SNR=74						
JTA	**Tamana**	**0.38**	**204**	⇑P	**Pn**	**12 11 50.1**	**-0.8**
JFA	**Akaike**	**0.40**	**9**	⇑P	**Pg**	**12 11 47.3**	**-1.0**
JFA				S	**Sg**	**12 11 52.2**	**-1.6**
JIU2	**Izumi 2**	**0.77**	**174**	⇑P	**Pn**	**12 11 55.7**	**-0.6**
KSRS	**Korea Array**	**4.72**	**332**	Pn	**Pn**	**12 12 52.5**	**+1.9**
	0.5nm,0.3s,baz=147,slow=14,SNR=5.8						
KSRS				Pg	**Pg**	**12 13 08.5**	**-2.0**
	2.4nm,0.3s,baz=148,slow=16,SNR=20						
KSRS				Sn	**Sn**	**12 13 46.5**	**+1.5**
	2.8nm,0.3s,baz=148,slow=24,SNR=8.9						
KSRS				Lg	Lg	12 14 07.9	
	5.3nm,0.3s,baz=150,slow=29,SNR=7.1						
ASAJ	**Asahikawa**	**14.21**	**37**	LR	LR	12 19 41.2	
	comp=Z,67nm,19.8s,baz=343,slow=33						
SONM	**Songino Array**	**23.36**	**316**	P	**P**	**12 16 50.4**	**+2.6**
	0.6nm,0.6s,baz=135,slow=9.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**38.24**	**317**	P	P	12 19 01.7	+2.5
	0.3nm,0.3s,baz=101,slow=4.6,SNR=2.3						
MKAR	**Makanchi Array**	**38.84**	**305**	P	P	12 19 06.2	+1.9
	0.6nm,0.7s,baz=90,slow=10,SNR=6.5						
KURBB	**Kurchatov Arra**	**41.55**	**311**	P	P	12 19 28.6	+1.9
	1.0nm,0.7s,baz=97,slow=9.0,SNR=6.5						
WRA	**Warramunga Arr**	**53.07**	**176**	P	**P**	**12 20 56.1**	**-0.5**
	0.7nm,1.1s,baz=354,slow=8.3,SNR=2.6						
ASAR	**Alice Springs**	**56.74**	**177**	P	**P**	**12 21 22.4**	**-0.8**
	0.2nm,0.8s,baz=11,slow=12,SNR=4.9						
ILAR	**Eielson Array**	**57.22**	**30**	P	P	12 21 29.1	+2.9
	0.2nm,0.6s,baz=280,slow=7.3,SNR=3.8						

MEX 31 12:43:30.6±0.6, 16°09N×96°87W, h27km±29km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.80**	**114**	eP	Pb	12 43 42.7	-3.2
HUIG				i S	Sb	12 43 53.8	-2.6
VHO	**Vista Hermosa**	**0.98**	**8**	i P	Pn	12 43 46.4	-2.6
VHO				eS	Sb	12 43 57.9	-4.2
PNIG	**Pinotepa**	**1.24**	**284**	eP	Pn	12 43 49.8	-2.6
PNIG				i S	Sn	12 44 04.9	-3.3
UTMO	**Huajuapan**	**1.94**	**333**	eP	Pn	12 44 00.6	-1.6
UTMO				i S	Sn	12 44 23.5	-2.5
CMIG	**Matias Romero**	**2.15**	**62**	eP	Pn	12 44 02.6	-2.1
CMIG				eS	Sn	12 44 27.3	-3.2

---

*ISCJB **31** 13:07:35.4±0.3, 42°03N±0°02×16°21E±0°05, h36km±15km, Error ellipse: s-maj=5.8km s-min=3.7km az=163.5*
*CSEM **31** 13:07:36.0±0.1, 41°99N×16°20E, h34km±2km, ML3.7/8, Error ellipse: s-maj=3.1km s-min=1.9km az=79.0*
*ROM **31** 13:07:36.4±0.2, 41°93N×16°16E, h36km±1km, Md2.9/5, Ml2.7/14, Error ellipse: s-maj=3.7km s-min=1.7km az=38.0*
ISC 31 13:07:35.9±1.2, 42°00N±0°02×16°19E±0°03, h34km±2km, n60, σ0§73/97, 1C, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MS1	**Monte Sant'Ang**	**0.34**	**212**	⇑Pg	**Pb**	**13 07 44.5**	**+0.1**
MS1				eSg	**Sb**	**13 07 49.5**	**-0.7**
MSAG	**Monte S. Angel**	**0.35**	**216**	Pg	**Pb**	**13 07 44.8**	**+0.3**
MSAG				Sg	**Sb**	**13 07 50.3**	**-0.1**
	1μm,0.2s						
MSAG	**Monte S. Angel**	**0.35**	**216**	Pg	**Pb**	**13 07 44.8**	**+0.3**
MSAG				Sg	**Sb**	**13 07 50.3**	**-0.1**
	1μm,0.2s						
SGRT	**San Giovanni R**	**0.41**	**234**	Pg	**Pb**	**13 07 45.4**	**+0.1**
SGRT				Sg	**Sb**	**13 07 51.5**	**-0.3**
	1μm,0.2s						
SGRT	**San Giovanni R**	**0.41**	**234**	Pg	**Pb**	**13 07 45.4**	**+0.1**
SGRT				Sg	**Sb**	**13 07 51.5**	**-0.3**
	1μm,0.2s						
MELA	**Melanico ??? S**	**0.84**	**250**	Pg	**Pn**	**13 07 51.6**	**+0.3**
MELA				Sg	**Sn**	**13 08 02.8**	**+0.3**
	308nm,0.4s						
MELA	**Melanico ??? S**	**0.84**	**250**	Pg	**Pn**	**13 07 51.6**	**+0.3**
MELA				Sg	**Sn**	**13 08 02.8**	**+0.3**
	308nm,0.4s						
MRVN	**Minervino Murg**	**0.94**	**180**	Pg	**Pn**	**13 07 52.8**	**+0.1**
MRVN				Sg	**Sn**	**13 08 04.4**	**-0.5**
	157nm,0.2s						
MRVN	**Minervino Murg**	**0.94**	**180**	Pg	**Pn**	**13 07 52.8**	**+0.1**
MRVN				Sg	**Sn**	**13 08 04.4**	**-0.5**
	157nm,0.2s						
MOCO	**Biccari - m.te**	**0.99**	**231**	Pg	**Pn**	**13 07 54.2**	**+0.7**
CIGN	**Sant'Elia a Pi**	**1.02**	**251**	Pg	**Pb**	**13 07 55.2**	**+0.1**
CIGN	**Sant'Elia a Pi**	**1.02**	**251**	Pg	**Pb**	**13 07 55.2**	**+0.1**
BAI	**Bari**	**1.03**	**150**	ePg	**Pn**	**13 07 54.0**	**+0.1**
BAI				eSg	**Sn**	**13 08 08.0**	**+0.9**
SGTA	**Sant Agata di**	**1.06**	**216**	Pg	**Pn**	**13 07 55.4**	**+1.0**
SGTA	**Sant Agata di**	**1.06**	**216**	Pg	**Pn**	**13 07 55.4**	**+1.0**
PALZ	**Palazzo San Ge**	**1.07**	**189**	Pg	**Pn**	**13 07 54.7**	**+0.3**
PALZ				Sg	**Sn**	**13 08 08.1**	**0.0**
PALZ	**Palazzo San Ge**	**1.07**	**189**	Pg	**Pn**	**13 07 54.7**	**+0.3**
PALZ				Sg	**Sn**	**13 08 08.1**	**0.0**
FRES	**Fresagrandinar**	**1.13**	**269**	Pg	**Pn**	**13 07 56.1**	**+0.8**
	110nm,0.5s						
FRES	**Fresagrandinar**	**1.13**	**269**	Pg	**Pn**	**13 07 56.1**	**+0.8**
	110nm,0.5s						
AMUR	**Altamura**	**1.13**	**164**	Pg	**Pn**	**13 07 55.6**	**+0.2**
AMUR				Sg	**Sn**	**13 08 09.4**	**-0.3**
	138nm,0.5s						
AMUR	**Altamura**	**1.13**	**164**	Pg	**Pn**	**13 07 55.6**	**+0.2**
AMUR				Sg	**Sn**	**13 08 09.4**	**-0.3**
	138nm,0.5s						
ACER	**Acerenza**	**1.22**	**189**	Pg	**Pn**	**13 07 56.9**	**+0.3**
ACER				Sg	**Sn**	**13 08 11.9**	**-0.1**
	122nm,0.4s						
ACER	**Acerenza**	**1.22**	**189**	Pg	**Pn**	**13 07 56.9**	**+0.3**
ACER				Sg	**Sn**	**13 08 11.9**	**-0.1**
	122nm,0.4s						
SNAL	**S. Angelo Dei**	**1.30**	**215**	Pg	**Pn**	**13 07 57.9**	**+0.2**
SNAL	**S. Angelo Dei**	**1.30**	**215**	Pg	**Pn**	**13 07 57.9**	**+0.2**
MRLC	**Muro Lucano**	**1.35**	**203**	Pg	**Pn**	**13 07 58.7**	**+0.4**
	43nm,0.4s						
MRLC	**Muro Lucano**	**1.35**	**203**	Pg	**Pn**	**13 07 58.7**	**+0.4**
	43nm,0.4s						
NOCI	**Noci**	**1.38**	**151**	Pg	**Pn**	**13 07 59.1**	**+0.4**
NOCI				Sg	**Sn**	**13 08 15.2**	**-0.5**
	122nm,0.2s						
NOCI	**Noci**	**1.38**	**151**	Pg	**Pn**	**13 07 59.1**	**+0.4**
NOCI				Sg	**Sn**	**13 08 15.2**	**-0.5**
	122nm,0.2s						
STON	**Ston**	**1.42**	**52**	ePg	**Pn**	**13 07 59.9**	**+0.7**
STON				Sg	**Sn**	**13 08 16.2**	**-0.6**
STON	**Ston**	**1.42**	**52**	ePg	**Pn**	**13 07 59.9**	**+0.7**
STON				Sg	**Sn**	**13 08 16.1**	**-0.6**
MCRV	**Calabrutti - M**	**1.44**	**213**	Pg	**Pn**	**13 07 59.9**	**+0.3**
	44nm,0.3s						
MCRV	**Calabrutti - M**	**1.44**	**213**	Pg	**Pn**	**13 07 59.9**	**+0.3**
	44nm,0.3s						
LPEL	**Lama dei Pelig**	**1.49**	**273**	Pg	**Pn**	**13 08 01.1**	**+0.7**
	71nm,0.2s						
LPEL	**Lama dei Pelig**	**1.49**	**273**	Pg	**Pn**	**13 08 01.1**	**+0.7**
	71nm,0.2s						
PE1	**Pezze di Greco**	**1.51**	**142**	ePg	**Pn**	**13 08 01.0**	**+0.5**
PE1				eSg	**Sn**	**13 08 18.7**	**-0.3**
CRAC	**Craco**	**1.64**	**173**	Pg	**Pn**	**13 08 02.9**	**+0.6**
	103nm,0.4s						
CRAC	**Craco**	**1.64**	**173**	Pg	**Pn**	**13 08 02.9**	**+0.6**
	103nm,0.4s						
CDRU	**Civita di Ruta**	**1.65**	**204**	Pg	**Pn**	**13 08 02.4**	**-0.1**
CDRU	**Civita di Ruta**	**1.65**	**204**	Pg	**Pn**	**13 08 02.4**	**-0.1**
SIRI	**Monte Sirino -**	**1.83**	**188**	Pg	**Pn**	**13 08 05.1**	**+0.1**
	34nm,0.2s						
SIRI	**Monte Sirino -**	**1.83**	**188**	Pg	**Pn**	**13 08 05.1**	**+0.1**
	34nm,0.2s						
TERO	**Teramo**	**2.02**	**289**	Pg	**Pn**	**13 08 08.2**	**+0.7**
	18nm,0.2s						
TERO	**Teramo**	**2.02**	**289**	Pg	**Pn**	**13 08 08.2**	**+0.7**
	18nm,0.2s						
UDBI	**Udbina**	**2.55**	**353**	ePn	**Pn**	**13 08 16.7**	**+1.8**
UDBI				Sn	**Sn**	**13 08 45.2**	**+0.5**
UDBI	**Udbina**	**2.55**	**353**	ePn	**Pn**	**13 08 16.6**	**+1.8**
UDBI				Sn	**Sn**	**13 08 45.2**	**+0.5**
NVLJ	**Novalja**	**2.74**	**340**	ePn	**Pn**	**13 08 17.0**	**-0.4**
NVLJ				Sn	**Sn**	**13 08 49.0**	**-0.3**
NVLJ	**Novalja**	**2.74**	**340**	ePn	**Pn**	**13 08 17.0**	**-0.4**
NVLJ				Sn	**Sn**	**13 08 48.9**	**-0.3**
BOJS	**Bojanci**	**3.57**	**349**	i Pn	**Pn**	**13 08 29.9**	**+1.1**
BOJS				i Sn	**Sn**	**13 09 08.8**	**-1.0**
BOJS							
	comp=Z,2.0nm,0.1s						
BOJS	**Bojanci**	**3.57**	**349**	Pn	**Pn**	**13 08 29.9**	**+1.1**
BOJS				i Sn	**Sn**	**13 09 08.8**	**-1.0**
	comp=Z,2.0nm,0.1s						
VISS	**Visnje**	**3.93**	**346**	i Pn	**Pn**	**13 08 34.5**	**+0.7**
VISS				i Sn	**Sn**	**13 09 16.9**	**-1.7**
VISS							
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**3.93**	**346**	i Pn	**Pn**	**13 08 34.5**	**+0.7**
VISS				i Sn	**Sn**	**13 09 16.9**	**-1.7**
	comp=Z,3.0nm,0.1s						
JAVS	**Javornik**	**4.18**	**339**	i Pn	**Pn**	**13 08 37.3**	**-0.1**
JAVS				i Sn	**Sn**	**13 09 23.1**	**-2.0**
JAVS							
	comp=Z,1.0nm,0.0s						
JAVS	**Javornik**	**4.18**	**339**	i Pn	**Pn**	**13 08 37.3**	**-0.1**
JAVS				i Sn	**Sn**	**13 09 23.1**	**-2.0**
	comp=Z,1.0nm,0.0s						

---

*CSEM **31** 13:11:07.4, 38°73N×26°16E, h41km, MD2.8, After ATH*
ATH 31 13:11:07.4, 38°73N×26°16E, h41km±2km, MD2.8/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.35**	**194**	eP	Pn	13 11 16.4	-0.1
CHOS				eS	Sn	13 11 23.7	+0.9
CHOS	**Chios island**	**0.35**	**194**	eP	Pn	13 11 16.4	-0.1
CHOS				eS	Sn	13 11 23.7	+0.9
PRK	**Paraskevi**	**0.52**	**10**	eP	Pn	13 11 19.1	+0.6
PRK				eS	Sn	13 11 27.6	+1.3
PRK	**Paraskevi**	**0.52**	**10**	eP	Pn	13 11 19.1	+0.6
PRK				eS	Sn	13 11 27.6	+1.3
SMG	**Samos**	**1.15**	**152**	eP	Pn	13 11 28.8	+1.7
SMG				eS	Sn	13 11 43.5	+1.9
SMG	**Samos**	**1.15**	**152**	eP	Pn	13 11 28.8	+1.7
SMG				eS	Sn	13 11 43.5	+1.9
APE	**Apeiranthos**	**1.73**	**197**	eP	Pn	13 11 36.6	+1.5
APE	**Apeiranthos**	**1.73**	**197**	eP	Pn	13 11 36.6	+1.5

---

*DDA **31** 13:11:40.4, 38°73N×26°45E, h8km, MD2.7*
*ISCJB **31** 13:11:41.3±0.7, 38°74N±0°03×26°41E±0°06, h23km±7km, Error ellipse: s-maj=7.4km s-min=5.2km az=176.8*
*ATH **31** 13:11:41.0, 38°72N×26°36E, h25km±2km, MD3.1/5*
ISC 31 13:11:40.7±1.2, 38°73N±0°03×26°42E±0°05, h15km±10km, n10, σ0§88/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.44**	**220**	ePB	**Pb**	**13 11 50.4**	**+0.1**
CHOS				eSB	**Sb**	**13 11 56.2**	**-0.5**
PRK	**Paraskevi**	**0.53**	**348**	ePN	**Pb**	**13 11 51.7**	**0.0**
PRK				eSN	**Sb**	**13 12 00.1**	**+0.9**
AYVA	**Ayvalik**	**0.62**	**20**	i P	**Pg**	**13 11 52.2**	**-0.7**
AYVA				i S	**Sg**	**13 12 00.8**	**-0.3**
SMG	**Samos**	**1.07**	**162**	ePN	**Pg**	**13 12 01.4**	**0.0**
SMG				eSN	**Sn**	**13 12 16.8**	**+1.0**
AKHS	**Akhisar**	**1.10**	**82**	i P	**Pb**	**13 12 01.0**	**-0.5**
AKHS				i S	**Sn**	**13 12 16.3**	**-0.3**
BOZC	**Bozcaada**	**1.15**	**346**	i P	**Pn**	**13 12 01.7**	**-0.5**
BOZC				i S	**Sg**	**13 12 19.1**	**+1.2**
BALY	**Balya**	**1.38**	**42**	i P	**Sn**	**13 12 24.5**	**+1.1**
BALY				i S	**Sg**	**13 12 27.0**	**+1.8**
LIA	**Limnos Island**	**1.51**	**321**	ePN	**Pb**	**13 12 07.8**	**-0.6**
AYDN	**Tasoluk**	**1.57**	**132**	i P	Pn	13 12 00.8	-7.3
AYDN				i S	**Sn**	**13 12 27.7**	**-0.5**
SMTH	**Samothraki Isl**	**1.87**	**339**	ePN	**Pb**	**13 12 14.0**	**-0.6**

---

*ISCJB **31** 13:15:21.7±0.6, 51°48N±0°03×16°20E±0°04, h0km, Error ellipse: s-maj=4.3km s-min=3.2km az=14.6*
*WAR **31** 13:15:22.7, 51°55N×16°13E*
*CSEM **31** 13:15:23.2±0.3, 51°47N×16°19E, h2km, ML3.3/5, Error ellipse: s-maj=5.2km s-min=4.8km az=5.0*
*PRU **31** 13:15:25.3, 51°38N×16°21E, h0km*
ISC 31 13:15:23.5±0.9, 51°47N±0°03×16°16E±0°03, h0km, n29, σ0§90/50, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**173**	ePg	**Pg**	**13 15 35.9**	**+0.2**
KSP				eSg	**Sg**	**13 15 44.3**	**+0.4**
KSP	**Ksiaz**	**0.64**	**173**	⇓iPg	**Pg**	**13 15 35.9**	**+0.2**
KSP				eSg	**Sg**	**13 15 43.9**	**0.0**
UPC	**Upice**	**0.97**	**186**	ePG	**Pg**	**13 15 42.1**	**0.0**
UPC	**Upice**	**0.97**	**186**	Pg	**Pg**	**13 15 42.1**	**0.0**
DPC	**Dobruska-Polom**	**1.13**	**175**	ePG	**Pg**	**13 15 44.8**	**-0.3**
DPC				eSG	**Sg**	**13 15 58.9**	**-0.8**
DPC	**Dobruska-Polom**	**1.13**	**175**	Pg	**Pg**	**13 15 44.8**	**-0.3**
DPC				Sg	**Sg**	**13 15 58.9**	**-0.8**
PVCC	**Panska Ves**	**1.38**	**227**	ePG	**Pb**	**13 15 50.6**	**+0.4**
PVCC				eSG	**Sn**	**13 16 09.7**	**+0.7**
	comp=Z,147nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**227**	Pg	**Pb**	**13 15 50.6**	**+0.4**
PVCC				Sg	**Sn**	**13 16 09.7**	**+0.7**
	147nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**248**	PG	**Pg**	**13 15 53.0**	**+0.3**
BRG				SG	**Sg**	**13 16 13.6**	**+1.2**
	31nm,0.4s						
PRU	**Pruhonice**	**1.81**	**215**	ePG	**Pb**	**13 15 57.2**	**-0.3**
PRU				eSG	**Sg**	**13 16 21.4**	**-0.2**
	comp=Z,15nm,0.3s						
PRU	**Pruhonice**	**1.81**	**215**	Pg	**Pb**	**13 15 57.2**	**-0.3**
PRU				Sg	**Sg**	**13 16 21.4**	**-0.2**
	15nm,0.3s						
MORC	**Moravsky Berou**	**1.91**	**152**	ePn	**Pn**	**13 15 56.5**	**-0.9**
MORC				eSg	**Sn**	**13 16 21.0**	**-1.2**
CLL	**Collm**	**1.99**	**266**	ePg	**Pg**	**13 16 01.0**	**-0.6**
CLL				e		13 16 17.0	
CLL				eSg	**Sg**	**13 16 29.0**	**+1.7**
	comp=Z,12nm,0.7s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	eSG	**Sb**	**13 16 27.6**	**-0.5**
OKC	**Ostrava-Krasne**	**2.07**	**142**	Sg	**Sb**	**13 16 27.6**	**-0.5**
VRAC	**Vranov**	**2.18**	**173**	ePn	**Pn**	**13 16 01.3**	**+0.2**
TREC	**Trest**	**2.22**	**191**	eSG	**Sg**	**13 16 33.9**	**-1.0**
	comp=Z,12nm,0.3s						
TREC	**Trest**	**2.22**	**191**	Sg	**Sg**	**13 16 33.9**	**-1.0**
	comp=Z,12nm,0.3s						
OJC	**Ojcow**	**2.62**	**117**	ePg	**Pg**	**13 16 13.2**	**-0.6**
OJC				eSg	**Sg**	**13 16 48.6**	**+0.8**
NKC	**Novy Kostel**	**2.66**	**244**	ePN	**Pn**	**13 16 08.3**	**+0.6**
NKC				ePG	**Pg**	**13 16 14.1**	**-0.4**
NKC				eSG	**Sg**	**13 16 50.2**	**+1.2**
	comp=Z,16nm,0.7s						
NKC	**Novy Kostel**	**2.66**	**244**	Pn	**Pn**	**13 16 08.3**	**+0.6**
KHC	**Kasperske Hory**	**2.87**	**216**	ePN	**Pn**	**13 16 11.0**	**+0.4**
KHC				ePG	**Pb**	**13 16 16.5**	**+0.9**
KHC				eSN	**Sn**	**13 16 45.9**	**+0.1**
KHC				eSG	**Sg**	**13 16 54.4**	**-1.3**
	comp=Z,7.9nm,0.3s						
KHC	**Kasperske Hory**	**2.87**	**216**	Pn	**Pn**	**13 16 11.0**	**+0.4**
KHC	**Kasperske Hory**	**2.87**	**216**	Pg	**Pb**	**13 16 16.5**	**+0.9**
KHC				Sn	**Sn**	**13 16 45.9**	**+0.1**
KHC				Sg	**Sg**	**13 16 54.4**	**-1.3**
	comp=Z,7.9nm,0.3s						
BSD	**Bornholm Skovb**	**3.73**	**349**	i P	**Pn**	**13 16 21.3**	**-0.9**
BSD				i S	**Sn**	**13 17 05.9**	**-0.9**
BSD	**Bornholm Skovb**	**3.73**	**349**	i P	**Pn**	**13 16 21.3**	**-0.9**
BSD				i S	**Sn**	**13 17 05.9**	**-0.9**
STHS	**Stebnicka Huta**	**3.84**	**120**	e	**Pg**	**13 16 37.9**	**+0.7**
STHS	**Stebnicka Huta**	**3.84**	**120**	eSG	**Sg**	**13 17 29.5**	**+2.5**
STHS	**Stebnicka Huta**	**3.84**	**120**	eSg	**Sg**	**13 17 29.5**	**+2.5**

**IDC 31 13:19:02.8±1.7, 5°03S×133°92E, h0km, mb3.5/1, mb1 3

IDC 31 13:20:09.2±1.5, 37°.51N×95°.86E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.2/28, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=57.8km s-min=24.7km az=52.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.89**	**34**	Pn	Pn	13 23 13.6	-0.3
	0.2nm,0.3s,baz=214,slow=16,SNR=3.8						
MKAR	**Makanchi Array**	**13.67**	**317**	Pn	Pn	13 23 20.9	-3.4
	0.2nm,0.3s,baz=128,slow=14,SNR=11						
MKAR				Sn	Sn	13 25 48.9	-8.0
	0.0nm,0.3s,baz=135,slow=25,SNR=2.0						
BVAR	**Borovoye Array**	**23.53**	**319**	P	P	13 25 20.1	-0.7
	0.4nm,0.5s,baz=119,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**70.60**	**143**	P	P	13 31 26.5	+0.2
	0.2nm,0.9s,baz=337,slow=6.1,SNR=3.6						

*NEIC **31** 13:38:36.6, 18°.04N×65°.07W, h9km, MD3.0(RSPR), After RSPR.*

RSPR 31 13:38:36.6, 18°.04N×65°.07W, h9km±1km, MD3.0/4, 14C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.33**	**19⇑**	*e*P	Pg	13 38 43.4	+0.1
STVI				*e*S	Sg	13 38 48.2	+0.6
STVI	**Saint Thomas**	**0.33**	**19⇑**	*e*P	Pg	13 38 43.4	+0.2
STVI				*e*S	Sg	13 38 48.3	+0.7
STVI	**Saint Thomas**	**0.33**	**19⇑**	*e*P	Pg	13 38 43.4	+0.1
STVI				*e*S	Sg	13 38 48.2	+0.6
STVI	**Saint Thomas**	**0.33**	**19⇑**	*e*P	Pg	13 38 43.4	+0.1
STVI	**Saint Thomas**	**0.33**	**19⇑**	*e*P	Pg	13 38 43.4	+0.2
STVI				*e*S	Sg	13 38 48.2	+0.6
STVI				*e*S	Sb	13 38 48.3	-1.9
CDVI	**St. Croix**	**0.40**	**134⇑**	*e*P	Pg	13 38 44.5	-0.1
CDVI	**St. Croix**	**0.40**	**134**	*e*S	Sg	13 38 50.3	+0.5
CDVI	**St. Croix**	**0.40**	**134⇑**	*e*P	Pg	13 38 44.5	-0.1
CDVI				*e*S	Sg	13 38 50.3	+0.5
CDVI	**St. Croix**	**0.40**	**134⇑**	*e*P	Pg	13 38 44.5	-0.1
CDVI				*e*S	Sg	13 38 50.3	+0.5
MTP	**Monte Pirata**	**0.47**	**278⇓**	*e*P	Pg	13 38 45.6	0.0
MTP	**Monte Pirata**	**0.47**	**278**	*e*S	Sg	13 38 52.3	+0.4
MTP	**Monte Pirata**	**0.47**	**278⇓**	*e*P	Pg	13 38 45.6	0.0
MTP				*e*S	Sg	13 38 52.3	+0.4
MTP	**Monte Pirata**	**0.47**	**278⇓**	*e*P	Pg	13 38 45.6	0.0
MTP				*e*S	Sg	13 38 52.3	+0.4
CBYP	**Canovanas**	**0.79**	**287⇑**	*e*P	Pg	13 38 51.0	-0.9
CBYP	**Canovanas**	**0.79**	**287**	*e*S	Sg	13 39 01.2	-1.0
CBYP	**Canovanas**	**0.79**	**287⇑**	*e*P	Pg	13 38 51.0	-0.9
CBYP				*e*S	Sg	13 39 01.2	-1.0
CBYP	**Canovanas**	**0.79**	**287⇑**	*e*P	Pg	13 38 51.0	-0.9
CBYP				*e*S	Sg	13 39 01.2	-1.0
ABV	**Anegada**	**0.98**	**45⇑**	*e*P	Pg	13 38 54.8	-0.7
ABV	**Anegada**	**0.98**	**45**	*e*S	Sg	13 39 08.4	+0.1
ABV	**Anegada**	**0.98**	**45⇑**	*e*P	Pg	13 38 54.8	-0.7
ABV				*e*S	Sg	13 39 08.4	+0.1
ABVI	**Anegada Island**	**0.98**	**45⇑**	*e*P	Pg	13 38 54.8	-0.7
ABVI				*e*S	Sg	13 39 08.4	+0.1

IDC 31 13:43:07.3±1.9, 37°.53N×95°.91E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/27, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=60.0km s-min=31.9km az=59.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.85**	**33**	Pn	Pn	13 46 11.1	-0.3
	0.2nm,0.3s,baz=220,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**13.69**	**317**	Pn	Pn	13 46 17.6	-5.0
	0.2nm,0.3s,baz=126,slow=14,SNR=4.2						
MKAR				Sn	Sn	13 48 46.8	-8.6
	0.1nm,0.3s,baz=129,slow=25,SNR=5.5						
ASAR	**Alice Springs**	**70.59**	**143**	P	P	13 54 24.5	+0.1
	0.3nm,0.9s,baz=319,slow=5.4,SNR=6.1						

IDC 31 13:55:36.7±1.2, 15°.39N×147°.08E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/27, mbtmp3.8/11, Error ellipse: s-maj=39.7km s-min=18.0km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**28.88**	**353**	P	P	14 01 40.2	+3.1
	3.2nm,0.9s,baz=187,slow=8.1,SNR=3.7						
WRA	**Warramunga Arr**	**37.28**	**200**	P	P	14 02 50.0	-0.6
	1.2nm,0.7s,baz=22,slow=9.6,SNR=10						
FITZ	**Fitzroy Crossi**	**39.42**	**213**	P	P	14 03 09.2	+0.6
	0.9nm,0.6s,baz=32,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**40.90**	**199**	P	P	14 03 20.3	-0.6
	0.4nm,0.9s,baz=12,slow=14,SNR=4.3						
CMAR	**Chiang Mai Arr**	**46.05**	**281**	P	P	14 04 03.4	+0.7
	0.7nm,0.4s,baz=85,slow=5.8,SNR=4.5						
SONM	**Songino Array**	**46.55**	**323**	P	P	14 04 06.7	+0.4
	0.4nm,0.6s,baz=139,slow=9.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.44**	**323**	P	P	14 05 52.8	-2.0
	0.6nm,0.3s,baz=76,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**61.71**	**315**	P	P	14 05 57.3	+0.4
	0.6nm,0.6s,baz=96,slow=7.0,SNR=9.6						
KURBB	**Kurchatov Arra**	**64.66**	**319**	P	P	14 06 16.3	0.0
	2.8nm,0.8s,baz=98,slow=6.7,SNR=28						
ILAR	**Eielson Array**	**66.03**	**25**	P	P	14 06 25.9	+0.9
	0.2nm,0.5s,baz=253,slow=6.1,SNR=5.7						
BVAR	**Borovoye Array**	**69.86**	**321**	P	P	14 06 49.6	+0.3
	0.5nm,0.4s,baz=90,slow=5.8,SNR=3.7						
FINES	**FINESS Array B**	**90.42**	**336**	P	P	14 08 39.2	-0.8
	1.7nm,0.8s,baz=69,slow=7.6,SNR=3.0						

*MOS **31** 14:04:32.7±1.2, 37°.47N×95°.88E, h12km, mb4.3/17, Error ellipse: s-maj=11.5km s-min=7.2km az=97.8*
*IDC **31** 14:04:32.7±0.6, 37°.54N×95°.97E, h0km, mb4.1/19, mb1 4.2/25, mb1mx4.1/37, mbtmp4.1/25, ML3.9/6, MS3.3/2, Ms1 3.4/2, ms1mx2.5/35, Error ellipse: s-maj=18.5km s-min=12.0km az=33.0*
*ISCJB **31** 14:04:33.0±0.4, 37°.53N±0°.05×95°.83E±0°.04, h12km, mb4.1/25, MS3.2/1, Error ellipse: s-maj=7.6km s-min=4.5km az=21.7*
*BJI **31** 14:04:33.2, 37°.60N×95°.93E, h6km, mB4.4/7, mb4.2/14, ML4.1/7, Ms3.9/11, Ms7 3.6/10*
*NNC **31** 14:04:41.0±3.5, 38°.12N×95°.14E, h0km, mb4.1, Error ellipse: s-maj=125.9km s-min=32.2km az=49.0*

ISC 31 14:04:35.1±0.5, 37°.69N±0°.06×95°.91E±0°.04, h12km, n56, σ1§67/60, mb4.2/25, 4C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.51**	**60**	Pn	**Pn**	**14 05 31.8**	**+2.2**
GTA				Pg	**Pb**	**14 05 38.5**	**+1.3**
GTA				Sn	**Sb**	**14 06 15.5**	**-4.3**
GTA				Sg	**Sg**	**14 06 26.5**	**-1.3**
GTA				smax	smax		
	comp=N,140nm,0.9s						
GTA				smax	smax		
	comp=E,100nm,0.8s						
GTA				LR	LR		
	comp=N,1μm,9.5s						
GTA				LR	LR		
	comp=E,1μm,5.7s						
GTA				LR	LR		
	comp=Z,910nm,8.6s						
LZH	**Lanzhou**	**6.56**	**102**	*e*Pn	**Pn**	**14 06 11.5**	**0.0**
LZH				*e*Sn	**Sn**	**14 07 28.0**	**+1.7**
LZH				LR	LR		
	comp=N,1μm,10.9s						
LZH				LR	LR		
	comp=E,410nm,8.2s						
LZH				LR	LR		
	comp=Z,990nm,11.6s						
WMQ	**Urumqi**	**8.73**	**317**	P	**Pn**	**14 06 42.5**	**+1.3**
WMQ				sP		14 06 47.0	
WMQ				S	**Sn**	**14 08 22.8**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,22nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,92nm,4.0s						
WMQ				smax	smax		
	comp=N,68nm,0.8s						
WMQ				smax	smax		
	comp=E,70nm,1.0s						
WMQ				LR	LR		
	comp=N,130nm,18.0s						
WMQ				LR	LR		
	comp=E,110nm,16.0s						
WMQ				LR	LR		
	comp=Z,46nm,13.0s						
LSA	**Lhasa**	**8.90**	**208**	P	**Pn**	**14 06 45.5**	**+1.6**
XAN	**Xi'an**	**11.17**	**105**	P	Pn	14 07 27.8	+13
XAN				LR	LR		
	comp=N,150nm,7.1s						
XAN				LR	LR		
	comp=Z,47nm,8.3s						
SONM	**Songino Array**	**12.72**	**34**	Pn	**Pn**	**14 07 37.7**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=219,slow=14,SNR=16						
SONM				Lg	Lg	14 11 16.4	
	comp=Z,0.1nm,0.3s,baz=215,slow=33,SNR=4.4						
SONM				LR	LR	14 12 50.1	
	comp=Z,183nm,19.0s,baz=69,slow=39						
HVS	**Khovu-Aksy**	**13.53**	**354**	*e*P	P	14 07 51.4	-4.6
HVS				pmax	pmax		
	comp=Z,21nm,1.7s						
MK31	**Makanchi Array**	**13.56**	**316**	Pn	**Pn**	**14 07 45.4**	**-1.9**
	comp=Z,2.8nm,0.6s,baz=121,slow=14,SNR=39						
MK31				Sn	**Sn**	**14 10 14.9**	**-2.9**
	comp=Z,9.4nm,1.1s,baz=122,slow=25,SNR=4.0						
MKAR	**Makanchi Array**	**13.56**	**316**	P	**Pn**	**14 07 46.0**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.56**	**316**	Pn	**Pn**	**14 07 46.0**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=125,slow=14,SNR=27						
MKAR				Sn	**Sn**	**14 10 12.8**	**-5.1**
	comp=Z,0.0nm,0.3s,baz=124,slow=18,SNR=3.1						
MKAR				Lg	Lg	14 11 54.2	
	baz=123,slow=29,SNR=3.1						
ZAK	**Zakamensk**	**13.74**	**20**	*e*P	P	14 07 53.7	-4.6
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
MOY	**Mondy**	**14.43**	**13**	*e*P	P	14 08 09.7	+3.7
MOY				pmax	pmax		
	comp=Z,19nm,1.3s						
TLY	**Talaya**	**15.02**	**19**	*e*P	**P**	**14 08 11.2**	**-1.2**
TKM2	**Tokmak 2**	**16.34**	**295**	⇓P	**Pn**	**14 08 22.8**	**-1.7**
	comp=Z,10nm,0.6s						
WHN	**Wuhan**	**16.84**	**110**	P	**Pn**	**14 08 30.0**	**-0.6**
AAK	**Ala-Archa**	**17.08**	**293**	P	**P**	**14 08 34.6**	**-0.9**
AAK	**Ala-Archa**	**17.08**	**293**	P	**P**	**14 08 34.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=100,slow=6.2,SNR=8.1						
KURBB	**Kurchatov Arra**	**17.90**	**322**	P	**Pn**	**14 08 43.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=21						
KURBB				Lg	Lg	14 14 03.2	
	comp=Z,0.1nm,0.3s,baz=114,slow=29,SNR=2.7						
KURK	**Kurchatov**	**17.91**	**322**	P	**Pn**	**14 08 43.4**	**-0.5**
ZALV	**Zalesovo Beam**	**17.96**	**338**	P	**P**	**14 08 44.5**	**-0.5**
ZALV	**Zalesovo Beam**	**17.96**	**338**	P	**P**	**14 08 44.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=6.7						
NVS	**Novosibirsk**	**19.20**	**337**	*e*P	P	14 08 53.6	-5.0
CMAR	**Chiang Mai Arr**	**19.35**	**171**	P	**P**	**14 08 59.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=342,slow=9.4,SNR=7.7						
CMAR				LR	LR	14 17 01.6	
	comp=Z,67nm,21.7s,baz=345,slow=39						
KK31	**Karatay Array**	**20.05**	**294**	P	**P**	**14 09 07.9**	**-0.1**
	comp=Z,7.2nm,1.0s,baz=85,slow=9.5,SNR=45						
BVA0	**Borovoye Array**	**23.41**	**319**	⇓P	**P**	**14 09 45.8**	**+2.0**
	comp=Z,3.3nm,0.8s						
BVAR	**Borovoye Array**	**23.41**	**319**	P	**P**	**14 09 45.0**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**23.41**	**319**	P	**P**	**14 09 45.0**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=113,slow=11,SNR=9.0						
BRVK	**Borovoye**	**23.49**	**319**	⇑P	**P**	**14 09 44.7**	**+0.2**
	comp=Z,7.7nm,1.0s						
BRVK	**Borovoye**	**23.49**	**319**	⇑*i*P	**P**	**14 09 46.2**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TJN	**Taejon**	**25.09**	**83**	*e*P	**P**	**14 10 00.1**	**+0.6**
KSRS	**Korea Array**	**25.32**	**81**	P	**P**	**14 10 00.5**	**-1.1**
	comp=Z,7.2nm,0.7s,baz=275,slow=9.6,SNR=27						
AB31	**Akbulak array**	**28.28**	**306**	P	**P**	**14 10 29.9**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=102,slow=7.2,SNR=8.3						
AKTO	**Aktyubinsk**	**29.72**	**308**	P	**P**	**14 10 41.3**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKTO	**Aktyubinsk**	**29.72**	**308**	P	**P**	**14 10 41.3**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=102,slow=12,SNR=8.7						
ARU	**Arti**	**31.06**	**319**	*d*i*P*	**P**	**14 10 53.2**	**+0.5**
ARU						14 11 50.8	
ARU				S	**S**	**14 15 57.9**	**+0.5**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ASAJ	**Asahikawa**	**35.48**	**65**	P	**P**	**14 11 31.0**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=286,slow=7.4,SNR=3.4						
TIXI	**Tiksi**	**37.97**	**16⇑**	*i*P	**P**	**14 11 54.0**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,28nm,15.0s						
KBZ	**Khabaz**	**40.06**	**296**	P	**P**	**14 12 11.0**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ	**Khabaz**	**40.06**	**296**	P	**P**	**14 12 10.9**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=90,slow=6.1,SNR=3.5						
OBN	**Obninsk**	**43.05**	**314⇑**	*e*P	**P**	**14 12 34.0**	**-0.4**
OBN				*e*		14 14 13.9	
OBN				*e*S	**S**	**14 18 54.8**	**-4.9**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRTR	**Keskin Array B**	**47.76**	**293**	P	**P**	**14 13 12.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=106,slow=6.9,SNR=8.5						
AKASG	**Malin Array Be**	**47.97**	**308**	P	**P**	**14 13 13.4**	**0.0**
AKASG	**Malin Array Be**	**47.97**	**308**	P	**P**	**14 13 13.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=68,slow=7.6,SNR=3.3						
KIEV	**Kiev**	**47.98**	**308**	*e*P	**P**	**14 13 15.5**	**+2.0**
ARCES	**ARCESS Array B**	**48.43**	**334**	P	**P**	**14 13 18.4**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=75,slow=7.6,SNR=3.6						
FX1	**Attu Island--F**	**53.82**	**47**	P	**P**	**14 13 58.4**	**+1.0**
	comp=Z,6.1nm,0.6s,baz=337,slow=13,SNR=3.1						
NOA	**NORSAR Array B**	**55.42**	**324**	P	**P**	**14 14 09.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=72,slow=7.1,SNR=3.0						
GERES	**GERESS Array B**	**58.12**	**310**	P	**P**	**14 14 29.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=64,slow=6.1,SNR=4.9						
ILAR	**Eielson Array**	**66.75**	**25**	P	**P**	**14 15 25.5**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=292,slow=5.3,SNR=9.2						
WRA	**Warramunga Arr**	**67.78**	**141**	P	**P**	**14 15 31.1**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=339,slow=6.2,SNR=8.1						
INK	**Inuvik**	**68.08**	**18**	P	**P**	**14 15 34.1**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=317,slow=6.3,SNR=3.9						
KDAK	**Kodiak Island**	**69.00**	**32**	P	**P**	**14 15 40.0**	**0.0**
	comp=Z,5.0nm,0.8s,baz=304,slow=3.6,SNR=3.1						
ASAR	**Alice Springs**	**70.72**	**143**	P	**P**	**14 15 50.0**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=327,slow=5.6,SNR=23						
ESDC	**Sonseca Array**	**73.61**	**308**	P	**P**	**14 16 07.8**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=31,slow=6.4,SNR=4.8						
STKA	**Stephens Creek**	**81.29**	**142**	P	**P**	**14 16 49.3**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=320,slow=7.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**85.36**	**283**	P	**P**	**14 17 12.3**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=30,slow=4.6,SNR=3.7						

IDC 31 14:09:21.6±3.8, 19°.90S×177°.54W, h514km±98km, mb3.3/5, mb1 3.5/6, mb1mx3.1/21, mbtmp3.4/6, Error ellipse: s-maj=115.6km s-min=61.1km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.12**	**44**	P	P	14 11 20.6	+0.9
	2.3nm,0.3s,baz=266,slow=16,SNR=5.2						
AFI				S	S	14 12 55.6	-0.9
	3.3nm,0.3s,baz=192,slow=21,SNR=6.9						
CTA	**Charters Tower**	**33.98**	**263**	P	P	14 15 22.7	+0.3
	1.5nm,0.3s,baz=90,slow=8.1,SNR=7.0						
STKA	**Stephens Creek**	**38.44**	**244**	P	P	14 15 58.5	-0.6
	3.8nm,1.0s,baz=90,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**45.08**	**256**	P	P	14 16 51.5	-0.2
	5.0nm,0.5s,baz=93,slow=7.6,SNR=192						
WRA	**Warramunga Arr**	**45.12**	**261**	P	P	14 16 51.5	-0.6
	1.0nm,0.3s,baz=96,slow=7.6,SNR=39						
FITZ	**Fitzroy Crossi**	**53.54**	**262**	P	P	14 17 54.5	+0.2
	1.1nm,0.4s,baz=110,slow=4.8,SNR=16						
VNA3	**Neumayer Olymp**	**88.71**	**176**	*e*P	P	14 21 19.2	-0.5
VNA2	**Neumayer--Watz**	**89.16**	**177**	*e*P	P	14 21 21.5	-0.2
	baz=198,slow=4.2						
VNA1	**Neumayer--Stat**	**89.38**	**176**	*e*P	P	14 21 14.4	-8.3

IDC 31 14:14:35.8±1.9, 5°.24N×127°.25E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=124.8km s-min=20.5km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.25**	**184**	P	P	14 19 45.0	0.0
	1.1nm,0.7s,baz=356,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**25.98**	**165**	P	P	14 20 10.3	-0.1
	0.7nm,0.6s,baz=344,slow=9.9,SNR=4.9						
ASAR	**Alice Springs**	**29.46**	**168**	P	P	14 20 41.8	+0.2
	0.3nm,0.8s,baz=350,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**56.63**	**324**	P	P	14 24 21.4	+0.6
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**60.76**	**327**	P	P	14 24 48.5	-0.9
	0.3nm,0.6s,baz=126,slow=6.1,SNR=4.4						

*ISCJB **31** 14:20:52.6±0.5, 30°.01S±0°.06×177°.83W±0°.09, h50km, mb4.5/13, MS3.8/2, Error ellipse: s-maj=11.8km s-min=7.9km az=173.8*
*AUST **31** 14:20:52.9±3.3, 29°.81S×177°.27W, h62km, Error ellipse: s-maj=4.1km s-min=1.5km az=263.0*
*IDC **31** 14:20:54.5±1.0, 29°.81S×177°.86W, h59km±9km, mb4.1/9, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, MS3.7/2, Ms1 3.7/2, ms1mx3.1/19, Error ellipse: s-maj=21.5km s-min=18.7km az=88.0*
*NEIC **31** 14:20:55.8±1.1, 29°.74S×177°.81W, h73km±8km, mb4.8/6, Error ellipse: s-maj=15.7km s-min=12.7km az=112.0*

ISC 31 14:20:53.8±0.5, 30°.02S±0°.06×177°.9W±0°.1, h50km, n71, σ1§62/72, mb4.5/13, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**359**	P	**Pn**	**14 21 07.8**	**-0.6**
RAO				*e*S	**Sn**	**14 21 17.9**	**-1.1**
RAO				S	**Sn**	**14 21 18.4**	**-0.6**
RAO	**Raoul Island**	**0.77**	**359**	P	**Pn**	**14 21 07.8**	**-0.6**
	2μm,0.3s,baz=104,slow=17,SNR=104						
RAO				S	**Sn**	**14 21 18.4**	**-0.6**
	8μm,0.3s,baz=90,slow=20,SNR=38						
OUZ	**Omahuta**	**8.85**	**232**	*e*P	Pn	14 23 06.0	+7.0
	25nm,0.4s						
URZ	**Urewera**	**9.20**	**205**	*e*Pn	Pn	14 22 58.3	-5.5
URZ				S	**Sn**	**14 24 41.8**	**-4.0**
URZ	**Urewera**	**9.20**	**205**	P	Pn	14 22 58.8	-5.0
	0.8nm,0.3s,baz=336,slow=18,SNR=8.9						
URZ				S	**Sn**	**14 24 41.8**	**-4.0**
	5.1nm,0.3s,baz=218,slow=24,SNR=11						
DZM	**Mont Dzumac**	**16.13**	**296**	*e*LR	LR	14 28 17.4	
	300nm,26.9s						
ARMA	**Armidale**	**26.30**	**261**	P	**P**	**14 26 28.8**	**+3.9**
	baz=27,SNR=7.7						
MGCD	**Mangrove Creek**	**26.53**	**255**	P	**P**	**14 26 30.9**	**+4.1**
	baz=27,SNR=8.7						
PPT2	**Papeete2**	**28.63**	**71**	*e*LR	LR	14 33 48.7	
	191nm,28.5s						
YNG	**Young**	**28.77**	**253**	P	**P**	**14 26 49.8**	**+2.9**
	baz=29,SNR=8.9						
RMQ	**Roma**	**29.52**	**269**	P	P	14 26 56.9	+3.2
	baz=30,SNR=18						
CMSA	**Cobar Meteorol**	**31.23**	**258**	P	**P**	**14 27 11.0**	**+2.4**
	baz=32,SNR=9.2						
CTAO	**Charters Tower**	**33.82**	**279**	*e*P	**P**	**14 27 33.6**	**+2.2**
	11nm,0.6s						
STKA	**Stephens Creek**	**34.65**	**256**	*e*P	**P**	**14 27 40.2**	**+1.8**
	1.8nm,0.8s						
STKA	**Stephens Creek**	**34.65**	**256**	P	**P**	**14 27 40.3**	**+1.8**
	7.8nm,0.5s,baz=99,slow=11,SNR=34						
STKA				LR	LR	14 38 51.0	
	comp=Z,139nm,20.4s,baz=205,slow=31						
STKA	**Stephens Creek**	**34.65**	**256**	P	**P**	**14 27 40.5**	**+2.0**
	baz=35,SNR=31						
MTSU	**Mount Surprise**	**36.31**	**280**	P	**P**	**14 27 55.1**	**+2.2**
	baz=37,SNR=10						
BBOO	**Buckleboo**	**39.16**	**254**	P	**P**	**14 28 18.0**	**+1.2**
	baz=40,SNR=10						
AS31	**Alice Springs**	**43.22**	**266**	*e*P	**P**	**14 28 50.1**	**-0.2**
ASAR	**Alice Springs**	**43.22**	**266**	P	**P**	**14 28 50.0**	**-0.2**
ASAR				PcP	**PcP**	**14 30 38.9**	**-0.1**
ASAR	**Alice Springs**	**43.22**	**266**	P	**P**	**14 28 50.0**	**-0.2**
	3.4nm,0.5s,baz=106,slow=7.2,SNR=110						
ASAR				PcP	**PcP**	**14 30 38.9**	**-0.1**
	0.4nm,0.4s,baz=120,slow=3.8,SNR=4.3						
WRAB	**Tennant Creek**	**44.16**	**272**	*e*P	**P**	**14 28 57.7**	**-0.2**
	10nm,0.6s						
WRA	**Warramunga Arr**	**44.17**	**272**	P	**P**	**14 28 57.5**	**-0.5**
WRA	**Warramunga Arr**	**44.17**	**272**	P	**P**	**14 28 57.5**	**-0.5**
	11nm,0.5s,baz=110,slow=8.0,SNR=109						
FORT	**Forrest**	**46.23**	**255**	P	**P**	**14 29 13.4**	**-0.7**
	baz=47,SNR=7.8						
SBA	**Scott Base**	**48.42**	**184**	*e*P	**P**	**14 29 33.6**	**+3.2**
	10.0nm,1.2s						
VNDA	**Vanda**	**48.48**	**186**	P	**P**	**14 29 33.3**	**+2.3**
VNDA				PcP	**PcP**	**14 30 55.5**	**-0.8**
VNDA	**Vanda**	**48.48**	**186**	P	**P**	**14 29 33.3**	**+2.3**
	1.0nm,0.6s,baz=7.8,slow=8.0,SNR=7.9						
VNDA				PcP	**PcP**	**14 30 55.5**	**-0.8**
	1.7nm,0.7s,baz=47,slow=4.0,SNR=7.5						
MTN	**Manton Dam**	**50.01**	**279**	P	**P**	**14 29 45.7**	**+2.2**
	baz=50,SNR=4.1						
KNRA	**Kununurra**	**50.76**	**274**	P	**P**	**14 29 49.6**	**+0.4**
	baz=51,SNR=9.3				

comp=Z,1.0nm,0.6s,baz=151,slow=2.8,SNR=6.5
TORD Torodi Ar. Bea 163.20 179 PKPab **PKPab 14 41 41.8 +0.2**
TORD Torodi Ar. Bea 163.20 179 PKPab **PKPab 14 41 41.8 +0.2**
comp=Z,1.5nm,0.7s,baz=185,slow=3.8,SNR=7.1

---

*CSEM **31** 14:23:28.3, 38°.72N×22°.58E, h27km, MD2.5, After ATH*
ATH 31 14:23:28.3, 38°.72N×22°.58E, h27km±2km, MD2.5/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.34**	**102**	*e*PB	Pb	14 23 35.8	-0.2
LKR				*e*SB	Sb	14 23 42.2	+0.9
LKR	**Lokris**	**0.34**	**102**	*e*Pb	Pb	14 23 35.8	-0.2
LKR				*e*Sb	Sb	14 23 42.2	+0.9
KALE	**Kalithea**	**0.48**	**227**	*e*PB	Pb	14 23 38.0	-0.3
KALE				*e*SB	Sb	14 23 45.7	+0.6
KALE	**Kalithea**	**0.48**	**227**	*e*Pb	Pb	14 23 38.0	-0.3
KALE				*e*Sb	Sb	14 23 45.7	+0.6
TRIZ	**Trizonia**	**0.53**	**228**	*e*PN	Pb	14 23 38.8	-0.3
TRIZ				*e*SN	Sn	14 23 47.7	-0.5
TRIZ	**Trizonia**	**0.53**	**228**	*e*Pn	Pb	14 23 38.8	-0.3
TRIZ				*e*Sn	Sn	14 23 47.7	-0.5
EFP	**Efpalio**	**0.60**	**241**	*e*PN	Pb	14 23 40.5	+0.2
EFP	**Efpalio**	**0.60**	**241**	*e*Pn	Pb	14 23 40.5	+0.2
EVR	**Evrytania**	**0.63**	**288**	*e*PN	Pn	14 23 41.6	-0.1
EVR				*e*SN	Sn	14 23 50.6	-0.4
EVR	**Evrytania**	**0.63**	**288**	*e*Pn	Pn	14 23 41.6	-0.1
EVR				*e*Sn	Sn	14 23 50.6	-0.4
KLV	**Kalavryta, Ach**	**0.76**	**207**	*e*PN	Pb	14 23 42.9	-0.1
KLV	**Kalavryta, Ach**	**0.76**	**207**	*e*Pn	Pb	14 23 42.9	-0.1
LTK	**Loutraki**	**0.76**	**156**	*e*PN	Pn	14 23 43.8	+0.5
LTK	**Loutraki**	**0.76**	**156**	*e*Pn	Pn	14 23 43.8	+0.5
GUR	**Goura**	**0.80**	**194**	*e*PN	Pn	14 23 44.5	+0.5
GUR	**Goura**	**0.80**	**194**	*e*Pn	Pn	14 23 44.5	+0.5
THL	**Klokotos Trika**	**0.95**	**333**	*e*PN	Pb	14 23 46.8	+0.6
THL	**Klokotos Trika**	**0.95**	**333**	*e*Pn	Pb	14 23 46.8	+0.6

---

*CSEM **31** 14:24:27.5±0.1, 38°.67N×22°.83E, h10km, MD2.6*
*ATH **31** 14:24:27.4, 38°.73N×22°.82E, h6km, MD2.6/11, ML2.5*
THE 31 14:24:27.4, 38°.66N×22°.87E, h15km, ML2.2/4, Error ellipse: s-maj=0.8km s-min=0.4km az=285.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.10**	**93**	*e*PG	Pg	14 24 30.9	+0.2
LKR				*e*SG	Sg	14 24 33.1	+0.2
LKR	**Lokris**	**0.10**	**93**	*e*Pg	Pg	14 24 30.9	+0.2
LKR				*e*Sg	Sg	14 24 33.1	+0.2
AXAR	**Agios Charalam**	**0.20**	**304**	P	Pg	14 24 32.0	-0.1
AXAR				S	Sg	14 24 35.3	0.0
AXAR	**Agios Charalam**	**0.20**	**304**	P	Pg	14 24 32.0	-0.1
AXAR				S	Sg	14 24 35.3	0.0
AGG	**Agios Georgios**	**0.56**	**311**	P	Pg	14 24 38.1	-0.4
AGG				S	Sg	14 24 46.4	+0.4
AGG	**Agios Georgios**	**0.56**	**311**	P	Pg	14 24 38.1	-0.4
AGG				S	Sg	14 24 46.4	+0.4
KALE	**Kalithea**	**0.63**	**245**	P	Pg	14 24 39.4	-0.5
KALE				S	Sb	14 24 49.0	+0.1
KALE	**Kalithea**	**0.63**	**245**	*e*PB	Pg	14 24 39.4	-0.5
KALE				*e*SB	Sb	14 24 49.2	+0.3
KALE	**Kalithea**	**0.63**	**245**	P	Pg	14 24 39.4	-0.5
KALE				S	Sb	14 24 49.0	+0.1
LTK	**Loutraki**	**0.64**	**173**	P	Pg	14 24 39.8	-0.1
LTK				S	Sb	14 24 49.0	0.0
LTK	**Loutraki**	**0.64**	**173**	*e*PB	Pb	14 24 40.2	0.0
LTK				*e*SB	Sn	14 24 51.0	-0.8
LTK	**Loutraki**	**0.64**	**173**	P	Pg	14 24 39.8	-0.1
LTK	**Loutraki**	**0.64**	**173**	*e*Pb	Pb	14 24 40.2	0.0
LTK				S	Sb	14 24 49.0	0.0
LTK				*e*Sb	Sn	14 24 51.0	-0.8
TRIZ	**Trizonia**	**0.69**	**245**	P	Pg	14 24 40.3	-0.6
TRIZ	**Trizonia**	**0.69**	**245**	*e*PG	Pg	14 24 40.3	-0.6
TRIZ				*e*SB	Sb	14 24 50.6	+0.2
TRIZ	**Trizonia**	**0.69**	**245**	P	Pg	14 24 40.3	-0.6
TRIZ				*e*Sb	Sb	14 24 50.6	+0.2
XOR	**Xorichti**	**0.75**	**19**	P	Pg	14 24 41.5	-0.7
XOR				S	Sb	14 24 52.9	+0.5
XOR	**Xorichti**	**0.75**	**19**	P	Pg	14 24 41.5	-0.7
XOR				S	Sb	14 24 52.9	+0.5
EFP	**Efpalio**	**0.79**	**254**	*e*PB	Pg	14 24 42.1	-0.7
EFP				*e*SB	Sg	14 24 53.2	0.0
EFP	**Efpalio**	**0.79**	**254**	*e*Pb	Pg	14 24 42.1	-0.7
EFP				*e*Sb	Sg	14 24 53.2	0.0
GUR	**Goura**	**0.83**	**210**	P	Pb	14 24 42.7	-1.0
GUR				S	Sb	14 24 54.8	+0.1
GUR	**Goura**	**0.83**	**210**	*e*PG	Pb	14 24 43.6	-0.1
GUR				*e*SB	Sn	14 24 55.9	-0.8
GUR	**Goura**	**0.83**	**210**	P	Pb	14 24 42.7	-1.0
GUR	**Goura**	**0.83**	**210**	*e*Pg	Pb	14 24 43.6	-0.1
GUR				S	Sb	14 24 54.8	+0.1
GUR				*e*Sb	Sn	14 24 55.9	-0.8
KLV	**Kalavryta, Ach**	**0.83**	**223**	P	Pb	14 24 43.1	-0.6
KLV				S	Sg	14 24 55.4	+0.7
KLV	**Kalavryta, Ach**	**0.83**	**223**	*e*PG	Pb	14 24 43.3	-0.4
KLV	**Kalavryta, Ach**	**0.83**	**223**	*e*Pg	Pb	14 24 43.3	-0.4
KLV				S	Sg	14 24 55.4	+0.7
ATH	**Athens Observa**	**0.95**	**135**	*e*PG	Pn	14 24 46.5	+0.3
ATH				*e*SB	Sn	14 25 01.4	+1.9
ATH	**Athens Observa**	**0.95**	**135**	*e*Pg	Pn	14 24 46.5	+0.3
ATH				*e*Sb	Sn	14 25 01.4	+1.9
PTL	**Penteli**	**0.99**	**127**	*e*PN	Pn	14 24 47.7	+0.9
PTL				*e*SB	Sn	14 25 02.3	+1.8
PTL	**Penteli**	**0.99**	**127**	*e*Pn	Pn	14 24 47.7	+0.9
PTL				*e*Sb	Sn	14 25 02.3	+1.8
NAIG	**Nisos Aigina**	**1.02**	**151**	*e*PN	Pn	14 24 48.7	+1.6
NAIG	**Nisos Aigina**	**1.02**	**151**	*e*Pn	Pn	14 24 48.7	+1.6
DID	**Didima**	**1.18**	**166**	*e*PN	Pg	14 24 50.8	+0.5
DID	**Didima**	**1.18**	**166**	*e*Pn	Pg	14 24 50.8	+0.5
RLS	**Riolos of Patr**	**1.25**	**242**	*e*PB	Pb	14 24 51.0	+0.3
RLS	**Riolos of Patr**	**1.25**	**242**	*e*Pb	Pb	14 24 51.0	+0.3

---

*THE **31** 15:13:14.4, 40°.13N×23°.98E, h14km, ML1.9/5, Error ellipse: s-maj=1.1km s-min=0.4km az=290.0*
*ATH **31** 15:13:14.4, 40°.12N×24°.03E, h3km, MD2.6/8*
CSEM 31 15:13:13.9±0.2, 40°.12N×24°.03E, h8km, ML1.9/5, Error ellipse: s-maj=3.3km s-min=3.0km az=31.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.22**	**351**	P	Pg	15 13 18.8	+0.4
OUR				S	Sg	15 13 22.1	+0.7
OUR	**Ouranopolis**	**0.22**	**351**	P	Pg	15 13 18.8	+0.4
OUR				S	Sg	15 13 22.1	+0.7
PAIG	**Paliouri**	**0.33**	**235**	P	Pg	15 13 20.8	+0.5
PAIG				S	Sg	15 13 24.9	+0.2
PAIG	**Paliouri**	**0.33**	**235**	*e*PG	Pg	15 13 20.9	+0.6
PAIG	**Paliouri**	**0.33**	**235**	P	Pg	15 13 20.8	+0.5
PAIG				S	Sg	15 13 24.9	+0.2
PLG	**Polygyros**	**0.51**	**300**	P	Pg	15 13 23.8	-0.2
PLG				S	Sg	15 13 30.7	-0.1
PLG	**Polygyros**	**0.51**	**300**	*e*PG	Pg	15 13 23.9	-0.1
PLG				*e*SG	Sg	15 13 30.7	-0.1
PLG	**Polygyros**	**0.51**	**300**	*e*Pg	Pg	15 13 23.9	-0.1
PLG				S	Sg	15 13 30.7	-0.1
HORT	**Hortiatis**	**0.86**	**305**	P	Pg	15 13 29.8	-0.7
HORT				S	Sg	15 13 41.7	-0.1
HORT	**Hortiatis**	**0.86**	**305**	P	Pg	15 13 29.8	-0.7
HORT				S	Sg	15 13 41.7	-0.1
SOH	**Sokhos**	**0.87**	**324**	*e*PB	Pb	15 13 31.4	0.0
SOH				*e*SG	Sg	15 13 42.2	0.0
SOH	**Sokhos**	**0.87**	**324**	*e*Pb	Pb	15 13 31.4	0.0
SOH				*e*Sg	Sg	15 13 42.2	0.0
LIA	**Limnos Island**	**0.92**	**103**	*e*PG	Pg	15 13 30.1	-1.4
LIA				*e*SG	Sb	15 13 44.5	+0.2
LIA	**Limnos Island**	**0.92**	**103**	*e*Pg	Pg	15 13 30.1	-1.4
LIA				*e*Sg	Sb	15 13 44.5	+0.2
AOS	**Alonnisos**	**0.95**	**187**	P	Pg	15 13 32.4	+0.2
AOS				S	Sn	15 13 46.5	-0.8
AOS	**Alonnisos**	**0.95**	**187**	*e*PB	Pb	15 13 32.5	-0.1
AOS	**Alonnisos**	**0.95**	**187**	*e*Pb	Pb	15 13 32.5	-0.1
AOS				S	Sn	15 13 46.5	-0.8
KAVA	**Kavala**	**0.96**	**23**	P	Pg	15 13 32.1	-0.2
KAVA				S	Sb	15 13 45.8	+0.3
KAVA	**Kavala**	**0.96**	**23**	P	Pg	15 13 32.1	-0.2
KAVA				S	Sb	15 13 45.8	+0.3
SMTH	**Samothraki Isl**	**1.20**	**72**	*e*PB	Pn	15 13 37.1	0.0
SMTH	**Samothraki Isl**	**1.20**	**72**	*e*Pb	Pn	15 13 37.1	0.0
NVR	**Nevrokopi**	**1.24**	**354**	*e*PB	Pg	15 13 37.8	0.0
NVR				*e*SB	Sg	15 13 54.0	0.0
NVR	**Nevrokopi**	**1.24**	**354**	*e*Pb	Pg	15 13 37.8	0.0
NVR				*e*Sb	Sg	15 13 54.0	0.0
RDO	**Rodhopi**	**1.54**	**48**	*e*PB	Pg	15 13 43.3	-0.2
RDO	**Rodhopi**	**1.54**	**48**	*e*Pb	Pg	15 13 43.3	-0.2

IDC 31 16:18:53.6±0.9, 55°.43S×27°.38W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=35.8km s-min=22.2km az=98.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.81**	**158**	*e*Pn	P	16 23 04.0	+0.6
SNAA	**Sanae**	**19.36**	**157**	*e*Pn	P	16 23 19.1	-1.4
PMSA	**Palmer Station**	**20.23**	**228**	P	P	16 23 29.9	0.0
2.7nm,0.8s,baz=74,slow=15,SNR=2.3							
QSPA	**South Pole Qui**	**34.83**	**180**	P	P	16 25 45.8	-0.2
1.1nm,0.5s,baz=99,slow=16,SNR=17							
VNDA	**Vanda**	**47.19**	**183**	P	P	16 27 27.4	+0.1
0.9nm,0.7s,baz=181,slow=8.9,SNR=7.8							
LPAZ	**La Paz**	**49.93**	**305**	P	P	16 27 49.7	-0.1
0.5nm,0.5s,baz=190,slow=6.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**72.56**	**30**	P	P	16 30 22.6	+0.2
0.9nm,0.5s,baz=203,slow=6.5,SNR=14							
ILAR	**Eielson Array**	**149.62**	**312**	PKPbc	PKPbc	16 38 42.9	-0.7
0.9nm,0.6s,baz=120,slow=2.8,SNR=10							
SONM	**Songino Array**	**150.79**	**86**	PKPbc	PKPbc	16 38 46.5	-0.5
0.7nm,0.4s,baz=214,slow=4.1,SNR=8.1							

IDC 31 16:28:21.8±0.9, 13°.88N×93°.06E, h26km±5km, mb3.5/7, mb1 3.5/8, mb1mx3.4/27, mbtmp3.4/8, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/30, Error ellipse: s-maj=32.9km s-min=14.9km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.26**	**50**	Pn	Pn	16 30 07.1	+0.8
0.1nm,0.3s,baz=241,slow=16,SNR=4.7							
MKAR	**Makanchi Array**	**34.03**	**347**	P	P	16 35 03.4	-0.3
0.9nm,0.9s,baz=166,slow=8.5,SNR=7.0							
MKAR				pP	pP	16 35 11.1	-0.3
0.6nm,0.7s,baz=160,slow=8.4,SNR=4.4							
SONM	**Songino Array**	**35.62**	**15**	P	P	16 35 17.7	+0.1
0.2nm,0.5s,baz=205,slow=9.4,SNR=3.0							
KURBB	**Kurchatov Arra**	**38.50**	**345**	P	P	16 35 41.4	-0.4
0.8nm,0.9s,baz=160,slow=8.1,SNR=8.4							
KURBB				pP	pP	16 35 49.5	0.0
0.5nm,0.7s,baz=162,slow=8.6,SNR=5.2							
ZALV	**Zalesovo Beam**	**40.50**	**353**	P	P	16 35 57.8	-0.6
0.5nm,0.5s,baz=184,slow=10,SNR=3.9							
ZALV				pP	pP	16 36 06.3	+0.2
0.3nm,0.4s,baz=173,slow=6.5,SNR=1.8							
AKTO	**Aktyubinsk**	**46.23**	**329**	LR	LR	16 59 45.9	
comp=Z,18nm,18.1s,baz=260,slow=41							
WRA	**Warramunga Arr**	**52.72**	**129**	P	P	16 37 34.3	-0.4
0.6nm,0.9s,baz=310,slow=7.6,SNR=3.9							
WRA				PcP	PcP	16 38 44.2	0.0
0.4nm,0.9s,baz=310,slow=3.3,SNR=5.0							
ASAR	**Alice Springs**	**54.66**	**133**	P	P	16 37 48.5	-0.4
0.4nm,0.5s,baz=310,slow=7.1,SNR=24							
ASAR				pP	pP	16 37 56.7	-0.1
0.4nm,0.4s,baz=309,slow=7.0,SNR=4.9							
ASAR				PcP	PcP	16 38 51.5	-0.1
0.1nm,0.5s,baz=316,slow=3.8,SNR=3.4							
BOSA	**Boshof**	**77.94**	**236**	P	P	16 40 18.6	+0.5
0.6nm,0.4s,baz=96,slow=9.2,SNR=3.5							

---

*ISCJB **31** 16:46:40.0±0.4, 55°.36S±0°.07×27°.5W±0°.1, h10km, mb4.4/14, MS3.5/11, Error ellipse: s-maj=12.9km s-min=8.6km az=145.8*
*IDC **31** 16:46:40.2±0.6, 55°.37S×27°.47W, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.3/19, mbtmp4.4/12, MS3.5/11, Ms1 3.5/11, ms1mx3.5/20, Error ellipse: s-maj=18.1km s-min=17.1km az=88.0*
*NEIC **31** 16:46:43.4±3.9, 55°.41S×27°.41W, h21km±27km, mb4.6/9, Error ellipse: s-maj=10.1km s-min=7.2km az=219.0*
ISC 31 16:46:41.6±0.5, 55°.37S±0°.09×27°.5W±0°.1, h10km, n58, σ0s78/55, mb4.6/13, MS3.5/11, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.49**	**159**	*e*Pn	**P**	**16 50 47.7**	**+1.4**
VNA2	**Neumayer--Watz**	**17.89**	**158**	*e*Pn	**Pn**	**16 50 50.4**	**+0.3**
baz=318,slow=13							
VNA2	**Neumayer--Watz**	**17.89**	**158**	*e*P	**ScP**	**16 58 59.0**	**-1.6**
baz=332,slow=4.2							
SNAA	**Sanae**	**19.43**	**157**	*e*Pn	**P**	**16 51 07.0**	**-0.8**
SNAA	**Sanae**	**19.43**	**157**	*e*P	**ScP**	**16 59 02.2**	**-1.9**
SNAA	**Sanae**	**19.43**	**157**	*e*P	**P**	**16 51 06.9**	**-0.9**
12nm,0.7s							
PMSA	**Palmer Station**	**20.23**	**228**	*e*P	Pn	16 51 17.7	-0.7
20nm,0.9s							
PMSA	**Palmer Station**	**20.23**	**228**	P	**P**	**16 51 17.2**	**+0.8**
8.0nm,0.8s,baz=73,slow=8.1,SNR=11							
PMSA				LR	LR	16 57 05.1	
comp=Z,149nm,21.4s,baz=44,slow=31							
TRQA	**Tornquist**	**28.91**	**292**	*e*P	**P**	**16 52 42.2**	**+1.7**
PLCA	**Paso Flores**	**31.73**	**279**	*e*P	**P**	**16 53 04.8**	**-0.6**
6.1nm,1.1s							
PLCA	**Paso Flores**	**31.73**	**279**	P	**P**	**16 53 05.1**	**-0.4**
5.3nm,1.2s,baz=61,slow=21,SNR=4.0							
PLCA				LR	LR	17 05 15.0	
comp=Z,132nm,18.8s,baz=136,slow=35							
SYO	**Syowa Base**	**32.22**	**142**	*e*P	**P**	**16 53 10.5**	**+1.2**
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**16 53 32.6**	**-0.2**
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**16 53 32.6**	**-0.2**
8.3nm,0.7s,baz=195,slow=1.8,SNR=66							
CPUP	**Villa Florida**	**36.24**	**311**	P	**P**	**16 53 43.9**	**-0.7**
12nm,0.8s							
CPUP	**Villa Florida**	**36.24**	**311**	P	**P**	**16 53 43.3**	**-1.3**
0.4nm,0.3s,baz=161,slow=9.8,SNR=4.7							
CPUP				LR	LR	17 06 09.5	
comp=Z,69nm,21.2s,baz=137,slow=32							
MAW	**Mawson**	**40.80**	**144**	P	**P**	**16 54 22.3**	**-0.1**
MAW	**Mawson**	**40.80**	**144**	P	**P**	**16 54 22.3**	**-0.1**
3.8nm,0.6s,baz=228,slow=10,SNR=7.6							
MAW				LR	LR	17 10 56.6	
comp=Z,43nm,18.6s,baz=90,slow=36							
BDFB	**Brasilia**	**42.69**	**330**	LR	LR	17 08 34.4	
comp=Z,74nm,19.2s,baz=140,slow=31							
LVC	**Limon Verde**	**44.82**	**300**	*e*P	**P**	**16 54 56.2**	**+0.4**
6.8nm,0.8s							
BOSA	**Boshof**	**45.97**	**77**	*e*P	**P**	**16 55 04.9**	**+0.1**
5.2nm,0.8s							
BOSA	**Boshof**	**45.97**	**77**	P	**P**	**16 55 05.1**	**+0.3**
4.2nm,0.7s,baz=174,slow=12,SNR=8.1							
BOSA				LR	LR	17 10 02.8	
comp=Z,79nm,19.5s,baz=171,slow=30							
VNDA	**Vanda**	**47.25**	**183**	*e*P	**P**	**16 55 13.8**	**-0.3**
5.8nm,0.8s							
VNDA	**Vanda**	**47.25**	**183**	P	**P**	**16 55 14.6**	**+0.5**
5.7nm,0.7s,baz=184,slow=6.1,SNR=46							
VNDA				LR	LR	17 12 35.1	
comp=Z,33nm,18.6s,baz=47,slow=33							
LBTB	**Lobatse**	**48.97**	**74**	P	**P**	**16 55 27.8**	**-0.4**
LBTB	**Lobatse**	**48.97**	**74**	P	**P**	**16 55 27.8**	**-0.4**
4.5nm,0.7s,baz=228,slow=8.3,SNR=8.4							
LPAZ	**La Paz**	**49.85**	**305**	P	**P**	**16 55 36.8**	**+1.3**
LPAZ	**La Paz**	**49.85**	**305**	P	**P**	**16 55 36.8**	**+1.3**
3.6nm,0.6s,baz=157,slow=6.8,SNR=19							
LPAZ				LR	LR	17 15 30.4	
comp=Z,36nm,19.9s,baz=144,slow=35							
SAML	**Samuel**	**54.21**	**315**	*e*P	**P**	**16 56 07.2**	**-0.1**
10nm,1.3s							
DBIC	**Dimbokro**	**64.62**	**25**	P	**P**	**16 57 19.5**	**+0.4**
DBIC	**Dimbokro**	**64.62**	**25**	P	**P**	**16 57 19.5**	**+0.4**
1.6nm,0.6s,baz=152,slow=8.6,SNR=3.3							
DBIC				LR	LR	17 19 26.2	
comp=Z,27nm,18.6s,baz=254,slow=30							
ROSC	**El Rosal**	**71.34**	**310**	LR	LR	17 26 51.7	
comp=Z,46nm,20.5s,baz=242,slow=34							
TOA0	**Torodi Ar. Sit**	**72.54**	**30**	*e*P	**P**	**16 58 09.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**72.54**	**30**	P	**P**	**16 58 09.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.54**	**30**	P	**P**	**16 58 09.2**	**+0.7**
3.2nm,0.6s,baz=198,slow=6.3,SNR=36							
TORD				LR	LR	17 23 25.3	
comp=Z,47nm,19.4s,baz=150,slow=30							
SDV	**Santo Domingo**	**73.41**	**315**	*e*P	**P**	**16 58 14.5**	**+0.5**
4.9nm,0.8s							
ASAR	**Alice Springs**	**99.69**	**163**	P	**Pdif**	**17 00 25.4**	**-0.2**
ASAR	**Alice Springs**	**99.69**	**163**	P	**Pdif**	**17 00 25.4**	**-0.2**
0.6nm,1.0s,baz=183,slow=4.3,SNR=7.5							
NVAR	**Mina Array Bea**	**120.98**	**294**	PKP	**PKPdf**	**17 05 34.0**	**+0.2**
NVAR	**Mina Array Bea**	**120.98**	**294**	PKP	**PKPdf**	**17 05 34.0**	**+0.2**
0.4nm,0.7s,baz=139,slow=5.9,SNR=3.4							
FINES	**FINESS Array B**	**123.86**	**28**	PKP	**PKPdf**	**17 05 37.9**	**-0.4**
FINES	**FINESS Array B**	**123.86**	**28**	PKP	**PKPdf**	**17 05 37.9**	**-0.4**
3.2nm,0.9s,baz=228,slow=2.3,SNR=4.4							
ARCES	**ARCESS Array B**	**130.37**	**22**	PKP	**PKPdf**	**17 05 50.5**	**0.0**
ARCES	**ARCESS Array B**	**130.37**	**22**	PKP	**PKPdf**	**17 05 50.5**	**0.0**
4.5nm,1.0s,baz=187,slow=2.1,SNR=5.8							
BVAR	**Borovoye Array**	**134.55**	**57**	PKP	**PKPdf**	**17 05 59.7**	**+0.9**
BVAR	**Borovoye Array**	**134.55**	**57**	PKP	**PKPdf**	**17 05 59.7**	**+0.9**
1.2nm,0.8s,baz=258,slow=2.7,SNR=7.2							
YKA	**Yellowknife Ar**	**135.55**	**319**	PKP	**PKPdf**	**17 05 59.4**	**-1.0**
YKA	**Yellowknife Ar**	**135.55**	**319**	PKP	**PKPdf**	**17 05 59.4**	**-1.0**
1.9nm,0.8s,baz=106,slow=2.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**142.21**	**63**	PKP	**PKPdf**	**17 06 11.5**	**-1.4**
ZALV	**Zalesovo Beam**	**142.21**	**63**	PKP	**PKPdf**	**17 06 11.5**	**-1.4**
0.4nm,0.5s,baz=242,slow=3.1,SNR=2.6							
INK	**Inuvik**	**145.17**	**321**	*e*PKP	**PKPdf**	**17 06 17.6**	**0.0**
DAWY	**Dawson**	**146.21**	**313**	*e*PKPdf	**PKPbc**	**17 06 20.3**	**-0.4**
PAX	**Paxson**	**148.51**	**309**	*e*PKPbc	**PKPbc**	**17 06 27.2**	**0.0**
ILAR	**Eielson Array**	**149.54**	**313**	PKPbc	**PKPbc**	**17 06 29.2**	**-0.3**
ILAR	**Eielson Array**	**149.54**	**313**	PKPbc	**PKPbc**	**17 06 29.2**	**-0.3**
6.1nm,0.8s,baz=128,slow=1.7,SNR=57							
MCK	**McKinley**	**150.21**	**310**	*e*PKPbc	**PKPbc**	**17 06 31.6**	**+0.3**
SONM	**Songino Array**	**150.84**	**85**	PKPbc	**PKPbc**	**17 06 33.3**	**-0.1**
SONM	**Songino Array**	**150.84**	**85**	PKPbc	**PKPbc**	**17 06 33.3**	**-0.1**
5.3nm,0.8s,baz=218,slow=3.5,SNR=31							

---

*NSSC **31** 16:52:23.0±2.0, 33°.62N×35°.65E, h2km±9km, ML1.4*
*GRAL **31** 16:52:25.3±0.3, 33°.79N×35°.76E, h0km±28km, MD3.0*
CSEM 31 16:52:24.5±0.3, 33°.76N×35°.79E, h2km, ML3.0, Error ellipse: s-maj=9.4km s-min=4.3km az=76.0, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.19**	**323**	*e*P	Pg	16 52 27.9	-0.4
BHL	**Bhannes**	**0.19**	**323**	*e*P	Pg	16 52 27.9	-0.4
RCY	**Rachaya**	**0.26**	**172**	*e*P	Pg	16 52 30.5	+0.8
RCY				*e*S	Sg	16 52 34.5	+1.2
RCY	**Rachaya**	**0.26**	**172**	*e*P	Pg	16 52 30.5	+0.8
RCY				*e*S	Sg	16 52 34.5	+1.2
BRBR	**Barbar**	**0.37**	**159**	*e*P	Pg	16 52 28.2	-3.6
BRBR				*e*S	Sg	16 52 33.8	-3.1
BRBR	**Barbar**	**0.37**	**159**	*e*P	Pg	16 52 28.2	-3.7
SNR=96							
BRBR				*e*S	Sg	16 52 33.8	-3.0
SNR=59							
HWQ	**Hawqa**	**0.54**	**14**	*e*P	Pg	16 52 34.5	-0.5
HWQ				*e*S	Sg	16 52 41.3	-0.8
HWQ	**Hawqa**	**0.54**	**14**	*e*P	Pg	16 52 34.5	-0.5
HWQ				*e*S	Sg	16 52 41.3	-0.9
TOTH	**TOTAH**	**0.66**	**126**	*e*P	Pg	16 52 37.7	+0.4
TOTH				*e*S	Sb	16 52 47.3	-1.3
TOTH				AML	AML	16 52 56.9	
comp=N,19nm,0.4s							
TOTH				AML	AML	16 52 57.5	
comp=E,18nm,0.5s							
TOTH	**TOTAH**	**0.66**	**126**	*e*P	Pg	16 52 37.7	+0.4
SNR=75							
TOTH				*e*S	Sb	16 52 47.3	-1.3
comp=E,18nm,0.5s,SNR=59							
FKH	**Fakeheh**	**0.71**	**46**	*e*P	Pg	16 52 38.0	-0.4
FKH	**Fakeheh**	**0.71**	**46**	*e*P	Pg	16 52 38.0	-0.3
SALA	**Sala**	**1.31**	**143**	*e*P	Pg	16 52 48.4	-1.4
SALA				*e*S	Sg	16 53 04.7	-2.2
SALA

comp=Z,3.2nm,0.5s
AAK Ala-Archa 17.07 294 P **P 16 59 56.1 -0.1**
comp=Z,0.4nm,0.3s,baz=134,slow=6.6,SNR=4.5
KURBB Kurchatov Arra 17.90 322 P **Pn 17 00 04.4 -0.1**
comp=Z,0.2nm,0.3s,baz=133,slow=11,SNR=19
ZALV Zalesovo Beam 17.97 338 P **P 17 00 06.0 +0.2**
comp=Z,0.1nm,0.3s,baz=148,slow=11,SNR=4.5
ZALV LR LR 17 07 09.8
comp=Z,23nm,20.6s,baz=69,slow=37
CMAR Chiang Mai Arr 19.33 171 P **P 17 00 19.2 -1.7**
comp=Z,0.1nm,0.3s,baz=344,slow=9.4,SNR=8.8
CMAR LR LR 17 08 18.1
comp=Z,62nm,19.7s,baz=15,slow=39
KK31 Karatay Array 20.04 294 ⇑P Pn 17 00 30.1 -0.3
comp=Z,2.4nm,0.8s,baz=93,slow=9.6,SNR=21
VOSK Vostochnaya 22.95 319 ⇑P **P 17 01 00.6 +0.9**
comp=Z,2.6nm,0.6s
BVA0 Borovoye Array 23.41 319 ⇑P **P 17 01 05.8 +1.3**
comp=Z,2.1nm,0.8s,baz=106,slow=9.8,SNR=14
BVAR Borovoye Array 23.41 319 P **P 17 01 06.0 +1.6**
comp=Z,2.0nm,0.7s,baz=115,slow=9.7,SNR=15
BRVK Borovoye 23.49 319 ⇑P **P 17 01 04.6 -0.6**
comp=Z,4.2nm,0.7s
KSRS Korea Array 25.34 81 P **P 17 01 21.1 -1.3**
comp=Z,5.1nm,0.7s,baz=277,slow=9.7,SNR=22
KSRS LR LR 17 11 50.7
comp=Z,16nm,18.0s,baz=115,slow=38
AB31 Akbulak array 28.27 306 ⇑P **P 17 01 50.6 +1.8**
comp=Z,0.4nm,0.6s,baz=104,slow=7.9,SNR=5.3
NAY Al-Naaiem 41.06 273 *e*P **P 17 03 39.8 +0.6**
NAY AMb AMB 17 03 42.5
comp=Z,1.0nm,1.0s
RST Umm Al-Ruwaisa 41.15 273 *e*P **P 17 03 39.5 -0.4**
RST AMb AMB 17 03 43.7
comp=Z,148nm,0.8s
BRTR Keskin Array B 47.75 293 P **P 17 04 33.4 +0.6**
comp=Z,0.9nm,0.7s,baz=100,slow=6.7,SNR=7.5
FINES FINESS Array B 48.29 323 P **P 17 04 36.3 -0.2**
comp=Z,1.0nm,0.7s,baz=86,slow=7.1,SNR=4.0
ARCES ARCESS Array B 48.44 334 P **P 17 04 38.8 +1.3**
comp=Z,2.3nm,0.9s,baz=93,slow=10.0,SNR=4.5
NOA NORSAR Array B 55.42 324 P **P 17 05 31.7 +2.0**
comp=Z,0.6nm,0.7s,baz=92,slow=5.1,SNR=3.0
WRA Warramunga Arr 67.78 141 P **P 17 06 51.9 -1.7**
comp=Z,0.6nm,0.8s,baz=320,slow=8.2,SNR=5.0
ASAR Alice Springs 70.72 143 P **P 17 07 10.5 -1.2**
comp=Z,1.1nm,0.9s,baz=329,slow=6.0,SNR=11
ESDC Sonseca Array 73.60 308 P **P 17 07 29.5 +0.5**
comp=Z,0.4nm,0.5s,baz=54,slow=5.4,SNR=4.0
STKA Stephens Creek 81.28 142 P **P 17 08 10.2 -1.5**
comp=Z,4.8nm,1.1s,baz=266,slow=8.2,SNR=3.7
TORD Torodi Ar. Bea 85.35 283 P **P 17 08 33.6 +0.4**
comp=Z,0.2nm,0.4s,baz=43,slow=4.6,SNR=4.2

*IDC **31** 17:34:54.0±0.7, 0°.27S×132°.43E, h0km, mb4.2/13, mb1 4.4/16, mb1mx4.2/26, mbtmp4.3/16, ML4.3/3, MS3.7/12, Ms1 3.8/12, ms1mx3.5/32, Error ellipse: s-maj=27.3km s-min=12.7km az=72.0*
*BJI **31** 17:34:54.3, 0°.20S×132°.40E, h10km, mB5.0/3, mb5.1/3*
*DJA **31** 17:34:55.9±0.5, 0°S±6°×13°2E±°, h10km, M4.8/6, mb5.0/5, mB5.3/4, MLv4.7/6, Mw(mB)4.7/4*
*ISCJB **31** 17:34:57.4±0.4, 0°.25S±0°.05×132°.42E±0°.04, h33km, mb4.3/14, MS3.8/11, Error ellipse: s-maj=7.1km s-min=5.3km az=28.9*
*AUST **31** 17:35:00.1±1.3, 0°.41S×132°.50E, h37km, Error ellipse: s-maj=2.2km s-min=0.8km az=30.0*
ISC 31 17:34:59.2±0.6, 0°.33S±0°.06×132°.44E±0°.05, h33km, n63, σ1°57/56, mb4.3/14, MS3.7/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.29**	**246**	P	**Pn**	**17 35 19.4**	**-1.5**
SWI				S	**Sb**	**17 35 38.7**	**-0.6**
SWI	**Sorong**	**1.29**	**246**	P	**Pn**	**17 35 18.9**	**-2.0**
SWI	baz=1.3,SNR=165			S	**Sb**	**17 35 38.6**	**-0.6**
	baz=1.3,SNR=4.6						
RKPI	**Ransiki, Papua**	**2.10**	**124**	P	**Pn**	**17 35 32.9**	**+0.9**
FAKI	**Fak Fak**	**2.58**	**184**	P	**Pn**	**17 35 39.9**	**+1.2**
FAKI	**Fak Fak**	**2.58**	**184**	P	**Pn**	**17 35 39.4**	**+0.7**
	baz=2.5,SNR=469						
KMPI	**Kaimana, Papua**	**3.54**	**159**	P	**Pn**	**17 35 54.1**	**+2.2**
BAKI	**Biak**	**3.77**	**103**	P	**Pn**	**17 35 53.9**	**-1.1**
SRPI	**Serui, Papua**	**4.10**	**112**	P	**Pn**	**17 36 01.4**	**+1.8**
BNDI	**Bandanaira**	**4.87**	**211**	P	**Pn**	**17 36 11.2**	**+1.0**
BNDI	**Bandanaira**	**4.87**	**211**	P	**Pn**	**17 36 11.7**	**+1.5**
	baz=4.9,SNR=9.1						
LBMI	**Labuha**	**4.95**	**266**	P	**Pn**	**17 36 10.8**	**-0.5**
TNTI	**Ternate**	**5.19**	**282**	P	**Pn**	**17 36 14.8**	**+0.2**
	103nm,1.3s,2μm						
TLE	**Tual**	**5.28**	**177**	P	**Pn**	**17 36 17.4**	**+1.5**
	328nm,1.1s,3μm						
TLE	**Tual**	**5.28**	**177**	P	**Pn**	**17 36 17.3**	**+1.4**
	baz=5.2,SNR=39						
TLE				S	**Sn**	**17 37 17.1**	**+1.4**
	baz=5.2,SNR=8.3						
AAI	**Ambon**	**5.39**	**232**	P	**Pn**	**17 36 18.3**	**+0.9**
	265nm,0.9s,2μm						
AAI	**Ambon**	**5.39**	**232**	P	**Pn**	**17 36 18.4**	**+1.0**
	baz=5.4,SNR=23						
GTOI	**Gorontalo**	**9.48**	**276**	P	Pn	17 37 09.3	-4.2
LUWI	**Luwuk**	**9.69**	**266**	P	Pn	17 37 26.1	+10
LUWI	**Luwuk**	**9.69**	**266**	P	**Pn**	**17 37 17.2**	**+0.7**
	baz=9.7,SNR=3.1						
SKSI	**Soroako, Sulaw**	**11.31**	**259**	P	**Pn**	**17 37 38.6**	**-0.1**
KKSI	**Kolaka, Sulawe**	**11.43**	**250**	P	**Pn**	**17 37 43.0**	**+2.7**
KDU	**Kakadu**	**12.28**	**180**	P	**Pn**	**17 37 50.8**	**-1.0**
	baz=12,SNR=35						
KDU				S	**Sn**	**17 40 05.5**	**-2.1**
	baz=12,SNR=5.0						
SOEI	**Soe**	**12.40**	**221**	P	Pn	17 37 58.4	+4.7
SOEI	**Soe**	**12.40**	**221**	P	P	17 37 60.0	-5.3
	baz=12,SNR=4.4						
MTN	**Manton Dam**	**12.50**	**186**	P	**Pn**	**17 37 52.9**	**-2.0**
	baz=12,SNR=235						
BKSI	**Bulukumba**	**13.26**	**248**	P	P	17 38 10.0	-4.7
KAPI	**Kappang**	**13.50**	**250**	Pn	**Pn**	**17 38 09.2**	**+0.6**
	1.5nm,0.3s,baz=68,slow=15,SNR=5.0						
KNRA	**Kununurra**	**15.68**	**193**	P	**Pn**	**17 38 34.1**	**-3.7**
	baz=16,SNR=24						
KNRA				S	Sn	17 41 21.8	-8.7
	baz=16,SNR=3.9						
COEN	**Coen**	**17.21**	**142**	P	**P**	**17 38 59.3**	**+0.7**
	baz=17,SNR=8.8						
FITZ	**Fitzroy Crossi**	**18.88**	**200**	P	**P**	**17 39 14.9**	**-2.1**
	0.3nm,0.3s,baz=16,slow=9.2,SNR=14						
FITZ				S	Sn	17 42 34.9	-13
	0.2nm,0.3s,baz=212,slow=13,SNR=2.0						
FITZ				LR	LR	17 46 55.3	
	comp=Z,92nm,18.1s,baz=25,slow=38						
FITZ	**Fitzroy Crossi**	**18.88**	**200**	P	**Pn**	**17 39 20.5**	**+2.8**
	baz=19,SNR=4.0						
WRA	**Warramunga Arr**	**19.58**	**175**	P	**P**	**17 39 24.6**	**-0.1**
	1.3nm,0.3s,baz=355,slow=11,SNR=67						
WRA				S	S	17 42 54.0	-10
	0.3nm,0.3s,baz=355,slow=22,SNR=5.0						
JAGI	**Jajag, Banyuwa**	**19.93**	**246**	P	**Pn**	**17 39 29.7**	**-0.6**
	baz=20,SNR=7.5						
MTSU	**Mount Surprise**	**21.20**	**147**	P	**P**	**17 39 43.8**	**+1.6**
	baz=21,SNR=5.3						
KSM	**Kuching**	**22.20**	**275**	P	**P**	**17 39 55.6**	**+2.6**
	baz=22,SNR=5.1						
ASAR	**Alice Springs**	**23.24**	**177**	P	**P**	**17 40 03.8**	**0.0**
	16nm,0.8s,baz=347,slow=6.3,SNR=110						
ASAR				S	S	17 44 21.8	+7.9
	5.0nm,1.1s,baz=2.5,slow=22,SNR=9.2						
CTA	**Charters Tower**	**23.84**	**146**	P	**P**	**17 40 11.0**	**+1.4**
	4.9nm,0.7s,baz=341,slow=12,SNR=10						
CBIJ	**Chichi jima**	**28.84**	**18**	LR	LR	17 50 06.2	
	comp=Z,944nm,21.1s,baz=301,slow=32						
FORT	**Forrest**	**30.57**	**187**	P	**P**	**17 41 11.4**	**+1.5**
	baz=31,SNR=6.8						
STKA	**Stephens Creek**	**32.55**	**165**	P	**P**	**17 41 27.4**	**0.0**
	4.8nm,0.7s,baz=3.4,slow=6.7,SNR=17						
STKA				LR	LR	17 55 45.7	
	comp=Z,167nm,20.0s,baz=204,slow=38						
STKA	**Stephens Creek**	**32.55**	**165**	P	**P**	**17 41 27.2**	**-0.2**
	baz=33,SNR=17						
MORW	**Morawa**	**32.59**	**207**	P	**P**	**17 41 28.4**	**+0.6**
	baz=33,SNR=4.9						
CMSA	**Cobar Meteorol**	**33.48**	**159**	P	**P**	**17 41 35.6**	**+0.1**
	baz=34,SNR=6.1						
BLDU	**Ballidu**	**33.62**	**205**	P	**P**	**17 41 37.3**	**+0.5**
	baz=34,SNR=13						
PSI	**Prapat**	**33.65**	**276**	P	**P**	**17 41 36.5**	**-0.9**
	15nm,0.8s,baz=77,slow=4.3,SNR=11						
PSI	**Prapat**	**33.65**	**276**	P	**P**	**17 41 37.2**	**-0.2**
	baz=34,SNR=8.1						
KLBR	**Kellerberrin**	**34.06**	**203**	P	**P**	**17 41 41.2**	**+0.6**
	baz=34,SNR=8.2						
ARMA	**Armidale**	**35.05**	**150**	P	**P**	**17 41 49.6**	**+0.3**
	baz=35,SNR=4.5						
NWAO	**Narrogin (SRO)**	**35.45**	**202**	P	**P**	**17 41 52.6**	**+0.1**
	8.8nm,0.7s,baz=35,slow=8.6,SNR=6.5						
NWAO				LR	LR	17 58 20.6	
	comp=Z,191nm,18.4s,baz=181,slow=40						
KSRS	**Korea Array**	**37.83**	**354**	LR	LR	17 56 01.1	
	comp=Z,68nm,18.3s,baz=52,slow=34						
CMAR	**Chiang Mai Arr**	**37.84**	**301**	P	**P**	**17 42 12.3**	**-0.9**
	0.5nm,0.8s,baz=134,slow=7.7,SNR=5.4						
USRK	**Ussuriysk Arra**	**44.34**	**360**	LR	LR	18 01 11.7	
	comp=Z,69nm,18.7s,baz=346,slow=36						
HHC	**Hu-ho-hao-te**	**45.16**	**338**	*e*P	P	17 43 17.3	+4.3
HHC				S	**S**	**17 49 56.5**	**+5.9**
HHC				pmax	pmax		
	comp=Z,43nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,5.5s						
ASAJ	**Asahikawa**	**45.17**	**10**	LR	LR	17 59 37.5	
	comp=Z,63nm,19.3s,baz=163,slow=33						
SONM	**Songino Array**	**53.05**	**338**	P	**P**	**17 44 13.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=141,slow=9.3,SNR=2.7						
SONM				LR	LR	18 05 31.8	
	comp=Z,47nm,19.4s,baz=239,slow=35						
PETK	**Petropavlovsk-**	**57.27**	**18**	LR	LR	18 05 02.5	
	comp=Z,44nm,21.0s,baz=33,slow=32						
MKAR	**Makanchi Array**	**64.14**	**324**	P	**P**	**17 45 30.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=114,slow=8.2,SNR=16						
ZALV	**Zalesovo Beam**	**66.81**	**332**	P	**P**	**17 45 46.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=101,slow=6.3,SNR=4.9						
KURBB	**Kurchatov Arra**	**68.23**	**326**	P	**P**	**17 45 55.9**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=122,slow=5.8,SNR=16						
VNDA	**Vanda**	**78.75**	**174**	P	**P**	**17 46 58.6**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=319,slow=5.9,SNR=14						
VNDA				LR	LR	18 20 10.7	
	comp=Z,78nm,20.4s,baz=344,slow=34						
MAW	**Mawson**	**82.01**	**201**	P	**P**	**17 47 15.3**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=50,slow=7.9,SNR=3.3						
ILAR	**Eielson Array**	**86.31**	**25**	P	**P**	**17 47 36.0**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=250,slow=5.5,SNR=11						
ILAR				LR	LR	18 26 28.7	
	comp=Z,50nm,18.4s,baz=267,slow=36						
ARCES	**ARCESS Array B**	**96.19**	**340**	LR	LR	18 33 17.5	
	comp=Z,47nm,20.2s,baz=89,slow=36						

*NIED **31** 17:37:00,27°.50N×128°.60E, h41km, Mw4.1 Best double couple: M0=1.65000×10^15 NP1:φs=259.00000°, δ57.00000°, λ-127.00000°. NP2:φs=133.00000°, δ48.00000°, λ-47.00000°.*
*ISCJB **31** 17:37:26.7±0.3, 27°.54N±0°.05×128°.58E±0°.07, h46km±4km, mb3.8/14, MS3.0/3, Error ellipse: s-maj=12.8km s-min=3.8km az=38.5*
*IDC **31** 17:37:26.9±7.2, 27°.57N×128°.46E, h33km±56km, mb3.7/13, mb1 3.9/14, mb1mx3.8/26, mbtmp3.7/14, ML3.6/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/45, Error ellipse: s-maj=27.6km s-min=16.0km az=70.0*
*JMA **31** 17:37:27.2±0.1, 27°.51N×128°.61E, h39km±2km, M4.0*
JMA Felt II J1.
ISC 31 17:37:27.4±0.9, 27°.54N±0°.06×128°.58E±0°.07, h36km±1km, n31, σ0°93/36, mb3.8/14, MS2.9/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.42**	**53**	P	**Pn**	**17 37 36.6**	**-0.1**
JTK				*e*S	**Sn**	**17 37 42.8**	**-0.7**
JIH	**Iheya**	**0.74**	**228**	P	**Pn**	**17 37 41.4**	**+0.1**
JIH				S	**Sn**	**17 37 51.3**	**+0.1**
JOW	**Kunigami**	**0.75**	**201**	P	**Pn**	**17 37 41.0**	**-0.5**
JOW				*e*S	**Sn**	**17 37 50.7**	**-0.9**
JAMN	**Amaminishikomi**	**0.88**	**37**	P	**Pn**	**17 37 43.0**	**-0.3**
JAMN				S	**Sn**	**17 37 54.0**	**-0.9**
JAM	**Amami Oshima**	**1.26**	**46**	P	**Pn**	**17 37 48.6**	**+0.1**
JAM				*e*S	**Sn**	**17 38 03.4**	**-0.8**
JZK	**Kikaishima**	**1.46**	**58**	P	**Pn**	**17 37 53.0**	**+1.8**
JAGN	**Aguni-jima**	**1.52**	**232**	P	**Pn**	**17 37 52.2**	**+0.2**
JAGN				*e*S	**Sn**	**17 38 10.4**	**-0.1**
JJT2	**Tamagusuku 2**	**1.57**	**208**	P	**Pn**	**17 37 53.8**	**+1.0**
JJT2				*e*S	**Sn**	**17 38 12.2**	**+0.3**
JKE	**Kume jima 2**	**2.00**	**233**	P	**Pn**	**17 37 59.0**	**+0.3**
JKE				*e*S	**Sn**	**17 38 23.0**	**+0.6**
JNN	**Nakanoshima**	**2.57**	**26**	P	**Pn**	**17 38 06.5**	**0.0**
JNN				*e*S	**Sn**	**17 38 36.8**	**+0.4**
JKC	**Kuchinoerabu**	**3.24**	**26**	P	**Pn**	**17 38 16.3**	**+0.6**
JTN	**Tanegashima 3**	**3.75**	**34**	P	**Pn**	**17 38 24.2**	**+1.4**
JNU	**Nakatsue**	**5.91**	**19**	LR	LR	17 41 29.4	
	comp=Z,138nm,19.8s,baz=217,slow=41						
KSRS	**Korea Array**	**9.91**	**357**	Pn	Pn	17 39 52.5	+5.4
	0.1nm,0.3s,baz=176,slow=14,SNR=11						
KSRS				LR	LR	17 43 41.1	
	comp=Z,96nm,20.3s,baz=152,slow=38						
USRK	**Ussuriysk Arra**	**16.86**	**9**	LR	LR	17 47 06.3	
	comp=Z,55nm,20.1s,baz=97,slow=34						
ASAJ	**Asahikawa**	**20.03**	**31**	LR	LR	17 49 03.1	
	comp=Z,39nm,20.2s,baz=291,slow=35						
SONM	**Songino Array**	**26.64**	**325**	P	**P**	**17 43 05.2**	**+2.5**
	0.6nm,0.7s,baz=131,slow=9.8,SNR=5.3						
SONM				LR	LR	17 53 32.9	
	comp=Z,34nm,18.0s,baz=320,slow=36						
CMAR	**Chiang Mai Arr**	**28.68**	**258**	P	**P**	**17 43 21.7**	**+0.6**
	0.6nm,0.7s,baz=66,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**40.91**	**311**	P	**P**	**17 45 04.3**	**-1.9**
	0.4nm,0.7s,baz=108,slow=10,SNR=5.0						
ZALV	**Zalesovo Beam**	**41.41**	**322**	P	**P**	**17 45 09.0**	**-1.1**
	0.4nm,0.4s,baz=105,slow=11,SNR=2.9						
ZALV				LR	LR	18 04 26.7	
	comp=Z,41nm,18.0s,baz=339,slow=39						
KURBB	**Kurchatov Arra**	**44.13**	**315**	P	**P**	**17 45 30.8**	**-1.4**
	1.1nm,0.4s,baz=101,slow=9.1,SNR=18						
WRA	**Warramunga Arr**	**47.53**	**173**	P	**P**	**17 45 58.6**	**-0.7**
	2.2nm,0.6s,baz=353,slow=8.2,SNR=5.9						
ASAR	**Alice Springs**	**51.16**	**174**	P	**P**	**17 46 27.9**	**+0.8**
	0.9nm,0.6s,baz=8.0,slow=13,SNR=9.2						
STKA	**Stephens Creek**	**60.37**	**167**	P	**P**	**17 47 32.2**	**-0.7**
	1.8nm,0.8s,baz=307,slow=5.1,SNR=3.7						
ARCES	**ARCESS Array B**	**68.91**	**338**	P	**P**	**17 48 27.6**	**-0.6**
	2.5nm,0.9s,baz=70,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**71.88**	**330**	P	**P**	**17 48 45.7**	**-0.7**
	1.0nm,0.5s,baz=78,slow=4.6,SNR=8.8						
BRTR	**Keskin Array B**	**76.48**	**308**	P	**P**	**17 49 13.8**	**-0.1**
	1.1nm,0.6s,baz=106,slow=5.8,SNR=8.5						
NB2	**NORSAR Subarra**	**78.28**	**334**	P	**P**	**17 49 22.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=55,slow=6.2						
NOA	**NORSAR Array B**	**78.28**	**334**	P	**P**	**17 49 22.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=51,slow=5.3,SNR=4.6						
NVAR	**Mina Array Bea**	**89.38**	**46**	P	**P**	**17 50 21.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=308,slow=4.4,SNR=2.7						
PDAR	**Pinedale Array**	**91.95**	**39**	P	**P**	**17 50 33.5**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=54,slow=1.6,SNR=3.5						

JMA 31 17:38:48.1, 33°.37N×130°.92E, h11km, M0.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.25**	**188**	P	Pg	17 38 53.3	0.0
JNU				*e*S	Sg	17 38 56.7	-0.2
JNU	**Nakatsue**	**0.25**	**188**	Pn	Pg	17 38 53.0	-0.3
	1.6nm,0.3s,baz=0.9,slow=12,SNR=47						
JFA	**Akaike**	**0.36**	**343**	P	Pg	17 38 55.2	-0.1
JFA				*e*S	Sg	17 39 00.2	+0.2

JMA 31 17:48:33.6±0.4, 31°.89N×142°.25E, h18km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.39**	**301**	P	Pn	17 49 13.0	+1.2
JHJ2				S	Sn	17 49 41.8	+1.1
JHU	**Hanno**	**4.66**	**329**	P	Pn	17 49 46.3	+3.2
JHO	**Hitachi**	**4.91**	**344**	P	Pn	17 49 48.1	+1.6
JHO				*e*S	Sn	17 50 43.2	+0.3
JAG	**Ashikaga**	**5.08**	**334**	P	Pn	17 49 51.1	+2.2

*IDC **31** 17:52:21.2±2.3, 6°.75S×129°.85E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=102.7km s-min=27.6km az=77.0*

*ISCJB **31** 17:52:30.7±0.6, 7°.10S±0°.04×129°.91E±0°.06, h104km, mb3.3/1, Error ellipse: s-maj=8.4km s-min=5.6km az=23.3*
*AUST **31** 17:52:30.5, 6°.98S×130°.04E, h200km*
ISC 31 17:52:31.2±0.9, 7°.19S±0°.06×129°.85E±0°.07, h104km, n14, σ3°25/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.25**	**62**	P	**Pn**	**17 53 23.7**	**+3.2**
	baz=3.0,SNR=3.5						
TLE				S	**Sn**	**17 53 56.5**	**-2.0**
	baz=3.0,SNR=3.5						
FAKI	**Fak Fak**	**4.87**	**29**	P	**Pn**	**17 53 41.1**	**-1.2**
	baz=4.6,SNR=5.0						
MTN	**Manton Dam**	**5.76**	**167**	P	Pn	17 53 59.7	+5.3
	baz=6.0,SNR=15						
MTN				S	Sn	17 55 05.2	+6.0
	baz=6.0,SNR=4.9						
KDU	**Kakadu**	**6.04**	**155**	P	Pn	17 54 02.1	+3.9
	baz=6.2,SNR=60						
KDU				S	**Sn**	**17 55 09.1**	**+3.1**
	baz=6.2,SNR=6.8						
SOEI	**Soe**	**6.09**	**245**	P	Pn	17 54 04.5	+5.6
	baz=6.3,SNR=3.3						
SOEI				S	**Sn**	**17 55 11.3**	**+4.1**
	baz=6.3,SNR=3.5						
SWI	**Sorong**	**6.44**	**13**	P	**Pn**	**17 54 02.1**	**-1.4**
	baz=6.2,SNR=3.8						
KNRA	**Kununurra**	**8.51**	**187**	P	Pn	17 54 35.0	+3.4
	baz=8.8,SNR=14						
KNRA				S	**Sn**	**17 56 07.2**	**+1.3**
	baz=8.8,SNR=3.9						
LUWI	**Luwuk**	**9.33**	**311**	S	Sn	17 56 38.2	+12
	baz=9.4,SNR=9.6						
FITZ	**Fitzroy Crossi**	**11.60**	**200**	Pn	**Pn**	**17 55 14.2**	**+0.7**
	0.2nm,0.3s,baz=38,slow=14,SNR=17						
FITZ				Sn	**Sn**	**17 57 16.4**	**-4.7**
	0.3nm,0.3s,baz=55,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**11.60**	**200**	S	**Sn**	**17 57 16.5**	**-4.7**
	baz=12,SNR=3.9						
WRA	**Warramunga Arr**	**13.41**	**161**	Pn	**Pn**	**17 55 37.4**	**0.0**
	0.5nm,0.3s,baz=337,slow=14,SNR=28						
WRA				Sn	**Sn**	**17 58 00.6**	**-4.4**
	0.4nm,0.3s,baz=340,slow=18,SNR=8.1						
ASAR	**Alice Springs**	**16.84**	**167**	P	**P**	**17 56 24.4**	**+3.1**
	0.3nm,0.3s,baz=344,slow=9.9,SNR=38						
ASAR				S	**Sn**	**17 59 23.9**	**-4.1**
	0.1nm,0.3s,baz=348,slow=26,SNR=4.9						
PATS	**Pohnpei**	**31.62**	**64**	S	**S**	**18 03 46.3**	**-0.1**
	baz=31,SNR=3.2						
MKAR	**Makanchi Array**	**68.30**	**327**	P	**P**	**18 03 22.0**	**+0.8**
	0.5nm,0.9s,baz=111,slow=7.9,SNR=3.1						

IDC 31 18:13:17.0±49.0, 23°.07S×176°.58W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=913.7km s-min=160.4km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.95**	**247**	P	P	18 20 36.1	-0.3
	1.0nm,0.6s,baz=110,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**45.28**	**259**	P	P	18 21 36.8	0.0
	0.3nm,0.5s,baz=97,slow=7.1,SNR=18						
WRA	**Warramunga Arr**	**45.61**	**264**	P	P	18 21 39.2	-0.2
	0.6nm,0.6s,baz=102,slow=8.0,SNR=14						

GUC 31 18:42:11.8±0.6, 31°.42S×69°.50W, h150km, MD3.5, ML3.8, 4C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.56**	**216**	⇑*i*P	Pn	18 42 42.9	+0.8
JACH				*i*S	Sn	18 43 06.0	+0.6
TLL	**Tololo Astrono**	**1.68**	**318**	⇑*i*P	Pn	18 42 44.5	+0.8
TLL				*i*S	Sn	18 43 08.8	+0.7
PEL	**Peldehue**	**1.99**	**210**	⇑*i*P	Pn	18 42 47.0	+0.2
PEL				*i*S	Sn	18 43 14.1	+0.3
PEL				AML	AML	18 43 16.3	
	comp=E,650nm,0.1s						
ROCH	**El Roble**	**2.00**	**219**	⇓*i*P	Pn	18 42 47.5	+0.2
ROCH				*i*S	Sn	18 43 14.9	+0.4
ROCH				AML	AML	18 43 18.4	
	comp=N,500nm,0.4s						
PCH	**Pirque**	**2.35**	**201**	*i*P	Pn	18 42 51.9	+0.6
PCH				*i*S	Sn	18 43 22.4	+0.7
LCO	**Las Campanas**	**2.62**	**336**	*i*P	Pn	18 42 55.0	+0.2
LCO				*i*S	Sn	18 43 28.2	+0.3
LCO				AML	AML	18 43 31.5	
	comp=E,417nm,0.3s						
CACH	**El Canelo**	**2.84**	**199**	⇑*i*P	Pn	18 42 58.0	+0.7
CACH				*i*S	Sn	18 43 33.8	+1.3

IDC 31 18:53:37.7±5.1, 1°.69S×99°.23E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, Error ellipse: s-maj=256.4km s-min=23.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.81**	**120**	P	P	19 01 04.8	+0.1
	0.6nm,0.9s,baz=296,slow=9.3,SNR=5.4						
ASAR	**Alice Springs**	**40.06**	**126**	P	P	19 01 14.7	-0.3
	0.2nm,0.8s,baz=298,slow=6.9,SNR=7.4						
MKAR	**Makanchi Array**	**50.53**	**345**	P	P	19 02 38.0	+0.2
	0.4nm,0.6s,baz=146

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR				*e*		18 59 52.9	
	comp=Z,508nm,0.3s						
IPIR	**Pirpir**	**3.90**	**96**	*e*Pn	**Pn**	**18 59 04.4**	**+0.1**
NAY	**Al-Naaiem**	**4.03**	**168**	*e*P	**Pn**	**18 59 05.9**	**+0.2**
NAY				AML	AML	18 59 54.7	
	comp=Z,0.4nm,0.6s						
NAY	**Al-Naaiem**	**4.03**	**168**	*e*P	**Pn**	**18 59 05.9**	**+0.2**
IR5	**Iran Long-Peri**	**4.08**	**59**	*e*Pn	**Pn**	**18 59 06.7**	**+0.1**
IR5	**Iran Long-Peri**	**4.08**	**59**	*e*Pn	**Pn**	**18 59 06.7**	**+0.1**
GHVR	**GHOM**	**4.36**	**72**	*e*Pn	**Pn**	**18 59 09.6**	**-0.7**
RDF	**Al-Radifah**	**4.40**	**165**	*e*P	**Pn**	**18 59 11.3**	**+0.5**
RDF				AML	AML	19 00 04.5	
	comp=Z,13nm,0.5s						
RDF	**Al-Radifah**	**4.40**	**165**	*e*P	**Pn**	**18 59 11.3**	**+0.5**
IKLH	**Kolahrood**	**4.43**	**87**	*e*Pn	**Pn**	**18 59 10.9**	**-0.6**
IKLH				*e*		18 59 23.0	
	comp=Z,304nm,0.1s						
IKLH	**Kolahrood**	**4.43**	**87**	*e*Pn	**Pn**	**18 59 10.9**	**-0.6**
IGZV	**Ghazvin**	**4.53**	**44**	*e*Pn	**Pn**	**18 59 13.0**	**+0.2**
IGZV				*e*		18 59 29.9	
	comp=Z,223nm,0.2s						
IGZV	**Ghazvin**	**4.53**	**44**	*e*Pn	**Pn**	**18 59 13.0**	**+0.2**
ISRB	**Sarab**	**4.75**	**13**	*e*Pn	**Pn**	**18 59 16.4**	**+0.7**
ISRB				*e*		18 59 46.6	
	comp=Z,230nm,0.3s						
ISRB	**Sarab**	**4.75**	**13**	*e*Pn	**Pn**	**18 59 16.4**	**+0.7**
CHTH	**Charan**	**4.82**	**55**	*e*Pn	**Pn**	**18 59 16.4**	**-0.4**
IGAR	**Gharneh**	**4.91**	**98**	*e*Pn	**Pn**	**18 59 17.7**	**-0.3**
IGAR				*e*		19 00 18.1	
	comp=Z,304nm,0.2s						
IZEF	**Zefreh**	**5.08**	**92**	*e*Pn	**Pn**	**18 59 20.1**	**-0.3**
IZEF	**Zefreh**	**5.08**	**92**	*e*Pn	**Pn**	**18 59 20.1**	**-0.3**
ISHB	**Shabestar**	**5.10**	**354**	*e*Pn	**Pn**	**18 59 21.5**	**+0.9**
ISHB				*e*		18 59 43.4	
	comp=Z,283nm,0.2s						
ISHB	**Shabestar**	**5.10**	**354**	*e*Pn	**Pn**	**18 59 21.5**	**+0.9**

*NSSC **31** 19:12:32.4±1.5, 38°.10N×42°.69E, h0km±89km, ML3.9*
*IDC **31** 19:12:33.1±1.3, 37°.75N×42°.59E, h0km, mb3.6/4, mb1 3.6/10, mb1mx3.4/29, mbtmp3.5/10, MS2.8/3, Ms1 2.8/3, ms1mx2.4/36, Error ellipse: s-maj=21.0km s-min=14.0km az=145.0*
*DDA **31** 19:12:33.0, 38°.04N×42°.53E, h5km, ML3.4*
*CSEM **31** 19:12:33.9±0.1, 38°.02N×42°.64E, h5km, ML3.9, Error ellipse: s-maj=4.0km s-min=3.3km az=113.0*
*ISK **31** 19:12:34.0, 38°.02N×42°.55E, h8km, ML3.9*
*AZER **31** 19:12:34.3, 38°.11N×42°.14E, h0km*
*ISCJB **31** 19:12:34.1±0.6, 38°.03N±0°.02×42°.53E±0°.03, h4km±4km, mb3.5/4, MS2.7/3, Error ellipse: s-maj=4.0km s-min=3.0km az=43.0*

ISC 31 19:12:33.8±1.1, 38°.04N±0°.02×42°.58E±0°.02, h3km±8km, n105, σ1$24/126, mb3.6/4, MS2.6/3, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.47**	**54**	*i* P	**Pg**	**19 12 42.7**	**-0.1**
GEVA				*i* S	**Sg**	**19 12 50.6**	**+1.8**
GEVA	**Gevas**	**0.47**	**54**	*i* P	**Pg**	**19 12 42.7**	**-0.1**
GEVA				*i* S	**Sg**	**19 12 50.6**	**+1.8**
TATV	**Tatvan**	**0.53**	**332**	*i* P	**Pg**	**19 12 43.3**	**-0.6**
TATV				*i* S	**Sg**	**19 12 47.5**	**-3.3**
TATV	**Tatvan**	**0.53**	**332**	*i* P	**Pg**	**19 12 43.3**	**-0.6**
TATV				*i* S	**Sg**	**19 12 47.5**	**-3.3**
SIRT	**Sirnak**	**0.55**	**192**	*e*PG	**Pg**	**19 12 44.4**	**0.0**
SIRT				*e*SG	**Sg**	**19 12 52.7**	**+1.2**
SIRT	**Sirnak**	**0.55**	**192**	*e*Pg	**Pg**	**19 12 44.4**	**0.0**
SIRT				*e*Sg	**Sg**	**19 12 52.7**	**+1.2**
SIRN	**S¨–rnak**	**0.56**	**194**	*i* P	**Pg**	**19 12 44.5**	**0.0**
SIRN				*i* S	**Sg**	**19 12 53.5**	**+1.7**
SIRN	**S¨–rnak**	**0.56**	**194**	*i* P	**Pg**	**19 12 44.5**	**0.0**
SIRN				*i* S	**Sg**	**19 12 53.5**	**+1.7**
HAKT	**HAKKARI**	**1.02**	**118**	*e*P	**Pg**	**19 12 53.3**	**0.0**
HAKT				*i* S	**Sb**	**19 13 08.9**	**+0.9**
HAKT	**HAKKARI**	**1.02**	**118**	*e*P	**Pg**	**19 12 53.3**	**0.0**
HAKT				*i* S	**Sb**	**19 13 08.9**	**+0.9**
BEST	**Besiri**	**1.04**	**262**	*i* P	**Pb**	**19 12 54.6**	**0.0**
BEST				*i* S	**Sn**	**19 13 11.0**	**+0.4**
CUKT	**Cukurca**	**1.14**	**134**	*e*Pn	**Pg**	**19 12 55.2**	**-0.4**
CUKT				*e*SN	**Sn**	**19 13 13.0**	**+0.1**
CUKT	**Cukurca**	**1.14**	**134**	*e*Pn	**Pg**	**19 12 55.2**	**-0.4**
CUKT				*e*Sn	**Sn**	**19 13 13.0**	**+0.1**
TUTA	**Tutak**	**1.37**	**8**	*i* P	**Pn**	**19 12 58.7**	**-1.4**
TUTA				*i* S	**Sn**	**19 13 22.2**	**+3.3**
TUTA	**Tutak**	**1.37**	**8**	*i* P	**Pn**	**19 12 58.7**	**-1.4**
TUTA				*i* S	**Sn**	**19 13 22.2**	**+3.3**
BNGL	**BINGOL**	**1.44**	**310**	*i* P	**Pn**	**19 13 00.3**	**-0.7**
BNGL				*i* S	**Sn**	**19 13 23.0**	**+2.4**
CLDR	**Caldiran**	**1.52**	**43**	*e*PN	**Pn**	**19 13 02.2**	**+0.1**
CLDR	**Caldiran**	**1.52**	**43**	*e*Pn	**Pn**	**19 13 02.2**	**+0.1**
AGRB	**Hanur-Agry**	**1.57**	**12**	*e*PN	**Pn**	**19 13 03.0**	**+0.3**
AGRB	**Hanur-Agry**	**1.57**	**12**	*e*Pn	**Pn**	**19 13 03.0**	**+0.3**
MARD	**Mardin**	**1.60**	**244**	*i* P	**Pn**	**19 13 02.8**	**-0.3**
MARD				*i* S	**Sn**	**19 13 24.3**	**0.0**
BNGB	**Bing¨¶l**	**1.77**	**303**	*e*PN	**Pn**	**19 13 05.9**	**+0.5**
MAZI	**Mazidag**	**1.79**	**252**	*e*PN	**Pn**	**19 13 05.1**	**-0.6**
MAZI	**Mazidag**	**1.79**	**252**	*e*Pn	**Pn**	**19 13 05.1**	**-0.6**
BINT	**Bingol**	**1.84**	**298**	*e*Pn	**Pn**	**19 13 05.9**	**-0.5**
DIY	**Diyarbakir**	**1.86**	**266**	*e*PN	**Pn**	**19 13 06.3**	**-0.4**
DIY	**Diyarbakir**	**1.86**	**266**	*e*Pn	**Pn**	**19 13 06.3**	**-0.4**
KBSD	**Kabsdagh**	**1.92**	**238**	*e*P	**Pn**	**19 13 08.0**	**+0.5**
KBSD				*e*S	**Sb**	**19 13 33.4**	**-0.5**
KBSD				AML	AML	19 13 38.3	
	comp=Z,3μm,0.4s						
KBSD	**Kabsdagh**	**1.92**	**238**	*e*P	**Pn**	**19 13 07.9**	**+0.5**
	SNR=45						
KBSD				*e*S	**Sb**	**19 13 33.4**	**-0.5**
	comp=Z,3μm,0.4s,SNR=40						
DIYA	**Diyarbakir**	**1.94**	**267**	*i* P	**Pn**	**19 13 07.3**	**-0.5**
DIYA				*i* S	**Sn**	**19 13 33.5**	**+0.7**
DIYA	**Diyarbakir**	**1.94**	**267**	*i* P	**Pn**	**19 13 07.3**	**-0.5**
DIYA				*i* S	**Sn**	**19 13 33.5**	**+0.7**
HOMI	**Horasan**	**2.07**	**346**	*e*P	**Pb**	**19 13 12.7**	**+0.6**
HOMI				*i* S	**Sg**	**19 13 42.9**	**+2.6**
EZM	**Erzurum**	**2.09**	**333**	*e*PN	**Pn**	**19 13 11.3**	**+1.3**
SFNV	**Sufian**	**2.55**	**231**	*e*P	**Pn**	**19 13 16.9**	**+0.8**
SFNV				*e*S	**Sn**	**19 13 48.5**	**+0.8**
SFNV				AML	AML	19 14 05.8	
	comp=Z,1μm,0.5s						
SFNV	**Sufian**	**2.55**	**231**	*e*P	**Pn**	**19 13 16.9**	**+0.8**
	SNR=45						
SFNV				*e*S	**Sn**	**19 13 48.5**	**+0.8**
	comp=Z,1μm,0.5s,SNR=40						
NAX	**Nakhchivan**	**2.55**	**63**	⇑P	**Pb**	**19 13 19.6**	**-0.7**
	SNR=4.2						
NAX				⇓S	**Sg**	**19 13 56.8**	**+1.1**
NAX	**Nakhchivan**	**2.55**	**63**	P	**Pb**	**19 13 19.6**	**-0.7**
	SNR=4.2						
KARS	**Kars**	**2.61**	**8**	*e*PN	**Pn**	**19 13 17.9**	**+0.8**
KARS	**Kars**	**2.61**	**8**	*e*Pn	**Pn**	**19 13 17.9**	**+0.8**
PTK	**Pertek**	**2.64**	**290**	*e*PN	**Pn**	**19 13 17.7**	**+0.2**
PTK	**Pertek**	**2.64**	**290**	*e*Pn	**Pn**	**19 13 17.7**	**+0.2**
MZRK	**Al-Mazaregh**	**2.69**	**215**	*e*P	**Pn**	**19 13 19.7**	**+1.6**
MZRK				*e*S	**Sn**	**19 13 51.4**	**+0.2**
MZRK				AML	AML	19 14 10.3	
	comp=Z,314nm,0.4s						
MZRK	**Al-Mazaregh**	**2.69**	**215**	*e*P	**Pn**	**19 13 19.7**	**+1.6**
	SNR=45						
MZRK				*e*S	**Sn**	**19 13 51.4**	**+0.2**
	comp=Z,314nm,0.4s,SNR=40						
GNI	**Garni**	**2.70**	**38**	Pn	**Pb**	**19 13 22.0**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=256,slow=0.1,SNR=6.0						
GNI				Lg	Lg	19 14 06.7	
	comp=Z,2.6nm,0.3s,baz=343,slow=23,SNR=6.9						
ERZN	**Erzincan**	**2.71**	**306**	*e*PN	**Pn**	**19 13 19.4**	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**3.02**	**322**	*e*PN	**Pn**	**19 13 24.0**	**+1.4**
BAYT	**Ayd¨–ntepe-Bay**	**3.02**	**322**	*e*Pn	**Pn**	**19 13 24.0**	**+1.4**
URFA	**Urfa**	**3.04**	**260**	*e*PN	**Pn**	**19 13 23.0**	**+0.2**
URFA	**Urfa**	**3.04**	**260**	*e*Pn	**Pn**	**19 13 23.0**	**+0.2**
EZC	**Erzincan**	**3.04**	**305**	*e*Pn	**Pn**	**19 13 19.4**	**-3.6**
GUMT	**Gumushane**	**3.41**	**316**	*e*PN	**Pn**	**19 13 29.1**	**+1.1**
GUMT	**Gumushane**	**3.41**	**316**	*e*Pn	**Pn**	**19 13 29.1**	**+1.1**
ILIC	**ilic-Erzincan**	**3.44**	**295**	*e*PN	**Pn**	**19 13 29.7**	**+1.3**
ILIC	**ilic-Erzincan**	**3.44**	**295**	*e*Pn	**Pn**	**19 13 29.7**	**+1.3**
AKH	**Akhalkalaki**	**3.44**	**12**	P	**Pg**	**19 13 40.7**	**+1.0**
ATAB	**Bozova**	**3.44**	**262**	*e*P	Pn	19 13 22.8	-5.5
ATAB				*e*S	**Sg**	**19 14 28.0**	**+3.6**
BCA	**Borcka**	**3.48**	**348**	*e*PN	**Pn**	**19 13 30.3**	**+1.5**
BCA	**Borcka**	**3.48**	**348**	*e*Pn	**Pn**	**19 13 30.3**	**+1.5**
GANJ	**Ganja**	**3.90**	**47**	⇓P	Pn	19 13 38.5	+3.9
	SNR=5.3						
GANJ	**Ganja**	**3.90**	**47**	P	Pn	19 13 38.5	+3.9
	SNR=5.3						
DGRG	**David-gareji**	**4.03**	**31**	P	**Pb**	**19 13 42.7**	**-2.7**
DARE	**Darende-Malaty**	**4.04**	**279**	*e*PN	**Pn**	**19 13 38.0**	**+1.3**
TBLG	**Delisi**	**4.04**	**24**	P	**Pb**	**19 13 44.0**	**-1.7**
JHLN	**Al Jahlan**	**4.07**	**236**	*e*P	**Pn**	**19 13 37.8**	**+0.8**
JHLN				*e*S	**Sn**	**19 14 25.6**	**+0.4**
JHLN				AML	AML	19 14 47.9	
	comp=Z,646nm,0.6s						
JHLN	**Al Jahlan**	**4.07**	**236**	*e*P	**Pn**	**19 13 37.8**	**+0.8**
	SNR=45						
JHLN				*e*S	**Sn**	**19 14 25.6**	**+0.4**
	comp=Z,646nm,0.6s,SNR=40						
ESPY	**Espiye-Giresun**	**4.14**	**315**	*e*PN	**Pn**	**19 13 39.9**	**+2.0**
ESPY	**Espiye-Giresun**	**4.14**	**315**	*e*Pn	**Pn**	**19 13 39.9**	**+2.0**
SLMH	**Al Salmeh**	**4.14**	**245**	*e*P	**Pn**	**19 13 39.2**	**+1.3**
SLMH				*e*S	**Sn**	**19 14 27.1**	**+0.3**
SLMH				AML	AML	19 14 52.5	
	comp=Z,405nm,0.6s						
SLMH	**Al Salmeh**	**4.14**	**245**	*e*P	**Pn**	**19 13 39.2**	**+1.3**
	SNR=45						
SLMH				*e*S	**Sn**	**19 14 27.1**	**+0.3**
	comp=Z,405nm,0.6s,SNR=40						
KMRS	**Kahramanmaras**	**4.53**	**265**	*e*PN	**Pn**	**19 13 44.5**	**+1.2**
KMRS	**Kahramanmaras**	**4.53**	**265**	*e*Pn	**Pn**	**19 13 44.5**	**+1.2**
ONI	**Oni**	**4.59**	**8**	P	**Pn**	**19 13 43.7**	**-0.5**
ONI	**Oni**	**4.59**	**8**	P	**Pn**	**19 13 43.7**	**-0.5**
GLBA	**Clilabad**	**4.71**	**73**	⇓P	Pn	19 13 51.0	+5.3
	SNR=8.7						
SEKA	**Sheki**	**4.77**	**47**	⇑P	Pn	19 13 50.7	+4.1
	SNR=3.2						
SEKA	**Sheki**	**4.77**	**47**	P	Pn	19 13 50.7	+4.1
	SNR=3.2						
LKRN	**Lenkeran, Azer**	**4.92**	**80**	⇓P	Pn	19 13 52.9	+4.3
	SNR=4.2						
LKRN	**Lenkeran, Azer**	**4.92**	**80**	P	Pn	19 13 52.9	+4.3
	SNR=4.2						
BHD	**Baghdad**	**4.98**	**162**	*e*Pn	Pn	19 13 42.0	-7.5
BHD				*i* Sn	Sn	19 14 35.5	-12
BTCH	**Batrach**	**5.29**	**250**	*e*P	**Pn**	**19 13 53.6**	**-0.1**
BTCH				*e*S	**Sn**	**19 14 54.9**	**-0.3**
BTCH				AML	AML	19 15 29.1	
	comp=E,452nm,0.6s						
BTCH				AML	AML	19 15 42.2	
	comp=N,216nm,0.5s						
BTCH	**Batrach**	**5.29**	**250**	*e*P	**Pn**	**19 13 53.6**	**-0.1**
	SNR=45						
BTCH				*e*S	**Sn**	**19 14 54.9**	**-0.3**
	comp=N,216nm,0.5s,SNR=40						
KFRA	**Kufra**	**5.44**	**240**	*e*P	**Pn**	**19 13 56.9**	**+1.0**
KFRA				*e*S	**Sn**	**19 14 58.0**	**-0.9**
KFRA				AML	AML	19 15 30.6	
	comp=N,657nm,0.8s						
KFRA				AML	AML	19 15 38.2	
	comp=E,818nm,0.7s						
KFRA	**Kufra**	**5.44**	**240**	*e*P	**Pn**	**19 13 56.8**	**+1.0**
	SNR=45						
KFRA				*e*S	**Sn**	**19 14 58.0**	**-0.9**
	comp=E,818nm,0.7s,SNR=40						
WRDH	**Warideh**	**5.56**	**245**	*e*P	**Pn**	**19 13 57.8**	**+0.4**
WRDH	**Warideh**	**5.56**	**245**	*e*P	**Pn**	**19 13 57.8**	**+0.4**
	SNR=45						
KBZ	**Khabaz**	**5.69**	**2**	Pn	Pn	19 14 06.5	+7.3
	comp=E,0.1nm,0.3s,baz=163,slow=11,SNR=1.7						
BRTR	**Keskin Array B**	**7.17**	**286**	Pn	**Pn**	**19 14 21.2**	**+1.5**
	comp=E,0.1nm,0.3s,baz=108,slow=16,SNR=6.3						
ASF	**Jabal al Asfar**	**7.48**	**220**	Pn	**Pn**	**19 14 24.2**	**+0.4**
	comp=E,0.5nm,0.3s,baz=338,slow=16,SNR=3.6						
ASF				Lg	Lg	19 16 32.3	
	comp=E,1.5nm,0.3s,baz=146,slow=21,SNR=4.1						
MMAI	**Mount Meron Ar**	**7.70**	**232**	Pn	**Pn**	**19 14 26.1**	**-0.8**
	comp=E,0.2nm,0.3s,baz=58,slow=16,SNR=2.5						
MMAI				Lg	Lg	19 16 32.7	
	comp=E,1.3nm,0.3s,baz=33,slow=19,SNR=2.9						
UMR	**Umm Al-Rimmam**	**9.48**	**152**	*e*P	**Pn**	**19 14 49.6**	**-1.7**
UMR	**Umm Al-Rimmam**	**9.48**	**152**	*e*P	**Pn**	**19 14 49.6**	**-1.7**
NAY	**Al-Naaiem**	**9.59**	**155**	*e*P	**Pn**	**19 14 50.7**	**-2.0**
NAY				AML	AML	19 16 43.1	
	comp=Z,0.2nm,0.5s						
NAY	**Al-Naaiem**	**9.59**	**155**	*e*P	**Pn**	**19 14 50.7**	**-2.0**
RDF	**Al-Radifah**	**9.99**	**154**	*e*P	**Pn**	**19 14 56.7**	**-1.5**
RDF	**Al-Radifah**	**9.99**	**154**	*e*P	**Pn**	**19 14 56.7**	**-1.5**
EIL	**Elat**	**10.48**	**219**	Lg	Lg	19 18 05.2	
	comp=Z,0.1nm,0.3s,baz=330,slow=20,SNR=1.8						
AKASG	**Malin Array Be**	**15.82**	**327**	Pn	**P**	**19 16 19.6**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=135,slow=10,SNR=4.7						
AKTO	**Aktyubinsk**	**16.57**	**37**	Pn	**Pn**	**19 16 27.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=236,slow=12,SNR=6.3						
VRAC	**Vranov**	**21.80**	**309**	LR	LR	19 27 50.3	
	comp=Z,23nm,20.5s,baz=353,slow=42						
GERES	**GERESS Array B**	**23.45**	**307**	P	**P**	**19 17 44.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=96,slow=7.0,SNR=4.1						
FINES	**FINESS Array B**	**25.59**	**342**	P	**P**	**19 18 04.2**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=142,slow=16,SNR=4.4						
HFS	**Hagfors**	**28.68**	**330**	LR	LR	19 29 26.7	
	comp=Z,26nm,21.8s,baz=116,slow=35						
NOA	**NORSAR Array B**	**30.21**	**330**	LR	LR	19 32 25.9	
	comp=Z,14nm,19.7s,baz=130,slow=39						
MKAR	**Makanchi Array**	**30.32**	**60**	P	**P**	**19 18 47.9**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=264,slow=7.8,SNR=6.3						
CMAR	**Chiang Mai Arr**	**52.54**	**95**	P	**P**	**19 21 48.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=298,slow=8.2,SNR=5.9						

IDC 31 19:18:37.0±1.4, 4°.50N×127°.34E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=96.1km s-min=18.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.52**	**184**	P	P	19 23 38.5	0.0
	0.7nm,0.5s,baz=0.1,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**25.25**	**164**	P	P	19 24 04.9	0.0
	1.4nm,0.7s,baz=344,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.72**	**167**	P	P	19 24 37.4	+1.2
	0.3nm,0.9s,baz=348,slow=7.2,SNR=5.6						
STKA	**Stephens Creek**	**38.64**	**160**	P	P	19 26 01.1	-1.1
	2.6nm,1.1s,baz=344,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	19 28 25.8	-0.8
	0.3nm,0.5s,baz=116,slow=8.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**61.43**	**327**	P	P	19 28 55.7	+0.7
	0.5nm,0.7s,baz=128,slow=5.8,SNR=6.5						

*TAP **31** 19:24:02.4, 24°.12N×122°.35E, h25km, ML2.9, C*
*ISCJB **31** 19:24:03.5±0.4, 24°.08N±0°.03×122°.29E±0°.02, h20km±5km, Error ellipse: s-maj=4.5km s-min=2.6km az=161.0*
*JMA **31** 19:24:05.2±0.2, 24°.65N×122°.31E, h48km, M2.1*

ISC 31 19:24:02.9±1.1, 24°.09N±0°.03×122°.30E±0°.02, h24km±13km, n36, σ0$89/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.61**	**304**	*e*P	**Pb**	**19 24 14.5**	**-0.4**
	baz=299						
ENA				*e*S	**Sb**	**19 24 23.4**	**+0.3**
	baz=299						
TWD	**Chiawan**	**0.64**	**269**	*e*P	**Pb**	**19 24 15.7**	**+0.2**
	baz=267						
TWD				*e*S	**Sn**	**19 24 25.3**	**-0.6**
	baz=267						
TWC	**Suao**	**0.66**	**322**	P	**Pb**	**19 24 15.0**	**-0.7**
	baz=317						
TWC				*e*S	**Sb**	**19 24 23.0**	**-1.5**
	baz=317						
YOJ	**Yonaguni jima**	**0.75**	**60**	P	**Pn**	**19 24 18.4**	**+0.5**
YOJ				*e*S	**Sn**	**19 24 27.9**	**-0.6**
ESL	**Shilin**	**0.84**	**251**	*e*P	**Pb**	**19 24 18.6**	**-0.2**
	baz=242						
ESL				*e*S	**Sn**	**19 24 31.1**	**+0.3**
	baz=242						
TWE	**Neicheng**	**0.85**	**318**	P	**Pn**	**19 24 18.7**	**-0.6**
	baz=313						
TWE				S	**Sn**	**19 24 30.6**	**-0.5**
	baz=313						
ENTT	**Nioudou**	**0.86**	**309**	*i* P	**Pn**	**19 24 19.2**	**-0.3**
	baz=305						
ENTT				*e*S	**Sn**	**19 24 31.2**	**-0.2**
	baz=305						
NNS	**Nan Shan**	**0.91**	**293**	*e*P	**Pb**	**19 24 20.1**	**0.0**
	baz=289						
NNS				*e*S	**Sb**	**19 24 32.3**	**+0.4**
	baz=289						
WHF	**Hehuan Shan**	**0.94**	**273**	P	Pn	**19 24 20.8**	**-0.2**
	baz=260						
WHF				*e*S	**Sb**	**19 24 32.5**	**-0.6**
	baz=260						
TWB1	**Santiao Chiao**	**0.96**	**343**	*e*P	**Pb**	**19 24 20.2**	**-0.5**
	baz=354						
TWB1				*e*S	**Sn**	**19 24 33.3**	**-0.4**
	baz=354						
NSK	**Sanguang**	**1.04**	**304**	P	**Pb**	**19 24 22.1**	**-0.1**
	baz=287						
NSK				*e*S	**Sn**	**19 24 36.2**	**+0.4**
	baz=287						
TWT	**Tachien**	**1.04**	**279**	*e*P	**Pb**	**19 24 23.0**	**+0.8**
	baz=276						
TWT				*e*S	**Sn**	**19 24 37.5**	**+1.5**
	baz=276						
EHY	**Hungye**	**1.07**	**237**	*e*P	**Pb**	**19 24 22.9**	**+0.2**
	baz=238						
EHY				*e*S	**Sn**	**19 24 36.2**	**-0.2**
	baz=238						
NWF	**Wu-fen Shan**	**1.08**	**334**	*e*P	**Pb**	**19 24 22.9**	**-0.1**
	baz=329						
NWF				*e*S	**Sn**	**19 24 37.8**	**+0.8**
	baz=329						
TWA	**Mucha**	**1.10**	**324**	*e*P	**Pb**	**19 24 23.0**	**-0.2**
	baz=328						
TWA				*e*S	**Sb**	**19 24 38.2**	**+1.1**
	baz=328						
TWF1	**Yuli**	**1.18**	**231**	*e*P	**Pb**	**19 24 24.4**	**-0.1**
	baz=249						
TWF1				*e*S	**Sn**	**19 24 38.9**	**-0.3**
	baz=249						
TWS1	**Kuangyinshan**	**1.29**	**322**	*e*P	**Pb**	**19 24 26.7**	**+0.3**
	baz=334						
SMLT	**Sun Moon Lake**	**1.29**	**261**	*e*P	**Pn**	**19 24 26.0**	**+0.4**
	baz=250						
SMLT				*e*S	**Sb**	**19 24 43.4**	**+0.5**
	baz=250						
NSTT	**Nanjuang**	**1.30**	**295**	*e*P	**Pb**	**19 24 26.6**	**-0.1**
	baz=291						
NSTT				*e*S	**Sb**	**19 24 44.6**	**+1.8**
	baz=291						
CHKT	**Chengkung**	**1.31**	**221**	*e*P	**Pn**	**19 24 24.7**	**-0.9**
	baz=222						
IRIF	**Iriomote-Funau**	**1.33**	**79**	P	**Pb**	**19 24 27.6**	**+0.5**
IRIF				*e*S	**Sb**	**19 24 44.4**	**+0.7**
TYC	**Yuchr**	**1.33**	**262**	*e*P	**Pb**	**19 24 26.9**	**-0.2**
	baz=262						
TYC				*e*S	**Sb**	**19 24 44.7**	**+0.9**
	baz=262						
YUS	**Yu-Shan**	**1.37**	**244**	*e*P	**Pn**	**19 24 27.6**	**+0.6**
	baz=245						
YUS				*e*S	**Sn**	**19 24 44.2**	**-0.4**
	baz=245						
HATJ	**Hateruma jima**	**1.38**	**91**	P	Pb	19 24 30.1	+2.1
HATJ				*e*S	**Sb**	**19 24 48.5**	**+3.4**
ELDTW	**Lidau**	**1.48**	**233**	*e*P	**Pn**	**19 24 27.8**	**-0.4**
	baz=234						
ALS	**Alishan**	**1.48**	**247**	*e*P	**Pb**	**19 24 29.4**	**-0.5**
	baz=248						
ALS				*e*S	**Sn**	**19 24 48.0**	**+0.8**
	baz=248						
CHN5	**Tsauling**	**1.56**	**252**	*e*P	**Pb**	**19 24 30.5**	**-0.7**
	baz=242						
CHN5				*e*S	**Sb**	**19 24 50.8**	**+0.3**
	baz=242						
JKRS	**Kuro-shima**	**1.57**	**84**	P	**Pb**	**19 24 31.7**	**+0.5**
JKRS				*e*S	**Sb**	**19 24 51.6**	**+0.9**
WGK	**Gukeng**	**1.64**	**256**	*e*P	**Pb**	**19 24 31.5**	**-0.9**
	baz=256						
WGK				*e*S	**Sb**	**19 24 52.9**	**+0.3**
	baz=256						
TWG	**Pinlang**	**1.69**	**222**	*e*P	**Pn**	**19 24 30.8**	**-0.2**
	baz=236						
TWG				*e*S	**Sn**	**19 24 51.4**	**-0.5**
	baz=236						
JIJ	**Ishigaki jima**	**1.71**	**80**	P	**Pb**	**19 24 32.6**	**-0.9**
JIJ				*e*S	**Sb**	**19 24 52.8**	**-1.8**
CHN4	**Tsaushan**	**1.73**	**245**	*e*P	**Pb**	**19 24 32.6**	**-1.3**
	baz=236						
CHN4				*e*S	**Sn**	**19 24 54.3**	**+1.5**
	baz=236						
CHN1	**Nanshi**	**1.86**	**241**	*e*P	**Pb**	**19 24 35.8**	**-0

CHOS	**Chios island**	**1.44 243**	*e*Pn	**Pn**	**19 44 19.2**	**-0.6**
CHOS	**Chios island**	**1.44 243**	P	**Pn**	**19 44 19.5**	**-0.3**
CHOS			S	**Sg**	**19 44 39.9**	**+0.3**
CHOS			*e*Sn	**Sg**	**19 44 41.5**	**+1.9**
LPK	**Lapseki**	**1.50 332**	*e*PN	**Pn**	**19 44 20.6**	**0.0**
LPK	**Lapseki**	**1.50 332**	*e*Pn	**Pn**	**19 44 20.6**	**0.0**
SMG	**Samos**	**1.50 207**	P	**Pn**	**19 44 20.9**	**+0.3**
SMG	**Samos**	**1.50 207**	*e*PN	**Pn**	**19 44 20.3**	**-0.3**
SMG			*e*SN	**Sg**	**19 44 42.0**	**+0.4**
SMG	**Samos**	**1.50 207**	*e*Pn	**Pn**	**19 44 20.3**	**-0.3**
SMG	**Samos**	**1.50 207**	P	**Pn**	**19 44 20.9**	**+0.3**
SMG			*e*Sn	**Sg**	**19 44 42.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.61 35**	*e*PN	**Pn**	**19 44 21.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.61 35**	*e*Pn	**Pn**	**19 44 21.8**	**-0.3**
KHL	**Karahalli**	**1.61 116**	*e*PN	**Pn**	**19 44 22.2**	**-0.1**
KHL	**Karahalli**	**1.61 116**	*e*Pn	**Pn**	**19 44 22.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.63 326**	*e*PN	**Pn**	**19 44 22.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.63 326**	*e*Pn	**Pn**	**19 44 22.4**	**-0.1**
DENT	**Denizli**	**1.68 140**	*e*PN	**Pn**	**19 44 22.8**	**-0.3**
DENT	**Denizli**	**1.68 140**	*e*Pn	**Pn**	**19 44 22.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.68 347**	*e*PN	**Pn**	**19 44 22.9**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.68 347**	*e*Pn	**Pn**	**19 44 22.9**	**-0.3**
MLSB	**Milas**	**1.76 178**	*e*PN	**Pn**	**19 44 24.1**	**-0.1**
MLSB	**Milas**	**1.76 178**	*e*Pn	**Pn**	**19 44 24.1**	**-0.1**
MFT	**Murefte**	**1.76 350**	*e*PN	**Pn**	**19 44 24.6**	**+0.3**
MFT	**Murefte**	**1.76 350**	*e*Pn	**Pn**	**19 44 24.6**	**+0.3**
ARMT	**Armutlu**	**1.76 31**	*e*PN	**Pn**	**19 44 24.1**	**-0.2**
ARMT	**Armutlu**	**1.76 31**	*e*Pn	**Pn**	**19 44 24.1**	**-0.2**
TKR	**Tekirdag**	**1.94 357**	*e*PN	**Pn**	**19 44 27.3**	**+0.7**
TKR	**Tekirdag**	**1.94 357**	*e*Pn	**Pn**	**19 44 27.3**	**+0.7**
YER	**Yerkesik**	**1.97 166**	*e*PN	**Pn**	**19 44 26.5**	**-0.7**
YER	**Yerkesik**	**1.97 166**	*e*Pn	**Pn**	**19 44 26.5**	**-0.7**
YLV	**Yalova**	**2.00 40**	*e*PN	**Pb**	**19 44 28.6**	**-1.4**
YLV	**Yalova**	**2.00 40**	*e*Pn	**Pb**	**19 44 28.6**	**-1.4**
BODT	**Bodrum**	**2.01 189**	*e*PN	**Pn**	**19 44 27.0**	**-0.7**
BODT	**Bodrum**	**2.01 189**	*e*Pn	**Pn**	**19 44 27.0**	**-0.7**
CAVI	**Cavuskoy**	**2.02 55**	*e*PN	**Pn**	**19 44 28.2**	**+0.3**
CAVI	**Cavuskoy**	**2.02 55**	*e*Pn	**Pn**	**19 44 28.2**	**+0.3**
LIA	**Limnos Island**	**2.11 294**	P	**Pn**	**19 44 29.2**	**+0.2**
LIA			S	**Sb**	**19 44 57.1**	**-1.2**
LIA	**Limnos Island**	**2.11 294**	*e*PB	**Pn**	**19 44 28.9**	**-0.1**
LIA	**Limnos Island**	**2.11 294**	*e*Pb	**Pn**	**19 44 28.9**	**-0.1**
LIA	**Limnos Island**	**2.11 294**	P	**Pn**	**19 44 29.2**	**+0.2**
LIA			S	**Sb**	**19 44 57.1**	**-1.2**
SMTH	**Samothraki Isl**	**2.18 311**	P	**Pn**	**19 44 30.0**	**-0.1**
SMTH	**Samothraki Isl**	**2.18 311**	*e*PN	**Pn**	**19 44 29.9**	**-0.1**
SMTH	**Samothraki Isl**	**2.18 311**	P	**Pn**	**19 44 30.0**	**-0.1**
SLVT	**Silivri**	**2.21 10**	*e*PN	**Pn**	**19 44 31.1**	**+0.7**
SLVT	**Silivri**	**2.21 10**	*e*Pn	**Pn**	**19 44 31.1**	**+0.7**
ALN	**Alexandroupoli**	**2.23 326**	*e*PN	**Pn**	**19 44 30.3**	**-0.4**
ALN	**Alexandroupoli**	**2.23 326**	*e*Pn	**Pn**	**19 44 30.3**	**-0.4**
CTKS	**Kestanelik-??a**	**2.27 16**	*e*PN	**Pn**	**19 44 31.7**	**+0.5**
CTKS	**Kestanelik-??a**	**2.27 16**	*e*Pn	**Pn**	**19 44 31.7**	**+0.5**
ISK	**Istanbul-Kandi**	**2.27 27**	*e*PN	**Pn**	**19 44 32.1**	**+0.9**
ISK	**Istanbul-Kandi**	**2.27 27**	*e*Pn	**Pn**	**19 44 32.1**	**+0.9**
BGKT	**Bogazkoy**	**2.28 21**	*e*PN	**Pn**	**19 44 32.4**	**+1.0**
BGKT	**Bogazkoy**	**2.28 21**	*e*Pn	**Pn**	**19 44 32.4**	**+1.0**
DAT	**Datca**	**2.32 182**	*e*PN	**Pn**	**19 44 32.4**	**+0.4**
DAT	**Datca**	**2.32 182**	*e*Pn	**Pn**	**19 44 32.4**	**+0.4**
HRT	**Hereke**	**2.33 40**	*e*PN	**Pn**	**19 44 33.0**	**+0.8**
HRT	**Hereke**	**2.33 40**	*e*Pn	**Pn**	**19 44 33.0**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.36 161**	*e*PN	**Pn**	**19 44 33.0**	**+0.5**
DALY	**Dalyan (Mu¨la**	**2.36 161**	*e*Pn	**Pn**	**19 44 33.0**	**+0.5**
GPA	**Golpazari**	**2.37 58**	*e*PN	**Pn**	**19 44 33.2**	**+0.5**
GPA	**Golpazari**	**2.37 58**	*e*Pn	**Pn**	**19 44 33.2**	**+0.5**
KLYT	**Kilyos**	**2.43 25**	*e*PN	**Pn**	**19 44 34.6**	**+1.1**
KLYT	**Kilyos**	**2.43 25**	*e*Pn	**Pn**	**19 44 34.6**	**+1.1**
CTYL	**Yal??k??y-??at**	**2.46 11**	*e*PN	**Pn**	**19 44 34.7**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.46 11**	*e*Pn	**Pn**	**19 44 34.7**	**+0.8**
ESKT	**Eskisehir**	**2.50 78**	*e*PN	**Pn**	**19 44 34.7**	**+0.1**
ESKT	**Eskisehir**	**2.50 78**	*e*Pn	**Pn**	**19 44 34.7**	**+0.1**
ISP	**Isparta**	**2.55 118**	‖*i*P	**Pg**	**19 44 41.9**	**-0.3**
ISP	**Isparta**	**2.55 118**	S	**Sg**	**19 45 19.6**	**+4.4**
SILT	**Sile**	**2.58 35**	*e*PN	**Pn**	**19 44 36.1**	**+0.6**
SILT	**Sile**	**2.58 35**	*e*Pn	**Pn**	**19 44 36.1**	**+0.6**
GULT	**Gulveren**	**2.58 57**	*e*PN	**Pn**	**19 44 36.6**	**+1.0**
GULT	**Gulveren**	**2.58 57**	*e*Pn	**Pn**	**19 44 36.6**	**+1.0**
SPNC	**Sapanca-Adapaz**	**2.60 50**	*e*PN	**Pn**	**19 44 36.3**	**+0.6**
SPNC	**Sapanca-Adapaz**	**2.60 50**	*e*Pn	**Pn**	**19 44 36.3**	**+0.6**
APE	**Apeiranthos**	**2.61 221**	P	**Pn**	**19 44 36.1**	**+0.1**
APE	**Apeiranthos**	**2.61 221**	‖*i*P	**Pg**	**19 44 43.7**	**+0.3**
APE	**Apeiranthos**	**2.61 221**	S	**Sg**	**19 45 20.5**	**+3.3**
APE	**Apeiranthos**	**2.61 221**	P	**Pn**	**19 44 36.1**	**+0.1**
FETY	**Fethiye**	**2.66 155**	*e*PN	**Pn**	**19 44 36.2**	**-0.4**
FETY	**Fethiye**	**2.66 155**	*e*Pn	**Pn**	**19 44 36.2**	**-0.4**
RDO	**Rodhopi**	**2.66 322**	P	**Pn**	**19 44 37.0**	**+0.6**
RDO	**Rodhopi**	**2.66 322**	*e*PB	**Pn**	**19 44 37.0**	**+0.4**
RDO	**Rodhopi**	**2.66 322**	*e*Pb	**Pn**	**19 44 37.0**	**+0.4**
BCK	**Bucak**	**2.79 124**	*e*PN	**Pn**	**19 44 38.8**	**+0.4**
BCK	**Bucak**	**2.79 124**	*e*Pn	**Pn**	**19 44 38.8**	**+0.4**
ARG	**Arkhangelos**	**2.85 173**	*e*PN	**Pn**	**19 44 38.2**	**-1.1**
ARG	**Arkhangelos**	**2.85 173**	*e*Pn	**Pn**	**19 44 38.2**	**-1.1**
EDRB	**Edirne**	**2.88 346**	*e*PN	**Pn**	**19 44 39.5**	**-0.1**
EDRB	**Edirne**	**2.88 346**	*e*Pn	**Pn**	**19 44 39.5**	**-0.1**
ELL	**Elmali**	**2.90 142**	*e*PN	**Pn**	**19 44 40.4**	**+0.4**
ELL	**Elmali**	**2.90 142**	*e*Pn	**Pn**	**19 44 40.4**	**+0.4**
SVRH	**Sivrihisar-ESK**	**3.01 81**	*e*PN	**Pn**	**19 44 42.1**	**+0.6**
SVRH	**Sivrihisar-ESK**	**3.01 81**	*e*Pn	**Pn**	**19 44 42.1**	**+0.6**
SUTC	**Sutluce-Ispart**	**3.05 120**	*e*PN	**Pn**	**19 44 43.0**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.05 120**	*e*Pn	**Pn**	**19 44 43.0**	**+0.9**
MDUB	**Mudurnu**	**3.06 61**	*e*PN	**Pn**	**19 44 42.9**	**+0.8**
MDUB	**Mudurnu**	**3.06 61**	*e*Pn	**Pn**	**19 44 42.9**	**+0.8**
PAIG	**Paliouri**	**3.22 287**	*e*PN	**Pn**	**19 44 44.2**	**-0.1**
PAIG	**Paliouri**	**3.22 287**	*e*Pn	**Pn**	**19 44 44.2**	**-0.1**
KIZT	**Kizilcal**	**3.28 92**	*e*PN	**Pn**	**19 44 45.9**	**+0.7**
KIZT	**Kizilcal**	**3.28 92**	*e*Pn	**Pn**	**19 44 45.9**	**+0.7**
DIM	**Dimitrovgrad**	**3.41 332**	P	**Pn**	**19 44 46.1**	**-0.8**
DIM	**Dimitrovgrad**	**3.41 332**	P	**Pn**	**19 44 46.1**	**-0.8**
RZN	**Rozhen**	**3.47 320**	P	**Pn**	**19 44 48.2**	**+0.3**
RZN	**Rozhen**	**3.47 320**	P	**Pn**	**19 44 48.2**	**+0.3**
JMB	**Yambol**	**3.51 347**	*e*Pn	**Pn**	**19 44 48.8**	**+0.5**
JMB			*e*Sn	Sg	19 45 52.0	+5.9
JMB	**Yambol**	**3.51 347**	*e*Pn	**Pn**	**19 44 48.8**	**+0.5**
PLG	**Polygyros**	**3.52 293**	*e*PN	**Pn**	**19 44 48.9**	**+0.4**
PLG	**Polygyros**	**3.52 293**	*e*Pn	**Pn**	**19 44 48.9**	**+0.4**
KARP	**Karpathos**	**3.52 187**	*e*PN	**Pn**	**19 44 48.3**	**-0.2**
KARP	**Karpathos**	**3.52 187**	*e*Pn	**Pn**	**19 44 48.3**	**-0.2**
NVR	**Nevrokopi**	**3.72 309**	P	**Pn**	**19 44 51.5**	**+0.3**
NVR	**Nevrokopi**	**3.72 309**	*e*PN	**Pn**	**19 44 51.3**	**+0.1**
NVR	**Nevrokopi**	**3.72 309**	P	**Pn**	**19 44 51.5**	**+0.3**
PLD	**Plovdiv**	**3.80 324**	P	**Pn**	**19 44 52.6**	**+0.6**
PLD	**Plovdiv**	**3.80 324**	P	**Pn**	**19 44 52.7**	**+0.4**
PLD	**Plovdiv**	**3.80 324**	*e*Pn	**Pn**	**19 44 53.0**	**+0.7**
PLD	**Plovdiv**	**3.80 324**	P	**Pn**	**19 44 52.9**	**+0.6**
MMB	**Musomiste**	**3.94 311**	P	**Pn**	**19 44 53.6**	**-0.7**
MMB	**Musomiste**	**3.94 311**	P	**Pn**	**19 44 53.6**	**-0.7**
ANTO	**Ankara**	**4.04 77**	‖*i*P	**Pb**	**19 45 02.6**	**-2.3**
NPS	**Neapolis**	**4.13 204**	*e*PN	**Pn**	**19 44 55.8**	**-1.0**
NPS	**Neapolis**	**4.13 204**	*e*Pn	**Pn**	**19 44 55.8**	**-1.0**
VLI	**Veliai**	**4.42 240**	*e*PN	**Pn**	**19 45 00.2**	**-0.6**
VLI	**Veliai**	**4.42 240**	*e*Pn	**Pn**	**19 45 00.2**	**-0.6**
VTS	**Vitosha**	**4.90 318**	‖*i*P	**Pn**	**19 45 08.4**	**+0.9**
VTS	**Vitosha**	**4.90 318**	*e*Pn	**Pn**	**19 45 08.3**	**+0.8**
VTS			*e*Sn	**Sg**	**19 46 28.9**	**-1.8**
VTS	**Vitosha**	**4.90 318**	*e*Pn	**Pn**	**19 45 08.3**	**+0.8**
TIRR	**Tirgusor**	**5.43 6**	⇑*i*P	**Pn**	**19 45 17.5**	**+2.9**
TIRR	**Tirgusor**	**5.43 6**	⇑*i*P	**Pn**	**19 45 17.5**	**+2.9**
ZAPS	**Zavoj**	**5.68 320**	*e*Pn	**Pn**	**19 45 20.5**	**+2.3**
BARS	**Barje**	**5.82 312**	*e*PN	**Pn**	**19 45 21.1**	**+1.1**
BARS	**Barje**	**5.82 312**	*e*Pn	**Pn**	**19 45 21.1**	**+1.1**
MLR	**Muntele Rosu**	**6.56 349**	‖*i*P	**Pn**	**19 45 31.4**	**+1.1**
MLR	**Muntele Rosu**	**6.56 349**	‖*i*P	**Pn**	**19 45 31.4**	**+1.1**
PLOR	**Plostina**	**6.84 354**	⇑*i*P	**Pn**	**19 45 35.2**	**+1.2**
PLOR	**Plostina**	**6.84 354**	⇑*i*P	**Pn**	**19 45 35.2**	**+1.2**
TESR	**Tescani**	**7.49 355**	‖*i*P	**Pn**	**19 45 44.8**	**+1.8**
TESR	**Tescani**	**7.49 355**	‖*i*P	**Pn**	**19 45 44.8**	**+1.8**
BZS	**Buzias**	**7.95 328**	‖*i*P	**Pn**	**19 45 49.1**	**-0.1**
BZS	**Buzias**	**7.95 328**	‖*i*P	**Pn**	**19 45 49.1**	**-0.1**

MAN 31 19:44:33.18±21.N×120.65E±0.52km, mb4.0, ML2.8, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.12 348**		⇑*i*P	Pn	19 44 43.2	+2.0
ABRA	**Dolores**	**0.56 174**		*e*P	Pn	19 44 47.5	+2.4
ABRA				*e*S	Sn	19 44 53.5	-0.3
APYP	**Conner**	**0.66 121**		*e*P	Pn	19 44 48.9	+2.6
APYP				*e*S	Sn	19 44 55.3	-0.7

IDC 31 19:55:22.5±2.3, 5.06N×126.45E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/7, Error ellipse: s-maj=187.1km s-min=25.7km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.03 163**		P	P	20 00 57.1	-0.5
	0.4nm,0.7s,baz=343,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**29.46 166**		P	P	20 01 28.8	+0.5
	0.1nm,0.5s,baz=347,slow=7.6,SNR=3.0						
KSRS	**Korea Array**	**32.27 2**		LR	LR	20 15 41.7	
	comp=Z,15nm,18.4s,baz=235,slow=38						
MKAR	**Makanchi Array**	**56.31 325**		P	P	20 05 05.1	-0.1
	0.1nm,0.4s,baz=120,slow=8.5,SNR=3.6						

*ISCJB **31** 20:45:00.6±0.3, 5.07N±0.03×125.77E±0.04, h160km±4km, mb4.0/18, Error ellipse: s-maj=7.2km s-min=4.7km az=177.8*
*MAN **31** 20:45:01, 5.00N×125.53E, h143km, mb4.8, ML3.7, MS3.7*
*IDC **31** 20:45:02.1±1.7, 5.05N×125.64E, h157km±16km, mb3.8/16, mb1 3.9/17, mb1mx3.8/26, mbtmp3.8/17, Error ellipse: s-maj=16.5km s-min=8.8km az=88.0*
*AUST **31** 20:45:03.0±0.0, 5.08N×125.74E, h181km, Error ellipse: s-maj=1.3km s-min=1.0km az=43.0*
*DJA **31** 20:45:03.9±0.5, 5.7N±5.×12.6E±.°, h84km±51km, M4.5/10, mB4.9/5, mb4.6/10, MLv4.6/9, Mw(mB)4.2/5*

ISC 31 20:45:01.8±0.6, 5.05N±0.04×125.78E±0.06, h156km±6km, n59, σ1°44/68, mb4.0/18, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.32 321**		‖*i*P	**Pn**	**20 45 27.6**	**-2.6**
MATI	**Mati**	**1.94 14**		*e*P	**Pn**	**20 45 36.1**	**-0.5**
MATI				*e*S	**Sn**	**20 45 58.7**	**-4.9**
DAV	**Davao City (W)**	**2.02 354**		P	**Pn**	**20 45 37.7**	**+0.1**
DMPH	**Davao City--Mi**	**2.04 352**		⇑*e*P	**Pn**	**20 45 37.9**	**+0.1**
DMPH				*e*S	**Sn**	**20 46 05.0**	**-0.6**
KCP	**Kidapawan**	**2.06 341**		‖*e*P	**Pn**	**20 45 37.2**	**-0.9**
KCP				*e*S	**Sn**	**20 46 03.8**	**-2.4**
CTBH	**Cotabato--PC H**	**2.64 325**		⇑*i*P	**Pn**	**20 45 43.3**	**-1.7**
BUKP	**Musuan**	**2.90 346**		*e*P	**Pn**	**20 45 47.3**	**-0.9**
CGP	**Cagayan de Oro**	**3.55 342**		⇑*i*P	**Pn**	**20 45 55.9**	**-0.6**
CGP				*i* S	**Sn**	**20 46 42.7**	**+3.8**
PAGZ	**Pagadian**	**3.66 319**		*e*P	**Pn**	**20 45 55.6**	**-2.3**
BUTP	**Butuan**	**3.90 358**		*e*P	**Pn**	**20 46 01.8**	**+0.9**
TNTI	**Ternate**	**4.53 160**		P	**Pn**	**20 46 08.9**	**-0.4**
TNTI				S	**Sn**	**20 47 00.4**	**-1.5**
GTOI	**Gorontalo**	**5.19 212**		P	**Pn**	**20 46 16.5**	**-1.4**
	129nm,0.8s,1μm0.5nm						
LBMI	**Labuha**	**5.91 163**		P	**Pn**	**20 46 27.5**	**+0.1**
	42nm,1.1s,3μm0.5nm						
MRSI	**Marisa**	**5.95 220**		P	**Pn**	**20 46 27.2**	**-0.7**
	41nm,0.8s,763nm0.3nm						
TOLI	**Toli-Toli**	**6.33 232**		P	**Pn**	**20 46 33.0**	**0.0**
	87nm,0.7s,0.4nm						
LUWI	**Luwuk**	**6.76 207**		P	**Pn**	**20 46 38.8**	**+0.1**
	78nm,0.9s,766nm0.3nm						
LUWI	**Luwuk**	**6.76 207**		P	**Pn**	**20 46 40.6**	**+1.8**
	baz=6.8,SNR=5.8						
MYLDM	**Lahad Datu**	**7.26 271**		P	**Pn**	**20 46 46.4**	**+1.0**
	38nm,1.4s,0.1nm						
SWI	**Sorong**	**8.03 137**		P	**Pn**	**20 46 56.7**	**+1.1**
	26nm,0.8s,0.1nm						
SWI	**Sorong**	**8.03 137**		P	**Pn**	**20 46 57.7**	**+2.0**
	baz=8.1,SNR=4.0						
PALU	**Palau**	**8.94 75**		S	**Sn**	**20 48 45.2**	**-1.9**
	baz=9.0,SNR=11						
AAI	**Ambon**	**9.01 164**		P	**Pn**	**20 47 08.1**	**-0.6**
	29nm,0.5s						
AAI	**Ambon**	**9.01 164**		P	**Pn**	**20 47 08.9**	**+0.2**
	baz=9.1,SNR=3.3						
TTSI	**Tana Toraja**	**10.01 217**		P	**Pn**	**20 47 22.7**	**+0.7**
FAKI	**Fak Fak**	**10.22 141**		P	**Pn**	**20 47 27.5**	**+2.8**
	baz=10,SNR=4.9						
KAPI	**Kappang**	**11.67 211**		P	**Pn**	**20 47 42.7**	**-1.1**
	1.0nm,0.3s,baz=30,slow=4.6,SNR=9.1						
SOEI	**Soe**	**14.79 186**		P	**P**	**20 48 27.2**	**+1.7**
	baz=15,SNR=9.6						
KSM	**Kuching**	**15.85 258**		P	**P**	**20 48 37.9**	**+0.7**
	baz=16,SNR=6.4						
JAGI	**Jajag, Banyuwa**	**17.75 221**		P	**Pn**	**20 48 59.2**	**-0.3**
	baz=18,SNR=4.7						
MTN	**Manton Dam**	**18.55 163**		P	**Pn**	**20 49 08.5**	**-0.5**
	baz=19,SNR=29						
KDU	**Kakadu**	**18.83 159**		P	**Pn**	**20 49 11.4**	**-0.8**
	baz=19,SNR=28						
KNRA	**Kununurra**	**20.80 172**		P	**P**	**20 49 31.3**	**+0.2**
	baz=21,SNR=19						
FITZ	**Fitzroy Crossi**	**23.01 180**		P	**P**	**20 49 53.3**	**+0.1**
	9.6nm,0.4s,baz=9.6,slow=9.9,SNR=119						
FITZ	**Fitzroy Crossi**	**23.01 180**		P	**P**	**20 49 52.9**	**-0.3**
	baz=23,SNR=82						
WRA	**Warramunga Arr**	**26.22 162**		P	**P**	**20 50 22.5**	**0.0**
	1.4nm,0.3s,baz=331,slow=11,SNR=47						
WRA				S	**S**	**20 54 40.2**	**-3.1**
	0.8nm,0.9s,baz=331,slow=15,SNR=4.7						
WRA				ScP	**ScP**	**20 57 10.6**	**0.0**
	1.2nm,0.8s,baz=343,slow=3.5,SNR=5.3						
PSI	**Prapat**	**26.89 266**		P	**P**	**20 50 27.7**	**-1.0**
	7.2nm,0.7s,baz=1.9,slow=4.5,SNR=5.7						
CBIJ	**Chichi jima**	**26.93 34**		P	**P**	**20 50 28.8**	**+0.1**
	76nm,0.6s,baz=270,slow=16						
CMAR	**Chiang Mai Arr**	**29.40 299**		P	**P**	**20 50 50.6**	**-0.2**
	2.4nm,0.8s,baz=115,slow=7.2,SNR=18						
CMAR				ScP	**ScP**	**20 57 19.6**	**-0.9**
	1.4nm,0.9s,baz=120,slow=0.9,SNR=7.5						
ASAR	**Alice Springs**	**29.62 165**		P	**P**	**20 50 53.4**	**+0.7**
	1.8nm,0.4s,baz=341,slow=6.9,SNR=55						
ASAR				ScP	**ScP**	**20 57 20.8**	**-0.3**
	0.7nm,0.6s,baz=346,slow=2.7,SNR=6.8						
MEEK	**Meekatharra**	**32.26 192**		P	**P**	**20 51 14.6**	**-1.2**
	baz=32,SNR=13						
PATS	**Pohnpei**	**32.40 85**		S	**S**	**20 56 18.7**	**-1.5**
	baz=32,SNR=3.1						
MJAR	**Matsushiro Arr**	**33.35 18**		P	**P**	**20 51 24.8**	**-0.4**
	2.2nm,0.7s,baz=191,slow=9.5,SNR=7.7						
MORW	**Morawa**	**35.19 195**		P	**P**	**20 51 40.2**	**-0.9**
	baz=35,SNR=8.2						
BLDU	**Ballidu**	**36.51 193**		P	**P**	**20 51 51.3**	**-1.0**
	baz=37,SNR=10.0						
KLBR	**Kellerberrin**	**37.23 191**		P	**P**	**20 51 57.9**	**-0.5**
	baz=38,SNR=11						
NWAO	**Narrogin (SRO)**	**38.63 192**		P	**P**	**20 52 09.9**	**-0.2**
	4.9nm,0.4s,baz=39,slow=8.0,SNR=15						
BBOO	**Buckleboo**	**38.90 166**		P	**P**	**20 52 13.6**	**+1.3**
	baz=39,SNR=30						
USRK	**Ussuriysk Arra**	**39.37 7**		P	**P**	**20 52 16.2**	**+0.1**
	1.8nm,0.7s,baz=195,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**39.69 159**		P	**P**	**20 52 20.5**	**+1.7**
	1.5nm,0.6s,baz=340,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**39.69 159**		P	**P**	**20 52 20.6**	**+1.7**
	baz=40,SNR=7.3						
ASAJ	**Asahikawa**	**41.63 18**		P	**P**	**20 52 36.4**	**+1.7**
	2.1nm,0.3s,baz=217,slow=16,SNR=8.6						
SONM	**Songino Array**	**45.76 342**		P	**P**	**20 53 08.7**	**+1.0**
	0.2nm,0.7s,baz=165,slow=7.4,SNR=2.7						
PETK	**Petropavlovsk-**	**54.58 23**		P	**P**	**20 54 15.2**	**+1.3**
	2.6nm,0.6s,baz=186,slow=5.7,SNR=3.4						
MKAR	**Makanchi Array**	**55.94 325**		P	**P**	**20 54 22.1**	**-1.7**
	0.6nm,0.5s,baz=119,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**58.99 333**		pP	pP	20 55 18.0	-3.4
	0.4nm,0.3s,baz=120,slow=8.8,SNR=2.9						
ILAR	**Eielson Array**	**84.32 25**		P	**P**	**20 57 15.0**	**-1.1**
	0.5nm,0.6s,baz=244,slow=5.4,SNR=5.3						
ILAR				pP	**pP**	**20 57 56.5**	**+1.5**
	0.3nm,0.6s,baz=243,slow=5.0,SNR=2.7						
MAW	**Mawson**	**84.66 200**		P	**P**	**20 57 17.4**	**-0.2**
	0.9nm,0.5s,baz=139,slow=5.2,SNR=6.3						
VNDA	**Vanda**	**84.85 173**		P	**P**	**20 57 18.6**	**+0.1**
	1.9nm,0.3s,baz=293,slow=1.0,SNR=20						
BRTR	**Keskin Array B**	**88.46 310**		P	**P**	**20 57 35.8**	**-1.2**
	0.3nm,0.5s,baz=97,slow=4.2,SNR=2.7						

GUC 31 20:55:39.6±0.5, 30.76S×71.30W, h46km±2km, MD3.6, ML2.9, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.49 149**		⇑*i*P	Pn	20 55 51.0	+0.3
CMCH				*i* S	Sn	20 55 59.3	+0.9
CMCH				AML	AML	20 55 59.8	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**0.73 36**		⇑*i*P	Pn	20 55 54.8	+0.9
TLL				*i* S	Sn	20 56 05.9	+1.6
TLL				AML	AML	20 56 07.7	
	comp=N,443nm,0.2s						
LCO	**Las Campanas**	**1.82 17**		⇑*i*P	Pn	20 56 09.6	+0.8
LCO				*i* S	Sn	20 56 32.4	+1.5
LCO				AML	AML	20 56 35.0	
	comp=E,126nm,0.3s						
ROCH	**El Roble**	**2.22 174**		*i* P	Pn	20 56 15.2	+0.9
ROCH				*i* S	Sn	20 56 42.3	+1.6
ROCH				AML	AML	20 56 48.2	
	comp=N,90nm,0.3s						
PEL	**Peldehue**	**2.44 168**		AML	AML	20 56 56.3	
	comp=N,141nm,0.1s						
LMEL	**Las Melosas**	**3.22 164**		‖*i*P	Pn	20 56 30.2	+2.3
LMEL				*i* S	Sn	20 57 07.5	+2.4
LMEL				AML	AML	20 57 16.3	
	comp=N,45nm,0.3s						

*IDC **31** 21:10:15.8±0.7, 37.66N×96.04E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.7/31, mbtmp3.8/14, ML3.7/4, MS3.0/6, Ms1 3.0/6, ms1mx2.7/40, Error ellipse: s-maj=28.9km s-min=14.2km az=47.0*
*ISCJB **31** 21:10:16.0±0.5, 37.58N±0.06×95.76E±0.05, h12km, mb3.7/13, MS3.1/3, Error ellipse: s-maj=9.2km s-min=5.0km az=21.0*
*BJI **31** 21:10:17.2, 37.62N×95.91E, h6km, mB4.4/3, mb4.1/6, ML3.7/5, Ms3.7/8, Ms7 3.7/5*
*NNC **31** 21:10:24.5±4.2, 38.45N×95.53E, h0km, mb3.9, Error ellipse: s-maj=122.3km s-min=39.7km az=49.0*

ISC 31 21:10:17.8±0.7, 37.57N±0.07×95.77E±0.05, h12km, n27, σ1°46/30, mb3.8/13, MS3.0/3, 5C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.67 59**		Pn	**Pn**	**21 11 15.0**	**+0.5**
GTA				Pg	**Pb**	**21 11 21.5**	**-1.1**
GTA				Sn	**Sn**	**21 11 57.5**	**-0.2**
GTA				Sg	**Sb**	**21 12 07.5**	**+0.4**

baz=16,SNR=9.9
FITZ Fitzroy Crossi 18.59 201 P Pn 21 35 21.3 +6.8
baz=19,SNR=4.0
WRA Warramunga Arr 19.20 175 P P 21 35 21.3 +0.4
0.2nm,0.3s,baz=353,slow=12,SNR=15
WRA S Sn 21 38 51.6 -4.7
baz=3.9,slow=23,SNR=2.8
ASAR Alice Springs 22.86 177 P P 21 36 01.0 +0.6
3.5nm,0.8s,baz=348,slow=9.1,SNR=29
MKAR Makanchi Array 64.52 324 P P 21 41 32.2 -1.1
0.3nm,0.6s,baz=122,slow=5.4,SNR=4.0

ROM 31 21:35:34.7±0.1, 42°.65N×13°.33E, h8km±1km, MI1.1/3, Error ellipse: s-maj=1.6km s-min=0.7km az=7.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**0.20**	**97**	Pg	Pg	21 35 39.6	+0.7
TERO				Sg	Sg	21 35 42.9	+1.2
41nm,0.1s							
LNSS	**Leonessa**	**0.22**	**259**	Pg	Pg	21 35 39.6	+0.3
LNSS				Sg	Sg	21 35 43.8	+1.4
14nm,0.3s							
NRCA	**Norcia**	**0.25**	**319**	Pg	Pg	21 35 40.5	+0.7
NRCA				Sg	Sg	21 35 44.6	+1.4
32nm,0.1s							

IDC ***31*** *21:49:54.6±1.5, 38°.67N×26°.41E, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, ML3.5/4, MS2.7/2, Ms1 2.7/2, ms1mx2.2/33, Error ellipse: s-maj=23.1km s-min=17.7km az=43.0*
ATH ***31*** *21:49:54.8, 38°.72N×26°.45E, h28km±1km, MD3.8/15, ML3.3*
DDA ***31*** *21:49:54.5, 38°.70N×26°.38E, h26km, MD3.2*
ISCJB ***31*** *21:49:54.8±0.6, 38°.72N±0°.01×26°.41E±0°.02, h13km±5km, mb3.4/3, MS2.5/1, Error ellipse: s-maj=2.5km s-min=2.4km az=163.3*
ISK ***31*** *21:49:54.1, 38°.67N×26°.35E, h18km, ML4.0*
CSEM ***31*** *21:49:55.4±0.1, 38°.70N×26°.43E, h10km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.6km az=22.0*
THE ***31*** *21:49:55.5, 38°.70N×26°.42E, h4km±2km, ML3.6/3, Error ellipse: s-maj=2.7km s-min=1.0km az=124.0*
ISC 31 21:49:55.9±0.9, 38°.70N±0°.02×26°.43E±0°.02, h17km±6km, n272, σ0°.86/309, mb3.5/3, 20C-13D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.36**	**160**	*i* P	**Pg**	**21 50 02.9**	**-0.6**
URLA				*i* S	**Sb**	**21 50 09.3**	**-0.1**
URLA	**Izmir**	**0.36**	**160**	*i* P	**Pg**	**21 50 02.9**	**-0.6**
URLA				*i* S	**Sb**	**21 50 09.3**	**-0.1**
CHOS	**Chios island**	**0.43**	**223**	P	**Pg**	**21 50 04.6**	**-0.1**
CHOS				S	**Sg**	**21 50 10.5**	**-0.2**
CHOS	**Chios island**	**0.43**	**223**	P	**Pg**	**21 50 04.6**	**-0.1**
CHOS				S	**Sg**	**21 50 10.5**	**-0.2**
PRK	**Paraskevi**	**0.56**	**347**	P	**Pg**	**21 50 06.1**	**-0.9**
PRK				S	**Sg**	**21 50 14.5**	**+0.1**
PRK	**Paraskevi**	**0.56**	**347**	*e*PN	**Pg**	**21 50 06.2**	**-0.8**
PRK				*e*SN	**Sg**	**21 50 14.1**	**-0.3**
PRK	**Paraskevi**	**0.56**	**347**	P	**Pg**	**21 50 06.1**	**-0.9**
PRK				*e*Sn	**Sg**	**21 50 14.1**	**-0.3**
AYVA	**Ayvalik**	**0.64**	**18**	*i* P	**Pg**	**21 50 07.3**	**-1.2**
AYVA	**Ayvalik**	**0.64**	**18**	*i* P	**Pg**	**21 50 07.3**	**-1.2**
IZM	**Izmir**	**0.72**	**115**	*e*PG	**Pg**	**21 50 09.3**	**-0.7**
IZM				*e*SG	**Sb**	**21 50 20.7**	**+1.1**
IZM	**Izmir**	**0.72**	**115**	*e*Pg	**Pg**	**21 50 09.3**	**-0.7**
IZM				*e*Sg	**Sb**	**21 50 20.7**	**+1.1**
SMG	**Samos**	**1.04**	**162**	P	**Pb**	**21 50 14.7**	**-0.8**
SMG				S	**Sn**	**21 50 30.2**	**+0.2**
SMG	**Samos**	**1.04**	**162**	*e*PN	**Pb**	**21 50 15.0**	**-0.5**
SMG				*e*SN	**Sn**	**21 50 30.2**	**+0.2**
SMG	**Samos**	**1.04**	**162**	P	**Pb**	**21 50 14.7**	**-0.8**
SMG	**Samos**	**1.04**	**162**	*e*Pn	**Pb**	**21 50 15.0**	**-0.5**
SMG				S	**Sn**	**21 50 30.2**	**+0.2**
AKHS	**Akhisar**	**1.09**	**80**	*i* P	**Pb**	**21 50 16.2**	**-0.2**
AKHS				*i* S	**Sg**	**21 50 33.1**	**+1.7**
AKHS	**Akhisar**	**1.09**	**80**	*i* P	**Pb**	**21 50 16.2**	**-0.2**
AKHS				*i* S	**Sg**	**21 50 33.1**	**+1.7**
AKS	**Akhisar**	**1.09**	**80**	*e*PN	**Pb**	**21 50 16.2**	**-0.2**
AKS				*e*SN	**Sg**	**21 50 31.6**	**+0.3**
AKS	**Akhisar**	**1.09**	**80**	*e*Pn	**Pb**	**21 50 16.2**	**-0.2**
AKS				*e*Sn	**Sg**	**21 50 31.6**	**+0.3**
BOZC	**Bozcaada**	**1.18**	**346**	*i* P	**Pn**	**21 50 16.7**	**-0.9**
BOZC				*i* S	**Sn**	**21 50 33.5**	**+0.2**
GCAM	**G?zelcaml?**	**1.18**	**148**	*i* P	**Pn**	**21 50 17.2**	**-0.4**
GCAM				*i* S	**Sg**	**21 50 34.8**	**+0.6**
GCAM	**G?zelcaml?**	**1.18**	**148**	*i* P	**Pn**	**21 50 17.2**	**-0.4**
GCAM				*i* S	**Sg**	**21 50 34.8**	**+0.6**
BALY	**Balya**	**1.39**	**41**	*i* P	**Pn**	**21 50 20.3**	**-0.3**
BALY				*i* S	**Sg**	**21 50 40.6**	**-0.1**
BALY	**Balya**	**1.39**	**41**	*i* P	**Pn**	**21 50 20.3**	**-0.3**
BALY				*i* S	**Sg**	**21 50 40.6**	**-0.1**
BALB	**Balikesir**	**1.46**	**50**	*e*PN	**Pn**	**21 50 21.5**	**0.0**
BALB				*e*SN	**Sn**	**21 50 40.6**	**+0.3**
BALB	**Balikesir**	**1.46**	**50**	*e*Pn	**Pn**	**21 50 21.5**	**0.0**
BALB				*e*Sn	**Sn**	**21 50 40.6**	**+0.3**
LIA	**Limnos Island**	**1.54**	**321**	P	**Pn**	**21 50 22.6**	**0.0**
LIA				S	**Sn**	**21 50 41.1**	**-1.1**
LIA	**Limnos Island**	**1.54**	**321**	*e*PN	**Pn**	**21 50 22.6**	**0.0**
LIA				*e*SN	**Sn**	**21 50 41.4**	**-0.8**
LIA	**Limnos Island**	**1.54**	**321**	P	**Pn**	**21 50 22.6**	**0.0**
LIA				S	**Sn**	**21 50 41.1**	**-1.1**
AYDN	**Tasoluk**	**1.54**	**132**	*i* S	**Sg**	**21 50 47.2**	**+1.6**
GONE	**Gonen-Balikesi**	**1.66**	**35**	*e*PN	**Pn**	**21 50 23.9**	**-0.3**
GONE	**Gonen-Balikesi**	**1.66**	**35**	*e*Pn	**Pn**	**21 50 23.9**	**-0.3**
LPK	**Lapseki**	**1.69**	**8**	*e*PN	**Pn**	**21 50 24.2**	**-0.4**
LPK	**Lapseki**	**1.69**	**8**	*e*Pn	**Pn**	**21 50 24.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.69**	**1**	*e*PN	**Pn**	**21 50 23.9**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.69**	**1**	*e*Pn	**Pn**	**21 50 23.9**	**-0.8**
KULA	**Kula-Manisa**	**1.75**	**95**	*e*PN	**Pn**	**21 50 25.7**	**0.0**
KULA	**Kula-Manisa**	**1.75**	**95**	*e*Pn	**Pn**	**21 50 25.7**	**0.0**
MLSB	**Milas**	**1.76**	**143**	*e*PN	**Pn**	**21 50 24.7**	**-1.0**
MLSB	**Milas**	**1.76**	**143**	*e*Pn	**Pn**	**21 50 24.7**	**-1.0**
BODT	**Bodrum**	**1.78**	**157**	*e*PN	**Pn**	**21 50 25.0**	**-0.9**
BODT	**Bodrum**	**1.78**	**157**	*e*Pn	**Pn**	**21 50 25.0**	**-0.9**
APE	**Apeiranthos**	**1.78**	**204**	P	**Pn**	**21 50 25.1**	**-0.9**
APE	**Apeiranthos**	**1.78**	**204**	*e*PB	**Pn**	**21 50 25.2**	**-0.8**
APE				*e*SN	**Sb**	**21 50 49.4**	**-0.8**
APE	**Apeiranthos**	**1.78**	**204**	⇑*i*P	**Pn**	**21 50 24.6**	**-1.4**
APE	**Apeiranthos**	**1.78**	**204**	S	**Sn**	**21 50 48.5**	**+0.3**
APE	**Apeiranthos**	**1.78**	**204**	*e*Pb	**Pn**	**21 50 25.2**	**-0.8**
APE				*e*Sn	**Sb**	**21 50 49.4**	**-0.8**
KRBG	**Karabiga-Canak**	**1.81**	**21**	*e*PN	**Pn**	**21 50 25.7**	**-0.7**
KRBG	**Karabiga-Canak**	**1.81**	**21**	*e*Pn	**Pn**	**21 50 25.7**	**-0.7**
BDRM	**Kayabasi**	**1.82**	**154**	*i* P	**Pn**	**21 50 26.4**	**-0.1**
BDRM				*i* S	**Sg**	**21 50 53.9**	**-0.6**
BDRM	**Kayabasi**	**1.82**	**154**	*i* P	**Pn**	**21 50 26.4**	**-0.1**
SMTH	**Samothraki Isl**	**1.90**	**339**	P	**Pn**	**21 50 27.1**	**-0.5**
SMTH	**Samothraki Isl**	**1.90**	**339**	*e*PB	**Pn**	**21 50 27.3**	**-0.3**
SMTH				*e*SN	**Sn**	**21 50 50.1**	**-1.0**
SMTH	**Samothraki Isl**	**1.90**	**339**	*e*Pb	**Pn**	**21 50 27.3**	**-0.3**
SMTH				*e*Sn	**Sn**	**21 50 50.1**	**-1.0**
BNT	**Bandirma**	**2.01**	**34**	*e*PN	**Pn**	**21 50 28.6**	**-0.5**
BNT	**Bandirma**	**2.01**	**34**	*e*Pn	**Pn**	**21 50 28.6**	**-0.5**
AOS	**Alonnisos**	**2.05**	**284**	P	**Pn**	**21 50 29.6**	**0.0**
AOS	**Alonnisos**	**2.05**	**284**	P	**Pn**	**21 50 29.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.06**	**16**	*e*PN	**Pn**	**21 50 29.6**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.06**	**16**	*e*Pn	**Pn**	**21 50 29.6**	**-0.3**
ERET	**Eretria**	**2.08**	**264**	P	**Pn**	**21 50 29.9**	**-0.1**
ERET	**Eretria**	**2.08**	**264**	P	**Pn**	**21 50 29.9**	**-0.1**
PTL	**Penteli**	**2.12**	**253**	P	**Pn**	**21 50 30.5**	**-0.1**
PTL	**Penteli**	**2.12**	**253**	*e*PN	**Pn**	**21 50 30.5**	**-0.1**
PTL	**Penteli**	**2.12**	**253**	P	**Pn**	**21 50 30.5**	**-0.1**
YER	**Yerkesik**	**2.14**	**136**	*e*PN	**Pn**	**21 50 30.2**	**-0.7**
YER	**Yerkesik**	**2.14**	**136**	*e*Pn	**Pn**	**21 50 30.2**	**-0.7**
KCTX	**Karacabey (Bur**	**2.16**	**43**	*e*PN	**Pn**	**21 50 31.3**	**+0.2**
KCTX	**Karacabey (Bur**	**2.16**	**43**	*e*Pn	**Pn**	**21 50 31.3**	**+0.2**
DAT	**Datca**	**2.17**	**155**	*e*PN	**Pn**	**21 50 30.2**	**-1.1**
DAT	**Datca**	**2.17**	**155**	*e*Pn	**Pn**	**21 50 30.2**	**-1.1**
MFT	**Murefte**	**2.18**	**17**	*e*PN	**Pn**	**21 50 31.6**	**+0.1**
MFT	**Murefte**	**2.18**	**17**	*e*Pn	**Pn**	**21 50 31.6**	**+0.1**
ALN	**Alexandroupoli**	**2.21**	**352**	P	**Pn**	**21 50 31.7**	**-0.1**
ALN				S	**Sb**	**21 51 02.6**	**0.0**
ALN	**Alexandroupoli**	**2.21**	**352**	*e*PN	**Pn**	**21 50 31.3**	**-0.5**
ALN	**Alexandroupoli**	**2.21**	**352**	*e*Pn	**Pn**	**21 50 31.3**	**-0.5**
ALN	**Alexandroupoli**	**2.21**	**352**	P	**Pn**	**21 50 31.7**	**-0.1**
ALN				S	**Sb**	**21 51 02.6**	**0.0**
MRKA	**Markates**	**2.23**	**271**	P	**Pn**	**21 50 31.8**	**-0.3**
MRKA	**Markates**	**2.23**	**271**	P	**Pn**	**21 50 31.8**	**-0.3**
DENT	**Denizli**	**2.25**	**114**	*e*PN	**Pn**	**21 50 32.5**	**+0.1**
DENT	**Denizli**	**2.25**	**114**	*e*Pn	**Pn**	**21 50 32.6**	**+0.1**
ATH	**Athens Observa**	**2.26**	**252**	*e*PN	**Pn**	**21 50 32.7**	**+0.2**
ATH	**Athens Observa**	**2.26**	**252**	*e*Pn	**Pn**	**21 50 32.7**	**+0.2**
DNZL	**Cakiroluk**	**2.29**	**115**	*e*P	**Pn**	**21 50 33.4**	**+0.2**
DNZL				*i* S	**Sg**	**21 51 10.5**	**+0.8**
DNZL	**Cakiroluk**	**2.29**	**115**	*e*P	**Pn**	**21 50 33.4**	**+0.2**
ORLT	**Orhaneli**	**2.33**	**54**	*e*PN	**Pn**	**21 50 34.0**	**+0.5**
ORLT	**Orhaneli**	**2.33**	**54**	*e*Pn	**Pn**	**21 50 34.1**	**+0.5**
TKR	**Tekirdag**	**2.44**	**20**	*e*PN	**Pn**	**21 50 35.0**	**+0.1**
TKR	**Tekirdag**	**2.44**	**20**	*e*Pn	**Pn**	**21 50 35.0**	**+0.1**
KHL	**Karahalli**	**2.45**	**98**	*e*PN	**Pn**	**21 50 35.6**	**+0.4**
KHL	**Karahalli**	**2.45**	**98**	*e*Pn	**Pn**	**21 50 35.7**	**+0.4**
PAIG	**Paliouri**	**2.46**	**301**	P	**Pn**	**21 50 35.1**	**-0.2**
PAIG	**Paliouri**	**2.46**	**301**	*e*PN	**Pn**	**21 50 35.2**	**-0.1**
PAIG	**Paliouri**	**2.46**	**301**	*e*Pn	**Pn**	**21 50 35.2**	**-0.1**
NAIG	**Nisos Aigina**	**2.50**	**249**	*e*PN	**Pn**	**21 50 35.9**	**0.0**
NAIG	**Nisos Aigina**	**2.50**	**249**	*e*Pn	**Pn**	**21 50 35.9**	**0.0**
MDNY	**Mudanya-Bursa**	**2.52**	**48**	*e*PN	**Pn**	**21 50 36.9**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.52**	**48**	*e*Pn	**Pn**	**21 50 36.9**	**+0.8**
SMIA	**Simia**	**2.53**	**275**	P	**Pn**	**21 50 36.5**	**+0.3**
SMIA	**Simia**	**2.53**	**275**	P	**Pn**	**21 50 36.5**	**+0.3**
RDO	**Rodhopi**	**2.54**	**345**	P	**Pn**	**21 50 36.5**	**+0.2**
RDO	**Rodhopi**	**2.54**	**345**	*e*PN	**Pn**	**21 50 36.6**	**+0.2**
RDO	**Rodhopi**	**2.54**	**345**	P	**Pn**	**21 50 36.5**	**+0.2**
DALY	**Dalyan (Mu¨la**	**2.58**	**136**	*e*PN	**Pn**	**21 50 36.4**	**-0.4**
DALY	**Dalyan (Mu¨la**	**2.58**	**136**	*e*Pn	**Pn**	**21 50 36.4**	**-0.4**
ARMT	**Armutlu**	**2.64**	**44**	*e*PN	**Pn**	**21 50 38.0**	**+0.2**
ARMT	**Armutlu**	**2.64**	**44**	*e*Pn	**Pn**	**21 50 38.0**	**+0.2**
LKR	**Lokris**	**2.69**	**270**	*e*PN	**Pn**	**21 50 38.3**	**-0.1**
LKR	**Lokris**	**2.69**	**270**	*e*Pn	**Pn**	**21 50 38.3**	**-0.1**
KAVA	**Kavala**	**2.73**	**328**	P	**Pn**	**21 50 38.9**	**0.0**
KAVA	**Kavala**	**2.73**	**328**	P	**Pn**	**21 50 38.9**	**0.0**
DID	**Didima**	**2.79**	**246**	P	**Pn**	**21 50 39.5**	**-0.3**
DID	**Didima**	**2.79**	**246**	*e*PN	**Pn**	**21 50 39.6**	**-0.3**
DID	**Didima**	**2.79**	**246**	*e*Pn	**Pn**	**21 50 39.6**	**-0.3**
ARG	**Arkhangelos**	**2.82**	**151**	*e*PN	**Pn**	**21 50 40.6**	**+0.3**
ARG	**Arkhangelos**	**2.82**	**151**	*e*Pn	**Pn**	**21 50 40.6**	**+0.3**
PLG	**Polygyros**	**2.85**	**307**	P	**Pn**	**21 50 40.9**	**+0.2**
PLG	**Polygyros**	**2.85**	**307**	P	**Pn**	**21 50 40.9**	**+0.2**
SLVT	**Silivri**	**2.87**	**28**	*e*PN	**Pn**	**21 50 40.8**	**-0.1**
SLVT	**Silivri**	**2.87**	**28**	*e*Pn	**Pn**	**21 50 40.8**	**-0.1**
YLV	**Yalova**	**2.94**	**50**	*e*PN	**Pn**	**21 50 43.1**	**+1.2**
YLV	**Yalova**	**2.94**	**50**	*e*Pn	**Pn**	**21 50 43.1**	**+1.2**
FETY	**Fethiye**	**2.95**	**134**	*e*PN	**Pn**	**21 50 42.0**	**0.0**
FETY	**Fethiye**	**2.95**	**134**	*e*Pn	**Pn**	**21 50 42.0**	**0.0**
CTKS	**Kestanelik-??a**	**2.99**	**32**	*e*PN	**Pn**	**21 50 42.4**	**-0.1**
CTKS	**Kestanelik-??a**	**2.99**	**32**	*e*Pn	**Pn**	**21 50 42.4**	**-0.1**
CAVI	**Cavuskoy**	**3.03**	**59**	*e*PN	**Pn**	**21 50 44.0**	**+0.8**
CAVI	**Cavuskoy**	**3.03**	**59**	*e*Pn	**Pn**	**21 50 44.0**	**+0.8**
PHSR	**Pinarhisar**	**3.04**	**16**	*e*PN	**Pn**	**21 50 43.5**	**+0.2**
PHSR	**Pinarhisar**	**3.04**	**16**	*e*Pn	**Pn**	**21 50 43.5**	**+0.2**
BGKT	**Bogazkoy**	**3.06**	**35**	*e*PN	**Pn**	**21 50 43.4**	**-0.1**
BGKT	**Bogazkoy**	**3.06**	**35**	*e*Pn	**Pn**	**21 50 43.4**	**-0.1**
DSF	**Desfina**	**3.08**	**266**	P	**Pn**	**21 50 43.6**	**-0.2**
DSF	**Desfina**	**3.08**	**266**	P	**Pn**	**21 50 43.6**	**-0.2**
ADVT	**Abdulvahap**	**3.08**	**55**	*e*PN	**Pn**	**21 50 45.0**	**+1.2**
ADVT	**Abdulvahap**	**3.08**	**55**	*e*Pn	**Pn**	**21 50 45.0**	**+1.2**
ISK	**Istanbul-Kandi**	**3.11**	**40**	*e*PN	**Pn**	**21 50 44.8**	**+0.7**
ISK	**Istanbul-Kandi**	**3.11**	**40**	*e*Pn	**Pn**	**21 50 44.8**	**+0.7**
CTYL	**Yal??k??y-??at**	**3.11**	**27**	*e*PN	**Pn**	**21 50 44.7**	**+0.5**
CTYL	**Yal??k??y-??at**	**3.11**	**27**	*e*Pn	**Pn**	**21 50 44.7**	**+0.5**
EDRB	**Edirne**	**3.15**	**4**	*e*PN	**Pn**	**21 50 44.5**	**-0.3**
EDRB	**Edirne**	**3.15**	**4**	P	**Pn**	**21 50 44.2**	**-0.5**
EDRB	**Edirne**	**3.15**	**4**	P	**Pn**	**21 50 44.2**	**-0.5**
EDRB	**Edirne**	**3.15**	**4**	*e*Pn	**Pn**	**21 50 44.5**	**-0.3**
SOH	**Sokhos**	**3.18**	**313**	P	**Pn**	**21 50 45.7**	**+0.5**
SOH	**Sokhos**	**3.18**	**313**	*e*PN	**Pn**	**21 50 45.8**	**+0.5**
SOH	**Sokhos**	**3.18**	**313**	P	**Pn**	**21 50 45.7**	**+0.5**
KARP	**Karpathos**	**3.20**	**169**	*e*PN	**Pn**	**21 50 45.2**	**-0.3**
KARP	**Karpathos**	**3.20**	**169**	*e*Pn	**Pn**	**21 50 45.2**	**-0.3**
AGG	**Agios Georgios**	**3.22**	**277**	*e*PN	**Pn**	**21 50 46.3**	**+0.6**
AGG	**Agios Georgios**	**3.22**	**277**	*e*Pn	**Pn**	**21 50 46.3**	**+0.6**
KLYT	**Kilyos**	**3.24**	**37**	*e*PN	**Pn**	**21 50 46.7**	**+0.7**
KLYT	**Kilyos**	**3.24**	**37**	*e*Pn	**Pn**	**21 50 46.7**	**+0.7**
SRS	**Serrai**	**3.25**	**319**	P	**Pn**	**21 50 46.5**	**+0.3**
SRS	**Serrai**	**3.25**	**319**	P	**Pn**	**21 50 46.5**	**+0.3**
HRT	**Hereke**	**3.27**	**49**	*e*PN	**Pn**	**21 50 47.5**	**+1.1**
HRT	**Hereke**	**3.27**	**49**	*e*Pn	**Pn**	**21 50 47.5**	**+1.1**
NVR	**Nevrokopi**	**3.30**	**324**	P	**Pn**	**21 50 47.1**	**+0.3**
NVR	**Nevrokopi**	**3.30**	**324**	*e*PN	**Pn**	**21 50 47.2**	**+0.4**
NVR	**Nevrokopi**	**3.30**	**324**	P	**Pn**	**21 50 47.1**	**+0.3**
GUR	**Goura**	**3.31**	**258**	P	**Pn**	**21 50 47.5**	**+0.5**
GUR	**Goura**	**3.31**	**258**	P	**Pn**	**21 50 47.5**	**+0.5**
ISP	**Isparta**	**3.34**	**104**	P	**Pn**	**21 50 48.0**	**+0.6**
ISP	**Isparta**	**3.34**	**104**	‖*i*P	**Pn**	**21 50 47.8**	**+0.4**
ISP	**Isparta**	**3.34**	**104**	P	**Pn**	**21 50 48.0**	**+0.6**
KALE	**Kalithea**	**3.38**	**266**	*e*PN	**Pn**	**21 50 48.5**	**+0.5**
KALE	**Kalithea**	**3.38**	**266**	*e*Pn	**Pn**	**21 50 48.5**	**+0.5**
VLI	**Veliai**	**3.41**	**236**	P	**Pn**	**21 50 47.9**	**-0.4**
VLI	**Veliai**	**3.41**	**236**	*e*PN	**Pn**	**21 50 48.2**	**-0.1**
VLI	**Veliai**	**3.41**	**236**	P	**Pn**	**21 50 47.9**	**-0.4**
VLI	**Veliai**	**3.41**	**236**	*e*Pn	**Pn**	**21 50 48.2**	**-0.1**
KLV	**Kalavryta, Ach**	**3.43**	**260**	*e*PN	**Pn**	**21 50 49.1**	**+0.4**
KLV	**Kalavryta, Ach**	**3.43**	**260**	*e*Pn	**Pn**	**21 50 49.1**	**+0.4**
TRIZ	**Trizonia**	**3.44**	**266**	P	**Pn**	**21 50 49.4**	**+0.7**
TRIZ				S	**Sn**	**21 51 30.6**	**+1.6**
TRIZ	**Trizonia**	**3.44**	**266**	*e*PN	**Pn**	**21 50 49.6**	**+0.9**
TRIZ	**Trizonia**	**3.44**	**266**	P	**Pn**	**21 50 49.4**	**+0.7**
TRIZ				S	**Sn**	**21 51 30.6**	**+1.6**
VLX	**Vlachokerasia**	**3.47**	**249**	P	**Pn**	**21 50 49.8**	**+0.6**
VLX	**Vlachokerasia**	**3.47**	**249**	*e*PN	**Pn**	**21 50 50.1**	**+0.9**
VLX	**Vlachokerasia**	**3.47**	**249**	P	**Pn**	**21 50 49.8**	**+0.6**
VLX	**Vlachokerasia**	**3.47**	**249**	*e*Pn	**Pn**	**21 50 50.1**	**+0.9**
SILT	**Sile**	**3.48**	**44**	*e*PN	**Pn**	**21 50 50.0**	**+0.9**
SILT	**Sile**	**3.48**	**44**	*e*Pn	**Pn**	**21 50 50.1**	**+0.9**
BCK	**Bucak**	**3.50**	**109**	*e*PN	**Pn**	**21 50 50.3**	**+0.6**
BCK	**Bucak**	**3.50**	**109**	*e*Pn	**Pn**	**21 50 50.3**	**+0.6**
ESKT	**Eskisehir**	**3.53**	**75**	*e*PN	**Pn**	**21 50 51.1**	**+1.0**
ESKT	**Eskisehir**	**3.53**	**75**	*e*Pn	**Pn**	**21 50 51.1**	**+1.0**
THL	**Klokotos Trika**	**3.54**	**285**	*e*PN	**Pn**	**21 50 51.7**	**+1.6**
THL	**Klokotos Trika**	**3.54**	**285**	*e*Pn	**Pn**	**21 50 51.7**	**+1.6**
EFP	**Efpalio**	**3.56**	**267**	*e*PN	**Pn**	**21 50 51.3**	**+0.9**
EFP	**Efpalio**	**3.56**	**267**	*e*Pn	**Pn**	**21 50 51.3**	**+0.9**
SPNC	**Sapanca-Adapaz**	**3.58**	**55**	*e*PN	**Pn**	**21 50 52.0**	**+1.3**
SPNC	**Sapanca-Adapaz**	**3.58**	**55**	*e*Pn	**Pn**	**21 50 52.0**	**+1.3**
GULT	**Gulveren**	**3.60**	**60**	*e*PN	**Pn**	**21 50 52.4**	**+1.4**
GULT	**Gulveren**	**3.60**	**60**	*e*Pn	**Pn**	**21 50 52.4**	**+1.4**
EVR	**Evrytania**	**3.62**	**275**	*e*PN	**Pn**	**21 50 52.5**	**+1.2**
EVR	**Evrytania**	**3.62**	**275**	*e*Pn	**Pn**	**21 50 52.5**	**+1.2**
KYTH	**Kithira**	**3.63**	**229**	*e*PN	**Pn**	**21 50 51.5**	**+0.2**
KYTH	**Kithira**	**3.63**	**229**	*e*Pn	**Pn**	**21 50 51.5**	**+0.2**
PLD	**Plovdiv**	**3.65**	**339**	*e*Pn	**Pn**	**21 50 52.5**	**+0.9**
KNT	**Kendrikon**	**3.66**	**313**	P	**Pn**	**21 50 52.8**	**+1.0**
KNT	**Kendrikon**	**3.66**	**313**	P	**Pn**	**21 50 52.8**	**+1.0**
VAM	**Vamos**	**3.74**	**209**	*e*PN	**Pn**	**21 50 54.0**	**+1.1**
VAM	**Vamos**	**3.74**	**209**	*e*Pn	**Pn**	**21 50 54.0**	**+1.1**
JMB	**Yambol**	**3.76**	**2**	P	**Pn**	**21 50 53.4**	**+0.3**
JMB	**Yambol**	**3.76**	**2**	P	**Pn**	**21 50 53.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.80**	**107**	*e*PN	**Pn**	**21 50 54.7**	**+0.8**
SUTC	**Sutluce-Ispart**	**3.80**	**107**	*e*Pn	**Pn**	**21 50 54.7**	**+0.8**
KARN	**Karanos**	**3.86**	**212**	P	**Pn**	**21 50 55.5**	**+1.0**
KARN	**Karanos**	**3.86**	**212**	P	**Pn**	**21 50 55.5**	**+1.0**
ITM	**Ithomi**	**3.87**	**248**	*e*PN	**Pn**	**21 50 56.0**	**+1.3**
ITM	**Ithomi**	**3.87**	**248**	*e*Pn	**Pn**	**21 50 56.0**	**+1.3**
SVRH	**Sivrihisar-ESK**	**4.03**	**78**	*e*PN	**Pn**	**21 50 57.6**	**+0.7**
SVRH	**Sivrihisar-ESK**	**4.03**	**78**	*e*Pn	**Pn**	**21 50 57.6**	**+0.7**
MDUB	**Mudurnu**	**4.08**	**63**	*e*PN	**Pn**	**21 50 59.0**	**+1.4**
MDUB	**Mudurnu**	**4.08**	**63**	*e*Pn	**Pn**	**21 50 59.0**	**+1.4**
KIZT	**Kizilcal**	**4.26**	**86**	*e*PN	**Pn**	**21 51 01.2**	**+1.1**
KIZT	**Kizilcal**	**4.26**	**86**	*e*Pn	**Pn**	**21 51 01.2**	**+1.1**
VTS	**Vitosha**	**4.59**	**329**	⇑*i*P	**Pn**	**21 51 06.0**	**+1.2**
VTS	**Vitosha**	**4.59**	**329**	*e*Pn	**Pn**	**21 51 05.9**	**+1.2**
LADK	**Ladik-KONYA**	**4.68**	**94**	*e*PN	**Pn**	**21 51 07.3**	**+1.4**
LADK	**Ladik-KONYA**	**4.68**	**94**	*e*Pn	**Pn**	**21 51 07.3**	**+1.4**
KONT	**Konya--Tatoy**	**4.72**	**97**	*e*PN	**Pn**	**21 51 07.8**	**+1.4**
KONT	**Konya--Tatoy**	**4.72**	**97**	*e*Pn	**Pn**	**21 51 07.8**	**+1.4**
HDMB	**Hadim**	**5.09**	**108**	*e*PN	**Pn**	**21 51 13.0**	**+1.3**
HDMB	**Hadim**	**5.09**	**108**	*e*Pn	**Pn**	**21 51 13.0**	**+1.3**
AFSR	**Af¨ar-Bala (A**	**5.22**	**80**	*e*PN	**Pn**	**21 51 15.0**	**+1.8**
AFSR	**Af¨ar-Bala (A**	**5.22**	**80**	*e*Pn	**Pn**	**21 51 15.0**	**+1.8**
BARS	**Barje**	**5.40**	**321**	*e*Pn	**Pn**	**21 51 16.9**	**+1.2**
BRTR	**Keskin Array B**	**5.69**	**77**	Pn	**Pn**	**21 51 20.9**	**+1.1**
1.1nm,0.3s,baz=256,slow=13,SNR=34							
BRTR				Sn	**Sn**	**21 52 23.4**	**-1.4**
0.3nm,0.3s,baz=262,slow=19,SNR=2.6							
BRTR				Lg	Lg	21 52 57.2	
0.2nm,0.3s,baz=262,slow=26,SNR=6.4							
HUMR	**Humele**	**5.92**	**350**	⇑*i*P	**Pn**	**21 51 23.3**	**+0.5**
HUMR	**Humele**	**5.92**	**350**	⇑*i*P	**Pn**	**21 51 23.3**	**+0.5**
TIRR	**Tirgusor**	**5.94**	**14**	⇑*i*P	**Pn**	**21 51 23.3**	**+0.3**
TIRR	**Tirgusor**	**5.94**	**14**	⇑*i*P	**Pn**	**21 51 23.3**	**+0.3**
HARR	**Harsova**	**6.09**	**10**	⇓*i*P	**Pn**	**

HHC	**Hu-ho-hao-te**	**12.52 71**	*e*P	**Pn**	**21 54 35.8**	**-0.5**
HHC			PP	**PnPn**	**21 54 45.8**	**+1.8**
HHC			S	**Sn**	**21 56 56.5**	**+0.9**
HHC			SS	**SnSn**	**21 57 10.5**	**+3.0**
HHC			PcP	**PcP**	**22 00 14.8**	**-0.4**
HHC			ScS	**ScS**	**22 07 21.0**	**-2.8**
HHC			pmax	pmax		
	comp=Z,90nm,1.1s					
HHC			pmax	pmax		
	comp=Z,490nm,4.2s					
HHC			LR	LR		
	comp=N,4μm,7.1s					
HHC			LR	LR		
	comp=E,3μm,7.1s					
HHC			LR	LR		
	comp=Z,2μm,7.5s					
SHL	**Shillong**	**12.58 197**	*e*P	Pn	21 54 34.0	-3.2
SHL			*ex*	x	21 57 34.0	
SONM	**Songino Array**	**12.70 34**	Pn	**Pn**	**21 54 40.9**	**+2.2**
SONM			Lg	Lg	21 58 21.7	
SONM	**Songino Array**	**12.70 34**	Pn	**Pn**	**21 54 40.9**	**+2.2**
	comp=Z,4.2nm,0.3s,baz=218,slow=15,SNR=149					
SONM			Lg	Lg	21 58 21.7	
	comp=Z,0.3nm,0.3s,baz=217,slow=31,SNR=4.4					
SONM			LR	LR	21 59 49.0	
	comp=Z,3μm,18.9s,baz=211,slow=39					
GUN	**Gumba**	**12.90 224**	*e*P	**Pn**	**21 54 39.8**	**-2.0**
	comp=Z,188nm,1.0s					
JIRN	**Jiri**	**12.93 222**	*e*P	**Pn**	**21 54 40.6**	**-1.6**
	comp=Z,111nm,0.9s					
ODAN	**Odare**	**12.99 216**	*e*P	**Pn**	**21 54 41.0**	**-1.9**
	comp=Z,94nm,0.9s					
ULN	**Ulaanbaatar**	**13.02 35**	Pn	**Pn**	**21 54 45.5**	**+2.4**
	SNR=32					
ULN	**Ulaanbaatar**	**13.02 35**	*e*Pn	**Pn**	**21 54 44.2**	**+1.1**
ULN			*e*Sn	**S**	**21 57 28.3**	**-4.9**
ULN	**Ulaanbaatar**	**13.02 35**	P	**Pn**	**21 54 44.9**	**+1.8**
	comp=Z,50nm,1.4s,comp=Z,637nm					
TIY	**Taiyuan**	**13.08 85**	*e*P	**Pn**	**21 54 41.5**	**-2.4**
TIY			PP	**PnPn**	**21 54 52.0**	**+0.3**
TIY			LR	LR		
	comp=N,770nm,5.5s					
TIY			LR	LR		
	comp=E,2μm,7.4s					
TIY			LR	LR		
	comp=Z,2μm,13.5s					
RAMN	**Ramite**	**13.30 219**	*e*P	**Pn**	**21 54 44.7**	**-2.4**
	comp=Z,76nm,0.8s					
KKN	**Kakani**	**13.33 225**	*e*P	**Pn**	**21 54 44.9**	**-2.6**
	comp=Z,63nm,0.9s					
PKI	**Pulchoki**	**13.43 224**	*e*P	**Pn**	**21 54 46.5**	**-2.4**
	comp=Z,206nm,0.9s					
PKIN	**Phulchoki**	**13.43 224**	*e*P	**Pn**	**21 54 46.8**	**-2.1**
	comp=Z,87nm,0.8s					
ENH	**Enshi**	**13.47 119**	*e*Pn	**Pn**	**21 54 46.6**	**-2.7**
	comp=Z,148nm,0.9s					
HVS	**Khovu-Aksy**	**13.52 354***c*	*i*P	**Pn**	**21 54 51.0**	**+1.2**
HVS			pmax	pmax		
	comp=Z,73nm,1.7s					
MK31	**Makanchi Array**	**13.56 316**	⇑Pn	**Pn**	**21 54 47.9**	**-2.5**
	comp=Z,41nm,0.7s,baz=126,slow=14					
MK31			⇑Sn	**Sn**	**21 57 18.0**	**-2.8**
	comp=Z,42nm,0.7s,baz=138,slow=23					
MK31	**Makanchi Array**	**13.56 316**	*e*P	**Pn**	**21 54 48.7**	**-1.7**
MK31	**Makanchi Array**	**13.56 316**	*e*Pn	**Pn**	**21 54 48.7**	**-1.7**
MK31			*e*Sn	Sn	21 57 13.2	-7.5
MKAR	**Makanchi Array**	**13.56 316**	*i*P	**Pn**	**21 54 48.2**	**-2.1**
MKAR			pmax	pmax		
	comp=Z,24nm,0.7s					
MKAR	**Makanchi Array**	**13.56 316**	*e*Pn	**Pn**	**21 54 48.8**	**-1.6**
MKAR			Sn	Sn	21 57 11.7	-9.0
MKAR			Lg	Lg	21 58 52.1	
MKAR	**Makanchi Array**	**13.56 316**	Pn	**Pn**	**21 54 48.3**	**-2.1**
	comp=Z,4.0nm,0.3s,baz=130,slow=11,SNR=100					
MKAR			Sn	Sn	21 57 11.7	-9.0
	baz=118,slow=18,SNR=2.2					
MKAR			Lg	Lg	21 58 52.1	
	baz=103,slow=24,SNR=2.8					
MKAR			LR	LR	21 59 54.9	
	comp=Z,149nm,19.1s,baz=119,slow=36					
DMN	**Daman**	**13.57 225**	*e*P	**Pn**	**21 54 48.2**	**-2.5**
	comp=Z,280nm,1.4s					
ZAK	**Zakamensk**	**13.72 20**	*e*P	**Pn**	**21 54 55.6**	**+3.0**
ZAK			pmax	pmax		
	comp=Z,84nm,1.7s					
DANN	**Dangsing**	**13.81 231**	*e*P	**Pn**	**21 54 51.0**	**-3.1**
	comp=Z,106nm,1.0s					
KMI	**Kunming**	**13.82 153**	P	**Pn**	**21 54 56.0**	**+1.8**
KMI			pP	P	21 54 58.5	-4.1
KMI			sP		21 54 59.5	
KMI			PP	**PnPn**	**21 55 05.8**	**+3.6**
KMI			S	**Sn**	**21 57 30.0**	**+2.4**
KMI			sS	S	21 57 33.5	-16
KMI			SS	**SnSn**	**21 57 46.0**	**+6.0**
KMI			pmax	pmax		
	comp=Z,9.0nm,1.1s					
KMI			LR	LR		
	comp=N,3μm,7.0s					
KMI			LR	LR		
	comp=E,2μm,7.0s					
KMI			LR	LR		
	comp=Z,4μm,8.3s					
KOLN	**Koldanda**	**14.33 230**	*e*P	Pn	21 54 57.3	-3.8
	comp=Z,66nm,0.9s					
MOY	**Mondy**	**14.41 13**	*e*P	Pn	21 55 05.4	+3.3
MOY			pmax	pmax		
	comp=Z,342nm,1.7s					
GYA	**Guiyang**	**14.43 138**	P	**Pn**	**21 55 02.0**	**-0.5**
GYA			PP	**PnPn**	**21 55 13.3**	**+2.9**
GYA			S	**Sn**	**21 57 43.8**	**+1.5**
GYA			SS	**S**	**21 58 01.0**	**-1.1**
GYA			PcP	**PcP**	**22 00 19.5**	**+1.6**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,140nm,5.0s					
GYA			LR	LR		
	comp=N,3μm,15.0s					
GYA			LR	LR		
	comp=E,2μm,14.8s					
GYA			LR	LR		
	comp=Z,3μm,15.4s					
TLY	**Talaya**	**15.00 19***c*	*i*P	**Pn**	**21 55 11.9**	**+1.9**
TLY			pmax	pmax		
	comp=Z,89nm,1.8s					
TLY			MLR	MLR		
	comp=Z,3μm,8.0s					
TLY	**Talaya**	**15.00 19**	P	**P**	**21 55 13.5**	**-1.9**
	comp=Z,173nm,1.7s,SNR=12					
KNDC	**Almaty**	**15.43 297**	⇑P	**Pn**	**21 55 13.1**	**-2.6**
	comp=Z,269nm,1.1s					
AAA	**Alma-Ata**	**15.46 297**	*i*P	**Pn**	**21 55 14.2**	**-1.9**
AAA			*i*S	**Sn**	**21 58 03.5**	**-3.5**
AAA			pmax	pmax		
	comp=Z,900nm,1.6s					
AAA			smax	smax		
	comp=N,500nm,2.2s					
AAA			MLR	MLR		
	comp=Z,3μm,8.0s					
IRK	**Irkutsk**	**15.67 19**	*e*P	**P**	**21 55 21.8**	**-1.0**
IRK			pmax	pmax		
	comp=Z,458nm,1.9s					
KSH	**Kashi**	**15.70 283**	P	**Pn**	**21 55 20.3**	**+1.0**
KSH			sP	**sP**	**21 55 27.3**	**-2.4**
KSH			PP	**PnPn**	**21 55 33.5**	**+5.9**
KSH			S	**Sn**	**21 58 14.0**	**+1.0**
KSH			pmax	pmax		
	comp=Z,36nm,1.1s					
KSH			pmax	pmax		
	comp=Z,140nm,2.4s					
KSH			LR	LR		
	comp=N,2μm,4.3s					
KSH			LR	LR		
	comp=E,1μm,3.4s					
KSH			LR	LR		
	comp=Z,820nm,4.8s					
ULHL	**Ulahol**	**15.74 293**	*i*P	**Pn**	**21 55 17.5**	**-2.5**
ULHL	**Ulahol**	**15.74 293**	P	**Pn**	**21 55 17.5**	**-2.5**
	SNR=11					
BJT	**Baijiatuau**	**15.94 75**	*e*Pn	**Pn**	**21 55 23.8**	**+1.5**
	comp=Z,183nm,0.9s					
BJI	**Beijing**	**15.95 75**	P	**Pn**	**21 55 22.3**	**-0.1**
BJI			pmax	pmax		
	comp=Z,210nm,1.1s					
BJI			pmax	pmax		
	comp=Z,320nm,3.5s					
BJI			LR	LR		
	comp=N,2μm,17.0s					
BJI			LR	LR		
	comp=E,2μm,17.4s					
BJI			LR	LR		
	comp=Z,460nm,14.2s					
BOK	**Bokaro**	**16.31 215**	*e*P	**Pn**	**21 55 24.9**	**-2.2**
BOK			AMB	AMB	21 55 27.1	
	comp=Z,41nm,1.1s					
TKM2	**Tokmak 2**	**16.34 295**	⇑P	**Pn**	**21 55 24.1**	**-3.5**
	comp=Z,152nm,0.9s					
TKM2	**Tokmak 2**	**16.34 295**	*i*P	**Pn**	**21 55 26.5**	**-1.1**
TKM2	**Tokmak 2**	**16.34 295**	P	**Pn**	**21 55 26.6**	**-1.1**
	SNR=122					
TKM2	**Tokmak 2**	**16.34 295**	*e*Pn	**Pn**	**21 55 25.4**	**-2.2**
	comp=Z,148nm,0.9s					
TKM2			*e*Sn	**Sn**	**21 58 28.2**	**-0.5**
KZA	**Kyzart**	**16.45 292**	*i*P	**Pn**	**21 55 27.9**	**-1.2**
KZA	**Kyzart**	**16.45 292**	P	**Pn**	**21 55 27.9**	**-1.2**
	SNR=18					
DDI	**Dehra Dun**	**16.53 249**	*e*P	**Pn**	**21 55 30.6**	**+0.7**
DDI			AMB	AMB	21 55 38.1	
	comp=Z,105nm,0.8s					
KBK	**Karagaybulak**	**16.76 294**	*i*P	**Pn**	**21 55 32.1**	**-0.8**
KBK	**Karagaybulak**	**16.76 294**	P	**Pn**	**21 55 32.1**	**-0.8**
	SNR=72					
SMLA	**Simla**	**16.80 253**	*i*P	**Pn**	**21 55 31.2**	**-2.0**
SMLA			AMB	AMB	21 55 40.5	
	comp=Z,74nm,1.1s					
SMLA			*i*x	x	21 58 45.7	
WHN	**Wuhan**	**16.84 110**	P	**Pn**	**21 55 32.3**	**-1.4**
WHN			S	**Sn**	**21 58 45.3**	**+4.8**
WHN			LR	LR		
	comp=N,8μm,8.2s					
WHN			LR	LR		
	comp=E,3μm,6.1s					
WHN			LR	LR		
	comp=Z,9μm,9.8s					
CHMS	**Chumysh**	**16.96 295**	*i*P	**Pn**	**21 55 33.2**	**-2.1**
CHMS	**Chumysh**	**16.96 295**	P	**Pn**	**21 55 33.2**	**-2.1**
	SNR=33					
DHRM	**DHARAMSHALA**	**16.97 257**	*e*P	**Pn**	**21 55 34.3**	**-1.4**
DHRM			AMB	AMB	21 55 48.7	
	comp=Z,169nm,1.6s					
UCH	**Uchtor**	**17.01 292**	*i*P	**Pn**	**21 55 35.6**	**-0.8**
UCH	**Uchtor**	**17.01 292**	P	**Pn**	**21 55 35.5**	**-0.8**
	SNR=7.4					
TIA	**Tai'an**	**17.02 89**	⇓P	**Pn**	**21 55 34.3**	**-1.7**
TIA			pmax	pmax		
	comp=Z,60nm,1.9s					
TIA			LR	LR		
	comp=N,4μm,16.3s					
TIA			LR	LR		
	comp=E,2μm,12.8s					
TIA			LR	LR		
	comp=Z,1μm,14.0s					
FRU	**Bishkek**	**17.03 294**	*e*P	**Pn**	**21 55 34.5**	**-1.7**
FRU			*e*S	**Sn**	**21 58 44.0**	**-1.2**
FRU			pmax	pmax		
	comp=Z,210nm,1.6s					
FRU			MLR	MLR		
	comp=Z,2μm,8.0s					
AAK	**Ala-Archa**	**17.09 293**	Pn	**Pn**	**21 55 36.0**	**-1.1**
	comp=Z,308nm,1.0s,SNR=14					
AAK	**Ala-Archa**	**17.09 293***c*	*i*P	**Pn**	**21 55 36.3**	**-0.7**
AAK			pmax	pmax		
	comp=Z,74nm,1.0s					
AAK	**Ala-Archa**	**17.09 293**	Pn	**Pn**	**21 55 35.6**	**-1.4**
	SNR=40					
AAK	**Ala-Archa**	**17.09 293**	P	**Pn**	**21 55 36.2**	**-0.7**
	SNR=19					
AAK	**Ala-Archa**	**17.09 293**	P	**Pn**	**21 55 35.9**	**-1.1**
AAK	**Ala-Archa**	**17.09 293**	P	**Pn**	**21 55 35.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=92,slow=13,SNR=40					
AAK			LR	LR	22 02 50.8	
	comp=Z,508nm,20.7s,baz=94,slow=39					
DLH	**Dalhousie**	**17.11 258**	*ex*	**P**	**21 55 40.0**	**+0.9**
USP	**Ospenovka**	**17.20 296**	*i*P	**Pn**	**21 55 36.8**	**-1.5**
USP	**Ospenovka**	**17.20 296**	P	**Pn**	**21 55 36.8**	**-1.5**
	SNR=63					
BHK	**Bhakra**	**17.23 254**	*ex*	**P**	**21 55 35.5**	**-4.7**
AML	**Almayashu**	**17.60 291**	*i*P	**P**	**21 55 44.9**	**+0.3**
AML	**Almayashu**	**17.60 291**	P	**P**	**21 55 44.9**	**+0.3**
	SNR=38					
EKS2	**Erkin-Say**	**17.61 293**	*e*P	**P**	**21 55 44.1**	**-0.4**
EKS2			*e*S	**S**	**21 59 04.5**	**-2.5**
EKS2			pmax	pmax		
	comp=Z,46nm,1.0s					
EKS2	**Erkin-Say**	**17.61 293**	P	**P**	**21 55 44.1**	**-0.4**
	SNR=32					
EKS2	**Erkin-Say**	**17.61 293**	*e*Pn	**P**	**21 55 44.1**	**-0.4**
	comp=Z,46nm,1.0s					
EKS2			*e*S	**S**	**21 59 04.5**	**-2.5**
KURBB	**Kurchatov Arra**	**17.89 322**	P	**Pn**	**21 55 44.9**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=133,slow=11,SNR=101					
KURBB			Lg	Lg	22 01 08.9	
	baz=129,slow=28,SNR=3.9					
KURK	**Kurchatov**	**17.91 322**	P	**Pn**	**21 55 44.9**	**-2.1**
KURK			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KURK	**Kurchatov**	**17.91 322**	P	**Pn**	**21 55 44.9**	**-2.1**
KURK			Lg	Lg	22 01 08.8	
ZAA0	**Zalesovo Array**	**17.95 338**	*e*Pn	**Pn**	**21 55 46.4**	**-1.1**
ZAA0			*e*Sn	**Sn**	**21 59 08.3**	**+1.0**
ZALV	**Zalesovo Beam**	**17.95 338**	*i*P	**Pn**	**21 55 47.5**	**0.0**
ZALV			pmax	pmax		
	comp=Z,20nm,0.7s					
ZALV	**Zalesovo Beam**	**17.95 338**	P	**Pn**	**21 55 47.1**	**-0.4**
ZALV			Lg	Lg	22 01 01.1	
ZALV	**Zalesovo Beam**	**17.95 338**	P	**Pn**	**21 55 47.1**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=153,slow=12,SNR=49					
ZALV			Lg	Lg	22 01 01.1	
	comp=Z,0.1nm,0.3s,baz=147,slow=24,SNR=8.0					
NDI	**New Delhi**	**18.03 246**	*ex*	P	21 55 42.0	-7.0
CHCP	**Chirah Chowk**	**18.83 264**	P	**Pn**	**21 55 58.3**	**-0.1**
CIT	**Chita**	**18.93 35**	*e*P	**Pn**	**21 55 59.4**	**-0.1**
CIT			pmax	pmax		
	comp=Z,168nm,2.2s					
CHTO	**Chiang Mai**	**19.01 171**	*e*P	**P**	**21 55 59.0**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,32nm,1.4s					
CHTO	**Chiang Mai**	**19.01 171**	P	**Pn**	**21 56 00.7**	**+0.1**
	SNR=6.0					
CHTO	**Chiang Mai**	**19.01 171**	*e*P	**P**	**21 55 59.0**	**-0.8**
	comp=Z,32nm,1.4s					
CHTO	**Chiang Mai**	**19.01 171**	P	**P**	**21 55 59.5**	**-0.3**
	comp=Z,23nm,1.1s,comp=Z,547nm					
NVS	**Novosibirsk**	**19.20 337**⇑	*i*P	**P**	**21 56 02.1**	**+0.5**
NVS			*e*S	**S**	**21 59 42.6**	**+4.1**
NVS			pmax	pmax		
	comp=Z,169nm,1.2s					
NVS			pmax	pmax		
	comp=N,140nm,1.5s					
NVS			pmax	pmax		
	comp=E,45nm,0.8s					
CM31	**Chiang Mai Arr**	**19.36 171**	*e*P	**P**	**21 56 03.2**	**-0.5**
	comp=E,16nm,0.7s					
CMAR	**Chiang Mai Arr**	**19.36 171**	P	**P**	**21 56 03.2**	**-0.5**
CMAR			PcP	**PcP**	**22 00 24.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.36 171**	P	**P**	**21 56 03.2**	**-0.5**
	comp=E,0.8nm,0.3s,baz=342,slow=9.9,SNR=23					
CMAR			PcP	**PcP**	**22 00 24.9**	**-0.6**
	comp=E,0.1nm,0.3s,baz=309,slow=2.1,SNR=6.1					
CMAR			LR	LR	22 04 44.7	
	comp=E,172nm,19.1s,baz=91,slow=41					
NJ2	**Nanjing**	**19.62 100**	*e*P	**Pn**	**21 56 07.3**	**-0.6**
NJ2			pP	**pP**	**21 56 10.5**	**-0.4**
NJ2			sP	**sP**	**21 56 13.3**	**+0.4**
NJ2			PP	**PnPn**	**21 56 25.3**	**+3.9**
NJ2			S	**S**	**21 59 43.0**	**-4.5**
NJ2			sS	**Sn**	**21 59 49.0**	**+1.1**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,320nm,4.2s					
NJ2			LR	LR		
	comp=N,1μm,11.2s					
NJ2			LR	LR		
	comp=E,1μm,10.6s					
NJ2			LR	LR		
	comp=Z,1μm,12.4s					
CEP	**Cherat**	**19.85 266**	P	**P**	**21 56 08.3**	**-0.8**
KK31	**Karatay Array**	**20.05 294**	P	**P**	**21 56 11.4**	**+0.3**
	comp=Z,80nm,1.0s,baz=90,slow=11,SNR=370					
KKAR	**Karatay Array**	**20.05 294**	*e*P	**P**	**21 56 11.4**	**+0.3**
KKAR			*e*S	**S**	**21 59 55.5**	**-0.4**
KKAR	**Karatay Array**	**20.05 294**	*e*P	**P**	**21 56 11.4**	**+0.3**
KKAR			*e*S	**S**	**21 59 55.5**	**-0.4**
DL2	**Dalian**	**20.20 79**	P	**P**	**21 56 13.0**	**+0.3**
DL2			S	Sn	22 00 01.3	-0.3
DL2			pmax	pmax		
	comp=Z,190nm,0.8s					
DL2			pmax	pmax		
	comp=Z,330nm,4.8s					
DL2			LR	LR		
	comp=N,700nm,11.3s					
DL2			LR	LR		
	comp=E,620nm,15.6s					
DL2			LR	LR		
	comp=Z,810nm,11.7s					
THW	**Thamme Wali**	**20.32 263**	P	**P**	**21 56 13.0**	**-1.2**
HIA	**Hailar**	**20.70 48**	*e*P	**P**	**21 56 18.2**	**+0.1**
	comp=Z,118nm,1.4s					
GZH	**Guangzhou**	**20.88 129**	P	**P**	**21 56 17.5**	**-2.7**
GZH			S	**S**	**22 00 10.5**	**-2.1**
GZH			LR	LR		
	comp=N,3μm,12.3s					
GZH			LR	LR		
	comp=E,5μm,10.1s					
GZH			LR	LR		
	comp=Z,8μm,12.3s					
BHPL	**Bhopal**	**21.44 233**	*ex*	**P**	**21 56 24.4**	**-1.9**
SNY	**Shenyang**	**21.61 70**	⇑P	**P**	**21 56 27.8**	**-0.2**
SNY			pmax	pmax		
	comp=Z,82nm,1.0s					
SNY			LR	LR		
	comp=N,1μm,8.7s					
SNY			LR	LR		
	comp=E,2μm,7.4s					
SNY			LR	LR		
	comp=Z,2μm,8.7s					
SSE	**Sheshan**	**21.83 100**	P	**P**	**21 56 27.0**	**-3.4**
SSE			S	**S**	**22 00 28.8**	**-2.4**
SSE			sS	**sS**	**22 00 33.5**	**-4.8**
SSE			pmax	pmax		
	comp=Z,53nm,1.0s					
SSE			pmax	pmax		
	comp=Z,130nm,3.8s					
SSE			LR	LR		
	comp=N,890nm,9.5s					
SSE			LR	LR		
	comp=E,370nm,9.5s					
SSE			LR	LR		
	comp=Z,760nm,11.3s					
KBL	**Kabul**	**21.91 270**	*e*P	**P**	**21 56 31.6**	**+0.1**
KBL			*e*S	**S**	**22 00 32.8**	**-0.4**
KBL			pmax	pmax		
	comp=Z,251nm,1.5s					
KBL	**Kabul**	**21.91 270**	*e*P	**P**	**21 56 31.6**	**+0.1**
	comp=Z,251nm,1.5s					
KBL			*e*S	**S**	**22 00 32.8**	**-0.4**
NGP	**Nagpur**	**22.03 226**	*e*P	**P**	**21 56 30.6**	**-2.1**
NGP			*ex*	x	22 00 33.7	
QIZ	**Qiongzhong**	**22.23 143**	P	**P**	**21 56 34.3**	**-0.5**
QIZ			S	S	22 00 31.0	-8.0
QIZ			LR	LR		
	comp=N,950nm,8.2s					
QIZ			LR	LR		
	comp=E,550nm,9.0s					
QIZ			LR	LR		
	comp=Z,1μm,10.4s					
QIZ	**Qiongzhong**	**22.23 143**	*e*P	**P**	**21 56 33.8**	**-1.0**
	comp=Z,54nm,1.0s					
QIZ			*e*PcP	**PcP**	**22 00 31.3**	**+0.4**
VIS	**Vishakhapatnam**	**22.77 212**	*e*P	**P**	**21 56 41.2**	**+0.7**
VOSK	**Vostochnaya**	**22.95 319**	⇑P	**P**	**21 56 40.4**	**-1.7**
	comp=Z,144nm,1.4s					
VOSK	**Vostochnaya**	**22.95 319**	*e*P	**P**	**21 56 42.1**	**-0.1**
VOSK	**Vostochnaya**	**22.95 319**	*e*P	**P**	**21 56 42.0**	**-0.1**
CN2	**Changchun**	**23.11 65**	*e*P	**P**	**21 56 43.3**	**-0.6**
CN2			*es*P	**sP**	**21 56 51.3**	**+1.0**
CN2			*e*S	**S**	**22 00 48.0**	**-6.5**
CN2			pmax	pmax		
	comp=Z,50nm,1.2s					
CN2			pmax	pmax		
	comp=Z,360nm,5.0s					
CN2			LR	LR		
	comp=N,1μm,10.0s					
CN2			LR	LR		
	comp=E,2μm,10.0s					
CN2			LR	LR		
	comp=Z,2μm,10.0s					
BVA0	**Borovoye Array**	**23.41 319**	⇑P	**P**	**21 56 47.1**	**+0.3**
	comp=Z,81nm,1.1s,baz=113,slow=10,SNR=218					
BVAR	**Borovoye Array**	**23.41 319**	P	**P**	**21 56 47.0**	**+0.2**
BVAR			pmax	pmax		
	comp=Z,13nm,0.6s					
BVAR			MLR	MLR		
	comp=Z,1μm,19.2s					
BVAR	**Borovoye Array**	**23.41 319**	P	**P**	**21 56 47.0**	**+0.2**
BVAR	**Borovoye Array**	**23.41 319**	P	**P**	**21 56 47.0**	**+0.2**
	comp=Z,13nm,0.6s,baz=115,slow=8.2,SNR=88					
BVAR			LR	LR	22 06 39.6	
	comp=Z,1μm,19.1s,baz=112,slow=38					
BRVK	**Borovoye**	**23.48 319**	P	**P**	**21 56 48.1**	**+0.6**
	comp=Z,293nm,0.9s,SNR=26					
BRVK	**Borovoye**	**23.48 319**	⇑P	**P**	**21 56 47.6**	**0.0**
	comp=Z,148nm,1.4s					
BRVK	**Borovoye**	**23.48 319***c*	*i*P	**P**	**21 56 47.7**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,146nm,2.5s					
BRVK	**Borovoye**	**23.48 319**	P	**P**	**21 56 47.9**	**+0.4**
	SNR=49					
AKL	**Akola**	**23.57 229**	*e*P	**P**	**21 56 50.2**	**+1.6**
AKL			AMB	AMB	21 56 53.6	
	comp=Z,135nm,1.4s					
INCN	**Inchon**	**24.29 81**	P	**P**	**21 56 55.4**	**0.0**
	SNR=7.1					
INCN	**Inchon**	**24.29 81**	*e*P	**P**	**21 56 55.1**	**-0.2**
	comp=Z,90nm,0.8s					
TJN	**Taejon**	**25.08 83**	*i*P	**P**	**21 57 01.3**	**-1.2**
YHNB	**Yeheng**	**25.27 114**	*e*P	**P**	**21 57 03.8**	**-0.6**
	comp=Z,64nm,1.0s					
KSAR	**Wonju Array Be**	**25.27 81**	P	**P**	**21 57 03.6**	**-0.6**
KSRS	**Korea Array**	**25.30 81**	P	**P**	**21 57 03.6**	**-0.9**
	comp=Z,38nm,0.7s,baz=273,slow=9.7,SNR=83					
KSRS			LR	LR	22 06 37.2	
	comp=Z,199nm,19.5s,baz=280,slow=36					
HYB	**Hyderabad**	**25.32 222**	*i*P	**P**	**21 57 05.0**	**+0.1**
HYB			*i*		22 01 26.0	
HYB	**Hyderabad**	**25.32 222**	*e*P	**P**	**21 57 06.1**	**+1.2**
HYB			AMB	AMB	21 57 09.0	
	comp=Z,30nm,0.8s					
SSLB	**Suanglung**	**25.50 116**	*e*P	**P**	**21 57 07.0**	**+0.5**
	comp=Z,60nm,1.0s					
TPUB	**Ta-pu**	**25.58 117**	*e*P	**P**	**21 57 07.0**	**-0.2**
	comp=Z,56nm,1.0s					
LATR	**Latur**	**25.62 227**	*ex*	**P**	**21 57 03.5**	**-4.0**
LATR			AMB	AMB	21 57 09.7	
	comp=Z,70nm,1.4s					
NACB	**Ninganchiao**	**25.73 114**	*e*P	**P**	**21 57 09.3**	**+0.8**
	comp=Z,82nm,0.9s					
YULB	**Yu-li**	**26.00 116**	*e*P	**P**	**21 57 10.9**	**0.0**
	comp=Z,28nm,0.9s					
PBA	**Port Blair**	**26.10 187**	*e*P	P	21 57 11.8	0.0
PBA			AMB	AMB	21 57 29.3	
	comp=Z,137nm,0.8s					
MDJ	**Mudanjiang**	**26.14 64**	P	**P**	**21 57 12.5**	**+0.4**
MDJ			pP	**pP**	**21 57 16.0**	**-0.7**
MDJ			PcP	**PcP**	**22 00 38.5**	**-0.5**
MDJ			S	**S**	**22 01 44.0**	**+0.9**
MDJ			ScS	**ScS**	**22 08 07.0**	**-0.8**
MDJ			pmax	pmax		
	comp=Z,16nm,1.6s					
MDJ			pmax	pmax		
	comp=Z,110nm,5.3s					
MDJ			LR	LR		
	comp=N,1μm,8.0s					
MDJ			LR	LR		
	comp=E,740nm,13.9s					
MDJ			LR	LR		
	comp=Z,860nm,10.0s					
TWG	**Pinlang**	**26.20 117**	*e*P	**P**	**21 57 13.1**	**+0.4**
	comp=Z,254nm,0.9s					
POO	**Poona**	**27.16 231**	*e*P	**P**	**21 57 21.3**	**-0.2**
POO			AMB	AMB	21 57 25.1	
	comp=Z,63nm,2.2s					
USRK	**Ussuriysk Arra**	**27.84 65**	P	**P**	**21 57 26.7**	**-0.6**
	comp=Z,7.0nm,0.9s,baz=270,slow=8.6,SNR=14					
USRK			LR	LR	22 07 45.3	
	comp=Z,157nm,21.6s,baz=17,slow=35			

AB31	**Abkulak array**	28.28 306	P	P	21 57 31.6	+0.4
	comp=Z,13nm,0.9s,baz=97,slow=9.4,SNR=64					
ABKAR	**Abkulak array**	28.28 306	*e*P	P	21 57 31.9	+0.7
JNU	**Nakatsue**	28.75 89	P	P	21 57 33.8	-1.8
JNU	**Nakatsue**	28.75 89	P	P	21 57 33.8	-1.8
	comp=Z,8.6nm,0.9s,baz=350,slow=19,SNR=3.0					
AKTO	**Aktyubinsk**	29.72 308	⇑P	P	21 57 44.8	+0.8
	comp=Z,39nm,1.2s					
AKTO	**Aktyubinsk**	29.72 308	P	P	21 57 44.4	+0.4
AKTO			pmax	pmax		
	comp=Z,16nm,0.8s					
AKTO			MLR	MLR		
	comp=Z,149nm,18.2s					
AKTO	**Aktyubinsk**	29.72 308	P	P	21 57 44.4	+0.4
AKTO	**Aktyubinsk**	29.72 308	P	P	21 57 44.4	+0.4
	comp=Z,16nm,0.8s,baz=95,slow=9.0,SNR=37					
AKTO			LR	LR	22 09 56.9	
	comp=Z,149nm,18.2s,baz=291,slow=37					
SVE	**Sverdlovsk**	30.15 321	⇑*i*P	P	21 57 49.0	+1.3
SVE			*e*S	S	22 02 45.9	0.0
SVE			*e*		22 04 25.8	
SVE			pmax	pmax		
	comp=Z,50nm,1.3s					
SVE			MLR	MLR		
	comp=Z,936nm,15.0s					
ARU	**Arti**	31.06 319*c*	*i*P	P	21 57 55.9	+0.2
ARU					21 58 57.4	
ARU			PPP	PPP	21 59 09.2	
ARU					22 00 46.6	
ARU			S	S	22 03 05.7	+5.6
ARU			pmax	pmax		
	comp=Z,92nm,1.7s					
ARU			MLR	MLR		
	comp=Z,1μm,18.0s					
ARU	**Arti**	31.06 319	P	P	21 57 56.2	+0.5
	comp=Z,260nm,0.9s,SNR=22					
YAK	**Yakutsk**	32.01 30	*e*P	P	21 58 02.3	-1.7
YAK			*e**PP	pP	21 58 12.2	+3.5
YAK			*e*PPP	PPP	21 59 16.2	
YAK			*e*		22 00 52.3	
YAK			*e*S	S	22 03 11.2	-3.6
YAK			*e**SS	sS	22 03 25.4	+2.8
YAK			*e*		22 08 28.9	
YAK			pmax	pmax		
	comp=Z,16nm,1.3s					
YAK			pmax	pmax		
	comp=N,6.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,13nm,1.4s					
YAK			smax	smax		
	comp=E,54nm,2.5s					
YAK			smax	smax		
	comp=N,86nm,4.0s					
YAK			MLR	MLR		
	comp=N,530nm,11.0s					
YAK			MLR	MLR		
	comp=E,1μm,12.0s					
YAK			MLR	MLR		
	comp=Z,2μm,13.0s					
SOKR	**Solikamsk**	33.14 324*c*	*i*P	P	21 58 14.4	+0.5
SOKR			pmax	pmax		
	comp=Z,30nm,1.2s					
SOKR			MLR	MLR		
	comp=Z,430nm,18.0s					
MAT	**Matsushiro**	33.53 79	P	P	21 58 17.5	-0.2
MJAR	**Matsushiro Arr**	33.53 79	P	P	21 58 15.6	-2.1
MJAR			PcP	PcP	22 00 57.1	-1.1
MJAR	**Matsushiro Arr**	33.53 79	P	P	21 58 15.6	-2.1
	comp=Z,2.8nm,0.7s,baz=288,slow=8.9,SNR=9.4					
MJAR			PcP	PcP	22 00 57.1	-1.1
	comp=Z,1.8nm,0.8s,baz=282,slow=2.7,SNR=6.1					
YSS	**Yuzh-Sakhalins**	35.38 60	*e*P	P	21 58 38.0	+4.5
YSS			MLR	MLR		
	comp=Z,1μm,13.0s					
ASAJ	**Asahikawa**	35.47 65	*e*P	P	21 58 34.1	-0.3
	comp=Z,11nm,0.8s					
ASAJ	**Asahikawa**	35.47 65	P	P	21 58 34.0	-0.3
	comp=Z,24nm,0.8s,baz=284,slow=10.0,SNR=18					
ASAJ			LR	LR	22 14 22.4	
	comp=Z,360nm,20.2s,baz=179,slow=39					
MAK	**Makhachkala**	36.87 294	*e*P	P	21 58 43.5	-2.8
MAK			*e*		22 00 11.3	
MAK			*e*S	S	22 04 27.8	-2.4
MAK			pmax	pmax		
	comp=Z,45nm,1.0s					
MAK			MLR	MLR		
	comp=Z,690nm,12.0s					
YUK	**Yuzh-Kuril'sk**	37.81 64	*i*P	P	21 58 54.2	-0.1
YUK			*e*		22 00 20.4	
YUK			S	S	22 04 43.5	-1.0
YUK			pmax	pmax		
	comp=Z,1μm,2.4s					
YUK			pmax	pmax		
	comp=E,44nm,1.2s					
YUK			pmax	pmax		
	comp=Z,239nm,1.2s					
YUK			pmax	pmax		
	comp=N,115nm,1.2s					
TIXI	**Tiksi**	37.95 16	*e*P	P	21 58 55.1	0.0
TIXI			pmax	pmax		
	comp=Z,17nm,0.8s					
TIXI			MLR	MLR		
	comp=Z,693nm,19.0s					
SBUM	**Sibu**	38.15 153	*e*P	P	21 58 56.7	-0.6
	comp=Z,26nm,1.2s					
SBUM	**Sibu**	38.15 153	P	P	21 58 57.2	-0.1
	comp=Z,19nm,1.2s					
MYLDM	**Lahad Datu**	38.37 142	P	P	21 59 00.4	+1.2
	comp=Z,158nm,1.0s					
KSM	**Kuching**	38.41 156	*e*P	P	21 58 59.5	-0.1
	comp=Z,16nm,0.9s					
KSM	**Kuching**	38.41 156	P	P	21 58 59.7	+0.1
	comp=Z,24nm,1.0s					
DGRG	**David-gareji**	38.69 292	P	P	21 59 03.8	+2.0
DUS	**Dusheti**	39.06 293	P	P	21 59 07.4	+2.5
TBLG	**Delisi**	39.10 292	*e*P	P	21 59 06.2	+1.0
TBLG	**Delisi**	39.10 292	P	P	21 59 06.2	+1.0
GUDG	**Gudauri**	39.15 294	P	P	21 59 06.9	+1.0
KZR	**Kazreti**	39.41 292	P	P	21 59 12.2	+4.3
GNI	**Garni**	39.44 290	P	P	21 59 11.0	+2.7
	SNR=12					
GNI	**Garni**	39.44 290	*e*P	P	21 59 09.0	+0.8
	comp=Z,23nm,0.9s					
GNI			*e*PP	PP	22 00 37.2	-1.4
GNI	**Garni**	39.44 290	P	P	21 59 09.5	+1.3
	comp=Z,6.7nm,0.7s,baz=4.4,slow=8.6,SNR=7.3					
ONI	**Oni**	39.87 294	P	P	21 59 11.0	-0.7
KBZ	**Khabaz**	40.06 296	P	P	21 59 13.2	+0.1
KBZ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KBZ			MLR	MLR		
	comp=Z,271nm,20.0s					
KBZ	**Khabaz**	40.06 296	P	P	21 59 13.2	+0.1
KBZ	**Khabaz**	40.06 296	P	P	21 59 13.2	+0.1
	comp=Z,6.7nm,0.8s,baz=88,slow=7.3,SNR=23					
KBZ			LR	LR	22 18 05.5	
	comp=Z,271nm,19.9s,baz=291,slow=40					
AKH	**Akhalkalaki**	40.08 292	P	P	21 59 14.9	+1.3
VRHR	**Novokhopersk**	40.13 307	*e*P	P	21 59 12.9	-0.7
VRHR			pmax	pmax		
	comp=E,60nm,1.3s					
VRHR			pmax	pmax		
	comp=Z,60nm,1.3s					
VRHR			pmax	pmax		
	comp=N,20nm,0.8s					
KBD	**Kabd**	40.76 273	*e*P	P	21 59 19.5	+0.4
RDF	**Al-Radifah**	40.98 272	*e*P	P	21 59 21.1	+0.2
RDF			AMb	AMB	21 59 22.7	
	comp=Z,52nm,1.2s					
NAY	**Al-Naaiem**	41.09 273	*e*P	P	21 59 22.3	+0.5
NAY			AMb	AMB	21 59 26.2	
	comp=Z,4.5nm,0.8s					
RST	**Umm Al-Ruwaisa**	41.17 273	*e*P	P	21 59 22.7	+0.1
RST			AMb	AMB	21 59 26.9	
	comp=Z,1μm,0.8s					
VORD	**Divnogorie**	41.61 307	*e*P	P	21 59 25.5	-0.3
VORD			pmax	pmax		
	comp=Z,30nm,1.4s					
VORD			pmax	pmax		
	comp=N,10.0nm,0.8s					
VORD			pmax	pmax		
	comp=E,30nm,0.8s					
VOR	**Voronezh**	41.62 308	P	P	21 59 26.0	+0.2
VOR			pmax	pmax		
	comp=Z,250nm,1.2s					
VSR	**Storozhevoye**	41.67 308	*e*P	P	21 59 26.1	-0.2
VSR			pmax	pmax		
	comp=Z,80nm,1.4s					
VSR			pmax	pmax		
	comp=N,10.0nm,0.6s					
VSR			pmax	pmax		
	comp=E,100nm,1.1s					
SEY	**Seymchan**	42.09 35	*e*P	P	21 59 31.2	+1.6
SOC	**Sochi**	42.35 296	*e*P	P	21 59 30.6	-1.4
SOC			*e*S	S	22 05 51.6	-0.9
SOC			pmax	pmax		
	comp=Z,14nm,0.6s					
SOC			MLR	MLR		
	comp=Z,370nm,13.0s					
MOS	**Moscow**	42.44 315	*e*P	P	21 59 31.7	-0.8
MOS			*e*		22 01 08.6	
MOS			*e*S	S	22 05 58.4	+5.0
MOS			pmax	pmax		
	comp=Z,122nm,1.2s					
MOS			MLR	MLR		
	comp=Z,900nm,18.0s					
TMCR	**Tamitsa**	42.93 327	*e*P	P	21 59 35.8	-0.5
TMCR			*e*		22 01 26.6	
TMCR			pmax	pmax		
	comp=Z,47nm,1.0s					
OBN	**Obninsk**	43.05 314	⇑*i*P	P	21 59 37.3	-0.1
OBN			*i*		22 01 16.8	
OBN			*e*S	S	22 06 03.2	+0.9
OBN			*e*SS	SS	22 09 09.7	-4.6
OBN			pmax	pmax		
	comp=Z,60nm,1.2s					
OBN			MLR	MLR		
	comp=Z,700nm,17.0s					
OBN	**Obninsk**	43.05 314	P	P	21 59 37.9	+0.5
	comp=Z,187nm,1.4s,SNR=5.6					
ANN	**Anapa**	43.71 299*c*	*i*P	P	21 59 42.7	-0.2
ANN			*e*		22 01 23.0	
ANN			*e*S	S	22 06 15.2	+2.9
ANN			pmax	pmax		
	comp=Z,71nm,1.1s					
MZRK	**Al-Mazaregh**	43.77 285	*e*P	P	21 59 44.5	+0.9
SFNV	**Sufian**	43.98 286	*e*P	P	21 59 47.0	+1.6
PETK	**Petropavlovsk-**	44.60 49	P	P	21 59 50.5	+0.5
PETK			pmax	pmax		
	comp=Z,12nm,0.8s					
PETK			MLR	MLR		
	comp=Z,78nm,21.0s					
PETK	**Petropavlovsk-**	44.60 49	P	P	21 59 50.5	+0.5
PETK	**Petropavlovsk-**	44.60 49	P	P	21 59 50.5	+0.5
	comp=Z,12nm,0.8s,baz=273,slow=8.8,SNR=7.7					
PETK			LR	LR	22 19 00.1	
	comp=Z,78nm,21.0s,baz=105,slow=37					
MALT	**Malatya**	44.66 289	⇓*i*P	P	21 59 52.8	+2.0
APA	**Apatity**	45.34 331	⇓*e*P	P	21 59 49.0	-6.7
APA			MLR	MLR		
	comp=Z,800nm,13.0s					
JOF	**Joensuu**	45.80 325	*e*p	P	21 59 59.9	+0.6
	comp=Z,18nm,0.7s					
SIM	**Simferopol'**	45.98 300	*c*e*P	P	22 00 00.9	-0.1
SIM			*e*S	S	22 06 45.9	+0.6
SIM			pmax	pmax		
	comp=Z,26nm,0.9s					
ARNB	**Al Arnab**	47.32 287	*e*P	P	22 00 12.8	+1.0
ZALF	**Zalf**	47.38 283	*e*P	P	22 00 13.5	+1.3
MARH	**Ras Al Marh**	47.61 284	*e*P	P	22 00 14.3	-0.1
BR131	**Keskin Array S**	47.76 293	*e*P	P	22 00 15.1	-0.1
	comp=Z,16nm,0.8s					
BRTR	**Keskin Array B**	47.76 293	P	P	22 00 15.8	+0.5
BRTR	**Keskin Array B**	47.76 293	P	P	22 00 15.8	+0.5
	comp=Z,21nm,0.8s,baz=96,slow=7.4,SNR=39					
TOTH	**TOTAH**	47.91 284	*e*P	P	22 00 16.4	+0.1
HWQ	**Hawqa**	47.92 285	*e*P	P	22 00 17.0	+0.5
SALA	**Sala**	47.93 283	*e*P	P	22 00 18.7	+2.1
KAPI	**Kappang**	47.94 147	P	P	22 00 14.6	-2.0
KAPI	**Kappang**	47.94 147	P	P	22 00 14.6	-2.0
	comp=Z,4.0nm,0.7s,baz=263,slow=8.1,SNR=3.4					
AKASG	**Malin Array Be**	47.97 308	*c*e*P	P	22 00 16.7	+0.3
AKASG			pmax	pmax		
	comp=Z,12nm,0.8s					
AKASG	**Malin Array Be**	47.97 308	P	P	22 00 16.2	-0.2
AKASG			PP	PP	22 02 10.0	+1.7
AKASG	**Malin Array Be**	47.97 308	P	P	22 00 16.2	-0.2
	comp=Z,12nm,0.9s,baz=69,slow=6.9,SNR=24					
AKASG			PP	PP	22 02 10.0	+1.7
	comp=Z,0.6nm,0.4s,baz=68,slow=8.4,SNR=4.3					
KIEV	**Kiev**	47.98 308	*e*P	P	22 00 16.4	-0.1
KIEV			pmax	pmax		
	comp=Z,36nm,1.3s					
KIEV	**Kiev**	47.98 308	*e*P	P	22 00 16.4	-0.1
	comp=Z,36nm,1.3s					
ASF	**Jabal al Asfar**	48.01 282	P	P	22 00 18.7	+1.5
ASF	**Jabal al Asfar**	48.01 282	P	P	22 00 18.7	+1.5
	comp=Z,22nm,0.8s,baz=27,slow=4.5,SNR=26					
MICGM	**Minsk**	48.11 313	*e*	P	22 00 16.0	-1.5
KAF	**Kangasniemi**	48.13 324	*e*P	P	22 00 16.9	-0.7
KAF	**Kangasniemi**	48.13 324	*e*p	P	22 00 16.9	-0.7
VSU	**Vasula**	48.22 319	*e*P	P	22 00 18.9	+0.6
VSU			pmax	pmax		
	comp=Z,111nm,1.0s					
BRBR	**Barbar**	48.26 284	*e*P	P	22 00 20.8	+1.5
FINES	**FINESS Array B**	48.28 323	P	P	22 00 18.5	-0.3
FINES	**FINESS Array B**	48.28 323	P	P	22 00 18.5	-0.3
	comp=Z,13nm,0.9s,baz=87,slow=7.7,SNR=19					
FINES			LR	LR	22 21 39.5	
	comp=Z,352nm,18.8s,baz=276,slow=37					
BHL	**Bhannes**	48.29 285	*e*P	P	22 00 19.9	+0.5
RCY	**Rachaya**	48.31 284	*e*P	P	22 00 20.9	+1.3
ANTO	**Ankara**	48.33 293	*e*P	P	22 00 20.5	+0.9
ANTO			pmax	pmax		
	comp=Z,78nm,1.6s					
ANTO	**Ankara**	48.33 293	P	P	22 00 21.2	+1.6
	SNR=9.0					
ANTO	**Ankara**	48.33 293	⇓*i*P	P	22 00 20.8	+1.2
ANTO	**Ankara**	48.33 293	*e*P	P	22 00 20.5	+0.9
	comp=Z,78nm,1.6s					
ARCES	**ARCESS Array B**	48.42 334	P	P	22 00 20.1	+0.4
ARCES			PcP	PcP	22 01 44.6	-1.2
ARCES	**ARCESS Array B**	48.42 334	P	P	22 00 20.1	+0.4
	comp=Z,9.2nm,1.0s,baz=88,slow=6.9,SNR=17					
ARCES			PcP	PcP	22 01 44.6	-1.2
	comp=Z,1.9nm,0.7s,baz=97,slow=4.6,SNR=3.2					
ARCES			LR	LR	22 22 00.2	
	comp=Z,173nm,19.1s,baz=93,slow=38					
NACGM	**Naroch**	48.68 314	*e*	P	22 00 20.0	-1.9
MMAI	**Mount Meron Ar**	48.83 284	P	P	22 00 24.8	+1.3
MMAI	**Mount Meron Ar**	48.83 284	P	P	22 00 24.8	+1.3
	comp=Z,40nm,1.0s,baz=80,slow=9.4,SNR=21					
KIS	**Kishinev**	49.06 303	*e*P	P	22 00 24.0	-0.9
	comp=Z,200nm,2.0s					
KIS	**Kishinev**	49.06 303	*e*PP	PP	22 02 20.0	+1.7
KIS			*e*S	S	22 07 28.0	-1.0
KIS			LRM	MLR	22 22 50.0	
	comp=Z,400nm,12.0s					
KIS	**Kishinev**	49.06 303	*e*P	P	22 00 24.0	-0.9
KIS			*e*		22 00 33.0	
KIS			*e*		22 02 20.0	
KIS			*e*S	S	22 07 28.0	-1.0
KIS			pmax	pmax		
	comp=Z,170nm,2.0s					
KIS			MLR	MLR		
	comp=E,400nm,12.0s					
KIS			MLR	MLR		
	comp=Z,500nm,12.0s					
KIS			MLR	MLR		
	comp=Z,400nm,12.0s					
CSS	**Prodhromos**	49.66 287	*e*P	P	22 00 30.2	+0.5
	comp=Z,22nm,0.9s					
GHRR		50.25 303	⇑*i*P	P	22 00 35.6	+1.6
EIL	**Elat**	50.58 280	P	P	22 00 37.8	+1.0
EIL	**Elat**	50.58 280	P	P	22 00 37.8	+1.0
	comp=Z,49nm,1.0s,baz=21,slow=3.4,SNR=22					
TESR	**Tescani**	50.63 303	⇑*i*P	P	22 00 37.7	+0.8
ISP	**Isparta**	50.70 291	*e*P	P	22 00 38.2	+0.5
ISP			pmax	pmax		
	comp=Z,89nm,0.9s					
ISP	**Isparta**	50.70 291	⇓*i*P	P	22 00 38.4	+0.7
ISP	**Isparta**	50.70 291	*e*P	P	22 00 38.2	+0.5
	comp=Z,89nm,0.9s					
VRI	**Vrincioaia**	50.76 303	⇑P	P	22 00 39.0	+1.1
VRI	**Vrincioaia**	50.76 303	⇑*i*P	P	22 00 39.0	+1.1
PLOR	**Plostina**	50.82 303	⇓P	P	22 00 39.8	+1.4
PLOR	**Plostina**	50.82 303	⇓*i*P	P	22 00 39.8	+1.4
SUW	**Suwalki**	50.91 313	*e*P	P	22 00 38.9	0.0
SUW			pmax	pmax		
	comp=Z,45nm,1.0s					
SUW	**Suwalki**	50.91 313	*e*P	P	22 00 38.9	0.0
	comp=Z,45nm,1.0s					
SUW	**Suwalki**	50.91 313	*e*P	P	22 00 39.3	+0.4
DAMY	**Dhamar**	50.95 257	*e*P	P	22 00 41.5	+1.5
ISR	**Istrita**	51.10 302	⇑P	P	22 00 41.5	+0.9
ISR	**Istrita**	51.10 302	⇑*i*P	P	22 00 41.5	+0.9
BURAR	**Bucovina Array**	51.26 305	⇓P	P	22 00 42.1	+0.4
BURAR	**Bucovina Array**	51.26 305	⇓*i*P	P	22 00 42.1	+0.4
BUR08	**Bucovina Ar. S**	51.26 305	*e*P	P	22 00 42.4	+0.7
MLR	**Muntele Rosu**	51.40 302	⇓*i*P	P	22 00 44.0	+1.2
MLR	**Muntele Rosu**	51.40 302	P	P	22 00 43.5	+0.6
MLR	**Muntele Rosu**	51.40 302	P	P	22 00 43.5	+0.6
	comp=Z,2.1nm,0.8s,baz=102,slow=1.8,SNR=9.4					
LVV	**L'vov**	51.41 308	*e*P	P	22 00 41.8	-0.9
LVV			MLR	MLR		
	comp=N,100nm,13.0s					
LVV			MLR	MLR		
	comp=E,300nm,13.0s					
LVV			MLR	MLR		
	comp=Z,300nm,13.0s					
JMB	**Yambol**	51.92 298	*i*P	P	22 00 47.9	+1.3
VOIR		52.01 302	⇑P	P	22 00 48.2	+0.8
VOIR		52.01 302	⇑*i*P	P	22 00 48.2	+0.8
SZH	**Strazhica**	52.10 300	*i*P	P	22 00 48.3	+0.3
KWP	**Kalwaria Pacla**	52.29 308	*e*P	P	22 00 49.7	+0.4
KWP			*e*		22 02 52.3	
KWP			pmax	pmax		
	comp=Z,77nm,1.0s					
KWP	**Kalwaria Pacla**	52.29 308	⇓*i*P	P	22 00 50.5	+1.2
KWP	**Kalwaria Pacla**	52.29 308	*e*P	P	22 00 49.7	+0.4
	comp=Z,77nm,1.0s					
KWP			*e*PP	PP	22 02 52.3	+4.7
KWP	**Kalwaria Pacla**	52.29 308	*e*P	P	22 00 50.1	+0.8
ARR	**Arges**	52.31 302	⇑*i*P	P	22 00 50.5	+0.9
HUMR	**Humele**	52.34 301	⇓*i*P	P	22 00 50.3	+0.5
PVL	**Pavlikeni**	52.53 300	*i*P	P	22 00 52.2	+1.0
KOLS	**Kolonicke sedl**	52.76 307	*e*P	P	22 00 53.1	+0.3
KOLS			pmax	pmax		
	comp=Z,12nm,1.3s					
KOLS	**Kolonicke sedl**	52.76 307	*e*P	P	22 00 53.1	+0.3
TRPA	**Tarpa**	52.83 306	⇑*i*P	P	22 00 54.1	+0.8
UZH	**Uzhgorod**	52.84 307	*e*P	P	22 00 51.4	-1.9
UZH			*e*		22 00 55.8	
UZH			*i*		22 01 01.2	
UZH			*e*S	S	22 08 14.0	-7.3
UZH			MLR	MLR		
	comp=N,230nm,12.0s					
UZH			MLR	MLR		
	comp=E,430nm,12.0s					
UZH			MLR	MLR		
	comp=Z,270nm,12.0s					
KDZ	**Kurdzhali**	53.01 298	*i*P	P	22 00 55.3	+0.5
DRGR		53.13 305	⇑P	P	22 00 56.7	+1.0
DRGR		53.13 305	⇑*i*P	P	22 00 56.7	+1.0
STHS	**Stebnicka Huta**	53.27 308	*e*P	P	22 00 56.4	-0.1
STHS			pmax	pmax		
	comp=Z,6.0nm,1.1s					
STHS	**Stebnicka Huta**	53.27 308	*e*P	P	22 00 56.4	-0.1
CRVS	**Cervenica-Dubn**	53.28 308	*e*P	P	22 00 57.0	+0.3
CRVS			pmax	pmax		
	comp=Z,10.0nm,1.4s					
CRVS	**Cervenica-Dubn**	53.28 308	*e*P	P	22 00 57.0	+0.3
RZN	**Rozhen**	53.49 298	*i*P	P	22 00 52.0	-6.5
GZR	**Gura Zlata**	53.54 303	⇑P	P	22 00 59.8	+1.1
GZR	**Gura Zlata**	53.54 303	⇑*i*P	P	22 00 59.8	+1.1
MPEP	**Malo Peshtene**	53.58 300	*i*P	P	22 00 59.6	+0.7
FX1	**Attu Island--F**	53.80 47	*e*P	P	22 00 59.6	-0.7
FX1	**Attu Island--F**	53.80 47	P	P	22 00 59.7	-0.6
	comp=Z,23nm,0.7s,baz=8.5,slow=6.7,SNR=15					
NIE	**Niedzica**	53.84 308	*e*P	P	22 01 04.2	+3.4
OJC	**Ojcow**	53.92 309	*e*P	P	22 01 01.7	+0.4
OJC	**Ojcow**	53.92 309	*e*P	P	22 01 02.2	+0.9
	comp=Z,18nm,0.7s					
KECS	**Kecovo**	54.03 307	*e*P	P	22 01 02.7	+0.6
KECS			pmax	pmax		
	comp=Z,7.0nm,1.4s					
KECS	**Kecovo**	54.03 307	*e*P	P	22 01 02.7	+0.6
NVR	**Nevrokopi**	54.21 298	P	P	22 01 03.5	-0.1
NVR	**Nevrokopi**	54.21 298	*e*P	P	22 01 03.8	+0.2
NVR	**Nevrokopi**	54.21 298	P	P	22 01 03.5	-0.1
VTS	**Vitosha**	54.22 300	P	P	22 01 04.2	+0.5
VTS	**Vitosha**	54.22 300	P	P	22 01 04.2	+0.5
VTS	**Vitosha**	54.22 300	*i*P	P	22 01 04.3	+0.5
VTS	**Vitosha**	54.22 300	⇓*i*P	P	22 01 04.8	+1.1
VTS	**Vitosha**	54.22 300	P	P	22 01 04.2	+0.5
MMB	**Musomiste**	54.22 298	*i*P	P	22 01 03.4	-0.2
BZS	**Buzias**	54.24 304	⇑P	P	22 01 04.3	+0.6
BZS	**Buzias**	54.24 304	⇑*i*P	P	22 01 04.3	+0.6
HFS	**Hagfors**	54.48 322	P	P	22 01 05.3	+0.1
HFS	**Hagfors**	54.48 322	P	P	22 01 05.3	+0.1
	comp=Z,14nm,0.9s,baz=106,slow=4.8,SNR=10					
GKP	**Gorka Klasztor**	54.52 314	*e*P	P	22 01 06.1	+0.5
KKB	**Krupnik**	54.56 299	*i*P	P	22 01 06.7	+0.6
PSZ	**Piszkesteto**	54.58 307	*e*P	P	22 01 07.3	+1.1
PSZ			pmax	pmax		
	comp=Z,31nm,1.3s					
PSZ	**Piszkesteto**	54.58 307	⇑*i*P	P	22 01 07.6	+1.3
PSZ	**Piszkesteto**	54.58 307	*e*P	P	22 01 07.3	+1.1
	comp=Z,30nm,1.3s					
PSZ	**Piszkesteto**	54.58 307	⇑*e*P	P	22 01 07.1	+0.8
APE	**Apeiranthos**	54.66 293	*e*P	P	22 01 06.3	-0.6
PLG	**Polygyros**	54.87 297	*e*P	P	22 01 08.4	0.0
PAIG	**Paliouri**	54.87 296	P	P	22 01 08.0	-0.4
PAIG	**Paliouri**	54.87 296	P	P	22 01 08.0	-0.4
PAIG	**Paliouri**	54.87 296	P	P	22 01 08.0	-0.4
OKC	**Ostrava-Krasne**	55.05 309	*e*P	P	22 01 09.8	+0.3
OKC			*e*		22 01 13.4	
OKC			MLR	MLR		
	comp=Z,500nm,12.6s					
OKC	**Ostrava-Krasne**	55.05 309	*e*P	P	22 01 09.8	+0.3
OKC			*e*pP	pP	22 01 13.4	-1.0
OKC			AMS	AMS	22 25 40.0	
	comp=Z,500nm,12.6s					
NPS	**Neapolis**	55.34 290	*e*P	P	22 01 11.7	-0.1
NB2	**NORSAR Subarra**	55.41 324	P	P	22 01 11.7	-0.3
	comp=Z,32nm,1.4s,baz=70,slow=7.4					
NB2	**NORSAR Subarra**	55.41 324	P	P	22 01 11.7	-0.3
	baz=70,slow=7.4					
NOA	**NORSAR Array B**	55.41 324	P	P	22 01 11.6	-0.3
NOA	**NORSAR Array B**	55.41 324	P	P	22 01 11.6	-0.3
	comp=Z,9.5nm,0.8s,baz=73,slow=7.2,SNR=15					
NOA			LR	LR	22 26 09.5	
	comp=Z,359nm,18.3s,baz=80,slow=37					
MORC	**Moravsky Berou**	55.44 310	*e*P	P	22 01 13.0	+0.6
MORC			pmax	pmax		
	comp=Z,36nm,1.4s					
MORC	**Moravsky Berou**	55.44 310	*e*P	P	22 01 13.0	+0.6
	comp=Z,36nm,1.4s					
NEO	**Neokhori**	55.44 296	P	P	22 01 12.4	-0.1
NEO	**Neokhori**	55.44 296	P	P	22 01 12.4	-0.1
PTL	**Penteli**	55.48 294	P	P	22 01 12.7	-0.1
PTL	**Penteli**	55.48 294	*e*P	P	22 01 12.6	-0.2
PTL	**Penteli**	55.48 294	P	P	22 01 12.7	-0.1
PKS2	**Kecel**	55.51 305	⇑*e*P	P	22 01 16.6	+3.8
ATHU	**Athens Univers**	55.57 294	P	P	22 01 13.6	+0.2
ATHU	**Athens Univers**	55.57 294	P	P	22 01 13.6	+0.2
ATH	**Athens Observa**	55.61 294	P	P	22 01 14.2	+0.5
ATH	**Athens Observa**	55.61 294	P	P	22 01 14.2	+

UPC	Upice	56.12 311	eP		P	22 01 18.4 +1.2
UPC	Upice	56.12 311	eP		P	22 01 18.4 +1.2
VRAC	Vranov	56.18 309	P		P	22 01 18.5 +0.8
VRAC	Vranov	56.18 309	P		P	22 01 18.5 +0.8
comp=Z,6.4nm,0.8s,baz=76,slow=7.2,SNR=12						
AGG	Agios Georgios	56.19 296	P		P	22 01 16.9 -1.0
AGG	Agios Georgios	56.19 296	P		P	22 01 16.9 -1.0
AGG	Agios Georgios	56.19 296	P		P	22 01 16.9 -1.0
THL	Klokotos Trika	56.20 297	P		P	22 01 16.9 -1.0
THL	Klokotos Trika	56.20 297	eP		P	22 01 17.2 -0.7
ZST	Bratislava	56.25 308	eP		P	22 01 17.5 -0.6
ZST	Bratislava	56.25 308	eP		P	22 01 17.5 -0.6
DSF	Desfina	56.29 295	P		P	22 01 16.9 -1.8
DSF	Desfina	56.29 295	P		P	22 01 16.9 -1.8
VAM	Vamos	56.32 291	P		P	22 01 19.3 +0.4
VAM	Vamos	56.32 291	P		P	22 01 19.3 +0.4
VAM	Vamos	56.32 291	eP		P	22 01 20.0 +1.1
VAM	Vamos	56.32 291	P		P	22 01 19.3 +0.4
MAKR	Makrakomi, Fth	56.33 296	P		P	22 01 18.1 -0.8
MAKR	Makrakomi, Fth	56.33 296	P		P	22 01 18.1 -0.8
KARN	Karanos	56.53 291	P		P	22 01 19.4 -1.0
KARN	Karanos	56.53 291	P		P	22 01 19.4 -1.0
KALE	Kalithea	56.58 295	P		P	22 01 19.2 -1.5
KALE	Kalithea	56.58 295	P		P	22 01 19.2 -1.5
EVR	Evrytania	56.60 296	P		P	22 01 19.9 -1.0
EVR	Evrytania	56.60 296	eP		P	22 01 20.1 -0.8
EVR	Evrytania	56.60 296	P		P	22 01 19.9 -1.0
TRIZ	Trizonia	56.64 295	P		P	22 01 19.8 -1.2
VLI	Veliai	56.70 293	P		P	22 01 19.0 -2.5
VLI	Veliai	56.70 293	eP		P	22 01 19.3 -2.2
VLI	Veliai	56.70 293	P		P	22 01 19.0 -2.5
KLV	Kalavryta, Ach	56.72 295	P		P	22 01 19.4 -2.3
KLV	Kalavryta, Ach	56.72 295	eP		P	22 01 20.5 -1.2
KLV	Kalavryta, Ach	56.72 295	P		P	22 01 19.4 -2.3
RUE	Ruedersdorf	56.76 314	eP		P	22 01 22.3 +0.7
comp=Z,44nm,1.5s						
SOP	Sopron	56.78 307⇑	eP		P	22 01 22.7 +0.8
TREC	Trest	56.86 310	eP		P	22 01 23.7 +1.2
TREC			e			22 01 29.4
TREC			MLR		MLR	
comp=Z,500nm,15.2s						
TREC	Trest	56.86 310	eP		P	22 01 23.7 +1.2
TREC			ex		x	22 01 29.4
TREC			AMS		AMS	22 26 40.0
comp=Z,500nm,15.2s						
PVCC	Panska Ves	56.98 311	eP		P	22 01 24.3 +1.0
PVCC			e			22 01 29.8
PVCC			MLR		MLR	
comp=Z,800nm,15.8s						
PVCC	Panska Ves	56.98 311	eP		P	22 01 24.3 +1.0
PVCC			epP		pP	22 01 27.9 -0.3
PVCC			esP		sP	22 01 29.8 -0.3
PVCC			AMS		AMS	22 26 50.0
comp=Z,800nm,15.8s						
DYR	Agios Nikonas	57.12 293	P		P	22 01 22.6 -1.9
CONA	Conrad Observa	57.12 308	i pP		P	22 01 25.6 +1.1
comp=Z,26nm,1.2s,SNR=11						
PRU	Pruhonice	57.19 311	eP		P	22 01 25.1 +0.3
PRU			e			22 01 28.8
PRU			MLR		MLR	
comp=Z,900nm,14.6s						
PRU	Pruhonice	57.19 311	eP		P	22 01 25.1 +0.3
PRU			epP		pP	22 01 28.8 -0.9
PRU			AMS		AMS	22 27 00.0
comp=Z,900nm,14.6s						
RLS	Riolos of Patr	57.20 295	eP		P	22 01 24.6 -0.4
PRA	Prague	57.22 311	P		P	22 01 25.0 0.0
BRG	Berggiesshubel	57.23 312	i P		P	22 01 25.6 +0.6
comp=Z,35nm,1.4s						
BRG						
comp=Z,652nm,14.9s						
BRG						
comp=N,295nm,16.4s						
BRG						
comp=E,587nm,16.4s						
BRG	Berggiesshubel	57.23 312	eP		P	22 01 25.6 +0.6
comp=Z,36nm,1.4s						
BRG	Berggiesshubel	57.23 312	i P		P	22 01 25.6 +0.6
BRG			pmax		pmax	
comp=Z,35nm,1.4s						
BRG			MLR		MLR	
comp=Z,652nm,14.9s						
BRG			MLR		MLR	
comp=N,295nm,16.4s						
BRG			MLR		MLR	
comp=E,587nm,16.4s						
ITM	Ithomi	57.24 294	eP		P	22 01 23.4 -1.9
FBE	Freiberg	57.55 312	eP		P	22 01 28.4 +1.1
comp=Z,39nm,1.4s						
ARSA	Arzberg	57.59 307⇑	i pP		P	22 01 28.0 +0.3
comp=Z,15nm,1.1s,SNR=8.3						
CLL	Collm	57.62 312	eP		P	22 01 28.1 +0.3
comp=Z,32nm,1.4s						
CLL	Collm	57.62 312⇑	i P		P	22 01 28.1 +0.3
CLL			i			22 01 31.3
CLL			pmax		pmax	
comp=Z,32nm,1.4s						
CLL	Collm	57.62 312⇑	i P		P	22 01 28.1 +0.3
comp=Z,32nm,1.4s						
CLL			i pP		pP	22 01 31.3 -1.5
CLL			e(PP)			22 03 30.0
VLS	Valsamata	57.78 296	eP		P	22 01 27.3 -1.9
GOLS	Golise	58.00 306	i P		P	22 01 31.1 +0.5
PERS	Pernice	58.08 307	eP		P	22 01 31.4 +0.2
KHC	Kasperske Hory	58.08 310	eP		P	22 01 31.6 +0.4
KHC			e			22 01 35.1
KHC			e			22 01 44.3
KHC			MLR		MLR	
comp=Z,600nm,15.3s						
KHC	Kasperske Hory	58.08 310	eP		P	22 01 31.6 +0.4
KHC			epP		pP	22 01 35.1 -1.0
KHC			ex		x	22 01 44.3
KHC			AMS		AMS	22 27 30.0
comp=Z,600nm,15.3s						
KHC	Kasperske Hory	58.08 310	eP		P	22 01 32.1 +1.0
comp=Z,17nm,1.4s						
GEC2	GERESS Array S	58.12 310	eP		P	22 01 32.0 +0.6
comp=Z,28nm,1.5s						
GEC2	GERESS Array S	58.12 310	eP		P	22 01 32.0 +0.6
GEC2			pmax		pmax	
comp=Z,28nm,1.5s						
GEC2	GERESS Array S	58.12 310	eP		P	22 01 32.1 +0.6
GERES	GERESS Array B	58.12 310	P		P	22 01 31.8 +0.3
GERES	GERESS Array B	58.12 310	P		P	22 01 31.8 +0.3
comp=Z,4.7nm,0.8s,baz=72,slow=5.7,SNR=30						
GERES			LR		LR	22 28 23.2
comp=Z,236nm,18.7s,baz=66,slow=38						
SOKA	Soboth	58.12 307⇑	i pP		P	22 01 31.8 +0.3
comp=Z,26nm,1.2s,SNR=21						
MOA	Molln	58.15 308⇑	i pP		P	22 01 32.0 +0.3
comp=Z,19nm,1.6s,SNR=7.3						
BSEG	Bad Segeberg	58.19 316	eP		P	22 01 32.9 +1.2
comp=Z,64nm,1.3s						
TANN	Tannenbergstha	58.27 312	eP		P	22 01 33.0 +0.5
comp=Z,35nm,1.5s						
NKC	Novy Kostel	58.35 311	eP		P	22 01 33.9 +0.9
NKC			e			22 01 36.9
NKC	Novy Kostel	58.35 311	eP		P	22 01 33.9 +0.9
NKC			epP		pP	22 01 36.9 -1.0
WERD	Werda	58.35 312	eP		P	22 01 33.5 +0.5
comp=Z,24nm,1.4s						
NEUB	Neuenburg	58.38 313	eP		P	22 01 33.5 +0.4
comp=Z,36nm,1.3s						
OBKA	Obir	58.49 307⇑	i P		P	22 01 33.1 -1.0
comp=Z,17nm,1.2s,SNR=7.2						
WET	Wettzell	58.51 310	eP		P	22 01 34.9 +0.8
comp=Z,26nm,1.5s						
WET	Wettzell	58.51 310	eP		P	22 01 34.9 +0.8
WET			pmax		pmax	
comp=Z,26nm,1.5s						
MANZ	Manzenberg	58.64 311	eP		P	22 01 35.7 +0.7
comp=Z,21nm,1.4s						
ROTZ	Rotzenmuhle	58.67 311	eP		P	22 01 36.3 +1.1
comp=Z,38nm,1.4s						
MOX	Moxa	58.68 312	eP		P	22 01 35.7 +0.4
comp=Z,22nm,1.3s						
MOX			eL		L	22 27 45.8
comp=Z,206nm,19.4s						
MOX	Moxa	58.68 312	eP		P	22 01 35.7 +0.4
MOX			pmax		pmax	
comp=Z,22nm,1.3s						
MOX			MLR		MLR	
comp=Z,200nm,19.4s						
LJU	Ljubljana	58.69 306	eP		P	22 01 35.7 +0.3
NRDL	Niedersach Rie	58.84 315	eP		P	22 01 37.3 +1.1
comp=Z,51nm,1.3s						
CLZ	Clausthal	58.94 314	eP		P	22 01 38.0 +0.9
comp=Z,69nm,1.4s						
CLZ	Clausthal	58.94 314	eP		P	22 01 38.0 +0.9
CLZ			pmax		pmax	
comp=Z,69nm,1.4s						
KBA	Koelnbreinsper	59.02 308⇑	i pP		P	22 01 38.3 +0.4
comp=Z,13nm,1.3s						
RJOB	Jonsberg	59.10 309	eP		P	22 01 39.1 +0.8
comp=Z,69nm,2.0s						
GRF	Grafenberg Arr	59.29 311	eP		P	22 01 40.5 +1.0
comp=Z,73nm,1.6s						
GRF			eL		L	22 27 57.0
comp=Z,356nm,18.2s						
GRF	Grafenberg Arr	59.29 311	eP		P	22 01 40.5 +1.0
GRF			pmax		pmax	
comp=Z,73nm,1.6s						
GRF			MLR		MLR	
comp=Z,400nm,18.2s						
GRFO	Grafenberg	59.29 311	eP		P	22 01 40.3 +0.8
GRFO			pmax		pmax	
comp=Z,27nm,0.9s						
GRFO	Grafenberg	59.29 311	eP		P	22 01 40.2 +0.8
comp=Z,27nm,0.9s						
TRI	Trieste	59.31 306	eP		P	22 01 39.9 +0.2
TRI			pmax		pmax	
comp=Z,34nm,1.3s						
TRI	Trieste	59.31 306	eP		P	22 01 39.9 +0.2
comp=Z,34nm,1.3s						
ABTA	Abfaltersbach	59.68 308⇓	i P		P	22 01 41.7 -0.7
comp=Z,16nm,1.5s,SNR=7.4						
FUR	Furstenfeldbru	59.87 310	eP		P	22 01 44.6 +1.1
comp=Z,114nm,1.6s						
FUR	Furstenfeldbru	59.87 310	eP		P	22 01 44.6 +1.1
FUR			pmax		pmax	
comp=Z,114nm,1.6s						
WTTA	Wattenberg	60.02 309⇑	i pP		P	22 01 45.0 +0.2
comp=Z,40nm,1.0s,SNR=12						
WATA	Walderalm	60.02 309⇑	i P		P	22 01 44.8 0.0
comp=Z,17nm,0.8s						
MOTA	Moosalm	60.31 309⇑	i pP		P	22 01 46.8 +0.1
comp=Z,27nm,0.9s,SNR=30						
CUC	Castrocucco	60.36 299	eP		P	22 01 46.7 -0.4
comp=Z,33nm,0.9s						
RETA	Reutte	60.46 309⇑	i pP		P	22 01 48.0 +0.3
comp=Z,15nm,0.9s,SNR=8.0						
FETA	Feichten	60.68 309⇑	i pP		P	22 01 49.4 +0.1
comp=Z,24nm,1.4s,SNR=10						
TNS	Taunus Mts	60.71 313	eP		P	22 01 49.8 +0.5
comp=Z,21nm,1.4s						
TNS	Taunus Mts	60.71 313	eP		P	22 01 49.8 +0.5
TNS			pmax		pmax	
comp=Z,21nm,1.4s						
BUG	Bochum--Univer	60.88 314	eP		P	22 01 51.0 +0.7
comp=Z,28nm,1.2s						
STU	Stuttgart	60.88 311	eP		P	22 01 51.1 +0.7
comp=Z,42nm,1.5s						
STU	Stuttgart	60.88 311	eP		P	22 01 51.4 +1.0
STU			pmax		pmax	
comp=Z,23nm,1.0s						
STU	Stuttgart	60.88 311	eP		P	22 01 51.4 +1.0
comp=Z,23nm,1.0s						
AQU	L'Aquila	60.96 303	eP		P	22 01 52.1 +1.0
comp=Z,49nm,1.4s						
CEL	Celeste	61.07 298	eP		P	22 01 50.8 -1.1
comp=Z,50nm,0.9s						
FUORN	Ofenpass-Fuorn	61.14 308	eP		P	22 01 53.0 +0.5
comp=Z,20nm,0.8s						
DAVOX	Davos/Dischmat	61.31 309	P		P	22 01 53.7 +0.1
DAVOX	Davos/Dischmat	61.31 309	P		P	22 01 53.7 +0.1
comp=Z,20nm,0.6s,baz=90,slow=4.2,SNR=23						
BFO	Black Forest	61.59 311	eP		P	22 01 55.5 +0.3
comp=Z,33nm,1.5s						
BFO	Black Forest	61.59 311	P		P	22 01 55.7 +0.5
comp=Z,91nm,0.8s,SNR=6.8						
BFO	Black Forest	61.59 311	eP		P	22 01 55.8 +0.5
BFO			pmax		pmax	
comp=Z,16nm,1.0s						
BFO	Black Forest	61.59 311	eP		P	22 01 55.8 +0.5
comp=Z,16nm,1.0s						
LANF	Langenberg	61.62 312	eP		P	22 01 55.4 0.0
TUE	Stuetta	61.77 308	eP		P	22 01 57.0 +0.2
comp=Z,17nm,0.9s						
MEM	Membach	61.95 314	eP		P	22 01 59.1 +1.5
MEM			pmax		pmax	
comp=Z,16nm,1.1s						
MEM	Membach	61.95 314	eP		P	22 01 59.1 +1.5
comp=Z,16nm,1.1s						
VLC	Villacollemand	62.14 306	eP		P	22 02 01.1 +2.1
comp=Z,20nm,1.1s						
FITZ	Fitzroy Crossi	62.16 148	P		P	22 01 57.8 -1.5
FITZ			PcP		PcP	22 02 39.9 +0.6
FITZ	Fitzroy Crossi	62.16 148	P		P	22 01 57.8 -1.5
comp=Z,3.3nm,0.8s,baz=358,slow=7.6,SNR=6.7						
FITZ			PcP		PcP	22 02 39.9 +0.6
comp=Z,3.4nm,0.8s,baz=247,slow=5.8,SNR=3.8						
CDF	Champ du Feu	62.18 311	eP		P	22 01 58.9 -0.4
comp=Z,23nm,0.9s						
CDF	Champ du Feu	62.18 311	eP		P	22 01 58.9 -0.4
CDF			pmax		pmax	
comp=Z,23nm,0.9s						
CDF	Champ du Feu	62.18 311	eP		P	22 01 58.9 -0.4
comp=Z,23nm,0.9s						
WLF	Walferdange	62.29 313	P		P	22 02 01.4 +1.5
comp=Z,30nm,1.6s						
WLF	Walferdange	62.29 313	eP		P	22 02 01.2 +1.3
comp=Z,47nm,1.2s						
WLF	Walferdange	62.29 313	eP		P	22 01 58.2 -1.7
WLF			pmax		pmax	
comp=Z,30nm,1.0s						
WLF	Walferdange	62.29 313	eP		P	22 01 58.2 -1.7
comp=Z,30nm,1.0s						
ECH	Echery	62.34 311	eP		P	22 01 59.8 -0.5
ECH			pmax		pmax	
comp=Z,30nm,1.5s						
ECH	Echery	62.34 311	eP		P	22 01 59.8 -0.5
comp=Z,30nm,1.5s						
ECH	Echery	62.34 311	eP		P	22 01 59.2 -1.1
BCLA	Clavier	62.44 314	P		P	22 02 04.7 +3.8
MOF	Molkenrain	62.52 311	eP		P	22 02 01.6 0.0
HINF	Hinteralfeld	62.70 311	eP		P	22 02 02.3 -0.4
comp=Z,25nm,0.9s						
HINF	Hinteralfeld	62.70 311	eP		P	22 02 02.3 -0.4
HINF			pmax		pmax	
comp=Z,25nm,0.9s						
HINF	Hinteralfeld	62.70 311	eP		P	22 02 02.3 -0.4
comp=Z,25nm,0.9s						
GIVF	Givet	62.86 314	eP		P	22 02 03.7 0.0
comp=Z,41nm,1.0s						
GIVF	Givet	62.86 314	eP		P	22 02 03.7 0.0
GIVF			pmax		pmax	
comp=Z,41nm,1.0s						
GIVF	Givet	62.86 314	eP		P	22 02 03.7 0.0
comp=Z,41nm,1.0s						
HAU	Haudompre	62.92 311	eP		P	22 02 03.8 -0.4
comp=Z,21nm,0.9s						
HAU			eR			
comp=Z,259nm,21.5s						
HAU	Haudompre	62.92 311	eP		P	22 02 03.8 -0.4
HAU			pmax		pmax	
comp=Z,21nm,0.9s						
HAU	Haudompre	62.92 311	eP		P	22 02 03.8 -0.4
comp=Z,21nm,0.9s						
SNF	Seneffe	62.98 314	P		P	22 02 06.0 +1.5
DOU	Dourbes	62.99 314	P		P	22 02 05.6 +1.0
comp=Z,7.2nm,1.2s						
THEF	They Montfort	63.03 311	eP		P	22 02 05.0 +0.1
PAGF	Fort de Pagny	63.04 312	eP		P	22 02 05.2 +0.3
comp=Z,14nm,1.1s						
PAGF	Fort de Pagny	63.04 312	eP		P	22 02 05.2 +0.3
comp=Z,14nm,1.1s						
SENIN	Lac Senin/Sane	63.09 309	eP		P	22 02 06.0 +0.4
comp=Z,14nm,0.8s						
BAIF	Baives	63.23 314	eP		P	22 02 06.3 +0.2
comp=Z,27nm,0.9s						
BAIF	Baives	63.23 314	eP		P	22 02 06.3 +0.2
BAIF			pmax		pmax	
comp=Z,27nm,0.9s						
BAIF	Baives	63.23 314	eP		P	22 02 06.3 +0.2
comp=Z,27nm,0.9s						
MEZF	Maizieres J'vi	63.46 312	eP		P	22 02 07.8 +0.1
comp=Z,24nm,0.8s						
MEZF	Maizieres J'vi	63.46 312	eP		P	22 02 07.8 +0.1
comp=Z,24nm,0.8s						
SFTF	Sexfontaines	63.61 312	eP		P	22 02 08.4 -0.3
comp=Z,38nm,1.0s						
SFTF	Sexfontaines	63.61 312	eP		P	22 02 08.4 -0.3
comp=Z,38nm,1.0s						
IMA2	Indian Mountai	63.68 25	eP		P	22 02 09.1 0.0
IM04	Indian Mountai	63.70 25	eP		P	22 02 09.3 +0.2
CABF	La Chapelle	63.72 310	eP		P	22 02 09.1 -0.5
comp=Z,22nm,1.1s						
CABF	La Chapelle	63.72 310	eP		P	22 02 09.1 -0.5
CABF			pmax		pmax	
comp=Z,22nm,1.1s						
CABF	La Chapelle	63.72 310	eP		P	22 02 09.1 -0.5
comp=Z,22nm,1.1s						
PGF	Pioggiola	63.78 305	eP		P	22 02 10.0 -0.1
comp=Z,136nm,1.4s						
PGF	Pioggiola	63.78 305	eP		P	22 02 10.0 -0.1
PGF			pmax		pmax	
comp=Z,136nm,1.4s						
PGF	Pioggiola	63.78 305	eP		P	22 02 10.0 -0.1
comp=Z,136nm,1.4s						
RSL	Roselend	63.82 309	eP		P	22 02 09.8 -0.5
LPG	La Plagne	63.83 308	eP		P	22 02 10.8 +0.2
comp=Z,43nm,0.8s						
LPG	La Plagne	63.83 308	eP		P	22 02 10.8 +0.2
LPG			pmax		pmax	
comp=Z,43nm,0.8s						
LPG	La Plagne	63.83 308	eP		P	22 02 10.8 +0.2
comp=Z,43nm,0.8s						
LPL	La Plagne	63.83 308	eP		P	22 02 10.7 +0.2
comp=Z,44nm,0.9s						
LPL	La Plagne	63.83 308	eP		P	22 02 10.7 +0.2
LPL			pmax		pmax	
comp=Z,44nm,0.9s						
LPL	La Plagne	63.83 308	eP		P	22 02 10.7 +0.2
comp=Z,44nm,0.9s						
SAOF	Saorge	64.03 307	eP		P	22 02 11.7 +0.1
BNI	Bardonecchia	64.08 308	eP		P	22 02 12.3 +0.2
BNI			pmax		pmax	
comp=Z,31nm,1.3s						
BNI	Bardonecchia	64.08 308	eP		P	22 02 12.2 +0.2
comp=Z,31nm,1.3s						
AUTN	L'Aution	64.11 307	eP		P	22 02 12.2 -0.2
COLD	Coldfoot	64.15 23	eP		P	22 02 13.2 +1.2
comp=Z,28nm,1.0s						
SBF	Sospel	64.17 307	eP		P	22 02 12.2 -0.3
comp=Z,91nm,0.8s						
SBF	Sospel	64.17 307	eP		P	22 02 12.2 -0.3
SBF			pmax		pmax	
comp=Z,91nm,0.8s						
SBF	Sospel	64.17 307	eP		P	22 02 12.2 -0.3
comp=Z,91nm,0.8s						
MBDF	Montbardon	64.18 308	eP		P	22 02 11.8 -0.9
comp=Z,21nm,0.8s						
MBDF	Montbardon	64.18 308	eP		P	22 02 11.8 -0.9
MBDF			pmax		pmax	
comp=Z,21nm,0.8s						
MBDF	Montbardon	64.18 308	eP		P	22 02 11.8 -0.9
comp=Z,21nm,0.8s						
LUCF	Luceram	64.21 307	eP		P	22 02 12.2 -0.7
TOUF	Mont Tournerai	64.22 307	eP		P	22 02 12.6 -0.4
MVIF	Mont Vial	64.33 307	eP		P	22 02 13.6 -0.1
EKA	Eskdalemuir Ar	64.64 321	P		P	22 02 15.2 -0.1
EKA	Eskdalemuir Ar	64.64 321	P		P	22 02 15.2 -0.1
comp=Z,8.8nm,0.9s,baz=61,slow=6.8,SNR=9.2						
ORIF	Oris-en-Rattie	64.65 308	eP		P	22 02 15.3 -0.4
comp=Z,38nm,0.8s						
ORIF			eR			
comp=Z,563nm,17.2s						
ORIF	Oris-en-Rattie	64.65 308	eP		P	22 02 15.3 -0.4
ORIF			pmax		pmax	
comp=Z,38nm,0.8s						
ORIF	Oris-en-Rattie	64.65 308	eP		P	22 02 15.3 -0.4
comp=Z,38nm,0.8s						
LOR	Lormes	64.75 311	eP		P	22 02 15.4 -0.8
comp=Z,22nm,1.0s						
LOR			eR			
comp=Z,199nm,17.2s						
LOR	Lormes	64.75 311	eP		P	22 02 15.4 -0.8
comp=Z,22nm,1.0s						
FRF	La Foret Royal	64.81 307	eP		P	22 02 16.1 -0.6
comp=Z,18nm,0.9s						
FRF	La Foret Royal	64.81 307	eP		P	22 02 16.1 -0.6
FRF			pmax		pmax	
comp=Z,18nm,0.9s						
FRF	La Foret Royal	64.81 307	eP		P	22 02 16.1 -0.6
comp=Z,18nm,0.9s						
VSL	Villasalto	64.99 302	eP		P	22 02 17.9 +0.1
comp=Z,20nm,0.9s						
LMR	La Mourre	65.01 306	eP		P	22 02 17.5 -0.5
comp=Z,77nm,1.4s						
LMR	La Mourre	65.01 306	eP		P	22 02 17.5 -0.5
LMR			pmax		pmax	
comp=Z,77nm,1.4s						
LMR	La Mourre	65.01 306	eP		P	22 02 17.5 -0.5
comp=Z,77nm,1.4s						
SSF	Saint Saulge	65.06 311	eP		P	22 02 17.5 -0.7
SSF	Saint Saulge	65.06 311	eP		P	22 02 17.5 -0.7
SSF	Saint Saulge	65.06 311	eP		P	22 02 17.5 -0.7
SMF	Signal de Mont	65.06 311	eP		P	22 02 17.8 -0.5
comp=Z,50nm,0.9s						
SMF	Signal de Mont	65.06 311	eP		P	22 02 17.8 -0.5
SMF			pmax		pmax	
comp=Z,50nm,0.9s						
SMF	Signal de Mont	65.06 311	eP		P	22 02 17.8 -0.5
comp=Z,50nm,0.9s						
AVF	Avril sur Loir	65.28 311	eP		P	22 02 19.1 -0.6
comp=Z,27nm,0.9s						
AVF	Avril sur Loir	65.28 311	eP		P	22 02 19.1 -0.6
AVF			pmax		pmax	
comp=Z,27nm,0.9s						
AVF	Avril sur Loir	65.28 311	eP		P	22 02 19.1 -0.6
comp=Z,27nm,0.9s						
SMRF	Simiane la Rot	65.29 307	eP		P	22 02 19.9 +0.1
SMRF	Simiane la Rot	65.29 307	eP		P	22 02 19.9 +0.1
SSB	Saint Sauveur	65.30 309	eP		P	22 02 19.2 -0.7
SSB			pmax		pmax	
comp=Z,7.0nm,1.1s						
SSB	Saint Sauveur	65.30 309	eP		P	22 02 19.2 -0.7
comp=Z,6.8nm,1.1s						
VIVF	Saint-Julien-l	65.43 309	eP		P	22 02 20.4 -0.3
comp=Z,40nm,1.1s						
VIVF	Saint-Julien-l	65.43 309	eP		P	22 02 20.4 -0.3
VIVF			pmax		pmax	
comp=Z,40nm,1.1s						
VIVF	Saint-Julien-l	65.43 309	eP		P	22 02 20.4 -0.3
comp=Z,40nm,1.1s						
HYF	Humbligny	65.48 312	eP		P	22 02 20.8 -0.1
HYF	Humbligny	65.48 312	eP		P	22 02 20.8 -0.1
SUMG	Summit	65.57 346	eP		P	22 02 21.1 -0.5
SUMG			pmax		pmax	
comp=Z,23nm,1.0s						
SUMG	Summit	65.57 346	i P		P	22 02 20.9 -0.7
comp=Z,18nm,0.9s						
SUMG	Summit	65.57 346	eP		P	22 02 21.1 -0.5
comp=Z,23nm,1.0s						
BGF	Bois d'Agland	65.70 311	eP		P	22 02 21.9 -0.5
comp=Z,29nm,1.0s						
BGF	Bois d'Agland	65.70 311	eP		P	22 02 21.9 -0.5
BGF			pmax		pmax	
comp=Z,29nm,1.0s						
BGF	Bois d'Agland	65.70 311	eP		P	22 02 21.9 -0.5
comp=Z,29nm,1.0s						
BPAW	Bear Paw Mtn.	65.76 26	eP		P	22 02 22.9 +0.4
comp=Z,18nm,1.0s						
CAST	Castle Rocks	65.78 27	eP		P	22 02 23.3 +0.7
comp=Z,53nm,1.8s						
AGO	Saint Agoulin	65.78 310	eP		P	22 02 23.2 +0.2
PYM	Petit Puy Mans	66.01 310	eP		P	22 02 24.8 +0.3
PPLA	Purkeypile	66.05 28	eP		P	22 02 25.7 +1.2
comp=Z,209nm,1.9s						
LBL	Lubilhac	66.12 309	eP		P	22 02 25.1 -0.1
TCF	Toulx Ste Croi	66.22 311	eP		P	22 02 25.5 -0.3
comp=Z,51nm,1.0s						
TCF	Toulx Ste Croi	66.22 311	eP		P	22 02 25.5 -0.3
TCF			pmax		pmax	
comp=Z,51nm,1.0s						
TCF	Toulx Ste Croi	66.22 311	eP		P	22 02 25.5 -0.3
comp=Z,51nm,1.0s						
LASF	Ste Croix	66.32 308	eP		P	22 02 26.4 -0.1
comp=Z,39nm,0.9s						
LASF	Ste Croix	66.32 308	eP		P	22 02 26.4 -0.1
comp=Z,39nm,0.9s						
COLA	College	66.36 25	eP		P	22 02 26.5 +0.3

KMBO	Kilima Mbogo	66.39	249	P		P	22 02 27.1 -0.4
	comp=Z,4.5nm,0.9s,baz=230,slow=23,SNR=9.3						
TRF	Thorofare Moun	66.40	27	eP		P	22 02 26.6 -0.2
	comp=Z,99nm,2.3s						
LDF	La Druitiere	66.42	314	eP		P	22 02 26.5 -0.5
	comp=Z,23nm,0.8s						
LDF	La Druitiere	66.42	314	eP		P	22 02 26.5 -0.5
LDF				pmax	pmax		
	comp=Z,23nm,0.8s						
LDF	La Druitiere	66.42	314	eP		P	22 02 26.5 -0.5
	comp=Z,23nm,0.8s						
FLN	La Foliniere	66.54	314	eP		P	22 02 27.2 -0.5
	comp=Z,47nm,1.2s						
FLN				eR			
	comp=Z,648nm,19.0s						
FLN	La Foliniere	66.54	314	eP		P	22 02 27.2 -0.5
FLN				pmax	pmax		
	comp=Z,47nm,1.2s						
FLN	La Foliniere	66.54	314	eP		P	22 02 27.2 -0.5
	comp=Z,47nm,1.2s						
MCK	McKinley	66.70	26	eP		P	22 02 29.2 +0.6
MCK				pmax	pmax		
	comp=Z,16nm,1.3s						
MCK	McKinley	66.70	26	eP		P	22 02 29.2 +0.6
	comp=Z,16nm,1.3s						
ILAR	Eielson Array	66.74	25	P		P	22 02 28.2 -0.5
ILAR				PP		PP	22 04 55.4 +0.1
ILAR	Eielson Array	66.74	25	P		P	22 02 28.2 -0.5
	comp=Z,7.2nm,0.8s,baz=292,slow=5.3,SNR=73						
ILAR				PP		PP	22 04 55.4 +0.1
	comp=Z,1.8nm,1.1s,baz=315,slow=9.0,SNR=4.5						
ILAR				LR		LR	22 34 52.5
	comp=Z,239nm,18.6s,baz=298,slow=39						
KEST	Kesra	66.88	298	P		P	22 02 30.4 +0.1
KEST	Kesra	66.88	298	P		P	22 02 30.4 +0.1
	comp=Z,4.3nm,1.0s,baz=242,slow=3.7,SNR=6.0						
KEST				LR		LR	22 36 47.5
	comp=Z,29nm,18.0s,baz=203,slow=40						
GRR	Gorron	66.94	314	eP		P	22 02 29.8 -0.5
	comp=Z,85nm,1.0s						
GRR	Gorron	66.94	314	eP		P	22 02 29.8 -0.5
GRR				pmax	pmax		
	comp=Z,85nm,1.0s						
GRR	Gorron	66.94	314	eP		P	22 02 29.8 -0.5
	comp=Z,85nm,1.0s						
PMG	Port Moresby	66.98	123	eP		P	22 02 30.8 -0.1
	comp=Z,33nm,1.0s						
PMG	Port Moresby	66.98	123	P		P	22 02 34.5 +3.6
CAF	Calviac	67.00	310	eP		P	22 02 30.9 +0.1
CAF	Calviac	67.00	310	eP		P	22 02 30.9 +0.1
CAF	Calviac	67.00	310	eP		P	22 02 30.9 +0.1
RJF	Les Rejaudoux	67.14	310	eP		P	22 02 31.7 +0.1
	comp=Z,120nm,1.6s						
RJF				eR			
	comp=Z,75nm,21.9s						
RJF	Les Rejaudoux	67.14	310	eP		P	22 02 31.7 +0.1
RJF				pmax	pmax		
	comp=Z,120nm,1.6s						
RJF	Les Rejaudoux	67.14	310	eP		P	22 02 31.7 +0.1
	comp=Z,120nm,1.6s						
MFF	Saint Martin d	67.46	312	eP		P	22 02 33.3 -0.3
	comp=Z,46nm,1.1s						
MFF	Saint Martin d	67.46	312	eP		P	22 02 33.3 -0.3
MFF				pmax	pmax		
	comp=Z,46nm,1.1s						
MFF	Saint Martin d	67.46	312	eP		P	22 02 33.3 -0.3
	comp=Z,46nm,1.1s						
MTLF	Montolieu	67.72	308	eP		P	22 02 35.1 -0.2
	comp=Z,15nm,1.0s						
MTLF	Montolieu	67.72	308	eP		P	22 02 35.1 -0.2
MTLF				pmax	pmax		
	comp=Z,15nm,1.0s						
MTLF	Montolieu	67.72	308	eP		P	22 02 35.1 -0.2
	comp=Z,15nm,1.0s						
WRAB	Tennant Creek	67.78	141	P		P	22 02 34.0 -1.9
	comp=Z,88nm,0.9s,SNR=8.6						
WRA	Warramunga Arr	67.78	141	P		P	22 02 34.3 -1.6
WRA	Warramunga Arr	67.78	141	P		P	22 02 34.3 -1.6
	comp=Z,9.6nm,1.0s,baz=340,slow=6.5,SNR=38						
LFF	La Frestale	67.80	310	eP		P	22 02 36.0 +0.2
	comp=Z,47nm,0.9s						
LFF	La Frestale	67.80	310	eP		P	22 02 36.0 +0.2
LFF				pmax	pmax		
	comp=Z,47nm,0.9s						
LFF	La Frestale	67.80	310	eP		P	22 02 36.0 +0.2
	comp=Z,47nm,0.9s						
SGMF	Saint Gilles	67.98	315	eP		P	22 02 36.9 0.0
	comp=Z,62nm,1.0s						
SGMF	Saint Gilles	67.98	315	eP		P	22 02 36.9 0.0
SGMF				pmax	pmax		
	comp=Z,62nm,1.0s						
SGMF	Saint Gilles	67.98	315	eP		P	22 02 36.9 0.0
	comp=Z,62nm,1.0s						
PMR	Palmer	67.98	28	eP		P	22 02 36.9 +0.3
PMR				pmax	pmax		
	comp=Z,16nm,0.9s						
PMR	Palmer	67.98	28	eP		P	22 02 36.9 +0.3
	comp=Z,16nm,0.9s						
INK	Inuvik	68.06	18	eP		P	22 02 37.1 +0.1
	comp=Z,22nm,0.9s						
SML	Sawmill	68.14	27	eP		P	22 02 37.8 +0.1
SML				pmax	pmax		
	comp=Z,14nm,0.9s						
SML	Sawmill	68.14	27	eP		P	22 02 37.8 +0.1
	comp=Z,14nm,0.9s						
VALF	Valcebollere	68.33	307	eP		P	22 02 39.7 +0.3
ROSF	Rostrenen	68.34	315	eP		P	22 02 39.3 +0.2
	comp=Z,72nm,1.2s						
ROSF	Rostrenen	68.34	315	eP		P	22 02 39.3 +0.2
ROSF				pmax	pmax		
	comp=Z,72nm,1.2s						
ROSF	Rostrenen	68.34	315	eP		P	22 02 39.3 +0.2
	comp=Z,72nm,1.2s						
QUIF	Quistinic	68.51	314	eP		P	22 02 40.1 0.0
	comp=Z,89nm,1.1s						
QUIF	Quistinic	68.51	314	eP		P	22 02 40.1 0.0
QUIF				pmax	pmax		
	comp=Z,89nm,1.1s						
QUIF	Quistinic	68.51	314	eP		P	22 02 40.1 0.0
	comp=Z,89nm,1.1s						
EGAK	Eagle	68.56	23	eP		P	22 02 40.4 +0.3
	comp=Z,18nm,0.9s						
KDAK	Kodiak Island	68.99	32	P		P	22 02 42.4 -0.6
KDAK	Kodiak Island	68.99	32	P		P	22 02 42.4 -0.6
	comp=Z,18nm,0.7s,baz=334,slow=4.2,SNR=10						
EPF	Esparros	69.05	309	eP		P	22 02 42.8 -0.9
	comp=Z,9.8nm,0.8s						
EPF	Esparros	69.05	309	eP		P	22 02 42.8 -0.9
EPF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
EPF	Esparros	69.05	309	eP		P	22 02 42.8 -0.9
	comp=Z,9.8nm,0.8s						
RESF	Ens	69.17	308	eP		P	22 02 43.6 -1.0
DIV	Divide	69.52	27	eP		P	22 02 47.0 +0.7
	comp=Z,22nm,0.8s						
DAWY	Dawson	69.60	23	eP		P	22 02 46.9 +0.1
ETSF	Etsaut	69.68	309	eP		P	22 02 47.8 +0.2
	comp=Z,26nm,0.9s						
ETSF	Etsaut	69.68	309	eP		P	22 02 47.8 +0.2
ETSF				pmax	pmax		
	comp=Z,26nm,0.9s						
ETSF	Etsaut	69.68	309	eP		P	22 02 47.8 +0.2
	comp=Z,26nm,0.9s						
SJPF	Ste Jean	69.97	309	eP		P	22 02 47.9 -1.5
	comp=Z,31nm,1.0s						
SJPF	Ste Jean	69.97	309	eP		P	22 02 47.9 -1.5
SJPF				pmax	pmax		
	comp=Z,31nm,1.0s						
SJPF	Ste Jean	69.97	309	eP		P	22 02 47.9 -1.5
	comp=Z,31nm,1.0s						
BMRM	Bremner River	70.05	27	eP		P	22 02 50.3 +0.8
	comp=Z,28nm,0.9s						
RAGM	Ragged Mountai	70.42	27	eP		P	22 02 53.5 +1.6
	comp=Z,106nm,1.8s						
AS31	Alice Springs	70.73	143	eP		P	22 02 53.1 -1.0
ASAR	Alice Springs	70.73	143	P		P	22 02 52.8 -1.3
ASAR	Alice Springs	70.73	143	P		P	22 02 52.8 -1.3
	comp=Z,6.6nm,0.9s,baz=329,slow=5.9,SNR=56						
SFJD	Kangerlussuaq	72.54	347	eP		P	22 03 03.6 -0.8
	comp=Z,31nm,1.0s						
SFJD	Kangerlussuaq	72.54	347	P		P	22 03 06.4 +2.0
	comp=Z,17nm,0.8s,baz=32,slow=4.7,SNR=6.6						
ESDC	Sonseca Array	73.61	308	P		P	22 03 11.6 +0.2
ESDC	Sonseca Array	73.61	308	P		P	22 03 11.6 +0.2
	comp=Z,10nm,0.9s,baz=44,slow=6.0,SNR=32						
ESDC				LR		LR	22 40 48.9
	comp=Z,60nm,20.2s,baz=45,slow=40						
ESLA	Sonseca Array	73.61	308	eP		P	22 03 11.5 +0.1
	comp=Z,18nm,1.6s						
PAB	San Pablo	73.92	308	eP		P	22 03 13.8 +0.5
PAB				pmax	pmax		
	comp=Z,58nm,1.0s						
PAB	San Pablo	73.92	308	eP		P	22 03 13.8 +0.5
	comp=Z,58nm,1.0s						
PBRG	Braganca	74.07	311	eP		P	22 03 14.3 +0.3
	comp=Z,25nm,1.7s						
SKAG	Skagway	74.33	24	eP		P	22 03 16.8 +1.7
	comp=Z,25nm,1.0s						
CTAO	Charters Tower	74.46	131	eP		P	22 03 15.7 -0.7
CTAO				pmax	pmax		
	comp=Z,23nm,1.1s						
CTAO	Charters Tower	74.46	131	eP		P	22 03 15.7 -0.7
	comp=Z,23nm,1.1s						
MVO	Moncorvo	74.62	310	eP		P	22 03 17.8 +0.5
	comp=Z,29nm,0.7s						
PGAV	Caqueira, Arco	74.89	312	eP		P	22 03 17.8 -1.0
PCAB	Cabril	74.89	311	eP		P	22 03 18.8 0.0
	comp=Z,41nm,1.6s						
MTE	Manteigas	75.39	310	eP		P	22 03 22.8 +1.1
	comp=Z,23nm,1.0s						
PVIS	Viseu	75.42	310	eP		P	22 03 21.6 -0.2
PMRV	Marv??o	75.89	309	eP		P	22 03 25.4 +0.9
PCAS	Casmilo, Conde	76.19	310	eP		P	22 03 26.4 +0.2
PESTR	Estremoz	76.35	309	eP		P	22 03 27.7 +0.6
PBAR	Barrancos	76.43	308	eP		P	22 03 28.4 +0.8
	comp=Z,23nm,1.3s						
PMTG	Montargil	76.62	309	eP		P	22 03 28.8 +0.2
TAM	Tamanrasset	76.73	289	eP		P	22 03 29.6 -0.1
TAM				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TAM	Tamanrasset	76.73	289	eP		P	22 03 29.6 -0.1
	comp=Z,10nm,1.1s						
EVO	Evora	76.82	309	‖ iP		P	22 03 31.0 +1.2
	comp=Z,63nm,1.5s						
EVO				eR			
	comp=Z,91nm,23.0s						
EVO	Evora	76.82	309	eP		P	22 03 30.5 +0.7
	comp=Z,30nm,1.5s						
DLBC	Dease Lake	76.83	23	eP		P	22 03 30.0 +0.4
EVOP	Sao Brissos	76.89	309	‖ iP		P	22 03 31.0 +0.9
EVOP				pmax	pmax		
	comp=Z,63nm,1.5s						
EVOP	Sao Brissos	76.89	309	‖ iP		P	22 03 31.0 +0.9
	comp=Z,63nm,1.5s						
PBEJ	Beja	77.03	308	eP		P	22 03 31.2 +0.2
YKA	Yellowknife Ar	77.16	14	P		P	22 03 30.8 -0.4
YKA	Yellowknife Ar	77.16	14	P		P	22 03 30.8 -0.4
	comp=Z,4.9nm,0.9s,baz=338,slow=4.9,SNR=6.8						
PVAQ	Vaqueiros	77.32	308	eP		P	22 03 33.7 +1.1
PNCL	Nicolau / Gran	77.39	308	eP		P	22 03 33.7 +0.7
WRAK	Wrangell Islan	77.70	25	eP		P	22 03 34.8 +0.4
	comp=Z,19nm,1.0s						
MDT	Midelt	78.09	302	P		P	22 03 37.4 +0.3
MDT	Midelt	78.09	302	P		P	22 03 37.4 +0.3
	comp=Z,5.9nm,0.9s,baz=72,slow=7.8,SNR=5.6						
FRB	Frobisher Bay	78.13	353	P		P	22 03 35.8 -0.8
FRB	Frobisher Bay	78.13	353	P		P	22 03 35.8 -0.8
	comp=Z,8.7nm,0.8s,baz=357,slow=7.4,SNR=4.6						
STKA	Stephens Creek	81.29	142	eP		P	22 03 53.0 -1.2
	comp=Z,2.2nm,0.8s						
STKA	Stephens Creek	81.29	142	P		P	22 03 52.4 -1.7
	comp=Z,10nm,0.8s,baz=322,slow=6.6,SNR=18						
LSZ	Lusaka	82.50	244	eP		P	22 04 00.6 -0.4
	comp=Z,8.8nm,0.8s						
LSZ	Lusaka	82.50	244	LR		LR	22 39 34.7
	comp=Z,75nm,19.9s,baz=169,slow=35						
FCC	Fort Churchill	83.53	5	eP		P	22 04 05.6 +0.1
FCC	Fort Churchill	83.53	5	eP		P	22 04 05.6 +0.1
	comp=Z,0.6nm,1.1s						
EDM	Edmonton	85.95	17	eP		P	22 04 18.3 +0.3
EDM	Edmonton	85.95	17	eP		P	22 04 18.3 +0.3
SCHQ	Schefferville	86.65	350	eP		P	22 04 21.2 -0.1
	comp=Z,15nm,0.9s						
SCHQ	Schefferville	86.65	350	P		P	22 04 20.9 -0.4
	comp=Z,11nm,0.9s,baz=24,slow=7.3,SNR=9.6						
SCHQ				LR		LR	22 49 09.1
	comp=Z,118nm,18.4s,baz=35,slow=40						
NLWA	Neilton Lookou	88.12	26	eP		P	22 04 29.5 +0.9
	comp=Z,20nm,1.0s						
B08A	Colville Reser	88.75	23	eP		P	22 04 32.5 +0.9
DZM	Mont Dzumac	88.98	119	P		P	22 04 33.2 +0.2
DZM	Mont Dzumac	88.98	119	P		P	22 04 33.2 +0.2
	comp=Z,12nm,1.1s,baz=270,slow=24,SNR=66						
LTY	Liberty	89.31	24	eP		P	22 04 34.9 +0.7
	comp=Z,18nm,1.1s						
LON	Longmire	89.38	25	eP		P	22 04 35.5 +0.9
LON				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LON	Longmire	89.38	25	eP		P	22 04 35.5 +0.9
	comp=Z,10nm,1.2s						
C09A	Chrisman Ranch	89.57	22	eP		P	22 04 36.7 +1.3
	comp=Z,23nm,1.1s						
WALA	Waterton Lakes	89.65	19	eP		P	22 04 35.5 -0.4
	comp=Z,0.3nm,1.1s						
BLMT	Blacktail Moun	90.49	20	eP		P	22 04 41.1 +1.2
BSMT	Bassoo Peak	90.52	20	eP		P	22 04 41.3 +1.2
YBMT	Yellow Bay	90.72	20	eP		P	22 04 41.5 +0.6
	comp=Z,17nm,1.0s						
JTMT	Jette	90.76	20	eP		P	22 04 41.9 +0.8
E09A	Wood Farm, Sta	90.76	23	eP		P	22 04 42.0 +1.1
	comp=Z,13nm,1.2s						
SWMT	Swartz Lake	91.05	20	eP		P	22 04 43.2 +0.8
SLMT	Seeley Lake	91.43	20	eP		P	22 04 44.6 +0.3
F10A	Beach Ranch, E	91.53	22	eP		P	22 04 45.9 +1.2
	comp=Z,20nm,1.3s						
G08A	Pilot Rock	91.60	24	eP		P	22 04 46.1 +1.1
	comp=Z,11nm,1.6s						
EGMT	Eagleton	91.63	17	eP		P	22 04 45.5 +0.4
	comp=Z,18nm,1.1s						
MSO	Missoula	91.69	20	eP		P	22 04 45.8 +0.4
	comp=Z,7.1nm,0.9s						
CHMT	Chamberlain Mo	91.80	20	eP		P	22 04 46.0 -0.1
ULM	Lac du Bonnet	91.80	8	LR		LR	22 46 36.2
	comp=Z,170nm,20.2s,baz=30,slow=36						
HRY	Holter Researc	92.35	19	eP		P	22 04 49.0 +0.5
I07A	Izee	92.50	25	eP		P	22 04 50.7 +1.5
	comp=Z,66nm,2.5s						
BMO	Blue Mountains	92.51	23	eP		P	22 04 49.3 +0.1
	comp=Z,3.9nm,0.9s						
K05A	Summer Lake	93.22	26	eP		P	22 04 54.4 +1.7
	comp=Z,52nm,1.7s						
BOSA	Boshof	93.40	236	LR		LR	22 46 23.2
	comp=Z,82nm,18.7s,baz=252,slow=35						
J08A	Circle Bar Ran	93.48	24	eP		P	22 04 55.1 +1.3
	comp=Z,9.9nm,1.0s						
MCMT	McKenzie Canyo	93.83	20	eP		P	22 04 54.3 -1.2
	comp=Z,3.9nm,1.5s						
DBIC	Dimbokro	94.42	282	P		P	22 04 58.0 -0.4
DBIC	Dimbokro	94.42	282	P		P	22 04 58.0 -0.4
	comp=Z,4.8nm,0.9s,baz=45,slow=6.4,SNR=4.4						
DBIC				LR		LR	22 54 10.4
	comp=Z,117nm,18.7s,baz=140,slow=40						
HLID	Hailey	94.55	22	eP		P	22 04 59.5 +0.8
LIC	Lamto	94.83	282	eP		P	22 04 58.9 -1.3
	comp=Z,16nm,1.0s						
LIC				eR			
	comp=Z,133nm,22.8s						
LIC	Lamto	94.83	282	eP		P	22 04 58.9 -1.3
	comp=Z,16nm,1.0s						
H17A	Grant Village	94.83	19	eP		P	22 04 56.9 -3.2
IMW	Indian Meadow	95.20	19	eP		P	22 05 03.5 +1.7
	comp=Z,7.3nm,1.0s						
PDAR	Pinedale Array	96.62	19	P		P	22 05 07.0 -1.3
PDAR	Pinedale Array	96.62	19	P		P	22 05 07.0 -1.3
	comp=Z,0.6nm,0.6s,baz=29,slow=3.4,SNR=4.9						
PDAR				LR		LR	22 53 03.7
	comp=Z,121nm,19.2s,baz=159,slow=38						
NVAR	Mina Array Bea	97.94	26	P		Pdif	22 05 14.6 +0.2
NVAR	Mina Array Bea	97.94	26	P		Pdif	22 05 14.6 +0.2
	comp=Z,1.0nm,0.8s,baz=301,slow=4.3,SNR=5.4						
SMCO	Snowmass	100.64	18	ePdif		Pdif	22 05 26.8 +0.2
GDL2	Guadalupe Moun	107.92	18	ePdif		Pdif	22 06 06.8 +8.0
VNDA	Vanda	121.61	167	PKP		PKPdf	22 10 29.0 -1.3
VNDA	Vanda	121.61	167	PKP		PKPdf	22 10 29.0 -1.3
	comp=Z,1.1nm,0.9s,baz=351,slow=2.7,SNR=4.4						
QSPA	South Pole Qui	127.47	180	ePKPdf		PKPdf	22 10 40.7 -1.2
SNAA	Sanae	128.02	203	ePKP		PKPdf	22 10 42.1 -0.7
VNA2	Neumayer--Watz	129.44	204	ePKP		PKPdf	22 10 45.2 -0.2
VNA1	Neumayer--Stat	129.72	205	ePKP		PKPdf	22 10 47.2 +1.3
SAML	Samuel	145.71	321	ePKPdf		PKPdf	22 11 16.8 -0.2
LPAZ	La Paz	154.44	322	PKP		PKPdf	22 11 30.6 -0.7
LPAZ	La Paz	154.44	322	PKP		PKPdf	22 11 30.6 -0.7
	comp=Z,1.0nm,0.9s,baz=16,slow=1.4,SNR=3.4						
CPUP	Villa Florida	154.73	289	PKPbc		PKPbc	22 11 38.2 -1.1
CPUP	Villa Florida	154.73	289	PKPbc		PKPbc	22 11 38.2 -1.1
	comp=Z,0.3nm,0.3s,baz=91,slow=7.8,SNR=3.3						

*ISCJB **31** 21:55:30.3±0.7,38°.72N±0°.02×26°.36E±0°.03, h9km±5km, Error ellipse: s-maj=3.9km s-min=3.3km az=164.2*
*ATH **31** 21:55:30.9,38°.70N×26°.29E, h24km±2km, MD3.5/5, ML2.7*
*ISK **31** 21:55:30.6,38°.75N×26°.42E, h10km, MD3.7, ML3.5*
*CSEM **31** 21:55:31.2±0.1,38°.71N×26°.39E, h10km, MD3.5, Error ellipse: s-maj=2.7km s-min=2.4km az=92.0*
*DDA **31** 21:55:35.8,39°.09N×26°.70E, h37km, MD2.7*
ISC 31 21:55:29.9±1.7,38.74N±0°.02×26.42E±0°.02, h5km±13km, n110, σ1§10/125, 6C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.52	348	ePN	Pb	21 55 41.9	+0.3
PRK				eSN	Sb	21 55 50.1	+0.6
PRK	Paraskevi	0.52	348	ePn	Pb	21 55 41.9	+0.3
PRK				eSn	Sb	21 55 50.1	+0.6
AYVA	Ayvalik	0.61	20	eP	Pb	21 55 42.6	-0.5
AYVA				i S	Sn	21 55 53.0	-2.5
AYVA	Ayvalik	0.61	20	eP	Pb	21 55 42.6	-0.5
AYVA				i S	Sn	21 55 53.0	-2.5
IZM	Izmir	0.74	117	ePG	Pb	21 55 45.6	+0.3
IZM				eSG	Sb	21 55 56.5	+0.6
IZM	Izmir	0.74	117	ePg	Pb	21 55 45.7	+0.3
IZM				eSg	Sb	21 55 56.5	+0.6
SMG	Samos	1.08	162	ePN	Pn	21 55 51.5	-0.2
SMG				eSN	Sn	21 56 06.7	-0.3
SMG	Samos	1.08	162	ePn	Pn	21 55 51.5	-0.2
SMG				eSn	Sn	21 56 06.7	-0.3
EZN	Ezine	1.09	356	ePG	Pn	21 55 51.7	-0.2
EZN				eSG	Sn	21 56 07.0	-0.3
EZN	Ezine	1.09	356	ePg	Pn	21 55 51.7	-0.2
EZN				eSg	Sn	21 56 07.0	-0.3
AKHS	Akhisar	1.10	82	eP	Pn	21 55 52.0	-0.1
AKHS				eS	Sn	21 56 06.9	-0.8
AKHS	Akhisar	1.10	82	eP	Pn	21 55 52.0	-0.1
AKHS				eS	Sn	21 56 06.9	-0.8
AKS	Akhisar	1.10	82	ePN	Pn	21 55 52.0	0.0
AKS				eSN	Sn	21 56 07.7	0.0
AKS	Akhisar	1.10	82	ePn	Pn	21 55 52.0	0.0
AKS				eSn	Sn	21 56 07.7	0.0
BOZC	Bozcaada	1.14	346	eP	Pn	21 55 52.2	-0.3
BOZC				i S	Sn	21 56 09.1	+0.5
BALB	Balikesir	1.45	51	ePN	Pg	21 55 57.7	-0.1
BALB	Balikesir	1.45	51	ePn	Pg	21 55 57.7	-0.1
LIA	Limnos Island	1.50	321	ePN	Pb	21 55 58.2	-0.1
LIA				eSN	Sb	21 56 16.9	-0.8
LIA	Limnos Island	1.50	321	ePn	Pb	21 55 58.2	-0.1
LIA				eSn	Sb	21 56 16.9	-0.8
GONE	Gonen-Balikesi	1.64	37	ePN	Pb	21 55 59.7	-0.9
GONE	Gonen-Balikesi	1.64	37	ePn	Pb	21 55 59.7	-0.9
LPK	Lapseki	1.66	9	ePN	Pb	21 56 00.2	-0.8
LPK	Lapseki	1.66	9	ePn	Pb	21 56 00.2	-0.8
GELI	Tayfur-Gelibol	1.66	2	ePN	Pb	21 56 00.5	-0.5
GELI	Tayfur-Gelibol	1.66	2	ePn	Pb	21 56 00.5	-0.5
KULA	Kula-Manisa	1.77	96	ePN	Pb	21 56 02.0	-1.0
KULA	Kula-Manisa	1.77	96	ePn	Pb	21 56 02.0	-1.0
KRBG	Karabiga-Canak	1.79	22	ePN	Pn	21 56 01.4	-0.1
KRBG	Karabiga-Canak	1.79	22	ePn	Pn	21 56 01.4	-0.1
MLSB	Milas	1.79	143	ePN	Pb	21 56 02.6	-0.7
MLSB	Milas	1.79	143	ePn	Pb	21 56 02.6	-0.7
APE	Apeiranthos	1.81	203	ePN	Pb	21 56 03.3	-0.2
APE	Apeiranthos	1.81	203	ePN	Pn	21 56 01.9	+0.2
APE				eSN	Sn	21 56 23.9	-1.1
APE	Apeiranthos	1.81	203	ePn	Pn	21 56 01.9	+0.2
APE				eSn	Sn	21 56 23.9	-1.1
BODT	Bodrum	1.81	157	ePN	Pb	21 56 02.9	-0.7
BODT	Bodrum	1.81	157	ePn	Pb	21 56 02.9	-0.7
SMTH	Samothraki Isl	1.86	339	ePN	Pb	21 56 04.0	-0.5
SMTH	Samothraki Isl	1.86	339	ePn	Pb	21 56 04.0	-0.5
BNT	Bandirma	1.99	35	ePN	Pn	21 56 04.5	+0.2
BNT	Bandirma	1.99	35	ePn	Pn	21 56 04.5	+0.2
RKY	Sarkoy-Tekirda	2.04	17	ePN	Pb	21 56 06.0	-1.5
RKY	Sarkoy-Tekirda	2.04	17	ePn	Pb	21 56 06.0	-1.5
PTL	Penteli	2.12	252	ePN	Pn	21 56 05.4	-0.6
PTL	Penteli	2.12	252	ePn	Pn	21 56 05.4	-0.6
KCTX	Karacabey (Bur	2.14	44	ePN	Pn	21 56 06.4	0.0
KCTX	Karacabey (Bur	2.14	44	ePn	Pn	21 56 06.4	0.0
MFT	Murefte	2.15	18	ePN	Pb	21 56 08.0	-1.5
MFT	Murefte	2.15	18	ePn	Pb	21 56 08.0	-1.5
YER	Yerkesik	2.18	137	ePN	Pn	21 56 07.6	+0.8
YER	Yerkesik	2.18	137	ePn	Pn	21 56 07.6	+0.8
DAT	Datca	2.21	155	ePN	Pn	21 56 07.7	+0.4
DAT	Datca	2.21	155	ePn	Pn	21 56 07.7	+0.4
ATH	Athens Observa	2.25	251	ePN	Pn	21 56 06.8	-1.1
ATH	Athens Observa	2.25	251	ePn	Pn	21 56 06.8	-1.1
ORLT	Orhaneli	2.33	55	ePN	Pb	21 56 10.2	-2.1
ORLT	Orhaneli	2.33	55	ePn	Pb	21 56 10.3	-2.1
PAIG	Paliouri	2.43	300	ePB	Pn	21 56 11.0	+0.7
PAIG	Paliouri	2.43	300	ePb	Pn	21 56

PRK	**Paraskevi**	**0.50**	**354**	*e*PG	**Pb**	**21 59 00.3**	**+0.6**
PRK				*e*SG	**Sb**	**21 59 08.5**	**+1.5**
PRK	**Paraskevi**	**0.50**	**354**	*e*P	**Pg**	**21 58 58.8**	**0.0**
PRK	**Paraskevi**	**0.50**	**354**	*e*Pg	**Pb**	**21 59 00.3**	**+0.6**
IZM	**Izmir**	**0.80**	**116**	*e*PG	**Pb**	**21 59 05.1**	**+0.2**
IZM				SG	**Sb**	**21 59 16.7**	**+0.9**
IZM	**Izmir**	**0.80**	**116**	*e*Pg	**Pb**	**21 59 05.1**	**+0.2**
IZM				*i* Sg	**Sb**	**21 59 16.7**	**+0.9**
SMG	**Samos**	**1.11**	**159**	*e*PB	**Pg**	**21 59 10.4**	**0.0**
SMG				*e*SB	**Sn**	**21 59 25.5**	**-0.1**
SMG	**Samos**	**1.11**	**159**	*e*P	**Pg**	**21 59 10.4**	**0.0**
SMG	**Samos**	**1.11**	**159**	*e*Pb	**Pg**	**21 59 10.4**	**0.0**
SMG				*e*Sb	**Sn**	**21 59 25.5**	**-0.1**
LIA	**Limnos Island**	**1.46**	**322**	*e*PG	**Pb**	**21 59 15.3**	**-0.7**
LIA	**Limnos Island**	**1.46**	**322**	*e*P	Pn	21 59 07.9	-7.2
LIA	**Limnos Island**	**1.46**	**322**	*e*Pg	**Pb**	**21 59 15.3**	**-0.7**
BALB	**Balikesir**	**1.49**	**53**	*e*PN	**Pn**	**21 59 15.3**	**-0.3**
BALB				*e*SN	**Sn**	**21 59 33.5**	**-1.5**
BALB	**Balikesir**	**1.49**	**53**	*e*Pn	**Pn**	**21 59 15.3**	**-0.3**
BALB				*e*Sn	**Sn**	**21 59 33.5**	**-1.5**
GELI	**Tayfur-Gelibol**	**1.65**	**4**	*e*PN	**Pb**	**21 59 18.4**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.65**	**4**	*e*Pn	**Pb**	**21 59 18.5**	**-0.9**
GONE	**Gonen-Balikesi**	**1.66**	**38**	*e*PN	**Pn**	**21 59 17.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.66**	**38**	*e*Pn	**Pn**	**21 59 17.8**	**-0.2**
APE	**Apeiranthos**	**1.80**	**201**	*e*P	**Pn**	**21 59 19.2**	**-0.6**
KRBG	**Karabiga-Canak**	**1.80**	**24**	*e*PN	**Pn**	**21 59 20.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.80**	**24**	*e*Pn	**Pn**	**21 59 20.1**	**+0.2**
SMTH	**Samothraki Isl**	**1.83**	**340**	*e*PB	**Pg**	**21 59 24.7**	**+0.6**
SMTH	**Samothraki Isl**	**1.83**	**340**	*e*P	**Pg**	**21 59 24.9**	**+0.8**
SMTH	**Samothraki Isl**	**1.83**	**340**	*e*Pb	**Pg**	**21 59 24.7**	**+0.6**
KULA	**Kula-Manisa**	**1.83**	**97**	*e*PN	**Pn**	**21 59 20.0**	**-0.4**
KULA	**Kula-Manisa**	**1.83**	**97**	*e*Pn	**Pn**	**21 59 20.0**	**-0.4**
MLSB	**Milas**	**1.84**	**142**	*e*PN	**Pn**	**21 59 20.7**	**+0.2**
MLSB	**Milas**	**1.84**	**142**	*e*Pn	**Pn**	**21 59 20.7**	**+0.2**

IDC 31 22:02:24.5±2.0, 18°.01S×175°.15W, h0km, mb4.5/6, mb1 4.6/7, mb1mx4.1/23, mbtmp4.5/7, ML2.2/1, Error ellipse: s-maj=50.9km s-min=30.9km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.21**	**39**	Pn	Pn	22 03 43.9	+0.1
	4.7nm,0.3s,baz=223,slow=19,SNR=2.6						
AFI				Sn	Sn	22 04 36.5	-8.1
	46nm,0.3s,baz=55,slow=24,SNR=14						
URZ	**Urewera**	**21.29**	**197**	P	P	22 07 12.9	+0.3
	5.7nm,0.4s,baz=35,slow=5.0,SNR=7.5						
CTA	**Charters Tower**	**36.49**	**260**	P	P	22 09 33.4	+1.6
	2.1nm,0.3s,baz=88,slow=12,SNR=4.7						
STKA	**Stephens Creek**	**41.31**	**242**	P	P	22 10 11.7	-0.4
	1.6nm,0.5s,baz=86,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**47.66**	**259**	P	P	22 11 02.6	-0.5
	5.7nm,0.5s,baz=97,slow=7.7,SNR=32						
ASAR	**Alice Springs**	**47.75**	**254**	P	P	22 11 03.3	-0.4
	24nm,0.7s,baz=88,slow=8.5,SNR=202						
FITZ	**Fitzroy Crossi**	**56.07**	**260**	P	P	22 12 05.1	-0.7
	1.0nm,0.3s,baz=89,slow=8.7,SNR=5.7						

*ISCJB **31** 22:04:08.0±0.9, 7°.87S±0°.08×122°.89E±0°.09, h221km, mb3.5/2, Error ellipse: s-maj=12.1km s-min=10.8km az=170.5*
*AUST **31** 22:04:12.8±0.7, 8°.06S×123°.11E, h262km, Error ellipse: s-maj=1.9km s-min=1.0km az=334.0*
*IDC **31** 22:04:13.0±2.8, 8°.34S×122°.46E, h263km±27km, mb3.2/2, mb1 3.4/5, mb1mx3.0/21, mbtmp3.2/5, Error ellipse: s-maj=82.7km s-min=18.3km az=58.0*
ISC 31 22:04:10.0±1.0, 7°.92S±0°.08×123°.04E±0°.09, h221km, n19, σ1§46/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.19**	**147**	P	Pn	22 04 55.7	+3.6
	baz=2.0,SNR=15						
WSI	**Waingapu**	**3.22**	**237**	P	**Pn**	**22 05 04.8**	**+1.4**
	baz=3.2,SNR=3.4						
MTN	**Manton Dam**	**9.34**	**122**	P	**Pn**	**22 06 21.9**	**+1.4**
	baz=9.2,SNR=5.6						
KNRA	**Kununurra**	**9.53**	**145**	P	**Pn**	**22 06 23.3**	**+0.4**
	baz=9.4,SNR=9.0						
KDU	**Kakadu**	**10.41**	**118**	P	**Pn**	**22 06 35.3**	**+1.0**
	baz=10,SNR=5.7						
FAKI	**Fak Fak**	**10.42**	**62**	P	**Pn**	**22 06 35.0**	**+0.6**
	baz=10,SNR=9.8						
FITZ	**Fitzroy Crossi**	**10.43**	**166**	P	**Pn**	**22 06 33.1**	**-1.3**
	0.2nm,0.3s,baz=355,slow=12,SNR=5.8						
FITZ				S	**S**	**22 08 28.4**	**-3.1**
	0.3nm,0.3s,baz=257,slow=14,SNR=4.2						
FITZ	**Fitzroy Crossi**	**10.43**	**166**	P	**Pn**	**22 06 35.0**	**+0.5**
	baz=10,SNR=12						
FITZ				S	**S**	**22 08 33.7**	**+2.2**
	baz=10,SNR=3.6						
WRA	**Warramunga Arr**	**16.20**	**139**	P	**P**	**22 07 45.1**	**+0.2**
	1.1nm,0.3s,baz=314,slow=13,SNR=25						
WRA				S	**S**	**22 10 42.4**	**-1.4**
	0.2nm,0.3s,baz=314,slow=25,SNR=3.4						
ASAR	**Alice Springs**	**18.80**	**148**	P	**P**	**22 08 13.7**	**+0.5**
	0.7nm,0.3s,baz=321,slow=9.6,SNR=23						
ASAR				ScP	ScP	22 15 37.9	-7.3
	0.0nm,0.3s,baz=329,slow=2.3,SNR=4.6						
MEEK	**Meekatharra**	**19.09**	**192**	P	**P**	**22 08 16.1**	**-0.2**
	baz=19,SNR=10.0						
MEEK				S	S	22 11 56.6	+16
	baz=19,SNR=3.4						
COEN	**Coen**	**20.65**	**109**	P	**P**	**22 08 34.1**	**+1.1**
	baz=20,SNR=7.1						
MORW	**Morawa**	**22.05**	**197**	P	**P**	**22 08 45.8**	**-1.1**
	baz=22,SNR=6.4						
BLDU	**Ballidu**	**23.34**	**194**	P	**P**	**22 08 58.5**	**-0.2**
	baz=23,SNR=8.5						
STKA	**Stephens Creek**	**29.44**	**147**	P	**P**	**22 09 53.0**	**-0.3**
	1.6nm,0.4s,baz=318,slow=10,SNR=9.2						
STKA	**Stephens Creek**	**29.44**	**147**	P	**P**	**22 09 53.2**	**0.0**
	baz=29,SNR=7.3						
PATS	**Pohnpei**	**38.10**	**68**	S	**S**	**22 16 41.5**	**-2.9**
	baz=38,SNR=3.9						
LHI	**Lord Howe Isla**	**40.94**	**130**	P	P	22 11 20.8	-10
	baz=41,SNR=3.4						
MKAR	**Makanchi Array**	**65.41**	**330**	P	**P**	**22 14 28.2**	**-0.9**
	0.2nm,0.5s,baz=136,slow=8.3,SNR=4.0						

*ISCJB **31** 22:05:18.8±0.8, 38°.73N±0°.02×26°.35E±0°.04, h4km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=162.4*
*DDA **31** 22:05:18.2, 38°.70N×26°.34E, h7km, MD3.1*
*ATH **31** 22:05:19.7, 38°.73N×26°.36E, h29km, MD3.1/5*
*ISK **31** 22:05:20.2, 38°.78N×26°.48E, h8km, MD3.4*
*CSEM **31** 22:05:20.2±0.2, 38°.74N×26°.42E, h10km, MD3.1, Error ellipse: s-maj=4.3km s-min=3.2km az=74.0*
ISC 31 22:05:18.4±1.3, 38°.70N±0°.02×26°.35E±0°.03, h5km±11km, n52, σ0§68/74, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.39**	**217**	*e*PB	**Pn**	**22 05 29.2**	**-1.6**
CHOS				*e*SB	**Sb**	**22 05 35.5**	**+1.3**
CHOS	**Chios island**	**0.39**	**217**	*e*Pb	**Pn**	**22 05 29.2**	**-1.6**
CHOS				*e*Sb	**Sb**	**22 05 35.5**	**+1.3**
PRK	**Paraskevi**	**0.55**	**353**	*e*PN	**Pb**	**22 05 30.5**	**+0.1**
PRK				*e*SN	**Sb**	**22 05 38.8**	**+0.2**
PRK	**Paraskevi**	**0.55**	**353**	*e*Pn	**Pb**	**22 05 30.5**	**+0.1**
PRK				*e*Sn	**Sb**	**22 05 38.8**	**+0.2**
AYVA	**Ayvalik**	**0.66**	**23**	*i* P	**Pb**	**22 05 31.5**	**-0.8**
AYVA				*i* S	**Sb**	**22 05 42.3**	**+0.5**
AYVA	**Ayvalik**	**0.66**	**23**	*i* P	**Pb**	**22 05 31.5**	**-0.8**
AYVA				*i* S	**Sb**	**22 05 42.3**	**+0.5**
IZM	**Izmir**	**0.77**	**113**	*e*PG	**Pb**	**22 05 34.2**	**-0.1**
IZM				*e*SG	**Sb**	**22 05 45.7**	**+0.5**
IZM	**Izmir**	**0.77**	**113**	*e*Pg	**Pb**	**22 05 34.2**	**-0.1**
IZM				*e*Sg	**Sb**	**22 05 45.7**	**+0.5**
SMG	**Samos**	**1.06**	**159**	*e*PN	**Pn**	**22 05 40.3**	**+0.4**
SMG				*e*SN	**Sn**	**22 05 55.4**	**+0.3**
SMG	**Samos**	**1.06**	**159**	*e*Pn	**Pn**	**22 05 40.3**	**+0.4**
SMG				*e*Sn	**Sn**	**22 05 55.4**	**+0.3**
EZN	**Ezine**	**1.12**	**359**	*e*PG	**Pn**	**22 05 40.9**	**+0.2**
EZN				*e*SG	**Sn**	**22 05 55.8**	**-0.7**
EZN	**Ezine**	**1.12**	**359**	*e*Pg	**Pn**	**22 05 40.9**	**+0.2**
EZN				*e*Sg	**Sn**	**22 05 55.8**	**-0.7**
AKS	**Akhisar**	**1.15**	**81**	*e*PG	**Pg**	**22 05 40.4**	**-0.1**
AKS				*e*SG	**Sb**	**22 05 55.7**	**-0.3**
AKS	**Akhisar**	**1.15**	**81**	*e*Pg	**Pg**	**22 05 40.4**	**-0.1**
AKS				*e*Sg	**Sb**	**22 05 55.7**	**-0.3**
AKHS	**Akhisar**	**1.15**	**81**	*e*P	**Pg**	**22 05 40.1**	**-0.4**
AKHS				*i* S	**Sn**	**22 05 57.1**	**-0.2**
AKHS	**Akhisar**	**1.15**	**81**	*e*P	**Pg**	**22 05 40.1**	**-0.4**
AKHS				*i* S	**Sn**	**22 05 57.1**	**-0.2**
BALY	**Balya**	**1.43**	**43**	*e*P	**Pn**	**22 05 44.3**	**-0.7**
BALY				*i* S	**Sg**	**22 06 05.6**	**+1.3**
BALY	**Balya**	**1.43**	**43**	*e*P	**Pn**	**22 05 44.3**	**-0.7**
BALY				*i* S	**Sg**	**22 06 05.6**	**+1.3**
LIA	**Limnos Island**	**1.50**	**323**	*e*PN	**Pg**	**22 05 46.9**	**-0.2**
LIA				*e*SN	**Sb**	**22 06 05.7**	**-0.3**
LIA	**Limnos Island**	**1.50**	**323**	*e*Pn	**Pg**	**22 05 46.9**	**-0.2**
LIA				*e*Sn	**Sb**	**22 06 05.7**	**-0.3**
BALB	**Balikesir**	**1.51**	**51**	*e*PN	**Pb**	**22 05 46.5**	**-0.4**
BALB	**Balikesir**	**1.51**	**51**	*e*Pn	**Pb**	**22 05 46.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.69**	**37**	*e*PN	**Pb**	**22 05 48.9**	**-1.1**
GONE	**Gonen-Balikesi**	**1.69**	**37**	*e*Pn	**Pb**	**22 05 48.9**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.69**	**3**	*e*PN	**Pb**	**22 05 49.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.69**	**3**	*e*Pn	**Pb**	**22 05 49.6**	**-0.4**
LPK	**Lapseki**	**1.70**	**11**	*e*PN	**Pb**	**22 05 49.6**	**-0.4**
LPK	**Lapseki**	**1.70**	**11**	*e*Pn	**Pb**	**22 05 49.6**	**-0.4**
MLSB	**Milas**	**1.80**	**141**	*e*PN	**Pb**	**22 05 51.9**	**+0.1**
MLSB	**Milas**	**1.80**	**141**	*e*Pn	**Pb**	**22 05 51.9**	**+0.1**
BODT	**Bodrum**	**1.80**	**155**	*e*PN	**Pg**	**22 05 52.9**	**0.0**
BODT	**Bodrum**	**1.80**	**155**	*e*Pn	**Pg**	**22 05 52.9**	**0.0**
KULA	**Kula-Manisa**	**1.82**	**95**	*e*PN	**Pb**	**22 05 51.4**	**-0.8**
KULA	**Kula-Manisa**	**1.82**	**95**	*e*Pn	**Pb**	**22 05 51.4**	**-0.8**
KRBG	**Karabiga-Canak**	**1.84**	**23**	*e*PN	**Pn**	**22 05 50.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.84**	**23**	*e*Pn	**Pn**	**22 05 50.5**	**-0.1**
DEMI	**Demirci**	**1.88**	**79**	*e*P	**Pn**	**22 05 50.7**	**-0.5**
DEMI				*i* S	**Sg**	**22 06 18.1**	**-0.5**
DEMI	**Demirci**	**1.88**	**79**	*e*P	**Pn**	**22 05 50.7**	**-0.5**
DEMI				*i* S	**Sg**	**22 06 18.1**	**-0.5**
BNT	**Bandirma**	**2.05**	**36**	*e*PN	**Pn**	**22 05 53.9**	**+0.4**
BNT	**Bandirma**	**2.05**	**36**	*e*Pn	**Pn**	**22 05 53.9**	**+0.4**
YER	**Yerkesik**	**2.19**	**135**	*e*PN	**Pb**	**22 05 57.9**	**-0.5**
YER	**Yerkesik**	**2.19**	**135**	*e*Pn	**Pb**	**22 05 57.9**	**-0.5**
KCTX	**Karacabey (Bur**	**2.20**	**44**	*e*PN	**Pn**	**22 05 56.2**	**+0.7**
KCTX	**Karacabey (Bur**	**2.20**	**44**	*e*Pn	**Pn**	**22 05 56.2**	**+0.7**
MFT	**Murefte**	**2.20**	**19**	*e*PN	**Pn**	**22 05 56.8**	**+1.2**
MFT	**Murefte**	**2.20**	**19**	*e*Pn	**Pn**	**22 05 56.8**	**+1.2**
ORLT	**Orhaneli**	**2.38**	**55**	*e*PN	**Pn**	**22 05 58.9**	**+0.8**
ORLT	**Orhaneli**	**2.38**	**55**	*e*Pn	**Pn**	**22 05 58.9**	**+0.8**
RDO	**Rodhopi**	**2.52**	**346**	*e*PN	**Pn**	**22 06 00.8**	**+0.9**
RDO	**Rodhopi**	**2.52**	**346**	*e*Pn	**Pn**	**22 06 00.8**	**+0.9**
ARMT	**Armutlu**	**2.69**	**45**	*e*PN	**Pn**	**22 06 03.3**	**+1.1**
ARMT	**Armutlu**	**2.69**	**45**	*e*Pn	**Pn**	**22 06 03.3**	**+1.1**

*ISCJB **31** 22:10:41.7±0.6, 11°.09N±0°.06×125°.85E±0°.06, h50km, mb3.9/11, Error ellipse: s-maj=9.6km s-min=8.0km az=139.1*
*MAN **31** 22:10:45, 11°.10N×125°.54E, h41km, mb4.2, ML3.1, MS2.8*
*IDC **31** 22:10:49.7±10.0, 10°.90N×125°.50E, h109km±102km, mb3.6/11, mb1 3.7/11, mb1mx3.5/25, mbtmp3.6/11, Error ellipse: s-maj=62.5km s-min=15.1km az=74.0*
ISC 31 22:10:44.0±0.8, 11°.06N±0°.06×125°.69E±0°.09, h50km, n19, σ1§19/20, mb4.0/11, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.60**	**335**	*e*P	**Pn**	**22 10 58.4**	**+1.9**
PLP	**Palo**	**0.71**	**279**	⇓*i*P	**Pn**	**22 10 57.7**	**-0.2**
PLP				*i* S	**Sn**	**22 11 07.8**	**-0.2**
OCLP	**Ormoc**	**1.06**	**270**	*e*P	**Pn**	**22 11 03.3**	**+0.7**
MSLP	**Maasin**	**1.23**	**222**	*e*P	**Pn**	**22 11 06.0**	**+1.2**
MSLP				*e*S	**Sn**	**22 11 22.9**	**+2.5**
LLP	**Lapu-Lapu**	**1.85**	**247**	*e*P	**Pn**	**22 11 13.8**	**+0.5**
RCP	**Roxas**	**2.93**	**280**	⇓*e*P	**Pn**	**22 11 29.7**	**+1.5**
GUIM	**Jordan**	**3.08**	**262**	*e*P	**Pn**	**22 11 30.8**	**+0.6**
PAGZ	**Pagadian**	**3.92**	**216**	*e*P	**Pn**	**22 11 42.6**	**+0.9**
WRA	**Warrmunga Arr**	**31.96**	**165**	P	P	22 17 03.4	-2.0
	0.6nm,0.5s,baz=345,slow=9.1,SNR=5.1						
USRK	**Ussuriysk Arra**	**33.47**	**8**	P	**P**	**22 17 19.6**	**+1.3**
	1.6nm,0.6s,baz=190,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**35.43**	**167**	P	**P**	**22 17 34.9**	**-0.7**
	0.7nm,0.4s,baz=345,slow=7.1,SNR=11						
SONM	**Songino Array**	**40.09**	**340**	P	**P**	**22 18 15.6**	**+0.8**
	0.2nm,0.4s,baz=151,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**45.33**	**161**	P	**P**	**22 18 57.0**	**-0.2**
	4.3nm,1.2s,baz=330,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**51.06**	**323**	P	**P**	**22 19 41.2**	**-0.2**
	0.6nm,0.4s,baz=127,slow=7.1,SNR=20						
ZALV	**Zalesovo Beam**	**53.67**	**331**	P	**P**	**22 20 00.0**	**-0.5**
	0.8nm,0.3s,baz=123,slow=5.9,SNR=6.4						
BVAR	**Borovoye Array**	**60.70**	**325**	P	**P**	**22 20 49.9**	**-0.4**
	1.2nm,0.9s,baz=117,slow=5.0,SNR=4.2						
ARCES	**ARCESS Array B**	**83.26**	**340**	P	**P**	**22 23 04.5**	**-0.5**
	2.2nm,0.9s,baz=83,slow=6.7,SNR=6.4						
BRTR	**Keskin Array B**	**84.60**	**309**	P	**P**	**22 23 10.7**	**-1.9**
	0.2nm,0.4s,baz=51,slow=2.8,SNR=3.1						
FINES	**FINESS Array B**	**84.93**	**332**	P	**P**	**22 23 12.4**	**-1.2**
	2.8nm,0.9s,baz=92,slow=4.1,SNR=9.4						

*ISCJB **31** 22:27:49.9±0.1, 37°.65N±0°.02×95°.90E±0°.02, h10km, mb4.9/174, MS4.1/41, Error ellipse: s-maj=2.7km s-min=2.0km az=19.2*
*BJI **31** 22:27:49.3, 37°.67N×95°.92E, h6km, mB5.0/26, mb4.8/45, ML4.8/7, Ms4.8/61, Ms7 4.6/55*
*IDC **31** 22:27:49.7±0.4, 37°.66N×96°.08E, h0km, mb4.7/35, mb1 4.8/39, mb1mx4.7/41, mbtmp4.7/39, ML4.4/4, MS3.9/24, Ms1 3.9/24, ms1mx3.8/34, Error ellipse: s-maj=13.4km s-min=9.4km az=19.0*
*MOS **31** 22:27:50.2±0.8, 37°.60N×95°.95E, h15km, mb5.2/85, MS4.1/32, Error ellipse: s-maj=6.4km s-min=3.6km az=130.4*
*NEIC **31** 22:27:51.8±0.1, 37°.69N×95°.94E, h10km, mb5.2/82, Error ellipse: s-maj=4.2km s-min=2.9km az=209.0*
*NNC **31** 22:27:52.9±5.5, 38°.70N×96°.38E, h0km, mb4.9, Error ellipse: s-maj=117.2km s-min=61.5km az=47.0*
*DJA **31** 22:27:52.3±0.4, 38°.N±5°.×9°.6E±°., h10km, M4.8/9, mB5.3/7, mb4.9/9, Mw(mB)4.8/7*
*GCMT **31** 22:27:54.0±0.3, 37°.62N×95°.93E, h12km, MW4.8, Moment Tensor Solution. s19,c24; s65,c93; Moment tensor: Scale 10^16^Nm; M_{rr}1.96±.07; $M_{\theta\theta}$-2.08±.06; $M_{\phi\phi}$0.12±.07; $M_{r\theta}$-0.04±.20; $M_{\theta\phi}$0.58±.06; $M_{\phi r}$-0.09±.29; Best double couple: $M_0$2.10000×10^16^ NP1:ϕ_s281.00000°, δ45.00000°, λ86.00000°. NP2:ϕ_s107.00000°, δ45.00000°, λ94.00000°. Principal axes: T 1.9700, Plg87.0000°, Azm109.0000°; N 0.2600, Plg3.0000°, Azm284.0000°; P -2.2200, Plg0.0000°, Azm14.0000°; Data Used: IU II CN IC G.*
*SZGRF **31** 22:28:03.2, 38°.01N×94°.76E, h33km, mb5.0, MS4.2, Qinghai, China*
ISC 31 22:27:52.5±0.5, 37°.68N±0°.03×95°.93E±0°.03, h14km±2km, n562, σ1§30/622, mb5.0/176, MS4.2/41, 34C-19D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.50**	**59**	Pn	**Pn**	**22 28 48.8**	**+2.1**
GTA				Pg	**Pb**	**22 28 56.0**	**+1.6**
GTA				Sn	**Sn**	**22 29 30.8**	**+2.8**
GTA				Sg	**Sb**	**22 29 41.0**	**+4.2**
GTA				smax	smax		
	comp=N,940nm,0.8s						
GTA				smax	smax		
	comp=E,1μm,0.9s						
GTA				LR	LR		
	comp=N,19μm,10.4s						
GTA				LR	LR		
	comp=E,17μm,5.7s						
GTA				LR	LR		
	comp=Z,11μm,9.0s						
LZH	**Lanzhou**	**6.54**	**102**	*e*Pn	**Pn**	**22 29 28.3**	**-0.2**
LZH				*e*Sn	**Sn**	**22 30 44.0**	**+1.1**
LZH				LR	LR		
	comp=N,3μm,9.0s						
LZH				LR	LR		
	comp=E,2μm,5.4s						
LZH				LR	LR		
	comp=Z,3μm,9.0s						
WMQ	**Urumqi**	**8.76**	**317**	⇓*i*P	**Pn**	**22 29 59.8**	**+1.0**
WMQ				sP		22 30 05.0	
WMQ				S	**Sn**	**22 31 38.8**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,66nm,0.8s						
WMQ				smax	smax		
	comp=N,480nm,1.3s						
WMQ				smax	smax		
	comp=E,570nm,1.2s						
WMQ				LR	LR		
	comp=N,2μm,17.0s						
WMQ				LR	LR		
	comp=E,1μm,16.0s						
WMQ				LR	LR		
	comp=Z,1μm,13.0s						
LSA	**Lhasa**	**8.90**	**208**	P	**Pn**	**22 30 02.5**	**+1.4**
LSA				LR	LR		
	comp=N,910nm,8.2s						
LSA				LR	LR		
	comp=E,1μm,8.7s						
LSA				LR	LR		
	comp=Z,2μm,9.8s						
LSA	**Lhasa**	**8.90**	**208**	*e*P	**Pn**	**22 30 03.7**	**+2.6**
LSA				*e*		22 31 41.0	
LSA				pmax	pmax		
	comp=Z,24nm,0.7s						
LSA	**Lhasa**	**8.90**	**208**	*e*Pn	**Pn**	**22 30 03.7**	**+2.6**
	comp=Z,24nm,0.7s						
LSA				*e*Sn	**Sn**	**22 31 41.0**	**-0.4**
CD2	**Chengdu**	**9.35**	**134**	*e*P	**Pn**	**22 30 09.0**	**+2.1**
CD2				pP		22 30 12.3	
CD2				sP		22 30 15.0	
CD2				PP	**PnPn**	**22 30 17.3**	**+2.8**
CD2				S	**Sn**	**22 31 55.8**	**+3.9**
CD2				sS		22 32 00.5	
CD2				SS	**SnSn**	**22 32 09.0**	**+5.5**
CD2				pmax	pmax		
	comp=Z,50nm,0.9s						
CD2				pmax	pmax		
	comp=Z,210nm,4.0s						
CD2				LR	LR		
	comp=N,4μm,8.3s						
CD2				LR	LR		
	comp=E,4μm,5.4s						
CD2				LR	LR		
	comp=Z,6μm,9.6s						
XAN	**Xi'an**	**11.15**	**105**	P	Pn	22 30 27.3	-4.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
XAN				LR	LR		
	comp=N,1μm,9.4s						
XAN				LR	LR		
	comp=E,270nm,7.4s						
XAN				LR	LR		
	comp=Z,690nm,9.0s						
TAPN	**Taplejung**	**12.41**	**216**	*e*P	**Pn**	**22 30 49.0**	**-0.1**
	comp=Z,67nm,1.2s						
HHC	**Hu-ho-hao-te**	**12.52**	**71**	*e*P	**Pn**	**22 30 50.0**	**-0.4**
HHC				PP	**P**	**22 31 00.3**	**-1.8**
HHC				S	**Sn**	**22 33 10.3**	**+0.6**
HHC				SS	**SnSn**	**22 33 25.0**	**+3.3**
HHC				PcP	**PcP**	**22 36 29.5**	**+0.1**
HHC				ScS	**ScS**	**22 43 35.5**	**-2.7**
HHC				pmax	pmax		
	comp=Z,68nm,0.9s						
HHC				pmax	pmax		
	comp=Z,470nm,4.6s						
HHC				LR	LR		
	comp=N,2μm,7.6s						
HHC				LR	LR		
	comp=E,2μm,6.8s						
HHC				LR	LR		
	comp=Z,1μm,6.8s						
SHL	**Shillong**	**12.55**	**197**	*e*P	**Pn**	**22 30 48.3**	**-2.7**
SHL				AMB	AMB	22 30 53.3	
	comp=Z,20nm,1.1s						
SHL				*ex*	x	22 34 30.0	
SONM	**Songino Array**	**12.72**	**34**	Pn	**Pn**	**22 30 54.8**	**+1.7**
SONM				Lg	Lg	22 34 25.5	
SONM	**Songino Array**	**12.72**	**34**	Pn	**Pn**	**22 30 54.8**	**+1.7**
	comp=Z,3.0nm,0.3s,baz=218,slow=14,SNR=66						
SONM				Lg	Lg	22 34 25.5	
	comp=Z,0.1nm,0.3s,baz=202,slow=30,SNR=3.9						
SONM				LR	LR	22 36 07.1	
	comp=Z,2μm,20.0s,baz=220,slow=39						
GUN	**Gumba**	**12.89**	**224**	*e*P	**Pn**	**22 30 55.2**	**-0.5**
	comp=Z,99nm,0.9s						
JIRN	**Jiri**	**12.92**	**222**	*e*P	**Pn**	**22 30 55.7**	**-0.4**
	comp=Z,128nm,1.1s						
ODAN	**Odare**	**12.97**	**216**	*e*P	**Pn**	**22 30 56.5**	**-0.3**
	comp=Z,72nm,1.1s						
ULN	**Ulaanbaatar**	**13.04**	**35**	Pn	**Pn**	**22 30 58.9**	**+1.4**
	SNR=28						
ULN	**Ulaanbaatar**	**13.04**	**35**	*e*Pn	**Pn**	**22 30 58.3**	**+0.8**
ULN				*e*Sn	**Sn**	**22 33 22.9**	**+0.5**
ULN	**Ulaanbaatar**	**13.04**	**35**	P	**Pn**	**22 30 58.3**	**+0.8**
	comp=Z,42nm,1.2s,comp=Z,518nm						
TIY	**Taiyuan**	**13.07**	**85**	*e*P	**Pn**	**22 30 55.5**	**-2.4**
TIY				PP	**P**	**22 31 07.0**	**-1.2**
TIY				S	Sn	22 33 16.5	-6.7
TIY				SS	**S**	**22 33 42.5**	**-5.9**
TIY				LR	LR		
	comp=N,360nm,4.6s						
TIY				LR	LR		
	comp=E,2μm,9.3s

GYA LR LR
comp=E,620nm,14.7s
GYA LR LR
comp=Z,760nm,15.3s
MOY Mondy 14.44 13 *e*P **P 22 31 20.5 -2.8**
MOY pmax pmax
comp=Z,186nm,1.8s
TLY Talaya 15.02 19*c i*P **Pn 22 31 26.0 +1.6**
TLY pmax pmax
comp=Z,37nm,1.3s
TLY MLR MLR
comp=Z,1μm,8.0s
TLY Talaya 15.02 19 P **P 22 31 29.6 -0.1**
comp=Z,127nm,1.5s,SNR=6.5
KNDC Almaty 15.45 297 ⇑P **Pn 22 31 27.7 -2.4**
comp=Z,105nm,1.0s
AAA Alma-Ata 15.48 297 *i* P **Pn 22 31 29.1 -1.4**
AAA *i* S **Sn 22 34 19.3 -2.5**
AAA pmax pmax
comp=Z,500nm,2.9s
AAA smax smax
comp=E,400nm,4.7s
AAA MLR MLR
comp=Z,1μm,8.0s
IRK Irkutsk 15.70 19 *e*P **P 22 31 36.4 -0.8**
IRK pmax pmax
comp=Z,233nm,1.4s
KSH Kashi 15.71 283 P **Pn 22 31 34.5 +0.9**
KSH PP **PnPn 22 31 47.5 +5.5**
KSH S **Sn 22 34 29.0 +1.4**
KSH pmax pmax
comp=Z,21nm,1.0s
KSH pmax pmax
comp=Z,160nm,3.2s
KSH LR LR
comp=N,590nm,4.5s
KSH LR LR
comp=E,700nm,4.7s
KSH LR LR
comp=Z,440nm,4.7s
ULHL Ulahol 15.77 293 *i* P **Pn 22 31 32.2 -2.2**
ULHL Ulahol 15.77 293 P **Pn 22 31 32.2 -2.2**
SNR=10.0
BJT Baijiatuau 15.94 75 *e*Pn **Pn 22 31 36.7 +0.3**
comp=Z,240nm,1.3s
BJI Beijing 15.94 75 P **Pn 22 31 36.0 -0.4**
BJI S **Sn 22 34 33.5 +0.6**
BJI pmax pmax
comp=Z,130nm,1.0s
BJI pmax pmax
comp=Z,450nm,3.6s
BJI LR LR
comp=N,2μm,19.2s
BJI LR LR
comp=E,1μm,18.6s
BJI LR LR
comp=Z,370nm,21.2s
BOK Bokaro 16.30 215 *e*P **Pn 22 31 38.2 -2.8**
BOK AMB AMB 22 31 44.7
comp=Z,37nm,1.7s
TKM2 Tokmak 2 16.36 295 ⇑P **Pn 22 31 39.4 -2.6**
comp=Z,63nm,0.8s
TKM2 Tokmak 2 16.36 295 *i* P **Pn 22 31 40.4 -1.6**
TKM2 Tokmak 2 16.36 295 P **Pn 22 31 40.4 -1.6**
SNR=54
TKM2 Tokmak 2 16.36 295 *e*Pn **Pn 22 31 40.1 -1.9**
comp=Z,58nm,0.8s
TKM2 *e*Sn **Sn 22 34 41.9 -1.5**
KZA Kyzart 16.47 292 *i* P **Pn 22 31 42.0 -1.5**
KZA Kyzart 16.47 292 P **Pn 22 31 42.0 -1.5**
SNR=12
DDI Dehra Dun 16.53 249 *e*P **Pn 22 31 43.6 -0.4**
DDI AMB AMB 22 31 59.6
comp=Z,95nm,1.7s
KBK Karagaybulak 16.78 294 *i* P **Pn 22 31 46.2 -1.1**
KBK Karagaybulak 16.78 294 P **Pn 22 31 46.2 -1.1**
SNR=32
SMLA Simla 16.80 253 *i* P **Pn 22 31 45.9 -1.4**
SMLA AMB AMB 22 31 52.3
comp=Z,99nm,0.9s
WHN Wuhan 16.82 110 P **Pn 22 31 46.8 -0.8**
WHN S Sn 22 34 46.3 -7.9
WHN LR LR
comp=N,6μm,8.1s
WHN LR LR
comp=E,3μm,9.5s
WHN LR LR
comp=Z,6μm,9.1s
DHRM DHARAMSHALA 16.97 257 *e*P **P 22 31 51.2 -0.5**
DHRM AMB AMB 22 31 55.4
comp=Z,144nm,2.5s
CHMS Chumysh 16.99 295 *i* P **Pn 22 31 47.7 -2.0**
CHMS Chumysh 16.99 295 P **Pn 22 31 47.7 -2.0**
SNR=11
TIA Tai'an 17.00 88 ⇓P **Pn 22 31 47.5 -2.5**
TIA pmax pmax
comp=Z,60nm,1.4s
TIA LR LR
comp=N,1μm,7.3s
TIA LR LR
comp=E,870nm,7.6s
TIA LR LR
comp=Z,1μm,8.2s
FRU Bishkek 17.05 294 *e*P **Pn 22 31 48.0 -2.6**
FRU *e*S **Sn 22 34 55.0 -4.9**
FRU pmax pmax
comp=Z,140nm,2.4s
AAK Ala-Archa 17.11 294 Pn **Pn 22 31 50.0 -1.3**
comp=Z,306nm,0.9s,SNR=13
AAK Ala-Archa 17.11 294⇑*i*P **Pn 22 31 50.1 -1.3**
AAK pmax pmax
comp=Z,52nm,1.2s
AAK Ala-Archa 17.11 294 Pn **Pn 22 31 50.6 -0.8**
SNR=33
AAK Ala-Archa 17.11 294 P **P 22 31 54.6 +1.5**
SNR=24
AAK Ala-Archa 17.11 294 *e*Pn **Pn 22 31 50.2 -1.2**
AAK Ala-Archa 17.11 294 P **Pn 22 31 50.0 -1.3**
comp=Z,0.4nm,0.3s,baz=100,slow=10,SNR=18
AAK LR LR 22 39 09.3
comp=Z,581nm,19.9s,baz=312,slow=40
DLH Dalhousie 17.11 259 *e*P **P 22 31 54.0 +0.8**
USP Ospenovka 17.22 296 *i* P **Pn 22 31 49.8 -2.9**
USP Ospenovka 17.22 296 P **Pn 22 31 49.8 -2.9**
SNR=8.3
THN Thein Dam 17.35 258 *e*x x 22 33 39.4
AML Almayashu 17.62 292 *i* P **P 22 31 59.3 +0.3**
AML Almayashu 17.62 292 P **P 22 31 59.3 +0.3**
SNR=8.3
EKS2 Erkin-Say 17.63 293 *e*P **Pn 22 31 58.2 +0.3**
EKS2 pmax pmax
comp=Z,28nm,1.3s
EKS2 Erkin-Say 17.63 293 P **Pn 22 31 58.2 +0.3**
SNR=20
EKS2 Erkin-Say 17.63 293 *e*Pn **Pn 22 31 58.2 +0.3**
comp=Z,28nm,1.3s
KURBB Kurchatov Arra 17.93 322 P **Pn 22 31 58.7 -2.6**
comp=Z,0.6nm,0.3s,baz=134,slow=11,SNR=52
KURBB S **S 22 35 27.5 +0.3**
comp=Z,0.1nm,0.3s,baz=119,slow=19,SNR=4.1
KURK Kurchatov 17.94 322 P **Pn 22 31 58.7 -2.8**
KURK S **S 22 35 27.5 0.0**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 17.94 322 P **Pn 22 31 58.7 -2.8**
KURK S **S 22 35 27.5 0.0**
ZAA0 Zalesovo Array 17.98 338 *e*Pn **Pn 22 32 01.3 -0.7**
ZAA0 *e*Sn **Sn 22 35 19.8 -2.4**
ZALV Zalesovo Beam 17.98 338 *i* P **Pn 22 32 01.5 -0.5**
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 17.98 338 P **Pn 22 32 01.0 -1.0**
ZALV Zalesovo Beam 17.98 338 P **Pn 22 32 01.0 -1.0**
comp=Z,0.9nm,0.3s,baz=150,slow=12,SNR=34
ZALV LR LR 22 39 07.0
comp=Z,374nm,21.9s,baz=247,slow=38
CHCP Chirah Chowk 18.84 265 P **P 22 32 10.3 -1.8**
CIT Chita 18.95 35 *e*P **P 22 32 12.8 -0.3**
CIT pmax pmax
comp=Z,134nm,3.1s
CHTO Chiang Mai 18.98 171 *e*P **P 22 32 13.3 -0.3**
CHTO pmax pmax
comp=Z,21nm,1.0s
CHTO Chiang Mai 18.98 171 P **Pn 22 32 14.5 +0.1**
SNR=7.4
CHTO Chiang Mai 18.98 171 *e*P **P 22 32 13.3 -0.3**
comp=Z,21nm,1.0s
CHTO Chiang Mai 18.98 171 P **P 22 32 13.9 +0.3**
comp=Z,28nm,1.0s,comp=Z,530nm
NVS Novosibirsk 19.23 337 *e*P **P 22 32 15.9 -0.2**
NVS *e*S **Sn 22 35 51.3 -0.9**
NVS pmax pmax
comp=Z,35nm,0.7s
NVS pmax pmax
comp=N,43nm,1.0s
NVS pmax pmax
comp=E,9.0nm,0.4s
NVS smax smax
comp=N,24nm,1.5s
NVS smax smax
comp=E,16nm,1.1s
CM31 Chiang Mai Arr 19.33 171 *e*P **P 22 32 17.2 -0.3**
comp=E,7.4nm,0.4s
CMAR Chiang Mai Arr 19.33 171 P **P 22 32 17.9 +0.4**
CMAR PcP **PcP 22 36 39.8 +0.2**
CMAR Chiang Mai Arr 19.33 171 P **P 22 32 17.9 +0.4**
comp=E,1.4nm,0.3s,baz=342,slow=11,SNR=30
CMAR PcP **PcP 22 36 39.8 +0.2**
comp=E,0.5nm,0.3s,baz=310,slow=2.1,SNR=5.3
CMAR LR LR 22 40 16.8
comp=E,690nm,19.1s,baz=350,slow=39
NJ2 Nanjing 19.61 100 *e*P **P 22 32 19.8 -0.7**
NJ2 sP **sP 22 32 25.0 -1.1**
NJ2 PP **PnPn 22 32 38.5 +3.2**
NJ2 S **S 22 36 01.5 +0.1**
NJ2 sS **sS 22 36 07.5 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,4.2s
NJ2 LR LR
comp=N,1μm,8.6s
NJ2 LR LR
comp=E,820nm,14.0s
NJ2 LR LR
comp=Z,970nm,12.0s
CEP Cherat 19.86 266 P **P 22 32 22.8 -0.6**
KK31 Karatay Array 20.07 294 ⇑P **P 22 32 24.3 -1.1**
comp=Z,44nm,1.2s,baz=87,slow=12,SNR=165
KKAR Karatay Array 20.07 294 *e*P **P 22 32 25.4 -0.1**
KKAR Karatay Array 20.07 294 *e*P **P 22 32 25.4 -0.1**
DL2 Dalian 20.19 79 P **P 22 32 27.3 +0.6**
DL2 S Sn 22 36 17.8 +2.1
DL2 pmax pmax
comp=Z,130nm,1.0s
DL2 pmax pmax
comp=Z,320nm,5.2s
DL2 LR LR
comp=N,350nm,14.5s
DL2 LR LR
comp=E,610nm,15.1s
DL2 LR LR
comp=Z,770nm,13.5s
THW Thamme Wali 20.33 263 P **P 22 32 26.9 -1.5**
HIA Hailar 20.71 48 *e*P **P 22 32 32.4 0.0**
comp=Z,98nm,1.4s
GZH Guangzhou 20.86 129 P **P 22 32 30.3 -3.7**
GZH S **S 22 36 23.3 -3.0**
GZH LR LR
comp=N,2μm,8.0s
GZH LR LR
comp=E,3μm,8.9s
GZH LR LR
comp=Z,5μm,11.1s
BHPL Bhopal 21.43 233 *e*P **P 22 32 38.5 -1.8**
BHPL AMB AMB 22 32 41.5
comp=Z,62nm,0.3s
SNY Shenyang 21.61 70 ⇑P **P 22 32 41.8 -0.3**
SNY S **S 22 36 43.8 +2.7**
SNY pmax pmax
comp=Z,100nm,1.1s
SNY LR LR
comp=N,670nm,9.1s
SNY LR LR
comp=E,750nm,6.7s
SNY LR LR
comp=Z,1μm,16.8s
KBL Kabul 21.92 270 *e*P **P 22 32 45.7 -0.1**
KBL pmax pmax
comp=Z,81nm,1.0s
KBL Kabul 21.92 270 *e*P **P 22 32 45.7 -0.1**
comp=Z,81nm,1.0s
NGP Nagpur 22.02 226 *e*P **P 22 32 44.2 -2.5**
NGP AMB AMB 22 32 48.6
comp=Z,52nm,1.3s
QIZ Qiongzhong 22.20 143 P **P 22 32 46.5 -2.1**
QIZ S **S 22 36 48.0 -4.7**
QIZ pmax pmax
comp=Z,40nm,1.1s
QIZ LR LR
comp=N,830nm,9.1s
QIZ LR LR
comp=Z,810nm,7.7s
QIZ Qiongzhong 22.20 143 *e*P **P 22 32 47.8 -0.8**
comp=Z,23nm,0.8s
CN2 Changchun 23.11 65 *e*P **P 22 32 57.8 -0.2**
CN2 *e*pP **pP 22 33 02.0 0.0**
CN2 *e*S **S 22 37 03.0 -5.8**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,280nm,3.0s
CN2 LR LR
comp=N,810nm,12.0s
CN2 LR LR
comp=E,930nm,12.0s
CN2 LR LR
comp=Z,760nm,12.0s
BVA0 Borovoye Array 23.44 319 ⇑P **P 22 32 59.2 -2.1**
comp=Z,30nm,1.2s,baz=115,slow=8.6,SNR=59
BVAR Borovoye Array 23.44 319 P **P 22 33 01.1 -0.1**
BVAR pmax pmax
comp=Z,11nm,0.7s
BVAR MLR MLR
comp=Z,522nm,20.0s
BVAR Borovoye Array 23.44 319 P **P 22 33 01.1 -0.1**
BVAR Borovoye Array 23.44 319 P **P 22 33 01.1 -0.1**
comp=Z,11nm,0.7s,baz=116,slow=9.7,SNR=54
BVAR LR LR 22 42 43.7
comp=Z,522nm,20.0s,baz=117,slow=38
BRVK Borovoye 23.51 319 P **P 22 33 02.8 +0.9**
comp=Z,191nm,0.7s,SNR=8.6
BRVK Borovoye 23.51 319 ⇑P **P 22 33 01.8 -0.2**
comp=Z,40nm,0.8s
BRVK Borovoye 23.51 319*c i*P **P 22 33 01.7 -0.2**
BRVK pmax pmax
comp=Z,22nm,0.7s
BRVK Borovoye 23.51 319 P **P 22 33 02.0 +0.1**
SNR=19
BRVK Borovoye 23.51 319 *e*P **P 22 33 00.0 -1.9**
comp=Z,24nm,0.8s
AKL Akola 23.56 229 *e*P **P 22 33 02.3 -0.4**
AKL AMB AMB 22 33 04.7
comp=Z,108nm,1.1s
UBPT Khong Chiam 23.86 157 P **P 22 33 04.9 -0.6**
comp=Z,100nm,1.0s,comp=Z,2μm
INCN Inchon 24.28 81 P **P 22 33 09.2 -0.2**
SNR=5.4
INCN Inchon 24.28 81 *e*P **P 22 33 08.8 -0.6**
TJN Taejon 25.07 83 *i* P **P 22 33 15.4 -1.1**
KSAR Wonju Array Be 25.27 81 P **P 22 33 17.5 -0.8**
KSRS Korea Array 25.30 81 P **P 22 33 17.5 -1.1**
comp=Z,60nm,0.8s,baz=274,slow=9.8,SNR=90
KSRS LR LR 22 44 46.6
comp=Z,152nm,21.7s,baz=280,slow=40
HYB Hyderabad 25.31 222 *i* P **P 22 33 20.0 +1.1**
HYB Hyderabad 25.31 222 *e*P **P 22 33 17.6 -1.3**
CHBT CHBT 25.47 165 P **P 22 33 22.2 +1.9**
comp=Z,73nm,1.2s,comp=Z,1μm
SSLB Suanglung 25.48 116 *e*P **P 22 33 20.9 +0.6**
comp=Z,36nm,1.0s
TPUB Ta-pu 25.56 117 *e*P **P 22 33 21.5 +0.4**
NACB Ninganchiao 25.70 114 *e*P **P 22 33 22.8 +0.4**
comp=Z,49nm,1.1s
YULB Yu-li 25.97 116 *e*P **P 22 33 24.9 +0.1**
comp=Z,24nm,1.0s
PBA Port Blair 26.07 187 *e*P P 22 33 23.5 -2.2
PBA AMB AMB 22 33 45.2
comp=Z,186nm,1.3s
MDJ Mudanjiang 26.14 64 P **P 22 33 26.0 -0.2**
MDJ pP **pP 22 33 28.3 -2.1**
MDJ pmax pmax
comp=Z,10.0nm,0.7s
MDJ pmax pmax
comp=Z,99nm,5.1s
MDJ LR LR
comp=N,270nm,9.7s
MDJ LR LR
comp=E,690nm,11.6s
MDJ LR LR
comp=Z,770nm,11.6s
TWG Pinlang 26.18 117 *e*P **P 22 33 27.5 +0.8**
comp=Z,229nm,1.1s
POO Poona 27.14 231 *e*P **P 22 33 34.4 -1.1**
POO AMB AMB 22 33 39.4
comp=Z,67nm,0.9s
USRK Ussuriysk Arra 27.85 65 P **P 22 33 40.5 -1.1**
comp=Z,5.4nm,0.9s,baz=260,slow=7.7,SNR=11
KLR Kul'dur 28.19 54 *e*P P 22 33 40.1 -4.4
AB31 Akbulak array 28.30 306 ⇑P **P 22 33 45.1 -0.4**
comp=Z,6.9nm,0.9s
ABKAR Akbulak array 28.30 306 *e*P **P 22 33 46.0 +0.5**
comp=Z,4.6nm,0.7s
JNU Nakatsue 28.74 88 LR LR 22 44 58.9
comp=Z,165nm,18.9s,baz=105,slow=36
AKTO Aktyubinsk 29.75 308 ⇑P **P 22 33 57.6 -0.8**
comp=Z,18nm,0.9s
AKTO Aktyubinsk 29.75 308 P **P 22 33 58.8 +0.4**
AKTO pmax pmax
comp=Z,16nm,0.9s
AKTO Aktyubinsk 29.75 308 P **P 22 33 58.8 +0.4**
AKTO Aktyubinsk 29.75 308 P **P 22 33 58.8 +0.4**
comp=Z,16nm,0.9s,baz=97,slow=8.5,SNR=35
SVE Sverdlovsk 30.18 321⇑*i*P **P 22 34 03.0 +0.9**
SVE *e*S **S 22 39 04.2 +3.5**
SVE pmax pmax
comp=Z,25nm,1.0s
SVE MLR MLR
comp=Z,413nm,15.0s
ARU Arti 31.09 319*c i*P **P 22 34 10.2 +0.1**
ARU 22 35 12.9
ARU PPP PPP 22 35 24.7
ARU S **S 22 39 18.8 +3.9**
ARU SS **SnSn 22 40 54.1 -1.9**
ARU pmax pmax
comp=Z,29nm,1.0s
ARU MLR MLR
comp=Z,380nm,17.0s
ARU Arti 31.09 319 P **P 22 34 10.3 +0.1**
comp=Z,145nm,0.9s,SNR=17
YAK Yakutsk 32.03 30⇓*i*P **P 22 34 17.4 -0.9**
SOKR Solikamsk 33.16 324⇑*i*P **P 22 34 28.2 0.0**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,280nm,20.0s
MJAR Matsushiro Arr 33.53 79 P **P 22 34 29.2 -2.6**
MJAR PcP **PcP 22 37 11.0 -1.3**
MJAR Matsushiro Arr 33.53 79 P **P 22 34 29.2 -2.6**
comp=Z,3.3nm,1.1s,baz=288,slow=9.1,SNR=5.8
MJAR PcP **PcP 22 37 11.0 -1.3**
comp=Z,2.0nm,0.9s,baz=310,slow=1.8,SNR=4.7
MJAR LR LR 22 48 13.2
comp=Z,127nm,20.6s,baz=230,slow=37
PSI Prapat 34.82 175 LR LR 22 52 01.9
comp=Z,117nm,19.1s,baz=244,slow=42
YSS Yuzh-Sakhalins 35.38 60 *e*P **P 22 34 50.0 +2.3**
YSS MLR MLR
comp=Z,500nm,12.0s
ASAJ Asahikawa 35.47 65 *e*P **P 22 34 48.5 0.0**
ASAJ Asahikawa 35.47 65 P **P 22 34 47.5 -1.0**
comp=Z,17nm,0.8s,baz=285,slow=15,SNR=11
ASAJ LR LR 22 50 11.4
comp=Z,156nm,19.3s,baz=336,slow=38
ARQ Araqi 36.56 258 P **P 22 35 00.5 +2.4**
SNR=5.8
YUK Yuzh-Kuril'sk 37.82 64⇑*i*P **P 22 35 06.1 -2.3**
YUK *e* 22 36 37.9
YUK *e*PPP PPP 22 36 57.4
YUK S **S 22 40 59.6 +0.7**
YUK *e*SS SnSn 22 43 28.1 -11
TIXI Tiksi 37.98 16⇓*i*P **P 22 35 09.2 -0.3**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI MLR MLR
comp=Z,357nm,19.0s
SBUM Sibu 38.12 153 *e*P **P 22 35 12.1 +0.8**
comp=Z,26nm,1.2s
KSM Kuching 38.38 156 *e*P **P 22 35 13.6 +0.1**
KSM Kuching 38.38 156 P **P 22 35 13.7 +0.2**
comp=Z,18nm,1.2s
GNI Garni 39.46 290 P **P 22 35 25.2 +2.7**
SNR=6.1
GNI Garni 39.46 290 *e*P **P 22 35 22.9 +0.4**
comp=Z,20nm,1.0s
GNI Garni 39.46 290 P **P 22 35 24.1 +1.6**
comp=Z,16nm,1.1s,baz=350,slow=6.6,SNR=7.1
KBZ Khabaz 40.08 296 P **P 22 35 27.7 +0.2**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ MLR MLR
comp=Z,129nm,20.7s
KBZ Khabaz 40.08 296 P **P 22 35 27.6 +0.2**
KBZ Khabaz 40.08 296 P **P 22 35 27.6 +0.2**
comp=Z,6.1nm,0.8s,baz=146,slow=4.0,SNR=21
KBZ LR LR 22 53 51.6
comp=Z,129nm,20.7s,baz=64,slow=39
VRHR Novokhopersk 40.16 307 *e*P **P 22 35 27.4 -0.6**
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,1.4s
IBDR Badra 40.63 279 *i* P **P 22 35 30.0 -2.1**
IBDR *i* S S 22 41 54.0 +13
RDF Al-Radifah 40.99 272 *e*P **P 22 35 35.5 +0.3**
RDF AMb AMB 22 35 37.4
comp=Z,50nm,2.0s
NAY Al-Naaiem 41.10 273 *e*P **P 22 35 36.0 0.0**
NAY AMb AMB 22 35 40.1
comp=Z,3.0nm,0.9s
RST Umm Al-Ruwaisa 41.19 273 *e*P **P 22 35 36.5 -0.3**
RST AMb AMB 22 35 40.8
comp=Z,786nm,0.8s
VORD Divnogorie 41.63 307 *e*P **P 22 35 40.0 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.7s
VSR Storozhevoye 41.70 308 *e*P **P 22 35 40.4 -0.2**
VSR pmax pmax
comp=E,40nm,1.0s
VSR pmax pmax
comp=Z,30nm,1.0s
VSR pmax pmax
comp=N,6.0nm,0.4s
SEY Seymchan 42.11 35⇑*i*P **P 22 35 44.8 +0.9**
SOC Sochi 42.38 296 *e*P **P 22 35 45.8 -0.5**
SOC *e* 22 37 25.5
SOC *e*S **S 22 42 11.7 +4.5**
SOC pmax pmax
comp=Z,9.0nm,0.5s
SOC MLR MLR
comp=Z,236nm,16.0s
MOS Moscow 42.46 315 *e*P **P 22 35 46.0 -0.8**
MOS *e*S **S 22 42 07.3 -0.8**
MOS pmax pmax
comp=Z,57nm,1.0s
TMCR Tamitsa 42.96 327 *e*P **P 22 35 51.1 +0.4**
TMCR *e* 22 37 31.2
TMCR *e* 22 37 37.9
TMCR pmax pmax
comp=Z,40nm,1.2s
OBN Obninsk 43.08 314⇑*e*P **P 22 35 51.5 -0.3**
OBN *e* 22 37 31.3
OBN *e*S **S 22 42 22.3 +5.2**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,300nm,17.0s
ANN Anapa 43.73 299 *e*P **P 22 35 56.3 -1.0**
ANN *e*S **S 22 42 29.6 +2.6**
ANN pmax pmax
comp=Z,45nm,1.0s
ANN MLR MLR

comp=Z,381nm,21.0s
PETK Petropavlovsk- 44.61 49 P P 22 36 02.6 -1.6
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK MLR MLR
comp=Z,95nm,18.2s
PETK Petropavlovsk- 44.61 49 P P 22 36 02.6 -1.6
PETK Petropavlovsk- 44.61 49 P P 22 36 02.6 -1.6
comp=Z,10nm,0.9s,baz=226,slow=5.6,SNR=7.9
PETK LR LR 22 57 19.3
comp=Z,95nm,18.2s,baz=279,slow=40
JOF Joensuu 45.83 325 *eP* **P 22 36 13.9 +0.2**
JOF Joensuu 45.83 325 *ep* **P 22 36 13.9 +0.2**
SIM Simferopol' 46.00 300 *eP* **P 22 36 16.1 +0.7**
SIM pmax pmax
comp=Z,24nm,0.6s
SIM MLR MLR
comp=Z,70nm,17.2s
BR131 Keskin Array S 47.78 293 *eP* **P 22 36 29.5 0.0**
comp=Z,9.2nm,0.8s
BR131 *e*PP **PP 22 38 22.3 +1.1**
BRTR Keskin Array B 47.78 293 P **P 22 36 29.7 +0.1**
BRTR Keskin Array B 47.78 293 P **P 22 36 29.7 +0.1**
comp=Z,12nm,0.8s,baz=100,slow=6.6,SNR=25
AKASG Malin Array Be 47.99 308 *i* P **P 22 36 30.7 -0.1**
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 47.99 308 P **P 22 36 30.4 -0.4**
AKASG Malin Array Be 47.99 308 P **P 22 36 30.4 -0.4**
comp=Z,13nm,1.1s,baz=68,slow=7.5,SNR=13
KIEV Kiev 48.00 308 *eP* **P 22 36 30.4 -0.5**
KIEV pmax pmax
comp=Z,12nm,1.1s
KIEV Kiev 48.00 308 *eP* **P 22 36 30.4 -0.5**
comp=Z,12nm,1.1s
ASF Jabal al Asfar 48.03 282 P **P 22 36 33.0 +1.5**
ASF Jabal al Asfar 48.03 282 P **P 22 36 33.0 +1.5**
comp=Z,13nm,0.8s,baz=30,slow=5.2,SNR=22
KAF Kangasniemi 48.16 324 *eP* **P 22 36 31.9 0.0**
KAF Kangasniemi 48.16 324 *ep* **P 22 36 31.9 0.0**
VSU Vasula 48.25 319 *eP* **P 22 36 32.9 +0.2**
FINES FINESS Array B 48.31 323 P **P 22 36 32.6 -0.5**
FINES FINESS Array B 48.31 323 P **P 22 36 32.6 -0.5**
comp=Z,5.9nm,0.7s,baz=95,slow=8.2,SNR=15
FINES LR LR 22 57 23.5
comp=Z,194nm,18.1s,baz=85,slow=37
ANTO Ankara 48.35 293 *eP* **P 22 36 33.2 -0.7**
ANTO pmax pmax
comp=Z,16nm,0.9s
ANTO Ankara 48.35 293 P **P 22 36 34.8 +0.9**
SNR=5.4
ANTO Ankara 48.35 293 *eP* **P 22 36 33.2 -0.7**
comp=Z,16nm,0.9s
ARCES ARCESS Array B 48.45 334 P **P 22 36 34.2 +0.1**
ARCES PcP **PcP 22 38 00.1 0.0**
ARCES ARCESS Array B 48.45 334 P **P 22 36 34.2 +0.1**
comp=Z,9.1nm,1.1s,baz=79,slow=7.6,SNR=14
ARCES PcP **PcP 22 38 00.1 0.0**
comp=Z,2.7nm,0.8s,baz=91,slow=3.6,SNR=6.3
ARCES LR LR 22 57 28.0
comp=Z,120nm,18.6s,baz=93,slow=37
MMAI Mount Meron Ar 48.85 284 P **P 22 36 38.8 +1.0**
MMAI PcP **PcP 22 38 02.8 +0.5**
MMAI Mount Meron Ar 48.85 284 P **P 22 36 38.8 +1.0**
comp=Z,24nm,1.1s,baz=61,slow=8.7,SNR=17
MMAI PcP **PcP 22 38 02.8 +0.5**
comp=Z,2.0nm,0.6s,baz=58,slow=5.0,SNR=5.1
KIS Kishinev 49.09 303 *eP* **P 22 36 38.0 -1.3**
KIS LRM MLR 23 01 44.0
comp=Z,200nm,12.0s
KIS Kishinev 49.09 303 *eP* **P 22 36 38.0 -1.3**
KIS *e* 22 36 42.0
CSS Prodhromos 49.68 287 *eP* **P 22 36 45.2 +1.2**
comp=Z,13nm,0.8s
EIL Elat 50.60 280 P **P 22 36 51.7 +0.6**
EIL Elat 50.60 280 P **P 22 36 51.7 +0.6**
comp=Z,30nm,1.0s,baz=33,slow=4.3,SNR=14
TESR Tescani 50.65 303 ⇑*iP* **P 22 36 51.3 +0.1**
ISP Isparta 50.72 292 *eP* **P 22 36 52.4 +0.4**
ISP Isparta 50.72 292 ⇑*iP* **P 22 36 52.5 +0.4**
ISP Isparta 50.72 292 *eP* **P 22 36 52.4 +0.4**
comp=Z,53nm,0.8s
VRI Vrincioaia 50.78 303 ⇓*iP* **P 22 36 53.5 +1.2**
VRI Vrincioaia 50.78 303 ⇓*iP* **P 22 36 53.5 +1.2**
PLOR Plostina 50.84 303 ⇓P **P 22 36 54.0 +1.3**
PLOR Plostina 50.84 303 ⇓*iP* **P 22 36 54.0 +1.3**
SUW Suwalki 50.94 313 *eP* **P 22 36 53.2 0.0**
SUW pmax pmax
comp=Z,28nm,1.0s
SUW Suwalki 50.94 313 *eP* **P 22 36 53.2 0.0**
comp=Z,28nm,1.0s
SUW Suwalki 50.94 313 *eP* **P 22 36 53.8 +0.6**
DAMY Dhamar 50.95 257 *eP* **P 22 36 53.3 -0.9**
BURAR Bucovina Array 51.28 305 ⇓P **P 22 36 56.7 +0.6**
BURAR Bucovina Array 51.28 305 ⇓*iP* **P 22 36 56.7 +0.6**
BUR08 Bucovina Ar. S 51.29 305 *eP* **P 22 36 55.9 -0.2**
MLR Muntele Rosu 51.42 302 ⇓*iP* **P 22 36 58.2 +1.0**
LVV L'vov 51.44 308 *eP* **P 22 36 56.4 -0.7**
VOIR 52.04 302 ⇓P **P 22 37 02.3 +0.6**
VOIR 52.04 302 ⇓*iP* **P 22 37 02.3 +0.6**
KWP Kalwaria Pacla 52.32 308 *eP* **P 22 37 03.6 0.0**
KWP *e* 22 39 02.2
KWP pmax pmax
comp=Z,41nm,1.0s
KWP Kalwaria Pacla 52.32 308 ⇓*iP* **P 22 37 04.5 +0.8**
KWP Kalwaria Pacla 52.32 308 *eP* **P 22 37 03.6 0.0**
comp=Z,41nm,1.0s
KWP *e*PP **PP 22 39 02.2 +0.2**
KWP Kalwaria Pacla 52.32 308 *eP* **P 22 37 04.4 +0.8**
HUMR Humele 52.37 301 ⇓*iP* **P 22 37 04.4 +0.3**
KOLS Kolonicke sedl 52.79 307 *eP* **P 22 37 06.9 -0.3**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 52.79 307 *eP* **P 22 37 06.9 -0.3**
UZH Uzhgorod 52.87 307 *eP* **P 22 37 06.2 -1.5**
UZH *e* 22 37 12.2
DRGR 53.16 305 ⇑P **P 22 37 10.8 +0.8**
DRGR 53.16 305 ⇑*iP* **P 22 37 10.8 +0.8**
STHS Stebnicka Huta 53.29 308 *eP* **P 22 37 11.8 +0.9**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 53.29 308 *eP* **P 22 37 11.8 +0.9**
CRVS Cervenica-Dubn 53.31 308 *eP* **P 22 37 10.6 -0.4**
CRVS pmax pmax
comp=Z,27nm,2.7s
CRVS Cervenica-Dubn 53.31 308 *eP* **P 22 37 10.6 -0.4**
FX1 Attu Island--F 53.81 47 *eP* **P 22 37 13.9 -0.7**
OJC Ojcow 53.94 310 *eP* **P 22 37 15.7 +0.1**
OJC Ojcow 53.94 310 *eP* **P 22 37 15.7 +0.1**
ATD Arta Tunnel 53.99 256 P **P 22 37 16.9 +0.5**
ATD Arta Tunnel 53.99 256 P **P 22 37 16.9 +0.5**
comp=Z,22nm,1.0s,baz=260,slow=2.7,SNR=4.8
KECS Kecovo 54.05 307 *eP* **P 22 37 17.7 +1.3**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 54.05 307 *eP* **P 22 37 17.7 +1.3**
VTS Vitosha 54.24 300 ⇑P **P 22 37 19.2 +1.1**
VTS Vitosha 54.24 300 ⇑*iP* **P 22 37 19.2 +1.1**
BZS Buzias 54.26 304 ⇓P **P 22 37 18.4 +0.4**
BZS Buzias 54.26 304 ⇓*iP* **P 22 37 18.4 +0.4**
PSZ Piszkesteto 54.61 307 *eP* **P 22 37 21.5 +0.9**
PSZ pmax pmax
comp=Z,16nm,1.4s
PSZ Piszkesteto 54.61 307 *eP* **P 22 37 21.5 +0.9**
comp=Z,16nm,1.4s
OKC Ostrava-Krasne 55.07 309 *eP* **P 22 37 24.3 +0.5**
OKC *e* 22 37 29.7
OKC MLR MLR
comp=Z,300nm,14.7s
OKC Ostrava-Krasne 55.07 309 *eP* **P 22 37 24.3 +0.5**
OKC *ep*P **pP 22 37 29.7 +1.5**
OKC AMS AMS 23 01 50.0
comp=Z,300nm,14.7s
NB2 NORSAR Subarra 55.44 324 P **P 22 37 25.6 -0.7**
comp=Z,11nm,1.0s,baz=72,slow=7.4
NOA NORSAR Array B 55.44 324 P **P 22 37 25.6 -0.7**
NOA NORSAR Array B 55.44 324 P **P 22 37 25.6 -0.7**
comp=Z,5.0nm,0.8s,baz=72,slow=7.1,SNR=12
NOA LR LR 23 00 34.8
comp=Z,92nm,19.4s,baz=85,slow=35
MORC Moravsky Berou 55.46 310 *eP* **P 22 37 26.8 +0.1**
MORC pmax pmax
comp=Z,14nm,1.2s
MORC Moravsky Berou 55.46 310 *eP* **P 22 37 26.8 +0.1**
comp=Z,14nm,1.2s
IDI Anoyia 55.88 291 *eP* **P 22 37 29.2 -0.8**
comp=Z,23nm,0.8s
SMOL Smolenice 55.96 308 *eP* **P 22 37 31.7 +1.5**
SMOL Smolenice 55.96 308 *eP* **P 22 37 31.7 +1.5**
PKSM Moragy 56.00 305 ⇑P **P 22 37 30.7 +0.2**
PKSM Moragy 56.00 305 ⇑*iP* **P 22 37 30.7 +0.2**
DPC Dobruska-Polom 56.01 311 *eP* **P 22 37 31.5 +0.8**
DPC Dobruska-Polom 56.01 311 *eP* **P 22 37 31.4 +0.8**
DPC *ex* x 22 37 37.0
DPC AMS AMS 23 02 30.0
DPC Dobruska-Polom 56.01 311 *eP* **P 22 37 31.5 +0.8**
comp=Z,76nm,1.1s
UPC Upice 56.15 311 *eP* **P 22 37 32.5 +1.0**
UPC *e* 22 37 36.0
UPC *e* 22 37 38.1
UPC Upice 56.15 311 *eP* **P 22 37 32.5 +1.0**
UPC *ep*P **pP 22 37 36.0 +0.1**
UPC *es*P **sP 22 37 38.1 +0.5**
TREC Trest 56.89 310 *eP* **P 22 37 37.8 +0.9**
TREC *e* 22 37 43.2
TREC MLR MLR
comp=Z,300nm,17.9s
TREC Trest 56.89 310 *eP* **P 22 37 37.8 +0.9**
TREC *ex* x 22 37 43.2
TREC AMS AMS 23 03 00.0
comp=Z,300nm,17.9s
PVCC Panska Ves 57.00 311 *eP* **P 22 37 38.3 +0.7**
PVCC *e* 22 37 44.9
PVCC MLR MLR
comp=Z,400nm,17.9s
PVCC Panska Ves 57.00 311 *eP* **P 22 37 38.3 +0.7**
PVCC *ex* x 22 37 44.9
PVCC AMS AMS 23 03 10.0
comp=Z,400nm,17.9s
CONA Conrad Observa 57.15 308 ⇑*ip*P **P 22 37 39.5 +0.6**
comp=Z,10nm,1.2s,SNR=5.8
PRU Pruhonice 57.21 311 *eP* **P 22 37 39.8 +0.7**
PRU *e* 22 37 45.0
PRU MLR MLR
comp=Z,300nm,18.6s
PRU Pruhonice 57.21 311 *eP* **P 22 37 39.8 +0.7**
PRU *ep*P **pP 22 37 45.0 +1.5**
PRU AMS AMS 23 03 20.0
comp=Z,300nm,18.6s
PRA Prague 57.25 311 P **P 22 37 40.0 +0.7**
BRG Berggiesshubel 57.25 312 *i* P **P 22 37 39.9 +0.5**
comp=Z,16nm,1.2s
BRG *e* 22 37 45.9
comp=Z,8.8nm,1.0s
BRG Berggiesshubel 57.25 312 *eP* **P 22 37 39.9 +0.5**
comp=Z,16nm,1.2s
BRG Berggiesshubel 57.25 312 *i* P **P 22 37 39.8 +0.5**
BRG *e* 22 37 45.9
BRG pmax pmax
comp=Z,16nm,1.2s
FBE Freiberg 57.58 312 *eP* **P 22 37 42.0 +0.3**
comp=Z,22nm,1.3s
ARSA Arzberg 57.62 307 ⇑*ip*P **P 22 37 42.2 +0.2**
comp=Z,7.5nm,1.2s
CLL Collm 57.65 312 *eP* **P 22 37 41.8 -0.3**
comp=Z,14nm,1.1s
CLL Collm 57.65 312 *i* P **P 22 37 42.2 +0.1**
CLL *i* 22 37 48.2
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 57.65 312 *i* P **P 22 37 42.2 +0.1**
comp=Z,14nm,1.1s
CLL *ep*P **pP 22 37 45.0 -1.6**
CLL *i* 22 37 48.2
GOLS Golise 58.02 306 *i* P **P 22 37 45.3 +0.3**
PERS Pernice 58.11 307 *eP* **P 22 37 45.6 +0.1**
KHC Kasperske Hory 58.11 310 *eP* **P 22 37 46.0 +0.5**
KHC *e* 22 37 51.1
KHC MLR MLR
comp=Z,400nm,21.0s
KHC Kasperske Hory 58.11 310 *eP* **P 22 37 46.0 +0.5**
KHC *ep*P **pP 22 37 51.1 +1.2**
KHC AMS AMS 23 03 50.0
comp=Z,400nm,21.0s
KHC Kasperske Hory 58.11 310 *eP* **P 22 37 46.2 +0.7**
comp=Z,9.0nm,1.3s
GEC2 GERESS Array S 58.14 310 *eP* **P 22 37 46.1 +0.3**
comp=Z,11nm,1.2s
GEC2 GERESS Array S 58.14 310 *eP* **P 22 37 46.1 +0.3**
GEC2 pmax pmax
comp=Z,11nm,1.2s
GEC2 GERESS Array S 58.14 310 *eP* **P 22 37 46.1 +0.3**
GERES GERESS Array B 58.14 310 P **P 22 37 46.2 +0.3**
GERES GERESS Array B 58.14 310 P **P 22 37 46.2 +0.3**
comp=Z,4.2nm,1.0s,baz=73,slow=5.9,SNR=24
GERES LR LR 23 04 02.6
comp=Z,221nm,19.5s,baz=59,slow=37
SOKA Soboth 58.14 307 ⇓*iP* **P 22 37 45.5 -0.3**
comp=Z,17nm,1.2s,SNR=8.6
MOA Molin 58.17 308 ⇑*ip*P **P 22 37 46.3 +0.3**
comp=Z,9.2nm,1.4s
BSEG Bad Segeberg 58.22 316 *eP* **P 22 37 46.4 +0.3**
comp=Z,20nm,1.0s
TANN Tannenbergstha 58.30 312 *eP* **P 22 37 46.8 0.0**
comp=Z,11nm,1.2s
NKC Novy Kostel 58.38 311 *eP* **P 22 37 47.9 +0.6**
NKC MLR MLR
comp=Z,200nm,16.9s
NKC Novy Kostel 58.38 311 *eP* **P 22 37 47.9 +0.6**
NKC AMS AMS 23 04 00.0
comp=Z,200nm,16.9s
WERD Werda 58.38 312 *eP* **P 22 37 47.5 +0.2**
comp=Z,21nm,1.8s
NEUB Neuenburg 58.40 313 *eP* **P 22 37 47.3 -0.1**
comp=Z,28nm,1.3s
WET Wettzell 58.53 310 *eP* **P 22 37 48.2 -0.2**
comp=Z,16nm,1.5s
WET Wettzell 58.53 310 *eP* **P 22 37 48.2 -0.2**
WET pmax pmax
comp=Z,16nm,1.5s
MANZ Manzenberg 58.67 311 *eP* **P 22 37 49.9 +0.5**
comp=Z,13nm,1.4s
ROTZ Rotzenmuhle 58.70 311 *eP* **P 22 37 50.2 +0.7**
comp=Z,18nm,1.2s
MOX Moxa 58.71 312 *eP* **P 22 37 49.7 +0.1**
comp=Z,16nm,1.3s
MOX *eL* L 23 03 53.7
comp=Z,148nm,19.0s
MOX Moxa 58.71 312 *eP* **P 22 37 49.7 +0.1**
MOX pmax pmax
comp=Z,16nm,1.3s
MOX MLR MLR
comp=Z,100nm,19.0s
NRDL Niedersach Rie 58.87 315 *eP* **P 22 37 51.4 +0.8**
comp=Z,28nm,1.1s
CLZ Clausthal 58.97 314 *eP* **P 22 37 52.0 +0.5**
comp=Z,29nm,1.1s
CLZ Clausthal 58.97 314 *eP* **P 22 37 52.0 +0.5**
CLZ pmax pmax
comp=Z,29nm,1.1s
RJOB Jochberg 59.13 309 *eP* **P 22 37 52.9 +0.2**
comp=Z,14nm,1.3s
GRF Grafenberg Arr 59.31 311 *eP* **P 22 37 54.5 +0.7**
comp=Z,26nm,1.1s
GRF *eL* L 23 04 24.2
comp=Z,202nm,19.4s
GRF Grafenberg Arr 59.31 311 *eP* **P 22 37 54.5 +0.7**
GRF pmax pmax
comp=Z,26nm,1.1s
GRF MLR MLR
comp=Z,200nm,19.4s
UBBA Unterbreizbach 59.59 313 *eP* **P 22 37 55.6 +0.1**
comp=Z,12nm,1.6s
ABTA Abfaltersbach 59.71 308 ⇑*iP* **P 22 37 55.8 -0.9**
comp=Z,9.1nm,1.2s,SNR=7.6
FUR Furstenfeldbru 59.90 310 *eP* **P 22 37 59.0 +1.1**
comp=Z,53nm,1.4s
FUR Furstenfeldbru 59.90 310 *eP* **P 22 37 59.0 +1.1**
FUR pmax pmax
comp=Z,53nm,1.4s
WTTA Wattenberg 60.04 309 ⇑*iP* **P 22 37 58.9 -0.2**
comp=Z,27nm,1.3s,SNR=11
WATA Walderalm 60.05 309 ⇑*iP* **P 22 37 58.9 -0.2**
comp=Z,11nm,1.0s
MOTA Moosalm 60.34 309 ⇑*iP* **P 22 38 00.6 -0.5**
comp=Z,13nm,0.9s,SNR=10
CUC Castrocucco 60.38 299 *eP* **P 22 38 01.4 +0.1**
FETA Feichten 60.71 309 ⇑*iP* **P 22 38 03.5 -0.2**
comp=Z,15nm,1.1s,SNR=6.0
TNS Taunus Mts 60.74 313 *eP* **P 22 38 04.3 +0.7**
comp=Z,10.0nm,1.1s
TNS Taunus Mts 60.74 313 *eP* **P 22 38 04.3 +0.7**
TNS pmax pmax
comp=Z,10.0nm,1.1s
STU Stuttgart 60.90 311 *eP* **P 22 38 04.8 +0.1**
comp=Z,14nm,0.9s
BUG Bochum--Univer 60.90 314 *eP* **P 22 38 05.4 +0.8**
comp=Z,32nm,1.6s
CEL Celeste 61.09 298 *eP* **P 22 38 05.8 -0.5**
FUORN Ofenpass-Fuorn 61.17 308 *eP* **P 22 38 07.6 +0.8**
BFO Black Forest 61.61 311 *eP* **P 22 38 09.6 0.0**
comp=Z,21nm,1.4s
BFO Black Forest 61.61 311 *eP* **P 22 38 09.6 0.0**
BFO pmax pmax
comp=Z,21nm,1.4s
BFO Black Forest 61.61 311 *eP* **P 22 38 09.2 -0.4**
comp=Z,19nm,1.4s
TUE Stuetta 61.80 308 *eP* **P 22 38 11.0 -0.1**
VLC Villacollemand 62.17 306 *eP* **P 22 38 14.8 +1.4**
CDF Champ du Feu 62.21 311 *eP* **P 22 38 13.4 -0.3**
comp=Z,7.3nm,0.8s
CDF Champ du Feu 62.21 311 *eP* **P 22 38 13.4 -0.3**
CDF pmax pmax
comp=Z,7.0nm,0.8s
CDF Champ du Feu 62.21 311 *eP* **P 22 38 13.4 -0.3**
comp=Z,7.3nm,0.8s
WLF Walferdange 62.31 313 P **P 22 38 15.4 +1.2**
comp=Z,14nm,1.4s
WLF Walferdange 62.31 313 *eP* **P 22 38 15.2 +1.0**
comp=Z,24nm,1.2s
WLF Walferdange 62.31 313 *eP* **P 22 38 14.0 -0.2**
WLF pmax pmax
comp=Z,15nm,1.1s
WLF Walferdange 62.31 313 *eP* **P 22 38 14.0 -0.2**
comp=Z,15nm,1.1s
BCLA Clavier 62.47 314 P **P 22 38 15.6 +0.3**
MBWA Marble Bar 62.66 155 *eP* **P 22 38 16.4 -0.4**
HINF Hinteralfeld 62.73 311 *eP* **P 22 38 16.7 -0.4**
comp=Z,22nm,1.3s
HINF Hinteralfeld 62.73 311 *eP* **P 22 38 16.7 -0.4**
HINF pmax pmax
comp=Z,22nm,1.3s
HINF Hinteralfeld 62.73 311 *eP* **P 22 38 16.7 -0.4**
comp=Z,22nm,1.3s
GIVF Givet 62.89 314 *eP* **P 22 38 18.1 +0.1**
comp=Z,34nm,1.1s
GIVF Givet 62.89 314 *eP* **P 22 38 18.1 +0.1**
GIVF pmax pmax
comp=Z,34nm,1.1s
GIVF Givet 62.89 314 *eP* **P 22 38 18.1 +0.1**
comp=Z,34nm,1.1s
HAU Haudompre 62.95 311 *eP* **P 22 38 18.2 -0.3**
comp=Z,6.5nm,0.7s
HAU *e*R
comp=Z,225nm,17.0s
HAU Haudompre 62.95 311 *eP* **P 22 38 18.2 -0.3**
HAU pmax pmax
comp=Z,7.0nm,0.7s
HAU Haudompre 62.95 311 *eP* **P 22 38 18.2 -0.3**
comp=Z,6.5nm,0.7s
DOU Dourbes 63.02 314 P **P 22 38 19.4 +0.5**
comp=Z,5.5nm,1.3s
PAGF Fort de Pagny 63.06 312 *eP* **P 22 38 19.6 +0.3**
comp=Z,9.6nm,1.1s
PAGF Fort de Pagny 63.06 312 *eP* **P 22 38 19.6 +0.3**
comp=Z,9.6nm,1.1s
BAIF Baives 63.26 314 *eP* **P 22 38 20.7 +0.2**
comp=Z,20nm,1.0s
BAIF Baives 63.26 314 *eP* **P 22 38 20.7 +0.2**
BAIF pmax pmax
comp=Z,20nm,1.0s
BAIF Baives 63.26 314 *eP* **P 22 38 20.7 +0.2**
comp=Z,20nm,1.0s
MEZF Maizieres J'vi 63.49 312 *eP* **P 22 38 22.2 +0.2**
MEZF Maizieres J'vi 63.49 312 *eP* **P 22 38 22.2 +0.2**
SFTF Sexfontaines 63.63 312 *eP* **P 22 38 22.8 -0.2**
comp=Z,28nm,1.1s
SFTF Sexfontaines 63.63 312 *eP* **P 22 38 22.8 -0.2**
comp=Z,28nm,1.1s
CABF La Chapelle 63.74 310 *eP* **P 22 38 23.5 -0.4**
CABF La Chapelle 63.74 310 *eP* **P 22 38 23.5 -0.4**
CABF La Chapelle 63.74 310 *eP* **P 22 38 23.5 -0.4**
PGF Pioggiola 63.80 305 *eP* **P 22 38 24.5 +0.1**
comp=Z,72nm,1.4s
PGF Pioggiola 63.80 305 *eP* **P 22 38 24.5 +0.1**
PGF pmax pmax
comp=Z,72nm,1.4s
PGF Pioggiola 63.80 305 *eP* **P 22 38 24.5 +0.1**
comp=Z,72nm,1.4s
LPG La Plagne 63.86 308 *eP* **P 22 38 25.2 +0.3**
comp=Z,37nm,1.0s
LPG La Plagne 63.86 308 *eP* **P 22 38 25.2 +0.3**
LPG pmax pmax
comp=Z,37nm,1.0s
LPG La Plagne 63.86 308 *eP* **P 22 38 25.2 +0.3**
comp=Z,37nm,1.0s
LPL La Plagne 63.86 308 *eP* **P 22 38 25.2 +0.4**
comp=Z,28nm,1.1s
LPL La Plagne 63.86 308 *eP* **P 22 38 25.2 +0.4**
LPL pmax pmax
comp=Z,28nm,1.0s
LPL La Plagne 63.86 308 *eP* **P 22 38 25.2 +0.4**
comp=Z,28nm,1.0s
BNI Bardonecchia 64.11 308 *eP* **P 22 38 26.3 -0.1**
BNI Bardonecchia 64.11 308 *eP* **P 22 38 26.2 -0.1**
COLD Coldfoot 64.17 23 *eP* **P 22 38 26.6 +0.4**
comp=Z,30nm,1.0s
SBF Sospel 64.19 307 *eP* **P 22 38 26.6 -0.3**
comp=Z,48nm,0.9s
SBF Sospel 64.19 307 *eP* **P 22 38 26.6 -0.3**
SBF pmax pmax
comp=Z,48nm,0.9s
SBF Sospel 64.19 307 *eP* **P 22 38 26.6 -0.3**
comp=Z,48nm,0.9s
MBDF Montbardon 64.21 308 *eP* **P 22 38 27.5 +0.5**
comp=Z,12nm,0.9s
MBDF Montbardon 64.21 308 *eP* **P 22 38 27.5 +0.5**
MBDF pmax pmax
comp=Z,12nm,0.9s
MBDF Montbardon 64.21 308 *eP* **P 22 38 27.5 +0.5**
comp=Z,12nm,0.9s
ORIF Oris-en-Rattie 64.67 308 *eP* **P 22 38 29.7 -0.3**
comp=Z,21nm,1.0s
ORIF *e*R
comp=Z,248nm,20.2s
ORIF Oris-en-Rattie 64.67 308 *eP* **P 22 38 29.7 -0.3**
ORIF pmax pmax
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 64.67 308 *eP* **P 22 38 29.7 -0.3**
comp=Z,21nm,1.0s
LOR Lormes 64.78 311 *eP* **P 22 38 29.5 -1.1**
LOR *e*R
comp=Z,196nm,20.0s
LOR Lormes 64.78 311 *eP* **P 22 38 29.5 -1.1**
FRF La Foret Royal 64.84 307 *eP* **P 22 38 30.5 -0.5**
comp=Z,17nm,1.0s
FRF La Foret Royal 64.84 307 *eP* **P 22 38 30.5 -0.5**
FRF pmax pmax
comp=Z,17nm,1.0s
FRF La Foret Royal 64.84 307 *eP* **P 22 38 30.5 -0.5**
comp=Z,17nm,1.0s
LMR La Mourre 65.04 306 *eP* **P 22 38 31.9 -0.4**
comp=Z,30nm,1.2s
LMR La Mourre 65.04 306 *eP* **P 22 38 31.9 -0.4**
LMR pmax pmax
comp=Z,30nm,1.2s
LMR La Mourre 65.04 306 *eP* **P 22 38 31.9 -0.4**
comp=Z,30nm,1.2s
SSF Saint Saulge 65.09 311 *eP* **P 22 38 32.0 -0.6**
SSF Saint Saulge 65.09 311 *eP* **P 22 38 32.0 -0.6**
SSF Saint Saulge 65.09 311 *eP* **P 22 38 32.0 -0.6**
SMF Signal de Mont 65.09 311 *eP* **P 22 38 32.2 -0.4**
comp=Z,43nm,1.2s
SMF Signal de Mont 65.09 311 *eP* **P 22 38 32.2 -0.4**
SMF pmax pmax
comp=Z,43nm,1.2s
SMF Signal de Mont 65.09 311 *eP* **P 22 38 32.2 -0.4**
comp=Z,43nm,1.2s
AVF Avril sur Loir 65.31 311 *eP* **P 22 38 33.6 -0.4**
AVF Avril sur Loir 65.31 311 *eP* **P 22 38 33.6 -0.4**
AVF Avril sur Loir 65.31 311 *eP* **P 22 38 33.6 -0.4**
SMRF Simiane la Rot 65.32 307 *eP* **P 22 38 34.1 -0.1**
SMRF Simiane la Rot 65.32 307 *eP* **P 22 38 34.1 -0.1**
VIVF Saint-Julien-l 65.45 309 *eP* **P 22 38 34.8 -0.2**
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 65.45 309 *eP* **P 22 38 34.8 -0.2**

VIVF pmax pmax
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 65.45 309 *e*P **P 22 38 34.8 -0.2**
comp=Z,22nm,1.2s
SUMG Summit 65.60 346 *e*P **P 22 38 35.1 -0.8**
SUMG pmax pmax
comp=Z,18nm,1.2s
SUMG Summit 65.60 346 *i* P **P 22 38 35.3 -0.6**
comp=Z,9.7nm,0.9s
SUMG Summit 65.60 346 *e*P **P 22 38 35.1 -0.8**
comp=Z,18nm,1.2s
BGF Bois d'Agland 65.73 311 *e*P **P 22 38 36.2 -0.5**
BGF Bois d'Agland 65.73 311 *e*P **P 22 38 36.2 -0.5**
BGF Bois d'Agland 65.73 311 *e*P **P 22 38 36.2 -0.5**
BPAW Bear Paw Mtn. 65.78 26 *e*P **P 22 38 36.7 -0.2**
comp=Z,36nm,1.3s
PPLA Purkeypile 66.07 28 *e*P **P 22 38 39.6 +0.8**
comp=Z,72nm,1.4s
TCF Toulx Ste Croi 66.25 311 *e*P **P 22 38 40.0 -0.1**
comp=Z,41nm,1.2s
TCF Toulx Ste Croi 66.25 311 *e*P **P 22 38 40.0 -0.1**
TCF pmax pmax
comp=Z,41nm,1.2s
TCF Toulx Ste Croi 66.25 311 *e*P **P 22 38 40.0 -0.1**
comp=Z,41nm,1.2s
LASF Ste Croix 66.35 308 *e*P **P 22 38 40.9 +0.1**
comp=Z,34nm,1.2s
LASF Ste Croix 66.35 308 *e*P **P 22 38 40.9 +0.1**
comp=Z,34nm,1.2s
COLA College 66.38 25 *e*P **P 22 38 42.3 +1.8**
COLA pmax pmax
comp=Z,48nm,0.9s
COLA College 66.38 25 *e*P **P 22 38 42.3 +1.8**
comp=Z,48nm,0.9s
KMBO Kilima Mbogo 66.39 249 P **P 22 38 41.4 -0.3**
KMBO Kilima Mbogo 66.39 249 P **P 22 38 41.4 -0.3**
comp=Z,4.2nm,0.9s,baz=46,slow=12,SNR=7.6
LDF La Druitiere 66.45 314 *e*P **P 22 38 41.0 -0.3**
comp=Z,33nm,1.2s
LDF La Druitiere 66.45 314 *e*P **P 22 38 41.0 -0.3**
LDF pmax pmax
comp=Z,33nm,1.3s
LDF La Druitiere 66.45 314 *e*P **P 22 38 41.0 -0.3**
comp=Z,33nm,1.3s
FLN La Foliniere 66.57 314 *e*P **P 22 38 41.6 -0.4**
comp=Z,46nm,1.3s
FLN *e*R
comp=Z,303nm,20.0s
FLN La Foliniere 66.57 314 *e*P **P 22 38 41.6 -0.4**
FLN pmax pmax
comp=Z,46nm,1.3s
FLN La Foliniere 66.57 314 *e*P **P 22 38 41.6 -0.4**
comp=Z,46nm,1.3s
ILAR Eielson Array 66.76 25 P **P 22 38 42.3 -0.7**
ILAR Eielson Array 66.76 25 P **P 22 38 42.3 -0.7**
comp=Z,8.0nm,0.9s,baz=293,slow=5.3,SNR=69
ILAR LR LR 23 11 09.7
comp=Z,146nm,19.3s,baz=274,slow=39
KEST Kesra 66.90 298 *e*P **P 22 38 43.8 -0.7**
KEST Kesra 66.90 298 P **P 22 38 44.2 -0.3**
comp=Z,3.0nm,1.1s,baz=225,slow=4.0,SNR=3.5
KEST LR LR 23 12 49.1
comp=Z,22nm,19.8s,baz=238,slow=40
PMG Port Moresby 66.95 123 *e*P **P 22 38 44.6 -0.3**
PMG Port Moresby 66.95 123 P **P 22 38 43.8 -1.1**
comp=Z,23nm,0.9s,baz=190,slow=10,SNR=3.8
GRR Gorron 66.97 314 *e*P **P 22 38 44.2 -0.4**
comp=Z,48nm,1.2s
GRR Gorron 66.97 314 *e*P **P 22 38 44.2 -0.4**
GRR pmax pmax
comp=Z,48nm,1.2s
GRR Gorron 66.97 314 *e*P **P 22 38 44.2 -0.4**
comp=Z,48nm,1.2s
CAF Calviac 67.03 310 *e*P **P 22 38 45.4 +0.3**
comp=Z,28nm,1.2s
CAF Calviac 67.03 310 *e*P **P 22 38 45.4 +0.3**
CAF pmax pmax
comp=Z,28nm,1.2s
CAF Calviac 67.03 310 *e*P **P 22 38 45.4 +0.3**
comp=Z,28nm,1.2s
RJF Les Rejaudoux 67.16 310 *e*P **P 22 38 46.2 +0.3**
comp=Z,46nm,1.3s
RJF *e*R
comp=Z,199nm,20.8s
RJF Les Rejaudoux 67.16 310 *e*P **P 22 38 46.2 +0.3**
RJF pmax pmax
comp=Z,46nm,1.3s
RJF Les Rejaudoux 67.16 310 *e*P **P 22 38 46.2 +0.3**
comp=Z,46nm,1.3s
RSO Redoubt South 67.31 30 *e*P **P 22 38 48.2 +1.4**
MFF Saint Martin d 67.49 312 *e*P **P 22 38 47.7 -0.2**
comp=Z,47nm,1.3s
MFF Saint Martin d 67.49 312 *e*P **P 22 38 47.7 -0.2**
MFF pmax pmax
comp=Z,47nm,1.3s
MFF Saint Martin d 67.49 312 *e*P **P 22 38 47.7 -0.2**
comp=Z,47nm,1.3s
MTLF Montolieu 67.75 308 *e*P **P 22 38 49.6 -0.1**
MTLF Montolieu 67.75 308 *e*P **P 22 38 49.6 -0.1**
MTLF Montolieu 67.75 308 *e*P **P 22 38 49.6 -0.1**
WRAB Tennant Creek 67.75 141 P **P 22 38 48.5 -1.3**
comp=Z,88nm,1.3s,SNR=7.8
WRAB Tennant Creek 67.75 141 *e*P **P 22 38 48.7 -1.2**
WRAB pmax pmax
comp=Z,26nm,1.3s
WRAB Tennant Creek 67.75 141 *e*P **P 22 38 48.7 -1.2**
comp=Z,26nm,1.3s
WRA Warramunga Arr 67.75 141 P **P 22 38 48.4 -1.5**
WRA Warramunga Arr 67.75 141 P **P 22 38 48.4 -1.5**
comp=Z,13nm,1.1s,baz=340,slow=6.5,SNR=31
LFF La Frestale 67.82 310 *e*P **P 22 38 50.3 +0.2**
comp=Z,31nm,1.1s
LFF La Frestale 67.82 310 *e*P **P 22 38 50.3 +0.2**
LFF pmax pmax
comp=Z,31nm,1.1s
LFF La Frestale 67.82 310 *e*P **P 22 38 50.3 +0.2**
comp=Z,31nm,1.1s
SGMF Saint Gilles 68.01 315 *e*P **P 22 38 51.3 +0.1**
SGMF Saint Gilles 68.01 315 *e*P **P 22 38 51.3 +0.1**
SGMF Saint Gilles 68.01 315 *e*P **P 22 38 51.3 +0.1**
INK Inuvik 68.08 18 *e*P **P 22 38 50.8 -0.5**
comp=Z,15nm,0.9s
INK *e*PP **PP 22 41 20.9 0.0**
SML Sawmill 68.16 27 *e*P **P 22 38 52.0 0.0**
SML pmax pmax
comp=Z,15nm,1.0s
SML Sawmill 68.16 27 *e*P **P 22 38 52.0 0.0**
comp=Z,15nm,1.0s
ROSF Rostrenen 68.37 315 *e*P **P 22 38 53.8 +0.3**
ROSF Rostrenen 68.37 315 *e*P **P 22 38 53.8 +0.3**
ROSF Rostrenen 68.37 315 *e*P **P 22 38 53.8 +0.3**
QUIF Quistinic 68.53 314 *e*P **P 22 38 54.3 -0.2**
comp=Z,115nm,1.4s
QUIF Quistinic 68.53 314 *e*P **P 22 38 54.3 -0.2**
QUIF Quistinic 68.53 314 *e*P **P 22 38 54.3 -0.2**
comp=Z,115nm,1.4s
EGAK Eagle 68.58 23 *e*P **P 22 38 54.5 +0.1**
comp=Z,24nm,1.1s
EPF Esparros 69.08 309 *e*P **P 22 38 57.2 -0.8**
comp=Z,52nm,1.7s
EPF Esparros 69.08 309 *e*P **P 22 38 57.2 -0.8**
EPF pmax pmax
comp=Z,52nm,1.7s
EPF Esparros 69.08 309 *e*P **P 22 38 57.2 -0.8**
comp=Z,52nm,1.7s
DAWY Dawson 69.63 23 *e*P **P 22 39 00.9 -0.2**
ETSF Etsaut 69.70 309 *e*P **P 22 39 02.2 +0.2**
comp=Z,14nm,1.0s
ETSF Etsaut 69.70 309 *e*P **P 22 39 02.2 +0.2**
ETSF pmax pmax
comp=Z,14nm,1.0s
ETSF Etsaut 69.70 309 *e*P **P 22 39 02.2 +0.2**
comp=Z,14nm,1.0s
SJPF Ste Jean 70.00 309 *e*P **P 22 39 02.4 -1.3**
comp=Z,20nm,0.9s
SJPF Ste Jean 70.00 309 *e*P **P 22 39 02.4 -1.3**
SJPF pmax pmax
comp=Z,20nm,0.9s
SJPF Ste Jean 70.00 309 *e*P **P 22 39 02.4 -1.3**
comp=Z,20nm,0.9s
BMRM Bremner River 70.07 27 *e*P **P 22 39 03.8 0.0**
comp=Z,14nm,0.8s
AS31 Alice Springs 70.70 143 *e*P **P 22 39 07.0 -1.1**
ASAR Alice Springs 70.70 143 P **P 22 39 07.0 -1.1**
ASAR Alice Springs 70.70 143 P **P 22 39 07.0 -1.1**
comp=Z,11nm,1.0s,baz=328,slow=5.7,SNR=58

MBAR Mbarara 70.94 254 P **P 22 39 08.9 -1.1**
MBAR Mbarara 70.94 254 P **P 22 39 08.9 -1.1**
comp=Z,1.2nm,0.3s,baz=270,slow=23,SNR=6.3
OPO Ambohidratompo 72.32 228 P **P 22 39 17.8 -0.3**
OPO Ambohidratompo 72.32 228 P **P 22 39 17.8 -0.3**
comp=Z,7.3nm,1.0s,baz=354,slow=6.9,SNR=4.7
SFJD Kangerlussuaq 72.58 347 *i* P **P 22 39 18.9 +0.1**
comp=Z,9.7nm,0.8s
HYT Haines Junctio 72.60 24 *e*P **P 22 39 19.7 +0.4**
ESDC Sonseca Array 73.63 308 P **P 22 39 25.0 -0.7**
ESDC Sonseca Array 73.63 308 P **P 22 39 25.0 -0.7**
comp=Z,2.0nm,0.7s,baz=54,slow=6.5,SNR=16
PBRG Braganca 74.09 311 *e*P **P 22 39 28.9 +0.6**
comp=Z,3.1nm,1.0s
SKAG Skagway 74.35 24 *e*P **P 22 39 29.5 +0.1**
comp=Z,14nm,1.0s
CTAO Charters Tower 74.43 131 *e*P **P 22 39 29.1 -1.3**
CTAO pmax pmax
comp=Z,21nm,1.1s
CTAO Charters Tower 74.43 131 *e*P **P 22 39 29.1 -1.3**
comp=Z,20nm,1.1s
MVO Moncorvo 74.65 310 *e*P **P 22 39 32.1 +0.5**
comp=Z,5.6nm,1.0s
PCAB Cabril 74.92 311 *e*P **P 22 39 33.7 +0.6**
comp=Z,6.0nm,0.7s
PMRV Marv??o 75.91 309 *e*P **P 22 39 40.0 +1.2**
comp=Z,4.0nm,0.9s
TAM Tamanrasset 76.75 289 *e*P **P 22 39 42.9 -1.1**
TAM pmax pmax
comp=Z,10.0nm,1.4s
TAM Tamanrasset 76.75 289 *e*P **P 22 39 42.9 -1.1**
comp=Z,10nm,1.4s
EVO Evora 76.84 309 *e*P **P 22 39 44.8 +0.7**
comp=Z,19nm,1.1s
EVO *e*R
comp=Z,142nm,21.5s
DLBC Dease Lake 76.85 23 *e*P **P 22 39 44.2 +0.4**
EVOP Sao Brissos 76.91 309 *e*P **P 22 39 44.8 +0.3**
EVOP pmax pmax
comp=Z,19nm,1.1s
EVOP Sao Brissos 76.91 309 *e*P **P 22 39 44.8 +0.3**
comp=Z,19nm,1.1s
YKA Yellowknife Ar 77.19 14 P **P 22 39 44.5 -1.0**
YKA Yellowknife Ar 77.19 14 P **P 22 39 44.5 -1.0**
comp=Z,6.4nm,1.0s,baz=339,slow=5.2,SNR=6.4
STKA Stephens Creek 81.26 142 *e*P **P 22 40 06.5 -1.6**
comp=Z,4.6nm,1.2s
STKA Stephens Creek 81.26 142 P **P 22 40 06.6 -1.6**
comp=Z,6.7nm,0.5s,baz=342,slow=4.8,SNR=23
LSZ Lusaka 82.49 244 *e*P **P 22 40 15.2 +0.1**
LSZ Lusaka 82.49 244 P **P 22 40 14.8 -0.3**
comp=Z,4.9nm,0.8s,baz=36,slow=8.0,SNR=14
SCHQ Schefferville 86.68 350 P **P 22 40 34.2 -1.5**
SCHQ Schefferville 86.68 350 P **P 22 40 34.2 -1.5**
comp=Z,4.2nm,0.9s,baz=11,slow=6.3,SNR=4.4
SCHQ LR LR 23 22 09.4
comp=Z,71nm,20.8s,baz=342,slow=38
NEW Newport 89.52 21 *e*P **P 22 40 49.4 0.0**
comp=Z,15nm,1.1s
BLMT Blacktail Moun 90.52 20 *e*P **P 22 40 54.0 -0.2**
comp=Z,34nm,1.1s
BSMT Bassoo Peak 90.55 20 *e*P **P 22 40 54.2 -0.2**
comp=Z,6.9nm,1.0s
YBMT Yellow Bay 90.75 20 *e*P **P 22 40 55.3 +0.1**
comp=Z,13nm,1.0s
ULM Lac du Bonnet 91.83 8 LR LR 23 23 16.9
comp=Z,85nm,20.6s,baz=7.6,slow=36
HRY Holter Researc 92.38 19 *e*P **P 22 41 02.3 -0.5**
comp=Z,2.4nm,0.6s
BMO Blue Mountains 92.53 23 *e*P **P 22 41 03.6 +0.1**
BOSA Boshof 93.39 236 LR LR 23 20 37.9
comp=Z,69nm,21.1s,baz=37,slow=34
WVOR Wild Horse Val 94.27 25 *e*P **P 22 41 11.7 +0.1**
WVOR pmax pmax
comp=Z,9.0nm,1.4s
WVOR Wild Horse Val 94.27 25 *e*P **P 22 41 11.7 +0.1**
comp=Z,8.7nm,1.4s
DBIC Dimbokro 94.43 282 P **P 22 41 11.0 -1.6**
DBIC Dimbokro 94.43 282 P **P 22 41 11.0 -1.6**
comp=Z,3.7nm,0.9s,baz=141,slow=4.3,SNR=3.4
DBIC LR LR 23 30 49.9
comp=Z,71nm,18.5s,baz=306,slow=40
LIC Lamto 94.84 282 *e*P **P 22 41 13.4 -1.1**
LIC Lamto 94.84 282 *e*P **P 22 41 13.4 -1.1**
IMW Indian Meadow 95.23 19 *e*P **P 22 41 15.5 -0.6**
comp=Z,7.2nm,1.1s
PDAR Pinedale Array 96.64 19 P **P 22 41 21.9 -0.7**
PDAR Pinedale Array 96.64 19 P **P 22 41 21.9 -0.7**
comp=Z,0.3nm,0.7s,baz=215,slow=3.0,SNR=2.9
PDAR LR LR 23 28 39.1
comp=Z,74nm,18.8s,baz=157,slow=38
NVAR Mina Array Bea 97.96 26 P Pdif 22 41 28.6 0.0
NVAR Mina Array Bea 97.96 26 P Pdif 22 41 28.6 0.0
comp=Z,0.8nm,0.8s,baz=272,slow=3.0,SNR=5.2
TXAR Lajitas Array 110.86 18 PKKPbc PKKPbc 22 57 25.1 +2.4
TXAR Lajitas Array 110.86 18 PKKPbc PKKPbc 22 57 25.1 +2.4
comp=Z,0.4nm,0.9s,baz=162,slow=3.4,SNR=3.7
VNDA Vanda 121.58 167 PKP **PKPdf 22 46 43.0 -1.4**
VNDA Vanda 121.58 167 PKP **PKPdf 22 46 43.0 -1.4**
comp=Z,1.0nm,0.9s,baz=242,slow=5.5,SNR=4.3
QSPA South Pole Qui 127.44 180 *e*PKPdf **PKPdf 22 46 54.4 -1.6**
SNAA Sanae 128.00 203 *e*PKP **PKPdf 22 46 56.6 -0.4**
VNA2 Neumayer--Watz 129.41 204 *e*PKP **PKPdf 22 46 59.3 -0.3**
VNA1 Neumayer--Stat 129.69 205 *e*PKP **PKPdf 22 47 00.1 0.0**
SAML Samuel 145.74 321 *e*PKPdf **PKPdf 22 47 29.6 -1.6**
LPAZ La Paz 154.47 322 PKPbc **PKPbc 22 47 55.5 +1.5**
LPAZ La Paz 154.47 322 PKPbc **PKPbc 22 47 55.5 +1.5**
comp=Z,0.6nm,0.7s,baz=268,slow=4.0,SNR=3.1

*ISCJB **31** 22:33:22.6±0.5, 37°.50N±0°.07×95°.94E±0°.08, h12km, mb3.9/10, Error ellipse: s-maj=11.1km s-min=8.2km az=32.6*
*IDC **31** 22:33:22.8±0.9, 37°.52N×96°.00E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.8/30, mbtmp3.9/12, ML3.6/4, Error ellipse: s-maj=30.7km s-min=16.5km az=46.0*
*NEIC **31** 22:33:24.1±0.5, 37°.51N×95°.91E, h10km, mb4.1/5, Error ellipse: s-maj=9.2km s-min=7.2km az=220.0*
ISC 31 22:33:24.3±0.7, 37°.49N±0°.09×95°.89E±0°.09, h12km, n31, σ0§85/31, mb4.0/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**8.72**	**208**	*e*Pn	**Pn**	**22 35 30.4**	**-0.2**
SONM	**Songino Array**	**12.89**	**33**	Pn	**Pn**	**22 36 28.1**	**+0.6**
SONM	**Songino Array**	**12.89**	**33**	Pn	**Pn**	**22 36 28.1**	**+0.6**
0.4nm,0.3s,baz=215,slow=15,SNR=7.6							
MK31	**Makanchi Array**	**13.70**	**317**	*e*Pn	**Pn**	**22 36 38.6**	**+0.2**
MKAR	**Makanchi Array**	**13.70**	**317**	Pn	**Pn**	**22 36 36.4**	**-1.9**
MKAR	**Makanchi Array**	**13.70**	**317**	Pn	**Pn**	**22 36 36.4**	**-1.9**
0.3nm,0.3s,baz=125,slow=14,SNR=7.7							
TKM2	**Tokmak 2**	**16.41**	**296**	*e*Pn	**Pn**	**22 37 14.3**	**-0.3**
43nm,1.5s							
AAK	**Ala-Archa**	**17.15**	**294**	*e*Pn	**P**	**22 37 24.8**	**-0.8**
12nm,1.1s							
EKS2	**Erkin-Say**	**17.68**	**294**	*e*Pn	**P**	**22 37 31.6**	**+0.3**
15nm,1.2s							
KURBB	**Kurchatov Arra**	**18.05**	**322**	P	**Pn**	**22 37 34.4**	**-0.4**
0.1nm,0.3s,baz=128,slow=11,SNR=7.9							
KURK	**Kurchatov**	**18.06**	**323**	P	**Pn**	**22 37 34.4**	**-0.6**
ZALV	**Zalesovo Beam**	**18.14**	**339**	P	**Pn**	**22 37 35.9**	**0.0**
ZALV	**Zalesovo Beam**	**18.14**	**339**	P	**Pn**	**22 37 35.9**	**0.0**
0.1nm,0.3s,baz=170,slow=10,SNR=3.1							
KBL	**Kabul**	**21.89**	**270**	*e*P	**P**	**22 38 18.1**	**+0.7**
2.9nm,0.6s							
BVAR	**Borovoye Array**	**23.55**	**319**	P	**P**	**22 38 35.6**	**+1.2**
BVAR	**Borovoye Array**	**23.55**	**319**	P	**P**	**22 38 35.6**	**+1.2**
1.2nm,0.7s,baz=113,slow=11,SNR=3.3							
BRVK	**Borovoye**	**23.63**	**319**	*e*P	**P**	**22 38 35.4**	**+0.2**
8.9nm,1.2s							
KSAR	**Wonju Array Be**	**25.34**	**80**	P	**P**	**22 38 50.9**	**-0.1**
KSRS	**Korea Array**	**25.36**	**80**	P	**P**	**22 38 50.9**	**-0.3**
5.9nm,0.7s,baz=272,slow=9.7,SNR=13							
BRTR	**Keskin Array B**	**47.82**	**293**	P	**P**	**22 42 03.0**	**+1.0**
BRTR	**Keskin Array B**	**47.82**	**293**	P	**P**	**22 42 03.0**	**+1.0**
0.9nm,0.6s,baz=97,slow=7.7,SNR=5.2							
ARCES	**ARCESS Array B**	**48.60**	**334**	P	**P**	**22 42 07.0**	**-0.4**
ARCES	**ARCESS Array B**	**48.60**	**334**	P	**P**	**22 42 07.0**	**-0.4**
3.0nm,0.9s,baz=88,slow=8.2,SNR=3.8							
ILAR	**Eielson Array**	**66.94**	**24**	P	**P**	**22 44 15.3**	**-1.0**
ILAR	**Eielson Array**	**66.94**	**24**	P	**P**	**22 44 15.3**	**-1.0**
0.5nm,0.8s,baz=289,slow=5.4,SNR=5.0							
WRA	**Warramunga Arr**	**67.64**	**141**	P	**P**	**22 44 21.4**	**+0.2**
WRA	**Warramunga Arr**	**67.64**	**141**	P	**P**	**22 44 21.4**	**+0.2**
0.4nm,0.3s,baz=338,slow=6.2,SNR=3.5							

ASAR Alice Springs 70.57 143 P **P 22 44 40.4 +1.0**
ASAR Alice Springs 70.57 143 P **P 22 44 40.4 +1.0**
0.5nm,0.6s,baz=316,slow=5.2,SNR=4.6
STKA Stephens Creek 81.14 142 P **P 22 45 38.8 -0.8**
STKA Stephens Creek 81.14 142 P **P 22 45 38.8 -0.8**
2.2nm,0.8s,baz=332,slow=2.4,SNR=3.5

*ISCJB **31** 22:52:28.5±0.8, 38°.26N±0°.03×26°.53E±0°.04, h3km±5km, Error ellipse: s-maj=5.2km s-min=3.9km az=150.4*
*DDA **31** 22:52:28.4, 38°.28N×26°.54E, h13km, MD3.2*
*ATH **31** 22:52:28.6, 38°.23N×26°.49E, h34km±4km, MD3.2/3*
*ISK **31** 22:52:29.9, 38°.25N×26°.67E, h7km, MD3.4*
*CSEM **31** 22:52:29.4±0.2, 38°.26N×26°.59E, h2km, MD3.2, Error ellipse: s-maj=5.0km s-min=3.5km az=68.0*
ISC 31 22:52:29.1±0.9, 38°.27N±0°.02×26°.57E±0°.02, h6km±7km, n65, σ1§08/87, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.09**	**11**	*i* P	**Pg**	**22 52 31.2**	**0.0**
URLA				*i* S	**Sg**	**22 52 32.6**	**-0.1**
URLA	**Izmir**	**0.09**	**11**	*i* P	**Pg**	**22 52 31.2**	**0.0**
URLA				*i* S	**Sg**	**22 52 32.6**	**-0.1**
CHOS	**Chios island**	**0.42**	**286**	*e*PB	**Pg**	**22 52 37.6**	**+0.2**
CHOS				*e*SB	**Sg**	**22 52 44.6**	**+1.6**
CHOS	**Chios island**	**0.42**	**286**	*e*Pb	**Pg**	**22 52 37.6**	**+0.2**
CHOS				*e*Sb	**Sg**	**22 52 44.6**	**+1.6**
IZM	**Izmir**	**0.56**	**77**	PG	**Pg**	**22 52 39.9**	**+0.1**
IZM				*e*SG	**Sg**	**22 52 48.0**	**+0.9**
IZM	**Izmir**	**0.56**	**77**	*i* Pg	**Pg**	**22 52 39.9**	**+0.1**
IZM				*e*Sg	**Sg**	**22 52 48.0**	**+0.9**
SMG	**Samos**	**0.60**	**160**	*e*PN	**Pg**	**22 52 40.8**	**+0.2**
SMG				*e*SN	**Sb**	**22 52 50.3**	**-0.4**
SMG	**Samos**	**0.60**	**160**	*e*Pn	**Pg**	**22 52 40.8**	**+0.2**
SMG				*e*Sn	**Sb**	**22 52 50.3**	**-0.4**
PRK	**Paraskevi**	**1.00**	**346**	*e*PB	**Pb**	**22 52 47.5**	**-1.4**
PRK				*e*SN	**Sg**	**22 53 02.6**	**+1.2**
PRK	**Paraskevi**	**1.00**	**346**	*e*Pb	**Pb**	**22 52 47.5**	**-1.4**
PRK				*e*Sn	**Sg**	**22 53 02.6**	**+1.2**
AYVA	**Ayvalik**	**1.04**	**5**	*e*P	**Pb**	**22 52 48.4**	**-1.1**
AYVA				*i* S	**Sn**	**22 53 06.5**	**+1.5**
AYVA	**Ayvalik**	**1.04**	**5**	*e*P	**Pb**	**22 52 48.4**	**-1.1**
AKS	**Akhisar**	**1.15**	**58**	*e*PN	**Pb**	**22 52 50.9**	**-0.5**
AKS				*e*SN	**Sn**	**22 53 06.7**	**-1.0**
AKS	**Akhisar**	**1.15**	**58**	*e*Pn	**Pb**	**22 52 50.9**	**-0.5**
AKS				*e*Sn	**Sn**	**22 53 06.7**	**-1.0**
AKHS	**Akhisar**	**1.15**	**58**	*e*P	**Pb**	**22 52 50.4**	**-0.9**
AKHS				*i* S	**Sn**	**22 53 06.6**	**-1.1**
AKHS	**Akhisar**	**1.15**	**58**	*e*P	**Pb**	**22 52 50.4**	**-0.9**
AKHS				*i* S	**Sn**	**22 53 06.6**	**-1.1**
AYDN	**Tasoluk**	**1.20**	**120**	*e*P	**Pn**	**22 52 51.7**	**-0.7**
AYDN				*i* S	**Sn**	**22 53 08.3**	**-0.8**
AYDN	**Tasoluk**	**1.20**	**120**	*e*P	**Pn**	**22 52 51.7**	**-0.7**
AYDN				*i* S	**Sn**	**22 53 08.3**	**-0.8**
BODT	**Bodrum**	**1.34**	**154**	*e*PN	**Pg**	**22 52 54.7**	**-0.1**
BODT				*e*SN	**Sg**	**22 53 12.8**	**+0.6**
BODT	**Bodrum**	**1.34**	**154**	*e*Pn	**Pg**	**22 52 54.7**	**-0.1**
BODT				*e*Sn	**Sg**	**22 53 12.8**	**+0.6**
MLSB	**Milas**	**1.36**	**135**	*e*PN	**Pb**	**22 52 54.9**	**-0.2**
MLSB	**Milas**	**1.36**	**135**	*e*Pn	**Pb**	**22 52 54.9**	**-0.2**
BDRM	**Kayabasi**	**1.39**	**150**	*e*P	**Pn**	**22 52 54.6**	**-0.4**
BDRM				*i* S	**Sg**	**22 53 16.6**	**+2.9**
BDRM	**Kayabasi**	**1.39**	**150**	*e*P	**Pn**	**22 52 54.6**	**-0.4**
EZN	**Ezine**	**1.56**	**353**	*e*PN	**Pb**	**22 52 59.1**	**+0.6**
EZN	**Ezine**	**1.56**	**353**	*e*Pn	**Pb**	**22 52 59.1**	**+0.6**
KULA	**Kula-Manisa**	**1.66**	**81**	*e*PN	**Pn**	**22 52 58.9**	**+0.1**
KULA	**Kula-Manisa**	**1.66**	**81**	*e*Pn	**Pn**	**22 52 58.9**	**+0.1**
BALY	**Balya**	**1.68**	**29**	*e*P	**Pn**	**22 52 57.9**	**-1.1**
BALY				*i* S	**Sb**	**22 53 21.9**	**+0.1**
BALB	**Balikesir**	**1.71**	**36**	*e*PN	**Pb**	**22 53 00.5**	**-0.3**
BALB	**Balikesir**	**1.71**	**36**	*e*Pn	**Pb**	**22 53 00.5**	**-0.3**
DAT	**Datca**	**1.73**	**152**	*e*PN	**Pb**	**22 53 00.6**	**-0.8**
DAT	**Datca**	**1.73**	**152**	*e*Pn	**Pb**	**22 53 00.6**	**-0.8**
YER	**Yerkesik**	**1.77**	**129**	*e*PN	**Pb**	**22 53 00.9**	**-1.0**
YER	**Yerkesik**	**1.77**	**129**	*e*Pn	**Pb**	**22 53 00.9**	**-1.0**
DEMI	**Demirci**	**1.85**	**65**	*e*P	**Pn**	**22 53 01.3**	**-0.1**
DEMI				*i* S	**Sg**	**22 53 29.1**	**+0.7**
DEMI	**Demirci**	**1.85**	**65**	*e*P	**Pn**	**22 53 01.3**	**-0.1**
LIA	**Limnos Island**	**1.95**	**327**	*e*PB	**Pn**	**22 53 02.0**	**-0.8**
LIA	**Limnos Island**	**1.95**	**327**	*e*Pb	**Pn**	**22 53 02.0**	**-0.8**
GONE	**Gonen-Balikesi**	**1.97**	**26**	*e*PN	**Pb**	**22 53 04.1**	**-1.3**
GONE	**Gonen-Balikesi**	**1.97**	**26**	*e*Pn	**Pb**	**22 53 04.1**	**-1.3**
LPK	**Lapseki**	**2.10**	**4**	*e*PN	**Pb**	**22 53 06.6**	**-1.1**
LPK	**Lapseki**	**2.10**	**4**	*e*Pn	**Pb**	**22 53 06.6**	**-1.1**
DALY	**Dalyan (Mu¨la**	**2.20**	**131**	*e*PN	**Pn**	**22 53 07.0**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.20**	**131**	*e*Pn	**Pn**	**22 53 07.0**	**+0.8**
KHL	**Karahalli**	**2.32**	**88**	*e*PN	**Pn**	**22 53 08.8**	**+0.8**
KHL	**Karahalli**	**2.32**	**88**	*e*Pn	**Pn**	**22 53 08.8**	**+0.8**
BNT	**Bandirma**	**2.33**	**26**	*e*PN	**Pn**	**22 53 09.5**	**+1.5**
BNT	**Bandirma**	**2.33**	**26**	*e*Pn	**Pn**	**22 53 09.5**	**+1.5**
SMTH	**Samothraki Isl**	**2.34**	**340**	*e*PN	**Pn**	**22 53 07.0**	**-1.1**
SMTH	**Samothraki Isl**	**2.34**	**340**	*e*Pn	**Pn**	**22 53 07.0**	**-1.1**
KCTX	**Karacabey (Bur**	**2.42**	**34**	*e*PN	**Pn**	**22 53 10.7**	**+1.4**
KCTX	**Karacabey (Bur**	**2.42**	**34**	*e*Pn	**Pn**	**22 53 10.7**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.46**	**11**	*e*PN	**Pn**	**22 53 11.6**	**+1.8**
RKY	**Sarkoy-Tekirda**	**2.46**	**11**	*e*Pn	**Pn**	**22 53 11.6**	**+1.8**
ORLT	**Orhaneli**	**2.53**	**45**	*e*PN	**Pn**	**22 53 12.0**	**+1.2**
ORLT	**Orhaneli**	**2.53**	**45**	*e*Pn	**Pn**	**22 53 12.0**	**+1.2**
MFT	**Murefte**	**2.57**	**12**	*e*PN	**Pb**	**22 53 13.8**	**-1.9**
MFT	**Murefte**	**2.57**	**12**	*e*Pn	**Pb**	**22 53 13.8**	**-1.9**
FETY	**Fethiye**	**2.58**	**129**	*e*PN	**Pn**	**22 53 12.4**	**+1.1**
FETY	**Fethiye**	**2.58**	**129**	*e*Pn	**Pn**	**22 53 12.5**	**+1.1**
ARMT	**Armutlu**	**2.90**	**37**	*e*PN	**Pn**	**22 53 17.3**	**+1.5**
ARMT	**Armutlu**	**2.90**	**37**	*e*Pn	**Pn**	**22 53 17.3**	**+1.5**
YLV	**Yalova**	**3.15**	**43**	*e*PN	**Pn**	**22 53 21.5**	**+2.1**
YLV	**Yalova**	**3.15**	**43**	*e*Pn	**Pn**	**22 53 21.5**	**+2.1**

BER 31 22:53:39.3±0.4, 71°.22N×8°.54W, h18km±1km, MD3.0, ML3.7, 3C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.19**	**169⇑**	*i*P	Pb	22 53 43.9	-0.1
JNW				*e*S	Sb	22 53 46.9	-0.2
JNW				AML	AML	22 53 48.6	
comp=Z,10μm,0.3s							
JMIC	**Jan Mayen**	**0.23**	**177⇑**	*i*P	Pg	22 53 44.3	-0.4
JNE	**Jan Mayen East**	**0.24**	**161⇑**	*i*P	Pg	22 53 44.4	-0.4
JNE				AML	AML	22 53 48.6	
comp=Z,7μm,0.1s							
JMI	**Jan Mayen**	**0.30**	**192⇓**	*i*P	Pg	22 53 45.0	-0.8
JMI				*e*S	Sg	22 53 49.6	-0.5
JMI				AML	AML	22 53 50.6	
comp=Z,6μm,0.2s							
DAG	**Danmarks Havn**	**6.23**	**338**	*i* P	Pn	22 55 09.2	-0.9
DAG				*i* S	Sn	22 56 14.0	-6.7

*NIED **31** 22:57:00, 32°.00N×129°.00E, h5km,

JNU			Pg	**Pb**	**22 58 34.1**	**+0.6**
	10nm,0.3s,baz=227,slow=14,SNR=42					
JNU			Lg	Lg	22 59 00.2	
	26nm,0.3s,baz=2.1,slow=21,SNR=8.1					
KSRS	**Korea Array**	**5.49 351**	Pn	**Pn**	**22 59 21.4**	**+1.3**
	0.8nm,0.3s,baz=166,slow=14,SNR=5.0					
KSRS			Pg	**Pg**	**22 59 40.6**	**-2.7**
	0.8nm,0.3s,baz=167,slow=15,SNR=4.2					
KSRS			Sn	**Sn**	**23 00 23.9**	**+0.7**
	0.8nm,0.3s,baz=178,slow=22,SNR=3.0					
KSRS			Lg	Lg	23 00 48.5	
	2.3nm,0.3s,baz=168,slow=29,SNR=9.1					
SONM	**Songino Array**	**23.33 319**	P	P	23 03 11.9	+5.4
	0.3nm,0.6s,baz=139,slow=11,SNR=2.9					
ASAR	**Alice Springs**	**55.57 175**	P	P	23 07 39.0	+5.1
	0.2nm,0.3s,baz=359,slow=7.4,SNR=4.2					

*AUST **31** 23:22:44.7±24.0, 19°.41S×175°.10W, h213km±2km, Error ellipse: s-maj=10.2km s-min=3.1km az=276.0*
*IDC **31** 23:23:25.9±2.2, 20°.55S×177°.56W, h487km±25km, mb3.5/14, mb1 3.7/16, mb1mx3.7/22, mbtmp3.5/16, Error ellipse: s-maj=18.6km s-min=12.8km az=140.0*
*ISCJB **31** 23:23:26.4±0.6, 20°.5S±0°.1×177°.7W±0°.1, h500km, mb3.8/14, Error ellipse: s-maj=18.2km s-min=10.2km az=149.7*
ISC 31 23:23:26.6±0.7, 20°.5S±0°.1×177°.5W±0°.1, h500km, n33, σ1§12/29, mb3.6/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.57**	**41**	P	**P**	**23 25 27.1**	**-2.0**
	8.4nm,0.3s,baz=221,slow=20,SNR=4.9						
AFI				S	S	23 27 01.4	-8.2
	14nm,0.3s,baz=5.2,slow=22,SNR=9.2						
URZ	**Urewera**	**18.28**	**194**	P	**P**	**23 27 09.2**	**-0.1**
	2.8nm,0.3s,baz=312,slow=7.8,SNR=11						
EIDS	**Eidsvold**	**29.27**	**255**	P	**P**	**23 28 48.4**	**+0.7**
	baz=32,SNR=3.7						
MTSU	**Mount Surprise**	**36.03**	**267**	P	**P**	**23 29 45.7**	**+0.4**
	baz=38,SNR=14						
PATS	**Pohnpei**	**36.10**	**316**	P	P	23 29 36.7	-9.2
	baz=37,SNR=4.9						
PATS				S	S	23 35 04.7	+15
	baz=37,SNR=3.2						
COEN	**Coen**	**38.02**	**273**	P	**P**	**23 30 02.1**	**+0.3**
	baz=40,SNR=7.8						
STKA	**Stephens Creek**	**38.17**	**244**	P	**P**	**23 30 03.9**	**+1.1**
	1.5nm,0.6s,baz=87,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**38.17**	**244**	P	P	23 30 04.2	+1.4
	baz=41,SNR=4.8						
ASAR	**Alice Springs**	**44.94**	**257**	P	**P**	**23 30 56.9**	**+0.3**
	15nm,0.5s,baz=95,slow=7.5,SNR=296						
ASAR				S	**S**	**23 36 54.9**	**-3.2**
	2.6nm,0.8s,baz=92,slow=16,SNR=21						
WRA	**Warramunga Arr**	**45.03**	**262**	P	**P**	**23 30 56.9**	**-0.4**
	5.8nm,0.4s,baz=98,slow=8.0,SNR=45						
KDU	**Kakadu**	**48.39**	**271**	P	**P**	**23 31 22.5**	**-0.3**
	baz=51,SNR=15						
MTN	**Manton Dam**	**49.60**	**270**	P	**P**	**23 31 31.4**	**-0.4**
	baz=52,SNR=8.3						
KNRA	**Kununurra**	**51.10**	**266**	P	**P**	**23 31 42.7**	**0.0**
	baz=53,SNR=5.5						
SOEI	**Soe**	**56.94**	**272**	P	P	23 32 26.0	+1.7
	baz=59,SNR=4.7						
VNDA	**Vanda**	**57.93**	**185**	P	**P**	**23 32 29.2**	**-0.7**
	0.7nm,0.3s,baz=22,slow=5.4,SNR=11						
MEEK	**Meekatharra**	**58.33**	**251**	P	**P**	**23 32 33.3**	**-0.2**
	baz=61,SNR=3.6						
MJAR	**Matsushiro Arr**	**70.49**	**323**	P	**P**	**23 33 49.8**	**-0.6**
	2.4nm,0.5s,baz=157,slow=5.6,SNR=7.4						
KSRS	**Korea Array**	**77.19**	**318**	P	**P**	**23 34 29.2**	**+0.7**
	1.5nm,0.7s,baz=134,slow=6.3,SNR=4.5						
USRK	**Ussuriysk Arra**	**79.22**	**326**	P	**P**	**23 34 40.5**	**+1.2**
	4.2nm,0.7s,baz=118,slow=4.0,SNR=11						
YBH	**Yreka Blue Hor**	**80.03**	**38**	P	**P**	**23 34 45.0**	**+1.2**
	1.4nm,0.6s,baz=180,slow=7.1,SNR=3.6						
NVAR	**Mina Array Bea**	**80.74**	**43**	P	**P**	**23 34 49.0**	**+1.3**
	0.7nm,0.6s,baz=230,slow=10,SNR=5.8						
TXAR	**Lajitas Array**	**86.70**	**57**	P	P	23 35 19.6	+2.2
	0.7nm,0.7s,baz=212,slow=6.7,SNR=10						
ANMO	**Albuquerque**	**87.08**	**51**	P	**P**	**23 35 20.4**	**+1.3**
	0.9nm,0.7s,baz=192,slow=8.8,SNR=3.9						
ILAR	**Eielson Array**	**88.24**	**13**	P	**P**	**23 35 22.9**	**-0.6**
	0.5nm,0.5s,baz=214,slow=6.0,SNR=7.1						
PDAR	**Pinedale Array**	**88.68**	**43**	P	**P**	**23 35 27.6**	**+1.1**
	0.6nm,0.6s,baz=207,slow=5.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**90.54**	**289**	P	**P**	**23 35 36.6**	**+1.3**
	1.7nm,0.6s,baz=113,slow=3.4,SNR=8.5						
ZALV	**Zalesovo Beam**	**110.78**	**321**	PKiKP	**PKiKP**	**23 41 00.2**	**-1.8**
	0.3nm,0.3s,baz=129,slow=2.0,SNR=2.5						
MKAR	**Makanchi Array**	**111.53**	**313**	PKiKP	**PKiKP**	**23 41 02.8**	**-0.9**
	0.3nm,0.5s,baz=198,slow=1.9,SNR=5.4						
ARCES	**ARCESS Array B**	**129.02**	**350**	PKP	**PKPdf**	**23 41 36.6**	**+0.1**
	0.4nm,0.6s,baz=2.9,slow=2.4,SNR=5.0						
FINES	**FINESS Array B**	**135.92**	**344**	PKP	**PKPdf**	**23 41 48.9**	**-0.7**
	4.0nm,0.9s,baz=147,slow=3.3,SNR=3.5						
AKASG	**Malin Array Be**	**143.25**	**331**	PKhKP	PKPpre	23 42 00.3	
	3.0nm,0.6s,baz=43,slow=4.0,SNR=8.6						
BRTR	**Keskin Array B**	**147.18**	**313**	PKPbc	**PKPbc**	**23 42 13.2**	**-0.4**
	1.3nm,0.6s,baz=126,slow=4.5,SNR=8.9						
GERES	**GERESS Array B**	**150.34**	**345**	PKPbc	**PKPbc**	**23 42 21.2**	**+0.2**
	1.0nm,0.7s,baz=21,slow=1.9,SNR=11						